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RC **Driver**

TRUCKS  **CARS · NITRO · ELECTRIC & BOATS**

10 PRO NITRO TIPS

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VEHICLE
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➤ **XRAY XT8**

2 EXCLUSIVE TESTS

➤ **HPI Wheely King 4WD**

HOW TOs

- Rebuild Shocks
- Refresh a Ball Diff
- Understanding Li-Poly Batteries
- Build a Monster Roto Start

AUGUST 2007 ISSUE 44

\$4.99US \$6.99CAN

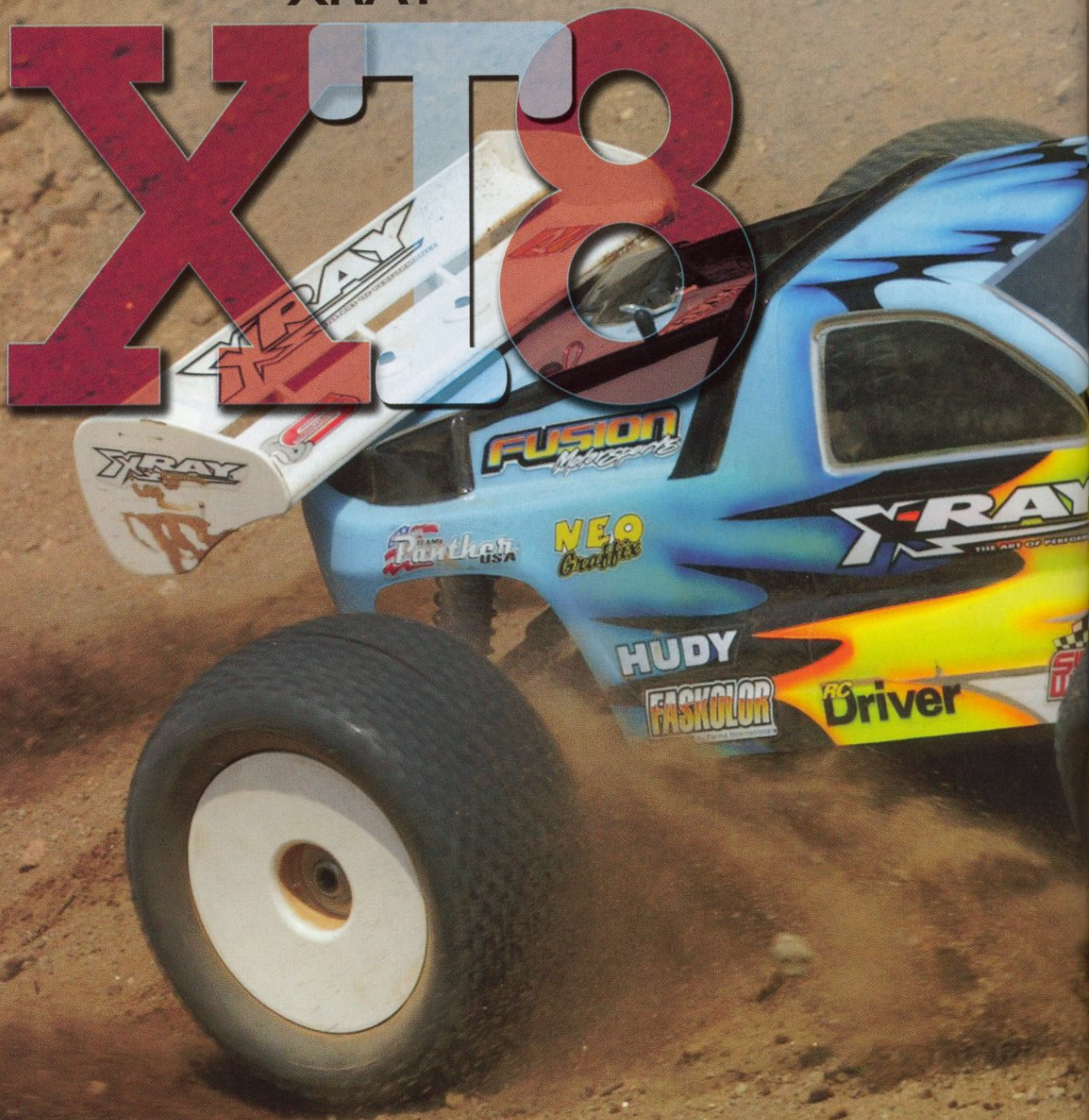
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40 mph
Brushless
Buggy Project



