

RADIO CONTROLLED 10 ENGINE POWERED 4WD RALLY CAR

LANCIA

DELTA integrale 16v

- EXCITING TRUE-SCALE RADIO CONTROLLED LANCIA DELTA RALLY CAR.
- HIGH PERFORMANCE WITH POWERFUL .10 ENGINE AND HIGH-TRACTION FOUR-WHEEL DRIVE.
- ALL MAJOR MECHANICAL PARTS FACTORY ASSEMBLED FOR EASY PREPARATION.
- EFFECTIVE WISHBONE/ARM ALL-INDEPENDENT SUSPENSION WITH OIL-FILLED SHOCKS FOR TOP HANDLING ON ALL SURFACES.
- SUPER-EASY STARTING WITH RECOIL-TYPE STARTER.
- EFFICIENT, RELIABLE DRIVE SYSTEM WITH SHAFTS AND TRIPLE DIFFERENTIALS.
- HIGHLY DETAILED BODY FOR TOTAL REALISM.
- MUFFLER INCLUDED FOR PLEASANT, REALISTIC ENGINE SOUND.
KIT ALSO INCLUDES PRIMING-TYPE FUEL TANK AND GLOW-PLUG BATTERY BOX.
- RADIO: TWO CHANNEL W/TWO SERVOS (NOT INCLUDED)

1:10 SCALE



KYOSHO®
THE FINEST RADIO CONTROL MODELS

KIT NO.3044

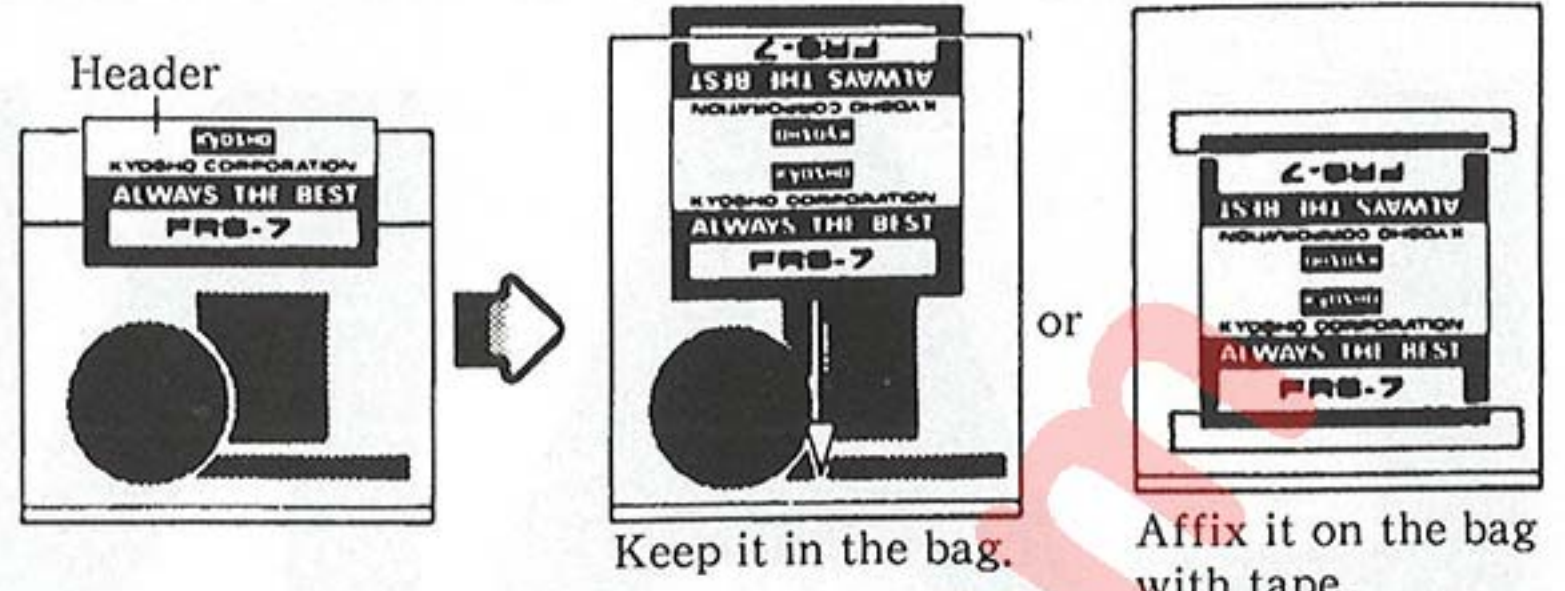
LIST OF BAGGED PARTS (1)

The key numbers with ★ indicate the plastic parts on a runner.
See page 3 for the layout drawing.

《 Do not throw away a bag header 》

- The symbol in the brackets after a name of parts in this instruction is the header number in which the part is contained.
- The header is the only thing to rely upon when looking for a part. Do not discard it until you finish the assembly.

< Example > 55 Ball End [GP4-6]
 Key No. Part Name Bag No.



Bag No.	KeyNo.	Description	Q'ty	Step
	Ass'y	Chassis Assembly	1	4
GP 4 - 1 Front Shock Parts	24	Front Shock Case	2	1
	★ 26	Shock Top	2	2
	27	Shock Cap	2	2
	★ 28	Spring Holder	2	2
	★ 29	Spring Adjuster	2	2
	30	Pressure Top	2	2
	★ 31	Shock Piston	2	1
	32	Front Shock Shaft	2	1
	34	Shock End	2	1
	35	Front Shock Spring	2	2
	98	Shock Oil	1	2
	99	Shock Bushing	2	7
	108	E Ring (E2,5)	4	1
GP 4 - 2 Rear Shock Parts	25	Rear Shock Case	2	1
	★ 26	Shock Top	2	2
	27	Shock Cap	2	2
	★ 28	Spring Holder	2	2
	★ 29	Spring Adjuster	2	2
	30	Pressure Top	2	2
	★ 31	Shock Piston	2	1
	33	Rear Shock Shaft	2	1
	34	Shock End	2	1
	36	Rear Shock Spring	2	2
99	Shock Bushing	2	11	
108	E Ring (E2,5)	4	1	
GP 4 - 4	4	Front Wheel Shaft	2	3
	5	Swing Shaft	4	6 10
	6	Drive Washer	4	12
	7	Joint	4	4 9
	37	Rear Wheel Shaft	2	8
	38	Knuckle Arm (L)	1	3
	39	" (R)	1	3
	40	King Pin	4	3
121	5 φ x10 Metal Bushing	8	3 3	
GP 4 - 5	45	Sus. Shaft (A) Silver	2	4
	46	" (B) Black	2	8
	47	" (C)	2	4
	48	" (D)	2	9
	53	M2,6 Pillow Ball Black	2	3
	54	M3 " Silver	12	4 6 9 10
	56	Ball Rod End	6	5
79	5.8 φ Ball	2	5	
103	Front Sus. Plate	1	4	
GP 4 - 6	41	Front Hub (L)	1	3
	42	" (R)	1	3
	43	Front Sus. Arm	2	4
	44	Rear Sus. Arm	2	8

Bag No.	KeyNo.	Description	Q'ty	Step
GP 4 - 6	55	Ball End	12	5
	65	Joint Collar (A)	1	9
	77	Rear Hub (L)	1	8
	78	Rear Hub (R)	1	8
	80	Servo Mount	4	15
GP 4 - 7	57	Adapter Tube	1	10 page
	104	Strap (S)	2	18 10 page
	106	Battery Holder	1 set	9 page
	107	Battery Holder Collar	2	//
	109	Plug Wrench	1	10 page
	110	Exhaust Tube	1	18
	111	Air Filter	1	10 page
	112	Element Holder	1	//
	113	Element Cover	1	//
	115	Throttle Rod	1	18
	116	linkage Rod	2	17 18
	117	2 φ Linkage Guide	1	18
	118	3 φ "	1	6
	119	Rod Stopper	2	18
	126	Strap (L)	1	16
130	Antenna	1	16	
		Screw Locking Compound	1	
		Grease	1	
GP 4 - 8	3	Wheel	4	12
GP 4 - 9 Lancia Delta	129	Antenna Holder	1	15
	131	Snap	4	18
	132	Body Hook Washer	4	18
	133	Body Hook Spring	4	18
	134	Body Hook	4	18
	139	Body Mount (A)	1	1
	140	" (B)	1	1
	141	" (C)	2	1
	142	Front Grill	1	3 4
	143	Light (L)	2	5
	144	Light (R)	2	5
	145	Light Grill (L)	1	5
	146	Light Grill (R)	1	5
	147	Grill Stopper	2	5
	148	Wiper (L)	1	5
	149	Wiper (R)	1	5
	150	Door Mirror (L)	1	4 5
	151	Door Mirror (R)	1	4 5
152	Door Mirror Collar	2	5	
		M2x8 TP R/H Screw	8	5
		M2,6x6 TP Bind Screw	4	5
		M3 Washer	2	5
153	Under Guard	1	2 3 4	
154	Light Lens	1	2 5	

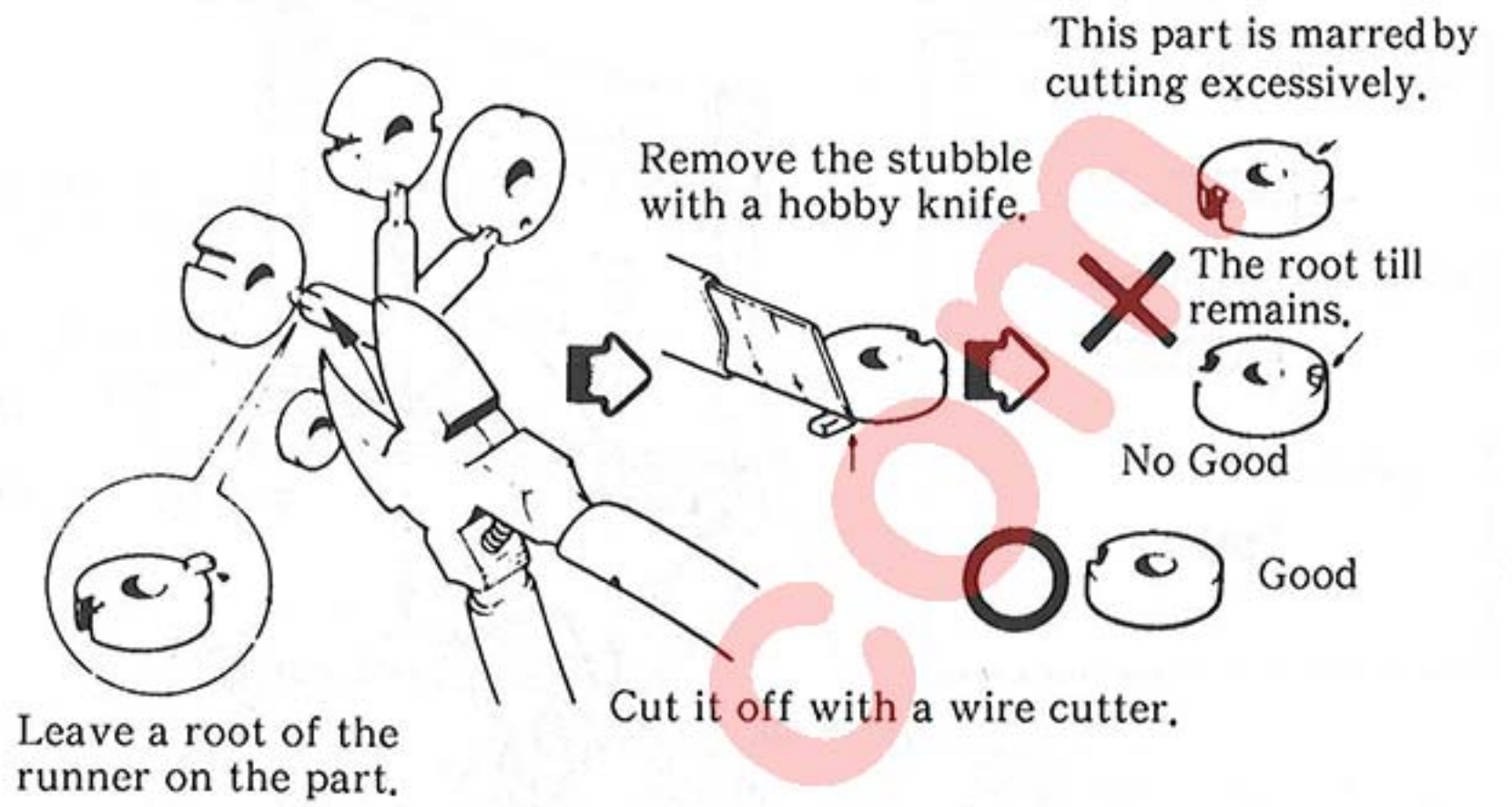
LIST OF BAGGED PARTS (2)

Bag No.	KeyNo.	Description	Q'ty	Step
BOX	2	Tire	4	12
	105	Fuel Pump	1	9 page
	138	Body	1	2
	155	Decal	1	3 4
	156	Mirror Seal	1	4
		Cross Wrench	1	
		Instruction (Chassis)	1	
GP 4 - 3		Instruction (Body)	1	
	101	Hex Wrench (1.5)	1	17 18
	102	Hex Wrench (2)	1	4 9
	108	E Ring (E2.5)	4	4 8
		Bind Screw M 3 × 12	4	
		// M 3 × 20	2	
		// M 3 × 30	1	
		R/H Screw M 4 × 55	1	
		// M 2 × 4	4	
		TP Bind Screw M 3 × 10	16	
		// M 3 × 15	2	
		Nut M 3	7	
		// M 4	1	
		Nylon Nut M 3	3	
		// M 4	4	
		Set Screw M 4 × 8	4	
		// M 4 × 4	4	
		// M 3 × 3	3	
		Washer M 5	6	
		Shim (8φ × 12 × 0.2)	3	

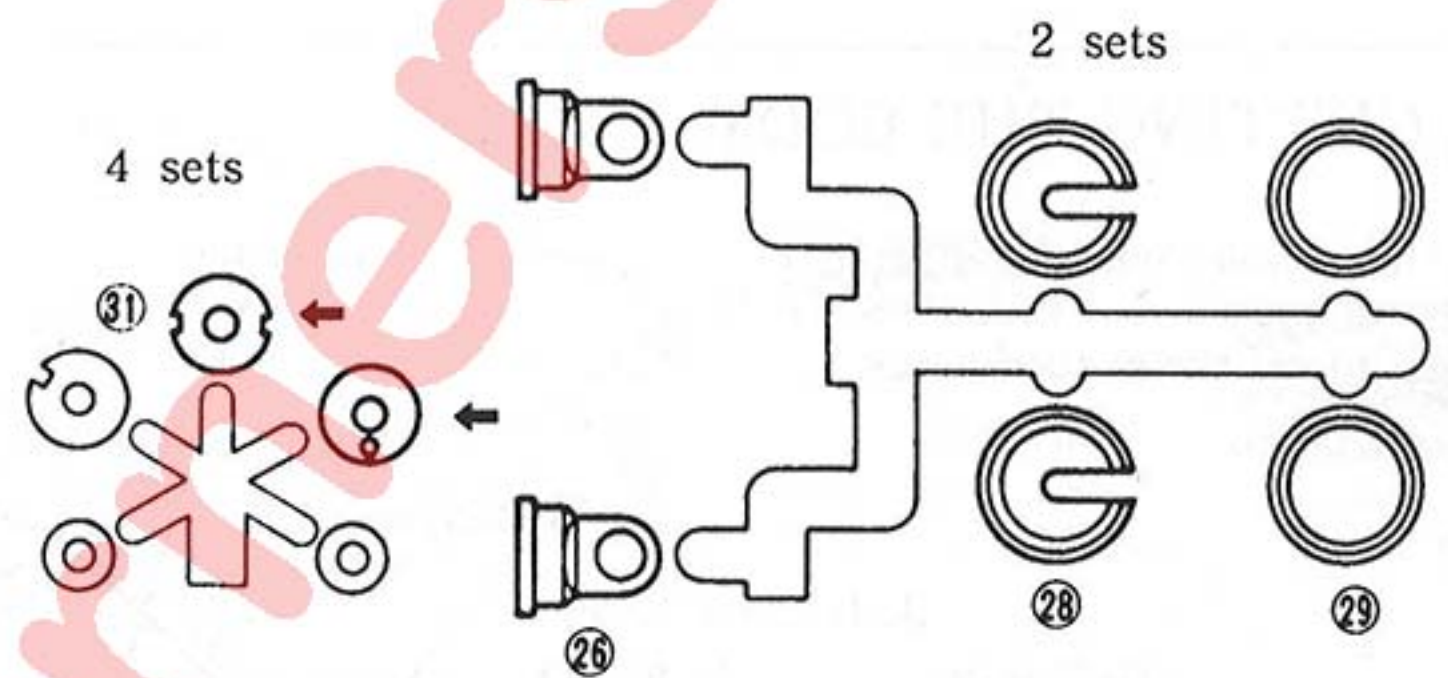
LAYOUT DRAWING OF PLASTIC PARTS

《 How to cutting off parts from a runner ... 》

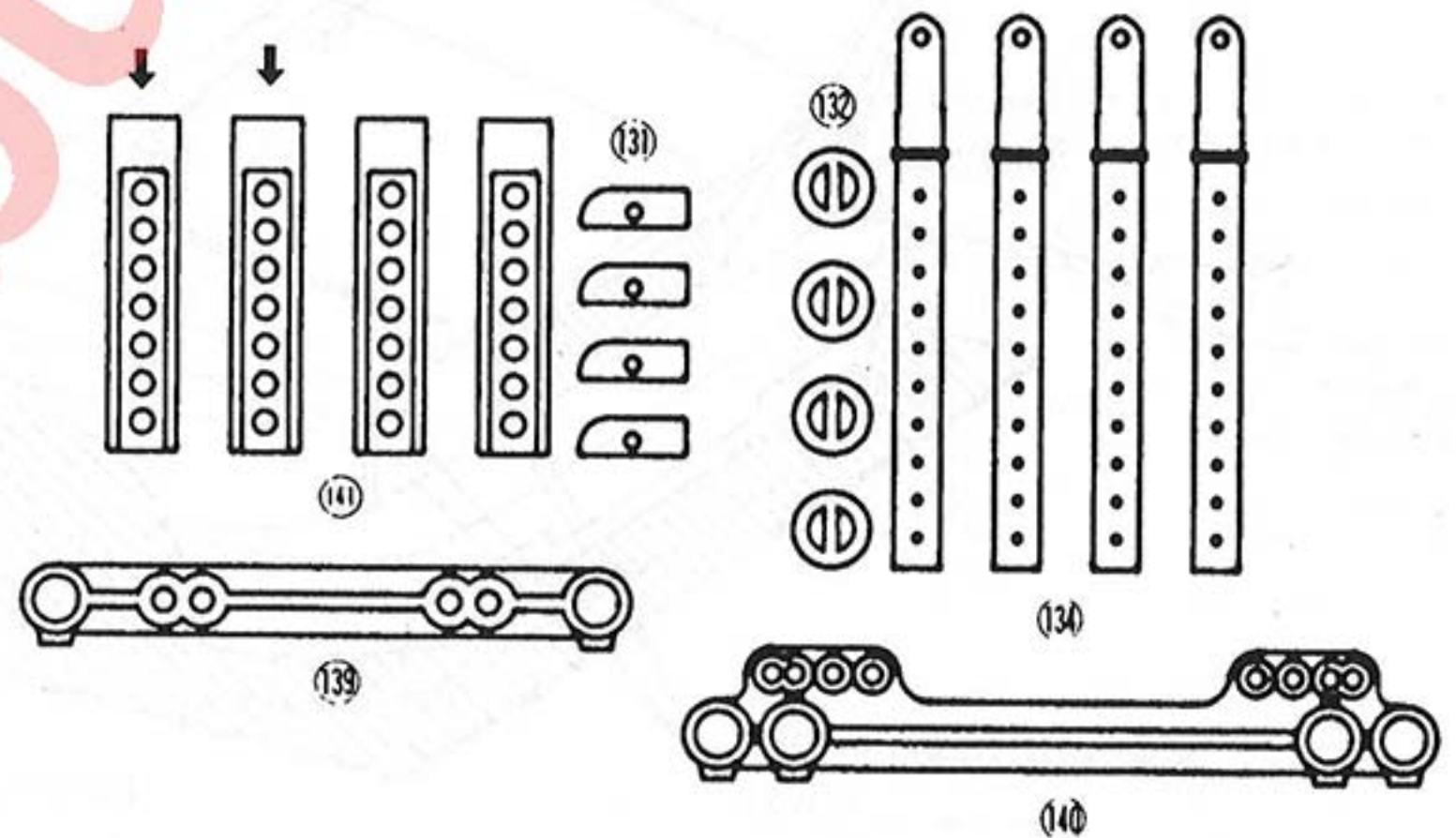
* Pay particular attention when detaching the piston.



《 Shock Parts 》 These marked "→" are not used.

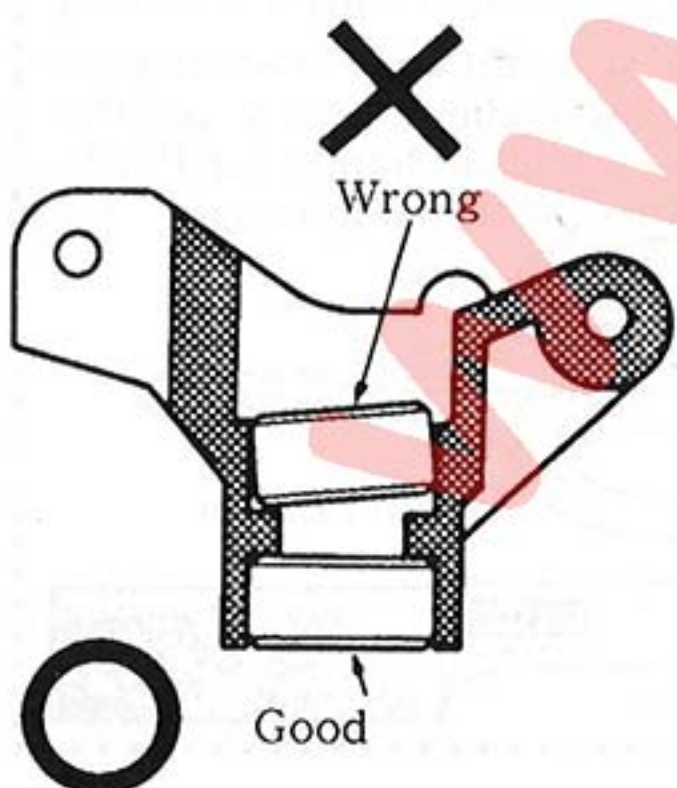


《 Body Hook Parts 》



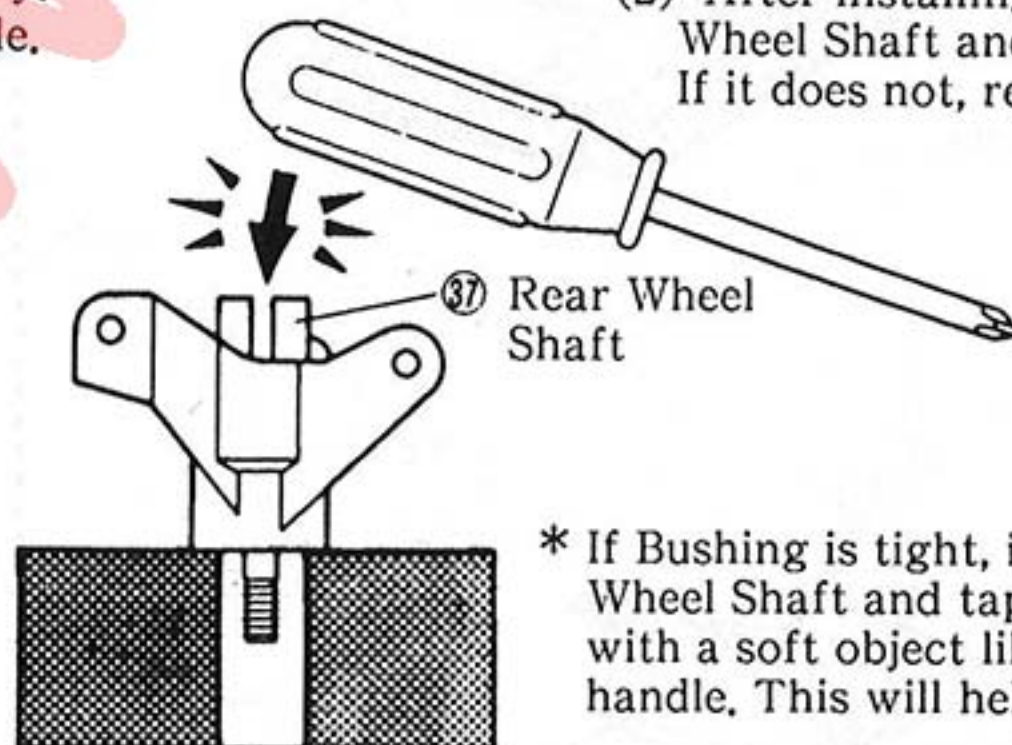
HOW TO INSTALL A BUSHING

(1) Press the bushing in completely. Do not get it cocked to one side.



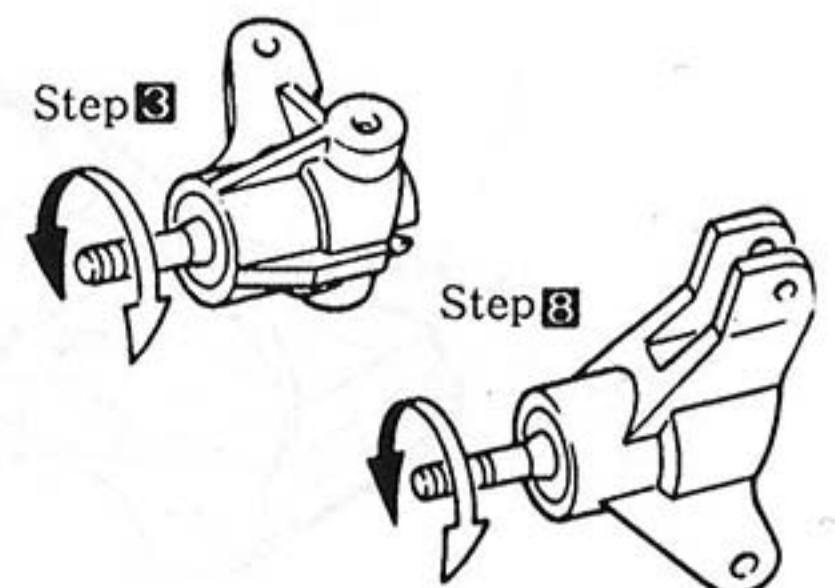
Bushing is correctly installed.

(2) After installing the bushing, insert the Rear Wheel Shaft and make sure it rotates smoothly. If it does not, repeat step one.

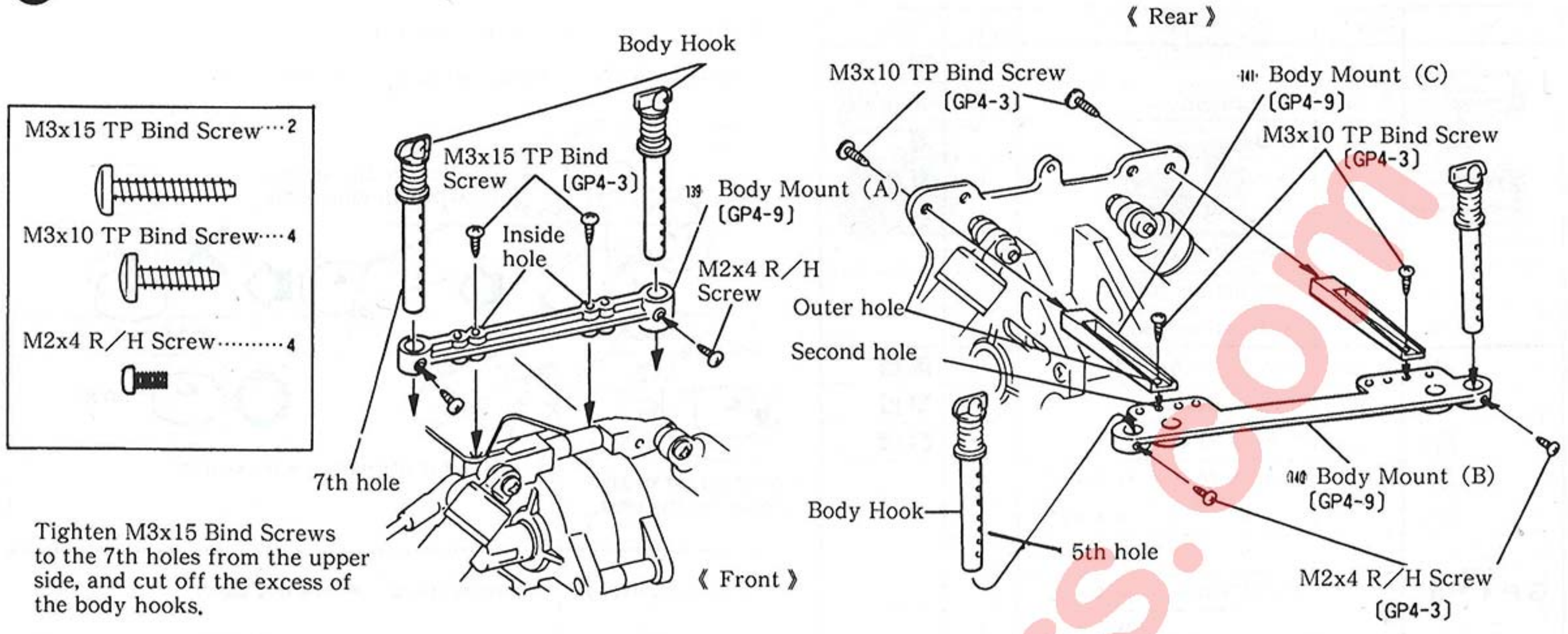


* If Bushing is tight, install the Rear Wheel Shaft and tap on it lightly with a soft object like a screw driver handle. This will help line up the bushing.

