

RADIO CONTROLLED ELECTRIC POWERED SPECIAL RACING BUGGY

OFF-ROAD RACER

ULTIMA PRO

- EXTENDED-LENGTH FRONT/REAR SUSPENSION ARMS EVEN LONGER TRAVEL AND IMPROVED ROADHOLDING ON ALL SURFACES.
- TOP-QUALITY METAL-BODIED PRESSURE OIL-FILLED SHOCK ABSORBERS.
- ANTI-SWAY BARS FRONT AND REAR. FULL SET OF 14 BALL BEARINGS.
- QUICK ADJUST LINKAGE FOR TOE-IN AND CAMBER (F/R).
- TOP-QUALITY RUNNING GEAR: ADJUSTABLE BALL-TYPE DIFFERENTIAL AND FINE-PITCH GEARS.
- SUPER-LIGHT FRP PLATE-TYPE CHASSIS FOR STIFFNESS AND STRENGTH.
- BATTERY (NOT INCLUDED): 7.2V/8.4V (1200mAh/1700mAh)
- MOTOR (NOT INCLUDED): MEGA, LE MANS 240 SERIES.
- RADIO (NOT INCLUDED): 2CHANNEL (AMP SPEC.)

1:10 SCALE



KYOSHO
THE FINEST RADIO CONTROL MODELS

KIT NO.3119

BEFORE YOU BEGIN ASSEMBLY !

Thank you for purchasing the Kyosho's R/C "EP Off-Road Car Ultima Pro".

In order to keep your Ultima Pro in the tip top condition to enjoy the most pleasure from the R/C world, you should thoroughly read through this instruction manual and the operation instruction of the radio control units to keep the correct way of assembling, and handling.

《KIT FUTURES》

- Extended-length front/rear suspension arms even longer travel and improved roadholding on all surfaces.
- Super-light FRP plate-type chassis for stiffness and strength.
- This kit was made to use the 2 channel radio controller and electrical speed control.

CONTENTS

BEFORE YOU BEGIN ASSEMBLY	2
BEFORE ASSEMBLY	3
LIST OF BAGGED PARTS (1)	4
LIST OF BAGGED PARTS (2) LAYOUT	5
DRAWING OF PLASTIC PARTS ON RUNNERS.	

● ASSEMBLY OF CHASSIS PORTION 1 ~ 27	
1 SCREW IN THE BALL-END	6
2 DISASSEMBLY OF SHOCK	6
3 FILLING THE OIL SHOCK	7
4 INSTALLATION OF COUNTER GEAR	7
5 INSTALLATION OF FINAL PINION GEAR ...	7
6 ASSEMBLY OF GEAR BOX	8
7 INSTALLATION OF REAR SHOCK STAY	8
8 INSTALLATION OF GEAR BOX	9
9 ASSEMBLY OF REAR SUSPENSION ARM ..	9
10 INSTALLATION OF REAR SHOCK AND.....	10
11 INSTALLATION OF KNUCKLE ARM	10
12 INSTALLATION OF FRONT SHOCK STAY ..	10
13 INSTALLATION OF FRONT SUSPENSION.....	11
14 INSTALLATION OF FRONT STABILIZER	11
15 INSTALLATION OF FRONT BULK HEAD	11
16 INSTALLATION OF FRONT SHOCK.....	12
17 ASSEMBLY OF SERVO SAVER	12
18 INSTALLATION OF SERVO SAVER	12
19 INSTALLATION OF TIE ROD.....	13
20 INSTALLATION OF RADIO PLATE	13
21 INSTALLATION OF MOTOR CORD	14

22 INSTALLATION OF MOTOR GUARD.....	14
23 INSTALLATION OF CENTER GEAR	14
24 INSTALLATION OF MOTOR	15
25 INSTALLATION OF GEAR COVER	15
26 ASSEMBLY OF WHEEL AND TIRE	15
27 INSTALLATION OF TIRE	16

● INSTALLATION OF RADIO UNIT • LINKAGE 28 ~ 32	
28 HOW TO CHECK RADIO UNIT	16
29 INSTALLATION OF STEERING SERVO.....	16
30 INSTALLATION OF AMP	17
31 INSTALLATION OF RECEIVER	18
32 INSTALLATION OF BATTERY	18

● CUTTING & MOUNTING BODY 33 ~ 36	
33 CUTTING BODY AND WING	19
34 PAINTING	19
35 APPLY OF DECAL	19
36 ASSEMBLY OF WING AND MOUNTING BODY	20

ADJUSTMENT OF BALL DEFERENTIAL	20
SETTING GUIDE.....	21
INSTALLATION OF OPTIONAL WING STAY	22
PARTS LIST	22
EXPLODED VIEW	23
♦	24
PURCHASABLE PARTS FOR YOUR KIT	25

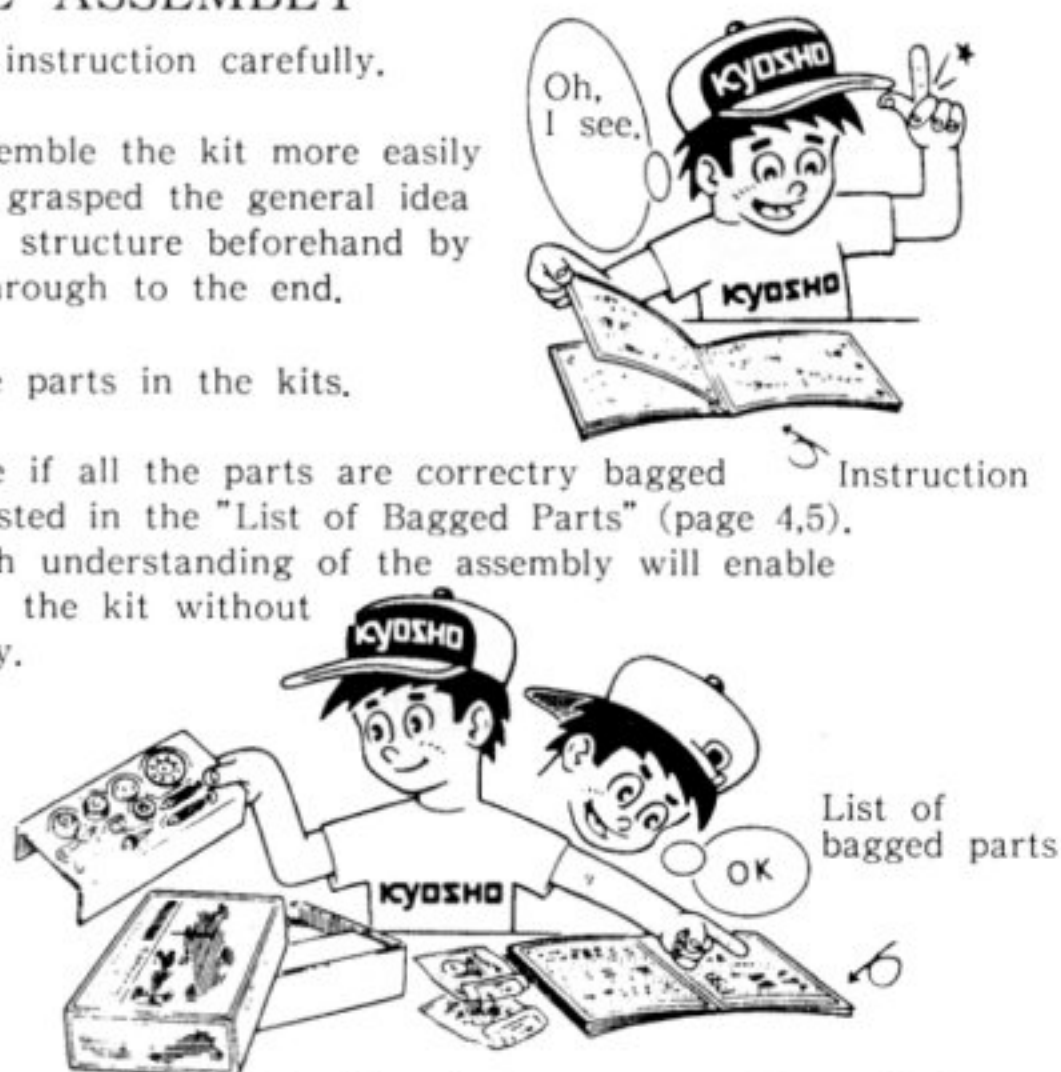
BEFORE ASSEMBLY

- 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 kits.

Check to see if all the parts are correctly bagged as they are listed in the "List of Bagged Parts" (page 4,5). Your thorough understanding of the assembly will enable you to 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 ... Place to put some locktite. It will prevent the screws and nuts get loosen by vibration while running.

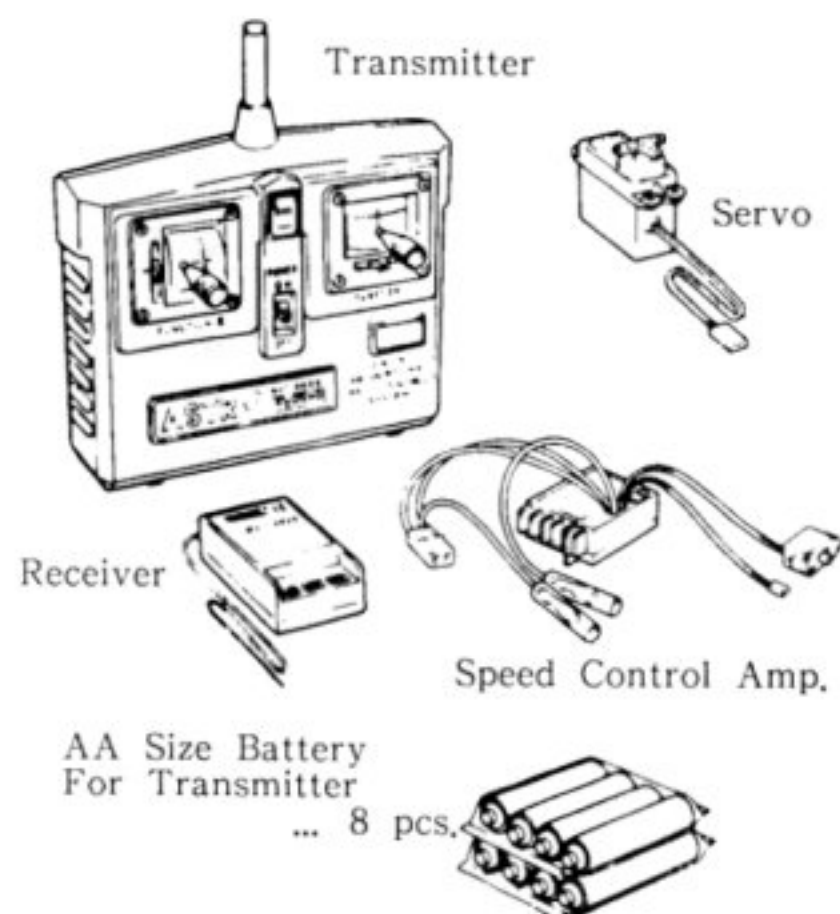
GREASE ... Point where grease should be applied. It will reduce friction and assure smooth movement.



THINGS NEED BESIDES THE KIT

<2 Channel Radio System>

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



<NiCd Battery>

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

7.2V Sprint Battery and 7.2V Saddle Pack are ideal for the purpose.

No.2331 7.2V-1200 SCR Battery (Saddle Pack)

No.2310 7.2V-1200 Sprint Battery

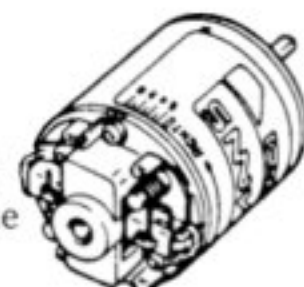


<Motor>

The Ultima Pro not come with a motor. A Le Mans series type motor is recommended for top performance.

No. 1986 Le Mans Speed 240T
No. 1926 Le Mans H-240S
No. W1011 SPA 240WS

No.2481 Le Mans Pro High Speed
No.2483 Le Mans Pro High Torque
No.2472 Mega Dirt Oval
No.2473 Mega Off-Road



<Charger for NiCd Battery>

The Kyosho's NiCd battery is high performance.

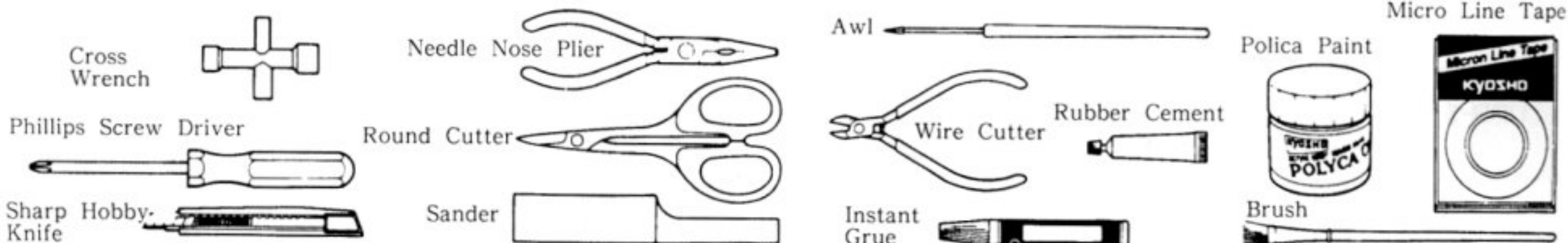
If it is charged correctly, it will operate for a considerable period of time.

Model	Name	Time	Rate %	Features
No.2326	7.2V Power Charger	15 (min.)	70	For bigginer Built-in timer
No.1849	Multi Charger II	20 (min.)	100	Built in Timer, Ammeter
No.2246	EFT Auto Charger	20~30 (min.)	100	Trickle charging Automatic cut-off

Use one of the chargers listed which suits your need.

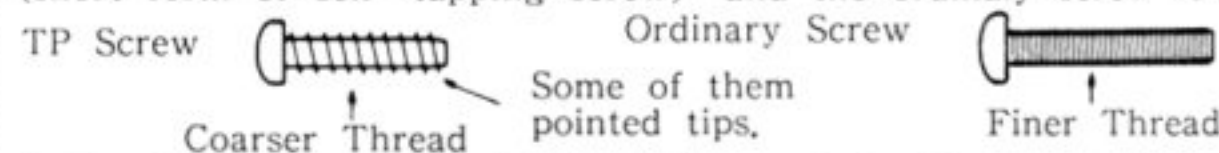
<Tools Required>

Cross Wrench, a Hex Key, Grease and SW-cement are in the kit.

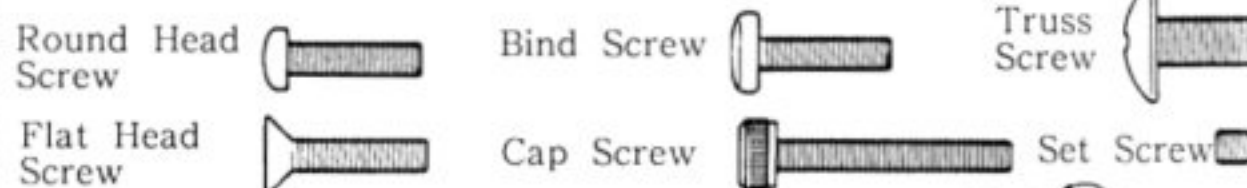


- Be well aware of the different types of screws.

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

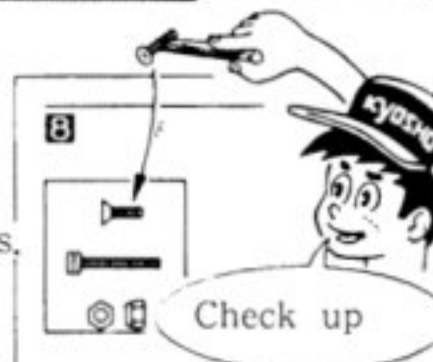


2 The kinds of screws which will be used in this instruction.



There are two kinds of thread, finer and coarser ones.

- Pick up the correct parts and screw. Compare the shape and size of small parts, such as screws, nuts, and washers.
- Be sure about the location and direction of parts to install.

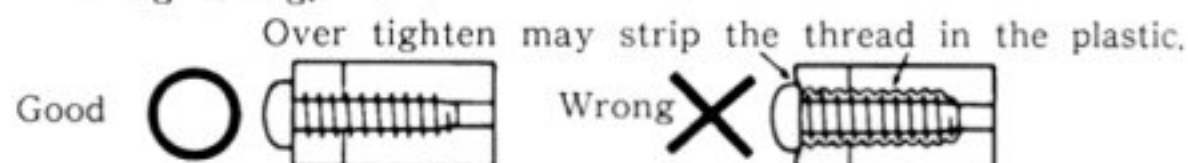


Double-Check the location and orientation of parts with the illustration before installation. When necessary, assemble the parts themselves tentatively before proceeding to the next step.

- 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.



LIST OF BAGGED PARTS (1) The key numbers with ★ indicated plastic parts on a runner. See page 5 for the layout drawing.

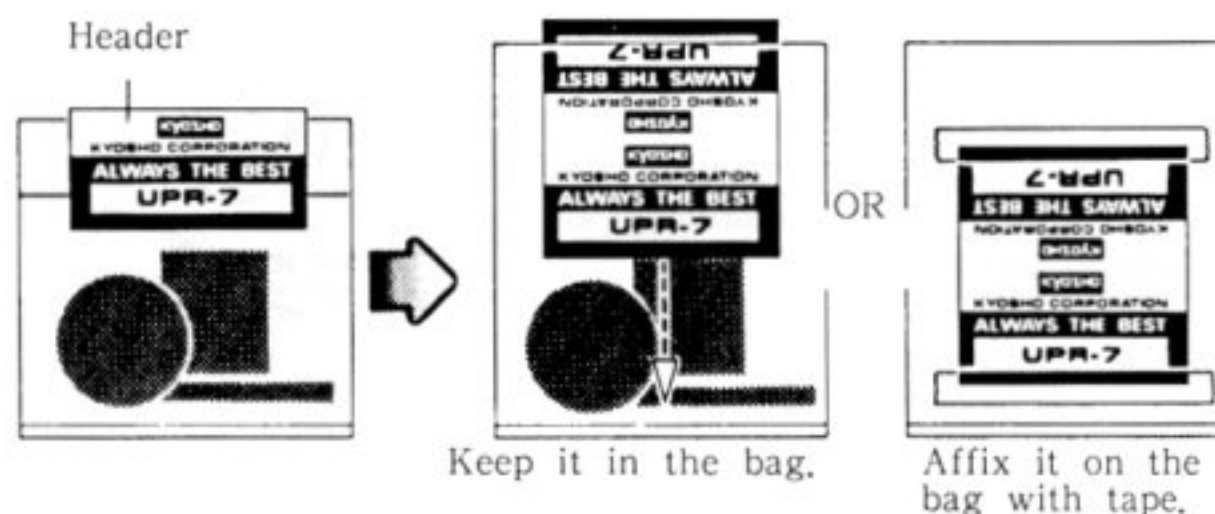
[Do not throw away a bag header]

- The header is the only thing to rely upon when looking for a part. Do not discard it until you finish the assembly.

<EXAMPLE>

(112)	BALL NUT	(UPR-7)
Key No.	Parts Name	Number of Header

- The header is indicated like this in the instruction.



Bag	Key #	Parts Name	Q'ty	Step
UPR-2	3	4φ X 8 Bearing	6	23 27
	4	5φ X 10 *	6	4 6 9
	5	Center Gear Collar	1	23
	37	Front Sus. Arm	2	13
	38	Rear Sus. Arm	2	9
	40	Gear Box (L)	1	6
	41	* (R)	1	4
	★ 42	Stabilizer Link (L)	2	10
	★ 43	* (S)	2	14
	★ 44	Stabilizer Stopper	2	7
	46	Wing Stay	1	36
	47	Gear Cover Seal	1	25
	48	Double Sided Tape	1	30 31 35
	49	Strap (S)	2	30 32
	50	NiCd Strap	2	32
	51	Antenna Pipe	1	31
	52	Shock Oil (Green)	1	3
	53	Screw Locking Compound	1	
	54	Silicon Grease	1	
	109	6.8φ Ball End	4	1
UPR-3	56	Rear Wheel	2	26
	57	Front Wheel	2	26
UPR-4	33	Swing Shaft	2	9
	34	Wing Post	2	20
	35	Drive Washer	2	9
	36	Rear Wheel Shaft	2	9
	★ 39	Radio Plate (Red)	8	9 10 16 Spare x 2
	58	Pinion Gear (20T)	1	24
	59	Center Gear Shaft	1	23
	60	Counter Gear Shaft	1	4
	61	2φ X 11 Pin	2	4 Spare x 1
	62	Front Wheel Shaft	2	11
	63	Servo Saver Shaft	2	18
	64	Wing Stopper	2	36
	65	3φ X 40 Adjust Rod	4	1
	66	3φ X 32 *	2	1
	67	3φ X 50 *	2	1
	68	5.8φ Ball (Black)	8	1
	69	O-Ring (P3 • Black)	2	6 23
	70	Motor Guard Collar	2	22
	★ 71	Shock Piston	4	
	74	Pressure Top	4	3
	113	5.8φ Ball (Silver)	10	1 2
		M3x18 Cap Screw	4	7 12
UPR-5	1	Front Shock Stay	1	12
	2	Rear Shock Stay	1	7
	7	Motor Plate	1	4
	45	Battery Holder Plate	2	32
	55	Front Upper Plate	1	20
	77	Front Stabilizer	1	14
	78	Rear Stabilizer	1	7
	79	Rear Sus. Shaft	2	9
	80	Stabilizer Ball	2	9
	81	Adjust Ball	4	10 14

Bag	Key #	Parts Name	Q'ty	Step
UPR-5	82	Sponge Cap	1	6
	83	Motor Guard Plate	1	22
	84	Servo Saver Spring	1	17
	100	Rear Upper Plate	1	20
	104	Servo Mount Plate	1	18
UPR-6 (Plastic Part)	85	Front Bulk Head	1	12
	86	Rear Axle Stopper	1	9
	87	Rear Bulk Head	1	7
	88	Gear Cover	1	25
	89	Bumper	1	15
	★ 90	Front Hub	2	11
	★ 91	Rear Hub (R)	1	9
	★ 92	Knuckle Arm (L)	1	11
	★ 93	* (R)	1	11
	★ 94	Servo Saver (A)	1	17
	★ 95	* (B)	1	17
	★ 96	* (C)	1	17
	★ 97	* (D)	1	17
	★ 98	Servo Saver Collar	2	18
	★ 99	Gearbox Hatch	1	8
	★ 101	Servo Stay	4	18 Spare x 2
	★ 102	Shock Collar	4	10 16
	★ 103	Antenna Post	1	18
	★ 105	Stopper Post	4	20
	★ 106	Stopper Washer (Thinner one)	4	20
	★ 107	* (Thicker one)	4	Don't use.
	★ 133	Body Hook	1	20
	★ 134	Rear Hub (L)	1	9
	★ 135	Battery Holder	2	20
UPR-7	★ 108	5.8φ Ball End	14	1
	110	Hub Pin	4	9 13
	112	Ball Nut	2	14
	114	6.8φ Ball	4	9
	115	Front Sus. Shaft	2	13
	116	King Pin	2	11
	117	Steering Rod	1	1
	118	Center Rod	1	17
	119	Motor Guard Joint	1	22
UPR-8	◎ 8	8φ X 14 Bearing	2	◎ This Mark is assembled for ball diff. 6
	◎ 9	Differential Gear	1	
	◎ 10	Diff. Shaft (A)	1	
	◎ 11	* (B)	1	
	◎ 12	Pressure Plate	2	
	◎ 13	8φ X 10 Collar	1	◎ This Mark is assembled for pressure shock. 2
	◎ 14	Torque Keeper M2.6x15 Cap. Screw	1	
	◎ 15	Tapered Washer	4	
	◎ 16	Diff. Ball	10	
	◎ 17	Thrust Ball	8	
	◎ 18	Thrust Washer	2	
	● 19	Front Shock Shaft	2	● This Mark is assembled for pressure shock. 2
	● 20	Rear *	2	
	● 21	Front Shock Case	2	
	● 22	Rear *	2	
	● 23	Front Shock Spring	2	

to be continued page 5...

LIST OF BAGGED PARTS (2)

LAYOUT DRAWING OF PLASTIC PARTS ON RUNNERS

Bag	Key #	Parts Name	Q'ty	Step
UPR-8	● 24	Rear Shock Spring	2	<div> <p>This Mark is assembled for pressure shock.</p> <p>2</p> </div>
	● 25	Spring Holder	4	
	● 26	Shock Cap	4	
	● 27	Spring Stopper	4	
	● 28	Shock End	4	
	● 71	Shock Piston	4	
	● 72	Shock Collar (White)	4	
	● 73	(Black)	4	
	● 75	O Ring (P3 • Red)	8	
	● 76	C Ring	4	
	● 29	E Ring (E2,5)	8	
	6	Motor Guard	1	
	30	Final Pinion	1	
	31	Center Gear	1	
	32	Counter Gear	1	4
	111	Cross Wrench	1	
	120	Body	1	33
	121	Wing	1	33
	122	Front Tire	2	26
	123	Rear Tire	2	26
	124	Main Frame	1	8
UPR-1	125	Decal	1	35
		Instruction	1	
	29	E Ring (E2,5)	10	9 13
	126	♦ (E 3) (Black)	3	11
	127	♦ (E 4)	2	6
	128	Hook Pin	4	25 32
	129	Body Pin	5	32 36
	130	Hex Key (1.5mm)	1	1 24
	131	♦ (2mm)	1	5 6
	132	♦ (2.5mm)	1	7
		Bind Screw M2.6×6	6	
		♦ M2.6×12	2	
		♦ M3×6	9	
		♦ M3×15	2	
		♦ M3×35	1	
		♦ M3×45	2	
		Round Head Screw M3×33	1	
		Flat Head Screw M2.6×12	6	
		♦ M3×6	3	
		♦ M3×12	4	
		♦ M3×15	4	
		♦ M4×8	8	
		♦ M4×12	4	
		Truss Screw M4×8	4	
		TP Bind Screw M3×8	14	
		TP Round Head Screw M3x18	1	
		TP Flat Head Screw M3x10	6	
		Nut M2.6 ^(3 Kinds)	12	
		♦ M3	8	
		Nylon Nut M3	4	
		♦ M4	4	
		Washer M2.6 (Black)	2	
		♦ M3×8×0.5	2	
		♦ M4×10×0.5	4	
		Shim φ8×12×0.2	2	
		Set Screw M3×3	7	
		♦ M3×16	2	
		♦ M4×4	1	
		Flat Head Screw M2.6x15	2	

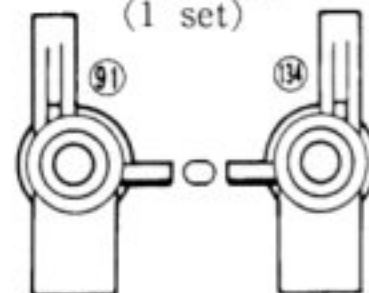
These parts are not used.

5.8.φ Ball End (4 sets)

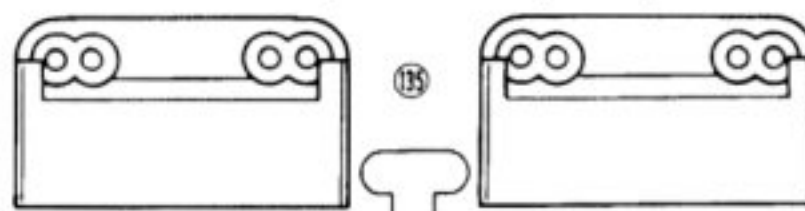
Shock Piston & Plastic Collar (4 sets)



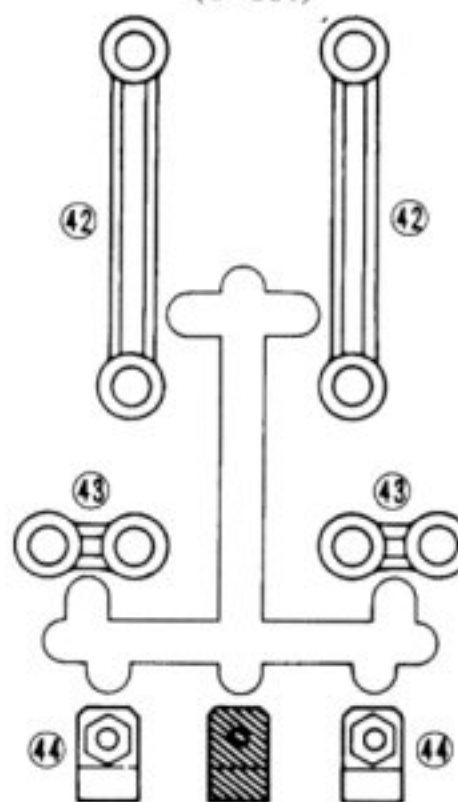
Rear Hub (1 set)



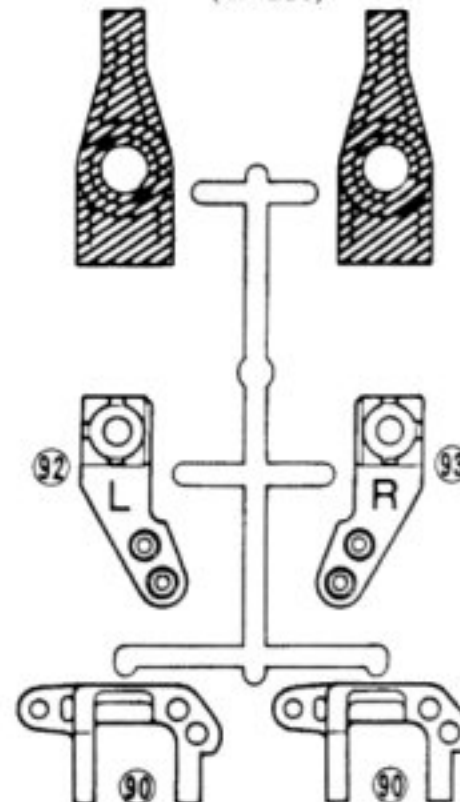
Battery Holder (1 set)



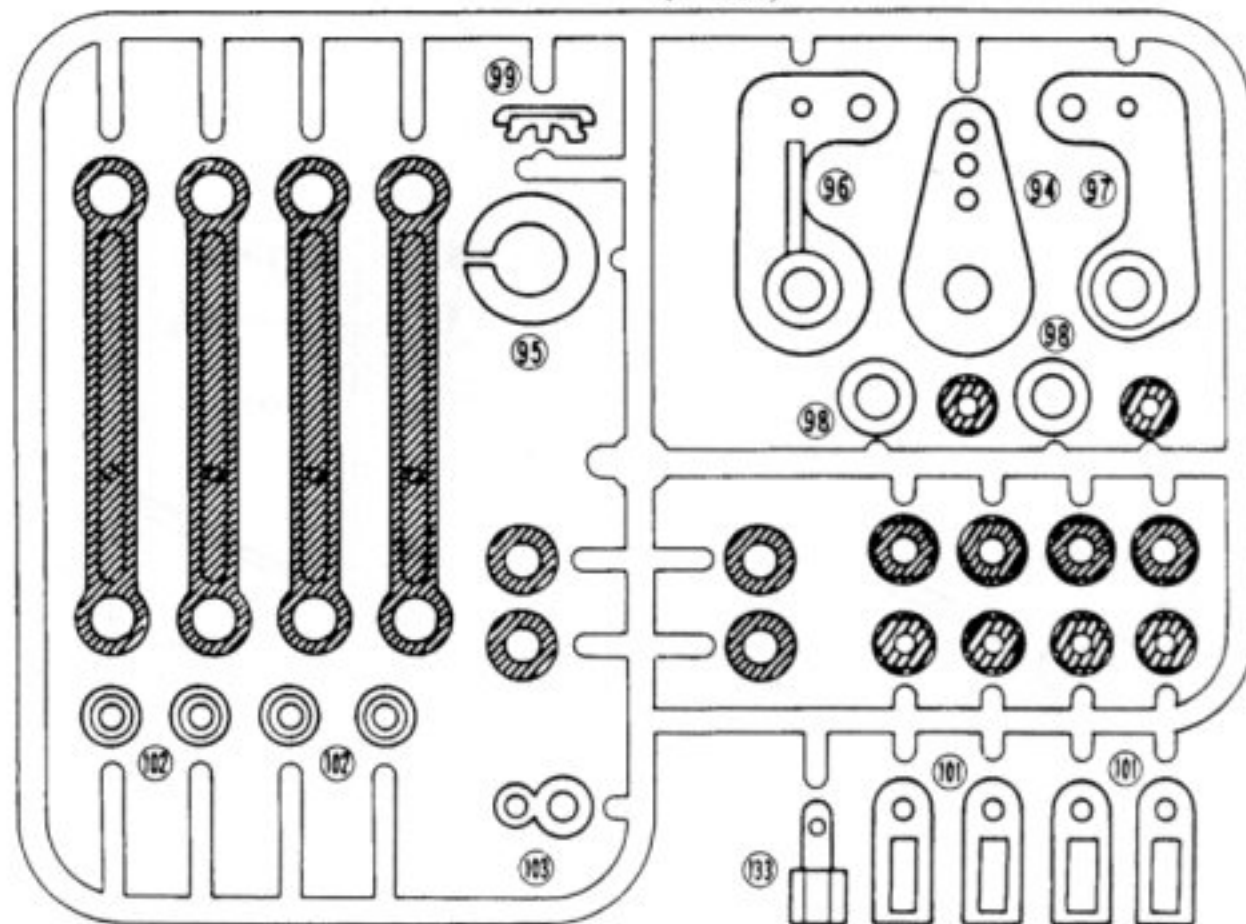
Stabilizer Parts (1 set)



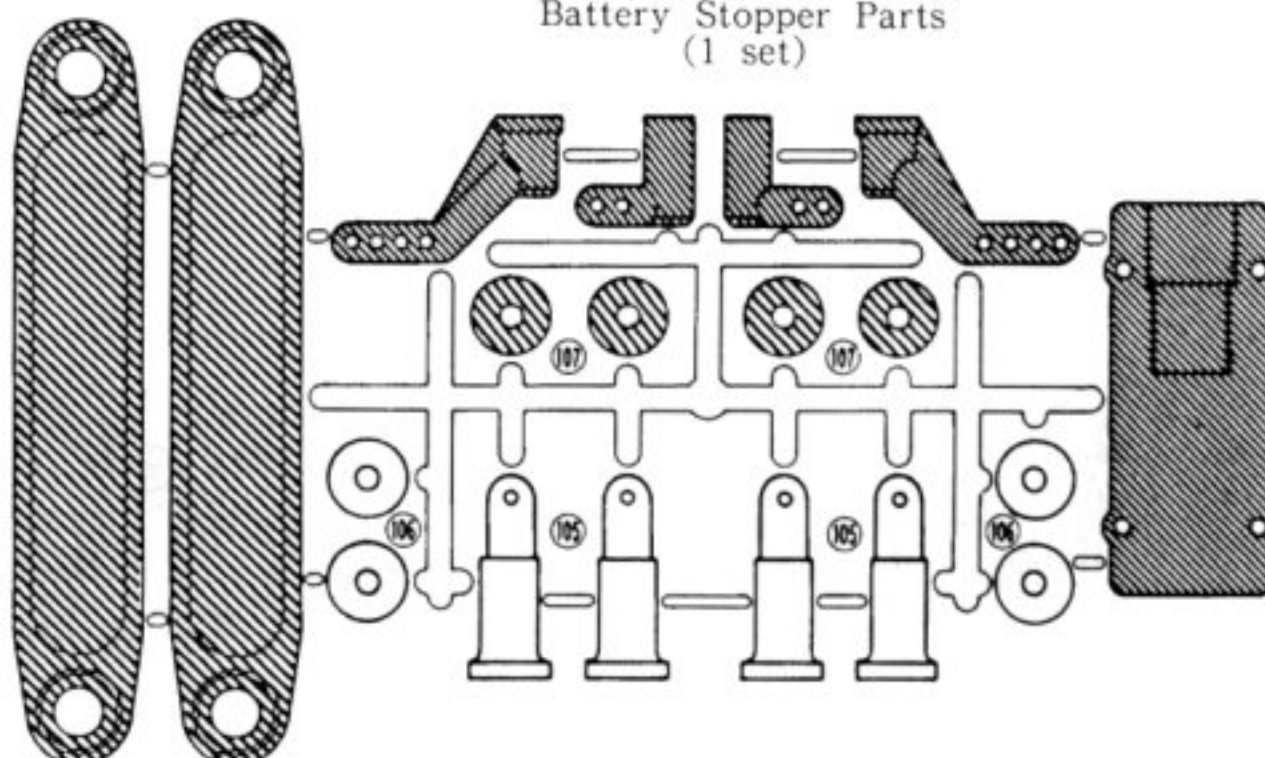
Upright Parts (1 set)



Servo Saver Parts and Others (1 set)



Battery Stopper Parts (1 set)

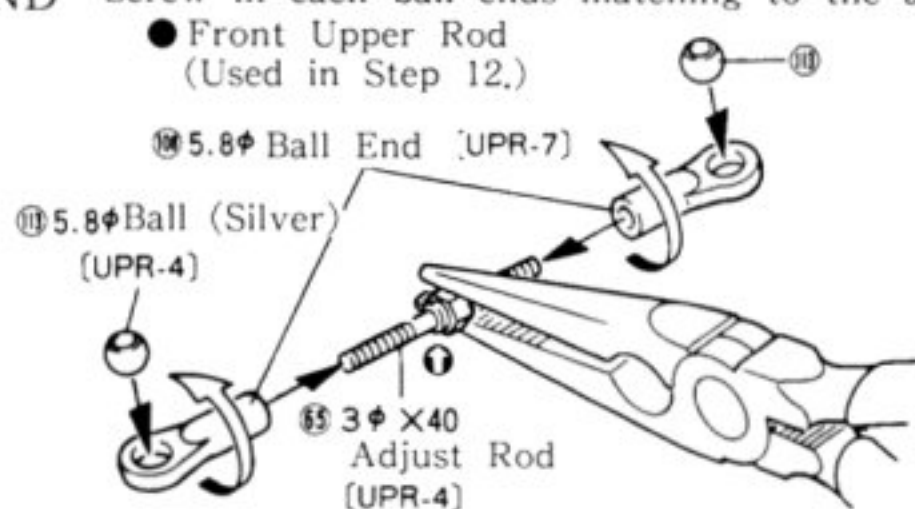
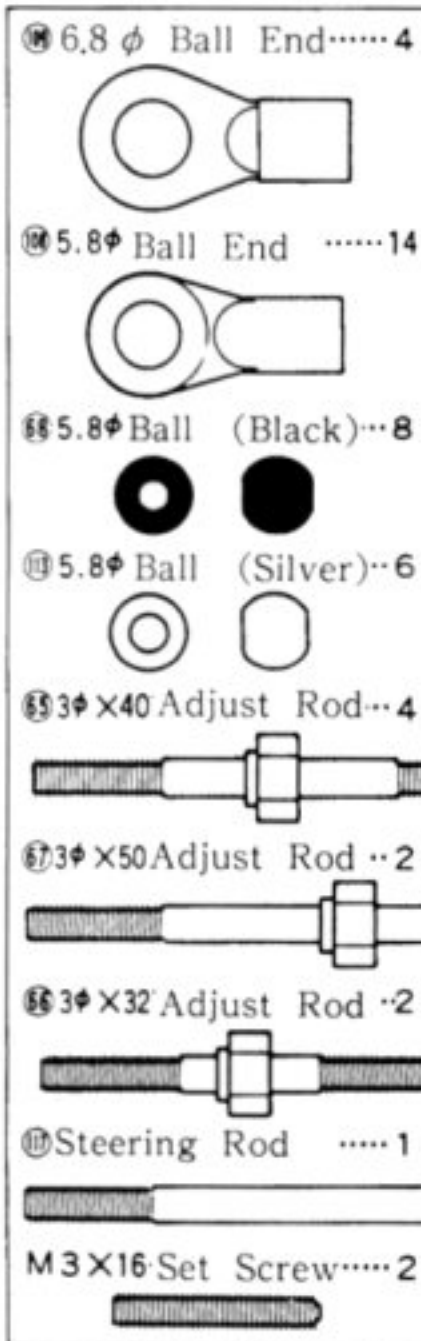


1 SCREW IN BALL END

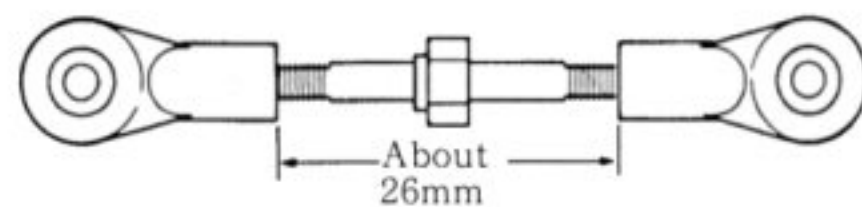
Screw in each ball ends matching to the actual size drawings.

