RADIO CONTROLLED ELECTRIC POWERED SPECIAL RACING BUGGY

OFF-ROAD RACER

TURBO ULTIMA

THE HIGHEST PERFORMANCE 2WD BUGGY ON THE TRACK.
SUPER LIGHT WEIGHT FOR QUICK ACCELERATION.
SUPERB LONG-TRAVEL SUSPENSION FOR EXCELLENT HANDLING ON ANY SURFACE.
INDIPENDENT SUSPENSION ON ALL FOR WHEELS WITH PLATINUM OIL-FILLED SHOCK ABSORBERS AND STABILIZER BARS.
NEW SHIELDED HEAVY DUTY ROTALY SPEED CONTROLLER.
DOUBLE WISHBONE SUSPENSION DESIGN FOR OPTIMUM WHEEL POSITIONING.
RACE-TESTED GEOMETRY.
BALL DIFFERENTIAL FOR OPTIMUM POWER DISTRIBUTION.
RIGID, LIGHT ALUMINUM-ALLOY CHASSIS.
POWERFUL LeMANS 240ST MOTOR INCLUDED IN KIT.
FOURTEEN BALL BEARING TO REDUCE FRICTION.
HIGH-STRENGTH, HIGH-QUALITY PARTS FOR LONG SERVICE LIFE.

1:10 SCALE

BATTERY: 7.2V-1200mAh NiCd
RADIO: 2 channel
(NOT INCLUDED)

KYOSHO
THE FINEST RADIO CONTROL MODELS

KIT No.3116

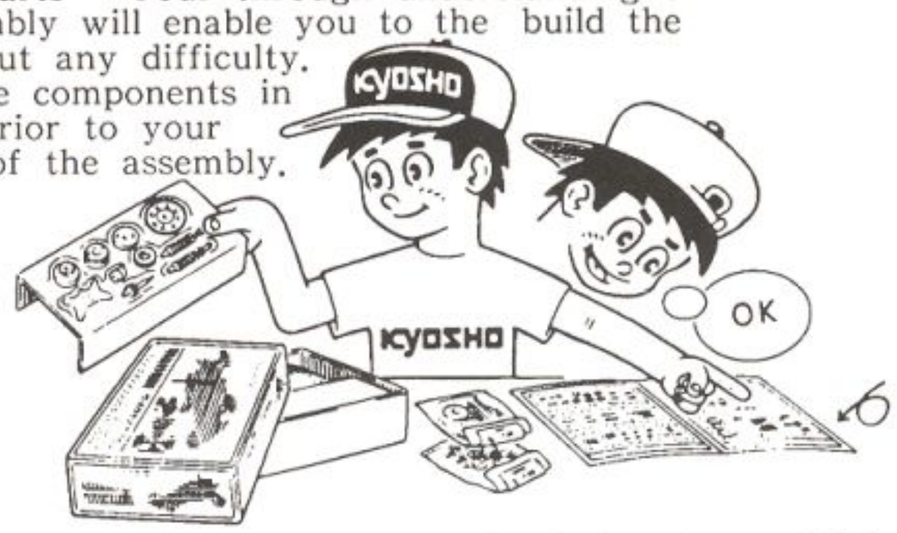
BEFORE ASSEMBLY

○ Read the instruction carefully.

You can assemble the kit more easily if you have grasped the general idea of steps and structure beforehand by reading it through to the end.

○ Check the parts in the kit.

Check to see if all the parts are correctly bagged as they are listed in the "List of Bagged Parts" Your through understanding of the assembly will enable you to the build the kit without any difficulty. Check the components in the kit prior to your starting of the assembly.



Any claims for replacements or refunds for the model in the process of assembly will not be accepted.

○ Learn the marks described in the instruction.

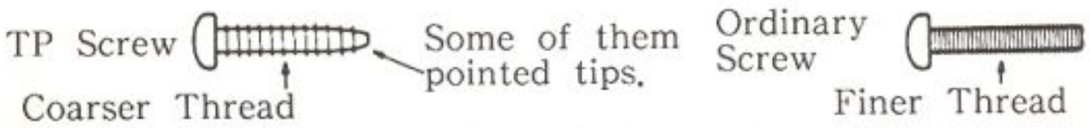
SW-CEMENT ... Places to put some locktite.
It will prevent the screws and nuts get loosen by vibration while running.)

GREASE ... Point where grease should applied.
(It will reduce friction are assure smooth movement.)

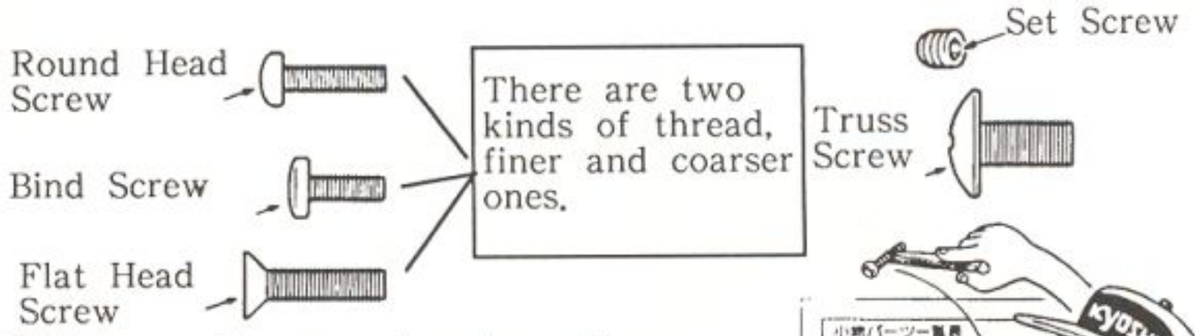
Steps where your particular attention is required.

○ Be well aware of the different types of screws.

1 The difference between the TP screw (short form of self-tapping screw) and the ordinarly screw is ...



2 The kinds of screws which will be used in this instruction.

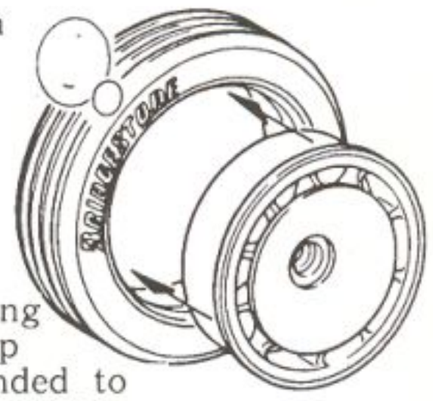


○ Pick up the correct parts and screw.

Compare the shape and size of small parts, such as screws, nuts, and washers with the attached sheet of "List of Small Parts."

○ Be sure about the location and direction of parts to install.

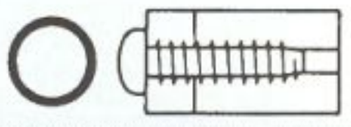
Double-check the location and orientation of parts with the illustration before installation. When necessary, assemble the parts themselves tentatively before proceeding to the next step.



○ Do not tighten the self-tapping screw too tight.

Do not use excessive force when tightening the self-tapping screws, or you may strip the thread in the plastic. It is recommended to stop tightening it when the thread part on the screw goes into the plastic part and you feel some resistance from the tightening.

Over tighten may strip the thread in the plastic.

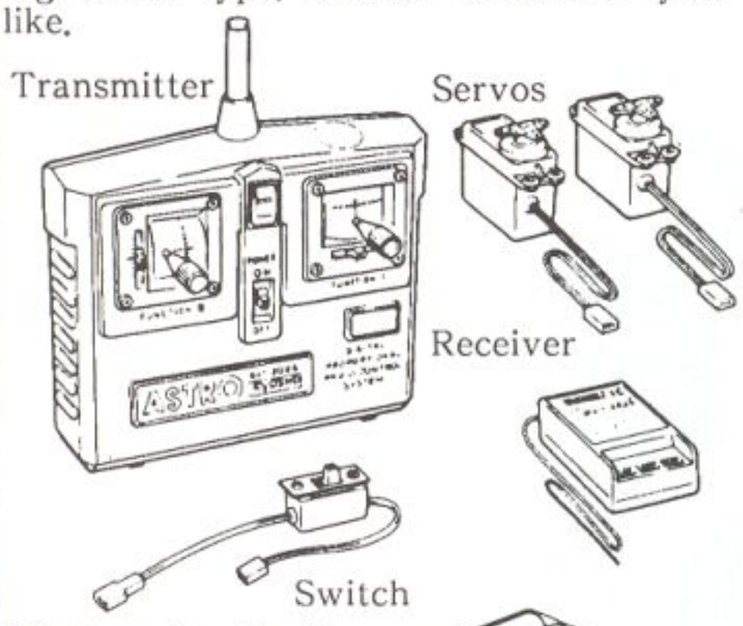
Good ○  Wrong ×

THINGS NEED BESIDES THE KIT

[2 Channel Radio System]

This model is designed for being controlled by a BEC type radio only. Get a radio with a mark as shown at left.

Two types of radio control set are on the market, the stick type and the steering wheel type. Choose whichever you like.



[Battery for Radio System]

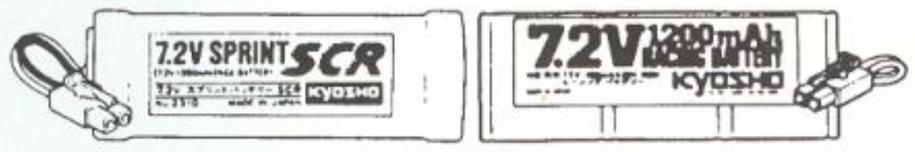
For Transmitter ... 8 pcs.

[NiCd Battery]

"Turbo Ultima" is designed to use a rechargeable 7.2V NiCd Battery pack.

7.2V Racing Battery and 7.2V Sprint Battery are ideal for the purpose.

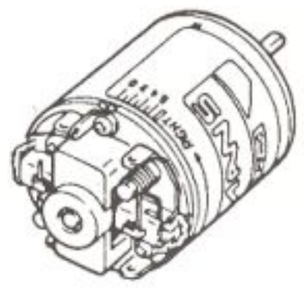
7.2V Sprint Battery SCR 7.2V Racing Battery



[Motor]

This model kit includes the Le mans 240ST motor, as a standardized item but the following motors are also optimum to mount ;

W-1011 SPA MOTOR 240WS.
#1924 LE MANS 240SB
#1926 LE MANS SPORTS H-240S..



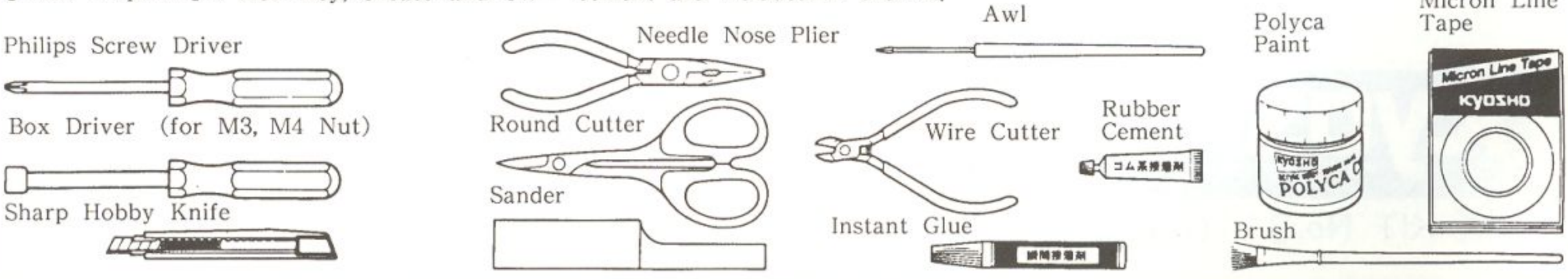
[Charger for NiCd Battery]

The Kyosho's Nicd battery is of high performance. If it is charged correctly, it will operate for a considerable period of time.

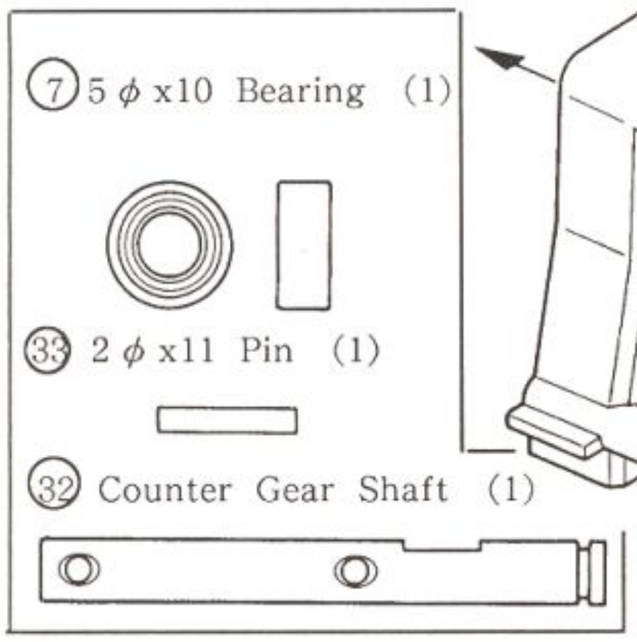
Use one of the Chargers listed below which suits your need.

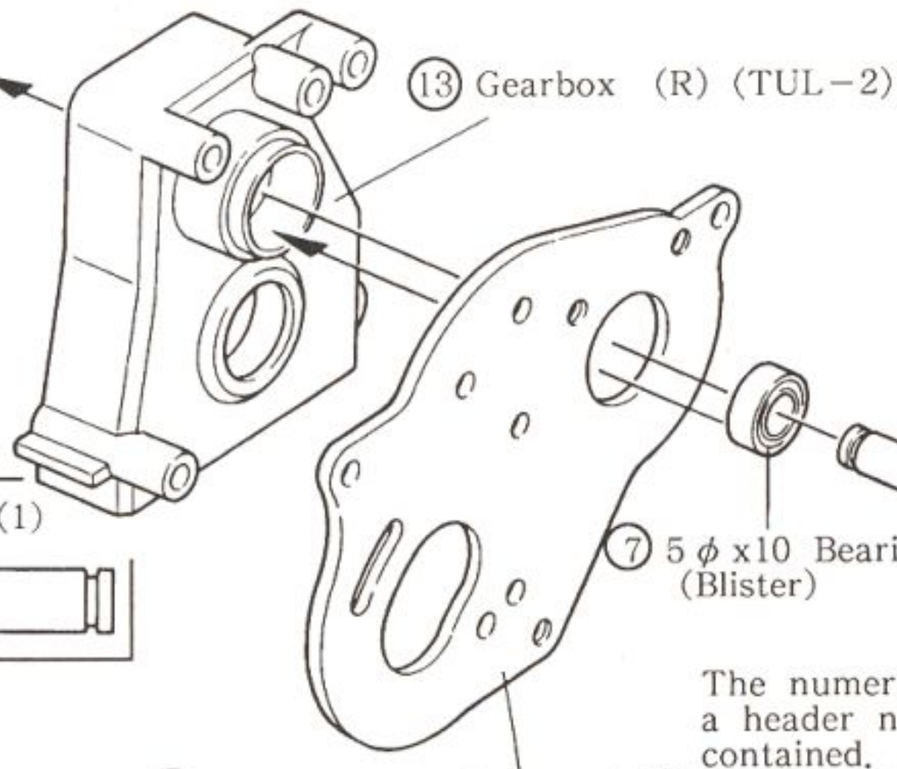
Model	Name	Time	Rate %	Features
No.2221	Super Nicd Charger (AC100V)	14 to 16 (hrs.)	100 %	For biginners
No.2326	7.2V Power Charger (DC12V)	15 (min.)	about 70 %	For biginners Built-in timer
No.1849	Multi Charger II (DC12V)	20 (min.)	100 %	Timer, Ammeter built in
No.1845	Lambda Quick Charger (DC12V)	about 20 (min.)	100%	Trickle charging Automatic cut-off at peak of charge.
No.2232	Super Nicd AC Rapid Charger	about 40 (min.)	about 80%	Chargeable from Household Outlet, Electronic Timer built in.

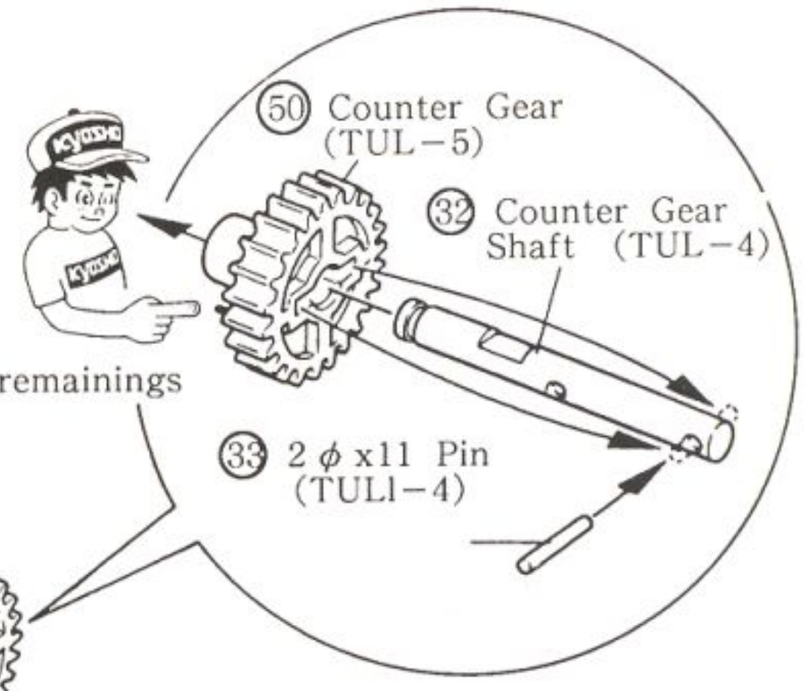
[Tools Required] A Hex Key, Grease and SW- cement are included in the kit.



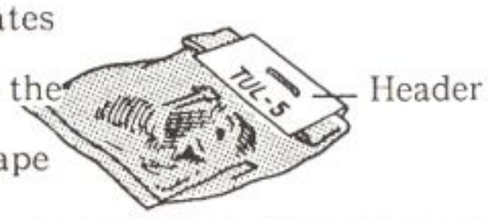
1 INSTALLATION OF COUNTER GEAR



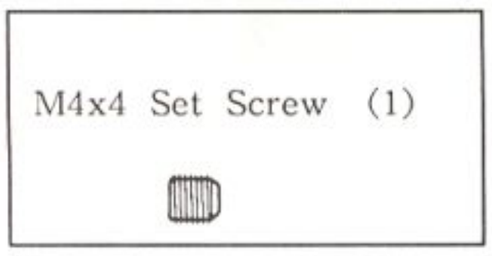


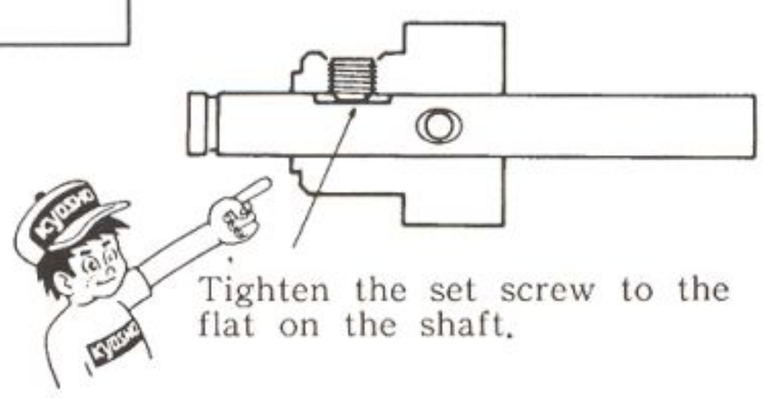


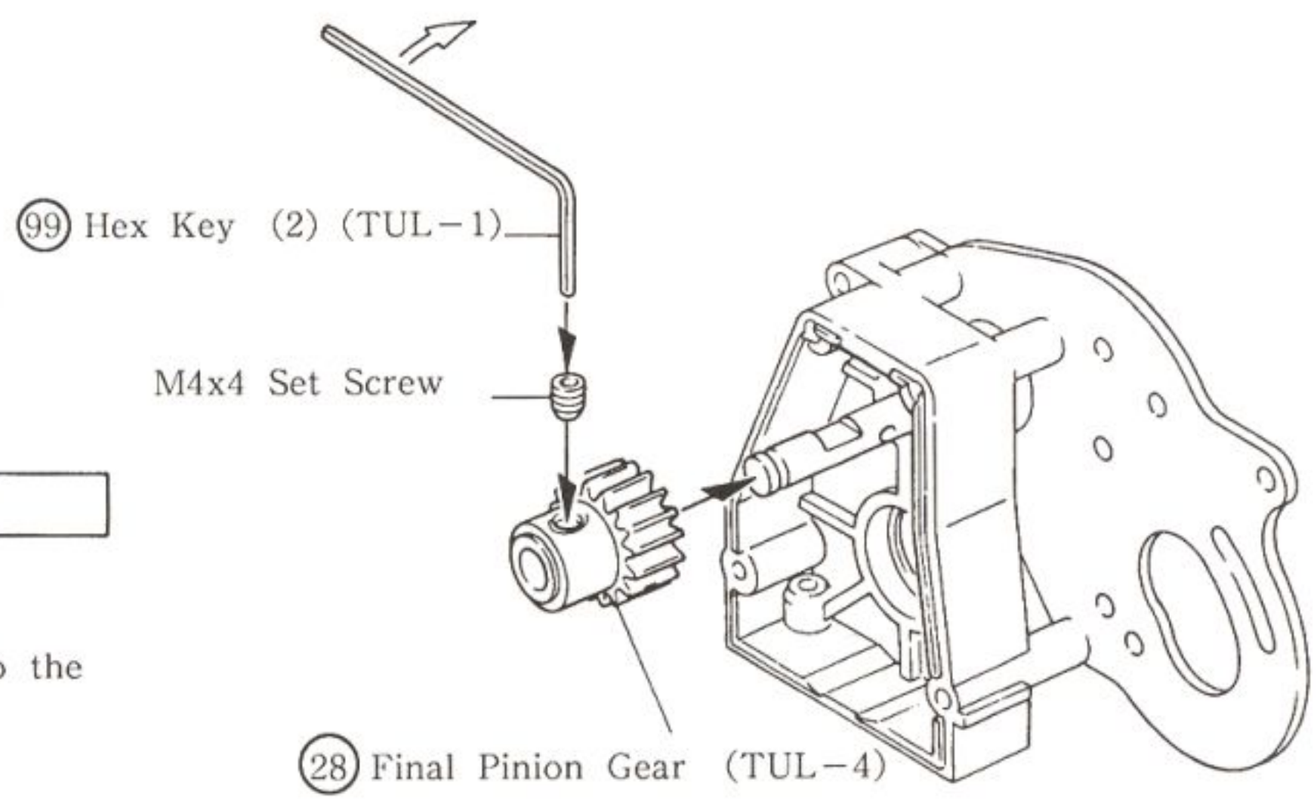
The numerical figures in the brackets indicates a header number, in which the parts are contained. After picking up the parts from the bag, do not discard the header for a later reference. Keep the header in the bag or tape it down to the bag.



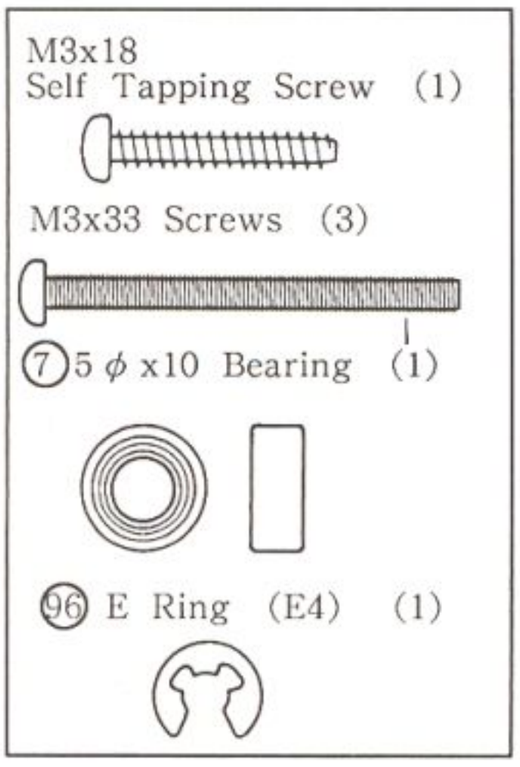
2 INSTALLATION OF FINAL PINION GEAR

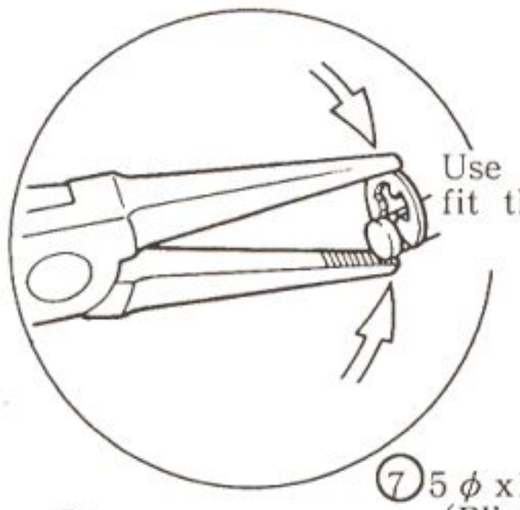


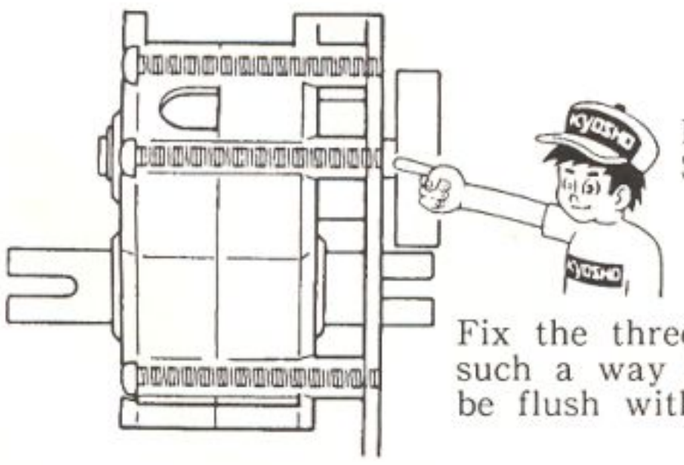




3 ASSEMBLY OF GEARBOX







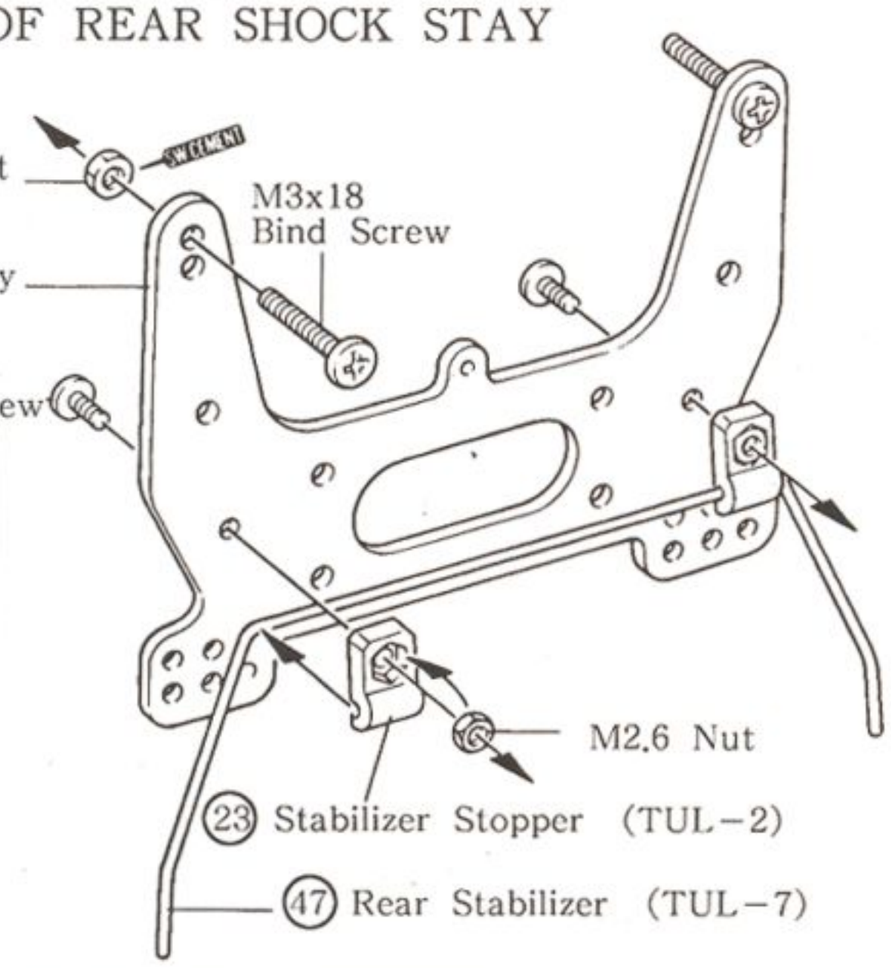
Fix the three M3x3 screws in such a way that the tips will be flush with the motor plate.

Before installing the ball differential, adjust it as explained on page 17, "Adjustment of Ball Differential" of "Guide for Characterizing the Model".

*See page 19 for an exploded view of the parts.

4 INSTALLATION OF REAR SHOCK STAY

Step 1

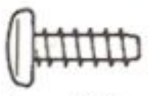


M2.6x6 Bind Screws (2)

M3x18 Bind Screws (2)

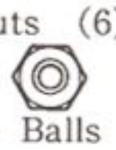
M2.6x15 Flat Head Screws (2)

3x8 Bind Self Tapping Screws (4)



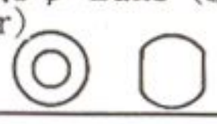
M3 Nuts (2)

M2.6 Nuts (6)



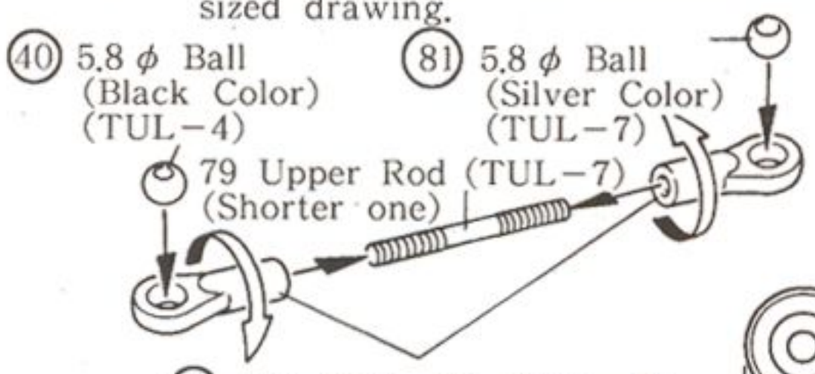
40 5.8 φ Balls (Black Color) (2)

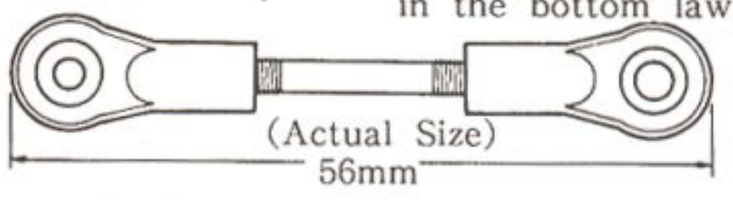
81 5.8 φ Balls (Silver Color) (2)



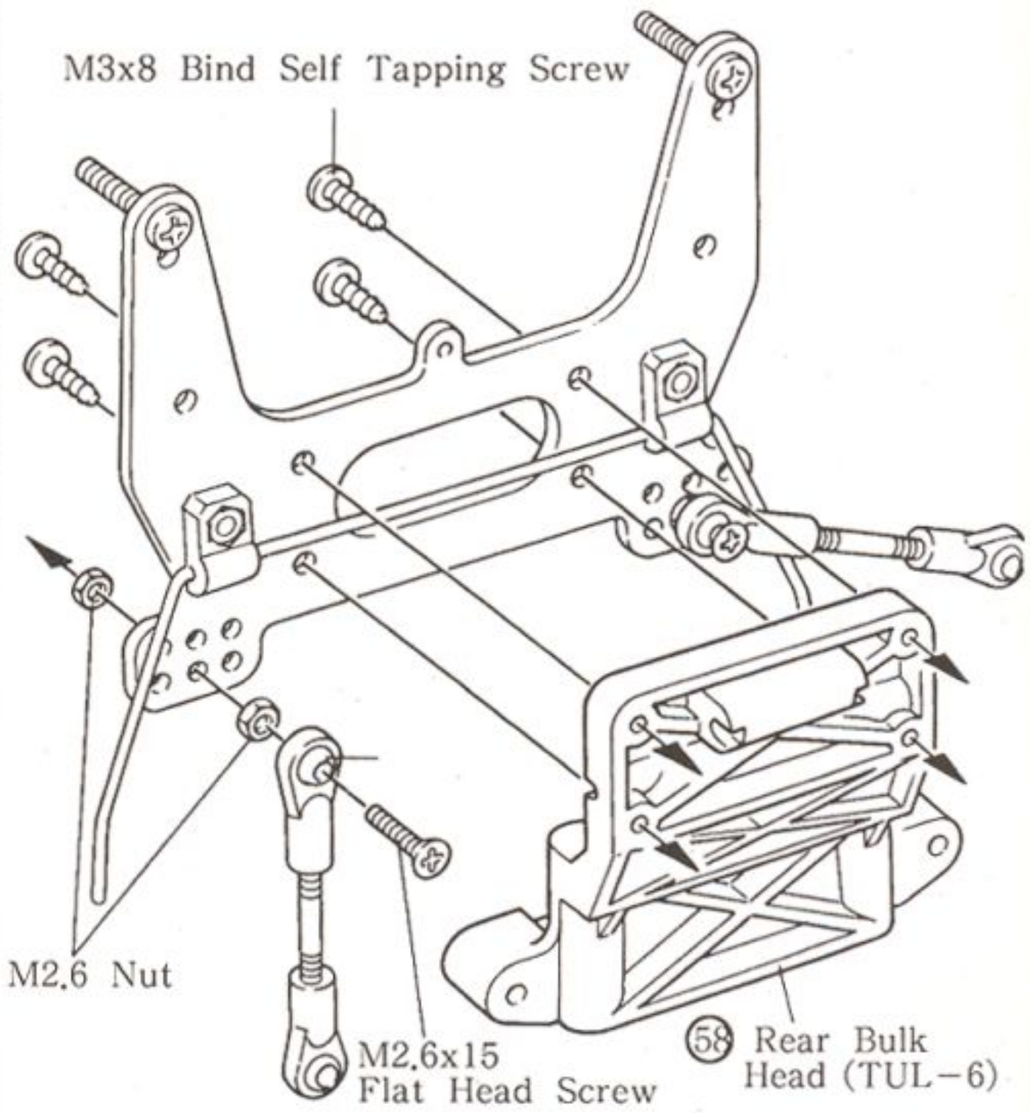
Step 2

Assemble two upper rods, right and left, fitting the ball ends referring the actual sized drawing.





Step 3



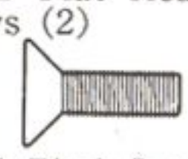
Bolt the upper rod through a center hole in the bottom law.

5 INSTALLATION OF GEARBOX

Step 1

M4x8 Flat Head Screws (4)

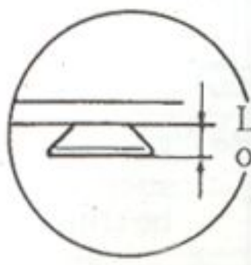
M3x12 Flat Head Screws (2)



M3x35 Bind Screw (1)

Step 2

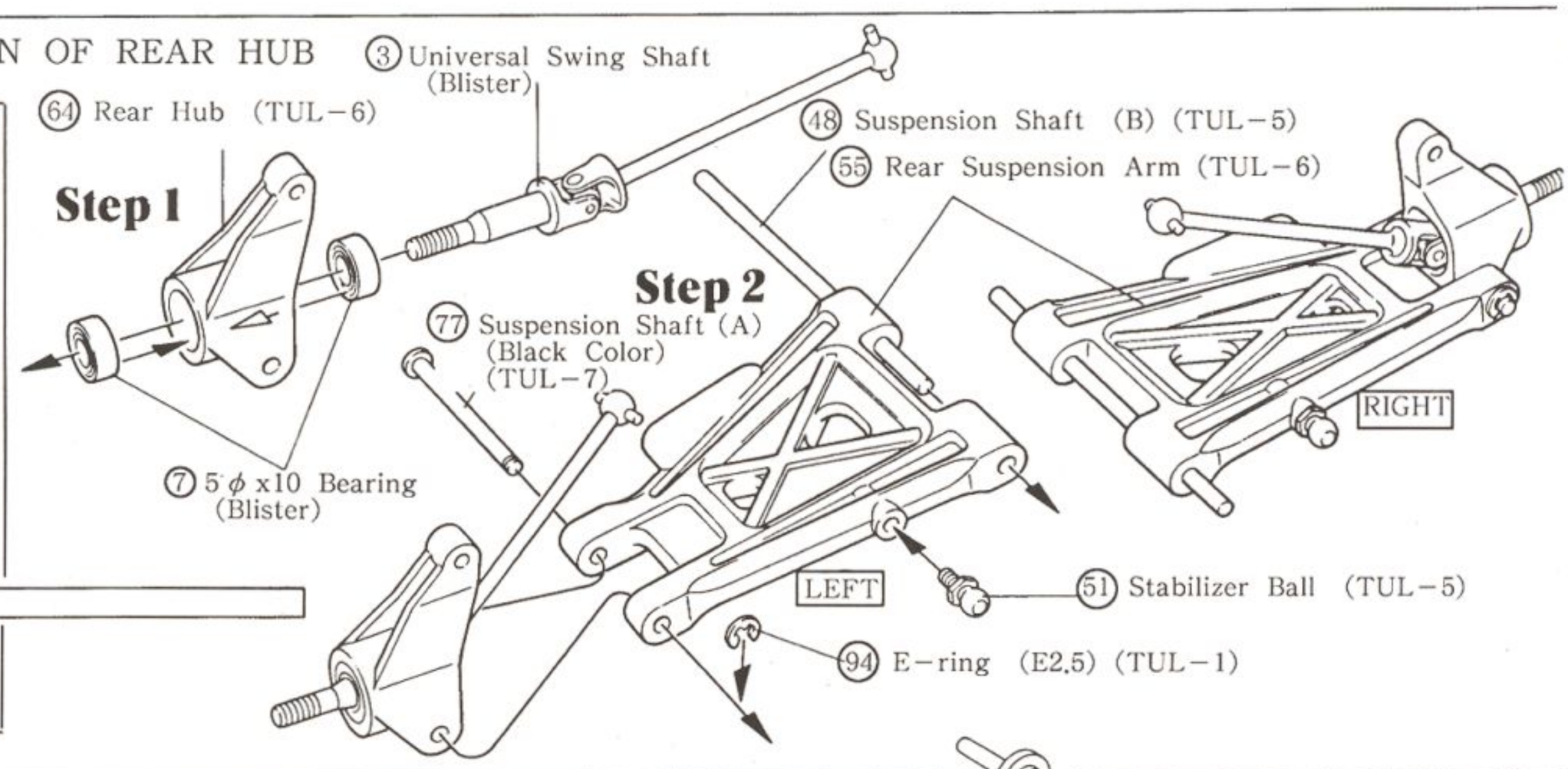
Fit six flat headed screws temporarily.



