

# BIG BEAR DATSUN

MARUI PLASTIC MODEL  
**MARUI**

1/12 RADIO CONTROL CAR

## RS540SH MOTOR

○READY TO ASSEMBLE R/C  
OFF-ROAD CAR KIT ○INCLUDES  
MABUCHI RS540-SH MOTOR

Electrically Powered,  
Radio Controlled



PRODUCT BY TOKYO MARUI CO., LTD

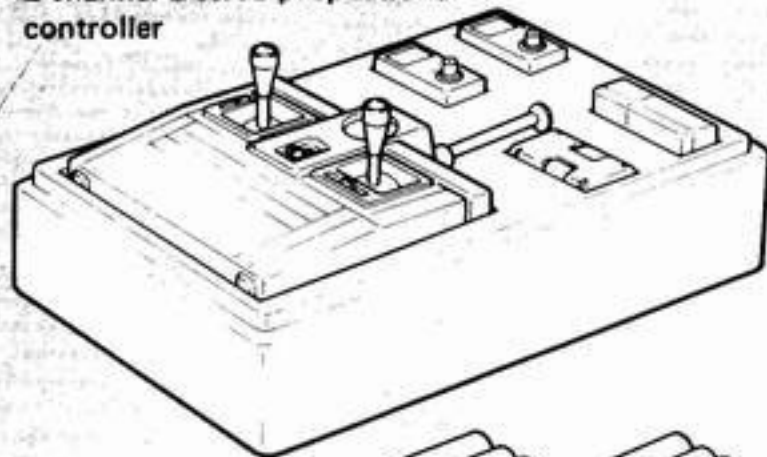
**HIGH PERFORMANCE SUPER BIG WHEEL R/C CAR**





## « Parts not included in the kit »

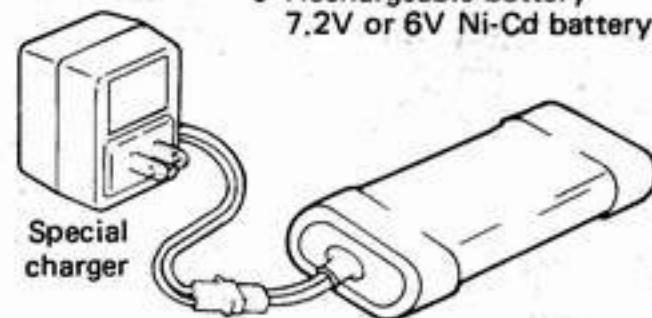
- 2-channel 2-servo proportional controller



• Batteries for proportional controller

Most regular 2-channel proportional controllers may be used, but always test first. For those who are going to purchase a controller, the following models are recommended:  
 FUTABA: ATTACK, MAGNUM  
 K.O.: FX-II, EX-II  
 J.R.: BEAT 2  
 SANWA: NEW DASH S

- Rechargeable battery 7.2V or 6V Ni-Cd battery



Special charger

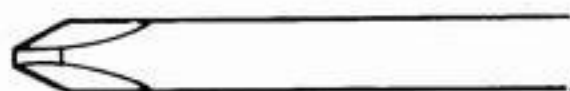
Either 7.2V or 6 V Ni-Cd battery may be used as the power supply for drive motor. A 6 V battery, however, will not deliver the full speed and torque designed into the BIG BEAR model, so we recommend a 7.2 V racing pack for those who are going to purchase a new battery.

A Ni-Cd battery may be recharged up to 300 times. Charging normally requires 15 to 16 hours, but quick-charge models requiring only 15 to 20 minutes are also available.

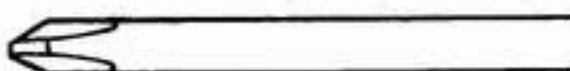
\*Refer to the instructions included with the Ni-Cd battery for details.

## « Tools Required for Assembly »

- ⊕ Only phillips type screwdrivers are shown in actual sizes.

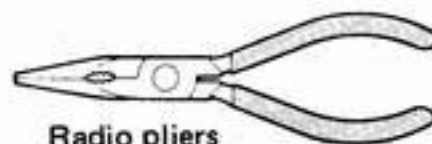


+ Screwdriver (Large) for  $\phi 3$  screws and  $\phi 3$  tapping screws

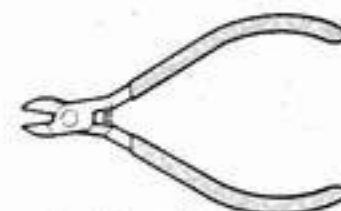


+ Screwdriver (Middle) for damper shaft,  $\phi 2.6$  screws, and  $\phi 2.6$  tapping screws

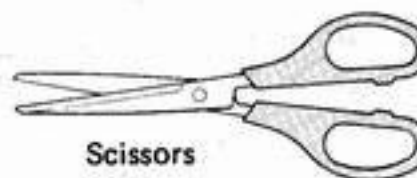
This kit includes many tapping screws. Use the proper screwdriver and the proper tightening torque for each one. Release the turning pressure on the screwdriver when the screw no longer rotates easily. Be careful not to damage screws by applying too much torque.



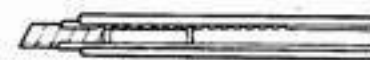
Radio pliers



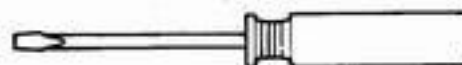
Cutting pliers



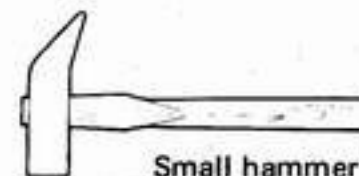
Scissors



Cutter

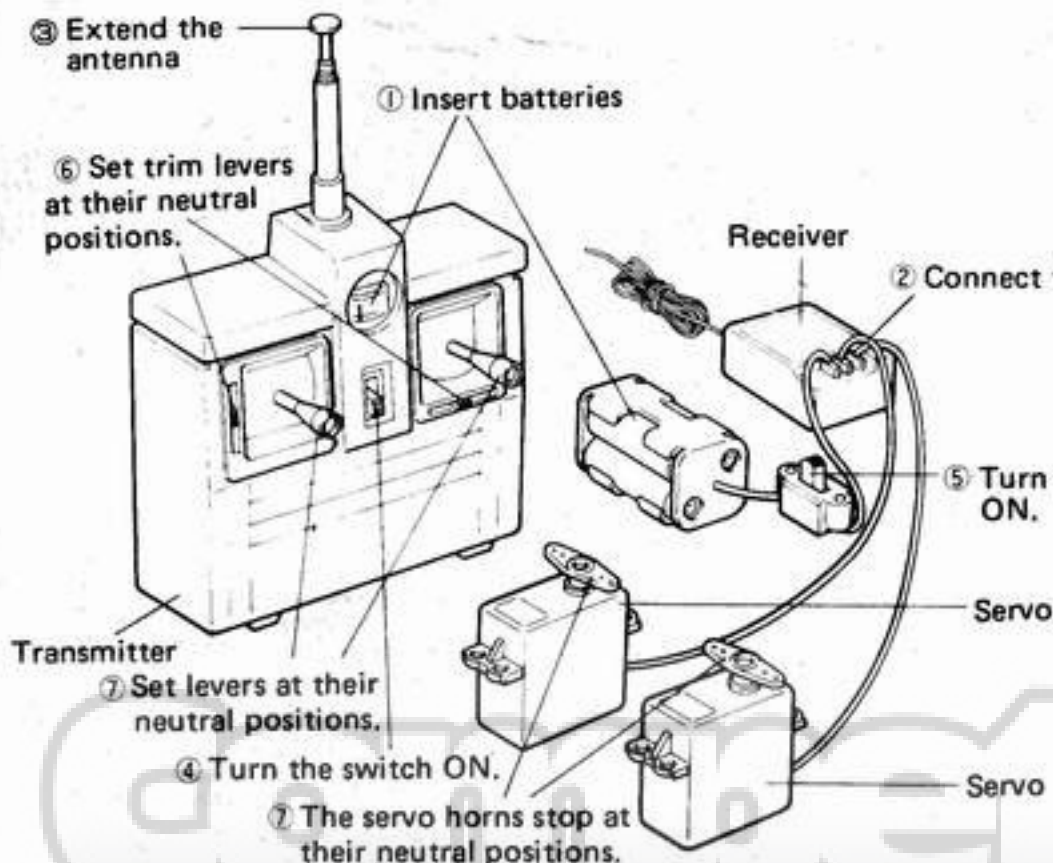


Plain screwdriver (Middle)



Small hammer

## « Radio Control Unit »



Almost any 2-channel, 2-servo, digital proportional radio controller may be used, but some may not. Units with 3 or more channels are not suitable.

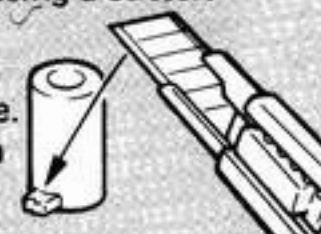
- Check the controller operation
  - ① Insert batteries in the transmitter and receiver.
  - ② Connect the servo and power supply leads to the receiver.
  - ③ Extend the transmitter antenna.
  - ④ Turn ON the transmitter switch. (Always turn ON the transmitter switch first.)
  - ⑤ Turn ON the receiver switch.
  - ⑥ Set the trim levers at their neutral positions.
  - ⑦ Set the levers at their neutral positions. (The servo horns should stop at their neutral positions.)
  - ⑧ Check servos operation by moving the levers.
  - ⑨ Turn OFF the receiver first and then the transmitter when the test is complete.
- Refer to the radio control equipment instructions for further details.

Read the following instructions carefully before assembly

- Read the entire assembly instructions before beginning assembly.
- A mark indicates a portion where the grease included in the kit must be applied. Similarly, a small hammer should be used when the mark appears.
- Some screws, nuts, and washers will be left over as more than the required numbers are included in the kit. Keep

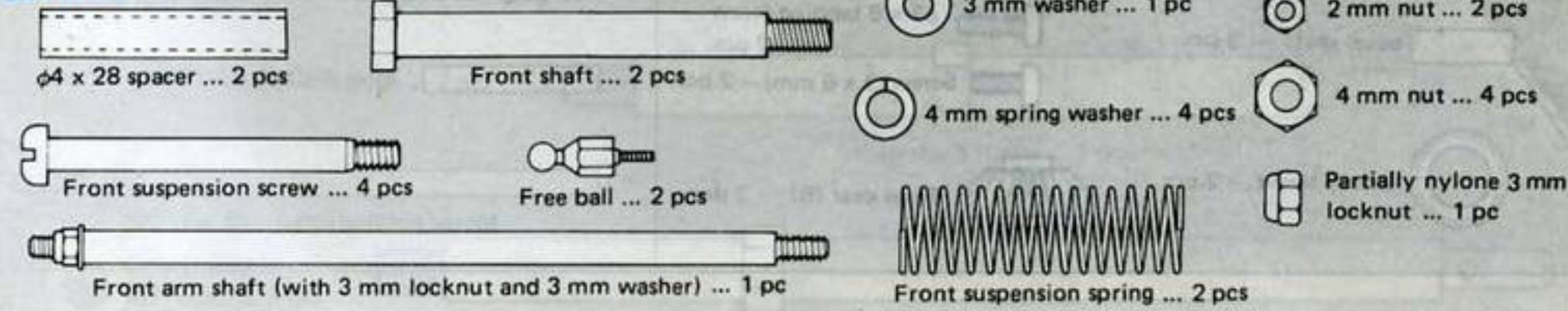
them for use as spare parts.

- Thoroughly remove plastic part burrs using a cutter.
- Strengthened nylon part burrs must be completely removed as they may impair driving performance. (Be careful not to cut your fingers with the cutter.)



