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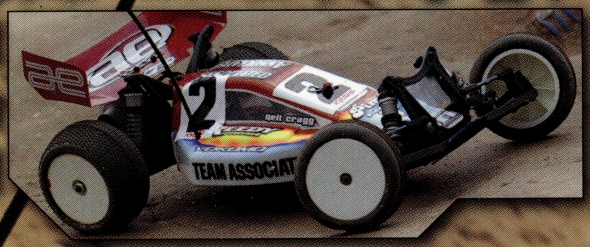

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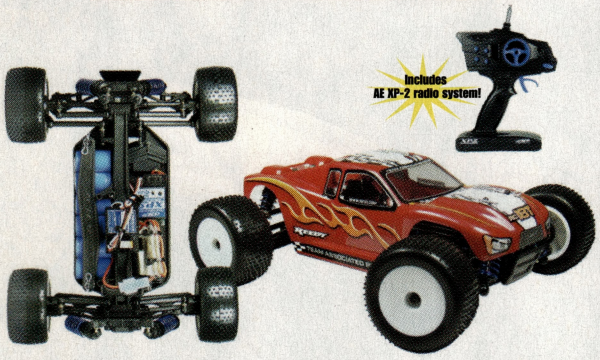

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T125 Plow Boy II

T130 Mega Max

T140 LP Komodo Dragon S, MS

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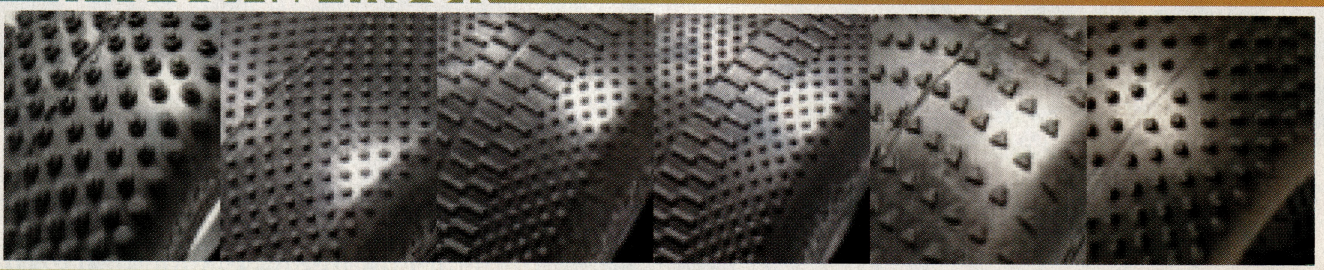


T300 Step Pin SS, S, MS

T310 Stinger S, MS, C

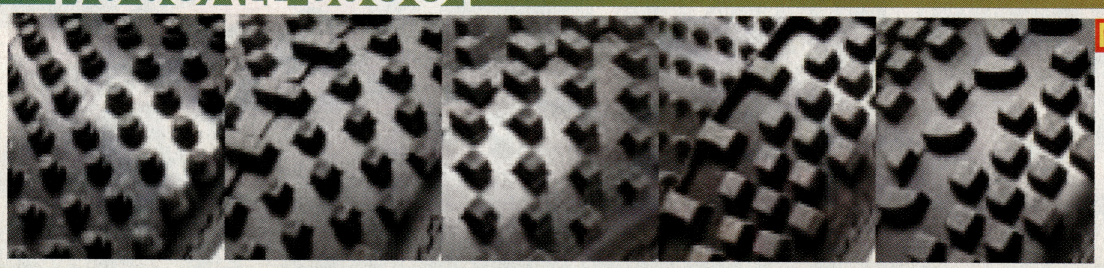
T320 Switch S, MS, C

T330 Wookie S, MS, C

T400 Diamond Back SS, S, MS, M

T340 Panther Stud S, MS

1/8 SCALE BUGGY





T900 Step Pin S, MS, M

T910 Komoto Dragon SS, S, MS,M

T915 Komoto DragonII SS, S, MS,M

T920 Tegu S, MS

T930 Chameleon S, MS

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1/10 SCALE BUGGY



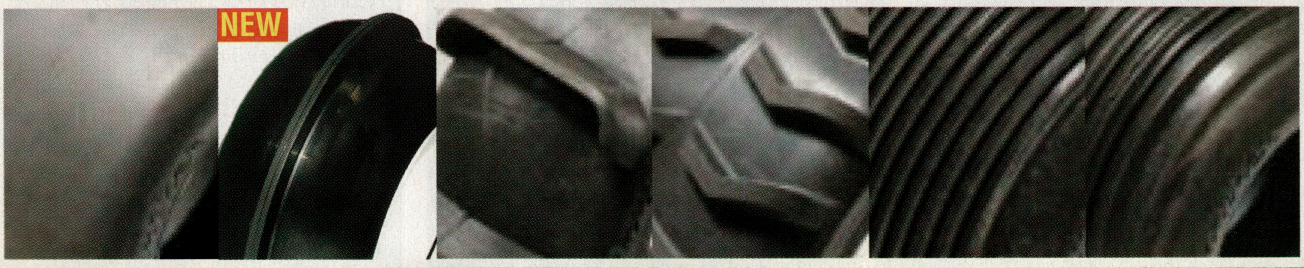
T700 Lynx (front)
S, MS

T710 Puma
SS, S, MS, C

T720 Bobcat (front)
S, MS, C

T750 Cheetah
SS, S, MS, C

T760 Tiger
SS, S, MS



T450 Burner Slick

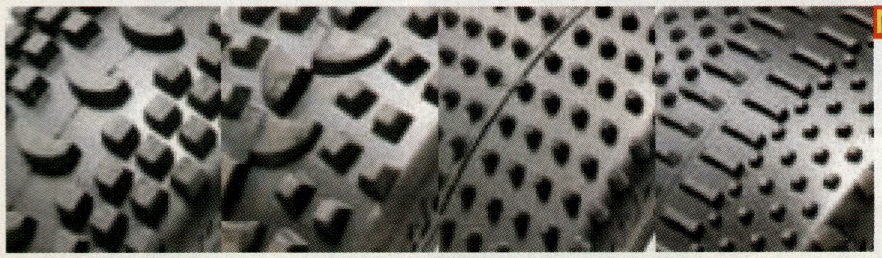
T475 Razor

T470 Paddle

T480 Cobra

T550 Micro Rib
S, MS, C

T553 V- Rib
S, MS, C





T935 Chameleon II
S, MS

T940 Gecko
S, MS

T995 Stinger
S, MS, C

T998 Switch
S, MS, C

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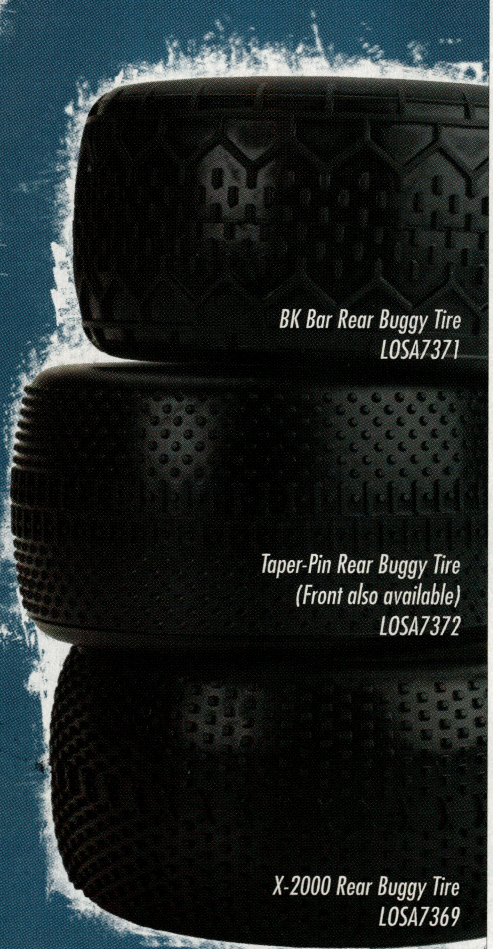

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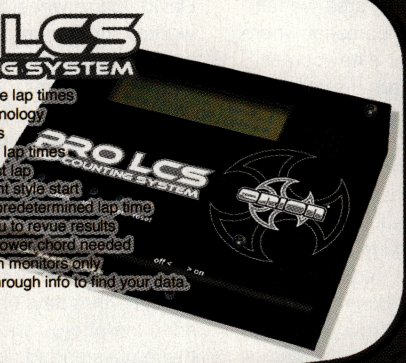



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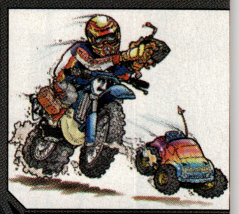
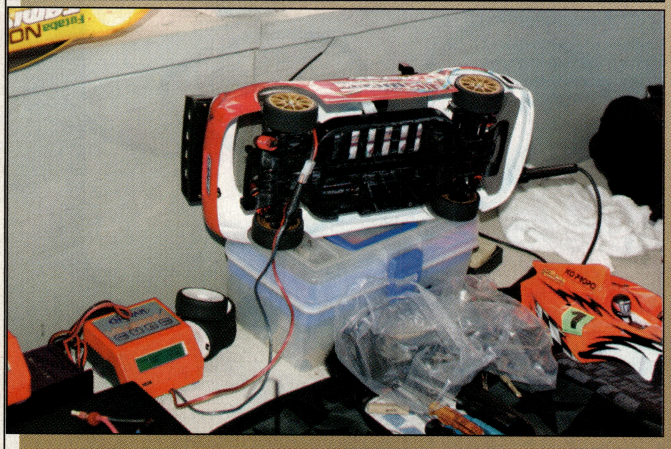


BY FRANK MASI

DO YOU NEED STATE-OF-THE-ART TO HAVE FUN? HECK NO!







TAMIYA GOT ME INTO THIS HOBBY, and now it's taught me a valuable lesson: You don't need ridiculous horsepower and super-glue grip to have fun. Look at the recently re-released Grasshopper buggy. On paper, it's a dud compared to, say, an Associated B4 or Losi XXX buggy. Against these cars, the 'Hopper is a dinosaur with its solid rear axle, bevel-gear diff and spring-loaded shocks. If you put all three cars on a track, the newer buggies might very well circle the track in half the time it would take the Tamiya buggy. However, when the environment is changed, the perception of the 'Hopper's abilities is similarly altered.

When we tested the Grasshopper in last month's issue, we knew that we needed to find a suitable location in which to run this vintage Tamiya design. We chose an area we felt would represent where a kid or a newcomer might run his or her car – a local park and playground. Here, the Grasshopper's limited suspension compliance and paddle-type rear tires made for a much more entertaining driving experience – fish-tailing through wood chips, power-sliding on sand and running full-speed on pavement. A new buggy would be faster, but far less dramatic.

And most importantly, the 'Hopper is virtually impossible to break. One of the best parts of "bashing" an R/C is finding challenges, obstacles that at first might seem too large or impossible to tackle. We jumped the 'Hopper over the jungle gyms, down the slides and over the swingsets, and never once did it whimper. Modern buggies can handle lots of abuse, but even they cannot top the outright invincibility of Tamiya's early off-road buggies. Maybe it's that huge bumper, or the 'Hopper's impact-absorbing nerf bars; perhaps it's because the Tamiya chose plastics that favor impact absorption and flexibility over handling.

Drifting is a new facet of the hobby that should find a welcoming audience among those who prefer fun over quick lap times. And, once again, Tamiya has just the right product for the beginning drifter – the new TT-01D Drift Spec (tested in this issue). Like bashing the Grasshopper, driving a drift car can be just as entertaining at 4 mph as it is at 25 mph. Speed isn't the only factor for fun.

I thought it would be a clever idea to photograph the TT-01D down at Tamiya America's track in Aliso Viejo, California. I'd be heading there to cover the TCS North American Finals anyway, so killing two birds with one stone sounded, well, sound. The plan was to get Tamiya's David Jun to wheel the 01D while I worked my Canon, but a funny thing happened – Jun, who's as serious a racer as anyone I've met, was having so much fun sliding the 01D around the Tamiya roadcourse that he refused to return the transmitter. What's more, factory pro Greg Hodapp – fresh from winning the ROAR 4WD National Championships – begged to get in on the fun. Both Jun and Hodapp pretty much stole the 01D from me that day; I had planned to just snap the photos and be done with it, but these guys ended up running the 01D throughout every break in the race program. They took over race director Fred Medel's pits (Fred was running in the TCS's Past Champions class), disconnecting his batteries to charge up the drift car's stick pack. They even stole one of Fred's backup motors to give the 01D a bit more spank.

I've been to a lot of big races and have spent many days hanging out in the pits with pro racers and factory teams. To many of them, R/C is a job, and although they enjoy the actual racing, the mood off the track is oftentimes somber. Watching Jun run across the track and up to the drivers' stand, wrenching the 01D's transmitter from Hodapp, reminded me of just how much fun going slow can be.

By: TEAM INTEGY

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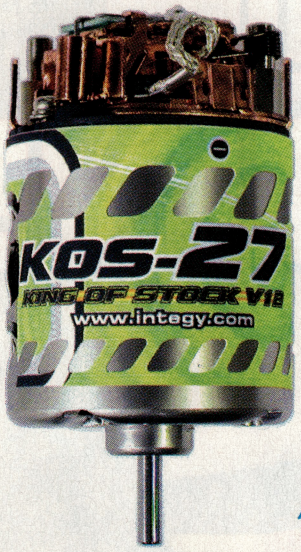

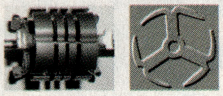

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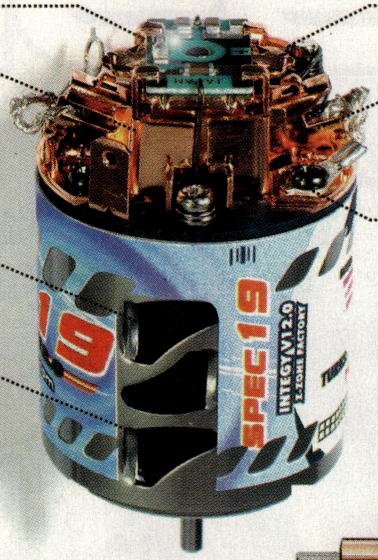

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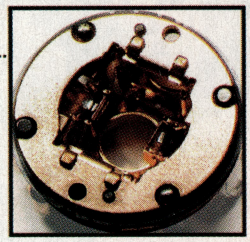

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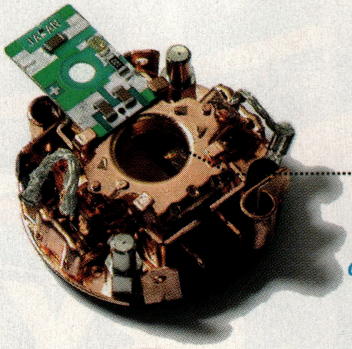

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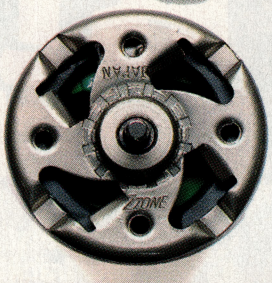

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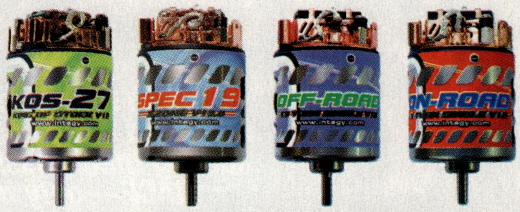

KOS-27	SPEC19	OFF-ROAD	ON-ROAD
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22AWG	19AWG	18AWG	17AWG
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Darin Ishitani
TQ, 1st Place, New Track Record 1/10 Sedan
2005 O'Donnel Championships
TQ, New Track Record 1/8 On-Road
2005 O'Donnel Championships
TQ & 1st Place 1/10 Sedan A-Mains
2005 Airtronics Championship
TQ & 1st Place 1/8 A-Main On-Road 2005 Winter Windup
TQ 200mm Sedan 2005 Winter Windup
FUEL YOUR PASSION!
Mark Sweeney
1st Place 1/8 A-Main
2005 Byron Originals
West Meets East Challenge
1st Place 1/8 On-Road
2005 "Heart of America"
Master Champion
1/8 On-Road
2004 Midwest Series
BYRON ORIGINALS INC.
RACE
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DANGER ■ POISON ■ FLAMMABLE
EYE IRRITANT • VAPOR HARMFUL • MAY BE FATAL OR CAUSE BLINDNESS IF
SEE SIDE PANEL FOR FIRST AID INSTRUCTIONS
Matt Gosch
1st Place Unlimited Monster Truck
2004 Mugen Seiki Challenge
2004 North Division Champion
Unlimited Monster Truck
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Join the ranks of local and national winners fueling their passion with RACE — only from Byron Fuel!
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Michael Sharwin
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North Texas Nitro Shootout
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- READERS' RIGS -



E-MAXX 6x6 SILVERADO SLAMMER

Mike Budzien
East Troy, Wisconsin

Mike Budzien has been into R/Cs for about five years, and he's had an RC10 in this section way back in 2001. Well, Budzien has really outdone himself with his new project "Silverado Slammer" Traxxas E-Maxx. Mike started with a 6x6 conversion kit from Hilltop R/C in Troy, New Hampshire. This shaft-driven 6WD has a New Era front brush guard, IMEX tires, Pro-Line Power-Stroke shocks on the front axle and custom-made front, rear and A-arm skid plates. Mike took two Pro-Line 2004 Chevy Silverado bodies and morphed them into one by cutting off the bed of one and attaching it to the tailgate of the other. It's Ready To Rock-crawl.



TARMAC-TERROR TAMIYA 415

Chanc Saari
Huntsville, Alabama

Chanc tours the south with his Tamiya 415, which has an EA Motorsports tuned monster-stock motor from a Novak GTX. It has a Futaba 9451 steering servo and R203HF receiver, and the juice is provided by Pro-Match racing batteries. The power is transferred to the pavement via Take-Off CS27 tires, and downforce comes from a Stratus 3.0 body and wing.

RC18T STREET BUGGY & LOSI JRXS

Justin Adler
Graham, Washington

Justin has a pair of street streakers—an Associated RC18T and a Losi JRXS. The RC18T has threaded-aluminum shock bodies and graphite battery strap from Team AE, plus it has MIP CVDs, Trinity hex-drive conversion and 1/10-scale sedan tires. He topped off his new pavement pounder with Parma's new RC18T buggy body with integral wing. Justin's Losi JRXS has a new JR XS3 synthesized radio system, LRP IPC digital speed control, Trinity 3600 battery pack and Protoform Mazda 6 body. Adler is sponsored by Aggressive Technology and runs the AT-tuned P2K2.



Send in photos and information on your R/C creations to Reader's Rigs, c/o *R/C Car* magazine, P.O. Box 958, Valencia, CA 91380-0958 or email to *timt@hi-torque.com*.

If we feature your rig, we'll send you a year's subscription to Hi-Torque's *R/C Car* magazine.

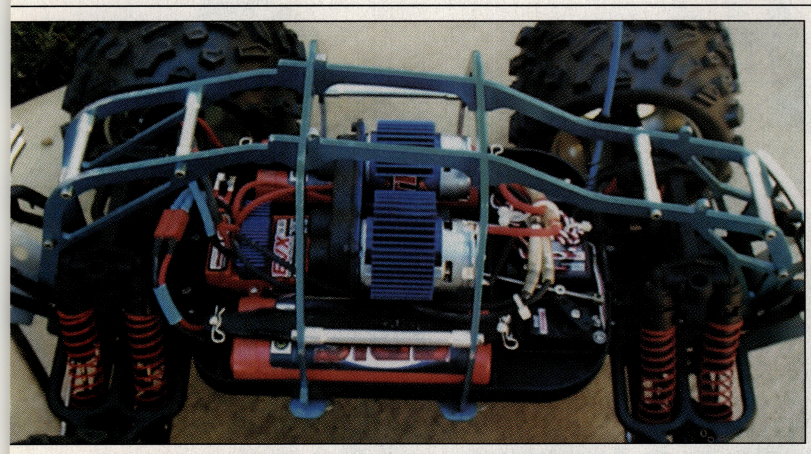




STIRLING PERFORMERS

Rob and Alicia Stirling
via the internet

Stirling Racing Products (*stirlingracing-products@yahoo.com*) brings us these two trick nitro-burners. Alicia's Losi LST has a Hardcore Racing titanium chassis, Losi threaded aluminum shocks and swaybars, heavy-duty two-speed transmission gears, a large fuel tank, RPM adjustable A-arms and a Pro-Line Crowd Pleazer body. The stylin' MT is finished off with SRP Monster Locks beadlock rims. Rob's funny car is a custom-built creation with twin Mach .26 engines and custom-made chassis. The front is an old RC10, while the rear is custom-made and is 1.5 inches wide to fit the widened HPI Subaru body and Panther slicks. It has a LST two-speed tranny and locked LST ring and pinion, and the Kylex lower rear wing acts as a skid if it gets sideways during a run. Sweet!



TIGHT TRAXXAS E-MAXX

Ken Hall
Castaic, California

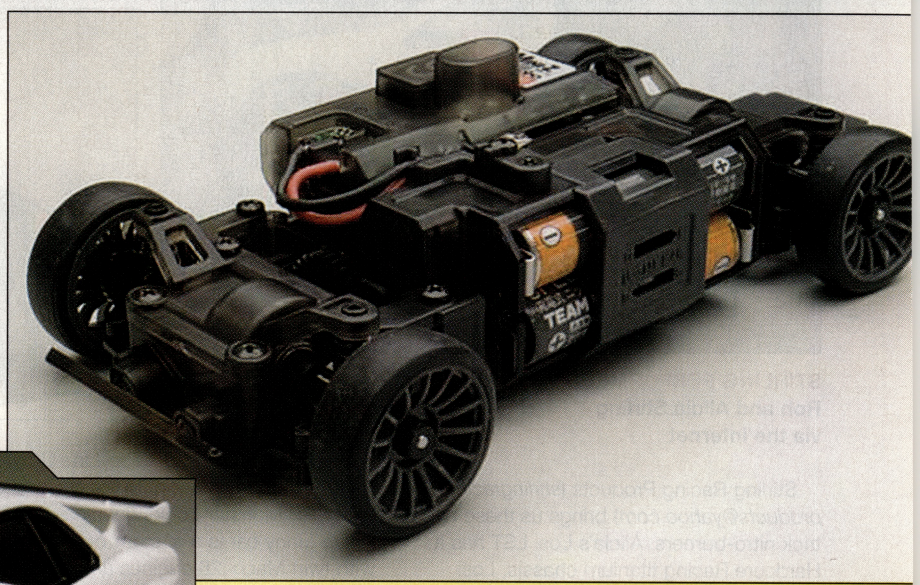
Ken has tricked out his Traxxas E-Maxx with two aluminum heat-sinks for the stock motors, twin Epic 3000mAh NiMH packs with Dean's connectors, HiTec HS-5945MG high-torque servo (180 oz./in.!) and Pro-Line Big Joe's 40-Series tires on Velocity rims. Hall added the RC Solutions roll cage and front and rear skid plates to protect his monster truck from costly replacement-parts prices brought on by a high-speed roll-over. He completed his MT with a custom-painted Pro-Line F150 body. Hall likes his E-Maxx better than two previous T-Maxxs, and he races it at his local track, but has the most fun bashing in open fields with his buddies. Tight!



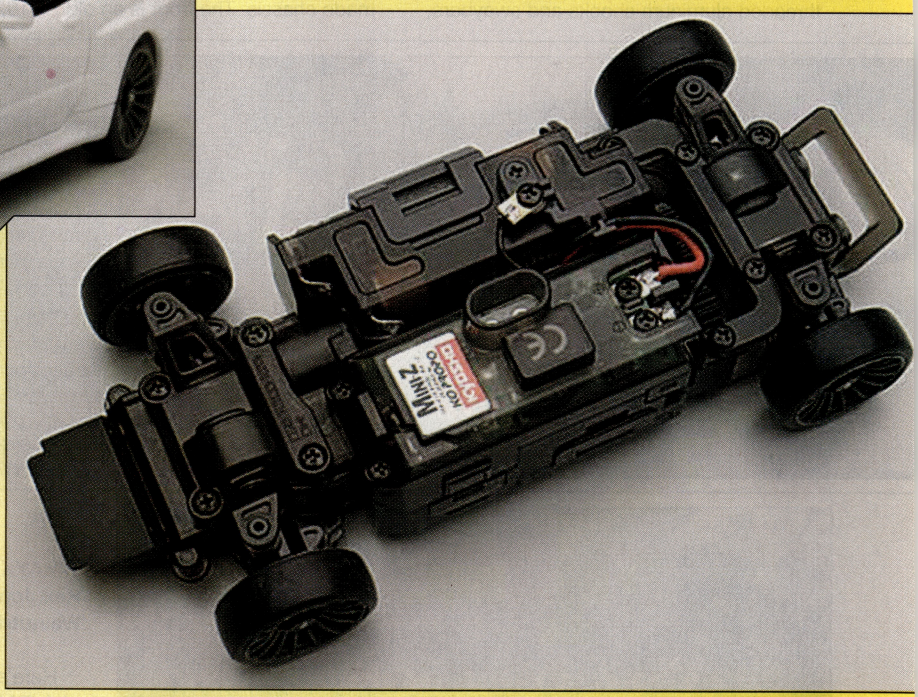
T-MAXX & MINI-ME

Rex Jones
Walnutridge, Arkansas

Here's a picture of Rex's two rides. The large one is a trick T-Maxx with Picco .21 engine, aluminum skidplate, bumpers, braces and shock towers. It also sports a custom-made carbon-fiber skid plate, Hitec high-torque servo and Prol-Line Powerstroke shocks, 40-Series Big Joes with spinners and Cadillac Escalade body. No word on what's done to the Mini-Maxx wannabee. Maybe next time...



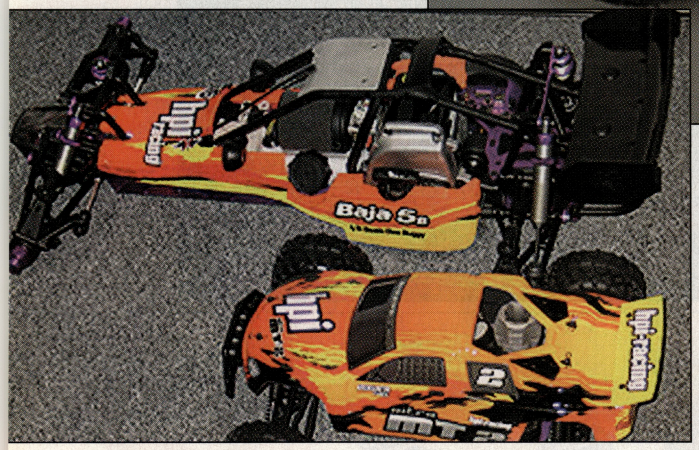




KYOSHO UNLEASHES THE MINI-Z AWD

Kyosho has re-invented the Mini-Z as an all-wheel-drive RTR, and it's kicking off the new Mini-Z series with the original body, the Skyline GT-R R34 V-Spec. The new MA-010 chassis features inline shaft drive with a center spur gear feeding front and rear diffs that ride on full ball bearings. Power goes to the wheels via universal drives at all four corners, and the kingpin-type independent suspension features adjustable toe, front and rear. Upgraded electrics include a digital transmitter, RA-12 receiver/amplifier and fully-proportional ESC with smoother acceleration, brakes and reverse, plus it handles 30 percent more power than the previous unit. There's a huge selection of bodies, too, but the first Mini-Z AWDs will come in either white or metallic silver Skyline GT-R R34 V-Spec. Wheelbase is 90-94mm, width is 65-72mm (67mm as delivered), and weight is around 135 grams. Check it out at your local hobby shop or log onto *kyoshoamerica.com*.



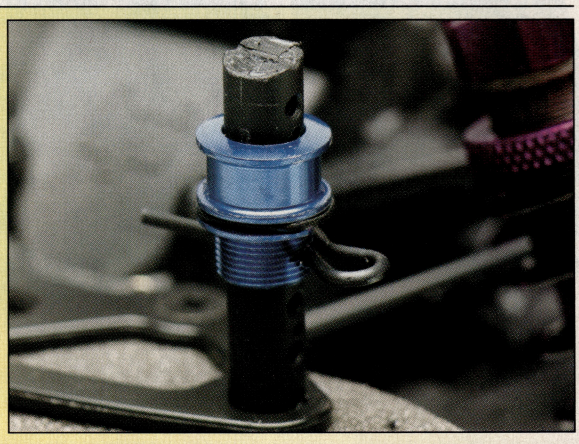


HPI RACING'S NEW 1/5-SCALE BUGGY

HPI Racing is going really big with its soon-to-be-released Baja 5B gasoline-powered buggy, which is powered by a 23cc "Fuelie" engine with pull-start, primer, kill-switch, dual-stage air filter and a fuel tank big enough for 30-minute run times. To put all that power to the ground, there's a diff with Viscous Torque Control and hardened metal gears, and Hyper-Adjust Piston aluminum shocks with five externally-adjustable damping settings. Just like the full scale Baja buggies, the Baja 5B has three-piece beadlock rims and HPI's sticky-compound Dirt Buster tires, so there's no messy glue—just wrench and run. For radio gear, the Baja 5B will come with TF-10 FM radio, monstrous 25 Kg-cm steering servo, built-in and adjustable throttle fail safe, and 2000mAh six-cell pack with A/C charger. Prices or part numbers aren't set yet, but HPI Racing says the Baja 5B will be available by the end of the year, and we'll be first in line (with premix in hand) to test this big, bad buggy. Check it out at *HPIracing.com* or call (909) 753-1099.

TRINITY BODY-POST TOPPERS

Body-height is a critical adjustment, especially on on-road R/Cs, and Trinity has answered the call with its 1/10-scale adjustable body-post toppers. These fit most 1/10-scale body posts and allow the tiniest of adjustments for proper body ride-height. The two-piece design acts like a threaded shock collar, as the bottom portion attaches to the post via a clip, then the threaded part can be raised or lowered, say, to correct for tire wear. Locking O-rings keep the adjustments from changing from vibration, and the post toppers come in either 6mm (nitro TCS) or 5mm (electric touring cars) sizes for $10.99 a pair. Contact Trinity at (732) 635-1600 or log onto *teamtrinity.com*.



SCHUMACHER HAVOC ST

Schumacher has always been known for going big, as with its .21-powered 1/10-scale truck. Well, the Brits are at it again with the Schumacher Havoc Stunt Truck, which is powered by a Thunder Tiger .28 engine and attains speeds of more than 50 mph. The Havoc ST is 2WD because 4WD trucks tend to endo when you stab the brakes in the air, and 2WD has less rotating mass that's easier to control. Oversized suspension components and 70mm of wheel travel at all ends reduce breakage from less-than-perfect landings from backflips (see photo). U.S. prices haven't been set yet, but the almost-ready-to-run costs 389 Euros and the RTR version goes for 449 in Great Britain. If you want to go really big, check it out at *schumacherusa.net* or call (813) 889-9691.





By: TEAM INTEGY

iNDi 16X8v6 with built-in DynoV2



The future is NOW...

We have taken racing electronics to a whole new level, the all new 16X8v6 high performance charger is capable of charging Li-Po, Ni-Cd & Ni-MH batteries at up to 8.0A, discharge 0.1 to 30.0A, break-in motors & test motors at up to 9.0V. The included thermo sensor is highly accurate & users can specify cutoff temperature as well as cutoff deltaV from 0mV/cell and up. Your good racing batteries can now be protected against overcharging and overheating. Our 3-phase charging will increase battery capacity & battery lifespan. 16X8v6 is the most versatile computerized charger available. The features are simply amazing and unmatched by any competing units.

30A Discharge
Motor Test & Break-in
Li-Polymer, Ni-Cd & Ni-MH

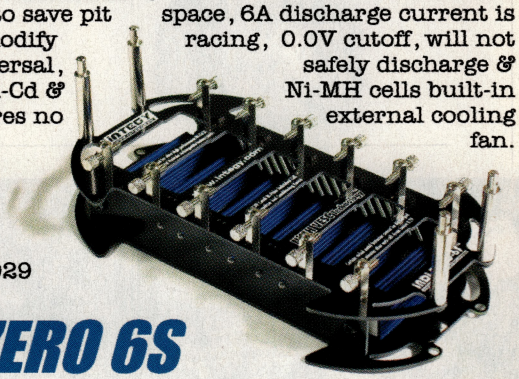
1-8 cell: Ni-Cd & Ni-MH
1-3 cell: Li-Polymer
Linear Charge: 0.1 to 8.0A
Discharge: 0.1 to 30.0A
Motor-run: 1.0 to 9.0V
Motor Dyno: Check rpm & condition
Break-in: Adjust high & low voltage
Timer: Cool delay & up to 99 cycles
User can save & recall motor data

F-1 SPEC 3-phase charge
Adjustable "mAh" long logout
Adjustable thermo cutoff
Adjustable deltaV 0mV-120mV
Auto discharge before charge
Anti-false peak DSP software
Adjustable cool-down timer
Adjustable trickle rate & on/off
Cycle battery up to 9 times

AC/DC operation
AC Input 110V-120V
DC Input: 11V-15V
Twin Cooling Fan
Built-in thermo sensor
Reverse polarity protection
Overload protection
Overheat protection
1-year limited warranty



The 6S is designed for serious racers, it can increase battery runtime, increase average voltage, increase overall power output and reduce battery internal resistance. Units are stackable to save pit space, 6A discharge current is perfect for modify racing, 0.0V cutoff, will not cause cell reversal, safely discharge & equalize both Ni-Cd & Ni-MH cells built-in heatsink, requires no external cooling fan.



MODEL #E2029
List: $32.50

INDI ZERO 6S

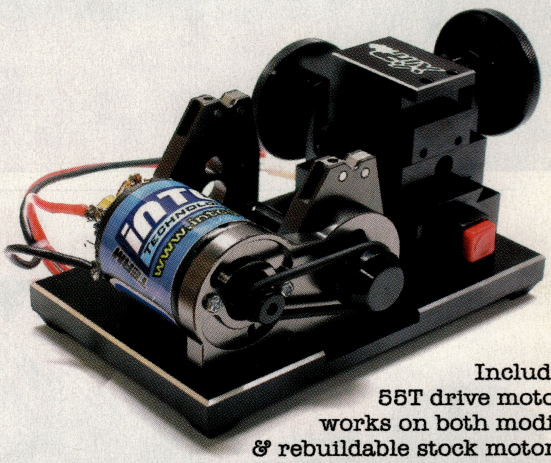
XIPP SUPER LATHE 3

MODEL #E2034
List: $155.99

iNDi 16X405 D2

1-10cells AC/DC Battery Charger

Full featured charger & discharge for Ni-Cd & Ni-MH
Blue backlit 16X2 characters LCD display
AC/DC operation - internal 5-Amp, 12V power supply
Thermo sensor monitors battery temperature real-time
Adjustable deltaV from 3mV to 25mV per cell
4 user-selectable functions for both Ni-Cd & Ni-MH
Fuzzy Logic mode, auto discharge before charge
Charge mode, 0.1A to 5.0A adjustable
Discharge mode, 0.1A to 5.0A adjustable
Cycle mode - up to 3 cycles with cool down delay
Reverse input voltage protection (DC mode)
Built-in beeper indicates user mode selection
On-demand built-in cooling fan
Very easy to use and works perfect for:
GP3700, IB3800, Sanyo Ni-Cd/Ni-MH, Glow plug single, 12V battery, transmitter & receiver packs ... etc.
1-Year Limited Warranty

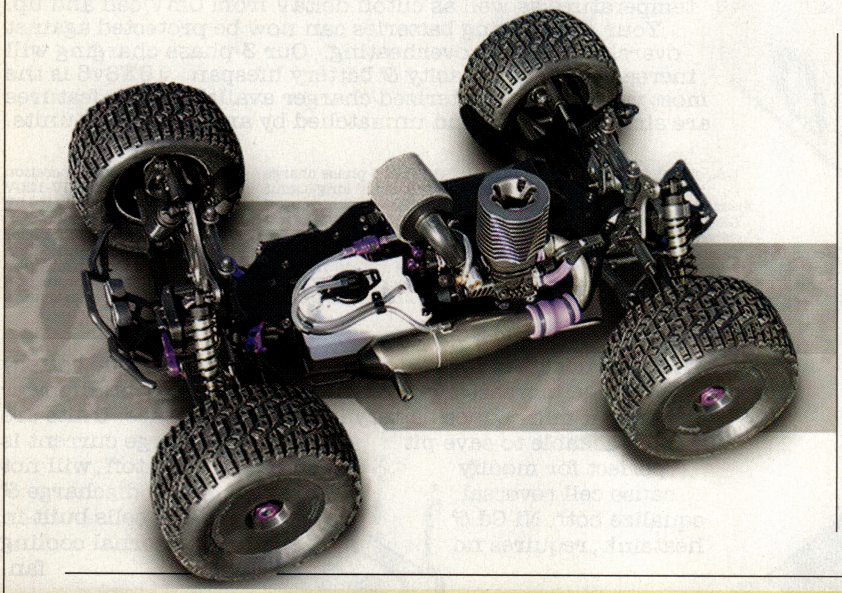


Includes 55T drive motor, works on both modify & rebuildable stock motors, solid carbide v-block armature supports with oil reservoirs, dual axle design improves cut quality, thick base plate reduce unit vibration, fine pitch screw movement provides near zero backlash, everything is in a compact, affordable and easy to use package. Optional diamond bit #5101

* carbide bit included

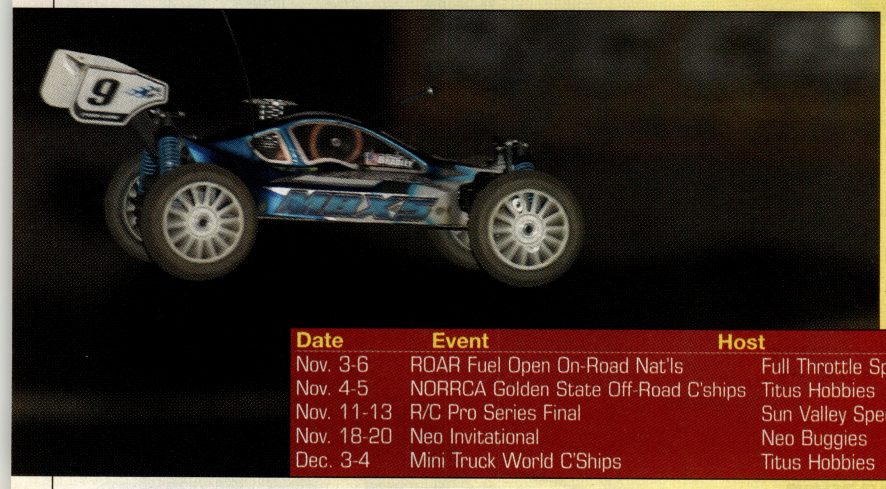
List: $139.99

- NEWS FLASH -



HPI RACING'S NEW 1/8-SCALE ST

HPI Racing's acquisition of Hot Bodies has paid off with its first racing 1/8-scale stadium truck, the H-Fire ST. It goes beyond the Hot Bodies Lightning Pro ST with titanium-nitride coated shocks and shock pins, chassis braces, 150cc fuel tank with fuel-line routing and two filters, CV-style drive shafts and heavy-duty Aero wheels. The H-Fire is powered by the same 4.6cc engine as the Savage 46SS and has a hard-anodized tuned exhaust. This 4WD 1/8-scale ST is the most adjustable to date with interchangeable inserts to adjust toe and anti-squat plus adjustable camber, chassis kick-up (21-25 degrees) and all sorts of shock tuning options through 24 mounting positions, tapered pistons and so on. This is no slammed Savage, and the ST will be available in kit and RTR versions.



THE MONTH IN RACING

As the racing season winds down, racers will converge on California, Florida and Belgium for off-road and on-road finals and the Neo Invitational. NORRCA and ROAR start off the month on opposite coasts, then the R/C Pro Series holds its final before the top off-road guns fly to Belgium for an indoor 1/8-scale invitation. Chad Bradley, Greg Degani, Bob Tillman, Jared Tebo, Mikey Sharwin and Andrew Smolnik are pre-entered, and racers from 24 countries have also committed to the event.

Date	Event	Host	Location	Contact
Nov. 3-6	ROAR Fuel Open On-Road Nat'ls	Full Throttle Speedway	Kissimee, FL	*fullthrottlespeedway.com*
Nov. 4-5	NORRCA Golden State Off-Road C'ships	Titus Hobbies	Riverside, CA	*titushobbies.com*
Nov. 11-13	R/C Pro Series Final	Sun Valley Speedway	Sun Valley, CA	*rcproseries.com*
Nov. 18-20	Neo Invitational	Neo Buggies	Antwerp, Belgium	*neoinvitational.com*
Dec. 3-4	Mini Truck World C'Ships	Titus Hobbies	Riverside, CA	*titushobbies.com*



PRO-LINE JATO BODIES

Last month, Pro-Line announced the new Crowd Pleazer body for the Traxxas JATO, and Pro-Line has upped the ante this month with two new licensed bodies for the 1/10-scale nitro truck. JATO owners can now choose a 2005 Chevrolet Silverado (#3204-00) or Ford F150 (3203-00) body, and both are fully licensed by the respective manufacturers. Both bods are made with 0.040 Lexan and come with a decal sheet and over-spray film protection, and they carry an MSRP of $26.00 each. See these new bodies at your local hobby shop or log onto *pro-lineracing.com*.

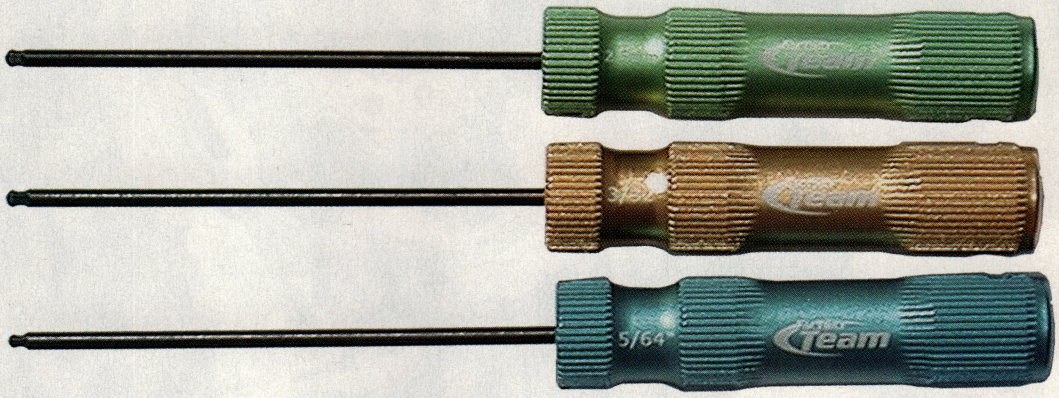
LRP's NEW 14-AMP POWER SUPPLY

LRP introduces the (LRP43150) 14-amp power supply, which automatically adjusts to input voltages from 100 to 230v and comes with USA and European/Japanese cords. This compact (5x5-7/8 x 1-3/4 inch) 12-volt power supply features a computer-operated cooling fan and uses either standard 4mm connections or multi-function clamps. It weighs less than two pounds and retails for $179.99. Call (714) 850-9342 if your hobby emporium doesn't have any in stock or log onto *rc10.com*.



FACTORY TEAM BALL-HEX DRIVERS

Team Associated has expanded its trick hand-tool line with its new Factory Team Ball Hex Wrench Set (#1592), which allows removal and replacement of hex-head screws from angles and speeds adjustments or maintenance. The three-wrench set features knurled aluminum handles and anodized color-coding by size; you get a 5/16-inch, 3/32-inch and 2.5mm ball-hex wrench for $33.99.



HPI RACING B-COMPOUND DIRT CLAWS

HPI Racing has upgraded its Dirt Claws MT tire by offering it in its super-sticky B-Compound, which boasts long tire life and high grip. Dirt Claws are directional, aggressive-tread tires with special grooves for clearing dirt from the pattern, lightened tread blocks for faster acceleration and direction changes, and reinforced sidewalls for less carcass distortion. The Dirt Claws B-Compound MT tires fit Savage/T-Maxx rims, come with foam inserts and carry an MSRP of $30 per pair. Log onto *hpiracing.com* or call (949) 753-1099 to upgrade your MT's performance.





LONG TRAVEL SUSPENSION
Helps soak up the bumps and huge jumps that come with the territory!

ALLOY TUNED PIPE
For looks and high performance

DIRT BONZ TIRES
High grip Dirt Bonz tires mounted on chrome 6-spoke wheels

3 SPEED INCLUDED!
You get more punch and higher top speed, the best of both worlds! Faster track times, easier wheelies, blistering top speed . . . this is the ultimate Savage upgrade and it's standard equipment!

DUAL DISC BRAKES
For maximum stopping power!

4 GEAR DIFFS
Front and rear "4 gear" differentials with updated gears are included for added durability.

CAM SERVO SAVER
The steering has been upgraded to an accurate cam-type servo saver, delivering quick steering response and added servo protection.

NOW AVAILABLE . . .

LIMITED EDITION SAVAGE 25 with 3 SPEED TRANNY!

LIMITED EDITION

The RTR Savage 25 Limited Edition comes with several of the most popular upgrade parts pre-installed, including the popular 3 speed transmission! The 3 speed tranny adds an extra shift for improved power and efficiency, and it's also beefed up internally for improved durability. To extract the most out of the S-25 engine we added a polished aluminum dual chamber tuned pipe, delivering a smooth and wide power band. For extra tuning choices, the truck comes standard with 15T/49T gearing and we include optional 19T and 47T gears. The dual disc brake system gives the truck the ability to stop time after time with no brake fade. We also added shiny chrome 6 spoke wheels and a special metallic paint job for the GT-1 body. The included Dirt Bonz tires give the truck incredible handling and performance for off-road driving. Several of the latest Savage upgrades are pre-installed: Cam-type servo saver for more accurate and responsive steering, 4-gear diffs for extra durability, improved throttle and brake linkage, rear tie-rod washers, 3 shoe clutch for quick acceleration, and our new high performance air filter. Get the Limited Edition Savage today!

Easy!

No pullstart.
No more blisters!
Just push a button.



Pre-Built!

No need to build it, we did that for you.
Buy it at your local hobby shop.
Ready to go out of the box!



#852 RTR Savage 25 Limited Edition Truck with 3 Speed and Nitro GT-1 Truck Body

hpi·racing

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WWW.HPIRACING.COM



- BENCH RACING -

THOUGHT OF THE DAY

"If we did all the things we are capable of doing, we would literally astonish ourselves."
—Thomas Edison

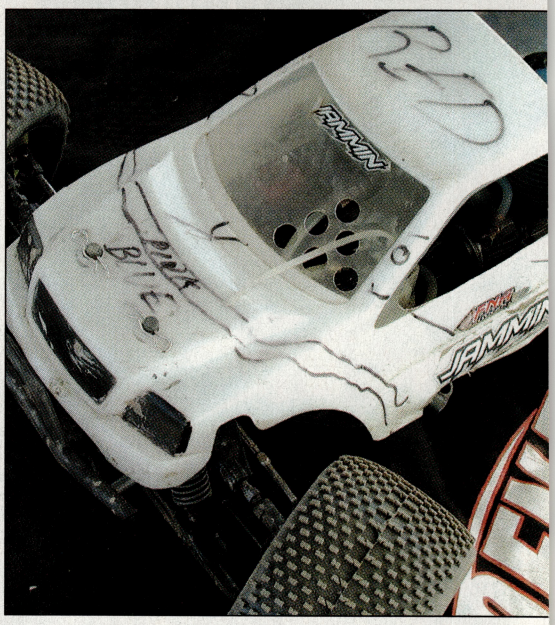
IS FUN THE ANSWER?

I just don't understand, is life playing a cruel joke on me, or have I stumbled onto my mantra for doing better at the races? If you read Bench Racing with any regularity, you know I often ponder how to go faster and to do better at the races; you also know that I rant and rave with extreme frustration about not being able to go next level and play with the big boys (don't ask why, because I don't know why it matters to me). The fact is, like most of you who do this sport, we all like to do our best and want to have great A-main results. After going to the 2004 1/8-scale Worlds and becoming the highest placing magazine editor ever to compete in said event (142nd place—don't laugh, it was hard), I decided to give up on my dream and just have fun, and fun I was having. It didn't matter anymore how I finished, I just wanted to race and have fun, and I liked rooting for my heroes, going to different events and meeting new people.

I even went back to racing my monster trucks more because I have the most fun racing them. I was racing the RC Pro Series because they have a tremendous MT class, and it's a blast to attend these races. Then, one night, just for the heck of it, I checked the points standings, and, lo and behold, I'm sitting in fourth place in the truggy class. And, in standard MT I was eighth overall. What gives? I just don't get it, I try to do well and I fail miserably; I go out to have fun, and now I'm in the hunt. Can someone please explain that to me? I find it almost comical; all of my buddies go to events and are all serious and work hard at placing well, and all of them do well. On the other hand, I try to do as they do, and I might as well be driving backwards on the track.

Now that I could care less about being fast and winning, my driving has gotten way better; I feel like Peter in the movie *Office Space*. Now that I've made it to the top 10 in the RC Pro Series, I have this battle raging on inside me; the competitor side of me is screaming "get serious," while the fun guy is saying "just have fun."

It's just like those cartoons you see where the two alter-egos pop up on some poor guy's shoulders, and they argue with each other, and I'm stuck in the middle, listening to both and wondering who is going to win. I'm still waiting for them to finish, but I'm really rooting for the fun guy to win this argument. I think he has the right idea.



Here is Jay Halsey's new "virtual" paint job; just use a little imagination, and soon you'll see a beautiful paint job. Just kidding; actually, this body was a mock-up for the new X1-CRT, and Jay was using it for his race-truck as a last minute replacement. I just thought it was funny seeing the colors written down to indicate what color it was.

MY FIRST TRUCK

Not really, but this new 1979 Ford Courier body from Pro-Line looks amazingly like my first Ford Courier mini truck back in high school. This new monster truck body showed up at the office, and the guys just chuckled when they saw it; it wasn't a cool, sleek racing body, but I saw the beauty of the retro body and immediately laid claim to it.



I'm glad I did, because, after racing with this body, I have found it to be one of the strongest on the market. After four days of hard racing, it still looks like new—not one kink or anything. It sure stands out, too, and I can see it a mile away. It really looks different from the sea of stadium-type bodies on the tracks these days. Of course, I had to do my retro-Yamaha paint job, and Paul (Acid Cat painting) volunteered to do the painting. Thank you, Paul; it really came out killer. If you want to go Retro, call Pro-Line and get one, and, if you want a unique paint job, call Acid Cat at (661) 210-6773.

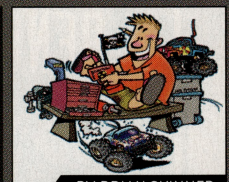
Pro-Line P.O.Box 456, Beaumont, CA 92223,
(951) 849-9781, *www.pro-lineracing.com*



IT JUST GOES TO SHOW YOU

As you can see from my Revo, I love the old '70s Yamaha paint scheme with the yellow and black Yamaha racing stripe. Well, the executives at Yamaha have been reading my column, because, for 2006, they're bringing back that paint scheme for their "limited edition" 50th-anniversary Yamaha MX bikes. I guess being retro is all the rage now—viva Bob Hannah.





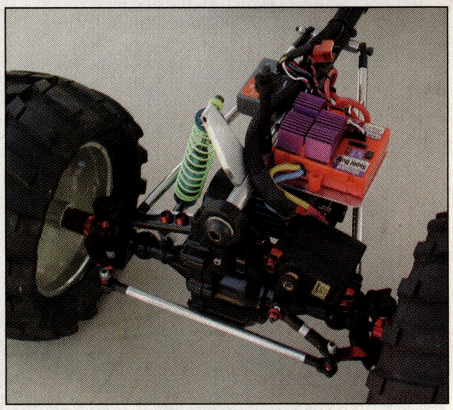
BY BRIAN SKINNER
email: brians@hi-torque.com

I'VE GOT ROCKS IN MY HEAD!

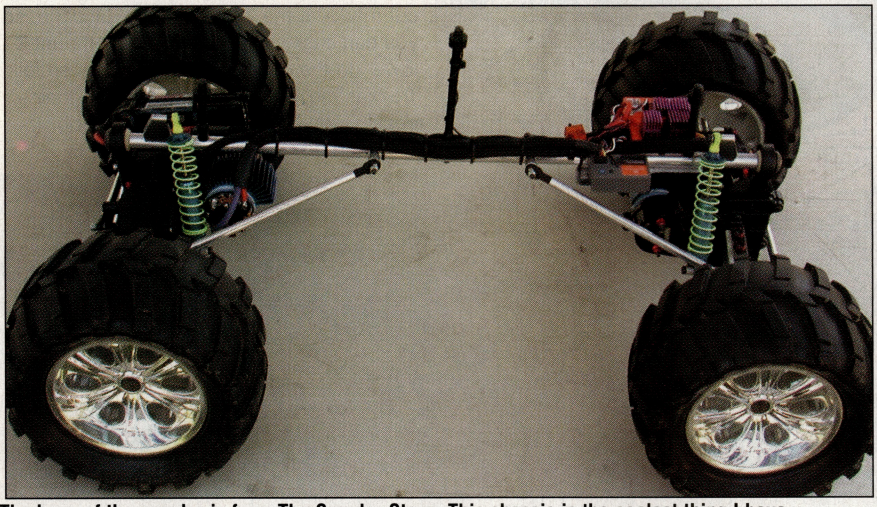
I have to admit that I don't know much about rock crawling (I'm learning, though), but I know when I see something trick, and this truck is trick. This is Mike Trujillo's sweet rock crawler, and he showed me some amazing stuff with this baby.