XRAY



INTRODUCING XRAY'S FIRST

The XRAY XB8 is already a top performer in the 1/8 buggy class, and now XRAY has a top competitor in the truggy class as well. Kyosho, Mugen, and Jammin' will soon have some stiff competition on their hands as the XT8 makes its way to hobby shop shelves. This truck is second to none in fit and finish, and it went together easily and quickly. If you are looking for a new truggy or want to expand your off-road RC driving ability this may be the perfect truck for you.

**COMPETITION
'TESTED'**

KIT **RTR**

1/8 SCALE NITRO TRUCK

AT A GLANCE

WHO MAKES IT:

XRAY

WHO IT'S FOR:

Intermediate to advanced racer

HOW FAST:

36.54mph

HOW MUCH:

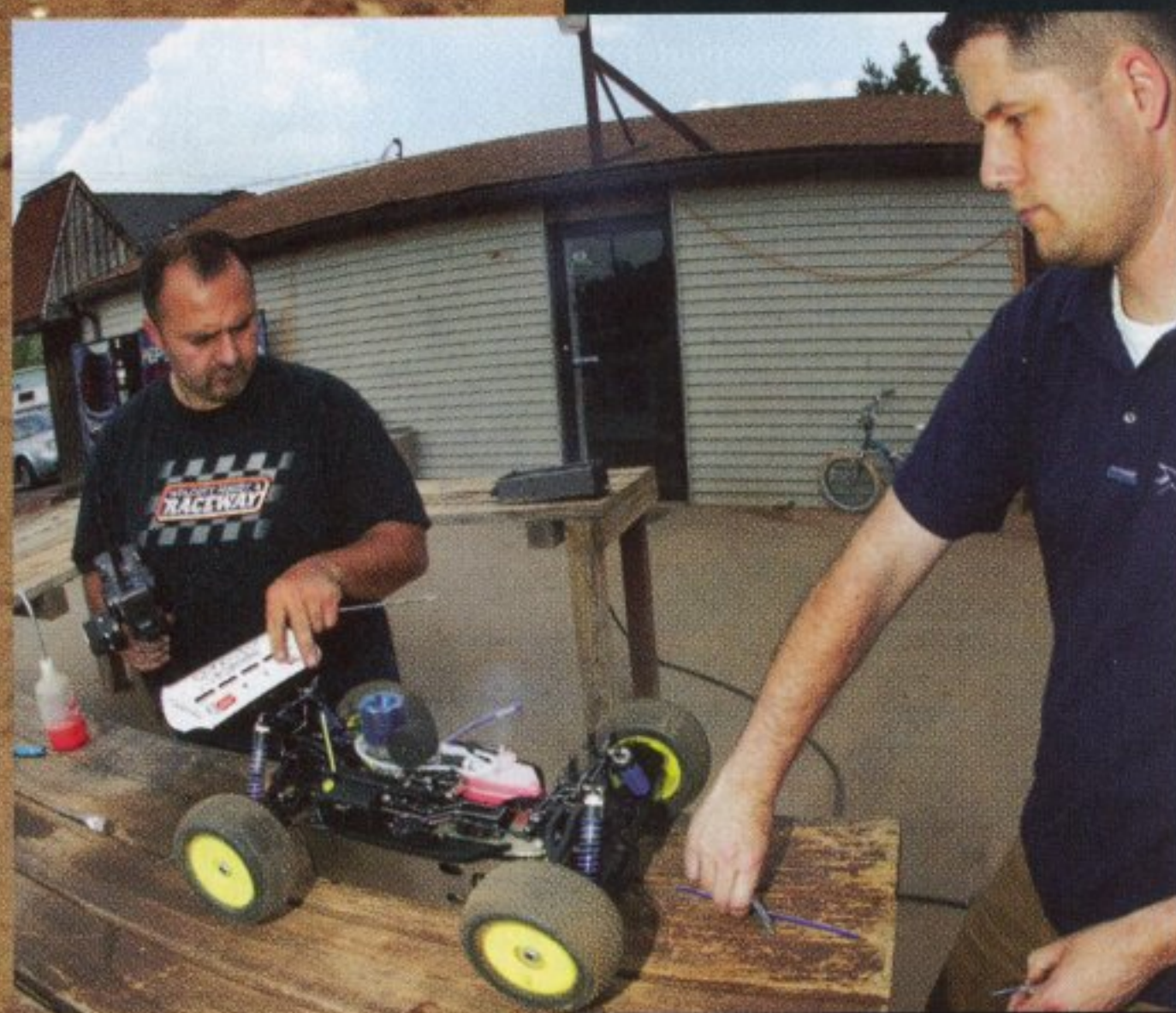
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WHAT WE LIKED