(3) Apply grease to the Wheel Shaft before final assembly.

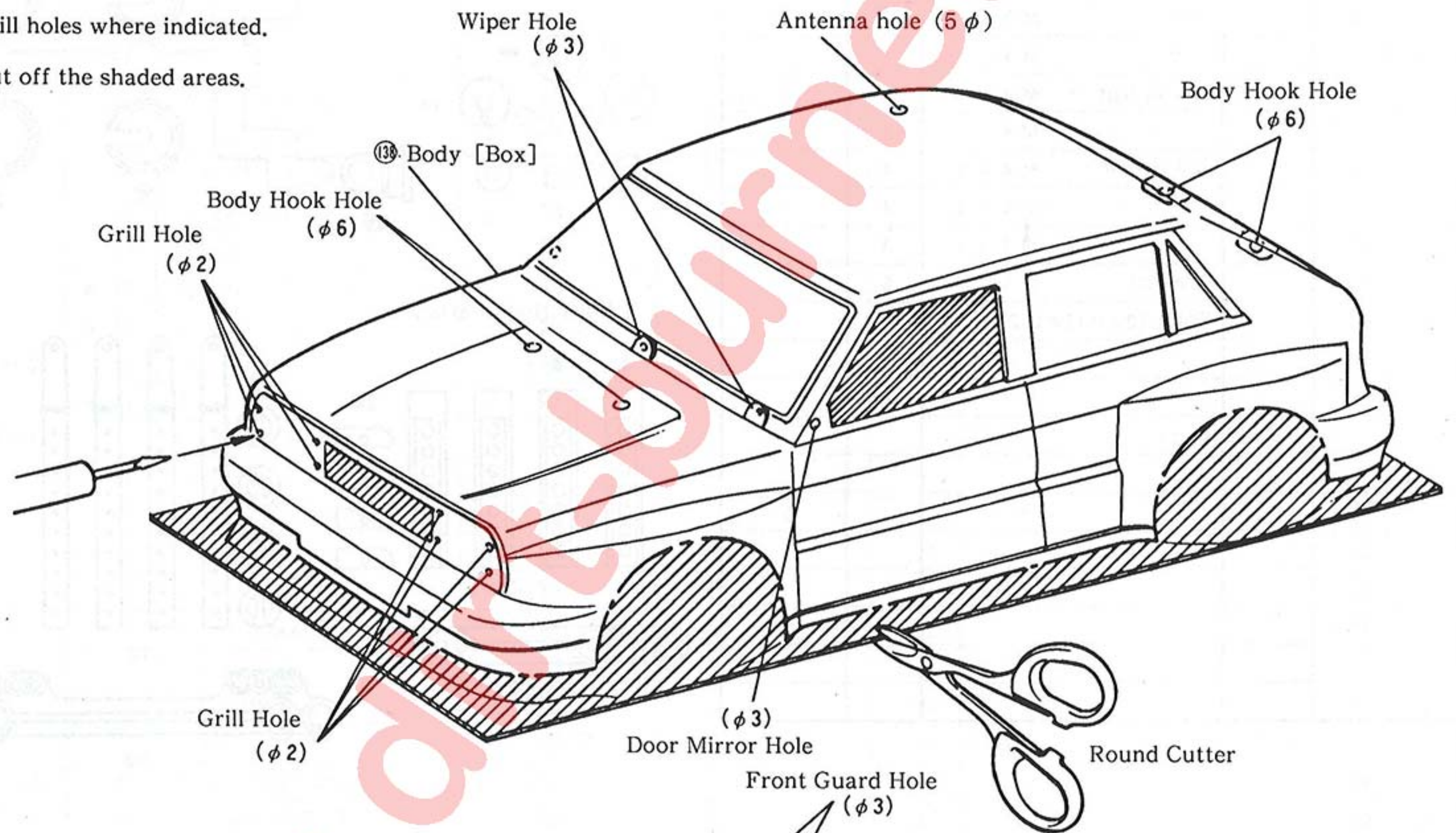


1 INSTALLATION OF BODY HOOK

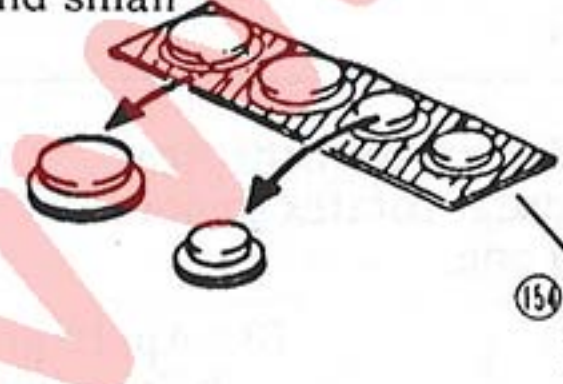


2 CUTTING THE BODY

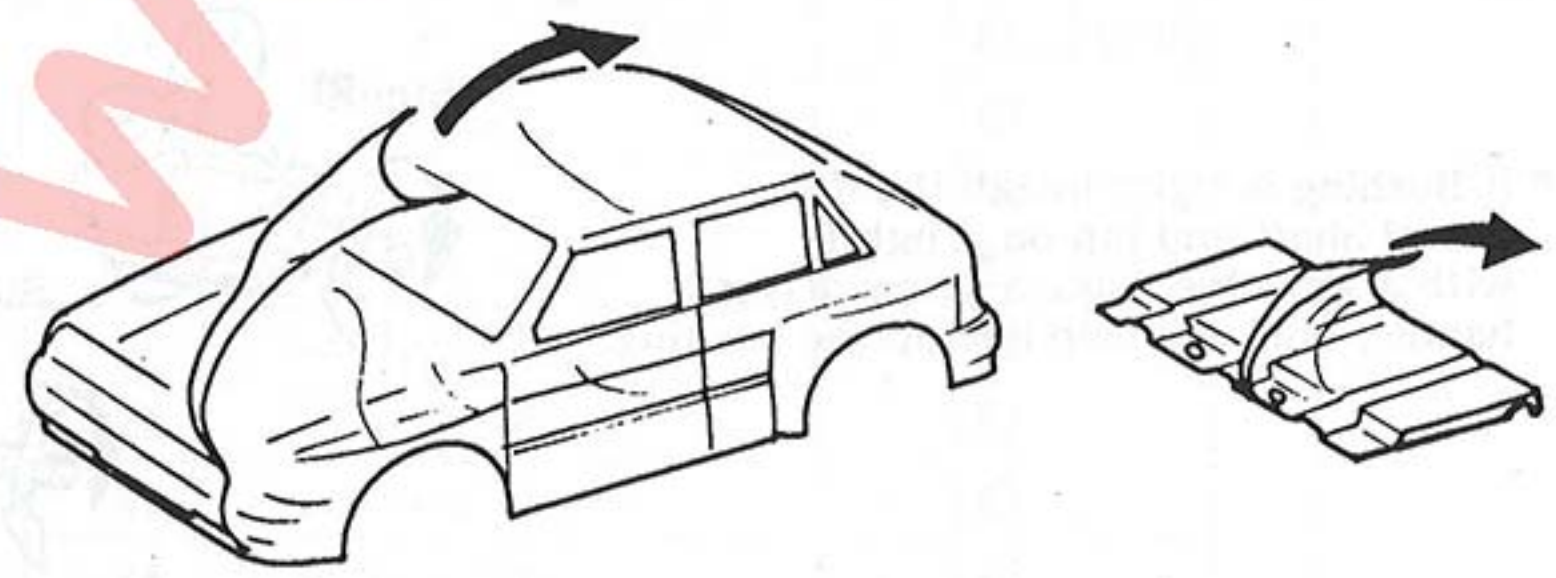
- (1) Drill holes where indicated.
- (2) Cut off the shaded areas.



Cut off 2 each large and small



- (3) Remove the covering films.



KYOSHO No.1829
 Round Cutter & Sander

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

Round Cutter

Sander

3 APPLYING DECALS (1)

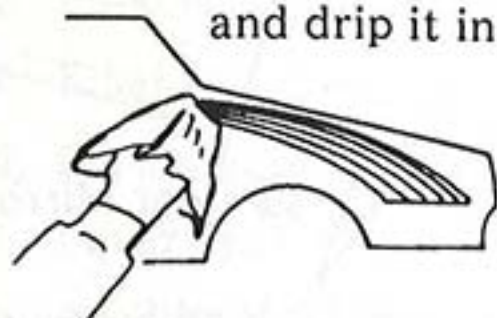
Applying stripe decals (1~14) first before painting.
Apply in order from (1)(3)(5)(7)(9) and (2)(4)(6)(8)(10).

Refer to the pictures on the kit box for painting and applying decals.

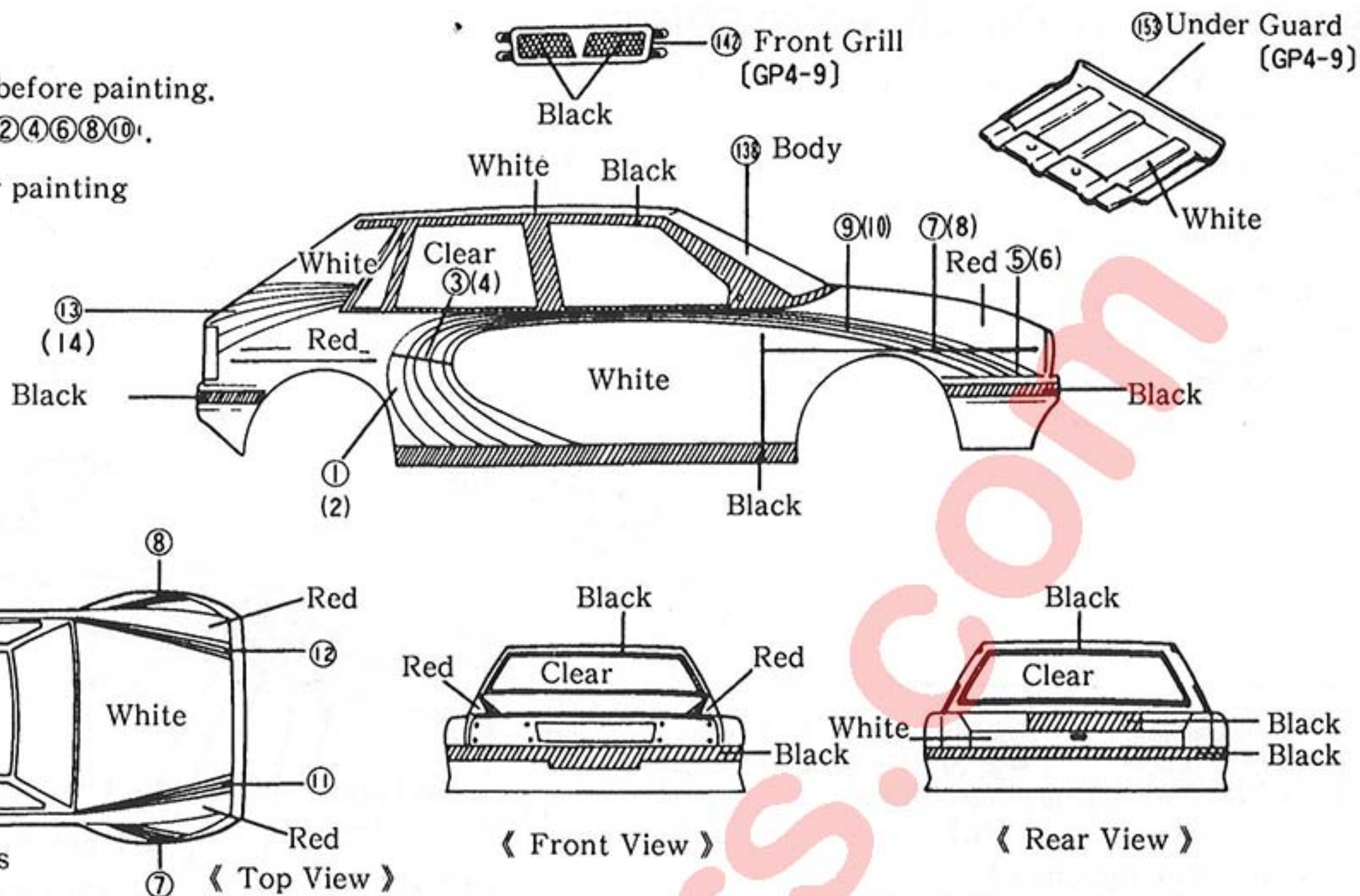
In a pan of water place a few drops of dish soap.



Peel the backing off the decal and drip it in the water.



The soap and water will allow the decal to be positioned. Remove the excess water from the decal and allow to dry.



3 PAINTING THE BODY

Mask the windows with the Micron Line Tape and paint the body in any color at your choice.

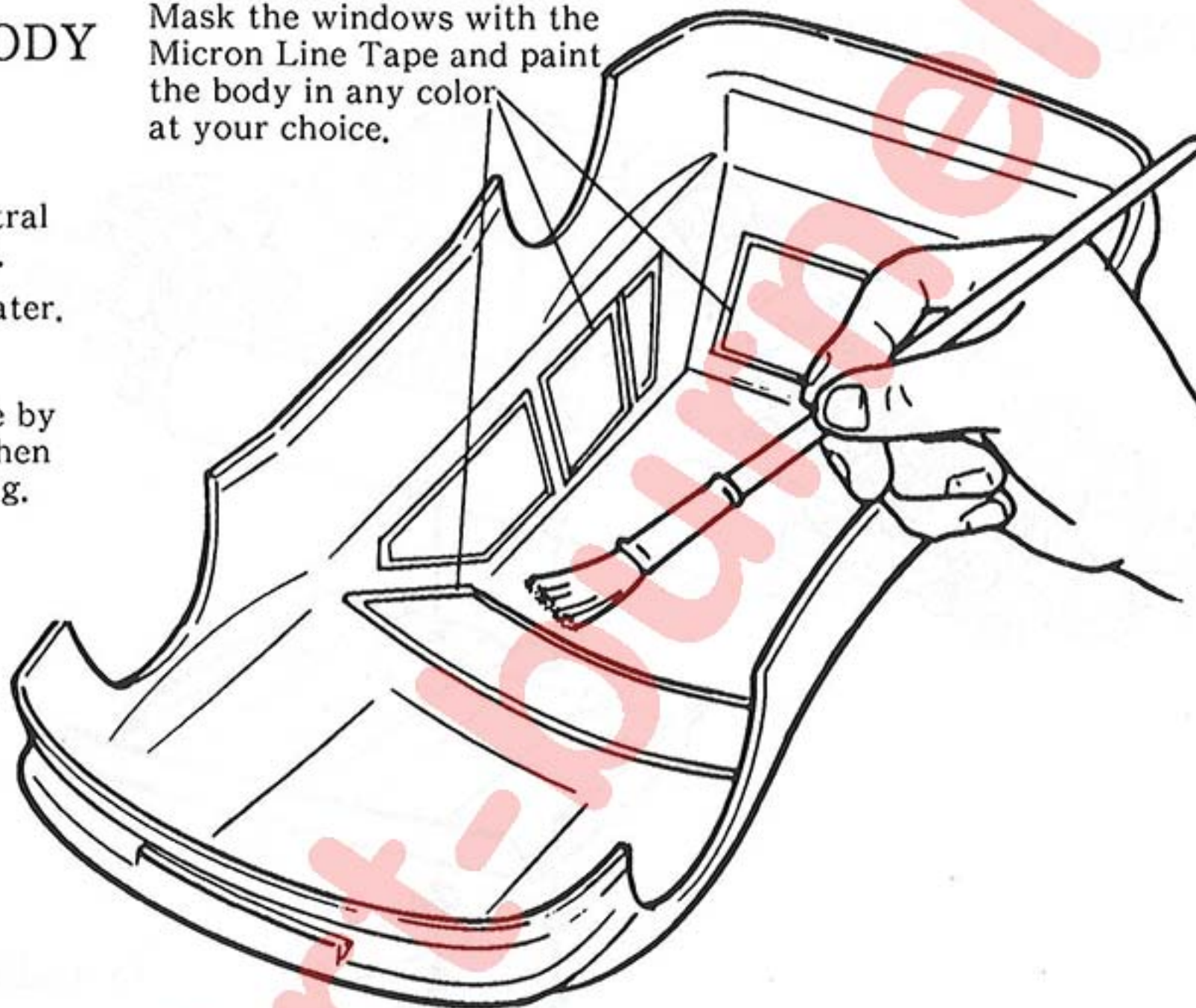
First wash the body with neutral soap to remove any oil or dirt.

Rinse thoroughly with clean water.

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 darkest color first.

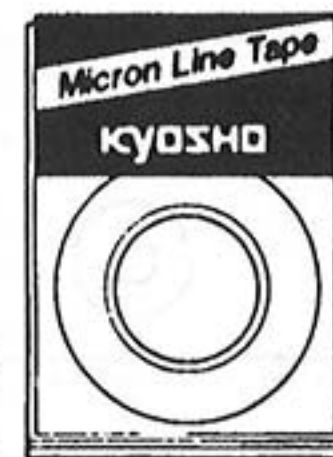


KYOSHO

Micro Line Tape

- No.1841...1mm
- No.1842...1.5mm
- No.1843...2.5mm

Color: White, Red, Yellow, Green, Blue and Black



KYOSHO

Polyca Color Paint No.2230

- Color: White, Red, Yellow, Green, Blue, Skyblue, Orange, Black, Violet, F.Pink, F.Orange, and Yellow Green

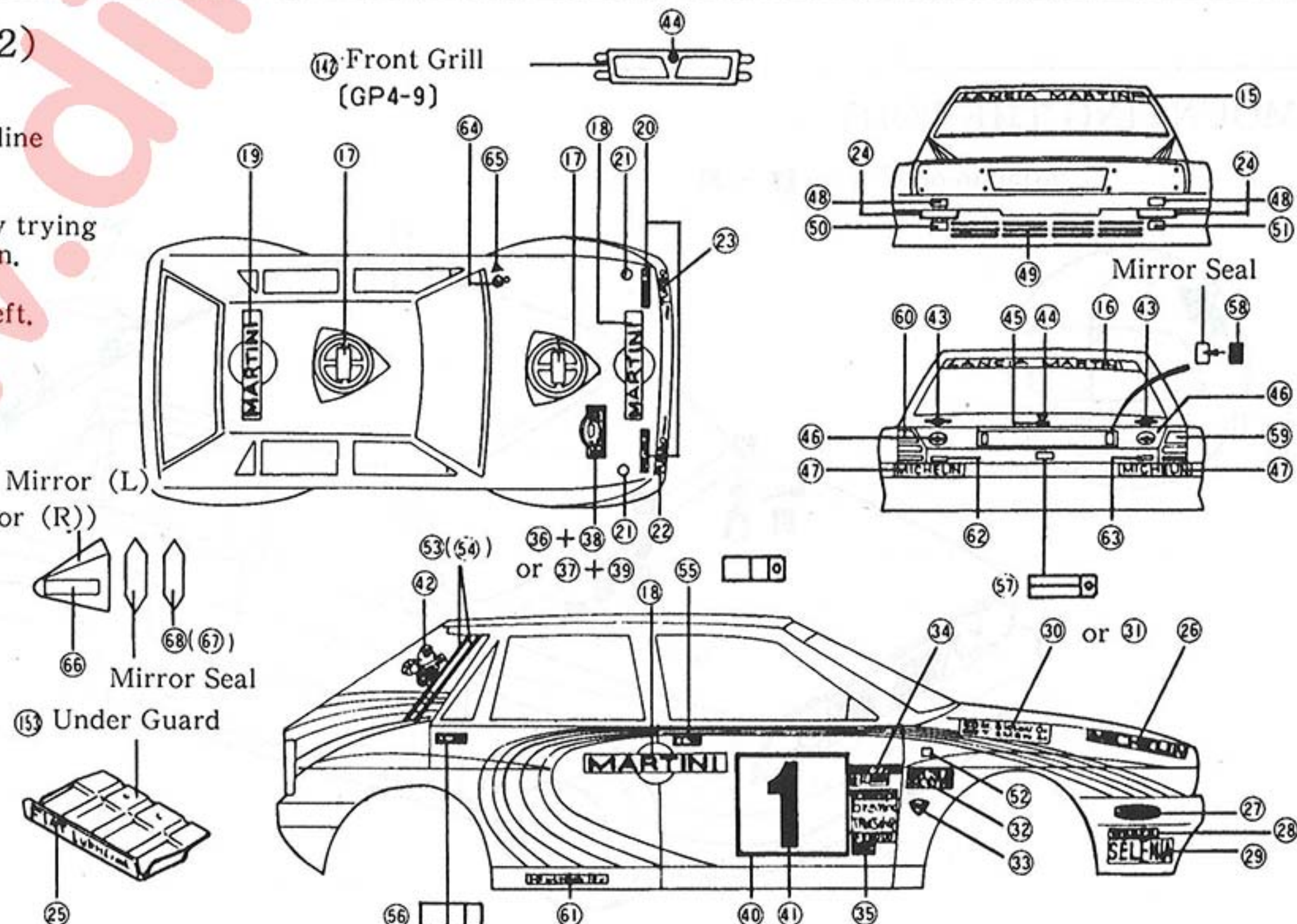


4 APPLYING DECALS (2)

Cut off the decals along the cutout line with scissors.

Convince yourself of the position by trying the decals with the backing paper on.

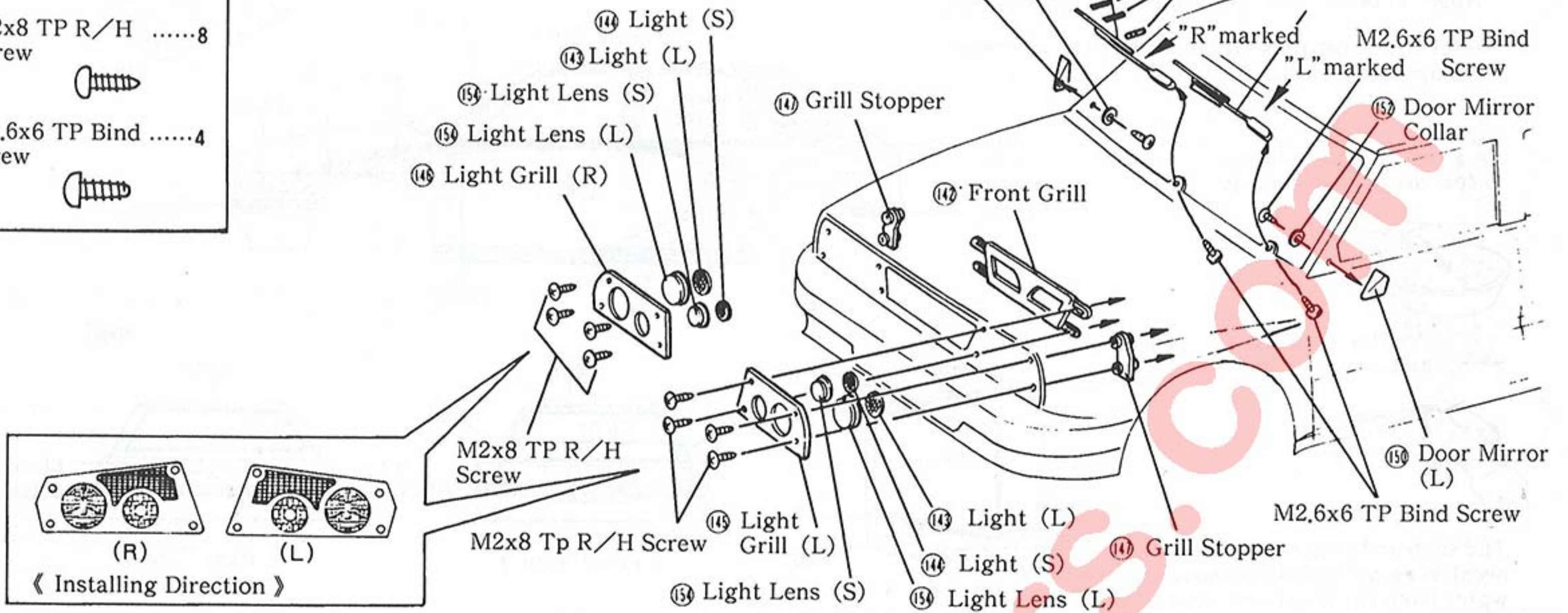
Be careful not to have air bubbles left.



5 INSTALLATION OF ACCESSORIES

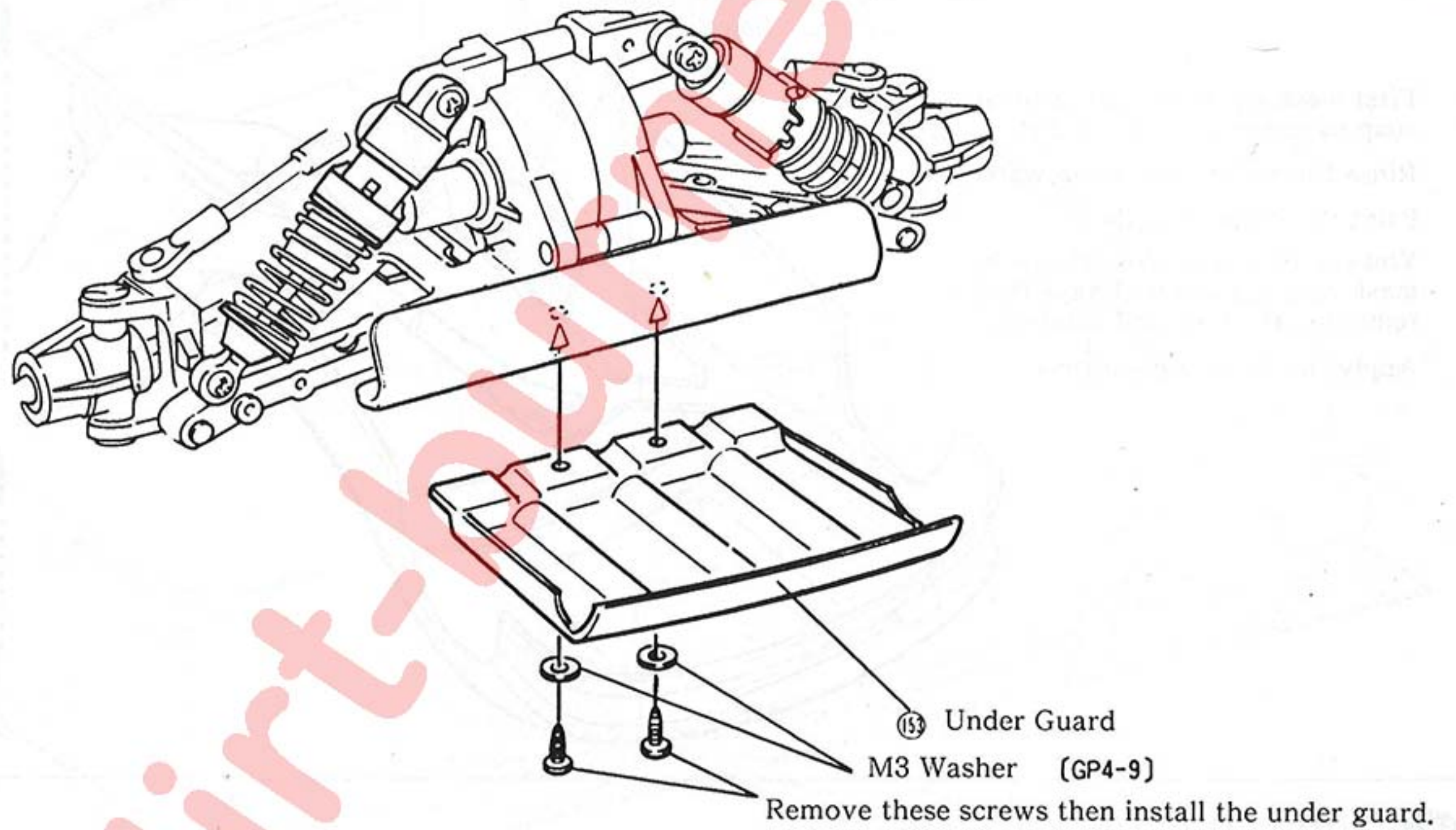
These parts used in this step are in [GP4-9].

- M2x8 TP R/H Screw8
- M2.6x6 TP Bind Screw4



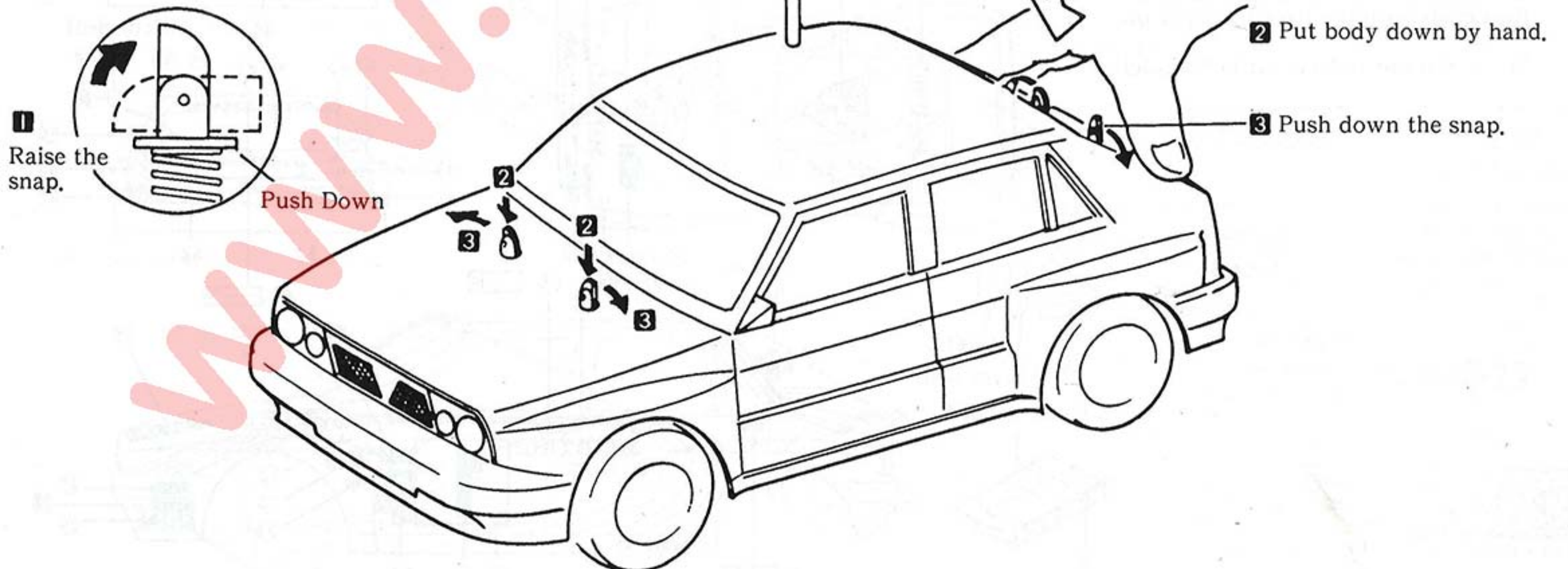
5 INSTALLATION OF UNDER GUARD

- M3 Washer2



6 MOUNTING THE BODY

Install in order from 1 ~ 3.



