LAND CRUISER TOYOTA

1/10th SCALE
HIGH PERFORMANCE
RADIO CONTROL
OFF-ROAD CAR
READY TO ASSEMBLE KIT.

1/10 SCALE R/C MODEL No. 8
TOYOTA LAND CRUISER

WITH MABUCHI RS-540S MOTOR

7.2V RACING PACK COMPATIBLE

PRODUCT BY TOKYO MARUI PLASTIC CO., LTD

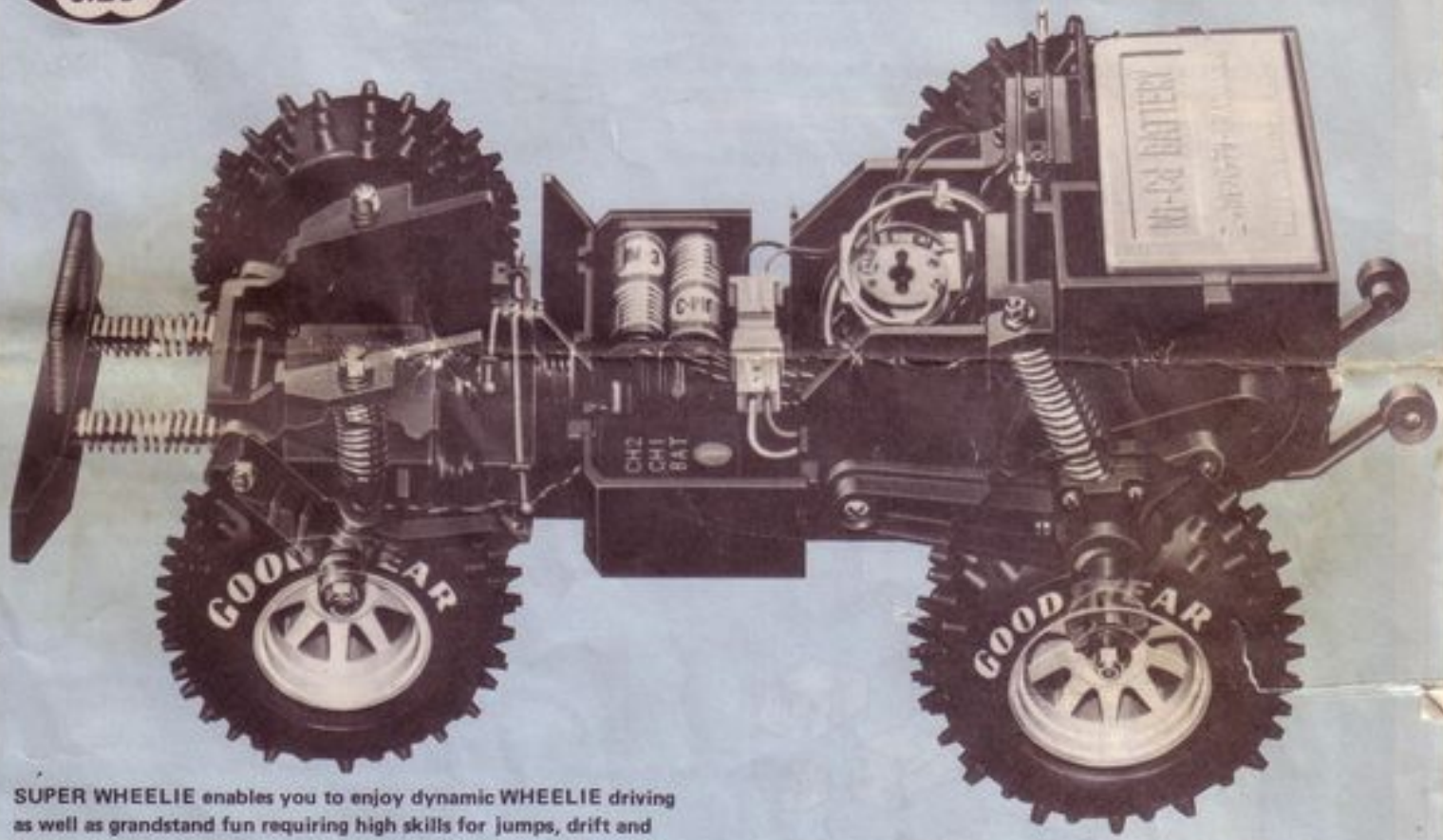
HIGH PERFORMANCE RADIO CONTROL CAR

1/10 SCALE DYNAMIC STUNT AND OFF-ROAD RACE RADIO CONTROL CAR

TOYOTA LAND CRUISER

SUPER WHEELIE

FORWARD THREE STAGE SPEED CONTROL/REVERSE ONE STAGE SPEED CONTROL AND TWO STAGE BRAKE.
INDEPENDENT FRONT SUSPENSION AND COIL SPRING RIGIO REAR SUSPENSION/DIFFERENTIAL GEAR DRIVE.

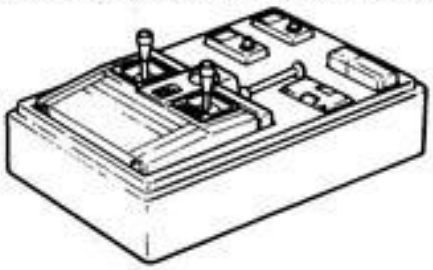


SUPER WHEELIE enables you to enjoy dynamic WHEELIE driving as well as grandstand fun requiring high skills for jumps, drift and spin turns. This is a fully equipped and highly mechanical remote control model; Overall length: 365 mm, overall width: 210 mm, overall height: 215 mm, wheel base: 183 mm, front tread: 153 mm, rear tread: 165 mm, overall weight: 1960 g

TOKYO MARUI PLASTIC MODEL CO., LTD.

<<PARTS NOT INCLUDED IN THE KIT>>

• Radio controller
(Two-channel proportional controller and servos)



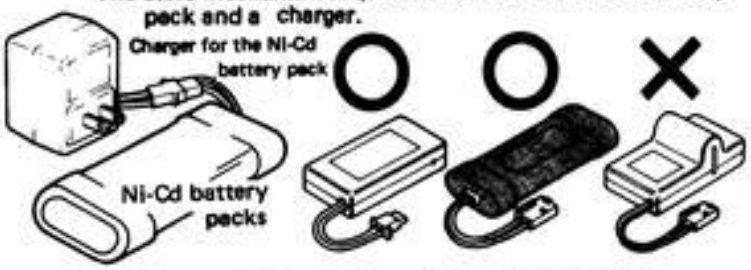
Most regular two-channel proportional controllers may be used, but it is a good idea to check with the manufacturer before buying to see whether the model is applicable to this kit.
For those planning to purchase a proportional controller, the following models are recommended:

FUTABA:	ATTACK, MAGNUM
SANWA:	DASH
J.R.:	BEAT 2
K.O.:	FX-II

• Dry-cell batteries for the radio controller

• Battery for the drive mechanism

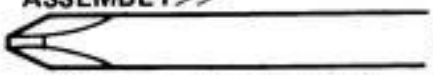
The drive mechanism requires a 6V or 7.2V Ni-Cd battery pack and a charger.



The drive mechanism requires either a 7.2V Ni-Cd racing battery pack or a standard 6V battery pack. These battery packs may be recharged up to 300 times and come in two types, each with a different charging time: a normal type that requires 15 to 16 hours using a 100V wall outlet and a quick-charging type requiring only 15 to 20 minutes using a 12V outlet — an automobile cigarette lighter, for example.

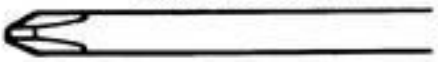
<<TOOLS REQUIRED FOR ASSEMBLY>>

Only Phillips screwdrivers are shown in actual sizes.



Phillips screwdriver (Large size)
Used for 3 mm screws,
4 mm screws, and
3 mm tapped screws.

This kit includes many tapping screws. Use the proper-size screwdriver and the proper amount of torque for each one. Tighten the screw until it no longer turns easily. Be careful not to overtighten the screw, or it will become useless.

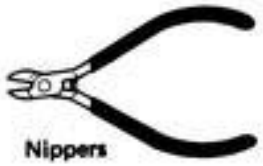


Phillips screwdriver (Medium size)
Used for 2.6 mm tapping screws and
2 mm screws.

Regular screwdriver (Medium size)

Cutter

Needle-nose pliers



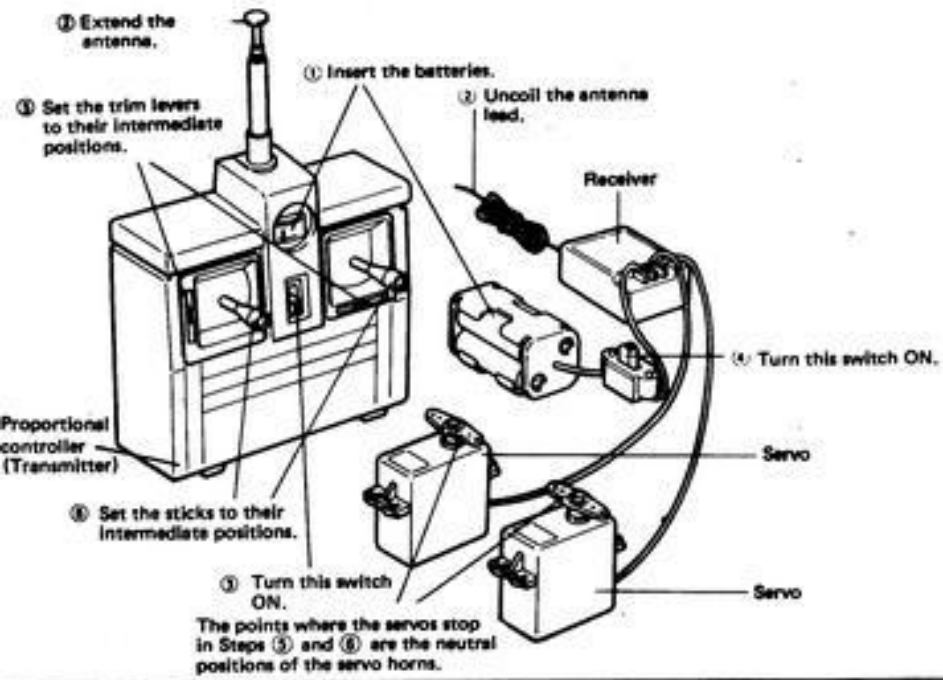
Nippers

Scissors

Small hammer

Insulating vinyl and cellophane tapes

<<RADIO-CONTROL MECHANISMS>>



This kit operates under a digital radio control system using a two-channel proportional controller and two servos. Almost any two-channel proportional controller may be used, but note that some of the two-channel controllers are not applicable to this kit. Controllers with three to eight channels are not applicable.

• Checking the transmitter and the receiver

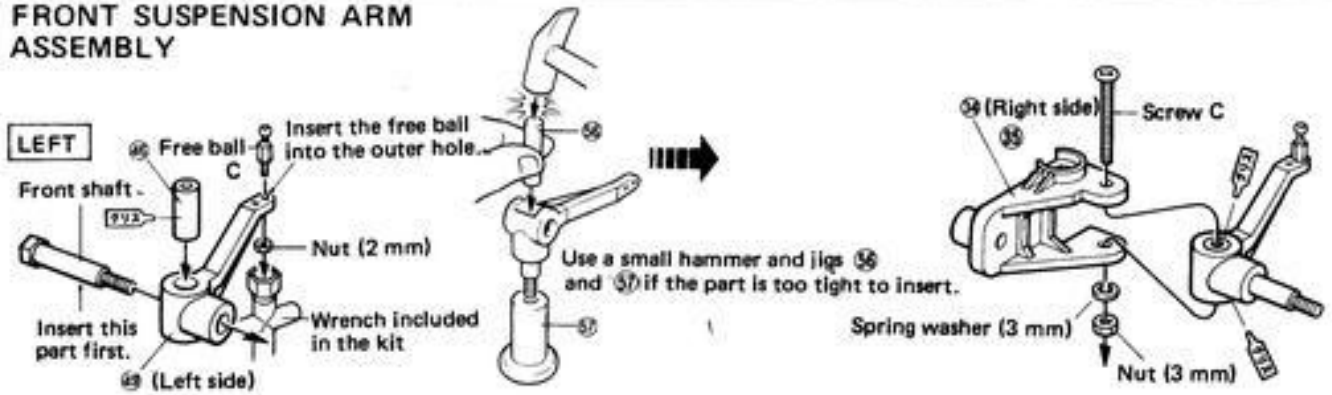
① Insert batteries in the transmitter and receiver.
② Extend the transmitter antenna and uncoil the receiver antenna lead.
③ Turn the transmitter switch on. (Always turn the transmitter switch on first.)
④ Next, turn the receiver switch on.
⑤ Set both trim levers to their intermediate positions.
⑥ Set both sticks to their intermediate positions. (The positions where both servo horns stop represent the neutral positions of the servos.)
⑦ Check that each servo horn responds correctly when the stick is moved.
⑧ When the above checks are complete, turn off the receiver and the transmitter — in that order.

Please refer to the proportional controller's manual for details on the operation of the radio control mechanism.

