'Kick Starting Engineering Excellence'

# Formula Schools Electric - Instructions for Standard Kit Assembly

### **Front Suspension**

All components for the front suspension are in one bag. Open it carefully as there are some springs and other small components.

Attach the E-clip to one end of the king pin and then press the king pins through the outer holes of the front

O ring underneath

Component assembly for front suspension

#### suspension arms.

Push the stub axles fully into the steering arms and fit over king pins. They should slide easily up and down the king pins, if they don't, remove and rotate the stub axles through 180° and try again. Add the coil springs, M3 washers and the final E-clip on the top. Fix part assembly to the chassis.

## **Rear Suspension**

Again, open the bag carefully as there are again small components.

- Joint the two halves of the rear suspension unit together with the 16mm self tapper, holding the two halves together and flat to insure correct alignment; one of the holes is to allow the screw to pass through and the other is for the tapping part to bite into.
- 2. Attach motor mount sections onto the base after removing the suspension components with a knife.
- 3. Attach the pivot ball nut and guide pin to the chassis then fit motor mount onto chassis, snap onto ball nut and locate pivot into central pin. Assemble springs and fit in place, tightening it of

into central pin. Assemble springs and fit in place, tightening it down with the M3 nylocks.

Axles have to be made to fit through bearings (white plastic washers on the outer sides) and the overall width of the car can be changed at this stage. A M3 thread is sufficient to hold the wheel onto the axle. The component assembly for the rear suspension is shown opposite.



The battery connector has to be soldered speed controller with the same polarity as the assembled on/off switch. The motor itself has also to be soldered onto the wires coming from the speed controller, taking care not to burn the capacitor with excessive heat.

## Wheels and tyres

The tyres have to be glued onto the wheels, and either super glue or a contact adhesive will do. Assemble them first before trying to add glue around the rims.



Toe in adjusted by lengthening the track rod ends

## Servos

The two servos are the same and therefore can be added in any position. If the servos work backwards then a reverse switch is on the transmitter for each servo or channel.

The steering servo can be mounted, using the mounting posts and the servo saver end reduces the chance of damage to the motor. The steering arms have to be made and adjusted so that the front wheels are straight or have a slight "toe in" for best handling. The steering servo arm must be vertical for maximum turn in both directions when powered up and the transmitter is set to the neutral position.

Once assembly is complete and the battery is fully charged the transmitter should be turned on first and then the receiver. Both servos should twitch; the trim settings on the transmitter should be set to the middle. Both servo arms should be vertical, if not then unscrew them and move then on their splines so that they are as close to vertical as possible. The battery life is increased by charge/discharge cycles to a maximum of 10 minutes but it is not usable after about 8.