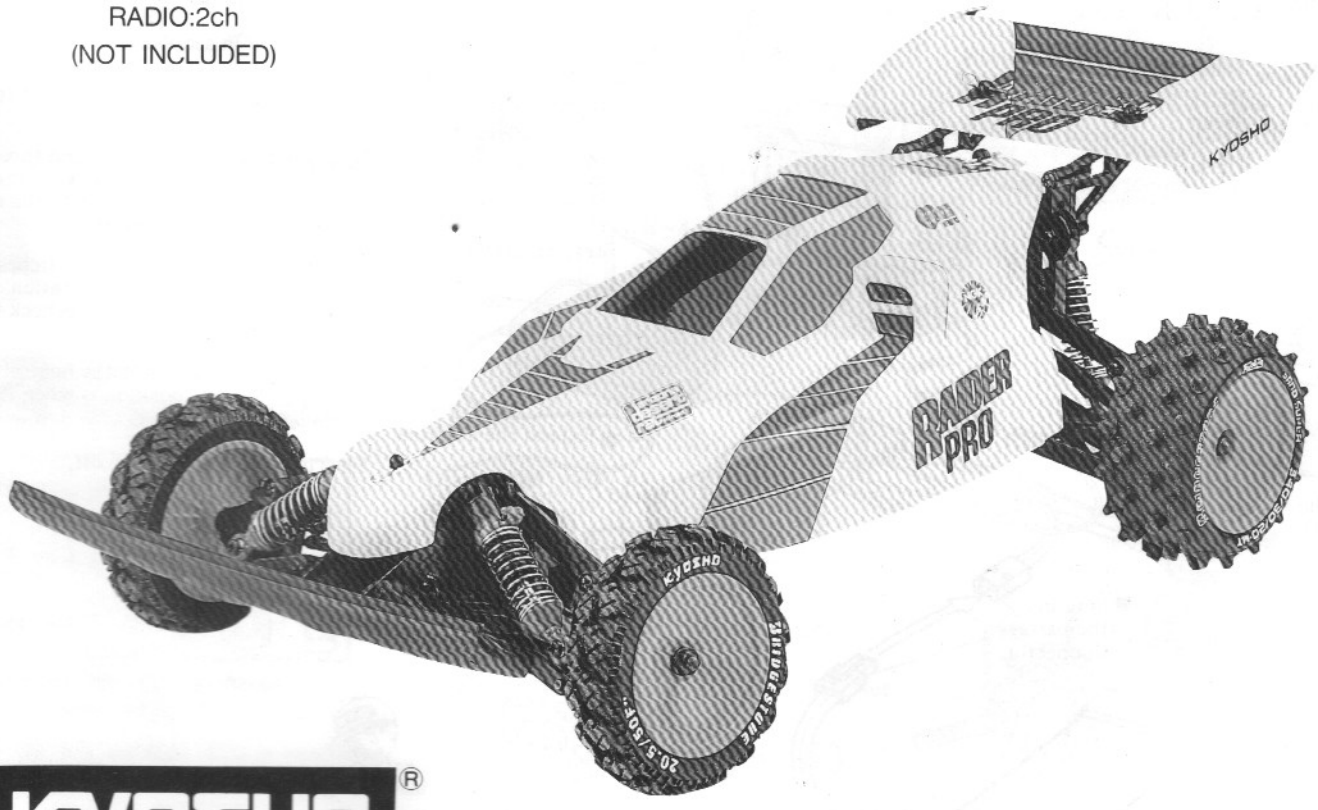
RADIO CONTROLLED ELECTRIC POWERED SPECIAL RACING BUGGY

OFF-ROAD RACER
RAIDER PRO

- ALL-INDEPENDENT LONG-TRAVEL SUSPENSION FOR TOP ROAD HOLDING.
- EASY ASSEMBLY AND ADJUSTMENT. HIGH PERFORMANCE WITHOUT HASSLES.
- MABUCHI "RS-540SH" MOTOR/SPEED CONTROLLER INCLUDED.
- DUST-PROTECTED ENCLOSED DIFFERENTIAL. PRECISION-MOLDED NYLON GEARS.
- ADJUSTABLE SHOCK POSITIONING FOR CHASSIS TUNING. ACCEPTS OPTIONAL PARTS.
- QUALITY PARTS. STEEL PIVOT PINS. SELECTED ENGINEERING RESINS. RELIABLE.
- EXCELLENT ENTRY LEVEL BUGGY WITH NO-COMPROMISE PERFORMANCE.
- TUNE-UP OPTIONS FOR TOP COMPETITION RACING.

1:10 SCALE

BATTERY:7.2V-1200～1700mAh
RADIO:2ch
(NOT INCLUDED)



KYOSHO®
THE FINEST RADIO CONTROL MODELS

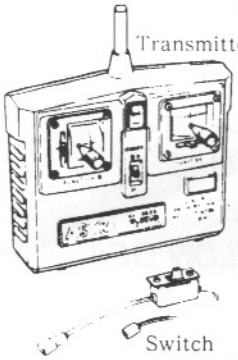
KIT No.3197

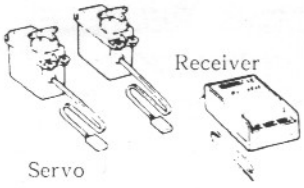
THINGS NEED BESIDE THE KIT

《 2 Channel Radio System 》

This model is designed using BEC system radio units. A radio contained in a box with this type logo is a BEC type radio.

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





* Transmitter...

It is control box which manipulates by stick movements. Signal waves are transmitted through on antenna.

* Receiver...

Receives the signals from the transmitter and send them to the servos.

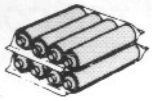
* Servo...

They move the control mechanism of a model car in accordance with the signals from the receiver.

《 AA Size Battery 》

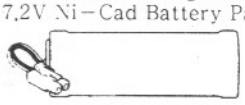
For Transmitter

... 8 pcs.



《 Ni-Cad Battery 》

This model is designed to use a rechargeable 7.2V Ni-Cad Battery Pack.

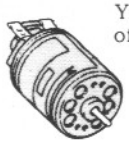


No.4400 7.2V Power Battery

No.2310S 7.2V Sprint Battery

No.2330S 7.2V Speed Battery

《 Optional Motor 》



You may wish to upgrade the performance of your car with a high performance Motor .

No.2481 Le Mans Pro High Speed

No.2483 Le Mans Pro High Torque

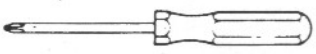
No.1986 Le Mans Speed 240T

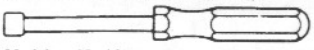
《 Charger 》

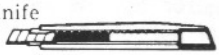
The Kyosho's Ni-Cad battery is high performance. If it is charged correctly, it will operate for a considerable period of time.
Use one of the chargers listed which suits your need.

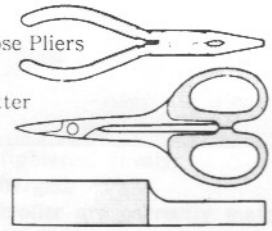
Model	Name	Time	Rate	Features
2358	Dc Quick Charger II	15 min.	70%	For bigginer
1849	Multi Charger II	20 min.	100%	Built-in timer
2246	FET Auto Charger	20 min.	100%	Trickle charging Automatic cut-off

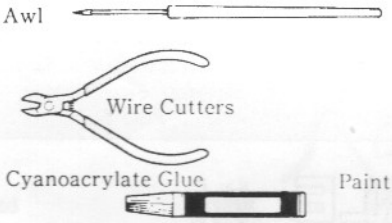
《 Tools Required 》 Hex Wrench and Grease are included in the kit.

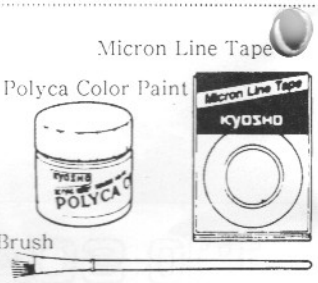




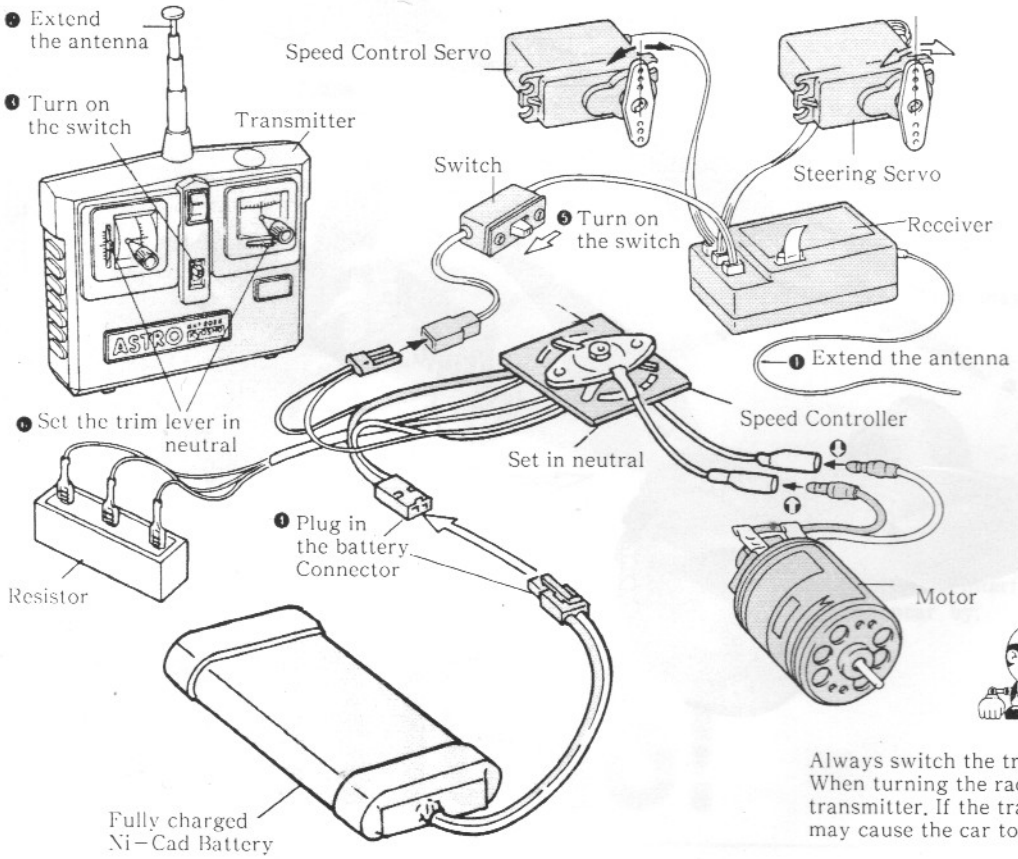








HOW TO CHECK AND ADJUST THE RADIO



Test the radio in sequence 1 ~ 5.

1). Follw sequence 1 thru 5 at the left to turn the radio on.

2). Move the steering wheel and throttle trigger. Watch the two servo arms, they should move in proportion to the movement of the wheel and trigger.

3). If the radio hasreversing switches, this reverses the direction of rotation of servos, reverse them and recheck the servos for operation.

4). Set the trim levers to the neutral position. Neutral position is when the trim levers are centered.

5). Turn the radio switch off.

《 CAUTION 》

Always switch the transmitter on first, then the receiver. When turning the radio off, switch the receiver off first, then the transmitter. If the transmitter is turned off first, an outside signal may cause the car to drive away.

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 thorough understanding of these instructions will enable you to build the model without difficulty.

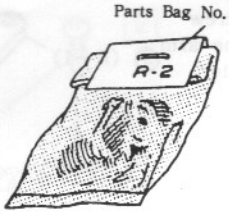
GREASE ··· Points where grease should applied. (It will reduce friction and assure smooth movements.)

Check the components in the kit prior to your startings of the assembly. Any claims for replacements or rufunds for the model in the process of assembly will not be accepted.

Following parts bags are in the kit box.

(R−1), (R−2), (S−3), (R−4), (R−5), (S−6), (R−7), (R−8), (S−9), (R−10), (S−11) ~ (S−15)

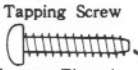
Parts Bag No.



Do not tighten the self−tapping screw too tight.

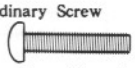
Do not use excessive force when tightening the self−tapping screws, or you may strip the thread in the plastic.
It is recommended to stop tightening it when the thread part on the screw goes into the plastic part and you feel some resistance from the tightening.

Self Tapping Screw



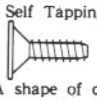
Coarser Thread — Some of them have pointed tips.

Ordinary Screw



Finer Thread

Flat Head Self Tapping Screw

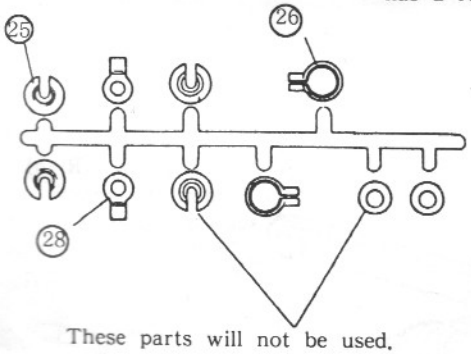


A shape of dish.

1 ASSEMBLY OF SHOCKS

M2x8 TP Screw		4
(23) 3 φ O Ring		4

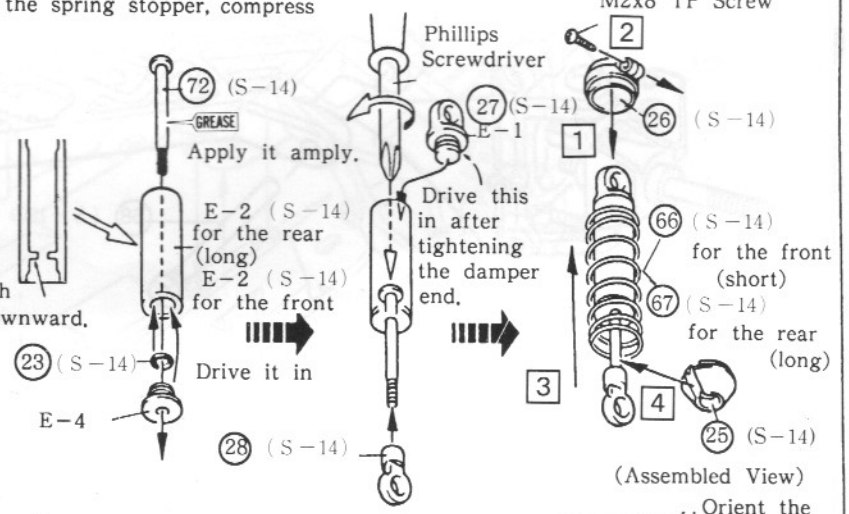
Assemble the rear portion in the same way.

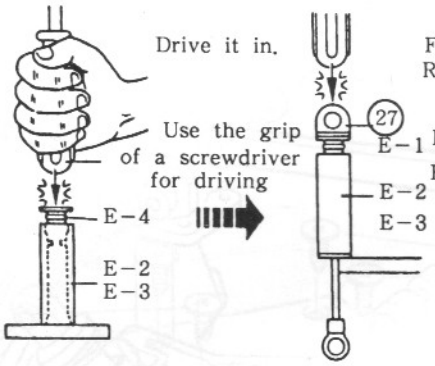


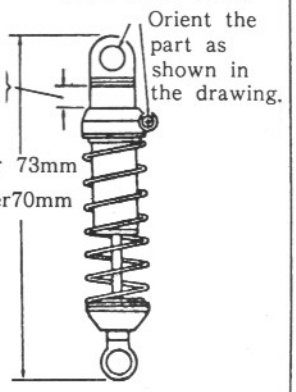
These parts will not be used.

● Assemble the parts in order from 1 to 4

When fitting the spring stopper, compress the spring.

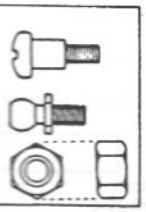






2 ASSEMBLY OF FRONT SUSPENSION ARM

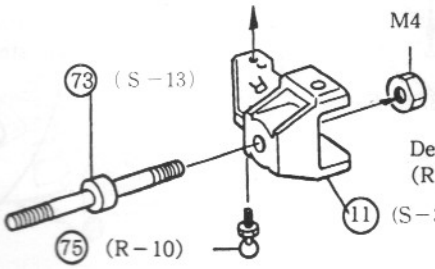
(76) King Pin	4	
(75) 4.5 φ Pillow Ball	2	
M4 Nut	2	



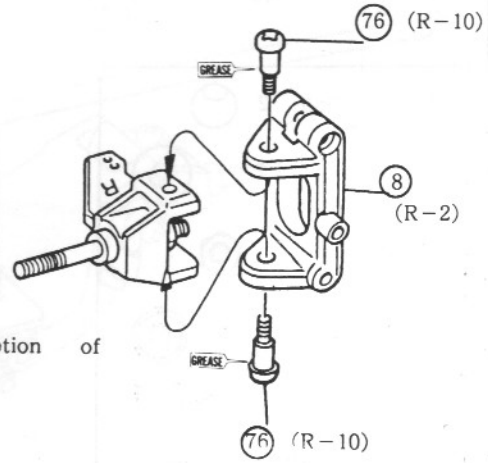
Assemble the left counterpart in the same way.

On the left portion, (L) is described, and on the right, the mark of (R).

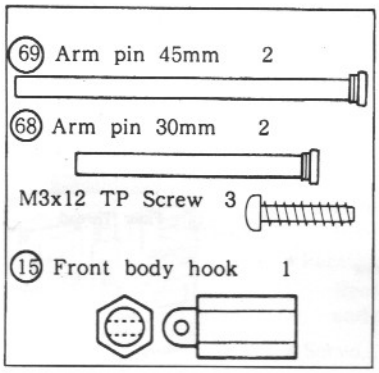
(Assembled view) Right portion



Description of (R).