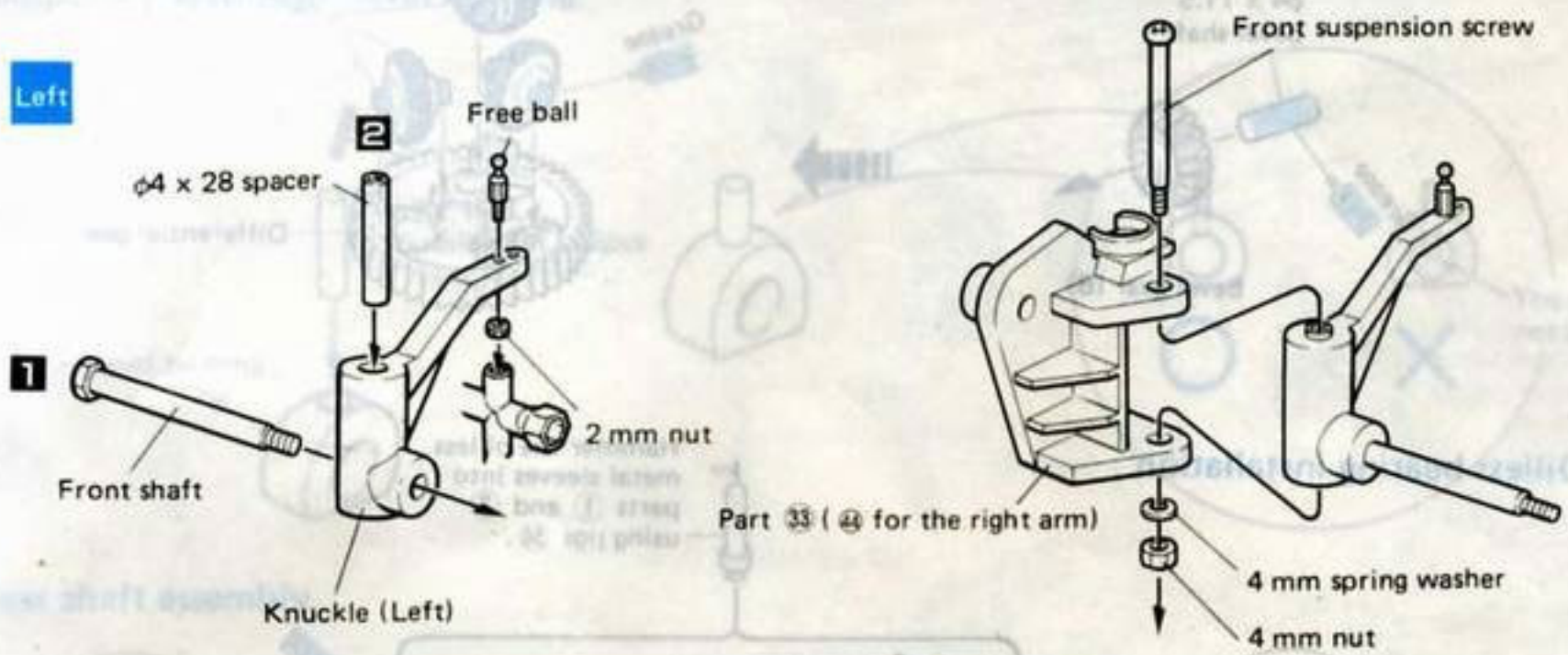


Metallic part actual sizes  
used on P.3

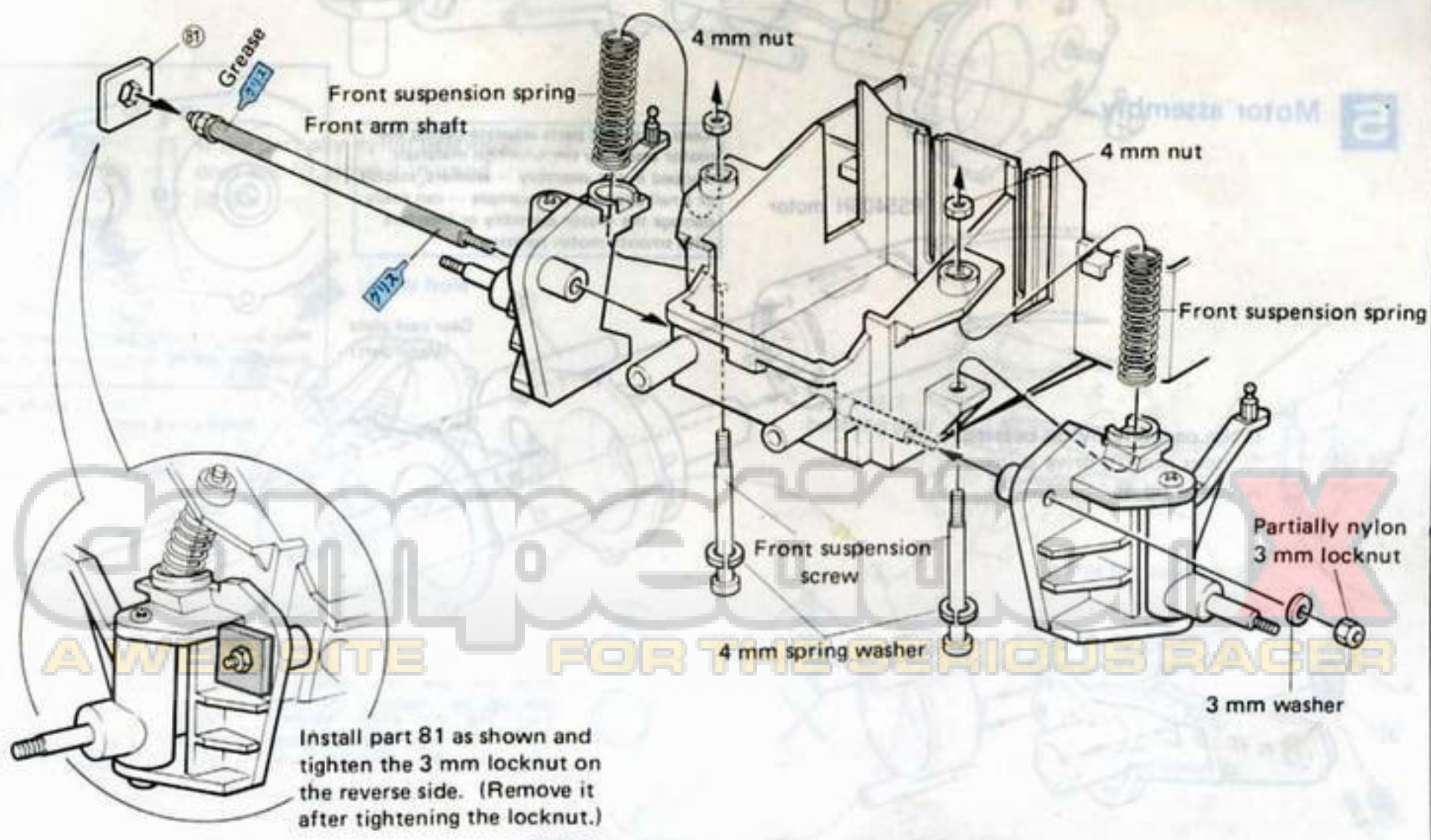


# **1 Front suspension arm assembly** (Install in the order (1) and (2).)

Left



# **2 Front suspension arm installation**





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

bevel shaft --- 3 pcs.

$\phi 3 \times 8$  tapping screw --- 2 pcs.

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

Oilless sleeve --- 2 pcs

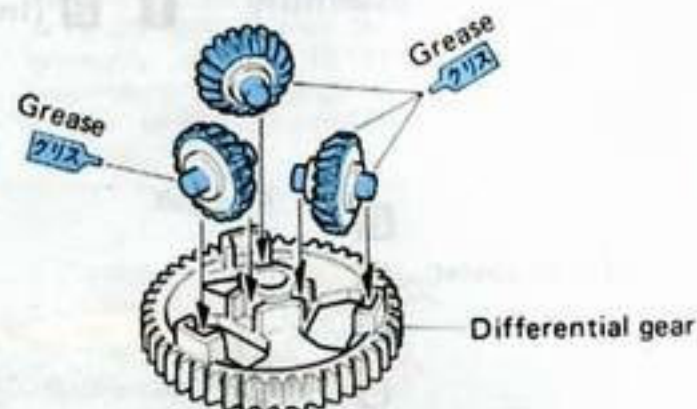
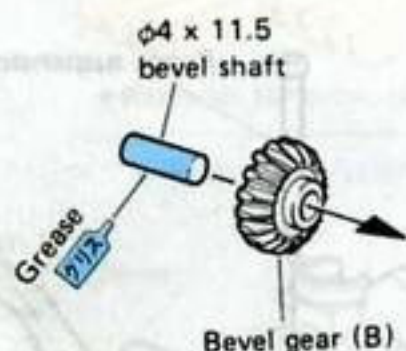
Bevel gear (B) --- 3 pcs.

# <<USED AS JIGS DURING ASSEMBLY>>

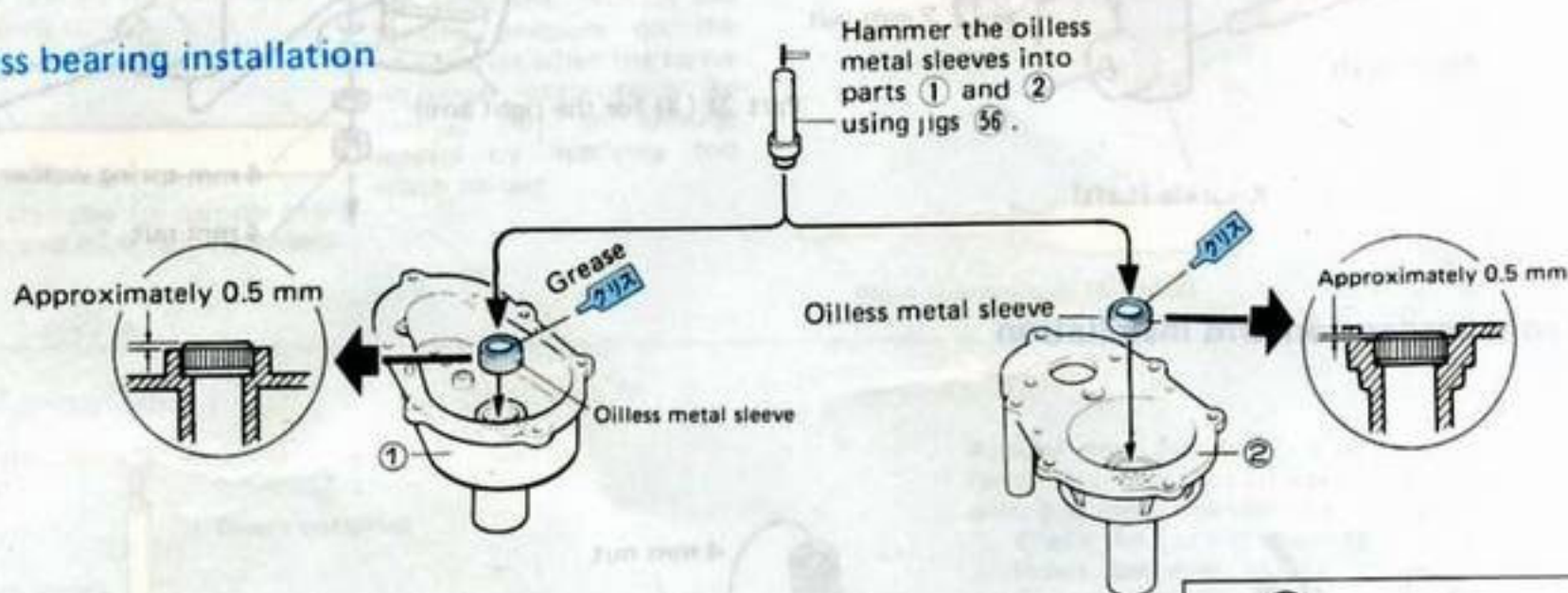
Idler shaft (3 x 20 mm) --- 1 pc.

Motor holding screw --- 2 pcs.

