OFF-ROAD RACER

Featuring Unique All-Wheel Steering!

GALLOP 4WDS

1/10 SCALE RADIO CONTROLLED ELECTRIC POWERED SPECIAL OFF-ROAD RACING BUGGY

4 WHEEL DRIVE & 4 WHEEL STEERING

INSTRUCTION MANUAL

1:10 SCALE

BATTERY: 7.2V-1200mAh
RADIO: 2ch.
〔NOT INCLUDED〕

KYOSHO
THE FINEST RADIO CONTROL MODELS

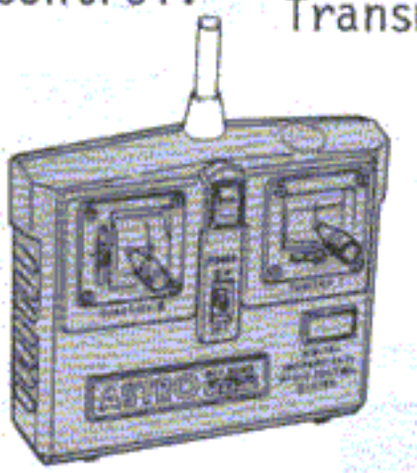
KIT No.3068

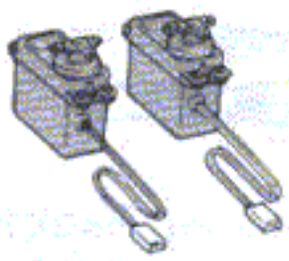
TECHNICAL DATA

- Length/395mm (15.6")
- Width/230mm (9.1")
- Ground clearance/27mm (1.1")
- Wheelbase/262mm (10.3")
- Front tire/85mm dia×32mm (3.35×1.25")
- Rear tire/85mm dia×40mm (3.35×1.6")
- Motor/Mabuchi RS-540S
- Total weight/1640g (57.8 oz)

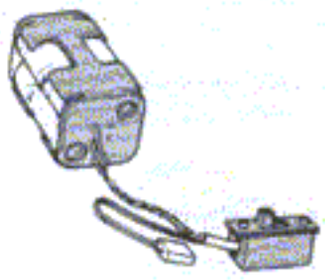
RADIO CONTROL SET

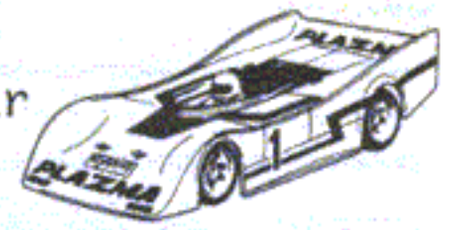
A 2 channel, 2 servo digital proportional radio control unit is required for driving this model car. This type of radio can be used for any models requiring 2-channel control.

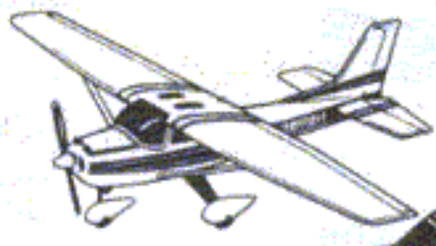

Transmitter


Servo


Receiver


Battery Case


R/C Car


Small Airplane


Boat

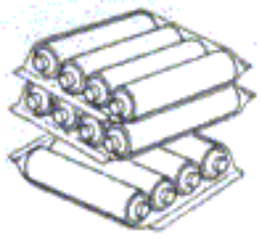
NI-CAD BATTERY

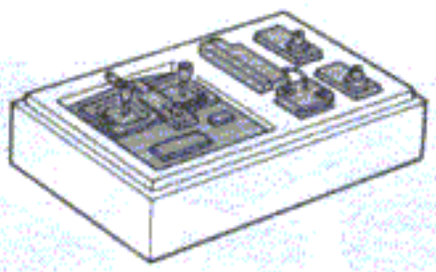
It is formally called a nickel cadminum battery, which is more economical than a dry cell battery, since it can be recharged for reuse over and over again. Also with its regulated voltage it is an ideal power source for driving radio controlled models.

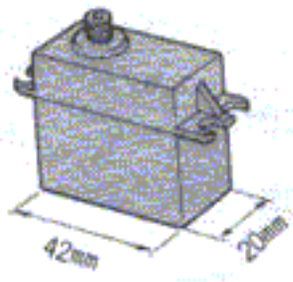
THINGS TO BE PROCURED BESIDES THE KIT

[2-channel Radio Control System]

Average size receiver and servos can be installed to the "Progress 4WDS"


Battery for Radio Control System


2-channel Radio Control System



The Maximum Demensions which will fit.

[Battery for Propelling the Car]

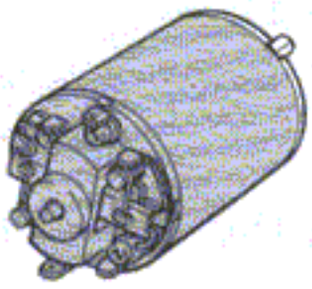
The "Ni-Cad Battery 6N-1200" or "7.2V Racing Battery" are ideal for the purpose.

6N-1200 Battery

7.2V Racing Battery

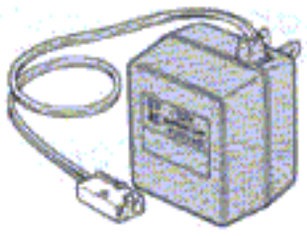
[Motor]

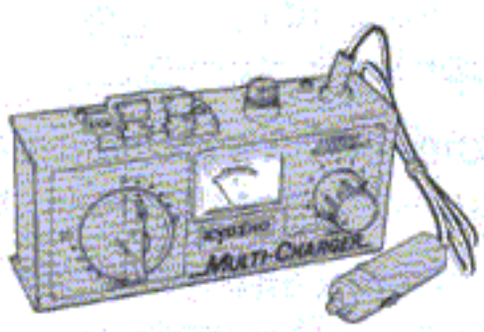
A Mabuchi RS-540S motor is installed as standard motor. In addition, Racing motor "Le Mans 600E - regular high torque type. and "Le Mans 360PT - high torque type for 8 minutes races" are available as an option.



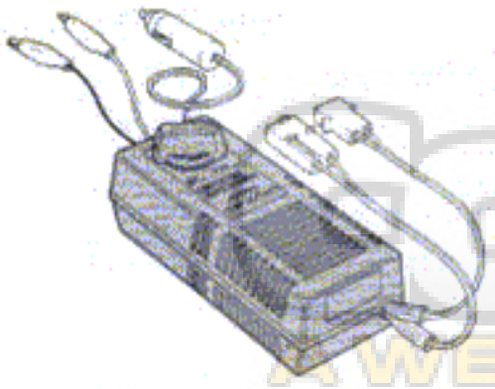
[Charger for Ni-Cad Battery]

Ni-Cad batteries are capable of being recharged over 300 times for repeated use. Two types of chargers can be used: a 15-hour trickle charger which plugs into a 100V household circuit, or a 15 minute quick charger which plugs into a 12V automobile cigarette lighter.


110V AC Charger from Household Outlet



The multi charger is a multi purpose rapid type charger able to recharge 5N or 6N 1200 batteries and a receiver battery of a radio control set.


12V Rapid Charger

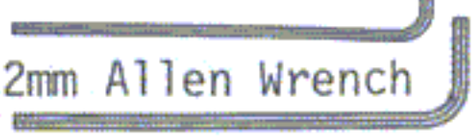
Multi Charger
(12V General Purpose Rapid Charger)

TOOLS REQUIRED FOR ASSEMBLED

The following tools and cement are included in kit.

1.5mm Allen Wrench

2mm Allen Wrench



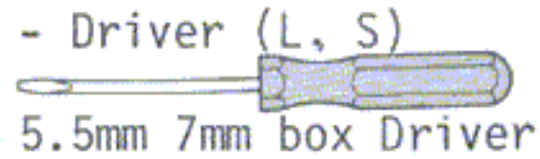
Thread Locking Cement

To be applied to the screws and nuts to loosening and loosing while running.

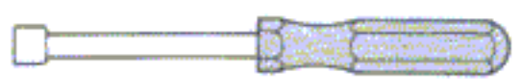
The following tools are required for assembly.

+ Driver (L, S)

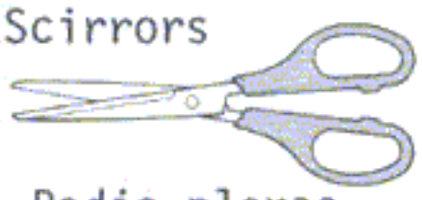
- Driver (L, S)



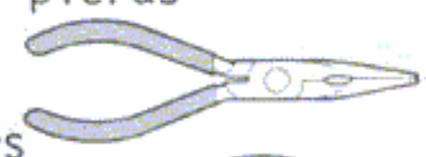
5.5mm 7mm box Driver



Scirrors



Radio pleras



Pliers

Awl

Cutter

Instant Cement

Paint

Masking Tape

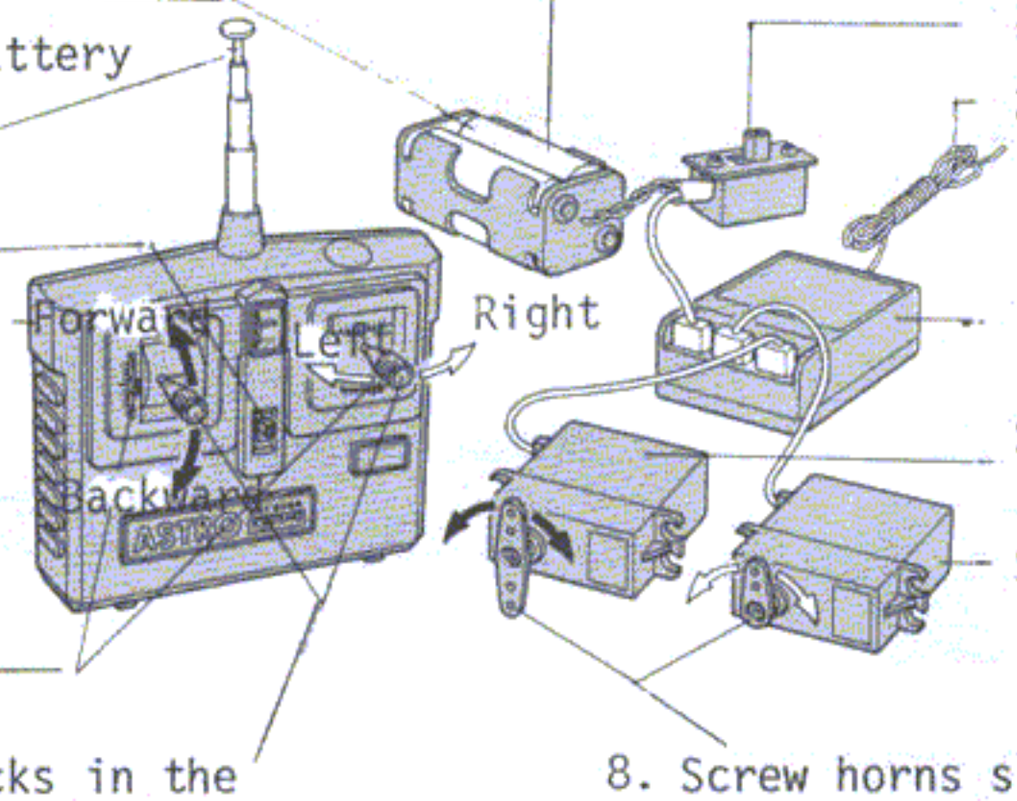
Brush

HOW TO CHECK RADIO CONTROL UNIT

Follow steps 1 to 8 in order.

1. Insert the batteries. (Both transmitter and receiver battery boxes)
3. Extend the antenna.
4. Turn the switch on.

Transmitter



6. Set the trim levers to the neutral.
7. Put the sticks in the neutral position.
8. Screw horns should be in the nutral position.

When turning the switches on, switch on the transmitter first, then the receiver.

A 2 channel radio control set is composed of a transmitter, a receiver, two servos, and a battery box.

*Transmitter ..... This is to control the models. The movement of the control stick is transmitted to the receiver via radio waves eminating from the antenna.

*Receiver ..... Receives the radio signals from the transmitter and sends them to the appropriate servo.

*Servos ..... Operate the controls by means of motor and gears according to signals provided from the receiver.

*Antenna ..... Plays an important role of emitting the radio signals from the transmitter. The receiver antenna accepts the signals. Both antennas must be fully extended when in operation.

*Trim Levers ..... Adjusts the neutral position of the servos. Provides fine tuning of steering, and the speed controller to control forward or backward movement.

*Servo Horn ..... This is to transfer the movements of the servo to a controlled componenet. There are several shapes available depending upon the application.

[Before Assembly]

Please read through these instructions before assembly. Your through understanding of the assembly will enable you to build the kit without difficulty. Check the components in the kit prior to your startings the assembly will not be accepted.

*Small items such as screws, spacers, and washers are illustrated actual size.

*Apply "Thread Locking cement" to any point indicated with SW-LOCK mark.

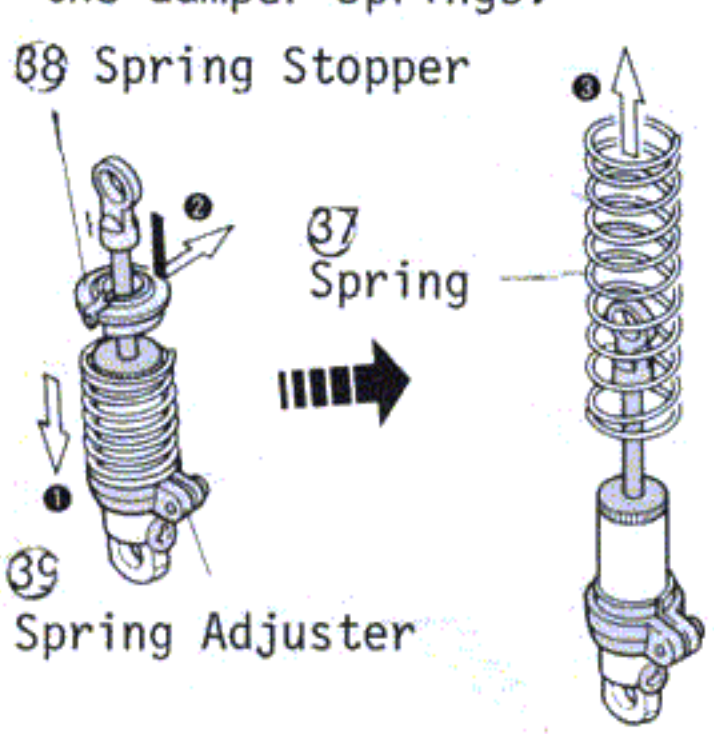
(Note)

1. Try not to apply thread-lock-cement to places other than indicated. The cement may dissolve nylon parts.
2. Be careful not to tighten self-tapping-screw too tight. Otherwise you may strip the threads.
3. Trim runners off the plastic parts with a knife.
4. Since this is a sister model of the Progress 4WDS, some drawings are used in this instruction which have slightly different shape from the real parts of the Gallop 4WDS.

1 FILLING DAMPER WITH OIL

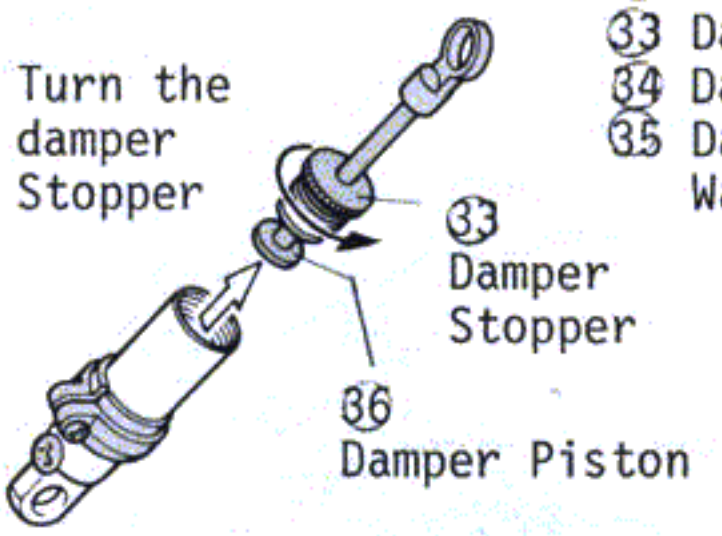
*Disassemble the three dampers, which have been assembled and included in the kit.

*Follow the setps shown in the drawing below to remove the damper springs.

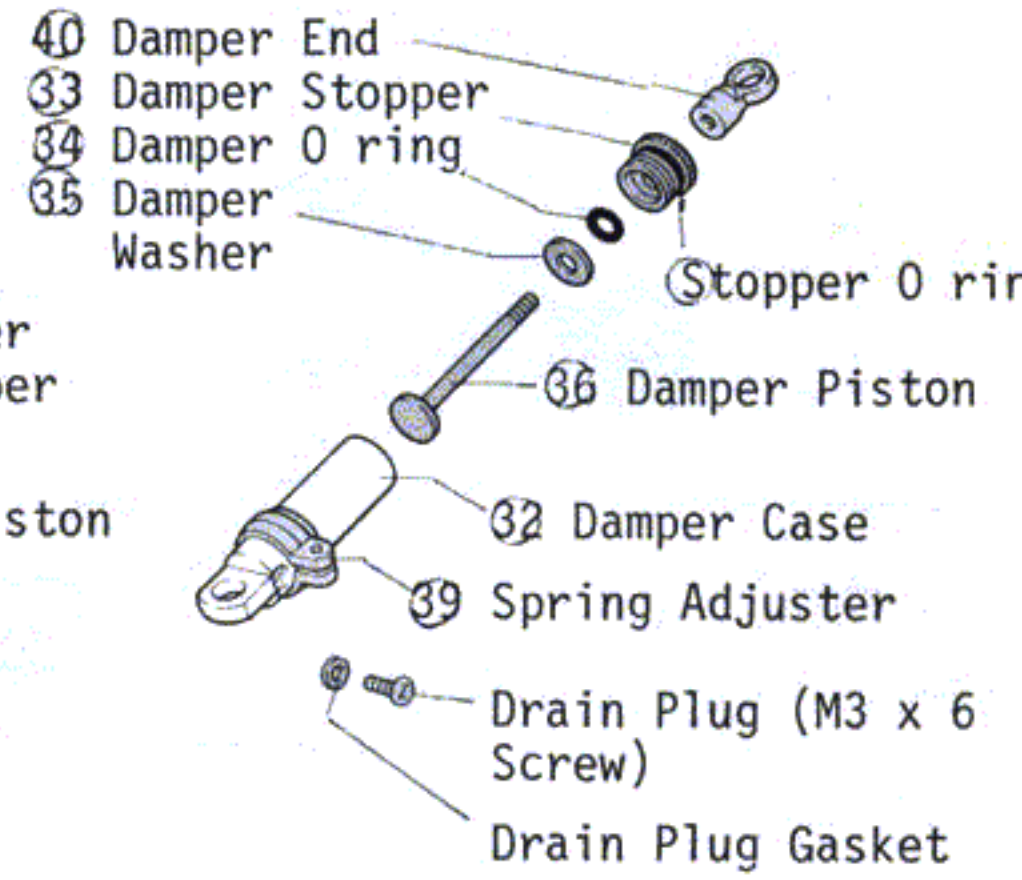


1 FILLING DAPMER WIIH OIL

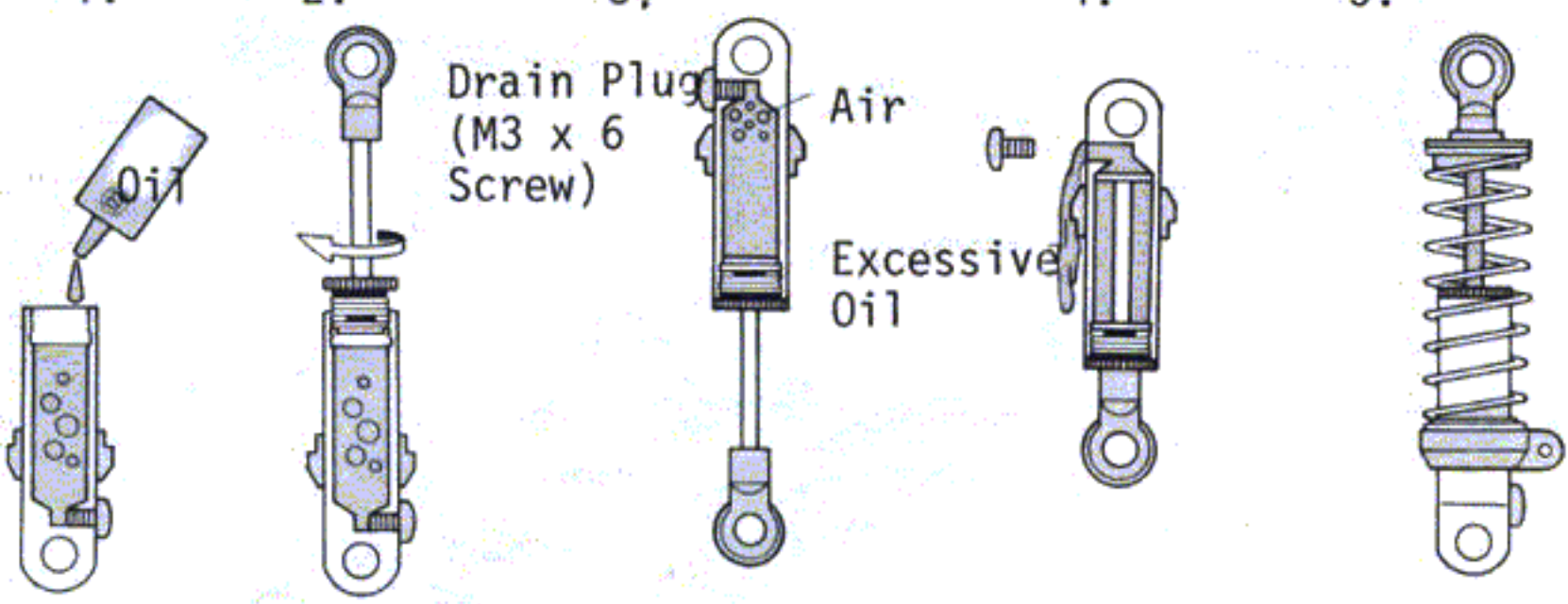
Turn the damper Stopper



Pull out the damper stopper and the damper piston.



[Pouring Oil]



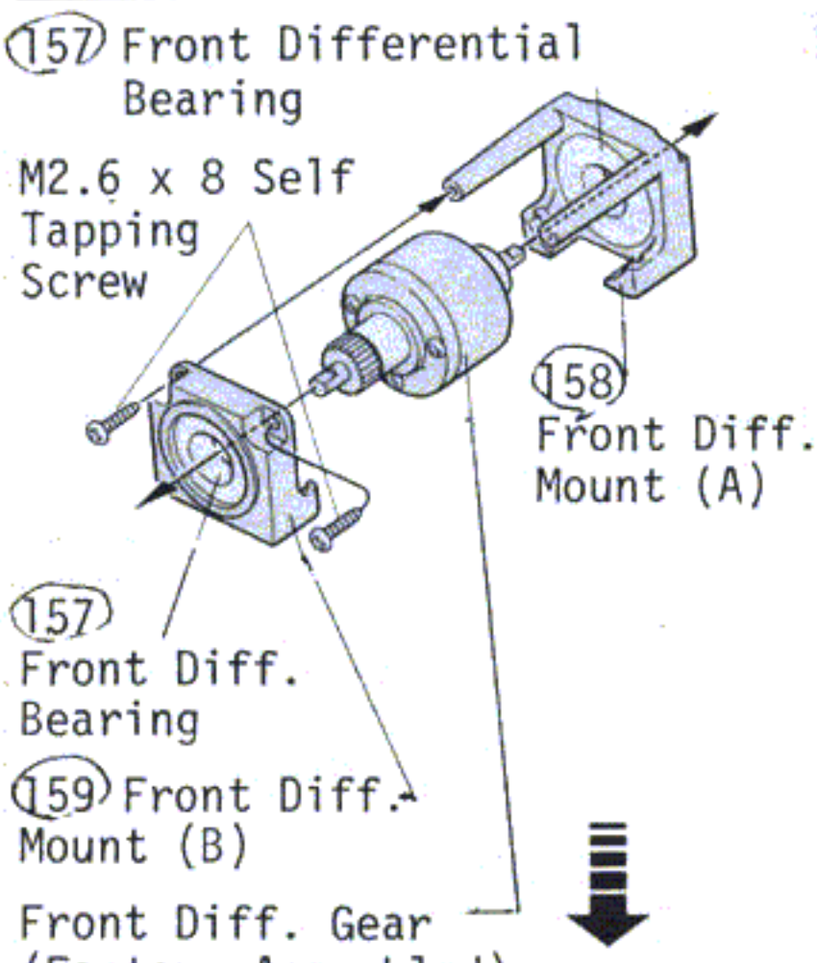
1. Fill up the damper cylinder with oil up to the inner shoulder.
2. Tighten the damper stopper by hand. Do not over-tighten or the O-ring will squeeze out of position.
3. Hold the oil damper upside down for 30 seconds until the air rises up to the other end.
4. Remove the drain plug and compress the piston gradually. When you have pushed it up all the way and expelled the excess oil, screw in the plug.
5. Reinstall the spring as it was at the beginning.

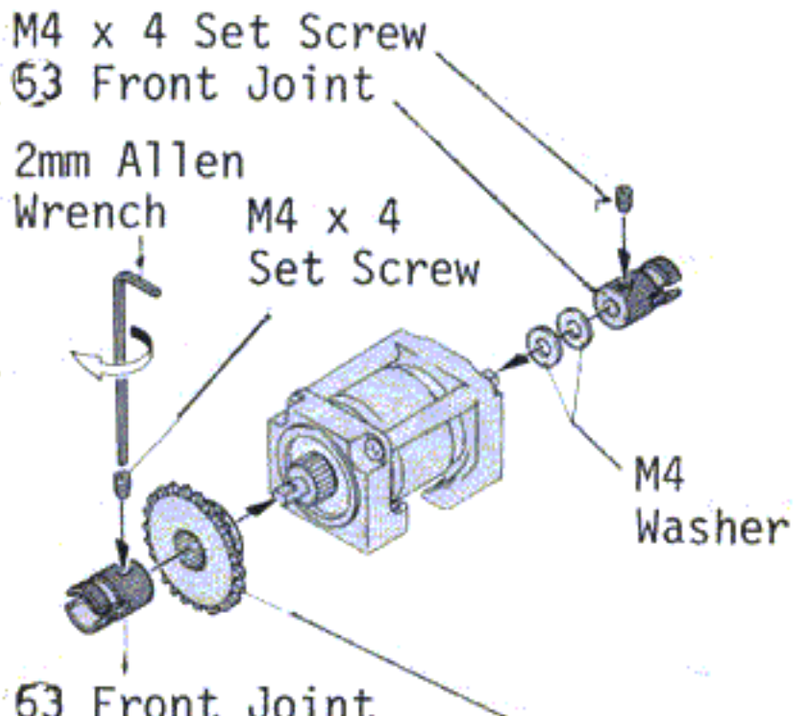
2 ASSEMBLY OF FRONT BLOCK

2 ASSEMBLY OF FRONT BLOCK

[Small Parts Used]

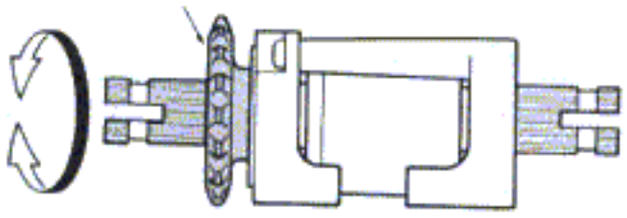
M3 x 10 Screw	.....	2
M2.6 x 8 Self Tapping Screw	....	2
M3 x 8 Self Tapping Screw	....	4
M3 x 10 Self Tapping Screw	....	1
M3 x 14 Self Tapping Screw	....	3
M4 x 4 Set Screw	.....	2
3 mm Nut	.....	2
M3 Washer	.....	8
M4 Washer	.....	2

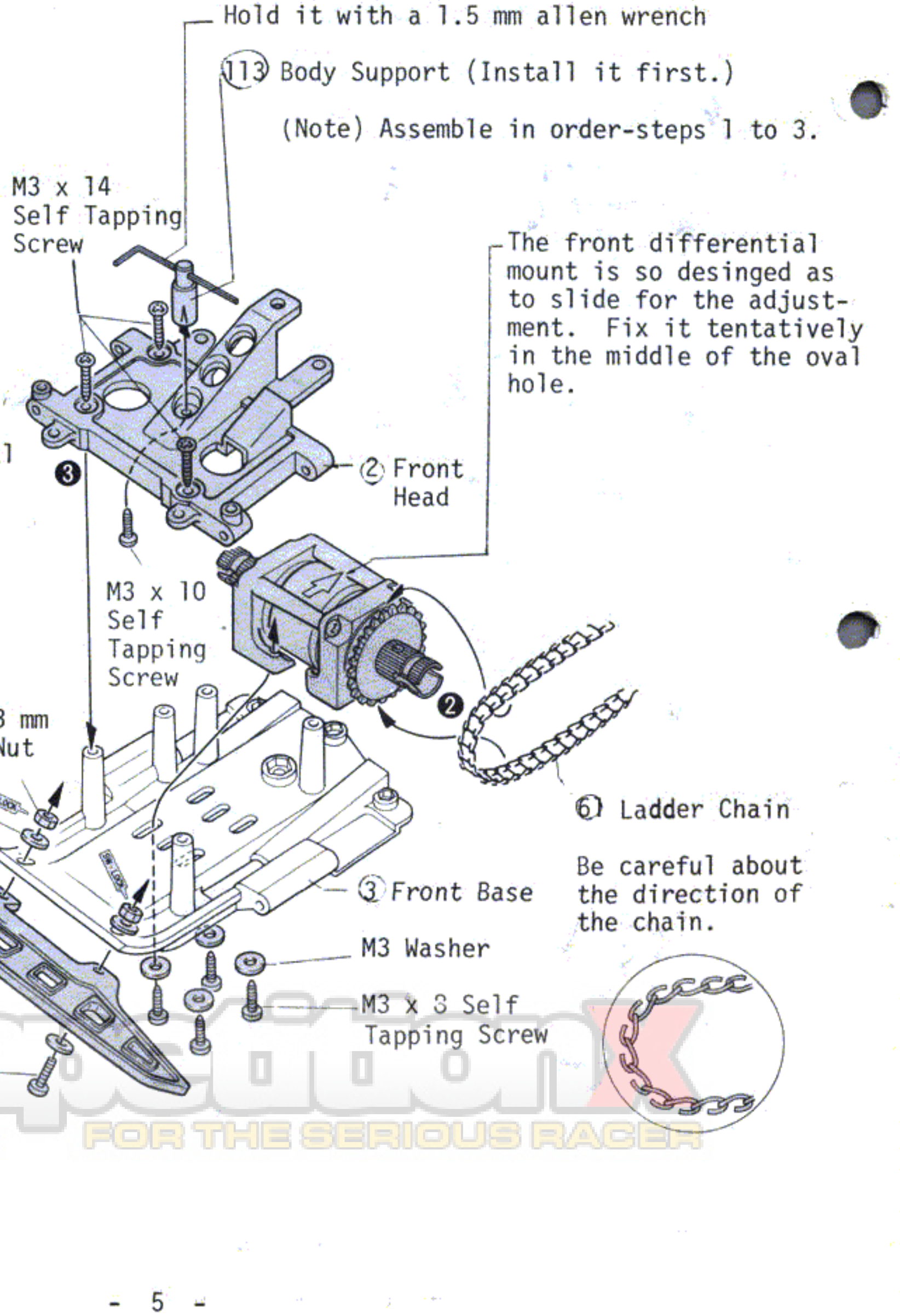




Front Sprocket with differential Gear. Push it all the way onto the splines.

Check to see if the sprocket turn smoothly.





(Note) Assemble in order-steps 1 to 3.

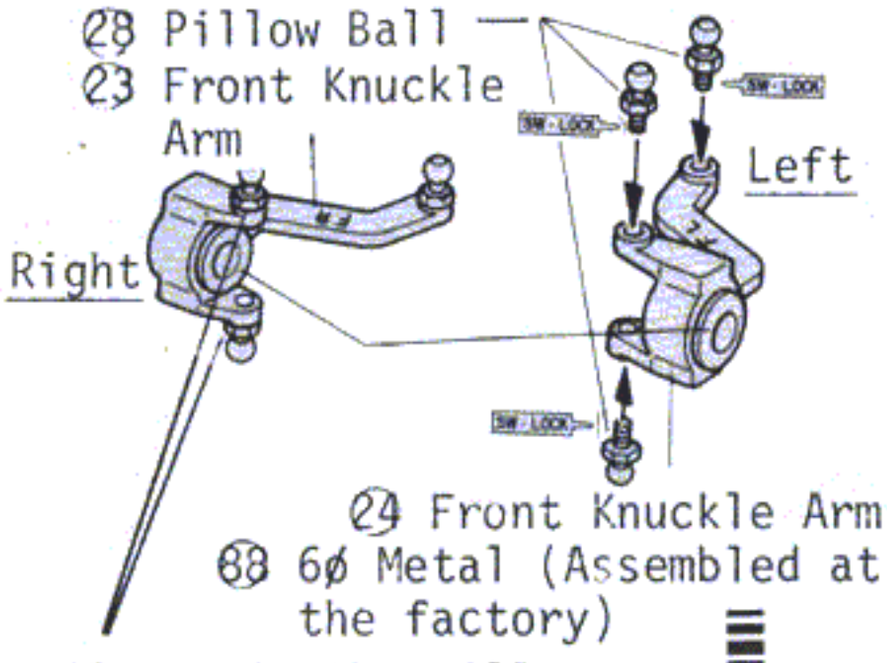
The front differential mount is so desinged as to slide for the adjustment. Fix it tentatively in the middle of the oval hole.

6 Ladder Chain

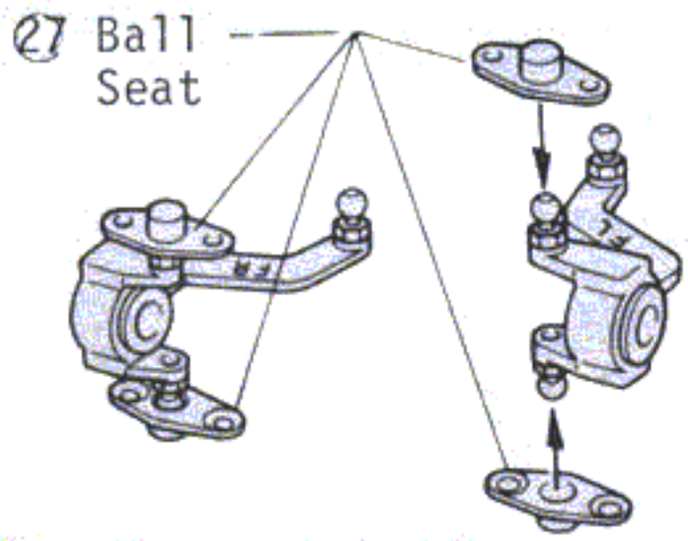
Be careful about the direction of the chain.

