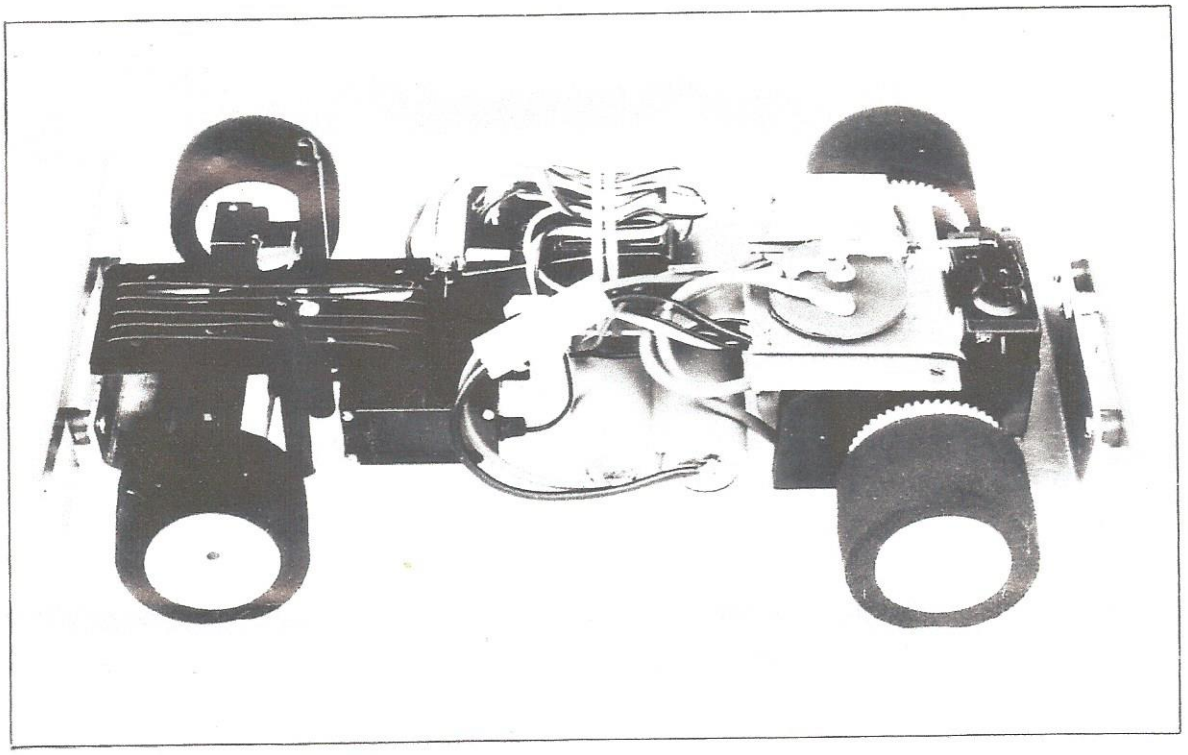
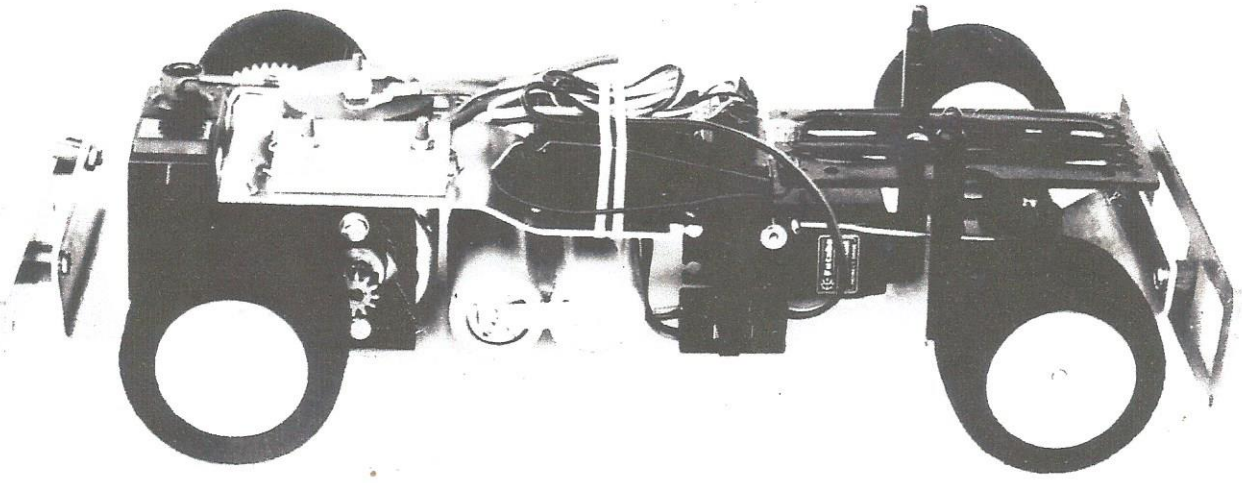
MARDAVE

MINI STOCK CAR



Radio control equipment required

If you do not already have radio equipment, this should be of the two channel proportional type and a twin stick transmitter is recommended in preference to a steering wheel one. All modern radios with two servos should be suitable.



