

FX10/ALL TERRAIN RC OFFROAD CAR KIT

ASSEMBLY AND OPERATION MANUAL



Futaba

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FX10/ALL TERRAIN

RADIO CONTROL EQUIPMENT, TOOLS, AND PAINT REQUIRED FOR ASSEMBLY AND OPERATION

★ Radio control systems.

Several types of Futaba Radio Control Systems are available for your FX10. Regardless of manufacturer, you will need a 2 channel system with either 2 servos or 1 servo and an electronic speed control. **IMPORTANT!** The FX10 is designed for BEC (Battery Eliminator Circuitry) systems. This means power to operate the receiver, servos and/or electronic speed control is tapped from the motor Ni-Cd battery pack. There is no provision for an additional receiver battery pack.

All Systems require alkaline batteries (typically 8-AA size) for the transmitter. BEC systems tap power from the motor Ni-Cd to eliminate the need for the receiver battery. This reduces the cost of the extra set of batteries and the model's weight.

The choice of stick or pistol grip type transmitters is up to the individual driver. While the pistol grip/wheel style was developed specifically for RC car applications, many top drivers prefer the dual stick design.

The Futaba MC112B MOSFET speed control is available as an option for your FX10. The MC112B replaces the throttle servo, using solid state electronics to control speed.

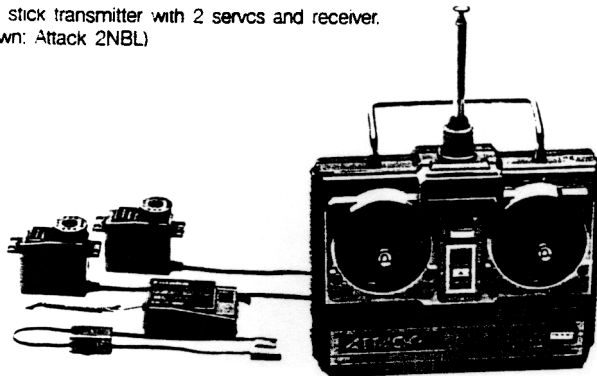
Note that BEC-equipped systems vary somewhat. BEC (Battery Eliminator Circuitry) can be incorporated into the receiver (R102GR), the switch harness (SWH-10) or even the speed control (MC112B). The standardized BEC plug has been factory attached to the speed control of your FX10, but the switch harness you use must also be equipped with this type of plug. The only exception is when using electronic speed controls, which can usually be plugged directly into the receiver without additional plugs.

★ Motor batteries.

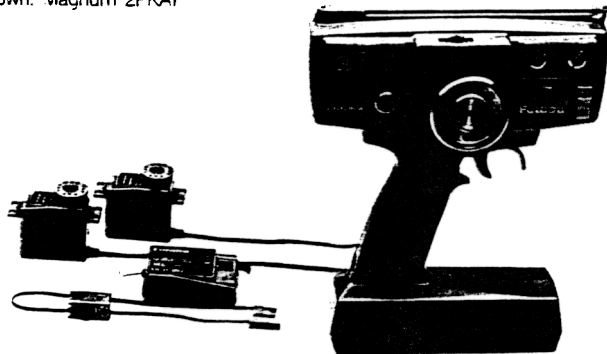
The FX10 kit is designed to be powered by a 7.2v/1200mAh Ni-Cd (Nickel Cadmium rechargeable) battery pack. These packs are assembled from 6 sub-C sized cells and are frequently referred to as 6-cell packs. These batteries were designed for special applications and must be used for proper performance. These are also available through hobby dealers, and are NOT commonly sold at other stores.

To re-charge the 7.2v Ni-Cd you will need either a low power, overnight charger or a fast charger. Fast chargers are most commonly used and can re-charge the pack in less than 30 minutes. These chargers can operate from wall current (110VAC) or an automobile 12VDC sources or both. Typically a 15 minute cut-off timer is included to prevent overcharging. For additional charging information consult your dealer.

- 1: Dual stick transmitter with 2 servos and receiver.
(Shown: Attack 2NBL)



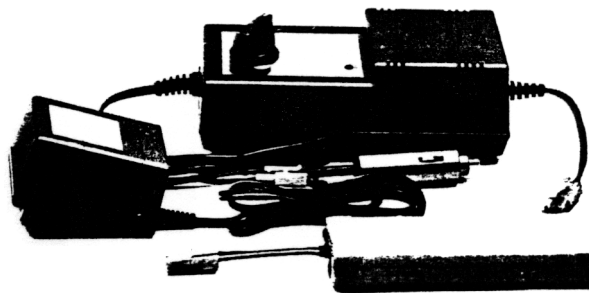
- 2: Pistol grip/wheel transmitter with 2 servos and receiver.
(Shown: Magnum 2PKA)



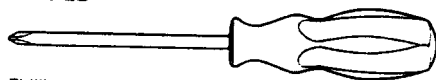
- 3: For optimum performance and reliability you may substitute a MOSFET electronic speed control for the throttle servo.
(Shown: FP-MC112B)



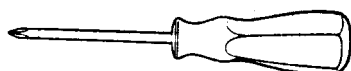
Battery & charger



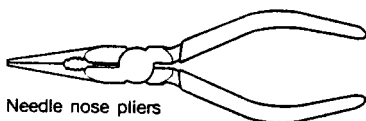
TOOLS



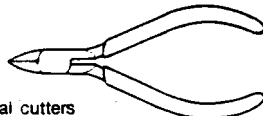
Phillips screwdriver (large)



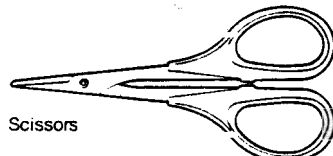
Phillips screwdriver (medium)



Needle nose pliers



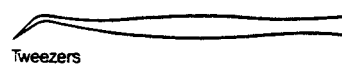
Diagonal cutters



Scissors



Hobby knife



Tweezers

PAINT

Requires polycarbonate paint for upper body shell and acrylic styrene paint for chassis and figure.



Bottled paint

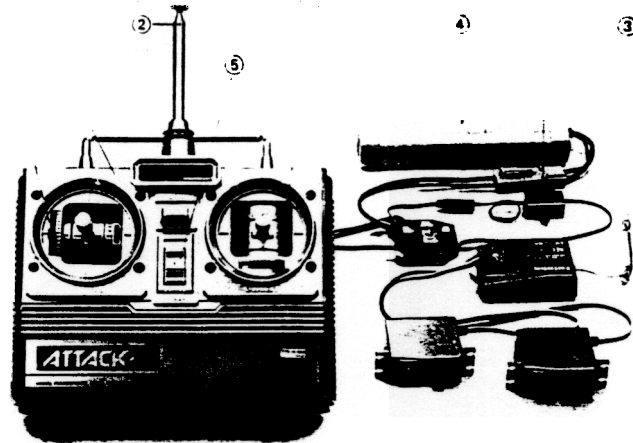


Spray paint

RADIO INSTALLATION/STEERING SERVO/THROTTLE SERVO

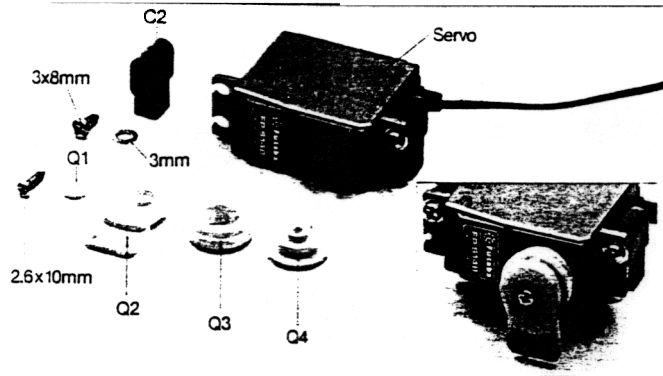
RADIO INSTALLATION

- 1. In order to install the radio you must first check the system.
- 2. Install transmitter batteries or fully charge transmitter Ni-Cd.
- 3. Extend transmitter antenna.
- 4. Uncoil and extend receiver antenna wire.
- 5. Fully charge 7.2V Ni-Cd pack.
- 6. Switch on transmitter.
- 7. Switch on receiver.
- 8. Set all trims at neutral.
- Optional Features/consult your radio manual (General recommendations for Futaba Magnum 3PG)
- 9. For systems with dual rates, set the rate trimmer for maximum travel.
- 10. For systems with exponential rates, set the rate trims at 0.
- 11. For systems with steering -ATV, set the ATV adjusters at 0.
- 12. With the radio system switched on you will be able to neutral your servos for proper servo horn installation.



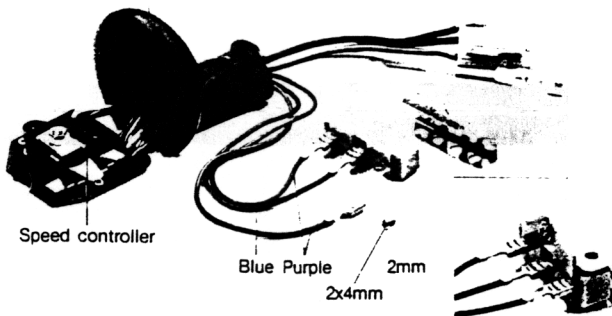
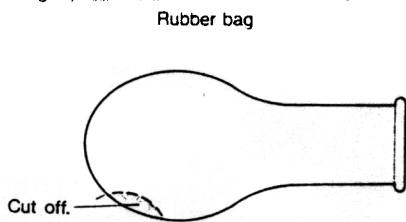
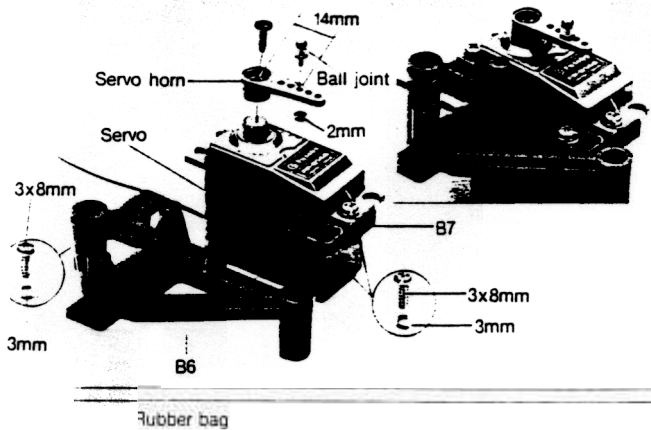
STEERING SERVO/SERVO SAVER

- 1. Remove the stock servo horn, making sure you do not rotate the output shaft. If you rotate the output shaft, switch system on again to return it to neutral.
- 2. Install servo adapter Q4 as shown, with the indexing arm at 12 o'clock (straight up).
- 3. Spread the open ends of servo saver spring Q3 and position them over the indexing arm.
- 4. Servo horn Q2 is now inserted, with the indexing arm also positioned by Q3.
- 5. Insert Q1 washer and mount using 2.6 x 10mm self-tapping screw (Screw bag C).
- 6. Attach servo mounts C2 using one 3 x 8mm self-tapping screw (Screw bag B) and 3mm washer (Screw bag A) in the holes on each side.