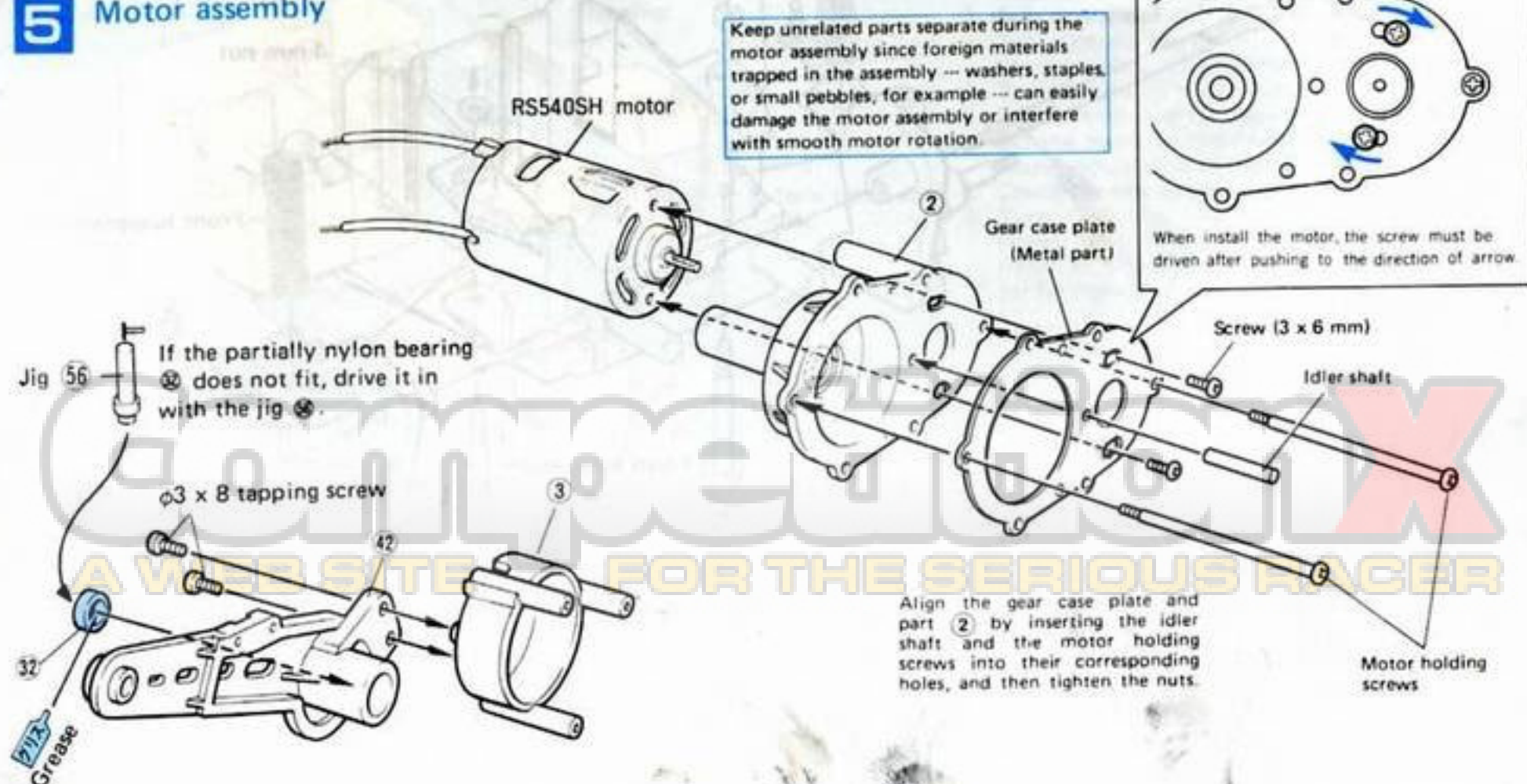
## 3 Gear assembly



## 4 Oilless bearing installation

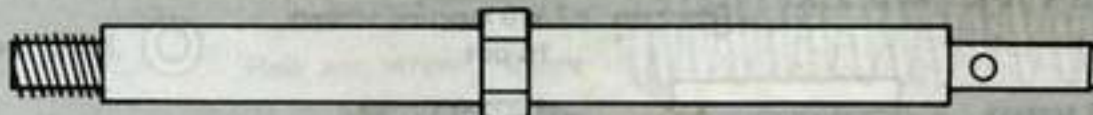


## 5 Motor assembly





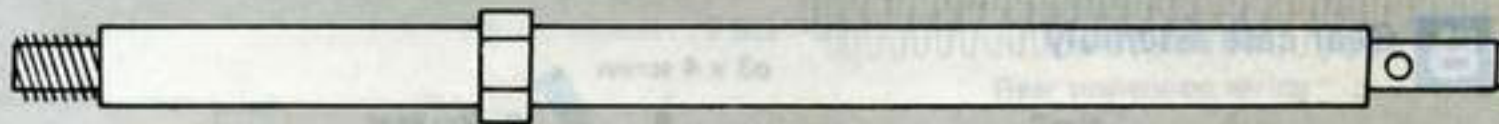
$\phi 2 \times 10.5$  bushing pin ... 2 pcs



Rear shaft (Left) ... 1 pc

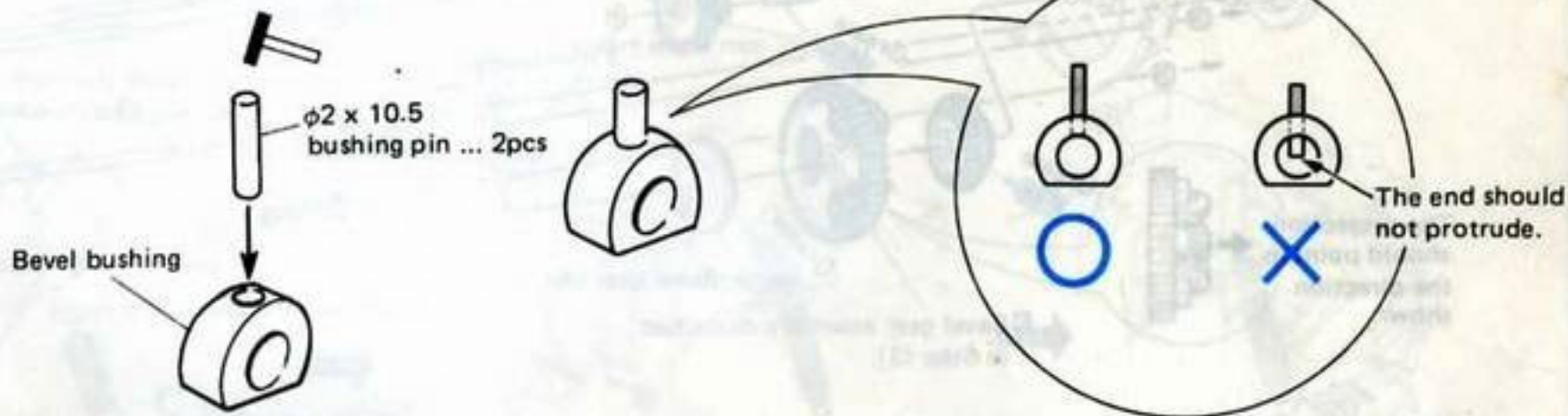


Bevel bushing  
(Plastic) ... 2 pcs

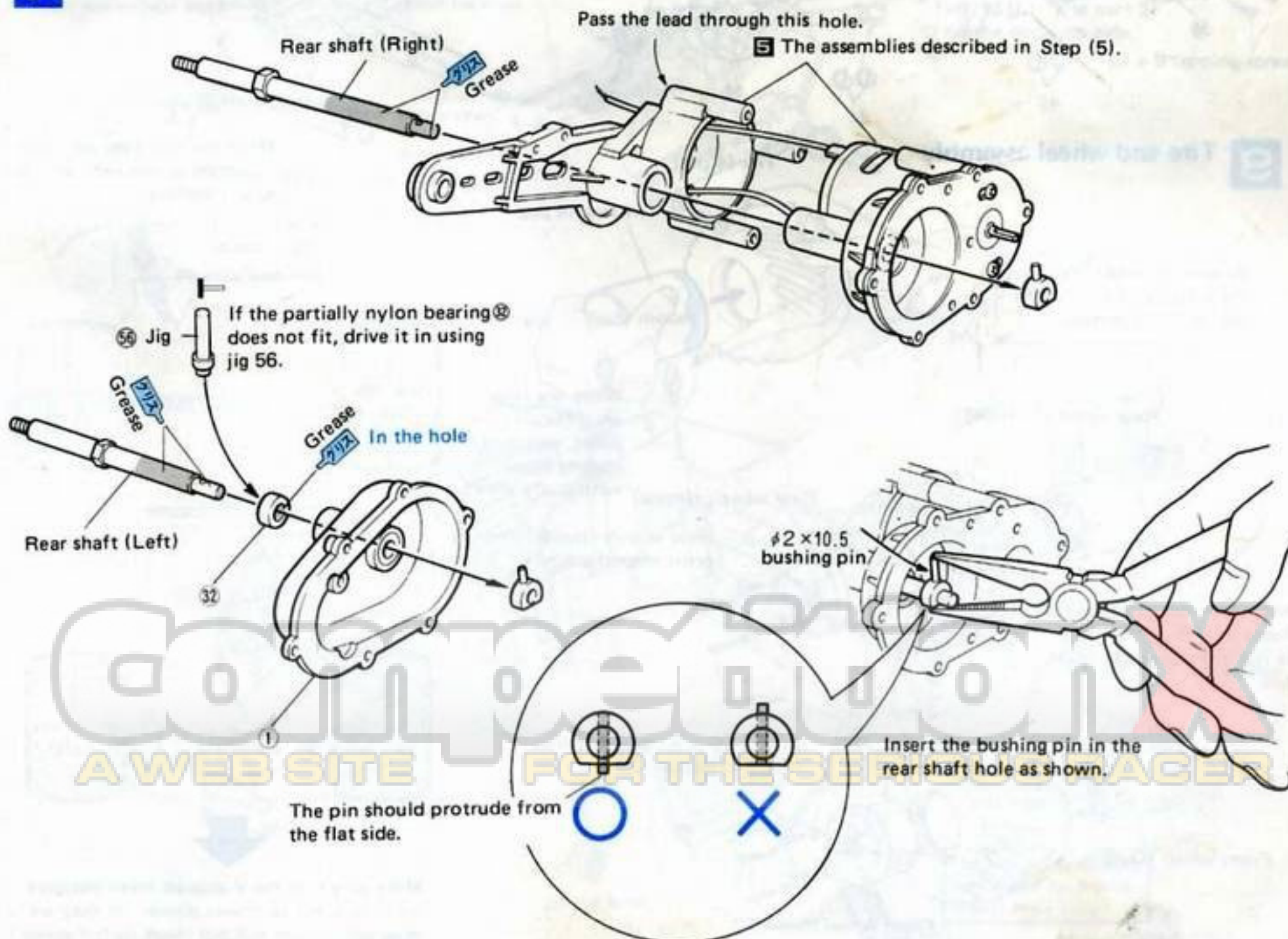


Rear shaft (Right) ... 1 pc

## 6 Temporary setting of bevel bushing



## 7 Rear shaft assembly





Metallic part actual sizes  
used on P.6

$\phi 3 \times 10$  screws ... 3 pcs

$\phi 3 \times 8$  tapping screw  
... 2 pcs

2 mm washer ... 16 pcs

3 mm washer  
... 1 pc

$\phi 3 \times 4$  screws  
... 1 pc

$\phi 3 \times 20$  idler shaft  
... 1 pc

$\phi 2 \times 9$  tapping screws  
... 16 pcs

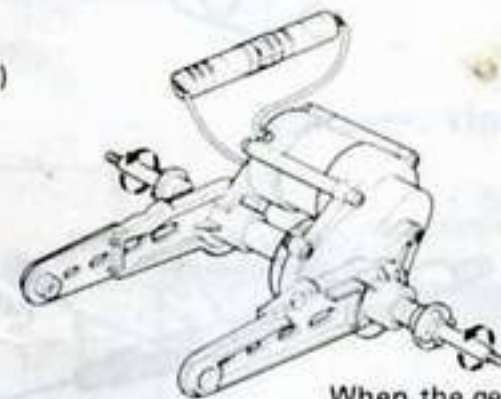
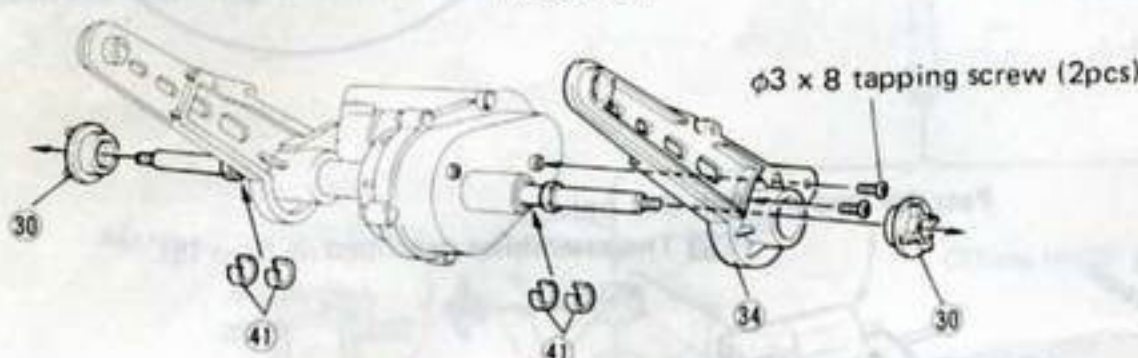
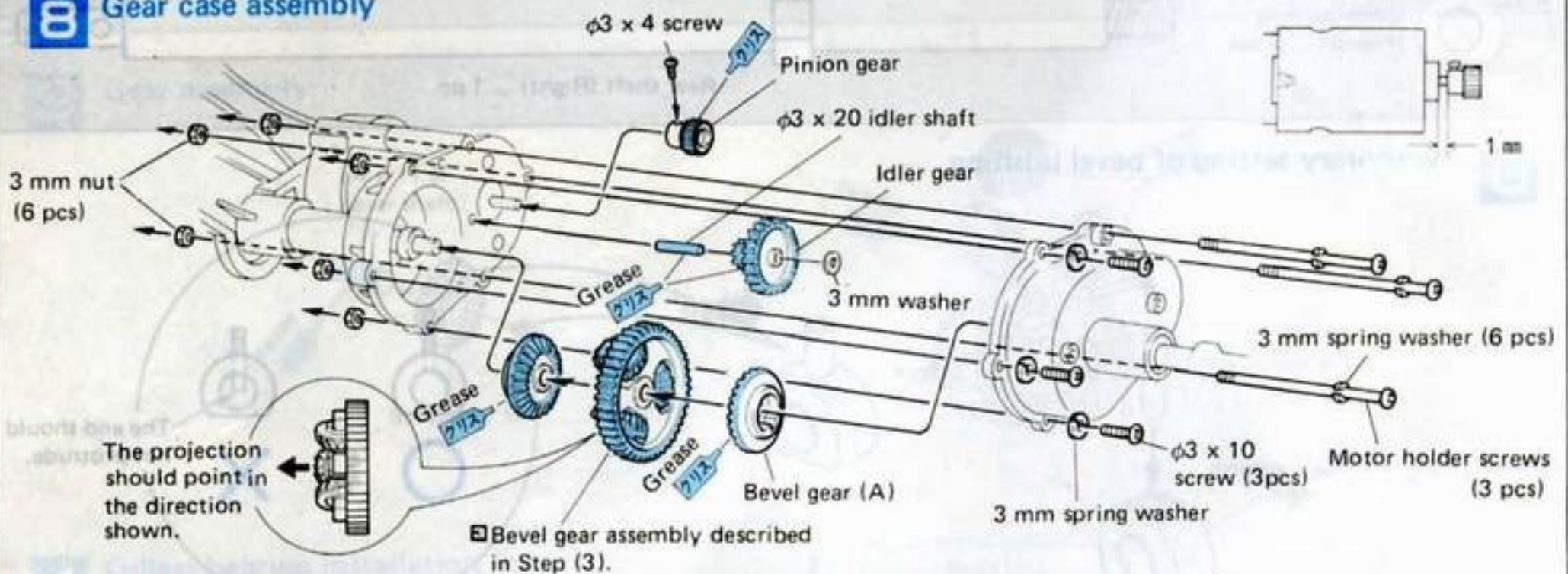
3 mm spring washer ... 6 pcs

3 mm nut ... 6 pcs

Bevel gear (A)  
... 2 pcs

Motor holder ... 3 pcs

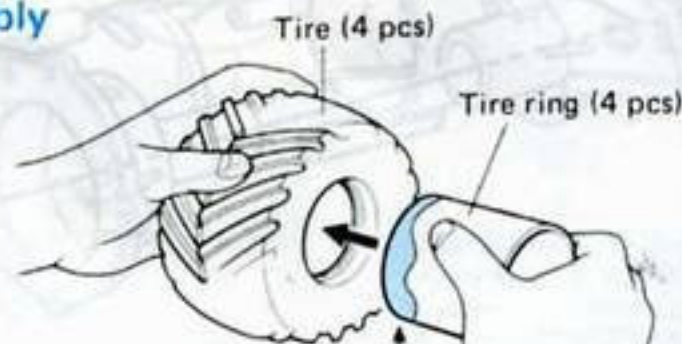
## 8 Gear case assembly



When the gear case assembly is complete, test with an 1.5V to 3 V battery.