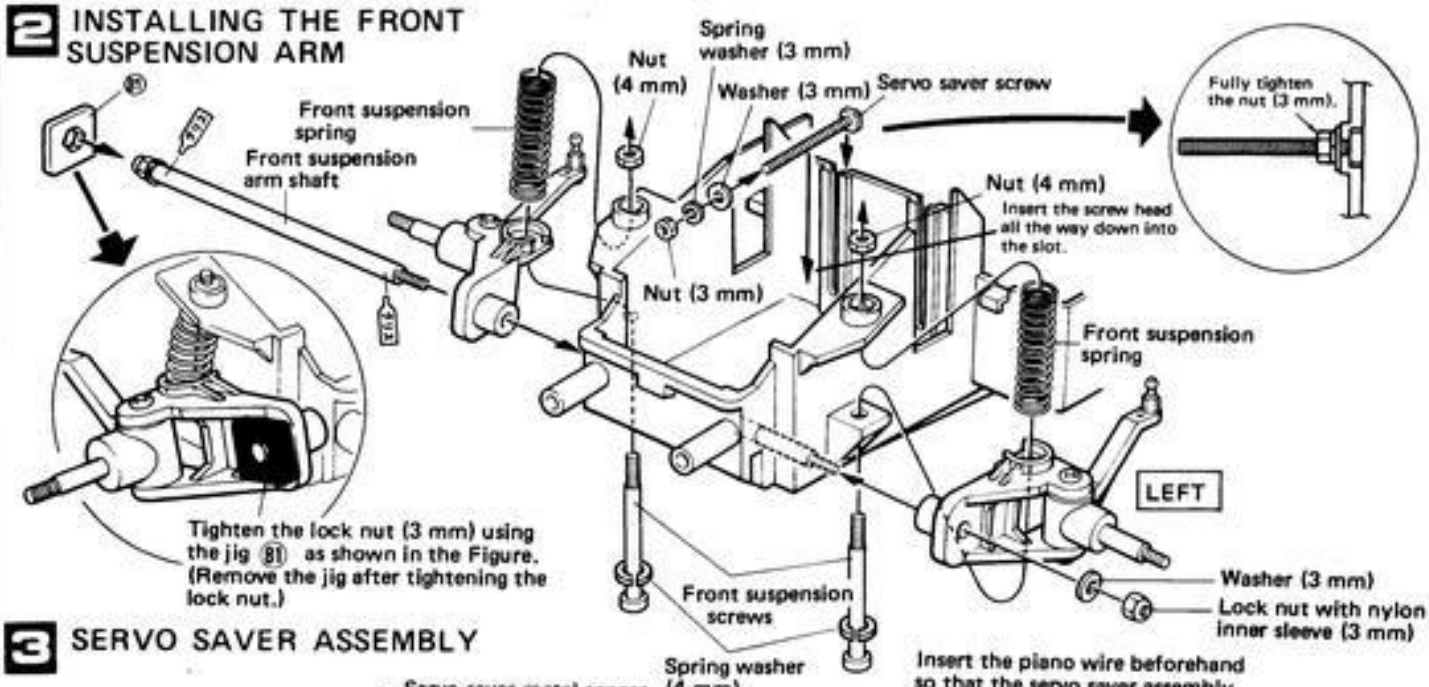
<<METAL PARTS USED ON PAGE 3

Screw C (3 x 24 mm) — 2 pcs.
Nut (2 mm) — 2 pcs.
Nut (3 mm) — 3 pcs.
Nut (5 mm) — 2 pcs.
Lock nut with nylon inner sleeve (3 mm) — 2 pcs.
Front shaft — 2 pcs.
Servo saver screw — 1 pc.
Free ball (Long) — 2 pcs.
Front suspension screw — 2 pcs.
Servo saver spring — 1 pc.
Front suspension spring — 2 pcs.
Piano wire (1.2 diameter x 75 mm length) — 1 pc.
Front suspension arm shaft (with 3 mm lock nut and 3 mm washer) — 1 pc.
Spring washer (3 mm) — 3 pcs.
Spring washer (4 mm) — 2 pcs.
Washer (3 mm) — 3 pcs.
Servo saver metal — 1 pc.

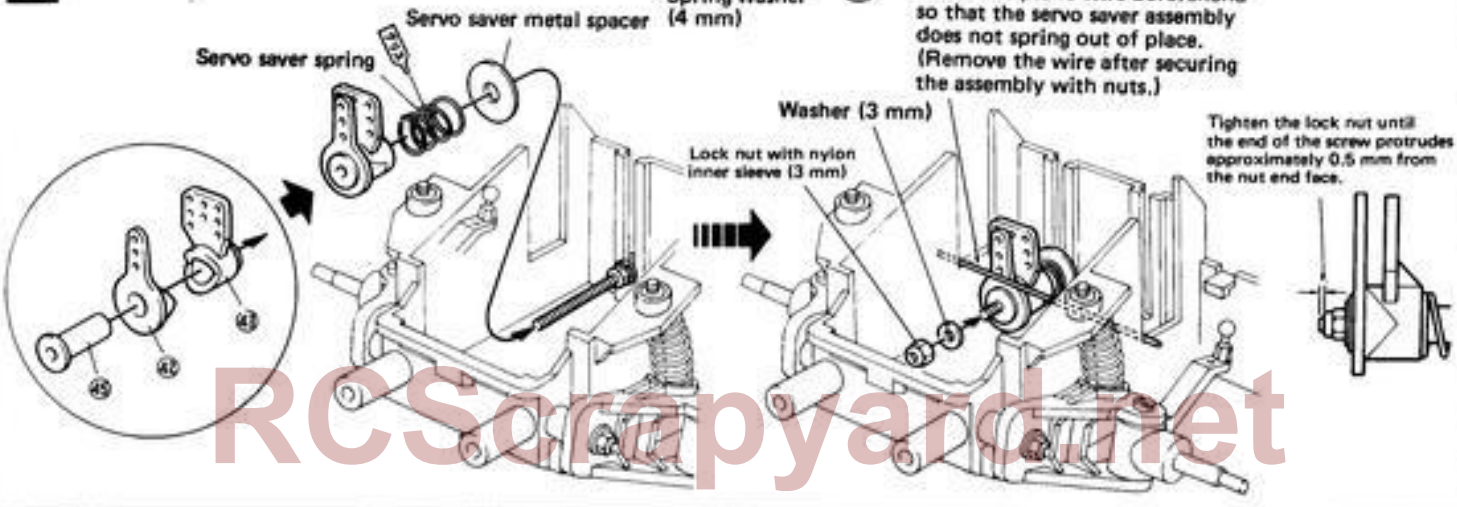
1 FRONT SUSPENSION ARM ASSEMBLY



2 INSTALLING THE FRONT SUSPENSION ARM



3 SERVO SAVER ASSEMBLY

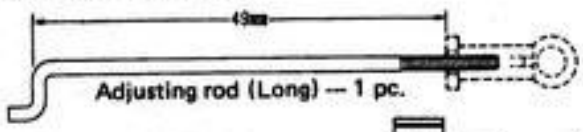


<<METAL PARTS USED ON PAGE 4 (Actual size)>>

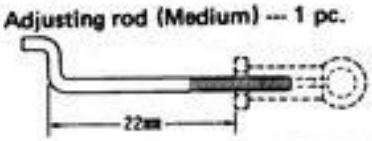
Screw A (3 x 6 mm) --- 2 pcs.

Pinion screw (3 x 4 mm) --- 1 pc.

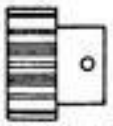
When using an RS-380S motor, please prepare these additional parts:
8crew G (2.6 x 5 mm) --- 2 pcs.
Sleeve for RS-380S (hollow tube, 3 x 10 mm) --- 1pc.



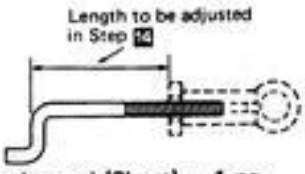
Adjusting rod (Long) --- 1 pc.



Adjusting rod (Medium) --- 1 pc.



Pinion gear --- 1 pc.

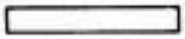


Adjusting rod (Short) --- 1 pc.

Oilless sleeve --- 2 pcs.

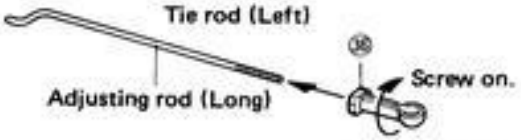
<<USED AS JIGS DURING ASSEMBLY>>

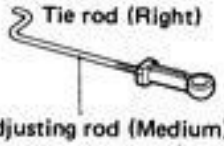
Motor holding screw --- 2 pcs.



Idler shaft (3 x 20 mm) --- 1 pc.

4 TIE ROD AND STEERING ROD ASSEMBLY

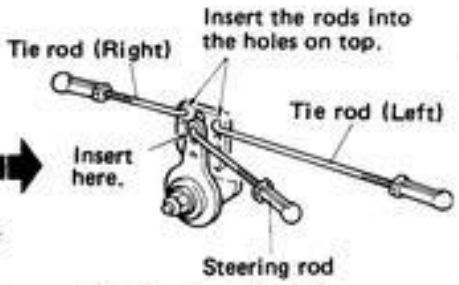




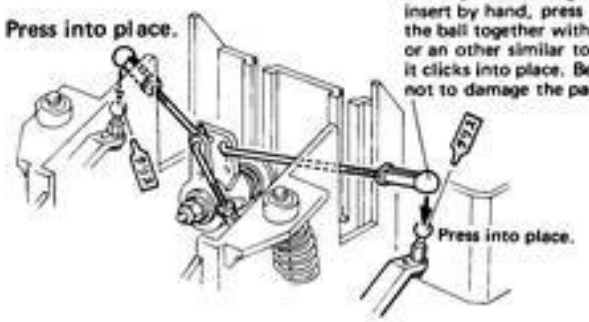
<<STEERING ROD>>

5 INSTALLING THE TIE RODS AND STEERING ROD

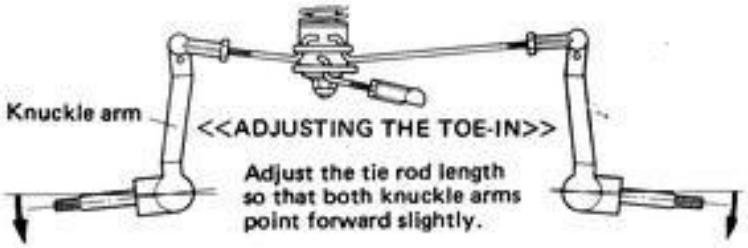
<<INSERTING THE TIE RODS AND THE STEERING ROD>>



*Set the tie rod (right) and the steering rod as well.



If this part is too tight to insert by hand, press it and the ball together with pliers or an other similar tool until it clicks into place. Be careful not to damage the parts.

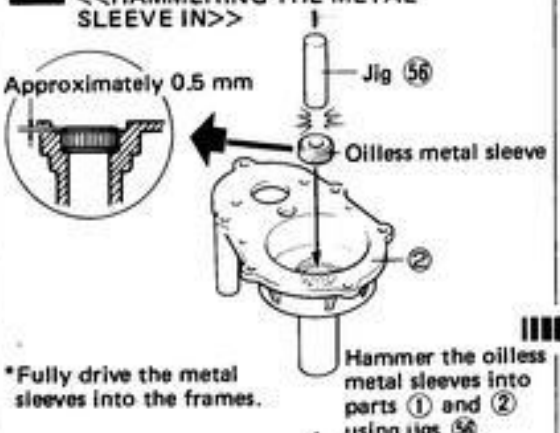


<<ADJUSTING THE TOE-IN>>

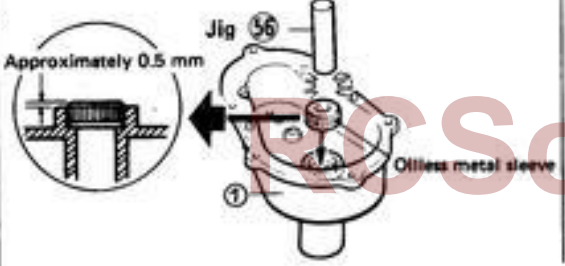
Adjust the tie rod length so that both knuckle arms point forward slightly.

6 MOTOR ASSEMBLY

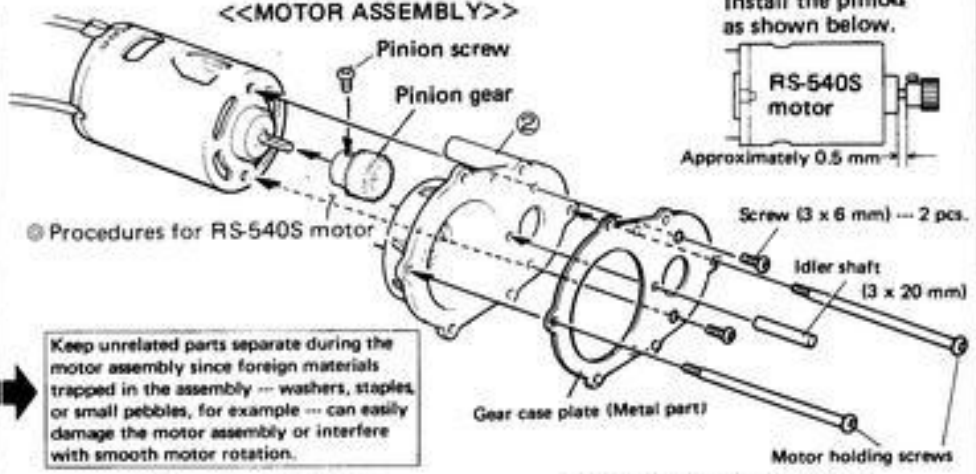
<<HAMMERING THE METAL SLEEVE IN>>



*Fully drive the metal sleeves into the frames.



