

# as easy as A.B.C

We take a look at ABC Hobby of Japan

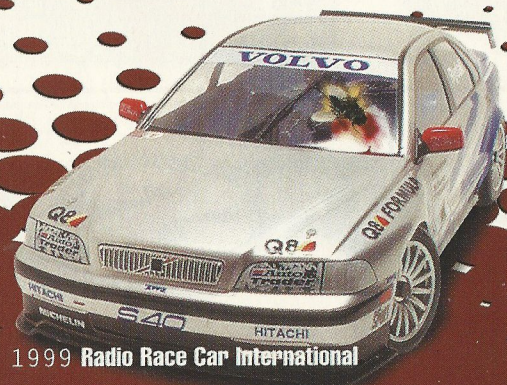
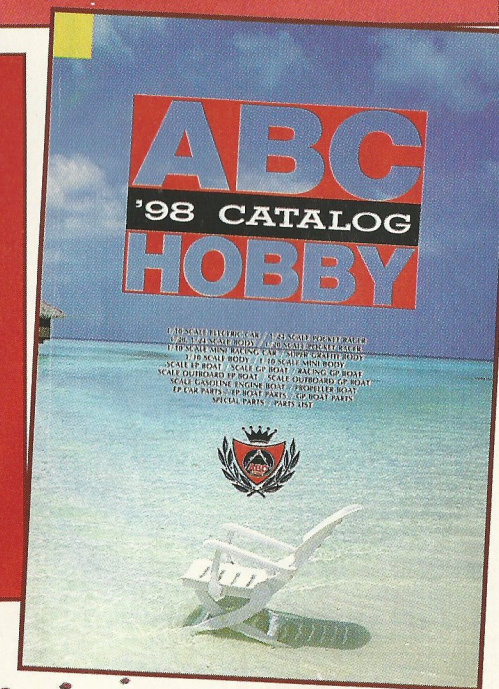
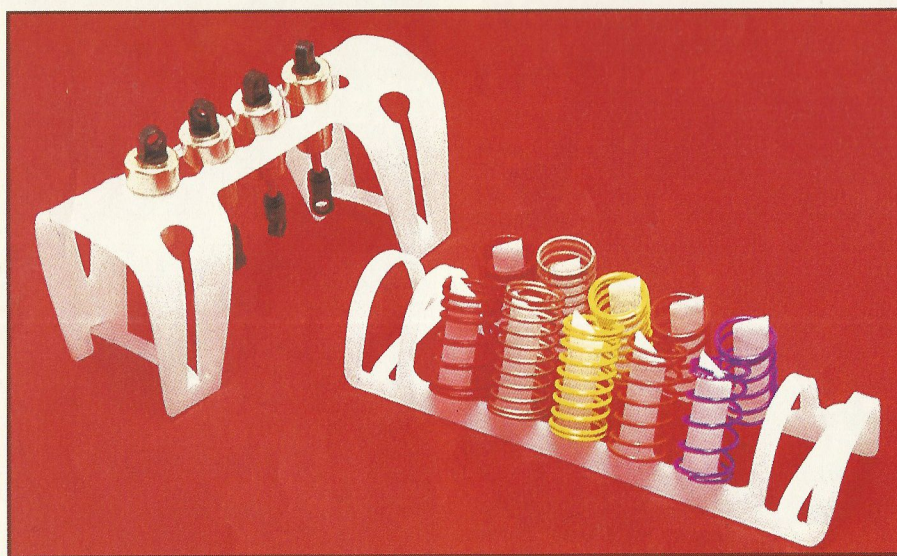
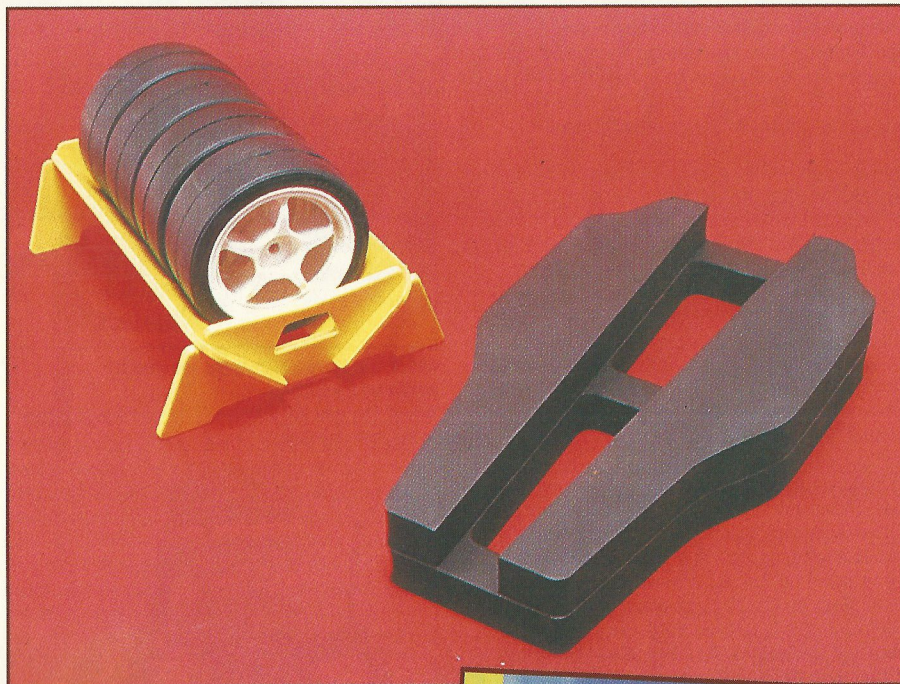
## So who are ABC Hobby?

