CATCH THE PHANTOM

FTX PHANTOM 1/12TH CIRCUIT CAR UNLEASHED

Author and Photography: **Russ Giles**

1/12th Scale electric circuit racing has been very much on the up over recent times, places at national meetings are getting harder to get and an ever increasing number of clubs have started to run heats for these 'Pocket Rockets'. This increase in popularity has not been unnoticed by the manufacturers', a number have released new cars in the recent past.

This offering, the Phantom from FTX, is aimed at the budget racer, coming in at under £100 for a car that is very much aimed at competition rather than the back yard basher, is a remarkable feat nowadays. Not just that, but it comes with a quality ProtoForm bodyshell and a set of Jaco tyres as well.

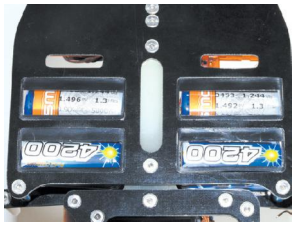
FTX have not tried to reinvent the wheel with this car, it uses familiar layout and suspension design to anyone who has seen a 1/12th circuit car in the last 15 years we all know that this layout works and works well.

On opening the box the car certainly looks good, with nice, quality blue anodised aluminium hardware used throughout, nice stainless screws are there as well.

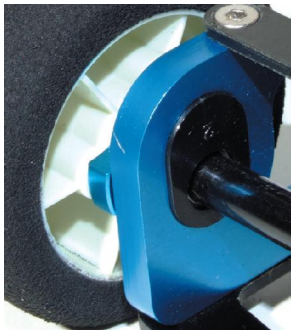
The Phantom arrives pre-assembled and you could have a car ready to race in less than a couple of hours if you were really desperate to get out and play. I would recommend that you be a little more patient than that, and take time to check the car over thoroughly before racing it. Attention to detail is important in all racing but especially so for

Novak Control with SMC propulsion. What a package

The top deck has to come off the pod to get the motor in or out for service



Hex head metric bolts throughout is a welcome change



Eccentric axle mounts determine rear ride height

the set up can be checked.

The ride height should be set first, a good starting point is 4 mm front and rear, it is set at the rear by using different inserts in the rear pod to raise or lower the back axle as required, the front is set by placing washers under the front arms where they mount on the chassis. When this is set the centre shock can be set, with the batteries in the car the chassis and rear pod should sit level, when the car is lifted up the rear pod should droop down a small amount.

The front camber can then be set to 1 degree negative.

GEAR IT UP, WORK IT OUT

The motor needs a pinion, this pinion size needs to be worked out to give the correct overall gear ratio for the car, as foam tyres wear they change the effective gear ratio, big tyres tall ratio, small tyres short ratio, this has to be taken in to account when working out the gears.

This overall ratio is specified as mpr (millimetres per rev) or the distance the car moves forward for one revolution of the motor. A good starting point for the 19T Checkpoint is 56 mpr.

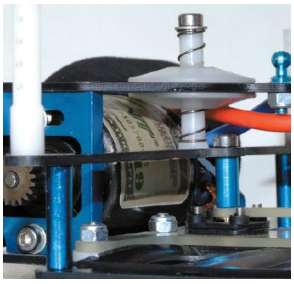
DIAL A TWEAK

The final adjustment is the tweak. The tweak screws should be set so that they just touch the chassis plate, then the car should be placed on a flat level surface, the front of the car is then lifted up carefully under the centre with a screwdriver, then you look to see which front tyre lifts first, this is much easier if a penny is placed on top of each front wheel, as the front of the car slowly lifts the penny will drop off the wheel that lifts first! The tweak screws can then be adjusted, screw down the tweak screw on the side that lifts first, not forgetting to back off the other one by a similar amount. Small adjustments are all that should be required to get both the pennies to drop at the same time, if a lot of adjustment is needed, then check that there is nothing else amiss with the car such as binding suspension or misalignment.