3 ASSEMBLY OF FRONT SUSPENSION ARM

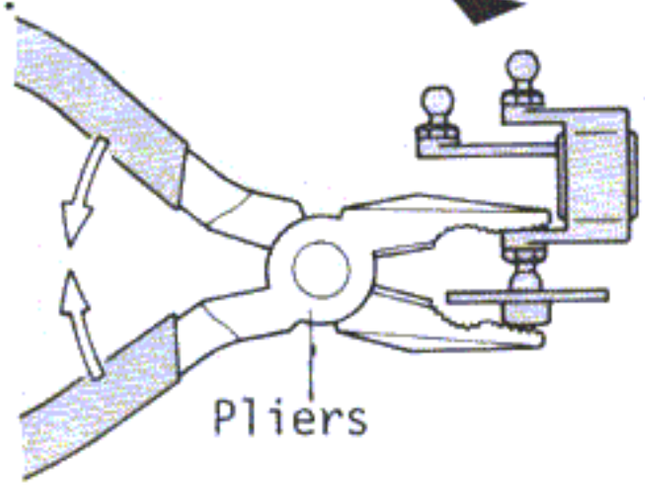
28 Pillow Ball
23 Front Knuckle Arm



Screw in the pillow ball all the way so that there is no gap left.



Use a pair of pliers to squeeze the ball seat onto the ball, as they are made to fit tight.



4 INSTALLATION OF FRONT SUSPENSION ARM

[Small parts used]

- M3 x 15 Screw 2
- 3 mm Nut 4
- M3 x 5 Set Screw ..2
- M4 x 4 Set Screw ..2
- M3 Washer 2

Cut the rubber tube into four pieces, 5mm long each.

Use this portion for the rear dampers.

42 Damper Rubber Pipe (Actual Size)

Use this portion for the front damper.

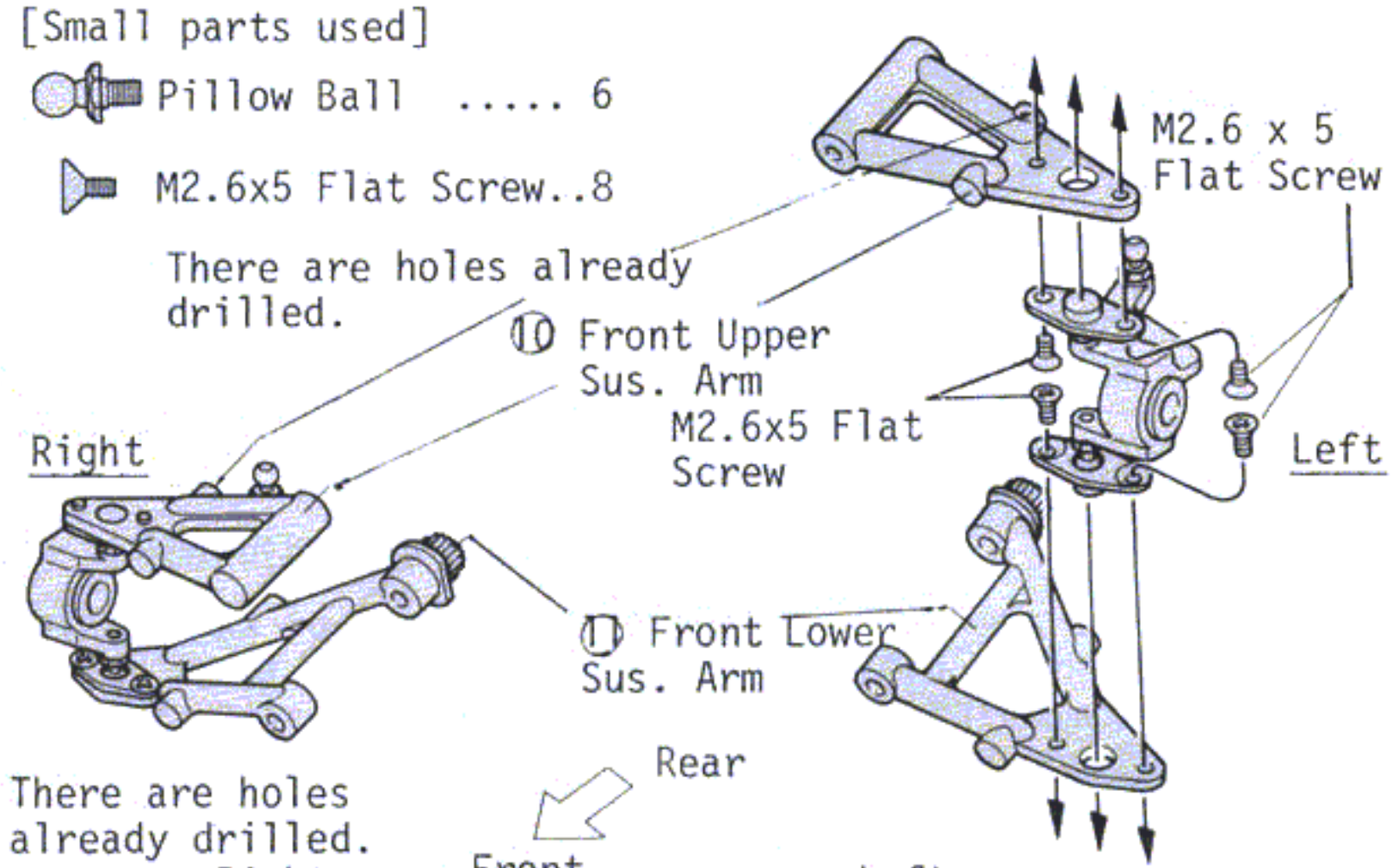
3 ASSEMBLY OF FRONT SUSPENSION ARM

*The work in this step is a little complicated. Look at the drawings carefully to help you with the assembly.

[Small parts used]

- Pillow Ball 6
- M2.6x5 Flat Screw..8

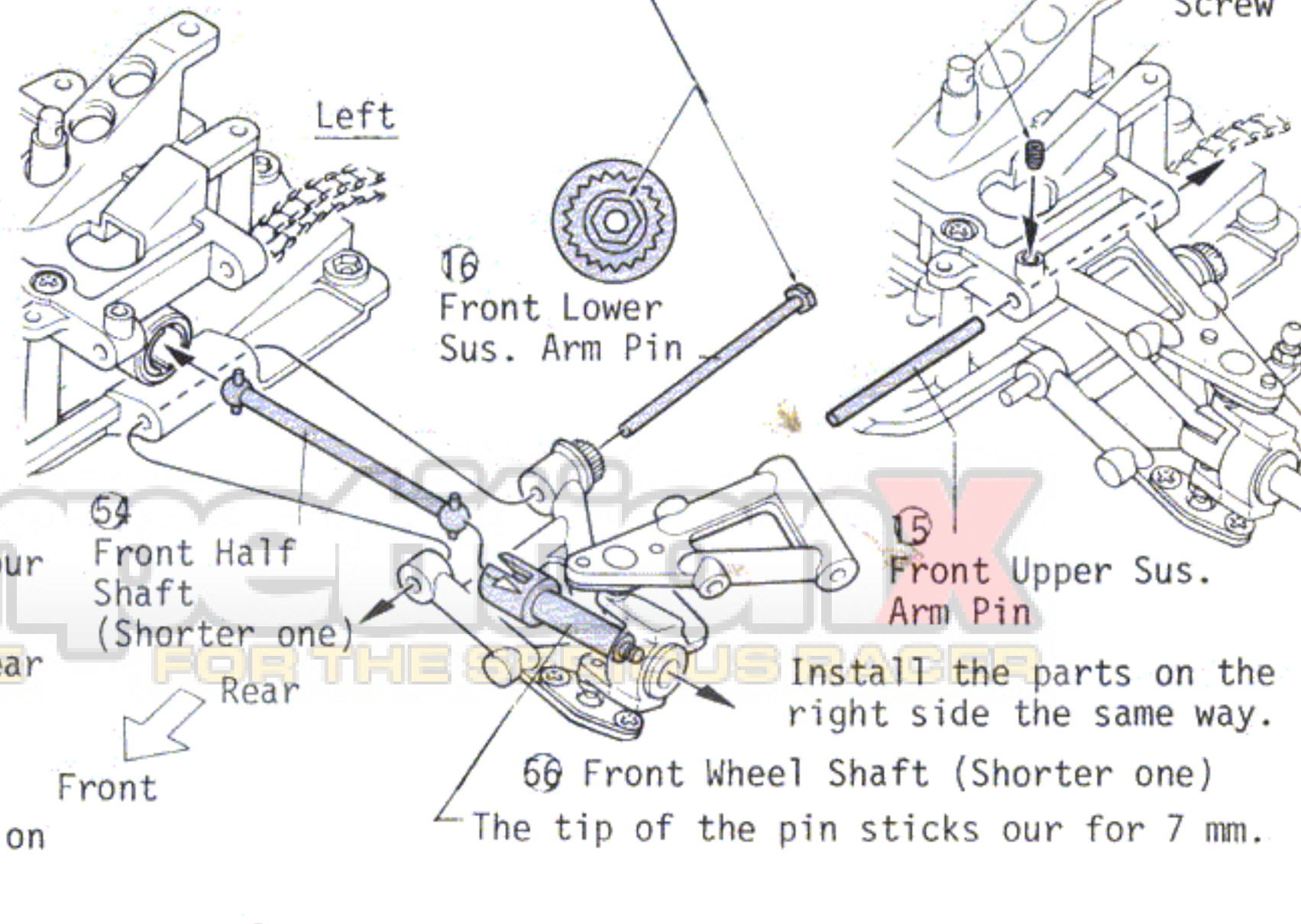
There are holes already drilled.



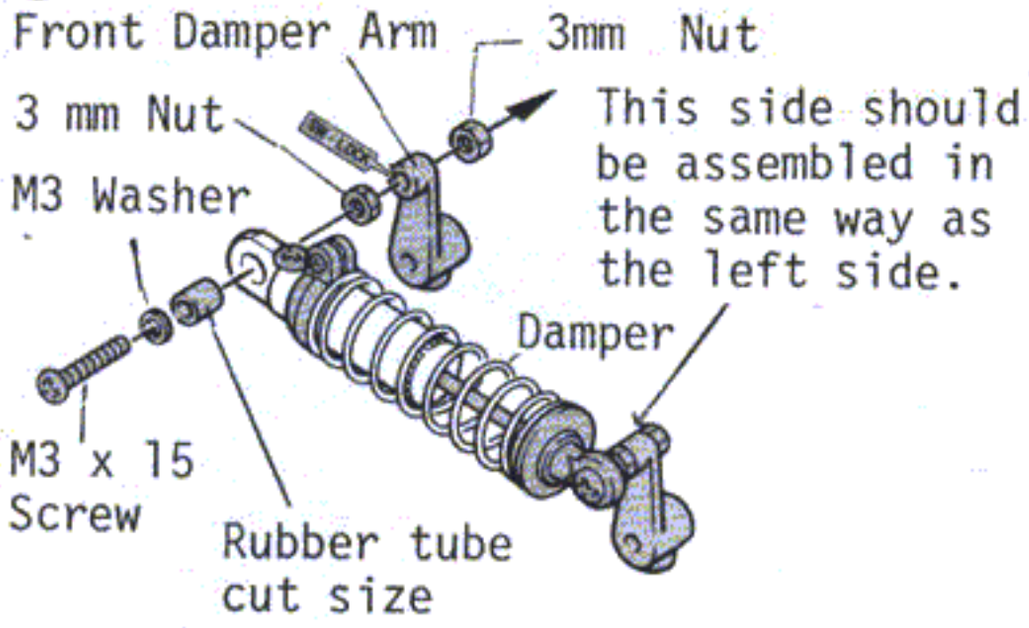
4 INSTALLATION OF FRONT SUSPENSION ARM

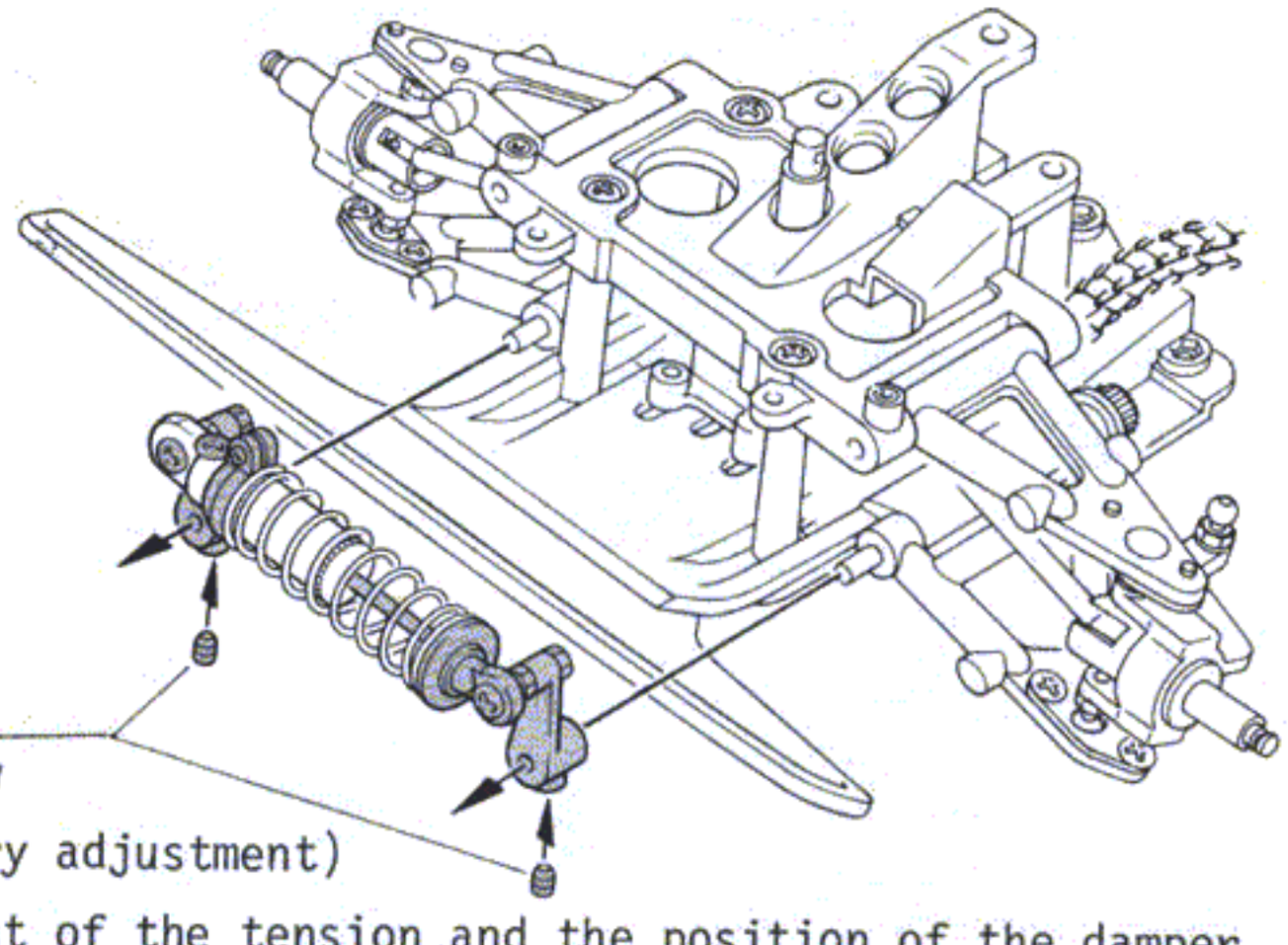
Tighten this setscrew lightly so that the upper suspension arm will not come off.

Push in the lower suspension pin in the hexagonal socket as deep as possible using something like a phillips screwdriver, ascertain that the tip of the pin will protrude for 7mm.



⑰

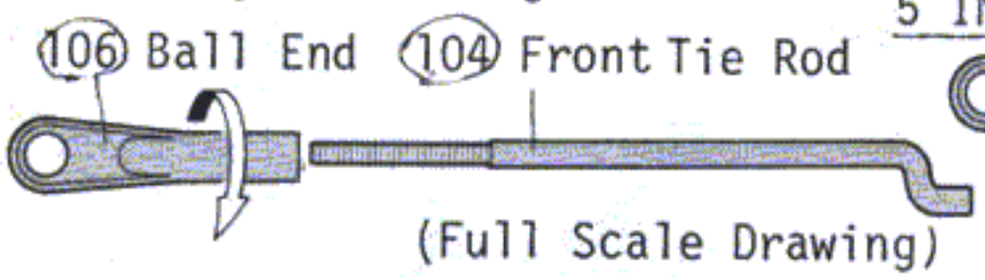




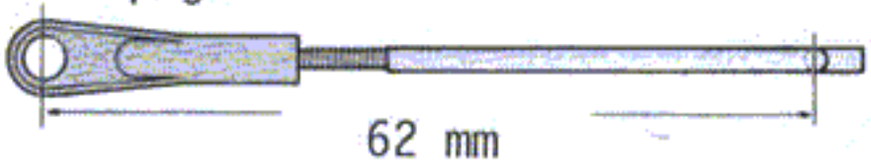
Adjustment of the tension and the position of the damper will be done later in "Guide for Setting up the Car (1)" on page 22, after the assembly is completed.

5 INSTALLATION OF FRONT SERVO SAVER AND TIE ROD

*Control rods of five sizes and shapes are included in the kit. Choose the correct one by comparing it with the drawing when using.

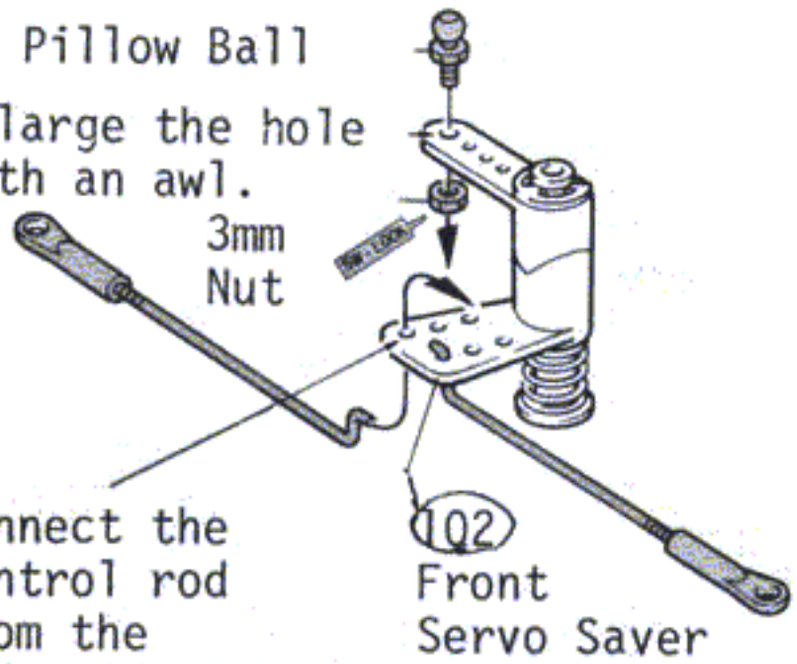


*Screw in the control rod to the point as shown in the drawing. Adjust it accurately later in the step described on page 23.



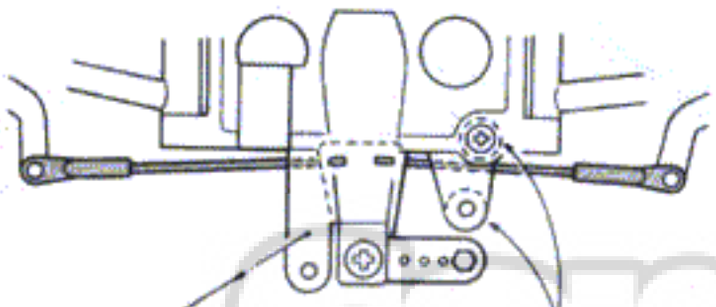
28 Pillow Ball

Enlarge the hole with an awl.



Connect the control rod from the underside into the outer hole.

[Assembled View of Tie Rod]



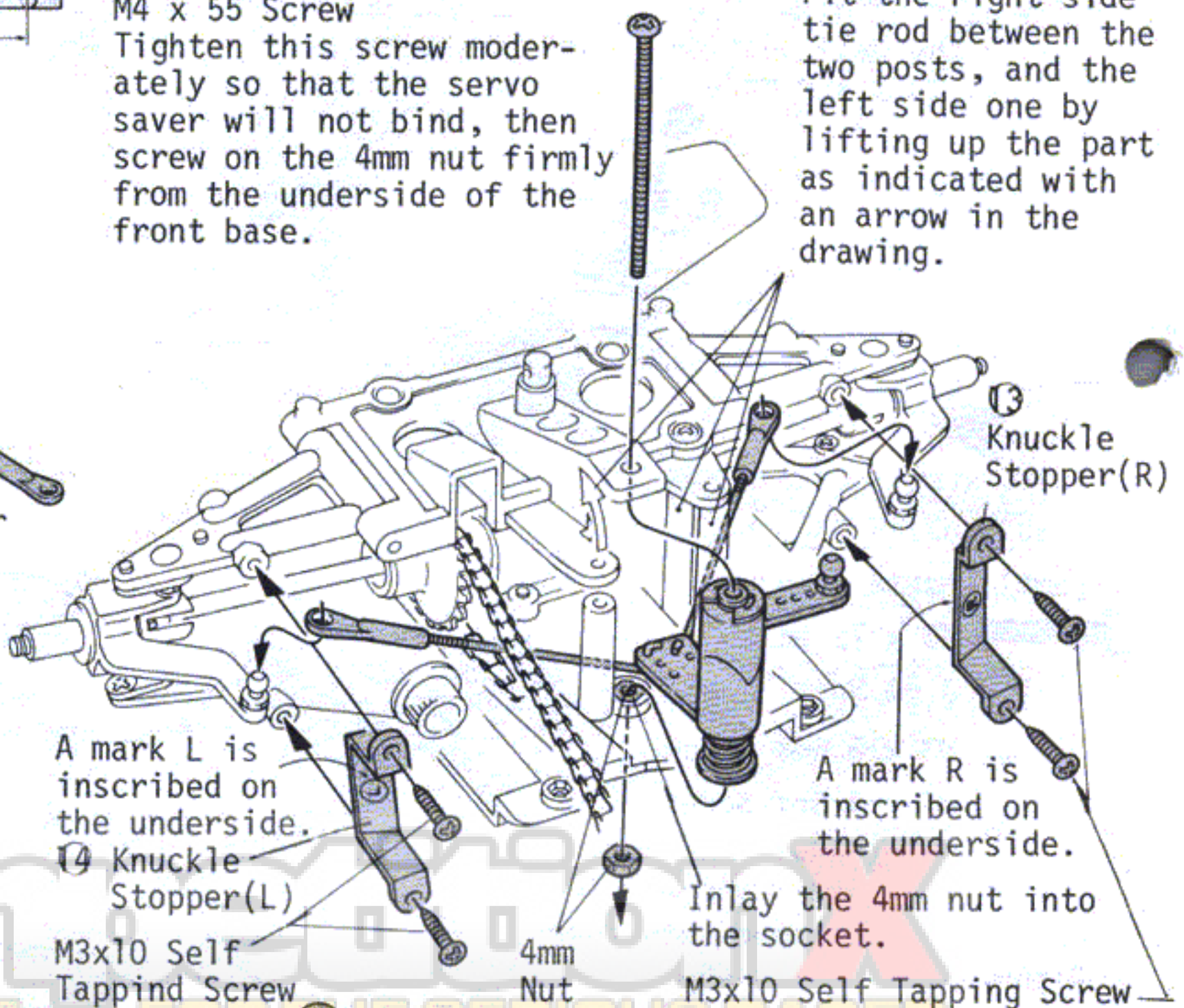
Raise this part and insert the tie rod on the left side.

Pass the right side tie rod between the posts.

	Ball End	2
	Pillow Ball	1
	M3 x 10 Self Tapping Screw ...	4
	3 mm Nut	1
	4 mm Nut	2

M4 x 55 Screw
Tighten this screw moderately so that the servo saver will not bind, then screw on the 4mm nut firmly from the underside of the front base.

Fit the right side tie rod between the two posts, and the left side one by lifting up the part as indicated with an arrow in the drawing.



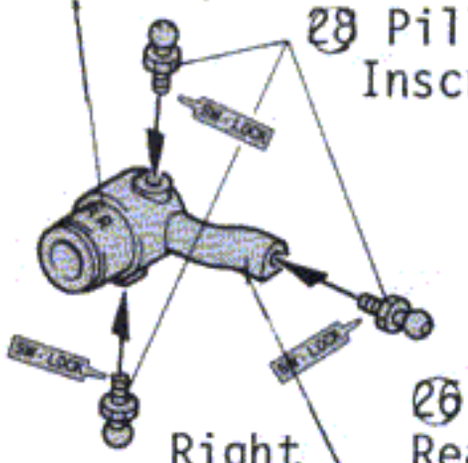
6 ASSEMBLY OF REAR SUSPENSION ARM

[Small parts used]

Pillow Ball 6

Inscription "RR"

28 Pillow Ball
Inscription "RL"

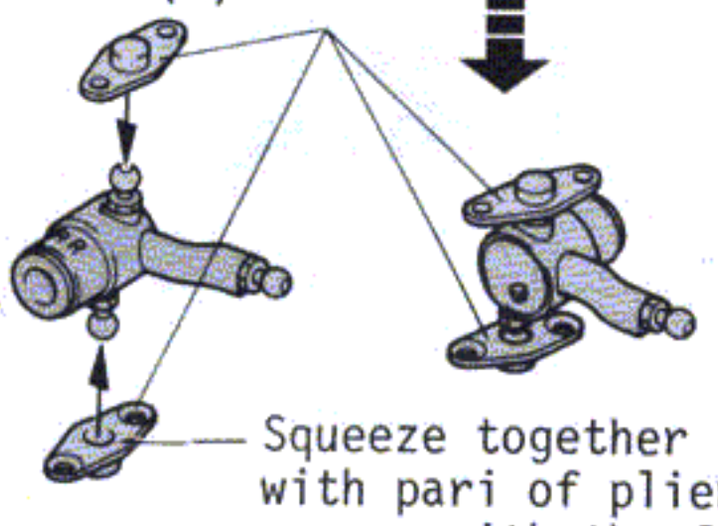


Right

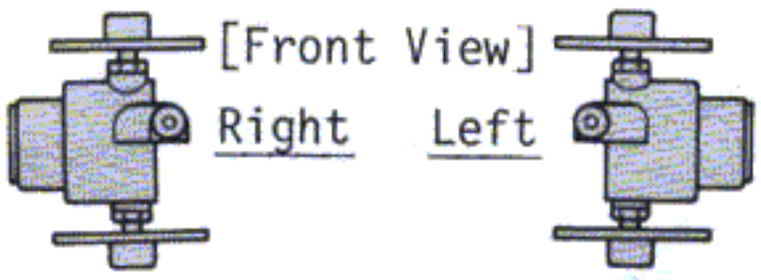
26 Rear Knuckle Arm (L)

Left

25 Rear Knuckle Arm(R)



Squeeze together with pari of pliers as you with the front suspension arm.



[Front View]

Right Left

7 ASSEMBLY OF MAIN CHASSIS

[Small Parts Used]

M2.6 x 8 Tapping Screw ... 2

M3 x 6 Screw 7

M3 x 6 Tapping Screw 2

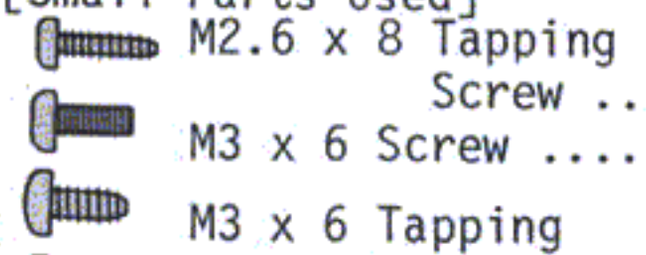
M3 x 10 Tapping Screw ... 2

3 mm Nut 7

*Install the torsion plate holder in the position shown in the drawing below.

Parallel

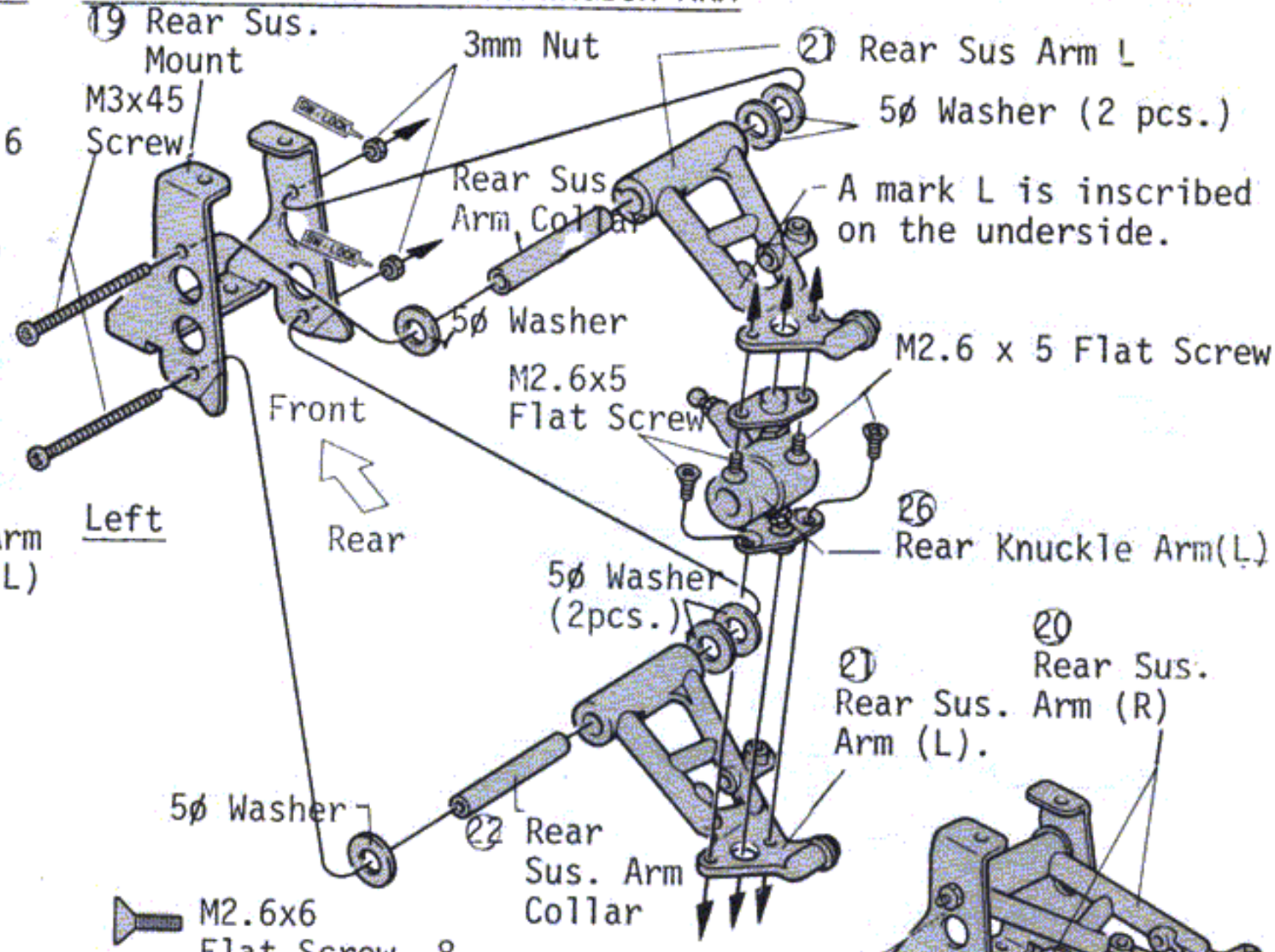
1 Front Lower Sus. Arm



3 Front Base

12 Torsion Plate Holder
Lower the front suspension arm.

6 ASSEMBLY OF REAR SUSPENSION ARM



M2.6x6 Flat Screw..8

3mm Nut ... 4

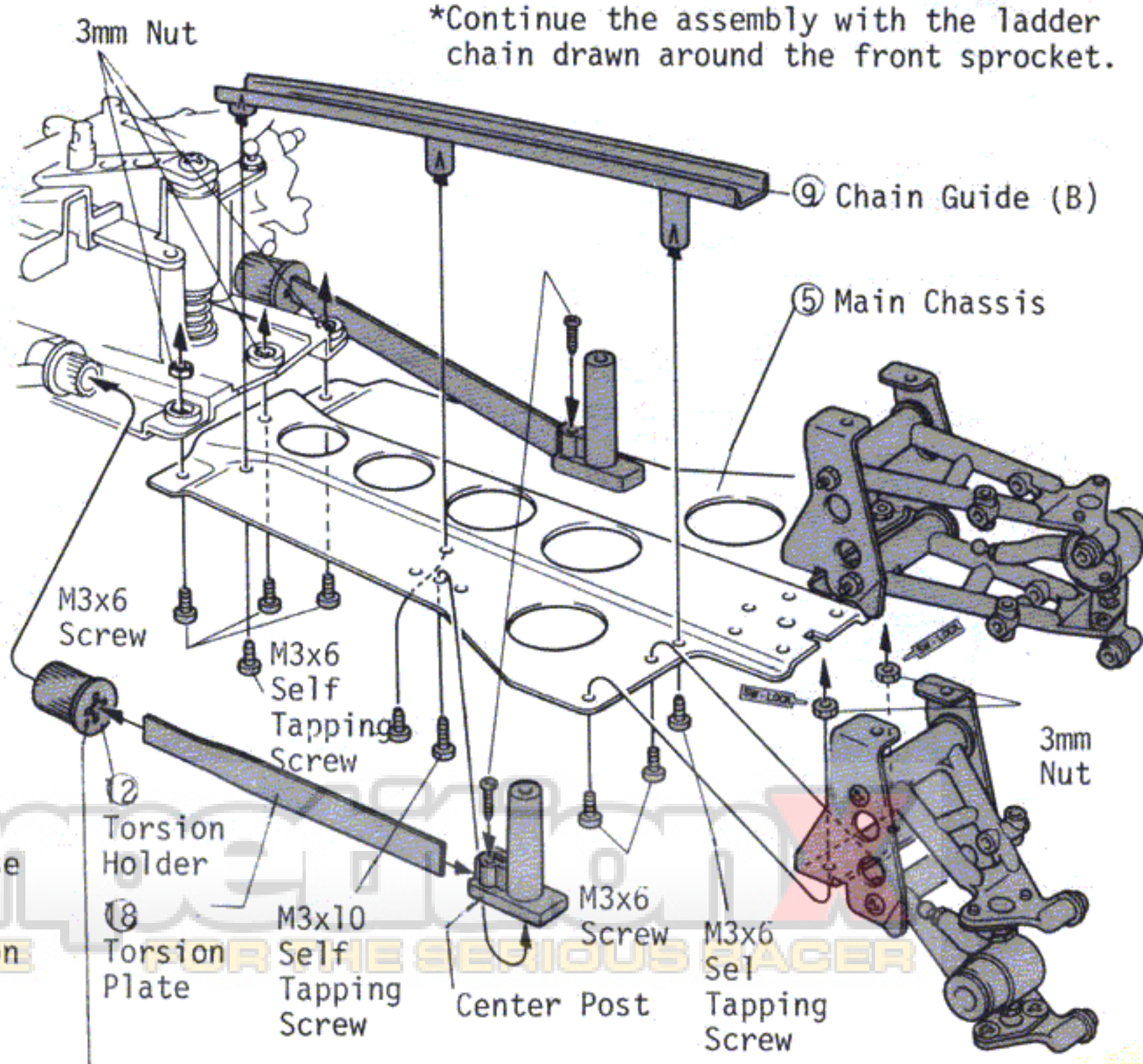
5ø Washer .12

Put one 5mm washer on this side, and two washers on the other side.