- Highly tunable
- Top-notch handling
- Captured hinge-pins
- Fit and finish are unsurpassed

WHAT COULD BE IMPROVED

- I would have expected a luxury truck to come with aluminum steering knuckles and chassis braces

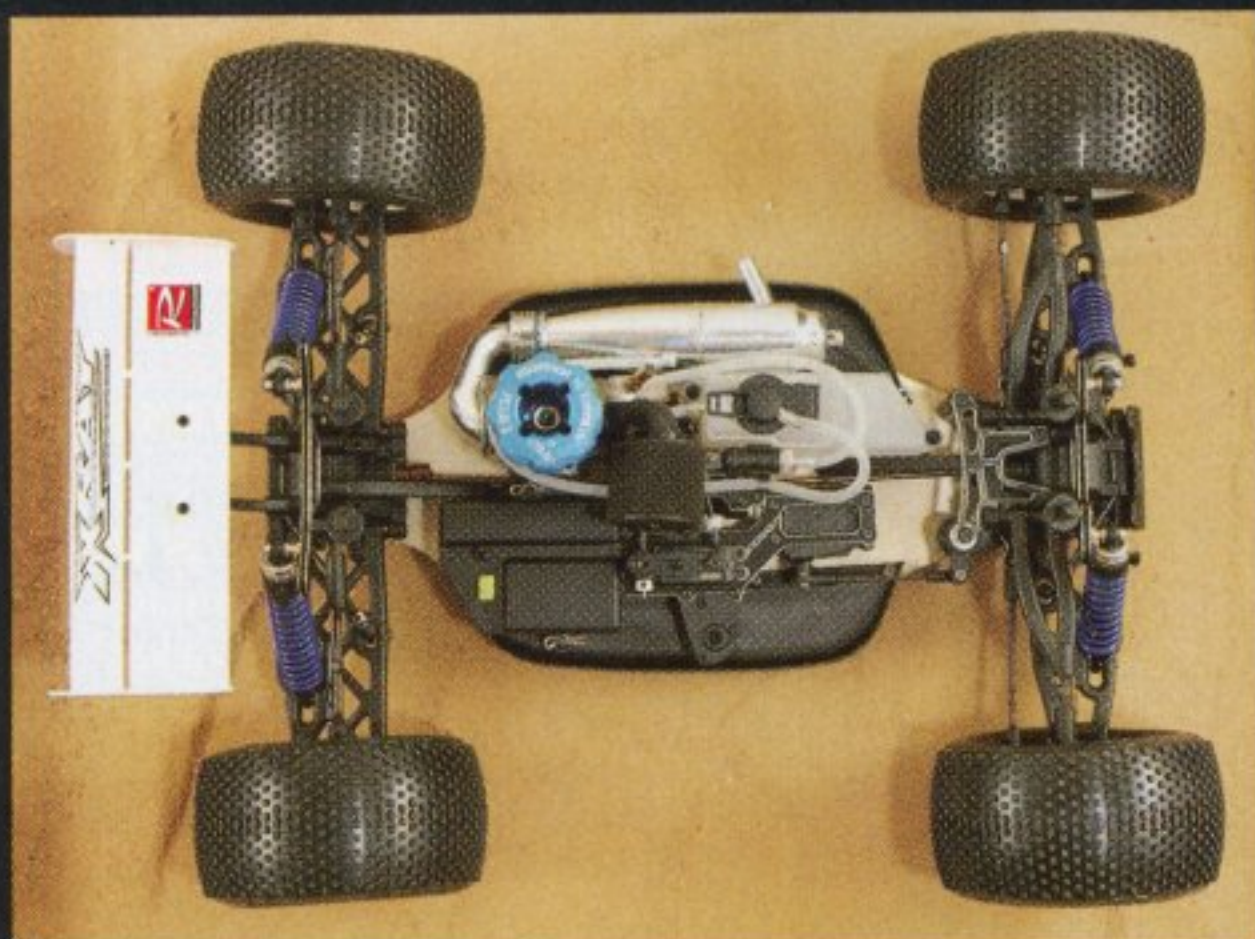


1/8-SCALE TRUGGY

THE BOTTOM LINE

The 1/8 truggy class is the fastest growing category in off-road RC racing, and this truck will add more excitement and interest. Fit, finish, adjustability and design are some of the things that make this truck a top competitor

WHAT YOU NEED TO KNOW



- A long narrow plate chassis is machined from sturdy 7075 aluminum and is hard anodized to resist wear from scraping the ground. If you look at the chassis overhead, there is a lot of open space that allows cleaning and maintenance to be a breeze. Mudguards on either side of the chassis keep debris out of the heart of this beast.
- The kit version was superbly packaged. Everything came in documented bags along with one of the best instruction manuals I have seen. The molding on the plastic parts is second to none. Everything fit together with few or no shims. The machine work on the aluminum shock tower and the radio tray is of unmatched quality in a production kit.
- The differentials are a work of art. The fit into the gearbox is unsurpassed, with no need for shims on the pinion gear. Kudos! All of the components ride on high grade ball bearings.
- The suspension uses a long arm with mated upper arms and doesn't need wheel spacers for the truggy's ultra-wide stance. It allows the driver to push this truck to its limits while having the tuning adjustability we all crave. The shocks went together well and bled out easily; solid units that can take abuse and go long periods without rebuilds.