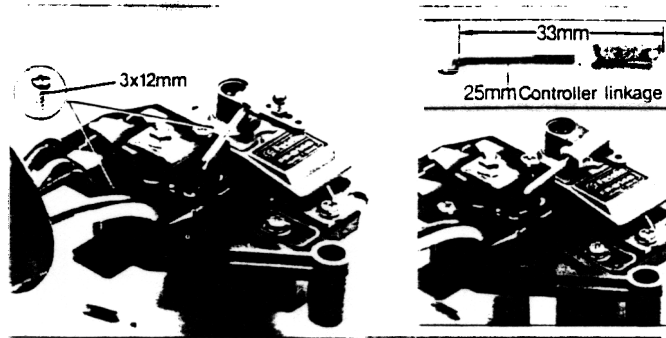
THROTTLE SERVO/SPEED CONTROL

- 1. Select a servo horn included with your radio system with arms that are at least 25mm long. Remove all but one arm using diagonal cutters.
- 2. The arm must also have a hole located 14mm from the axis.
- 3. Insert ball joint (Screw bag D) in hole 14mm from axis and secure using 2mm nut (Screw bag D) and socket wrench (Metal parts bag).
- 4. Mount the arm on the servo, parallel to the case and extending beyond the output shaft end of the servo as shown.
- 5. Using a 3 x 8mm self-tapping screw (Screw bag B) and 3mm washer (Screw bag A), mount adapter B7 to the end of the servo opposite the output shaft.
- 6. Mount the throttle servo to controller mount B6 using two 3 x 8mm self-tapping screws (Screw bag B) and 3mm washers (Screw bag A).
- 7. Remove resistor plate, resistor, speed controller, and rubber bag from the speed controller bag.
- 8. Cut out a portion of rubber bag as shown and pass wiring from speed controller through it.
- 9. Insert resistor into resistor plate as shown and attach the blue wire from the speed controller to the center post. Next attach the purple wires to the other posts. Secure resistor cover using a 2 x 4mm machine screw and 2mm washer (Screw bag D).



CHASSIS/STEERING LINKAGE/SPEED CONTROLLER

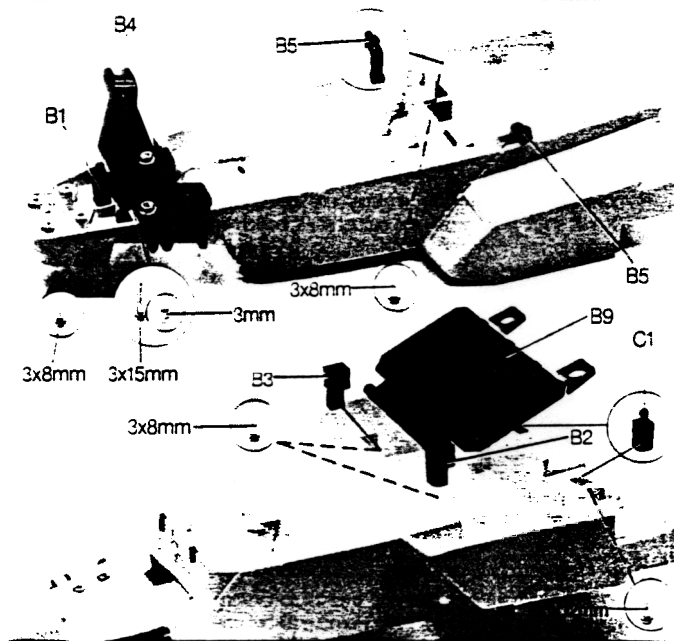
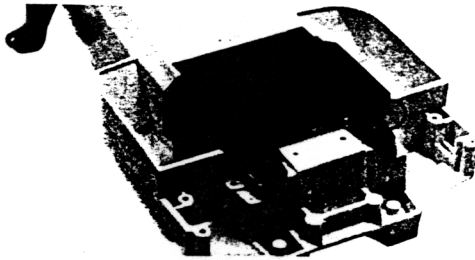
- 1) Thread ball socket (Metal parts bag) onto 25mm controller linkage (Speed controller bag) until the overall length measures 33mm.
- 2) Mount the speed controller to the controller mount using two 3 x 12mm self-tapping screws (Screw bag B).
- 3) Hook cranked end of controller linkage (assembled at 10) into speed controller wiper arm, and snap ball socket onto servo horn ball joint.
- 4) Switch lubricant (Speed controller bag) is included and should be applied to insure optimum contact for efficient operation and extended use.



0 33mm

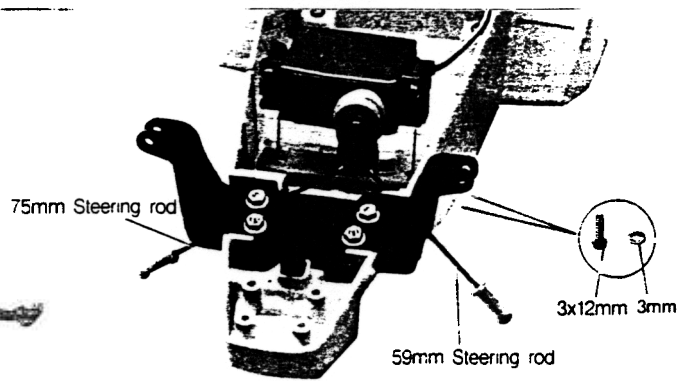
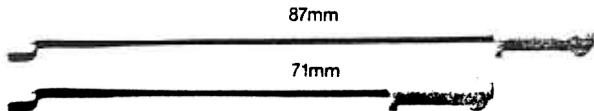
CHASSIS

- 1) Attach front body mount post B1 to chassis nose with 3 x 8mm self-tapping screw (Screw bag B).
- 2) Mount front shock tower B4 to the chassis using four 3 x 15mm machine screws and 3mm flange nuts (Screw bag A).
- 3) Rear body mounts B5 mount to the chassis with 3 x 8mm self-tapping screws (Screw bag B).
- 4) Insert battery compartment cover locking posts C1 into the chassis. Use 3 x 12mm self-tapping screws (Screw bag B) to secure them.
- 5) Slide compartment cover hinges B2 (right) and B3 (left) onto cover B9, then insert them into the chassis. Attach them with 3 x 8mm self-tapping screws (Screw bag B).



STEERING LINKAGE

- 1) Assemble 59mm and 75mm steering rods by threading on ball sockets (Metal parts bag). With socket installed the 59mm rod should measure 71mm and the 75mm rod should measure 87mm.
- 2) The 59mm rod is then inserted into the servo saver's hole and steers the left front wheel. The 75mm rod steers the right.
- 3) Pass both rods through the slot in the chassis and mount the servo in place in the chassis using two 3 x 12mm self-tapping screws (Screw bag B) and 3mm washers (Screw bag A).



SPEED CONTROLLER

- 1) Insert rear of speed control mount B6 inside chassis behind the steering servo and secure using two 3 x 12mm self-tapping screws (Screw bag B).
- 2) Pass battery connector wiring through the bottom of chassis.



0 71mm

87mm 4

FRONT SUSPENSION/ATTACHING BUMPER

FRONT SUSPENSION

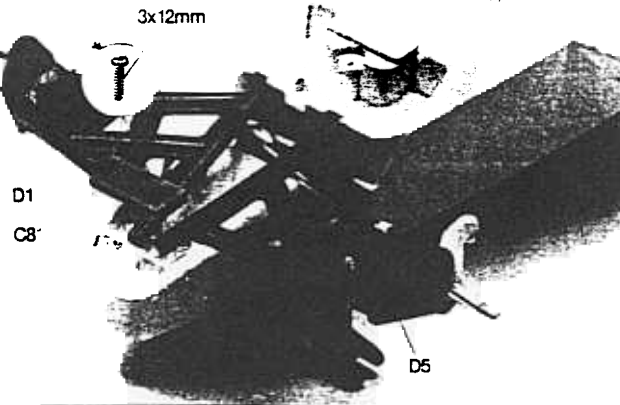
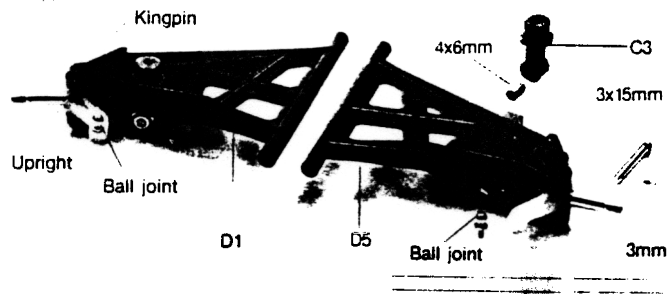
Prepare front suspension arms noting that D5 is the right and D1 is the left. Steering uprights are located on the blister card, 3 x 22mm kingpins in the screw bag C.

Apply grease to 3 x 22mm kingpin and insert down through the suspension arm and the upright. The upright should turn freely on the kingpin shaft.

Use the socket wrench (Metal parts bag) to install ball joint (Screw bag D). Repeat for other side, making sure that the upright steering arms point towards the rear.

Insert 4 x 6mm brass sleeve (Screw bag C) into damper base C3 and mount to suspension arm using a 3 x 15mm machine screw and 3mm flange nut (Screw bag A). Repeat on other arm.