ABC Hobby are not well known in the UK for the simple reason that they have not had a major importer bringing the products in from Japan. This is about to change for the ABC range of boats and model planes but as we went to print the company did not have a UK distributor for the car models. This is a shame as they include a very different 4WD touring car/M' chassis solution as well as the almost unique 1:20th and 1:24th scale models.

A wide range of body shells have a very Japanese emphasis with strange, to UK eyes, names like Fairlady, Savanna, Levin, Trueno and Enfini.

A comprehensive range of accessories include the 'instant' curbs for building a parking lot raceway, a great boon for practice sessions. The excellent tyre, spring set and damper stands have already earned their keep at Traplet Towers as new shocks are built almost weekly.

If you want to know more about ABC drop into the web site at <http://www.abchobby.com/>



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# DTM racer

## DTM Pocket Racer

Imagine a Pro-10 or 1:12th chassis that has shrunk, a lot. Now imagine it being beautifully manufactured and topped off with a neat Mercedes ITC Touring car shell. There you have the ABC Hobby DTM. At just over 190 mm long this really is a race car you can pop into your pocket.

## Choices, Choices

The DTM, short for Driver Trainer Machine, is a 1:24th scale electric powered R/C Car. The chassis can be fitted with a range of bodysells from ABC Hobby including Ferraris, Porsches, and a variety of Nissan, Toyota and Honda bodies.

A range of 'hop ups' are available and include foam bumper, uprated motor, ball race sets and uprated chassis parts in carbon fibre.

The construction is straightforward. One nice point is that all of the chassis screws are nicely recessed into the FRP chassis plate. At the front we find a Pro10 style sliding pillar suspension and three alternate mountings for the front suspension to allow for different wheelbase bodies. We fitted a Futaba combined Receiver and speed controller the MCR 2M and its matching servo the FPS-135. These are nor-

mally seen doing service in R/C Motorcycles but the light weight and compact size make them ideal for this job. The MCR 2M includes a forward and brake ESC.

The battery compartment is made from a thick Lexan moulding which holds the NiCad pack nice and firmly. The rear end features a 'podded' installation for the Mabuchi FK 130 motor with a neat spur gear and a tiny, but very smooth, ball diff.

Again the rear 'pod' can be fixed to the bottom chassis plate in either of two positions. These alternative fixings give you a choice of wheelbase between 100 - 120 mm in 5 mm increments. No rear suspension is fitted but the bottom chassis plate is slotted to give some carefully designed in 'flex' which appears to do a very good job. Possible the longest job was fitting the body mounts. The tiny body pins are a real challenge for somebody like me who can lose a body pin in nano seconds but so far I still have a full set.