Leave the clearance of 2 mm here.

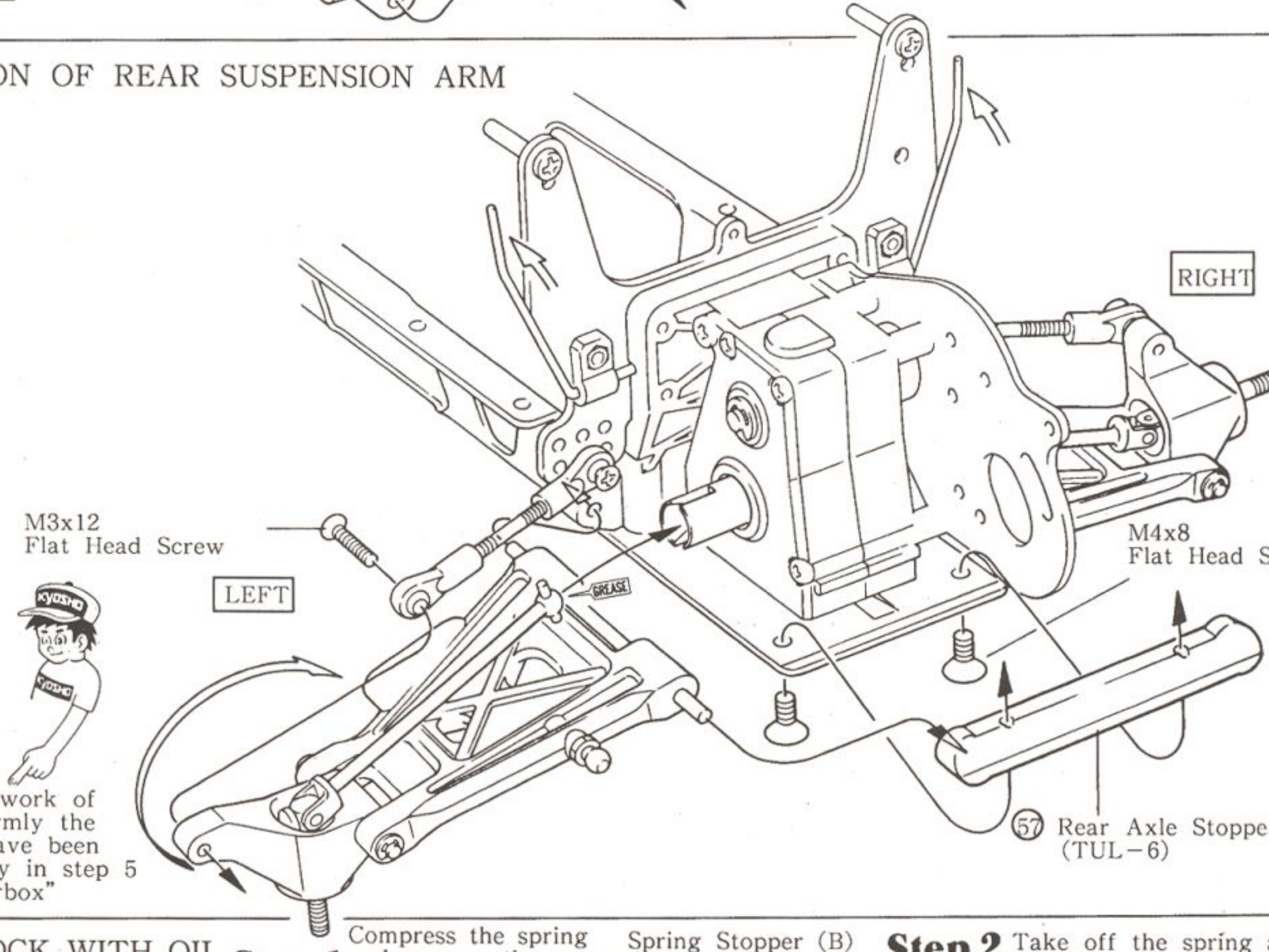
6 INSTALLATION OF REAR HUB

- (7) 5 φ x10 Bearings (4)
- (51) Stabilizer Balls (2)
- (77) Suspension Shafts (A) (2)
- (48) Suspension Shafts (B) (2)
- (94) E Rings (E2.5) (2)



7 INSTALLATION OF REAR SUSPENSION ARM

- 3x12 Flat Head Screws (2)
- M4x8 Flat Head Screws (2)



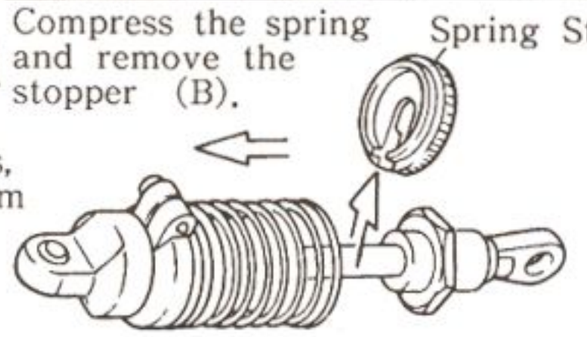
After finishing the work of this step, tighten firmly the six screws which have been left tightened loosely in step 5 "Installation of Gearbox"

8 FILLING SHOCK WITH OIL

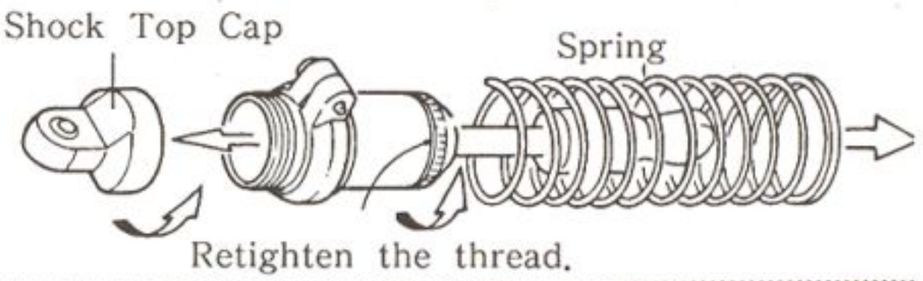
- (81) 5.8 φ Balls (Silver Color) (4)

[Disassembly of Shock]
Disassemble the four shocks, which are of assembled form in the kit, to the state as shown at right.

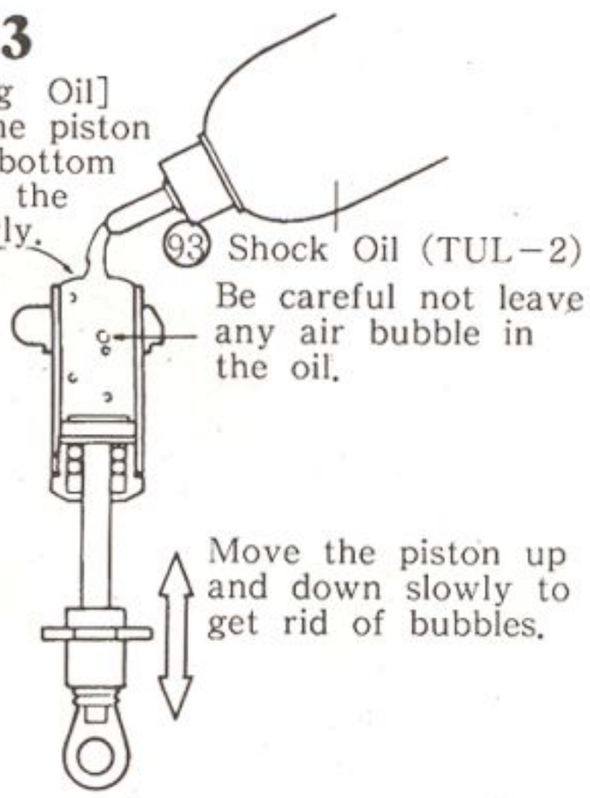
Step 1 Compress the spring and remove the stopper (B).



Step 2 Take off the spring and the cap.

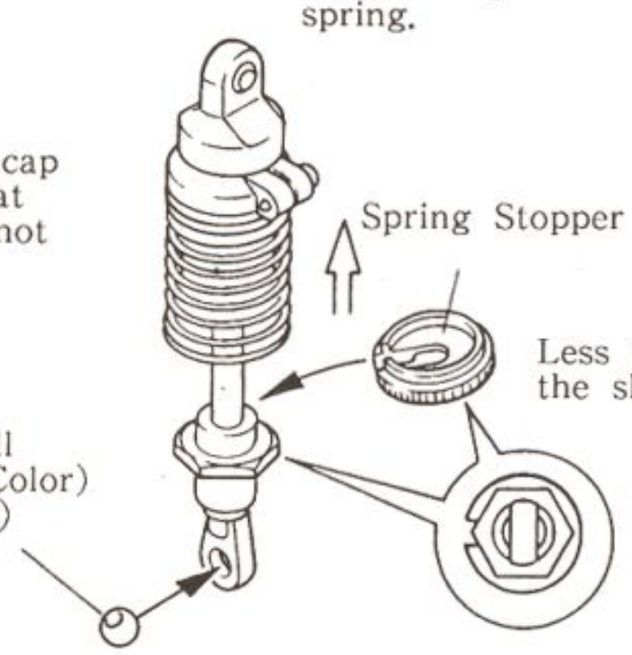


Step 3
[Pouring Oil]
Place the piston to the bottom and fill the oil slowly.

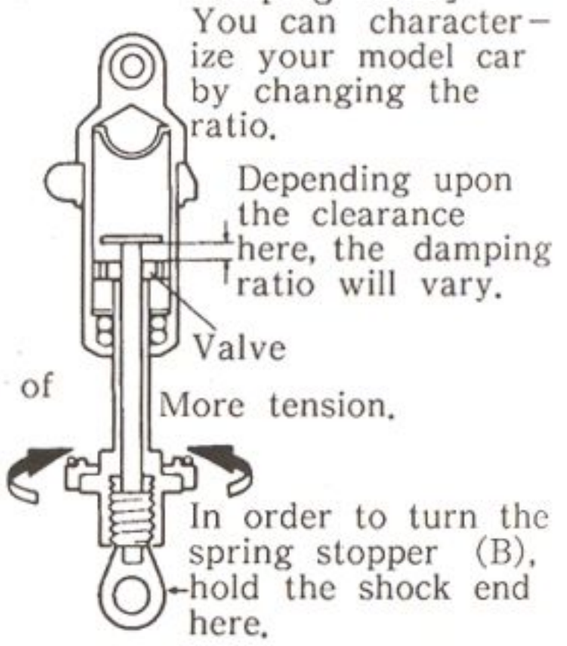


Step 4

Step 5 Fit the spring stopper (B) by pressing down the spring.



[Adjustment of damping Ratio]
You can characterize your model car by changing the ratio.



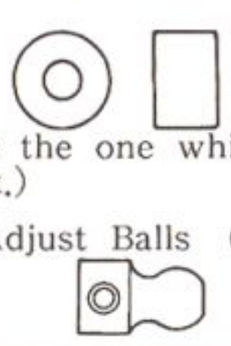
9 INSTALLATION OF REAR SHOCK AND REAR STABILIZER

M3x3 Set Screws (2)

M3x12 Flat Head Screws (2)

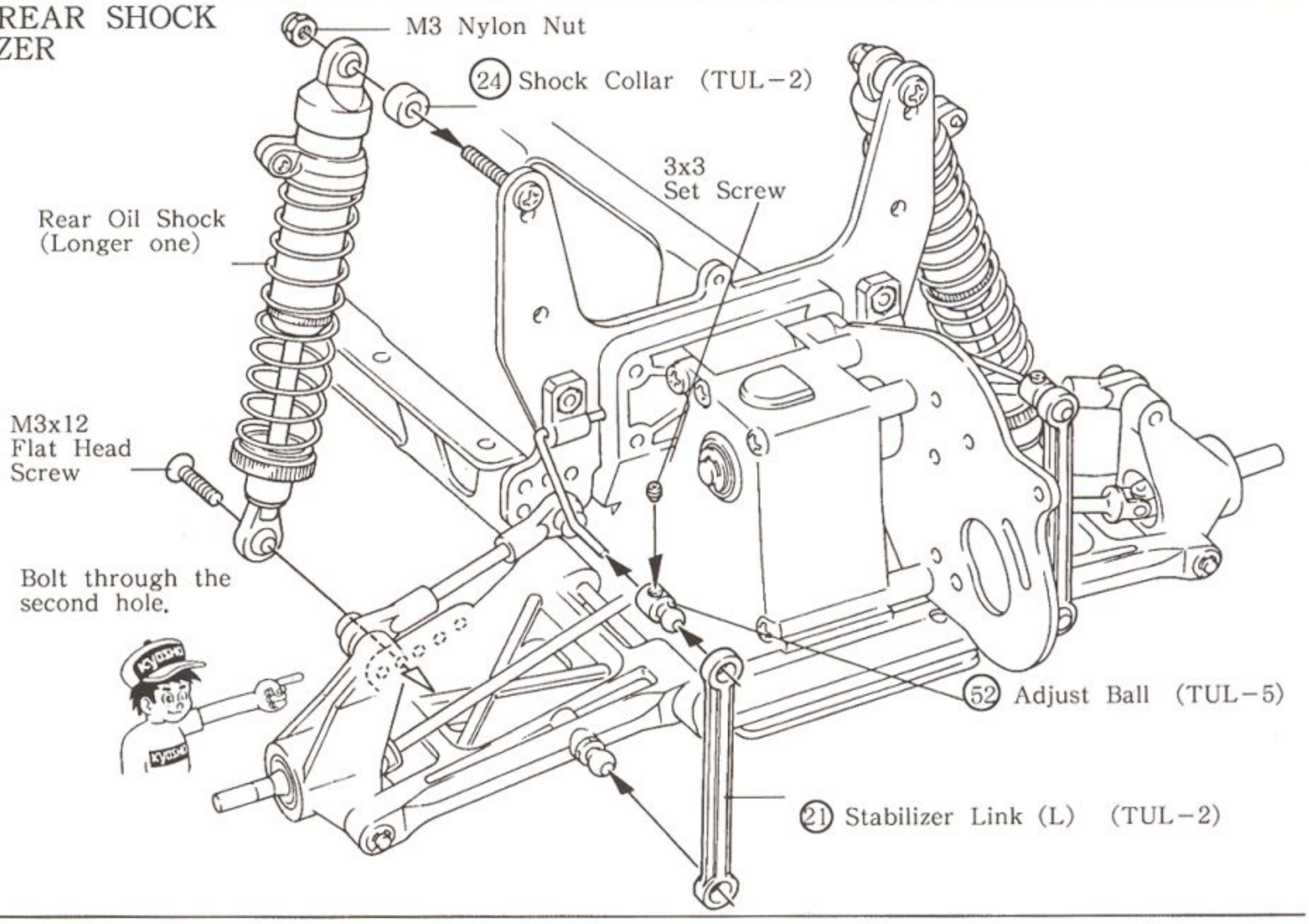
M3 Nylon Nuts (2)

㉔ Shock Collars (2)



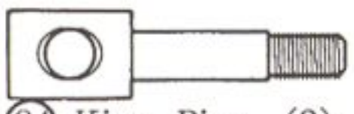
(Use the one which is 5mm thick.)

㊷ Adjust Balls (2)



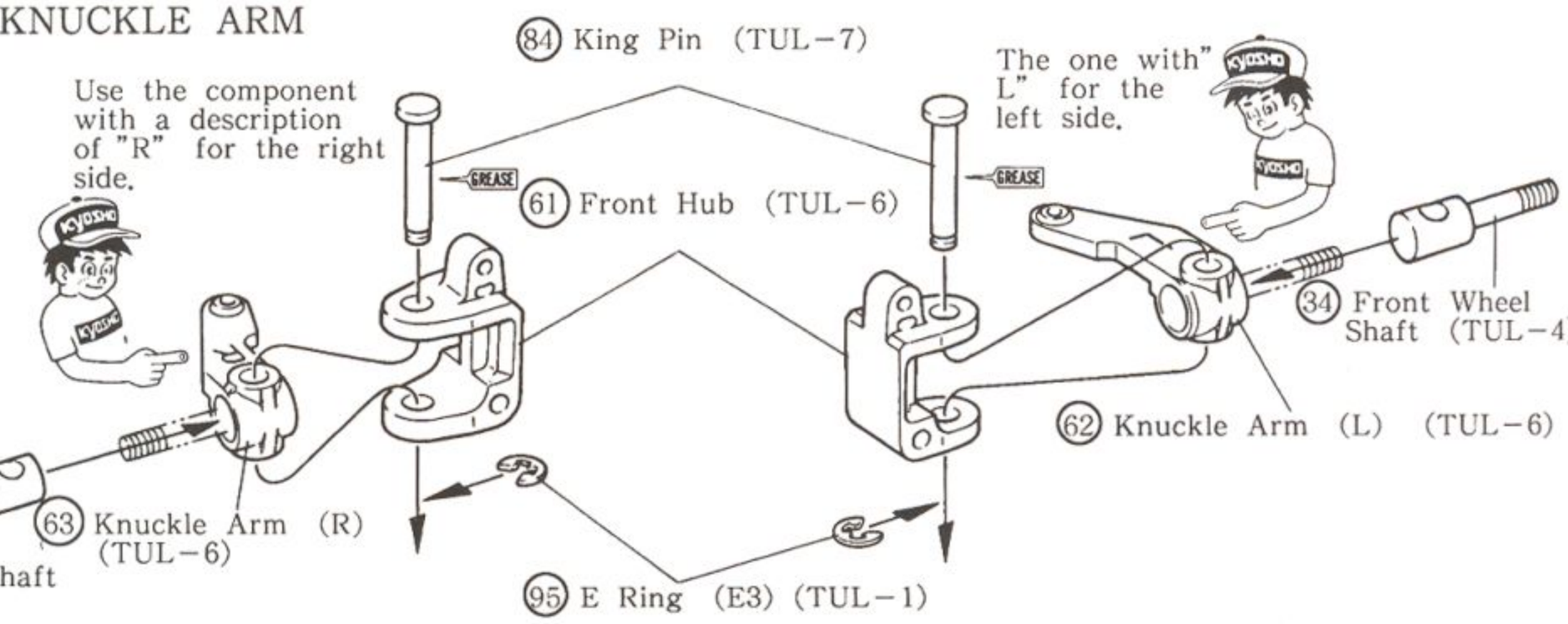
10 INSTALLATION OF KNUCKLE ARM

㉞ Front Wheel Shafts (2)



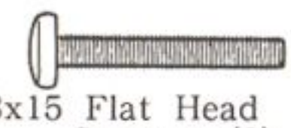
㉞ King Pins (2)

㊺ E Rings (E3) (2)

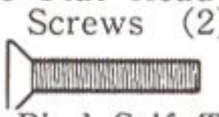


11 INSTALLATION OF FRONT SHOCK STAY

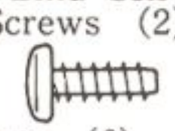
M3x18 Bind Screws (2)



M3x15 Flat Head Screws (2)



M3x8 Bind Self Tapping Screws (2)

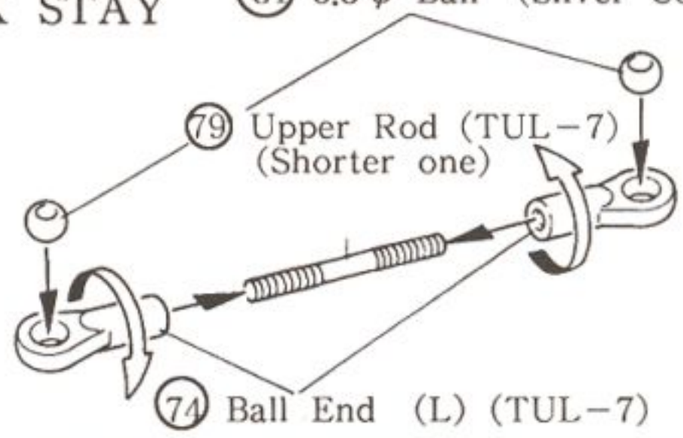


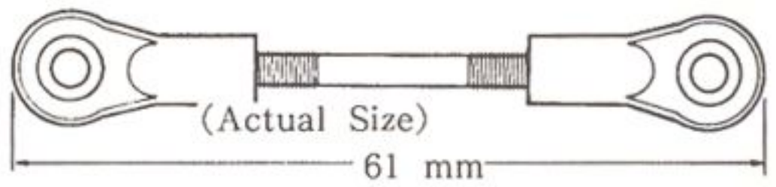
M3 Nuts (6)

㉛ 5.8 φ Balls (Silver Color) (2)

Step 1

Assemble two of these referring to the actual sized drawing for how much to screw in the ball ends.

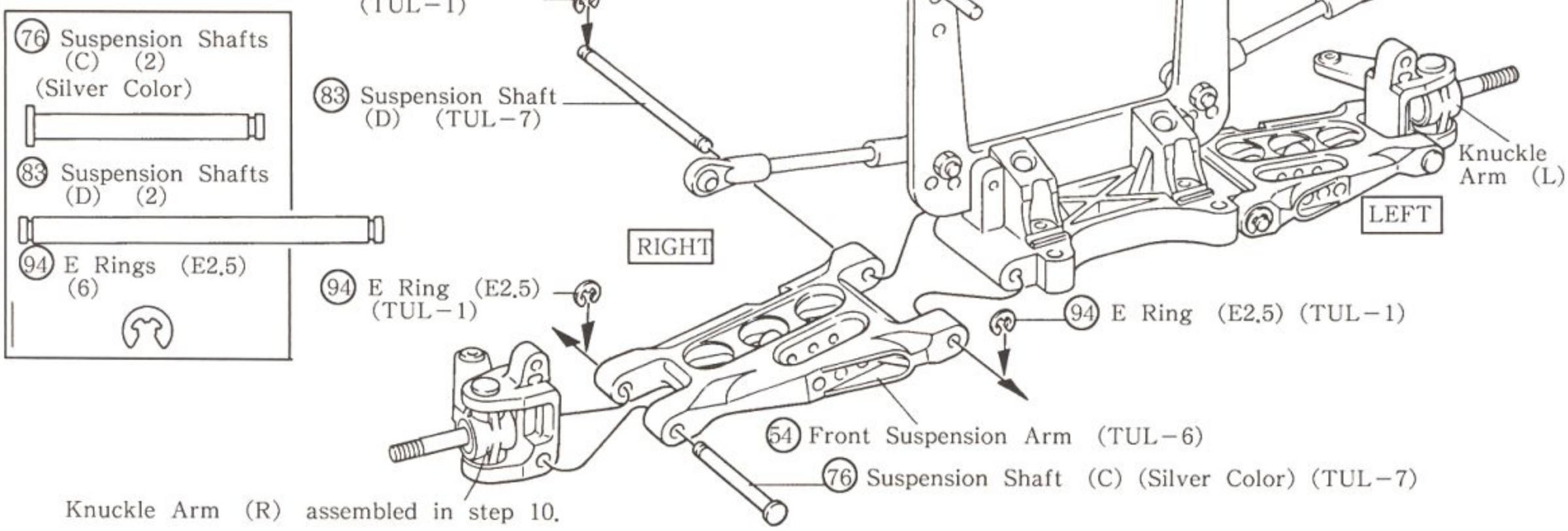




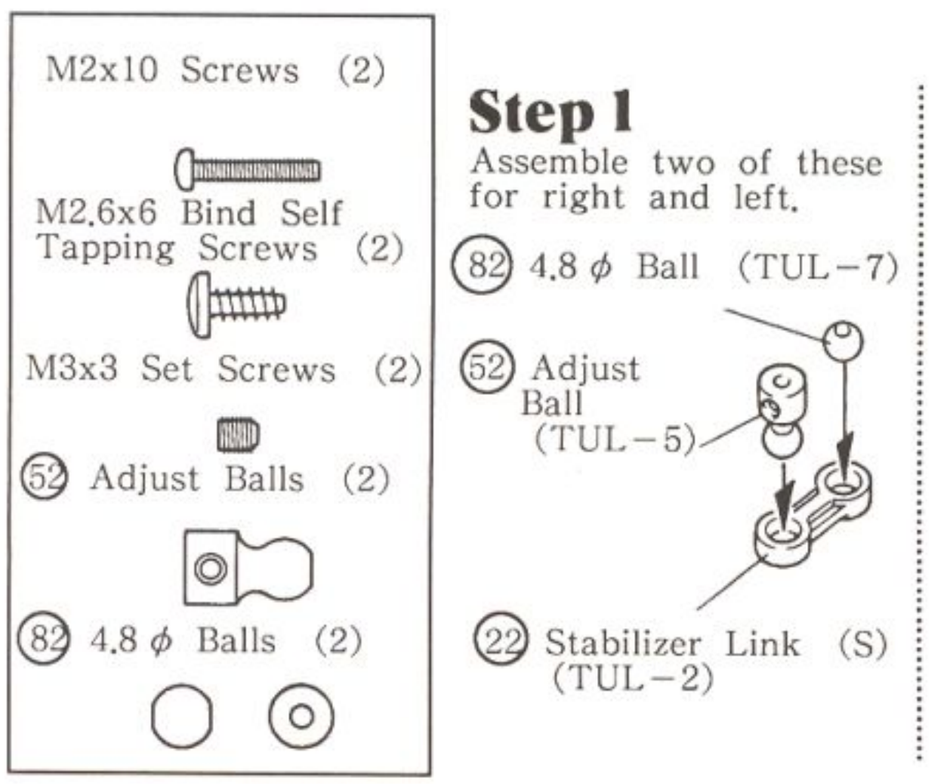
Step 2

Step 3

12 INSTALLATION OF FRONT SUSPENSION ARM

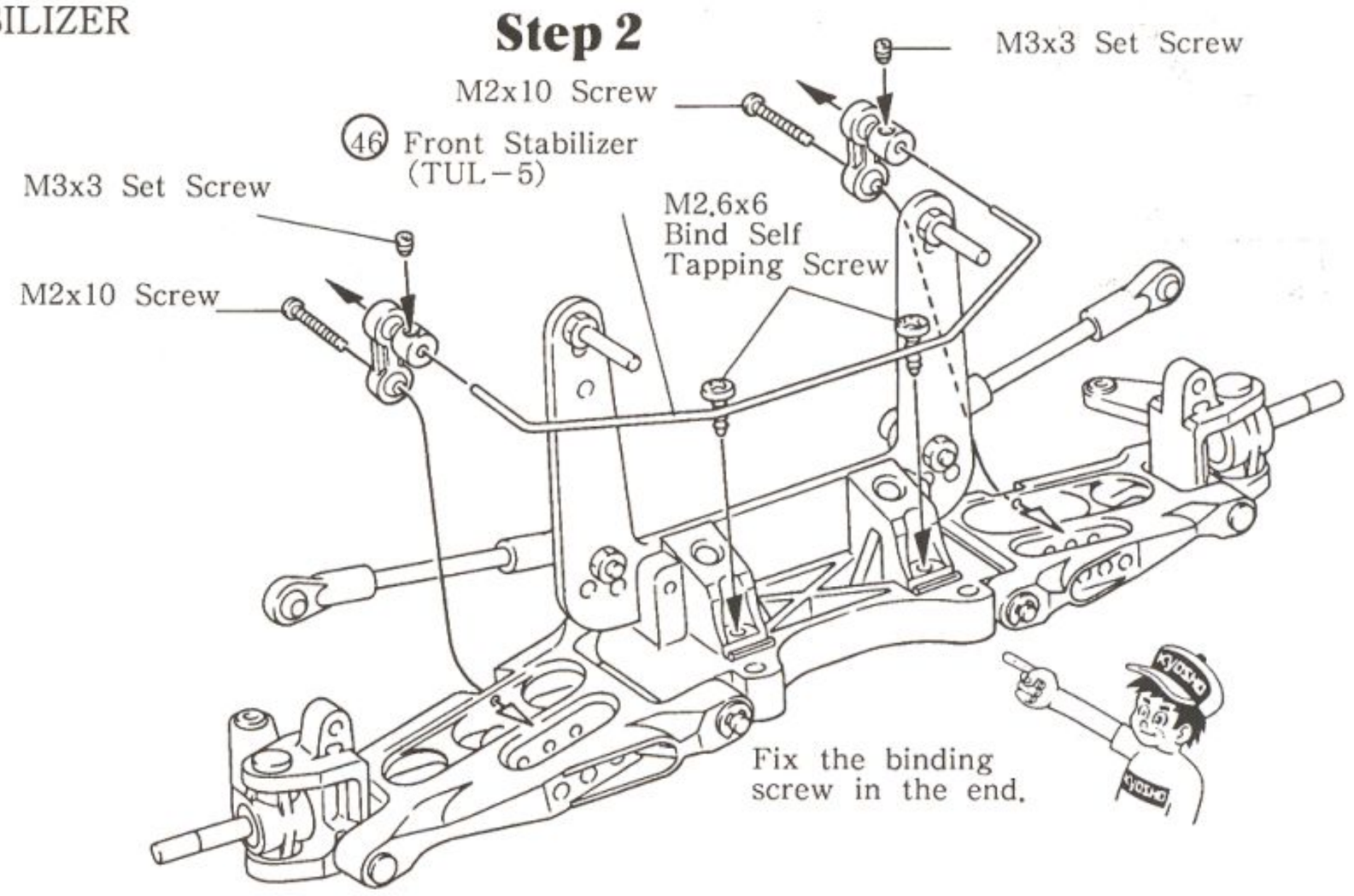


13 INSTALLATION OF FRONT STABILIZER

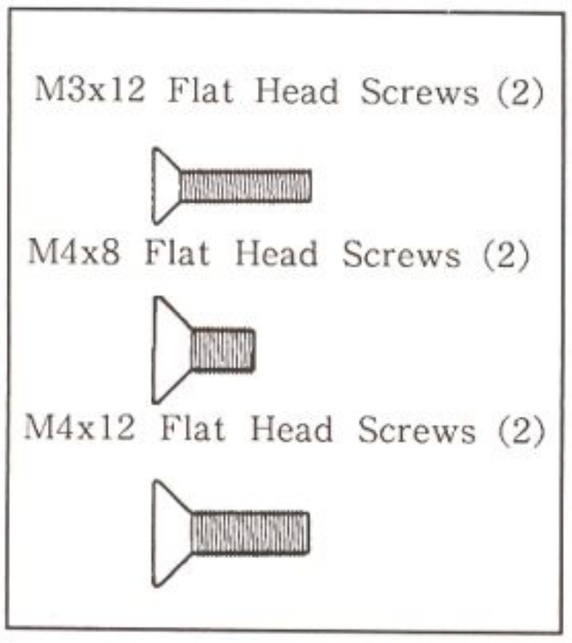


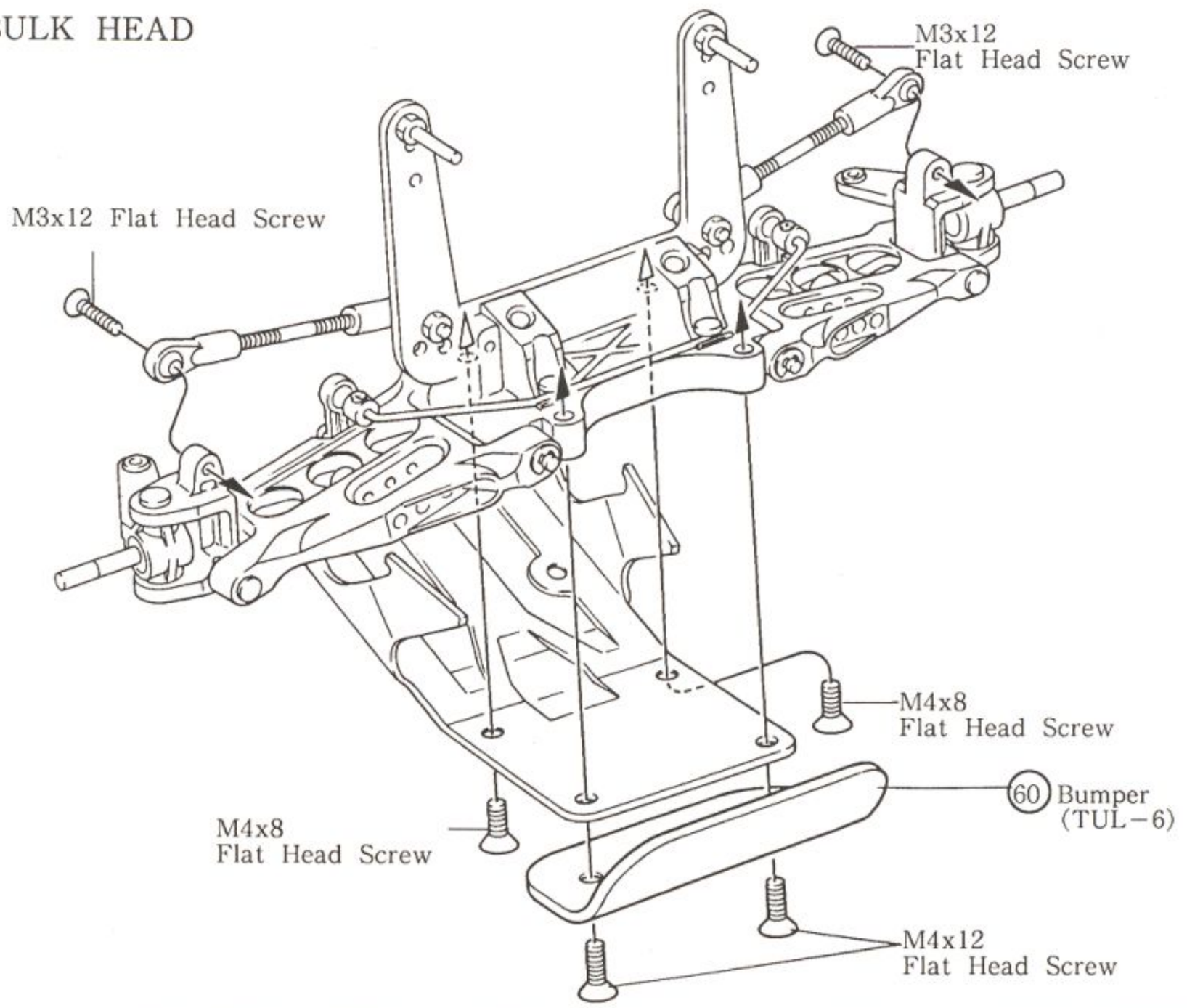
Step 1
Assemble two of these for right and left.