- The XT8's wheels have perfect offset. Not too deep so it is impossible to get to them without a deep well socket, but just right to give the truck the width it needs. Wrapped around the hoops are XRAY's Thrax tires that are firmed up with foam inserts.
- Any .21- or .28-size bump-start-only racing engine will nestle perfectly on the mounts. Button head screws hold the mill to the chassis and sit in countersunk slots.
- The radio box has plenty of room for the receiver and flat-style receiver pack. Everything is easily accessible. The kit comes with a variety of servo horns and servo mounts to suit your taste. We used Futaba running gear.
- The thick wing mount and pliable wing will stand up to all the abuse you can throw at it. The body you see in the photos is pre-production and may look slightly different when your kit arrives.
- Spring steel driveshafts send power to the wheels and from the center diff. You'll find lots of spring steel on the truck, it's this sort of attention to quality and detail that separates XRAY from its competitors.



Driver: Greg Vogel

Date: May 27, 2007

Track: Wolcott Hobby & Raceway, Wolcott, CT

XRAY did us a solid by bagging up all the parts to make the XT8 truggy and sending it off for us to test before it was ready for production.

The truck hit the track close to the way you see it in the photos. Upon juicing up the electronics, we learned that the Futaba 330S servo did not want to jibe with the new Futaba 3PK and FASST system in HRS mode, so we swapped it out for a high-end digital Futaba unit. I also pulled off the Thrax tires in favor of Panther's new truggy Gator tires, which I knew would hook up perfectly on Wolcott's track



surface. Finally, the kit clutch springs were replaced with Mugen 1.1 springs.

