

# AXIAL SCX-10 SCALE OFF ROAD TRUCK

BY PETER 'MAD PETE' GRAY



## SCALE IT UP

RRCi tests the much-anticipated  
Axial SCX-10 Scale Truck

W

hat defines a scaler? In competition the Scale 4x4 rules state that: "This class is modelled after typical street-legal, off-road, non-articulated vehicles. These rules are set up to judge a scale truck as the 'sum of its parts'. The goal is to have trucks that resemble something you might actually see driving down a highway on the way to the trail."





**Below:** Simple but very effective, the scale chassis rails in all their glory

To me it's about a good balance of realism, teamed with a tough, well-built rig that you're not scared to drive hard and push to its limits. With longer run times and a more sedate pace, the scaler appeals as an alternative to competition R/C and a more relaxing, almost therapeutic, form of the hobby.

The scale scene has been around much longer than people think, I was eight in 1976 when a certain VW based off road buggy first ignited my interest in true R/C cars. Before that the only commercially available cars were primitive, slow, and unrealistic toys. Companies concentrated on models that not only look the part with injection moulded scale bodies, realistic wheels, tyres and accessories, but also most importantly they would be fun to drive and have real functionality. Features like oil filled dampers, 4WD and multi-speed transmissions captured the imagination of kids and grownups alike, then as the '70s turned into the '80s many got their first experience of true off road vehicles. Many were built and remained as shelf queens, as the owners wanted them to stay immaculate because they looked almost too good to run.

Their now emerges a new breed of scale enthusiast that wants realism and true trail busting performance rolled into one package. Not afraid to get down and dirty, wet and muddy, with a liberal amount of rock rash thrown in as part of the process!

## FORM AND FUNCTION

Axial have expanded upon their success in the 2.2" crawling scene by releasing a 1.9" Scaler, the much-anticipated SCX-10. Developed by Brad 'Bender' Dumont and primarily for running on scale trails, it actually hides a much more capable chassis that is just as happy on these trails as undertaking milder forms of

rock crawling. The SCX-10 uses the same running gear, axles and transmission as the AX 10 we have reviewed previously, but in place of the twin vertical plate chassis it utilises a metal C-section scale ladder chassis, carrying 1.9" bead-lock wheels, 1.9" Pro-Line Flat Iron tyres, and a true '50s style American truck body.

The build is very similar to the kit AX10 apart from the location of the electrics and the chassis itself. Although not designed to be waterproof, the scale looking receiver box will protect it from dust and splashes, which combined with good ground clearance means you have a rig that will run on terrain even some crawlers wouldn't attempt.

Axial have wisely added a couple of hop-ups to the SCX's spec that will ensure the drive-line can take a slightly hotter motor if speed's your thing, or a high torque crawler spec if you want to go the other way. As standard the rig comes with a slipper clutch and hardened lockers for the axles, both ensuring that when crawling the wheels will give maximum grip, with the slipper protecting the drive-line from damage if you get bound up. The diff kit from the RTR AX10 will fit in the axles if you want to improve turning circle at the expense of crawling and off road capabilities, but to be honest I would leave it fully locked up, though it's nice to have the option.

## DĚJĀ VU AND SOMETHING NEW!

The build starts with the axles and they are simplicity itself, the only really tricky bits are the circlips retaining the input pinion gears. The main thing here is to ensure good gear mesh, and grease all components well, with a light grease that will not create too much drag in the driveline.



**Above:** AX axles, tough and well tested in 2.2" competition

**Below:** 17 components in each shock give scale looks and dual rate action



**Right:** Zero caster maintains maximum tyre footprint at all steering angles



# AXIAL SCX-10 SCALE OFF ROAD TRUCK



**Above:** Plastic rod ends and ball joints. Ensure they move freely during assembly

**TOP TIP:** I now 'break in' most of my crawler axles once built by connecting them to an electric drill set at a slow speed. I allow them to run for 15-20 min then re-check the diff gear mesh.

The rear axles are held in place with lockouts similar to the RTR AX10 and keep the rear axle looking clean. If 4WS is your thing then the optional Axial rear steer kit from the AX10 will fit straight on.

