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.

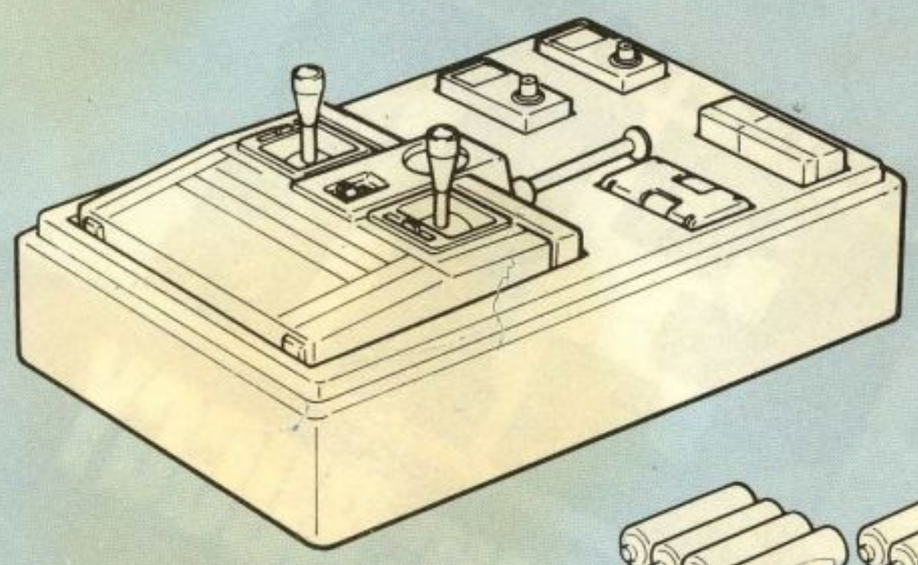
RACING BUGGY

TOKYO MARUI PLASTIC MODEL CO., LTD.

HIGH QUALITY MECHANISM FOR OFF-ROAD RACING

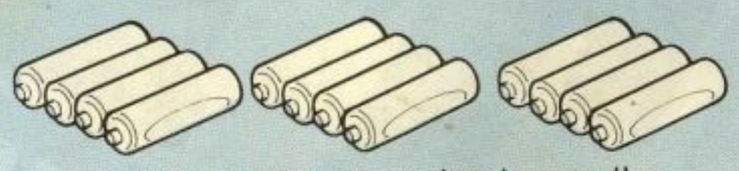
Parts not included in the kit

- 2-channel proportional controller



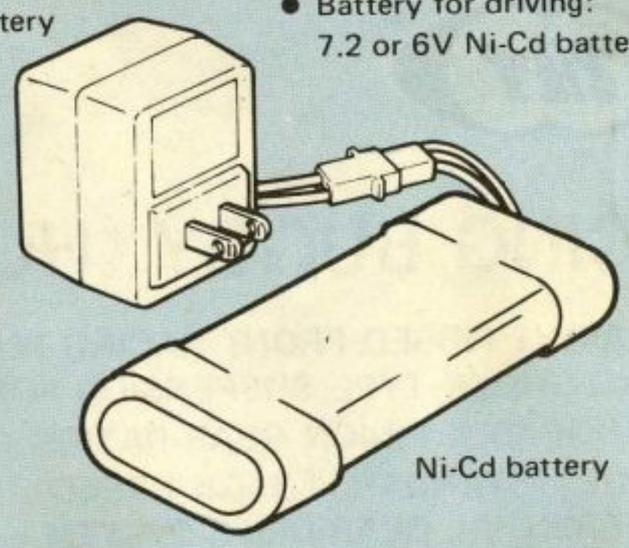
Majority of general type 2-channel unit is acceptable. Please be careful as some types are not suitable for this model.

The following are recommended:
"ATTACK" of Futaba,
"DASH" of Sanwa,
"BEAT-2" of JR,
or"FX-II"of KO



- Batteries for the proportional controller

Special battery charger



- Battery for driving: 7.2 or 6V Ni-Cd battery

Ni-Cd battery

Use 6 V Ni-Cd battery or 7.2 V racing Ni-Cd battery. These batteries may be recharged up to 300 times using a special charger connecting with household 100 V current or a quick charger connecting with a 12 V power supply such as a car cigarette lighter.

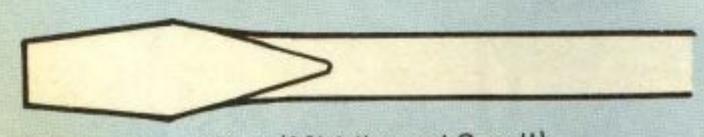
Required tools Actual sizes

Phillips type screwdriver (Large)

Use for ϕ3, ϕ3 tapping, o4 tapping screws.

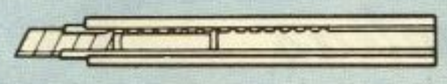
Phillips type screwdriver (Middle)

Use for damper shaft, ϕ2.6 tapping screw, and ϕ2 screw.

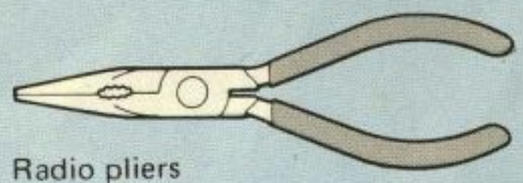


Plain screwdriver (Middle and Small)

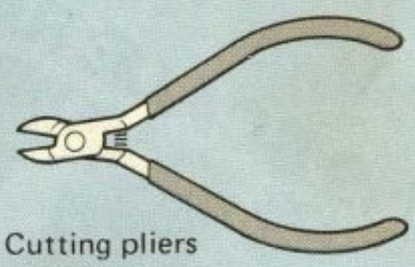
This kit includes many tapping screws. Use the proper screwdriver for tapping screws. Use adequate torque to tighten screws. Release turning pressure on the screwdriver when the screw becomes tight and does not rotate any more. Be careful not to damage screws by applying too much torque.



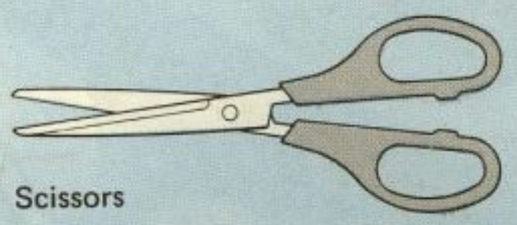
Cutter knife



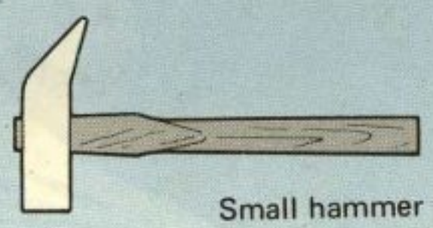
Radio pliers



Cutting pliers



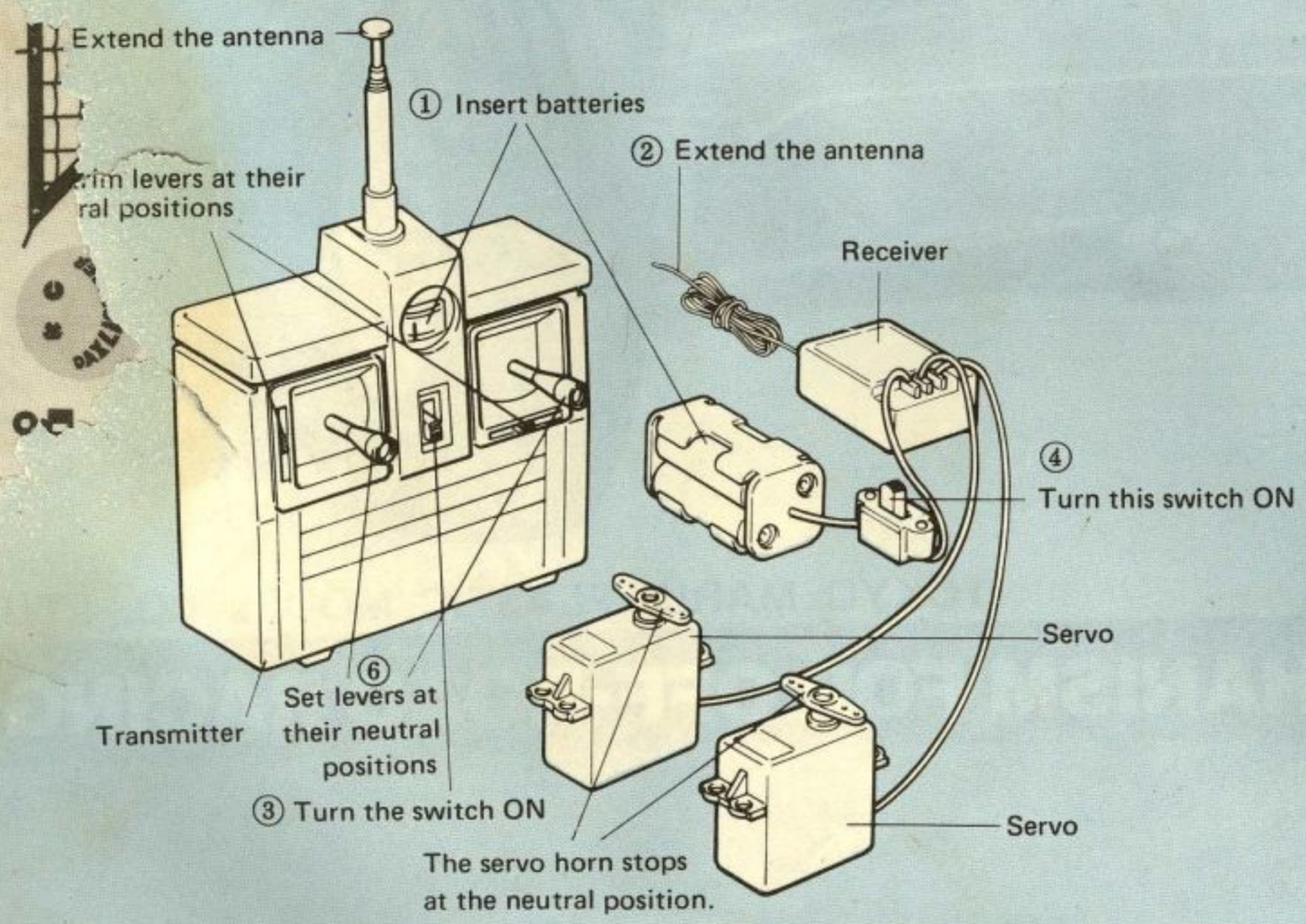
Scissors



Small hammer

Insulation vinyl tape and scotch tape

Radio control unit



Use a 2-channel digital proportional radio controller for this model car. Be careful because certain types of of controllers, such as the 3 8-channel proportional Controller's receiver and servo are not suitable.

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

(1) Insert batteries in the transmitter and receiver.

(2) Extend antenna of transmitter and receiver.

(3) Turn ON the transmitter switch. (Always turn ON the transmitter switch.)

(4) Turn ON the receiver switch.

(5) Set trim levers at their neutral positions.

(6) Set levers at their neutral positions. (The servo horn stops at the neutral positiona.)

(7) Check servoes for correct operations by moving levers.

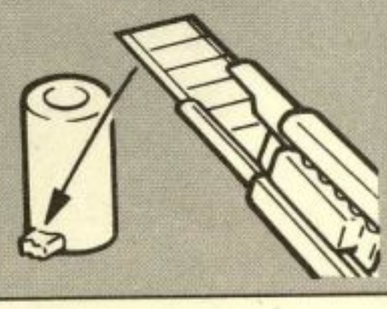
(8) Turn OFF the receiver and then transmitter switches in this order after test completion.

See the radio control equipment instruction sheet for detaiJs.

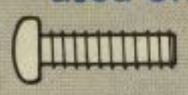
★Read the following instructions carefully before assembly

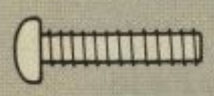
- It is recommended to review the assembly instruction sheet before beginning assembly.
- グリス Mark indicates the portions where grease included in the kit must be applied.
  Use a small hammer wherever the ⊢ mark is shown in the figure.
- The actual sizes of all screws, washers, etc. are shown to simplify the assembly andensure that correct parts are used.
- 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

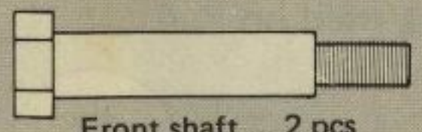

3 mm washer ... 8 pcs

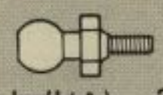

3 mm spring washer ... 6 pcs

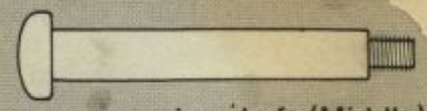

ø3 x 4.5 spacer ... 4 pcs


Oilless metal ... 2 pcs

Front suspension shaft (Short) ... 2pcs


Front shaft ... 2 pcs


Free ball (A) ... 2 pcs

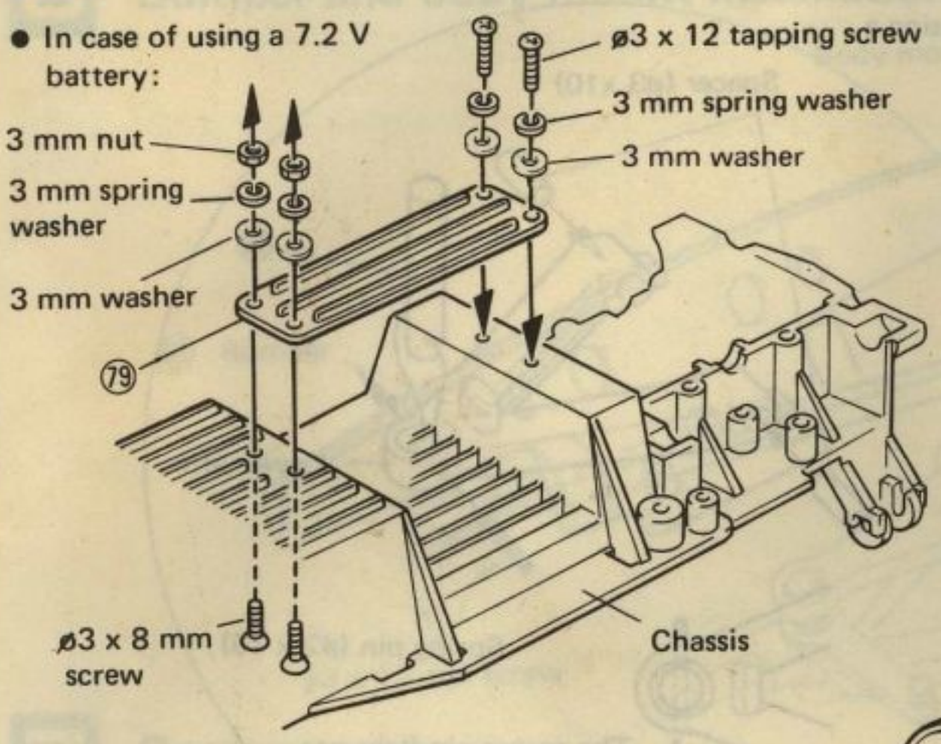

Front suspension shaft (Middle) ... 2 pcs


Front damper spring ... 2 pcs

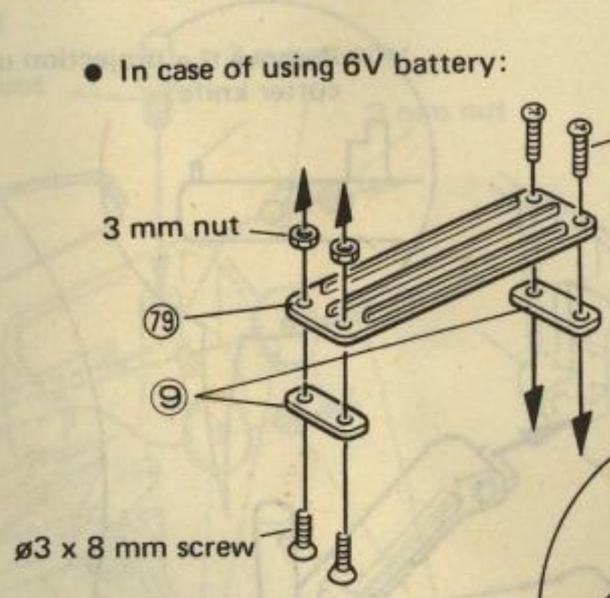
1 Components assembly

Mounting the under guard

- In case of using a 7.2 V battery:

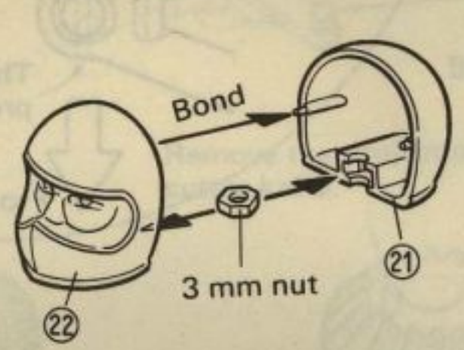


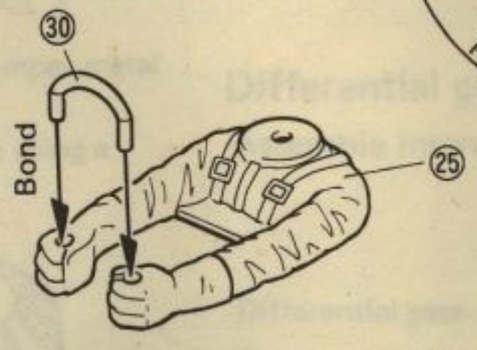
- In case of using 6V battery:



Driving in the metal

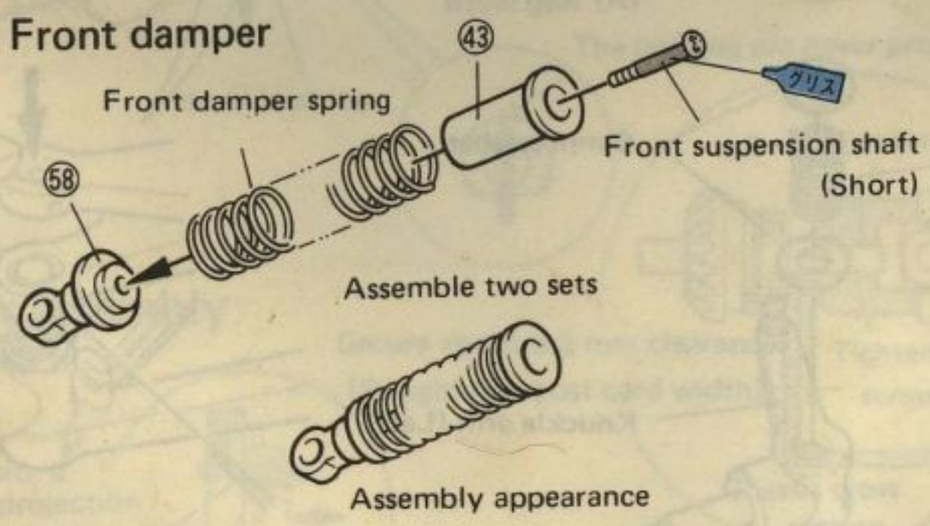
Bonding driver's parts

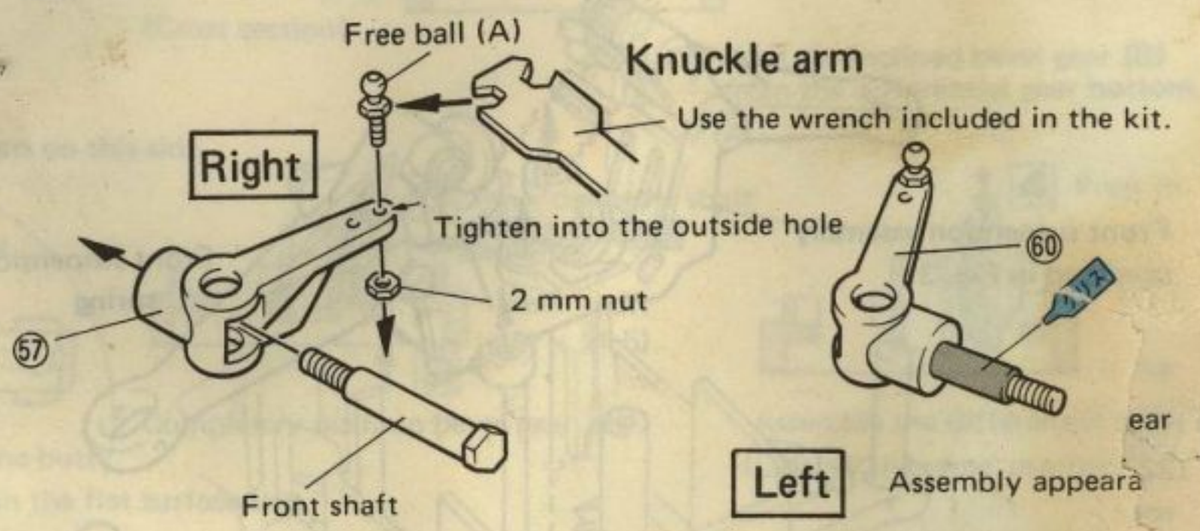




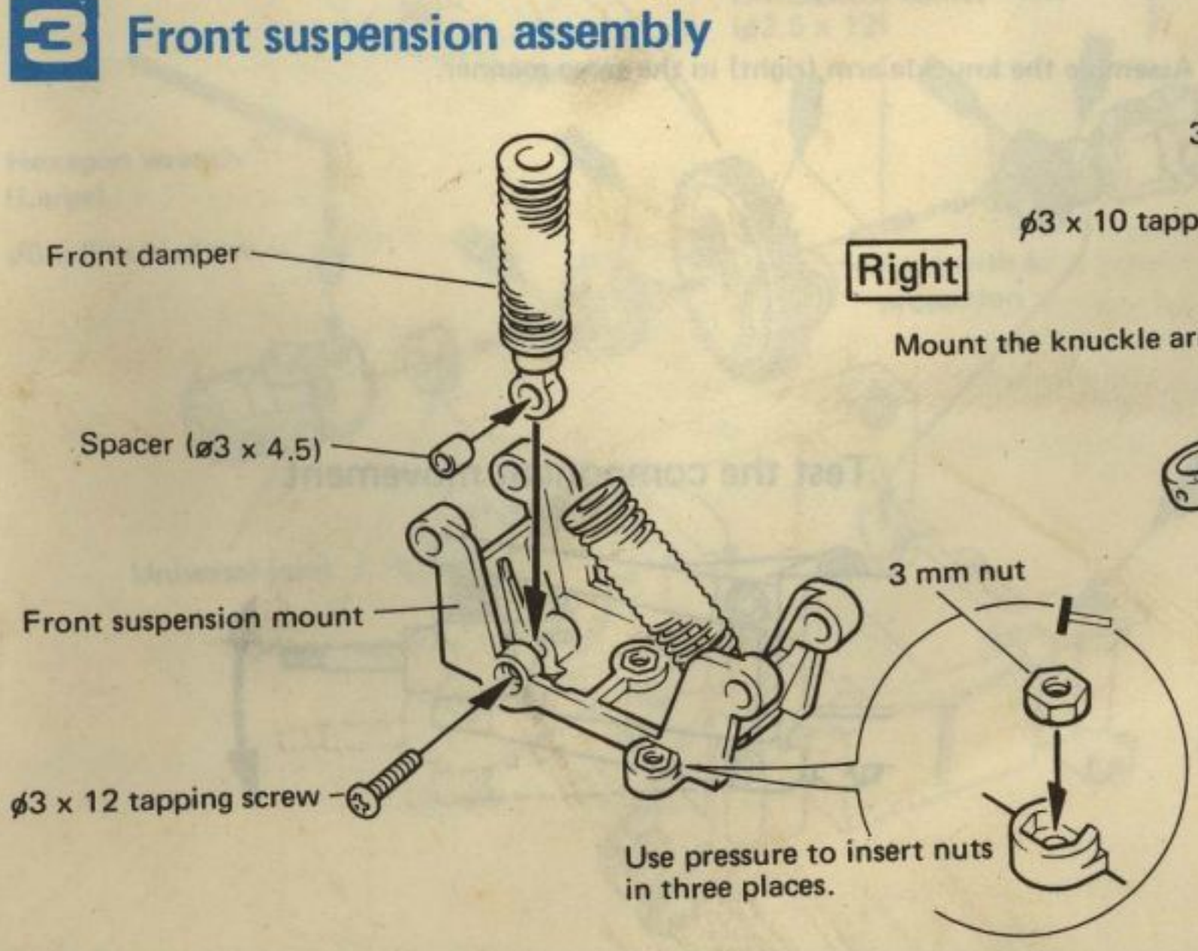
2 Front damper and knuckle arm assembly

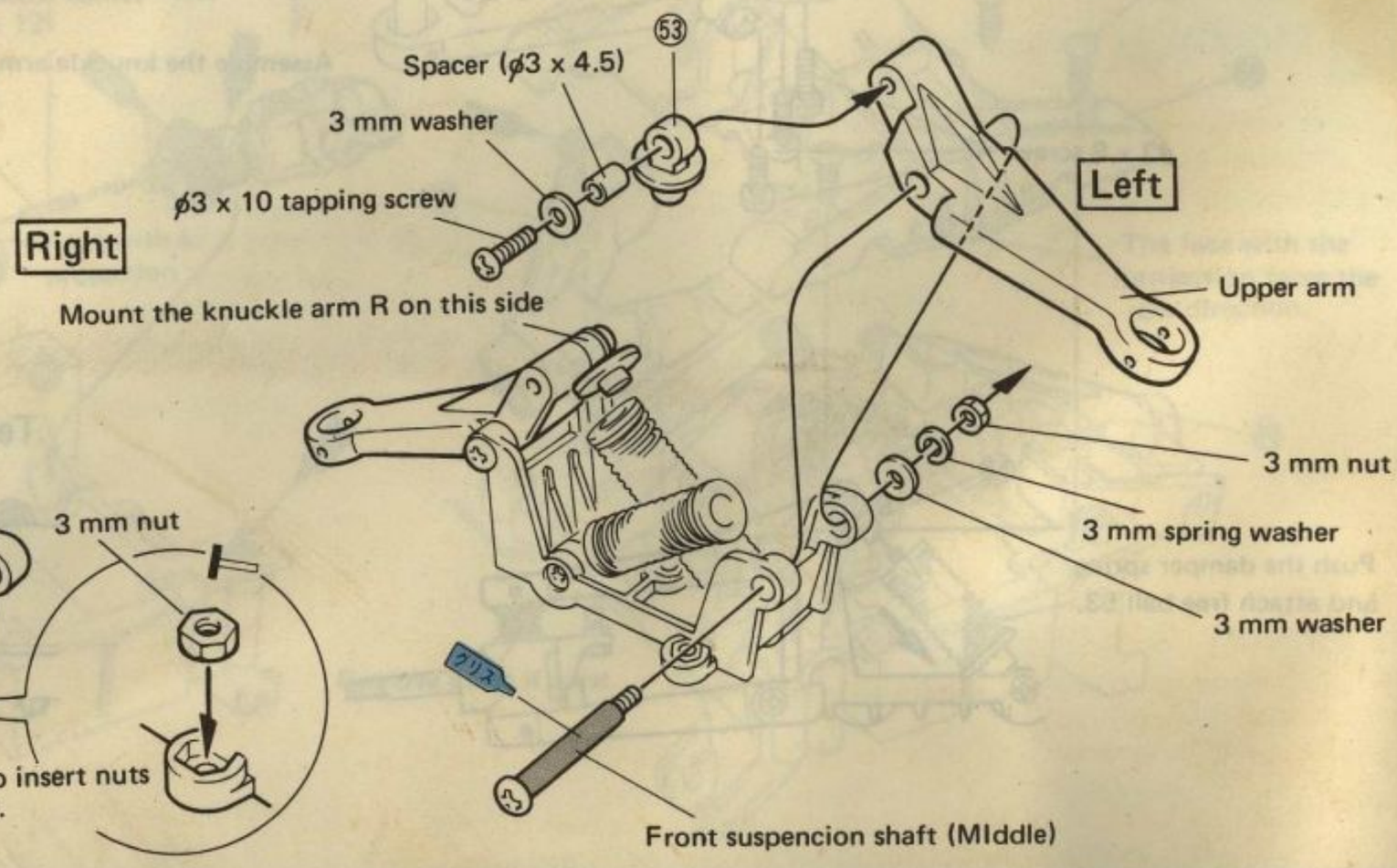
Front damper



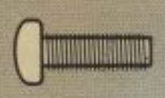


3 Front suspension assembly



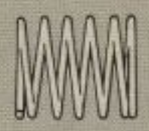


Metallic part actual sizes used on P. 4

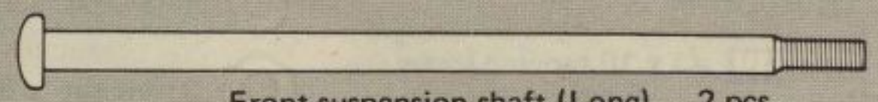


ø3 x 8 screw ... 3 pcs

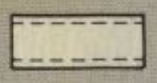
6 mm washer ... 4pcs



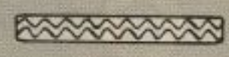
Front suspension spring ... 2 pcs



Front suspension shaft (Long) ... 2 pcs

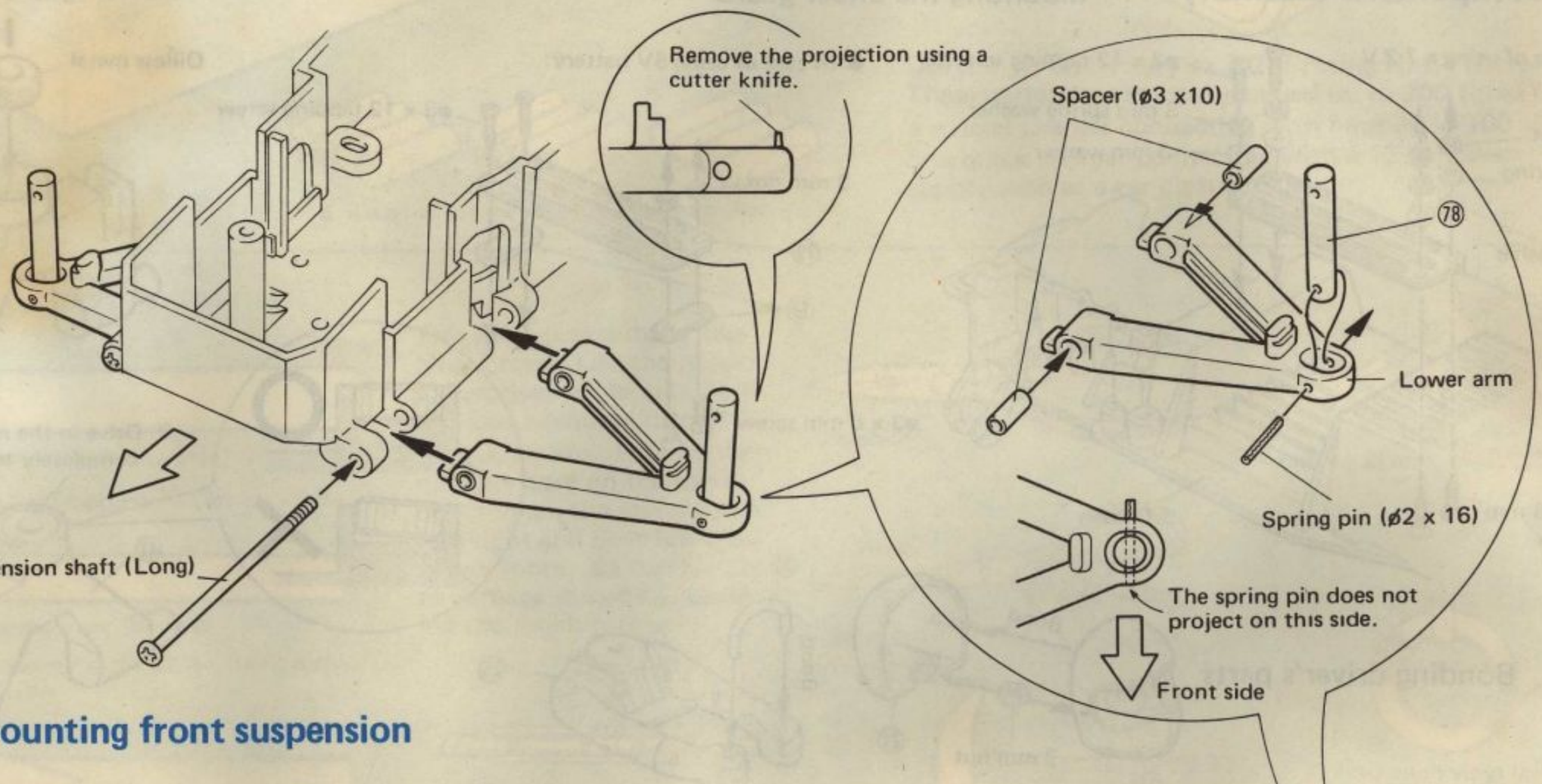


Spacer Ø3 x 10 ... 4 pcs

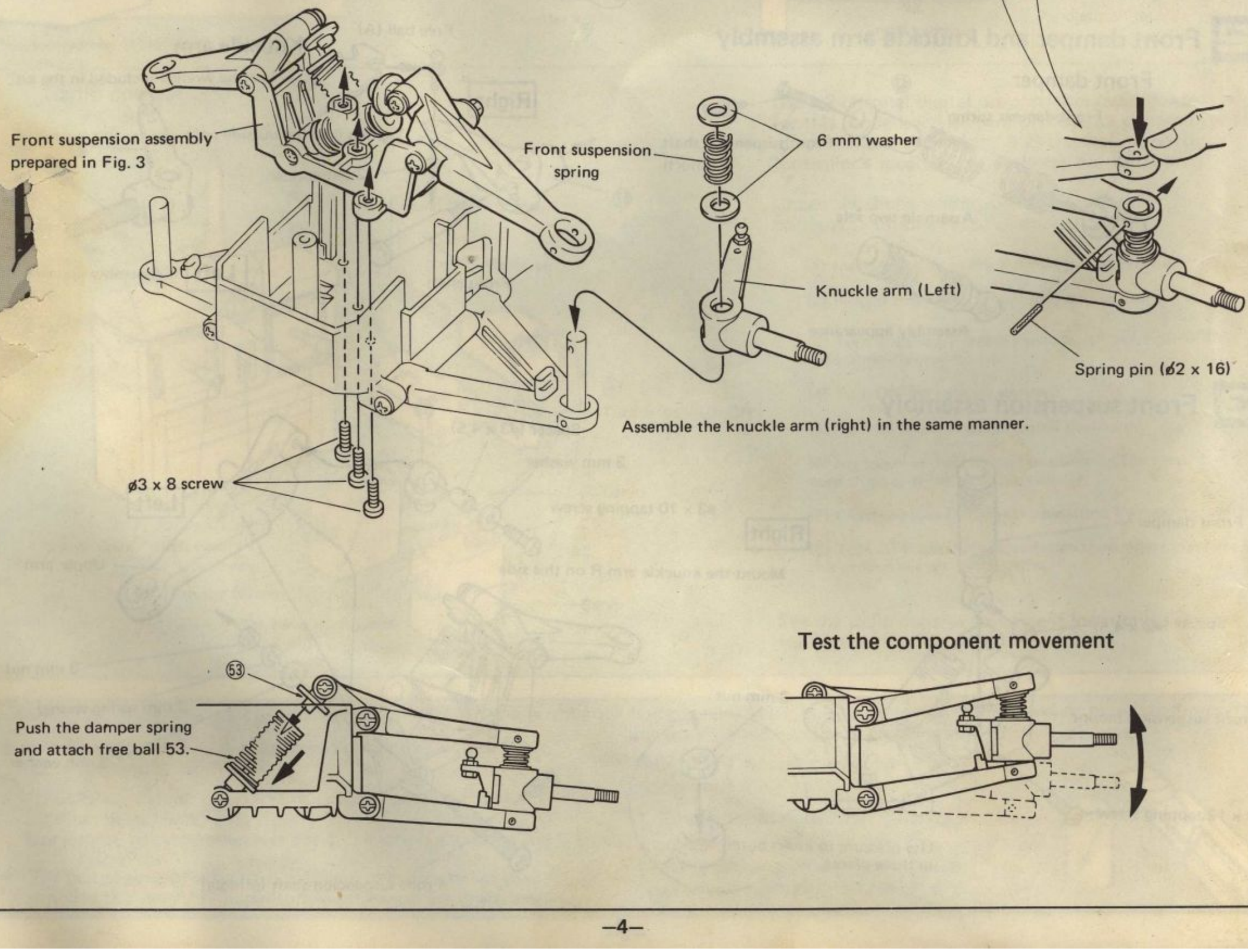


Spring pin ... 4 pcs ø2 x 16

4 Lower arm assembly



5 Mounting front suspension

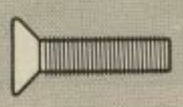


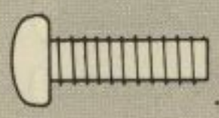
Assemble the knuckle arm (right) in the same manner.

Test the component movement

Metallic part actual sizes used on P. 5

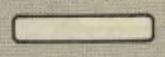

ø5 x 6 butt screw ... 2 pcs

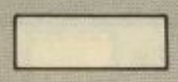

ø3 x 12 ... 3 pcs

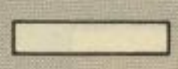

ø4 x 12 tapping screw ... 8 pcs


3 mm nut ... 3 pcs

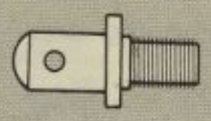

3 mm washer ... 1 pc


ø2 x 10.5 bush pin ... 2 pcs


ø4 x 11.5 bevel shaft ... 2 pcs

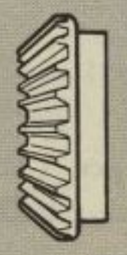

ø2.5 x 12 Differential center shaft ... 1 pc


Differential shaft ... 2 pcs


Body mount ... 1 pc


bevel bushing ... 2 pcs (plastic)


Bumper metal ... 2 pcs

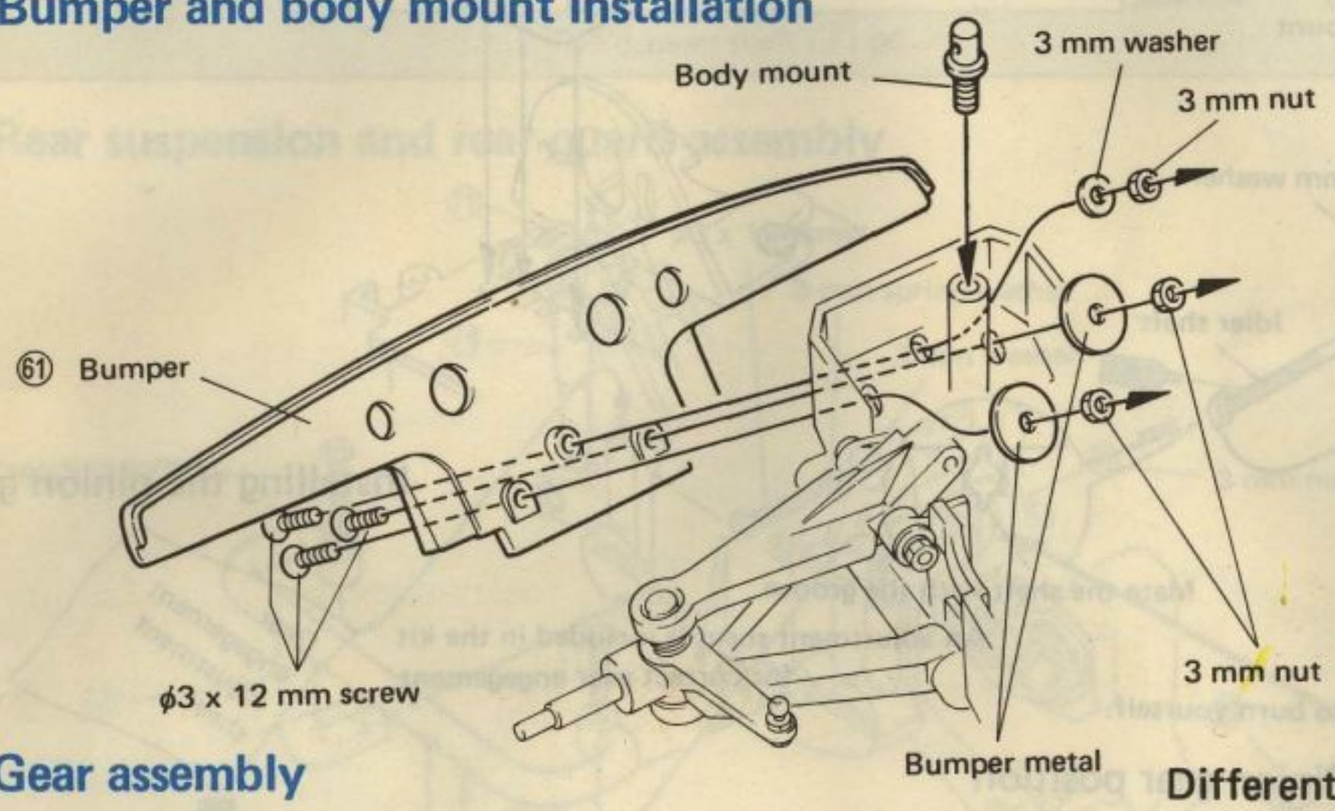

Bevel gear (A) ... 2 pcs (plastic)

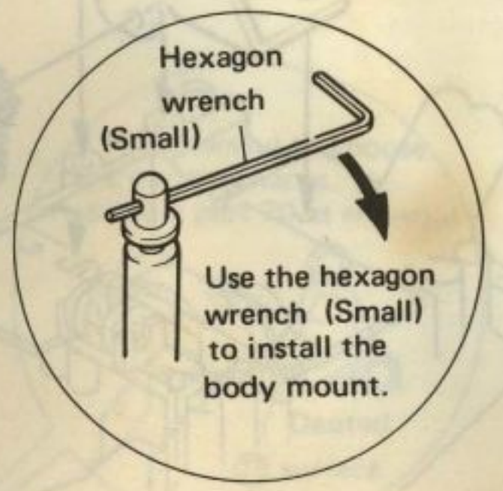

Bevel gear (B) ... 2 pcs


Oilless metal ... 2 pcs

Universal joint ... 2 pcs

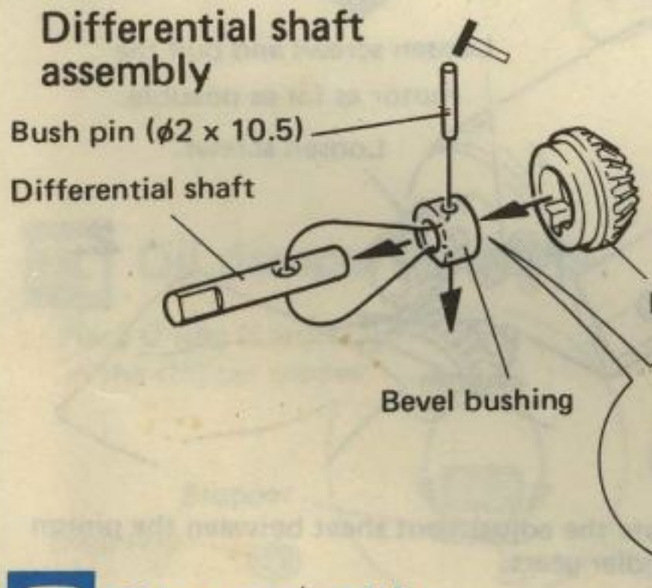
6 Bumper and body mount installation





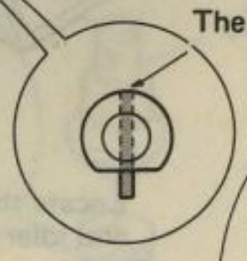
7 Gear assembly

Differential shaft assembly



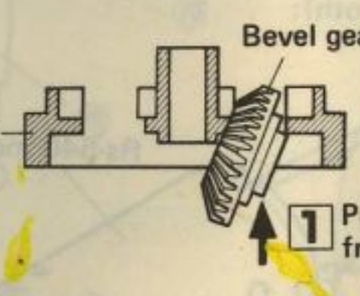
Remove the projection using a cutter knife.

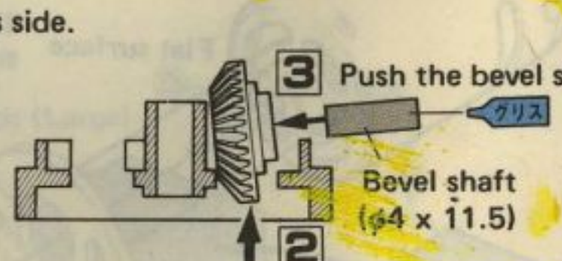
The bushing pin never projects on this side.



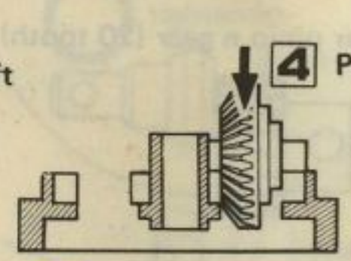
Differential gear assembly

Assemble instructions 1 through 4 in order.



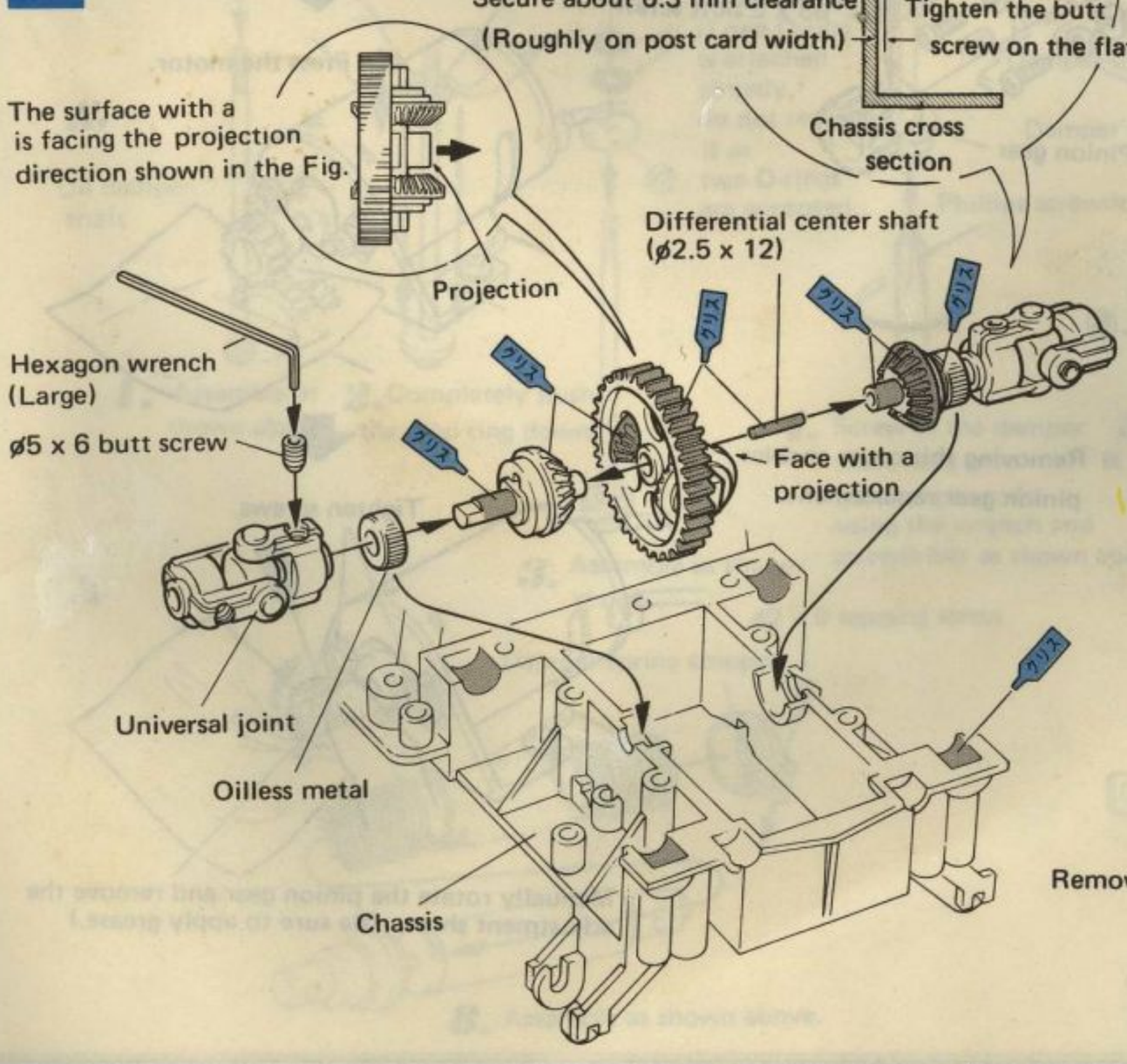


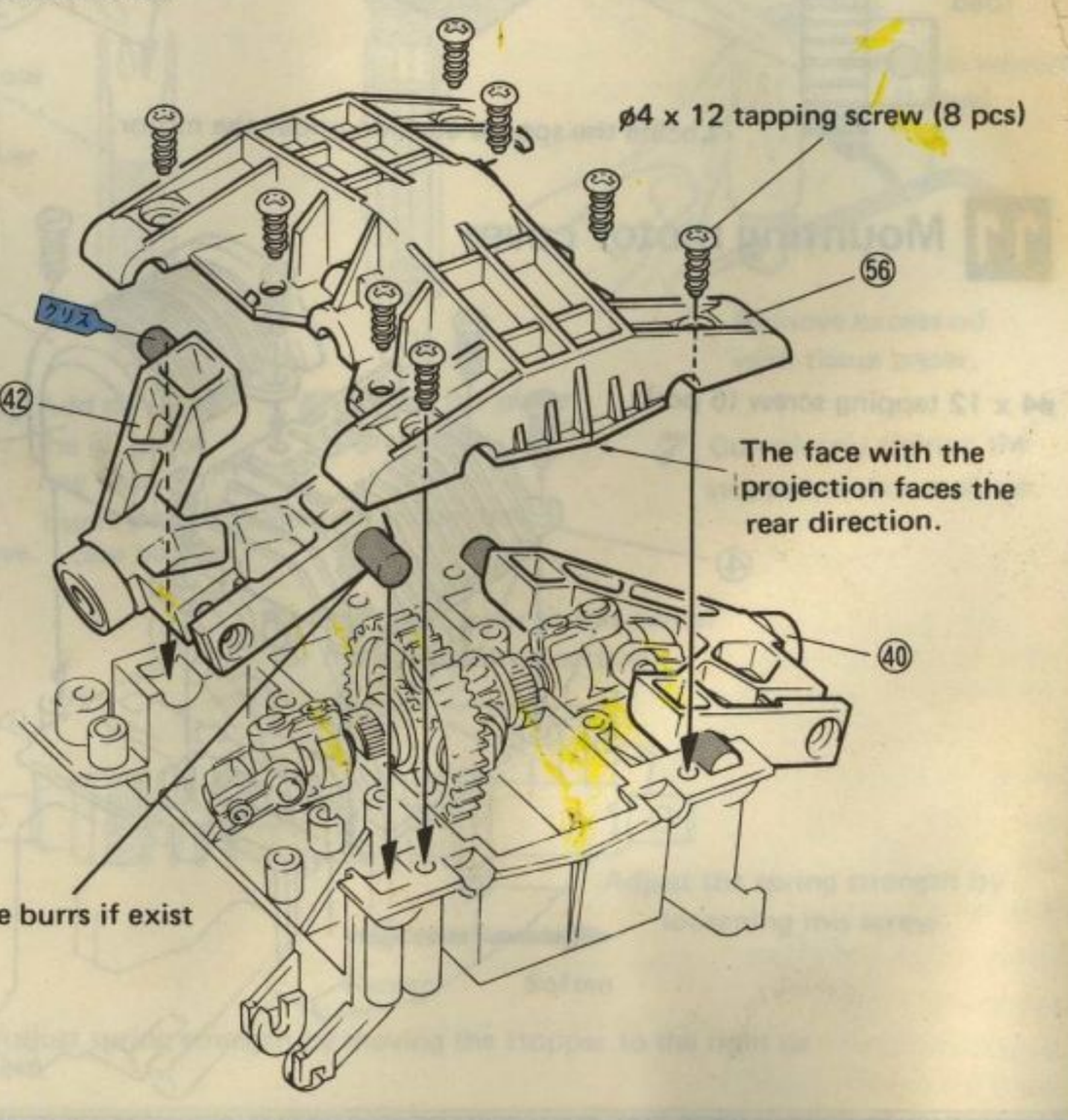
Completely push up bevel gear (B).