<<MOTOR ASSEMBLY>>

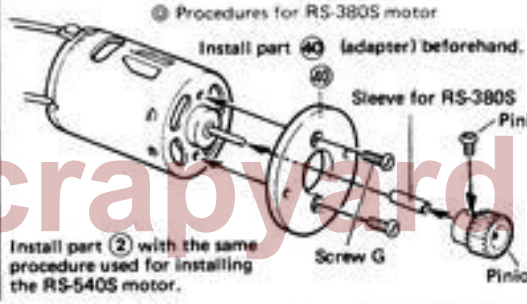


Install the pinion as shown below.

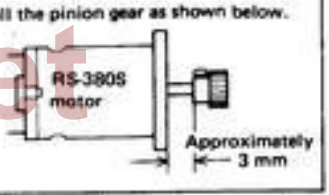
Keep unrelated parts separate during the motor assembly since foreign materials trapped in the assembly --- washers, staples, or small pebbles, for example --- can easily damage the motor assembly or interfere with smooth motor rotation.

Align the gear case plate and part 2 by inserting the idler shaft and the motor holding screws into their corresponding holes, and then tighten the nuts.

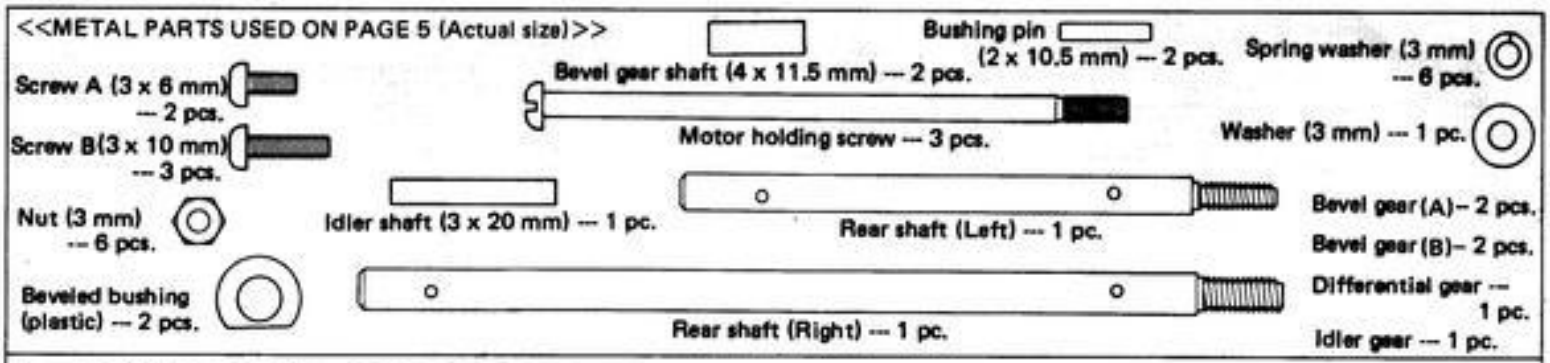
Procedures for RS-380S motor



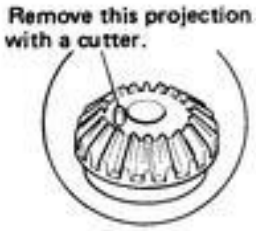
Install the pinion gear as shown below.

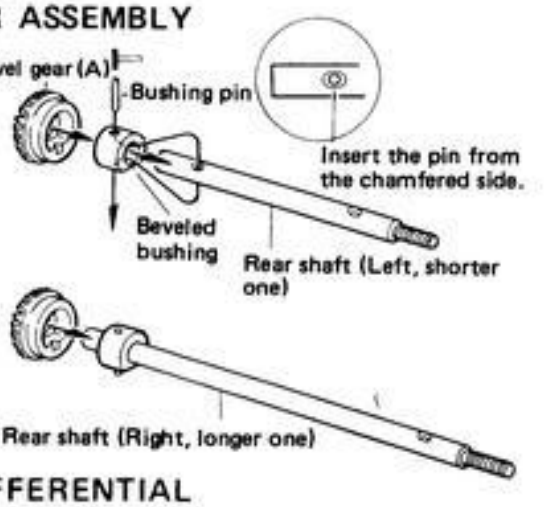


<<METAL PARTS USED ON PAGE 5 (Actual size)>>



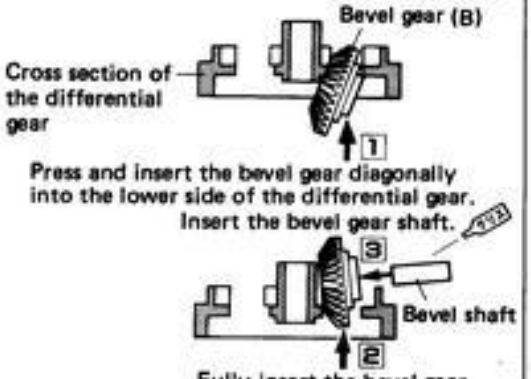
7 DIFFERENTIAL GEAR ASSEMBLY



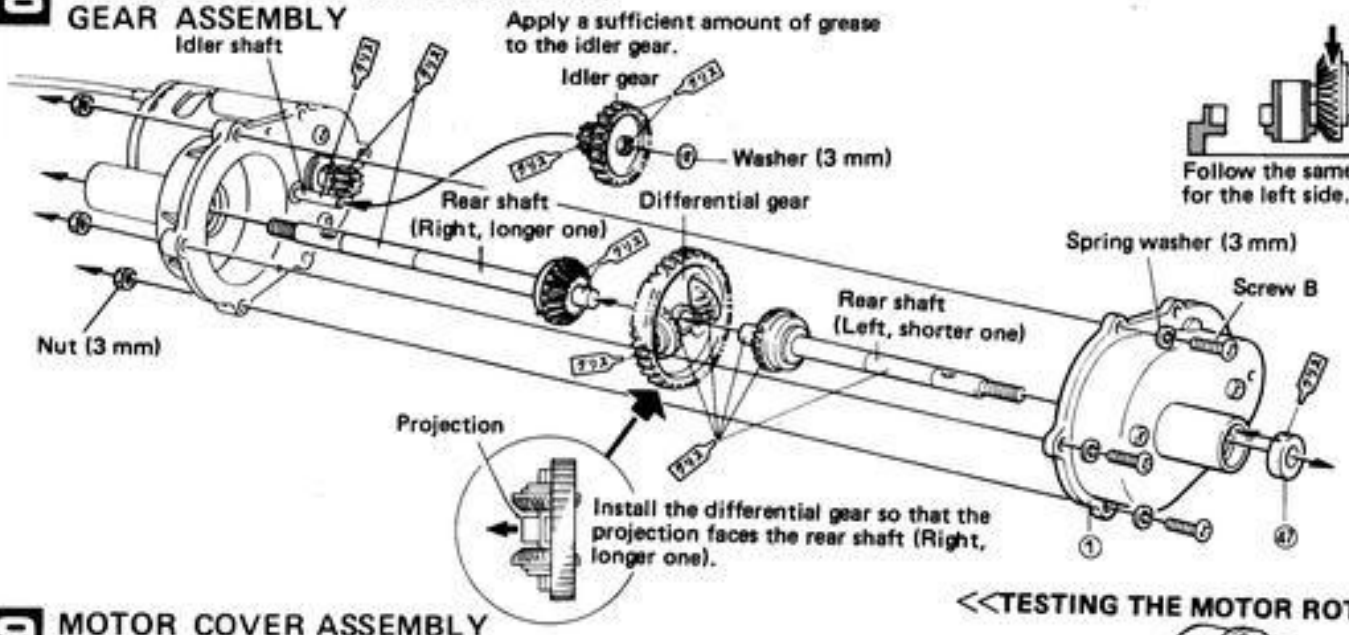


<<SETTING THE BEVEL GEAR>>

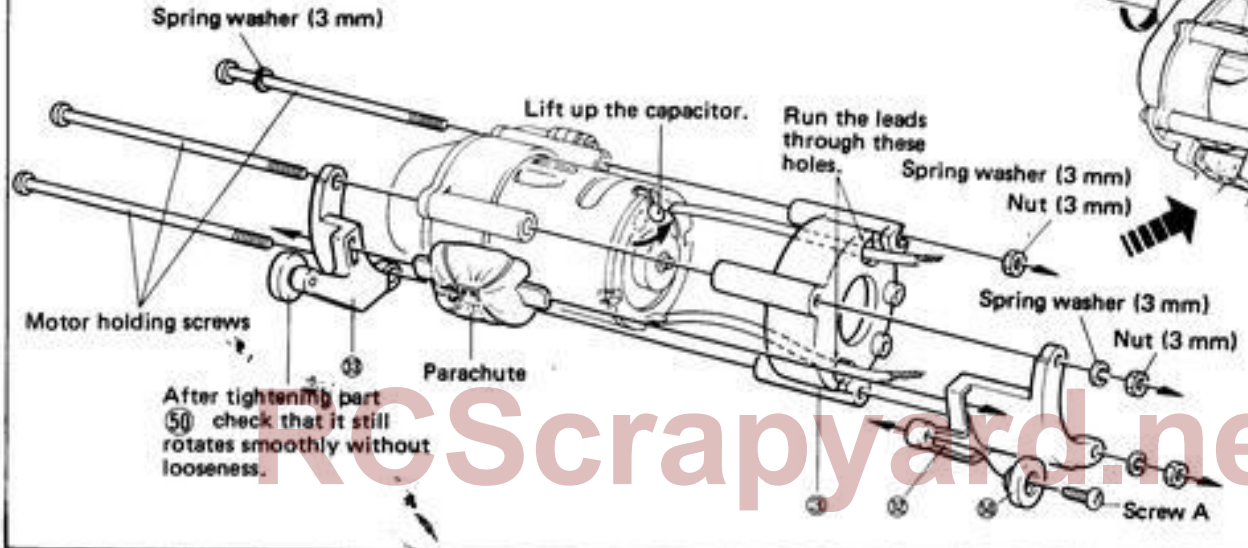
The assembly procedure is broken down into four Steps (1 through 4).



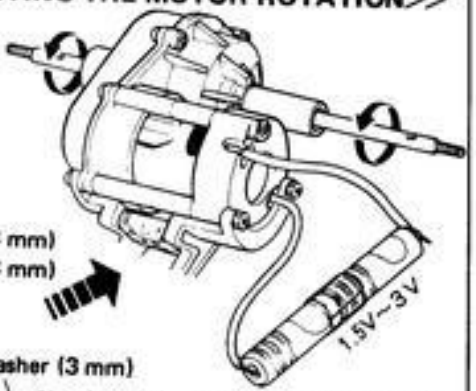
8 INSTALLING THE DIFFERENTIAL GEAR ASSEMBLY



9 MOTOR COVER ASSEMBLY



<<TESTING THE MOTOR ROTATION>>



Connect one or two dry-cell batteries to the motor leads as shown in the Figure and check that the motor rotates smoothly. If the motor fails to rotate, the oilless metal sleeve may be not be fully driven into place. Drive the sleeve in place and recheck the motor rotation.

<<METAL PARTS USED ON PAGE 6 (Actual size)>>

Tapping screw A (3 x 8 mm) — 8 pcs.

Rear arm screw — 2 pcs.

Rear suspension spring — 2 pcs.

Washer (4 mm) — 2 pcs.

Lock nut with nylon inner sleeve (4 mm) — 4 pcs.

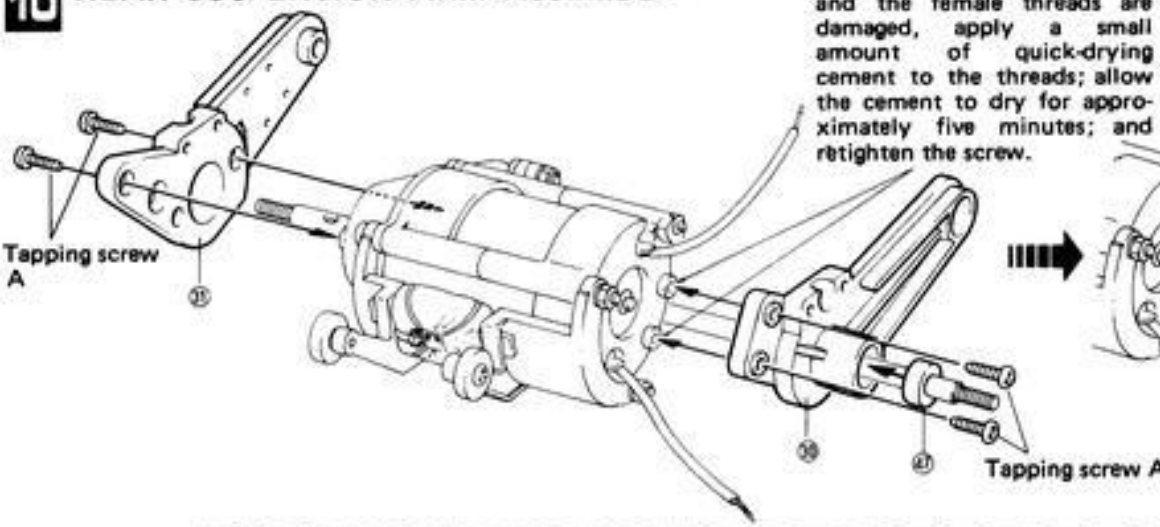
Rear suspension arm shaft — 2 pcs.

