

RADIO CONTROLLED ELECTRIC POWERED RACING BUGGY 4WDS OFF-ROAD RACER GALLOP MKII

- "BIG LEAGUE" POWERFUL MABUCHI 540S MOTOR INCLUDED
- FOUR-WHEEL STEERING FOR TOP CORNERING POWER
- FOUR-WHEEL DRIVE FOR MAXIMUM POWER ON THE GROUND
- TRANSVERSE FRONT SPRING/SHOCK UNITS (10mm SHOCKS FOR TOP BOUNCE/REBOUND CONTROL ON BUMPS)
- OPTIMIZED SUSPENSION GEOMETRY TO ELIMINATE "BUMP-STEERING" (FRONT-WHEEL DEFLECTION BY BUMPS)
- ADJUSTABLE SUSPENSION CHARACTERISTICS (STIFFNESS, OVERSTEER/UNDERSTEER) TO TAILOR BUGGY TO ANY COURSE
- GLASS-REINFORCED NYLON SUSPENSION ARMS, OVERSIZE BALL JOINTS, ALLOY ALUMINUM PARTS FOR MAXIMUM STRENGTH
- FIBERGLASS-REINFORCED POLYESTER UPPER CHASSIS PLATE FOR STRENGTH, EASY MAINTENANCE OF RADIO SYSTEM
- QUALITY NATURAL-RUBBER SEMI-PNEUMATIC TIRES
- LIGHTWEIGHT, STRONG ONE-PIECE NYLON WHEELS
- NYLON REAR GUARD PROTECTS MOTOR FROM REAR COLLISIONS

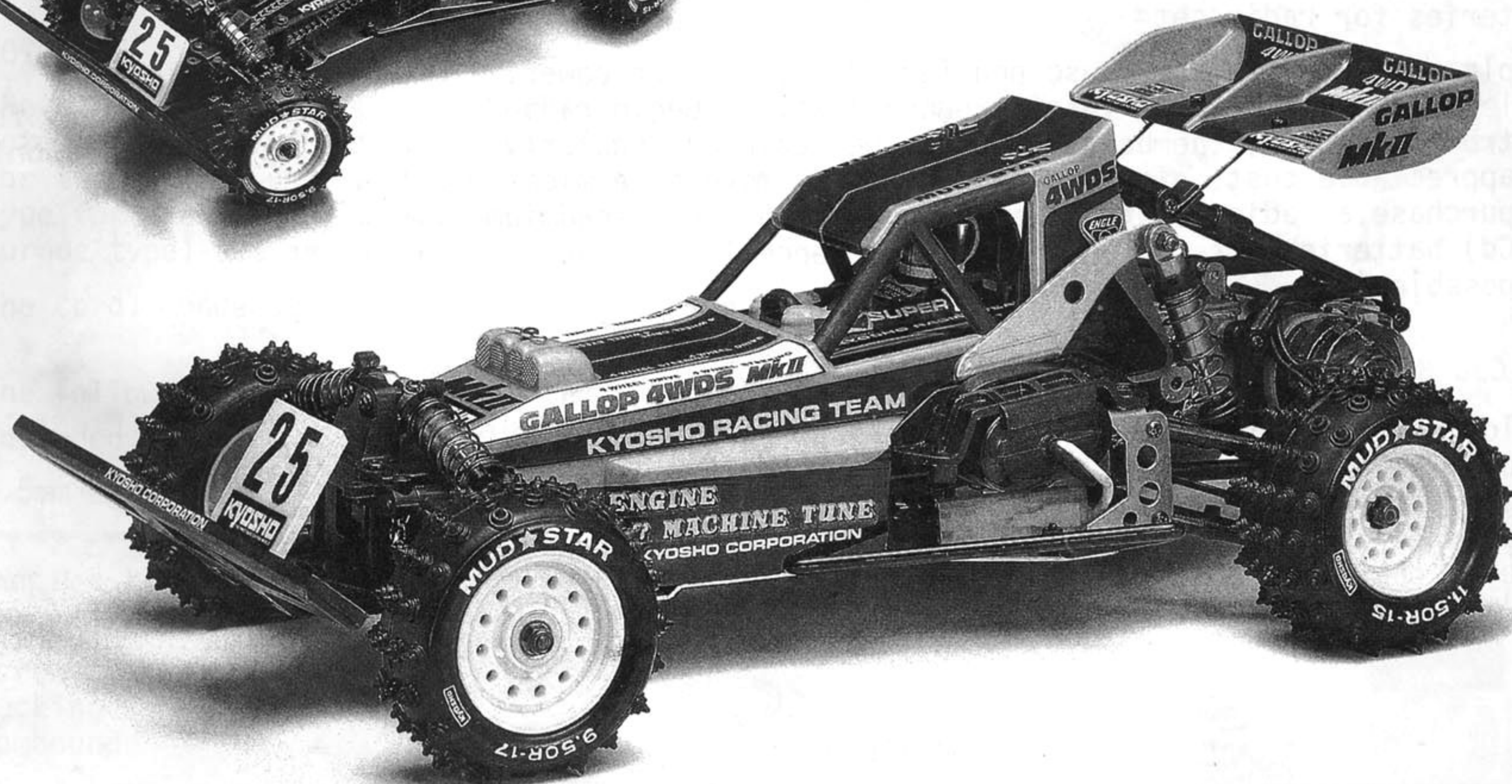


1:10 SCALE

BATTERY: 7.2V-1200mAh

RADIO: 2ch.

[NOT INCLUDED]



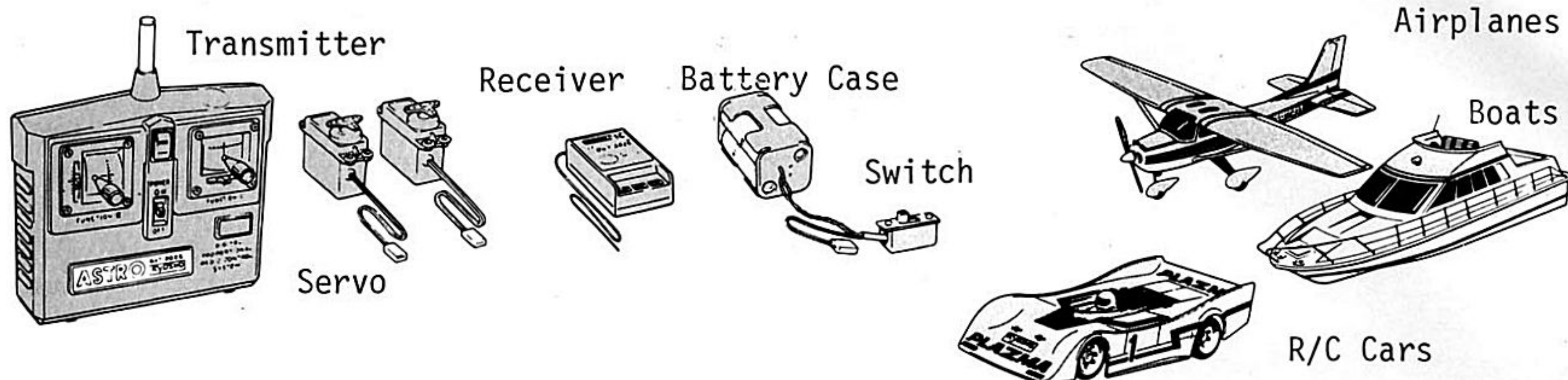
KYOSHO
THE FINEST RADIO CONTROL MODELS

KIT No.3069

GALLOP MKII 4WDS

NOTES ON RADIO CONTROL SETS

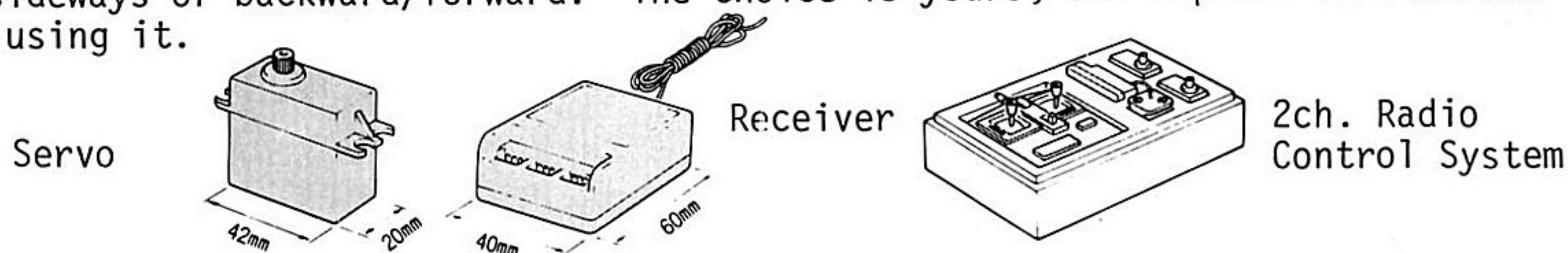
A digital proportional radio control set is required for operating this car. Two servos (standard or mini size) are required. The transmitter and receiver may be a 2-channel type, although a 3- or 4-channel set may be used with only two servos.



THINGS TO BE PROCURED BESIDES THE KIT

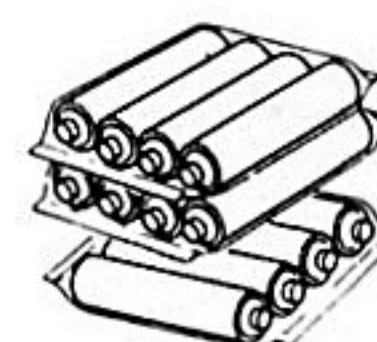
[2 channel Radio Control System]

Two types of transmitter are available, One uses a wheel for controlling the direction of the vehicle, while the other uses two "sticks" that control direction and speed when pushed sideways or backward/forward. The choice is yours, and depends on cost and comfort using it.



Batteries for radio set

Simple radio control sets use penlight dry cells for power. While such sets are the least expensive way to begin radio control operation, the batteries must be replaced regularly at appreciable cost. In the long run it is more economical to purchase a radio set that is supplied with nickel-cadmium (NiCd) batteries, or to substitute NiCd pencils for the desposable type.



Battery for Radio Control Unit

Ni-Cad Battery

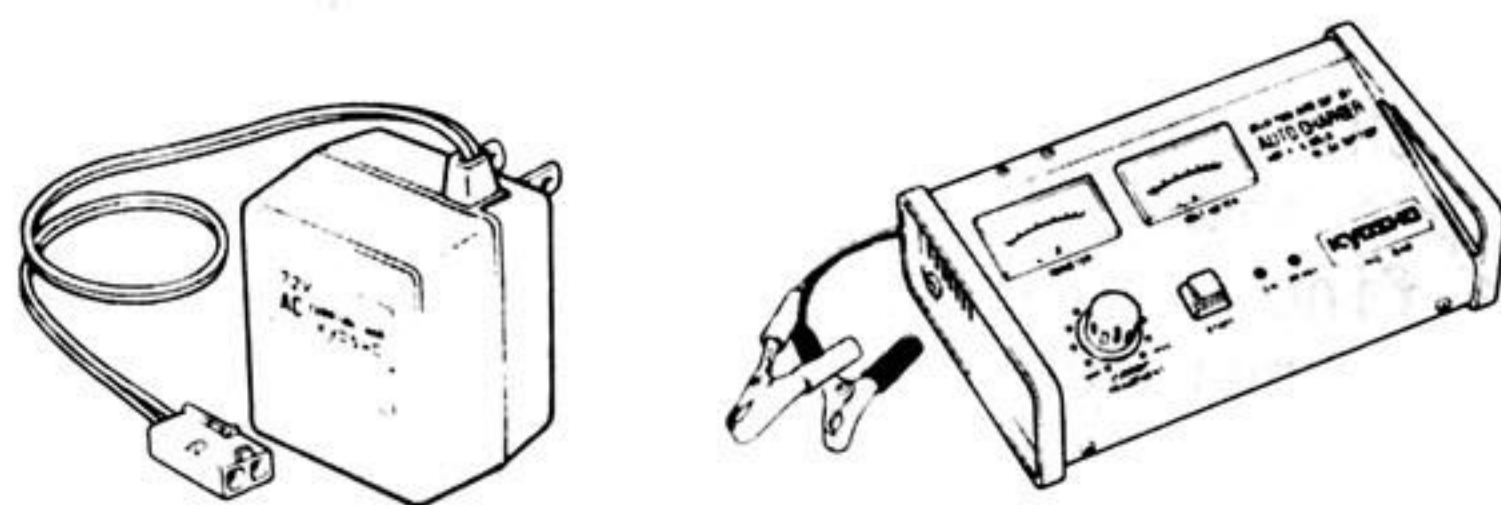
Gallop MKII 4WDS is designed to use a rechargeable 7.2V 1200mAh NiCd battery pack. A Kyosho Racing Battery, part number 2218 (and some other brands) may be recharged at a wide range of rates. The charging rate depends on the type of charger used.



BATTERY CHARGER

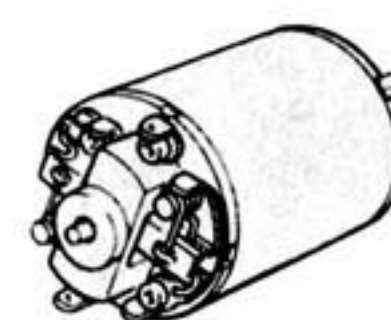
The simplest charger supplies a low current, and the battery is charged for 14-16 hours. This type of charger operates on household AC power. Faster charges are available, all operated from a well-charged 12V car battery. Using these, the battery pack can be recharged in 15-20 minutes. With two or three battery packs, it is possible to run the car almost continuously. Kyosho offers three types of fast charger. Type 2207 charges at a constant current for a time set by a timer. Type 1846 allows adjusting the current using a built-in ammeter, and a timer shuts off the current at the time set by the user. Type 1848 also allows adjusting the current with a built-in ammeter, but a circuit in it monitors the voltage of the cells and cuts off the charging current when the cells are fully charged. The latter two can charge a battery pack to 100% of its capacity, while the first gives about 70% of full charge safely.

Item No.	Name of Charger	Charging Time	Charging Rate	Features
No. 2221	Super Ni-Cd Charger	14 to 16 hrs	100 %	For beginners
No. 2207	Super Ni-CD Rapid Charger (DC-12V)	15 minutes	about 70 %	For beginners; timer built in
No. 1846	Multi Charger (DC-12V)	20 minutes	100 %	Timer, ammeter built in
No. 1848	Auto Charger (DC-12V)	about 20 minutes	100 %	Ammeter, volt-meter built in; automatic cut-off at peak of charge
No. 2232	Super Ni-Cd AC Rapid Charger	about 40 minutes	about 80 %	Chargable from Household Outlet, Electronic Timer built in



MOTOR

The standard type of Gallop Mark II is mounted with the Mabuchi 540S motor, but for the racing purposes the Le Mans 600E (High torque motor for the general use) and the Le Mans 360ST (High-power, high-torque type for the general use), and the Le Mans 360PT (High-power and high-torque type) are available.



The cord, condenser, and the fixing screws are included with the motors.

The following are Included with the kit:

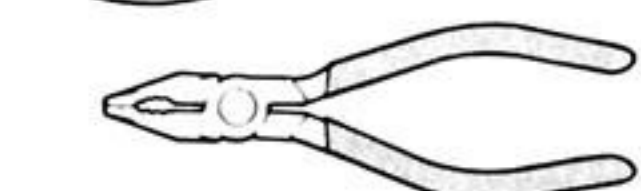
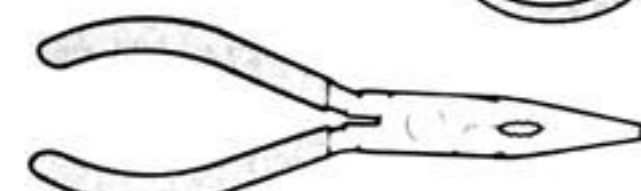
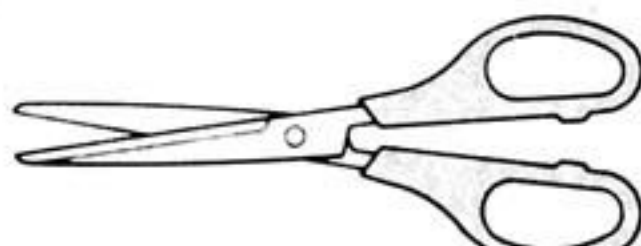
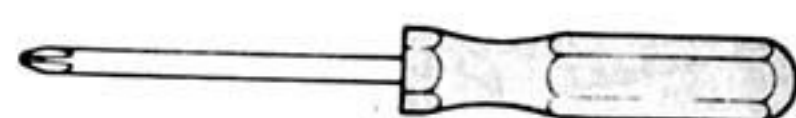
1.5mm Hex Key

2mm Hex Key

Screw Locking Compound



The following are not included:



Phillips-head Screwdriver (L, S Size)

5 and 7mm Nutdrivers or Socket Wrenches

Scissors

Needle Nose Pliers

Pliers

Awl

Hobby "cutter Knife"

Cyanoacrylate Adhesive



The following items are useful for finishing the body attractively:



Polyca (or similar) acrylic paint

Micron-Line Tape



Small paint brush

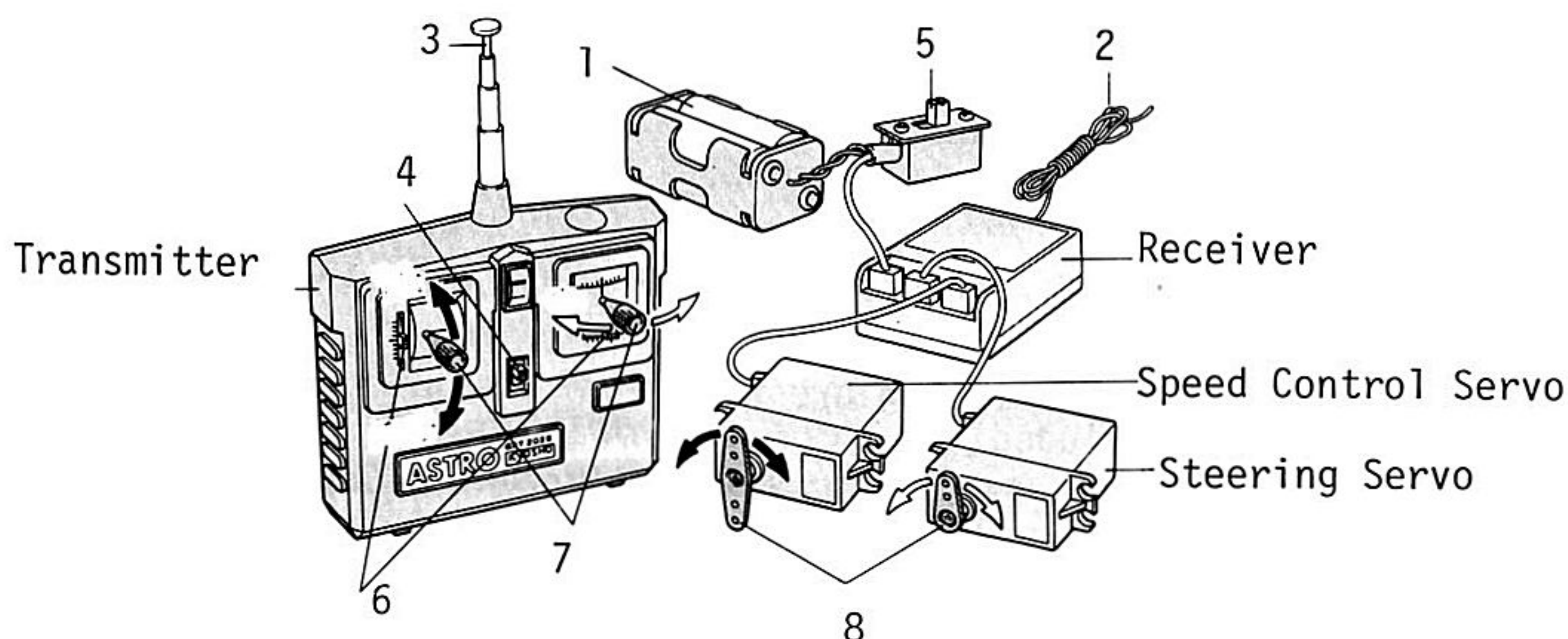
CHECKING YOUR RADIOS SYSTEM

1. Install the batteries into both the transmitter and receiver. If your radio uses rechargeable batteries, charge it as outlined in the manual that came with your set.
2. Unwind the receiver antenna and plug the servo and battery connectors into the receiver.
3. Extend the transmitter antenna.
4. Turn On the transmitter power switch.
5. Turn On the receiver power switch.
6. Set the small trim levers to the center position and make sure that both main control sticks are also centered.
7. Move both main control sticks slowly through their full travel. The servo horns should move in proportion to the movement of your sticks.
8. When trim levers and sticks are at their neutral positions, the servo horns should be centered. Switch off the transmitter, then the receiver.

***It is important to always switch the transmitter on first then the receiver. When turning off the system, turn off the receiver first, then the transmitter.

A 2-channel radio control system is composed of a transmitter, receiver, two servos, and a battery holder (for the receiver.)

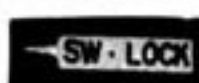
- *Transmitter A "box" with external controls ("sticks" or a wheel and trigger, for example) that can be moved by the operator to control the model by means of a radio signal.
- *Receiver Receives the radio signals from the transmitter and operates the required servo(s).
- *Antennas Transmitter antenna: broadcasts the radio signal produced by the transmitter.
Receiver antenna: Picks up the signals from the transmitter and conducts them to the receiver.
- *Servos Electric motor units that move the controls of the model in response to the movements of the controls of the transmitter.
- *Trim Levers Adjust the neutral position of the servos from the transmitter. Trim levers provide fine tuning of the steering and speed control.
- *Battery Meter ... Allows you to see the condition of your transmitter batteries.
- *Servo Horn A small arm or wheel on a servo that transfers the movement of the servo.



BEFORE ASSEMBLY

Please read through these instructions before assembly. Your thorough understanding of the assembly will enable you to build the kit without difficulty. Check the components in the kit prior to starting assembly. Any claim for replacement or refund for a model in the process of 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  mark.

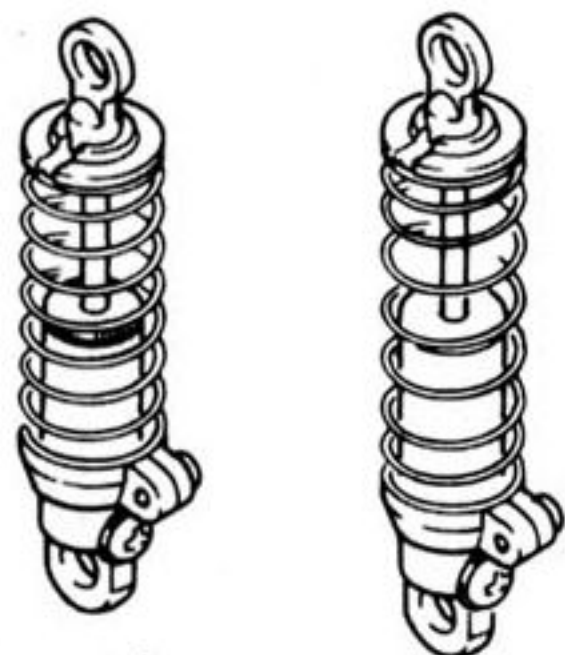
NOTE:

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.

1 FILLING SHOCK WITH OIL

*Disassemble the four oil shocks, which have been assembled in the kit, and put the oil into them.

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

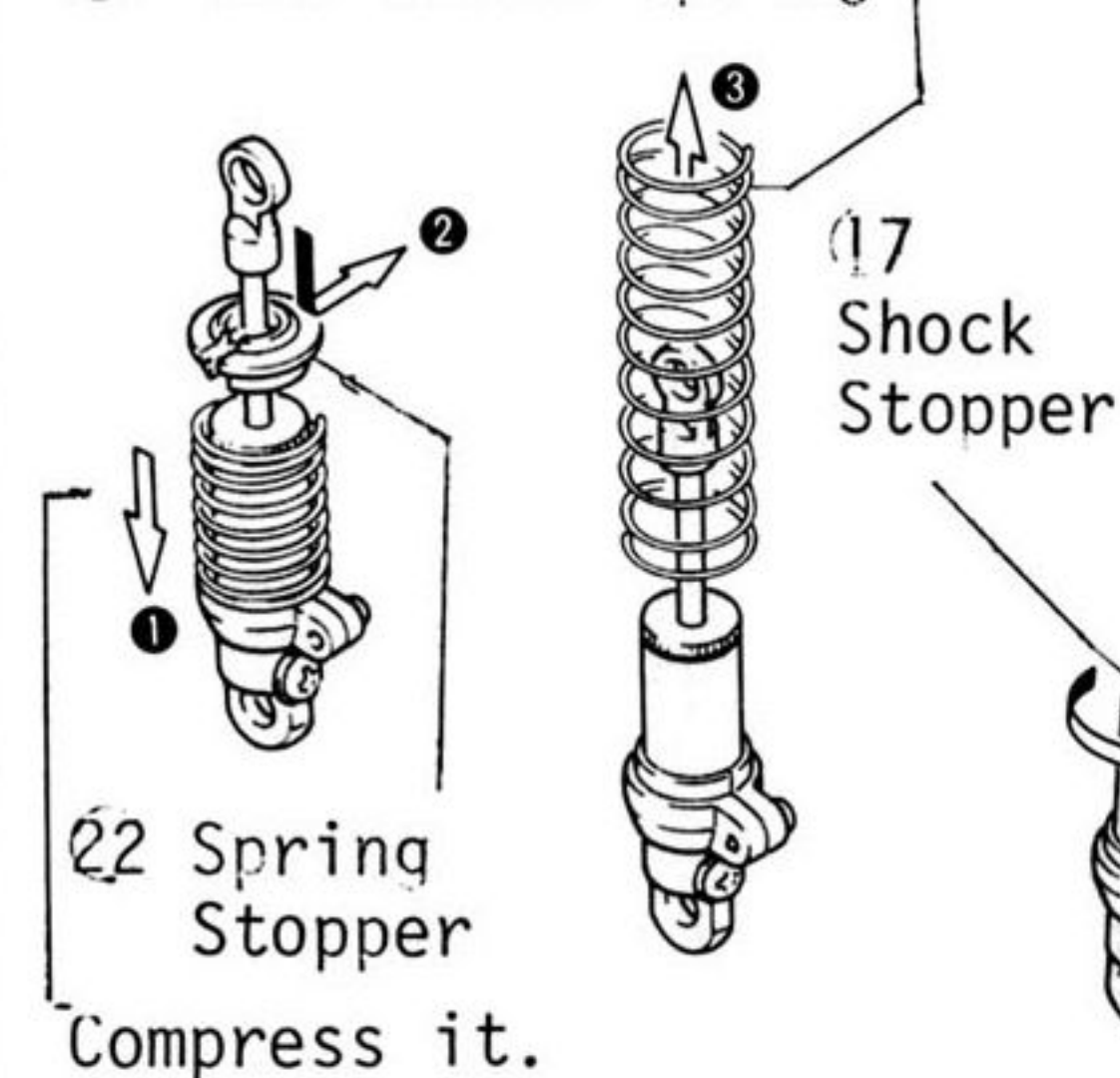


(Short) (Long)

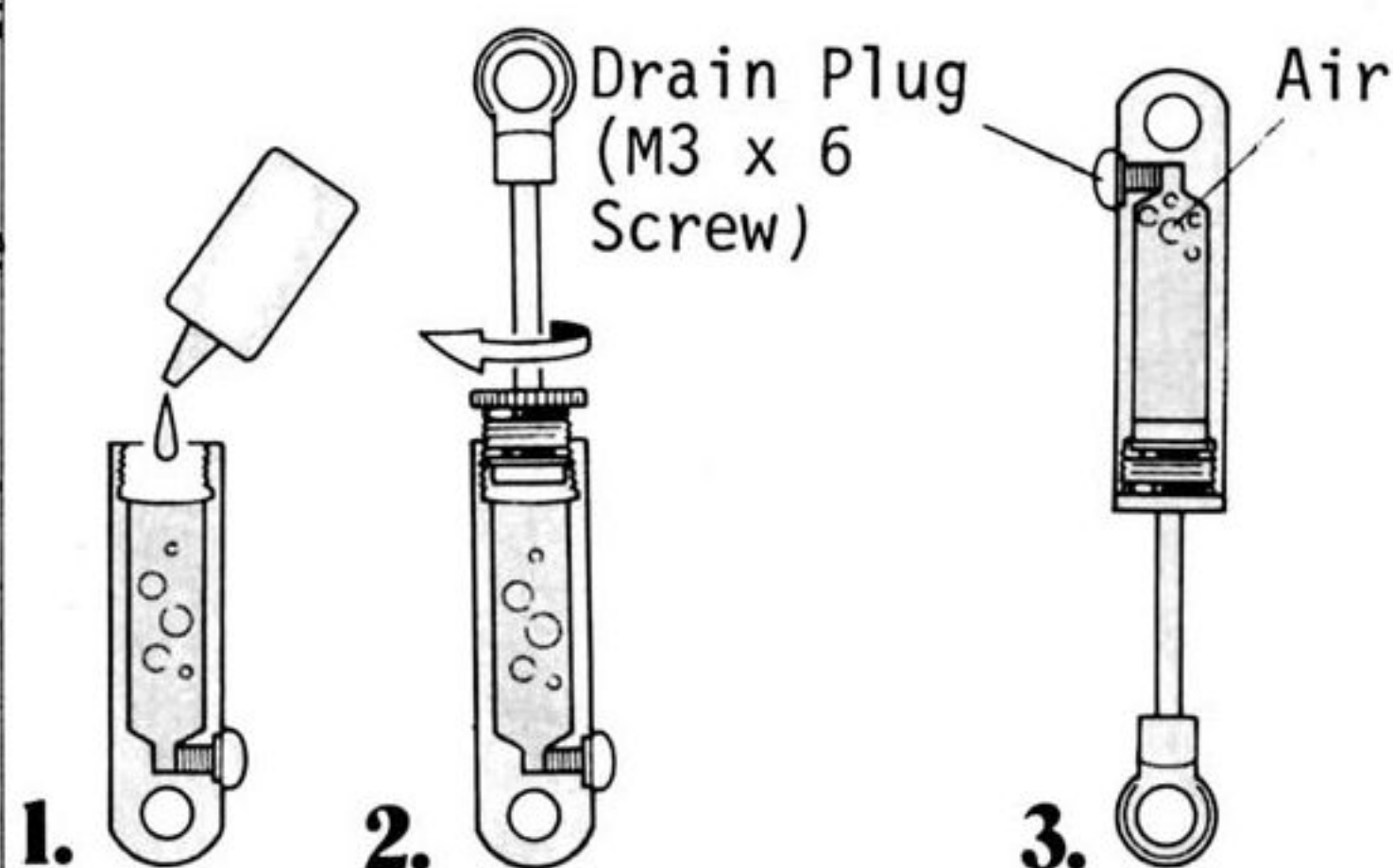
Since some different parts are used for the front from for the rear ones, disassemble and reassemble one by one.

1 FILLING SHOCK WITH OIL

- 100 Front Shock Spring
21 Rear Shock Spring



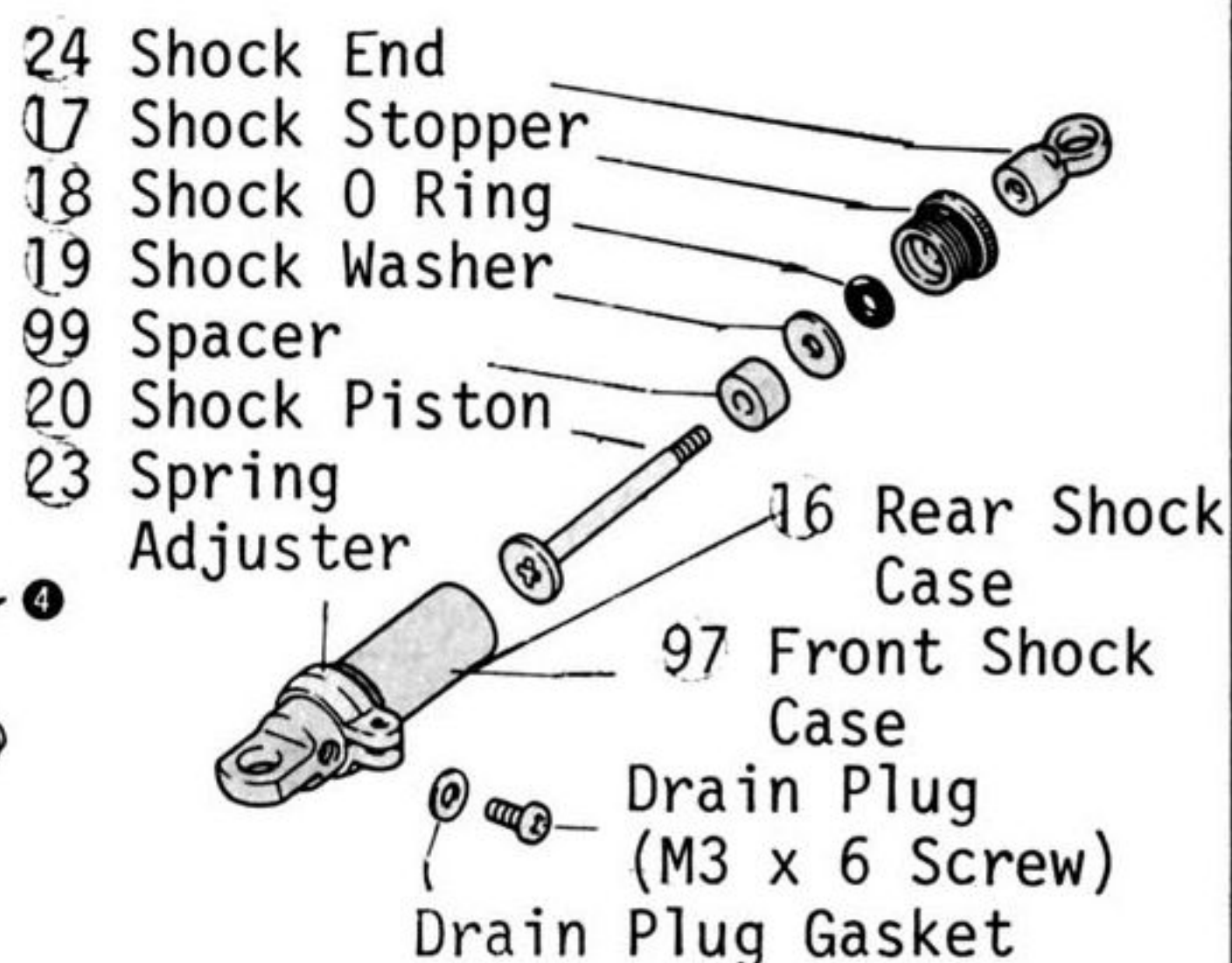
[Pouring Oil]



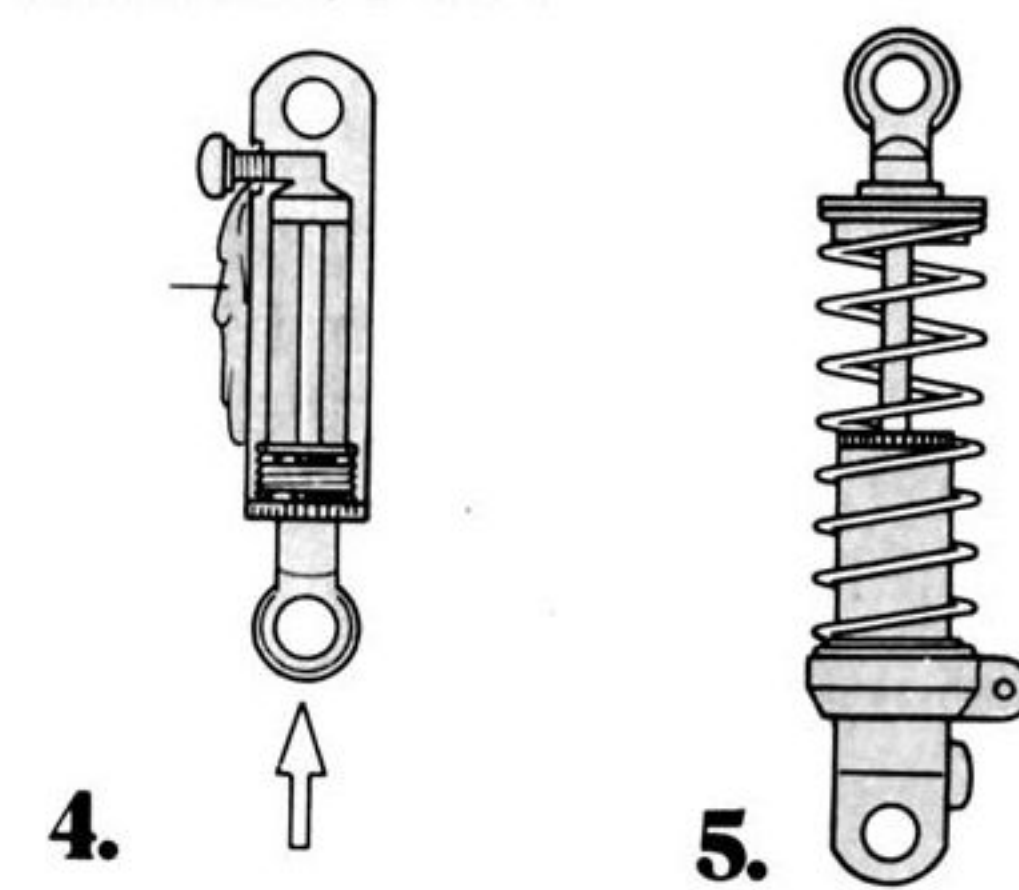
1. Fill up the shock cylinder with oil up to the inner shoulder.
2. Tighten the shock stopper by hand. Do not over-tighten or the O-ring will squeeze out of position.
3. Hold the oil shock upside down for 30 seconds until the air rises up to the other end.
4. Loosen the drain screw and compress the piston gradually. Retighten the shock stopper and the drain screw, then the process of oil pouring is completed.
5. Reinstall the spring as it was at the beginning.

[Exploded View of Shock]

Those parts with * are for use in the front portion.



Excessive Oil

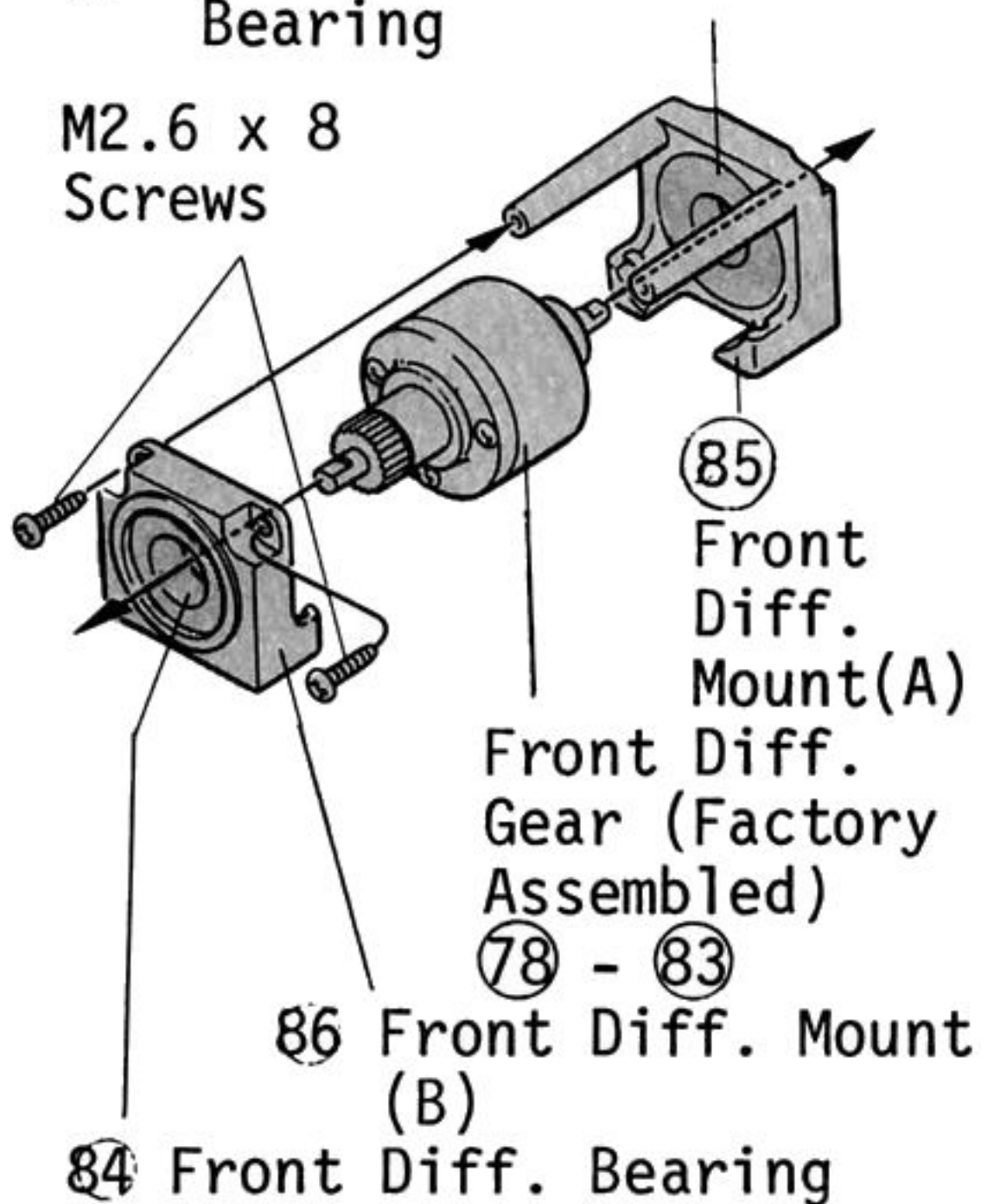


M2.6 x 8 Screws(2)

M4 x 4 Set Screws(2)

M4 Washers(2)

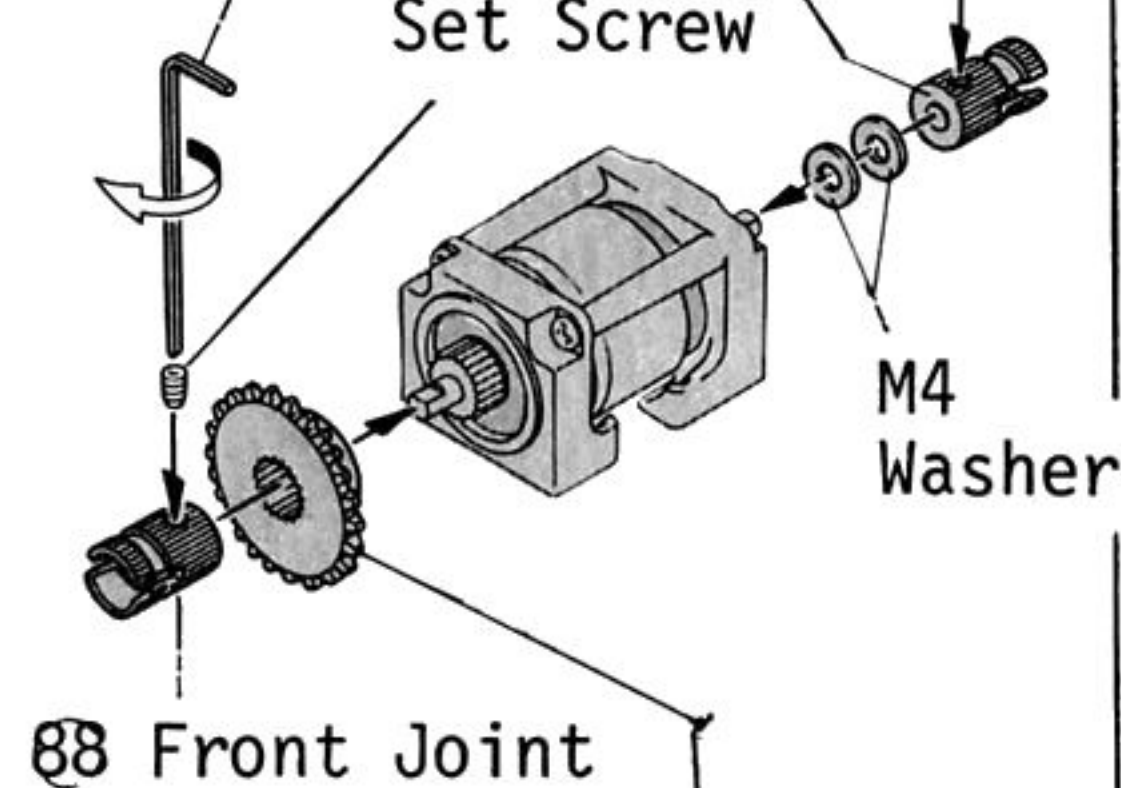
(157) Front Differential Bearing



M4 x 4 Set Screw
53 Front Joint

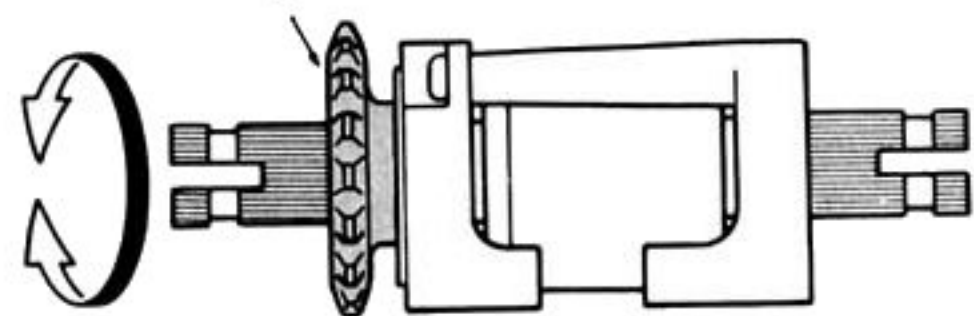
2mm Allen Wrench

M4 x 4
Set Screw



Front Sprocket with Diff.
Gear (Push it all the way
onto the splines.)

Check to see if the sprocket turn smoothly.



