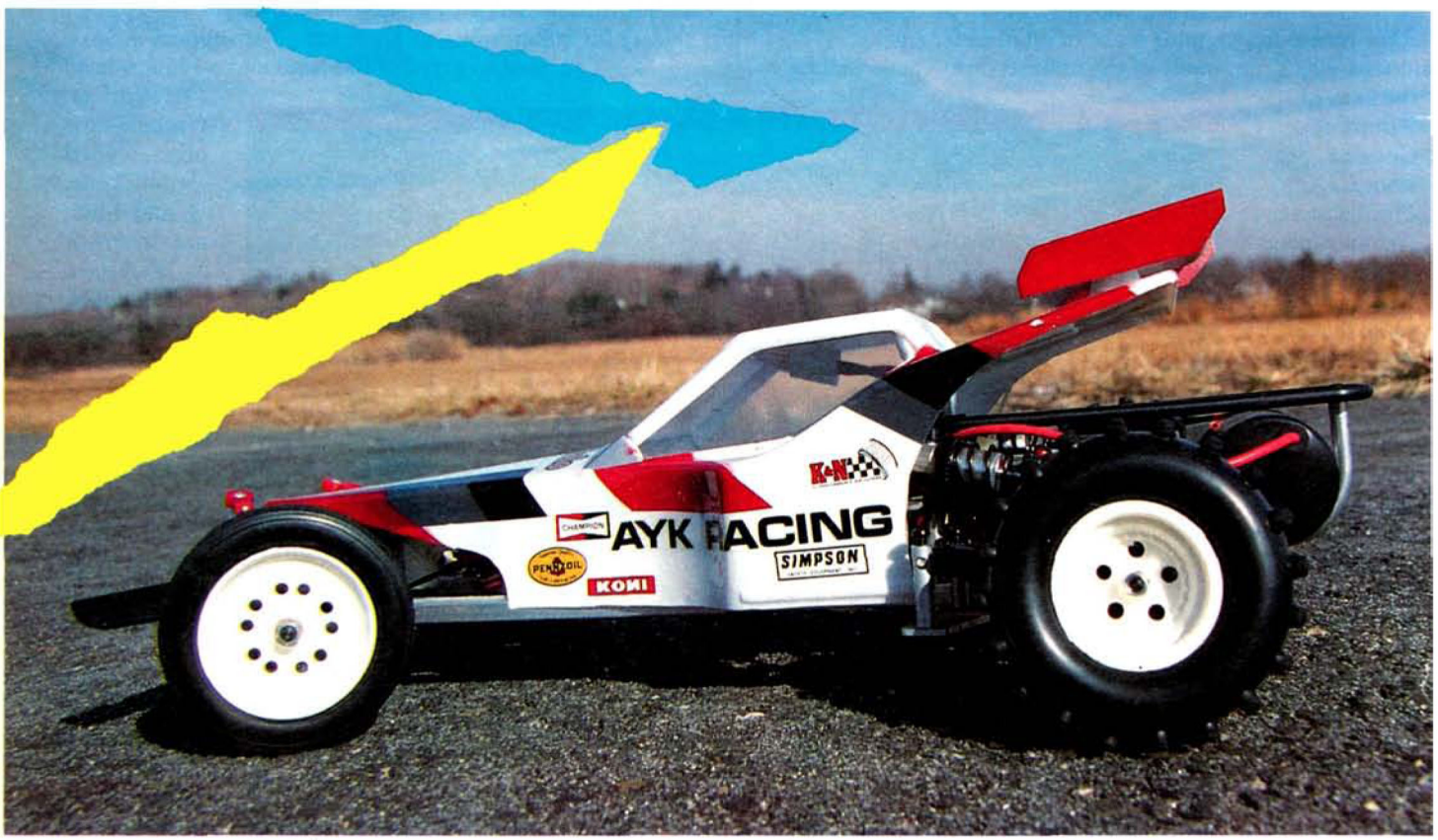
Track Report

AYK RACING USA

Buffalo



THE WATER BUFFALO is considered to be the most powerful animal of its kind. Untamed, the Buffalo is a very temperamental beast, capable of slaying even the king of the jungle. Due to its great size and power, it has the ability to drudge through water-covered ground. Even tame, the Buffalo can be seen plowing through rice fields with its head held low and its nose thrusting forward as it steadily pulls a cultivator that would hold a 4x4 like an anchor. With the characteristics of this intrepid animal in mind, the people of AYK Racing USA* have designed one of the most simple, yet durable, R/C cars to date.