## 9 Tire and wheel assembly

Be sure to install tires with the V-patterns pointing in the correct direction.



Rear wheel (Outside)



Rear tire (Right)

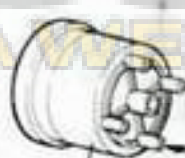
Rear wheels (Inside)

Rear wheels (Inside) have cross-shaped grooves.

The outside halves of the rear wheels have larger holes for the rear shaft than the front ones.

2 mm washer (16 pcs)

$\phi 2 \times 9$  tapping screws (16 pcs)



Front tire (Right)

Front wheel (Outside)

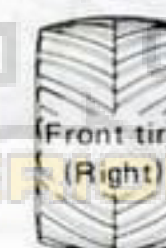
Front wheel (Inside)



Rear tire (Right)



Rear tire (Left)



Front tire (Right)





Front tire (Left)

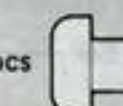
Make sure that the V-shaped tread patterns point forward as shown above. (If they are reversed, the car will not reach its full speed.)




Metallic part actual sizes used  
on P.7


 φ3 x 8 tapping screws  
... 4 pcs

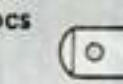
 4 mm washer ... 4 pcs

 Rear arm screw ... 2 pcs


 Bumper spring ... 2 pcs

 Partially nylon 4 mm locknut  
... 8 pcs


 5 mm washer ... 2 pcs

 Body mount ... 2 pcs

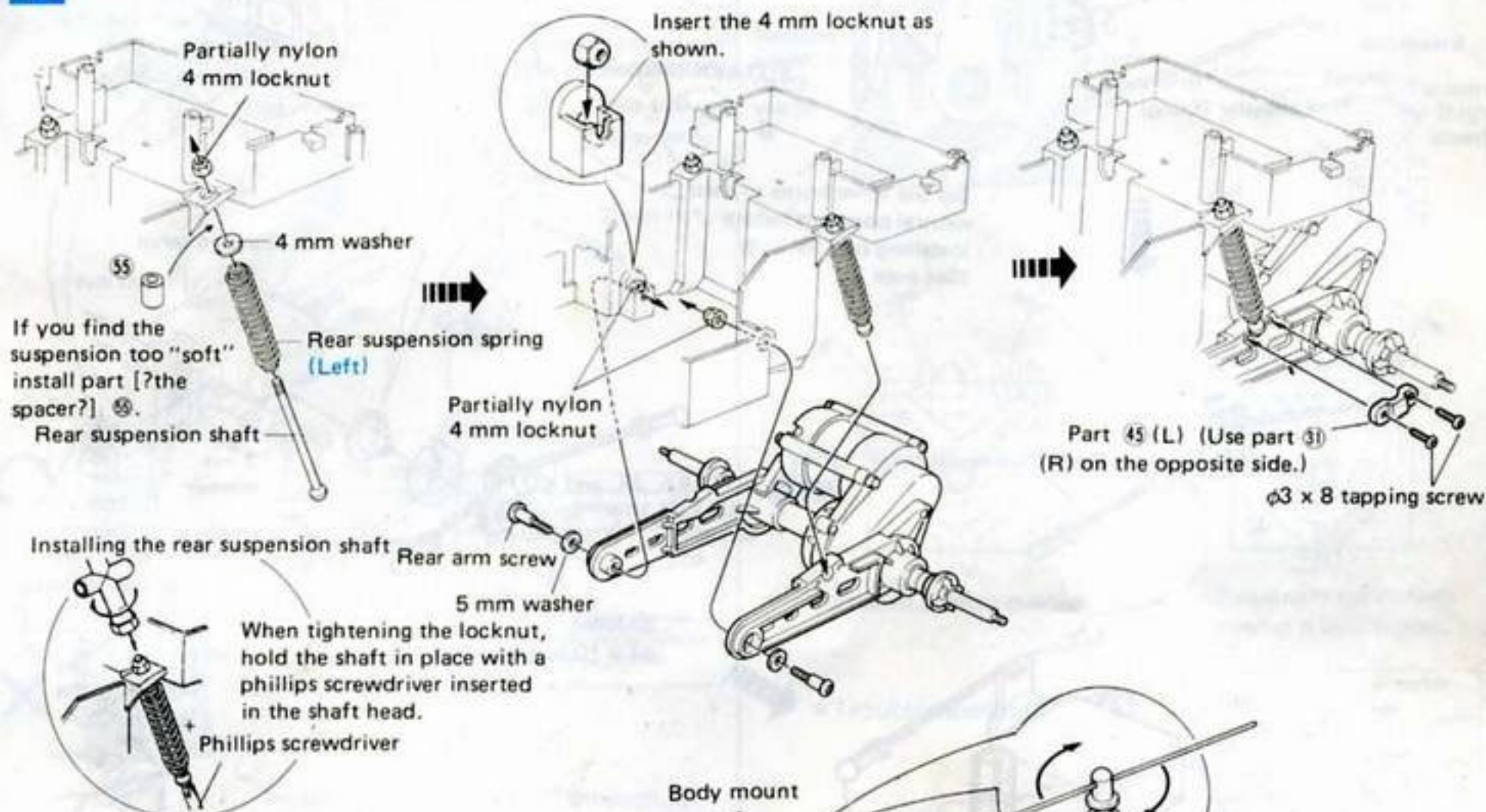
 Rear suspension spring  
... 2 pcs

 Rear suspension shaft ... 2 pcs

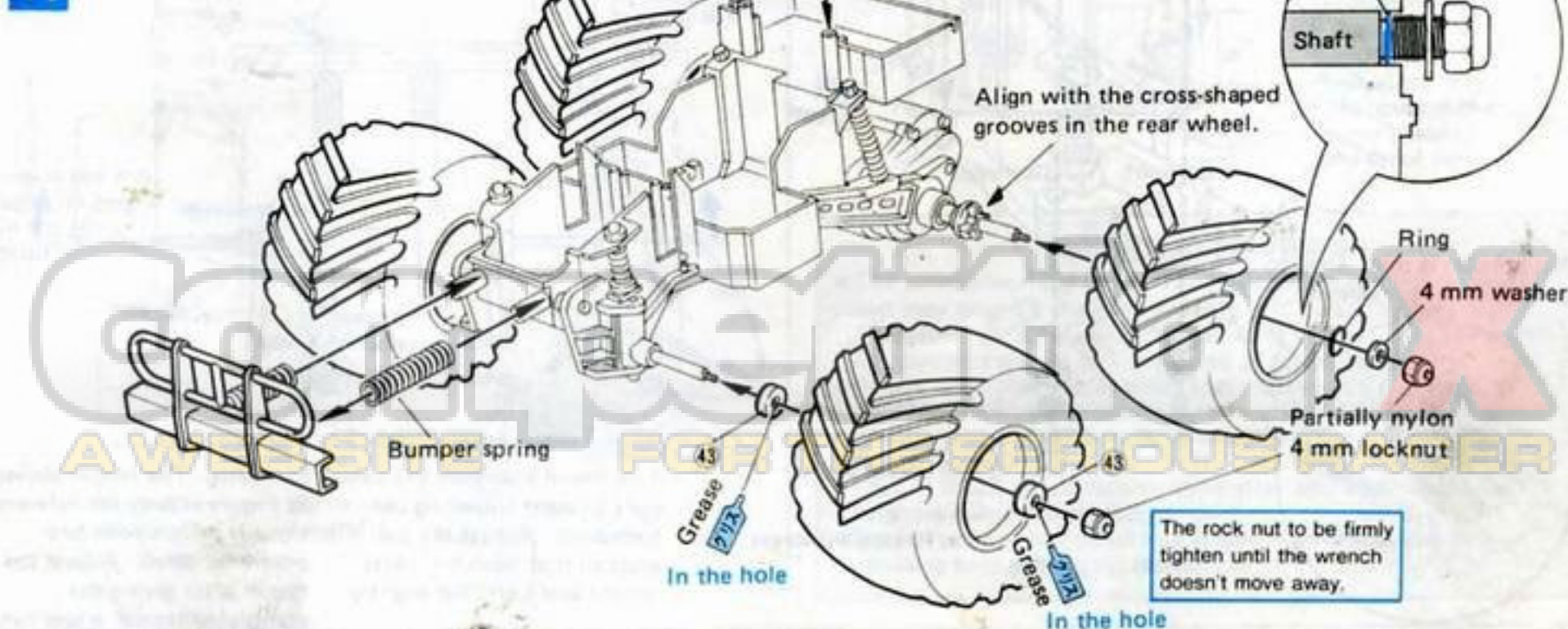
 Ring ... 2 pcs

 1.2 x 75 piano wire ... 1 pc

## 10 Rear suspension arm assembly



## 11 Tire installation





Metallic part actual sizes used on P.8

$\phi 2.6 \times 11$  tapping screw ... 1 pc

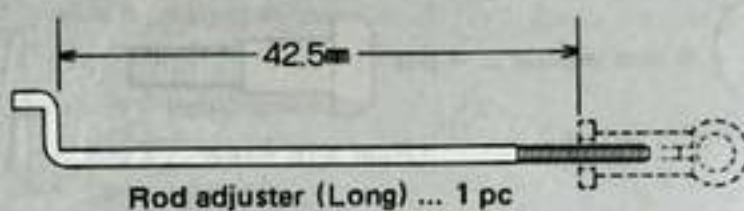
$\phi 3 \times 10$  tapping screw ... 3 pcs

$\phi 3 \times 10$  screws ... 4 pcs

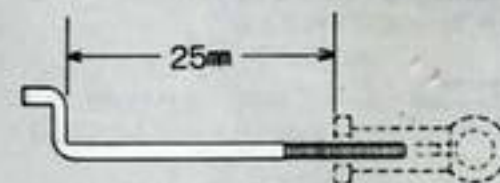
3 mm nut ... 4 pcs

3 mm spring washer ... 2 pcs

3 mm washer ... 6 pcs

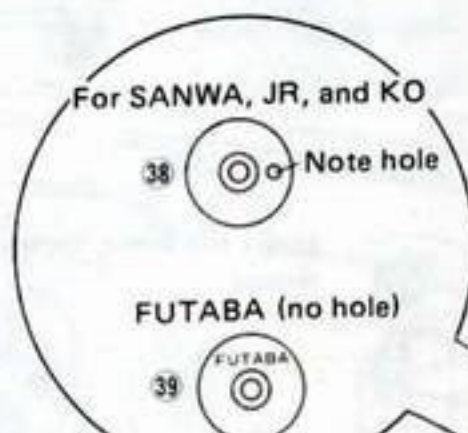
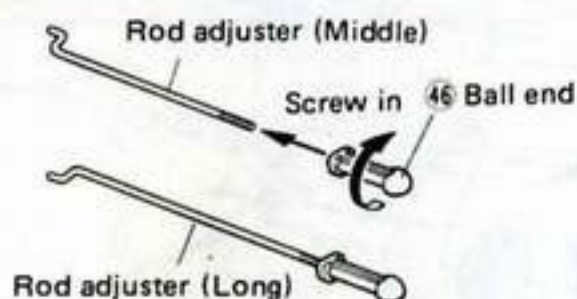


Rod adjuster (Long) ... 1 pc



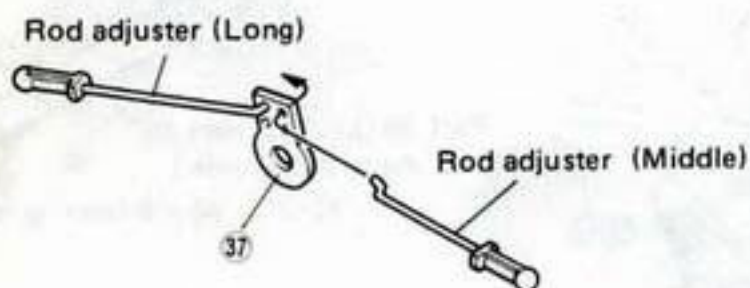
Rod adjuster (Middle) ... 1 pc

## 12 Steering servo assembly

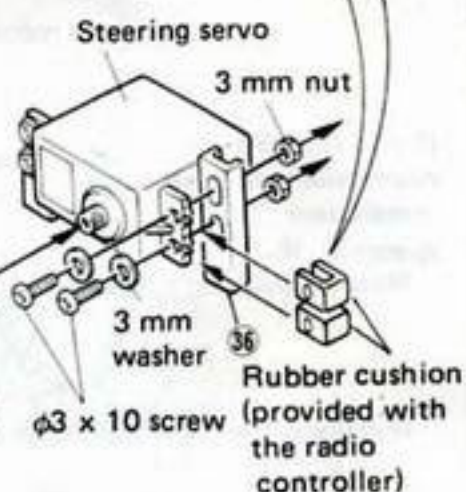


Set the servo horns to their neutral positions before installing part ③ or ④. (See page 2)

Rubber cushion (provided with the radio controller)  
Cut off the shaded portions. (Otherwise part ③ will not fit.)