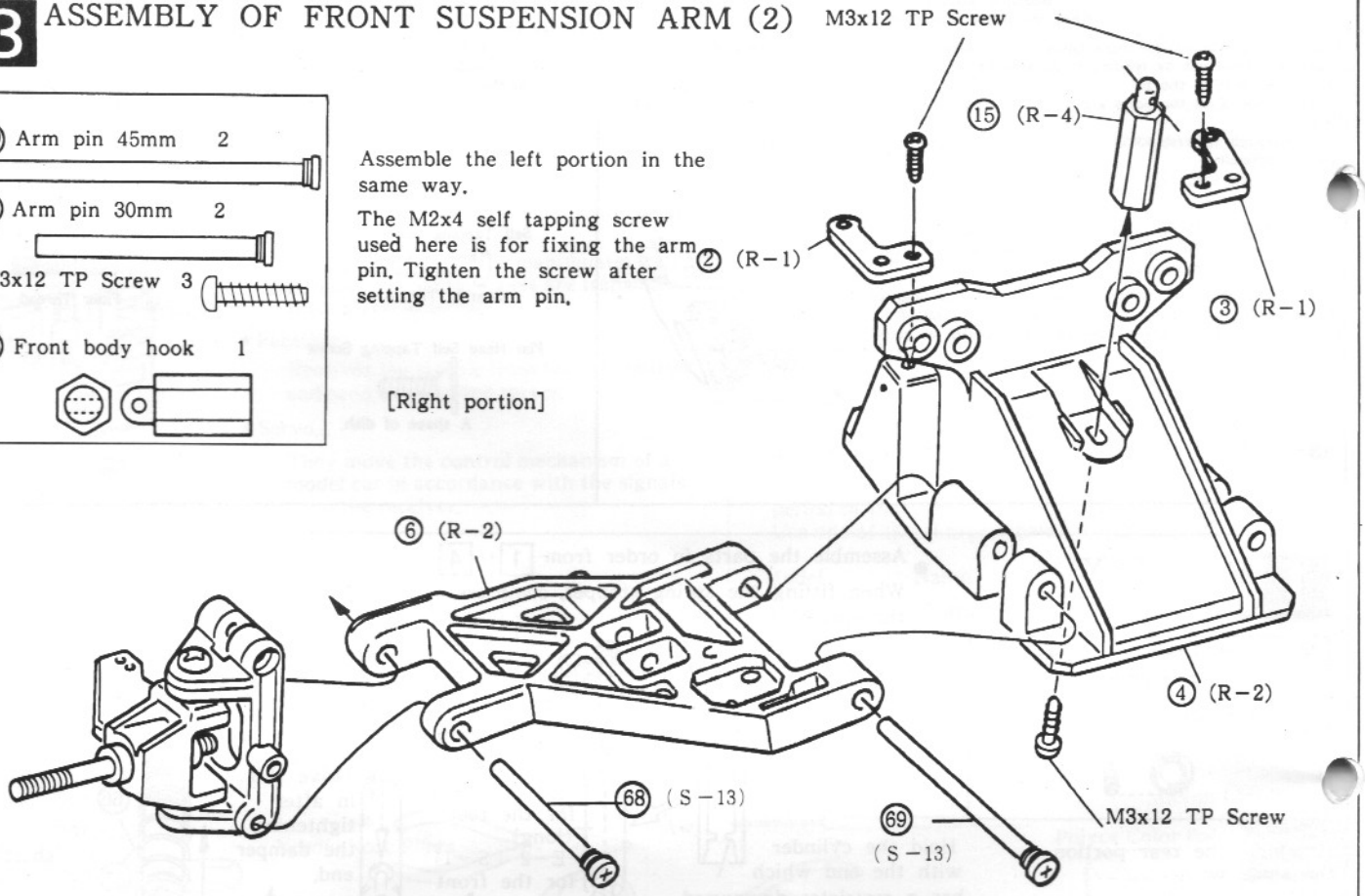
3 ASSEMBLY OF FRONT SUSPENSION ARM (2)



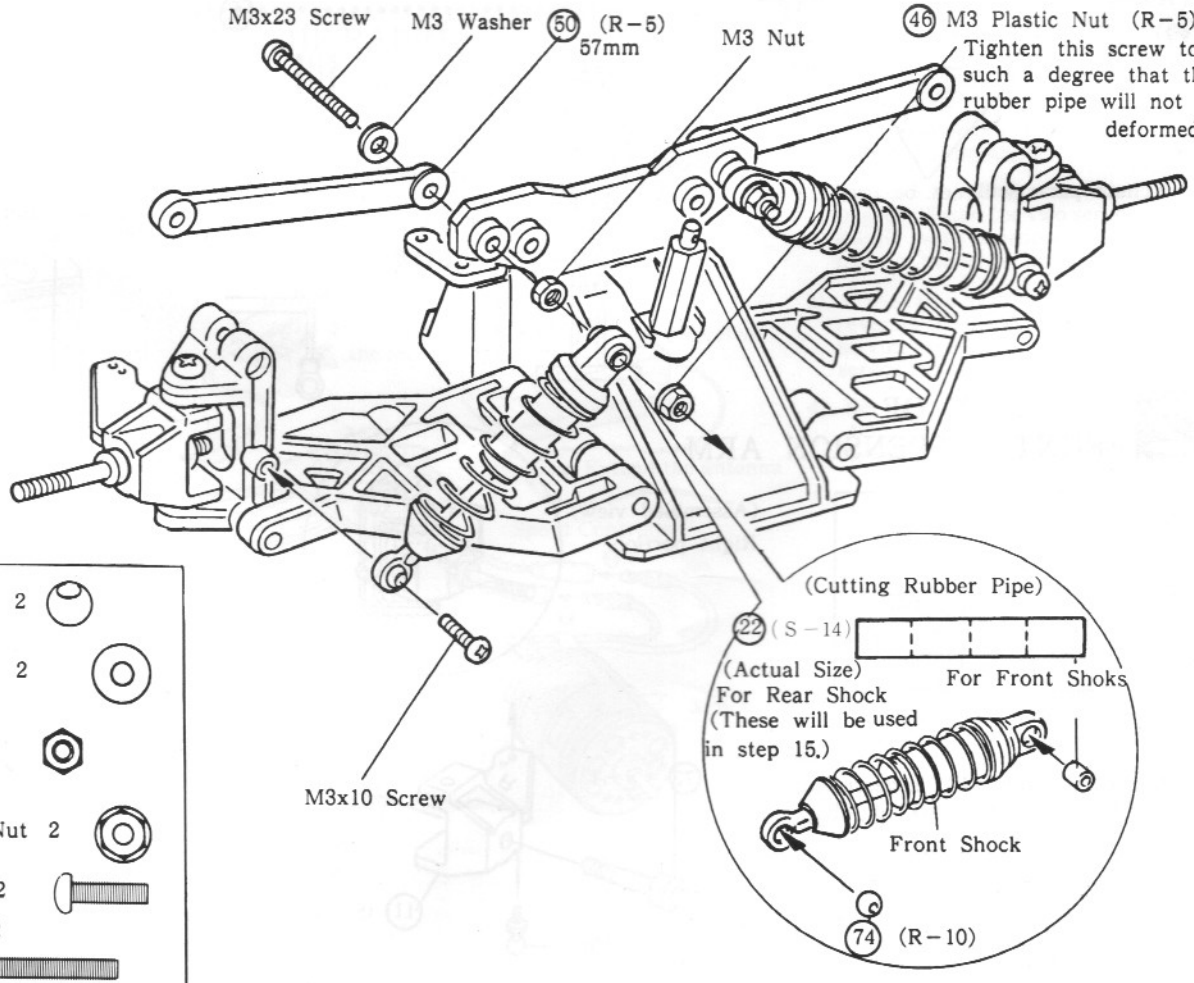
Assemble the left portion in the same way.

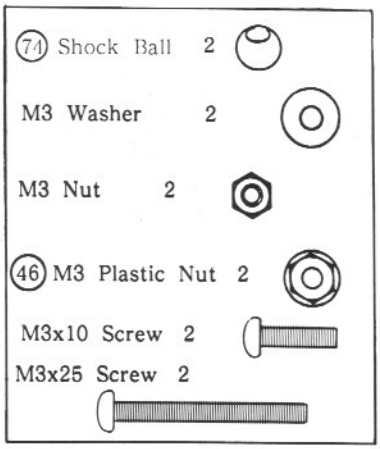
The M2x4 self tapping screw used here is for fixing the arm pin. Tighten the screw after setting the arm pin.

[Right portion]



4 INSTALLATION OF FRONT SHOCKS

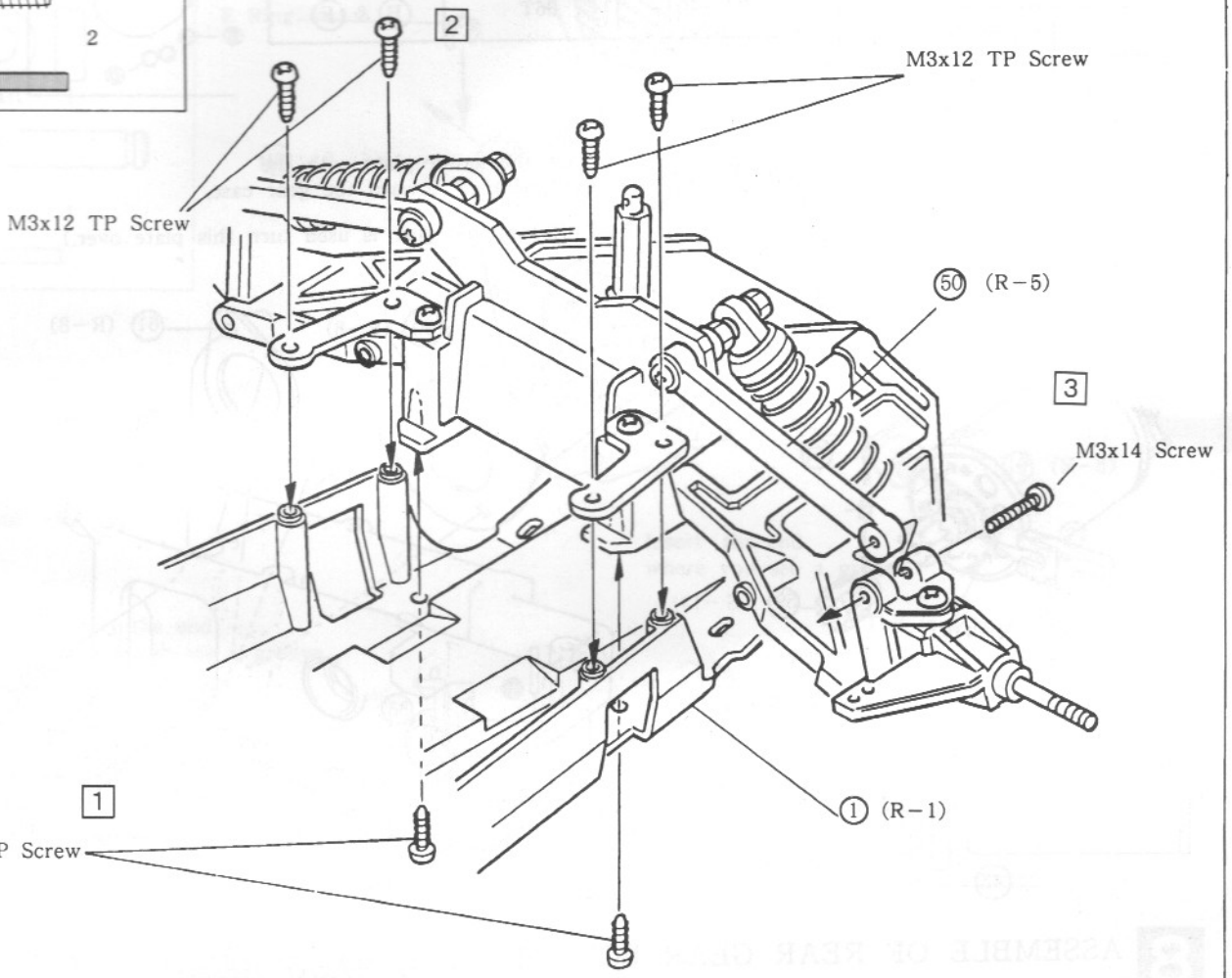




5 ASSEMBLY OF FRONT PORTION

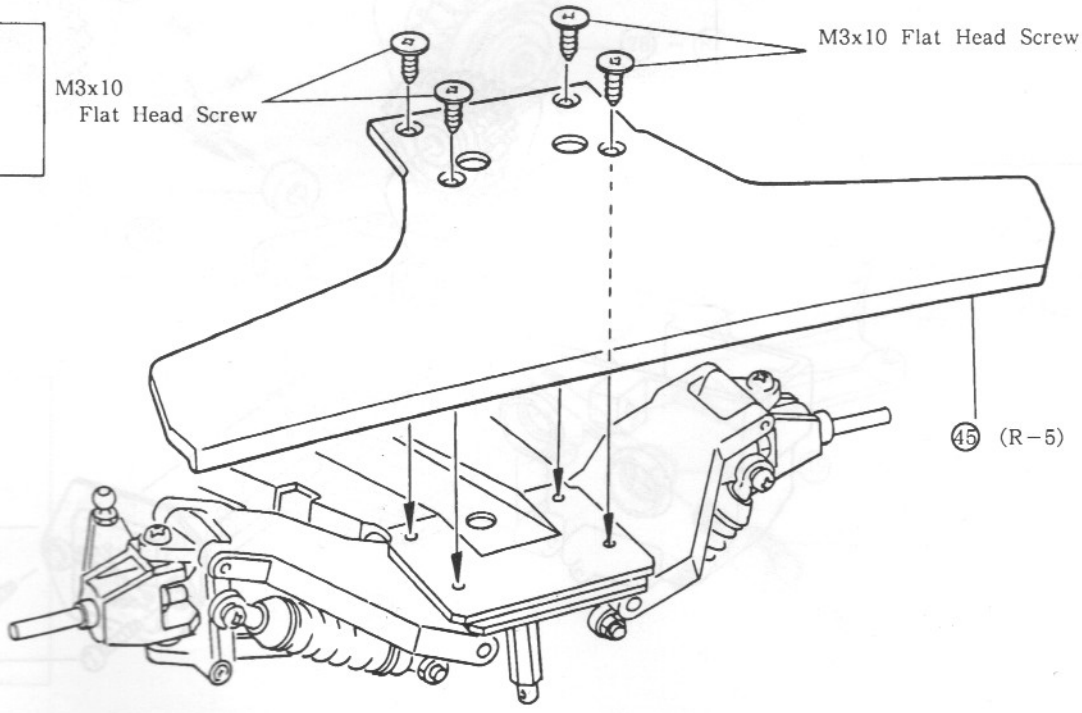
M3x12 TP Screw	6
M3x14 Screw	2

Assemble the parts in order from 1 to 3

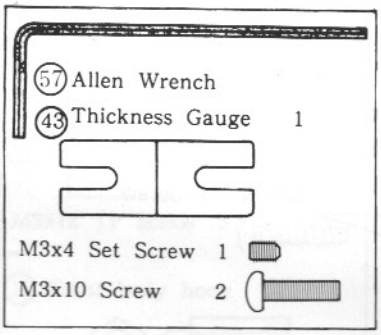


6 INSTALLATION OF BUMPER

M3x10 Flat Head Screw	4

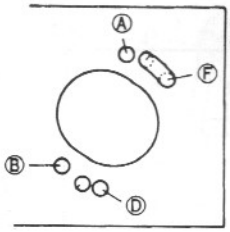


7 INSTALLATION OF MOTOR

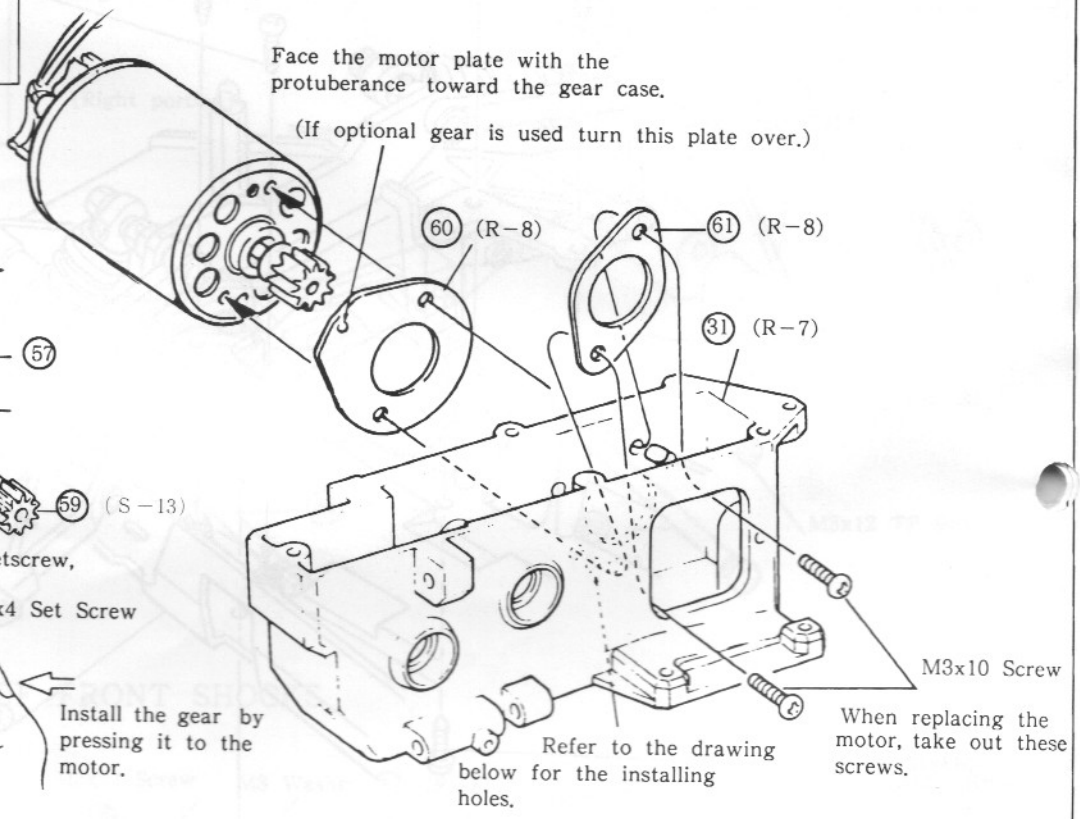


Corelation between gears and installing holes.