Step 2



14 INSTALLATION OF FRONT BULK HEAD



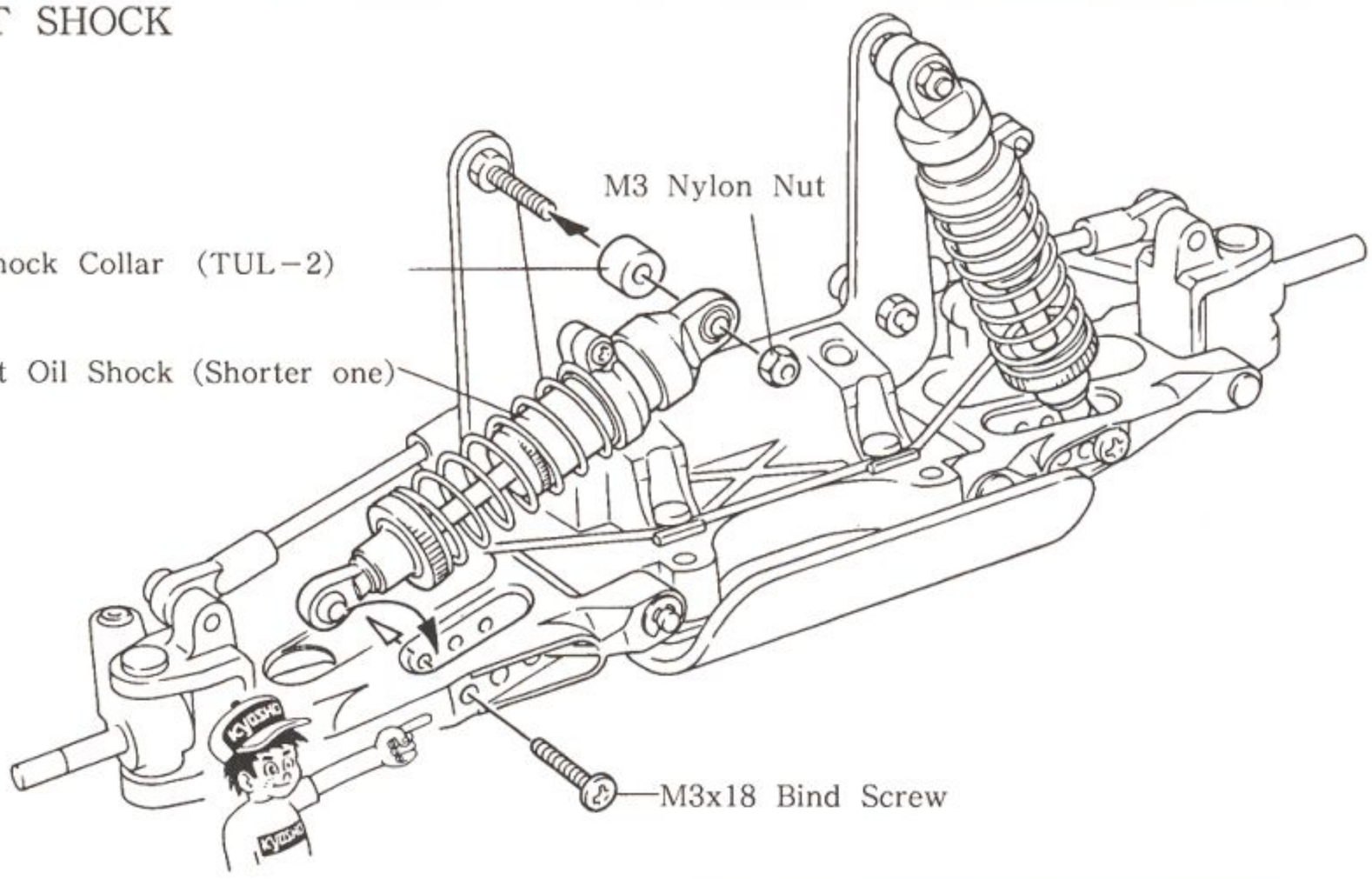


15 INSTALLATION OF FRONT SHOCK

M3x18
Bind Screws (2)

M3 Nylon Nuts (2)

(24) Shock Collars (2)

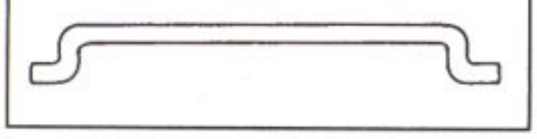


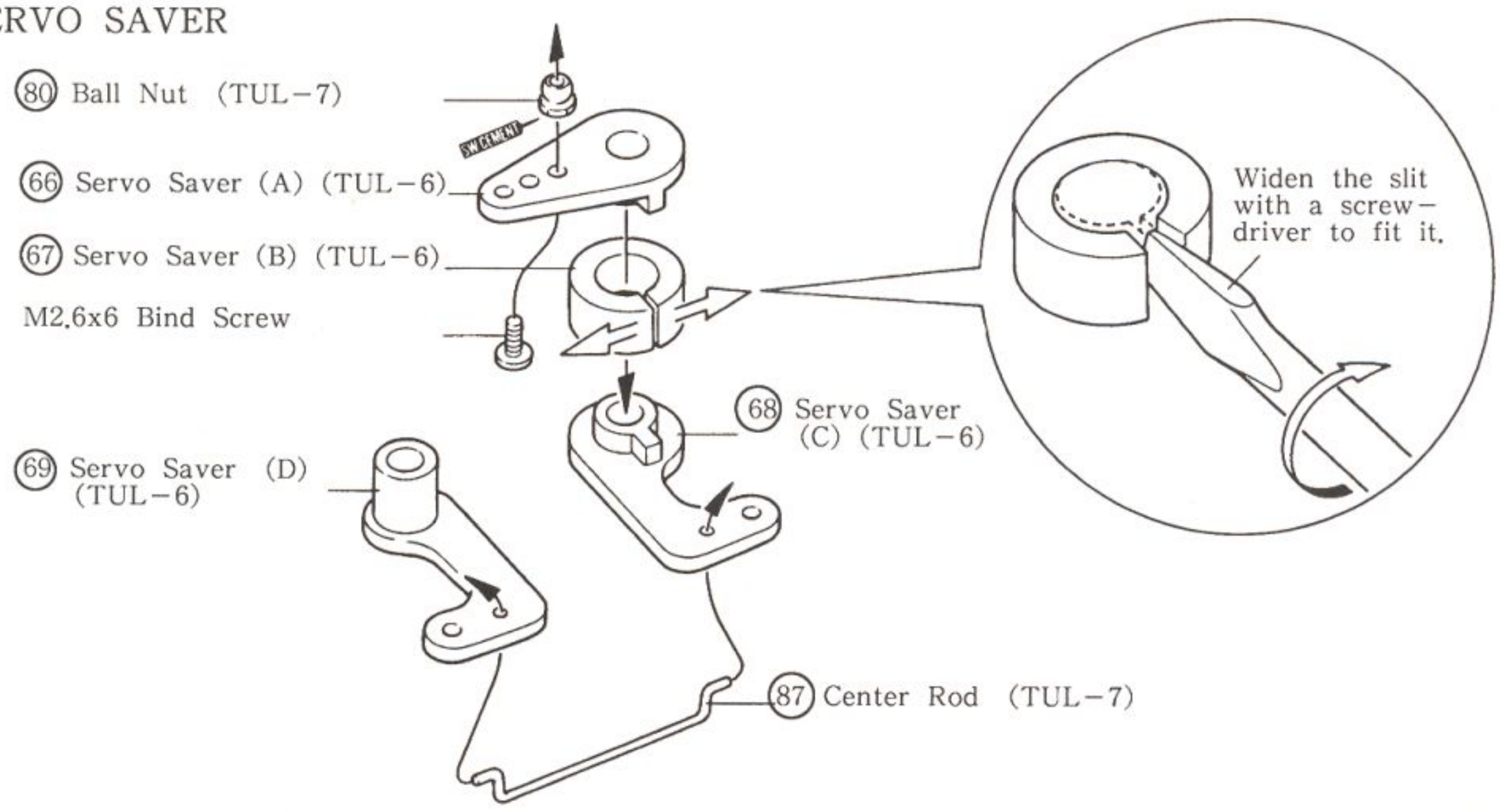
16 ASSEMBLY OF SERVO SAVER

M2.6x6 Bind Screw (1)

(80) Ball Nut (1)

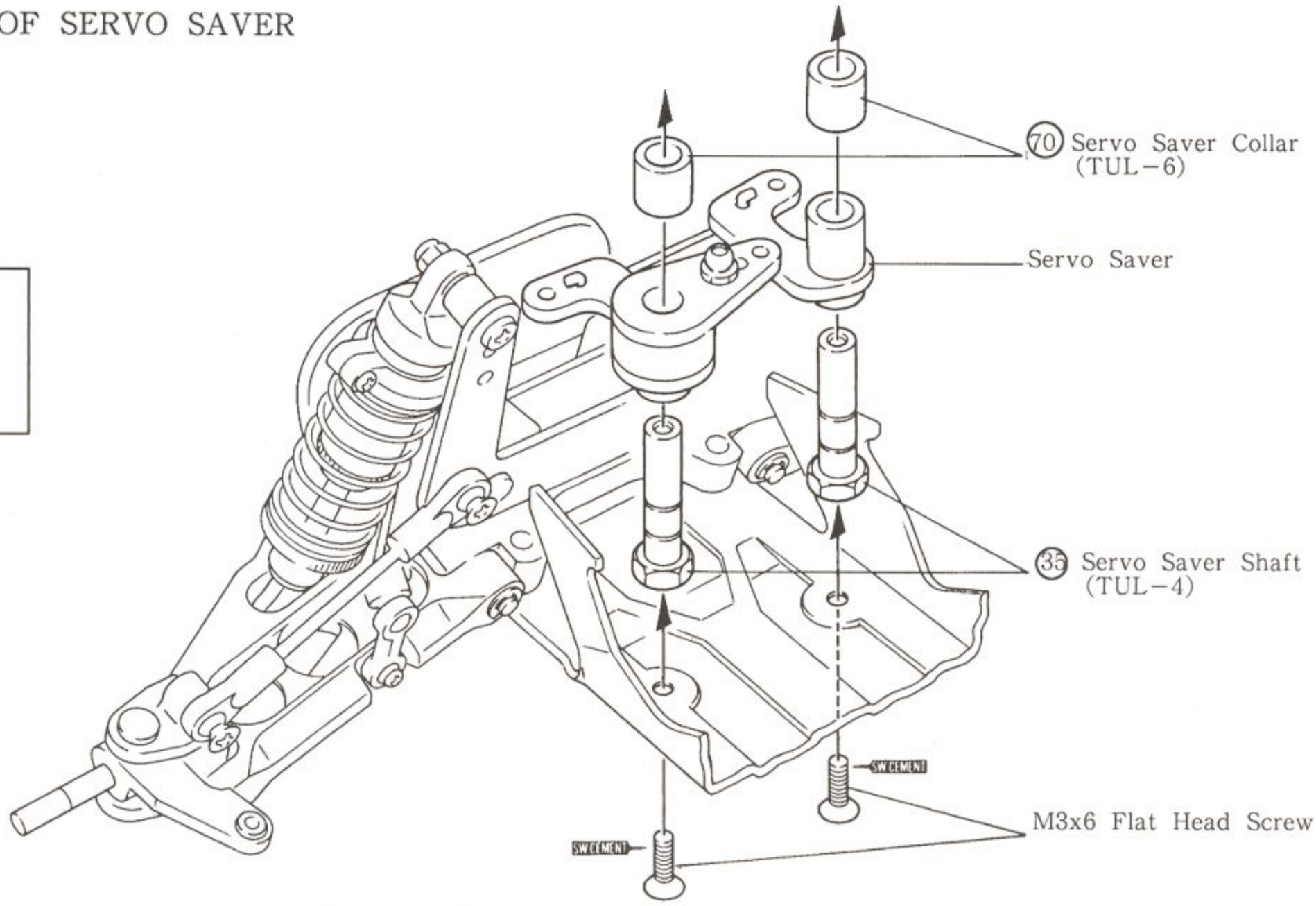
(87) Center Rod (1)





17 INSTALLATION OF SERVO SAVER

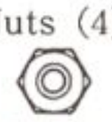
M3x6
Flat Head Screws (2)



18 INSTALLATION OF TIE ROD

M2.6X15
Flat Head Screws (4)

M2.6 Nuts (4)

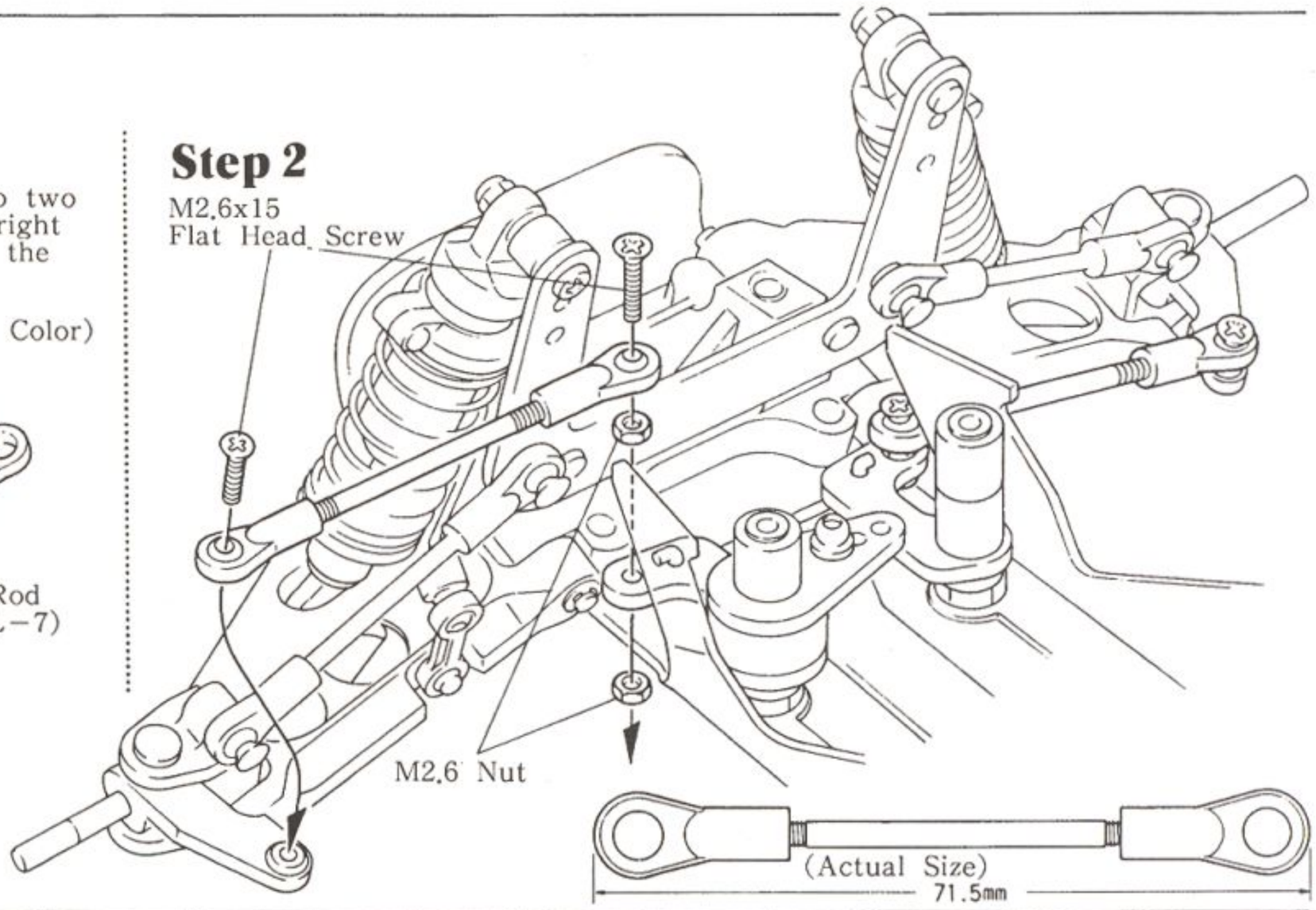


40 5.8 ϕ Balls
(Black Color) (4)

Step 1

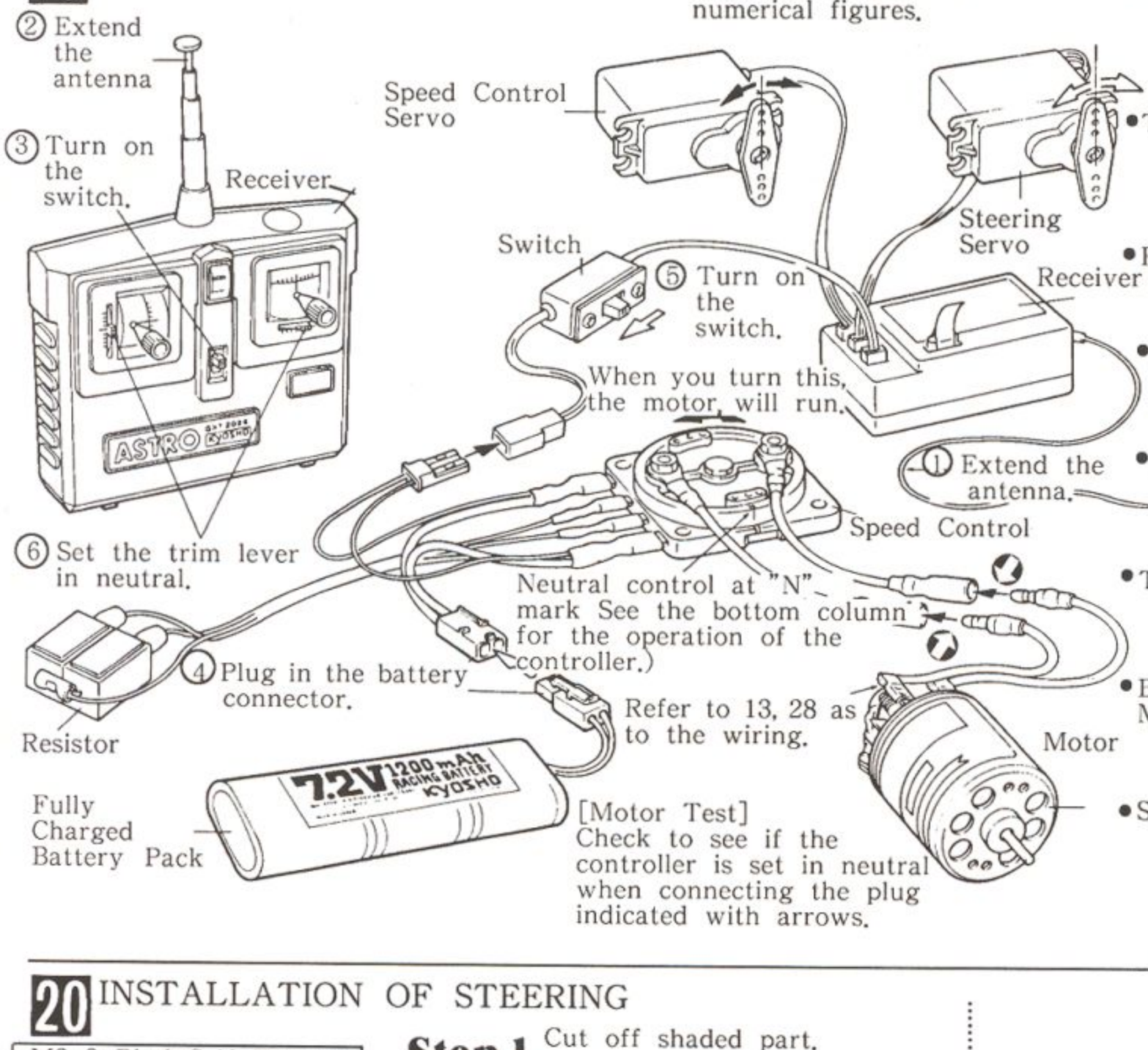
Screw in ball ends to two each of the tie rod, right and left referring to the actual size drawing.

Step 2



19 HOW TO CHECK RADIO SYSTEM

Check the radio control system by operating components in order of the numerical figures.



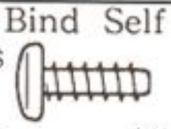
BEC
BATTERY ELIMINATOR CIRCUITRY

This model car is designed to be controlled by the BEC type radio only.

- Transmitter---- It is in effect a control box. Signal waves are transmitted through an antenna according to the stick movements.
- Receiver ------- Receives the signals from the transmitter and send them to the servos.
- Servo --------- They really move the control mercha-nism of a model car in accordance with the signals from the receiver
- Antenna ------ An antenna on the transmitter sends signals, and one on the receiver accepts them. They should be fully extended.
- Trim Lever ---- They will adjust the neutral position of servos, thus regulate the steering and advancing controls finely.
- Battery Meter ---------- You can tell the amount of electricity in a battery and how the signals are emitted.
- Servo Horns ---- They are intermediate devices on the servo to activate the controls. There are several types in shape. They should be selected depending upon the usage.

20 INSTALLATION OF STEERING

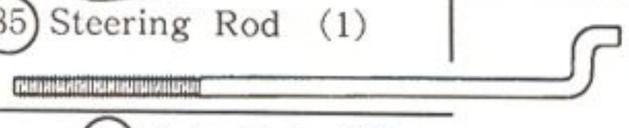
M3x8 Bind Self Tapping Screws (2)



3 ϕ Washers (2)

75 Ball End (S)

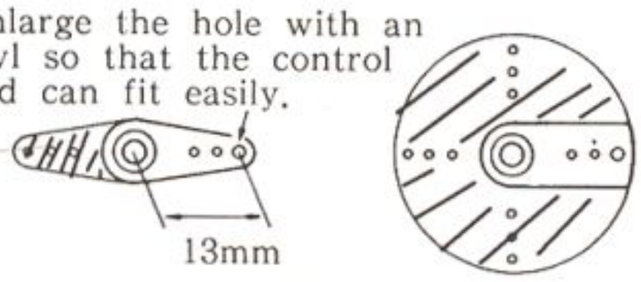
85 Steering Rod (1)



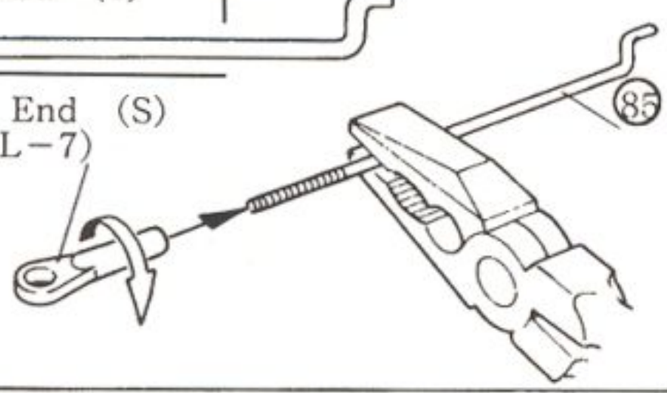
Step 1

Cut off shaded part.

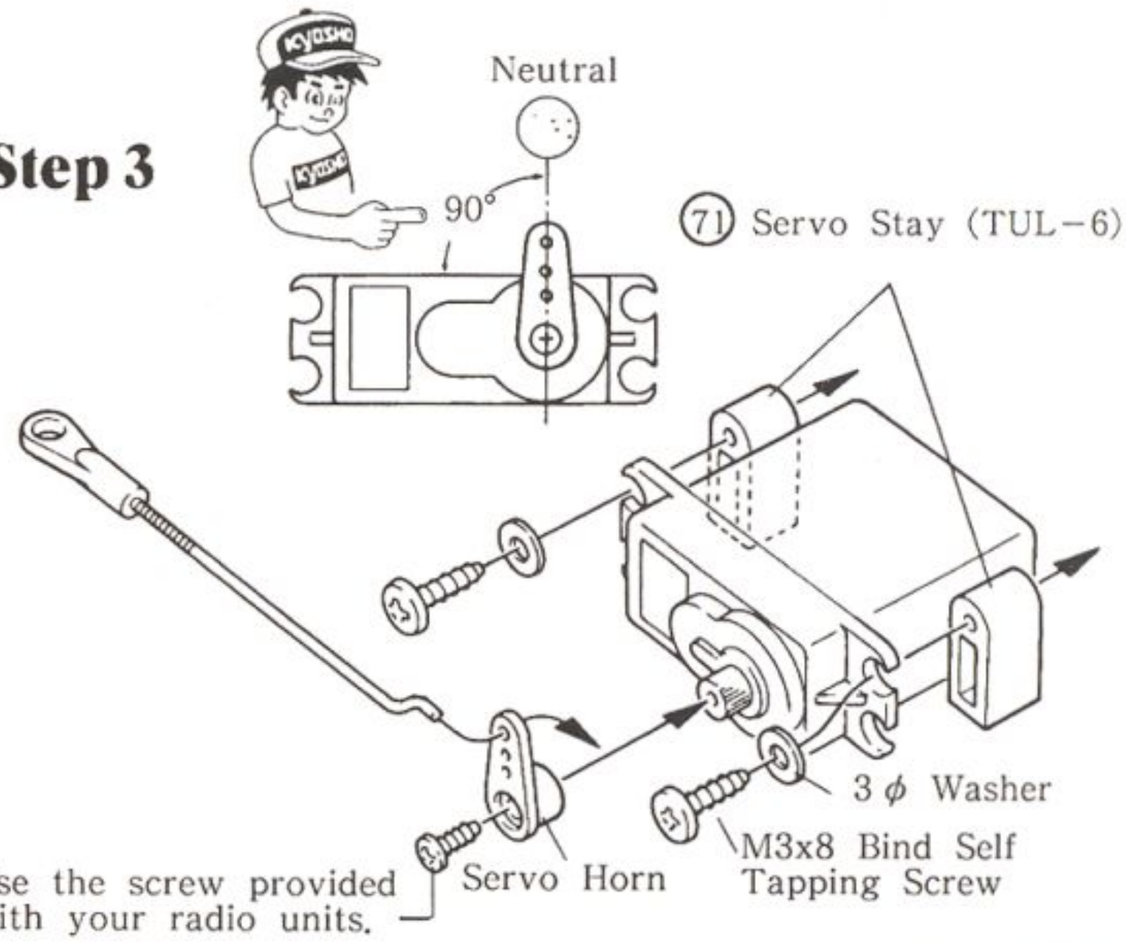
Enlarge the hole with an awl so that the control rod can fit easily.



Step 2

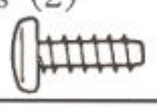


Step 3



21 INSTALLATION OF STEERING SERVO

M3x8
Bind Self Tapping Screws (2)



Ⓐ You can change the length of the control rod by turning the ball ends.

To become longer.

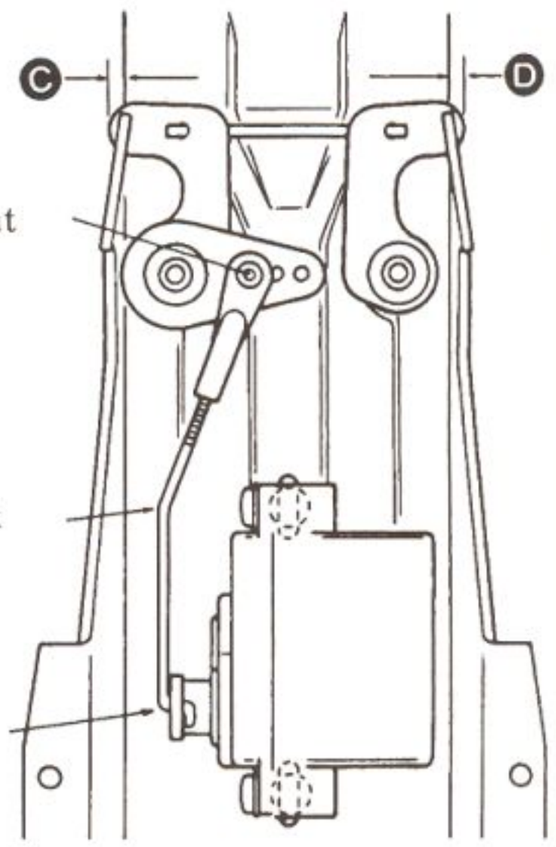
To become shorter.

Bend it as shown in the drawing at right.

Ⓑ You can slide the servo frontward or backward within the length of the oval perforation (B).

M3x8
Bind Self Tapping Screw

Adjust the length of the control rod as shown in A and the installing position as shown in B, so that the clearance indicated by C and D should become the same.



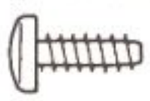
(80) Ball Nut

22 MOUNTING OF RADIO PLATE

M2x8
Self Tapping Screw (1)

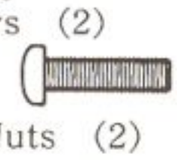
M2.6x8 Bind Self Tapping Screw (1)

M3x8 Bind Self Tapping Screw (1)



M3x6
Bind Screws (2)

M3x10
Screws (2)



M3 Nuts (2)

(82) 8.4 ϕ Ball (1)

Step 1

(72) Body Hook (TUL-6)

(36) Wing Post (TUL-4)

(73) Antenna Post (TUL-6)

(11) Radio Plate (TUL-2)

M2.6x6
Bind Self Tapping Screw

M3x8 Bind Self Tapping Screw

M3x6 Bind Screw

2x8 Self Tapping Screw

(82) 4.8 ϕ Ball (TUL-7)

M3x10 Screw

(9) Speed Control Unit (Blister)

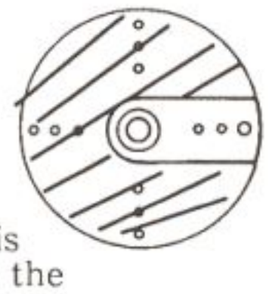
Step 2

M3 Nut

23 INSTALLATION OF SPEED CONTROL SERVO

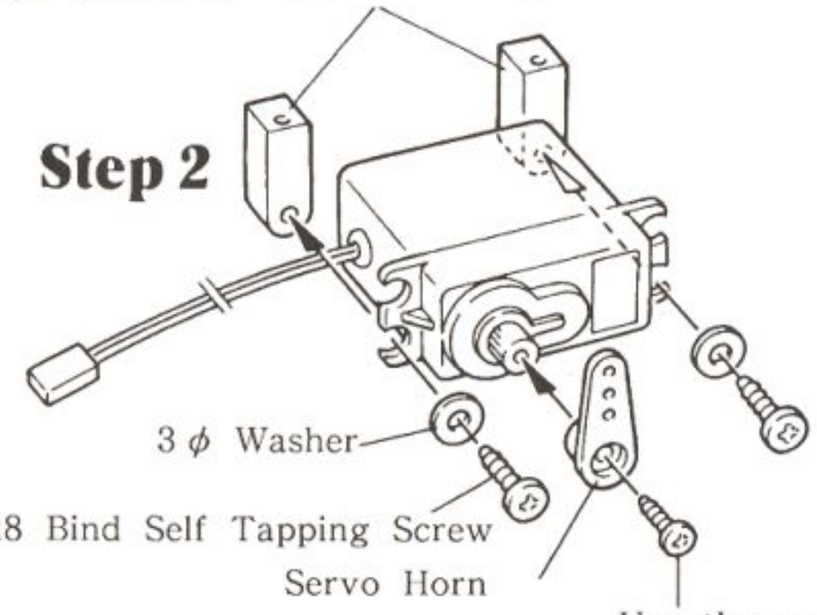
Step 1 Cut off shaded part.

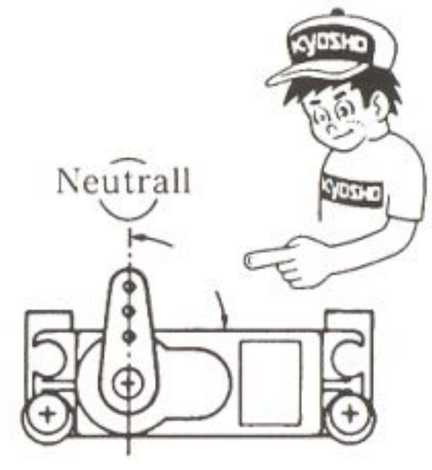
Enlarge the hole with an awl so that the control rod can fit easily.



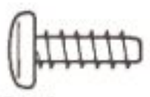
Use a hole which is 15 mm away from the pivot.

Step 2



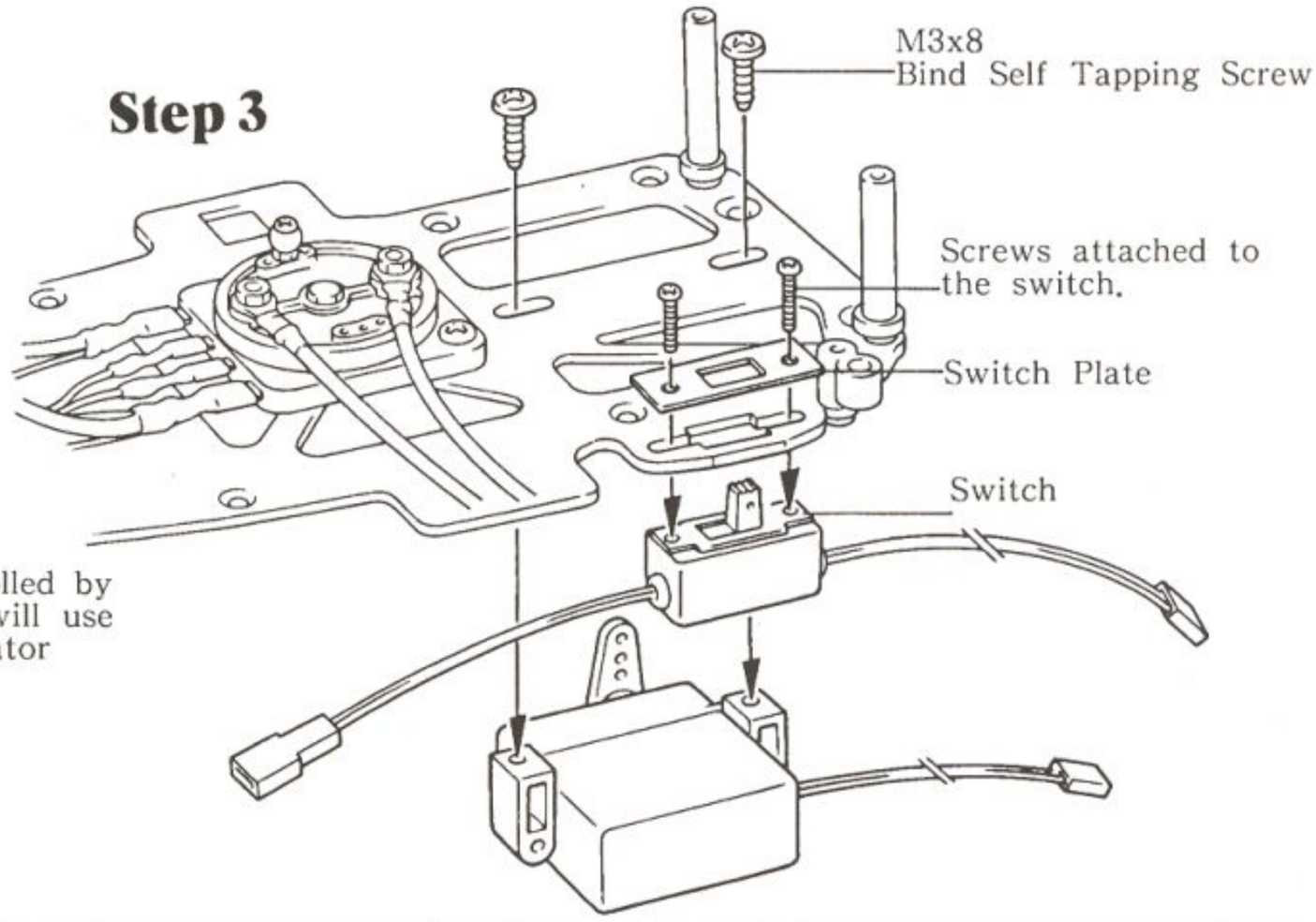


M3x8
Bind Self Tapping Screws (4)



③ φ Washers (2)

Step 3

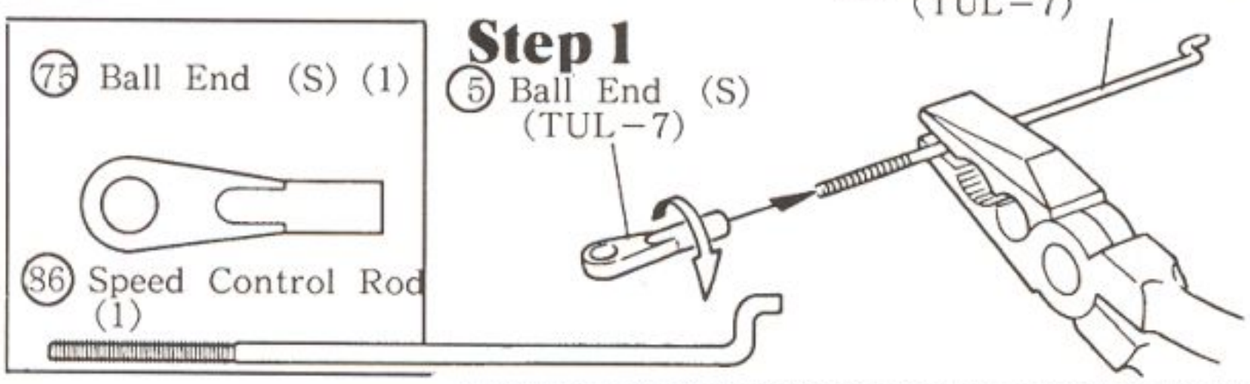


BEC
BATTERY ELIMINATOR CIRCUITRY

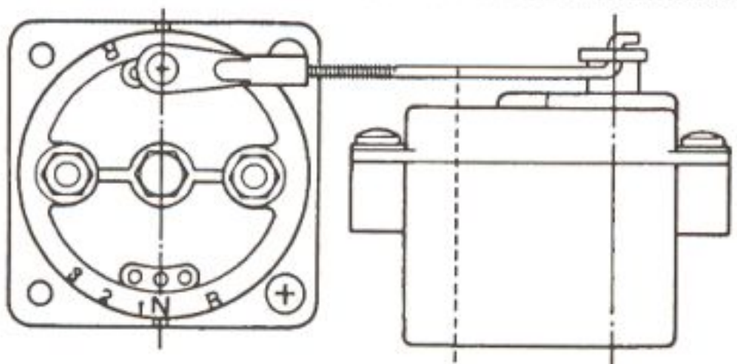
This model car is designed to be controlled by the BEC type radio only. Those who will use a non-BEC radio should have a regulator offered by the radio maker.

24 SPEED CONTROL LINKAGE

Step 1

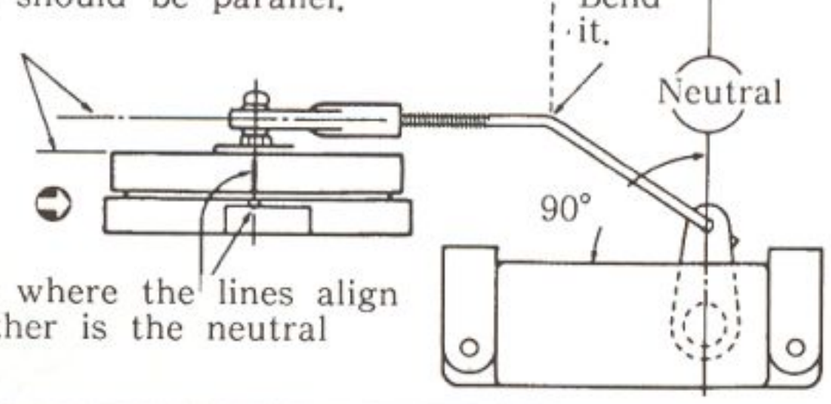


TOP VIEW



These lines should be parallel.