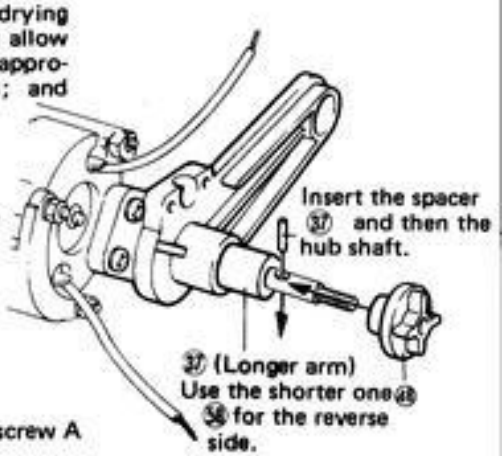
Hub shaft (2 x 9 mm) — 2 pcs.

Washer (5 mm) — 2 pcs.

10 REAR SUSPENSION ARM ASSEMBLY

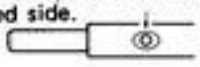
If a screw is overtightened and the female threads are damaged, apply a small amount of quick-drying cement to the threads; allow the cement to dry for approximately five minutes; and retighten the screw.



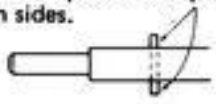


HAMMERING IN THE HUB SHAFT

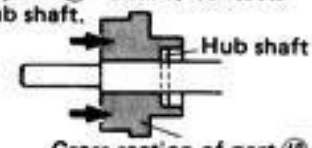
Insert the hub shaft from the chamfered side.



Make sure that the ends of the hub shaft protrude equally on both sides.



Insert part 48 until it contacts the hub shaft.



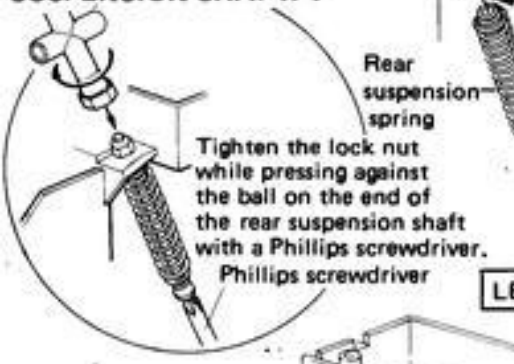
11 REAR SUSPENSION ARM ASSEMBLY

The assembly procedure is broken down into four Steps (1 — through 4).

The assembly procedure for the right side is the same as the one for the left.

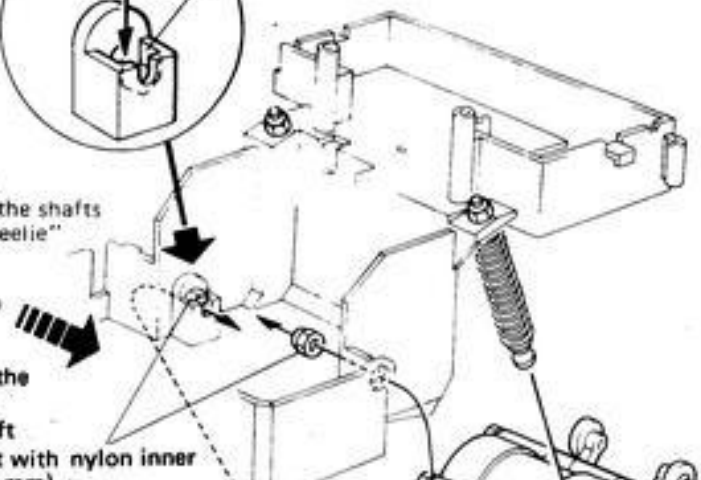
Fit the lock nut (4 mm) here and then tighten the rear suspension arm screw.

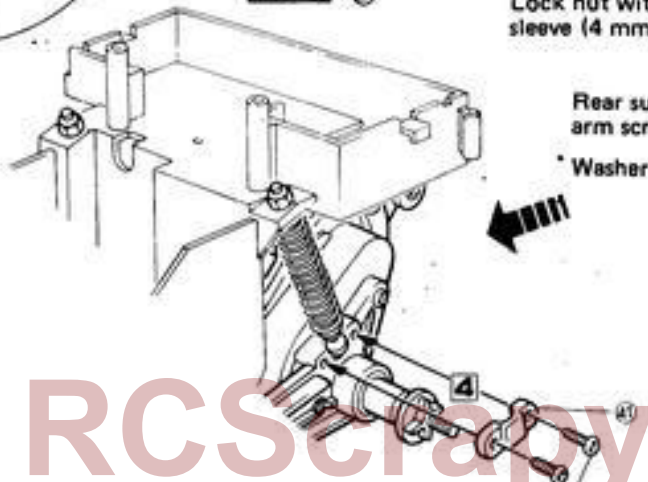
<<INSTALLING THE REAR SUSPENSION SHAFT>>

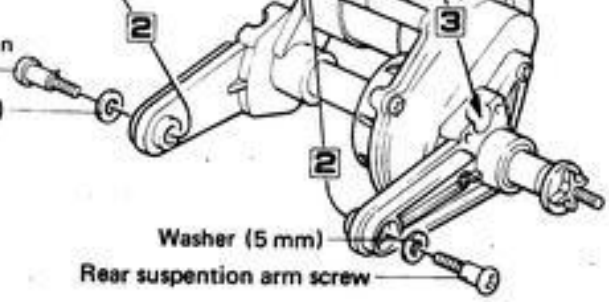


Install the sleeves 55 to the shafts on both sides for the "wheelie" feature (The model does a front-wheel stand).

(The model must carry a 6V battery pack in the battery compartment on the rear section of the chassis.)







<<METAL PARTS USED ON PAGE 7 (Actual size)>>

Tapping screw F (2 x 6.7 mm) — 16 pcs.

Lock nut with nylon inner sleeve (4 mm) — 4 pcs.

Piano wire (1.2 diameter x 75 mm length) — 1 pc.

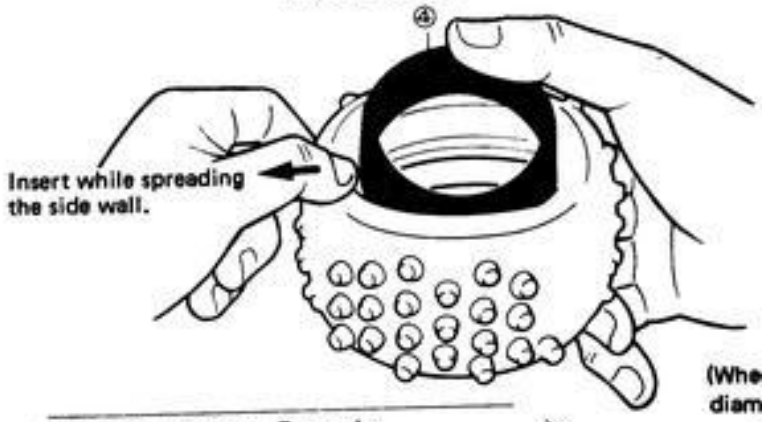
Bumper spring — 2 pcs.

Body mount stay — 2 pcs.

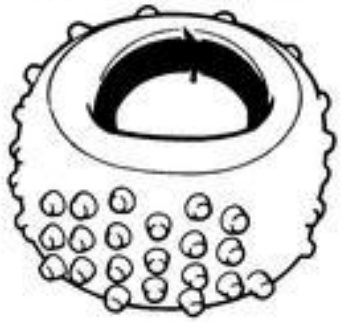
12 TIRE AND WHEEL ASSEMBLIES

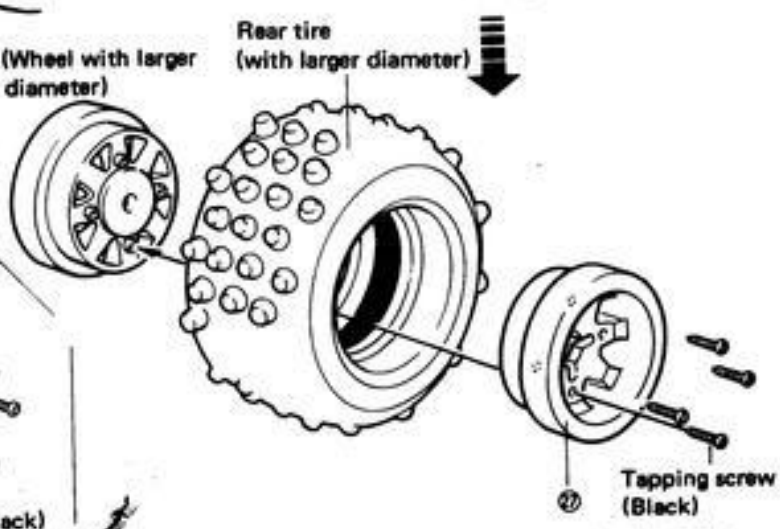
<<REAR TIRES>>

Insert a wheel ④ into the rear tire as shown in the Figure below. Apply soapy water to smooth assembly.

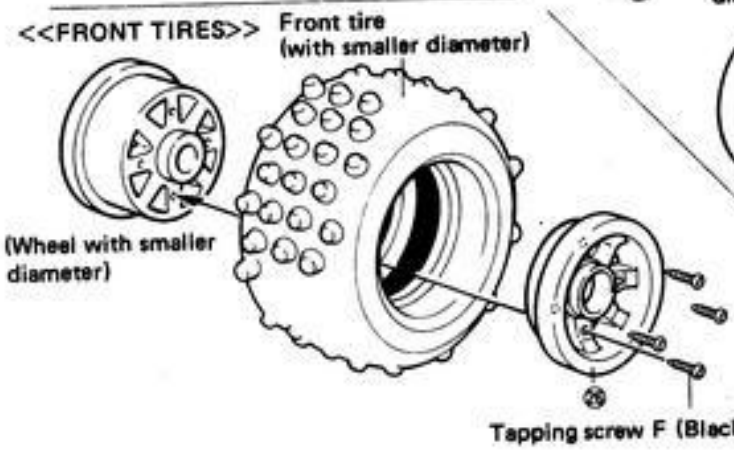


Press and insert part ④ into the tire in the direction indicated by the arrow.



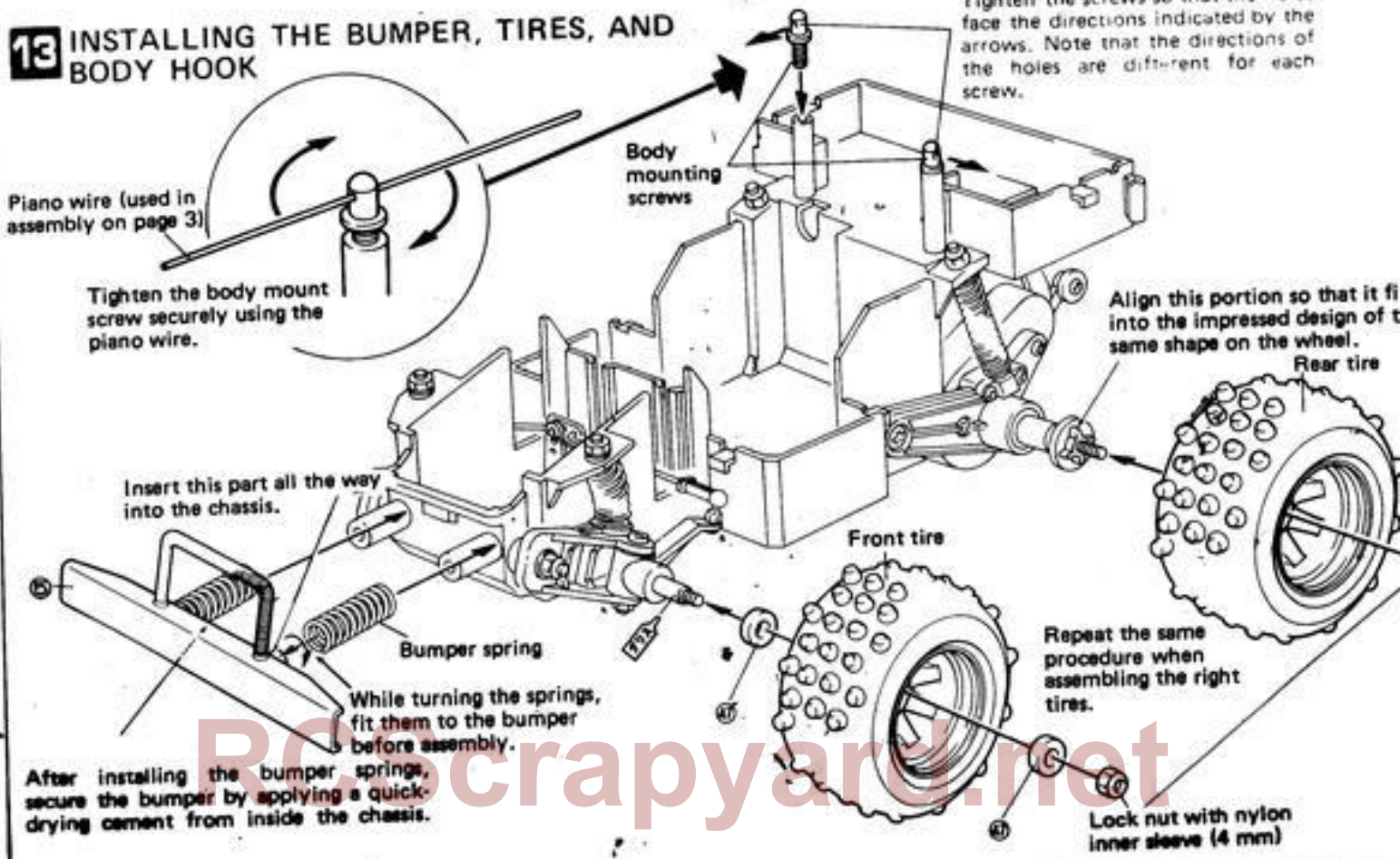


<<FRONT TIRES>>



13 INSTALLING THE BUMPER, TIRES, AND BODY HOOK

Tighten the screws so that the holes face the directions indicated by the arrows. Note that the directions of the holes are different for each screw.