Assemble with caution making sure that there is not mistake in the color of the 5.8 ϕ ball and the direction the rods should be facing.

Side with the collar is a reverse thread. Screw in the ball end anti-clockwise.

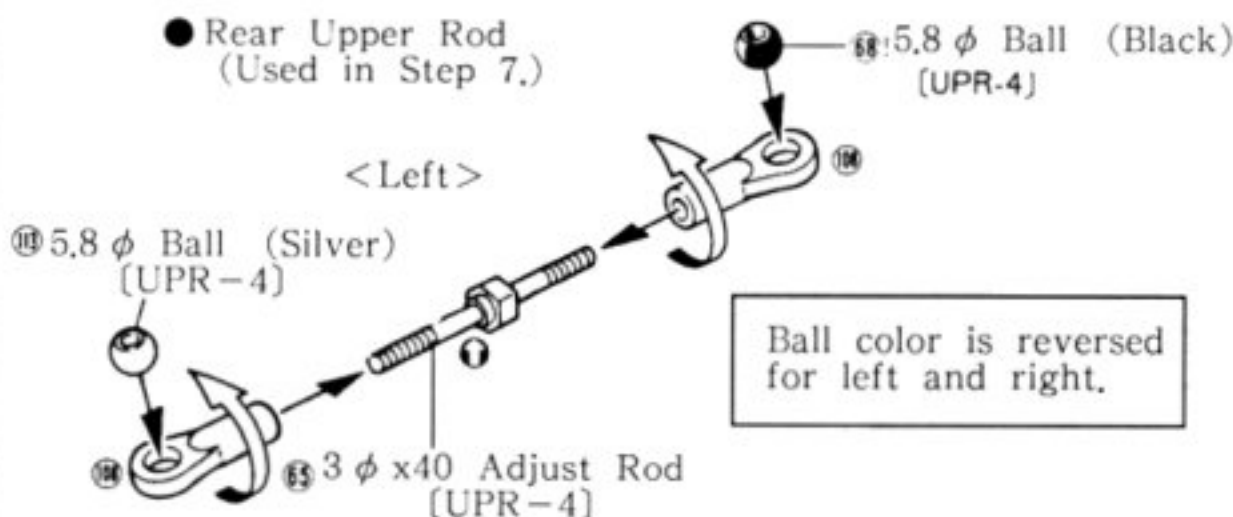


< Actual Size Drawing >



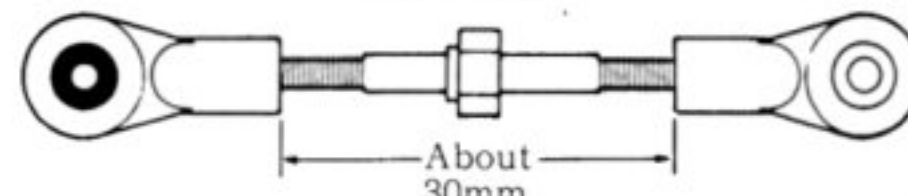
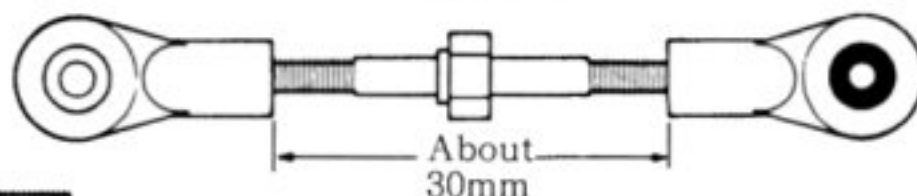
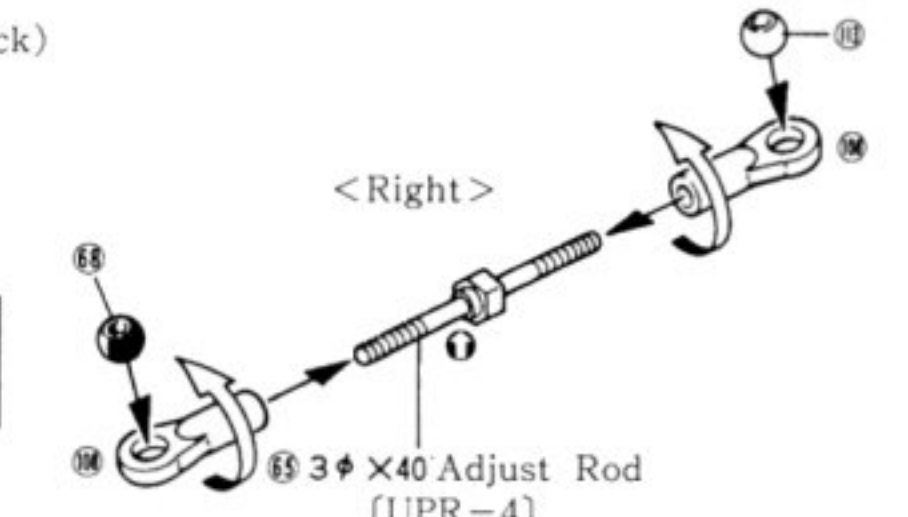
Assemble 2 sets.

● Rear Upper Rod (Used in Step 7.)

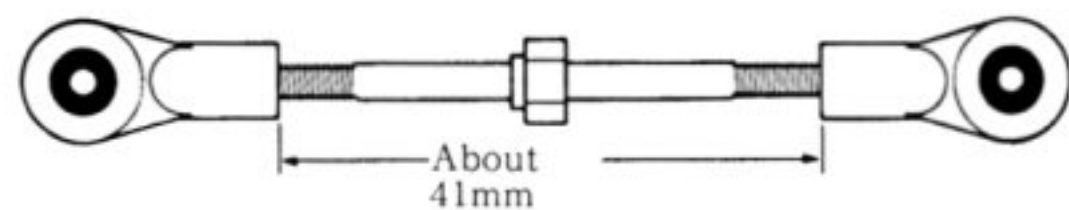
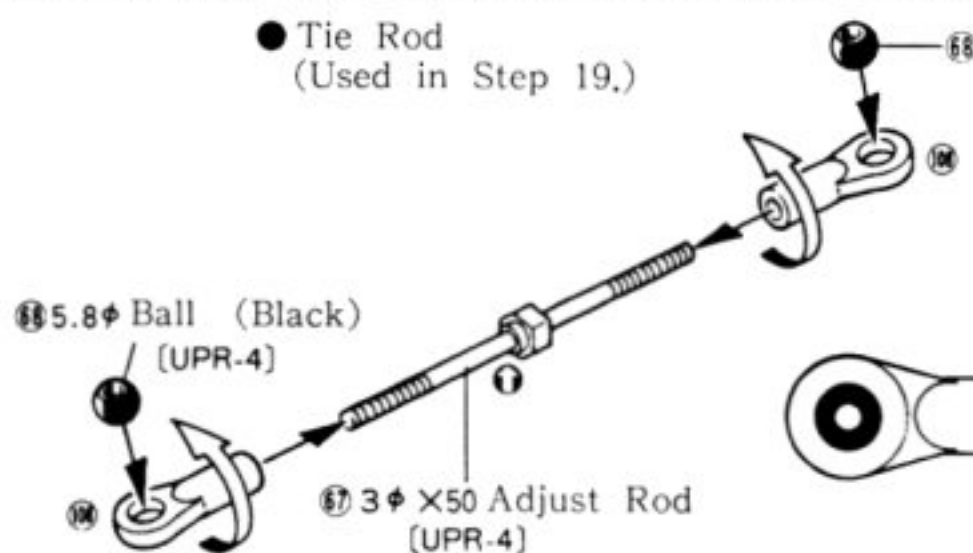


Ball color is reversed for left and right.

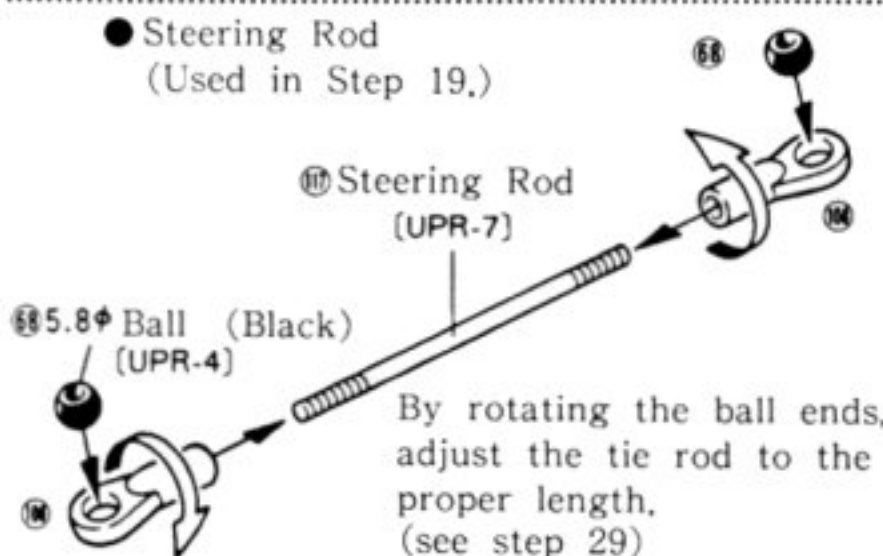
< Right >



● Tie Rod (Used in Step 19.)

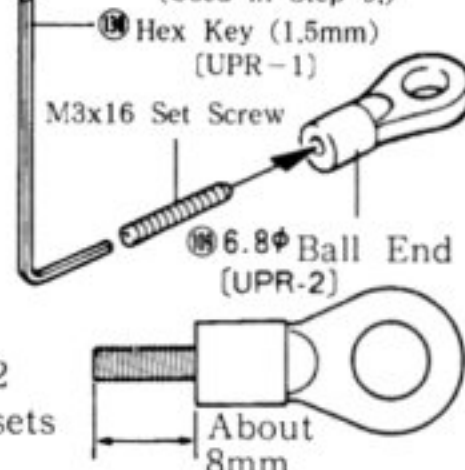


● Steering Rod (Used in Step 19.)

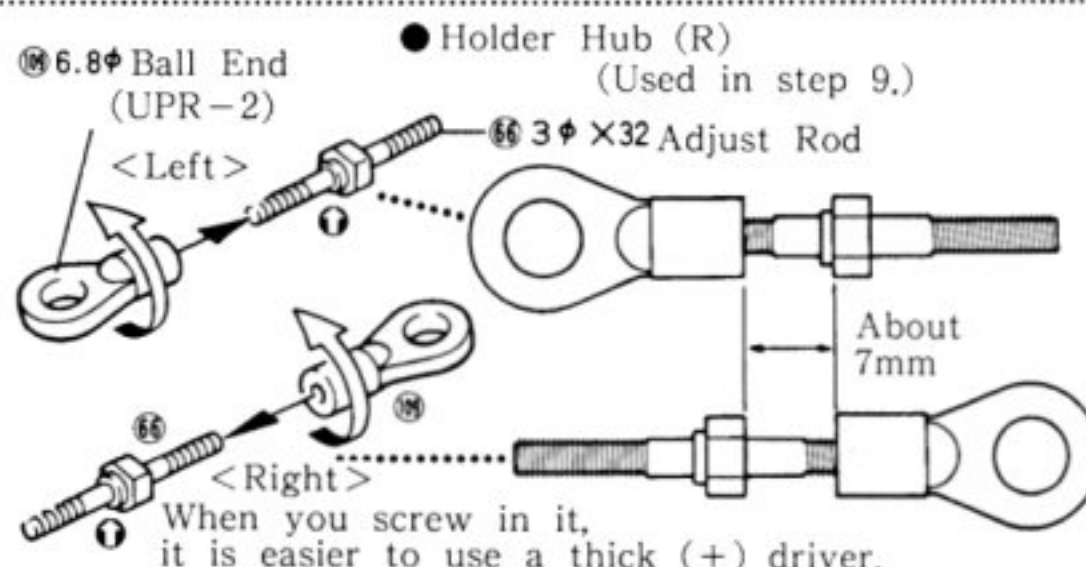


By rotating the ball ends, adjust the tie rod to the proper length. (see step 29)

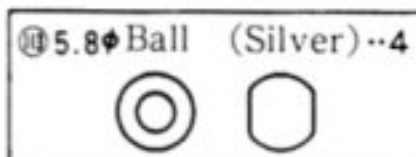
● Holder Hub (F) (Used in Step 9.)



● Holder Hub (R) (Used in step 9.)

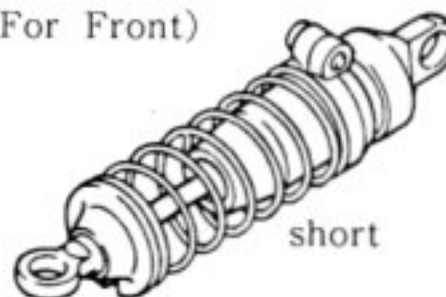


2 DISASSEMBLY OF SHOCK

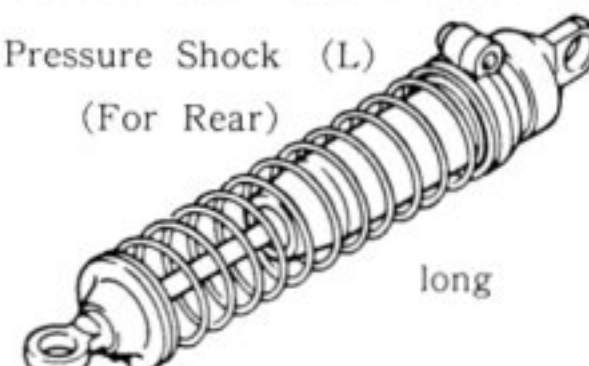


Shocks are assembled temporarily in bag [UPR-8] and must be disassembled only shock spring and shock cap to add oil.

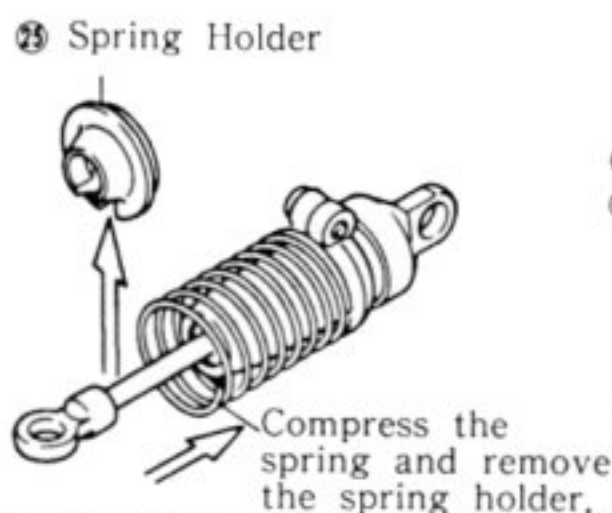
Pressure Shock (S) (For Front)



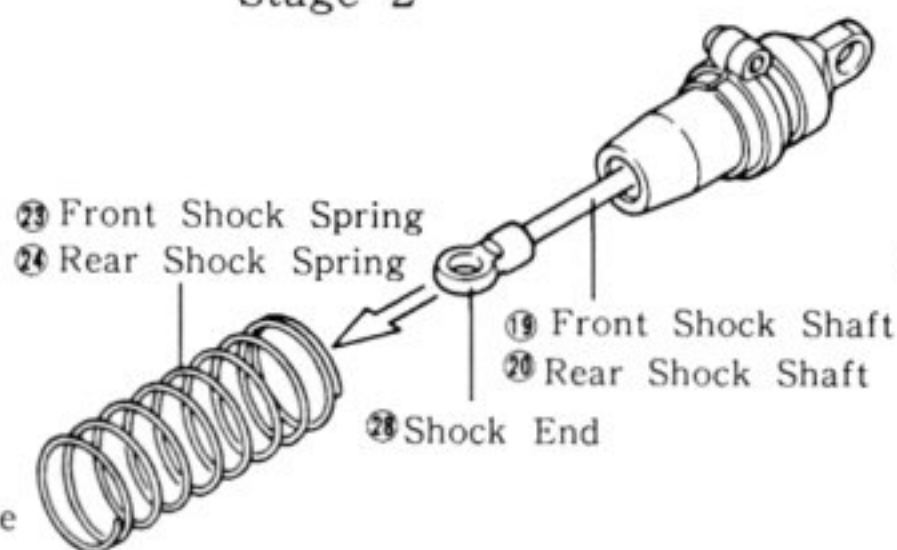
Pressure Shock (L) (For Rear)



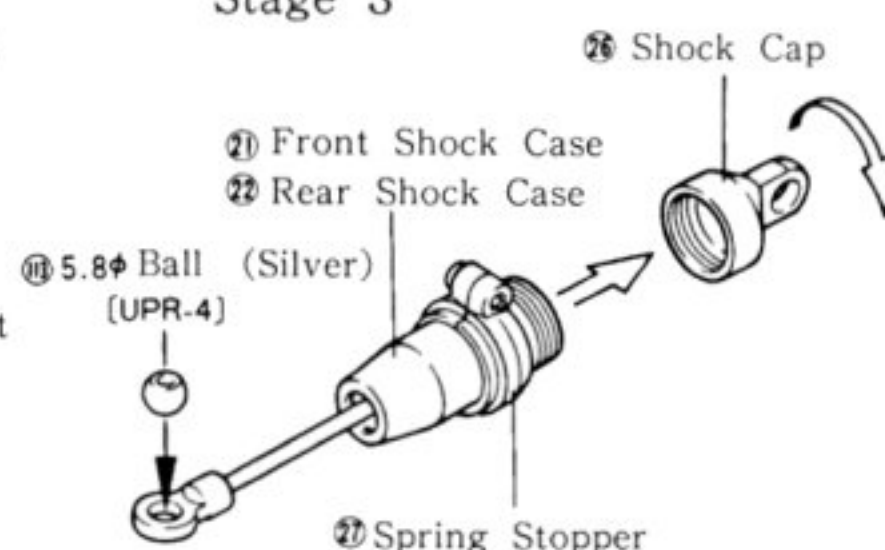
Stage 1



Stage 2



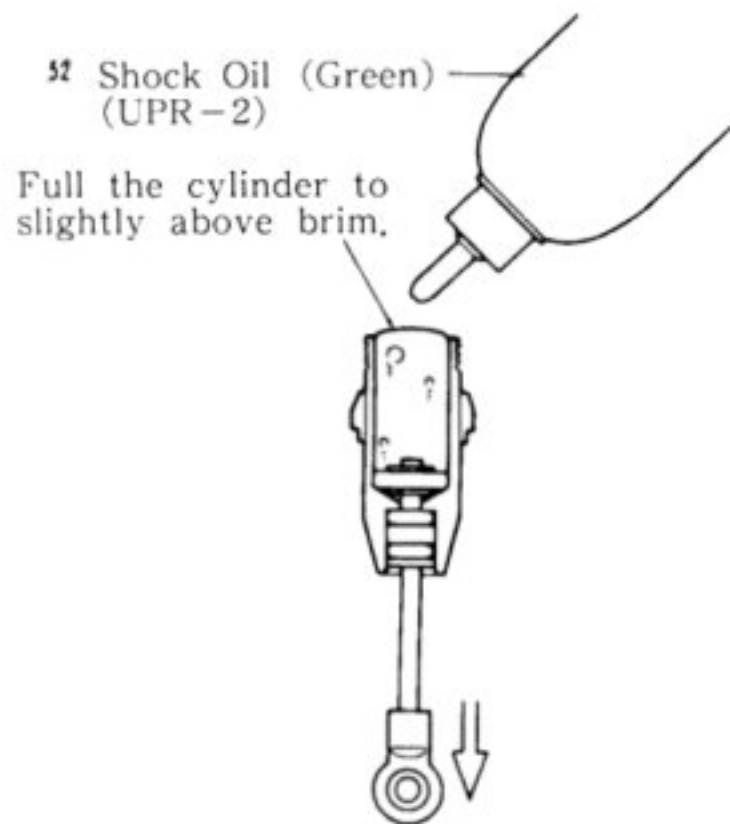
Stage 3



3

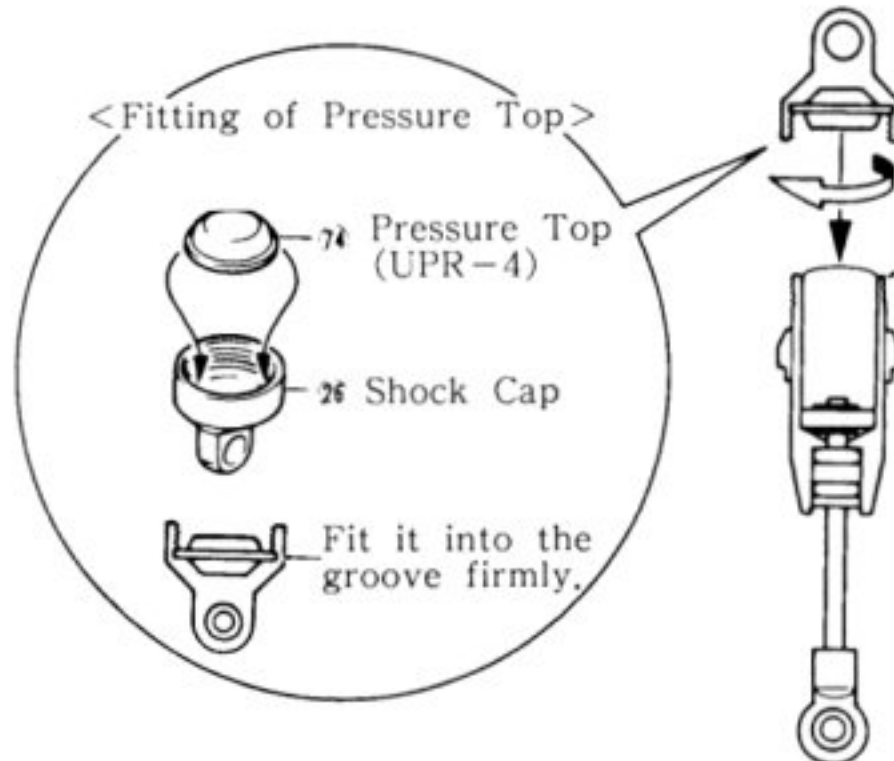
Stage 1

Pull down the piston to the bottom and pour oil slowly. Then move the piston up and down gently to get rid of air bubbles.



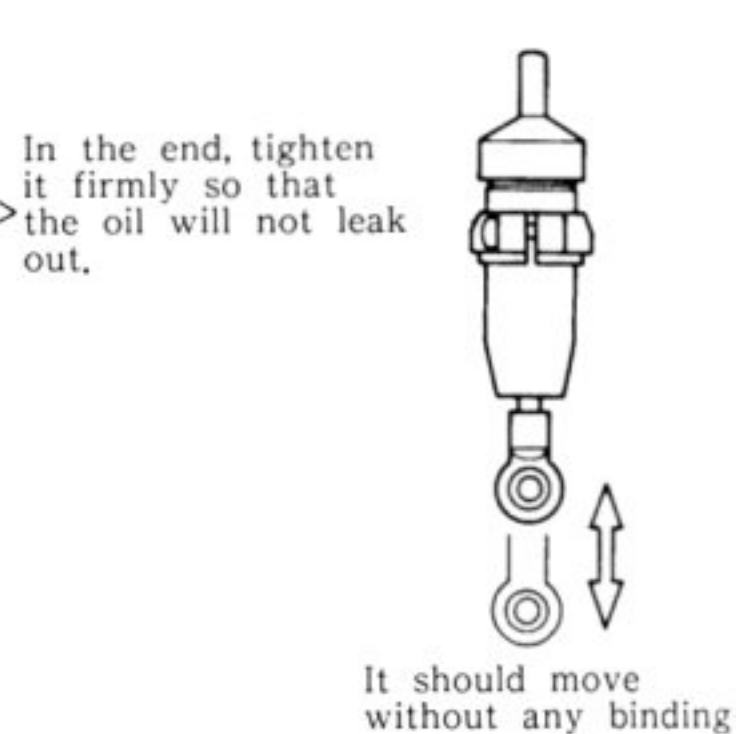
Stage 2

Keep the piston in the lowest position and tight 26 gradually, then excessive oil will run over.



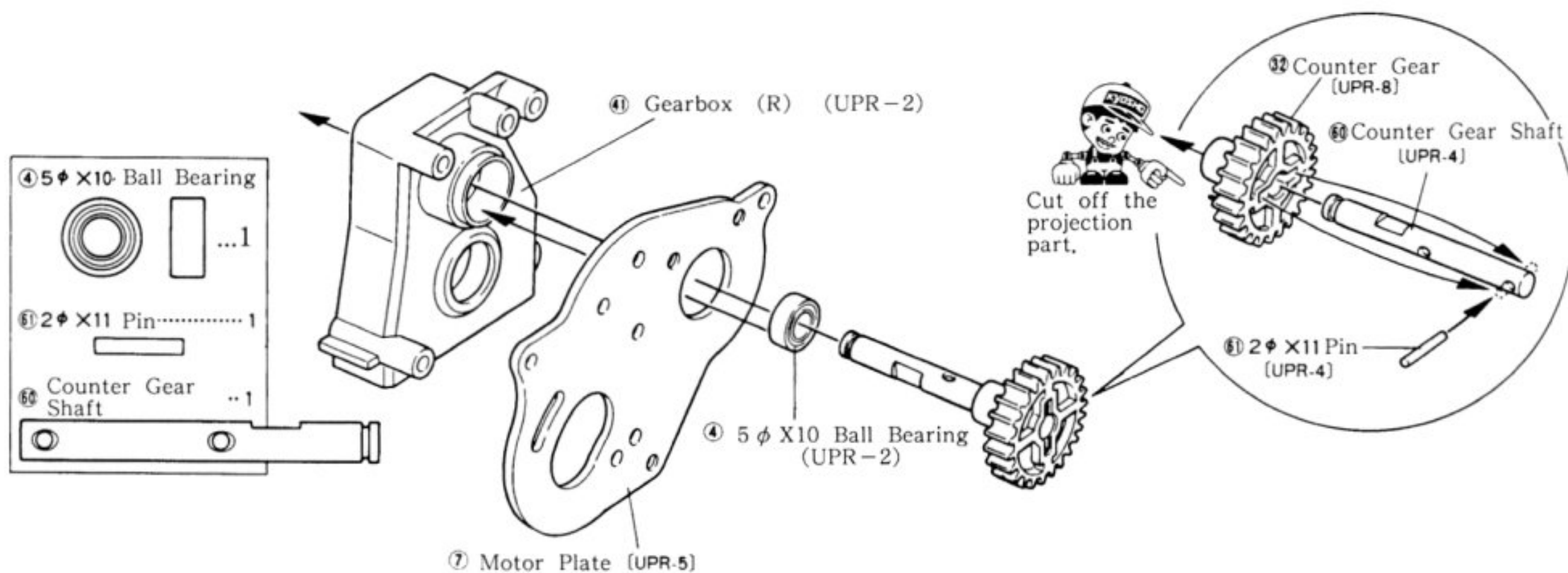
Stage 3

Confirm that it will work smoothly by moving the piston up and down.



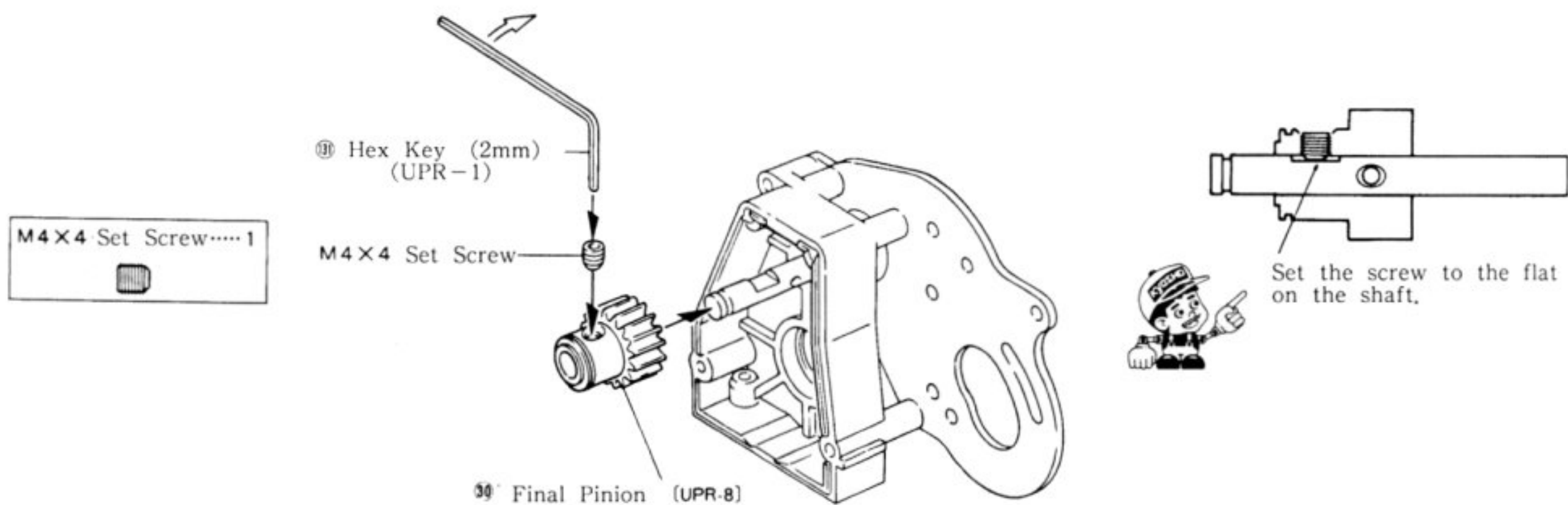
4

INSTALLATION OF COUNTER GEAR



5

INSTALLATION OF FINAL PINION GEAR



6 ASSEMBLY OF GEARBOX

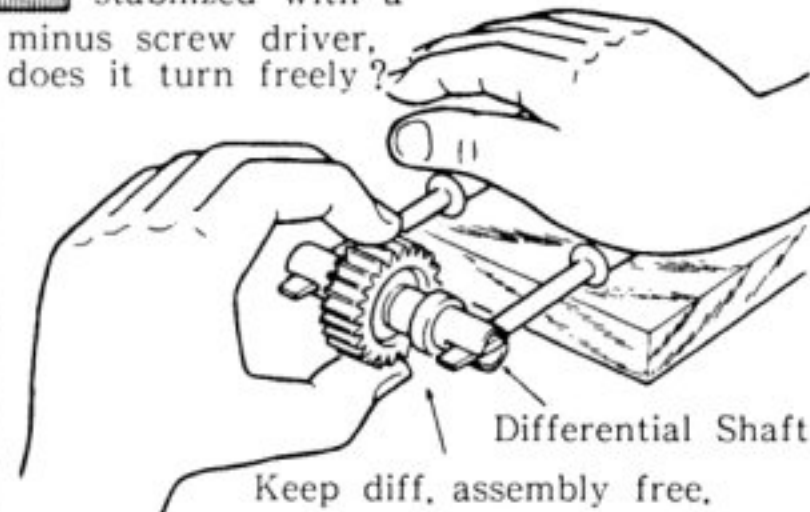
Stage 1 Ball differential is already assembled and is included in (UPR-8) but before assembling it into the gear box, check ① and ②

① DIFFERENTIAL ITSELF SHOULD NOT TURN FREELEY.