SIDE VIEW

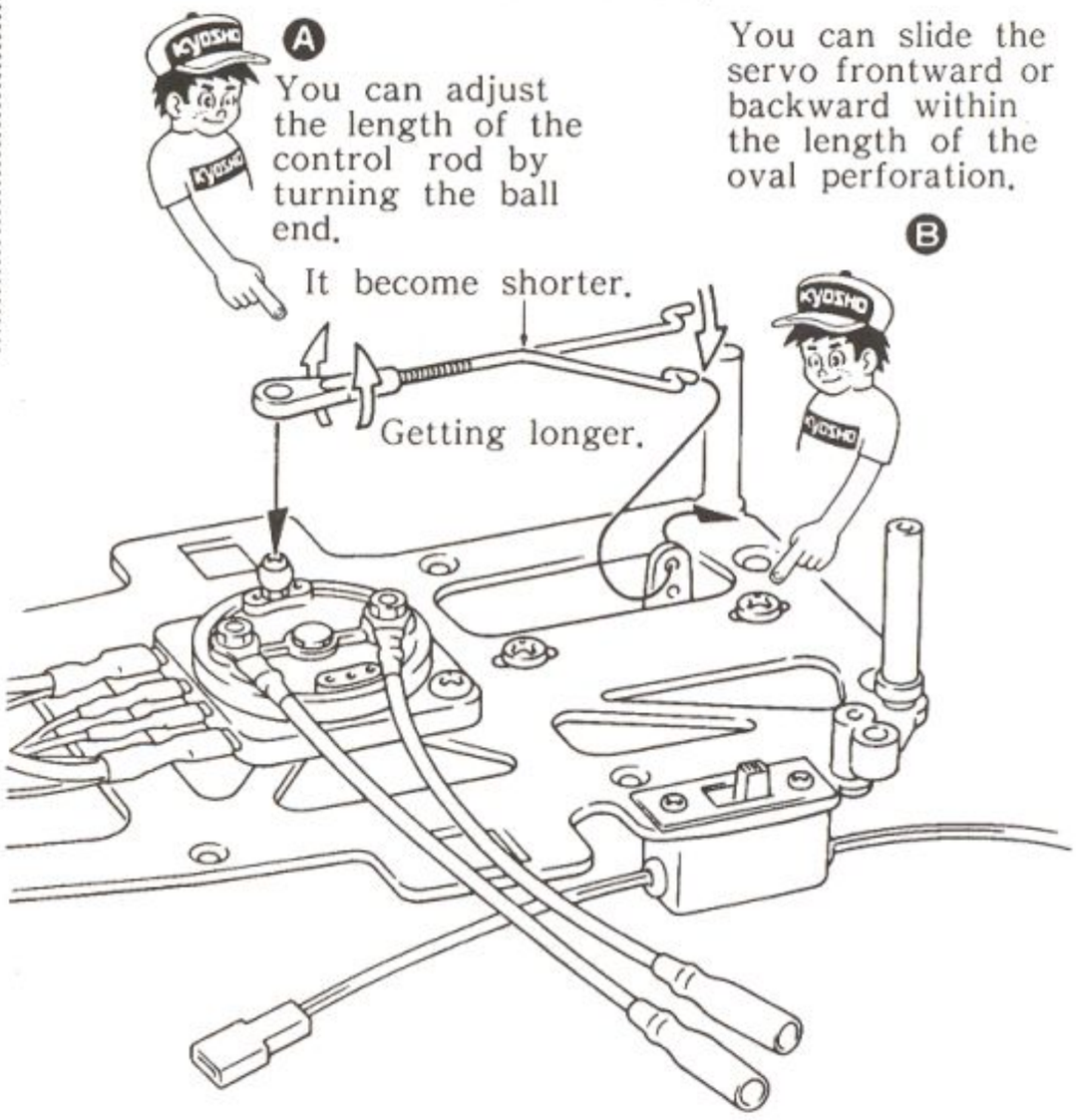


The position where the lines align with each other is the neutral setting.

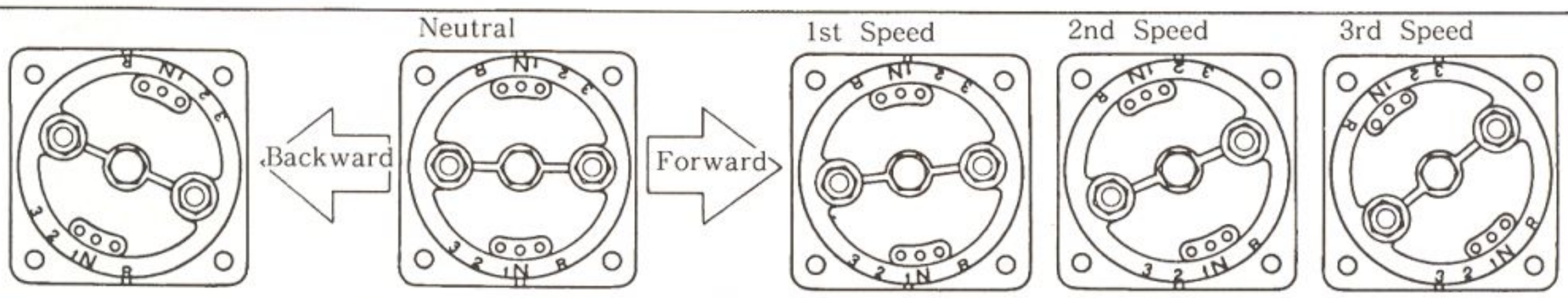
Step 2 Adjust A and B so that the controller is set neutral as shown at left.

Ⓐ You can adjust the length of the control rod by turning the ball end.

Ⓑ You can slide the servo frontward or backward within the length of the oval perforation.



MOVEMENT OF CONTROLLER



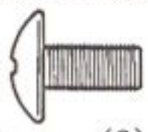
25 INSTALLATION OF RADIO PLATE

M3x6
Bind Screws (2)

M3x6
Flat Head Screws (6)

M4x8
Flat Head Screws (2)

M4x8
Truss Screws (2)



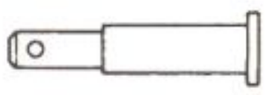
4 ϕ Washers (2)

26 INSTALLATION OF RESISTOR

M3x6
Bind Screws (2)

M3 Nut (1)

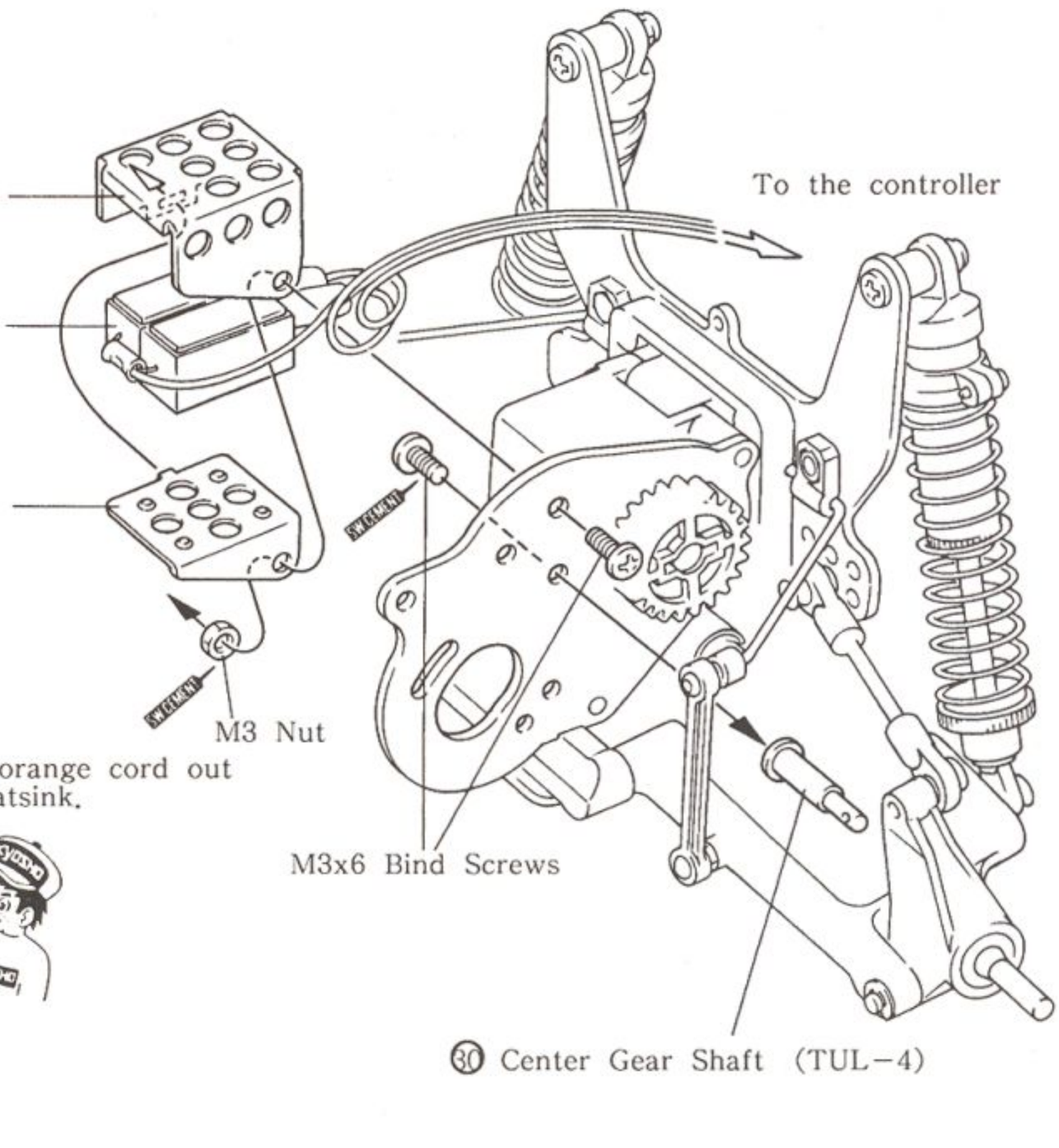
(30) Center Gear Shaft (1)

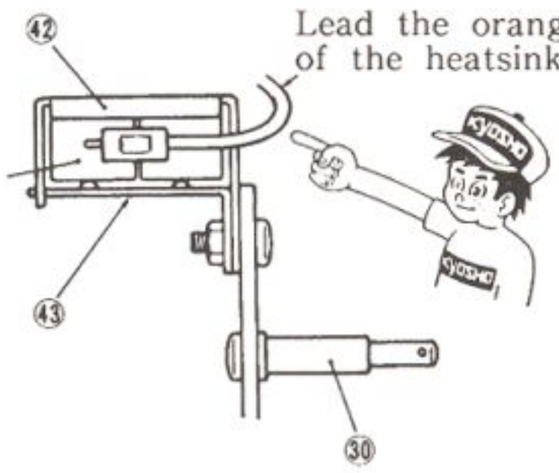


(42) Heatsink (A) (TUL−5)

(43) Heatsink (B) (TUL−5)

[View of Assembly Looked from the Rear]





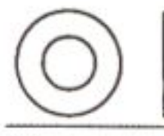
27 INSTALLATION OF CENTER GEAR

4 ϕ Washers (2)

4 ϕ x8 Bearings (2)

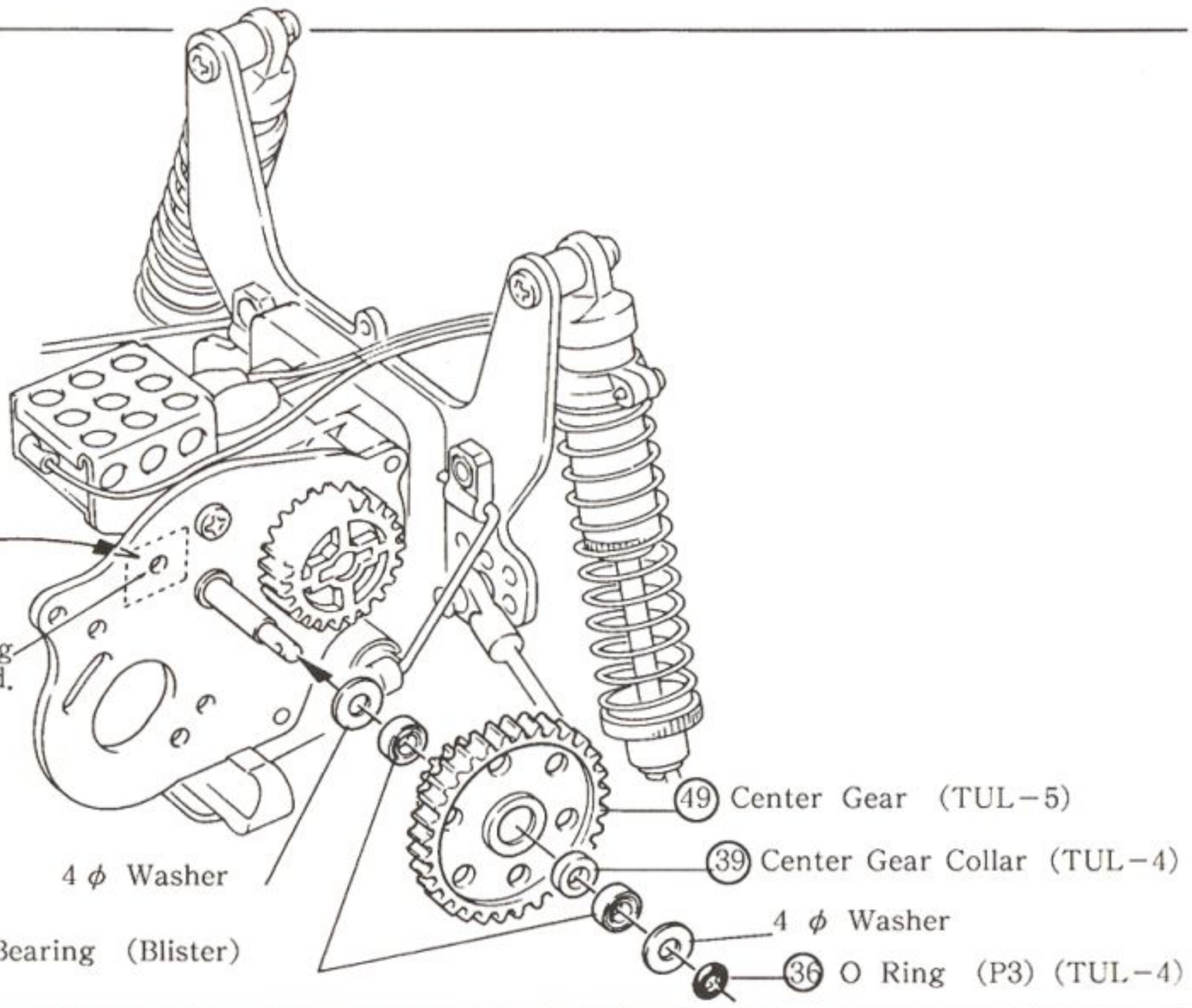
(38) O Ring (P3) (1)

(39) Center Gear Collar (1)



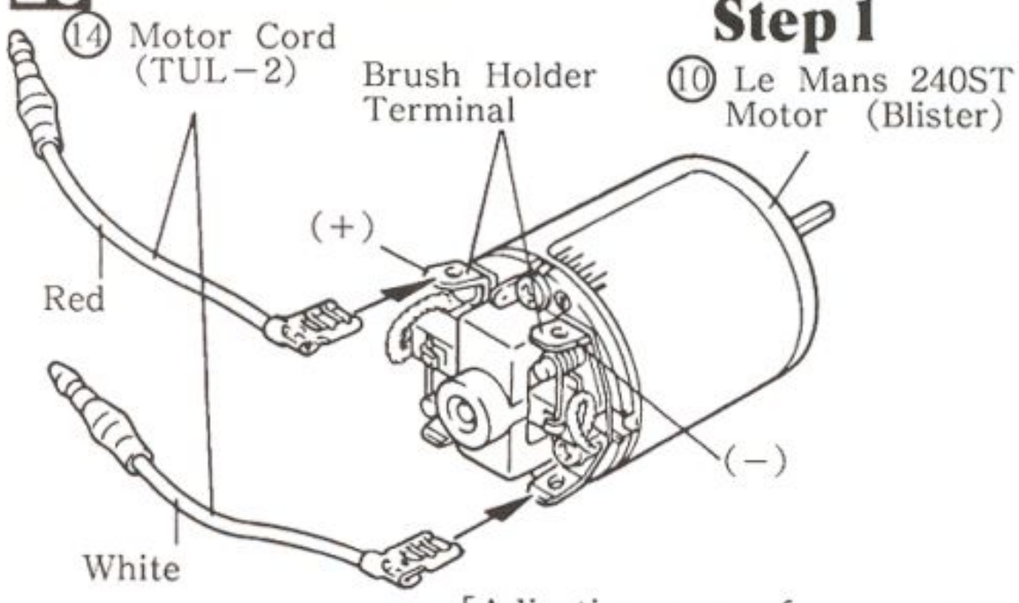
Remainings of the decal.

This hole is for installing the optional motor guard. When you don't employ the motor guard, put a surplus piece of decal over the hole so as to prevent any dust from entering.

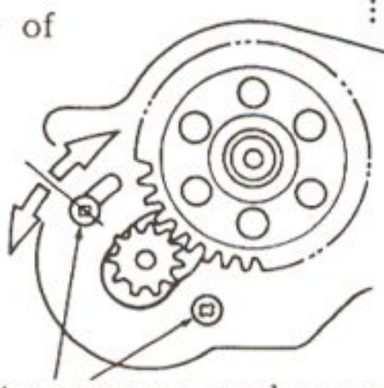


28 INSTALLATION OF MOTOR

Step 1



[Adjusting way of backlash]



Loosen these two screws and move the upper screw in the way of the arrow to adjust backlash (meshing degree of the gear teeth.)

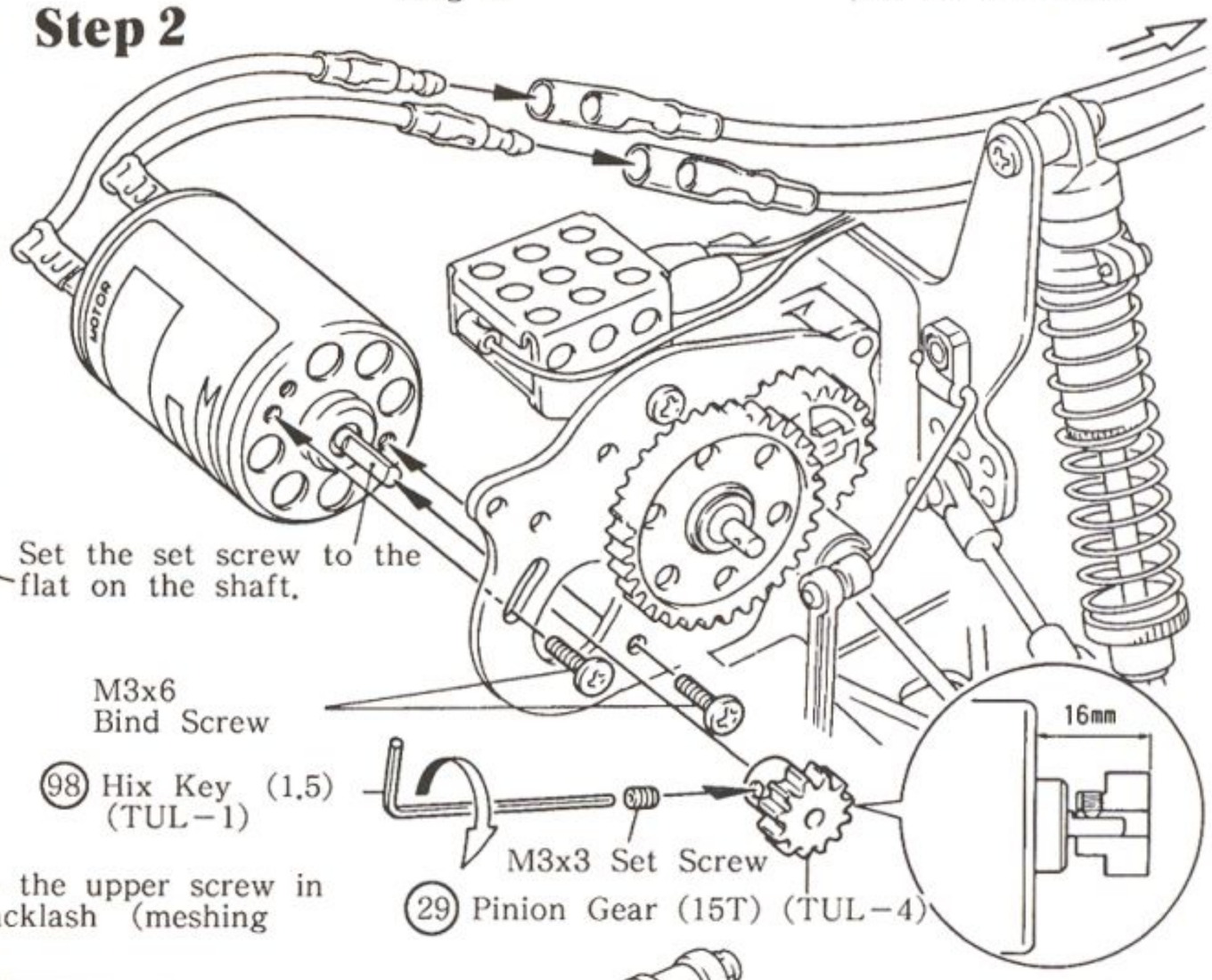
M3x3 Set Screw (1)

M3x6 Bind Screws (2)

Step 2

Plug in.

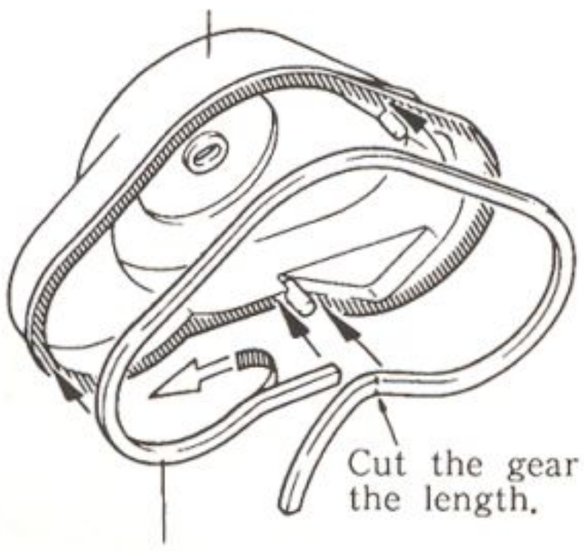
To the controller



29 INSTASLLATION OF GEAR COVER

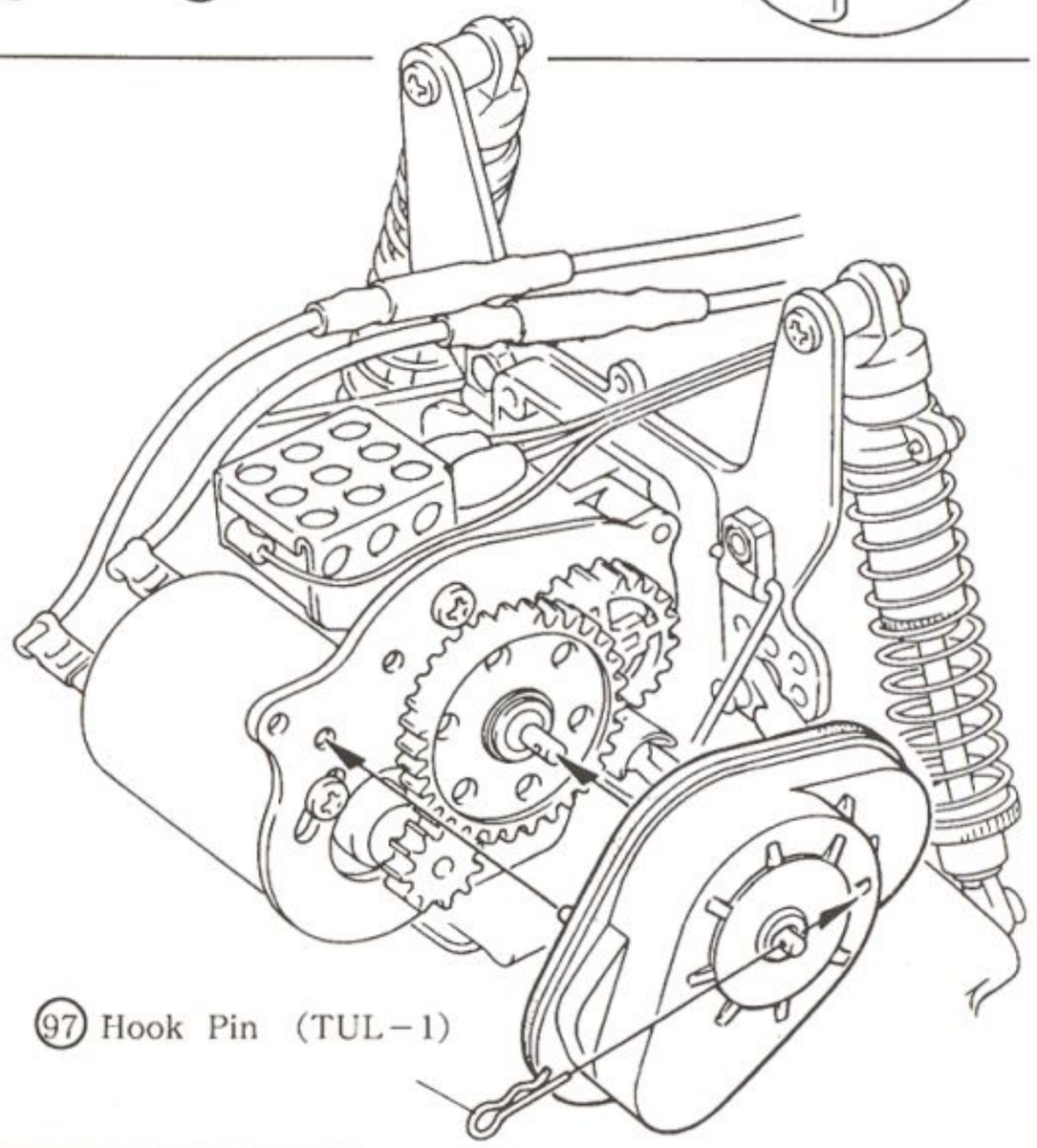
(97) Hook Pin (1)

(59) Gear cover (TUL-6)



(16) Gear Cover Seal (TUL-2) (Foam Rubber)

(Remove the backing paper and put the seal along the area indicated with diagonal lines.)

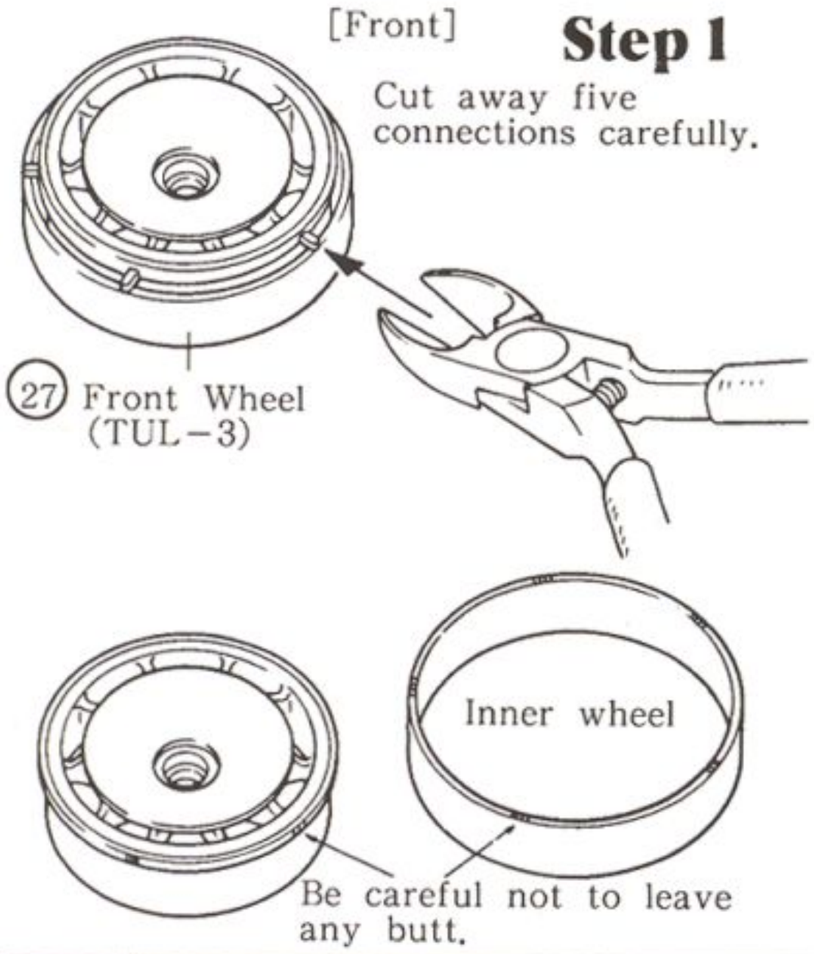


30 ASSEMBLY OF WHEEL AND TIRE

Step 1

[Front]

Cut away five connections carefully.

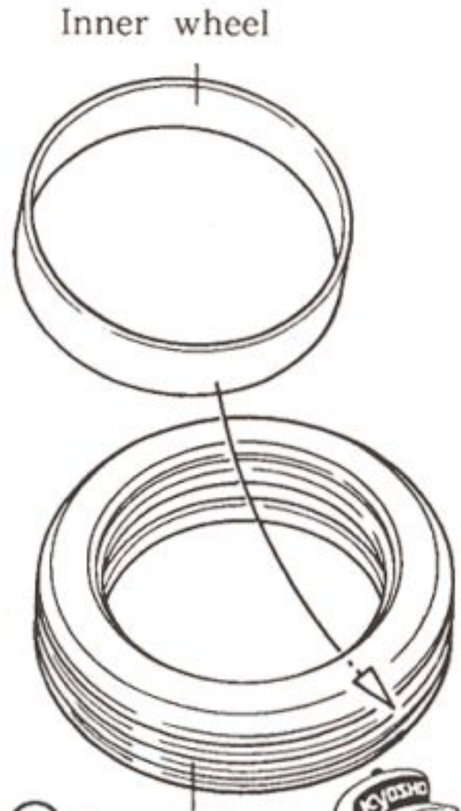


(27) Front Wheel (TUL-3)

Inner wheel

Be careful not to leave any butt.

Step 2



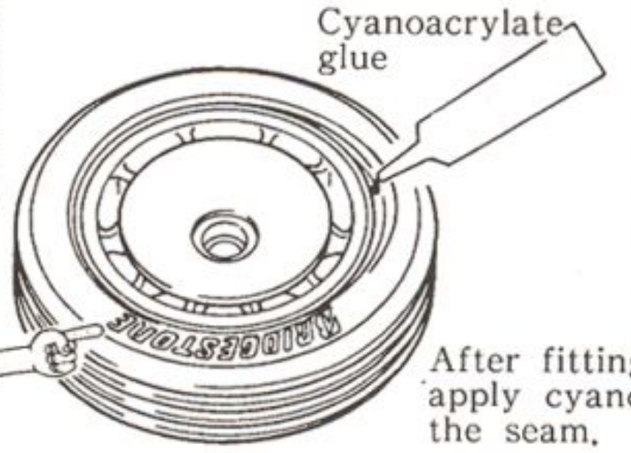
Inner wheel

(91) Front Tire

The side with the letter descriptions.

Step 3

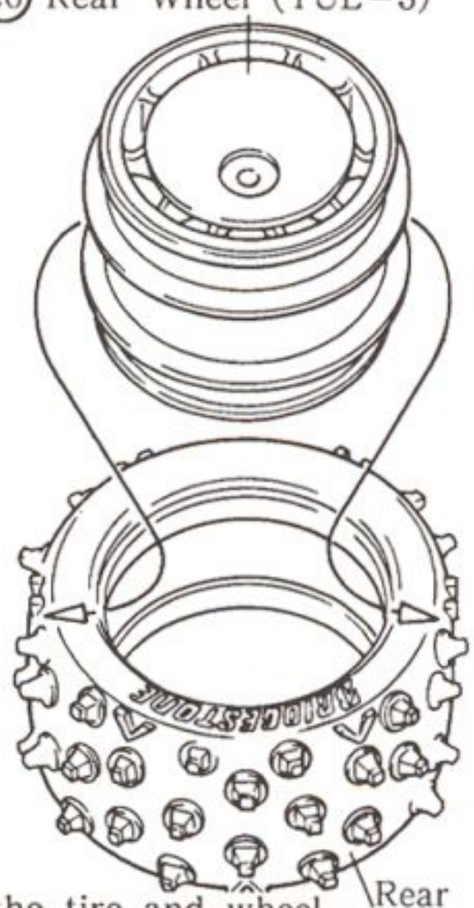
Cyanoacrylate glue



After fitting the tire and wheel, apply cyanoacrylate glue along the seam.

[Rear]

(26) Rear Wheel (TUL-3)



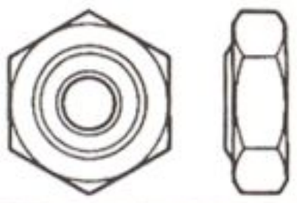
Rear Tire

31 INSTALLATION OF TIRE

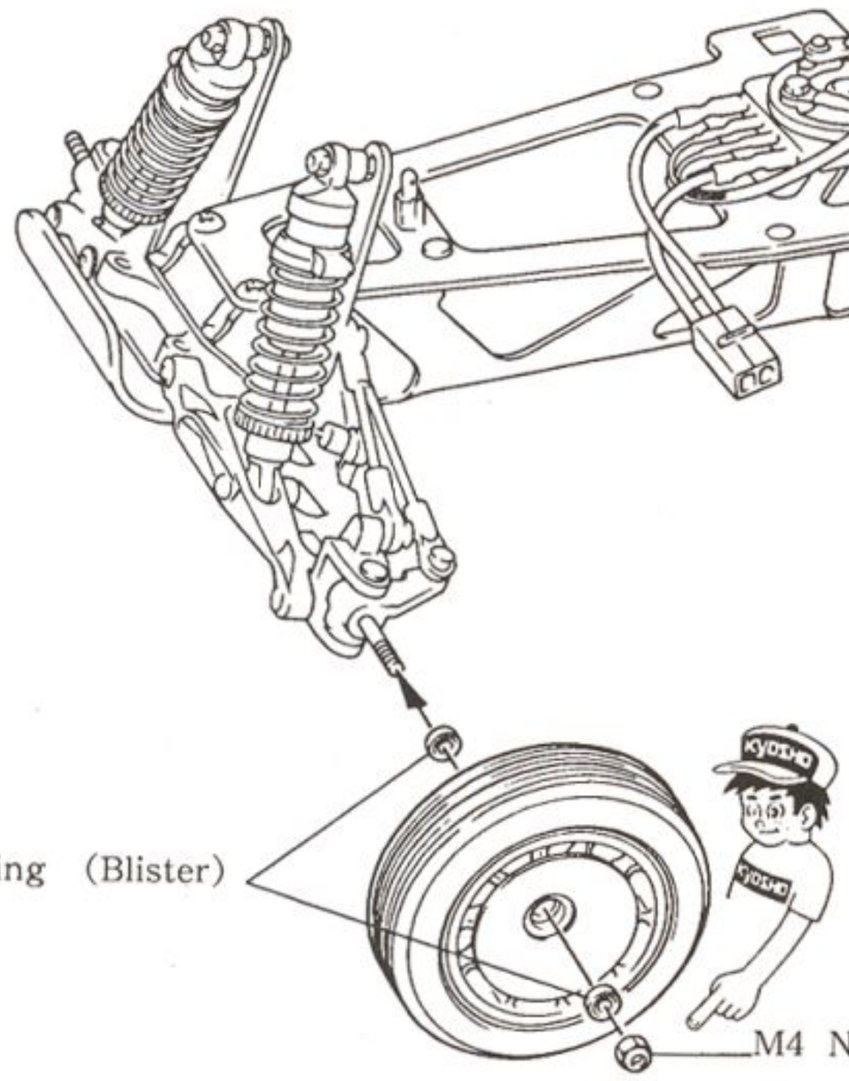
M4 Nylon Nuts (4)

(6) 4 ϕ x8 Bearings (4)

(31) Drive Washers (2)

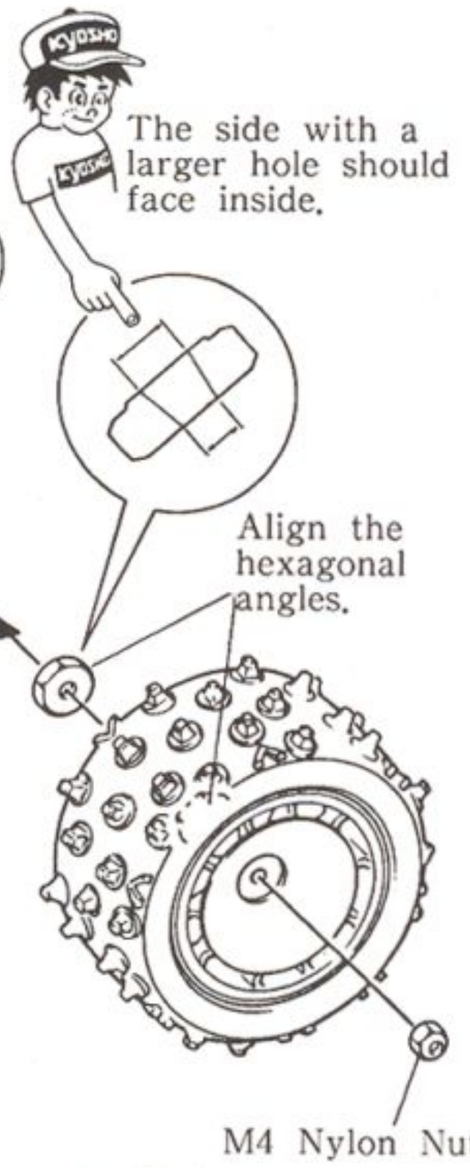


(6) 4 ϕ x8 Bearing (Blister)



(Do not screw in too tight so that the front wheel will turn smoothly.