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Assembly Many parts are assembled with self tapping screws. These should be fitted carefully and not overtightened as this can strip the thread.

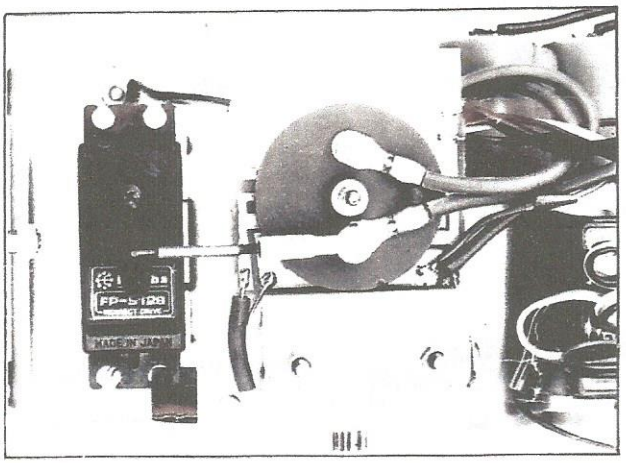
Chassis, motor and speed controller assembly Fit pinion gear to motor shaft and tighten grub screws equally and securely. Press fit rear axle bearings into bearing blocks with flanges facing outwards. Assemble motor to RH plastic bearing block with M3 x 12 machine screws with plain washers under heads of screws. Do not overtighten. Fit motor and bearing block to chassis with 9 mm long self tap screws. Assemble speed controller to top of bearing block with one self tap screw. Solder speed control wires to motor lugs. Fit LH bearing block to chassis and speed control plate. Fit rear axle through bearings. It should rotate freely.

Press fit front stub axles into the nylon steering arms and secure with 3 mm nuts.

Assemble the pre-formed wire track rods from the steering bellcrank to the nylon steering arms and secure with plastic swing keepers. The short ends go innermost.

Assemble front and rear bumpers to mounting brackets with self tap screws. Assemble rear bracket to chassis with m3 x 6 screws and nuts.

Wheels and tyres Bond tyres to wheels. Impact adhesive is most commonly used but it is necessary to fit the tyres quickly whilst the adhesive is still wet. Fit rear wheels to axle, loosen motor screws and adjust gear mesh as necessary. A small amount of backlash should be felt between the gears. There should also be a small amount of end float between wheels and axle bearing to ensure free running. Fit front wheels and secure with 3 mm nyloc nuts.



Battery and radio installation Cut a piece of double sided adhesive tape to 6 cms approx. length and then cut down the middle to make two strips. Stick to underside of battery and fix battery to chassis centrally in position shown leaving a small space between battery and motor to allow for motor adjustment.

As the battery pack is 4.8 volts, it can also be used to power the radio equipment in the car.

The car is designed for control by two channel radio with two servos. One servo operates the steering and the other operates the speed controller. Most transmitters have two joysticks. The right hand stick moves from side to side and is used for steering whilst the left hand stick. which moves forwards and backwards, is used for speed and forward and reverse control. It is usual to connect the linkages so that when the steering joystick is moved to the right, the car turns to the right (when moving away from the driver) and when the speed control stick is moved forwards, the car goes forwards. When the speed control stick is moved back, the car goes into reverse.

Servo outputs shafts can be of clockwise or anti-clockwise rotation and the car layout has been designed so that either type can be used.

Many radio control outfits now include servo reversing switches which solve any problems but if this is not the case proceed as follows. The speed control servo direction of rotation is unimportant as the motor direction can be easily reversed by changing over the leads to the motor. For the steering its is preferable to be able to operate off the top of the output disc or arm, as shown in the photos, but if the servo rotates the wrong way and it is necessary to connect to the bottom of the disc, it will be necessary to pack the servo up off the chassis a few mm.

Both servos are fixed in position with double sided adhesive tape. Before fixing however, thoroughly check positions. The speed control servo should have its output shaft as near to the centre line of the speed controller as possible and the steering servo should have its output shaft at the furthermost distance from the bellcrank.