M3x45 Screw 4

7 ASSEMBLY OF MAIN CHASSIS

*Continue the assembly with the ladder chain drawn around the front sprocket.



Insert the narrow end of the torsion plate, into the cross groove in the torsion plate holder.

8 MOUNTING OF REAR SERVO SAVER

[Small parts used]

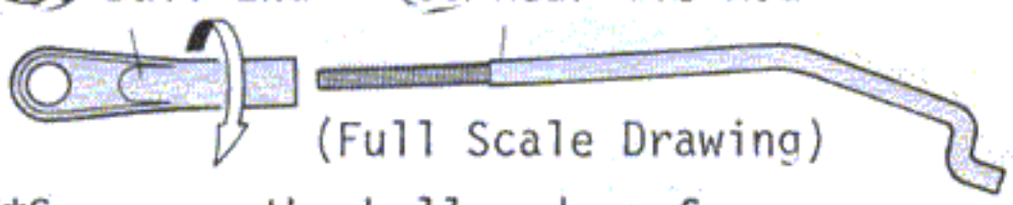
Pillow Ball ...1

3 mm Nut 1

4 mm Nut 1

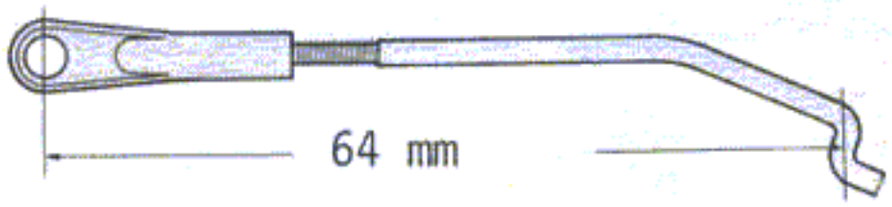
Ball End 2

106 Ball End 105 Rear Tie Rod



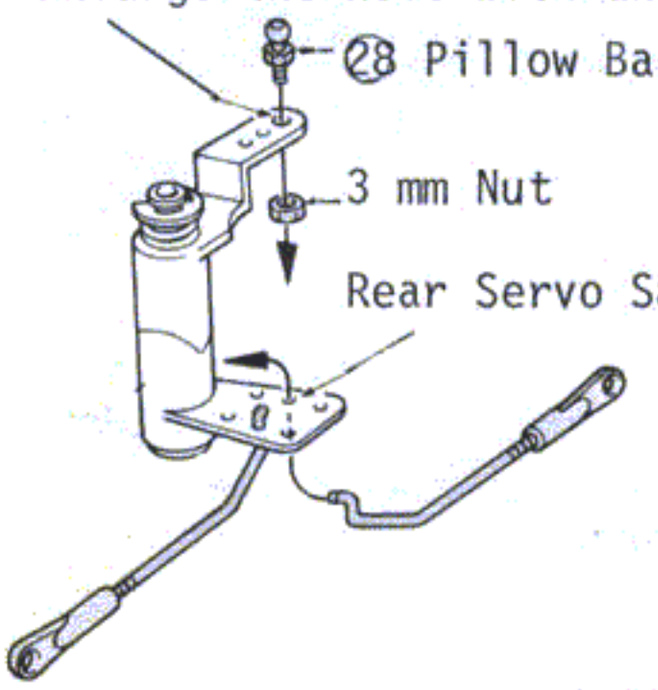
(Full Scale Drawing)

*Screw on the ball end as far as shown in the drawing.



64 mm

Enlarge the hole with an awl.



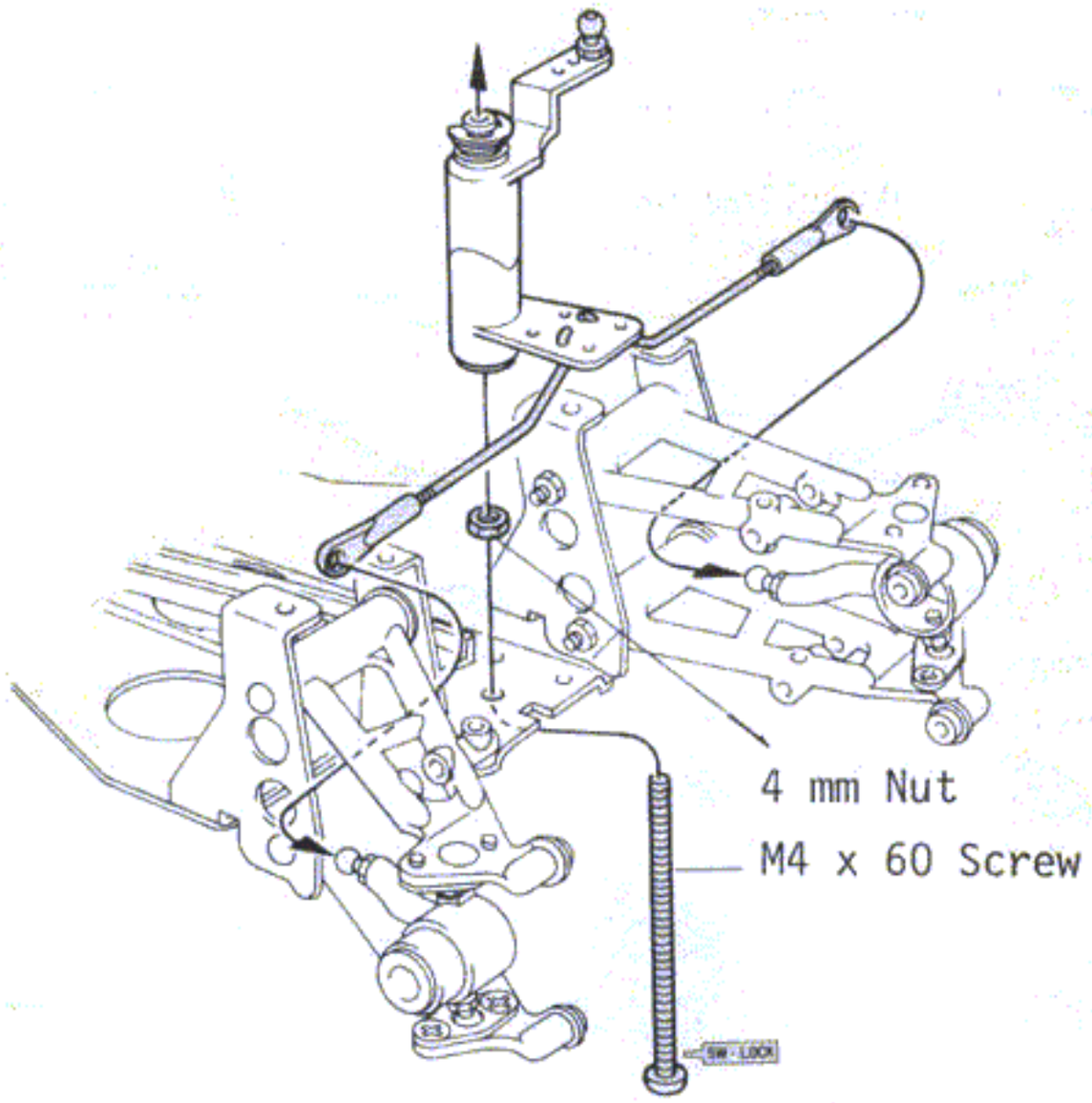
28 Pillow Ball

3 mm Nut

Rear Servo Saver

Insert the end of the control rod into the middle hole from the underside.

8 MOUNTING OF REAR SERVO SAVER



4 mm Nut

M4 x 60 Screw

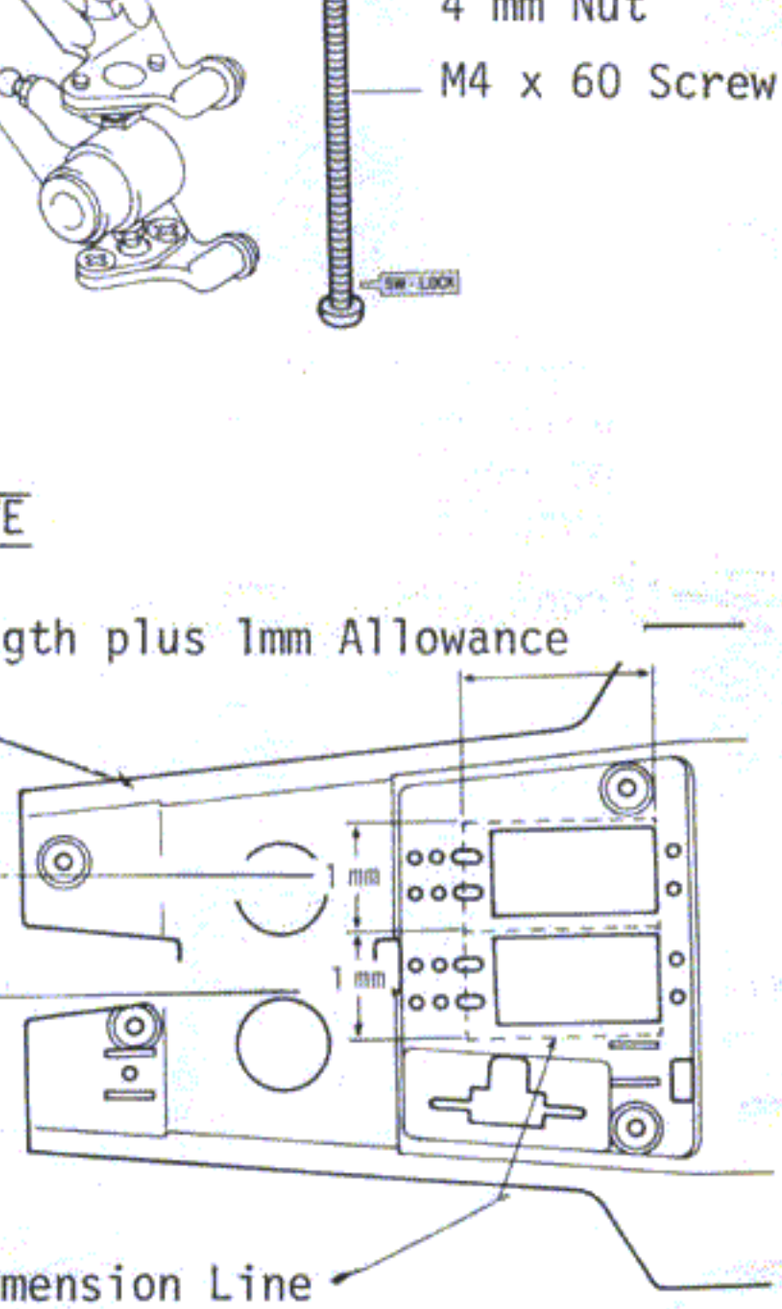
9 PREPARING THE RADIO PLATE

Servo Length plus 1mm Allowance

⑥ Radio Plate

Servo width plus 1mm Allowance

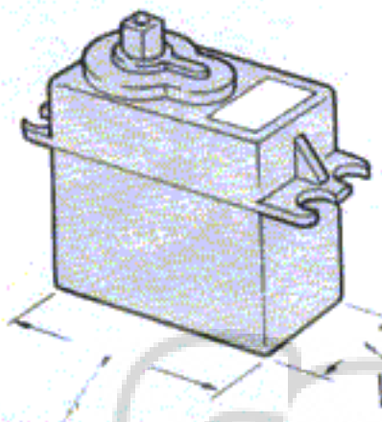
Servo Width plus 1mm Allowance



Dimension Line

9 PREPARING THE RADIO PLATE

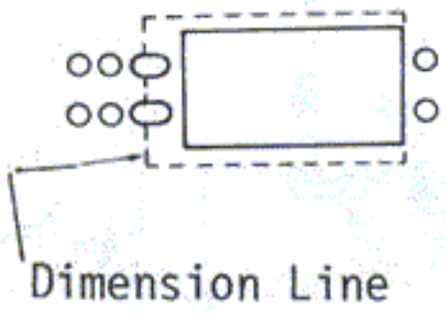
*The radio plate is provided with a cutout for a small size servo. Enlarge it, if necessary, to fit your servo.



Length

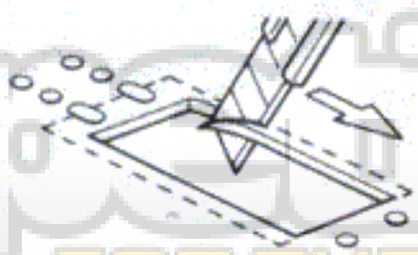
Width

[Enlarging Steps]



Dimension Line

1 Take measurement of your servo, and draw the lines with an awl or a scriber on the radio plate as shown in the drawing left.



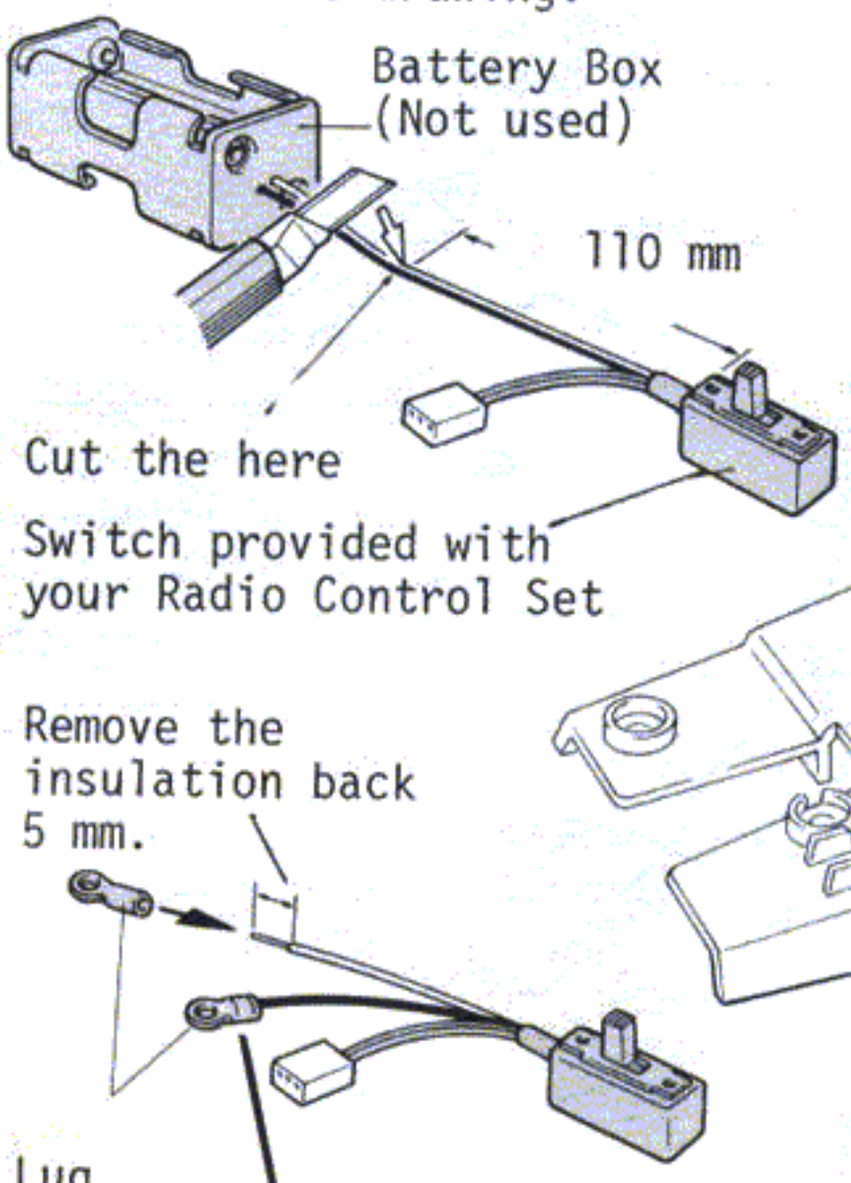
2 Use a knife or a coping saw to enlarge the cut-out to the required size, little by little.

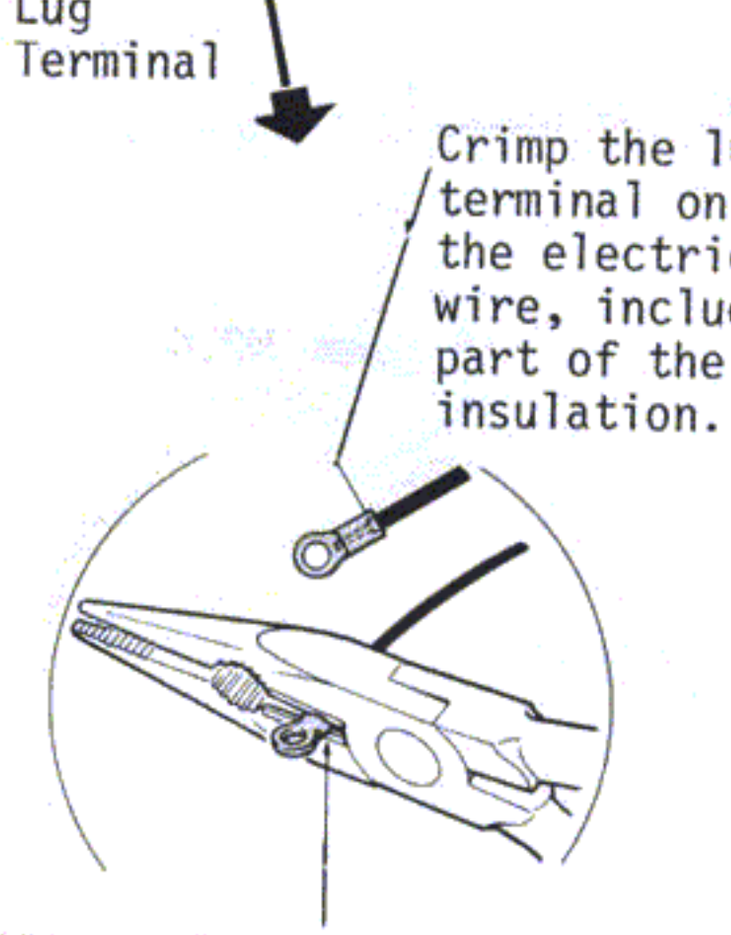
TO MOUNTING SERVO

*In this procedure of mounting the servo, install the switch too.

*The radio control units installed in the model are powered by the same battery which is used to drive the motor; therefore, some work on the switch is required.

Cut the electrical wires as shown in the drawing.



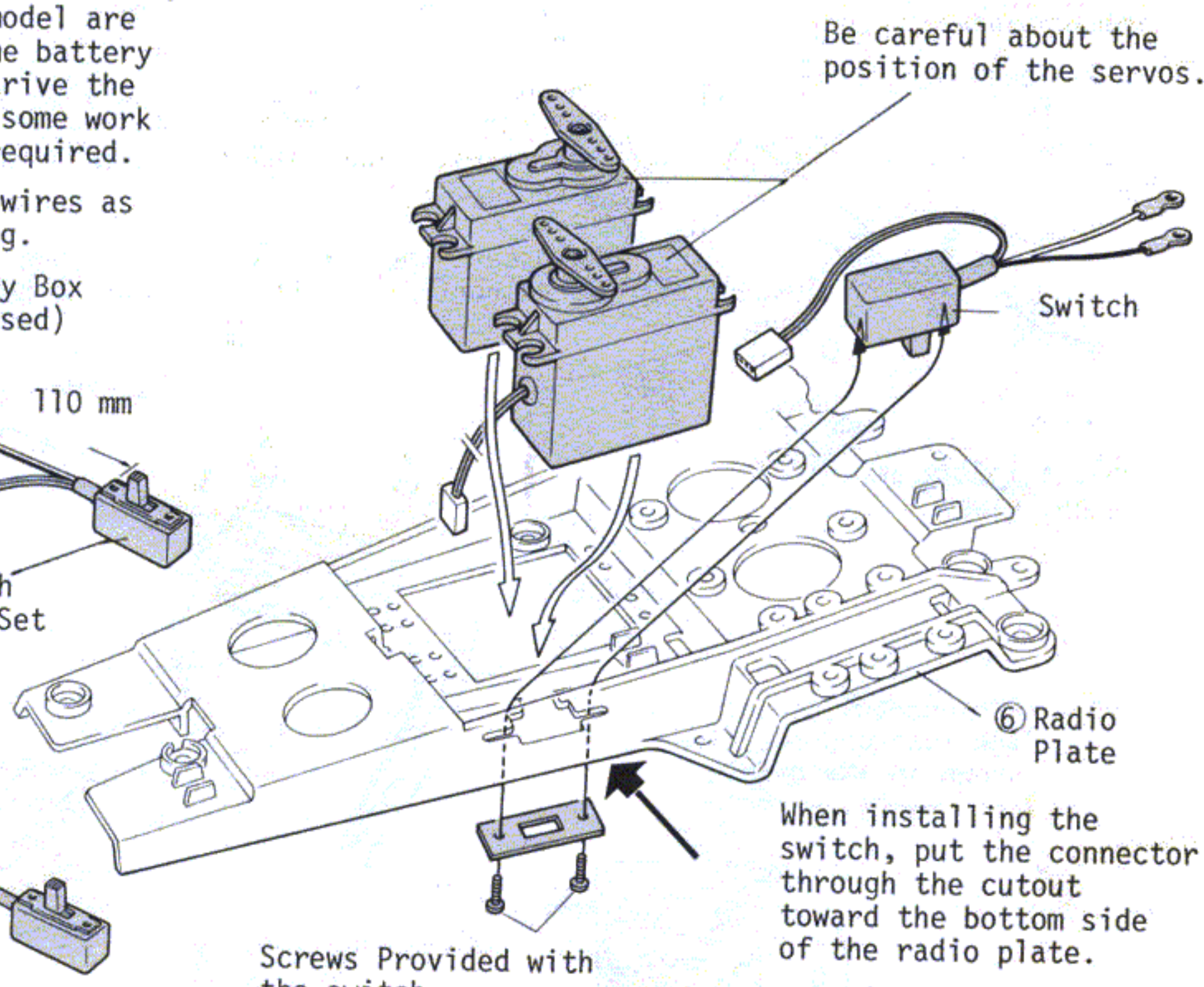


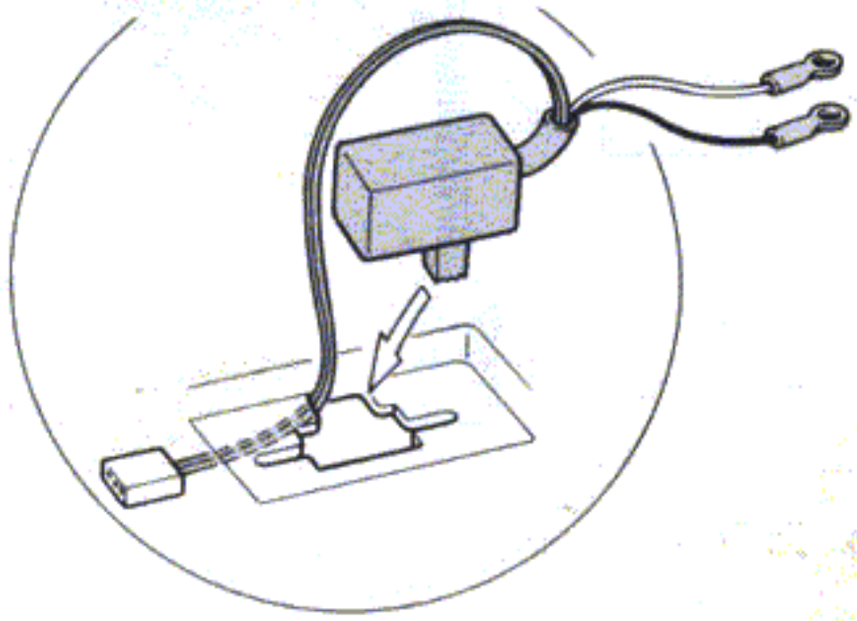
*Since the wires are very fine, handle them with care to avoid breaking the wires.

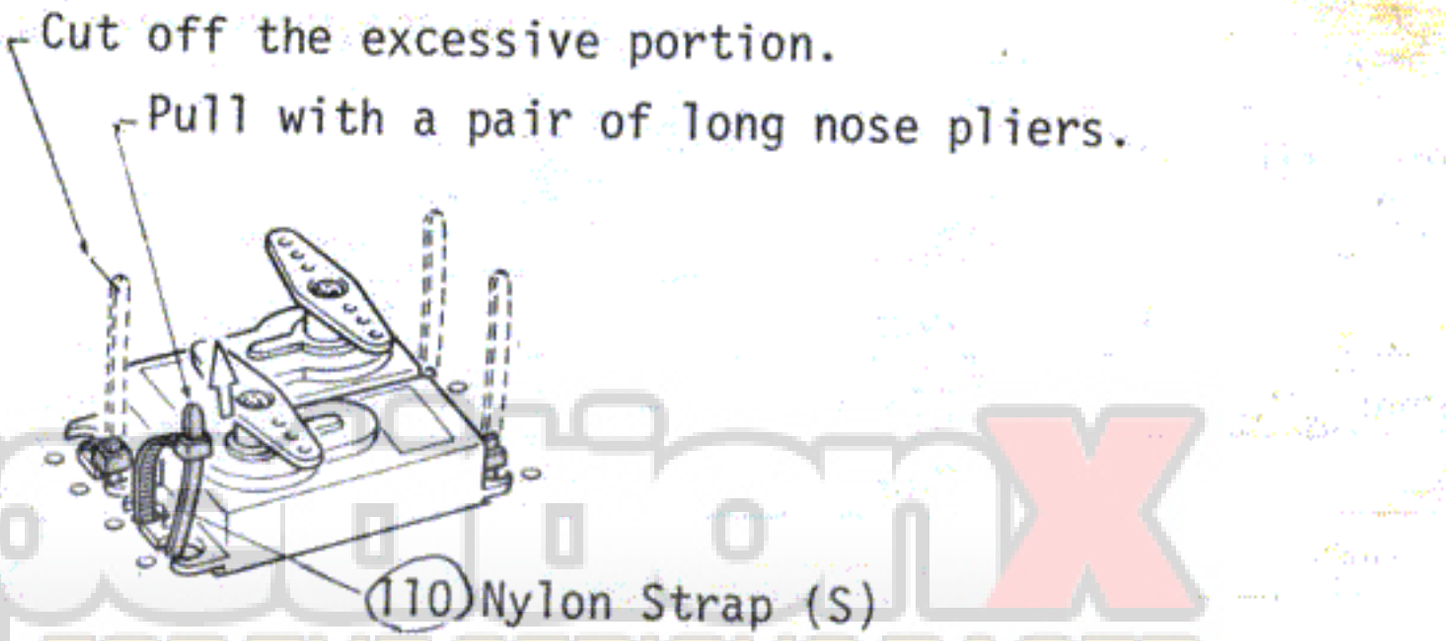
TO MOUNTING SERVO

[Small parts used]

Lug Terminal 2



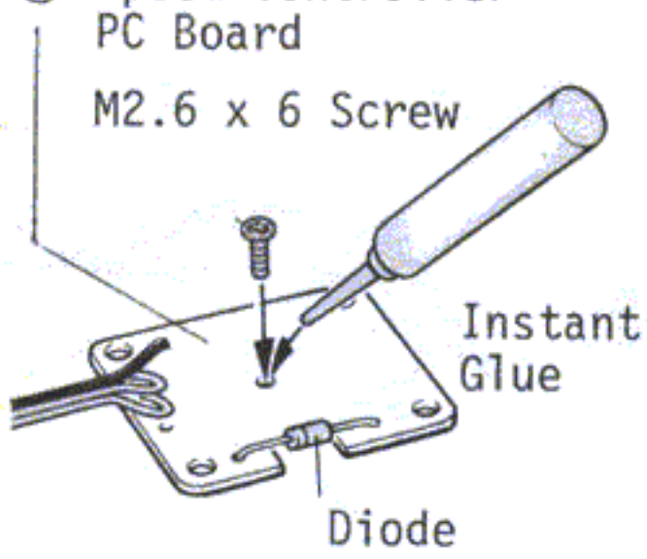




Be careful: The nylon strap is so made that it cannot be untied once tight.

11 MOUNTING SPEED CONTROLLER

*Screw in a M2.6 x 6 bolt on the underside of the PC board, and then install the speed controller to the radio plate.



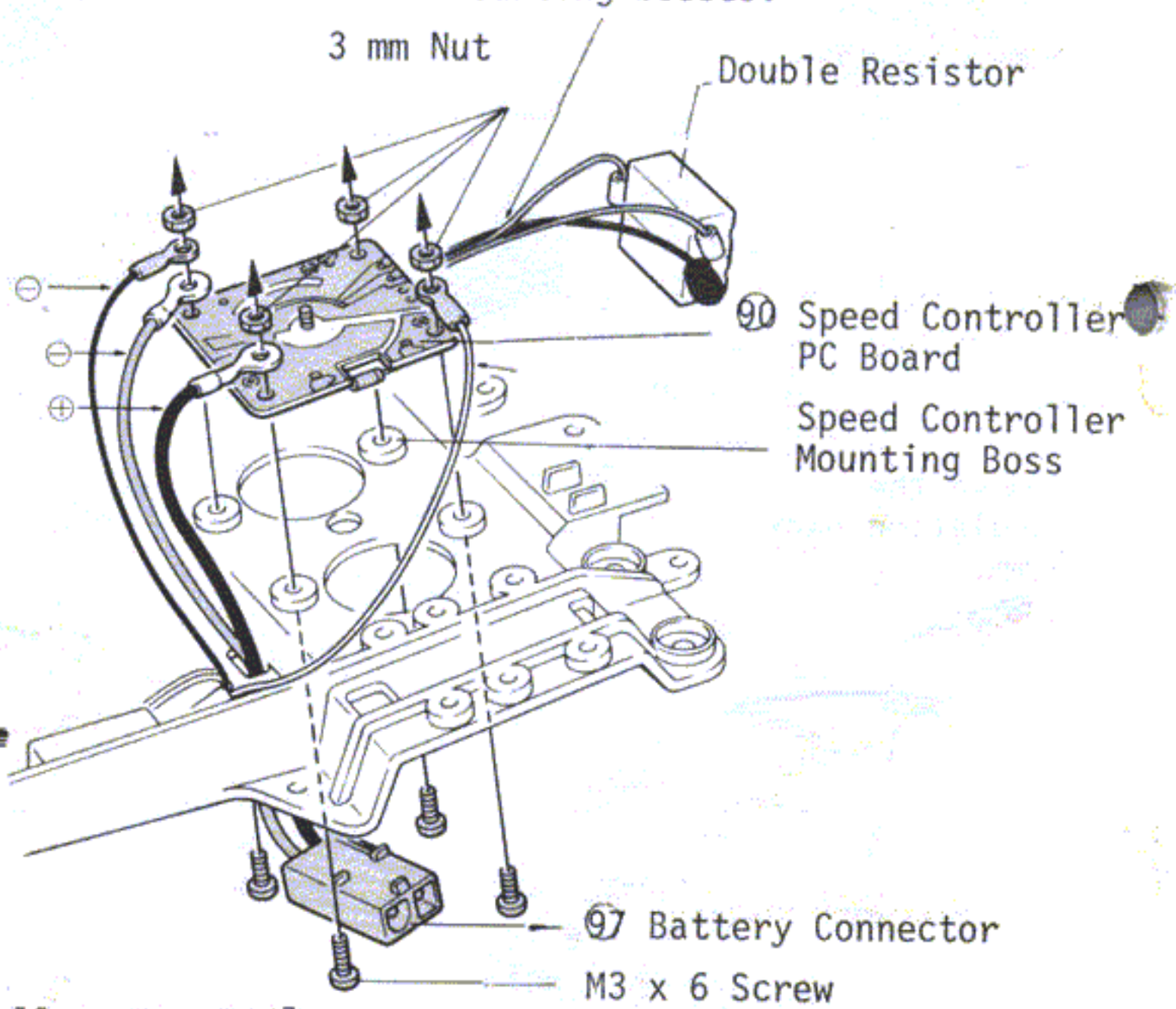
Apply a little amount of instant glue.

11 MOUNTING SPEED CONTROLLER

(Note)

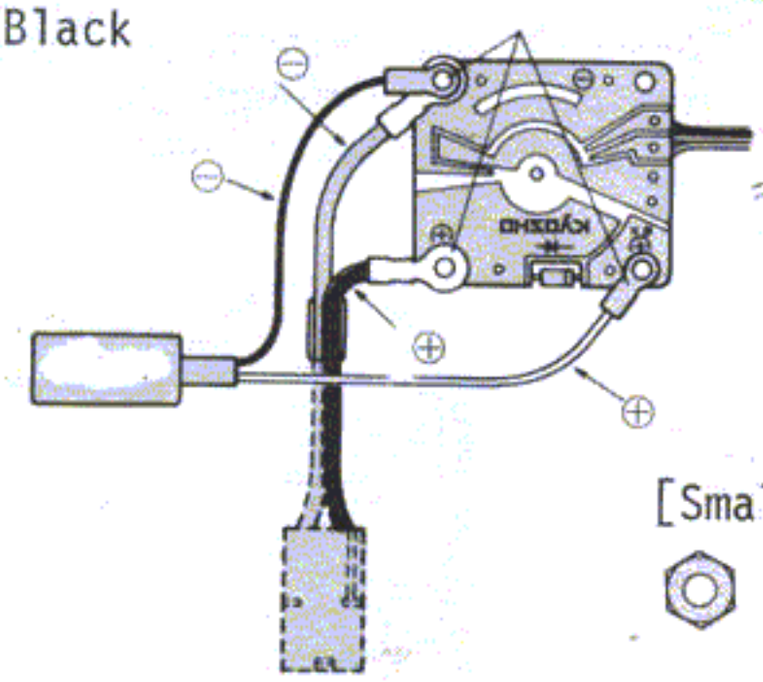
1. Be careful about the polarity when connecting the lead wires. Erroneous wiring may burn out receiver in a moment. Refer to the drawing below for the correct arrangement.
2. The diode functions as a regulator to adjust the battery voltage down suitable for the receiver. So avoid, by all means, connecting the battery to the receiver directly.