PARTS LIST

Key No.	Description	Q'ty	Key No.	Description	Q'ty	Key No.	Description	Q'ty
①	Bumper	1	53	M2,6 Pillow Ball Black	2	(105)	Fuel pump	1
②	Tire	4	54	M3 Pillow Ball Silver	12	(106)	Battery Holder	1
③	Wheel	4	55	Ball End	12	(107)	Battery Holder Collar	2
④	Front Wheel Shaft	2	56	Ball End Rod	6	(108)	E Ring (E2,5)	12
⑤	Swing Shaft	4	57	Adapter Tube	1	(109)	Plug Wrench	1
⑥	Drive Washer	4	58	Servo Saver (A)	1	(110)	Exhaust Tube	1
⑦	Joint	4	59	Servo Saver (B)	1	(111)	Air Filter	1
⑧	Final Diff. Case (A)	2	60	Servo Saver Shaft	1	(112)	Element Holder	1
⑨	Final Diff. Case (B)	2	61	Servo Saver Spring	1	(113)	Element Cover	1
⑩	Bevel Gear (A)	6	62	E Ring (E5)	1	(114)	Valve Rod	1
⑪	Bevel Gear (B)	6	63	Center Diff. Mount (A)	1	(115)	Throttle Rod	1
⑫	Bevel Gear Shaft	3	64	Center Diff. Mount (B)	1	(116)	Linkage Rod	2
⑬	Final Pinion Gear	2	65	Joint Collar (A)	2	(117)	2 φ Linkage Guide	1
⑭	2 φ x11 Pin	4	66	Joint Collar (B)	1	(118)	3 φ Linkage Guide	1
⑮	Timing Pulley (A)	2	67	Disk Plate	1	(119)	Rod Stopper	2
⑯	Timing Pulley (B)	2	68	Brake Pad (A)	1	(120)	8 φ x14 Ball Bearing	6
⑰	Belt	2	69	Brake Pad (B)	1	(121)	5 φ x10 Metal Bushing	12
⑱	Front Counter Shaft	1	70	Brake Cam Shaft	1	(122)	Chassis	1
⑲	Rear Counter Shaft	1	71	Brake Cam	1	(123)	Chassis Cover	1
⑳	Counter Shaft Joint	2	72	Brake Horn	1	(124)	Radio Plate	1
㉑	E Ring (E4)	5	73	Rear Bulk Head (L)	1	(125)	Joint Rod	1
㉒	Center Diff. Case (A)	1	74	Rear Bulk Head (R)	1	(126)	Strap (L)	1
㉓	Center Diff. Case (B)	1	75	Rear Housing	1	(127)	Fuel Tank	1
㉔	Front Shock Case	2	76	Rear Shock Stay	1	(128)	Fuel Tube	3
㉕	Rear Shock Case	2	77	Rear Hub (L)	1	(129)	Antenna Holder	2
㉖	Shock Top	4	78	Rear Hub (R)	1	(130)	Antenna Tube	1
㉗	Shock Cap	4	79	5,8 φ Ball	2	(131)	Snap	4
㉘	Spring Holder	4	80	Servo Mount	4	(132)	Body Hook Washer	4
㉙	Spring Adjuster	4	81	Radio Plate Post (A)	1	(133)	Body Hook Spring	4
㉚	Pressure Top	4	82	Radio Plate Post (B)	1	(134)	Body Hook	4
㉛	Shock Piston	4	83	Engine Mount	2	(135)	5 φ x10 Ball Bearing	2
㉜	Front Shock Shaft	2	84	Clutch Bell	1	(136)	Center Rod	1
㉝	Rear Shock Shaft	2	85	Clutch Shoe	2	(137)	Side Arm	1
㉞	Shock End	4	86	Clutch Spring	1	(138)	Body	1
㉟	Front Shock Spring	2	87	Pilot Shaft	2	(139)	Body Mount (A)	1
㊱	Rear Shock Spring	2	88	Fly Wheel	1	(140)	Body Mount (B)	1
㊲	Rear Wheel Shaft	2	89	Fly Wheel Spacer	1	(141)	Body Mount (C)	2
㊳	Knuckle Arm (L)	1	90	Clutch Bearing Case	1	(142)	Front Grill	1
㊴	Knuckle Arm (R)	1	91	Clutch Rollar	6	(143)	Light (L)	2
㊵	King Pin	4	92	E Ring (E7)	1	(144)	Light (R)	2
㊶	Front Hub (L)	1	93	Recoil Starter	1	(145)	Light Grill (L)	1
㊷	Front Hub (R)	1	94	Muffler	1	(146)	Light Grill (R)	1
㊸	Front Sus. Arm	2	95	Muffler Cap	1	(147)	Grill Stopper	2
㊹	Rear Sus. Arm	2	96	Muffler Seal	1	(148)	Wiper (L)	1
㊺	Sus. Shaft (A) Silver	2	97	Gasket	1	(149)	Wiper (R)	1
㊻	Sus. Shaft (B) Black	2	98	Shock Oil	1	(150)	Door Mirror (L)	1
㊼	Sus. Shaft (C)	2	99	Shock Bushing	4	(151)	Door Mirror (R)	1
㊽	Sus. Shaft (D)	2	100	E Ring (E3)	1	(152)	Door Mirror Collar	2
㊾	Shaft Holder	1	101	Hex Wrench (1,5)	1	(153)	Under Guard	1
㊿	Front Bulk Head (L)	1	102	Hex Wrench (2)	1	(154)	Light Lens	1
1	Front Bulk Head (R)	1	103	Front Sus. Plate	1	(155)	Decal	1
2	Front Housing	1	104	Strap (S)	2	(156)	Mirror Seal	1

PURCHASABLE PARTS FOR YOUR KIT

You can purchase replacement 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 within the manual. Then consult out part guide below. When referring to the parts you need, always use the Parts Pack Number. For example, if you need a bumper (Key No.1) ask your dealer for Kyosho Parts Pack FD-1 (Bumper).

No.	Description	Key No. & Q'ty
FD-1	Bumper	(1) × 1
FD-3	Belt	(1) × 1
FD-4	Final Diff. Case	(8)(9) × 1
FD-5	Center Diff. Case	(22)(23) × 1
FD-6	Final Pinion	(13) × 1
FD-7	Timing Pulley	(14)(15)(16) × 1 (14) × 2
FD-8	Front Counter Shaft	(18) × 1
FD-9	Rear Counter Shaft	(19) × 1
FD-10	Joint	(20) × 2
FD-11	Shaft Holder	(49) × 1
FD-12	Front Bulk Head	(50)(51)(52) × 1,
FD-13	Slider Set	(10)(11) × 1
FD-14	Center Diff. Mount	(63)(64) × 1
FD-15	Chassis	(66)(70)(75) × 1 (65) × 2
FD-16	Brake Parts	(57)(58)(59)(70) × 1
FD-17	Servo Mount Set	(71)(72)(81)(79) × 1 (80) × 4
FD-18	Rear Bulk Head	(73)(74)(75) × 1
FD-19	Rear Shock Stay	(76) × 1
FD-20	Engine Mount	(83) × 2
FD-21	Fly Wheel	(88)(89) × 1
FD-22	Starter Holder	See page 13
FD-23	Starter Assembly	"
FD-24	One Way Assembly	"
FD-25	Muffler Assembly	(94)(95)(96)(97) × 1
FD-27	Chassis	(12) × 1
FD-28	Fuel Tank	(17) × 1
FD-29	Fuel Tube	(18) × 2
FD-30	Battery Holder	(10)(11) × 1
FD-33	Exhaust Tube	(11) × 1
FD-36	Linkage Set	(110)(115)(117)(118) × 1 (116)(115) × 2
FD-37	Black Shock (S)	(24)(26)(27)(28)(29)(30)(31)(32)(34)(35)(99) × 2
FD-38	" (L)	(25)(26)(27)(28)(29)(30)(31)(33)(34)(36)(99) × 2
FD-43	Servo Saver Set	(56)(59)(60)(61)(62)(109)(117) × 1
FD-52	Screw Set	Screws, Nuts, Wrenches
OT-4	King Pin	(40) × 4
OT-5	Joint	(7) × 2
OT-6	Swing Shaft	(15) × 2
OT-11	Sus. Shaft	(45)(46)(47)(48) × 2
OT-16	Knuckle Arm	(38)(39) × 1
OT-17	Front Wheel Shaft	(4) × 2
OT-18	Rear Wheel Shaft	(37) × 2
OT-19	Drive Washer	(16) × 4
OT-28	Diff. Gear Set	(12) × 2 (10)(11) × 4
OT-31	M3 Pillow Ball	(54) × 10
OT-32	5.8 φ Ball	(79) × 10
OT-35	Upper Rod Set	(56) × 4 (55) × 8
OT-36	M2.6 Pillow Ball	(53) × 10
OT-45	Rear Hub	(77)(78) × 1
OT-55	Front Hub Set	(41)(42) × 1
OT-69	Sus. Arm Set	(43)(44) × 2
AB-14	Pilot Shaft (OS)	(87)(92)(100) × 1
AB-15	Clutch Shoe	(85) × 2
AB-16	Clutch Bell	(84) × 1
AB-17	Clutch Spring	(86) × 4
LD-70	Clutch Bearing	(90) × 1 (91) × 6
RM-11	Air Filter	(57)(117)(112)(113) × 1
OT-39	E Ring (E2.5)	(100) × 10
CB-72	E Ring (E3)	(106) × 4
KC-20	E Ring (E4)	(21) × 5
EF-37	Strap (S)	(104) × 6
EF-39	Ni-Cad Strap	(105) × 6

No.	Description	Key No. & Q'ty
SD-79	Antenna Tube	(13) × 5
1901	5 φ x10 Ball Bearing	(10) × 2
1911	8 φ x14 Ball Bearing	(10) × 2
1916	5 φ x10 Bushing	(17) × 10
W-5058	Tire (Rally Patern)	(2) × 2
FD-53	Body Set Lancia Delta	(130)(141)(142)(143)(144)(145)(146)(147)(148)(149)(150)(151)(152)(153)(154)(155)(156)
FD-54	Accessories Lancia Delta	(157)(158)(159)(160)(161)(162)(163)(164)(165)(166)(167)(168)(169)(170)(171)(172)(173)(174)
FD-55	Decal Lancia Delta	(55)(56) × 1
FD-2	Wheel	(3) × 4
OR 111	Body Mount Set	(132)(142) × 1 (141) × 2 (131)(133)(134)(135) × 4
Optional Parts		
1883	Frontier Hobby Oil	30cc
1901	5 φ x10 Ball Bearing	Replace Key NO.121
1953	Silicone Oil (S)	Soft
1954	" (M)	Medium
1955	" (H)	Hard
W-5001	Pressure Shock (S)	High Quality
W-5002	" (L)	"
W-5005	Special Rod Set	Easy Adjusting
W-5061	Universal Swing Shaft	
KC-18	3 φ Stopper	
SD-53	Clutch Bell (12T)	Steel
SD-54	" (13T)	Steel
SD-55	" (14T)	Steel
AB-13	Pilot Shaft	For Enya
FD-50	Timing Pulley (20/24)	20T, 24T
FD-39	Body peugeot405	
FD-40	Decal Peugeot405	
FD-41	Accessories Peugeot405	
FD-42	Wing Peugeot 405	
OT-99	Wing Stay	
EP-22	Hook Pin	
OR-52	Body Nissan Skyline GT-R	w/Decal, Accessories
OR-53	Accessories Skyline GT-R	
OR-41	Door Mirror	
OR 109	Wheel (Silver)	
OR 110	Decal Calsonic Skyline	
OR-51	Wheel Set	Ferrari Type
OR-56	Wheel	
OR-73	Wheel	Lamborghini Type
RM-15	Wheel	Corvette Type
W-5053	Tire (Radial Patern A)	71 Type
W-5054	Tire (Radial Patern B)	61 Type
W-5055	Tire (Slick)	
W-5056	Tire (Radial Patern C)	

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1/10 SCALE .10 SIZE GAS POWERED CAR INSTRUCTION MANUAL 《 CHASSIS PORTION 》



BEFORE ASSEMBLY

○ Read the instruction carefully.

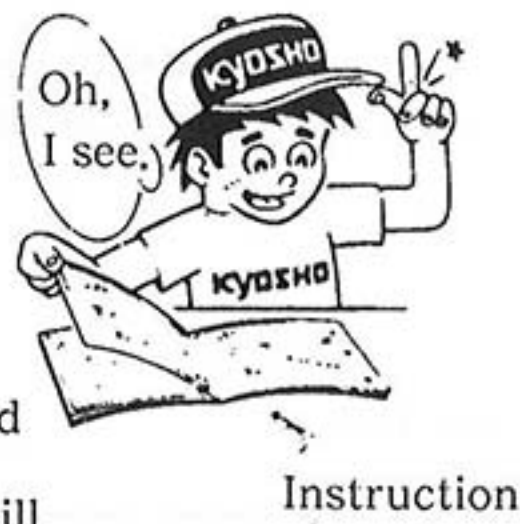
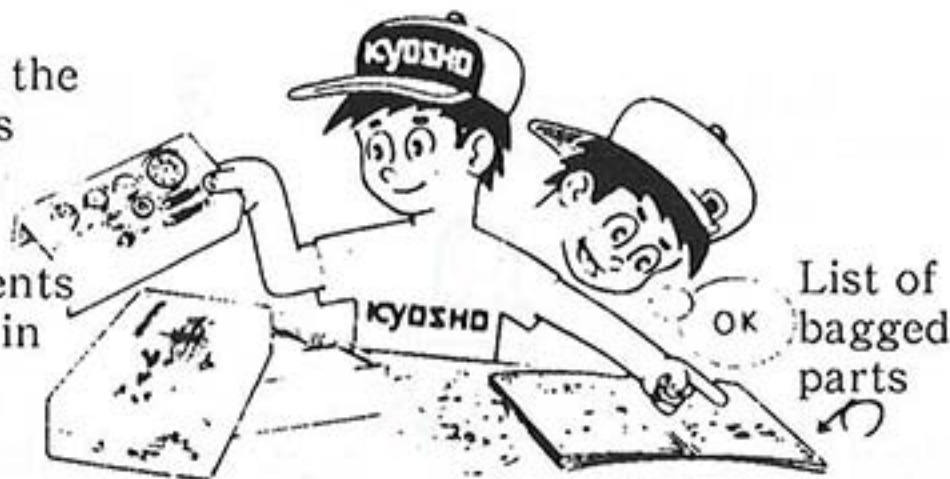
You can assemble the kit more easily if you have grasped the general idea of steps and structure beforehand by reading it through to the end.

○ 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". 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 startings 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 to get loosen by vibration while running.)

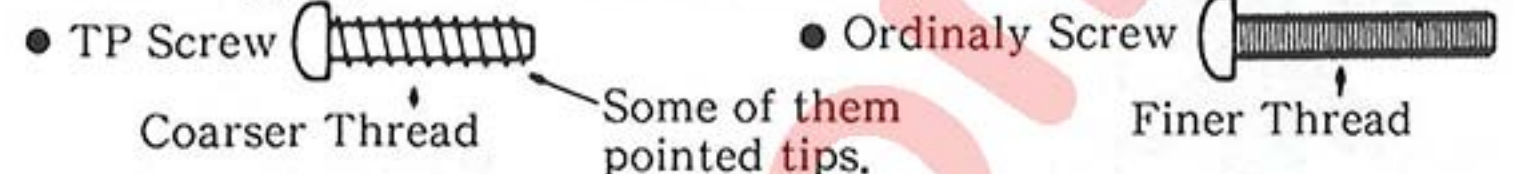
GREASE ... Point where grease should applied.

(It will reduce friction and assure smooth movements.)



○ 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.



○ 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 direction of parts with the illustration before installation. When necessary, assemble the parts themselves tentatively before proceeding to the next step.

○ Do not tighten the TP Screw too tight.

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

Over tightening may strip the thread in the plastic.

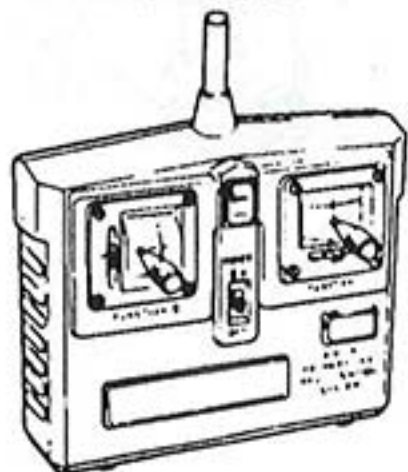


THINGS NEED BESIDES THE KIT

《 2 Channel Radio System 》

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

Transmitter



Servo



Battery Box with Switch



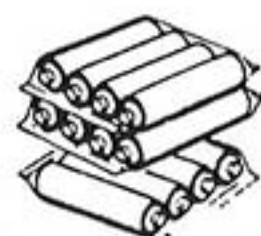
Receiver



《 AA Size Battery 》

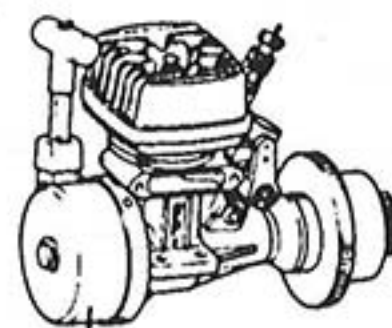
For Transmitter ... 8 pcs.

For Receiver ... 4 pcs.



《 Things need to start engine 》

** Included in the kit **



Fuel Pump



Battery Holder

Plug Wrench



** Not included in the kit **

D Size Battery

... 4 pcs.

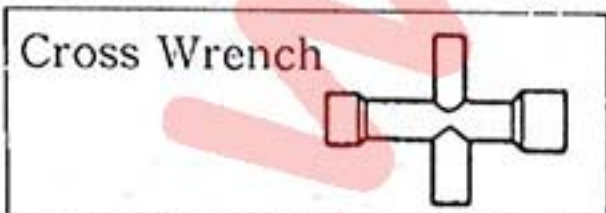


Glow Fuel

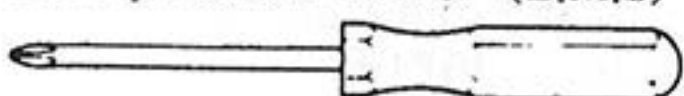
* Gasoline or kerosene can not be used.



《 Tools Required 》 A Hex Wrench, Grease, Cross Wrench and Screw Locking Compound are in the kit.



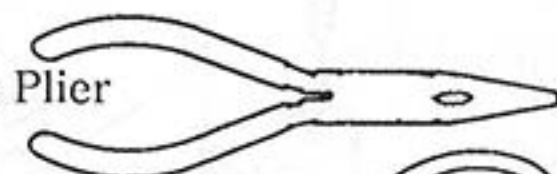
Phillips Screw Driver (L,M,S)



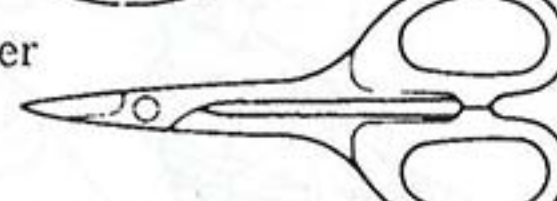
Sharp Hobby Knife



Needle Nose Plier



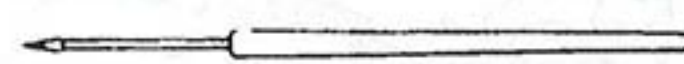
Round Cutter



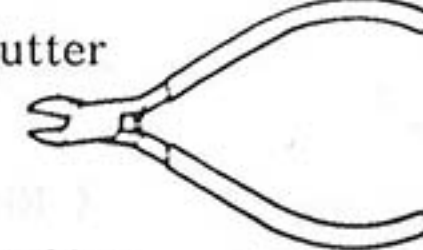
Sander



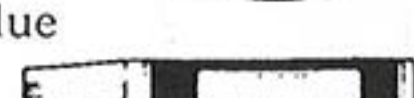
Awl



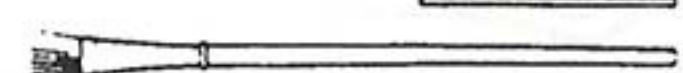
Wire Cutter



Instant Glue



Brush



Micron Line Tape

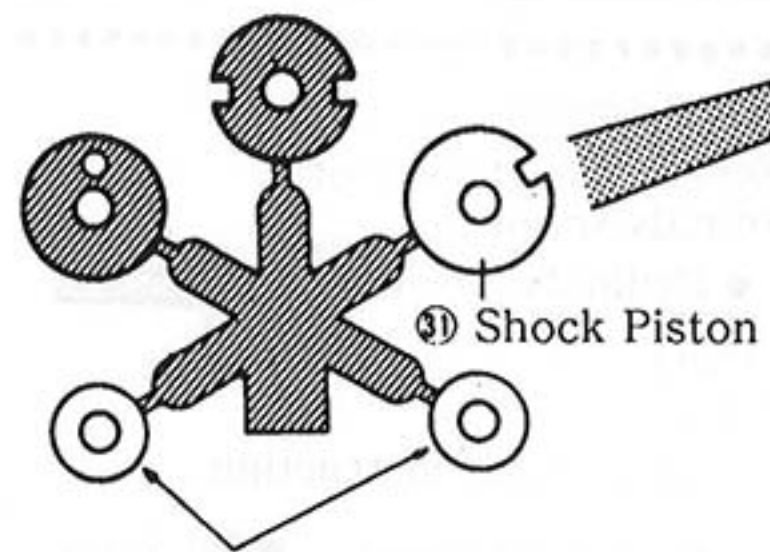
Polyca Color Paint



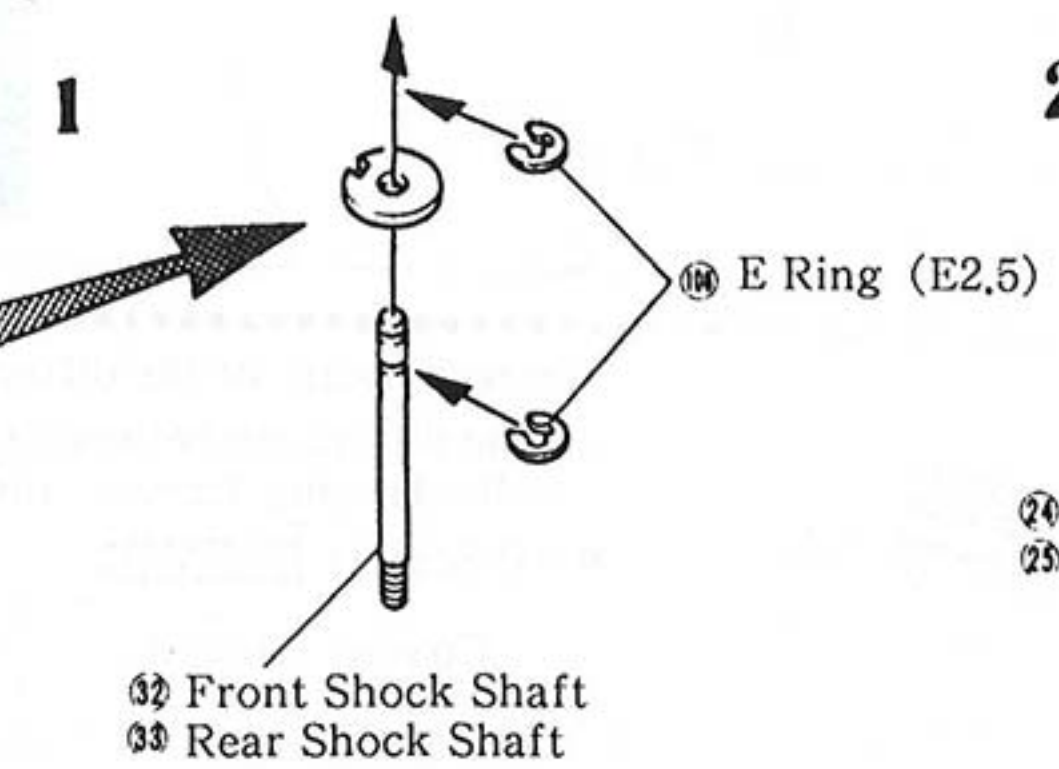
1 ASSEMBLY OF SHOCK

*The parts for the front shocks are in [GP4-1], those for the rear are in [GP4-2].

The shaded parts will not be used.

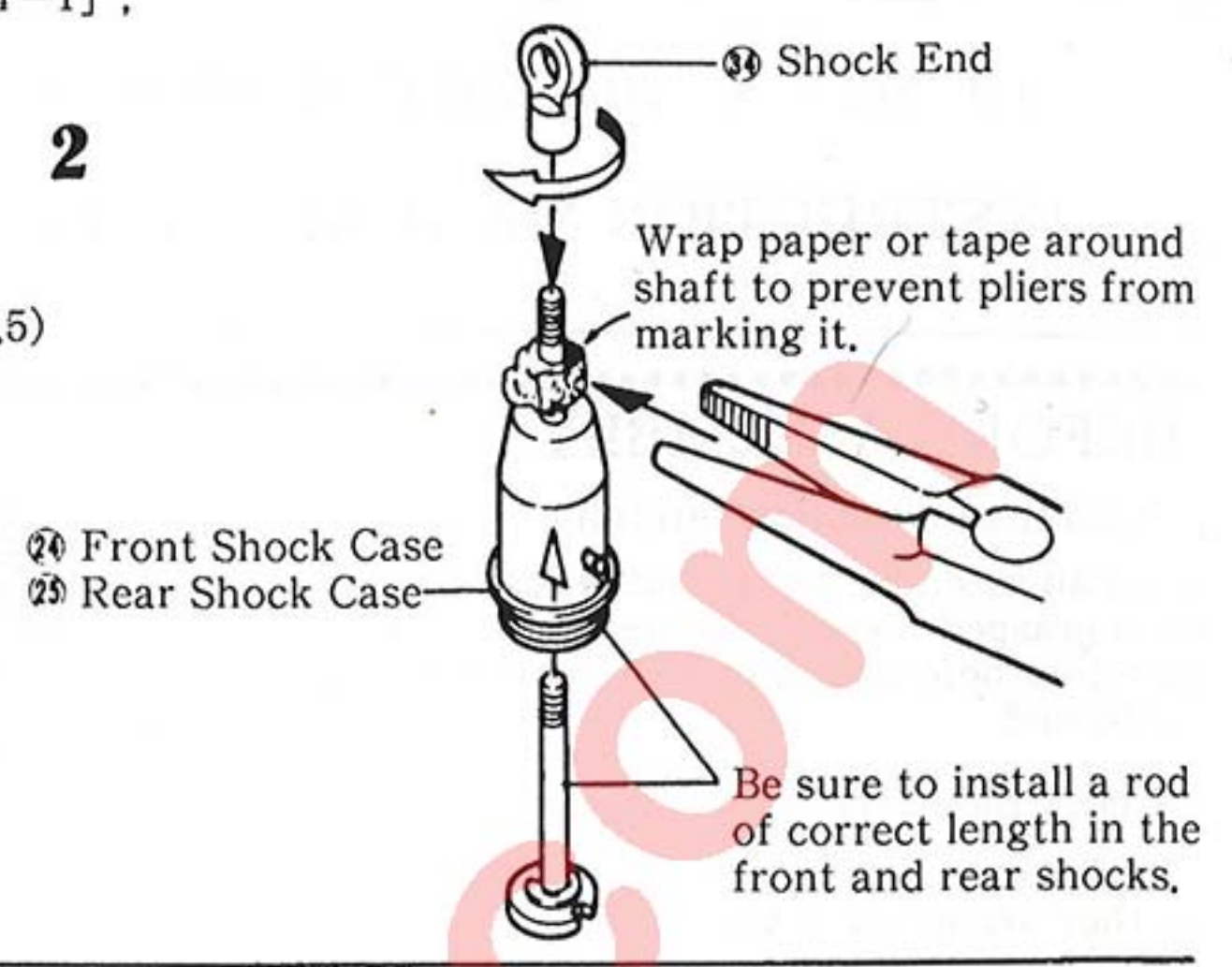


The plastic spacers will be used in step 6 and 11.



