MARUI PLASTIC MODEL

RACING BUGGY《HUNTER》

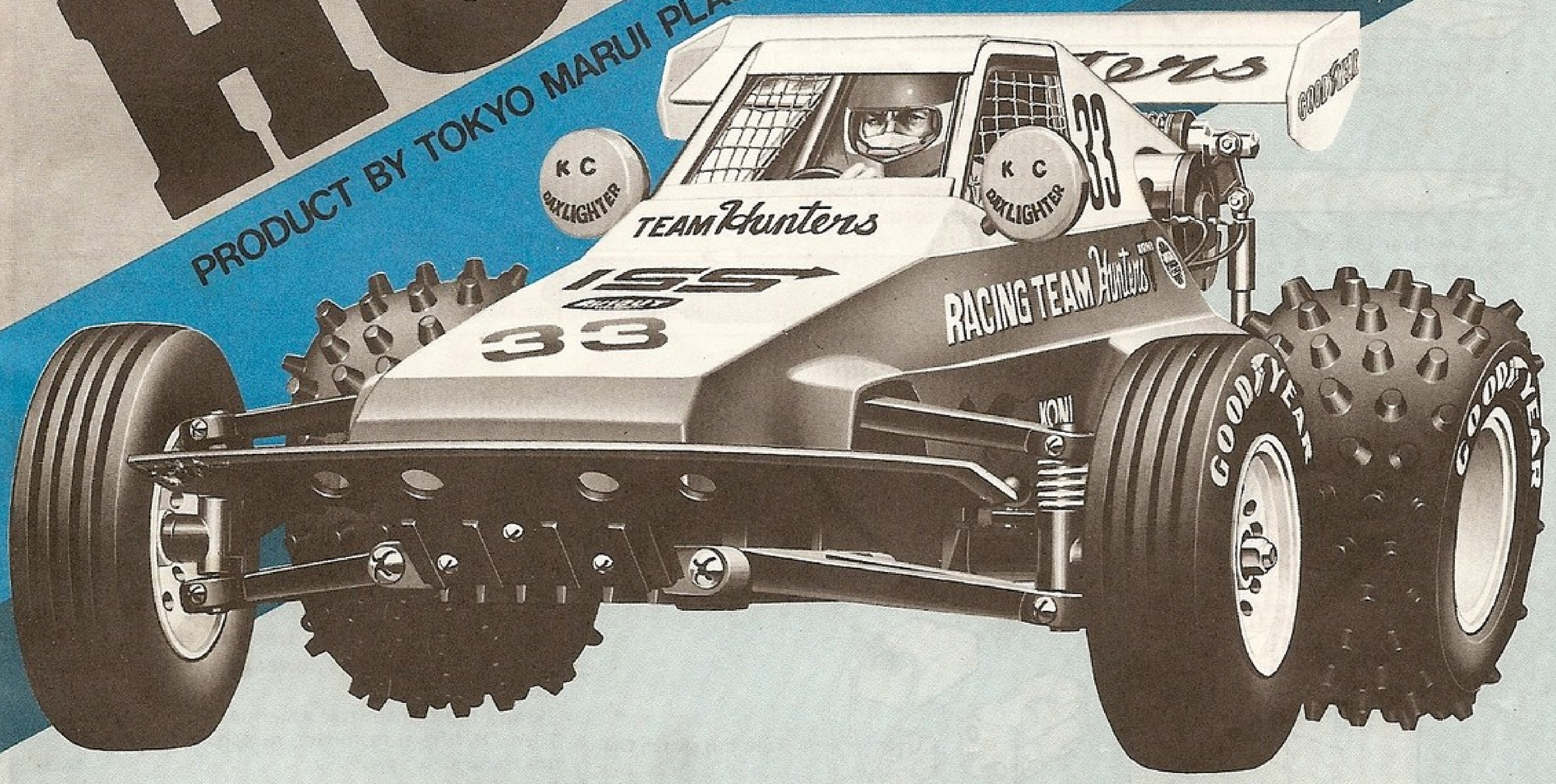
- ○STRAIGHT RIBBED FRONT RACING RUBBER TIRES.
- ○MONO-SHOCK TYPE SUSPENSION FOR REAR.
- ○CHANGEABLE PINION GEAR RATIOS (HIGH TORQUE) (STANDARD) (HIGH SPEED).
- ○DIFFERENTIAL GEAR DRIVE SYSTEM.
- ○DURABLE POLYCARBONATE BODY.
- ○READY TO ASSEMBLE MODEL KIT. ○ADJUSTABLE OIL DUMPED SHOCK

1/10 SCALE RADIO CONTROL OFF-ROAD RACING BUGGY SERIES

HUNTER

PRODUCT BY TOKYO MARUI PLASTIC MODEL CO,.LTD.

RACING BUGGY

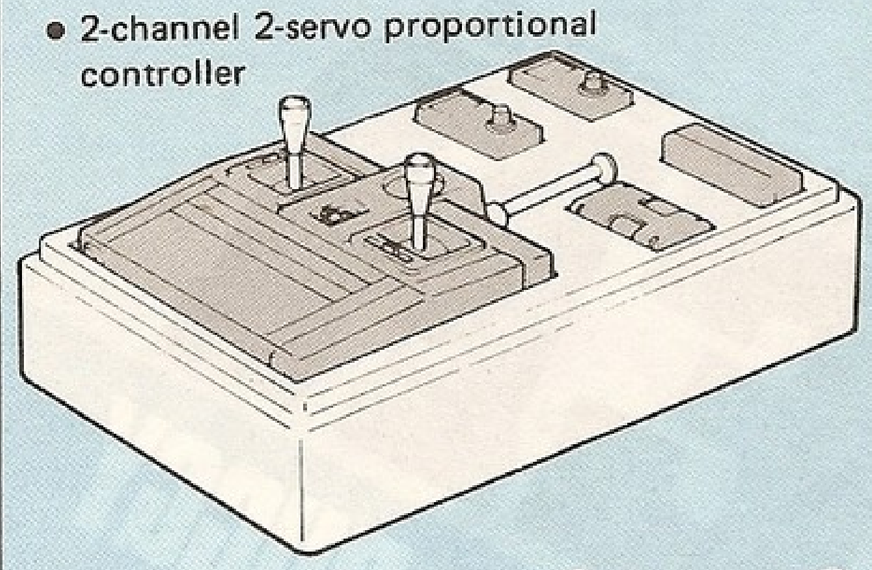


TOKYO MARUI PLASTIC MODEL CO., LTD.

HIGH QUALITY MECHANISM FOR OFF-ROAD RACING

≪ Parts not included in the kit ≫

- 2-channel 2-servo proportional controller

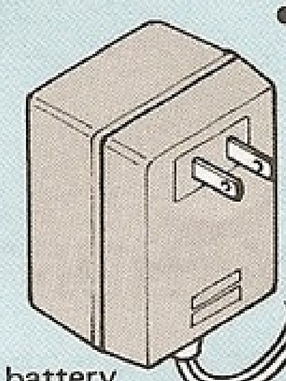


Majority of general type 2-channel unit is acceptable. Please be careful as some types are not suitable for this model. For those who are going to purchase a controller, the following models are recommended:
FUTABA: ATTACK, MAGNUM
K.O.: FX-II EX-II
J.P: BEAT 2
SANWA: NEW DASH S

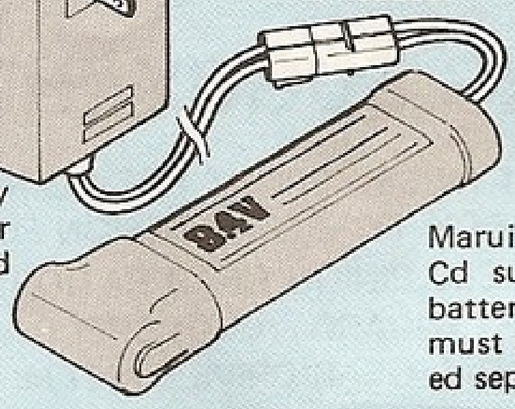
- Battery for driving:

A Nickel Cadnium battery of either a 6, 7.2, or 8.4V is needed.

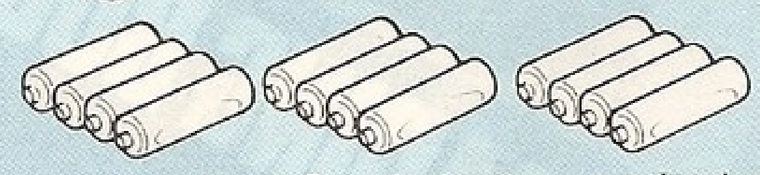
- Special battery charger



Marui 8.4V battery recharger (recharger must be purchased separately)



Marui 8.4 V Ni-Cd super racing battery (battery must be purchased separately)



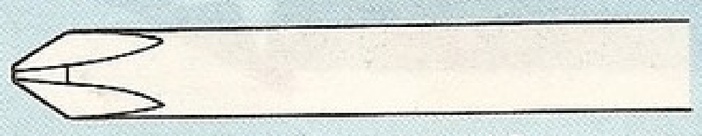
- Batteries for the proportional controller

Unplug the battery connector after use.

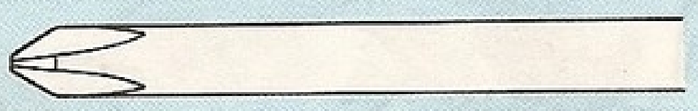
6 to 8.4V Ni-Cd battery can be used to power the car. This battery can be recharged over 300 times. One type of recharger uses 100V household current to charges the battery in 4 to 16 hours. The other, a quick type recharger, uses a car's 12V cigarette lighter as a power source to charge the battery in 15 to 20 minutes.

≪ Tools required for assembly ≫

⊕ Only phillips type screwdrivers are shown in actual sizes.

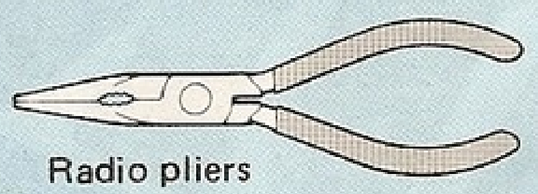


+ Screwdriver (Large) for ϕ3 screws and ϕ3 tapping screws

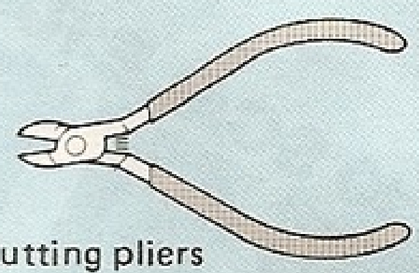


+ Screwdriver (Middle) for damper shaft, ϕ2 screws, and ϕ2.6 tapping screws

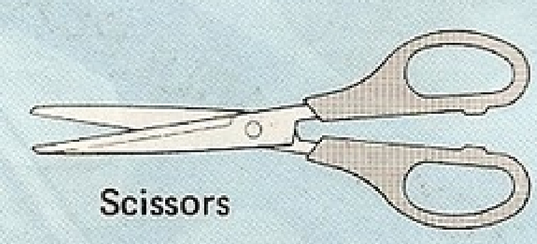
This kit includes many tapping screws. Use the proper screwdriver for tapping screws. Use adequate torque to tighten screws. Release turning pressure on the screwdriver when the screw becomes tight and does not rotate any more. Be careful not to damage screws by applying too much torque.



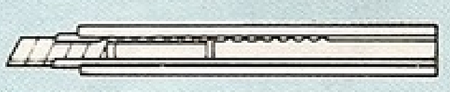
Radio pliers



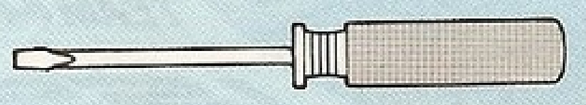
Cutting pliers



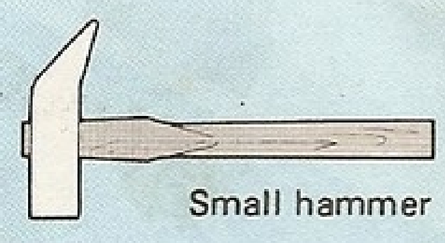
Scissors



Cutter

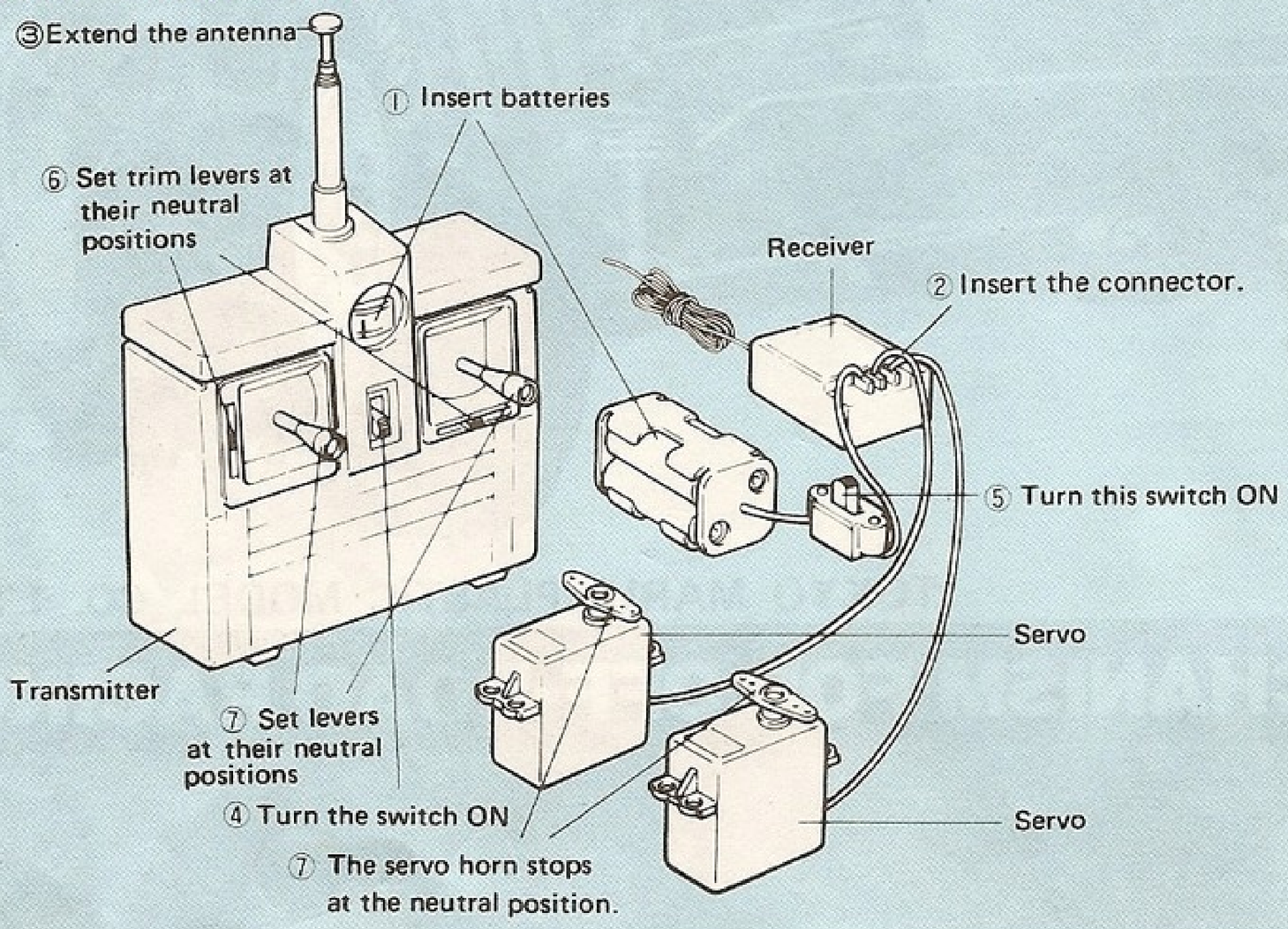


Plain screwdriver (Middle)



Small hammer

≪ Radio control unit ≫



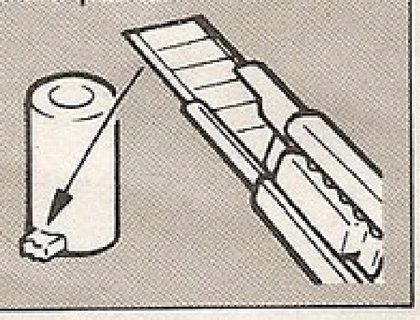
This model uses a 2-channel 2-servo digital method radio control mechanism. Any maker's brand may be used. However, please note some types of controllers have more than 3 channels, and they cannot be utilized for this kit's receiver and servo.

- Check the 2-channel proportional controller for correct operations as follows:

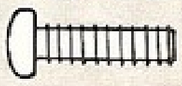
① Insert batteries in the transmitter and receiver.
② Connect the receiver's power and servo leads to the receiver.
③ Extend the transmitter antenna.
④ Turn ON the transmitter switch. (Always turn ON the transmitter switch.)
⑤ Turn ON the receiver switch.
⑥ Set the trim levers at their neutral positions.
⑦ Set the levers at their neutral positions. (The servo horns should stop at their neutral positions.)
⑧ Check servoes 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.

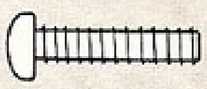
★ Read the following instructions carefully before assembly

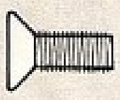
- Read the entire instructions carefully and understand the structure well before starting assembly. This ensures smooth assembly.
- A <グリス grease> mark indicates a portion where the grease included in the kit must be applied. Similarly, a small hammer should be used when the <hammer> mark appears.
- The screws and washers to be used for assembly are shown in actual sizes. Ensure the use of correct components by comparing their actual sizes according to the chart before assembly.
- Some screws, nuts, and washers may be left over as more than required numbers are included in this kit. Use them as spare parts.
- Thoroughly remove plastic part burrs using a cutter knife.
  * Strengthened nylon part burrs must be completely removed as they may impair driving performance. (Be careful not to cut your fingers with a cutter knife.)



Metallic part actual sizes used on P. 3


ø3 x 10 tapping screw ... 2 pcs


ø3 x 12 tapping screw ... 4 pcs


ø3 x 8 screw ... 2 pcs


2 mm nut ... 2 pcs


3 mm nut ... 8 pcs

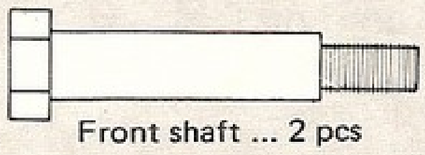

3 mm washer ... 8 pcs

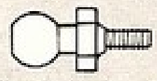

3 mm spring washer ... 6 pcs

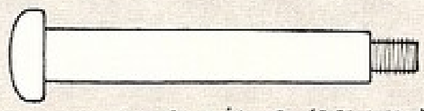

ø3 x 4.5 spacer ... 4 pcs


Oilless metal ... 2 pcs

Front suspension shaft (Short) ... 2pcs


Front shaft ... 2 pcs


Free ball (A) ... 2 pcs

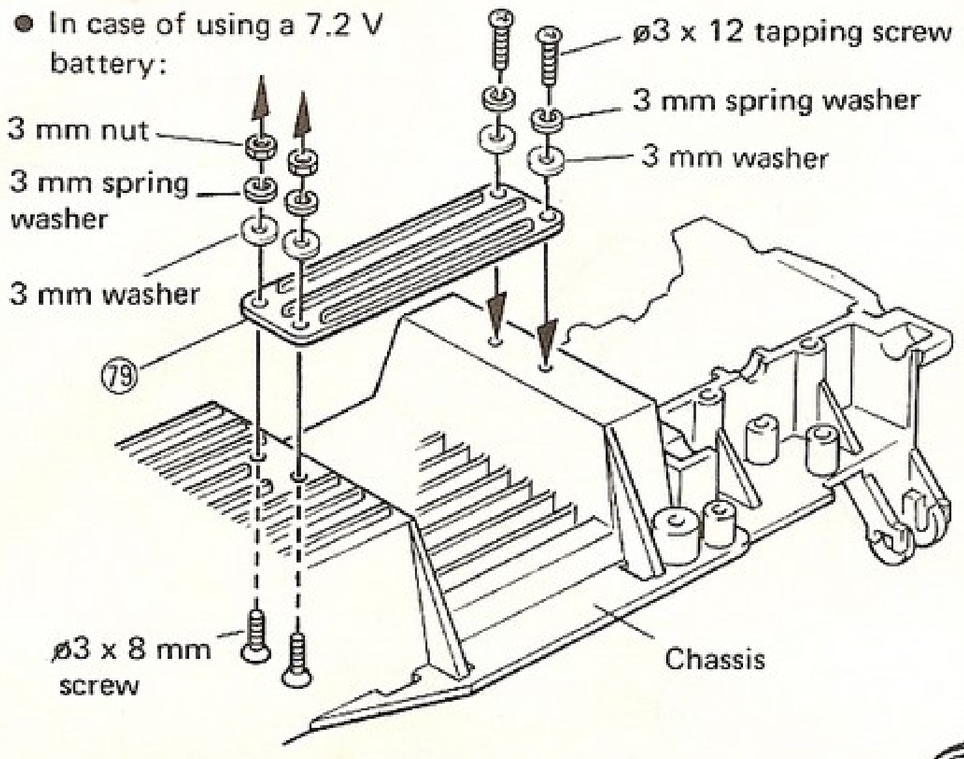

Front suspension shaft (Middle) ... 2 pcs


Front damper spring ... 2 pcs

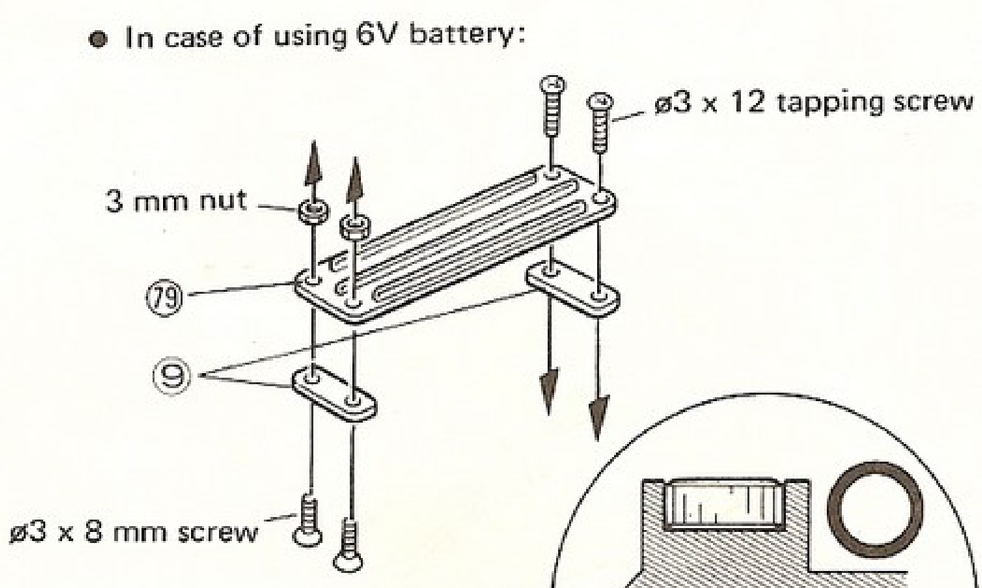
1 Components assembly

Mounting the under guard

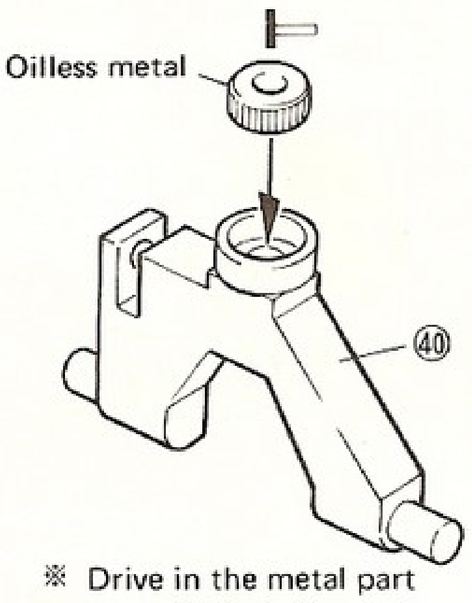
- In case of using a 7.2 V battery:



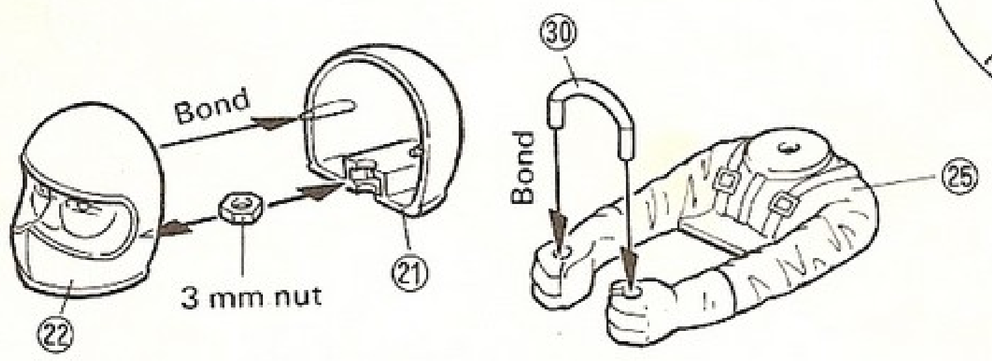
- In case of using 6V battery:



Driving in the metal

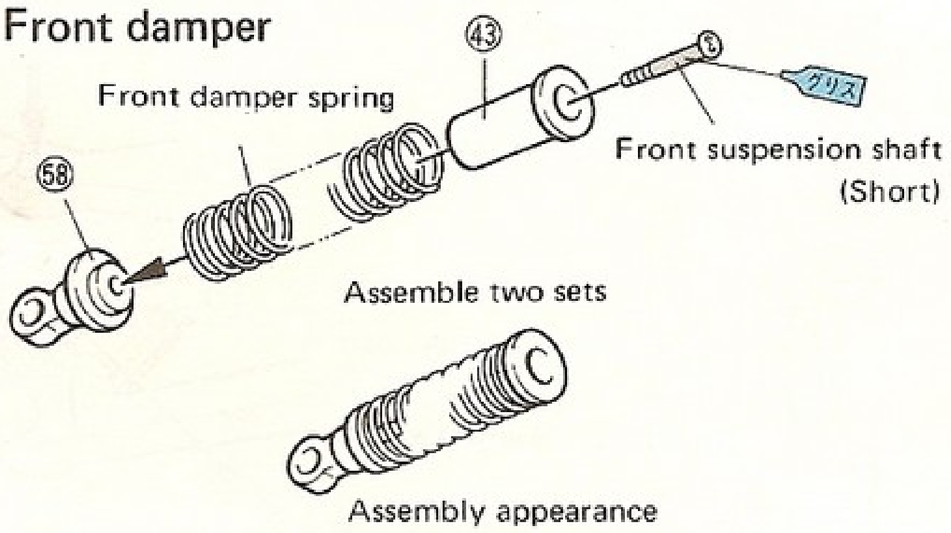


Bonding driver's parts

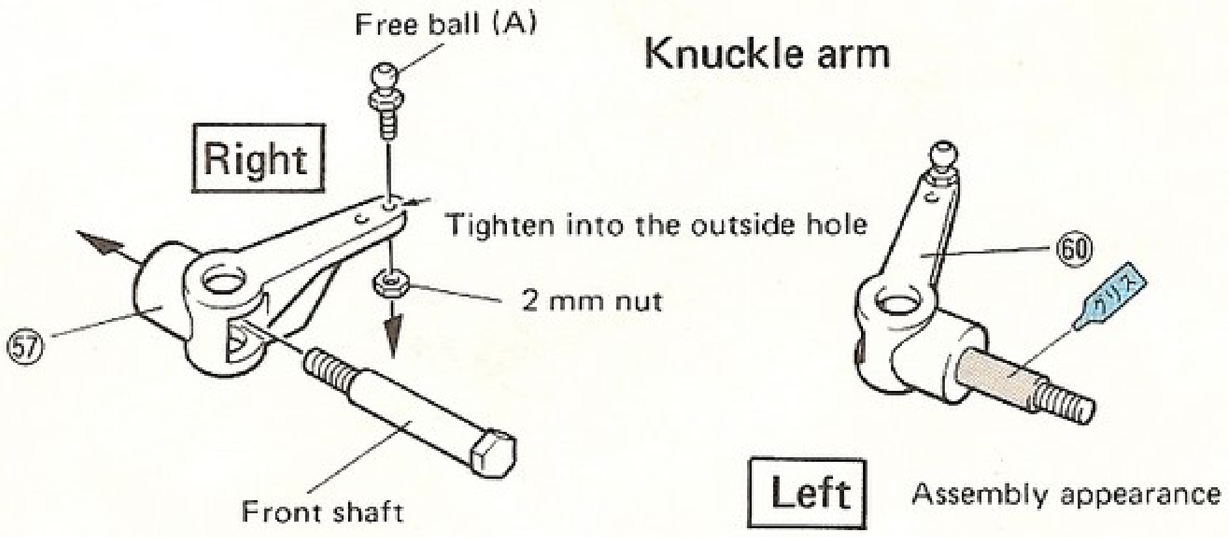


2 Front damper and knuckle arm assembly

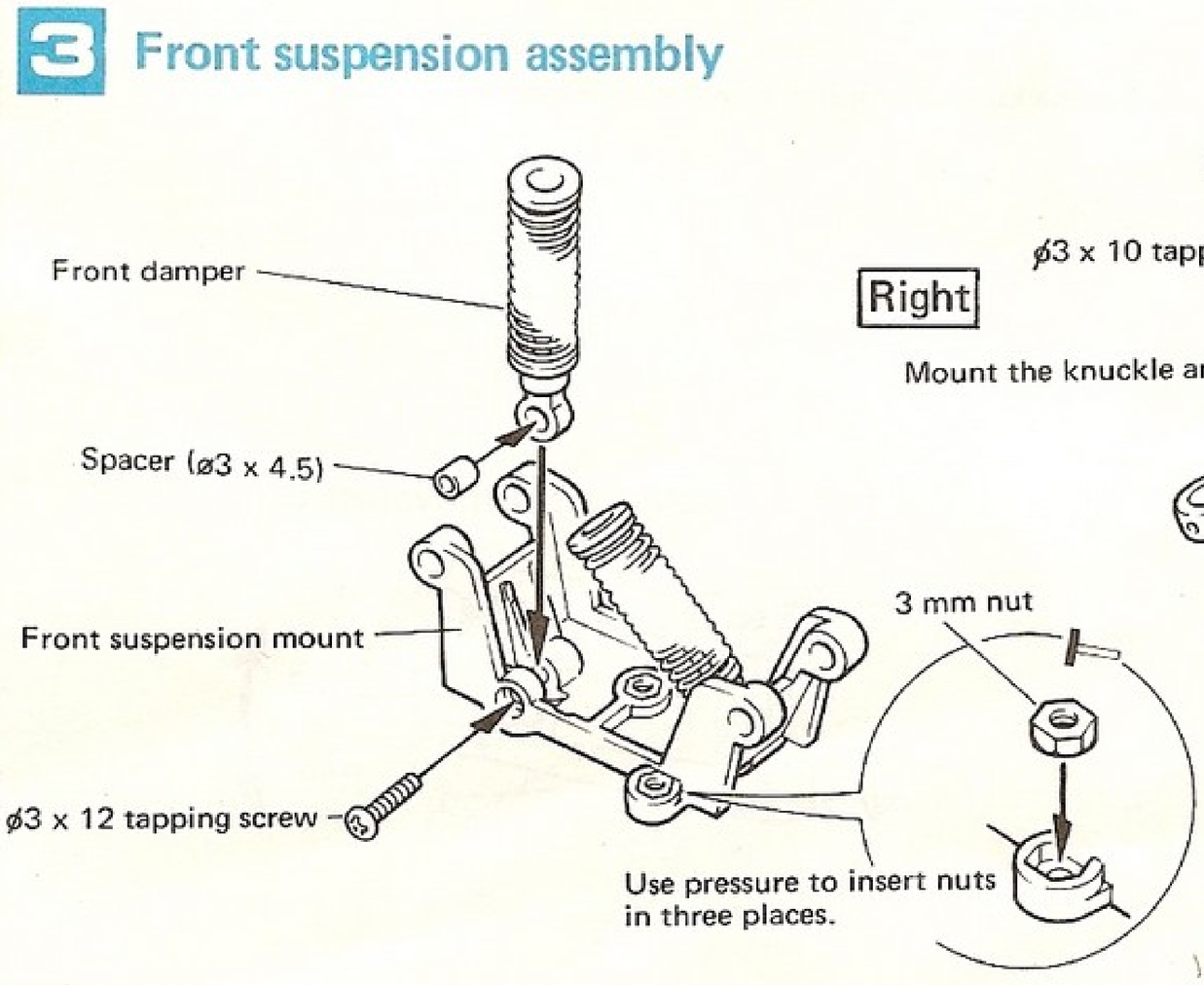
Front damper

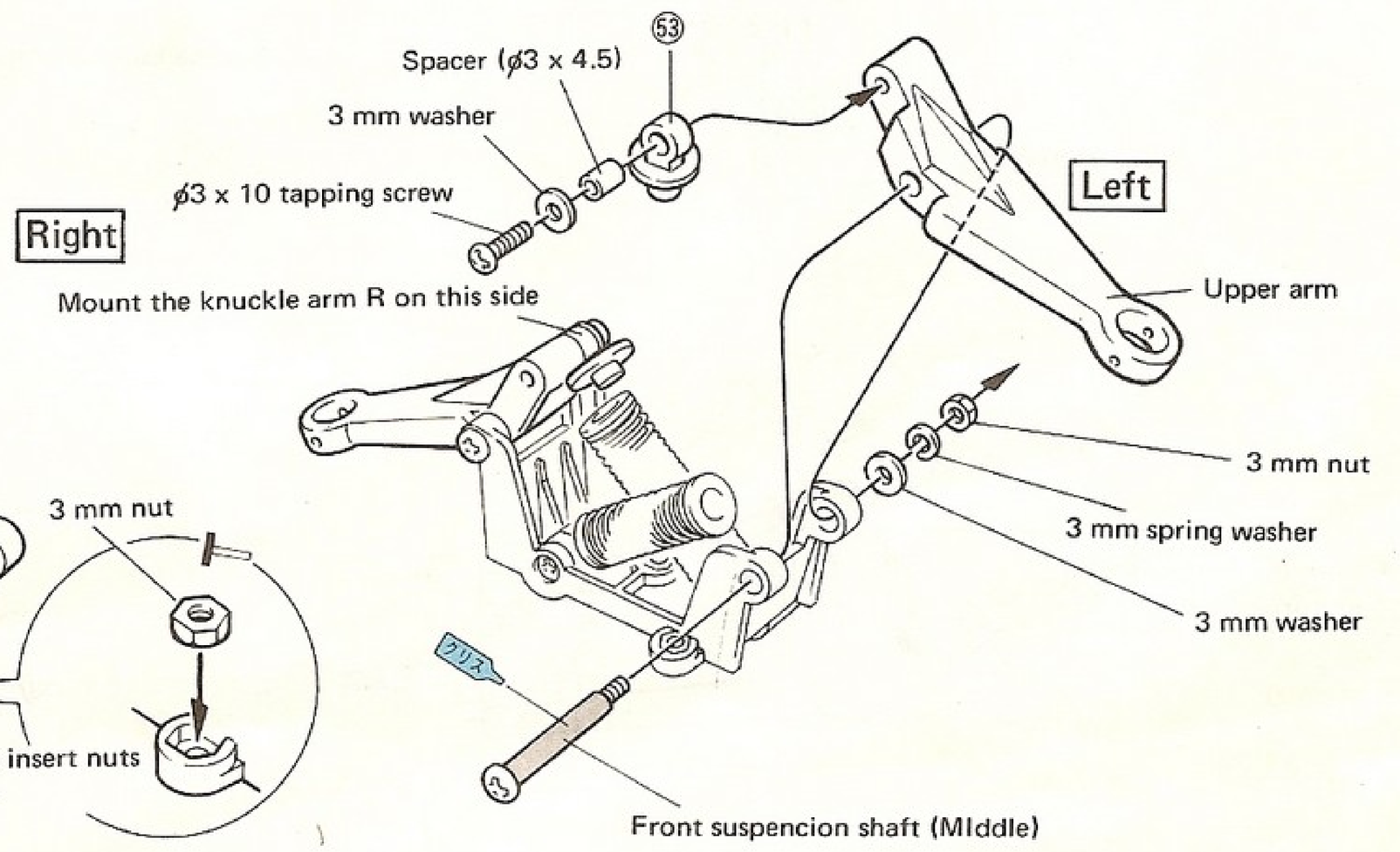


Knuckle arm



3 Front suspension assembly





Metallic part actual sizes used on P. 4

ø3 x 8 screw ... 3 pcs

Spacer Ø3 x 10 ... 4 pcs

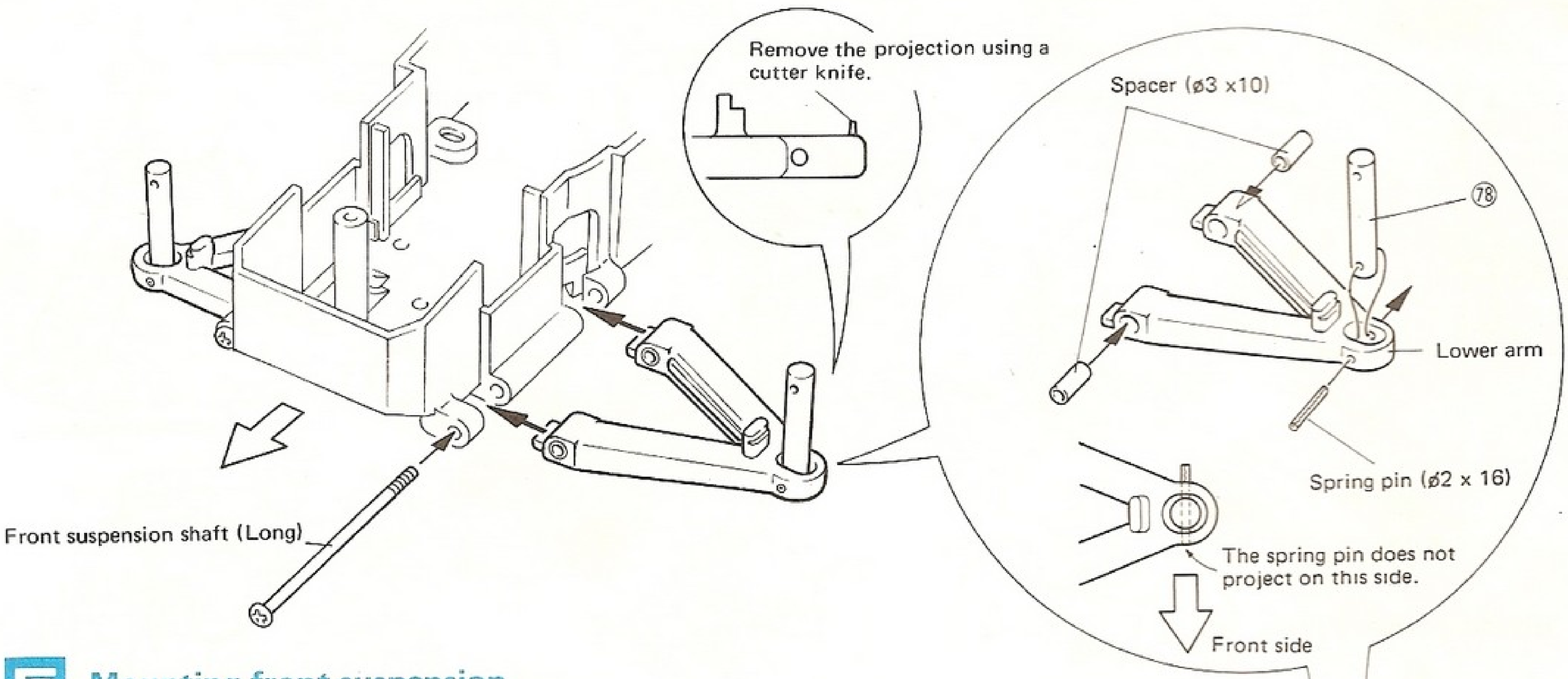
6 mm washer ... 4pcs

Front suspension spring ... 2 pcs

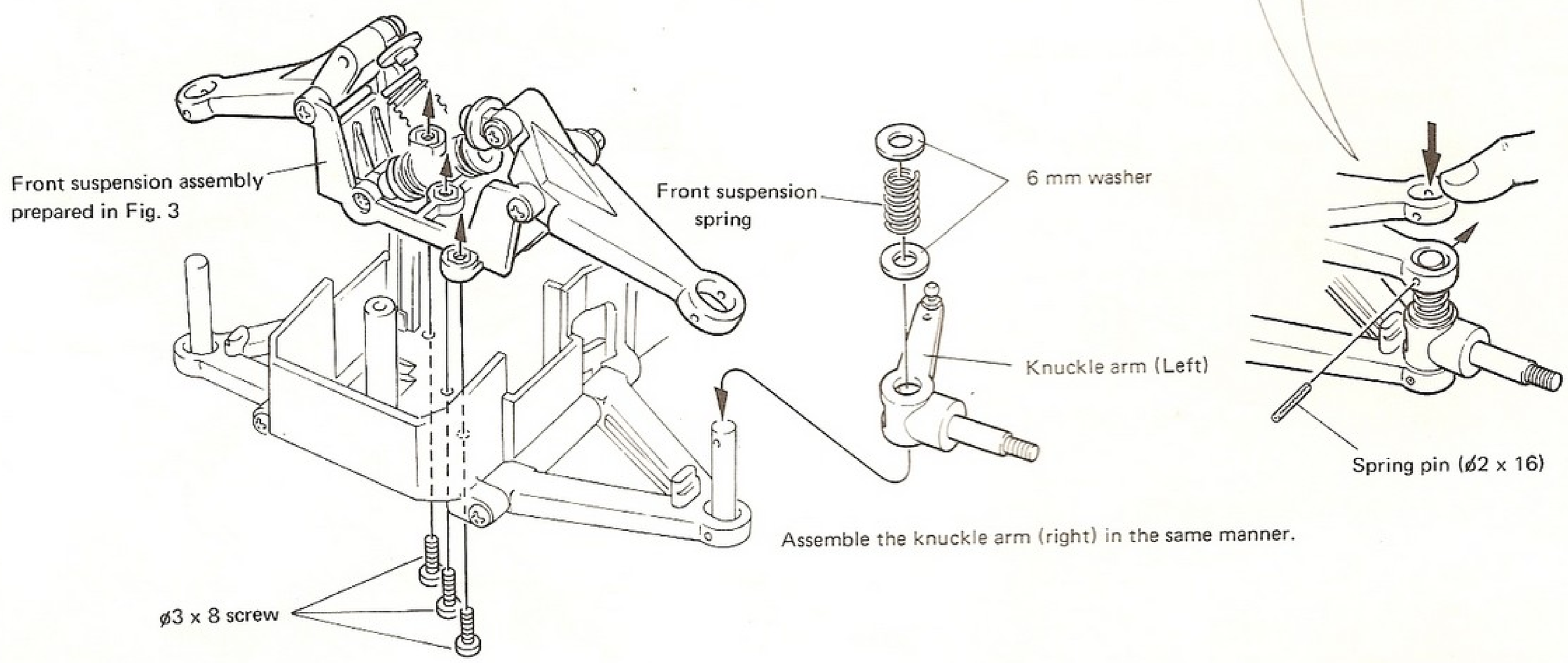
Front suspension shaft (Long) ... 2 pcs

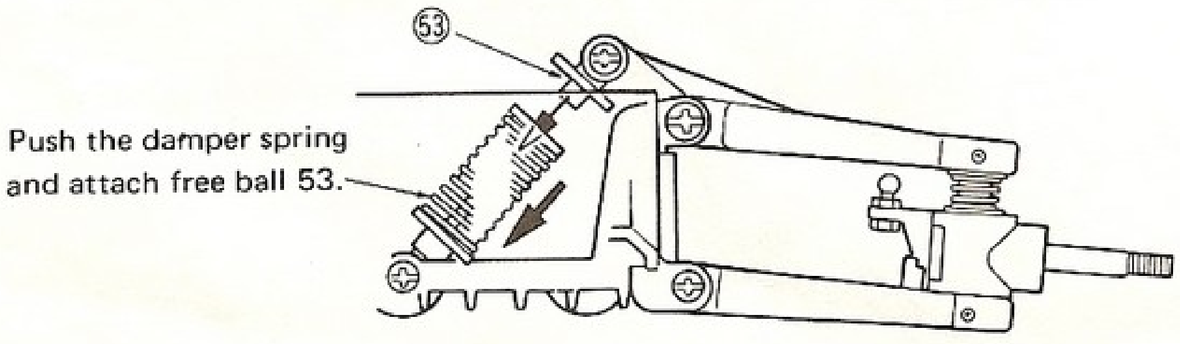
Spring pin ... 4 pcs ø2 x 16

4 Lower arm assembly

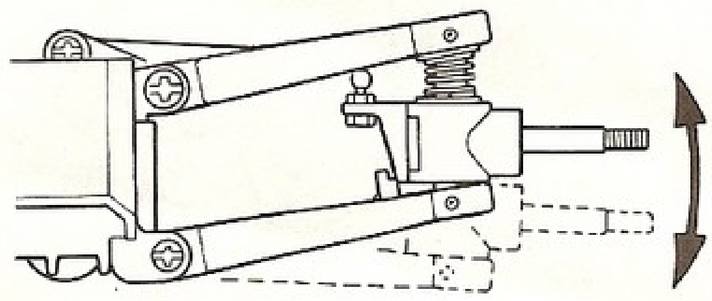


5 Mounting front suspension

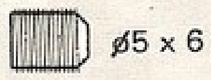




Test the component movement

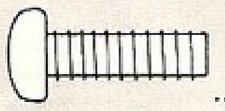


Metallic part actual sizes used on P. 5



ø5 x 6 butt screw ... 2 pcs

ø3 x 12 ... 3 pcs

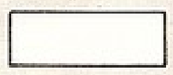


ø4 x 12 tapping screw ... 8 pcs

3 mm nut ... 3 pcs

3 mm washer ... 1 pc

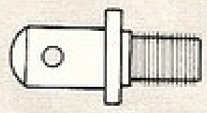
ø2 x 10.5 bush pin ... 2 pcs



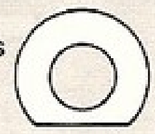
ø4 x 11.5 bevel shaft ... 2 pcs

ø2.5 x 12 Differential center shaft ... 1 pc

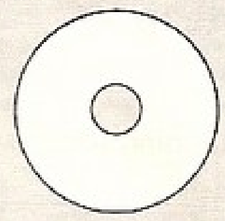
Differential shaft ... 2 pcs



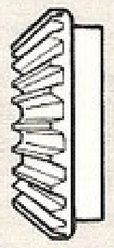
Body mount ... 1 pc



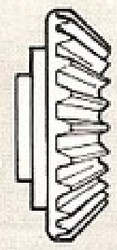
bevel bushing ... 2 pcs (plastic)



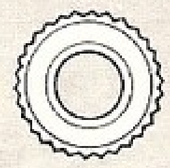
Bumper metal ... 2 pcs



Bevel gear (A) ... 2 pcs (plastic)



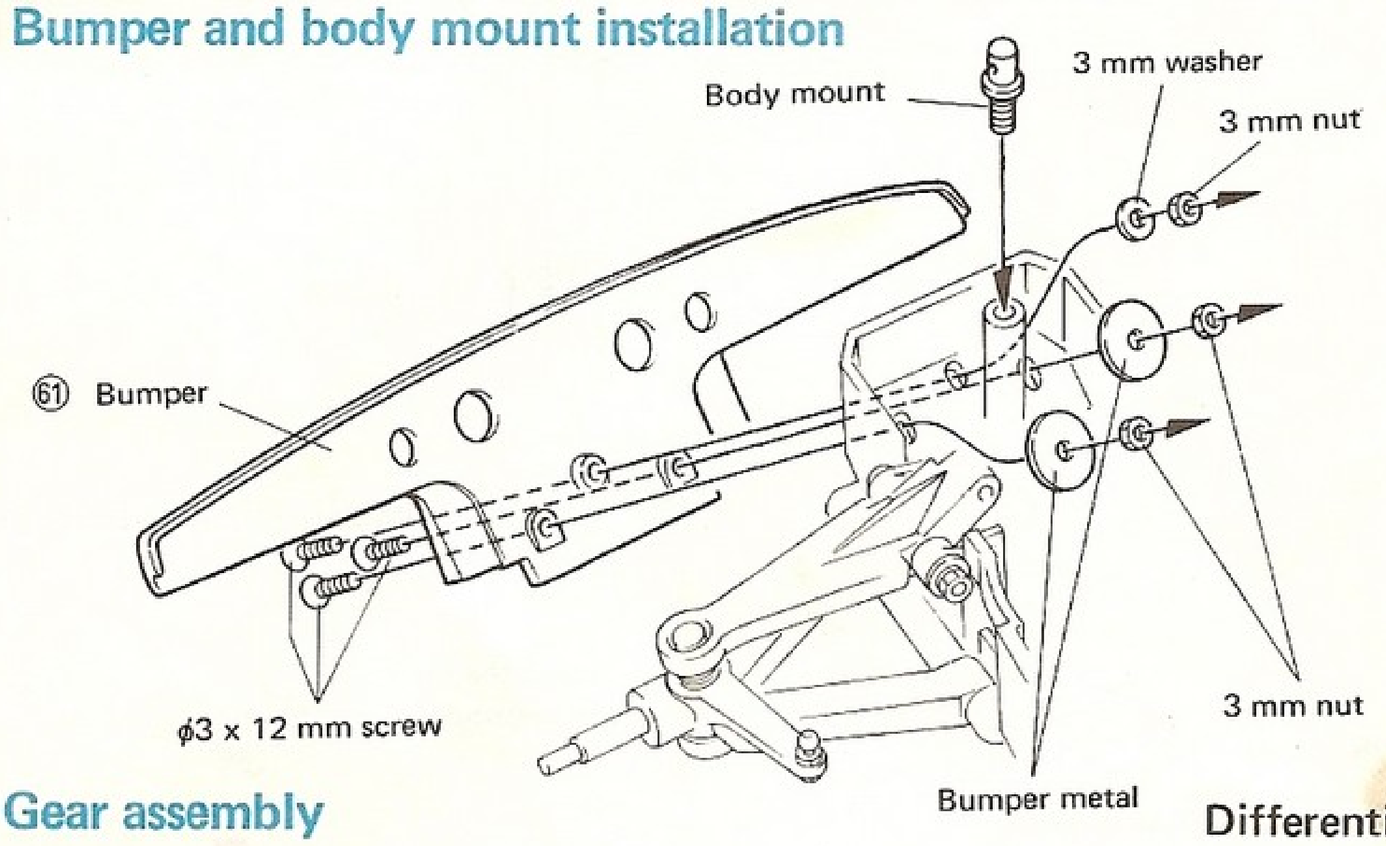
Bevel gear (B) ... 2 pcs

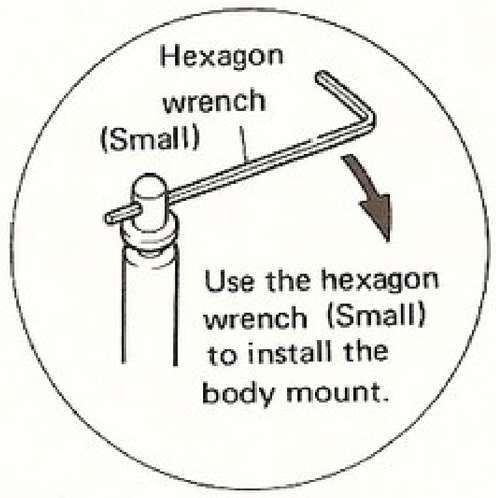


Oilless metal ... 2 pcs

Universal joint ... 2 pcs

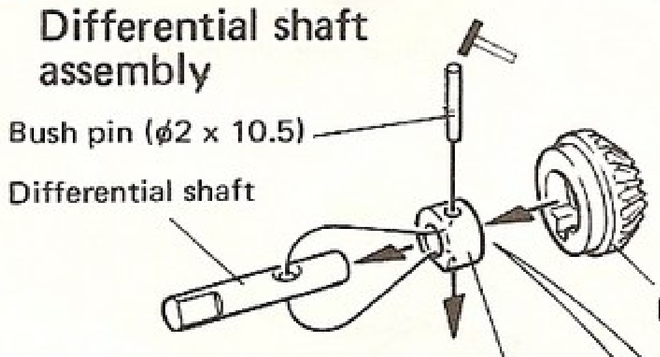
6 Bumper and body mount installation



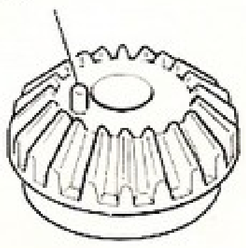


7 Gear assembly

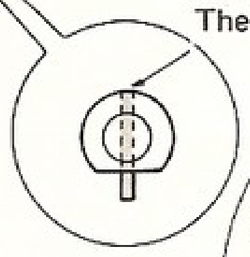
Differential shaft assembly



Remove the projection using a cutter knife.