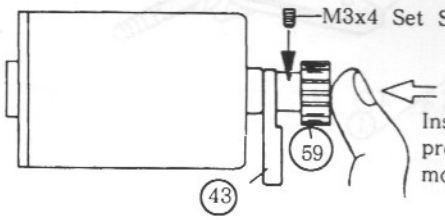
No. of pinion gear teeth	Idle gear	Installing hole
Kit 14T	36T	Ⓐ & Ⓓ
Option 15T	36T	Ⓑ & Ⓕ



Installation hole for options of motor

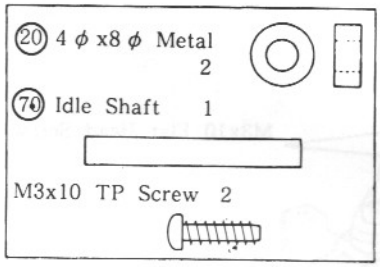


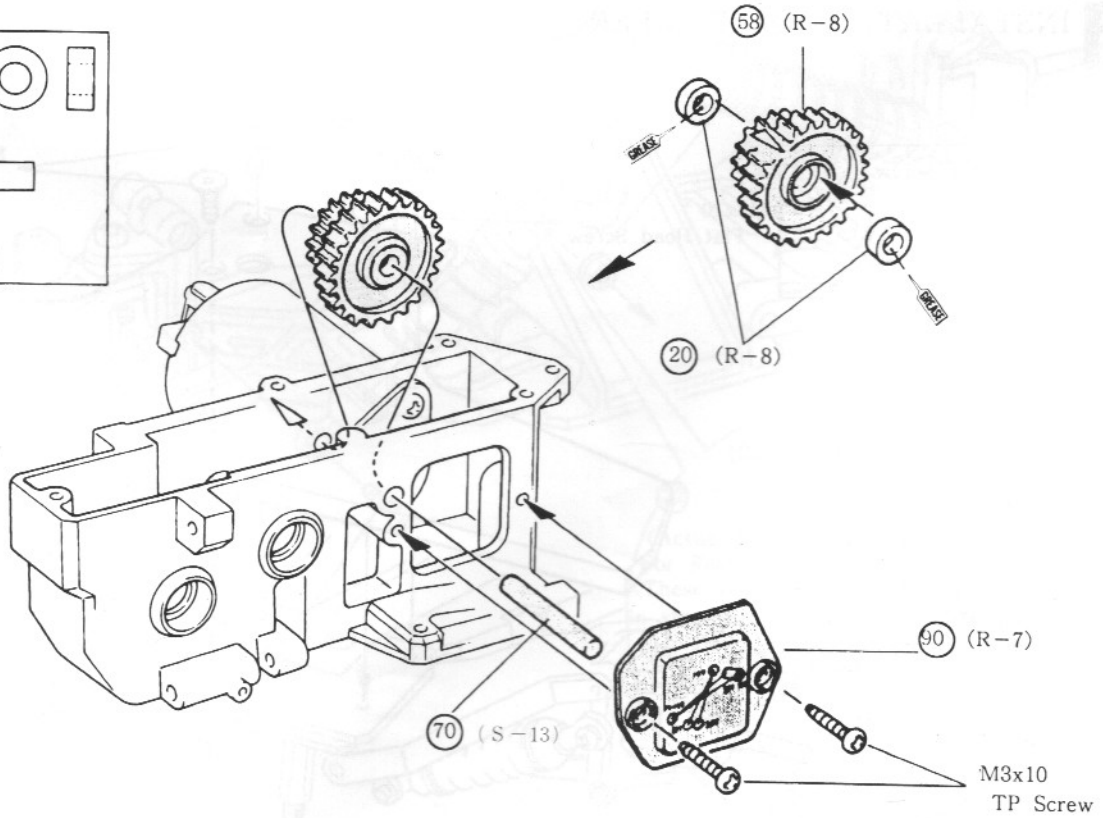
After fixing the gear with the setscrew, remove the thickness guage.



Install the gear by pressing it to the motor.

8 ASSEMBLE OF REAR GEAR BOX (1)



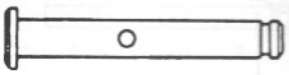


9 ASSEMBLY OF REAR GEAR BOX (2)

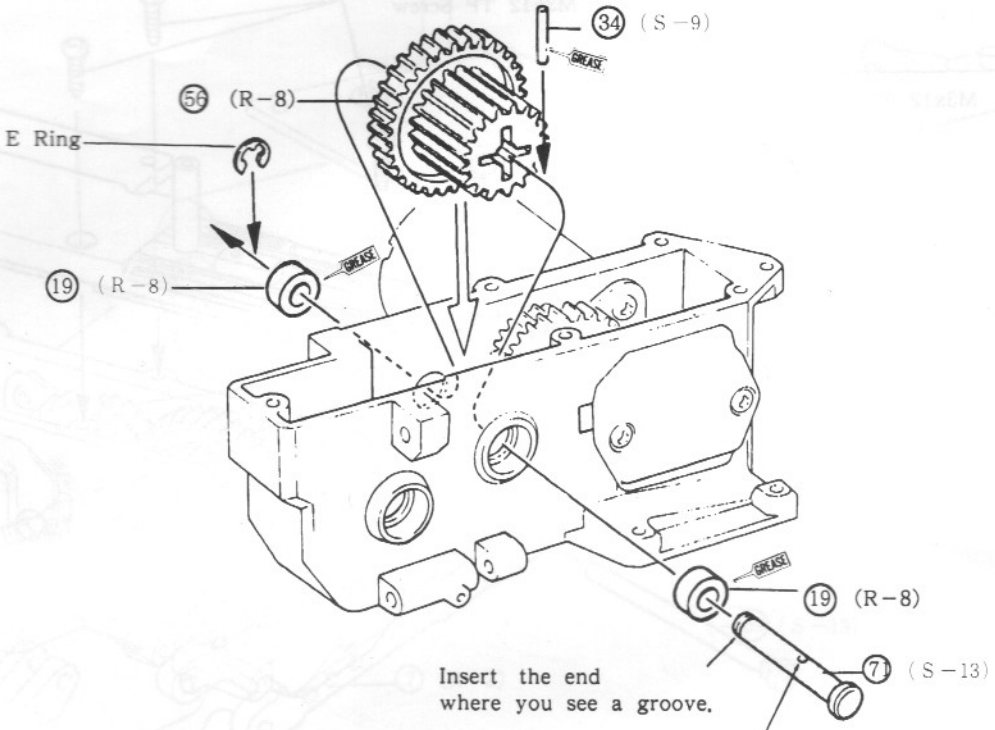
E Ring 1

⑲ 5 ϕ x10 ϕ Metal 2

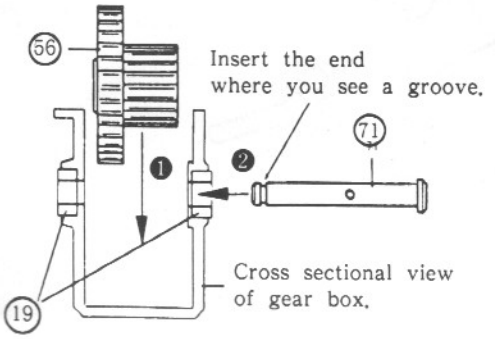
⑦① Counter Shaft 1

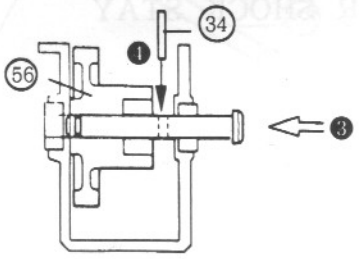


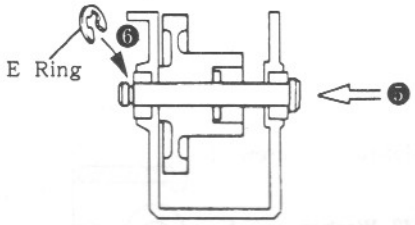
㉞ Rock Pin 1



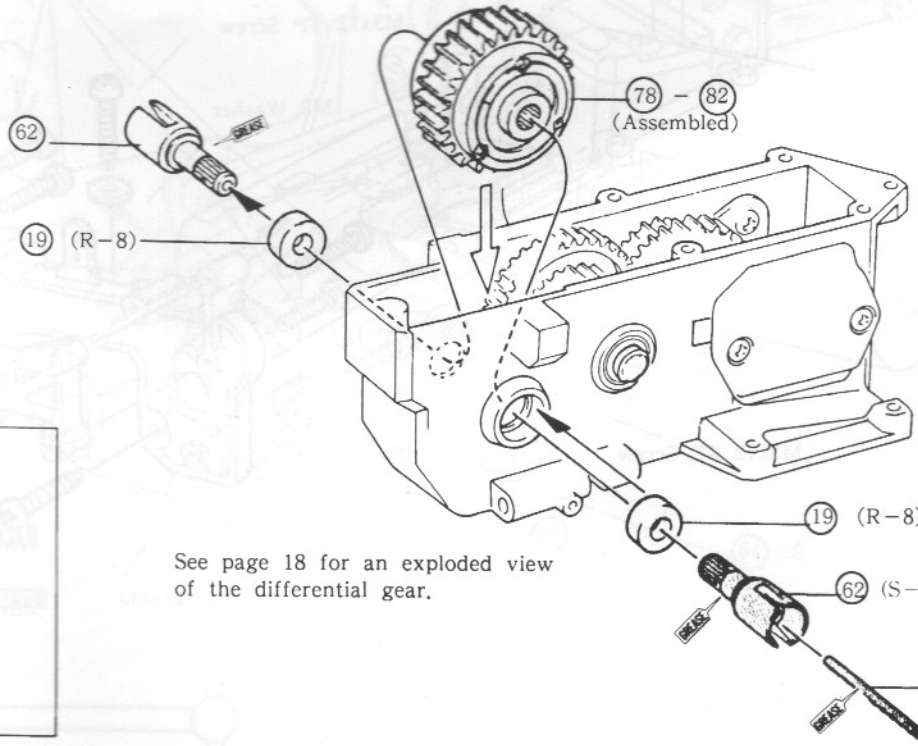
Assemble the counter gear in order from ❶ to ❻





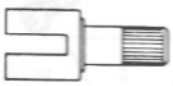


10 ASSEMBLY OF REAR GEAR BOX (3)



See page 18 for an exploded view of the differential gear.