[Small Parts Needed]

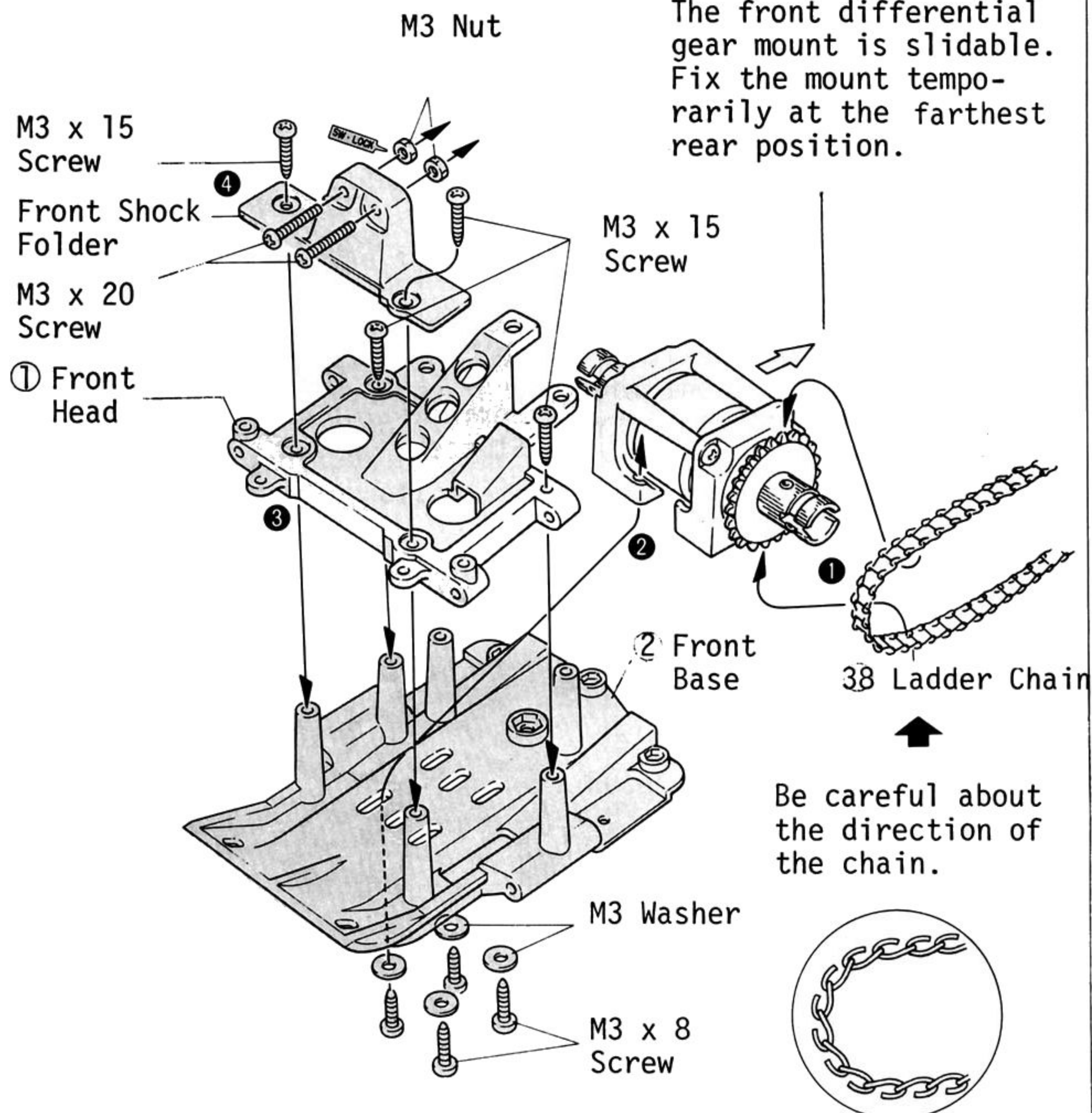
M3 x 20 Screws (2)

M3 x 8 Screws (4) 

M3 x 15 Screws (2) 

M3 Nuts (2)

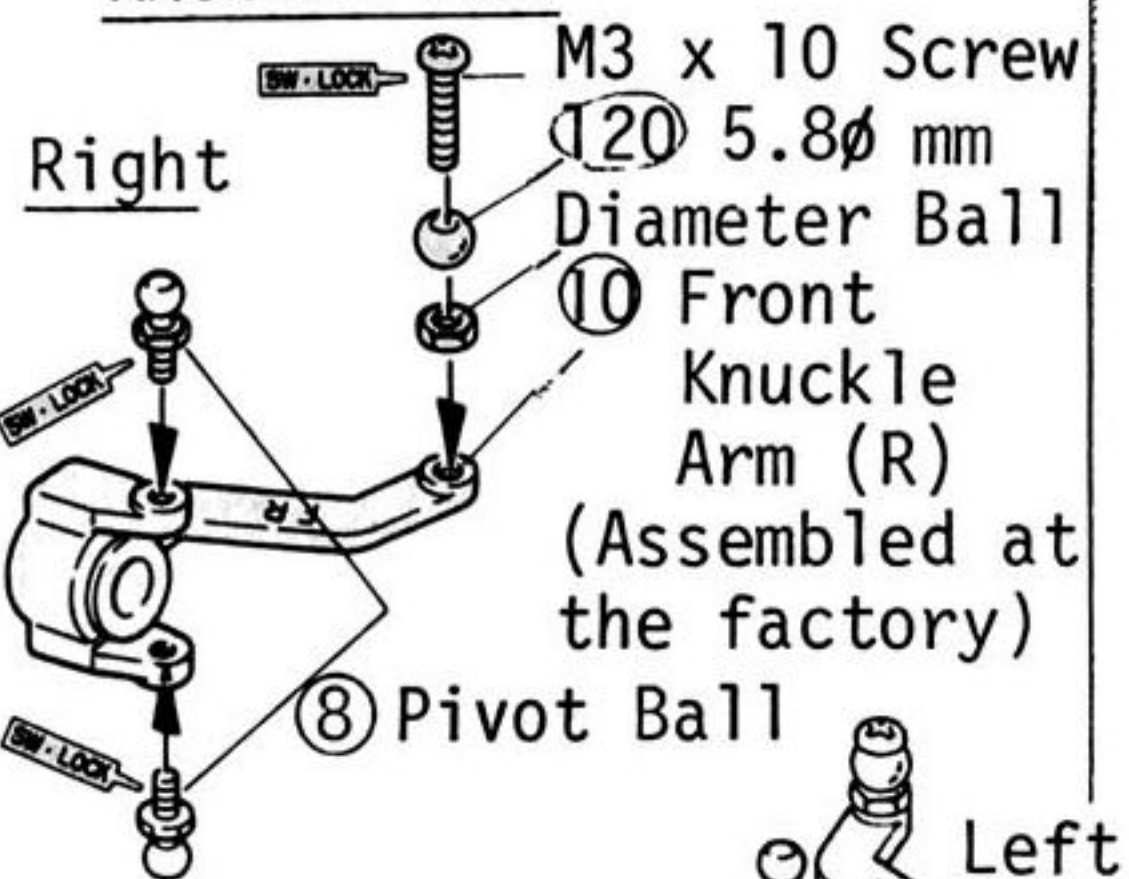
M3 Wahsers (4)



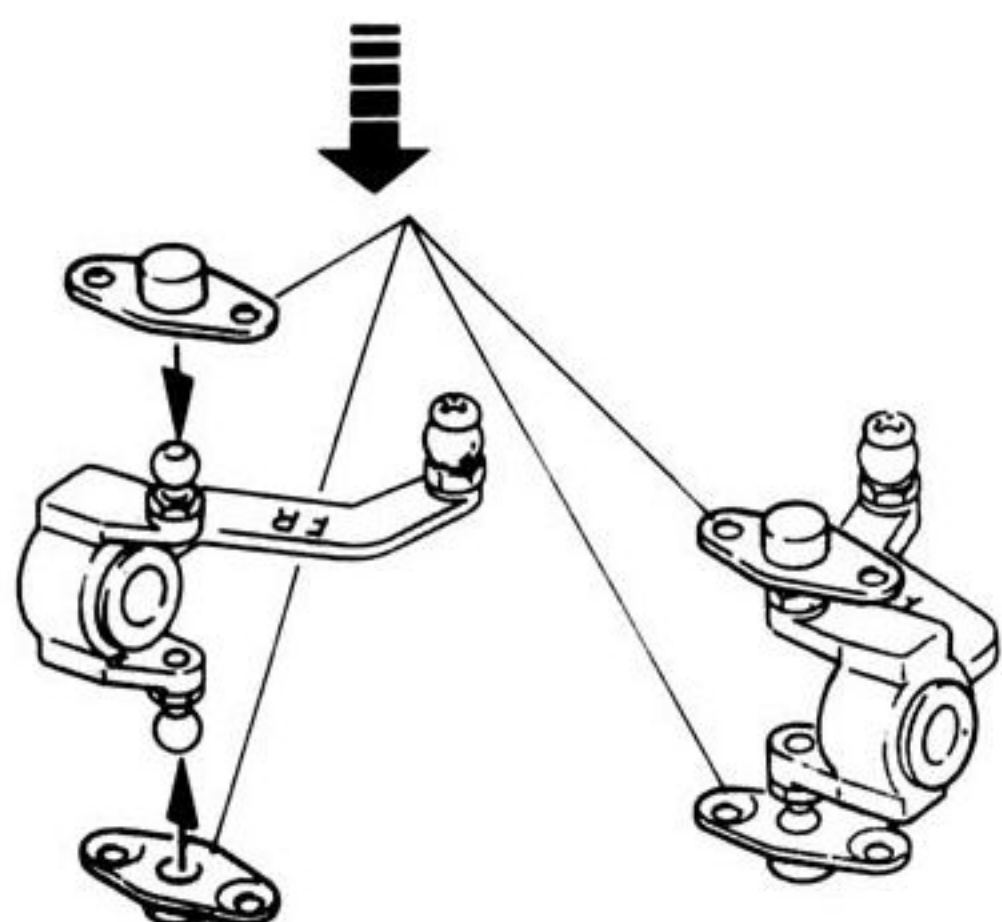
The front differential gear mount is slidable. Fix the mount temporarily at the farthest rear position.

Be careful about
the direction of
the chain.

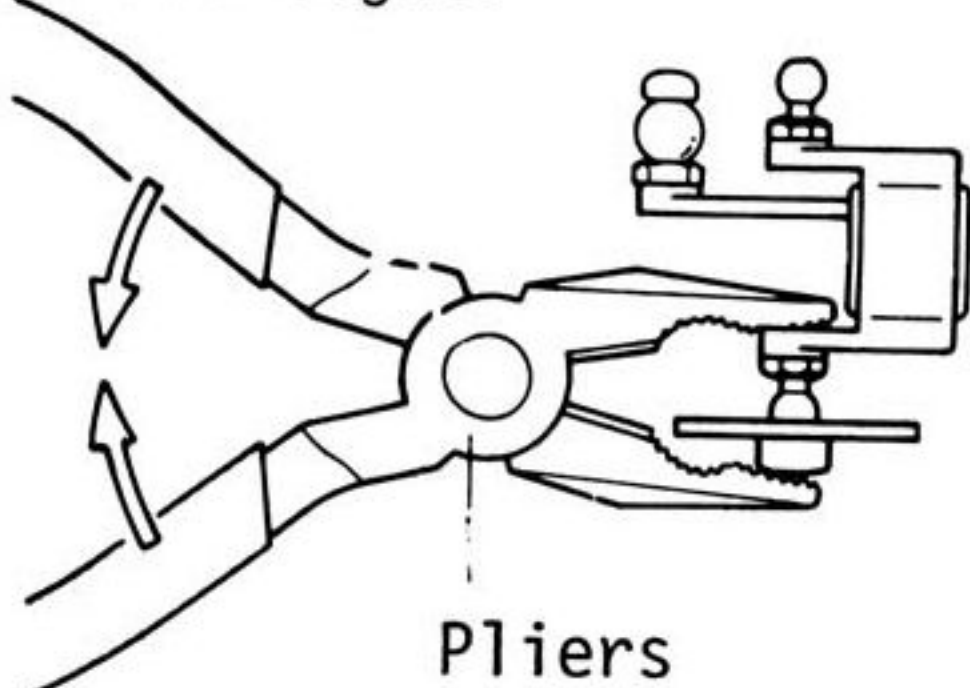
3 ASSEMBLY OF FRONT KNUCKLE ARM



Screw in the pivot 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 SMALL PARTS NEEDED

- M3 x 15 Screw 2(2)
- M3 x 5 screws (2)
- M4 x 4 Set Screws
- M3 Nylon Nuts (4)
- 114 3ø Stoppers (2)
- 120 5.8ø Ball (2) (Silver)

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 Needed]

- M2.6 x 5 Flat Screws (12)
- M3 x 10 Screws (2)
- M3 Nuts (2)
- 9 Pillow Balls (4)
- 120 5.8ø Balls (2) (Silver)

Right

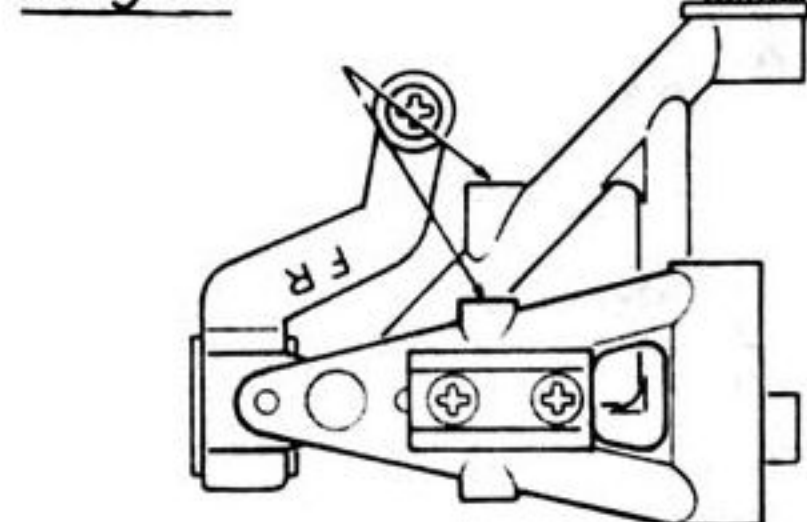


There are holes already drilled.

Front

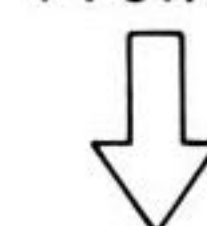
There are holes already drilled.

Right



Top View

Front

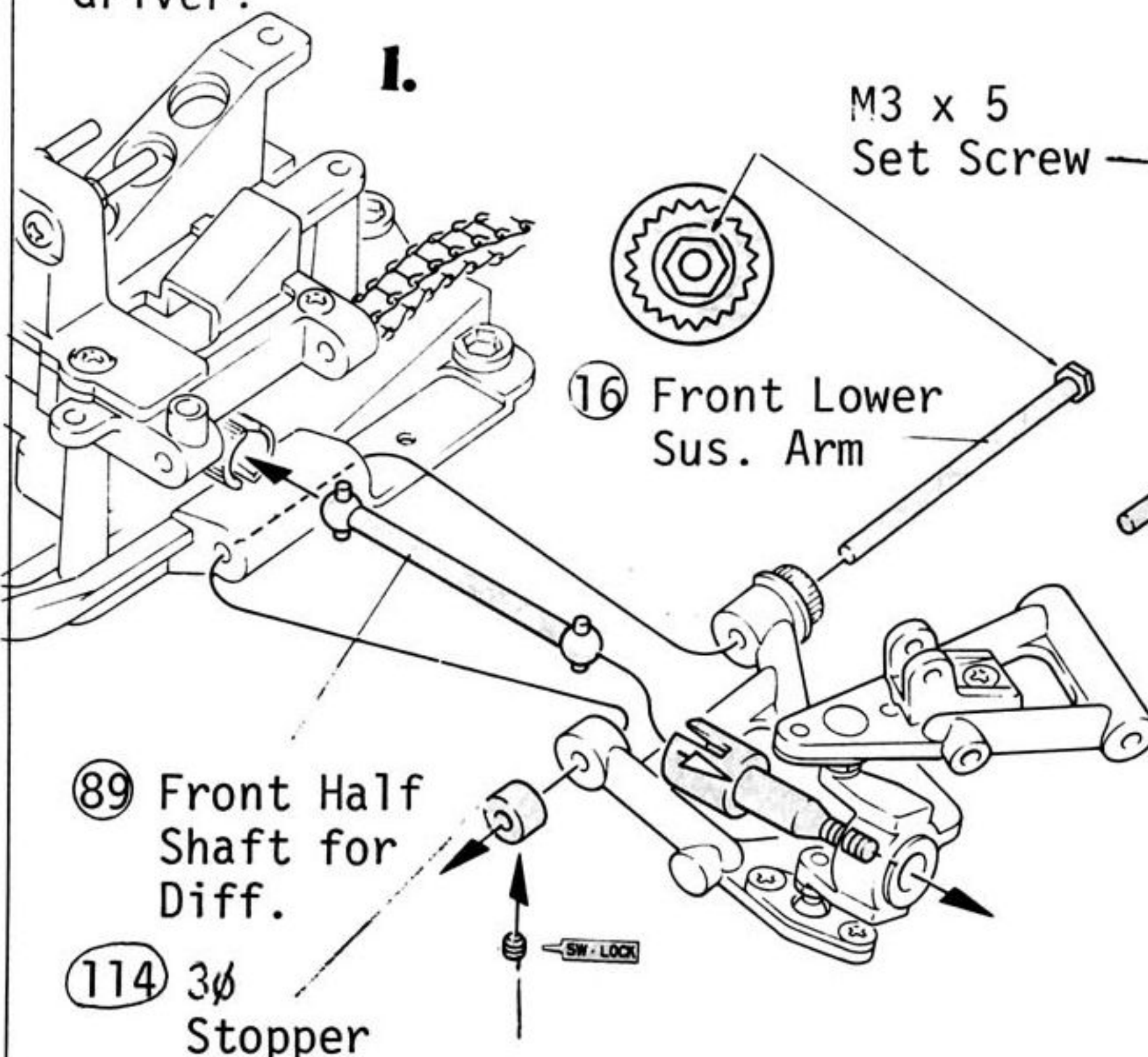


Front

4 INSTALLATION OF FRONT SUSPENSION ARM

Fit the hex head of lower suspension arm pin into the hex hole on the lower suspension arm, insert the head all the way into the hole by pushing it with the tip of a philip-head screwdriver.

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



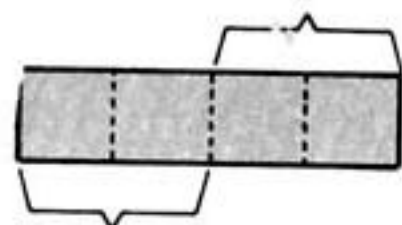
M3 x 5 Set Screw

2.

112 Front Upper Suspension Arm Pin

Cut the rubber tube into four pieces, 5mm long each. Use this portion for the rear dampers.

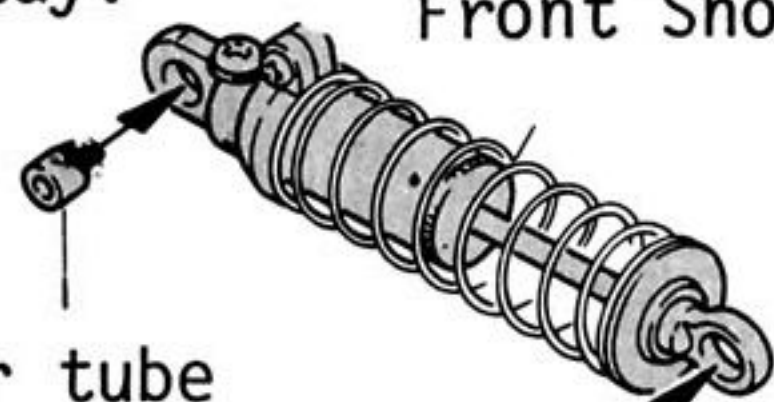
②⑧ Shock Rubber Pipe (Actual Size)



Use this portion for the front Shock.

Put the rubber bushing and the 5.8mm ball into the positions before installing the shock to the holder and the stay.

Front Shock



Rubber tube cut size

⑫⑩ 5.8ø Ball

5 SMALL PARTS NEEDED:

M3 x 8 Screws(4)

M3 x 10 Screws(2)

M4 x 55 Screw (1)

M3 Nuts (3)

M4 Nut (1)

⑨ Pillow Ball (1)

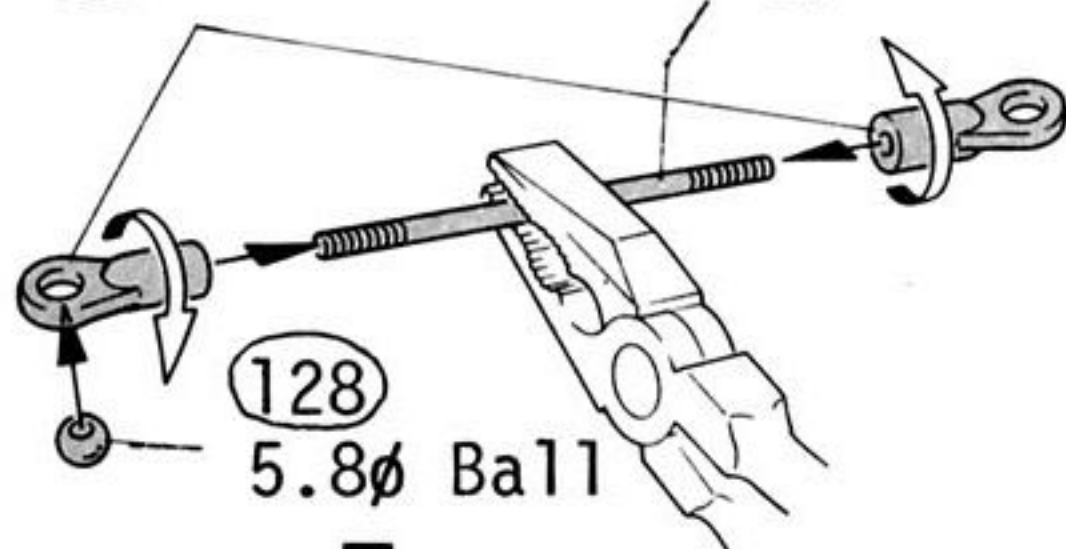
⑫⑩ 5.8ø Ball(2) (Silver)

⑫② Ball Ends(L)(4)

[Assembly of Tie Rod]

Assemble 2 sets of these

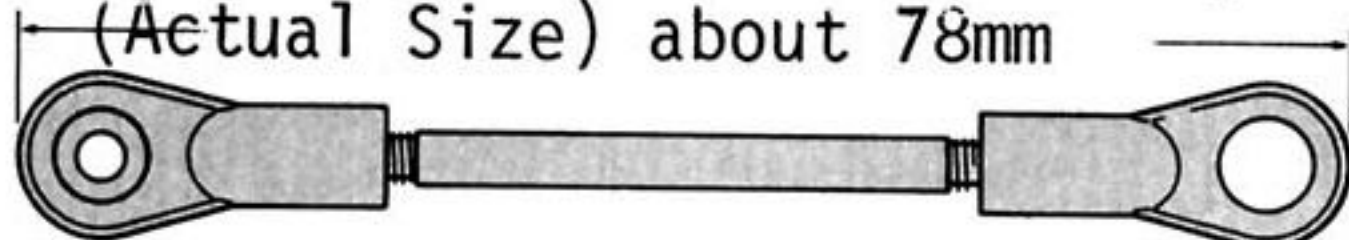
⑫② Ball End(L) ⑫① Tie Rod



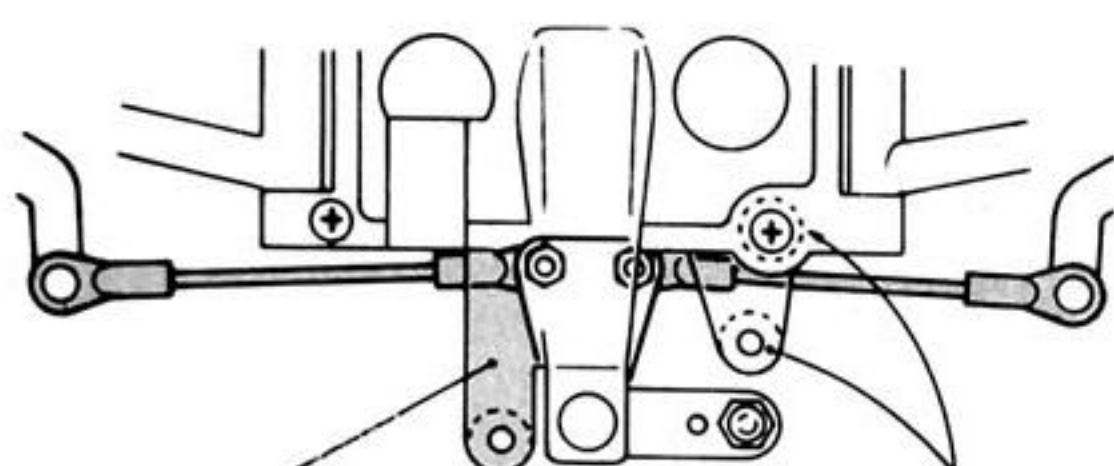
⑫⑧

5.8ø Ball

(Actual Size) about 78mm



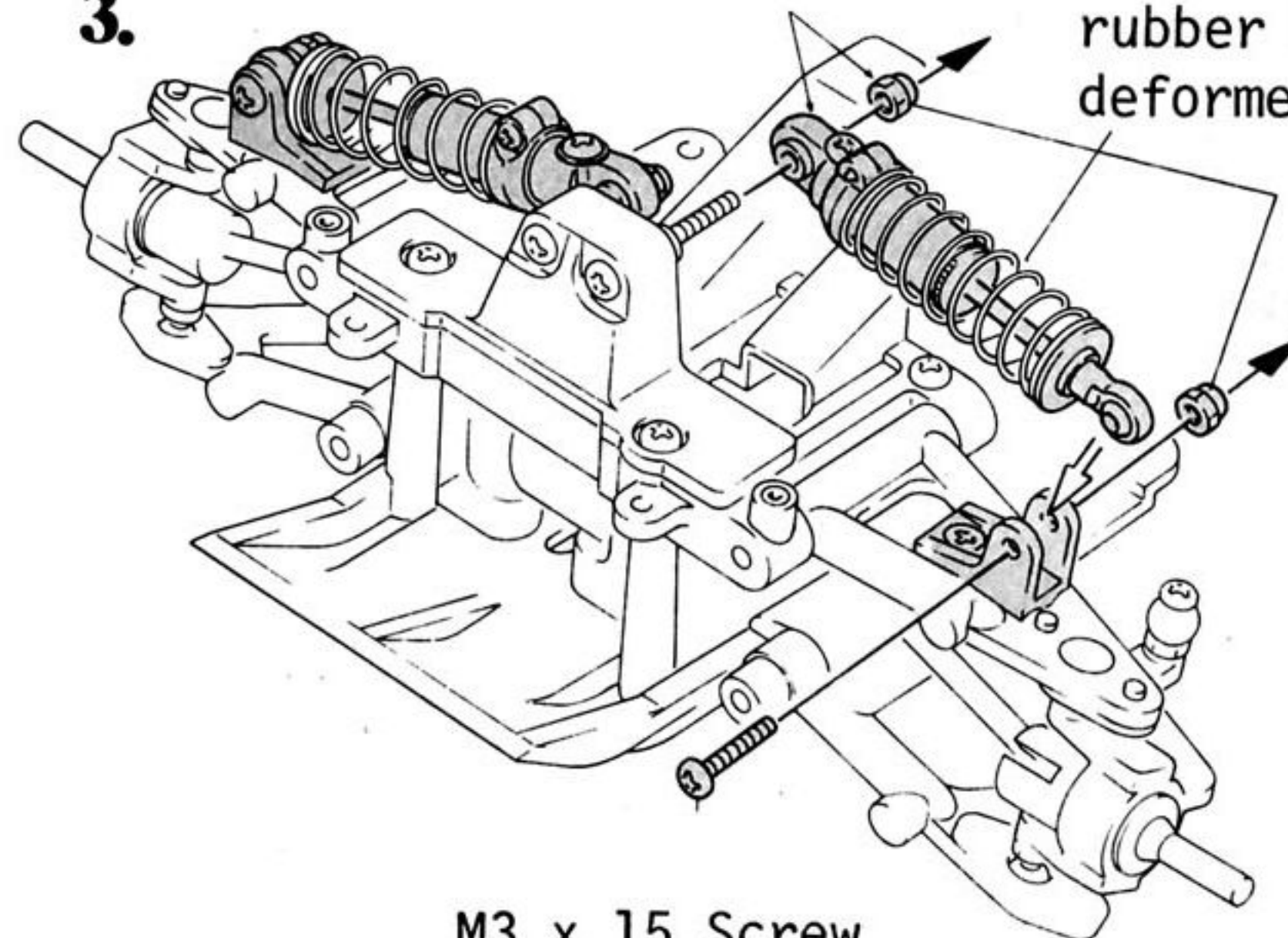
[Assembled View of Tie Rod]



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

Pass the right side tie rod between the posts.

3.



Tighten the M3 nylon nut to such a degree that the rubber bushing is not deformed.

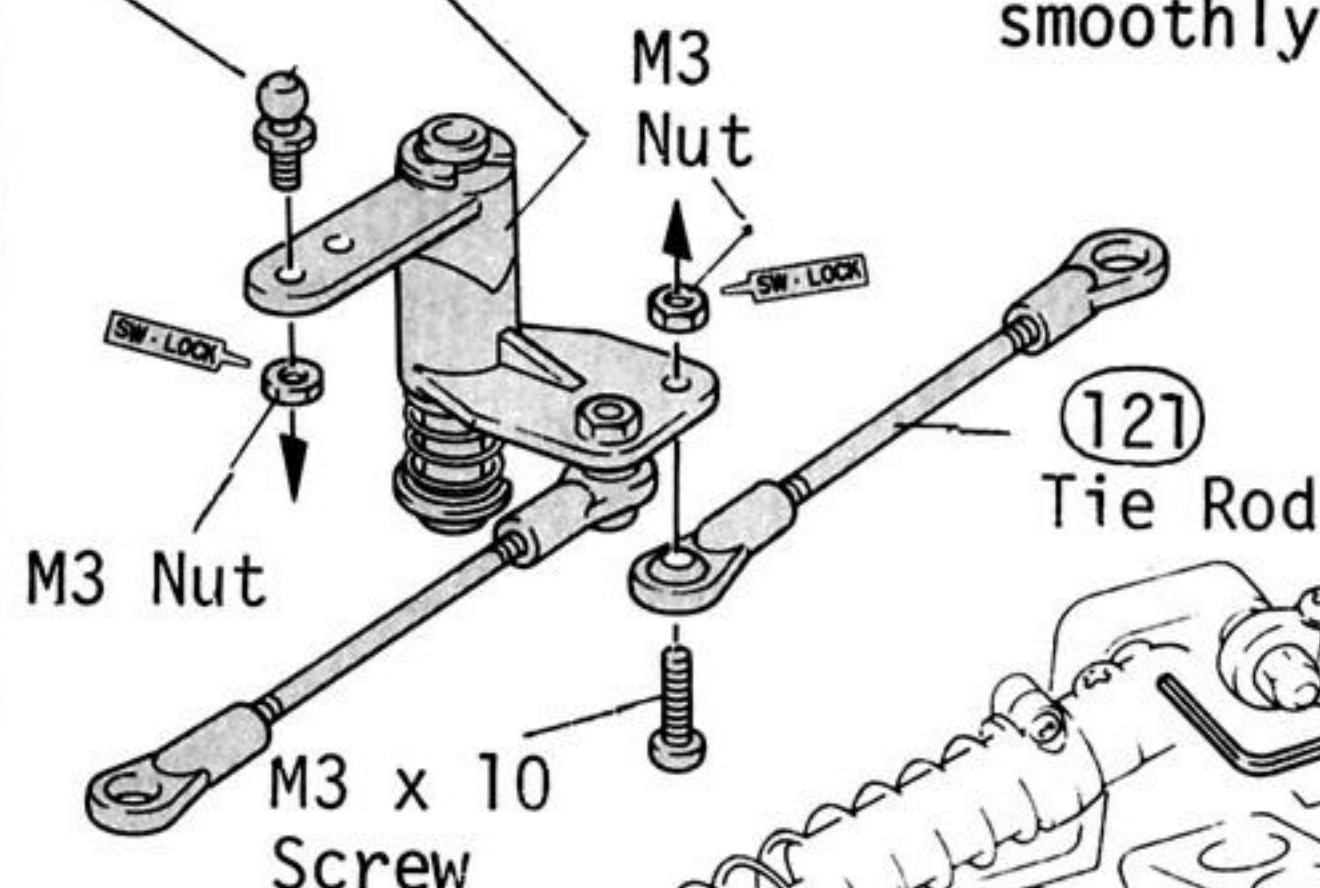
Front Shock
M3 Nylon Nut

M3 x 15 Screw

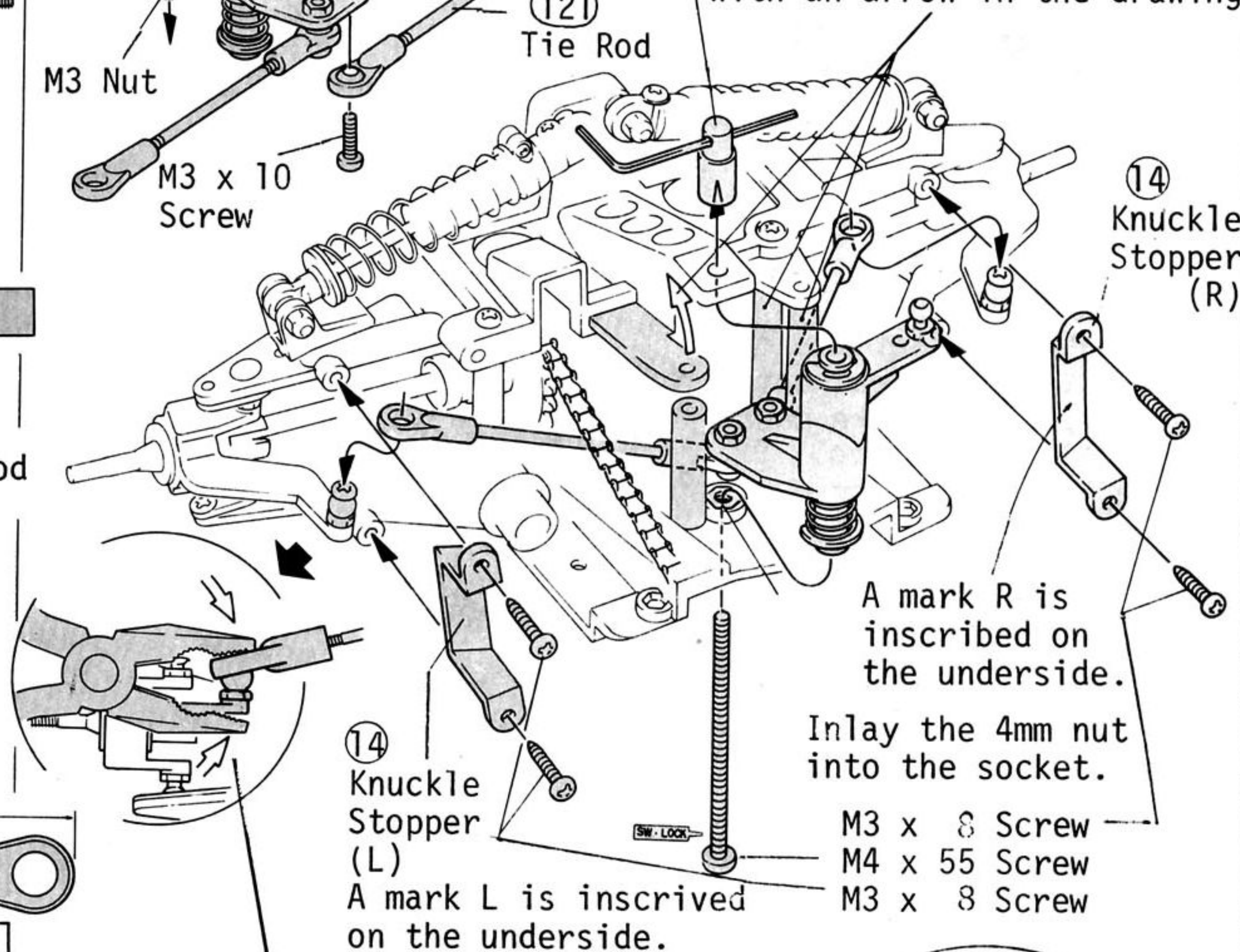
5 INSTALLATION OF FRONT SERVO SAVER AND TIE ROD [Assembly of Front Servo Saver]

⑨ Pivot Ball
118 Front Servo Saver

Screw the body hook in with an allen wrench inserting the hole, tighten it to the degree so that the servo saver smoothly.



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.



⑭ Knuckle Stopper (R)

A mark R is inscribed on the underside.

Inlay the 4mm nut into the socket.

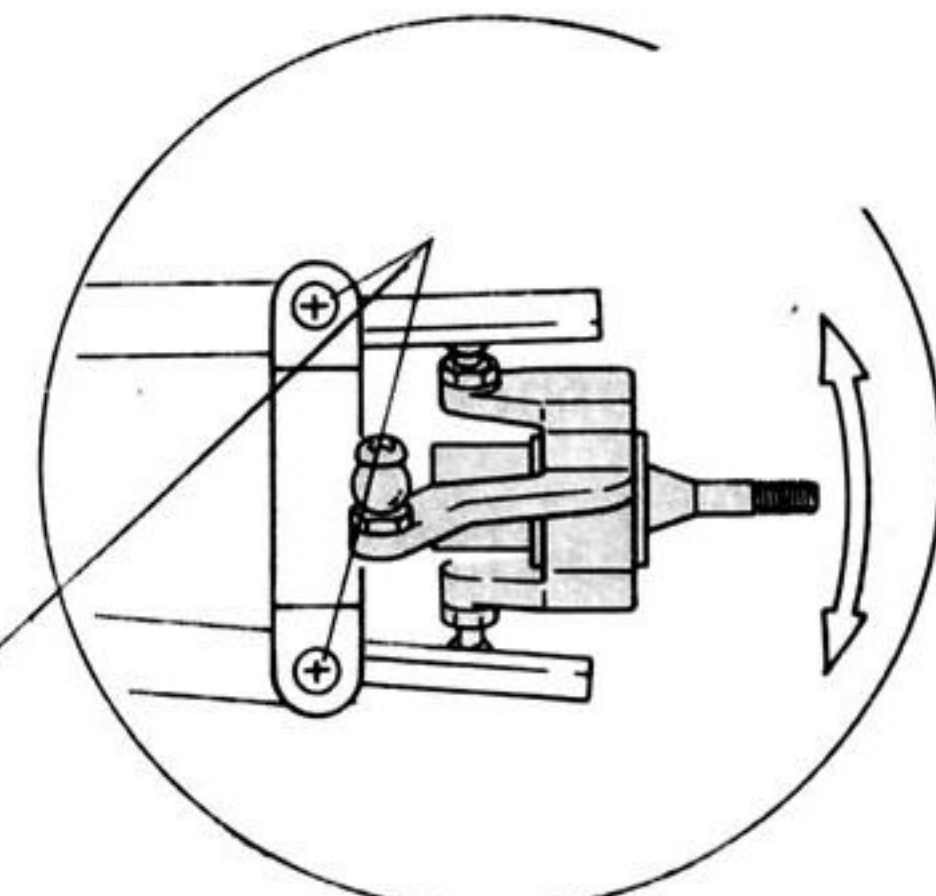
M3 x 8 Screw
M4 x 55 Screw
M3 x 8 Screw

⑭ Knuckle Stopper (L)

A mark L is inscribed on the underside.

If it is too tight, use a pair of pliers.

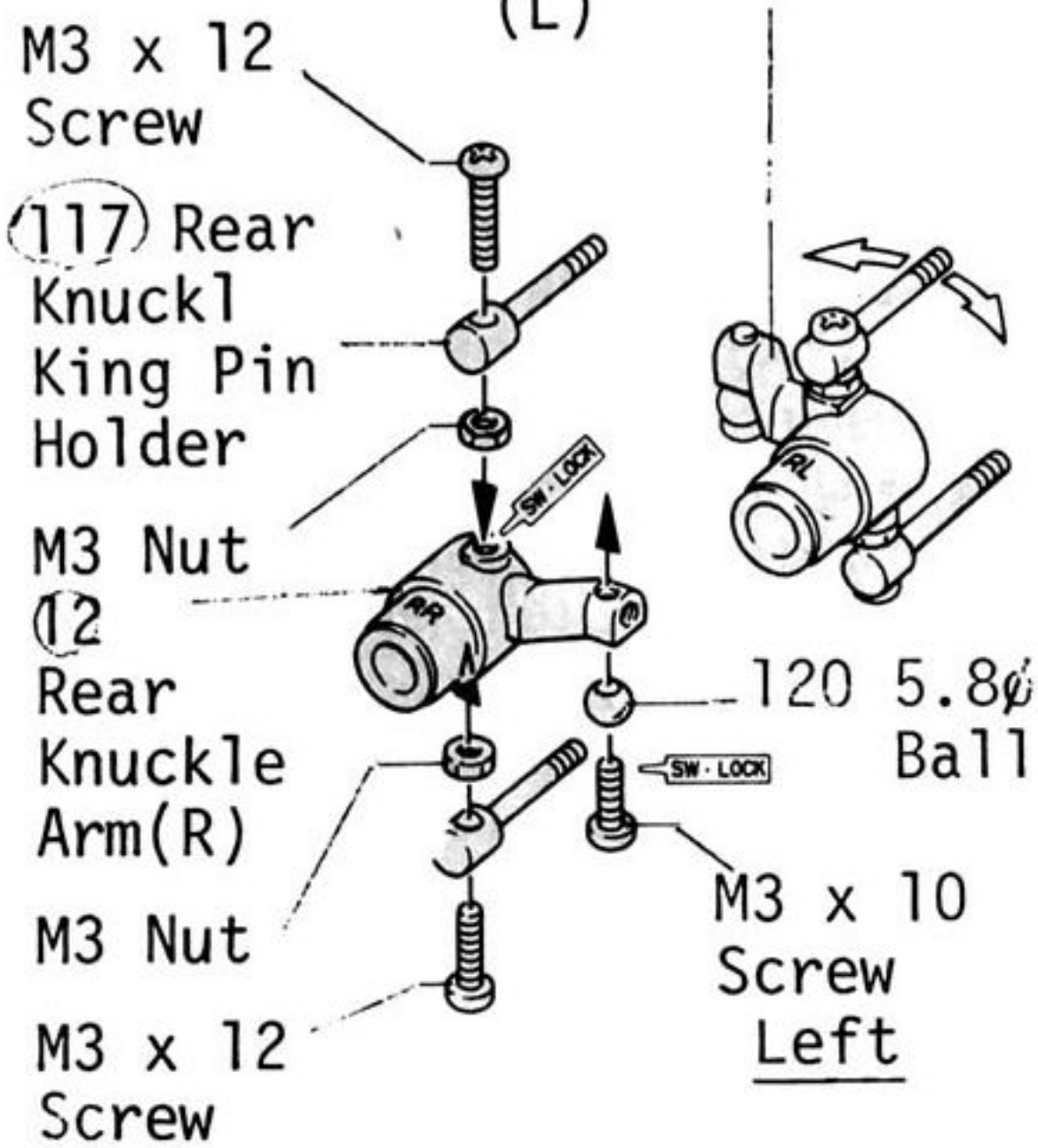
Do not tighten the M3 x 8 Screw too firmly to let the suspension arm move up and down lightly.



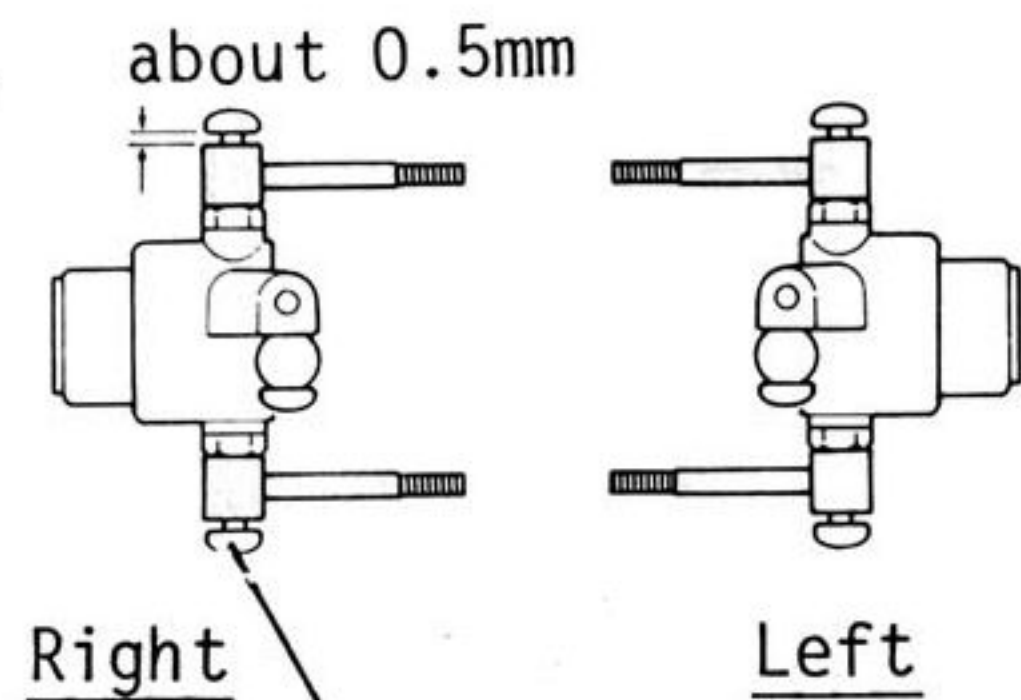
6 ASSEMBLY OF REAR SUSPENSION

ARM:

13 Rear Knuckle Arm (L)



Right



Right

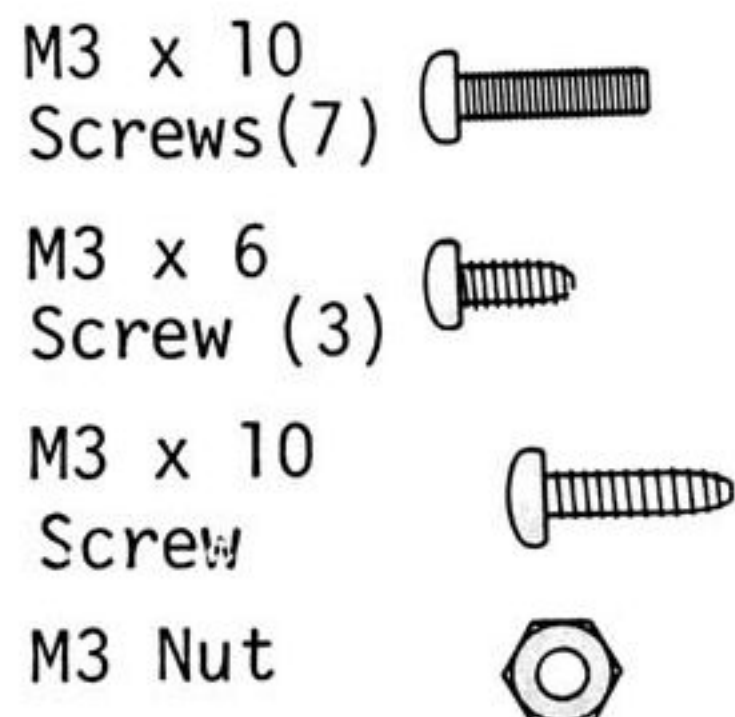
Left

Do not bind the knuckle arm by tightening the M3 x 12 screw too hard. Secure it by tightening the M3 nut.

7 SMALL PARTS NEEDED:

(109) Radio Plate Post

Hold the post with a 1.5mm long of an allen wrench, then tighten the screw.



