

# Mardave Mardave Mardave

# STOCK

## Master

Mardave stock car followers who thought they were in for a rough ride with the company's large investment programme in off road can now rest assured that the name synonymous with ovaling around will keep you nerf nudging oval keenies happy for many seasons to come. Rumblings about the launch of a new i.c. stock car were felt early in '84. Since then a steady stream of components destined for the new car have been available. The main most important piece of hardware, the chassis, was rigorously put through it's paces at the '84 European Championships. Development following this along with many a club meeting has enabled the firm who since 1973 have manufactured and sold approaching 20,000 stock cars to use their considerable knowledge to ensure this car is right first time.

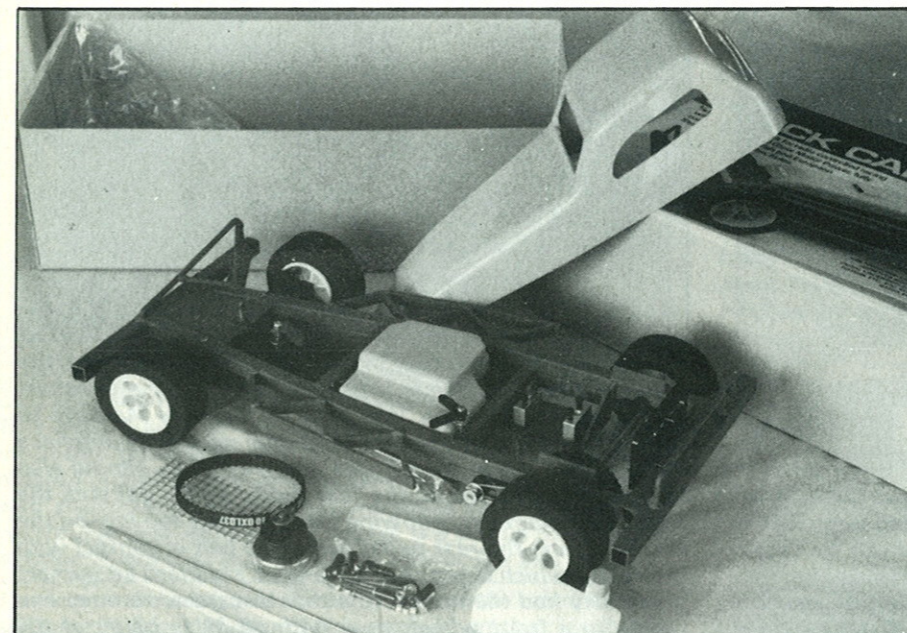
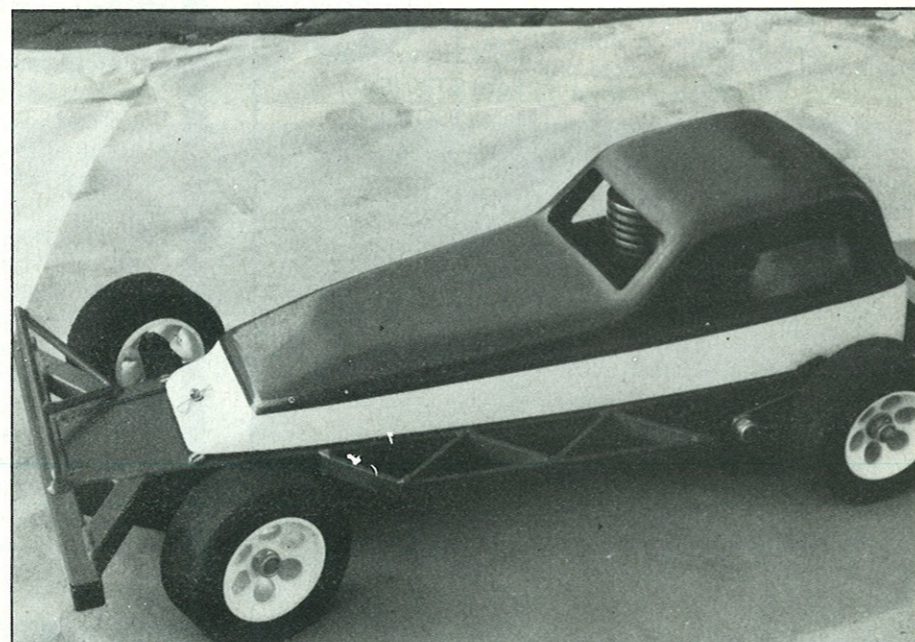
Up to press the new kit was thought to be an update on the MK2, but as the year progressed it was realised that this was not an update, but in fact a completely new kit.