㊷ Joint 2

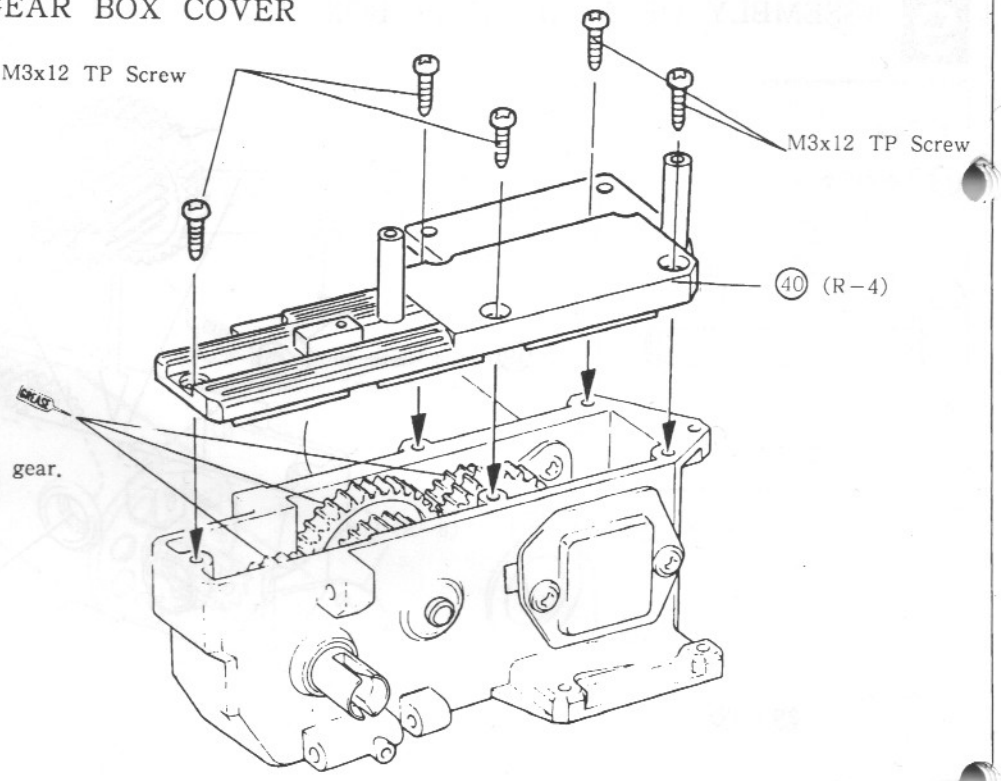


㉜ Pilot Shaft 1

⑲ 5 ϕ x10 ϕ Metal 2

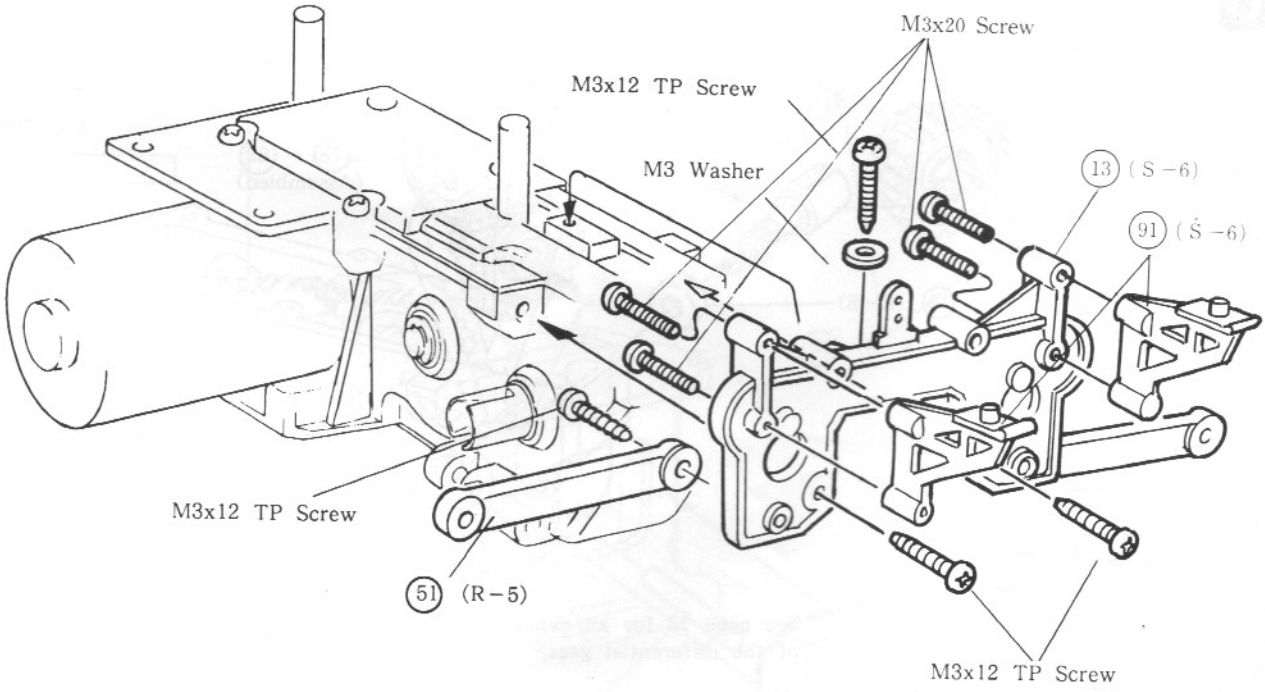
11 INSTALLATION OF GEAR BOX COVER

M3x12 TP Screw	5

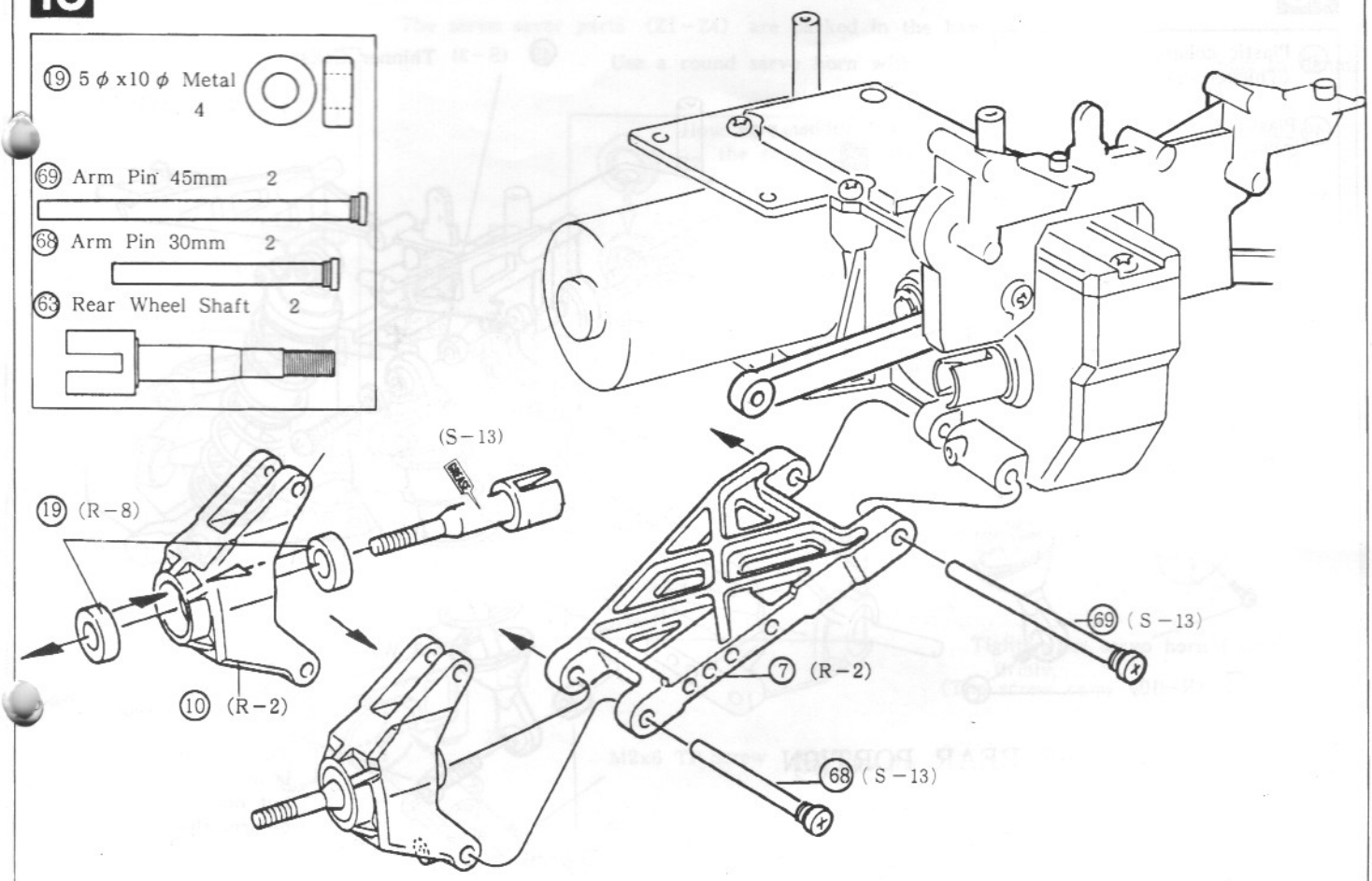


12 INSTALLATION OF REAR SHOCK STAY

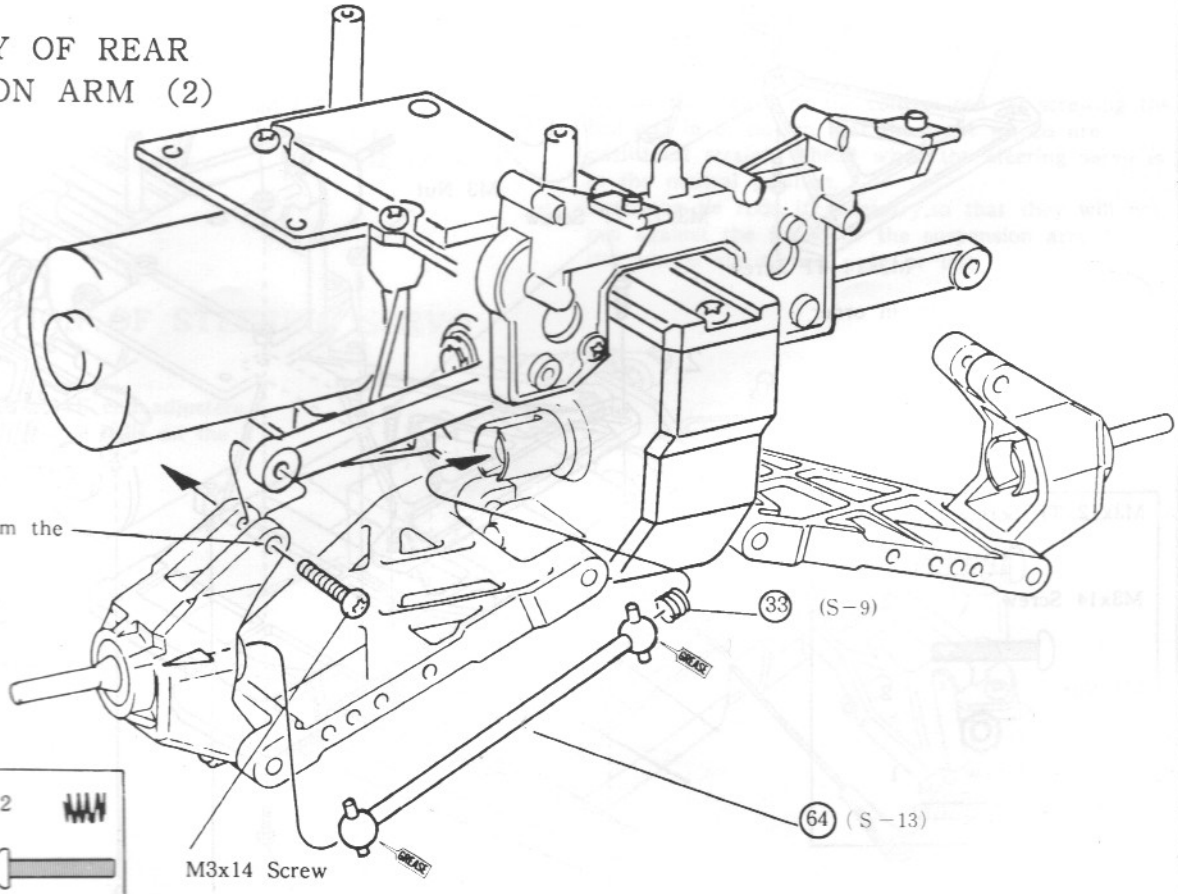
M3x20 Screw	4
M3x12 TP Screw	5
M3 Washer	1

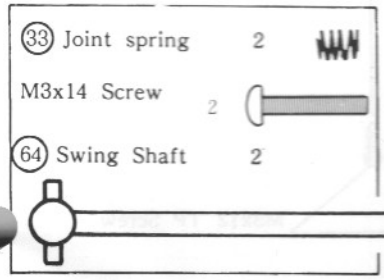


13 ASSEMBLY OF REAR SUSPENSION ARM (1)



14 ASSEMBLY OF REAR SUSPENSION ARM (2)

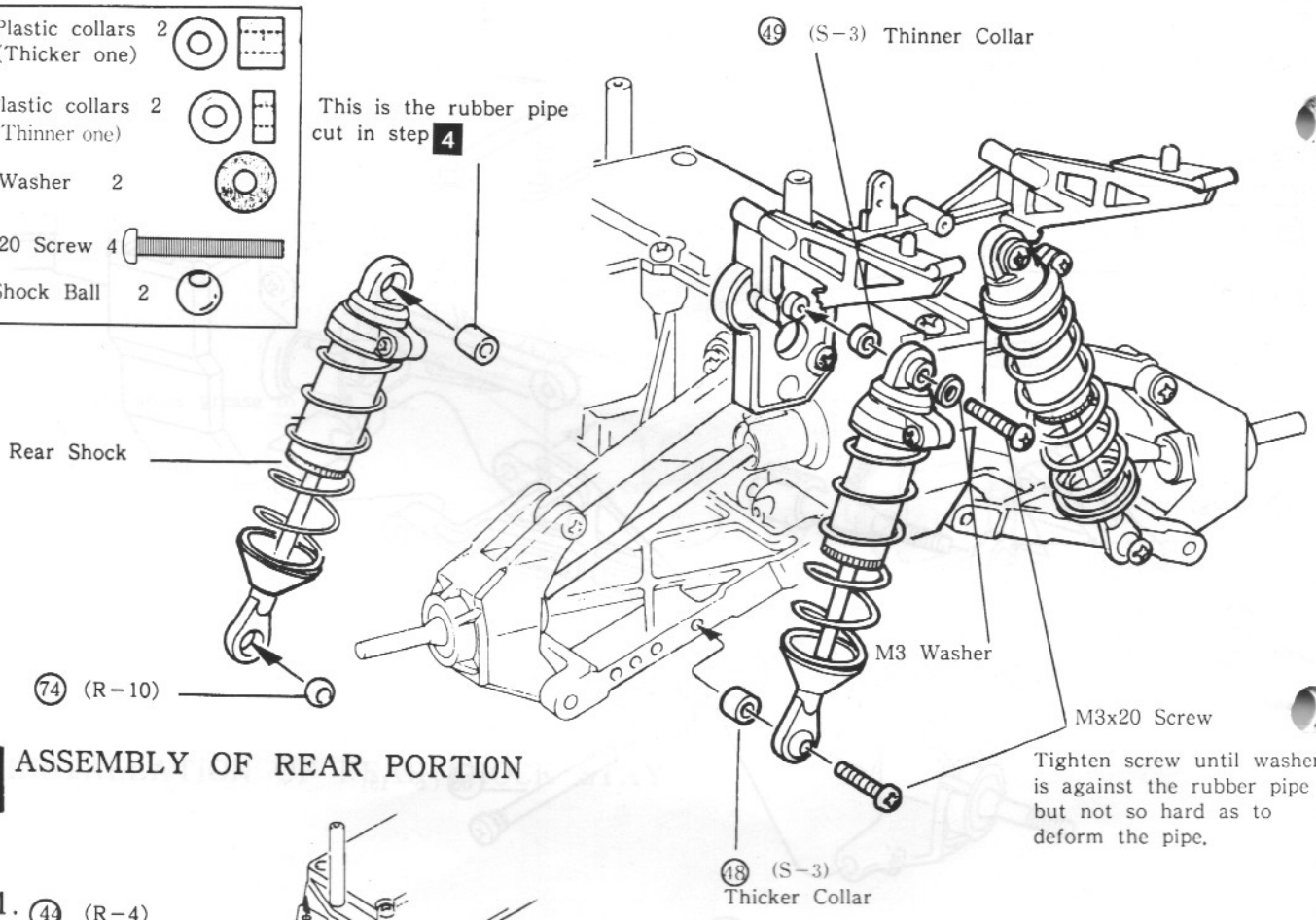




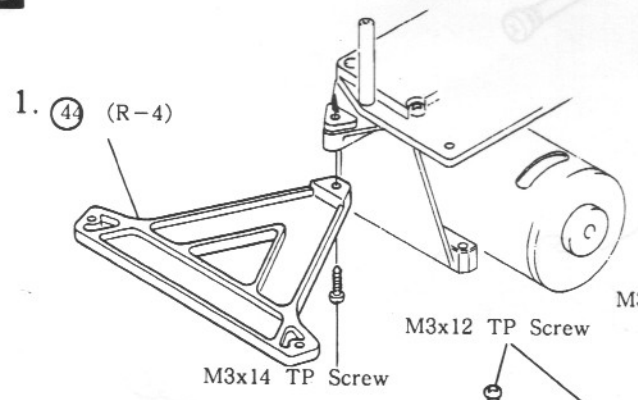
Assemble the right portion in the same way.

15 INSTALLATION OF REAR SHOCKS

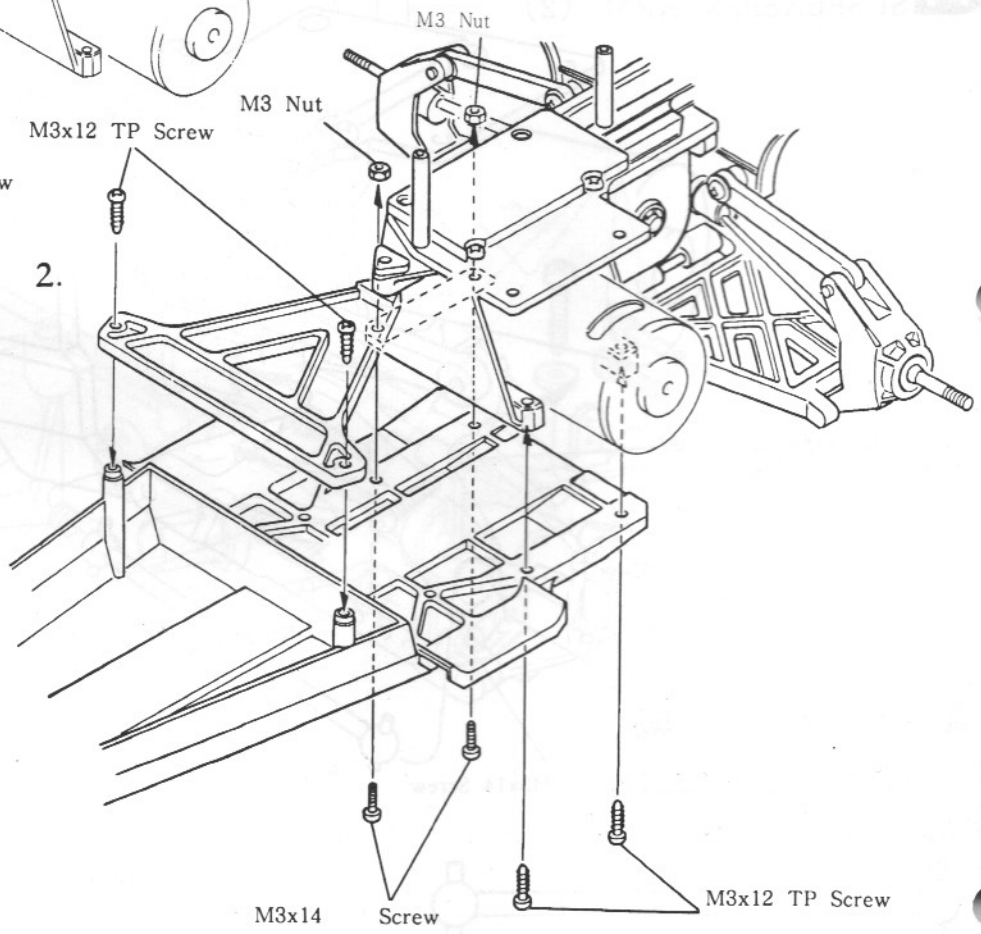
(48) Plastic collars (Thicker one)	2
(49) Plastic collars (Thinner one)	2
M3 Washer	2
M3x20 Screw	4
(74) Shock Ball	2



16 ASSEMBLY OF REAR PORTION



Assemble the parts in order from 1 to 2.



M3x12 TP Screw	4
M3x14 Screw	2
M3 Nut	2
M3x14 TP Screw	1

17 INSTALLATION OF SERVO SAVER

The servo saver parts (Z1－Z4) are packed in the bag (S－9).

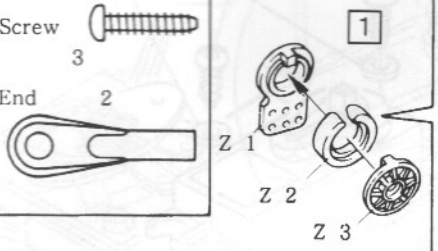
Use a round servo horn with holes spaced at interval of 13mm to 16mm.

M3 Washer 2

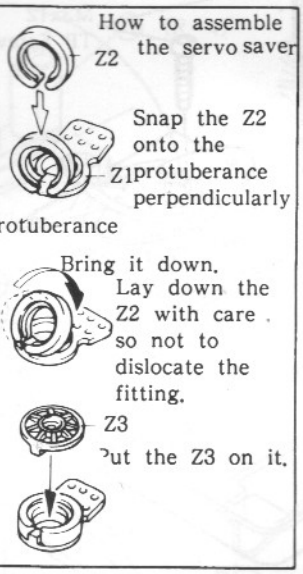
M2x6 TP Screw 2

M3x12 TP Screw 3

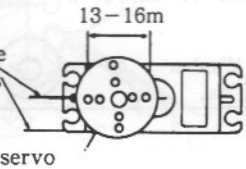
(39) 4.5 Ball End 2

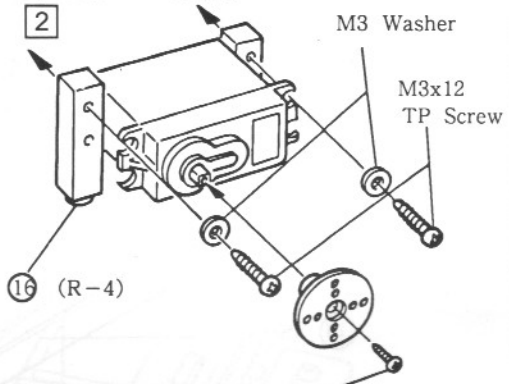


How to assemble the servo saver

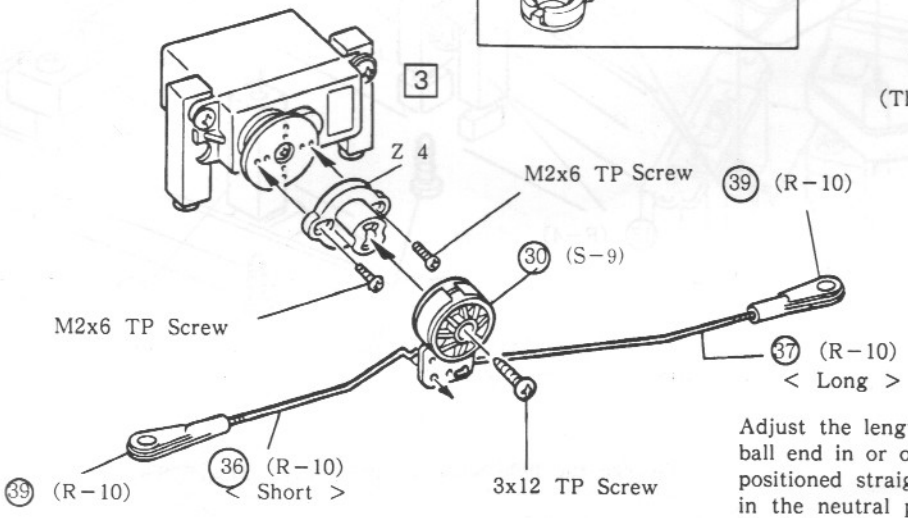


Arrange the linkage of the control rods so that these lines become parallel when the steering servo is operated in neutral.





Tighten the servo horn fixing screw firmly.
(The screw came with your radio set.)



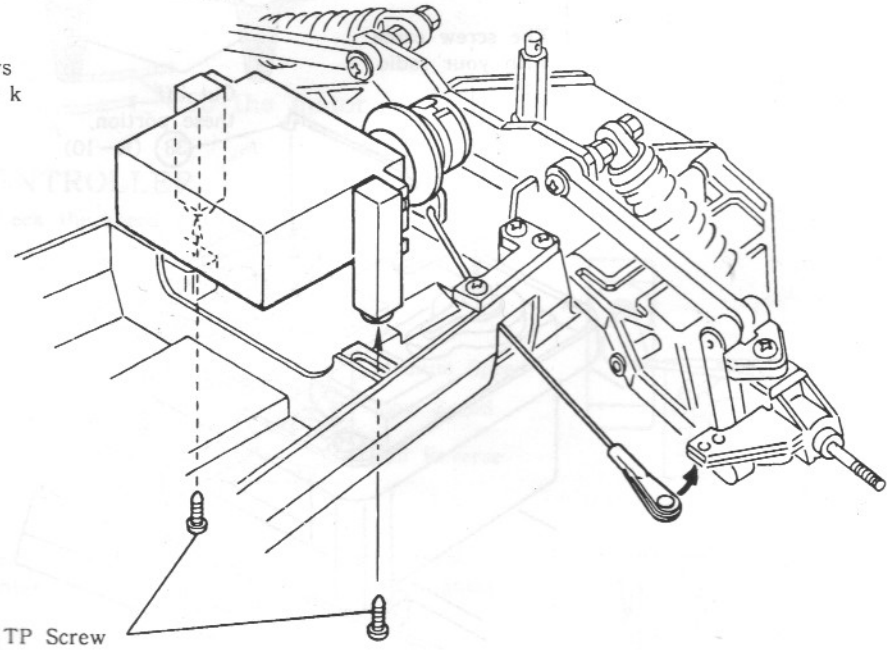
< Screw in the ball end. >

Adjust the length of the control rod by screwing the ball end in or out so that the front wheels are positioned straight ahead when the steering servo is in the neutral position.
Bend the tie rods, if necessary,so that they will not rub against the frame or the suspension arms when the wheels are turned right or left.

18 INSTALLATION OF STEERING SERVO

Fit the right and left ball end adjusters onto the 4.5mm dia. pillow balls on the k nukle.