M3 x 10 Screws (7)

M3 x 6 Screw (3)

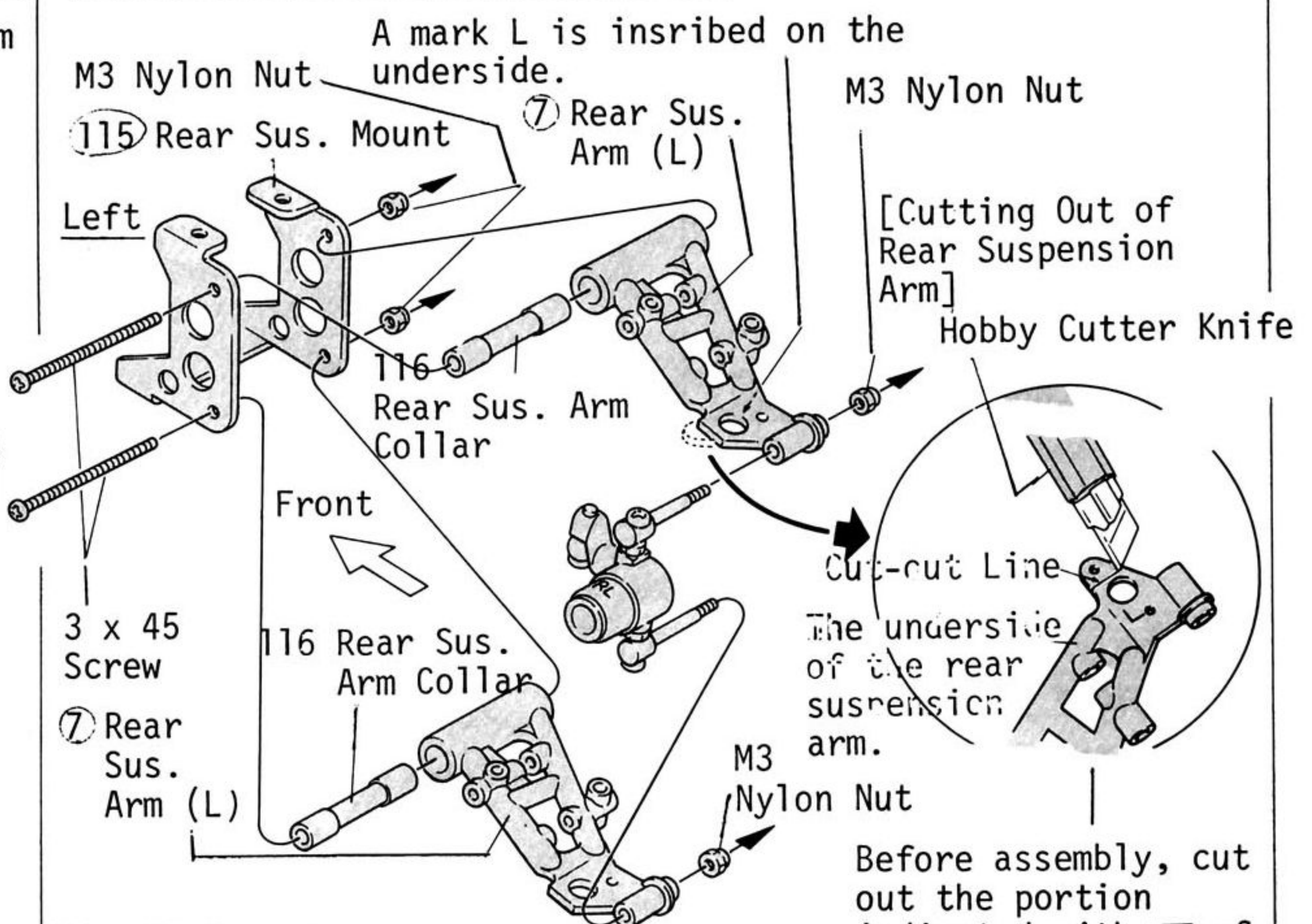
M3 x 10 Screw
M3 Nut

6 ASSEMBLY OF REAR SUSPENSION ARM

M3 Nylon Nut

(115) Rear Sus. Mount

Left



Front

116 Rear Sus. Arm Collar

7 Rear Sus. Arm (L)

M3 x 10 Screws (2)

M3 x 12 Screws (4)

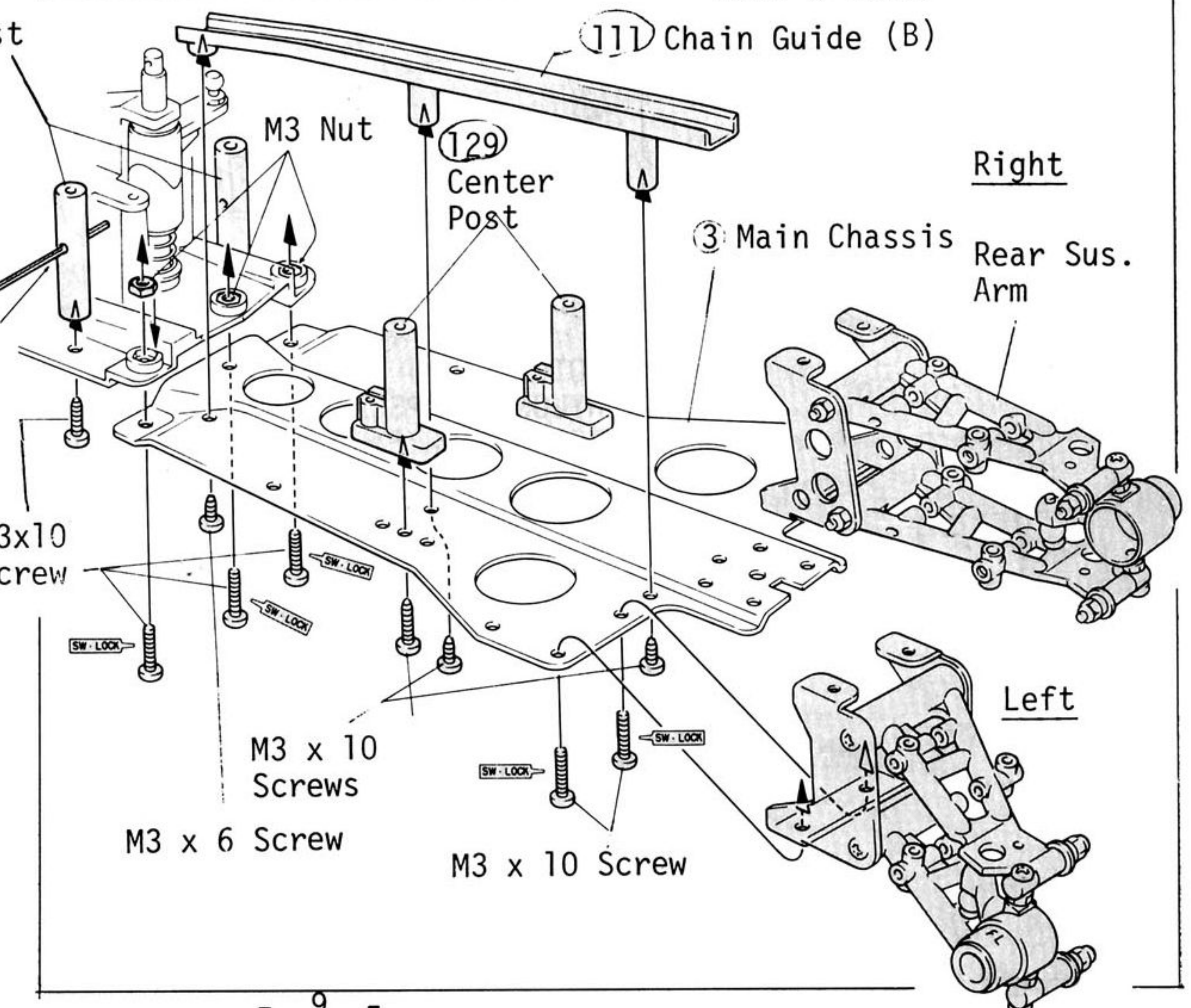
M3 x 45 Screws (4)

M3 Nuts (4)

M3 Nylon Nuts (8)

(120) 5.8φ Ball (2) (Silver)

7 ASSEMBLY OF MAIN CHASSIS



Right

Left

M3 Nylon Nut

7 Rear Sus. Arm (L)

[Cutting Out of Rear Suspension Arm]
Hobby Cutter Knife

Cut-cut Line
The underside of the rear suspension arm.

Before assembly, cut out the portion indicated with  of all four suspension arms.

6 Rear Sus. Arm (R)

A mark R is inscribed on the underside.

Right

Tighten the M3 nylon nut fully, then loosen it half a turn.

8 SMALL PARTS NEEDED:

M3 x 10 Screws (2)

M4 x 60 Screw (1)

(9) Pivot Ball (1)

(120) 5.8ø Balls (Silver) (2)

(122) Ball Ends (Large) (4)

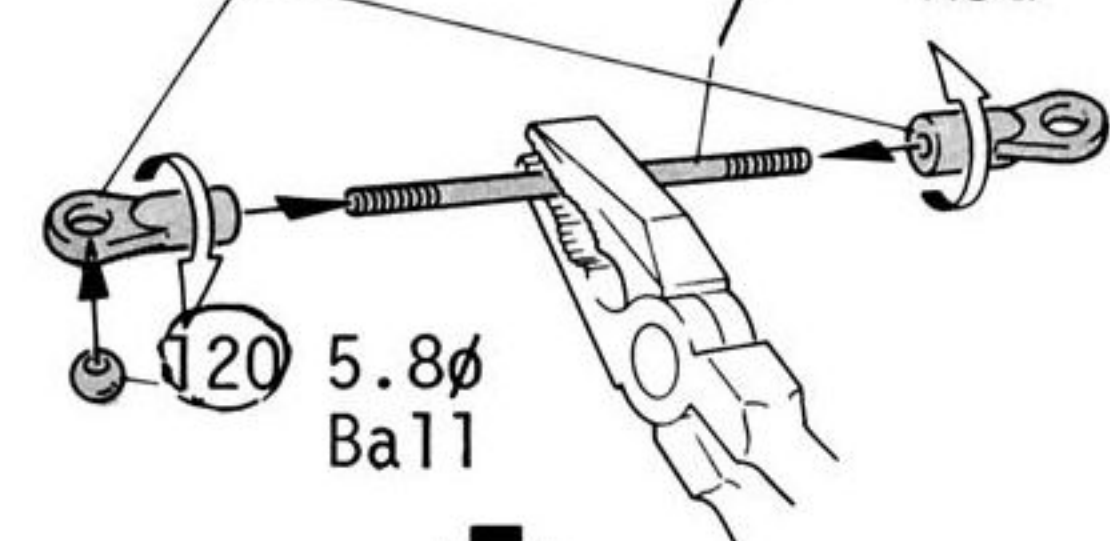
M3 Nuts (3)

M4 Nut (1)

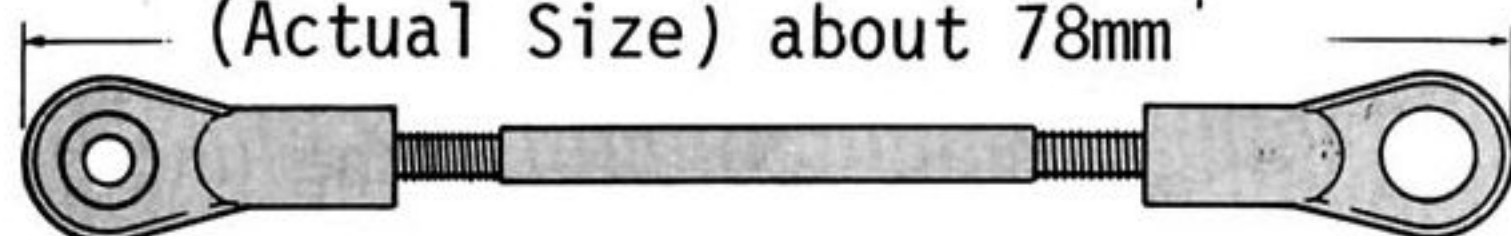
[Assembly of Tie Rod]

Assembly 2 sets of these

(122) Ball End (L) (121) Tie Rod

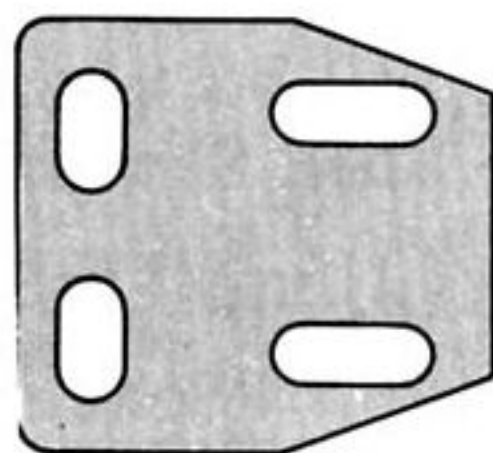


(Actual Size) about 78mm

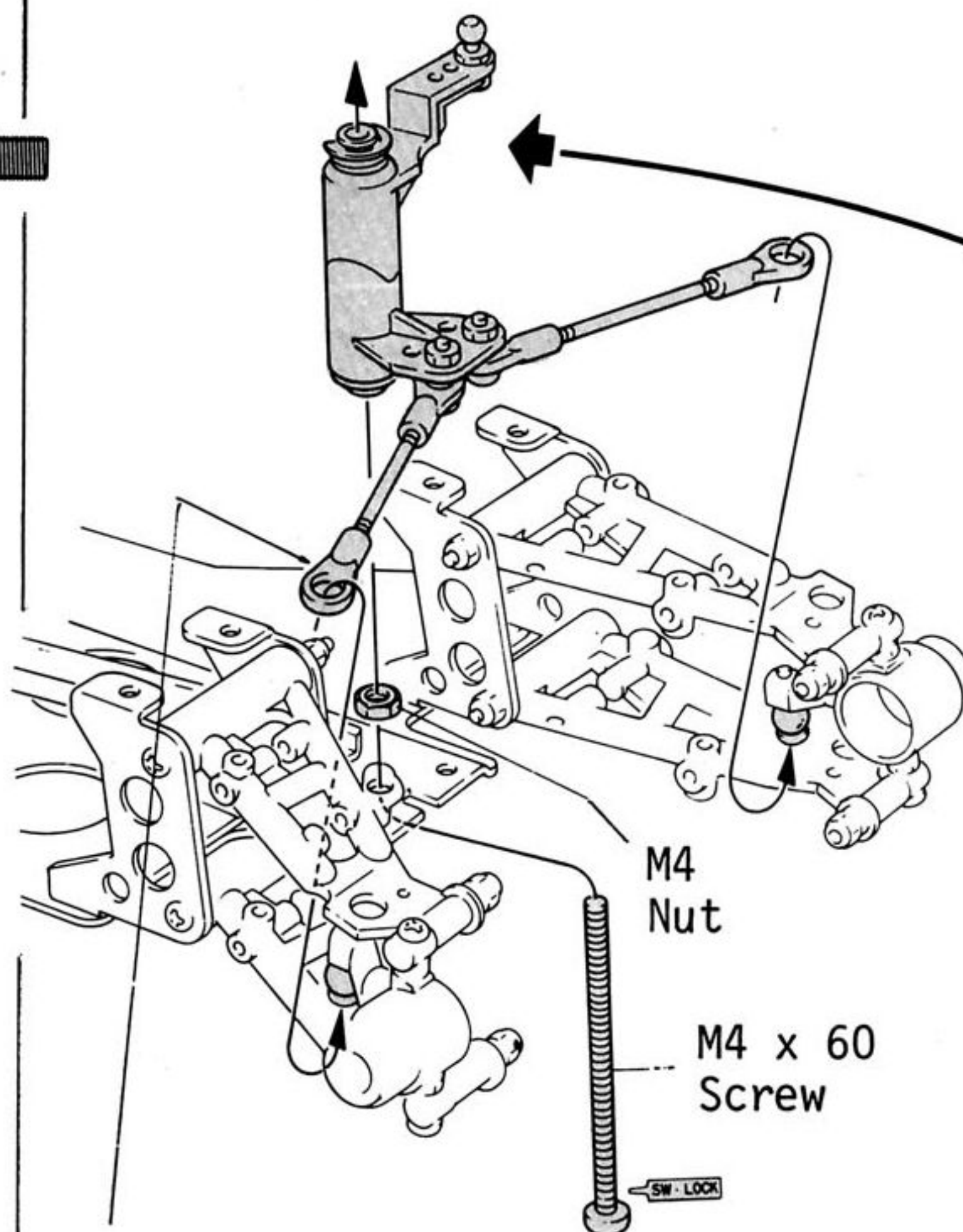


9 SMALL PARTS NEEDED:

(146) Servo Spacer (2)
(Use these with a mini-servo only)

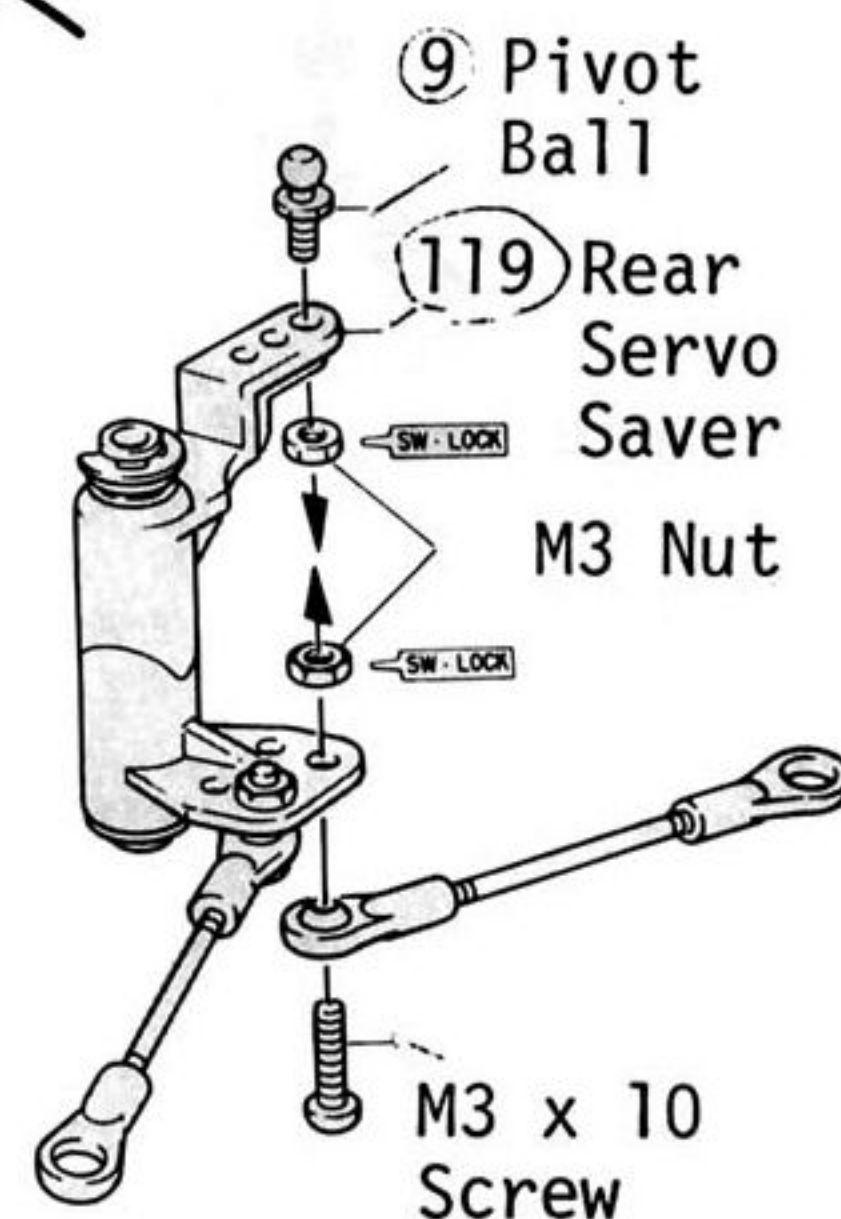


8 MOUNTING OF REAR SERVO SAVER AND TIE ROD



If it is too tight, use a pair of pliers.

[Assembly of Rear Servo Saver]



9 MOUNTING OF SERVO SPACER

[With Mini-Servo Mounted]

Fix the servo spacer with a nylon strap (Small).

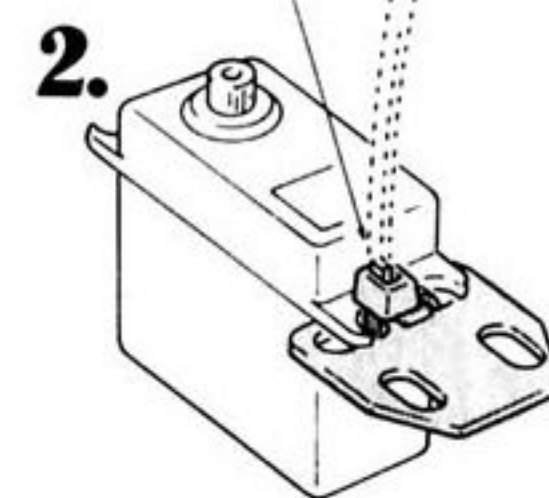
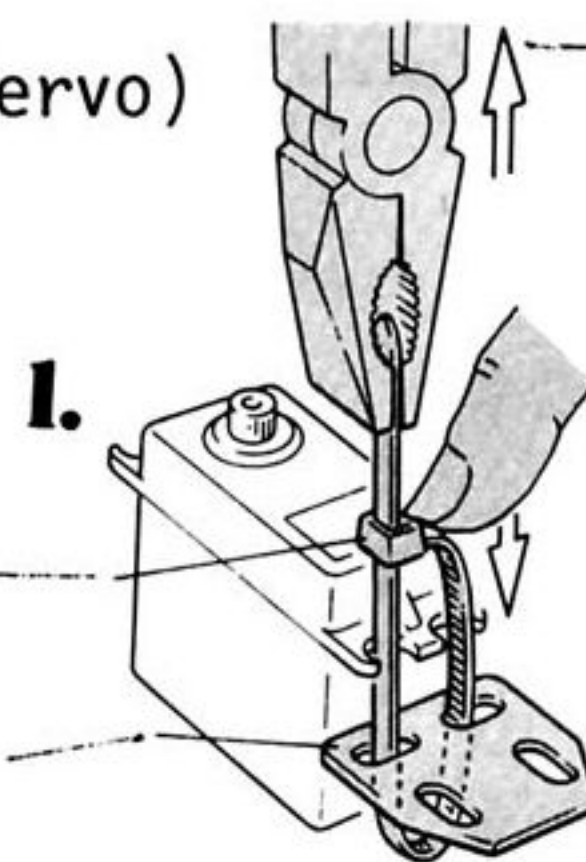
(With a Steering Servo)

Pull the end with a pair of pliers.

Cut off the excessive part.

(138) Nylon Strap (S)

(146) Servo Spacer

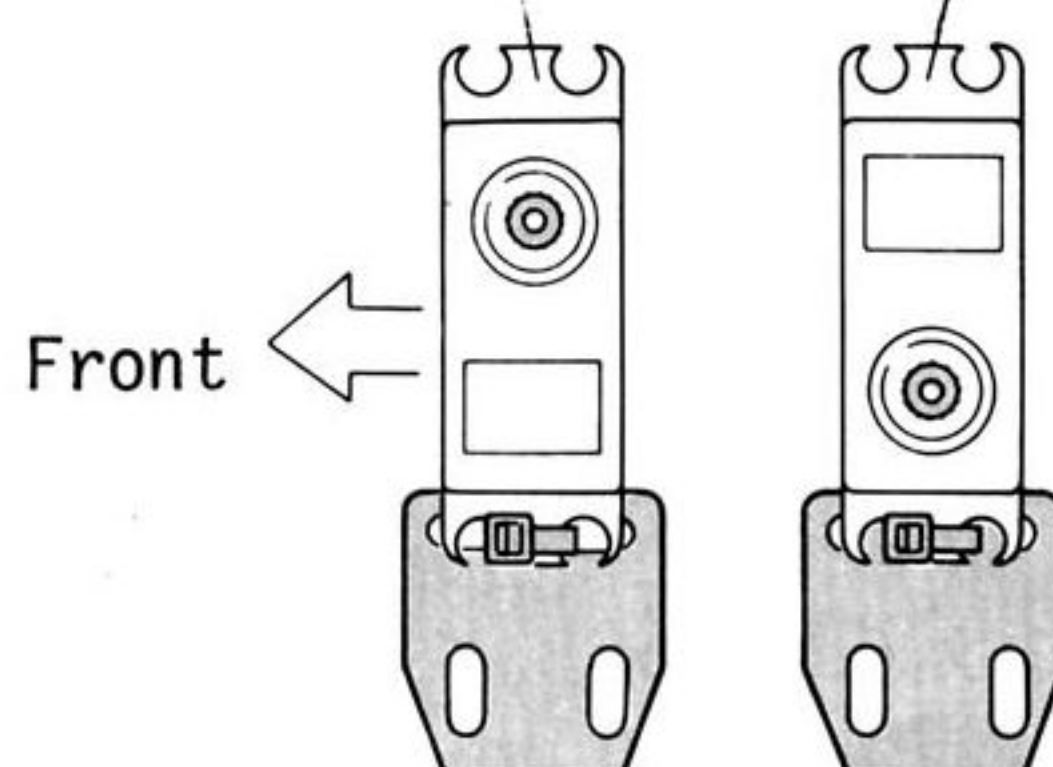


NOTE:

NYLON STRAPS ARE SO DESIGNED NOT TO BE LOOSENED AFTER BEING TIGHTENED. SO BE CAREFUL WHEN TASTENING IT.

Steering Servo

Speed Control Servo



NOTE:

THE POSITION OF THE SPACER DIFFERS WITH THE STEERING SERVO FROM WITH THE SPEED CONTROL SERVO.

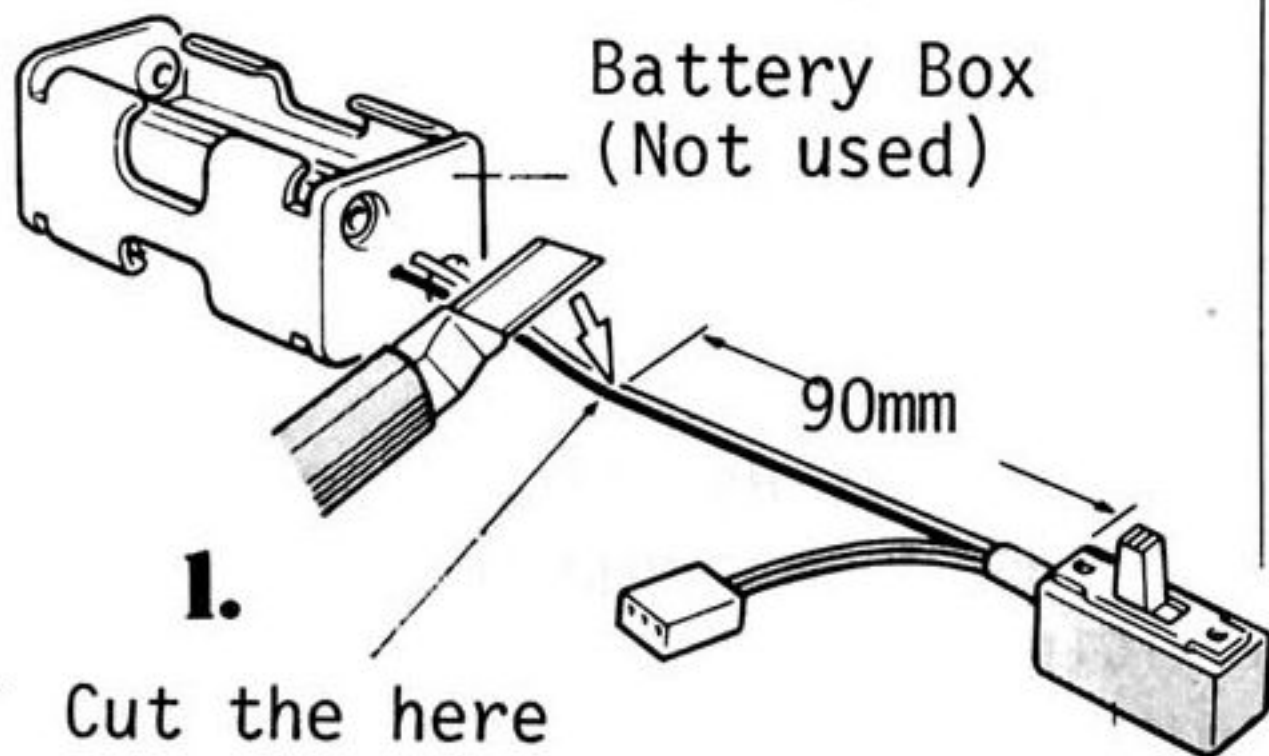
10 SMALL PARTS NEEDED:

- M3 x 6 Screw (1) 
 ① Lug Terminal (2) 

*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.



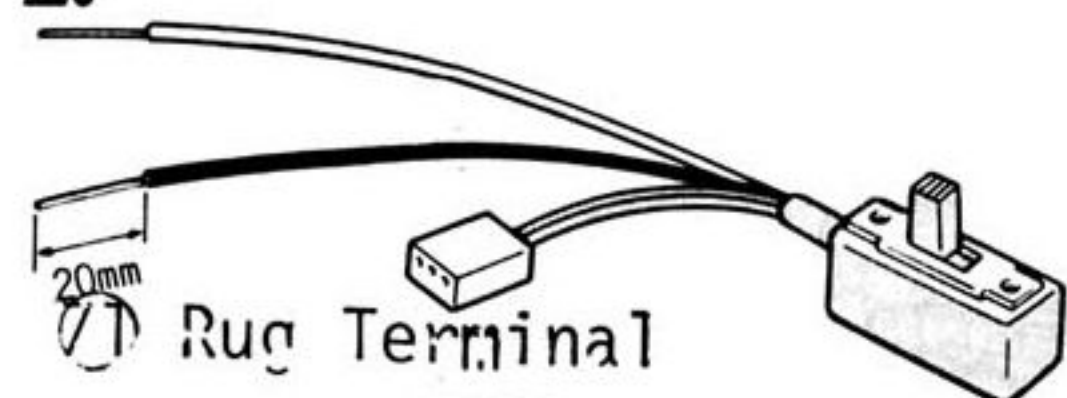
1.

Cut the here

Switch provided with your radio

Remove the insulation

2.



3. Put the lug onto the wire.

Bend the end into fourfold.

4.

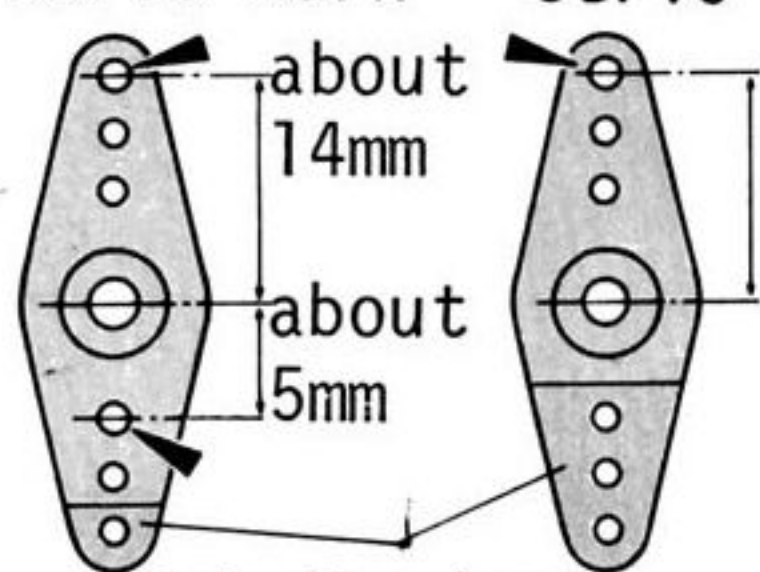
Crimp the lug terminal with pliers.

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

[Cut of Servo Horn]

*The size of servo horns are different depending upon various makers. The dimensions shown below are the general standard for your reference.

*Steering Servo Horn *Speed Controller Servo Horn



Cut the here

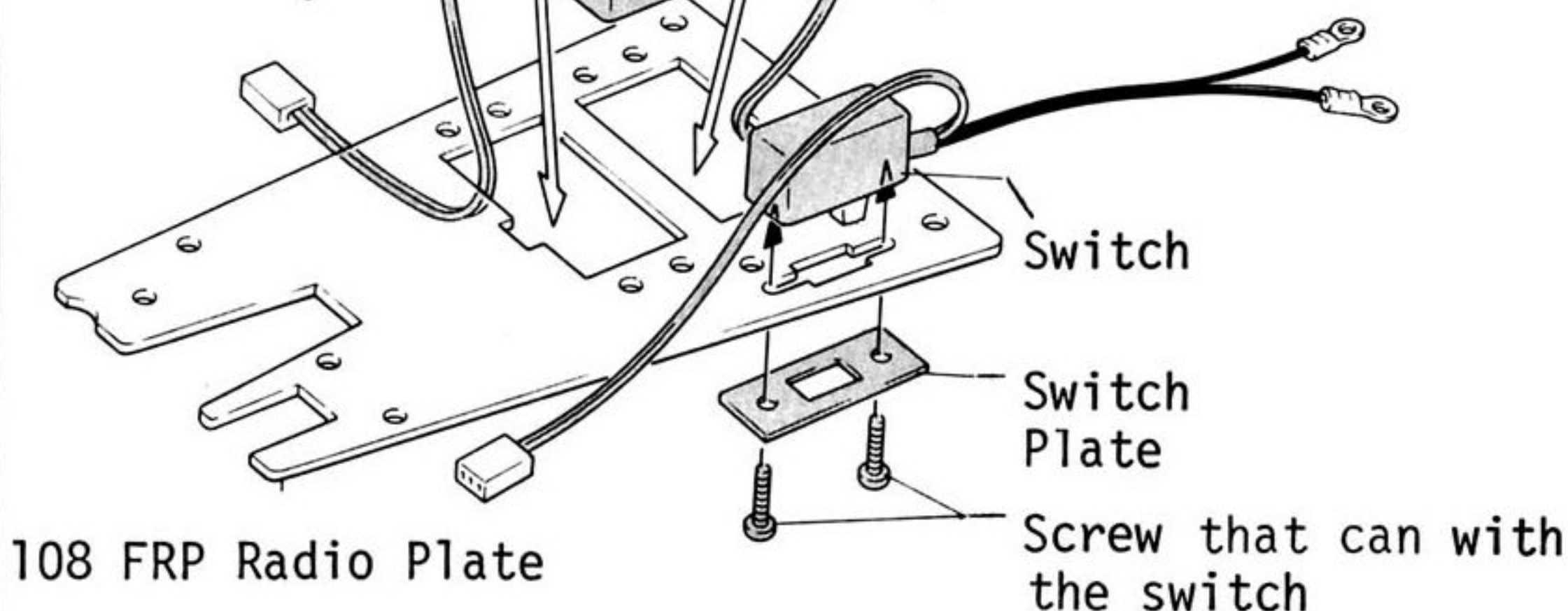
Enlarge the holes for the control rods with something like an awl.

10 MOUNTING OF SERVO CHAIN GUIDE (A)

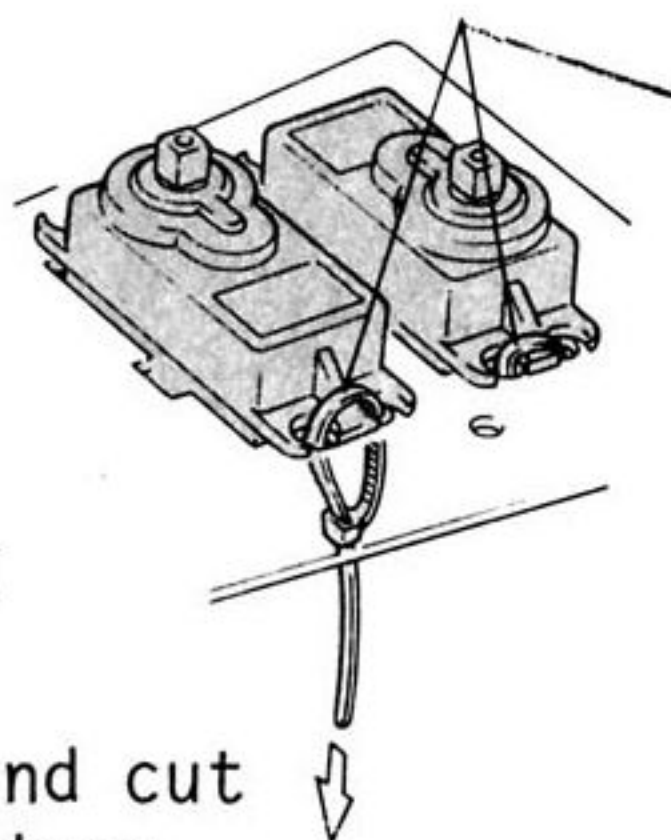
THOSE WHO USE BEC TYPE RADIO, PLEASE REFER TO THE ARTICLES ON PAGE

[Standard Size Servo]

Mount it in the direction as shown in the drawing.



FRP Radio Plate



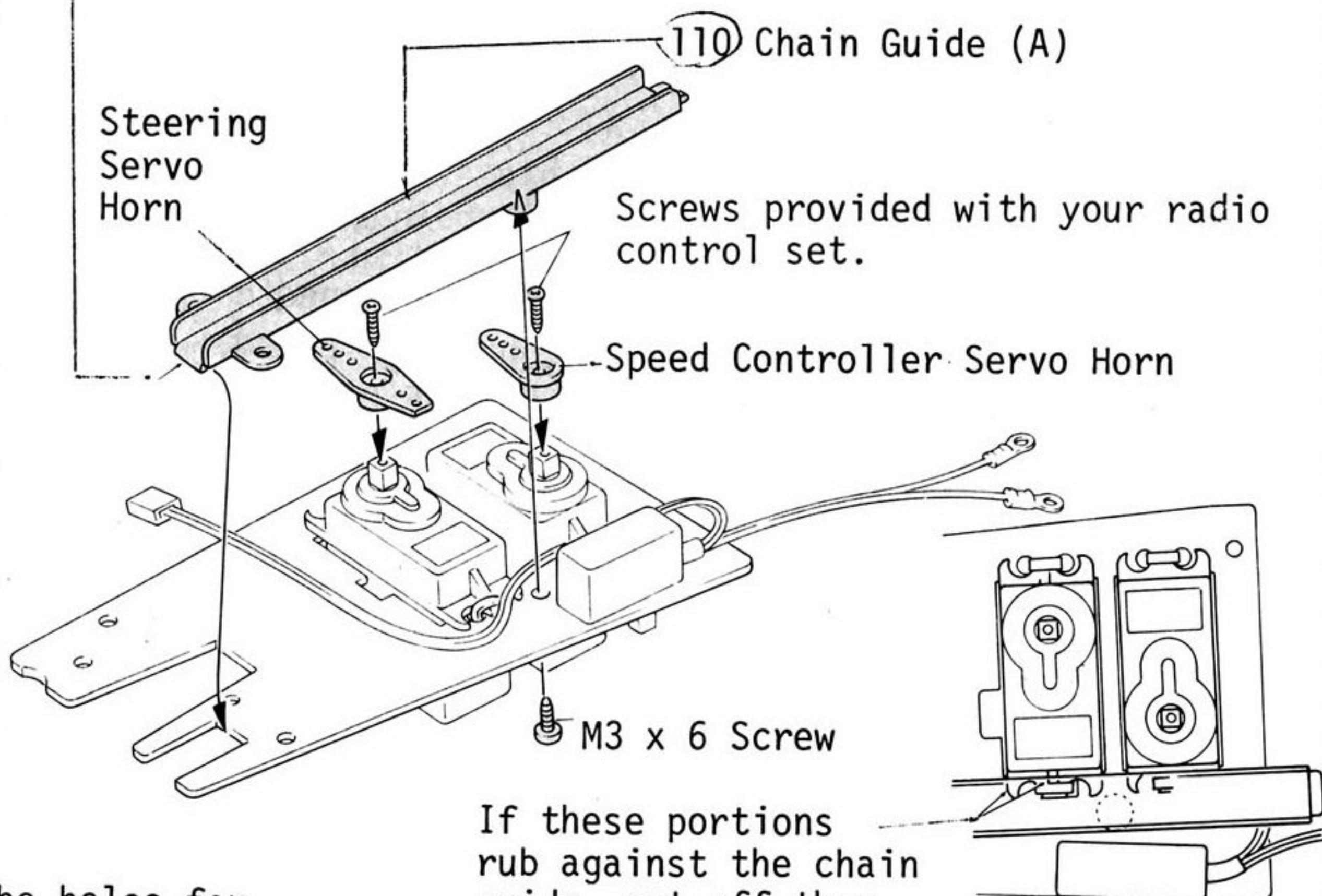
Fixing the servos with the nylon strap (S) 138 as illustrated in Step 9.

NOTE:

FASTEN IT UNDER THE RADIO PLATE.

Fasten it tightly and cut off the excessive strap with scissors.

Fit the protruded edge on the chain guide into the dent on the radio plate.



11 SMALL PARTS NEEDED

M2.6 x 6 Screw (1)

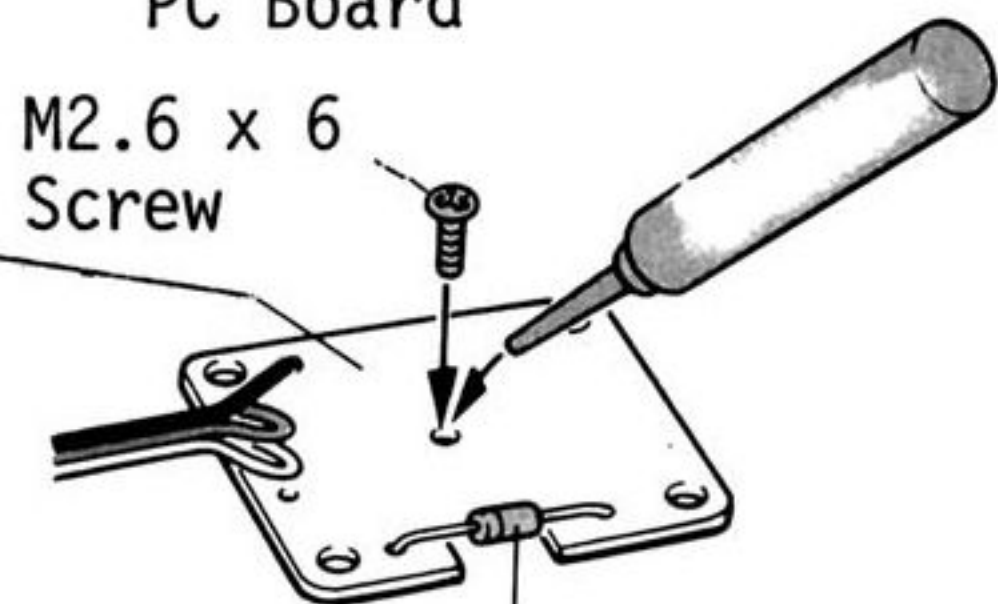
M3 x 10 Screws (4)

M3 Nuts (4)

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

64 Speed Controller
PC Board

M2.6 x 6
Screw



Diode

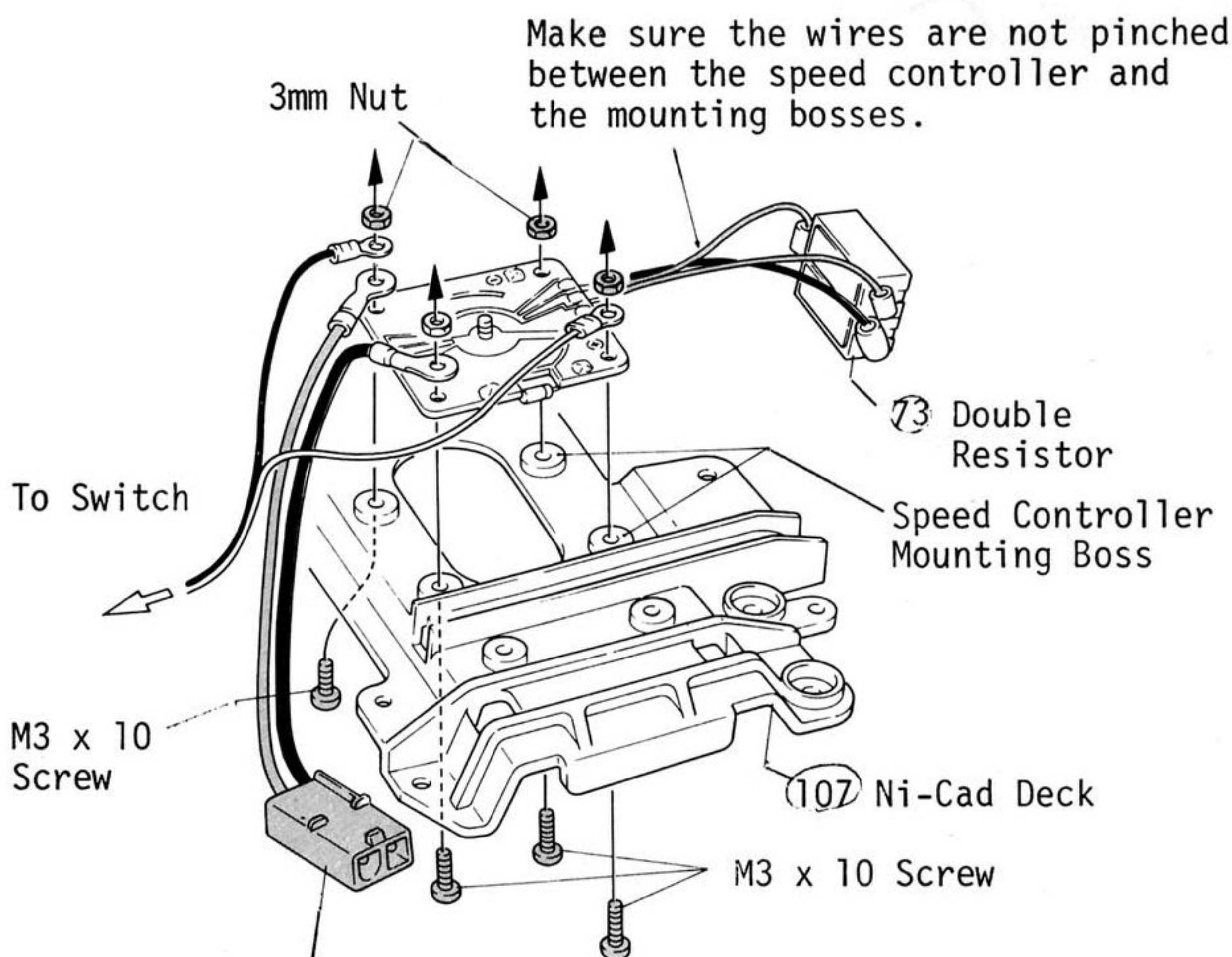
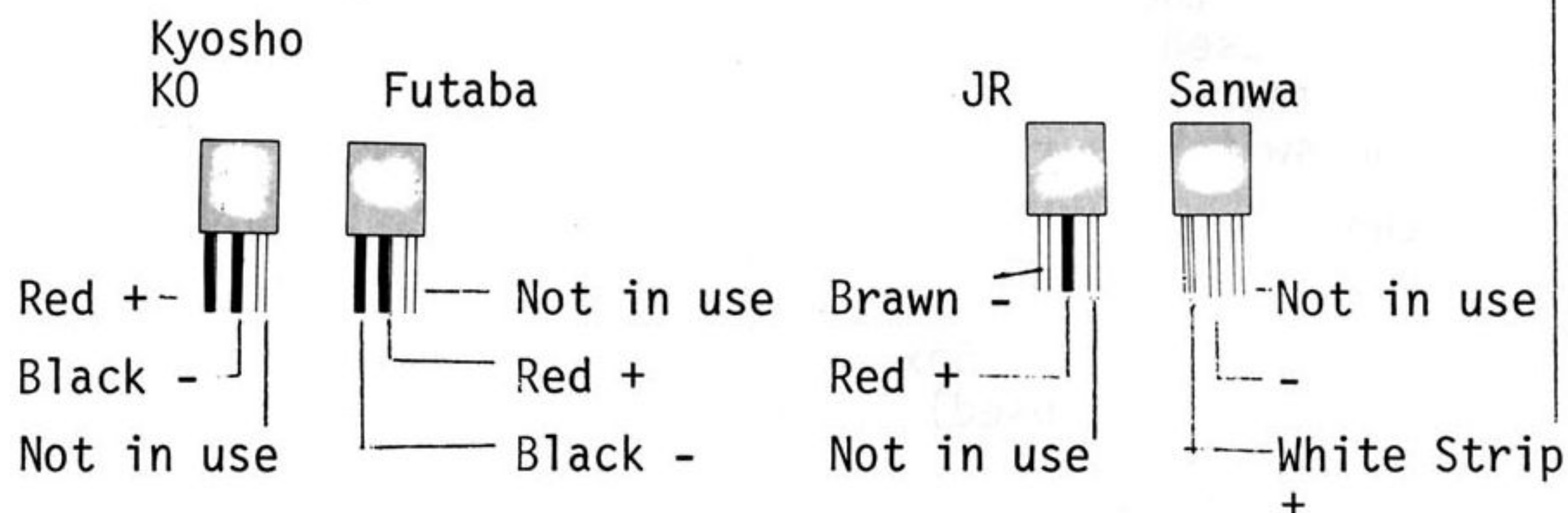
Apply a little amount of
Cyanoacrylate Adhesive.

11 MOUNTING SPEED OCNTROLLER

NOTE:

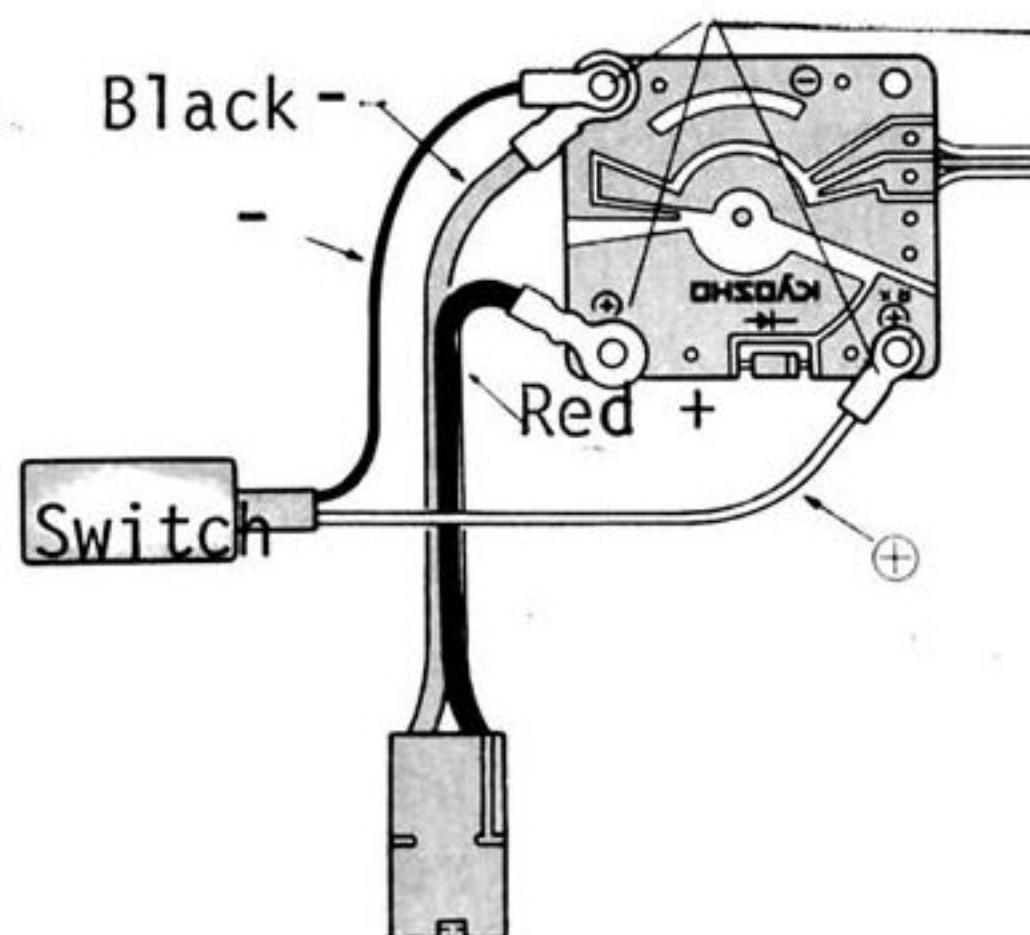
1. BE CAREFUL ABOUT THE POLARITY WHEN CONNCTING THE LEAD WIRES. ERRONEOUS WIRING MAY BURN OUT RECEIVER IN A MOMENT. REFER TO THE DRAWING BELOW FOR THE CORRECT ARRANGEMENT.

