







AXIAL RACING 21RR-1

THE PRICE OF PERFORMANCE
JUST GOT LOWER

words: Derek Buono

When Axial delivered the new 21RR-1 to our office for a ride on the dyno I argued that they'd made .21 engines before, but it turns out they knew what they made and I didn't. Back when Axial first started, they made high-end racing engines and released one of the first budget engines that produced good power. The new 21RR-1 continues that trend and brings us a budget engine that produces good power and doesn't break the bank. We strapped the .21 on the dyno and found out what it has to offer.

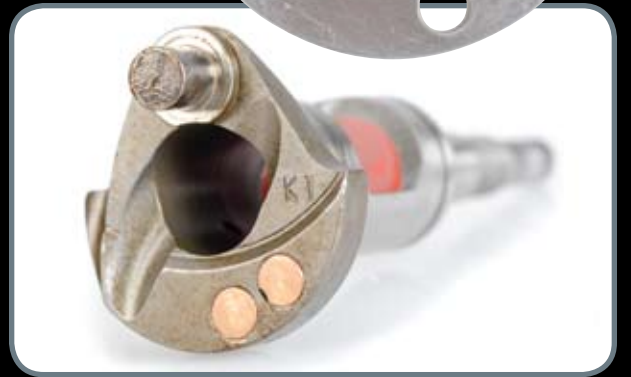
Cheap isn't always bad.

ENGINE APPLICATIONS	
	TRUGGY
	MONSTER TRUCK
	1/8-SCALE BUGGY
	1/10-SCALE TRUCK
	1/8-SCALE ON-ROAD
	1/10-SCALE ON-ROAD



ENGINE FEATURES

Overall the presentation and look of the 21RR-1 is top notch. The fit and finish are really good, and the details on the engine with logos and machining stand out. You get three venturis, and running it without any insert gives you the full 9mm carb. For testing we used the 8.0mm insert; expect about a .05-0.1 HP bump with the largest venturi, but also understand that it hurts fuel economy.



Piston and sleeve: Seven ports allow more than ample air and fuel flow to increase power, but that also means it's probably going to like to eat more fuel than a five- or three-port design. It's also an ABC construction, and Axial claims the design also takes into part the performance as the sleeve expands.

Carburetor: The carb gives you the standard two-needle tuning options – and it's dual material. The aluminum "ears" allow you more durable mounting points, while the plastic base provides a thermal barrier so the fuel comes in cool and power rich.

Crankcase: The crankcase itself is a nice business matte black and has all sorts of ribbing to increase cooling and stiffen the case. There are even some holes drilled in the upper fins to reduce weight. There's a lot of little detail work here, which shows they took some time to think about what was going into the engine.



Connecting Rod: Pretty standard-issue lightweight connecting rod that isn't too racy, but durable.

Crankshaft: Usually in this price range you'll get some basic machine work and nothing extraordinary, but the 21RR throws in a crankshaft surprise with brass counter-balance slugs and silicone putty in the intake port. Both of these tricks provide smoother power delivery and more power to the engine. It's nice to see this level of quality at a budget-friendly price.

Cooling head: Nine fins deliver the cooling the engine needs, and lots of holes were drilled in the head to reduce mass and CG and to expand surface area. The head button is a turbo design, which in the terms of plug price makes it a little more expensive to run, but the return is more power.

Tricky ports.