Make sure the wires are not pinched between the speed controller and the mounting bosses.



Arrange the direction of the lugs and the wires as shown in the drawing.

Black



[Small parts used]

3 mm Nut 4

M3 x 6 Screw ... 4

M2.6 x 6 Screw ... 1

[Which is + or - on Lead Wire]

Polarity / Radio Maker	+ (Plus)	- (Minus)
Futaba	Red	Black
JR	Red	Brown
Sanwa	Black with White Stripe or Red	Black
KO	Red	Black
Kyosho	Red	Black

12 TESTING RADIO OPERATION

[How to Handle Radio]

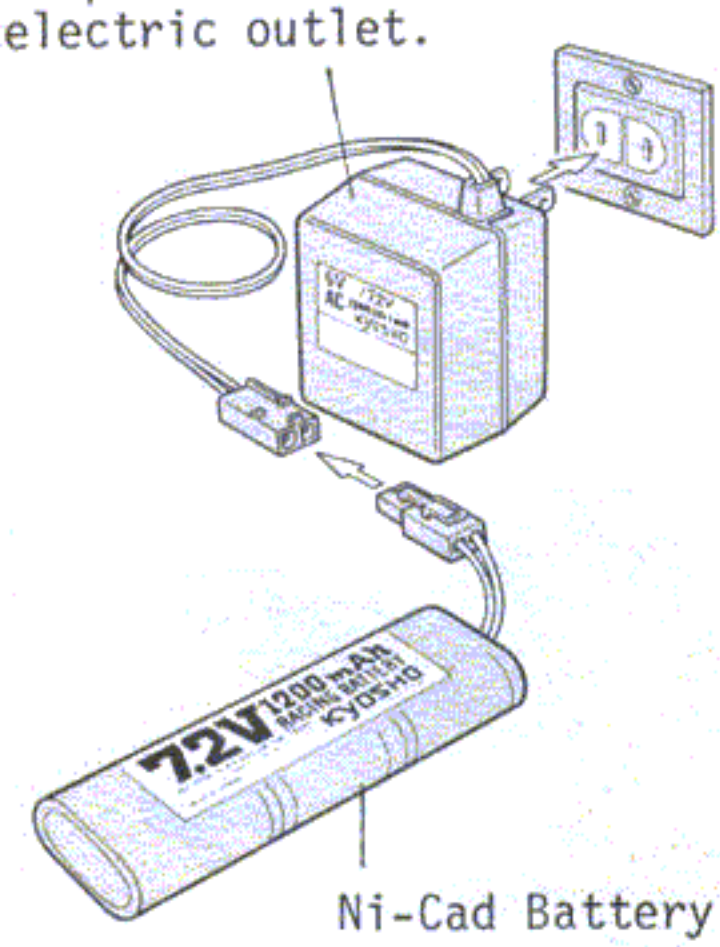
Read the instructions which are attached to your radio control set carefully so that you will operate it correctly. You are required to be particularly cautions about the polarity of the batteries when installing.

[Power Source for Receiver]

For the receiver, use a Ni-Cad battery pack which is also used drive the motor propelling the car; for that purpose the switch has been rewired in chapter 10 "Mounting Servos".

Connect the battery as shown in the drawing at right. The battery must be charged fully; an inadequately charged one cannot operate the radio control units properly.

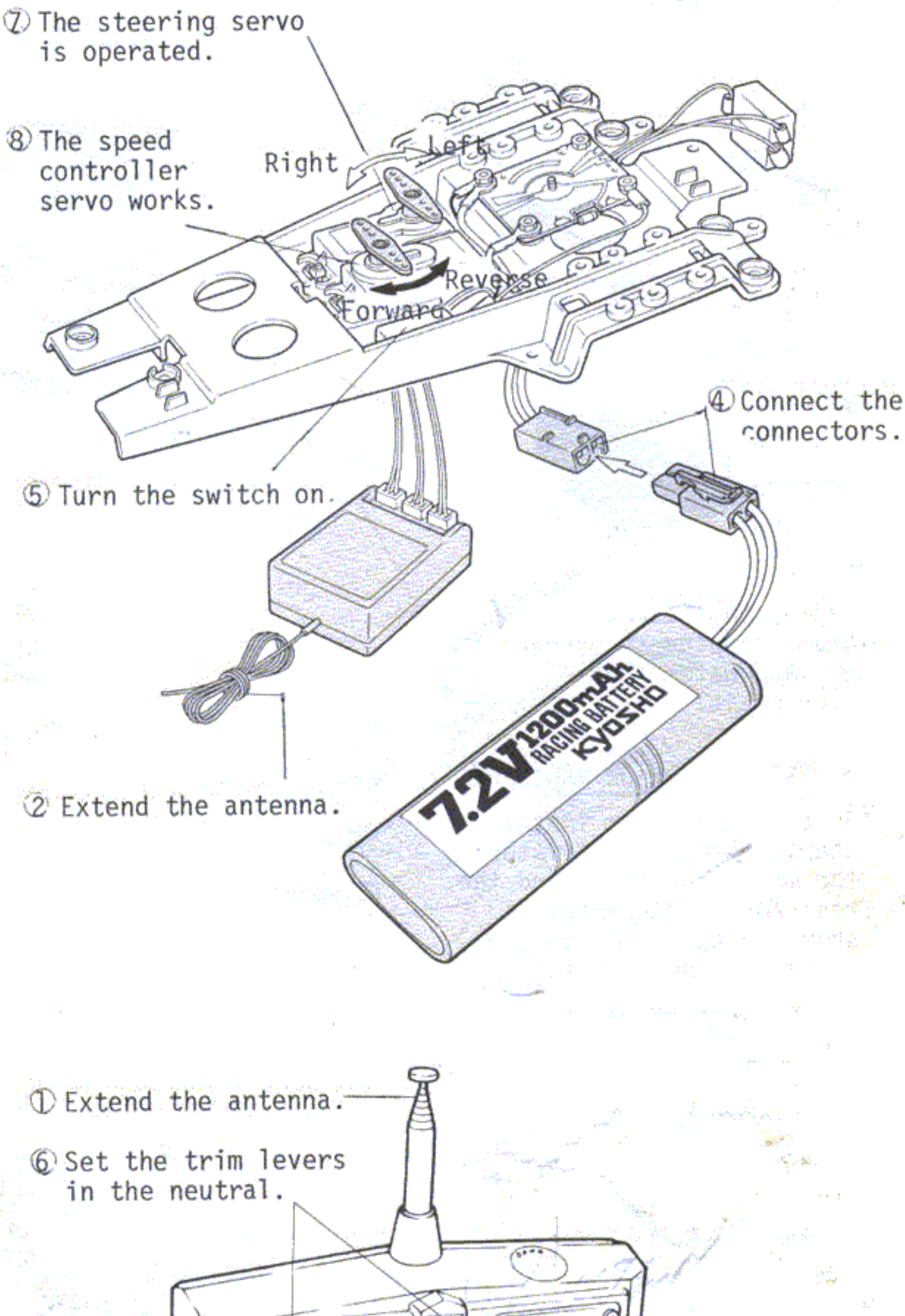
Super Ni-Cad Charger which is powered from a houseld electric outlet.



Ni-Cad Battery

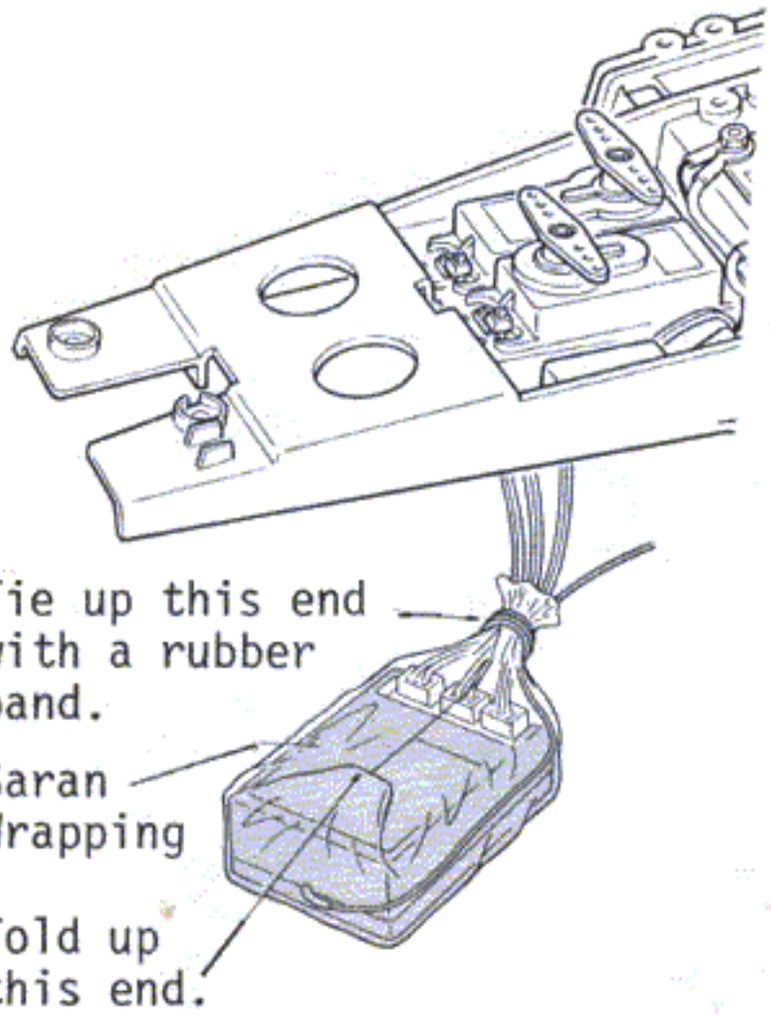
12 TESTING RADIO OPERATION

*Activate the radio control units for your radio following the steps indicated in numerical order.



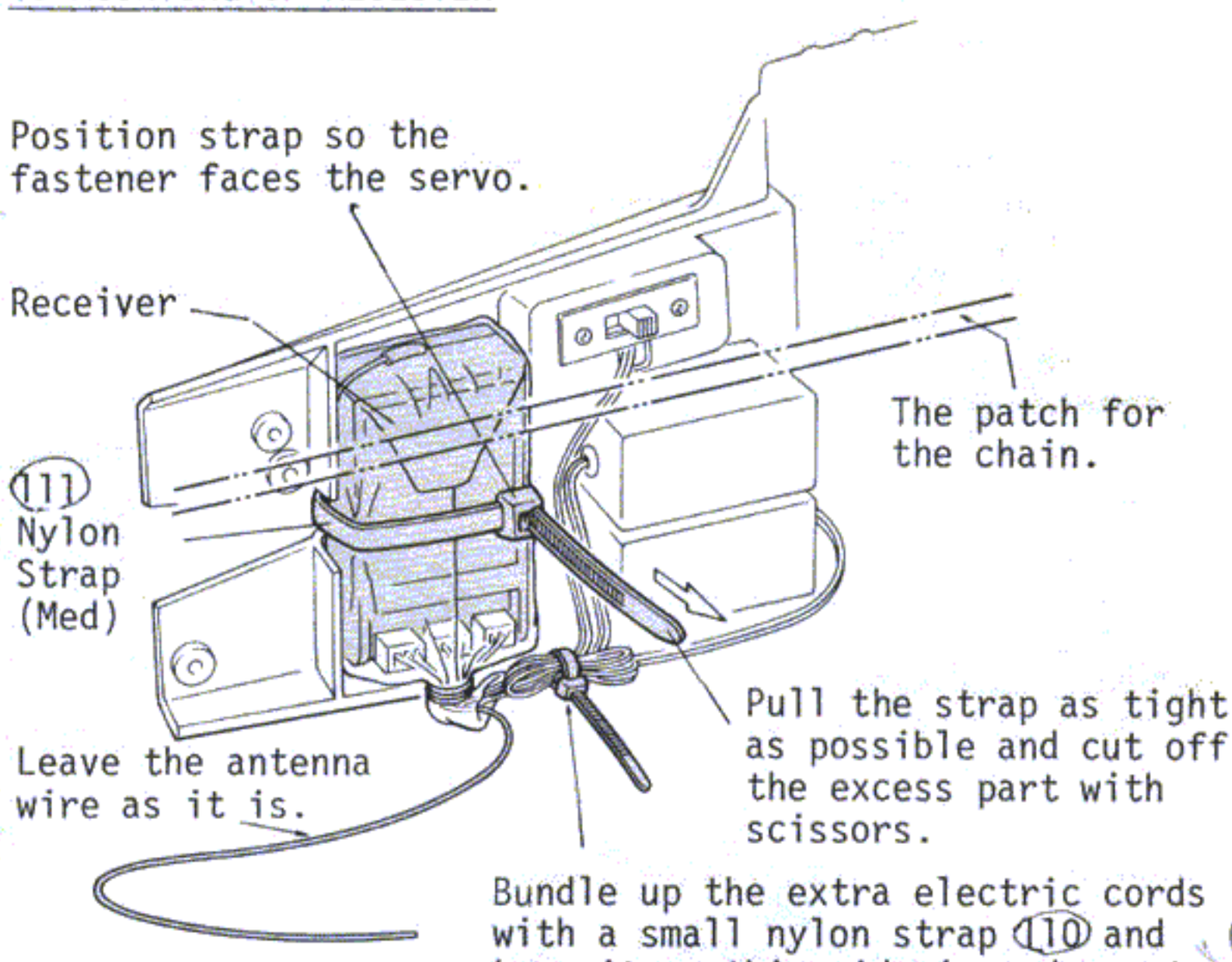
13 MOUNTING RECEIVER

*After assuring yourself that the radio works properly, mount the receiver.



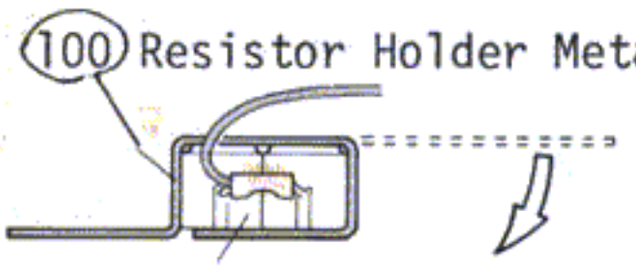
Wrap up the receiver with saran wrapping to prevent dust and water from entering it.

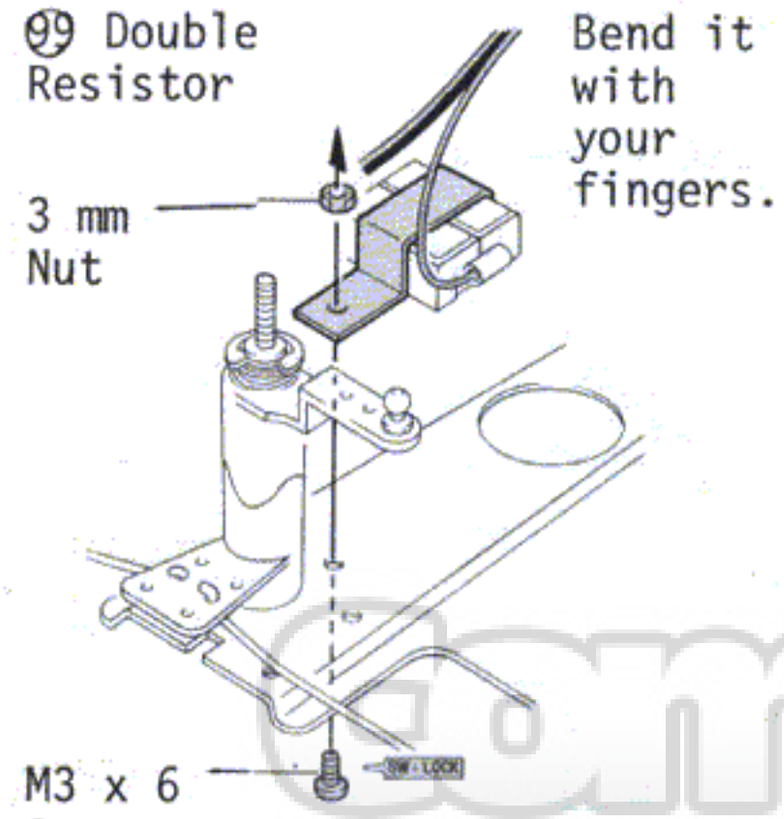
13 MOUNTING OF RECEIVER



14 INSTALLATION OF RADIO PLATE

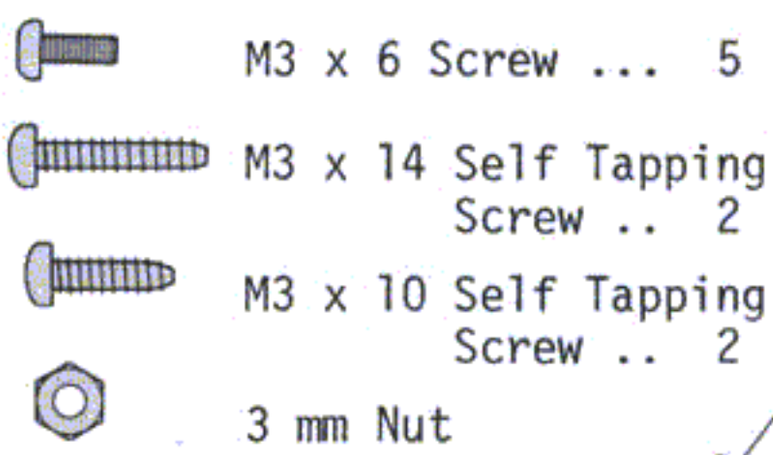
*As the first task in this step, fasten the resistor to the main chassis. Bend the resistor holder metal as shown in the drawing below to retain the resistor.





14 INSTALLATION OF RADIO PLATE

[Small parts use]



M3 x 6 Screw ... 5

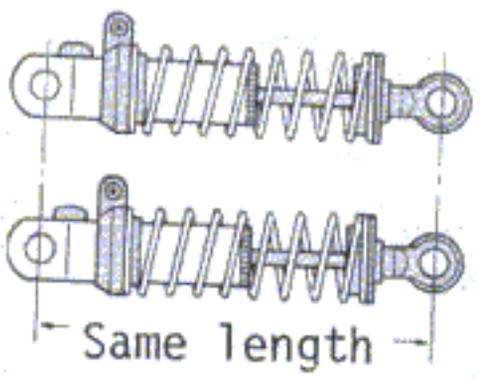
M3 x 14 Self Tapping Screw .. 2

M3 x 10 Self Tapping Screw .. 2

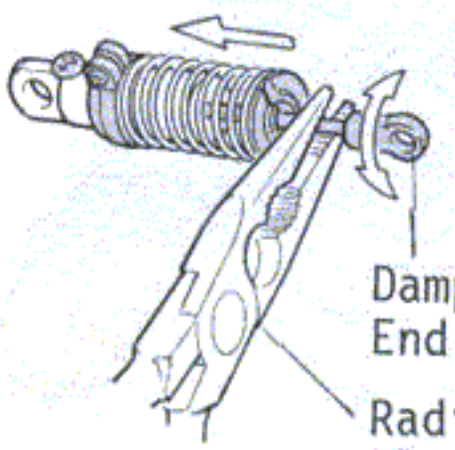
3 mm Nut

15 INSTALLATION OF REAR OIL DAMPER AND CHAIN GUIDE (A)

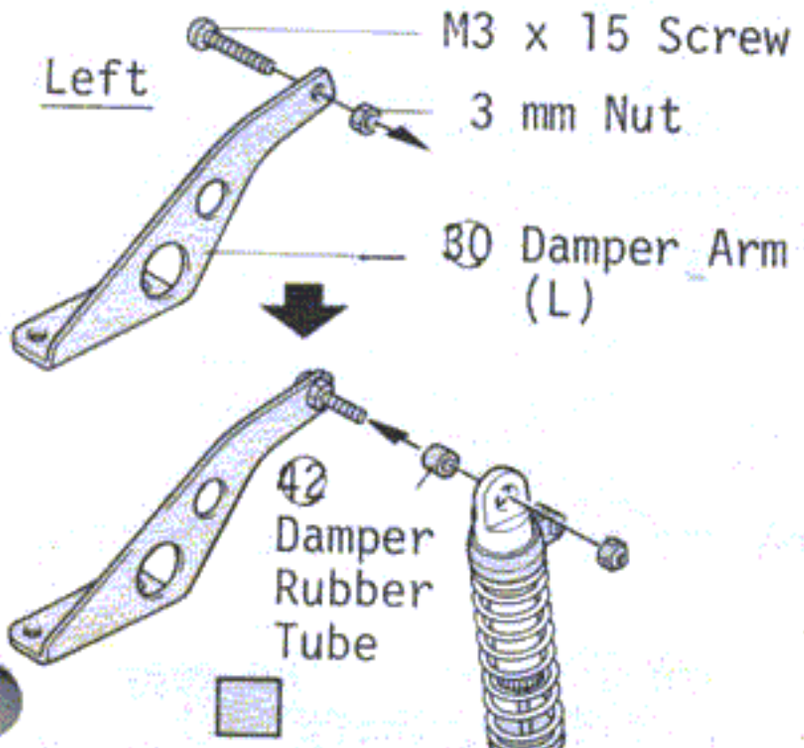
*Equalize the length of two oil dampers.



To get the same length, press down the spring and turn the damper end with a pair of long nose pliers.



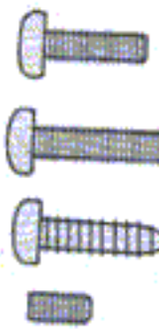
Try not to scrath the spindle when holding it with pliers.



Tighten the 3mm nut lightly the same as you did with the front one.

15 INSTALLATION OF REAR OIL DAMPER AND CHAIN GUIDE (A)

[Small parts used]



M3 x 8 Screw	.....	2
M3 x 15 Screw	.....	2
M3 x 10 Self Tapping Screw	...	5
M3 x 5 Set Screw	.....	2

Assemble as shown in the drawing below.

(Ba careful about the Position)

3 mm Nut

The M3 x 10 self tapping screw is for adjusting the height of the chain guide. So fasten it temporarily.

M3 x 10 Self Tapping Screw
Using the fasten chain guide loosely so that it can be adjusted by sliding back and forth.

M3x10 Self Tapping Screw

Chain Guide (A)

M3 x 10 Self Tapping Screw

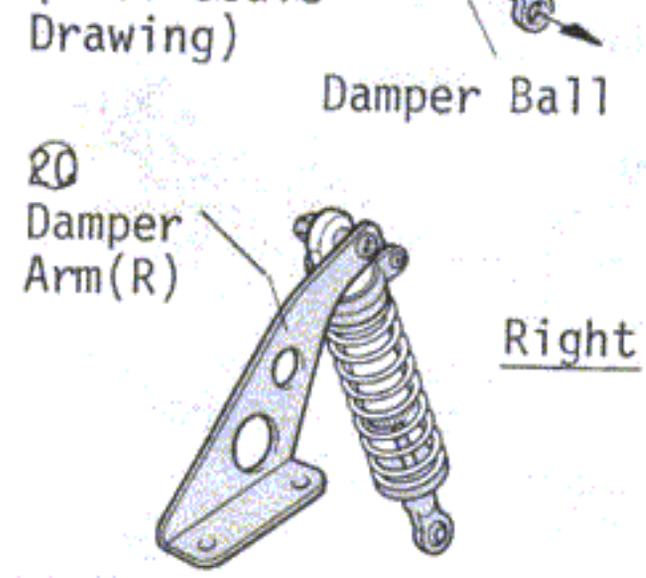
M3 x 8 Screw

Damper End

M3 x 5 Set Screw

Tighten the set-screw sufficient a so the rear damper pin will not come off.

31 Rear Damper Pin



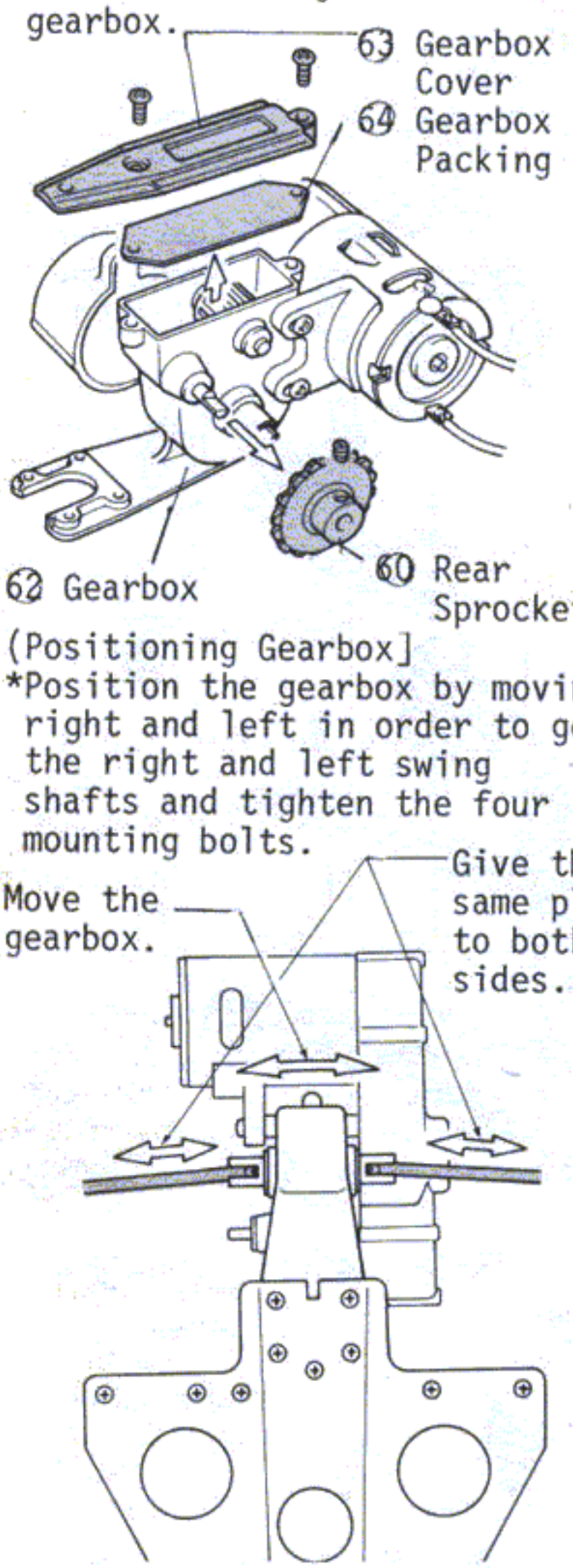
M3 Nut	.....	4
M3 Nylon Nut	....	2
Damper Ball	....	2
Rear Damper Pin	..	2

T6 ASSEMBLY OF GEAR BOX

[Small parts used]

M3 x 6 Screw ... 4

*Detach the following parts from the factory assembled gearbox.



(Positioning Gearbox]

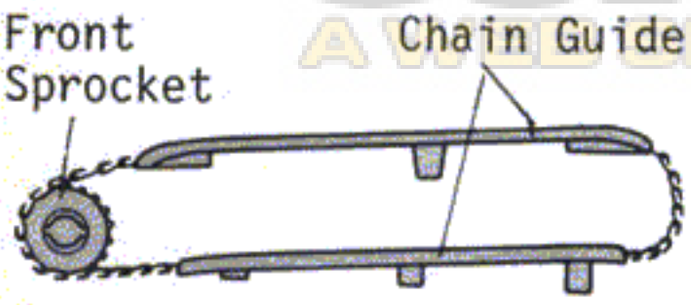
*Position the gearbox by moving right and left in order to get the right and left swing shafts and tighten the four mounting bolts.

T7 INSTALLATION OF REAR SPROCKET AND GEARBOX COVER

[Small parts used]

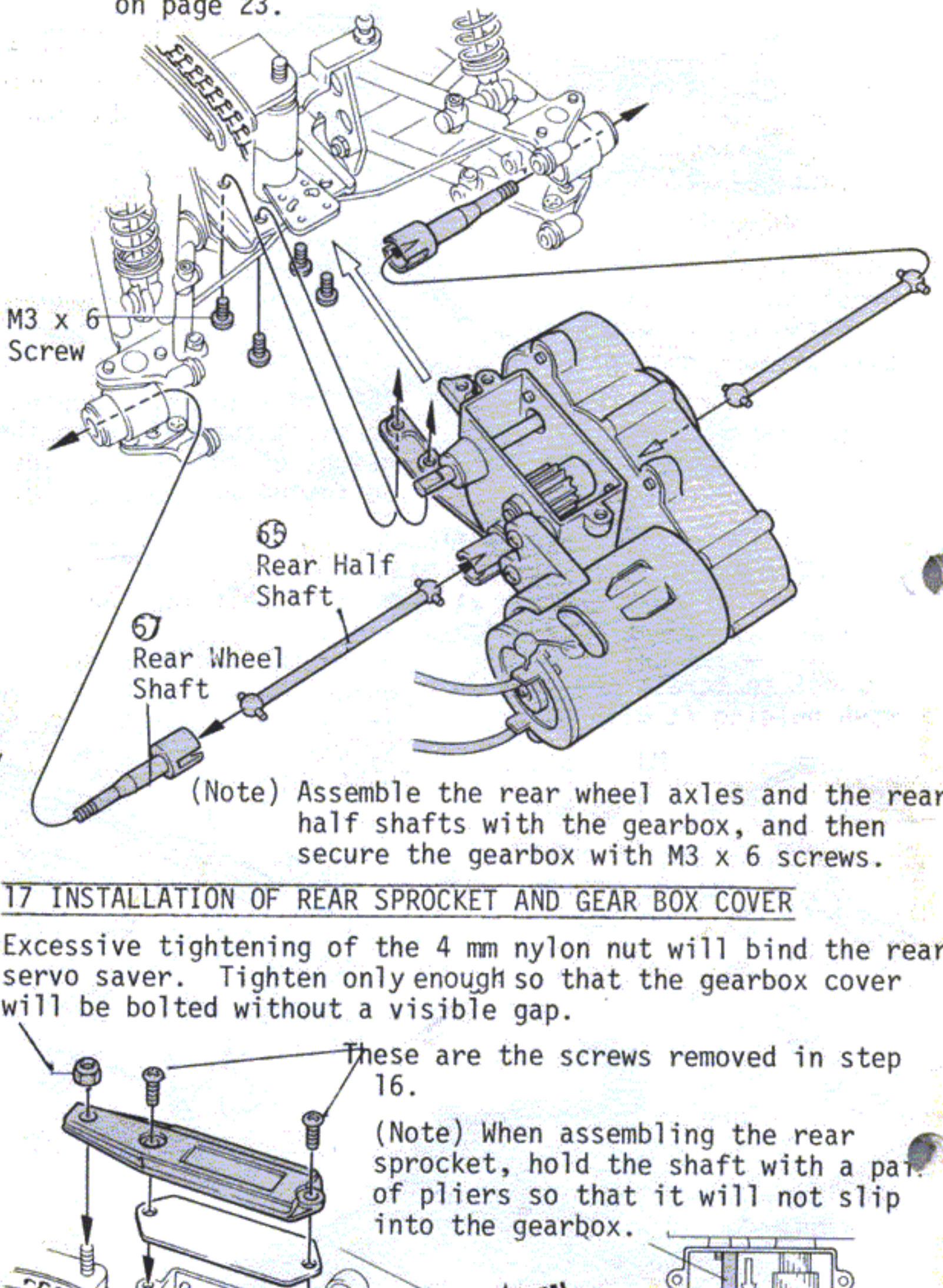
4 mm Nylon Nut .. 1

*When installing the rear sprocket, check to see if the chain is correctly positioned on the front sprocket and the chain guide.



T6 ASSEMBLY OF GEAR BOX

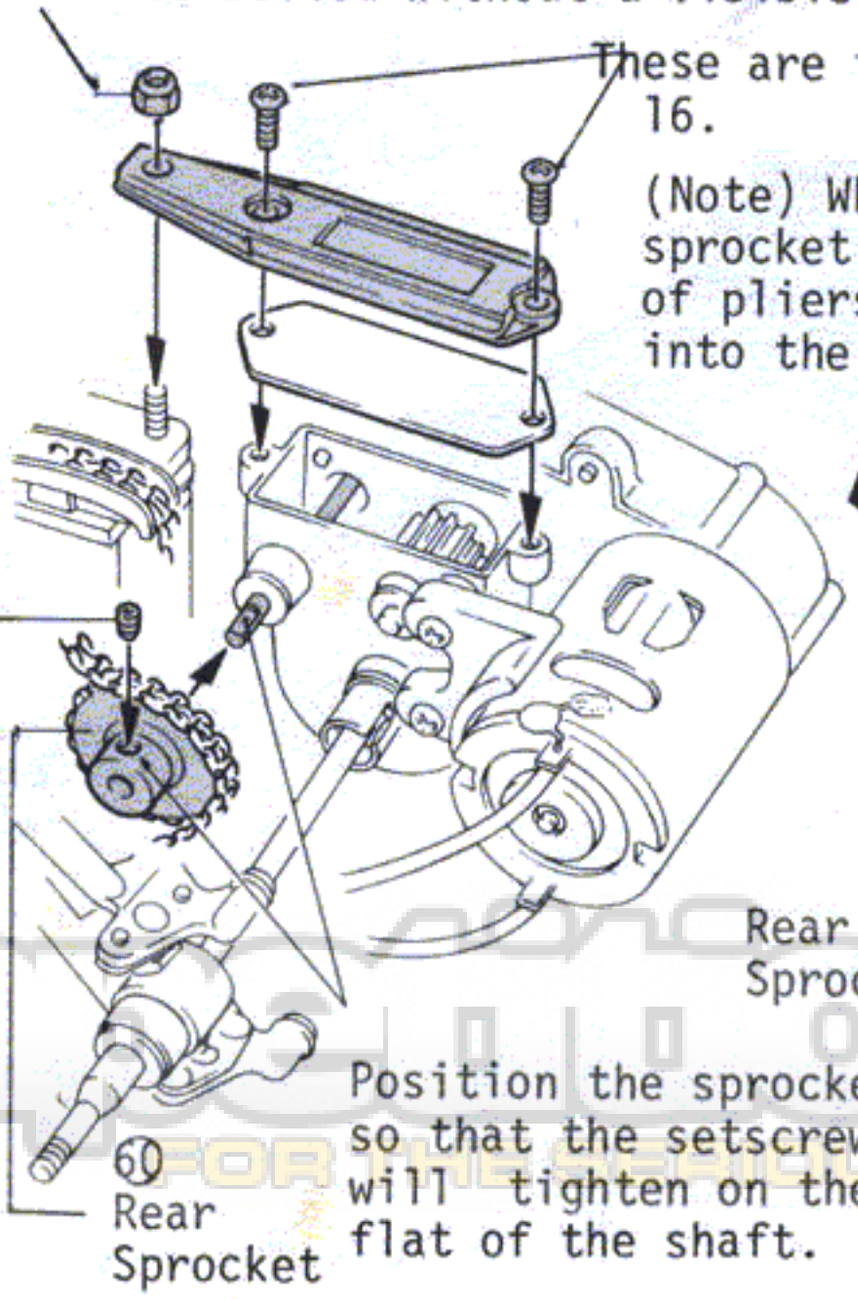
(Note) The pinion gear is not assembled in the gearbox. Install it in the procedure of "Adjustment of Gear Ratio" after the step of "Setting of Speed Controller" on page 23.



