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BEHIND THE WHEEL

1/18 SCALE | ELECTRIC | KIT

Type » 4WD mini racing truck

Price » \$215

Requires » Transmitter and receiver

» Speed control » Motor » Battery » Charger

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XRAY M18T PRO

XRAY's luxury touch comes to the mini scene

WORDS & PHOTOS GEORGE M. GONZALEZ

I've been a big fan of XRAY's M18 series vehicles for years, and I own one of each version in both electric and nitro. I recently added an M18 Pro to my stable, which is a full-option version of the M18 1/18-scale 4WD electric touring car. I was stoked when XRAY announced the release of a Pro version of the venerable M18T race truck—the M18T Pro—and I was selected to review it!

I love kits, and anyone who has built an XRAY vehicle will agree that the building experience is nothing short of a privilege. After opening the box, I laid out all the parts bags on my pit table. The carbon-fiber, machined aluminum and Hudy spring-steel components were gleaming inside the parts bags, and that got my blood flowing quickly. I had the truck built in a few hours, and all that was left to do was to install the running gear. A truck like the M18T Pro deserves high-end electronics, and Novak kindly sent me one of the first Mongoose 1/18-scale brushless systems to leave their factory. Talk about a score! I couldn't wait to hit the track.

DRIVE TIME

TEST SPOT

RACERS HAVEN » BAKERSFIELD, CA

MORE PUNCH THAT YOU CAN HANDLE

Burying the throttle trigger caused the car to loop out and do donuts. I had to use a smooth throttle finger to get the truck to launch without excessive wheelspin. The truck exhibited a bit of torque-steer under acceleration, but after tightening the diffs, it mostly went away. The truck was an absolute missile down the back straightway, and I had no problem passing up larger electric and nitro cars that roamed the track. Everyone wanted to know what I had under the hood because the truck was so wicked fast. The M18T Pro

defies the laws of physics with its virtually drag-free drivetrain; it gets all the motor's power to ground, but with the Novak Mongoose brushless system and 2S LiPo battery, the truck was on the verge of being overpowered. Overall, I was impressed with how the M18T Pro handled the power, and I didn't have any drivetrain issues throughout testing.

CORNERS LIKE AN F1 CAR

The M18T Pro cornered sharply at all speeds and didn't show any signs of understeer. The truck felt a bit loose whenever I let off the throttle, but getting back on the gas kept the

rear end in check every time it wanted to swing around. The stock tires worked very well on the hard-packed dirt surface after I swept and watered down the track; it was almost impossible to drive on the un-prepped surface, though. The M18T Pro kept close to the pipes around all the corners, and that certainly reflected on my lap times.

STABLE FLIGHT

The little truck amazed me with its super-stable jumping ability. Getting the timing down to clear the sequential doubles in the infield was easy, and the truck flew fairly level most of the time. Depending on the approach, the truck jumped with its nose up in the air at times, but tapping the brakes leveled it out. The landings



**ACTION VIDEO
ONLINE**
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were mostly smooth, except when I leapt over the jumps with too much speed and the truck landed squarely on all four tires, or even worse, it got crossed up and landed on one of the front tires. In these cases, the chassis either bottomed out severely, or the truck cart-wheeled for several feet. The truck took considerable punishment in the jump sections, but nothing broke, bent or got tweaked.

SMOOTH IN THE ROUGH

I really noticed the benefits of the longer wheelbase on the track's rough sections. The truck felt more planted, and it didn't buck around as badly as some of my other 1/18-scale trucks. The track was relatively smooth, but a few strategically placed ruts and cracks

challenged the little truck's suspension. This isn't a flaw because the M18T Pro felt more composed than any other 1/18-scale truck I've driven, and all 1/18-scale vehicles have their limits when driving on tracks that are designed for larger vehicles. As in the past, I avoided the rough sections and tried to keep the truck out of harm's way. What really surprised me, however, was how well the M18T Pro handled the rhythm section. I have trouble getting through this section with my 1/10-scale buggies and trucks, but the M18T Pro leapt over the jumps two at a time in perfect harmony; in fact, it turned out to be the easiest obstacle on the track.