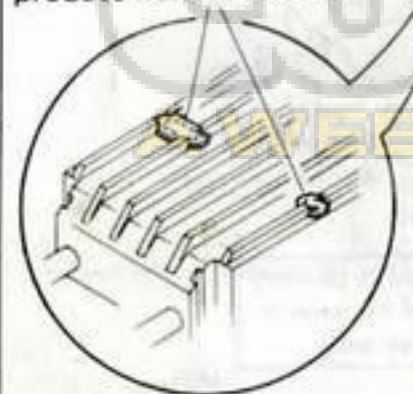
FUTABA, JR, and KO  
 $\phi 2.6 \times 11$  tapping screw  
SANWA  
 $\phi 3 \times 10$  tapping screw



Adjusting the length



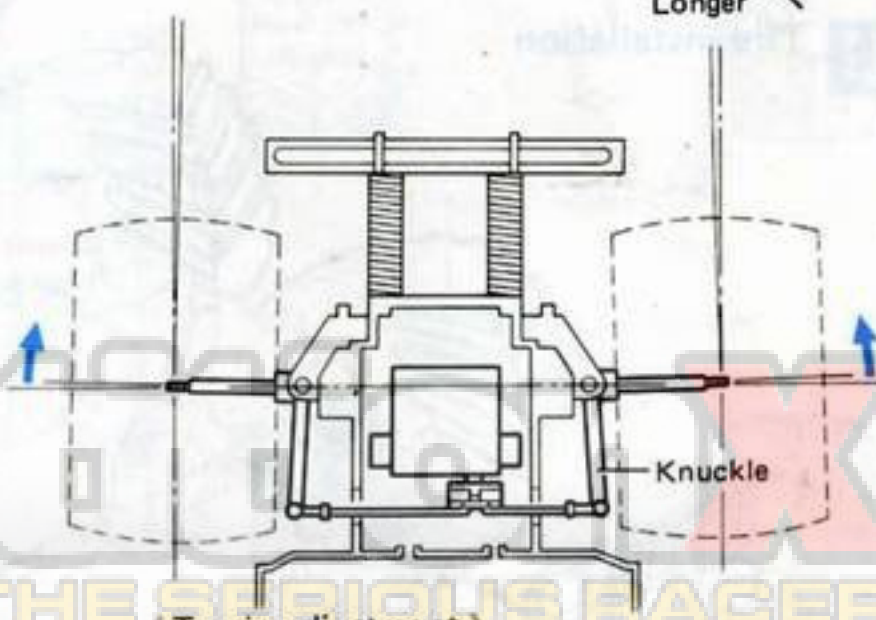
This portion is thin. Drill to produce holes for screws



Press into place

Grease

3 mm washer  
3 mm spring washer  
 $\phi 3 \times 10$  tapping screw



(Toe-in adjustment)

Tire toe-in improves the vehicle's straight travelling performance. Adjust the ball ends so that both knuckles (Right and Left) tilt slightly

forwards. The length shown in Figure is only for reference since it differs with proportional servo. Adjust the toe-in after giving the completed model a test run.



# 13 Speed controller assembly

(Connect the two servos with the receiver during this assembly. (See p.2 for details.)

«Metal part actual sizes used on p.9»

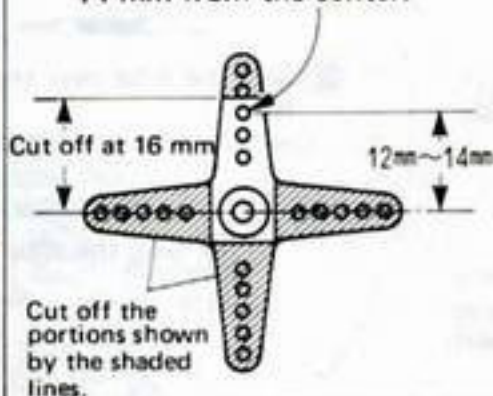
2 mm nut  
... 1 pc

Free ball  
... 1 pc

Rod adjuster (short)  
... 1 pc

- Clean tape mounting areas with paint thinner for plastics or other suitable solvent.
- Do not touch the adhesive surface after removing the backing paper. (Oil on your fingers may reduce bonding strength.)
- Press firmly on the controller component to ensure complete bonding.

Servo horn (included with the radio controller)  
Use a servo horn 12 to 14 mm from the center.



Screw included with the radio controller

Free ball  
Screw in

2 mm nut

Heat-resistant double-faced tape

Use a 35 mm long strip.

Press the servo toward arrows and affix to metal fittings tightly.

Install the arm in the neutral position, perpendicular to the servo as shown.

Install in the order of 1 through 4.

Rod adjuster (short) 45 Ball end  
Screw in 46 adjusting to this length.

1 Insert the rod in the nearest hole to the screw.

Insert the rod adjuster length in the servo horn hole.

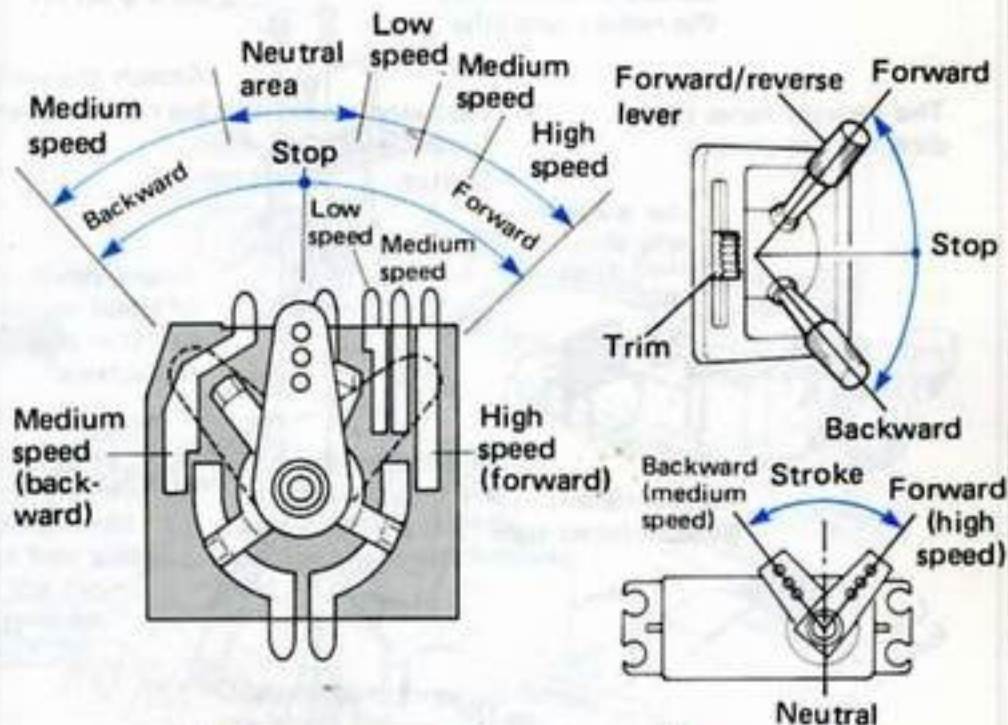
Controller neutral

Servo neutral

## «Stroke adjustment»

- Servo horn stroke differs by servo type.

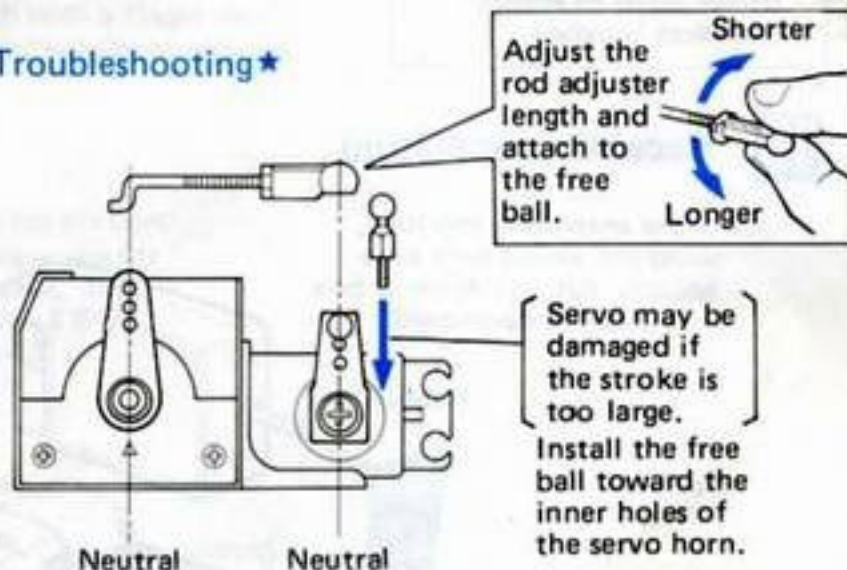
Test to see if the switch arm moves all the way to its forward (high-speed) and reverse (high-speed) positions by moving the lever up and down.



Sufficient contact overlap

Readjust if the contact overlap is insufficient.


## ★Troubleshooting★



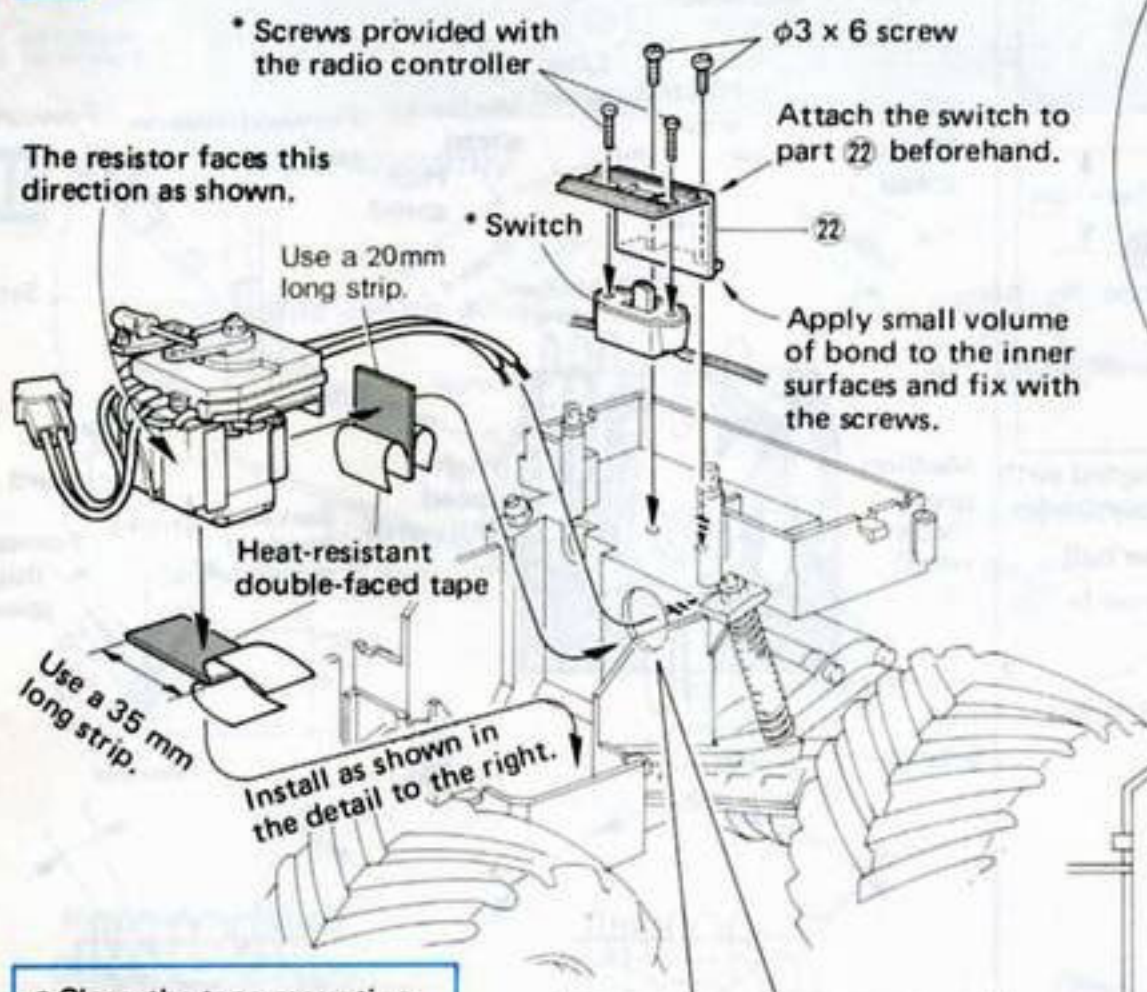
## Handling Precautions

- The controller must frequently switch large electric currents, and may become damaged quickly if it is used incorrectly. Therefore, please observe the following precautions. The switch components should be considered as consumable items.
- Faulty controller installation, incorrect switch positions, or wire misplacement prevents switching into forward high speed, which cause the resistors to overheat and burn the printed circuit board.
- Do not touch the controller soon after operation as the resistors may be quite hot.
- Do not use the controller in a closed mechanical box as it contains heat generating resistors.