I headed to the track in the first of two arena-truck heats. The truck seemed to be dialed, but the engine sounded lean on the bottom end. I rolled it into the pits and my pit guys, Howard and Chewy, went to work. Howard filled the tank and we watched a puddle form under the truck. The front tab had cracked off the tank, leaving a big hole for fuel to escape. We're hoping that this was a one-off fluke for this preproduction truck and that future drivers will receive stronger tanks. Before the second round, I was able to bolt in a Mugen tank and

head out for qualifying. With only two laps under my belt in total the pressure was on. The truck handled extremely well and I finished in second place. After the third round, I was seated sixth in the A-Main.

A tangle on the start pushed me back in the 12-truck field, but I drove the truck hard and the harder I pushed, the more the XT8 liked it. I was swapping back and forth with the third- and fourth-place drivers when I nabbed third and the truck just stopped. My pit guy got the truck and found a rock jammed in my flywheel. He eventually got the truggy fired again, and I resumed driving like a madman. The XT8 loves to be thrown around the track, and I was able to finish third. This truck is a hardcore competitor.

For race updates and more information go to our website:
www.rcdriver.com

NEEDED TO COMPLETE

- Two-channel radio and receiver
- Two high-torque/speed servos
- .21 or .28 nitro engine
- Tuned pipe
- Starter box
- Receiver pack and three-way switch

WHAT WE USED

Futaba 3PK with FASST system, FUTK2010/FUTL8926, \$229.99/\$199.99



Novarossi 367 engine and pipe combo, 367 Buggy 21, \$999.99

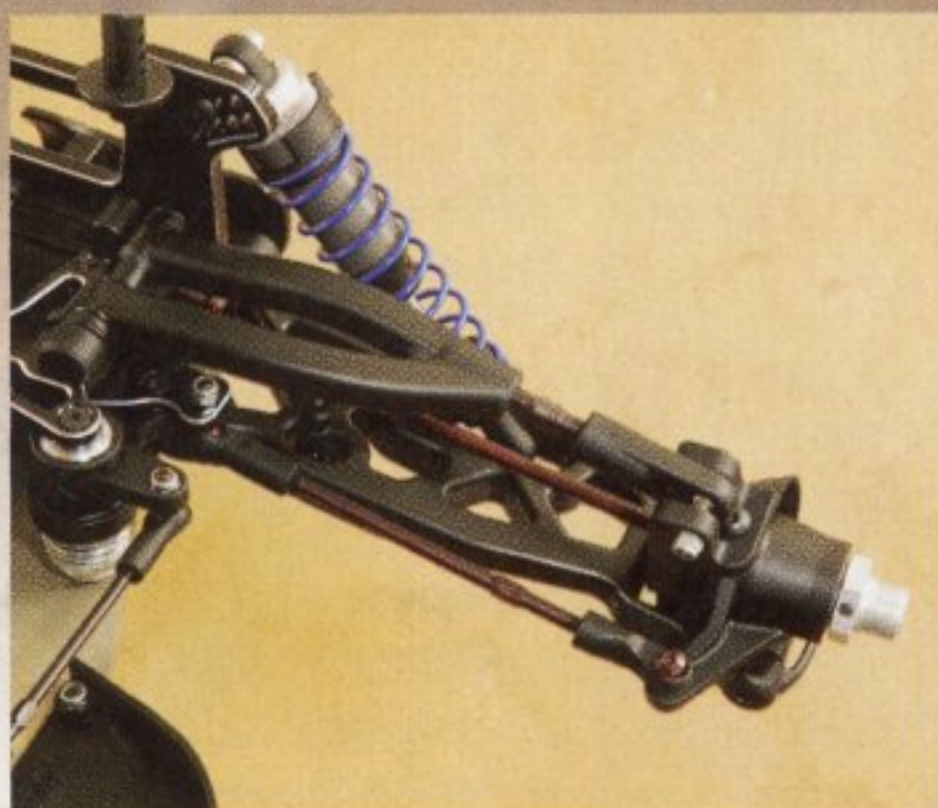
Futaba 9451 servo, \$9451, \$75.99



OFNA five-cell NiMH battery, 10201, \$29.95

Panther Truggy Gator tires, T147MS, \$29.99





The long suspension arms meet up with a C-hub and composite steering knuckle. XRAY machined unique one-piece pivot-ball screws for the tie-rod ends with their trademark spring steel, which is also the material used for the tie-rods themselves and the axles.

