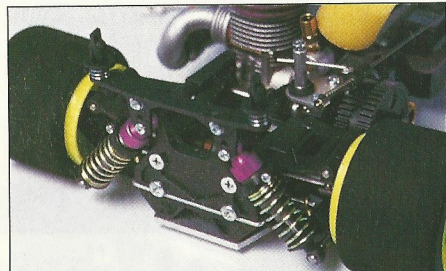


KIT VIEW

The most complete kit yet offered for 1/10 scale IC racing!



Serpent IMPACT SX PRO



The rear end is very simple, with the spring tension easily set with the clamping collars. Threaded types are available as an option.

The Serpent Impact is the car that started it all off, but the version seen here is so different from the original that they could be said to be like 'chalk and cheese'!

Mike Haswell described the original Impact, reviewed in RRC November 1991, as being underpowered compared to a Pro 10 car with its pull start .10 engine and, with its plastic shocks and solid rear axle was of quite a low specification. Basically it was more of a 'play in the road' type of machine, rather than a serious racing car, but racers everywhere recognised that it had real potential, especially those at Serpent itself! "Great oaks from little acorns grow" as the saying goes, with the result that the Serpent Impact 8060 kit of 1994, which comes complete with a Serpent Mega SX.15 engine, pipe and manifold, plus a clear lexan BMW M3 bodyshell, is a full blown competition car straight out of the box! The development of the car to the

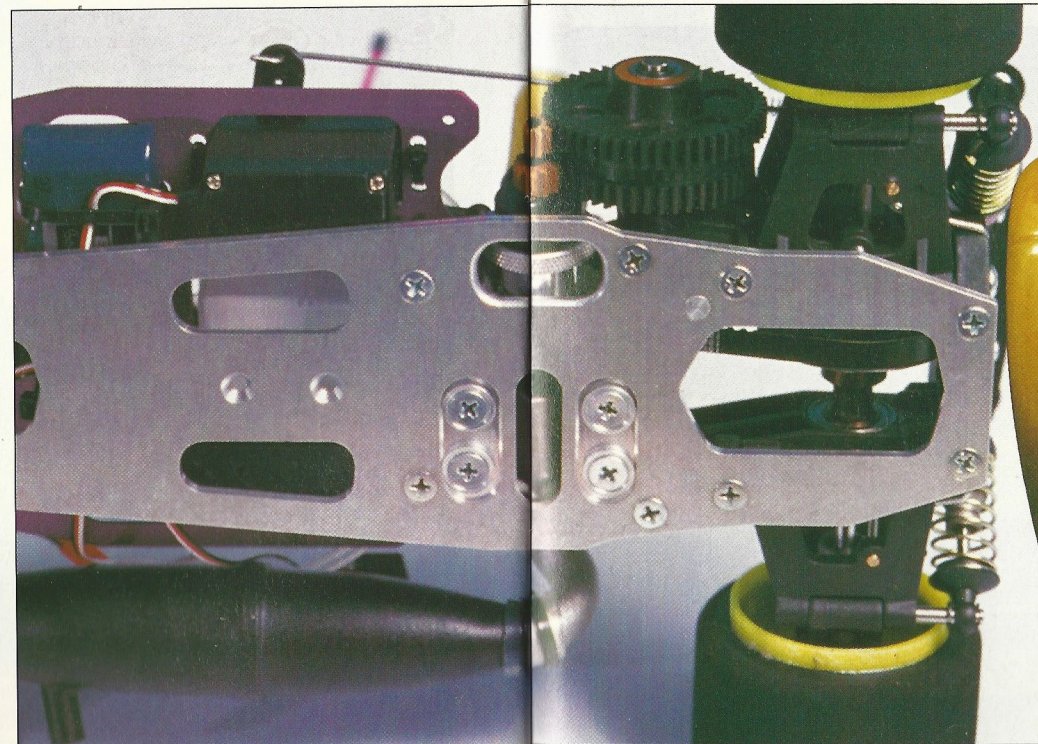
specification seen here has been chronicled in Paul Kelsall's excellent 'Ten Tenths' column, which we are pleased to say has been extremely popular, having generated much of the present level of interest in 1/10 IC circuit racing amongst our readers. Well done Paul!