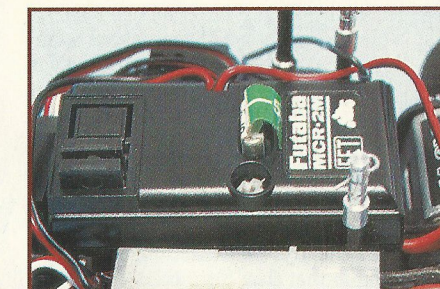
## Finishing Off

I decided to paint the Mercedes shell in a simple scheme opting for a white body with Castrol, Totip and 7UP decals from MRT, a company well known for providing scale decals for the slot racing fraternity. The body is a nice moulding but the kit stickers had very poor



The simple white scheme was pretty effective

Right: The Futaba combined receiver and speed controller features brakes but not reverse. Standard Tamiya type battery connector looks huge in this installation. Left: Really small and really cute



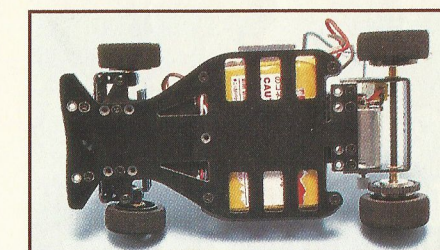
The rear mounted Mabuchi motor runs well with good duration but a hotter motor is available. Spur gear hides an efficient ball diff. Rear pod is flexible to give some rear suspension effect

adhesion and they started peeling off almost immediately.

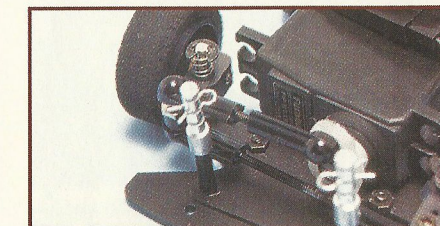
Overall the car looks good and it certainly looks right tearing around the carpet.

## Cool Runs

I had no idea what to expect with this car. To begin with I thought it was 'orrible. It changed direction if you so much as thought about a steering input and then the back end let go. After a couple of adjustments to the ball diff it was transformed. Now it had a slight under-



This could be a Pro10 car. The alternative mounting points to adjust the wheelbase can be seen clearly here



The front suspension is like a miniature 1:12th racer. Sliding pillar with a tiny coil spring. It works well

# May Flyers



steer yet it still changed direction like a rat down a drainpipe - magic! The model has a fair turn of speed and it would make a great indoor class for oval racing in the winter. Expect run times of 10 - 15 minutes plus, often much longer from a single charge of the 3 cell, 7.2v/270mah pack. Running it around I found I often cursed the lack of reverse but this is a small race car, not a toy. The biggest moan about the whole car is that it is not yet available in this country. I would love to have a second one so that they could be raced together. I like it so much that I am going to re-shell the car with a nice injection moulded scale body from one of the zillions of 1:24th scale kits available so that it looks nice on the rare occasion it is parked on the display shelf. But mostly I am going to enjoy running it!

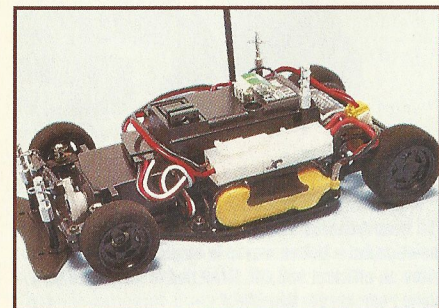
The finished product



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# a class act

The ABC Hobby Carrera IV Mini Cooper reviewed by Mark Jackson



The rolling chassis ready for action, just add the body and find a small race track and you are in business

## Quick Spec

1:24th scale electric R/C Car  
Requires miniature servo, receiver and speed controller plus 27 MHz transmitter to complete.

## Tester Kit

Futaba Attack 27 MHz Transmitter  
Futaba MCR-2M Receiver and Speed controller  
Kit motor, NiCad pack and tyres  
Kit and MRT Slot Racing Decals  
Pactra brush on paint and Tamiya 'smoke' window tint

## Likes

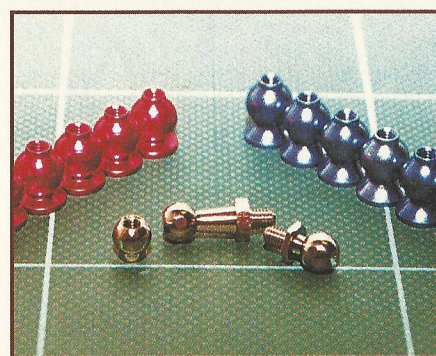
Size, quality  
Right now I can't buy a second one to race against it!