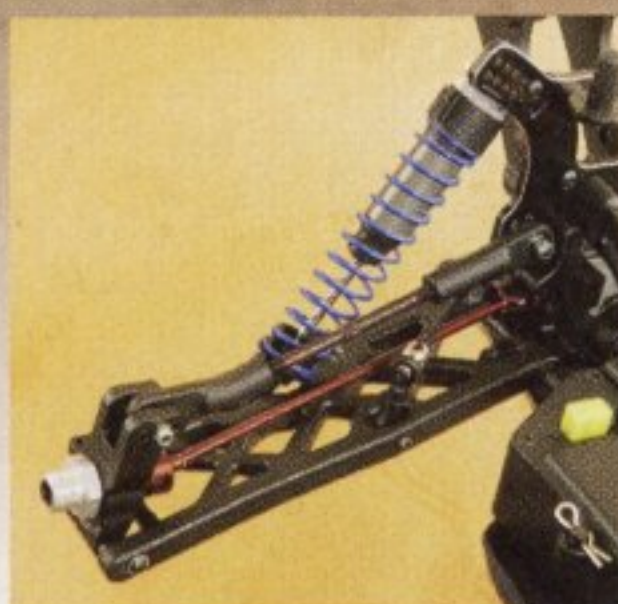


XRAY lifted the radio box and servo tray from their buggy and transplanted it into the XT8. The side-by-side receiver pack setup places the battery closer to the CG and the laid-down steering servo drops the CG. This truck is all about racing design.



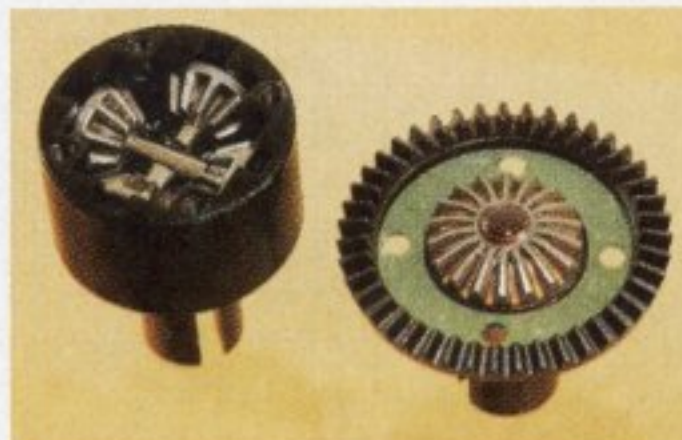
The XT8 gets a full set of sealed gear diffs with hardened internal gears and straight-cut ring gears.

Check out the tuner-friendly decomposable center diff. A single front- and rear-vented steel disc brake takes care of braking duties. The discs are slowed by padded steel plates.



Long arms that extend into the wheels translate to a great-handling vehicle. The hinge-pins are captured with screws for easy removal. There are lots of tuning options all around here, including shock position and camber rod locations.

XRAY has developed their own race tire called the Thrax. This tire should work well on many different race surfaces.



The engine gets a three-pin flywheel with .9 clutch springs and 1.71 clutch shoes that are covered by a 13T clutchbell.



Big bore oil-filled coil-over shocks damp each corner of the truck. The nice feature of the shocks are the felt dust guards under the rubber shock end caps and the tall-wall spring perches that prevent them from sliding off the spring on an impact.



A heavy-duty bell-crank system takes care of the steering duties, behind the servo; you'll notice the spring steel center universal driveshaft and composite arch used to stiffen the front end.