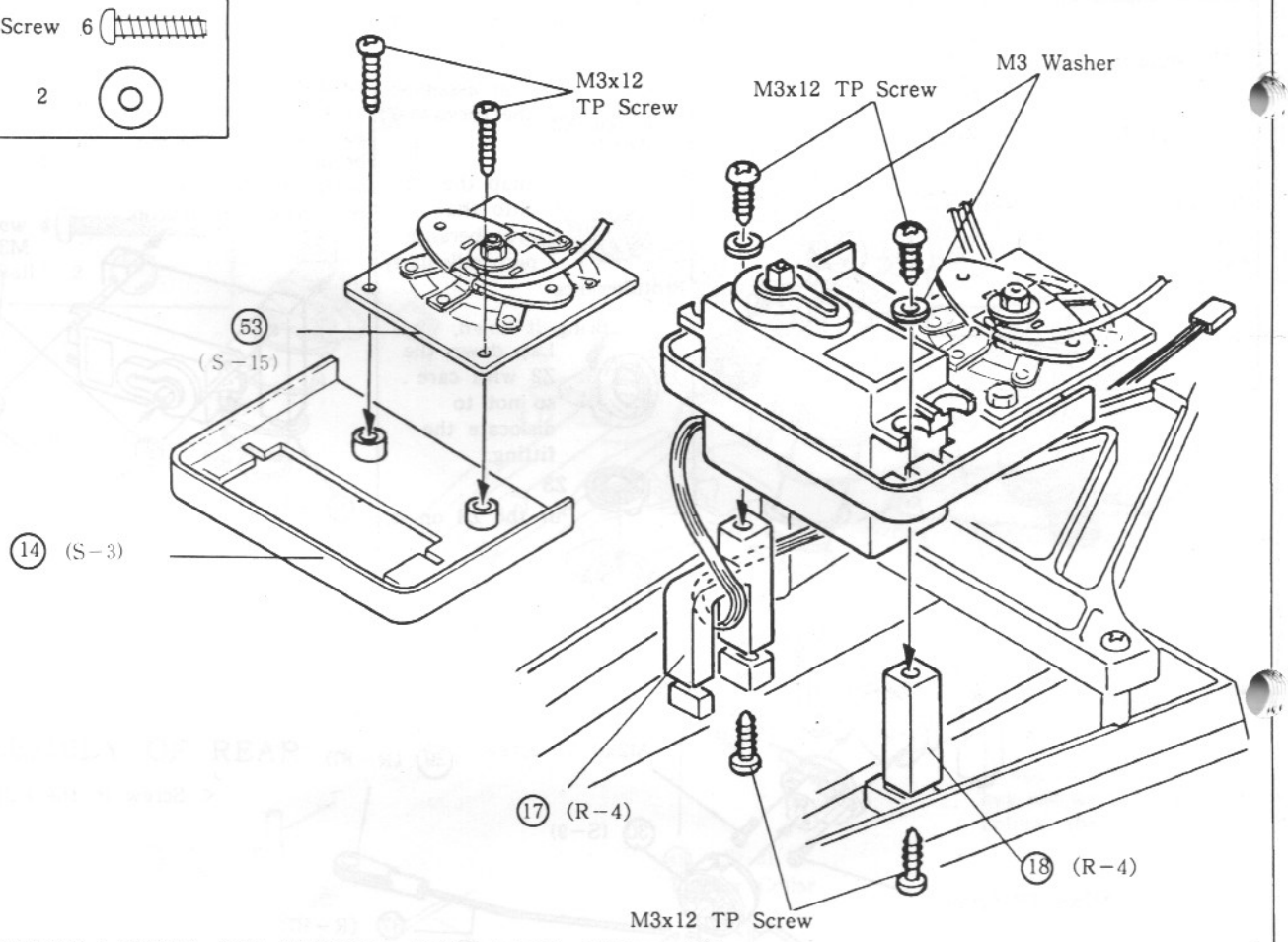
M3x12 TP Screw 2



19 INSTALLATION OF SPEED CONTROL SET (1)

M3x12 TP Screw 6

3 φ Washer 2

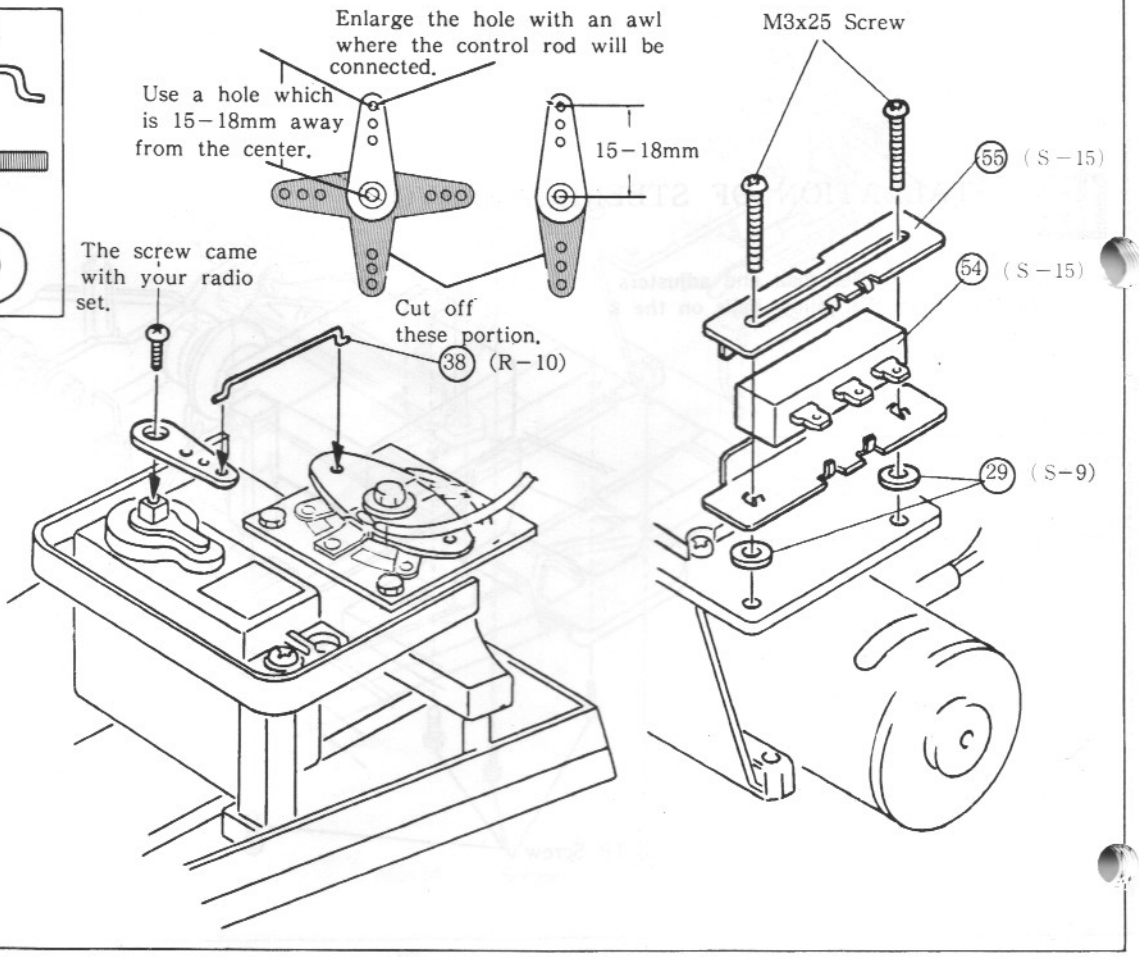


20 INSTALLATION OF SPEED CONTROL SET (2)

38 Speed Control Rod 1

M3x25 Screw 2

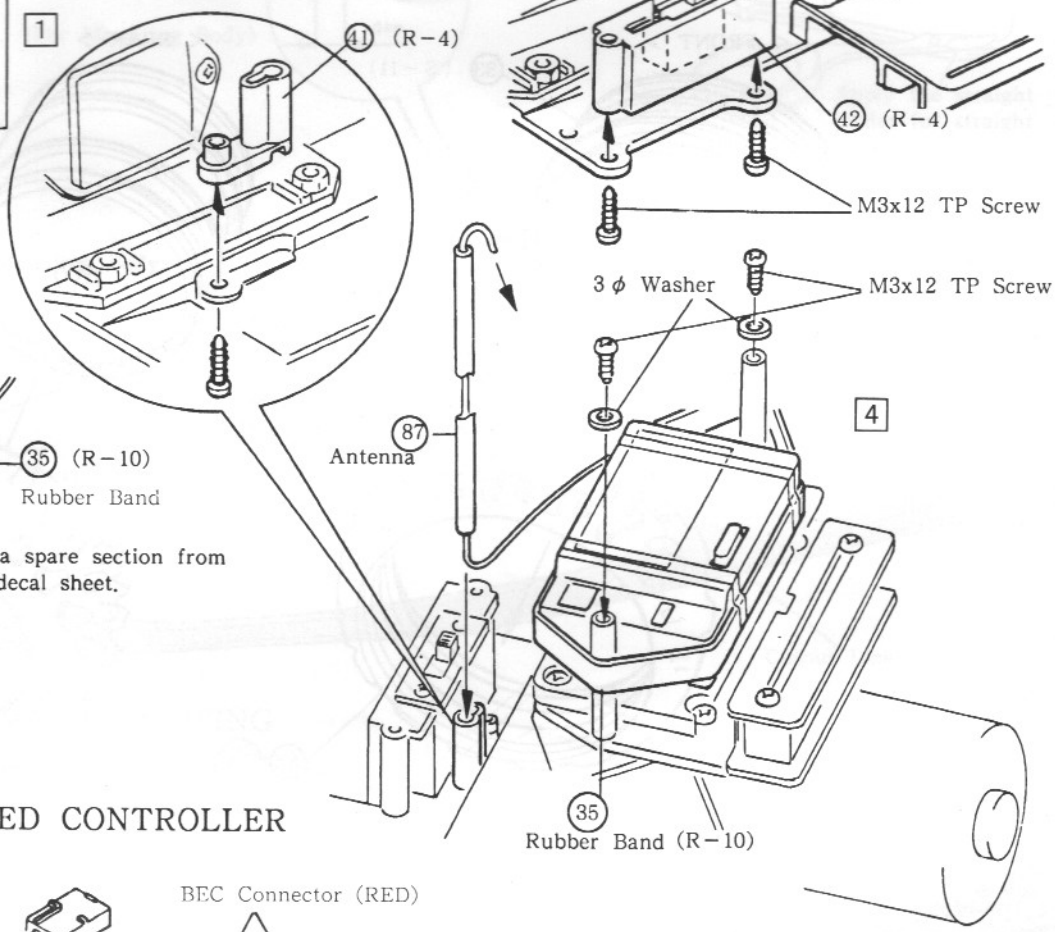
29 Washer 2



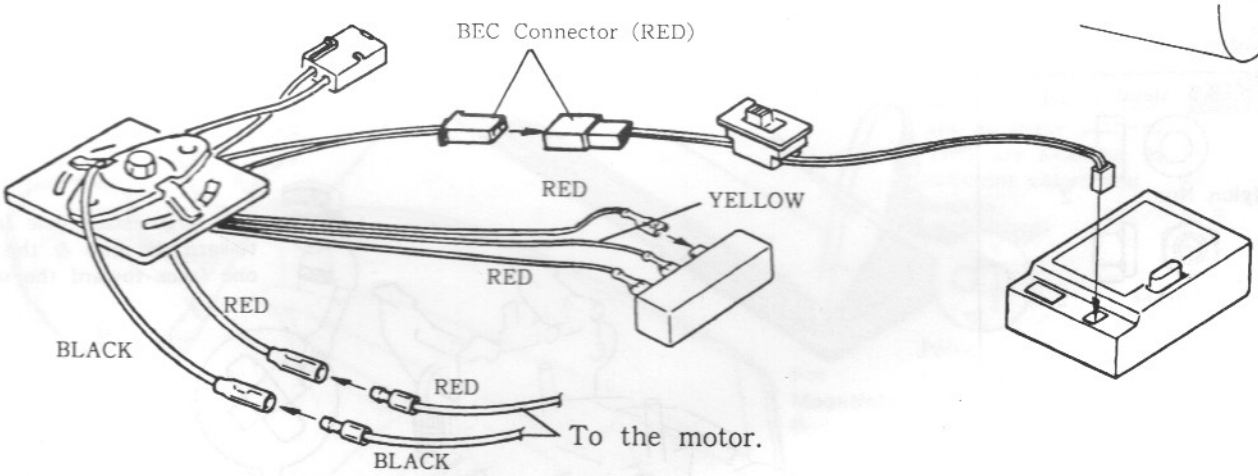
21 INSTALLATION OF SWITCH RECEIVER AND ANTENNA

M3x12 TP Screw	5	
3 φ Washer	2	

Assemble the parts from 1 to 4

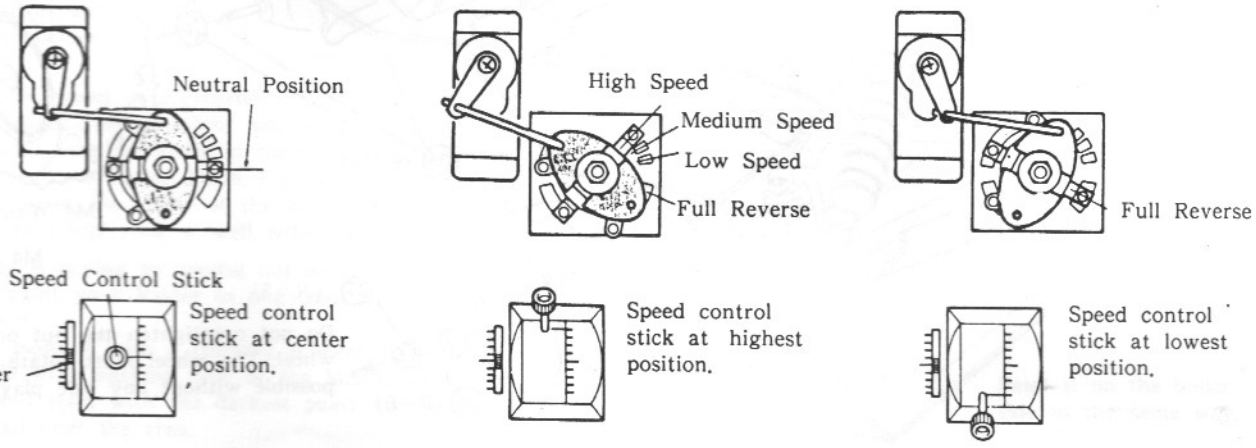


22 WIRING OF SPEED CONTROLLER



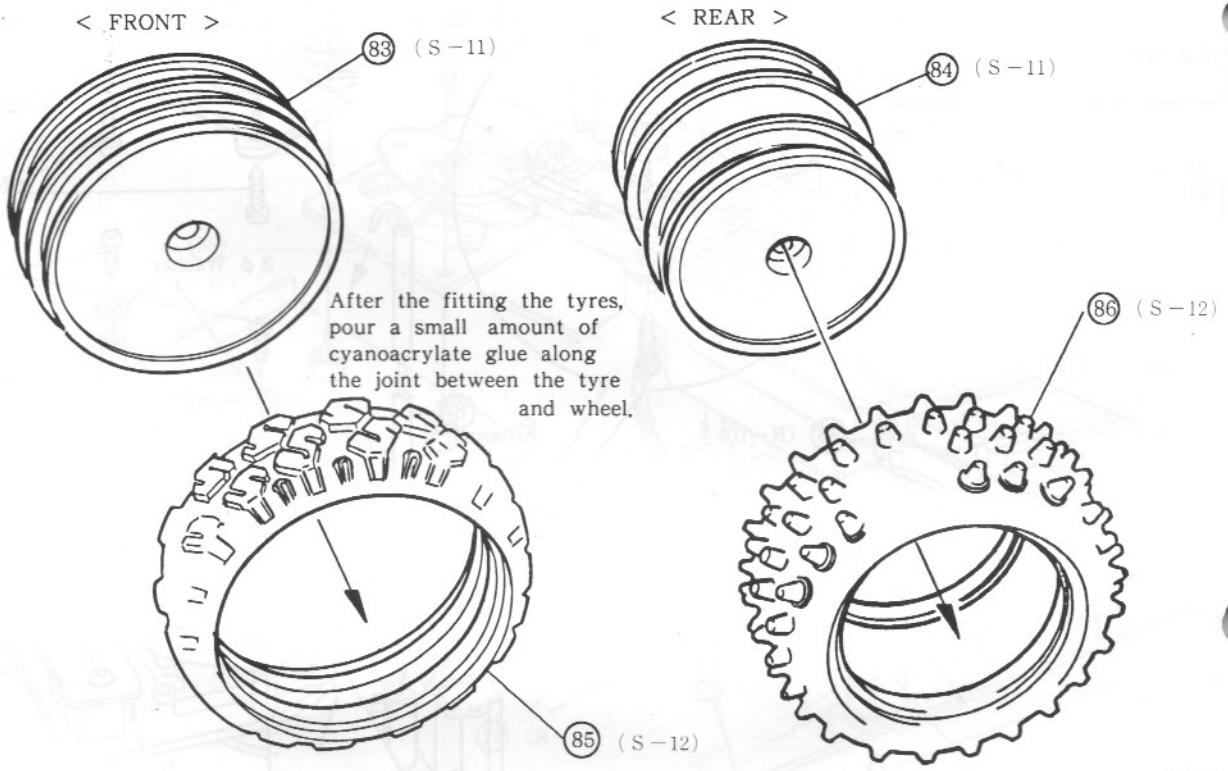
23 SETTING UP SPEED CONTROLLER

Check the speed control movement.