M4 Nylon Nut



The side with a larger hole should face inside.

Align the hexagonal angles.

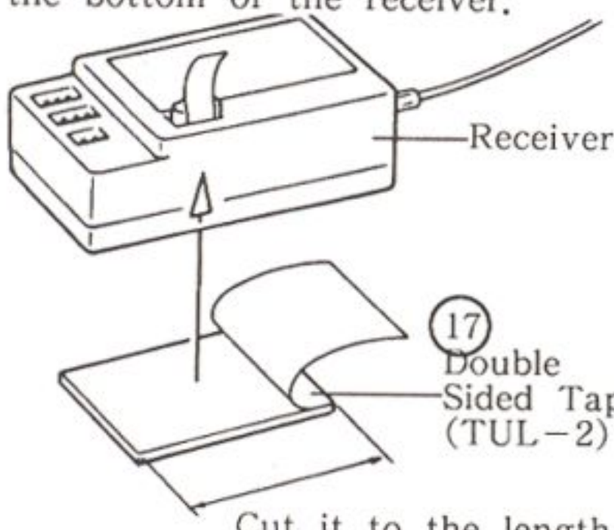
M4 Nylon Nut

Tighten the rear wheel nut firmly so that the wheel will not rotate idly.

32 MOUNTING OF RECEIVER

Step 1

Affix double sided tape sponge tape to the bottom of the receiver.

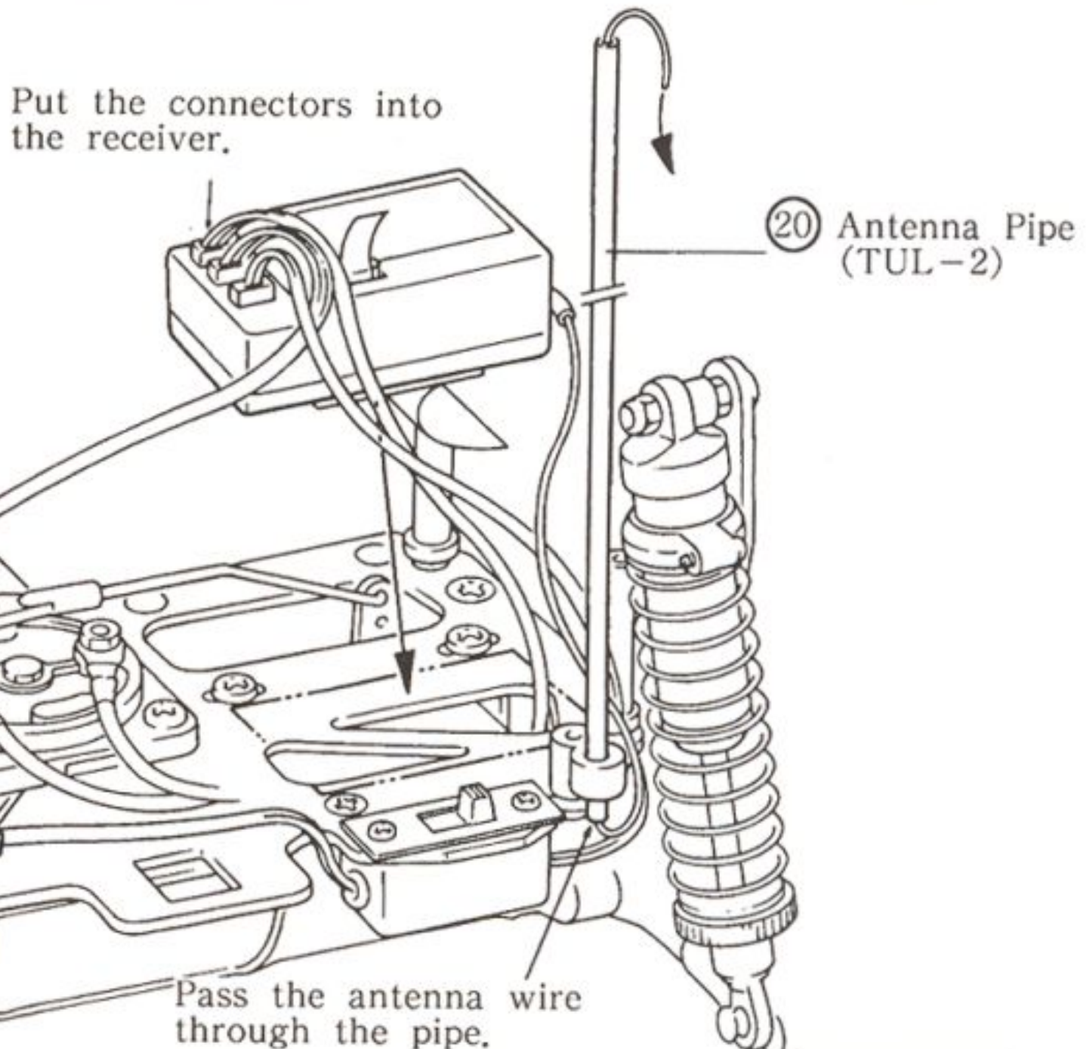


Receiver

(17) Double Sided Tape (TUL-2)

Cut it to the length of 60 mm (The remainder will be used in step 35.)

Step 2



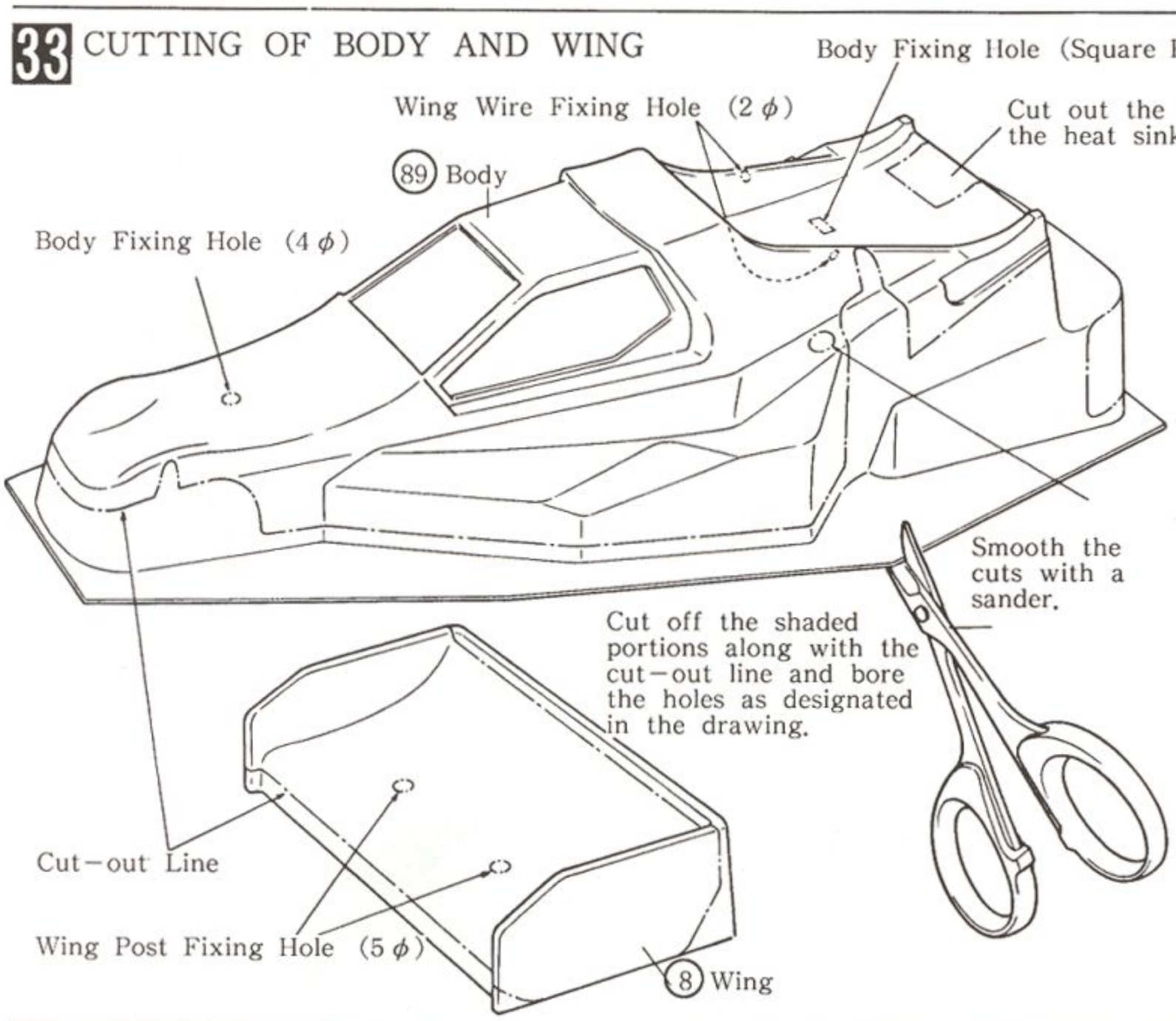
Put the connectors into the receiver.

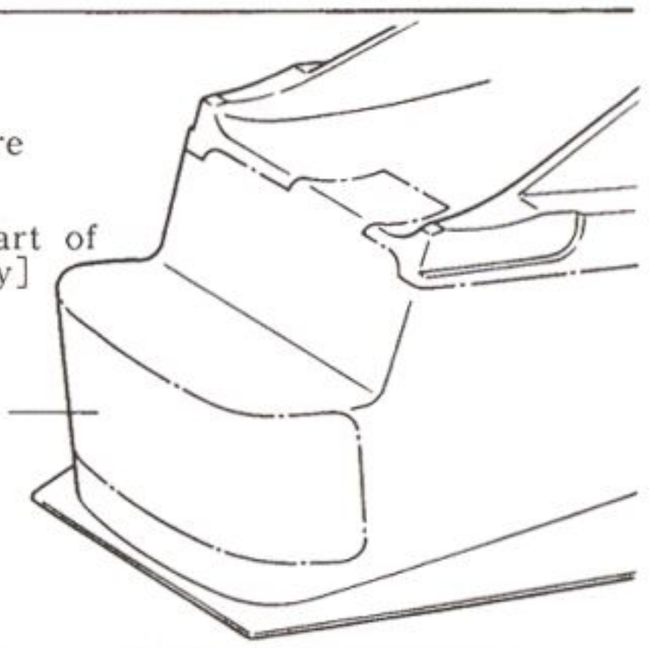
(20) Antenna Pipe (TUL-2)

Plug in the BEC connector.

Pass the antenna wire through the pipe.

33 CUTTING OF BODY AND WING

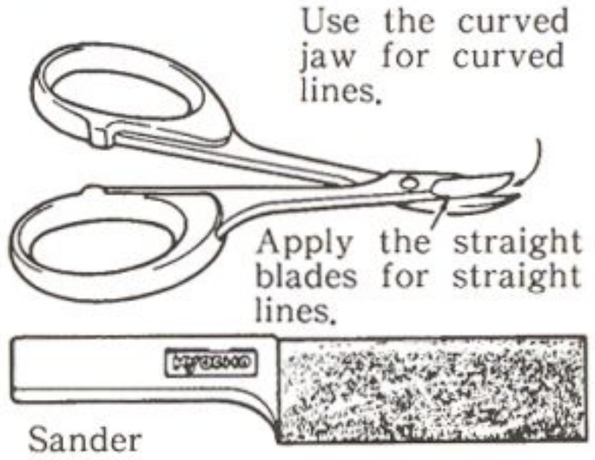




KYOSHO

The shears for cutting polycarbonate is available from Kyosho.

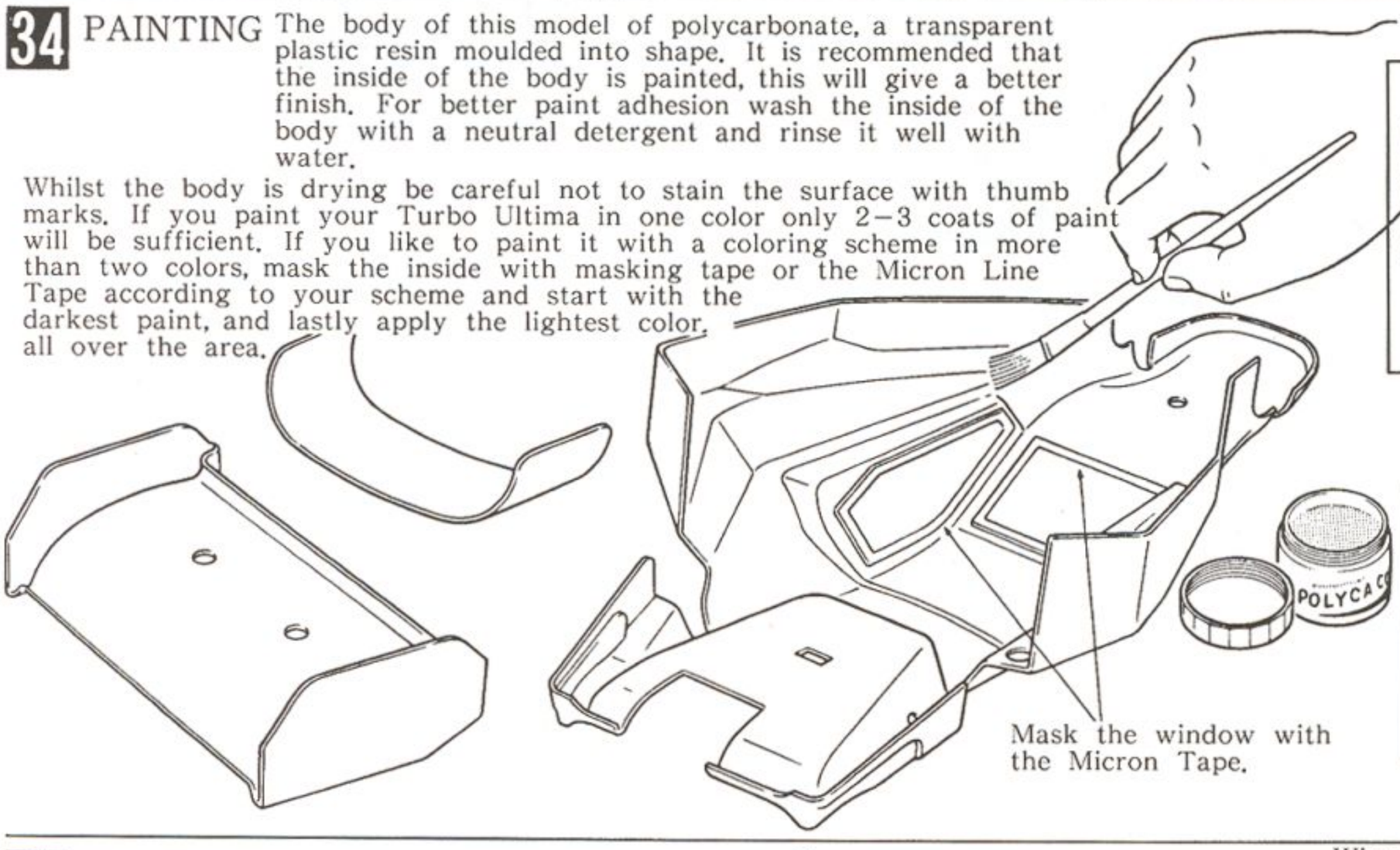
No.1829



34 PAINTING

The body of this model of polycarbonate, a transparent plastic resin moulded into shape. It is recommended that the inside of the body is painted, this will give a better finish. For better paint adhesion wash the inside of the body with a neutral detergent and rinse it well with water.

Whilst the body is drying be careful not to stain the surface with thumb marks. If you paint your Turbo Ultima in one color only 2−3 coats of paint will 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.



KYOSHO

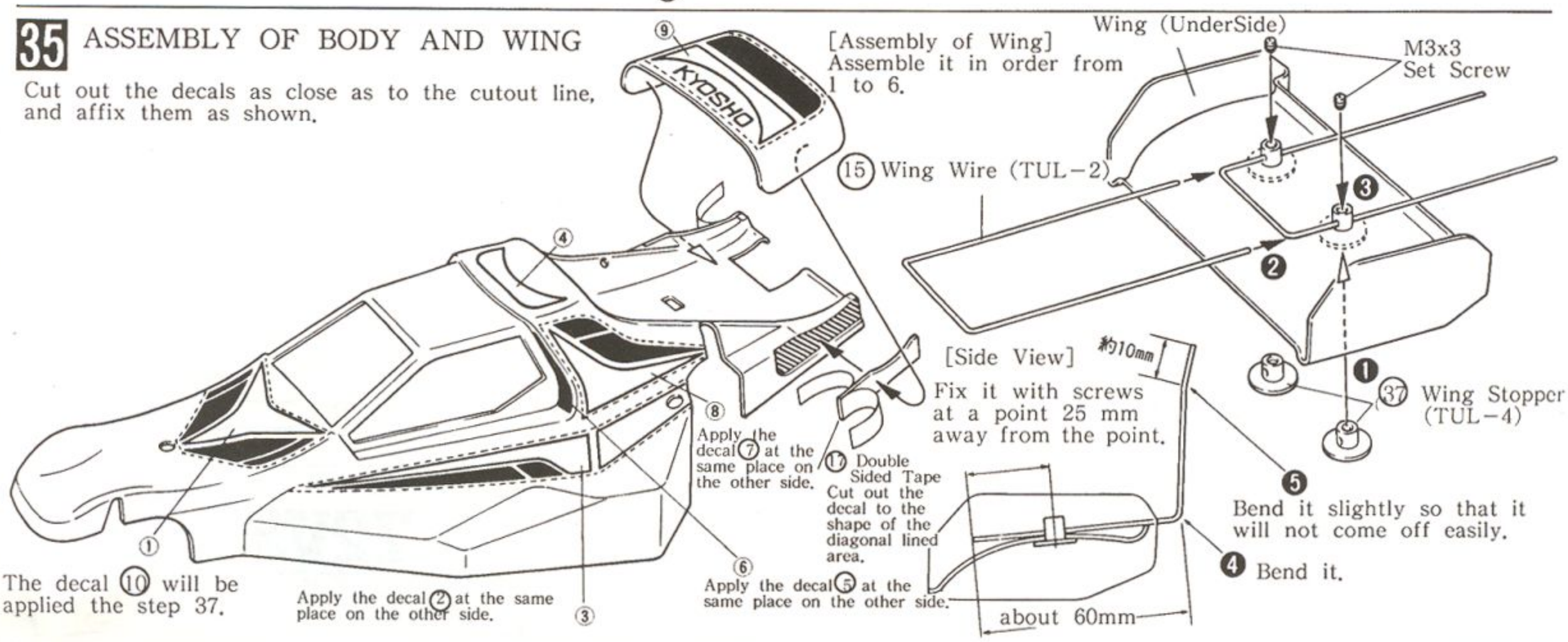
Micron Line tape or equivalent can be used as make patterns. They are available in different colors and widths.

KYOSHO

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

35 ASSEMBLY OF BODY AND WING

Cut out the decals as close as to the cutout line, and affix them as shown.



36 INSTALLATION OF BATTERY

* WHEN YOU KEEP THE MODEL NOT RUNNING FOR SOME TIME OR STORED, REMOVE THE BATTERY FROM THE MODEL WITHOUT FAIL.

Step 1

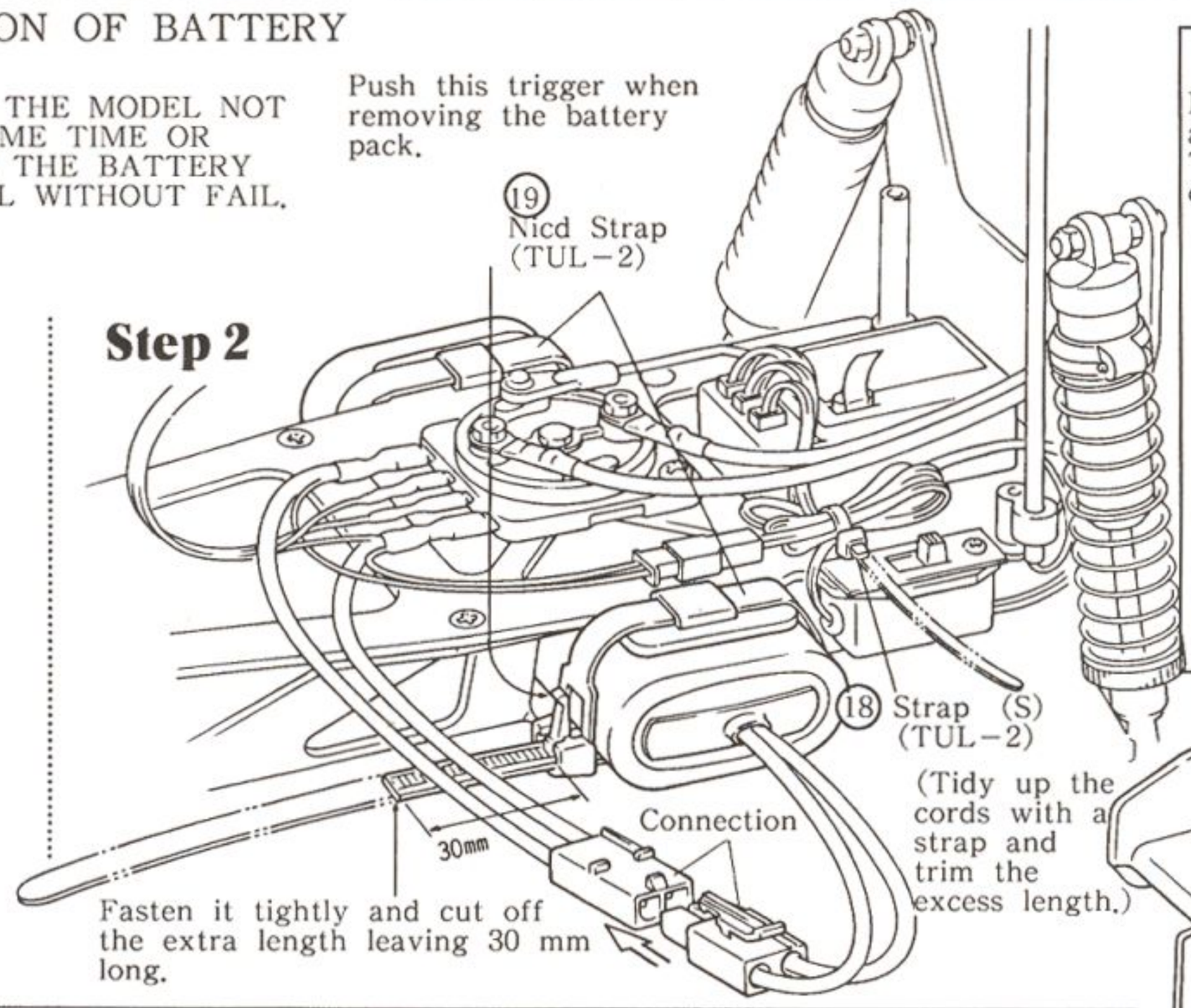
(88) Battery Holder (TUL-7)

Remainings of cellophane tape or decals.

Step 2

Push this trigger when removing the battery pack.

(19) Nicd Strap (TUL-2)



(18) Strap (S) (TUL-2)

(Tidy up the cords with a strap and trim the excess length.)

Connection

30mm

Fasten it tightly and cut off the extra length leaving 30 mm long.

KYOSHO

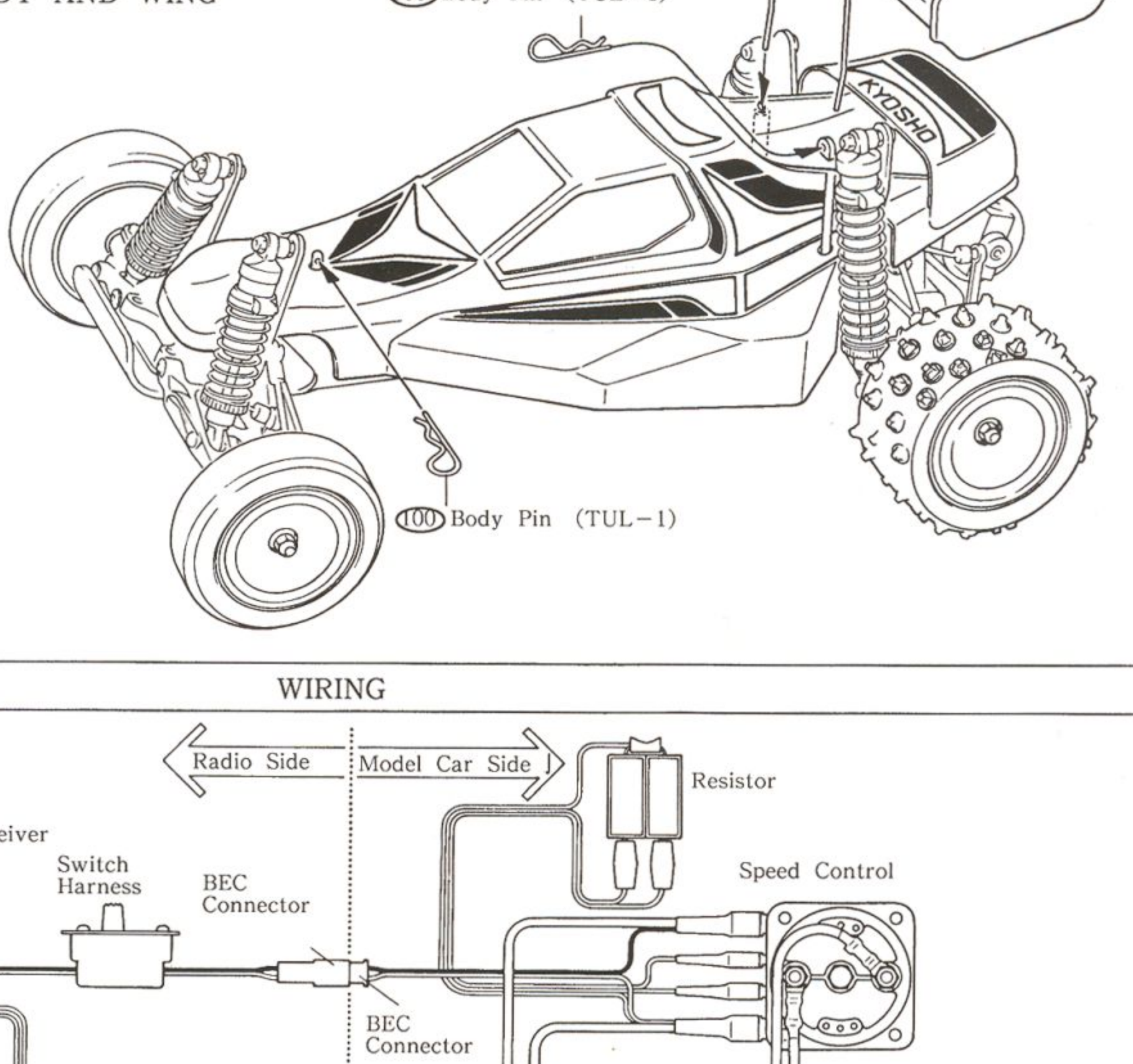
For maximum performance, use a high performance battery.
The Kyosho 7.2V Power Battery or Racing Battery is recommended.

7.2V power Battery No.2306

7.2V Racing Battery No.2218

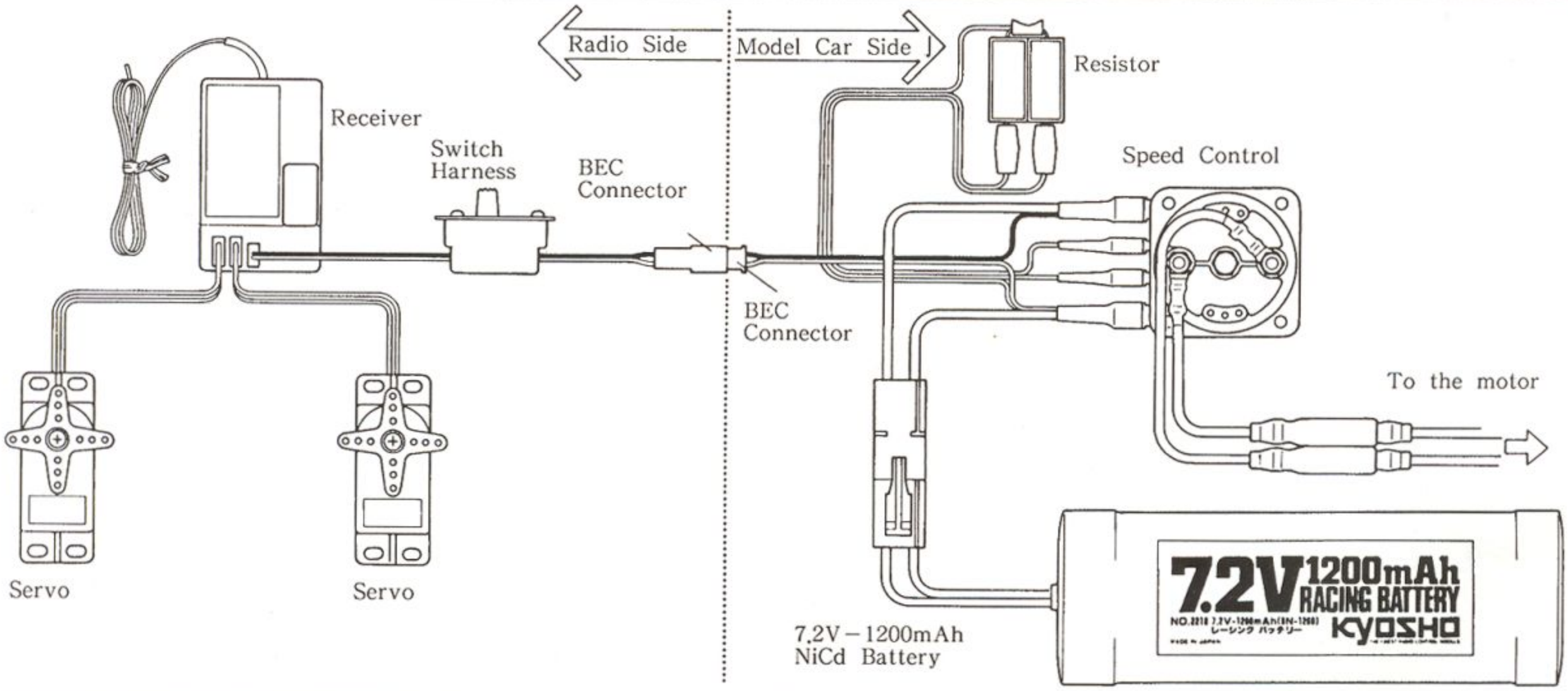
37 MOUNTING OF BODY AND WING

(100) Body Pin (TUL-1)



(100) Body Pin (TUL-1)

WIRING

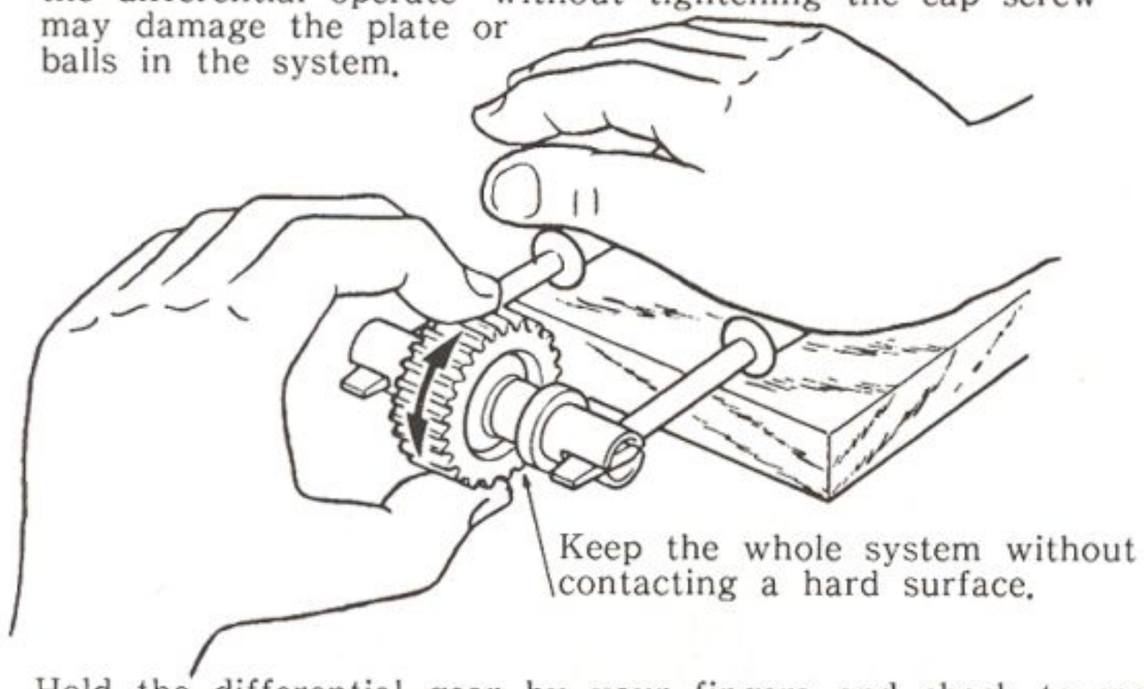


GUIDE FOR CHARACTERIZING MODEL (1)

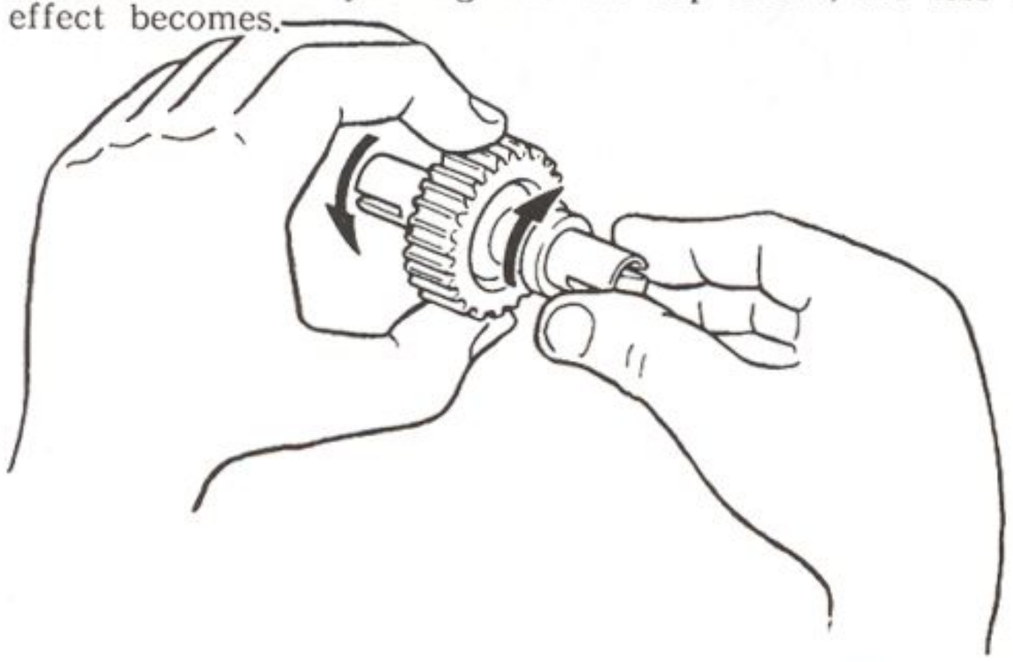
[Adjustment of Ball Differential before Assembly]

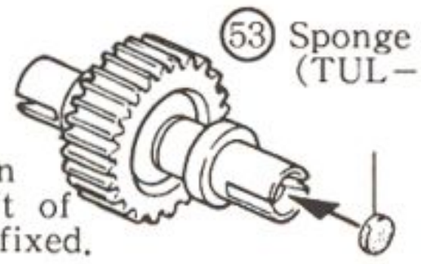
Adjust the differential before installation by tightening the M2.6x15 screw in such a degree that the differential will not turn idly as shown in illustration ① and the differential gear shaft will turn smoothly in the reverse way as shown in illustration ②

❶ Hold the differential by inserting screwdrivers, then tighten the cap screw little by little so that the gear will not rotate idly. Tightening the cap screw too much or letting the differential operate without tightening the cap screw may damage the plate or balls in the system.



❷ Hold the differential gear by your fingers, and check to see if the other side will turn in the opposite direction to your drive on one side. This movement is called the differential effect. The more you tighten the cap screw, the less the effect becomes.





❸ Repeat the steps ① and ② until you get the ideal adjustment, then put the sponge cap into the shaft of the end where the cap screw is fixed.