The concept of a new stock car may envisage thoughts of gas filled shockers, four wheel drive with Turbo assisted marshall grabbers at a retail price at around £200. Fortunately with the sport of stock car racing being rigorously controlled with a maximum car price limit of £55, high tech developments tend to be left to the other formulas where manufacturers knock themselves out competing for a self-

### MIKE SMITH reviews the latest 1/8th scale Stock Car

inflicted diminishing market, bringing forth innovation after innovation with the moral stance that continual improvement ensures continual profit.

With stock cars, rather than kid gloving the hand that feeds you, improvement is more of a manicure providing essential developments.



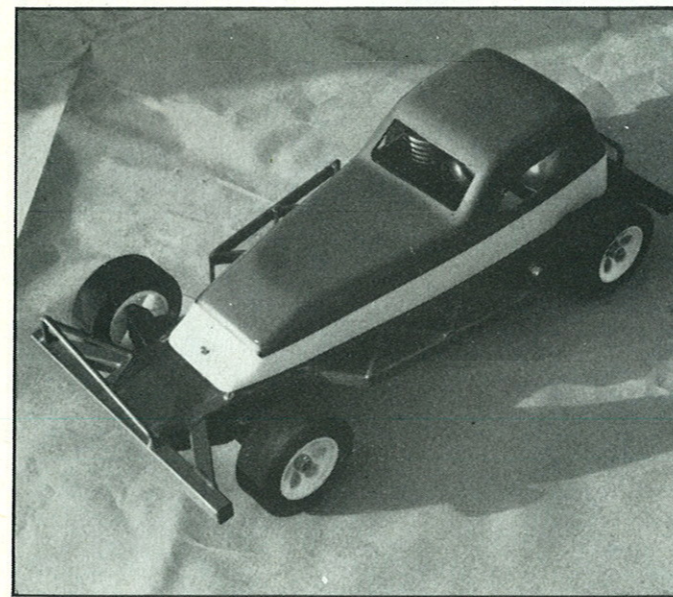
Construction of this kit is very simple. Although tipping the contents onto the floor didn't quite arrive at this state of build, five or ten minutes of loosely popping things together without a glance at the instructions got us so far.

### In Brief

Along with the new kit comes a new name 'The Mardave Stock Master' which sets expectation high as you gently slide the lid off the quite large heavy box. Flicking aside the instructions and tissue paper, the first thing you see is the primed, ready for painting, half inch section steel chassis. Those who are familiar with previous Mardave Stock kits (MK1, MK2) will give a smile when they see this new

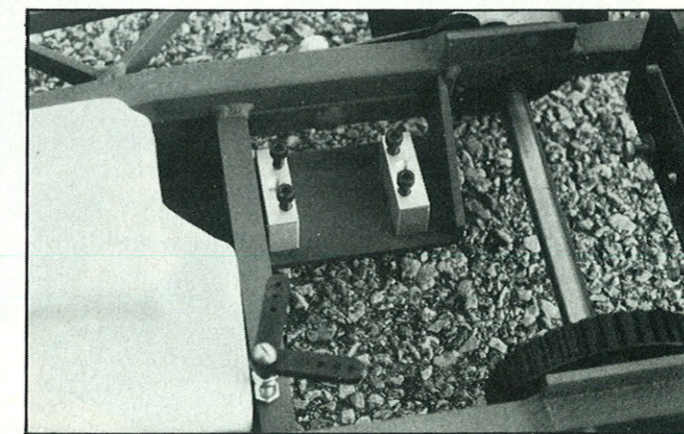
offering. To the first timer who looks in awe at this massive metal structure—a warning—don't drop it on anything weaker than the Empire State Building, for the chassis will come off best. Delving deeper into the box one soon realises that this is not a MK3, a new sleek body shell 1/4 inch front stub axles, key fit wheels, the first usable radio crate, decent beefy servo saver there is even a set of tough ball joints and track rod ends for the steering.