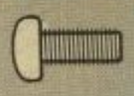
Assemble the differential gear (Left) in the same manner.

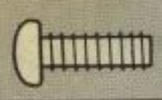
8 Gear assembly

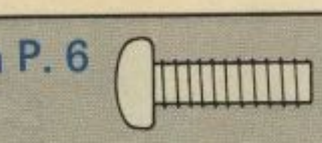




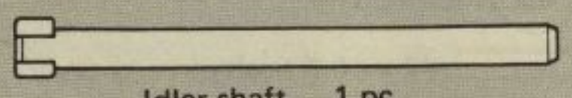
Metallic part actual sizes used on P. 6


ø3 x 6 screw ... 2 pcs


ø3 x 8 tapping screw ... 2 pcs


ø4 x 12 tapping screw ...9pcs


3 mm washer ... 3 pcs

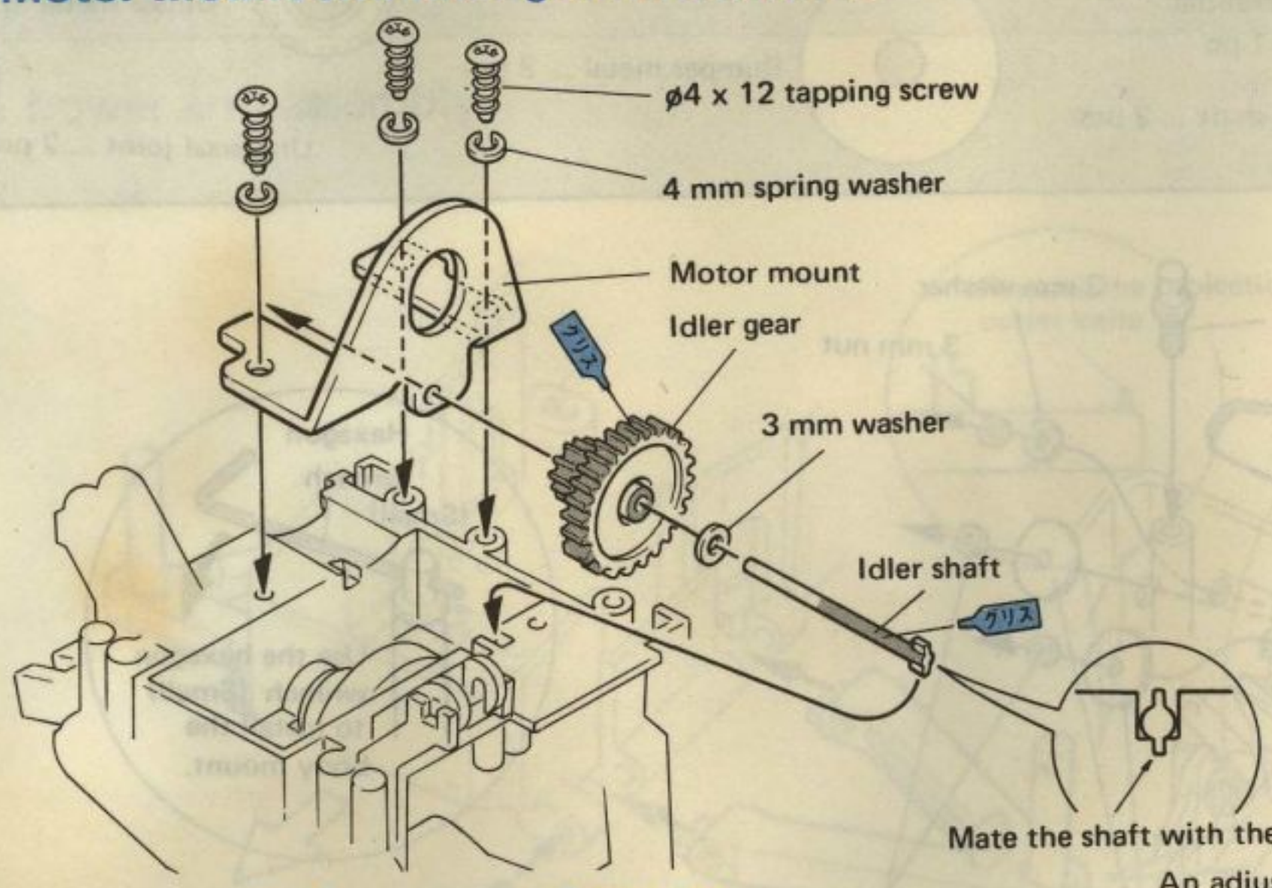

Idler shaft ... 1 pc


ø3 x 3 butt screw ... 1 pcs

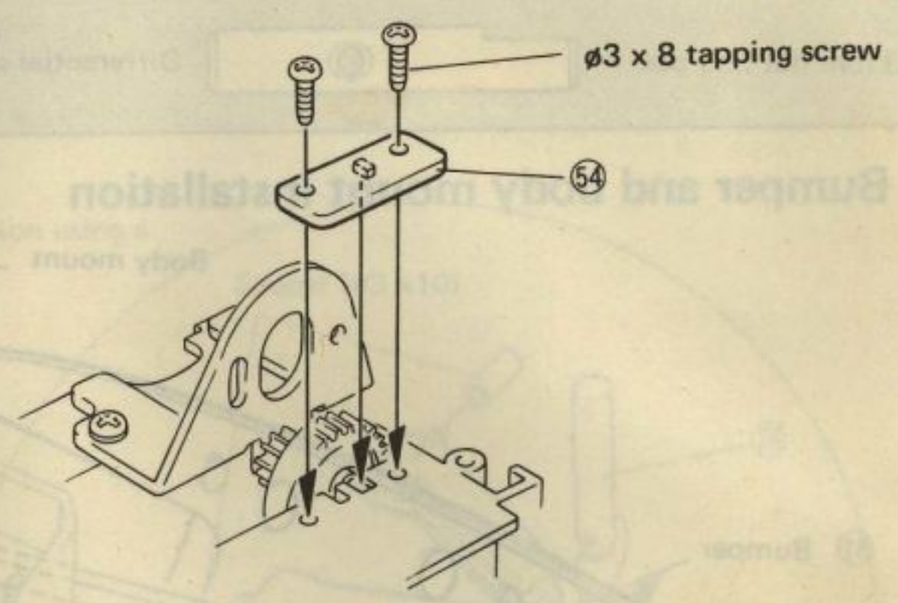

4 mm spring washer ... 2 pcs

3 mm spring washer ... 2 pcs

9 Motor mount and idler gear installation



Mate the shaft with the groove.



10 Mounting pinion gear and motor

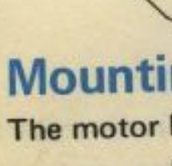
The motor becomes hot after operation. Be careful not to burn yourself.

Pinion gear selection

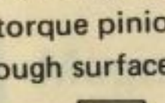
Determine the proper pinion gear for driving conditions.

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

- Regular pinio n gear (20 tooth)

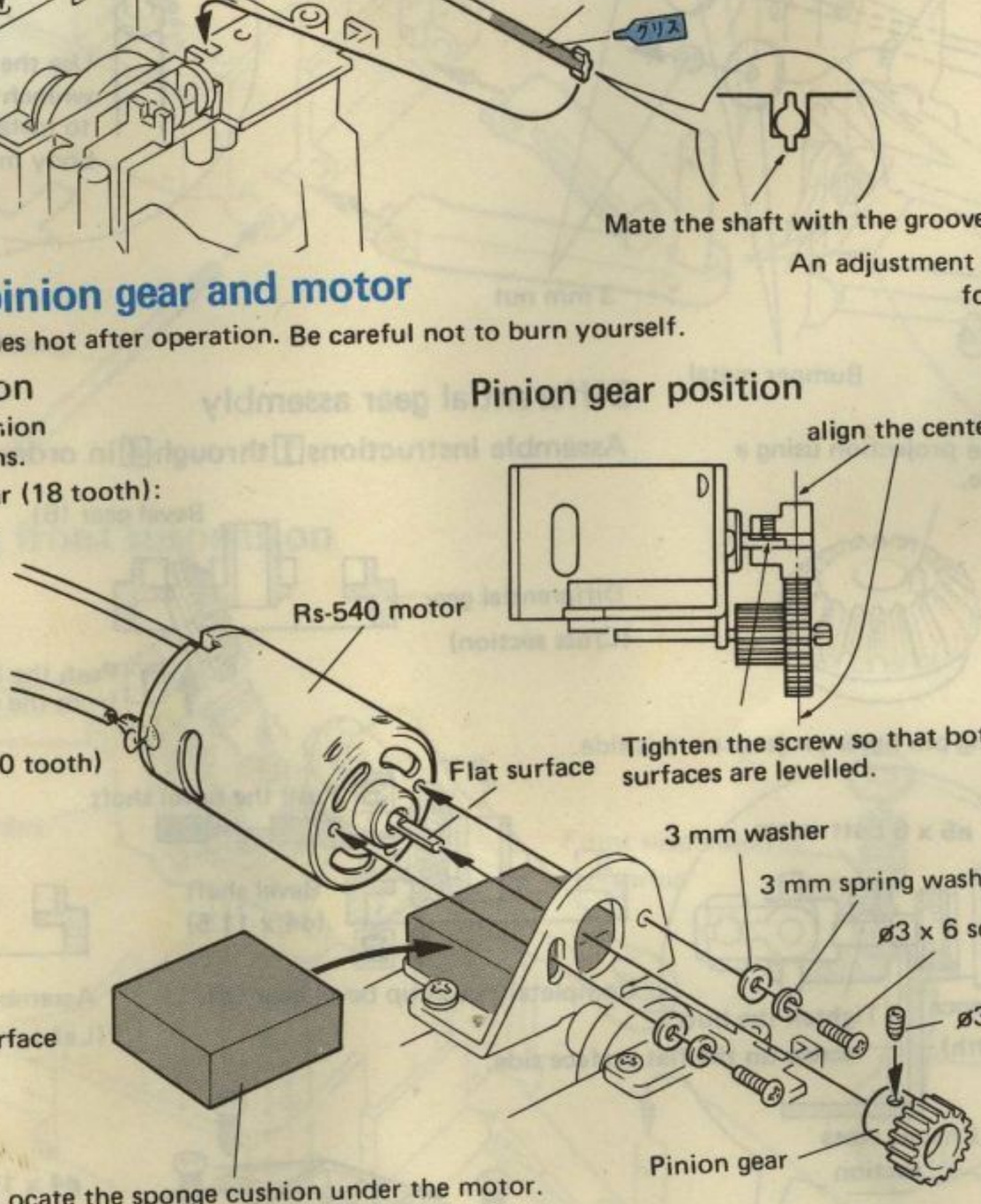


- High speed pinion gear (22 tooth): For flat surface road



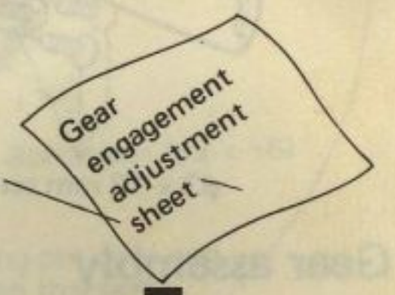
Pinion gear position

Tighten the screw so that both gear surfaces are levelled.



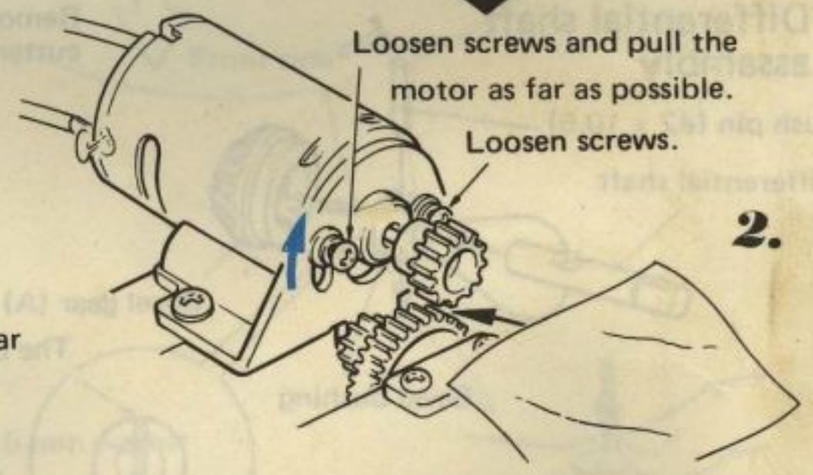
Locate the sponge cushion under the motor.

Installing the pinion gear



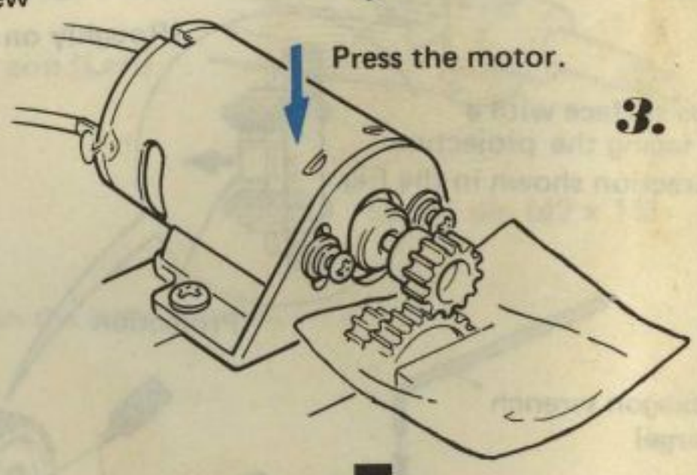
1.

Loosen screws and pull the motor as far as possible.



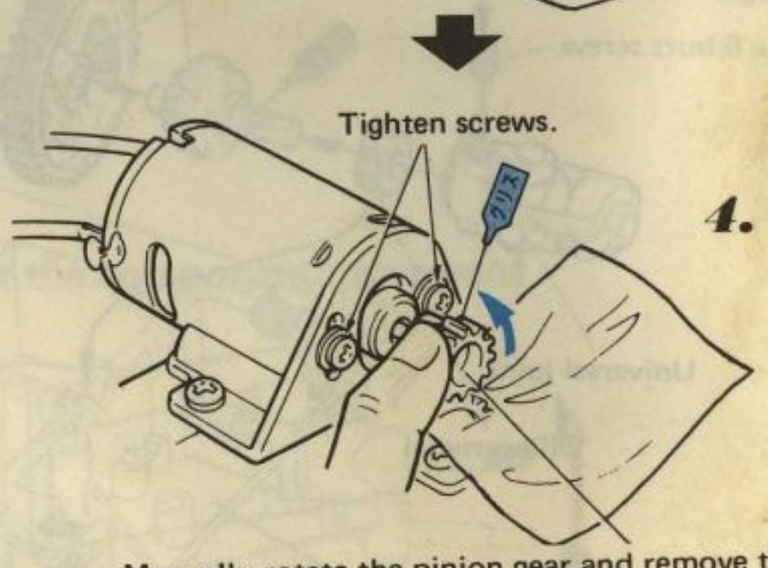
2.

Locate the adjustment sheet between the pinion and idler gears.



3.

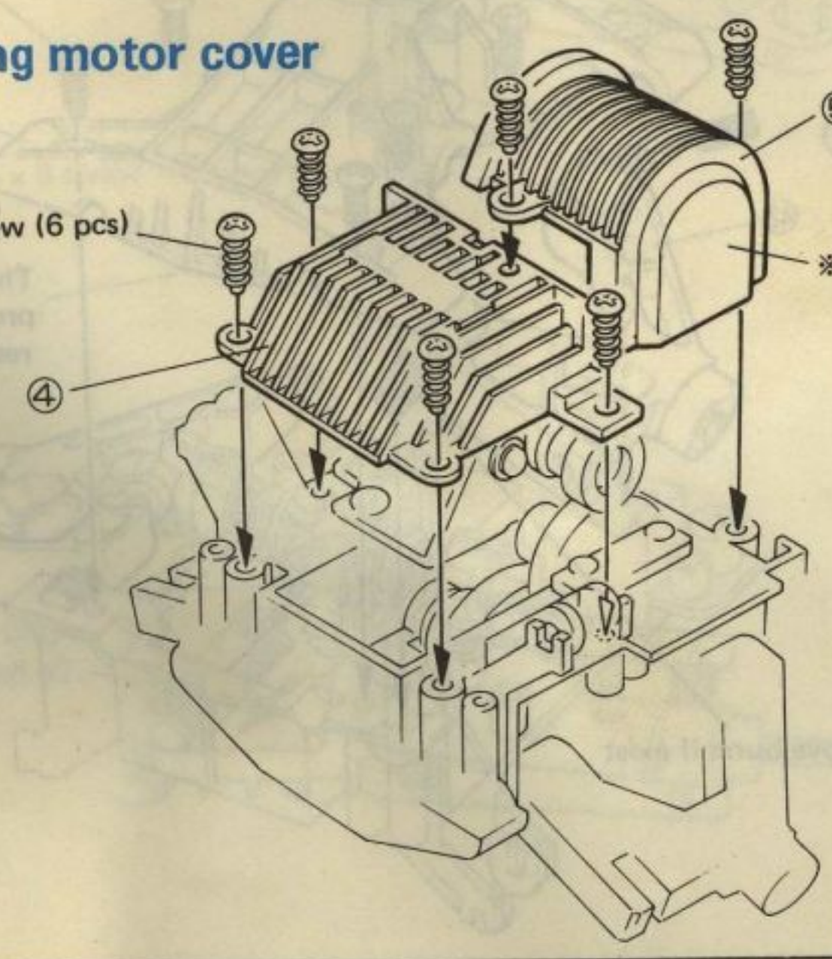
Tighten screws.



4.

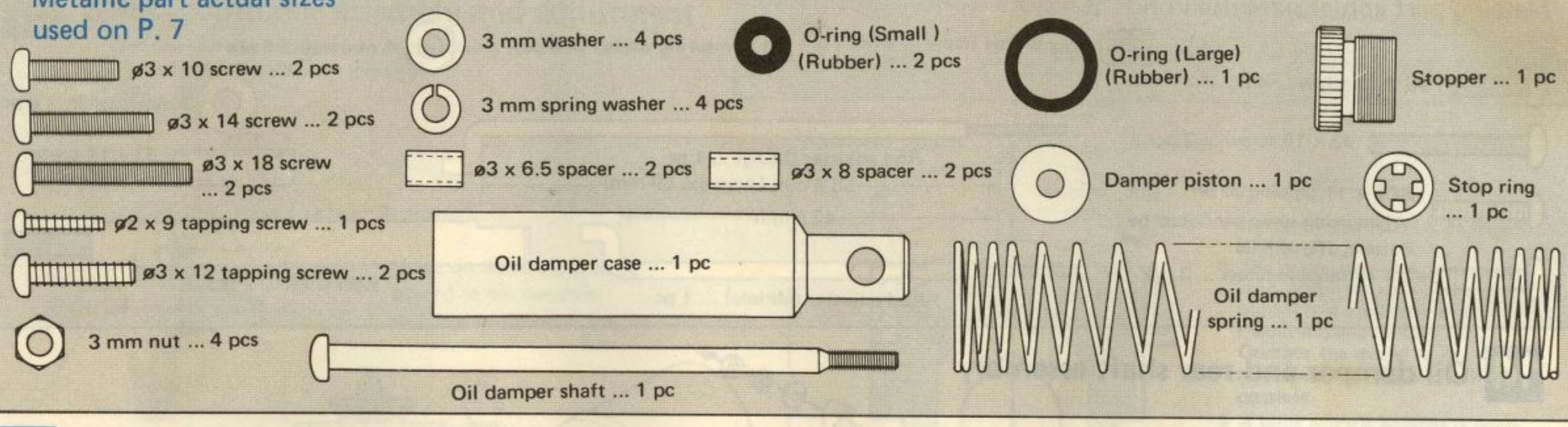
Manually rotate the pinion gear and remove the adjustment sheet. (Be sure to apply grease.)

11 Mounting motor cover

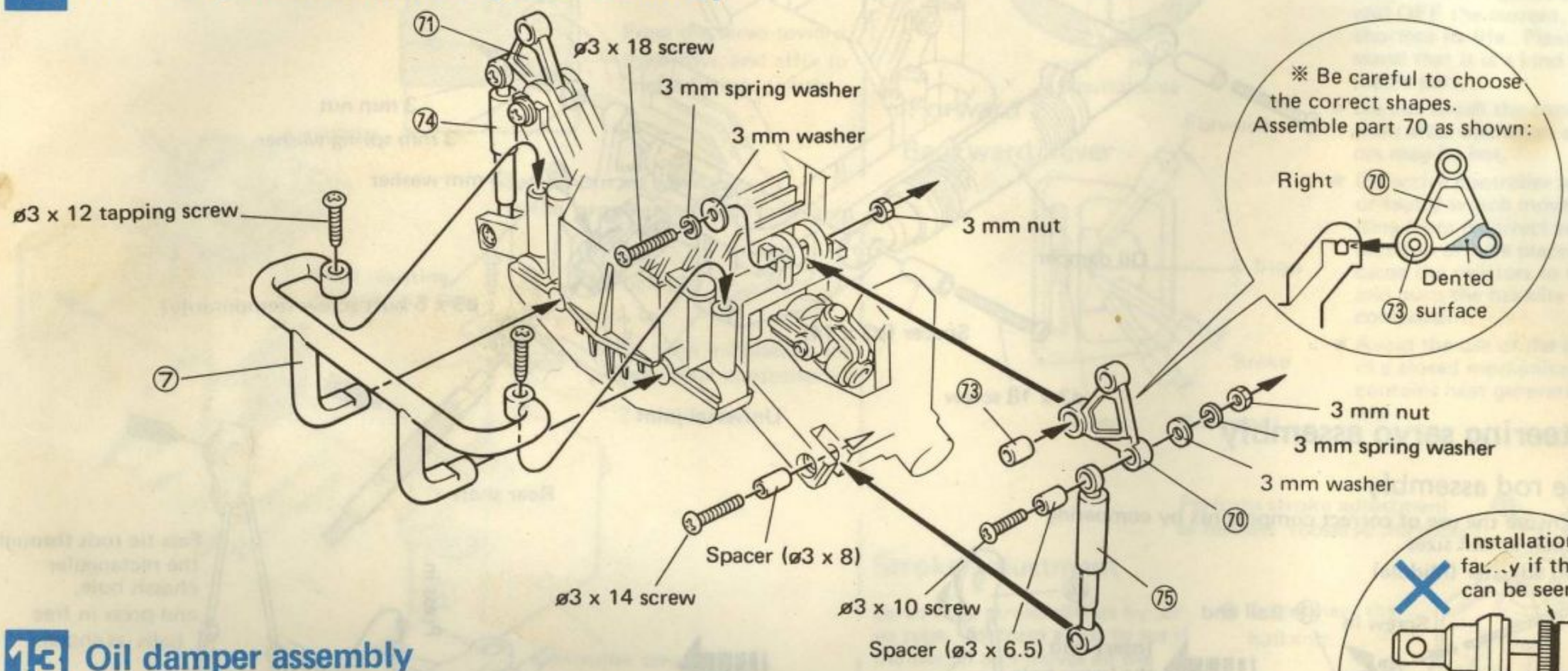


※ Removing this cover enables pinion gear replacement.