DIFFERENT MERKERS OF THE RADIO USE DIFFERENT COLORS FOR THE PLUS AND MINUS LEADS.



14 Battery Connector

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.



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



12 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 cautious about the polarity of the batteries when installing.

[Power Source for Receiver]

For the receiver, use a Ni-Cad battery pack which 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 household electric outlet.

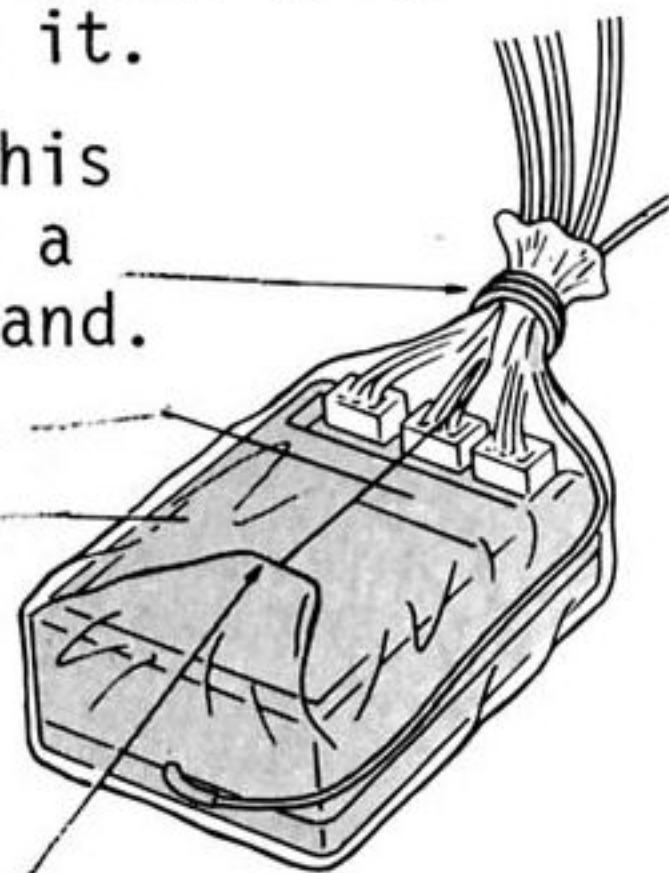
Wrap up the receiver with saran wrapping to prevent dust and water from entering it.

Tie up this end with a rubber band.

Receiver

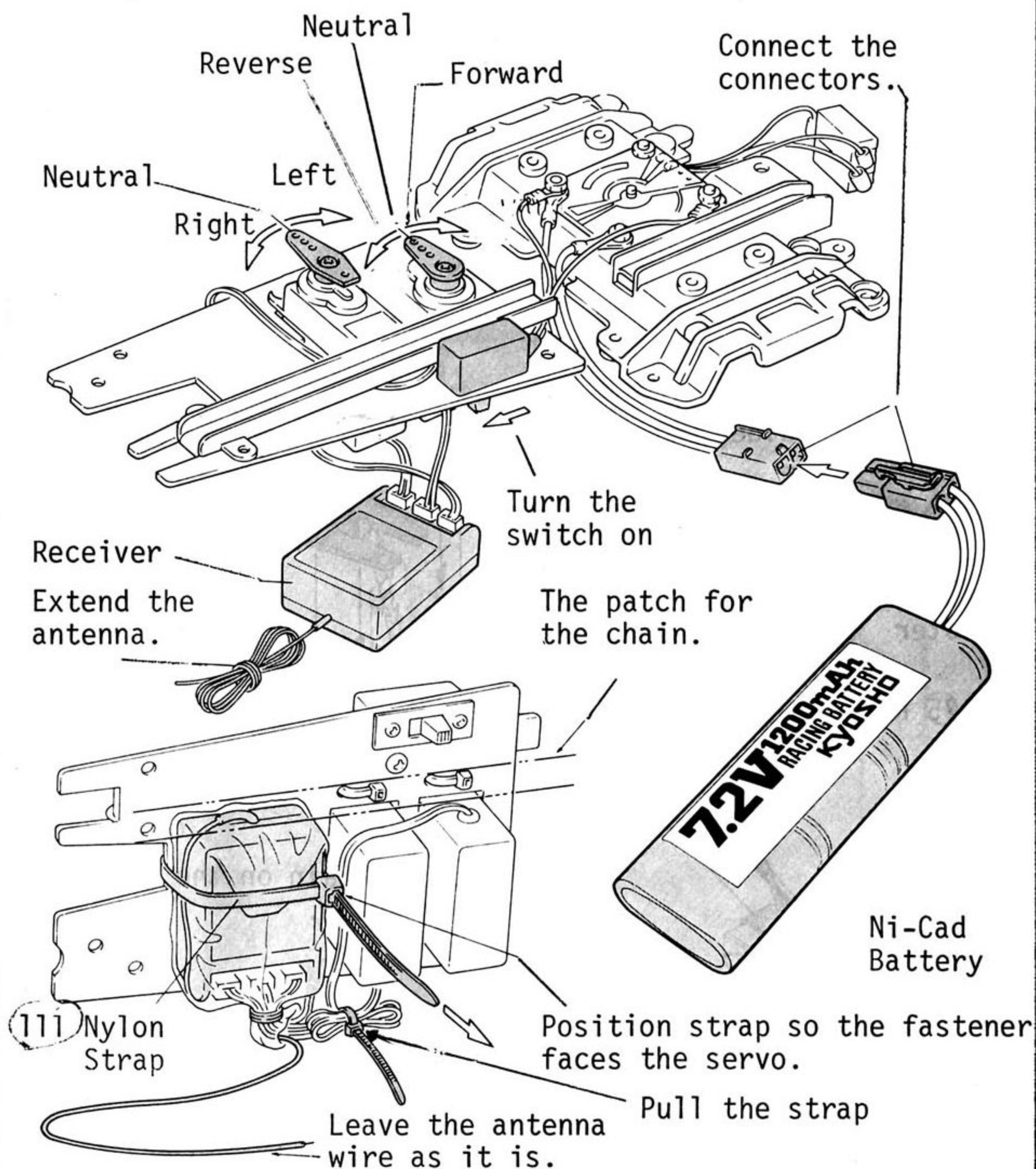
Fold up this end.

Saran Wrapping



12 TESTING RADIO OPERATION AND MOUNTING OF RECEIVER

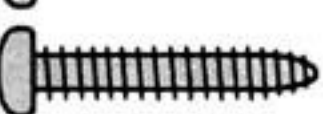
*Activate the radio control units for your radio following the steps indicated in numerical order.



Bundle up the extra electric cords with a small nylon strap 110 and keep it on this side in order not to tangled with the drive chain which passes on the other side where the switch is mounted.

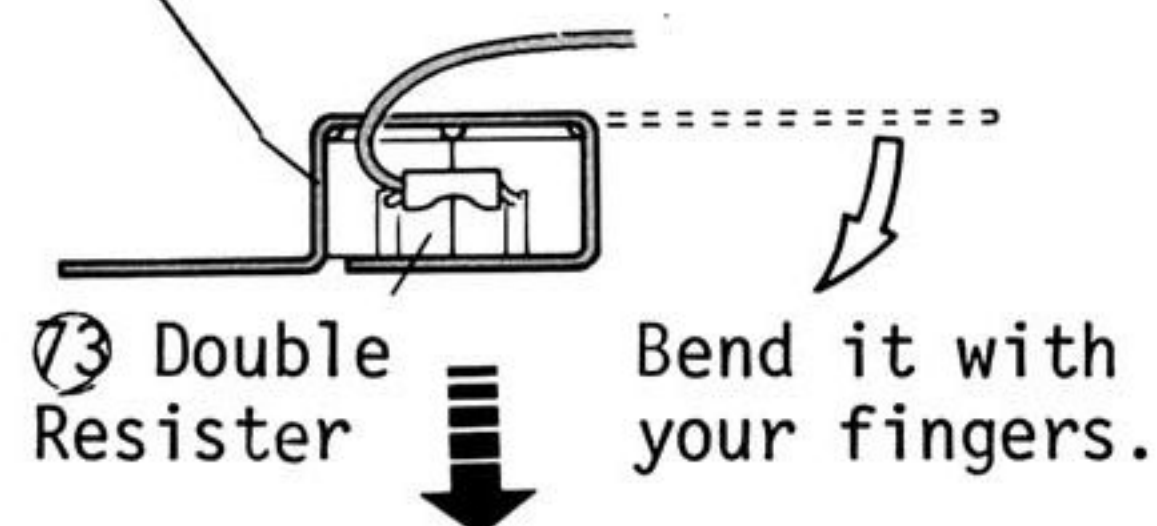
NOTE: HANDLE THE RADIO PLATE AND THE BATTERY MOUNT WITH CARE, AS THEY ARE CONNECTED WITH THIN WIRES OF THE RECEIVER SWITCH.

13 SMALL PARTS NEEDED:

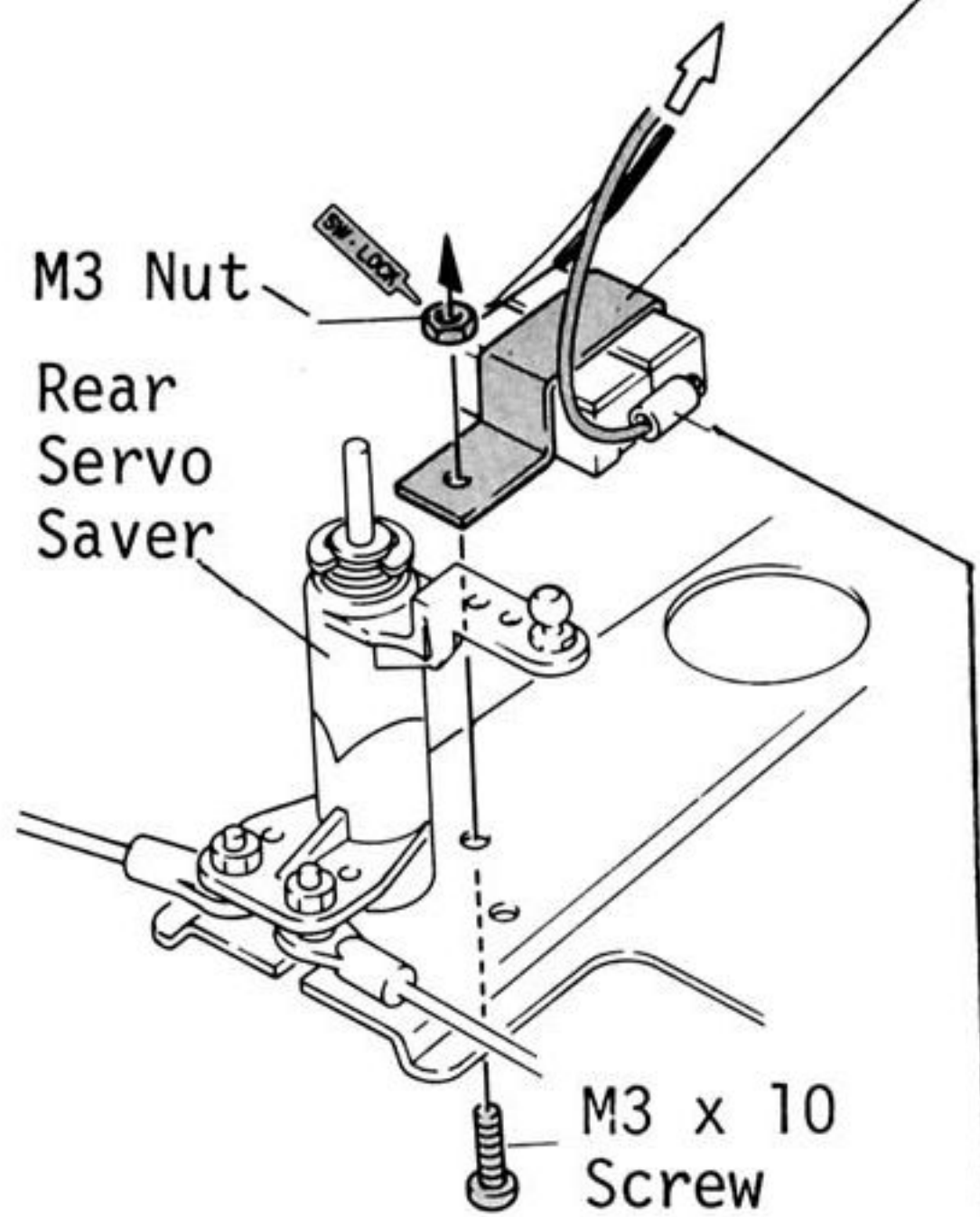
- M3 x 10 Screws (5) 
- M3 x 10 Screws (2) 
- M3 x 15 Screws (4) 
- M3 Nut (1) 

*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.

75 Resistor Holder Metal

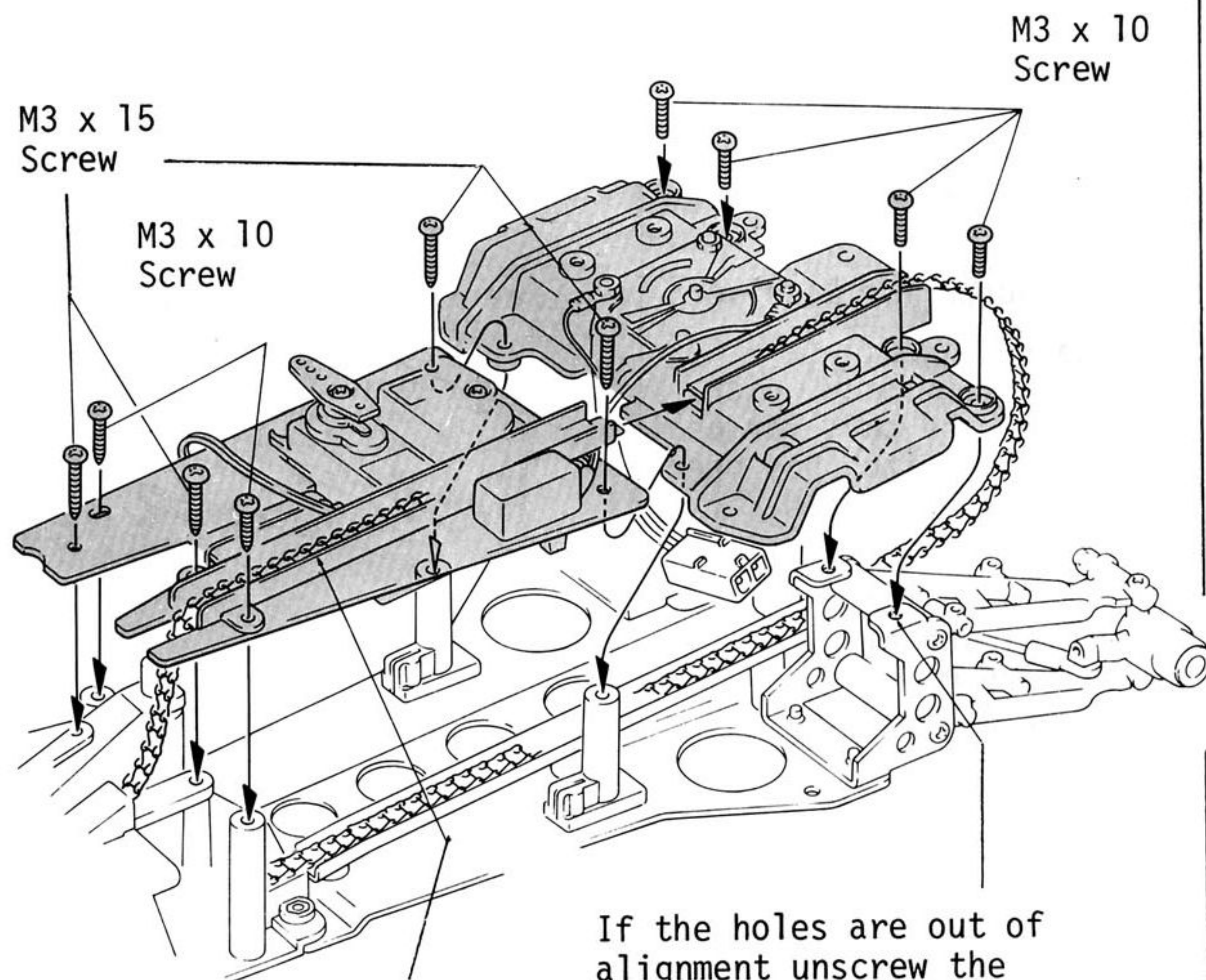


75 Resistor Holder Metal
To Controller



73 Double Resistor

13 INSTALLATION OF RADIO PLATE AND BATTERY PLATE



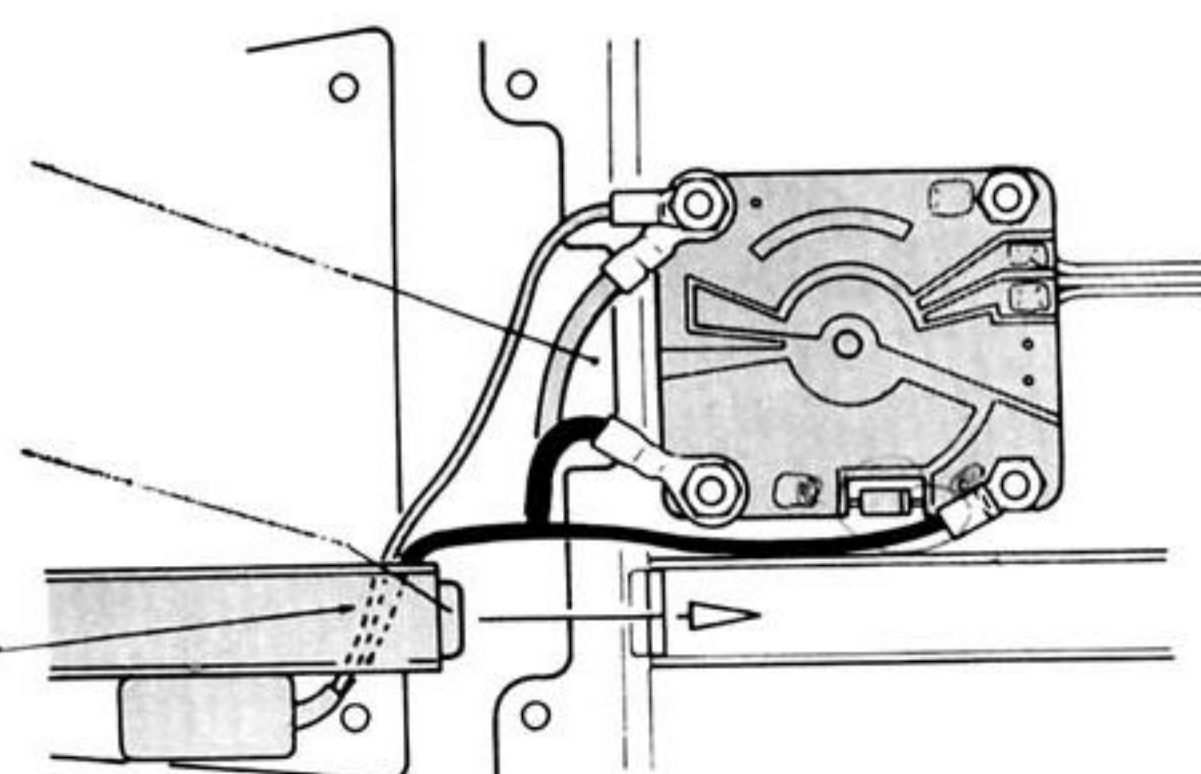
Put the chain on the chain guide.

If the holes are out of alignment unscrew the mounting screws of the rear suspension mount and slide it until they are aligned.

Arrange the connector cord through the indent on the battery Plate

Fit the claw on the chain guide into the slit on the battery plate.

Pass the switch cord under the chain guide.



14 SMALL PARTS NEEDED:

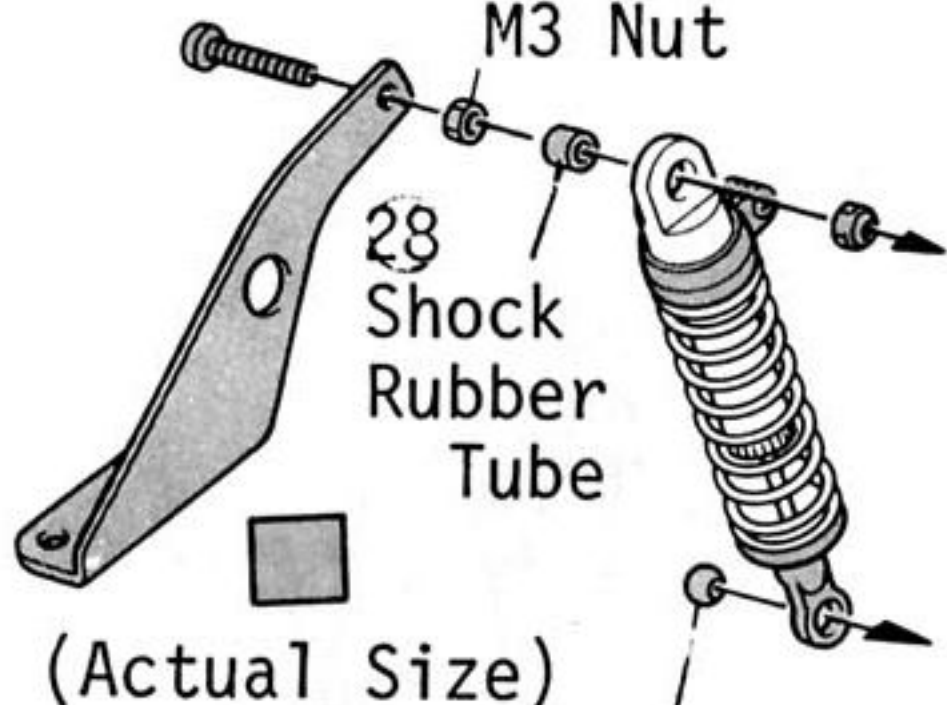
- M3 x 10 Screws (2) 
- M3 x 15 Screws (2) 
- M3 x 15 Screws (2) 
- M3 x 15 Screws (2) 

M3 Nuts (4) 

M3 Nylon Nuts (2) 

25 Rear Shock Balls (Gold) (2) 

M3 x 15 Screw
M3 Nut

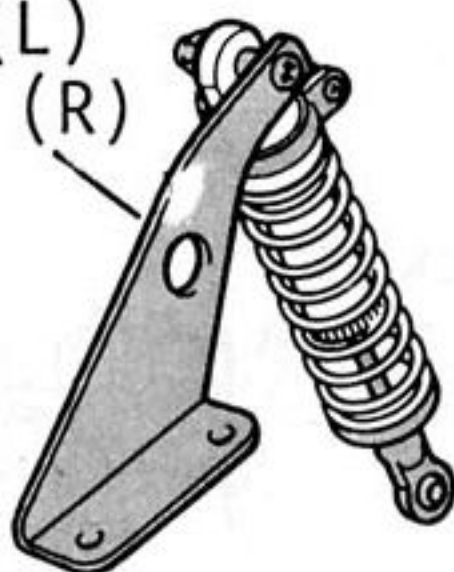


(Actual Size)

25 Rear Shock Ball

27 Shock Arm (L)

26 Shock Arm (R)

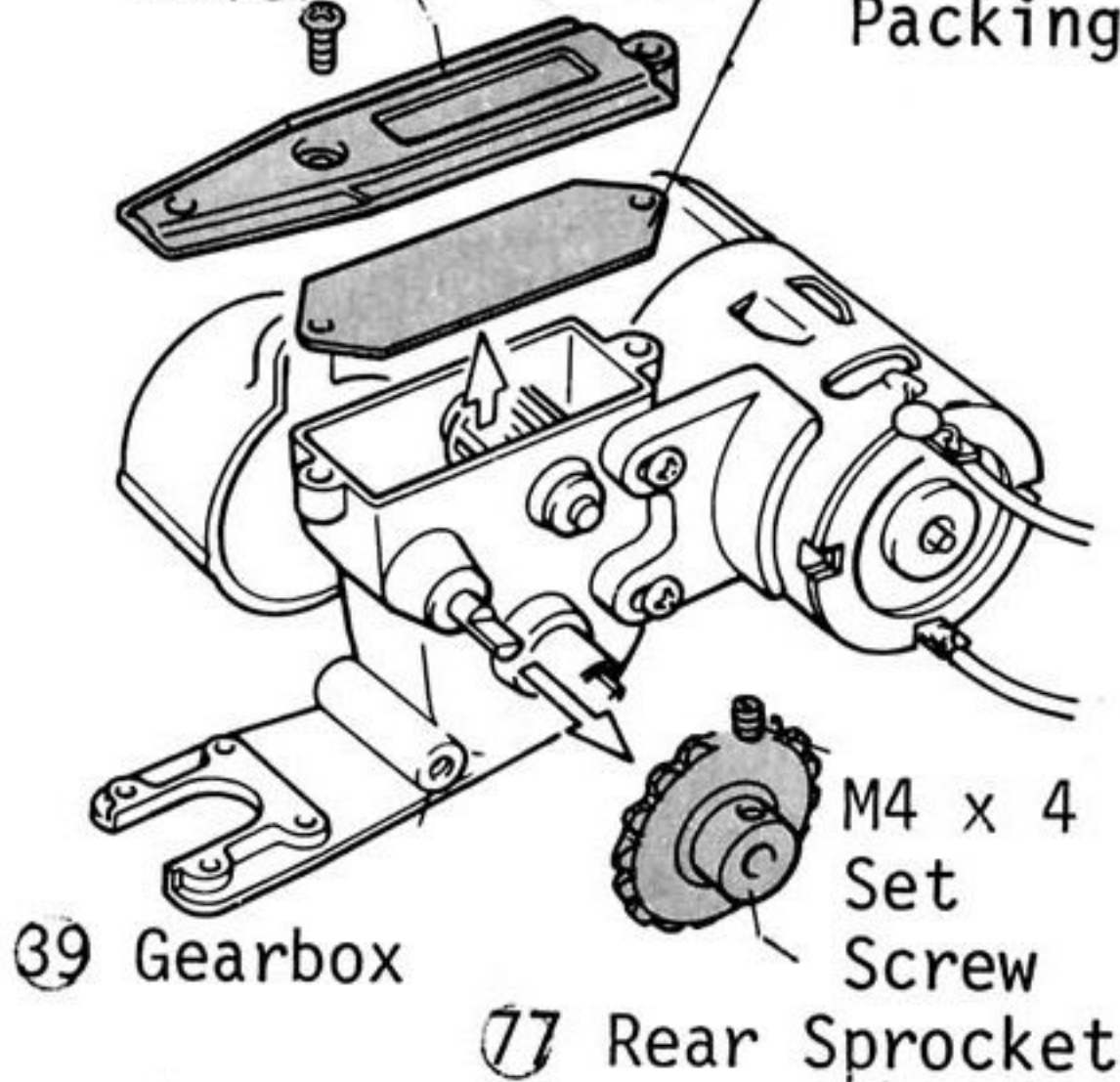


15 SMALL PARTS NEEDED:

M3 x 10 Screws (4) 

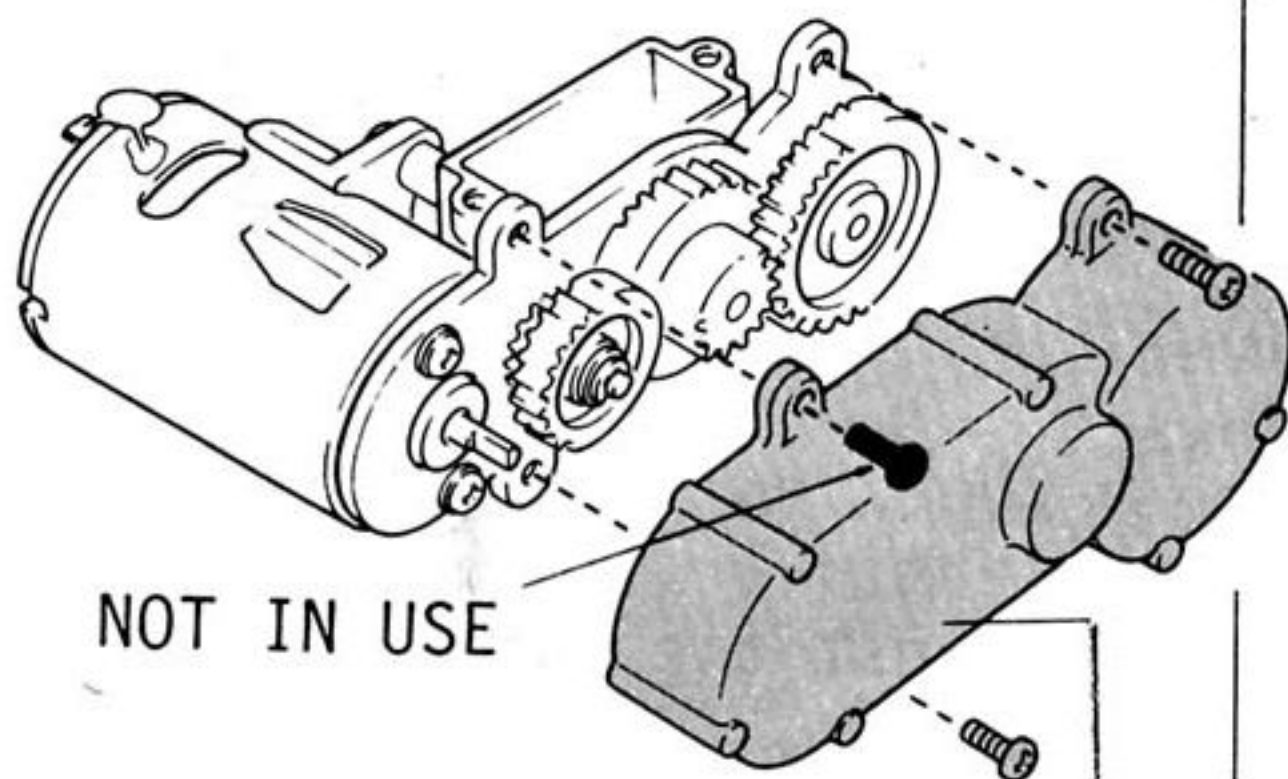
*Detach the following parts from the factory assembled

46 Gearbox Cover
M3 x 6 Screw
41 Gearbox Packing



39 Gearbox

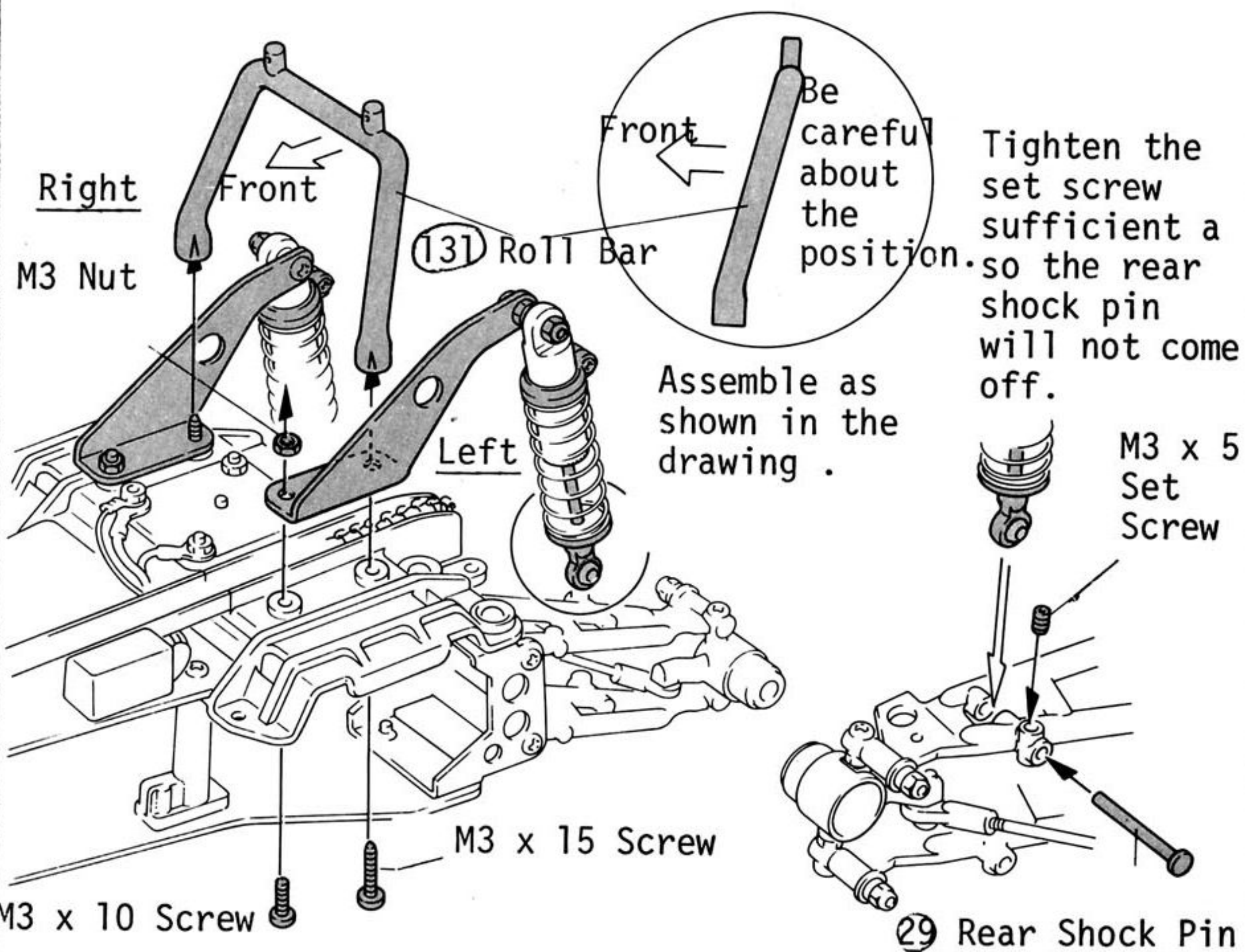
77 Rear Sprocket



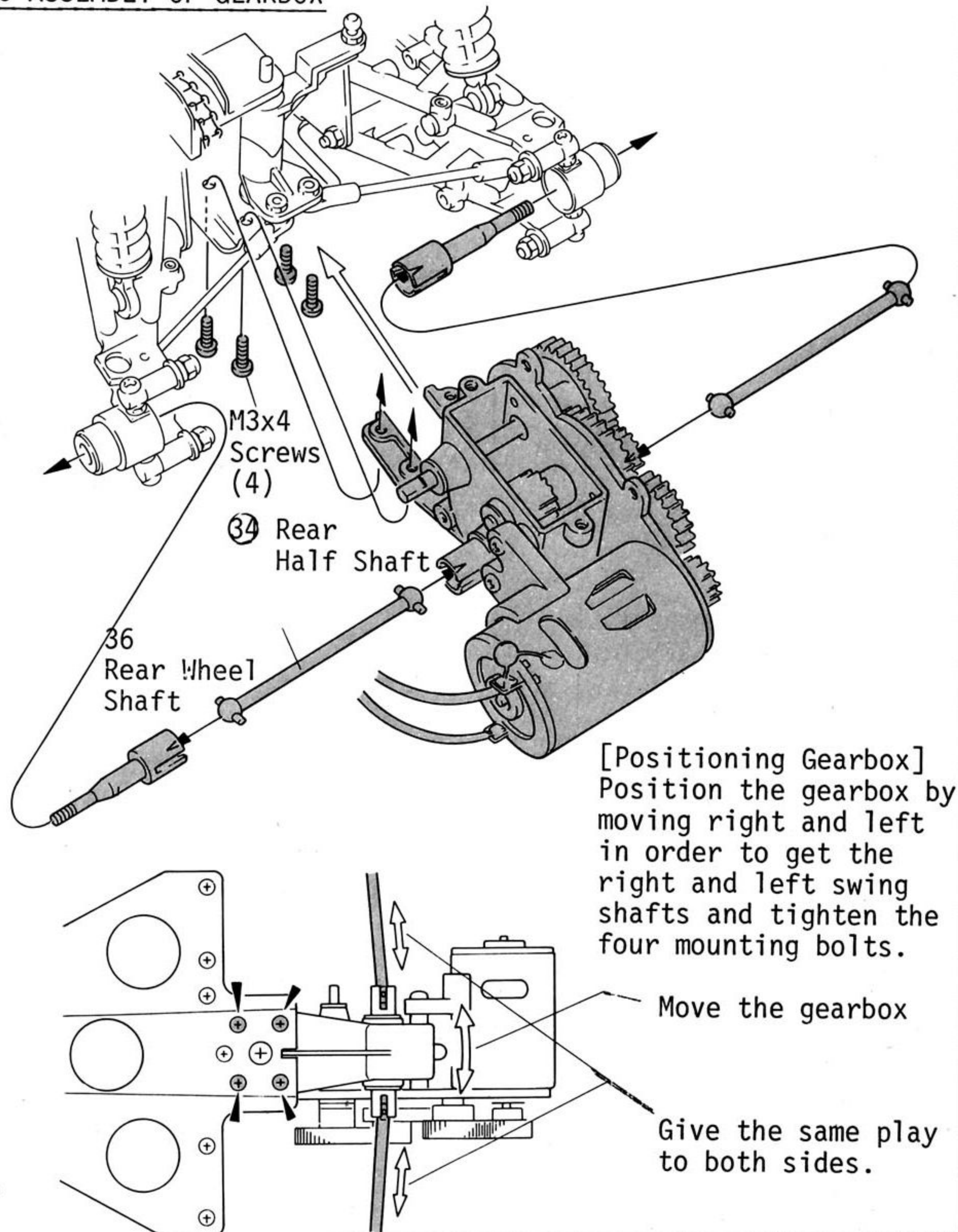
NOT IN USE

127 Side Gear Cover

14 INSTALLATION OF ROLL BAR AND REAR SHOCK



15 ASSEMBLY OF GEARBOX



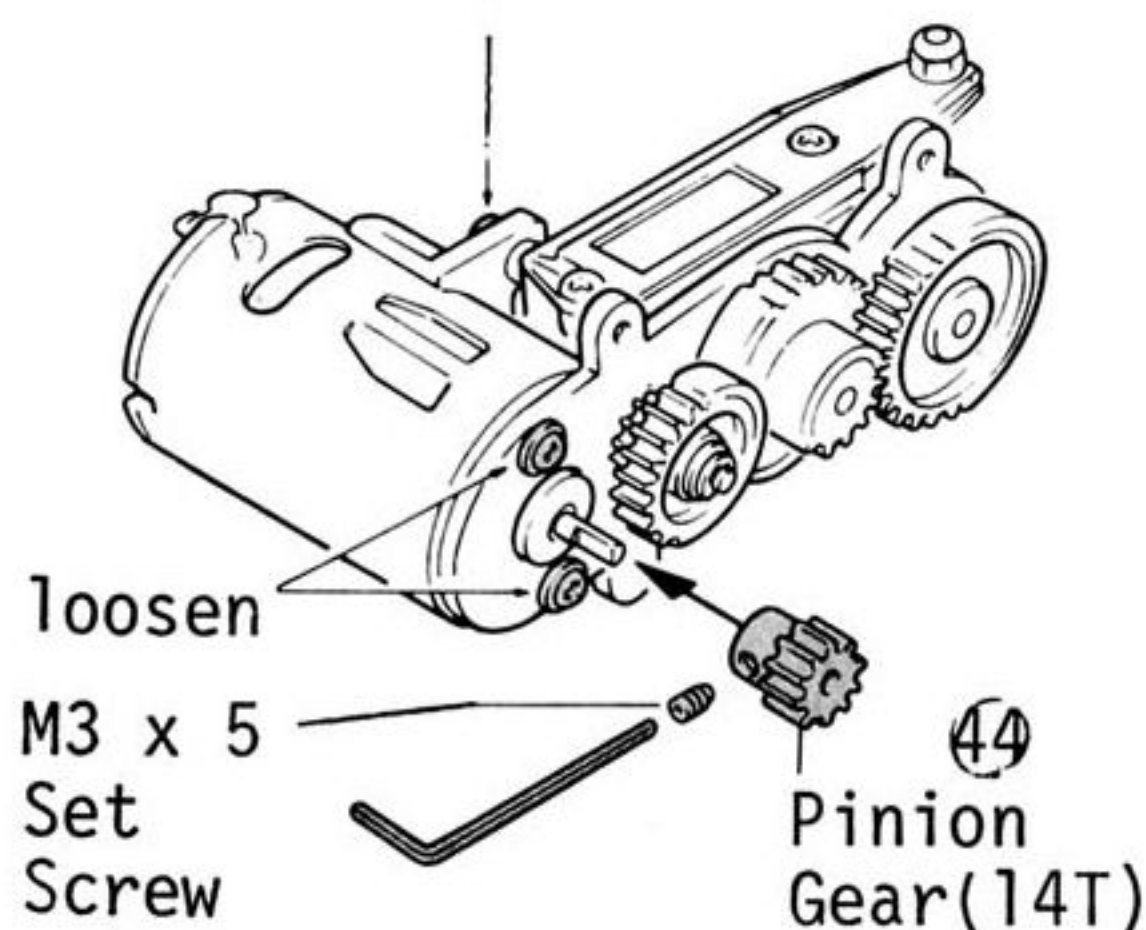
16 SMALL PARTS NEEDED:

M3 x 5 Set Screw (1)

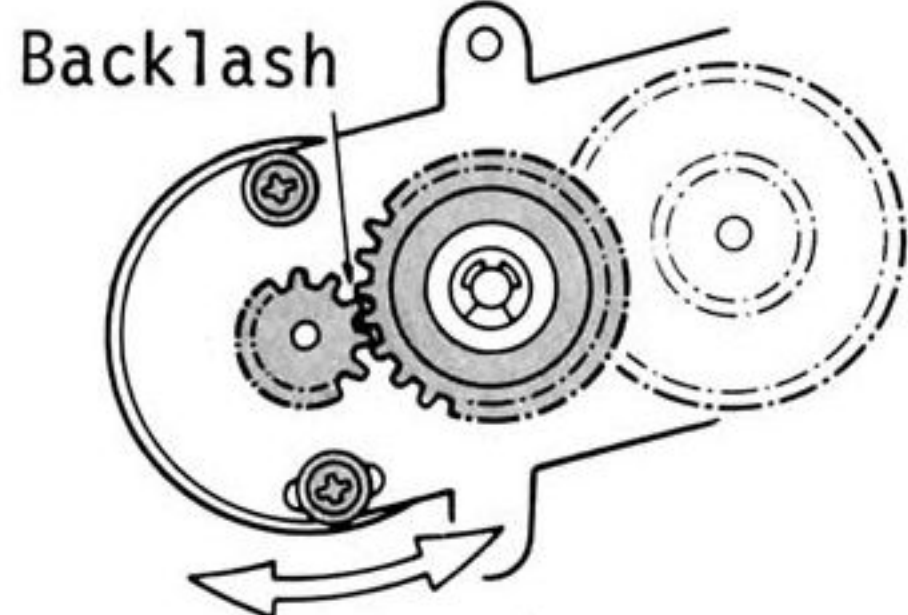
M4 Nylon Nut (1)

*Fix the low-speed pinion gear 44 during a break in period to allow the moving parts to wear in with each other and to seat themselves.

Loosen the screws on the motor guide, too.



*Adjust the backlash (play between the gear teeth) by sliding the motor back and forth. Having gained the correct position, fix the motor with the installing screws and with those on the side of motor guide. Then put back the side cover which has been removed on Step 15.



17 SMALL PARTS NEEDED:

⑨ Pivot Ball (1) M3 Nut (1)

70 Silver Contacts (2) M3 Nuts (2) (Gold)

72 Contact Holders (2)

68 Speed Controller Spring (1)

67 Speed Controller Nut (1)

66 Speed Controller Pivot (1)

69 Speed Controller Stud

16 INSTALLATION OF PINION GEAR AND SPROCKET

M4 Nylon Nut

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

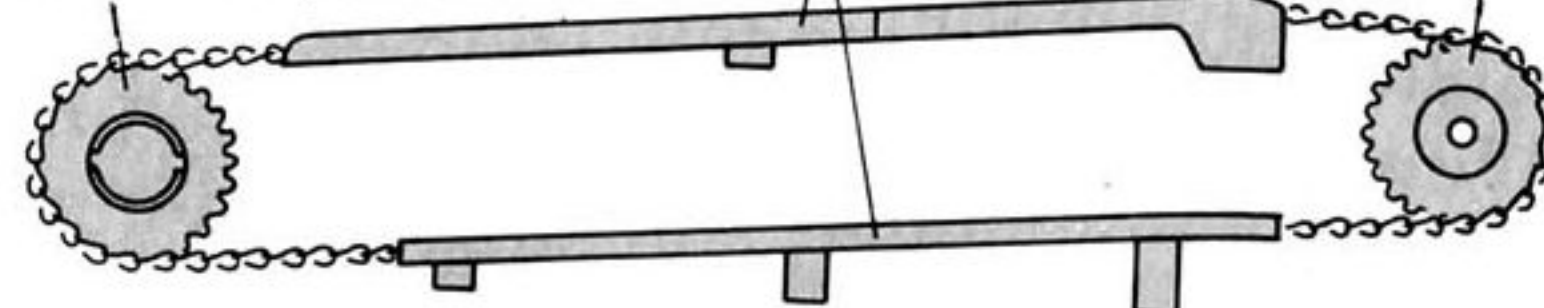
These are the screws remove in step 15.
M4 x 4 Screw

These are the screws remove in step 16.