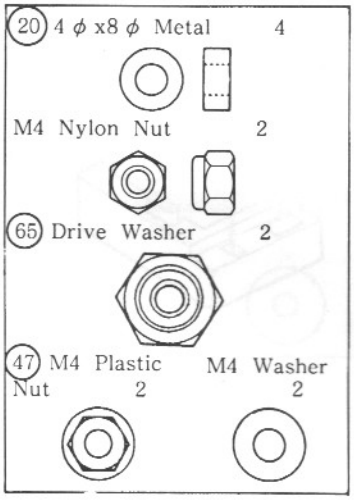


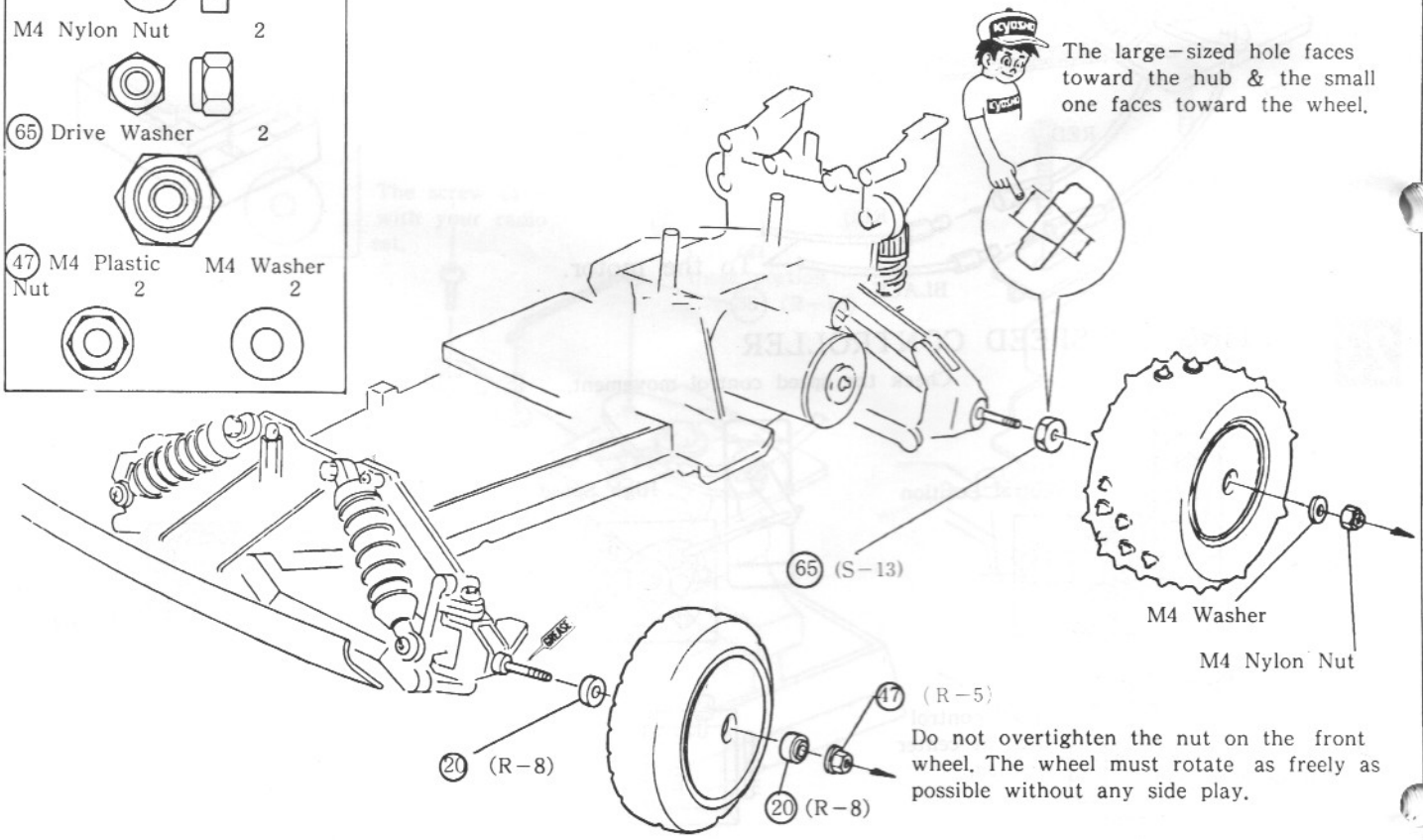
24 ASSEMBLY OF TYRE & WHEEL

Fit the tyre onto the wheel by widening the tyre little by little without deforming the shape too much.



25 INSTALLATION OF TYRE & WHEEL

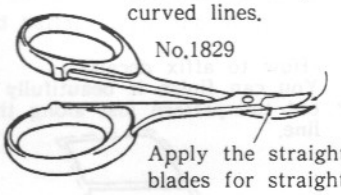




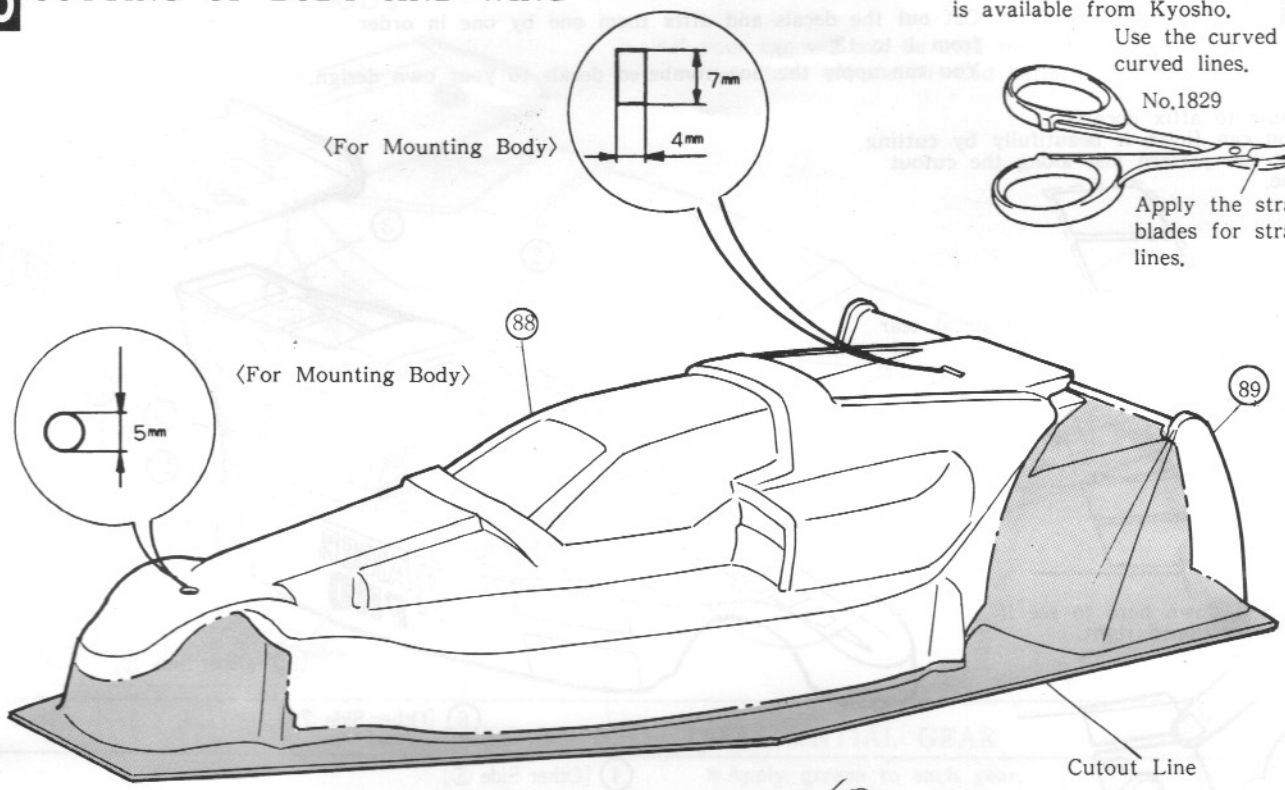
Do not overtighten the nut on the front wheel. The wheel must rotate as freely as possible without any side play.

26 CUTTING OF BODY AND WING

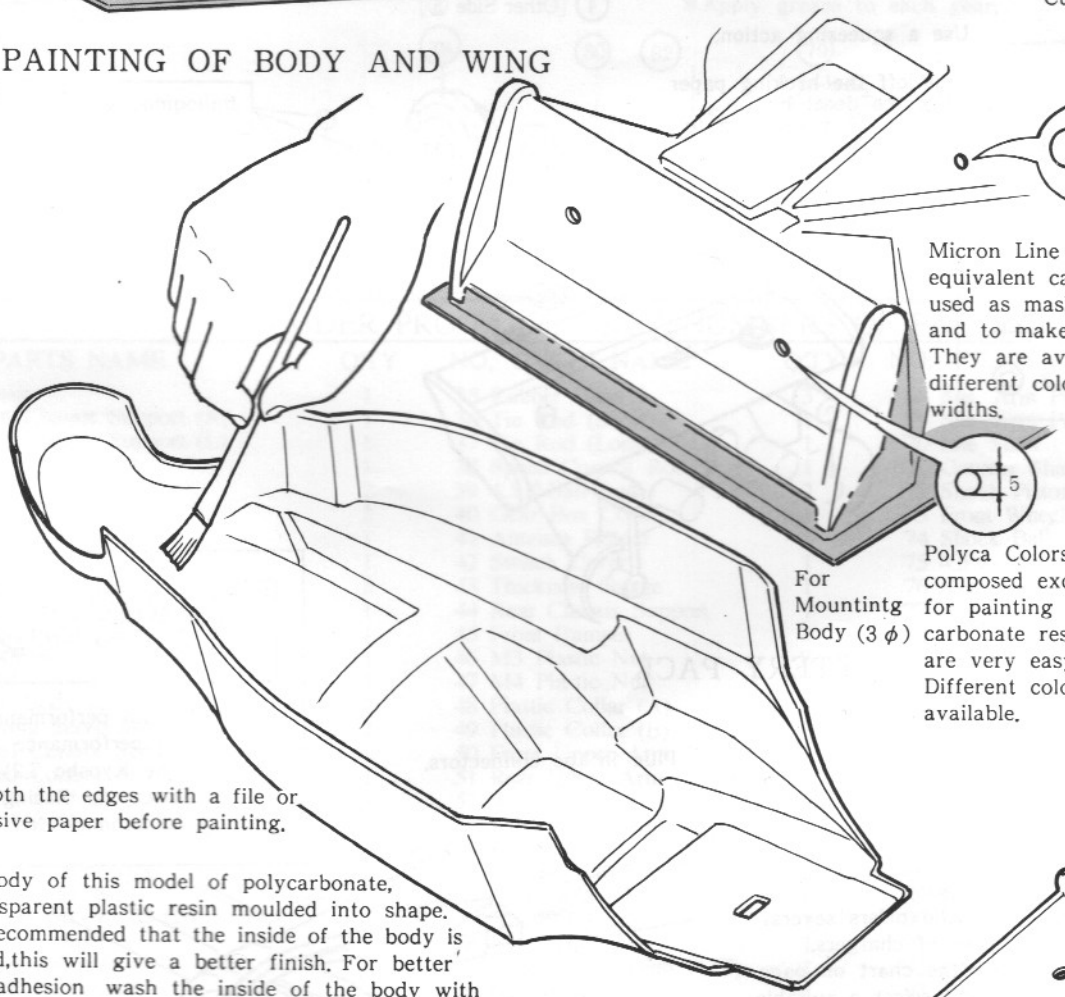
The shears for cutting polycarbonate is available from Kyosho.
Use the curved jaw for curved lines.



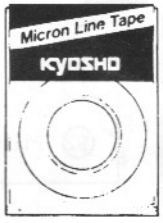
Apply the straight blades for straight lines.



27 PAINTING OF BODY AND WING



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



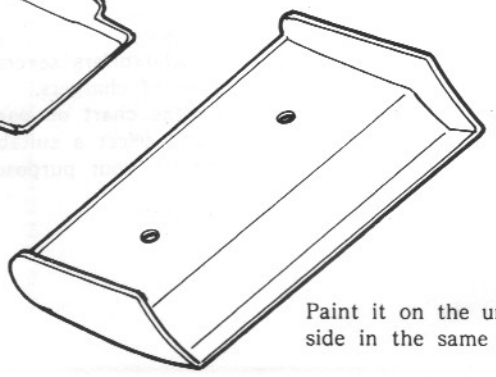
Polyca Colors are paints composed exclusively for painting poly-carbonate resin. They are very easy to use. Different colors are available.

Smooth the edges with a file or abrasive paper before 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 Raider 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.



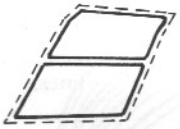
Paint it on the under-side in the same way.

28 APPLYING DECALS AND INSTALLATION OF WING

Cut out the decals and affix them one by one in order from 1 to 13.
You can apply the un-numbered decals to your own design.

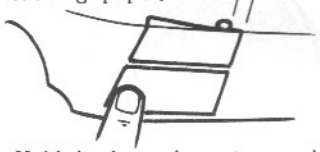
〈How to affix decals〉

1. You can finish it beautifully by cutting out the pattern just along the cutout line.



2. When fixing a long or large decal, tear off one end of the backing paper and fold it back, and place the decal in the correct position.

Fold back the backing paper.



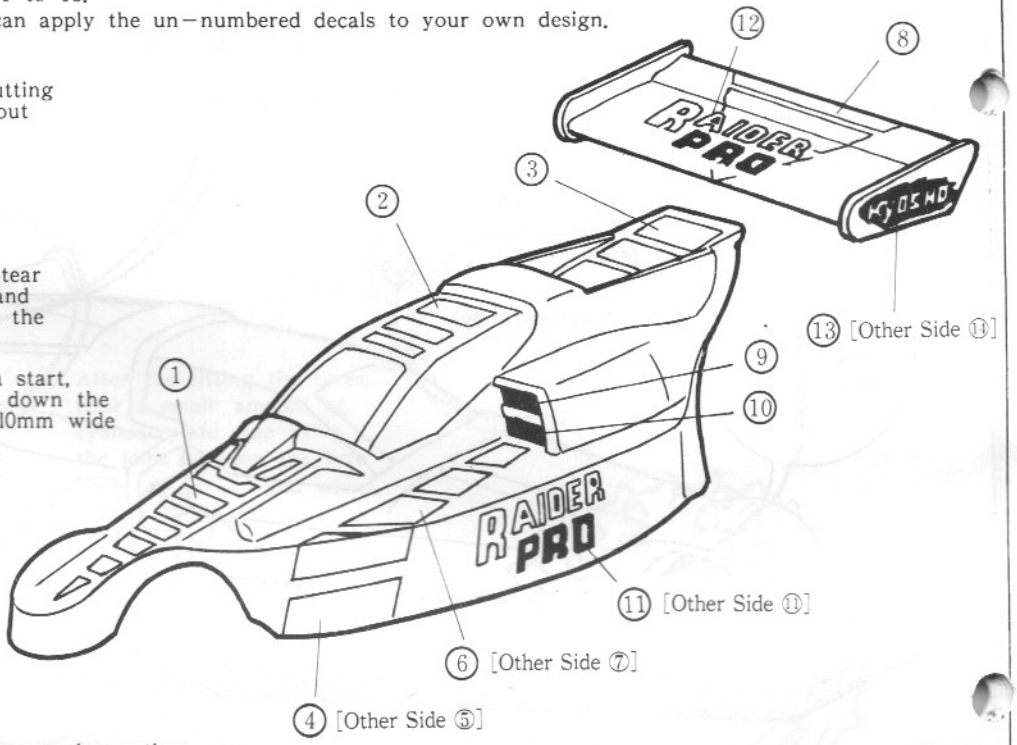
Hold it down here to see if it is positioned right.

For a start, press down the first 10mm wide area.

3.

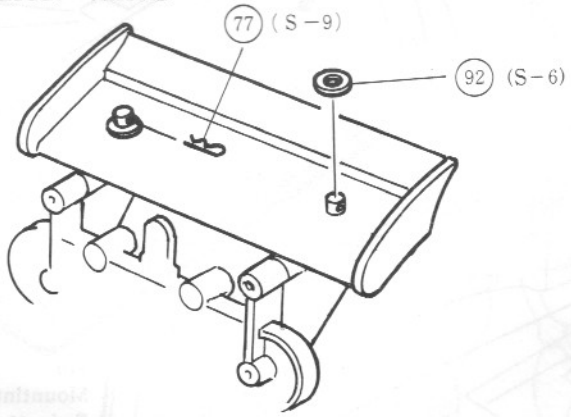
Use a squeezing action.

After positioning the decal , pull off the backing paper except the last 10mm, then affix the decal by pulling it lightly and smoothing out from one end to the other in order to get rid of air bubbles.



29 INSTALLATION OF REAR WING

⑦⑦ Body Pin	2	
⑨② Plastic Washer	2	



30 INSTALLATION OF BATTERY PACK

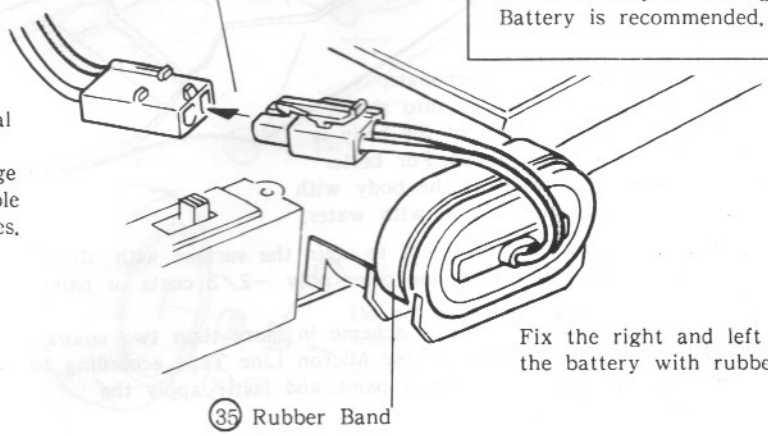
〈Charging Ni-Cad Battery〉

Always charge the battery fully before using it.

Charger
(kyosho offers several types of chargers. See the chart on page 2 and select a suitable one for your purposes.

Ni-Cad Battery
(Not included)

Plug in the connectors.



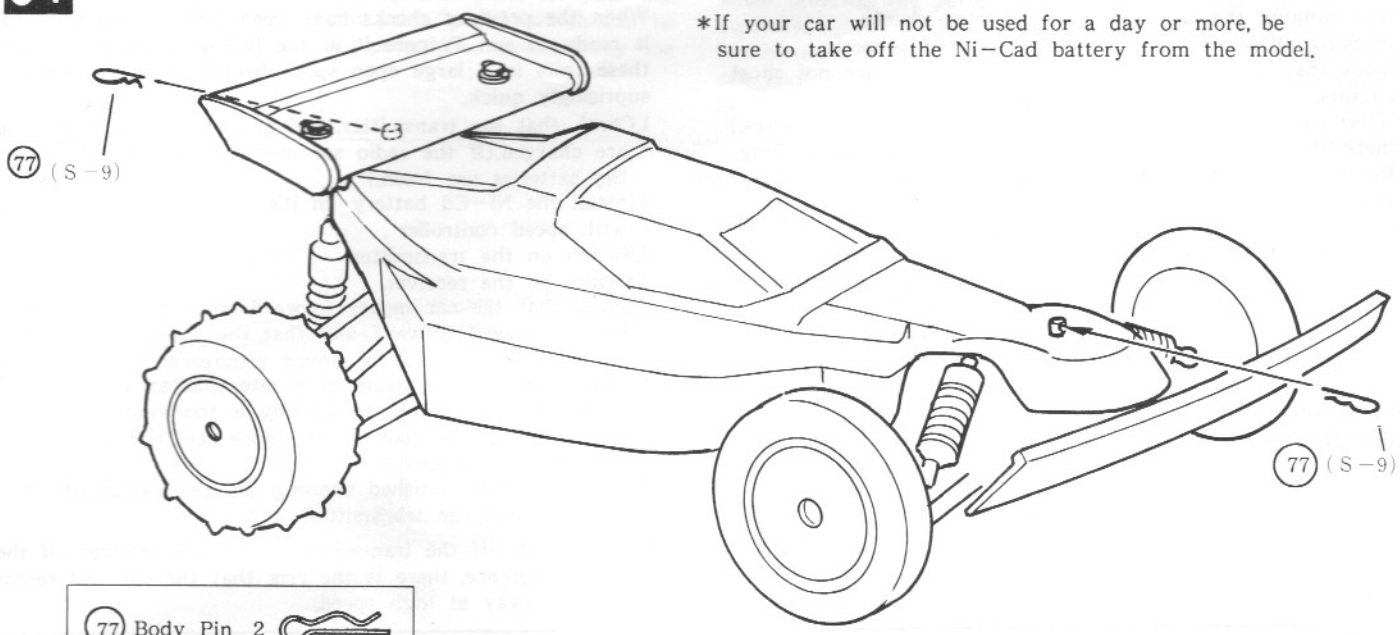
Fix the right and left end of the battery with rubber bands.