[Relation between Motor and Ratio]

No.of Pinion Gegar Teeth	14T	15T	16T	17T	18T	19T	20T
Gear Ratio	8.8	8.2	7.7	7.3	6.9	6.5	6.2
Compatible Le Mans Motors	240S、240SB						
			360GOLD、360PT				
	480S、480T、480GOLD						

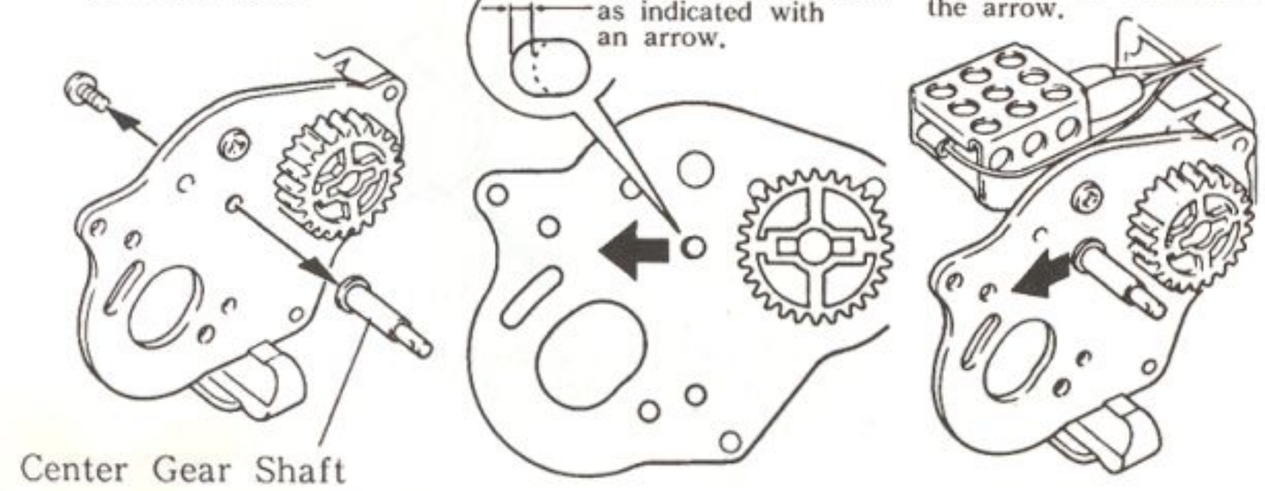
[When the Center Gear is Too Tight to Fix]

All parts of this model are precision-worked, so sometimes you may find the center gear is too tight to install, the step is in 27 "Fixing of Center Gear" on page 13. In such a case, disassemble the center gear shaft once as shown below and enlarge the shaft hole with a round file a little bit.

Step 1
Take out the center gear shaft once.

Step 2
File off the hole 0.1 to 0.3mm to the direction as indicated with an arrow.

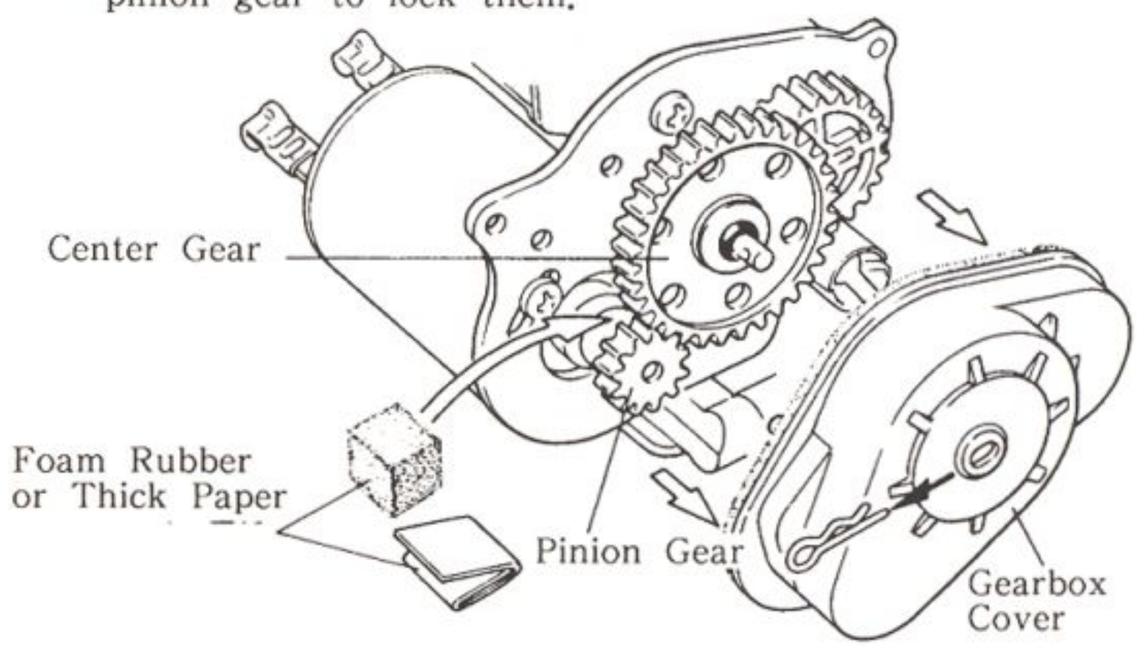
Step 3
Install the shaft pushing it toward the direction of the arrow.



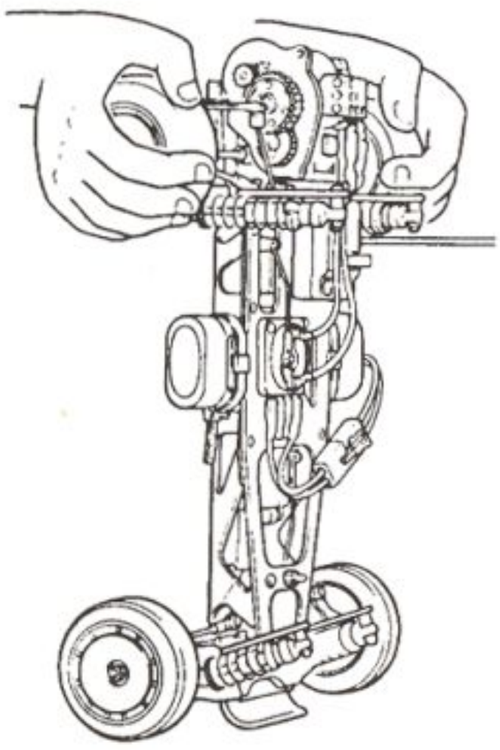
[Adjustment of Ball Differential after Assembly]

The ball differential gear has been adjusted as shown at the left column. But after the assembly, take a look in the following ways if the cap screw is tightened properly.

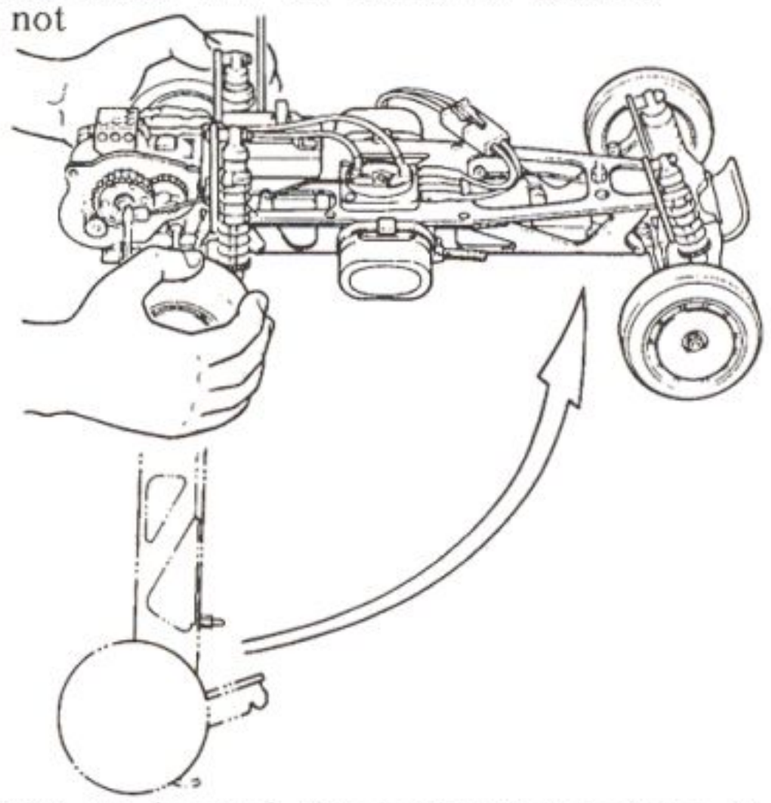
❶ Remove the gearbox cover first, then put a piece of foam rubber of thick paper between the center gear and the pinion gear to lock them.



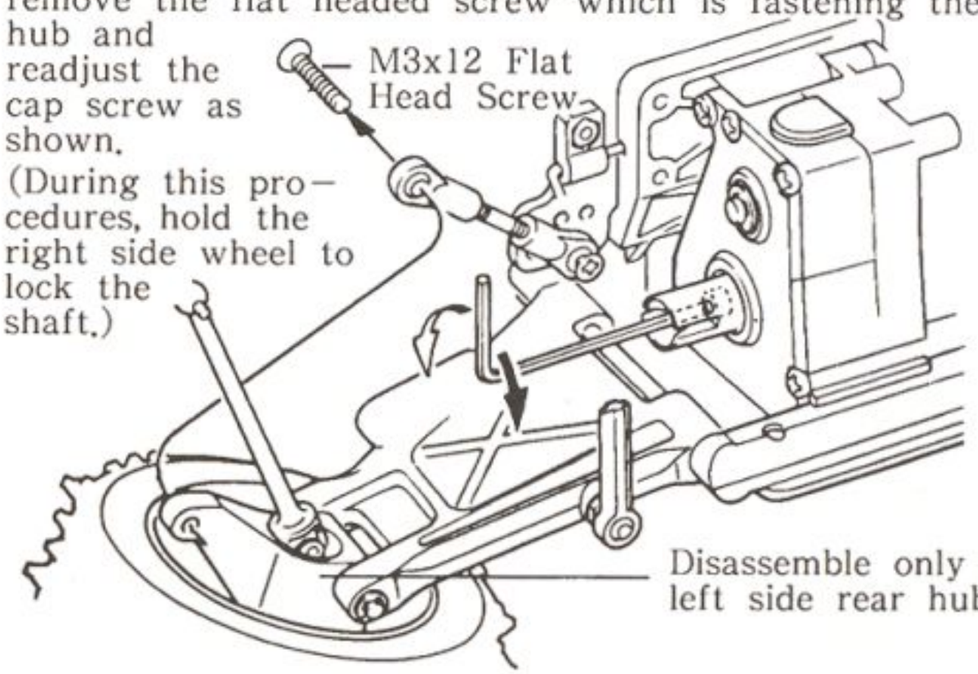
❷ Hold the rear wheels with your both hands and raise the model vertically.



❸ Swing the model car upward by holding the rear wheels. The best adjusted model will be raised to become horizontal and not farther.



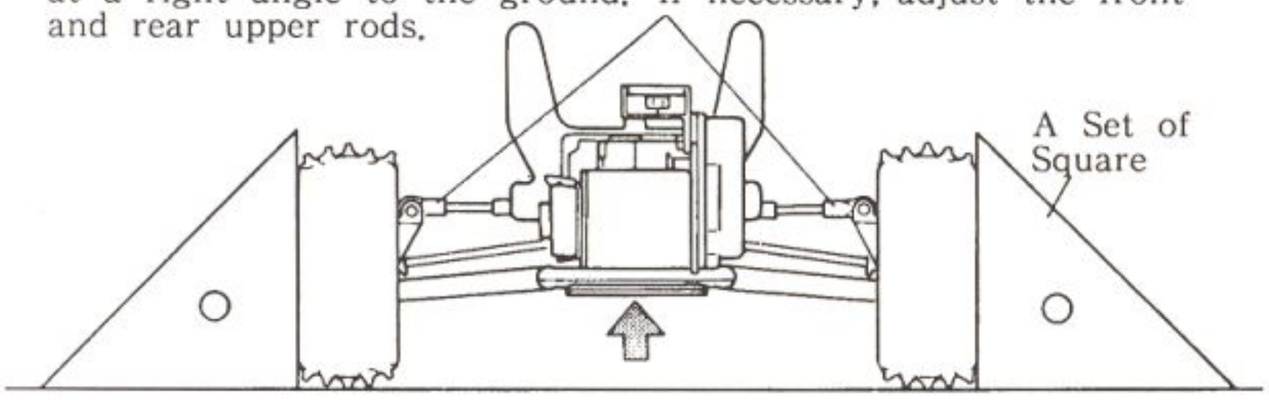
❹ If the model goes up beyond the horizontal position, it indicates that the cap screw has been tightened excessively. Conversely if it does not reach to the horizontal line, tightening of the cap screw is inadequate. In such a case remove the flat headed screw which is fastening the rear hub and readjust the cap screw as shown.
(During this procedures, hold the right side wheel to lock the shaft.)



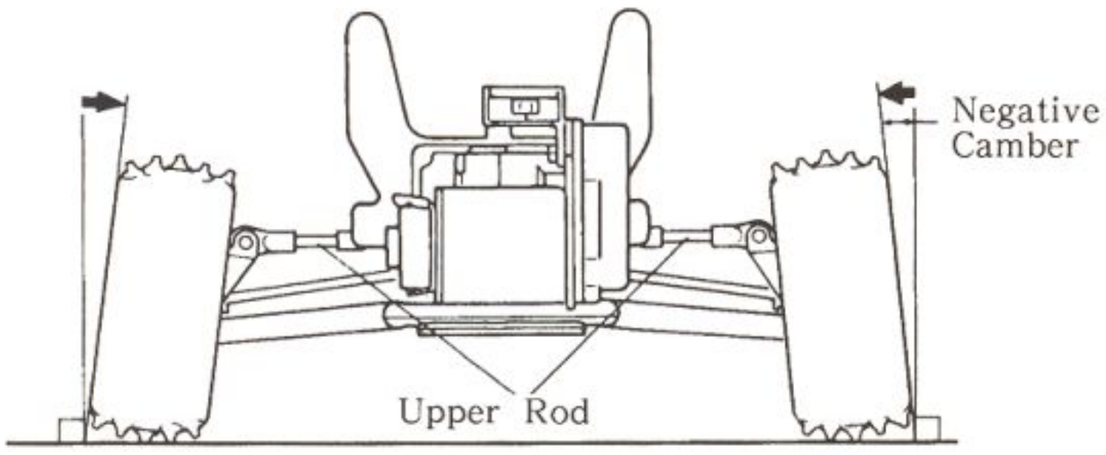
GUIDE FOR CHARACTERIZING MODEL (2)

[Foundamental Adjustment]

Place the car on a flat surface and keep the car with the highest clearance, and check to see if the wheels are positioned at a right angle to the ground. If necessary, adjust the front and rear upper rods.

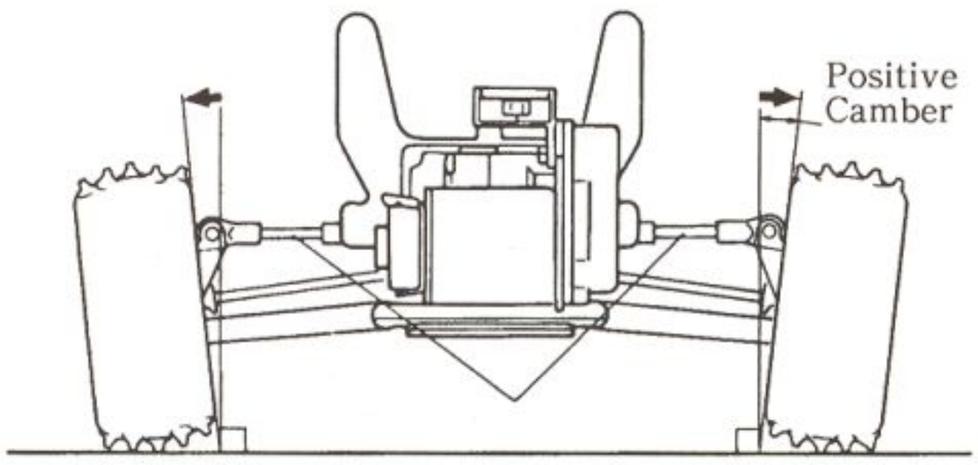


- By shortening the upper rods, you will have a negative camber angle. With a negative camber angle to the front wheels, you will have sharper steering response. With a negative camber angle to the rear wheels, you will have more traction on the rear.



- By lengthening the upper rods, you will have a positive camber angle. With a positive camber angle to the front wheels, you will have a under-steering trait. With a positive camber anglle to the rear wheels, you will have ano ver-steering trait.

* With an excessive positive camber angle adjustment, the universal swing shaft will be sometimes dislocated.



[Adjustment of Shock Oil and Spring]

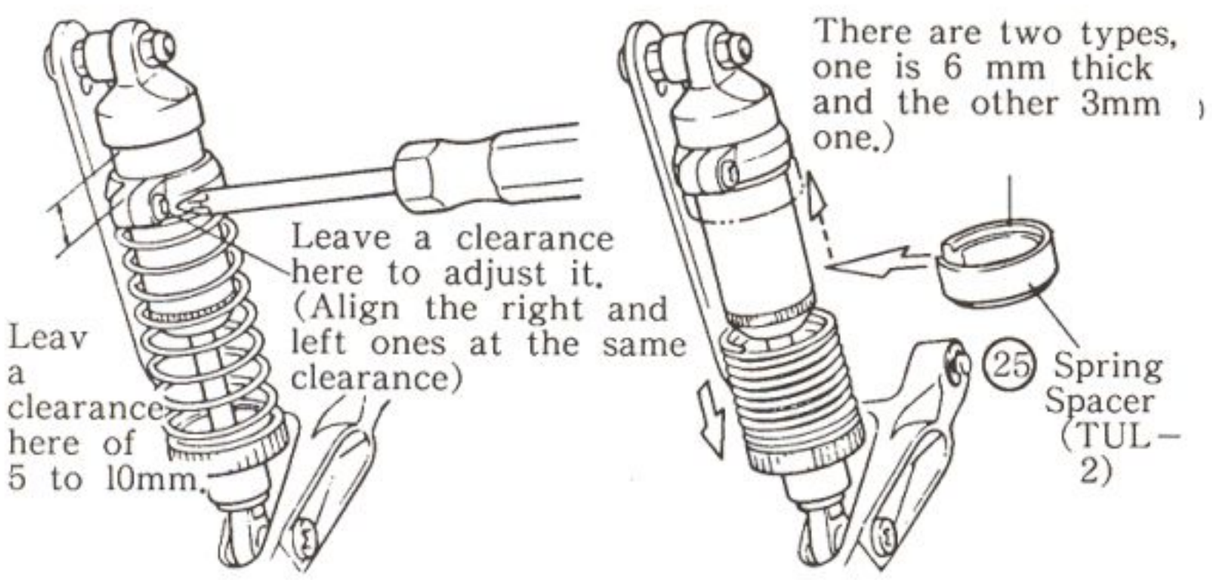
Front	(With lighter shock oil / With weaker spring tension)	Sharper steering response.
Front	(With heavier shock oil / With stronger spring tension)	Slower steering response.
Rear	(With lighter shock oil / With weaker spring tension)	More wheel traction
Rear	(With heavier shock oil / With stronger spring tension)	Less wheel traction.

*The above is just for a general indication.

[Adjustment of Suspension Spring]

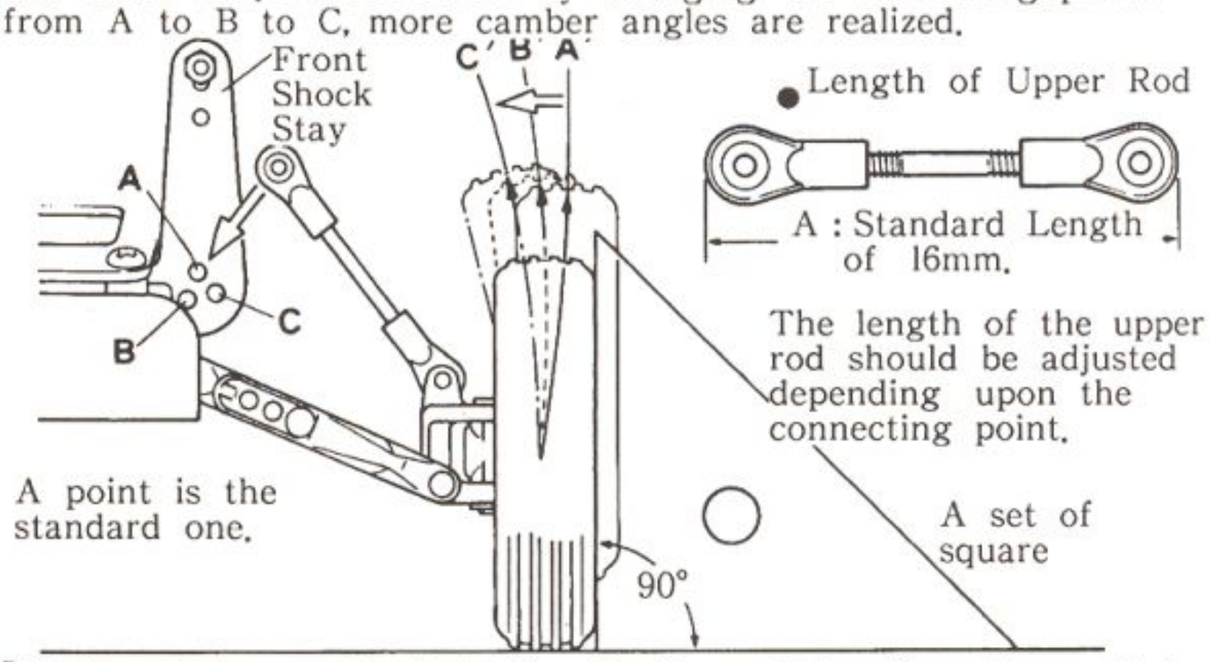
1 In the case of adjusting the spring stopper.

2 In the case of adjusting the spring spacer.



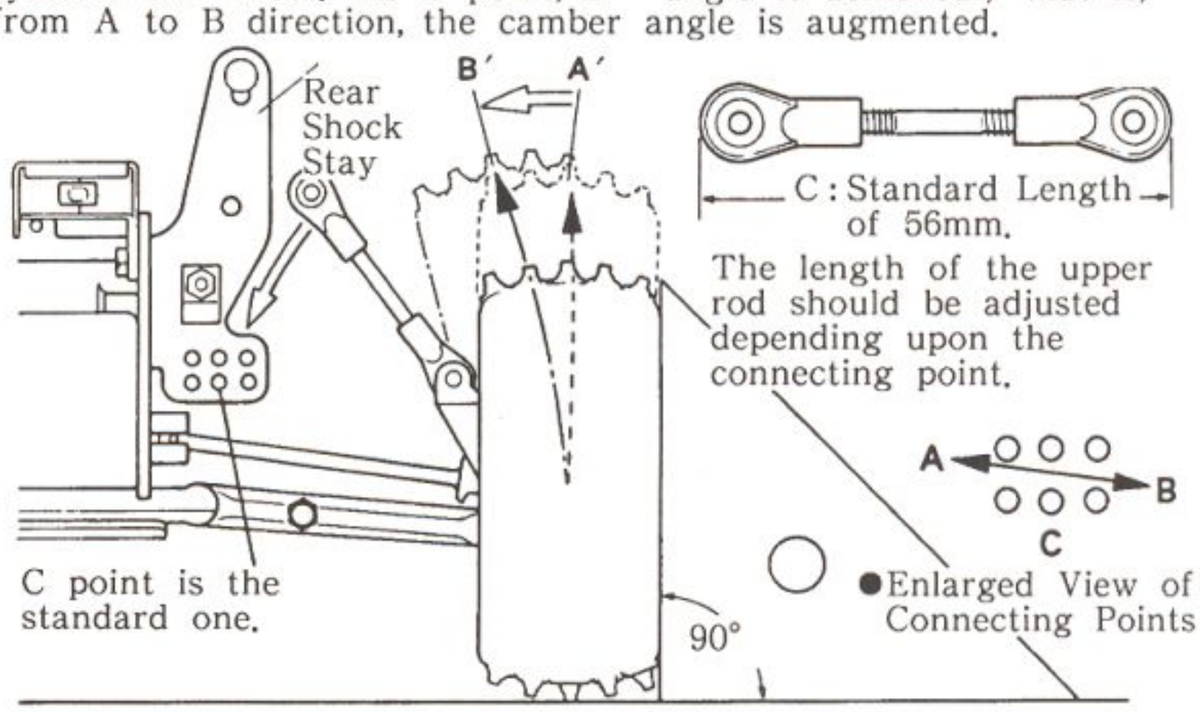
[Relation between the Installling position of the front Upper Rod and Camber Angle Adjustment]

When installing the upper rod to A position on the front shock stay, the camber angle is positioned to A adjustment at the lowest point of the front suspension systems; likewise B to B and C to C . In conclusion by changing the connecting points from A to B to C, more camber angles are realized.



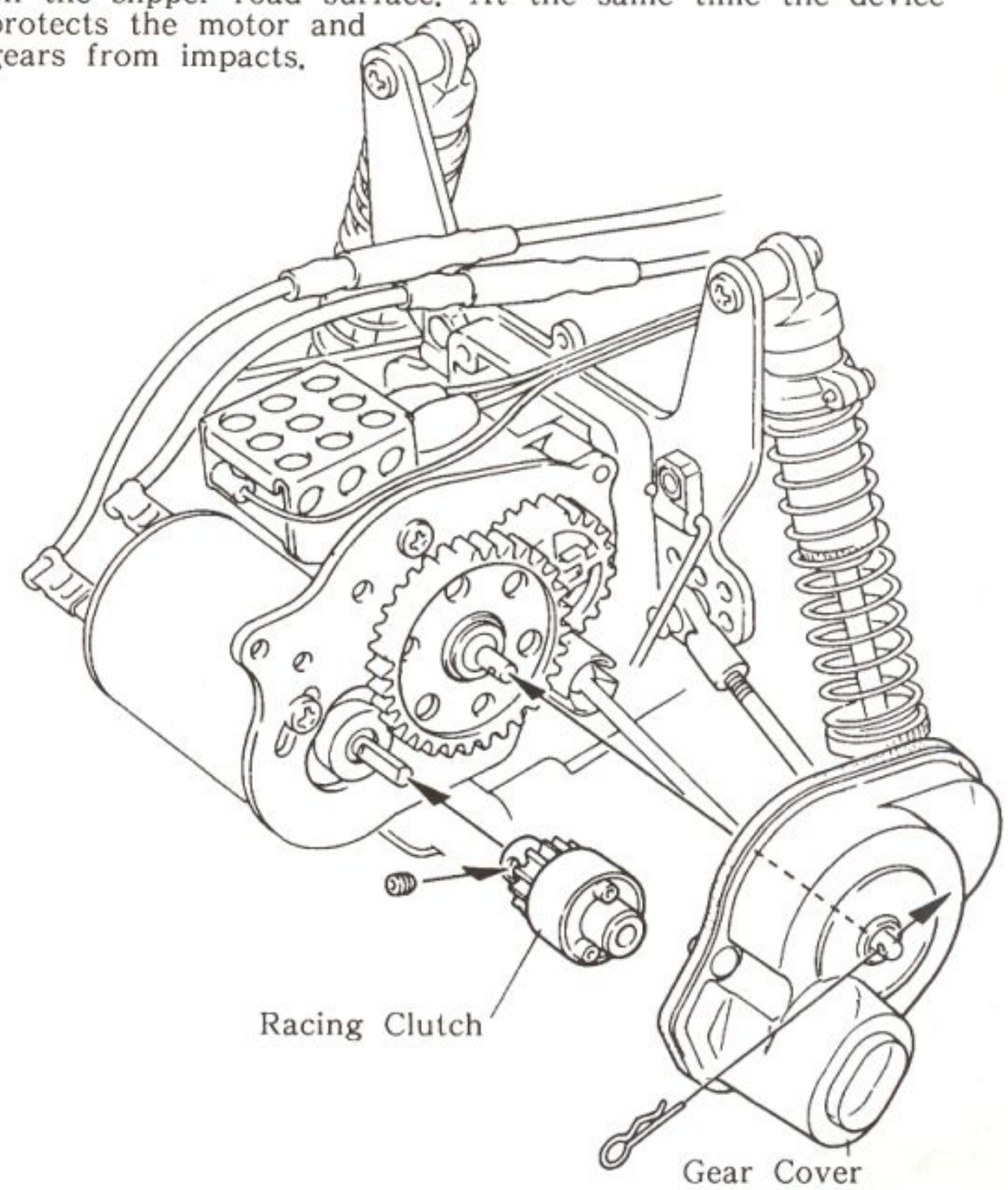
[Relation between the Installing Position of the Rear Upper Rod and Camber Angle Adjustment]

If you connect the upper rod to A point on the rear shock stay, A is the maximum camber angle when the rear suspension systems sink most. At B point, B angle is achieved; that is, from A to B direction, the camber angle is augmented.



[Optional Racing Clutch]

This is a centrifugal clutch for the electric buggy car, it also functions as a torque limiter. It provides you an easy control on the slipper road surface. At the same time the device protects the motor and gears from impacts.



*There are five types of the racing clutch available. Refer to the optional parts list in the artcle of "When you lose or shock a part" on page 20.

EXPLOODED VIEW OF BALL DIFFERENTIAL AND OIL SHOCK

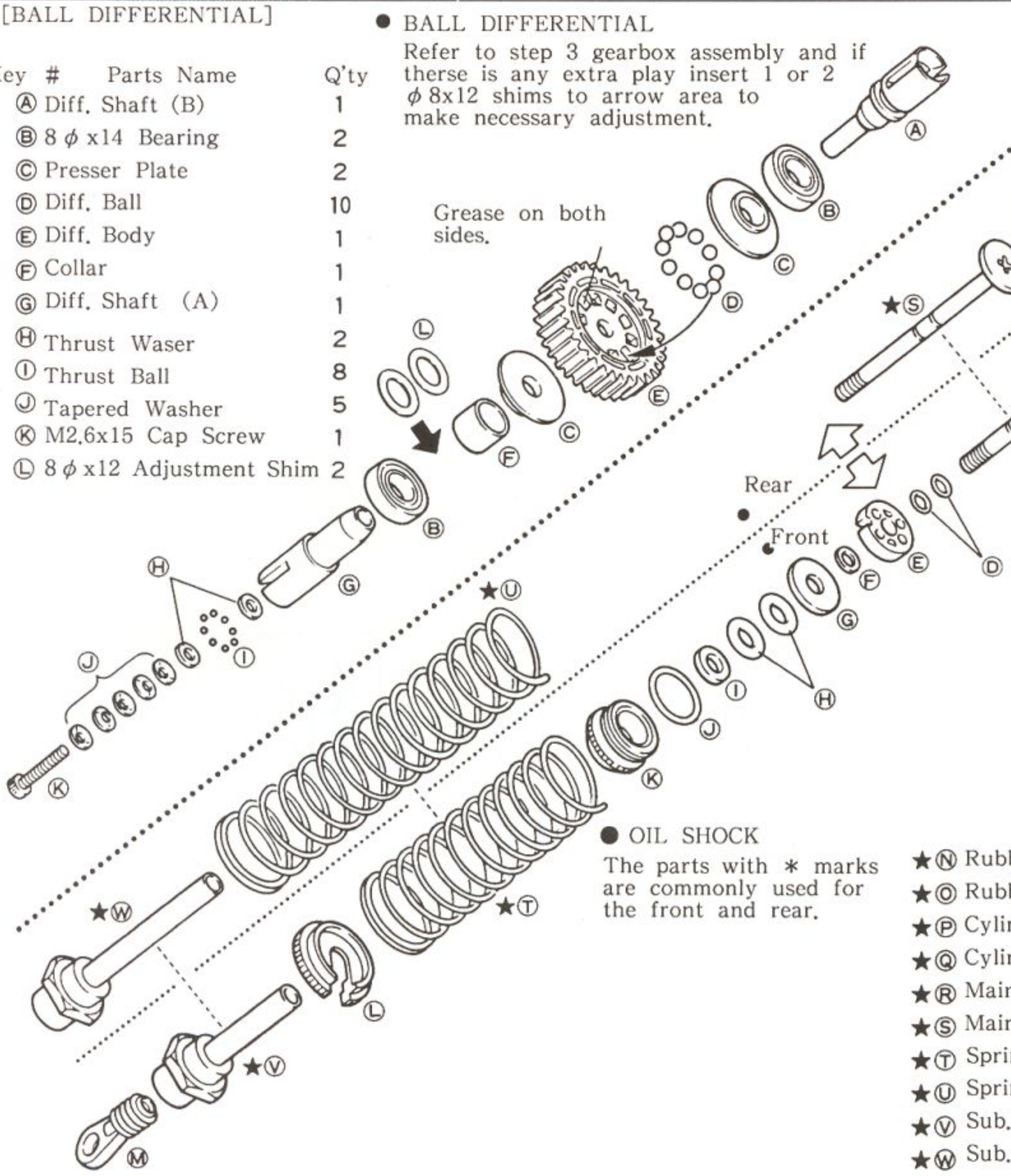
[BALL DIFFERENTIAL]

Key #	Parts Name	Q'ty
Ⓐ	Diff. Shaft (B)	1
Ⓑ	8 φ x14 Bearing	2
Ⓒ	Presser Plate	2
Ⓓ	Diff. Ball	10
Ⓔ	Diff. Body	1
Ⓕ	Collar	1
Ⓖ	Diff. Shaft (A)	1
Ⓗ	Thrust Waser	2
Ⓘ	Thrust Ball	8
Ⓙ	Tapered Washer	5
Ⓚ	M2.6x15 Cap Screw	1
Ⓛ	8 φ x12 Adjustment Shim	2

● BALL DIFFERENTIAL

Refer to step 3 gearbox assembly and if therse is any extra play insert 1 or 2 φ 8x12 shims to arrow area to make necessary adjustment.

Grease on both sides.



● OIL SHOCK

The parts with * marks are commonly used for the front and rear.

[OIL SHOCK]

Key #	Parts Name	Q'ty
Ⓐ	Shock Top Cap	4
Ⓑ	Spring Stopper (A)	4
Ⓒ	M2x8 Self Tapping Screw	4
Ⓓ	O Ring (S)	8
Ⓔ	Valve	4
Ⓕ	Washer (S)	4
Ⓖ	Washer (L)	4
Ⓗ	O Ring (M)	8
Ⓘ	O Ring Spacer	4
Ⓙ	O ring (L)	4
Ⓚ	Shock Under Cap	4
Ⓛ	Spring Stopper (B)	4
Ⓜ	Shock End	4
★Ⓝ	Rubber Cap (Thinner one, For Front)	2
★Ⓞ	Rubber Cap (Thickness one, For Rear)	2
★Ⓟ	Cylinder (Shorter one, For Front)	2
★Ⓠ	Cylinder (Longer one, For Rea)	2
★Ⓡ	Main Piston (Shorter one, For Front)	2
★Ⓢ	Main Piston (Longer one, For Rear)	2
★Ⓣ	Spring (Shorter one, For Front)	2
★Ⓤ	Spring (Longer one, For Rear)	2
★Ⓥ	Sub. Piston (Shorter one, For Front)	2
★Ⓦ	Sub. Piston (Longer one, For Rear)	2

PARTS LIST

Key #	Parts Name	Q'ty
①	Main Frame	1
●②	Ball Differential	1
③	Univasal Swing Shaft	2
●④	Front Oil Shock	2
●⑤	Rear Oil Shock	2
⑥	4 φ x8 Bearing	6
⑦	5 φ x10 Bearing	6
⑧	Wing	1
●⑨	Speed Control Unit	1 set
⑩	Le Mans 240ST Motor	1
⑪	Radio Plate	1
⑫	Gearbox (L)	1
⑬	Gearbox (R)	1
⑭	Motor Cord	1 set
⑮	Wing Wire	1
⑯	Gear Cover Seal	1
⑰	Double Sided Tape	1
⑱	Strap (S)	2
⑲	Nicd Strap	2
⑳	Antenna Pipe	1
㉑	Stabilizer Link (L)	2
㉒	Stabilizer Link (S)	2
㉓	Stabilizer Stopper	2
★㉔	Shock collar	4
★㉕	Spring Spacer	4
㉖	Rear Wheel	2
㉗	Front Wheel	2
㉘	Final Pinion	1
㉙	Pinion Gear (15T)	1
㉚	Center Gear Shaft	1
㉛	Drive Washer	2
㉜	Counter Gear Shaft	1
㉝	2 φ x11 Pin	1
㉞	Front Wheel Shaft	2
㉟	Servo Saver Shaft	2
㊱	Wing Post	2
㊲	Wing Stopper	2
㊳	O Ring (P3)	1
㊴	Center Gear Collar	1
㊵	5.8 φ Ball (Black Color)	6
㊶	Motor Plate	1
㊷	Heat Sink (A)	1
㊸	Heat Sink (B)	1
㊹	Front Shock Stay	1
㊺	Rear Shock Stay	1
㊻	Front Stabilizer	1
㊼	Rear Stabilizer	1
㊽	Suspension Shaft (B)	2
㊾	Center Gear	1
㊿	Counter Gear	1
(51)	Stabilizer Ball	2
(52)	Adjust Ball	4
(53)	Sponge Cap	1
(54)	Front Suspension Arm	2
(55)	Rear Suspension Arm	2
(56)	Front Bulk Head	1
(57)	Rear Axle Stopper	1
(58)	Rear Bulk Head	1
(59)	Gear Cover	1
(60)	Bumper	1
(61)	Front Hub	2
(62)	Knuckle Arm (L)	1
(63)	Knuckle Arm (R)	1
(64)	Rear Hub	2
(65)	Gearbox Hatch	1
(66)	Servo Saver (A)	1
(67)	Servo Saver (B)	1
(68)	Servo Saver (C)	1
(69)	Servo Saver (D)	1
(70)	Servo Saver Collar	2
(71)	Servo Stay	4
(72)	Body Hook	1
(73)	Antenna Post	1
(74)	Ball End (L)	12
(75)	Ball End (S)	2
(76)	Sus. Shaft (C) (Silver)	2
(77)	Sus. Shaft (A) (Black)	2
(78)	Tie Rod	2
(79)	Upper Rod	4
(80)	Ball Nut	1
(81)	5.8 φ Ball (Silver Color)	10
(82)	4.8 φ Ball	3
(83)	Suspension Shaft (D)	2
(84)	King Pin	2
(85)	Steering Rod	1
(86)	Speed Control Rod	1
(87)	Center Rod	1
(88)	Battery Holder	2
(89)	Body	1
(90)	Rear Tire	2
(91)	Front Tire	2
(92)	Decal	1
(93)	Shock Oil	1
(94)	E Ring (E2.5)	10
(95)	E Ring (E3)	3
(96)	E Ring (E4)	2
(97)	Hook Pin	2
(98)	Hex Key (1.5)	1
(99)	Hex Key (2)	1
(100)	Body Pin	3

The parts with ● are assembled.