The rest of the set up I started with was – batteries set to rear, 20wt oil in the damper, kit front springs (0.020") standard castor (1 shim front, 1 shim rear) and a small amount of diff grease on the damper plates.

The bodyshell was now painted and trimmed to fit, this must be done with great care to ensure the shell is low to the ground without catching the floor. The wheel arches are marked on the side of the shell, this makes things much easier as they are an excellent starting point.

Install wiring tidily and remove rear shock to allow battery access



I flattened the faces of the rear pod pivot blocks for a tighter fit and more control

The shell is a quality ProtoForm Speed 12, this is a very popular shell both here in the UK at club level and in the USA but unfortunately is not legal for use at BRCA national meetings.

See the BRCA website 1/12th section rules for the legal bodyshell list if you intend entering the National series so you don't get any nasty surprises when scrutineered.

ENOUGH FUN FIDDLING, WE ARE READY TO RUN

The car was now ready to run; as always the anticipation of trying a new car is great, the club night couldn't come round soon enough!

I gave the car its first run at the Chesterfield CARS club who run at Clay Cross most Saturday nights. This is an ideal venue for trying a car, good competition and a nice carpet and track markers.

The tyres were prepped using CS High Grip odourless additive, full width of the rears and half width of the front tyres.

The first run the car was a little under geared, so I was losing out on the straights, the steering was very positive, due to the same compound tyres front and rear, normally we run harder fronts, as the race wore on the limitations of the tyres were felt, Greens are relatively soft and wear quite quickly, as they wore during the race the grip dropped off.

For the second run I changed the gearing and fitted Purple fronts and Grey rears, now this was more like it, the Checkpoint motor came to life and the car was really quick, the handling was much more predictable and the grip lasted the full race. The car was nice to drive and did not feel that much different to the car I normally race at the BRCA National rounds.

Overall I am confident that the soft fibreglass chassis will be a positive benefit on a low grip surface, but could prove unsuitable for a high grip surface, unless you change to harder tyres.

It is clear that the Phantom is a bargain, for a first 1/12th car it is ideal, being more than competitive for club racing and probably nationals as well, being based on the traditional 1/12th scale 'T bar' car design means parts and upgrades are easily obtainable.

RRC!

quickspec

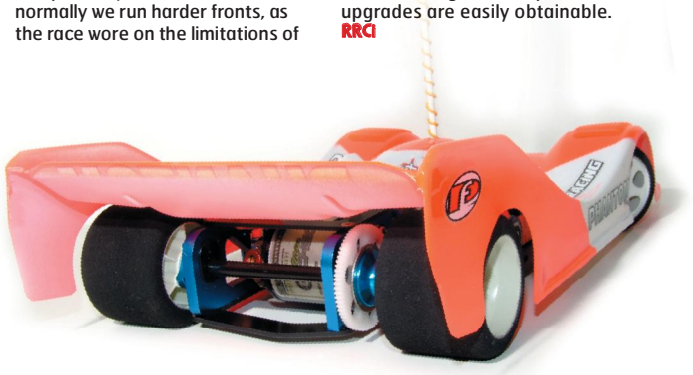
CLASS: 2WD electric 1/12th Circuit
TYPE: Pre Assembled Kit
MANUFACTURER: FTX
PRICE: £99.99

REQUIRED AND RECOMMENDED
MOTOR: Centre Point 'Money' 19T Spec
SPEED CONTROLLER: Novak GTS
RECEIVER: Novak XXL 40 MHz
BATTERIES: SMC 4200 mAh NiMH
LEXAN PAINT: Fastrax

DISLIKES
Pre-assembled doesn't mean Ready for Radio
Green tyres wear quickly

LIKES
Hex Head Metric screws throughout
Turnbuckles and range of options available
Carbon Fibre Rear Axle

CONTACT
More details from CML Distribution, Telephone: 01527 575349 or www.cmldistribution.co.uk



Tyres included, but Greens all round produce too much front end

careful not to go too far as this would leave them too tight!