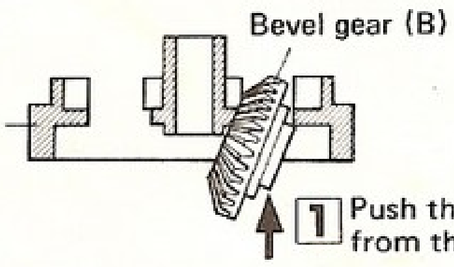


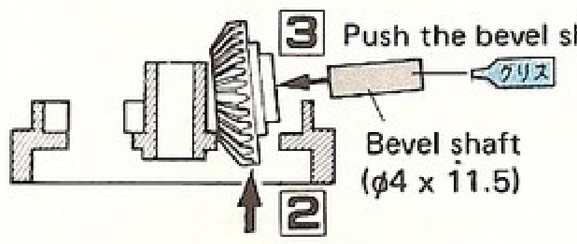
The bushing pin never projects on this side.



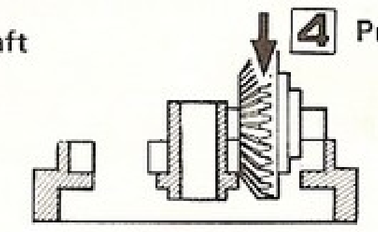
Differential gear assembly

Assemble instructions 1 through 4 in order.



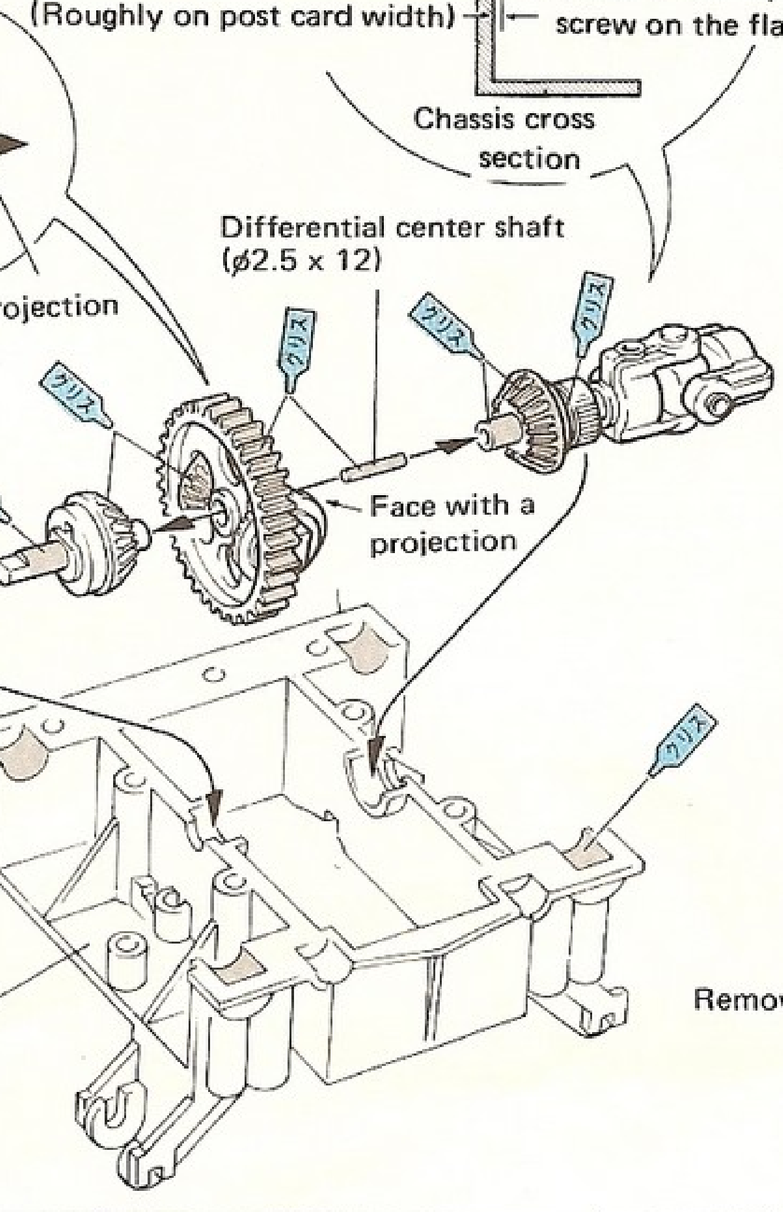


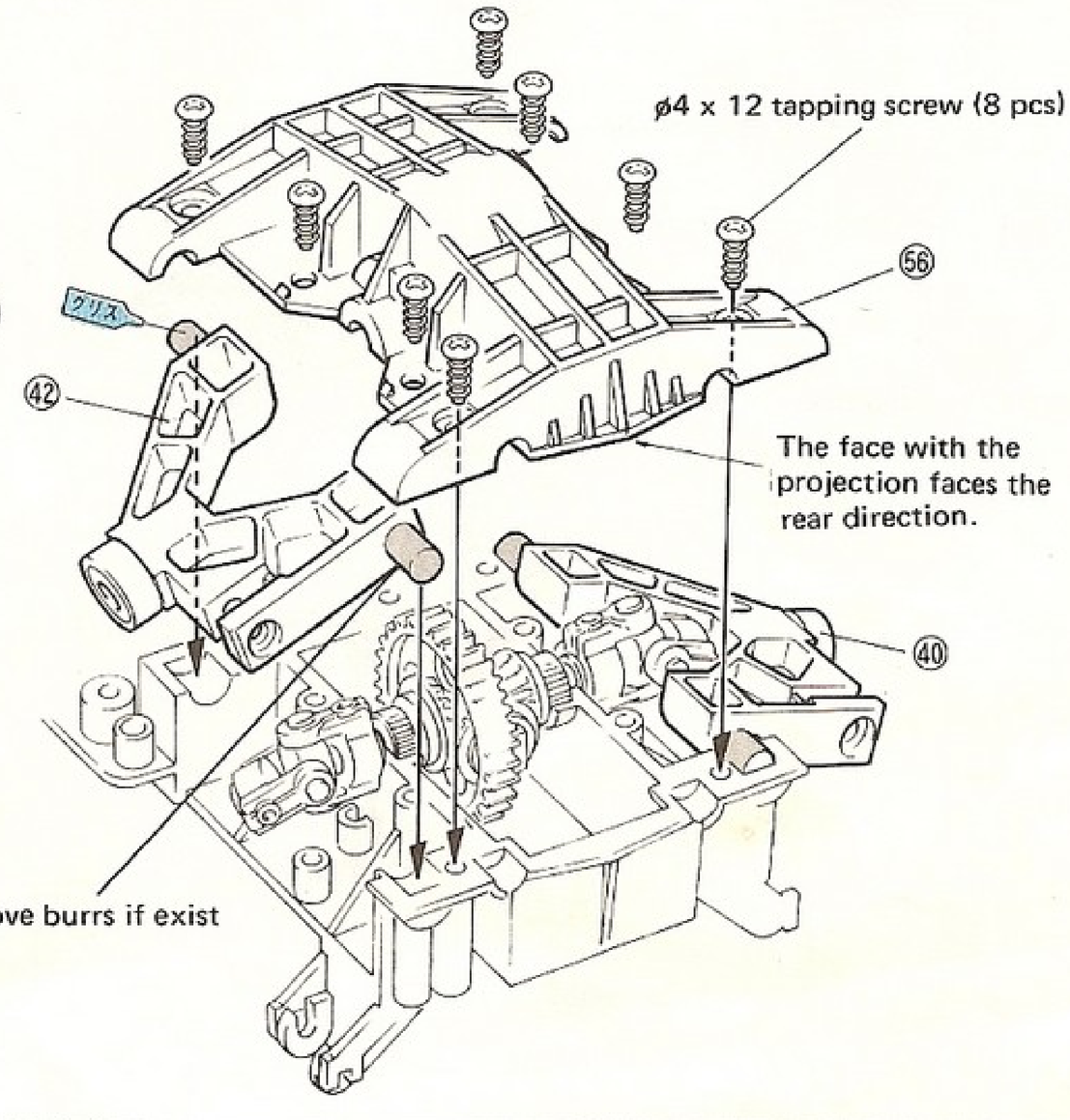
Completely push up bevel gear (B).



Assemble the differential gear (Left) in the same manner.

8 Gear assembly





Metallic part actual sizes used on P. 6

ø3 x 6 screw ... 2 pcs

ø3 x 8 tapping screw ... 2 pcs

3 mm washer ... 3 pcs

ø4 x 12 tapping screw ...9pcs

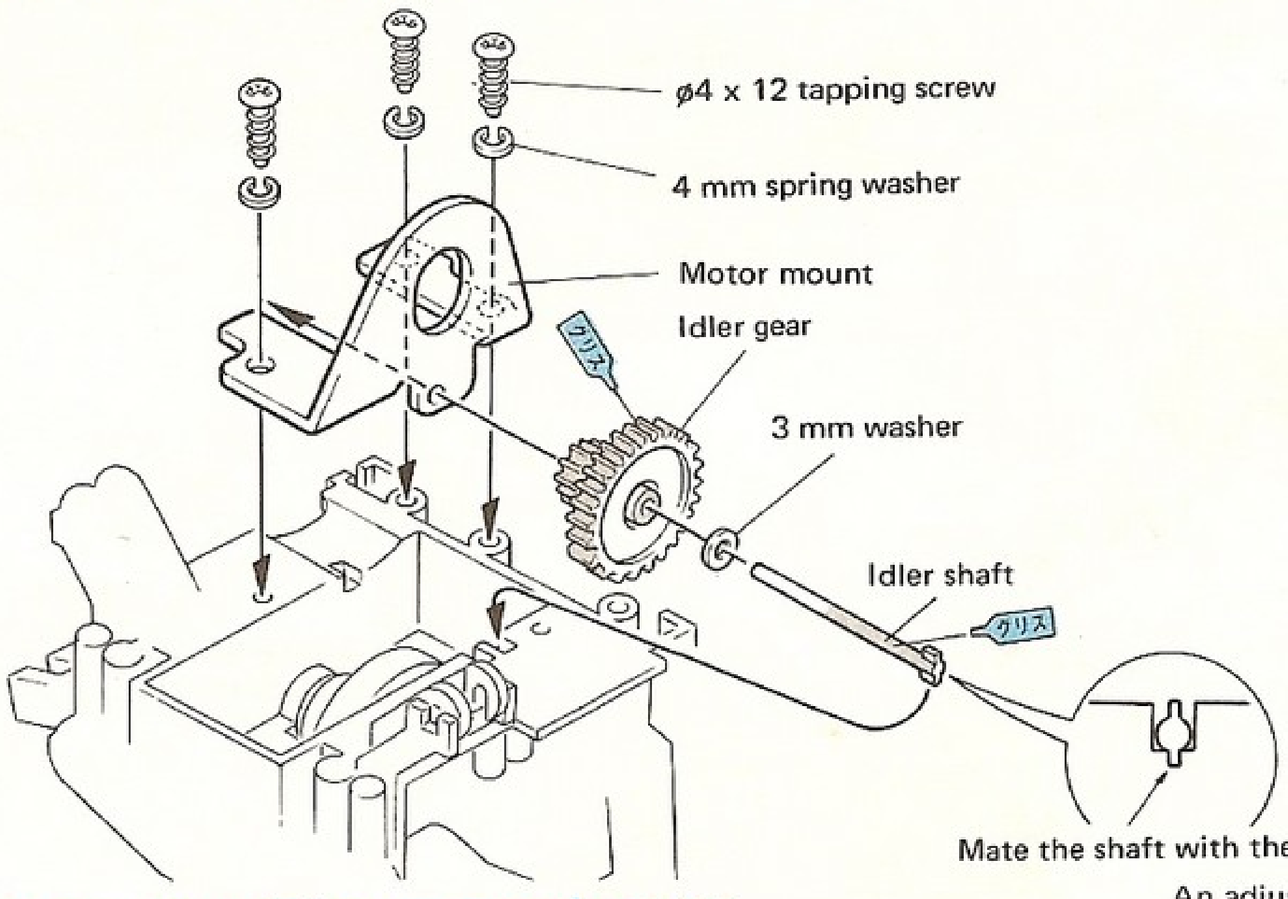
ø3 x 3 butt screw ... 1 pcs

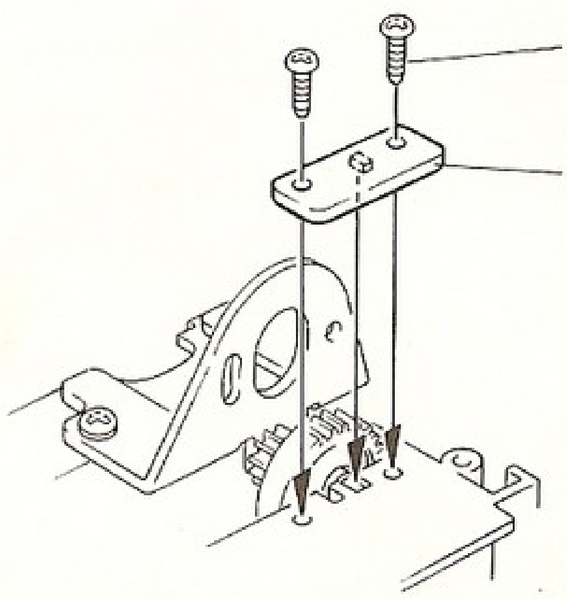
Idler shaft ... 1 pc

3 mm spring washer ... 2 pcs

4 mm spring washer ... 3 pcs

9 Motor mount and idler gear installation





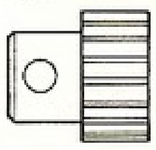
10 Mounting pinion gear and motor

The motor becomes hot after operation. Be careful not to burn yourself.

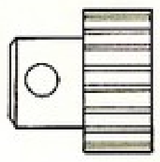
Pinion gear selection

Determine the proper pinion gear for driving conditions.

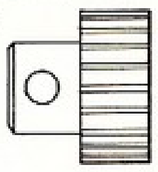
- High torque pinio n gear (18 tooth): For rough surface foad



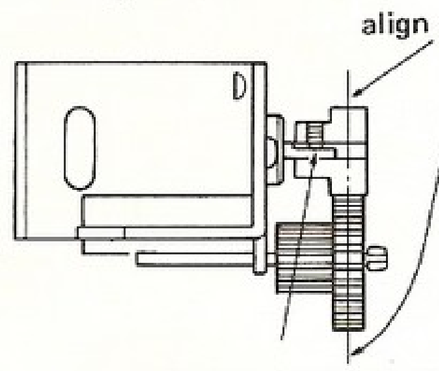
- Regular pinio n gear (20 tooth)



- High-speed pinion gear (22 tooth): For flat surface road



Pinion gear position



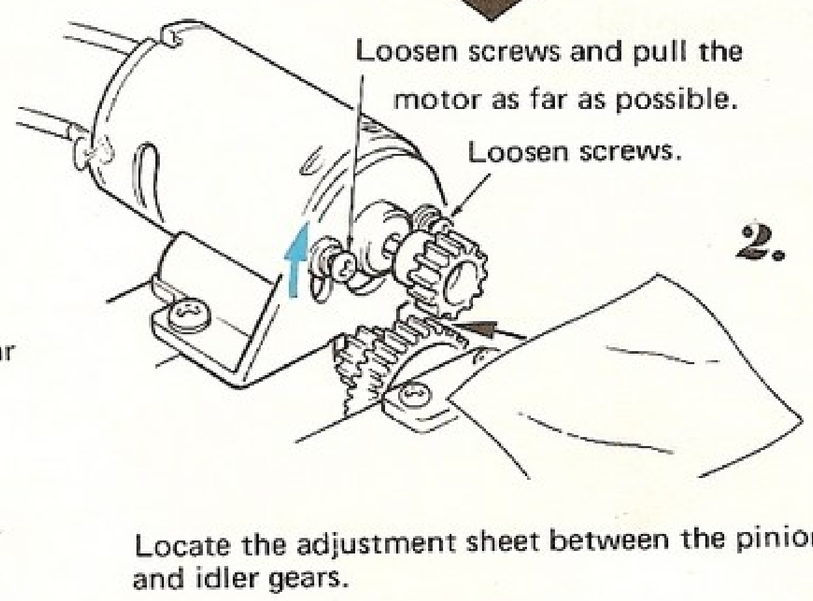
Tighten the screw so that both gear surfaces are levelled.

Installing the pinion gear

An adjustment sheet is included in the kit for correct gear engagement

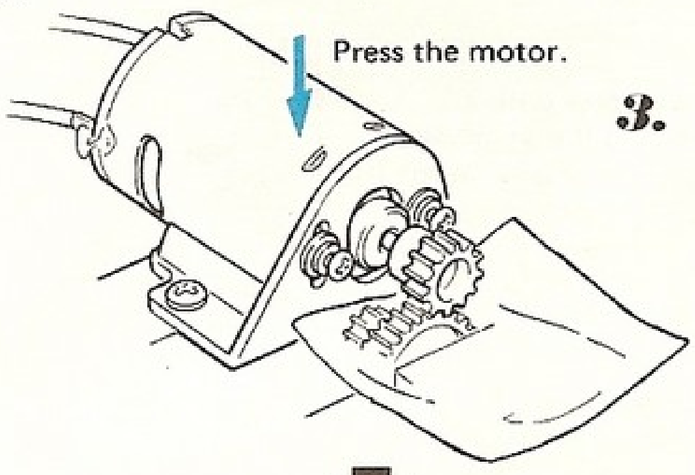
1.

Loosen screws and pull the motor as far as possible.

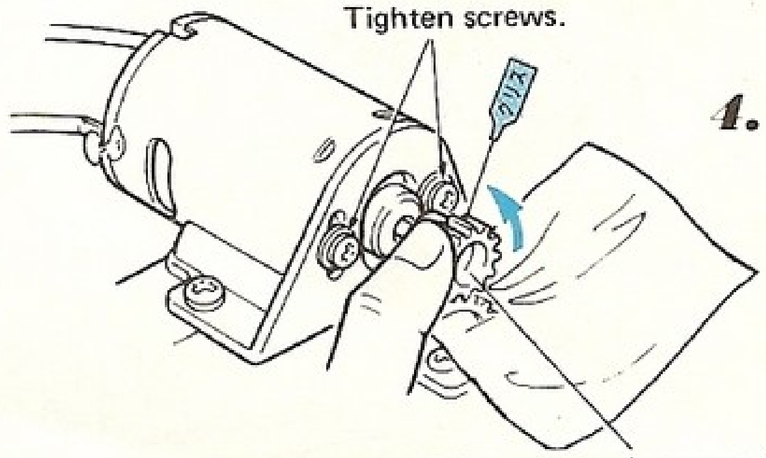


2.

Locate the adjustment sheet between the pinion and idler gears.



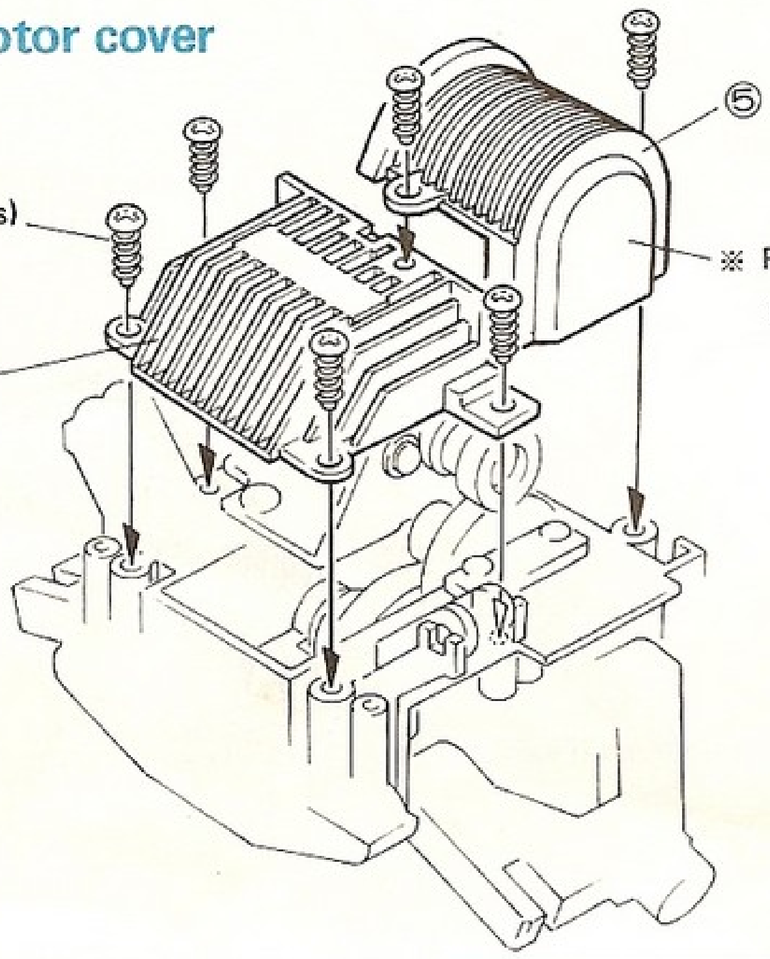
3.



4.

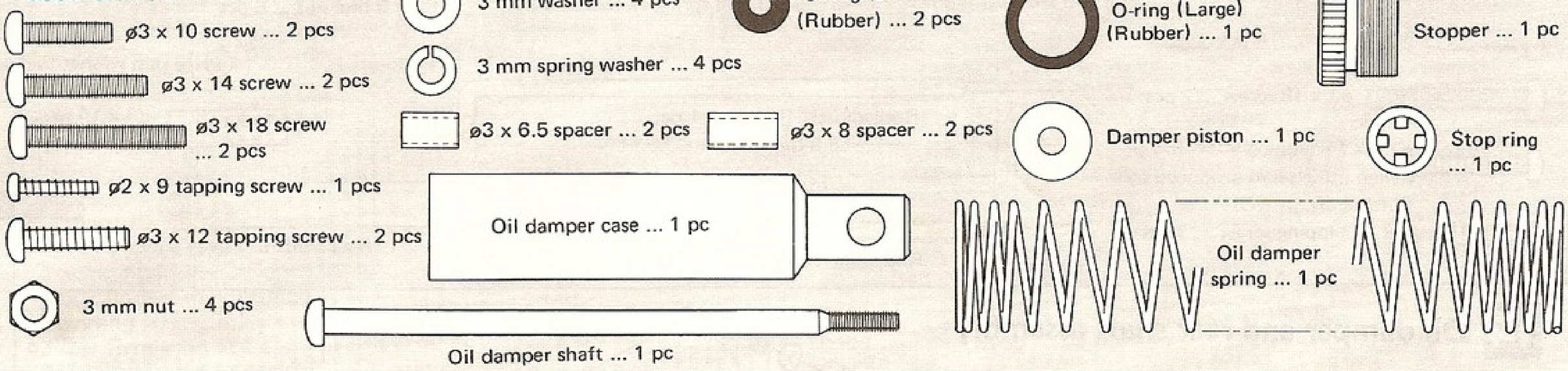
Manually rotate the pinion gear and remove the adjustment sheet. (Be sure to apply grease.)