<<METAL PARTS USED ON PAGE 8 (Actual size)>>

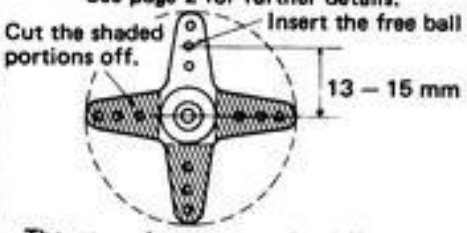
Nut (2 mm) — 2 pcs.

Free ball A (Short) — 1 pc.

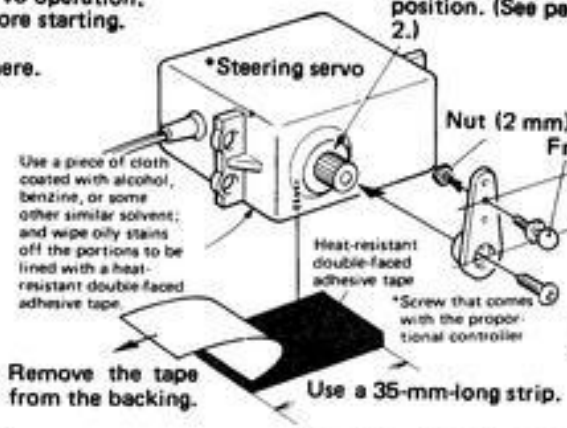
Free ball B (Medium, plated) — 1 pc.

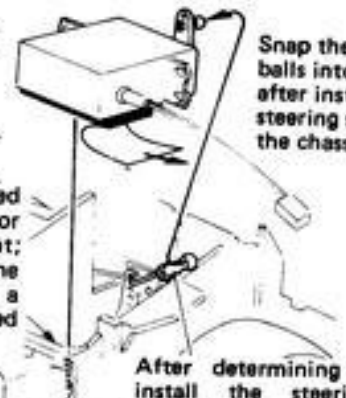
14 INSTALLING THE STEERING SERVO ASSEMBLY

This Step involves adjustment of the servo operation. Connect both servos to the receiver before starting. See page 2 for further details.

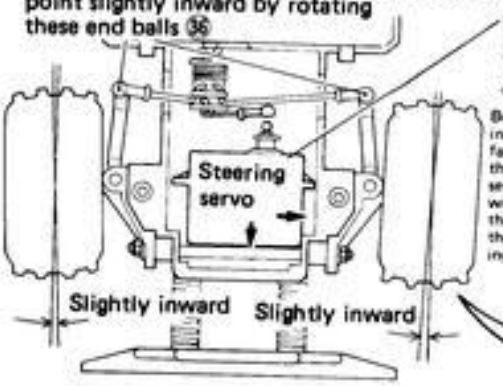


The servo horn comes in different shapes and sizes — in disc shape, for example — depending on the manufacturer. If the servo horn design does not match this kit, relocate the holes or cut off the unnecessary portions.





Use a piece of cloth coated with alcohol, benzine, or some other similar solvent; and wipe oily stains off the portions to be lined with a heat-resistant double-faced adhesive tape.

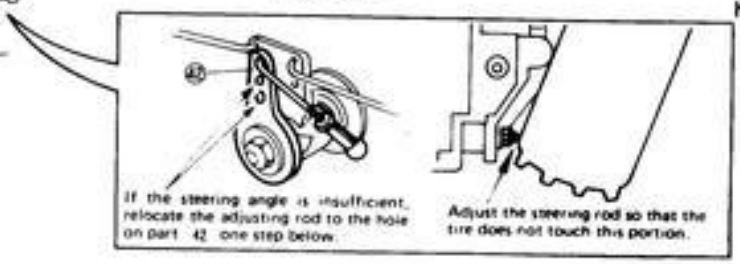


Install the steering servo in the directions indicated by the arrows and set it as close to the inner walls of the chassis as possible.

Before securing the steering servo with double-faced tape, roughly mark the portion where the servo is to be installed with a pencil. Make sure that the servo is set to the neutral position during assembly.

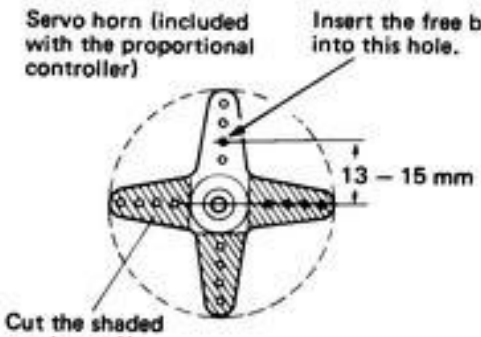
If you installed the steering servo incorrectly, remove it gradually and then reinstall.

After determining where to install the steering servo, rotate this end ball to the point where it can be attached to the free ball on the servo horn.



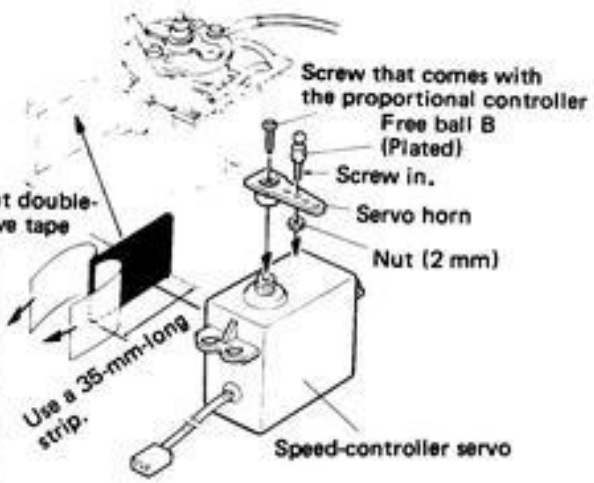
15 ASSEMBLING AND ADJUSTING THE SPEED-CONTROLLER SERVO (1)

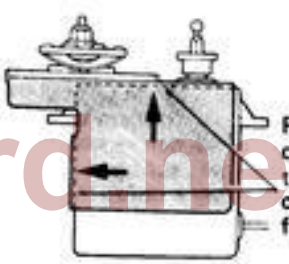
(This Step involves adjustment of the servo operation. Connect both servos to the receiver before starting. See page 2 for further details.)



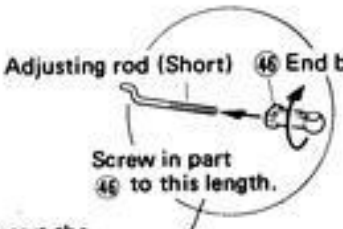
Use one of the servo-horn holes located 13 – 15 mm from the shaft.

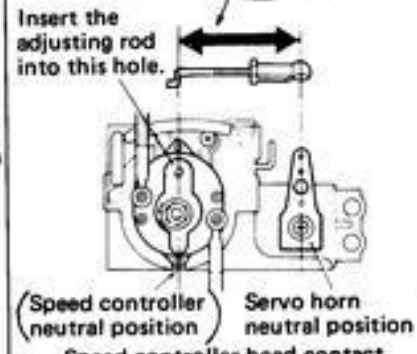
- Clean the portions to be lined with double-faced adhesive tape using a piece of cloth coated with plastic-model thinner or some other similar solvent.
- Do not touch the adhesive surface of the tape. (Oil or stains on your fingers may reduce the tape's bonding strength.)
- Firmly press the servo against the side of the speed controller to ensure bonding.





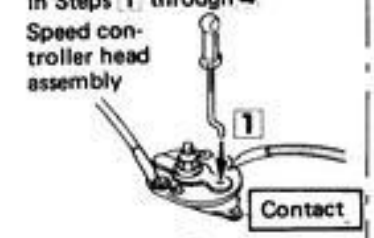
16 ADJUSTING THE SPEED-CONTROLLER SERVO (2) (Very important)

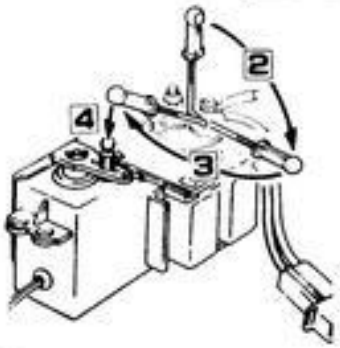


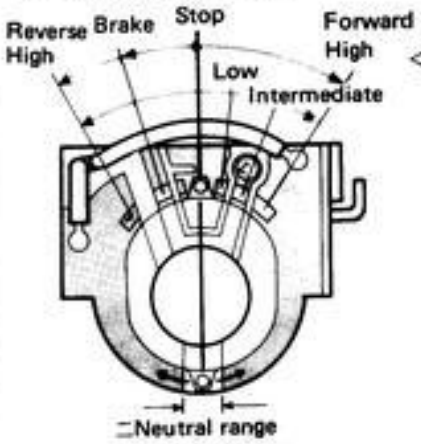


Speed controller head contact within the neutral range

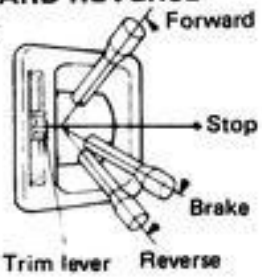
Follow the assembly procedures indicated in Steps 1 through 4







<<FORWARD-REVERSE STICK>>

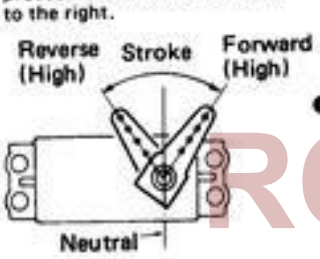


<<SWITCH POSITIONS>>

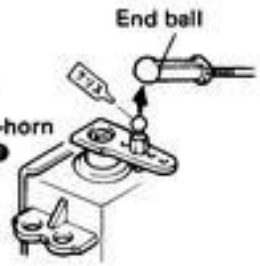
- The speed controller easily breaks down if it is used incorrectly because it is a capacitor-type unit. The built-in capacitors may overheat or burn out if the model is continuously driven at low or intermediate speed. Use the high speed range for continuous travel as long as possible.
- The speed controller is constantly switching large electric currents. Please consider it a consumable part.
- Do not touch the speed controller soon after operation as the capacitors may be quite hot.
- If the switch fails to engage in the forward-high range (due to incorrect speed-controller or switch-head positions, or faulty wiring), the capacitors may burn out and damage the printed circuit board.
- Do not use the speed controller on models using a sealed mechanical box since it contains capacitors which generate a small amount of heat.

ADJUSTING THE SERVO-HORN STROKE

The servo-horn stroke varies depending on the servo design. Check that the servo horn (contact) swings between the forward (high) and the reverse (low) positions when the speed-control stick on the proportional controller is moved all the way up and down. (See the Figure above.) If the servo horn stroke is incorrect, adjust it with the procedure shown in the Figure to the right.

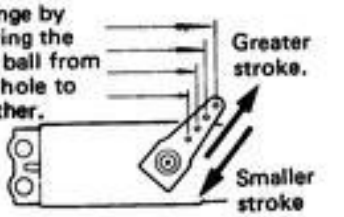


Adjust the servo-horn stroke in Steps ● through ●.

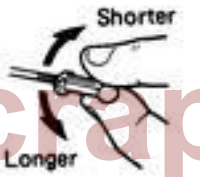


● Remove the end balls.

● Change by moving the free ball from one hole to another.



● Adjust the rod adjuster length and attach it to the free ball.

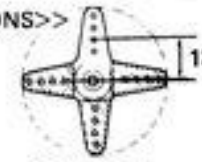


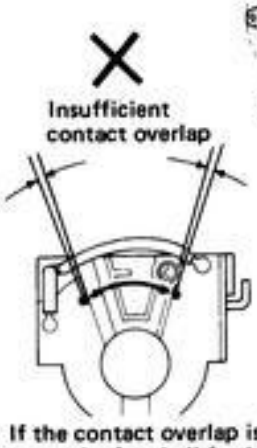
<<METAL PARTS USED ON PAGE 9 (Actual size)>>

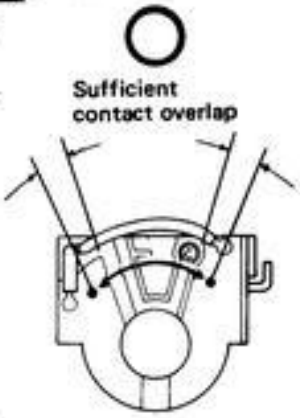
Screw A (3 x 6 mm) — 2 pcs.

Adjusting rod (Short) — 1 pc.

