

DRIVEN REVIEW

Text by Team *RC Driver* (Greg, Frank, Bob, and RC Platypus)

Photos by Walter Sidas

High-Octane Dune Blazer

We present to you, ladies and gentlemen, the ultimate RC basher, the next best thing to installing servos in your Aunt Millie's old Buick and taking it to the local construction site for some spur-of-the-moment air time. Scratch that; HPI's 1/5-scale, gasoline-powered Baja 5B will probably survive better than the old gal's Century – it's probably faster, too. At over

32 inches long, weighing in at just over 21 pounds, and powered by a fire-breathing 23cc gas engine, the 5B is an intimidating machine, especially when it's whizzing past, a banshee wail issuing from the big octane sucker. What's not intimidating, however, is getting this beast running, as HPI put its engineering department into overdrive to make this one of the most complete and user-friendly RTRs (ready to runs) of any scale. Even if you've never considered going really big, once you see a 5B in action, you may very well never want to mess with the smaller stuff again.



HPI Baja 5B

FAST FACTS
MANUFACTURER: HPI Racing
VEHICLE: Baja 5B
CLASS: 1/5 Off-road gas buggy
DRIVER: Any driver with prior RC experience
PRICE: \$999.99
SPEED (AS TESTED): 29.01mph

INFO CENTER

CHASSIS—HPI's chief designer, Akira Kogawa, is the man behind the 5B, so it's no surprise that the buggy's overall design mimics those of Akira's previous offspring, such as the Kyosho/Cox Scorpion and Kyosho Ultima (which were inspired by real desert buggies). The 5B's main structure is a 4mm, stamped 6061 T6 aluminum channel whose semi-box-section provides a flex-free platform, and forms a protective cage for the car's vulnerable innards. The rear of the car is supported by a 4mm aluminum plate that is bolted to the main chassis section. A molded plastic pan keys to the rear chassis plate and provides comprehensive protection to the 5B's underbelly. The entire pan comes off by removing just one body clip, and a worn or damaged pan is inexpensive to replace compared to the cost of a new rear chassis plate. **STEERING**—The 5B employs an oversized, bearing-supported, dual-bellcrank steering system. A spring-loaded servo-saver mechanism sits just behind the left-side bellcrank post, not integral to it. This allowed HPI to use a smaller spring and less plastic contact area, for more consistent servo-saver action. A car as large as the 5B should tax even the most powerful servos, but HPI's Futaba-developed SFL-10 steering servo, which has an astonishing 347 oz./in. of torque and is water resistant, yanks the 5B's big meats with authority and precision. Sitting still on pavement or on dirt, the 5B's front tires will smack to their stops in both directions—something rarely seen with smaller RTRs. The SFL-10 servo comes with plastic gears; however, HPI will offer both a metal-gear variant and a metal-gear upgrade kit as options. **SUSPENSION**—Long-travel (nearly four inches), four-wheel independent suspension features sturdy nylon-composite lower A-arms and adjustable upper wishbones for setting camber and front caster (via plastic C-clips; tie-rod spacers are included to prevent bump steer when the caster is changed). Each corner is damped by a hard-anodized aluminum, oil-filled shock with HPI's Hyper Adjust pistons. Each mammoth shock's damping can be adjusted in five increments, allowing you to alter performance without having to switch pistons or refill the shocks (and with shocks this big, shock oil can get expensive). To adjust damping, detach the bottom of the shock from the lower arm, pull down the protective rubber boot, and push the piston all the way up, where it keys to the shock cap. Turning the lower shock mount changes the piston's valving. The front shocks feature plastic guards for the upper and lower mounts, and the rear shocks have dual-rate springs for excellent compliance with good damping for large impacts. **DRIVETRAIN**—The 5B's sealed transmission might look familiar if you've owned a 1/10-scale 2wd buggy – but the HPI's looks as if it might also work in a Honda Civic. Inside the molded case halves is a beefy, three-gear transmission (with a 2.4:1 reduction ratio); each gear is expertly cut from steel and then hardened and coated for long life and reduced friction. The differential is similar to the four-gear, O-ring-sealed diff in HPI's own Savage monster truck, but the 5B's is, as you would guess, substantially larger. But size isn't the only difference. The 5B's diff has been designed to have a more substantial limited-slip characteristic; the input bevel gears are backed by thin, metal, impeller-like washers that boost fric-