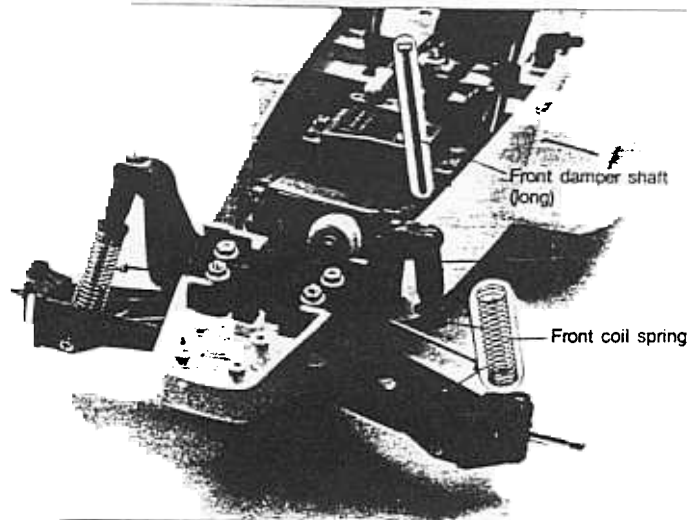
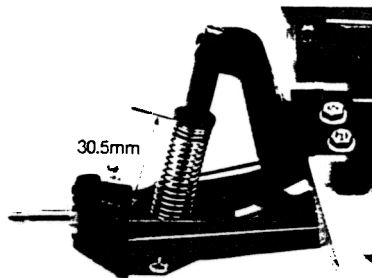
Insert suspension arms into chassis. Rear pivots fit into holes in monocoque bulkhead. front pivots rest in grooves and are secured by C8 and two 3 x 12mm self-tapping screws (Screw bag B).



Install damper cap C4 into front shock tower.

Remove front damper shafts (long) and front coil spring from blister card and apply grease.

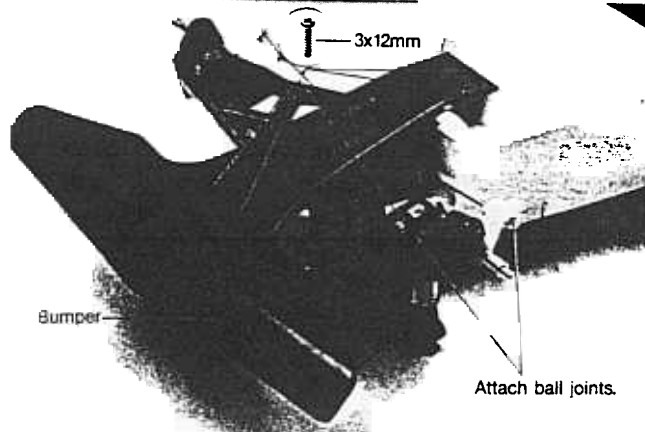
Insert damper shaft through shock tower, damper cap C4 and front coil spring and screw into damper base C3 using a phillips screwdriver (medium). Tighten until the front coil spring measures 30.5mm.



ATTACHING BUMPER

Attach front bumper using four 3 x 12mm self-tapping screws (Screw bag B).

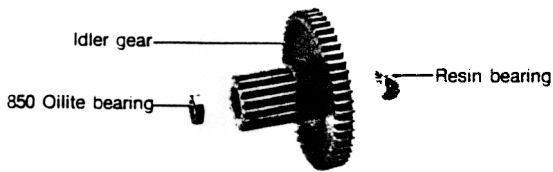
Attach ball joints.



GEARBOX

GEARBOX / DIFFERENTIAL ASSEMBLY

- 1) Insert 850 oilite bearing (Metal parts bag) and resin bearing (Screw bag D) into idler gear (Gear bag).

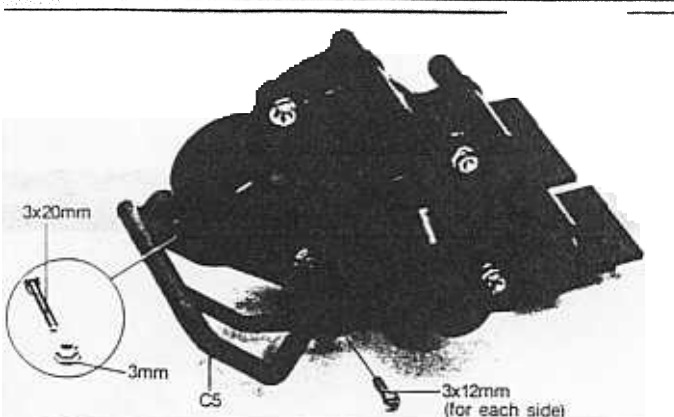
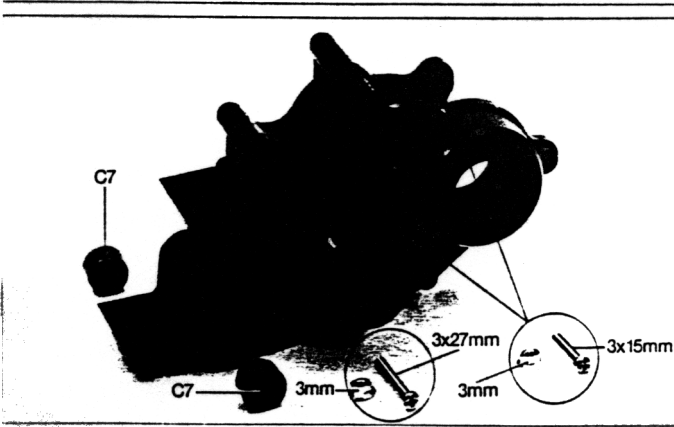
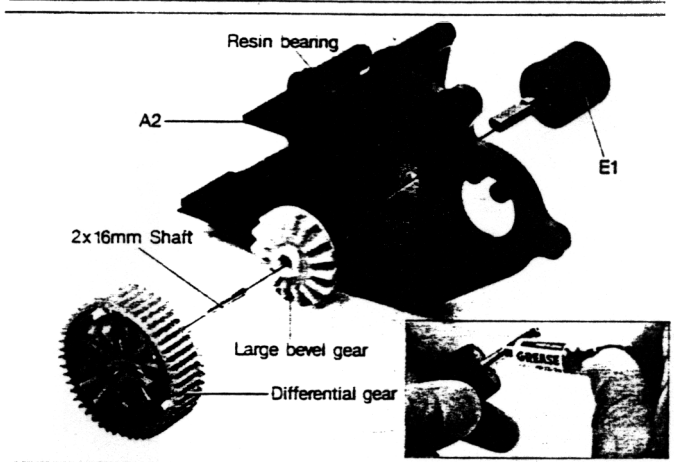
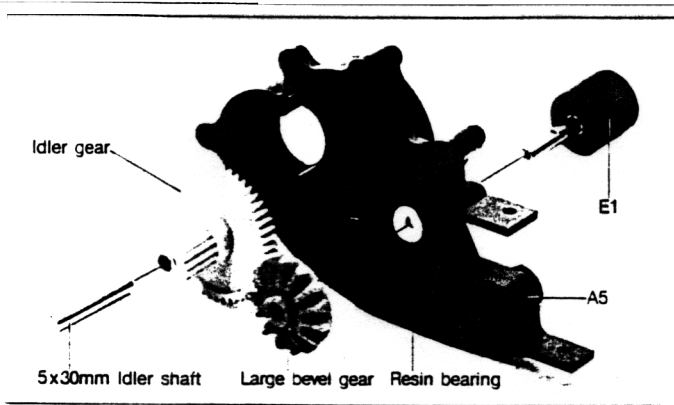


- 2) Apply grease to idler gear teeth and 5 x 30mm idler shaft (Screw bag C) and install in left gearcase A5.
- 3) Install resin bearing (Screw bag D) into gearcase, then grease shaft of universal joint E1 and insert through resin bearing and into large bevel gear (Gear bag). Apply grease to teeth.
- 4) Install resin bearing (Screw bag D) in right gearcase A2. Insert universal joint E1 into resin bearing and into right side large bevel gear (Gear bag) and apply grease to teeth.
- 5) Assemble differential gear (Gear bag) using three planetary gears (Gear bag) and 3 x 14mm shafts (Screw bag C). Apply grease to shafts and planetary gear teeth and insert in slots in differential gear. Also apply grease to teeth. Wipe off excess grease.



- 6) Grease and insert 2 x 16mm differential gear shaft (Screw bag C) into hole in right bevel gear. Place differential gear on shaft with planetary gears facing towards you.
- 7) Close gearcase halves and secure with two 3 x 27mm and two 3 x 15mm machine screws and four 3mm flange nuts (Screw bag A).
- 8) Insert rear trailing arm cups C7 into left and right side of gearcase.

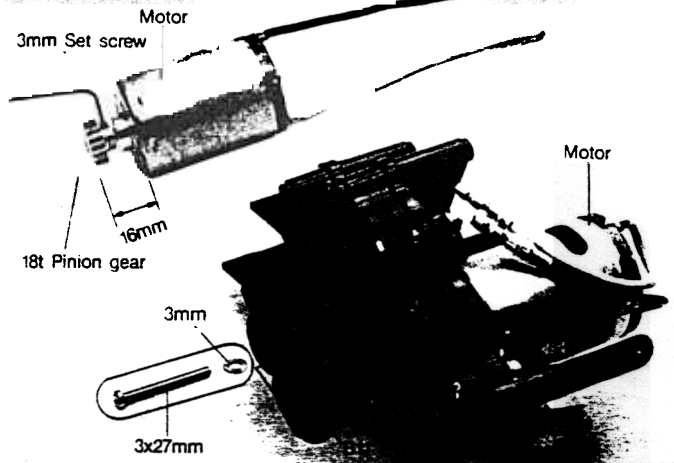
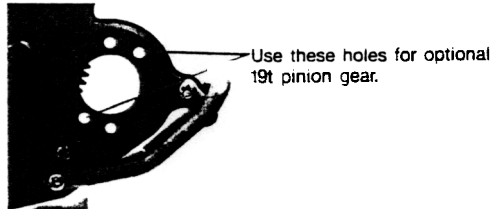
- 9) Attach rear bumper C5 to gearcase using 3 x 20mm machine screw and 3mm flange nut (Screw bag A) and two 3 x 12mm self-tapping screws (Screw bag B).



MOTOR/REAR SUSPENSION

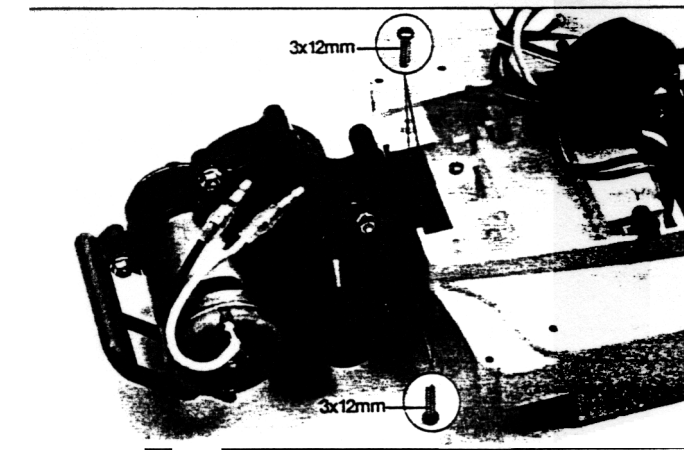
MOUNTING MOTOR

- 1) Using allen wrench (Metal parts bag) and 3mm set screw (Screw bag C) mount the pinion gear (Blister card) on the motor shaft. Make sure that the set screw is seated on the flat spot of the shaft and that the gear face is 16mm from the motor case as shown.
- 2) Two 3 x 27mm machine screws with 3mm washers (Screw bag A) are used to mount the motor and inspection cap cover to the gearbox assembly. Use the holes at top and bottom center for the stock 18t pinion gear. The other holes provided are for optional 19t gear.