77 Rear Sprocket

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

Front Sprocket



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

17 INSTALLATION OF SPEED CONTROLLER HORN

⑨ Pivot Ball

67 Speed Controller Nut

65 Speed Controller Horn

M3 Nut

3. - Driver

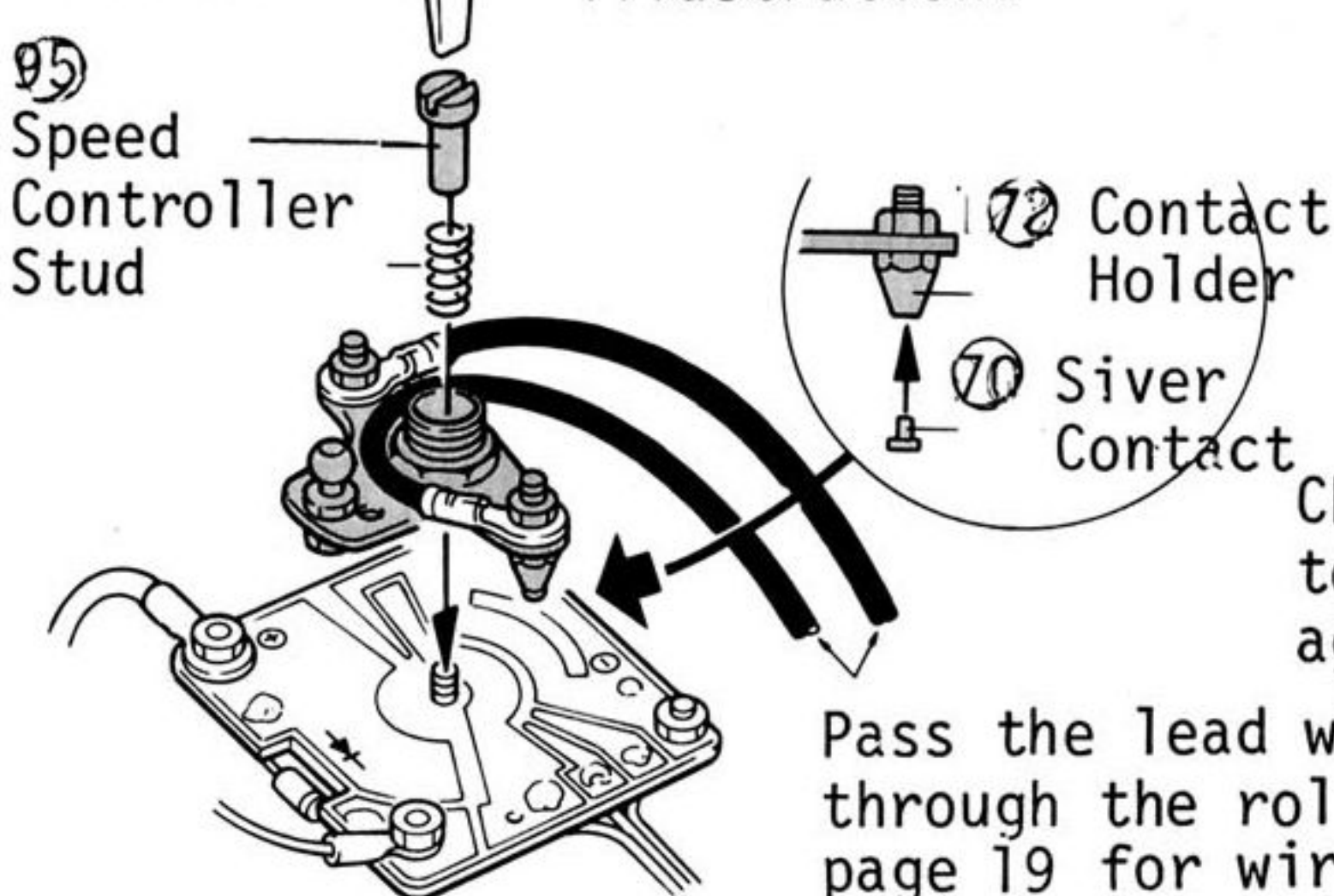
65 Speed Controller Stud

66 Speed Controller Pivot

69 Speed Controller Stud

67 Speed Controller Nut

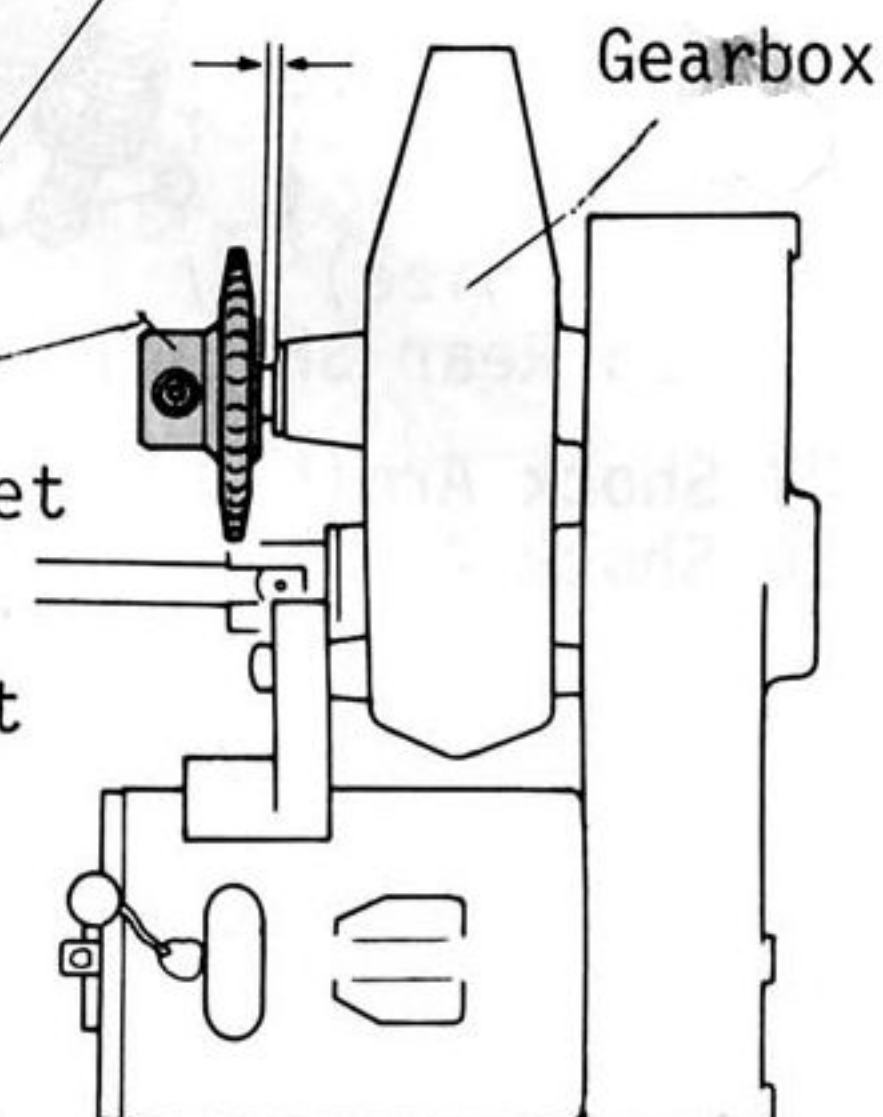
The silver contact may easily come out of position, fit them into the holders as indicated in the illustration.



There are the screws removed in a step 15.
M3 x 6 Screw

POUR 2 OR 3 CC OF THE SHOCK OIL. Check sometimes the amount of oil, and replenish it if necessary. When the oil has become dirty, change all amount of oil with fresh one.

Leave 0.5mm clearance



M3 Nut (Gold)

2.

72 Contact Holder

66 Speed Controller Pivot

Black

To the motor

76 Motor lead Wire (Red)

70 Silver Contact

72 Contact Holder

70 Silver Contact

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

Pass the lead wires to the motor through the roll bar. (Refer to 22 on page 19 for wiring.)

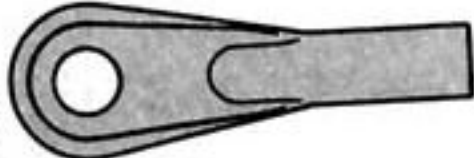
72 Contact Holder

70 Silver Contact

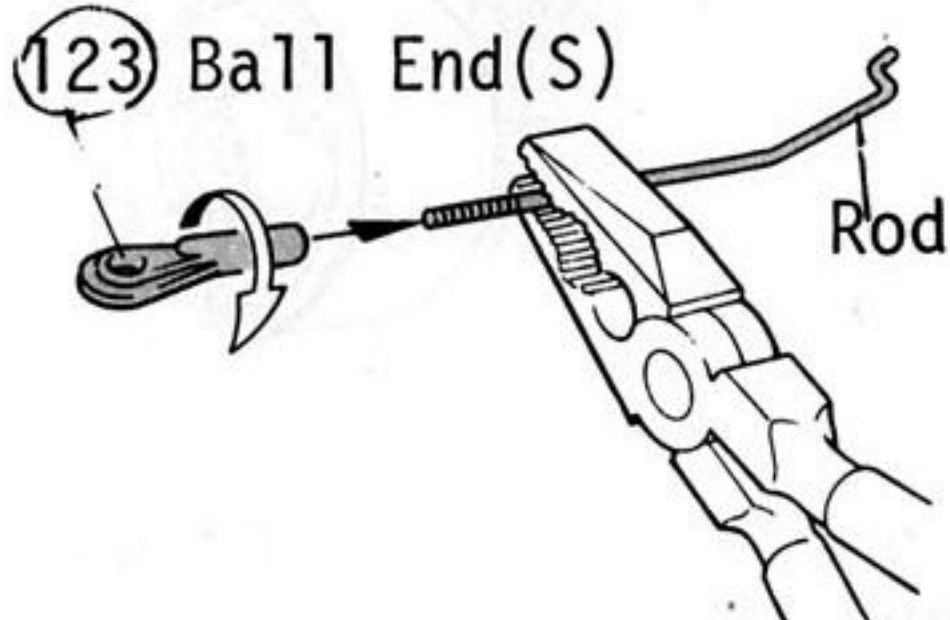
72 Contact Holder

70 Silver Contact

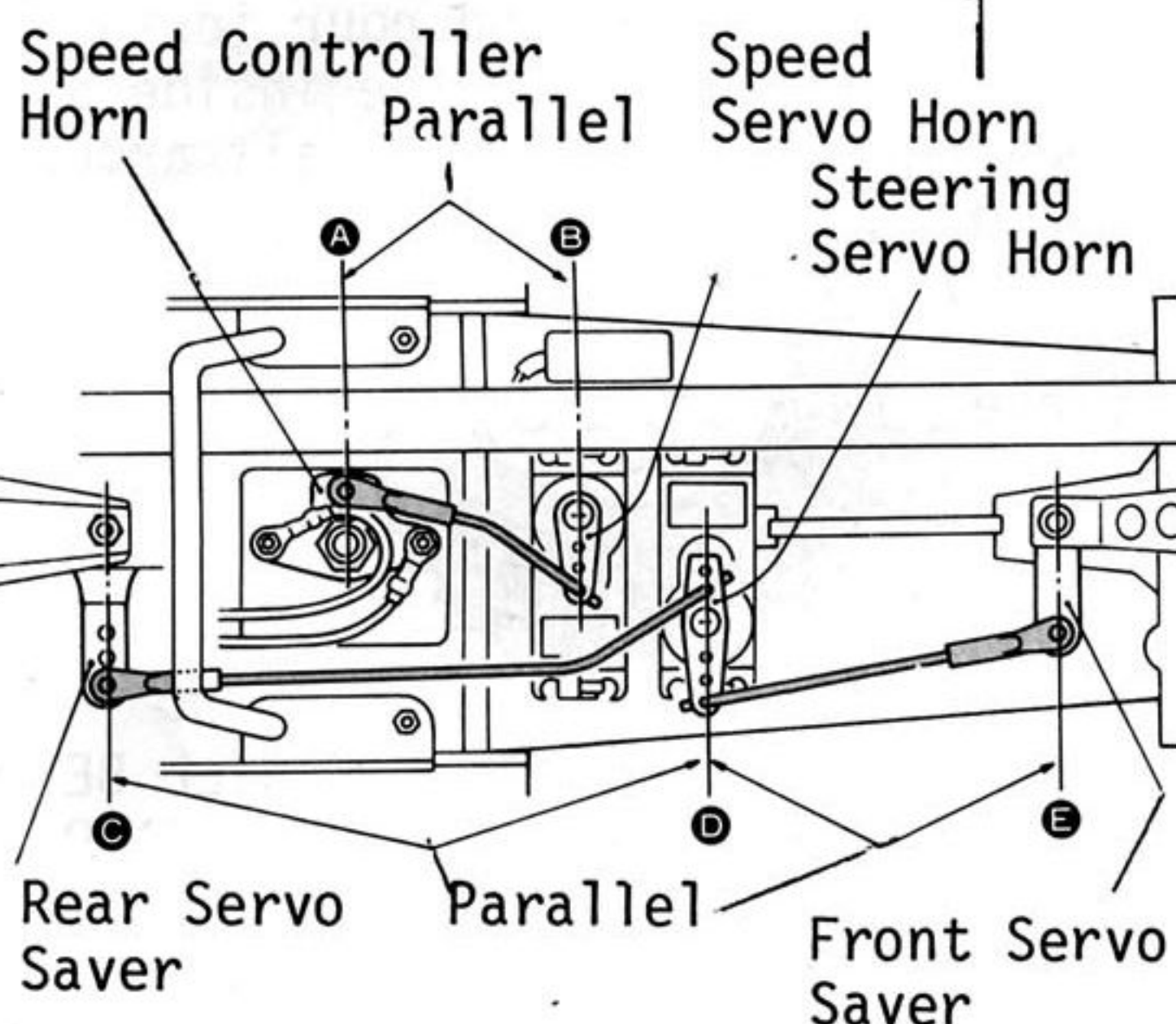
18 SMALL PARTS NEEDED:

- (123) Ball End (Small) (3) 

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

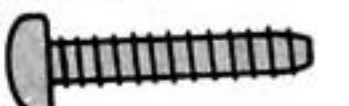
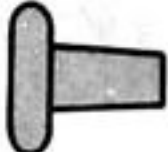
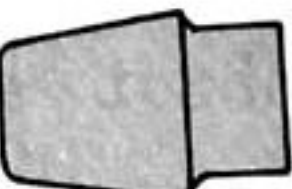


Regulate the ball end in such a way that the speed controller horn and the servo horn will become parallel with each other.

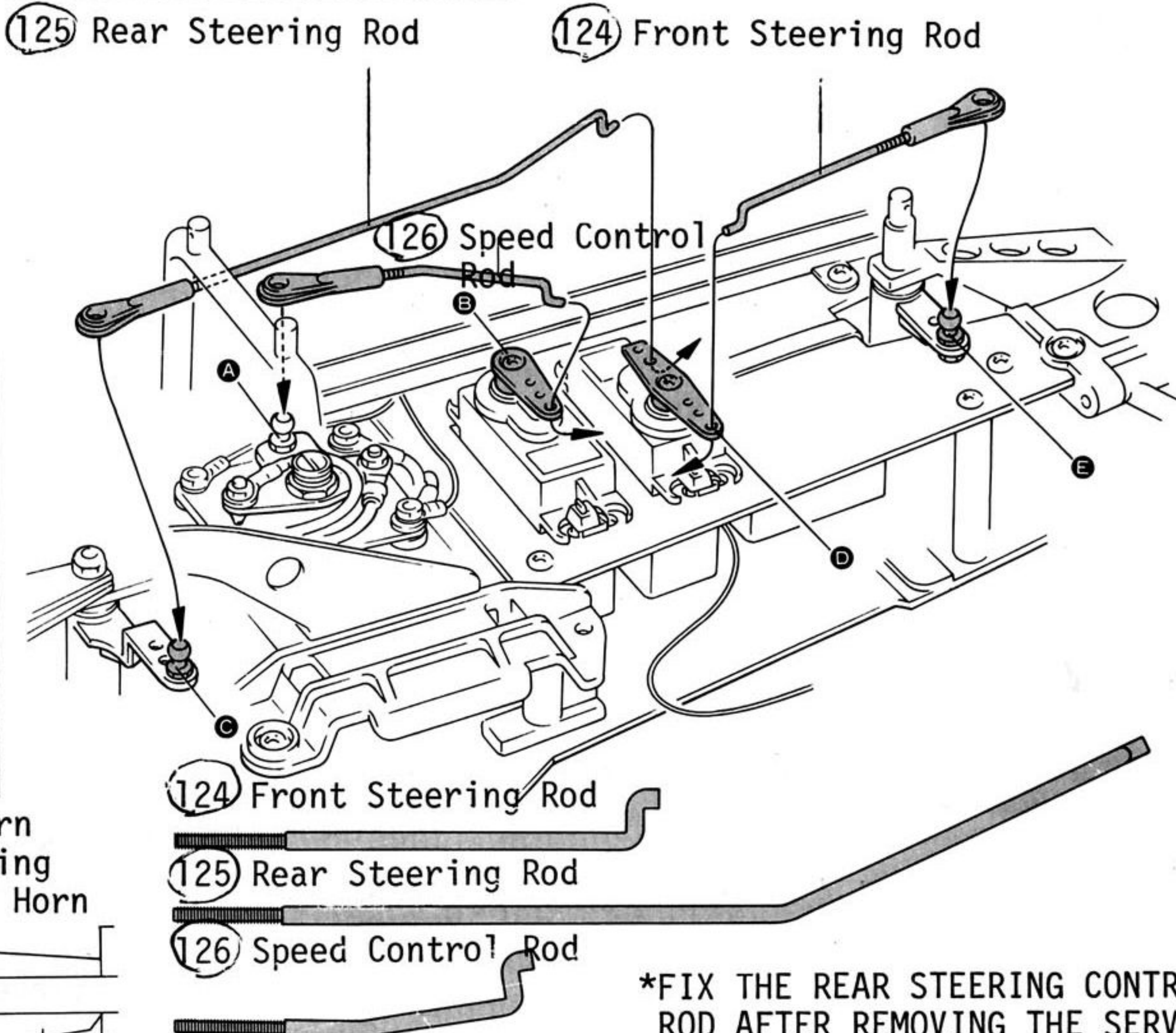


*Adjust the ball ends so that the steering servo horn and the front and rear servo savers are parallel with each other.

19 SMALL PARTS NEEDED:

- M3 x 14 Screw (1) 
(7) Lug Terminal (1) 
(143) Antenna Top (1) 
(144) Antenna Base (1) 

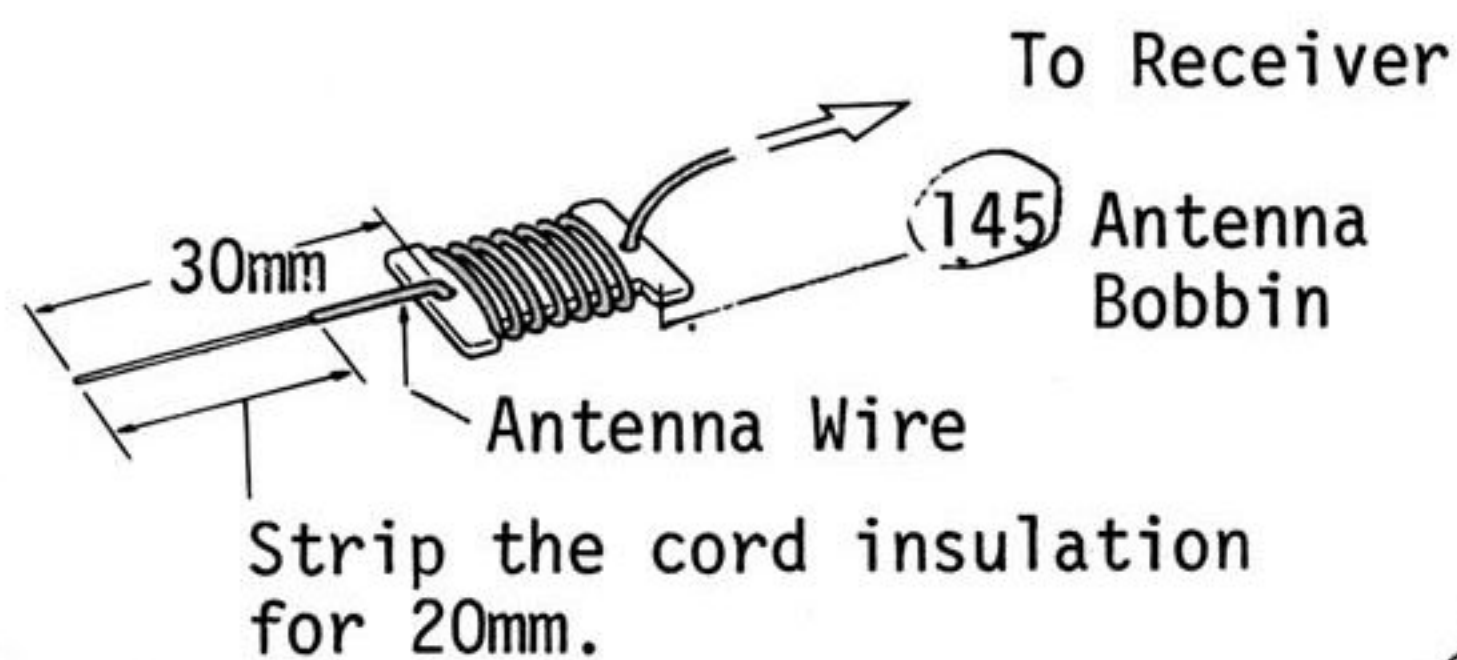
18 LINKAGE OF CONTROL RODS



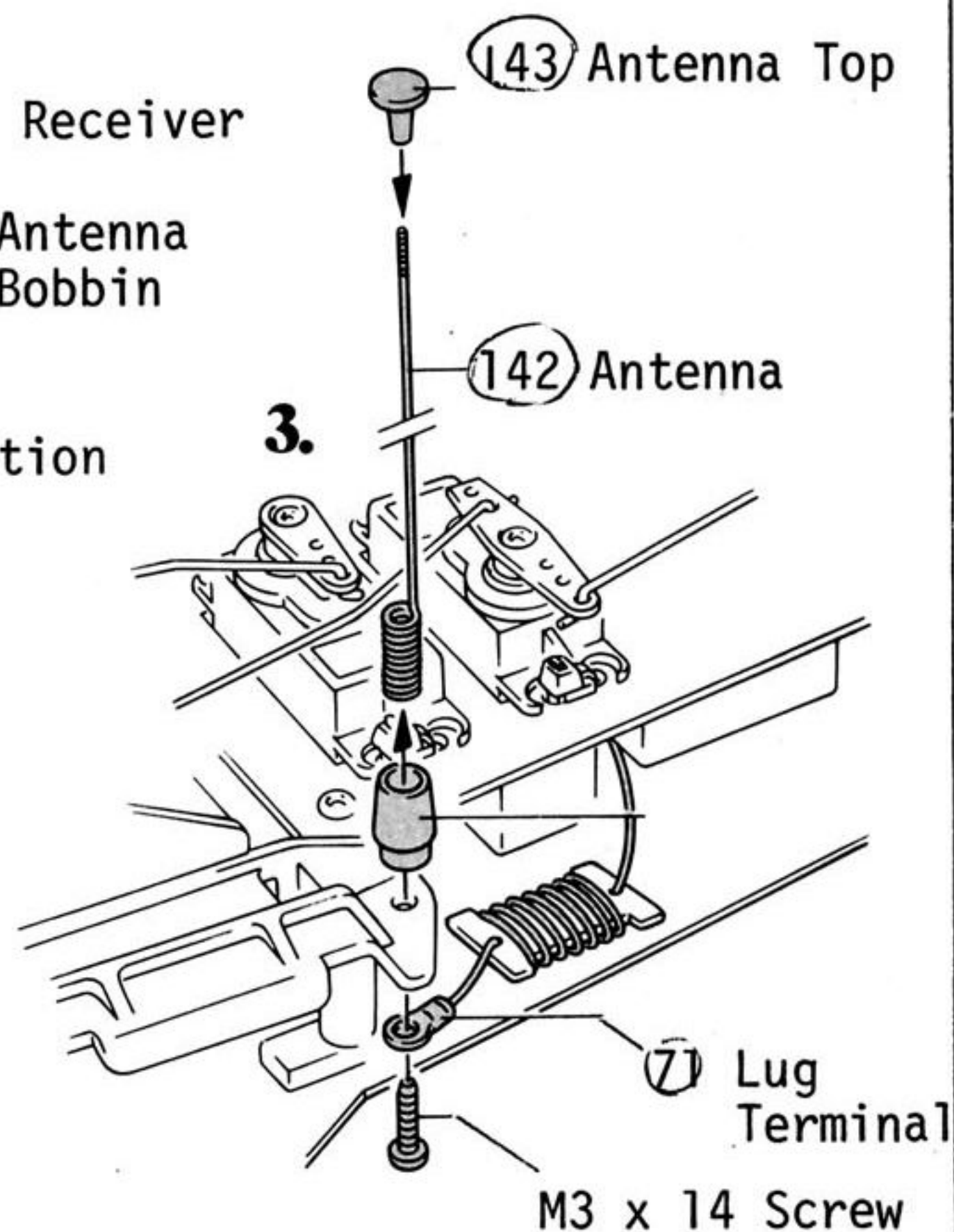
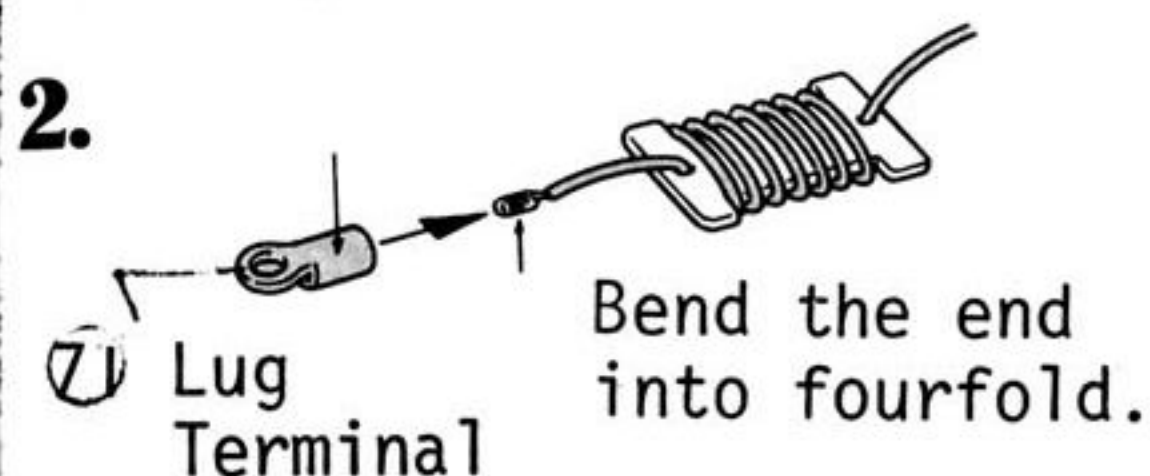
*FIX THE REAR STEERING CONTROL ROD AFTER REMOVING THE SERVO HORN.

19 INSTALLATION OF ANTENNA

1. Wind the antenna wire on a bobbin with one end extend for 30 mm long.

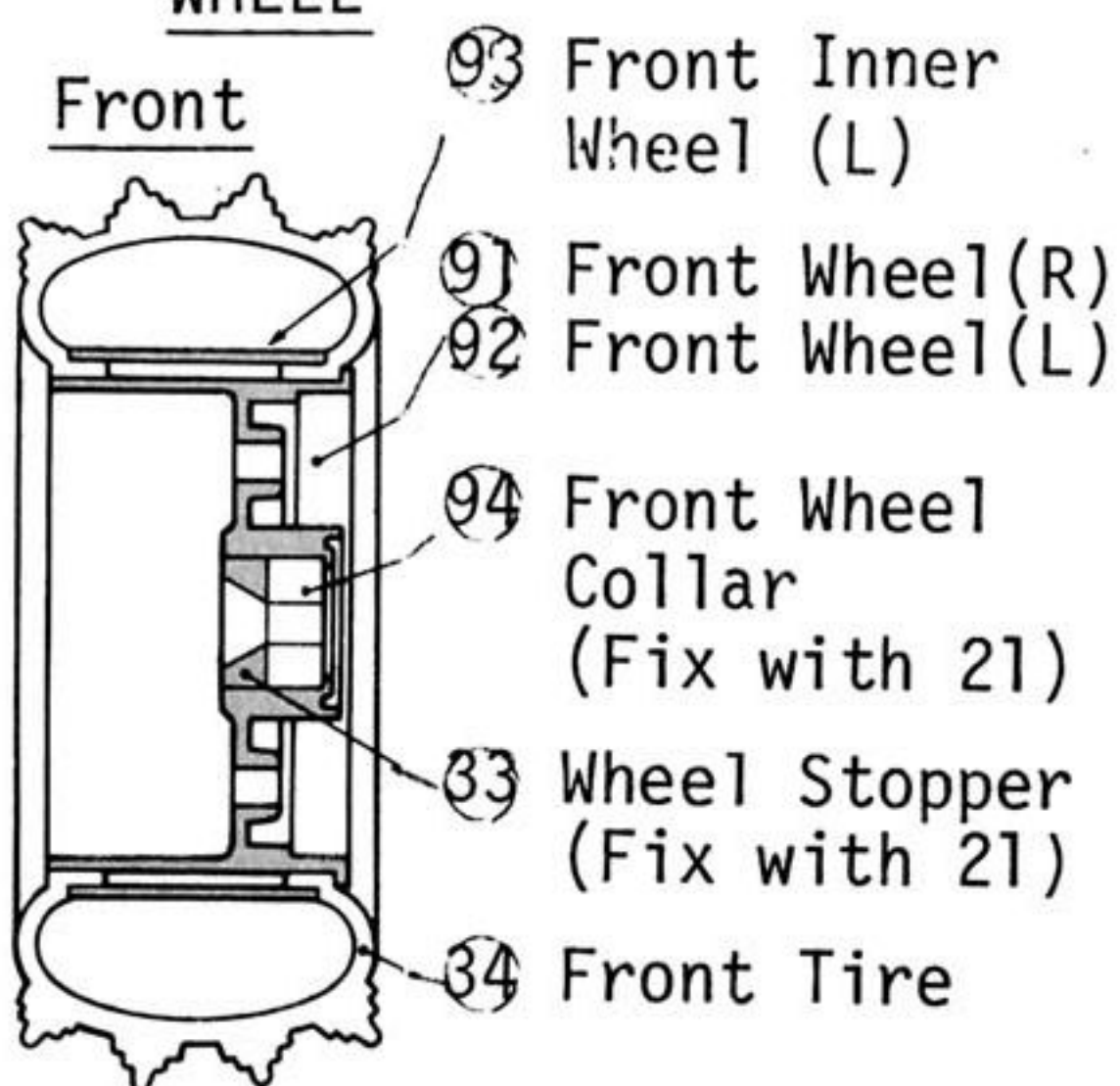


Crimp it as you did in Step 10.

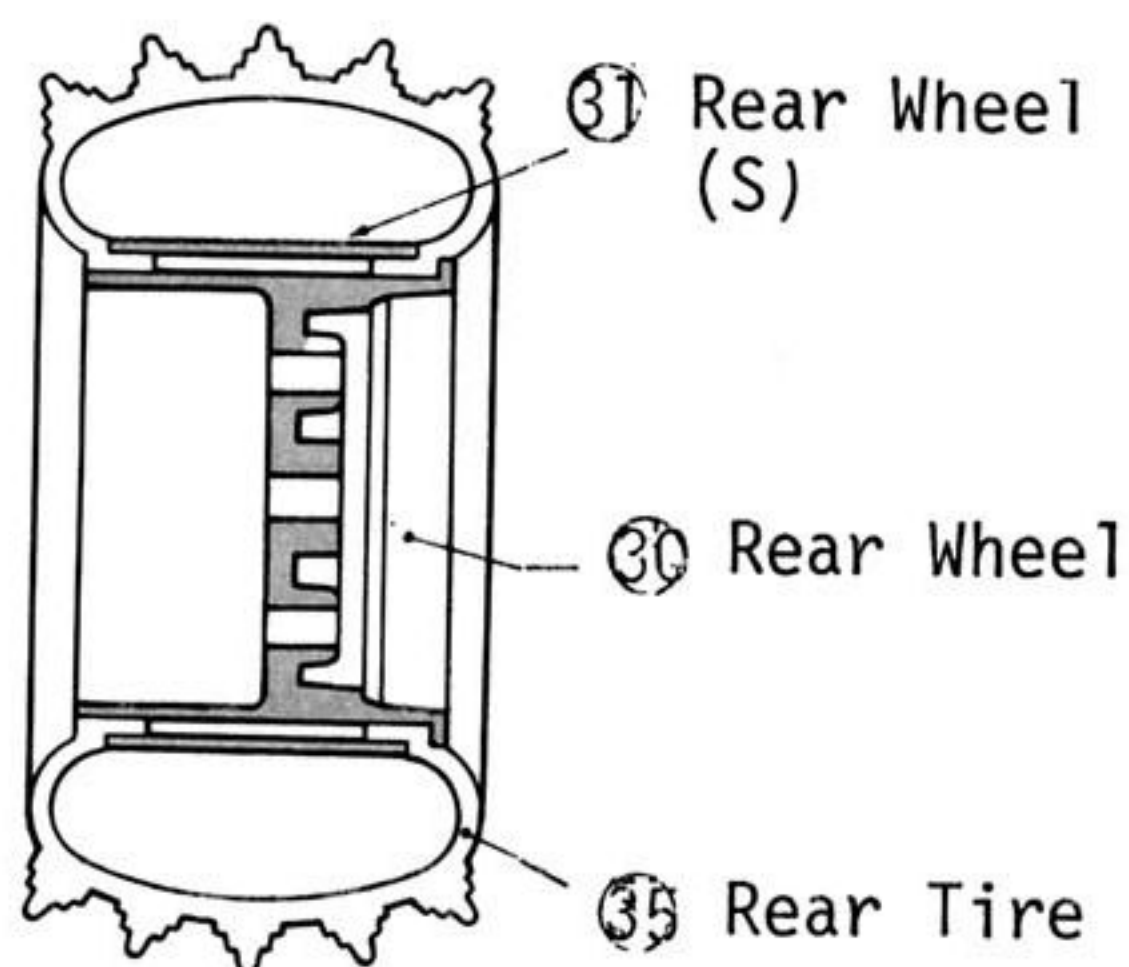


20 CUTWAY VIEW OF TIRE AND WHEEL

Front



Rear

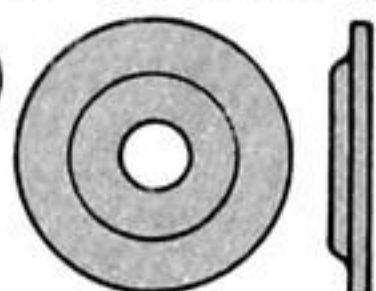


21 SMALL PARTS NEEDED:

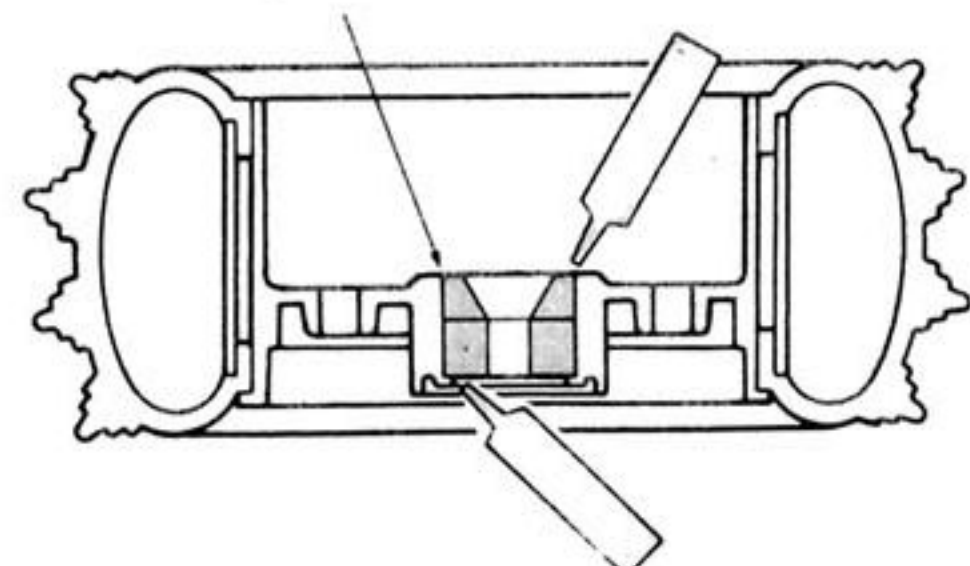
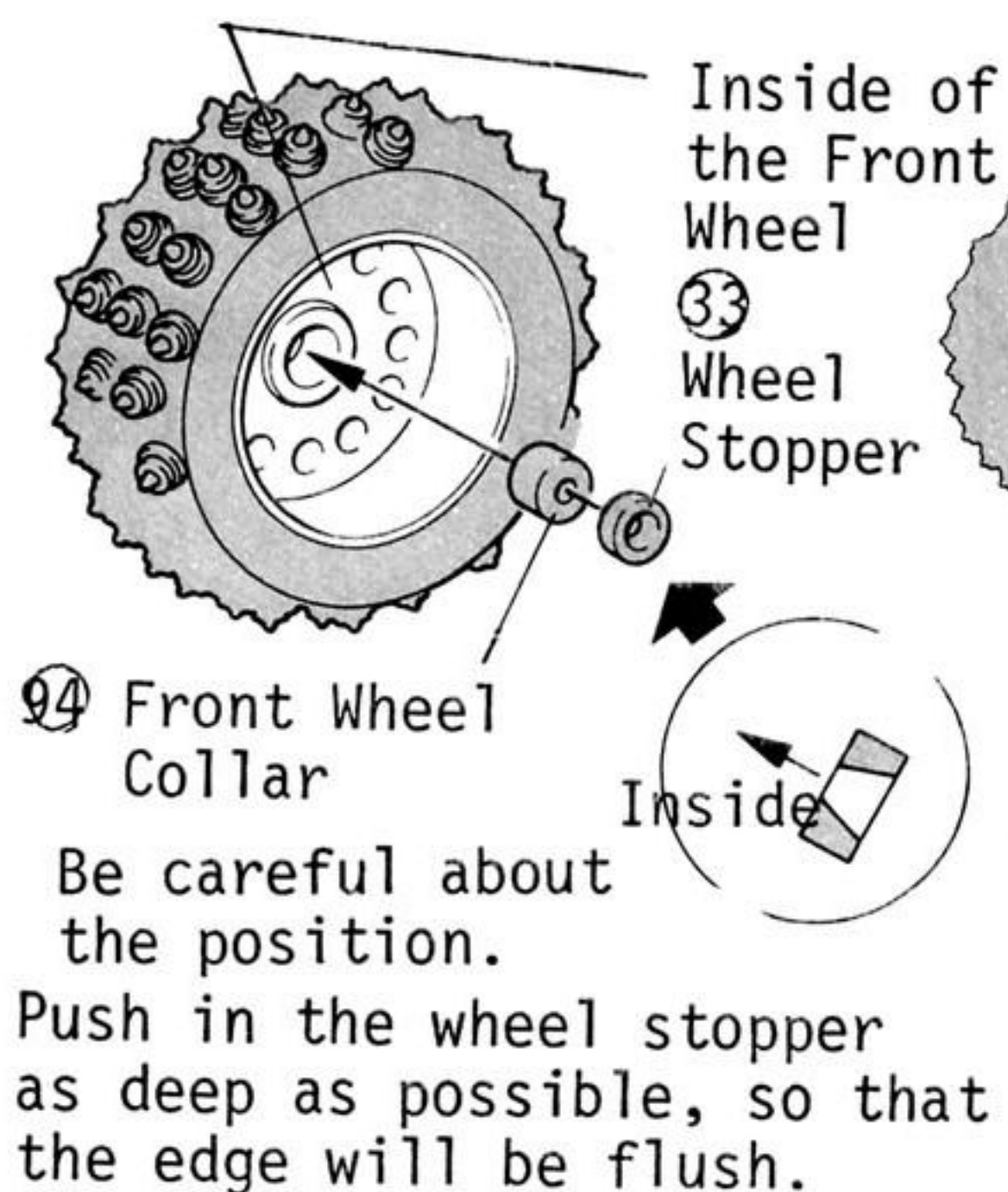


M4 Nylon Nuts(4) M4 Washer(2)

32 Wheel Washer(2)

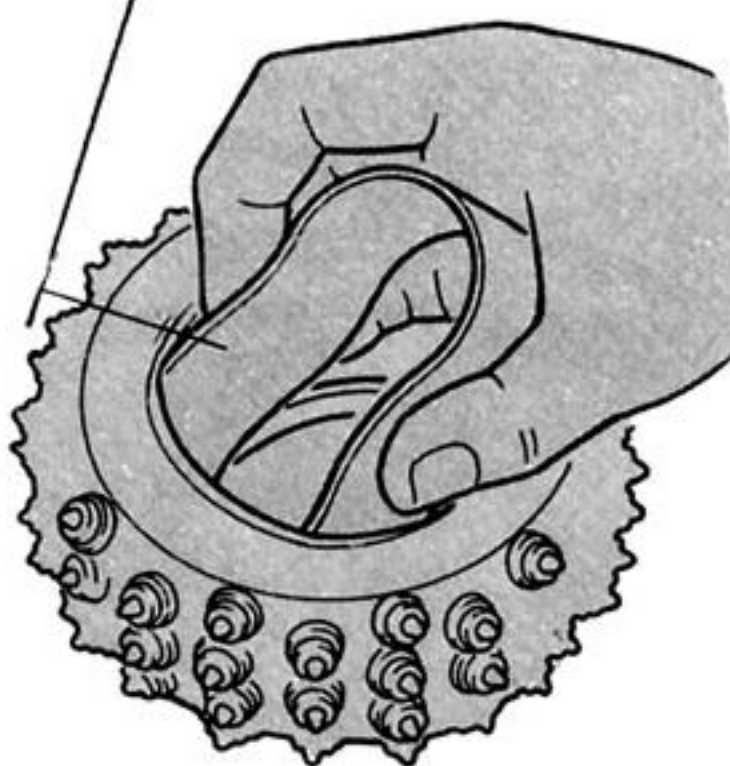


*Insert the parts indicated below into the front wheel

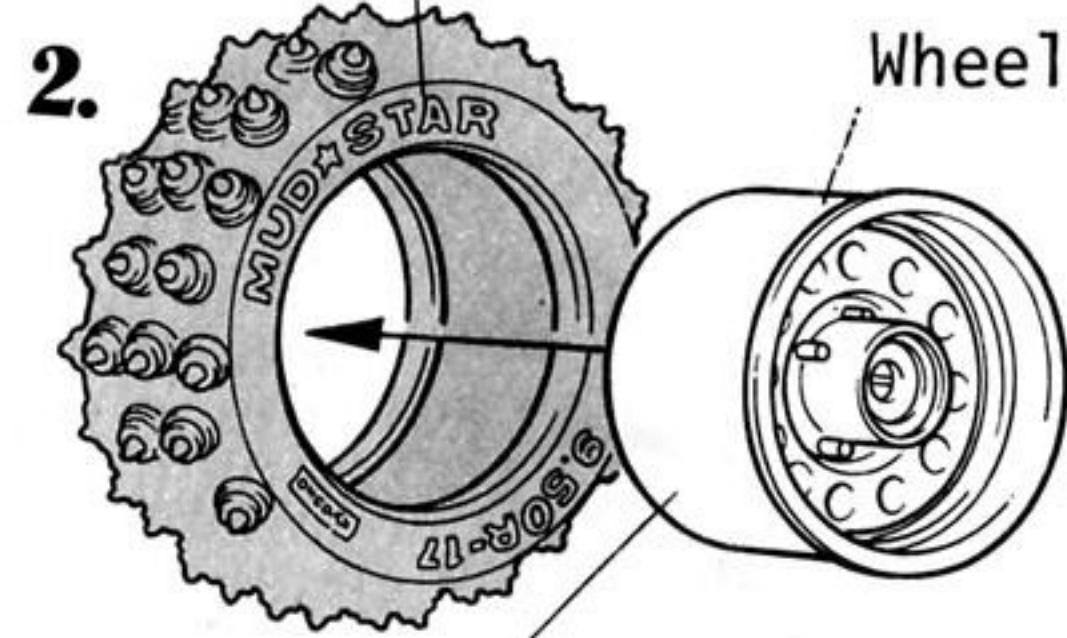


20 ASSEMBLY OF TIRE

1. Install inner tire by squeezing it.

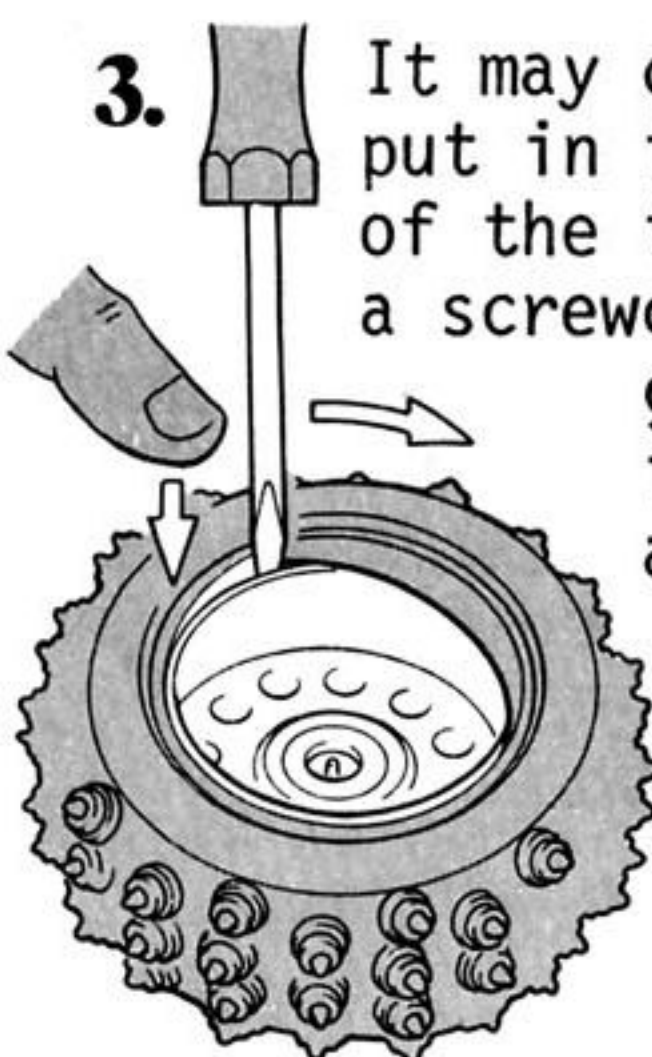


Have the side with the inscription facing outward.



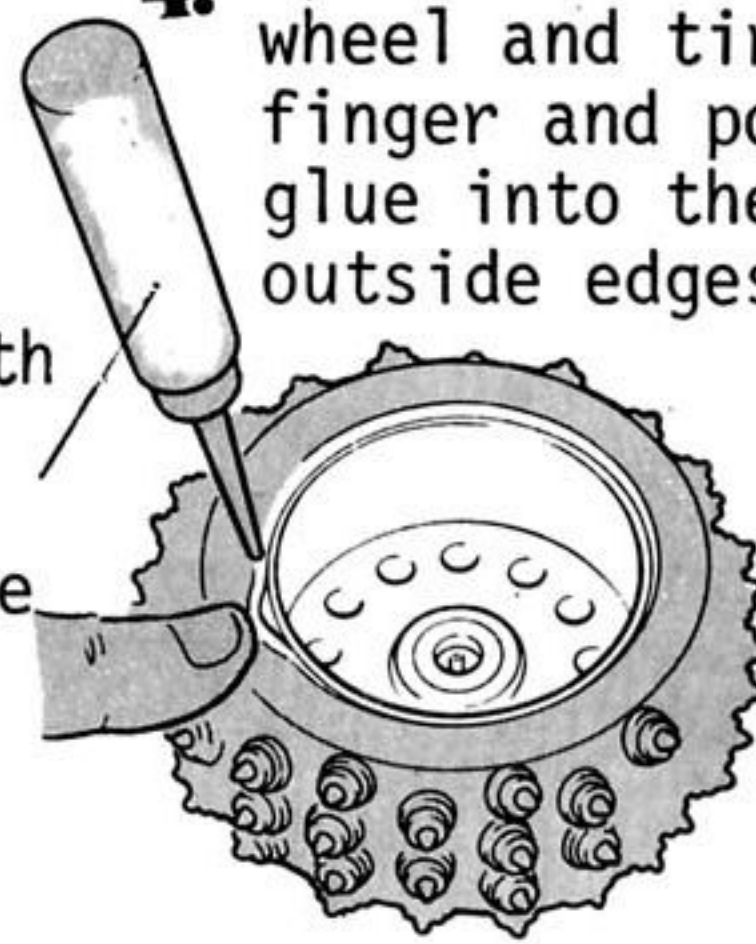
Apply a little amount of water or soapy water onto the wheel for an easier fitting.