I have built ten different R/C cars, ranging from ¼-scale off-road gas cars to 1/12-scale electric carpet racers. Assembling these things can be a little hair-raising at times, and I've been waiting for the day these cars come assembled. It would make my job so much easier.

By HENRY KLEIN

Sock it to 'em with this ready-built off-roader!

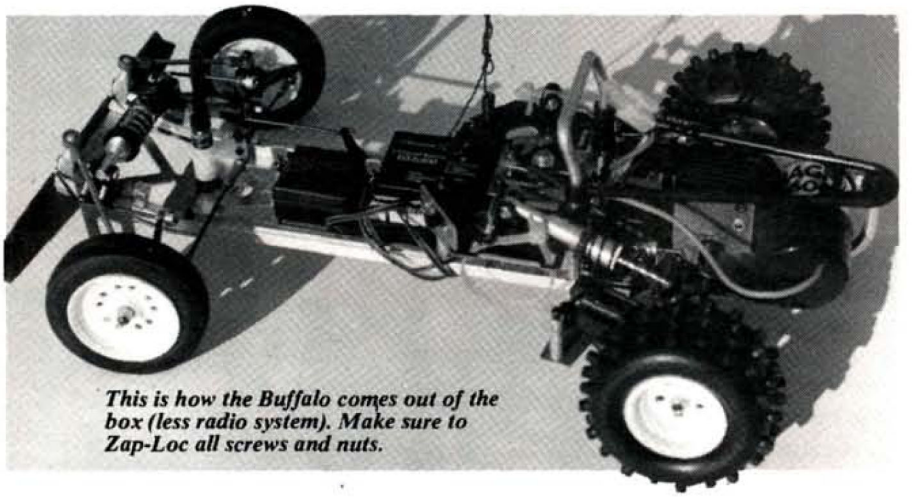
My prayers have been answered by AYK Racing. Their pre-assembled, 1/10-scale off-road electric racer sports the name "Buffalo," and it's not only an answer to my prayers, it's also the ultimate beginner car.

THE KIT. The kit features oversize oil-dampened shocks (transverse mono shock in front, semi-trailing arms with laid-down mounted shocks in the rear), front and rear anti-sway bars, lightweight aluminum alloy ladder frame, four-wheel independent suspension, and an impact-resistant clear Lexan body.

You'll need some other equipment to get the Buffalo

ready to race, the most important being a radio. For this review, I chose to go with Tower Hobbies* Astro GXR 202 radio. This is an inexpensive, durable radio which is more than adequate for this application.

Next, you need a battery charger. I usually go for the AC/DC type for two reasons. First, constant quick charges are not good for a battery. When a battery is excessively quick-charged, it tends to overheat, thus causing it not to accept a full charge and maybe causing damage to the battery. The second reason is that when a charger is not adaptable to an AC outlet, it's usually not capable of trickle-charging. For these reasons, I chose the new Mark III Deluxe nickel-cadmium battery charger from Texson Precision Products*. The Mark III is an AC/DC variable rate charger, which means it's capable of charging four-cell 250-mA to seven-cell 1,200-mA batteries. The Mark III is capable of charging, discharging, quick-charging, and trickle-charging. To round out the package I used a



This is how the Buffalo comes out of the box (less radio system). Make sure to Zap-Loc all screws and nuts.

Turbo Pack battery also from Texson. I already had the tools necessary to do what little assembly there is, but if you don't have them, you'll need a Phillips-head screwdriver, needle-nose pliers, scissors, a hobby knife, a thread-locking compound such as Pacer's* Zap-Loc, an instant adhesive such as Pacer's Zap-Ca, acrylic paint, and a brush.