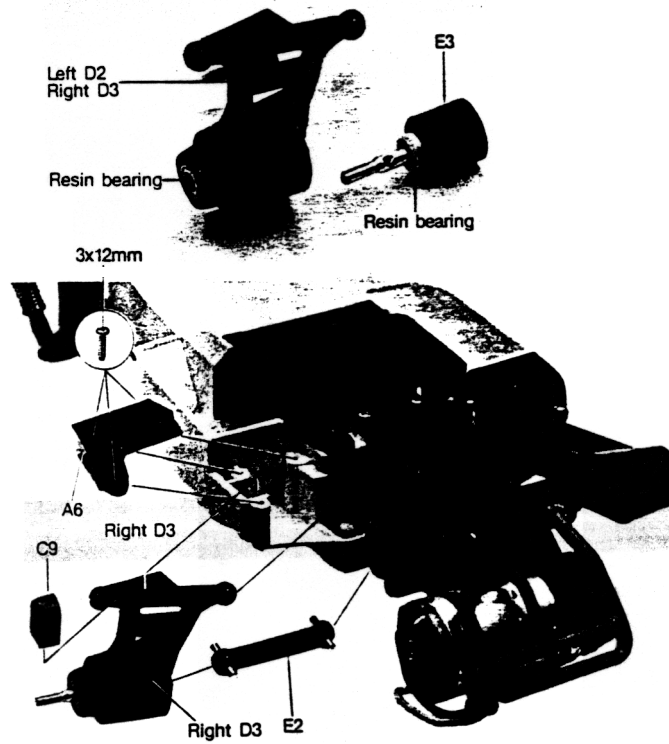
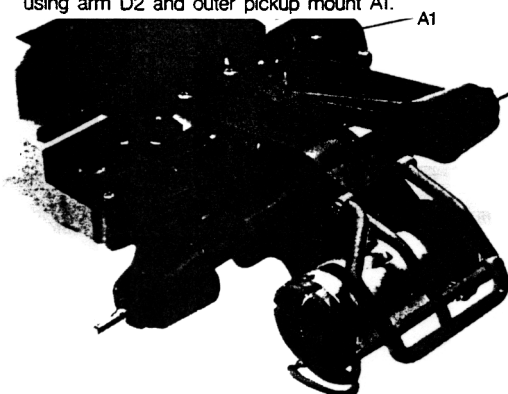
MOUNTING GEARBOX

- 1) Mount assembled gearbox to chassis monocoque rear bulkhead using four 3 x 12mm self-tapping screws (Screw bag B).



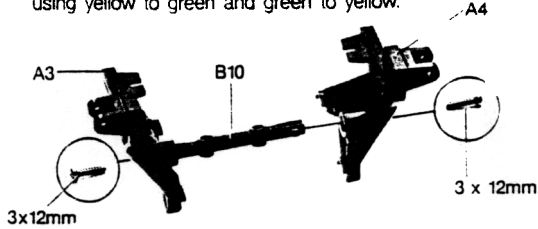
REAR SUSPENSION AND MOTOR CONNECTORS

- 1) Grease shaft of universal joint E3 and slip resin bearing (Screw bag D) on shaft. Insert E3 and resin bearing into right trailing arm D3 and insert second resin bearing (Screw bag D) on outside of trailing arm.
- 2) Insert dogbone half shaft E2 into gearcase side universal joint (do not grease half shafts or universal joints) on one end and trailing arm universal joint on the other. Now insert the trailing arm ball ends into the cups C7 on the gearcase and trailing arm cup C9. Slide the cup onto chassis and attach outer pickup mount A6 over it using three 3 x 12mm self-tapping screws (Screw bag B).
- 3) Repeat the trailing arm assembly procedure for the left side using arm D2 and outer pickup mount A1.



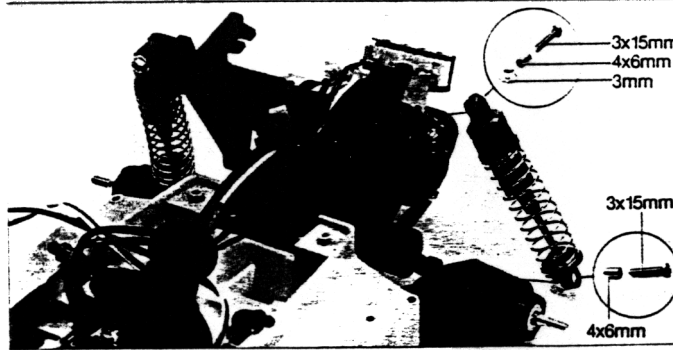
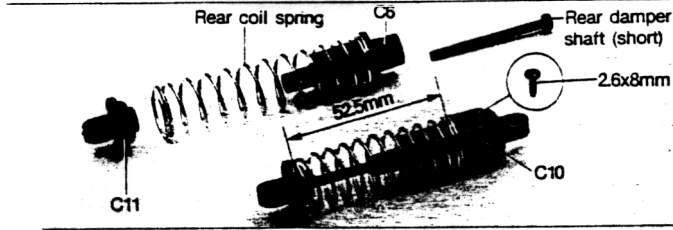
REAR DAMPER/RECEIVER/RECEIVER SWITCH AND REAR WING

- Assemble rear shock tower using left upright A4, crossbar B10 and right upright A3 and two 3 x 12mm self-tapping screws (Screw bag B). Speed controller resistor and wiring are routed under the crossbar before mounting.
- Mount rear shock tower assembly to gearcase using four 3 x 12mm self-tapping screws (Screw bag B).
- Plug in motor connectors from speed controller to motor using yellow to green and green to yellow.



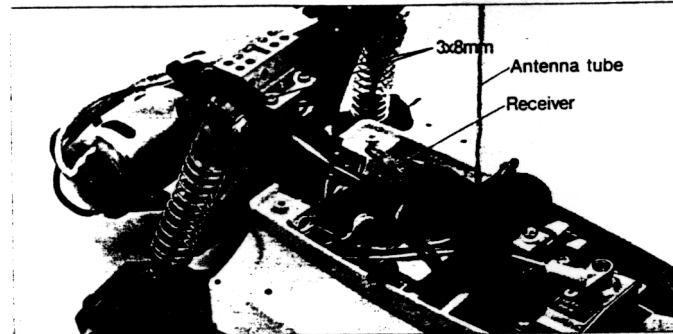
REAR DAMPER

- Rear damper shafts (short) and rear coil springs are located on the blister card. Make two.
- Apply grease to the damper shaft and insert it into damper cylinder C6.
- Next insert the cylinder into rear coil spring.
- Using a phillips screwdriver (medium) screw the damper shaft into damper base C11 until the rear coil spring length measures 52.5mm, and attach damper cap C10 with a 2.6 x 8mm self-tapping screw (Screw bag A).
- Install the dampers by inserting 4 x 6mm brass sleeves (Screw bag C) into the cap and base. The cap is secured by a 3 x 15mm machine screw and 3mm flange nut (Screw bag A) into the shock tower and the base mounts to the trailing arm with a 3 x 15mm machine screw (Screw bag A).
- Repeat procedure for the other side.



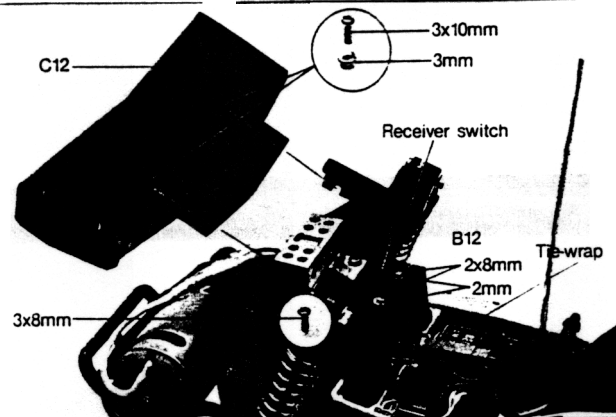
RECEIVER

- Receiver is secured to chassis over battery compartment using a urethane elastic band (Metal parts bag) looped through chassis and hooked onto hook inside chassis. Tweezers will come in handy for this chore.
- Antenna wire must be fully extended, passed down through chassis and up through antenna tube mount and antenna tube. Excess antenna wire should not be coiled.
- Resistor is secured to crossbar B10 using two 3 x 8mm self-tapping screws (Screw bag B).



MOUNTING RECEIVER SWITCH AND REAR WING

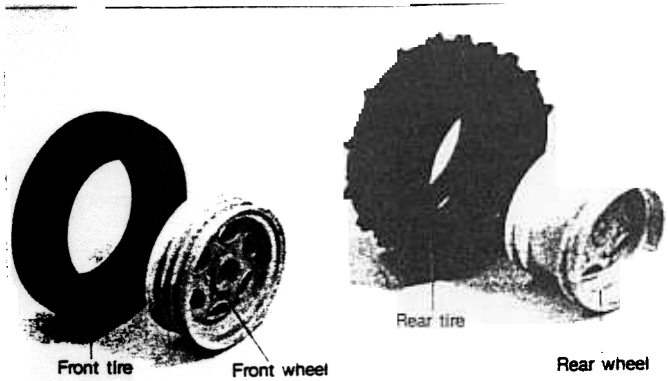
- Attach receiver switch to switch harness bracket B12 with two 2 x 8mm machine screws and two 2mm washers (Screw bag D) or on/off switch panel. Pass motor and resistor wiring under the switch harness bracket and then secure to chassis, using two 3x8mm self-tapping screws (Screw bag B). A tie-wrap (Metal parts bag) is provided to bundle motor and resistor wiring.
- Connect 2P micro connector from speed controller and receiver switch.
- Insert front portion of rear wing into slot of rear shock tower and secure in place using two 3 x 10mm machine screws and two 3mm flange nuts (Screw bag A).