Here are some of the highlights of this beauty, and, if you want more info on where to get a rock crawler like this, give Mike a call at:

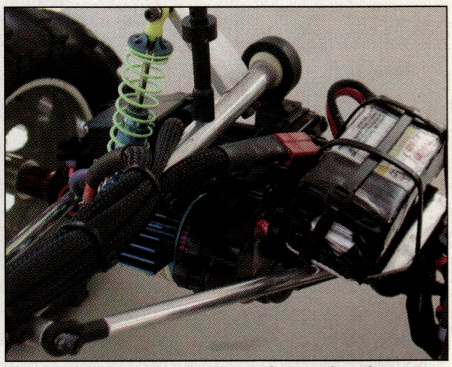
A-Main Raceway/Hometown Hobbies
14011 NE 3rd Ct.
Vancouver, WA 98685-2969
(360) 571-8404
www.amainraceway.com



The front end, just like the rear, swivels on a ball-end and only uses one shock. Like all good rock crawlers, it uses Tamiya's Clod Buster drivetrain.

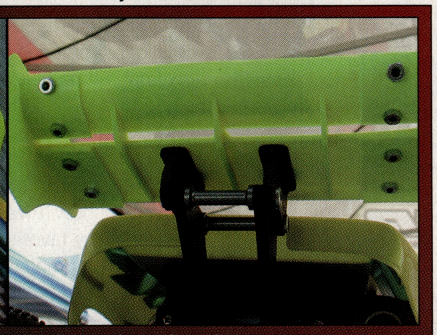


The base of the crawler is from The Crawler Store. This chassis is the coolest thing I have ever seen, as there's nothing to it, and it has articulation like you've never seen before.



The rear is just like the front, but notice the 4200 Thunder Power Li-Po pack; this lithium pack will give you more than 30 minutes of continuous crawling action.





MINI REVO WING HOW-TO

Last month, we did a how-to on mounting a wing to your Revo, and some readers wrote me about wanting a wing that was smaller and flush with the body. Well, here you go. This is what most racers are doing to make a smaller wing for their Revo:

- Take a stock 1/8-scale buggy wing and measure in a half inch from the wing end (or whatever you want).
- Make a mark and scribe a line at a 90-degree angle to the wing.
- Make a clean cut; using a sharp carpet knife is good, but be careful, it's better to make several passes with the knife than to cut it in one motion.
- After your cut, clean up any burrs.
- Take the wing end, clamp it under the center part of the wing, and drill your bolt holes.
- Bolt it together, and you're done. Now, get in the garage and go to work.



Mike used a Pro-Line F-350 body painted by Fred Moore; Fred went all out and included brush guards on the body—sweet! Fred can do the same for you; just call A-main, and they will hook you up.

- BENCH RACING -

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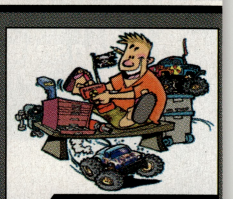
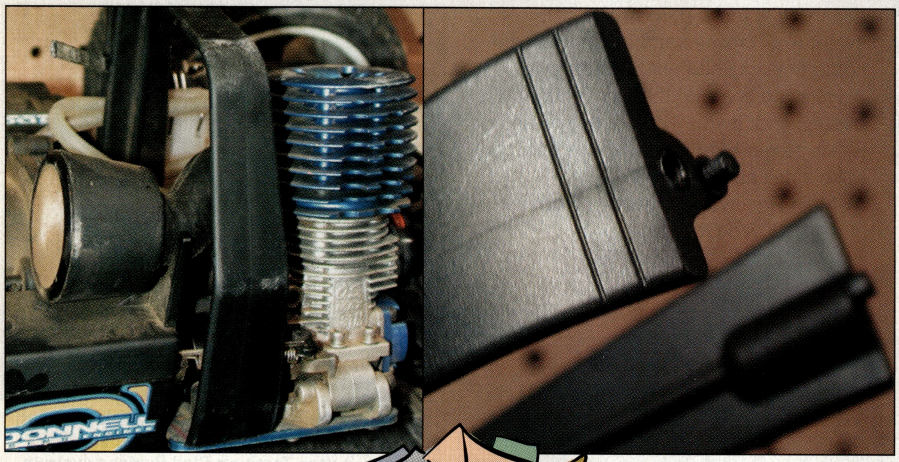


BY BRIAN SKINNER
email: brians@hi-torque.com



DID YOU KNOW?

Your old pal Skinny missed this one, and I apologize; old age must be catching up to me. Fortunately, our crash-test dummy "Factory J" caught this clever little hidden secret that Traxxas molded right into the roll cage and left for people to discover on their own.

If you want to slam your Revo body down more to achieve maximum velocity, the roll cage is going to be in the way, but Traxxas thought of that and included these cool pre-cut marks at the bottom of the roll cage, so you can easily trim it down and remount it lower on the chassis. I'll tell you, those folk at Traxxas really like to get crafty with their design work—they think of everything.



SKINNY'S MAIL BAG

Hey, Skinny!

My name is Robert Becan, and I have a Traxxas Revo that I bought about five months ago; in that time, I've had to replace just about everything on it at least once. I love that Revo and I drive it hard. I love to go backyard bashing, and I set up some real sick jumps that beat my Revo up. Now I want to get into racing, so I have been toning down the harsh driving and calmed down my aggressive style. My problem is that, when I go to the local track, it's hard to get track time, and the people there are kind of snobbish, and it really turns me off. I tried to talk to some of the people around there about setups and what they have done to get into an R/C club, but they avoid me like the black plague. Is that normal for newbies that want to get into racing? Oops, sorry, I didn't mean to get on a soap box there, time to get to the real question.

In your opinion, is the Spektrum DX3 a good radio to buy for a backyard basher, or is it just for the racing folks? Also, I was looking into buying the full line of MIP products for my Revo, or should I stay stock?

Thank you,
Robert Becan

Robert, my socially-challenged friend, I'm sorry to hear the locals are being this way. Unfortunately, this is just a fact of life with anything new. I, too, have this happen in my walk through life; I call it the "wolf pack" syndrome. Like humans, wolves are social creatures, and they run in packs. When a stray wolf wants to join the pack, he has to stay on the outside of the pack until he is accepted into the clan. This is how we humans are a lot of the time, and it seems this may be what you are experiencing. Don't let it get you down; just keep going to the track and keep doing what you're doing, and, soon, your fellow R/C wolves will be cool to you. And soon you will be one of them. Then, in turn, you'll do the same as another lone-wolf strays into the pits; it's just the circle of life. It isn't always this way, but it happens a lot in sports where groups of people socialize.

Here's a tip for you; find the alpha male (this is the leader of the pack or the most popular), and make friends with him; this'll get you accepted into the R/C pack quicker (or any situation like this), as the pack accepts what the alpha male does without question, and your social status will immediately be elevated.

As for the Spectrum DX-3, this is a good unit for anything (in fact, we're testing it now), and this will help get you on the driver's stand quicker, as you don't need to wait for a frequency. All you need is a slot on the stand, and you're good to go. So, yes, I highly recommend the DX-3. MIP makes some great stuff for the Revo, and I currently use most of it on mine, so I would say "Go for it," You won't be disappointed. Good luck on everything, and I hope to see you at the races.

—Skinny

Mr. Skinner,

Hello, my name is Bradley D. Rose. I'm e-mailing to inquire about how I can attain one of your *R/C Car* magazine track banners. I belong to a local radio control club (*www.scorerc.com*), and we have many manufacturers' banners on the fences. We have a banner from another magazine (which I will not mention), but we have no *R/C Car* magazine banner. I enjoy your magazine and have had a subscription for a month now. I was wondering how I can go about attaining a banner so that my favorite magazine will be represented on the fence. Any info would be greatly appreciated.

Thanks,
Bradley Rose

Bradley, thank you for wanting to represent. All of us here at the magazine teared up when we read this; unfortunately, our current stock of banners are used for sponsored events we do around the country, and they cost about sixty dollars each. They usually get stolen at the events, too—thanks, guys. We're currently working on less-expensive banners we can leave at the tracks, and they'll be available for people like you. Do me a favor and email me again in January, 2006; we should have our new banners by then, and I'll do what I can for you.

—Skinny

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WORLD CHAMPIONS

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Hydro : Kanai

Dragster : Brown

Off Road 1/8 Warm-Up : Campbell : Vick : Paulson :

- FEEDBACK -

E-mail your letters direct to the editors! You can get ahold of Frank Masi at *frankm@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*

WINDING DOWN

I am new to electric cars and I was curious what the term "winds" means on a motor and what it equates to, number-wise. Is a 20-turn motor faster then a 10 turn? And if I have an ESC that says it can handle down to a 20-turn motor, what does that mean? Can I run anything from between one to 19 turns? Any info would be great.

Chris Putman
Newaygo, MI

A conventional electric motor is defined by the number of times a length of copper wire is wound around each pole of the motor's armature. Fewer turns means more power and higher rpm. In addition to the total number of turns, the type of wind, e.g., single, double or triple, affects the way in which the motor accelerates. A double or triple will feel a little smoother and easier to control versus a single. ESCs are rated by the current draw they can safely handle. Since turns generally denotes current draw, ESCs are rated by the lowest-turn motor they can safely operate. An ESC rated at 15 turns is rated to work with motors with no fewer than 15 turns.



CLASSY TRUCKERS

I'm writing you from Italy and I have a question: What's the difference between monster, off-road, race, stadium, and the rest of the trucks I didn't mention (if any)?

Raffaele Mesiti
Rome, Italy

A monster truck is typically one that resembles the original Traxxas T-Maxx in that it has a center transmission with a two-speed transmission, and exceptional suspension travel. A stadium truck is usually thought of as a 1/10-scale rear-wheel-drive, nitro or electric truck (e.g. Associated RC10GT and T4). A "truggy" is a 1/8-scale nitro truck that's based heavily on the chassis of a 1/8-scale nitro buggy. Of course there seems to be new classifications introduced all the time, but this about covers what's currently on the market. Hope this helps ya out.

SIRIO SETTINGS

I just finished breaking in my Sirio .30 in an HPI Savage. I am having a hard time tuning it in. Do you know the factory settings or any tips on tuning this engine?

Scot Berry
via rc-car.com

Sirio doesn't seem to have a "factory" set of needle adjustments for the S30, however there are some useful tuning information and videos at their homepage (www.star-motor.com). Otherwise, tune as you would any engine - beginning with the high-speed needle. The high-speed should be set so that the engine makes good power (you'll hear the rpm rise crisply and the engine will sound as if it's pulling hard) yet is rich enough to maintain proper liquid cooling. The engine should always be pushing some bluish-gray smoke. If you have a temp gauge, use it in conjunction with your ears to tell you when the high-end is set properly. Although most engines differ in terms of optimal operating temperature, anything over 230-240 degrees Fahrenheit is pushing it for most engines. Once the high-speed is set, adjust the low-speed needle so that the engine doesn't load up too much at idle (most engines will load up a little when idling). Pinch the fuel line during idle; the engine's rpm should begin to rise until after three or four seconds. If the idle goes up right away, the low-speed is too lean.

TRAXXAS RUSTLED

Great Mag! I have a 2.5 Traxxas Nitro Rustler that I can't keep running. Is it because of the WD-40 that I use to prevent corrosion? If not, what are the factory needle settings (idle, high, and low)? The reason I ask the factory settings is because when I did the pinch test it took too long to die. I have only been in nitro R/C for about a year and I need help.

Charlie Morgan
Connersville, IN

Charlie, the stock settings for the TRX 2.5 are four turns from closed on the high-speed needle, and the low-speed needle set flush with the end of the carb barrel. When you perform the pinch test (after running the engine at speed for a few seconds), the idle shouldn't rise for at least three to five seconds when you pinch the line - if it rises right away; your low-speed needle is too lean.

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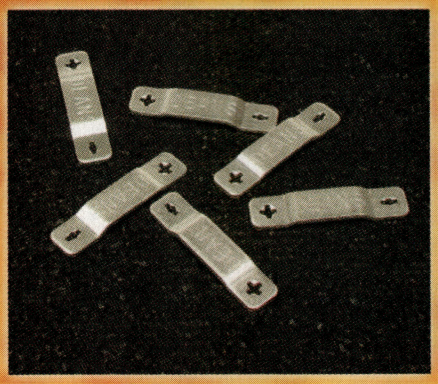

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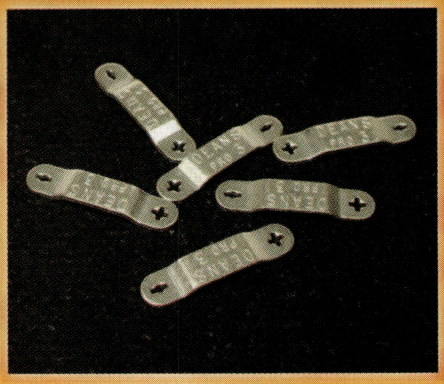

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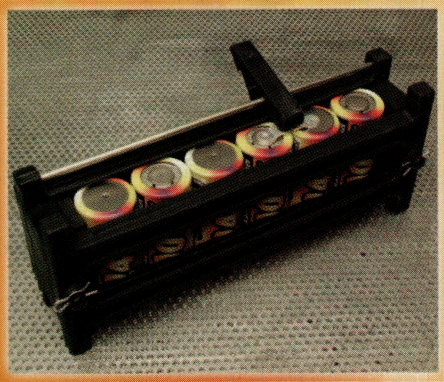

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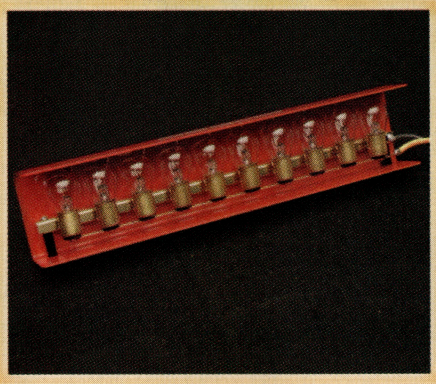

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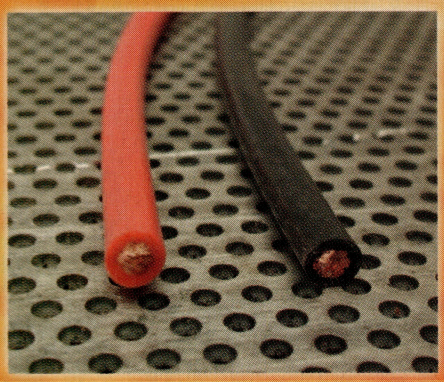

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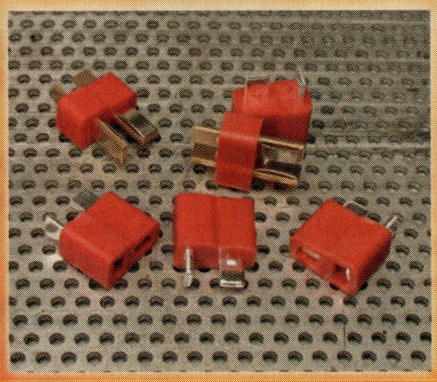

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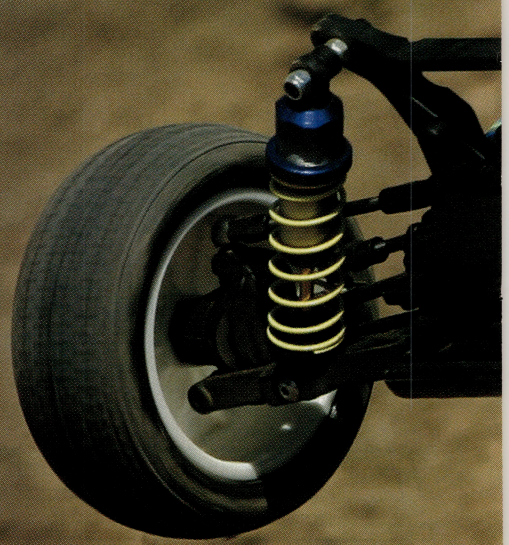
FIRST LOOK

KYOSHO LAZER ZX-5

Inside the hottest new 4WD electric buggy

Words and photos by Frank Masi

I've been a fan of Kyosho's 4WD off-road buggies since building my first Optima (the chain-driven model) way back in '86. I soon progressed to the belt-driven Optima Mid (having lusted for the prototypes run at the '87 IFMAR Worlds) and then to the option-packed Mid SE. When Kyosho revealed the all-new Lazer ZX in '89, I just had to have one, and I raced it all over New England and New York, winning or coming close nearly every time I placed the car on the track. Then, something strange happened: Kyosho sort of dropped off the 4WD buggy radar, seeming to lose ground to competitors such as Schumacher and Yokomo. Worse, Kyosho stopped selling its high-end competition Lazer kits in the U.S., relegating us to sport-level cars while we could only drool over the racing cars we saw in Japanese R/C magazines. Fortunately for all R/C hobbyists and racers, Kyosho is back in the U.S. market, big time, and one of the most exciting announcements is the all-new Lazer ZX-5—a full-on competition buggy that looks to be the most potent Lazer yet. Although the car hasn't yet been released, team drivers Jeremy Kortz and Mark Pavidis took a pair of pre-production ZX-5s to the 2005 IFMAR Worlds in Italy, and with scarcely any prior wheel time, put both cars into the C-main. As I simply couldn't wait any longer to check out the ZX-5, I contacted Steve Pond at Kyosho America and he arranged for me to meet Kortz at Hot Rod Hobbies Raceway in Saugus, California for a closer look (and a little trigger time).




KYOSHO
KORTZ
Peak Racing
KYOSHO

FIRST LOOK

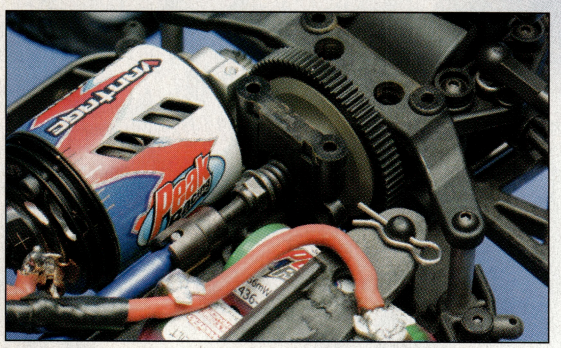
KYOSHO LAZER ZX-5

wielding the lazer

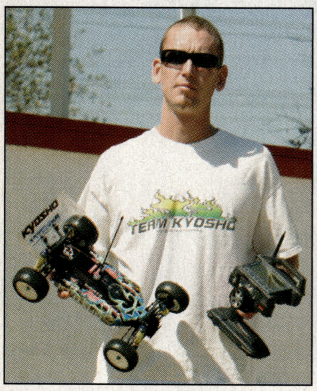
Jeremy's ZX-5 arrived at our local track (Hot Rod Hobbies) in precisely the same configuration as it had left the Worlds in Italy—Jeremy had given the car a once-over and a good cleaning, but it was otherwise unchanged. Fortunately, the setup for the low-bite and bumpy Worlds track seemed to be nearly ideal for our test track. The car was fitted with Losi BK Bar rear and Taper Pin front tires, and had the same 14-turn Peak Racing Pavidis Edition modified motor Jeremy used in Italy.

After testing the X Factory X-5 last month, and driving the ZX-5 this month, I'm convinced that front one-ways are as effective for off-road as they are for on-road (both cars were equipped with one ways). The ZX-5 drives like a well hooked-up 2WD car, but is simply easier to drive. The front end doesn't dart about during cornering, and there's absolutely no twitchiness to the steering response. The ZX-5 turns-in well, but doesn't exhibit oversteer; it's a very easy car to drive quickly. When accelerating out of turns, the ZX-5 pulls hard and keeps its rear tires planted, making it easy to hug a tight inside line yet still put a substantial amount power to the ground.

The overall balance and feel of the chassis and suspension is very good. The car made simple work of the track's challenging jump sections, easily pulling up and clearing the large infield quad. The ZX-5 has good mass-centralization, and therefore jumps with a neutral attitude. The rear end doesn't slap the ground during landings—a rare characteristic for a four-wheeler. The long-travel suspension has plenty of travel, enabling the wheels to drop into holes and to rise over bumps with little effect on the car's trajectory.



An adjustable slipper clutch sandwiches the ZX-5's 48-pitch spur gear, and it's relied upon to control wheelspin as well as to lessen the effects of drivetrain shock when the car goes through bumps and lands from jumps.--



Team Kyosho's Jeremy Kortz is helping to develop the next generation of Kyosho cars and trucks. Jeremy and teammate Mark Pavidis put their pre-production Lazer ZX-5s into the C-main at the recent IFMAR Worlds in Italy. Jeremy also made headlines as the "Worlds Fastest American" at the 1/8-scale Off-Road Worlds, where he placed his Kyosho 777 in third overall.



The molded chassis keeps the cost of the ZX-5 down, and is inexpensive to replace should it become damaged. The front suspension unit is separate from the main chassis to reduce repair costs. Team Losi BK Bar and 4WD front Taper Pins were used for our test session.

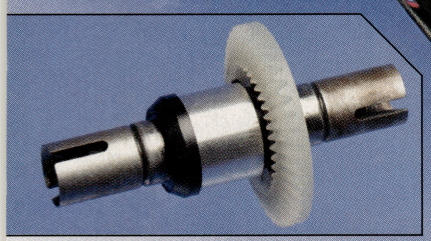


Peak Racing supplies horsepower for both Kortz and his Kyosho teammate, Mark Pavidis. As there isn't yet a "Kortz Edition" motor in the Peak catalogue, Jeremy went with the Pavidis Edition 14-turn motor for the very slick and bumpy Italian Worlds track. Note the vertical ball-stud camber-link mounts, which allow for a wider range of fine-tuning adjustments for the car's roll centers.



The ZX-5 offers a wide range of front-drive options. The car can be fitted with front and rear ball diffs, a touring-car-style front one-way (which replaces the front ball diff), or a front diff or one-way but also with a one way located on the front gearbox's input shaft (as shown here). Dual steering bellcranks pivot on ball bearings (on Kortz's car; the production kit may instead have bushings) and have unique vertically mounted steering tie-rods.

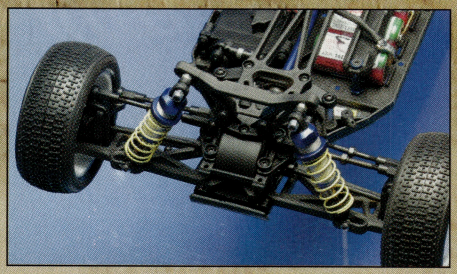
The ZX-5 is Kyosho's first-ever shaft-driven Lazer 4WD off-road buggy (all previous Lazers have relied upon belts), but Kyosho has plenty of experience with this drivetrain style, as it has won nearly every IFMAR 1/8-scale off-road world championship with its shaft-driven Inferno buggy series. Some elements of the drivetrain are derived from the FW-05 nitro touring car series, e.g., the gearboxes and center prop shaft. The chassis is a molded tub that is actually quite flexible without the upper deck in place. Kyosho is experimenting with several types of upper chassis to allow the racer to tailor the ZX-5 for both smooth and bumpy tracks.



The Lazer ZX-5's optional front one-way unit. Steve Pond from Kyosho America believes that a locked front diff "spool" will be a future option. One ways generally provide better on-power steering response and a harder "pull" when compared with a ball diff. A front spool provides similar results, but also preserves the four-wheel braking of a dual ball-diff setup.

FIRST LOOK

KYOSHO LAZER ZX-5



Long-travel suspension arms helped tame the ultra-bumpy Italian Worlds track. Jeremy told us that the ZX-5 was one of the smoothest 4WD cars on the track—even during the mains, when two solid days of running had caused the track surface to deteriorate substantially. Kyosho's aluminum shocks offer a wide range of piston options, and are threaded for easy pre-load adjustment.

CONCLUSION

Although the ZX-5 may be available by the time you read this, the car's final specifications and price haven't yet been set by Kyosho America. One thing's for certain: the car shown here is very close to production. The car will have a molded chassis structure, and the suspension appears to be finalized. In addition to the ZX-5, Kyosho has a new 2WD buggy in the works, which is still in the early phases of development and testing. Kortz and Pavidis drove two distinctly different prototypes at the Worlds, and both made it to the B-main. Kyosho is on the move, and from what I can tell, the Lazer ZX-5 is just the tip of the iceberg.

SOURCES

- **Kyosho America**, 20322 Valencia Circle, Lake Forest, CA 92630-8158 • phone (949) 454-8854; fax (949) 454-8881
- **Team Losi, Inc.**, 4710 E. Guasti Rd., Ontario, CA • phone (909) 390-9595
- **Team Orion**, 22601 La Palma, Suite 103, Yorba Linda, CA 92887 • phone (714) 694-2812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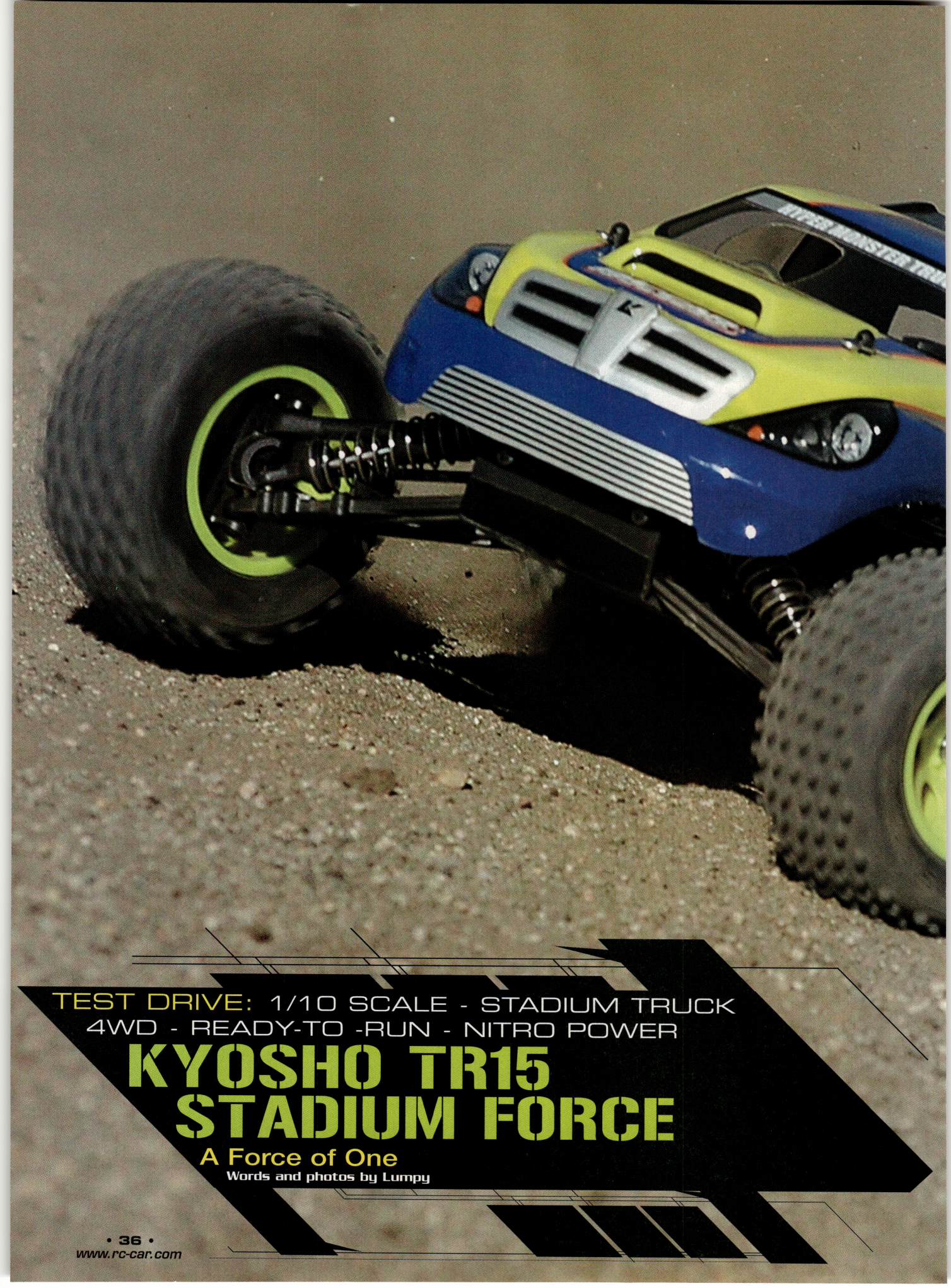


TEST DRIVE: 1/10 SCALE - STADIUM TRUCK
4WD - READY-TO -RUN - NITRO POWER

KYOSHO TR15 STADIUM FORCE

A Force of One

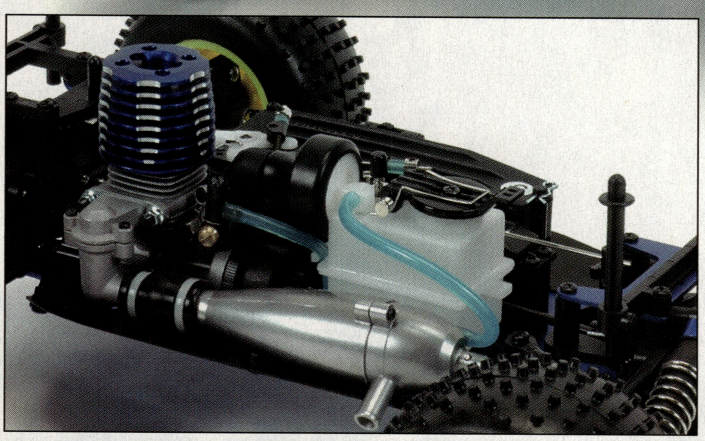
Words and photos by Lumpy



Kyosho re-joins the 1/10-scale 4WD truck wars with its new TR15 Stadium Force, which is based on the World-Championship 1/8-scale technology that went into the Inferno 4WD buggy series. This RTR (ready to run) nitro mauler boasts a GXR-15 engine with a revolutionary recoil starter with no parasitic drag, meaning that it revs like a full-on racing engine but has the convenience of a pull-starter. Fitted with larger tires than its buggy cousin, the Stadium Force is at home bashing in the backyard or ripping around an off-road track.

KYOSHO TR15 STADIUM FORCE

Take out two Phillips-head screws and a body clip to get to the batteries and receiver.



Check out the fuel-line primer pump and how the tank keeps the air filter from moving.

WHAT'S IN THE RTR BOX?

Kyosho went all out with the RTR Stadium Force, right down to the box with a cellophane-window package worthy of Toys 'R' Us. The TR15 SF comes with a Kyosho Perfex KT-3DX two-channel radio, KR-3 receiver, KS-3 steering and throttle/brake servos, and four-AA battery holder. It also comes with a full instruction and hop-up manual, fuel bottle, four-way wrench, three Allen wrenches, L-type glow plug ignitor that runs on two D-cell batteries, and two spare body clips. All you need to be ready-to-rip are 12 AA-batteries, two D-cells, air filter oil and nitro fuel; we used Byron's 20-percent RTR. This puppy even comes with a throttle-return spring in case you lose your batteries halfway through a 75cc tank of fuel.

HOW FAST IS THE GXR-15?

Power isn't a problem with the TR15 Stadium Force, unless it's too slick to put all of the power to the ground. The GXR-15 engine has plenty of punch off of the bottom and revs out to a scary-fast top-end. On pavement and hardpan, it hooks up and hauls the mail, but it can be a handful on dried leaves, pine needles, gravel and loose sand. It has plenty of low-end for blasting off of corners and over big jumps, and the no-drag pull-start mechanism has to have some effect there. The engine revs freely and gives the stadium truck an insane top speed. Some of that response, no doubt, comes from the aluminum racing clutch (MIP-type two-shoe) and the lack of a center differential, too. We had Justin Jones, son of four-time 250cc motocross champion Gary Jones, do the driving for the photos, and Justin has an HPI MT2 18SS. Justin reports that the Stadium Force feels faster than his .18-equipped truck. It doesn't quite have the low-end punch of the bigger HPI, but it revs out well and rips on top.

WHAT ABOUT THE SUSPENSION?

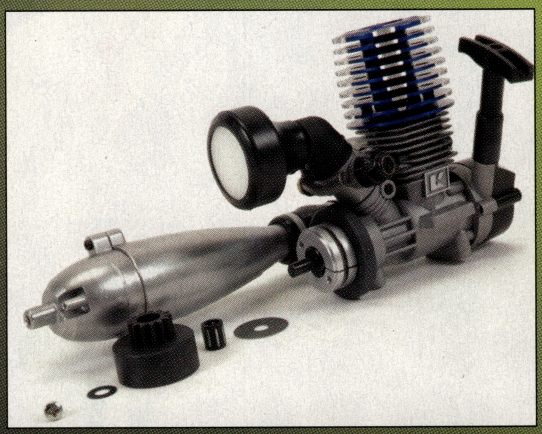
Kyosho did a good job of setup with the TR15SF. The laid-down shocks work well on big jumps and track well over uneven surfaces. Justin was soon doing big doubles on the Pee-Wee motorcycle track at Quail Valley MX Park in Gorman, California. We set the front shocks to maximum-preload for the large jumps, and we lost some steering response, but it still handled well. Since the shocks are plastic with six-position preload pins, it's obvious Kyosho did a lot of testing

engine-ovations

Kyosho's new pull-start system is pretty ingenious in that it doesn't slow acceleration or deceleration because of parasitic-drag from a one-way bearing. On a small engine, this friction can cost up to 25-percent of the available power, and Kyosho's system eliminates this power loss. Instead of a one-way bearing, there's a worm-gear that rides on a keyed T-handle. When the starter-cord is pulled, the worm-gear pushes the end of the "T" into the extended crank pin, and the starter turns the crank. When the recoil spring retracts the cord, the worm-gear pulls the "T" back into its resting place in the housing. Cool, eh? Not stopping there, Kyosho fitted the GXR-15 engine with a bona fide racing clutch, slide-valve carburetor and oversized head with lots of cooling fins, and the TR15 has extra chassis holes for mounting a larger engine, should you feel the need for more speed. If we went to a larger engine, we'd fit it with the Kyosho starter-system first!



Leave it to Kyosho to come up with a pull-starter that isn't a drag once the engine is running. The heart of the system is the worm gear that pushes the T-bar into the pin on the crank.



The trick GXR-15 engine also has an MIP-style aluminum racing clutch and a two-piece air filter mount that's "captured" by the fuel tank.



Kyosho's TR15 Stadium Force is as Ready-To-Run as it gets. You only need threadlock, air filter oil, 12 AA batteries, two D-cells and 20-percent nitro fuel.

with the TR15SF. Instead of hinge pins, the lower A-arms ride on pivot-balls, and the non-adjustable camber links ride on ball-ends. The front camber arms have stabilizers that run from the midpoint of the links to the steering bell-crank mounts so camber doesn't change during travel. The rear shocks have three upper mounts and two lower, but the fronts only have two lower-mount options. The lay-down design yields almost 60mm of travel before the chassis bottoms, and there's a bit of up-travel to help prevent breakage from crooked landings.

HOW DOES THE STADIUM FORCE HANDLE?

We had a blast driving the Stadium Force on a variety of surfaces, as Kyosho intended. The spike tires hook up pretty well on loam and dig into soft sand, but it's challenged on slick hard-packed soil. There's a slight push going into corners with trailing throttle, but that's a result of the lack of a center diff. Justin learned quickly to give it more throttle in corners. The TR15 came with the steering link through the second hole out from the servo-pivot; we moved it out to the fourth (last) hole on the horn to get more steering lock. One can always dial out steering for really slick surfaces on the radio, but we didn't feel the need to do so. The truck jumps and corners well, and the compliant suspension keeps it hooked up and hauling on rough tracks and when bashing. The TR15SF also comes with provisions for a rear anti-sway bar to cut down on body roll during hard cornering, and it doesn't have very firm tire-foams, which helps the spikes grip a variety of surfaces.

WHAT ABOUT STARTING AND DURABILITY?

We never had any trouble getting the GXR-15 engine to light up and run smoothly. It usually lit up on the first pull, thanks to the pumper on the fuel tank and short fuel line. A couple of pushes on the primer-pump got fuel through the short line to the slide-type carb, which holds a tune well. It always lit up within three yanks on the trick pull-starter. We ran three tanks of fuel through it on the bench (leaning it out an 1/8-turn per tank) then ran a fourth tank dialling in high- and low-speed needles. We crashed the TR15SF many times doing testing and the photo shoot, and nothing broke. The set screw on the steering link did work loose, so we applied threadlock and cranked 'er down, and we never had to worry about it again. This is one tough

KYOSHO TR15 STADIUM FORCE



truck that's built to take abuse.

Kyosho didn't want the pipe coming loose from the header when the Stadium Force cases a jump or hits an immovable object; the header is actually a two-piece unit that bolts securely together (and to the engine), and the aluminum tuned pipe has a sturdy front mount. It also has a rear chassis-brace but no front brace. The TR15 also has a cool fuel-line holder integrated into the fuel tank so the line can't get chewed up by the clutch pinion or spur gear. And there's a cool bell-crank servo-saver. We tested them all, and the Stadium Force kept coming back for more.

WHAT WOULD WE CHANGE?

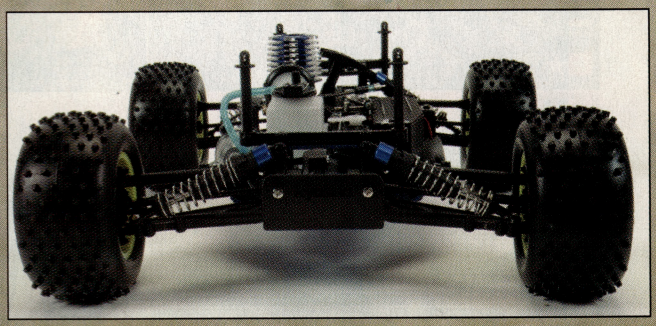
Being racers, we'd want to "race the truck," as they say in the UPS NASCAR commercials. We'd chuck the spike tires and replace them with Pro-Line Holeshots for hard-packed tracks like Hot Rod's or SV Speedway. We'd also replace the disposable AA-battery holder with a six-volt NiMH pack for more responsive steering, throttle and brakes. Next, we'd go with Teflon-coated aluminum shocks from the optional-parts catalog, along with springs and a selection of shock oils for track-tuning. And we'd like to try out the special tuned pipe, too. Heck, we'd end up ordering every trick part in the catalog, like universal-drives, steel spur and diff cases, and silicone fluids for tuning the diffs. As with the 1/8-scale 777, Kyosho supports racers with a ton of cool options and accessories for the TR15.

WHAT DO WE REALLY THINK?

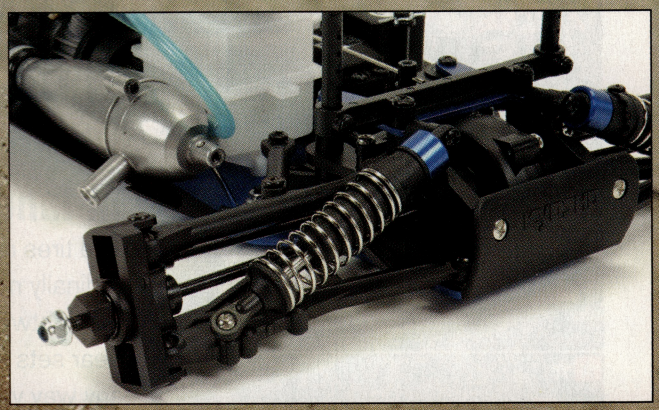
Kyosho did a great job with the TR15 Stadium Force. Its innovative pull-starter lets the GXR-15 engine rev and run like a full-on racer but keep the convenience of a backyard basher. The chassis, suspension, brakes and clutch are like scaled-down 777 components, and the Stadium Force handles well in a wide variety of



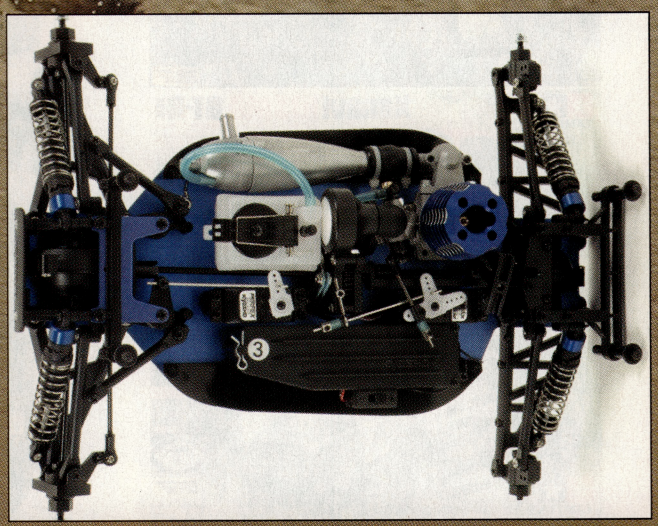
It doesn't take much time to get used to the lack of a center diff when jumping.



Laid-down shocks provide more than two inches of wheel travel.



The Stadium Force has a kicked-up chassis, camber blocks and linkage stabilizers for improved steering.



The TR15 looks like a shrunken 777, and it even has a throttle-return spring.

conditions. It's well-designed and a complete package, right out of the box. Just attach the antenna and add batteries, air filter oil and fuel, and you're set to jet. The only thing we could find to complain about was that the fuel bottle didn't come with a stopper, and the plastic tube split when we stuffed a ball-cup in it. We couldn't find a thing wrong with the RTR or radio. Good stuff!

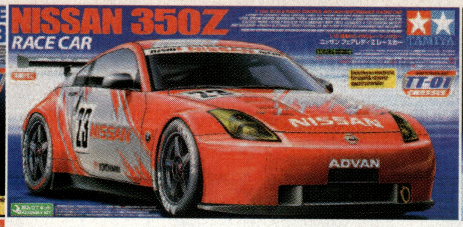
SPECS

Price:	$300 (varies with dealer)	**Drivetrain:**	Shaft-driven 4WD w/slipper clutch
Length:	16.9 in./430mm	**Bearings:**	Complete ball-bearings
Width:	13.0 in./330mm	**Suspension:**	Ind. lower A-arms, upper links
Wheelbase:	10.9 in./278mm	**Damping:**	Plastic oil dampers
Weight:	4.4 lb./1980g	**Wheels:**	Plastic 2.2 in. dish
Chassis:	3mm aluminum	**Tires:**	4.3 in. spike

SOURCES

- **Byron Originals, Inc.**, Ida Grove, IA 51445 • (712) 364-3165, fax (712) 364-3901
- **Kyosho America**, 20322 Valencia Circle, Lake Forest, CA 92630-8158 • (800) 716-4518, (949) 454-8854, fax (949)454-8881







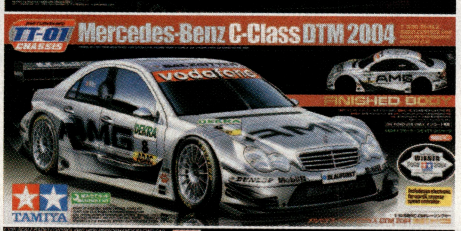


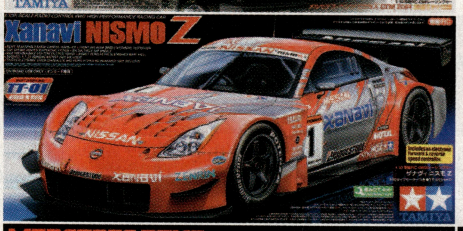














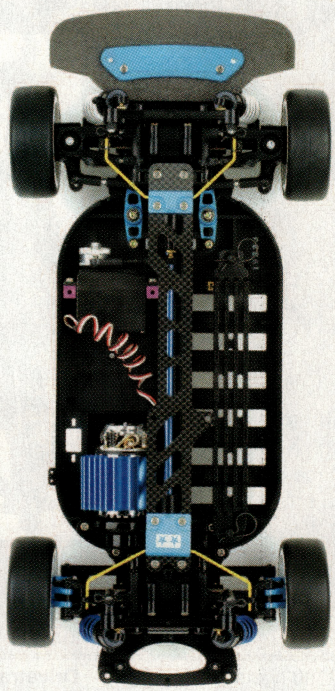




WANTED: R/C DRIVERS

In lane one – the TT-01 Chassis.

The tires really hug the road with its low center of gravity and longitudinally mounted motor. Full-speed ahead for this puppy, thanks to the lightweight design. Plus, there's plenty of tune-up parts – from gear sets to stabilizer sets – that let you customize the performance any way you see fit.



Fully optioned-out model shown.

TT-01

Wheelbase
257mm

Tread (front and rear)
157mm

Frame
Bathtub chassis

Suspension
Double-wishbone front and rear

Includes
Friction dampers, urethane bumper, type 540 motor and electronic speed controller



To get the FREE TT-01 Tune-Up Parts Guide, call 800.826.4922 and make your car even faster.















Tamiya is looking for people with the need for speed. Ready to burn rubber in the R/C scene? Get a load of the TT-01 and TB-02 Chassis.

In lane two – the TB-02 Chassis.

The tunable, well-balanced tub comes with an aluminum propeller shaft, front and rear ball differentials, upper arm with turnbuckle shaft and high-torque servo saver. Not souped-up enough for you? Our endless line of performance parts – from wheel axles to carbon damper stays – will make your tires and your competition's head spin.

TB-02

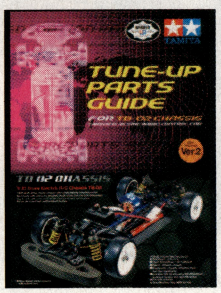
Wheelbase
259mm

Tread (front and rear)
161/159mm

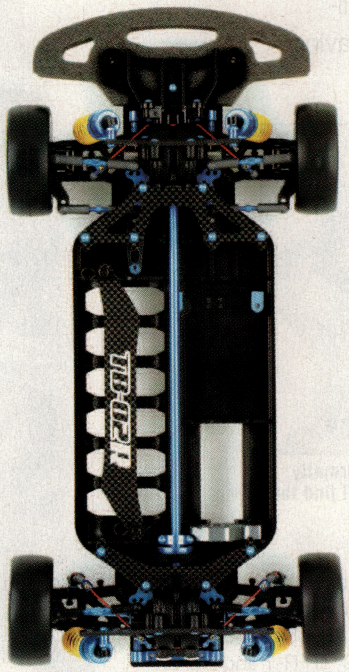
Frame
Bathtub chassis

Suspension
Double-wishbone front and rear

Includes
CVA oil dampers, ball differentials, urethane bumper, type 540 motor and full ball bearings



Need more information? Call 800.826.4922 to get the FREE TB-02 Tune-Up Parts Guide.



Fully optioned-out model shown.



Top off your R/C car body with show-car quality polycarbonate paints.

Answer the call. Peel out to your local hobby store and choose the chassis that's right for you. Both the TT-01 and TB-02 have the power that every*body* wants. Because nobody wants to look like a beginner.

Get into the race by logging onto **tamiyausa.com/tcs_races** for the complete 2006 TCS schedule.

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TAMIYA

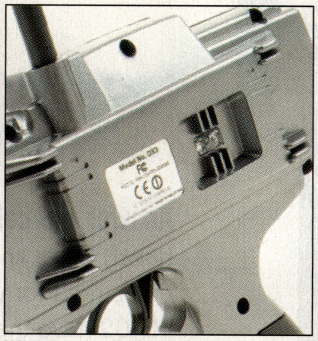
First Look SPEKTRUM DX3

Spektrum clears the airwaves for less than $250

In the last few years, we've really put the "radio" into the radio-controlled hobby. It seems that just a few short years ago, drivers had to wait for what seemed like eons for their frequency to clear so they could drive. Frequency conflicts at races sometimes seemed like they'd cause World War III. Then the 75MHz radio added another 30 channels to the mix, but an influx of new R/C enthusiasts quickly snapped up the slack, and the frequency wars resumed. Not only did frequency clips get passed around like a bad day at a track-and-field relay race, but glitches and interference caused more property damage than hailstorms and tornados. But the worst part was having to wait around for track time.



Grip levers A and B allow quick mid-race adjustments and third-channel operation.



Where a crystal would normally plug in on the back, you'll find the TX bind button.

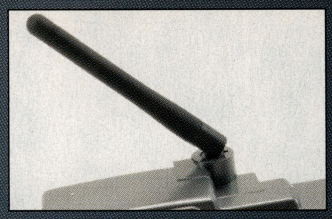
So, Spektrum developed technology to change all that. The 2.4GHz Digital Spectrum Modulation system was born, and Spektrum developed RF modules to adapt existing pro-level radios to DSM technology. This revolutionary technology freed enthusiasts and hardcore racers from having to pass frequency clips, wait for track time or keep a stock of spare radio crystals in a velvet vault. The RF modules would simply search for an unused frequency, communicate that wavelength to the receiver and prompt the driver to hit the track. Spektrum developed RF modules for the Airtronics M8/11, Futaba/HRC, JR R-1 and KO EX-10/JR Z-1, and the radio revolution was on the throttle. Nomadio actually beat Spektrum to the punch by introducing an OEM DSM-equipped radio first (the Sensor), but Spektrum had been developing the system you see here—the three-channel DX3—for years. And the best part is that the DX3 cost only a few dollars more than many mid-level conventional radio systems.

BONDING...er...BINDING

When you first activate your DX3, the receiver and transmitter have to be bound together, sort of like pledges to a fraternity. The DX3 has a Quick-Start feature that allows you to get up and running in a matter of seconds. Simply press the receiver's bind button and turn on the receiver, then press the transmitter's bind button and turn it on.



Extra SR3000 receivers for second and third vehicles go for $79.99 each.

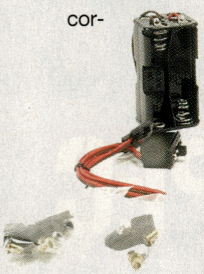


Detents allow the DX-3 TX antenna to be folded flat or at a 45-degree angle.

That's it! The DX3 also has a built-in failsafe system, so if you press the throttle trigger forward when you bind, it automatically sets the failsafe to brake if your receiver batteries go dead or the wires get cut. Also, the DX3 has a three-model memory, so you can buy extra receivers for other R/Cs and bind them to the transmitter once. Owners also have the option of naming the three R/Cs (up to three letters or characters) instead of trying to remember which car, truck or boat is which number. The DX3 memorizes the settings for each model and automatically resets to them when you scroll to that name so, after Quick Setup, you can fine tune the settings for a track, and the DX3 will remember and return to them.

EXTERNAL/MECHANICAL ADJUSTMENTS

Like most high-end radios, the DX3 has externally-adjustable features in addition to electronic setup in various modes. Wheel tension is adjusted via a recessed screw under the wheel. There's an electronic digital steering trim on top of the wheel housing, and the trim setting is memorized every time the TX is turned off. Ditto for the Static Brake Trim on the front of the wheel housing. One can dial in more turn-in on tight course by dialling in more static brake, and the TX will remember the setting. On the pistol grip, there are "A" and "B" toggles. The A-lever can be set for Panic Braking; electric drivers can dial out brakes to prevent hooking into corners under hard braking, while nitro drivers can dial in more brakes to compensate for fade during long mains by simply toggling the switch with the thumb. The B-lever can be toggled forward or back to compensate for changing track conditions; push forward to dial in more steering and back to reduce steering lock without having to look at the LCD screen or access the four-button electronic functions.







THIRD CHANNEL SELECT MODE

Spektrum designed the DX-3 with a programmable third channel so that it can be used for shifting gears, adjusting the fuel mixture on boats and switching grip lever A to Panic-Brake mode. Factory preset is "0," which inhibits the third channel and activates brake-endpoint adjustments via lever A. Toggle to "LN" on the LCD screen, and the third channel is placed into linear mode so that grip lever A can be used to adjust fuel mixture via a servo on the fly, as used in R/C boats (or, if making a run up Pike's Peak, one can adjust mixture for altitude). Or, while in "FN3" on the display screen, toggle to "3P" to put the third channel in a three-position mode. This can be used to manually shift into first second or third or from forward to reverse and back on nitro monster trucks. Or it can be used to operate a lift bed on a dump truck.

OTHER IMPORTANT FEATURES

- There's an external jack for charging batteries, should you go for the Spektrum pack (No. JRPB958) or individual rechargeable NiCd AA-batteries. This jack accepts only JR-style wall chargers (not included).
- The DX3 is also equipped with a low-battery alarm that sounds whenever voltage drops below 9.0V. The display screen will then alternate between normal display (MD1) and low-batt display (BAT, 8.9V, for example), and the lithium-battery backup will kick in to keep the memory from being lost. The lithium batteries must be replaced every five years, or when the "BAK-ER" screen appears.
- Both the TX and RX antennae are significantly shorter than conventional antennae. The transmitter's antenna can be folded flush with the body for storage with less chance for damage during handling, and the RX antenna is only 8.5 inches long. There's a provision for the wire to exit the RX from the top or end, but the case must be popped open to change it. Also, the antenna is recommended to be mounted vertically, but it can be placed under the body (with no loss of range) to prevent crash-damage. It can also be cut to exactly 3.6 inches with little loss of range.
- There are also function modes for travel-adjust, steering rate, sub-trim, direct-trim and servo-reversing, as with all high-end radios, and there's steering- and throttle-mix modes for vehicles with dual steering or throttle/brake servos to accommodate monster truckers and 1/5-scale racers.