## Dislikes

Poor decals for otherwise good Bodyshell  
Access for diff adjustment difficult

**W**hilst the scale saloon class appears to be growing from strength to strength, there are many other classes out there that seem to enjoy little or no recognition. One of these classes is the mini class. There are frequent releases of mini scale vehicles into the radio control market and those of you have driven one will know that these cars are challenging to drive owing to the mechanical disadvantages short wheelbase and narrow track bring. I seem to recall the same expression being used to describe the very popular scale saloon class!

The latest release for the mini class is the Carrera IV mini from ABC Hobby. The first thing that struck me when I opened the box was that all the screws and other small components were bagged very neatly, as were the wishbone arms, shock oil and even the grease. Really sticky tyres were included with



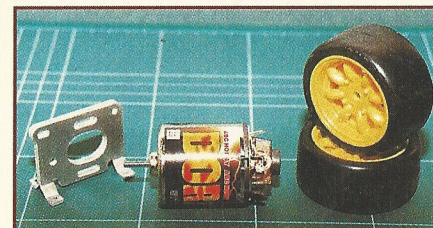
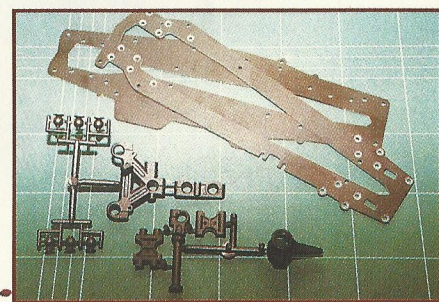
Above: The optional anodised Pivot balls and the multi-faced ball connectors Right: The chassis plates and the chunky suspension arms and knuckle arms. Nice to see the bottom chassis plate has recessed screw fixings

some smart 'minilite' style wheels and inserts. Additionally, for the benefit of the review, an optional Dorado 23T motor and aluminium red and blue anodised pivot balls were included.

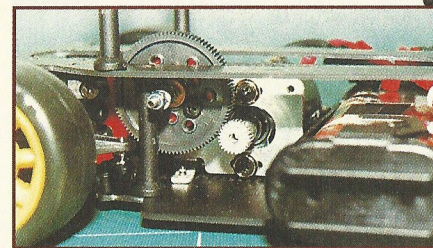
## Getting Started

I studied the instructions thoroughly before I started and discovered what initially appeared to be a very complex design, was actually simplicity itself. The kit is full of innovative ideas that you would expect to find in a high-end chassis - but are not necessarily found in them.

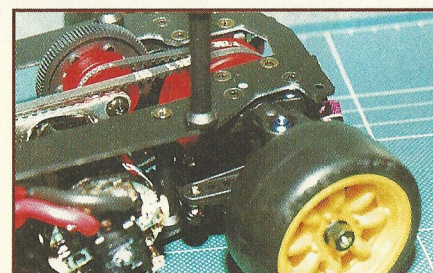
This is, for all intents and purposes, a race bred chassis. Although the kit box describes it as a 'Mini basic chassis kit' it has high-end items including; aluminium dampers, ball differentials, an aluminium motor mount and a double deck chassis design with a four wheel belt drive system. The main drive system is ball raced (although the wheel hubs are not). There are many other unique features which this kit incorporates single belt drive which carries the main drive belt from the rear to the front differential. The spur layshaft carries a belt which drives a second pulley which is attached to the rear diff. The main belt travels in between the



The optional Dorado 23 Turn motor poses along with the unusual motor mount and the sticky stock tyres