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



Cyanoacrylate Adhesive

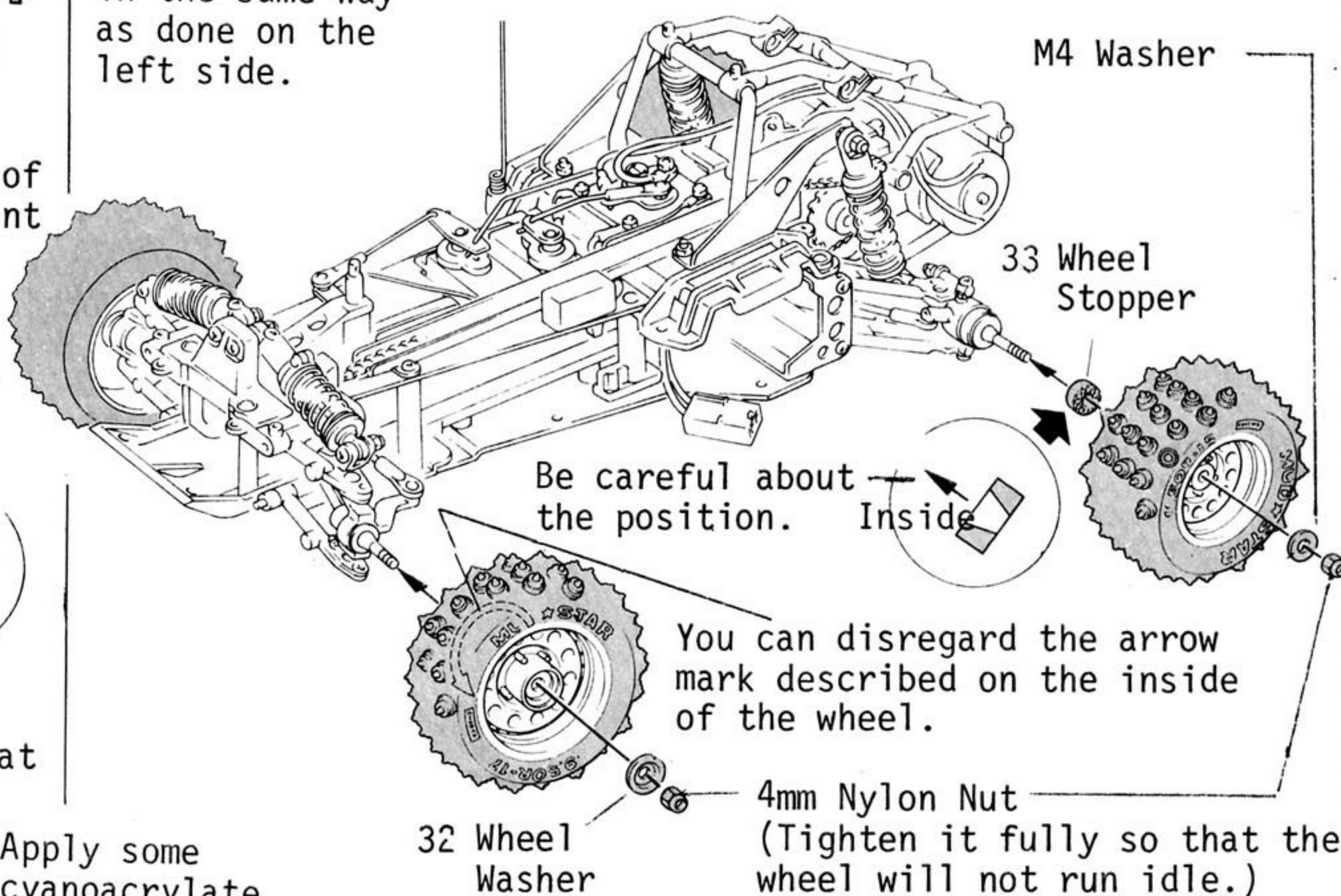
4. Open the seam between the wheel and tire with a finger and pour instant glue into the inside and outside edges-all around.



NOTE: IF THE TIRE IS GLUED IN A DISTORTED STATE, IF WILL BE DIFFICULT TO REGAIN THE ORIGINAL SHAPE. SO TRY NOT TO DISTORT THE TIRE WHEN GLUING.

21 INSTALLATION OF WHEEL

Install this side in the same way as done on the left side.

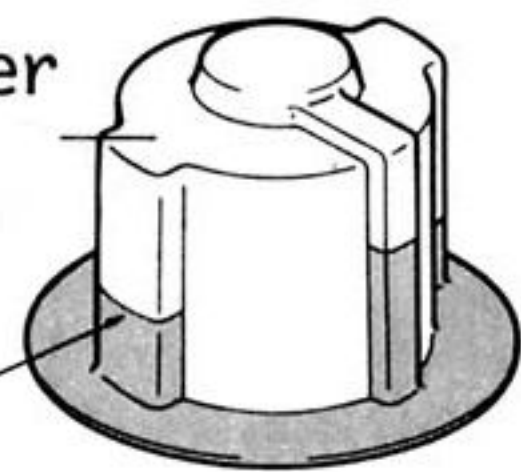


Apply some cyanoacrylate adhesive in order to avoid the parts slipping.

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

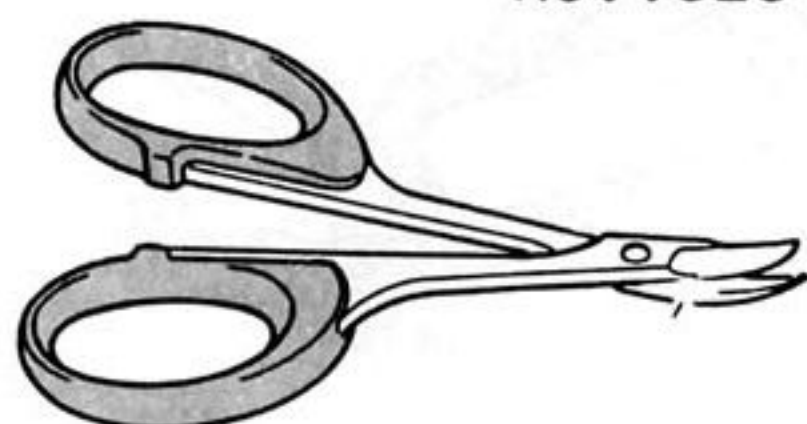
6] Motor Cover

Cutout Line



Curved-jaw shears cut body shell neatly.

No.1828



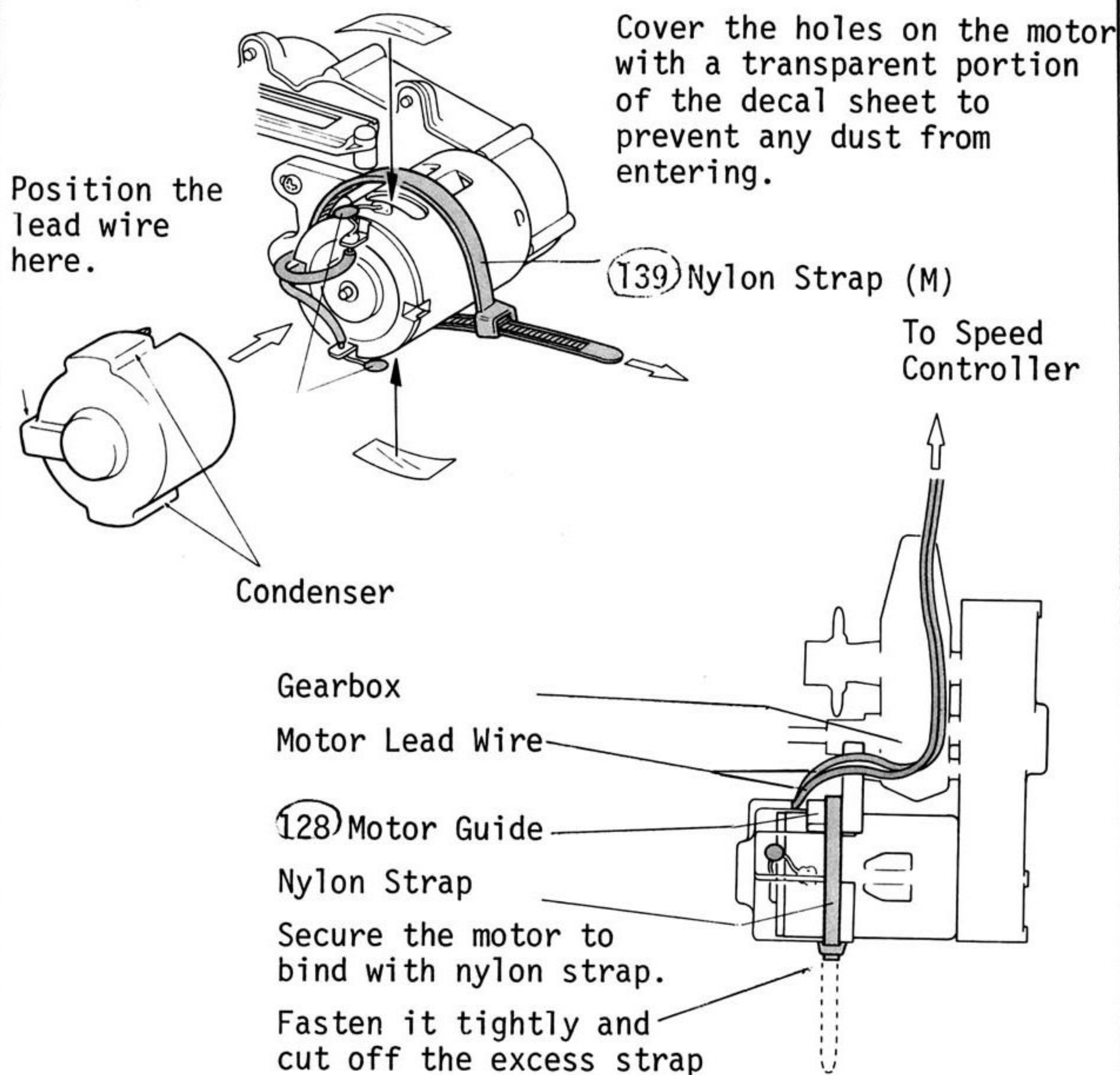
23 SMALL PARTS NEEDED:

M3 x 10 Screws (4)

M3 Nuts (4)

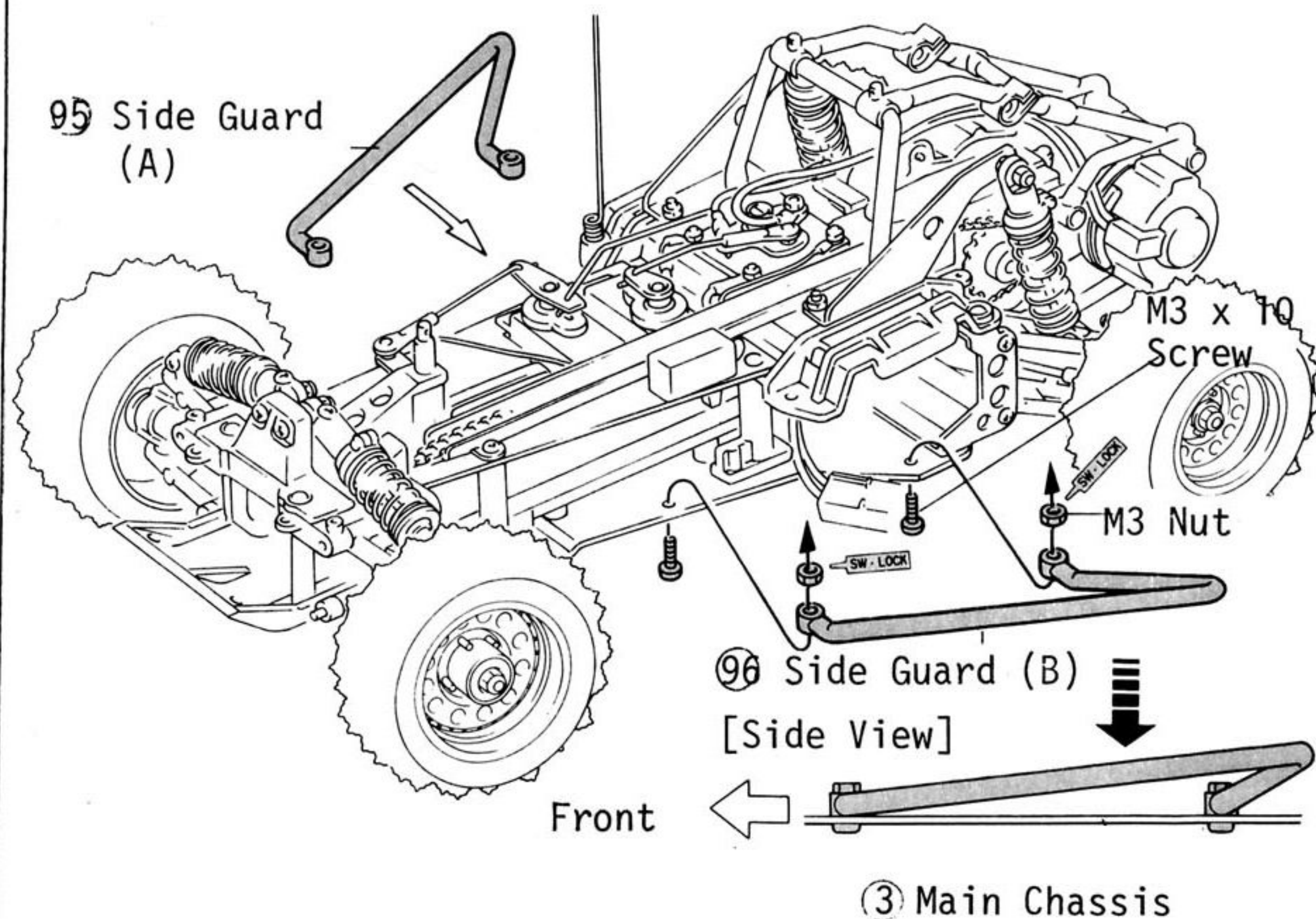


22 ATTACHING MOTOR COVER



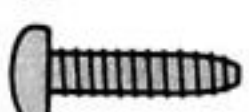
23 INSTALLATION OF SIDE GUARD

NOTE: THERE ARE THE RIGHT AND LEFT SIDE GUARDS (A, B). BE CAREFUL NOT TO MISTAKE ONE FROM THE OTHER.

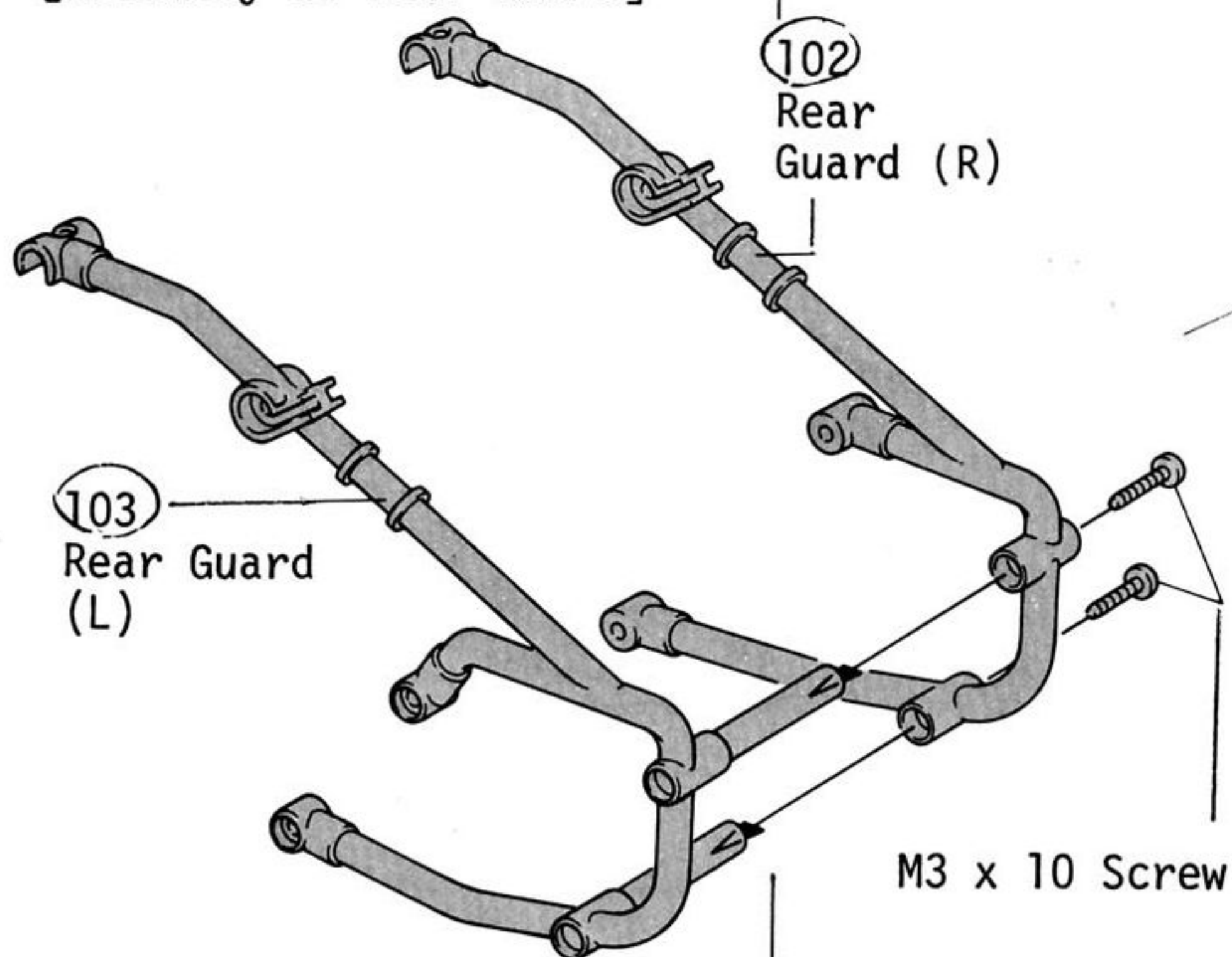


24 SMALL PARTS NEEDED:

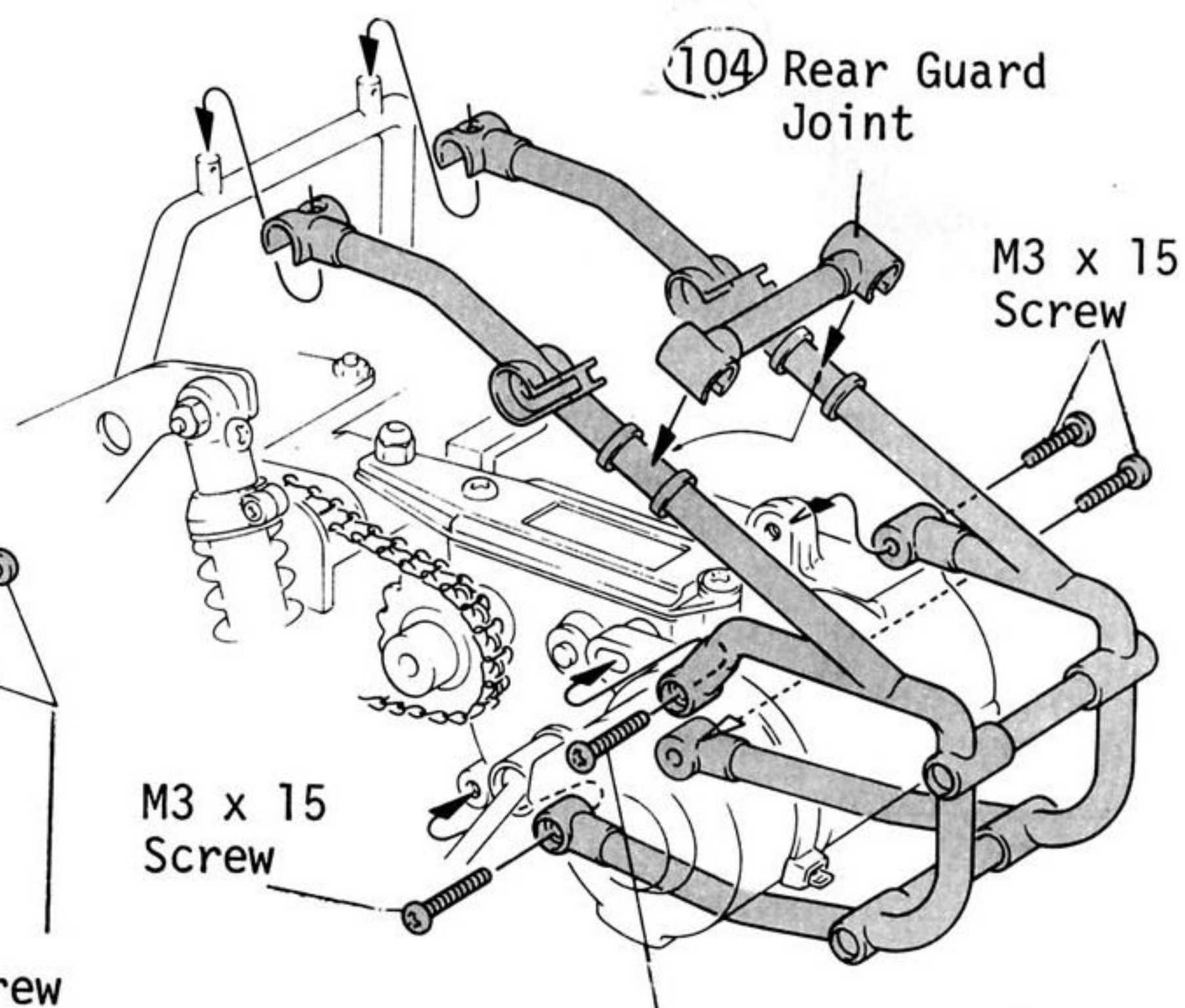
M3 x 15 Screws(4) 

M3 x 10 Screws(2) 

[Assembly of Rear Guard]

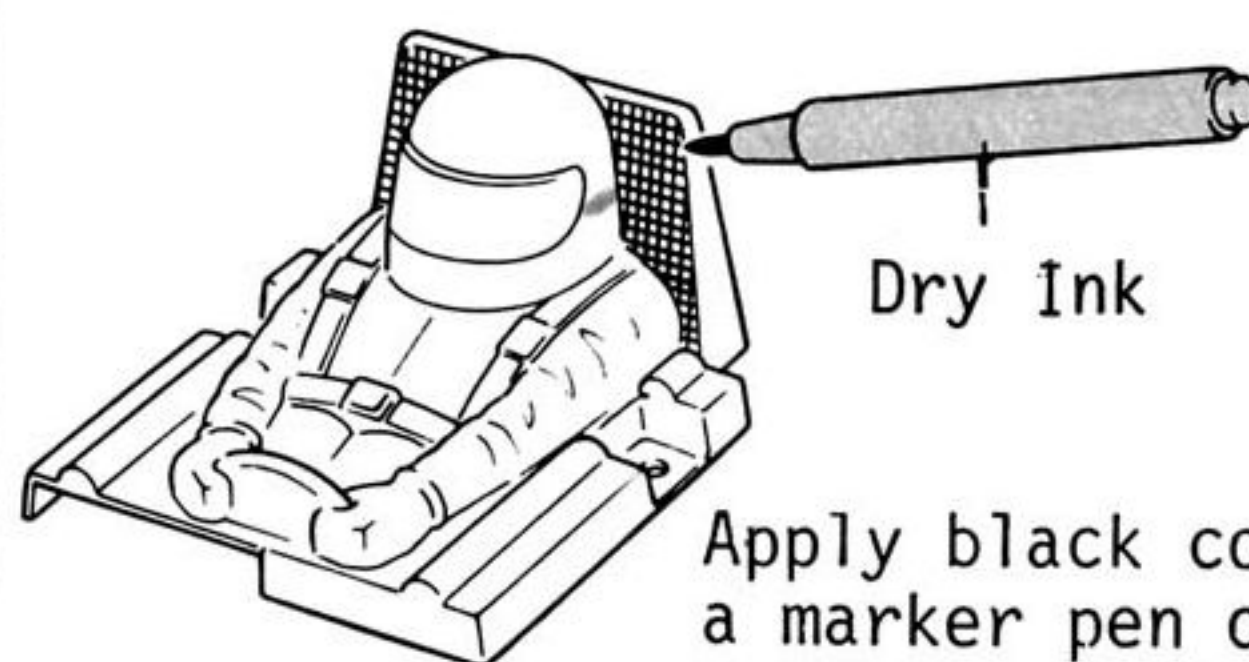
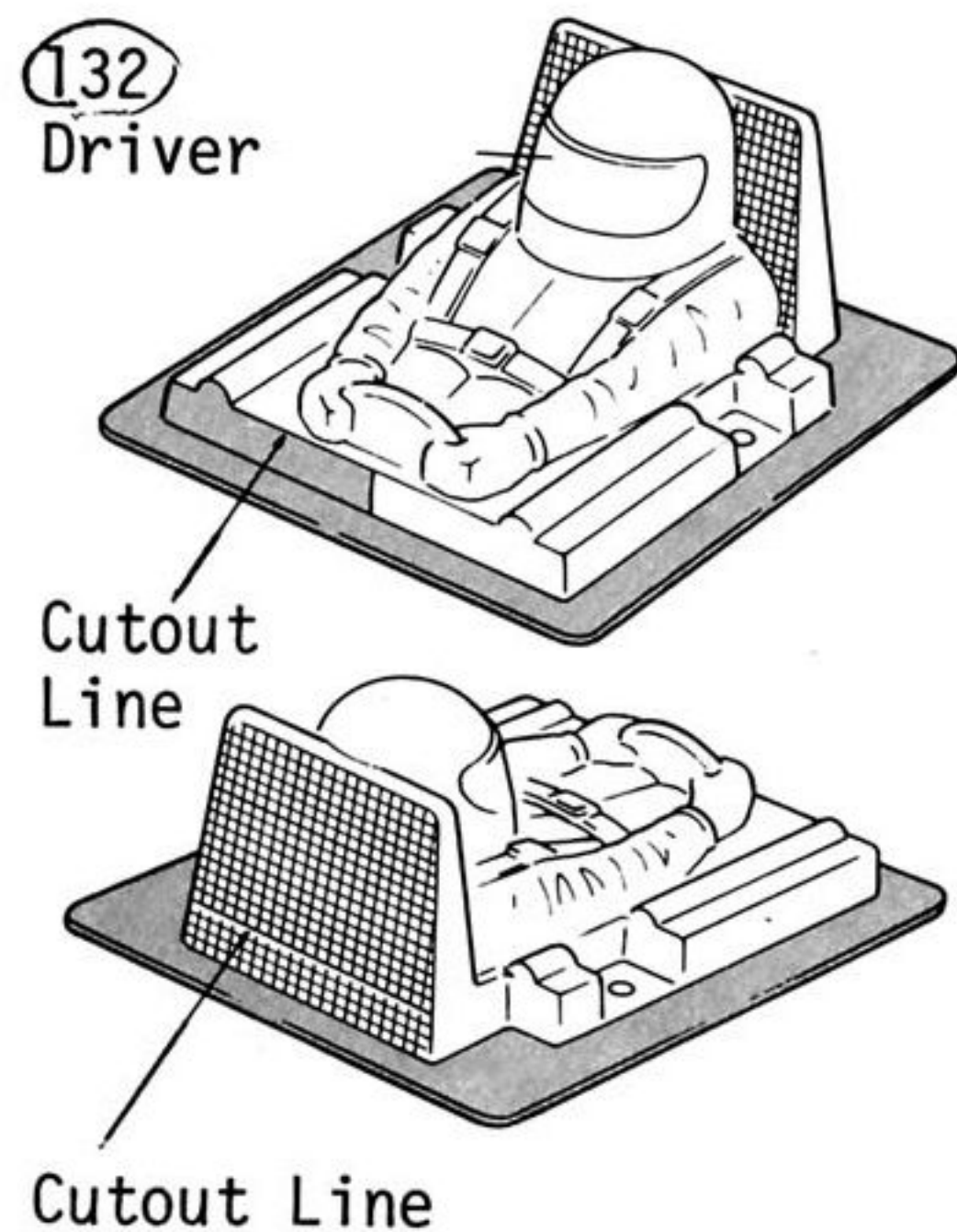


24 INSTALLING OF REAR GUARD

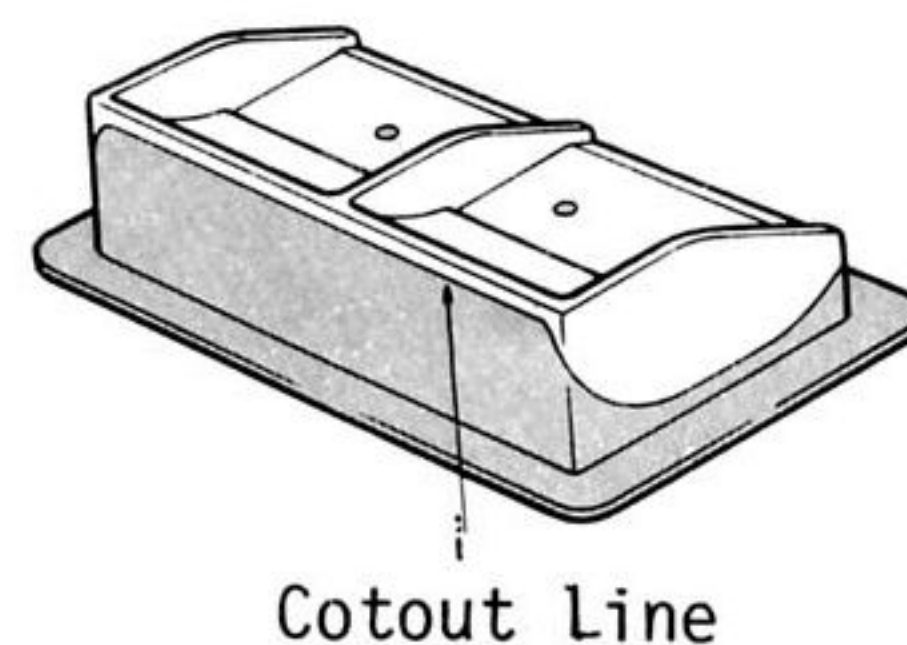
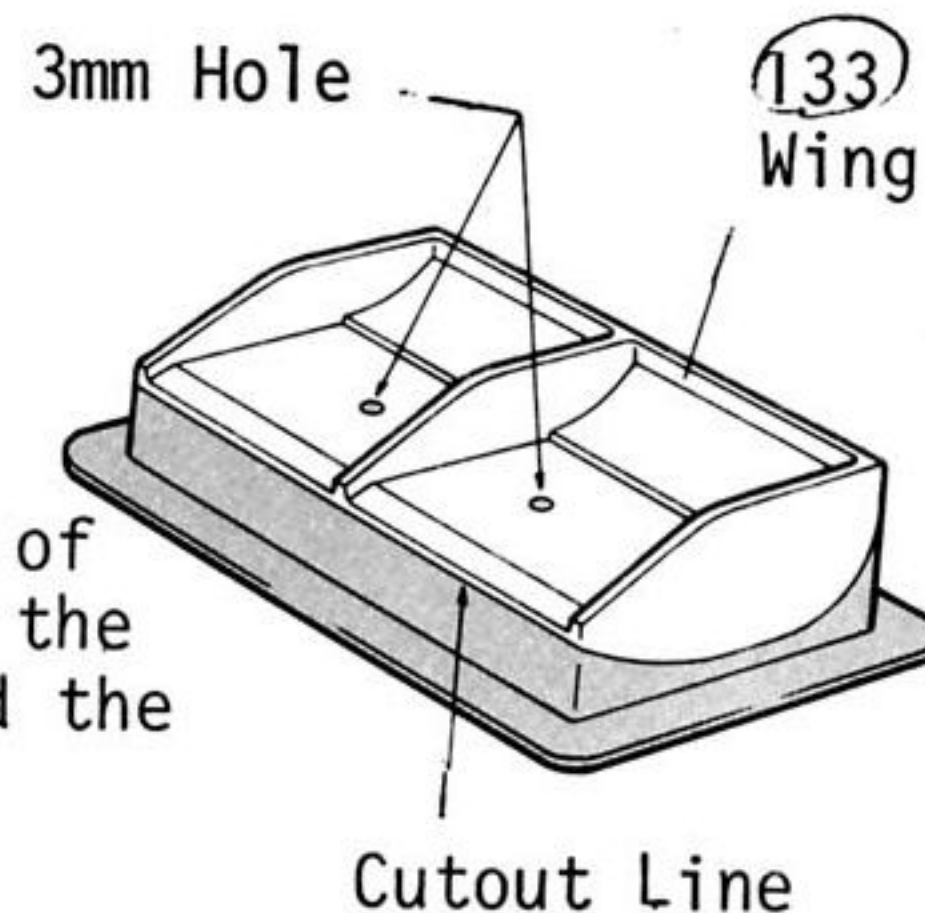
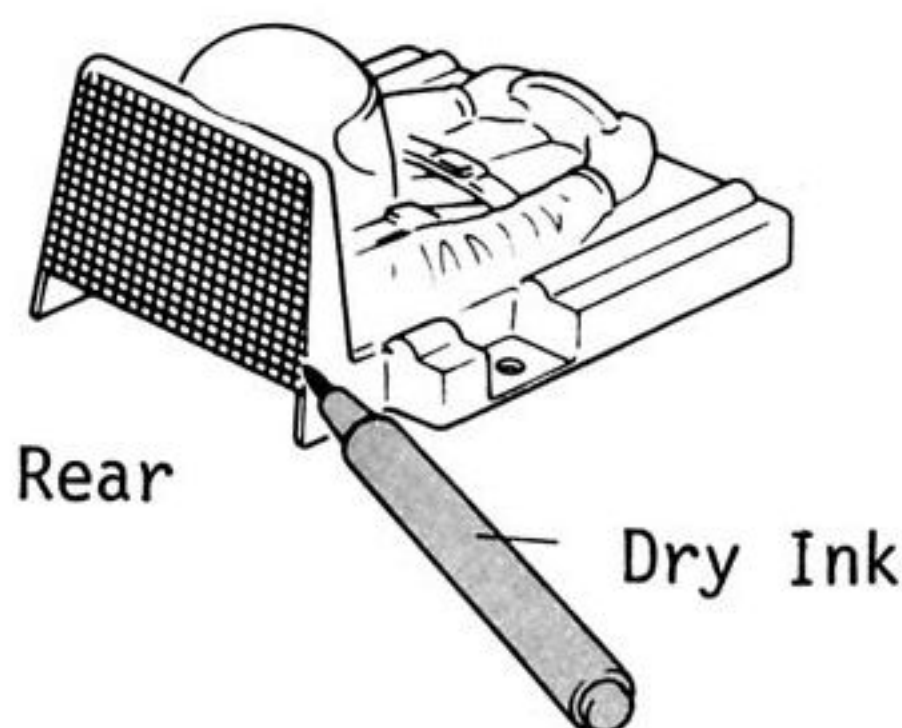


25 *Cut off the shaded portion, indicated in the drawing, along the cutout line with a Hobby "cutter knife"

25 CUTTING DRIVER AND WING

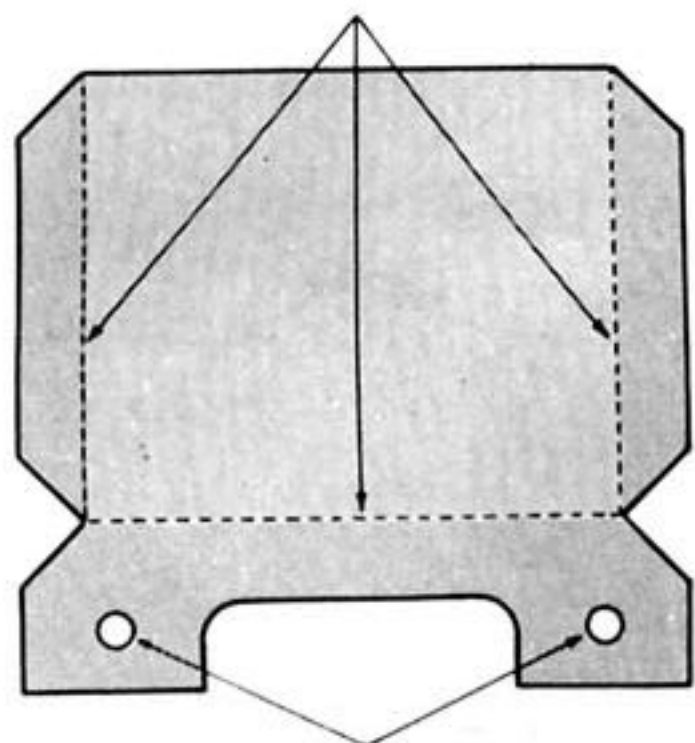


Apply black color of a marker pen over the net pattern behind the driver's helmet.



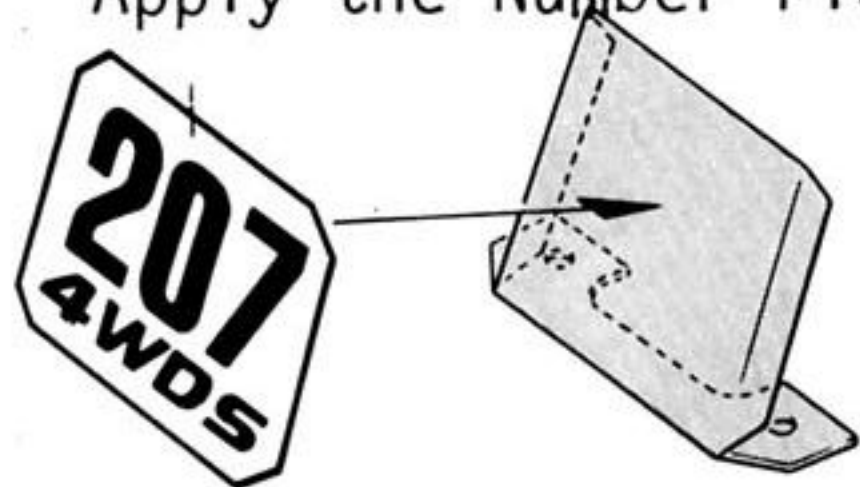
26 *Cut out the number plate, drill holes of 3 mm diameter, and fold back the edges along with the dotted lines.

Fold it back to the back side.



3mm hole

Apply the Number Plate



The number plate installing in step 28.

27

The driver, wing and car body are made of transparent polycarbonate resin. You can expect a better finish if applying paints on the inside. Wash the objects with neutral detergent well to get rid of finger prints and fat, then paint them.

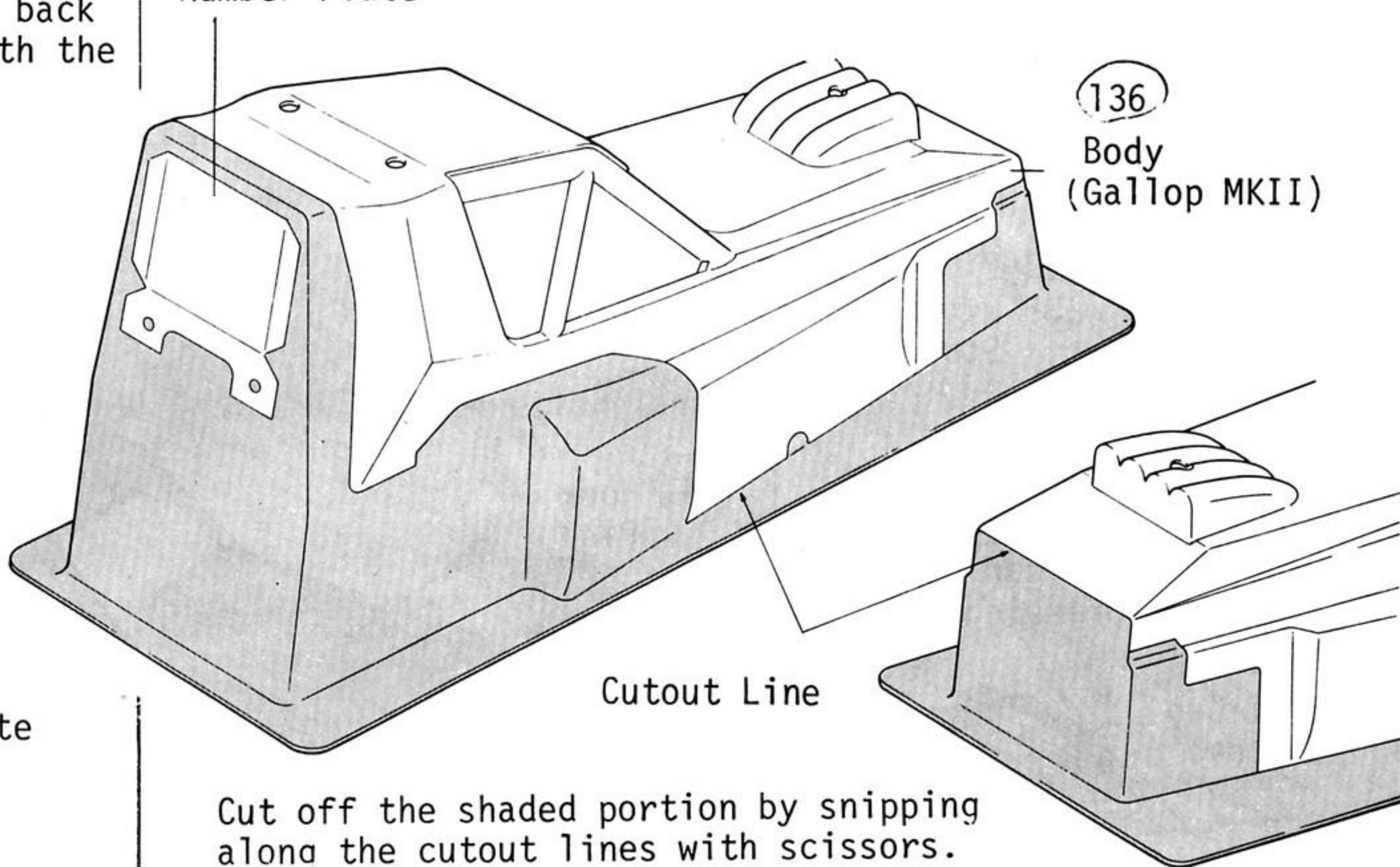
Micron Line tape or equivalent can be used as masking tape and to make patterns. They are available in different colors and widths.

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



26 CUTTING OF BODY AND NUMBER PLATE

Number Plate



136

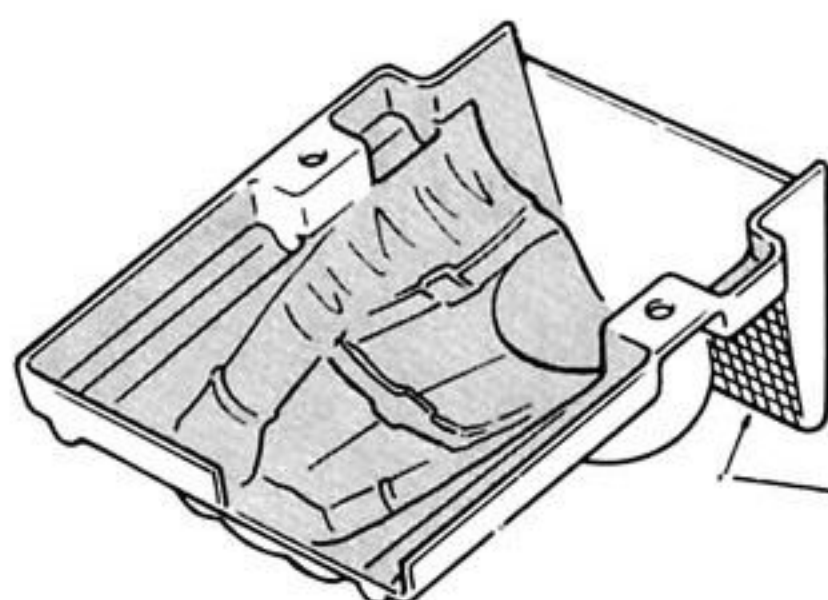
Body (Gallop MKII)

Cutout Line

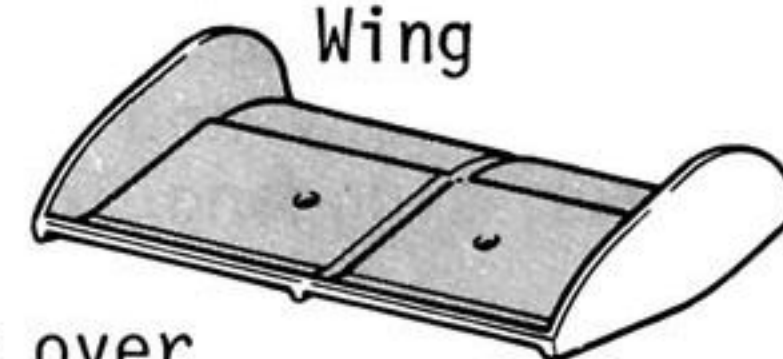
Cut off the shaded portion by snipping along the cutout lines with scissors. You may have the clean cuts by scoring the cutout lines with a knife and try to break off from one end.

27 PAINTING ON DRIVER, WING AND BODY

Driver



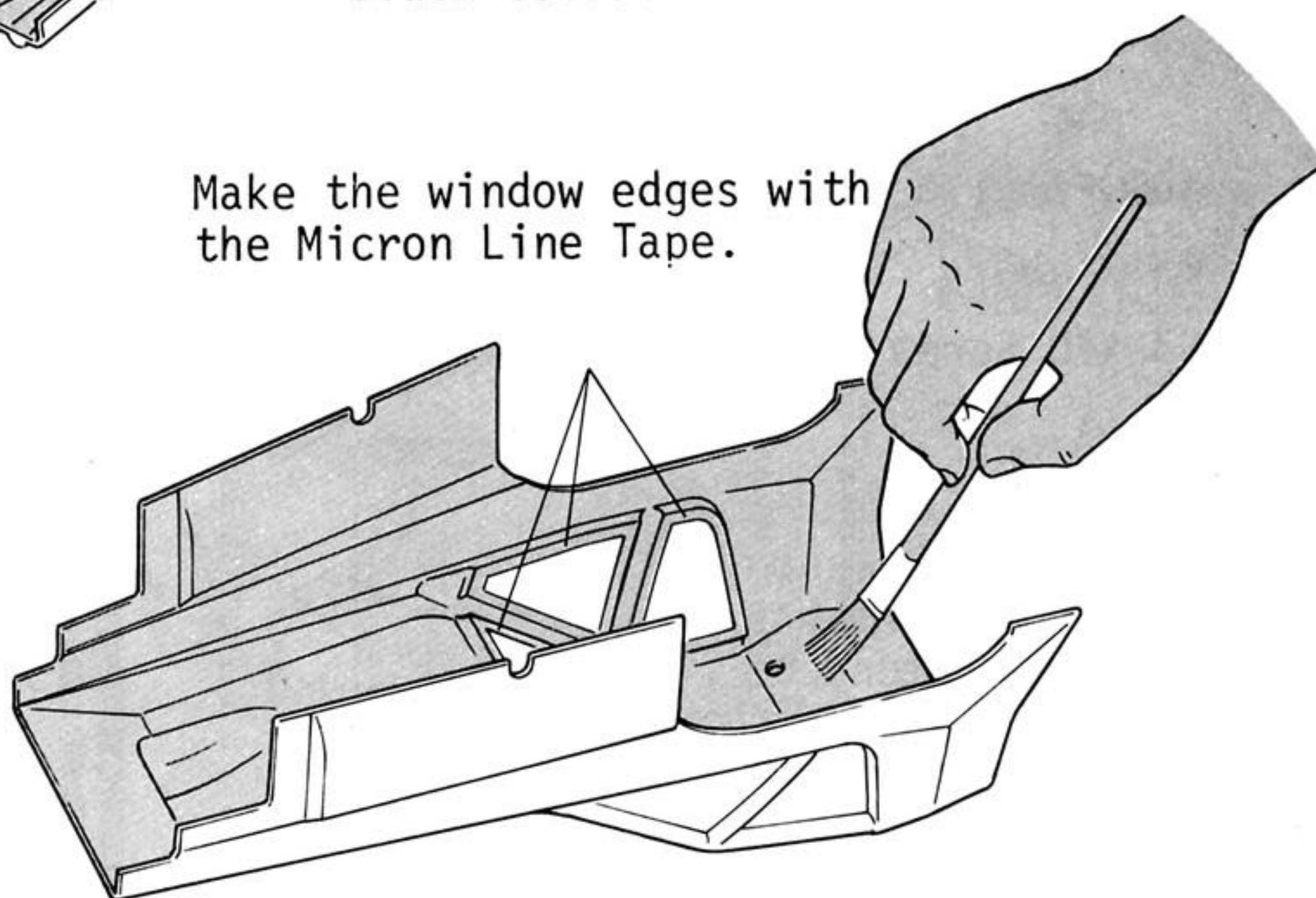
Wing



Do not paint over the net patterns where you have finished with black color.