<<CONTACT POSITIONS>>

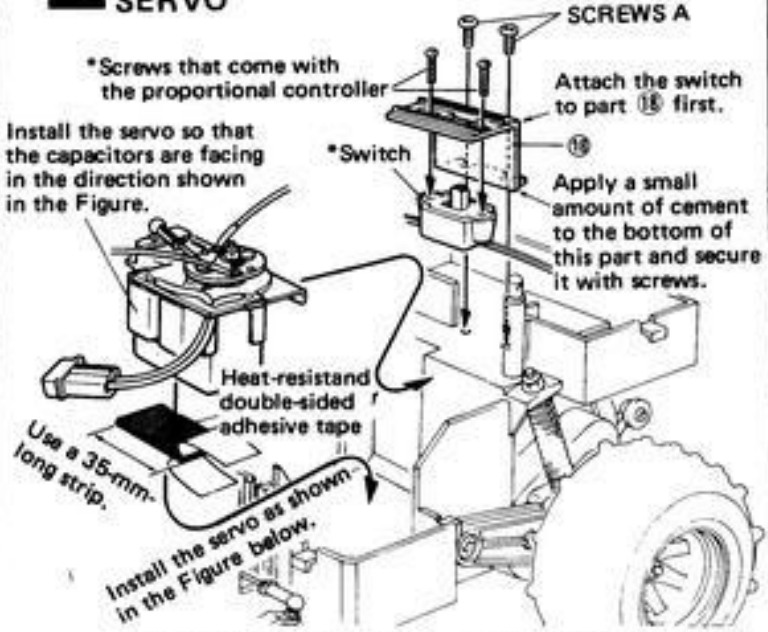


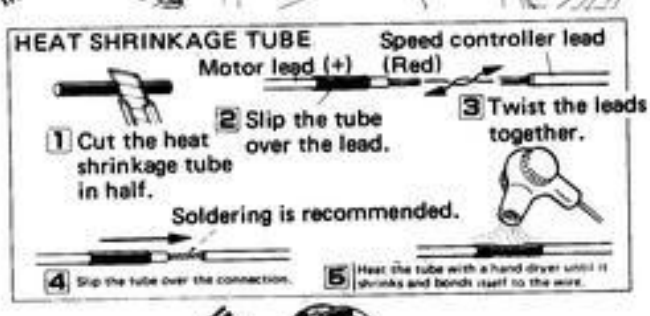


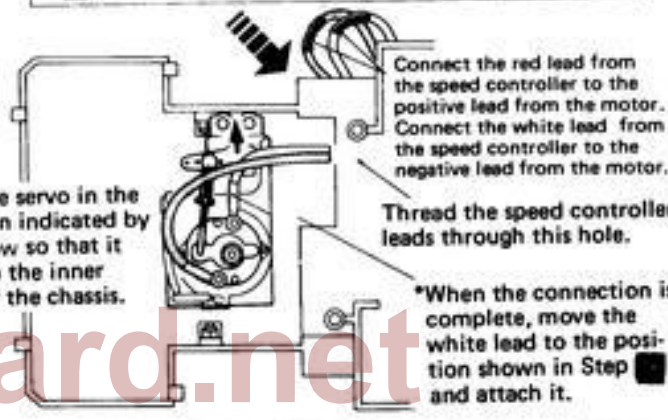


If the contact overlap is insufficient, move the free ball farther away from the servo horn shaft.

17 INSTALLING THE SPEED-CONTROLLER SERVO





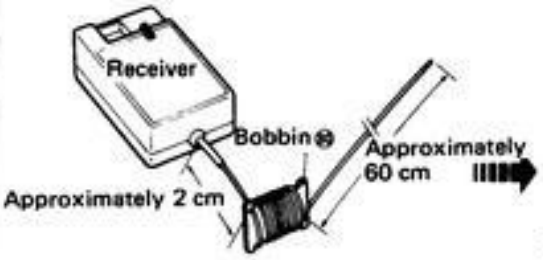


18 <<INSTALLING THE RECEIVER>>

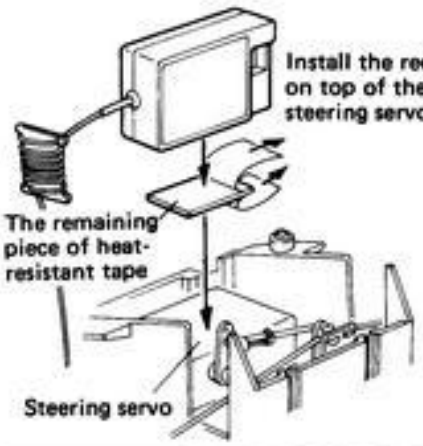
<<METAL PARTS USED ON PAGE 11 (Actual size)>>

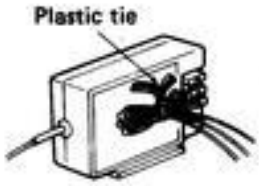
Tapping screw (2 x 6.7 mm) — 1 pc.

Joint pipe (2 x 20 mm) — 2 pcs.



Unwind the antenna lead so that the length of wire from the receiver to the bobbin is 2 cm, and the length from the bobbon to the end of the wire is 60 cm.

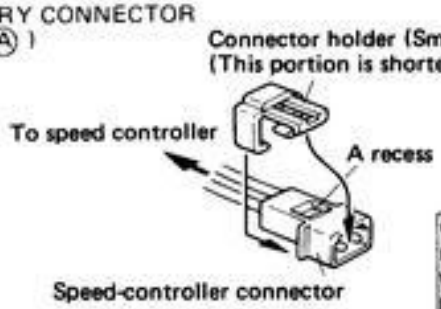




Plug the connectors into the receiver and tie up the excessive slack in the cord with a plastic tie.

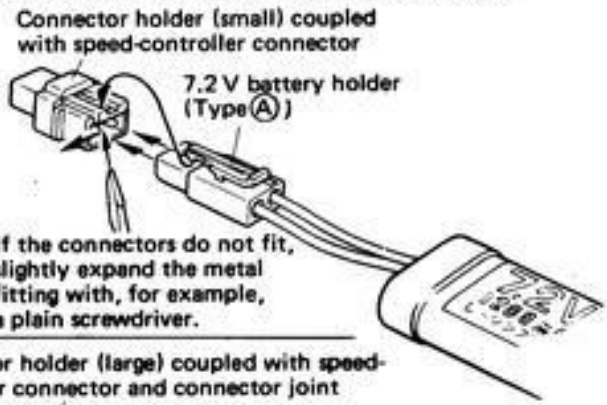
19 INSTALLING THE NI-CD BATTERY PACK

- BATTERY CONNECTOR (TYPE Ⓐ)



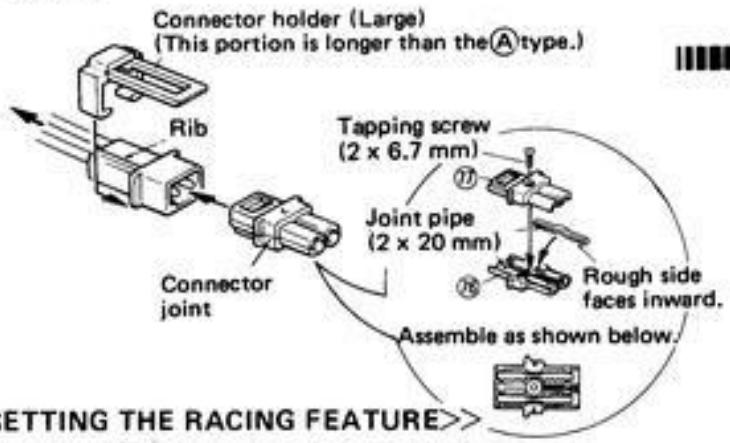
Connect the red lead to the red lead. Otherwise, the model will run in reverse when the proportional controller stick is moved forward.

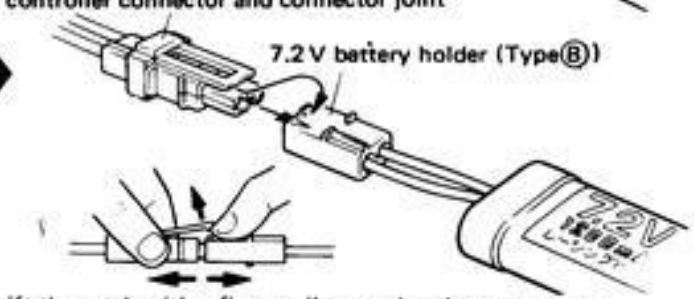
*The connectors for the 7.2V battery come in different shapes—types Ⓐ and Ⓑ—as shown in the Figure below. Choose the one that matches the speed-controller connector.



If the connectors do not fit, slightly expand the metal fitting with, for example, a plain screwdriver.

- BATTERY CONNECTOR (TYPE Ⓑ)

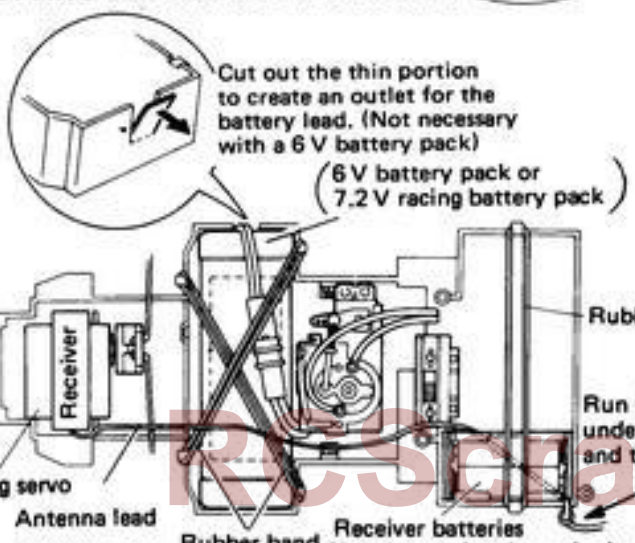




Lift the catch with a fingernail to unplug the connectors.

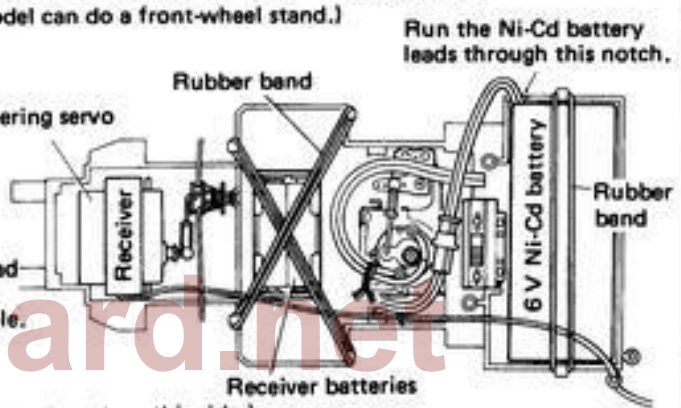
Always set the contact to the neutral range when connecting or disconnecting the wires. Otherwise, the model will run out of control and damages the speed controller, battery, or motor.

<<SETTING THE RACING FEATURE>>



<<SETTING THE "WHEELIE" FEATURE>>

(The model can do a front-wheel stand.)



<<METAL PARTS USED ON PAGE 11 (Actual size)>>

Screw D (2 x 4 mm) — 4 pcs.

Tapping screw A (3 x 8 mm) — 2 pc.

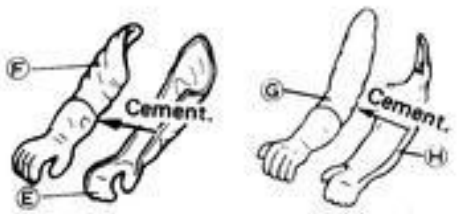
Washer (3 mm) —1 pc.

Tapping screw G (2 x 11 mm) — 1 pc.

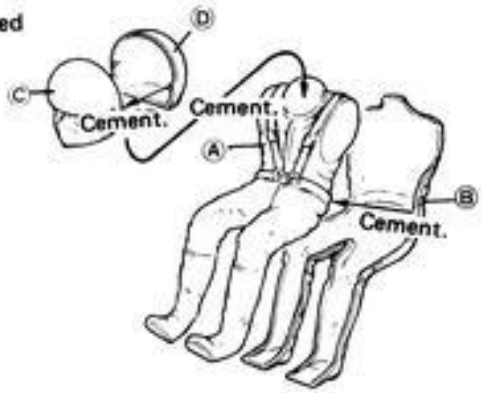
Nut (2 mm) — 4 pcs.

20 ASSEMBLING THE WINCH, THE WINDSHIELD, AND THE DRIVER

• The driver and his helmet may be painted to match the box photos.



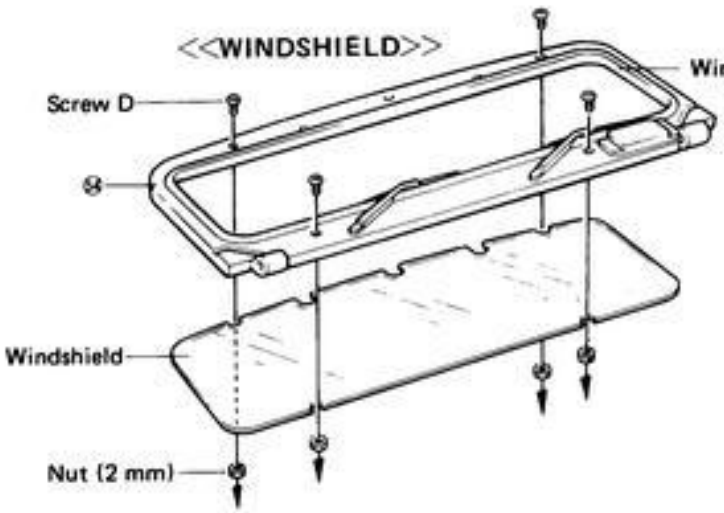
• Do not cement the arm to the body in this step.