  $\phi 3 \times 6$  screw ... 2 pcs

## 14 Controller installation



- Clean the tape mounting areas with paint thinner for plastics or other suitable solvent.
- Do not touch the adhesive surface after removing the backing paper. (Oil on your fingers may reduce bonding strength.)
- Press firmly on the controller servo to ensure complete bonding.

Insert the speed controller leads through this hole.

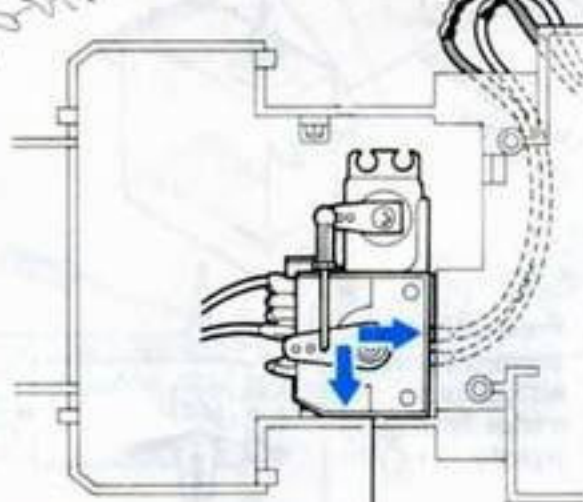
When hole position is not suitable due to your servo size, please shave the hole as this.



## «Attaching the heat shrinkage tube»

- 1 Cut the tube in half.  
Red motor lead      Red speed controller lead
- 2 Slip the tube over the lead.
- 3 Twist the leads together.  
Soldering is recommended
- 4 Slip the tube over the connection.
- 5 Heat the tube with a hair dryer.

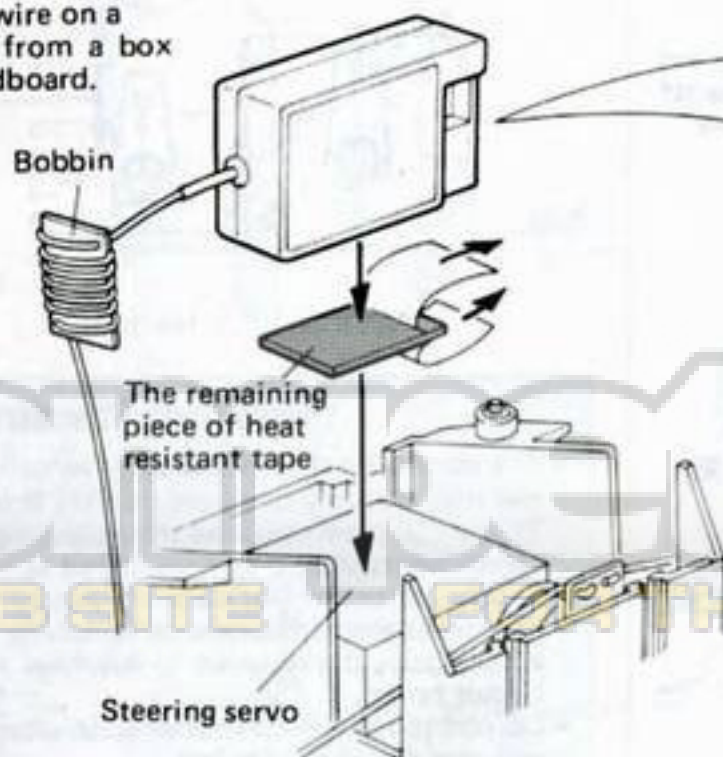
Connect the red motor and controller leads. Connect the black motor and controller leads.



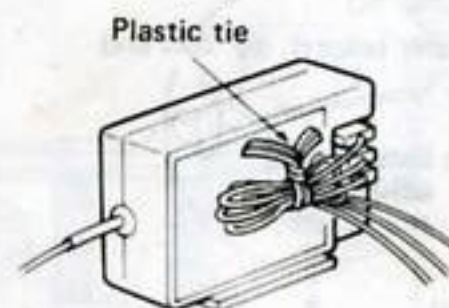
Press the servo in the direction indicated by the arrow.

## 15 Receiver installation

If the antenna is too long, wind the excess wire on a bobbin cut out from a box or a piece of cardboard.



Install the receiver on top of the steering servo.



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



# 16 Ni-Cd battery installation

◀Metal part actual sizes used on p.11▶

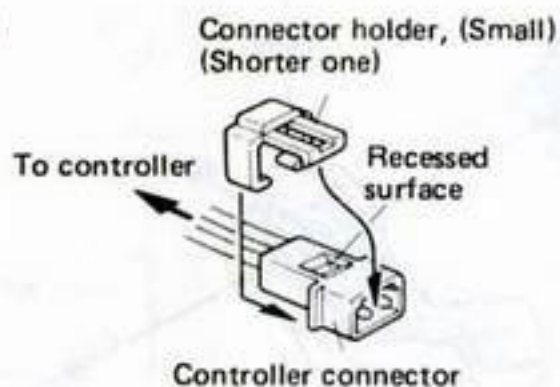
φ2 x 6.7 tapping screw ... 1 pc

φ2 x 20 joint pipe ... 2 pcs

◀Before joining the connector▶ (6 V battery can be directly connected)

\* The connectors on the 7.2 V battery come in two shapes as shown below. Choose the controller connector to match.

## • Type A



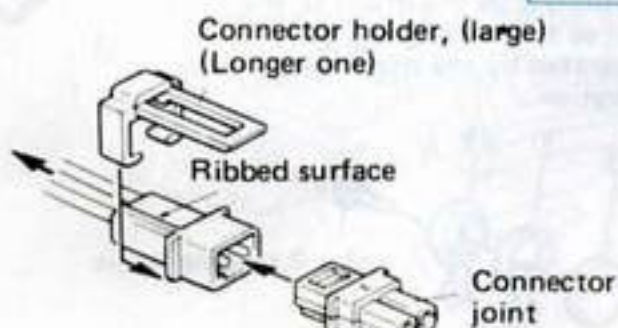
Controller connector with the small holder installed

Type A 7.2 V battery holder

If the connector does not fit, expand the metal fitting slightly with a plain screwdriver.

Always align the red leads on the two sides. Otherwise, the car will run in reverse.

## • Type B



Controller connector with the small holder installed

Type B 7.2 V battery holder

φ2 x 6.7 tapping screw

φ2 x 20 joint pipe

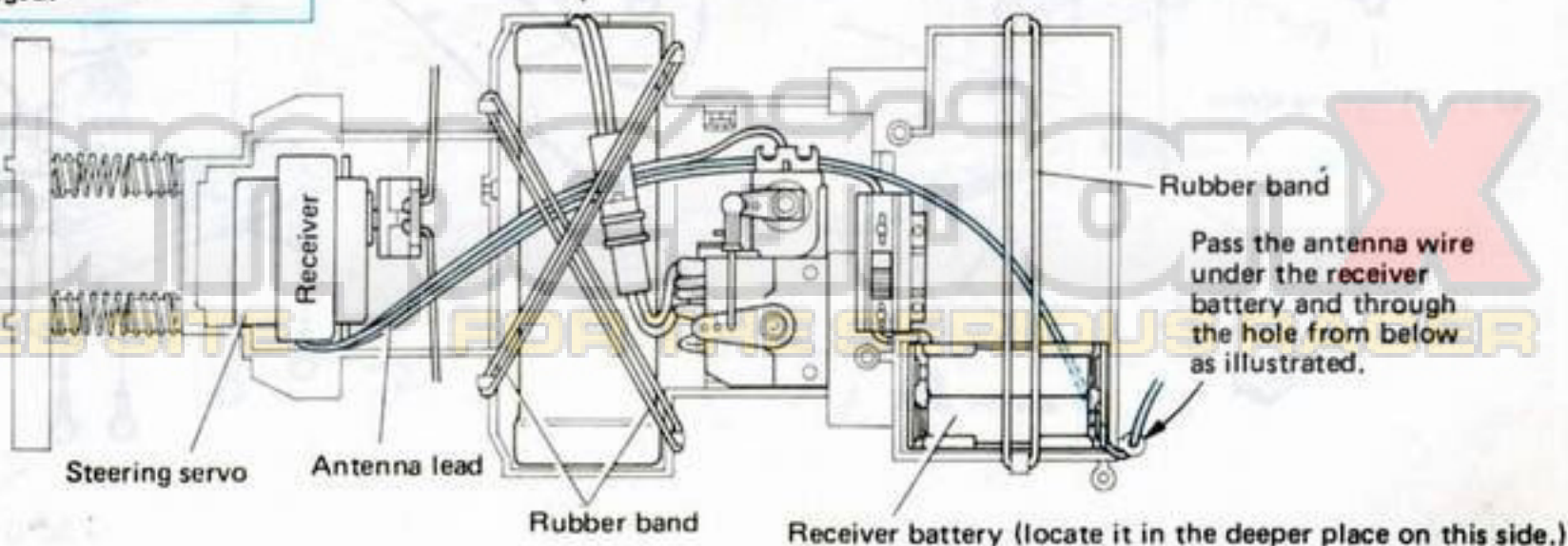
Rough surface faces inward.

Assemble as shown.

Lift the catch with a finger nail and pull to unplug the connector.


Cut out the thin portion to create an opening for the battery leads. (Not necessary when a 6 V battery is used.)

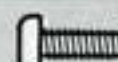
The contact must be in the neutral area when the controller connector is plugged in. Otherwise, the car may run out of control or the controller, battery, or motor may be damaged.




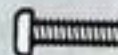



(Metal part actual sizes used on P. 12)

  $\phi 2.6 \times 8$  tapping screw .... 2 pcs

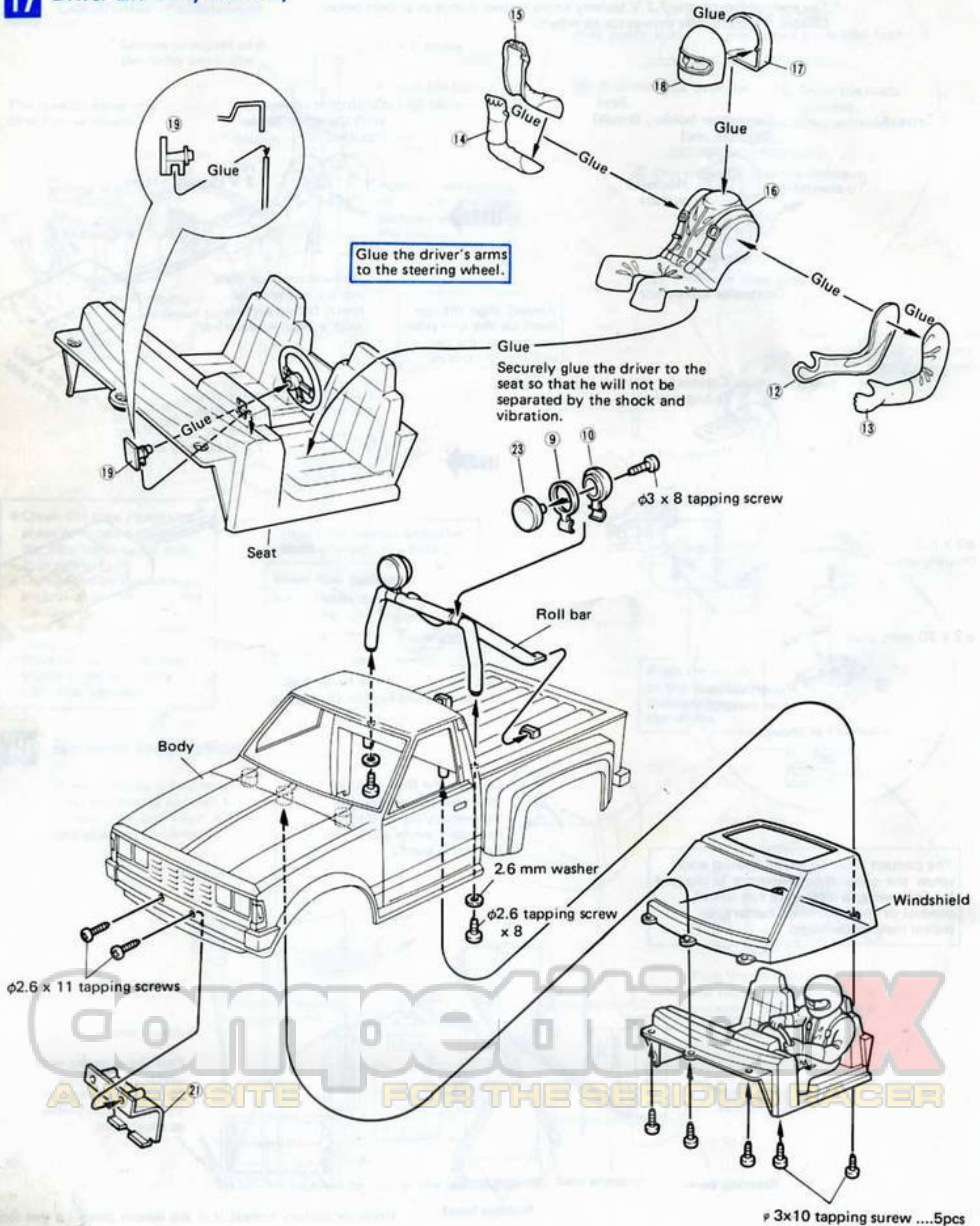
  $\phi 3 \times 8$  tapping screw .... 2 pcs