IT'S TOUGH

The M18T Pro took tremendous abuse during testing. I ran two 2200mAh battery backs back to back, which kept me on the track for well over an hour between charges. The truck was run over several times by larger vehicles, rammed into hard PVC pipes at full speed, and took more than its fair share of tumbles and crashes. The M18T Pro's body looked worse for wear, but the chassis, suspension and drivetrain rolled away without damage.



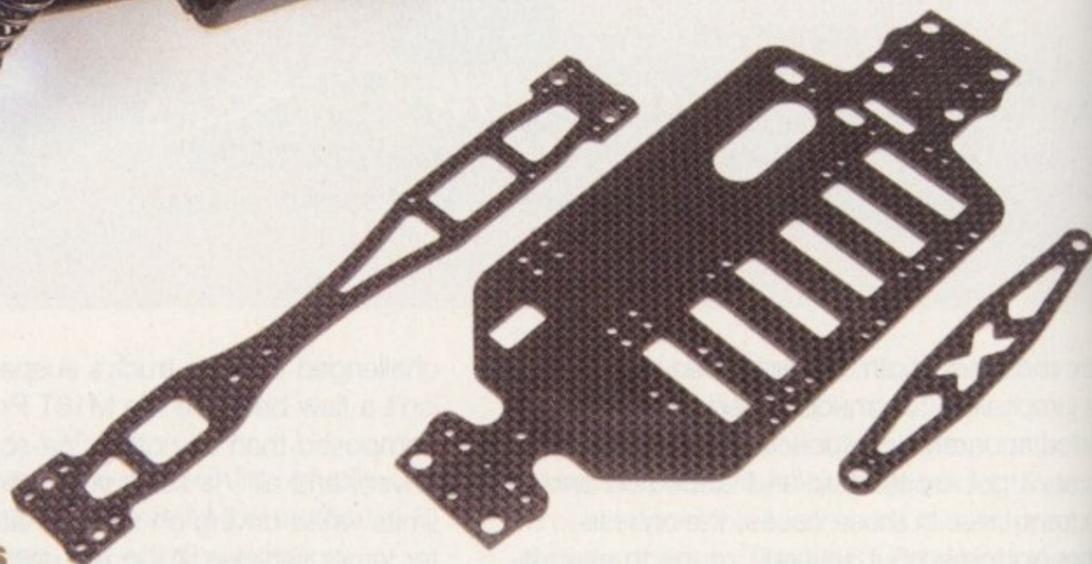
XRAY supplies a clear body, so Bill Zegers laid down the paint job for me.

UNDER THE HOOD

Double-deck carbon-fiber chassis

The Pro's 2mm-thick carbon-fiber chassis is far more rigid than the standard M18T's molded chassis to allow the suspension to operate more consistently on high-grip surfaces. It also has just enough flex to provide the traction that's needed on loose surfaces. By far the biggest advantage, however, is that it's 16mm longer than the standard chassis, which increases the wheelbase for improved stability on bumpy off-road terrain. The carbon-fiber upper deck provides extra rigidity and durability that is needed to survive crashes and impacts without changing the suspension geometry during a race. The lower chassis plate has six machined slots to allow side-by-side racing cells to be mounted lower to reduce the truck's overall CG. A carbon-fiber battery strap secures the battery in place, and four molded battery holders can be mounted in different positions on the chassis to accommodate various battery configurations, including 2S LiPo packs.

The carbon-fiber chassis is longer to increase the truck's wheelbase and much more rigid, which allows the suspension to operate more consistently.



