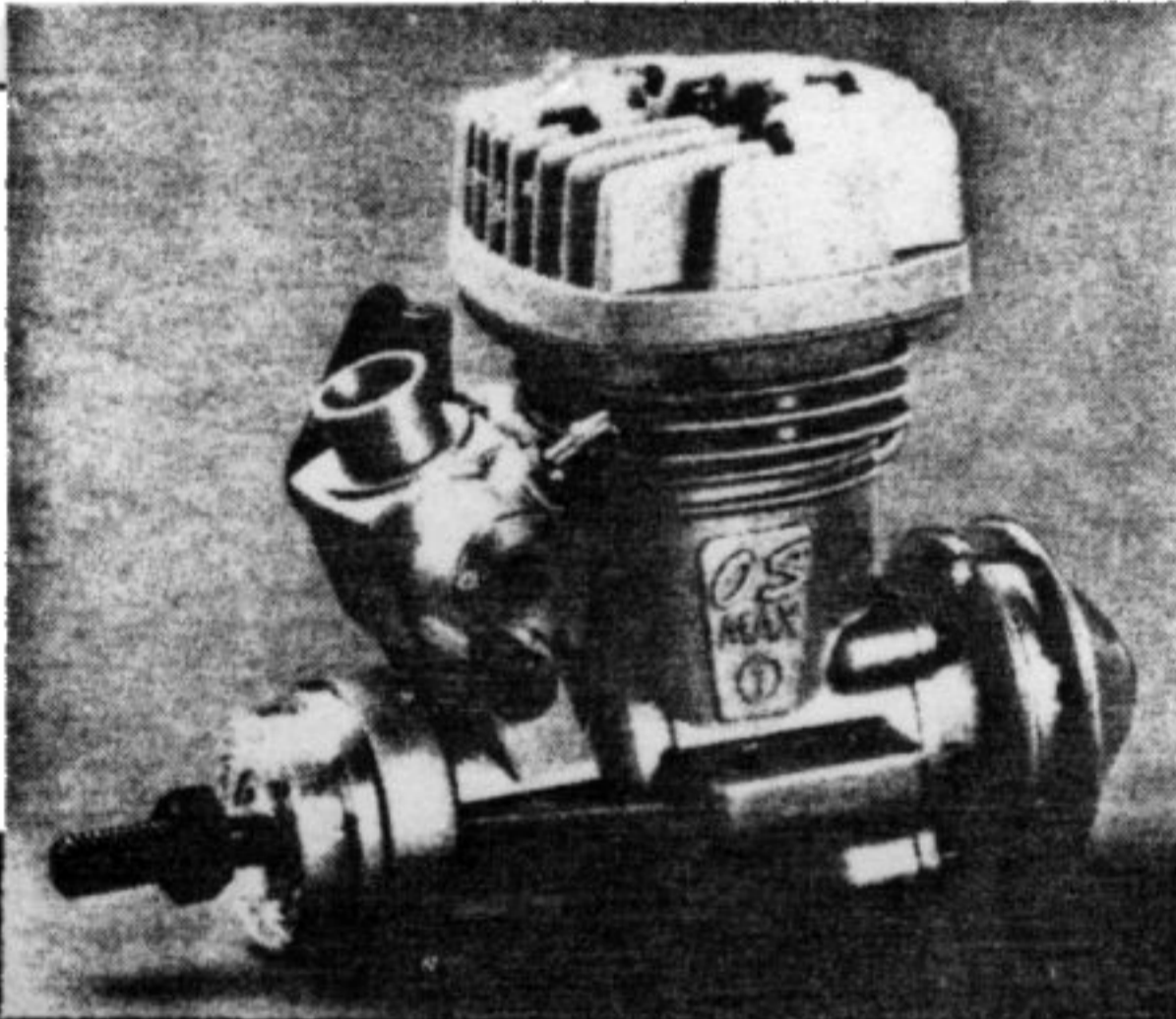


**RADIO CONTROLLED ENGINE POWERED
OFF-ROAD RACING BUGGY**

ASSAULT™

- WIDE BUMPER IS DUAL-PURPOSE, HOLDING GLOW-PLUG CELL
- STRONG DIE-CAST ALUMINUM TRAILING-ARM SUSPENSION AND COIL-SPRING/OIL-FILLED SHOCKS FOR TOP OFF-ROAD HANDLING
- RACING-DEVELOPED ALLOY-ALUMINUM LADDER-TYPE FRAME
 - PROTECTIVE RADIO BOX FOR RECEIVER AND BATTERIES
 - PUSH-BUTTON AUTO-PRIME FUEL TANK