CONSTRUCTION. For me to go through an entire construction treatise would be ridiculous; the car is almost finished right out of the box! Also, the instruction manual is fabulous; every step is clearly spelled out, leaving nothing to speculation, and if that's not enough, there are first-rate diagrams for each step. Because of all this help, I'll just go over a few steps here.

To start the minimal assembly, first mount and adjust the steering servo and the controller servo. For this step I recommend using nuts and bolts to secure the servo for the sake of more precise speed control, but the nylon band will suffice.

Next install the motor and wiring. The Buffalo kit includes an AYK Racing Magnum 600 motor. AYK also offers a variety of different motors for different applications. They have motors for every aspect of off-road racing, from sprint to endurance.

Install the receiver, switch, and battery case. The next step is simply to install the battery pack. Here I eliminated the nylon bands because I normally use two battery packs. While one battery is in use, the other is charging. Eliminate the nylon bands and use a thick rubber band; it's much cheaper than replacing the nylon bands every time the battery is changed. If you choose to go with only one battery, then it's fine to use the nylon bands.

In the manual, there is an exploded-view of the differential showing how the shimming of the bevel gears is accomplished. Don't let this frighten you, as it's actually quite simple. I found the wording for this step a little confusing but the purpose is clear. By placing the washers on the differential shafts, it moves the 22T bevel gears in closer to the 16T, creating a better "mesh." Before assembling, put a little petroleum jelly on all the gears to prevent premature wear.

Now it's time to put the oil in the shocks. This is also a very simple step if performed with a little patience and composure. Remove the shocks via the C-clips used to retain them. Do this in the middle of a clean workbench or table, not on your cluttered desk; those C-clips have a nasty tendency to fly. Put oil in the shocks per the diagram and reassemble. Before replacing the springs on the shocks, save yourself the trouble of having to take the shocks back out again. After I remounted the shocks, a simple test of the suspension was in order. By pushing on the front and rear of the car with my fingers, I compressed the suspension. Upon releasing it, I found the spring tension to be a little too weak to return the car to its original ride height. The cure for this is very simple and takes all of 30 seconds. First establish the length of the springs by standing them up on a table and measuring them with a ruler. Once this is complete, stretch the spring until it measures 1 inch longer than the previous measurement and install.

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AYK BUFFALO

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Painting the body is all that's left to do. The paint job I did was an effort to reproduce the paint scheme on the box. To do this is very time consuming. To end up with a nice paint job you don't have to spend as much time as it took to build the car. Simply tape off the windows, paint with one color (two, if you're brave), and apply some decals. The best stickers I've ever seen for R/C cars are those under the name of Autographics*. They are exact duplicates of the decals that you would see on the world's most prestigious and exotic race cars and will add a sparkle to any R/C car.

Before putting this or any other R/C car through the ringer, it's a good idea to test all functions at the workbench, because it's better to find a problem here than on the track.

Now it's time to bring the Buffalo out to the fields to do a little cultivating!

PERFORMANCE. Flip the switch, put 'er on the ground, and bury the throttle with reckless abandon. Cultivating is exactly what my Buffalo did, leaving two uniform ruts in the earth as the tires spun at blinding speed. I could see each knob on the tires looking to grasp the next piece of earth to send skyward. The fact that the Buffalo had the peppy Magnum 600 tucked under its skin had slipped my mind for a moment, and I'll tell you, this baby can move!

The Buffalo can also take a pretty good shot due to its aluminum ladder frame. Should you ever hit something hard enough to break it, there is a complete line of replacement and high-performance parts available.

**The following are the addresses of the companies mentioned in this article:*

AYK Racing USA, P.O. Box 3479, Mission Viejo, CA 92690-1479.

Tower Hobbies, P.O. Box 778, Champaign, IL 61820.

Texson Precision Products, P.O. Box 420496, Miami, FL 33242.

Pacer Technology & Resources, 1600 Dell Ave., Campbell, CA 95008.