SPECIFICATIONS

XRAY M18T PRO

Distributed by rcamerica.com

xray.com

Scale 1/18

Price \$215

DIMENSIONS

Length 8.97 in. (228mm)

Width (F/R) 7/7.08 in. (178/180mm)

Wheelbase 6.53 in. (166mm)

Weight, as tested 21.79 oz. (618g)

CHASSIS

Double-deck carbon fiber

SUSPENSION

Type Double wishbone

Inboard camber-link positions F/R 1/1

Outboard camber-link positions F/R 1/1

Upper shock positions F/R 3/3

Lower shock positions F/R 2/2

SHOCKS

Plastic-body, oil-filled with double O-ring seals and clip-on preload spacers

STEERING

Type Single bellcrank with ball bearings

Servo-saver Servo mounted with double steel bands

Tie rods Threaded rods

Ackerman settings (inboard/outboard) 1/1

DRIVETRAIN

Type Shaft drive 4WD

Transmission Sealed gearboxes

Slipper clutch None

Differentials Adjustable ball diffs

Transmission ratio 2.5:1

Driveshafts F/R Hudy spring-steel universal joint

Bearings Metal-shield bearings

BODY, WHEELS & TIRES

Body Clear Lexan stadium truck

Wheels XRAY white dish

Tires XRAY Low Pin

Inserts High-density foam

The steel spur gear and carbon-fiber propeller shaft are Pro exclusives that elevate performance and durability to a new level.



Lightweight and bulletproof drivetrain

The shaft-drive 4WD system has been beefed up with a steel spur gear that should be impervious to track debris. The thin steel spur gear is surprisingly light, so there's not much of a performance loss due to increased rotating mass. A plastic spur gear is also included for carpet racing where dirt and other debris isn't a problem. The lightweight carbon-fiber propeller shaft is CNC-machined and hand-ground to exacting tolerances. The carbon propeller shaft reduces rotating weight to provide quicker acceleration and vibration-free power transfer between the front and rear gearboxes. The entire drivetrain—and wheels—spin on quality metal-shielded bearings to provide virtually friction-free power transfer to the wheels.

Spring steel universal driveshafts

The standard M18T's plastic universal driveshafts work well, but they can be overly stressed when running high-power motors and batteries. For this reason, the Pro includes universal driveshafts made from Hudy's famous spring steel for the utmost durability. Bring on the brushless motors and LiPo packs because these driveshafts can take the punishment.



The Hudy spring steel driveshafts are machined to reduce weight without sacrificing strength.

Double-wishbone suspension with nickel-plated steel pivot balls

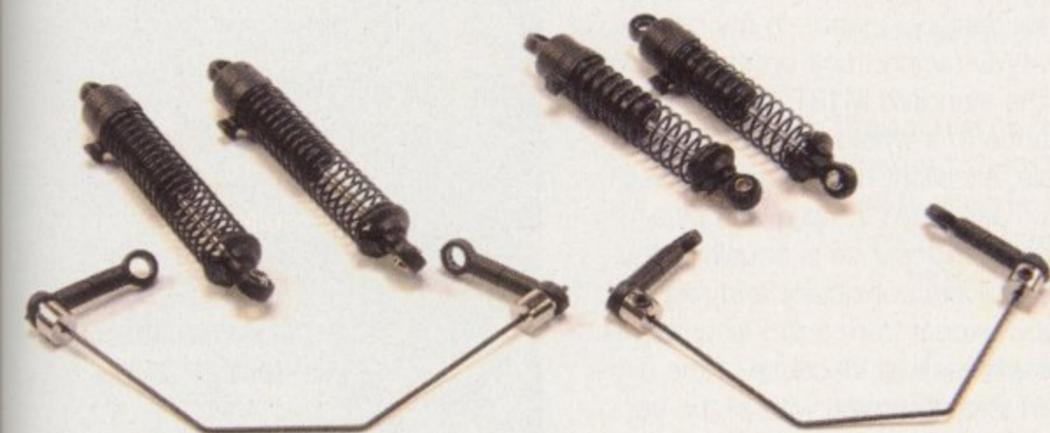
The Pro features the same race-proven upper and lower suspension arms as the standard M18T, but the plastic pivot balls have been replaced with nickel-plated steel pivot balls that are stronger. Longer, flanged pivot balls are used up front to provide kick-up since the chassis plate is perfectly flat.