The completed car with new sleek body, less the name and racing numbers, or whatever else you care to adorn the coachwork with.



Close up of the newly designed engine mounting system. Previous Mardave chassis were not very well thought out when it came to mounting the engine, many a mounting lug was virtually torn away from the crankcase if the car was involved in a serious shunt.

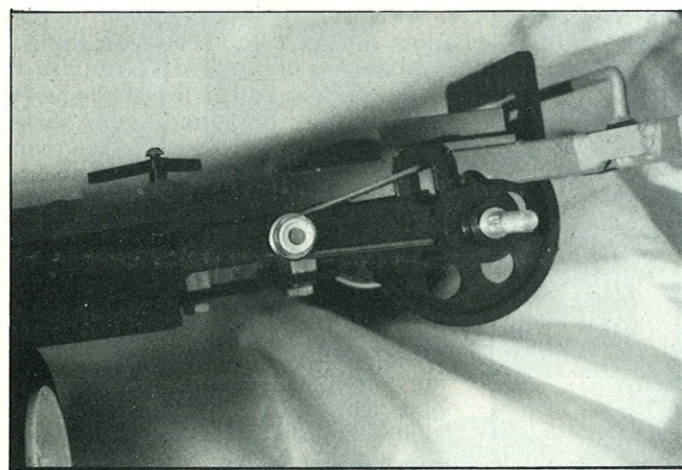
The more conventional layout of the Stock Master completely protects the engine from chassis distortions, also removal from the car or belt tension alignment can be carried out with minimal fuss or delay as there's only two securing bolts. Further examination of the picture reveals the back axle cut outs with extra strengthening over the axle and across the rear bumper these cut outs allow more movement of the rear suspension allowing for a lower ride height.



As price is the main dictator in the stock car the layout remains modified but basically unchanged. The kit has a polypropylene beam front axle with coil springs, castored stub axle mountings, ball-jointed Ackerman steering with adjustable track rods for precise wheel alignment. Engine mounting is for the first time completely detached from the chassis' overall strength, which may have sounded a suicidal method but that's how it used to be on the MK1 and 2 chassis. This time the engine mounting is more conventional with the engine bolted to two machined aluminium blocks with the blocks then slot fitted onto a flat steel mounting. The clutch is of the centrifugal type that transmits power via a toothed drive belt which is considerably wider than it's predecessor to a forty tooth pulley bolted to the rear axle. Rear suspension is hair grip springs attached to radius arms. The arms now include a spring lock limiting the amount of rear suspension.

### Construction

Adequate instructions are supplied with the kit, I am fairly familiar with the conventional layout of a stock car with construction being more of a second nature, but even for those who have never built or raced radio controlled cars this one is simplicity itself. In addition to the Stock Master Kit you will require a five function radio and engine of your choice. The chassis will take most side exhaust 3 1/2cc engines, without modification, but as with the MK 1 and 2 stock car kits which were



This close up shot shows the spring stop on the radius arm, the first time that a spring limitation device has been incorporated in the standard kit. The suspension can be easily modified to suit different circuits by weakening or strengthening the spring, a stiffer response can also be achieved by tightening the nyloc nut, it will not be long before someone realises that by reducing the amount of travel allowed by the radius arm that this simple but effective independent suspension system is infinitely tuneable.

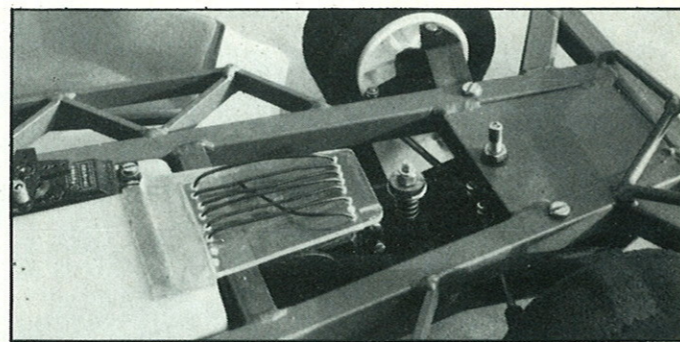
built around the Veco 19, then the 21, this one used the Irvine 20 A.B.C. as it's base.