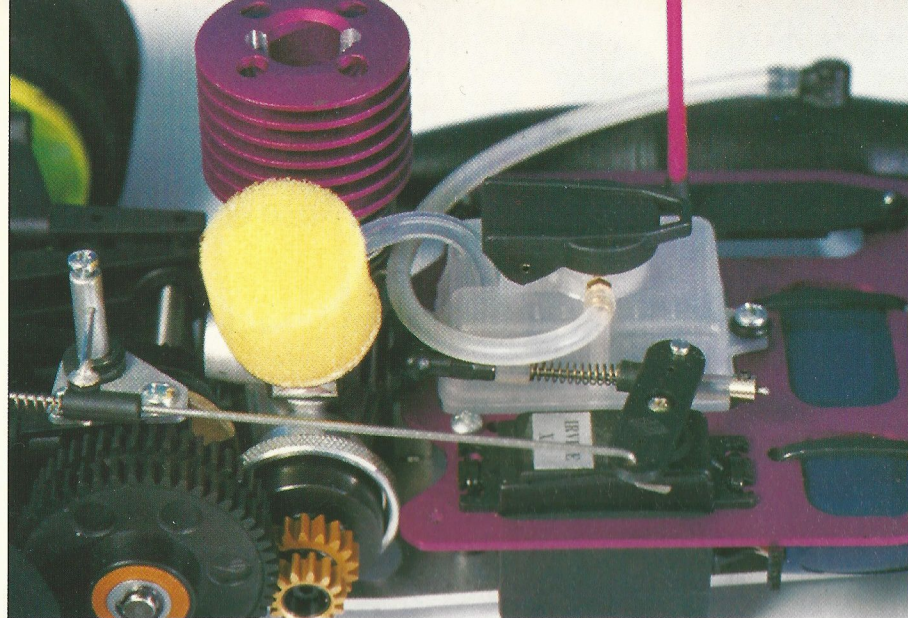
1/10 IC racing has started to become quite popular recently in both its On and Off Road forms, with circuit cars and gas trucks being all the rage in the USA at the moment, whilst in Europe and Britain, tarmac track racing is well in vogue. In Japan, 1/10 IC circuit racing is the 'hot class' at the present, with every manufacturer of 1/10 IC cars beavering away to feed the expanding market in the land of the 05 electric motor! Strange isn't it.....?

What's in the 'Black Box'?

Well, it definitely isn't full of plain chocolates, and won't be delivered by a black suited man dropping it on the doorstep from a helicopter! The packaging of the kit (or should that be 'semi-kit', as the basic chassis is ready assembled?) is very professional indeed, the graphics on the lid

The underside of the stout alloy chassis plate. The engine mounting screws don't protrude at all, which keeps them in good condition. The chassis is so rigid that a rear brace isn't really necessary. Note the screw on pinion gears, making for easy and quick ratio changes.





The fuel tank is pre-assembled, and is mounted on grommets, which absorb vibration. The spring on the throttle linkage allows the servo to move in the 'braking' direction without stalling the servo. Ty-wraps were supplied to retain the radio equipment.

being very attractive. The assembled chassis lies at the bottom of the box, with the rest of the components grouped in sealed plastic bags, found within the separate 'box within a box', to correspond with the stages of the construction sequence in the usual manner.

The instruction manual is very comprehensive and well detailed, at first glance well up to the standard of those found in 'you know who's' plastic kits from Japan that set the industry standard!

How to make an Impact!