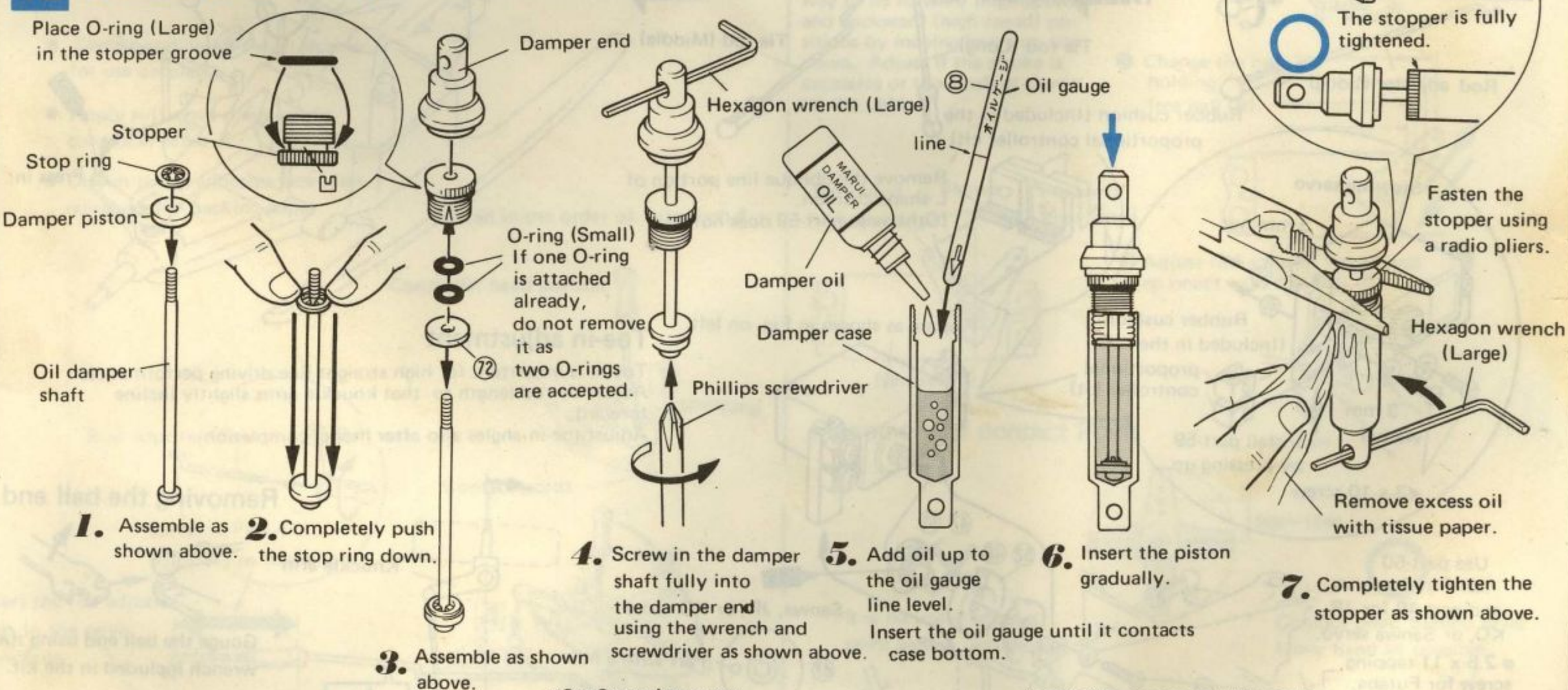
Metallic part actual sizes used on P. 7

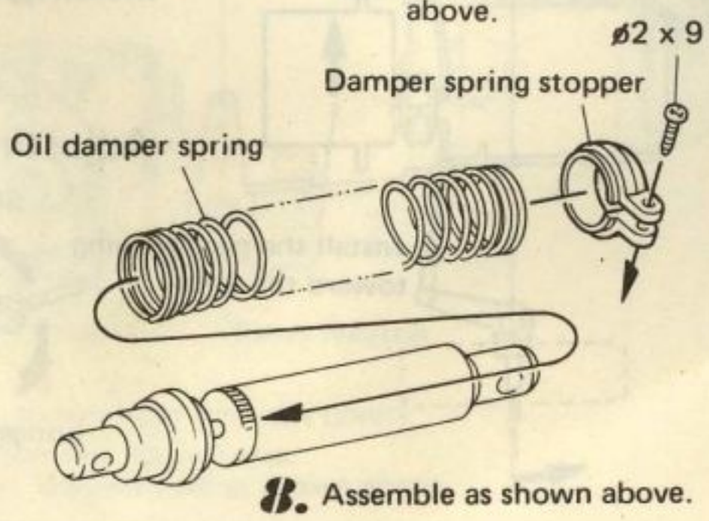


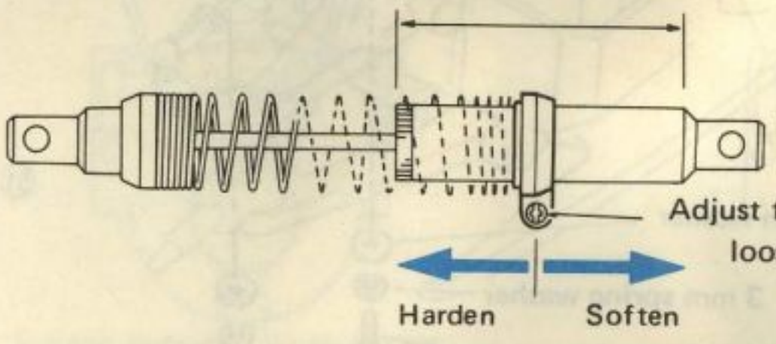
12 Rear suspension and rear guard assembly



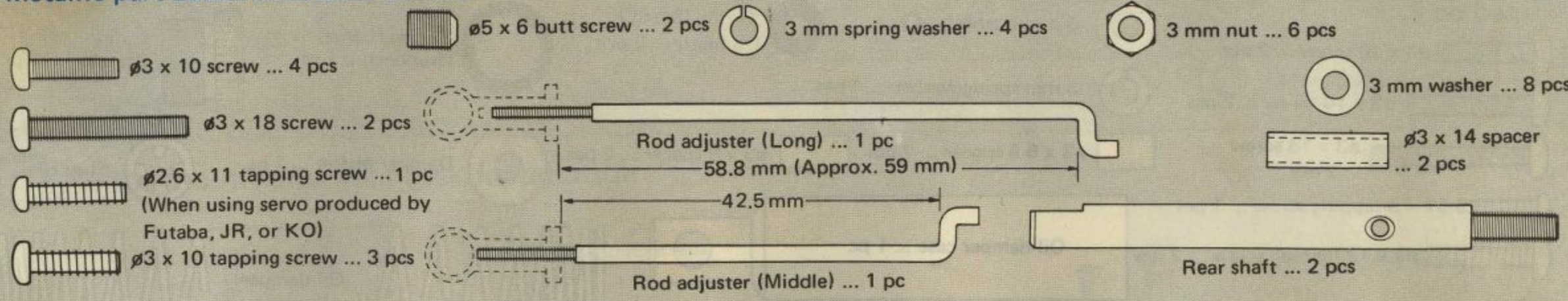
13 Oil damper assembly



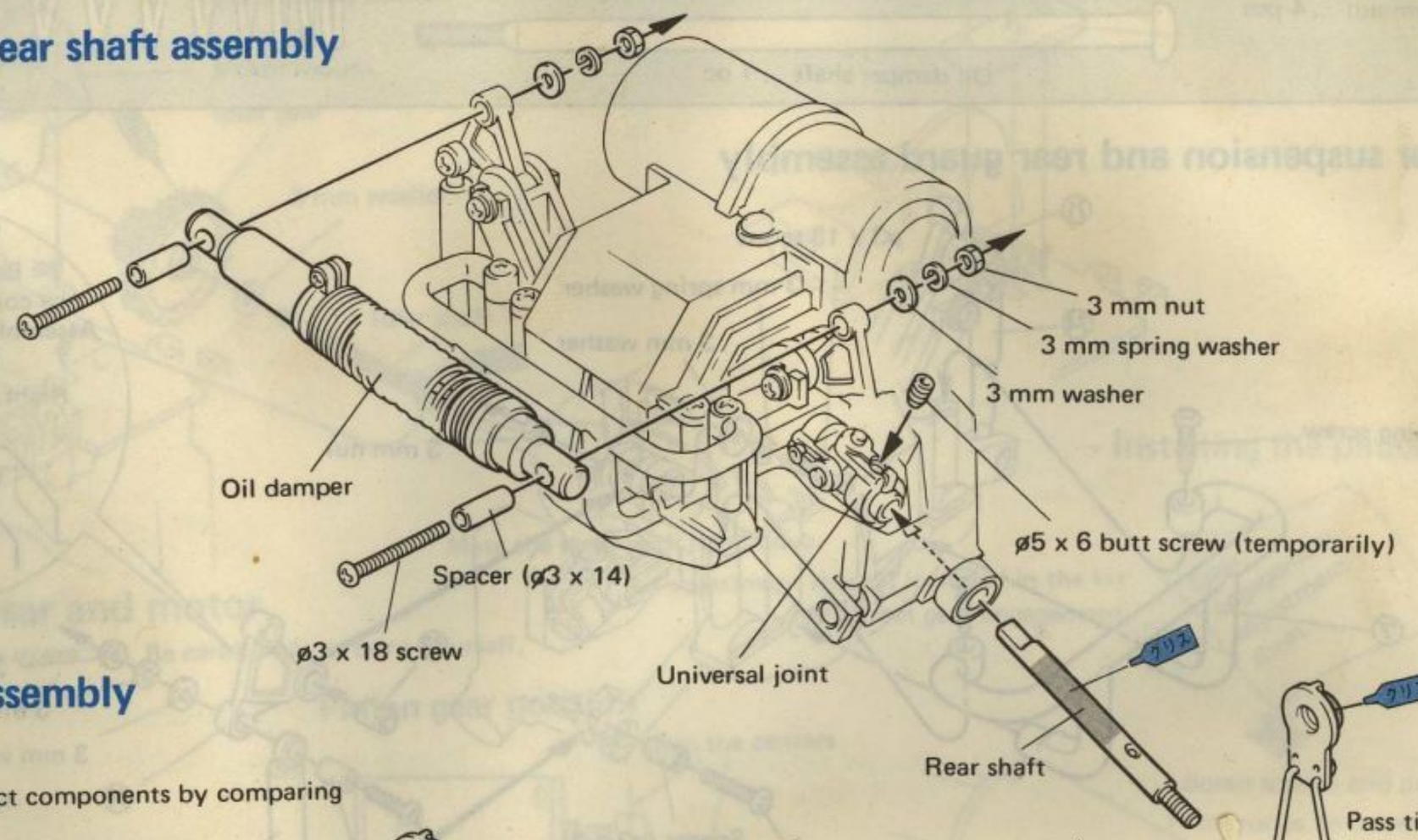




Metallic part actual sizes used on P. 8



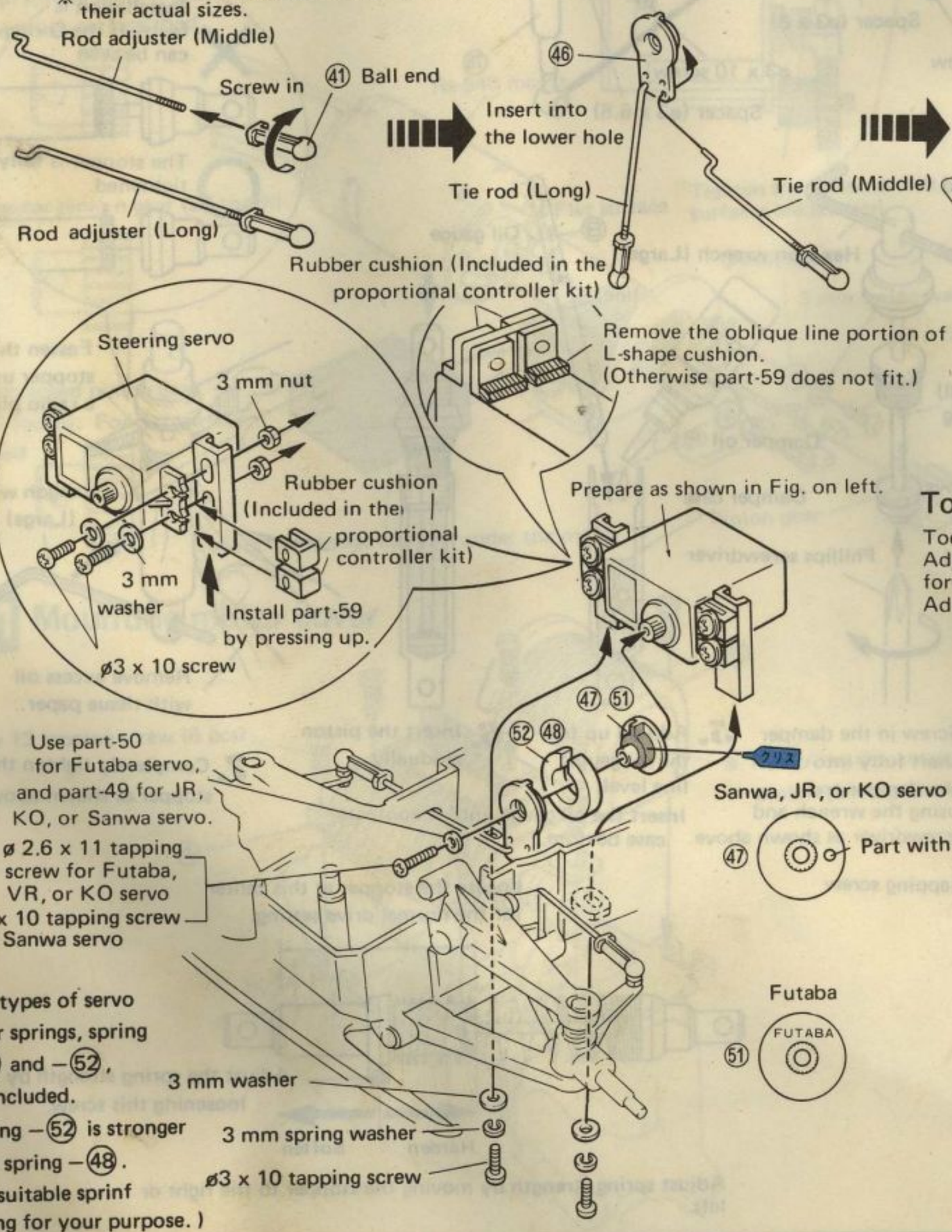
14 Oil damper and rear shaft assembly

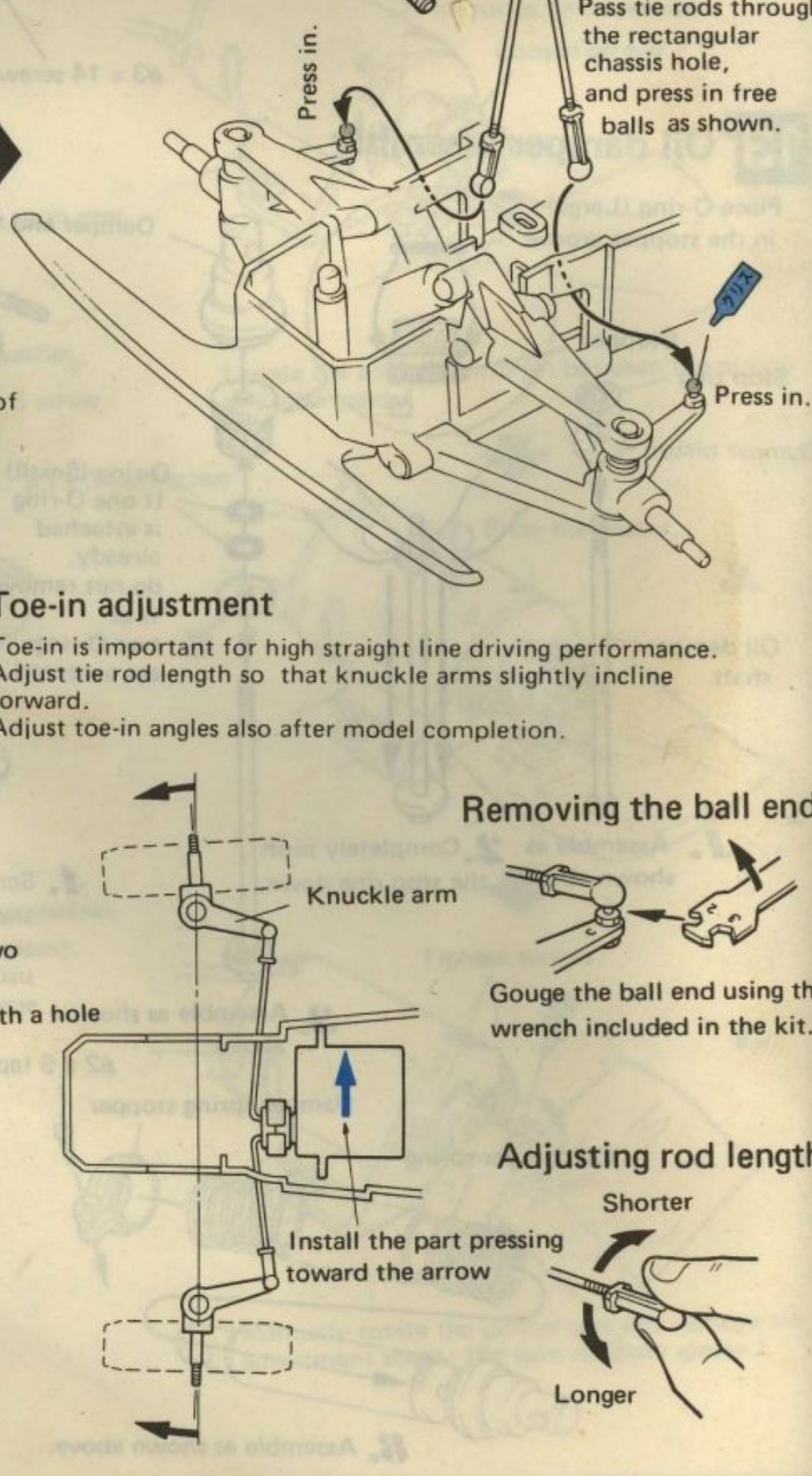


15 Steering servo assembly

Tie rod assembly

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





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.

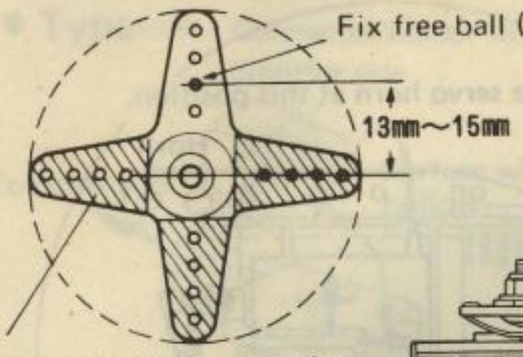
Removing the ball end

Adjusting rod length

16 Speed controller assembly and adjustment

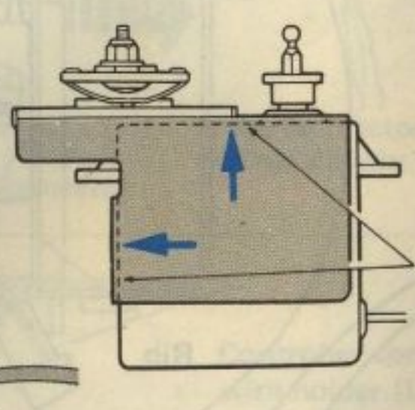
(Set the servo to receiver before beginning assembly or adjustment instructed on this page.
(See P. 2.)

Servo horn (Included in the proportional controller kit)

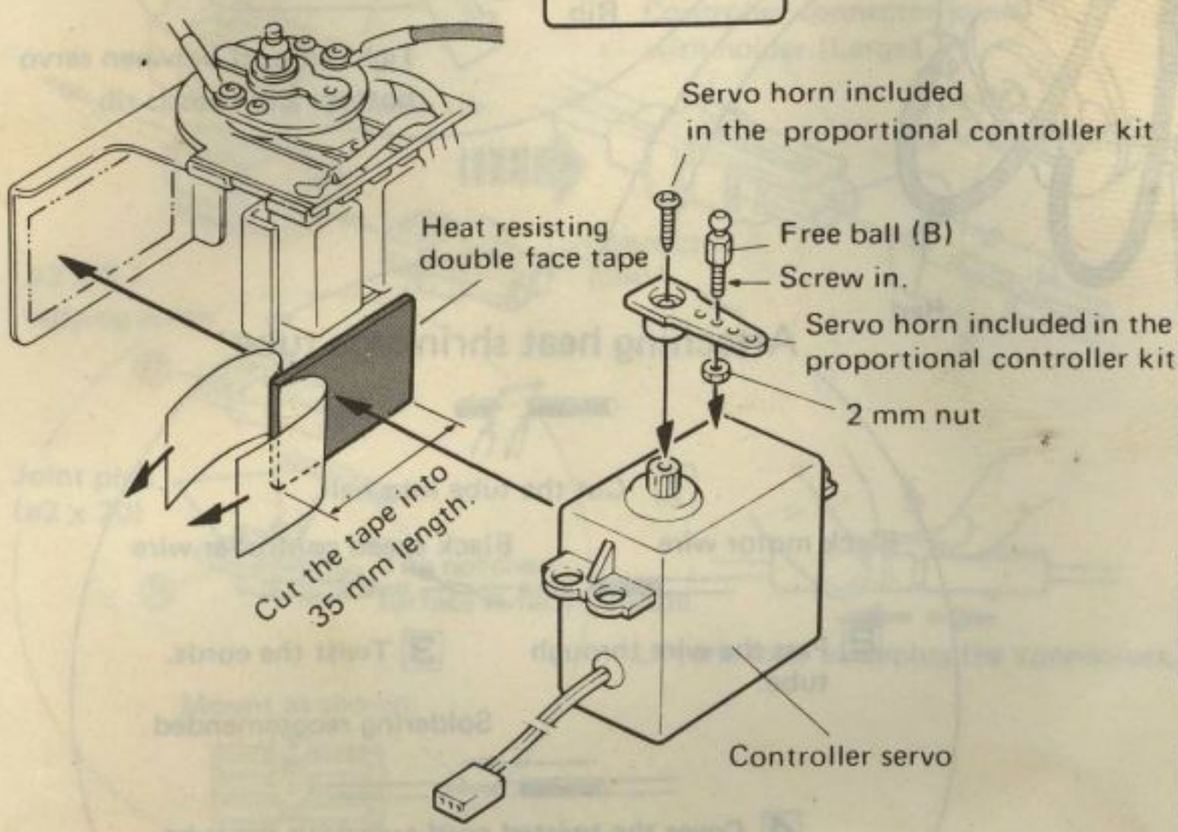


Holes on Servo Horn to be placed at the distance of 13mm to 15mm.

Remove the oblique portion.

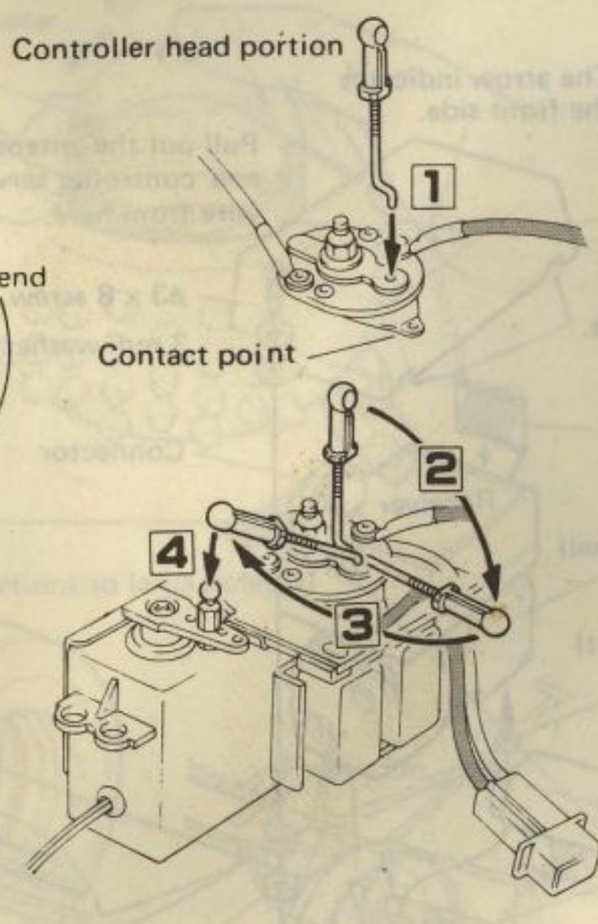


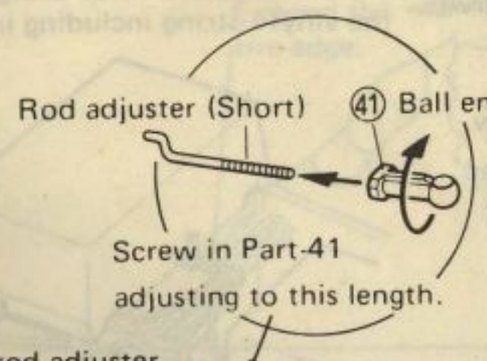
Press the servo toward the arrow, and affix to metal fittings tightly.

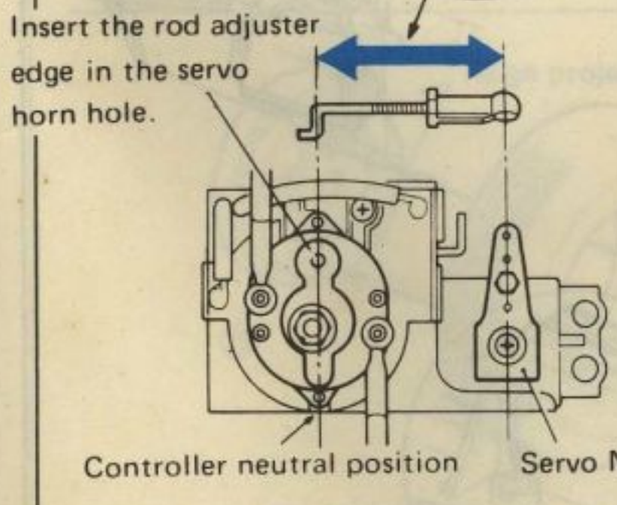


- Clean bonding area with thinner for use on plastic.
- Apply sufficient pressure the controller servo.
- Do not touch adhesive face after removing the backing paper.