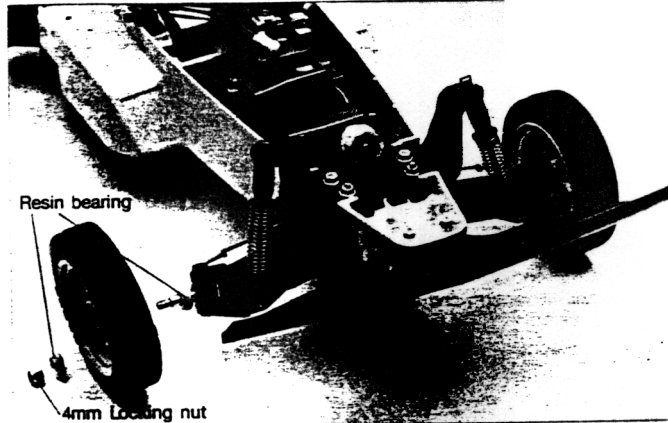
FRONT AND REAR WHEELS/INSTALLING 7.2V Ni-Cd BATTERY PACK

FRONT AND REAR WHEELS (Make two each)

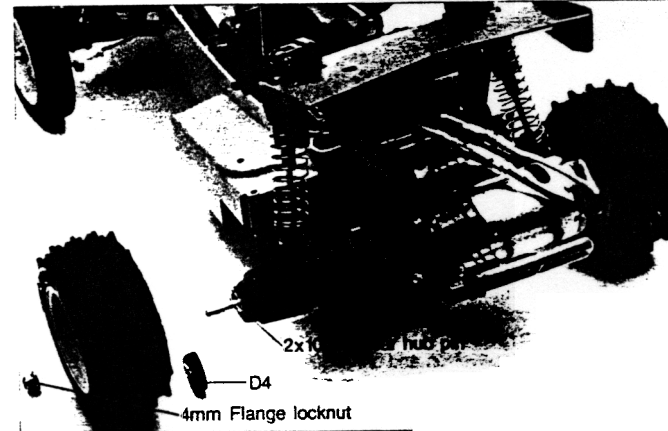
- 1) Stretch front tire over wheel, locating the tire bead over the grooves in the wheel.
- 2) Make sure that the tire is firmly seated in the grooves and does not wobble or appear out of round when rotated.
- 3) Rear tires are a bit harder to stretch, so pull one side over the rim lip at a time or spray a small amount of glass cleaner or mild detergent on the wheel to make it slippery.
- 4) Again, make sure that the tire bead is properly seated in the outer grooves and runs true.



- 5) Grease front axle shaft and slide a resin bearing (Screw bag D) over it. Now slide on the front wheel and insert another resin bearing (Screw bag D) into the outside of the wheel.
- 6) Use the socket wrench to secure the wheel with a 4mm locking nut (Screw bag B).

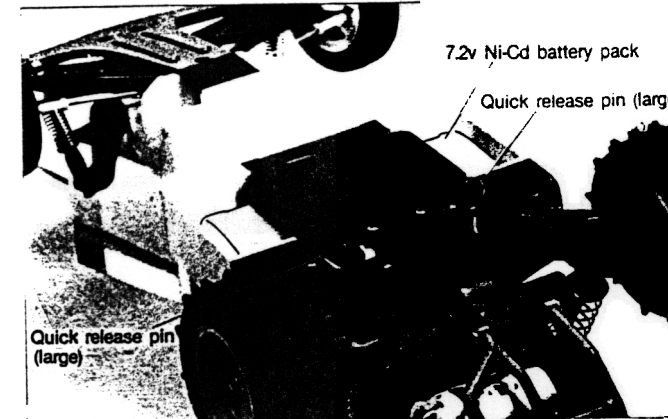
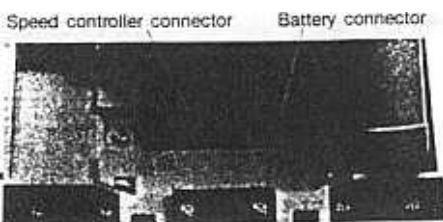


- 7) Insert 2 x 10mm rear hub pin (Screw bag D) into axle hole. Use a drop of grease to keep it from sliding out. Now slide rear wheel hub D4 on axle with X grooves facing in to engage rear wheel hub pin and with holes facing out. Make sure hub pin locks into hub.
- 8) Mount rear wheel, locking into place with 4mm flange locknut (Screw bag B).



INSTALLING 7.2V Ni-Cd BATTERY PACK

- 1) Turn over chassis, open battery compartment cover, connect battery and speed controller plugs.
- 2) Store battery and connectors as shown.
- 3) Shut battery compartment cover and secure using two large quick release pins (Metal parts bag).



ADJUSTMENTS/ELECTRONIC SPEED CONTROLLER/BODY

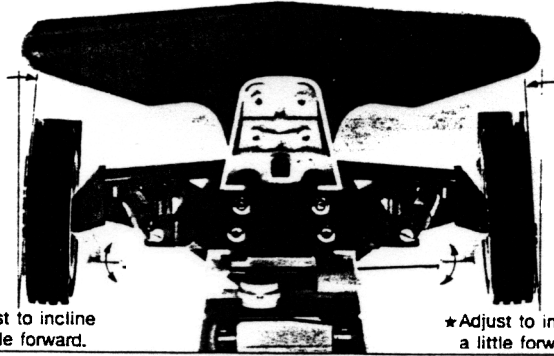
STEERING ADJUSTMENTS

- 1) Adjust upright to incline a little forward when steering servo is in neutral.
- 2) Alter steering linkage length using ball socket for obtaining proper steering adjustment.

How to remove adjuster.



Pinch using needle nose pliers and twist.

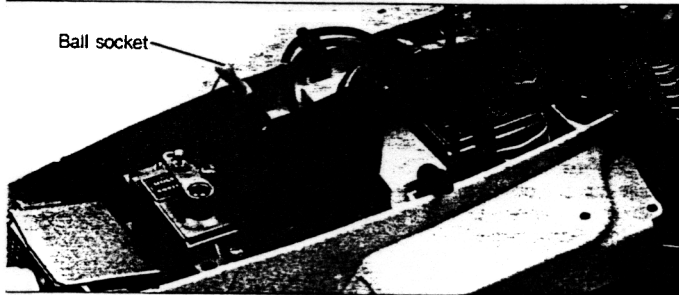
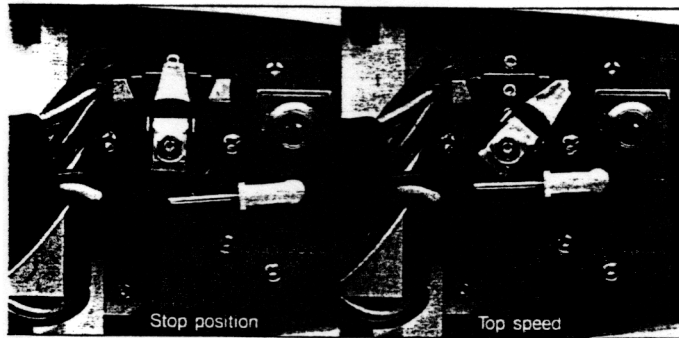


★ Adjust to incline a little forward.

★ Adjust to incline a little forward.

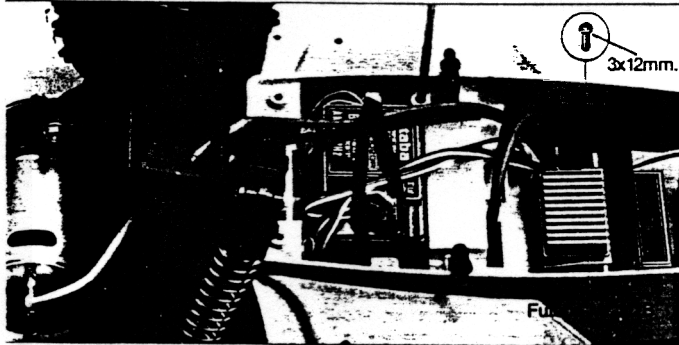
SPEED CONTROL POSITION

- 1) Place model on box so wheels run free. Switch on system, operate speed control stick or trigger to check speed control wiper arm movement.
- 2) Check to see that the wiper arm reaches forward top speed, reverse top speed and stop positions.
- 3) When wiper arm stroke is too great, adjust servo horn ball joint closer to axis, and further from axis if stroke is not long enough.
- 4) After adjustment, temporarily remove controller linkage and cover speed controller with rubber bag.
- 5) Push cranked end of controller linkage through rubber bag, hook it onto wiper arm and snap on ball socket to servo horn ball joint.



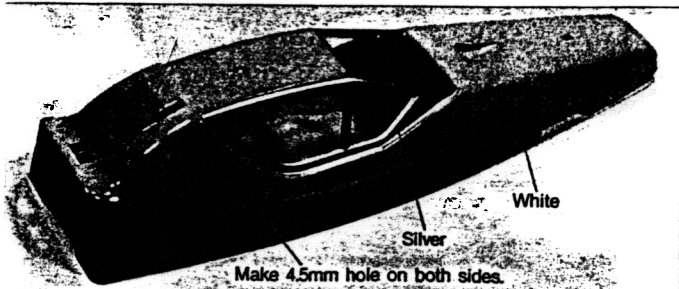
WHEN INSTALLING ELECTRONIC SPEED CONTROLLER

- 1) Use of the Futaba MC112B eliminates installation of servo operated speed controller, speed control servo, controller mount, and switch harness bracket. Battery connector plug is used to switch receiver on and off.
- 2) MC112B MOSFET electronic speed control is secured to chassis with bracket B8 and two 3 x 12mm self-tapping screws (Screw bag B).
- 3) Transmitter throttle reverse switch should be set on reverse.
- 4) Attach yellow motor plug to red controller output plug, green motor plug to black controller output plug.
- 5) Refer to MC112B instructions to set high and neutral.



TRIMMING AND PAINTING BODY

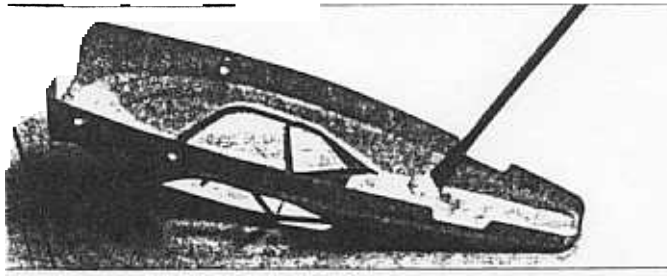
- 1) Trim off excess polycarbonate using scissors or hobby knife. If you use a knife you can score the body on the mold lines and flex the polycarbonate to break off the excess.
- 2) Drill 4.5mm hole on both sides of the body as shown.