《 Assemble 2 each for the front and rear 》

2

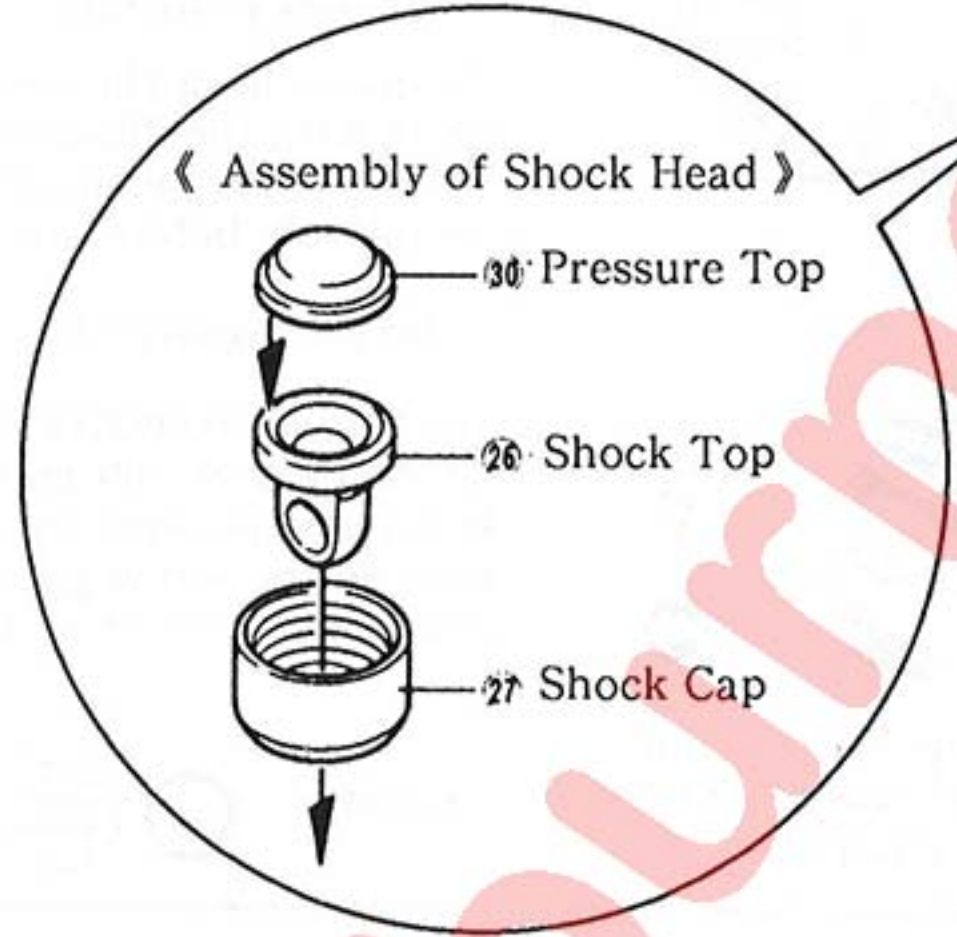
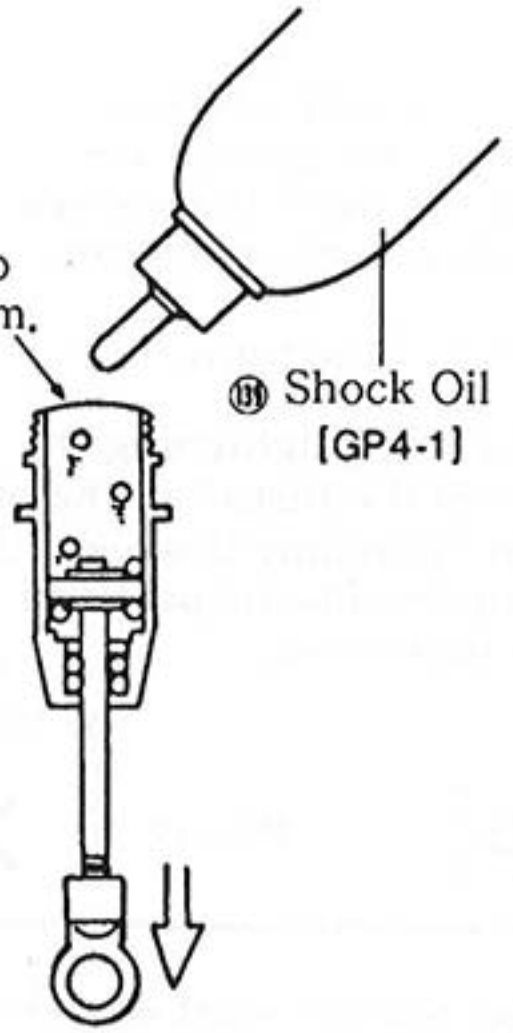


2 FILLING THE OIL

*The parts for the front shocks are in [GP4-1], those for the rear are in [GP4-2].

- 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.
- 2 Keep the piston in the lowest position and tight 26 (shock top) gradually, then excessive oil will run over.
- 3 Confirm that it will work smoothly by moving the piston up and down.

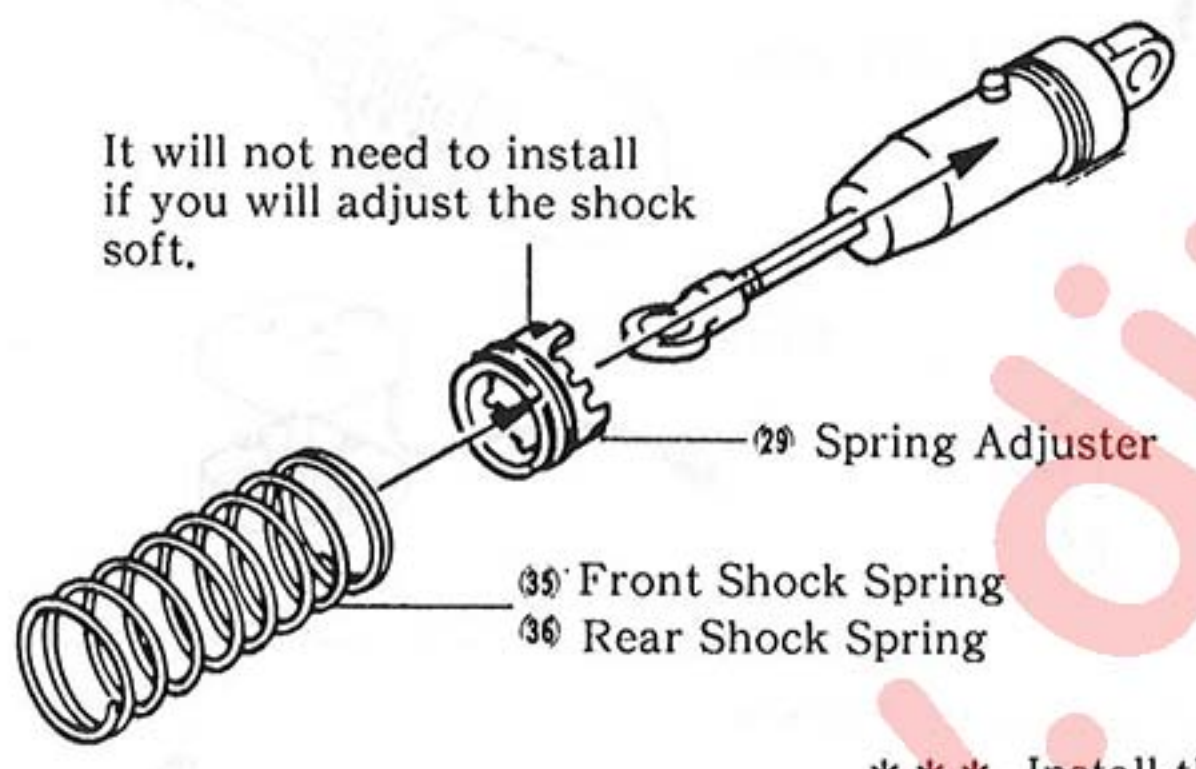
Fill the cylinder to slightly above brim.



In the end, tighten it firmly so that the oil will not leak out.

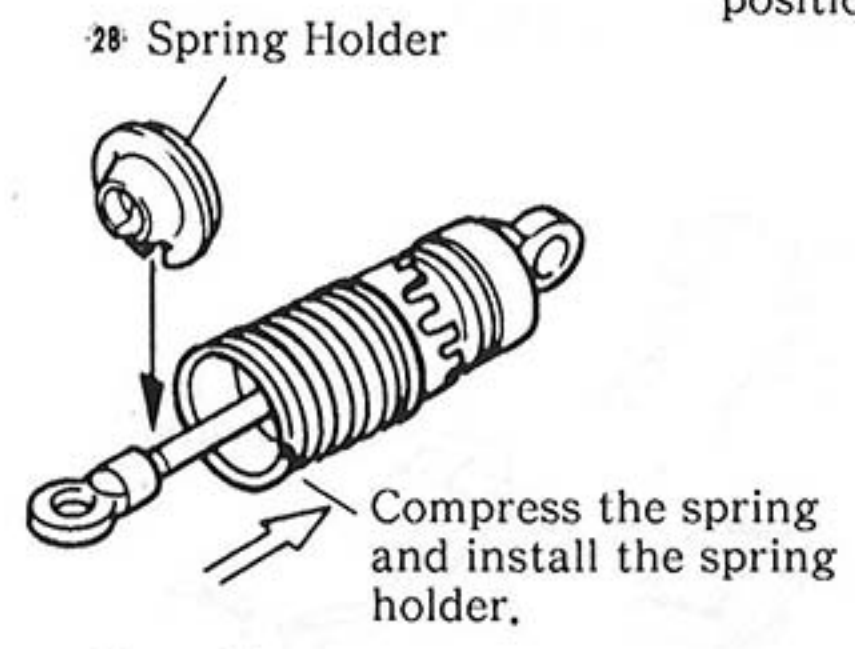
It should move without binding.

It will not need to install if you will adjust the shock soft.

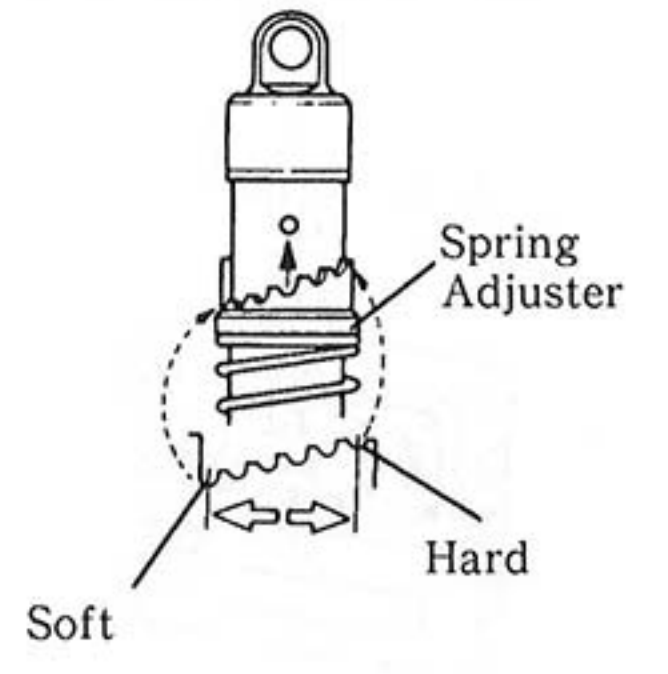


*** Install the front shocks in step 7, and the rear shocks in step 11.

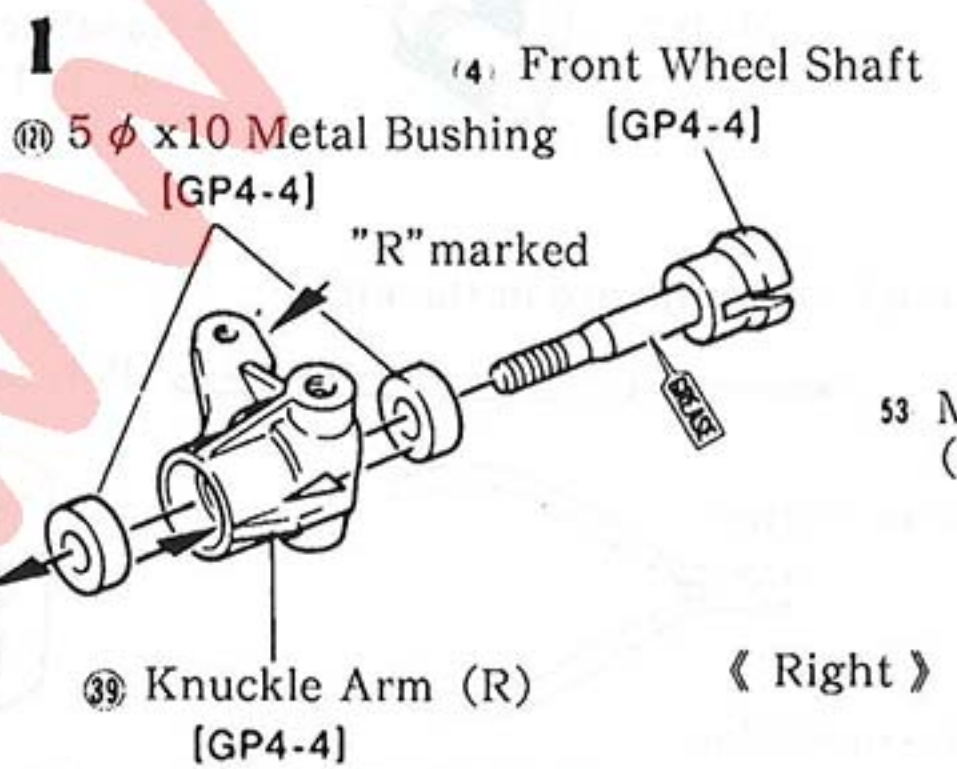
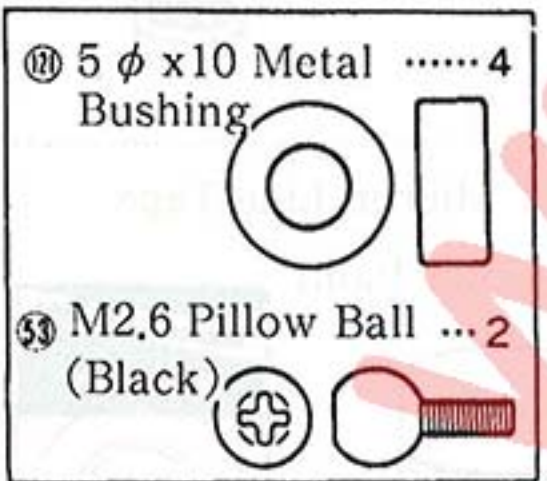
4



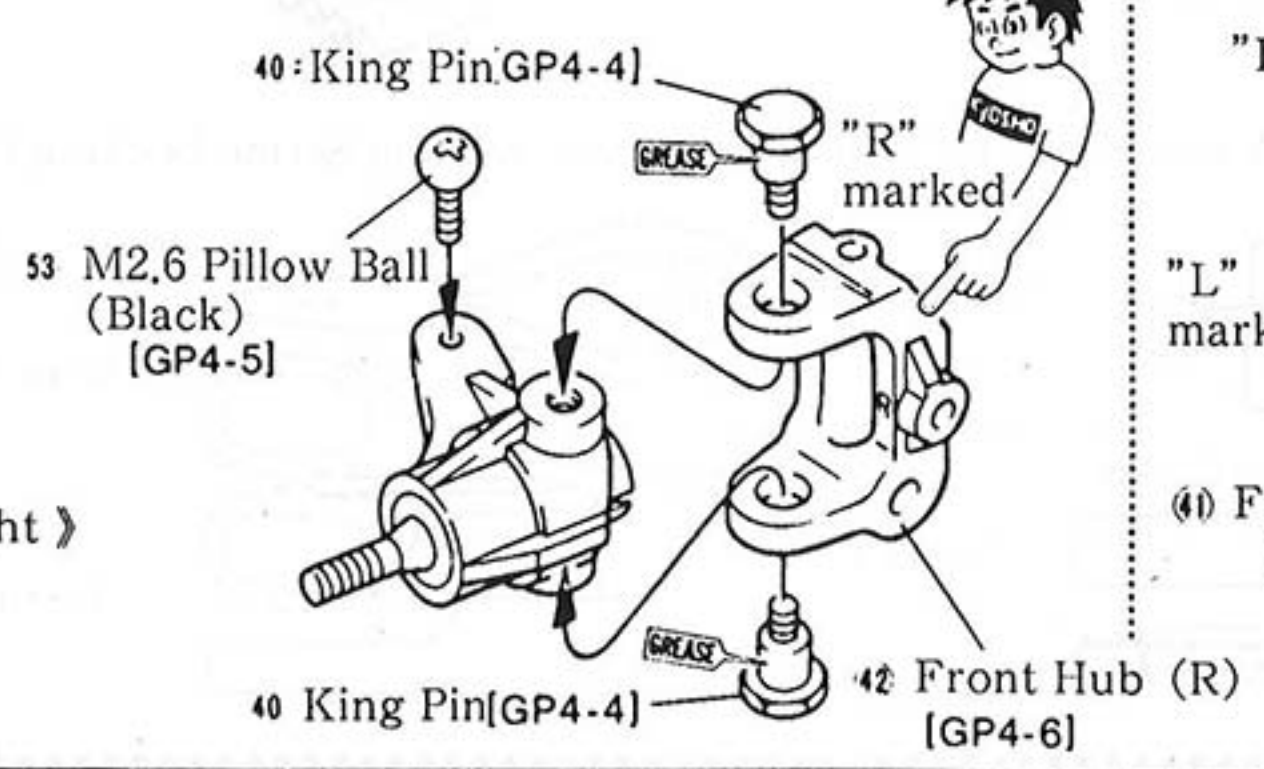
*The spring tension can be adjusted easily by changing the installing position as shown below.



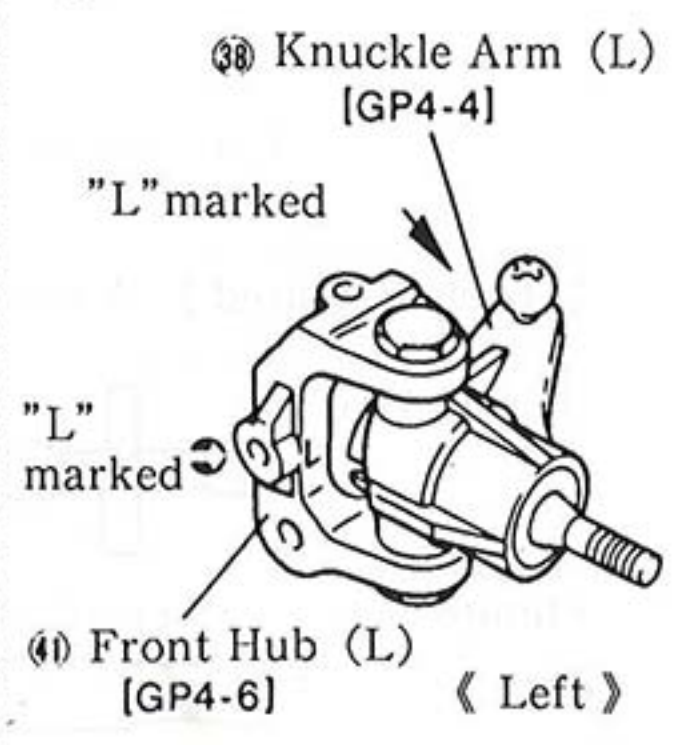
3 ASSEMBLY OF KNUCKLE ARM



2

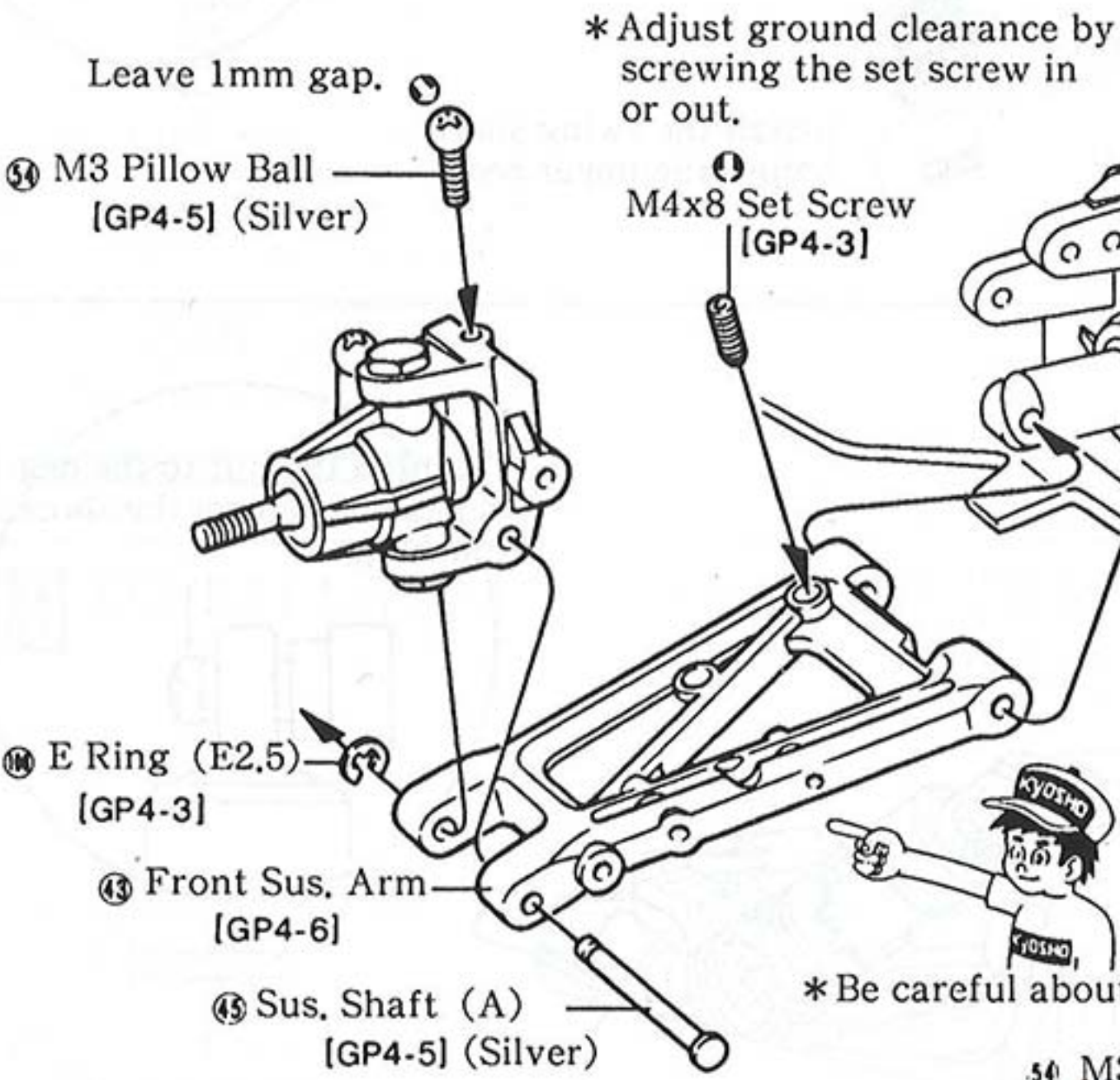
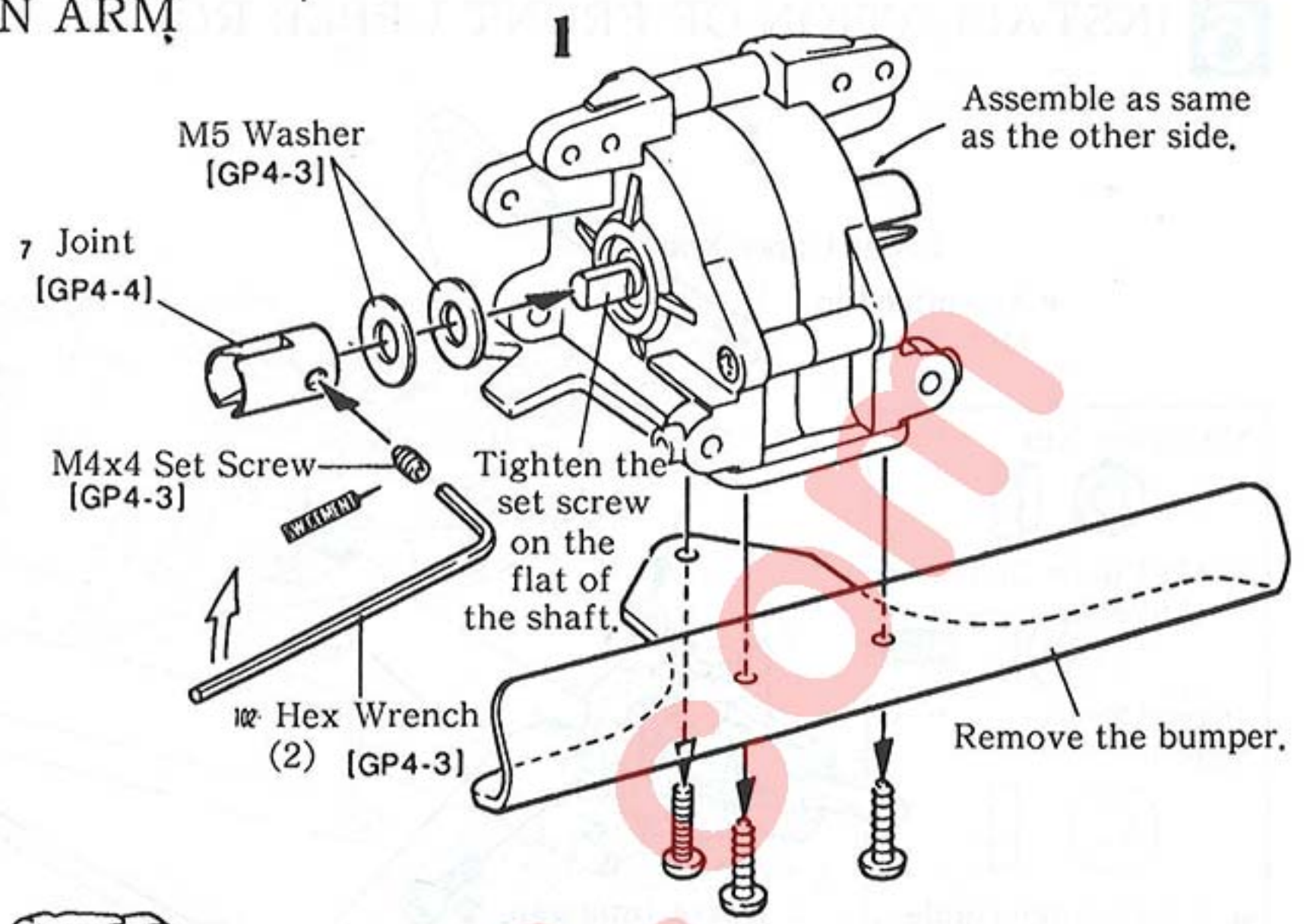


3

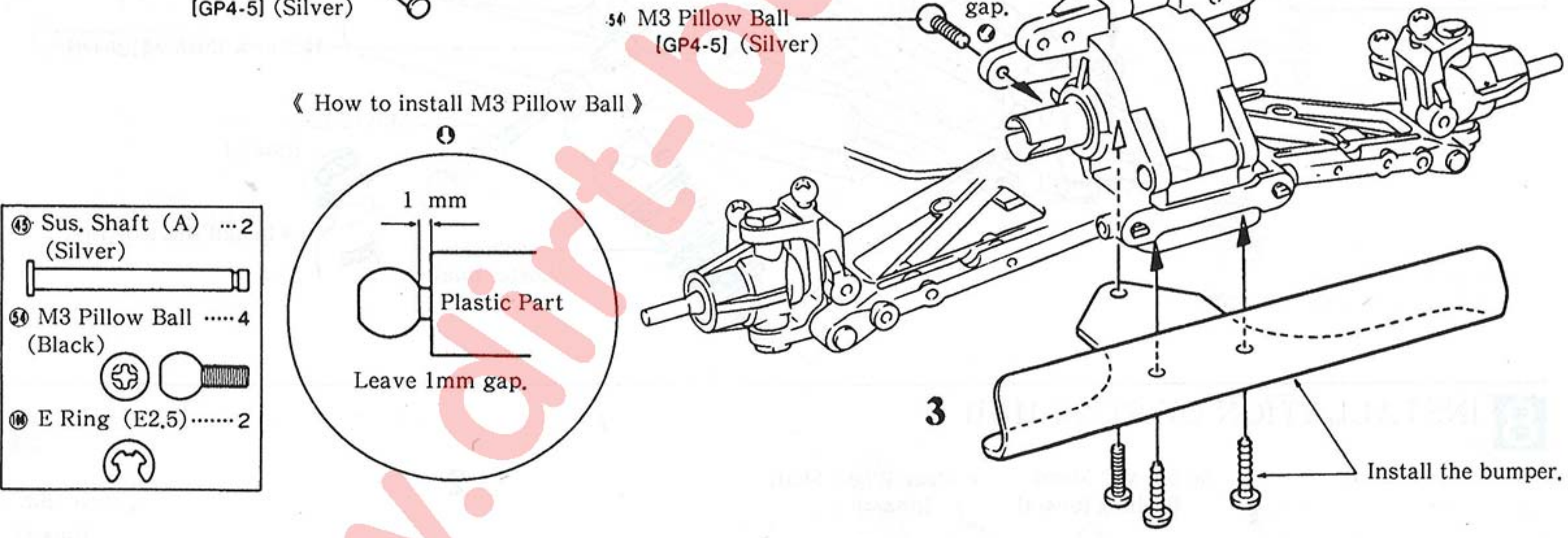


4 INSTALLATION OF FRONT SUSPENSION ARM

- M4x4 Set Screw..... 2
- M4x8 Set Screw..... 2
- M5 Washer 4
- ⑦ Sus. Shaft (C)..... 2

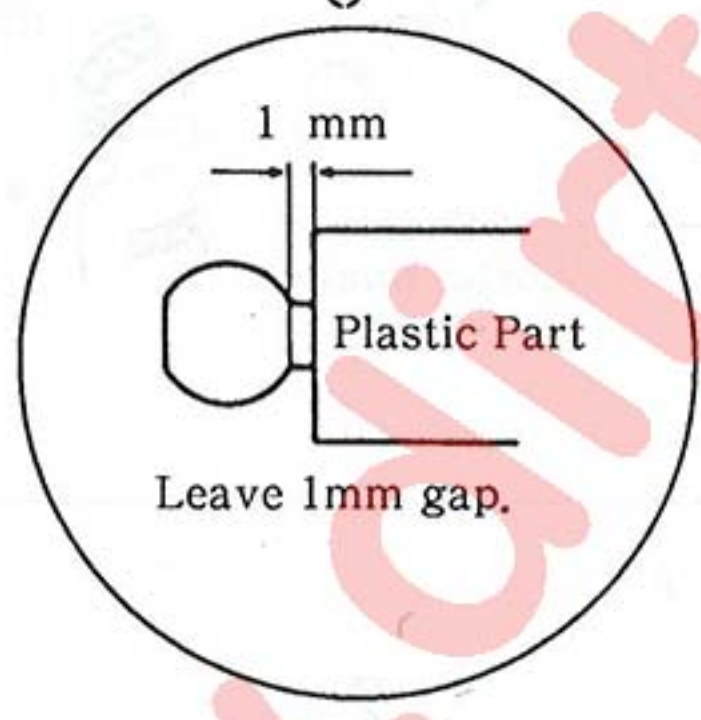


* Be careful about the installing direction.