The supplied spur gear and pinion



Rear diff and pulley arrangement

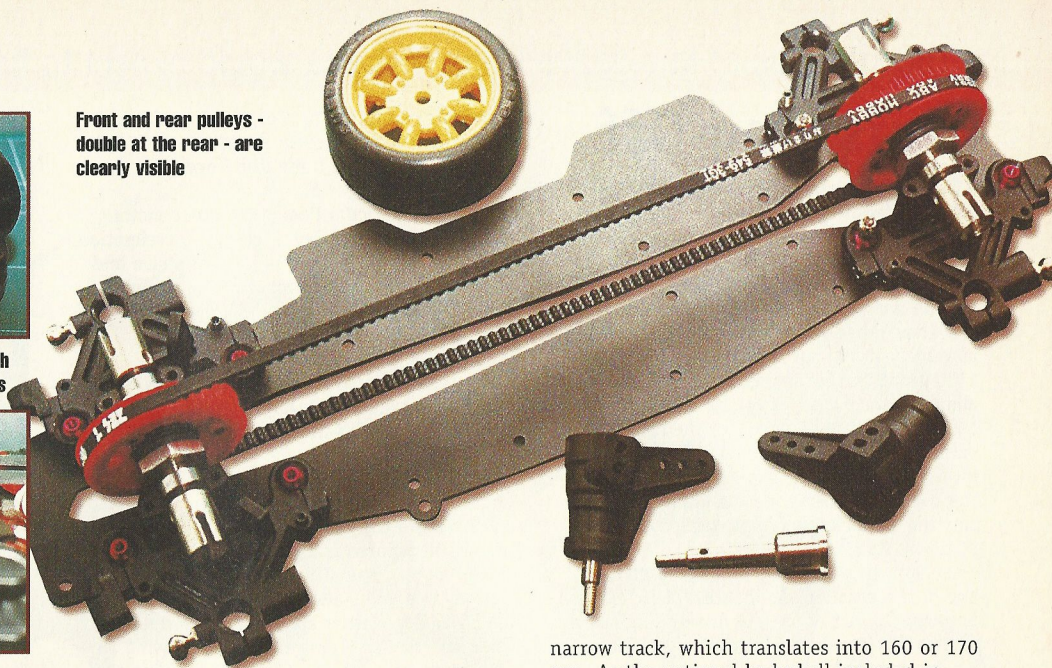
cut away parts of the upper and lower chassis plates, causing the belt to be virtually invisible if you look sideways on. Other features are shared suspension components, low friction ball ends and anti-roll bars front and rear.

## Build It

Firstly, the suspension arms are all identical, and can literally be used on any corner of the chassis. The lower arms are beefy and bomb-proof and after cutting off all but the two front steering stops, clip these onto the aluminium pivot balls I mentioned earlier, which totally eliminates the need for hinge pins. After fitting the lower arms, the stabiliser holders are fitted, which are located on the front and rear of the chassis by the same screw that captures the wishbones onto the appropriate pivot balls. I was careful not to over tighten them so that the suspension movement was silky smooth. Another feature that was included was a set screw on each lower arm to restrict suspension droop if so required. The ball pivot screws are then attached to the lower wishbone arms, these also have a unique dual feature as they have several flat spots on them enabling me to use my trusty Tamiya wrench to attach them but also having less friction and smoother suspension action when the shock absorbers are working.

The upper arms are not quite so chunky and consist of two pieces screwed together but utilising the same method described earlier to

Front and rear pulleys - double at the rear - are clearly visible



secure them to the pivot balls on the upper chassis plate. The body mounts are also attached at this stage.

## The Drive Train

Now for the tricky bit...The ball differentials. These are, again unique, and careful assembly is required. The front pulley is a 41 tooth and the rear, 42 tooth. The diffs themselves are ballraced with a diff ring being glued to a diff bearing holder then an opposing diff shaft (A) is screwed into diff shaft (B) the other diff ring is added followed by 3 coned spring washers which are then compressed by an M8 diff nut. Both the diff bearing holder and the diff nut have set screws to lock the diffs at the desired tension. After this is completed, a 40 tooth diff pulley is screwed to the rear diff pulley. I know that it is an unusual setup, but it works and the diffs are velvety smooth. Before the diff outputs are fixed onto the diff shafts, a 5x11 plastic bush is placed either side of the front diff and a 5x11 bearing on either side of the rear diff. This is where I deviate slightly from the directions and replace plastic bushes with ball bearings. I don't like to cause unnecessary wear and tear on any of the components, besides, if a person wants to improve their model's performance, then ballracing all the moving parts should be the first consideration.