FIGURE/ATTACHING BODY/MARKING

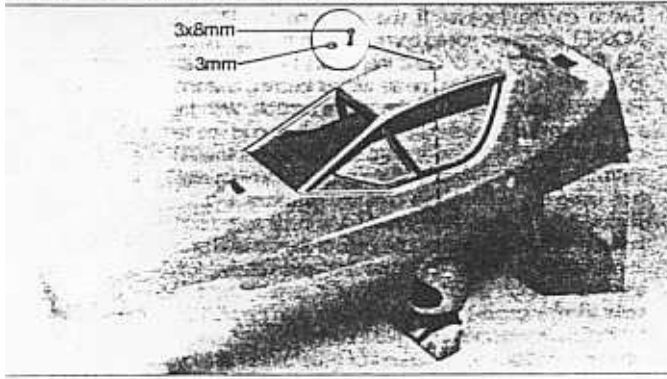
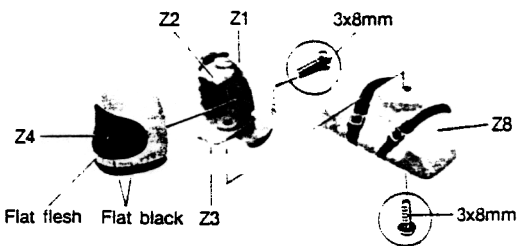
★Painting procedures.

- 1) Wash the body thoroughly with soap and water and allow to dry.
- 2) Mask window areas with tape.
- 3) Brush or spray inside of body shell only with paint formulated specifically for polycarbonate. Most lacquers will weaken or warp the shell, and enamels will not adhere.



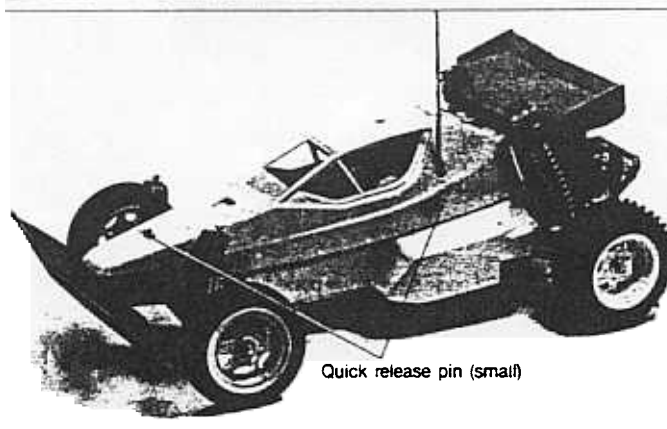
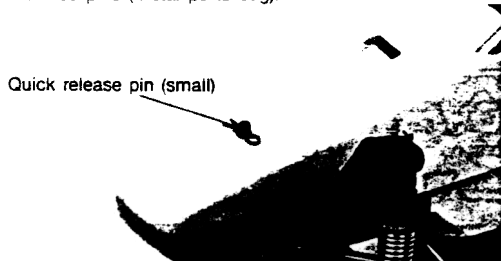
FIGURE

- 1) Assemble the driver figure head halves Z1 and Z4 with Z2 and Z3 mounting brace installed with 3 x 8mm self-tapping screw (Screw bag B). The head is attached to the driver torso Z8 with a 3 x 8mm self-tapping screw (Screw bag B) and then mounted to the body shell with another 3 x 8mm self-tapping screw (Screw bag B) and 3mm washer (Screw bag A).
- 2) Paint figure as you like using acrylic styrene paint.

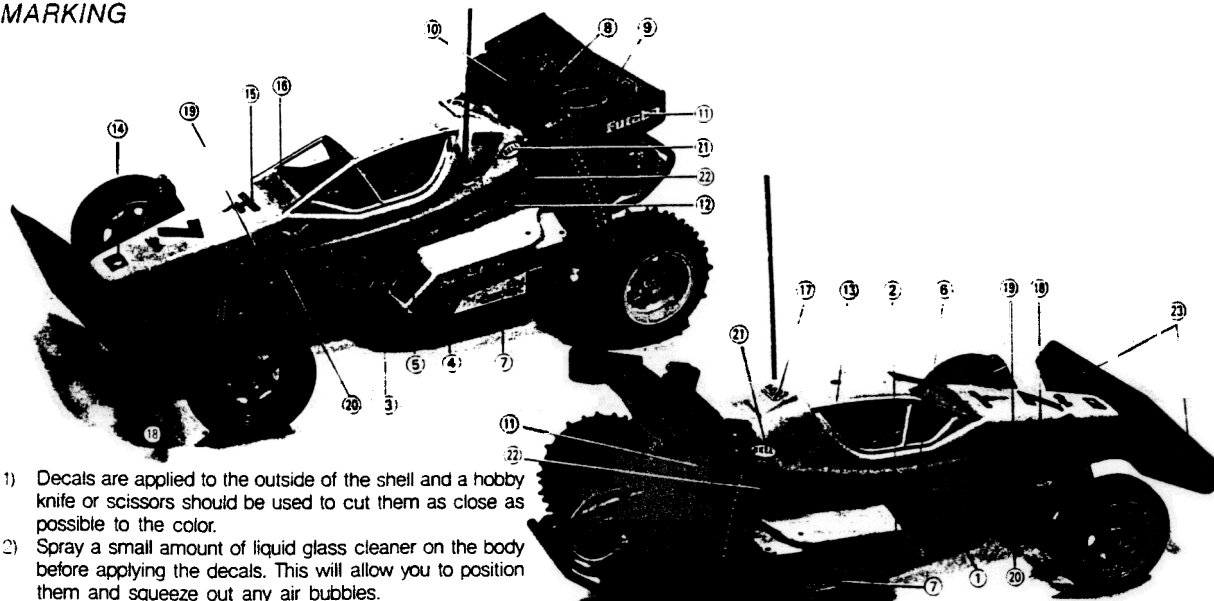


MOUNTING BODY

- 1) Mount assembled body on chassis using three small quick release pins (Metal parts bag).



MARKING



- 1) Decals are applied to the outside of the shell and a hobby knife or scissors should be used to cut them as close as possible to the color.
- 2) Spray a small amount of liquid glass cleaner on the body before applying the decals. This will allow you to position them and squeeze out any air bubbles.

BENCH TESTING/DRIVING TIPS

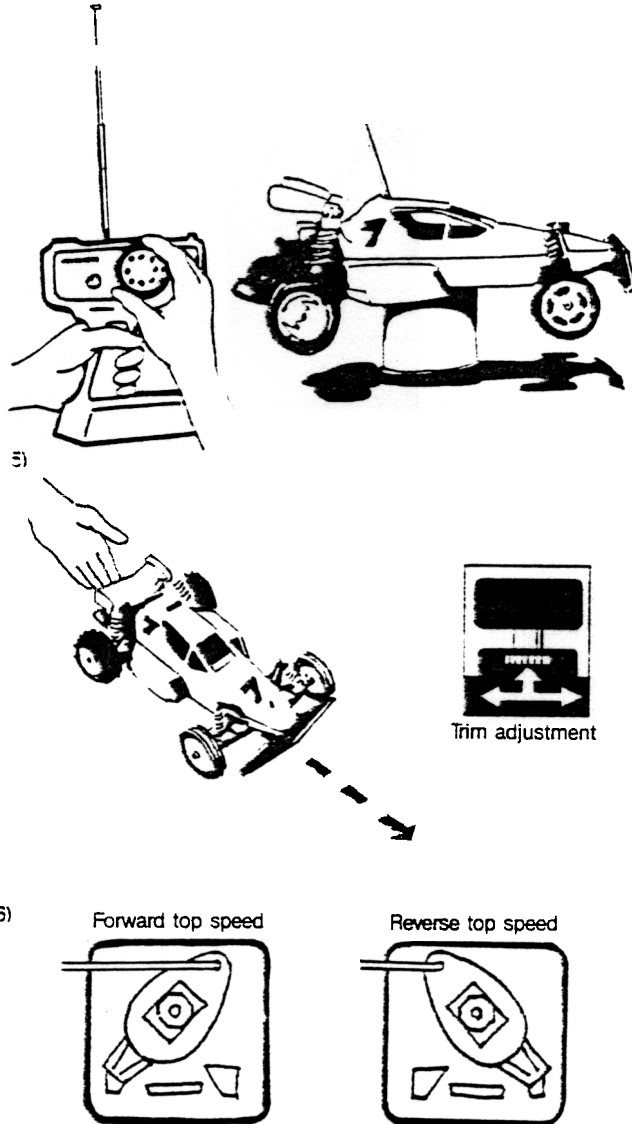
BENCH TESTING

After fully assembling your FX10 it is very important that you bench test it BEFORE actually running it. This will give you an opportunity to thoroughly check for proper operation of the car and radio. This break-in and bench testing procedure is critical in preventing accidents and component damage due to incorrect assembly.

- 1) Make sure that both transmitter and car batteries are new or fully charged.
- 2) Switch on the transmitter first. To prevent loss of control, the transmitter should always be switched on before the receiver.
- 3) Switch on the receiver. If you are using the MC112B MOSFET electronic speed control, plug in the 7.2v Ni-Cd.
- 4) Set the car on a box or stand that allows the rear wheels to turn and the steering to operate without touching anything.
- 5) Familiarize yourself with the transmitter controls. With the steering trim set at neutral the front wheels should be re-checked by rolling the car forward along a straight line. Adjustments should be made with the threaded ball joint ends first, using the steering trim only for fine adjustment.
- 6) Throttle action must also be checked, with the speed control at neutral and the stick or trigger of the transmitter is at neutral. Verify that at full throttle the speed control fully engages the high speed contact and in reverse the controller wiper engages the reverse contact. With the MC112B full throttle is indicated by a red LED.
- 7) Operate the throttle at low speed for five minutes to allow the motor brushes gear-box bearings and gears to properly seat. The motor should not become too hot to touch. If it does, this is an indication that excessive friction is present and you must check that the rear wheels spin freely in opposite directions.
- 8) Check that switch lubricant has been applied to the speed control contact points.
- 9) Check that the battery wiring and plugs are not so loose as to drag on the ground. If necessary, secure them with electricians tape.

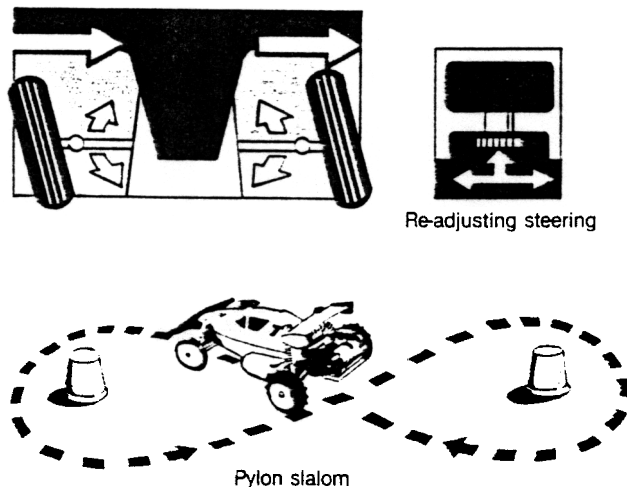
IMPORTANT!