《 How to install M3 Pillow Ball 》

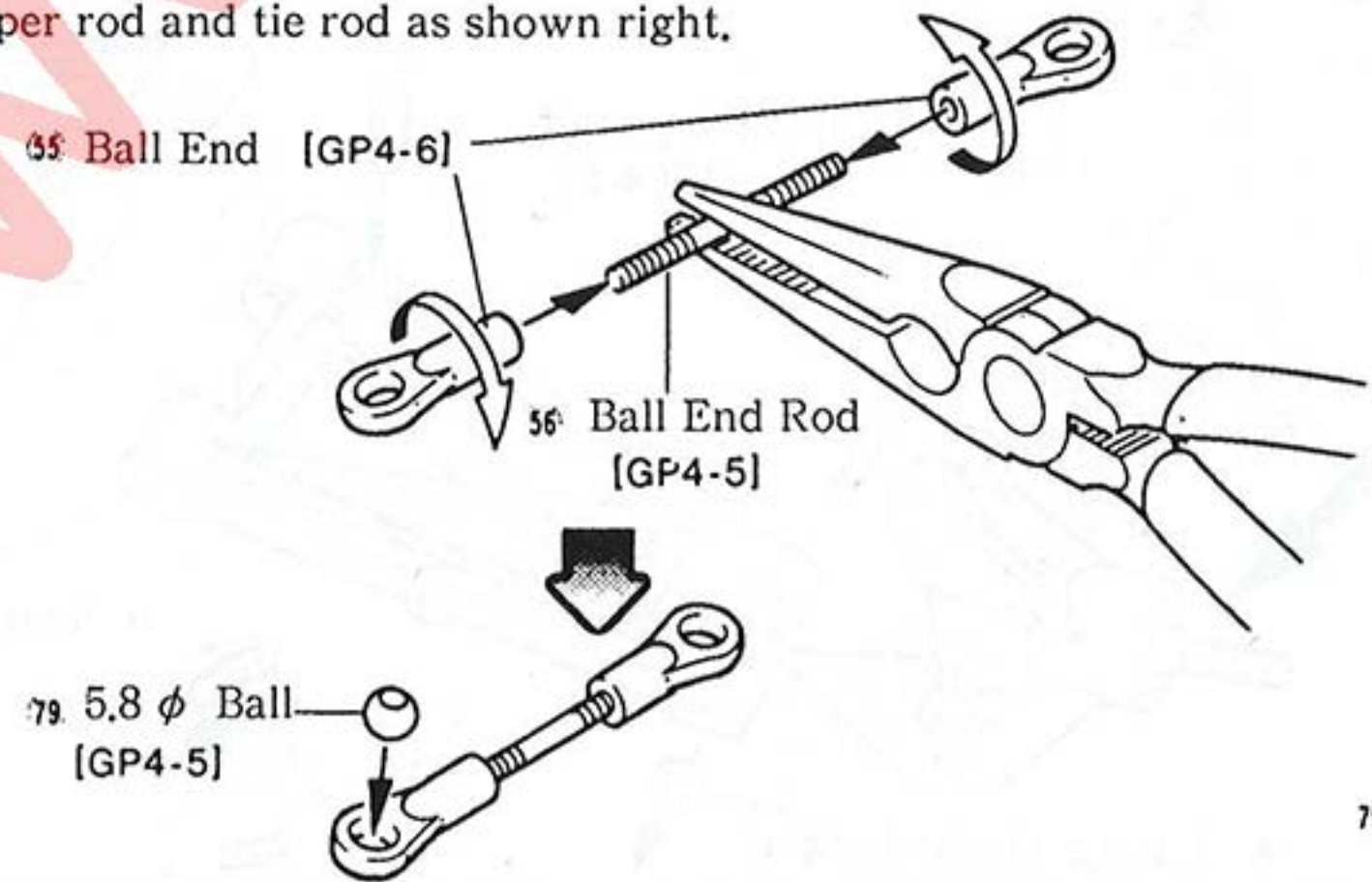
- ④ Sus. Shaft (A) ... 2 (Silver)
- ⑤ M3 Pillow Ball 4 (Black)
- ⑩ E Ring (E2.5)..... 2



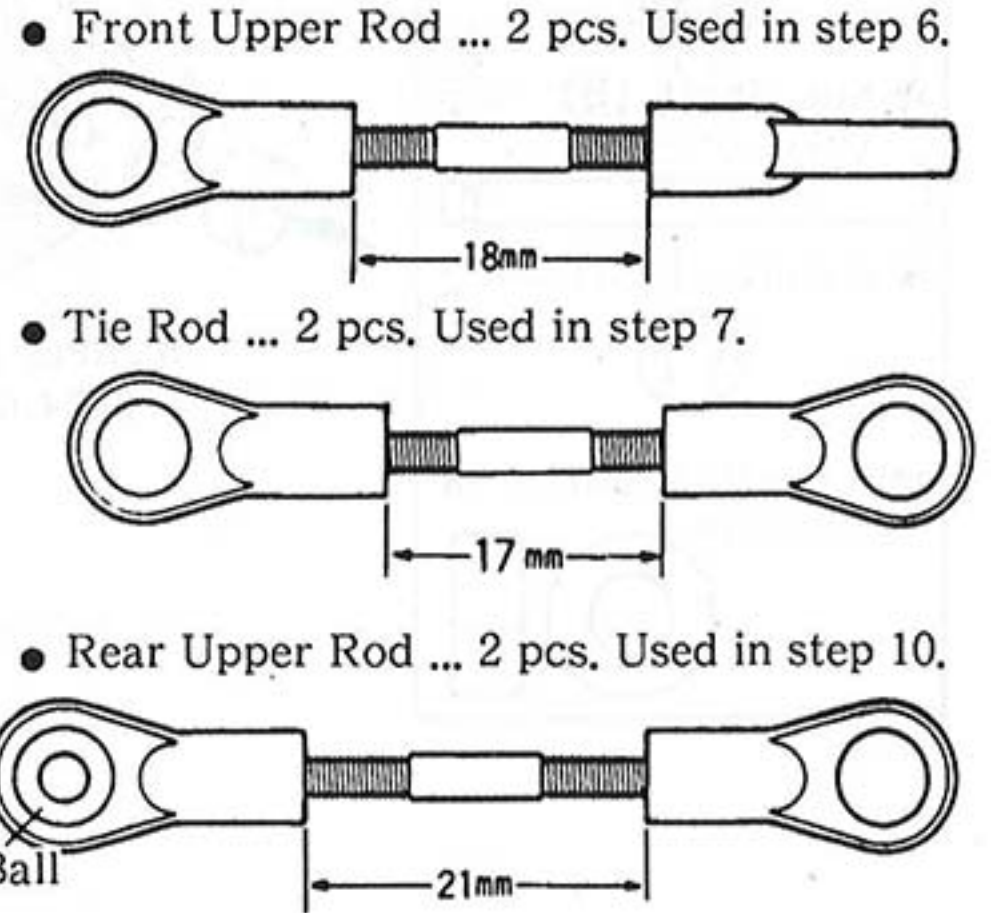
5 ASSEMBLY OF UPPER ROD AND TIE ROD

* Assemble the upper rod and tie rod as shown right.

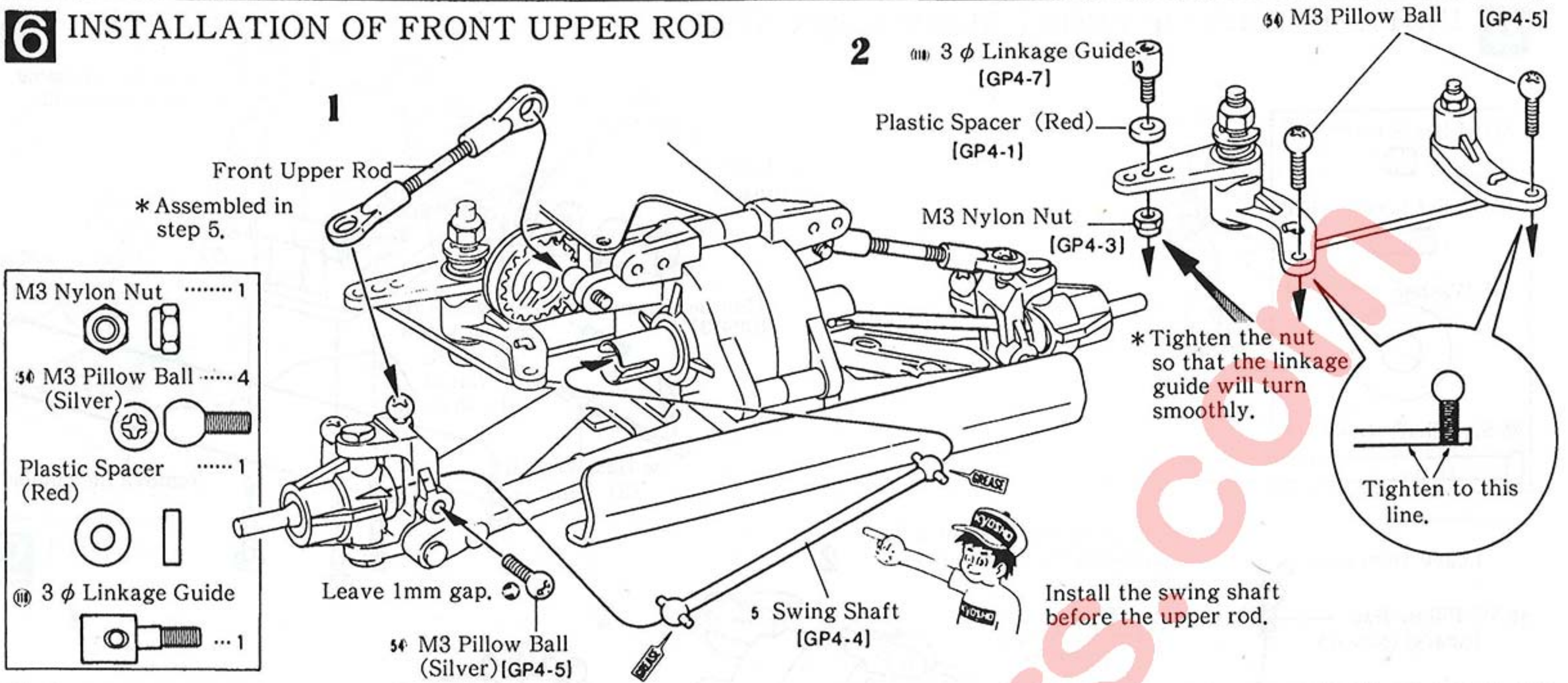
- ⑤⑤ Ball End 12
- ⑦⑧ 5.8 φ Ball 2



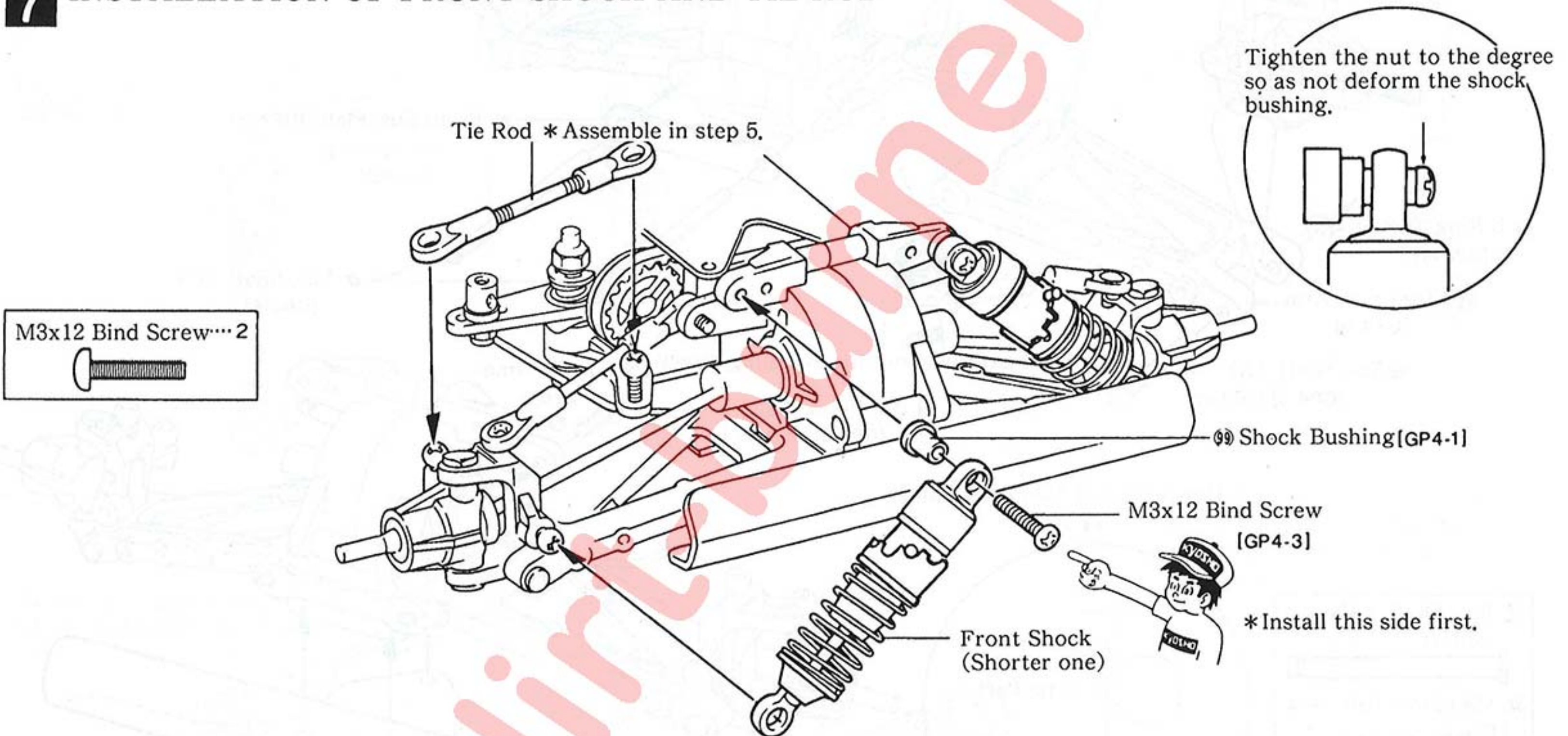
《 Actual Size Drawing 》



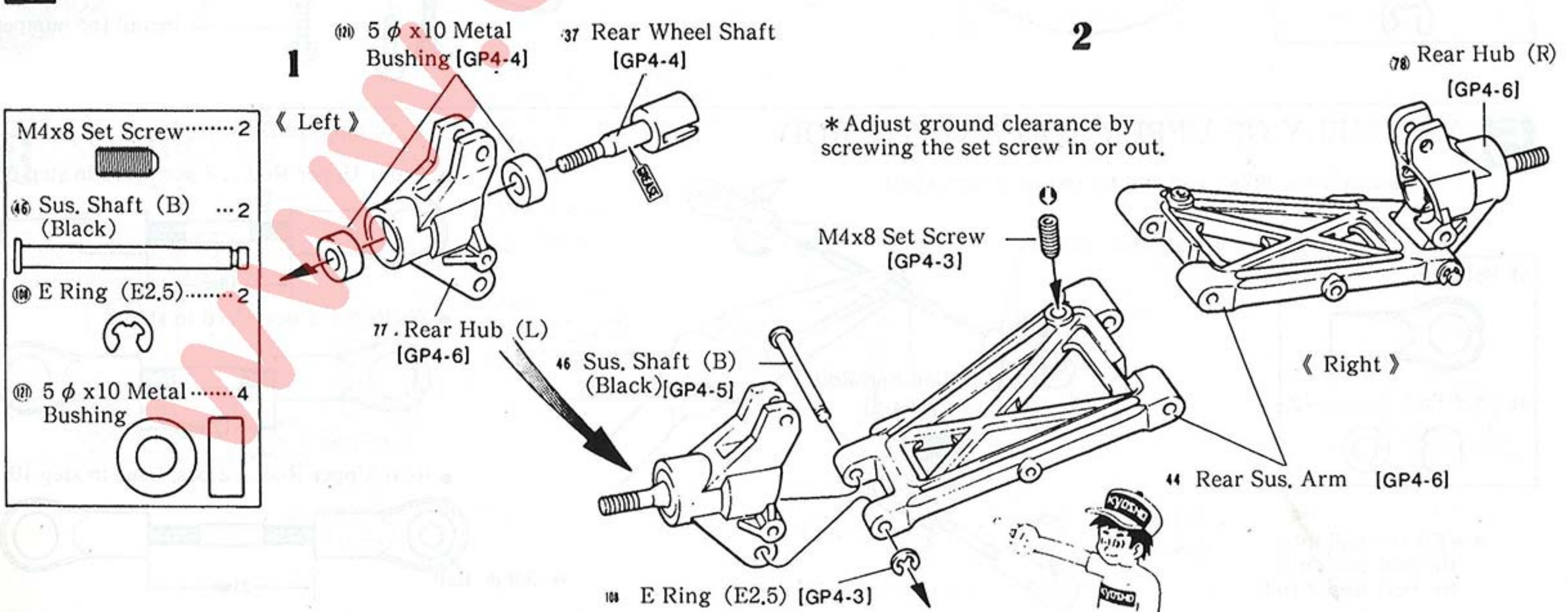
6 INSTALLATION OF FRONT UPPER ROD



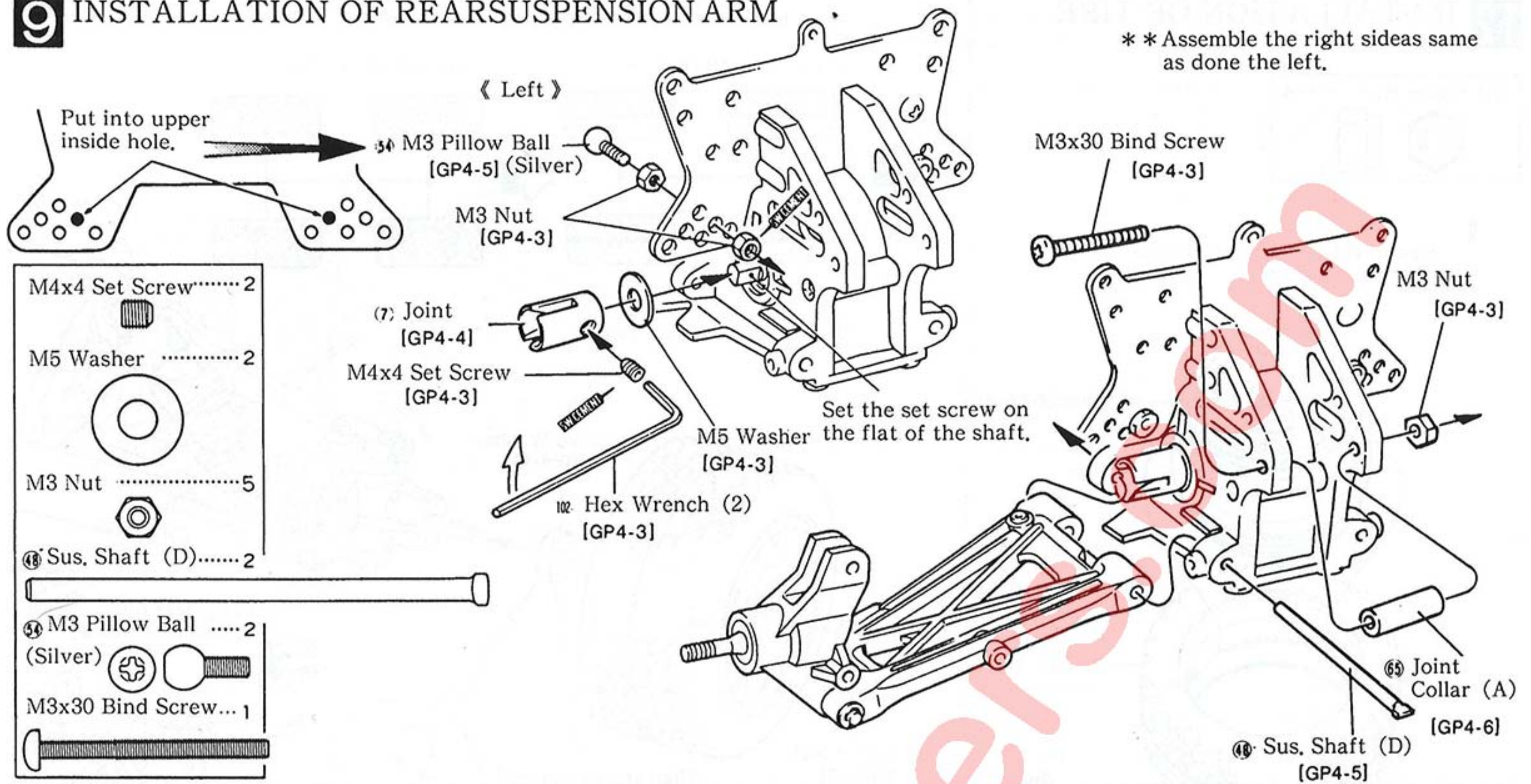
7 INSTALLATION OF FRONT SHOCK AND TIE ROD