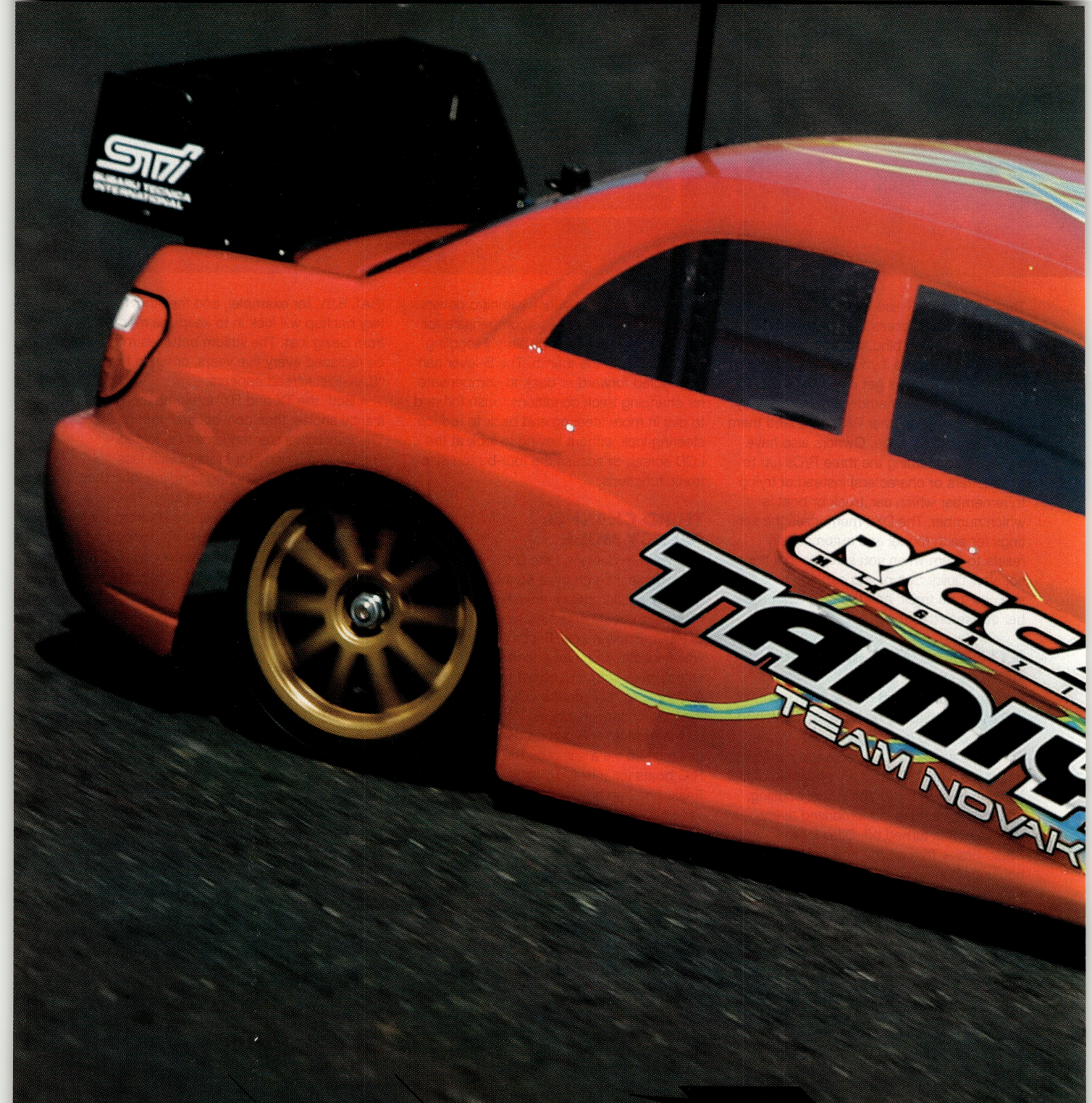
HIGH-PERFORMANCE, LOW-PRICE

We received the SPM2030 system, which includes the SR3000 DSM receiver, Z590 high-torque servo, Z270 servo, mounting hardware, battery holder and switch, and mounted it the GS Storm CL-1 (tested in this issue). It took seconds to bind and Quick-Start the 2.4GHz system, and performance was excellent right out of the box. There's no glitching, interference or waiting around for frequencies to clear, and on-the-fly adjustments are a cinch. The best part is that the system works so well for so little initial outlay of cash. Horizon Hobby lists the MSRP of the SPM2030 system as $349.99, but is selling it on its Website for $249.99. That's a complete DSM system with lot of features and performance for what a DSM RF module and servos would cost. For Spektrum to raise the performance bar while lowering cost to below that of a pro-level, crystal-bound radio is simply astounding.

The Spektrum DX3 system (SPM2030) includes an SR3000 RX, high-torque Z590 and standard Z270 servos, AA-battery holder, switch, servo-mount hardware and manual for a street price of $249.99.

SOURCES

- **Spektrum/Horizon Hobby, Inc.**, 4105 Fieldstone Road, Champaign, IL 61822; (877) 504-0233, (217) 355-9511



TEST DRIVE: 1/10 SCALE - DRIFTING CAR
4WD - UNASSEMBLED KIT - ELECTRIC POWER

TAMIYA TT-01D DRIFT SPEC

When it comes to fun, let it slide

Words and photos by Frank Masi



Drift driving has blossomed into a full-blown sport that receives international recognition. The concept of drifting involves powerful rear-wheel-drive sedans driven in graceful slides around a predetermined course. The key to success isn't to have the quickest lap time, but to drift your car with the most precise and longest-held slide. Drift drivers can also compete in difficult team events, sliding their cars in pairs, inches apart. The drift bug has bitten the R/C hobby as well, and Tamiya is the latest company to embrace drift driving with its new TT-01D D Spec chassis. The D Spec features specialized "drift" tires, which enable the car to be easily slid for a realistic drifting experience, and a host of additional hop-up parts that help the car to get sideways.

TAMIYA TT-01D DRIFT SPEC

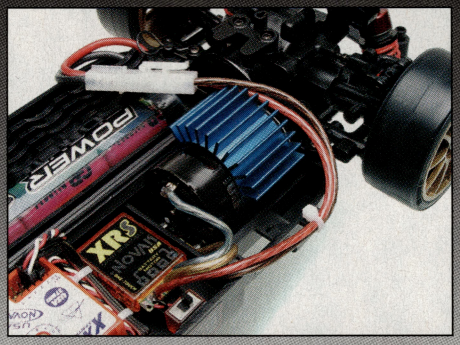
building and setup tips

The TT-01D is the definition of simplicity; many areas of the chassis have been designed to multi-task, thus lowering the kit's total parts count. Still, we had a slight moment of confusion during construction, and it was attributed to bag labeling and parts location within the kit. While following the otherwise informative manual, we kept running into trouble when tracking down parts. Turns out that Tamiya tells you which parts bag goes with each step, but forgets to share with the builder the logic behind some of its bag labeling. We'll break it down for you: The "SB" parts can be found in the "shaft bag." Get it? Along this line of thinking, "GB" means "gear bag" and "BB" means "bearing bag." Once you figure this out, the kit goes together without a hitch.

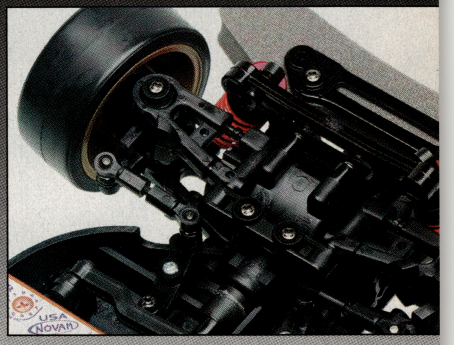
The TT-01D kit comes with several key option parts (e.g. bearings and a black Sport Tuned version of the venerable Mabuchi 540 motor), but we couldn't resist adding that 38th piece of flair—a set of Tamiya's TRF Fluorine Coated Dampers (in red). To be truthful, we added these to give the chassis a bit of extra zing, and because we had an extra set lying around. Still, these are arguably the test touring car dampers on the market. We used the kit's shock fluid with the three-hole Fluorine pistons and the kit's short-red springs.



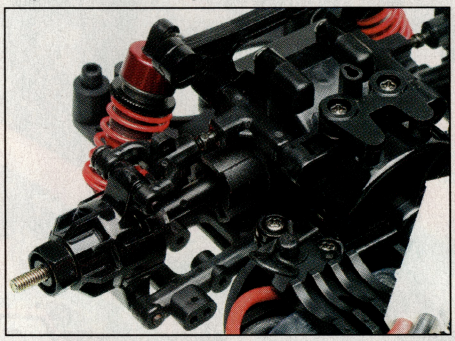
The TT-01D Drift Spec chassis is inexpensive and extremely durable—perfect for a fun drift machine. Tamiya includes in the kit a full set of ball bearings and a TEU-101BK ESC (not shown).



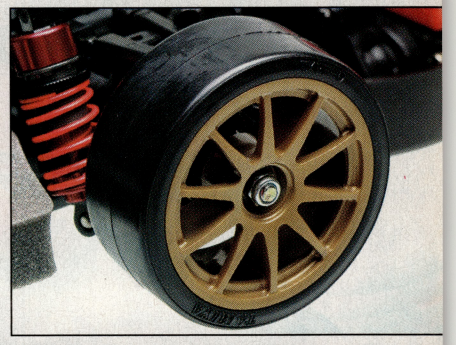
A more powerful Sport Tuned 540 motor is included as a hop-up, but you'll want to install a good competition stock motor for increased torque. The blue aluminum heatsink is also included. Novak's XRS reversing ESC and Xxtra Synthesized receiver help in the control department.



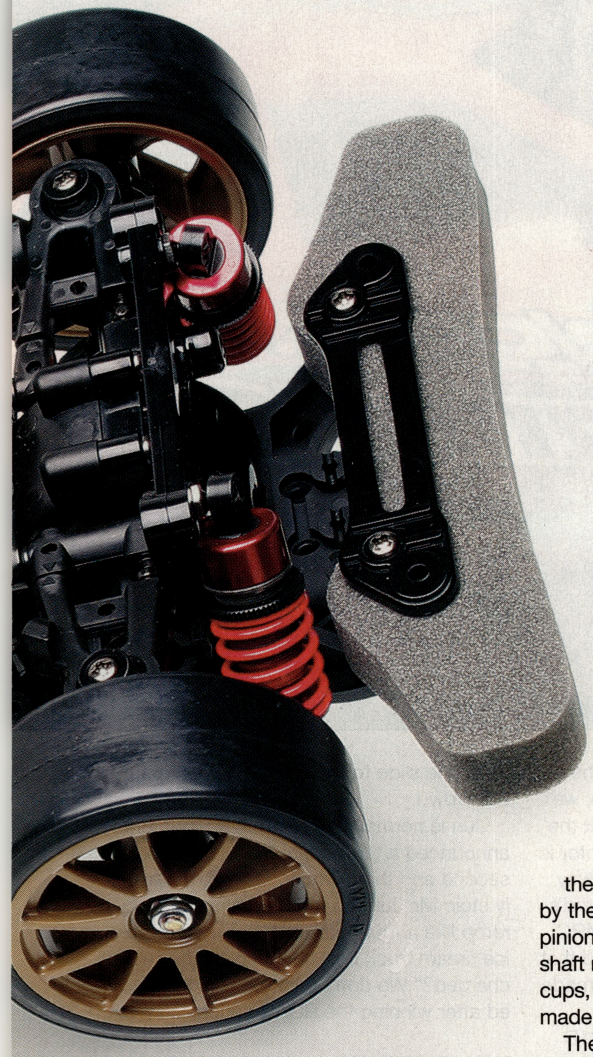
Tamiya includes adjustable upper wishbones that allow for camber adjustment (essential for fine-tuning the drift).



Check out the TT-01D's unique plastic driveshafts; they're lightweight and durable—and very cheap to replace. We installed a set of Tamiya's optional TRF Fluorine Dampers in place of the kit's plastic Mini CVA shocks—mostly for the sake of appearance (and we had an extra set).



Tamiya's pre-glued D-Spec tires are made from two different rubber compounds—a harder outer section and a softer inner section. These tires have more grip than Yokomo's ring-type drift tires, but a bit less than HPI's single-compound drift tires.



DRIFT SPEC FEATURES

The TT-01 chassis succeeds the aging TL-01 as the mainstay of Tamiya's entry-level touring car line, and it has underpinned many of Tamiya's XB (Expert Built) series of RTRs. With the TT-01, Tamiya has fused together the DNA of its high-performance racing chassis with the low parts count and supreme durability of, say, a Hornet or Grasshopper.

The basic layout of the TT-01 comes straight from the TB Series, which includes the top-of-the-line Evo kits. Encased bevel-gear differentials at both ends are joined by a long central propeller shaft. A transverse motor spins the prop shaft directly using an efficient 04 Module primary gear set. The 01D kit comes with a black Sport Tuned 540 motor, and the lowest ratio possible with the stock chassis—a ratio of 8.35 given by the included 61-tooth spur and 19-tooth pinion gears. Not only is the 01's center prop shaft made from plastic, but its diff output cups, axle cups, and driveshafts are also made from a similar nylon composite.

The 01's suspension is textbook double wishbone; however, the Drift Spec kit includes adjustable upper arms that allow you to change the wheels' camber (essential for successful drift driving). Oil-filled Mini CVA dampers adorn each corner of the 01D, and they're shod with special short red springs, which are soft enough for quality drifting.

The key feature of the 01D is its tires, which are specially made to slide even on high-grip surfaces. Each tire has a soft half and a hard half, and come pre-glued to gold spoke wheels to ensure that they're installed to the chassis with the hard side facing outward. You can tailor the car's grip by balancing the two sections of the tires: Increase negative camber to gain more grip, or stand the tires up to get them to slide more.

Tamiya now includes an excellent forward-and-reverse ESC (electronic speed control)—the TEU-101BK—with many of its entry- and sport-level kits, and it's included with the 01D. You may see in the photos that we used a Novak XRS ESC rather than the included one—this is because we pirated the Tamiya speedo for use in last month's test of the TA05. The Novak ESC was ordered for the 05, but arrived too late to meet the issue's deadline.

DRIFTING WITH THE PROS

We first tested the 01D in front of Frank's house, using a Peak 3000mAh stick battery and the kit's Sport Tuned motor. The tires are very hard rubber, and they slid pretty well on the rough asphalt, enabling us to easily pitch the car around. The tires

TAMIYA TT-01D DRIFT SPEC



The secret to initiating a drift is to transfer the car's weight to the front wheels.

seemed to scuff up very quickly, but this actually made them slide more readily. The car's stock camber settings looked right, as the tires wore evenly over their contact patches.

The big test took place at Tamiya America's Aliso Viejo, California, headquarters. We were there to cover the TCS North American Finals, and brought along the 01D to get some cool shots on Tamiya's awesome permanent roadcourse. Race director Fred Medel allowed us to run the car during Sunday's lunch break, and factory ace David Jun agreed to drive for the shoot.

After snapping off enough photos, we set David and the 01D loose on the track. Soon, Peak Racing's Greg Hodapp (another ROAR national champion) asked to go for a spin after seeing how much fun David was having. When the battery finally died (the stock setup easily runs for 15 minutes), we compared notes and it was agreed that the car needed more torque. The stock motor is decent, but it stops pulling about mid-way through most drifts. Back in the pits (Fred's pits, actually), we bolted in an extra JMRC 23-turn handout motor (you didn't need that for your race, did you Fred?), and this made the 01D come alive.

With more horsepower on tap, the 01D was much easier to drift. David and Greg hogged the controller, but really put on a show for the spectators, who emerged from beneath the pits to see what the fuss was about. While certainly not an easy accomplishment, the two pros were able to drift every corner on the track, brilliantly weaving the car through the esses, transitioning from one slide to the next to the delight of the crowd.

Jun is normally reserved, but when Fred announced a ten-minute break between the second and third A-main rounds, the usually stoic Mr. Jun ran up the drivers' stand ramp like a four-year-old who's heard the ice cream truck bell, shouting "Is it charged?" We don't think he was this excited after winning the ROAR nationals in '97.

WHAT WE REALLY THINK

Drifting adds a whole new dimension to driving, and once mastered, you'll find that your non-drift driving will improve—especially in low-grip conditions. The TT-01D is a great kit for the drift enthusiast, as it's very inexpensive (especially when considering the kit-included ESC and ball-bearings),



Peak Racing's Greg Hodapp put on a drift clinic during a break in the action at the recent TCS North American Finals.

how to drift

Drift driving an R/C car is a skill that's much easier to master than you might think. The key to initiating the slide is weight transfer and throttle use. At lower speeds, begin the drift by simply applying the throttle while turning; the power will break the tires loose, you then apply throttle to maintain the slide, using the front wheels to countersteer and keep the sliding car moving in the right direction.

Initiating a drift at higher speeds requires a bit more finesse and skill. For example, neither Greg Hodapp, David Jun nor Frank could get the 01D to drift around the Tamiya track's large sweeper. This turn was preceded by the track's main straight, and was the section in which the car achieved its highest speed. Forward momentum took away the bite of the front wheels, making it impossible to get the rear wheels to break loose. After a few laps, we figured out that we needed to tap the brakes to transfer weight to the front end of the car. The trick is to turn the front wheels and get back on the gas as soon as the brakes are released. It also helps to have a torquey motor; the larger the turn, the longer the drift, and the more torque you'll need.



Tamiya America's David Jun helped out for the test—then refused to return the radio.

highly durable, and incredibly fun to drive. We wish that Tamiya included a more suitable body for this kit, as the all-wheel-drive Subaru Impreza WRC is not technically a drift car. Still, the Subie looks good when pitched sideways. The only other things we'd change are the motor (the car needs more torque) and the diffs (the open gear diffs make it harder to maintain longer drifts). And aside from an audible resonance from the plastic prop shaft (caused by high-speed rotation), the 01D performed flawlessly (even when Hodapp pitched it over the curbs). If you've been bitten by the drift bug, Tamiya has the cure.

SPECS

Price:	$150 (varies with dealer)	**Suspension:**	Double wishbone, adj. upper arms
Length:	17.4 in./441mm	**Damping:**	plastic CVA oil-filled shocks
Width:	7.3 in./185mm	**Drivetrain:**	shaft/gear driven 4WD
Wheelbase:	10.2 in./259mm	**Differentials:**	Open bevel gear
Track:	6.3in/159mm (F); 6.2in./157mm (R)	**Bearings:**	Full ball bearings
Weight (RTR):	52.8oz/1,497g	**Tires:**	Tamiya Type D drift
Chassis:	Molded ABS tub	**Wheels:**	Gold mesh plastic

SOURCES

- **Airtronics**, 1185 Stanford Ct., Anaheim, CA92805 • (949) 978-1895; fax (949) 978-1540
- **Novak Electronics, Inc.**, 17032 Armstrong Ave., Irvine, CA 92614 • (949) 833-8873; fax (949) 833-1631
- **Peak Performance**, 22601 La Palma Ave. #104, Yorba Linda, CA 92887 • (714) 692-8533; fax (714) 692-8534
- **Tamiya America, Inc.**, 2 Orion, Aliso Viejo, CA 92656-4200 • (949) 362-2240; fax (949) 362-2250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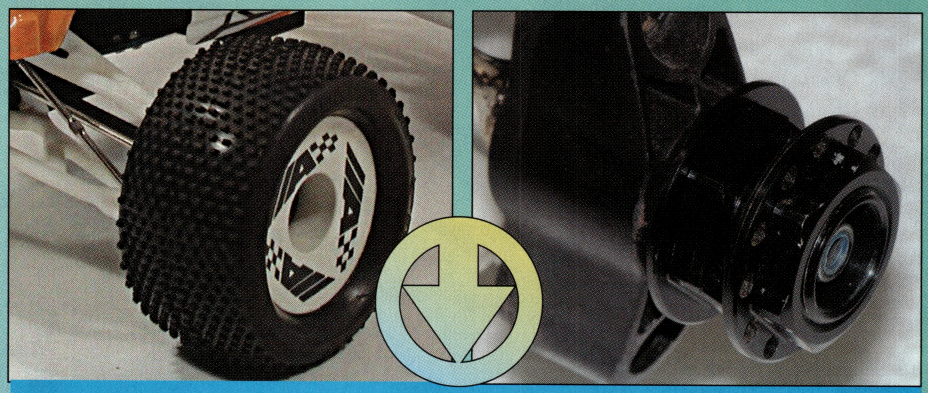
DEAR SANTA, I'VE BEEN GOOD THIS YEAR

It's that time to harass the big guy again

Story and Photos by Skinny

Well, this is the December issue of *R/C Car* magazine, which means the holidays are right around the corner, and it's time for all R/C crazies to start thinking of what we want as presents for our sweet rides. I started my wish list early this year and thought I would share it with you before I sent it off to Santa. So, get your pens and papers out and start taking notes for Santa and your loved ones; I want you all to have a happy R/C holiday, too.



These are all the rage, Santa, and I want them under my tree this year. I'm talking about the new 22mm hex nuts for the Traxxas Revo from Dace Manufacturing. These are designed to work with Pro-Line's 23mm hubs and wheels, and they're made out of 7075 T-6 hard-anodized aluminum. The Dace nuts are lighter and easier to mount, and you can use a 22mm socket wrench, which I've found to be much easier to locate at the hardware store.

Dace manufacturing
4813 Enterprise Way Unit H
Modesto, Ca. 95356
Phone: (209) 543-0299
Web: *www.dacemfg.com*
Price: $46.50

DEAR SANTA, I'VE BEEN GOOD THIS YEAR

Yes, Santa (and Shrek-ett, if you're reading this), I've been good this year, I didn't yell too much on the driver stand, and I turn-marshaled when I was supposed to. I worked really hard at bringing our readers all the info for their cars and stories to keep them laughing, and I was good to Brown Dog, too. I took him for runs and gave him Scooby snacks when he was good; we even went mountain biking together. I've even taken out the trash pretty regularly, too. My R/Cs need some new stuff for next year, and if you could please bring me some goodies for them, I'll even be nicer to Frank, Lumpy, and that Hippy guy. Santa, this is what I've been eyeing, so please see what you can do.

Your biggest (literally) fan,
Skinny



I've become smitten with Lithium batteries and can't find any better for R/C than HT Batteries. They offer longer run times for the radio and receiver packs, and HT makes batteries for all cars and radios that reduce battery weight by half. If I can't lose weight, at least my cars can. **No. HT-315, charger and pouch-cell for the 3PK and M11 radio; $75**

Contact:
HT Batteries
(818) 206-3464
Web:
www.htbatteries.com



Throttle in a bottle: Santa, the days are long at the office, can I please have a huge supply of **NOS energy drinks** at my desk to get through them? And, while you're at it, how about a cool NOS refrigerator to keep them all cool? Look for NOS in the R/C Car booth at selected R/C events around the country. If you can't wait until the next expo or race, you can find NOS at markets and stores near you.

INFO: *www.drinknos.com*

I've been eyeing this new **Rossi LSK.21 engine** it has mad bottom-to-midrange power with a decent top-end, and it looks cool, too. Leslie, if you're listening, this would make a great stocking stuffer, and it only runs around $400. I promise I'll take out the trash more if I get one this Christmas.

SG Model Engines
P.O. Box 280303
Northridge, CA 91328
(818) 472.8460
http://shop.vendio.com/RossiEnginesUSA





Wanted, one **used factory Yamaha tractor-trailer:** this is a big one, Santa, and I know it may be hard to fit in your sleigh, but I really want a factory rig like Team Yamaha. Since I'll be using it for R/C racing, I will need a couple of extras added on. Please add a doughnut launcher on top; that way my pit guy can shoot glazed doughnuts up to the drivers' stand to sustain me during long A-mains. Next, it must have a built-in Sushi bar; I need that for power food and to entertain my guests, and I'll need a 50-inch plasma TV with a satellite dish, too.

Santa, just like you, I travel a lot, but I seem to get lost more than you, so I need a cell phone with Map Quest. I know Sprint has this system, so would you please send me one of their **Sprint cell phones** with this setup? I don't want to T-bone you while I'm on the road, and some of these R/C tracks are really hard to find.





What do you say, big guy, could you possibly send one of the new **CEN Mini Madness monster trucks**? With this little baby truck I can pull trigger at a moment's notice, and it comes fully equipped–it has a radio, battery pack, and charger. I just have to charge it up and go. It even has a 540 motor for insane power. I know you want me to have fun, so this little guy would do the trick, and it costs less than $200 for everything. I know you have contacts, but, just in case, here's where you can get it:

CEN RACING
1800 E Miraloma Ave Suite F
Placentia, CA 92870
(714) 792-1923
Web; *www.cenracing.com*



Finally, big guy, how about a JConcepts 777 Illuzion body for my Kyosho 1/8-scale buggy? You know how I drive, and this body can take it: this cool-looking shell is made from a .040 inch polycarbonate that's thick and durable. Even factory Kyosho driver Jared Tebo uses this body, and you know that I want to be just like Jared.

J-Concepts Inc.
590 E. Minnehaha
Clermont, FL 34711
Fax: (352) 243-5904
Web: www.jconcepts.net
Price: $23.95 (comes clear, masking included)

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4WD - UNASSEMBLED KIT - NITRO POWER

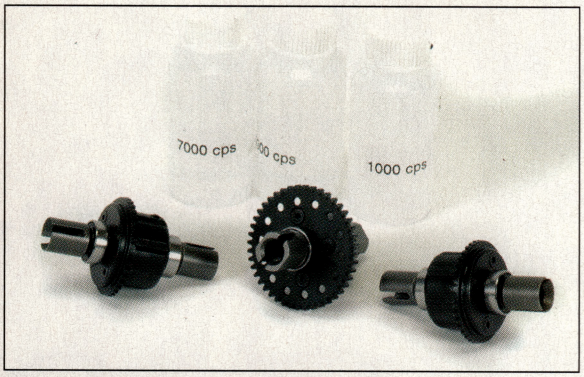
GS STORM CL-1

Designed in Europe, perfected in the USA

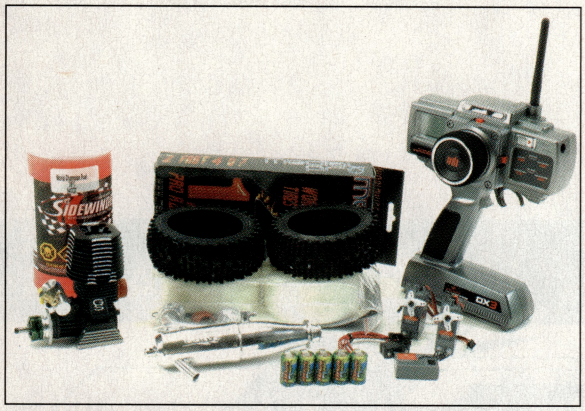
Words by Lumpy, photos by Lumpy and Frank

As big as the 1/8-scale nitro turnout is at big races in the USA, popularity of the class is *huge* in Europe. One only has to look at the roster of Off-Road World Champions from Europe vs. the USA to know that Europe is the epicenter of the 1/8-scale world. Most of the buggies are built in Japan, Taiwan and China, but the technology is developed racing in Europe on grass tracks with fewer jumps than in the USA. There, lightness, low center-of-gravity, geometry and suspension setup are paramount. So, when setting out to redesign its competition 1/8-scale buggy, GS Racing enlisted the services of renowned chassis designer Claude Lachat to pen the GS Storm CL-1. The goal with the CL-1 was to have the lowest CG, the smallest diff housings, the most-centralized mass and a light overall weight in a fully-adjustable, uncomplicated racing buggy. Once the car was dialed for European conditions, it was brought over to the USA to find rough-track, supercross-style settings. The result is a nitro buggy that will be at home at speed anywhere in the off-road world.

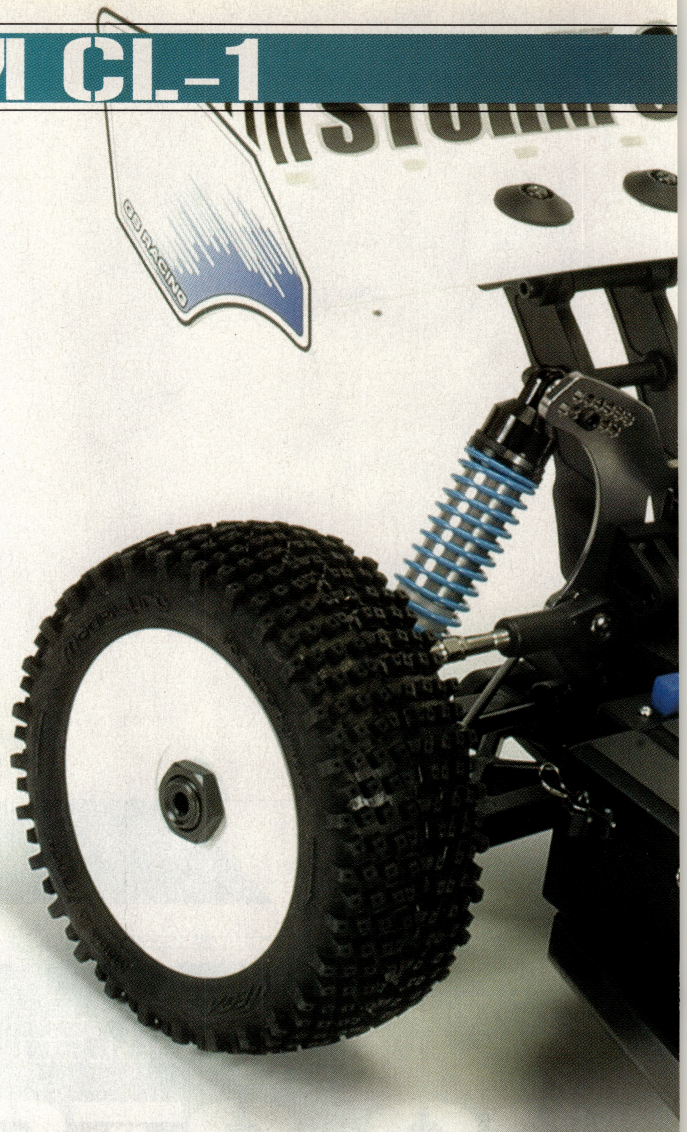
GS STORM CL-1



Not only does the CL-1 come with tiny diffs (for low CG) and hardened gears, the kit comes with three large bottles of diff fluid.



We used Sidewinder fuel, Medial Pro Vega tires, Spektrum radio, Venom NiMH receiver batteries, and GS Racing's Pro-X pipe and R21PB ($299) engine (clockwise from upper left) in the CL-1.



WHAT'S IN THE BOX?

GS outdid itself with the Storm CL-1, as the kit includes highly-detailed instructions, setup sheets for Europe and America, schematics, tools, spare parts and even three large bottles of silicone diff fluid. The CL-1 features universal driveshafts, hinge pins that don't require E-clips, 3.5mm shock shafts, a Teflon-coated 3mm 7075-T6 chassis, milled T6 chassis braces, pivot-ball front suspension and a lay-down steering servo. Toe, camber and anti-squat are fully adjustable via eccentric inserts in the toe-blocks and rear hubs, and wheelbase is also adjustable for track tightness. The CL-1 comes with just about everything you'd need to create a competitive weapon, except the box doesn't include tires or foams; how could the factory know what tires and foams work best at your local track? It also doesn't include an engine (but there's an aluminum three-shoe clutch), pipe, electrics or paint. There is even a work-towel and blank setup sheet, so one can copy it (the sheet, not the towel) and develop professional setups for each track he or she conquers.

WHAT GEAR DID WE USE?

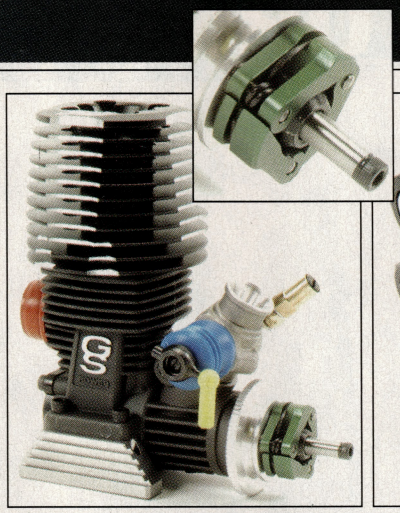
Since we're testing the new Spektrum DX-3 radio in this issue, we used it and the SR3000 spread spectrum receiver, high-torque Z590 (steering) and Z270 (throttle/brake) servos, and both the included four-AA battery holder and a 1400mAh NiMH receiver pack. For power, we went with the GS Racing R21PB long-stroke engine, GS Inline (one-piece) Pro-X Tuned Pipe, and Sidewinder World Champion 30-percent fuel. To put that Novarossi-like power to the ground, we went with GS Racing's Vega (Black Ultra) tires by Medial Pro with extra light medium foams. We also had GS Racing ace Marty Korn paint the CL-1 body.

HOW IS THE BUILD?

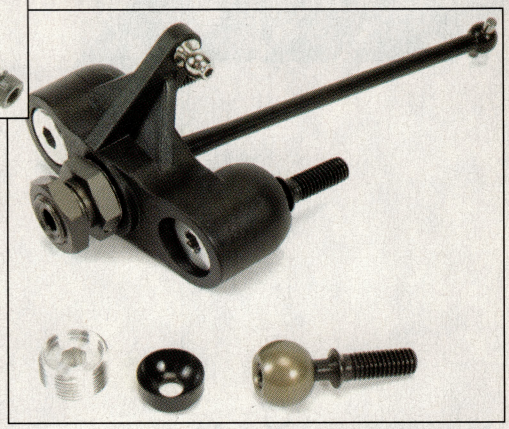
Although the GS Storm CL-1 is a complicated and highly-tunable piece of nitro machinery, the build was big fun. The instructions were concise and complete, and the parts bags were numbered and well-organized, with the various bolts, screws, washers and locknuts kept separate. Since we wouldn't be testing the CL-1 in Europe, we followed the setup for the USA, developed by none other than Marty Korn. The kit included many spares, especially inserts for toe, camber and anti-squat, and the only deviations from the Korn setup were in rear diff (1000 vs. the recommended 500 cps) and front shock (35wt vs. the called-for 50wt). The only reason we did this (initially) was that the kit didn't include the 500cps or 50wt fluids; we went back in later with the correct fluids to replicate Korn's settings exactly. The only real snag we hit was stripping a pillow-ball stud Allen-head while assembling the front end. We used our trusty DREMEL to remove the stripped stud and fashion a tap from it. Be sure to pre-tap the front wishbones and/or apply silicone or moly grease to the ball-stud threads in this step (page 17of the manual).

HOW DOES THE STORM CL-1 HANDLE?

On the rough, dry and gnarly SV Raceway off-road track, the GS Storm CL-1 handled beautifully. It soaked up the many whoops, jumps, holes and braking/acceleration bumps and stayed online, and it cornered like on rails.



Hook-up with the anodized-aluminum three-shoe clutch is excellent, and we were stoked with the GS Racing R21PB's power and delivery.



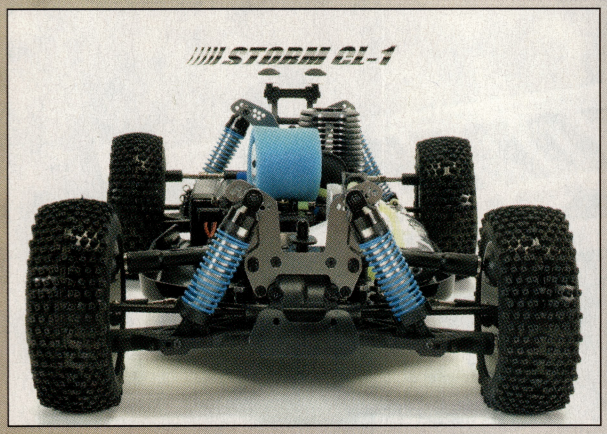
While the GS Storm CL-1's pillow-ball front setup provides excellent steering and handling, take care when threading the ball-studs into the wishbones.

The two chassis braces and anodized chassis are machined for light weight without sacrificing strength and rigidity.

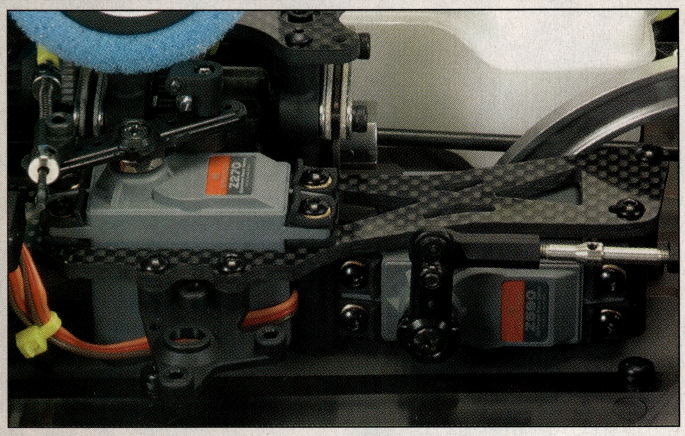
TEST DRIVE

GS STORM CL-1

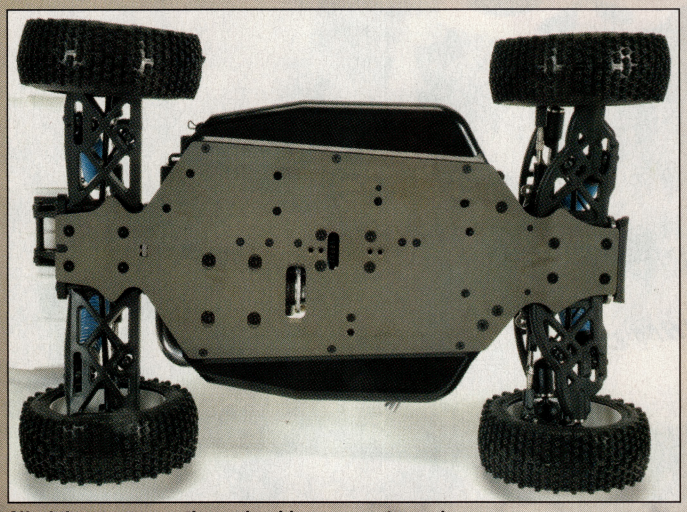




Shock-mount position and stabilizer bars fine-tune handling and body roll, front and rear.



A laid-down steering servo lowers CG, and the radio gear is well-protected by the quick-access box.



All of the screws on the underside are countersunk, and most are hex-head rather than Phillips-head.



Adjusting attitude for jump landings was simple, and the buggy never tried to loop out or endo. We only had to adjust the brakes a bit to get the buggy dialled for the rough, unprepared track, and it was a blast to drive. It would "slap chassis" (bottom out) on the largest tabletop and on other flat-landings, so we switched the front shocks to 50wt and raised front preload so the arms were slightly above level. This helped but didn't completely eliminate bottoming, and we lost a little steering response, so we switched to Pro-Line Inside Jobs and stopped the slight push. The point is that this is an excellent-handling 1/8-scale, and it's very tuneable to track conditions. Lachat, Korn and the GS Racing crew did an excellent job with the CL-1.

WHAT ABOUT THE SUSPENSION?

Suspension action is also impressive, as the CL-1 stayed planted over the worst holes, curbs and stutter bumps imagineable, yet the shocks soaked up large hits well, too. Not only were the aluminum shocks smooth in action and the spring/damping rates spot-on, the pillow-ball front end and captured, E-clip-less hinge pins kept the tires hooked up and driving. Korn's anti-squat and shock-angle settings made the CL-1 very stable over the roughest terrain, and the suspension worked flawlessly in all conditions. Good Stuff, GS.

IS IT DURABLE AND EASY TO MAINTAIN?

We've had problems with the front A-arm breakage on past GS Storms, but the CL-1 came with improved front arms, and we've yet to break one. The kit had an extra bag with the new arms and instructions to use these arms in the build and keep the ones from bag 2 as spares. We slammed and cartwheeled the CL-1 a few times (it's our job to break things) but didn't break anything. Its front and rear CNC'd chassis braces are stout, as are the billet shock towers. The CL-1 is tough, and the adjustable servo-saver safeguards the steering servo well.

Maintenance was obviously a big concern in the buggy's design, too. Removal of eight screws gives front- or rear-diff access for tuning (the instructions say to change fluid after each race), and the center-diff mount is split horizontally for quick access, as well. Undo the servo horns and seven chassis screws, and the electrics are easily removed for cleaning the chassis.

WHAT DO WE REALLY THINK?

We're impressed with the speed, handling and low-CG chassis on the GS Storm CL-1. It has big improvements everywhere you look and is highly adjustable. Durability and agility have been improved, and the CL-1 is extremely stable and predictable on the track. It handled so well on the first day of testing that it

GS STORM CL-1



only took a few laps to shake out the cobwebs (I hadn't driven 1/8-scale since the U.S. Gas Champs), and more than one person asked me how long I'd been driving. I was having too much fun driving the CL-1 to tell them it was the buggy that was impressive, not my R/C skills. The new Storm will help anyone reach the next level, and the one after that.

SPECS

Price:	$566.99 (Varies with dealer)	**Bearings:**	sealed/unsealed ball bearings
Length:	20.5 in/520mm	**Suspension:**	ind. double wishbone
Width:	12.4 in/315mm	**Damping:**	Aluminum oil-filled shocks 3.5mm shafts
Wheelbase:	12.8-13.0 in/325-330mm	**Wheels:**	GS Racing 410-80-R9
Weight:	7.6 lb/4380g	**Tires:**	Not included
Drive train:	Full-time 4WD, triple diff		

SOURCES

- **GS Racing/General Silicones Group**, 14140 Live Oak Ave., Unit D, Baldwin Park, CA 91706; (626) 338-3815, fax (626) 338-3875
- **Spektrum/Horizon Hobby, Inc.**, 4105 Fieldstone Rd., Champaign, IL 61822; (877) 504-0233
- **Sidewinder/Morgan Fuels**, P.O. Box 311201, Enterprise, AL 36331; (334) 347-3525

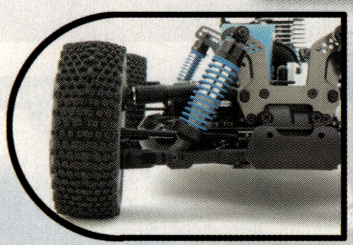
Designed and built to provide unmatched acceleration

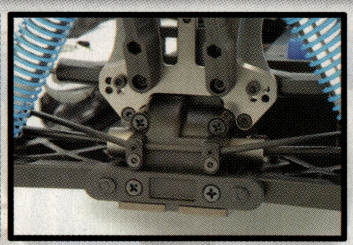


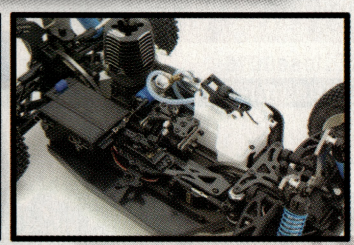
Claude Lachat

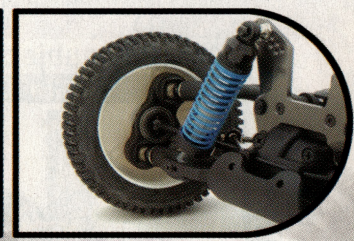
STORM CL-1

Claude Lachat









GS Racing's all new Storm CL-1 is designed and built to provide unmatched acceleration, improved handling, greater durability, and precise tuning. Utilizing the smallest differentials on the market, the ultra low c.g. CL-1 accelerates quicker out of the corners and decelerates faster into the corners than the competition. Big-bore shocks are supported by oversized and reinforced suspension arms with pivot ball knuckles in the front and oversized hubs in the rear. The suspension system rides on unique captured suspension mounts, bolted to a 3mm hard anodized Teflon coated chassis. Precise and fine tuning features, such as inboard and outboard toe, active caster, chassis stiffness, and width can be performed quickly and easily. The CL-1 is loaded with graphite and aluminum parts, and a full line of options is on the way. All this will help you crush the competition and get you to the finish line first!

To learn more about the CL-1, visit

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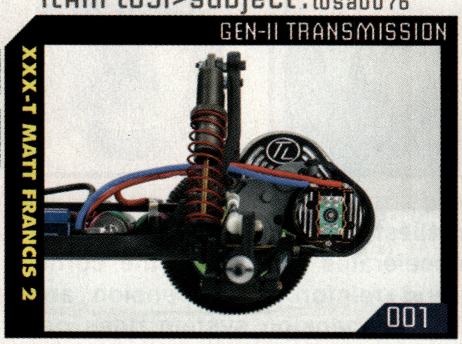
GS® Racing

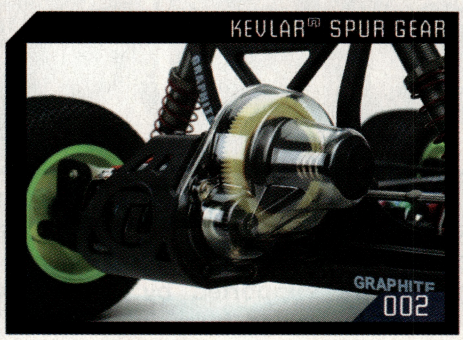


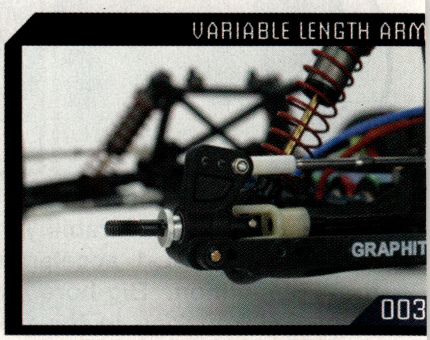
XXX2 MF

1/10 SCALE 2WD COMPETITION TRUCK

TEAM LOSI>subject:losa0076







The weight of the new Gen II transmission is lower and further forward, closer to the center of gravity for less polar moment and better, more consistent traction. With the weight moved further forward over the axles, traction is increased for greater acceleration even on the roughest tracks. This improved transmission weight distribution combined with the Variable Length Arm system provides a much more aggressive suspension package.

The machined motor plate, Kevlar spur gear, revised differential, motor guard, and race-proven double-disk slipper are capable of handling the hottest motors. Tabs on the revised motor guard keep the rear hinge pins in place and allow for easy maintenance.

The XXX-T MF2's Variable Length Arms are a totally new concept in off-road suspension. Their ability to be switched between long and short positions allows you to easily change the handling characteristics for a much broader range of driving styles and track conditions. The front VLAs as well as all of the spindles and carriers have been reinforced and use newly developed materials that can handle the increased speeds and impacts of today's high speed modified racing class.

8766

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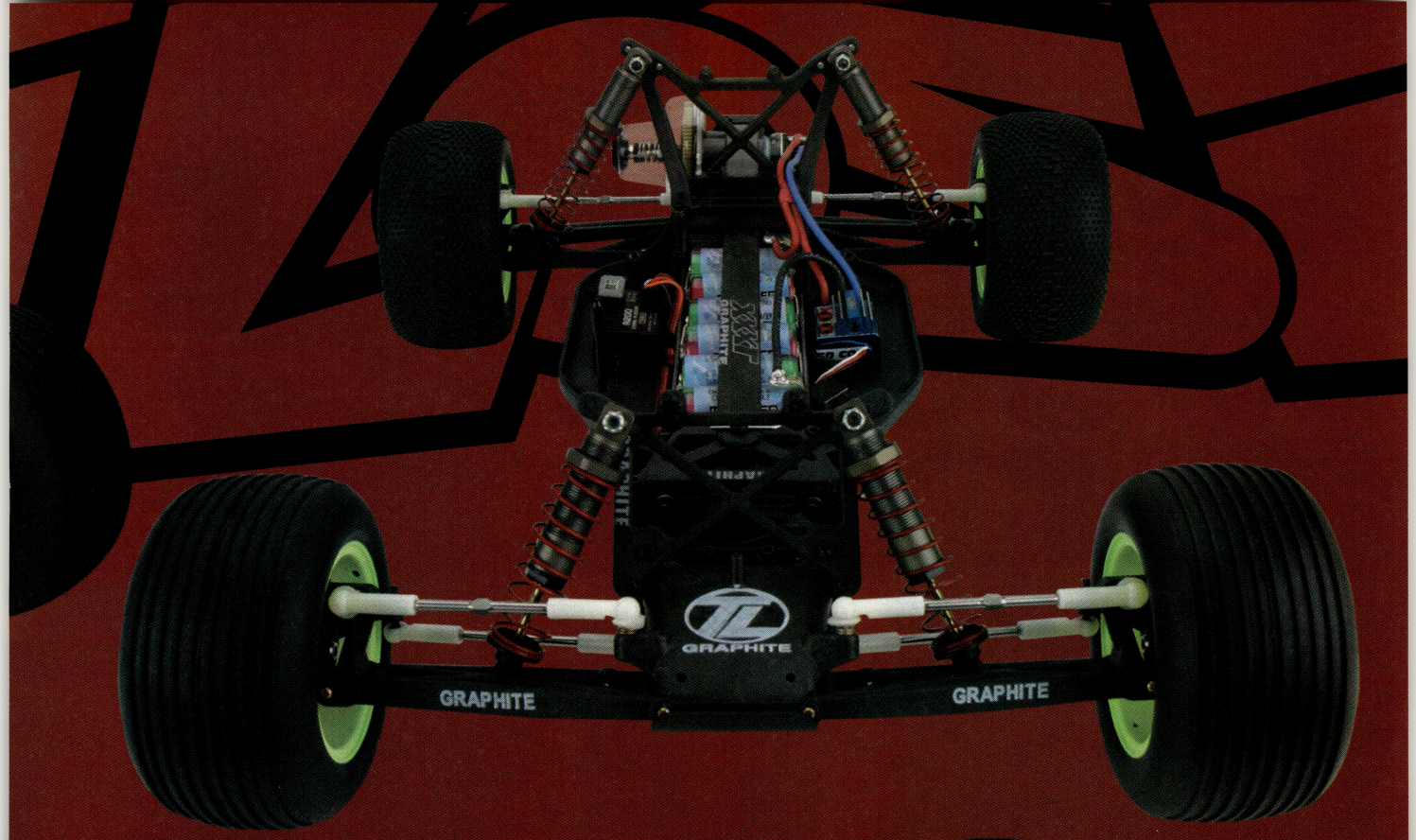

TEAM LOSI® RACING

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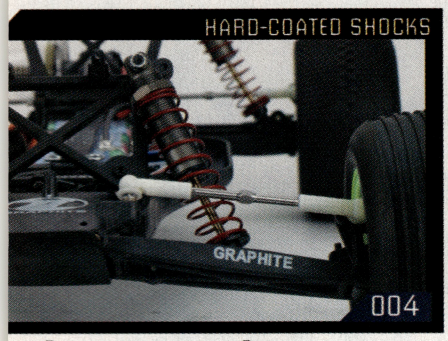
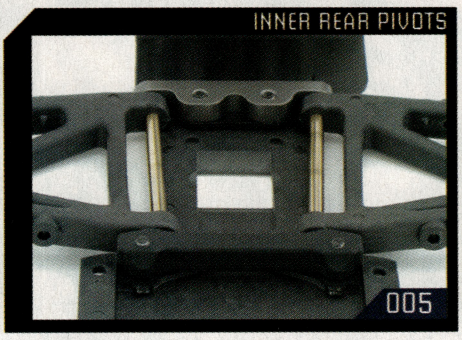






[XXX-T MATT FRANCIS 2]

2-WHEEL DRIVE COMPETITION TRUCK

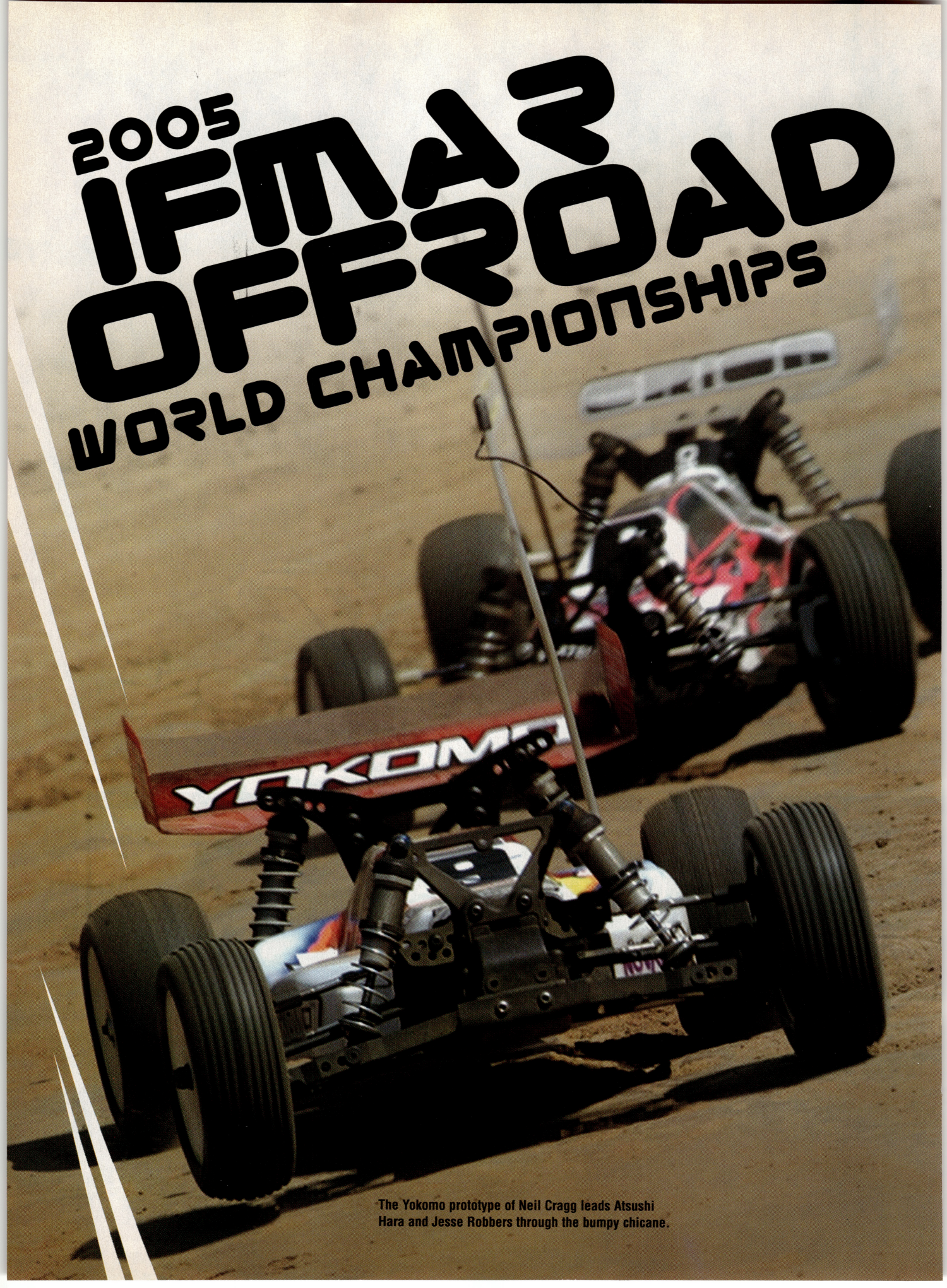
Long travel, hard-coated shock bodies and Titanium Nitride shafts offer extended life and minimize drag for smooth operation. The external threads and new hard-anodized aluminum nuts make adjustments quick and easy.