 - FACTORY-ASSEMBLED GEAR BOX/DIFFERENTIAL UNIT
- ZIP/PULL-CORD/ELECTRIC STARTER COMBINATION START SYSTEM
- SPECIAL O.S. CZ ENGINE STARTS EASILY, REQUIRES LITTLE ADJUSTMENT
- MUFFLER, FILTER, GLOW PLUG, STARTER CONE, ZIP AND ROPE INCLUDED



KYOSHO
THE LINESTAR CONTROL MODELS
KIT No. 3095

1:10 SCALE

- ★ O.S. CZ-1 ENGINE INCLUDED
- ★ REQUIRES 2-CHANNEL RADIO



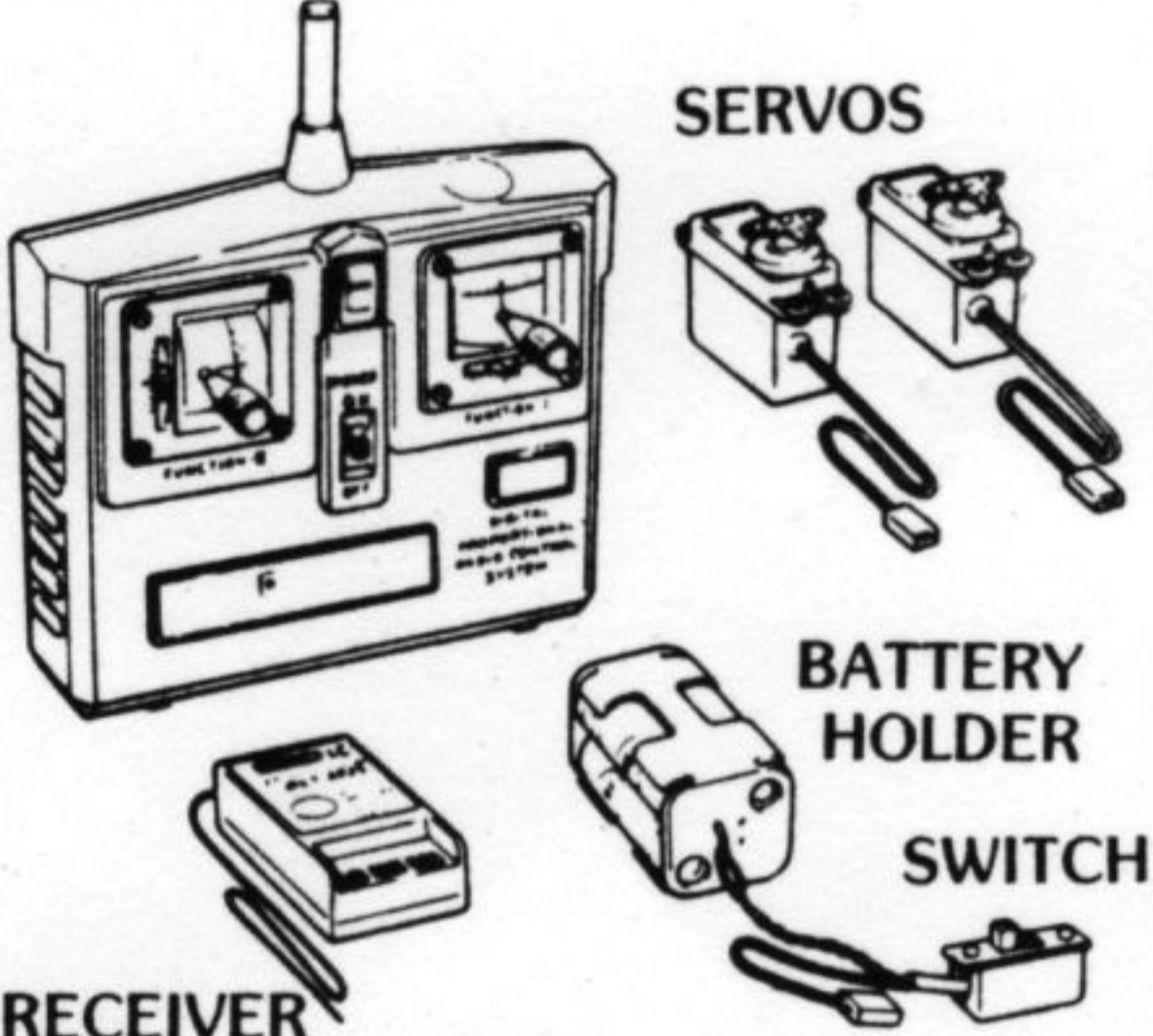
**THINGS YOU WILL NEED
BESIDES THIS KIT**