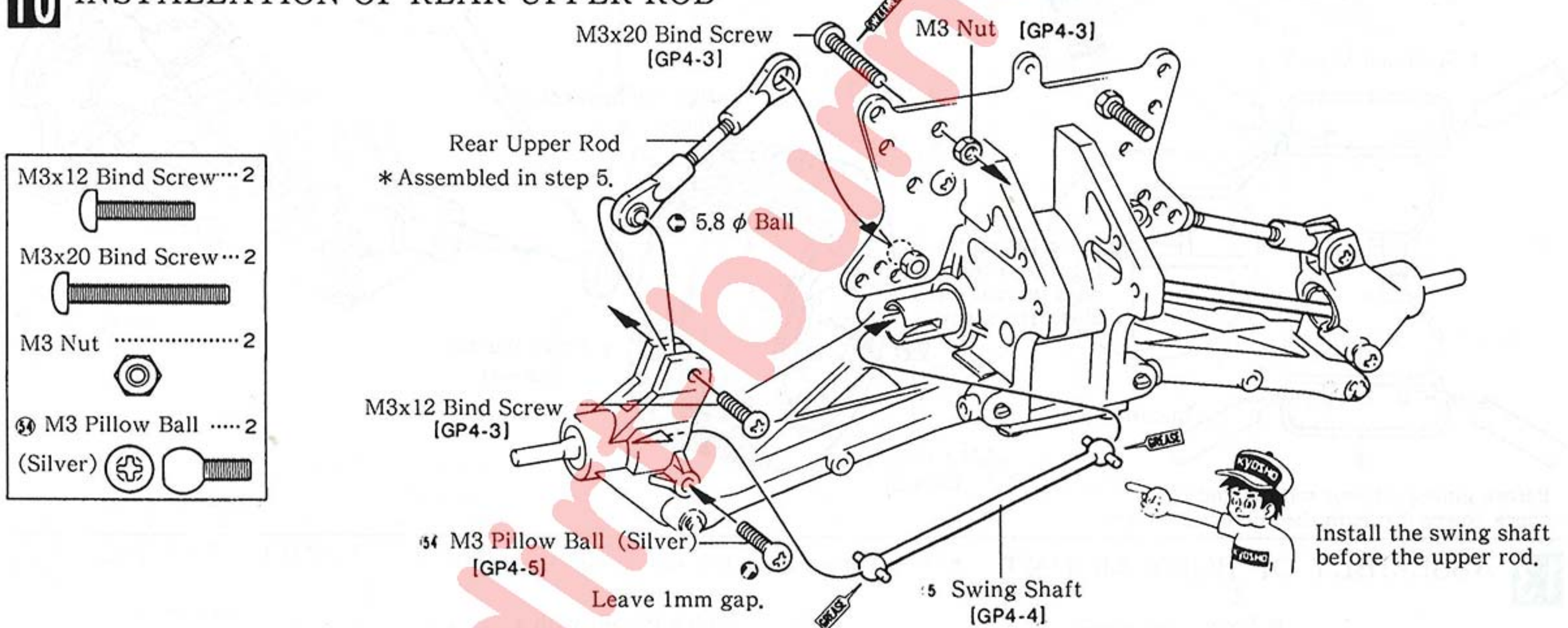
8 INSTALLATION OF REAR HUB



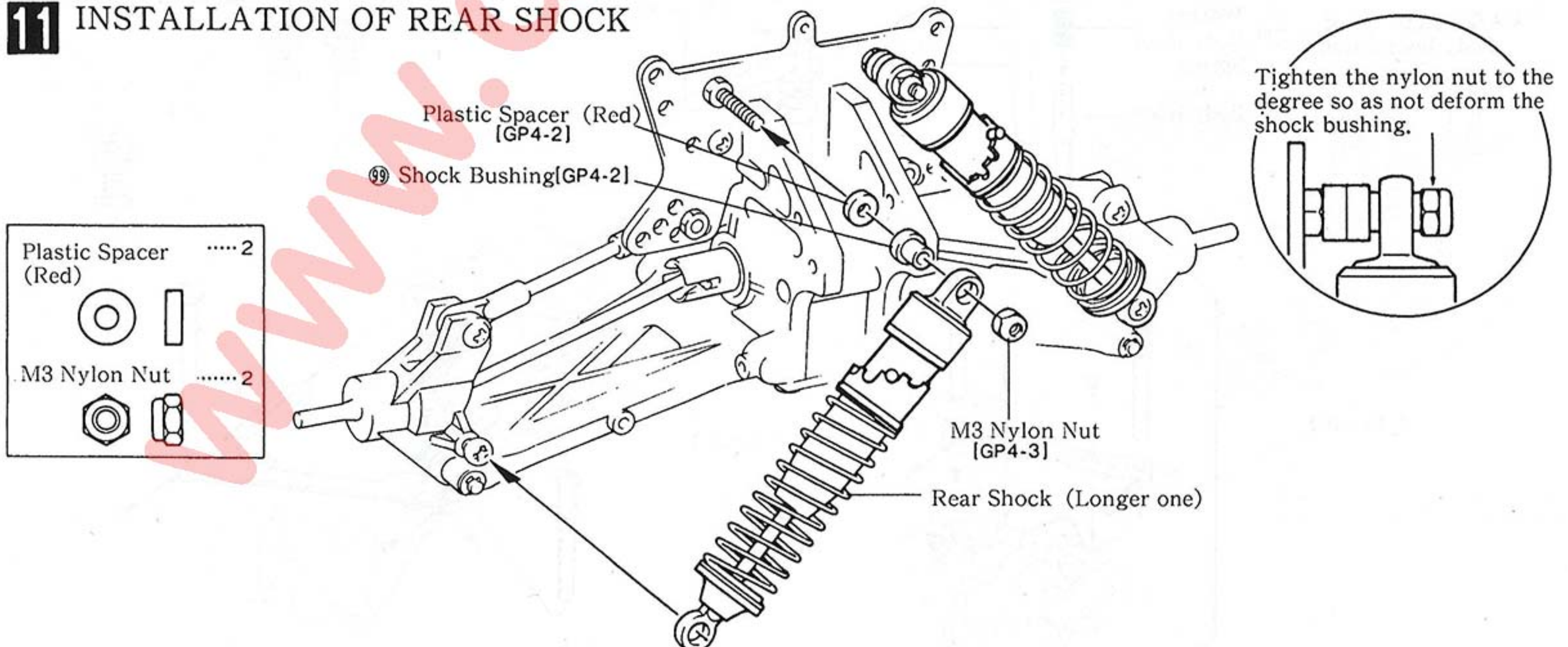
9 INSTALLATION OF REARSUSPENSION ARM



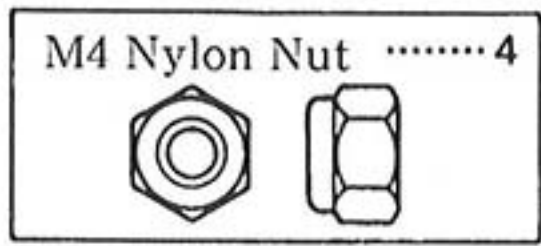
10 INSTALLATION OF REAR UPPER ROD



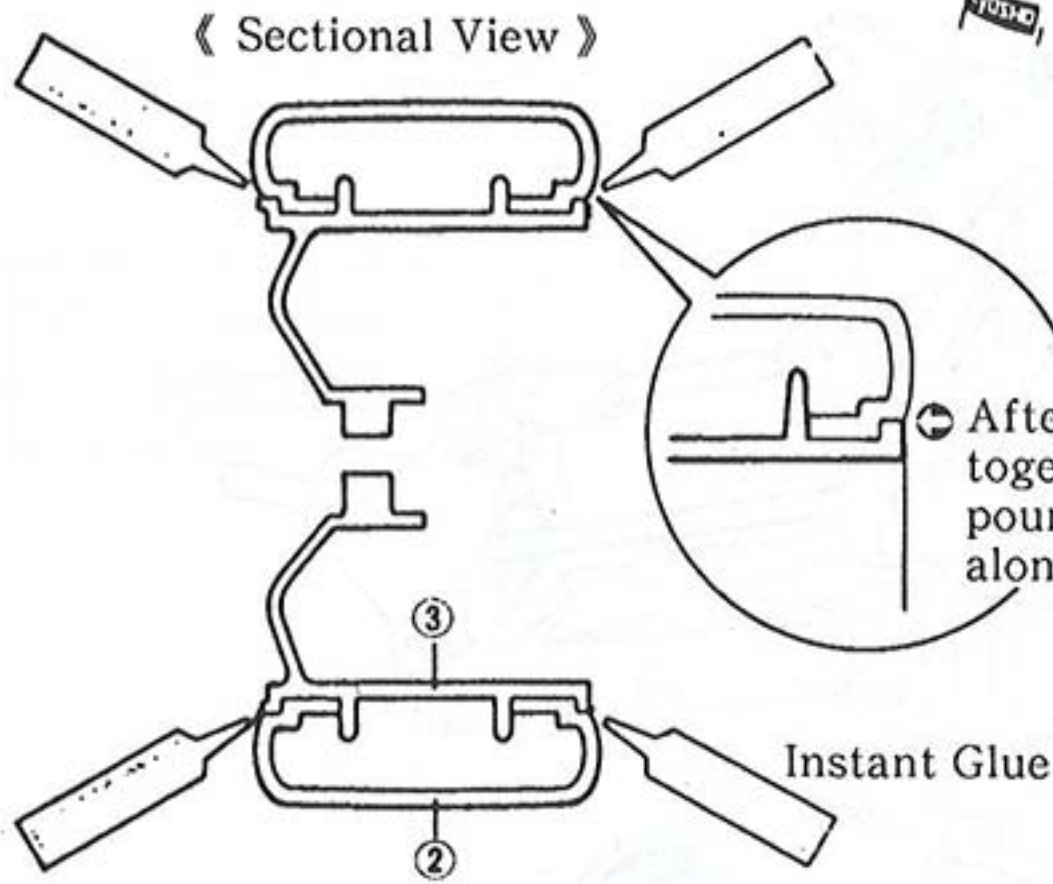
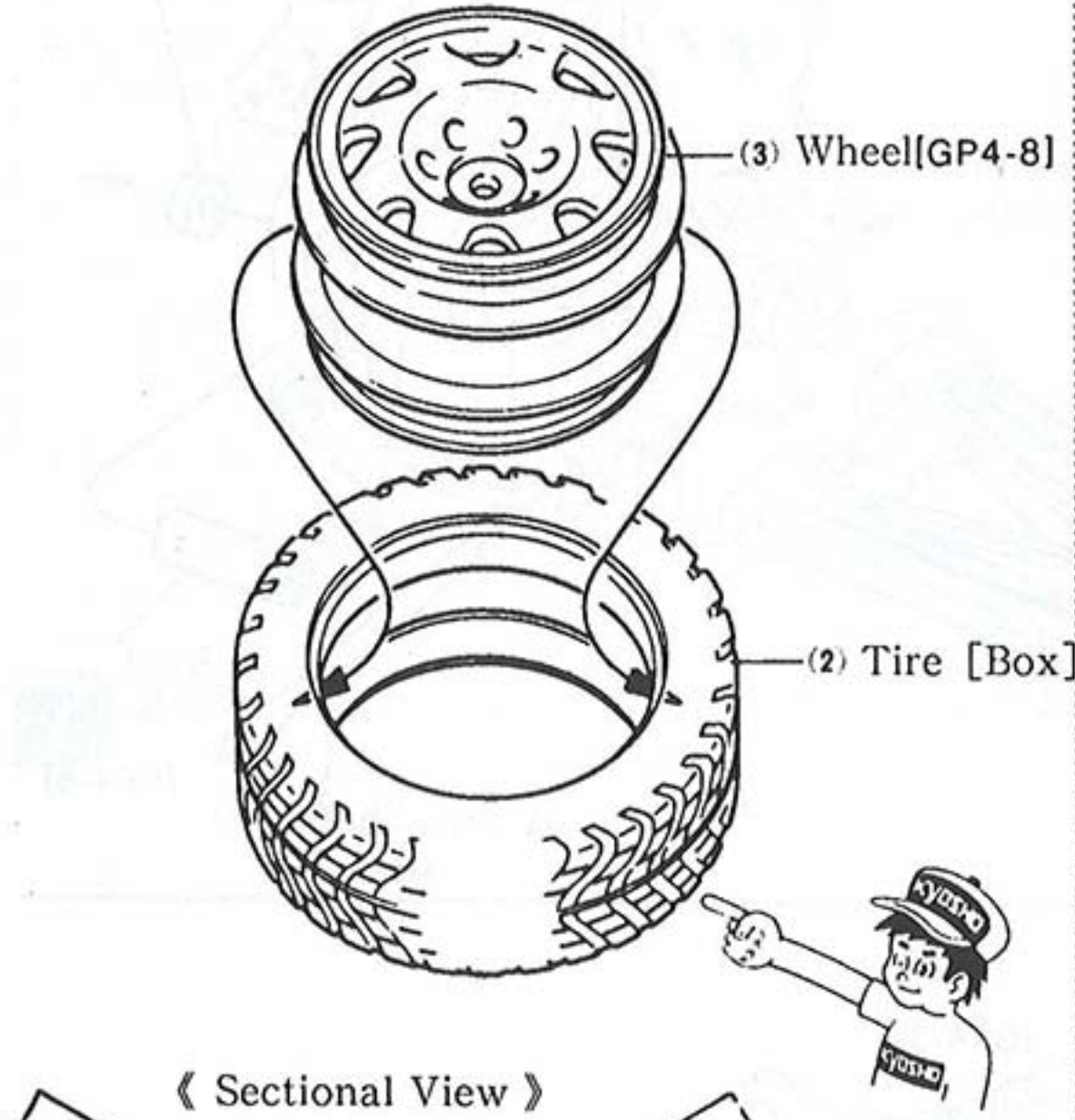
11 INSTALLATION OF REAR SHOCK



12 INSTALLATION OF TIRE

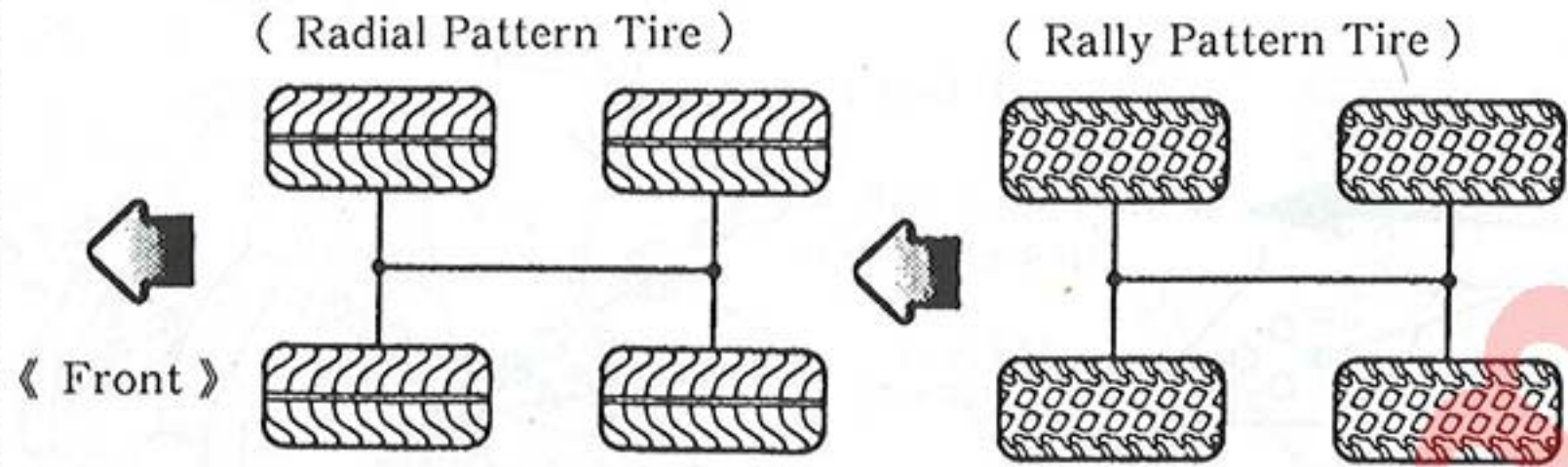


1 Be careful about the direction of the tread pattern.

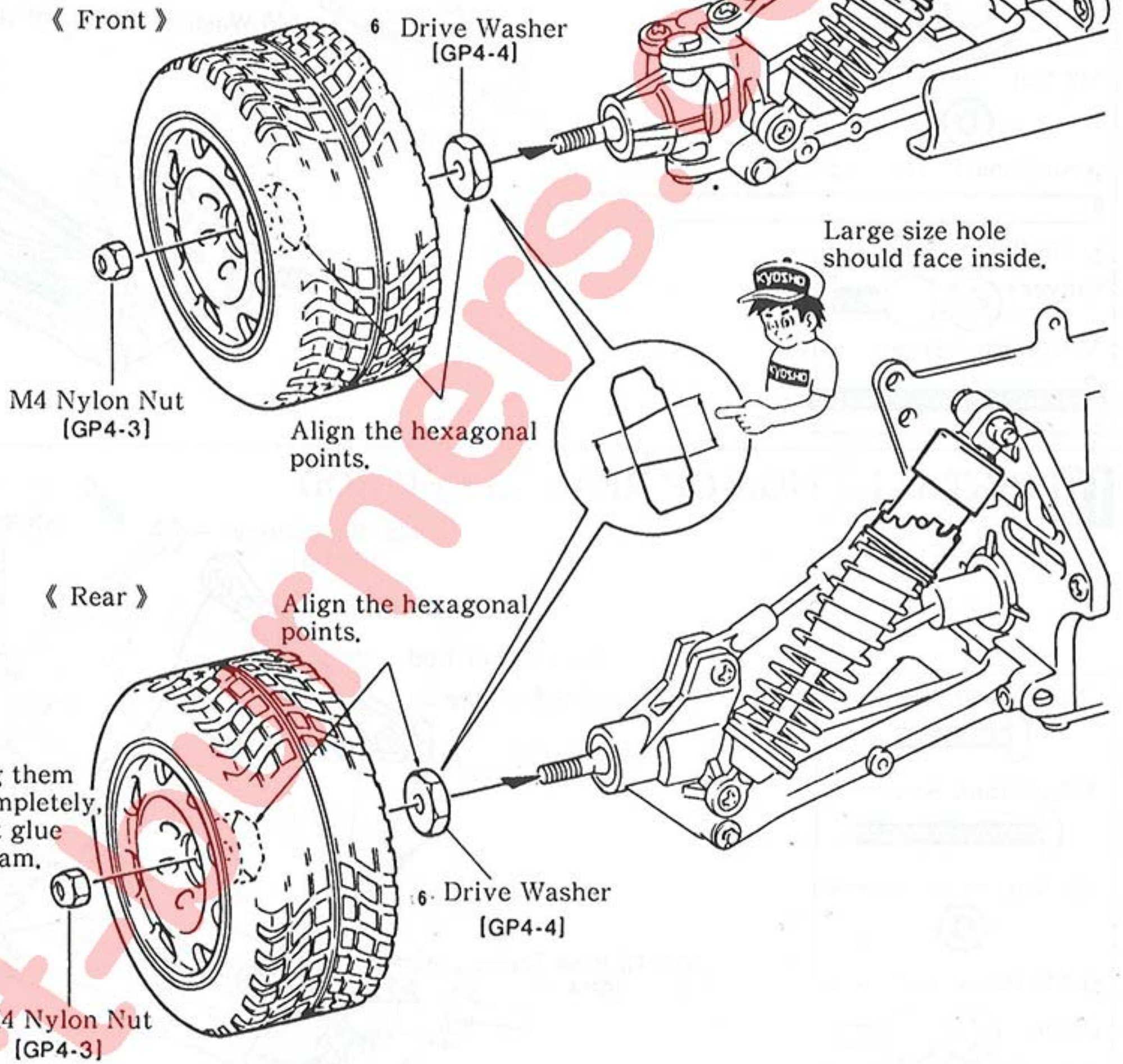


Before gluing all four wheels and tires check to see if it is in the correct direction.

《 Installing Direction of Tire 》

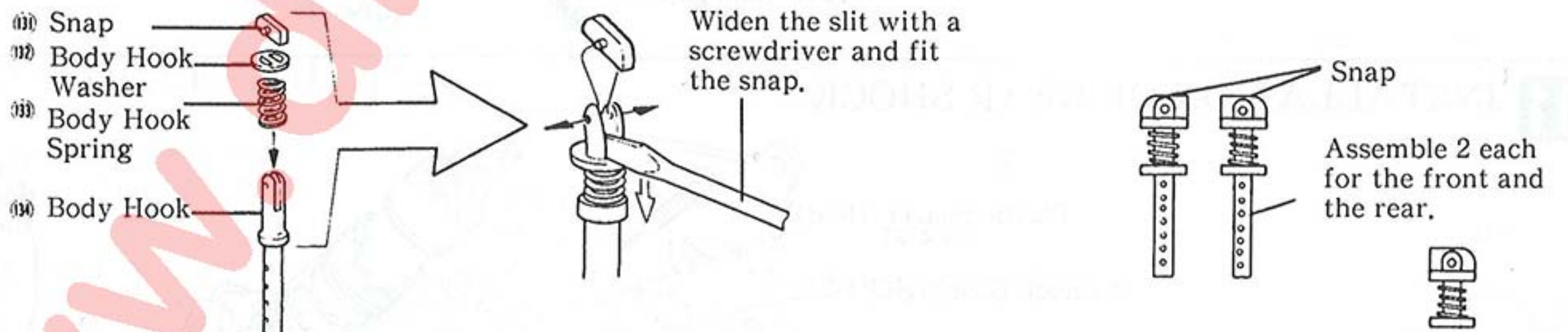


2 Installation of Tire



13 ASSEMBLY OF BODY MOUNT *These parts used in this step are in [GP4-9].

** See step ① of Body Instruction.

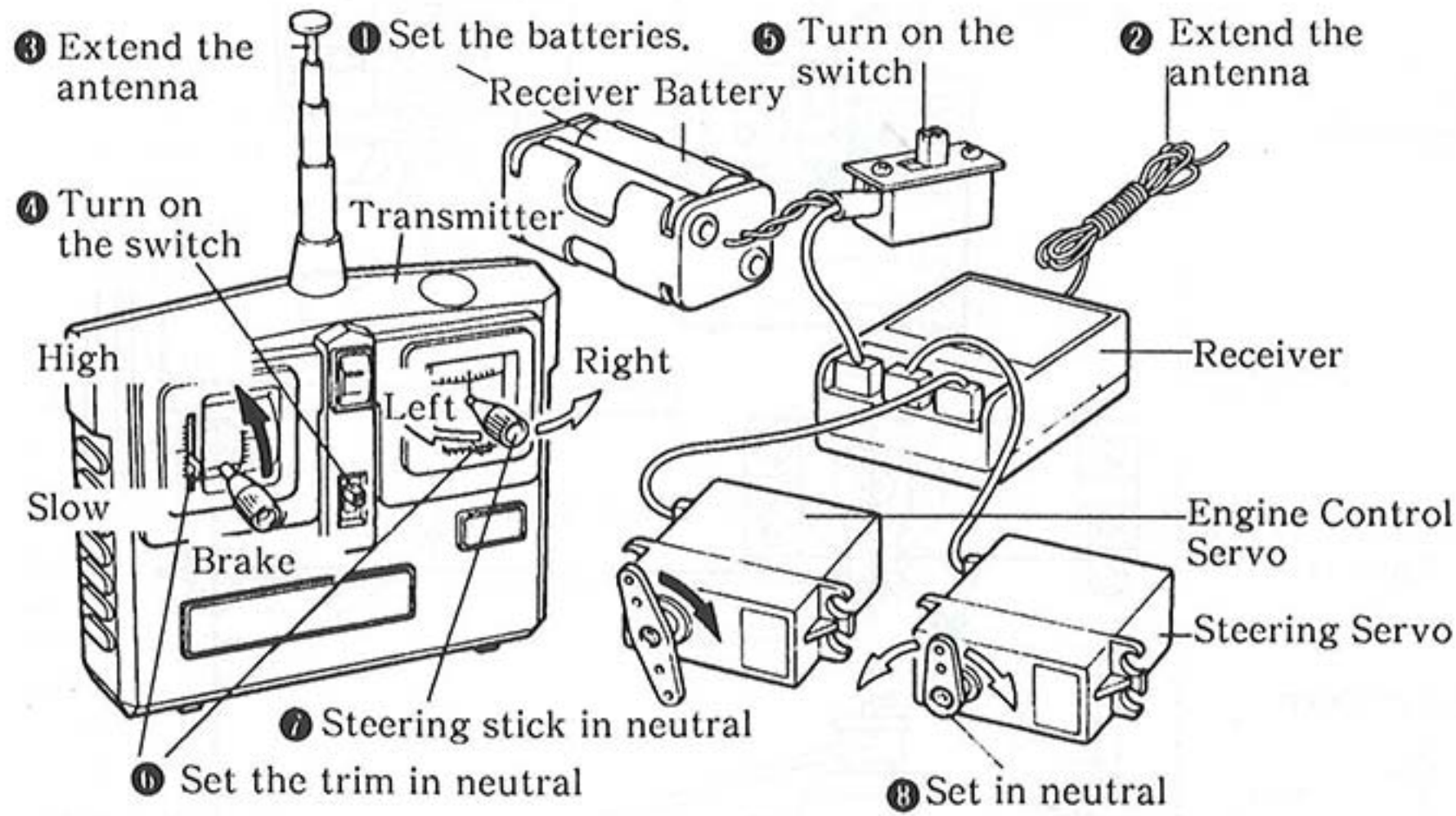


《 Front 》

《 Rear 》

14 HOW TO CHECK RADIO SYSTEM

**Carefully* read the instruction manual that comes with your radio system before operating the radio.

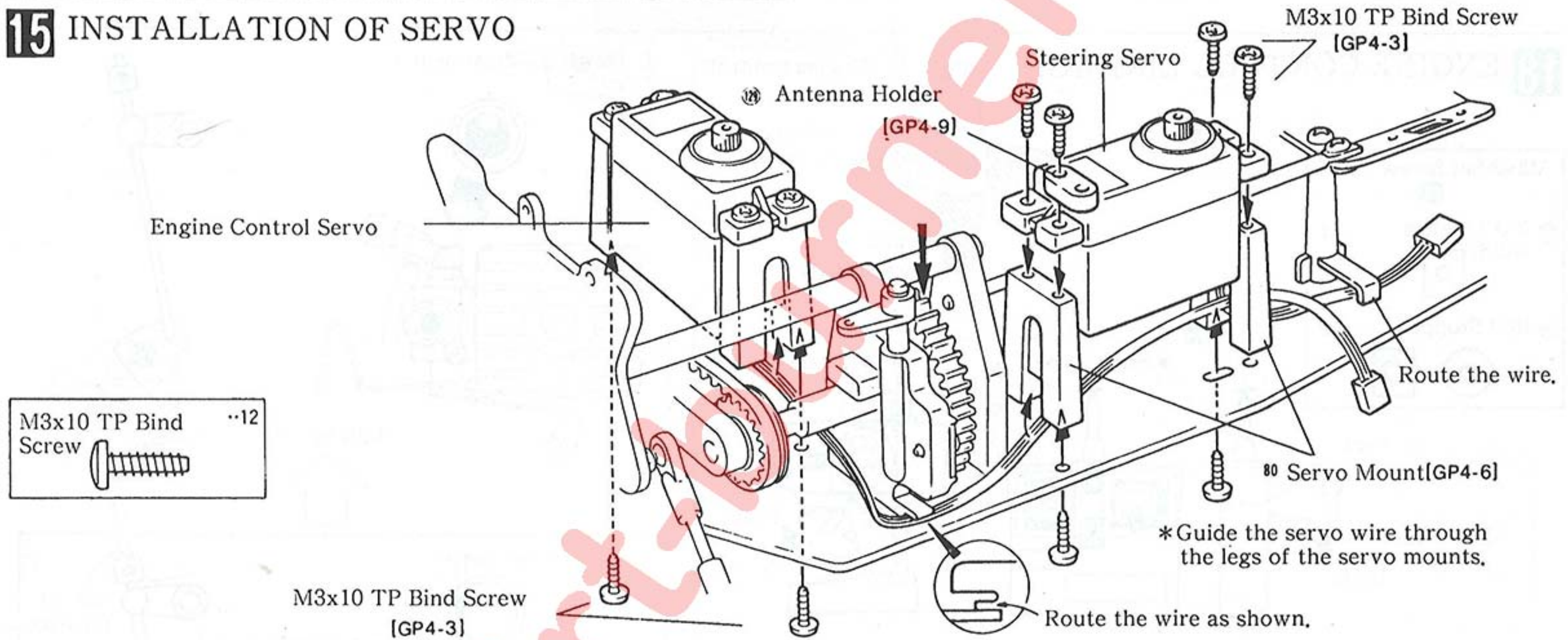


- 1) Install the batteries into both the transmitter and receiver. If your radio is a rechargeable system, charge it as outlined in the manual that comes with your set.
- 2) Unwind the receiver antenna and plug the servo and battery connectors into the receiver.
- 3) Extend the transmitter antenna.
- 4) Turn on the power switch of the transmitter.
- 5) Turn on the power switch of the receiver.
- 6) Set the trim levers to the center position and make sure that both main control sticks are also centered.
- 7) Move both main control sticks slowly through their full travel. The servo horns should move in proportion to the movement of your sticks.
- 8) When trim levers and sticks are at their neutral positions, the servo horns should be centered. You may now turn off the receiver, then the transmitter and unplug the servos and battery from the receiver.

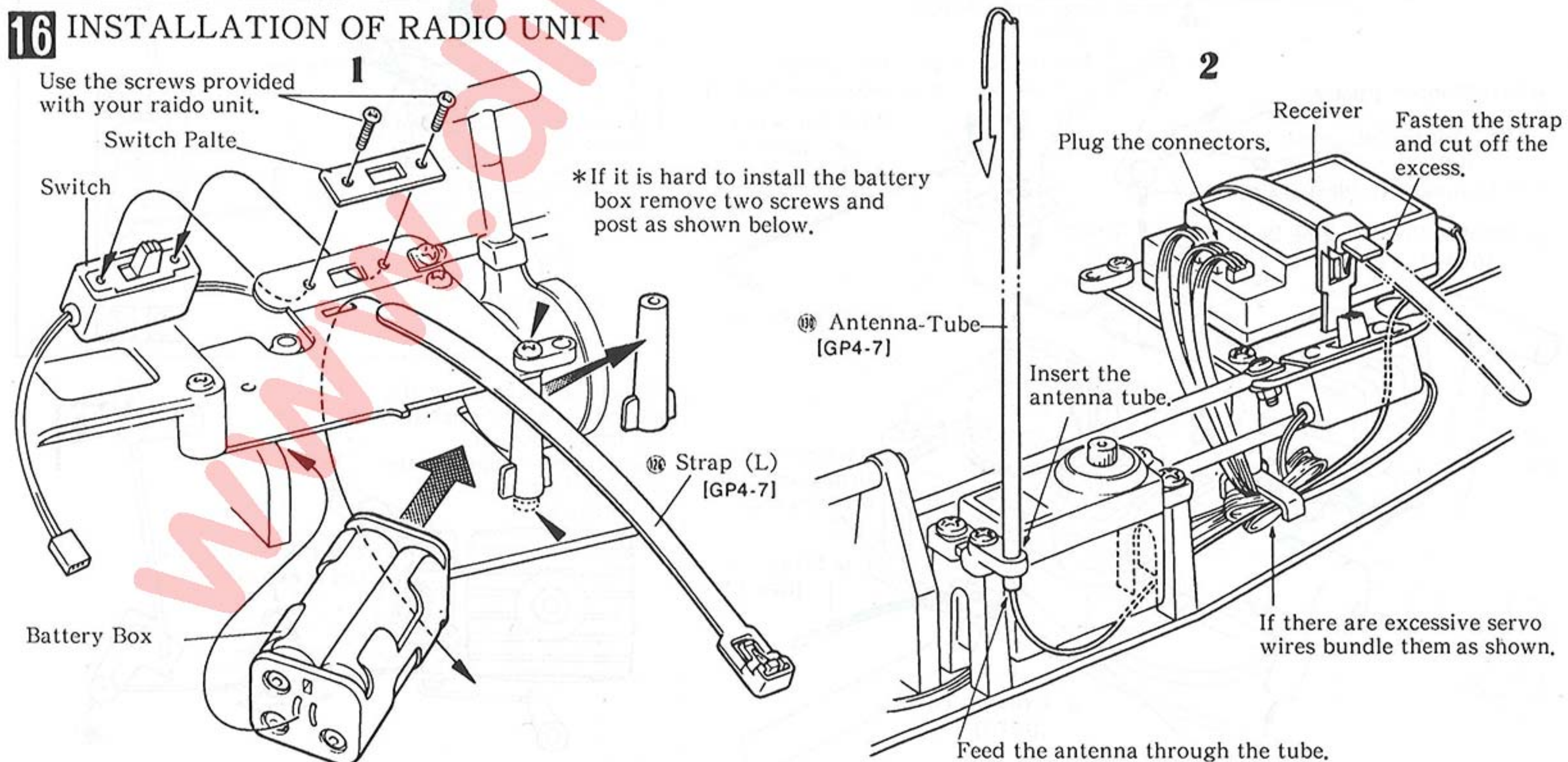
《 CAUTION 》

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.

15 INSTALLATION OF SERVO



16 INSTALLATION OF RADIO UNIT



17 STEERING LINKAGE

1 Enlarge the hole to the thickness of the rod.
 *Remove the shaded area to obtain the proper shape.

Connect the rod to the hole 14 mm from the center.

M3x3 Set Screw 1

Use the screw provided with your radio.

2 Linkage Rod [GP4-7]
 Bend the rod as shown right.

Servo Horn
 M3x3 Set Screw [GP4-3]
 Saver Horn

《 Steering Stick Position 》

• Wheel type
 • Steering Type

Neutral
 Neutral
 90°
 90°
 Neutral
 Parallel

《 Top View 》
 《 Side View 》

18 ENGINE CONTROL LINKAGE

1 (Engine Control)
 14 mm
 Enlarge the hole.
 8 mm (Brake Rod)

2 • Stick Type
 • Wheel Type

High
 Slow
 Brake
 Brake
 High
 Slow

3 Linkage Rod (Brake) [GP4-7]
 Use the screw provided with your radio.
 Rod Stopper [GP4-7]
 M3x3 Set Screw [GP4-3]
 Hex Wrench [GP4-3] (1.5)
 Install as shown right.

Fasten the strap firmly and cut off the excess.

Strap (S) [GP4-7]
 Exhaust Tube [GP4-7]

M3x3 Set Screw 2
 2 φ Linkage Guide 1
 Rod Stopper 2

《 Throttle Adjustment 》

High Speed
 High Speed
 1 mm spacer
 Neutral or Slow Speed
 Cut off the excess.
 The rod is not extended.
 Throttle Stop Screw

To set the brake correctly, move the control stick to the brake position. Tighten the stopper on the brake rod against the brake lever.

Brake
 The throttle control rod is extended.

GLOW ENGINE

Knowledge of how a glow engine operates is very beneficial to the first time enthusiast of a gas powered R/C car. The glow engine operates on a mixture of alcohol, oil and some additives.

**** WARNING **** Do not use gasoline or kerosene.

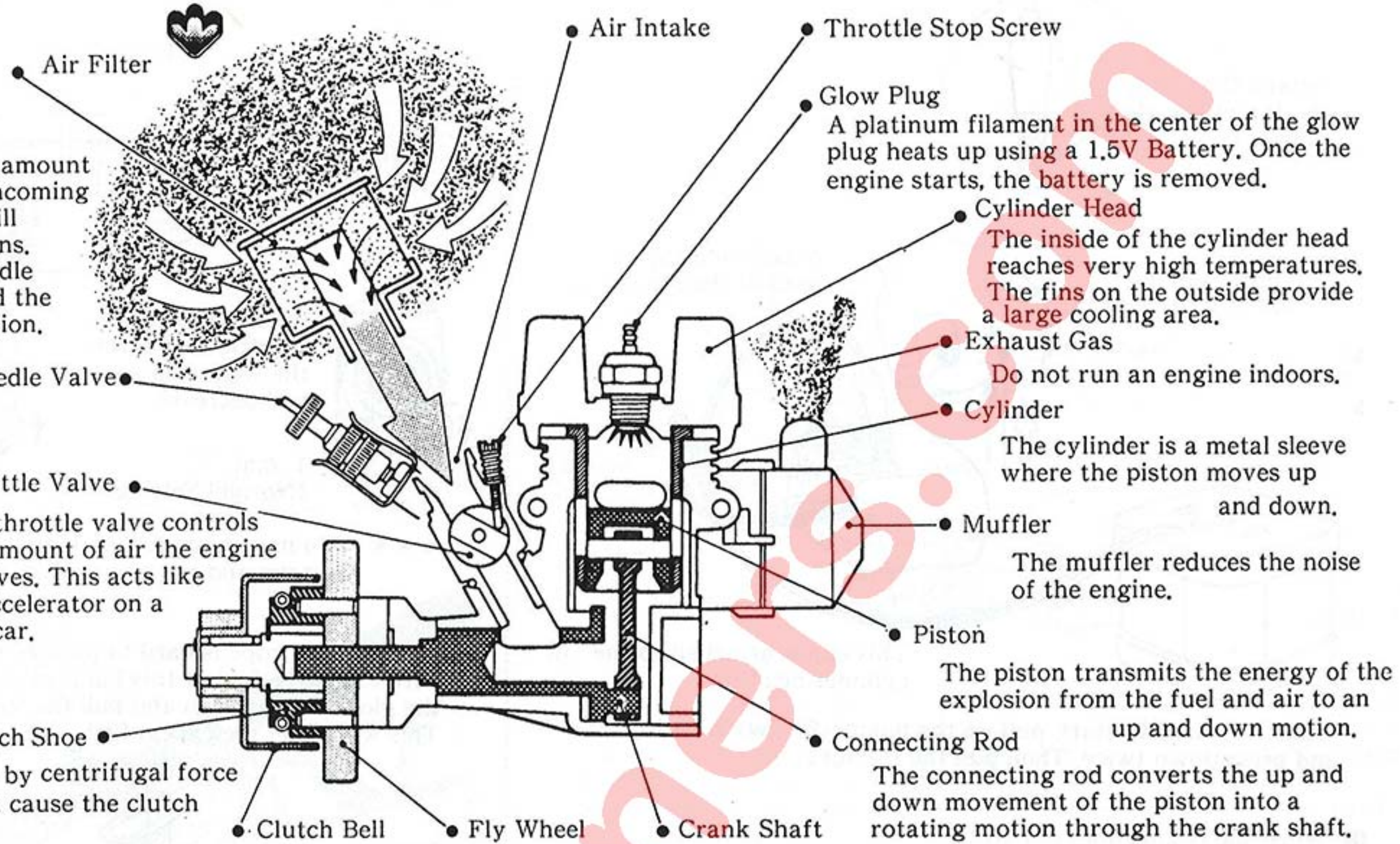
**** WARNING ****

Never operate the engine without an filter. If dust is sucked into the engine it may damage the internal parts.