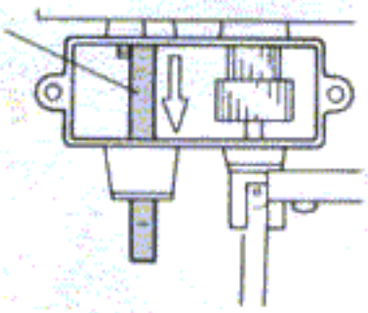
(Note) Assemble the rear wheel axles and the rear half shafts with the gearbox, and then secure the gearbox with M3 x 6 screws.

T7 INSTALLATION OF REAR SPROCKET AND GEAR BOX COVER

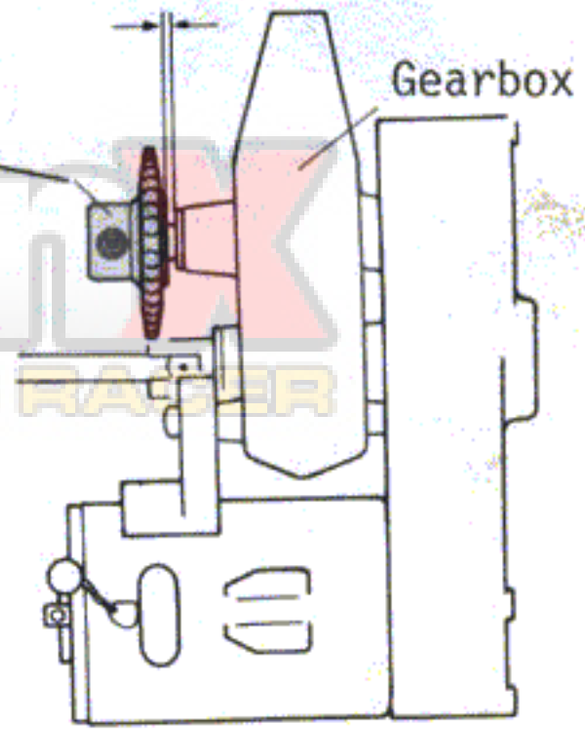
Excessive tightening of the 4 mm nylon nut will bind the rear servo saver. Tighten only enough so that the gearbox cover will be bolted without a visible gap.



(Note) When assembling the rear sprocket, hold the shaft with a pair of pliers so that it will not slip into the gearbox.



Leave 0.5 mm clearance.



Position the sprocket so that the setscrew will tighten on the flat of the shaft.

18 MOUNTING OF SPEED CONTROLLER HORN

[Small parts used]

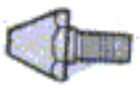
Pillow Ball 1

3 mm Nut 1

3 mm Nut (Gold Color) 2

Speed Controller Spring 1

Silver Contact ... 2



Contact Holder ... 2

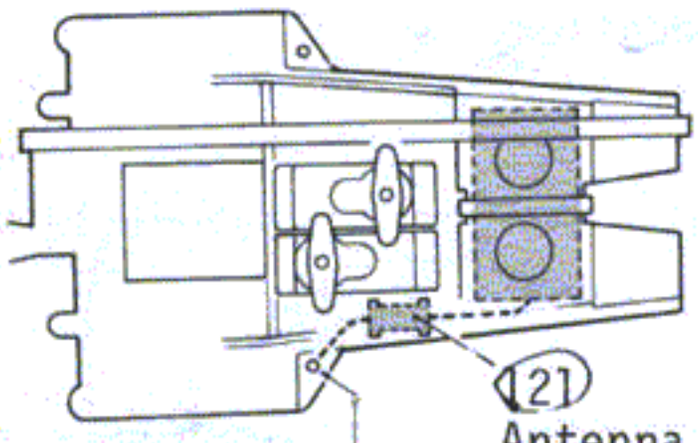
Speed Controller Nut 1

Speed Controller Pivot 1

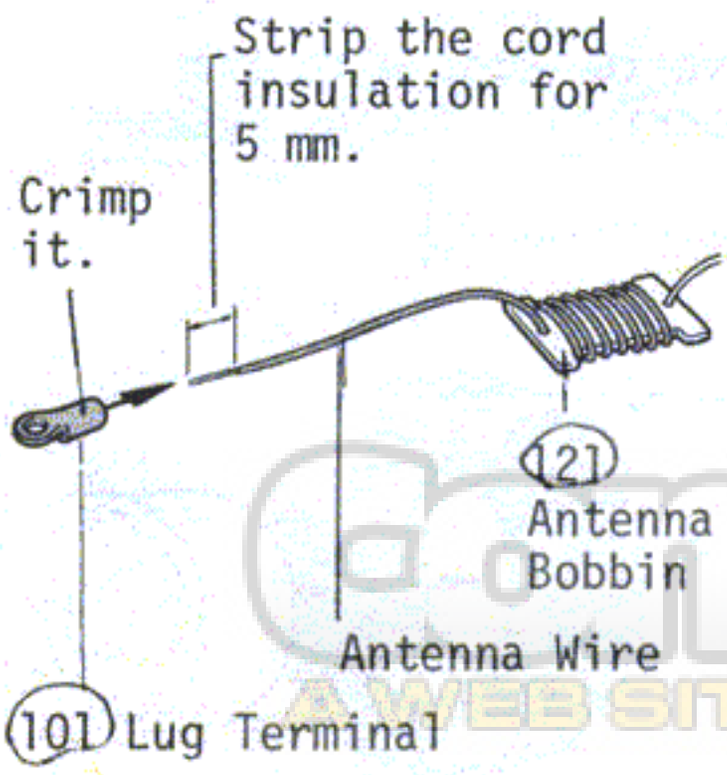
Speed Controller Stud 1

19 INSTALLATION OF ANTENNA

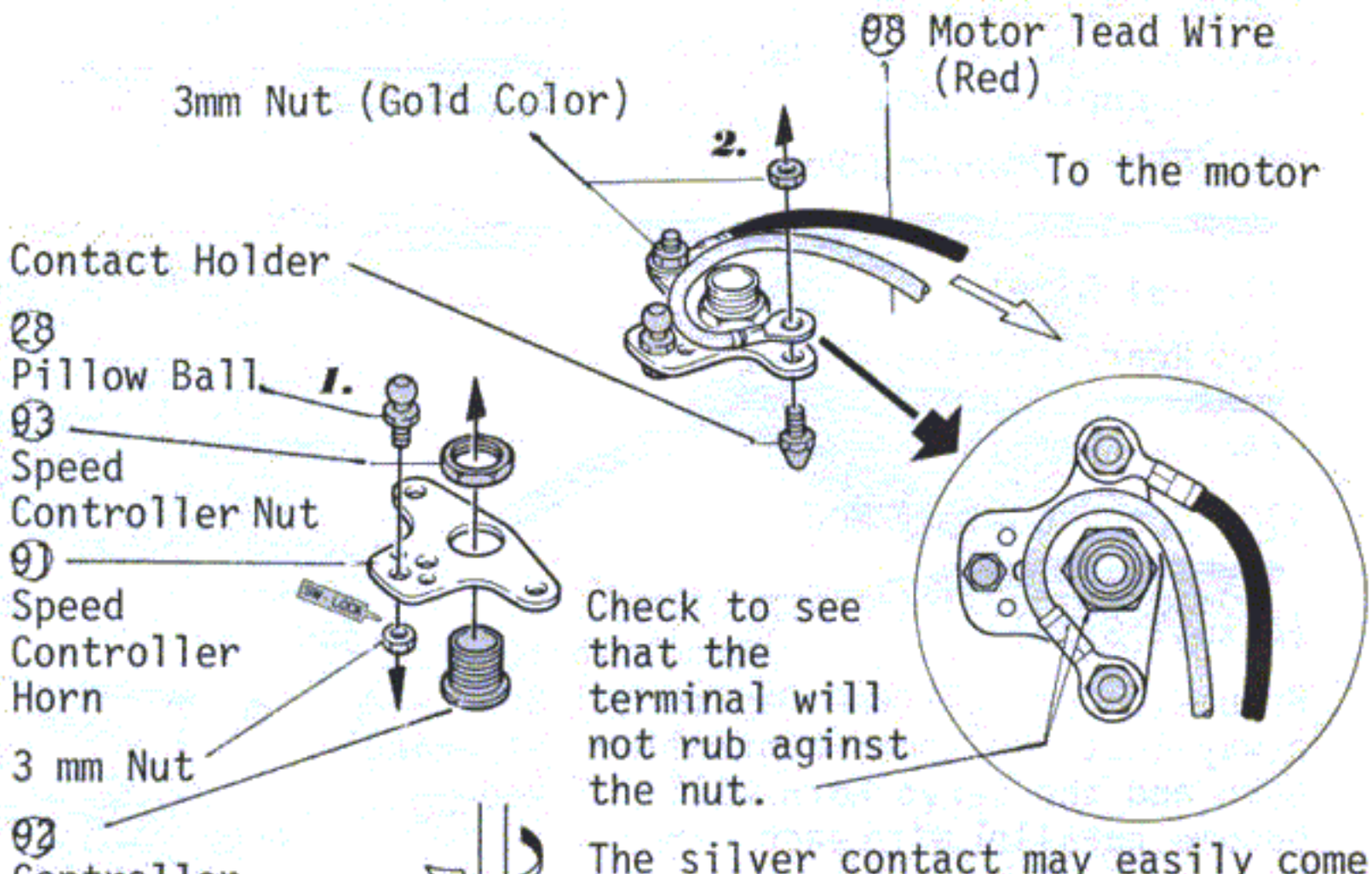
*Wind the antenna wire around the bobbin to shorten the length of the wire up to the antenna mounting point.



*After winding the antenna wire, attach the lug.

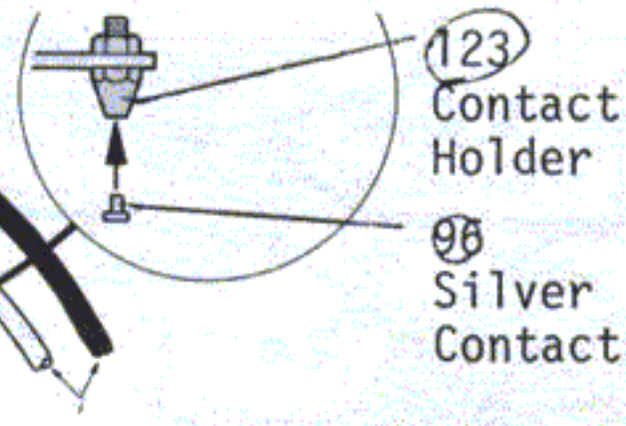


18 MOUNTING OF SPEED CONTROLLER HORN



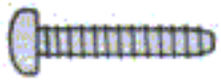
Check to see that the terminal will not rub aginst the nut.

The silver contact may easily come out of position, Fit them into the holders as indicated in the illustration.



Pass the lead wires to the motor through the roll bar. (Refer to (23) on page 19 for wiring.)

19 INSTALLATION OF ANTENNA

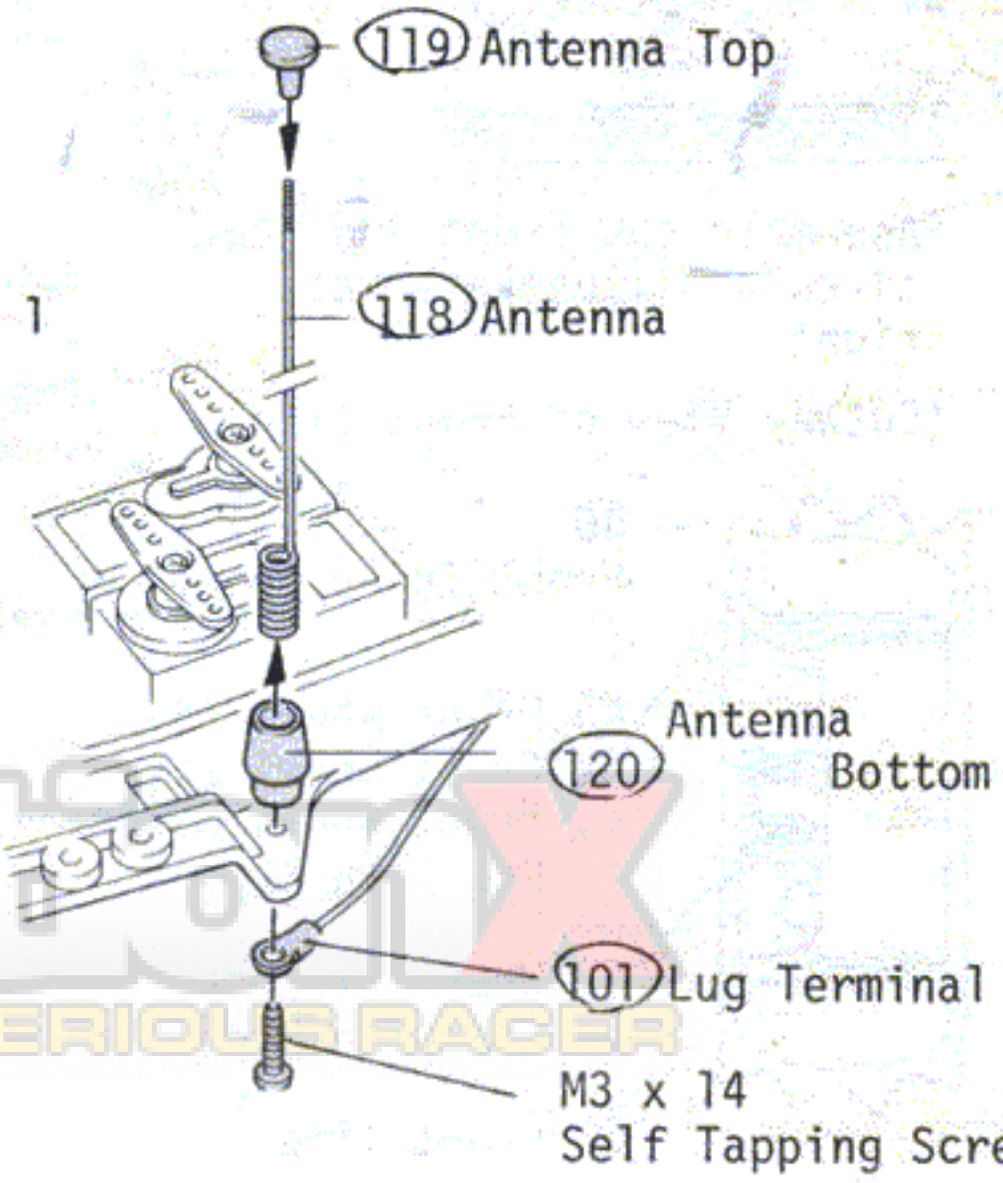


M3 x 14 Self Tapping Screw .. 1

Antenna Bottom ... 1

Lug Terminal 1

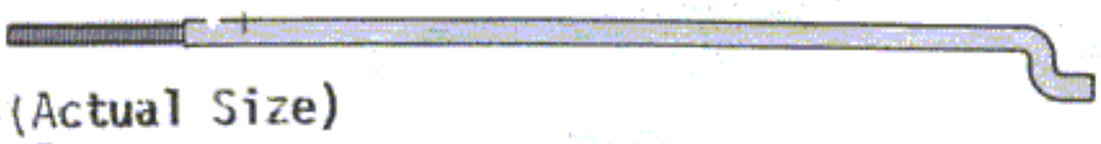
Antenna Top 1



20 LINKAGE OF CONTROL RODS

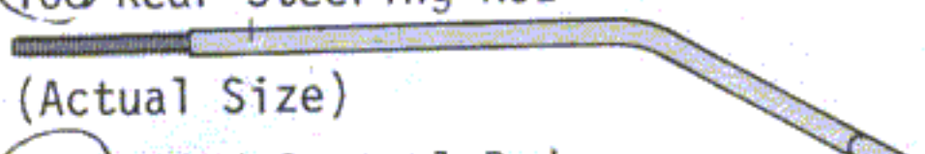
*Screw ball ends onto the threaded portion of the three control rods.

(107) Front Steering Rod



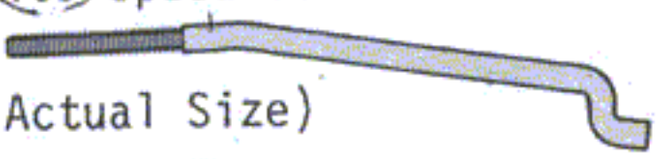
(Actual Size)

(108) Rear Steering Rod



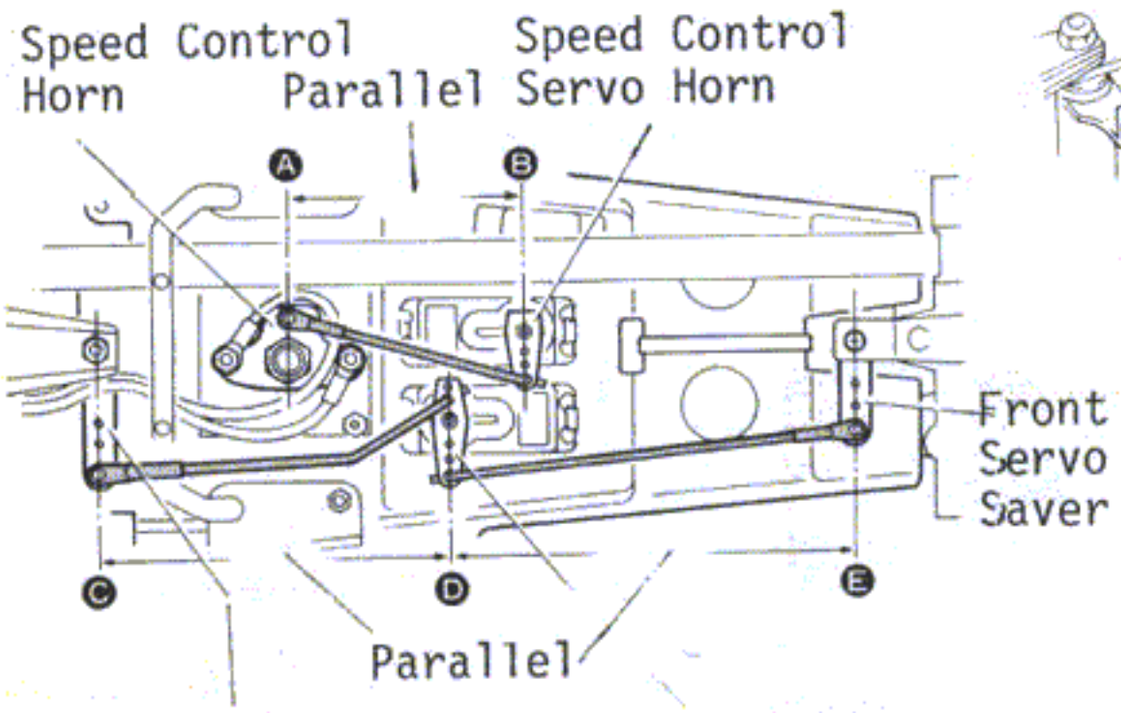
(Actual Size)

(109) Speed Control Rod



(Actual Size)

Regulate the ball ends in such a way that the speed controller horn and the servo horn will become parallel with each other.

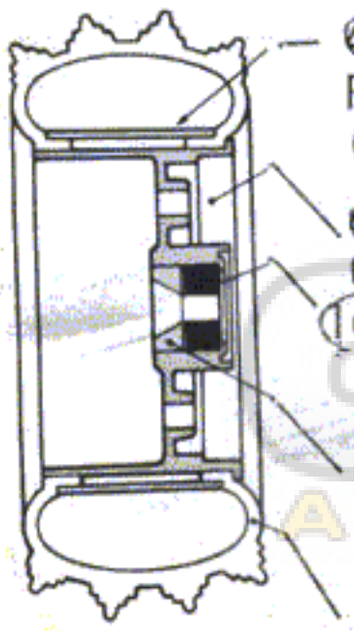


Adjust the ball ends so that the steering servo horn and the front and rear servo savers are parallel with each other.

21 ASSEMBLY OF TIRE

*Assemble the front and rear tires as illustrated at right.

(Cutway View of Front Tire)



(46) Front Inner Wheel (L)

(43) Front Wheel (R)
(44) Front Wheel (L)
(163) Front Wheel Collar
Fix with [22]

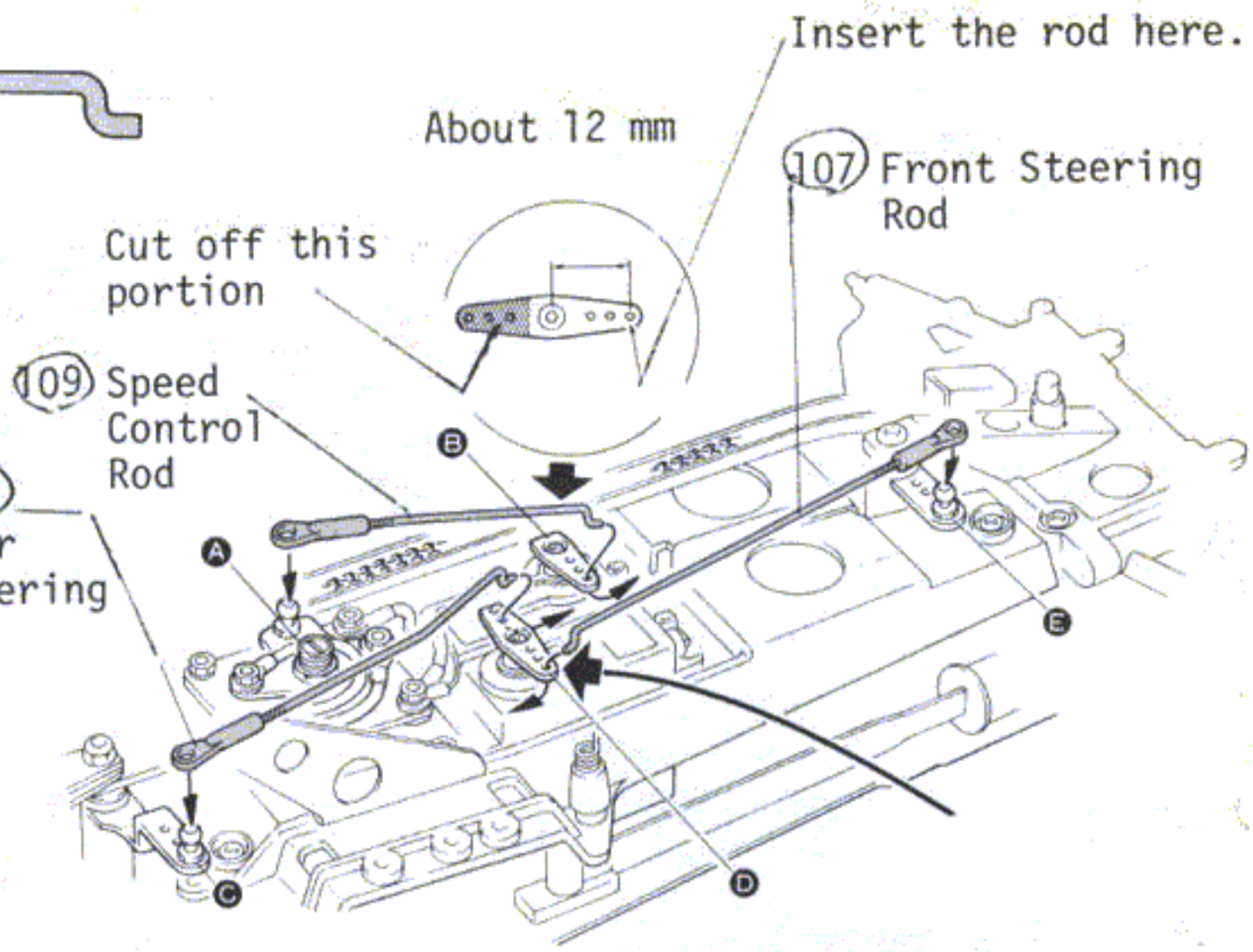
(68) Wheel Stopper
Fix with [22]

(50) Front Tire

20 LINKAGE OF CONTROL RODS

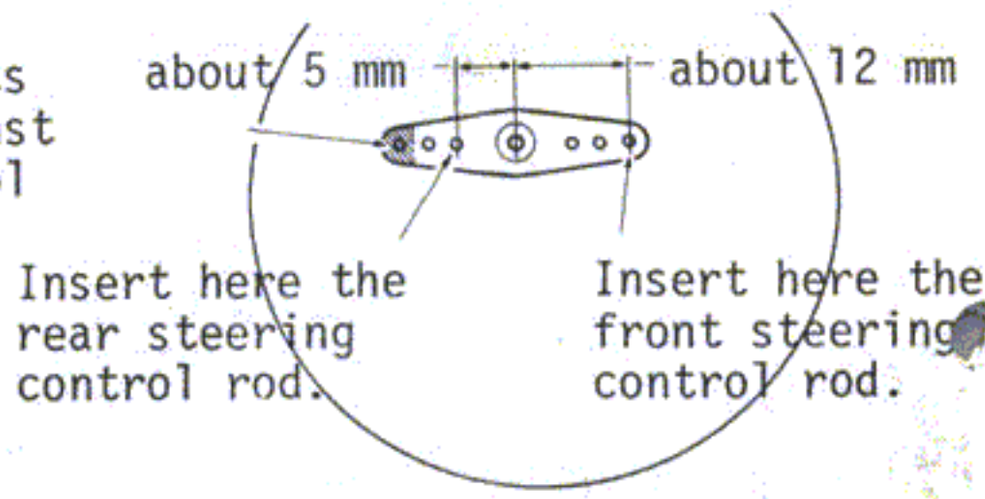
[Small parts used]

Ball End ... 3



Connect the control rods to the holes about 12 mm and 5 mm apart from the spindle. Since servo horns have different sizes and shapes depending upon the maker, arrange the rods to the approximate location.

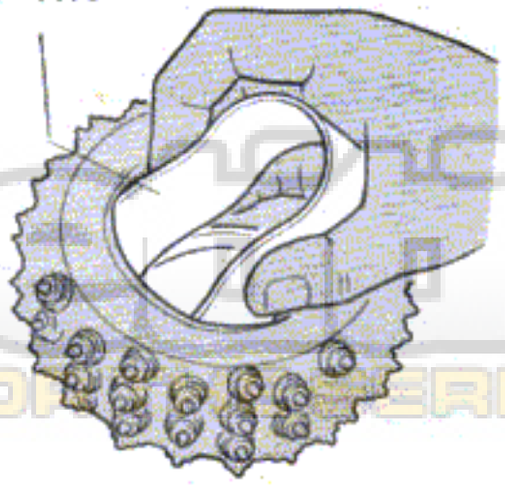
Cut off any parts which rubs against the speed control rod.



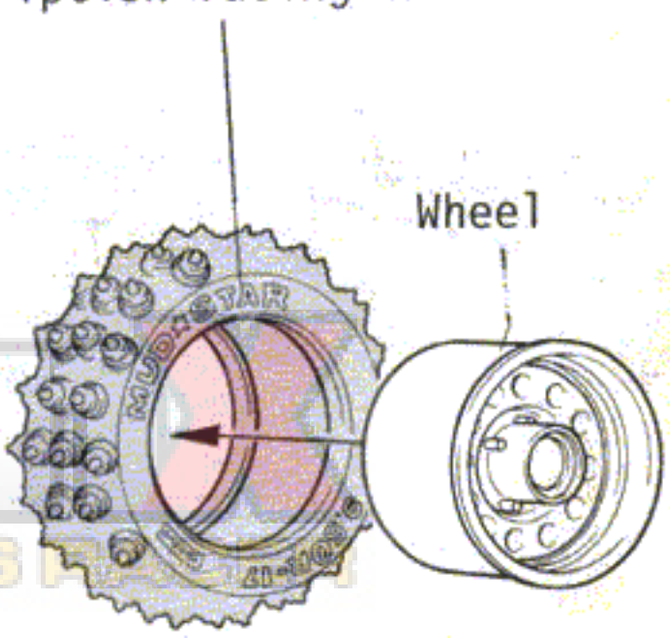
21 ASSEMBLY OF TIRE

Install inner tire by squeezing it.

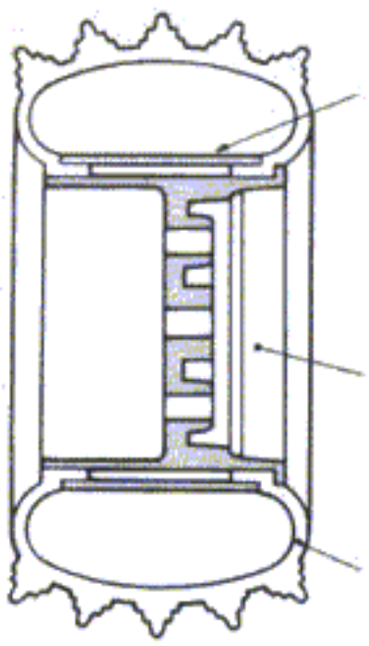
Push it in.



Have the side with the inscription facing outward.



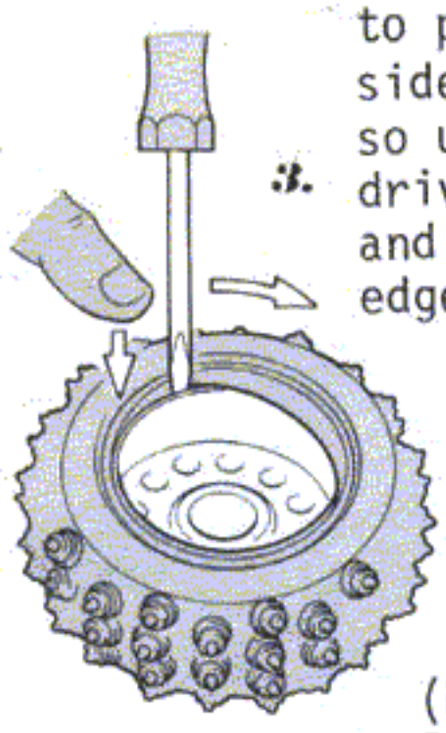
(Cross-Sectional Drawing of Rear Tire)



47 Rear Inner Wheel (S)

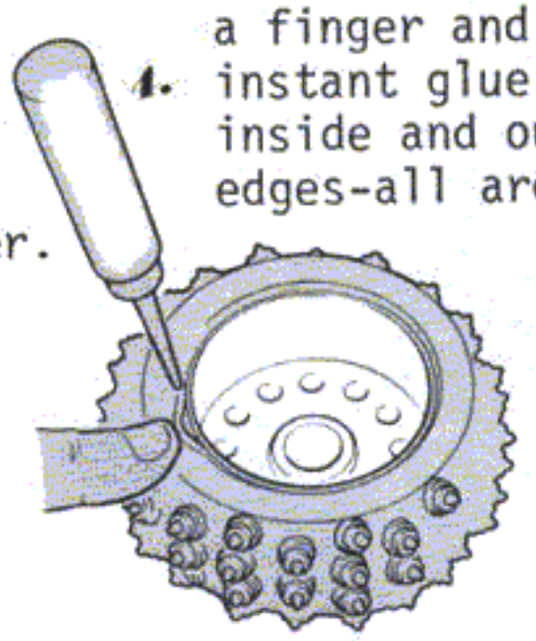
45 Rear Wheel

51 Rear Tire



3. It may difficult to put in the inner side of the tire, so use a screw-driver as a guide and push in the edge with a finger.

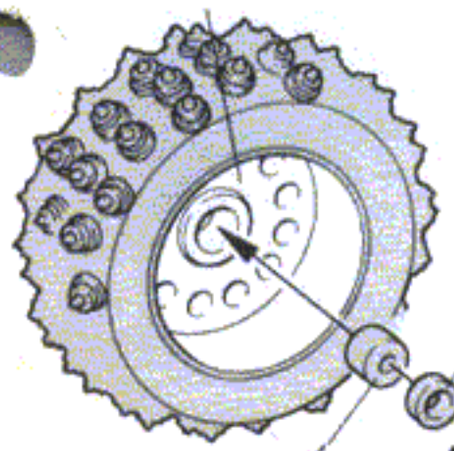
4. Open the seam between the wheel and tire with a finger and pour instant glue into the inside and outside edges-all around.



(Note)
If the tire is glued in a distorted state, it will be difficult to regain the original shape. So try not to distort the tire when gluing.

22 INSTALLATION OF WHEELS

Inside of the Front Wheel



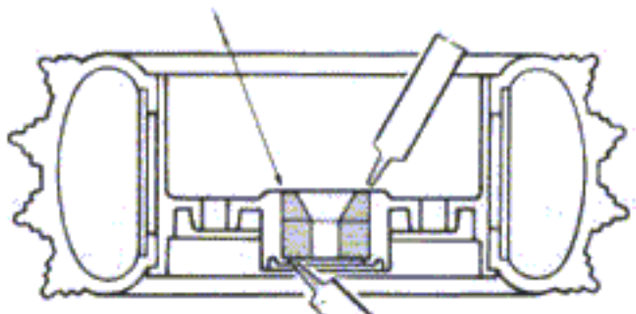
58 Wheel Stopper

163 Front Wheel Collar

Be careful about the position.