When the differential itself is turned with your hand with both end of the shaft is stabilized with a minus screw driver, does it turn freely?

If it is turning freely, make adjustment as shown in the right diagrams.

Keep diff. assembly free.



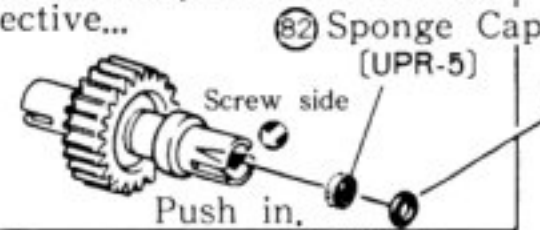
The point of adjustment is how tight the cap screw is tightened. Adjust and readjust ① and ② are OK.

Hex Key (UPR-1) (2mm)



If the screw is over tightened or use with the differential turning freely, it will result to damaging the ball and plates.

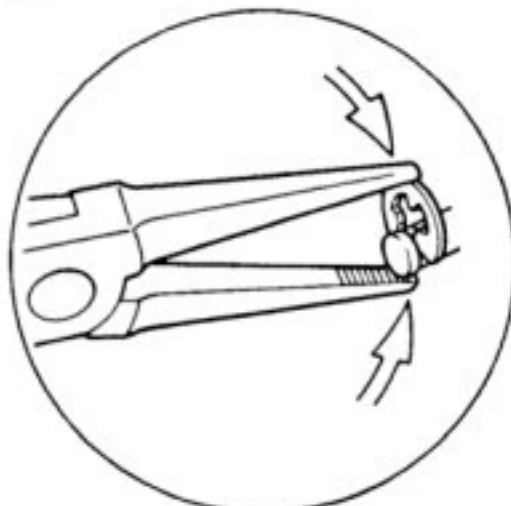
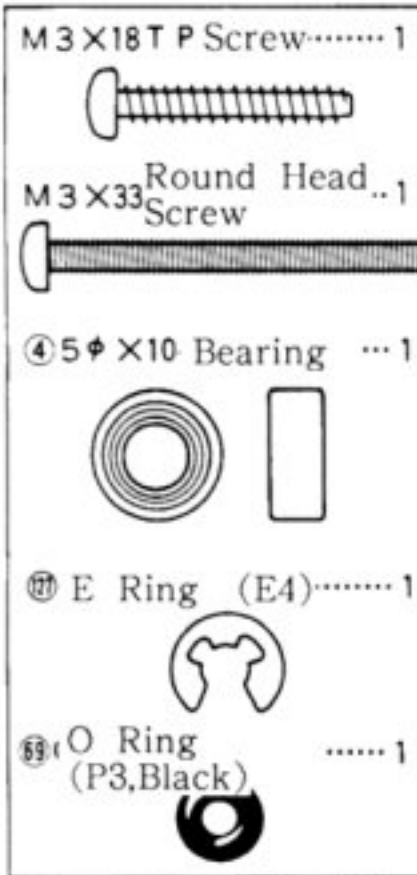
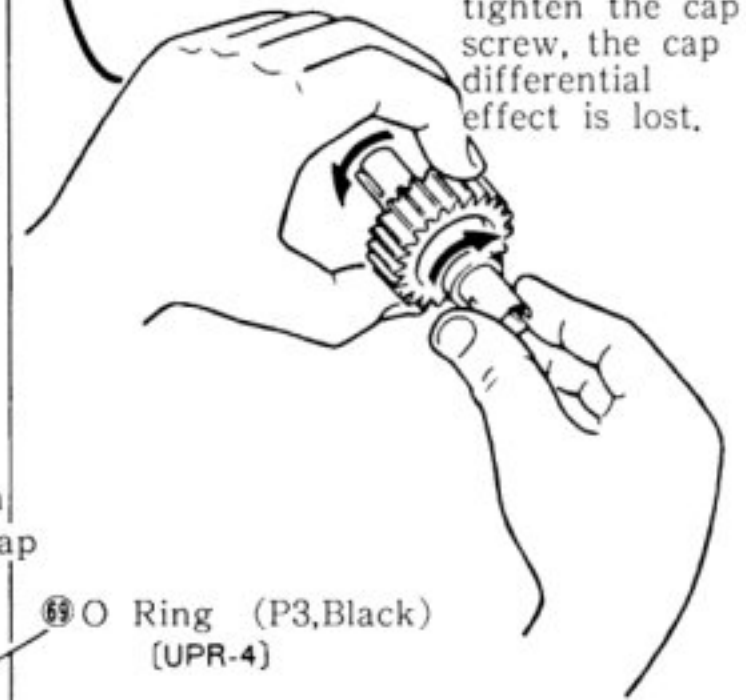
After the adjustment has been effective...



② DIFFERENTIAL MUST BE EFFECTIVE

By holding the differential itself and by turning the differential shaft, does the opposite side shaft lightly turn in the opposite direction? (This is called the differential effectiveness.)

The more you tighten the cap screw, the cap differential effect is lost.



Fit an E Ring a pair of pliers.

Stage 2

Apply grease all around the gear teeth.

5φX10 Bearing (UPR-2)

E Ring (E4) (UPR-1)

M3X18TP Screw

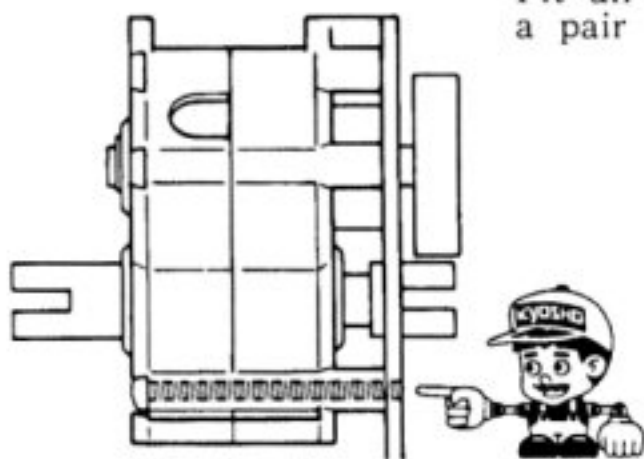
M3X33 Round Head Screw

Gearbox (L) (UPR-2)

Watch the direction.

When having assembled it as shown in the drawing at right, and it you find too much end play...

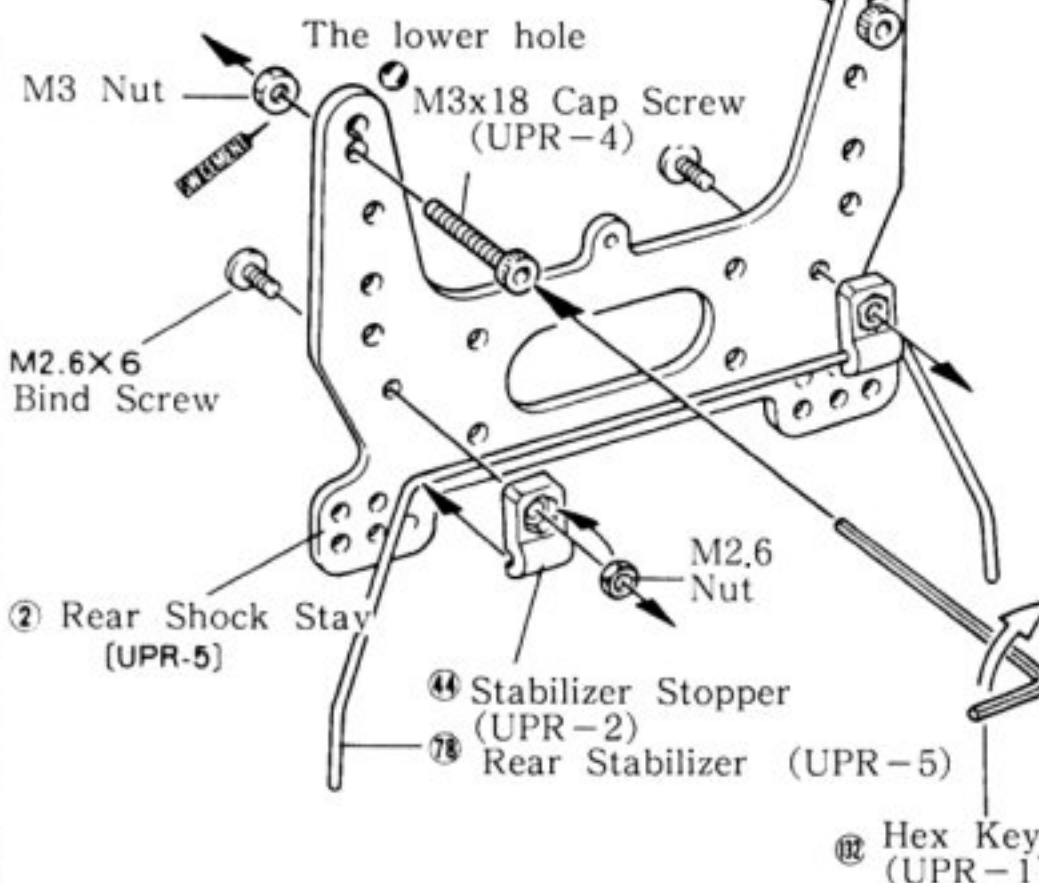
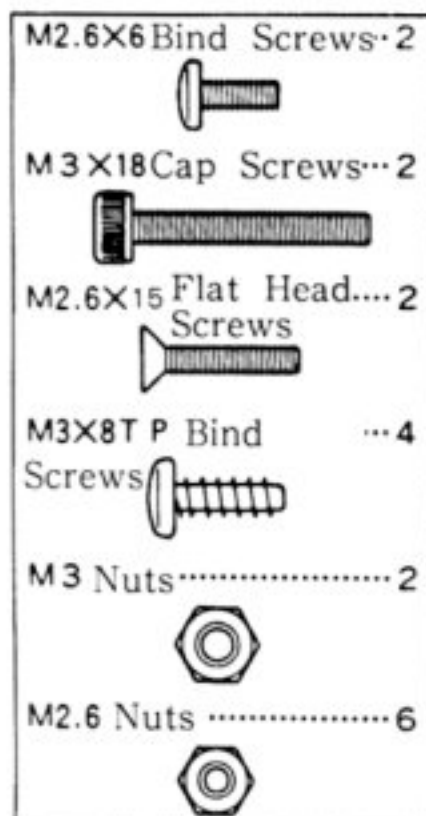
See page 21. (When inserting shim for ball differential adjustment...)



Tighten the M3x33 screws till the tips with the motor plate. Do not tighten them further.

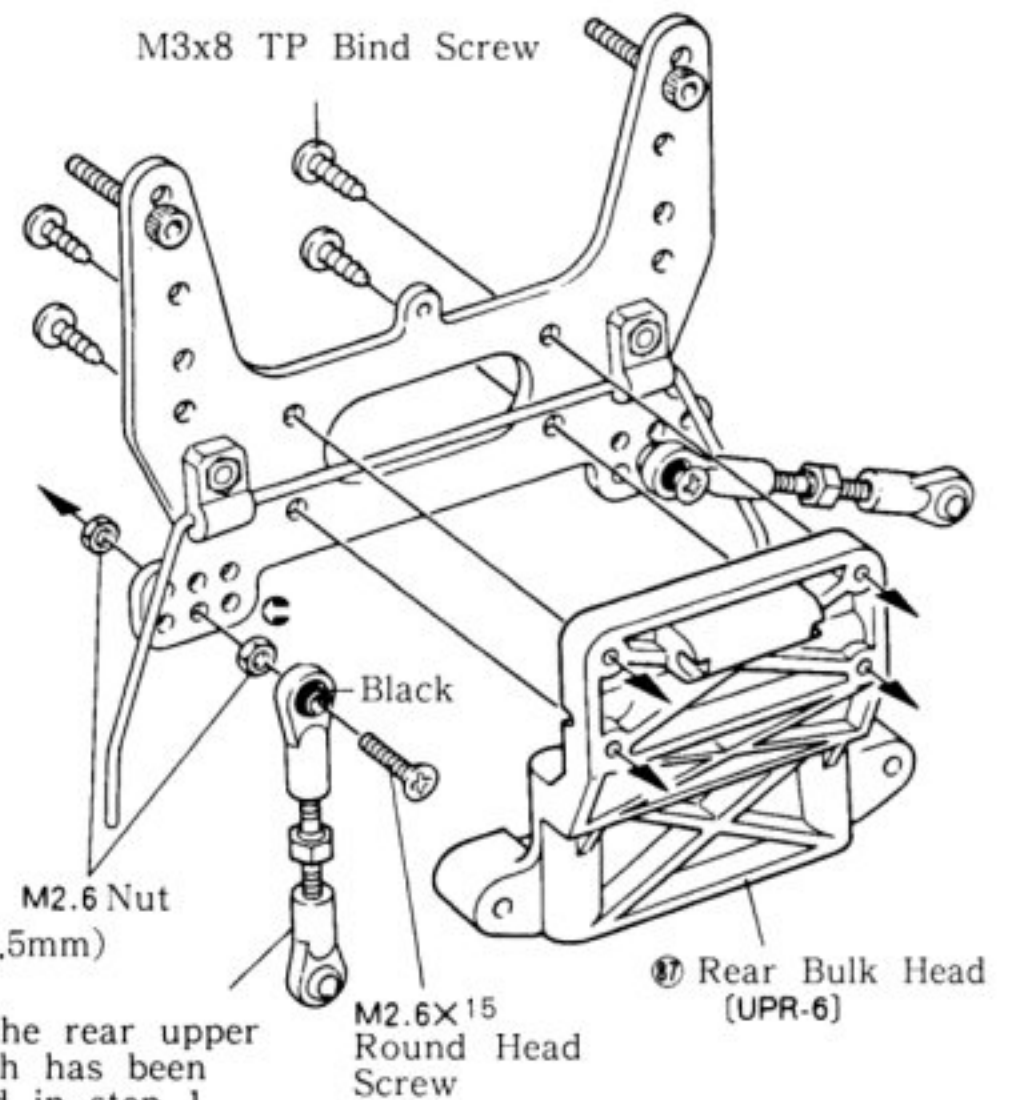
7 INSTALLATION OF REAR SHOCK STAY

Stage 1

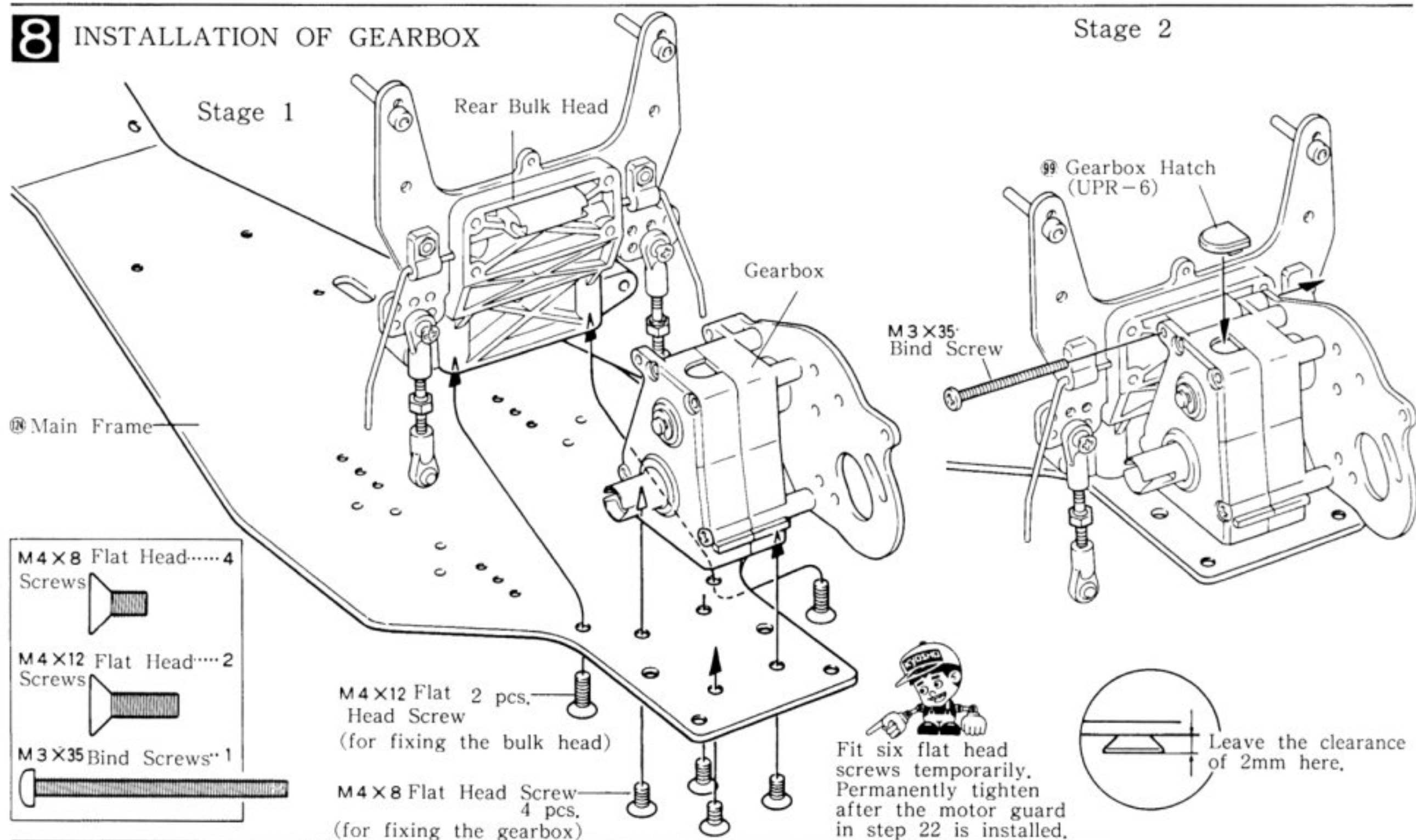


Stage 2

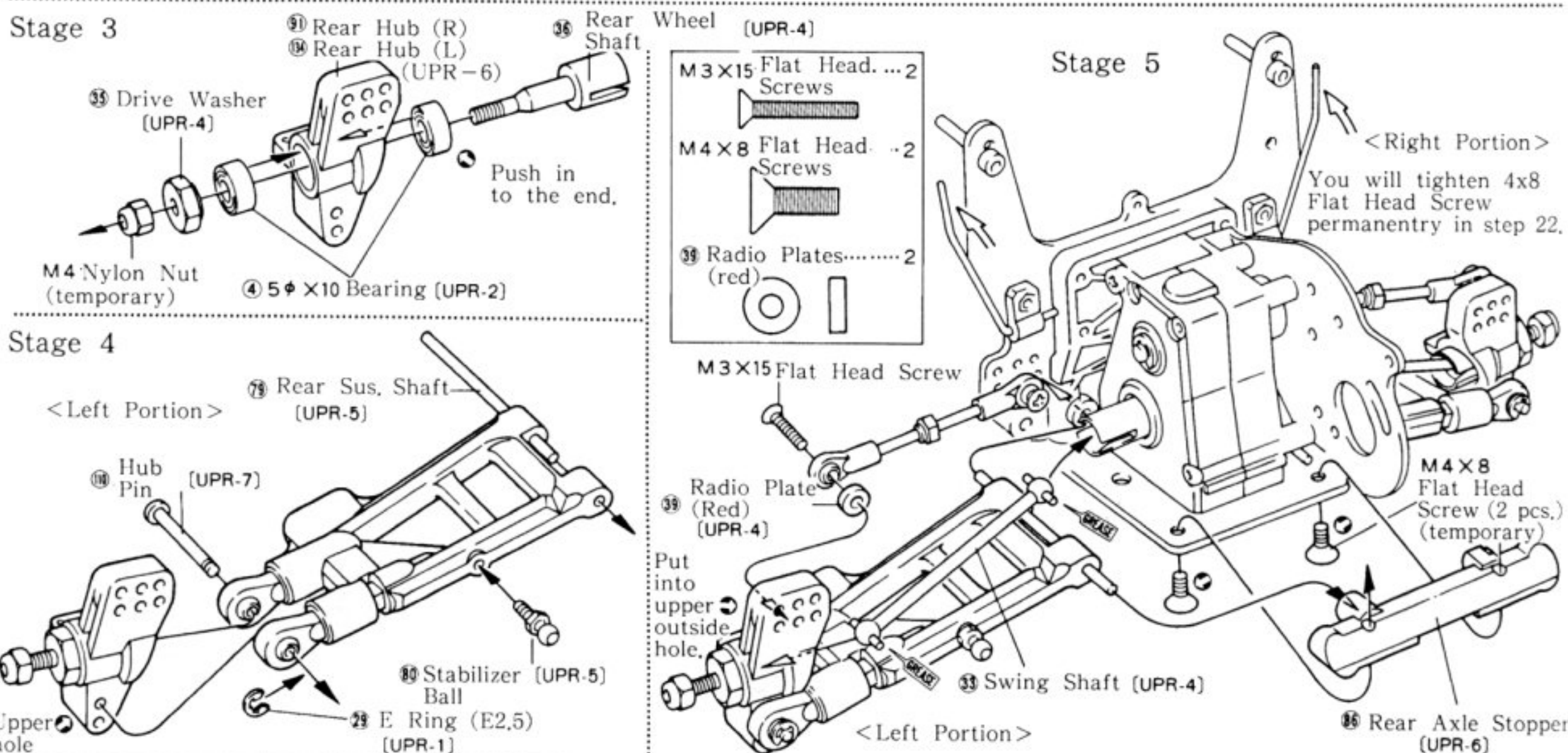
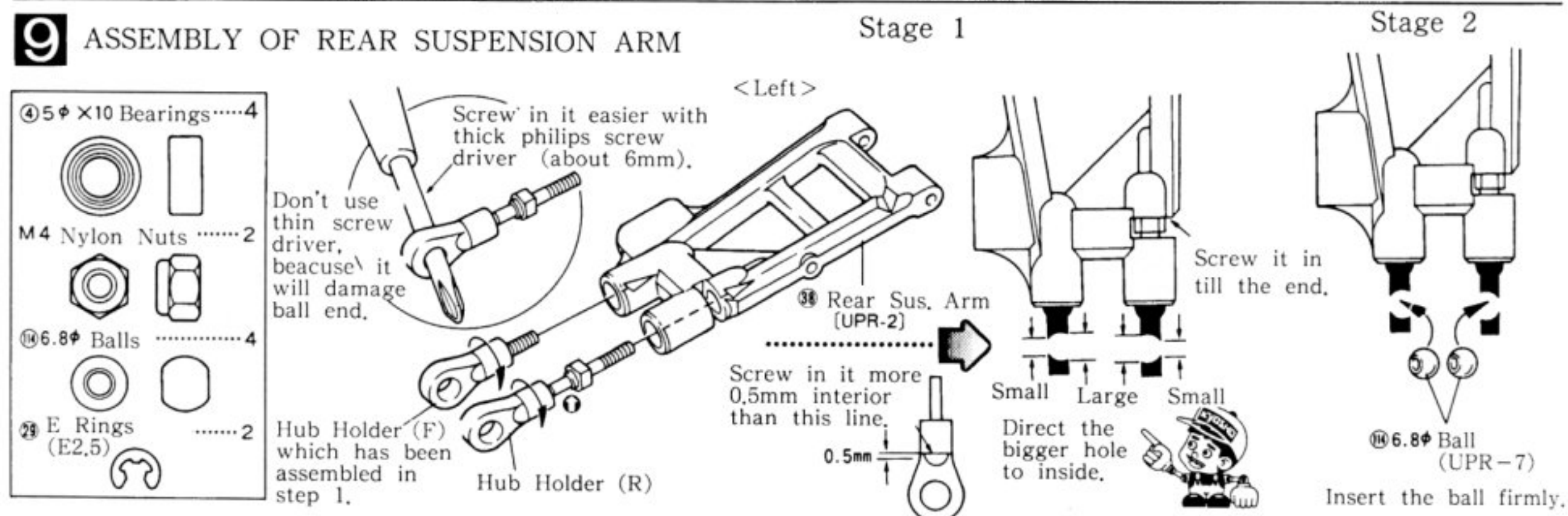
M3x8 TP Bind Screw



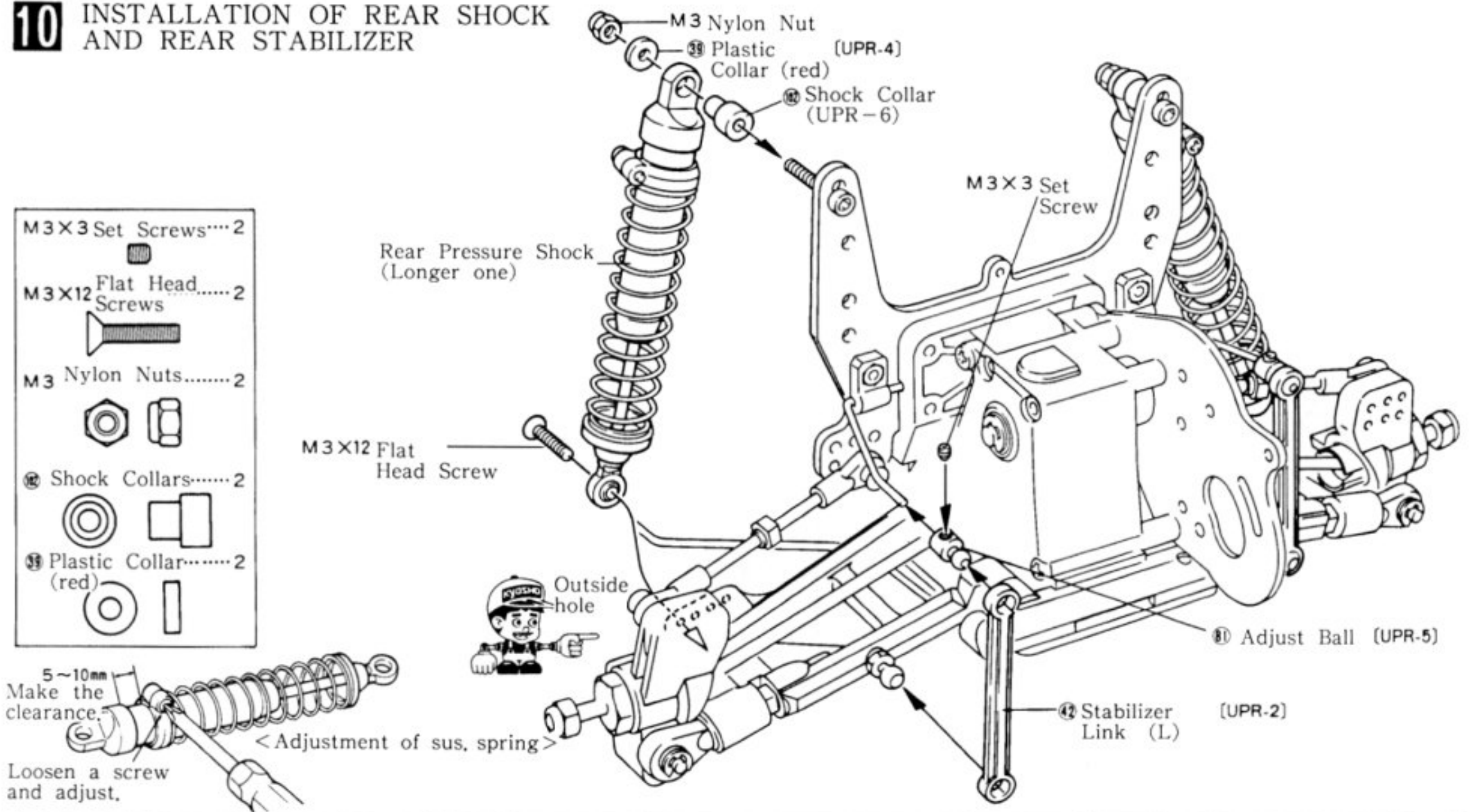
8 INSTALLATION OF GEARBOX



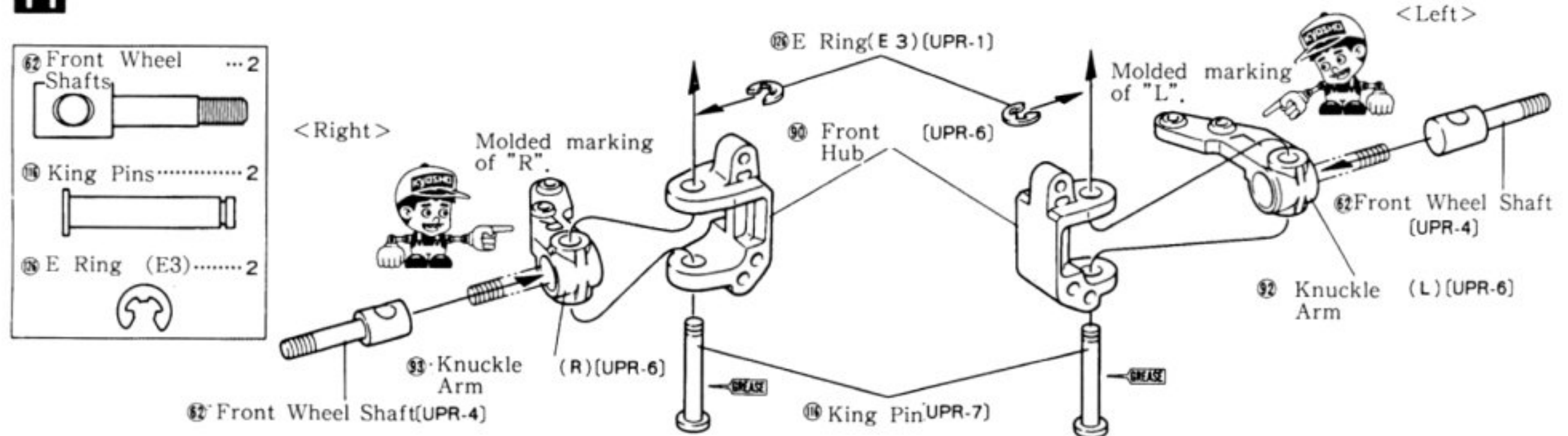
9 ASSEMBLY OF REAR SUSPENSION ARM



10 INSTALLATION OF REAR SHOCK AND REAR STABILIZER

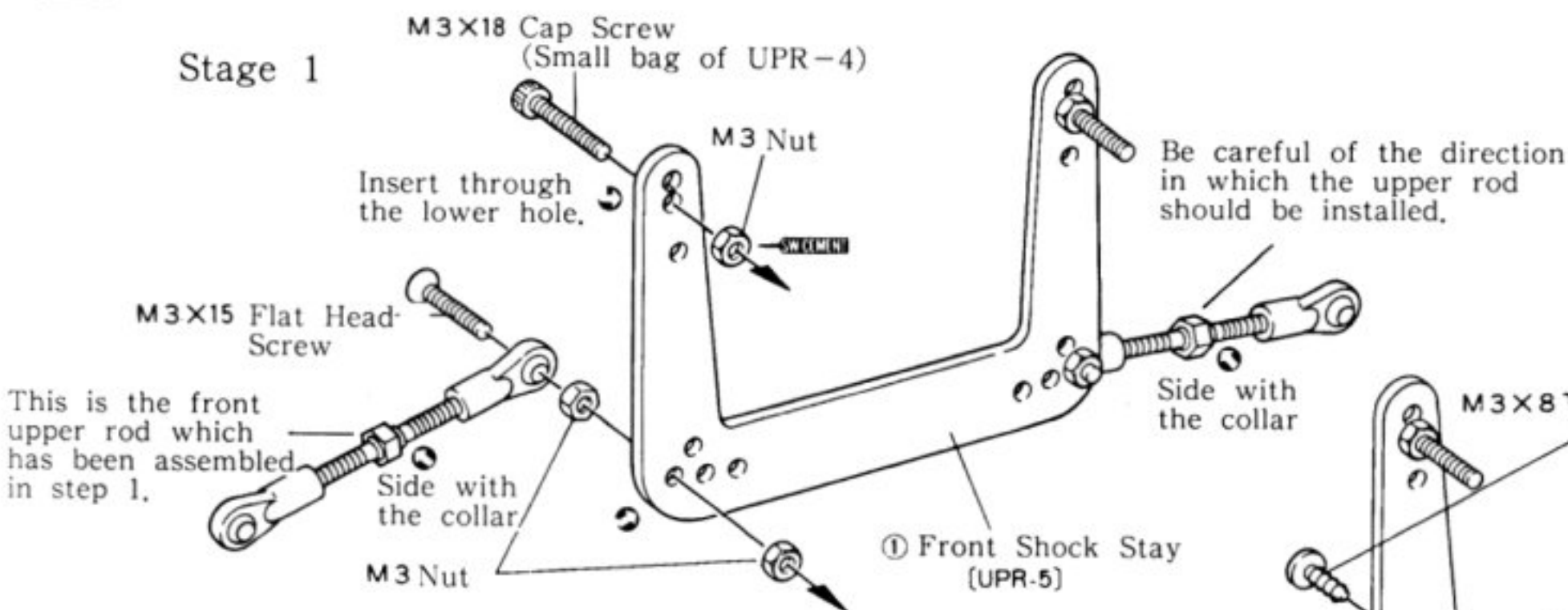


11 INSTALLATION OF KNUCKLE ARM

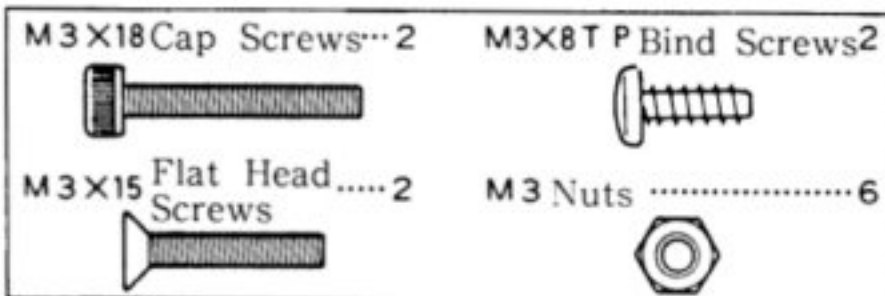
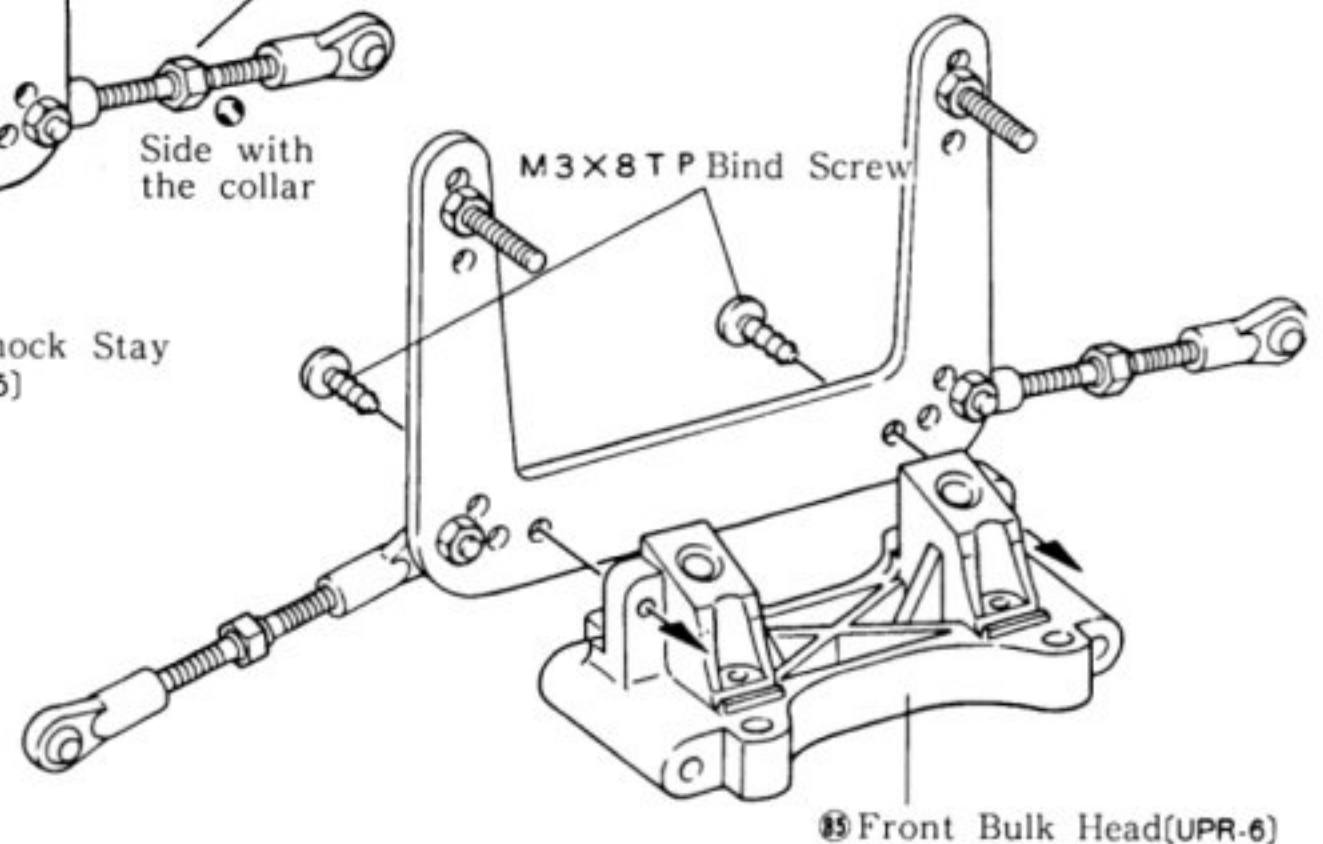