The needle valve adjusts the amount of fuel that mixes with the incoming air. This fuel/air mixture will determine how the engine runs. If the mixture is lean the needle valve is turned to too far and the engine may stall on acceleration. If the needle valve is set too rich, the needle valve is turned out too far, the engine will not accelerate quickly. The best setting is

The throttle valve controls the amount of air the engine receives. This acts like an accelerator on a real car.

The clutch shoes swing open by centrifugal force against the clutch bell which cause the clutch bell to turn.



A platinum filament in the center of the glow plug heats up using a 1.5V Battery. Once the engine starts, the battery is removed.

The inside of the cylinder head reaches very high temperatures. The fins on the outside provide a large cooling area.

Do not run an engine indoors.

The cylinder is a metal sleeve where the piston moves up and down.

The muffler reduces the noise of the engine.

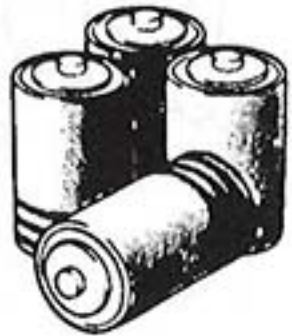
The piston transmits the energy of the explosion from the fuel and air to an up and down motion.

The connecting rod converts the up and down movement of the piston into a rotating motion through the crank shaft.

STARTING THE ENGINE (1)

《 Required to Start the Engine 》

D-size Dry Cell Battery



... 4 pcs.

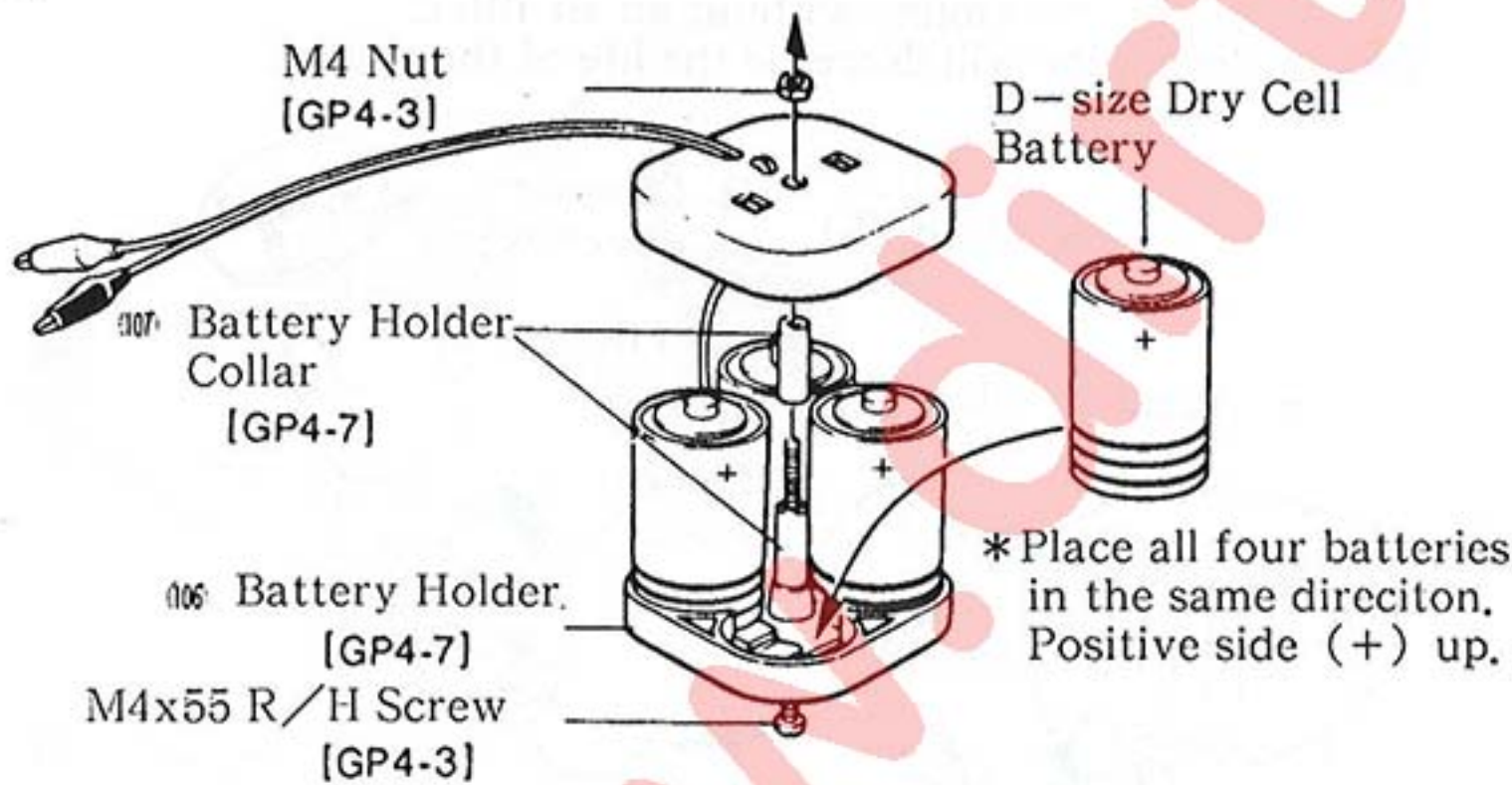
Glow Fuel

* Do not use gasoline or kerosene.



*** Now you start the engine ***

1 Assemble the Battery Holder



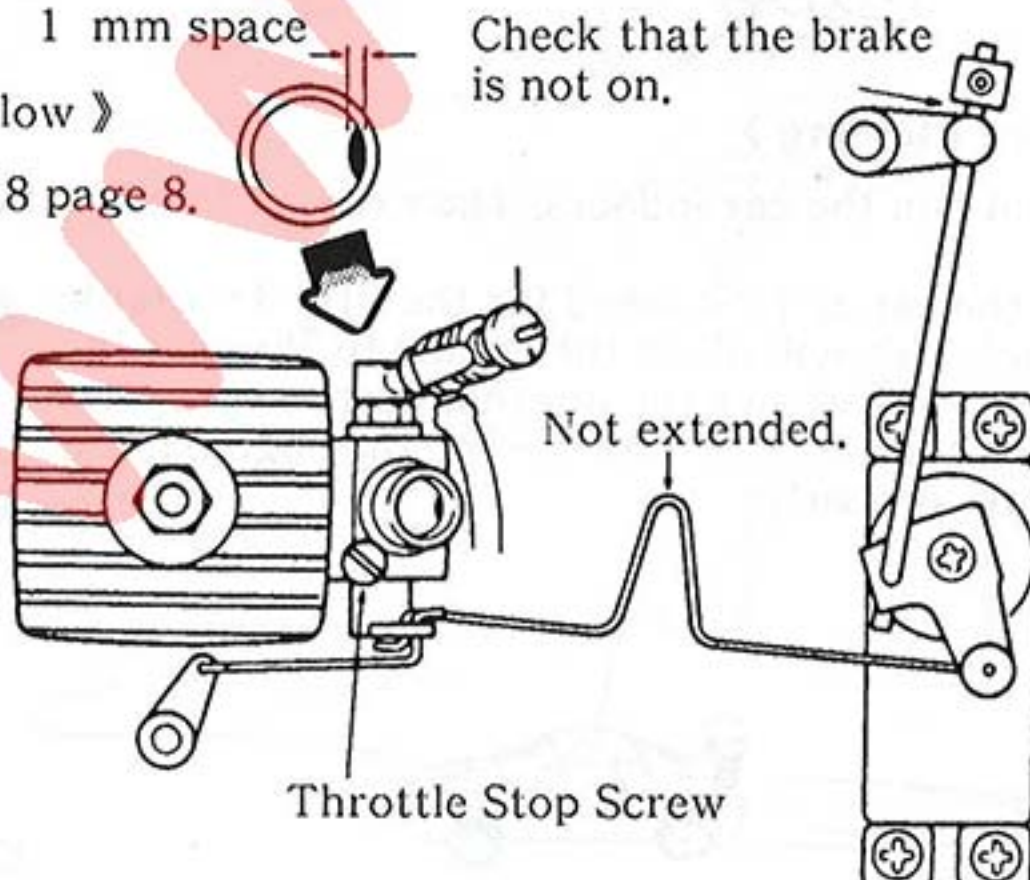
2 Set the throttle control on the transmitter to neutral position.

1 mm space

Check that the brake is not on.

《 Idling Slow 》

Refer to step 18 page 8.



3 Fill the fuel tank with fuel.

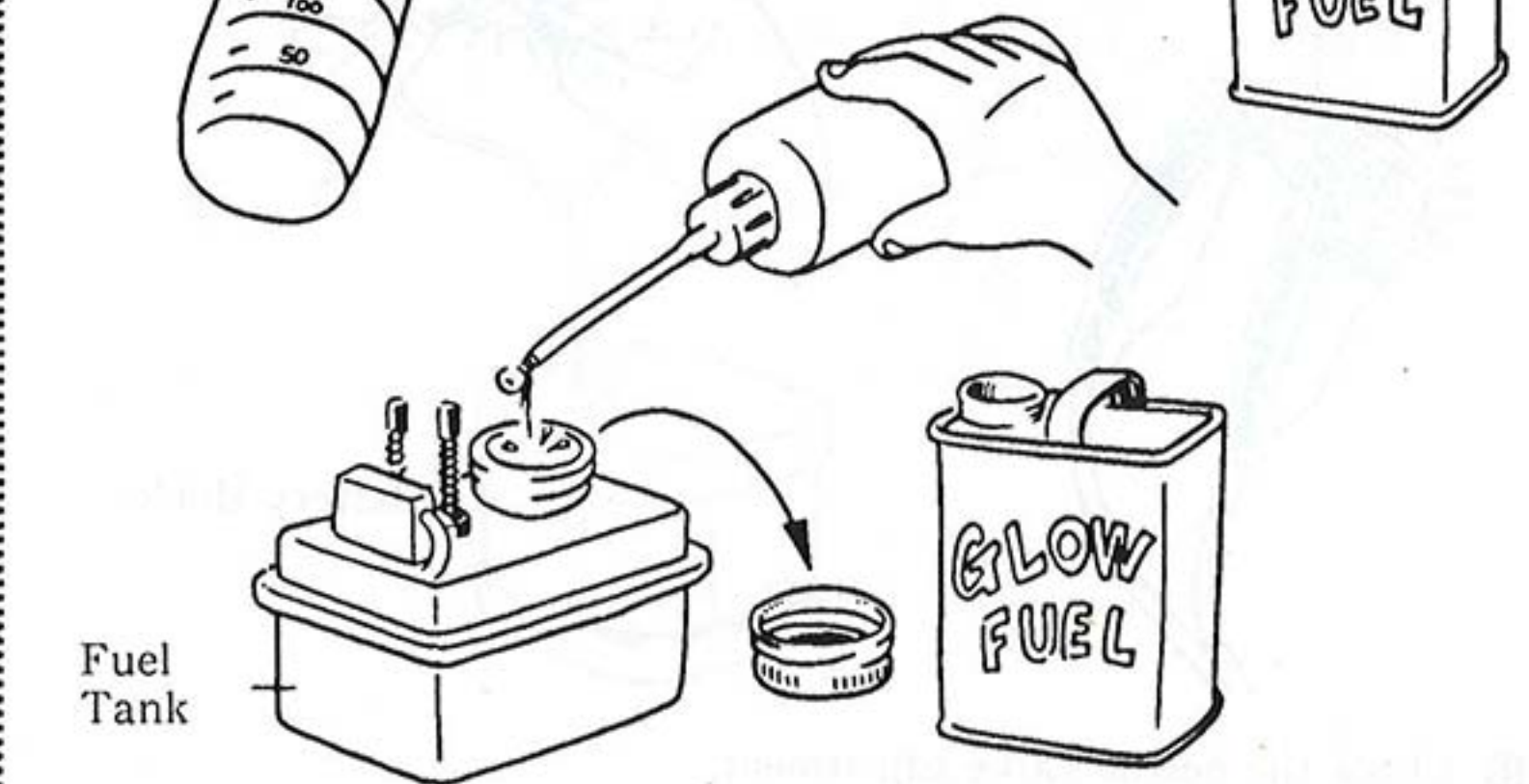
Unscrew the brass cap until the hole is clear of the tube



Squeeze the fuel pump and insert the end into the can of fuel. The fuel pump will pull the fuel from the can into the pump when released.

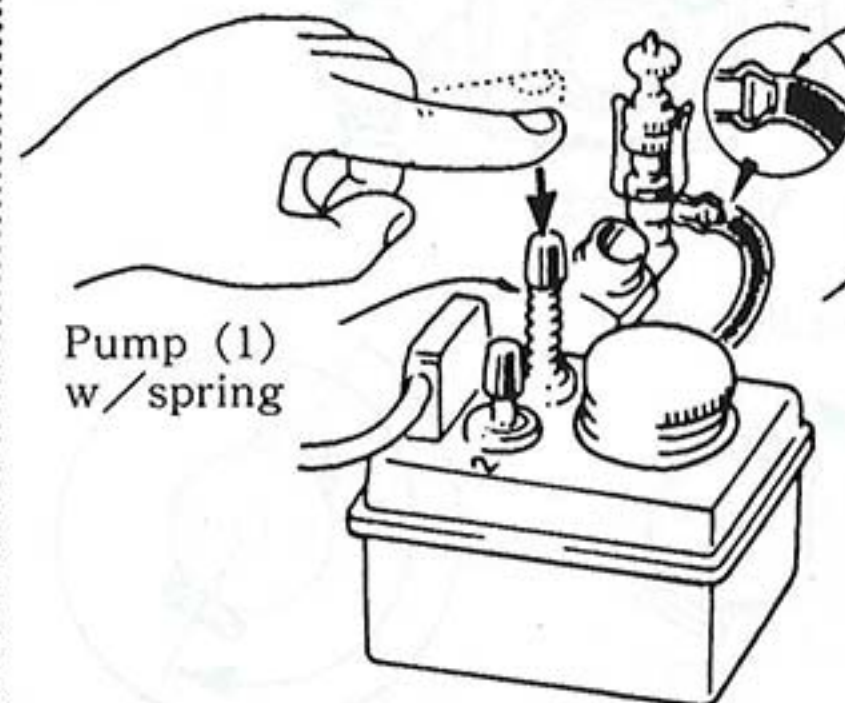
Fuel Pump [Box]

Fuel Tank

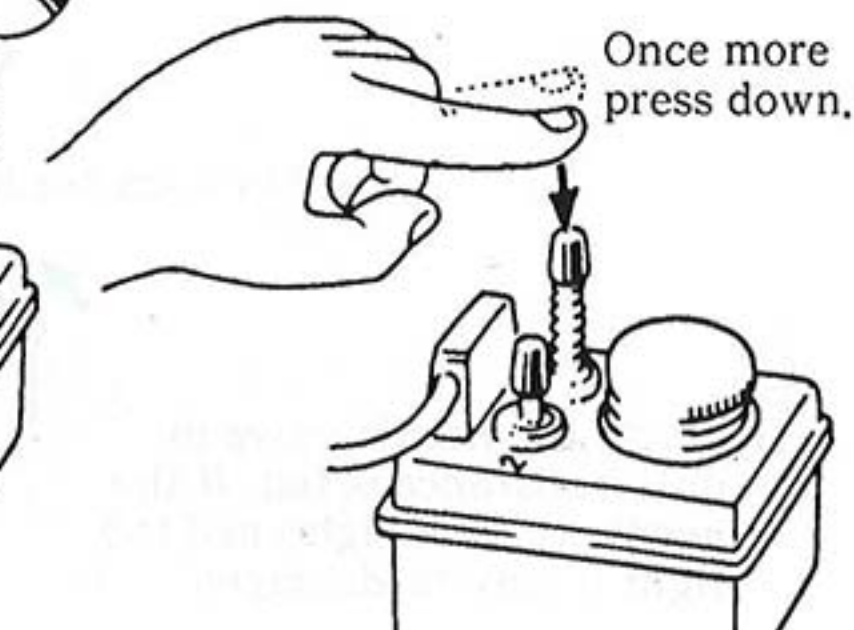


4

To prime the carburetor press down on pump one until fuel can be seen at the carburetor.

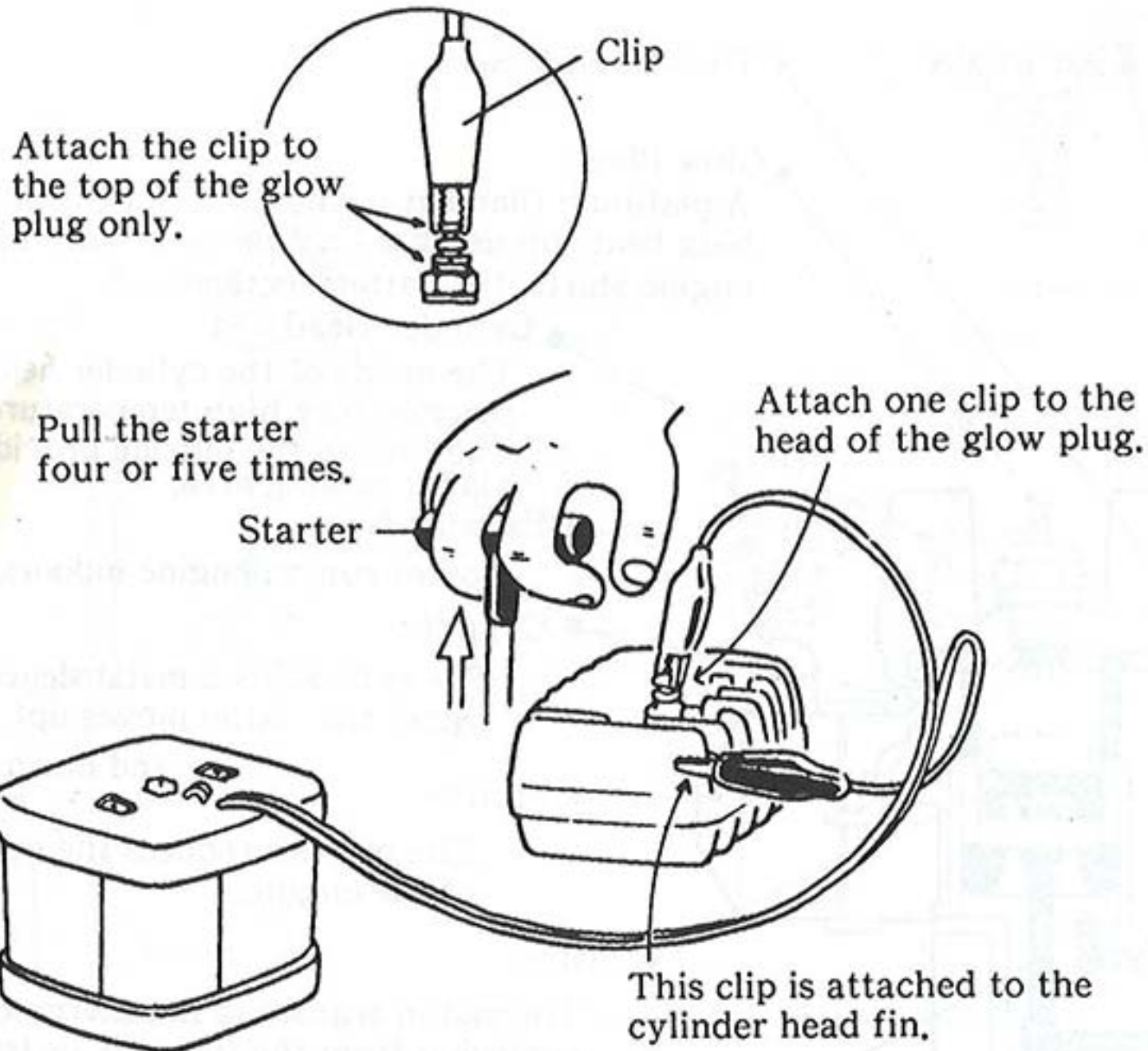


Once more press down.



STARTING THE ENGINE (2)

- 5 Attach the glow plug battery clips to the glow plug.



When it is hard to start, pull up the pump (2) (w/o spring) and press down twice. Then pull the starter.

- 6 When the engine does not start.

Repeat the process (4) and (5).

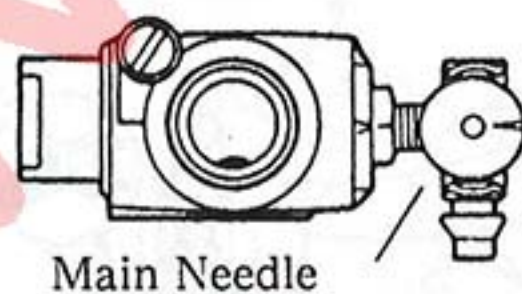
- 7 If the engine still does not start, remove the glow plug with the plug wrench. Attach the clips, one to the top of the plug the other to the threaded portion of the plug. The filament in the plug should glow red hot. If it does not glow red, the batteries may be discharged; the clips may be making poor contact on the plug; the batteries may be installed wrong; or the filament in the glow plug may be burnt out.

If the filament glows red, repeat steps (4) and (5) again.

Do not touch the two clips together, it may damage the batteries.

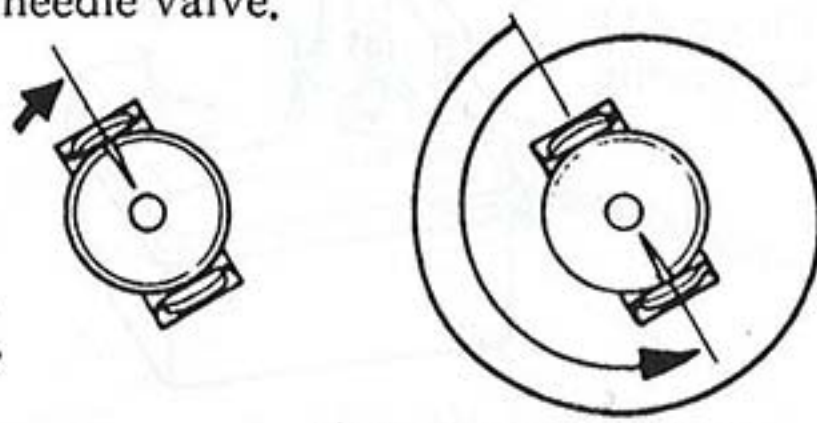


- 8 Check the needle valve adjustment.



Mark on needle valve.

- 1) Screw the needle valve in until resistance is felt. If the needle valve is tightened too tight it may be damaged.

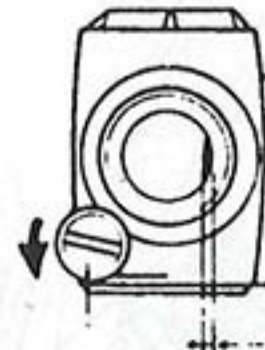
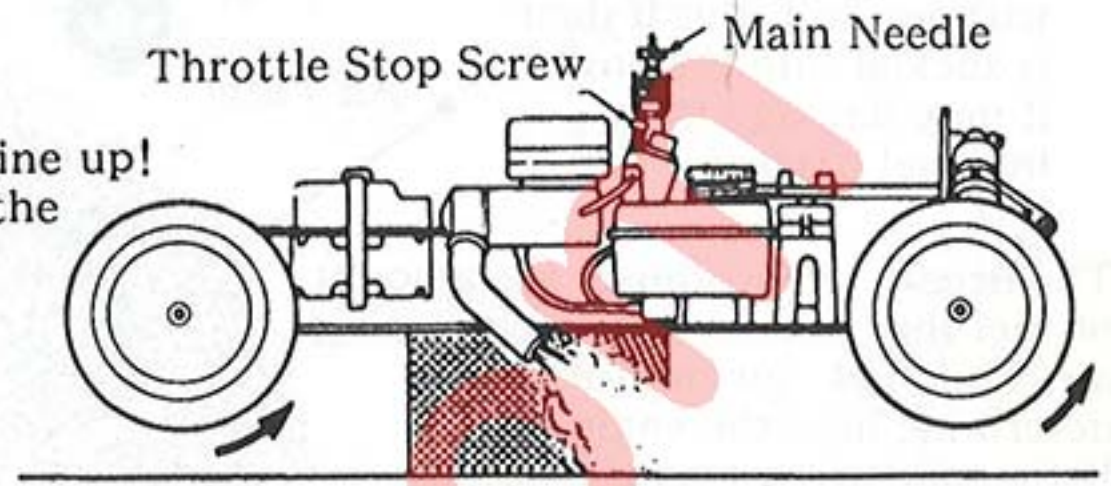


- 2) Loosen one turn and a half.

- 9 After the engine starts to run, disconnect the clips from the glow plug and set the car on a box so the wheel can spin freely. If the idle is set too high the wheels will start to rotate. If it is set too low the engine may quit.

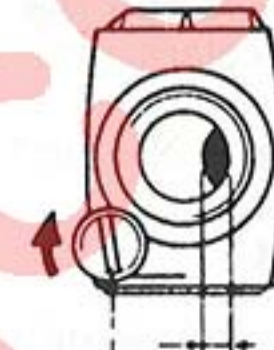
WARNING:

Do not rev the engine up! This may damage the connecting rod.



By unscrewing the throttle stop screw the engine speed will decrease.

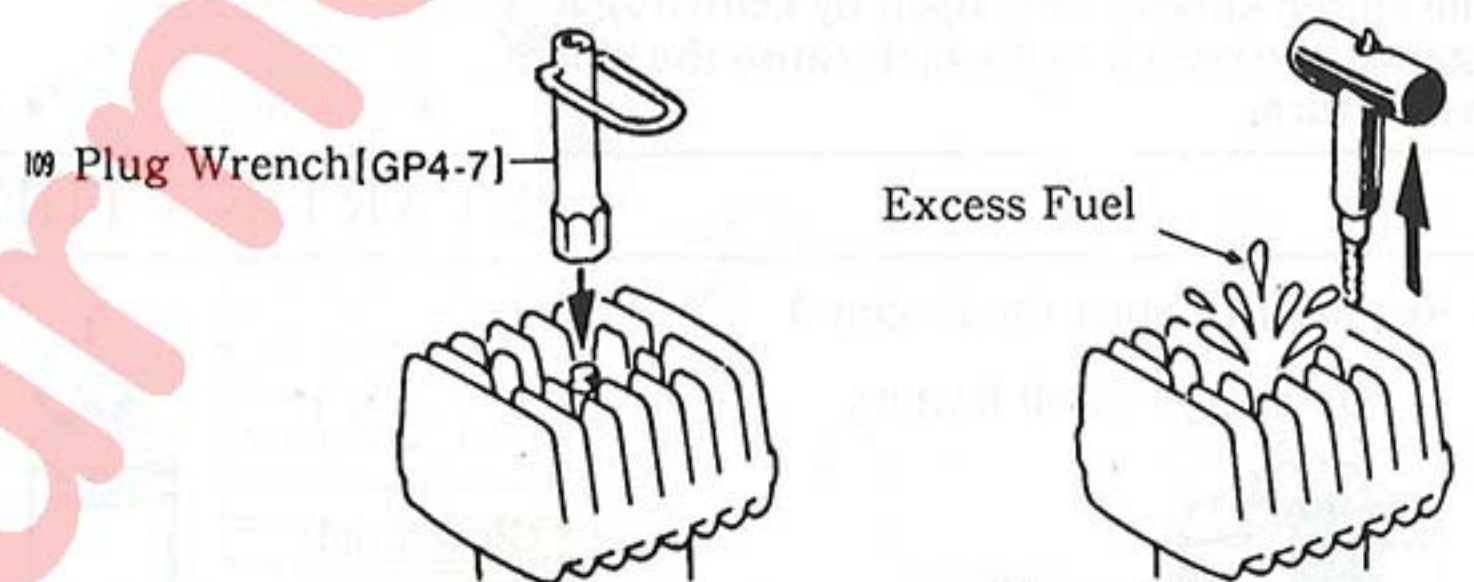
1 mm (Normal Setting)



By turning the throttle stop screw in, the throttle valve can not close as far and the engine speed will increase.

*** You have a proper setting when the wheels do not turn yet and the engine does not quit.

- If the starter rope is hard to pull the cylinder may be "flooded" with excessive fuel. If this happens remove the glow plug with the glow plug wrench and pull the starter rope 15~20 times. This will expel the excess fuel.