Install in the order of 1 through 4.

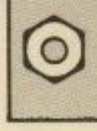


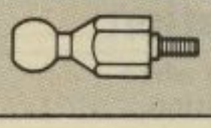


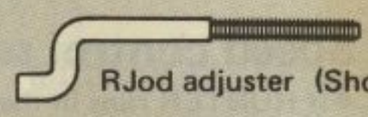


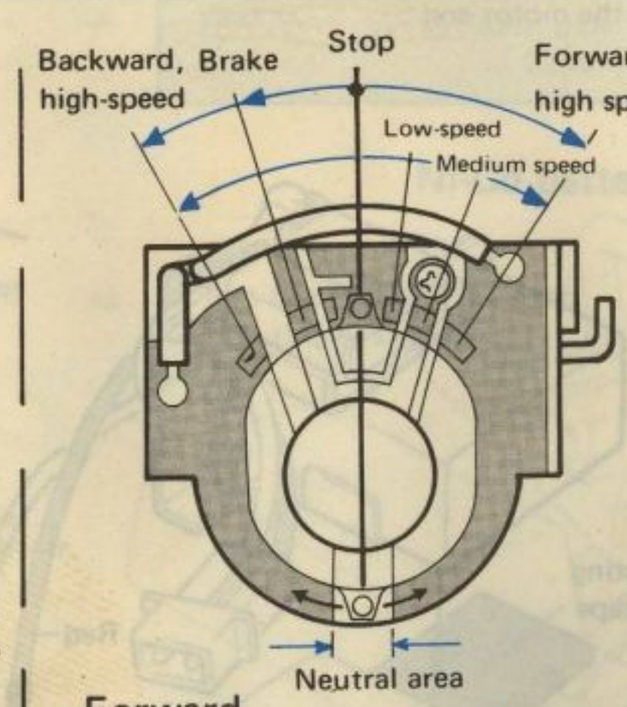
When the controller head (contact point) is located within the neutral area, the servo horn is positioned as shown above.

Metallic part actual sizes used on P. 9

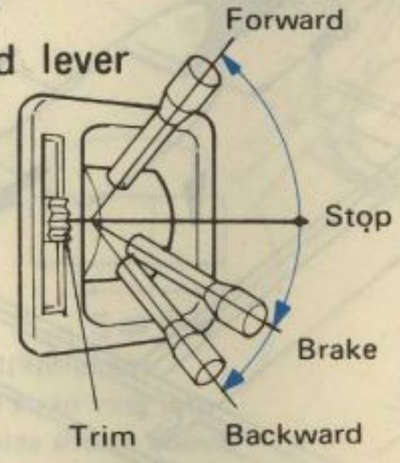

2 mm nut ... 1 pc


Free ball (B) ... 1 pc


RJod adjuster (Short)···1 pc



Forward Backward lever

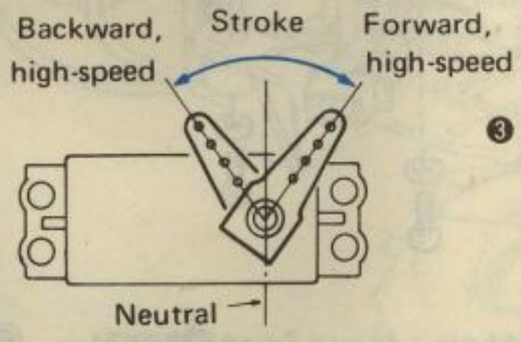


Switch position

- The controller may be damaged if it is used incorrectly. The controller has built-in resistors which may over-heat or burn if it is used only at low or medium speed ranges. Operate the model at its high-speed sett ing as much as possible.
- A large electric current is applied to the controller. The controller switch repeats turning ON and OFF the current, which shortens its life. Please understand that it is a kind of consumable part.
- Do not touch the controller soon after operation as its resistors may be hot.
- Defective controller installation, or faulty switch movement resulting from incorrect switch head location or wire placement may cause the resistors to over-heat and burn the bakelite electric component.
- Avoid the use of the controller in a closed mechanical box as it contains heat generating resistors.

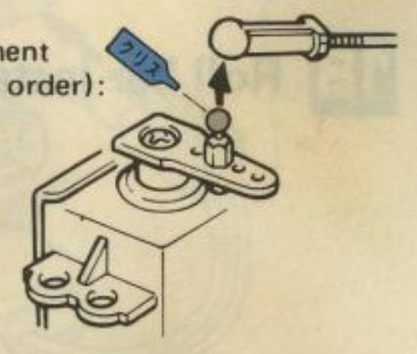
Stroke adjustment

Servo horn stroke differs by servo type. Perform a test to see if the switch arm moves all the way to its forward (high-speed) and backward (high-speed) positions by moving levers up and down. Adjust if the stroke is excessive or too small as shown on the right.

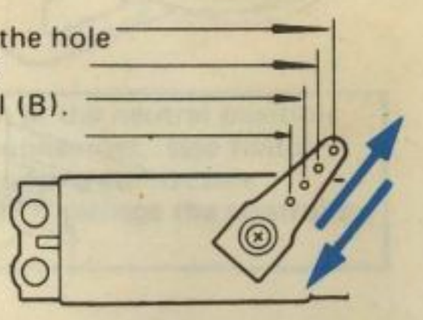


Perform stroke adjustment as follows (observe the order):

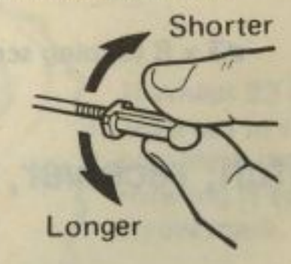
❶ Disconnect the ball end.



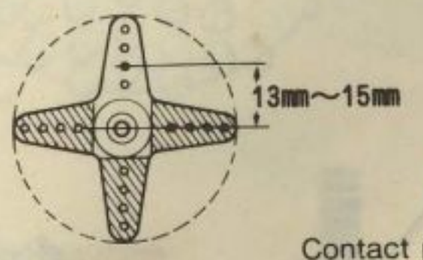
❷ Change the hole holding free ball (B).



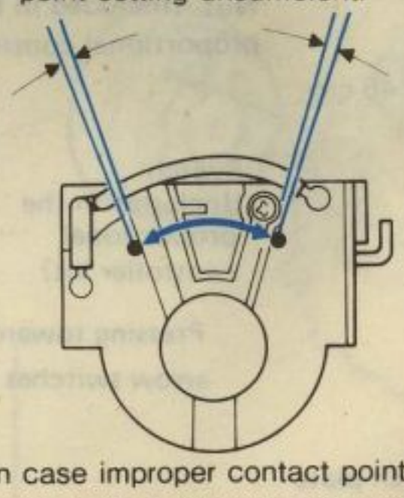
❸ Adjust rod adjuster length and co nnect with free ball (B).



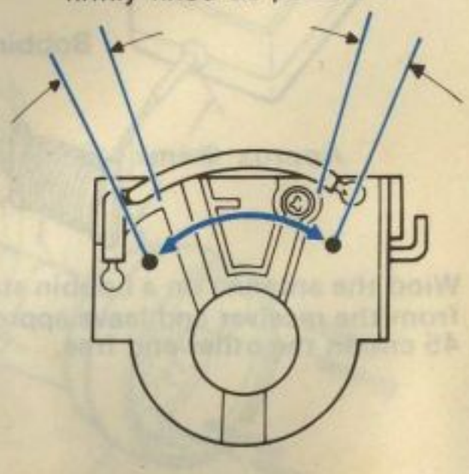
Placement of contact Point.



✕ It is no use if contact point setting unsufficient.



○ Contact point Setting to be firmly fixed as possible.



In case improper contact point setting done, remove hole position of servo horn toward 15mm side as illustrated.

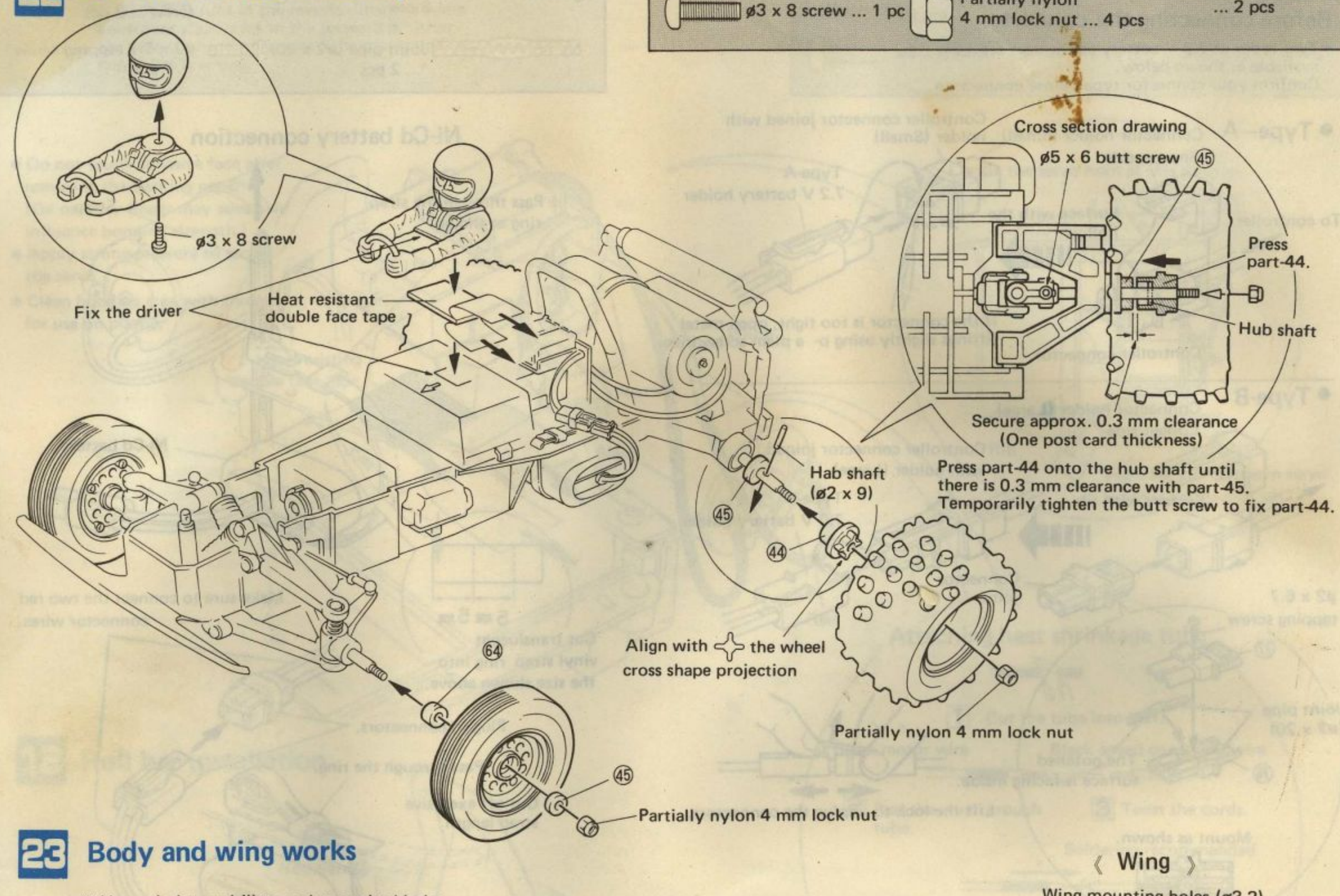
22 Driver and wheel assembly

Metallic part actual sizes used on P. 12

ø3 x 8 screw ... 1 pc

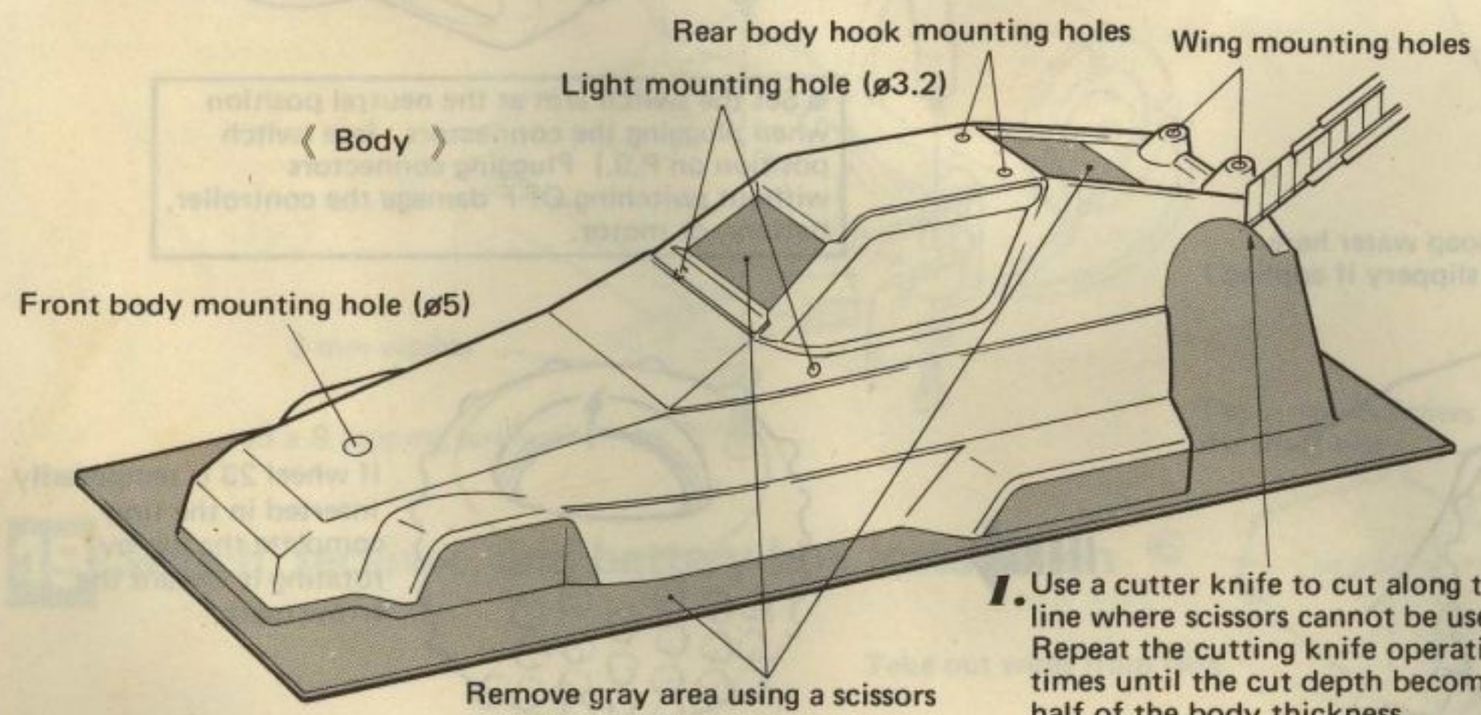
Partially nylon 4 mm lock nut ... 4 pcs

ø2 x 9 hub shaft ... 2 pcs

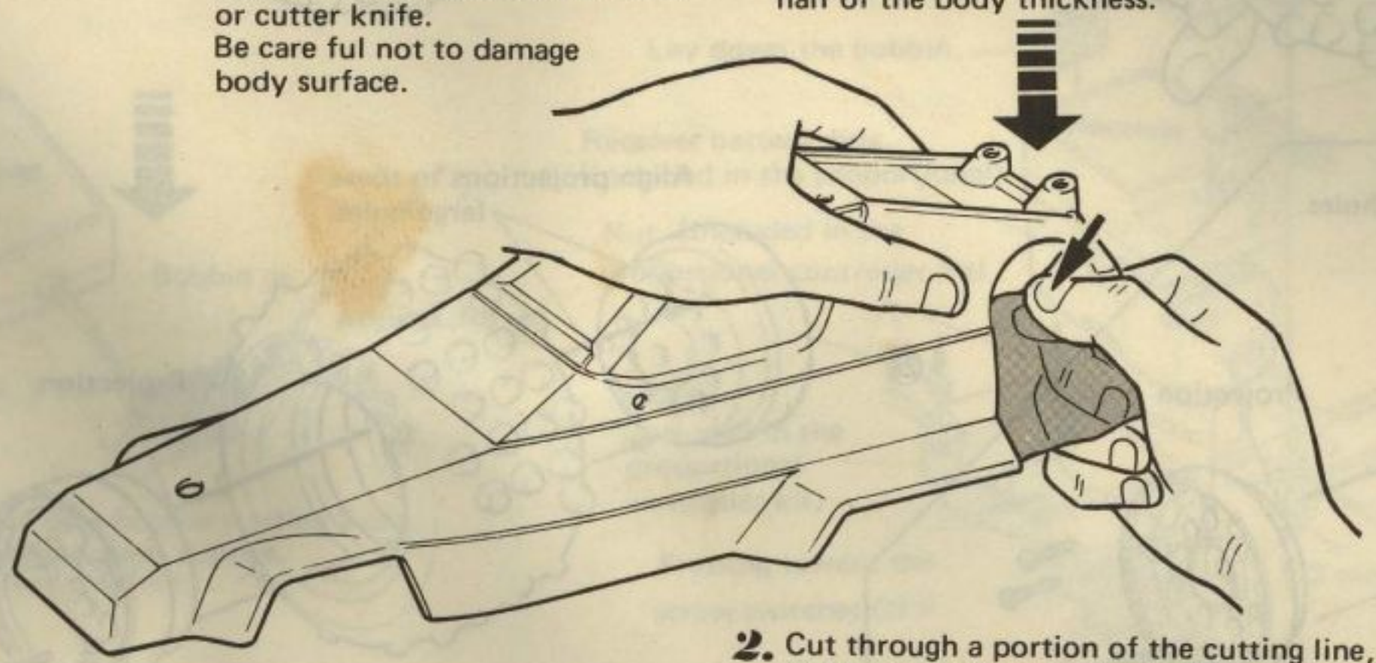


23 Body and wing works

※ Use a gimlet or drill to make required holes.

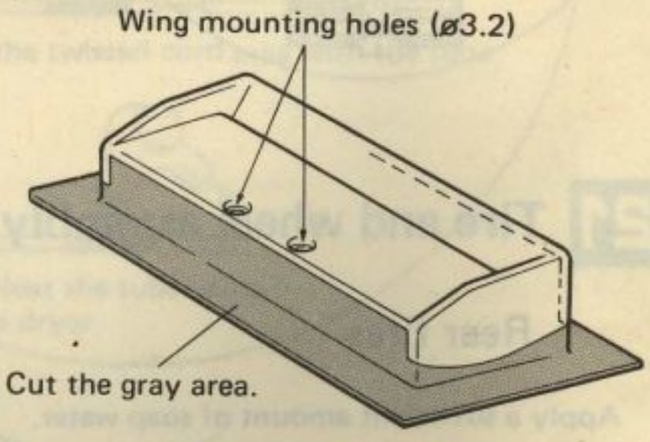


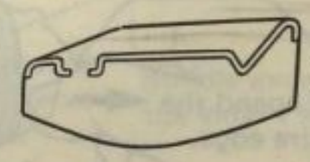
1. Use a cutter knife to cut along the cutting line where scissors cannot be used.
Repeat the cutting knife operation 2 or 3 times times until the cut depth becomes about half of the body thickness.



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

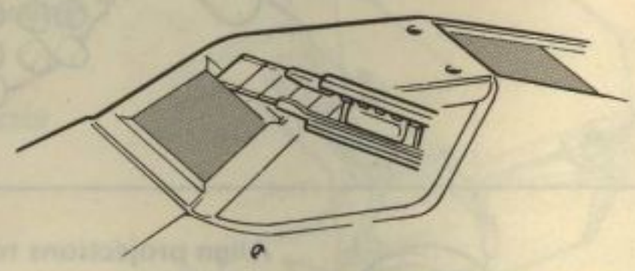
《 Wing 》



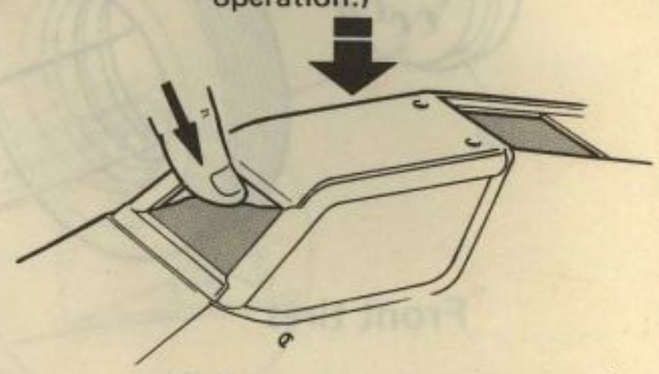


(Wing cross section)

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

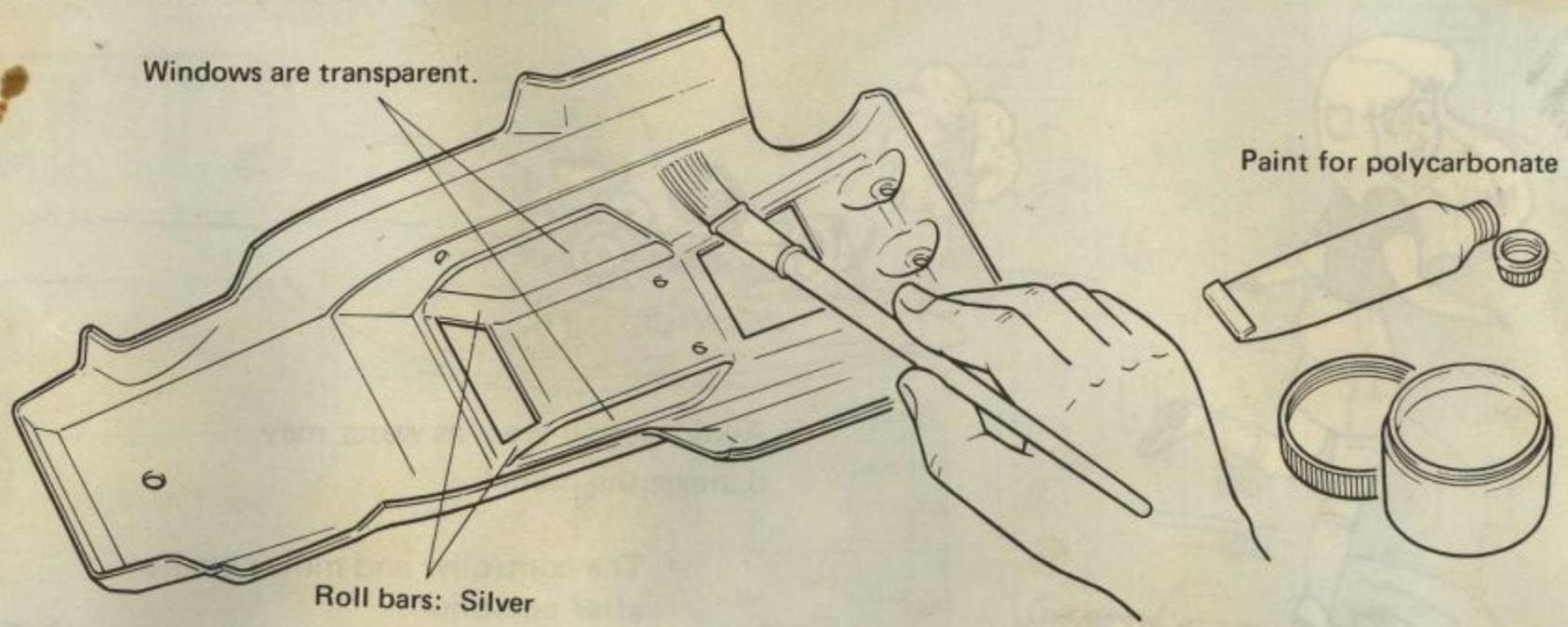
3 mm nut ... 6 pcs

3 mm washer ... 4 öcs

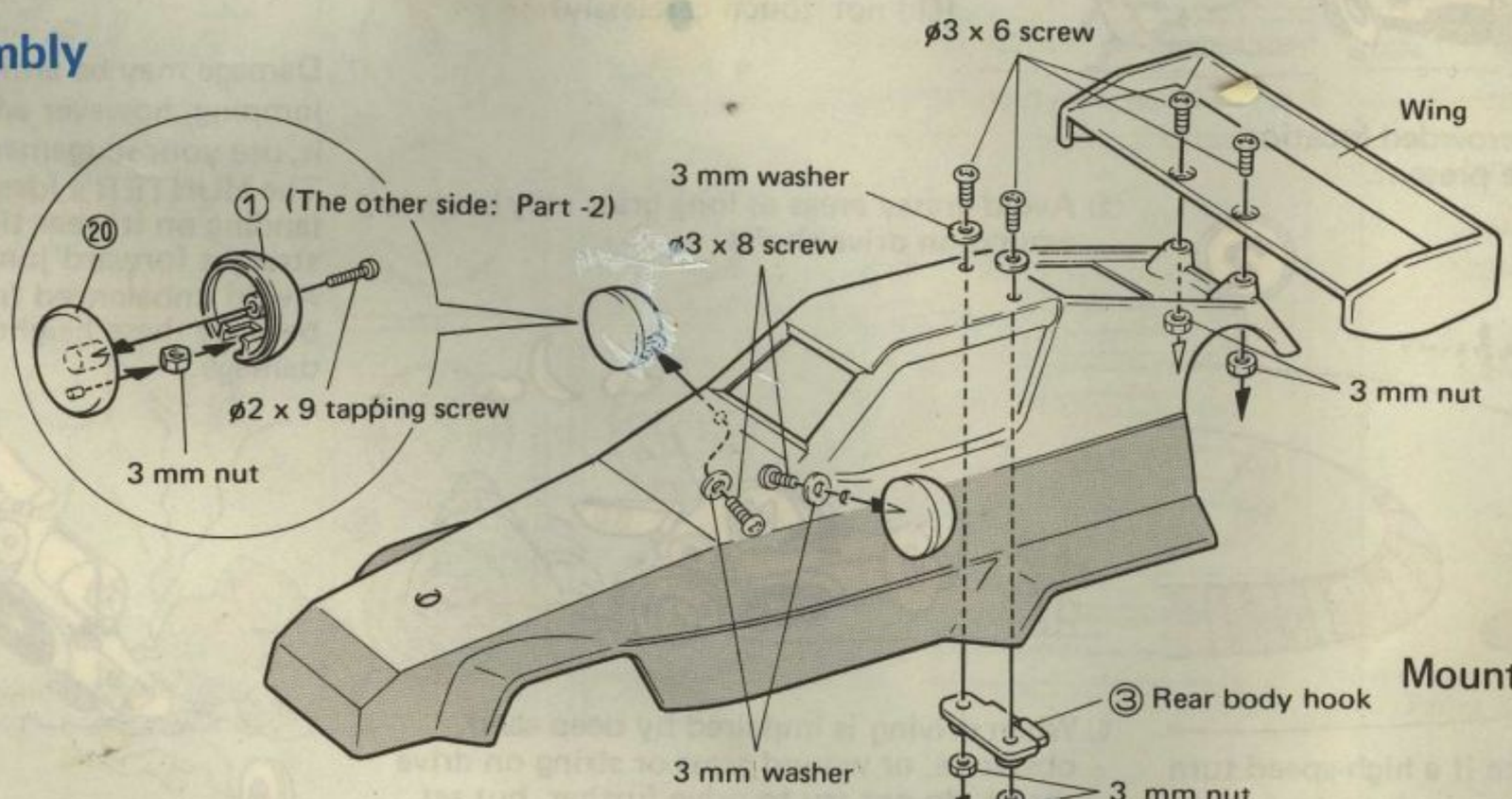
Snap pin ... 1 pc

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.)