The axles themselves are probably not the most scale looking out there, but offer a compromise between realism and function. They have been proved totally reliable on the AX10, so on a rig like this they are the perfect choice to give endless hours of maintenance free running.

Once both sub-assemblies were complete the build then turns to the links. Surprisingly Axial have kept the 3-point system for the top links, where the links converge at a Y-piece as they hit the axles. This isn't a criticism as on the SCX there's less physical articulation required as it uses smaller shock limited by bump stops, but it does help to induce torque twist when the driveline is under load if you take your rig crawling. You could make the rig a true 4-link by the addition of the SWX 4-link plates. That's the beauty of using AX10 running gear, almost all AX10 hop ups will just bolt on! C-hubs, steering knuckles, metal bodied shocks, 2.2" wheels and tyres, the list is endless. The Axial platform is tried and tested, and has won more comps in the US in its 2.2" form than any other rig.

The bottom links are an opposite triangulation of the top and are a step on from the AX10's set-up of parallel bottom links. By using this double triangulation, the chassis geometry is really stable and will give less axle-steer. It holds the axle better laterally, and in use just seems to out perform any set-up I've tried. Another thing I like about triangulating the lowers is that it also provides a skinnier drag path, so there's less chance of getting hung up when crawling. The

lower links fit onto a skid-plate that keeps them both neatly inboard and tucked under the chassis. This is the type of skid that should have been on the original AX10. Again Axial have used plastic rod ends with plastic balls so ensure you don't over-tighten them, or you may strip the thread. Also when tightening the M3 grub-screws, use caution and ensure that they don't go far enough into the rod-ends to impede free movement of the ball.

## DUAL RATE BUT SCALE LOOKS

The next item on the build is the shocks. As with other scale units I've seen in the past the SCX's shocks are fitted with two springs to give a dual rate shock action and boast fake remote reservoirs to add to the realistic appearance. The shafts are Nitrided for smooth shock action and the threaded plastic bodies have pre-load collars allowing 'on the trail' fine ride height adjustments. As with all shaft driven rigs, dialling in more spring pre-load means that chassis torque-twist reaction can be minimised.

As with all shock there's a sweet spot where they just feel right. Take your time to ensure they all work evenly and compress and rebound at the same rate. I found these worked best when they were filled 3/4 full with the supplied 30W-silicone oil. The combination of Red (super soft) small springs and Green (medium) large springs, worked well in testing using weighted wheels, but with rear un-weighted wheels they were a little stiff even with the spring pre-load removed, so I will try a super soft/soft set-up at the rear.

## SCALE, BUT NO SNAIL!

The SCX's transmission uses the same casing and internal gears as the AX10, with the three internal gears fully ball raced, and built to last if you grease them well, without inducing drag in the driveline. As with the AX10 transmission, the included 87-tooth 48 DP spur gear



**Above:** Tried and tested AX transmission is fully ball raced for reliability



**Right:** With a well-adjusted slipper clutch, the entire drive-line is protected



**Left:** Top deck and battery mount can be mounted up front or at the rear



**Right:** Axle assemblies ready to bolt onto the scale C-section chassis. Shocks look the part, with dummy remote reservoirs



and 14-tooth steel pinion gives a gear ratio of 47.80:1. For this build I'm going with the Novak 'Goat' brushless combo, this will not only give good run time with a large stick pack and minimal maintenance for the motor, but as it's a 18.5 turn equivalent (or 2700 kV) it will produce good wheel-speed when required. Being sensed the motor and ESC provide the low speed control and most importantly adjustable drag brakes to give extreme rock crawling hold, or a mild decent control while on the trail. Another reason to ensure the ESC you use has good drag brakes, is the rising popularity of the remote winch. The drag brakes are vital if you end up winching a fellow scaler out of a tight spot, as you will require a good anchor to fix your rig to the spot to avoid being pulled into a bad situation yourself.

**Top Tip:** Ensure the slipper clutch glides smoothly slightly when the wheels are held static. Tighten it fully, then back it off three complete turns. If it slips too much just tighten in 1/2 turn increments until it offers sufficient torque whilst still offering the driveline protection required.