Titanium nitride coated hinge pins are used throughout. Their combination of surface hardness and lubricity reduces friction for super-smooth suspension operation while substantially increasing wear resistance, even in the worst conditions. The XXX-T MF2's new inner rear pivot features shims that allow you to easily adjust the rear anti-squat. The machined aluminum rear pivot is extra sturdy to maintain proper geometry.

New hubs are extra sturdy and feature added camber link positions to take full advantage of the variable length, reinforced, one-piece rear arms. The new dogbone/driveshafts feature U-joints and revised axles that are easier to service or rebuild.

HORIZON HOBBY

2005 IFMAR OFFROAD WORLD CHAMPIONSHIPS

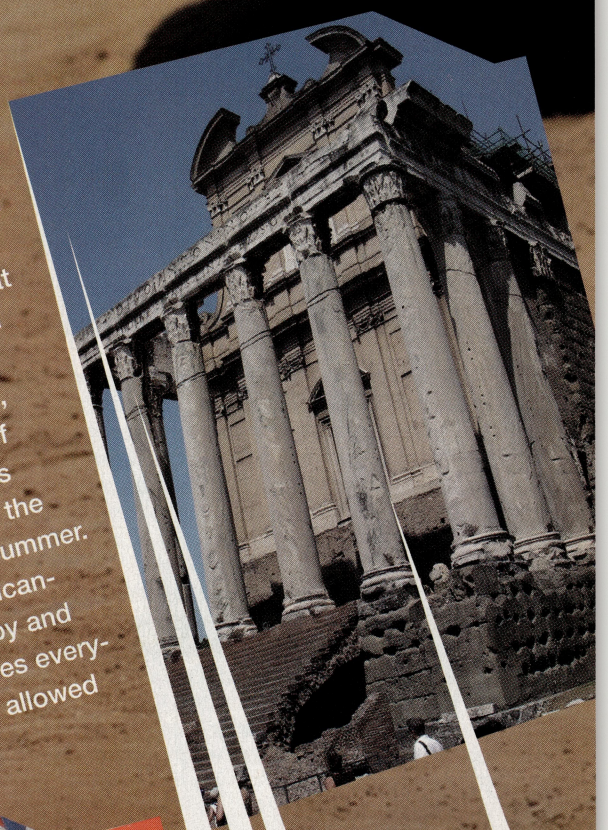


The Yokomo prototype of Neil Cragg leads Atsushi Hara and Jesse Robbers through the bumpy chicane.

Cavalieri and Cragg get it done in Italy

Action photos by Stefano Padovani

Amazingly, another two years has passed since the last IFMAR Off-Road Worlds. This year's Worlds bring us to the beautiful city of Torino, Italy, which is also home of the 2006 Winter Olympics. This year's had to be one of the most exciting Off-Road Worlds that we have seen in a long time. Not only was it Team Losi versus Team Associated, there was also X Factory, Kyosho (with a pair of new electric buggies), Yokomo, Durango, and JConcepts battling it out for the title of 2005-2006 IFMAR World Champion. The Worlds was hosted by the AF Models Rings, who will also host the 2006-2007 IFMAR Electric On-Road Worlds next summer. The track was not your normal blue groove American-style course; it was more like an extremely bumpy and dusty 1/8-scale off-road track with dust and holes everywhere. This made for exciting racing and really allowed the drivers to demonstrate their talents.



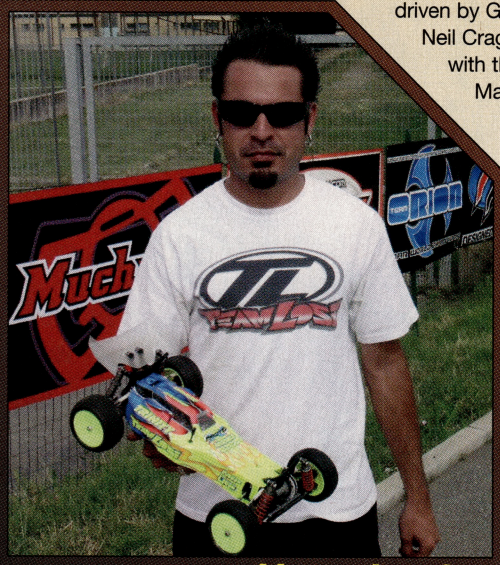


2005 IFMAR 4WD Off-Road World Champion Ryan Cavalieri (center) with second-place finisher Neil Cragg (left) and third-place Ryan Maifield.

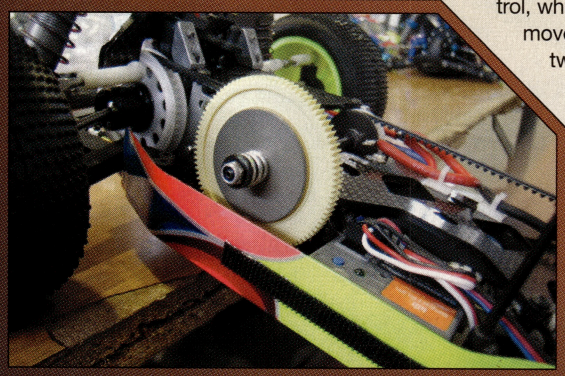
FOUR-WHEEL DRIVE

The 4WD category seemed to be taking a step toward the future with more manufacturers entering the category. This year we saw Kyosho with their new car, J-Concepts with a new mid-motor car, Team Losi with a new JRX-S rear-motor buggy (and a number of "retro" XX-4s), Yokomo with a new mid-motor car, Durango, and X Factory with the 2005 ROAR National Champion X-5.

• **Qualifying**—In round one of qualifying it was J-Concepts driver Fly'n Ryan Maifield taking the TQ of the round by 2 seconds over Yokomo's Masami Hirosaka. The next round saw the fighting dragon of Japan, Hirosaka, take the round TQ over Team Losi's Billy Easton by almost 3 seconds, with Craig Drescher in third. In round three another Yokomo prototype, driven by Great Britain's Neil Cragg, took the TQ with the two BJ4's of Maifield and Cavalieri taking second and third. In round four, Cragg laid down another run and got TQ number two for the day, with Cavalieri less than 1 second behind. It came down to round five to decide who was the fastest 4WD driver in the world. Maifield TQ'd the round, with Masami and Cavalieri in tow. After five grueling rounds of qualifying, the JConcepts Worlds Edition BJ4 was able to clinch the TQ with Maifield taking the coveted honor. Second and third on the grid were the Yokomo Prototypes of Hirosaka and Cragg. Current IFMAR World Champion Cavalieri sat in fourth with his brand new JConcepts, and Losi driver Billy Easton rounded out the top five with his XX-4. The breakdown for the mains was three BJ4s, three Yokomo prototypes, two Losi XX-4s and two Durangos. It was great to see so much enthusiasm and diversity in 4WD.



• **4WD A1**—Maifield took the lead off the line with Hirosaka and Cragg following closely. After lap one Hirosaka made a mistake and gave second-position to Cragg. A mistake on lap three by Maifield gave the lead to Cragg, and moved Cavalieri into second. Cavalieri then pressured Cragg into a mistake, giving him a convincing lead. Cavalieri put his BJ4 on cruise control, while a hard-charging Maifield moved back up to second, just two seconds back from the leader. Cragg, Easton and Masami rounded out the top five.



Travis Amezcua's Team Losi Proto-X.

one company, three buggies

Here we have Team Losi's experimental 4WD car, which, from what they say, will never come to market. Losi drivers Adam Drake and Travis Amezcua were the lucky ones to race this cool-looking ride. The car slightly resembled the Team Losi JRX-S, but the motor was in the rear. The car had extra wide pivots (with short suspension arms) to get around the drivetrain. The battery is inserted through the top of the car by removing the center plate. After talking to the Losi development staff, they said the car had only been run at SoCal Raceway one day before coming to the Worlds. Other Losi drivers used the XXX-4 and XX-4. Losi had two cars in the main, with Jesse Robbers and Billy Easton both competing with the XX-4.

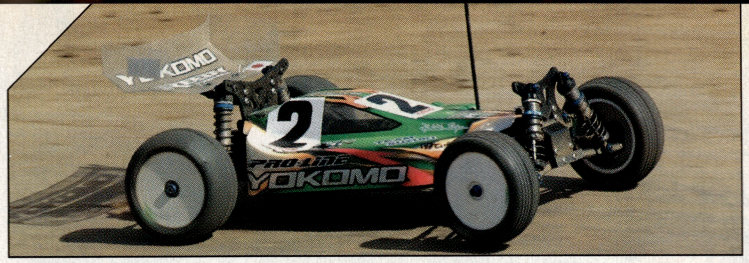


Team Losi was on hand with three cars. Here we have Matt Francis's XX4, Mike Truhe's XXX-4 and Travis Amezcua with the Team Losi Proto-X.

• **4WD A2**—Masami made a clean pass on TQ Maifield on the first lap. Maifield passed Masami back on the next lap, with Cragg and Cavalieri in third and fourth. Maifield and Masami had a mean battle, but came together over the tabletop, bequeathing the lead to Cragg. Maifield reeled in Cragg, then pressured the Brit into a mistake, which handed the lead to Cavalieri. For the rest of the race it was be Cavalieri and Maifield going back and forth, putting on a show of driving skills that all racers dream of doing. In the end it was Cavalieri who took the

4WD OVERALL RESULTS

F	Q	Driver	Nat	Car	Motor	Speedo
1	4	Ryan Cavalieri	USA	JConcepts BJ4 Worlds	Epic Shock 13x2	LRP QC3
2	3	Neil Cragg	GB	Yokomo Prototype	Reedy Ti Worlds 11x2	Nosram Razor Evolution
3	1	Ryan Maifield	USA	JConcepts BJ4 Worlds	Reedy Ti Worlds 12x2	LRP QC3
4	5	Billy Easton	USA	Losi XX-4 Worlds Edition	Epic Shock 13x2	Novak GTX
5	2	Masami Hirosaka	J	Yokomo Prototype	Reedy Ti Worlds 10x2	Yokomo VFS-1
6	8	Peter Pinisch	A	Durango	Reedy Ti Worlds 11x2	Nosram Razor Evolution
7	10	Craig Drescher	GB	JConcepts BJ4 Worlds	Reedy Ti Worlds 11x2	Novak GTX
8	9	Paul Bradby	GB	Yokomo Prototype	Reedy Ti Worlds 10x2	Novak GTX
9	7	Jesse Robbers	USA	Losi XX-4 Worlds Edition	Fantom Robbers 13x2	Novak GTX
10	6	Atsushi Hara	J	Durango	Orion Hara 10x2	Hara Twister 2.0



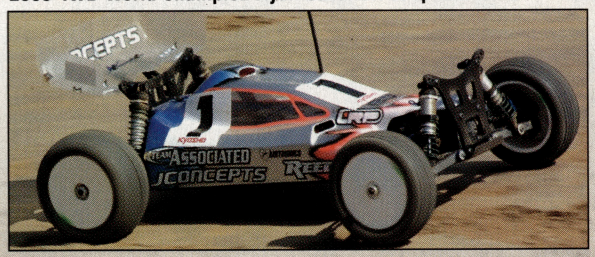
Masami Hirosaka has 14 IFMAR World Championship titles under his belt, but was unable to pick up number 15 (or even 16) in Italy. Masami piloted Yokomo's new 4WD prototype to fifth overall.



2005 4WD World Champion Ryan Cavalieri at speed.

win. Maifield had a small crash, and with no aid of a marshal, was relegated to fifth. This gave Easton's XX-4 second, while Cragg crossed in third. A very young Cavalieri won his second, and back-to-back, 4WD World Championship. Congratulations to Ryan and Louis Cavalieri, JConcepts and Trinity for winning the IFMAR Worlds. This kid has skills and will be winning many more championship titles.

• **4WD A3**—The world champion had already been crowned, so it was a battle for second at this point. Maifield took the lead with Masami crashing and falling back to sixth. A mistake by Maifield caused him to fall back, which gave the lead to Cragg and second to Easton. Easton made a mistake all on his own and dropped back. Maifield moved into second and started catching Cragg, and made the pass at the halfway mark. Maifield and Cragg battled for the remainder of the race, with Cragg coming out victorious and Maifield settling for third. This gave Cragg second overall and Maifield the final podium spot.



Ryan Maifield put his BJ4 Worlds Edition on the pole in 4WD, but the win went to the "other" Ryan—Cavalieri, who also drove a BJ4.



The Losi XX-4 of Jesse Robbers dives in on Atsushi Hara's Durango.

2005 IFMAR OFFROAD WORLD CHAMPIONSHIPS

Cells	Servo	Radio	Receiver	Gear Ratio	Power Supply	Charger
Trinity GP3700	Airtronics	Airtronics	Airtronics	23/78	LRP	LRP
Reedy GP3300	KO	KO	KO	20/84	Nosram	Nosram
Reedy GP3300	Airtronics	Airtronics	LRP	22/78	LRP	LRP
Trinity GP3700	Futaba	Futaba	Futaba	20/84	Novak	Novak/Futaba
Masami	KO	KO	KO	19/84	Much More	Yokomo
Reedy GP3300	Futaba	Sanwa	Nosram	22/87	Nosram	Nosram
Reedy GP3300	KO	KO	KO	22/78	Novak	Novak
Reedy GP3300	KO	KO	KO	18/84	----	Pro Trak
SMC 1B3600	----	----	Novak	20/86	Novak	Novak
Orion GP3700	KO	KO	KO	21/87	Much More	Orion

MST-1



MST-1 Truck - L0001:
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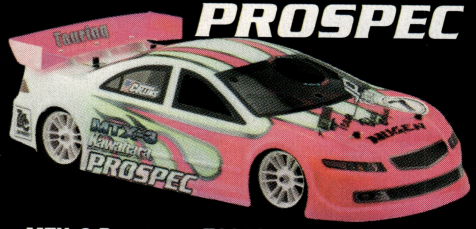
- Ball Type Differential
- Rear Universal Drive Shafts
- Big Bore Shocks
- Long Span Double Wish Bone Suspension
- Adjustable Slipper

1/10 SCALE GAS POWERED 4WD TOURING CAR

MTX-3 PROSPEC



MTX-3 Prospec - T0040:
- Titanium Pivot Balls, Middle Shaft, Tie Rods
- Front/Rear Universal Drive Shafts
- CNC Motor Mounts
- Aluminum Wheel Hex's
- 4mm Option Chassis

1/8th Scale 4WD Gas Powered Racing Car

MRX4



MRX-4:
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P01004 • 1pc • top end power

Competition .21 Pipe
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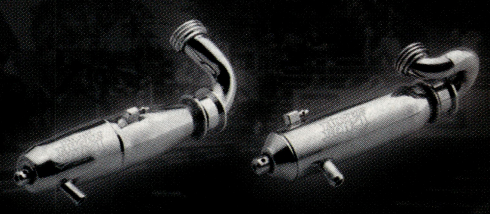

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P01002 • EFRA-26090 • On-Road • 1 pc

Comp .12 Pipe
P01003 • Off-Road • 1 pc

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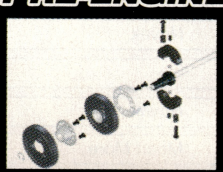
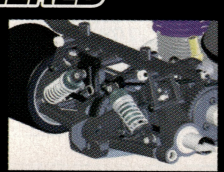


LIGHTWEIGHT 2-SPEED



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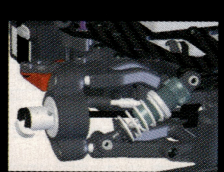

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Comp .12 Pipe
Standard • S01001

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Two-wheel-drive World Champion Neil Cragg's Reedy-powered B4. This victory marks Reedy's 19th IFMAR title.



2005 IFMAR 2WD Off-Road World Champion, Neil Cragg, stands atop the podium flanked by runner-up Ryan Cavalieri (left) and third-place finisher Ryan Maifield.



A very wet track started the day off for the 2WD qualifying. Sawdust was used to absorb some of the moisture.

TWO-WHEEL DRIVE

Two-wheel-drive off-road is one of the most demanding classes in R/C, and on the world championship level it gets even harder. The AF Model Rings track made this title even more challenging to attain. During practice the track became more broken up, bumpier, and, although no one thought it possible, it was even dustier.

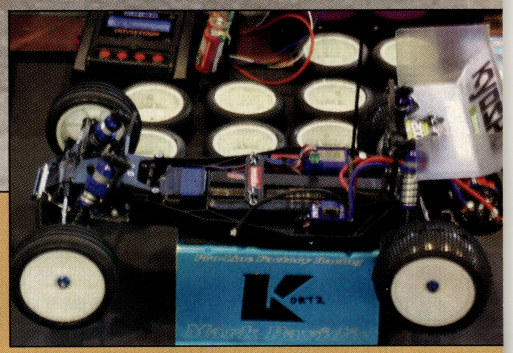
On the practice day for 2WD the Team Losi cars were in command with Amezcua, Robbers, Francis and Truhe leading the way. As each round went by, the Associated and Kyosho cars narrowed the gap, becoming progressively better, but the Losi team seemed to have had the upper hand on the low traction, bumpy and dusty surface. The skies of Italy opened up the night before qualifying was to begin, and it poured fiercely on the track. The AF Model crew did an excellent job of keeping the track covered, but when the next morning came around, and the sun glistened in a glorious blue sky, the AF Model crew tried to uncover the track of the water-filled tarps. They used pumps and manpower to remove as much water as possible from the tarps, but were unable to prevent a lot of the water from getting on the track. Some areas were simply flooded, while others were just muddy.

A controlled practice round was run to help the track get into racing condition, which helped a lot. Some racers skipped this run so they wouldn't have to scrape the mud from their cars, and would be better prepared for the first qualifying round. The moisture helped the track immensely, and by the first round the track was still bumpy, but somewhat blue grooved. This helped the AE and Kyosho teams get to pace—and then some.

2005 IFMAR OFFROAD WORLD CHAMPIONSHIPS



Team Kyosho USA: Mark Pavidis and Jeremy "Bad Boy" Kortz. It is rumored that Jeremy has talked Mark into getting some tattoos. We think some tattoos of Kyosho R/C cars would be really cool.



Kyosho's prototype 2WD buggy looked great on the track. A crash during qualifying cost Kortz three seconds and a spot on the A-main grid.

Kyosho almost conquers

Team Kyosho had its new close-to-production 4WD car, the ZX-5, racing with American drivers Mark Pavidis and Jeremy Kortz giving the car the wheel (see page 30 for an in-depth look at the new ZX-5). Kyosho was also testing their new 2WD car that looked extremely great in qualifying, but with some bad luck left Mark and Jeremy in the B-Main. This is still a great run for the Kyosho team and shows a lot of promise.

• **Qualifying**—In qualifying in was an all-Associated show with Cavalieri taking the first round of qualifying by over a second over Losi driver Travis Amezcua. In round two it was another Associated driver, Maifield, who took TQ with the first 11-lap run of the event. In round three Cavalieri let the world see how fast he is by setting the fastest run on the track by three seconds, beating his teammate Maifield. As the track was progressively getting faster, so was Cragg, who took round four, beating Cavalieri's time by two seconds. Cavalieri decided to wrap it up in the fifth and final round, getting the final TQ spot and showing why he is a two-time World Champion. Behind Cavalieri on the grid were the Reedy-powered B4s of Cragg and Maifield.

• **2WD A1**—The horn went off and Cavalieri led a convincing main and drove like a true champ, with Neil Cragg following him ever-so-closely for the entire five minutes. They would end up finishing less than four tenths of a second apart, with Cavalieri taking the win. Tenth qualifier Atsushi Hara (yes, *that* Atsushi Hara) finished third—with the fastest lap of the main by two-tenths of a second.

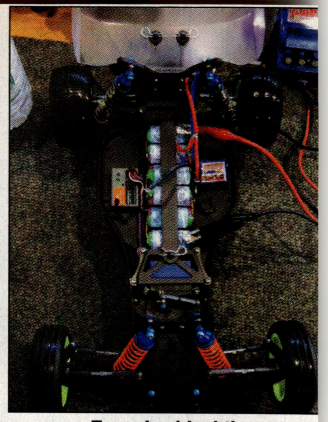


pit pass, italian style

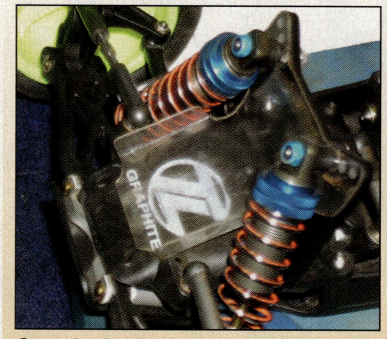
Here we have the Team Losi 2wd of Travis Amezcua. Notice the different shocks. They are Team Losi shock bodies with the tops milled off and then threaded to use an AE cap on top. Supposedly there are bladders inside the shocks.



Team Yokomo was in full force with its prototype 4WD car. They had a great show with three cars in the main. Neil Cragg drove the new car to second-place overall.



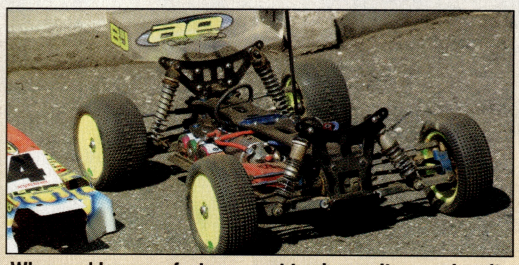
Team Losi had three cars in the 2WD main. The only prototype parts that we noticed were the shocks. Other items they were running included the original BK1 transmissions with BK1 dogbones, and 'CR' rear pivots. Most used the outer hole on the arm with the inner hole on the hub carrier. This is Travis Amezcua's fifth-place qualifying BK2.



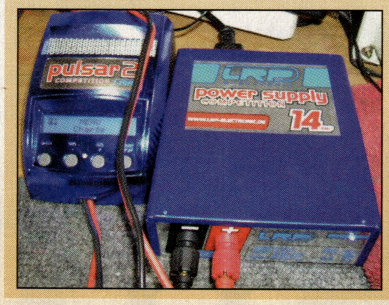
Some Losi team drivers were using front wings. Most drivers used the large high downforce wings on the rear of their cars to gain maximum rear grip on the slick Worlds track.



Many Team Associated drivers used Rayspeed rear hubs to get different amounts of toe-in on their B4s. They also had secret ways of marking the hubs to keep the competition wondering what degree they were running.



Why would a manufacturer want to change its car when it won the Cactus Classic, Team Losi Championships, and TQed the ROAR Nats? Because the hunger of winning is addictive. Jason Ruona and Brad Reelfs decided to take their BJ4 4WD buggy to the next level with a new weight platform. Rumor has it that the car was ready at the ROAR Nats, but they wanted to save it for the Worlds. The hard work paid off as JConcepts driver Ryan Maifield took TQ honors and teammate Ryan Cavalieri won the title.



LRP had some new items at the event, which included this 14-amp switching power supply. You can use this supply with 110V or 220V, which makes it great for international travels. Many LRP factory drivers such as Ryan Cavalieri, Mark Pavidis, and Matt Francis were using the new LRP Q3 ESC, which has a new mode that was specially designed for the low-bite Italian track.



A few of the drivers sported the new JR Racing Z-1 transmitter, which is based on KO Propo's popular EX-10.

Associated drivers Dave Montgomery and Jared Tebo rounded out the top five, making an Associated sweep of the first seven positions. Would Cavalieri win 4WD AND 2WD Worlds titles?

• 2WD A2—Sitting on the grid in pole position, Cavalieri obviously thought he was going to sweep the Worlds. Unfortunately, on lap two, his nerves got the better hand and he yielded the lead to his teammate Cragg. Cragg led the pack with Maifield only a few feet back, constantly pressuring for a mistake. The two B4 drivers ran tightly for eight laps, at which time a bobble by Cragg handed young Maifield the lead. Cragg charged on lap ten and got the win by less than one second. Cavalieri made his way back up to third—seven seconds back. Hirosaka and Hara rounded out the top five.

• 2WD A3—Cavalieri was on a mission to win it all. Cavalieri and Cragg drove

2WD OVERALL RESULTS

F	Q	Driver	Nat	Car	Motor	Speedo	Cells	Servo
1	2	Neil Cragg	GB	AE B4	Reedy Ti Worlds 14x2	Nosram Razor Evolution	Reedy GP3300	KO
2	1	Ryan Cavalieri	USA	AE B4	Trinity Epic 14x3	LRP QC3	Trinity GP3300	Airtronics
3	3	Ryan Maifield	USA	AE B4	Reedy Ti Worlds 12x2	LRP QC3	Reedy GP3300	Airtronics
4	10	Atsushi Hara	Japan	AE B4	Orion Hara 13x2	Hara Twister 2.0	Orion GP3700	KO
5	4	Jared Tebo	USA	AE B4	Checkpoint 14x2	LRP	Checkpoint	Futaba
6	8	Masami Hirosaka	Japan	AE B4	Reedy Ti Worlds 11x2	Yokomo VFS-1 Masami	Yokomo GP3700	KO
7	6	Billy Easton	USA	Team Losi BK2	Trinity Epic 14x3	Novak GTX	Trinity GP3700	Futaba
8	7	Dave Montgomery	USA	AE B4	Reedy Ti Worlds 12x2	LRP QC3	Reedy GP3300	Airtronics
9	9	Mike Truhe	USA	Team Losi BK2	Trinity Epic 14x2	Novak GTX	Trinity GP3700	Airtronics
10	10	Travis Amezcua	USA	Team Losi BK2	Trinity Epic 14x2	LRP QC3	Trinity GP3300	Airtronics

the retirement community

There were a few surprise announcements made at this year's Off-Road Worlds. The most interesting one was that this race was Matt Francis' last off-road race. Matt has decided to move on to the real estate game, and will hang up his radio for good in the off-road scene. It's rumored that he might run some on-road races in 2006. Matt has brought a lot to our industry. He has been a superb ambassador of the hobby for many upcoming racers and hobbyists. Matt was the first one to lead the way for racers to approach him and ask questions and get direct help from a factory pro. Whether it was on the Internet through sites like Trinity's Tech Talk or at the local track, Matt has always been willing to help everyone enjoy this hobby. He also managed to win two world championships and a few national championships. Matt will be sorely missed in the R/C industry, and we wish him all the best.

Another announcement was the retirement of Gil "Pops" Losi Sr. from Team Losi. Pops started Team Losi 25 years ago with his brilliant son Gil Jr. and has had a great time in the R/C industry manufacturing great cars and trucks. Pops decided his time was up and that he wants to spend more time with his grandchildren, wife and his popular hot rods. Pops told us he'd be attending some races next year to hang out with the racers and give support to Team Losi drivers.

The last retiree is IFMAR President John Grant and his wife Mariam. John and Mariam have been a longtime volunteer to IFMAR, and they've kept the organization strong and, well, organized. They'll both be missed greatly from the racing scene.



The retirees club: (from left) Gil "Pops" Losi Sr., Matt Francis and IFMAR President John Grant.



Team Yokomo was on hand with full factory support. They had Adachi, Hirosaka, Suzuki and three mechanics.



Ryan Cavalieri had a great week, winning 4WD and Top Qualifying 2WD. Team Associated could not have asked for a better Worlds; they had seven out of 10 cars in the A-Final of 2WD and swept the top six places. Here we have 18 year old Ryan Cavalieri and Ryan Maifield. These two were absolutely phenomenal.



Worlds warm-up winner Atsushi Hara was sixth on the grid in the A-main. Durango had Atsushi Hara and Peter Pinisch in the A-Final.

flawlessly until lap eight, when Cavalieri made an unexpected mistake. This brought Maifield, who had running in third, closer to the top spot. As their nerves rattled, Cragg ended up leading the Associated top three around the track to take the final A-main and become 2WD World Champion. Maifield finished a very close second, and Cavalieri followed in third.

CONCLUSION—CIAO!

This had to be one of the most exciting Off-Road World Championships ever. We saw some close racing and some new faces on the podium that will be sure to be back in 2007. It is absolutely amazing to watch these talents dial in these cars and put on a show that some racers can only daydream of. This also ends the era of some great racers and some great people in the industry that has done so much for the racing community. We now see a new and younger group taking the helm to the exciting world of RC. The future of RC brings a lot and we can't wait to see what it brings.

Radio	Receiver	Gear Ratio	Power Supply	Charger	Front Tires
KO	KO	n/a	Nosram	Nosram	PL 8175M3
Airtronics	Airtronics	84/25	LRP	LRP	PL 8175M3
Airtronics	Airtronics	84/26	LRP	LRP	n/a
KO	KO	84/27	Much More	Orion	PL8175M3
Futaba	Futaba	84/25	n/a	LRP	n/a
KO	KO	81/27	Much More	Yokomo	PL 8175M3
Futaba	Futaba	84/24	Novak	Novak/Futaba	PL8175M3
Airtronics	LRP	84/26	LRP	LRP	PL8175M3
Airtronics	Novak	78/24	Novak	Novak	PL8175M3
Airtronics	Spektrum	78/23	LRP	LRP	PL8175M3

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Jato's suspension is fully adjustable with a wide range of tuning provisions for adjust caster, camber, toe, bump-steer elimination, roll-center, and damping. Spherical rod ends with double sheer linkage connections won't pop apart during that big race.



Only Jato features dual-position receiver battery mounting (rear or mid placement) to allow the seasoned racer to fine-tune the front to rear weight bias. This provides additional control over steering response and rear traction.



The TRX 2.5 Racing Engine™ works with the 2-speed transmission to out accelerate everything in its class. Jato pulls straight to the front and leaves the rest behind. EZ-Start™ electric starting can't be beat for safety and nearly instantaneous starting.

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NUOVA FAOR SF501

The ultimate R/C challenge



It's been said that helicopters are the "motorcycles of the sky," as they can do things and get into places that airplanes can't. They're extremely agile like motorcycles, too. However, helicopters are much, much harder to fly than airplanes, and motorcycles are harder to operate than cars. Anyone who has the balance to ride a bicycle can ride a motorcycle, but it takes a long time to master such motorcycle-handling tricks as counter-steering, footpeg weighting, wheelies and (no-hands) steering with your hips and knees. These are arts only the top-level motorcycle racers and stunt riders ever master.

In the R/C world, scale motorcycles are nearly as hard to master as helicopters, because there's no rider to apply proper pressure to footpegs, gas tank, throttle, brakes or handlebars. Heck, there are no handlebars, nor footpegs! There are just steering linkages and dampers. Just as helicopters are the biggest challenge to R/C fliers, motorcycles are the most-challenging land-based R/Cs. Even pro motorcycle racers would have trouble mastering R/C M/Cs, as you countersteer *out* of corners in R/C, whereas you counter-steer into corners on big bikes. And there's no body-weight to shift for wheelies or stoppies with R/C M/Cs; it's all throttle/brake control. So, if you're looking for the ultimate challenge in earthbound R/C, get yourself a Nuova Faor SF501 nitro-cycle—the reward is in the mastery.

WHAT'S IN THE KIT?

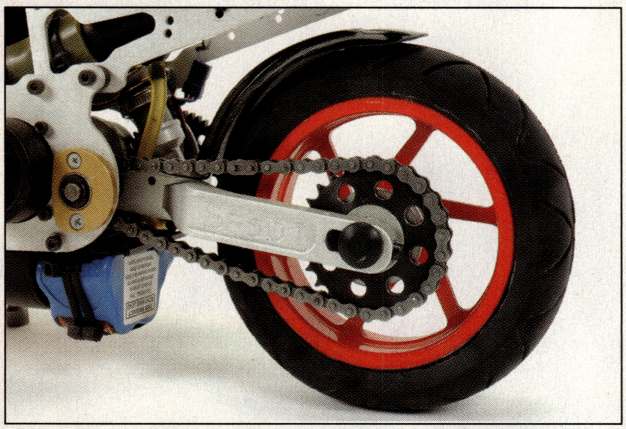
Basically, the Nuova Faor SF501 is much like a monster truck in design. You have two vertical plates that house the nitro engine, transmission and suspension pivots, and the radio gear and steering linkages bolt to the vertical plates. Except that the Nuova Faor's steering assembly bolts to the top, and the trick upside-down forks pivot from there. Out back, a trick, one-sided, machined-billet swingarm pivots on a jackshaft, so the tiny motorcycle chain has constant tension at all swingarm angles. The SF501 comes with a two-shoe clutch, expansion chamber, full suspension, front disc brake, powder-coated alloy wheels, eight ball bearings and linkages for steering throttle and brakes.

WHAT GEAR DID WE USE?

Nuova Faor/*Internetrc.com* set us up with a screaming Novarossi .12 side-exhaust engine with slide carb and slide carburetor. We assembled the SF501 with Power Racing 1200mAh hump receiver pack (which rides underneath the engine, behind the airplane-style fuel cell), Airtronics 94737 servos, JR XS3 radio and RS3000 synthesized receiver. For fuel, we went with Byron Fuel's 20-percent RTR, and we used the optional aluminum fuel tank instead of the kit's plastic one.

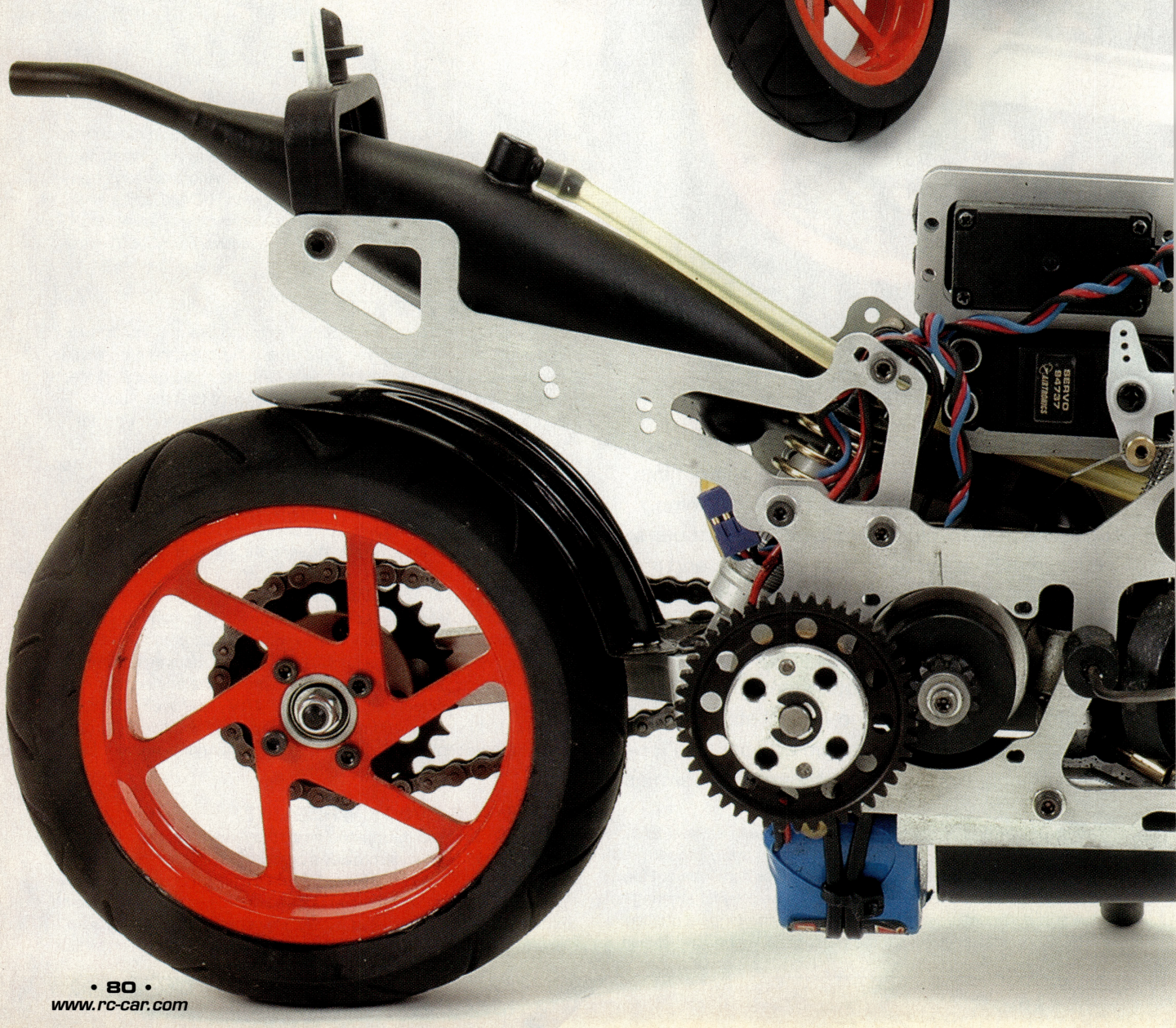
DOES THE SF501 WHEELIE?

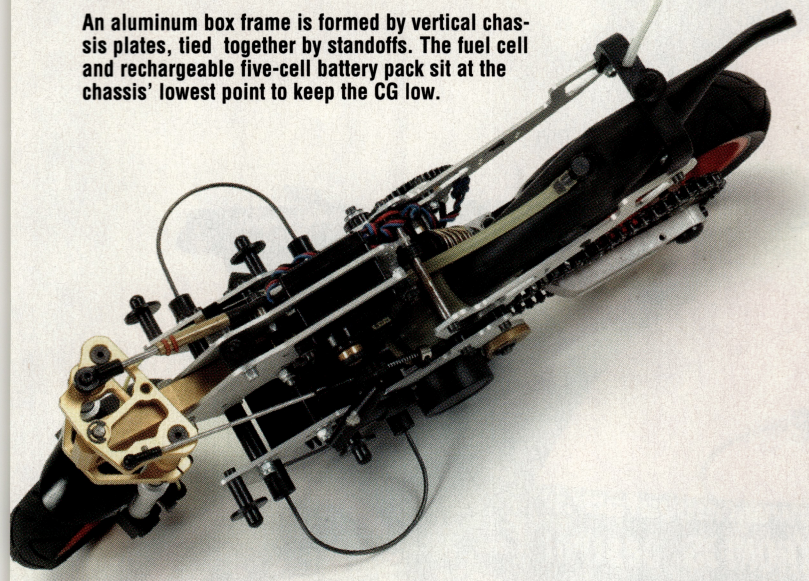
If you get on the throttle too hard, the Nuova Faor will flop over on its back. The engine provides plenty of power for this comparatively light R/C, and there's not a lot of wheel mass to slow down acceleration. The Novarossi MT12 engine rips, and the tuned pipe provides a lot of mid-to-top power. Power and top speed are so potent that one has to be careful not to overshoot corners, which



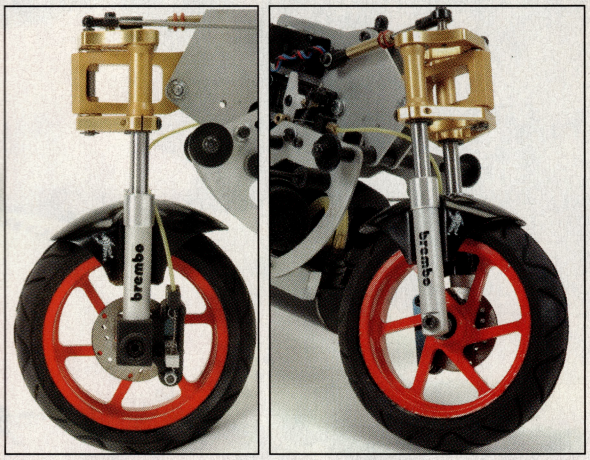
Power delivery from the scale-like chain-and-sprocket drive system is smooth and responsive. Note the swingarm's adjustment screw for setting chain tension.







An aluminum box frame is formed by vertical chassis plates, tied together by standoffs. The fuel cell and rechargeable five-cell battery pack sit at the chassis' lowest point to keep the CG low.



The working forks provide good bump absorption, while a functional disc brake system halts the bike from the front, just like a full-sized motorcycle. And in case you're wondering, the SF501 can perform "stoppies" if you dial-in adequate clamping force.



is a bad thing when "riding" in a parking lot with curbs. It's better to feather the trigger and give it blips of throttle than to "pull trigger," as Skinny would say. It full tilt, this baby does 50 mph, without any two-speed transmission.

HOW DOES THIS RACEHORSE HANDLE?

Where a full-sized motorcycle would have the steering stem behind the fork tubes and rake and trail geometry, the Nuova Faor has the fork tubes behind the steering stem for gobs of trail. Once one gets used to the eccentricities of an R/C M/C, the SF501 handles pretty well. It wants to have the turns initiated sooner than one would a four-wheeler ("cage" in biker lingo), and you turn in then reduce the wheel angle as it leans into the turn. The outriggers are there to save a low-side if you lean in too far, and a bit of throttle maintains the lean through the turn. Counter-steering and throttle bring the bike back upright; you turn the wheel sharper in the direction of the turn to get the front end back under the center and stand it up. Suspension action and damping and spring rates are very good, so the bike doesn't pogo on bumps or bottom in hard cornering. Once the steer-in/neutral/steer-out sequence is learned, the SF501 handles like a racehorse, but, until then, it's as challenging as saddle-breaking a wild stallion.

WHAT ABOUT THE FRONT BRAKES?

If you get in trouble and the 501 starts heading for an immovable object, by all means, grab a handful of brakes. Otherwise, use them as judiciously as the throttle. They're strong and will endo the bike. Since there's no steering lock-out and the rider has no control over turning, "stoppies" aren't out of the question. It'll go up on its front wheel, then the bike flops to either side.

IS THE NUOVA FAOR DURABLE?

We witnessed a few horrifying crashes at the R/C Motorcycle Nationals, and we didn't see any bikes broken in half. The two outrigger wires plug into plastic blocks beneath the lexan fairing, but there's no setscrews or anything to hold them in, so the loops tend to come out in crashes, and the bike lays helplessly on its side. At the

NUOVA FAOR SF501



R/C M/C Nats, you lost a lap if your rider came off of the bike. We had trouble with our rider coming off during testing and the two-sided rider coming apart like he'd been cut in half by Snidely Whiplash's cross-cut saw in a *Dudley Do-Right* cartoon. So, we bolted him together like Frankenstein and doubled up on the hook-and-loop tape. Other than that, we had no failures with the SF501.

WHAT WOULD WE CHANGE?

As in motorcycle and horse racing, the lighter the jockey is, the better the power-to-weight ratio and performance are. The Nuova Faor pilot is light as a feather, but it's all dead weight. We'd like to see some sort of mechanism linking the rider to the steering, like with the Kyosho Hanging-On Rider series of bikes, so weight can be transferred for maneuvering on the 1/8-scale nitro-bike. But we're R/C M/C novices, and this is a purebred racing machine from Italy, the home of Ferrari and Lamborghini. Such speech is sacrilegious to R/C M/C experts; it would be like comparing your basic Harley-Davidson 883 Sportster to a tricked-out Ducati 999.

WHAT DO WE REALLY THINK?

Make no mistake; the Nuova Faor nitro SF501 is an expert-level R/C, but the reward for mastering it is the most-realistic R/C experience imaginable. It's as close as you can get to Moto GP road-racing without putting knees and elbows to the tarmac, and the shriek from the tuned pipe is just like the real thing. However, one must be an above-average nitro mechanic to get anywhere close to being the master of the SF501; to learn nitro tuning and maintenance and driving technique is simply too much. But electric R/C M/Cs don't give the smell, sound and adrenaline rush of the Nuova Faor SF501, and no other R/C M/C has the hop-up potential of this Italian stallion. We're talking full carbon-fiber chassis and servo plates, seat/tank, fairing and fenders, an optional rear disc brake, all sorts of suspension and steering upgrades, a titanium tuned pipe and "gumball" racing slicks.

SPECS

Price:	$649.99 MSRP (street $499.99)	**Bearings:**	Complete ball bearings
Length:	16.25 in/413mm	**Suspension:**	Rear swingarm, front forks
Width:	4.875 in/122mm	**Damping:**	Aluminum oil-damped shock, sprung fork
Wheelbase:	11.65 in/295mm	**Wheels:**	Aluminum six-spoke (3.65 in. fr, 3.25 in. rr)
Chassis:	Dual vertical plate	**Tires:**	Rain-grooved slicks
Drivetrain:	Chain-driven		

SOURCES

- **Airtronics**, 1185 Stanford Ct., Anaheim, CA 92805; (714) 978-1895, fax (714) 978-1540
- **Byrons Originals**, 119 East Hwy 175, Ida Grove, IA 51445; (712) 364-3165, fax (712) 364-3901
- **JR Racing/Horizon Hobbies**, 4105 Fieldstone Rd., Champaign, IL 61821; (217) 355-9511
- **Nuova Faor/*Internet-rc.com***, P.O. .Box 31189, Phoenix, AZ 85046; (602) 347-1600

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SCT319GD	Rear Tail SUV Velcro Body Mount Sys	$9.50
SCT320SD	Super Clodbuster SD Skid Plate	$19.90
SCT320SDF	Super Clod SD Skid Plate with FLAMES	$21.90
SCT322T	Super Clod TI Front or Rear Bumper	$38.90
SCT322X	Super Clod Billet Grill Guard Bumper	$27.50
SCT322Z	Super Clodbuster Front or Rear Bumper	$22.50
SCT343	Super Clodbuster Wheelie Bar	$29.95
SCT407	MONSTER DUTY Springs (6.0 Lbs) (4)	$8.95
SCT421	Super Clod Cantilever Kit(4 Levers/Links)	$79.90
SCT511	Suspension Package for SCT103 Frame	$249.90
SCT512	Skid/Bumper Package for SCT511	$99.50
SCT702	Super Clod MONSTER DUTY ext kit	$75.95
SCT703	Super Clod Upper 4 Link Suspension	$18.50
SCT703-2	Super Clod Upper 4 Link Suspension	$28.90
SCT705	Rear Toe Links and Billet Mount	$36.50
SCT707	Super Clod Steering Links & Servo	$32.50
SCT708	Super Clodbuster lower shock mount	$24.90
SCT822	Super Clod CNC Alum Bumper Braces	$44.90



MCT201	Standard Wheelbase Kit	$69.95
MCT202	Long Wheelbase Kit (14in.)	$79.95
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MCT207	Heavy Duty Steering Rods	$39.95
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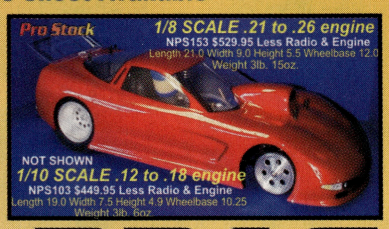

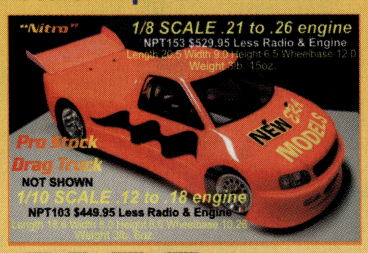

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Tamiya Clod Buster, Juggernaut
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Losi MINI-T, LST Super Truck
Cen Fun Factor Mt2, Genesis
XTM X-Factor
New Era Drag Cars and Trucks

We GOT Them:









REVO & T/E-MAXX CNC Aluminum Upgrades Silver or Blue









AMG101L	Blue Tube Upper RACING Chassis.	$179.95
AMG123MM	.21 to .27 Engine Mount	$34.50
AMG123T	Stock only Engine Mount	$34.90
AMG330SD	Silver SUPER DUTY Front Skid Cover	$14.90
AMG321SD	Silver SUPER DUTY Rear Skid Cover	$14.90
AMG322X	Frt Alum Prot Sys: W/Brush Guard	$43.90
AMG322Z	Front Alum. Protection Sys: Billet	$39.95
AMG336SDF	Frt SUPER DUTY Alum Shock Tower	$38.00
AMG336SDR	Rr SUPER DUTY Alum Shock Tower	$38.00
AMG650	Reservoir Piggybacks (8)	$79.90
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CNC Aluminum Upgrades

MONSTER GT

1/10 & 1/8 SCALE UPGRADES



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HSV105XL	TVP 3.2mm Extended 1 inch (set)	$59.50
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HSV332A	Adjustable Camber Upper Arms (pr)	$29.95
HSV333SD	Super Duty Lower Arms (pr)	$39.50
HSV334	Super Duty Center Skid	$19.95
HSV336SD	Super Duty Fr/Rr Shock Tower	$29.50
HSV337	Steer Knuckle Brace (4)	$19.95
HSV339	Aluminum Turnbuckles 5/16 Rod (4)	$24.95
HSV340SD	Super Duty Bulkhead Brace Fr or Rr	$12.90
HSV343	Angled Wheelie Bar w/Rubber Tires	$29.95
HSV344	Fuel Tank and Linkage Guard	$22.50
HSV403	C Shaped Hubs Fr or Rr (pr)	$35.90
HSV405	Steering Knuckes Fr or Rr (pr)	$39.95
HSV407	Super Duty Springs (8)	$19.95



LST019	300+ Piece Stainless Steel Screw Kit	$24.00
LST146	.46 Engine Conversion Kit	$89.00
LST320-21SD	SUPER DUTY Front or Rear Skid Cover	$19.50
LST322	Front Alum Protection Sys: Tube Style	$39.95
LST322-23Z	Front or Rear Alum Prot Sys : Billet	$39.95
LST322T	Frt Titanium Protection Sys : Tube Style	$49.95
LST322X	Frt Alum Prot Sys : Billet w/Grill Guard	$43.90
LST323	Rear Alum Protection Sys: Tube Style	$39.95
LST323T	Rr Titanium Protection Sys: Tube Style	$49.95
LST332SD	Silver Upper Control Arms CNC	$34.90
LST333SD	Silver Lower Control Arms CNC	$37.90
LST334	SUPER DUTY Silver Center Skid Plate	$19.90
LST336SD	LST Front or Rear Shock Towers	$38.00
LST340	SD Silver Shock Tower Mount Plate	$9.90
LST343	Angled Wheelie Bar With Rubber Tires	$29.95
LST407-5	Heavy Duty Springs (5.0 lbs) pair (2)	$6.80
LST407-55	Heavy Duty Springs (5.0 lbs) pair (2)	$6.80
LST450	LST Wheel Drivers for Stock or T-Maxx	$34.90
LST910MD	MD Steel Tube Roll Bar W/Brace	$49.95

LOSI MINI-T & HPI Nitro Mt2 Upgrades CALL



AGT203	Bi-Level Chassis	$79.50
AGT206	Bi-Level for .21 Engine	$124.50
AGT101	Rear Brace	$21.95
AGT102	Front Brace Tubes	$7.95
AGT910	3 Point 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 Receiver Guard CNC Billet for RTR and TEAM	$16.95



KMF105SD	Extended Side Plates 6mm (set)	$59.50
KMF209	Suspension Support Rods	$28.50
KMF210XL	Extended Titanium Dog Bone	$24.50
KMF300V2	Steering Servo up Front w/ Bumper	$68.95
KMF301V2	Front or Rear Bumper	$39.95
KMF334	Super Duty Center Skid	$19.95
KMF343	Wheelie Bars w/ Rubber Tires	$39.90
KMF910SD	Super Duty 3 Point Roll Bar	$44.95



Nitro Rustler and Stampede CNC Aluminum Upgrades

TRS103	3.2mm Alum Chassis Plate	$39.95
	Plate (Rustler Only)	
TRS330S	Silver Front Bulkhead	$37.50
TRS331V2S	Rear SD Bulkhead - Silver	$25.90
TRS332S	Frt Control Arms - Silver (pr)	$24.90
TRS333S	Rear Control Arms - Silver	$24.90
TRS402S	Rear Arm Mounts - Silver	$23.50
TRS403S	SILVER Front C Shaped Hubs	$25.90
TRS404	Blue Alum Rear Hub - Blue	$25.90
TRS430S	Front Shock Tower	$19.90
TRS431S	Rear Shock Tower	$19.90
TRX241	Port Matched Header	$24.95