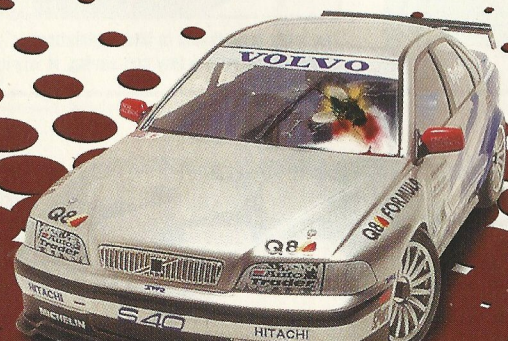
Now the main drive belt gets hooked up to the front and rear diffs and the motor drive belt gets placed onto the rear 40 tooth pulley. The upper axle mounts on the upper chassis plate are mated with the lower axle mounts on the lower chassis plate and now the chassis is starting to take shape.

Assembly of the knuckle arms involves the use of the pivot balls, in my case, the optional anodised aluminium balls were used. There is also a bit of head scratching to be had when you decide whether to have a wide or

narrow track, which translates into 160 or 170 mm. As the optional bodyshell included in this kit is a Mini, I opted for the narrow track allowing for this fact. So decision made, the pivot balls are attached to the appropriate holes on the four identical knuckle arms - inner for wide and outer for narrow track. After this crucial decision is made, it follows that the short or long dog bone drive shafts are assembled. The dog bones are made from the same hardy material as the wishbone arms and are completed by squeezing a 2x10 metal shaft into either end. To finish off the knuckle arms, really long wheel axles are inserted after the 5x11 bearings (replacing the plastic bushes) have been installed in either side. A shaft pin is used to retain the axle and locate the plastic Tamiya-type hexagonal wheel hub which fits standard type wheels, mini or other, depending on the model. The knuckle arms are then installed in the same manner as the wishbone arms, by securing the captive pivot balls, again not too tight so as to allow the arms to fall under their own weight. To secure the rear arms from deviating off the straight and narrow, plastic tie rods are used to great effect with no sign of bump steer to be found, again the appropriate length should be used.

## Shock Absorbers

The shock absorbers are narrow aluminium-bodied items which have purple anodised caps and metallic blue springs and are very well machined and, despite their small size, are quite robust. The directions, once again, are uncomplicated. The dampers consist of the usual items, but to secure the seal on the shaft, only one o-ring is used. This is held captive internally by an 'O' ring holder and the only problem I encountered during the assembly of the whole chassis was that this 'O' ring holder was ill fitting. A little bit of filing soon sorts this out and now the chassis nears completion after squeezing the dampers onto the ball ends located at the extreme front and rear.



# May Flyers



'The kit is full of innovative ideas that you would expect to find in a high-end chassis'

## Finishing Off

This entails installing the anti-roll system, and consists of two plastic - yes, plastic, rods. These rods are installed in opposition meeting in the middle of the chassis and connecting with a ball and socket which is moulded into the rod ends and despite how thin and ineffectual they appear, they actually cause visible movement of the suspension arms.

The front bumper is then added. This is a moulded, solid piece of plastic, resembling a car radiator. It is the width of the chassis and extends forward to protect the chassis and internals, although it is a bit of a tight fit for the front of the Mini bodyshell and to remedy this the kit includes two chassis posts to install in its stead.

The spur holder is then assembled utilising two of the kit supplied 5x11 ballraces, and is an intrinsic part of the 19t drive pulley which rotates on a layshaft which is adjustable by moving it forwards and backwards on the aluminium motor mount and is connected to the rear 40 tooth diff pulley by a short belt. A 96 fine tooth spur is supplied, which is later married with the supplied 25 tooth pinion. This resembles the Tamiya .4 module, although any normal spur will fit allowing the use of 48 or 64 DP pinions if so required.

The motor mount is worth a mention, as it consists of two plates screwed back to back and although it looks weak, it is actually quite rigid. As the spur and motor are running on the same motor mount, the gears remain properly meshed even under load, and heaven forbid, the odd collision or two.

The battery holder is then installed. The holder is rounded to accept normal stick packs and it has a unique way of securing the battery. There is a strap that clips downward to allow the battery to slide in and is then clipped back to secure it. Simple, but effective.

## Radio Gear and Body

Finally, the installation of the radio gear. This is pretty straightforward and after connecting the kit supplied servo saver to the servo and after utilising any available space for the electrics, the tyres are glued to the wheels and secured using the lightweight plastic wheel nuts supplied.