12 INSTALLATION OF FRONT SHOCK STAY

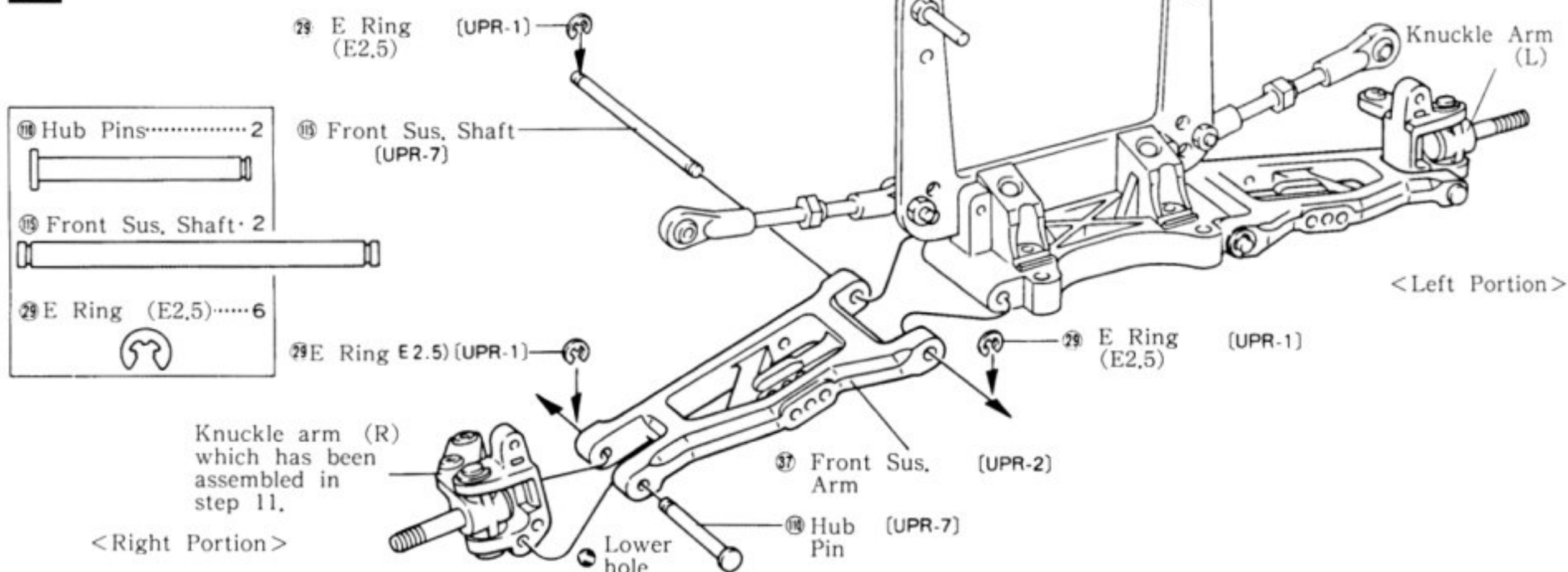
Stage 1



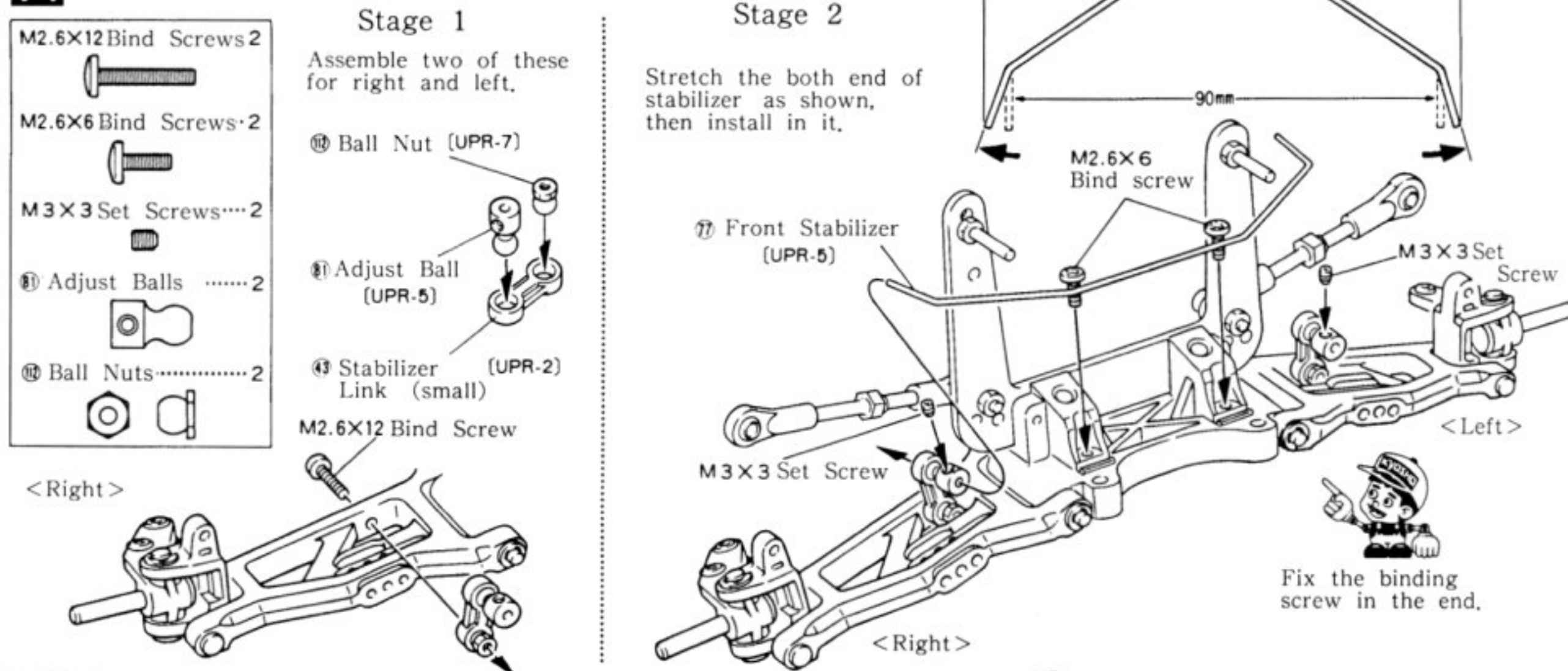
Stage 2



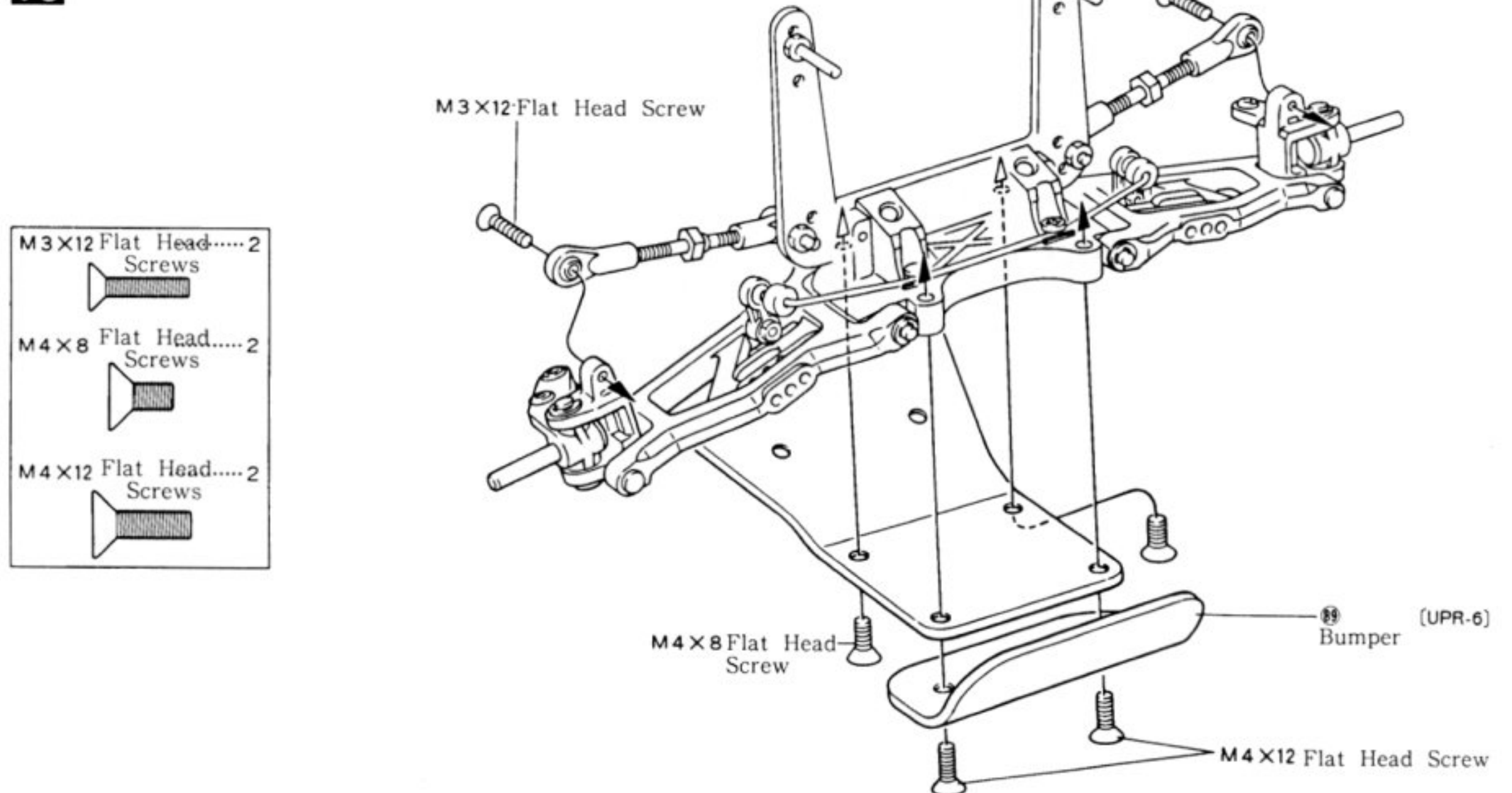
13 INSTALLATION OF FRONT SUSPENSION ARM



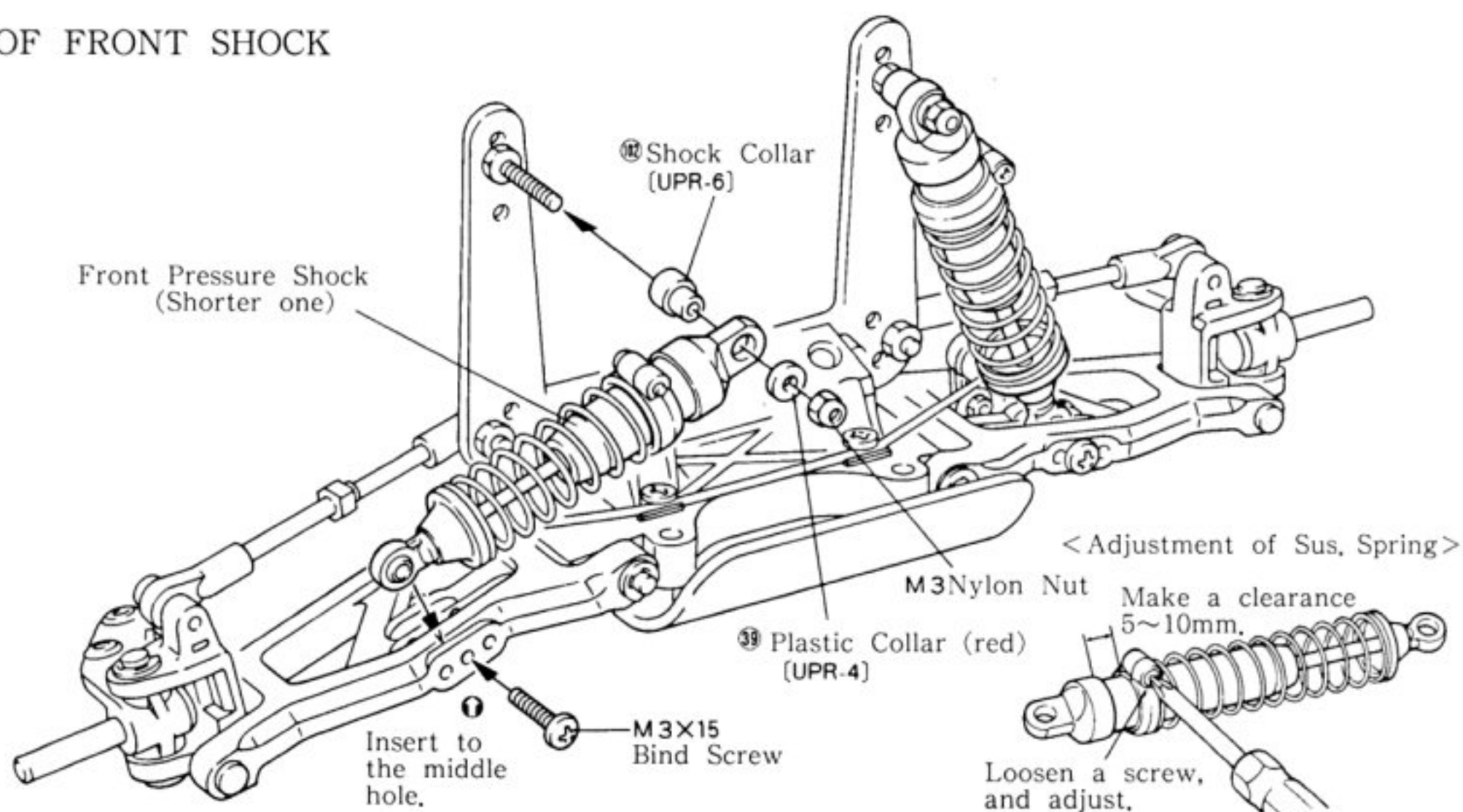
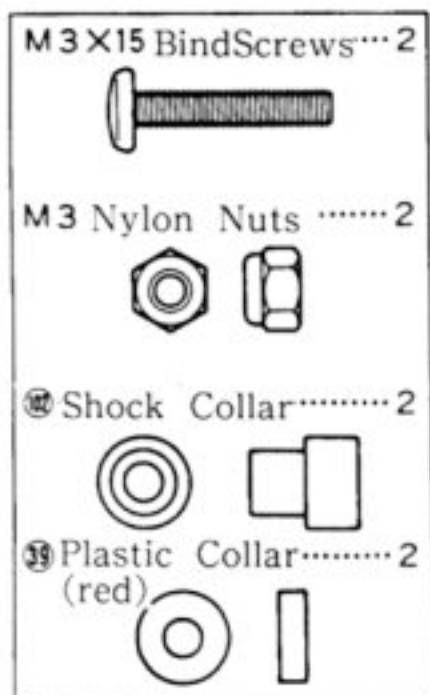
14 INSTALLATION OF FRONT STABILIZER



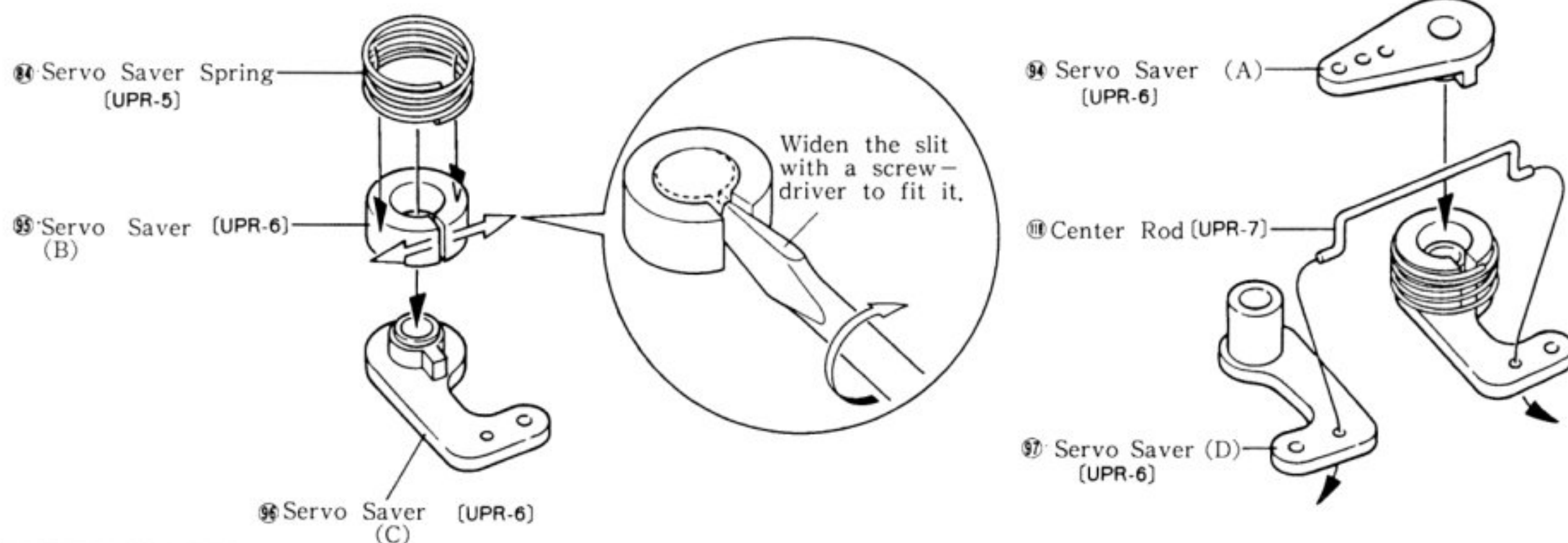
15 INSTALLATION OF FRONT BULK HEAD



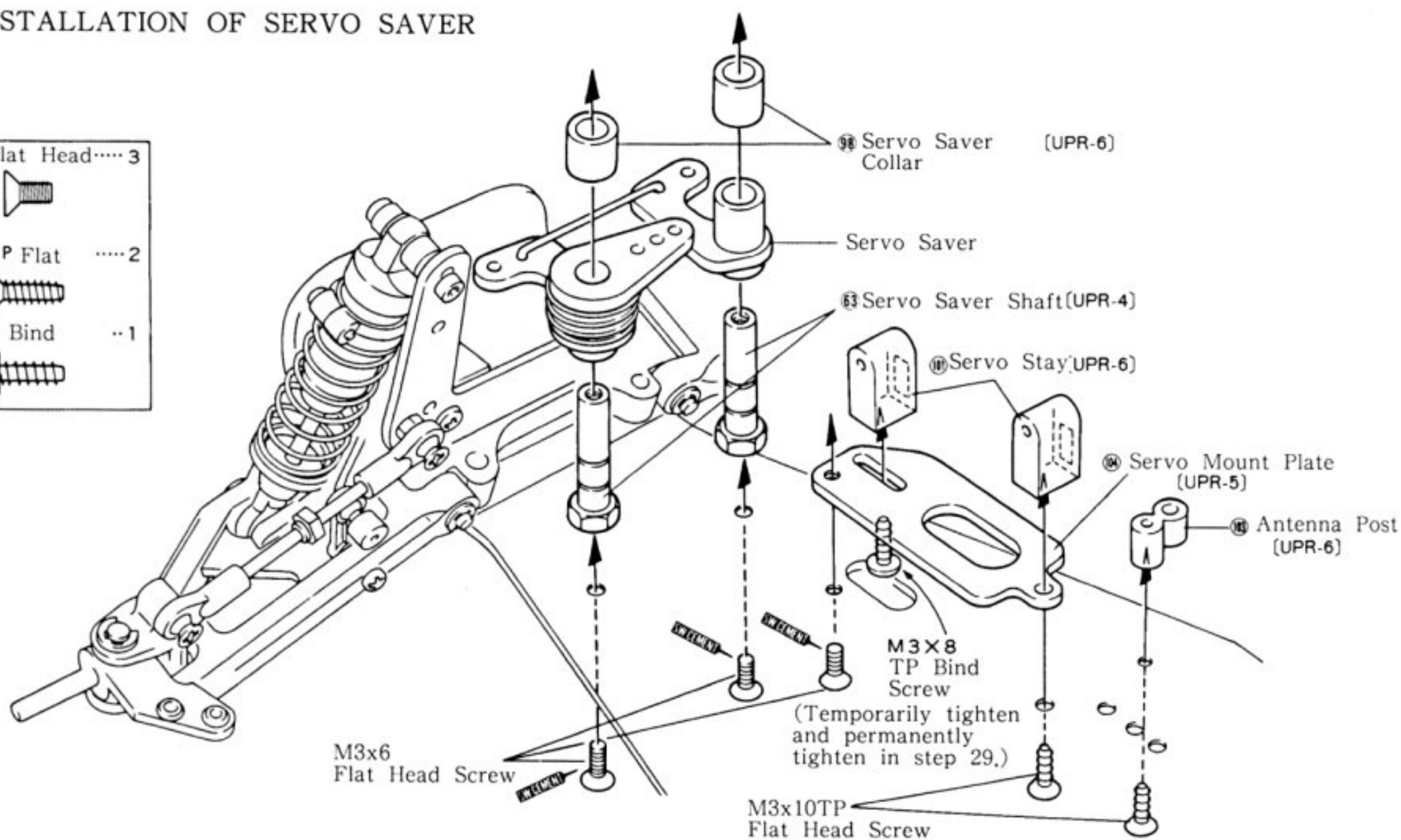
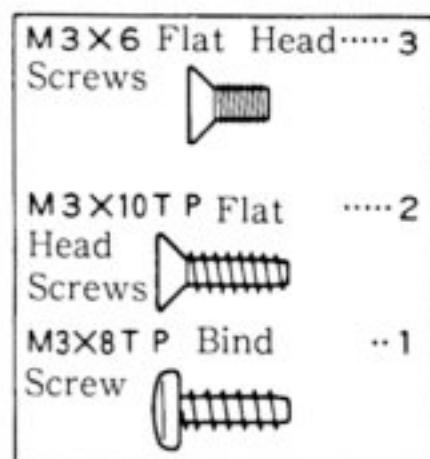
16 INSTALLATION OF FRONT SHOCK



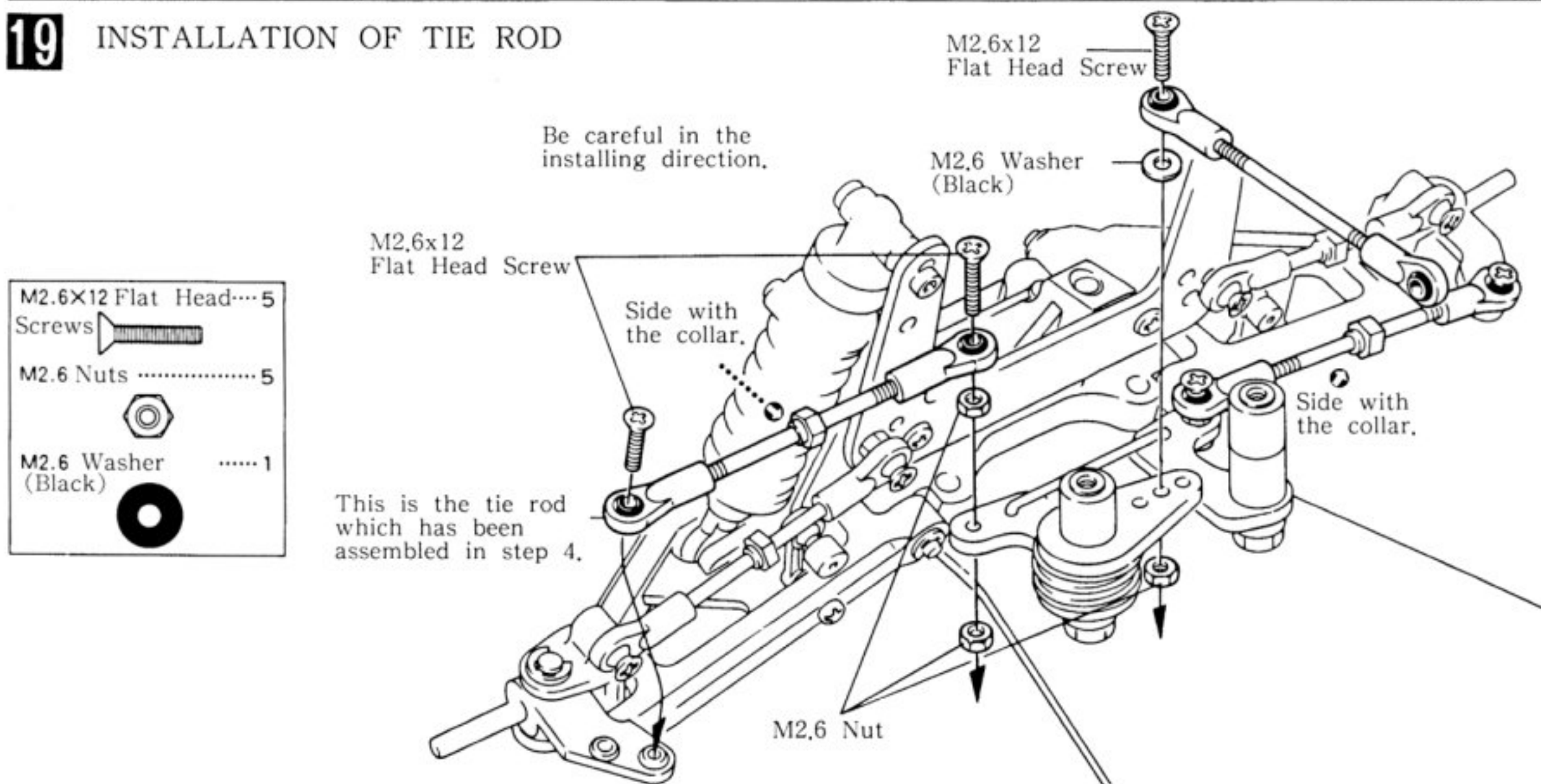
17 ASSEMBLY OF SERVO SAVER



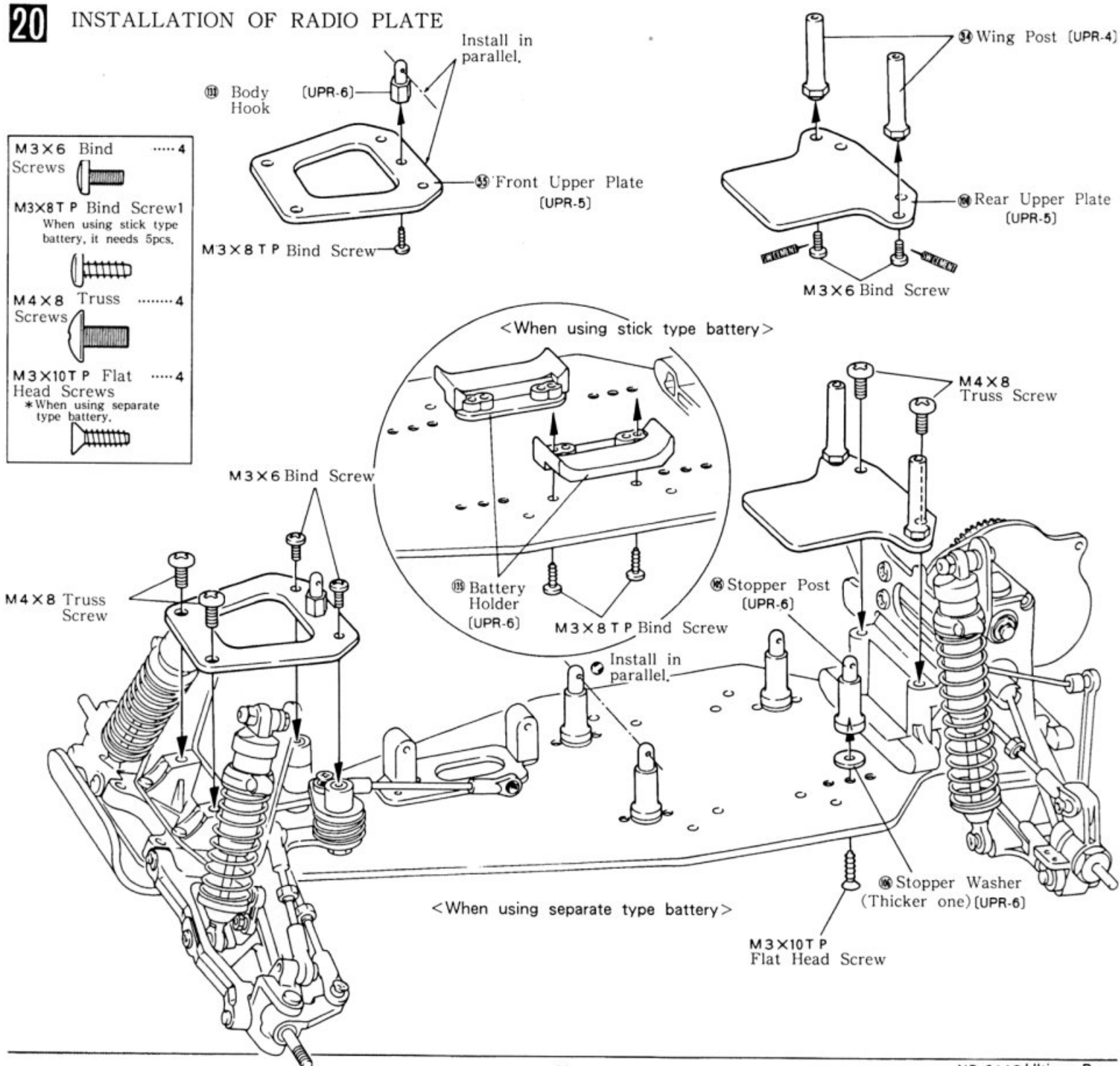
18 INSTALLATION OF SERVO SAVER



19 INSTALLATION OF TIE ROD

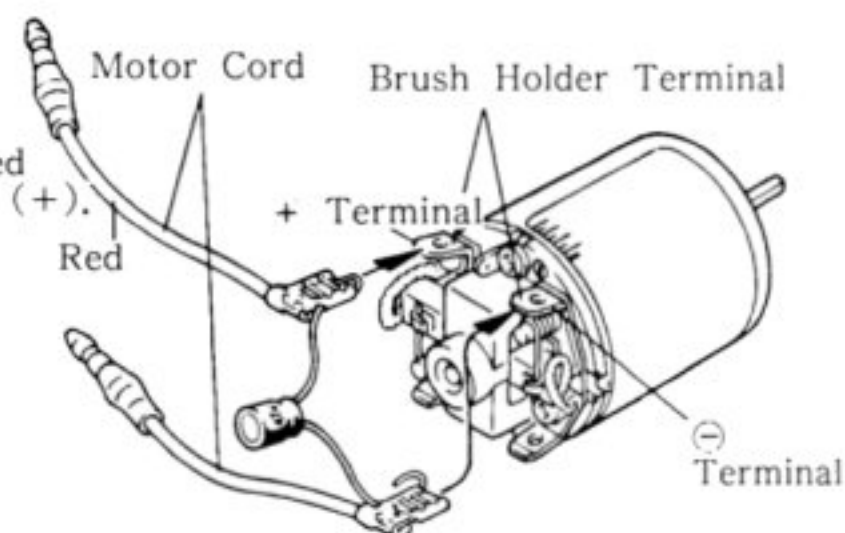
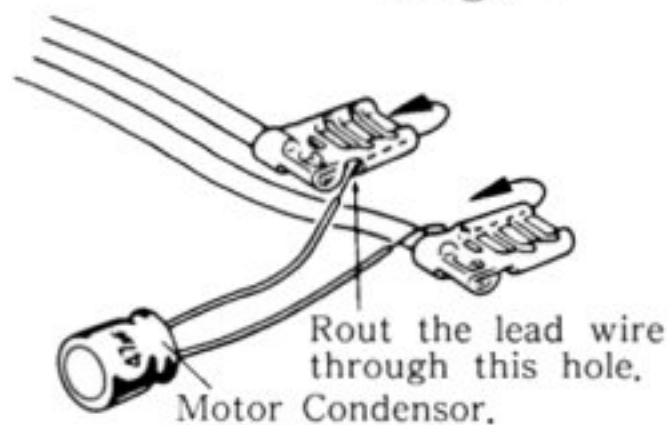


20 INSTALLATION OF RADIO PLATE



21

Stage 1



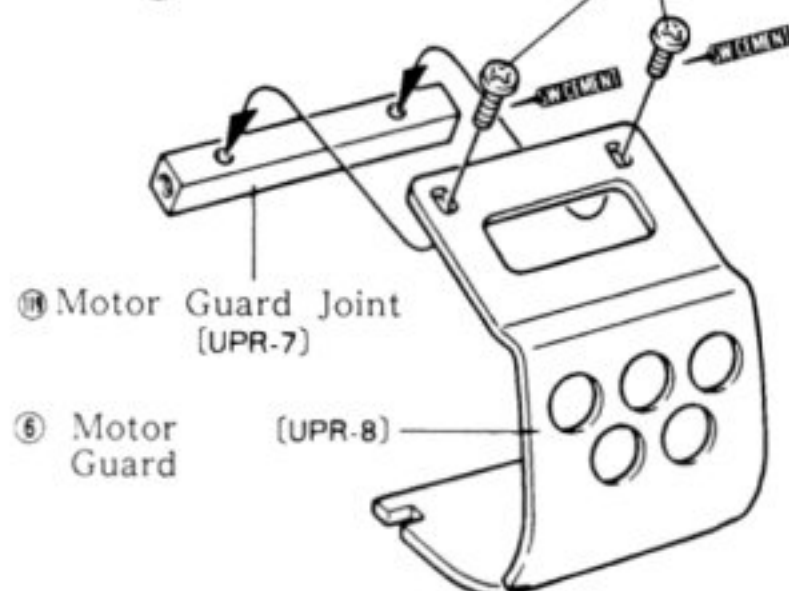
Stage 2

22

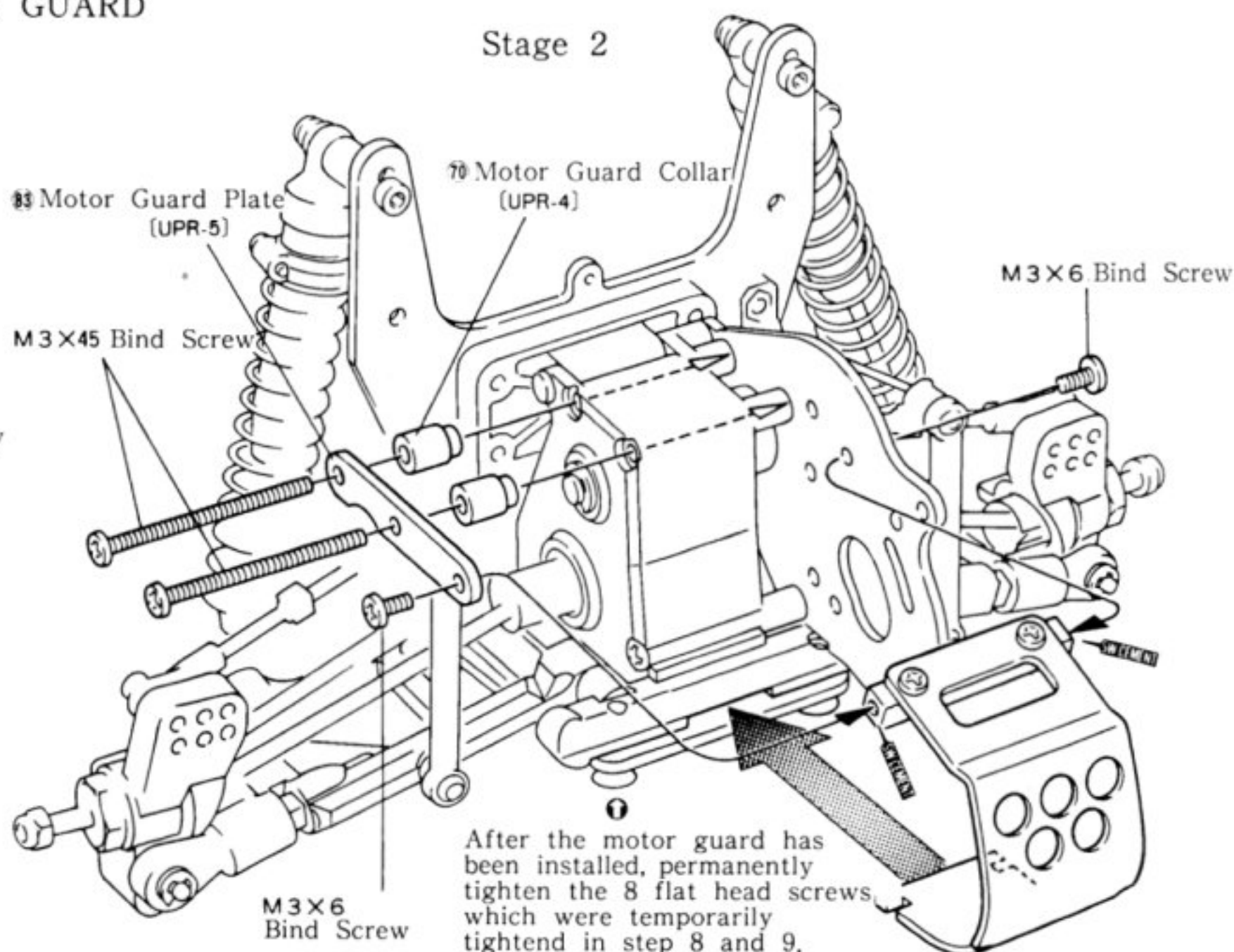
M 3 X45 Bind Screws-2



Stage 1



Stage 2



After the motor guard has been installed, permanently tighten the 8 flat head screws which were temporarily tightened in step 8 and 9.