Many More REVO & T-MAXX Upgrades CALL

REVO Upgrades

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REV103	Aluminum Cage System	$129.95
REV110	Revo .21/28 engine conversion	$89.00
REV118P	Revo .21 engine conversion	$49.50
REV118S	Revo conversion for Slvio .23 engine not included for REV110, REV118P, REV118S	$49.50
REV124	.15 to .18 One Piece Billet Eng Mount	$19.50
REV326SD	SUPER DUTY Alum Front Skid Cover	$22.50
REV320SDF	SD Flamed Alum Front Skid Cover	$24.50
REV321SD	SUPER DUTY Alum Rear Skid covers	$22.50
REV322	Frt Alum Protection Sys: Tube Style	$39.50
REV322-23Z	Frt or Rr Alum Prot Sys : Billet Style	$39.50
REV322T	Front TI Protection System: Tube Style	$49.50
REV322X	Front Alum Protection System : Billet w/Grill Guard	$43.90
REV323	Rear Alum Prot System: Tube Style	$24.95
REV323T	Rear TI Protection System: Tube Style	$39.50
REV332F	SUPER DUTY FRONT Upper Arms	$49.50
REV332R	SUPER DUTY REAR Upper Arms	$36.50
REV332R-S	Single Silver REAR Upper Arm	$36.50
REV333F	SUPER DUTY FRONT Lower Arms	$18.50
REV333R	SUPER DUTY REAR Lower Arms	$39.50
REV334	SUPER DUTY Silver Center Skid Plate	$39.50
REV337	Alum Susp Push Rod Set (4)	$29.50
REV337XL	Alum Susp Long Push Rod Set (4)	$21.90
REV339	Heavy Duty Aluminum 8mm Toe Link	$22.90
REV343WR	Angled Wheelie Bar w/Rubber Tires	$29.95
REV344	Silver aluminum fuel tank guard	$22.50
REV345SD	Silver Steering Servo Skid Plates	$29.50
REV406	Titanium Stub Axles	$9.85
REV407-15	Chrome preload spring 22.6 LB pair (2)	$6.75
REV407-17	Purple preload spring 28.5 LB pair (2)	$6.75
REV407-18	Blue preload spring 30.4 LB pair (2)	$6.75
REV407-19	GunMetal preload spring 32.2 LB pair (2)	$6.75
REV417	Aluminum Rocker Arm Post Set	$9.70
REV517	2 Pin Alum Flywheel: For 1/8 Clutch	$19.50
REV519	3 Pin Alum Flywheel: For 1/8 Clutch	$19.50
REV520	4 Pin Alum Flywheel: For 1/8 Clutch	$19.50
REV875	Billet Alum Shock Caps pair (2)	$11.50
REV876	Billet Alum Spring Adjusters pair (2)	$7.95
REV877	Billet Alum Spring Retainers pair (2)	$10.95
REV878	Billet Alum Shock Rod Ends Pair (2)	$12.50
REV878-4	Billet Alum Shock Rod Ends four (4)	$15.90
REV879	Billet Alum PUSH ROD Rod Ends (4)	$19.90
REV910SD	Blue Super Duty Steel Tube Roll Bar	$36.95
REV910SDS	Silver Super Duty Roll Bar	$36.95
REV910X	Aluminum Brace for REV910SD/SDS	$19.90

T-MAXX Upgrades

TRM101L	Tube Upper Chassis $179.95	$149.95
TRM103	4.7mm Main Chassis	$39.90
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TRM128	Super Duty Conical Engine Washers	$6.95
TRM321XL	Extended Rear Skid Plate	$19.95
TRM123S	Mount for Rear Exhaust .21 Engine	$35.00
TRM215S	Power Slotted Carbon Fiber Brake Disk	$12.90
T25910SD	SUPER DUTY Steel Tube Roll Bar	$39.95
TRM320XL	Front Skid Plate (3.2mm) w/Bumper Guard	$19.95
TRM321SD	SUPER DUTY Rear Skid Plate (3.2mm)	$19.95
TRM318P	Silver Front Body Mount Posts w/Plate & Collar	$22.50
TRM319	Silver Rear Body Mount Posts w/Plate & Collar	$22.50
TRM322	Front Bumper (2 Piece)	$16.95
TRM323	Rear Bumper (2 Piece)	$18.95
TRM324	Front Bumper Supports	$22.95
TRM325	Silver Rear Bumper Supports	$22.95
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TRM326SD	Revolutionary 4-Point Lower Braces	$48.95
TRM330V3	Silver Front Bulkheads	$49.50
TRM331V3	Silver Rear Bulkheads	$49.50
T25332	Upper Control Arms For 2.5	$36.50
T25333	Lower Control Arms For 2.5	$39.50
T25336	Frt or Rr Shock Tower 3 Position	$38.00
T25339	Aluminum Turnbuckles for TRX2.5	$24.95
TRM335SD	Center Skid Full Coverage	$19.95
TRM340	Front Bulkhead Brace	$10.95
ACC600-T25	14-FIN ULTRA Heatsink Head	$39.90
TRM343WR	Angled Wheelie Bar with Real Rubber Tire	$29.95
TRM345SD	Silver Steering Servo Skid Plate	$15.90
TRM405S	Chrome Air Filter	$5.95
TRM407	Silver Super Duty Springs Set of 8	$9.95
TRM452H	Center Line wheels Billet Alum	$149.95
TRM452X	Super Star wheels Billet Alum	$149.95
TRM452Z	Super Six Spoke Wheels (4)	$149.95
TRM454Z	40 Series Super Six Spoke Wheels (2)	$78.90
TRM501D	Close Header for .21 to .28 Engines	$24.50
TRM507	Bellcrank & Linkage kit	$16.95
TRM510	Fuel Tank 125cc W/Stone Filter	$26.95

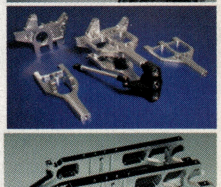
E-MAXX Upgrades

TRE101L	Tube Upper Chassis RACING	$149.95
TRE107	3.2mm Extended Main Chassis Alum.	$59.95
TRE280V2	AIRCOOL CNC Alum. Motor Mount	$19.95
TRE281V2S	Silver CNC Alum. Battery Hold Down	$28.95
TRE910SD	Blue SUPER DUTY Steel Roll Bar	$39.50

















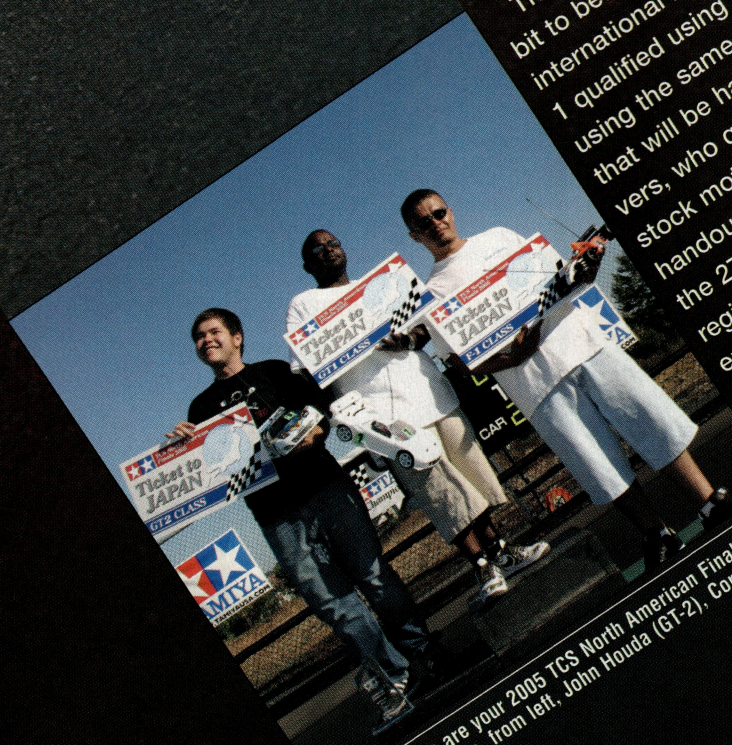

TCS
TAMIYA
NORTH AMERICAN
FINALS

Season 11 ends with a bang

Words and photos by Frank Masi

Tamiya's TCS (Tamiya Championship Series) capped off its 11th season with the North American Finals. Regional winners from throughout the U.S. and Canada were invited to Tamiya America's Aliso Viejo, California, headquarters to compete for the chance for an all-expense paid trip to Japan to participate in the TCS World Finals against the best from Europe and Asia.

This year, TCS officials changed the rules a bit to better prepare the Americans for their international rivals. While regional drivers in GT-1 qualified using 19-turn motors, they'd be using the same type of JMRC 23-turn motors that will be handed out in Japan. The F-1 drivers, who qualified with ROAR-legal 27-turn stock motors, would also be running the JMRC handout. In GT-2, drivers would be going from the 27-turn stocks they had used at their regional qualifiers to a Johnson RS540 sealed-endbell stock motor (the same motor used for the M-Chassis class).



Here are your 2005 TCS North American Finals winners (the ones going to Japan to compete at the World Finals). They are, from left, John Houda (GT-2), Corey Lewis (GT-1) and Edgar Fiallos (F-1).



TCS TAMIYA NORTH AMERICAN FINALS

don't try to fool these guys

The F-1 and GT-1 classes used JMRCA 23-turn handout motors, which will be the same type of motor the winners will use when they travel to Japan to compete in the World Finals. The racers were allowed to cut their commutators and change brushes and springs, but they had to use the same can, armature and endbell they were given. The Tamiya America tech inspectors used a special marking that only showed up under a black light. If a racer switched any of the motor's three main components, these guys would catch them instantly. Fortunately, all three Japan-trip winners were deemed legal.



Tamiya America's Brian Mattson prepares to inspect F-1 winner Edgar Fiallos' F201 chassis.

taos takes over gt-2

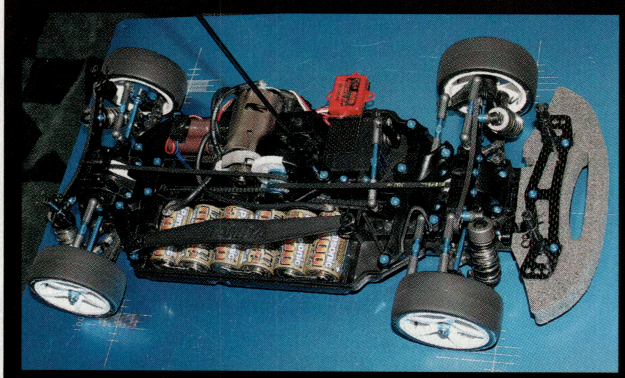
John Houda dominated GT-2 with his NSX-topped TA05.



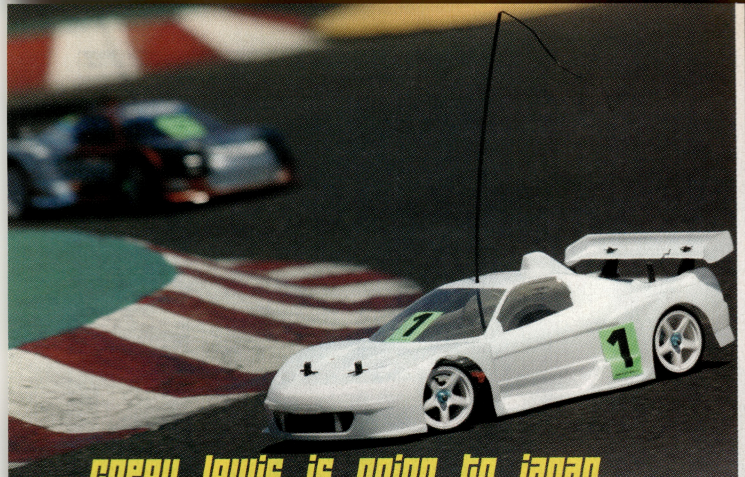
GT-2 top three from left: John Christensen (second), John Houda (first), Mike Steele (third).

This year marked the introduction of Tamiya's belt-driven TA05 chassis into TCS competition, and the new car proved itself the dominant force in GT-2.

A young man named John Houda was clearly the fastest driver in GT-2, and the 05 was his chassis of choice. Houda put his car on the pole position and then easily walked away with a win in the first A-main, putting a gap of over six seconds on runner-up Mike Steele. In A2, Houda was literally punted from first all the way to dead last at the start. Amazingly, Houda was able to cut a swathe through the field to finish under three seconds behind winner John Christensen. In the third and deciding main, it was all Houda from the start, as he decimated the field to win by over seven seconds over Christensen and Juan Aveytia.



Part of the reason Houda's TA05 was so dominant was that it was made ultra-light through the use of Panasonic 3000mAh cells (which save quite a bit of weight compared to newer, larger capacity cells) and lightweight foam inserts (old pre-Pro-Line Jacos).



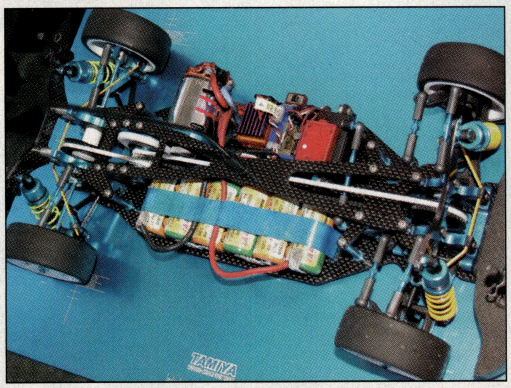
Corey Lewis is going to Japan

The white NSX of Corey Lewis leads Mark Dawson during the start of the first of three GT-1 A-mains. Sadly, Corey lost out in the concourse competition.

GT-1 also turned out to be a two-way battle for the trip to Japan. Corey Lewis and Mark Dawson—both California locals—put on a driving clinic, being the only two drivers to complete 20-lap runs in the first two mains. Lewis was able to maintain a slight edge on Dawson, winning A1 by just two seconds and A2 by scarcely three seconds over Dawson. With two wins, Lewis would not only be going to Japan, but also got to sit out the third and final main to watch the fight for the runner-up spot. Dawson clinched second overall with an A3 win, and both he and Keith Yu (who finished third overall) pulled off 20-lap runs.



The top three finishers in GT-1 were (from left) Mark Dawson (second), Corey Lewis (first) and Keith Yu (third).



Corey Lewis' winning TRF-415MS. Corey's car used David Jun's Pro-Module rear suspension kit.



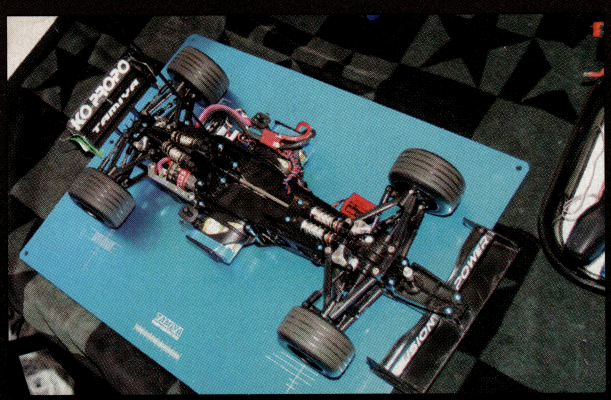
Edgar Fiallos upset local favorite George Canare to win the very competitive F-1 class.

F-1 class is all about Fiallos



F-1 top three (from left): Kevin Smith (second), Edgar Fiallos (winner) and Steve Wang (third).

All eyes were upon George Canare to win the F-1 (F201) class, as he had won the TCS regional event held on this very track in June. Kevin Smith, Edgar Fiallos and Steve Wang had other plans, as it turned out. Fiallos ended up taking pole position, and after a bit of excitement in A1 (following an F-1-style restart due to one car flipping over the curbing on the first lap and tripping the timing wire), he simply ran away from the field. Canare's Williams-BMW clearly had motor on the field (we'll be tapping George to prepare our motors the next time we enter the TCS), but it seemed as if his car wanted to go straight whenever he dipped into his power reserve. In the tight chicanes, Canare simply couldn't put his car's power to good use. A sweet holeshot and a large pileup entering the main straight in A2 gave Fiallos the room he needed to settle into his groove, and he again ran away and hid from the remaining nine cars. With a pair of wins, Fiallos cinched the overall and, barring a misstep in tech inspection, he'd be heading to Japan. Canare went on to dominate A3, posting the second-fastest race time of the event. Behind Fiallos on the podium were Kevin Smith and Steve Wang—bad finishes in A1 and A2 relegated the "Canare Missile" to fourth overall.



Fiallos' winning F201 chassis awaiting tech inspection. Fiallos used superb driving and this superbly tuned chassis to make time in the track's challenging chicanes.

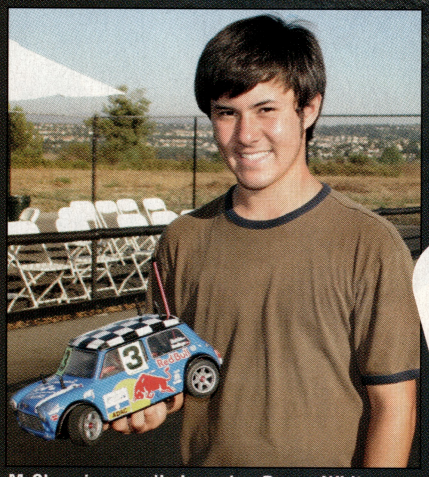
minis get respect

Polesitter Jerry Man leads second-qualifier Tom Davies through the chicane during A1. Davies would eventually get around Man for the win, but third-place qualifier Deven White would go on to win the next two mains to take the overall.



M-Chassis winners (from left): Tom Davies (second), Deven White (winner) and Jerry Man.

Although no longer an official class at the World Finals (and thus the winner wouldn't be receiving a coveted ticket to Japan), the M-Chassis class was fought just as hard as if a trip to Japan was at stake. Jerry Man got the jump from his TQ position on the grid in A1, only to be pulled back into the pits after a restart was called. After being given sufficient time for recharging, A1 was restarted, and Man once again pulled into the lead, but with second-qualifier Tom Davies right on this tail. By the end of the race, Davies had made his way around Man and crossed the line in first. Deven White, however, would show both drivers the backside of his "new" Mini and win the next two mains and the overall North American championship. Davies would follow in second, with Man filling the last spot on the podium.



M-Chassis overall champion Deven White.



gt-2 concourse winner

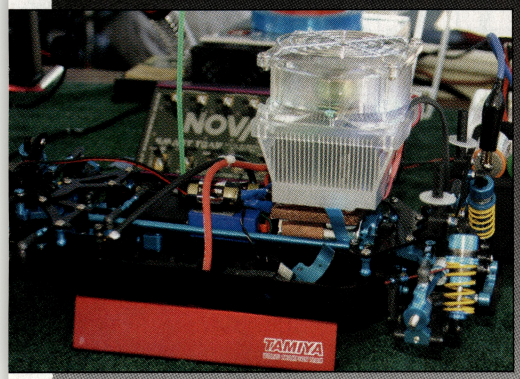
GT-2 Concourse winner Chris Lim donated this GT-40-inspired Ferrari F430 body to Tamiya America's lobby display. The car was built with help from past winner Ian Acquino, and features mesh screen at the air vents, a detailed interior, and even miniature valve stems at the wheels.



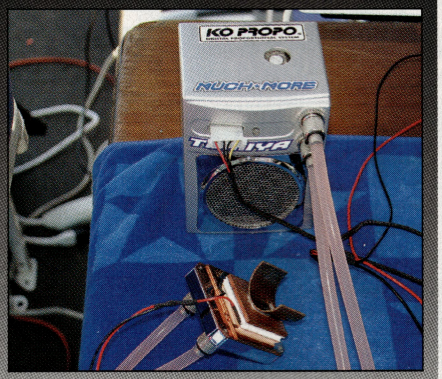
TCS TAMIYA NORTH AMERICAN FINALS

keeping cool

With temperatures approaching triple digits, keeping your motor cool was of paramount importance. There were two phases of cooling in action at this year's North American Finals—keeping the motor cool during the race, and getting it back down to ambient temperature quickly after the race. We noted quite a number of interesting methods of post-race motor cooling will strolling the pits.



A large conductive block of copper combined with a large 12-volt fan draws the heat away quickly from the motor.



How's this for high-tech: this racer made his own water-cooled motor cooler. Now, if he could just figure out how to mount this under the car's body.

team taob



Meet Team TAOB. This group of over 60 racers is a force to be reckoned with throughout the southern California R/C scene. With over 60 members in three levels (Factory Driver, Team Driver and Honorary Member), TAOB was out in force at the 2005 North American Finals. Although "TAOB" is, as we've been told by Ian Acquino, a Filipino word that means "flip," the TAOB guys are actually pretty accomplished racers. At last year's TCS Finals, TAOB drivers swept all four classes.



"TAOB" means "flip," as you can tell by the team's clever logo. Frank has petitioned to become an honorary TAOB team member—he's certainly on his lid enough.

past champions class

This year's North American Finals featured a class for past TCS National Champions. Each driver was required to run the new TA05 belt drive chassis topped with the equally new Ferrari F430 body. All available options save the front one-way were allowed; the cars had to run front and rear ball diffs. The JMRC-spec 23-turn motor (the same kind used in the F201 and GT-1 classes) was the handout motor, and drivers had to use unmatched Tamiya GP3300 stick packs. Each driver was given two sets of Take-Off pre-mounted CS-27 tires for the entire weekend, and unlike all the other classes, the Past Champions races lasted eight minutes, which is the standard duration for electric touring cars in Asia.

This event was essentially a two-man battle between top-qualifier Rod Canare and three-time winner Martin Crisp. Both drivers broke away from the pack in all three A-mains, and stayed relatively close for the entire eight minutes. Although it was clear that Canare had his handout motor dialed, and his car clearly had speed on Crisp, Canare's propensity to clip a dot or curb just as he closed in on Crisp's back bumper relegated him to second tier on the podium. Crisp would get out front early, and Canare would slowly eat up the gap, only to make a mistake while challenging for the lead. Although Canare would win the second main, causing the overall outcome to go the full distance, Crisp was simply unshakable and drove nearly error free to take the win and "four-peat."

What was equally as amazing as the battle these two staged was the fact that everyone made the extended run time. We'd certainly like to see this new format catch on, as Asia has already embraced the eight-minute format. It certainly makes the racing more exciting, and starts less important—everyone likes to see a come-from-behind victory.



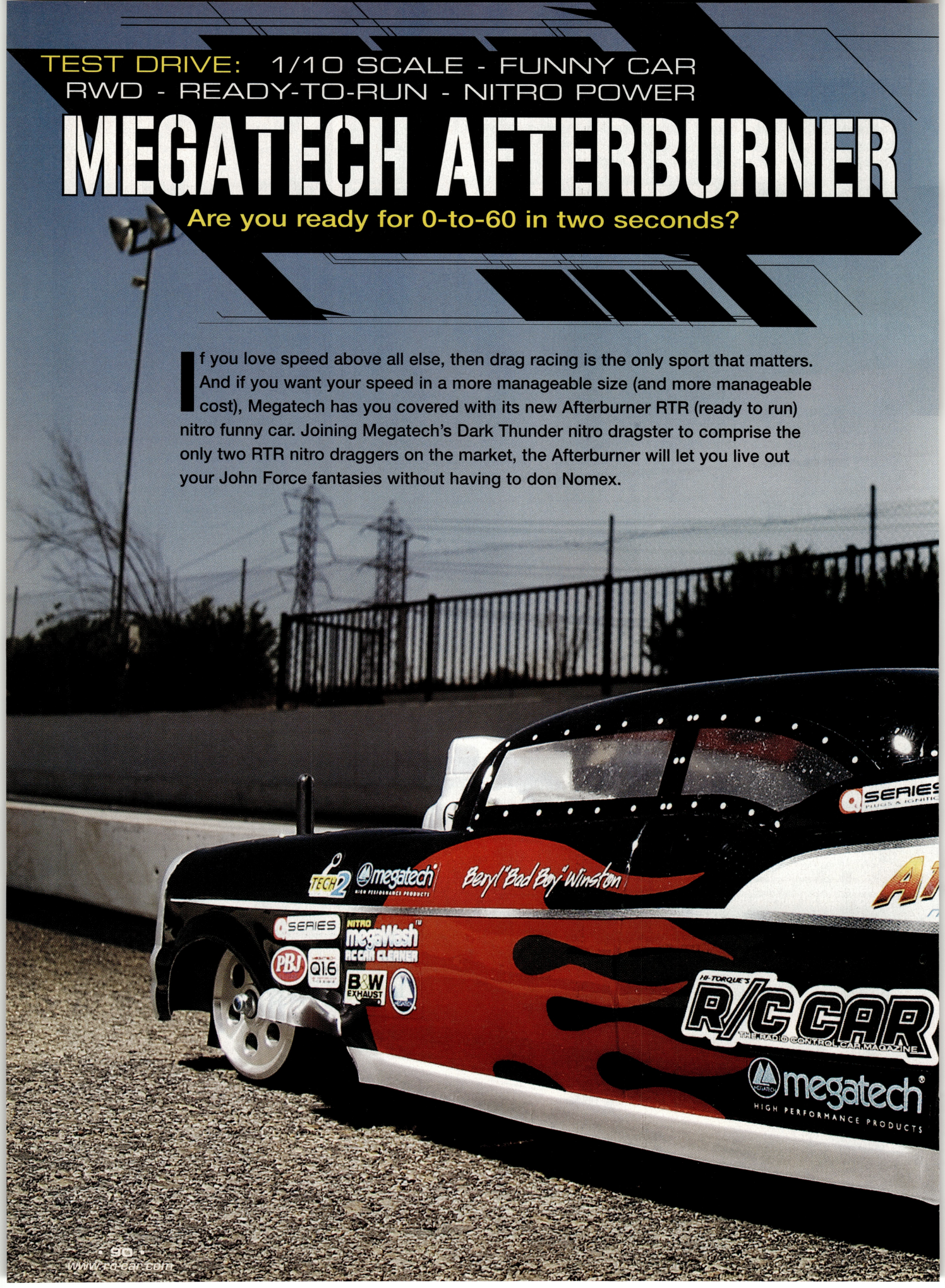
Martin Crisp's TA05 negotiates a difficult chicane.

TEST DRIVE: 1/10 SCALE - FUNNY CAR
RWD - READY-TO-RUN - NITRO POWER

MEGATECH AFTERBURNER

Are you ready for 0-to-60 in two seconds?

If you love speed above all else, then drag racing is the only sport that matters. And if you want your speed in a more manageable size (and more manageable cost), Megatech has you covered with its new Afterburner RTR (ready to run) nitro funny car. Joining Megatech's Dark Thunder nitro dragster to comprise the only two RTR nitro draggers on the market, the Afterburner will let you live out your John Force fantasies without having to don Nomex.



FUNNY CAR FEATURES

The Afterburner is heavily based on Megatech's wild Dark Thunder nitro dragster—and the two cars share the majority of the their parts and design. Megatech modified the Afterburner's T-6 aircraft aluminum chassis to fit beneath the funny car shell, shortening wheelbase by over ten inches and increasing width by nearly an inch overall. Most of the heavy hardware, e.g. engine, transmission and fuel tank, are located towards the rear of the chassis to give the rear tires more bite.

Launch power is provided by a Megatech Chris Chianelli signature Q1.6 pull-start nitro engine. Megatech rates this .16 mill at 1.6 horses, which is plenty of power to allow the Afterburner to live up to its name. Thanks to its chrome-plated cylinder sleeve and easy-to-adjust slide-valve carburetor, the Q1.6 will provide hundreds of hassle-free runs down the strip of your choice. An aluminum tuned exhaust system helps the Q1.6 breathe efficiently to make optimum power, and a 100cc flip-top fuel tank gives long run times and makes for quick pit stops.

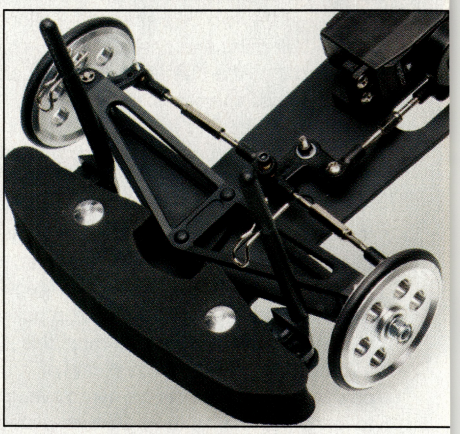
Megatech adapted a touring-car-style drivetrain to fit the rear-wheel-drive Afterburner. The Q1.6 engine spins a centrally mounted two-speed transmission (with close-ratio 38- and 42-tooth spur gears) through a racing-style three-shoe Krylex clutch. From the two-speed, a steel dogbone connects to a very beefy PosiLoc zero-slip differential. The diff is driven by a rugged bevel-and ring-gear setup. The PosiLoc diff ensures optimum power delivery to the Afterburner's 1.75 inch diameter high-traction foam slicks. The slicks are pre-mounted to a pair of very nice-looking chrome wheels. A large diameter steel-alloy disc brake system brings the speeding Afterburner to a grinding halt before the car hits the hay bales.

Technically the Afterburner has suspension, in that its chassis is suspended off the ground. Otherwise, there's nothing in its long roster of features that suggests an ability to absorb bumps; the Afterburner is designed for smooth surfaces only.

Up front are fixed wishbones that hold simple steering knuckles, to which the Afterburner's beautiful CNC-machined 6061 aluminum wheels are affixed. These ultra-slim, 2.26-inch diameter wheels spin on ball bearings for reduced friction, and are shod with hard-rubber O-ring tires. A bit of caster helps the Afterburner track straight (making it much easier to stay "between the lines" at speed), while centralized L-shaped bellcrank handles what little steering is required of a car made to go straight.



MEGATECH AFTERBURNER



Beautifully machined aluminum front wheels are shod with O-ring-style rubber tires. A simple, but stout, wishbone front end keeps the Afterburner running straight.

The rear of the car resembles a typical touring car, but instead of shocks, the lower A-arms are tied to the chassis with adjustable steel turnbuckles—the Afterburner is a hardtail. When you're all about straight-line speed, you don't want any suspension that could interrupt the engine's direct line to the rear wheels. The turnbuckles can be adjusted to set the chassis' tweak and ride height, a feature that lets you dial-in the ideal launch. Should the big rear meats get too much traction when the Christmas tree goes green, an aluminum wheelie bar will keep the Afterburner from sliding down the quarter on its lid.

The Afterburner arrives fully assembled and ready to burn up the strip with just a little prep work. A Megatech two-channel "Buck Rogers" pistol-grip radio system comes pre-installed. You'll only need to install eight AA batteries into the radio and another four into the on-board holder. The Afterburner has a nicely sealed plastic radio box that prevents dirt and splashed fuel from contaminating the receiver and battery. The crowning glory of the Afterburner is its pre-finished body, which is in the style of a classic '57 Chevy Bel-Air, but stretched and chopped to funny car proportions. It's a real beauty, and the level of detail is astounding.

STRIP MAULING

We've lots of experience testing on-and off-road vehicles, but the Afterburner is a little different, so we went to the "source" for R/C drag racers—IEDA (*www.ieda-dragracing.com*), the International Electric Drag Racing Association (don't be concerned about the name; IEDA has folded nitro classes into its program). According to IEDA, we would require a 132-foot track (a quarter mile is 1320 feet, so you just divide by ten for the proper length for a 1/10-scale track) and an additional "shutdown area" of 100 feet (although a 150 foot shutdown area is recommended). For its sanctioned events IEDA uses one of several commercially available timing systems. Unfortunately, we would be relying on the old stopwatch to gauge the Afterburner's ET.

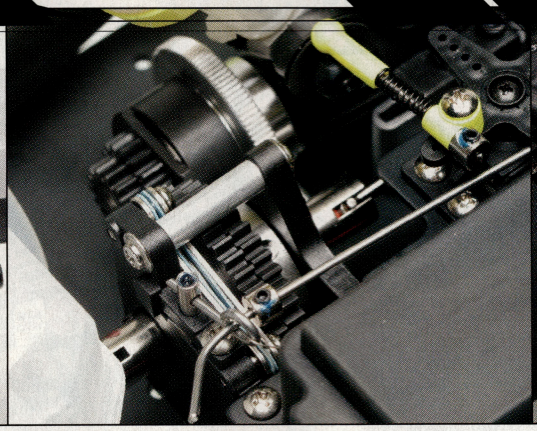
We filled up the Afterburner's big tank with Byron Fuels 30-percent Race blend, and gave the starter cord a few yanks. The Q1.6 sprang to life after we'd leaned out its high-speed needle by about two "hours." Once the engine was running, we richened it back up to its original settings for break in. Other than the radio trims being a bit off the mark (which was simple to correct), the Afterburner was problem-free. Take extra care to ensure that the Afterburner tracks perfectly straight, or else you'll risk spinning out or flipping halfway down the strip.

Once the engine was broken in, we measured and marked a 132-foot area of pavement at an unused portion of a local park's parking lot. One mark was the start, and the other mark served as the finish line. Photographer Mike Basher functioned as our official "Christmas tree." Basher's job was to yell "go" and click the stopwatch as the Afterburner crossed the finish mark. Our first runs yielded a best ET of 2.7 seconds, but we all felt the Afterburner could go faster.

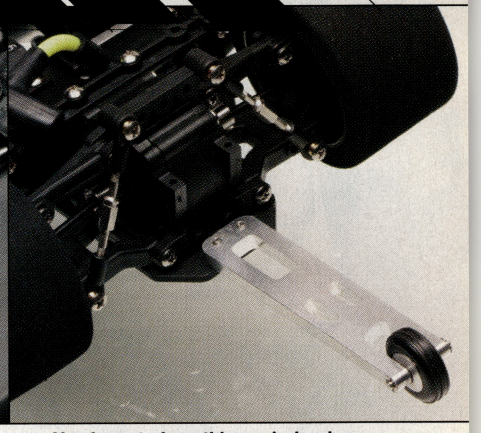
The hardest part was making it down the strip without incident. The slightest steering input usually caused the car to either slide or demand that we let off the throttle to prevent the car from sliding. To fix this, we set the trim so the car traveled perfectly



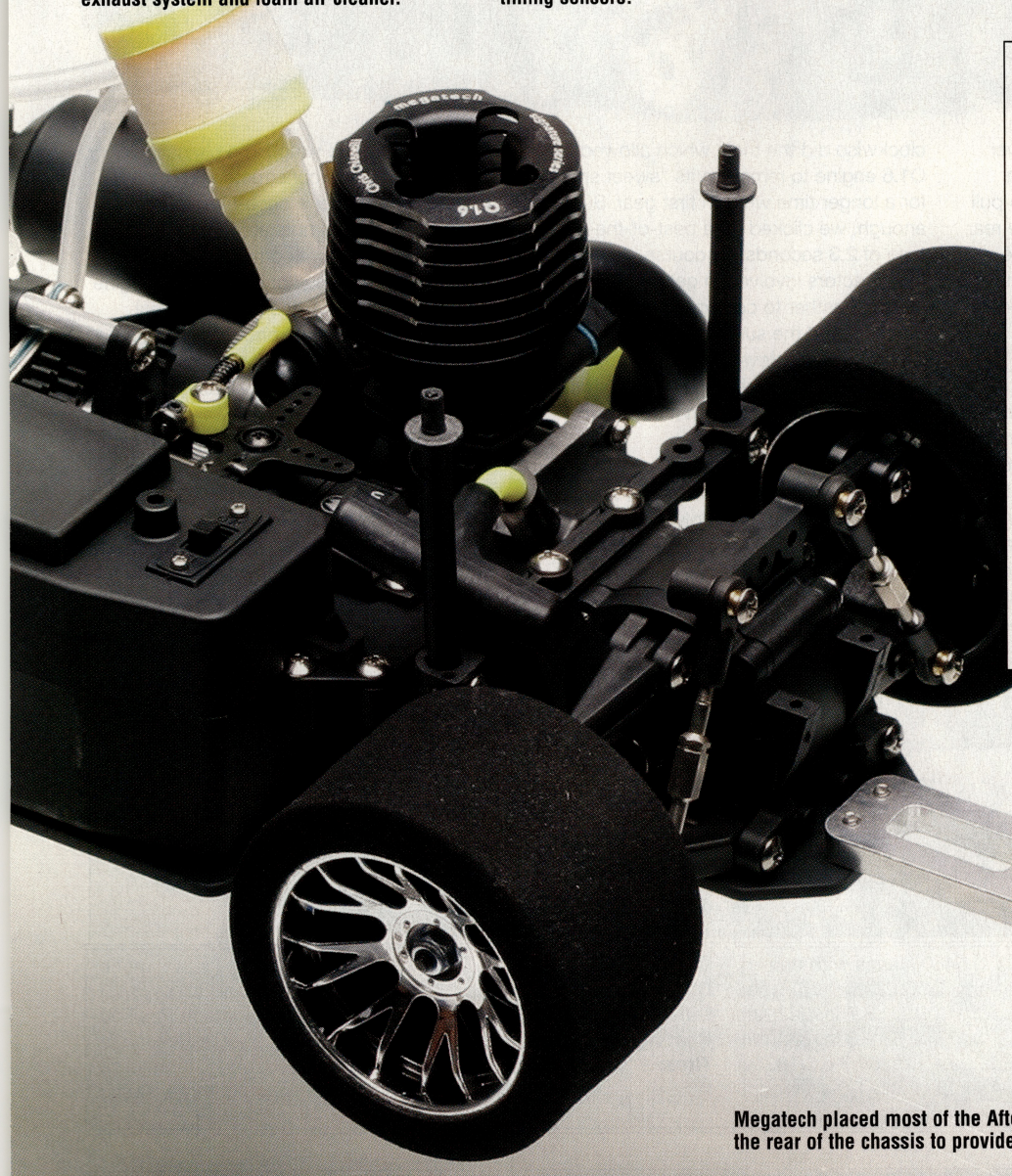
A Chianelli signature edition Megatech Q1.6 nitro engine comes equipped with a handy pull-start, high-flow aluminum exhaust system and foam air cleaner.



The Afterburner's standard two-speed transmission helps launch the car from the line and blitz the timing sensors.



You have to love this cool aluminum wheelie bar that juts from the rear of the Afterburner's chassis. In case you're wondering, the bar is aboard for more than just appearance.



Megatech placed most of the Afterburner's weight towards the rear of the chassis to provide the best traction.



Megatech's two-channel pistol radio comes already installed and set up to run the Afterburner.

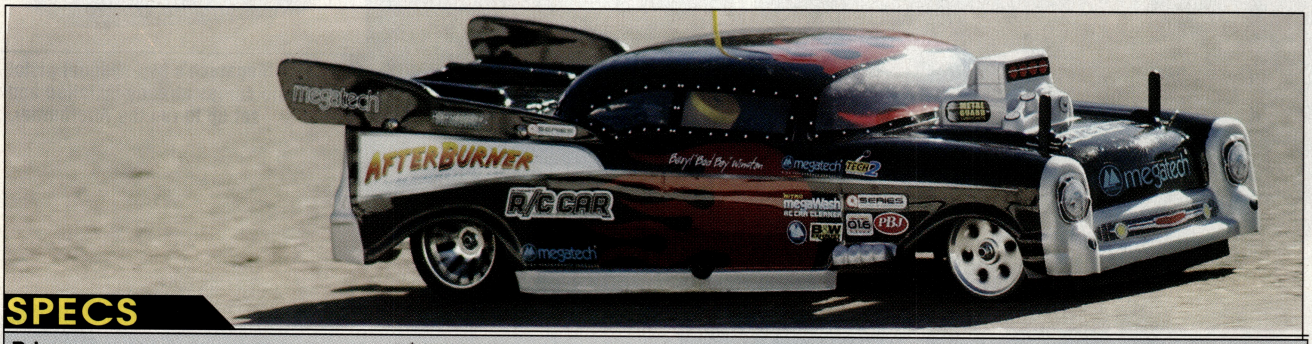
TEST DRIVE MEGATECH AFTERBURNER

straight, and then made a few full-power launches without touching the steering wheel. Sure enough, the car tended to pull a little to the left. We then adjusted the rear suspension turnbuckles, shortening the right-side turnbuckle and elongating the left a similar amount, and this effectively negated the problem.

With the Afterburner now launching straight, we were able to lower the ET to about 2.5 seconds (give or take a tenth of a second; Basher's good, but he's no Timex). Still, we wanted to get close to two seconds for the scale quarter. We then determined that the two speed wasn't allowing the engine to reach its full rpm potential, i.e. the tranny was shifting too soon. Turning the two-speed's adjustment screw slightly clockwise did the trick, which allowed the Q1.6 engine to remain in its "sweet spot" for a longer time while in first gear. Sure enough, we clicked off a best-of-the-day time of 2.3 seconds. Of course, there are so many factors involved in getting a good run: there's weather to consider, and nitro percentage, and the surface on which the car is run (traction, elevation and grade). All things considered, the Afterburner shuts down all other RTRs when it comes to straight-line speed.

WHAT WE REALLY THINK

The Afterburner is simply over-the-top in all categories. It looks fantastic right out of the box, with its jet-black classic Chevy-style body (complete with "blower" and huge rear-deck lid wing). The chassis is very well designed and constructed. You may wish to give the car a once-over to check that all screws and nuts are tightened, and if those that mate with other metal parts have adequate threadlock. The Q1.6 engine ran flawlessly for our test, making great power and impressive rpm. Of course, if you decide to run the Afterburner in an IEDA sanctioned event, you'll have to go against the .21-powered cars, as the Megatech's.16 engine is just a tad too large to be legal for the.15 category. While we didn't exactly shatter any existing records (which currently stand at below two seconds for nitro draggers), we did come close enough to hitting a very low two-second run with a box-stock Afterburner.



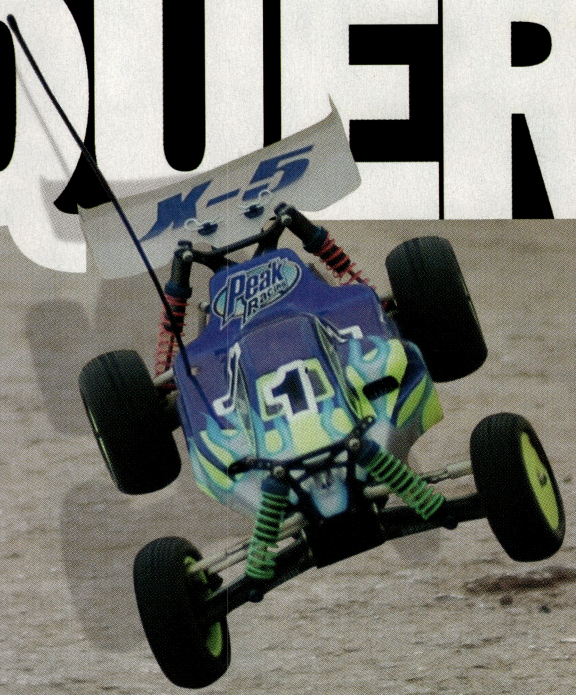
SPECS

Price:	$480 (varies with dealer)	**Damping:**	none
Length:	22.5 in./571mm	**Drivetrain:**	Shaft/gear driven RWD
Width:	8.7 in./222mm	**Differentials:**	Megatech PosiLoc
Wheelbase:	14.3 in./364mm	**Bearings:**	Full ball bearings
Weight:	64.7 oz./1835g	**Tires:**	Rubber O-ring, foam slick
Chassis:	Aircraft-grade T-6 aluminum	**Wheels:**	Machined aluminum, chrome plastic
Suspension:	Fixed wishbone, rigid rear arms		

SOURCES

- **Byron Fuel**, P.O. Box 279, Ida Grove, IA 51445 • phone (712) 364-3165
- **Megatech**, 8300 Tonnelle Ave., North Bergen, NJ 07047 • phone (201) 662-2800

CONVERT AND CONQUER



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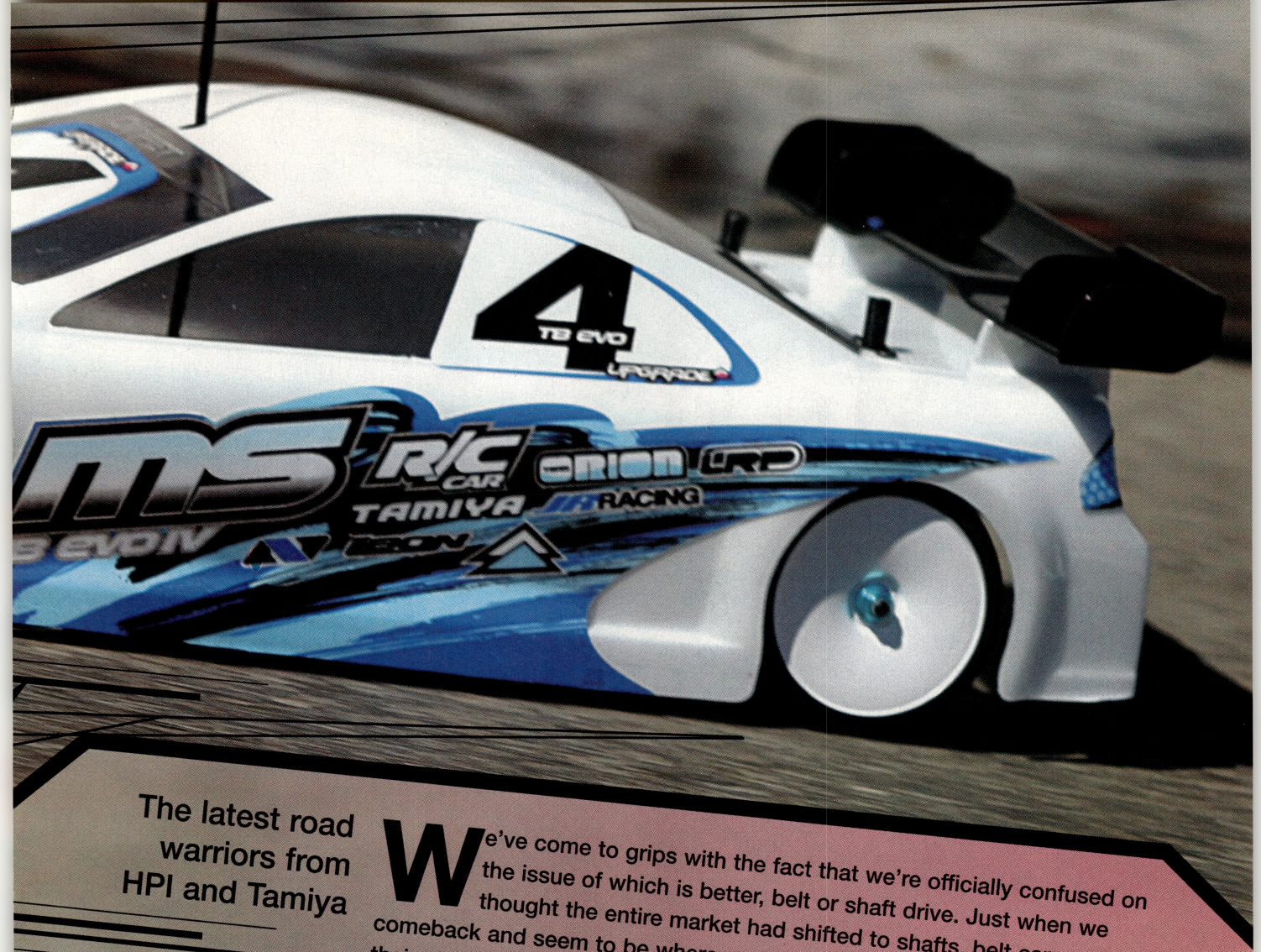
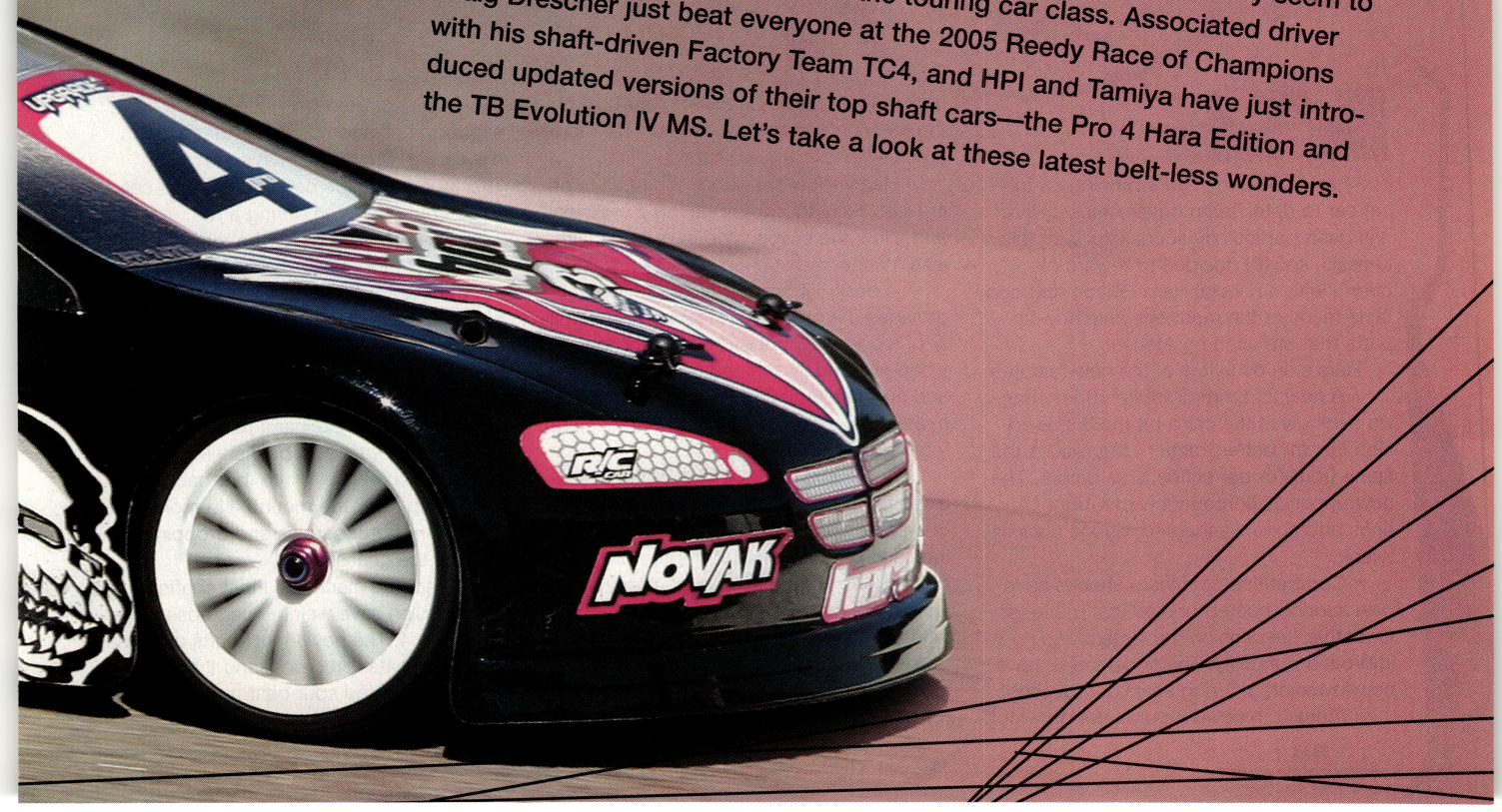
Bodies (Stratus 3.0s) and molded wings supplied by PROTOform, with paint and graphics by Robert Ibon/Upgrade.

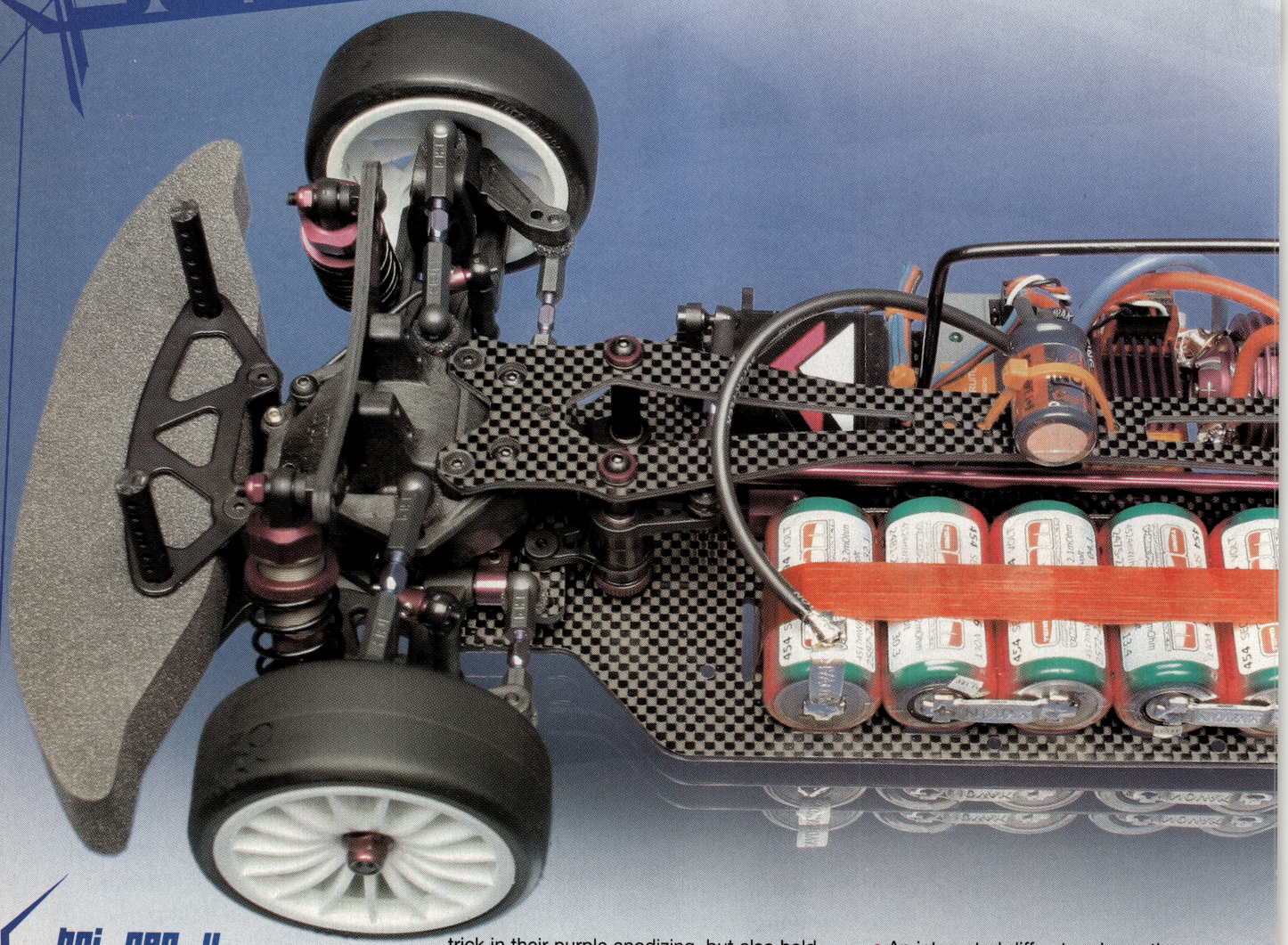


The latest road warriors from HPI and Tamiya

We've come to grips with the fact that we're officially confused on the issue of which is better, belt or shaft drive. Just when we thought the entire market had shifted to shafts, belt cars made a comeback and seem to be where most manufacturers' have been focusing their efforts. Shaft cars are far from dead, however, and in fact they seem to be mounting an all-out assault on the touring car class. Associated driver Craig Drescher just beat everyone at the 2005 Reedy Race of Champions with his shaft-driven Factory Team TC4, and HPI and Tamiya have just introduced updated versions of their top shaft cars—the Pro 4 Hara Edition and the TB Evolution IV MS. Let's take a look at these latest belt-less wonders.