ASSAULTTM

2 CHANNEL RADIO SYSTEM

A two channel, 2 servo radio control system is required for running the Assault. The various components are pictured below.

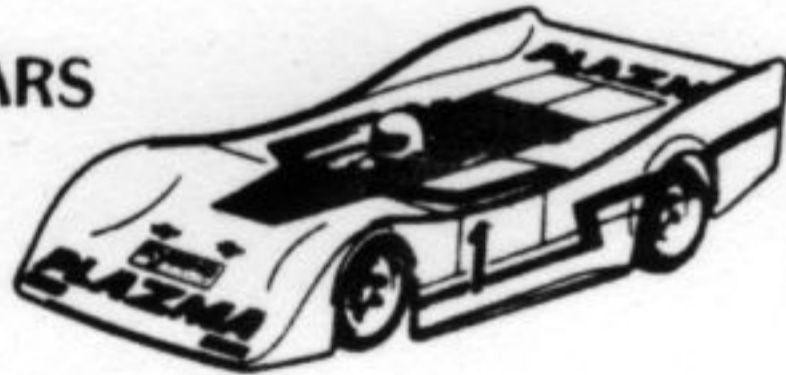
TRANSMITTER



RECEIVER

This type of radio system can also be used for other models requiring only two channels of control.

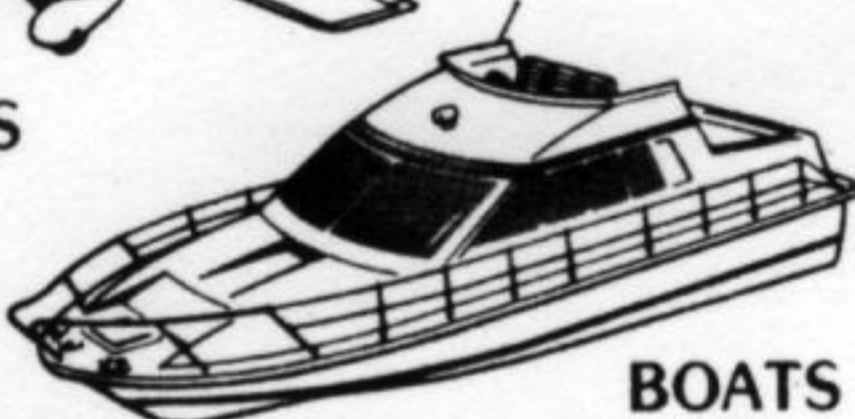
CARS



AIRPLANES



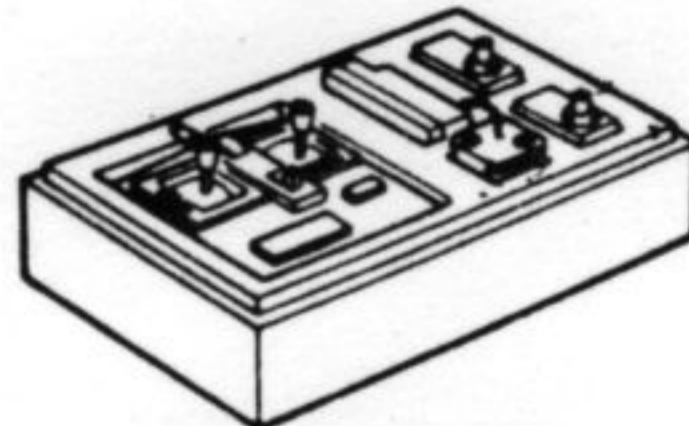
BOATS



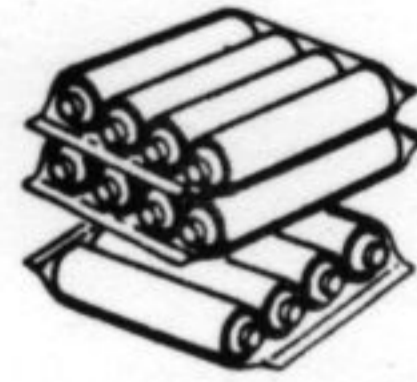
CHECK YOUR RADIO SYSTEM