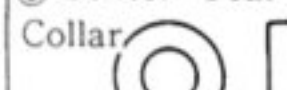
23

Stage 1

M4 Washers 2



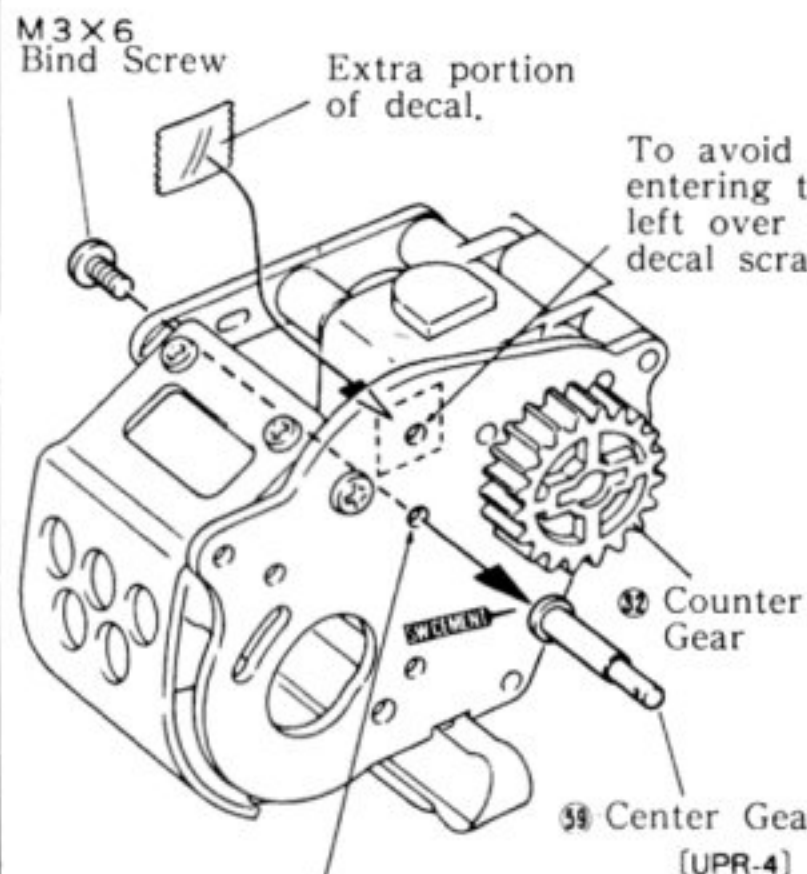
⑤-Center Gear 1



```

69 O Ring(P3 • Black)1

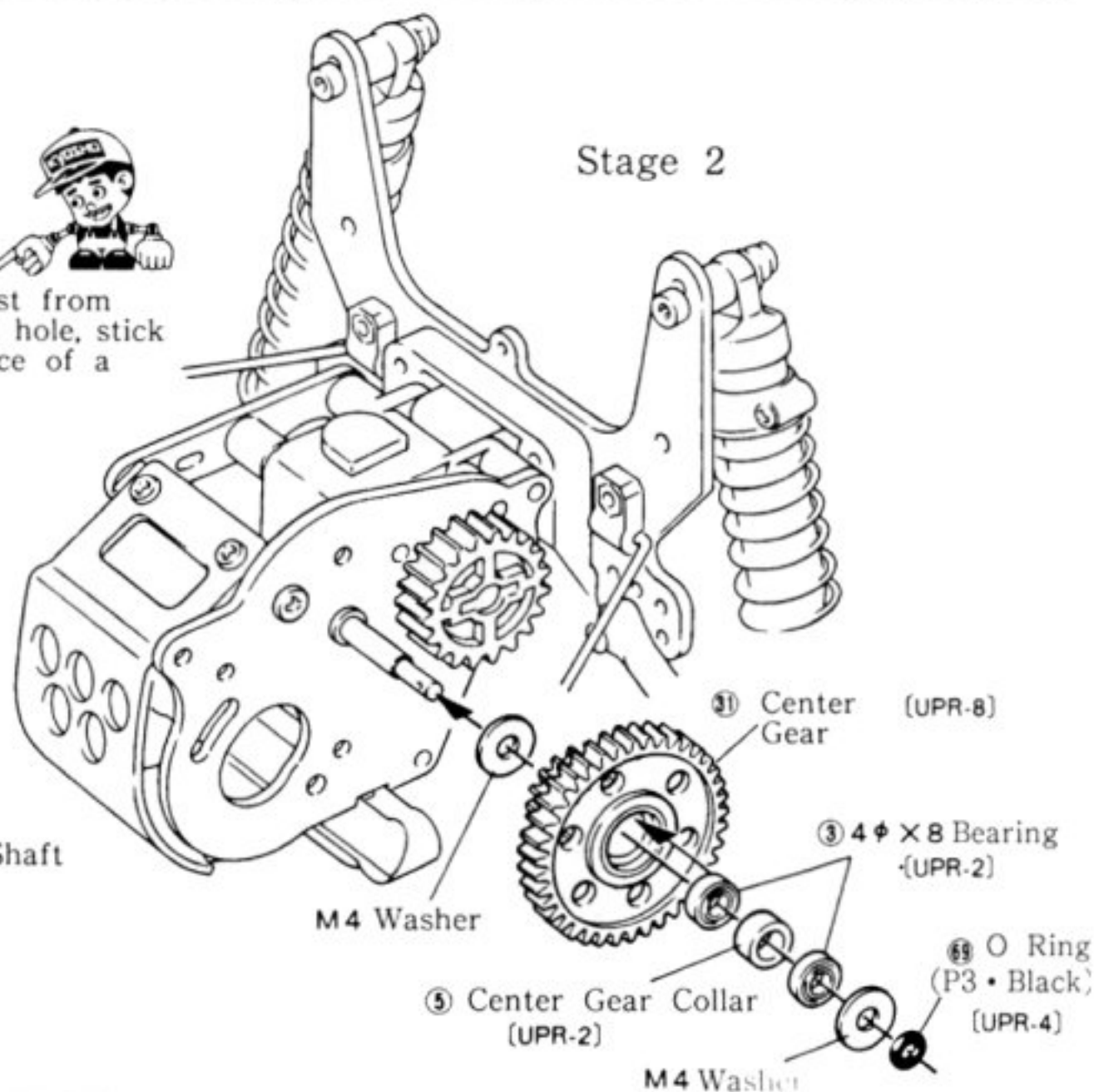
```



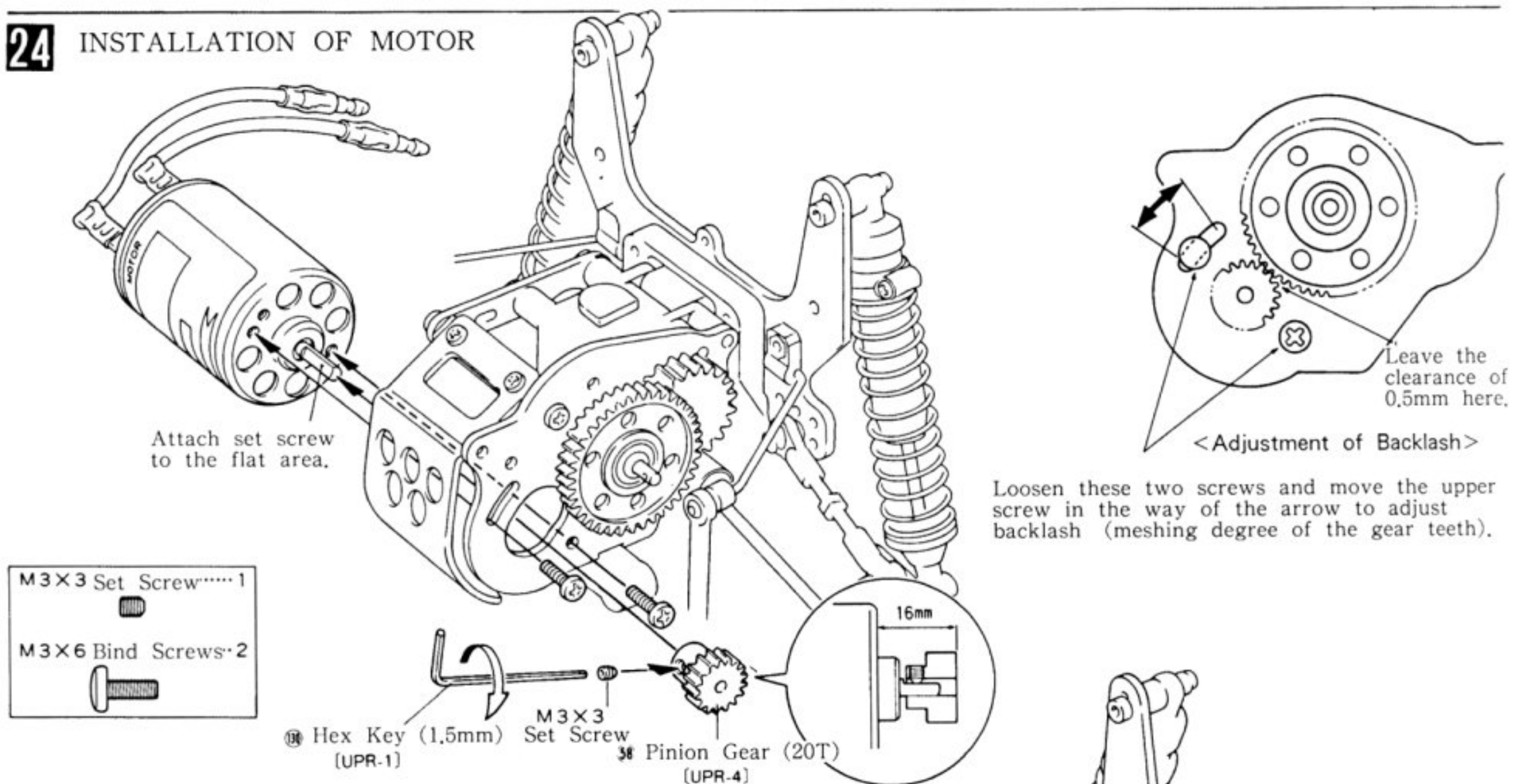
When the gearing of center gear and counter gear are too tight, enlarge this hole shaving with a file.

To avoid dust from entering this hole, stick left over piece of a decal scrap.

Stage 2

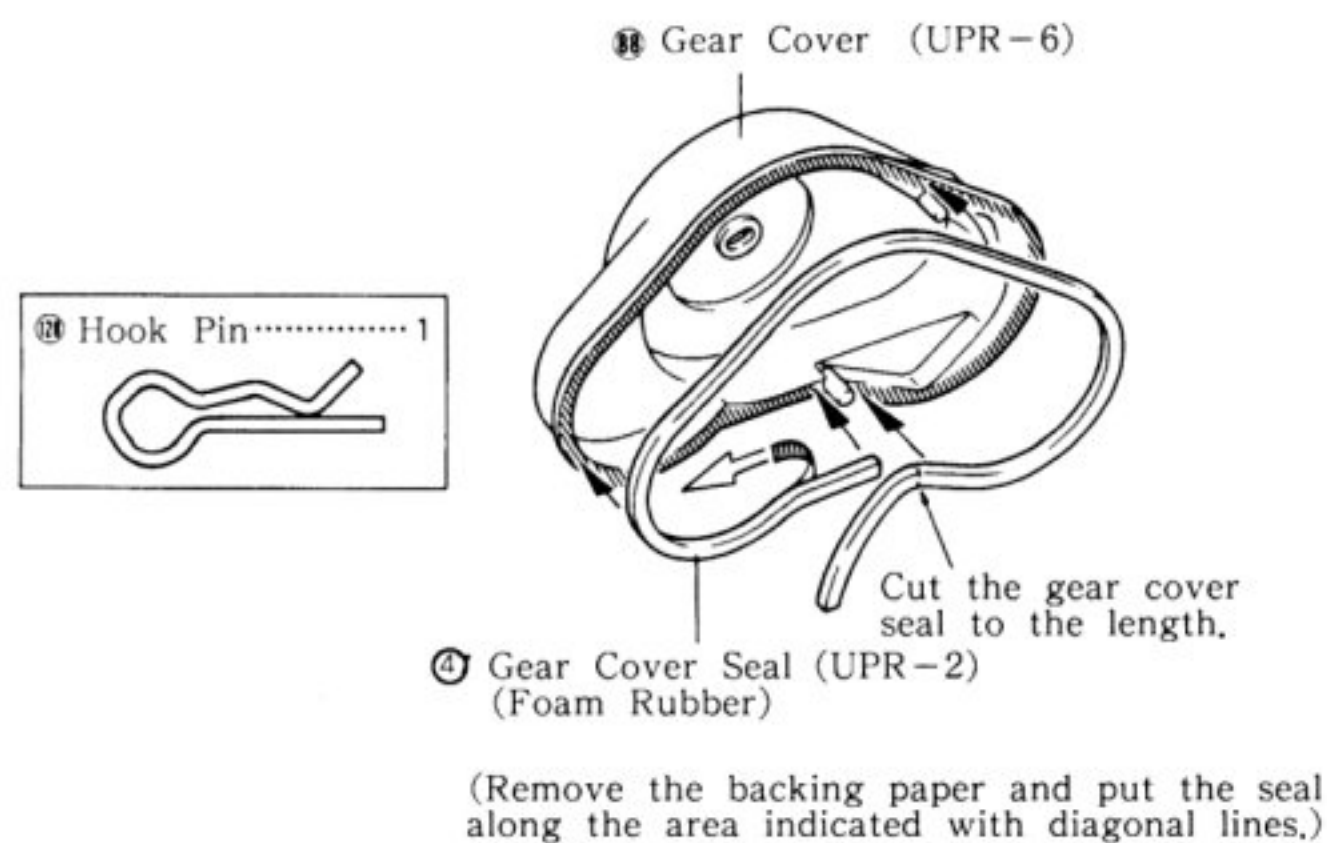


24 INSTALLATION OF MOTOR

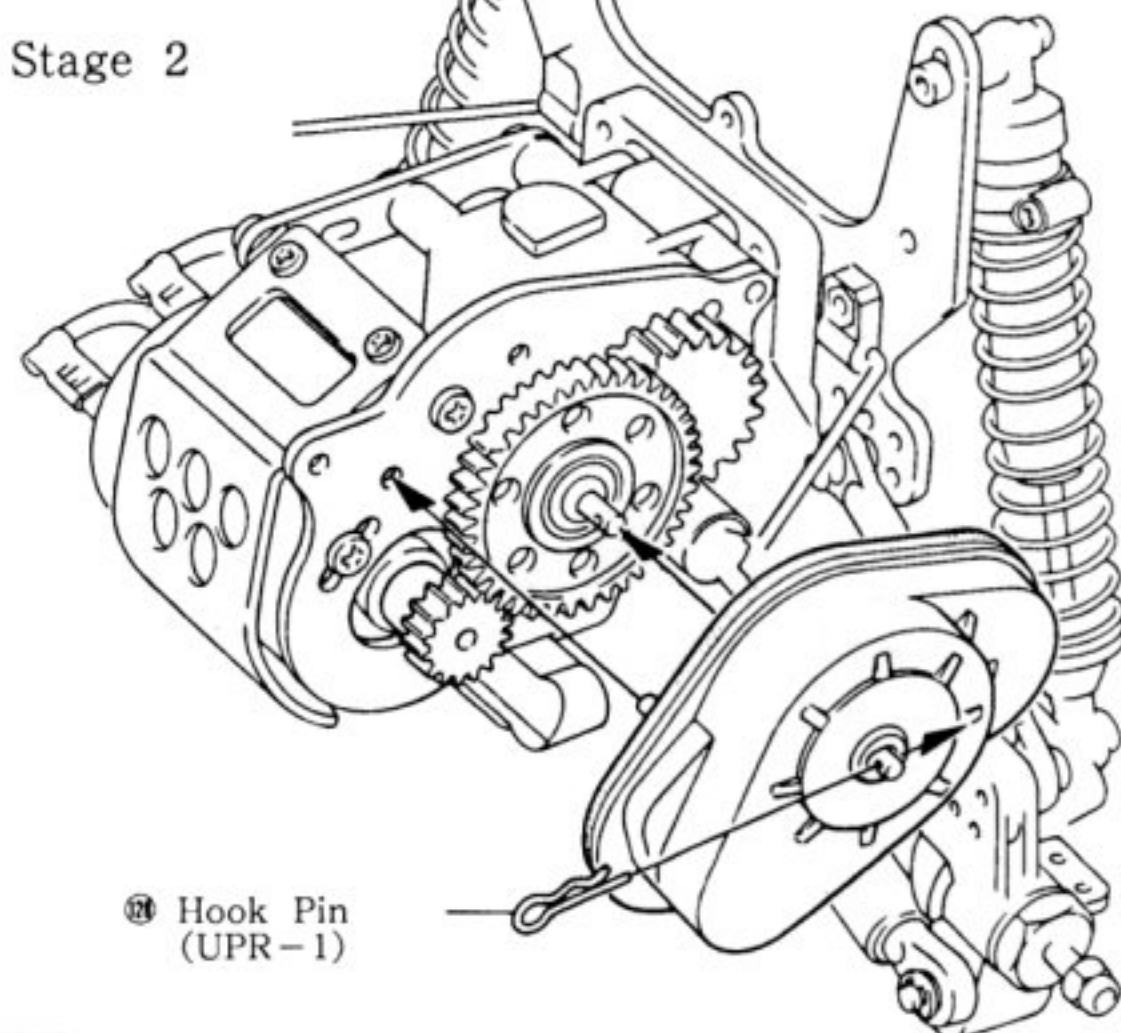


25 INSTALLATION OF GEAR COVER

Stage 1

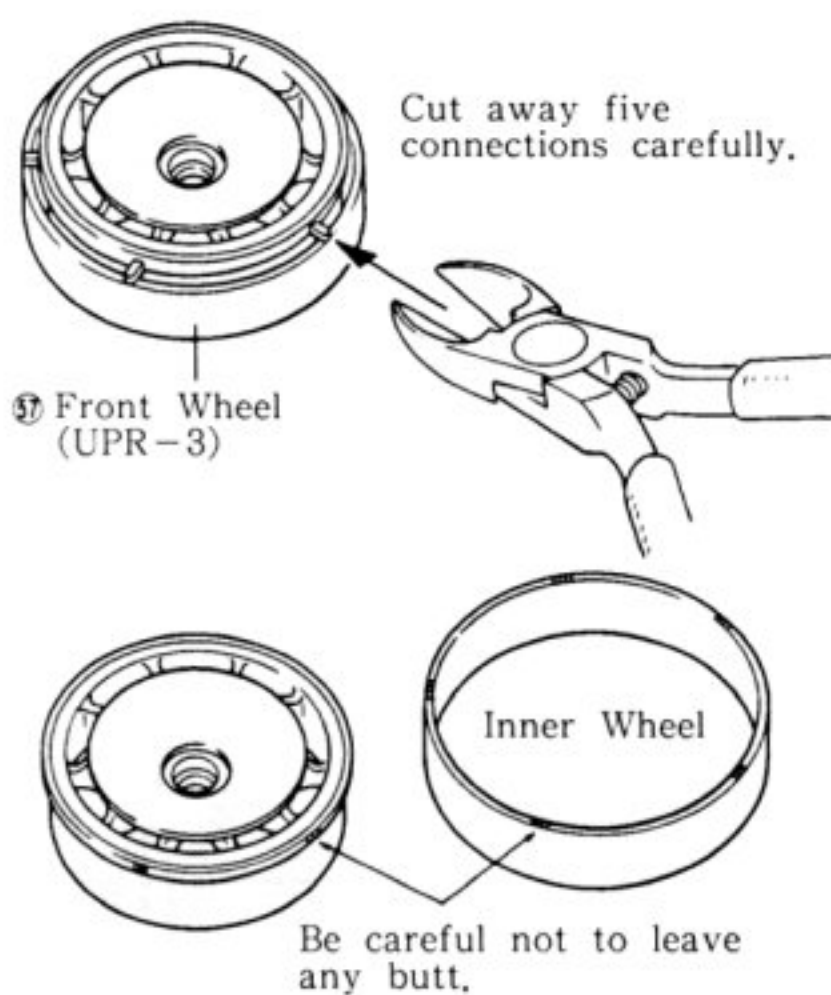


Stage 2

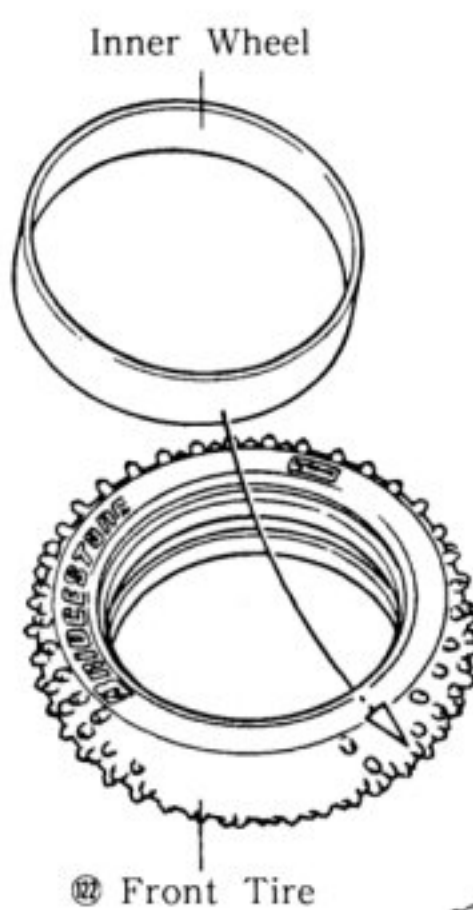


26 ASSEMBLY OF WHEEL AND TIRE

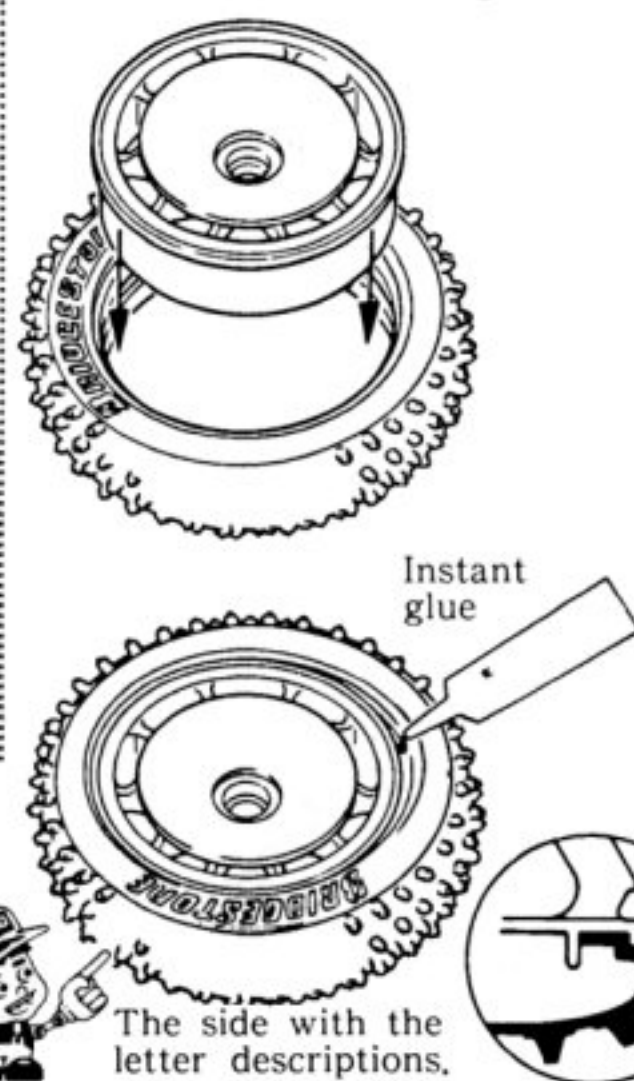
<Front> Stage 1



Stage 2

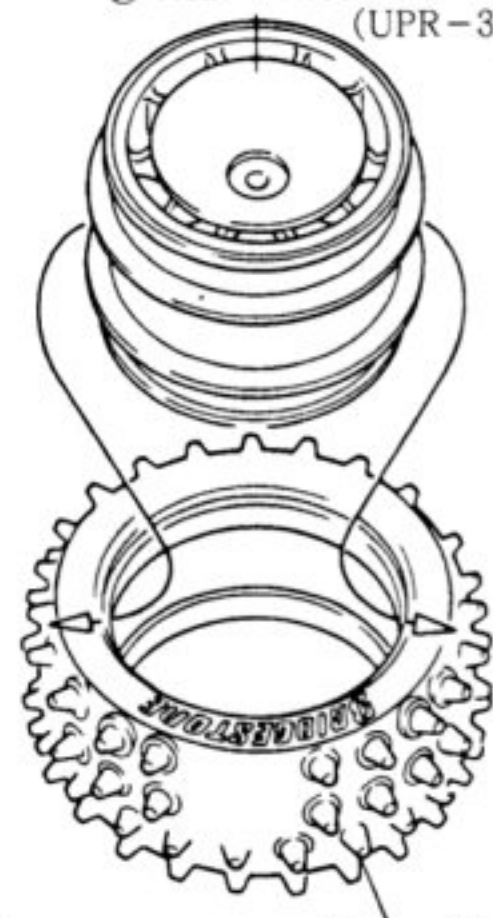


Stage 3



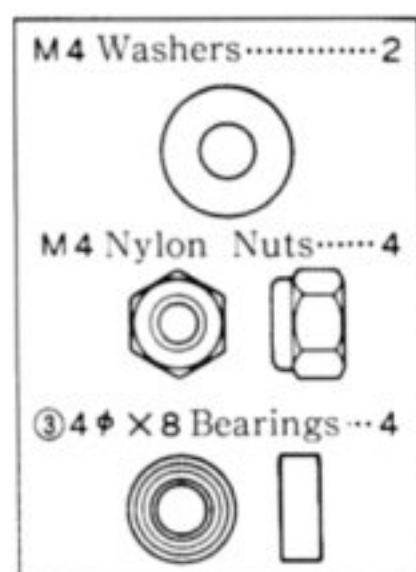
<Rear>

⑱ Rear Wheel (UPR-3)

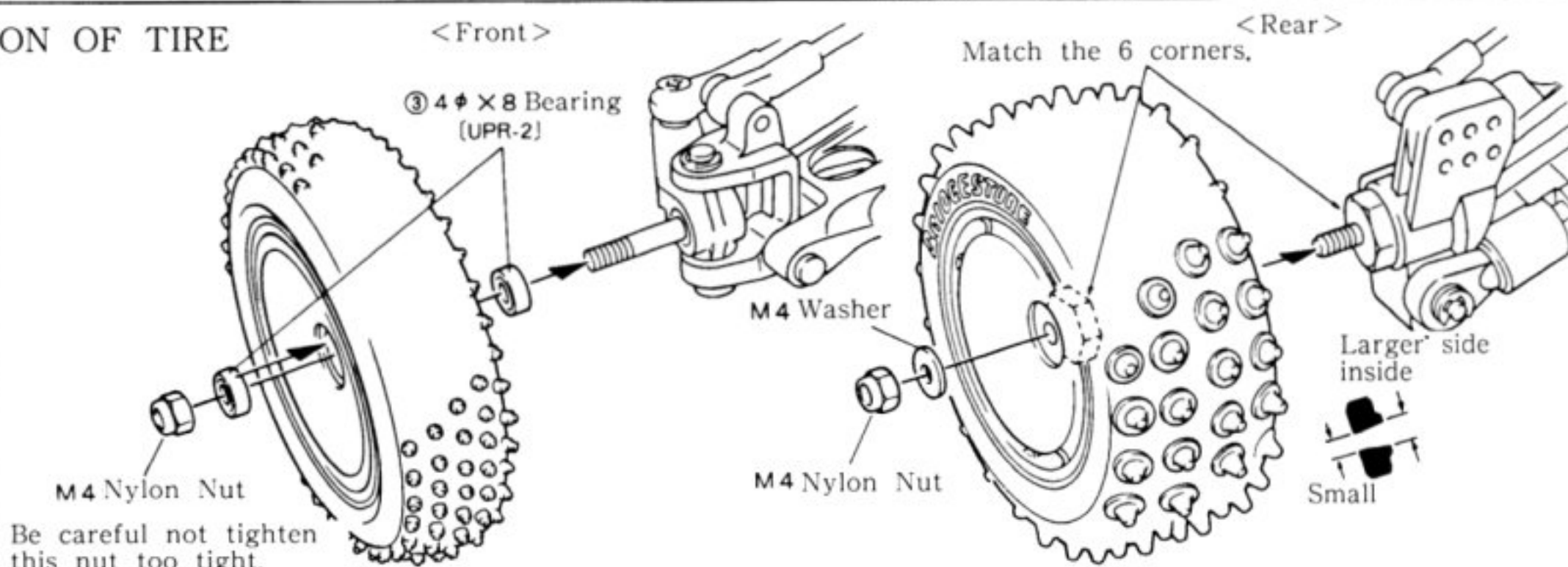


After fitting the tire and wheel, apply instant glue along the seam.

27 INSTALLATION OF TIRE

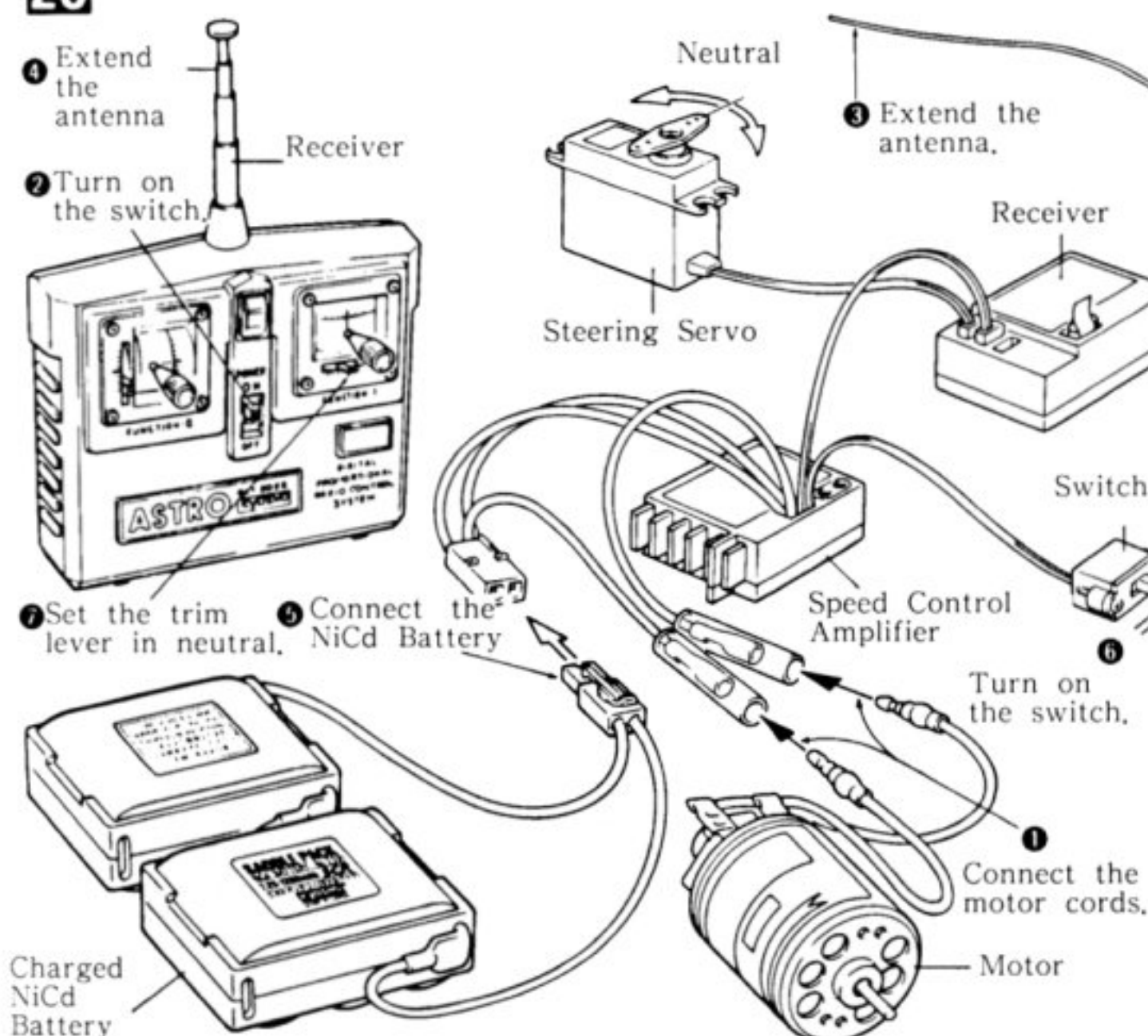


Be careful not to tighten this nut too tight.