Inside

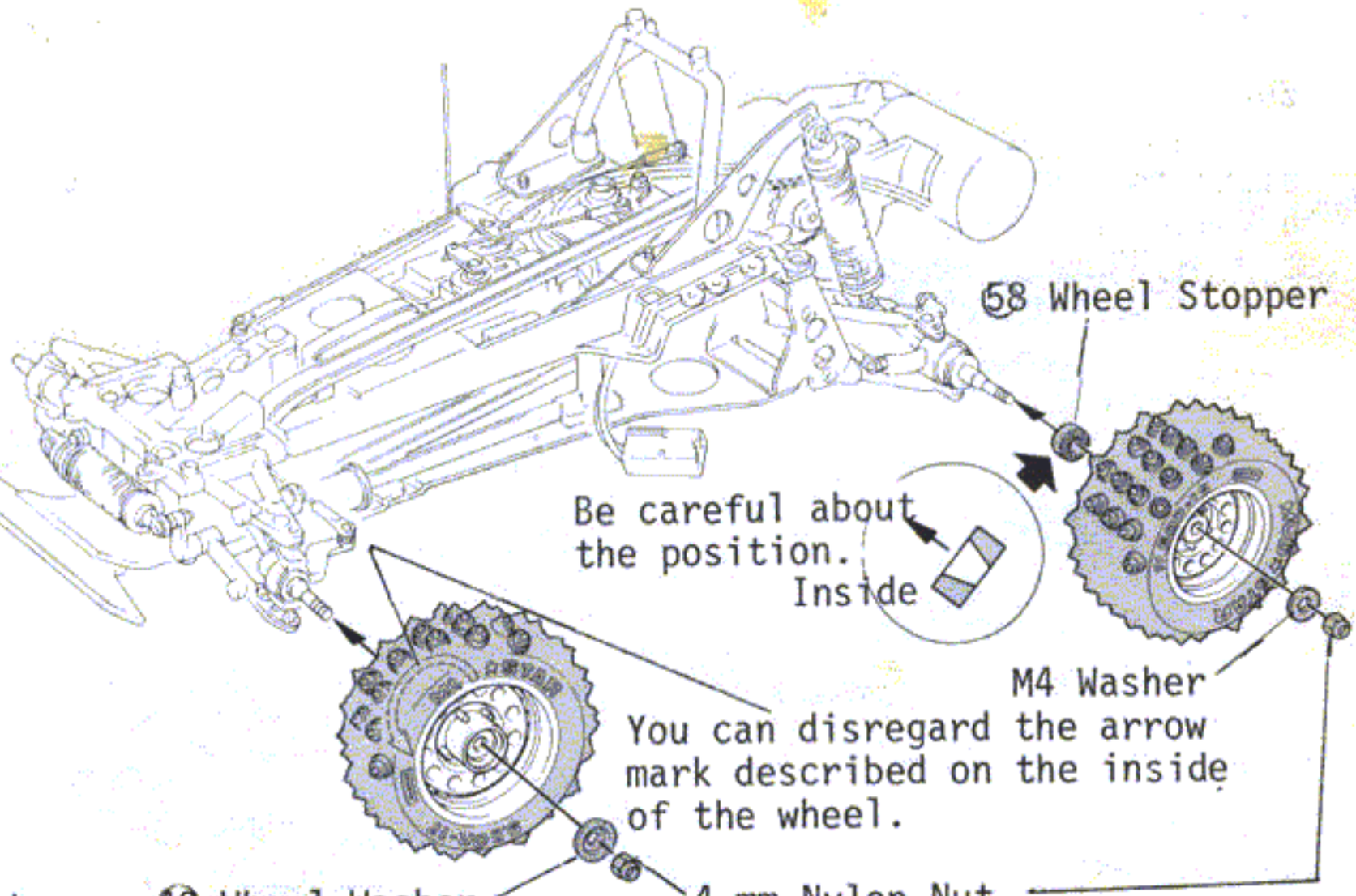
Push in the wheel stopper as deep as possible, so that the edge will be flush.



Instant Cement

Apply some instant glue in order to avoid the parts slipping.

22 INSTALLATION OF WHEELS



58 Wheel Stopper

Be careful about the position.

Inside

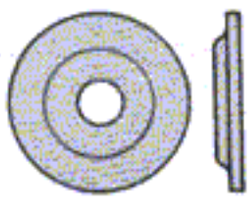
M4 Washer

You can disregard the arrow mark described on the inside of the wheel.

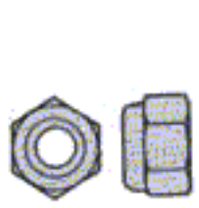
49 Wheel Washer

4 mm Nylon Nut
(Tighten it fully so that the wheel will not run idle.)

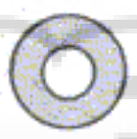
[Small parts used]



Wheel Washer 2



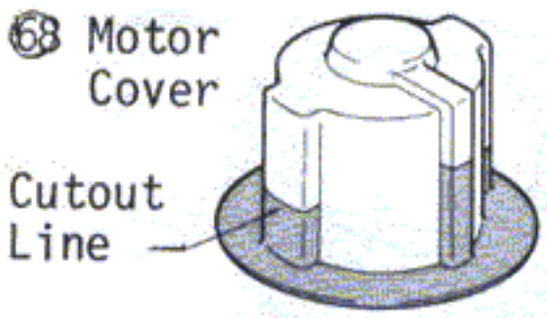
4 mm Nylon Nut ... 4



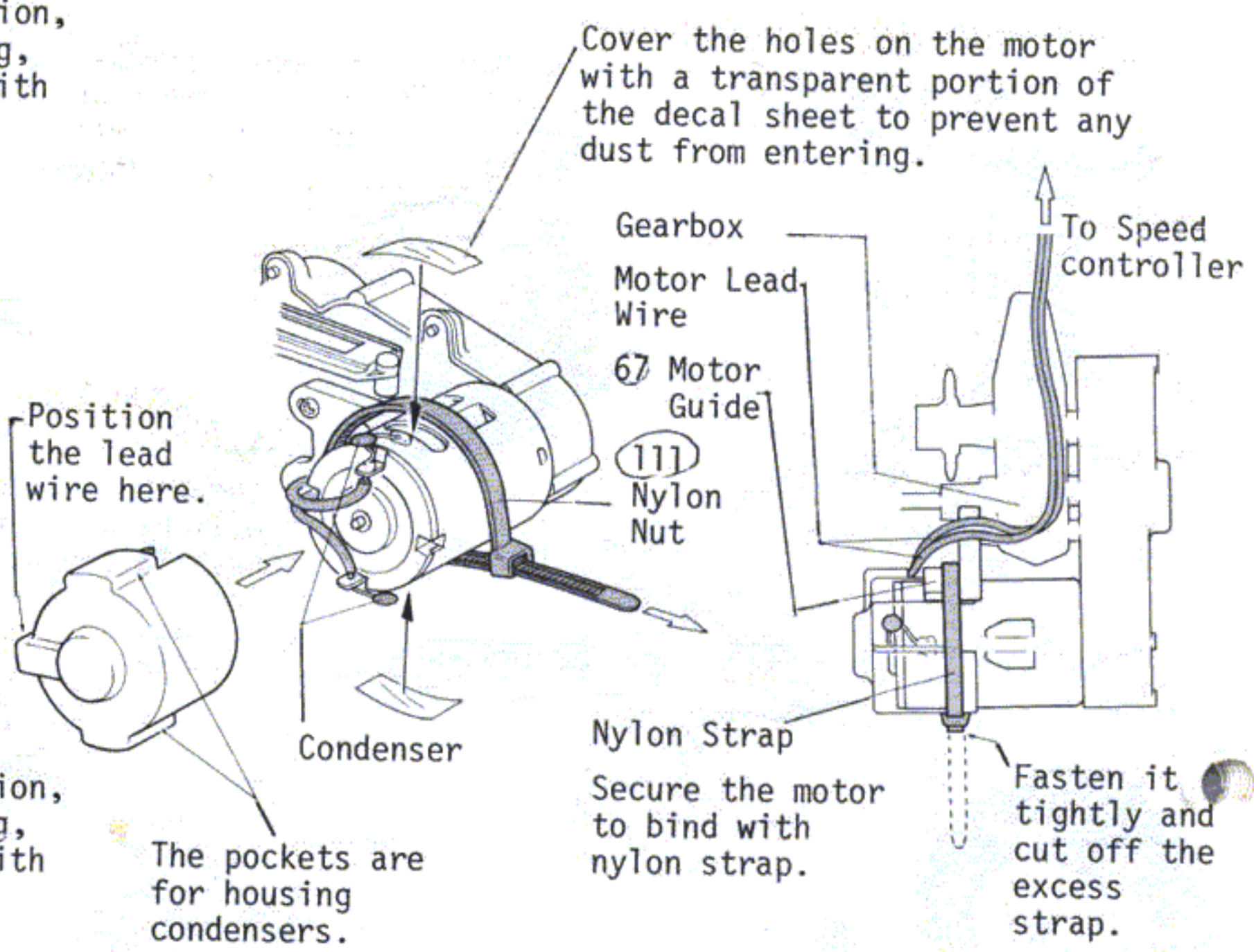
4 mm Washer 2

23 ATTACHING MOTOR COVER

*Cut off the shaded portion, indicated in the drawing, along the cutout line with a knife or scissors.

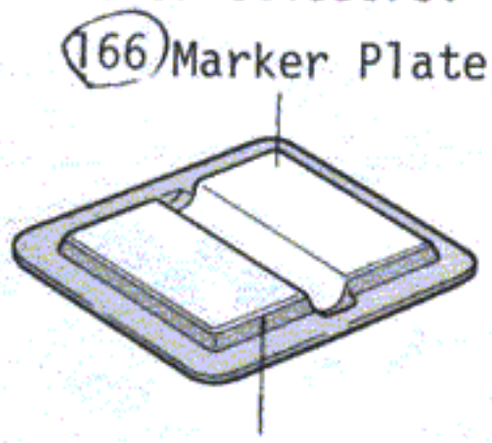


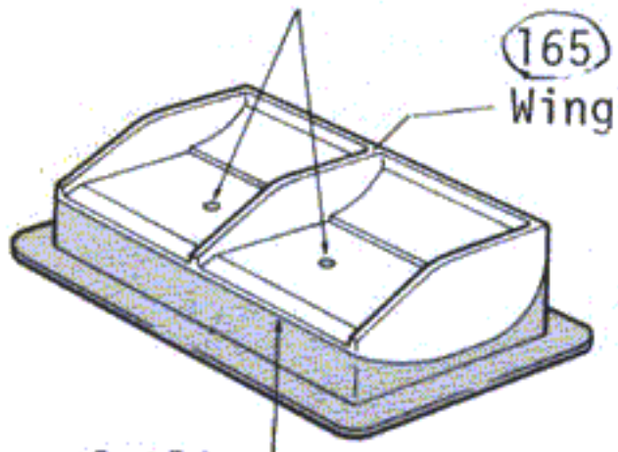
23 ATTACHING MOTOR COVER

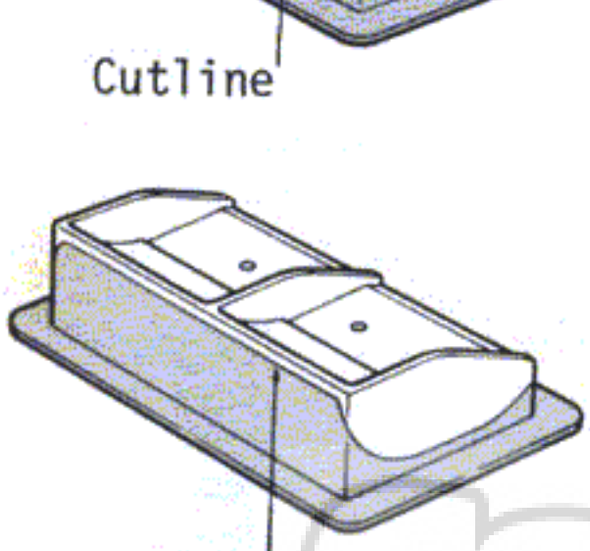


24 CUTTING OUT BODY AND DRIVER FIGURE

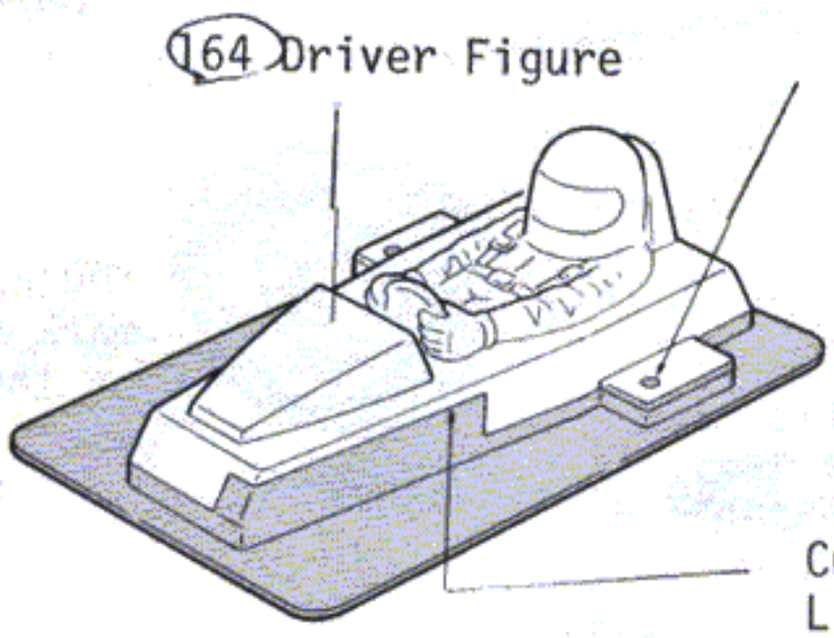
*Cut off the shaded portion, indicated in the drawing, along the cutout line with a knife or scissors.

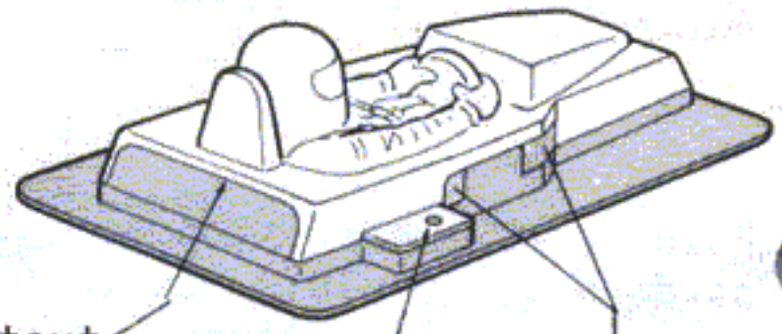






24 CUTTING OUT BODY AND DRIVER FIGURE





25 PAINTING ON DRIVER AND WING

The driver and the wing are made of injected transparent resin, polycarbonate. It is recommended to wash it well with neutral detergent to insure the better sticking of the paint to the material, and then paint it inside of the parts.

Micron Line tape or equivalent can be used as masking tape and to make patterns. They are available in different colors and wideths.

Polyca Colors are paints composed exclusively for painting polycarbonate resin. They are very easy to use. Different colors are available.

26 ASSEMBLY OF PIPE BODY (1)

For achieving a smooth assembly, bolt the structure tentatively with bolts and nuts or self tapping screws. Adjust the form of the assembly as a whole before the final fastening.

[Small parts used]

M2 x 4 Self Tapping Screw 2

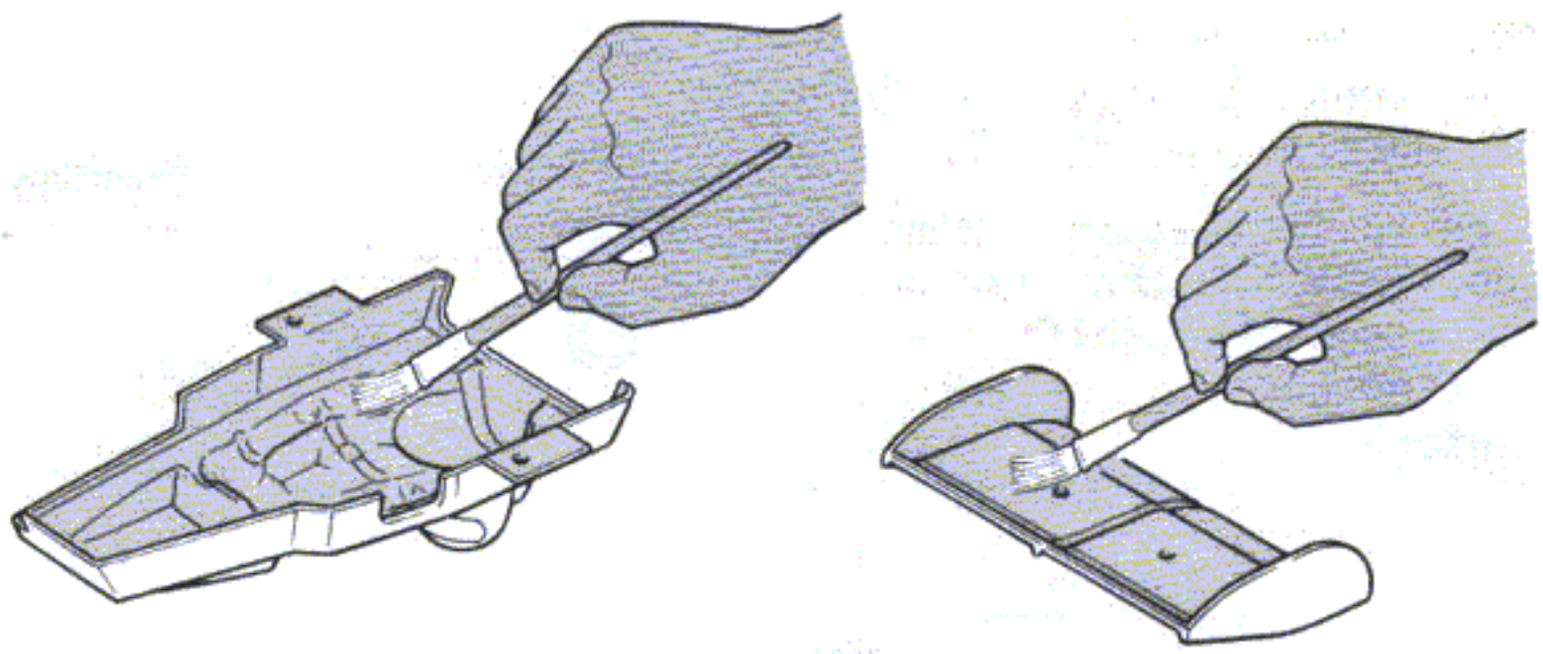
M2.6 x 6 Screw 4

M2.6 x 8 Self Tapping Screw 4

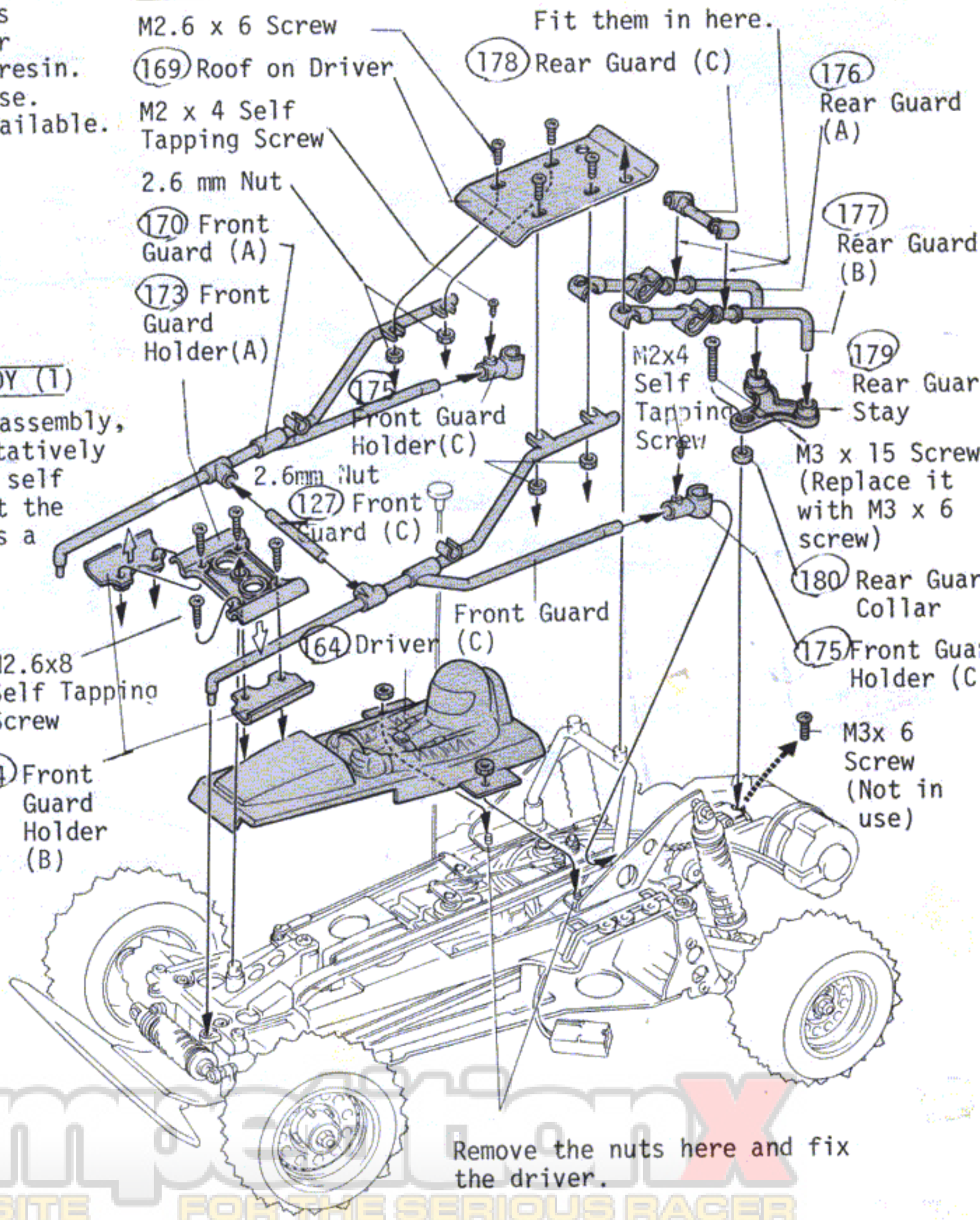
M3 x 15 Screw 1

2.6 mm Nut ... 4

25 PAINTING ON DRIVER AND WING



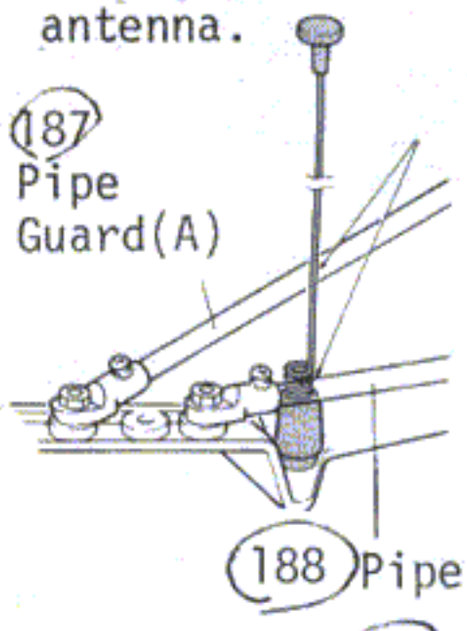
26 ASSEMBLY OF PIPE BODY (1) (Roll Cage)



27 ASSEMBLY OF PIPE BODY (2)

*Keep the screws and bolts fastened tentativly as done in the previous step 26.

*See to it that the antenna does not hit the pipe guard. If necessary, shift the fixing position of the antenna.



27 ASSEMBLY OF PIPE BODY (2) (Roll Cage)

[Small parts used]

M2 x 4 Self Tapping Screw	...	6
M3 x 8 Screw	.....	4
3 mm Nut	.....	4

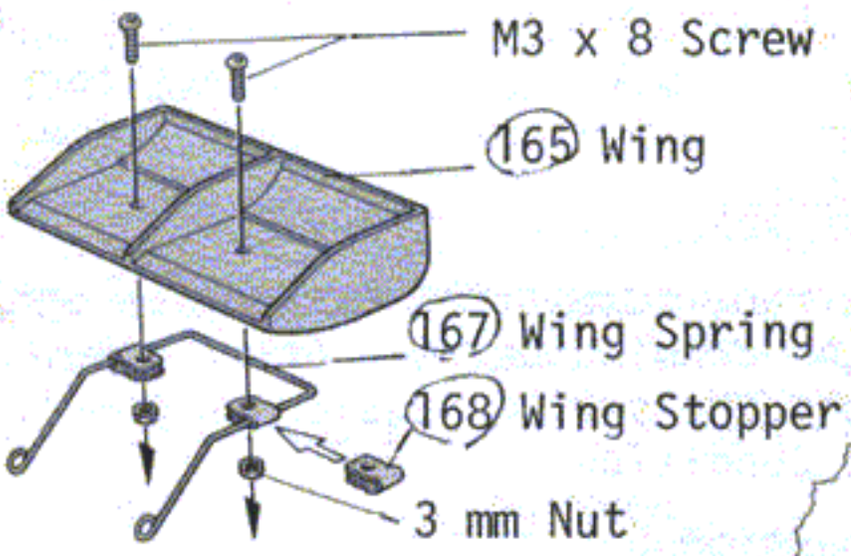
28 ASSEMBLY OF PIPE BODY (3)

*After building up the pipe body, fasten the bolts and screws ultimately. (Do not tighten the self tapping screw too much, otherwise the thread is ruined.)

* mark indicates the points where "thread lock" agent should be spplied, and instant glue.
* indicates the detachable portions. Do not use glue to the points by mistake.

*Be sure to apply glue or "Thread Lock" agent to the bolts and screws on the other side of the illustration.

[Assembly of Wing]

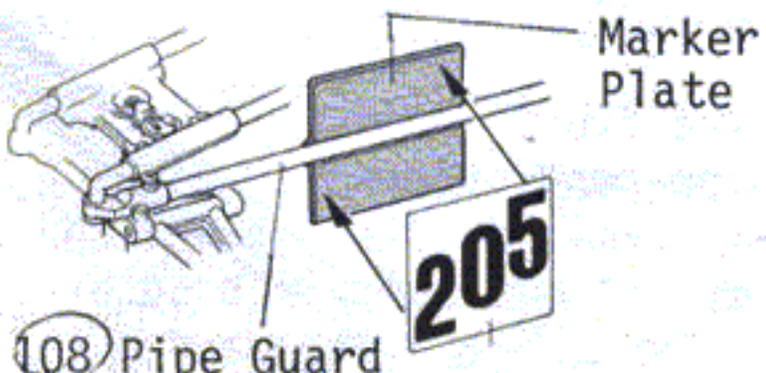


[Affixing of Decals]

*Cut out the decals as close as to the contour lines. Refer to the pictures on the display box of the kit.

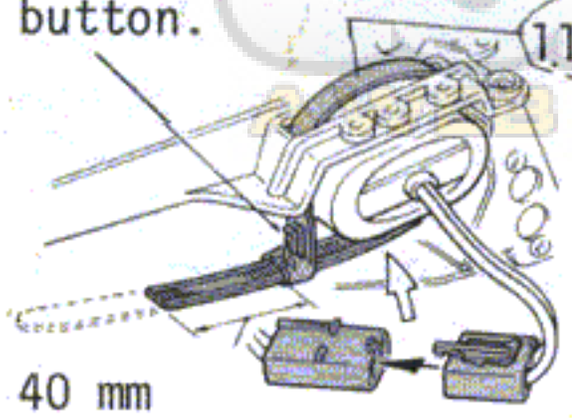
[How to Fix the Marker Plate]

Attach the marker plates to the pipe guard (B) on both sides as shown in the drawing.



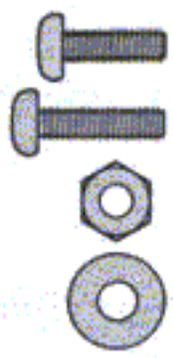
[Mounting of Ni-Cad Battery]

This fastening strap is so devised that it can be unfastened by pressing this button.

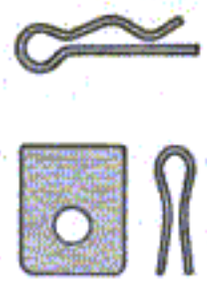


28 ASSEMBLY OF PIPE BODY (3) (Roll Cage)

[Small parts used]



M3 x 8 Screw 6
M3 x 10 Screw 2
3 mm Nut 8
M3 Washer 2



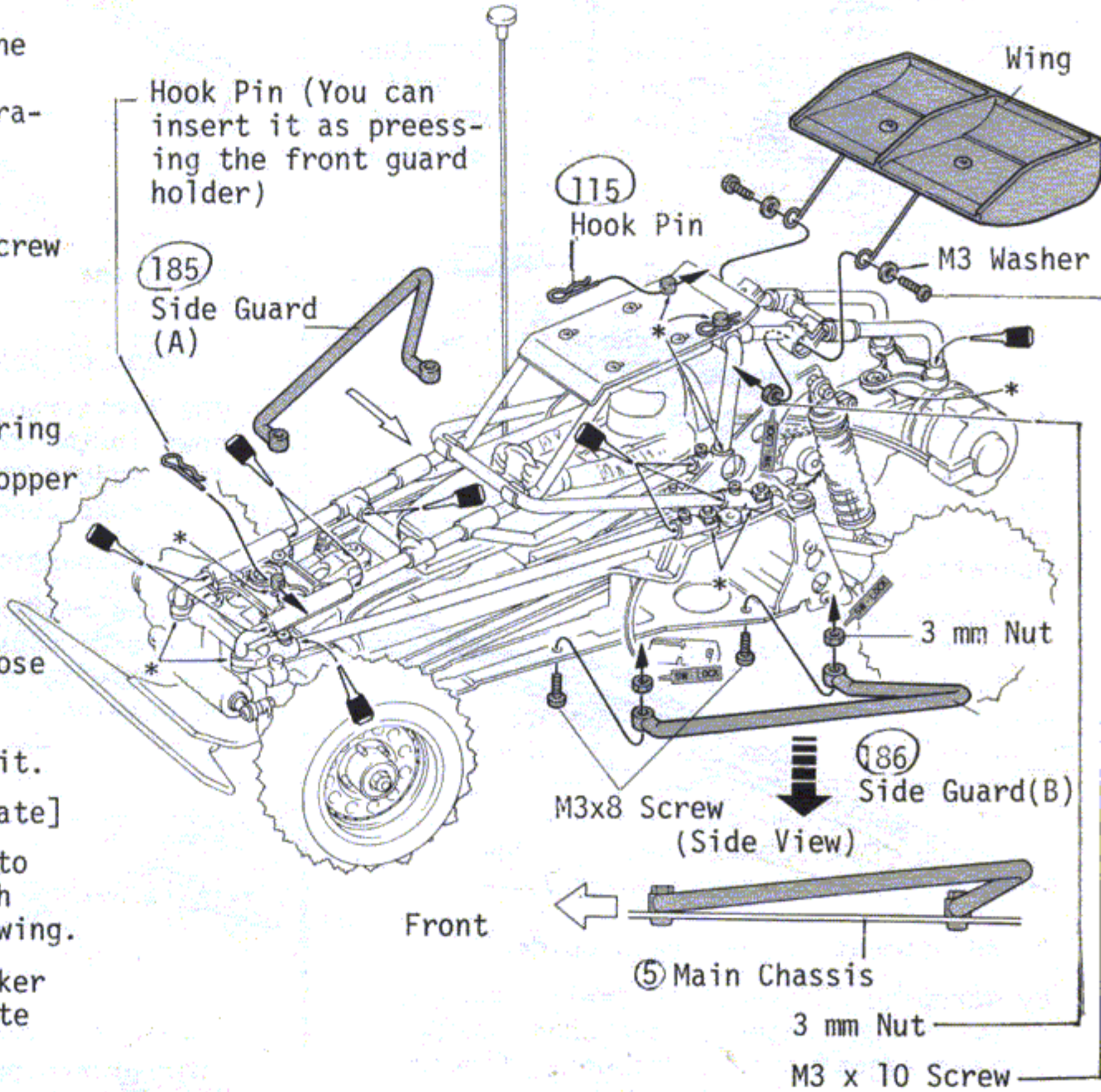
Hook Pin 3

Wing Stopper 2

indicates the points where "Theread Lock" should be applied.

indicates the points where instant glue should be applied.

* indicated the places where no glue is required.



For maximum performance of car, a high performance battery is recommended.

Fasten it as much as possible and cut it off leaving 40 mm from the fastener.

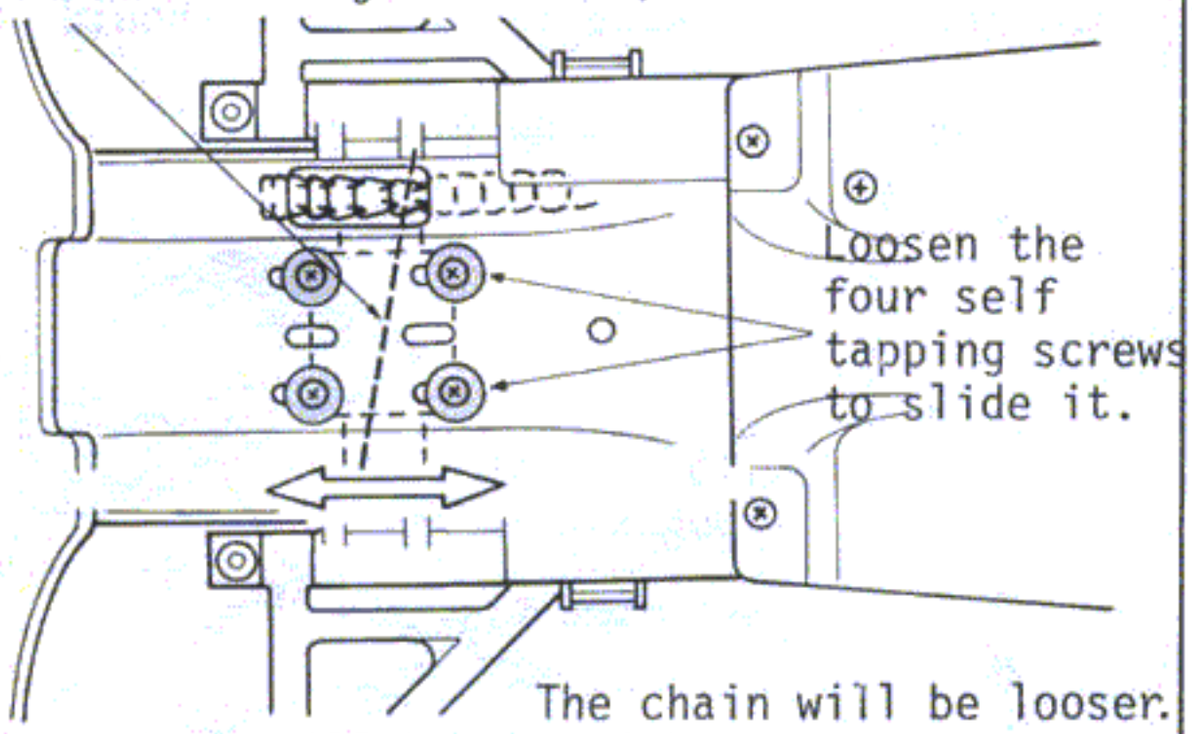
Tuck in the connectors between the battery and the chassis after plugging in them.