Putting the car together is actually very simple. To get the messy bit out of the way, I decided to build up the shock absorbers first. These are all aluminium units, supplied with threaded bodies to allow the use of the optional threaded spring collars (screw clamping types are supplied as standard) with the design offering the builder the option of assembling them with either adjustable or fixed pistons. I was initially going to plump for the fixed pistons, but having asked Paul and Ben Kelsall for their opinion, I was assured that the adjustable pistons were the ones to go for, as these allow the damping to be altered easily and retain their settings very well. The adjustability is achieved by the use of a small 'O' ring sandwiched between two thin piston washers, the top one is then rotated by pushing the piston rod in until the castellated upper piston engages with a fixed castellated insert at the top of the

The front suspension offers the facility to alter the castor and camber with the clever eccentric kingpins. When the grub screw seen here in the steering block is slackened off, rotating the kingpin affects the desired change.



shocker's bore. This locks the upper piston, so when the shock shaft is turned, the upper piston rotates to either squeeze (therefore spreading the 'O' ring in the shock's bore, giving heavier damping) or loosen its grip on the 'O' ring. Bingo, adjustable damping action!

Shock Tips

A couple of tips were passed on to me by Walt Bailey, the proprietor of Elite Models, Serpent's distributor in the U.K. The first one is to drill a very small central hole in the shock absorber caps, to emerge in the top mounting hole. This permits trapped air to bleed away when screwing on the cap, and allows the diaphragm to function properly. The second tip is to make sure that the caps are only nipped down onto the diaphragm when screwing the caps onto the shock bodies, rather than tightening them down until there is no further movement. I did the latter and ended up with shocks that were full of air, basically because the diaphragm had been squashed and

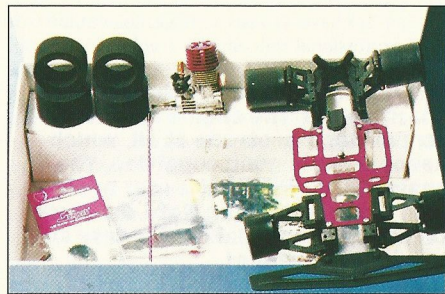
unseated by the cap's rotation. The very latest shocks from Serpent have been slightly altered, in that the diaphragm's lip now seats into a small recess, allowing the cap to be tightened without damaging or unseating the diaphragm.

Having got the shocks out of the way, the rest of the assembly was actually very easy, as the whole car is assembled with self tapping screws, taking just a few hours on a Saturday morning, plus the time taken to glue and true the tyres supplied in the kit and another two further car sets, of 25° and 30° shore rears plus some medium and hard fronts, to give a decent choice of rubber at the track (a 'shore' meter is used by the tyre manufacturers to grade rubber. Usually the softer the rubber, the more grip it gives. There are exceptions though!)

The Transmission

The Impact 8060 kit is supplied with the very latest differential, which I gather is quite an improvement on the previous design. Drivers from virtually every class will recognise this diff as being of the conventional 'ball' type, with the design developed to come up with a very nice, adjustable unit. To put the diff together took so little time, it wasn't even worth looking at the clock as it went together that easily, and I must

The Serpent Impact 8060 as supplied, is the most complete 1/10 IC car kit on the market, with literally everything needed to complete the car in the box apart from glue, paint and the radio gear!



agree with the opinions expressed lately by Impact drivers (no pun intended!) that it has a super smooth operation, and that it doesn't 'self adjust' in use. To date the Impact has completed three meetings, and the diff feels silky smooth, just as it did after the initial assembly.