INSTALLATION OF RADIO UNIT • LINKAGE 28 ~ 32

28 HOW TO CHECK RADIO SYSTEM



* Operate the radio control units in order of the numerical figures.

A two channel radio is composed of things like a transmitter, receiver, servos and battery.

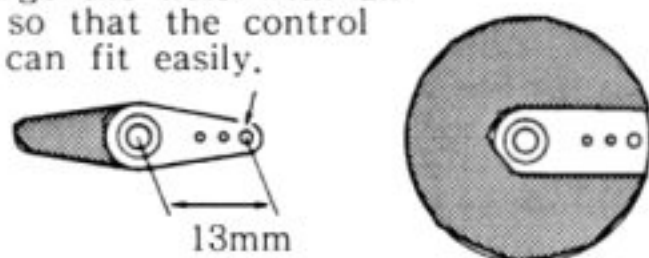
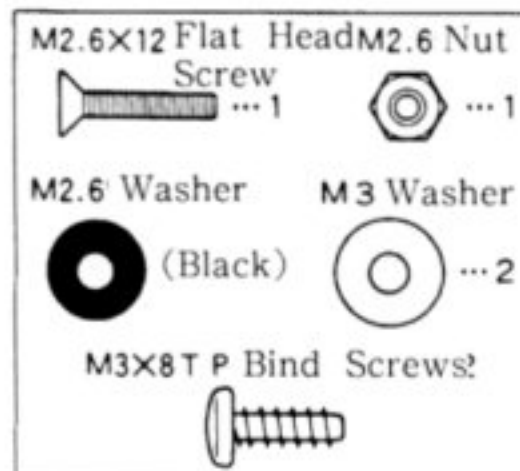
- * Transmitter It is in effect a control box. Signal waves are transmitted through an antenna according to the stick movements.
- * Receiver Receives the signals from the transmitter and send them to the servos.
- * Servo They really move the control mechanism of a model car in accordance with the signals 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 servos to activate the controls. There are several types in shape. They should be selected depending upon the usage.

When switch on the radio...
Get the switches in order from transmitter to
When switch off the radio...
In order from receiver to transmitter.

29 INSTALLATION OF STEERING CHECK

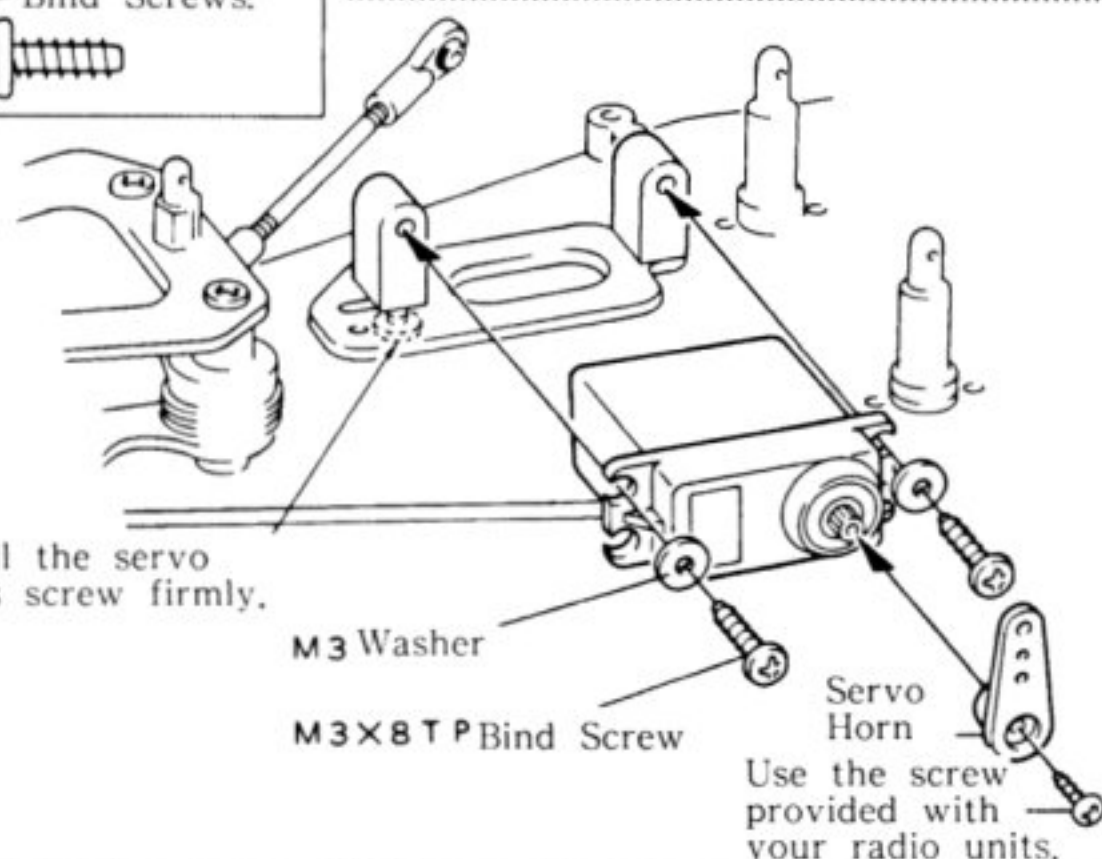
Stage 1 Cut off shaded part.

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

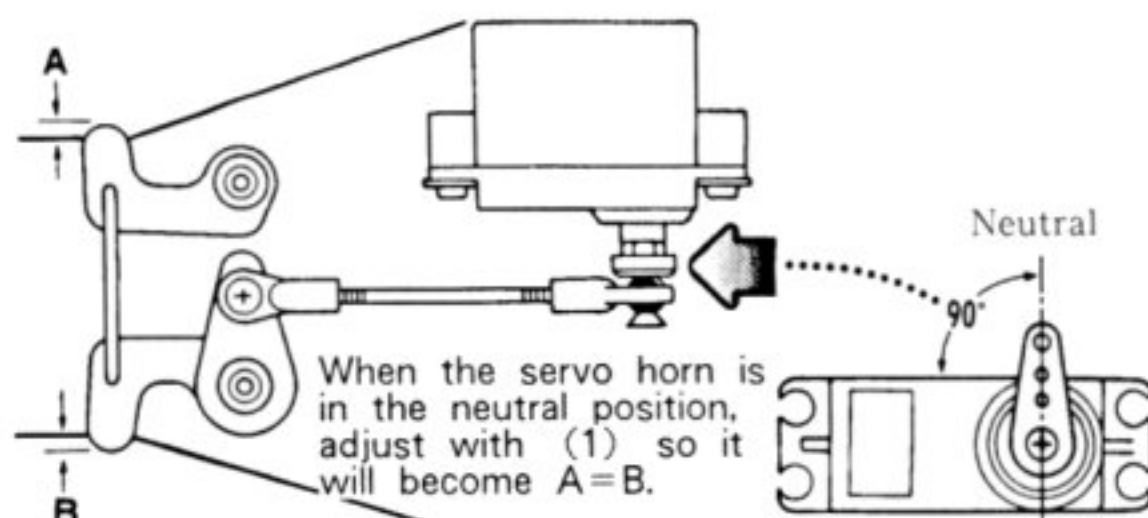
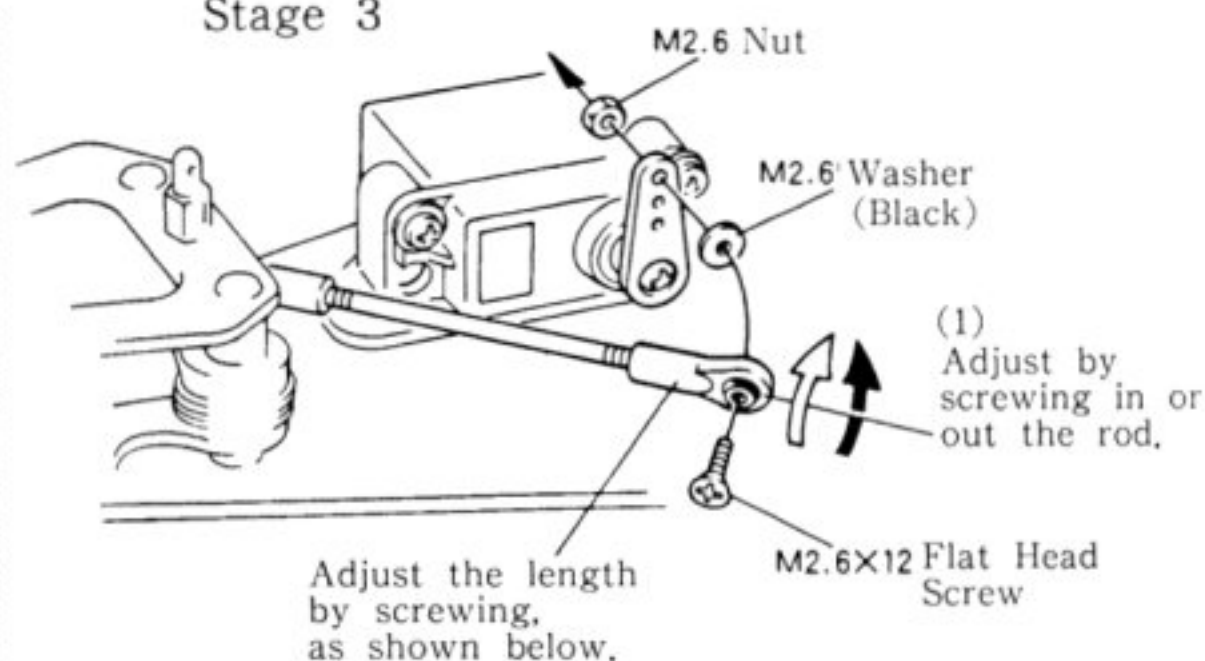


Stage 2

After install the servo tighten this screw firmly.



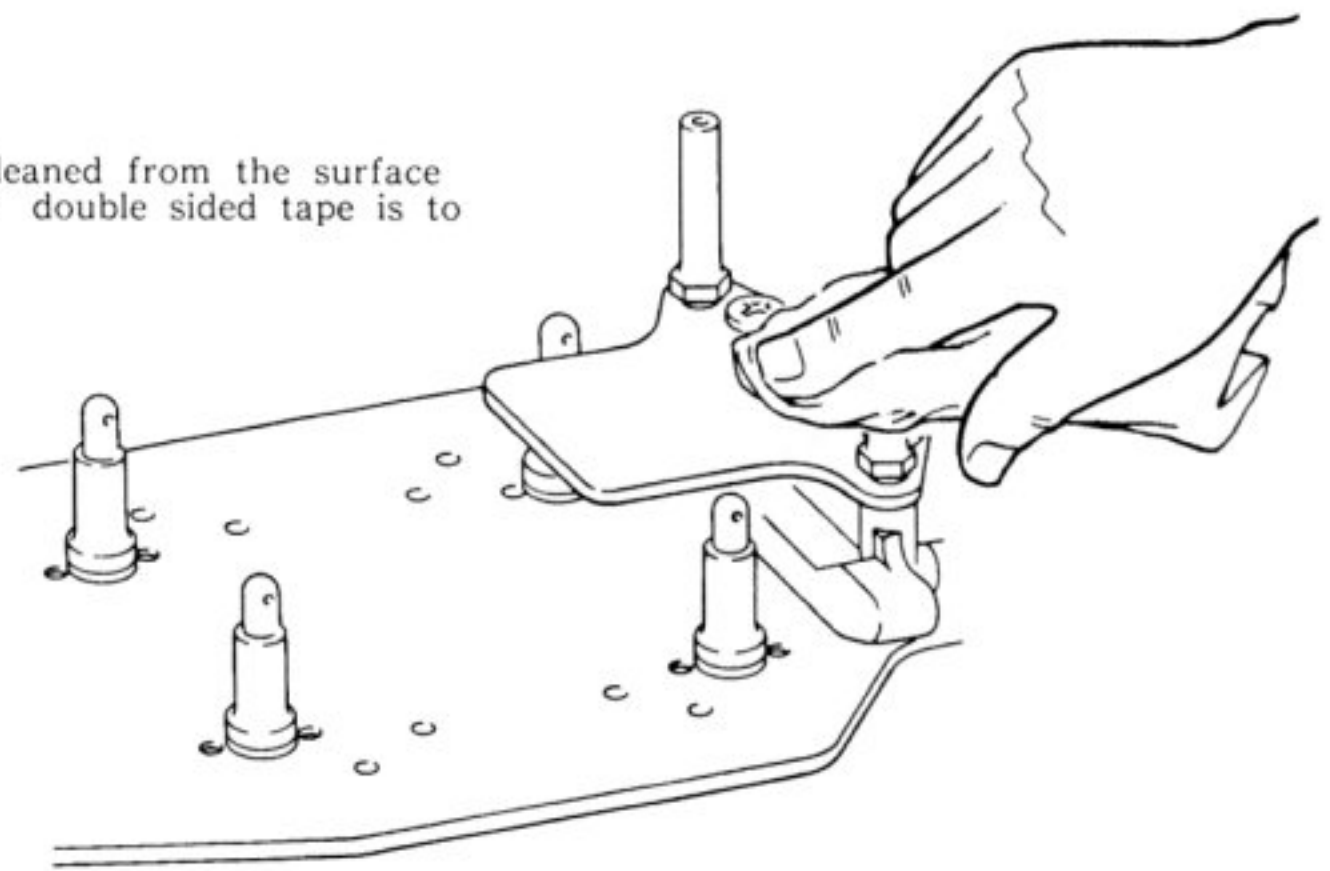
Stage 3





Have finger prints and oils removed and cleaned from the surface of the amp and mechanism plate where the double sided tape is to be attached.

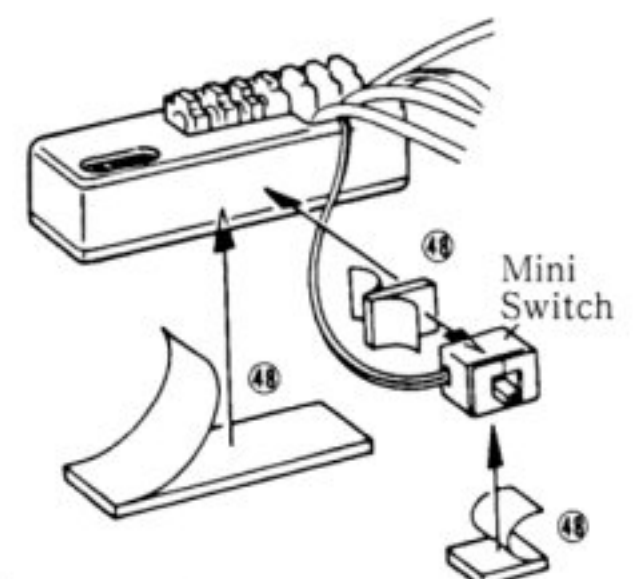
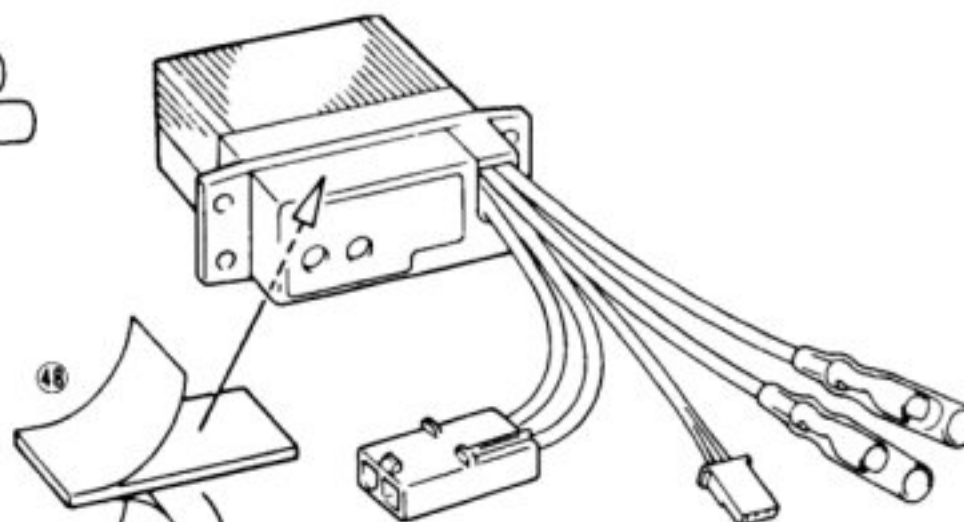
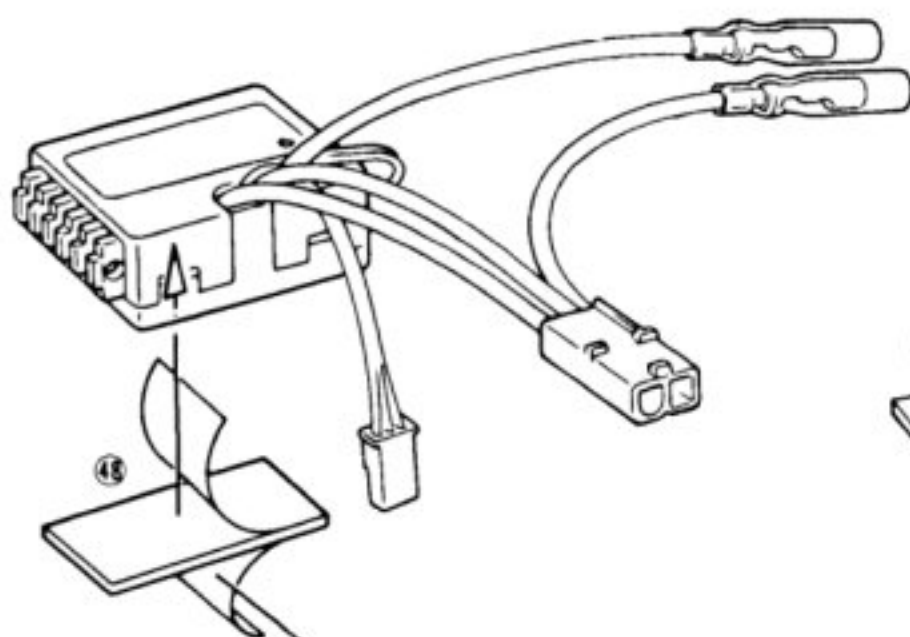
The back side of the cord outlet is the side where the double sided tape is attached.



<SMALL TYPE>

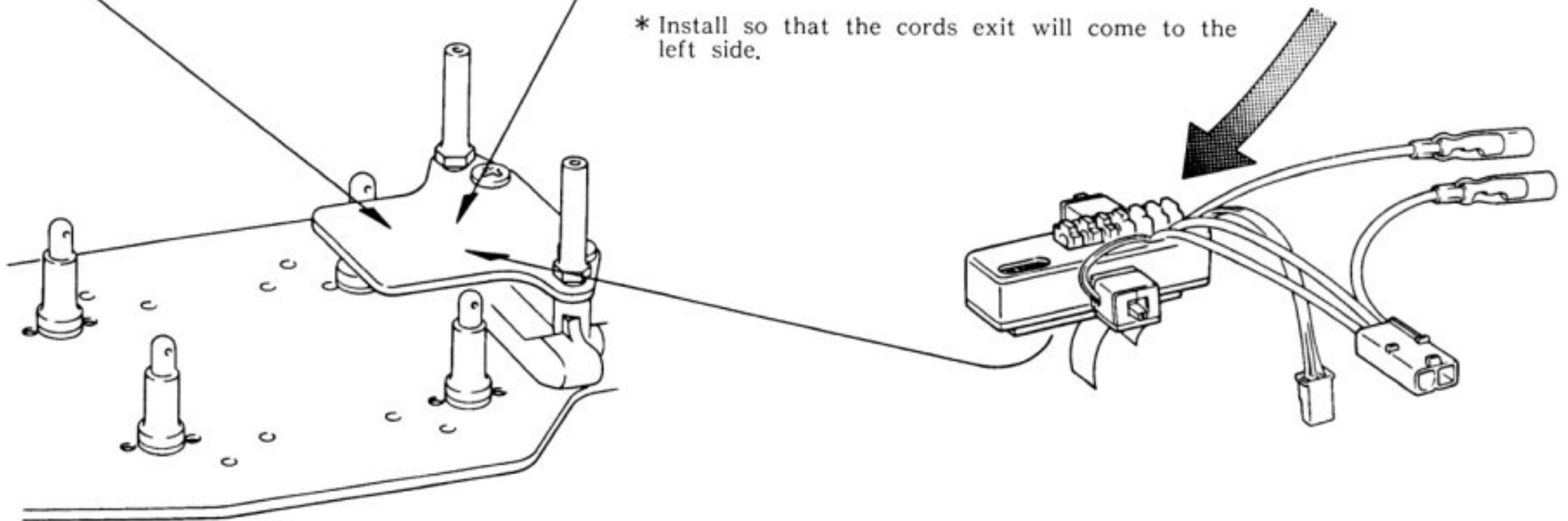
<SERVO TYPE>

<OBLONG TYPE>



* Cut the ④ double sided tape (UPR-2) to match the amp and switch.

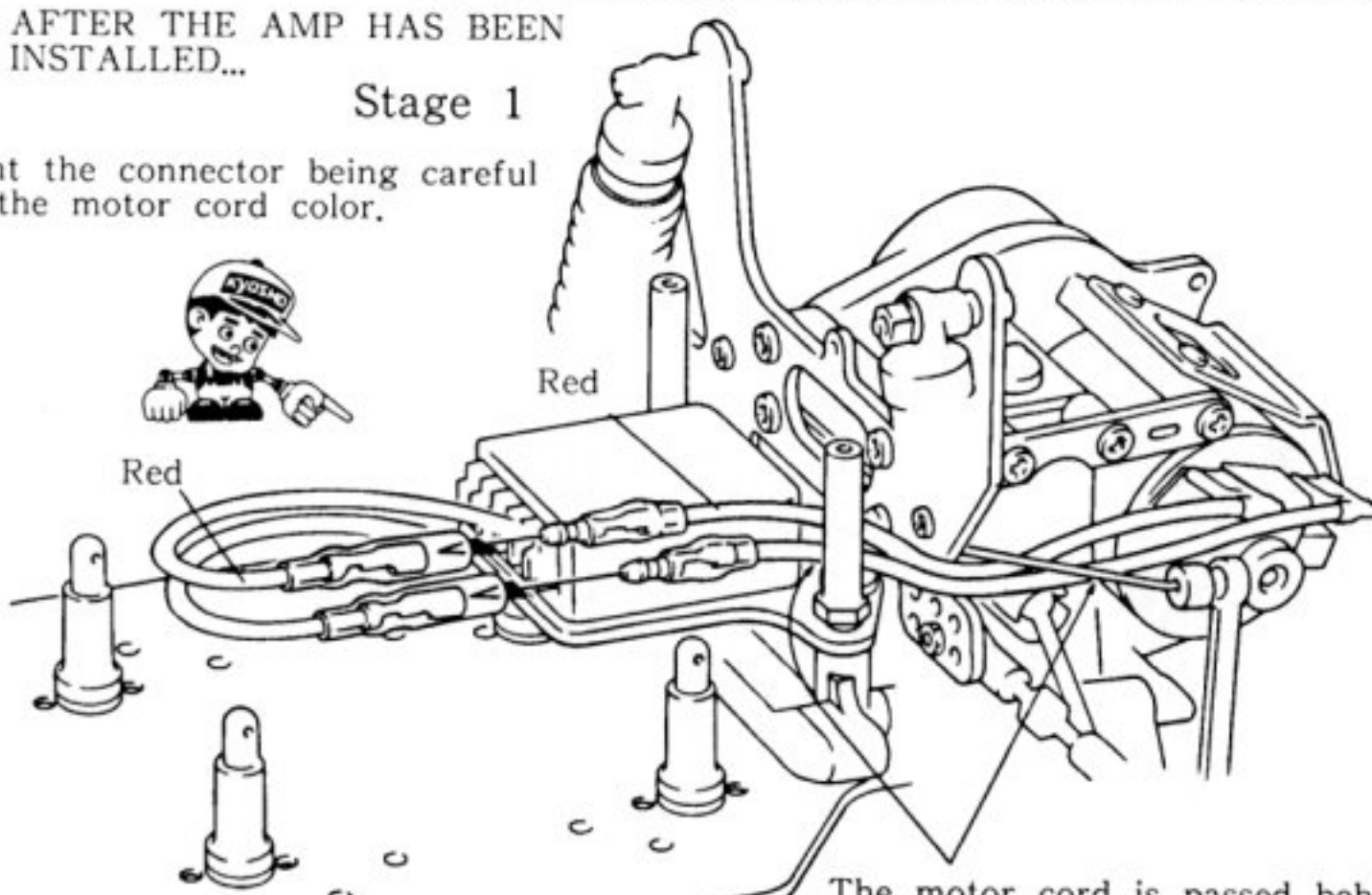
* Install so that the cords exit will come to the left side.



● AFTER THE AMP HAS BEEN INSTALLED...

Stage 1

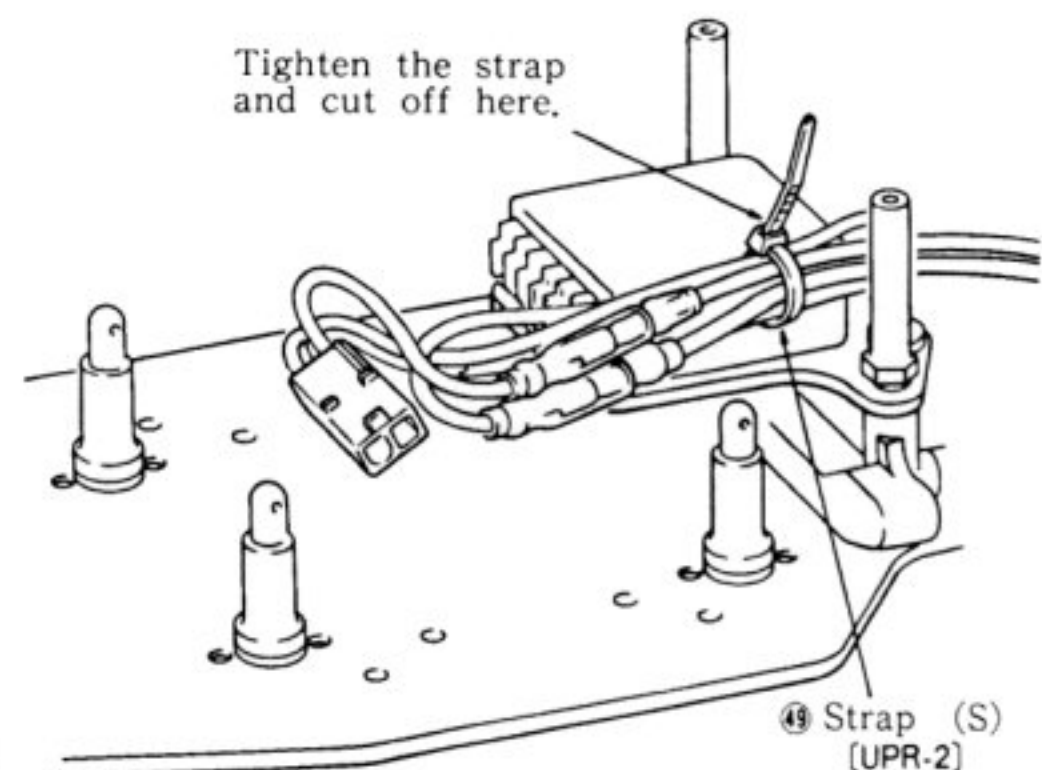
Join the connector being careful of the motor cord color.



The motor cord is passed behind the wing post from underneath the stabilizer.

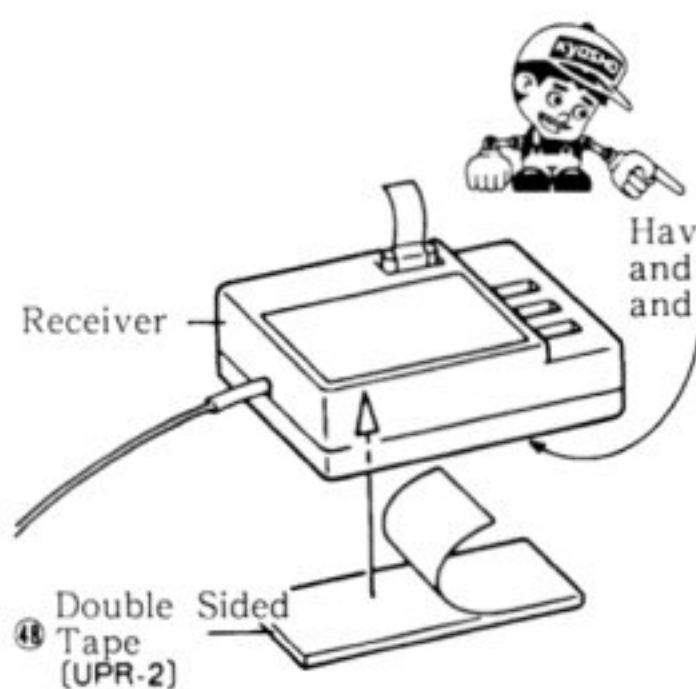
Stage 2 In case the cord is too long, bundle it neatly with the strap.

Tighten the strap and cut off here.

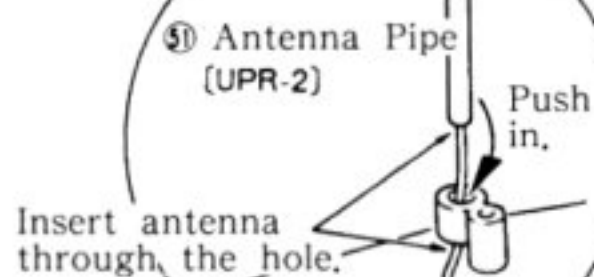


31 INSTALLATION OF RECEIVER

Stage 1

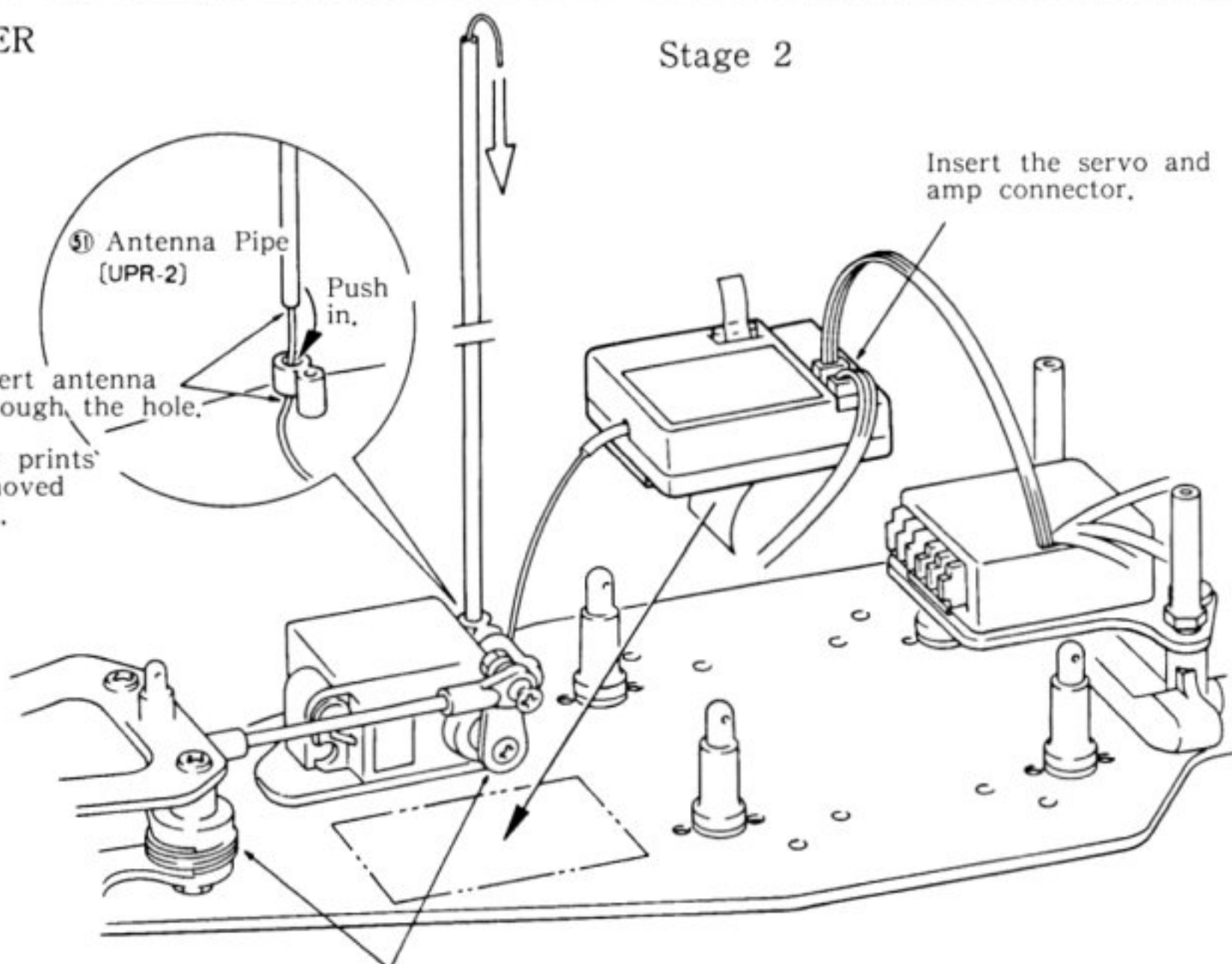


Have finger prints and oil removed and cleaned.



Insert antenna through the hole.