NEW SHAFT SEDANS



hpi pro 4 hara edition

The Pro 4 has been HPI's winningest touring car to date. Team driver Atsushi Hara has been particularly successful with this chassis, so HPI decided to reward his efforts with a special Hara Edition that contains many of the most effective hop-up parts that are used by Atsushi.

Here's an overview of the new features:

• A new 2.25mm graphite upper chassis deck gives the car a bit more side-to-side flex for better traction, but retains the same front-to-rear stiffness as before. The new upper deck mounts with rubber O-rings and cone washers to reduce chassis tweak.

• Competition aluminum shocks have new fluorine-coated bodies that make for smoother suspension movement and improved durability. The shocks also have new lower-drag O-ring seals and pistons.

• Aluminum servo mounts not only look trick in their purple anodizing, but also hold the steering servo more securely for more precise handling.

• Heavy-duty self-lubricating ball cups are less likely to pop off during a collision, and allow the suspension to operate with less friction and stiction.

• A front diff "spool" (solid drive axle) provides the on-power steering and stability of a one-way, but still allows for four-wheel braking. Machined from lightweight and strong aluminum, the front spool also makes the car more stable when accelerating through bumps.

• Additional pivot blocks and spacers allow for increased tuning options for various track surfaces. The Hara Edition includes 0, 2, 2.5 and 30-degree pivot blocks (each made from purple anodized aluminum), and also comes with stamped aluminum pivot-block spacers ranging from 0.5 to 2mm. These spacers are used to raise the pivot blocks and alter the car's roll centers.

• An integrated diff nut replaces the separate nut-and-holder system used in the regular Pro 4. This new design is stronger and helps prevent the diff's settings from changing during a run.

• Delrin outdrives for the rear diff reduce rotating mass in the drivetrain, giving the Hara Edition better acceleration and improved efficiency.

• A machined aluminum motor mount keeps the motor running cooler and has a new, open-ended design that makes it much easier to install and remove the motor. The motor can be installed with the mounting screws in place (but backed off enough to clear the mount). No more fumbling with motor screws and dropping them in the chassis.

• Precision machined input shafts for the transmission save weight over those of the stock Pro 4. The new input shafts also operate with greater precision, and the rear shaft has an integrated spur-gear mount, which keeps the spur running true and efficient.

SPECS

Price:	$380 (varies with dealer)
Length:	14.3in/365mm
Width:	7.5in/190mm
Wheelbase:	10in/256mm to 10.2in/259mm
Weight:	50.4oz/1430g (RTR)
Chassis:	double-deck graphite plate
Suspension:	lower A-arm w/adj. upper links
Damping:	aluminum oil-filled
Drivetrain:	shaft/gear driven 4WD
Differential:	adj. ball diff (R), solid axle (F)
Bearings:	full ball-bearings
Tires:	not included
Wheels:	not included

PRO 4 PEDIGREE

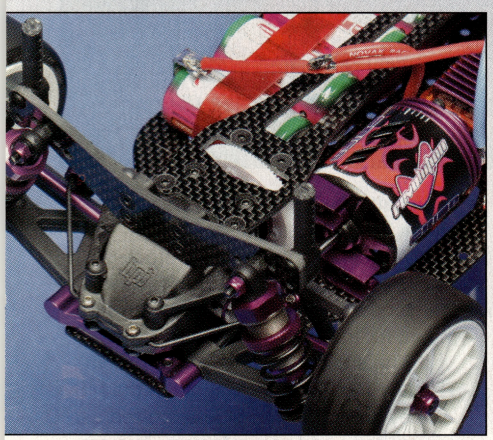
- 2005 DHI Cup (Hara 1st place over world champion)
- 2004 ROAR Paved On-Road Electric Nationals (Hara 1st place)
- 2004 Swiss Nationals (Jean-Marc Betticher 1st place, top 3 winners were driving the Pro 4)
- 2004 IFMAR ISTC and 1/12th On Road Worlds Warm Up (Hara TQ, 1st Place)
- 2004 DHI Cup (Hara TQ, 1st Place, Fastest Lap)

PERFORMANCE

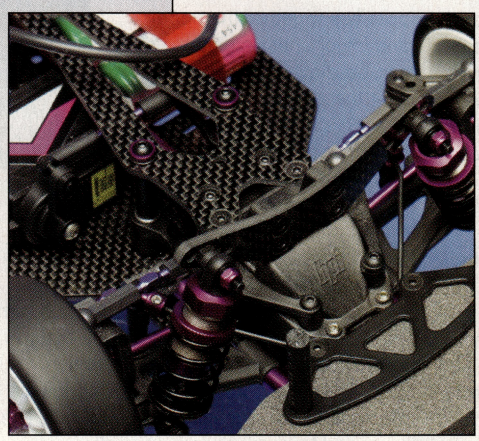
We have plenty of experience with the original Pro 4, and we couldn't wait to let the Hara Edition loose on the track. Acceleration is class leading, without noticeable chassis twist—even with the insane Orion Revolution 8x1 motor. The Hara Edition's spool setup was perfect for our medium-sized roadcourse (Hot Rod's in Saugus, California), allowing us to drive deep into the turns before standing on the brakes. On-power steering was excellent, however we felt the car had a slight off-power push at medium speeds.

Special edition graphics enshroud the standard Pro 4 package.





Rear-end features include a new "open" aluminum motor mount, additional suspension pivots and smooth aluminum shocks.

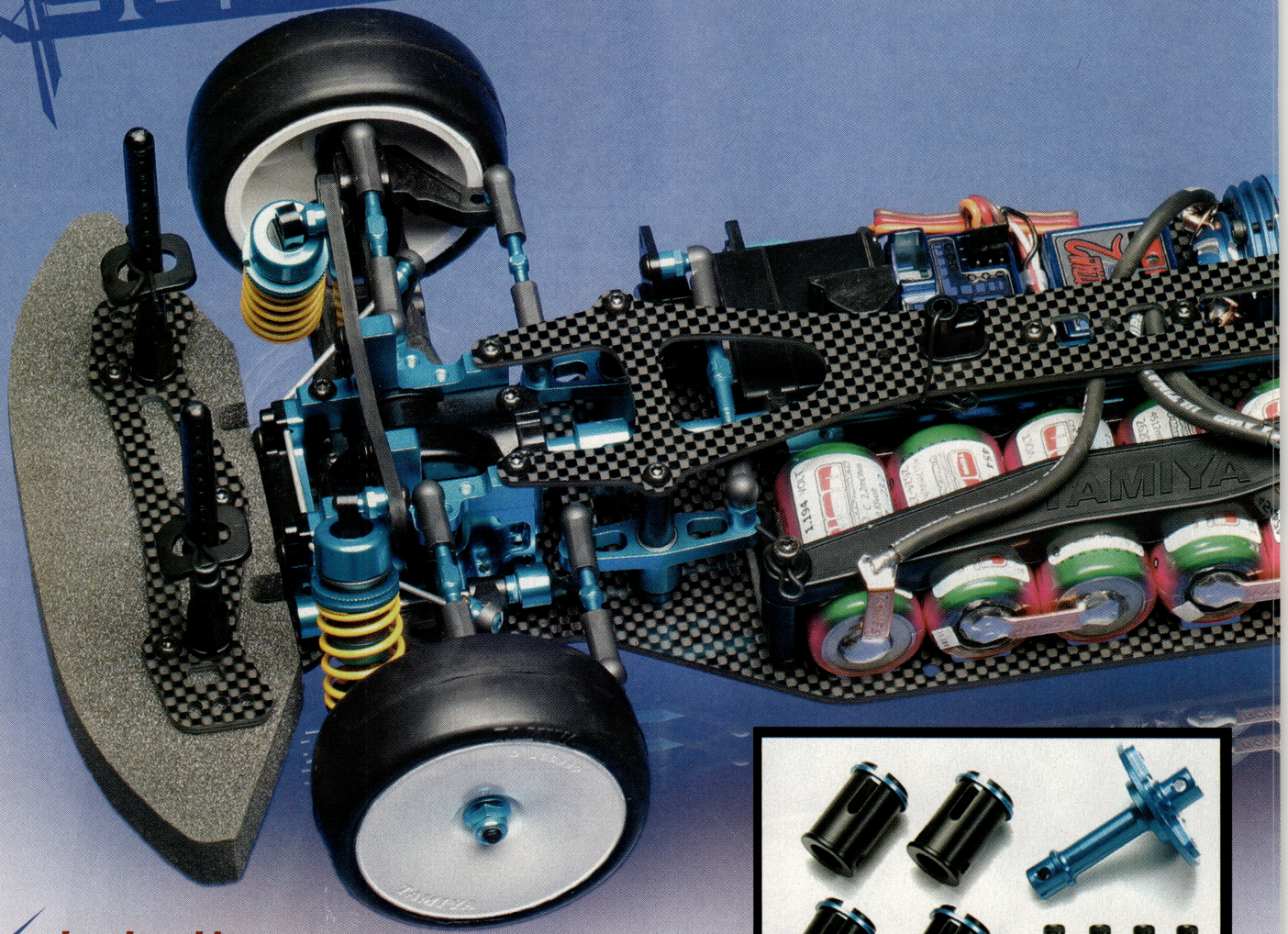


A front "spool" resides within the gearbox. The Hara Edition also includes a front one-way drive.



Joe Pillars of Orion wound us the same motor (OR129062) Hara used at the 2005 Reedy Race.

new shaft sedans



tamiya tb evolution iv ms

The Evo IV is the very latest in Tamiya's long line of shaft-driven 4WD touring car chassis. The main differences between the IV and the previous Evo III are the use of Tamiya's updated Reversible Suspension Set and a lighter and more compact drive-train. All Evo kits are to be considered high-end, but the MS version adds even more glam to an already top-of-the-line kit.

Here's an overview of the Evo IV MS's new features:

• Blue titanium turnbuckles replace the regular kit's steel turnbuckles. The new ones are lighter, stronger and easier to grasp with a wrench.

• New aluminum rear uprights (with zero-degrees of toe) are stronger than stock and provide three positions for the vertical camber-rod ball-stud.

• One-piece aluminum lower bulkheads offer improvements in both weight (they're lighter than those of the standard Evo IV) and strength. The new bulkheads hold the diff cases more securely, and align the drivetrain perfectly.

• A new aluminum center post ties together the upper and lower chassis plates, and can be moved fore or aft to alter the lateral flex of the chassis structure. This is used to further tune the car's bite from front to rear.

• A new machined-aluminum motor mount offers greater surface area (via its finned rear section) to help keep those low-turn modifieds running cooler.

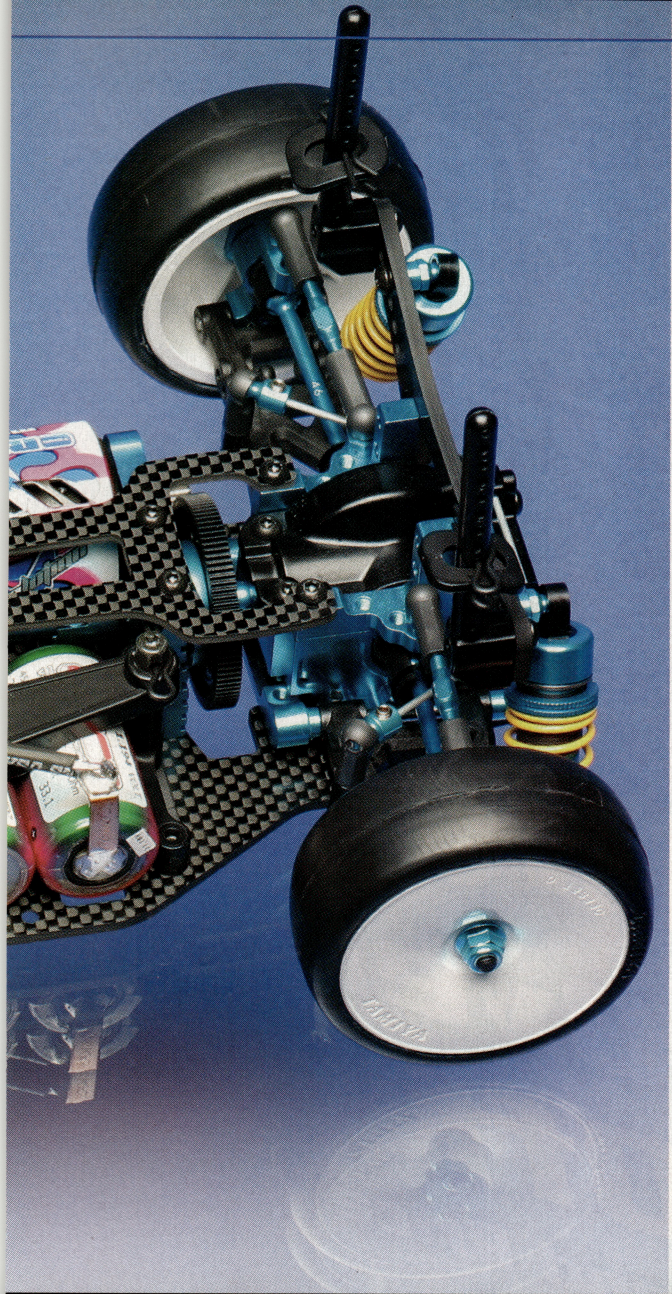
• Stainless suspension shafts (2 x 22mm and 2 x 25mm) are used for the lower arms to provide smoother suspension action.

• The center prop shaft's drive cups are machined from aluminum in the MS kit. The cups and transmission input shafts are machined as one piece to ensure precision and improve drivetrain efficiency. The rear cup/shaft also has an integral spur gear mount for truer gear mesh.

• A graphite front bumper brace is stronger than the molded brace found in the standard Evo IV, and provides a stiffer mount for the front body posts.

• The shocks are Tamiya's excellent TRF low-friction dampers, but in the MS kit they are fitted with blue-anodized aluminum caps and seal retainers. The pre-load adjusters are wider and are also anodized blue.

Although the TB Evo IV MS comes equipped with a front one-way (the norm throughout Asia), Tamiya through its TRF (Tamiya Racing Factory) offers a Front Direct Coupling Spool (part No. 49359, $45 retail) for the Evo IV. A spool will provide the same on-power steering as the one-way, but provides greater braking control for tighter tracks.



SPECS

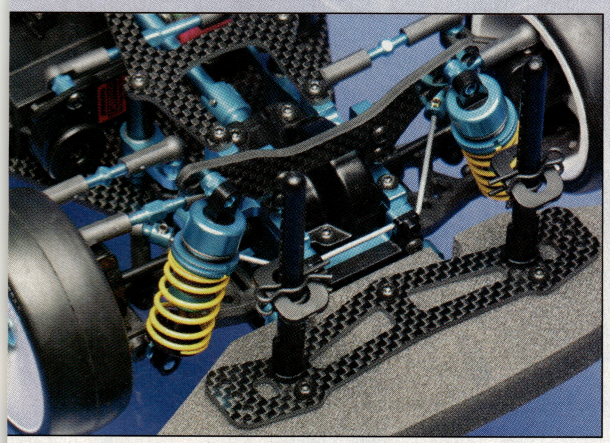
Price:	$475 (varies with dealer)
Length:	14.4in/366mm
Width:	7.5in/190mm
Wheelbase:	10in/256mm
Weight:	50.4oz/1430g (RTR)
Chassis:	double-deck graphite plate (2.5 and 2.0mm)
Suspension:	Tamiya Reversible lower arm, adj. camber links
Damping:	TRF low-friction dampers
Drivetrain:	shaft/gear driven 4WD
Differential:	adj. ball diff (R), one way (F)
Bearings:	full ball bearings
Tires:	Tamiya Type B3 belted slick
Wheels:	white medium-narrow dish (zero offset)

PERFORMANCE

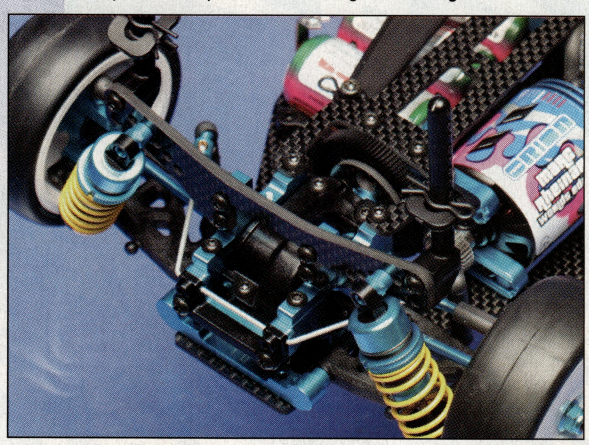
The kit's B3 tires were too "warm" for our test track, which had a surface temperature of just 74 degrees. We swapped them for a set of Take-Off CS22s, which were better suited for the cool track. The Evo IV is one of the best-balanced shaft sedans, and it's virtually impossible to detect drivetrain twisting. With its front one way, the Evo IV turns in with razor sharpness, which is good, because the brakes affect only the rear wheels. The car is very responsive, and makes quick work of fast transitional turns. The kit setup worked very well on our medium-sized test course (Hot Rod Hobbies in Saugus, California). Overall, the MS kit is one of the smoothest and most responsive tourers on the market.



An Orion Marc Rheinhard Worlds Edition 8x1 motor (OR129086) was supplied for our test. Both motors were built with OR141382 springs, Sprint Edge brushes (OR141093) and with 12 degrees timing.



The front end features a carbon bumper brace, alloy TRF dampers and revised diff bulkheads.



A new one-piece rear gearbox input provides better drivetrain efficiency. Alloy lower suspension mounts and stabilizer bars are standard.

SOURCES

- **HPI Racing**, 70 Icon Street, Foothill Ranch, CA 92610 • phone (949) 753-1099; fax (949) 753-1098
- **JR Racing**, distributed by Horizon Hobby Distributors, Inc., 4105 Fieldstone Rd., Champaign, IL 61821 • phone (217) 355-9511
- **Novak Electronics, Inc.**, 17032 Armstrong Ave., Irvine, CA 92614 • phone (949) 833-8873; fax (949) 833-1631
- **Tamiya America, Inc.**, 2 Orion, Aliso Viejo, CA 92656-4200 • phone (949) 362-2240; fax (949) 362-2250
- **Team Orion**, 22601 La Palma, Suite 103, Yorba Linda, CA 92887 • phone (714) 694-2812

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second national E/C motorcycle championship race

Two-wheelers invade SoCal

Marco Verna's MotoGP winning Nuova Faor SF501 lays it over en route to victory.

This past August saw the arrival of serious R/C motorcycle racing to southern California. Hosted by the RAMM (Racing Association of Motorcycle Modelers), the Second National R/C Motorcycle Championship Race took place at the area's premier permanent R/C roadcourse—Sun Valley Speedway in Sun Valley, California. Drivers (perhaps we should called them "virtual reality riders"?) from around the world were invited to participate in six classes of racing: MotoGP Mod, MotoGP Stock (for 1/8-scale nitro bikes), Superbike (1/5-scale electric modified), Superstock (1/5 electric stock), Supersport Modified and Supersport Stock (for 1/8-scale electric bikes such as Kyosho's Hanging-On Rider), and a provisional 1/4-scale Moto X exhibition featuring Radio Shack's "R/C RC" Ricky Carmichael off-road bike.

Jonathan Veal's V2 transitions.

Ever wonder how they start motorcycle races? With a helping hand (more like a toss).

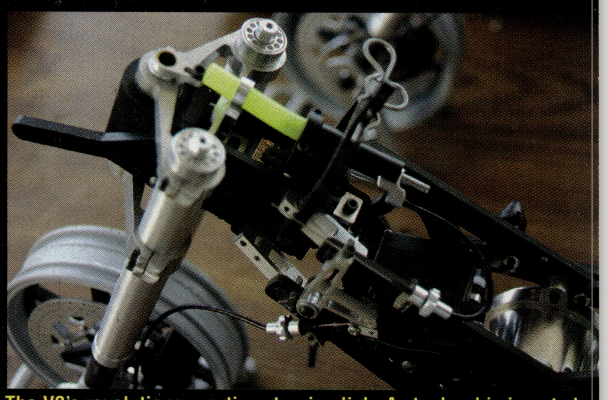
R/C motorcycle championship race



V2 creator Patrick Alleven (center) poses with Team Veal. Father John had the measure of son Jonathan in the Superbike 1/5-scale class, and the younger Veal chewed up the field in the 1/5-scale stock class.



The Alleven V2.



The V2's revolutionary active steering link. A steel rod is inserted through the flexible link at high speeds, then retracted to improve the bike's low-speed cornering response.

It's rare to find a homemade R/C vehicle that doesn't rely on OEM parts from other manufacturers. Rarer still is a homemade vehicle that looks even more polished and perfect than the mass-produced models against which it competes. Such a vehicle is the V2 electric motorcycle, the brainchild of Patrick Alleven, a very talented designer and machinist from Boston, Massachusetts. Alleven's V2 has been tearing up circuits in Great Britain, being driven by "Team Veal" (father John and son Jonathan). The Veals were able to attend the National R/C Motorcycle Championships and put on an effective driving clinic, prompting many American competitors to the realization that they've got a ways to go to catch up to the fast Brits. We spoke with Alleven about his revolutionary V2 bikes.

"I Designed and built the V2 to satisfy my own interest to see how far I could push model bike design. I bought a Nuova Faor a few years ago, and I was amazed by how well it worked with the amount of technology it had, they're very basic. I've been into modeling since I was a kid, and I was always fascinated by radio control. I think I've been influenced by Tamiya the most. The early Tamiya off-road cars looked just like full-scale cars, only all the components are scaled down, as opposed to some of the more modern cars, which are all molded plastic.

"I really didn't decide to go into business with these bikes. I'm not a manufacturer, and I don't have the equipment to do it. I think if interest catches on I might consider a redesign and try to get [the V2] made and make it affordable. I'll still keep some of the features that make this bike work well. The fundamental problem with using a flexible steering link [used by other bike designs] is that you really need a more rigid connection at higher speeds than you do at lower speeds. I tried to come up with a mechanical link to stiffen the rod at high speeds and yet have flexibility at low speeds to make the bike more drivable. Right now it's a compromise; if you don't have anything to change the rigidity, it's a compromise between having responsive high-speed steering and having low-speed steering that makes it difficult to drive.

"The one thing with motorcycles is that they're difficult to drive. While they're not really more difficult than other radio control—they're not more difficult than helicopters—I have a feeling people see a lot of motorcycles, and they think they'll buy the model and take it out to the parking lot and it'll be easy to drive, then they get out there and realize it's much more difficult. I tried to come up with something that's easier to drive, and I think it is a little bit easier, but there's still a lot to be done."



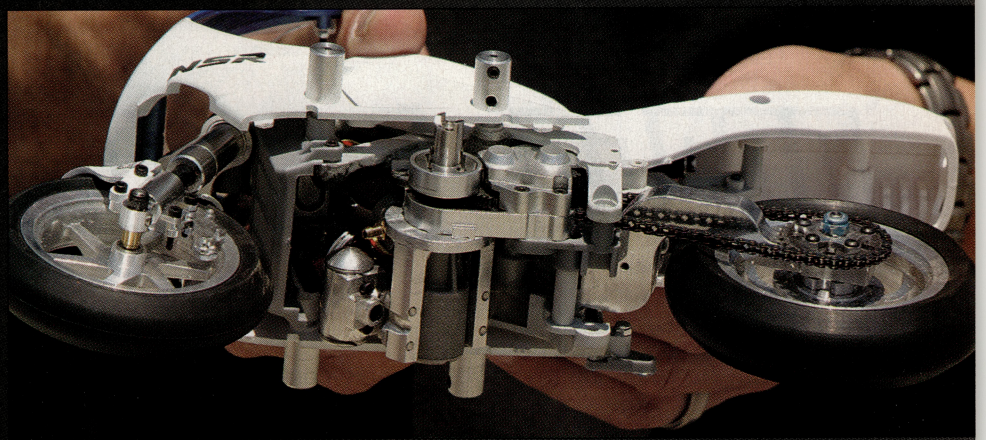
Some of the RCMCC's "iron."



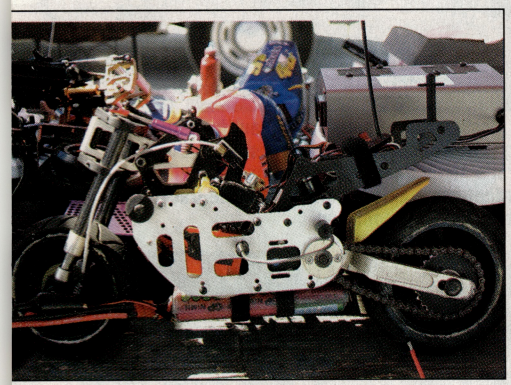


The RCMCC members specialize in Kyosho's 1/8-scale Hanging-On Rider kits. This model was finished beautifully and featured a custom working from disc brake system.

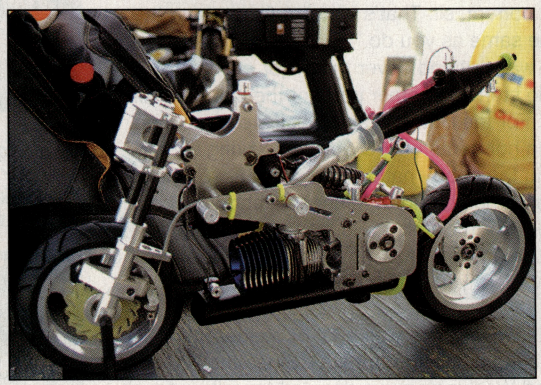
The RCMCC (Radio Controlled Motorcycles Club of California) is the only known R/C bike club in the U.S. Founded in 2003 by several founding members of the RCMA (Radio Controlled Motorcycle Association), the RCMCC is headquartered in California's San Francisco Bay area and holds club meets throughout the spring and summer. Six club members made the trip down south to participate at this year's National R/C Motorcycle Championships, and put on quite display of creativity in their machines and of their driving talent.



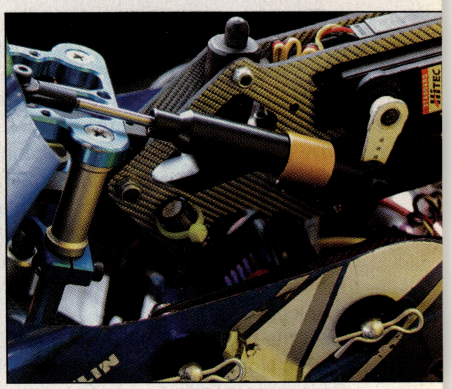
Check out this custom-made 1/8-scale nitro bike based on the Kyosho kit. A Cox-style .049 engine provides power.



A 1/5-scale electric "Race" bike from Nuova Faor, fully optioned.



This nitro bike is made by Bergonzoni, and features a unique offset rear shock and an open chassis design that allows for easier access to the engine.



Nuova Faor designed this new steering link, which replaces the old flexible tube with what is basically an oil-filled shock with internal springs. Steering response is adjusted through the springs' rate and by the viscosity of the fluid. This is Marco Verna's Nuova Faor SF501.

RACE RESULTS

Supersport Electric
1. Ian Francisco
2. Ray Ruggles
3. Ken Johnson

Superstock 1/5 Electric
1. Jonathan Veal
2. Steve Bowen
3. Larry Dy
4. Mike Dulian
5. Ian Francisco

Superbike 1/5 Electric
1. John Veal
2. Johnathan Veal
3. Steve Bowen
4. Mike Dulian
5. Ronnie Dilan

MotoGP
1. Marco Verna
2. Steve Bowen
3. John Veal
4. Lorenzo
5. John Espinor



north by northwest

California isn't the only hot spot for R/C

Story and photos by: Skinny

Many times during my travels, people come up to me and say, "Skinny, how come the magazines only cover what's going on in California? There's more going on around the country than what happens in California, you know?"

To which I say, "You're absolutely correct, sir. That's why I'm (insert here the event I'm at) visiting you all. I feel the same as you do."

It's true; we editors take the easy way out and cover the major events in Southern California, and we rarely do stories on other parts of the country. Here at *R/C Car* we've heard your voices. For the last year and a half we have been going around the country highlighting hot spots of R/C activity to bring light to these places in hopes of encouraging the hobby nationwide. First, it was Florida and the East Coast, then to Texas, and then on up to Minnesota and Wisconsin. We went down south to Alabama and North Carolina. So, as you can see, we've heard you. We're glad we did, because, in a lot of ways, the races in your neck of the woods are a lot more fun, and, to all of you who have invited us out, we thank you.

At the beginning of the 2005 R/C season, there was a lot of chatter about the Pacific Northwest and how it's becoming a hot-spot for R/C. Since the R/C Pro Series was heading up to Oregon and Washington, we decided to visit and report to the the rest of the country about the fun of pulling trigger in the Northwest.

TRACKS IN THE NORTHWEST

When you head Northwest to Washington or Oregon, you'll be surprised to find there are a lot of R/C tracks in the region. You'll find both on-road and off-road facilities, both indoor and out. Much like the rest of the world, though, off-road seems to be the stronger of the two in this region, and we headed to Canby, Oregon, to visit A-Main Raceway and find out how racing is done Northwestern style. Hobby-shop owner and R/C promoter Tim Rowe lives in Washington and runs the race program in the Vancouver area with an indoor track called Home Town Hobbies/A-Main Raceway, and he also operates the Oregon track (oddly enough, also called A-Main Raceway). He was our guide and very informed on the racing in this neck of the United States, so let's go take a look at this facility.



It seems most tracks up here have beautiful settings for racing R/C. A-Main Raceway is nestled in the back of Pat's Acres Racing Complex, a full-scale race park that has a karting and motorcycle track; the R/C track is pretty cool, too.



Want something different? How about a little Supermoto to get you're juices going again?

R/C LUMINARIES

It wouldn't be fair to just talk about the tracks and how beautiful the country is in the Northwest without including some of the colorful people that make up the R/C scene; after all, the camaraderie and friendship of the people around here make R/C what it is, and the racers in the Northwest sure make for some fun times. Here are just a few of the great people we got to meet, and there are more than we have space for—I'll tell you that. First and foremost, I and Andy Smolnik (CEN Racing) have to thank Darin Gray, who went out of his way to help us. He even got Herb's Cycle Town and R/C Hobbies to send us some wheels for our trucks. Thank you, guys, and Darin is the cornerstone on which the R/C sprit is grounded; it's hobbyists like Darin who make the Northwest *the* place to go for R/C.



Our guide to the Northwest, Tim Rowe, told us that there's much more than the R/C Pro Series; they have summer and winter series. During the winter months, they move indoors.

They have colorful names, too, like the "Great Snake Shootout," "Summer Rage," "Winter Rage" and "Rage for Rage's sake." The largest of the year and probably one of the most well-attended races anywhere in the country is called "The Hank," which gets 300 entries and is growing every year.

THE FINAL SAY

After visiting this region of the U.S., it must be said that it is indeed a place to go R/C racing. The people are warm and friendly and the countryside is beautiful. It's a great destination, if you want to have an R/C vacation. Just be prepared; the racing is pretty tight, and there are some fast locals up here. Don't worry, it's all about fun and clean racing, and, if you want to play, they have a good group of rock crawlers up here that will gladly show you the hot-spots for bashing and crawling. If you're interested in coming to the Northwest or live here and want to find out more, call up Tim Rowe or Mike Trujillo at:

A-Main Raceway/Hometown Hobbies
14011 NE 3rd Ct.
Vancouver, WA 98685
(360) 571-8404
Or visit the webpage:
www.amainraceway.com

R/C PRO SERIES 1ST ROUND DRAFT PICK

An NFL super star at an R/C event: Reggie Tongue is a veteran of the NFL gridiron, with almost ten years with such notable teams as the Kansas City Chiefs, Seattle Seahawks, and, most recently, the New York Jets. Reggie has been bitten by the racing bug, and we found him at the R/C Pro Series bumping shoulder pads,...er... bumping tires with the fast guys. Reggie was kind enough to use one of his time-outs to answer some questions about his unorthodox switch from NFL to R/C; most NFL players do far different activities when not chasing the pigskin around the field. Here's what Reggie had to say:



R/C Car: *Reggie, thanks for taking time out to talk to our readers; first, how old are you and where do you live?*

Reggie Tongue: Thank you for the interview. I'm 32 years old and I live up in Seattle, Washington.

R/CC: *How long have you been playing pro ball?*

RT: I've been at it for almost ten years; I started right out of college.

R/CC: *Your last contract was with the New York Jets, is that correct?*

RT: Yes, it is. I was let go at the end of the 2004 season and have been just relaxing and working on my R/C skills.

R/CC: *It must be working, you looked good on the track today, and you definitely spanked me in the truggy class.*

RT: [*Laughing*] Yeah, I'm getting pretty good; mentally, this works you almost as much as football.

R/CC: *Speaking of that; how did you get involved with R/C, and what do your pro ball teammates think?*

RT: Well, back when I was younger, I had a Tamiya Frog; man, I loved that thing. It was the bomb; I ran it into the ground playing around my house, but I always wanted a gas truck and couldn't really afford it. As soon as I was drafted by Kansas City, I went looking. I was in Missouri and went to Real R/C hobby shop, and Steve Hale helped me out. I got an Associated GT and walked out of the shop with a big bag of stuff. I'll tell you I had a blast with that truck; I tore it up, overheated the engine running up and down the street, and I just loved it. Then I found out that you could race these things, and I was hooked; it's so much fun to come to these events, hang out with people and make new friends.

R/CC: *What did your NFL teammates think?*

RT: They thought it was cool and liked to watch me run mine; some of them even tried it out, but they wanted me to fix there cars after they tore them up. I told them, "I'll show you how to fix them, but I'm not going to be your pit guy [*Laughs*]." Some of them found out that they take some work to keep them running, and they didn't like that part of it.

This hobby either bites you or it doesn't, but, once you're hooked, you're hooked.

R/CC: *I see you have a new OFNA 1/8-scale; how do you like that?*

RT: Oh, man, I love 1/8 scales; once I saw them race I had to get one. They're a blast; Paul Colman hooked me up with this buggy, and I love it. Racing 1/8-scale buggy has really made me get into the racing part of the hobby. I love it.

R/CC: *Has R/C crept into your football life at all?*

RT: Well, funny you should ask that, one time I did a thing called the "R/C shuffle."

We were playing Miami, and I recovered a fumble and got it close to the goal line before I got tackled. I was happy and rolled the ball on the ground and pretended to control it with an invisible radio, a couple of my R/C buddies saw that and they named it the "R/C Shuffle."

R/CC: *That's cool, I wished I would have seen that. Do you have any closing words you would like to add?*

RT: Sure, come on up to the Northwest, the racing is fine. And I want to thank OFNA and Paul Colman, Panther tires, and O'Donnell. These companies have helped me out with sponsorship, and I just want to thank them for the support. They have really good products.

R/CC: *Thank you, Reggie, for your time.*

RT: No problem, Skinny, and I'll see you at the RC Pro finals.

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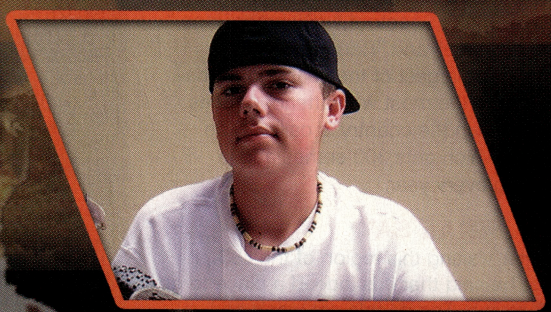
Michael Sharwin
Joins Team Advantage ....

Michael Sharwin has been racing for a few years, making the most improvements the last couple seasons. Finishes 6th at the ROAR Nationals this year, TQ's and consistent top fives at R/C Pro Series events and he has qualified for the 2006 Worlds sixth in the U.S.A. ..... and not yet celebrated his 18th birthday!! Congrats Mikey and welcome to the TEAM!!



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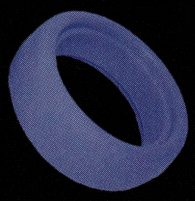

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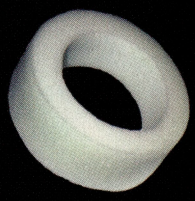

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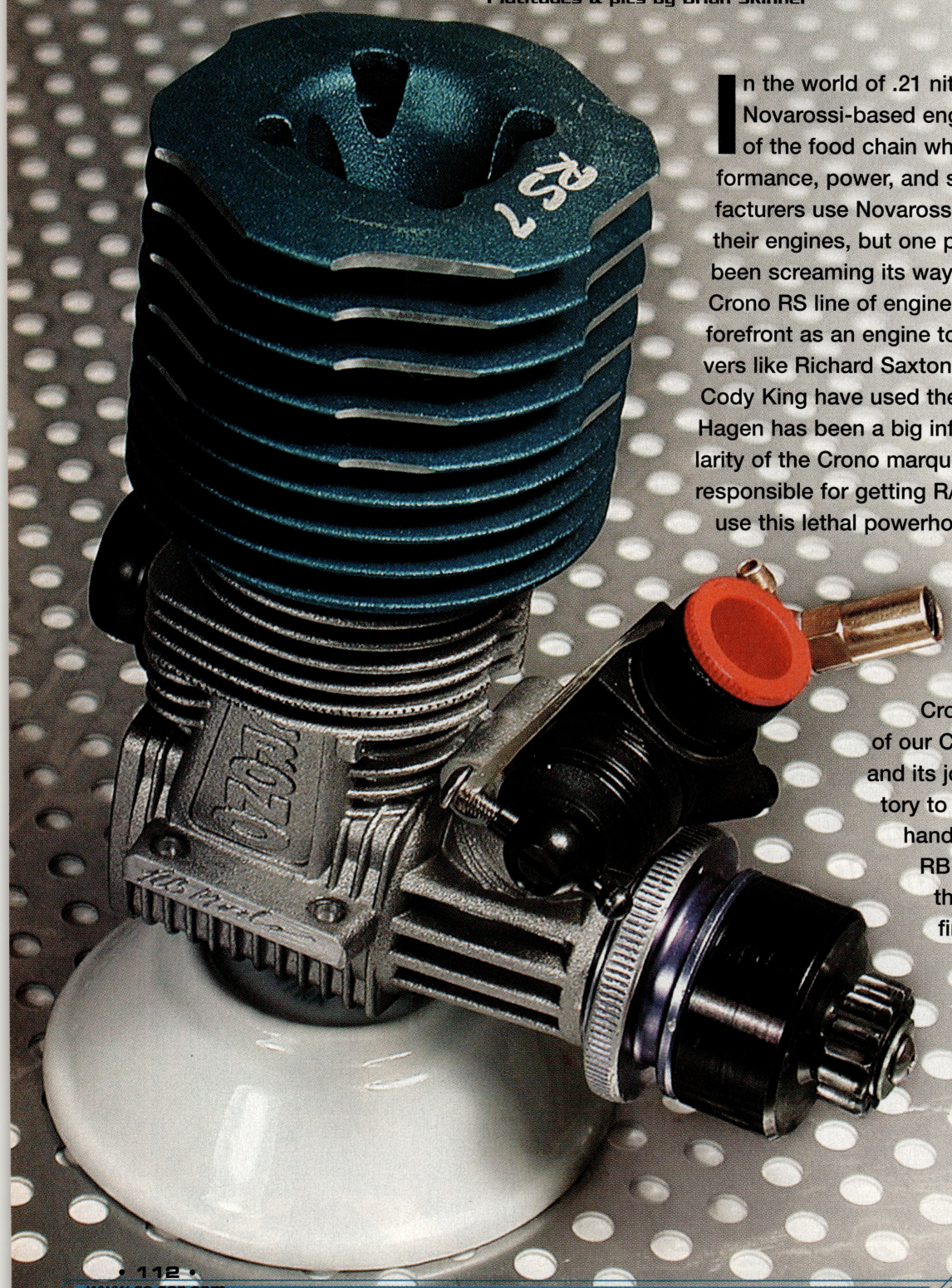
DUAL TESTING: BOX STOCK CRONO RS7

Can a killer engine be made better?

Platitudes & pics by Brian Skinner



In the world of .21 nitro engines, Novarossi-based engines are at the top of the food chain when it comes to performance, power, and speed. Many manufacturers use Novarossi as the baseline for their engines, but one particular make has been screaming its way to the top. The Crono RS line of engines has come to the forefront as an engine to have. Notable drivers like Richard Saxton, Jared Tebo and Cody King have used the Crono engine. Bill Hagen has been a big influence in the popularity of the Crono marque in the U.S. and is responsible for getting R/C Car magazine to use this lethal powerhouse in our race cars, but it was RB Mods and a guy named Rick Brake that got us hooked on the Crono. This is the tale of our Crono RS7 .21 engine and its journey from the factory to full-factory, at the hands of Rick Brake and RB Mods. So, sit back, throw some itro on the fire, and read about an engine that could possibly put even Skinny in the winner's circle next weekend.

& A MODIFIED RB MODS RS7

A LITTLE ABOUT CRONO ENGINES

The Crono engine has been out for a few years now; it uses a Novarossi based engine that shares characteristics with the Italian stallion, and it's the unique-looking engine case with cooling fins. This, however, is where the similarities stop, as everybody has their own idea of what goes on inside a nitro engine. The reality is, there are only so many ways for a two-stroke engine to work; formulas for port timing, crank and sleeve configurations vary by designer. Variances in port timing, little nuances in crank design and rod length, pistons, and so on are what make a manufacturer's engine different from another.

Ah, but this is where it gets interesting, and where the Crono engine has gotten a good reputation for being a stellar engine. Crono did its homework on mathematical equations, hit the mark for creating a very powerful and hard-hitting .21 engine, and has risen to the top of the off-road racing world. In fact, they have four flavors of Crono engines to choose from— the RS3, RS5, RS7, and the RS8—which stand for the number of ports. Why so many variations? Because tracks come in different sizes and shapes, Crono developed different port-configurations to match different tracks. We decided on the RS7 because we normally run at large tracks around the country, and, since this test was for the off-road buggy crowd, this seemed like the right choice.

THE RS7 FROM THE FACTORY

For a street price of around three hundred dollars, you get a lethal weapon ready to do battle right out of the box. Here's a list of specs you can't live without:

- The RS7 has a claimed 2.6 hp at 34,000 rpm
- The RS7 practical operating range is 36,000-38,000 rpm
- Engine weight is 15 oz. (three-shoe Kyosho clutch included)
- 8mm carburetor with 6mm and 7mm inserts (available separately)
- Bore & stroke: 16.26mm by 16.80mm (long stroke)

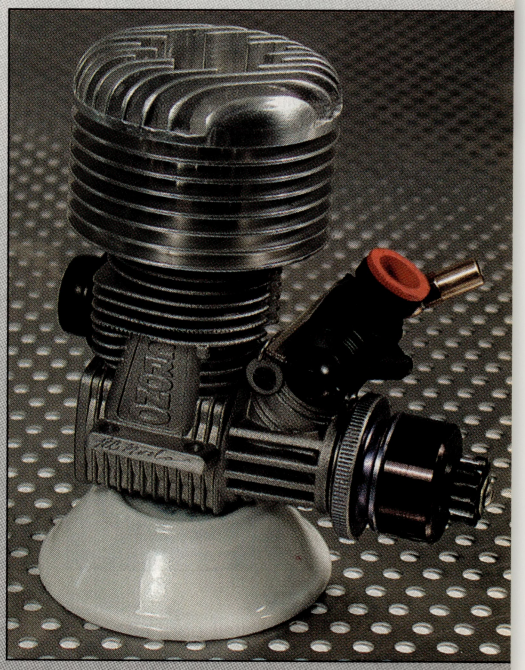
A TYPICAL DAY OF TESTING ON THE TRACK

We first tested the RS7 right out of the box. It takes about a gallon of fuel before you really see the full potential of the engine, but it's very potent as soon as you complete break-in. Once our buggy was set up for testing, we promptly did our break-in. As for breaking the engine in, we have been told by some very big-name and reliable engine tuners to cruise the R/C around in a large oval and ease on and off the throttle for one tank. Temperature should be around two hundred degrees when the tank is almost empty; let it cool down for fifteen minutes or more, then repeat the process one more time.

After its second tank, go out and flog that baby at race-tune, keeping it in the 220 degree range, and your new engine will be just fine. We did this, and they're right.

Of course, we all hear of all the hocus-pocus break-in methods out there, and what you choose is up to you.

With break-in out of the way, we headed over to the large and very fast SV Speedway track. After some laps on the track and the engine warmed up, we found the RS7 engine a solid performer. It's at home on a large track, has plenty of low-end grunt to launch off a large jump with a small run-up, and has no issues clearing and down-siding; in fact it did it with authority. In fast sections and straight-aways, the RS7 is fast and on par with any manufactured engine on the market. It hits hard, and the power is quick to ramp up. Our engine was running around the 225 degree mark, and we felt it was performing on the mark. At this setting, our fuel economy was typical for a good-quality .21engine, as it ran out of fuel around the 6-6.5-minute mark on the timer. We were very happy with our testing and would call it a day, but RB Mods Rick said we hadn't seen anything yet.



After our test we put on the new Crazy nut Retro MX head—we just wanted to show it off!

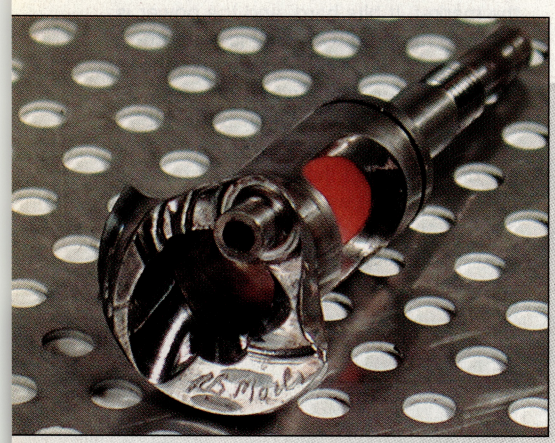
AFTER RB MODS GETS A HOLD OF IT

We overheard an RB Mods owner once comment that his engine was "rip-n-diculous;" this is a well-suited comment for the RS7 engine that we received from RB Mods. For $340 shipped, we received the RS7 with the porting already done and cylinder ready for break-in; this is the same deal you'll get if you buy an engine from RB Mods. After our test of the stock Crono RS7, we installed the RB Mods crank and cylinder sleeve (we had previously broken it in prior to the test) into the engine, and we went back to SV to do some more hot laps. Our RB engine immediately felt different; it had a smoother punch off the bottom, and the power curve was less sharp. It felt linear and pulled longer. Overall power was stepped up a notch, as well; in the first test we were pulling the trigger half way most of the time and only going "full pull" down the long straights.

DUAL TESTING: BOX STOCK CRONO RS7 & A MODIFIED RB MODS RS7

With the RB Mod RS7, the trigger was being pulled only a quarter in first-round testing, but we were still pulling full trigger down the straights (we had to, it was just too fun). It felt just a tad more aggressive overall, and the engine seemed to be working less to deliver the power of the stock RS7. The engine was also running cooler; instead of 225 degrees, the RB RS7 was now coming off the track at 180-190 degrees, and the amazing thing was the fuel tank had more fuel in it; the RB Mod had increased the fuel mileage, too.

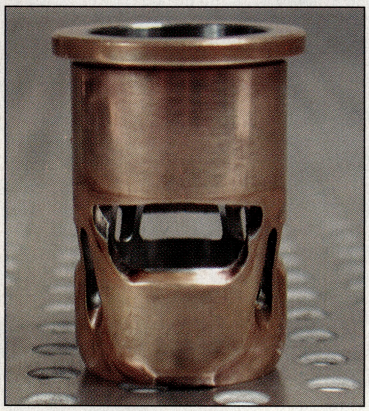
What did RB Mods do to make the engine feel and perform better? There was a lot of Dremel work done to the crank and sleeve to match up the porting and create better efficiency in fuel delivery and power. This all results in more power from the engine and more control. If you grab a finger-full of trigger, it will be violent, but you should be using more control when you're racing, anyway. Here's a closer look at what RB Mod does to the RS7 before you strap it into your pride and joy.



THE CRANK

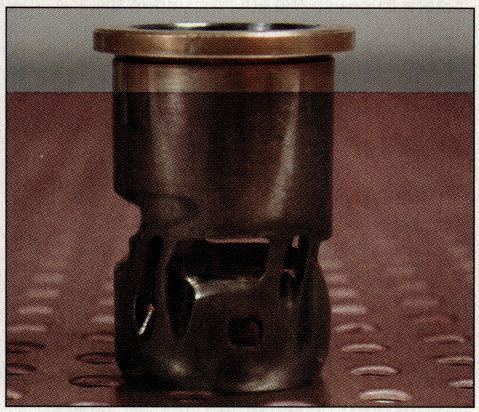
The crank end (or crank counterbalance, as it's called) and its center port are what gets massaged. There are four things to be done here: the first mod is done to the center port (that hole in the center of the crank!), which is opened up to help flow. Next is what is known as a "turbo cut," which helps deliver the air/fuel mixture to the crankcase faster, as well as atomize it. Next, the face of the crank counterbalance is sculpted to increase delivery of the atomized fuel mixture to the transfer ports. Lastly, Rick smooths out all of the port work and polishes it. Rick likes a high polish finish on his work to improve flow.

"RB Mods" is engraved on the crank so you can show it off to your buddies!

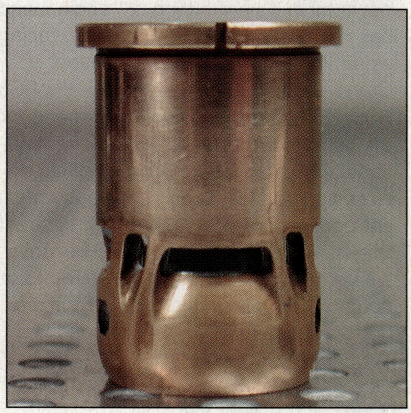


THE SLEEVE

Here's the exhaust port; all that has been done to this port is to match it to the case. This port only needed to have smoother flow, so it was cleaned up to match the case. By matching the port, it allows the exhaust to freely exit the chamber with little turbulence.



Here are the transfer ports: on the RS7 engine there's a cluster of ports set 180 degrees from each other on either side of the intake port and the exhaust ports. These ports help transfer the air/fuel mixture to the combustion chamber, and there are two goals to meet in the porting process. First, the ports need to be opened up and angled to smooth out and increase the flow of fuel. The next step in the porting process is a little more complicated; the fang cut you see performs two functions. One, it makes the fuel mixture going into the combustion chamber denser, and, two, it helps create a barrier to control ignition at high rpm. That is to say, it helps create a thick wall of atomized air/fuel mixture that actually helps control the flash from the ignition at high rpm, and helps in moving the exhaust where it needs to go.



This is the boost port, which sits opposite of the exhaust port and directly over the crank. The boost port does what it says—it helps boost the fuel to the combustion chamber alongside the transfers. The timing on the boost port, as on all of the RS7 ports is pretty spot on, so all that needs to be done is to open the ports some, and to angle them for better and smother flow. As a finishing touch, tapering the bottom edge of the sleeve is done to help smooth out turbulence and create more flow. All these port mods have been done to cut down on air/fuel turbulence.

