

**T**he mainstream of R/C car development has followed fairly orthodox lines for some years now. True, there have been minor departures such as the abortive attempt by the Japanese some six or seven years back to interest us in 1/20 scale electrics and following them *Parma* thrust 1/18 and 1/24 scale upon an unwilling market and we mustn't forget the latest from *Tamiya* in the diminutive end of the spectrum. But it has fallen to the US of A to bring out quarter scale and those all time lovers of speed and vehicular excitement, the Italian, to latch onto what could be the start of something big by launching a real European style R/C quarter scale racer to excite the imagination.

The American RAM model reflects the US ideas on real road racing to a tee, it is an oval racer based on the popular dirt track 'Midgets' seen statewide nationally and in the UK restricted numbers. The US idea incorporates 'model' technology for power plants and could be thought of as an intermediate step towards the true R/C racer represented by the *DWA* machine with its 30cc (1.8cu.in.) recoil start equipped spark ignition petrol engine.

The *DWA* car can be used as either a track or off-road machine, the tyres really being the only difference from one to the other.

Kits are being imported by that indefatigable enthusiast Ted Longshaw who allowed us the privilege of assembling a car to try out — alas even Ted's renowned generosity fell short of donating the beast to *Model Cars* outright, after all, £795.00 is a large chunk of money! What do you get when Mr. Access has done his flexible best?

A great box for starters, Ted weighed it, he had to, to paid the postage to Hemel Hempstead. Seventeen kilos is a whole lot of metal and plastic but the bits are big and bar coping with the resultant ruptures putting it all together does not demand a great deal more from the rapturous owner than most other R/C cars.

### What's it got?

It's got chain drive, all independent suspension, constant volume dampers, front

Opposite page: Peugeot 205 rally bodysell fitted to the car gives a low sleek look. Four views of the chassis showing engine location and damper mountings.

# BORN IN THE USA

Bill Burkinshaw looks at the Italian answer to quarter scale racing

and rear diffs, quadruple disc brake, a *Peugeot 205* Rally bodysell (nearly big enough to take a bath) in and a supply of R/C linkage accessories of sufficiently massive construction to satisfy the most optimistic of servo designers. Assembly is a different experience almost entirely because of the scale of things. Bearings that would normally require a squeeze between finger and thumb to install do need a good size vice and a range of pieces of tube to press into place.

Mouldings for the differentials, wishbones, suspension uprights and bearing housings are of very substantial proportions and are fixed together with the largest socket cap self tapping screws I have ever seen. Indeed, to assemble the car I had to purchase extra large allen keys! Gears in the differential are steel but appear to be un-hardened as are the drive cups

for the ball and pin drive shafts. This would be a potential source of rapid wear if it were not for the massive size which leads one to suppose that they will take the punishment and last a reasonable time. Early on in the assembly my only real criticism of the kit as a whole became apparent, the manufacturers really ought to spend some time removing the burrs from the parts. My hands rapidly became lacerated from the sharp corners and edges on most metal parts.

Instructions are rudimentary, just pictorial sketches of the individual assemblies with no key as to how the various parts actually mesh together to become a car! Commonsense and reason enabled me to finally work out where all the bits went with only very few pieces keeping me in suspense till the last. The engine is a base mounted industrial two stroke fitted with a Walbro pump type carb which incorporates a fuel

pump, primer and filter — the latter a rudimentary foam job that could do with a little refinement. A twin shoe 'Ferodo' type lining clutch drives a straight cut gear primary reduction then through chains to countershafts then more chains to front and rear diffs. The clutch bearing is a very tight fit in the housing, good luck if you need to change it Ted! All countershafts run in sealed ballraces as do the differentials.

### Drive and suspension

All the drive and suspension parts mount onto a double layer chassis of aluminium alloy stiffened with through bolted spacers. The result is quite rigid allowing the suspension to do its job nicely. Once settled onto the suspension the whole car has very much of a real car feel to it, the weight reducing the scale effect of common or garden friction that does so much to defeat the best efforts of 1/8 and 1/10 designers.

Control is by the normal two function R/C, *Futaba* 'Brick' servos are essential for both throttle and steering. I had hoped that a standard servo would be man enough for the throttle but double return springs plus the massive brake also spring loaded to 'On' proved too much. If any R/C car could benefit from the fail-safe possibilities of the latest PCM radios, this is it. The springs on throttle and brake provide a rudimentary fail-safe, they are strong enough when combined to return the throttle to closed and the brake to 'on'. I would recommend that the linkage is left as shown for this very reason rather than redesigning to the more orthodox system.