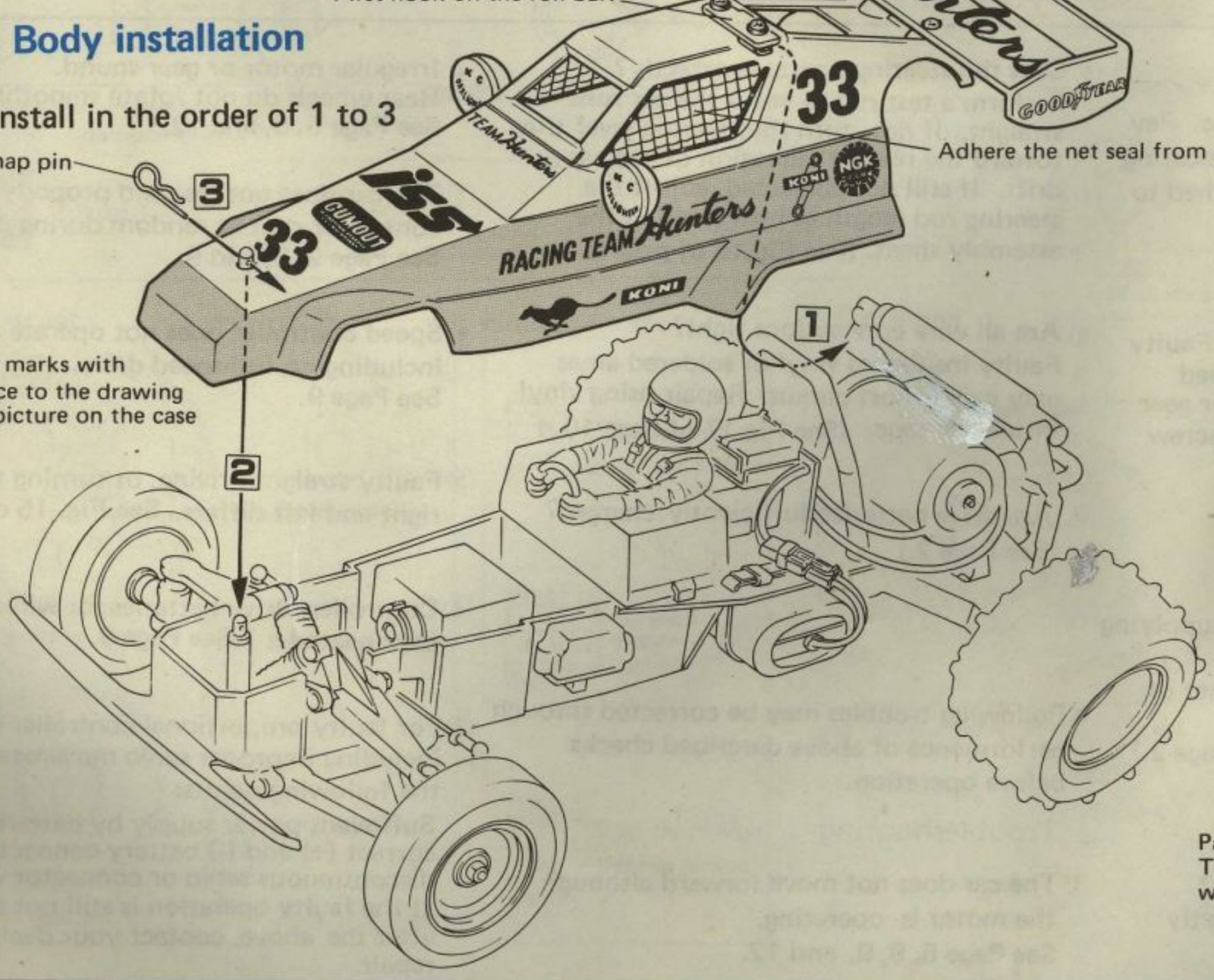


25 Body assembly

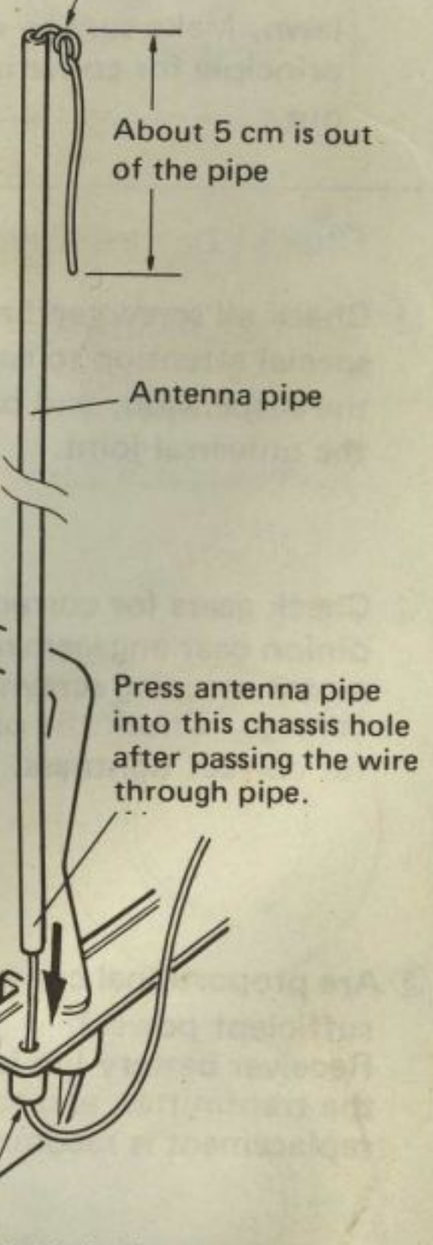


26 Body installation

Install in the order of 1 to 3



Mounting the antenna pipe



Pass the wire through the hole.
The wire is stretched so that it will not be tangle with the tire.

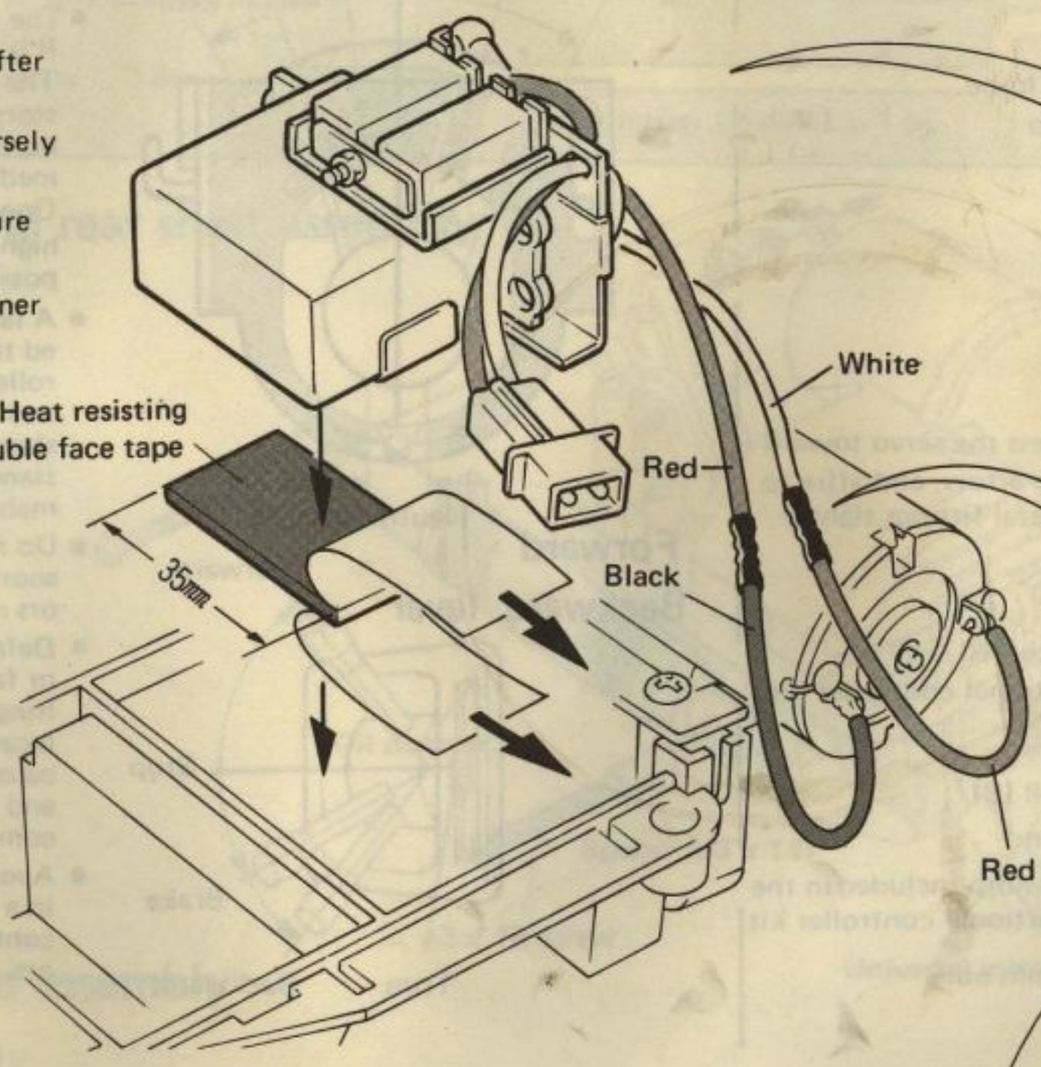
Metallic part actual sizes used on P. 10

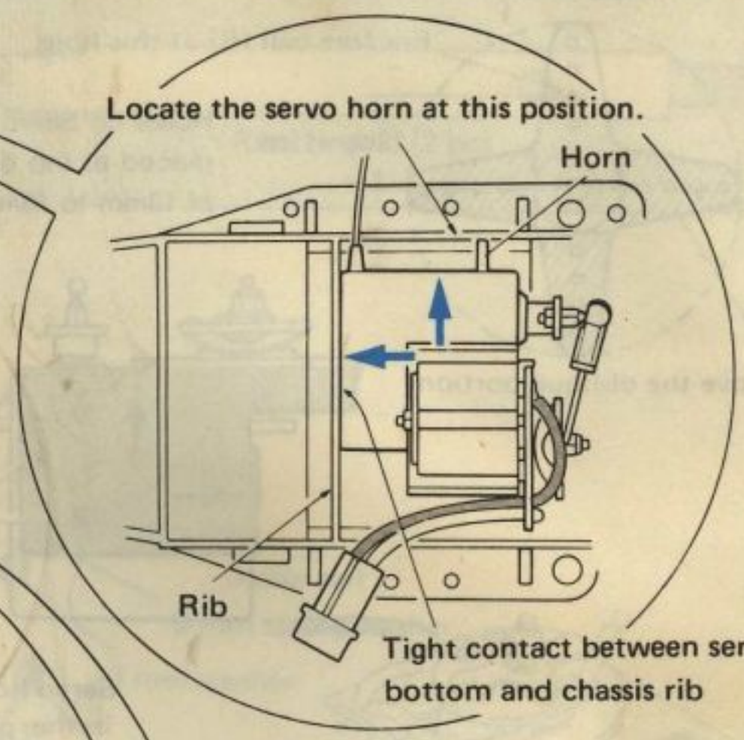
- ø3 x 8 tapping screw ... 2 pcs
- ø3 x 8 screw ... 2 pcs
- 3 mm washer ... 4 pcs
- 3 mm nut ... 2 pcs

17 Speed control servo installation

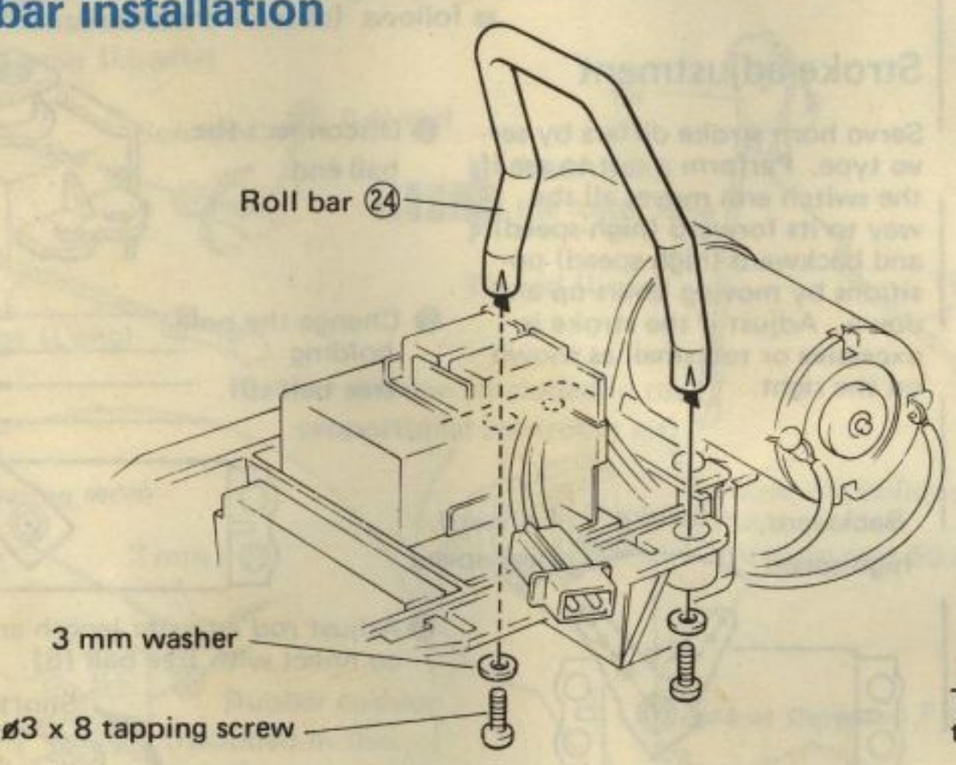
- If HUNTER runs in the reverse direction when controller stick is set to the forward position, the wire connection between the motor and controller is wrong.

- Do not touch adhesive face after removing the backing paper. (Oil on your finger may adversely influence bonding strength.)
- Apply strong pressure to secure the servo.
- Clean bonding area with thinner for use on plastic.

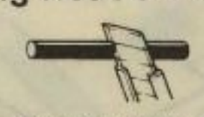




18 Roll bar installation

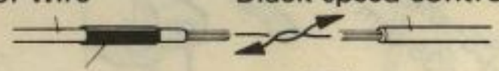


Attaching heat shrinkage tube



1 Cut the tube into half.

Black motor wire — Black speed controller wire



2 Pass the wire through tube.

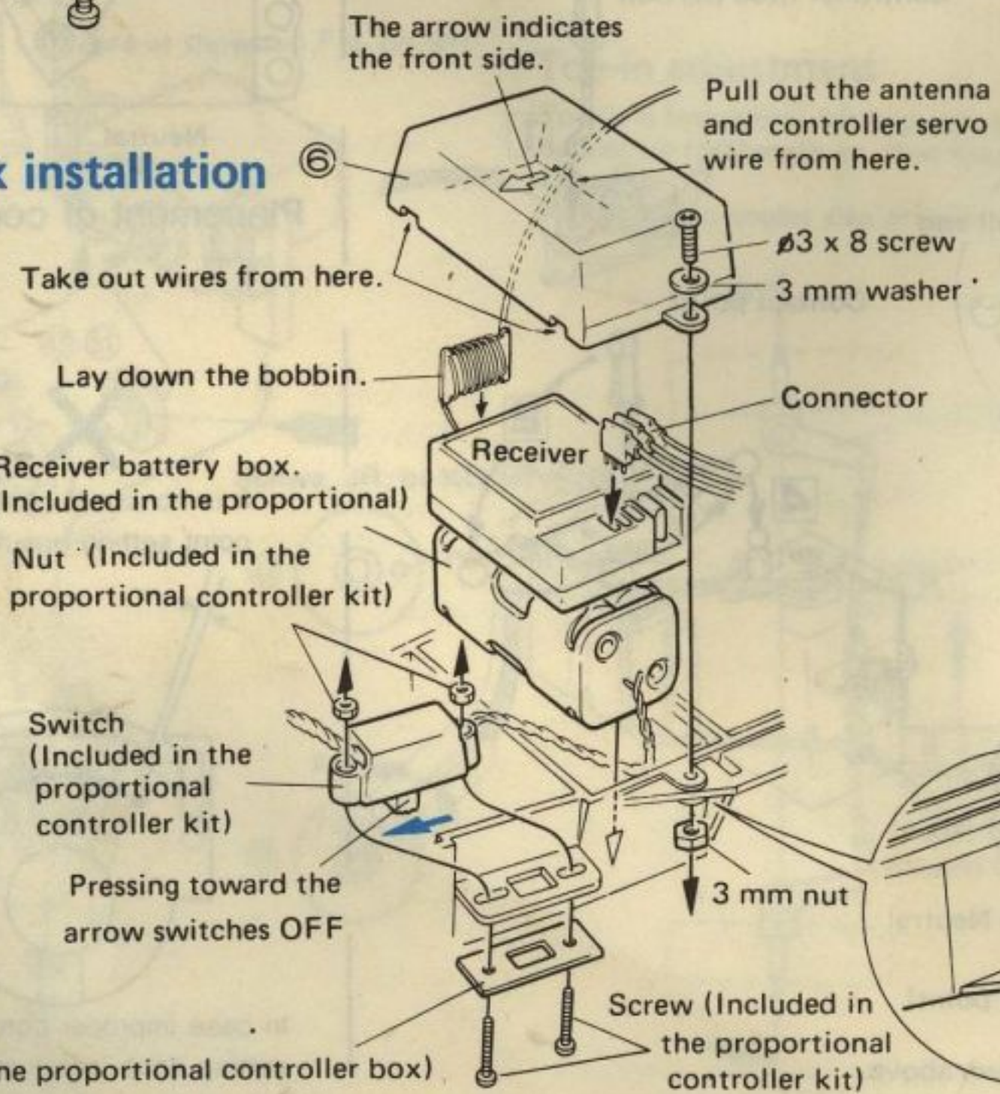
3 Twist the cords.

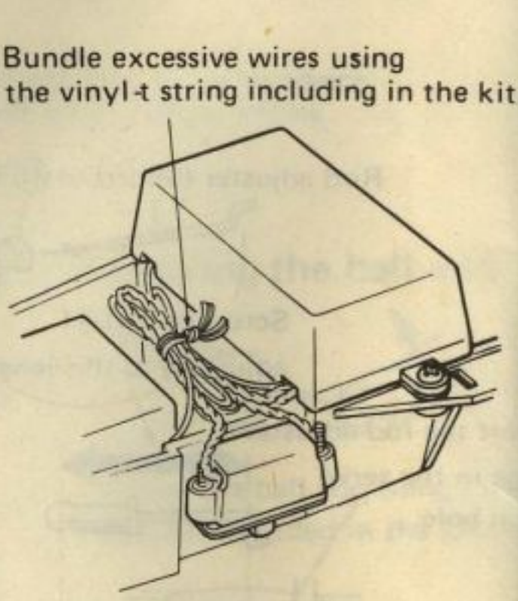
Soldering recommended

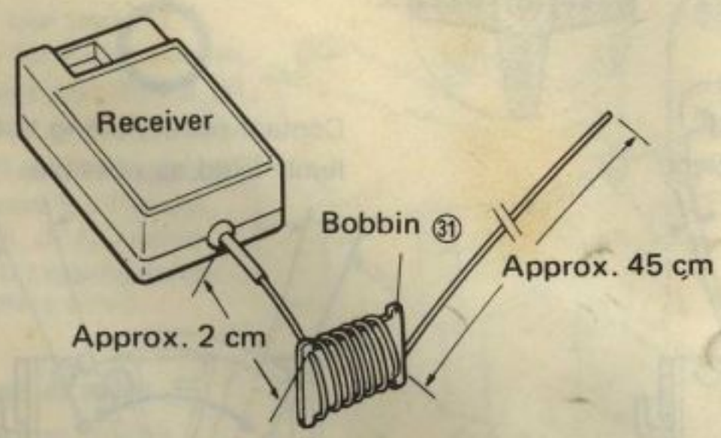
4 Cover the twisted cord area with the tube.

5 Heat the tube using a dryer.

19 Switch, receiver, and battery box installation







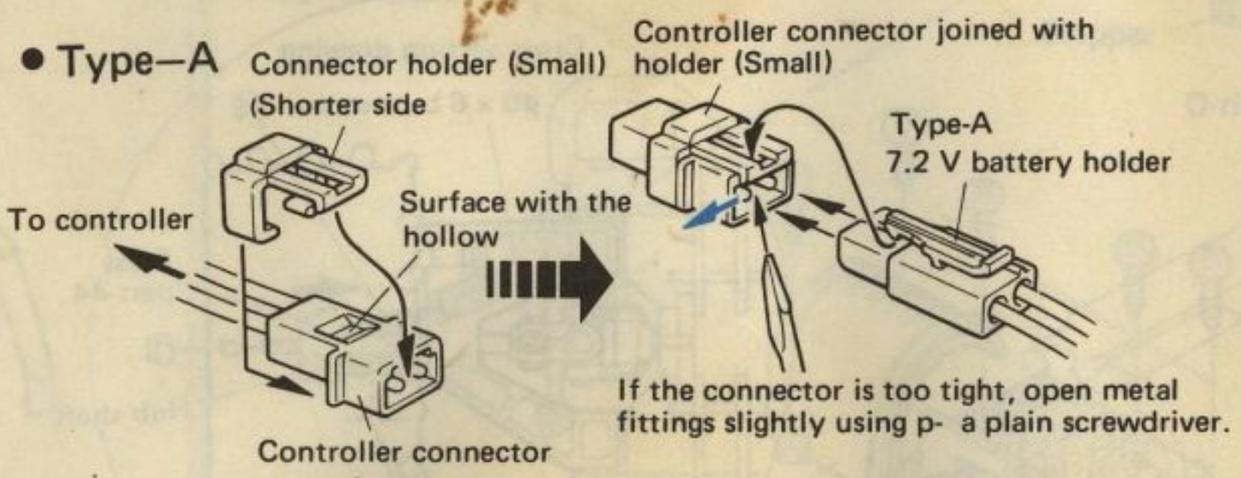
Wind the antenna on a bobbin starting 2 cm from the receiver and leave approx. 45 cm on the other end free.