**The Chassis**

The chassis is primed but not painted. After painting it is advisable to give the rear section a coat of fuel proofer. Other pre-building preparations were to drill a couple of holes in the floor pan to take the bolts from the radio crate, also to boil the rear radius arms (they go quite nicely with a few french fries). Seriously though, boiling does make these plastic components less rigid. Whilst things like the rear pulley

are well protected from impact, the radius arms are somewhat in the firing line. Anything that will give will not snap, so boil them in water. Don't drop them in with the vegetables for Sunday dinner.

The chassis is the main piece of hardware to which all other components are attached and it is worth bearing in mind that this large lump of steel with over riders, nerf rails and extra strengthening will be hurtling round the circuit at a frightening speed. The secret is to make sure all the components are well attached and remain so, more bits come adrift with



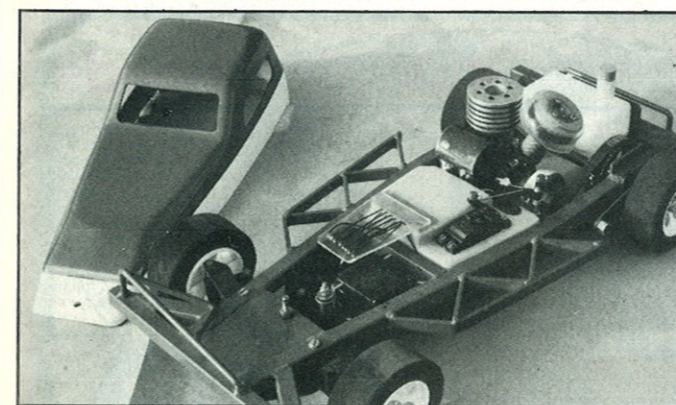
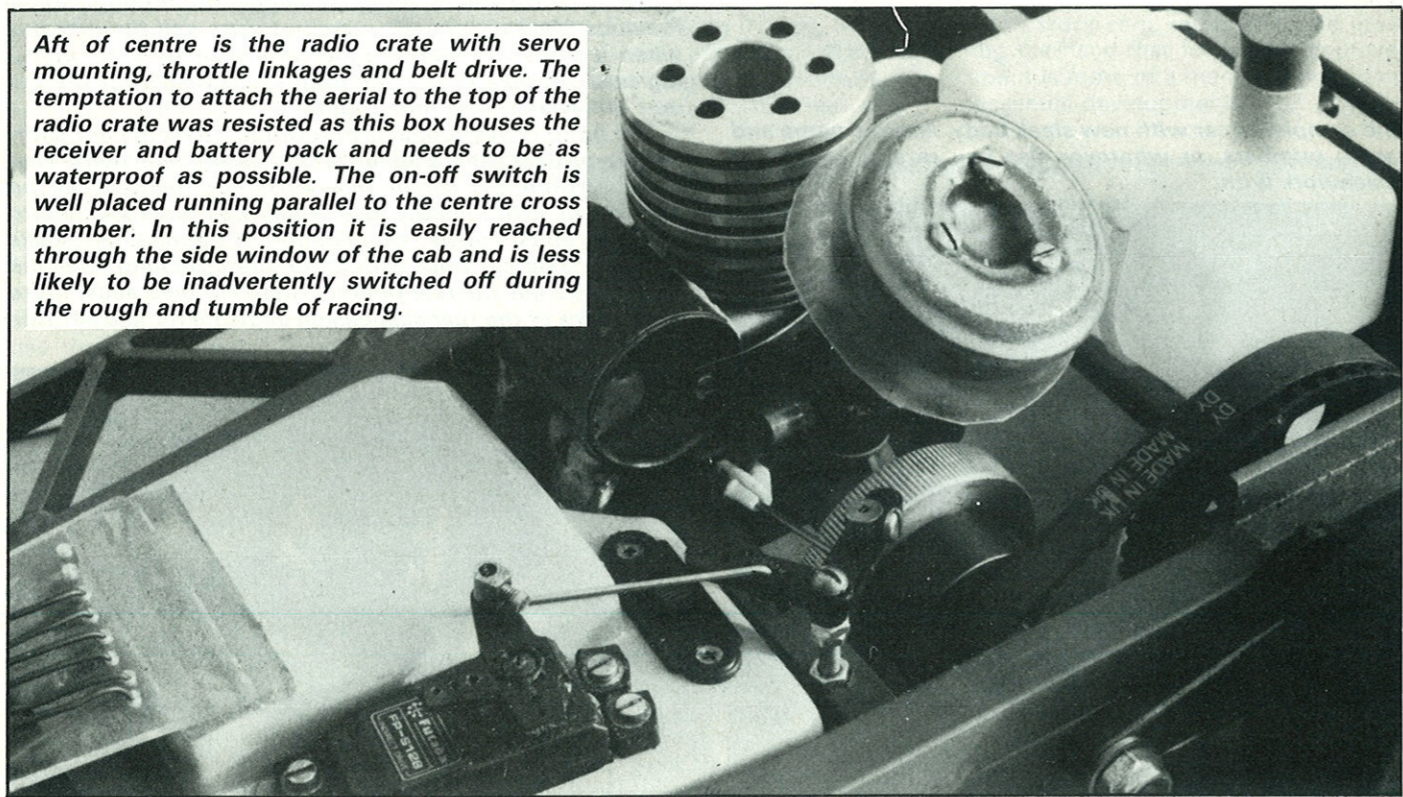
The considerable strength of the front end is seen here, the polypropylene axle beam is bolted through the main chassis longerons. The new 1/4in. stub axles allow Mardave to standardise their wheels, the user now need only purchase the one type rather than fronts and rears. This should also be a saving on tyres as the rear pulley width governs the actual tyre diameter. Allowing tyres to wear too low on the rear will bring the rear pulley and drive belt in contact with the circuit which is not recommended, standard kit owners previously had the option to either discard or remove and reglue to a front wheel; now with all axles being of the same diameter tyres of varying compounds can be switched around the car. Also in this picture the track rods with ball jointed linkages are now standard Mardave.