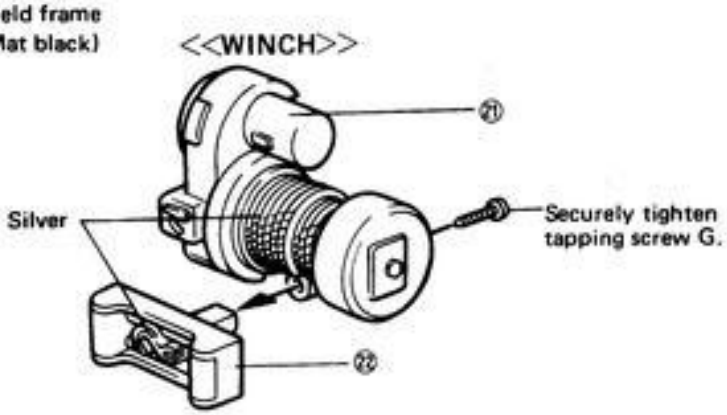


• Choose a decal and apply it to the driver.

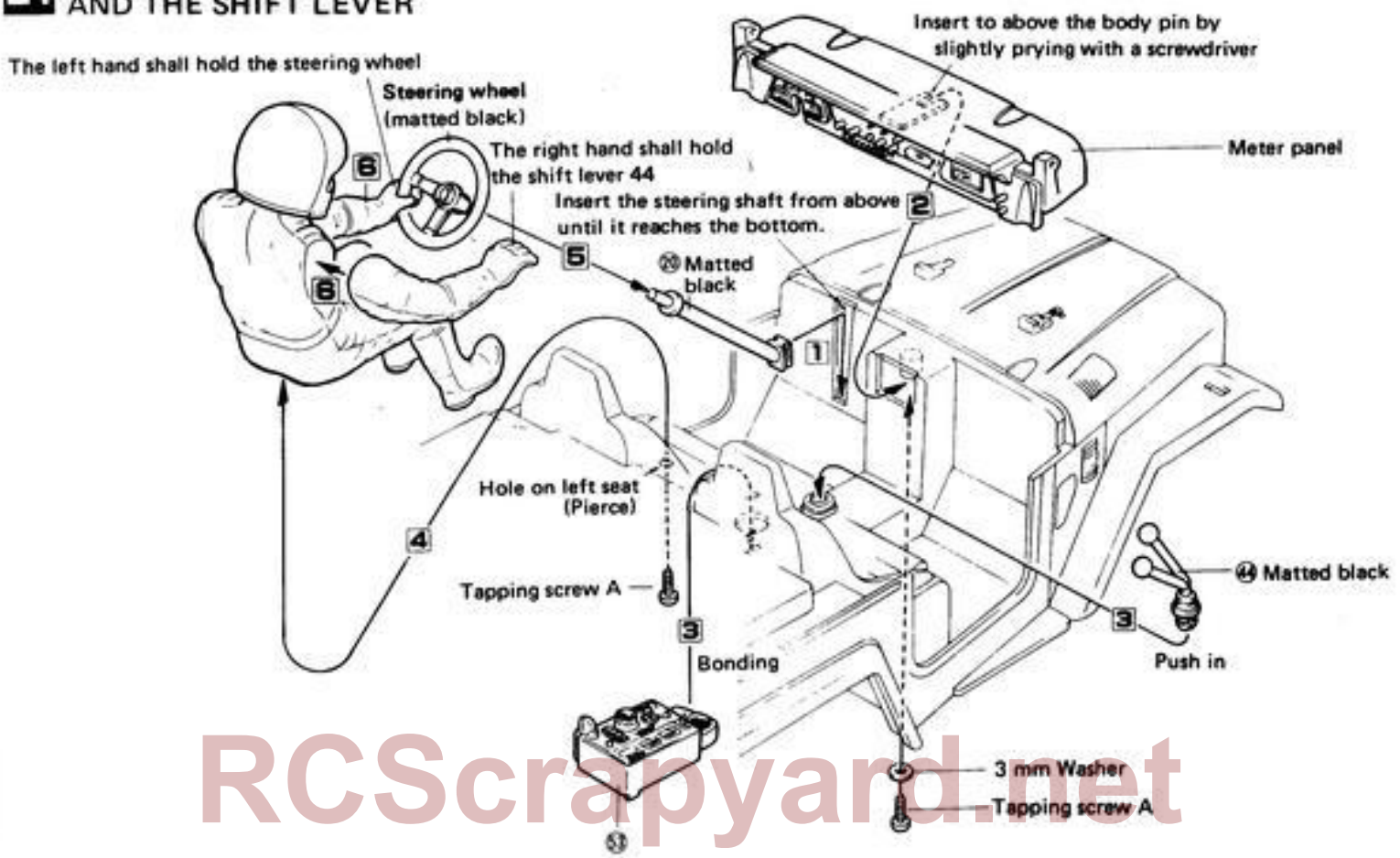
Arai

Seal L





21 INSTALLING THE DRIVER, THE INSTRUMENT PANEL, THE STEERING WHEEL, AND THE SHIFT LEVER



<<METAL PARTS USED ON PAGE 12 (Actual size)>>

Screw C (3 x 24 mm) –1 pc.

Screw H (2.6 x 17 mm) — 2 pcs.

Screw J (2.6 x 23 mm) — 1 pc.

Nut (2.6 mm) — 3 pcs.

Tapping screw A (3 x 8 mm) — 2 pcs.

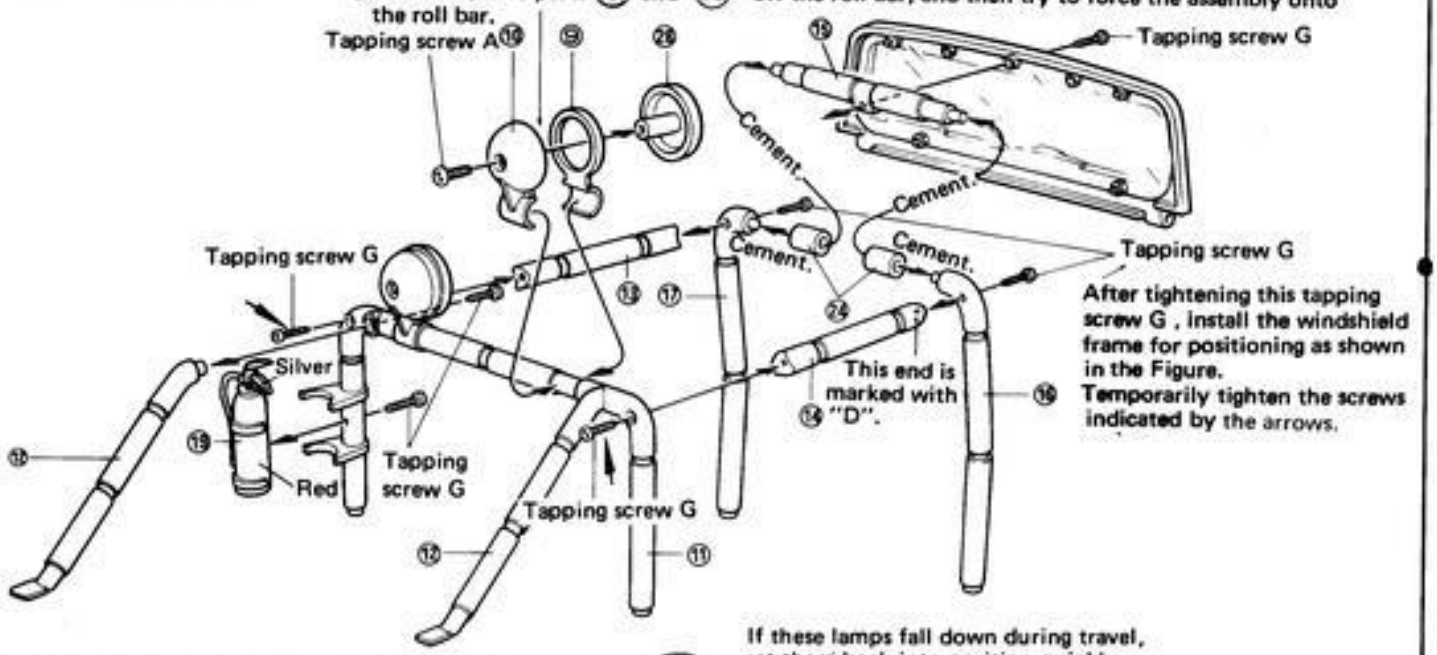
Tapping screw B (2.6 x 8 mm) — 4 pcs.

Tapping screw G (2 x 11 mm) — 8 pcs.

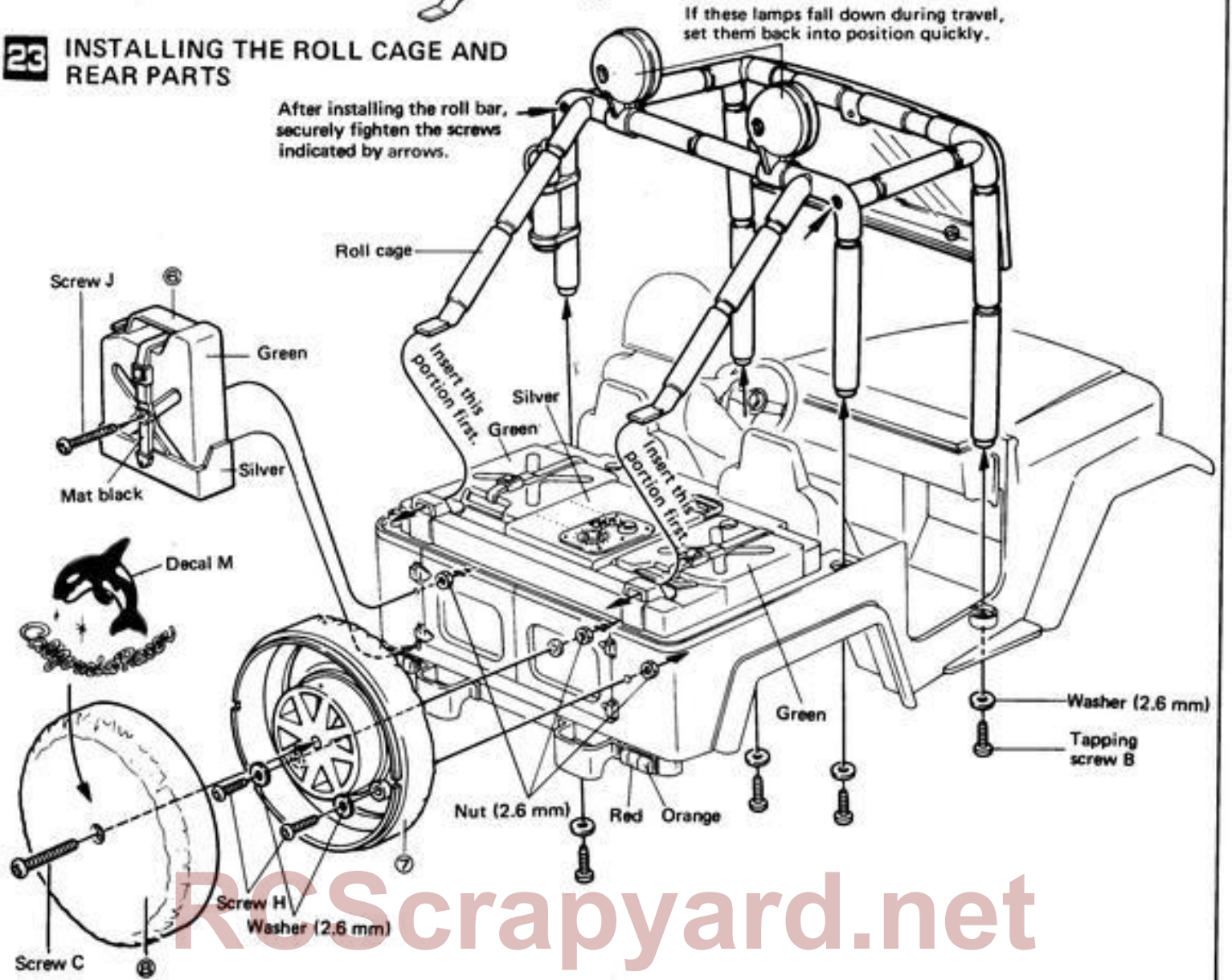
Washer (2.6 mm) — 6 pcs.

22 ROLL CAGE ASSEMBLY

● Don't assemble parts (9) and (10) off the roll bar, and then try to force the assembly onto the roll bar.



23 INSTALLING THE ROLL CAGE AND REAR PARTS



<<METAL PARTS USED ON PAGE 13 (Actual size)>>

Tapping screw C (2.6 x 11 mm) — 2 pcs.

Tapping screw D (2.6 x 9 mm) — 2 pcs.

Tapping screw G (2 x 11 mm) — 3 pcs.

Snap pin — 2 pcs.

Tapping screw F (2 x 6.7 mm)–2 pcs.

24 INSTALLING THE FRONT BODY PARTS

<WINDSHIELD FOLDED DOWN DURING TRAVEL>

Install part (38) to the body first, and then press in part (39).

Tapping screw G

Decal E

Silver

Mat black

Tapping screw D

TOYOTA letters in silver

Decal K

Winch

Tapping screw C

Decal D (on both sides)

Tapping screw G

Tapping screw F

Tapping screw G

Remove this tapping screw G and secure the windshield to the hood with the tapping screws F as shown in the Figure.

If you wish to attach direction indicators, make holes in the thinner portions of the fender top with a cutter, for example. (Do not forcibly insert the indicators. The legs can easily break off.)