The tweek screws need threading in to the fibreglass, this needs to be done with care as a tapped hole will be too loose and the grub screws are reluctant to cut their own thread in the hole, I set the screws slightly above the chassis, final setting of these will be done when the car is assembled.

The 'T bar' is fixed to the lower pod plate with 3 screws, the normal set up that is used on carpet in the UK is to remove the centre screw and allow a little more flex, this gives better traction, unfortunately this does make the 'T bar ' easier to damage in a accident.

The rear pod seems very nice with no extra work required. The centre damper however is a different story, this is the only area of the car I can really criticise. As supplied the spring and damper is way too stiff, in both spring rate and dampening, it also contained a fair bit of air giving a poor action. I stripped the shock and rebuilt it several times trying to get a good feel; even after this I was still not happy with it.

Keep motor wires short but flexible to avoid rear pod preload

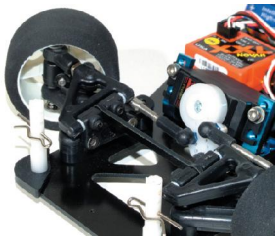
The main problem seems to stem from having no volume compensation in the damper, so when the damper compresses it tries to force the oil out, when it extends it sucks air in! The piston is also quite large in comparison to the bore of the body, this gives a lot of damping effect even with quite thin oil; this can be improved by notching or drilling the piston. The volume compensation is not so easily fixed, I have a couple of ideas to try over the next few weeks, I will report back to your editor on my results, watch this space.

The differential was the next area to be done, it has been assembled at the factory with lots of black grease, this was not good for the diff action, I stripped and cleaned off the black grease, I also took the opportunity to sand the diff rings, a short session with some wet or dry on a flat surface soon had them linnished. I then rebuilt the diff using quality silicone grease, which gave a much better diff action.

The spur gear supplied is a 48DP with the diff balls on quite a small PCD, this means that the diff could be further improved by using a spur with a standard 'Big Ring' diff PCD such as the excellent Kimbrough gears. When I was refitting the axle in the car, I made sure that the axle was centred in the car, I scribed a faint line on the bottom of the car dead on centreline, then measured from centre to each rear wheel, this measurement needs to be exactly the same from side to side.

Next thing to do was install the radio gear, I used a Futaba servo a Novak GTS controller and a Novak receiver, these components are ideal for a 1/12th scale and fitted without any problems, there was no servo saver included with the review car, so I fitted a small Kimbrough one, with the steering balls fitted to the holes closest to the servo.

The ball joints supplied with the track rods were quite loose on the ball, this is good for smoothness and consistent steering centring, but may be a problem in a crash, we would have to see when the car is run. The wiring was kept as short as possible without restricting the movement of the rear pod,



Front suspension detail, and servo saver added for protection

the Checkpoint Money motor made this a little easier due to the easy to get at solder tags on the motor, the SMC IB4200 batteries were made up to put the connections in the centre of the car, taking care that the connector tubes do not catch on the 'T bar'. The batteries are held in the car with fibreglass tape.

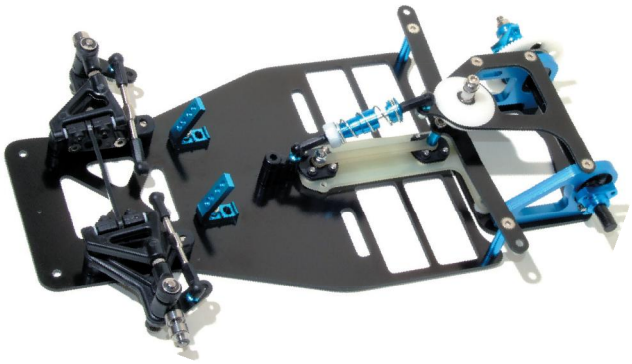
The wheels and tyres supplied with the car were Jaco's in green compound to get you going. This has been an excellent budget tyre over the years but now there is better rubber available, giving better grip and longer lasting. The standard for most tracks is to use Grey compound rears and Purple compound fronts. It is also much better to grind the tyres down a little when they are new to a diameter of 50 mm for the rears and 45 mm for the fronts, this seems like a waste of good rubber but smaller tyres perform much better and will 'chunk' far less.