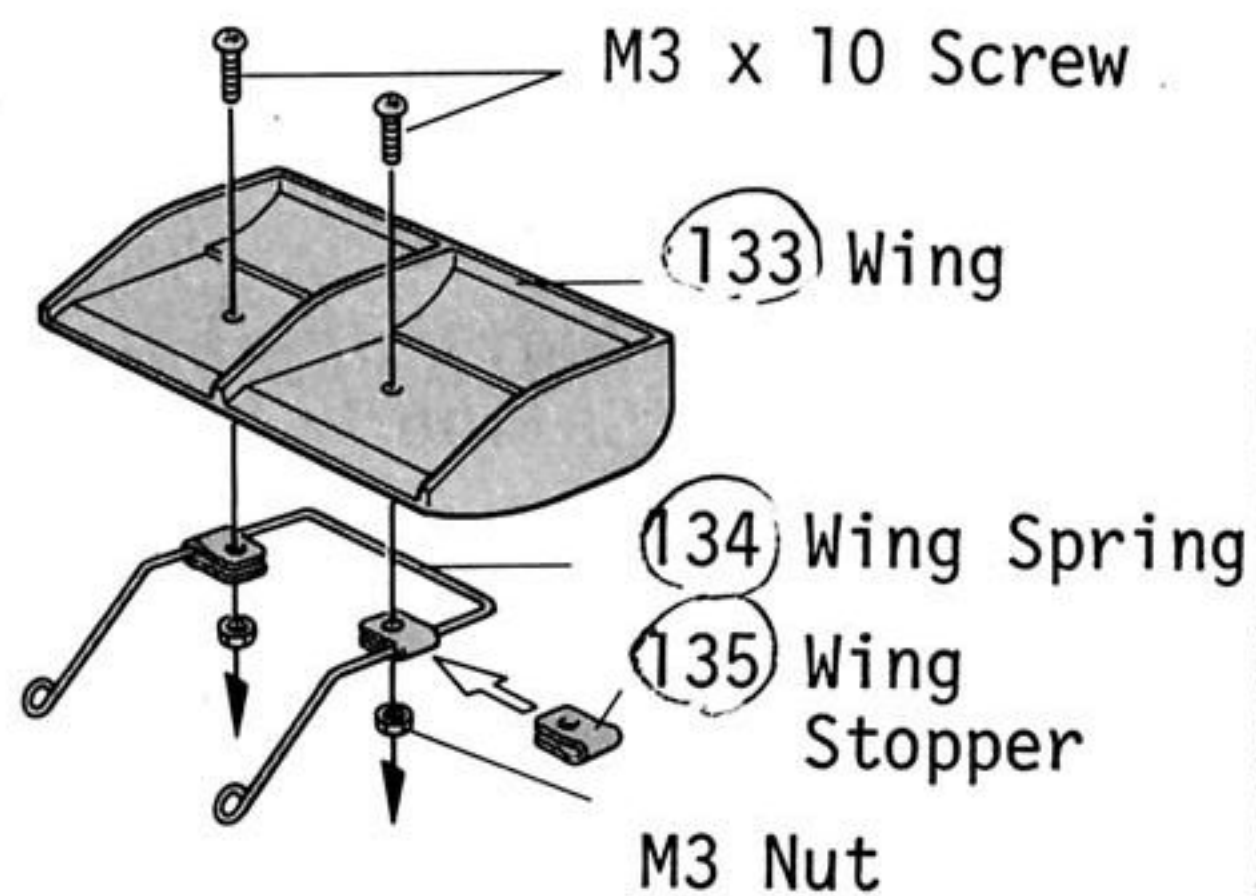
Make the window edges with the Micron Line Tape.

Body



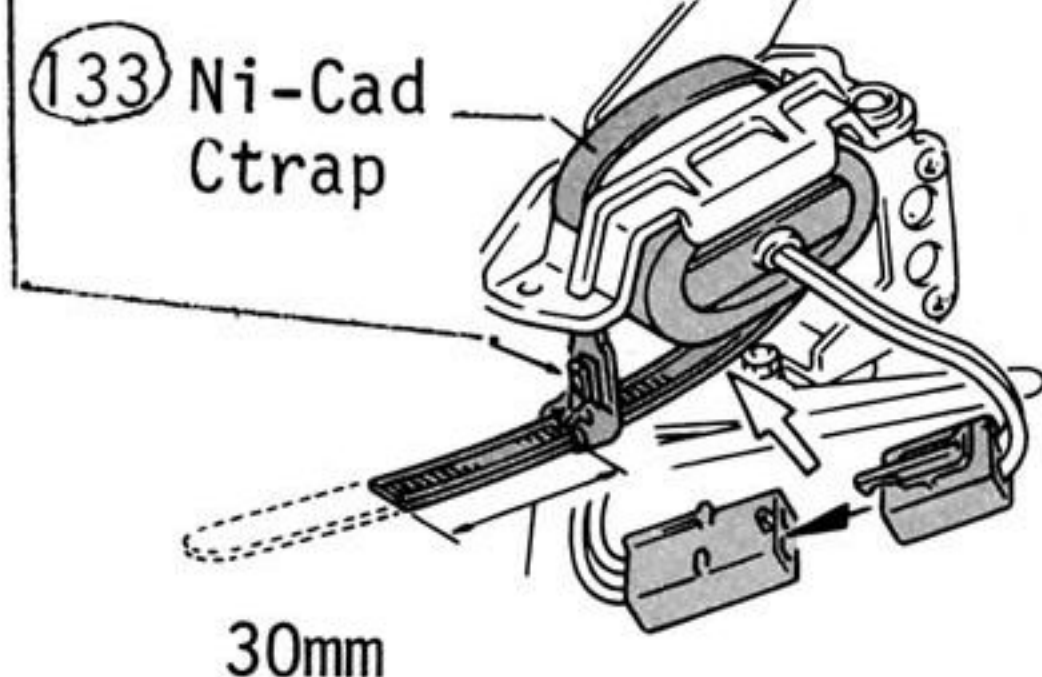
When you paint your Gallop only in one color, two or three coats of the color on the inside of the car body would be sufficient. If you like to paint it with a coloring scheme in more than two colors, mask the inside with masking tape or the Micron Line Tape according to your scheme and start with the darkest paint, and lastly apply the lightest color all over the area.

28 ASSEMBLY OF WING



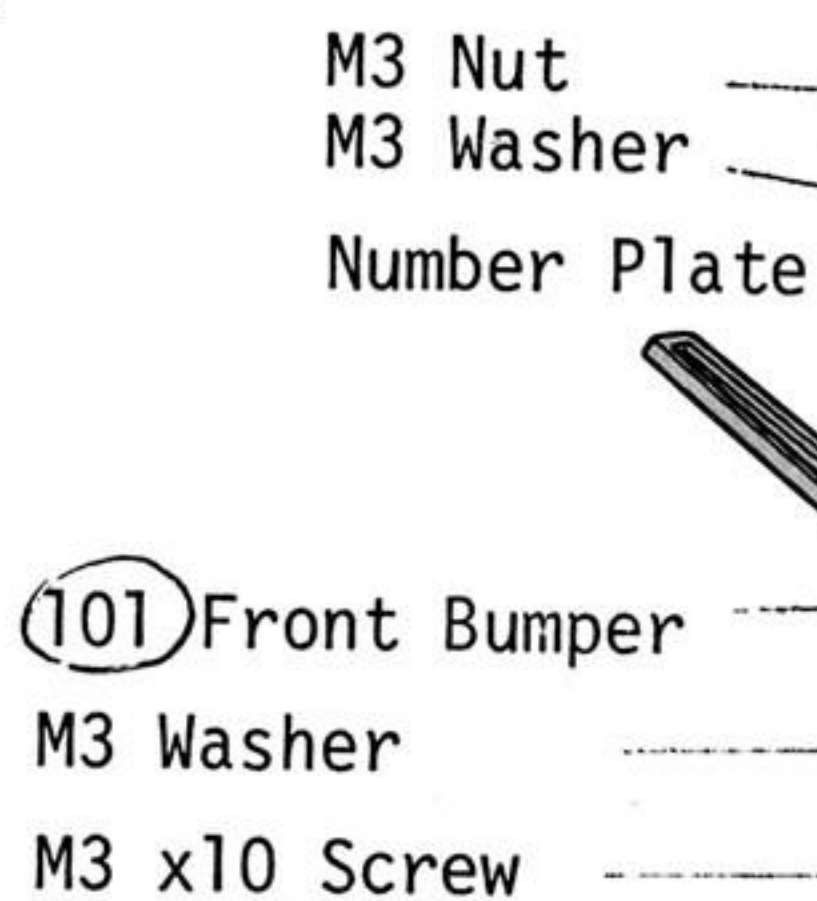
[Mounting of Ni-Cad Battery]

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



Fasten it as much as possible and cut it off leaving 30mm from the fastener.

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



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



28 INSTALLATION OF DRIVER, WING BODY

Small Parts Needed:

M3 x 10 Screws (6)



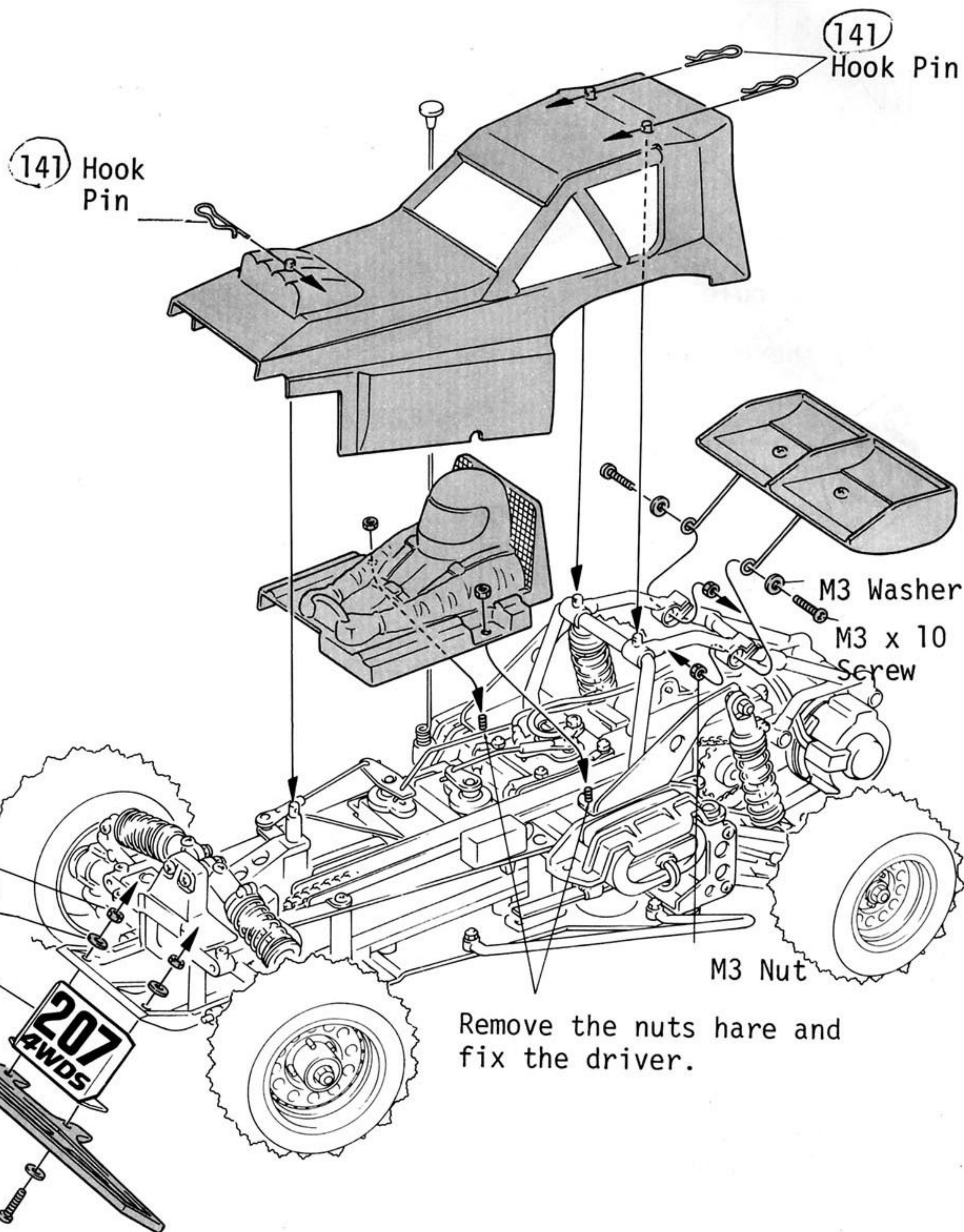
M3 Washers (6)



M3 Nuts (6)



(141) Hook Pins (3)



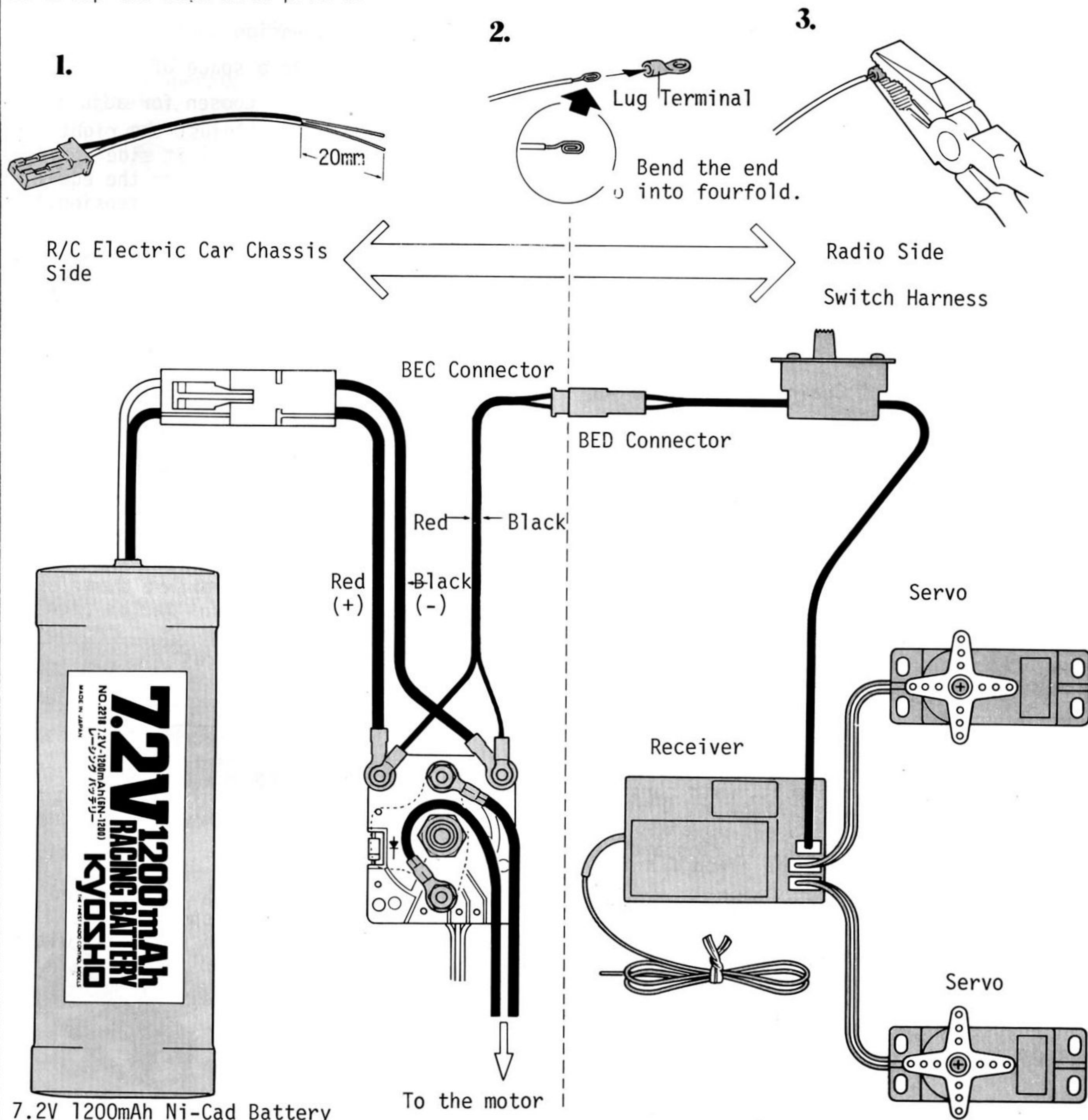
HOW TO OPERATE THE BEC TYPE RADIO

WHAT IS THE BEC TYPE? ... It is a system in which a connector is provided to power the receiver and servos from the propelling 7.2V mAh Ni-Cad battery. When you use a BEC type radio, you are required just to plug the connector (female) on the car chassis into the BEC connector (male) from the switch harness; then all the connection between the battery, receiver, and servos is completed.

*With a BEC type radio connect the lug terminals, used in Step 10, to the BEC connector and fix them onto the speed controller PC board at the terminal bolts as shown in the drawing below.

[Fixing Lug Terminal]

1. Remove the vinyl insulation from the BEC connector lead wires.
2. Insert the ends of wires into the lug terminals.
3. Crimp the lugs with pliers.



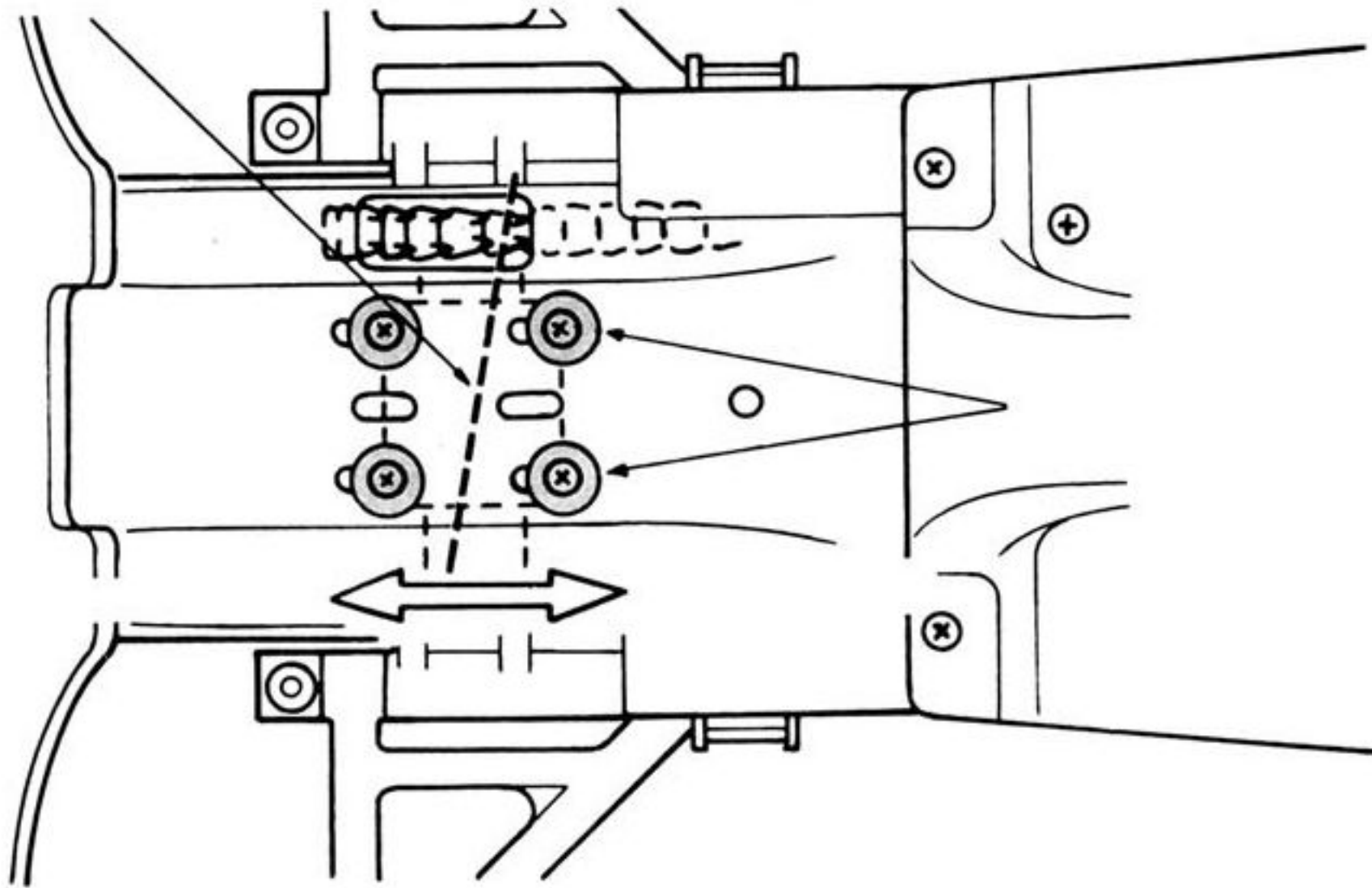
*On this process, be careful about the polarity; the red wire is positive +, and the black negative -.

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.

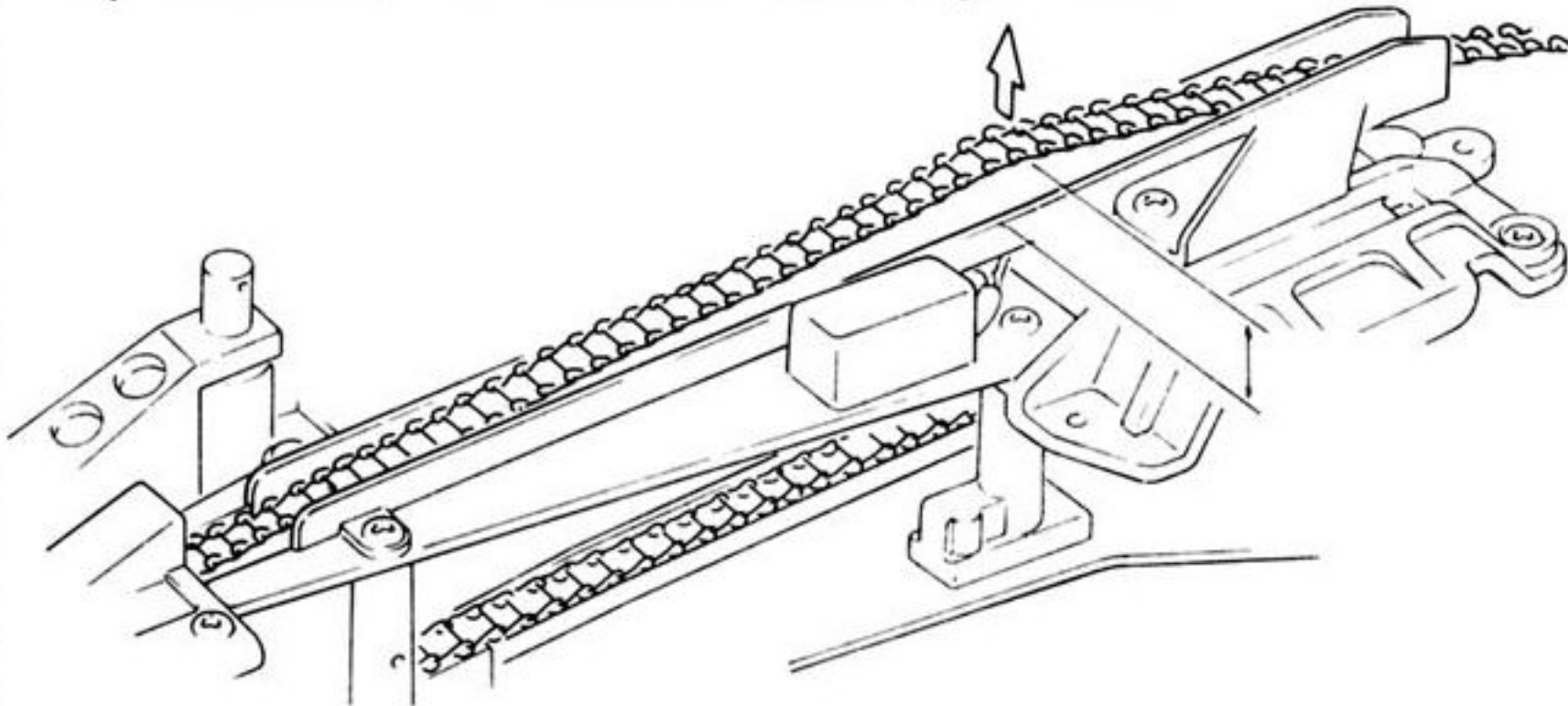


The chain will become tighter.

The chain will be looser.

1. Ideal Tension of Chain

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

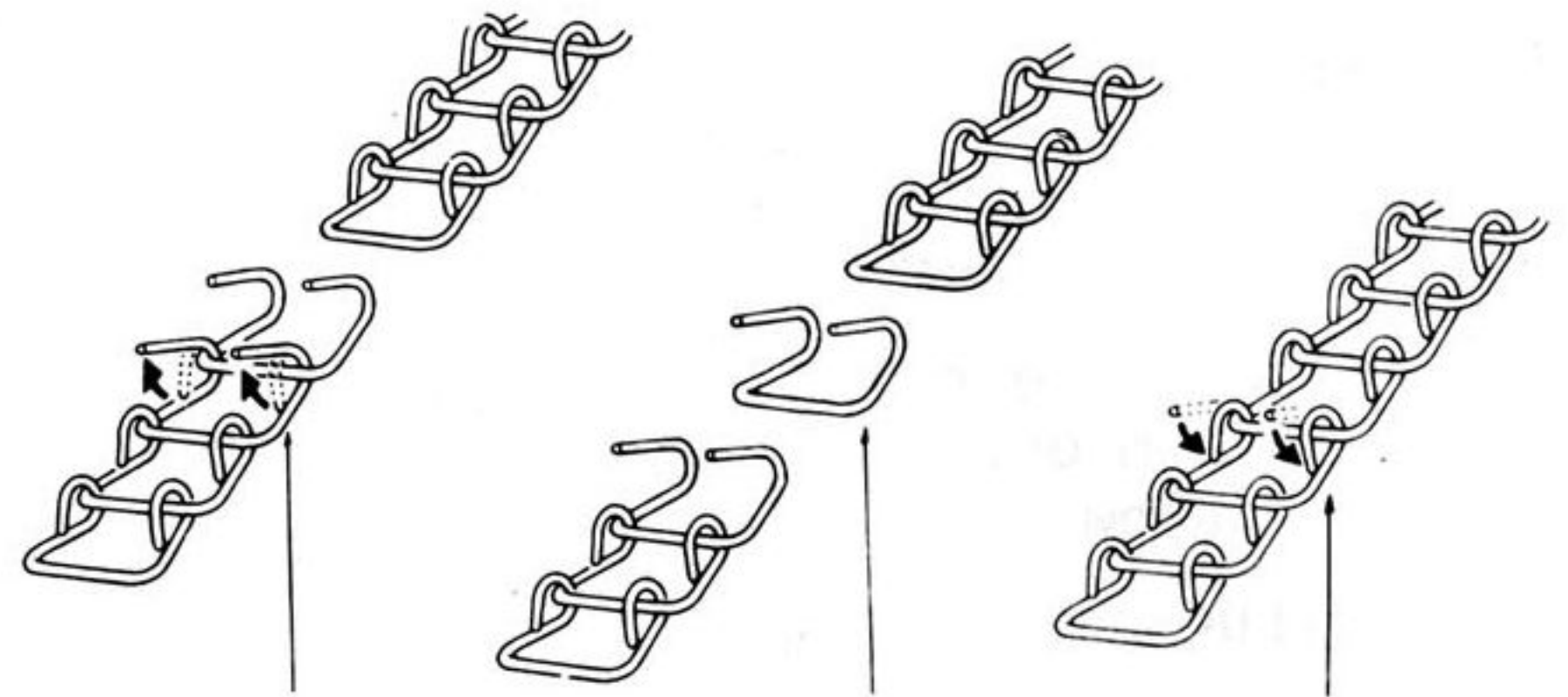


IF THE CHAIN IS TOO TIGHT, the rotation of the chain becomes difficult, with considerable loss of power.

IF THE CHAIN IS TOO LOOSE, it flop around.

2. 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.

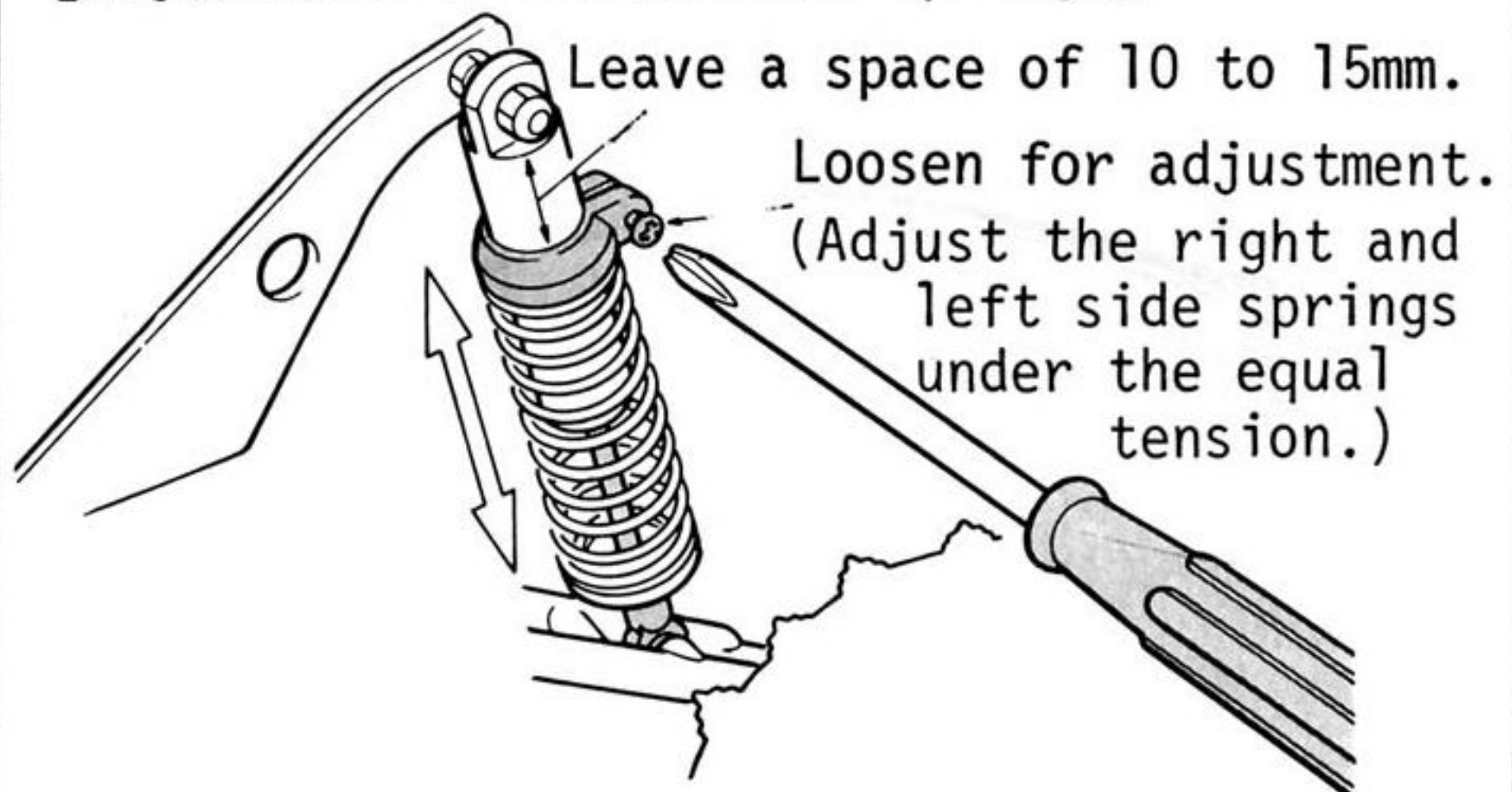


A. Cock up the claw.

B. Take away one link.

C. Connect the chain again.

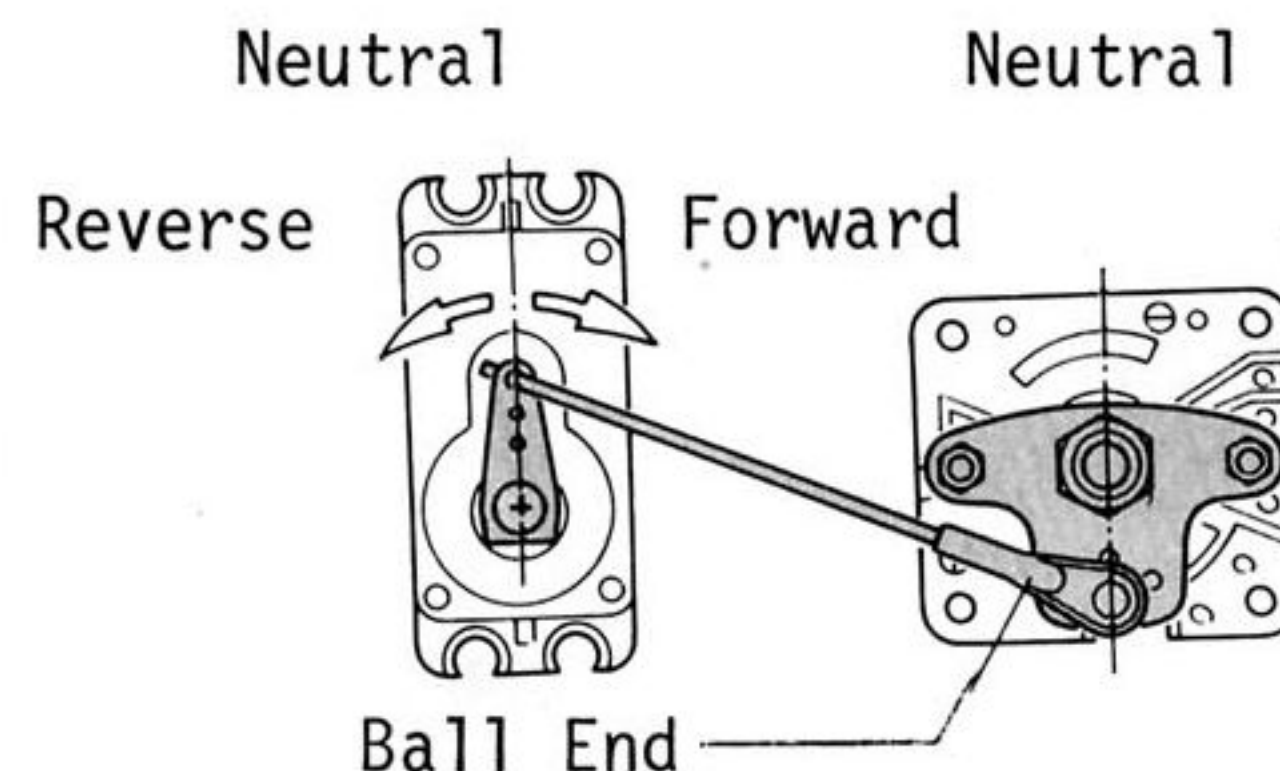
[Adjustment of Suspension Springs]



*With the front spring, leave 5 to 10mm space.

[Adjustment of Speed Controller]

Connect the cord to the 7.2V Ni-Cad battery in the same way as you did in Step 12, page 13, "Test Operation of Radio. Work the radio to adjust the speed control with the model resting upon a box so that the wheels are kept aloof from the ground to let them rotate freely.

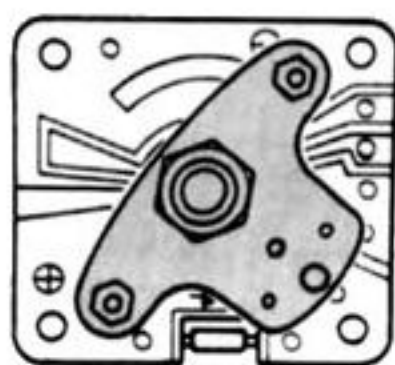


By turning the ball end, adjust the speed controller to the position shown in the drawing above (motor stopped position) with the control stick and the trim lever in neutral.

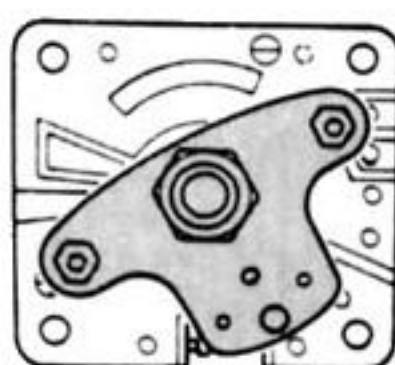
1. Adjustment for High Speed

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.

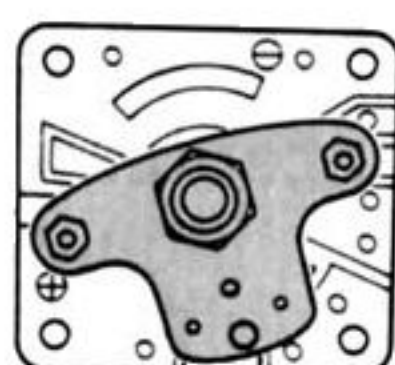
High



Midium

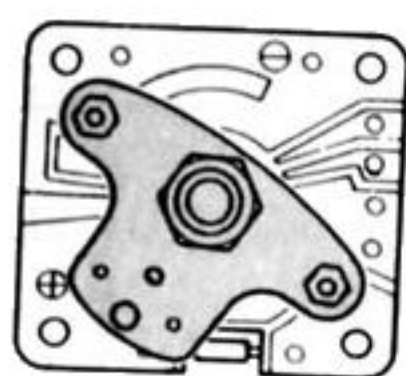


Low

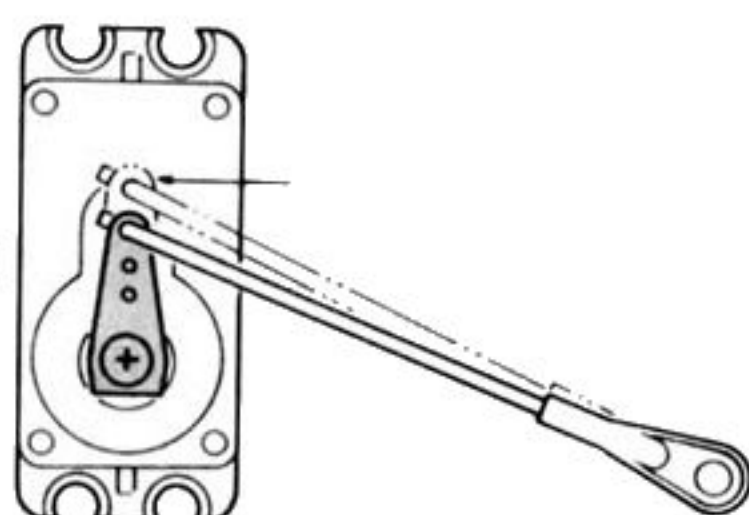


2. Adjustment for Reverse

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



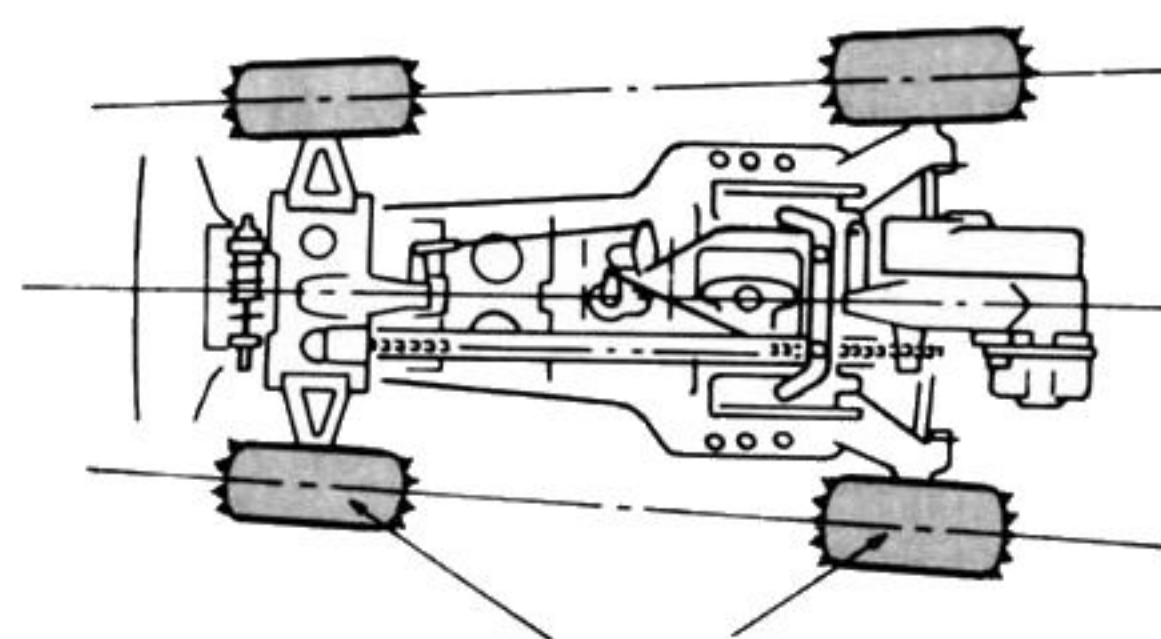
Servo Horn
(Bigger One)



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.



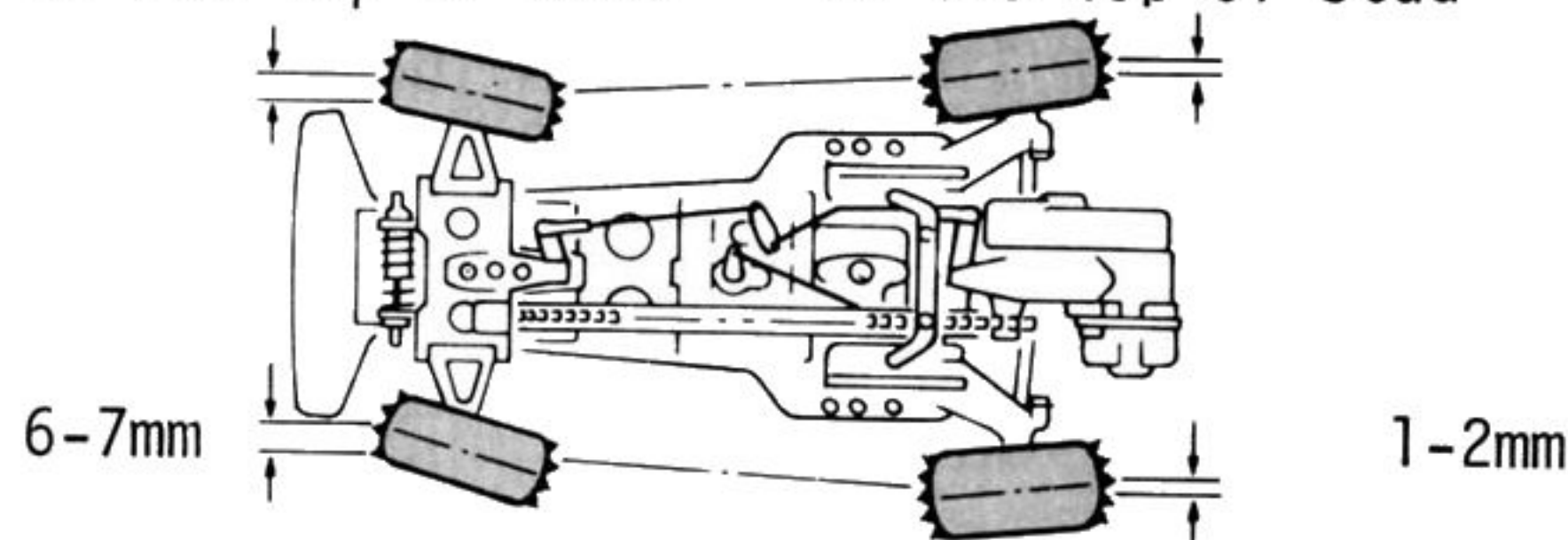
The center lines of the front and rear wheels should be aligned.

[Adjustment of Steerage]

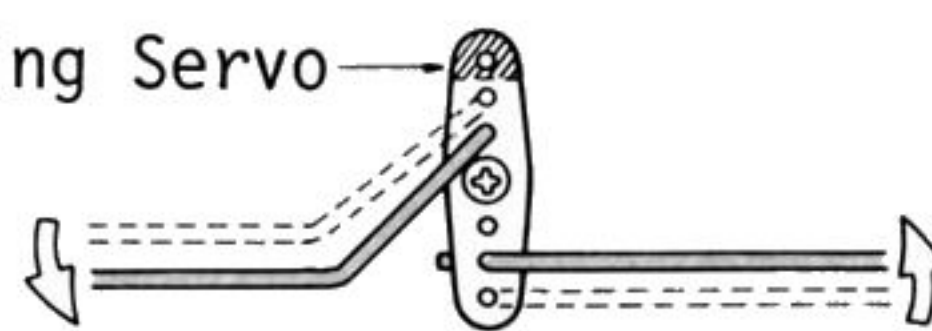
Operate the steering system by your radio, measure the swing of the steerage at the tip of the tire knobs to see if it is within the scope as indicated in the illustration below. (When measuring, put the model on a box or on a stand to make the wheels aloof from the ground.) If you find the swing out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

One side 6 - 7mm
at the top of stud

One side 1 - 2mm
at the top of stud



Steering Servo



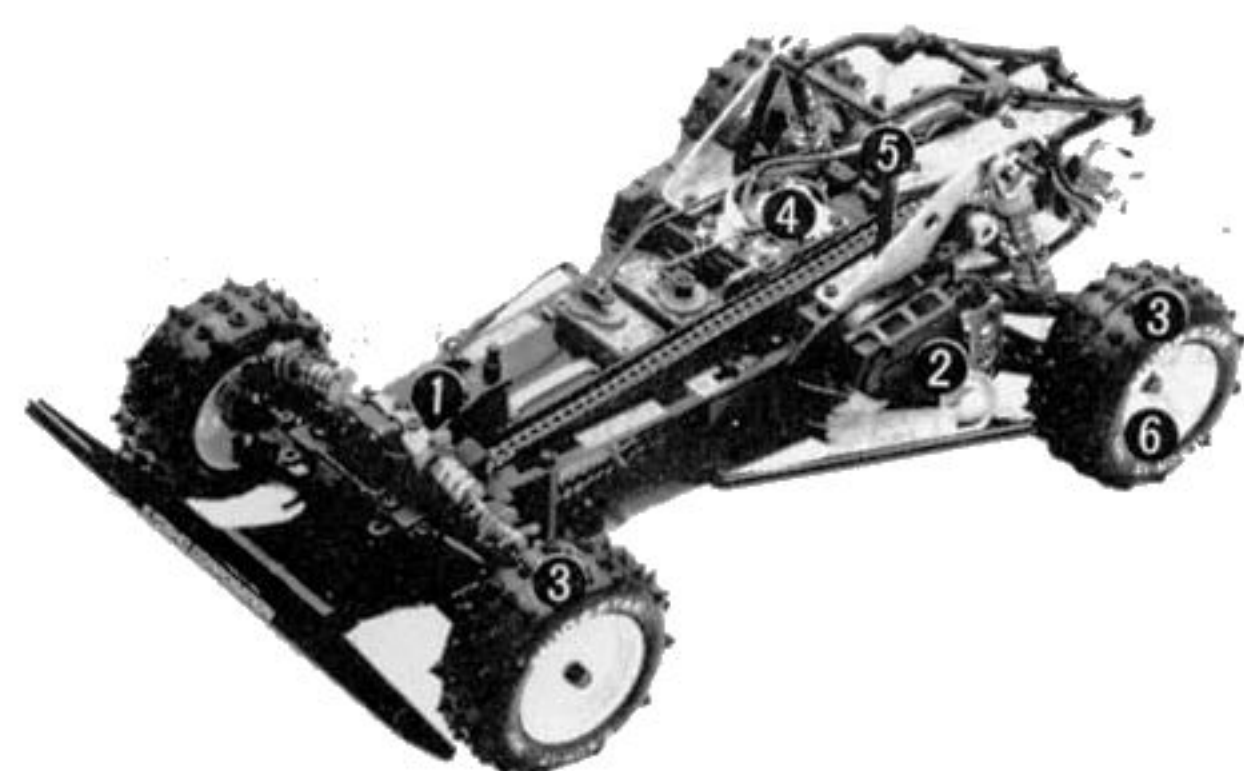
Rear Steering

Front Steering

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 control 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]

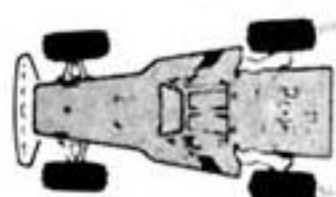
1. Poor contact of connectors of receivers, servos, batteries or of electric wiring.
2. Poor contact of the speed controller wiper blade.
3. Radio control units are out order.
4. Signal jamming from other radios.

* 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.