20 Ni-Cd battery placement

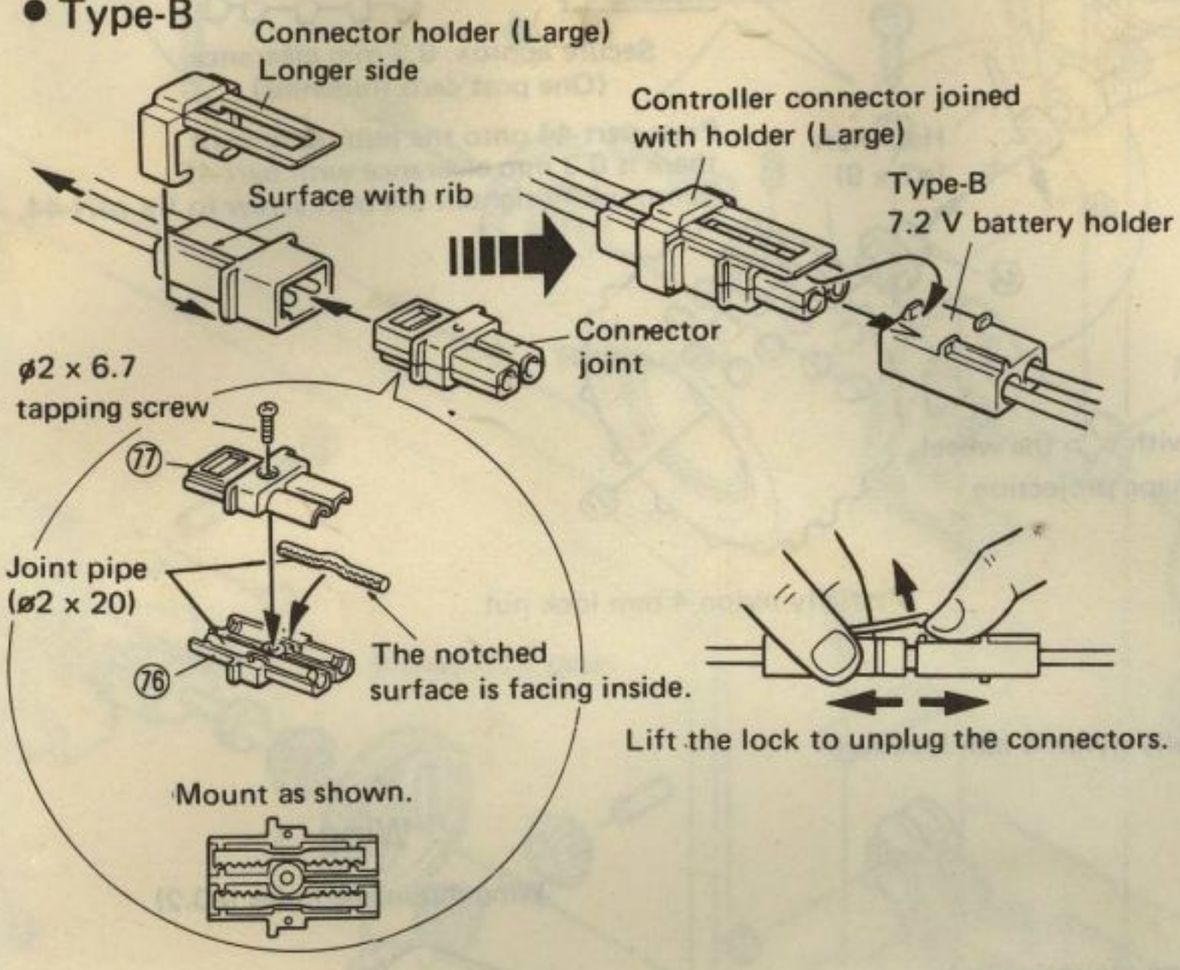
Before connecting the connector

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

● Type–A

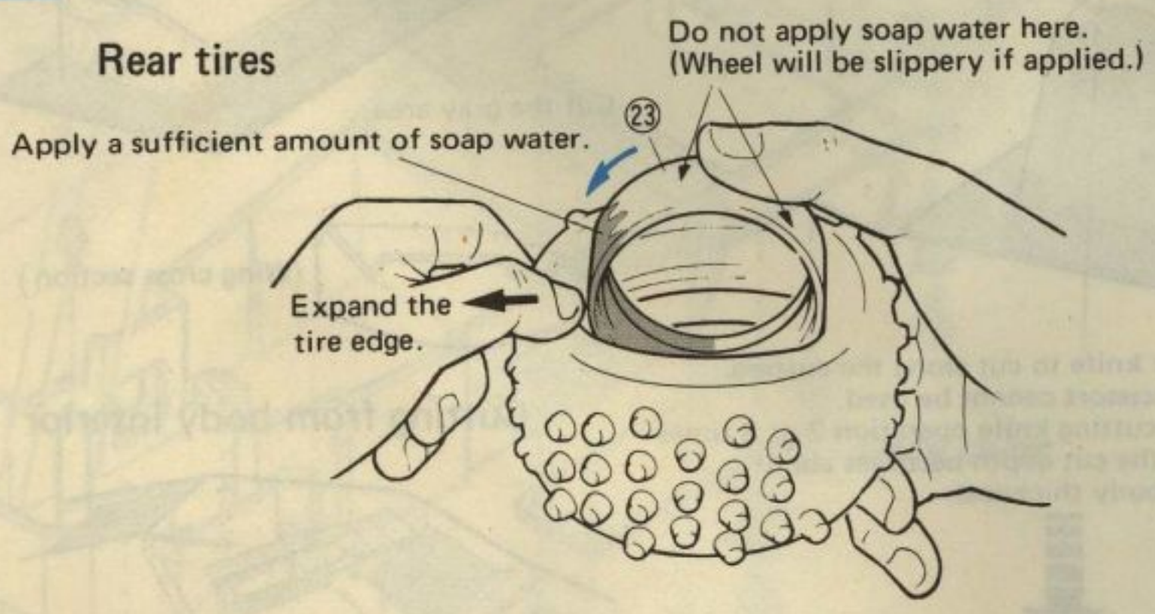


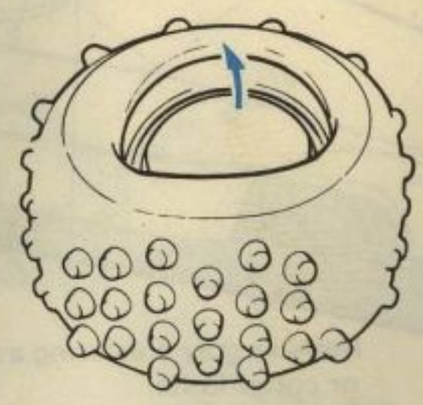
● Type-B



21 Tire and wheel assembly

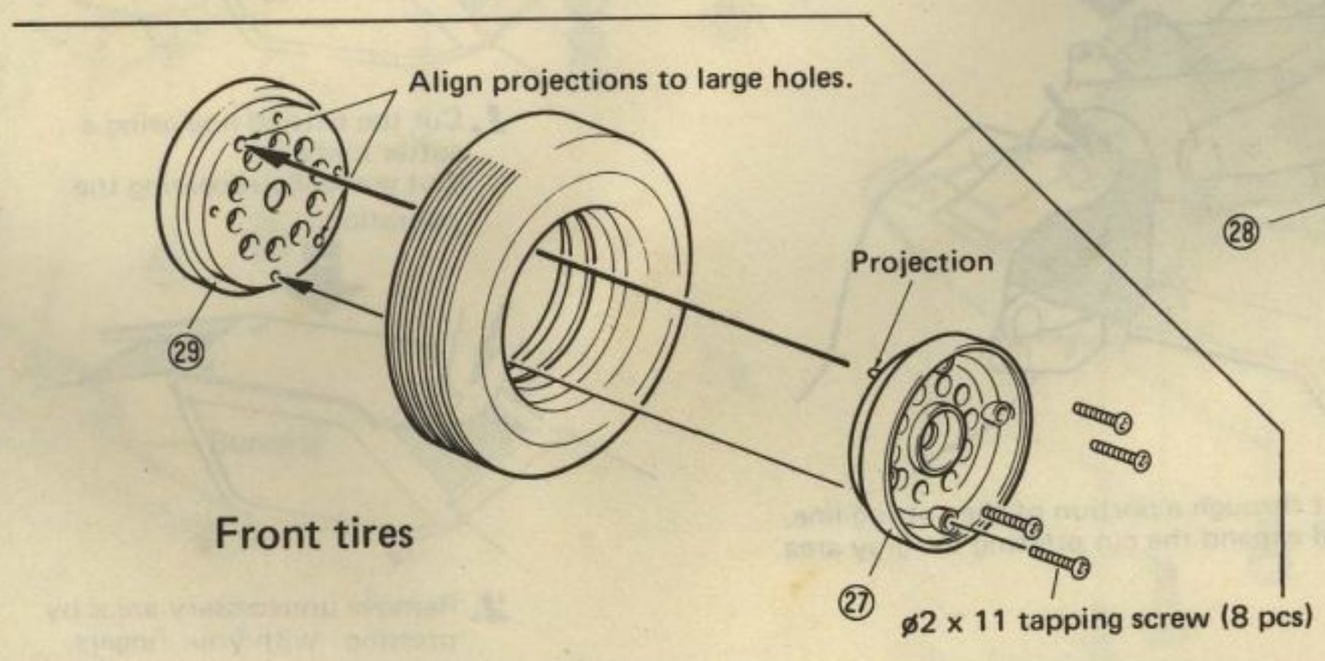
Rear tires

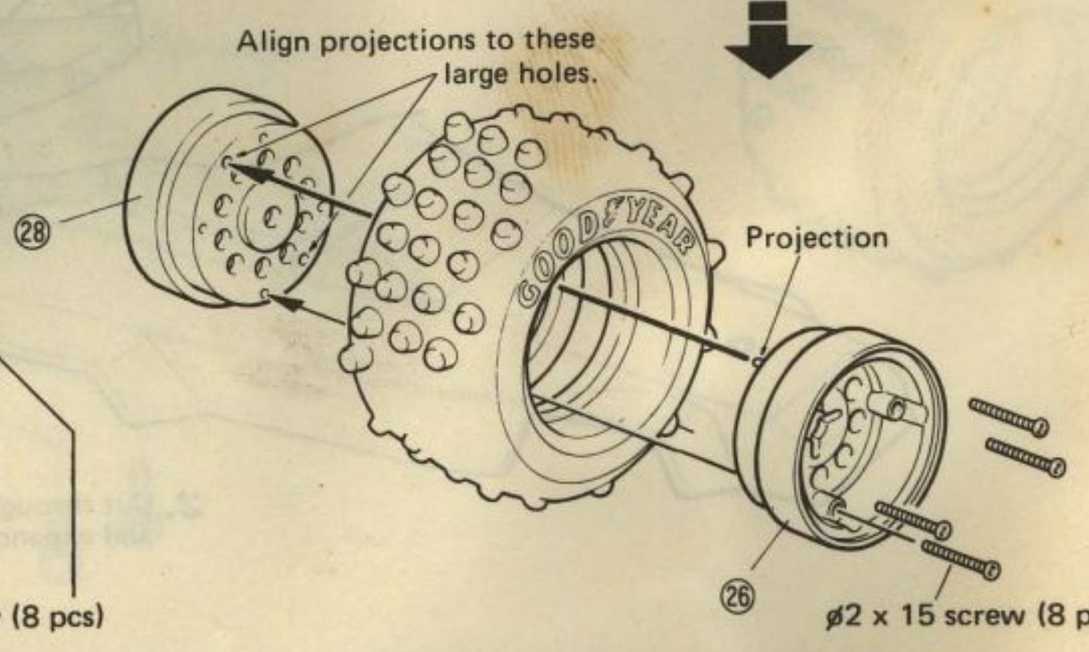




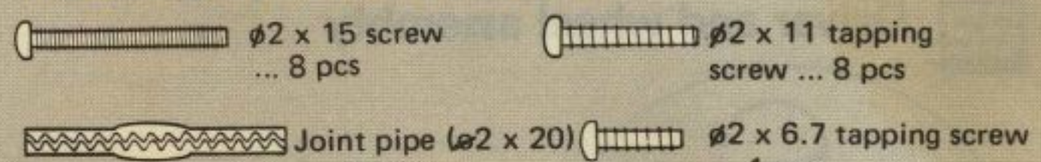
If wheel 23 is temporarily inserted in the tire, complete the job by rotating it toward the arrow mark.

Front tires

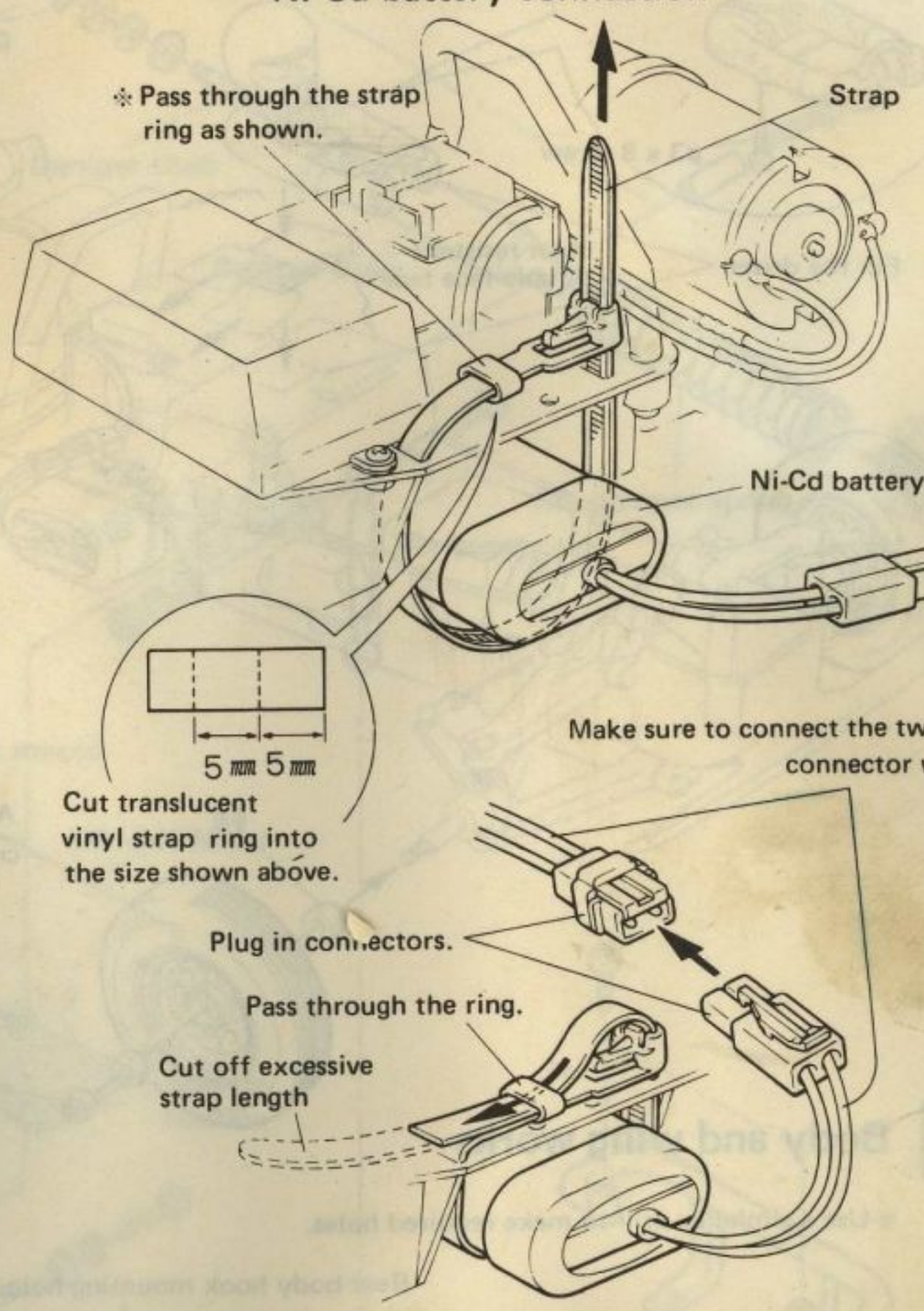




Metallic part sizes used in P. 11



Ni-Cd battery connection

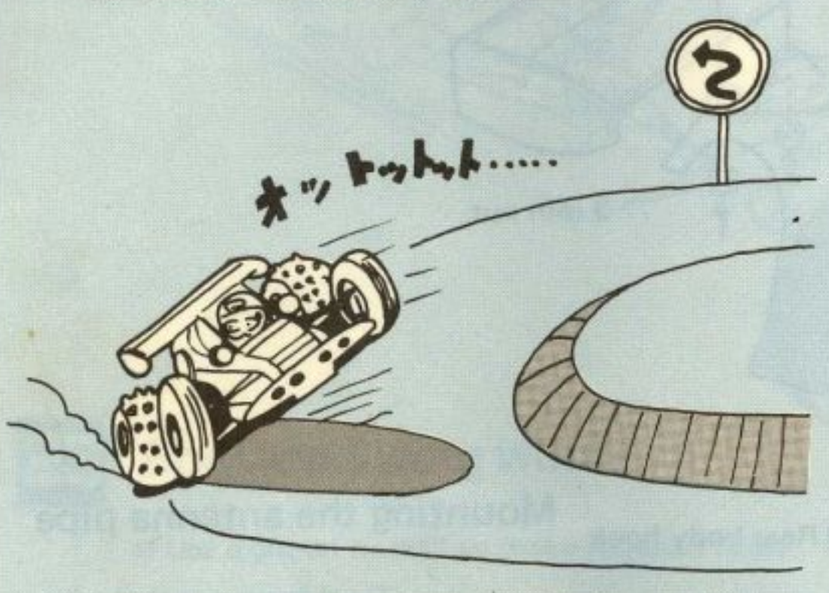


※Set the switch arm at the neutral position when plugging the connectors. (see switch position on P.9.) Plugging connectors without switching OFF damage the controller, battery, or motor.

《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.



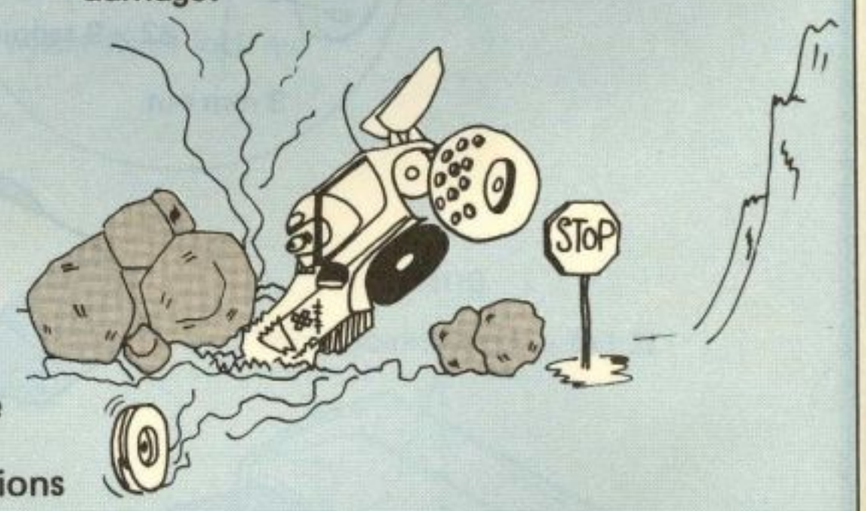
② The car may overturn if a high-speed turn is performed on a paved road or grassy lawn. Make sure to remember the basic principle for cornering, slow in and fast out

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)

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

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.



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.

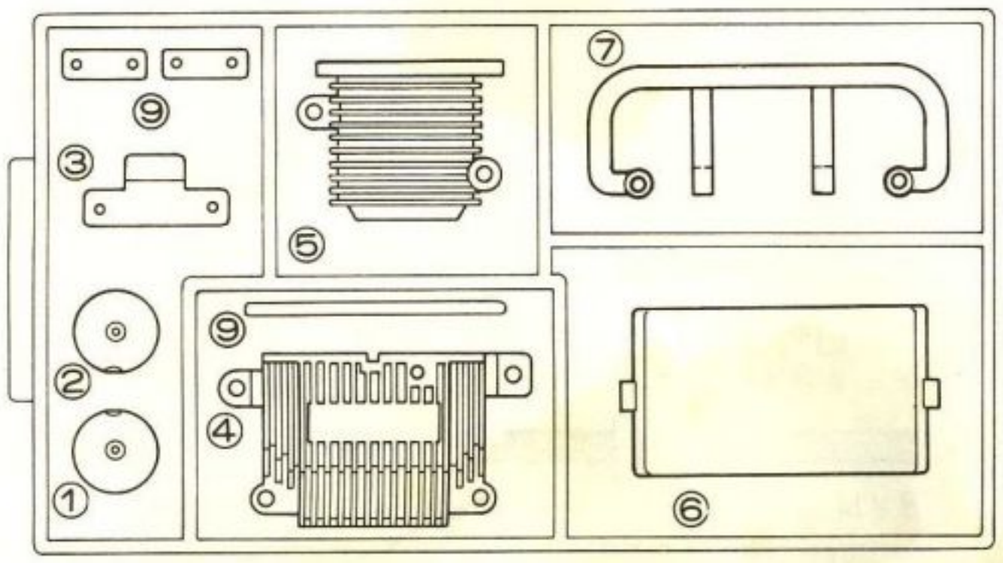
⑦ For faulty proportional controller operation including improper servo movement, check the following points:
Sufficient power supply by batteries, correct (+) and (-) battery connections, and discontinuous servo or connector wires.
If the faulty operation is still not corrected after the above, contact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

PART LIST

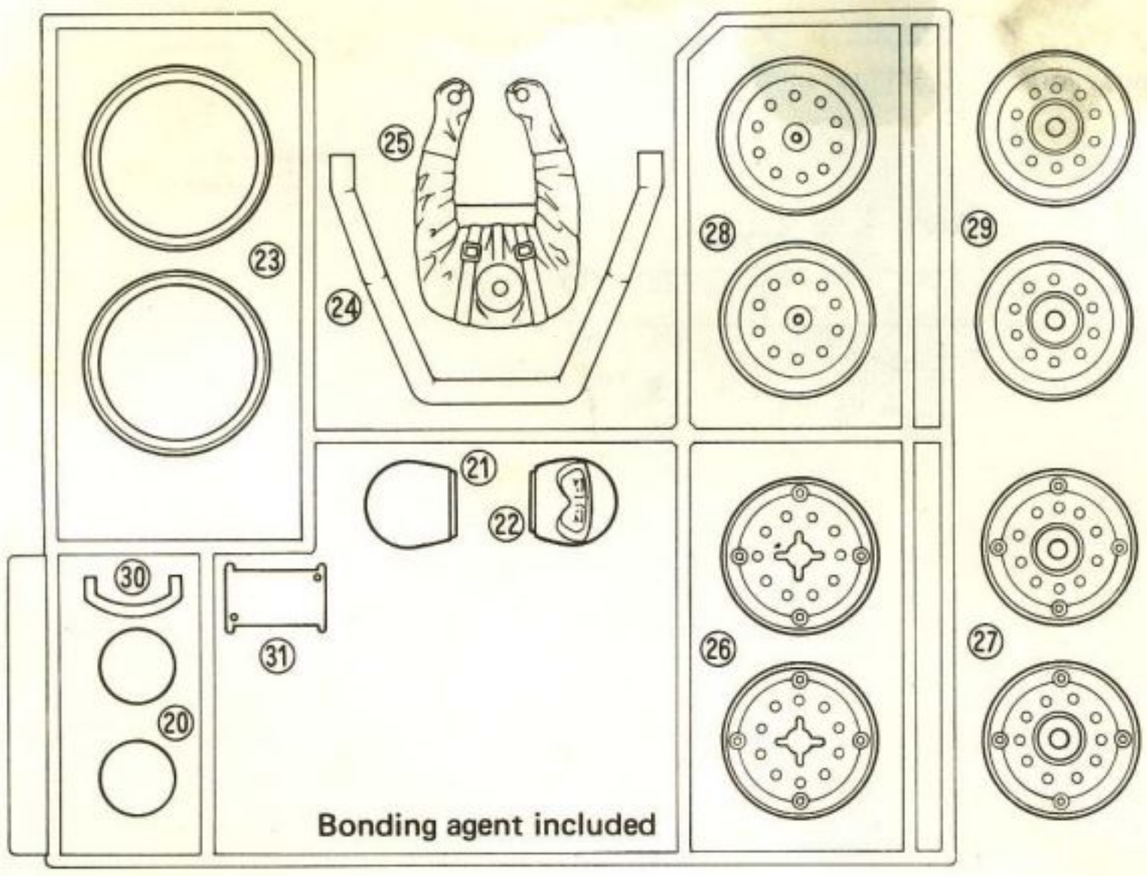
Body x 1

Chassis x 1

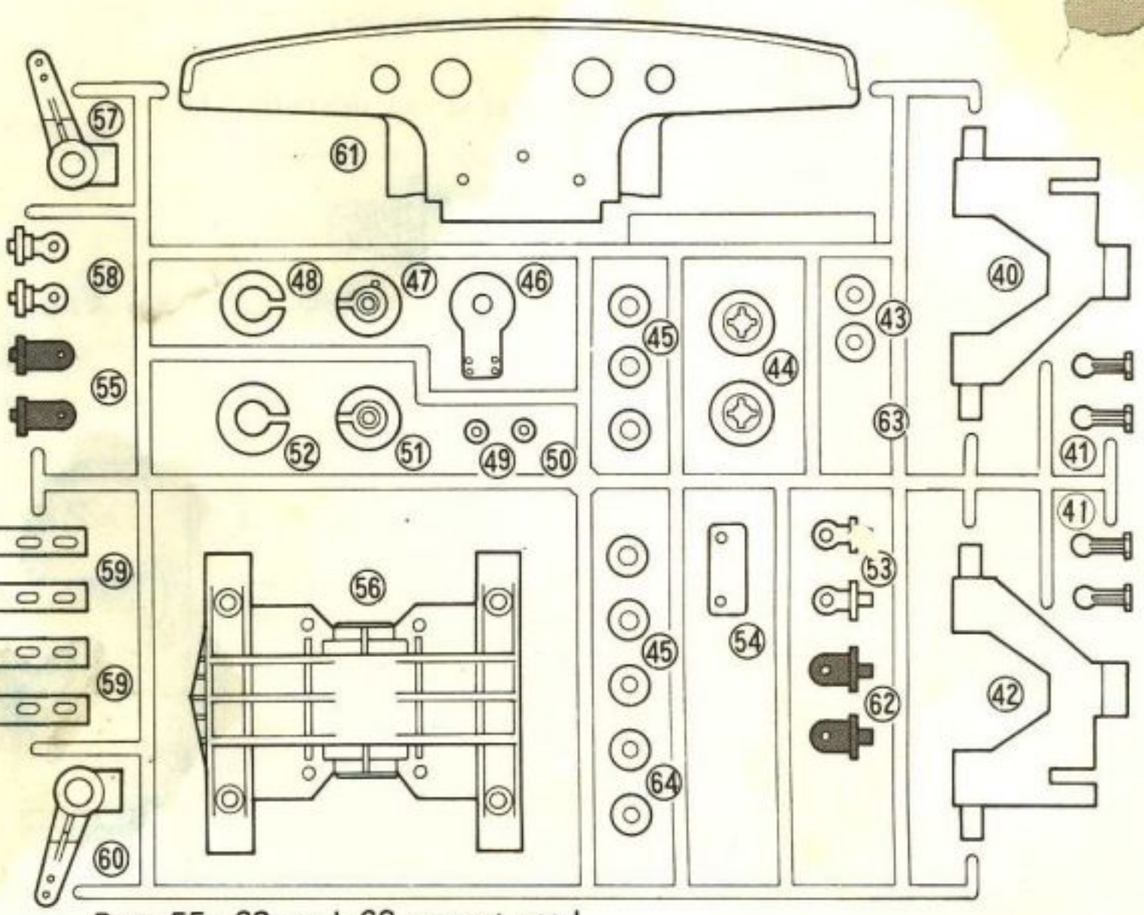
ABS parts ①× 1



ABS parts ②× 1

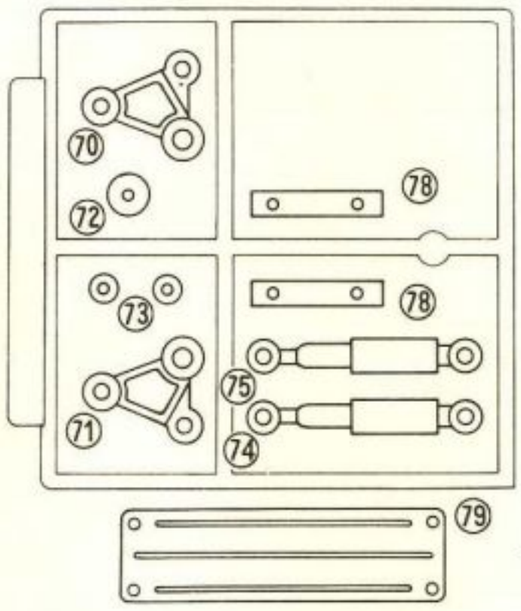


Reinforced nylon parts (A) x 1



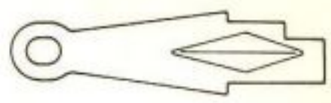
Part -55, -62, and -63 are not used.