㉟ Rubber Band

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

31 MOUNTING OF BODY

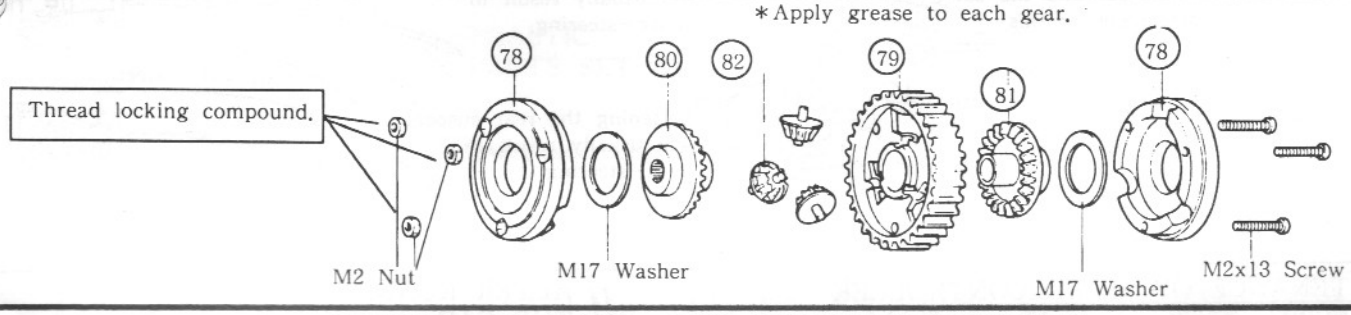
*If your car will not be used for a day or more, be sure to take off the Ni-Cad battery from the model.



77 Body Pin 2

EXPLODED VIEW OF DIFFERENTIAL GEAR

*Apply grease to each gear.



RAIDER PRO (ARR) KEY NUMBERS OF PARTS

NO,	PARTS NAME	QTY	NO,	PARTS NAME	QTY	NO,	PARTS NAME	QTY
1	Chassis	1	35	Rubber Band	3	68	Sus. Arm Pin (30mm)	4
2	Front Chassis Support (R)	1	36	Tie Rod (Short)	1	69	Sus. Arm Pin (45mm)	4
3	Front Chassis Support (L)	1	37	Tie Rod (Long)	1	70	Idle Shaft	1
4	Front Sus. Mount	1	38	Speed Control Rod	1	71	Counter Shaft	1
6	Front Sus. Arm	2	39	4.5 φ Ball End	2	72	Shock Piston	4
7	Rear Sus. Arm	2	40	Gear Box Cover	1	73	Front Wheel Shaft	2
8	Front Hub (R)	1	41	Antenna Holder	1	74	Shock Ball	4
9	Front Hub (L)	1	42	Switch Cover	1	75	4.5 φ Pillow Ball	2
10	Rear Hub	2	43	Thickness Guage	1	76	King Pin]	4
11	Knuckle Arm (R)	1	44	Rear Chassis Support	1	77	Body Pin	4
12	Knuckle Arm (L)	1	45	Front Bumper	1	78	Diff. Gear Case	2
13	Rear Shock Stay	1	46	M3 Plastic Nut	8	79	Diff. Carrier	1
14	Speed Control Mount	1	47	M4 Plastic Nut	2	80	Bevel Side Gear (A)	1
15	Front Body Hook	1	48	Plastic Collar (A)	2	81	Bevel Side Gear (B)	1
16	Steering Servo Mount	2	49	Plastic Collar (B)	2	82	Bevel Pinion Gear	3
17	Speed Control Servo Mount (A)	1	50	Front Upper Arm	2	83	Front Wheel	2
18	Speed Control Servo Mount (B)	1	51	Rear Upper Arm	2	84	Rear Wheel	2
19	5 φ 10 φ Metal	6	52	Moter	1	85	Front Tyre	2
20	4 φ 8 φ Metal	6	53	Speed Controler	1	86	Rear Tyre	2
21	Hobby Greese	1	54	Resistor	1	87	Antenna Pipe	1
22	Shock Rubber Pipe	1	55	Resistor Cover	2	88	Body	1
23	Shock O-Ring	4	56	Counter Gear	1	89	Rear Wing	1
24	Friction Shock (E2-E3)	4	57	Allen Wrench	1	90	Side Cover	1
25	Shock Stopper	4	58	Idle Gear	1	91	Rear Wing Stay	2
26	Spring Adjuster	4	59	Moter Pinon Gear (14T)	1	92	Plastic Washer	2
27	Shock Top (E-1)	4	60	Moter Base	1	93	Decal (Raider Pro)	1
28	Shock End	4	61	Base Plate	1	94	Decal (Raider Pro ARR)	(1)
29	Washer	2	62	Joint	2			
30	Servo Saver (Z1-Z4)	1	63	Rear Wheel Shaft	2			
31	Gear Box	1	64	Swing Shaft	2			
32	Pilot Shaft	1	65	Drive Washer	2			
33	Joint Spring	2	66	front Shock Spring	2			
34	Counter Gear Lock Pin	1	67	Rear Shock Spring	2			

CHECKING THE CAR

CHECKING THE CAR

Before running the car make the following checks.

1.Checking all screws and nuts are tightened properly.
2.Check that the wiring is neat and that there are not short circuits.
(Use electrical insulating tape if there are any bare wires.)
3.Check that all wheels turn freely, whithout binding or drag. Rotate the wheels by hand for about two seconds to distribute the grease evenly and to free up the bushings.
4.Switch on the transmitter and receiver , then check that the wheels turn right when the steering control is operated for a right turn. Check that the wheels turn an equal distance right and left. If they do not, adjust the linkage.
5.Check that the speed controller slide arm moves the full distance and in the right direction when the transmitter speed control stick is moved fully forward, then check the same for reverse by moving the stick backward.
If slider movement is not correct, adjust the linkage.
After these check, Switch off the receiver, then the transmitter, in that order.

RUNNING THE CAR

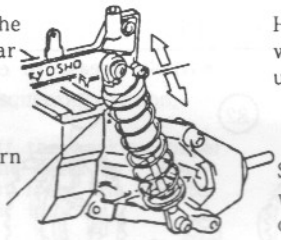
When the previous checks have been made successfully, the car is ready to run. Prepare it in the following manner. Perform these tests in a large open space because the car can go suprisingly quick.

1.Check that the transmitter,receiver , and car Ni−Cd batte are charged.(If the radio set uses dispoable cells,be sure that the batteries are fresh.)
2.Install the Ni−Cd battery in it's compartment and connect with speed controller .
3.Switch on the transmitter.
4.Switch on the receiver.
5.Check that the car moves forward when the transmitter speed stick is moved forward, and that the speed of the car increases as the stick is moved progressively further forward.
6.Check that the car steers at a rate that allows it to be controlled comfortably. If steering is too violent, move the inner ends of the rods to the more centrally positioned holes on the servo saver.
7.When you have finished running the car, switch off the receiver, then the transmitter.

NOTE : Never switch off the transmitter before the receiver , If there is radio interference, there is the risk that the car will respond and drive away at high speed.

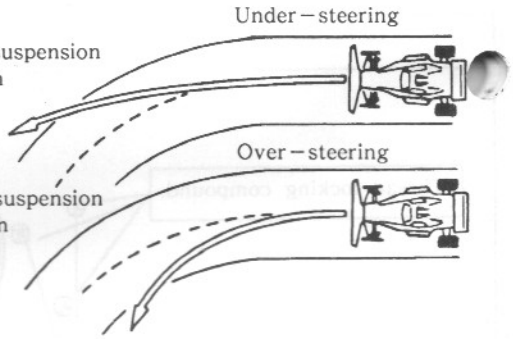
TUNING THE SUSPENSION

By lowering , Tightening the coil spring the suspension will become harder and the car will under−steer progressively, as this hardening is increased.
Rising or lossening the tension on the coil spring, the rear suspension will in turn soften the rear suspension as the adjustment is made.



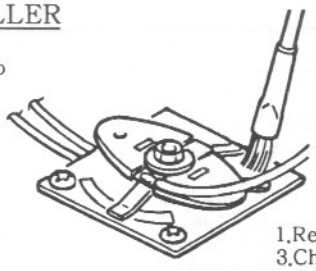
Hardening the rear suspension will usually result in under−steering.

Softening the rear suspension will usually result in over−steering.

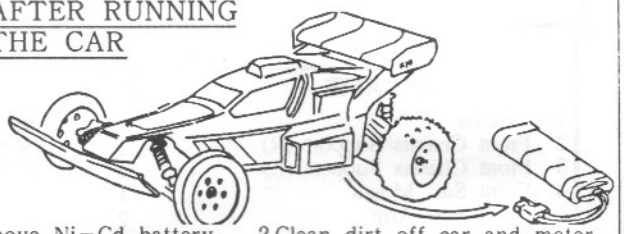


MAINTENANCE OF SPEED CONTROLLER

The cover of the speed controller is designed to keep out dirt. However, after running Raider in dusty conditions, some dust may enter and effecting operation, speed controller become intermittent or erratic.
It is therefore advisable to remove the cover regularly and clean off the windings and to oil the pivot of the slider to prevent the slider becoming stiff and difficult to turn.



AFTER RUNNING THE CAR



1.Remove Ni−Cd battery. 2.Clean dirt off car and motor.
3.Check that screws are tight

*REMOVE THE Ni−Cd BATTERY FROM THE CAR WHEN IT IS NOT IN USE.

TROUBLE SHOOTING GUIDE

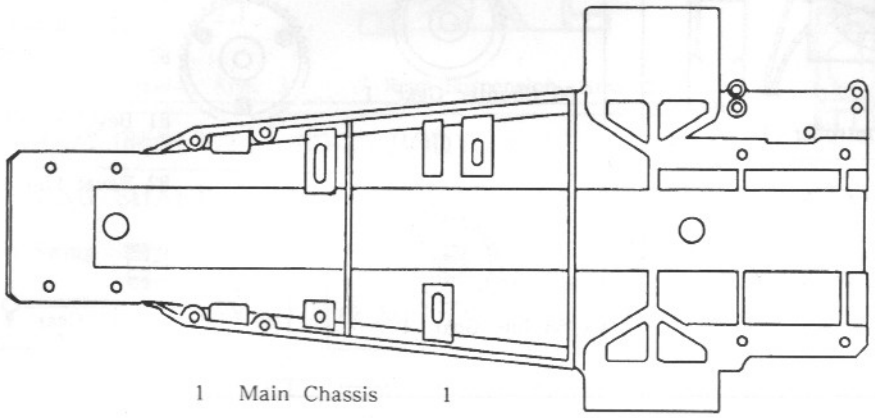
(problem)	(Probable Cause)	(Possible Solution)
Servo does not operate	Weak transmitter or receiver battery.	Charge/recharge transmitter and receiver batteries.
	Fault in radio control set..	Have radio control set checked.
Car stops while running	Discharge car battery.	Recharge battery.
	Bad wiring.	Check all splices and wiring.
Car runs but does not gain speed	Loose pinion on motor shaft. (Motor spins but car does not move.)	Tighten setscrew of motor pinion.
		Clean the wiper arm and winding of controller.
	Malfunction of speed controller.	Check wiring on back of controller.
	Loose connectors.	Check that all cnnectors are joined securely.
	Tighten axle nuts.	Check nuts holding wheelson axles. (Turn front and rear wheels to check for binding.)
	Bent axle, etc.	Check that axles are straight and that no other important part are out of line.
	Malfunction speed controller.	Check that wiper arm of speed controller moves fully to end of winding when transmitter is set for full speed. Check that speed controller slider and winding are free of dirt and corrosion.
	Deterioration of motor,battery.	Replace faulty item.
Car does not stop	Speed Controller linkage.	Eliminate free play in speed controller linkage. Check that transmitter speed control stick is in center position when released (not offset by trim lever). Adjust speed controller linkage so that wiper arm is in center when transmitter stick is in neutral position.
Car does not run straight	Dirty speed controlle	Check that speed controller wiper arm and winding area are free of dirt and corrosion.
		Adjust length of tie rods as described in instructions.

PURCHASING PARTS FOR YOUR KIT

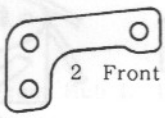
You can purchase replacement and optional parts for your kit. We offer these parts in convenient parts "pack" which can be purchased separately.To locate the parts you require study the following 3 pages.

When ordering the parts you require please use the pack numbers.
For example, if you need Knuckle arms (key no.11 and 12) ask your dealer for Kyosho parts pack RD-3 (Plastic Parts Set A.Z).

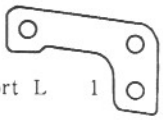
RD-1 CHASSIS SET



1 Main Chassis 1



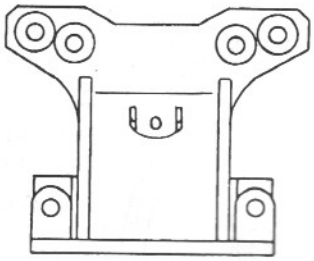
2 Front Chassis Suport R 1



3 Front Chassis Suport L 1

44 Rear Chassis Suport 1

RD-2 FRONT SUSPENSION MOUNT

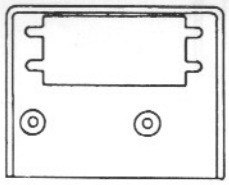


4 Front Suspension Mount 1

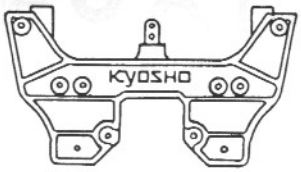
RD-3 PLASTIC PARTS SET A.Z

48 Plastic Collar A 2

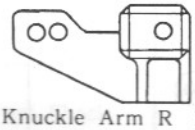
49 Plastic Collar B 2



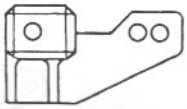
14 Speed Control Mount 1



Rear Shock Stay 1
(This part is not used.)



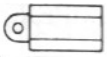
11 Knuckle Arm R 1



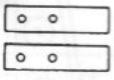
12 Knuckle Arm L 1

30 Servo Saver (Z1-4) 1

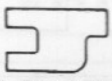
RD-4 PLASTIC PARTS SET B



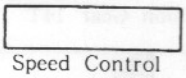
15 Front Body Hook 1



16 Steering Servo Mount 2

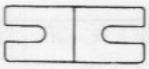


17 Speed Control Servo Mount A 1

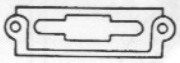


18 Speed Control Servo Mount B 1

41 Antenna Holder 1



43 Thickness Gauge 1

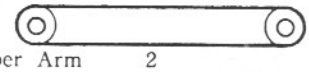


42 Switch Cover 1

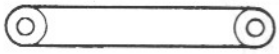
RD-5 UPPER ARM KIG PIN SET

76 King Pin 4

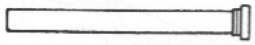
50 Front Upper Arm 2



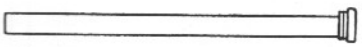
51 Rear Upper Arm 2



RD-6B SHAFT SET

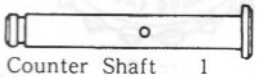


68 Arm Pin 30mm 4



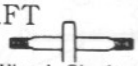
69 Arm Pin 45 mm 4

70 Idle Shaft 1



71 Counter Shaft 1

RD-7 FRONT WHEEL SHAFT



73 Front Wheel Shaft 2

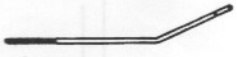
RD-8 METAL SET

19 Metal (5x10x4) 8

20 Metal (4x8x3) 6

RD-9 ROD SET

75 4.5 ϕ Pillow Ball 2



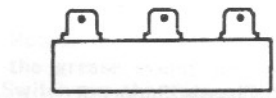
37 Tie Rod (Long) 1

36 Tie Rod (Short) 1

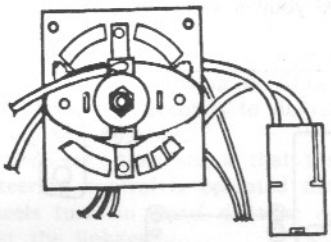
39 4.5 ϕ Ball End 2

38 Speed Control Rod 1

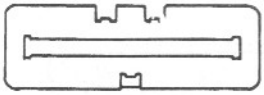
RD-10 SPEED CONTROL SET



54 Cement Resistor 1



53 Speed Controller 1



55 Resistor Cover 2

29 Bakelite Washer 2

RD-11 GEAR SET

34 Counter Gear Lock Pin 1

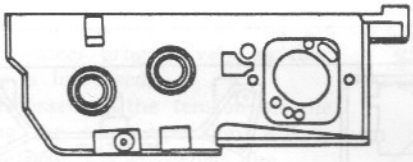
56 Counter Gear 1

78 Diff. Case 2
79 Diff. Carrier 1
80 Bevel Side Gear A 1
81 Bevel Side Gear B 1
82 Bevel Pinion Gear 3

58 Idle Gear 1

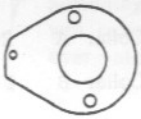
59 Motor Pinion Gear 1

RD-12 GEARBOX

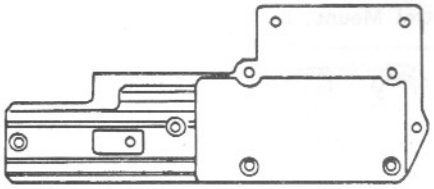


31 Gearbox 1

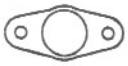
90 Side Cover 1



60 Motor Plate 1



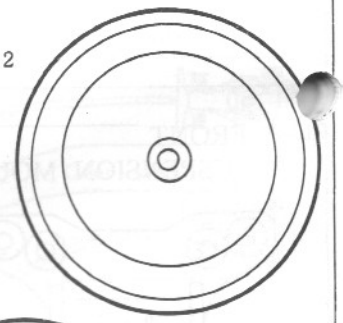
40 Gearbox Cover 1



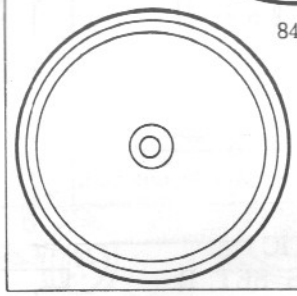
61 Base Plate 1

RD-29 WHEEL SET (Raider Pro)