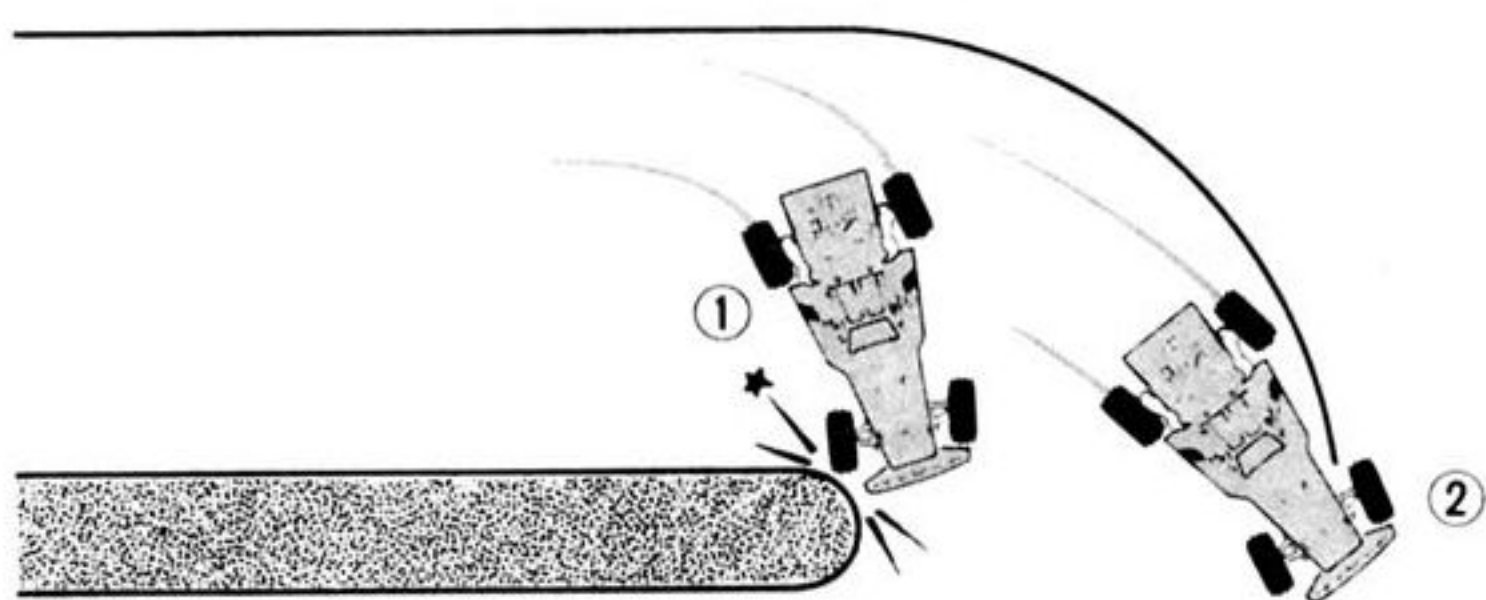
GUIDE FOR SETTING UP THE CAR (2) [BASIC DRIVING]

[Adjustment for Staright Going]

1. When the model runs unstably without thouching the steering wheel:
 - *Increase the toe-in setting to a slight degree.
 - *Check the linkage system too 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.



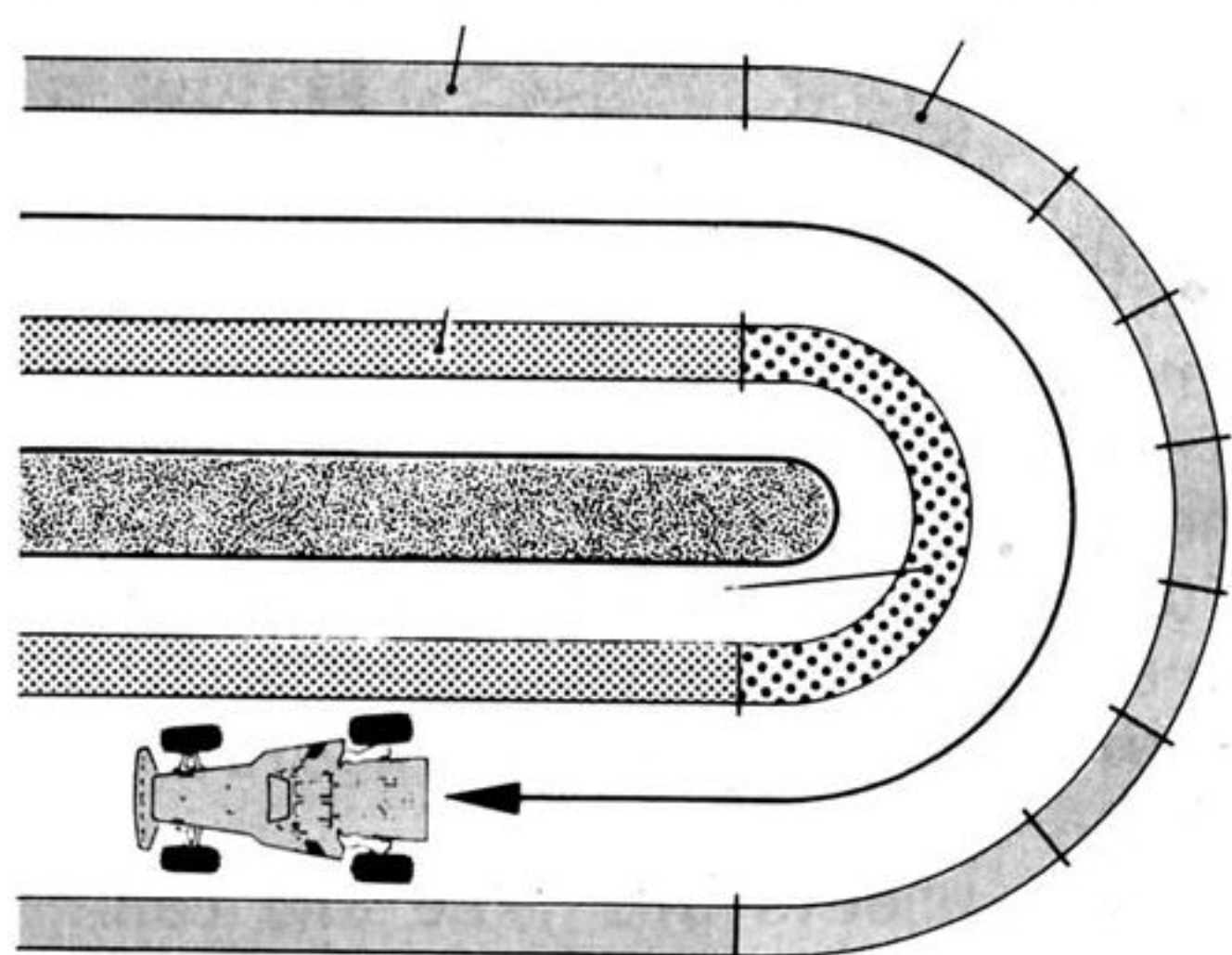
[Adjustment for Cornering]



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

Acceleration Deceleration



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 Shock 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.

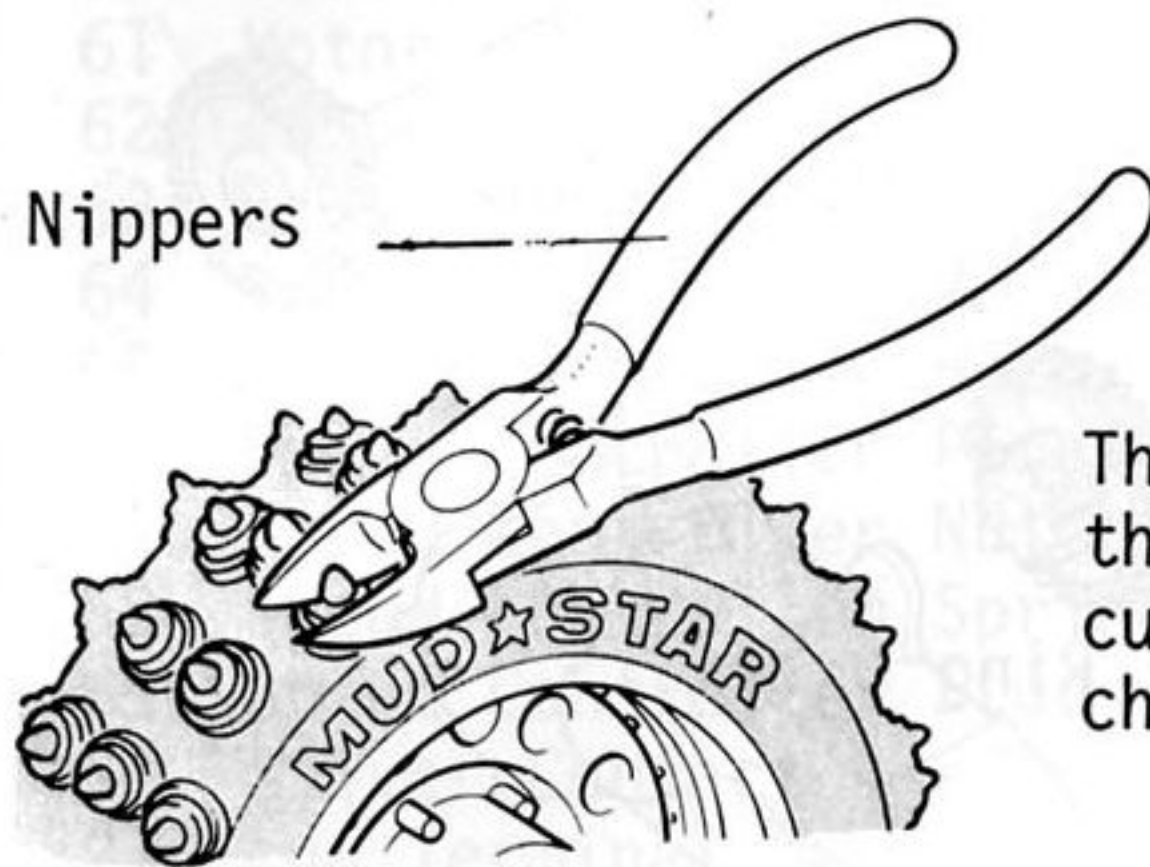
2. Tension of Rear Spring

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

3. Adjustment of Oil Shock

Use thicker oil, when the spring is set to high tension. No.1951 Shock 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 gradually, 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.

[List of Gear Ratio]

Pinion Gear x

Idle Gear No.

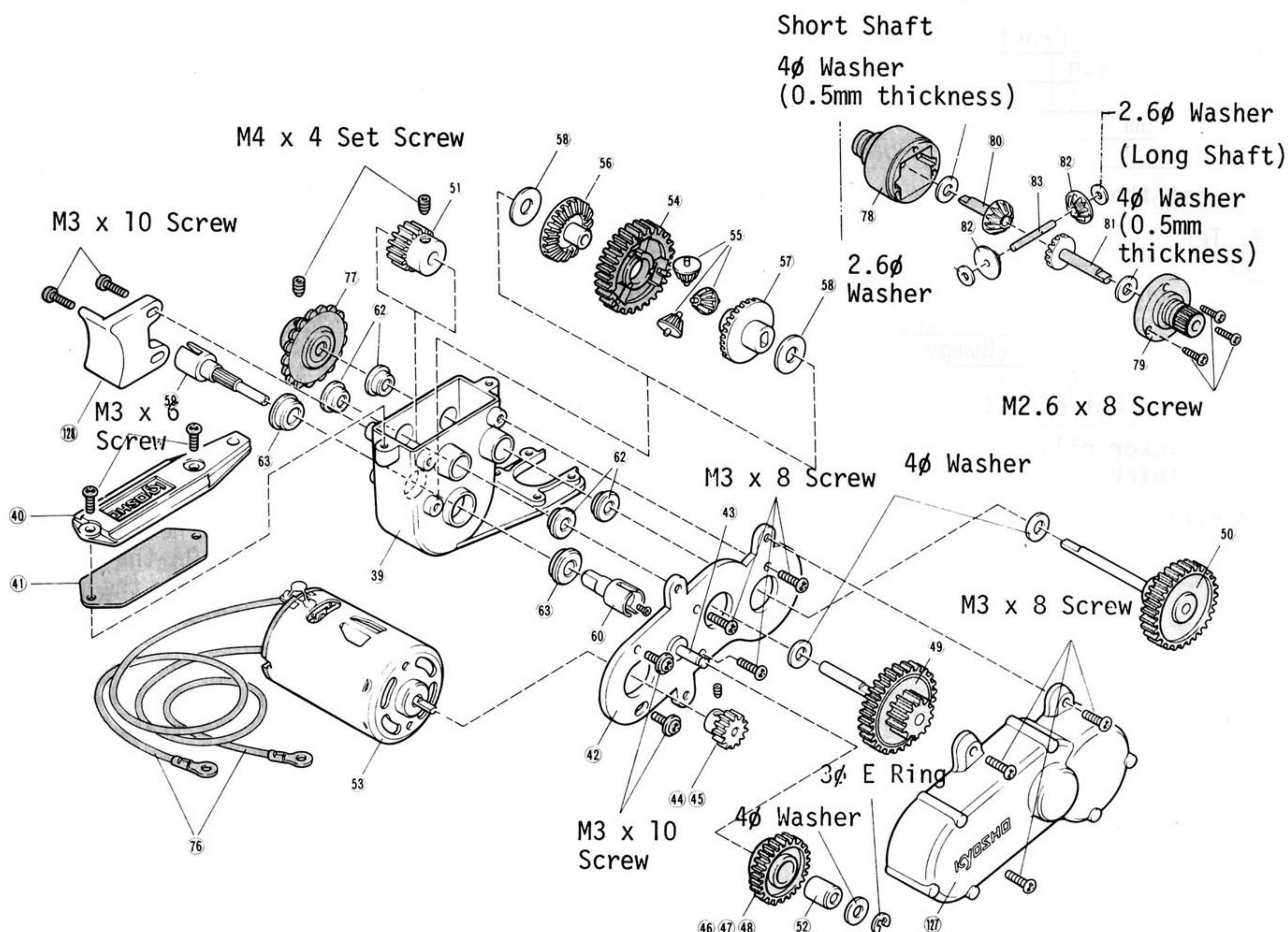
Gear Ratio

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.

EXPLODED VIEW OF GEAR BOX



PARTS LIST

Key No.	Part Name	Q'ty	Key No.	Parts Name	Q'ty
①	Front Head	1	21	Rear Shock Spring	2
②	Front Base	1	22	Spring Stopper	4
③	Main Chassis	1	23	Spring Adjuster	4
④	Front Upper Suspension Arm	2	24	Shock End	4
⑤	Front Lower Suspension Arm	2	25	Rear Shock Ball	2
⑥	Rear Suspension Arm (R)	2	26	Shock Arm (R)	1
⑦	Rear Suspension Arm (L)	2	27	Shock Arm (L)	1
⑧	Ball Seat	4	28	Shock Rubber Pipe	1
⑨	Pivot Ball	7	29	Rear Shock Pin	2
10	Front Knuckle Arm (R)	1	30	Rear Wheel	2
11	Front Knuckle Arm (L)	1	31	Rear Inner Wheel	2
12	Rear Knuckle Arm (R)	1	32	Wheel Washer	2
13	Rear Knuckle Arm (L)	1	33	Wheel Stopper	4
14	Knuckle Stopper (R)	1	34	Front Tire	2
15	Knuckle Stopper (L)	1	35	Rear Tire	2
16	Rear Shock Case	2	36	Rear Wheel Shaft	2
17	Shock Stopper	4	37	Rear Half Shaft	2
18	Shock O Ring	4	38	Rudder Chain	1
19	Shock Washer	4	39	Gearbox	1
20	Shock Piston	4	40	Gearbox Cover	1

Key No.	Part Name	Q'ty	Key No.	Part Name	Q'ty
41	Gearbox Packing	1	101	Front Bumber	1
42	Motor Mount	1	102	Rear Guard (R)	1
43	Idle Shaft	1	103	Rear Guard (L)	1
44	Pinion Gear (14T)	1	104	Rear Guard Joint	1
45	Pinion Gear (15T)	1	105	Front Shock Holder	1
46	Idle Gear (1)	1	106	Front Shock Stay	2
47	Idle Gear (2)	1	107	Ni-Cad Deck	1
48	Idle Gear (3)	1	108	FRP Radio Plate	1
49	Center Gear	1	109	Radio Plate Post	2
50	Counter Gear	1	110	Chain Guide (A)	1
51	Final Pinion Gear	1	111	Chain Guide (B)	1
52	Idle Gear Bushing	1	112	Front Upper Suspension Arm Pin	2
53	RS-540S Motor	1	113	Front Lower Suspension Arm Pin	2
54	Differential Spur Gear	1	114	3ø Stopper	2
55	Differential Bevel Gear	3	115	Rear Suspension Mount	2
56	Differential Side Gear (A)	1	116	Rear Suspension Arm Collar	4
57	Differential Side Gear (B)	1	117	Rear Knuckle King Pin Holder	4
58	Differential Spacer	2	118	Front Servo Saver	1
59	Differential Joint (A)	1	119	Rear Servo Saver	1
60	Differential Joint (B)	1	120	5.8ø Ball	10
61	Motor Cover	1	121	Tie Rod	4
62	4ø Bushing	4	122	Ball End (Large)	8
63	6ø Bushing	10	123	Ball End (Small)	3
64	Speed Controller PC Board	1	124	Front Steering Rod	1
65	Speed Controller Horn	1	125	Rear Steering Rod	1
66	Speed Controller Pivot	1	126	Speed Controller Rod	1
67	Speed Controller Nut	1	127	Side Gear Cover	1
68	Speed Controller Spring	1	128	Motor Guide	1
69	Speed Controller Stud	1	129	Center Post	2
70	Silver Contact	2	130	Body Hook	1
71	Lug Terminal	3	131	Roll Bar	1
72	Contact Holder	2	132	Driver	1
73	Double Resister	1	133	Wing	1
74	Battery Connector	1	134	Wing Spring	1
75	Resister Holder Metal	1	135	Wing Stopper	2
76	Motor Lead Wire	2	136	Body, Gallop MKII	1
77	Rear Sprocket	1	137	Decal, Gallop MKII	1
78	Front Differential Case (A)	1	138	Nylon Strap (Small)	8
79	Front Differential Case (B)	1	139	Nylon Strap (Medium)	2
80	Front Differential Gear (A)	1	140	Ni-Cad Strap	2
81	Front Differential Gear (B)	1	141	Hook Pin	3
82	Front Differential Pinion Gear	2	142	Antenna	1
83	Pinion Pin	1	143	Antenna Top	1
84	Front Differential Bushing	2	144	Antenna Base	1
85	Front Differential Mount (A)	1	145	Antenna Bobbin	1
86	Front Differential Mount (B)	1	146	Servo Spacer	2
87	Sprocket for Differential	1	147	BEC Connector	1
88	Front Joint	2			
89	Front Half Shaft for Differential	2			
90	Front Wheel Shaft for Diff.	2			
91	Front Wheel (R)	1			
92	Front Wheel (L)	1			
93	Front Inner Wheel	2			
94	Front Wheel Collar	2			
95	Side Guard (A)	1			
96	Side Guard (B)	1			
97	Front Shock Case	2			
99	Spacer	2			
100	Front Shock Spring	2			

SPARE PARTS LIST

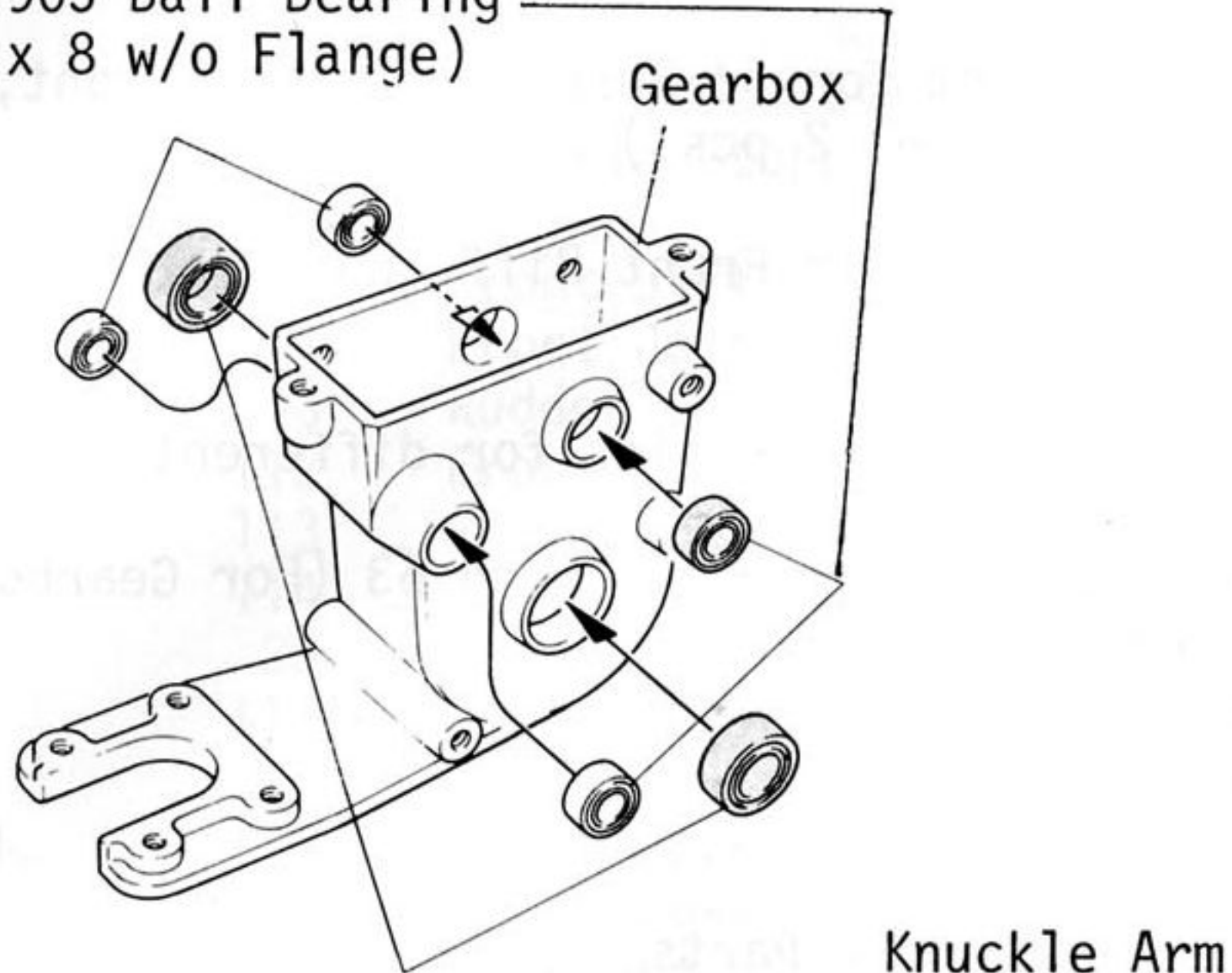
No.	Parts Name	Key No. & Consisting of
PG- 2A	Front Head Base Set	(1) 2 x 1
PG- 3	Main Chassis	(3) x 1
PG- 5A	Suspension Arm Set	(4) (5) (6) (7) x 2
PG- 8	Ball Seat	(8) x 8
PG- 9	Pivot Ball	(9) x 10
PG-10	Front Knuckle Arm Set	(10) (11) x 1 (63) x 4 (press-inserted)
PG-11	Rear Knuckle Arm Set	(12) (13) x 1 (63) x 4 (press-inserted)
PG-12	Knuckle Stopper Set	(14) (15) x 1
PG-14	Rear Oil Shock	(16) (17) (18) (19) (20) x 2 (4mm Collar is not in use)
PG-15	Rear Shock Spring Set	(21) (22) (23) (24) (25) x 2
PG-17	Rear Shock Arm	(26) (27) (28) x 1 (29) x 2
PG-19	Rear Wheel	(30) (31) x 2
PG-20	Wheel Stopper Set	(32) (33) x 2 (w/E Ring1)
PG-21	Front Tire	(34) x 2
PG-22	Rear Tire	(35) x 2
PG-24	Rear Wheel Shaft	(36) x 2
PG-26	Rear Half Shaft	(37) x 2
PG-28	Rudder Chain	(38) x 1
PG-30A	Gearbox Case	(39) (40) (41) x 1 (62) x 4 (63) x 2
PG-31	Motor Mount	(42) (43) x 1
PG-32	Gear Set (A)	(44) (45) (46) (47) (48) (52) x 1
PG-33	Gear Set (B)	(49) (50) (51) x 1
PG-34	Differential Gear Set	(54) (56) (57) x 1 (55) x 3 (58) x 2
PG-35	Differential Joint Set	(59) (60) x 1
PG-37	Motor Cover	(61) x 1 (polycarbonate)
PG-38	4ø Bushing	(62) x 10
PG-39	6ø Bushing	(63) x 10
PG-40	Speed Controller Set	(64) (65) (66) (67) (68) (69) x 1 (70) (71) (72) x 2 (73) x 1
PG-41	Speed Controller PC Board (w/Diode)	(64) x 1 (71) x 2
PG-42	Contact Set	(70) x 4 (72) x 2
PG-43	Connector Lead Wire Set	(74) (75) x 1 (76) x 2
PG-52	Resister for the Three Speed	(73) x 1
PG-53	Front Differential Set	(77) (78) (79) (80) (81) (83) (85) (86) (87) x 1 (88) (82) (84) x 2
PG-54	Differential Case, Mount Sprocket	(77) (78) (79) (85) (86) (87) x 1 (84) x 2
PG-55	Gear Set for Front Differential	(80) (81) (83) x 1 (82) (88) x 2
PG-56	Front Half Shaft for Differential	(89) x 2
PG-57	Front Wheel Shaft for Differential	(90) x 2
PG-58	Front Wheel for Differential	(91) (92) x 1 (33) (93) (94) x 2
PG-61	Side Guard	(95) (96) x 1
PG-65	Front Oil Shock	(17) (18) (19) (20) (97) (99) x 2
PG-66	Front Shock Spring	(22) (23) (24) (100) (120) x 2
PG-67	Bumper, Rear Guard Set	(101) (102) (103) (104) x 1
PG-68	Front Shock Holder, Stay	(105) x 1 (106) x 2
PG-69	Deck, Plat, Post Chain Guide	(107) (108) (110) (111) x 1 (109) x 2
PG-70	Suspension Arm Pin Set	(112) (113) (114) x 2
PG-71	Rear Suspension Mount Set	(115) x 2 (116) x 4
PG-72	Rear Knuckle King Pin Holder	(117) x 4
PG-73	Front, Rear Servo Saver	(118) (119) x 1
PG-74	Tie Rod Set	(120) (122) x 8 (121) x 4
PG-75	Linkage Set	(9) (123) x 3 (124) (125) (126) x 1
PG-76	Side Cover, Center Post	(127) (128) x 1 (129) x 2
PG-77	Body Hook & Roll Bar	(130) (131) x 1
PG-78	Wing & Driver	(132) (133) (134) x 1 (135) x 2
PG-79	Body, Gallop MKII	(136) x 1
PG-80	Decal, Gallop MKII	(137) x 1
PG-81	Screw Set	Screw, Nut Hex Key Set
EF-37	Nylon Strap (Small)	(138) x 6
EF-38	Nylon Strap (Medium)	(139) x 6
EF-39	Ni-Cad Strap	(140) x 6
EP-22	Hook Pin	(141) x 5
1885	Antenna Set	(142) (143) (144) (145) x 1 w/M3 x 14 Screw
1951	Shock Oil Set (S, M, H)	Soft, Medium, Hard Set
MB-18	Linkage Set	(146) x 2 (only Servo spacer in use)

OPTIONAL PARTS

[Replacing of Bearing]

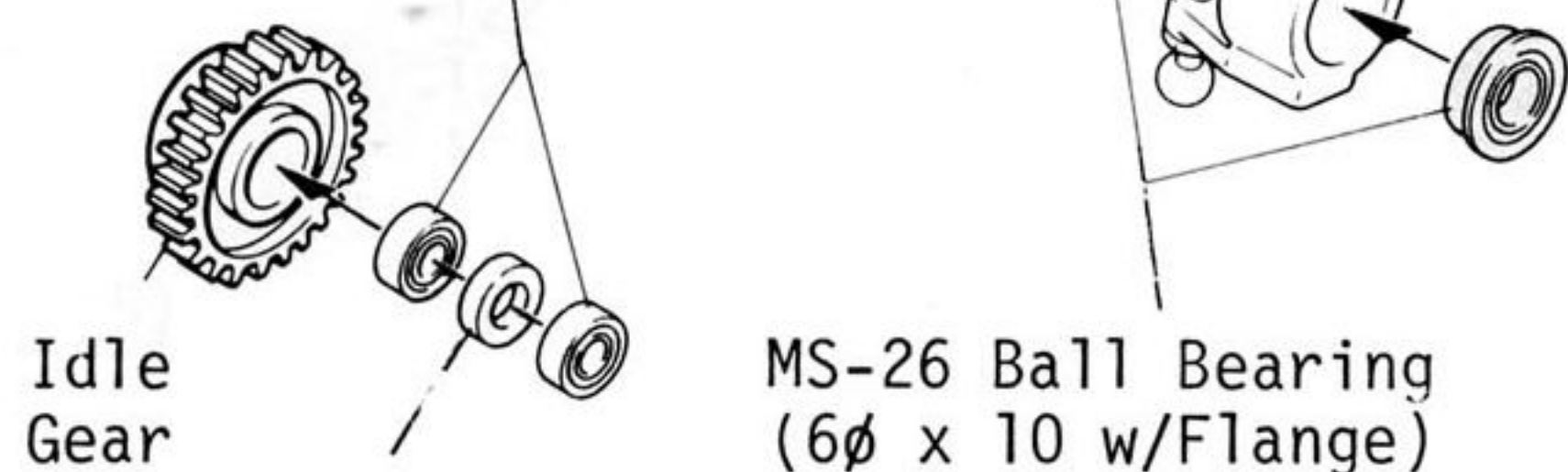
Plain bearings are used for the gearbox, idling gear, and wheel axles. You can grade up the performance of the car by replacing them with ball bearings.

No.1903 Ball Bearing
(4ø x 8 w/o Flange)



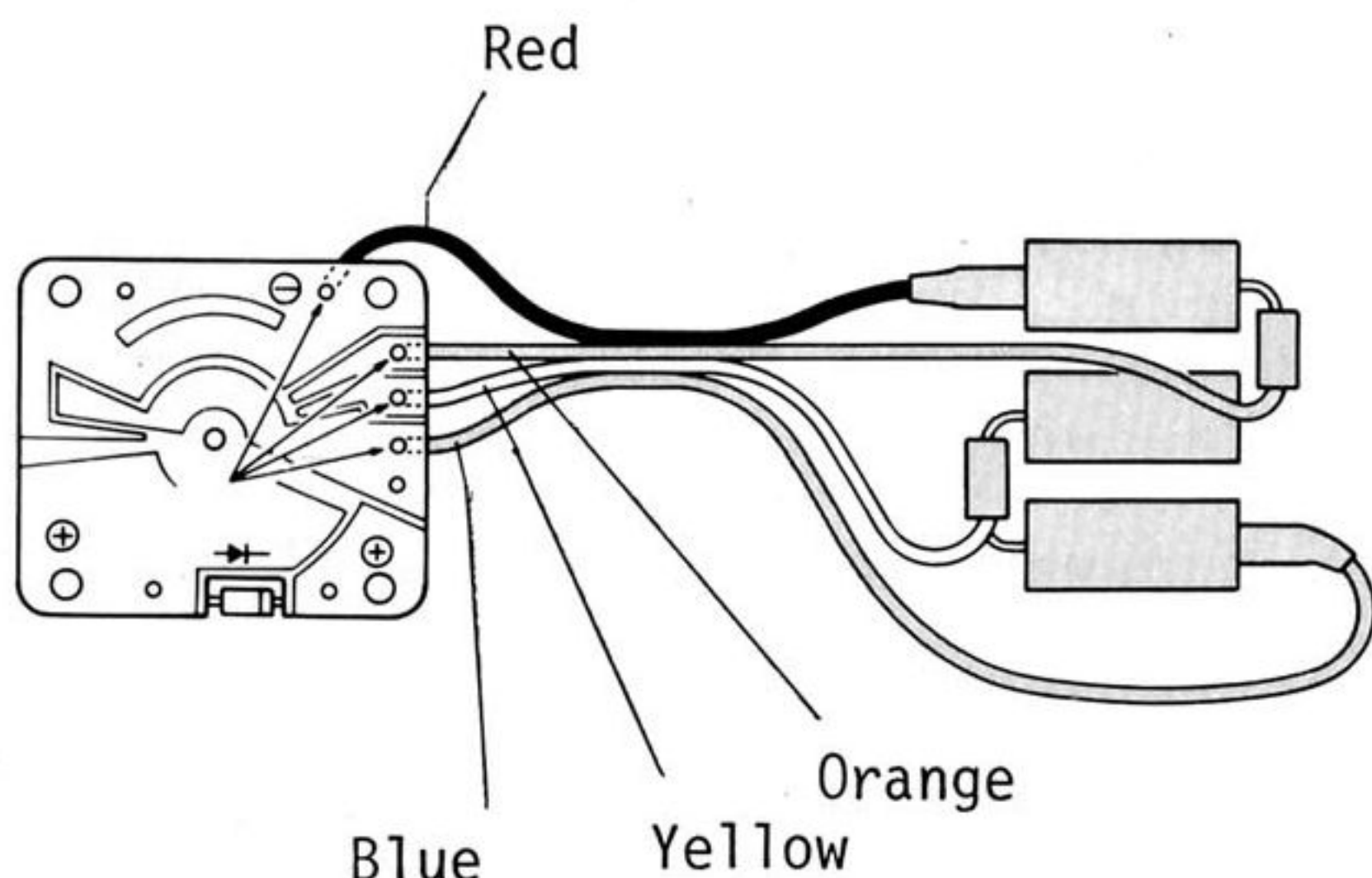
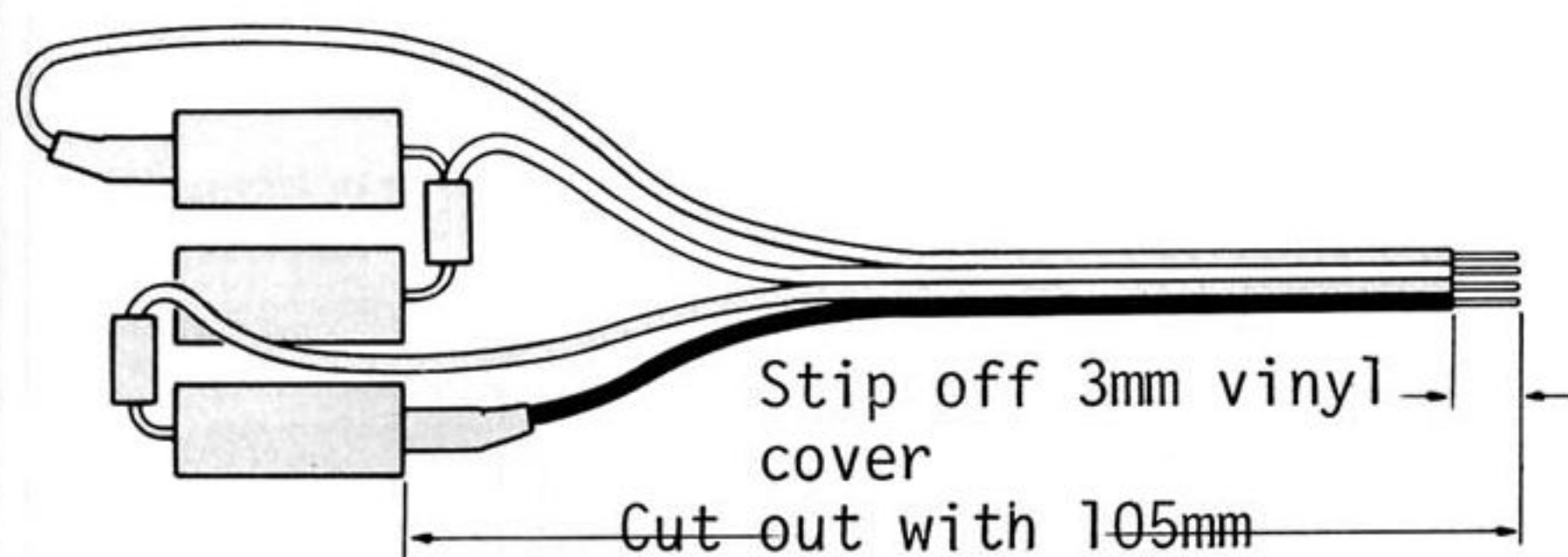
PG-82 Ball Bearing
(6ø x 10 w/o Flange)

No.1903 Ball Bearing
(4ø x 8 w/o Flange)

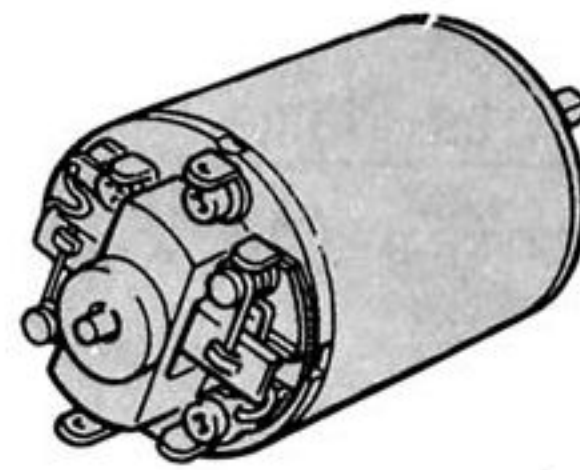


Collar for adjusting the thickness

[Wiring for SC-80 Four (4) Speed Resiter]



[Replacing with Le Mans Motor]

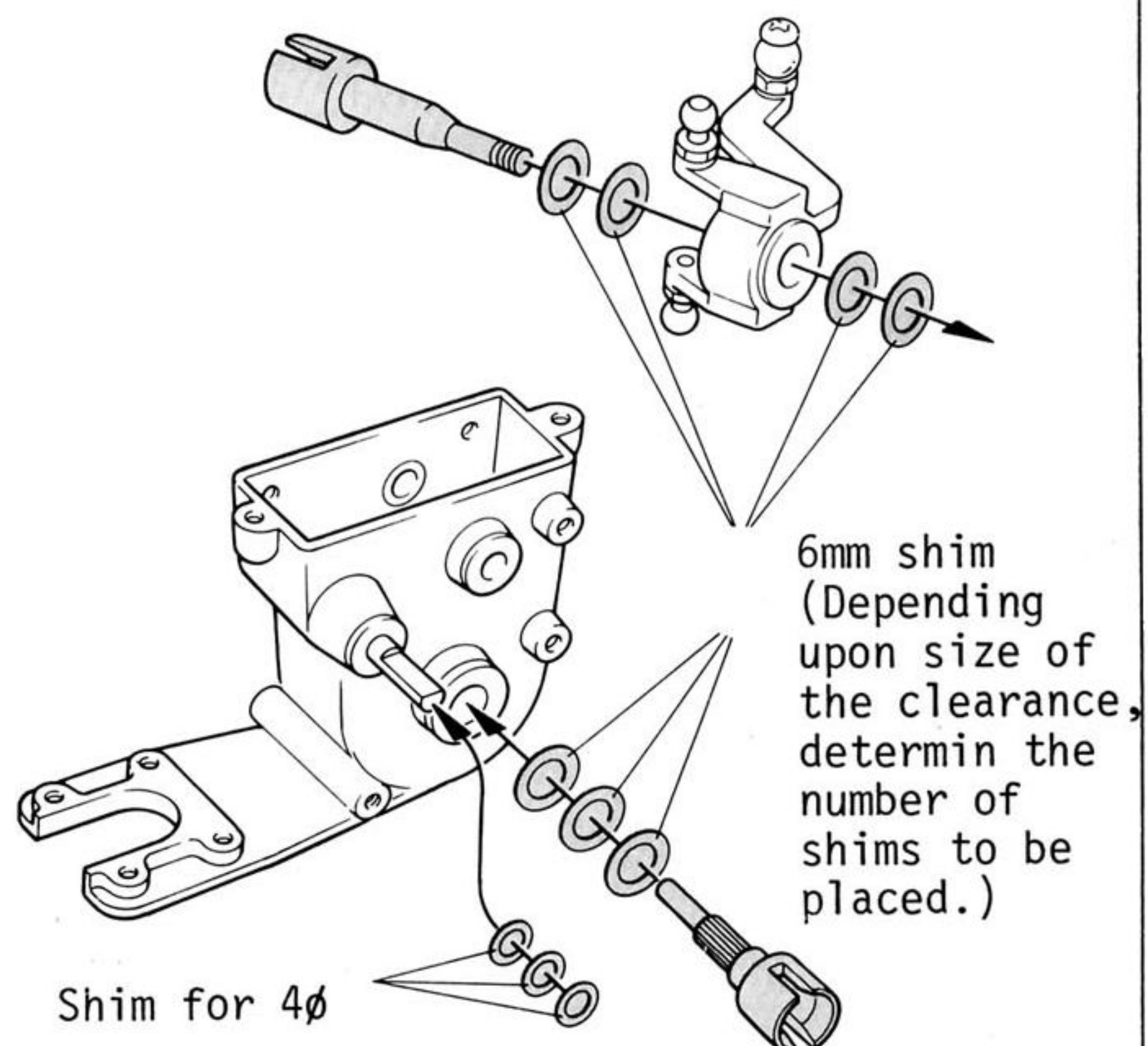


This list shows the suitability of the Le Mans motors for the Gallop Mark II 4WDS. Among them the Le Mans 360PT is the most powerful and optimum to drive electric buggy cars which undergo the stiff running resistance, grading up the performance of the model in speed and running duration time.

Parts No.	Type of Le Mand Motor	Suitability
1893	240S	Inept
1891	480S	Good
1892	480T	Good
1897	480G	Good
1894	600E	Good
1898	360ST	Good
1895	360PT	Best

[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 included shims for the differential gear system.

OPTION PARTS

<u>Parts No.</u>	<u>Parts Name</u>	<u>Key No. & Consistint of</u>
1903	Ball Bearing (4ø x 8)	62 4ø Bushing, Replacement for Idle Gear Bushing 52 2 pcs.(w/Thickness adjustment collar)
MS-26	Ball Bearing (6ø x 10 w/Flange)	Replacement for 6ø Bushing 63 (For Front, Rear Knuckle 2 pcs.)
PG-64	Ball Bearing (10ø x 22)	Replacement for Front Diff. Bushing 84 2 pcs.
PG-63	Shim for Bearing	4ø 6ø adjustment shims for differential
PG-82	Ball Bearing (6ø x 10)	Replacement for 6ø Bushing 63 (For Gearbox 2 pcs.)
SC-80	Four Sneed Resiter	
SC-72	Accessory Set	Body Accessory Parts
CB-124	Linkage Boots	Protects switch against mud and water
1883	Frontier Hobby Oil	Lubricant w/teflon for bearings
OT-23	Pinion Gear (12T)	Gear Ratio 7.69 - 11.05
OT-50	" (13T)	"
OT-52	" (16T)	"
OT-53	" (17T)	"

OFF-ROAD RACER GALLOP MK II

List of Parts in the bags

Bag No.	Key No.	Name of Part	Q'ty	Parts Used in Instruction
(1)	1	Front Head	1	[2]
	2	Front Base	1	[2]
	105	Front Shock Holder	1	[2]
	106	Front Shock Stay	2	[3]
	14.15	Knuckle Stopper (R) (L)	R.L x 1	[5]
(2)	85.86	Front Diff. Mount (A)(B)	A.B x 1	[2]
	88	Front Joint	2	[2]
	38	Rudder Chain	1	[2]
	112	Front Upper Sus. Arm Pin	2	[4]
	113	Front Lower Sus. Arm Pin	2	[4]
	114	3ø Stopper	2	[4]
	28	Shock Rubber Pipe	1	[4][14]
	118	Fornt Servo Saver	1	[5]
(3)	4	Front Upper Sus. Arm	2	[3]
	5	Front Lower Sus. Arm	2	[3]
	6.7	Rear Sus. Arm (R) (L)	R.L x 2	[6]
(4)	8	Ball Seat	4	[3]
	9	Pivot Ball	7	[3][5][8][17]
	120	5.8ø Ball	10	[3][4][5][6][8]
	121	Tie Rod	4	[5][8]
	122	Ball End (L)	8	[5][8]
	123	Ball End (S)	3	[18]
	130	Body Hook	1	[5]
(5)	109	Radio Plate Post	2	[7]
	129	Center Post	2	[7]
	110.111	Chain Guide (A) (B)	A.B x 1	[10][7]
	108	FRP Radio Plate	1	[10]
(6)	115	Rear Sus. Mount	2	[6]
	116	Rear Sus. Arm Collar	4	[6]
	117	Rear King Pin Holder	4	[6]
		M3 x 12 Screw	4	[6]
		3mm Nut	4	[6]
	119	Rear Servo Saver	1	[8]
(7)	138	Nylon Strap (S)	8	[9][10][12]
	139	" (M)	2	[12]
	140	Ni-Cad Strap	2	[28]
	146	Servo Spacer	2	[9]
	71	Rug Terminal	2	[10]
	147	BEC Connector	1	[15]
	74	Battery Connector	1	[11]
	75	Resister Holder Metal	1	[13]
	131	Roll Bar	1	[14]
	26.27	Shock Arm (R) (L)	R.L x 1	[14]
	29	Rear Shock Pin	2	[14]
	25	Shock Ball	2	[14]
		M2.6 x 6 Screw	1	[11]

Bag No.	Key No.	Name of Parts	Q'ty	Parts Used in Instruction
(9)	65	Speed Controller Horn	1	[17]
	66	" Pivot	1	[17]
	67	" Nut	1	[17]
	68	" Spring	1	[17]
	69	" Holding Metal	1	[17]
	70	Silver Contact	2	[17]
	72	Contact Holder	2	[17]
		3mm Brass Nut	2	[17]
	124	Front Steering Rod	1	[18]
	125	Rear Steering Rod	1	[18]
	126	Speed Controller Rod	1	[18]
(10)	44	Pinion Gear 14T	1	[16]
	45	" 15T	1	For Setting
	46	Idle Gear No.1	1	"
	47	" No.2	1	"
		Oil	1	[1][16]
(11)	91.92	Front Wheel	2	[20]
	30	Rear Wheel	2	[20]
	93	Front Inner Wheel	2	[20]
	31	Rear Inner Wheel	2	[20]
	32	Wheel Washer	2	[21]
	33	Wheel Stopper	4	[21]
	94	Front Wheel Collar	2	[21]
(12)	95.96	Side Guard (A)(B)	A.B x 1	[23]
	102.103	Rear Guard (R) (L)	R.L x 1	[24]
	104	Rear Guard Joint	1	[24]
	101	Front Shock	1	[28]
(13)	134	Wing Spring	1	[28]
	135	" Stopper	2	[28]
	133	Wing	1	[25]
	61	Motor Cover	1	[22]
	132	Driver	1	[25]
	3	Main Chassis	1	[7]
Antenna	71	Rug Terminnal	1	[19]
	142	Antenna	1	[19]
	143	Antenna Top	1	[19]
	144	" Base	1	[19]
	145	" Bobbin	1	[19]
		M3 x 14 Screw (B)	1	[19]
	136	Body	1	[26]
	137	Decal	1	[26]
		Instruction Manual	1	
	34	Front Tire	2	[20]
	35	Rear Tire	2	[20]
		Gear Box Assembly	1	[16]
		Front Shock	2	[1]
		Rear Shock	2	[1]
	107	Ni-cad Deck	1	[11]
	78-86	Front Diff	1	[2]
	87	Front Sprocket	1	[2]
	64.73	Speed Controller PC Board (w/Resister)	1	[11]
	89	Front Half Shaft	2	[4]
	37	Rear Half Shaft	2	[15]

<u>Bag No.</u>	<u>Key No.</u>	<u>Name of Parts</u>	<u>Q'ty</u>	<u>Parts Used in Instruction</u>
	90	Front Wheel Shaft	2	[4]
	36	Rear "	2	[15]
	10.11	Front Knuckle Arm (R) (L)	R.L x 1	[3]
	12.13	Rear "	R.L x 1	[6]
		Screw Cement	1	

Screws & Nuts etc.

<u>Part Name</u>	<u>Size</u>	<u>Q'ty</u>	<u>Part Name</u>	<u>Size</u>	<u>Q'ty</u>
Screw	M3 x 10	40	Hex Head Set Screw	M3 x 5	5
	M3 x 15	8		M4 x 4	4
	M3 x 20	2	Nuts	3mm	33
	M3 x 45	4		4mm	2
	M4 x 55	1	Nylon Nut	3mm	14
Flat Head Screw	M4 x 60			4mm	5
	M2.6 x 5	12	Washer	3ø	10
Screw	M2.6 x 8	2		4ø	4
	M3 x 6	4	E Ring	3ø	2
	M3 x 8	8			
	M3 x 10	8	Hook Pin		3
	M3 x 15	10			
			Hex Key	1.5mm	1
				2mm	1

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