Stronger and smoother nickel-plated pivot balls are used throughout and are factory installed in the suspension arms.

New springs and front and rear swaybars

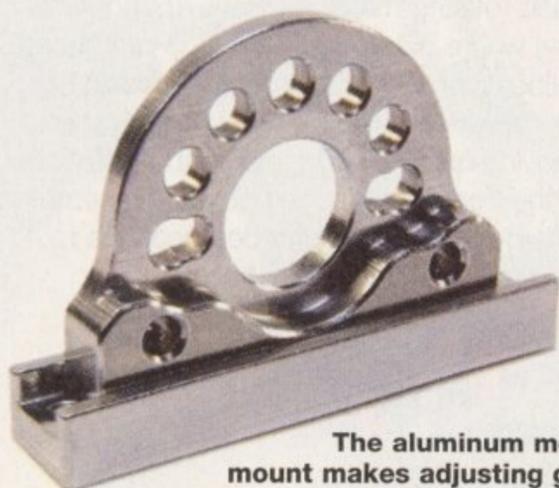
The M18T's ultra-smooth oil-filled shocks are carried over to the Pro. The only differences are that the Pro uses the same medium-rated springs as are included with the nitro-powered NT18T, and the rod ends have nickel-plated pivot balls. Front and rear adjustable swaybars are included to provide additional track tuning. Threaded spring-steel toe rods allow front and rear toe adjustment. I wish the Pro included turnbuckles to make adjustment easier, but at least the rods won't bend easily.



The Pro includes smooth oil-filled shocks with medium springs and front and rear adjustable swaybars.

Pro motor mount

The CNC machined-aluminum, two-piece motor mount is light, strong and user friendly. The motor mount attaches to a lower mounting plate that's channeled to allow the motor mount to slide from side to side for gear-mesh adjustment. The motor mount accommodates most micro motors up to 300 size, and it can easily be removed for motor maintenance.



The aluminum motor mount makes adjusting gear mesh and motor maintenance a snap.

FACTORY OPTIONS

- Aluminum
- > Shock towers F/R—item no. 382095 /383095
- > Shocks F/R—388400 /388401
- > Heat sink—382041
- > Ball diff—385001

YOU'LL NEED | WE USED

Transmitter	Airtronics M11 airtronics.net
Receiver	Novak XXtra Synthesized 75 MHz FM team novak.com
Speed control/motor	Novak Mongoose brushless motor system teamnovak.com
Battery pack	Apogee 2S 2200mAh LiPo apogee.com
Servo	Hitec HS-5065MG hitecrd.com
Tire glue	Racers Edge Fusion racers-edge.com
Custom paint	Zegers RC Graffixx zegersrcgraffixx.com