The bodyshell, a well moulded, sporty replica of a Mini, was prepared and painted by Howard from Howard's Hues, Bedworth (thanks, Howard), thus enabling me to get this review in on time. After adding the vital decals, the result is a rather wicked looking Mini.

## Track Time

I took the mini to the Bedworth track, which has, in the past, been described as a series of

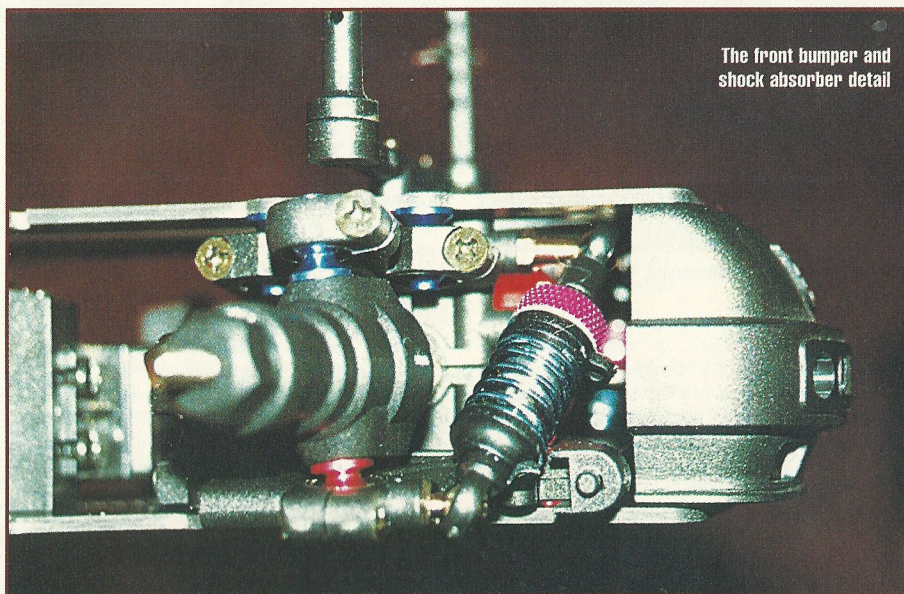
straights connected by hairpins. I would say that this is a fair assessment of the track in its normal layout, and I initially drove it on this route.

With the optional Dorado 23t stock motor, and a 1900 SCR battery, I let rip... Acceleration was ballistic but it soon ran out of steam and appeared pedestrian down the long straights. However, driving it on the technical course, it came into its own. I was able to throw it around the tight corners with impunity. Despite the short wheelbase and narrow track, the car was stable and forgiving, with a slight understeer which was soon corrected by backing off slightly, to allow it to turn in quite tidily without getting too squirrely. Even hitting bumps in a corner or clipping the apex didn't make the car lose its composure, and its nose still pointed in the right direction. Even when zig-zagging at top speed, the car was predictable and controllable. These stable handling characteristics are probably attributed to the fact that the front diff pulley is doing all the work owing to the 41-42 split, giving the car manageable front wheel drive characteris-



One mental Mini!

and drive components front and rear, but also offers hop up potential which vary from carbon fibre chassis plates to aluminium knuckle arms. The bottom line is that this chassis is agile and yet has impeccable manners and would be comfortable either on a track or car park. This car is in a word; FUN! **RRCI**



The front bumper and shock absorber detail

tics, whatever it was - it worked. Considering that this car is unmodified except for the extra ball races that I installed, it drives like a dream and would be easy for a beginner to master.

## Summary

Overall, this car kit utilises quite a few innovative ideas and systems, which are practical and effective which make it stand out from the other 'basic' kits. This chassis can also be fitted with really low bodysells owing to its low profile. It is worth mentioning that a number of 1:12th scale Touring and GT bodies will fit a 1:10th Mini chassis. It promises to be relatively easy to maintain by using the same suspension

## Tester Kit

KO MARS transmitter and receiver  
TEKIN speed controller  
DEMON 1900 SCR battery  
DORADO 23T optional stock motor

## Likes

Driving Manners  
Sophisticated chassis design

## Dislikes

Not yet available in the UK so I can't buy any hop-ups for it!