Follow the instructions that came with your radio system to check out its operation.

You will also need to supply your radio with the proper number of batteries (usually 7 or 8 in the transmitter and 4 for the receiver).



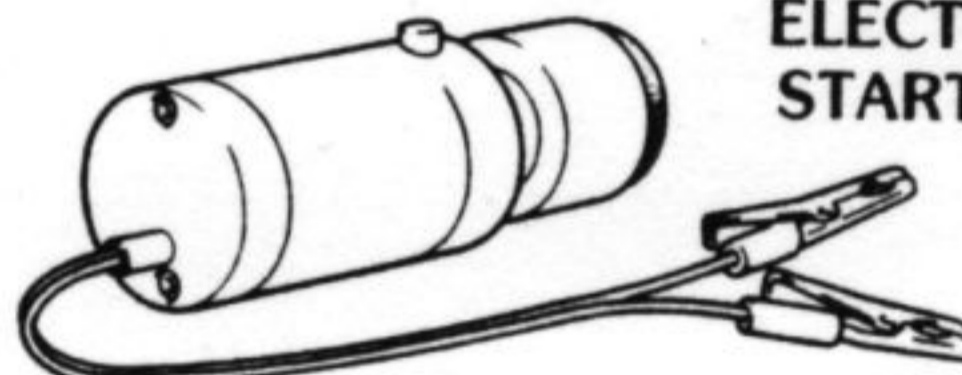
**2 CHANNEL
RADIO SYSTEM**



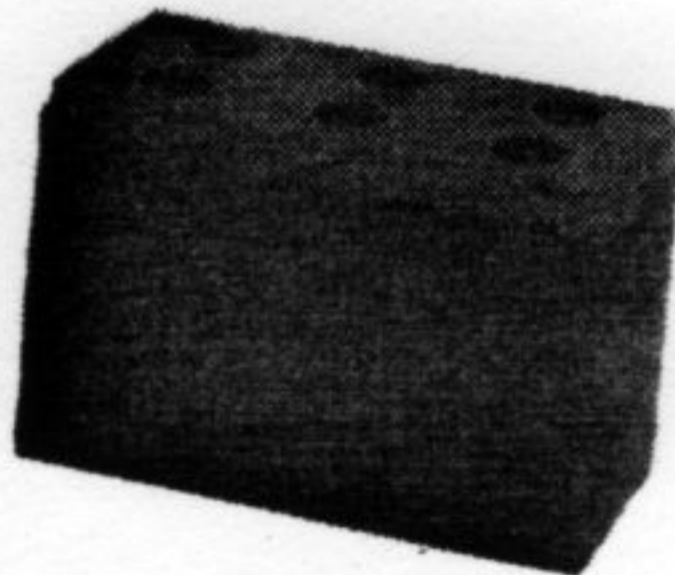
**BATTERIES
FOR RADIO**

USING AN ELECTRIC STARTER

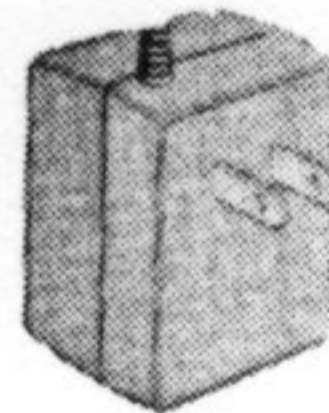
If you choose to use an electric starter instead of the "Zip-Start" you will need the items shown below.