LIST OF PARTS & KEY NUMBERS (1)

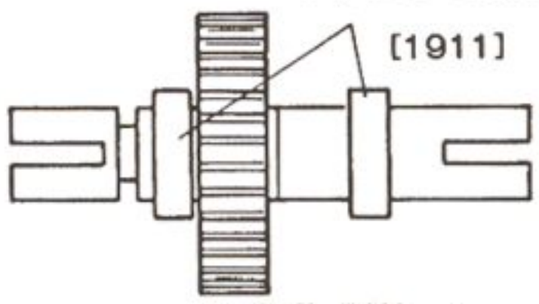
1 : 10 TURBO ULTIMA BAGGED PART LIST

BLISTER

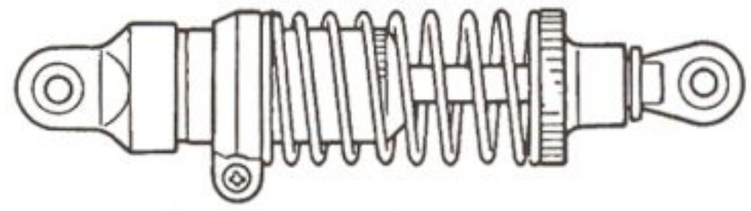
⑥ 4 φ X8 Bearings...6
[1903]

⑦ 5 φ x10 Bearings...6
[1901]

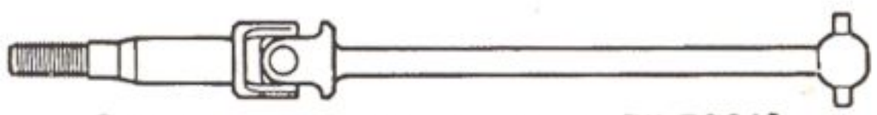
8 φ x14 Bearings...2
[1911]



② Ball Diff. ...1
[W-0109]

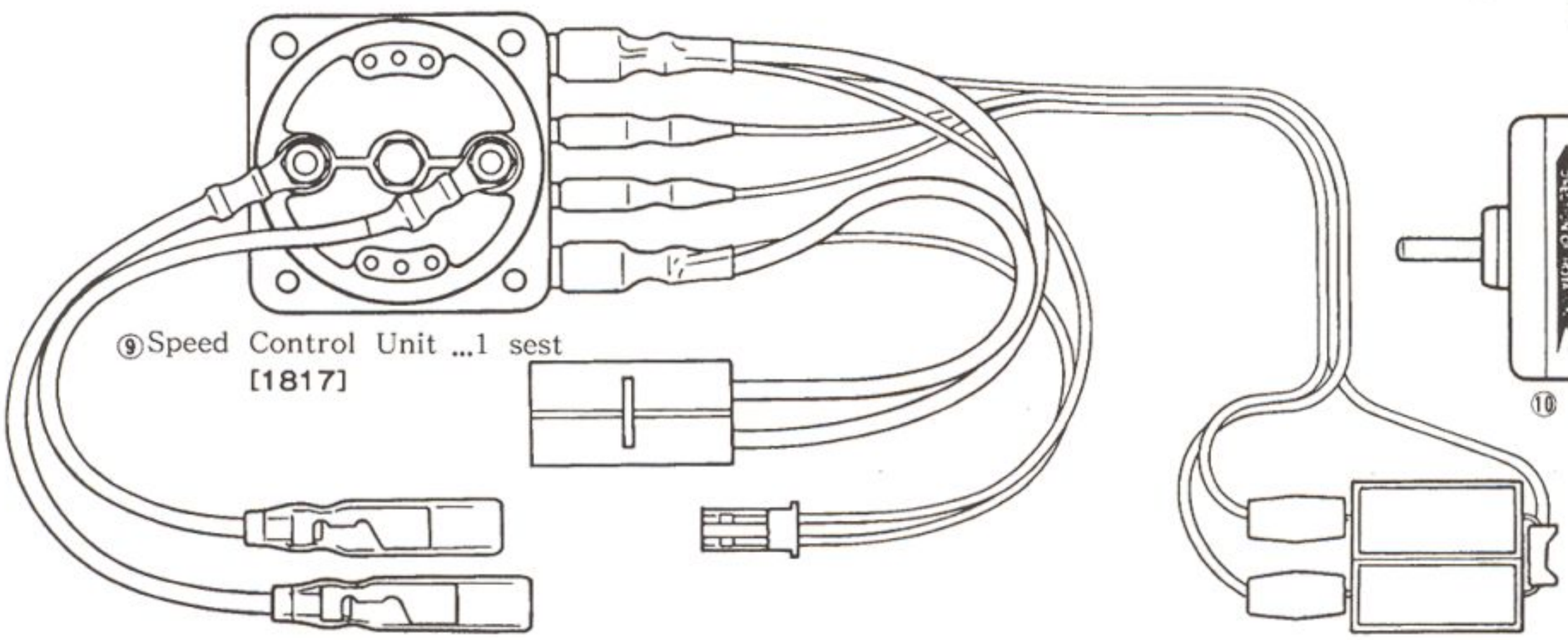


④ Front Oil Shocks...2
[W-5003]



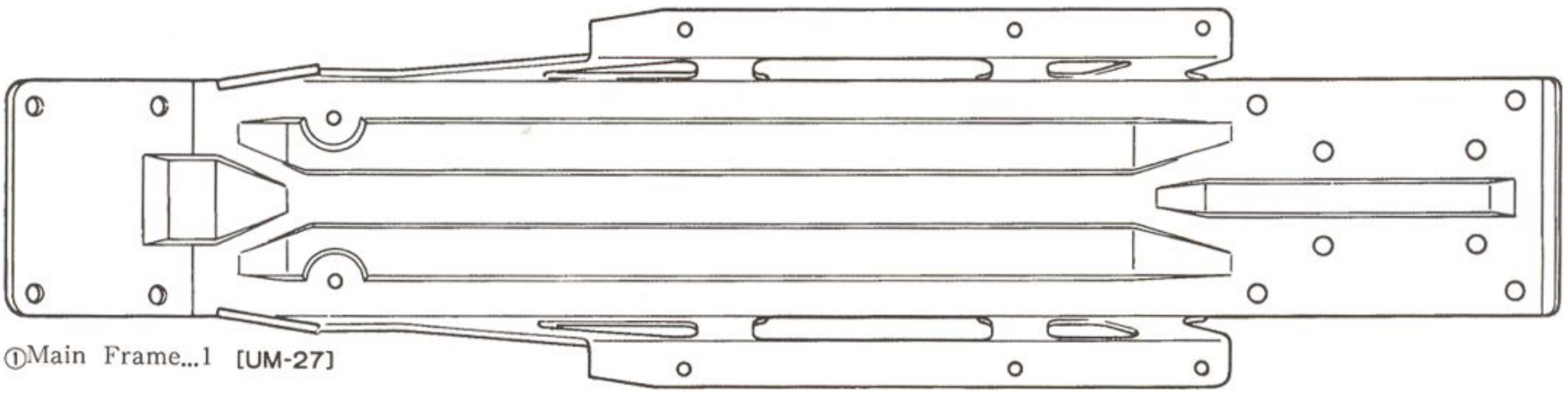
③ Universal Swing Shafts...2 [W-5061]

⑤ Rear Oil Shocks ...2
[W-5004]



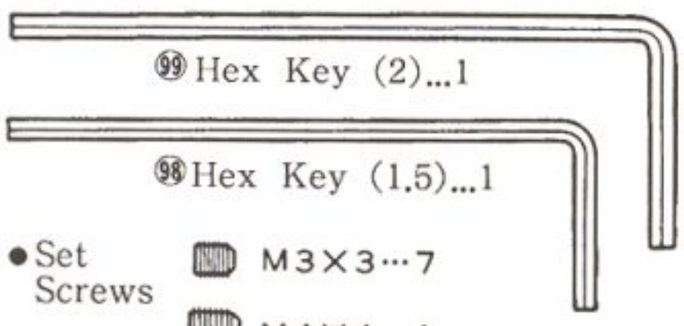
⑨ Speed Control Unit ...1 sest
[1817]

⑩ Le Mans 240ST Motor...1



①Main Frame...1 [UM-27]

TUL-1



⑨⑨ Hex Key (2)...1

⑨⑧ Hex Key (1.5)...1

• Set Screws
M3×3…7
M4×4…1

• Screws
M2×10…2
M3×10…2
M3×33…3

• Self Tapping Screws
M2×8…1
M3×18…1

• Screw,Nut and Hex Key [UM-36]

• Flat Head Screws
M2.6×15…6
M3×6…8
M4×8…10
M3×12…6
M4×12…4
M3×15…2

• Bind Screws
M2.6×6…3
M3×6…8
M3×18…6
M3×35…1

• Bind Self Tapping Screws
M2.6×6…3
M3×8…15

• Truss Screws
M4×8…2

• Nuts
M2.6…10
M3…11

• Nylon Nuts
M3…4
M4…4

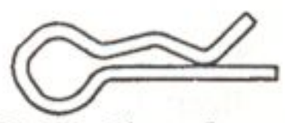
• Washers
3φ…4
4φ…4

8 φ x12 Adjustable Shims..2
[WBD-1] [W-0109]

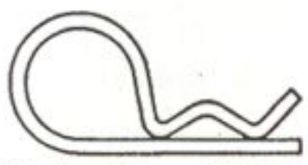
E Rings
⑨④ (E2.5)..10
[OT-39]

⑨⑤ E Rings (E3)...3
[CB-72]

⑨⑥ E Rings (E4)...2
[KC-20]



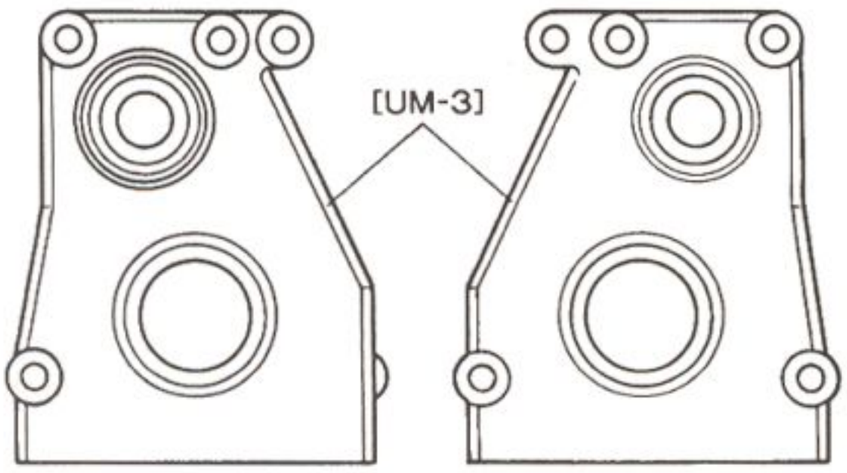
⑨⑦ Hook Pins...2 [EP-22]



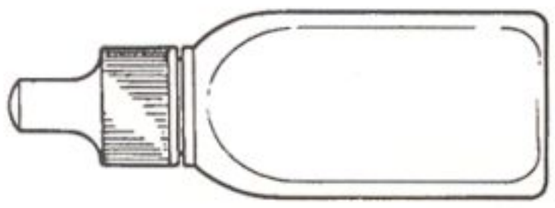
⑩⑩ Body Pins...3[1889]

LIST OF PARTS & KEY NUMBERS (2)

TUL-2



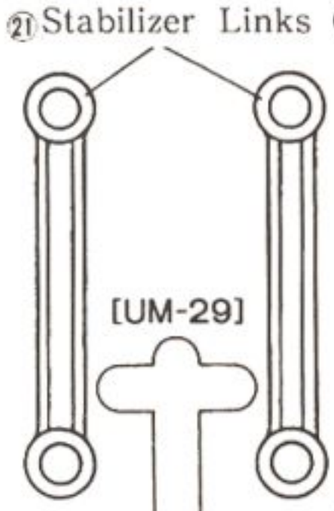
⑬Gearbox (R)...1 ⑫ Gearbox (L)...1



⑨③ Shock Oil...1 [1951]

Screw Cement...1

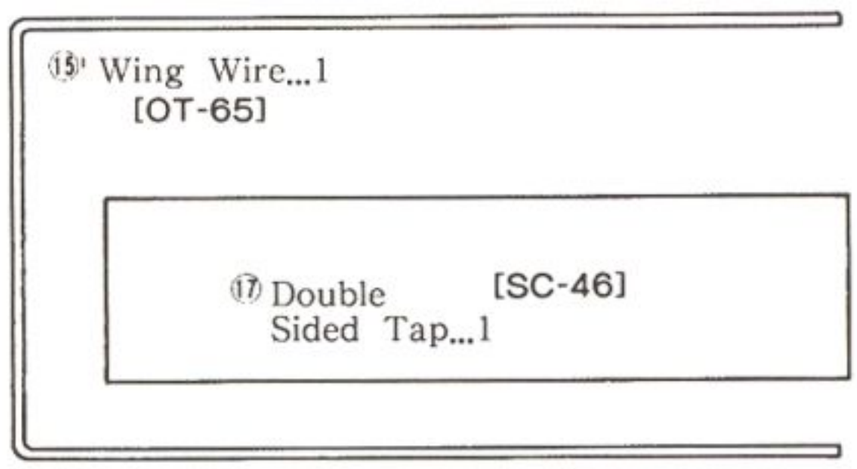
Silicone Grease...1 [OT-38]



㉑Stabilizer Links (L)...2

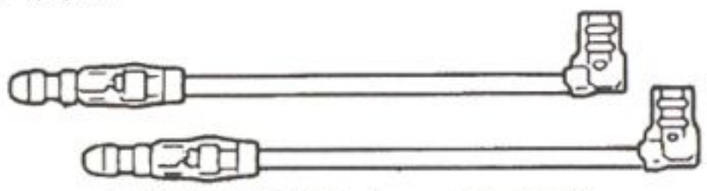
㉒Stabilizer Links (S)...2

㉓ Stabilizer Stoppers...2



⑮ Wing Wire...1 [OT-65]

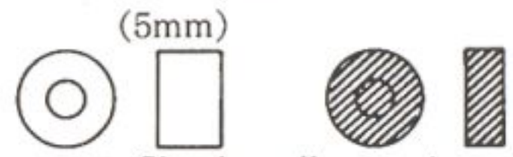
⑰ Double Sided Tap...1 [SC-46]



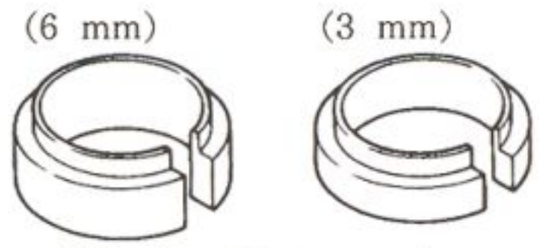
⑭ Motor Cord...1 [OT-79]

⑱Strap (S)...2 [EP-37]

[W-5003] [W-5004] x 2



㉔ Shock collar x 4



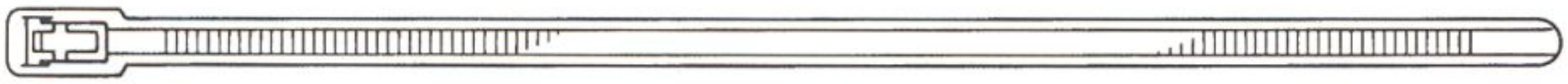
㉕ Spring Spacer x 4

Valves...4 (Spare parts for Oil Shock)

O Rings (P2)...4

⑪: Radio Plate...1 [UM-30]

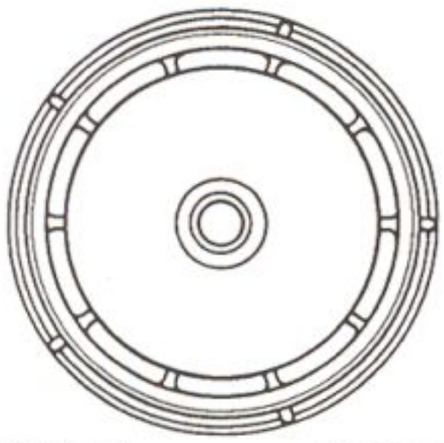
⑯ Gear Cover Shsaft...1 [UM-12]



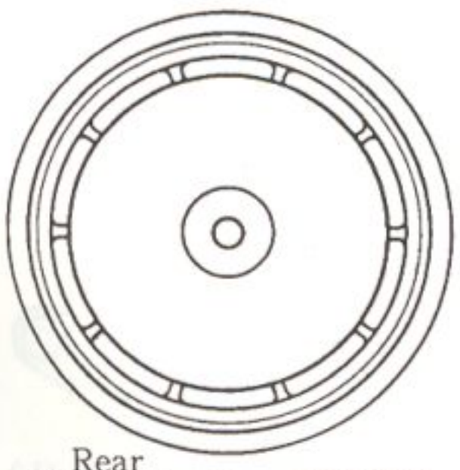
⑲NiCad Straps...2 [EP-39]

⑳ Antenna pipe...1 [SD-79]

TUL-3



㉗ Front Wheels...2 [UM-33]

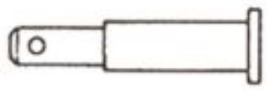


㉖ Rear Wheels...2 [UM-32]

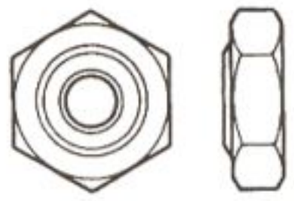
TUL-4

㉘ Final Pinion...1 [OT-76]

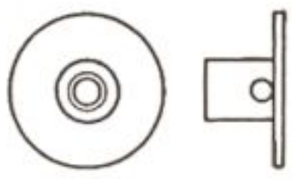
㉙ Pinion Gear (15T)...1 [OT-24]



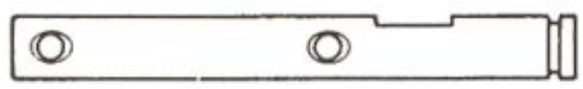
㉚ Center Gear Shaft...1 [UM-5]



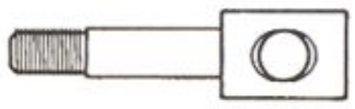
㉛ Drive Washers...2 [OT-19]



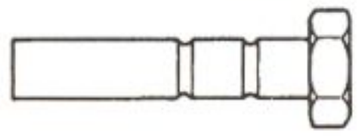
㉗ Wing Stoppers...2 [OT-65]



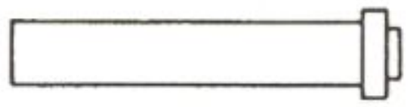
㉜ Counter Gear Shaft...1 [UM-5]



㉞ Front Wheel Shafts...2 [UM-8]



㉟ Servo Saver Shafts...2 [UM-27]



㊱ Wing Posts...2 [OT-65]

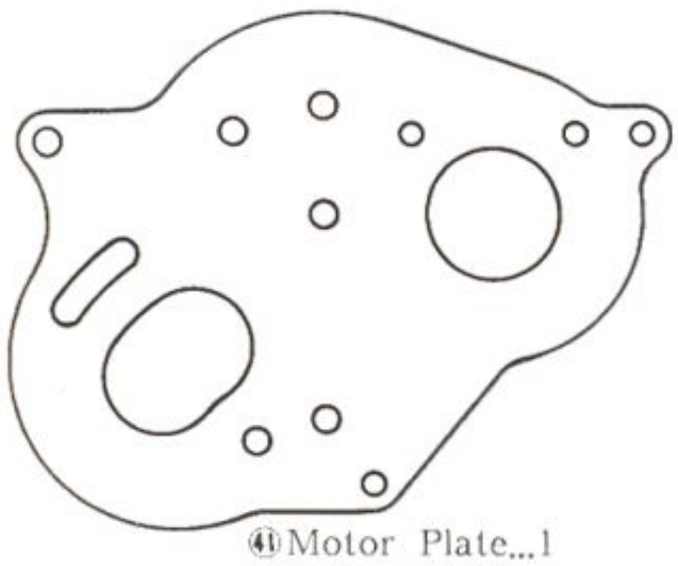
㉝ 2 φ x11 Pin...1 [UM-5]

㊳ O Rings (P3)...1 [OT-29]

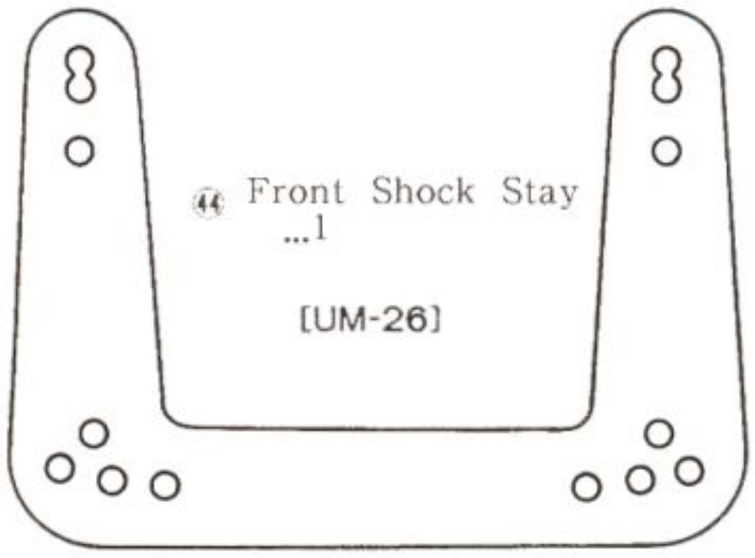
㊴ Center Gear Collar...1 [1903]

㊵ 5.8 φ Balls (Black Color)...6 [OT-101] [SC-89]

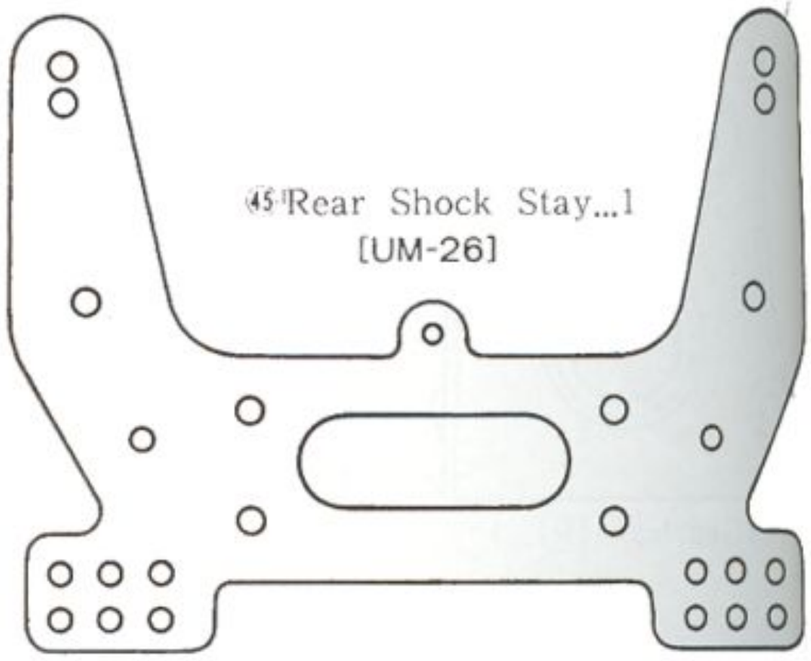
TUL-5



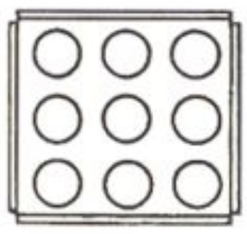
㊶ Motor Plate...1 [UM-4]



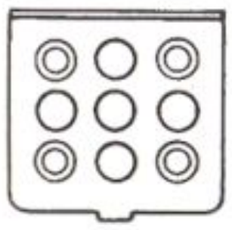
㊹ Front Shock Stay ...1 [UM-26]



㊺ Rear Shock Stay...1 [UM-26]

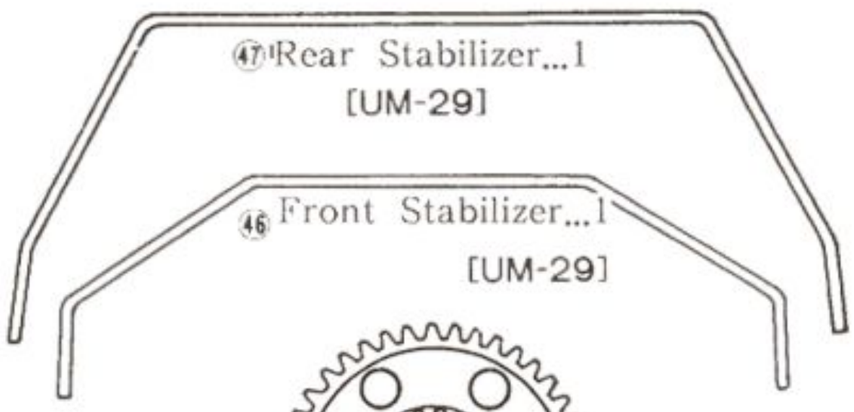


㊷ Heat Sink (A)...1 [OT-72]



㊸ Heat Sing (B)...1 [OT-72]

㊿ Counter Gear ...1 [UM-1]

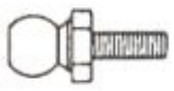


㊼ Rear Stabilizer...1 [UM-29]

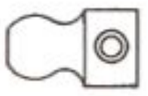
㊻ Front Stabilizer...1 [UM-29]

㊾ Center Gear ...1 [UM-1]

㊽ Sus. Shafts (B)...2 [UM-7]



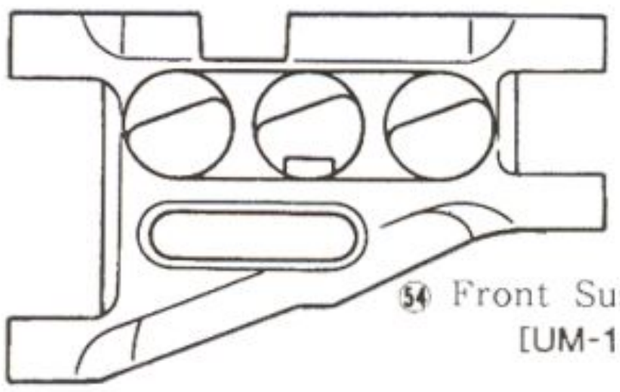
㊶ Stabilizer Balls...2 [UM-29]



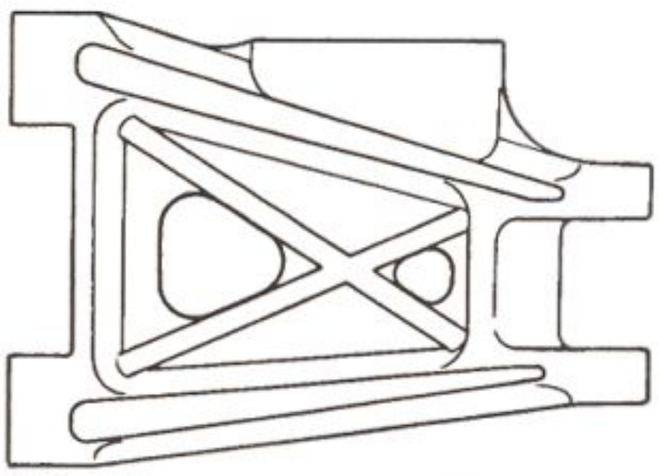
㊷ Adjust Balls...4 [UM-29]

㊸ Sponge Cap...1 [W-0109]

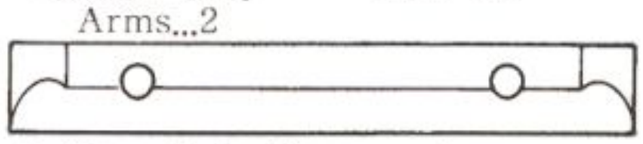
TUL-6



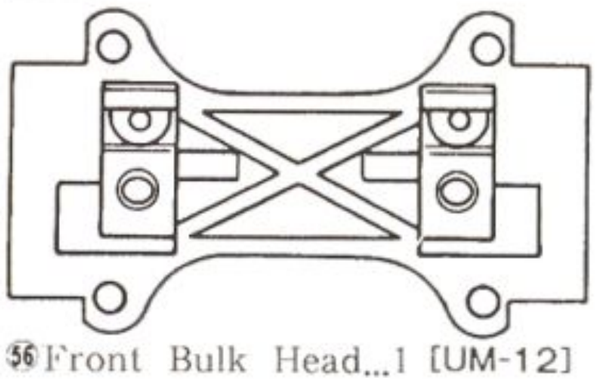
㊹ Front Sus. Arms...2 [UM-13]



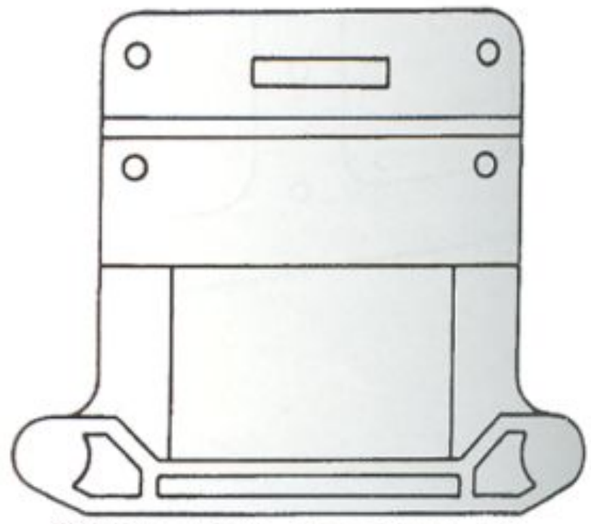
㊺ Rear Sus. Arms...2 [UM-13]



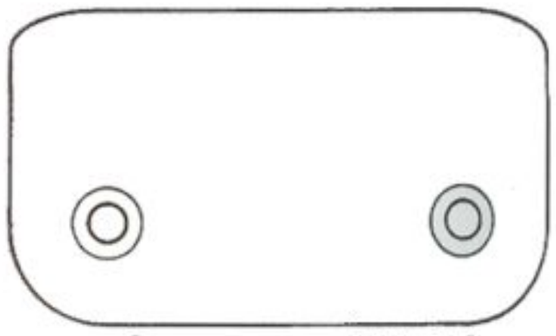
㊼ Rear Axle Stopper...1 [UM-12]



㊻ Front Bulk Head...1 [UM-12]



㊽ Rear Bulk Head [UM-12] ...1



㊿ Bumper...1 [UM-21]

㊾ Servo Saver (C)...1

㊿ Servo Saver (A)...1

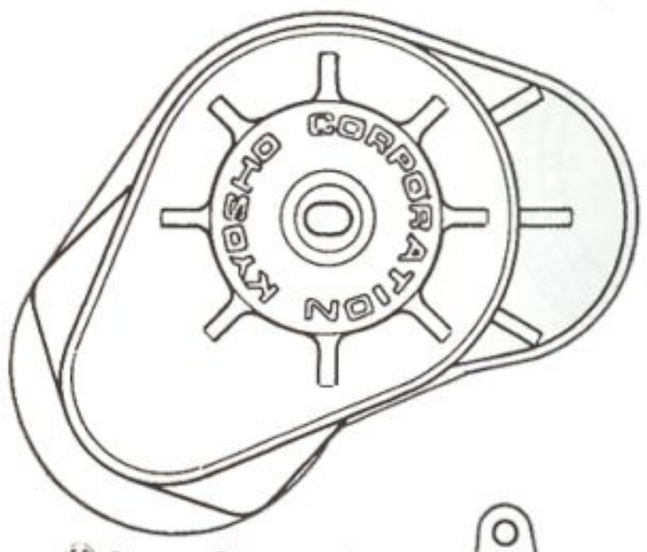
㊾ Servo Saver (D)...1

㊽ Gearbox Hatch...1

㊼ Servo Saver (B) ...1

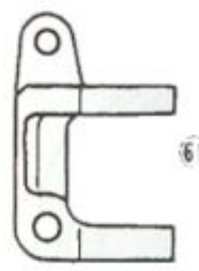
㊿

㊽ Antenna Post...1



㊾ Gear Cover...1 [UM-12]

㊿ Rear Hubs...2 [UM-11]

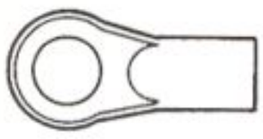


㊿ Front Hubs...2 [UM-11]

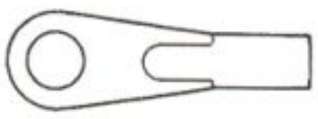
[UM-11]

LIST OF PARTS & KEY NUMBERS (4)

TUL-7



⑭ Ball Ends (L) ...12 [OT-35] [SC-89]

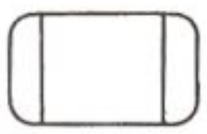


⑮ Ball Ends (S) ...2 [OT-35] [UM-9]

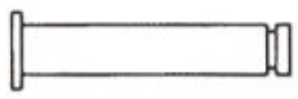
⑳ Ball Nut...1 [OT-33]

㉑ 5.8 φ Balls (Silver color)...10 [OT-32]

㉒ 4.8 φ Balls ...3 [UM-29]

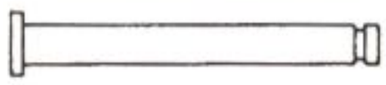


㉘ Battery Holders...2 [UM-27]

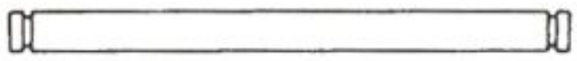


㉔ King Pins...2 [UM-8]

㉖ Sus. Shafts (C) (Silver color)...2 [UM-7]



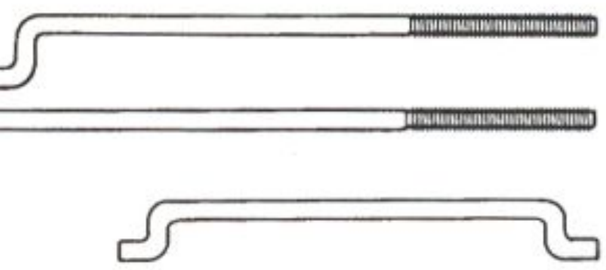
㉗ Sus. Shaft (A) (Black color)...2 [UM-7]



㉓ Sus. Shafts (D)...2 [UM-7]

㉘ Tie Rods...2 [SC-89]

㉙ Upper Rods...4 [OT-35]



㉕ Steering Rod...1 [UM-9]

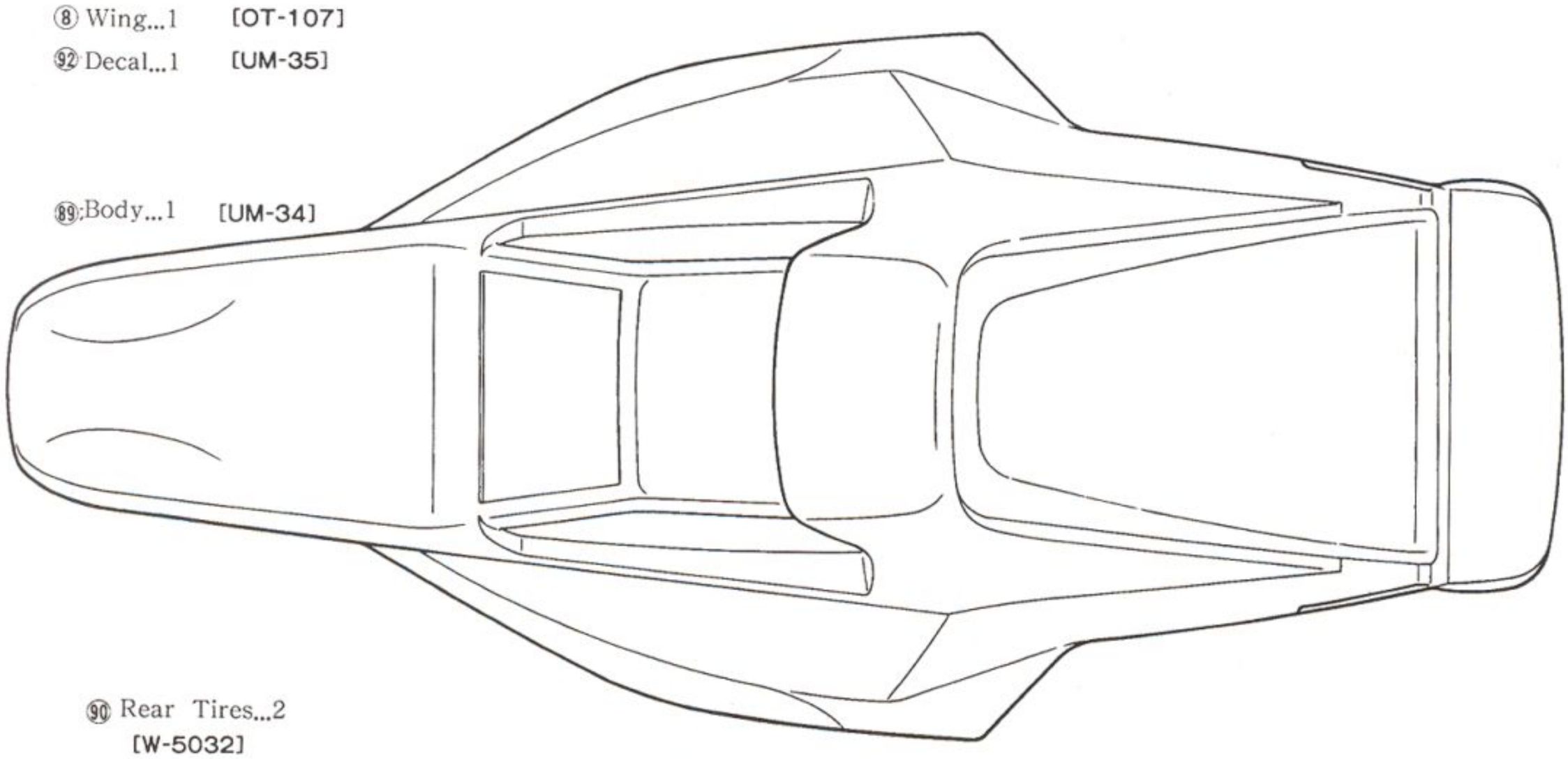
㉖ Speed Control Rod ...1 [UM-9]