### C-SECTIONS AREN'T JUST FOR WAG'S

The next sub-assembly is the chassis itself. It's a pity most of it is hidden under the SCX's body, as it's a work of art. The rails mimic full size off road trucks, so the shock hoops and chassis braces have realistic detailing to create the 'feel' of true scale without all the complexities. The skid is bolted to the transmission and is the backbone of the chassis; its biggest structural member.

Each of the axle sub-assemblies is bolted into place, with lower links neatly fitting into the skid and top links of the chassis rail itself. The shocks mounted in the centre hole of the moulded hoops. This mounting point allows you to lean the shocks in for a softer set-up, or out for a stiffer one. Once everything's in place you have a basic rolling chassis, with just the electrics to mount, wheels to build and the bodyshell to paint. The dimensions once built were; Width: 9" (227 mm), Wheelbase: 11.4" (290 mm) and the rig boasted a ground

clearance of 3" (75 mm). This is narrower and shorter than the AX10 but the 1.9" wheels and tyres limit the clearance available under the axle pumpkins, even with the impressive 3" of chassis and skid clearance.

The final part of the chassis assembly is the addition of the top deck and battery tray holder. From underneath this gives the feel of a scale component and hides the battery pack. There are two options; mounting this forward to give a better weight bias if using standard heavier stick packs, or mount it rearwards if like me you are using a lighter LiPo pack. One big factor with the C of G is how you weight the wheels. It's not a competition rig, but will benefit from the same heavy front, and lighter rear wheels I build into all my comp rigs.

### FASHIONED FROM FINEST GREEN...

The supplied wheels are 1.9" with Aluminium bead locks in the trademark Axial green. One minor criticism is the 1.5 mm hardware used to hold the rings onto the wheels. If you're constantly changing your tyres, adjusting weights, cleaning and drying them after prolonged wet or muddy sessions, the fixings can strip quite quickly unless great care is used. The tyres are 1.9! Pro-Line 'Flat Irons' in a soft compound which are a perfect choice and still one of my favourite tyres for my 2.2", interestingly they include memory foam inserts and look the scale part when mounted on the kit wheels. I added 5 oz of stick-on lead ballast to each front rim, giving a total weight of 9 oz each assembly. The rears were left un-weighted and weigh just 4 oz. A 2 mm breather hole was drilled in all four wheel rims to let the tyres deform properly, and that was hidden behind the spokes for a clean appearance.

### JACK OF ALL TRAILS

The CF-100 'Kustom Retro' body is made from clear .40 Lexan and I opted to use CML's range of 'Fastrax' Lexan paints, going for a retro looking green and silver scheme. Looking around at optional bodies I found the 'Bushwacker' body which is one of Pro-Line's 'Fantasy'

# AXIAL SCX-10 SCALE OFF ROAD TRUCK



**Above:** Splash-proof receiver box keeps it hidden and protected  
**Left:** Upper links mount on 3-link Y-piece connected onto each axle. Double triangulation offers stable geometry and less axle-steer  
**Below:** 1.9" bead lock wheels fitted with Pro-Line Flat Iron tyres with memory foam inserts. Lead ballast in the front rims only, adds traction



shells, based loosely on a Toyota Landcruiser. I measured the wheelbase and it looked perfect. This gave me an idea. I would run the SCX with two looks; a true-scale on 1.9" wheels when running milder trails and 1.9" scaler comps, then swapping for the Bushwacker when I'm in 2.2" mode, rock crawling and tackling more extreme terrain. To mimic the kit 1.9" tyres, I fitted 2.2" Pro-Line Flat Irons on Axial RTR silver rims and bead locks to complete my alternate look. My final addition was a Savox SC-1256 20 kg steering servo for that fit and forget installation so I can worry only about my chosen line and less about the stress I'm putting on my equipment!

We decided to try a different venue for the testing of the SCX-10 and chose the beautiful Bradgate Park in Leicestershire offering a mixture of cross-country trails and true rock crawling. With this in mind myself, my crawling buddy 'Speedy Steve' and Andy 'Twinset' Moore of rockrc.com met up with a group of local regulars, running both 1.9" scalars and 2.2" crawler rigs for what ended up as probably the best day out crawling I've had in ages!