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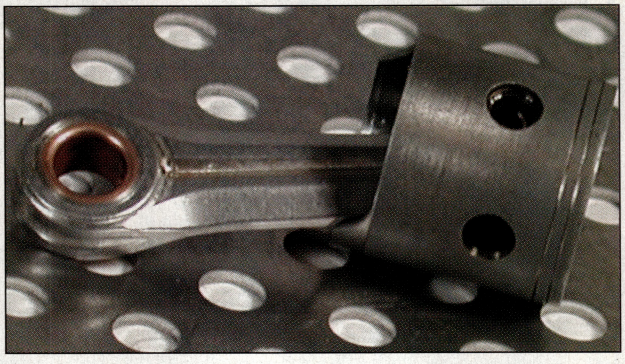
DUAL TESTING: BOX STOCK CRONO RS7 & A MODIFIED RB MODS RS7

WHAT WE REALLY THINK



It's a win-win situation for all of us. The stock Crono RS7 is an excellent engine that's ready for racing, and, for the majority of us, it's what we "need" to do battle. Another point to consider is that it's stock and therefore more reliable (in theory anyway); this is a general consensus and more of a conventional wisdom in the racing world than anything else. On the other hand, all of us want more power, and RB Mods delivers, and withbetter fuel economy to boot. As far as a modded engine being as reliable or less reliable, to date the engines that have been modified by tuners for us have resulted in the same reliability as they had stock. So, going the modified route is something we always want because, gosh darn it, we want all the power we can handle.

Either way you choose, buying the Crono RS7 is a great investment, and your car is going to be happy. Since RB Mods is one of the U.S. distributors for the Crono line, it will be easy to buy a stock or modded engine, and it's kind of cool having a choice like that at your fingertips. RB Mods has a good track record (literally), with current world titles in 1/8 scale top-fuel and on-road speed titles, and the current list of drivers using RB mods is impressive. Check out the growing list; Dean Sexton (second place at ROAR MT Nats with a RS7), Paul Coleman from OFNA Racing, Team CEN, Danny Beers from Pro Hobby finishing fourth at the ROAR MT Nats, to name a few. RB Mods has excellent customer service, quick turnaround on porting and quick delivery of your new Crono engine.

Give Rick Brake a call today, and see for yourself how friendly the service will be.

did you know?

After doing research on the RS line of Crono engines, it became apparent that you could actually have one engine and use the three other sleeves that are available to fit the engine's porting to the track conditions you are facing. You could use the RS3, RS5 or RS8 sleeves in the RS7, and that would cost you much less than having a couple of engines for the different tracks. I don't think you're supposed to know about that, but I'm sure you would find that out sooner or later; after all, you're an *R/C Car* magazine reader.



we prefer the "buzz aldrin" method

We know a lot of you gearheads out there want to know numbers, rpm and all that technical hip-hop information, and we do, too, but the reality is that there are no real numbers out there. There's no definitive dyno test for our small nitro engines. Sure, they're out there, but they all differ to some degree due to variances in testing, fuels used, pipes, outside weather conditions, and a whole list of things that skew the results. The manufacturers use mathematical equations and probably some type of dyno to get general rpm readings, and we have tried different types of bench tests, and there are discrepancies between them. What it really comes down is "seat of the pants testing," as in "how does it feel on the track? Is it worth it to own one? Does it hang with the competition? Or better yet, will it smoke the competition on the track?"

When you get world-class pros like Jared Tebo coming up to you telling you that your engine is too much for you, that's a better test result than any numbers. So, until an official set of dyno standards are developed for nitro R/C engines, we'll go old school and use the Buzz Aldrin method of testing. You know, NASA and its "seat of the pants" testing put Buzz on the Moon, and that's good enough for us. Right, Buzz?

SOURCES

Engine and porting:
- **RB Mods,** 1718 N Salem St., Fayetteville, AZ 72704, (479) 200-0286, *www.rbmods.net*

Fuel used: Byron 30% race blend 3000
- **Byron Fuel,** P.O. Box 279, Ida Grove, IA 51445 • phone (712) 364-3165, *www.byronfuels.com*

Test car and clutch: Kyosho 777 and Kyosho three-shoe carbon clutch with 1.1 springs
- **Kyosho America,** 20322 Valencia Circle., Lake Forest, CA 92630, (949) 454-8854, *www.kyoshoamerica.com*

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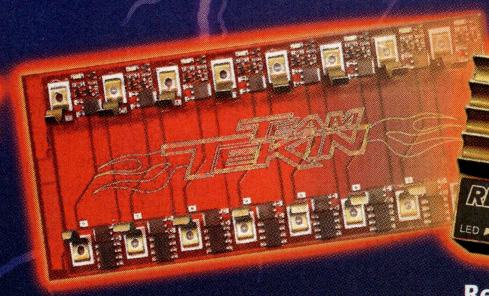

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DREMEL LITHIUM-ION CORDLESS

Portable power with no strings attached



You know your name has become household when it moves from being a noun to a verb. DREMEL has become the established leader in rotary grinding tools, so much so that we never say "Let's use the rotary grinder on that part," but instead we say "DREMEL that thing." R/C hobbyists in particular have taken a shine to the DREMEL line; we know of very few hobbyists who don't already own a DREMEL or are planning to purchase one. If you're among the latter, or if you're looking to trade in your trusty DREMEL for something newer, have we got something to show you—the new DREMEL Lithium-Ion Cordless. You may think that you've seen cordless rotary tools before, but you haven't seen one like this. The newest addition to the DREMEL line provides the power of a corded tool with the go-anywhere nature of battery power.

CORDLESS CONVENIENCE

This latest from DREMEL is the first and only rotary tool to date that uses cutting-edge lithium-ion battery technology (see sidebar), and operates at speeds 40-percent higher than DREMEL's own standard NiCd cordless models. What's more, with 10.8 volts of battery power (thanks to the superior chemical reaction found in lithium-ion cells), the Lithium-Ion rotary tool puts out 50-percent more power than comparable NiCd tools.

Aside from the obvious convenience of being cordless, the DREMEL Lithium-Ion comes with an exclusive stall-protection feature that prevents damage to the motor should the tool bit becomes jammed or stopped. A variable-speed feature provides precise control for any grinding, polishing or cutting task, while a three-LED status meter tells you how much juice you have left. In addition, the Lithium-Ion model comes with a comfortable rubberized handgrip, and is compatible with over 150 genuine DREMEL accessories.

There are two versions of the DREMEL Lithium-Ion Cordless. One model comes in an attractive zippered nylon case, while the other arrives in the standard DREMEL hard-plastic gray carrying case. Both models include a 65-piece accessory kit with bits to handle most common tasks right off the bat.

tales of the dremel

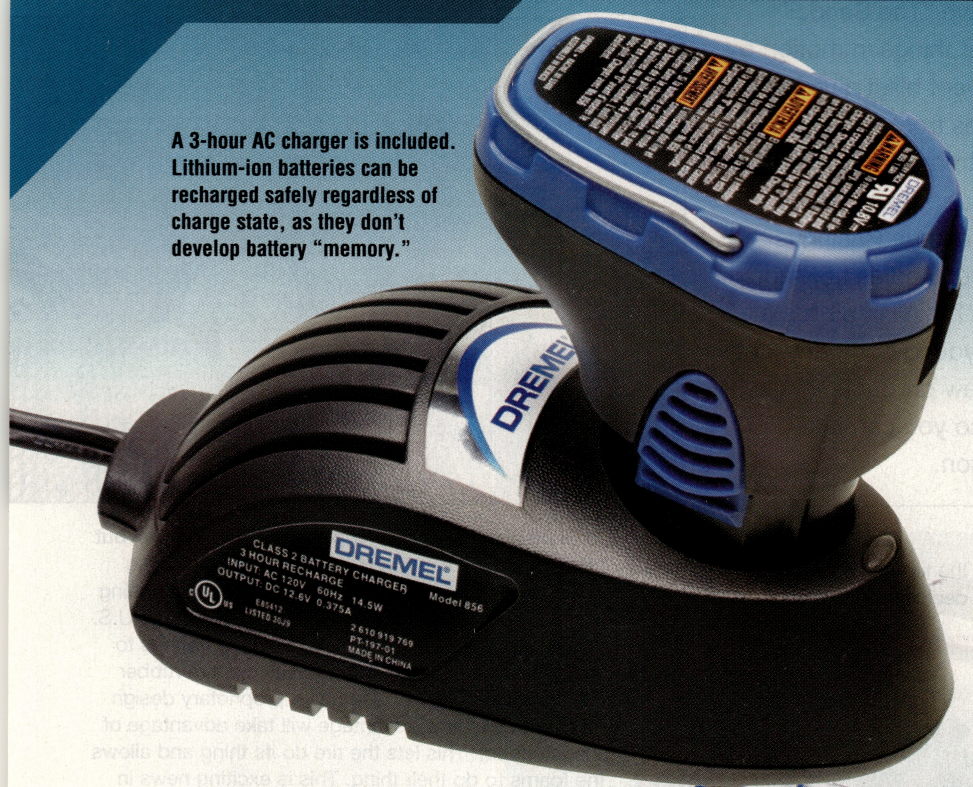
In addition to its many uses for the R/C hobbyist, a DREMEL is an indispensable tool for just about any application. For example, Frank recently lost the key to a very stout Master padlock that was used to secure his backyard gate. He first tried to cut the lock using a large bolt-cutter, only to have the two-foot handles bend from the strain. Out of options, Frank broke out the DREMEL Lithium-Ion Cordless, fitted the cutoff wheel, and sawed through the hardened-steel lock in less than a minute. Oh, DREMEL, is there anything you can't do?



A nylon carrying case has plenty of storage pockets for extra DREMEL gear. A traditional hardshell case is also available.

the benefits of better battery power

Most cordless tools—from flashlights to power drills—rely on NiCd (Nickel-Cadmium) batteries to provide juice. Compared with newer lithium-ion batteries, however, the NiCd begins to show its age. First, NiCd batteries tend to lose their charge during storage. If you don't use it immediately after charging, a NiCd-powered tool will lose its capacity. After four months or storage, a NiCd battery will drain itself to zero capacity, while a comparable lithium-ion battery will retain 85-percent of its capacity. R/C hobbyist know from experience that NiCd cells are notorious for developing cell "memory" and must be completely discharged prior to being charged in order to attain top performance. A lithium-ion battery can be charged at any time without risk of developing a memory.



A 3-hour AC charger is included. Lithium-ion batteries can be recharged safely regardless of charge state, as they don't develop battery "memory."

PORTABLE AND POWERFUL?

We are never without DREMEL in hand; we use it for everything from cutting screws to proper length, grinding Lexan body cutouts and wheelwells, to drilling holes through aluminum and graphite parts. The only downfall with our current DREMEL setup is that we're always knocking over drinks and clearing off our workbench with the tool's power cord. It was so easy to use the new Lithium-Ion Cordless; there's no cord to limit your "working range" or to become tangled. The power of the lithium-ion battery is amazingly similar to that of DREMEL's corded models; you really won't notice any perceptible power difference. As for run time, we've yet to charge our Lithium-Ion Cordless (it arrived about 75-percent charged), and we're going on month two.

The future of electric rotary tools is here. After using the new DREMEL Lithium-Ion Cordless, we're never going back to cords again. At just $70 for the kit (this price will vary with dealer), the cost is comparable with the corded models.



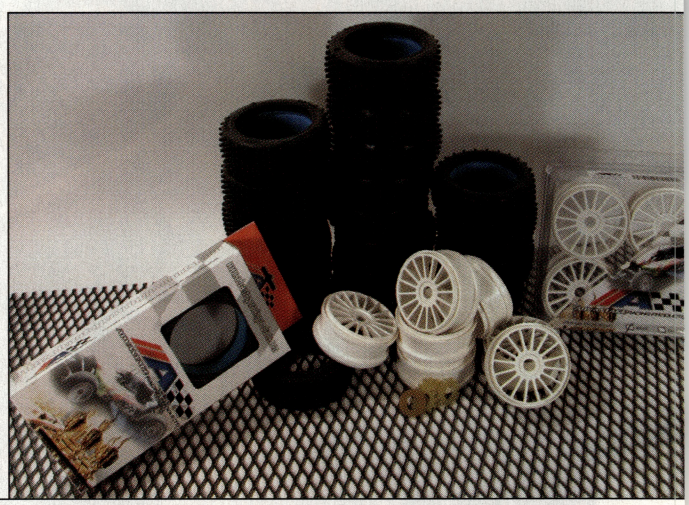
A 65-piece bit set comes with the new Lithium-Ion Cordless. DREMEL offers over 150 tool bits.

ADVANTAGE RACING PRODUCTS

We do "Rising Stars" stories on people; why not companies?

By Brian Skinner

We do profiles on drivers who are rising to the top, so why not do it for companies that are doing the same? Case in point: Advantage Racing Products, which came out of the gate with a 1/8-scale racing wheel that's made right here in the good old USA, and they have been moving forward ever since. Tony Newland started Advantage Racing Products three years ago and has been building his company with great service and parts for racers, by racers. Advantage Racing Products started out with a spoke racing wheel because, at the time, not many racing wheels were available with spokes. Next, they imported fiber resin rotors from Cradock in the UK to offer high-end braking for the masses. This year, Advantage Racing Products has partnered up with Steve "The Sandal" Halverson, and they immediately set things in motion by buying Nocer (a manufacturer of sweet billet aluminum heads) and private-labeling DLD tires from France. Soon, ARP will be manufacturing its own tread designs through DLD. They're making their own molded foam inserts now, as well. Also for this year, Advantage Racing is making carbon-fiber parts for the Hot Bodies LSP and 1/8-scale buggies like the Kyosho 777. All in all, it's a very impressive resume for such a young company. Let's take a closer look at some of the new products Advantage Racing has developed so you can take advantage for the 2006 racing season.



ADVANTAGE TIRES

It makes sense for Advantage to get into the tire game, since they manufacture wheels. They've signed a deal with the French company DLD to do just that. DLD is a popular tire in Europe, but their product hasn't sold here in the US. Advantage is now the exclusive importer for DLD, and Advantage will also be designing tires for their own line that will be targeted more for the U.S. market and our aggressive style of racing. DLD brings to the table great manufacturing, and uses real tire rubber like automobiles do; DLD also has a proprietary design for the sidewalls that Advantage will take advantage of (pun intended). This lets the tire do its thing and allows the foams to do their thing. This is exciting news in tire design, and we are currently testing these tires for the next exciting issue of *R/C Car* magazine. Currently, Advantage Racing is offering four tires for the market that will cover a myriad of track conditions.









All come in hard and soft compounds and include the new Advantage "blue" molded foams; a pair of tires with foams will run $22.00. Our current favorite is the new "ZZ" tire, which seems to work well on California soil, but we'll withhold our verdict until we finish testing.

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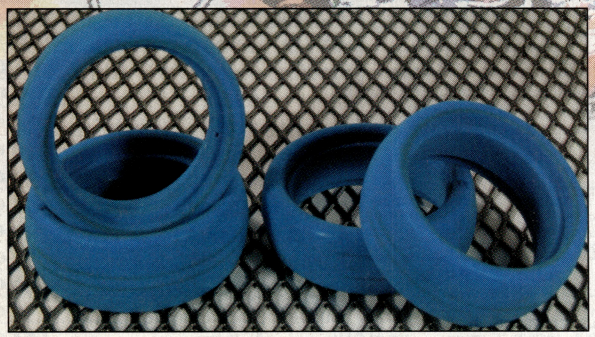
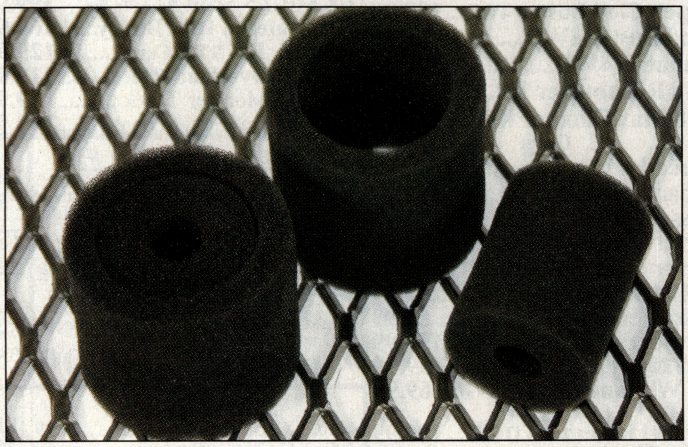


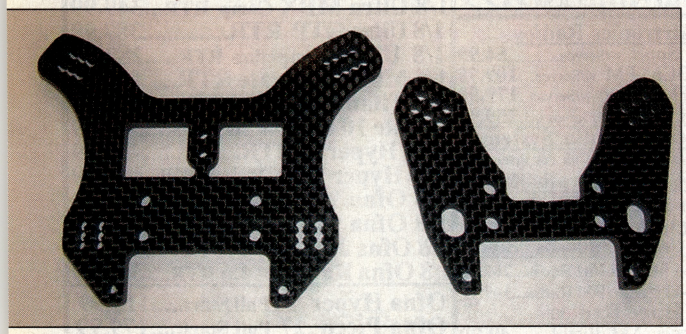
TIRE FOAMS

The current trend in the R/C industry is "closed-cell, molded-foam" technology; this new-generation foam resists breakdown and can be reused one or two times. They also offer great performance in tire-sidewall suppleness and in contouring to the ground. Advantage has worked on a great foam compound, and it's now available for only $12 for a set of four. Look for more molded-foam compounds in the future from Advantage Racing.

AIR FILTERS

Air Filters are often overlooked, and not many companies offer filter kits to replace your used ones. They are semi-universal and fit most air-cleaner cages; they also come in grey for that Pro look. Advantage offers a six-pack of filters for only $15, and these are two-stage filters to give you the best performance possible, as they make a day at the races easier by not having to be cleaned after every session.





CARBON FIBER PARTS

Carbon-fiber has quickly become the black titanium of the new millennium, and Advantage Racing is here to take advantage of that. Currently ARP has carbon parts available for Kyosho and Thunder Tiger with more parts in the works for other vehicles.

We used the Advantage Carbon kit for our Project Hot Bodies truggy as seen in the August '05 issue, and, to date, with many races under its belt, the carbon is taking a beating and still looking factory.

NOCER

This is probably the most exciting addition to the Advantage Product line. Nocer is known for making excellent cooling heads, and now that Advantage has bought the company and made it their own, they surely will keep the tradition going. Advantage will probably expand this line to fit more engine makes and add more machined goodies for your racing needs. Aside from what Nocer already has developed, Advantage is already adding a new "limited edition" cooling head to the line-up called the Pro-S3. This puppy is geared for racing with all radius cuts to reduce stress risers, and the center of the head is specifically designed to fit an Extrogen temp gun perfectly. It's constructed from 6061-T6 aluminum that's either hard-anodized or black hard-coated, and the logos are laser-etched for a cool, long-lasting finish, all for just $79. For the more budget-minded racer, there'll be a Gen-2 head that's much the same as the Pro-S3 and will be available in all colors. It'll also be made of 6061-T6, but the finish will be square cut. This helps bring the price down by ten dollars as radius machine cuts take a lot more production time, and this is the main difference, although the Pro-S3 is much stronger because of it.



TAKE ADVANTAGE

This little-big company is on the rise, and with proper direction from their racers and some smart marketing, Advantage Products will be playing with the power-houses of the R/C industry in a short time. Keep an eye out for them next year; there are some exciting products on the table from Advantage. If you like what you see, you can order direct from them, and all orders over fifty dollars includes free shipping.

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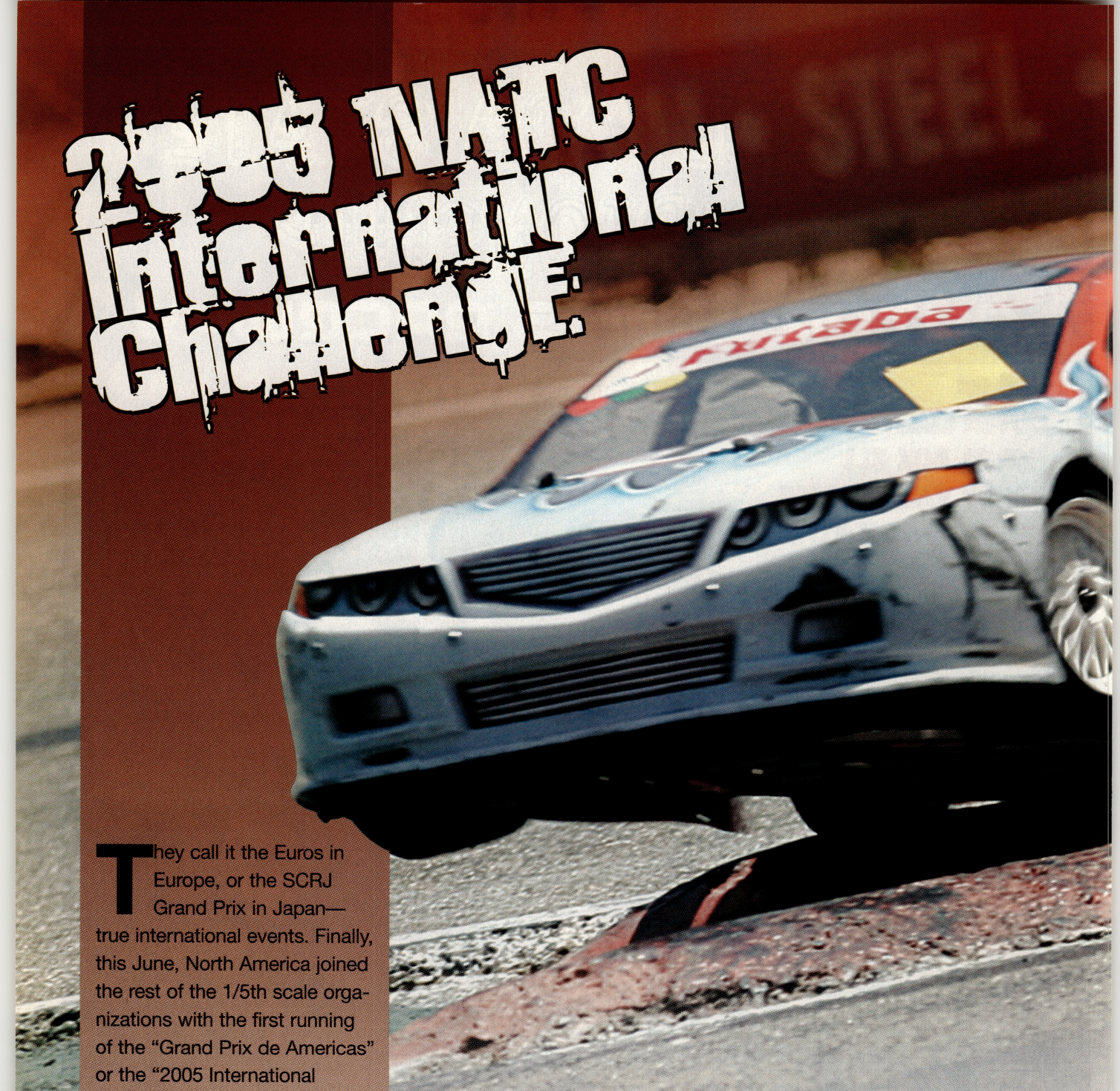
2005 NATC International Challenge



They call it the Euros in Europe, or the SCRJ Grand Prix in Japan—true international events. Finally, this June, North America joined the rest of the 1/5th scale organizations with the first running of the "Grand Prix de Americas" or the "2005 International Challenge."

Last year the North American Touring Car (NATC) club tossed ideas around about trying to organize an international event here in the USA. The idea was finally made possible by event coordinator Victor Garcia. Victor, with the sponsorship help of the 1/5-scale's major players, the crew at SVS, and Marvin's Hobbies, made the four-day event a tremendous success.

CLASS ACTION TIMES THREE

The entry list consisted of 39 drivers, including five from Mexico and three from Japan, competing in the event's trio of classes: Super Touring, Sportsman Touring, and Formula 1. With so many cars on the track from Thursday on, the track regulars knew that by finals time on Sunday the track would be seriously "rubbered-in." Since 1/5-scale cars rely on natural traction, not VHT or "sugar water" sprayed track surfaces, the more laps run the better. The cars put down lots of true tire rubber with every lap, increasing the grip level just like a full size race track. And just like a full size race track, as the grip level rises, the lap times drop.

Friday's first round of qualifying started with each driver receiving two gallons of event-supplied VP Performance Gasoline from KRS Distributing and two-stroke premix oil from NEO Oils. Each racer was permitted to mix the fuel with their engine tuner's recommended oil percentage.

Saturday's qualifying was a workout for the racers as the ambient temperature climbed into the 90s. Southern California's summer was already well under way.

Sunday was a full program, with the Timezone Super Pole award for each class run before each class's main. This one car at a time, three-lap trophy dash, with the third lap timed, is a real challenge for the drivers since the car's tires never really get to operational temperature and the driver's skill is showcased for all to see.





ACTION FROM THE FINALS

The Formula 1 "A" Final was up first and number-one qualifier Jerome Hernandez was rewarded for his smooth, consistent charge from the pole with the win, running his FG Comp F1. Andrew Adlen's new Harm F1 has come a long way this year, finishing second, and Alan Trump had his best showing of the season with a strong third-place finish—Trump won the F1 super pole as well.

The best race of the weekend was the Sportsman A Final. Rori Lacson and Super Pole winner Jim Dirocco put on a nose-to-tail driving exhibition for the entire 30 minutes. The last-lap pass by Rori was magical to watch, but Jim did not give up. A last corner assault came up just short at the stripe. Rori's margin of victory was less than a quarter-second. Rafael Villalobos hung on to round out the podium in third.

The last race of the day was the Expert class one-hour final. It was run in two 30 minutes segments with a ten-minute break to allow the racers to refuel and change the receiver battery only. Any repairs had to be done under the green flag, so no servicing was permitted during the break. What promised to be a major battle between number one qualifier Eric Poholsky and Frank Killam, number two qualifier and Super Pole winner, ended early when Eric's differential packed up after only ten minutes. Eric lost nine laps doing repairs but soldiered on to finish fourth. Frank went into conserve mode and cruised to his second major event win of the season. Steve Perez's return to active competition with his new Harm-sponsored ride netted him a solid second. Austin Sarnelle shelved his 1/10-scale machines for the weekend and, although plagued with brake problems, finished a respectable third.

event sponsors

An event such as this requires the cooperation and support of not only the racers and the track facility, but also from visionary manufacturers who help make the event special. Here's a list of sponsors who helped make the 2005 NATC International Challenge bigger and better:

- Molzer Mowery Racing
- RC Racing Hobbies
- AP Technologies
- Copa Mexico
- Hokusei Circuit Japan
- www.miRCmicro.com
- VS Modelsport
- 2FAST4MX.com
- SRCJ club of Japan
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- V Speed
- Yakitori co.jp
- DCM Creations
- Zenoah
- Frank Killam Racing

And a special thanks to KRS Distributing and Neo Oils.

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80% Built

2 choices of
Pre-painted Body's
(clear is also available)

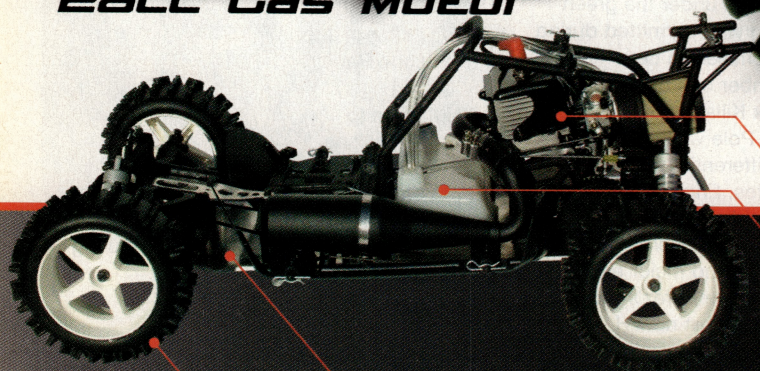


45mph!

26cc Gas Motor

Full ball bearings





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3.9 HORSEPOWER

The Leopard STX is equipped with the Zenoah G-260 26 cc gasoline motor, which produces a heart pounding 3.9 horsepower. The G-260 can propel the Leopard to about 45+ m.p.h. Also standard on the Leopard STX is a 2 chamber Tuned pipe and a heavyduty foam filter.

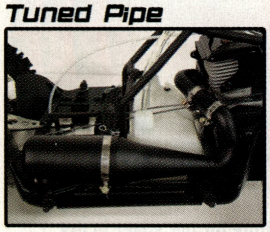
The Heavy-duty drive system can with stand just about anything you throw in it's way. The Leopard comes with a steel pinion and Hardened steel ring gear, which is held down by a Alloy diff housing with internal steel gears and the power is transfered by the CY drive system to the wheels.

Alloy threaded body shocks are standard on the Leopard STX, which makes the suspension work as smooth as possible for the best handling set-up. It is also equipted with full ball-bearings (no bushings).

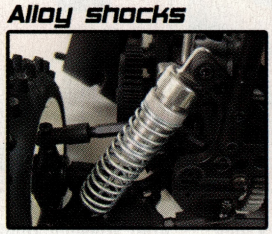
We offer 3 body selections Silver w/blue flames, Blue w/orange flames and Clear, The body is also pre cut and drilled.

Standard Options

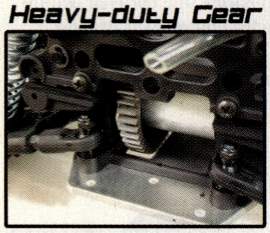
Tuned Pipe



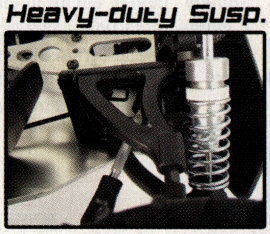
Alloy shocks



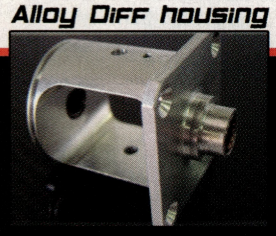
Heavy-duty Gear



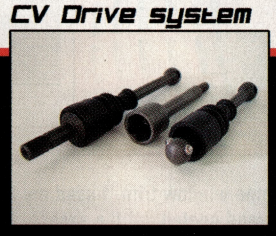
Heavy-duty Susp.



Alloy Diff housing



CV Drive system



HOP-UP OPTIONS



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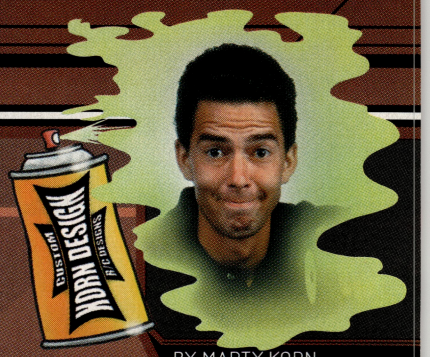
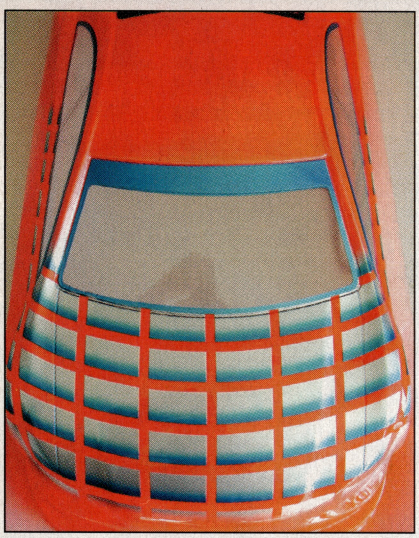
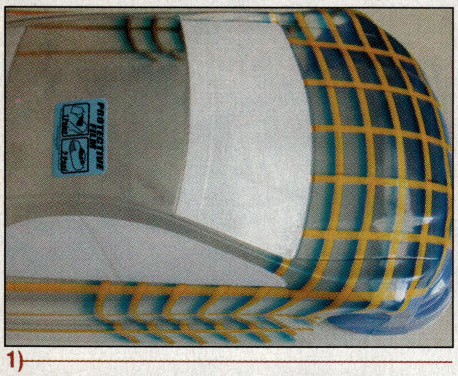


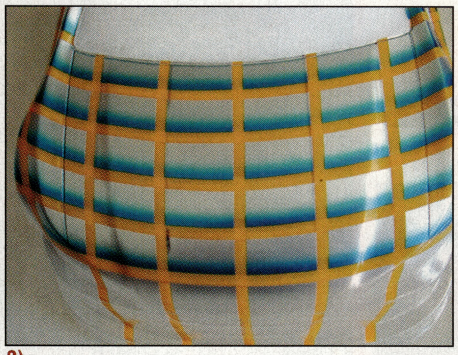
BY MARTY KORN



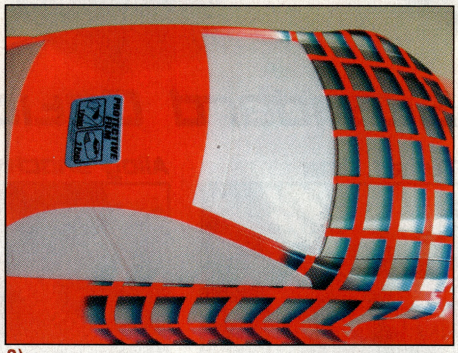
There are all kinds of paint jobs with different designs being used today, and if you've been paying attention to this column, you'll know that I have use most all of them. This month I decided to use a design that a friend of mine by the name of Keevin Sharp asked me to paint for him about three years ago, and I've been painting dozens of them for him ever since. He operates a motorcycle accessories store in Amarillo, Texas, called Sharp's Motor Sports, so if you ride motorcycles you might want to get to know Keevin. The design I'll reproduce in this article is a complicated-looking pinstripe scheme that's time consuming, but not that difficult to lay out. It's a basic grid design that I lay down in two parts: first I do the side-to-side pinstripes; then I do the front-to-back stripes. After all the striping is down, I cover the entire body in masking tape. When the painting begins it's a matter of spraying one section, then peeling the mask and moving onto the next section.



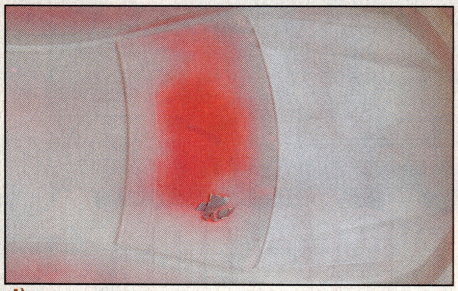
1) The first step to this paint job is to fade Pactra's Candy Blue along the back edges of each portion of the design. I faded along the back edge of one area and then peeled out the next area and faded again. I did this until all of the areas had been painted.



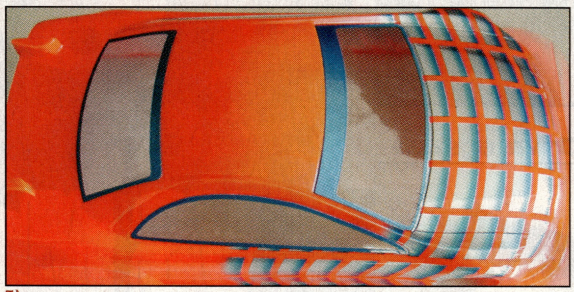
2) The next step is to carefully spray in Pactra Indy Silver to fill in the entire design. I did this carefully to make sure no silver overspray got onto the main area of the body. I used my airbrush at 20psi and sprayed the silver away from the rear of the body to keep things neat.



3) After allowing ample time for the silver to dry, I peeled out all of the pinstripe and sprayed two-to-three light coats of Pactra Fluorescent Orange, straight from the can, to fill in the remainder of the body. Both the front and the rear of the design received this treatment.



4) Once the orange had dried I backed everything in Pactra Sprint White, straight from the can, to bring out the true color of the orange and to protect it from bleed-through of the colors I sprayed in the final step.



5) The final step of this design is to cut out some window trim. I used my X-Acto knife to cut along the edges of the window, and peeled out the excess. I then sprayed Candy Blue to fill in the window trim. I sprayed two light coats straight from the can. To finish up I backed the candy blue in Indy Silver to match it to the blue that I backed in silver in the main design.

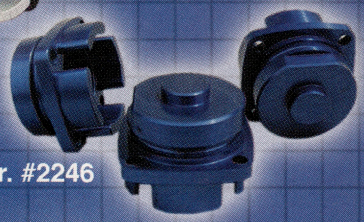
SOURCES

- **Pactra**, distributed by The Testor Corporation, 440 Blackhawk Ave., Rockford, IL 61104 • phone (800) 962-6654



For those who want to easily convert to a bump start system... Backplates for the TRX 2.5 (Revo and Jato) #2245

Diff cups for Revo, Maxx, LST, Titan and Savage. Lockers for Savage, Mad Force and Twin Force.



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- TOOLIN' AROUND -



WHERE'S THE BEEF?

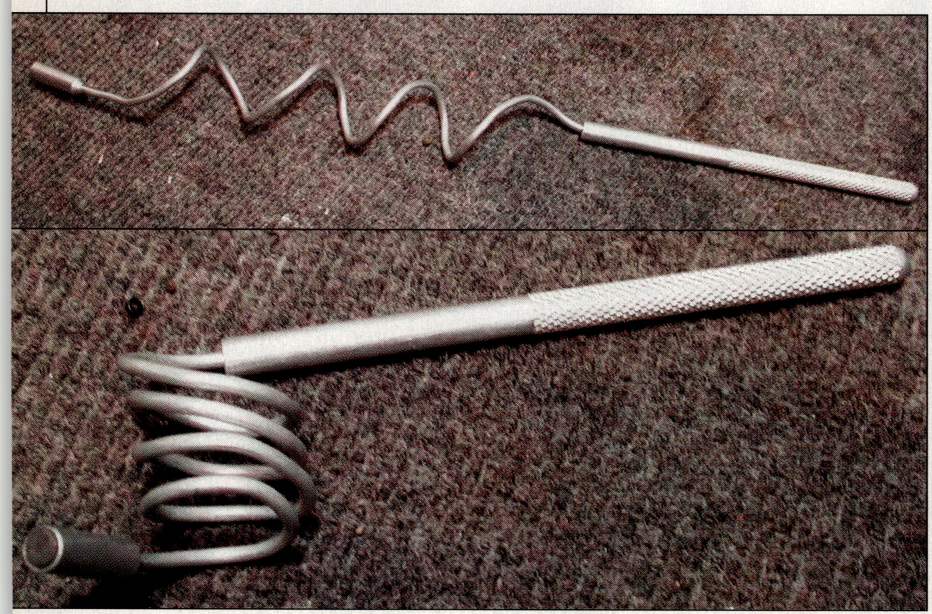
Here's a neat little doodad you need for your monster truck. As we all know, MT bodies take a lot of abuse, and the weight of an MT often causes the body clips to pull through the shell of your truck, even if you use R/C body washers. That's because they're thin and flimsy and made for R/C cars of a bygone area. Fear not, because we have found the answer at our local hardware or auto-parts store. These beefy washers are for real cars and are used for door panels; they're three times thicker than our R/C body washers and will stand the abuse of a monster truck without fail. They cost about forty cents for a package of two, and you can find them in a plethora of sizes. Try them out; we guarantee they'll work better than what you're using now.

BEARING THINGY

We spotted this gadget at a race one day and even the owner knew nothing about it.

It's meant to help clean your bearings and also helps in sizing the ID of your bearings as well. Simply set the bearing into the proper sized step, and you can match up your bearings with ease, or, once the bearing is placed onto this gadget, the bearing is much easier to clean with spray-cleaner. Sadly, there were no markings on it to help us find out who makes it or where to get it. We do know that it works well, and, if any of you know about this tool, give us a jingle so we can pass the information on to the rest of our readers. Thank you for your cooperation, and please make a note of it





IT'S ALL ABOUT MAGNETS

Our crash-test dummy, Factory J, whipped out this neat magnetic tool the other day when a washer got stuck deep inside one of our test cars. Presto, he pulled the washer out in two seconds, and we were quickly back to testing. Factory J tells us he picked up this tool at the local auto parts store for about eight bucks and has used it many times in his racing career. The neat thing about this magnetic pick-up tool is that it's flexible and can reach almost anywhere, so head over to Pep-Boys and start looking.

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TOOLIN' AROUND

THE ULTIMATE PIT ACCESSORY

It was the end of a good day of racing, and we were enjoying a good bench-racing session. It was hot, and we needed a cold one to cool off, but there was a problem; there was no way to get the bottle cap off. All of a sudden, Steve Halverson from Advantage Racing chucks his sandal at us and says, "Here, use this."

Shocked and perplexed, we looked at the sandal, and on the bottom was a bottle-cap opener. Wow, how cool is that? We love multi-function tools, and this is at the top of the list for fun in the pits. And it has a cool-factor of twelve. Steve tells us that you can find these special-edition Mick Fanning Reef sandals at surf shops and sporting goods stores for about forty-five dollars. Happy hunting (Lump uses a Bic lighter to open bottles—they cost a buck and don't smell like feet)!







BILLET REVO BALL-CUP TOOL

We've used our tools from KMW for a while now and can't live without them. KMW recently sent us this billet Revo ball-cup tool, and we couldn't be happier. This is a no-nonsense tool that firmly grips the ball-cup, which makes adjusting them much better than the supplied plastic tool from Traxxas. The tool costs $22.95 and will be the last tool you will need for ball-cups; this thing will outlast your Revo for sure. If you like this Revo ball-cup wrench and would like other tools from Kellum Machine Works, give Pops a call, and, remember, "Made in the USA!" Contact:

KMW Racing 2515 Friendship Rd. Oxford, AL. 36203 (256) 831-2324 *www.kmwracing.com*

DU-BRO E/Z GLO—PLUG IGNITER & TESTER

Leave it to Du-Bro to come up with something logical and much-needed for us R/C people. Not only does this igniter look cool, but it'll test your glow-plug in the heat of battle and tell you if it's working or not. When you start your car, all you need to do is clip the igniter to your glow-plug, like you would normally, and then push the tester button on the top to check if the plug is good or the filament is blown. It reports its condition with an audible beep; if you hear a beep, the plug is good. If there is no beep, the plug is dead.

The E/Z Glo comes with a beefy 1700 mAh battery for long life and a charger all for only $24.95. Now, this is something we all really need; this is the stuff tool boxes are made to contain. Contact:

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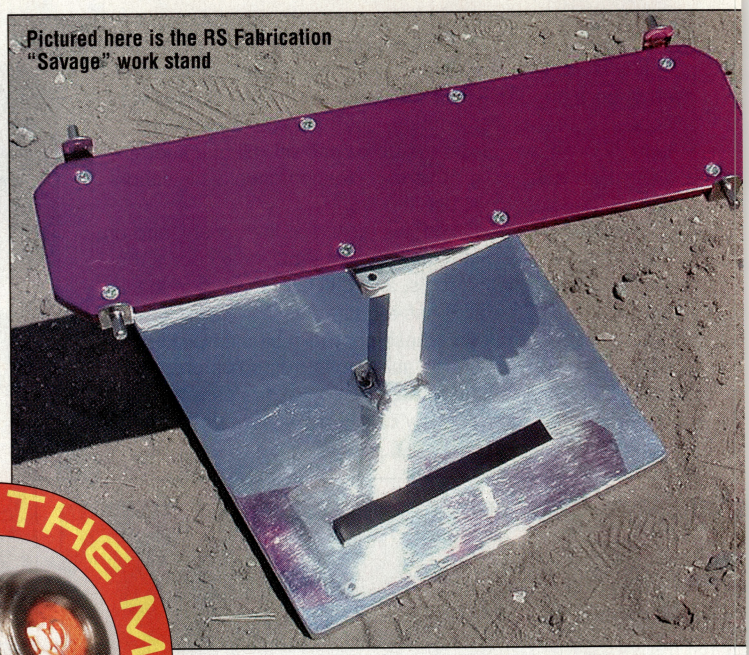
STAND AND DELIVER

Here's a working-class car stand that will stand the test of time (pun intended). RS Fabrication is making a car stand just for your R/C; these stands are custom-made to fit each car on the market, as most cars these days have their own needs. Basically, the stand base is universal, and the top-plate is custom-made to fit different cars. This really is a bonus for the monster-truck crowd, as almost all MTs need a special base to fit a particular chassis. Currently, RS has bases for T-Maxx, Revo, Savage, Associated MGT, and 1/8-scale universal base that fits all buggies. You can order the steel stands for $45, and they come powder-coated in many colors for your taste, or, if you want something chi-chi, RS makes stands in 6061-T6 aluminum that's highly polished or can be anodized in a color of your desire. The aluminum stand runs a little more at $75, but it's pretty trick looking and is half the weight of the steel stand. RS Fabrication is just starting out, and they are eager to please; give them a call at (714) 305-7787 and ask for Rick Stephenson. The website will be up soon.



Pictured here is the RS Fabrication "Savage" work stand

HOT TIP OF THE MONTH

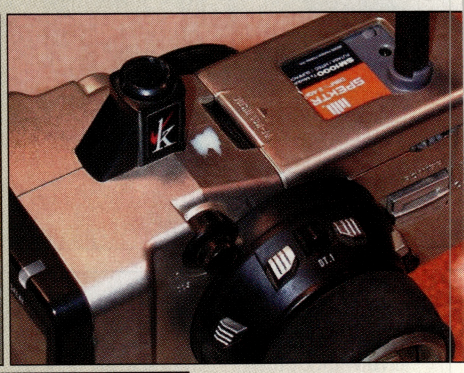


THE LITTLE DUTCH BOY STRIKES AGAIN

With the new Spektrum system gaining such huge popularity, there are a lot of radios out there with huge, gaping holes in them where the antenna used to be. This is not a good thing, as dirt and other nasty stuff can fall down there and mess up your electronics, and, just like the little Dutch boy, KMW Racing is plugging the hole for you. Kellum Machine Works has come out with a sweet 3PK antenna plug that screws right into that huge hole to keep out the nasty stuff. It's a simple aluminum plug that screws in and covers the antenna hole, and takes all of two seconds to install. For $6.95, this is great radio insurance for you. Call Pops at KMW Racing before it's too late; your radio will thank you. Contact:

KMW Racing
2515 Friendship Rd.
Oxford, AL 36203
(256) 831-2324
www.kmwracing.com





BEFORE

The 3PK has a large hole for the antenna after you install the Spektrum; you might as well put a funnel in it and pour dirt down there.



AFTER

Now that looks much better and complete. It may not seem like much, but putting this plug in the hole will save you an expensive repair bill down the road.