### Starting the engine

First attempts at operating the engine were a total failure — no sparks! Nor could I fathom out how to plumb the fuel system. The tank is fitted with a flexible internal pick up pipe which connects to a fuel on/off tap. Unhappily this is so close to the chassis that the fuel pipe could not be connected to it meaning that the fuel feed had to be taken from what was intended to be a return pipe from the carb. The carb pump is obviously designed to deliver a little more fuel than the maximum demand likely from the engine and has a return fuel outlet nipple.

Once I had realised that the piece of wire that I could see floating around inside the cooling air duct of the engine was in fact the ignition cut-out and that it was shorting out against the engine crankcase,

TRACK TEST

# BORN IN THE USA

things took on a brighter complexion. A brisk pull on the recoil starter brought forth a stream of sparks so I confidently poured some two stroke fuel into the tank. A word of warning here, the fuel is petrol, this is far more volatile than glow fuel and nothing more than a spark is required to set the whole thing ablaze. I would recommend that any spillages are wiped up immediately before starting the engine and that a fire extinguisher is available.

Following the instruction to the letter resulted in a start from the third or fourth pull of the starter. The excitement was immense, blow the rain, let's get it out on the road!

So, there we were, in the pouring rain driving the monster gingerly through the puddles and it was great. Where can I lay my hands on £790? Both the girls' bikes could fetch £100, then there is the wife's car....

## STOP PRESS

Not long after the wet run of the car it was off to Crystal Palace to give the car a decent outing. After meeting up with Ted Longshaw one sunny afternoon it required just one pull of the re-coil starter and the car was ready to roll!

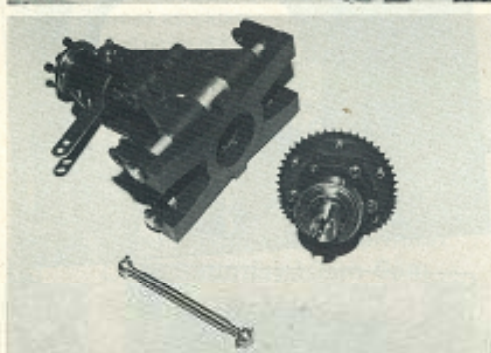
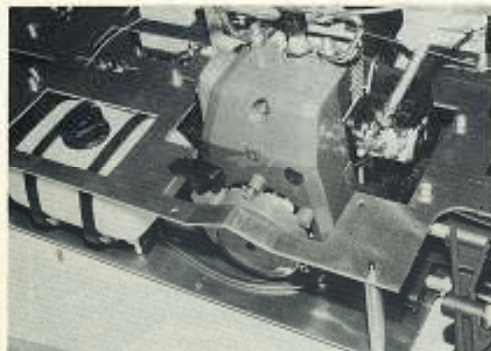
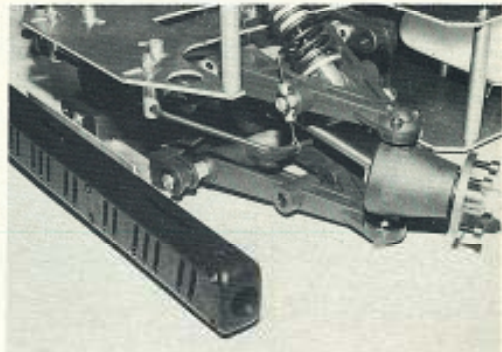
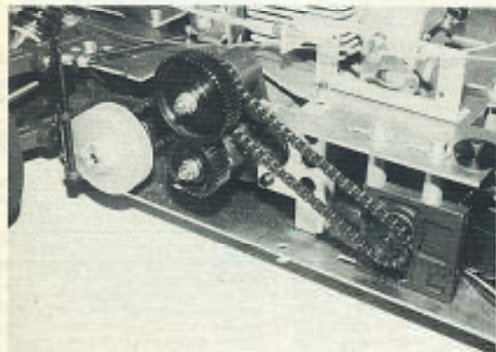
Handling of the car is really very good, around the 1/8 scale circuit track at Crystal Palace it was quite possible to get the car in big opposite lock power-slides which were usually quite easy to control, as for speed, the car has plenty of top end although it could benefit from a bit more acceleration — maybe a tuned pipe would help. Altogether the car is real fun to drive and hopefully — numbers allowing, racing could even be seen in the UK.

Reviewed by Bill Burkinshaw.



Above: just to give some idea of how big the DWA power-rod car is, Ted Longshaw sits behind it holding the transmitter.

Below left: power is transmitted from the engine to layshaft via a large chain through to large cut-ster gears. Below: the front suspension includes a heavy duty 4mm anti-rollbar and 12mm drive shafts; note large and very tough looking front bumper. Opposite page from bottom to top: the large Ferodo clutch shoes and clutch drum fitted to the 30cc engine. Front diff, suspension and drive half next to an 1/8 scale off-road wheel and tyre. The diff has a large toothed drive gear fitted to take the chain drive. The engine showing re-coil starter.



DECEMBER 1987