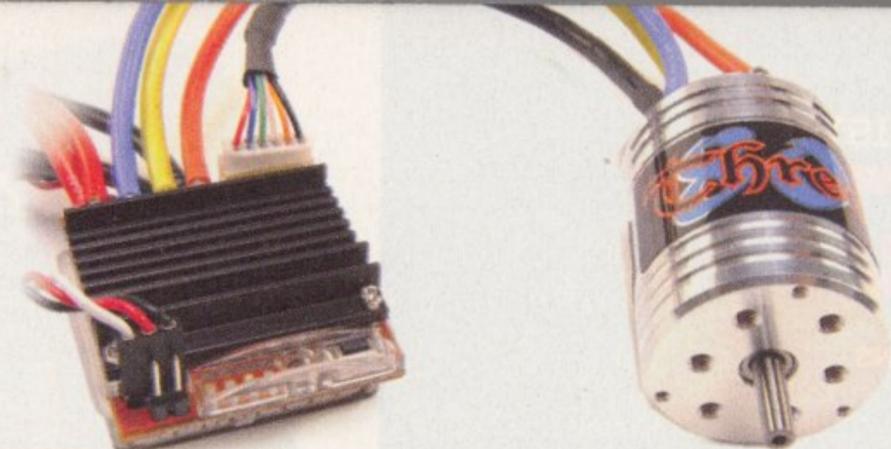


FIRST DRIVE

Novak Mongoose Brushless Motor System

Novak's Mongoose 1/18-scale brushless motor system arrived just in time for me to install it in my M18T Pro, and it allowed me to test the truck's true performance potential. The Mongoose has many of the same features as Novak's larger GTB speed controllers and Velocity sensed brushless motors, including cool-running Polar Drive circuitry, thermal overload protection, One-Touch Setup, built-in 2S and 3S LiPo cutoffs, a water-resistant case, gold-plated solder tabs and plug-in sensor wire and switch harnesses. The Mongoose can also run brushed or brushless motors with three brushless motor throttle profiles and one reversing brushed motor profile. Minimum brake, drag brake, dead band and minimum drive are all adjustable.

I was very impressed with how the system performed. It was super easy to set up and program. Throttle response felt smooth and linear at all speeds without cogging or any other ill effects associated with micro brushless motor systems. The 13.5 motor packs a serious punch with the Apogee 2S LiPo pack I installed, and it was all that the car could handle. Any more power, and it would have been hard to control the vehicle. Novak plans to release two more motors (8.5 and 10.5 winds) that should be ideal for street racing. In my opinion, Novak has raised the bar in the micro brushless market with the new Mongoose BL system.



ON THE BENCH

Like all of XRAY's kits, the M18T Pro includes high-quality materials, and all of the molded parts are trimmed and fit perfectly. Class-leading instructions will get you through the building process without a glitch, and several of the assembly steps are already completed. Follow the instructions to the letter, and you'll end up with a perfectly assembled model. Here are a few helpful tips that will make building the M18T Pro even more of a pleasure.

GRAPHITE PREP

Sand the edges of all of the carbon-fiber components with fine-grit sandpaper. After you've finished sanding, use a cotton swab to apply thin CA to the edges to prevent the pieces from delaminating. Use a small hobby file to chamfer the edges around the battery slots to prevent short circuits; the edges are sharp and can cut through battery insulation.

NOVAK MONGOOSE MOTOR MOUNTING

Brushed motors are a direct fit, but you'll need to enlarge the opening in the chassis underneath the motor slightly to provide proper clearance for a Mongoose brushless motor. A Dremel with a sanding drum bit works great for this task. You'll also need to enlarge the hole in the pinion gear with an 1/8-inch drill bit to fit the Mongoose's 1/8-inch shaft.

BODY TRIMMING

When you trim the body, cut about 1/2 inch below the trim line on the front section of the body; the body will look much better. Also cut about 3mm above the trim line in the front wheel wells to provide the proper tie-rod clearance.

Rating the XRAY M18T Pro

I give XRAY props for designing what, in my opinion, is the best 1/18-scale, 4WD racing truck on the market. I felt this way about the standard M18T, but the Pro pushes its performance to a whole new level. The high-quality materials, excellent parts fit and class-leading instructions make XRAY's top mini a pleasure to build, and the driving experience is equally enjoyable. The M18T Pro delivers consistent and responsive handling that you expect from a pro-level model, and it proved durable in testing. Because of the extra cost to get the M18T Pro equipped with all the necessary electronics and radio equipment, it might be out of reach for the average RTR buyer, but serious racers know that performance comes at a premium, and most will agree that the M18T Pro is worth every penny. **Z**



- >> High-quality materials
- >> Full-option ride
- >> Steel spur gear
- >> Race-ready tires
- >> Excellent handling



- >> Non-standard axle hexes limit wheel choices

BEST FOR

Experienced racers and mini-scale enthusiasts