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HOBBYTOWN USA	1713 MONTGOMERY HWY. #139	Hoover	35244	205-403-9978
OAK MOUNTAIN HOBBIES	2659 PELHAM PARKWAY	Pelham	35124	205-685-8980
PYRAMID HOBBIES	214 2ND AVE. SW	Cullman	35055	256-739-6679
RC HI TECH RACEWAY	3303 MERIDIAN ST.	Huntsville	35811	256-539-1347
ALASKA				
ALASKA HOBBIES/COLLTBL.	303 BAWDEN ST. #B	Ketchikan	99901	907-225-4022
HOBBYCRAFT.	800 E. DIMOND BLVD., #136	Anchorage	99515	907-349-5815
KODIAK'S HOBBY HOUSE	3377 SPRUCE CAPE RD.	Kodiak	96615	907-654-7645
ARKANSAS				
HOBBYTOWN USA	9101 W. MARKHAM STE #18	Little Rock	72205	501-223-5155
HOBBYTOWN USA	1415-A HWY. 71st.	Fort Smith	72901	479-649-9229
MARKS HOBBY SHOP	2516-G CANTRELL RD.	Little Rock	72202	501-296-9956
LAKE AREA RADIO SHACK	1001 HWY 25 B NORTH	Heber Springs	72543	501-362-5050
ARIZONA				
COMPETITION HOBBIES	3930 W. COSTCO DR.	Tucson	85741	520-297-8162
D&D HOBBIES	6247 E. MAIN ST. #5	Mesa	85205	480-981-7709
FRANK'S HOBBY HOUSE	12008 N. 32 St.	Phoenix	85028	602-992-3495
HOBBY ACTION	606 W. SOUTHERN AVE. #1	Tempe	85282	480-829-1226
HOBBYTOWN USA	1915 E. BASELINE RD.	Gilbert	85233	480-837-7674
HOBBYTOWN USA	3700 E. SPEEDWAY	Tucson	85716	520-882-8888
HOBBYTOWN USA	485 E.WETMORE RD. #109	Tucson	85705	520-888-9777
HOBBYTOWN USA	8664 E. SHEA BLVD> #42	Scottsdale	85260	480-348-7825
NORTHLAND HOBBIES	2634 N. STEVE'S HOBBIES	Flagstaff	86004	928-526-9255
SCOTTSDALE R/C RACEWAY	3023 N. SCOTTSDALE RD.	Scottsdale	85251	480-945-2186
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BEE GEE HOBBIES	234 GOLF CLUB RD.	Pleasant Hill	94523	925-798-5133
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BIG BOYS TOYS	1554 W BRANCH	Arroyo Grande	93420	805-481-1476
BOSS ROBOT HOBBY	2953 COLLEGE AVE.	Berkeley	94705	510-841-1680
BUSY BEE HOBBY SHOP INC.	461 W. HIGHLAND AVE.	San Bernardino	92405	909-886-2669
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COVINA HOBBY SHOP	140 N. CITRUS	Covina	91724	626-331-1910
CYCLE ART RACING	2211 N. PLEASANT WAY	Fresno	93705	559-233-3665
DELTA R/C RACE&HOBBY	1201 W 10th ST.	Antioch	94509	925-778-2965
D & J HOBBIES	96 SAN THOMAS AQUINO RD.	Campbell	95008	408-379-1696
DYNAMIC HOBBIES	530 1/2 E FLORIDA	Hemet	92543	909-925-9331
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EXTREME RPM	22474 A BARTON RD.	Grand Terrace	92313	909-370-3379
E & H HOBBY ENTRPRSES	2372 BUTTE HOUSE RD	Yuba City	95993	530-751-0225
ELITE HOBBY SHOP	606 SHOPPERS LN.	Covina	91723	626-858-8999
FAST HOBBIES	7635 AUBURN BLVD. #B	Citrus Heights	95610	916-725-1722
FAMILY HOBBIES	9367 MISSION GORGE RD.	Santee	92071	619-448-6847
FOOTHILL HOBBIES	973 W. FOOTHILL BLVD.	San Luis Obispo	93405	805-544-8697
FRANCISCIAN HOBBIES	1920-A OCEAN AVE.	San Francisco	94127	415-584-3919
GIZMO'S HOBBY	2010 WEST BURBANK BLVD.	Burbank	91506	818-842-8200
GOLD COUNTRY RC	4313 S SHINGLE RD. #3	Shingle Springs	95682	530-672-2581
HOBBY CENTRAL	13461 COMMUNITY RD.	Poway	92064	858-513-0373
HOBBY CITY	148 BROWNS VALLEY PKWY.	Vacaville	95688	707-449-1010
HOBBYTOWN	2085 MONTIEL RD. #105	San Marcos	92069	760-739-0672
HOBBYTOWN USA	4420-A TREAT BLVD.	Concord	94521	925-685-3802
HOBBYTOWN USA	3069 WEST BULLARD AVE.	Fresno	93711	559-435-3342
HOBBY TOWN USA	39152 FREMONT HUB.	Fremont	94535	510-796-2744
HOBBYTOWN USA	27031 McBEAN PKWY.	Valencia	91355	661-253-4999
HOBBYTOWN USA DC MALL	72-399 HWY. 111, #A	Palm Desert	92260	760-341-5699
HOBBIES UNLIMITED	17950 HESPERIAN BLVD.	San Lorenzo	94580	510-278-1150
HOBBY WAREHOUSE	4105 EAST SOUTH ST.	Lakewood	90712	562-531-8383
HOT ROD HOBBIES	25845 SAN FERNANDO RD. #21	Saugus	91350	661-255-2404
JAKES PERFORMANCE HOBBY	6650 COMMERCE BLVD. #21	Rohnert Park	94928	707-586-3375
KIT & CABOODLE	425 SAN PABLO AVE.	Albany	94706	510-524-9942
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COLPAR HOBBIES	804 S. HAVANA ST	Aurora	80012	303-341-0414
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JNC	5934 URBAN COUT	Arvada	80004	720-275-3300
HOBBYTOWN USA	4348 S. COLLEGE	Fort Collins	80525	970-226-3900
HOBBYTOWN USA	9120 WADSWORTH BLVD.	Westminster	80021	303-431-0482
HOBBYTOWN USA	800 SOUTH HOVER RD.	Longmont	80501	970-226-3900
MHOR R/C RACEWAY	15540 E. BATAVIA DR.	Aurora	80011	303-343-0151
HOBBY HUT MODELS	811 N. 12th	Grand Junction	81501	970-242-8761
HOBBYTOWN USA/MKT SQR	12039 W. ALEMEDA PKWY .#Z	Lakewood	80228	303-716-0312
CONNECTICUT				
ACES NITRO R/C	1125 NORTH AVE.	Bridgeport	06604	203-330-1788
DANBURY HOBBY CENTER	366 MAIN ST	Danbury	06810	203-743-9052
THE HOBBY SHOP	1717 FOXON RD. RT 80	N. Branford	06471	203-481-4067
TIME MACHINE HOBBY LLC	71 HILLIARD ST.	Manchester	06040	860-646-0610
RC MADNESS TRACK & HOBBY	640 ENFIELD	Enfield	06082	860-741-6501
WOLCOTT HOBBY & AIRSOFT	1254 WOLCOTT RD.	Wolcott	06716	203-879-7766
DELAWARE				
HOBBY STOP SPEEDWAY	22762 SUSSEX HWY.	Seaford	19973	302-629-3944
FLORIDA				
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ARTS HOBBY SHOP	1475 ATLANTIC BLVD.	Neptune Beach	32266	904-246-0601
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B&B HOBBIES	15926 US HWY 19N	Hudson	34667	727-862-4849
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COLONIAL PHOTO & HOBBY	634 N. MILLS AVE.	Orlando	32803	407-841-1485
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CRAFT HOUSE HOBBY SHOP	1379 N. MILITARY TRAIL	West Palm Beach	33409	561-683-0764
CROWN HOBBIES	7439 S.W. 24TH ST.	Miami	33155	305-264-3964
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G & C HOBBIES	1228 HYPOLUXO RD.	Lantana	33462	561-547-3812
GRAND PRIX OF FT.PRC.	FORT PIERCE	Fort Pierce	34945	772-473-2130
HOBBY NUT INC.	12679 DIXIE HWY	South Miami	33156	305-235-9584
HOBBYTOWN USA	2464 W. BRANDON BLVD.	Brandon	33511	813-655-6366
HOVER HOBBY	3657 S. ORLANDO DR. Hwy.17/92	Sanford	32773	407-688-1161
HYPER HOBBIES	11373 SW 211 ST. #12	Miami	33189	305-253-1303
JACKS HOBBIES	1720 N.W. 4th AVE. #101	Ocala	34475	352-351-2224
JR HOBBY	4153 W.VINE ST.	Kissimmee	34741	407-944-4913
LEMON BAY HOBBIES	3835 TAMIAMI TRAIL	Port Charlotte	33952	941-625-5524
MDI RACING	10351 SOUTHERN BLVD.	Royal Palm Beach	33411	561-798-2433
PHIL'S HOBBY SHOP	6050 PARK BLVD.	Pinellas Park	33781	727-545-1251
QUALITY AIRCRAFT&RC	6839 S US HIGHWAY 1	Port Saint Lucie	34952	772-460-2844
R.C. HOBBIES	6800 N. UNIVERSITY DR.	Tamarac	33321	954-721-5720
RC HOBBY ZONE	13346 LINCOLN RD.	Riverview	33569	813-234-0899
RACING HOBBIES	10722 WILES RD.	Coral Springs	33076	954-346-2226
SLOT CAR RACEWAY	2125 MARINER BLVD.	Spring Hill	34609	352-684-7355
SOUTHEAST RC HOBBIES	1901 WEST COPANS	Pompano Beach	33064	954-978-6050
SPACE COAST HOBBIES	2135 PALM BAY RD. NE #1	Palm Bay	32905	321-722-3696
SUPERIOR HOBBIES	1478 E. SEMORAN BLVD.	Casselberry	32707	407-834-9299
WARRICK CUSTOM HOBBIES	7676 PETERS RD.	Plantation	33324	954-370-0708
GEORGIA				
ANTHONY'S VICTORY LANE	129 EAST HWY 80	Pooler	31322	912-748-0847
HOBBY MART	6889 PEACHTREE INDUST. # H	Peachtree Corners	30092	770-840-8495
HOBBYTOWN USA	6770 VETERANS PKWY # 1	Columbus	31909	706-660-1793
HOBBYTOWN USA	800 E. BARRETT PKWY	Kennesaw	30144	770-426-8800
HOBBYTOWN USA	3360 SATELLITE BLVD. #14	Duluth	30096	770-418-0850
R/C TOYS FOR BOYS	2500 COBB PARKWAY N. #1-B	Kennesaw	30152	678-797-0406
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HAWAII				
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HOBBYTOWN USA	11107 PLUM DR.	Urbandale	50322	515-278-9060
HOBBYTOWN USA	901 E. KIMBERLY RD.	Davenport	52807	563-355-2071
HOBBYTOWN USA	2737 16TH AVE S.W.	Cedar Rapids	52404	319-364-3289
HOBBYTOWN USA	620 LINCOLN WAY #6	Ames	50010	515-232-9060
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HOBBYTOWN USA	3317 N. COLE RD.	Boise	83704	208-376-1942
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THE TOY SHOP	837 POLELINE RD.	Twin Falls	83301	208-734-2725
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CORNER HOBBY	308 NORTH VIRGINIA AVE.	Swansea	62220	618-277-6030
DEPOT HOBBY SHOP	180 SOUTH SEMINARY ST.	Galesburg	61401	309-342-9323
GATEWAY RC	108 EAST MAIN ST.	Collinsville	62234	618-345-7468
HIS N HERS HOBBIES	310 WYLIE DR. #A-103	Normal	61761	309-827-0204
HOBBYLAND	616 N. MAIN	Bloomington	61701	309-828-1442
HOBBYTOWN USA	1000 LAKE ST.	Oak Park	60301	708-445-8056
HOBBYTOWN USA	3627 EAST MAIN ST.	St. Charles	60174	630-587-1256
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HOBBYTOWN USA/G.PRRIE	5201 W.WAR MEMORIAL #475	Peoria	61615	309-692-3002
HOBBYTOWN USA, Oak Mill Mall	7900 N. MILWAUKEE AVE.	Niles	60714	847-470-9577
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HOBBY HANGER	189 PERRY ST.	Vernon	47282	812-346-6497
HOBBY LAND	416 W. COLISEUM BLVD.	Fort Wayne	46805	260-483-8186
HOBBYLAND INC.	2564 MIRACLE LANE	Mishawaka	46545	574-255-1722
HOBBYTOWN USA	6336 E. 82ND ST.	Indianapolis	46250	317-845-4106
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MAPLE CITY HOBBIES	102 SOUTH MAIN	Goshen	46526	574-534-9661
PHILS HOBBY SHOP	1722 LAKE AVE.	Ft. Wayne	46805	260-424-0065
PHIL'S HOBBY SHOP	3112 N. CLINTON	Ft. Wayne	46805	219-471-1340
KANSAS				
HOBBY HAVEN	10560 METCALF	Overland Park	66212	913-381-3111
HOBBYTOWN USA	8229 EAST KELLOGG	Wichita	67207	316-683-7222
HOBBYTOWN USA	9270 METCALF	Overland Park	66212	913-649-7979
FINLEY'S HOBBIES	5640 E CENTRAL	Wichita	67208	316-683-4221
HANGER HOBBIES	2243 NORTH TYLER # 115	Wichita	67205	316-773-4022
R/C HOBBIES	115 W. 7TH	Junction City	66441	785-238-1877
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CENTERLINE HOBBIES	167 CORPORATION RD.	Hyannis	02601	508-771-1244
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HENRY'S HOBBY HOUSE INC.	67 W. BOYLSTON ST	West Boylston	01583	508-835-6165
HOBBY FEVER	130 MIDDLESEX RD.	Tyngsboro	01879	978-649-2221
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HOG HEAVEN HOBBIES	494 MAIN ST.	Fiskdale	01518	508-347-9350
LAND SEA & AIR HOBBIES	1282 PARKER ST.	Springfield	01129	413-782-2115
MASTER HOBBIES	565 MAIN ST.	Cherry Valley	01611	508-892-1440
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MICHIGAN				
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DIRT BURNER RACING	3295 HAGGERTY RD.	Commerce	48390	248-926-1140
EAST BAY HOBBIES	364 W. HOUGHTON LAKE DR.	Prudenville	48651	989-366-5306
FST HOBBY SHOP	3537 FORT ST	Wyandotte	48192	734-285-9093
GREAT ESCAPES	136 N. US 31 S.	Traverse City	49684	231-943-9800
HOBBYTOWN USA	12821 S. SAGINAW	Grand Blanc	48439	810-695-9088
HOUSE OF HOBBIES	962 W. BROADWAY	Muskegon	49441	231-759-4555
HOBBY-SPORTS.COM	9782 PORTAGE RD.	Portage	49002	616-323-3686
KECK HARDWARE & HOBBY	2132 WEST RD.	Trenton	48183	734-676-2282
LARRY'S PERFORMANCE R/C'S	42246 MOUND RD.	Sterling Heights	48314	586-997-4840
NANKIN HDWRE & HOBBY	35101 FORD RD.	Westland	48185	734-722-5700
P & D HOBBY SHOP	31280 GROESBECK HWY	Fraser	48026	586-296-6116
PROP SHOP HOBBIES, INC.	23326 VAN DYKE	Warren	48089	586-757-7160
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 SHOP	2055 28TH ST S.E. UNIT 12	Grand Rapids	49508	616-247-9933
RIDER'S HOBBY SHOP	4035 CARPENTER RD.	Ypsilanti	48197	313-971-6116
RIDER'S HOBBY SHOP	30991 FIVE MILE RD.	Livonia	48154	734-425-9720
RIVERTOWN HOBBIES	8450 ALGOMA AVE NE #B	Rockford	49341	616-863-3600
ROGER'S HOBBY CENTER	5620 STATE	Saginaw	48603	989-790-0080
THE RC ENTHUSIAST	1110 GARFIELD #1	Bay City	48708	989-893-8723
MINNESOTA				
AREA 51 OF PARK RAPIDS	116 S MAIN AVE	Park Rapids	56470	218-732-7551
BAKERS HOBBY	2738 WEST DIVISION ST.	St Cloud	56301	320-252-0460
DON'S HOBBY	1416 N. RIVERFRONT DR.	Mankato	56001	507-387-1330
EXTREME HOBBY	15895 HWY 7 EAST	Hutchinson	55350	320-234-6969
HOBBY TOWN USA	7916 BROOKLYN BLVD.	Minneapolis	55445	612-424-6052
HOBBY WAREHOUSE	7120 CHICAGO AVE S.	Richfield	55423	612-861-5587
HOBBY ZONE	1960 CLIFF LAKE, STE 128	Eagan	55122	651-905-9523
HUB HOBBY CENTER	82 MINNESOTA AVE.	Saint Paul	55117	651-490-1675
HUB HOBBY CENTER	6410 PENN AVE. S	Richfield	55423	612-866-9575
R.C. CAR KINGS	1307 EAST HWY 13	Burnsville	55337	952-895-9643
MISSOURI				
AWESOME TOYS & HOBBIES	627 N. BELT HWY	St. Joseph	64506	816-364-0766
CHECKERED FLAG HOBBIES	4491 LeMAY FERRY RD.	St. Louis	63129	314-892-5353
FASTLANE RCWY/HOBBIES	2850 W 40 HWY EAST STE. F	Blue Springs	64015	816-220-0100
HOBBYTOWN USA	524 N.W. ENGLEWOOD RD.	Kansas City	64118	816-459-9590
HOBBYTOWN USA	3906 PEACHTREE DRIVE, STE C	Columbia	65203	573-817-0698
HOBBYTOWN USA	1759 WEST STATE HIGHWAY J	Ozark	65721	417-581-3561
MARK TWAIN HOBBY CTR	2793 WEST CLAY ST.	Saint Charles	63301	636-946-2816
NOVELTY RCWY/HOBBIES	5TH AND MAIN	Novelty	63460	660-739-4530
REAL R/C RACEWAY	24204 EAST STATE RT 58	Pleasant Hill	64080	816-358-0238
XTREME R/C HOBBIES/COL	414 MISSOURI BLVD.	Scott City	63780	573-264-3363
MISSISSIPPI				
FUN 4 ALL HOBBIES	7915 HIGHWAY 51	South Haven	38671	662-393-9788
HOBBYTOWN USA	6380-D RIDGEWOOD COURT	Jackson	39211	601-957-9900
HUB CITY HOBBY	5182 OLD HIGHWAY 11, STE. #3	Hattiesburg	39402	601-264-1040
MONTANA				
EXTREME HOBBIES	1515 14th STEET W.	Billings	59102	406-259-8505
HOBBYTOWN USA	CITY PLAZA/1421 11TH AVE.	Helena	59601	406-442-2568
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
NEBRASKA				
HOBBYTOWN UNLIMITED	220 NORTH 66th ST.	Lincoln	68505	402-434-5056
HOBBYTOWN USA	10020 SCOTT CIRCLE	Omaha	68122	402-498-8888
HOBBYTOWN USA CONESTOGA MALL	3404 WEST 13th ST.	Grand Island	68803	308-382-3451
NEW HAMPSHIRE				
106 RACE PARK	743 CLOUGH MILL RD.	Pembroke	03275	603-224-7223
HOBBY ETC. INC.	90 WEST PEARL ST.	Nashua	03060	603-883-4919
HOBBYTOWN USA	5 PAISTOW RD. #C-25 SHAW'S SHOPPING CTR.	Plaistow	03865	603-382-6583
LEISURE TIME HOBBIES	140 MONADNOCK HWY #12	Swanzey	03446	603-357-9975
NEW JERSEY				
CHAMPION HOBBIES	632 RT 22 EAST	Hillside	07205	908-206-9600
CHAMPION HOBBIES	772 RIVERSIDE AVE.	Lyndhurst	07071	800-335-7272
CHICK'S HOBBY CENTER	924 BERKELY ROAD	Gibbstown	08027	856-423-0773
CRUIZIN WITH RC'S INC.	54 EAST MAIN ST.	Ramsey	07446	201-825-4884
D&K HOBBIES	116 BARCLAY FARMS SHP CTR.	Cherry Hill	08034	856-795-9005
G&S HOBBIES	44 ANCHOR BLVD.	Old Bridge	08857	732-727-7871
HOBBY WORKSHOPS	510 WEST KINGS HWY	Mount Ephraim	08059	856-931-2400
JACKSON HOBBY SHOP	2275 W. COUNTY LINE RD.	Jackson	08527	732-364-3334
JO JO'S RACING COLLECTIBLES	1826 RT 35 NORTH	South Amboy	08879	732-553-0200
RC HOBBY CENTER	336 RT 232 WEST	Greenbrook	08812	732-752-6030
PLANET PETS/HOBBY WLD	3391 RT 27	Franklin Park	08823	732-951-8500
TECH TOYS	370 RT 46 W.	Parsippany	07054	973-227-7012
THE HOBBY SHOP	1077-C STATE HWY 34	Aberdeen	07747	732-583-4189
WIDE WORLD OF HOBBIES	974 TEANECK RD.	Teaneck	07766	201-862-9393
XTREME RC	846 KINDERKAMACK RD.	River Edge	07661	201-599-0066
ZEPPELIN HOBBIES & RACEWAY	92 RT. 23 RIVERDALE SQR MALL	Riverdale	07457	973-831-7717
VC'S HOBBIES & SERVICES	223 ATLANTIC CITY BLVD.	Beachwood	08722	732-349-2500
NEW MEXICO				
BIG BOYS TOYS	1735 JUAN TABO N.E.	Albuquerque	87112	505-298-1023
HOBBIE'S & STUFF	2801 EUBANK N.E. #P	Albuquerque	87112	505-293-1217
NEVADA				
B & B HOBBIES	65 W. CENTER ST.	Fallon	89406	775-423-3101
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
NEW YORK				
ACTION HOBBIES	1070 MIDDLE COUNTRY RD.	Selden	11784	631-736-1574
AGGRESSIVE HOBBIES	4278 ARTHUR KILL RD.	Staten Island	10309	718-605-9447
BRUCKNER HOBBIES	3587 E.TREMONT AVE.	Bronx	10465	800-288-8185
BROWNIES PRO/SPORT HOBBY	124 BENNETT ST.	Staten Island	10302	718-727-2194
COMPETITION HOBBY SUP	1006 LOUDON RD.	Cohoes	12047	518-786-3622
CRAFT WLD/ACTION HOBB	509 W 3rd ST.	Jamestown	14701	718-484-1780
ELMSFORD HOBBIES	129 E MAIN ST.	Elmsford	10523	914-592-0600
FANTASIA HOBBIES	17169 46TH AVE.	Flushing	11358	718-460-5671
FORDHAM HOBBIES	2446 CRESTON AVE.	Bronx	10468	718-562-1906
FOUNTAIN RACEWAY	1744 RT 104	Ontario	14519	315-524-4991
GJ'S HOBBIES	38-40 WASHINGTON AVE.	Endicott	13760	607-754-3003
GOT GEAR?	7508 NORTH BROADWAY	Red Hook	12571	845-758-6006
HOBBYTOWN USA	1814 CENTRAL AVE.	Albany	12205	518-435-9961
HURRICANE HOBBIES	2425 MIDDLE COUNTRY RD.	Centereach	11720	631-737-3157
LANTZ TRAIN SHOP	101 S. MAIN ST.	Horseheads	14845	607-795-5038
MARDEL HOBBY/CRAFTS	351 ALTAMONT AVE.	Schenectady	12303	518-346-6500
MW HOBBY & CRAFT	12019 E. MAIN ST.	Wolcott	14590	315-594-2609
NORWOOD HOBBY SHOP	2 SOUTH MAIN ST..	Norwood	13668	315-353-6621
NYC HOBBIES	65-62 MYRTLE AVE.	Glendale	11385	718-366-6262
LONG ISLAND RACEWAY & HOBBY	909 CONKLIN ST	Farmingdale	11735	631-845-7223
PERFORMANCE HOBBIES	15 WEST MAIN ST.	Webster	14580	716-872-4990
RACING CITY HOBBIES	110 MAIN ST.	South Glens Falls	12803	518-792-7272
RAMPAGE R/C & HOBBIES	1164 RT 9G	Hyde Park	12538	845-229-1379
RMC HOBBIES	2485 ROCHESTER RD. BLDG. 1	Canandaigua	14424	585-394-1210
SUNRISE HOBBIES	3353 MERRICK RD.	Wantagh	11793	516-783-4343
THE HOBBY HOUSE	2378 LYELL AVE.	Rochester	14606	585-429-6280
TONY'S HOBBY SHOP	220 HARRISON AVE.	Harrison	10528	914-835-4765
TRANS BORDER CUSTOMS	1320 RT 9	Champlain	12919	514-687-6214
WALT'S HOBBY	2 DWIGHT PARK DR.	Syracuse	13209	315-453-2291
WILLIS HOBBIES	300 WILLIS AVE.	Mineola	11501	516-746-3944
XTREME HOBBIES	1815 D DEER PARK AVE.	Deer Park`	11729	631-254-9873
XTREME HOBBIES	52 S. MAIN ST.	Pearl River	10965	845-735-1914
NORTH CAROLINA				
ALBEMARLE HOBBIES	134 W MAIN ST,	Albemerle	28001	704-986-6008
APEX RC AND HOBBIES	1204 LAURA VILLAGE RD.	Apex	27523	919-303-8388
FUN/FUNKY TOYS & HOBBY	111 S MARKET ST., STE #J	Madison	27025	336-427-8697
GBI HOBBIES	315 HWY 70 W	Havelock	28532	252-463-4073
HAYES HOBBY HOUSE	809 ELM ST.	Fayetteville	28303	910-485-2337
HOBBY BARN	101 S. JEFFERSON AVE.	West Jefferson	28694	336-846-2276
RACE FACTORY HOBBIES	521 E CHATAM ST	Cary	27511	919-460-8797
THAK'S GAMES & HOBBIES	343 WILSON RD.	Sanford	27332	919-776-9002
HOBBY TOWN USA	8332 PINEVILLE MATHEWS RD.	Charlotte	28226	704-544-2303
HOBBYTOWN USA	3346 ROBINHOOD RD.	Winston Salem	27106	336-774-2324
K/C HOBBY INC	10948-G NORTH MAIN ST.	Archdale	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				
AEROPORT HOBBY SHOPPE	2112 N. BROADWAY	Minot	58703	701-838-1658
HOMETOWN SEASONS & HOBBIES	611 W.VILLARD	Dickenson	58601	701-483-9750
WHEELS WINGS-N-HOBBIES	4018 MEMORIAL HWY	Mandan	58554	701-667-7200
OHIO				
CAPSTONE HOBBIES	562 W. SCHROCK RD.	Westerville	43081	614-899-6313
FUTURETRONICS	2055 N. RIDGE	Lorain	44055	440-277-8004
DIVE IN SCUBA CENTER	3182 WARREN SHARON RD.	Vienna	44473	330-856-6275
FREDDY'S HOBBIES	100 ROMITO ST #A	Ravenna	44266	330-296-4354
GRANDVIEW HOBBIES	1460 W. FIFTH AVE.	Columbus	43212	614-486-3532
HOBBY STOP WEST	4550 MONROE ST.	Toledo	43613	419-471-1108
HOBBYFORCE	1183 PARK AVENUE W	Mansfield	44906	419-884-0001
HOBBYTOWN USA	8000 PLAZA BLVD. STE #9	Mentor	44060	440-946-5588
HOBBYTOWN USA	1574 SPRING MEADOWS DR.	Holland	43528	419-867-9490
HOBBYTOWN USA	14785 PEARL RD.	Strongsville	44136	440-846-1770
HURRICANE HOBBIES	8911 SOUTH OLD STATE RD.	Lewis Center	43035	614-848-4386
OMS RC RACING	6166 STATE RT 139	Lucasville	45648	740-456-4423
PHIL'S HOBBY SHOP	422 CLINTON ST.	DeFiance	43512	419-782-8020
RIDER'S HOBBY SHOP	5700 MONROE ST.	Sylvania	43650	419-843-2931
ROFFEE HOBBY SHOP	254 WEST MAIN ST.	Byesville	43723	740-685-8586
SPRINGFIELD HOBBY SHOP	43 S. FOUNTAIN	Springfield	45502	937-322-1113
STRONGSVILLE HOBBY SHOP	13325 PROSPECT RD.	Strongsville	44149	440-572-0430
THE WORLD OF HOBBIES & GAMES	11755 MOSTELLER RD.	Sharonville	45241	888-299-0245
THE HOBBY SHOP	153 N. SPRINGBORO PIKE	Miamisburg	45449	937-436-6161
WINGS WHEELS & WAVES	14 LINCOLN WAY E.	Massillon	44646	330-830-7755
OREGON				
AERO SPORT & HOBBY	17941 N.E. GLISAN	Portland	97230	503-669-7665
BARGIN BIN	1941 N.E. STEPHENS	Roseburg	97470	541-673-8266
D's TOYS & HOBBIES	926 N.E. GREENWOOD AV. #D	Bend	97701	541-389-1330
EUGENE TOY & HOBBY	32 E. 11th AVE.	Eugene	97401	541-344-2117
HOBBY HABIT	411 FIR	LaGrande	97850	541-902-9221
ISLAND HOBBIES	1224 JANZTEN BEACH CTR	Portland	97217	503-285-3917
LEISURE HOBBIES	982 LANCASTER DR. N.E.	Salem	97301	503-588-9884
TAMMIES HOBBIES	12024 S.W. CANYON RD.	Beaverton	97005	503-644-4535
RADIO CONTROL PLUS	1685 25th ST.	Salem	97302	503-364-9188
R/C ADDICTION	830 S. FRONT ST.	Central Point	97502	541-665-2700
OREGON TRAIL HOBBIES & GIFTS	484 S.W. 4th AV.	Ontario	97914	541-889-3747
TRUMP'S HOBBIES	2401 N.W. KINGS BLVD.	Corvallis	97330	541-753-7540
PENNSYLVANIA				
A.B. CHARLES & SON	3213 W. LIBERTY AVE.	Pittsburgh	15216	412-516-1615
ACTION HOBBY 9750	8616 NEW FALLS RD.	Levittown	19054	215- 9 4 9 -
ADAM & EVES PET & HOBBY	313 LATROBE 30 PLAZA	Latrobe	15650	412-539-7130
AIRWAYS	520 AIRPORT RD.	Lititz	17543	717-625-3661
ALLIED HOBBIES	114 EXTON SQUARE MALL	Exton	19341	610-363-6988
AMERICAN HOBBY CENTER	2668 BRODHEAD RD.	Aliquippa	15001	724-378-3930
AMERICAN RIBBON	827 B ANN ST.	Stroudsburg	18360	570-421-7470

TO HAVE YOUR SHOP LISTED HERE CALL: 1-800-767-0345. ATTENTION: YOU MUST SELL R/C CAR MAGAZINE TO BE IN THE SHOP LISTING.

HOBBY SHOP LOCATOR

CRANBERRY HOBBY DEPOT	20555 ROUTE 19 CRAN-MAR PLAZA	Cranberry Twnshp	16066	724-776-3640
HI POWER HOBBIES	64 DUCHESS ST.	Reedsville	17084	717-667-4629
HOBBY EXPRESS INC.	1713 ROUTE 228 #L 1	Cranberry Twnshp	16066	724-779-2000
HOBBY CITY	4094 WASHINGTON RD.	McMurray	15317	734-942-2557
HOBBYTOWN USA	150 E. BALTIMORE PIKE	Springfield	19064	610-544-7007
HOBBYTOWN USA	3100 ROBINSON LN.	Pittsburgh	15205	412-788-1000
HOBBYTOWN USA	12F WINGCO LN.	Reading	19605	610-916-4477
HOBBYTOWN USA	1502 WEST CHESTER PIKE	West Chester	19382	610-696-9049
HOBBYTOWN USA	700 LeHIGH VALLY MALL	Whitehall	18052	610-366-9960
HOBBY HUT	609 TROOPER RD.	Audubon	19403	610-635-1062
HOBBY UNIVERSE	4427 WEST RIDGE RD.	Erie	16506	811-424-6229
IRON HORSE HOBBY HOUSE	60 SOURTH SIXTH ST.	Reading	19602	610-373-6927
J.C. R/C HOBBIES	13 YORK RD.	Warminster	18974	215-672-5200
J & D WHISTLE STOP	106 E. BROAD ST.	Quakertown	18951	215-538-0501
KRANZEL'S R/C RACEWAY & HBBOIES	415-B BOLSER AVE.	Lemoyne	17043	717-737-7223
R/C PRO HOBBY	167 FROSTY VALLEY RD	Danville	17821	570-387-1423
STEEL CITY HOBBIES	1155 WASHINGTON PIKE #38	Bridgeville	15017	412-220-7515
LITTLE PLUM R/C HOBBIES	333 LITTLE PLUM RUN RD.	Lock Haven	17745	570-769-1984
MARSHALL'S HILLTOP HOBB.	55 ALTOONA FARMS LN.	Honesdale	18431	570-729-7458
MONTOUR HOBBY CENTER	328 CRAWFORD ALLY	Montoursville	17754	570-368-3301
MODELLBAHN HOBBIES	1145 PHILADELPHIA AVE.	Gilbertsville	19525	610-367-5925
TRAIN SHED	1162 LAKE ARIEL HWY.	Lake Ariel	18436	570-698-7798
SOUTH CAROLINA				
BANDITS HOBBIES & MODELS	273 AUCTION AV.	Darlington	29532	843-393-3333
D & S HOBBIES	1314 S. OURTH ST.	Hartsville	29550	843-383-0017
ED'S HOBBY SHOP	702 MAIN ST.	Myrtle Beach	29577	843-448-8685
KING HOBBIES & RACING	13617 HWY. 9 WEST	Chesterville	29709	843-622-5375
HOBBY & GARDEN CTR.	1710 BYPASS 72 N.E.	Greenwood	29649	864-223-2109
HOBBY CONNECTION	4148 CALHOUN MEMORIAL HWY.	Easley	29640	864-295-1209
HOBBY STOP	939 S. ANDERSON RD.	Rock Hill	29730	803-327-4121
HOBBY TOWN USA	1812 SAM RITTENBERG BLVD.	Charleston	29407	843-769-5808
HOBBYTOWN USA	101 VERDAE BLVD. #340	Greenville	29607	864-627-9633
HOBBYTOWN USA	134 STATION DR.	Anderson	29621	864-261-8479
THE GREAT ESCAPE	1426 LAURENS RD.	Greenville	29607	864-235-8320
SOUTH DAKOTA				
HOBBYTOWN USA	1007 W. 41st ST.	Sioux Falls	57105	605-339-6613
TENNESSEE				
COOKEVILLE RCWY/HOBBY	1641 E. SPRING ST	Cookeville	38501	931-526-6017
GADGET HOBBIES	204 TRENTON ST.	Harriman	37748	865-882-7528
HOBBYTOWN USA	206 B COOL SPRINGS BLVD. #205	Franklin	37067	615-771-7441
HOBBYTOWN USA	2884 WOLFCREEK PARKWAY	Memphis	38133	901-213-2682
HOBBYTOWN USA	634 NORTHGATE MALL	Chattanooga	37415	423-877-9885
HOBBYTOWN USA	8901 TOWN & COUNTRY CR.	Knoxville	37923	865-690-1099
HOBBYTOWN USA	2244 N ROAN ST #101	Johnson City	37601	423-610-1010
HOBBYTOWN USA	1741-Q S. RUTHERFORD BLVD.	Murfreesboro	37130	615-890-6777
MARYVILLE RC RACEWAY	3521 CALDERWOOD HWY.	Maryville	37801	865-856-6919
MID SOUTH HOBBIES	733 N. WHITE STATION RD	Memphis	38122	901-682-9402
RC MOTORSPORTS	404 KEETON AVE.	Old Hickory	37178	615-642-5900
RICKS RC RACING	2248 SPRINGPLACE RD	Cleveland	37323	423-728-4450
SPEEDZONE RACEWAY PARK	1116 N. CONGRESS PKWY	Athens	37303	423-744-8358
SPEEDZONE PERFORMANCE RC	2704 EAST AJ HWY	Morristown	37814	423-317-9733
TEXAS				
AERO HOBBIES	2305 S HWY. 121 # 110	Lewisville	75067	972-315-1854
AMARILLO HOBBY HOUSE	4127 W. 34th	Amarillo	79109	806-355-2921
BIG MIKE'S HOBBIES & TOYS	2157 GILMER RD.	Longview	75604	903-297-7814
DISCOUNT HOBBIES	4307 S IH-35	Georgetown	78626	512-763-1224
GERBERS R/C	13310 LEOPARD ST., #20	Corpus Christi	78410	361-241-6544
GUADALUPE HOBBY CENTER	200 SIDNEY BAKER S.STE 5	Kerrville	78028	830-895-5654
LARRY'S HOBBIES	156-F, FM 1960 EAST	Houston	77073	281-443-7373
HOBBY TIME	201 WESTGATE PKWY. UNIT H	Amarillo	79121	806-352-9660
HOBBYTOWN USA	4116 S. COOPER	Arlington	76015	817-557-2225
HOBBYTOWN USA	1201 AUSTIN HWY #102	San Antonio	78209	210-829-8697
INDY RC WORLD	2020 SATURN RD.	Garland	75041	972-271-4844
M & M HOBBY CENTER	6703 CHIMNEY ROCK	Bellaire	77401	713-661-7137
MIKE'S HOBBY SHOP	1201 N. I 35 E.	Carrollton	75006	972-242-4930
ONEALL SPECIALTY HOBBIES	3321 W. EXPRESSWAY 83	McAllen	78503	956-686-6521
PARADISE EXTREME HOBBIES & GIFTS	3927 W HWY. 114	Paradise	76073	940-969-2523
RADICAL RACERS	5471 O LEARY	El Paso	79938	915-921-5099
R/C WHEELS AND PROPS	3524 AVE. Q	Lubbock	79412	806-797-9964
RC RACEWAY & HOBBY SHOP	8735 LaVILLAGE	Waco	76712	254-666-8020
ROY'S HOBBY SHOP	1309 N. NORWOOD DR.	Hurst	76053	817-268-0210
SPEED RACERS HOBBY	816 S. SHERMAN	Richardson	75081	972-437-1779
T & T R/C CARS	3420 AVE K	Plano	75074	972-633-2470
TEAM VALADEZ HOBBIES	6130 MONTANA #204	El Paso	79925	915-775-1482
THE RC HOBBY SHOP	13835 S.W. FREEWAY	Sugar Land	77478	281-265-4844
WINGS & THINGS	5307 50th ST. #B	Lubbock	79414	806-793-7777
WILD BILL'S HOBBY SHOP	535 E. SHADY GROVE	Irving	75060	972-438-9224
VICTORIA HOBBY SHOP	5211 JOHN STOCKBAUER DR.	Victoria	77904	361-575-4194
VICTORY R/C	11030 KINGSPOINT RD. #4B	Houston	77075	713-944-3278
UTAH				
DOUGLAS MODELS	7700 S. REDWOOD RD.	W Jordan	84084	801-255-1304
HT'S RC'S	166 S. FORT LANE	Layton	84041	801-546-6959
VERMONT				
MIKES HOBBIES	162 NORTH MAIN ST.	Rutland	05701	802-775-0059
RC TOY BOX HOBBIES	2176 PORTLAND ST., #2	St. Johnsbury	05819	802-748-1030
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HOBBYTOWN USA	4000 VIRGINIA BEACH BLVD. #196	Virginia Beach	23452	757-464-4140
HOBBY CORNER	7150 HULL ST.	Richmond	23235	804-276-4151
HOBBY HANGER SPDWAY	14014-D SULLYFIELD CIRCLE	Chantilly	20151	703-631-8820
RC PRO RACING	7106 HAYES SHOPPING CT	Hayes	23072	804-642-1114
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RT MODEL & HOBBY SHOP	401 N MAIN ST.	Danville	24540	434-799-8536
RACEWORLD, INC	219 WEEMS LANE	Winchester	22601	540-723-8811
STREAM HOBBY SHOP	10015 JEFFERSON AVE.	Newport News	23605	757-591-0720
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NORTH WEST RC HOBBIES	E 5727 SPRAGUE AVE.	Spokane	99212	509-535-5062
NW NITRO RC HOBBIES	118 23rd. ST. SE	Puyallup	98372	253-841-4639
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THE CLOVERLEAF	4110 MAIN ST.	Union Gap	98903	509-453-8959
ULTIMATE HOBBIES	131 E. MAIN ST.	Auburn	98002	253-939-2515
WISCONSIN				
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CHIPPEWA RC HOBBY	33 W. SPRING ST.	Chippewa Falls	54729	715-723-4421
DIRT HEAVEN HOBBY & RACEWAY	6028 COUNTY RD. K	New Franken	54229	920-866-9096
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HOBBYTOWN USA	2767 S. ONEIDA ST.	Green Bay	54303	920-490-9996
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Cullman RC Hobbies, 14 Country Rd. 1471 #B, Cullman, 35055; (256) 775-2491
Dirt Road Rage, 208 3rd Ave. S.E., Cullman, 35055; (877) 435-9866 www.pyramidhobbies.com
Lagoon Park R/C Raceway, 2730 Lagoon Park Dr., Montgomery, 36109; (334) 272-6438

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Hobbytown Raceway, 1102 E. 22nd St., Tucson, 85704; (520) 882-8888
Kingman off-road track, 5737 Hwy. 66 Mpost 63 Kingman, 86401
Scottdale R/C Speedway, 3023 N. Scottsdale Rd., Scottsdale, 85251; (480) 945-2186
Kiwanis Park R/C Track, 855 S. Magnolia Ave., Yuma, 85364; (520) 539-7148

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Alison Offroad RC Raceway, 6320 Thibault Rd., Little Rock, 72206; (501) 490-1227
Arkansas R/C Car Association, 101 W. 52nd St., N. Litle Rock, 72218; (501) 753-1286
Arkansas R/C Racing, 900 Arch St., Little Rock, 72202; (501) 454-0342, www.arkansasrc.com
Grand Slam Superspeedway, 5300 S. Zero St., Ft. Smith, 72703; (501) 648-1994
Hobbytown USA, 356 E. Joyce Fayetteville, 72703; (501) 571-3730
Lake Area R/C Raceway, 3109 HWY 25 B North Heber Springs, 72543; (501) 362-5050
R/C Hobbie Indoor Racing, 6140 S. West Dr. Jonesboro, 72404; (870) 933-0479
Ricks RC Race Track, 2353 Airport Rd. Hot Springs, 71901; (501) 767-2238
Rent-A-Racer, 2810 Highland Dr., Ste. S, Jonesboro, 72401, (870) 933-0479; 6140 S. West Dr. Jonesboro, 72404, (870) 933-0479
Sparks R/C Raceway, 7194 Greene 721 Rd., Paragould, 72450; (501) 239-3606

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Hobby Central, 13461 Community Rd., Poway, 92064; (858) 513-0373 www.hobby101.com
Hobbytown Raceway, 3069 W. Bullard Ave., Fresno, 93711; (559) 435-3342
Hot Rod Hobbies, 25845 San Fernando Rd. #21, Saugus, 91350; (661) 255-2404
Delta RC Raceway & Hobby Shop, 1201 W 10th St., Antioch, 94509; (925) 778-2965
Jake's Performance Hobbies, 6650 Commerce Blvd.,#21, Rohnert Park, 94928; (707) 586-3375
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Lucerme Valley Raceway, 32800 Old Woman Springs Rd., #4, Lucerne Valley, 92356; (760) 248-7305
Nor-Cal Speedway, 519 Bush St., Woodland, 95695; (530) 668-5678
Pegasus Hobbies, 5515 Moreano Blvd. Montclair, 91763 www.pegasushobbies.com (909) 982-6507
Race Corner of Marin, 300 Entrada Dr., Novato, 94949; (415) 883-0388
Racers Haven Hobbies, 7401 White Ln. #12, Bakersfield, 93309; (661) 835-0441
The Ragged Edge R/C Raceway, 520 S. Richmond Rd. Ridgecrest 93555 (760) 384-4556 rsread@ridgenet.net
Race Prep Raceway, 20115 Nordhoff Chatsworth, 91311; (818) 709-6800
Ryan & Amanda's R/C Park, 9494 Sunset Blvd., West Pleasant Grove, 95668; (916) 655-3590 www.RyanAndAmandasFishingHole.com
Scott Welte 4 Fun Hobbies & Raceway, 15885 Bear Valley Rd. Hesperia, 92345; (760) 956-6646
Showtime R/C Speedway, 3805 Chester Ave. Bakersfield, 93301; (661) 328-1481
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Speedworld Raceway & Hobby, Billy Bowerdman 90 Corporation Yard Rd., Roseville, 95678; (916) 783-8864
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Ultimate Hobbies, 2378 North Orange, 92865; (714) 921-0424
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Rat Raceway, 3600 Blake St. Denver, 80205; (720) 327-5483
S&T Raceway, 323 Auburn Dr., Colorado Springs, 80909; (719) 574-2910

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Hobby Chamber, 743 Boston Post Rd., West Haven, 06516; (203) 934-7317
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R/C Madness, 640 Enfield St., P.O. Box 64, Enfield, 06082; (860) 741-6501
Xtreme Radio Control, 469 Danbury Rd., New Miford, 06469; (860) 354-4703

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Broward County R/C Race Club, Mills Pond Park, Ft. Lauderdale, (954) 525-3304
Burton's R/C Raceway, 4215 Mustand Rd., Lakeland, 33803; (941) 665-1322
Coral Springs Roadrunners, PO Box 9632 Coral Springs, 33075; (954) 925-8284
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Ft. Myers R/C Club, Lee Civic Center, Ft. Myers, (941) 936-1528
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Kissimmee R/C Racing, Osceola Square Mall, 3831 West Vine St., Ste/ 60, Kissimmee, 34741; (407) 944-4913
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Monee R/C Raceway, 26049 Ridgeland Ave., Monee, 60449; (708) 799-5597
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RJD Toy's, 1302 St. Rt. 10, Lincoln, 62656; (217) 732-4300
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Stanton Hobby Shop, 4718 N. Milwaukee, Chicago, 60630; (773) 283-6446
Rivervalley Raceway, 200 N. Washington Av. Unit A, Bradley, 60915; (815) 802-0334
Wep Raceway, RR #2, Box 44, Lawrenceville, 62439

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Finish Line Pets & Hobbies, 1209 East St., Rd 2 LaPorte, 46350; (219) 326-0921
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R/C World of Indiana, 2246 West U.S. Hwy. 36, Lynn, 47355; (765) 874-2464
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HobbyTown USA, 2737 16th Ave. SW, Cedar Rapids, 52404; (319) 364-3289
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Wild Bill's Raceway, 901 W. Jones, Knoxville, 50138; (641) 842-5973

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Clay Bowl R/C Hobbies, P.O. Box 61, Greene, 04236; (207) 946-5003
R/C Speedway & Hobbies, 87 Main St., Fairfield, 04937; (207) 453-4588

MARYLAND

Countryside Raceway, 406 Pamela Rd., APt. C, Glen Burnie, 21061; (410) 761-6196
HobbyTown USA, 6714d Ritchie Hwy. Glen Burnie, 21061; (410) 590-4950
The Track, 16806 Oakmont Ave., Gaithersburg, 20877; (301) 417-9630

MASSACHUSETTS

Hobbytown/RPM Raceway, 201 N. Quincy St.,Abington, (781) 857-2300
Megadrome Raceway, Rt. 8 Curran Hwy. North Adams, 01247; (413) 743-7223
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Southside Speedway, 2241 Marion RD., SE Rochester, 55904; (507) 281-3233
Twin Cities Hobby & Raceway, 7577 Brooklyn Blvd. Brooklyn Park 55443; (763) 569-5069

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Novelty R/C Raceways, 6th & Main Novelty, 63460; (660) 739-4530
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NICHIMO LUMINOUS, PART 1

This month, and for the next several months, we are going to do something completely different. I decided to finally build one of the cars that has been sitting around for a couple of years, not really knowing if I had all the parts to build the thing. I acquired this "kit" (more like a box of parts) in a bulk lot of bits and pieces. The previous owner assured me that in the massive pile of parts and boxes was enough raw material for me to build several cars. I thought I would be lucky to get one Luminous out of the Nichimo parts. There were open screw bags with all the screws thrown into one container, loose parts trees and bits and pieces floating around everywhere in the box. Being the glutton for punishment that I am, I decided to get this lot (mainly because there were a lot of AYK parts included) and one day build quite possibly the UGLIEST car ever put into production—the Nichimo Luminous. In some perverse way I've always felt sorry for Nichimo products, as they were so darned ugly. Funny enough, the cars themselves were actually not bad from a performance or reliability standpoint.

Beginning this month I'll be building the Nichimo Luminous from NIB parts that were once in kit form. I'll go through it step-by-step and discuss some of the interesting features of this "cosmetically challenged" 4WD contender. The Luminous is a very different car, which is what makes this hobby so interesting—the different ways in which manufacturers tried to achieve better results from similar platforms.

NICHIMO: WHAT THE?

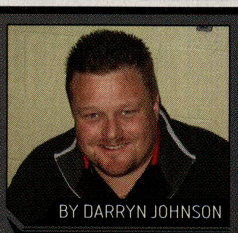
To many people in our hobby this brand is totally "left of field." Nichimo only made six 1/10-scale performance cars, riding on the wave of the off-road explosion of the '80s. The Luminous was Nichimo's last kit released, and came out during the middle of '88. The Luminous was the 4WD follow-up model to Nichimo's only rear-wheel-drive buggy, the Cosmo Shooter. Nichimo could never have been said to have been targeting the competition market; they just made some interesting and quite complex cars to be part of the massive "scene" at the time, riding on the coattails of trail blazers such as Tamiya and Kyosho.

ILLUMINATING THE LUMINOUS

An interesting feature to note is that the manual is written in three languages—cheap for Nichimo to have it all in one manual, and darned confusing for the builder (particularly in the more complicated gearbox sections). I have to say that the manual is NOT for the first timer, as it's even out of sequence. The first two steps in the manual cover the speed control and shocks. All fine and dandy, except that the manual then counts the building of the front and rear diffs as the first step. Highly confusing.

For the purposes of this article I will make my own "steps," the first being the speed control. Let's have a look at this car, starting with the "me" version of step one in the manual.





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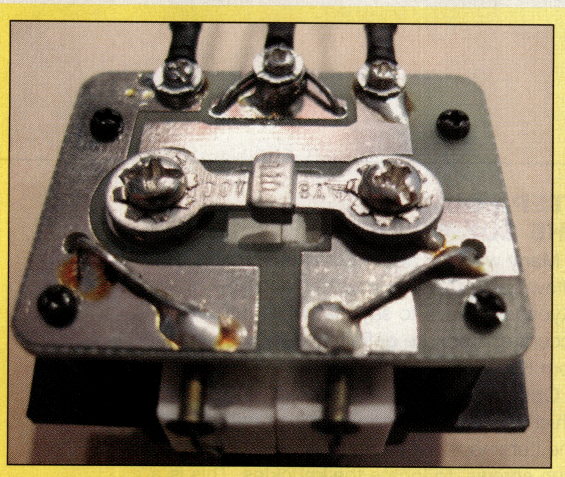
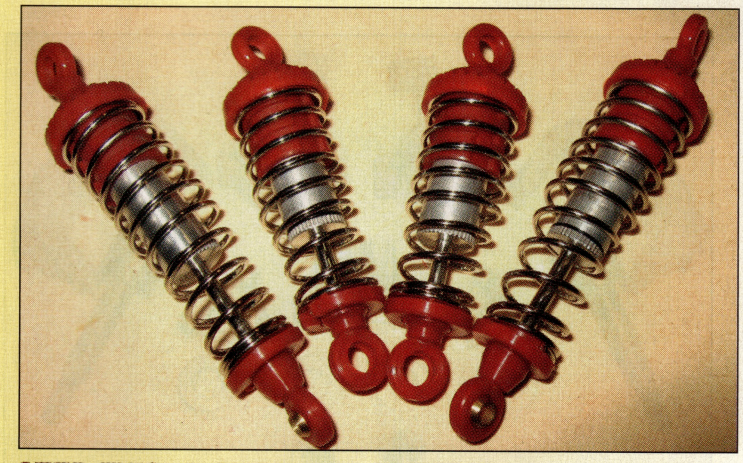


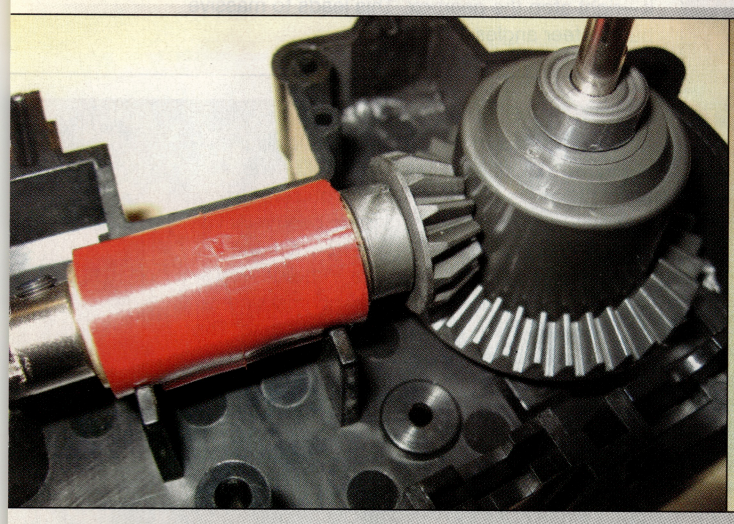
STEP ONE: ALL ABOUT THE SPEEDY

The first parts to be assembled are the speed control and mounting harness. An interesting feature of the speed control is the *screw-in* fuse. I have to say I never noticed this feature until I started to build the kit. Other than this, it is pretty much a case of screwing the speed control to the mounting brackets and fitting the switch cover. Of course, setting up your radio to get center points on the steering and throttle are recommended at this time also.



STEP TWO: A SHOCKING EXPERIENCE

The shocks on the Luminous are somewhat similar internally to early Kyosho and Tamiya shocks. A bottom cartridge screws into the main shock body. Inside the shock there is a solid piston, and this was certainly not normal. The shocks' performance, however, wasn't too bad. A single O-ring seals the shaft, while a larger O-ring seals the cartridge against the shock body. The outsides of the shocks have an ingenious threaded shock body design that allows four different levels of tension to be placed on the spring. Another cool feature is the fact that the springs are tapered.

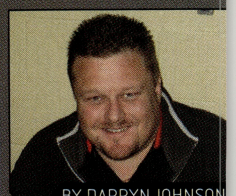




STEP THREE: WHAT'S THE DIFF?

The drivetrain is where the Luminous gets really freaky when compared with other 4WD cars of the time. This is not so much the case with the front and rear diff units, but more about the way they are mounted and the way in which the power is sent to them. The pictures will do a far better job than my ramblings, so I will try to keep it brief.

The diffs are pretty conventional captive sun-gear type, very similar to those of a modern 1/8-scale buggy. Bronze bushings are used pretty much everywhere throughout the car with the exception of the main drive bevel gear—for some reason it has a plastic bushing. The front gearbox's main driveshaft is particularly interesting in that it is housed within its own captive unit, which is then screwed to the inside of the gearbox. This gives the benefit of less movement in the bevel and ring gear.



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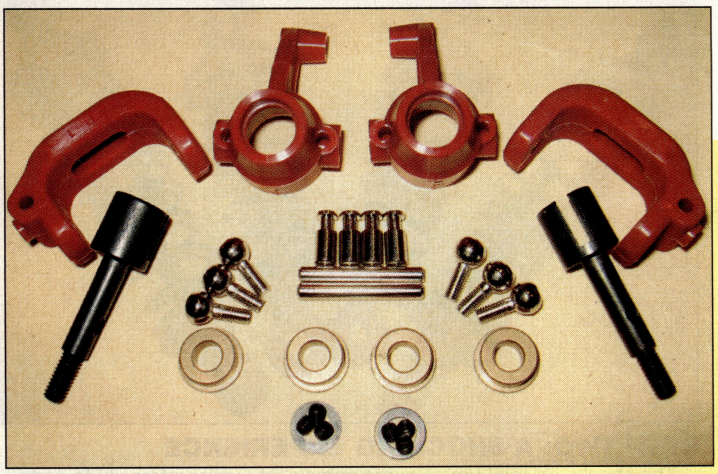

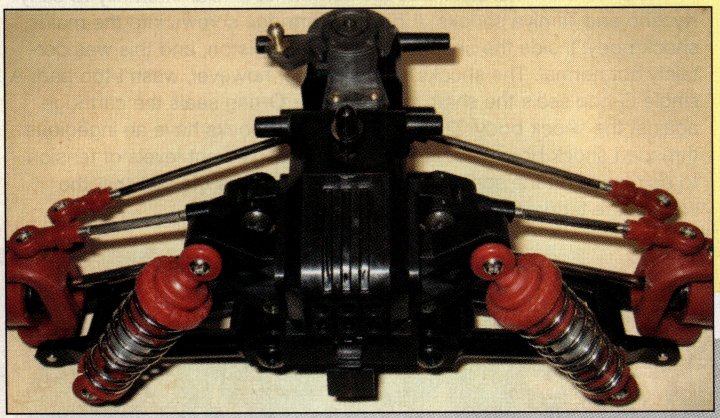

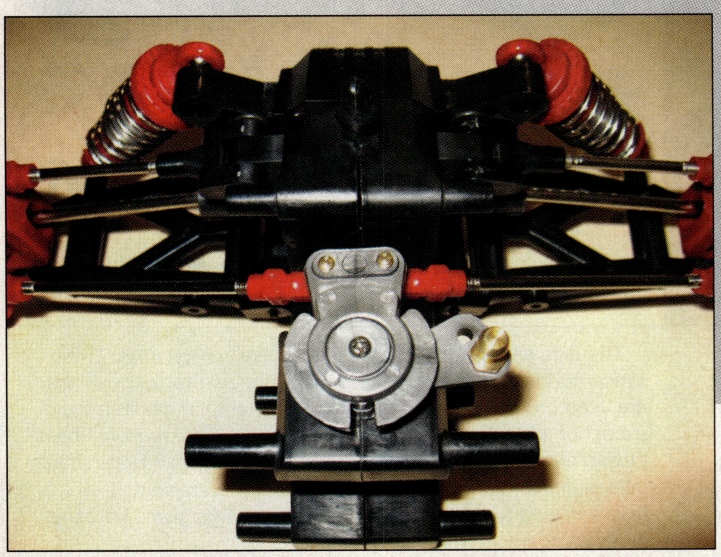

STEP FOUR: THE SUSPENSION

Many will look at the Luminous' front hubs, pillow balls, steering knuckles and say "Kyosho." I have to say that while not exactly accurate, there are definitely design cues taken from Kyosho's Optima.

One thing that is very different is the way in which the front steering knuckles are retained. The Luminous used machined pins, retained by grub screws, to locate the knuckles. This is a very secure way to retain the knuckles, as the grub screw was far less likely to fall out of plastic. Remember your Tamiya Hot Shot's knuckles pulling out all the time? This was a clever fix from Nichimo. Another Hot Shot cue was the way in which the suspension arms are held in place—with threaded shafts.

The rest of the front end is pretty much "same old style" for the time, with the exception of the servo saver. What a strange place to put it—right atop the gearbox. This leads to massive bump steer angles.

END OF PART 1

While not one of the most aesthetically pleasing models of all time, the Nichimo Luminous shows some truly innovative and outside-the-box thinking. Thus far the car has been relatively straightforward to put together, however the instructions really do leave a lot to be desired—especially when compared to benchmark companies like Kyosho and Tamiya at that time. The plastics are somewhat below par for the time. With all of this, though, I am growing to like the car. Having said all this, the Luminous is a part of '80s buggy history – and deserves to be looked at for what it is. In the next installment I'll be building the rear gearbox, suspension, and some of the chassis. There are some truly unusual methods used in the design and construction of this car, so stay tuned.

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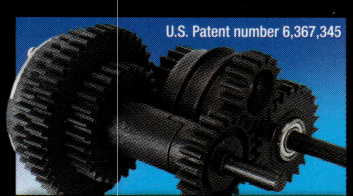

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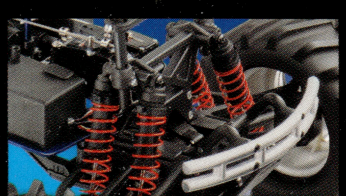

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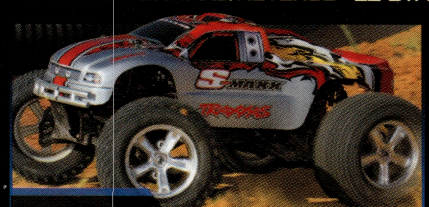

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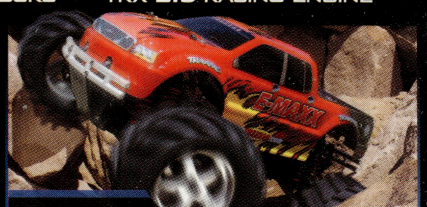

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