11 Mounting motor cover

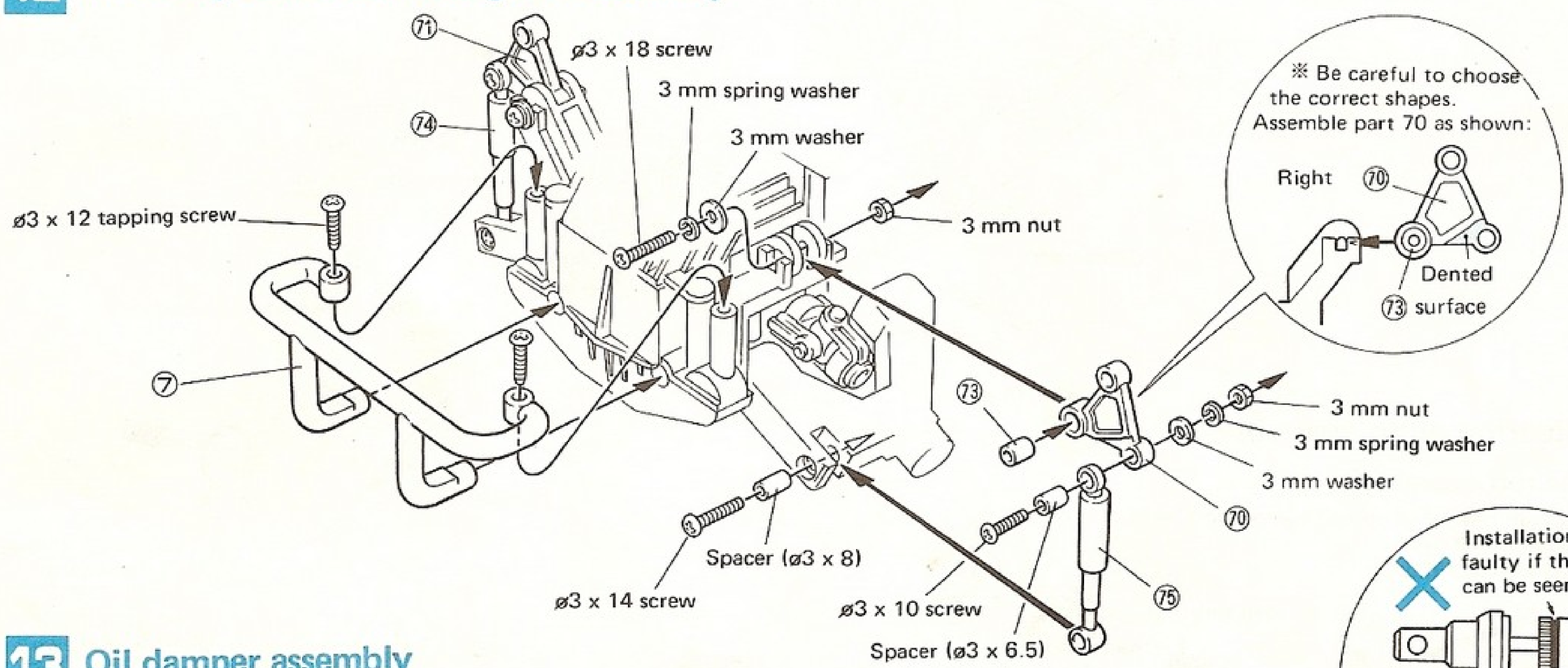


※ Removing this cover enables pinion gear replacement.

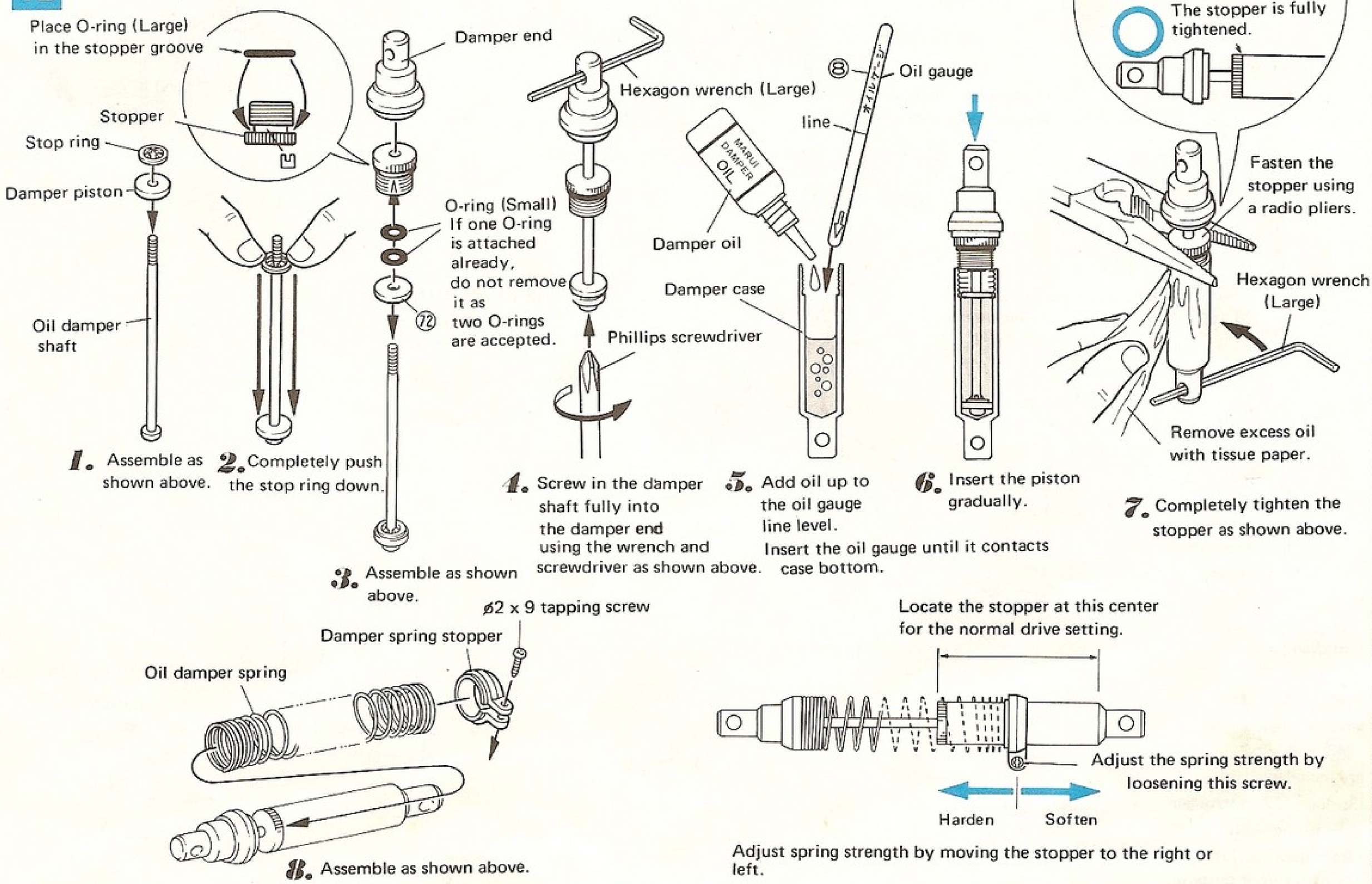
Metallic part actual sizes used on P. 7



12 Rear suspension and rear guard assembly

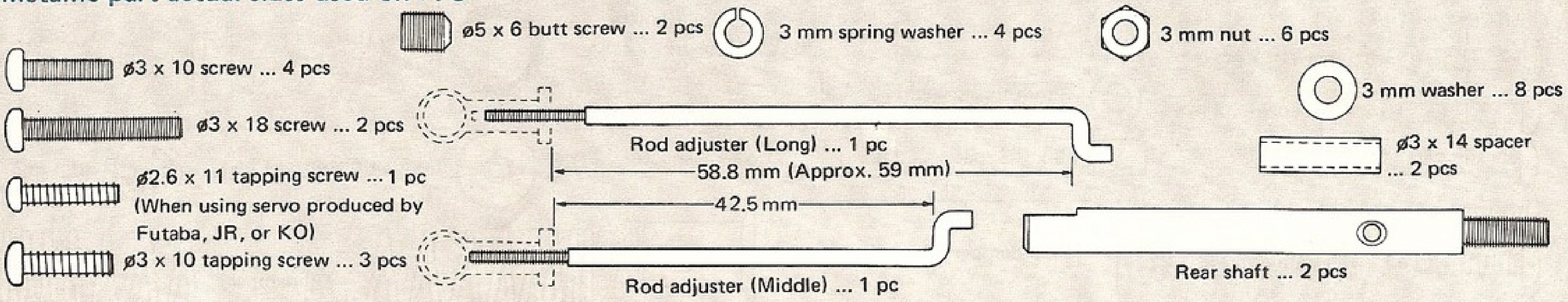


13 Oil damper assembly

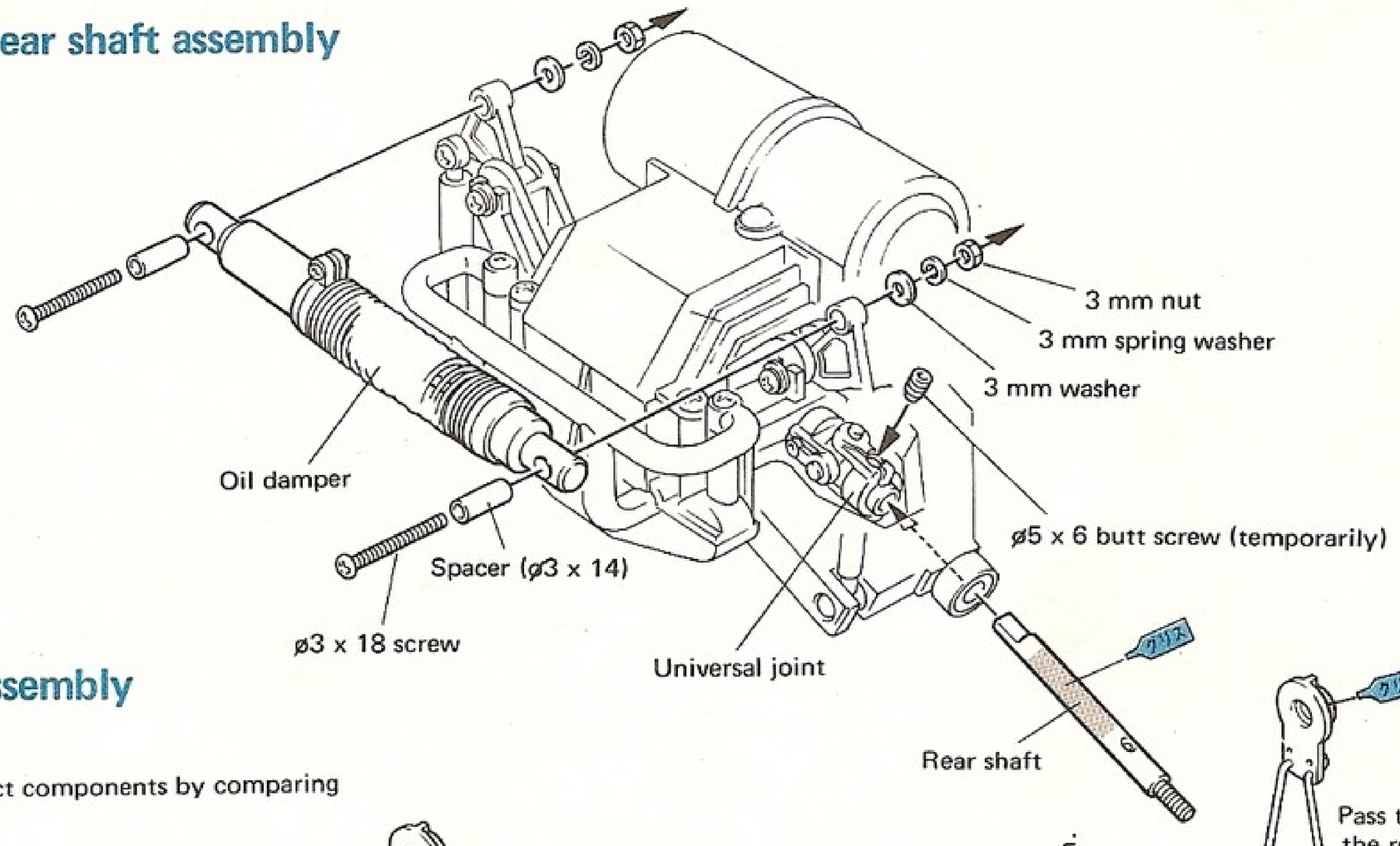


Adjust spring strength by moving the stopper to the right or left.

Metallic part actual sizes used on P. 8



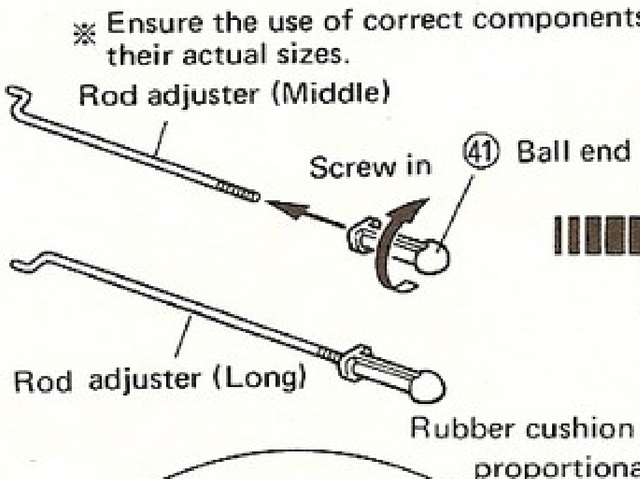
14 Oil damper and rear shaft assembly

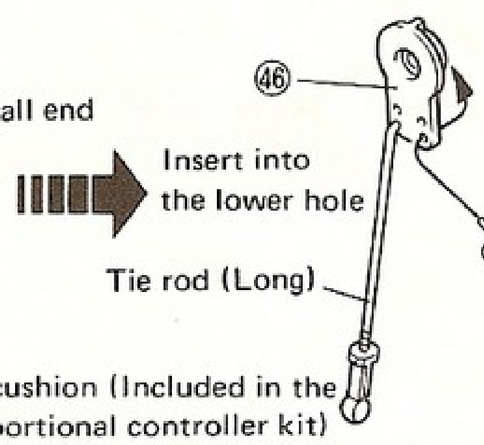


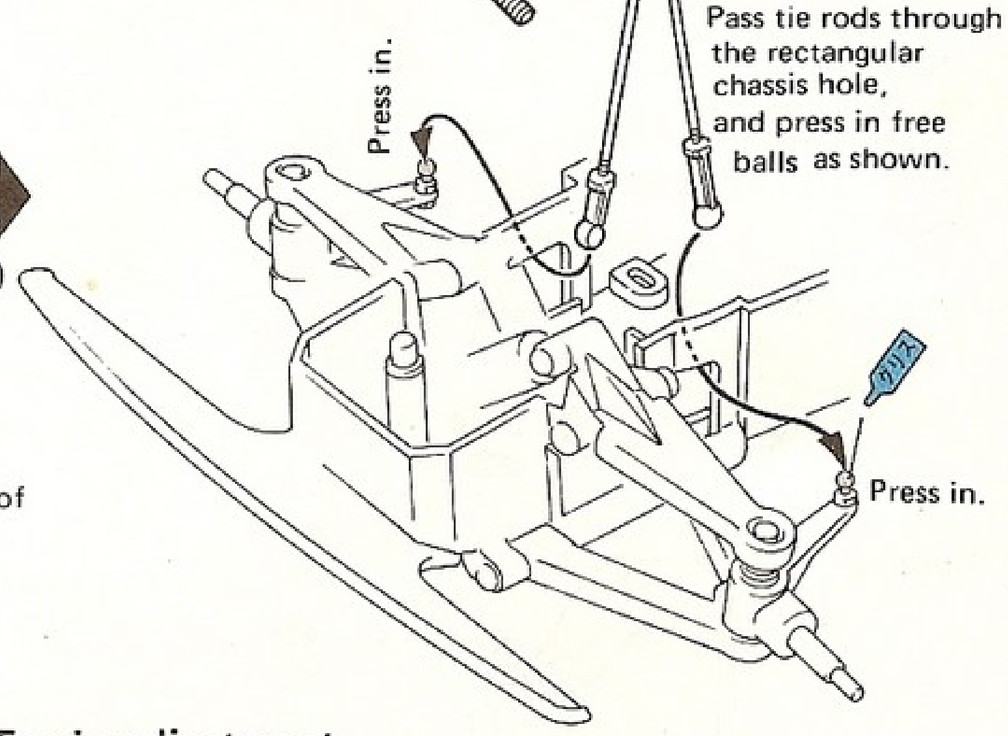
15 Steering servo assembly

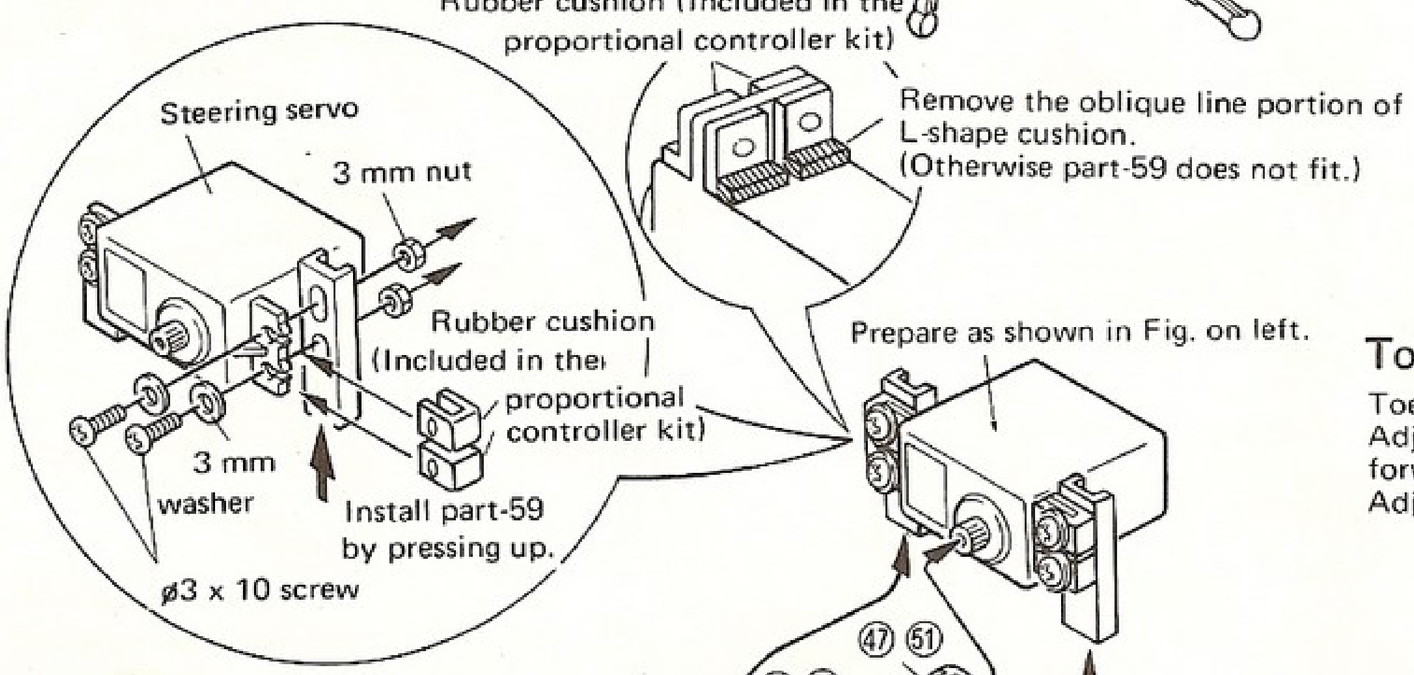
Tie rod assembly

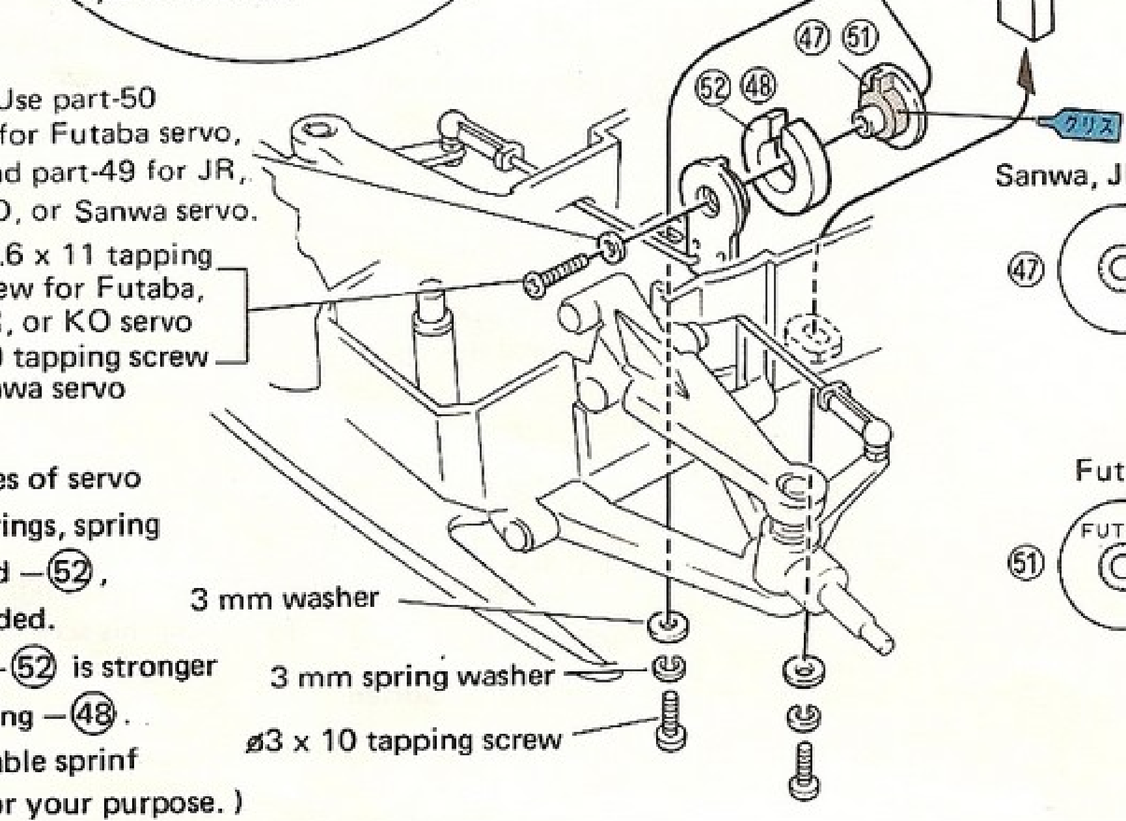
※ Ensure the use of correct components by comparing their actual sizes.









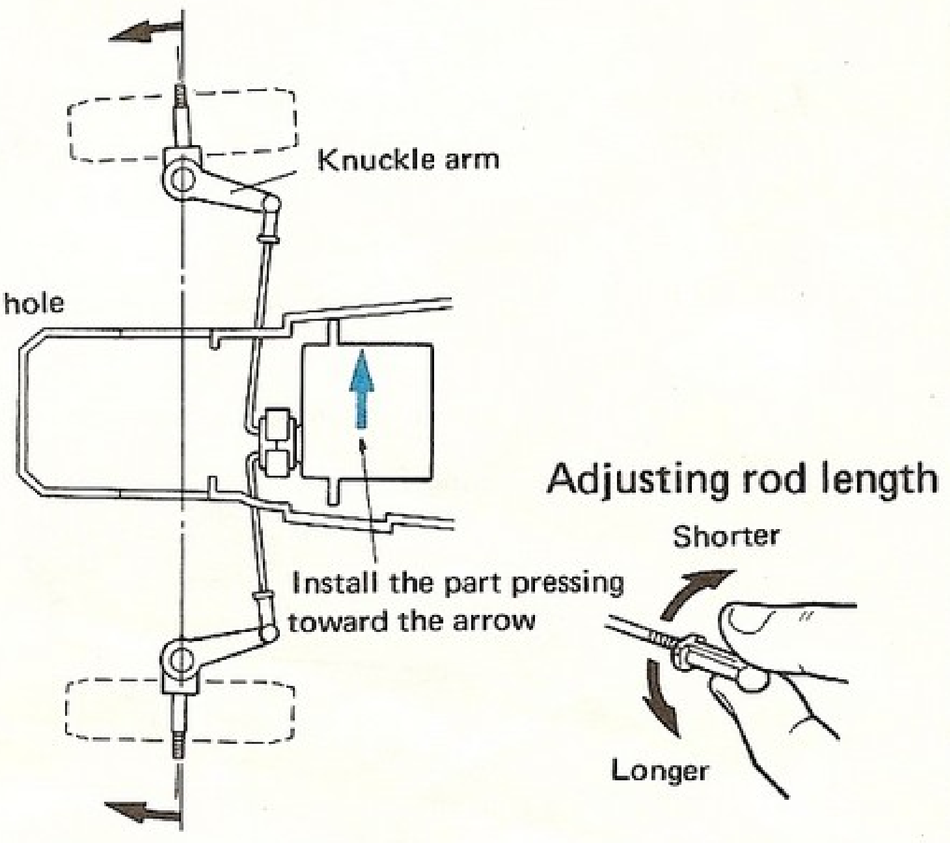


Sanwa, JR, or KO servo

Futaba

Toe-in adjustment

Toe-in is important for high straight line driving performance.
Adjust tie rod length so that knuckle arms slightly incline forward.
Adjust toe-in angles also after model completion.