When your assembly is completed, adjust the following items:

[Adjustment of Chain]

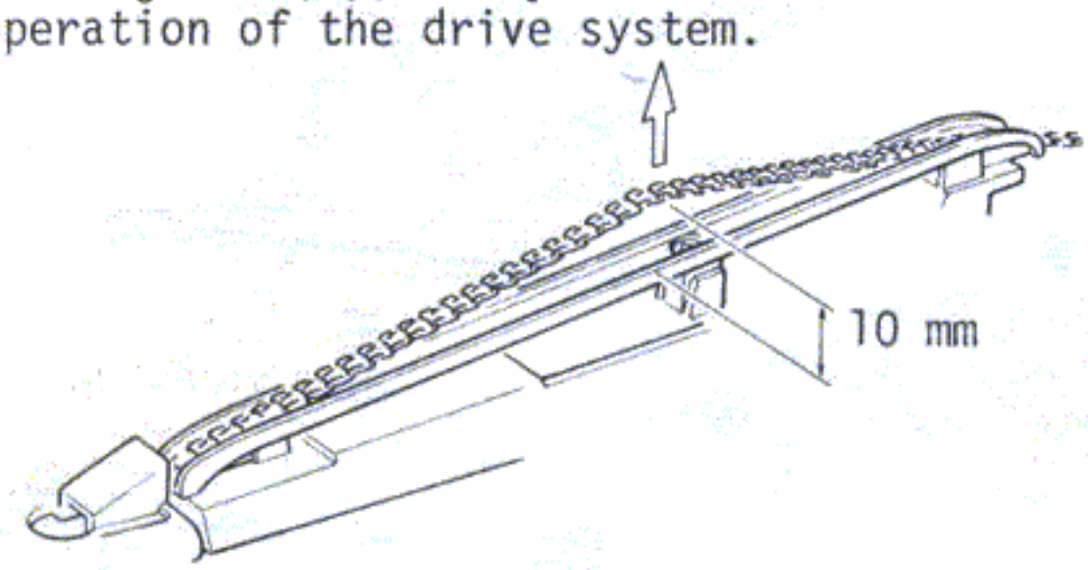
Slide the front shaft holder backward or forward to give the proper tension to the chain.

If the front differential mount is installed obliquely, the smooth operation of the differential gear is hampered.



1. Ideal Tension of Chain

Set the chain so that it can be lifted up 10 mm by finger at about the center of the chain guide (A), and you will attain smooth operation of the drive system.



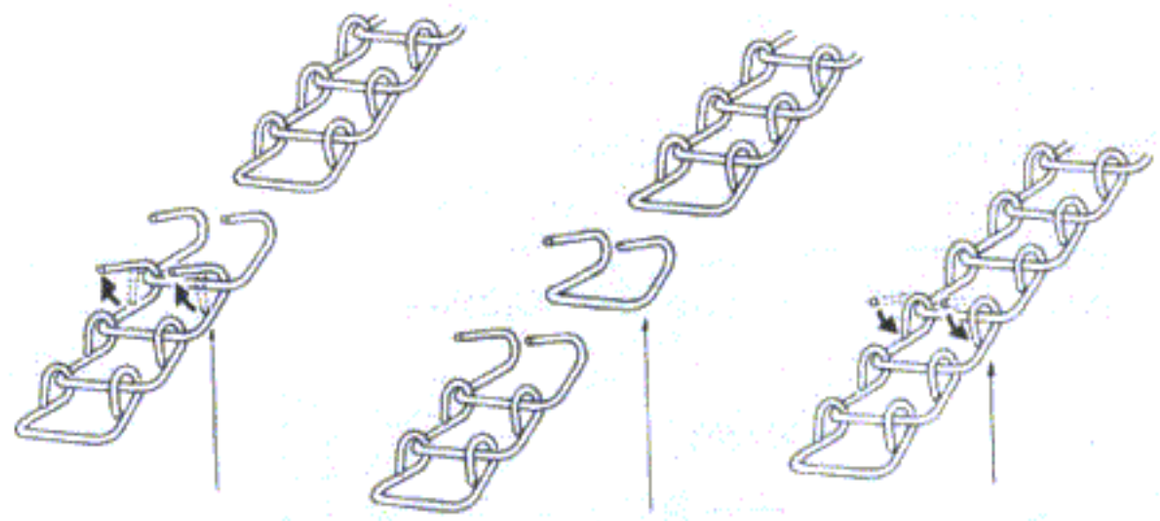
2. Adjustment of the Chain Guide (A)

By screwing in or out the self tapping screw on the center of the chain guide, you can adjust the height of it finely.

If the chain is too tight, the rotation of the chain becomes difficult, with considerable loss of power.
If the chain is too loose, it flop around.

3. When the chain is stretched . . .

In operation, the chain will slacken little by little. Check it from time to time to keep it in a good adjustment. When the chain has been stretched beyond the range of adjustment, remove one link out of the chain.



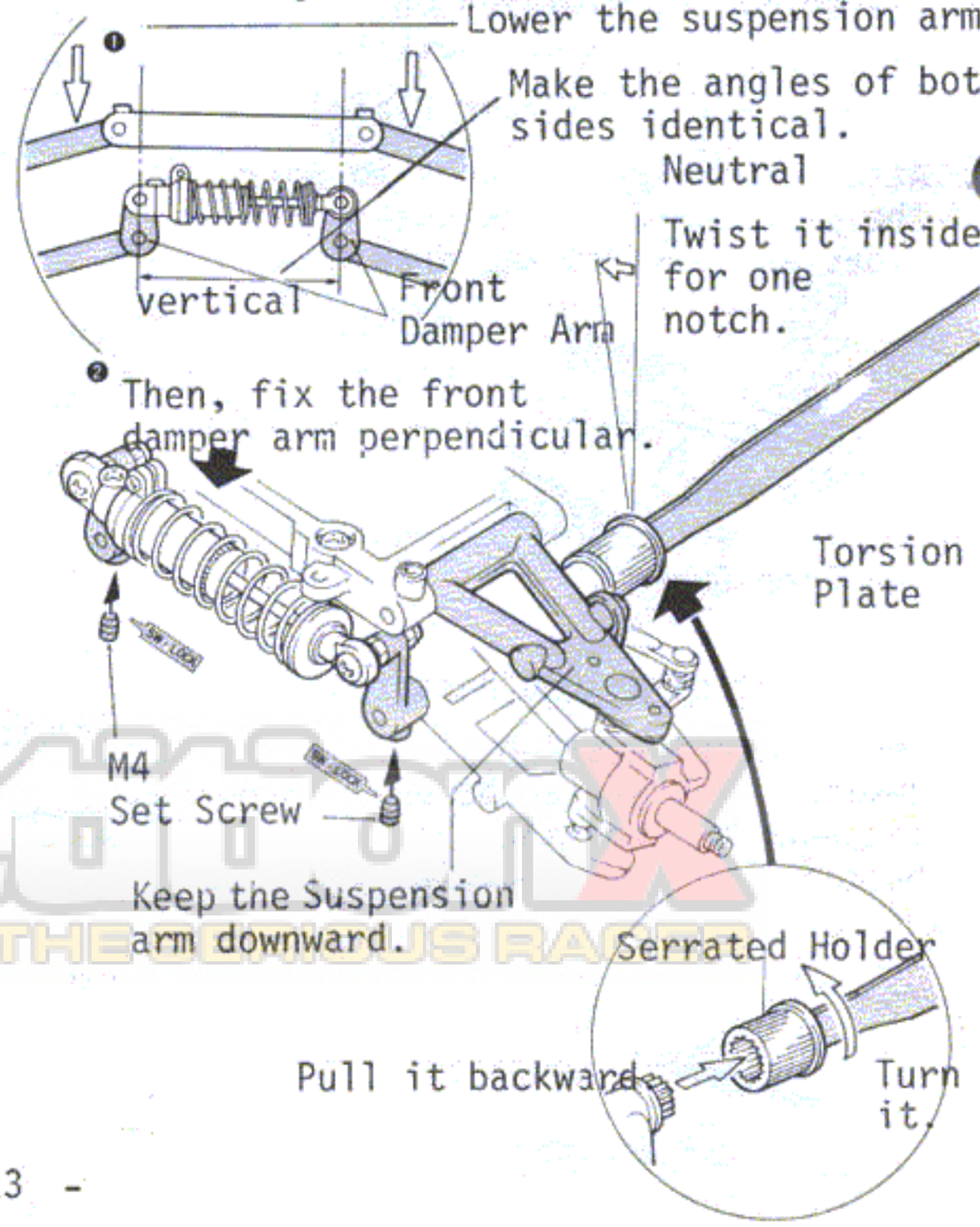
A Cock up the claw. B Take away one link. C Connect the chain again.

[Adjustment of Suspension Springs]

For the first run, adjust the suspension spring as shown in the drawing below. After some running, adjust the spring tension in compliance with the road condition.

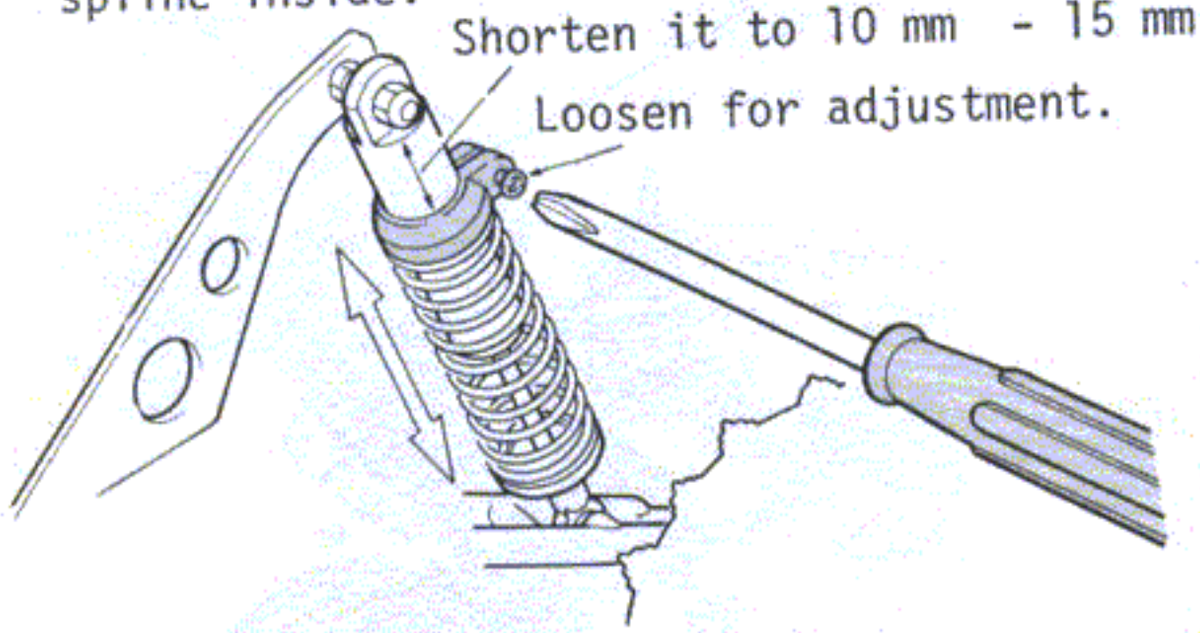
1. Front Suspension Spring

Install the right and left side front damper arms perpendicularly when the suspension arms are let down to the lowest position as shown in the drawing.



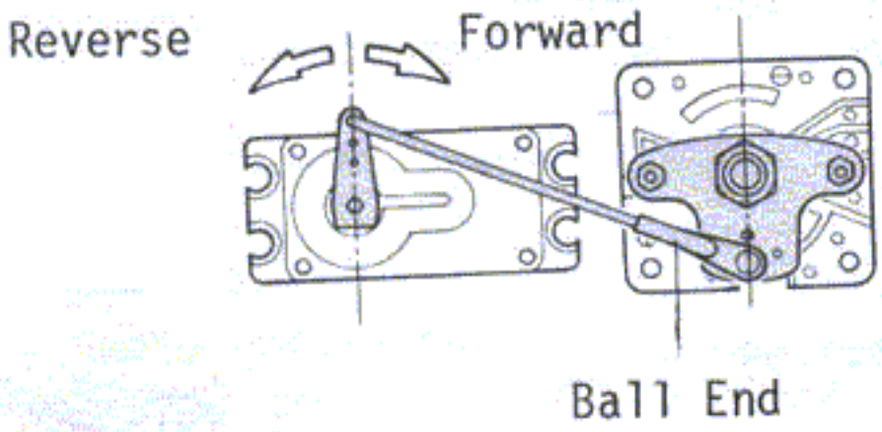
2. Adjustment of Torsion Plate

You can increase the tension of the serrated holder by pulling the holder backwards and turning it to the inside; by turning it outside, the tension is decreased. Generally speaking it should be kept neutral as shown in the drawing of 7 of page 8, or turned one spline inside.



[Adjustment of Speed Controller]

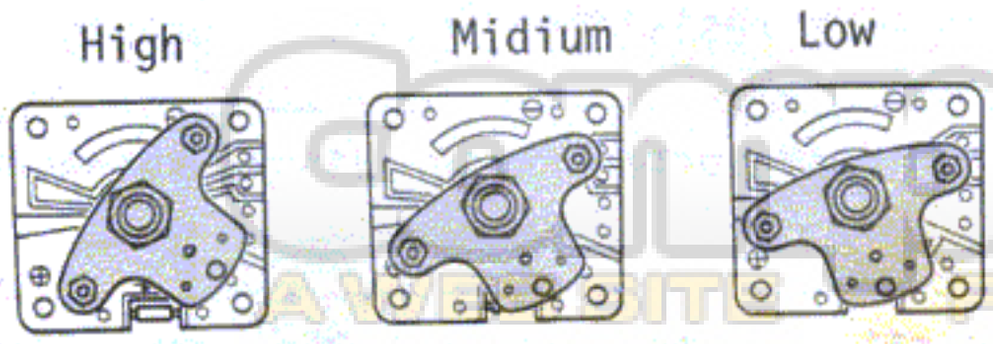
Connect the 7.2V Ni-Cad battery and operate the radio the same as done in 12 "Testing of Radio" on page 12. When the speed controller is set at neutral, the motor may start to run. The pinion gear is, however, not yet installed in the gearbox, so the wheels will not turn and you can take your time to test the speed controller.



By turning the ball end, adjust the speed controller to the position shown in the drawing above (motor stopped position) with the control stick and the trim lever in neutral.

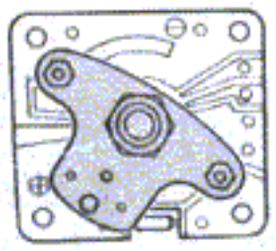
1. Adjustment for High Speed

When the control stick on your radio is pushed forward all the way, the controller should be activated and the motor should run at a high speed. By the motor sound, you can tell if the motor is running, high, medium, or low speed.

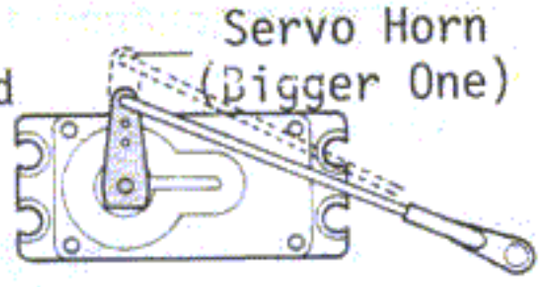


2. Adjustmtne for Reverse

Pull the control stick and the controller horn should operate as illustrated in the diagram below. The motor should run in reverse.

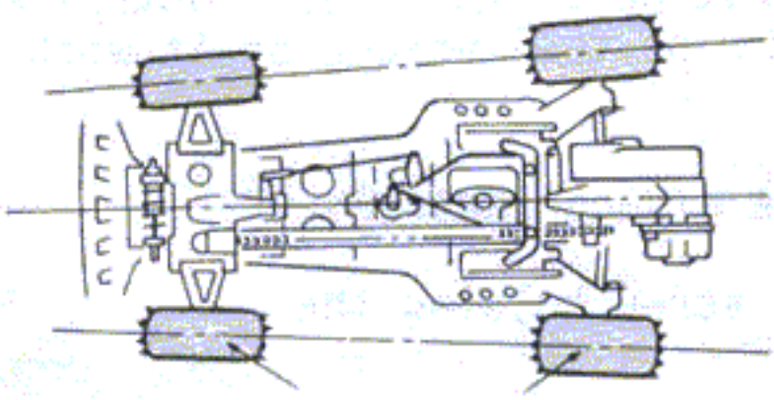


If the movements described in 1 and 2 are not achieved, replace the servo horn with a bigger one.



[Adjustment of Toe-In]

Keeping the radio on with the steering stick and the trim lever in the neutral position and the wheels in contact with the ground, adjust the ball ends in such a way that the wheels are arranged as shown in the drawing.

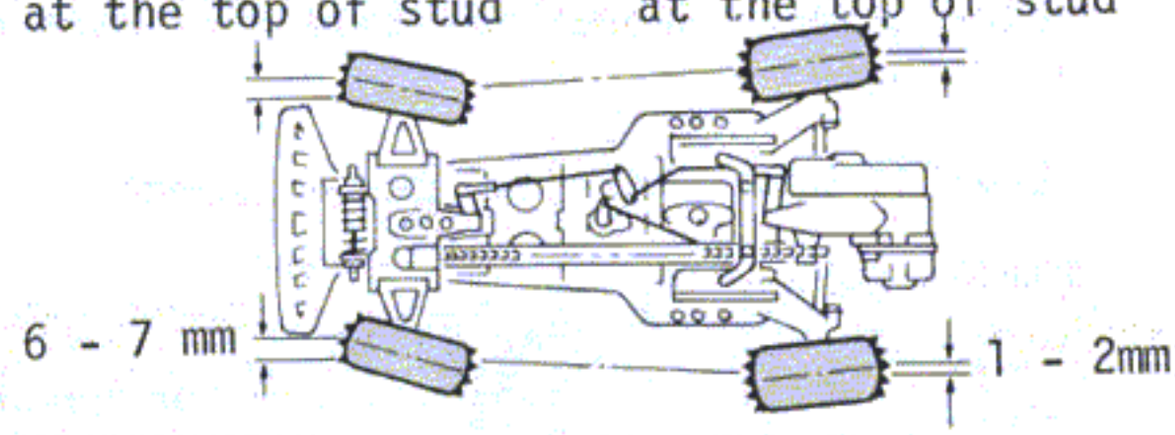


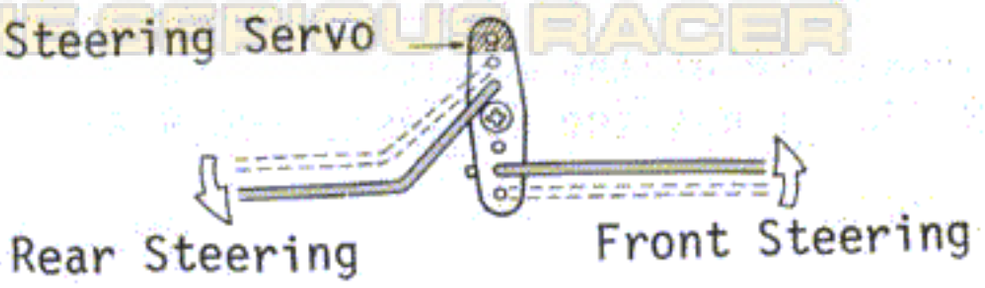
If not, adjust the ball ends for proper alignment.

The center lines of the front and rear wheels should be aligned.

[Adjustment of Steerage]

Operate the steering system by your radio, measure the swing of the steerage at the tip of the tire knobs to see if it is within the scope as indicated in the illustration below. (When measuring, put the model on a box or on a stand to make the wheels aloof from the ground.) If you find the swing out of the limits, rearrange the connection of the control rods into an inner hole on the servo horn.

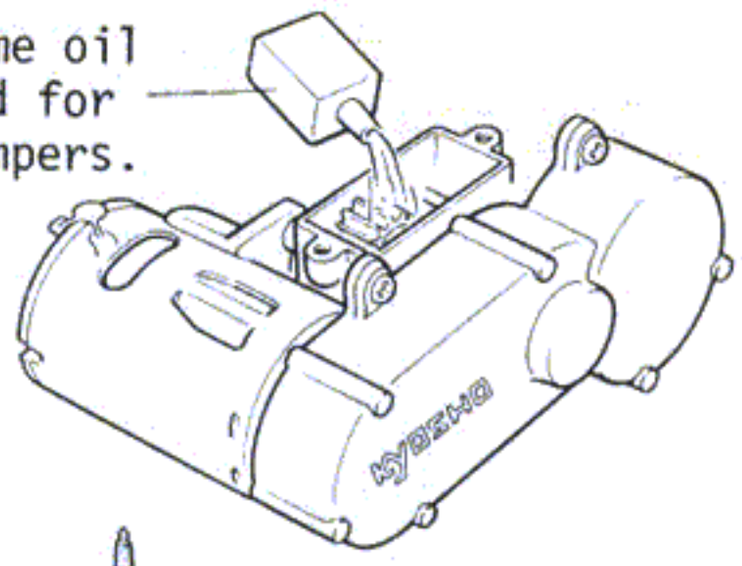




[Filling Oil]

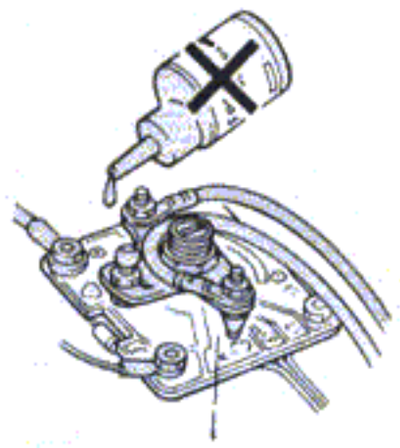
1. Remove the gearbox cover and pour 2 or 3 cc of oil into it.

   Check the amount of oil once in a while, if it is below the limit, supply some. If it is too dirty, change the whole oil.

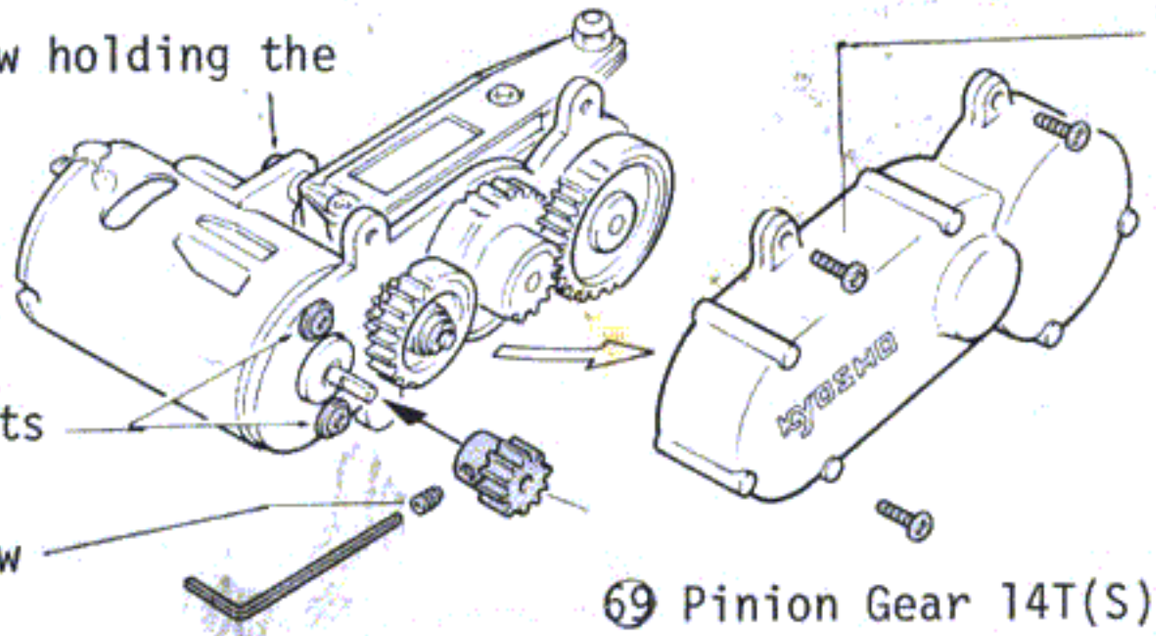


2. Lubricate the shafts, bearings and joints by applying a thin layer of light oil like the "Frontier Hobby Oil". Wipe off the surplus oil with cloth. Heavy oil may attract mud and dust while running, which may bring about a trouble to the car.

3. Do not apply any oil to the speed controller directly. Electric sparks may ignite it. When the operation of the speed controller is not smooth, wipe the surface of it with cloth damped with thin oil.

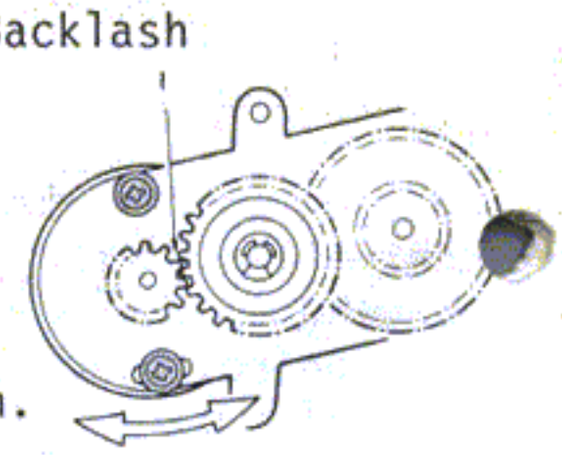


[Adjustment of Gear Ratio]



Fasten the pinion gear 14T 69 onto the shaft. Use this 14T gear, which is for low speed running, until all rotary parts wear in with each other and seat themselves under actual operating condition.

Adjust the backlash (play between the gear teeth) by moving the motor back and forth, so that there is some clearance between the gear teeth. With the proper adjustment, tighten the screws of the motor and the motor guide. Repeat the same procedure each time the pinion gear is changed.



[List of Gear Ratio]

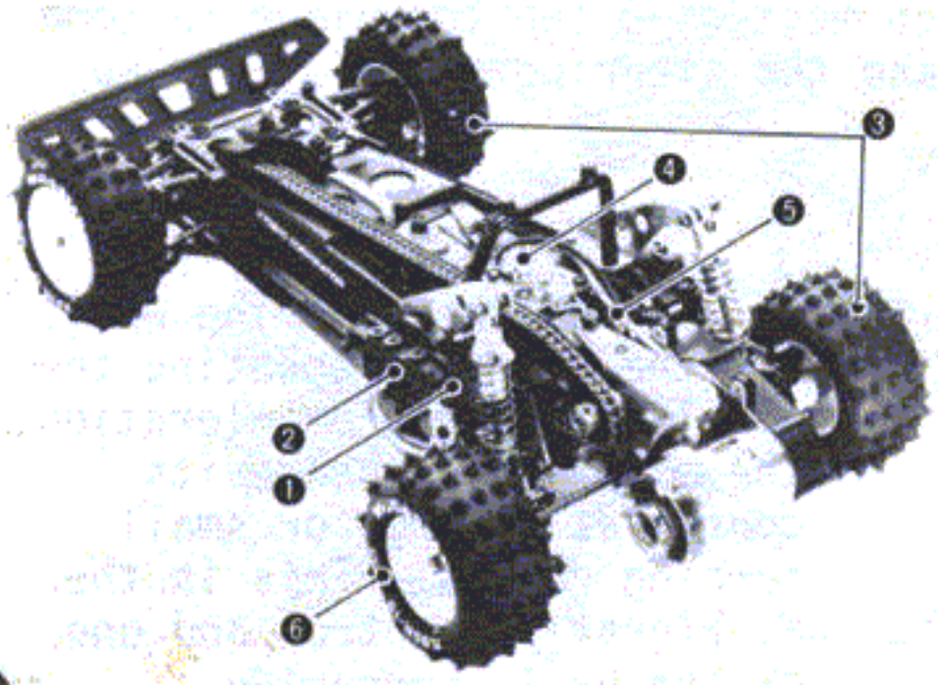
Pinion Gear x Idle Gear No.	Gear Ratio	Usage
14T x No.1	9.47 : 1	For quicker acceleration. For prolonging running time. For road surface with more resistance (muddy or grassy course, etc.)
14T x No.3	9.14 : 1	
15T x No.1	8.84 : 1	
14T x No.2	8.80 : 1	For Faster speed. For road surface with less resistance (hard soil, etc.)
15T x No.3	8.53 : 1	
15T x No.2	8.21 : 1	

*The relation of the duration of running to the gear ratio is as follows: the gear ratio of 8.21 : 1 has the longest, and 9.47 : 1 the shortest duration.

** CHECK BEFORE RUNNING **

[Check Before Running]

Before running the car, check the parts in order of the numbers shown in the picture.



*Drive slowly the first time the car is run. Continue driving slowly until the battery needs recharging. Check all moving parts on the car.

1. Check to see if all bolts and nuts are tightened firmly.
2. Check to see if batteries for radio control units and the motor are charged fully.
3. Check to see if the front wheels steer in proportion to your contorl of the transmitter.
4. Check to see if the forward and reverse movement of the car responds accurately to your control.
5. Check to see that all wiring is properly insulated with vinyl tape.
6. Check to see that the rear wheels are free and can be turned by hand.

[Operating Steps]

1. Put batteries into radio control units. Install main Ni-cad running battery.
2. Turn transmitter switch on.
3. Switch on the receiver.
4. Check to see that the sticks of your transmitter operate correctly, right and left for steering, and up and down for throttle.

*When turning off the switches, turn off the receiver first then transmitter. Otherwise, the car servos may be left in a position other than neutral.

[Trouble Shooting when the Car does not Start]

1. Poor contact of connectors of receivers, servos, batteries or of electric wiring.
2. Poor contact of the speed controller wiper blade.
3. Radio control units are out order.
4. Signal jamming from other radios.

*The radio control units in the Gallop 4WDS is powered by the same battery which drives the motor. So, during a run, if you notice any drop of speed, retrieve the car at once and turn the switch off. The battery discharged below a certain limit cannot operate the radio control units and the car will be out of control.

** GUIDE FOR SETTING UP THE CAR (2) [BASIC DRIVING] **

[Adjustment for Straight Going]

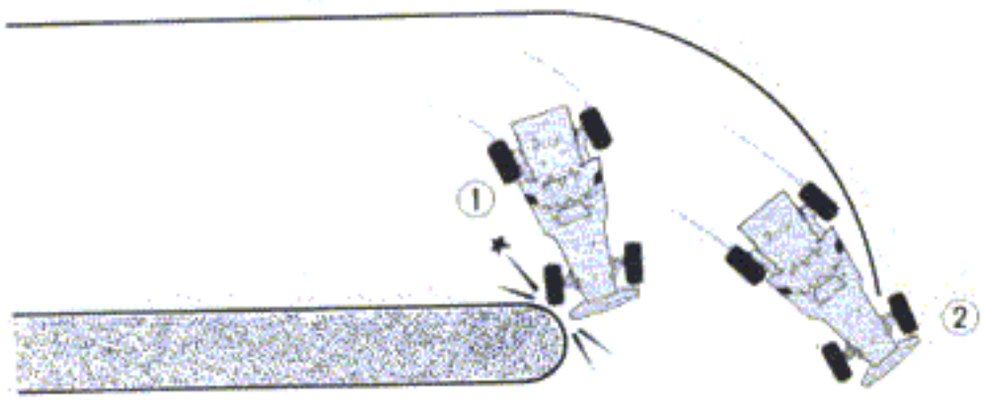
1. When the model runs unstablly without thouching the steering wheel:

   *Increase the teo-in setting to a slight degree.
   *Check the linkage system to see if there is no loose or stiff connection.

2. When the car runs straight and charge the direction suddenly and excessively:

   *Check the steering swing of the front and rear wheels. Reduce it a little.
   *Examine any looseness in the linkage. On the contrary, stiff connection will hamper the quick and proportionate reaction of the wheels to your control.

[Adjustment for Cornering]



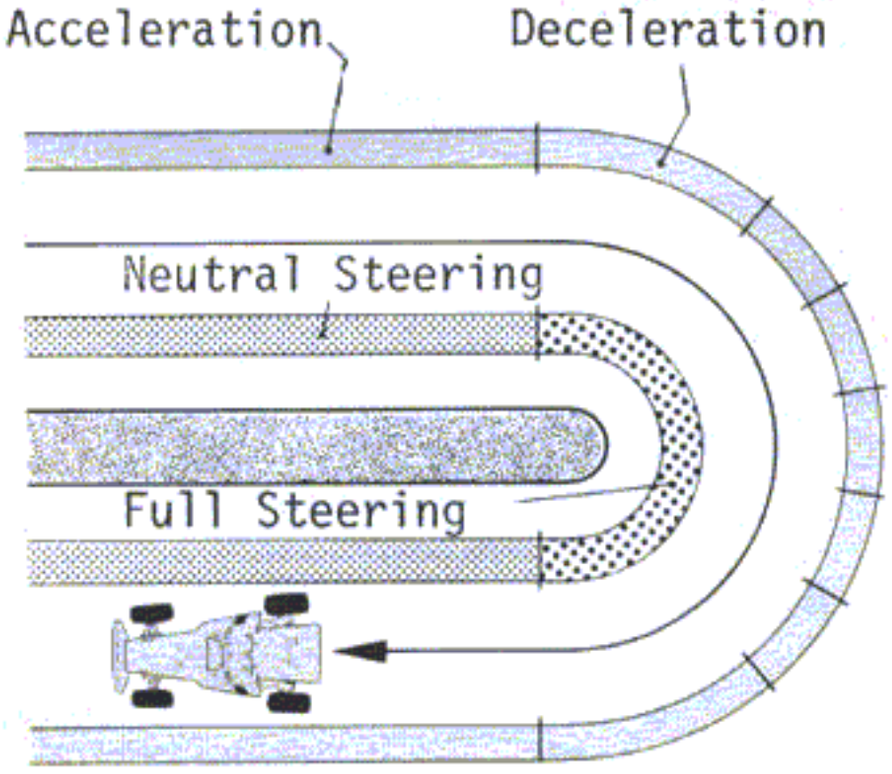
1. When the model shows a trait of over steering or spinning:

*Check the steerage ratio of the front and rear wheels. Reduction of the degree may be required.

2. When the car goes toward the outside of the course at corners:

*Practice to turn corners with the acceleration control. After mastering the technique to some degree, increase the steering ratio little by little.

Acceleration Control



Repeat acceleration and deceleration.

With longer period of acceleration, the car turns with larger radius.

With longer period of deceleration, it turns sharply.

By turning the steering wheel all the way and repeating the acceleration and deceleration, the model will change its course at a large or small turning radius. This is the acceleration control and one of the basic cornering technique.

[Adjustment of Damper and Suspension Spring]

Adjust the components based upon a bumpy or slippery road. The table below is a general indication for your reference;

1. Tension of Front Spring

Spring Tension	Straight	High Speed Corner	Low Speed Corner
Strong	○ (Slippery Road)	△ (Slight Over Steering)	△ (Slight Under Steering)
Medium	○	○	○
Weak	○ (Bumpy Road)	△ (Slight Under Steering)	△ (Slight Over Steering)

*Adjust the front springs mainly with the torsion plates, and finely with the coil spring.