the vibration of movement than do in contact.

**Front End**

The front axle beam carries the king pins, axle blocks and stub axles. The stub axle is held in the plastic block with a circlip to stop it from pulling through. Mardave's axle blocks were notorious for shedding axles with the car's continual left turns, as happens during stock car races which incidentally are run on an oval circuit in an anti-clockwise direction. At least this has now been rectified (what a difference a circlip can make).

Aft of centre is the radio crate with servo mounting, throttle linkages and belt drive. The temptation to attach the aerial to the top of the radio crate was resisted as this box houses the receiver and battery pack and needs to be as waterproof as possible. The on-off switch is well placed running parallel to the centre cross member. In this position it is easily reached through the side window of the cab and is less likely to be inadvertently switched off during the rough and tumble of racing.



This overall view of the constructed car shows the servo mounting positions. This layout is extremely uncluttered making maintenance and replacement much simpler. It also shows how most of the weight is carried below the centre line (low CG). This of course is a bonus to the competition minded as the lower the weight the less the roll.

Because of the design of the car it is doubtful whether you will see the Stock Master in this position on the circuit, but this enforced upheaval shows a splendid view of the Stock Master's bottom. The strength and reliability of any stock car lies in the design of the chassis. As you will see the rear

The hole in the floor pan for the servo saver bolt has been pre-drilled making the correct positioning of the servo saver in respect of the steering arms and track rods spot on. You have to cut out the steering servo mounting bracket to suit the size of your servo, this is then bolted to the floor pan. With radio equipment that allows reverse throw of the servo it is merely a case of lining the output also up with the arm of the servo saver. A straight linkage allowing a little play will ensure the steering will centre properly. Those without servo reverse will have to position the servo mounting bracket so that left movement of the control stick on the transmitter produces left hand lock (steer to the left). This is no problem but just requires working out before you commit yourself.