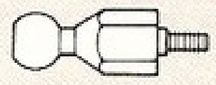
Adjusting rod length

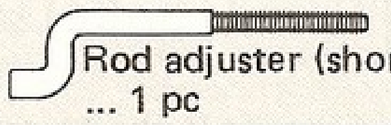
16 Speed controller assembly

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

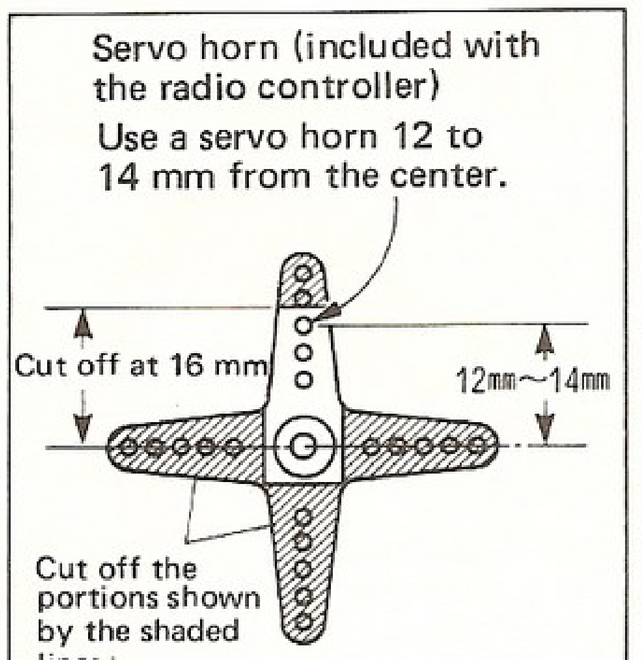
≪Metal part actual sizes used on p.9≫

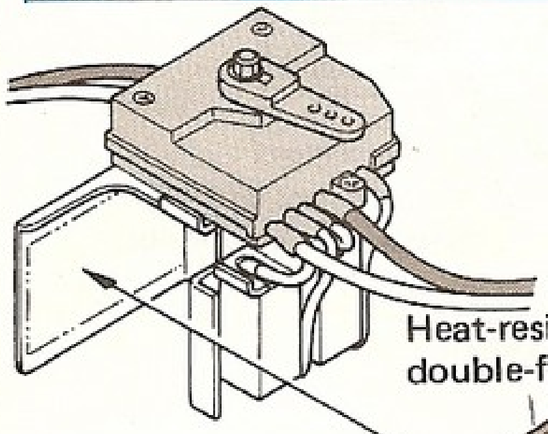

2 mm nut ... 1 pc

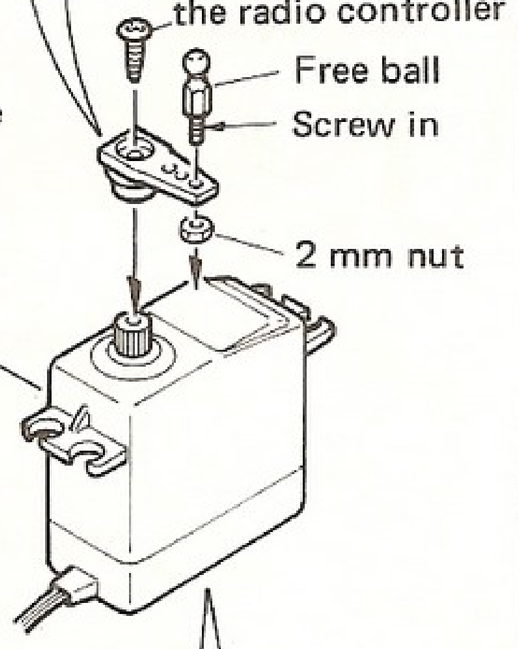

Free ball ... 1 pc

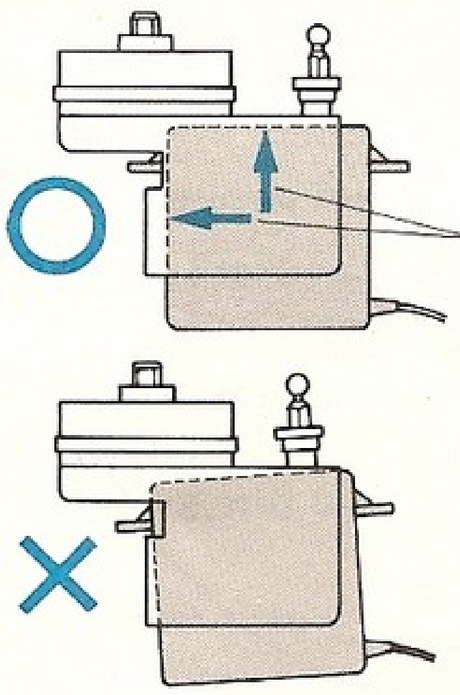

Rod adjuster (short) ... 1 pc

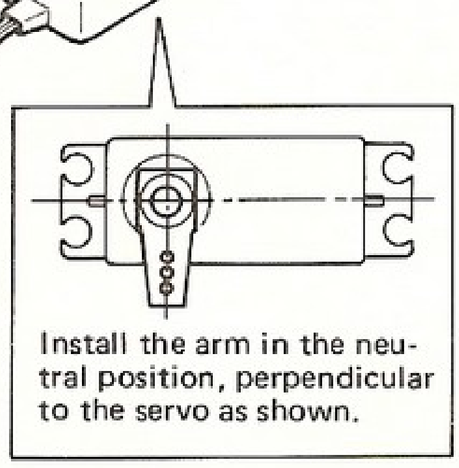
- Clean tape mounting areas with paint thinner for plastics or other suitable solvent.
- Do not touch the adhesive surface after removing the backing paper. (Oil on your fingers may reduce bonding strength.)
- Press firmly on the controller component to ensure complete bonding.



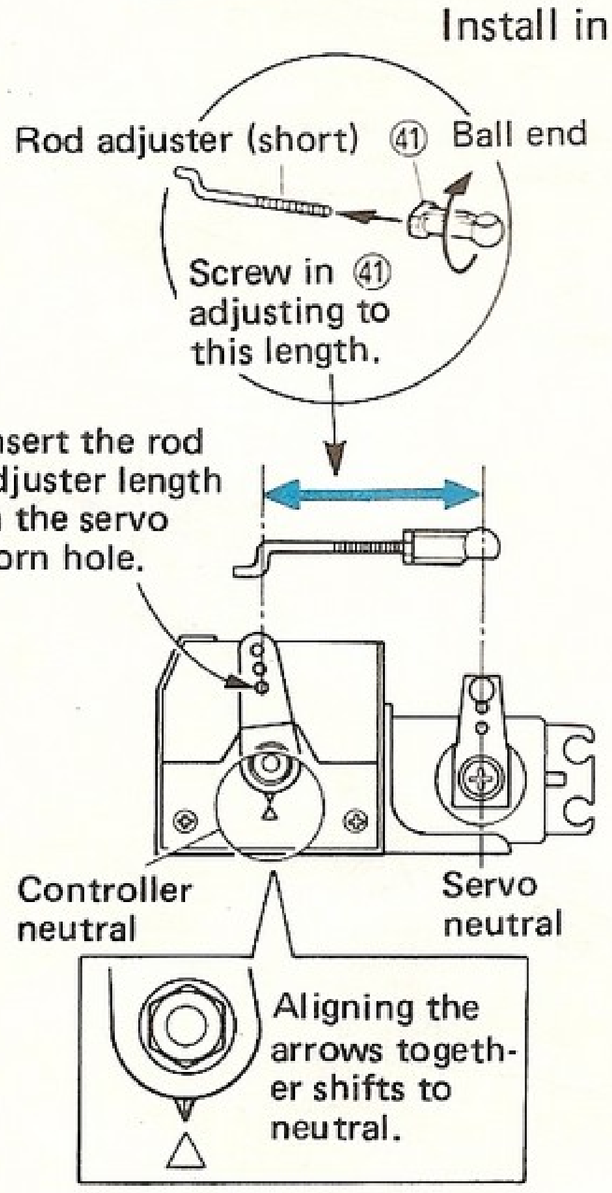


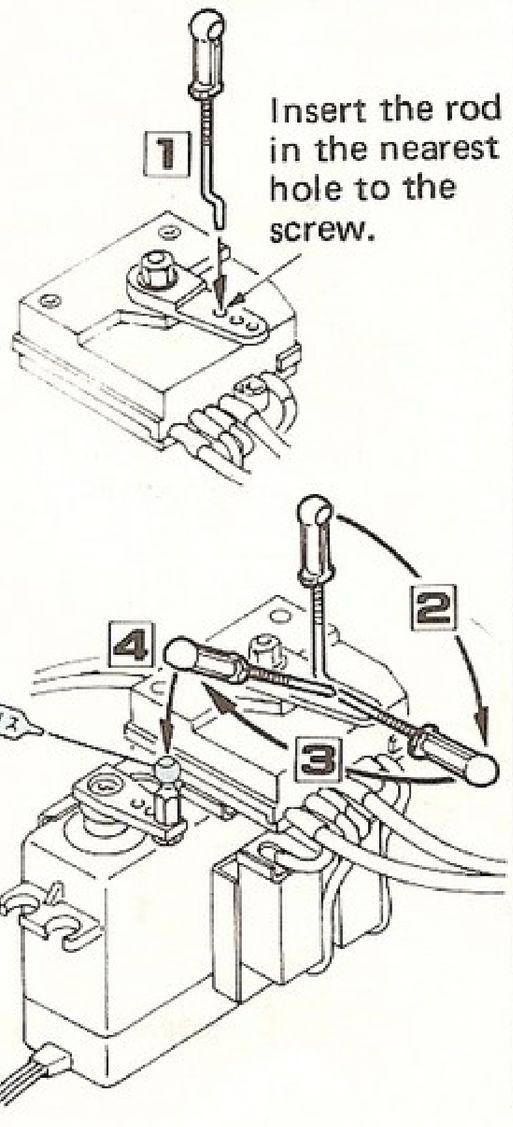






Install in the order of 1 through 4

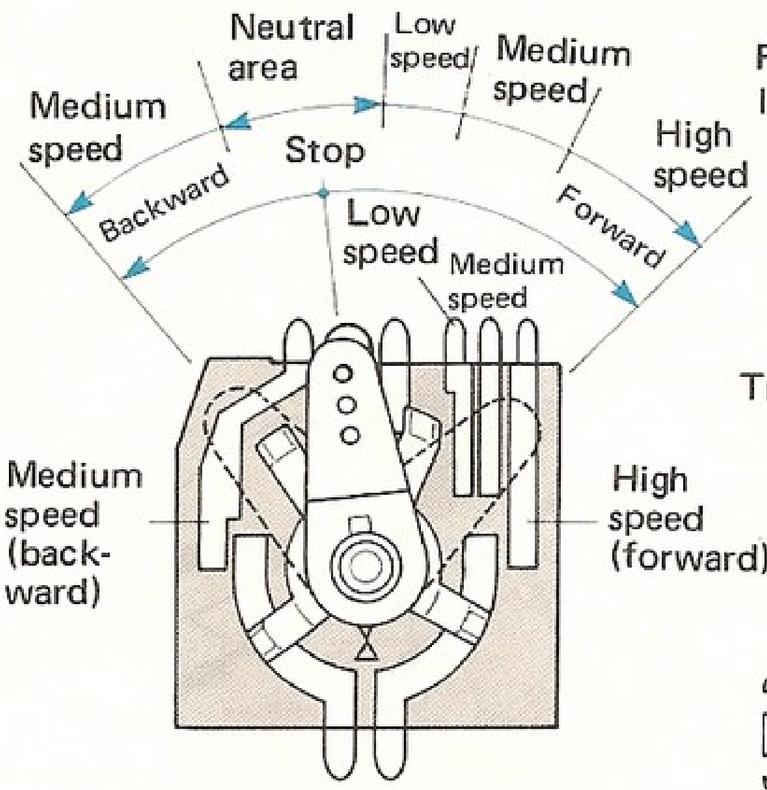


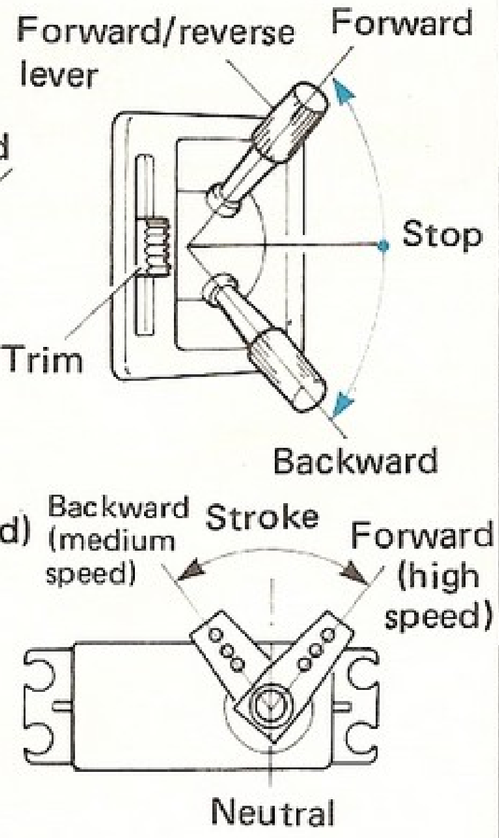


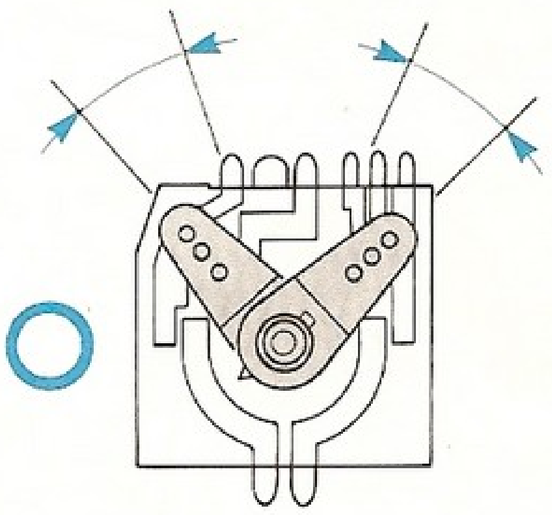
Aligning the arrows together shifts to neutral.

≪Stroke adjustment≫

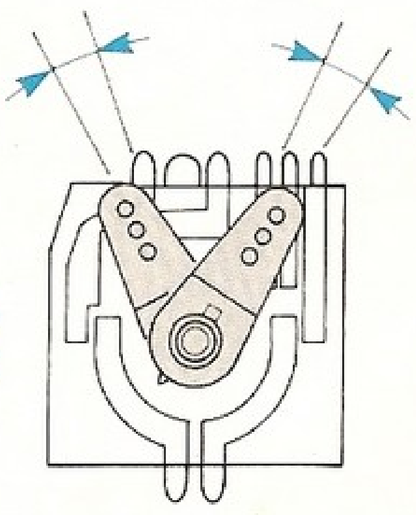
- Servo horn stroke differs by servo type.
  Test to see if the switch arm moves all the way to its forward (high-speed) and reverse (high-speed) positions by moving the lever up and down.





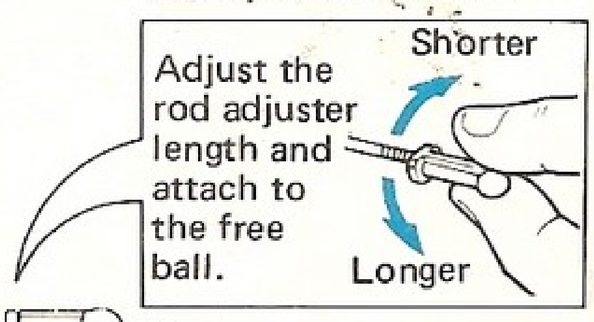


Sufficient contact overlap



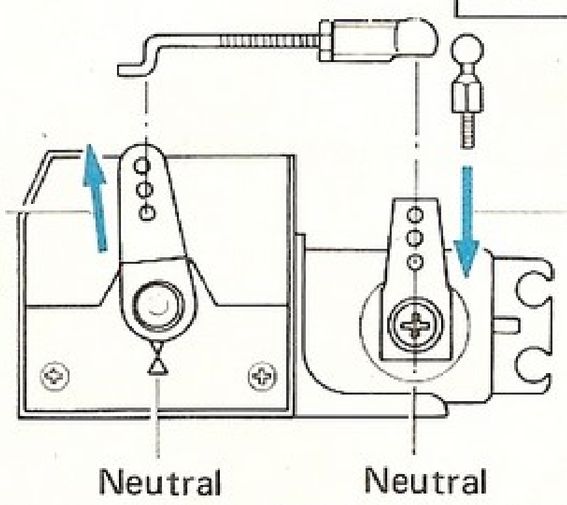
Readjust if the contact overlap is insufficient.

★Troubleshooting★



Poor contact results from insufficient stroke.

Install the free ball toward the outer holes of the servo horn.



Servo may be damaged if the stroke is too large.

Install the free ball toward the inner holes of the servo horn.

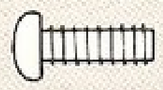
Handling Precautions

- 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.

17 Speed control servo installation

- If the Hunter reverses when the radio controller lever is forwarded, the motor and controller connections are incorrect.

≪Metal Part actual sizes used on P.10 ≫



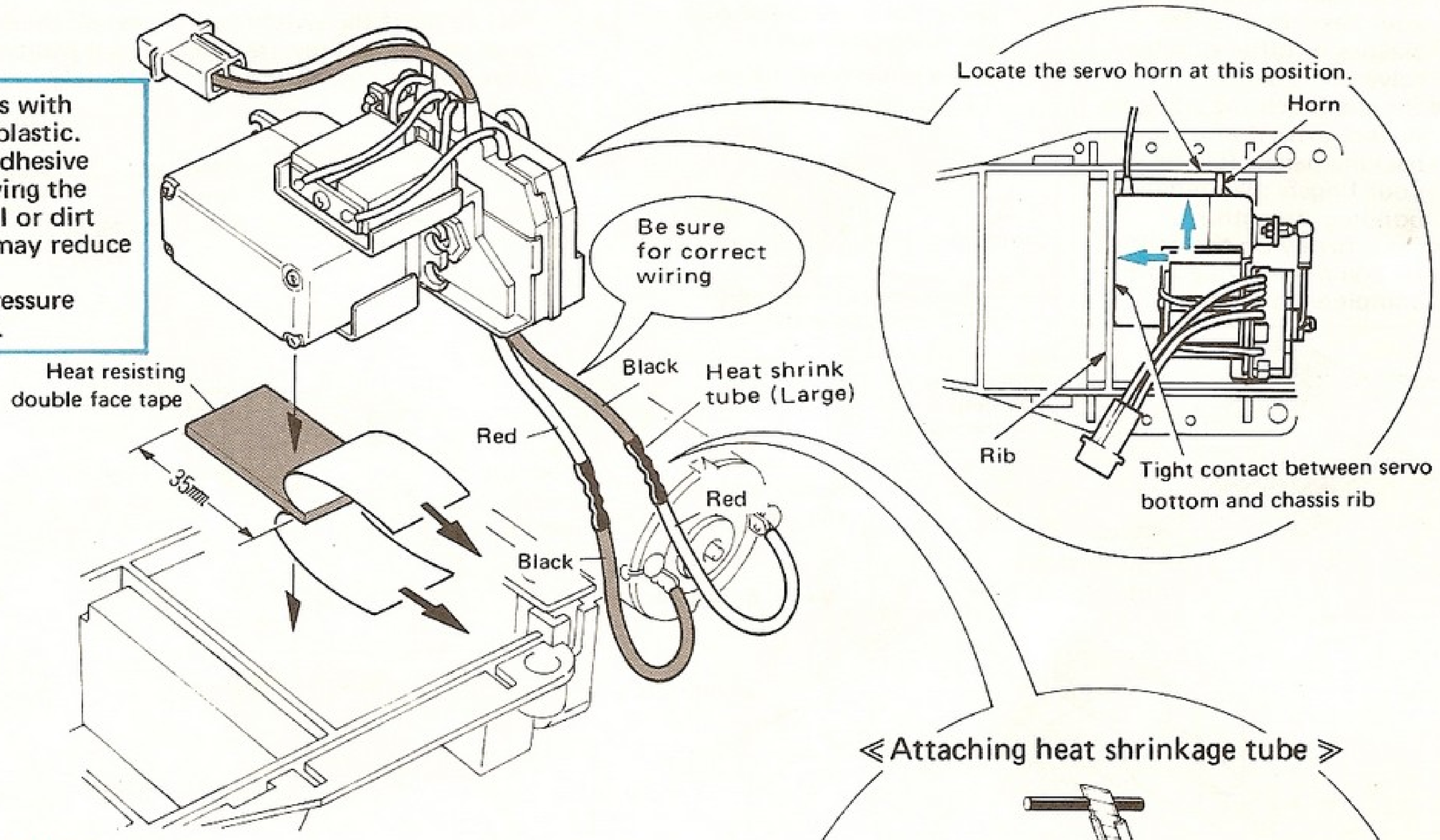
ø3 x 8 tapping screw ... 2 pcs

ø3 x 8 screw ... 2 pcs

3 mm washer ... 4 pcs

3 mm nut ... 2 pcs

- Clean bonding areas with thinner for use on plastic.
- Do not touch the adhesive surface after removing the backing paper. (Oil or dirt from your fingers may reduce bonding strength)
- Apply sufficient pressure to secure the servo.



≪Attaching heat shrinkage tube ≫

1 Cut the tube into half.

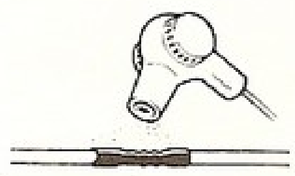
Black motor lead, red speed controller lead

2 Pass the wire through tube.

3 Twist the cords.

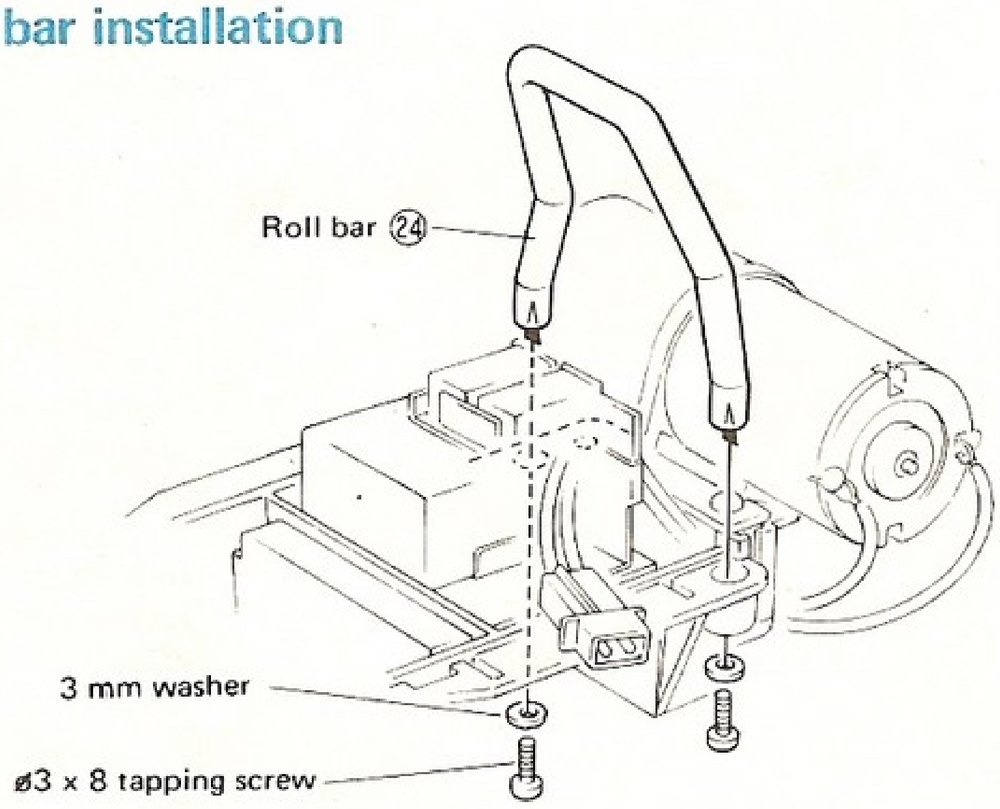
Soldering recommended

4 Cover the twisted cord area with the tube.

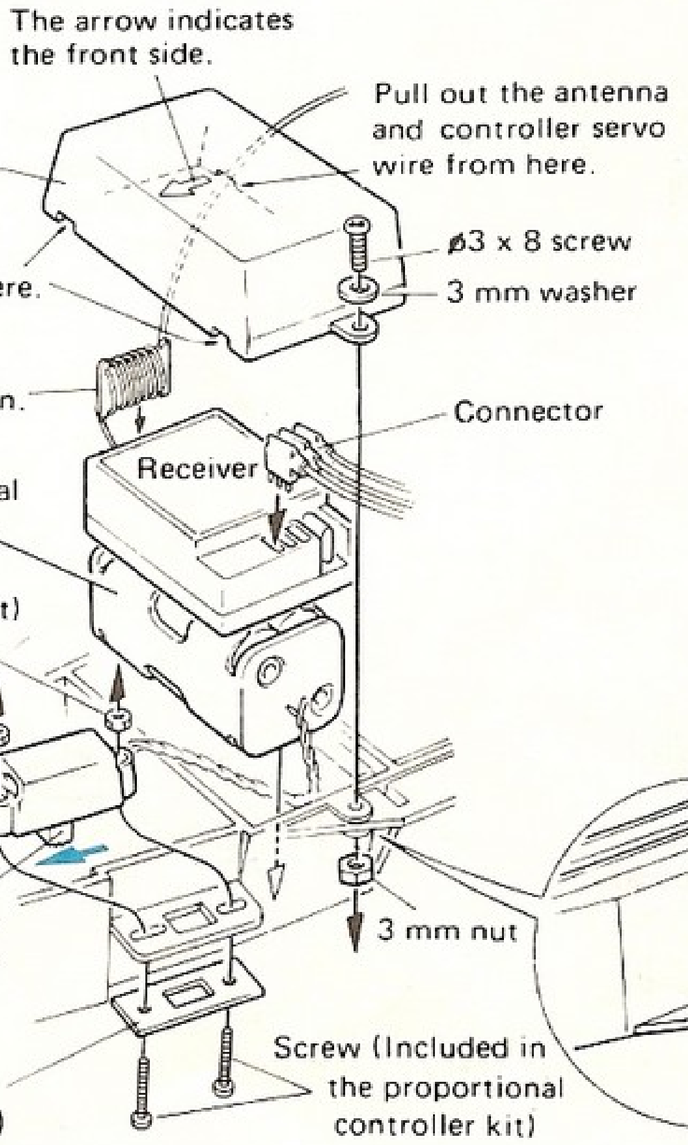


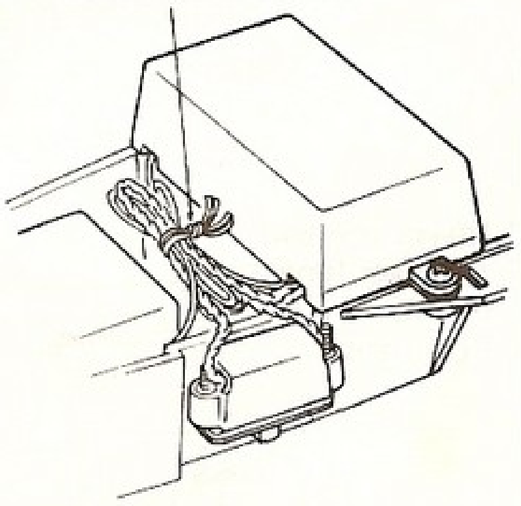
5 Heat the tube using a dryer.