The 7.2v/1200mAh Ni-Cd pack is extremely powerful and care must be taken to avoid any short circuiting of the wiring and speed control.



DRIVING TIPS

- 1) For optimum performance your FX10's 7.2v Ni-Cd should be discharged fully prior to being recharged. After the break-in period you should be able to run the car for a few minutes before a noticeable decrease in power.
- 2) During this period find a smooth, flat surface, such as a parking lot, to re-check response and steering control. Avoid areas with curbs or anything else to run in to.
- 3) Keep in mind that with a full charge your FX10 will run for 5 to 8 minutes. When the Ni-Cd battery pack power is low you will notice a significant reduction in speed, particularly during acceleration. When this occurs, stop the car before control is affected and re-charge.
- 4) Start out by driving in a straight line. With the transmitter stick or wheel centered the car should track straight on a flat surface. If the car tends to veer off to one side it can usually be corrected by adjusting the threaded ball joints on the steering rods. This measure should be taken until the car can be driven straight with your hand off the steering controls. Finer adjustments to steering can be made with the trim control of the transmitter.
- 5) To familiarize yourself with steering controls you can then set up pylons, or cones, as points of reference to mark corners. Foam plastic cups work well, as they are easy to see



TROUBLESHOOTING

and can be run into with no damage to your car. Setting up a figure 8 or slalom course with pylons will help you quickly develop driving skills. Practice by slowly increasing your speed and cornering closer to the pylons without hitting them.

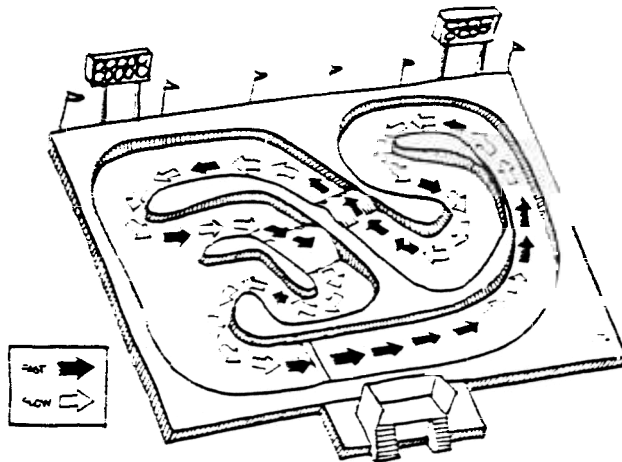
- 2) Once you feel that you have mastered the basics of driving techniques on the parking lot you are ready to try off-road. Offroad driving isn't really much different, but because of the irregular surface it is more difficult to properly set up your car. The FX10 runs well on dirt, sand and grass but there a few precautions you should take before you venture offroad. Avoid water and moisture which can damage radio equipment and corrode parts. If you do operate your FX10 on wet grass, mud or on a beach you should thoroughly clean and dry it after each charge. Also avoid vines and weeds that can become wrapped up in the dogbone halfshafts. Tangled foliage can easily cause overheating of the motor and possible damage.
- 7) Several techniques will give you more control while driving your FX10 on loose dirt or sand. Slowly apply throttle when accelerating and exiting corners. Too much throttle can create rear wheelspin and loss of traction.
- 3) When cornering on loose surfaces you should also notice that steering response seems slower. The suspension and weight distribution of the FX10 is designed to produce initial understeer. This reduces the possibility of spinouts, but requires a slightly different cornering technique. Because understeer creates "push" (the car continues to go straight) for a short time, you actually turn into the corner before you reach it. As you gradually slow for the corner the front tires will gain traction and the car will corner more quickly.
- 3) In order to increase traction on loose dirt, racers will frequently water down their tracks. This creates more traction for faster speeds, but reduces run time and requires more thorough clean up.
- 10) Like cornering, jumping also requires some technique to execute well. For maximum control, jumps should be taken low and close to the ground. It may not look as impressive as getting a lot of air, but it will get you around a track a lot faster. It is also important to keep the front wheels up when you are airborne. To do this you must maintain or slightly increase speed on takeoff. Slowing at the top of a jump can cause the nose of your car to point down on landing, resulting in spins or flips.



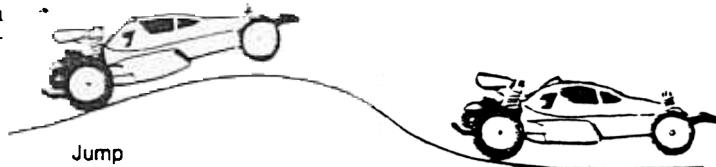
Avoid running in water



Avoid running in tall grass



10)

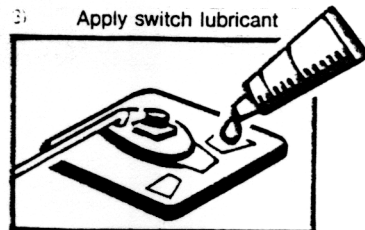
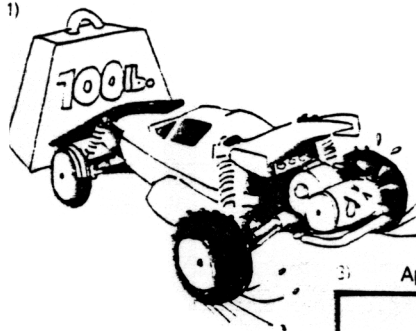


Jump

TROUBLESHOOTING

- 1) Burned out resistor: Can be caused by foreign objects or weeds becoming entangled in the wheels or axle, driving continuously in first or second speeds or operating throttle while car is stalled by pushing an immovable or heavy object.
- 2) Steering and throttle operate, but the motor does not run: Disconnect motor plugs and connect leads directly to fresh battery. If the motor runs, then the problem can be traced to speed control, wiring or plugs. If the motor does not run it must be replaced.
- 3) Erratic or intermittent throttle response: Usually the result of poor speed control wiper contact. If contacts are clean, apply switch lubricant. If the contacts have become corroded, lightly sand with fine grit (400 grade) sandpaper.
- 4) Loss of range or radio interference: Check that both transmitter and receiver antenna are fully extended and that batteries are fully charged.
- 5) Car turns sharper in one direction or is difficult to drive straight: Make sure the steering trim on the transmitter is at neutral, then remove and re-install the servo saver at the neutral position. Re-adjust front toe-in angle.

1)



3) Apply switch lubricant

PARTS

A PARTS

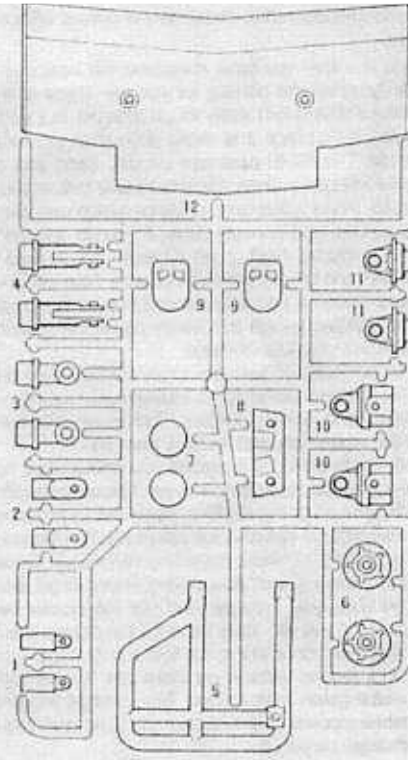
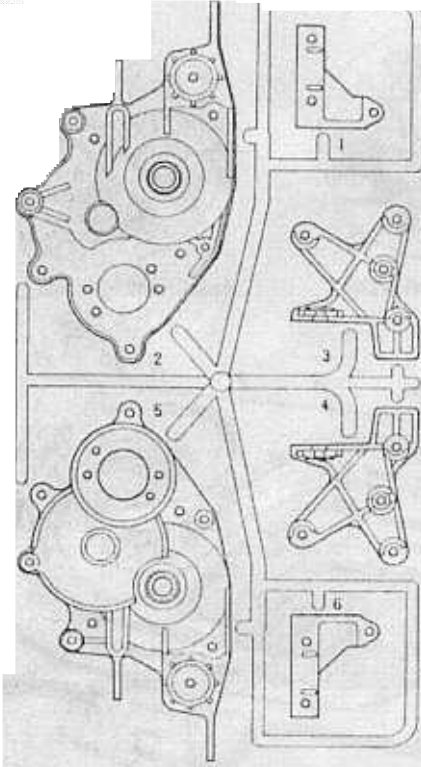
x1

«FX10-005»

C PARTS

x1

«FX10-007»



B PARTS

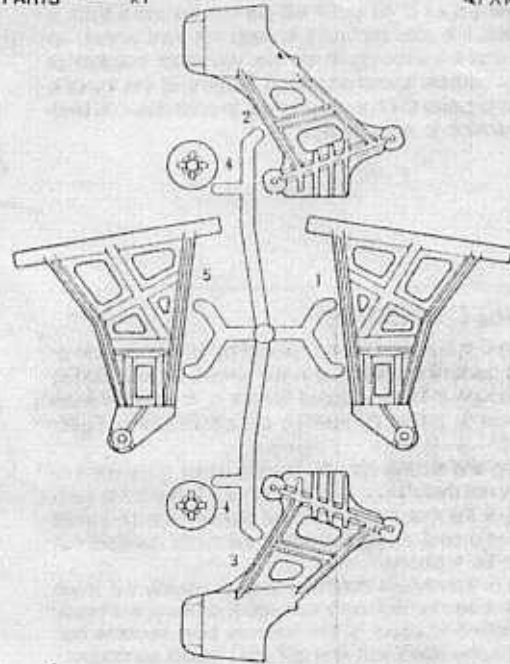
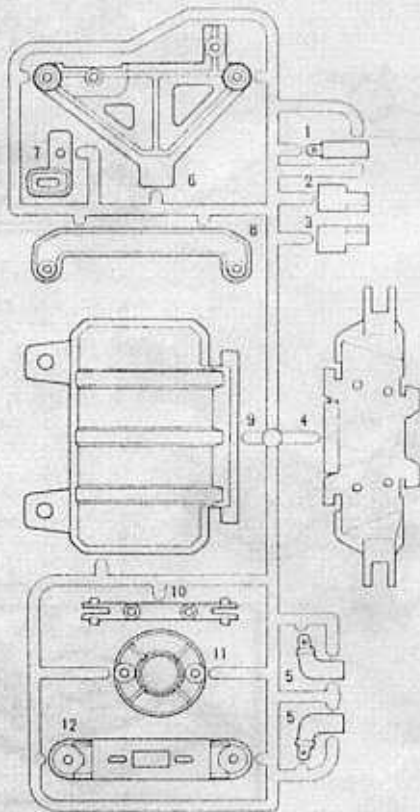
x1