83 Front Wheel 2



84 Rear Wheel 2



SB-14 REAR TYRE

86 Rear Tyre 2

1875 FRONT TYRE

85 Front Tyre 2

OT-51 PINION GEAR 14T

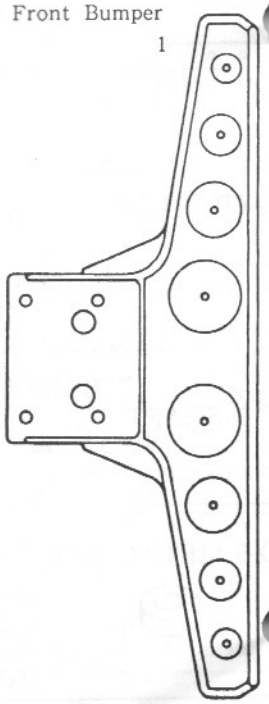
59 Pinion Gear 14T

1889 BODY PIN

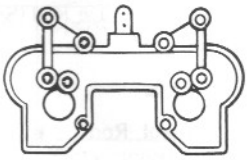
77 Body Pin 5

RK-1 FRONT BUMPER

45 Front Bumper 1



RD-27 Rear Shock Stay



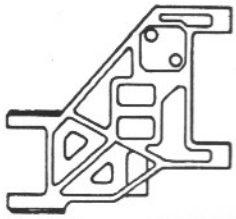
13 Rear Shock Stay 1

RD-28 Wing Stay

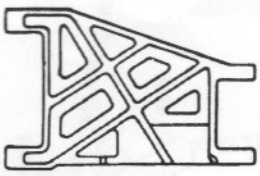
91 Rear Wing Stay 2

92 Plastic Washer 2

RK-6 SUSPENSION ARM SET

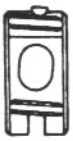


6 Front Suspension Arm 2



7 Rear Suspension Arm 2

RK-10 HUB SET



8 Front Hub R 1

9 Front Hub L 1

10 Rear Hub 2

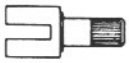
RD-30 BODY (Raider Pro)

RD-33 BODY (Raider Pro ARR)

RD-17 SWING SHAFT

64 Swing Shaft 2

RK-21 JOINT

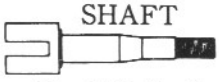


62 Joint 2

32 Pilot Shaft 1

33 Joint Spring 2

RK-23 REAR WHEEL SHAFT



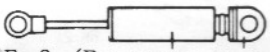
63 Rear Wheel Shaft 2

RK-24 DRIVE WASHER

65 Drive Washer 4

PI-7 FRICTION SHOCK SET

24 E Block Part (El – 3) 4



E-2 (For rear= longer one) E-1 27

E-3 (For Front= shorter one)

25 Shock Stopper 4

28 Shock End 4

26 Spring Adjuster 4

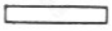
67 Rear Shock Spring 2

74 Shock Ball 4

23 Shock O Ring 4

72 Shock Piston 4

22 Shock Rubber Pipe 1



66 Front Shock Spring 2

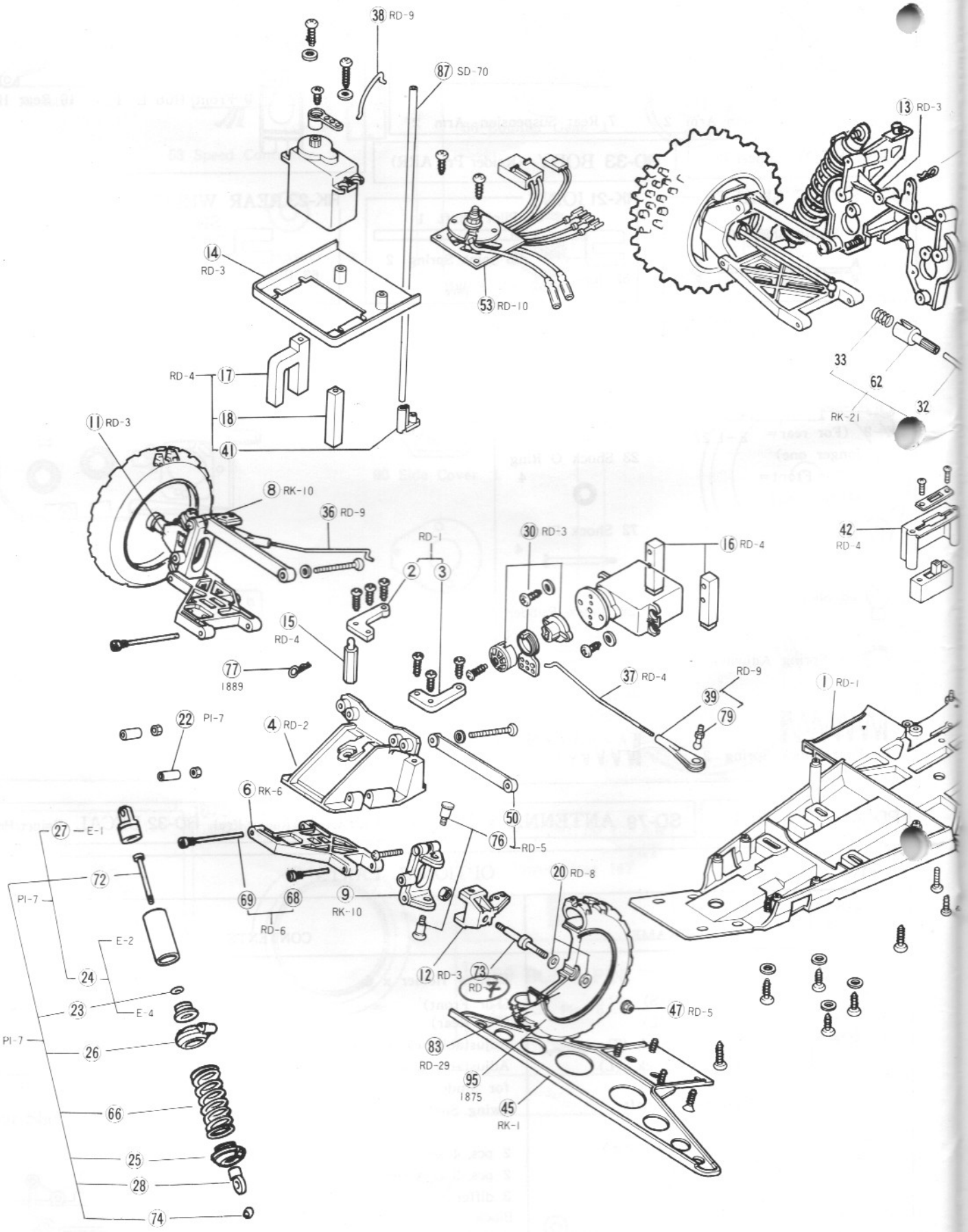
RD-14 SCREW SET

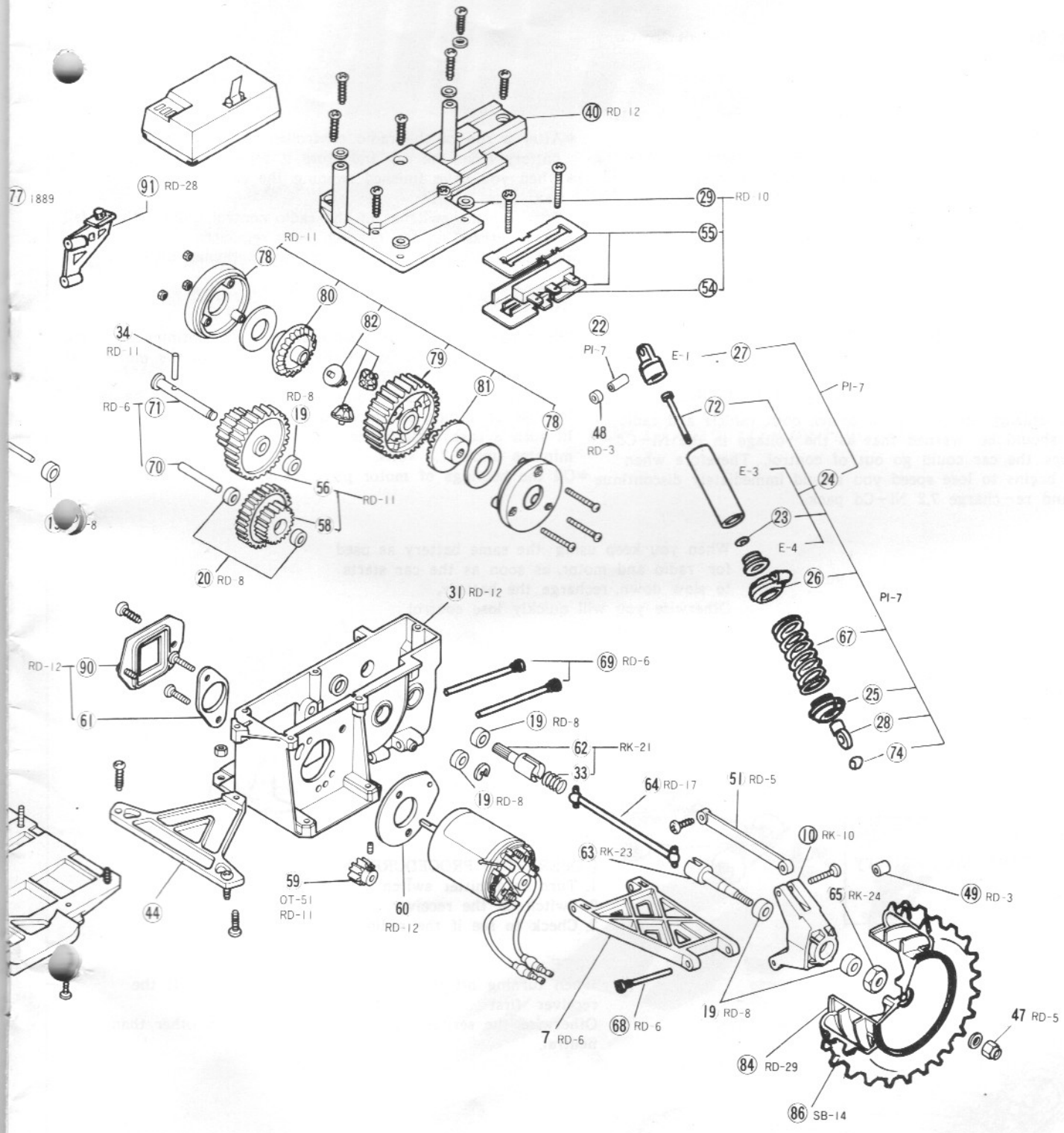
SD-79 ANTENNA PIPE

RD-31 DECAL (Raider Pro) RD-32 DECAL (Raider Pro ARR)

OPTIONAL PARTS

PARTS PACK #	PARTS NAME	CONTENTS
EF-39	NiCd Strap	Battery Holder x 6
W-5001	Pressure Shock (S)	(For Front)
W-5002	Pressure Shock (L)	(For Rear)
W-5003	Adjustable Oil Shock (S)	Adjustable when fitted on the car. (For front)
W-5004	Adjustable Oil Shock (L)	Adjustable when fitted on the car. (For Rear)
W-5032	Low-Profile Tire	for Muddy Surface
W-5062	Universal Swing Shaft (For Rocky)	Swing Shaft, Rear Wheel Shaft. Assembled (2 pcs.)
1901	Ball Bearing (5 ϕ x10 ϕ)	2 pcs. 4 sets required.
1903	Ball Bearing (4 ϕ x8 ϕ)	2 pcs. 3 sets required.
1951	Shock Oil Set (S.M.H.)	3 different grades (Hard/Medium/Soft).
W-5071	Front Tire	Block Pattern
W-5031	Low Profile Tyre, Allround type	Suitable in most conditions.
W-5073	Front Tire	Pin Spike Pattern
OT-24	Pinion Gear (15T)	Gear ratio 9 : 1 or 10.1 : 1
SC-40	Motor Cover	


38 RD-9
87 SD-70
13 RD-3
14 RD-3
53 RD-10
RD-4 17
18
41
33
62
RK-21
32
11 RD-3
8 RK-10
36 RD-9
RD-1
2
3
30 RD-3
16 RD-4
42 RD-4
15 RD-4
77 1889
37 RD-4
RD-9
39
79
1 RD-1
22 PI-7
4 RD-2
6 RK-6
50
76 RD-5
27 E-1
72
PI-7
69
68
RD-6
9 RK-10
20 RD-8
E-2
24
23
E-4
PI-7
26
12 RD-3
73
RD-7
47 RD-5
83 RD-29
95 1875
45 RK-1
66
25
28
74


40 RD-12
91 RD-28
77 1889
29 RD-10
55
54
RD-11
78
80
82
79
81
78
34
RD-11
RD-6
71
RD-8
19
70
56
RD-11
58
20 RD-8
22
PI-7
48
RD-3
E-1
27
PI-7
72
E-3
24
23
E-4
26
PI-7
67
25
28
74
31 RD-12
RD-12
90
61
69 RD-6
19 RD-8
62 RK-21
33
19 RD-8
64 RD-17
51 RD-5
10 RK-10
63 RK-23
65 RK-24
49 RD-3
59
OT-51
RD-11
60
RD-12
44
7 RD-6
68 RD-6
19 RD-8
47 RD-5
84 RD-29
86 SB-14

CAUTIONS!

The electric R/C cars are powered by a highly efficient Ni−Cd batteries and the cars operate at high speeds.
Great care is therefore required when you operate the car.

* Do not run the car in crowded places or on the road.
* When driving your car with other modellers always check that you are on separate frequencies.

If your car is stalled or stopped by an obstacle , bring the throttle to neutral and reverse the vehicle away from the obstacle. Should this not be possible return the throttle to neutral and remove the car from the obstacle by hand. This will avoid burning out motor or wiring and damage to the components within the vehicle.

* Do not try to hold the rotating wheels forcibly.
* When connecting the Ni−Cd battery, be sure that the speed controller is positioned in neutral.
* Before each running of the car check that the drive system turns and operates smoothly. Application of oil and grease is very important. Any binding or drag in the driving system will impose heavy loads on both motor and battery and will cause damage to both and to the drive system itself.
* With cars utlizing the Ni−Cd to power both vehicle and radio system,you should be warned that as the voltage in the Ni−Cd battery drops, the car could go out of control. Therefore when the vehicle begins to lose speed you should immediately discontinue operation and re−charge 7.2 Ni−Cd pack.
* After a run of the radio controlled car, remove the Ni−Cd battery from the car and store it separately.
* When you have finished running the car, clean dirt off the car.
* Turn off the switches of the radio control units without fail.
* Apply grease on the moving parts regularly.
* Check that all screws and nuts are tightened properly.

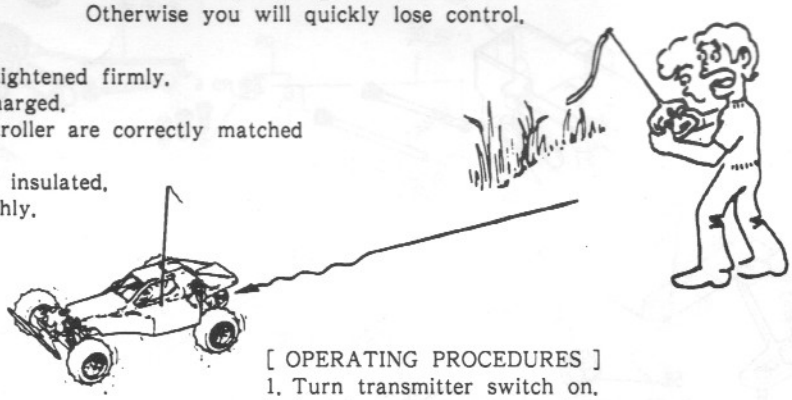
HANDLING THE MOTOR

* 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.
* After several runs the motor may lose its power. This is because of carbon accumulated on the commutator of motor. In such a case, remove the pinion gear and run it idly for 15 minutes under 7.2 volts.
* Oil the bearings of motor periodically.

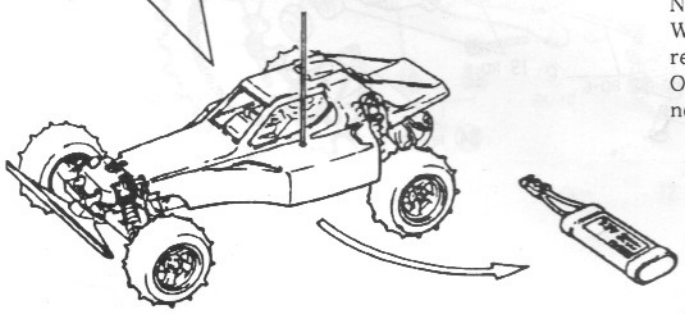
When you keep using the same battery as used for radio and motor, as soon as the car starts to slow down, recharge the battery. Otherwise you will quickly lose control.

RUNNING THE RAIDER 2WD

[CHECK BEFORE EVERY RUN]
1. Check to see if all bolts and nuts are tightened firmly.
2. Check to see Ni−cad battery is fully charged.
3. Check that both steering and speed controller are correctly matched to your transmitter.
4. Check to see that all wiring is properly insulated.
5. Check to see if parts are moving smoothly.



After running,
always remove the battery
from the car.



[OPERATING PROCEDURES]
1. Turn transmitter switch on.
2. Switch on the receiver.
3. Check to see if the radio system is working properly.

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

[TROUBLE SHOOTING IF THE CAR DOES NOT START]
1. Check contact of connectors of battery, connector, and speed controller.
2. Check to see if the Ni−cad battery is fully charged.
3. Check to see shortage of battery power for the transmitter.
4. Check for radio interference. Another modeller may be operating near by.

CAUTIONS!

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