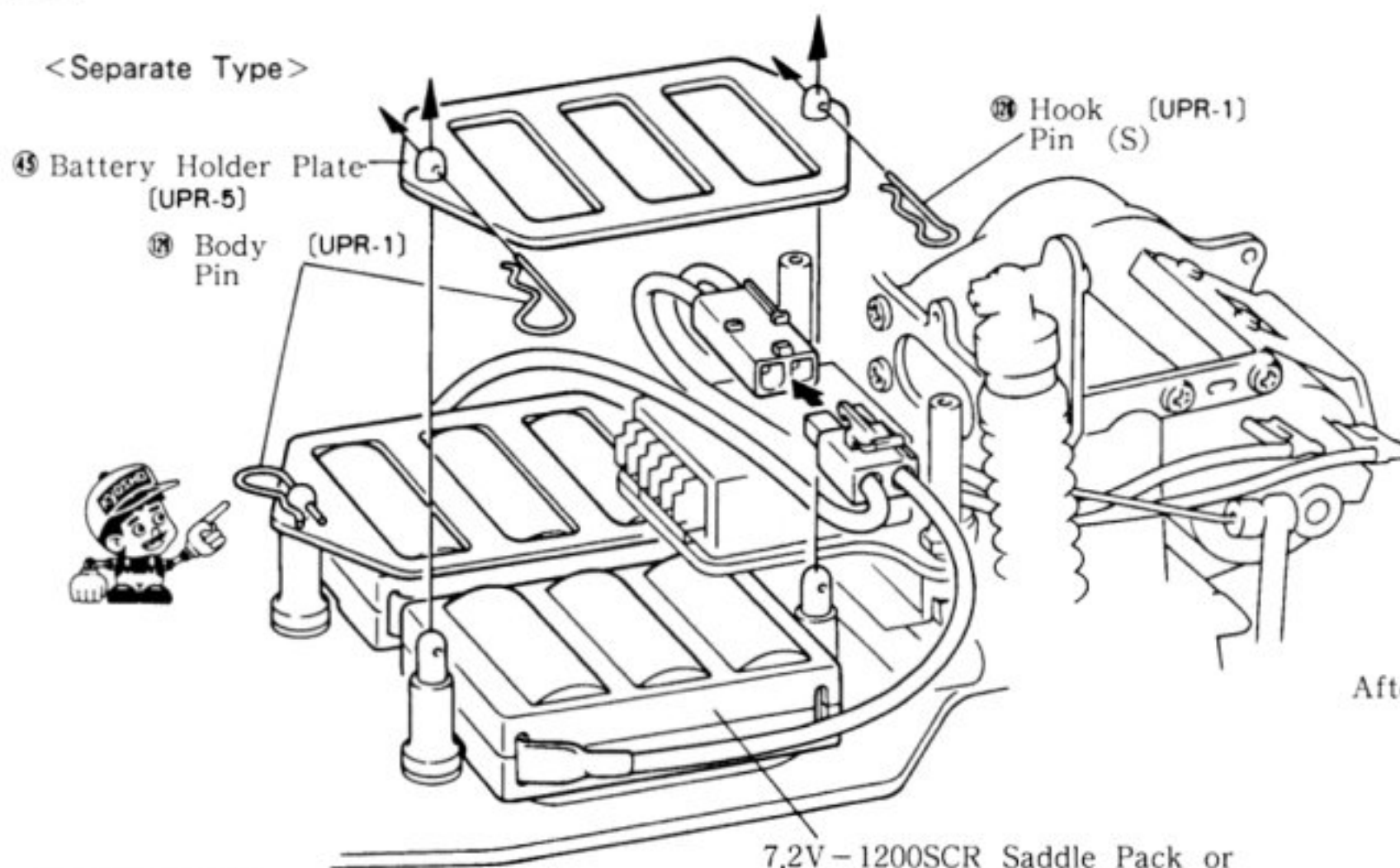
Stage 2



So it will not hit against the servo.

32 INSTALLATION OF BATTERY

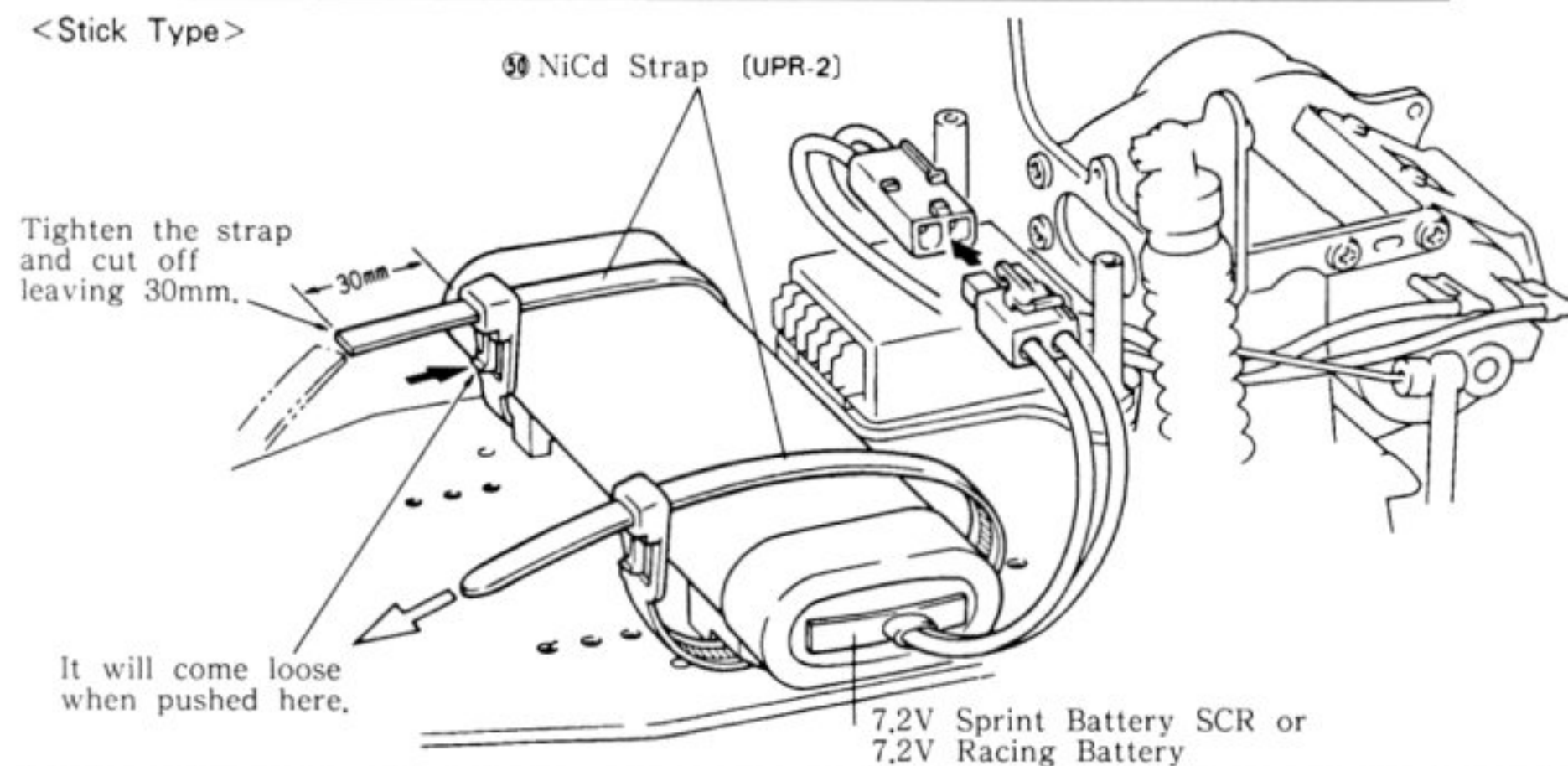
<Separate Type>



《CAUTION》

BE SURE TO HAVE THE NICD BATTERY REMOVED FROM THE CAR WHEN IT IS NOT BEING RUN OR BEING STORED

<Stick Type>



KYOSHO

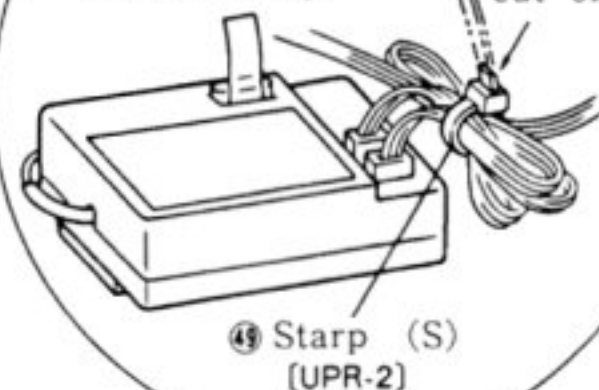


No. 2331

Kyosho offers the 7.2V Saddle pack Battery which is prepared for the buggy car specially.

After the battery has been installed ...

Get together the codes, and tighten it with strap. Tighten the strap and cut off here.



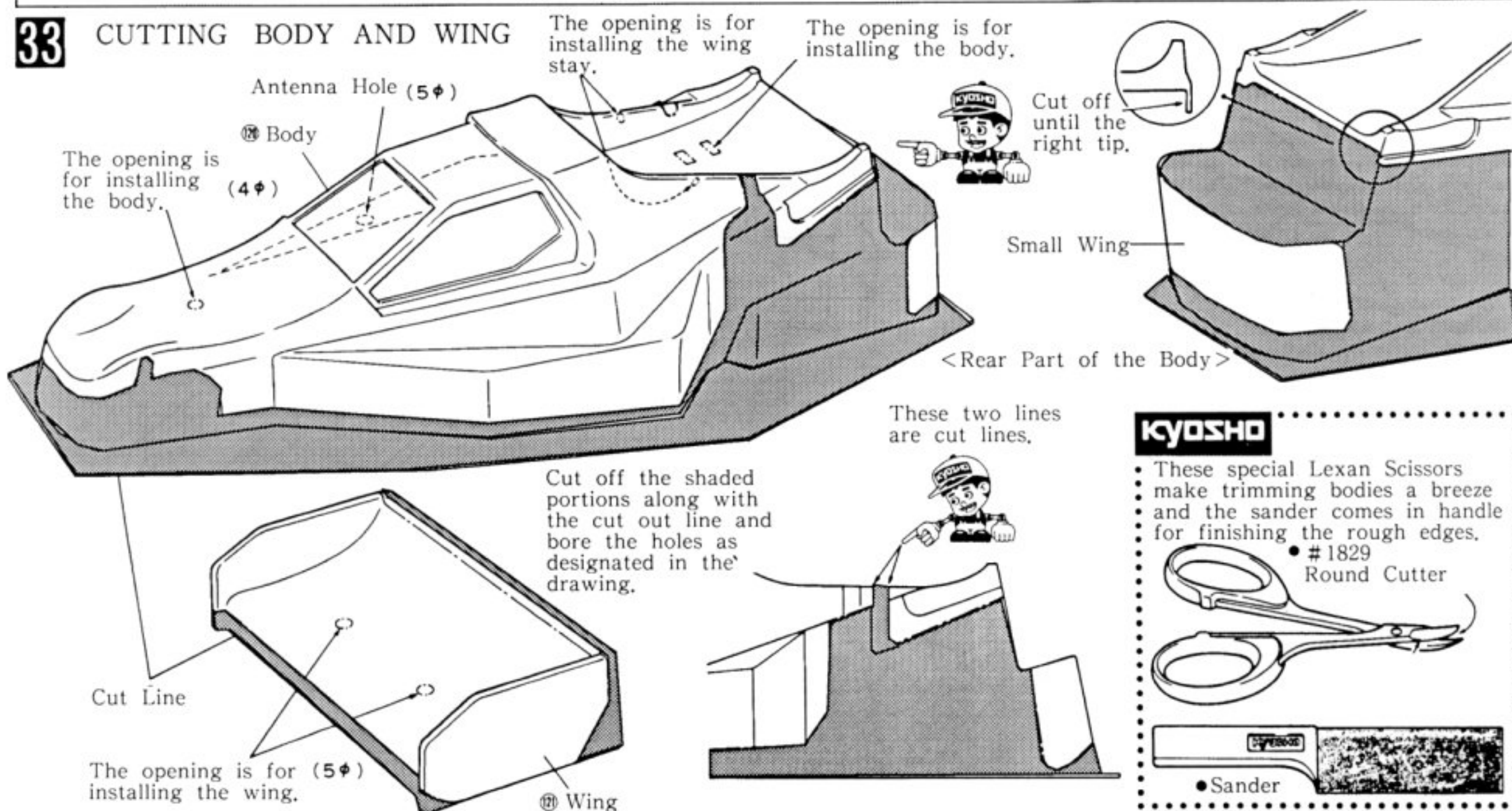
KYOSHO

Kyosho offers the 7.2V Sprint Battery SCR which is prepared for the buggy car specially.

No. 2310



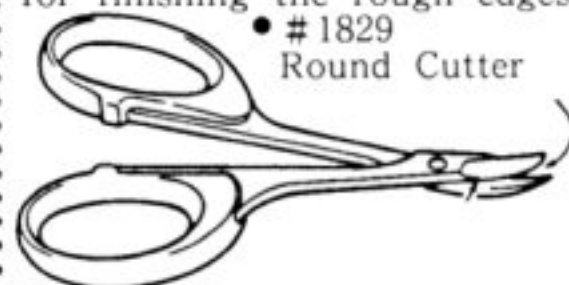
33 CUTTING BODY AND WING



KYOSHO

These special Lexan Scissors make trimming bodies a breeze and the sander comes in handy for finishing the rough edges.

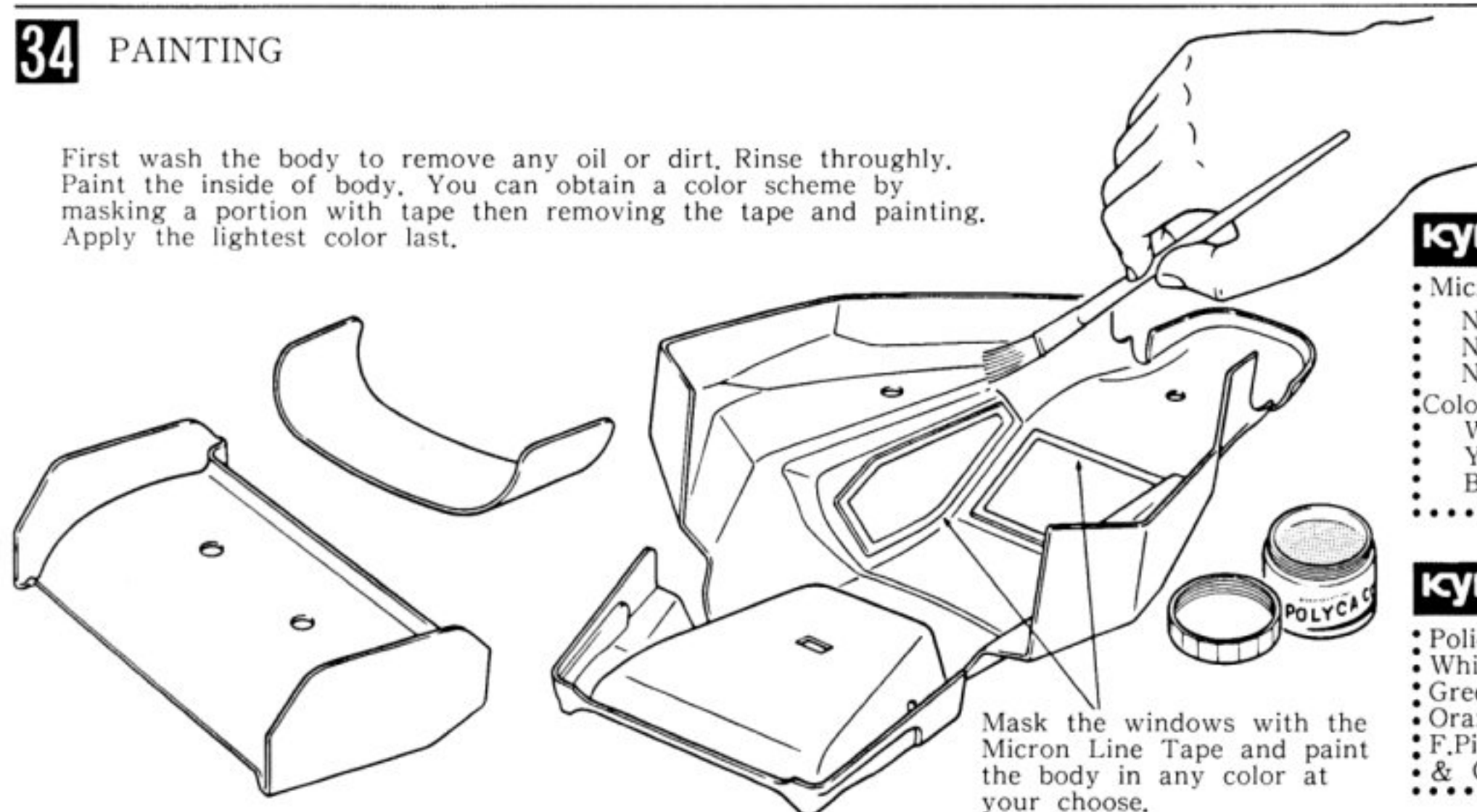
• #1829 Round Cutter



• Sander

34 PAINTING

First wash the body to remove any oil or dirt. Rinse thoroughly. Paint the inside of body. You can obtain a color scheme by masking a portion with tape then removing the tape and painting. Apply the lightest color last.



KYOSHO

Micron Line Tape
No.1841...1mm
No.1842...1.5mm
No.1843...2.5mm

Color
White, Red
Yellow, Green
Blue & Black



KYOSHO

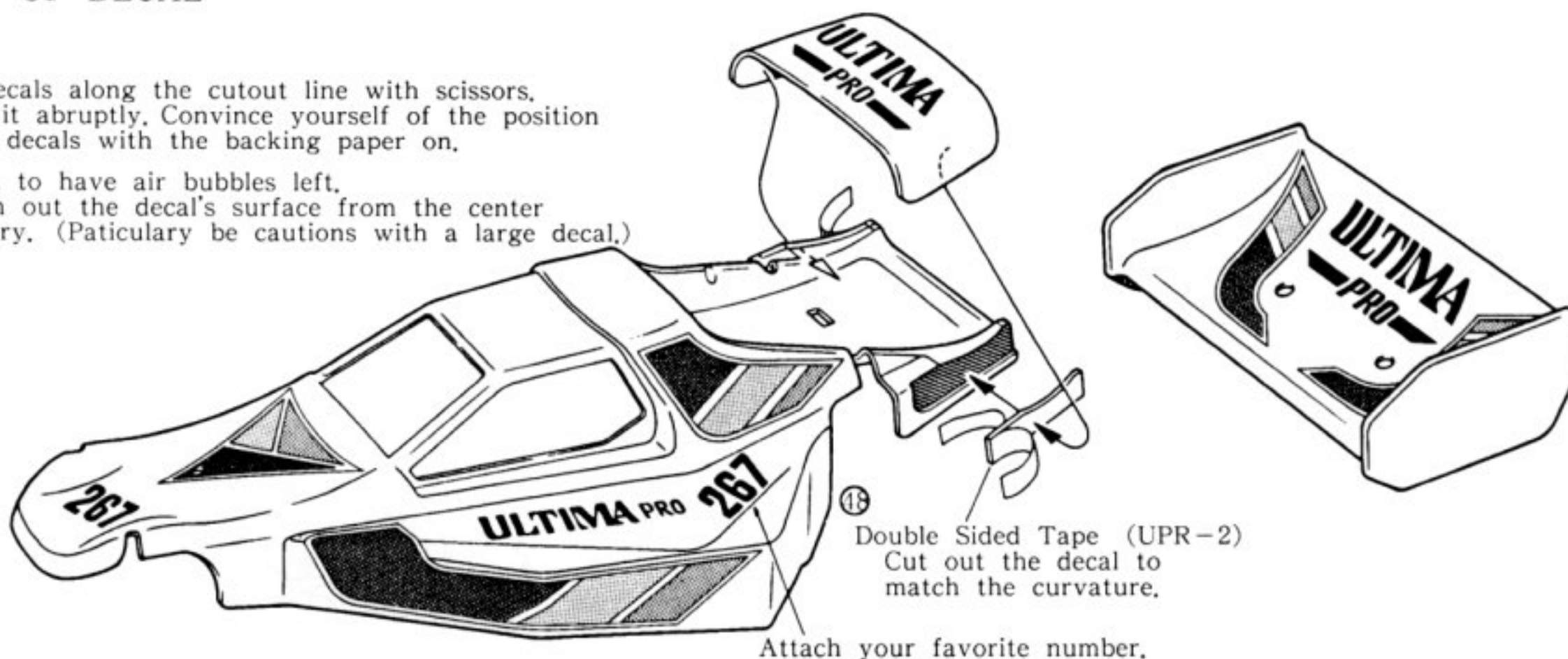
Polica Color No.2230
White, Red, Yellow,
Green, Blue, Sky Blue,
Orange, Black, Violet,
F. Pink, Yellow Green
& Orange



35 APPLY OF DECAL

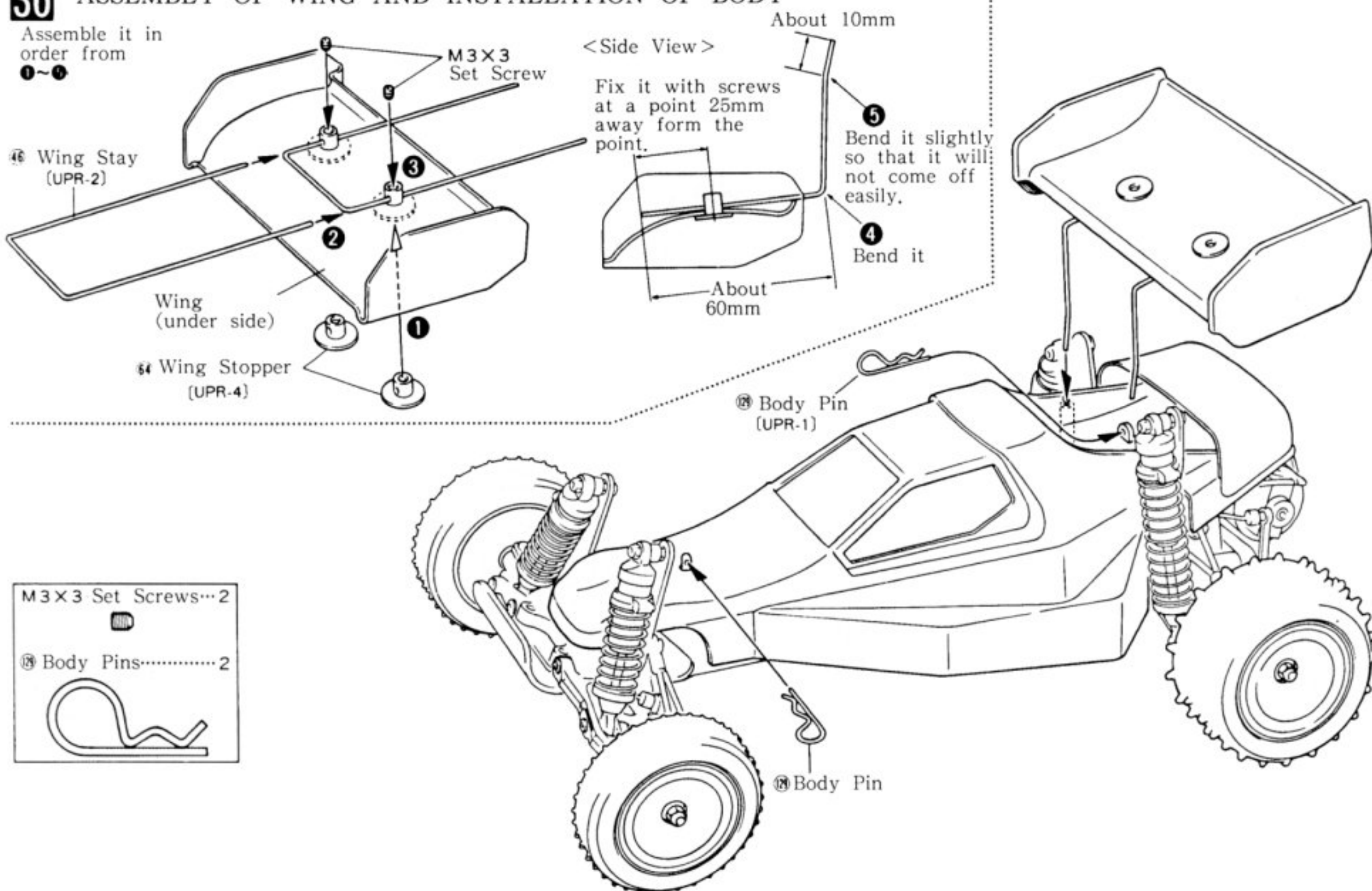
Cut off the decals along the cutout line with scissors. Do not apply it abruptly. Convince yourself of the position by trying the decals with the backing paper on.

Be careful not to have air bubbles left. Try to smooth out the decal's surface from the center to the periphery. (Particular be cautions with a large decal.)



36 ASSEMBLY OF WING AND INSTALLATION OF BODY

Assemble it in order from ①~⑤

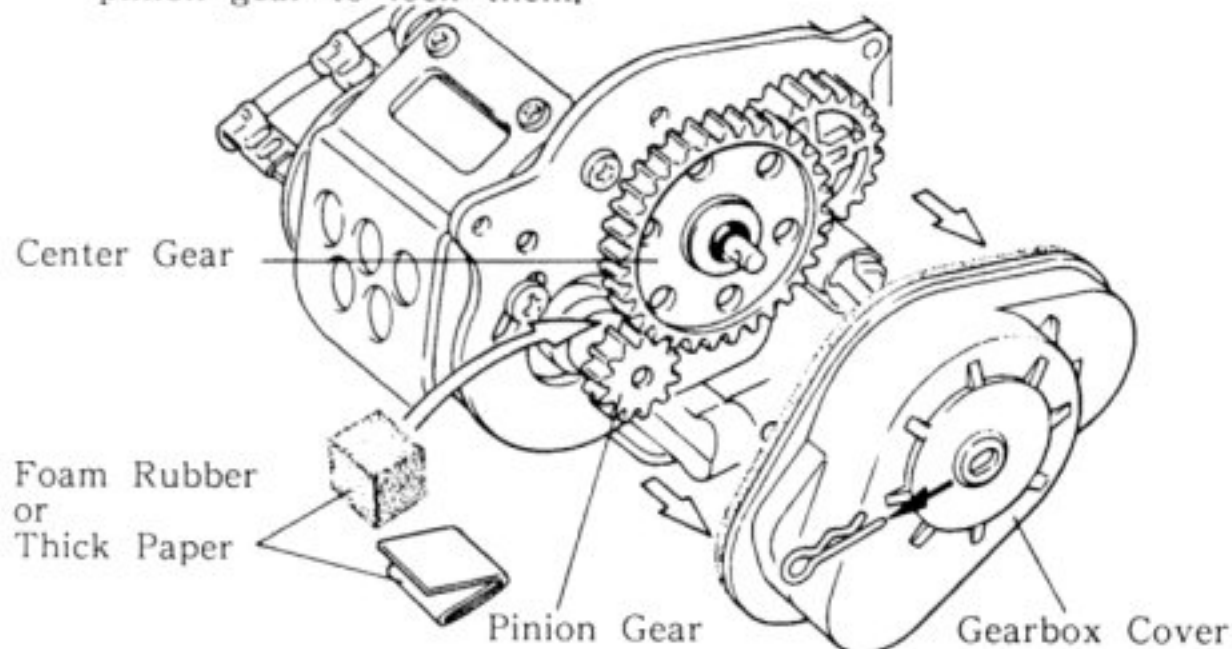


ADJUSTMENT OF BALL DEFERENTIAL AFTER ASSEMBLY

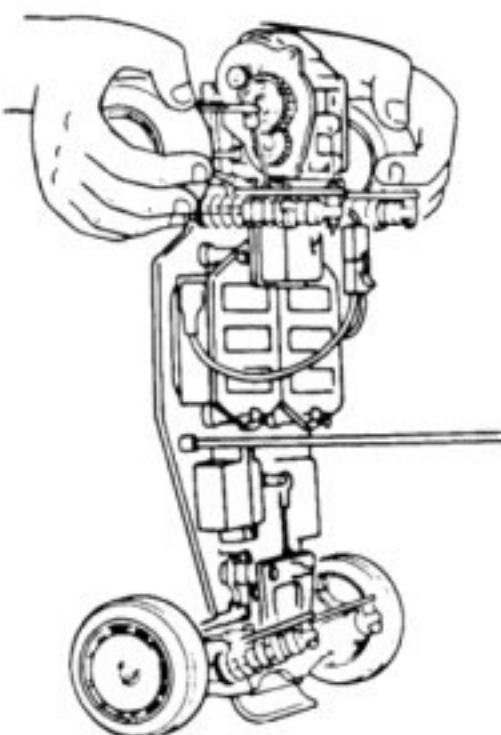
<Adjustment of Ball Differential>

The ball differential gear 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.

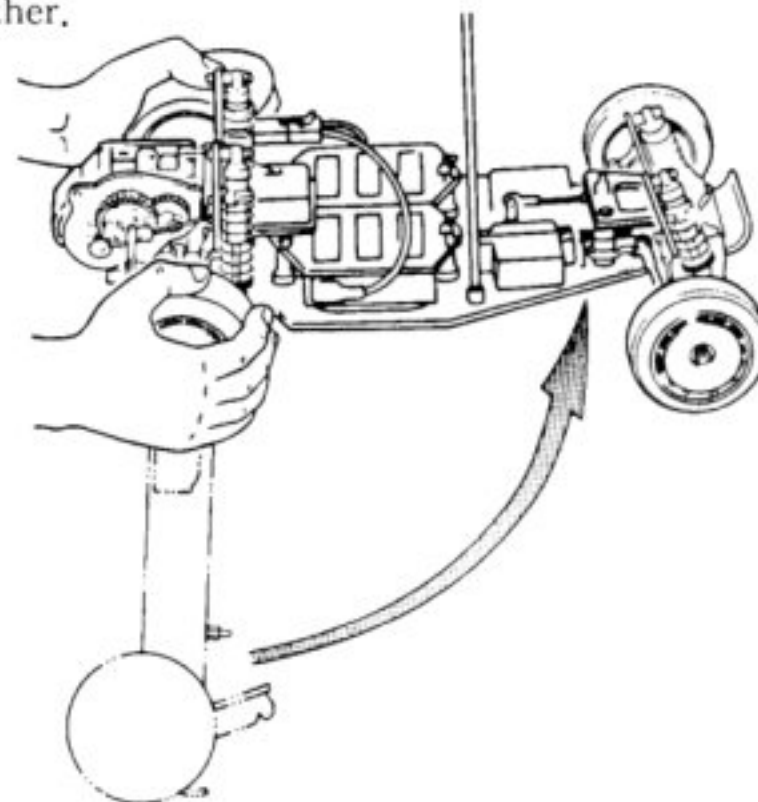
- 1 Remove the gearbox cover first, then put a piece of foam rubber or thick paper between the center gear and the pinion gear to lock them.



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



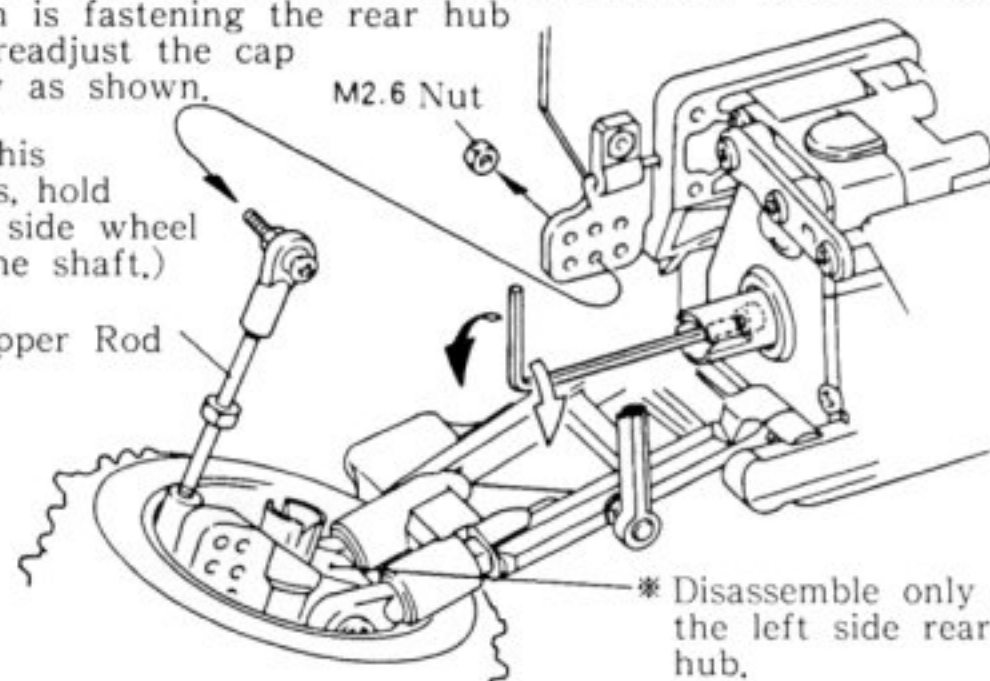
- 3 Swing the model car upward by holding the rear wheels. The best adjusted model will be raised to become horizontal and not farther.



- 4 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 head 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.)

Rear Upper Rod

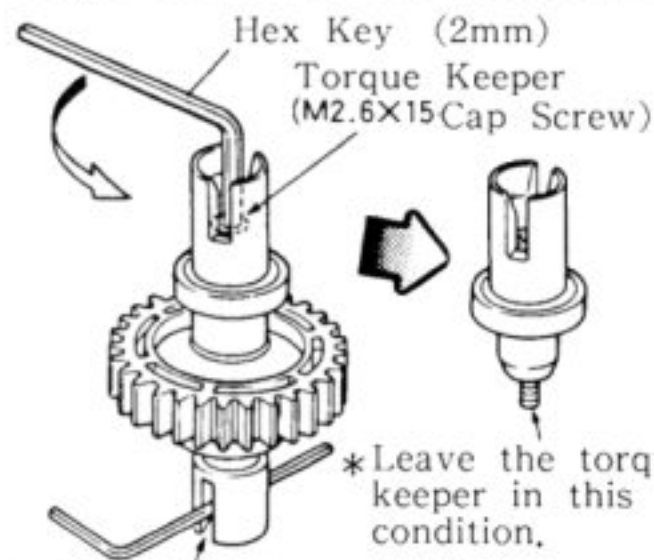


SETTING GUIDE

<When inserting Shim for Ball Differential adjustment...>

With the torque keeper side facing up, disassemble up to the extent as shown in the diagram.

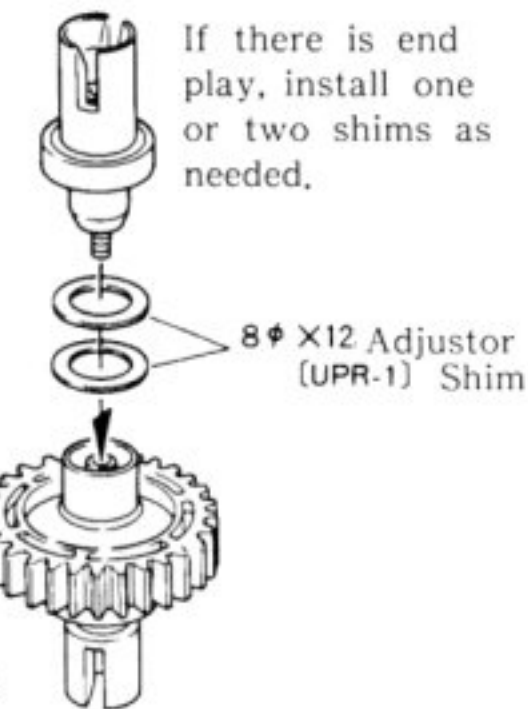
Stage 1 Remove the torque keeper.



Stabilize with hex key or (-) screw driver.