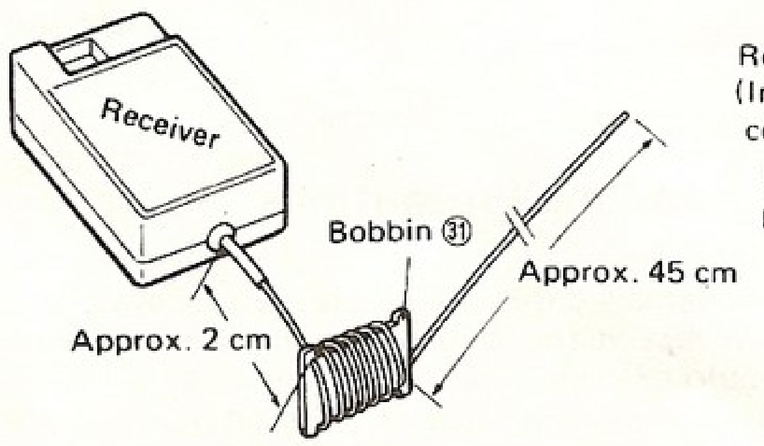
18 Roll bar installation



19 Switch, receiver, and battery box installation







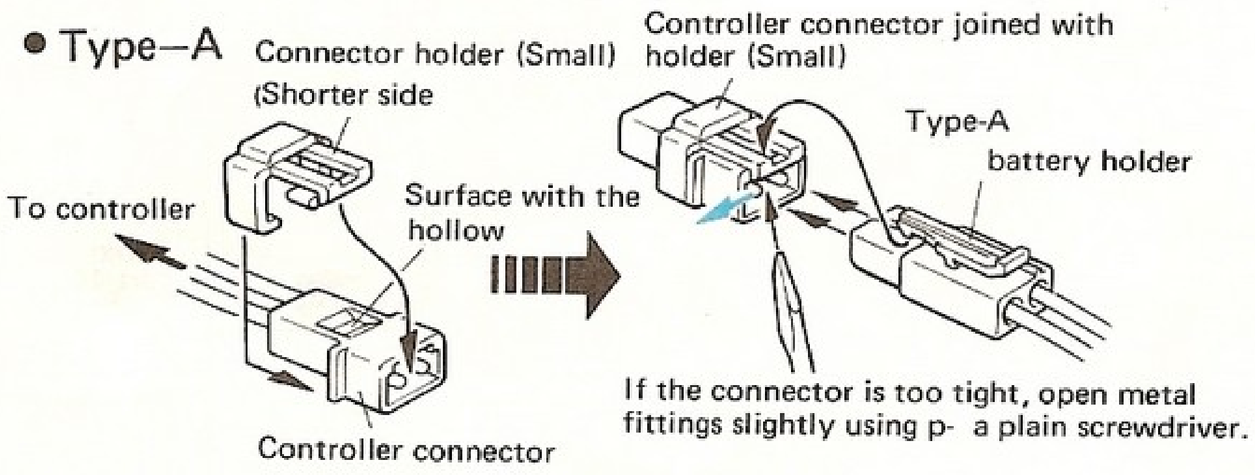
Wind the antenna on a bobbin starting 2 cm from the receiver and leave approx. 45 cm on the other end free.

20 Ni-Cd battery placement

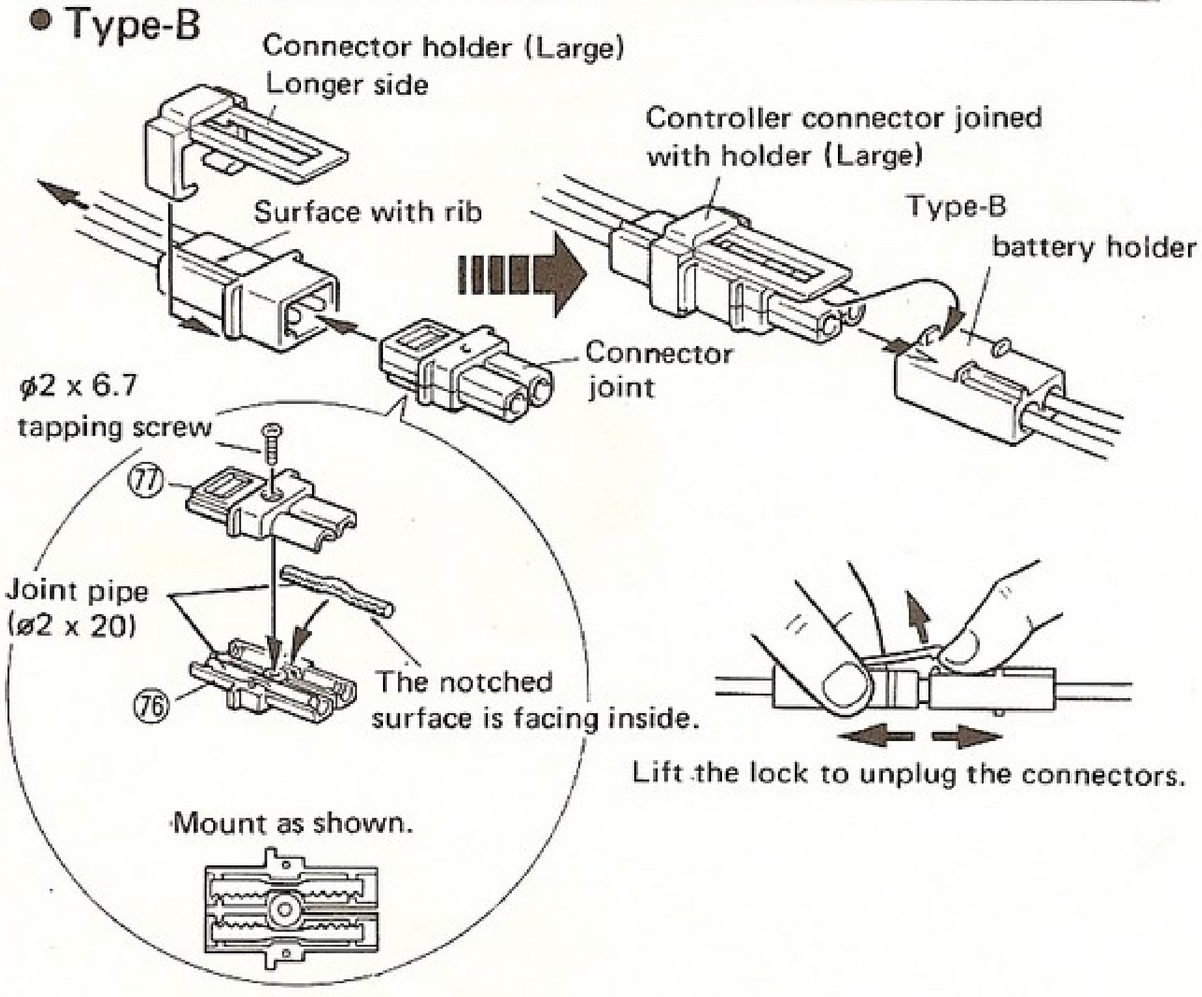
Before connecting the connector

※Two types of 7.2, or 8.4V battery connectors are available as shown below.
Confirm your connector type before connection.

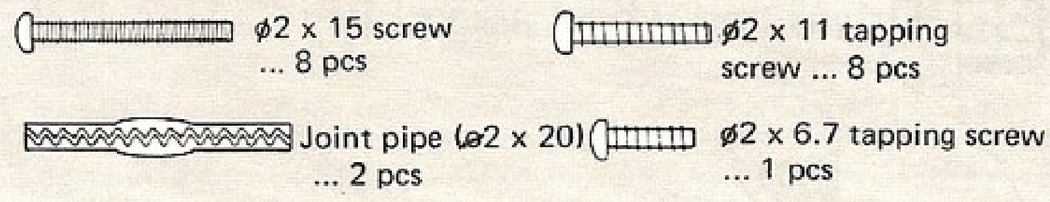
● Type—A



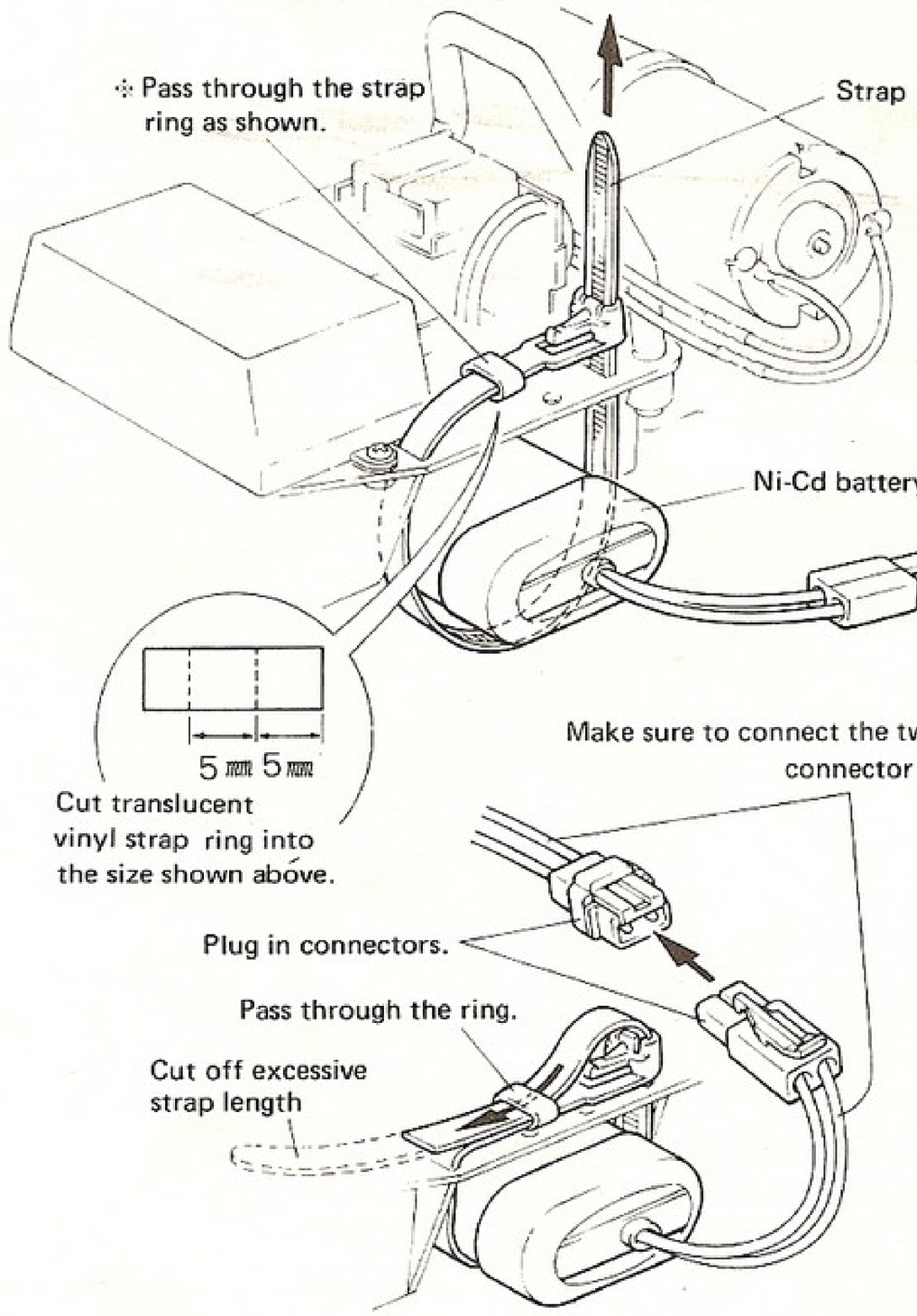
● Type-B



Metallic part sizes used in P. 11



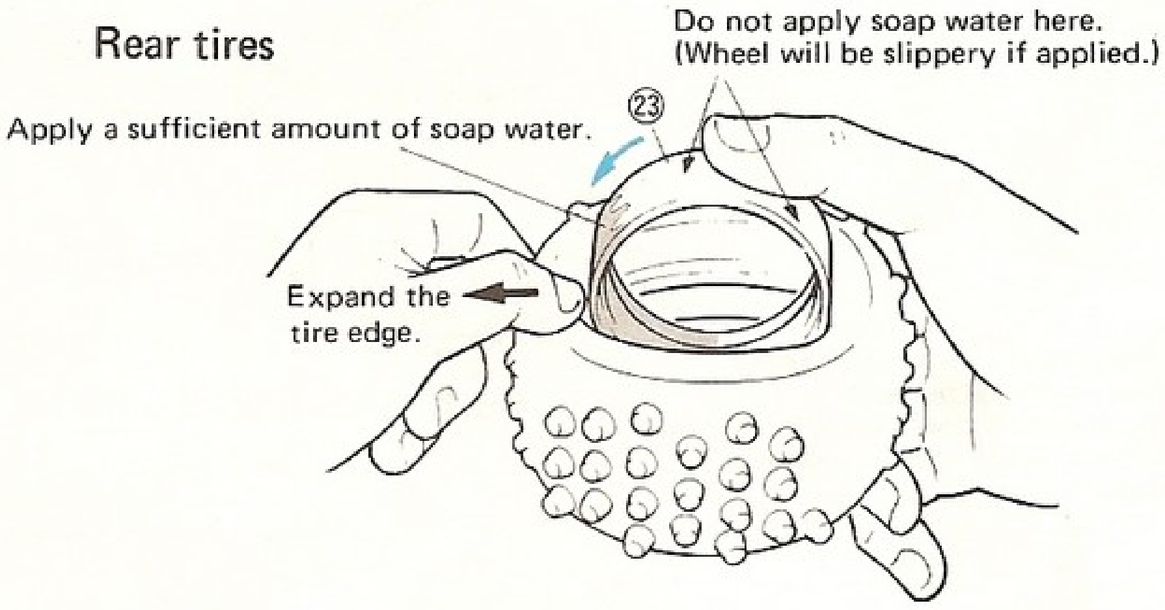
Ni-Cd battery connection



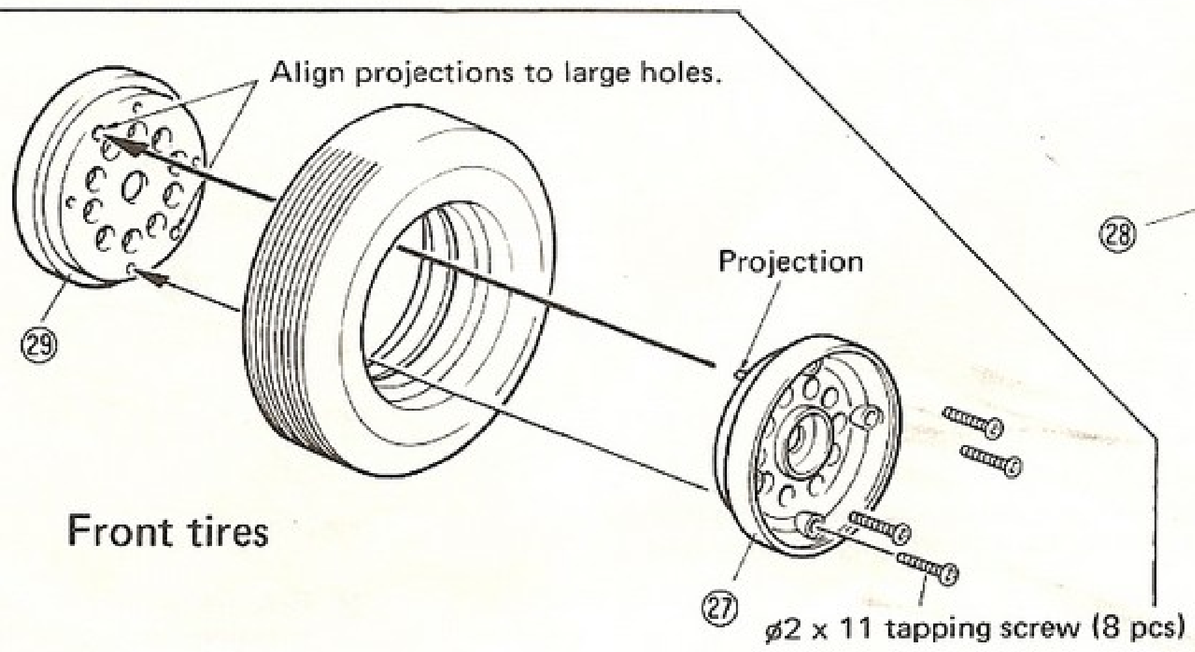
※ Set the switch arm at the neutral position when plugging the connectors. (see switch position on P.9.) Plugging connectors without switching OFF damage the controller, battery, or motor.