Inserts in the suspension arm mounts allow for tweaks to anti-squat and toe. The clip in front of the arm allows you to alter wheelbase; spacers at the hubs also allow for wheelbase adjustments.

DIMENSIONS

SCALE: 1/8

LENGTH: 19.8 in. (503mm)

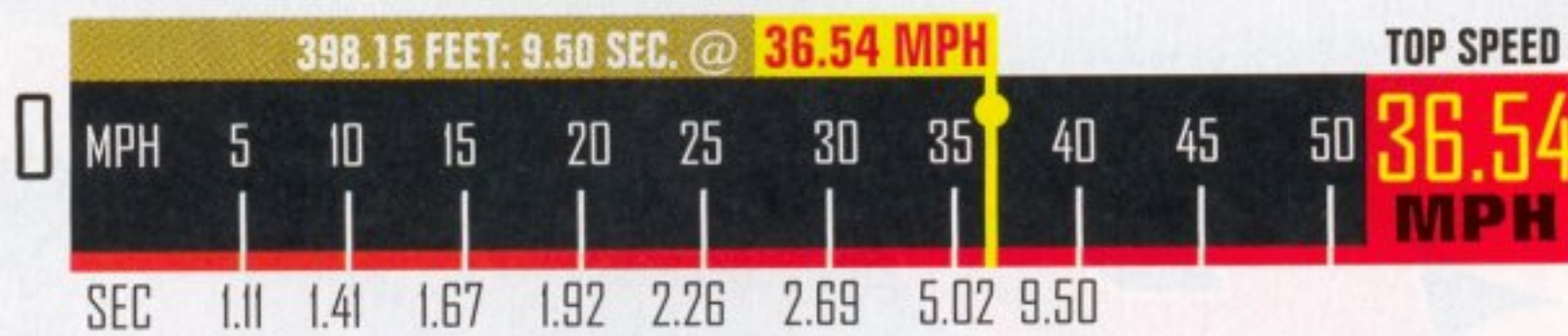
WIDTH: 16.5 in. (419mm)

WHEELBASE: 14.33 in.
(363.98mm)

WEIGHT (APPROX.):
9 lbs. (4,100g)

RADAR DATA

ACCELERATION:



RECOMMENDED ACCESSORIES

- MDP five-cell AAA NiMH battery, 10200, \$24.95

COMPETITORS

- Jammin' X1CRT
- Mugen MBX5T
- Team Losi 8ight T

LINKS

Futaba, distributed exclusively by Great Planes Model Distributors, www.futaba-rc.com, (800) 682-8948

MDP, distributed by OFNA Racing, www.ofna.com, (949) 586-2910

Neo Graffix, (860)796-3221

Novarossi, distributed by Fusion Motorsports, www.fusionmotorsports.com, 909-862-4000

Panther Products Inc., www.pantherteam.com, (866) 700-8473

XRAY, distributed by RC America, www.teamXRAY.com, (800) 519-7221

For more information, please see our source guide on page 201.

THE LAST WORD

Team XRAY always turns heads when a new vehicle comes out of their stable, but the XT8 is going to break some necks. The truck got a lot of attention at the track and left some racers contemplating selling their current truck. The XT8 has all the luxury you expect from XRAY, but it isn't overcomplicated and fits the bill for amateur racers as well as seasoned pros. XRAY did a phenomenal job with their introduction into the truggy class. ☺

PERFORMANCE SCORECARD

TEST VENUE: Wolcott Hobby & Raceway, Wolcott, CT
CONDITIONS: Off-road dirt track, hard-packed clay surface



STEERING

Understeer **Neutral** Oversteer

COMMENTS: On power, this truck is a monster. I was able to rip down the 120-plus-foot straight, hit the brakes 15 feet before the sweeper and grab full throttle again, hold it and rip through the sweeper. I made many passes blasting through corners much faster than the other truggies. Off power however, there was a slight push. After my second heat, Chewy ground down some of the C-hub carrier, which gave me more throw and improved the off-power steering. After trying several driving techniques, I found this truck likes to be driven hard and thrown around in corners.