Autographics, 1700 14th St., Bakersfield, CA 93301. ■

COX SCORPION

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The front wheel track is 7.15 inches and the rear is 7.32 inches. The overall weight is about 2½ pounds, ready to run. Power is supplied by a 6-cell battery pack and a standard four-cell pack for the radio to operate on.

CONSTRUCTION. Assembly begins with the transmission, which is housed in a die-cast aluminum case, already assembled internally. The transmission gears include the new differential not found on earlier model Scorpions, which is in itself a quantum leap in the car's competitive edge. A Mabuchi RS-540 motor is also in place on the transmission, with high-speed gears mounted. Low-speed gears are included in the kit. The motor is fixed in its mount, which provides just the right gear mesh. No adjustment can be made, although the mounting holes can be reamed out to allow adjustment later on. The external gears are housed under a protective plastic cover, and this must be in place at all times, lest you want the center gear to drop out. Round out the assembly by attaching the rear shock towers.

At the front end is the familiar square rail frame mated to the front suspension. On the front there is the front spindle, servo saver mount/bash plate, and shock towers. Notable here are the instructions, which not only tell you what nuts, screws, and bolts to use, but are illustrated as well. Simply comparing the real thing to the illustration will confirm the right parts.

The front servo saver assembly is a spring-loaded affair, and seems quite adequate for the job. The front spindle is tempered steel and can be used to adjust the caster of the front geometry. All connecting ends are serviced with oversize ball joints for much stronger joints.

At the rear is the rear chassis plate and suspension plates. Mounting these to the rail frame creates one very rigid chassis which is straight and true. Place the transmission assembly on the chassis, and it starts to look like a car.

The rear chassis cage is next, which is a plastic assembly. It's held to the chassis with self-tapping screws, and is strong enough to resist hard knocks. Don't leave this out, because the upper body cage attaches to it.

The oil-filled dampeners come already assembled but have no oil in them. The kit includes a generous supply of shock oil, plus end seals with which to service the dampeners. I anticipated using the Turbo Scorpion on a very tough local track, so I elected to use a heavier oil than that which was supplied. This, of course, is the mechanic's preference. Spring coil-overs are also provided in the kit, and these are functional as they hold up the entire car. The spring retainers are adjustable, allowing varying spring rates. Action from the dampeners was judged as very good, with progressive dampening in both directions.

Assemble and mount the rear suspension arms, which are the A-frame type and are made of cast aluminum. Oilite type bushings are already installed in the arms for the axles to ride in and are easily replaceable with optional ball bearings. The arms are held to the chassis by hardened pins at the rear chassis plate. Make sure the dog-bone axles are inserted first before final assembly.

Assemble and place the front suspension arms. Again, there are cast aluminum A-arms trailing from the spindles. The front end features castor locks for fast adjustment of the castor geometry, and a simple setscrew arrangement is provided. The shocks are mounted on the front and rear by polished ball joints to allow the suspension arms absolute freedom of movement. Place the tie-rods, followed by the front bumper and control links. For the most part, this finishes the front end.

Now install the aluminum roll bar at the rear. From here on out, it's all downhill. Mount the radio tub to the frame and attach it with machined screws in the chassis. The tub features a water-resistant control rod guide for the steering rod, and is really a thoughtful idea. Inside the tub, place the new three-speed throttle, which can be modified to have four speeds. You can also have reverse speed, and dynamic brakes are built-in. Believe me, you don't want to leave the brakes out of an off-road car.

Mount the motor battery to the bottom of the tub inside a large covered cavity. The wires from the speed controller poke through the tub via two highly conductive bolts. A two-wire harness hangs out the bottom to connect to the six-cell battery, and they have even made a small cubby hole in which to stick the connector and get it out of the way of the battery when mounted. A large plastic cover slides into the bottom to hold the battery in place. It can be removed within seconds to allow quick access to the battery.

Well, guess what? You now have an assembled car. You only need to mount the radio equipment and paint the body. Small bays are molded into the tub for the servos and there is plenty of room left to place the receiver and radio battery.

Painting the body is simple, with no trimming necessary. All mounting holes are already there, making for a perfect fit. I painted my Turbo Scorpion with acrylic lacquer and dressed it up with the

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