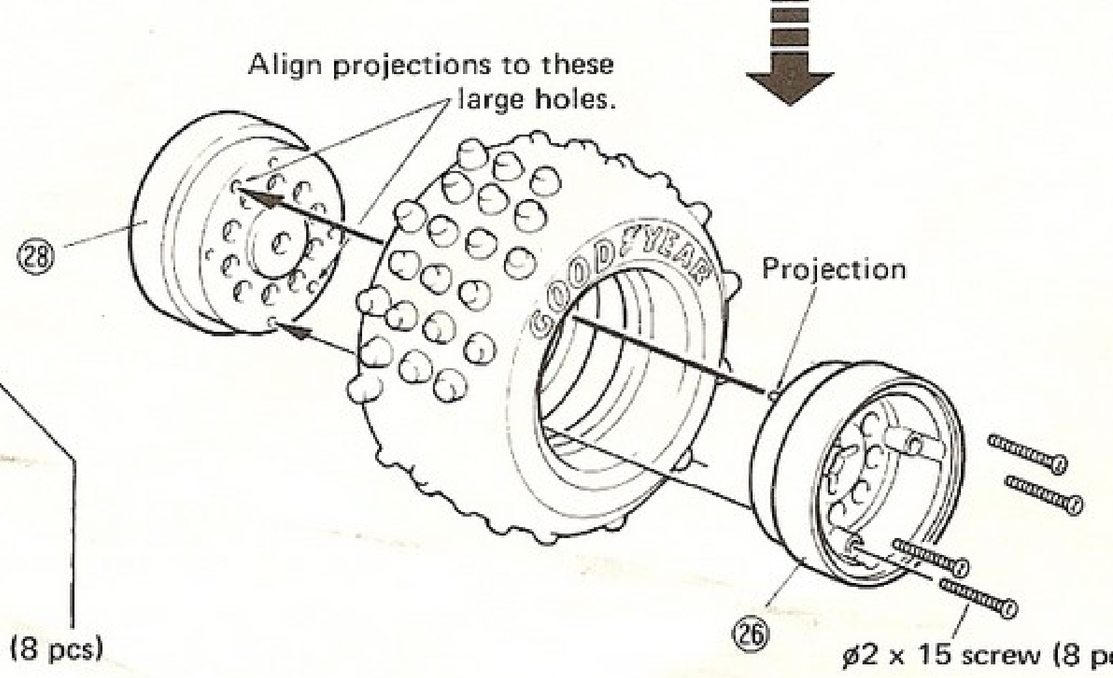
21 Tire and wheel assembly

Rear tires



Front tires





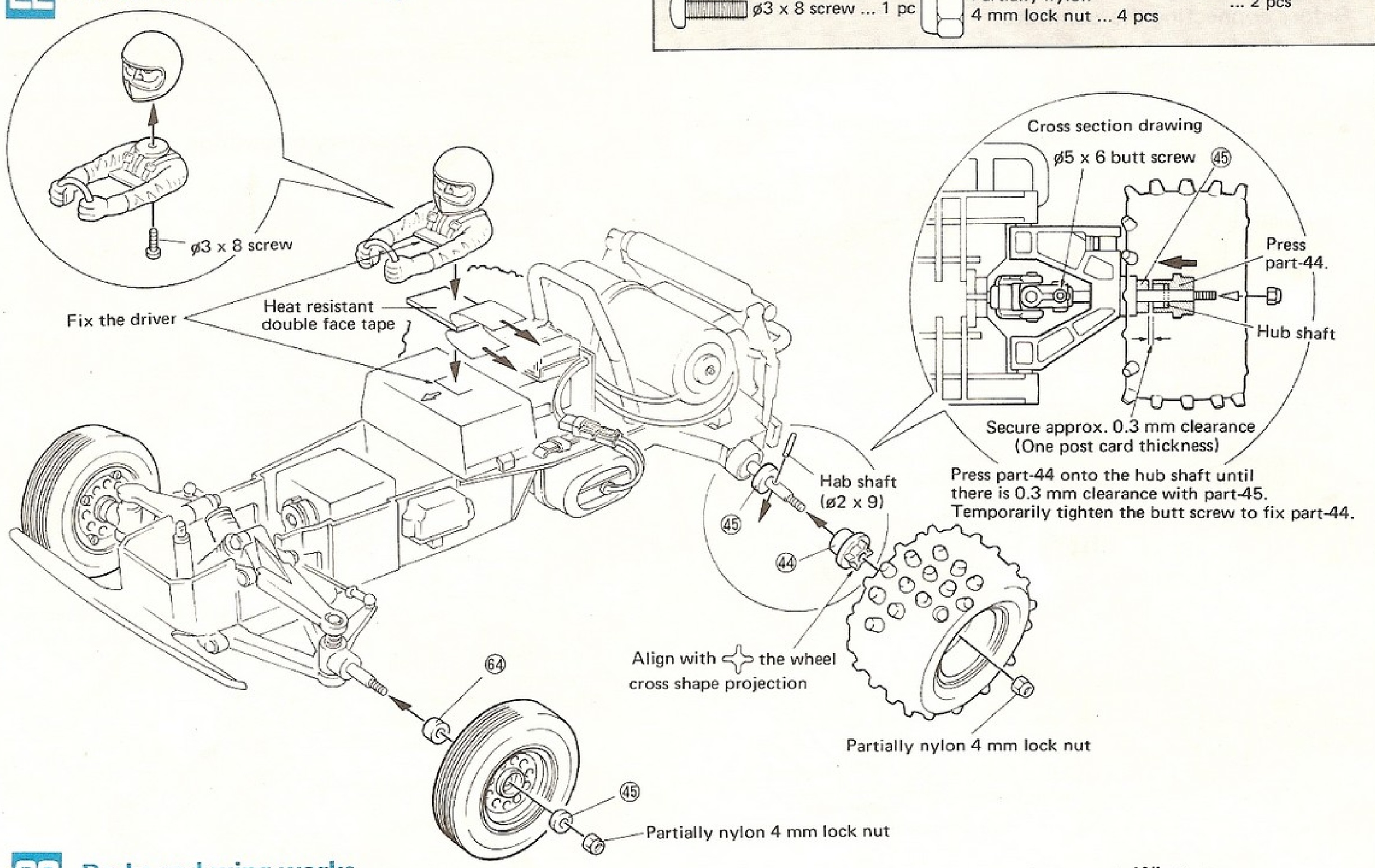
22 Driver and wheel assembly

Metallic part actual sizes used on P. 12

ø3 x 8 screw ... 1 pc

Partially nylon 4 mm lock nut ... 4 pcs

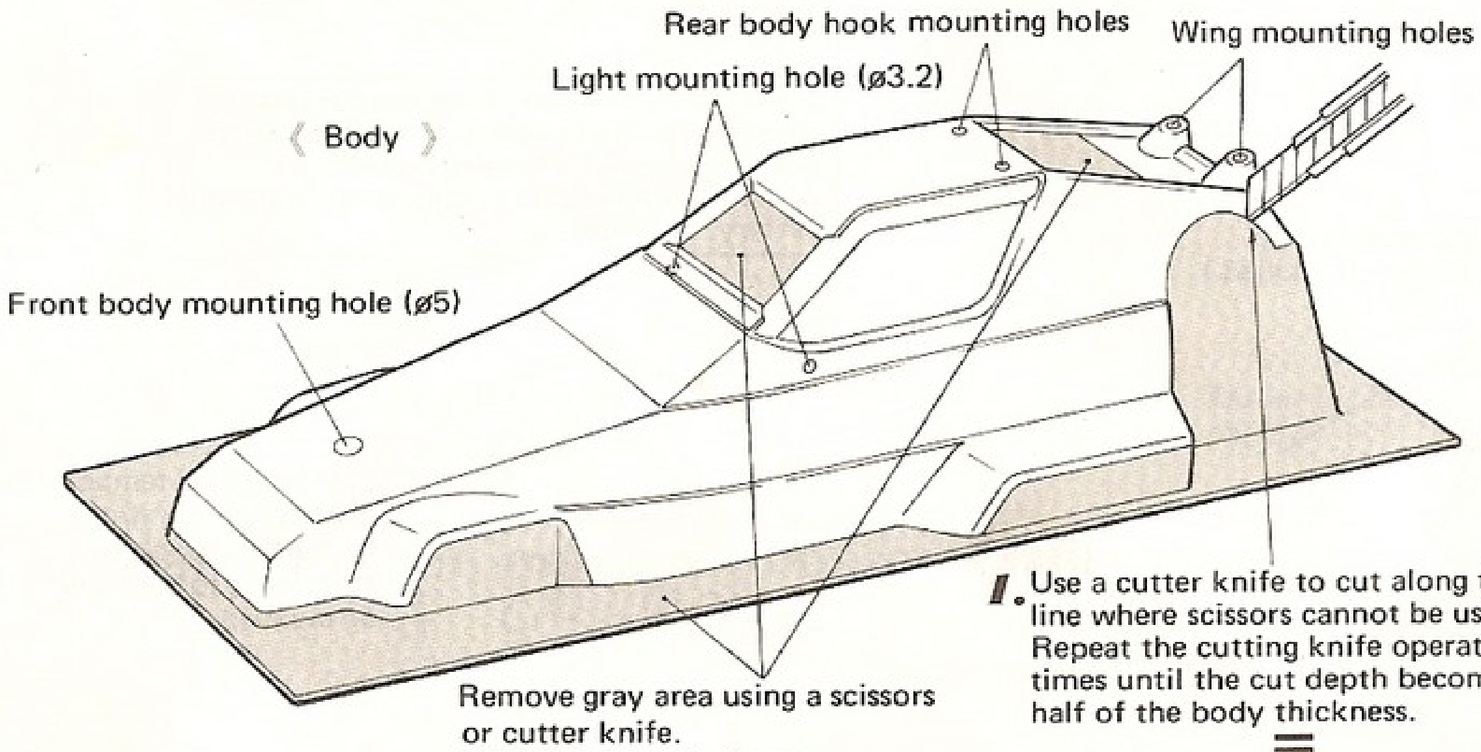
ø2 x 9 hub shaft ... 2 pcs



23 Body and wing works

※ Use a gimlet or drill to make required holes.

〈 Body 〉

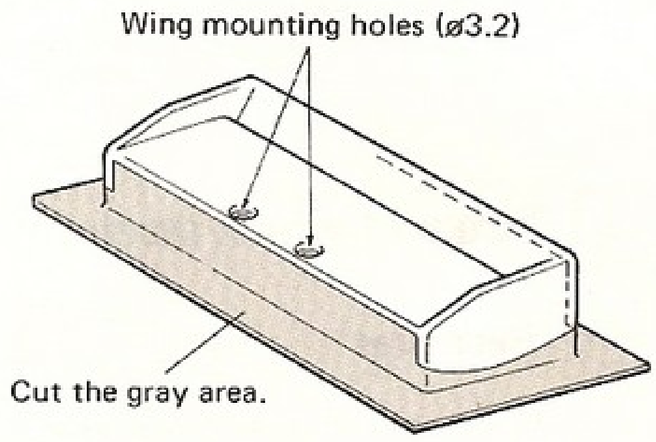


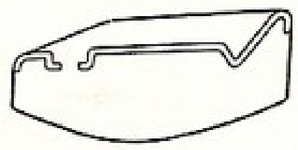
Remove gray area using a scissors or cutter knife.
Be care ful not to damage body surface.

1. Use a cutter knife to cut along the cutting line where scissors cannot be used.
Repeat the cutting knife operation 2 or 3 times times until the cut depth becomes about half of the body thickness.

2. Cut through a portion of the cutting line, and expand the cut pressing the gray area.

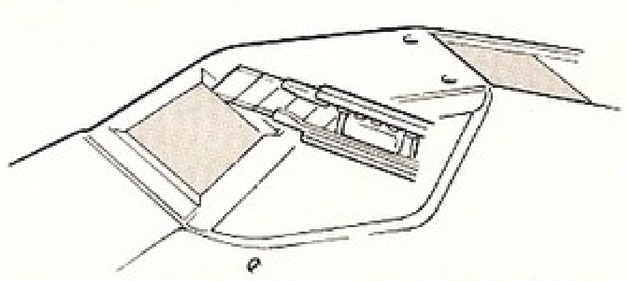
〈 Wing 〉



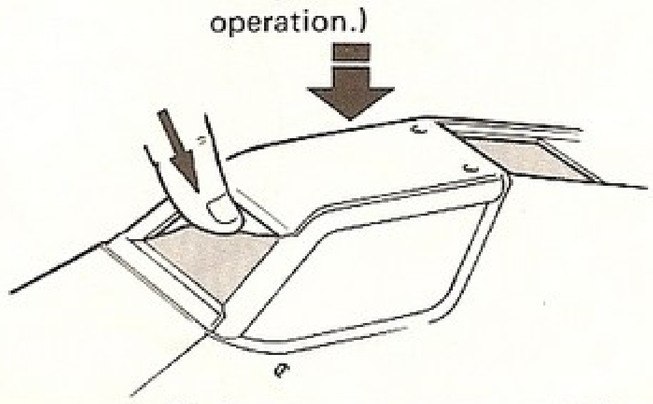


(Wing cross section)

Cutting from body interior



1. Cut the cutting line using a cutter knife.
(Cut gradually repeating the operation.)



2. Remove unnecessary areas by pressing with your fingers.

Metallic part actual sizes used on P. 13

ø3 x 6 screw ... 4 pcs

ø3 x 8 screw ... 2 pcs

ø2 x 9 tapping screw ... 2 pcs

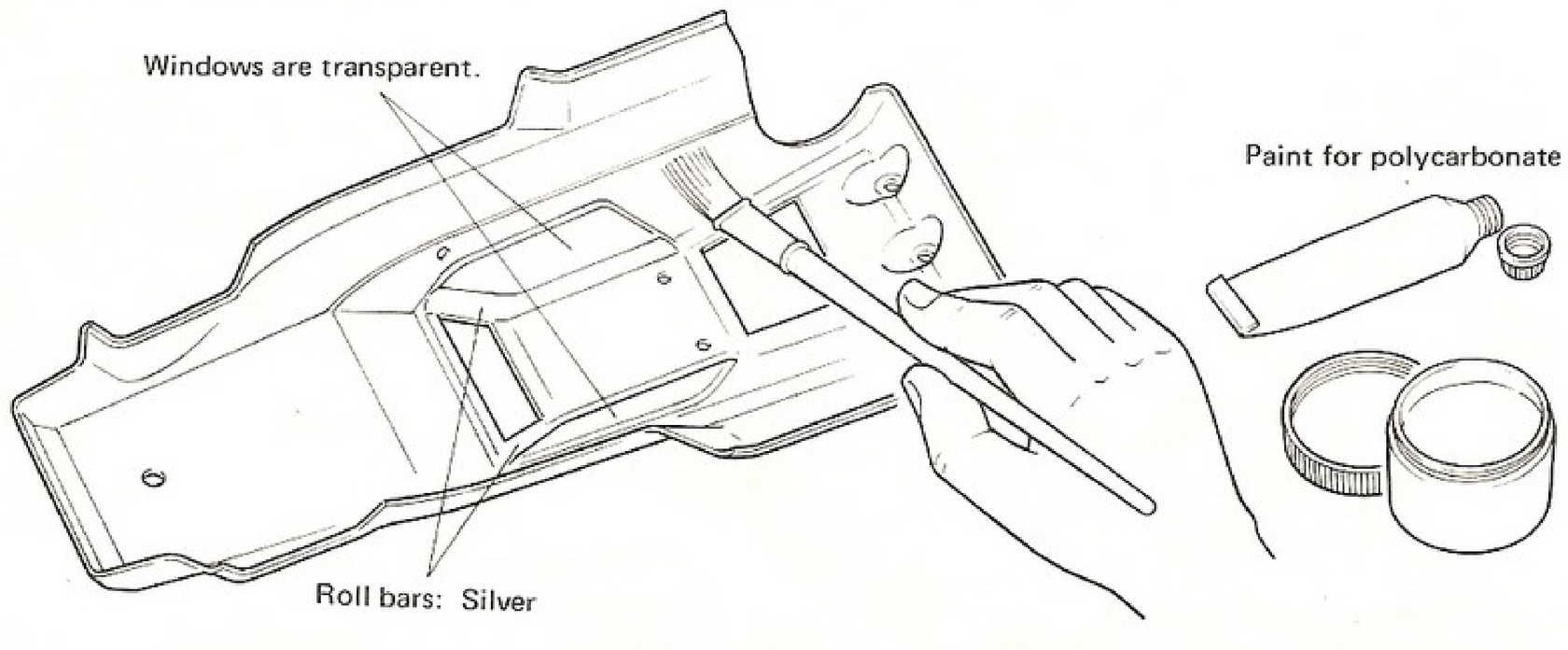
3 mm nut ... 6 pcs

3 mm washer ... 4 öcs

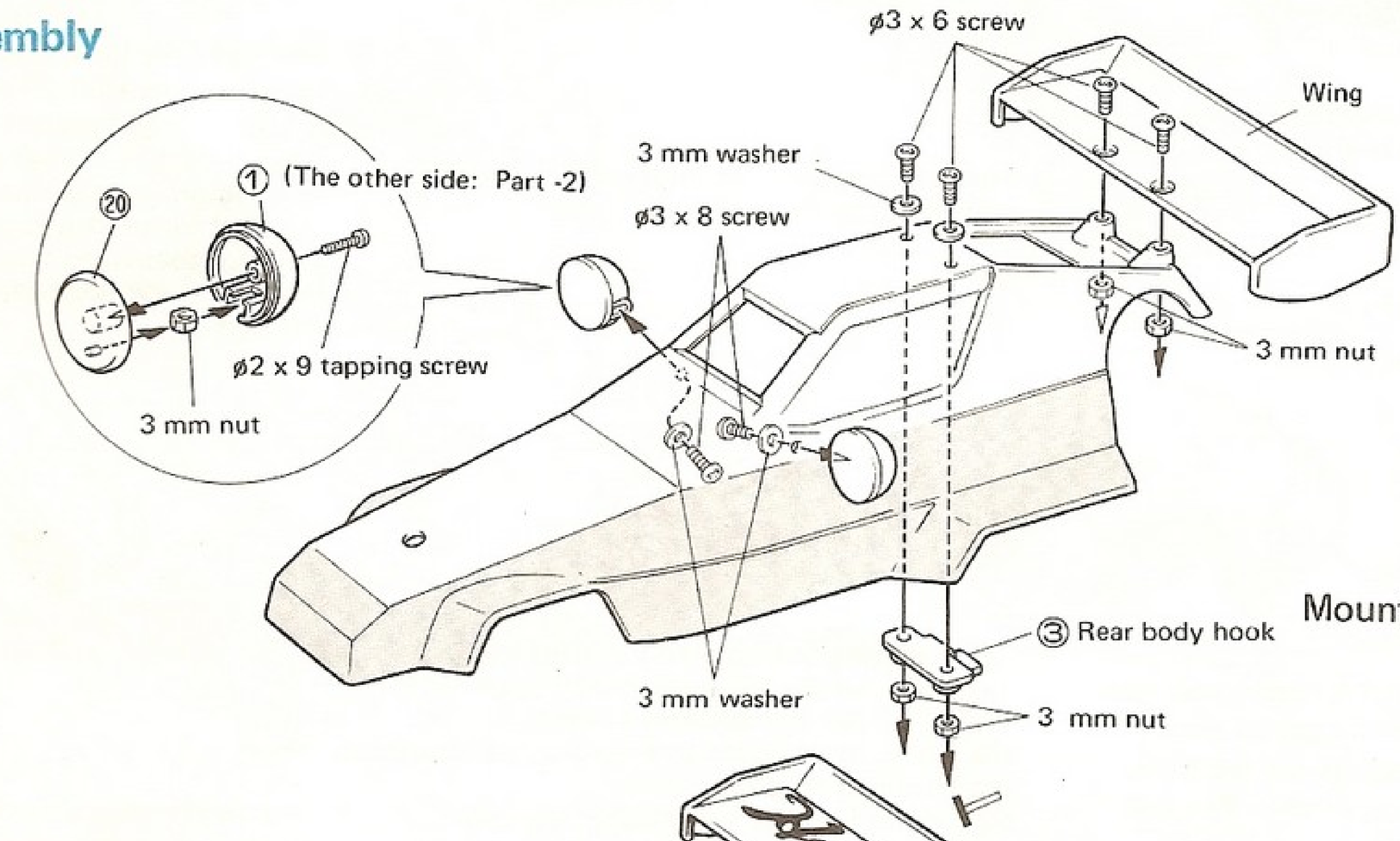
Snap pin ... 1 pc

24 Painting

- Clean dirt and oil with soapy water before painting.
- Coat the body inside with paint for polycarbonate or lacquer (other than plastic use type).
- Paint the body exterior following the the picture on the package as an example. example.
- Apply masking tape (scotch tape) on windows androll bars. (Remove masking tape after dry.)

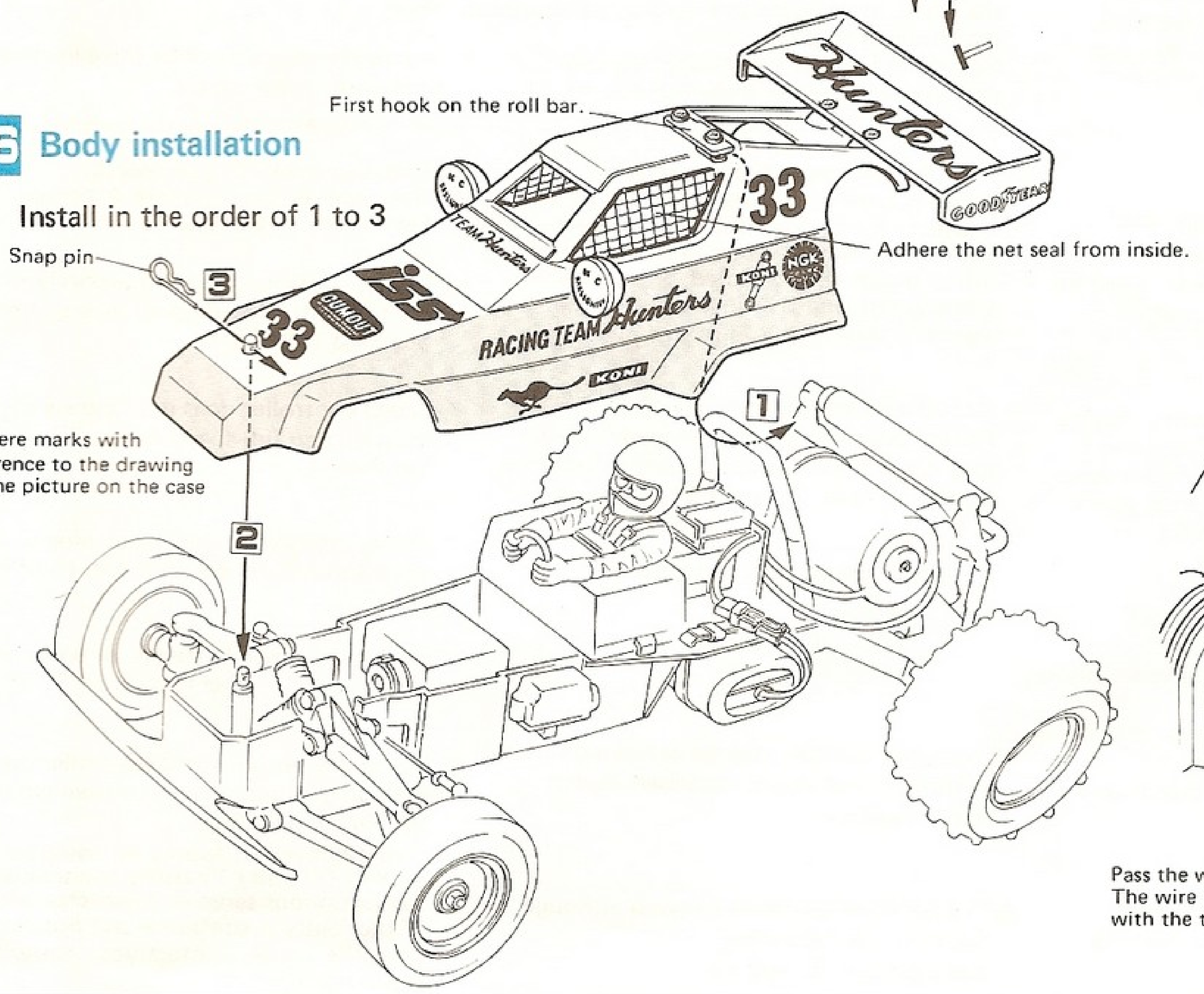


25 Body assembly

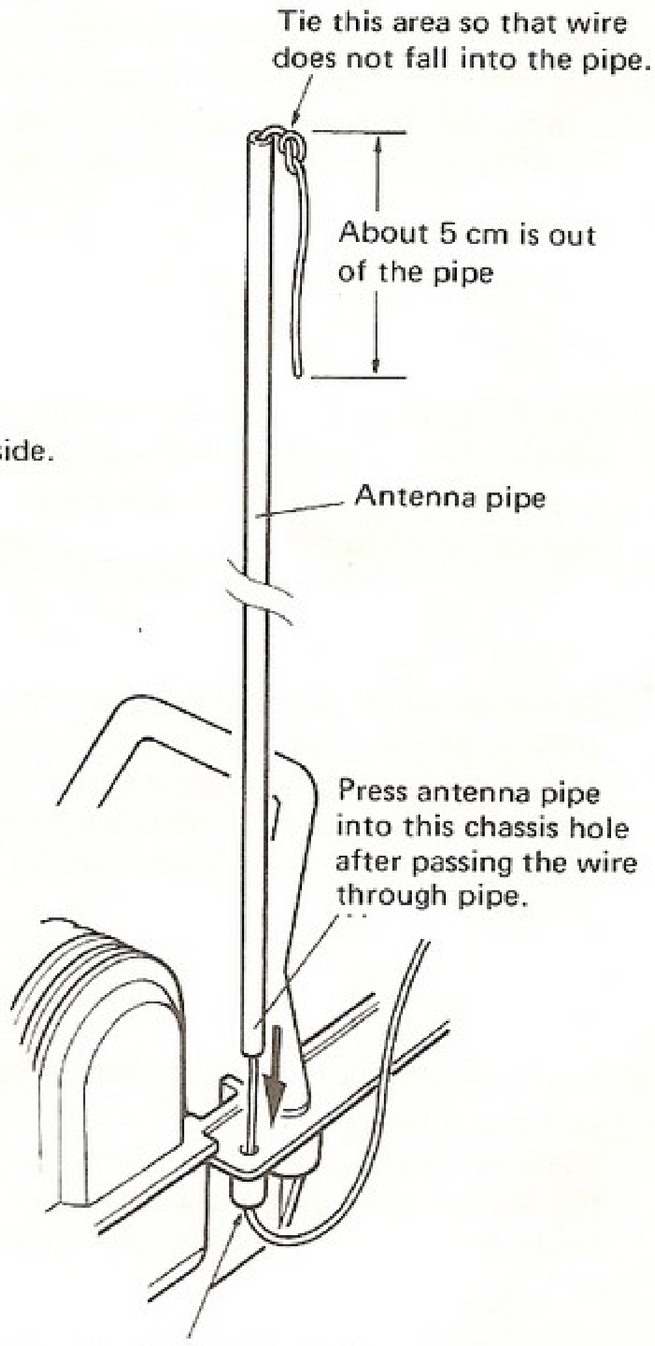


26 Body installation

Install in the order of 1 to 3

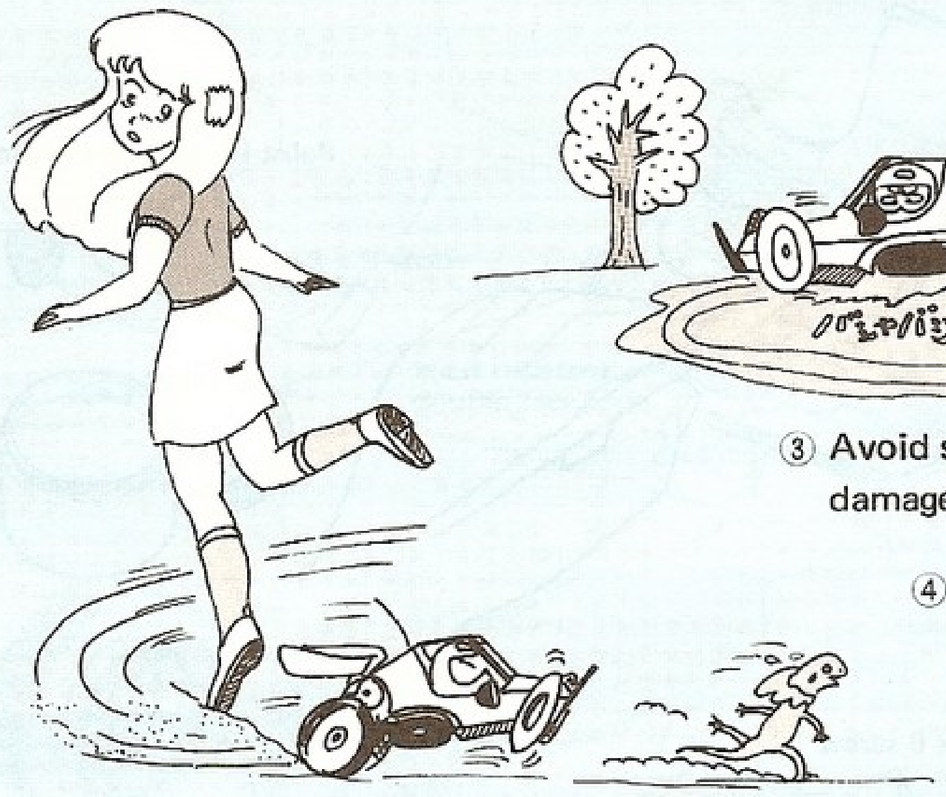


Mounting the antenna pipe



《HANDLING PRECAUTIONS》

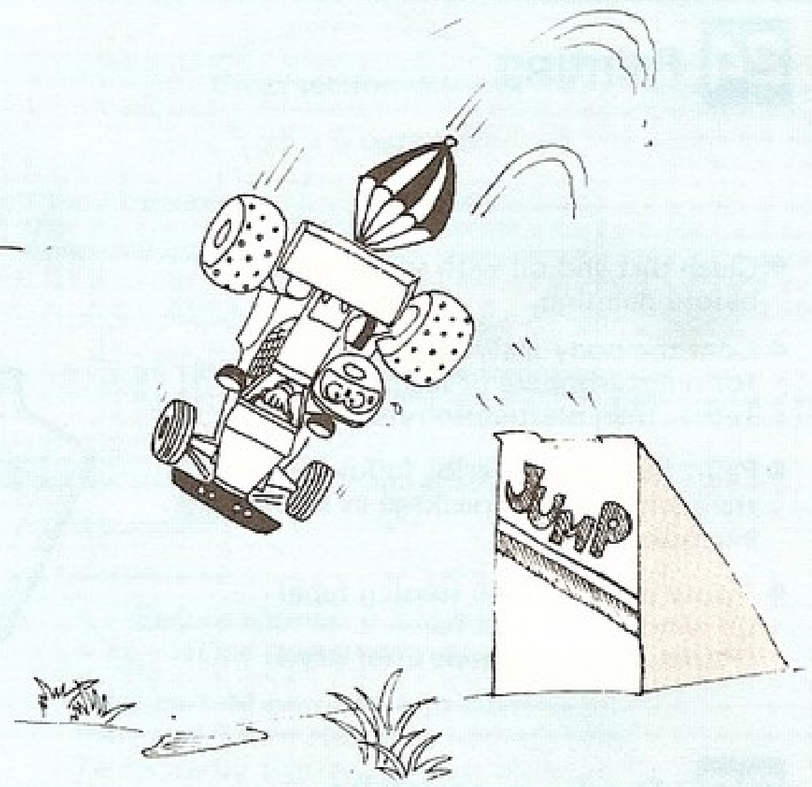
The HUNTER is designed as a high-speed off-road racing car. Be careful while handling and operating this model.