«FX10-006»

D PARTS

x1

«FX10-008»

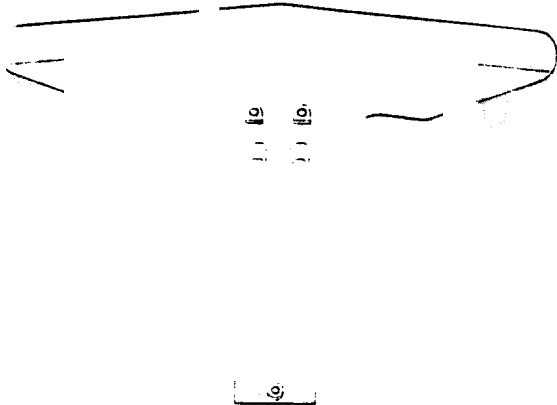


Body.....x1
 «FX10-001»
 Chassis.....x1
 «FX10-004»
 Decal.....x1
 «FX10-015»

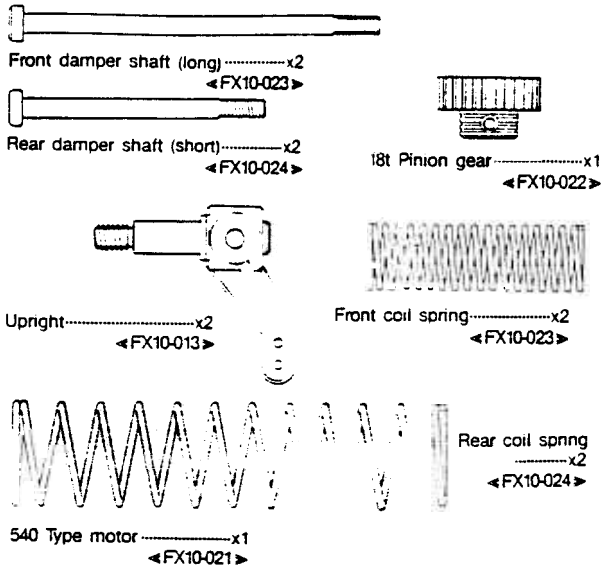
Front tire.....x2
 «FX10-002»
 Rear tire.....x2
 «FX10-003»
 Receiver antenna tubing.....x1
 «FX10-014»

PARTS

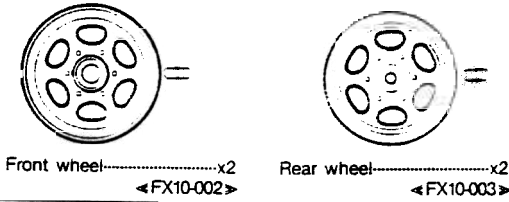
◀FX10-011▶



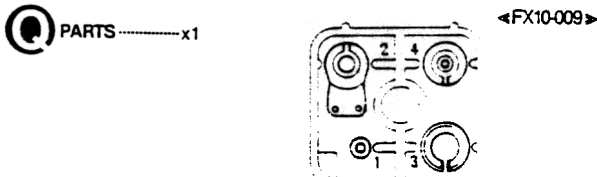
BLISTER CARD



WHEELS

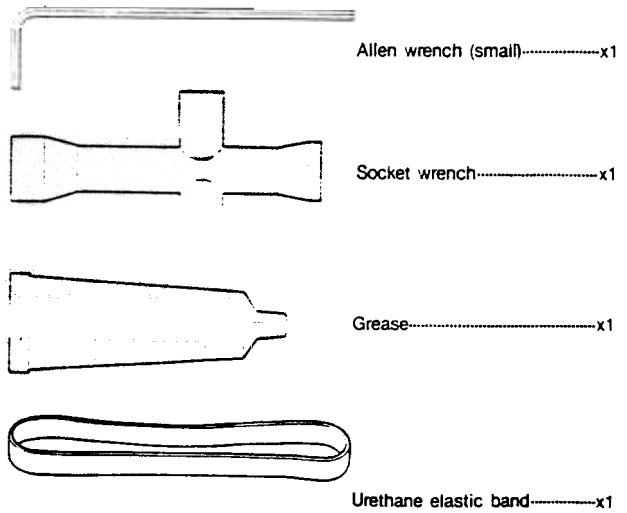
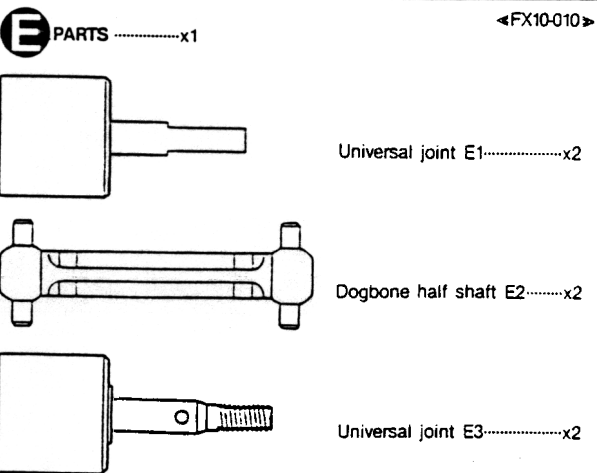
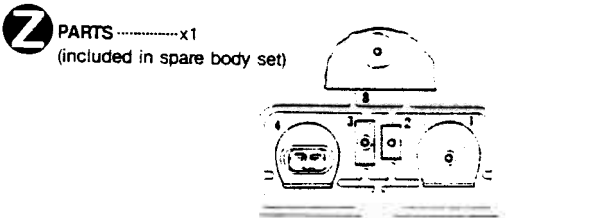
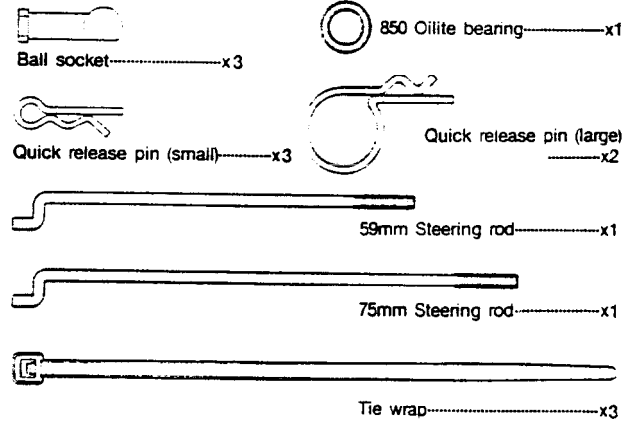


METAL PARTS SMALL BOX



METAL PARTS BAG

◀FX10-020▶



PARTS

◀ Extra screws & nuts are included. Use them as spares

SCREW BAG A

- 3 x 27mm Machine screw.....x4
- 3 x 20mm Machine screw.....x1
- 3 x 15mm Machine screw.....x12
- 3 x 10mm Machine screw.....x2

- ◀FX10-016▶
- 2.6 x 8mm Self-tapping screw.....x2
 - 3mm Flange nut.....x15
 - 3mm Washer.....x10

SCREW BAG B

- 3 x 12mm Self-tapping screw.....x32
- 3 x 8mm Self-tapping screw.....x17

- ◀FX10-017▶
- 4mm Flange locknut.....x2
 - 4mm Locking nut.....x2

SCREW BAG C

- 3 x 22mm Kingpin.....x2
- 2.6 x 10mm Self-tapping screw.....x1
- 3mm Set screw.....x1
- 4 x 6mm Brass sleeve.....x6

- ◀FX10-018▶
- 5 x 30mm Idler shaft.....x1
 - 3 x 14mm Shaft.....x3
 - 2 x 16mm Differential gear shaft.....x1

SCREW BAG D

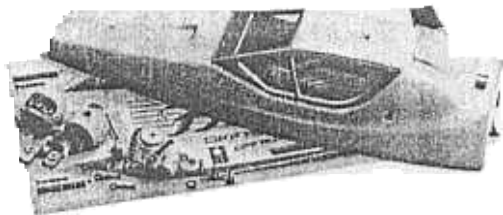
- 2 x 8mm Machine screw.....x2
- 2 x 4mm Machine screw.....x1
- 2mm Nut.....x1
- Ball joint.....x3

- ◀FX10-019▶
- 2 x 10mm Rear hub pin.....x2
 - 2mm Washer.....x3
 - Resin bearing.....x11

LIST OF SPARE PARTS SETS FOR FX10

* Check spare parts number and contents using this parts list prior to purchase. These are also available through hobby dealers.

FX10-001.....SPARE BODY SET



- FX10-002.....FRONT TIRE/WHEEL SET
- FX10-003.....REAR TIRE/WHEEL SET
- FX10-004.....CHASSIS
- FX10-005.....A PARTS
- FX10-006.....B PARTS
- FX10-007.....C PARTS
- FX10-008.....D PARTS
- FX10-009.....U PARTS
- FX10-010.....E PARTS
- FX10-011.....BUMPER

SPEED CONTROLLER BAG

- ◀FX10-025▶
- Resistor plate.....x1
 - Resistor cover.....x1
 - Speed controller.....x1

- Switch lubricant.....x1
- 25mm Controller linkage.....x1
- Resistor.....x1
- Rubber bag.....x1

GEAR BAG

- ◀FX10-012▶
- Planetary gear.....x3
 - Differential gear.....x1

- Large bevel gear.....x2
- Idler gear.....x1

- FX10-012.....GEAR SET
- FX10-013.....UPRIGHT SET (2 PCS)
- FX10-014.....RECEIVER ANTENNA TUBING
- FX10-015.....DECAL
- FX10-016.....SCREW BAG A
- FX10-017.....SCREW BAG B
- FX10-018.....SCREW BAG C
- FX10-019.....SCREW BAG D
- FX10-020.....METAL PARTS BAG
- FX10-021.....540 TYPE MOTOR
- FX10-022.....18-TOOTH/19-TOOTH PINION GEAR SET



- FX10-023.....FRONT COIL/DAMPER SHAFT (LONG) SET (2 PCS EACH)
- FX10-024.....REAR COIL/DAMPER SHAFT (SHORT) SET (2 PCS EACH)
- FX10-025.....SPEED CONTROLLER BAG

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