Fit switch in position shown with double sided tape, cut the plug from the switch to battery lead and solder the black wire onto the speed control board as shown and the red wire to the short red wire already fitted to the board. Wrap the joint with insulation tape.

Assemble aerial plate and mounting pillar to chassis with two self tap screws.

Fit receiver to its mounting plate with a small piece of double sided tape (the elastic band shown is to hold the surplus leads neatly). The receiver aerial should be threaded back and forth through the holes provided in the aerial plate.

The steering linkage should be made from the 1.5 mm diam. wire provided and secured to the servo arm with a steel collar and to the servo saver bellcrank arm with a plastic swing keeper. A small dog-leg kink should be formed approx. half way along the link. This can be increased or straightened to provide adjustment.

Before adjusting and connecting the linkages to the servos, batteries should be fitted and the radio switched on. The joystick trim levers should then be centralised so as to centralise the servos. Then first switch off the receiver folowed by the transmitter The linkages should then be adjusted for length so that the front wheels are pointing straight ahead and the speed control wiper contacts should be in line down the centre of the speed control board.

Bodyshell Trim the bodyshell to the lines etched on it. Drill, cut and file window apertures. Drill three holes approx. 5.5 mm diam. where indicated. Assemble two plastic pillars to front of chassis with self tap screws and assemble steel peg to rear mounting with nut provided.

The most suitable paint for the body is cellulose and the car 'Touch up' aerosols are ideal. After painting the body, cut to shape and fit the wire mesh using impact adhesive or similar.

Charging instructions The charging lead is intended for charging from a 12 volt car battery. The RED lead must always be connected to the Positive + terminal of the battery and the BLACK lead to the negative — terminal. When the plug on the lead is connected to the battery socket, the red leads should mate together and the black leads together. An indication that the current is flowing can be gained from the aluminium resistor cover plate which will become quite hot. On no account charge for more than 25 minutes from flat or the battery may be damaged. If the battery is not fully flat or discharged, then the charge time must be less than 25 minutes. More sophisticated chargers are available which will automatically time and cut off the charge. These are more expensive but reduce the chance of overcharging and ruining the battery pack.

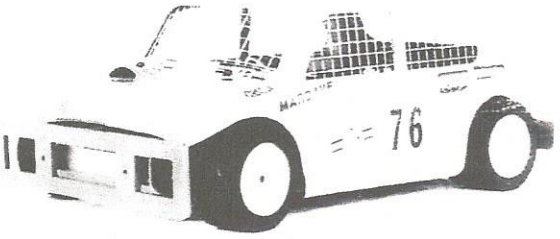
Only charging leads suitable for 4 cell batteries should be used. Although the Ministock is fitted with a 4 cell battery, its speed and length of run are very little different than with a 6 cell battery. After the battery has been cycled (charged and discharged) a few times, between 8 and 10 minutes run should be achieved on smooth surfaces.

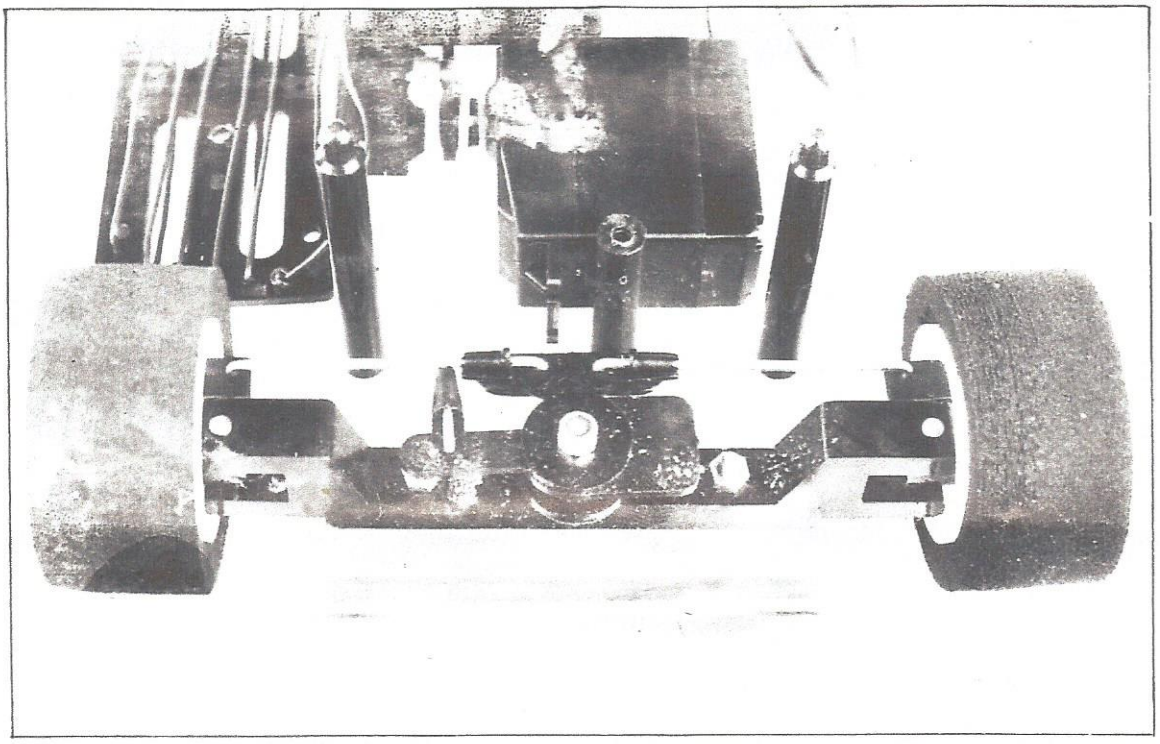
Final adjustments and operating All linkages and moving parts should be checked for free operation. A drop of oil can be applied to front wheels, king pins and rear axle bearings. Check that the steering over-ride works freely so that, if the front wheels hit an obstacle, the servo gears will not be damaged. Ensure that the speed controller works smoothly through all speeds and that the wiper contacts centralize onto the brake pads on the speed control board, thus producing dynamic braking through the motor.