tion in accordance with how fast the diff gears are spun. Likewise, the main diff gears are surrounded by metal cages that help increase resistance at higher diff velocities. As a result, the 5B's diff is very compliant at lower speeds, but when you grab a lot of throttle, you needn't worry about the diff becoming unloaded – even if one rear tire leaves the ground, the other will still receive driving force. The primary drive is similarly substantial. The clutch has two semi-circular shoes tied together by a spring; the assembly resembles an automobile drum-brake system. The clutch drives a unique, two-piece spur gear that has urethane bumpers that serve as a buffer between the engine and the transmission and vice-versa. Large, steel drive-shafts send power to the rear wheels, and both sides of the shafts are cocooned within rubber bellows to prevent dirt infiltration. Stopping this 21-pound beast is a large-diameter, three-piece vented brake disc, clamped by enormous fiber-lined steel pads. **ENGINE SYSTEM**—You've no doubt heard some refer to nitro-powered RC models as being "gas," but the 5B's 23cc "Fuelie" really runs on gasoline, readily available at any service station. All you have to do is add the pre-mix oil (HPI includes a bottle of oil to get you going) to a ratio of 25 parts gas to one part oil. The engine includes an easy pull-starter, fuel primer, and kill switch (as if you'll ever want to shut this baby off). Intake is covered by a dual-element foam air filter (which can be serviced without tools), while expelled gases traverse a box-type muffler with extension tube (performance hint: remove the tube right away for much better acceleration). The 5B will run, at the minimum, 30 minutes per 750cc tankfuls of gas. **ELECTRONICS**—HPI worked with Futaba to develop the 5B's TF-10 FM radio system. The transmitter features three-channel operation, and the receiver has a built-in failsafe to prevent the big buggy from running away in the event of a lost signal or dead battery. HPI also includes a six-volt 2000mAh rechargeable NiCad battery and overnight wall charger. The receiver, battery, and SF-4 throttle servo are mounted to a water-resistant radio box, which can be removed easily for maintenance with just four clips. As mentioned, the SFL-10 jumbo steering servo is a monster, and easily guides the 21-pound buggy. Both servos are water resistant. **WHEELS, TIRES AND BODY**—Three-piece Super Star wheels secure the Dirt Buster ribbed front and block tread rear tires in place without glue. The wheels have their own bead-lock system, so changing worn tires is a snap – and you won't have to buy new wheels. HPI told us that they've made a running change to the Dirt Buster tires, making their sidewalls more durable should you run your 5B over very sharp rocks. The Super Star wheels have also been beefed up to better withstand very harsh impacts. The wheels key to large 24mm hex hubs, and on the wheel side, a metal ring prevents distortion of the wheel at the critical hex area. The 5B's body is a mixture of a molded roll cage and narrow Lexan buggy body panels. Like a full-size desert runner, the 5B's panels can be removed individually to access a particular section of the chassis. A large nylon rear wing hangs out back and provides some helpful downforce during high-speed runs.

PERFORMANCE

SURFACE: MEDIUM TO LOOSE, UNPREPARED DIRT

We started shooting out in back of Wolcott Hobby and Raceway in Connecticut, a little slower than normal; fighting against a hard deadline and better judgment, we didn't have time after reassembly even to fire the engine before arriving at the track. After a little priming until fuel was visible in the bulb, a couple of pulls at full choke until the engine sputtered, and a few pulls with no choke, the 5B sat idling flawlessly on the outdoor bench. We let the buggy have it easy for the first 20 minutes, cruising over small dunes and moderate terrain. After a thorough inspection, body dust-off and a little needle tweak, it was time for some drama, and we officially declared "Game on!"

ACCELERATION AND BRAKING—

We stood about 15 feet to the rear of the 5B and pulled hard on the gas; "buwWAAAAAH!" the buggy sped away as a twin wall of off-road debris rained down on us from the back tires. The buggy was at full song in under five seconds as it bounded effortlessly across the sand, craters and drainage runoff at close to 30mph. Jamming on the binders makes the rear treads claw with the same ferocity; in a matter of a few seconds, the big machine came to a controlled halt, and it eagerly awaited our next taunt. Despite the mass of the Baja 5B, the engine and massive brakes make you forget its size because of the pinpoint control. We later discovered that removing the muffler extension added a substantial boost in power, a fact which only added to our giggling.

RATING – 9

STEERING—No matter what the terrain – sand, dirt, asphalt or whatever – the steering servo easily kept up with input and never left us wishing for more authority. The skinnier front tires take advantage of the buggy's weight and reward you with immediate response. Modulating the throttle and brake lets you

kick the tail around to initiate a slide or tighten an arc, and then it's your choice whether to follow up with more steering or throttle to finish off the turn.