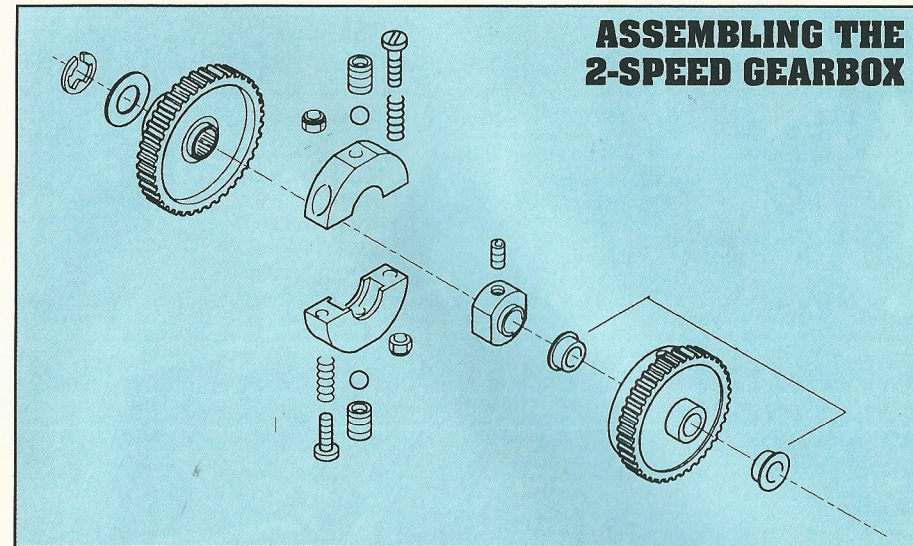
The centrifugal gearbox uses two clutch shoes within the second gear housing, with first gear mounted on a one way bearing. When the clutch engages in second gear, the one way bearing comes into operation, allowing the drive to be taken up on the second gear to give a higher top speed. The change point is usually set to occur fairly quickly after exiting a tight corner, say within 10 to 15 feet at the most.

The clutch unit supplied with the 8060 kit is a conventional expanding three shoe type, with the superb Serpent Centax unit, developed for the 1/10 car from the 1/8 version, available as an option. I really do recommend that purchasers of the kit go for a Centax unit at the same time. More on this later....

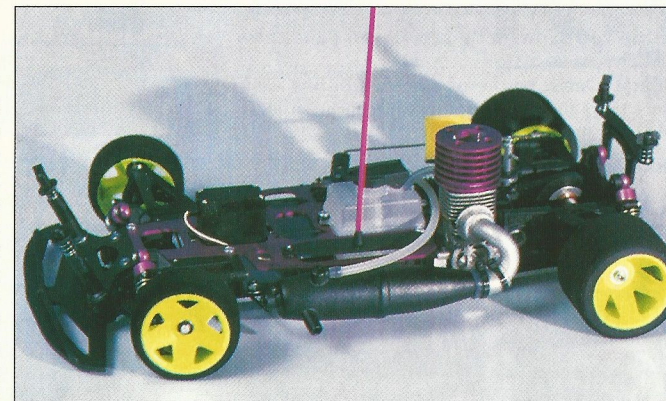
The Final Touches

The beauty of 1/10 IC racing is that expensive servos etc, aren't really necessary. Irvine budget twin ball raced X3 servos were installed, with a Futaba PCM 40mhz receiver and a Ripmax Sanyo 500mah battery pack. In the case of IC cars, trying to set up the throttle and brake linkages can be awkward if using a basic two channel set of radio gear, so I really recommend either a Sanwa, JR or Futaba set that has an adjustable travel limiting facility. The Futaba FF3 transmitter used complies with this requirement nicely!

The Impact was set up with the kit 30 wt oil in all four shocks, the kit springs all round (gold rear, silver front), with the damping fairly light all round. The neat little eccentric kingpins were set



ASSEMBLING THE 2-SPEED GEARBOX



The completed 'ready to roll' chassis, fitted with the latest 'Serpent Yellow' wheels. The Serpent SX.15 engine is capable of winning National events as supplied in the kit! This is the beauty of 1/10 IC, it's the same for all thanks to the engine regulations. Thanks to the spring loaded body mounts, lost body clips are a thing of the past....

to give 1.5° of negative camber on the front wheels using an RPM camber guage (available from Thor Racing and Elite Models).