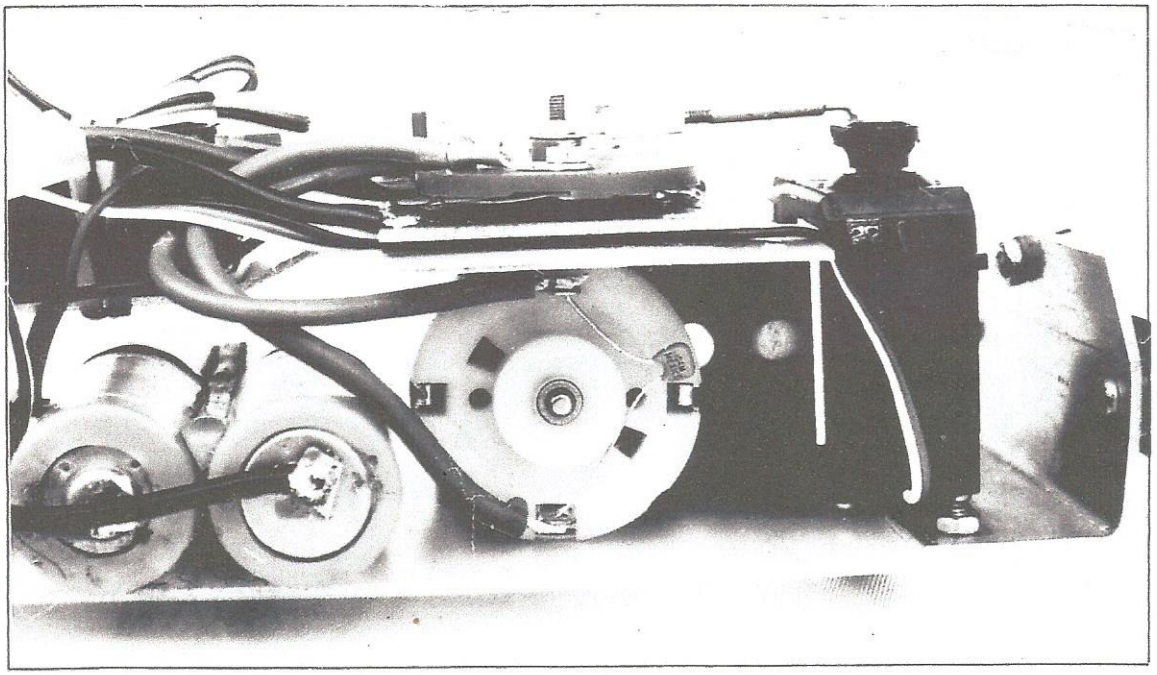
When driving the car, the transmitter trims should be adjusted so that the car will run in a straight line 'hands off! Try to avoid stalling the motor. If the car does not respond to the throttle, switch off immediately and locate the trouble.

Always disconnect the battery when the car is not in use.

We wish you much enjoyment from your 'Ministock' and would encourage you to locate and join your local club (or even start your own) as organised racing is the ultimate way to appreciate this exciting hobby.







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EXPLODED DIAGRAM