RATING – 9

JUMPING AND SUSPENSION—Bless us, Father, for we have sinned... It's about a 30-foot diameter dirt mound with 40-degree faces on either side, joined by a 10-foot tabletop. The original plan was to hit the hill at moderate speed, expertly compensating for drag on the loose up-slope and then gently come to rest on the opposite decline for a picture-perfect jump. Somewhere, the laws of physics took over as 21 pounds of HPI buggy now hurtled well over the tabletop aiming toward a low Earth orbit. Reentry occurred on the opposite side about six feet past the hill onto the flat at a slightly nose-down angle. Even more shocking than our miscalculation was the fact that the buggy sat there idling in one piece. Nothing bent or busted, no having to come up with a plausible excuse to 'splain this one – the Baja 5B was fine. We finished testing through the heavily rutted back area of the property at all speeds and were astounded at this vehicle's poise and durability no matter what obstacle we subjected it to.

RATING – 10

As a thanks to Jim and the gang at Wolcott Hobby for the day of fun, not to mention the 5B's apparent indestructibility, we passed the transmitter to several racers at the track who all came away equally amazed at this remarkable machine. Upon passing off the transmitter, one overcome enthusiast marched into the shop, plunked down his Visa, and ordered a 5B for himself. Yeah, it's that impressive.



HPI BAJA 5B



DID YOU KNOW?

HPI's Baja 5B has three US patents pending—on the diff's viscous torque-control vanes, the multi-position shock damping, and the air cleaner design.



The front suspension is absolutely bulky and extremely well designed. Take a look at the shock; it's an oil-filled aluminum shock with adjustable pistons. But if you look closer, you'll see that both the top and bottom of the shock have caps to protect them in a crash.



With the main spur removed, you can see the shock damper cushions on the inner gear plate. This absorbs impact to the gears as you go over obstacles while on the throttle, thus preventing stripped gears. If you can strip a spur, HPI includes a spare with the kit.



You can remove the radio box for vehicle maintenance by removing just a few body clips and link-

ages. For Rx battery and X'tal access, simply flip up the rubber boots to see the X'tal and battery charge plug.



A failsafe unit has been integrated into the receiver; you don't want a vehicle this big taking off on its own.



Inside the threaded aluminum shock is a five-position piston to alter damping. To change the rate, all you have to do is remove the shock and turn the shaft, changing piston valving.



The transmission is made up of all-steel gears with massive bearings supporting the components.



The pinion and spur mate up in an enclosed case; we took the cover off so you could see the gearing.



Check out the drive shafts; the greased dogbone ends feature rubber boots to protect them from debris, similar to a real car. The hubs capture the bearings that the axles spin in.



Just like the real performance thing, only smaller. The 5B's brake has a vented aluminum vane plate to vent air through the disc and keep it cool. The slots in the discs also help with ejecting dust.



Go on; try to blow this diff up! HPI developed a silicone-filled, heavy-duty, caged differential with hardened gears; this will handle a load of abuse. Patent-pending design improves limited slip effect.

To give you an idea of how big and bulky the 5B's diff is, we put it up against a Savage diff. Come here, you puny little diff; I will crush you!



HPI's "Fuelie" 23cc engine is an integral part of the 5B, not only because it is the powerplant, but also because it serves as a stressed member, part of the chassis' overall structure.

TECH SPECS

SCALE: 1/5
DRIVE: 2WD
LENGTH: 32.2 in. (817mm)
WIDTH: 18.1 in. (460mm) Rear Width: 18.9 in. (480mm)
WEIGHT: 21.3 lbs (9600g)
WHEELBASE: 22.4 in. (570mm)
GEAR RATIO: 8.382:1
RIDE HEIGHT: 3 in. (76mm)
SUSPENSION TRAVEL: Front 3.7 in. (95mm), Rear 3.9 in. (100mm)
ACCELERATION: 0-10mph: .49sec., 0-20mph: 1.13sec.; 4.16sec @ 29.01mph in 138.86ft.

HELPFUL HINTS

GOT TO GET: 8 AA-batteries, gasoline, gas can, 2-cycle oil (for future use)

RECOMMENDED UPGRADES: Adjustable stability control system/drift assist- 80588, \$145.99

RADAR DATA



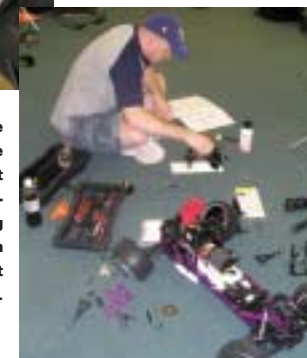
COMPETITORS INCLUDE:

DuraTrax 1/5 Firehammer, Traxxas 1/6 Monster Buggy, FG 1/6 Marder, FG Leopard Race, H.A.R.M. Basic Cross



The wheels are beadlock and feature a steel ring on the inner hub to prevent the hub from busting in a crash.