BRAKING

Poor Fair Good **Excellent**

COMMENTS: Braking is right on. If I needed a little brake, it was there and consistent. If I needed a lot of brake, I could mash on the trigger and watch the rear of the truck almost jump in the air. The stock brakes are great.

ACCELERATION

Poor Fair **Good** Excellent

COMMENTS: With the 367 buggy engine bolted to the chassis, I was stoked to see how this truck would wind out. Initial snap was a bit sluggish and I could hear the clutch bog with displeasure. I had installed 1.1mm Mugen springs and even lightened the stock 1.71 shoes, but still couldn't get the proper snap out of corners. Top end, however, this combination screamed. I blew away some .28 engines on the straight and kept up with the high-dollar .28s. With the way this truck is geared, a good .28 with torque will offer the power the rig hungers for.

SUSPENSION

Poor Fair Good **Excellent**

COMMENTS: The track got extremely rough with ruts that kicked up truggies and sent buggies flying into the air. The XT8, however, didn't get thrown out of control by the vehicle-swallowing holes. Smooth and stable sums up the truck's handling and when tuning, the changes are very noticeable.

JUMPING

Poor Fair Good **Excellent**

COMMENTS: The XT8 is a showoff when it comes to jumping. Right before the straightaway at Wolcott's track is a tabletop jump. On each lap, I'd launch the truck off the front riser and the truck would land rear wheels first and wheelie down the backside. Over smaller jumps, the XT8 flew level and straight but, more important, it allowed you to hit jumps off square and still land on all four wheels smoothly. On the front triple jump, I could launch the truck into the 30-foot trip, tap the brakes and down-side the last jump of the triple. The engine and clutch setup I ran didn't have the grunt to launch the truck over a triple that had a short entrance. The 367 is truly a buggy engine and didn't have the low-end power for launching a truggy over jumps without a good run-up.

DURABILITY

Poor Fair Good **Excellent**

COMMENTS: The XT8 got the unintentional durability test during my second qualifying run. The truck met "Lester's Light Pole," a pole with light in the center of the track for night racing. The LLP has claimed many vehicles throughout the years and even a few vehicles that morning. I launched off the jump next to it and at a bad angle. A huge "bong" was heard over the roar of nitro engines and the XT8 dropped to the ground. The marshal walked over to it expecting to shut down my truck, but to everyone's surprise, the XT8 was fine; no damage other than a scraped up body. This machine survived the LLP; it's strong.

SUSPENSION

- Shock position (10 ft./12 rr. holes on towers, three on lower arms)
- Camber (front and rear)
- Anti-squat (cam inserts)
- Front kick-up (cam inserts)
- Toe (ft. turnbuckles, rr. cam inserts)
- Wheelbase (rr. hubs or arms can be spaced)
- Roll center (ft. arms—holes in tower, two holes in carrier; rr. arms—holes in tower, two in carrier)
- Steering Ackerman (holes in drag link)
- Front/rear swaybar tension
- Droop (via setscrews in each lower arm)

DRIVETRAIN

- Gear ratio (via clutchbell)
- Differential stiffness (via silicone fluid)

MISCELLANEOUS

- Wing height and angle

TOOLS

TOOLS INCLUDED:

Multi-wrench, four-way socket wrench, 1.5mm, 2mm, and 2.5mm Allen keys

TOOLS NEEDED:

Curved Lexan scissors, OFNA or Losi clutch installation tool; 1.5mm, 2mm, and 2.5mm Allen drivers recommended

HARDWARE TYPE:

Metric hex and Phillips

TIPS

- The stock clutch springs are a little too light for a truggy. Pick up some Mugen 1.1 springs and you'll find the clutch engages a lot better. We also drilled the shoes for quicker engagement.
- The kit comes with 7,000 and 10,000wt diff oils, which are good for the front and center diffs, but try 5,000wt in the rear or pick up a selection of oils to tune your diff to your track.
- If you find the truck needs more off-power steering, you can add some more throw by grinding a little material away from the front hub carriers.