First I fitted the retro body, 1.9" wheels and tyres. I had two 3700 mAh 2-cell LiPos with me so I was interested to see what run time these would give me with the Novak Goat brushless combo installed. In true-scale mode it runs fine, the smaller diameter wheels slow the top speed slightly but it had bags of low down grunt and good wheel-speed when required. The ground clearance is good enough for most trails and the rig would climb steep inclines and milder rock sections with ease.

The only issues were the diameter of the wheels limiting the break-over angle and skid clearance when traversing certain obstacles. The front clearance for the steering links is also reduced by the 1.9" tyres but I must remember that the SCX's primary use is for trails and not out-and-out competition crawling. It's nice just to run a rig through a place of beauty like Bradgate Park, it's got amazing woodland sections with paths where the scaler looked perfectly at home. We also drove across country from our first location to a large outcrop of rock we usually run our 2.2" rigs on.

The Goat drag brake worked as a great decent control on steep downhill inclines and the rig's articulation was fine for everything the park could offer. The 1.9" Pro-Line Flat Irons lapped up every surface I tested them on, and gave amazing grip on rocks and even loose gravel, grass and mud. The compound is very soft and works well in conjunction with the memory foams when the rims are drilled with breather holes. It's good to have a tyre that's this versatile and still offers the true scale look required for this type of rig. I ran the first pack for well over an hour before the Goat LiPo cut-off literally did just that! Protecting my LiPo cells from over discharging.

It was time to transform the SCX into its alter ego, with the Bushwacker shell so I fitted the 2.2" wheels, my other LiPo pack and had a game of follow the leader against Speedy Steve's 2.2" rig on the rocks. In this mode it crawls so well it's scary! The scale looks means the C of G is quite high, but it's great to be able to just change the look with another shell, and bolt on 2.2" wheels and go crawling! I noticed the shocks have a rubber bump stop which serves to prevent over-articulation when the wheel might hit the wheel-arches in both 1.9" and 2.2" modes. Superb.

## SCALING NEW HEIGHTS

Axial has done it again with the SCX-10. The company that took crawling to the masses has created a rig that will appeal to both scale and crawling enthusiasts alike. However much detail you want to add you can, and if whether you want to go fast or extreme it's all possible. The designer Brad Dumont has turned his SCX10 into a dessert racer, running a low wind motor and 3-cell LiPo! Now that's something really different! Seeing what Brad did has inspired me to take this project even further, so in a future article I will be exploring the vast range of scale accessories and hop ups out there on the market, and will go for yet another ultra realistic look, more functionality and a few surprises! Watch this space...

RRG



**Above:** Scale looks hide the AX10 DNA under the shell

**Right:** The 20 kg Savox SC1256 servo is in vogue for all crawlers and race cars alike

**Below right:** In 2.2" mode with an alternate bodyshell and tyre fitment, at home on the trail or climbing rocks, the SCX versatility is amazing

**Below:** Novak Goat brushless crawler combo rewards you with low speed control and enough wheel speed to get some 'pop', plus excellent drag brakes



## QUICK SPEC

**Class:** 1.9" Scale Off Road Truck  
**Type:** Self assembly chassis kit  
**Manufacturer:** Axial Racing  
**Price:** £229.99 RRP

## EQUIPMENT USED

Novak Goat Brushless Combo  
 Savox SC-1256 20 kg Servo  
 3700 mAh 2-cell LiPo pack  
 Spektrum 2.4 GHz DX6i  
 Frastrax Paint

## DISLIKES

Not waterproof enough for 'plugging'  
 1.5 mm hardware bead-lock rings

## LIKES

AX10 DNA  
 Double triangulation of links  
 Skid design  
 C-Section chassis is a work of art  
 Hardened steel lockers and slipper  
 Pro-Line Flat Irons, memory foams  
 Amazing runtime

## CONTACT

CML Distribution  
 Tel: 01527 575349  
 or visit: [www.cmldistribution.co.uk](http://www.cmldistribution.co.uk)