 2.6 mm washer .... 2 pcs

  $\phi 2.6 \times 11$  tapping screw .... 2 pcs

  $\phi 3 \times 10$  tapping screw .... 5 pcs

## 17 Driver and body assembly





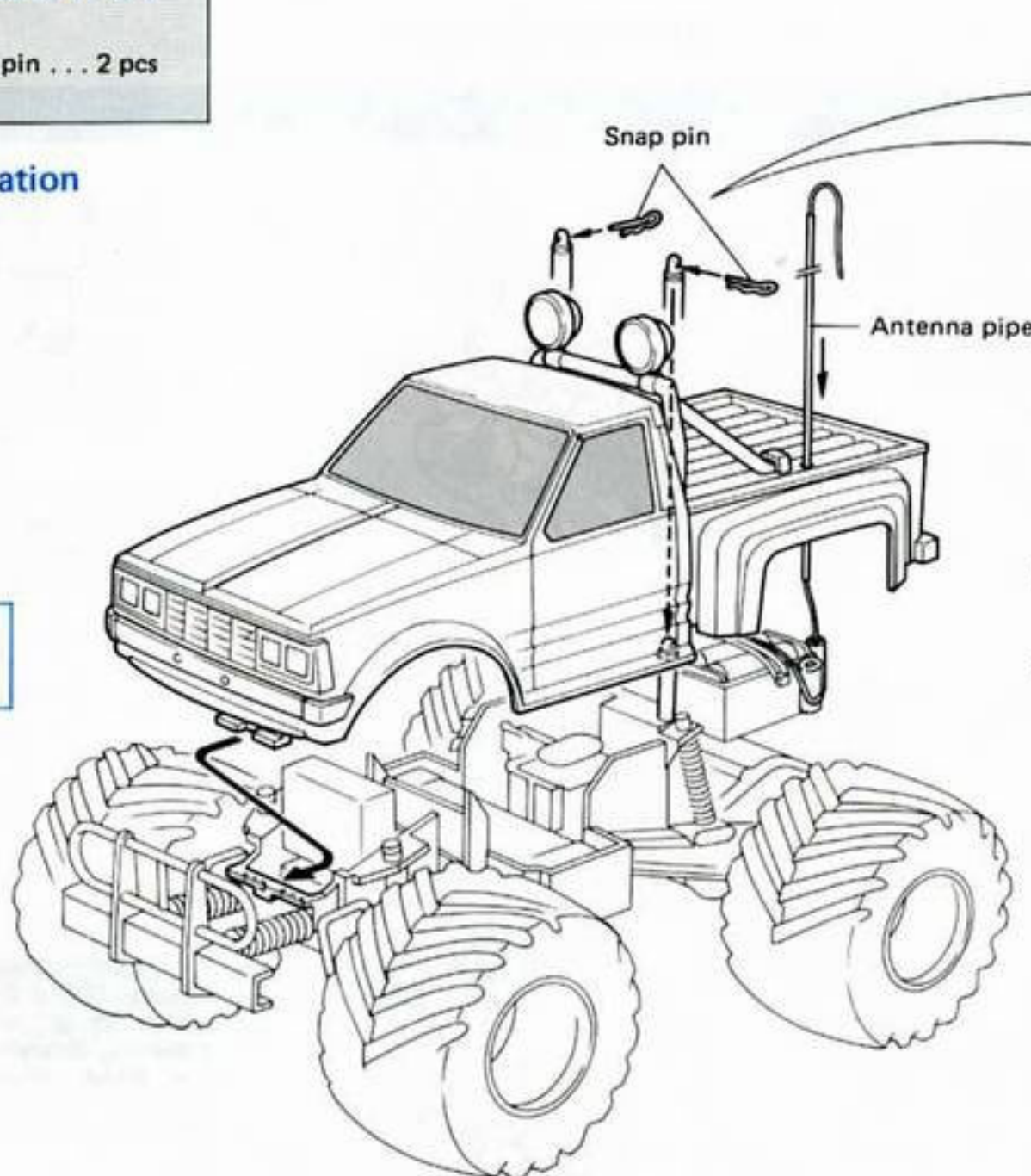
( Metal part actual size used on P. 13 )



Snap pin . . . 2 pcs

## 18 Body installation

Insert the front first.



Snap pin

Antenna pipe



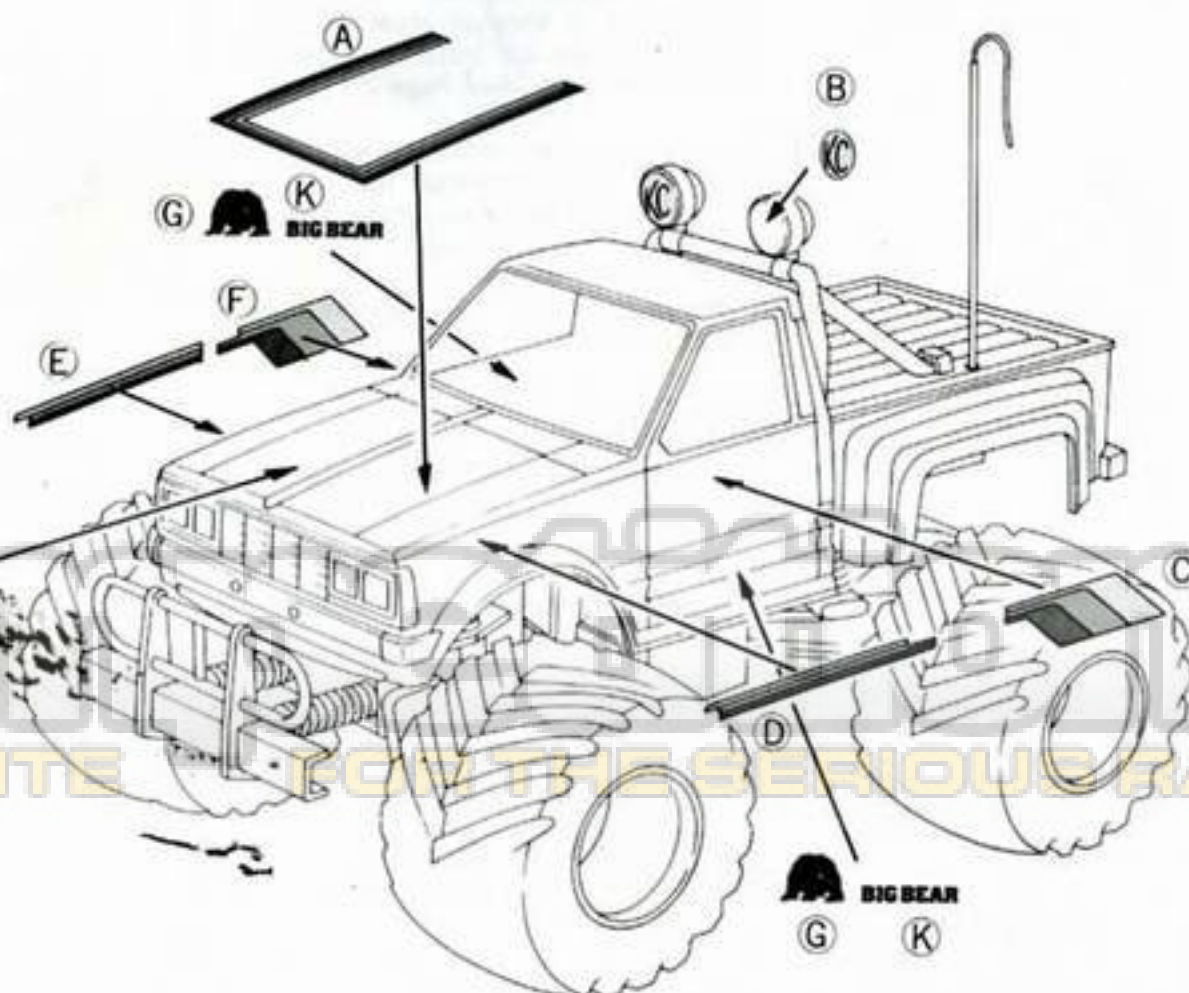
Tying the snap pins to the roll bar with a strong string is one way to keep them from getting lost.

1 Thread the antenna through the antenna pipe.

2 Press the antenna pipe into the support provided on the chassis.

## 19 Applying decals

\*Apply the decals in the positions.





## Handling precautions

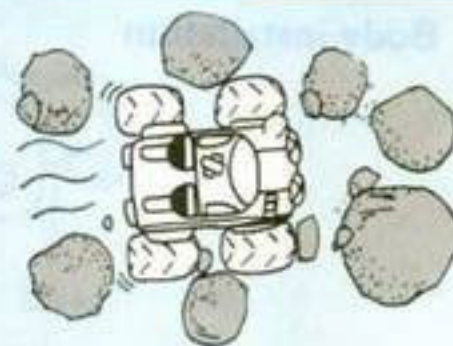
**BIG BEAR runs at high speed due to built-in tuning motor. Handle and operate with extreme care.**



- Do not operate in a crowded location, in the presence of small children, or on roads.



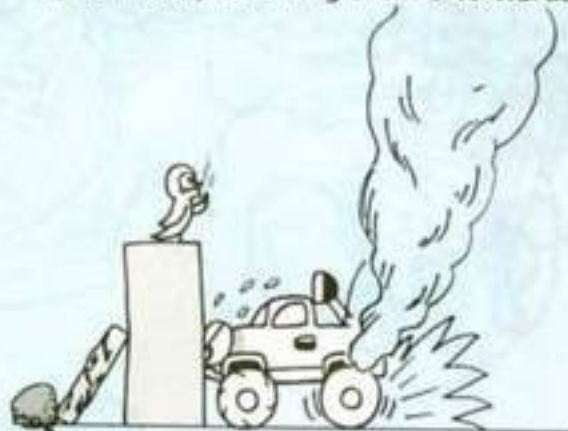
- Avoid puddles areas as water may damage the motor or proportional controller circuits.
- The controller and motor heat up during operation. Be careful not to burn yourself by carelessly touching them afterwards.



- Although this car has outsized tires for excellent performance on rough surfaces, avoid rough areas with many sizable stones.



- When the car is trapped in deep sand, return the transmitter levers to their neutral positions and turn the controller off.
- Avoid grassy areas as long grass may become wound on drive shafts.



- When the car encounters an obstacle, do not try to continue driving. The excessive load may burn out the motor.



- Incorrect jumping may damage the chassis. The BIG BEAR's weight balance allows it to land beautifully if it is travelling straight at full speed prior to the jump. (However, avoid excessive drops.)
- The BIG BEAR's outsized tires provide a high road grip, but also impose great loads on the motor when the car is operated in sand and grassy areas. Avoid long periods of continuous operation under such conditions. (The motor will overheat and burn out so give the motor frequent chances to rest.)

### Checks before operation

- 1 Are all screws and nuts tight? Check especially those securing the driving components.



- 2 Does the drive mechanism work smoothly? Place the car on suitable stand so that the tires do not contact the ground. Test-run the car for one or two minutes and check for faulty contacts of drive parts.

- 3 Does the controller function sharply? (See the manufacturer's instructions and Page 9 for controller adjustment.)

- 4 Does the steering operate correctly? If the car does not run straight, turn the steering lever trim toward the reverse direction of the car's drift. (See Page 8 for trim adjustment.)

- 5 Do the proportional controller batteries have sufficient power? The receiver battery life is shorter than that of the transmitter. Earlier battery replacement is recommended. (See Page 2.)

- 6 Are all lead connections tight? Faulty insulation or soldering may lead to shortcircuits. Repair with insulating tape (See Pages 2, 9, and 11.)

- 7 Is the drive battery properly recharged? (See Page 2.)

### Troubleshooting

- 1 The car does not move forward although the motor is operating. See Pages 5 and 6.

- 2 Abnormal motor or gear sound. Rear wheels do not rotate smoothly. See Page 6.

- 3 The car does not respond properly to the controller operation or performs erratically. See Pages 5 and 6.

- 4 The speed control is faulty on the car does not shift into top speed. See Page 9.

- 5 The car does not run straight or steering response differs on the right and left. See Page 8.

- 6 The controller, drive battery, or lead overheats. See Pages 4, 5, 6, and 9.

- 7 Proportional controller operation seems faulty—servos do not operate, for example. Check: (1) the battery charge, (2) battery connections, and (3) electrical continuity of all wiring including each leads and connectors. If the faulty operation is not corrected even after the above checks, contact your radio controller dealer for repairs.

### Checks after operation

- 1 Through maintenance after use is important to maintaining performance and prolonging the service life.

- 2 Remove all accumulated dirt and sand.

- 3 Always remove all batteries.

- 4 Regularly apply grease to gears and other moving parts.

- 5 Check all screws for looseness.