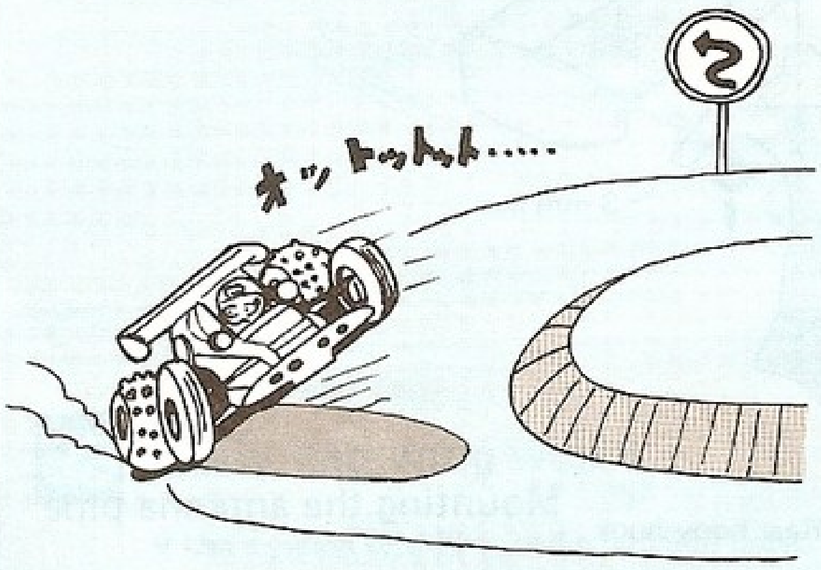
① Do not operate at a crowded location or where children are present.

③ Avoid sloppy areas as water may damage the model.

④ The controller and motor are hot after operation.
Be careful not to burn yourself.
(Do not touch carelessly)



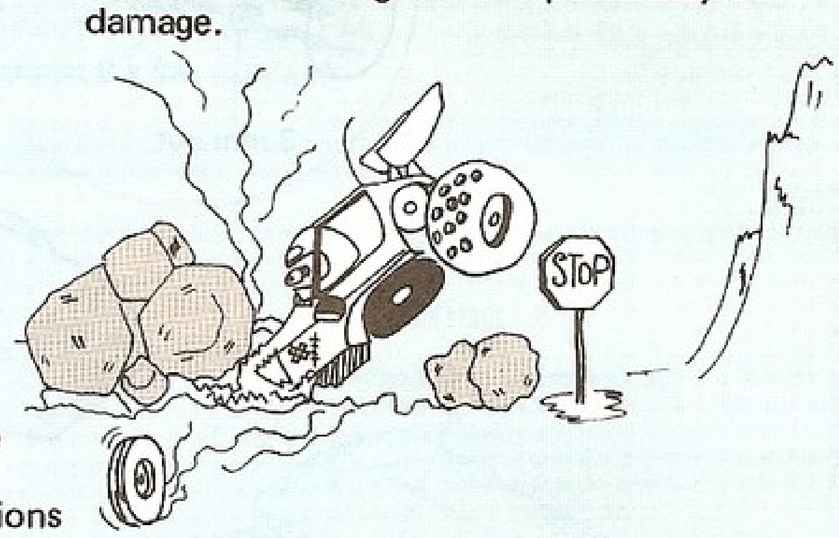
⑦ Damage may be anticipated if the car jumping, however when some races require it, use your judgement.
The HUNTER's ideal weight balance enables landing on its rear tires after taking a level straight forward jump at full-speed.
Avoid unbalanced front tire landings because these heighten the possibility of damage.



② The car may overturn if a high-speed turn is performed on a paved road or grassy lawn. Make sure to remember the basic principle for cornering, slow in and fast out

⑤ Avoid grassy areas as long grass may become wound on drive shafts.

⑥ When driving is impaired by deep sand, obstacles, or wound grass or string on drive shafts, do not try to drive further, but set the transmitter levers to their neutral positions (controller's stop position).
Be careful because the motor bears an excessive load under these conditions.



⑧ It is recommended not to drive in rough areas with many stones.

Checks before driving

① Check all screws and nuts for tightness. Pay special attention to screws and nuts securing the suspension, and butt screws attached to the universal joint.

② Check gears for correct engagement. Faulty pinion gear engagement due to loosened motor securing screws may cause idler gear damage. Check the pinion gear butt screw for correct tightness. (See Page 6.)

③ Are proportional controller batteries supplying sufficient power?
Receiver battery life is shorter than that of the transmitter, and early battery replacement is recommended. (See Page 2.)

④ Does the controller operate correctly?
Make sure that the controller is correctly adjusted. (See Page 9.)

⑤ Coes the steering operate correctly?
Perform a test run to see if the car runs straight. If not, turn the steering lever trim toward the reverse direction of the car s drift. If still not corrected, adjust the steering rod length as instructed in the assembly sheet. (See Fig.15 of page 8.)

⑥ Are all wire connections tight?
Faulty insulating vinyl or soldered areas may cause short circuit. Repair using vinyl insulating tape. (See Fig.17 of Page 10.)

⑦ Are drive batteries sufficiently charged?
(See Page 2.)

● Following troubles may be corrected through performance of above described checks before operation.

Troubleshooting

① The car does not move forward although the motor is operating.
See Page 5, 6, 9, and 12.

② Irregular motor or gear sound.
Rear wheels do not rotate smoothly.
See Page 5, 6, and 12.

③ The car does not respond properly to control or runs at random during driving.
See Page 2, 8, and 9.

④ Speed controller does not operate correctly including no full-speed drive.
See Page 9.

⑤ Faulty straight driving, or turning to the right and left differs. See Fig. 15 of Page 8.

⑥ Controller, drive batteries, or wires are over-heated. See Page 9.

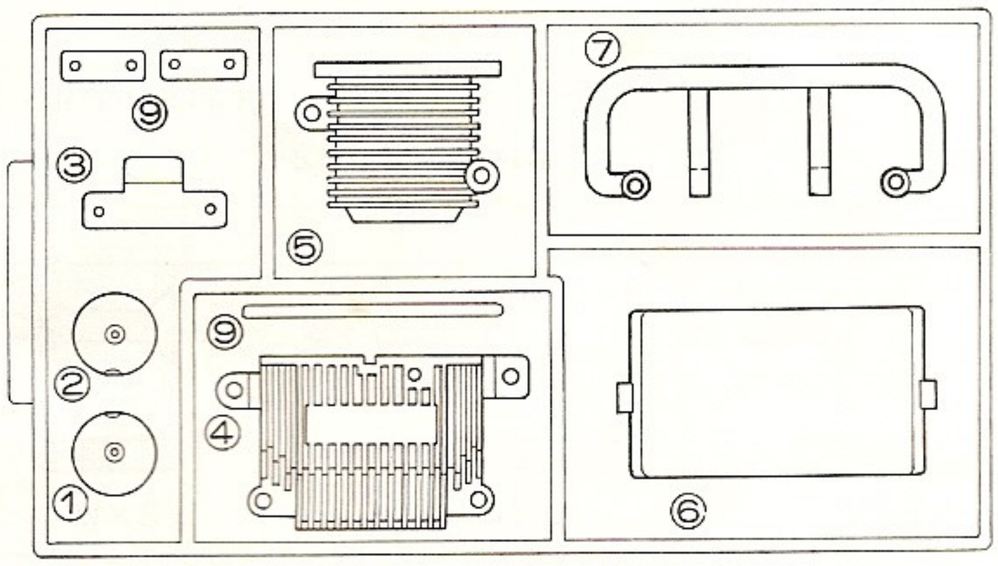
⑦ For faulty proportional controller operation including improper servo movement, check the following points:
Sufficient power supply by batteries, correct (+) and (-) battery connections, and discontinuous servo or connector wires.
If the faulty operation is still not corrected after the above, contact your dealer for repair.

PART LIST

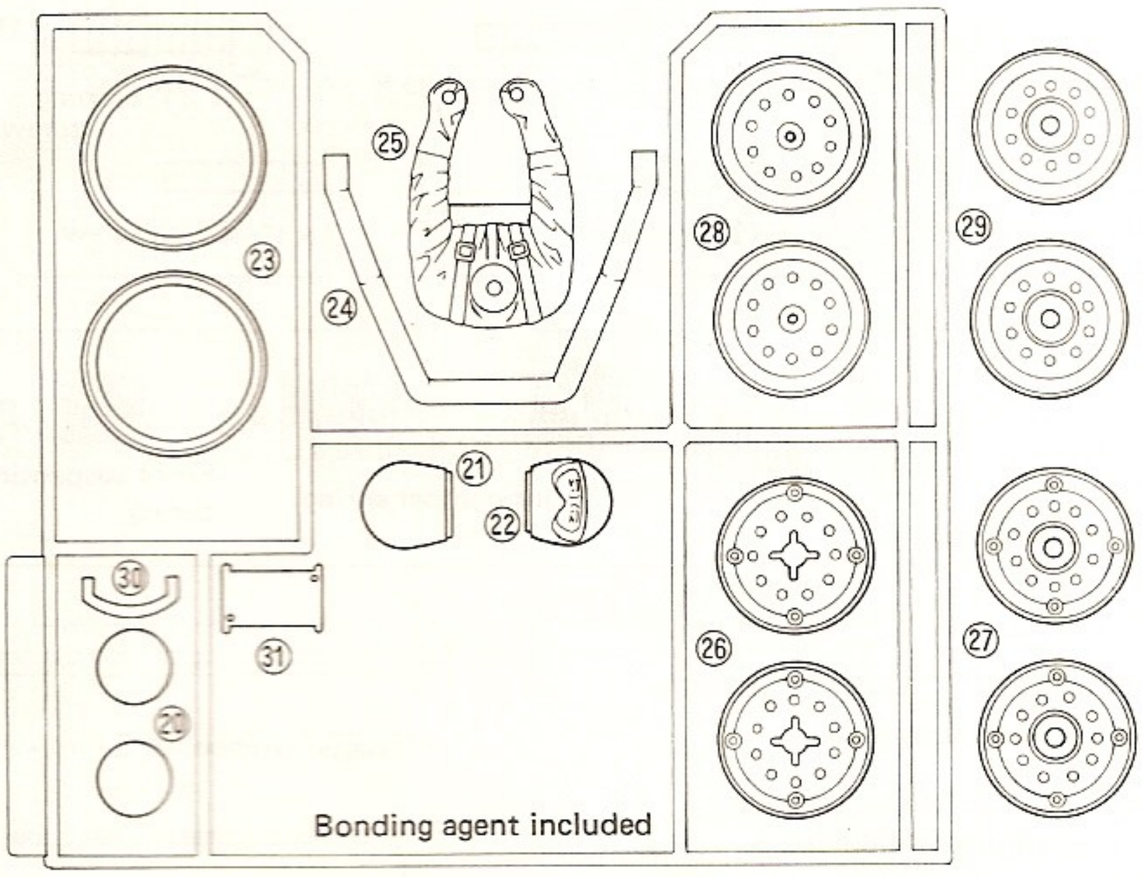
Body x 1

Chassis x 1

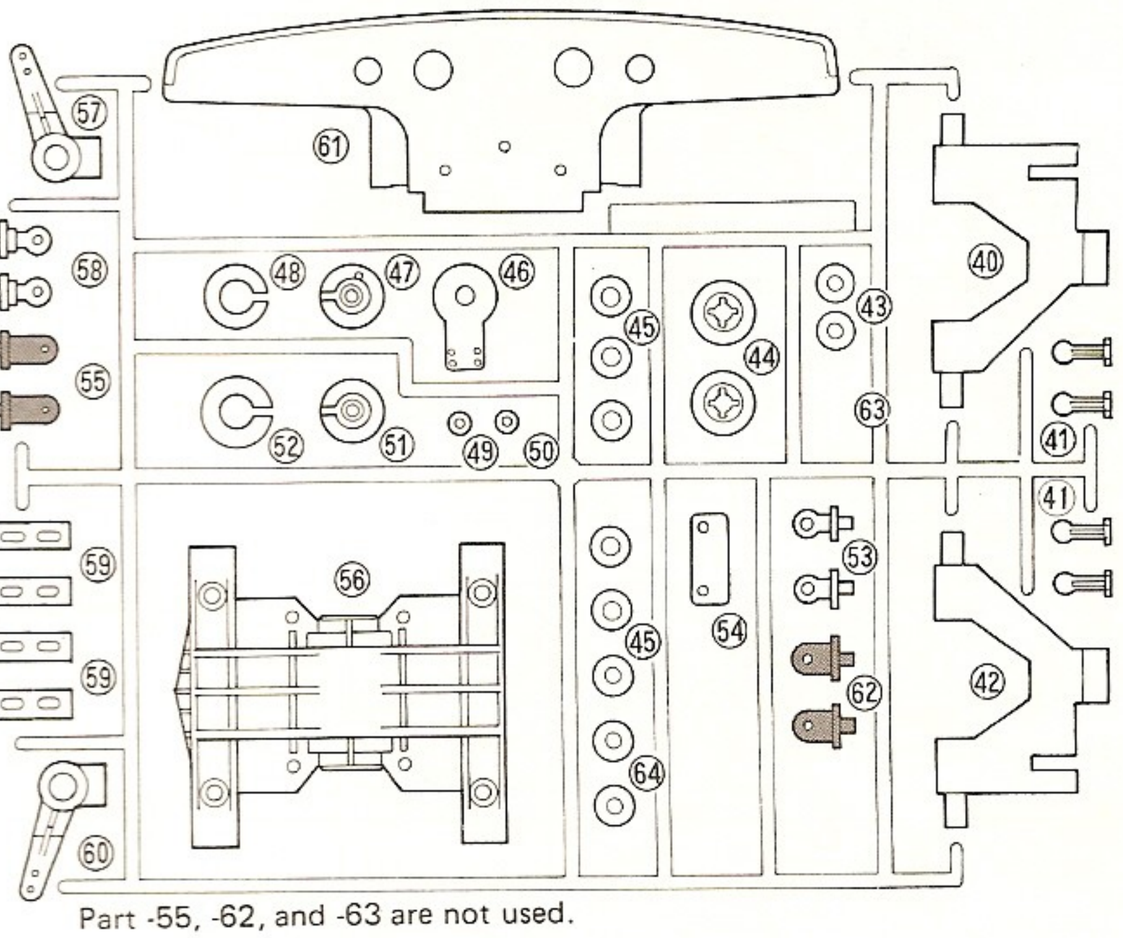
ABS parts ①×1



ABS parts ②×1

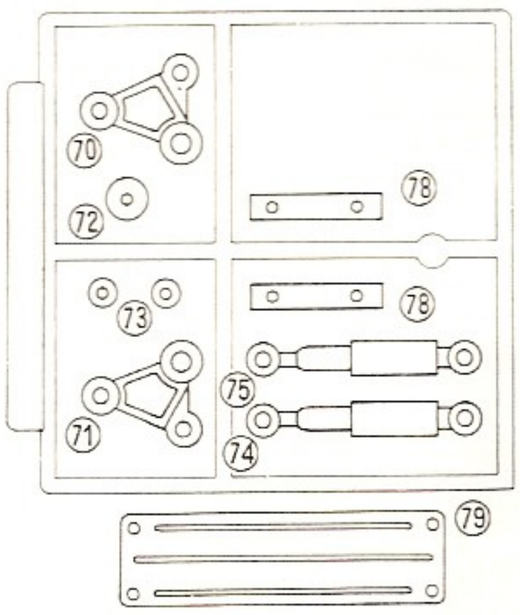


Reinforced nylon parts (A) x 1



Part -55, -62, and -63 are not used.

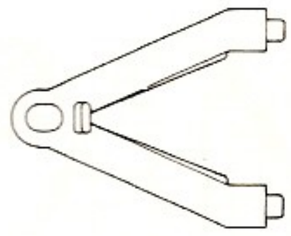
Reinforced nylon parts (B) x 1



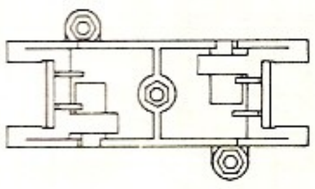
Front suspension set

Upper arm x 2

Lower arm x 2



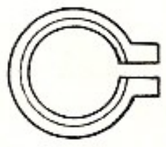
Front suspension mount x 1



Damper set

Damper oil ×1

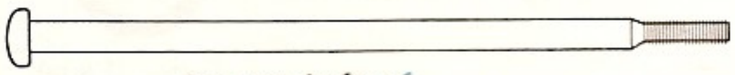
Damper spring stopper



×1

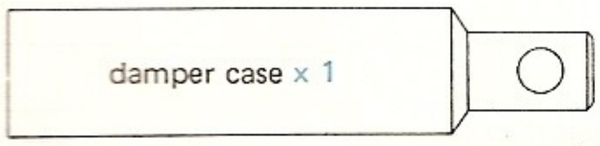
Damper end x 1

damper shaft x 1

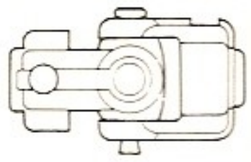


Stiooer x 1

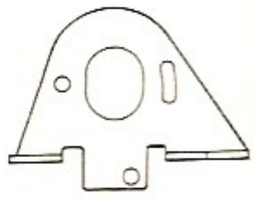
damper case x 1



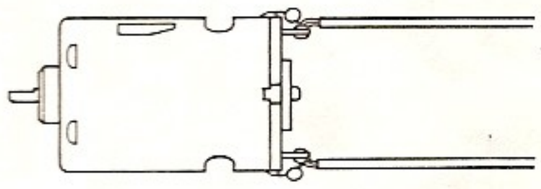
Universal joint x 2



Motor mount x 1

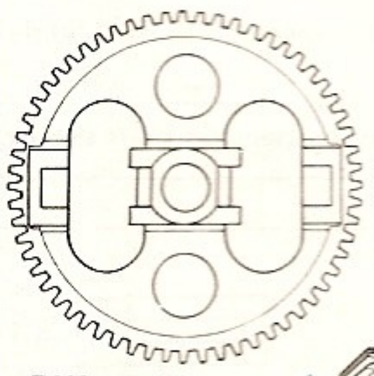


MABUCHI RS-540 motor x 1



With sponge cushion

Gear set



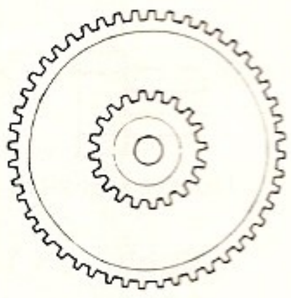
Differential geat x 1

×2

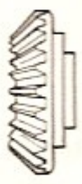
Bevel bushing

Bevel gear (A)

×2



Idler gear x 1

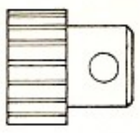


Bevel gear (B)

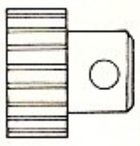
×2

Grease Included

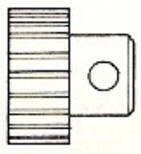
Pinion gear set



18-tooth high torque pinion

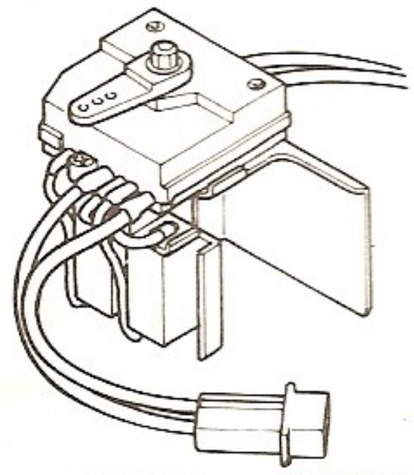


20-tooth standard ponion



22-tooth high -speed pinion

Controller



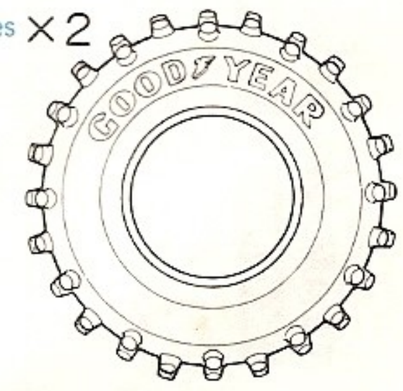
Heat resistant double face tape x 1

Antenna pipe x 1

Strap x 2

Front tires ×2

Rear tires ×2

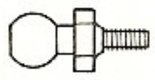


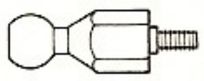
PART LIST

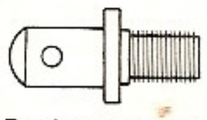
● Some types of screws and nuts are included excessively for spare part use.

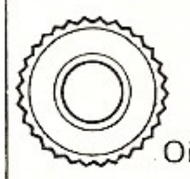
("ø3" in figures represents "3 mm diameter")

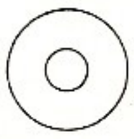
Metallic part set


Free ball (A) x 2


Free ball (B) x 1


Body mount x 1

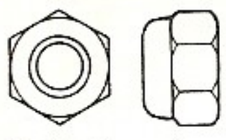

Oilless metal x 4


Damper piston x 1

Nut set

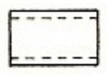

2 mm nut x 3

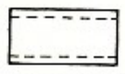

3 mm nut x 29


Partially nylon 4 mm lock nut x 4

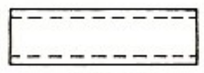
Spacer set


×4
ø 3×4.5


×2
ø 3×6.5


×2
ø 3×8


×4
ø 3×10

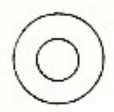

×2
ø 3×14

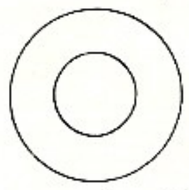
★ Spare parts may be purchased separately.

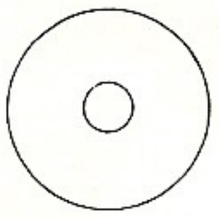
Washer set


3 mm spring washer ×16

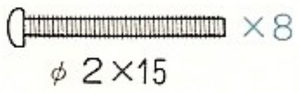

4 mm spring washer ×3


3 mm washer ×32


6 mm washer ×4


Bumper metal ×2

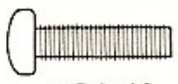
Screw set


×8
ø 2×15

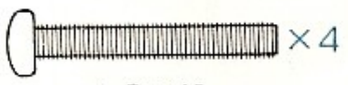

×6
ø 3×6

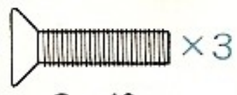

×8
ø 3×8


×2
ø 3×8

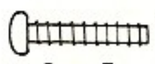

×6
ø 3×10


×2
ø 3×14

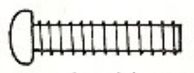

×4
ø 3×18

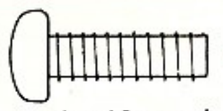

×3
ø 3×12

Tapping screw set

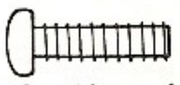

×3
ø 2×9 tapping screw

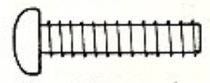

×8
ø 2×11 tapping screw


×1
ø 2.6×11 tapping screw


×17
ø 4×12 tapping screw


×4
ø 3×8 tapping screw

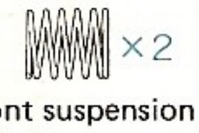

×5
ø 3×10 tapping screw


×6
ø 3×12 tapping screw

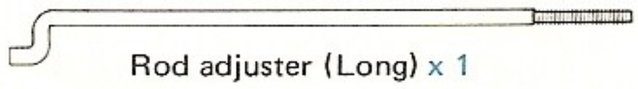
Spring set

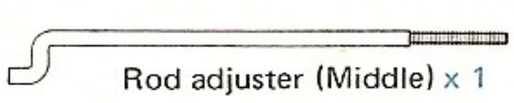

Oil damper spring x 1

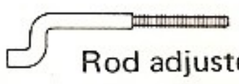

×2
Front damper spring


×2
Front suspension spring

Set-A


Rod adjuster (Long) x 1


Rod adjuster (Middle) x 1


Rod adjuster (Short) x 1

Hexagon wrench for 5 mm x 1

Hexagon wrench for 3 mm x 1

Set-B

×1
Snap pin

×4
ø5 x 6 butt screw

×4
Spring pin (ø2 x 16)

×1
ø3 x 3 butt screw

Stop ring x 1

×2
O-ring (Small)

×1
O-ring (Large)

Shaft set

×2
ø 2×9

×1
Differential center shaft (2.5×12)

×2
Front suspension shaft (Long)

×2
ø 2×10.5 bushing pin

×1
Idler shaft ø 3×43.5

×2
Front suspension shaft (Middle)

×2
ø 4×11.5

×2
Front suspension shaft (Short)

Main shaft set

Front shaft x 2

Differential shaft x 2

Rear shaft x 2

Connector set

⑦⑦
Intermediate connector

×1
Holder (Large)

⑦⑥

×1
Holder (Small)

×2
Joint pipe ø 2×20

×1
ø2 x 6.7 tapping screw