Tie this end so that the lead does not detach.

Approximately 10 cm of antenna lead should hang down.

25 INSTALLING THE BODY AND APPLYING THE DECALS

- Apply the following decals to any places you like.

Decal B — Decal C — Decal F

Decal D

Snap pins

Antenna pipe

Thread the antenna lead through the antenna pipe before installing the pipe into the body.

Antenna lead

Decal G

After applying the decal, cut this section out.

Decal H (Decal A on the opposite side)

Hold the leads in place with a rubber band.

Decal J (Decal N on the opposite side)

Firmly insert the antenna pipe into this holder.

Run the antenna lead through this hole.

Tying the snap pins to the roll bar with a strong thread is one way to keep them from getting lost.

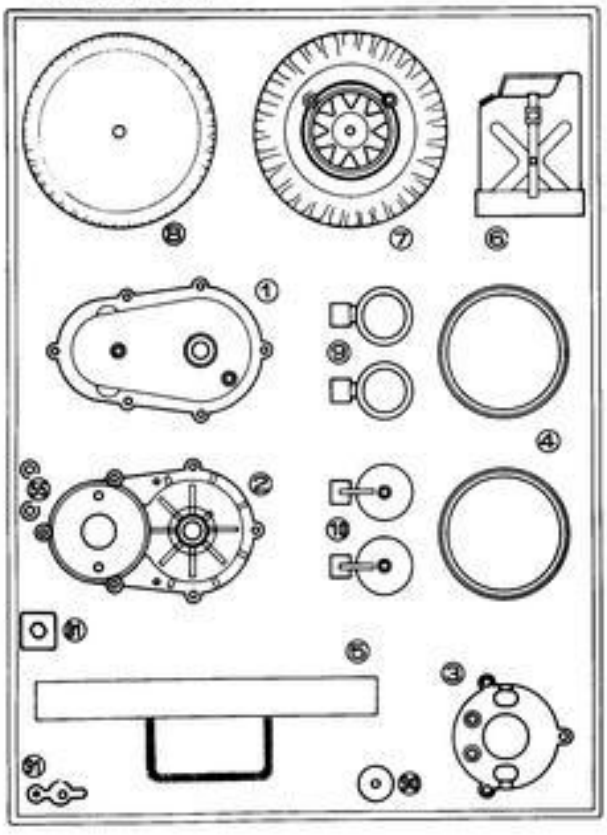
Insert the front of the body first

It is a good idea to secure the antenna lead inside the chassis with cellophane tape.

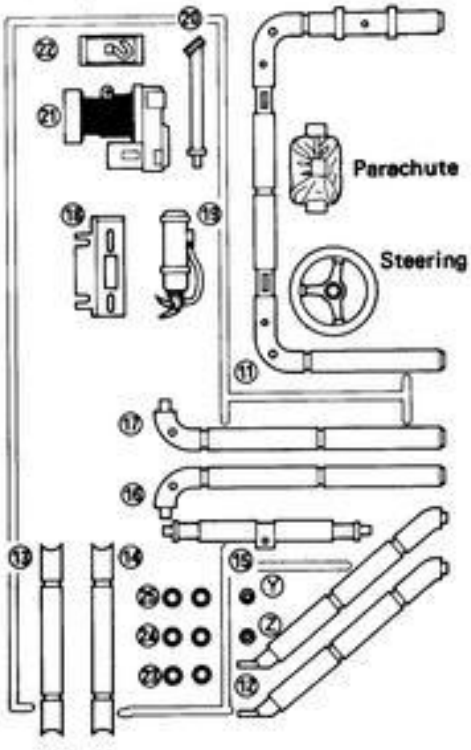
PARTS LIST

Body x 1 pc. (Chassis) x 1 (Figure parts) x 1 set (ABS parts (3))

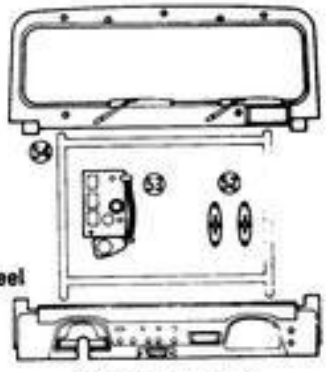
(ABS parts (1)) x 1



(ABS parts (2)) x 1 set

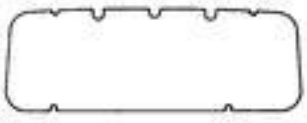


(ABS parts (3)) x 1 set

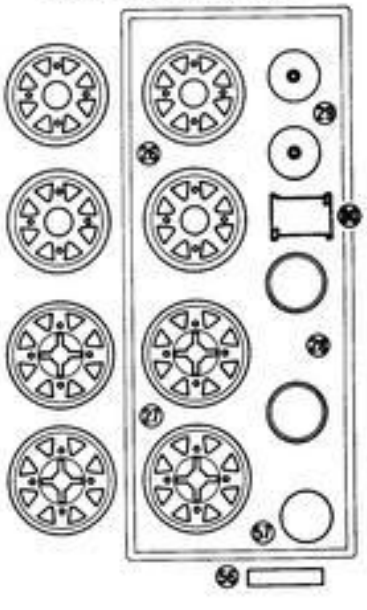


Instrument panel

(Windshield) x 1 pc.

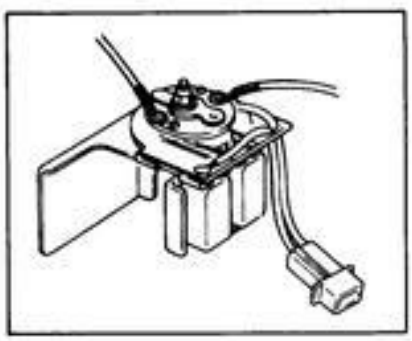


(ABS parts (4)) x 1 set

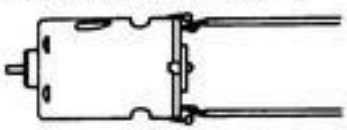


The nylon parts are sometimes coated with a small amount of moisture. Please remove the moisture off with a piece of cloth.

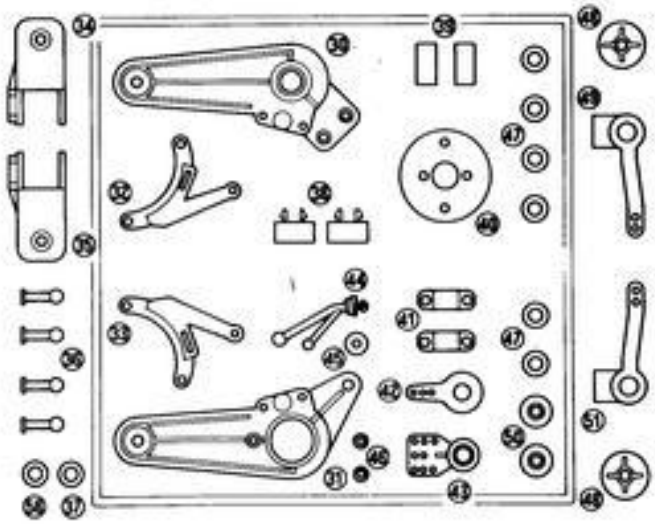
Speed controller servo



Mabuchi RS-540S motor x 1

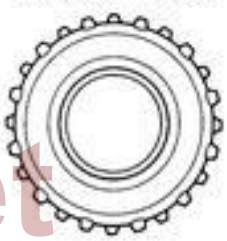


(Reinforced nylon parts (A)) x 1 set

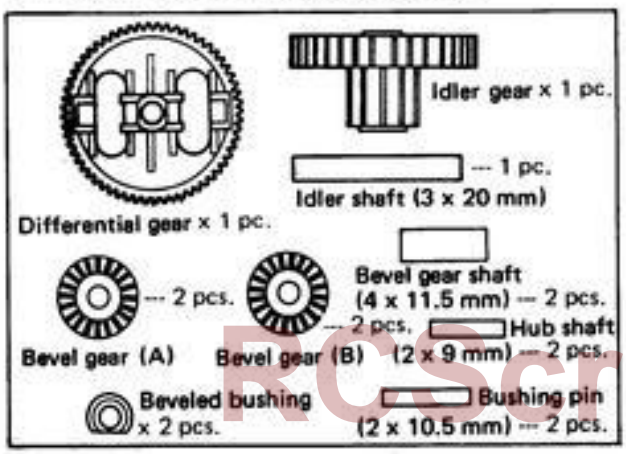


Front tire — 2 pcs.

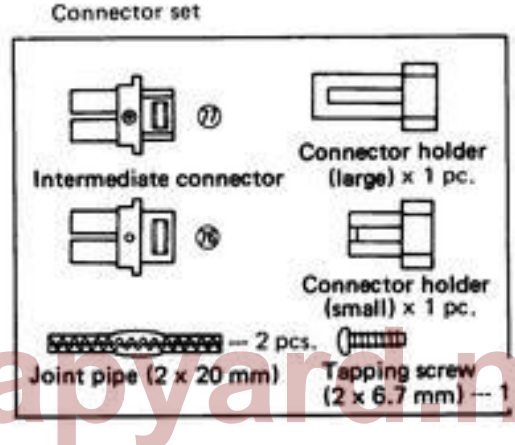
Rear tire — 2 pcs.



Differential gear set (with a gear case plate)



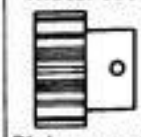
Connector set



Part List

Excess screws and nuts are included, which are used as spare parts.
(ϕ3: Part with 3 mm diameters)

Metal set


Pinion gear × 1


Oil-impregnated bearing × 2


Free ball A × 2


Free ball B × 2


Free ball C × 2


Body mount × 2


Sleeve for 380 motor × 1

Nut set


2 mm nut × 8


3 mm nut × 10


3 mm locknut with nylon lining × 2

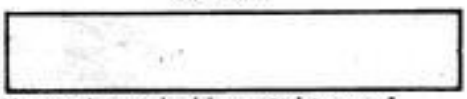

2.6 mm nut × 3


4 mm nut × 2

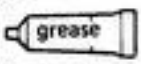

4 mm locknut with nylon lining × 8

In addition following parts are included:

Seal × 1

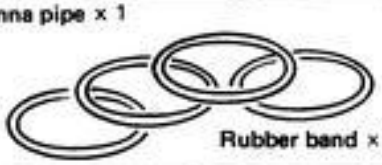

Heat resistant double coated tape × 1

Grease × 1 tube

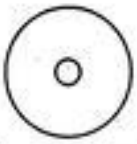


Bond × 1 tube


Antenna pipe × 1


Rubber band × 4

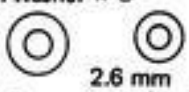
Washer set


Savor metal × 1

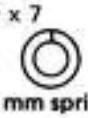

5 mm washer × 2


4 mm washer × 2

3 mm washer × 8


2.6 mm washer × 7


3 mm spring washer × 10


4 mm spring washer × 2

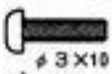
Screw set

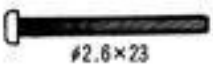

Screw A × 7 ϕ3×6


Screw D × 4 ϕ2×4

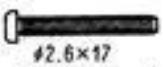

Pinion screw ϕ3×4 × 1


Screw G × 2 ϕ2.6×5

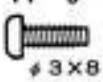

Screw B × 3 ϕ3×10


Screw J × 1 ϕ2.6×23


Screw C × 3 ϕ3×24

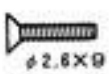

Screw H × 2 ϕ2.6×17

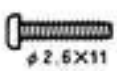
Tapping screw set

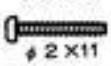

Tapping screw A × 13 ϕ3×8


Tapping screw B × 4 ϕ2.6×8

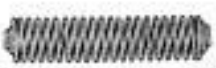

Tapping screw F × 17 ϕ2×6.7


Tapping screw D × 2 ϕ2.6×9

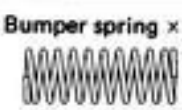

Tapping screw C × 2 ϕ2.6×11


Tapping screw G × 11 ϕ2×11

Spring set


Rear suspension spring × 2

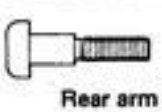

Front suspension spring × 2


Bumper spring × 2

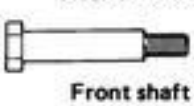

Savor spring × 1

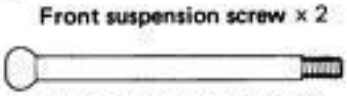
Shaft set A


Servo savor screw × 1


Rear arm screw × 2


Front suspension screw × 2

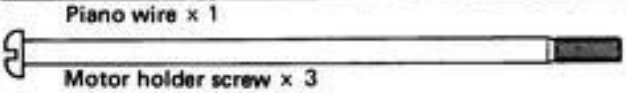

Front shaft × 2


Rear suspension shaft × 2


Snap pin × 2

Shaft set B

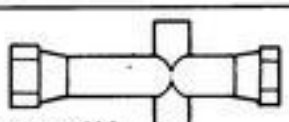

Piano wire × 1

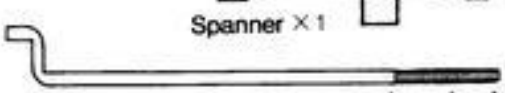

Motor holder screw × 3

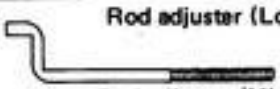

Front arm shaft × 1


Rear shaft, Left × 1


Rear shaft, Right × 1


Spanner × 1


Rod adjuster (Long) × 1


Rod adjuster (Middle) × 1


Rod adjuster (Short) × 2