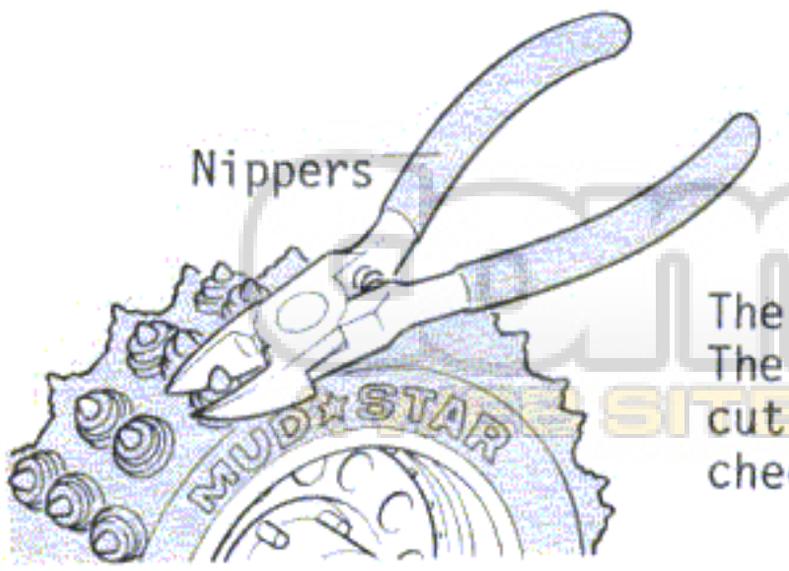
2. Tension of Rear Spring

Spring Tension	Straight	High Speed Corner	Low Speed Corner
Storng	○ (Slippery Road)	△ (Slight Over Steering)	△ (Slight Under Steering)
Medium	○	○	○
Weak	○ (Bumpy Road)	△ (Slight Under Steering)	○ (Slight Over Steering)

3. Adjustment of Oil Damper

Use thicker oil, when the spring is set to high tension. No.1880 Damper Oil is recommended for a thick oil.

[Modification of Tires]

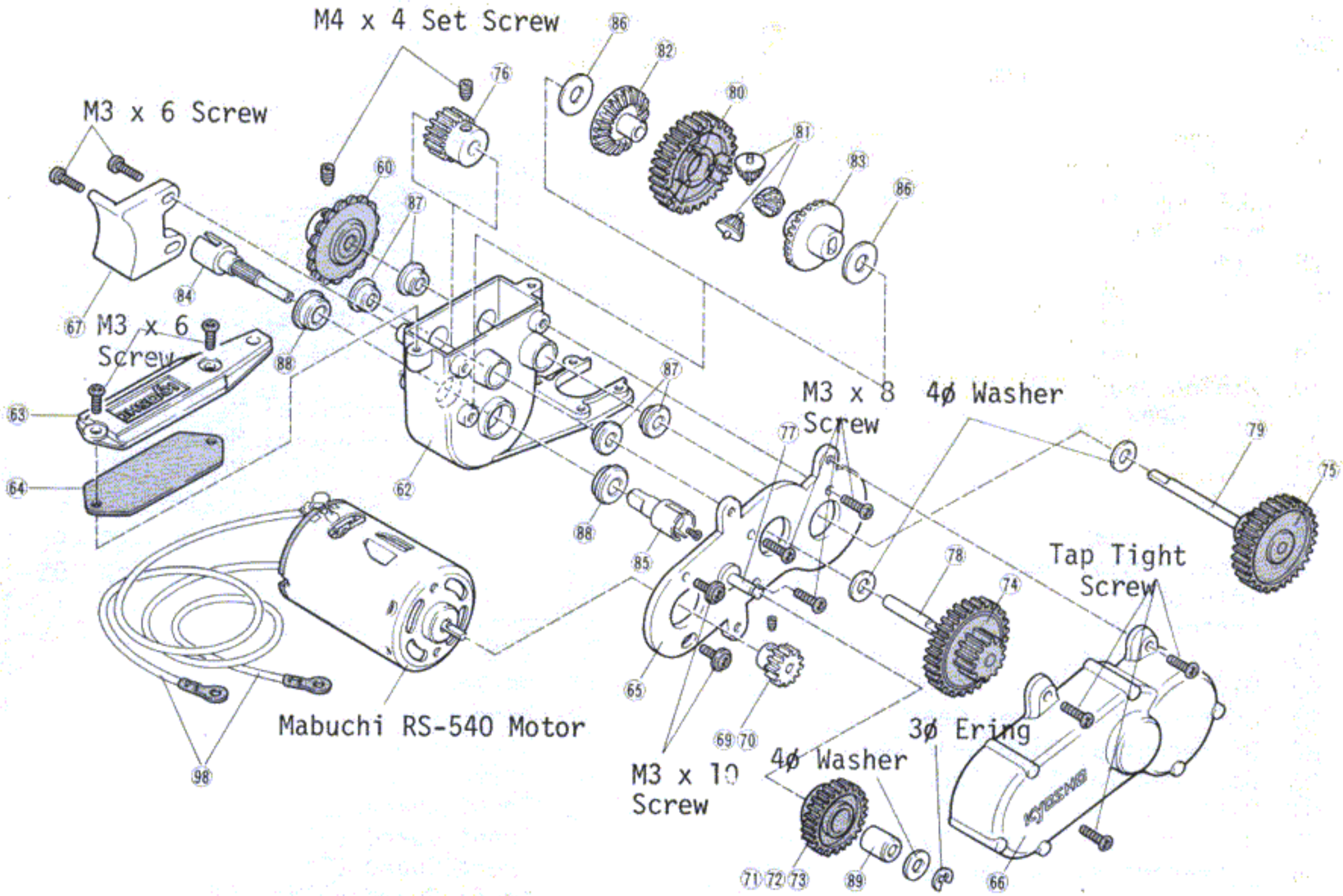


The Mud Star Tire has very strong road holding power, so it requires no additional spikes. On the contrary, it may be sometimes necessary to diminish the gripping power of it. In such a case, you can snip off the tips of the tread patterns of the tire.

The knobs of the tire tread pattern are composed of three steps. The tip may be cut off. One way of modifying the traction is to cut off not all of them at a time, but to reduce them gradullay, checking the effect.

*Be cautions: The tips of the Mud Star Tire may be worn out during just one run, driven by one charge of a Ni-cad battery pack, if running on a concrete or asphalt surface.

EXPLODED VIEW OF GEAR BOX



PARTS LIST

Key No.	Parts Name	Q'ty
1	Front Bumper	1
2	Front Head	1
3	Front Base	1
5	Main Chassis	1
6	Deck Plate	1
7	Center Post	2
8	Chain Guide (A)	1
9	" (B)	1
10	Front Upper Suspension Arm	2
11	Front Lower Suspension Arm	2
12	Torsion Holder	2
13	Knuckle Stopper (R)	1
14	" (L)	1
15	Front Upper Suspension Arm Pin	2
16	Fornt Lower Suspension Arm Pin	2
17	Front Damper Arm	2
18	Torsion Plate	2
19	Rear Suspension Mount	2
20	Rear Suspension Arm (R)	2
21	" (L)	2
22	Rear Suspension Arm Collar	4
23	Front Knuckle Arm (R)	1
24	" (L)	1
25	Rear Knuckle Arm (R)	1
26	" (L)	1
27	Ball Seat	8
28	Pillow Ball	15
29	Damper Arm (R)	1
30	" (L)	1
31	Rear Damper Pin	2
32	Damper Case	3
33	Damper Stopper	3
34	Damper O Ring	3
35	Damper Washer	3
36	Damper Piston	3
37	Spring	3
38	Spring Stopper	3
39	Spring Adjuster	3
40	Damper End	3
41	Damper Ball	2
42	Damper Rubber Pipe	1
43	Front Wheel (R)	1
44	" (L)	1
45	Rear Wheel	2
46	Front Inner Wheel	2
47	Rear Inner Wheel	2
49	Wheel Washer	2
50	Front Tire	2
51	Rear Tire	2
63	Front Joint	2
65	Rear Half Shaft	2
67	Rear Wheel Shaft	2
68	Wheel Stopper	4
60	Rear Sprodket	1
61	Rudder Chain	1

Key No.	Parts Name	Q'ty
62	Gearbox	1
63	Gearbox Cover	1
64	Gearbox Packing	1
65	Motor Mount	1
66	Side Gear Cover	1
67	Motor Guide	1
68	Motor Cover	1
69	Pinion Gear (14T)	1
70	Pinion Gear (15T)	1
71	Idle Gear (1)	1
72	Idle Gear (2)	1
73	Idle Gear (3)	1
74	Center Gear	1
75	Counter Gear	1
76	Final Pinion Gear	1
77	Idle Shaft	1
78	Center Shaft	1
79	Counter Shaft	1
80	Differential Spur Gear	1
81	Differential Bevel Gear	3
82	Differential Side Gear (A)	1
83	Differential Side Gear (B)	1
84	Differential Joint (A)	1
85	Differential Joint (B)	1
86	Differential Spacer	2
87	4ø Metal	4
88	6ø Metal	10
89	Idle Gear Metal	1
90	Speed Controller PC Plate	1
91	Speed Controller Horn	1
92	Speed Controller Pivot	1
93	Speed Controller Nut	1
94	Speed Controller Spring	1
95	Speed Controller Retainer	1
96	Silver Contact	2
97	Battery Connector	1
98	Motor Read Wire	2
99	Double Resistor	1
100	Resister Holder Metal	1
101	Rug Terminal	3
102	Front Servo Saver	1
103	Rear Servo Saver	1
104	Front Tie Rod	2
105	Rear Tie Rod	2
106	Ball End	7
107	Front Steering Rod	1
108	Rear Steering Rod	1
109	Speed Controller Rod	1
110	Nylon Strap (Small)	6
111	Nylon Strap (Medium)	2
112	Ni-Cad Strap	2
113	Roll Bar	1
114	Body Hook	1
115	Hook Pin	3
118	Antenna	1
119	Antenna Top	1
120	Antenna Bottom	1

Key No.	Parts Name	Q'ty
121	Antenna Bobbin	1
122	Oil	1
123	Contact Holder	2
151	Front Differential Case (A)	1
152	Front Differential Case (B)	1
153	Front Differential Side Gear (A)	1
154	Front Differential Side Gear (B)	1
155	Front Differential Pinion Gear	2
156	Pinion Pin	1
157	Front Differential Metal	2
158	Front Differential Mount (A)	1
159	Front Differential Mount (B)	1
160	Front Sprocket for Differential	1
161	Front Half Shaft	2
162	Front Wheel Shaft	2
163	Front Wheel Collar	2
164	Driver	1
165	Wing	1
166	Marker Plate	2
167	Wing Spring	1
168	Wing Stopper	2
169	Driver Roof	1
170	Front Guard (A)	1
171	Front Guard (B)	1
172	Front Guard (C)	1
173	Front Guard Holder (A)	1
174	Front Guard Holder (B)	2
175	Front Guard Holder (C)	2
176	Rear Guard (A)	1
177	Rear Guard (B)	1
178	Rear Guard (C)	1
179	Rear Guard Stay	1
180	Rear Guard Collar	1
181	Pipe End (A)	1
182	Pipe End (B)	1
183	Pipe End (C)	2
184	Pipe End (D)	2
185	Side Guard (A)	1
186	Side Guard (B)	1
187	Pipe Guard (A)	1
188	Pipe Guard (B)	2
189	Decal	1
190	RS-540S Motor	1

SPARE PARTS LIST

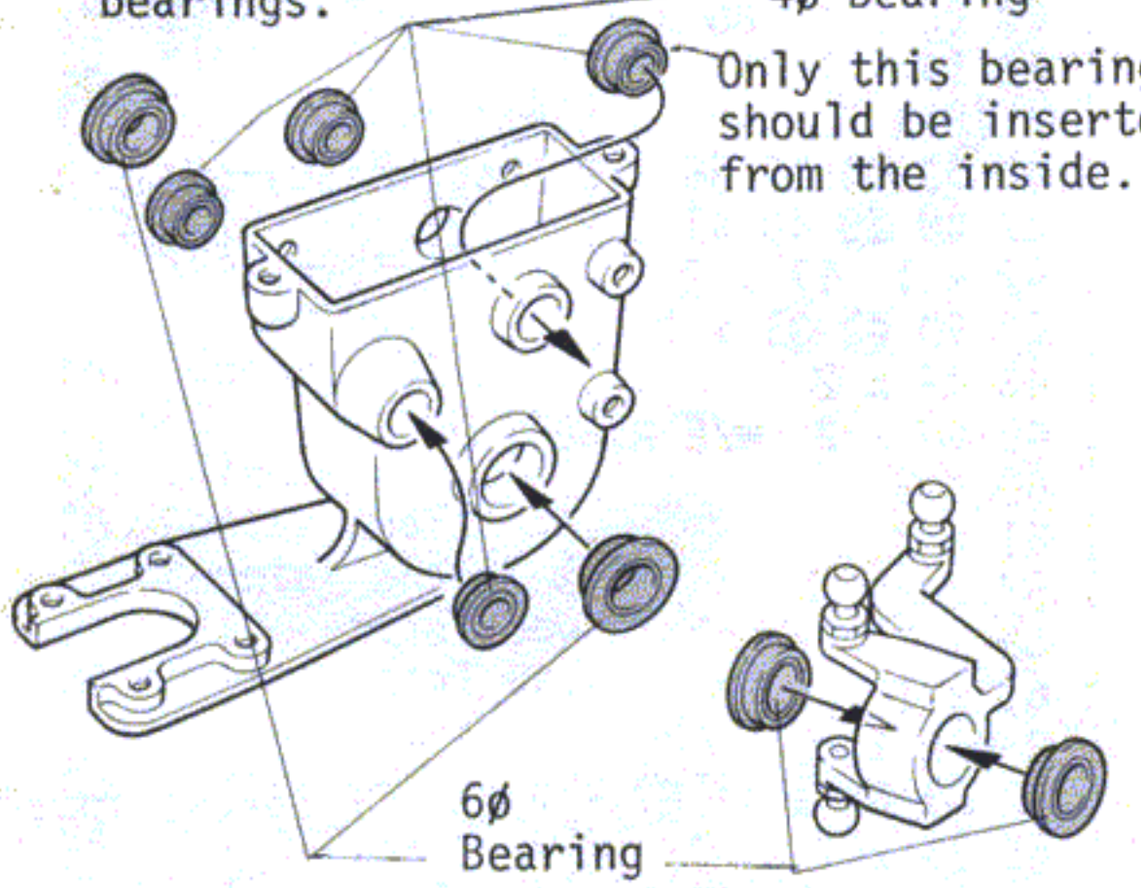
No.	Parts Name	Key No. & Consisting of
PG- 1	Front Bumper	① x 1
PG- 2	Front Head Base Set	② ③ x 1
PG- 3	Main Chassis	⑤ x 1
PG- 4	Deck Plate	⑥ x 1
PG- 5	Suspension Arm Set	⑩ ⑪ ⑫ ⑳ ㉑ x 2
PG- 6	Suspension Arm Pin Collar Set	⑮ ⑯ x 2 ㉒ x 4
PG- 7	Rear Suspension Mount	⑲ x 2
PG- 8	Ball Seat (Ball Receptacle)	㉗ x 8
PG- 9	Pillow Ball	㉘ x 10
PG-10	Front Knuckle Arm Set	㉓ ㉔ x 1 ㊽ x 4 (press-inserted)
PG-11	Rear Knuckle Arm Set	㉕ ㉖ x 1 ㊽ x 4 (")
PG-12	Knuckle Stopper Set	⑬ ⑭ x 1
PG-13	Torsion Plate & Center Post	⑦ ⑱ x 2
PG-14	Oil Damper	㉜ ㉝ ㉞ ㉟ ㊱ x 2 (Assembled)
PG-15	Damper Spring Set	㊲ ㊳ ㊴ ㊵ ㊶ x 2
PG-16	Front Damper Arm	㊷ x 1 ⑰ x 2
PG-17	Rear Damper Arm	㉙ ㉚ ㊷ ㉛ x 2
PG-19	Rear Wheel	㊺ ㊼ x 2
PG-20	Wheel Stopper Set	㊾ ㊽ x 2 w/E Ring
PG-21	MUD STAR Front Tire	㊿ x 2
PG-22	MUD STAR Rear Tire	(51) x 2
PG-24	Rear Wheel Shaft	(57) x 2
PG-26	Rear Half Shaft	(55) x 2
PG-28	Ladder Chain	(61) x 1
PG-29	Chain Guide Set	⑧ ⑨ x 1
PG-30	Gearbox Case	(62) (63) (64) x 1 (87) x 4 (88) x 2 (press-inserted
PG-31	Motor Mount	(65) (77) x 1
PG-32	Gear Set (A)	(69) (70) (71) (72) (73) (89) x 1
PG-33	Gear Set (B)	(74) (75) (76) (78) (79) x 1
PG-34	Defferential Gear Set	(80) (82) (83) x 1 (81) x 3 (86) x 2
PG-35	Differential Joint Set	(84) (85) x 1
PG-36	Side Gear Cover	(66) (67) x 1
PG-37	Motor Cover	(68) x 1 (polycarbonate)
PG-38	4ø Bearing	(87) x 10
PG-39	6ø Bearing	(88) x 10
PG-40	Speed Controller Set	(90) (91) (92) (93) (94) (95) x 1 (96) (101) (123) x 2
		(99) x 1
PG-41	Speed Controller PC Plate (w/Diode)	(90) x 1 (101) x 2
PG-42	Contact Set	(96) x 4 (123) x 2
PG-43	Connector Lead Wire Set	(97) (100) x 1 (98) x 2
PG-44	Front Servo Saver	(102) x 1
PG-45	Rear Servo Saver	(103) x 1
PG-46	Tie Rod Set	(104) (105) x 2 (28) (106) x 4
PG-47	Linkage Set	(107) (108) (109) x 1 (28) (106) x 3
PG-48	Body Hook & Roll Bar	(113) (114) x 1
PG-49	Screw Set	Scre, Nut, Allen Wrench Set
PG-52	Resistor for the Three Speed	(99) x 1
PG-53	Front Differential Set	(60) (151) (152) (153) (154) (156) (158) (160) x 1
		(53) (155) (157) x 2
PG-54	Differential Case, Mount, Sprocket	(60) (151) (152) (158) (159) (160) x 1 (157) x 2
PG-55	Gear Set for Front Diff. Gear	(153) (154) (156) x 1 (53) (155) x 2
PG-56	Front Half Shaft Diff. Gear	(161) x 2
PG-57	Front Wheel Shaft Diff. Gear	(162) x 2
PG-58	Front Wheel for Diff. Gear	㊸ ㊹ x 1 ㊻ ㊽ (163) x 2
PG-59	Wing & Driver	(164) (165) (167) x 1 (166) (168) x 2
PG-60	Pipe Body (Gallop 4WDS)(Roll Cage)	(169) (170) (171) (172) (173) (176) (177) (178) (179) (180)
		(181) (182) (185) (186) (187) x 1 (174) (175) (183) (184)
		(188) x 2
PG-61	Side Guard	(185) (186) x 1
PG-62	Decal (Gallop 4WDS)	(189) x 1
EF-37	Nylon Strap (Small)	(110) x 6
EF-38	Nylon Strap (Medium)	(111) x 6

EF-39 Ni-Cad Strap
EP-22 Hook Pin
1880 Damper Oil Set
1885 Antenna Set

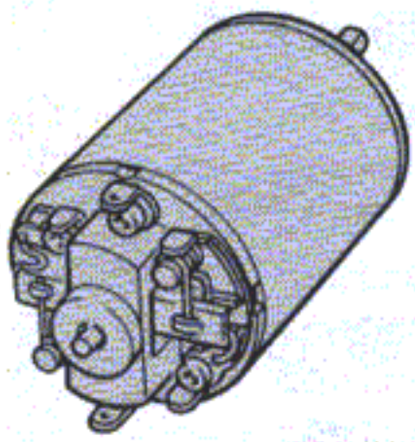
OPTIONAL PARTS

[Replacing of Bearing]

The standard kit is provided with plain bearings in the gearbox and on the wheel axles. For enhancing the performance it is recommended to replace them with ball bearings.



[Replacing with Le Mans Motor]



The following is the list of the Le mans motors which will run the Gallop best. The Le Mans 360PTwill run the same duration as the Mabuchi RS-540 S will deliver more power.

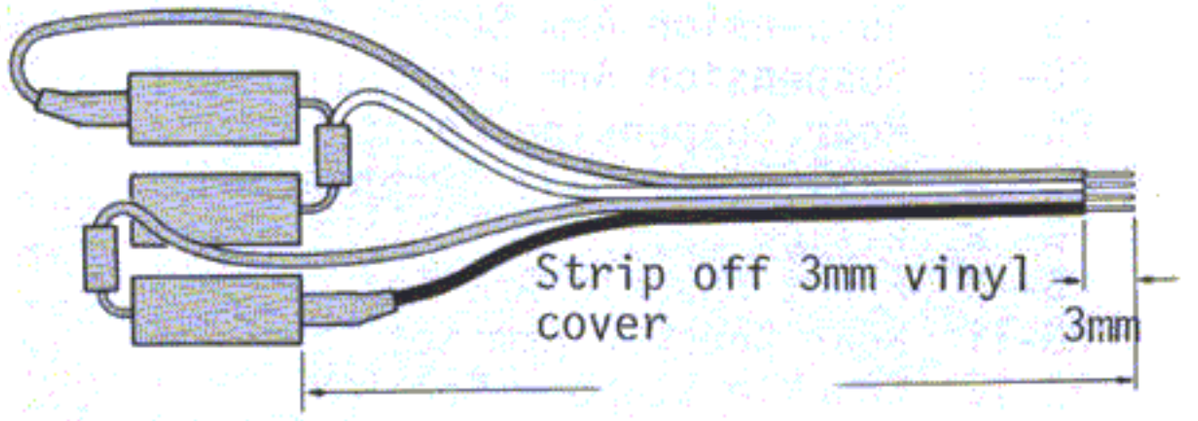
Parts No.	Type of Le Mans Motor	Matching
1893	240S	Not Adaptable
1891	480S	Proper
1892	480T	Proper
1894	600E	Proper
1895	360PT	Best Matching

Option Parts

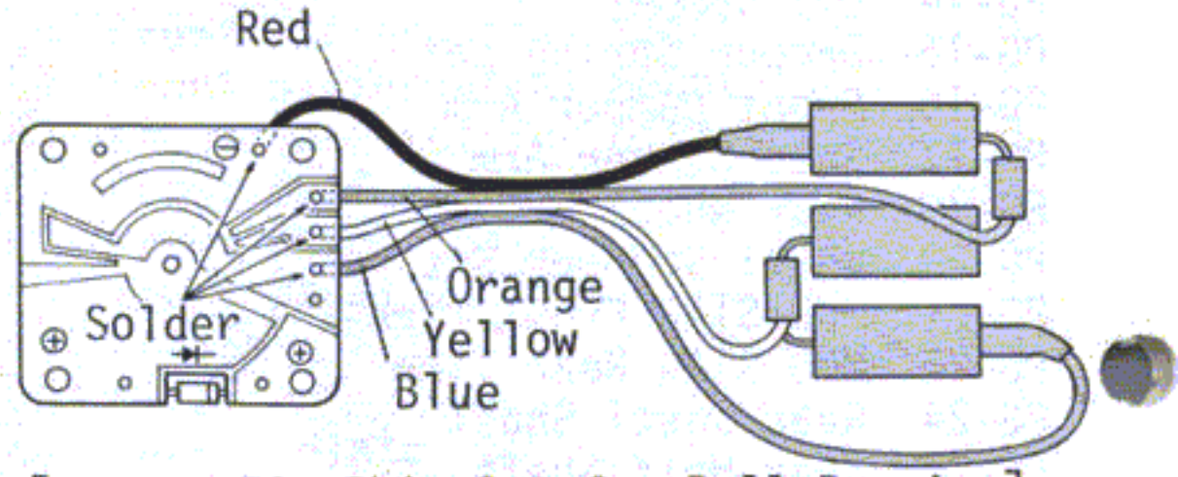
Parts No.	Parts Name	Key No. & Consistint of
CK-63	4ø Bearing (2 pcs.)	Replacement for 4mm plain Bearing 87
MS-26	6ø Bearing (2 pcs.)	Replacement for 6mm Plain Bearing 88
SC-80	Resistor for 4th speed	This gives the car 4 forward speeds, 2 setps of braking, & 1 reverse
DC-72	Accessory Set	Body Accessory Parts
CB-124	Linkage Boot	Protects Switch against mud and water
1883	Frontier Hobby Oil	Lubricant w/teflon for bearings
PG-63	Shim set for Ball Bearing	4ø, 6ø adjustment shims for differential
PG-64	10ø Bearing (2 pcs.)	Replacement for 135 Front Diff. Bearing
SC-62	Special Wing Holder	Replacement Special Parts, 167 Wing spring, 168 Wing Stopper

112 x 6
115 x 5
Hard Type, Soft Type
118 119 120 121 x 1

[WIRING FOR SC-80 FOUR (4) SPEED RESISTOR]

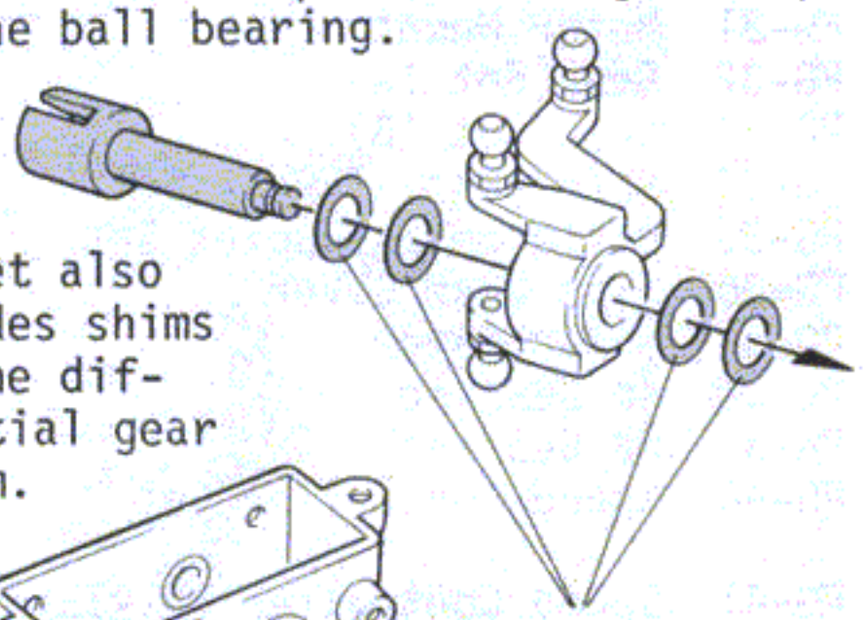


Cut out with 105 mm

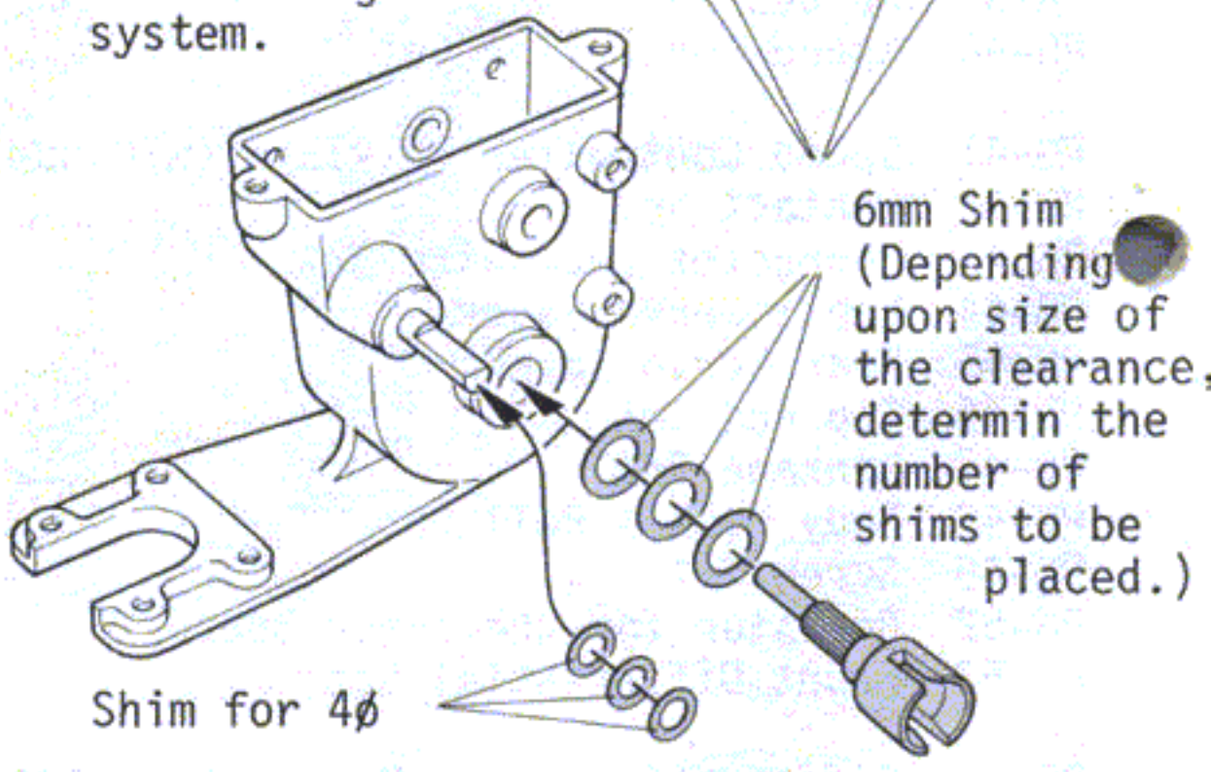


[How to Fix Shim Set for Ball Bearing]

This is a set of washers, which should be employed when the plain bearing is replaced with the ball bearing.



*The set also includes shims for the differential gear system.



OFF-ROAD RACER GALLOP 4WDS

List of Parts in the bags

Bag No.	key No.	Name of Part	Q'ty	Part Used in Instruction
(1)	2	Front Head	1	[2]
	3	Front Base	1	[2]
(2)	1	Front Bumper	1	[2]
	15	Front Upper Sus. Arm Pin	2	[4]
	16	Front Rower Sus. Arm Pin	2	[4]
	17	Front Damper Arm	2	[4]
	42	Damper Rubber Pipe	1	[4]
	61	Ladder Chain	1	[2]
	114	Body Hook	1	[2]
		1.5mm Allen Wrench	1	
		2.0mm Allen Wrench	1	
(3)	10	Front Upper Sus. Arm	2	[3]
	11	Front Lower Sus. Arm	2	[3]
	12	Torsion Holder	2	[7]
	20.21	Rear Sus. Arm (R) (L)	R.L x 2	[6]
(4)	27	Ball Seat (Ball Receptacle)	8	[3] [6]
	28	Pillow Ball	15	[3] [5] [6] [8] [18]
	106	Ball End	8	[5] [8] [19]
(5)	7	Center Post	2	[7]
	9	Chain Guide (B)	1	[7]
	13.14	Knuckle Stopper (R)(L)	R.L x 1	[5]
	18	Torsion Plate	2	[7]
	19	Rear Suspension Mount	2	[7]
	22	Rear Suspension Arm Collar	4	[6]
	102	Front Servo Saver	1	[5]
	104	Front Tie Rod	2	[5]
(6)	8	Chain Guide (A)	1	[15]
	29	Damper Arm (R)	1	[15]
	30	Damper Arm (L)	1	[15]
	31	Rear Damper Pin	2	[15]
	41	Damper Ball	2	[15]
	90	Controller PC Plate	1	[11]
	97	Battery Connector	1	[11]
	99	Double Resistor	1	Assembled with (90)
	100	Metal Resistor Holder	1	[14]
	101	Lug Terminal	2	[10]
	103	Rear Servo Saver	1	[8]
	105	Rear Tie Rod	2	[8]
	113	Roll Bar	1	[15]
(7)	110	Nylon Strap (S)	6	[10] [13]
	111	Nylon Strap (M)	2	[13] [20]
	112	Ni-Cad Strap	2	[27]
(8)	91	Speed Controller Horn	1	[18]
	92	Speed Controller Pivot	1	[18]
	93	Speed Controller Nut	1	[18]
	94	Speed Controller Spring	1	[18]
	95	Speed Controller Holding Metal	1	[18]
	96	Silver Contact Point	2	[18]
	107	Front Steering Rod	1	[19]
	108	Rear Steering Rod	1	[19]
	109	Speed Controller Rod	1	[19]
	123	Contact Point Holder	2	[18]
		3mm Brass Nut	2	[18]

Bag No.	Key No.	Name of Part	Q'ty	Part Used in Instruction
(9)	43 44	Front Wheel	2	[21]
	45	Rear Wheel	2	[21]
	46	Front Inner Wheel	2	[21]
	47	Rear Inner Wheel	2	[21]
	49	Wheel Washer	2	[22]
	50	Wheel Stopper	4	[22]
	163	Front Wheel Collar	2	[22]
(10)	69	Pinion Gear 14T	1	]
	70	Pinion Gear 15T	1	]
	71	Idle Gear No.1	1	] To be used for setting.
	72	Idle Gear No.2	1	]
	122	Oil	1	]
Parts Box	68	Motor Cover	1	[23]
	164	Driver Doll	1	[24]
Parts Box	165	Wing	1	[24]
	166	Marker Plate	2	[24]
	167	Wing Spring	1	[28]
	168	Wing Stopper	2	[28]
Parts Box	169	Driver Roof	1	[26]
	170-186	Pipe Body (Plastic Parts)	1set	[26][27][28]
	187	Pipe Guard (A)	1	[27]
	188	Pipe Guard (B)	2	[27]
	101	Lug Terminal	1	[19]
	118	Antenna	1	[19]
	119	Antenna Top	1	[19]
	120	Antenna Bottom	1	[19]
	121	Antenna Bobbin	1	[19]
		M3 x 14 Self Tapping Screw (B)	1	[19]
	189	Decal	1	[28]
		Instruction Manual	1	

Screws & Nuts etc.

Part Name	Size	Q'ty
Screw	M3 x 6	20
Screw	M3 x 8	2
Screw	M3 x 15	5
Set Screw	M3 x 5	5
Screw	M3 x 10	2
Screw	M3 x 45	4
Screw	M4 x 55	1
Screw	M4 x 60	1
Nut	4 mm	3
Washer	4 ø	4
Set Screw	M4 x 4	4
Self Tapping Screw	M3 x 10	18
Self Tapping Screw	M3 x 6	3
Self Tapping Screw	M3 x 14	5
Flat Screw	M2.6 x 5	16
Nut	3 mm	29
Nylon Nut	3 mm	2
Nylon Nut	4 mm	3
Washer	3 ø	12
Washer	5 ø	12

Parts Name	Size	Q'ty
Screw	M2.6 x 6	1
Self Tapping Screw	M2.6 x 8	2
E Ring	3 ø	2
Hook Pin		3
Thread Lock Cement		1
Self Tapping Screw	M3 x 8	4
Screw	M2.6 x 6	4
Nut	2.6 mm	4
Self Tapping Screw	M2.6 x 8	6
Nylon Nut	4 mm	2
Screw	M3 x 10	2
Self Tapping Screw	M2 x 4	8
Screw	M3 x 8	10
Nut	3 mm	12

When assembling, please be certain to use proper size of screws, nuts etc. as shown in this instruction book.