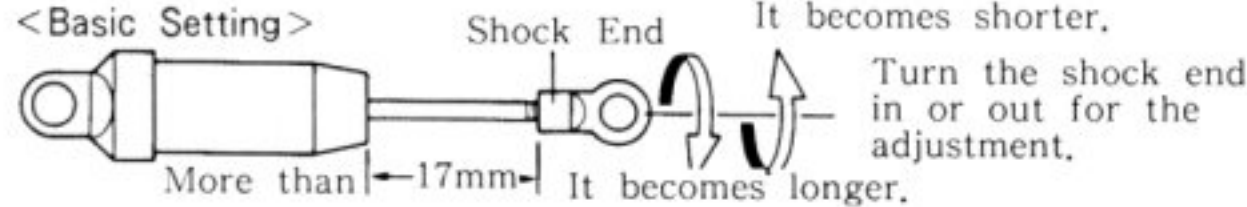
As there are small parts inside, do not pull out.

Stage 2

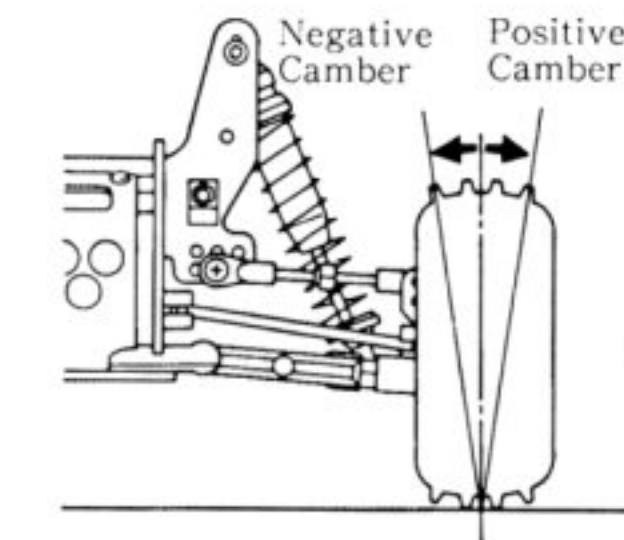
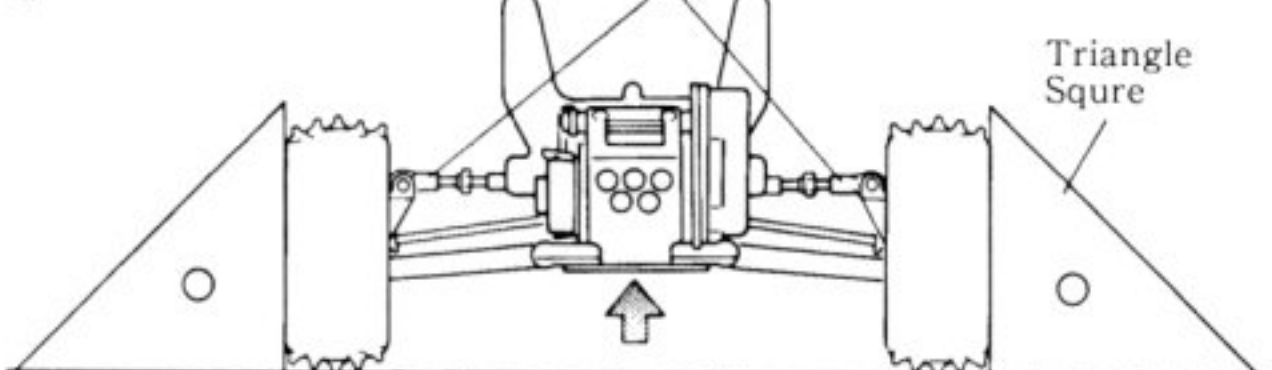


If there is end play, install one or two shims as needed.

<Basic Setting>



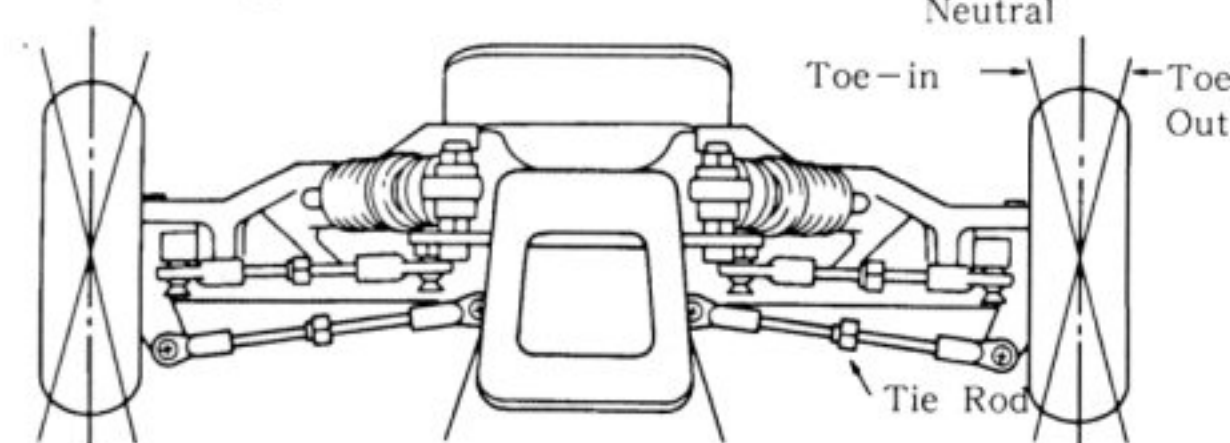
Place the model car on a flat surface, and keep the car with the maximum body clearance, and adjust length of the front and rear upper rods so that the wheels stand at a right angle to the ground.



* By adjusting the upper rod shorter, you will have a trait of negative camber. With negative camber adjustment on the front wheels, you will have sharper steering tendency, while on the rear wheel, the gripping power becomes higher.

* By lengthening the upper rod, positive camber adjustment is gained. With positive camber on the front wheels, you will have a trait of under steering, while on the rear wheel you will have the car with over steering traits.

<Toe-in Angle>

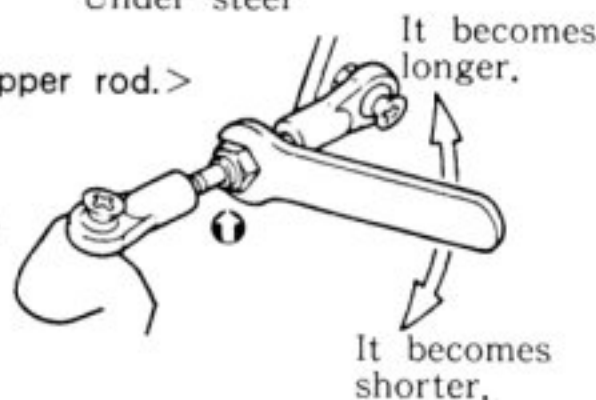


• Adjust the tie rod longer. Become toe-in. Slower Response Over steer

• Adjust the tie rod shorter. Become toe-out. Quicker Response Under steer

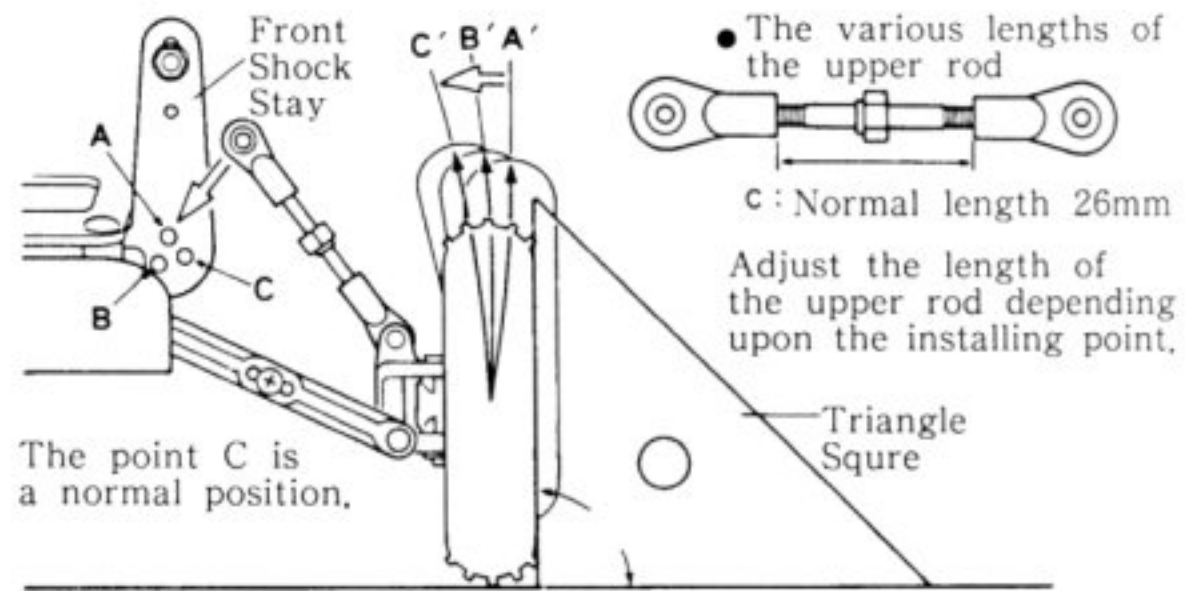
• <The way of adjustment of upper rod.>

As same as tie rod, it can be adjusted in the way right picture.



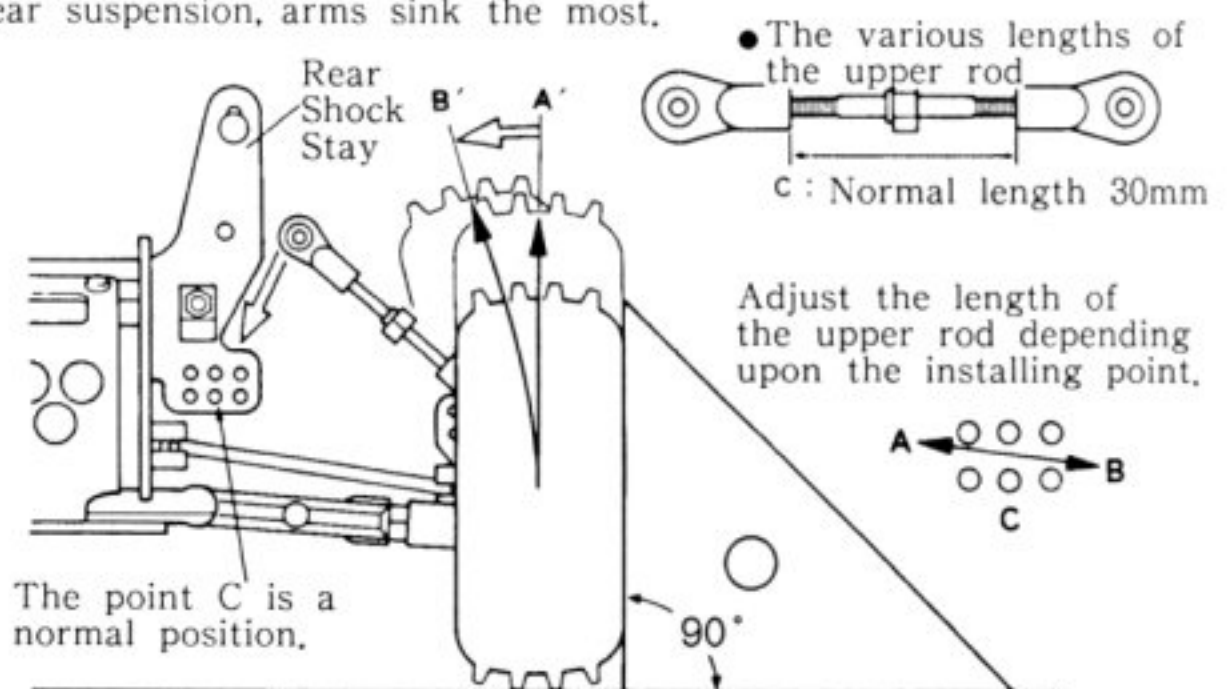
<Correlation between installing of Front Upper Rod and Camber Angle>

The installing points A, B and C on the front shock stay for the upper rod correspond to A', B' and C' which are the maximum camber angle when the front suspension arms swing down to the lowest position.



<Correlation between installing position of the Rear Upper Rod and Camber Angle>

The installing points A and B on the upper rod plate will result in the positions of the rear camber angle A' and B' when the rear suspension arms sink the most.



<Relation between Gear Ratio and the Motor>

Pinion Gear No. of Teeth	15T	16T	17T	18T	19T	20T	21T	22T	23T
Gear Ratio	11.1	10.4	9.8	9.2	8.7	8.3	7.9	7.5	7.2

<Adjustment of Hardness of Shock Action>

No. 1915 Oil Set	Yellow	Green	Yellow	Red	Green	Red
Piston						
Hardness	Harder ← → Softer					

* Take this chart just as general indication.

<Setting of Tires>

Any of the tires listed below can be used with the "Ultima Pro". Choose the one most suitable for the road condition.

Marking (EX) Narrow Tire **SS-M**

of tire Road Condition H...MH...M...S...SS Hardness of Tire H...M...S Hard ← → Soft

Tire List

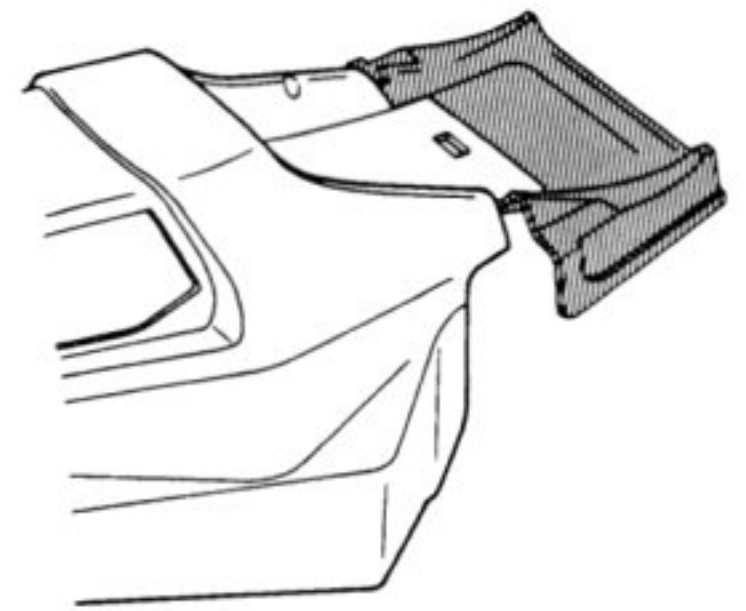
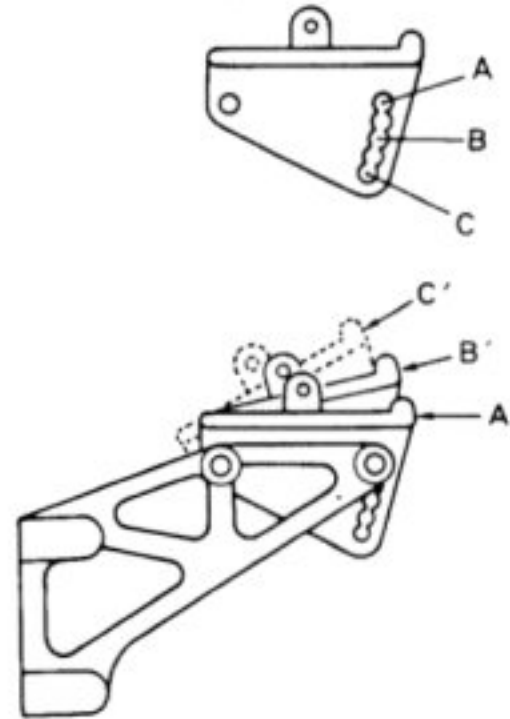
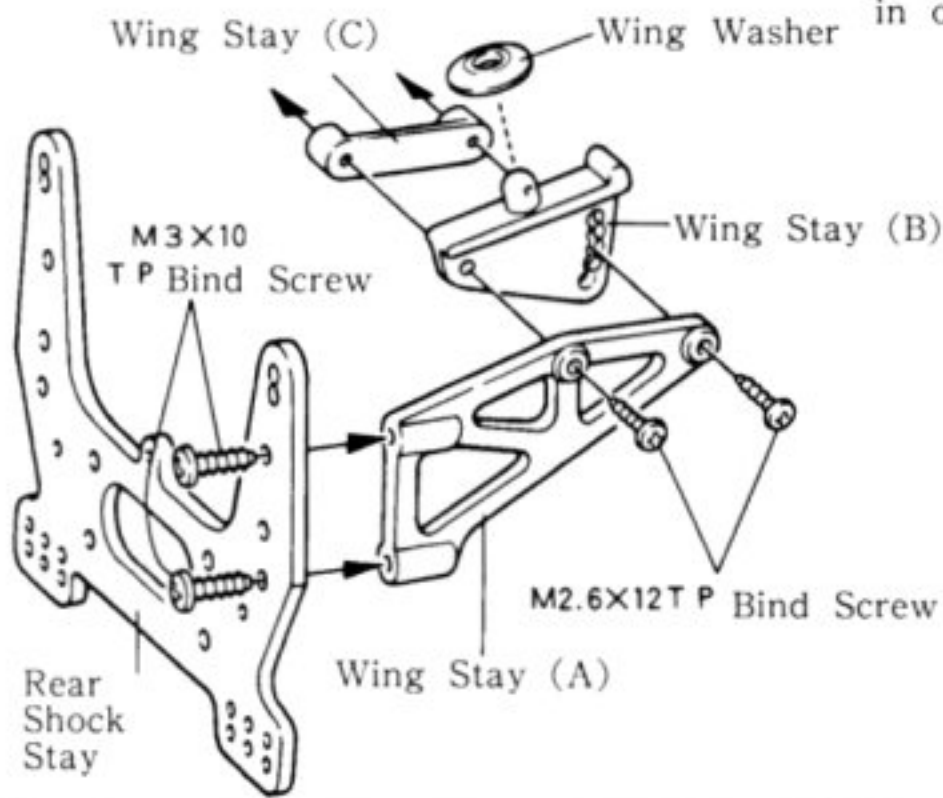
H	MH	M	S	SS
W5034 Narrow Tire W5031 Low Profile Tire (For hard road surface)				
	W5076 Narrow Tire W5078 Low Profile Tire (Both of them are MH-M)			
		W5033 Narrow Tire OT-66 Low Profile Tire (Both are pin type)		
			W5032 Low Profile Tire (for soft road surface)	
				W5075 Narrow Tire W5077 Low Profile Tire (Both of them are SS-M)

INSTALLATION OF OPTIONAL WING STAY

The installation angle becomes bigger in order, A to B to C.(5 steps)

<Cutting of Body>

When set the wing stay, cut the diagonal part as shown under the picture.



PARTS LIST

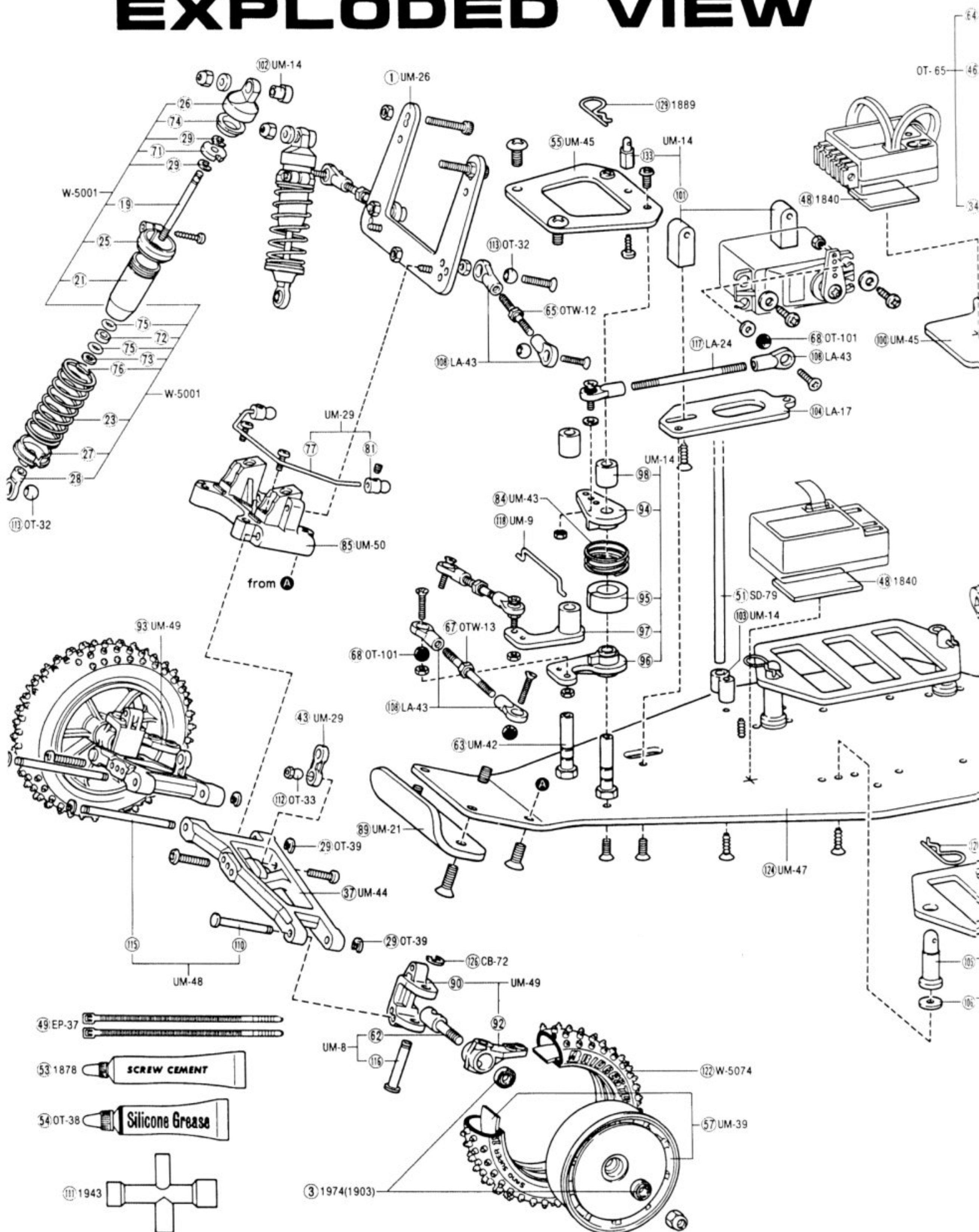
Key #	Parts Name	Q'ty	Key #	Parts Name	Q'ty	Key #	Parts Name	Q'ty	Key #	Parts Name	Q'ty
①	Front Shock Stay	1	④②	Stabilizer Link (L)	2	⑧③	Motor Guard Plate	1	⑩④	Main Frame	1
②	Rear Shock Stay	1	④③	Stabilizer Link (S)	2	⑧④	Servo Saver Spring	1	⑩⑤	Decal	1
③	4φ×8 Bearing	6	④④	Stabilizer Stopper	2	⑧⑤	Front Bulk Head	1	⑩⑥	E Ring (E3) (Black)	2
④	5φ×10 Bearing	6	④⑤	Battery Holder Plate	2	⑧⑥	Rear Axle Stopper	1	⑩⑦	E Ring (E4)	1
⑤	Center Gear Collar	1	④⑥	Wing Stay	1	⑧⑦	Rear Bulk Head	1	⑩⑧	Hook Pin	3
⑥	Motor Guard	1	④⑦	Gear Cover Seal	1	⑧⑧	Gear Cover	1	⑩⑨	Body Pin	4
⑦	Motor Plate	1	④⑧	Double Sided Tape	1	⑧⑨	Bumper	1	⑩⑩	Hex Key (1.5mm)	1
⑧	8φ×14 Bearing	2	④⑨	Strap (S)	2	⑧⑩	Front Hub	2	⑩⑪	Hex Key (2mm)	1
⑨	Differential Gear	1	⑤①	NiCd Strap	2	⑧⑪	Rear Hub (R)	1	⑩⑫	Hex Key (2.5mm)	1
⑩	Diff. Shaft (A)	1	⑤②	Antenna Pipe	1	⑧⑫	Knuckle Arm (L)	1	⑩⑬	Body Hook	1
⑪	Diff. Shaft (B)	1	⑤③	Shock Oil (Green)	1	⑧⑬	Knuckle Arm (R)	1	⑩⑭	Rear Hub	1
⑫	Pressure Plate	2	⑤④	Screw Cement (Locktite)	1	⑧⑭	Servo Saver (A)	1	⑩⑮	Battery Holder	2
⑬	8φ×10 Collar	1	⑤⑤	Silicon Grease	1	⑧⑮	Servo Saver (B)	1		Cap Screw M3×18	4
⑭	Torque Keeper M2.6x15 Cap Screw	1	⑤⑥	Front Upper Plate	1	⑧⑯	Servo Saver (C)	1		Bind Screw M2.6×6	6
⑮	Tapered Washer	4	⑤⑦	Rear Wheel	2	⑧⑰	Servo Saver (D)	1		Bind Screw M2.6×12	2
⑯	Differential Ball	10	⑤⑧	Front Wheel	2	⑧⑱	Servo Saver Collar	2		Bind Screw M3×6	9
⑰	Thrust Ball	8	⑤⑨	Pinion Gear (20T)	1	⑧⑲	Gear Box Hatch	1		Bind Screw M3×15	2
⑱	Thrust Washer	2	⑤⑩	Center Gear Shaft	1	⑧⑳	Rear Upper Plate	1		Bind Screw M3×35	1
⑲	Front Shock Shaft	2	⑤⑪	Counter Gear Shaft	1	⑧㉑	Servo Stay	2		Bind Screw M3×45	2
⑳	Rear Shock Shaft	2	⑤⑫	2φ×11 Pin	1	⑧㉒	Shock Collar	4		Round Head Screw M3×33	1
㉑	Front Shock Case	2	⑤⑬	Front Wheel Shaft	2	⑧㉓	Antenna Post	1		Flat Head Screw M2.6×12	6
㉒	Rear Shock Case	2	⑤⑭	Servo Saver Shaft	2	⑧㉔	Servo Mount Plate	1		Flat Head Screw M3×6	3
㉓	Front Shock Spring	2	⑤⑮	Wing Stopper	2	⑧㉕	Stopper Post	4		Flat Head Screw M3×12	4
㉔	Rear Shock Spring	2	⑤⑯	3φ×40 Adjust Rod	4	⑧㉖	Stopper Washer (Thinner one)	4		Flat Head Screw M3×15	4
㉕	Spring Holder	4	⑤⑰	3φ×32	2	⑧㉗	Stopper Washer (Thicker one)	4		Flat Head Screw M4×8	8
㉖	Shock Cap	4	⑤⑱	3φ×50	2	⑧㉘	5.8φ Ball End	14		Flat Head Screw M4×12	4
㉗	Spring Stopper	4	⑤⑲	5.8φ Ball (Black)	8	⑧㉙	6.8φ Ball	4		Thrust Screw M4×8	4
㉘	Shock End	4	⑤⑳	O Ring (P3 • Black)	2	⑧㉚	Hub Pin	4		T P. Bind Screw M3×8	14
㉙	E Ring (E2.5)	16	⑤㉑	Motor Guard Collar	2	⑧㉛	Cross Wrench	1		T P. Round Head Screw M3×18	1
㉚	Final Pinion	1	⑤㉒	Shock Piston	4	⑧㉜	Ball Nut	2		T P. Flat Head Screw M3×10	6
㉛	Center Gear	1	⑤㉓	Shock Collar (White)	4	⑧㉝	5.8φ Ball (Silver)	10		Nut M2.6	12
㉜	Counter Gear	1	⑤㉔	Shock Collar (Black)	4	⑧㉞	6.8φ Ball	4		Nut M3	8
㉝	Swing Shaft	2	⑤㉕	Pressure Top	4	⑧㉟	Front Suspension Shaft	2		Nylon Nut M3	4
㉞	Wing Post	2	⑤㉖	O Ring (P3 • Red)	8	⑧㊱	King Pin	2		Nylon Nut M4	4
㉟	Drive Washer	2	⑤㉗	C Ring	4	⑧㊲	Steering Rod	1		Washer M2.6	2
㊱	Rear Wheel Shaft	2	⑤㉘	Front Stabilizer	1	⑧㊳	Center Rod	1		Washer M3	2
㊲	Front Suspension Arm	2	⑤㉙	Rear Stabilizer	1	⑧㊴	Motor Guard Joint	1		Washer M4	4
㊳	Rear Suspension Arm	2	⑤㉚	Rear Suspension Shaft	2	⑧㊵	Body	1		Shim φ8×12	2
㊴	Plastic Collar (Red)	6	⑤㉛	Stabilizer Ball	2	⑧㊶	Wing	1		Set Screw M3×3	7
㊵	Gear Box (L)	1	⑤㉜	Adjust Ball	4	⑧㊷	Front Tire	2		Set Screw M3×16	2
㊶	Gear Box (R)	1	⑤㉝	Sponge Cap	1	⑧㊸	Rear Tire	2		Set Screw M4×4	1

Flat Head Screw M2.6x12... 2

(© and ● marked parts have been assembled in UPR-8 Bag. ※ marked parts are included spare parts other than indicated quantity.)

ULTIMA PRO

EXPLODED VIEW



PURCHASABLE PARTS FOR YOUR KIT

You can purchase replacement and optional parts for your kit. All of the part identified by key number are usually not available singularly, but we offer these parts in convenient parts "packs" which can be purchased separately. To figure out which parts pack you need, find the key number for that part with the manual.

Then consult out parts pack guide below. When referring to the parts you need, always use the Parts Pack Number. For example, if you need a Center Gear Shaft (Key #59) ask your dealer for Kyosho Parts UM-5 (Gear Shaft Set).

No.	Parts Name	Key No. & Q'ty
OT-6	Swing Shaft	33 X 2
OT-18	Rear Shaft	36 X 2
OT-19	Drive Washer	39 X 4
OT-29	O Ring	68 X 10
OT-32	5.8 φ Ball	100 X 10
OT-33	Ball Nut (M2.6)	100 X 10
OT-38	Silicon Grease	54 X 1
OT-39	E Ring (E2.5)	29 X 10
OT-65	Wing Stay Set	46 X 1 34 34 X 2
OT-66	Low Profile Tire	100 X 2 (Pin Type)
OT-76	Hard Final Pinion	30 X 1
OT-98	Battery Holder Set	100 X 2 Sets
OT-101	5.8 φ Ball	68 X 10 (Balck 2,6hole)
OT-107	Wing	100 X 1
OTW-9	Plastic Parts Set	100 100 X 2 100 X 4
OTW-11	Adjust Rod (S)	66 X 2
OTW-12	• (M)	63 X 2
OTW-13	• (L)	67 X 2
MA-17	Wheel Set	36 X 4
UM-1	Gear Set	32 X 1
UM-5	Gear Shaft Set	38 38 X 1 10 X 2
UM-8	Front Shaft Set	62 10 X 2
UM-9	Rod Set	100 X 1
UM-14	Servo Saver Set	33 33 33 33 33 33 X 1 33 X 2 33 X 4
UM-21	Front Bumper	39 X 1
UM-26	Special Shock Stay	1 2 X 1
UM-28	Motor Guard	6 13 10 X 1 70 X 2
UM-29	Stabilizer Set	77 78 X 1 42 43 44 10 X 2 11 X 4
UM-34	Body (Ultima Pro)	100 X 1
UM-39	Front Wheel Set	37 X 2 (Yellow)
UM-42	Saver Shaft Set	63 X 2
UM-43	Servo Saver Strong Ring	14 X 2
UM-44	Sus. Arm Set (long)	37 38 X 2 100 X 4
UM-45	Upper Plate Set	33 100 X 1
UM-46	Battery Holder Plate	45 X 2
UM-47	Main Chassis (FRP)	100 X 1
UM-48	Sus. Shaft Set	79 100 X 2 100 X 4
UM-49	Up Light Set	32 33 X 1 30 X 2 (for long Sus.)
UM-50	Bulk Head Set	47 48 49 17 28 X 1 (for long Sus.)
UM-51	Motor Plate	7 X 1
UM-52	Gear Box	40 41 X 1
UM-53	Decal (Ultima Pro)	100 X 1
UM-54	Screw Set	Screw, Nut, Wrench 1set
W-0109	Ball Differential	9 10 11 13 14 12 X 1 12 13 X 2 13 X 4 17 X 8 16 X 10
W-0110	Special Super Gear	41 X 1
W-5001	Pressure Shock (S)	19 21 23 25 26 27 28 71 72 73 74 X 2 29 75 76 X 4
W-5002	• (L)	20 22 24 25 26 27 28 71 72 73 74 X 2 29 30 75 76 X 4
W-5074	Front Tire	100 X 2
1840	Double Sided Tape	48 X 1
EP-22	Hook Pin	100 X 5
EF-37	Strap (S)	49 X 6
EF-39	NiCd Strap	50 X 6
SD-79	Antenna Pipe	51 X 5
CB-72	E Ring (E3)	100 X 4
KC-20	• (E4)	100 X 4
1889	Body Pin	100 X 5

No.	Parts Name	Key No. & Q'ty
1901	Ball Bearing (5 φ x10)	4 X 2
1903	• (4 φ X 8)	3 X 2 5 X 1
1911	• (8 φ X 14)	8 X 2
1878	Screw Locking Compound	33 X 2
1943	Cross Wrench	100 X 1
BS-46	6.8 φ Ball	100 X 10
LA-17	Plate Set	100 X 1
LA-28	Rear Hub Carrier	91 100 X 1
LA-43	5.8 φ Ball End	100 X 12
LA-24	Rod Set	100 X 2
OPTION PARTS		
UMW-1	Wing Stay Set	made by nylon
UMW-2	Carbon Chassis	
UM-17	Wheel Set	Rear,Front each 2 pcs.
OT-90	Wheel	one-piece type 4 pcs.
FD-2	Wheel	• •
EF-103	Racing Wire	4 φ Silicon Code
LM-15	Motor Cooling Plate	for Le Mans Motor
1863	Sponsor Sticker	Decal Sponsor Mark
1872	Sponge Tire (A)	for wet hard road surface
1883	Frontier Hobby Oil	30cc
1953	Silicon Oil (S)	Viscosity (Soft)
1954	• (M)	• (Medium)
1955	• (H)	• (Hard)
1951	Shock Oil (S,M,H)	Soft,Medium,Hard
LM-18	Maintenance Set	Maintenance Parts for motor
WBD-1	Ball Diff. Shaft Plate Set	10 11 13 X 1 12 X 2
WBD-2	Ball Diff. Ball Set	14 12 X 1 10 X 2 13 X 10 16 17 X 12
WBD-3	Ball Diff. (Body)	9 X 1 others 4 pcs.
W-5003	Adjustable Shock (S)	
W-5004	• (L)	•
W-5021	Low Profile Wheel	Silver Plate 2 pcs.
W-5023	Low Profile Wheel	Yellow 2 pcs.
1875	Front Tire (A)	2 pcs.
W-5031	Low Profile Tire	for hard road surface x2
W-5032	•	for soft road surface x2
W-5071	Front Tire M-S	Soft Compound 2 pcs.
W-5072	• M-H	Hard Compound 2 pcs.
W-5073	• S-S	Pin Spike Soft Compound 2 pcs.
W-5077	Low Pro. Tire SS-M	
W-5078	• MH-M	Multi Spike 2 pcs.
W-5085 W-5093	Hard Pinion Gear (15T~23T)	Hard Aluminum
W-0111	Special Counter Gear	Stronger Type than (32)
W-5061	Universal Swing Shaft	
W-5016	Plastic Parts Set for Pressure Shock	25 27 28 30 71 X 2
W-5017	Pressure Top Set for Pressure Shock	74 X 10
W-5018	O Ring Set for Pressure Shock	72 73 X 2 75 76 X 4

The Super Hobby



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