㉗ Center Rod...1 [UM-9]

⑧ Wing...1 [OT-107]

㉜ Decal...1 [UM-35]

㉙ Body...1 [UM-34]



㉚ Rear Tires...2
[W-5032]

㉛ Front Tires...2
[SC-26]

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THE FINEST RADIO CONTROL MODELS

PARTS LIST

You can purchase replacement and optional parts for your kit. We offer these parts in convenient "partts packs" which can be purchased anywhere Kyosho kits are sold. Note that parts are not sold separately but are available within a Parts Pack. When refering to the parts pack you need, always use the Kyosho Pack Numbe. For instance, if you need wing, ask your dealer for Kyosho Parts Pack OT－107

Key #	Parts Name	Consisting of
OT-19	Drive Washer	㉛×4
OT-24	Pionion Gear (15T)	㉙×1
OT-29	O Ring	㊳×10
OT-32	5.8 φ Ball	㉛×10
OT-33	Ball Nut (M2.6)	㉚×10
OT-35	upper Rod Set	㉕ ㉙ x 4 ㉔×8
OT-39	E Ring (E2.5)	㊹×10
OT-65	Wing Stay Set	⑮×1 ㊱ ㊲x 2
OT-72	Resistor Heat Sink	㊷ ㊸ x 1
OT-76	Hard Final Pinion Gear	㉘×1
OT-79	Cord Set	⑭×1 set
OT-101	5.8 φ Ball (Black2.6 φ hole)	㊵×10
OT-107	Wing	⑧×1
UM-1	Gear Set	㊾ ㊿ x 1 Others x 3
UM-3	Gearbox	⑫ ⑬ x 1
UM-4	Motor Plate	㊶×1
UM-5	Gear Shaft Set	㉚ ㉜ x 1 ㉝×2
UM-7	Sus.. Shaft Set	㊽ ㉖ ㉗ ㉝x 2
UM-8	Front Shaft Set	㉞ ㉞ x 2
UM-9	Rod Set	㉕×2 ㉟ ㊱ ㊲ x 1 Others x 2
UM-11	Upright Set	㊷ ㊸x 1 ㊶ ㊹ x 2
UM-12	Bulk Head Set	⑯ ㊴ ㊲ ㊳ ㊴x 1
UM-13	Sus. Arm Set	㊹ ㊺ x 2
UM-14	Servo Saver Set	㊺ ㊻ ㊼ ㊽ ㊾ ㊷ ㊸x 1 ㊵×2 ㊶×4 Others x 16
UM-21	Front Bumper	㊵×1
UM-26	Special Shock Stay	㊹ ㊸ x 1
UM-27	Special Chassis	①×1 ㉟ ㊳x 2
UM-29	Stabilizer Set	㉑㉒㉓㉛㉜x 2 ㊻㊼x 1 ㊷×4
UM-30	Special Radio Plate	⑪×1
UM-32	Rear Wheel	㉖×2
UM-33	Front Wheel	㉗×2
UM-34	Body	㊴×1
UM-35	Decal	㊷×1
UM-36	Screw Set	Screw Nut Wrench Set
W-0109	Ball Diff.	②×1 ㊸×1
W-5003	Adjustable Oil Shock (S)	④ ㉔ ㉕x 2
W-5004	Adjustable Oil Shock (L)	⑤ ㉔ ㉕x 2
W-5032	Low Profile Tire (Soft)	㊵×2
W-5061	Universal Wing Shaft	③×2
SC-26	Front Tire	㊶×2
SC-46	Double Sided Tape	⑰×1
SC-89	Tie Rod	㉘×2 ㊵ ㉔x 4
EP-22	Hook Pin	㊼×5
EP-37	Strap (S)	⑱×6
EP-39	Nicd Strap	⑲×6
SD-79	Antenna Pipe	⑳×5
CB-72	E Ring (E3)	㊺×4
KC-20	E Ring (E4)	㊻×4
1817	Rotary Controller	⑨×1 set
1889	Body Pin	㊿×5
1901	Ball Bearing (5 φ x10)	⑦×2
1903	Ball Bearing (4 φ x8)	⑥×2

Key #	Parts Name	Consisting of
	Optional Parts	
UM-17	Wheel Set	
UM-23	Pinion Gear (18T)	
UM-24	Pinion Gear (19T)	
UM-25	Pinion Gear (20T)	
UM-28	Motor Guard	
OT-23	Pinion Gear (12T)	
OT-24	Pinion Gear (15T)	
OT-38	Silicon Grease	2g x 2
OT-50	Pinion Gear (13T)	
OT-51	Pinion Gear (14T)	
OT-52	Pinion Gear (16T)	
OT-53	Pinion Gear (17T)	
OT-66	Low Profile Tire (Pin Typ	Pin Spike Rear Tire x 2
OT-67	(Wheel for Low Profile tire.	3 Piece Type x 2
OT-90	Wheel for Low Profile Tire	1 Piece Type x 4
EF-103	Racing Wire	4 φ Silicon Cord
LM-15	Motor Ring Plate	Cooling Plate for Le Mans Motor
SC-90	Front Tire	For Soft Surface Track
RK-15	Low Profile Tire	Rear Tire x 2
1863	Sponser Sticker	
1871	Sponge Tire (A)	For Front & Low profile Wheel
1883	Frontia Hobby Oil	30cc
1953	Silicon Oil (S)	Does not change density against temperature change.
1954	Silicon Oil (M)	"
1955	Silicon Oil (H)	"
1990	Regulator	Stable Power Supply for RX.
W-5001	Pressure Shock (S)	High Efficiency 12 φ Shocks
W-5002	Pressure Shock (L)	"
W-5005	Special Rod Set	One Touch Adjustment
W-5009	Hard Pinion Gear (9T)	
W-5010	Hard Pinion Gear (10T)	
W-5011	Hard Pinion Gear (11T)	
W-5021	Large Size Wheel	For Rear Tire, Silver
W-5032	Low Profile Tire High Grip	
W-5033	Narrow Tire (Pin Type)	Used for front／rear, 2pcs.
W-5034	Narrow Tire (Hard Surface)	
W-5040	Racing Clutch (19T)	
W-5042	Racing Clutch (12T)	
W-5044	Racing Clutch (14T)	
W-5046	Racing Clutch (16T)	
W-5048	Racing Clutch (18&)	
1911	Ball Bearing (8 φ x14)	2
1951	Shock Oil Set (S.M.H)	3 different weight.
1974	Bearing Set for Ultima	⑥ ⑦ 6 8φ×14 ×2
WBD-1	Ball Diff. Shaft Plat Set	Ⓐ Ⓕ Ⓖ 1 Ⓒ Ⓛ 2 1
WBD-2	Ball Diff Ball Set	Ⓓ ① 12 Ⓗ×2 Ⓙ×10 Ⓚ ㊸ 1
WBD-3	Ball Diff. Body	Ⓔ×1

KYOSHO®

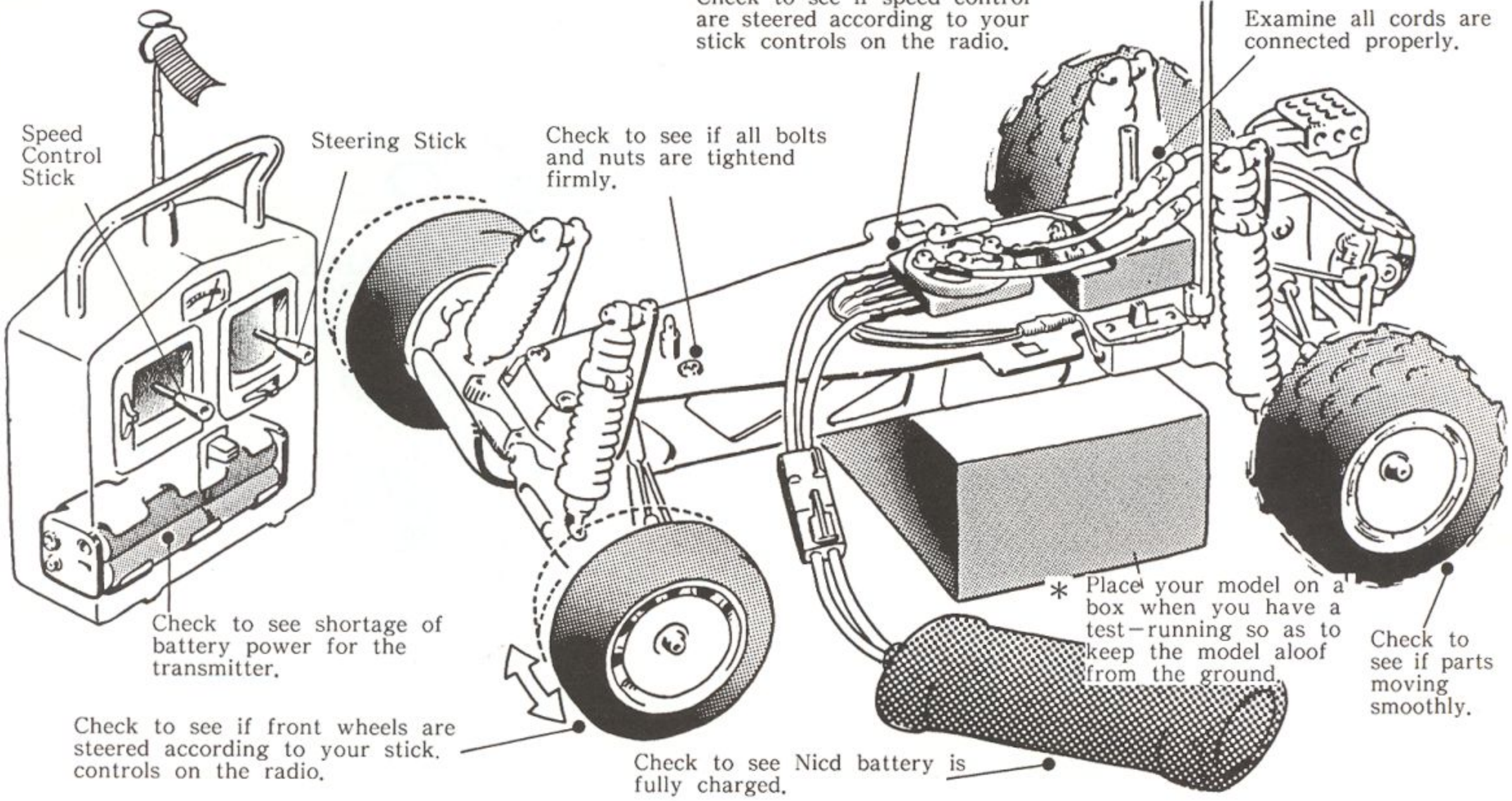
No. 3116

THINGS TO OBSERV

KYOSHO ASKS YOU TO ABIDE BY THE FOLLOWING POINTS IN ORDER TO RUN YOUR MODEL SAFELY : THE PROPER HANDLING ONLY CAN BRING OUT ITS CAPABILITY TO THE FULL ; SO READ THE INSTRUCTION CAREFULLY BEFORE ENJOYING THE RADIO CONTROLLED MODEL WORLD.

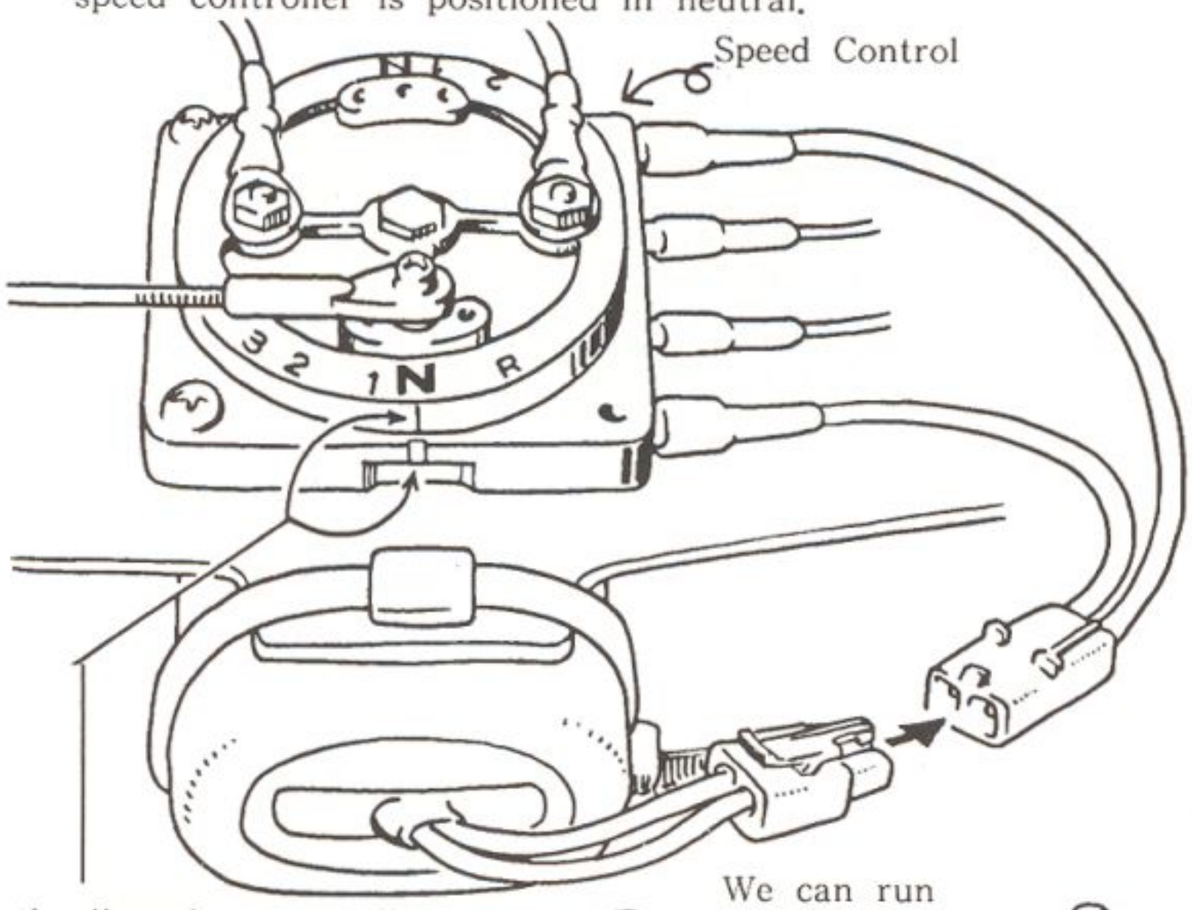
BEFORE RUNNING

● CHECKING ALL POINTS

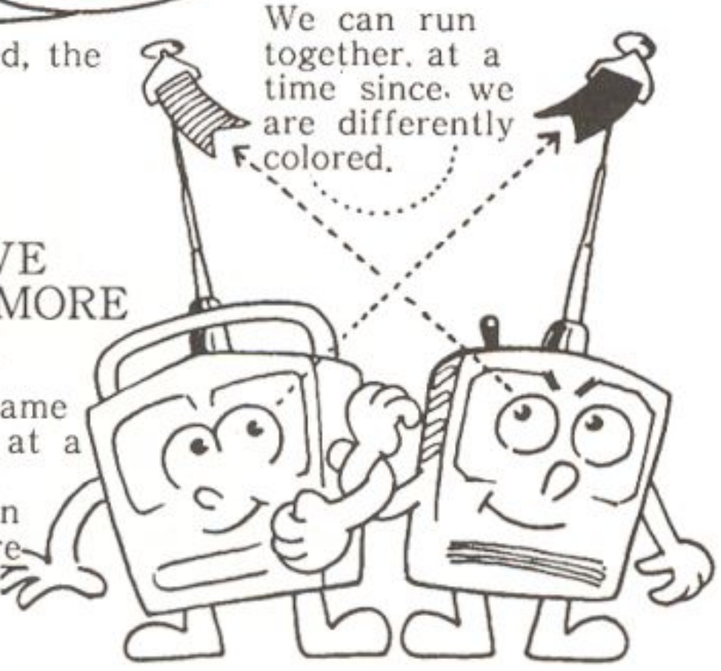


● WHEN CONNECTING THE NICD BATTERY

Before connecting the Nicd battery, confirm that the speed controller is positioned in neutral.



If the lines here are aligned, the speed controller is kept in neutral.



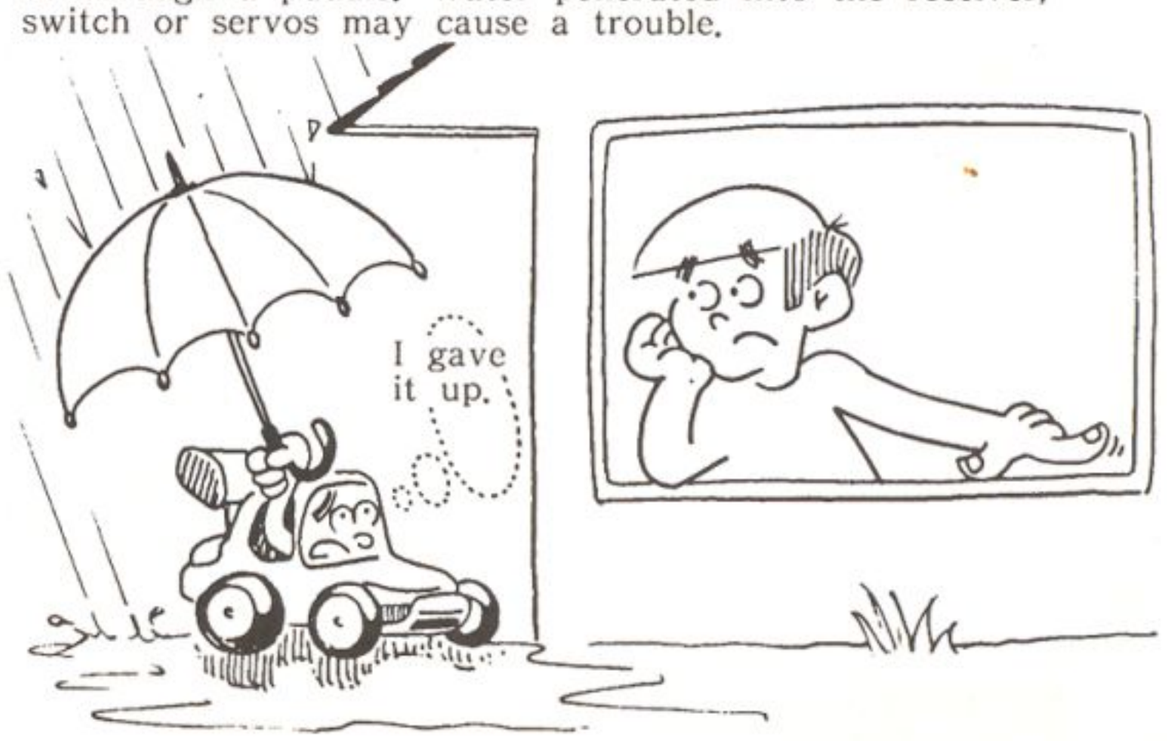
● WHEN YOU HAVE TWO CARS OR MORE RUN TOGETHER

Two cars under the same frequency cannot run at a time. When there is another model going in the same time, compare the frequency of your radio with his.

● PLACES YOU MUST NOT RUN YOUR MODEL

The electric R/C model car is powered by a powerful Nicd battery, so it may run at a faster speed than you expect it.

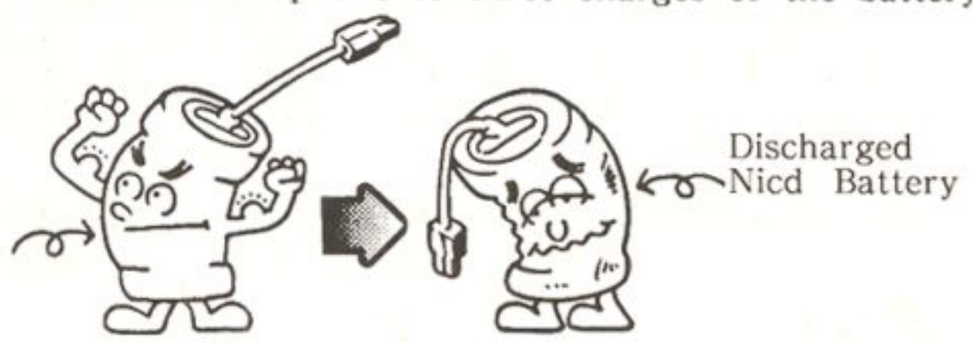
Under any circumstances, do not run your model in the rain or through a puddle. Water penerated into the receiver, switch or servos may cause a trouble.



RUNNING

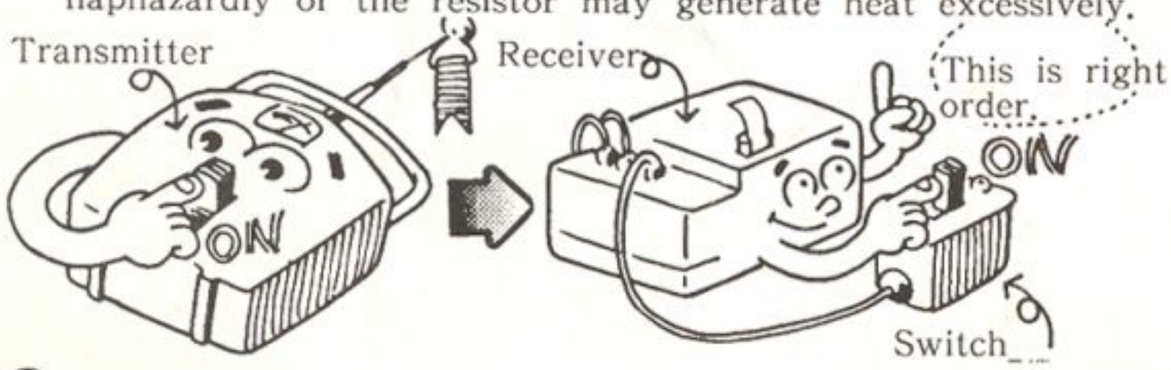
BREAK－IN RUNNING

When you have your car run for the first time, drive it slowly while it uses up one to three charges of the battery pack.



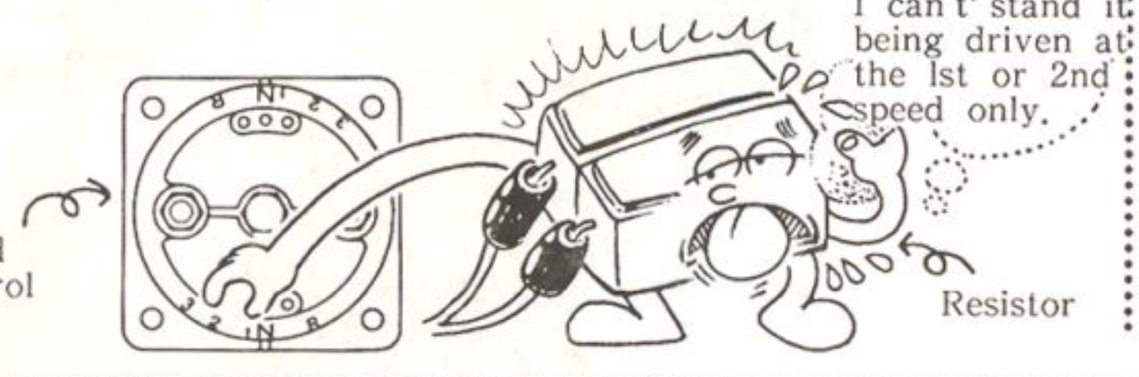
SEQUENCE OF SWITCHING ON WHEN YOU RUN YOUR MODEL

First turn on the switch of the transmitter, then that of the receiver. Remember it is from the transmitter to the receiver. If you don't keep this sequence, the car may start to run haphazardly or the resistor may generate heat excessively.



RESISTOR

The low speed and medium speed are realized by increasing resistance of the speed controller. So after keeping the car run in that condition for a while, do not touch the speed controller since it is very hot.



A CAR WITHOUT BATTERY BOX FOR RECEIVER

Some model cars have the only battery pack to drive the motor and to power the receiver. With such a type of cars, you cannot keep it running when the power in the battery decreases to some extent and electricity does not flow into the receiver. Whenever you notice your car beginning to lose speed, stop your operation.

WHEN A CAR STALLS SUDDENLY

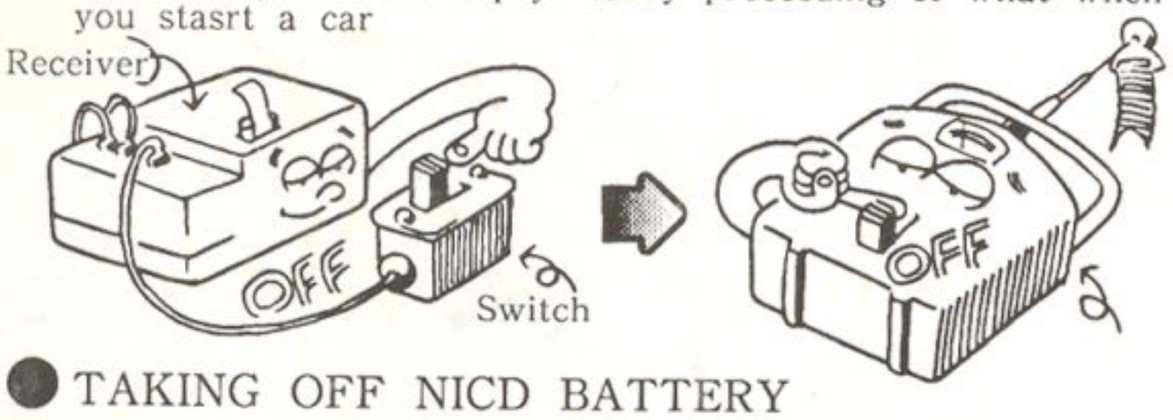
Don't drive it by force. Otherwise. The heat generated by the motor or wiring may melt or damage some parts.

Conversely speaking, do not try to hold a running wheel. The same kind of trouble may happen.

AFTER RUNNING

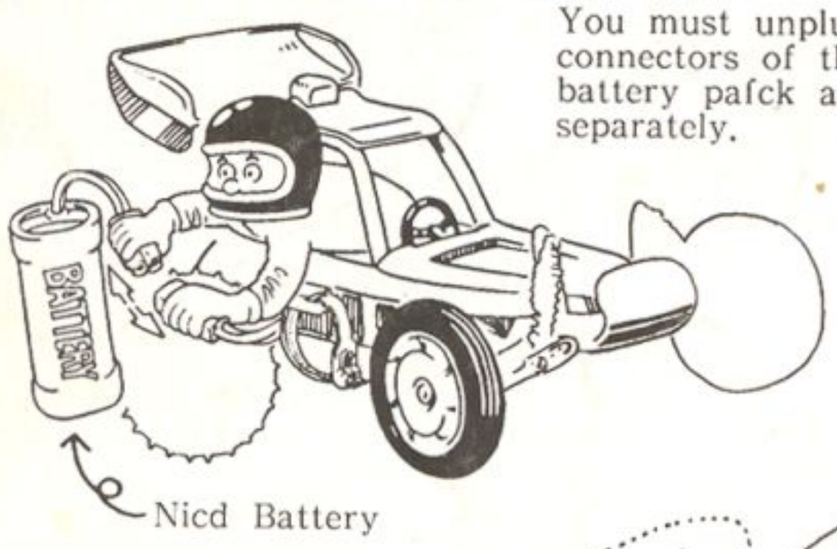
SQUENCE OF TURNING OFF THE SWITCH

Switch off the receiver first, then that of the transmitter. In a word, It is the topsy－turvy proceeding of what when you stasrt a car



TAKING OFF NICD BATTERY

You must unplug the connectors of the Nicd battery pafck and store it separately.

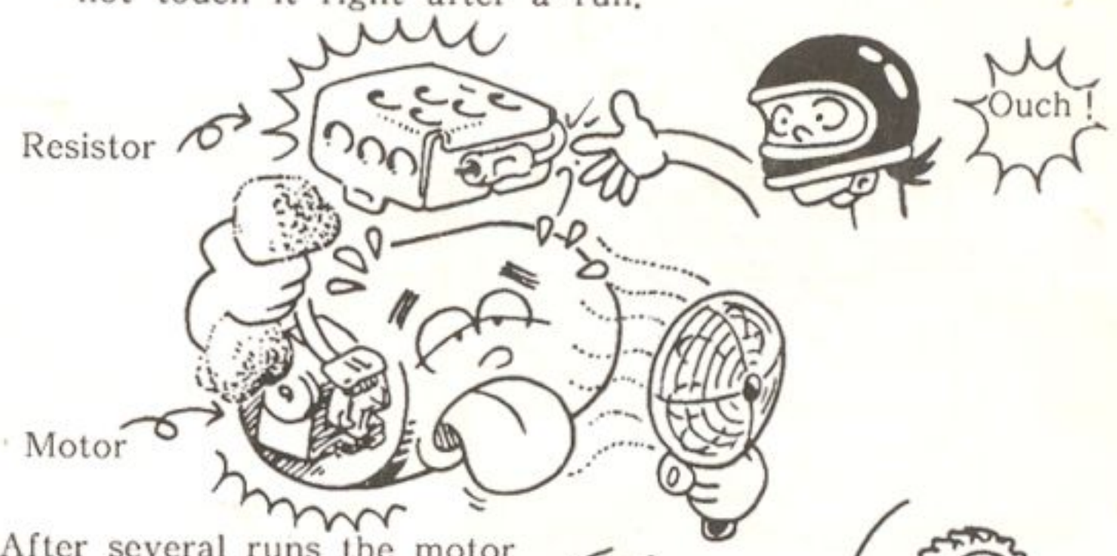


MAINTENANCE AFTER A RUNNING

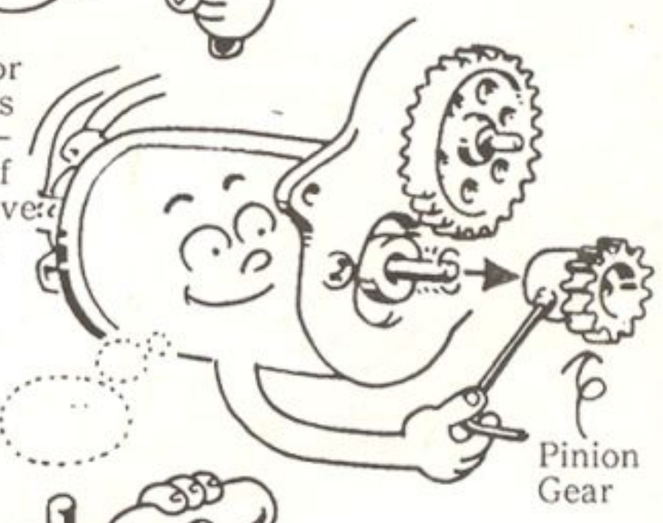
Wipe off stains from the mo tor, gears, and chassis, in ord er to make them prepared fo r the next operation.

TAKING CARE OF MOTOR AFTER A RUN

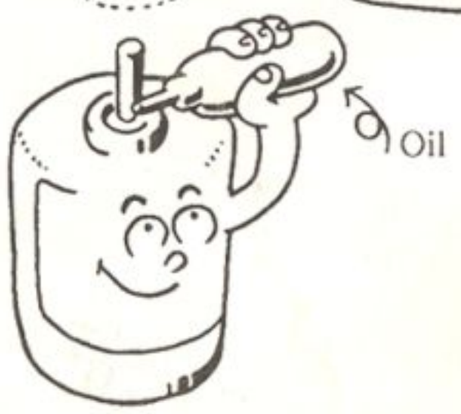
The motor becomes hot after each run. So continuous running may shorten its life. Do not run the car until the motor gets cool after each operation. Depending upon a running condition, the resistor may generate heat. Do not touch it right after a run.



After several runs the motor may lose its power. This is because of carbon accumu－lated on the commutator of motor. In such a case, remove the pinion gear and run it idly for 15 minutes.



Oil the bearing of motor periodically.



The Super Hobby

KYOSHO

PRINTED IN JAPAN.

AFCE5T

RADIO CONTROLLED ELECTRIC POWERED SPECIAL RACING BUGGY

OFF-ROAD RACER
TURBO ULTIMA

KYOSHO®
THE FINEST RADIO CONTROL MODELS

OFF-ROAD RACER "TURBO ULTIMA"

(Spare parts List)

KIT No. 3116

KYOSHO® THE FINEST RADIO CONTROL MODELS

Parts No.	Description	Contents	Quantity
OT-19	Drive Washer	㉛ × 4 pcs.	
OT-24	Pinion Gear (15T)	㉙ × 1 pcs.	
OT-29	O Ring	㊳ × 10 pcs	
OT-32	5.8ϕ Ball	⑧① × 10 pcs.	
OT-33	Ball Nut (M2.6)	⑧⓪ × 10 pcs.	
OT-35	Upper Rod Set	⑦⑤ ⑦⑨ × 4 pcs. ⑦④ × 8 pcs.	
OT-39	E Ring (E2.5)	⑨④ × 10 pcs.	
OT-65	Wing Stay Set	⑮ × 1 pcs. ㊱ ㊲ × 2 pcs.	
OT-72	Heat Sink for Resistor	㊷ ㊸ × 1 pcs.	
OT-76	Hard Final Pinion Gear	㉘ × 1 pcs.	
OT-79	Code Set	⑭ × 1 set.	
OT-101	5.8ϕ Ball (Black2.6ϕ Hole)	㊵ × 10 pcs.	
OT-107	Wing	⑧ × 1 pcs.	
UM-1	Gear Set	㊾ × ㊿ × 1 pcs. other 3 items	
UM-3	Gear Box	⑫ ⑬ × 1 pcs.	
UM-4	Motor Plate	㊶ × 1 pcs.	
UM-5	Gear Shaft Set	㉚ ㉜ × 1 pcs. ㉝ × 2 pcs.	
UM-7	Suspension Shaft Set	㊽ ⑦⑥ ⑦⑦ ⑧③ × 2 pcs.	
UM-8	Front Shaft Set	㉞ ⑧④ × 2 pcs.	
UM-9	Rod Set	⑦⑤ × 2 pcs. ⑧⑤ ⑧⑥ ⑧⑦ × 1 pcs. other 2 items	
UM-11	Up-right Set	⑥② ⑥③ × 1 pcs. ⑥① ⑥④ × 2 pcs.	
UM-12	Bulk Head Set	⑯ ⑤⑥ ⑤⑦ ⑤⑧ ⑤⑨ × 1 pcs.	
UM-13	Suspension Arm Set	⑤④ ⑤⑤ × 2 pcs.	
UM-14	Servo Saver Set	⑥⑤ ⑥⑥ ⑥⑦ ⑥⑧ ⑥⑨ ⑦② ⑦③ × 1 pcs. ⑦⓪ × 2 pcs. ⑦① × 4 pcs. other 16 items	
UM-21	Front Bumper	⑥⓪ × 1 pcs.	
UM-26	Special Shock Stay	㊹ ㊺ × 1 pcs.	
UM-27	Special Chassis	① × 1 pcs. ㉟ ⑧⑧ × 2 pcs.	
UM-29	Stabilizer Set	㉑ ㉒ ㉓ ⑤① ⑧② × 2 pcs. ㊻ ㊼ × 1 pcs. ⑤② × 4 pcs.	
UM-30	Special Radio Plate	⑪ × 1 pcs.	
UM-32	Rear Wheel	㉖ × 2 pcs.	
UM-33	Front Wheel	㉗ × 2 pcs.	
UM-34	Body	⑧⑨ × 1 pcs.	
UM-35	Decal	⑨② × 1 pcs.	
UM-36	Screw Set	Screw, Nut Wrench 1 set	
W-0109	Ball Differential	② × 1 pcs. ⑤③ × 1 pcs.	
W-5003	Platinum Oil Shocks (S)	④ ㉔ ㉕ × 2 pcs.	
W-5004	Platinum Oil Shocks (L)	⑤ ㉔ ㉕ × 2 pcs.	
W-5032	Low Profile Tire (Soft)	⑨⓪ × 2 pcs.	
W-5061	Universal Swing Shaft	③ × 2 pcs.	
SC-26	Front Tire	⑨① × 2 pcs.	
SC-46	Double Sides Tape	⑰ × 1 pcs.	
SC-89	Tid Rod	⑦⑧ × 2 pcs. ㊵ ⑦④ × 4 pcs.	
EP-22	Hook Pin	⑨⑦ × 5 pcs.	
EP-37	Strap (S)	⑱ × 6 pcs.	
EP-39	Ni-Cd Strap	⑲ × 6 pcs.	
SD-79	Antenna Pipe	⑳ × 5 pcs.	
CB-72	E Ring (E3)	⑨⑤ × 4 pcs.	
KC-20	E Ring (E4)	⑨⑥ × 4 pcs.	
1817	H.D.Rotary Speed Controller	⑨ × 1 set.	
1889	Body Pin	⑩⓪ × 5 pcs.	
1901	Ball Bearing (5ϕ × 10)	⑦ × 2 pcs.	
1903	Ball Bearing (4ϕ × 8)	⑥ × 2 pcs.	

※RE OPTION PARTS. PLEASE SEE INSTRUCTION BOOKLET

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