The instructions don't say anything about applying thread locking compound to the upper and lower kingpin screws, but I recommend taking this measure when the desired camber angle has been found, because the odds are that they will come undone. I know because it happened to me!

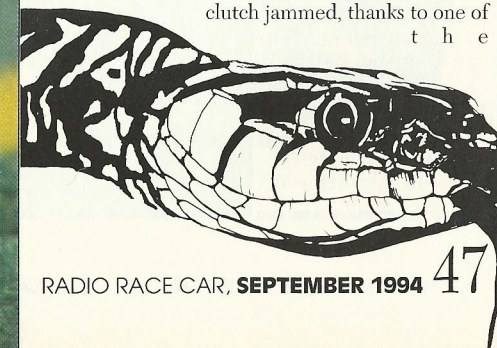
The Mendip National was the car's competition debut, but I did spend a while in pouring rain the afternoon before, running 4 or 5 rich tankfuls of fuel through the engine to loosen it up a little. During initial practice at Mendip, I ran the 40° tyres on the front, with 25° on the rear. The car seemed fine, apart from the fact it wouldn't change gear, so I asked Walt Bailey to sort it out for me. It appeared that the inner (flat) faces of the clutch shoes needed sanding down a little. Once Walt had put matters to rights, he quickly set up the change point with the car on the starter box, using the starter wheel to turn one of the rear tyres. Very clever!

The Impact was returned to the track, but this time with the admittedly rather soft 35°ish front tyres, which remained on the car for the rest of the day. The Impact was obviously now much faster in a straight line and, using a Frewer Cavalier shell, was very stable at speed on the straight (the car pictured here and on the cover is actually Walt Bailey's Impact. This was first seen using Parma's new Mercedes bodyshell at the Mendip National, and looked so good we just had to feature it!).

Set up as per the kit, the car was good at speed, but tended to become twitchy around the tighter corners as well as having a tendency to 'push' when applying power coming on to the straight. The gold rear springs were substituted for harder silver versions, and it was suggested that I thinned down the bottom front spring collars to reduce the preload, as the front was too 'springy'. This was partly due to having substituted ball joints at the bottom of the front shocks, effectively lengthening them. The damping at the front was increased as well (I do like those adjustable shockers!) so I tried again. The car was

now much better, but then the clutch jammed, thanks to one of

t h e





The effectiveness of the brake is easily adjusted by the strength of the spring, or the amount of compression set by the collet.

pivot pins popping out of the flywheel! This really wasn't to be my day!

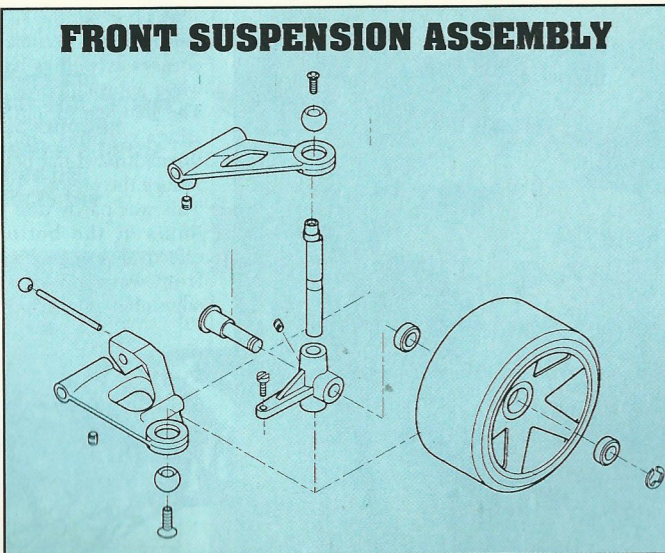
Having loctited the offending pin back into the flywheel, it was time for the Finals.