Frank dissects the big Baja for the photo shoot. What a workout; try flipping this thing over a dozen times. Tae-Bo, eat your heart out.



The rear skid plate can be removed by taking out just one body clip and sliding it off. This is a high-wear area on buggies, and replacing a plastic plate is much more cost friendly than replacing a chassis.



The Baja 5B is so large, its shipping box makes com- modious living quarters for when Bob forgets to pay his rent. "All it needs is a bit of crown moulding."



HPI BAJA 5B

CONCLUSION

The HPI Baja is a wealth of new technology and ingenious engineering; it was truly built from the ground up with purpose behind each and every little part on the car. Besides the advanced tech this buggy brings, it is also built to perfection and requires very little for anyone to take it out of the box and get it rolling. This is a full-on, ready-to-go kit that even includes the tools you'll



WHAT WE LIKED

- ⦿ Incredible engineering
- ⦿ Hours of run time on a tank
- ⦿ Ultra durable
- ⦿ Handles just about any terrain

WHAT COULD BE IMPROVED

- ⦿ Roll cage has to be partially removed for access to radio box

need for repair—that is, if you can break it. It's an unbelievable performer and a stout one that will withstand just about anyone's abusive nature. If you are looking for the ultimate RC experience, the buggy to do it is probably the Baja 5B. ⦿

Links

HPI Racing,
www.hpiracing.com,
(949) 753-1099

For more information, please see our source guide on pg. 193.



AUTHOR'S OPINIONS AND RATINGS

Rating: 1 to 10
(poor to excellent)
Rating Category: Entry level

■ **CHASSIS**—Wow! Ultra-stiff, purple, and it looks like our old, beloved Ultima. Everything is easily accessed for maintenance and tuning, and we really love the molded belly pan—why doesn't every off-road car have this?

RATING - 10

■ **SUSPENSION**—The 5B's long-travel, double-wishbone suspension is well tuned. It's compliant over most normal-sized obstacles, yet even though the car is 21 pounds, the damping is sufficient to prevent harsh bottoming over larger bumps and jumps. The five-position damping is a very nice design perk, and it'll certainly make it easier to tune the 5B for various conditions. This is also a very adjustable suspension; we found the rear hubs' toe-in shims particularly clever.

RATING - 10

■ **DRIVETRAIN**—Solid and well sealed, the 5B's transmission was engineered from the get-go for extreme off-road conditions. The gear-box should prove bulletproof, and the diff's limited-slip design is just what this powerful rear-driver needs for stable footing. There's no slipper clutch, per se, but the urethane bushings in the spur gear seem to hold up well to abuse. The driveshaft boots are also a nice touch. Brakes are powerful and didn't fade after two hours of continuous running.

RATING - 9

■ **STEERING**—Having fun with a big buggy such as the 5B is largely dependent on how well it responds to your control inputs. Thankfully, HPI endowed the 5B with a very powerful steering and throttle/brake servos, and as a result, the car responds with alacrity. A metal-gear steering servo would be ideal, but HPI will offer one as an upgrade (as well as a metal gear upgrade for the stock servo).

RATING - 9

■ **ENGINE**—The "Fuelie" 23cc engine starts easily and breaks in quickly. Power delivery is very smooth and controllable, though the stock muffler is somewhat restrictive. This is good for beginners, but seasoned drivers will find acceleration and speed more to their liking once they remove the muffler's extension tube (though your neighbors might complain about the increased decibel level). We got about 30mph from the 5B, but we suspect it is capable of more than 35mph with less conservative gearing.

RATING - 9

■ **BODY, WHEELS AND TIRES**—The body panels and roll cage are pure "old school" desert rail, and they are a welcome change from the usual "looks like nothing" cadre of buggies we've seen so prevalent in the smaller scales. The cage provides ample protection for the Lexan body panels, and is easy to remove and replace when thoroughly thrashed. The Super Star wheels and Dirt Buster tires provide good traction on loamy dirt and on grass, but come up a bit short on harder-packed dirt. However, they are of a long-wearing compound (this is good, as replacements aren't likely to be cheap), and are certainly versatile.

RATING - 8.5

■ **DURABILITY**—Nothing broke or even whimpered during our test—and we drove it like it was stolen.

RATING - 10

■ **EASE OF USE**—You'll need to buy eight AA batteries for the transmitter. Oh, and you'll also need a flat-blade screwdriver to adjust the engine. That's it. HPI supplies everything else but the gas. The kit includes 100cc of two-cycle oil, extra shock oil, diff oil, and air-filter oil. The multi-use wheel tool is molded in bright orange, so it's impossible to misplace, and the steel multi-tool performs, at last count, at least 20 different tasks.

RATING - 10