When the tyres are at the chosen diameter and fitted to the car

Tuning options included

On the 'Money', the 19T Checkpoint Motor is our choice as very much in Vogue with 1/12th at the present

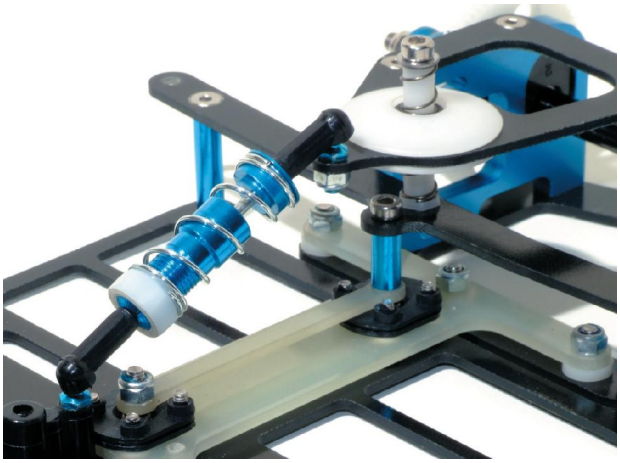
Room for everything on the tiny chassis



Pre-assembled kit means no bags, no waste

Double-sided chassis damper and alloy wheel clamps

Nice Alloy servo mounts and turnbuckle steering links



The rear shock. Note tweak screws not in 'T' Bar yet

1/12th circuit cars, they are immensely fast things and any small out of misalignment can lead to much frustration in the handling department.

PRE-ASSEMBLED, NOT PRE-BUILT

The first thing I noticed when starting to work on the car is that all the threads used are metric, most 1/12th cars originate in America so use imperial threads, something to bear in mind when buying tools and any aftermarket 'Hop-ups'

Starting with the front end, the plastic mouldings appear to be good quality and little fettling needed to be done on the parts to ensure a good fit, I opened out the upper holes in the bottom arms slightly to give a little more clearance to the kingpin, most improvement I found was gained by polishing the kingpins with Brasso to a mirror finish, when reassembled with a dab of grease it gave a beautiful smooth action to the front suspension.

I took my time with reassembling the front suspension, making sure that the upper wishbones moved freely and ensuring that the front springs were shimmed equally with just a little preload, there are plenty of washers and shims in the box to do this. The front stub axles are of the circlip type, this means fiddling around with small circlips when changing front wheels, the axles are also slightly loose in the blocks, something which needs keeping an eye on.

I would recommend that once you get racing and are looking for improvements to make your race day easier, these axles can be replaced with the threaded type available from Lunsford and others.

Unlike the normal carbon fibre chassis in most cars on the market, the Phantom used a GRP material. Whilst this is not as rigid as the carbon it will produce a car that handles bumpy tracks and slippy surfaces in a more forgiving way. As with carbon fibre chassis, it will pay to sand and seal the font part of the chassis, this is best done with fine wet and dry and then run CA adhesive in to the end of the fibres, this will give a much more durable chassis. The batteries are located in the chassis with plastic mouldings that fit in to cut outs. They are offset and can be turned round to move the batteries forwards and backwards. A good tuning aid for the set up.

The 'T bar' pivots on the review car were slightly loose, I took these apart and lightly sanded the bottom moulding on some wet and dry to tighten up the fit,

Phantom rear pod and 'T' bar mounting

Awesome power and voltage from SMC, only 4 required