Right from the start the car felt pretty good, and by the second pit stop was something like 2 or 3 laps in front. Unfortunately the engine decided to stop when my pitman pressed the rear wheels onto the pit lane's surface, which unfortunately showed that another clutch pivot had fallen out, locking up the clutch (I am told that this problem has been rectified by Serpent, who have now re-engineered the flywheel, it now being supplied with factory fitted pins of a different type). The best laid plans and all that...!

Having fixed the clutch, the car was taken to the following weekend's RRC On Road meeting at Stafford, where the car felt better having increased the damping further by going for heavier oil. A good TQ (1 lap) was the result, with the car negotiating Stafford's tight infield very well using Enetti 30° rears and PB Medium fronts (approx 35° shore). The usual sob story starts here though, because after clipping a kerb (being well in the lead), the Impact flew through the air into the wire fence which did an 'Edward Scissorhands' on the rear tyres, although otherwise undamaged. After this little episode the handling was shot, so 3rd was the eventual position.

Further Impressions...

A pal of mine borrowed the car recently to sample its handling, and on first acquaintance with it lapped faster than both myself and Mark Boothman at an RRC Round at Ashby! The motor is now well run in, and is very quick indeed up any straight. In fact it now cries out for a Centax clutch to take full advantage of



the power. Now, let's see, I get paid this Thursday...

Jimmy Davis, yes he of electric Touring Car fame, tried the car at Stafford recently, so let's hear what Jimmy thought of it...

Jimmy's Impact Impressions

Not having actually driven an IC car since an RRC Round at Stafford last year, when I had a very brief go with Ben Kelsall's Impact, I was quite keen to sample the RRC review 'Rent-A-Drive' Impact that Jonty has offered to several people to try out recently. I didn't manage to get any practice with it, so the transmitter was thrust into my hands and out I went.

Jonty had already told me that the handling was very safe, with the car using silver springs all round, with PB lilacs on the rear and mediums on the front. Having done a few laps in the warm up, Jonty topped up the tank then released the car at the start. As I gunned it away, the @%\$! engine cut, Jonty then having to run back to the starter box to fire the engine up again (the first exercise he's had in months!). Having lost, so I found out later, 58 seconds, there was nothing to lose by giving it 'maximum attack', so I then gave the poor little car a thorough thrashing!

Stafford requires a good balance and good acceleration through the infield. The car felt very good at slow and medium speed with more than adequate steering, with the 'turn in' at the end of the straight OK, but the 'power on' understeer coming on to the straight did limit the amount of power I could give it. The throttle response was excellent, and the speed down the straight was awesome, hitting just under 40mph through the speed trap. I felt that 'harder rear tyres would have improved the overall balance, as did Jonty, but as the car felt 'planted' in the corners it was probably the best set up. The fastest lap was a 12.03, which certainly isn't slow on this tight track, and what's more, anybody could drive the car as it was set up. Great!

John 'Cuddles' Robson also gave the 'thumbs up' to the Impact after his first experience with an IC car, and was certainly impressed with the power...

Impact uses the 'fit and forget' Centax type, I think that it really should be included in the kit as standard.

I gather that a narrow front end is soon to become available from Serpent, which improves the car's 'turn in' to corners greatly. Elite Models will have all the details by the time this review is published.

If you have been thinking about taking up 1/10 IC, the Serpent Impact offers a pedigree second to none. What more can I say?

The Serpent Impact \$060 kit is imported and available from Walt Bailey at Elite Models, 159 Newgate Lane, Mansfield, Notts. NG218 2QD. Tel (0623) 636062



The car was easy to assemble and set up (with a little advice), and drives very well indeed. It isn't critical on rear tyres, although as with all cars of this type, if the grip is there, it is a good idea to run the hardest rubber you can get away with. The quality of the moulded parts is very good, and with the purple anodised alloy top plate and engine cylinder head looks very smart and professional indeed.

The only aspect of the kit that was lacking was the clutch, but as every competitive Serpent



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