Reinforced nylon parts (B) x 1

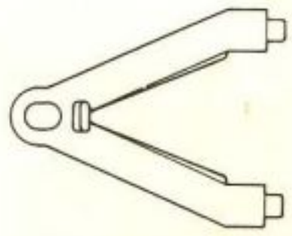


Front suspension set

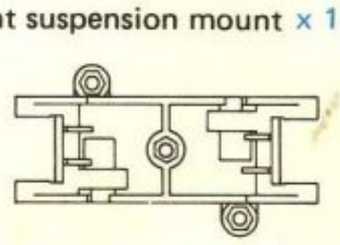
Upper arm x 2



Lower arm x 2



Front suspension mount x 1



Damper set

Damper oil ×1

Damper spring stopper

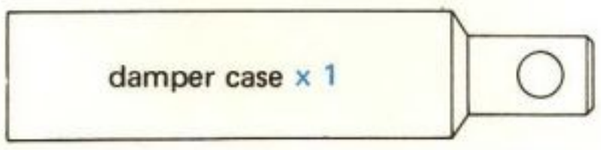
×1

Damper end x 1

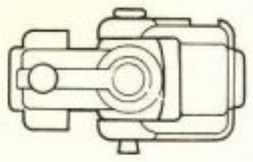
damper shaft x 1

Stiooer x 1

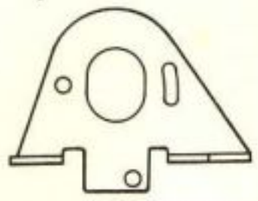
damper case x 1



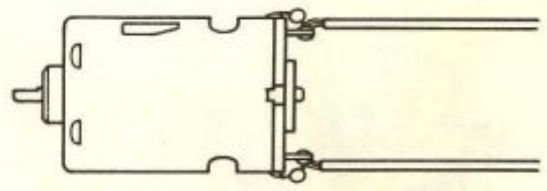
Universal joint x 2



Motor mount x 1

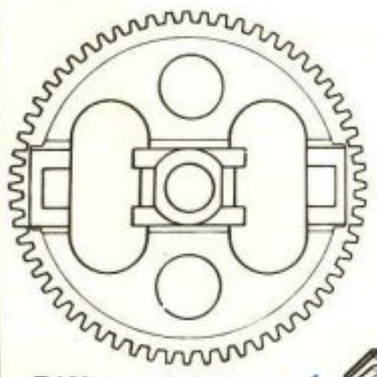


MABUCHI RS-540 motor x 1



With sponge cushion

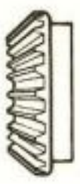
Gear set



×2

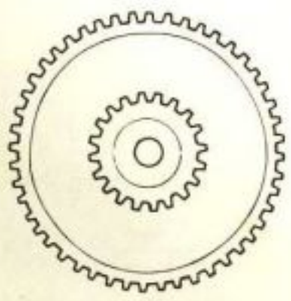
Bevel bushing

Differential geat x 1

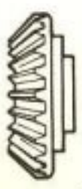


Bevel gear (A)

×2



Idler gear x 1



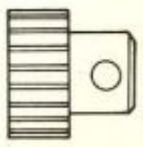
Bevel gear (B)

×2

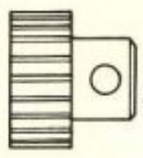
Grease Included

Pinion gear set

18-tooth high torque pinion

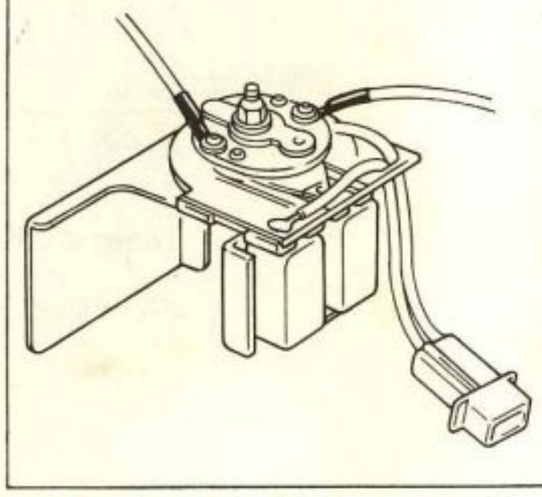


20-tooth standard ponion



22-tooth high -speed pinion

Controller



Heat resistant double face tape x 1

Antenna pipe x 1

Strap x 2

Front tires ×2

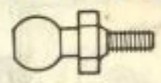
Rear tires ×2

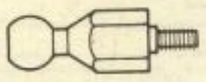
22 PART LIST

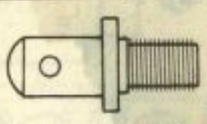
● Some types of screws and nuts are included excessively for spare part use.

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

Metallic part set


Free ball (A) x 2


Free ball (B) x 1


Body mount x 1

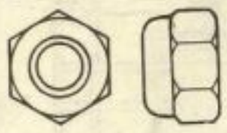

Oilless metal x 4


Damper piston x 1

Nut set

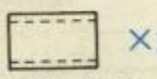

2 mm nut x 3

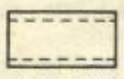

3 mm nut x 29

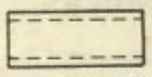

Partially nylon 4 mm lock nut x 4

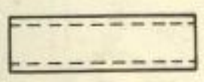
Spacer set


×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

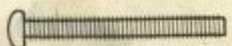

3 mm washer ×32

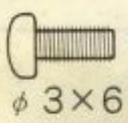

6 mm washer ×4

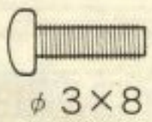

Bumper metal ×2

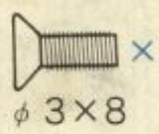

4 mm spring washer ×3

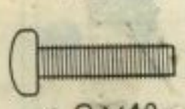
Screw set

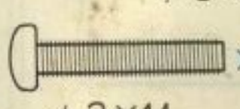

×8
ø 2×15

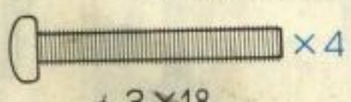

×6
ø 3×6

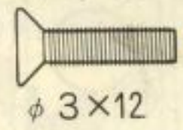

×8
ø 3×8


×2
ø 3×8

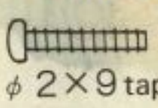

×6
ø 3×10

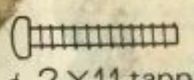

×2
ø 3×14

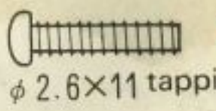

×4
ø 3×18

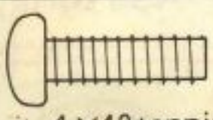

×3
ø 3×12

Tapping screw set

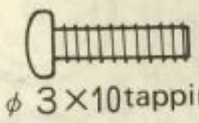

×3
ø 2×9 tapping screw

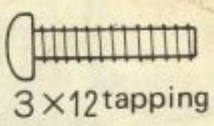

×8
ø 2×11 tapping screw


×1
ø 2.6×11 tapping screw

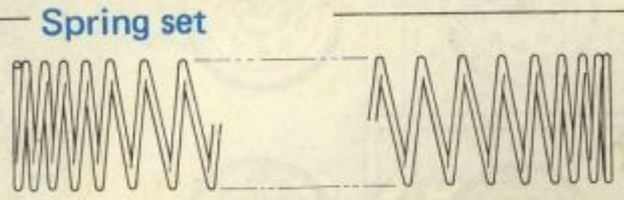

×17
ø 4×12 tapping screw

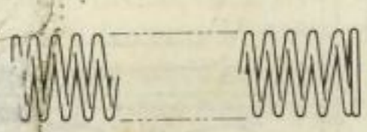

×4
ø 3×8 tapping screw

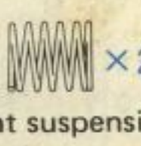

×5
ø 3×10 tapping screw


×6
ø 3×12 tapping screw

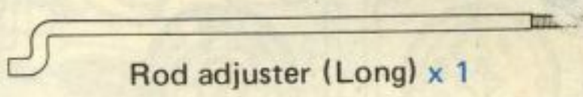
Spring set

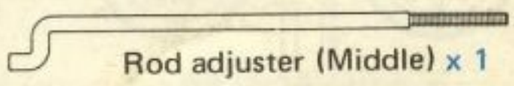

Oil damper spring x 1

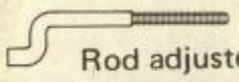

×2
Front damper spring

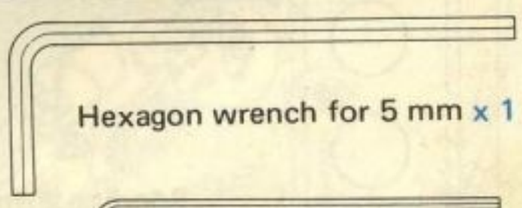

×2
Front suspension spring

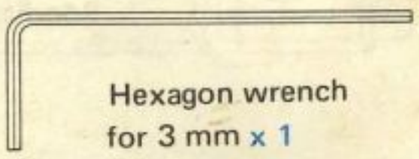
Set-A


Rod adjuster (Long) x 1

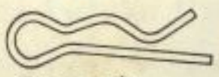

Rod adjuster (Middle) x 1


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)

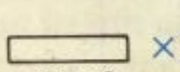

×1
ø3 x 3 butt screw

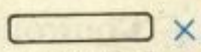

Stop ring x 1

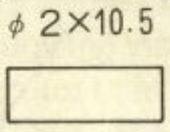

×2
O-ring (Small)

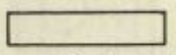

×1
O-ring (Large)

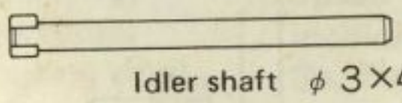
Shaft set

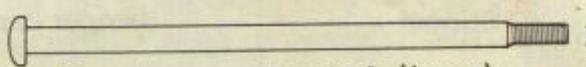

×2
ø 2×9

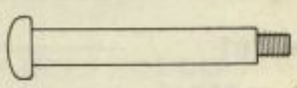

×2
ø 2×10.5

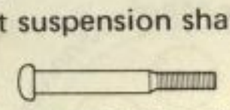

×2
ø 4×11.5


×1
Differential center shaft (2.5×12)


×1
Idler shaft ø 3×43.5

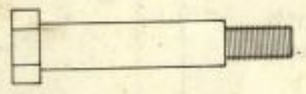

×2
Front suspension shaft (Long)


×2
Front suspension shaft (Middle)

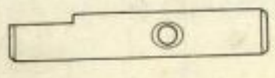

×2
Front suspension shaft (Short)

Main shaft set

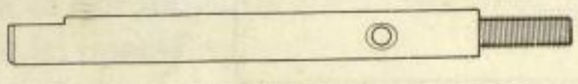
Front shaft x 2



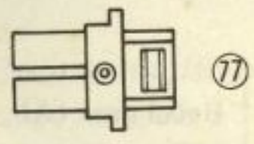
Differential shaft x 2

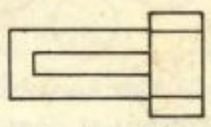


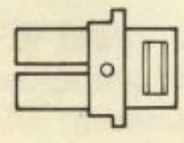
Rear shaft x 2

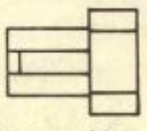


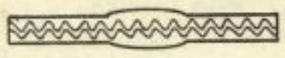
Connector set

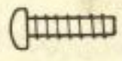

⑦⑦
Intermediate connector


×1
Holder (Large)

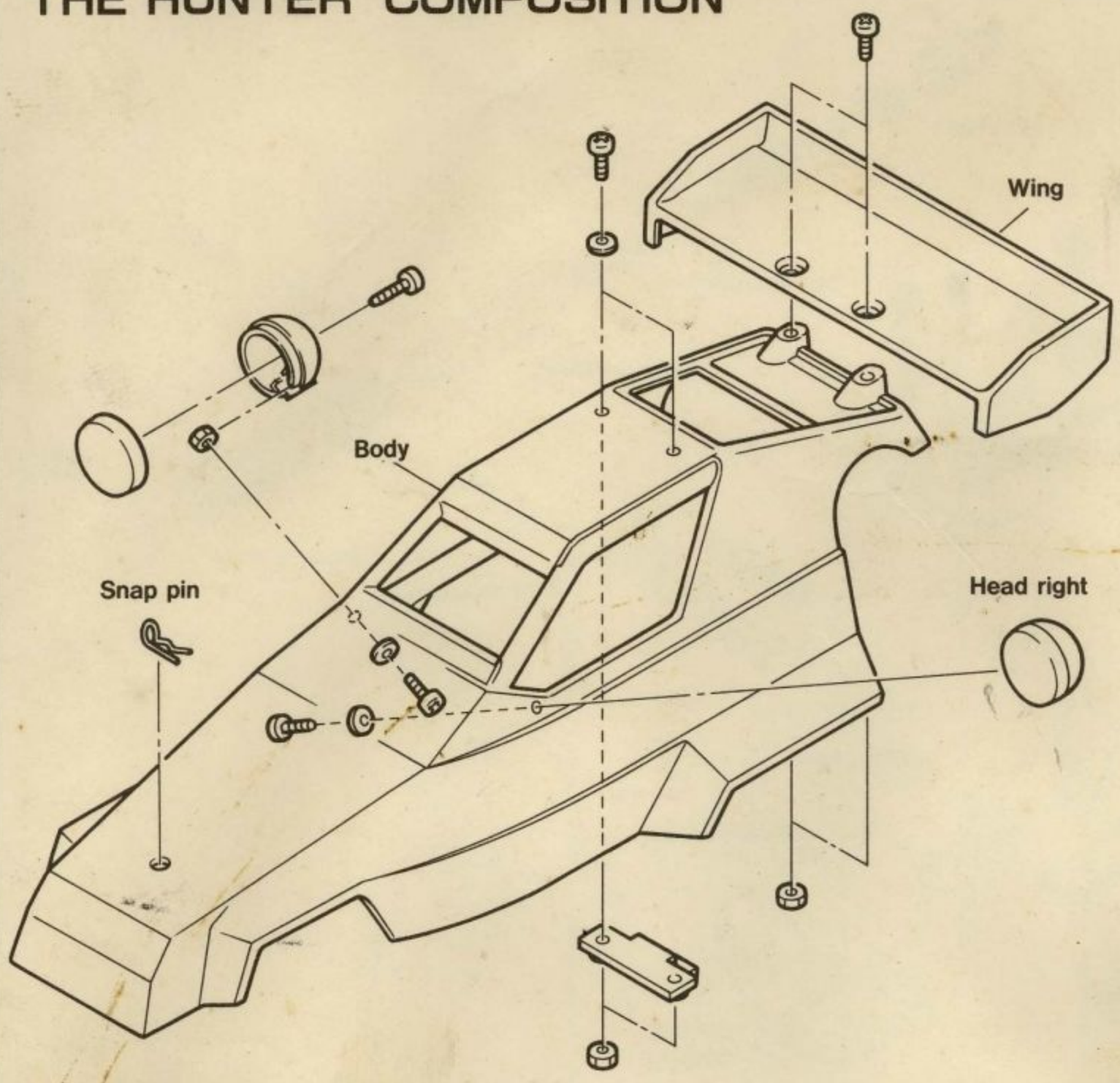

⑦⑥

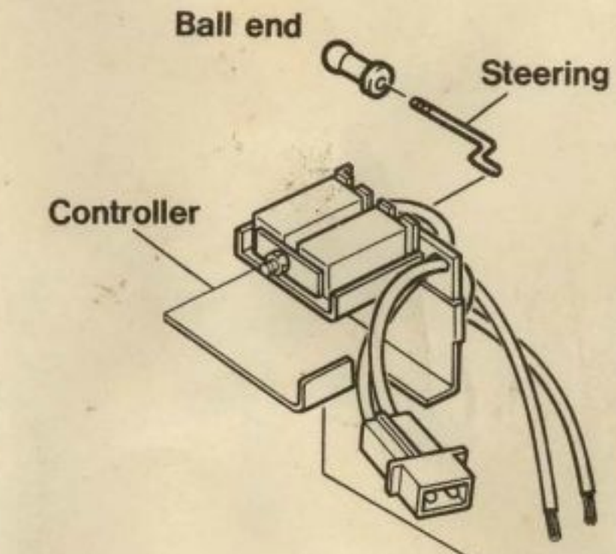

×1
Holder (Small)

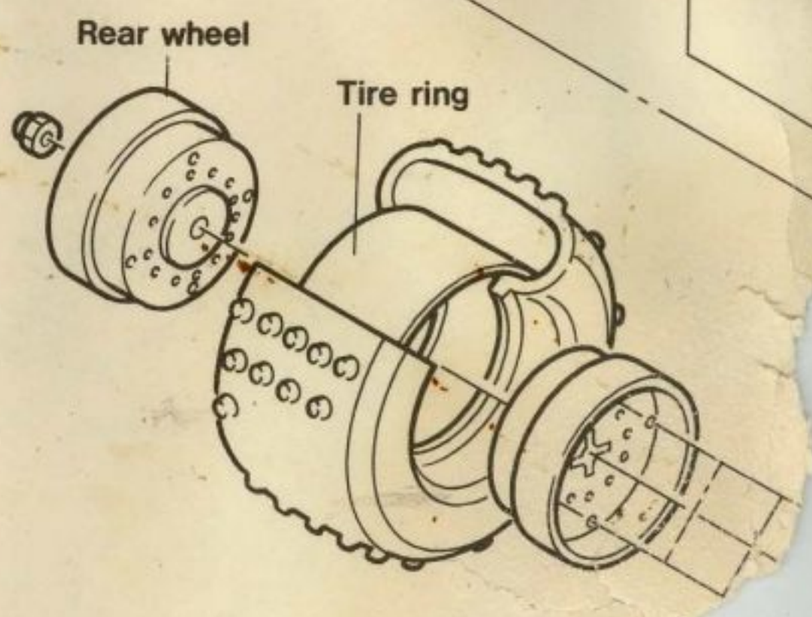

×2
Joint pipe ø 2×20

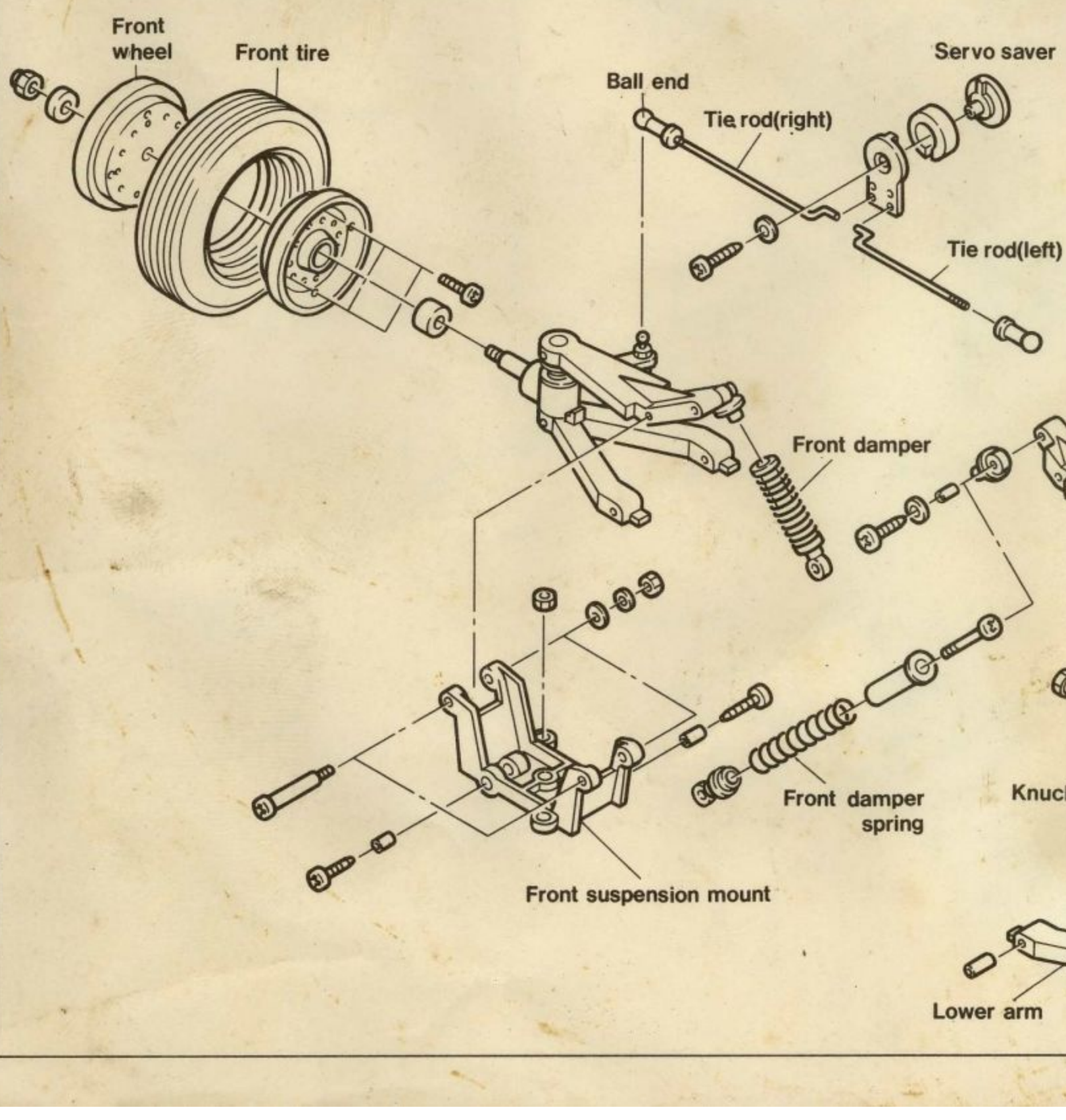

×1
ø2 x 6.7 tapping screw

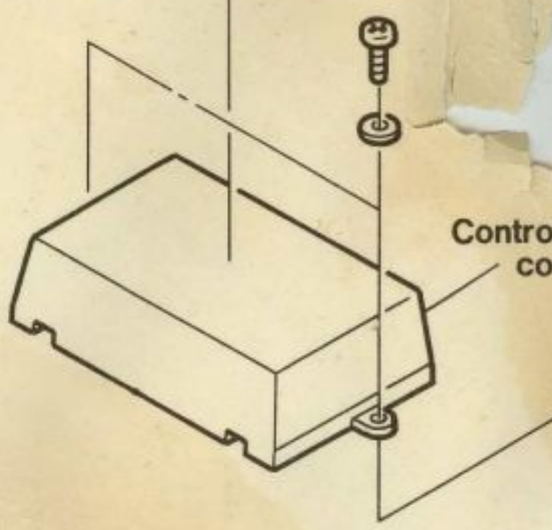
1/10 SCALE ELECTRIC R/C CAR ASSEMBLE KIT
THE HUNTER COMPOSITION











Damper end
Antenna pipe
Stopper
O-ring
Damper shaft
Damper case
Motor cover
OiL damper spring
Rer suspension
spring stopper
Pinion gear
Motor mount
RS-540 Motor
Differential gear
Sponge cushion
Rear guard
Under guard
Rear arm
Rear shaft
Rear tire
Differ cover
Bumper