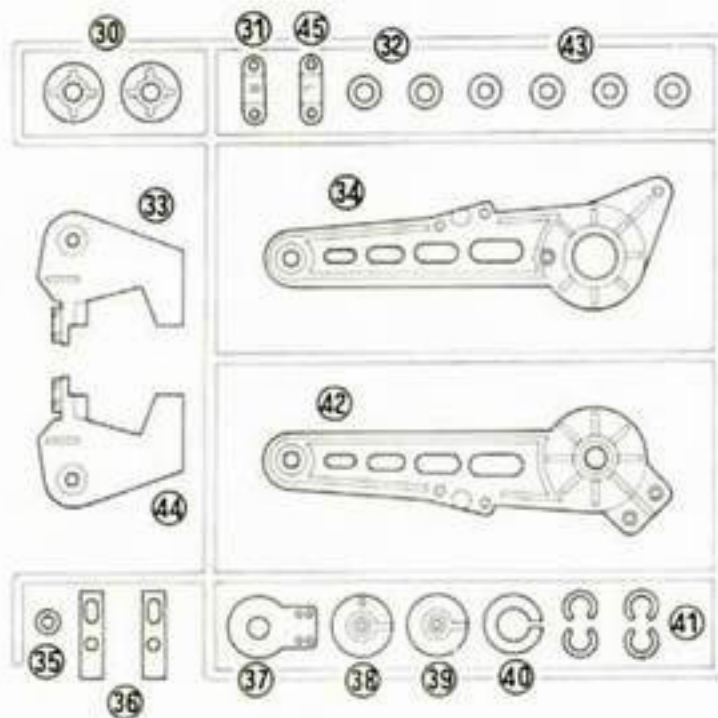
# PART LIST

Body x 1

Chassis x 1

Driver parts x 1

Reinforced nylon parts x 1



Knuckles (Left)

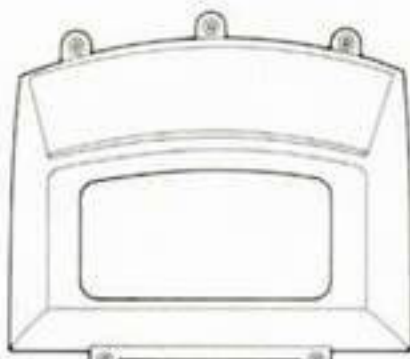
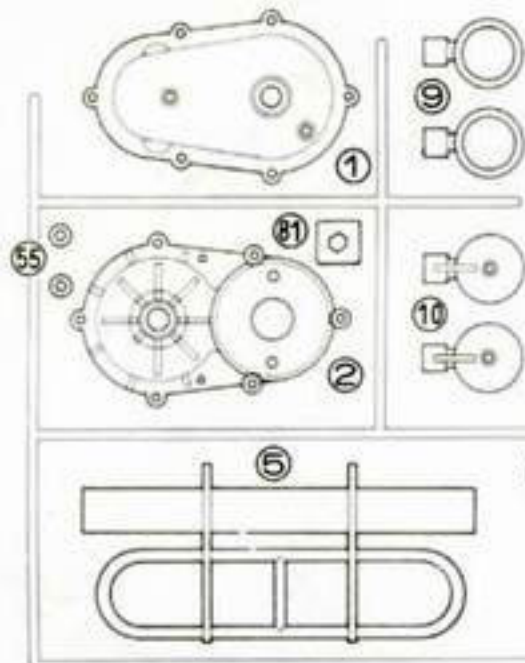


Spares



Knuckle (Right)

ABS parts x 1



Windshield x 1

Tire ring x 4



Front wheel

Outside x 2

Inside x 2



Rear wheel

Outside x 2

Inside x 2



Tire x 4



Differential gear set  
(with gear case plate)



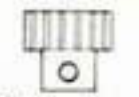
Differential gear x 1



Idler gear x 1



Bevel gear (A) x 2

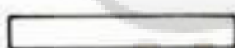


Pinion gear x 1



Bevel gear (B) x 3

Bevel bushing x 2



φ3 x 20 idler shaft x 1



φ4 x 11.5 bevel shaft x 3

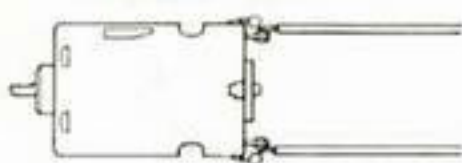


φ2 x 10.5 bushing pin x 2

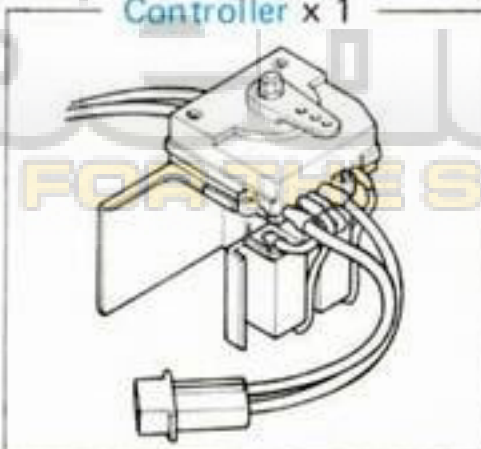


φ3 x 4 screw x 1

RS540SH motor x 1



Controller x 1

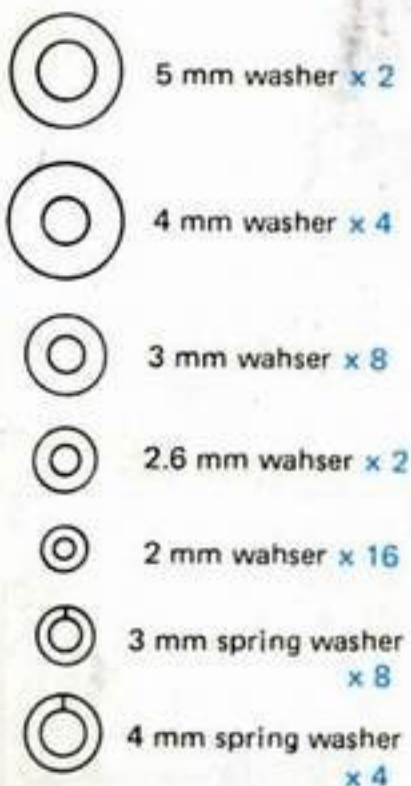




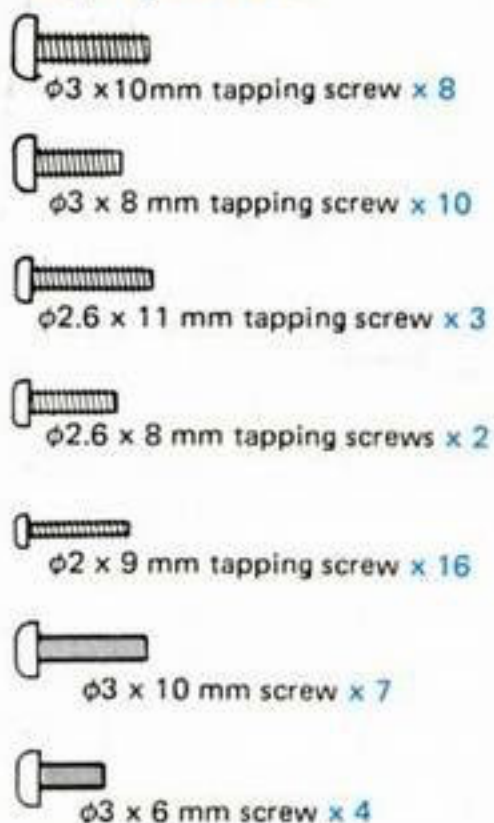
## PART LIST

• Spare screws and nuts are included.  
("φ3" means "3 mm in diameter.")

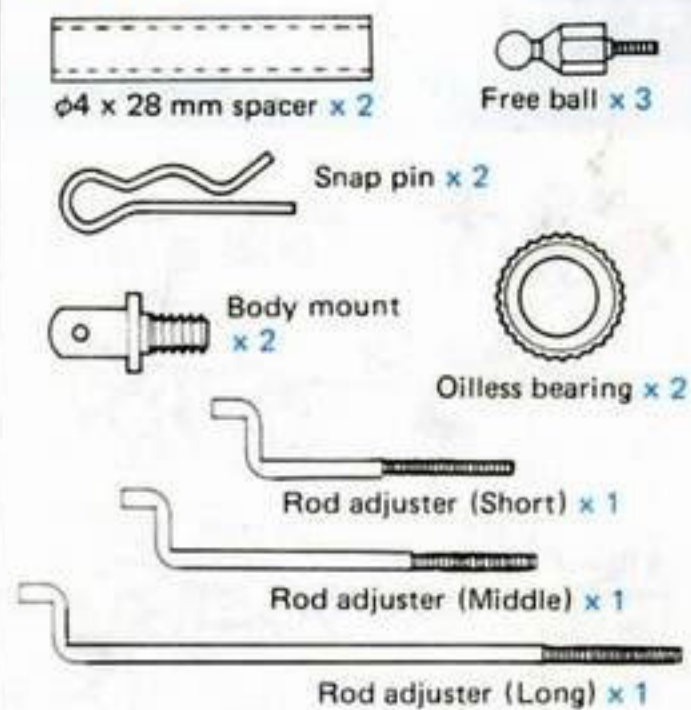
### Washer set



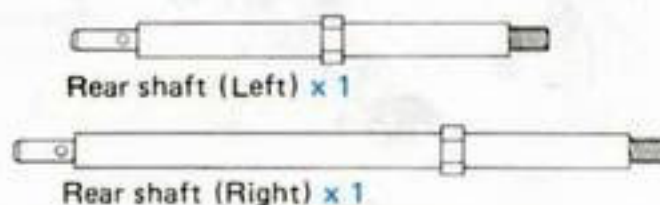
### Tapping screw set



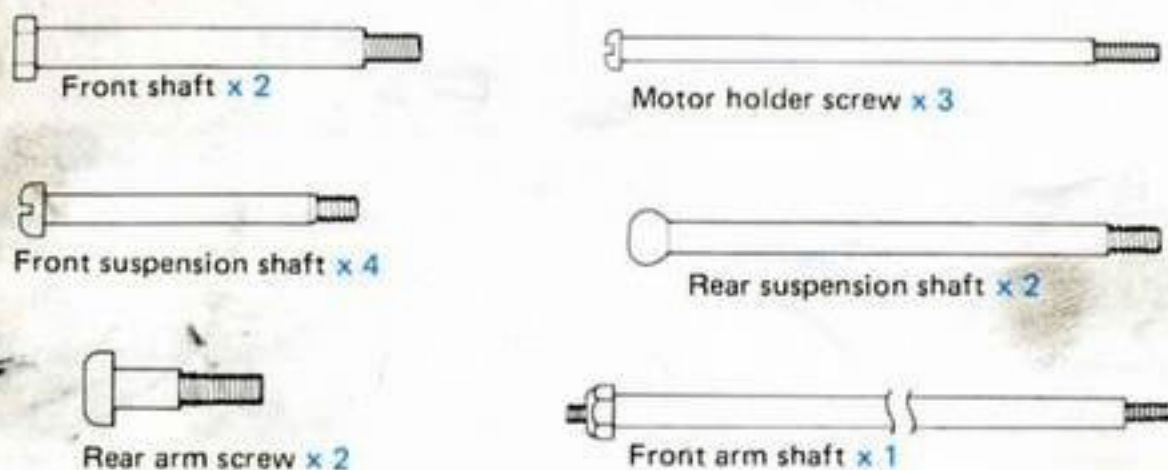
### Metal part set



### Rear shaft set



### Shaft set



### Nut set



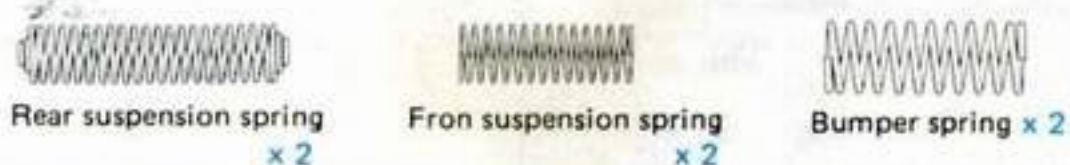
In addition following parts are included:

Decal sheet x 1

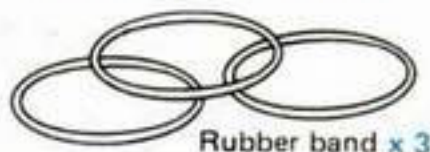
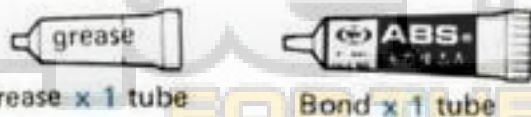


Antenna pipe x 1

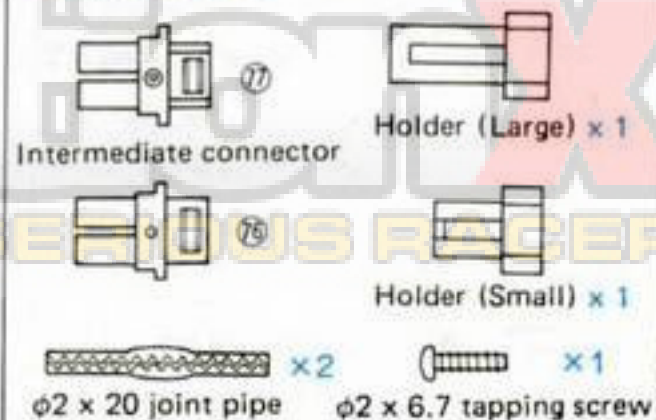
### Spring set



Heat resistant double coated tape x 1



### Connector set



Designs and specifications in this instruction brochure are subject to change without notice.