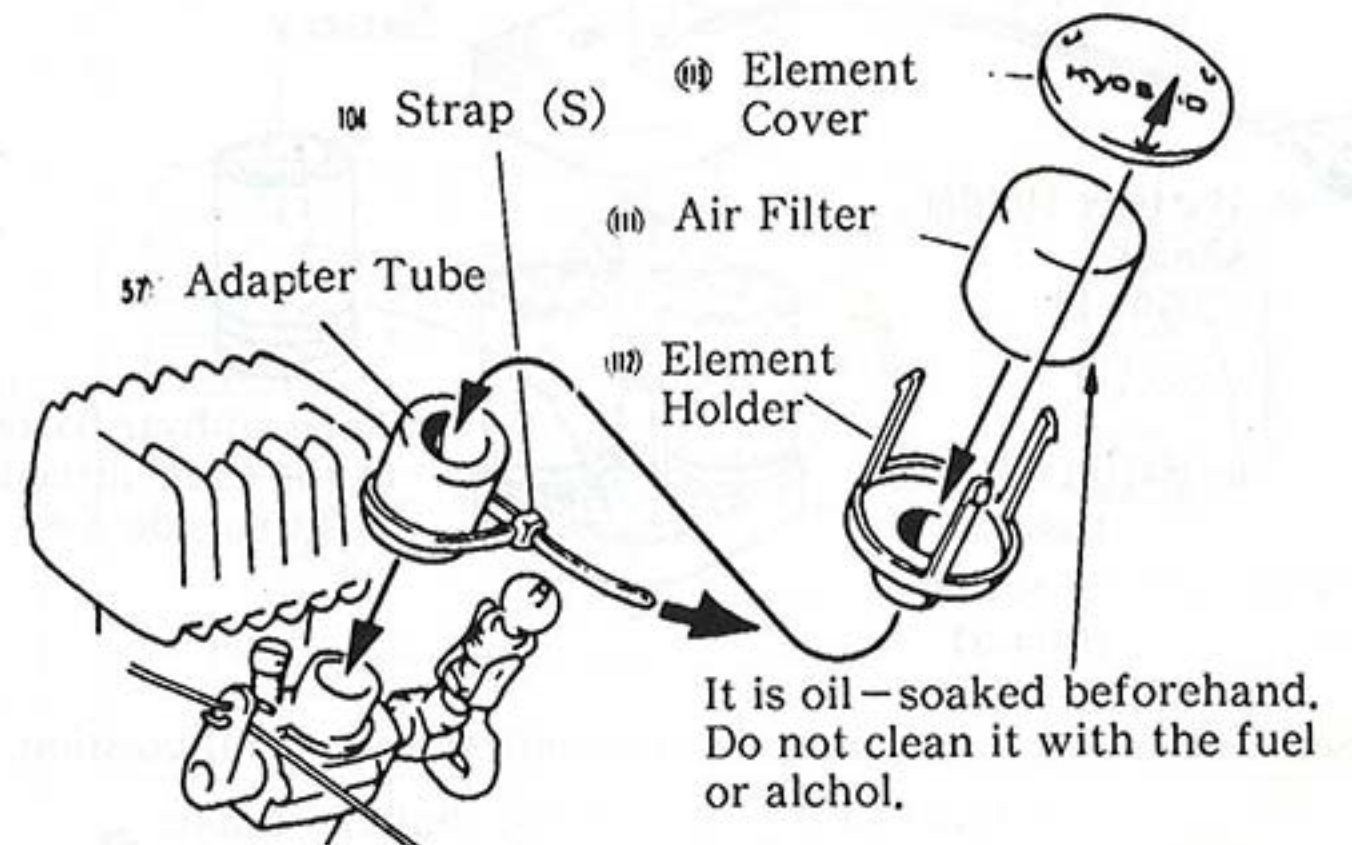
Replace the glow plug and follow step (4) and (5) to start the engine.

- Installation of Air Filter

These parts used in this step are in [GP4-7].

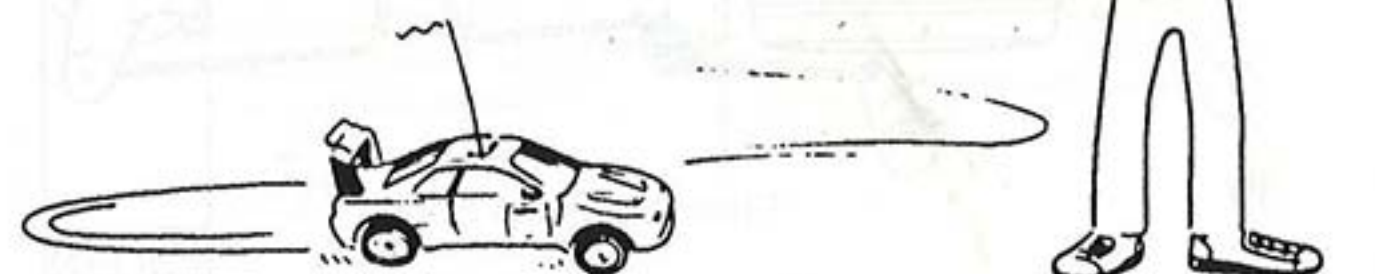
*** WARNING ***

Never operate the engine without an air filter. Dirt in the engine will decrease the life of the engine.



《 Before Running 》

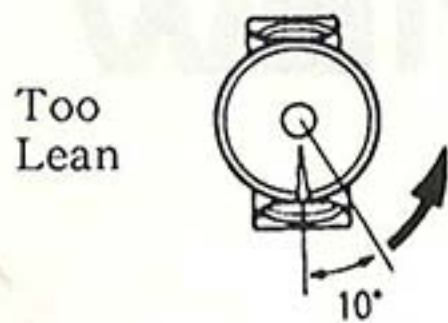
- 1 Do not run the car indoors. The exhaust fumes can be dangerous.
- 2 Run the car at 1/2 speed for the first 3~4 tanks of fuel. This will allow the engine to "break-in". "Break-in" allows the internal parts to properly fit together. By not "break-in" the engine it may not run properly.



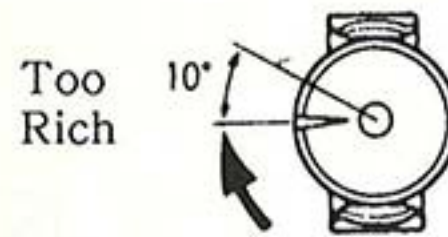
STARTING THE ENGINE (3)

3 Properly adjusting the needle valve.

If the engine stalls when the throttle is moved to high speed, the needle valve is too lean. Unscrew it slightly and try again.



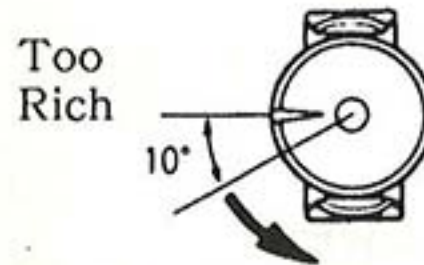
If the engine runs slow, the needle valve is too rich. Turn the needle valve in slightly and try again.



Needle Valve

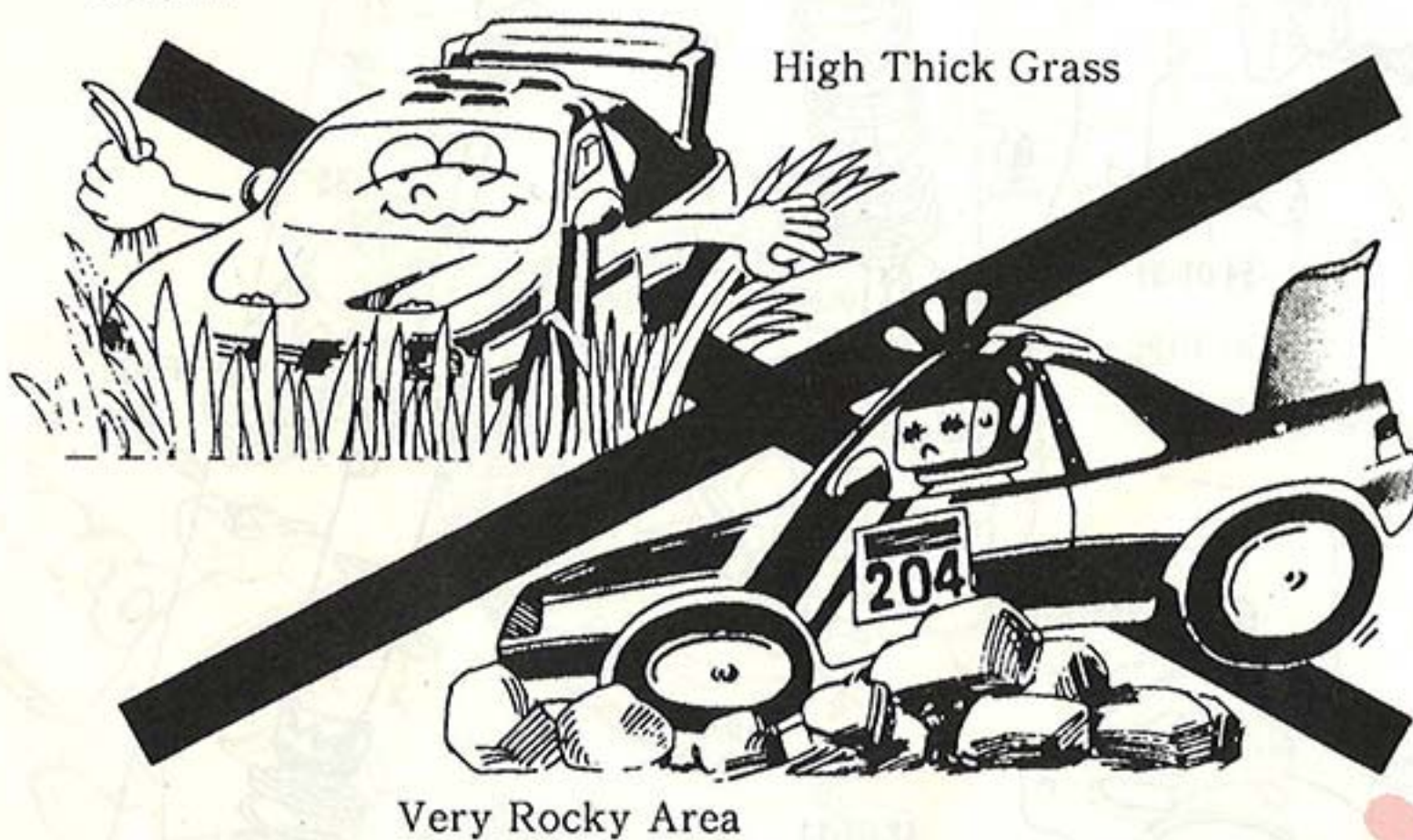


If the engine does not rev-up, the needle valve is too lean. Unscrew it 10° quickly and try again.



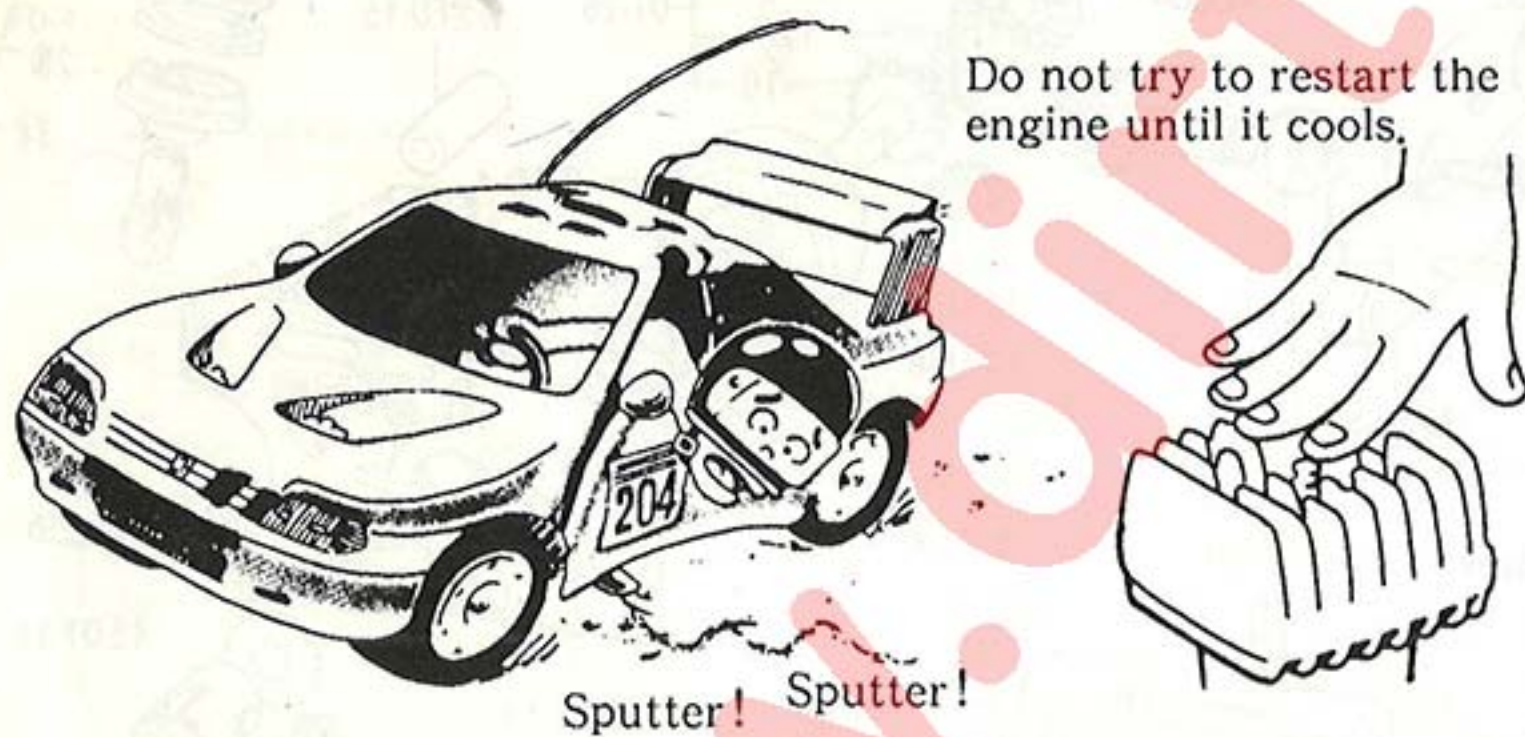
4 Overheating the Engine

A sign of overheating occurs when the engine runs fine for 1~2 minutes then slowly decreases in speed. Overheating may be caused by running the engine too lean, or running on the terrain shown below.

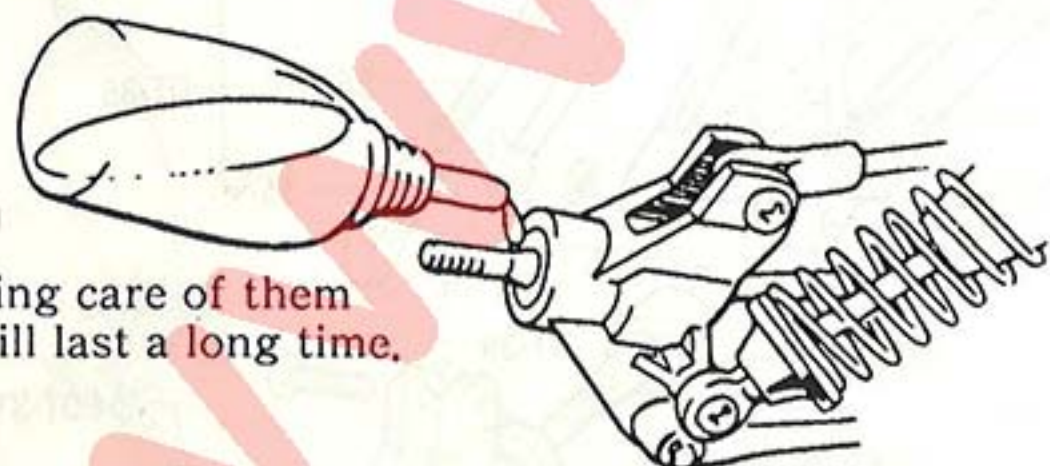


5 When an air filter falls off while running, stop the operation at once. Or the engine will be damaged.

6 If the engine overheats it will be very hard to start until it cool down. Excessive overheating will damage the engine. Do not restart the engine until the reason for the engine overheating has been located and corrected.



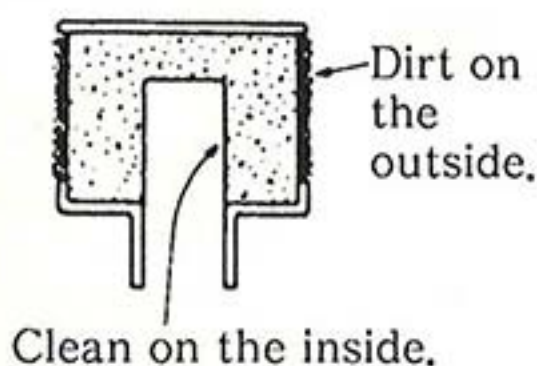
7 Clean and oil the bushings regularly.



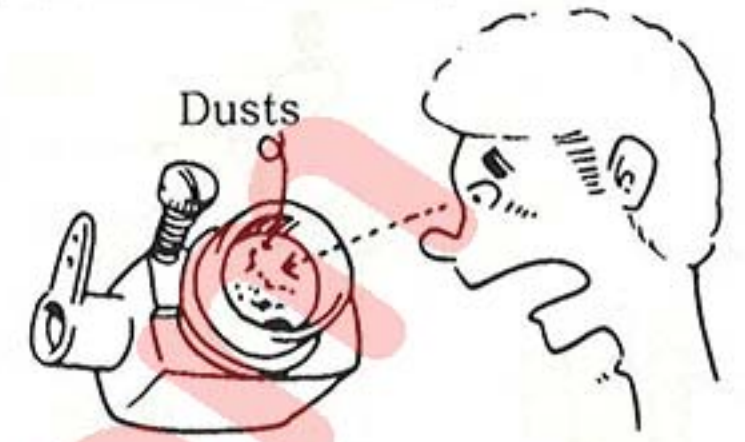
By taking care of them they will last a long time.

8 Even when the outside looks filthy, the inside keeps good condition. Do not wash the dirt with oil or alcohol.

If you washed it, saturate the filter with castor oil or the oil used for the oil shocks.

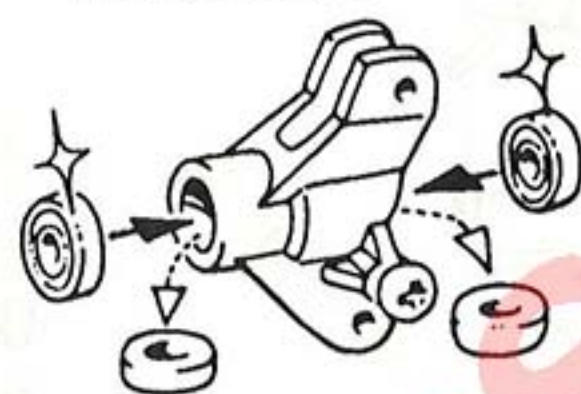


9 After each tank of fuel, remove the air filter and check for dirt in the carburetor. If there is dirt, carefully wipe it out and locate where the dirt is getting by the air filter. Do not run the engine until the problem is corrected.



10 Replace Ball Bearings

By replacing the bushings with bearings the speed of the car may increase. Bearings reduce friction so the engine does not have to work as hard.



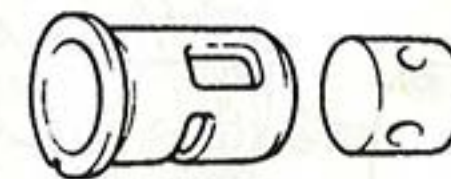
- No.1901 5 φ x10 Ball Bearing
- No.1903 4 φ x8 Ball Bearing
- No.1911 8 φ x14 Ball Bearing



11 Span up Engine Life

What shortens the engine life are a dust in the engine and overheating. If you notice the engine is hard to start, or its idling is not stable, or it will not keep running without the heating cords attached to the engine its life comes close to the end. Still you can restore an oil engine by changing the piston, sleeve and connecting rod.

Piston & Cylinder

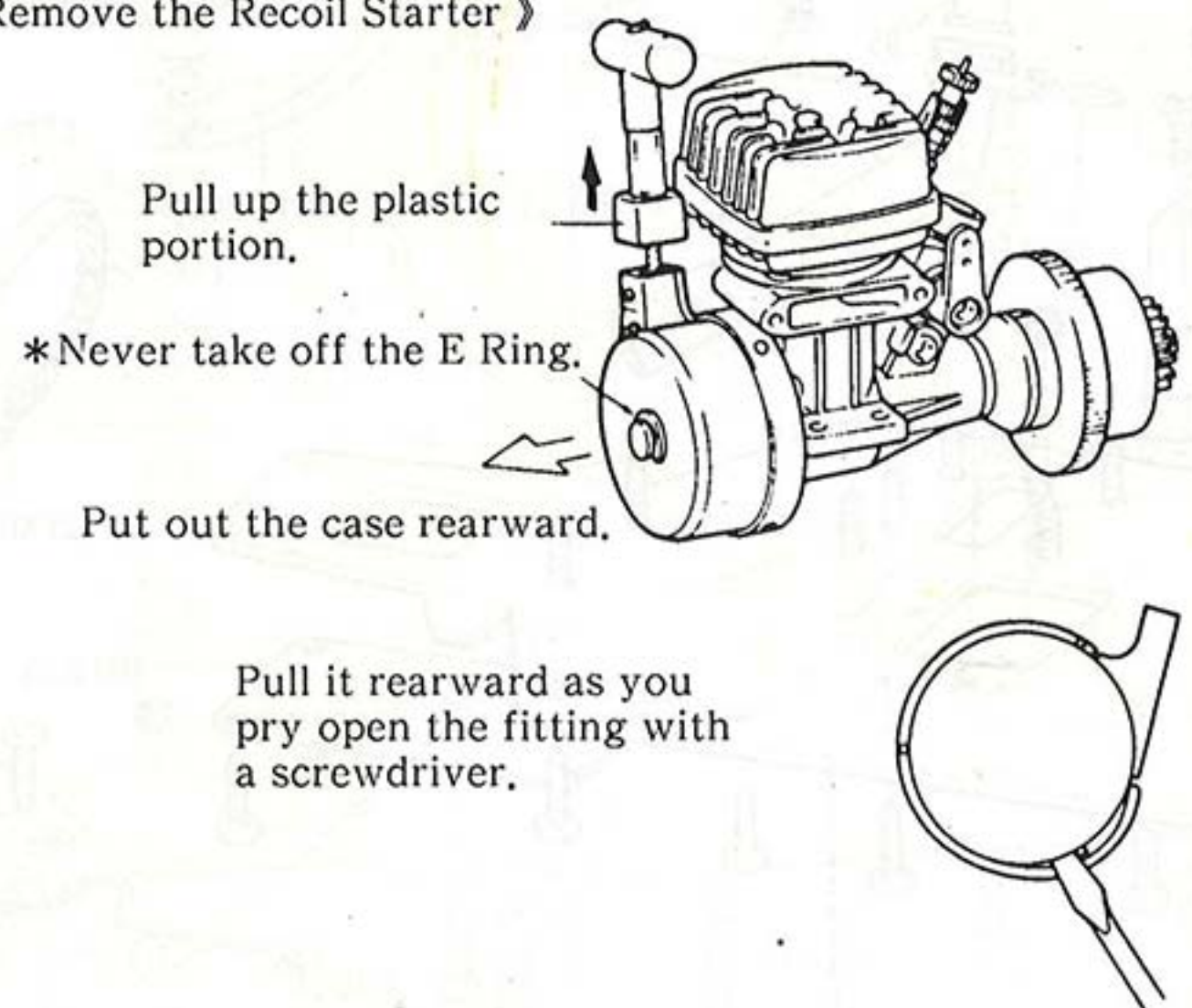


Connecting Rod

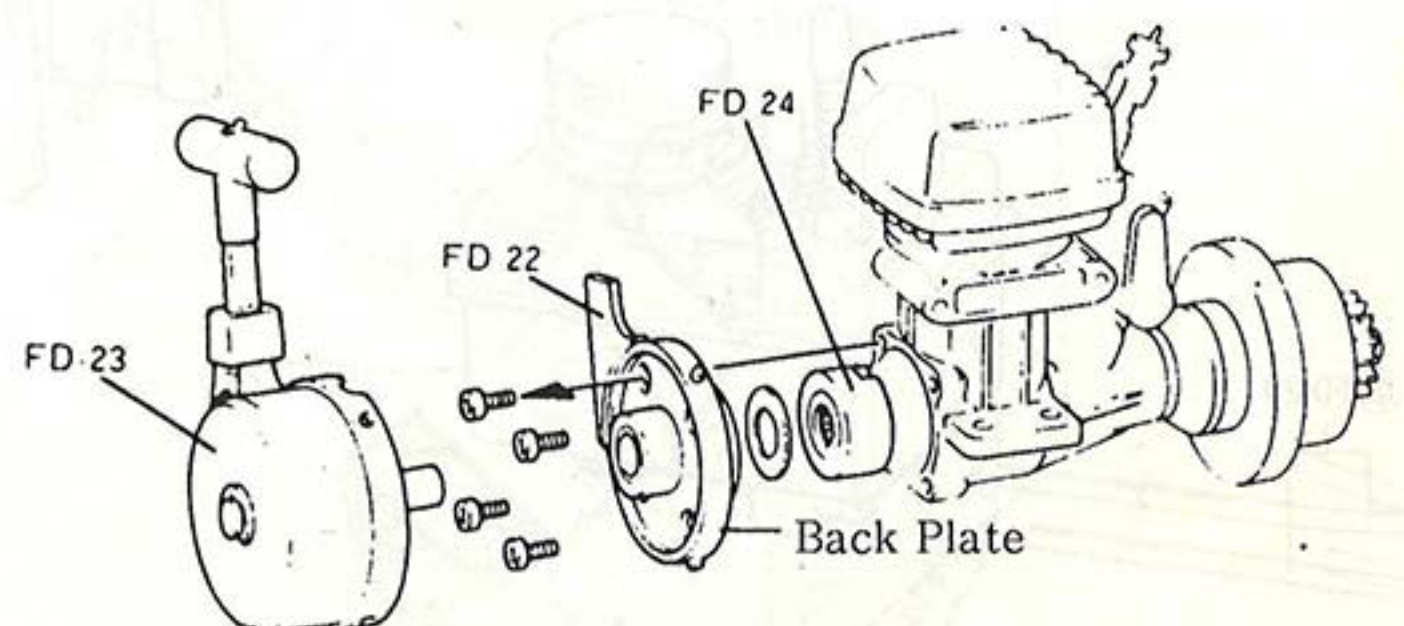


12 How to change the piston and cylinder...

1 《 Remove the Recoil Starter 》

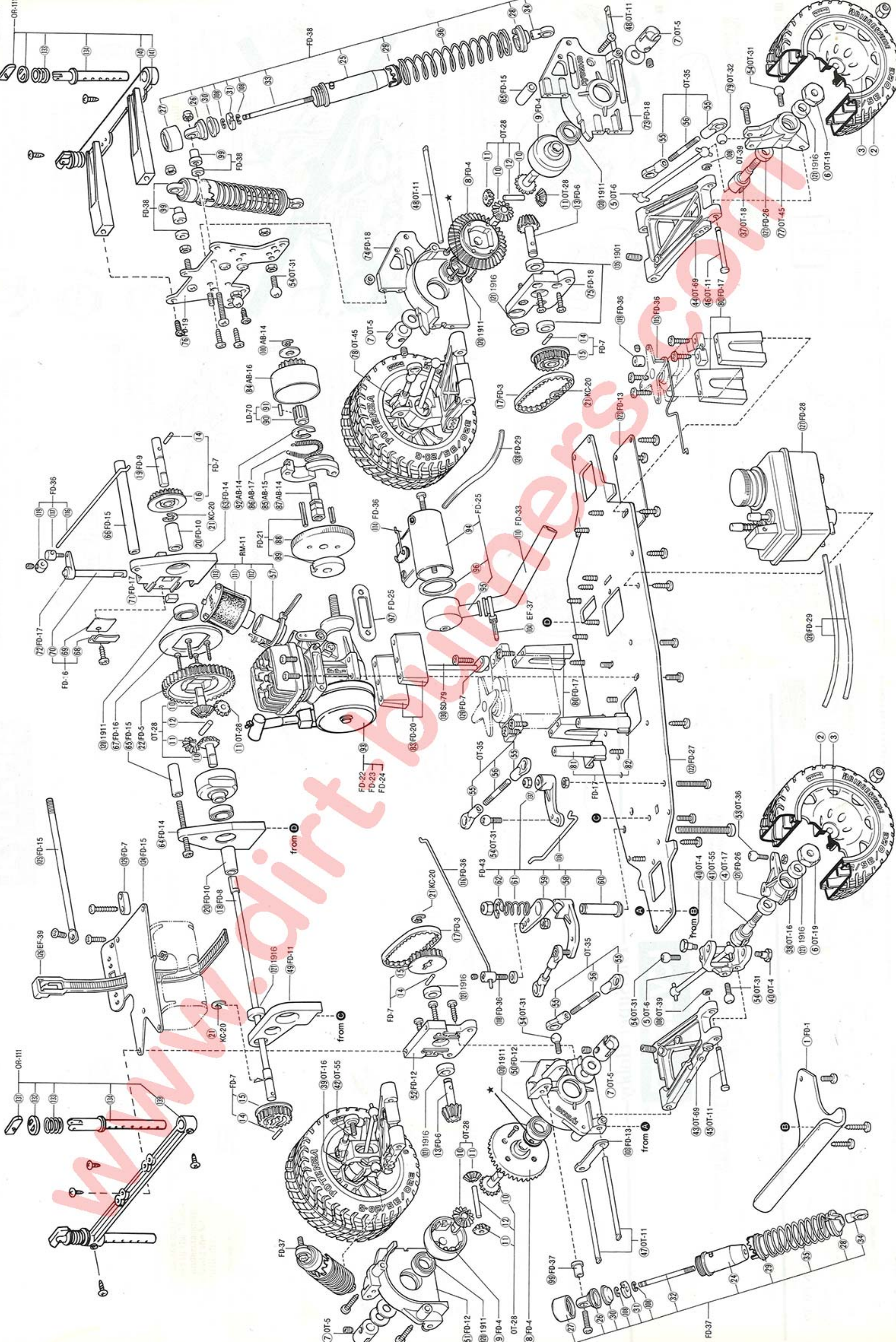


2 《 Remove the Back Plate 》



10 ENGINE POWERED 4WD CAR EXPLODED VIEW

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