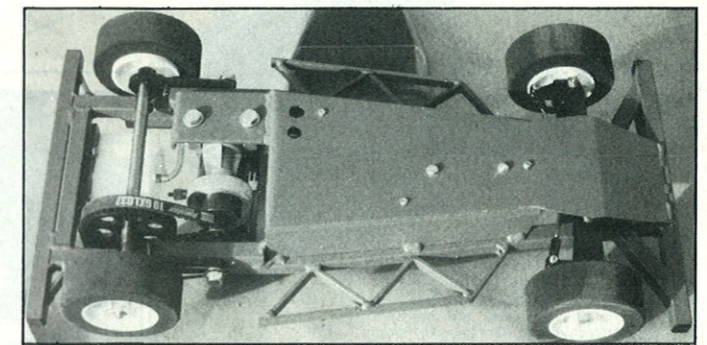
**Radio Crate**

The radio crate offers just enough room to mount the throttle servo and on-off switch to the lid, whilst receiver and battery pack are protected from the elements. Although the plastic crate is very strong, don't over tighten when you mount it to the floor pan. There is a nice area on top of the crate to attach the receiver aerial. First thoughts were to drill tiny holes in the lid to thread the aerial through, but as water is the radio equipment's worst enemy the less holes the better, I eventually attached the aerial to a piece of plastic pushing it as far forward from the engine as possible.

**Engine mounting**

The new engine mounting system of the Stock Master is far superior to the previous MK I/II cars. Care should be taken to achieve correct belt alignment and tension, ensures that the rear axle shows little resistance as it

bumper is strengthened with corner pieces protecting the rear wheels from attack from behind, there is also double strength incorporated with an extra cross member. The radius arm attachments have strengthening features both above and below the chassis's main longeron. The floor pan affords protection to the rest of the car and is welded to the chassis, making it an integral part of the structure. The engine mounting plate is not quite as low as the remainder of the floor pan to protect the engine mounting bolts. The bolt holes are elongated to allow engine movement for lining up to the rear pulley. With only two bolts holding the engine in place removal for maintenance is very simple.



turns in the radius arms before attempting to tighten the engine correctly to the mounting, no further resistance should be felt with the drive engaged than was when disengaged.

**Fuel Tank**

The fuel tank is mounted to a bracket at the rear of the car with tie wraps to secure it in place. There is a breather hole in the back of the fuel tank so do not push the rubber bung too far down the neck as this will restrict air flow which in turn will restrict fuel flow.

**Track Test**

It was impossible to test the car under race conditions, being so early in the year, but a trip to the Pendle Club's new venue brought me as near to a race surface as I was liable to get. There were still patches of dirty grey snow around but the race surface was clear if not a little on the damp side.

The Irvine 20 fired up with a rasp but required slight carburettor adjustment. I cupped my hands around the heat sink long enough to thaw out my finger ends enabling me to pick up the R clips to secure the body in place. Due to the high heat sink head of the Irvine and the low sleek body of the Stock Master, it was difficult if not impossible to attach the glow lead with the body in place. Although this was no problem for test day, under race conditions quick starting with the body in place is essential, which means a hole would be needed in the roof of the cab section, allowing a glow lead of the pinch tunnel type to be affixed vertically through the hole.

With the Stock Master ticking over at my feet a swift blip of the throttle propelled the car forward coasting gently to the roughly marked out oval.

Once on the beginning of the straight, facing the obligatory anti-clockwise position, 1/4 throttle moved the car neatly down the straight. Left and right movement of the steering had the car weaving like a full size Grand Prix car on warm up lap, of course I wasn't trying to bring the tyre temperatures up to race specifications, just to make sure nothing was binding on the steering or suspension. Anyway, why should the tyres be warm. Gradually building up speed with a slight adjustment to trim, the car was unbelievably forgiving of the one or two loose chippings that had been overlooked when we initially cleared the surface. The car's handling was difficult to fault, the tyres and conditions were not fully complementary but even with these adverse elements one could see a potential winner in competition. The key fit rear wheels are a real step forward. Previously, over-tightening the wheel nuts to stop them slipping eventually distorted the wheels making tyre truing a little senseless, also the engine can be removed from the car in half the time of the MK 2. With all axles now of the same diameter, worn down rear tyres, if of desired compound, can be used up on the front.

All in all this is a well thought out competition orientated kit with a retail price of £49.50. This has to be one of the least expensive top class competition cars of all radio race cars. Availability for spares and replacements, if passed records are anything to go by, will be second to none. Mardave, in the past, have had a steady stream of light criticism about their I.C. Stock cars, have at last produced a horse for the course, a true Stock Master.

Manufacturer — Mardave R.C. Racing, 7 Heanor St., Leicester. Price £49.50.