**ELECTRIC
STARTER**



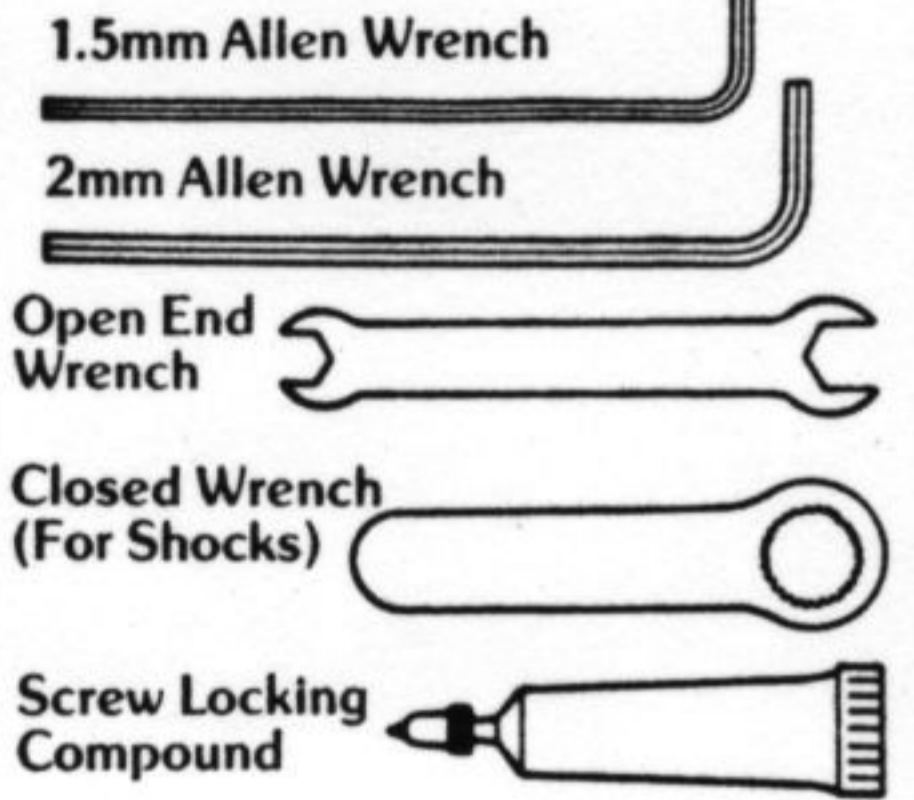
12V POWER SOURCE



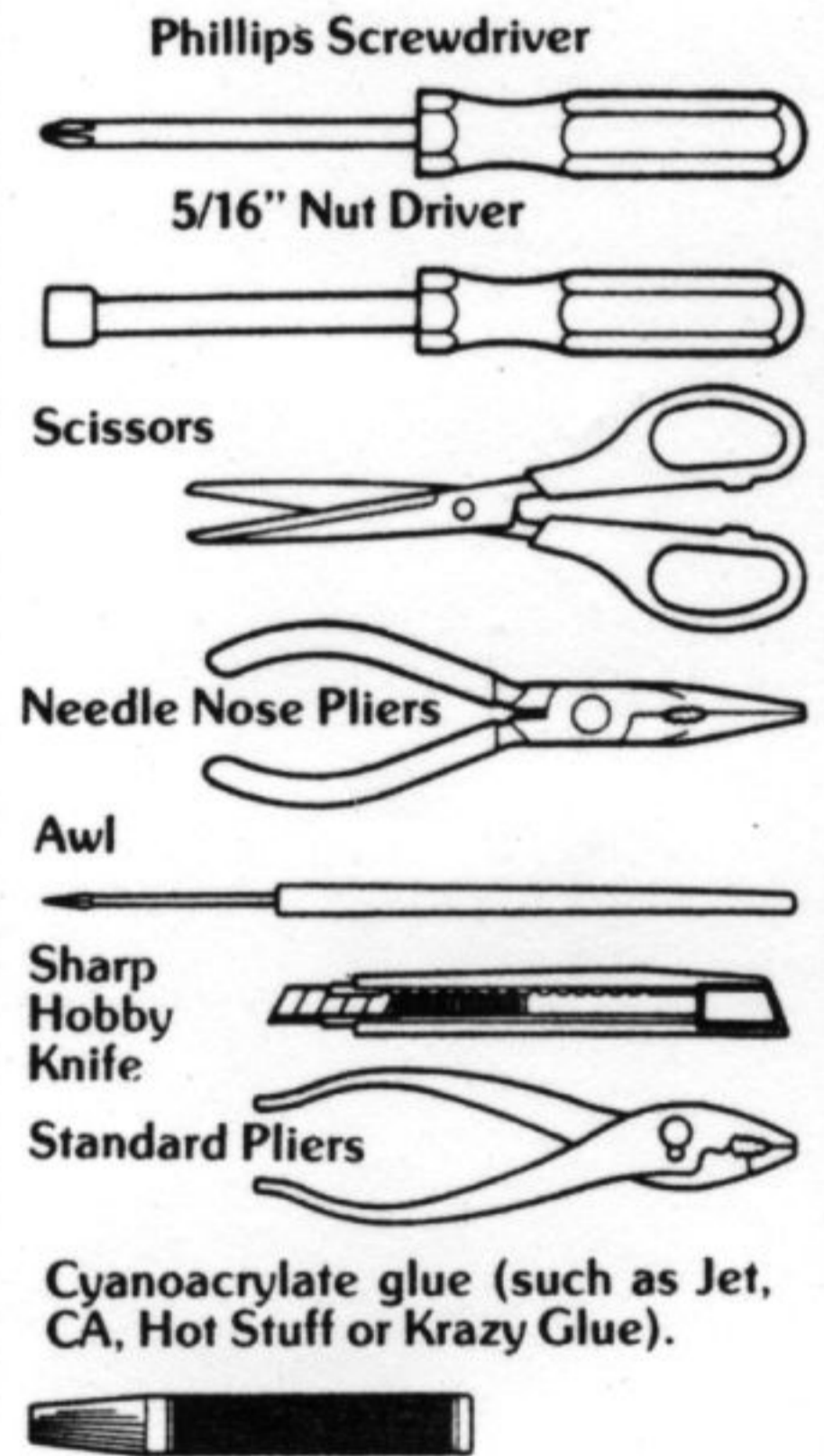
12V CHARGER

REQUIRED TOOLS

These ARE included with the Assault:



These ARE NOT included with the Assault:



ITEMS YOU WILL NEED FOR RUNNING*



FUEL

A GOOD QUALITY glow fuel is very important. Choose a blend with 10-25% nitro-methane content.



**"D" SIZE
BATTERY**

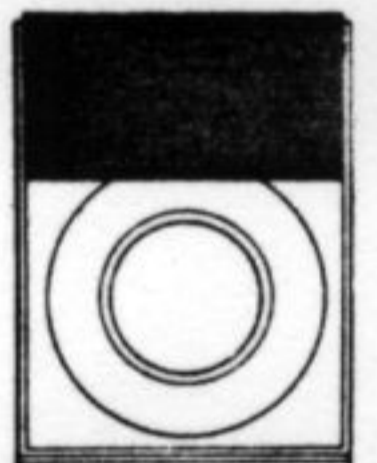
To initially start the engine's glow plug, you will need one "D" size alkaline flashlight battery. The standard non-alkaline) type will not work well.



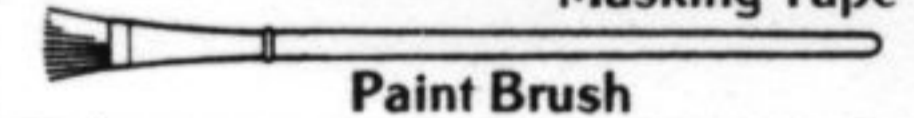
GLOW PLUG WRENCH

The included glow plug wrench allows you to take the plug from your engine.

Paint suitable for plastic.



Masking Tape



Paint Brush

IMPORTANT! BEFORE YOU BEGIN

A WORD OF WARNING is necessary, especially if this happens to be your first gas-powered vehicle. Gas-powered cars are subjected to stress and strain due to high engine RPM, rough terrain and the racing/high performance usage that they receive. As a result, they need continual preventative maintenance to keep them in operating condition.

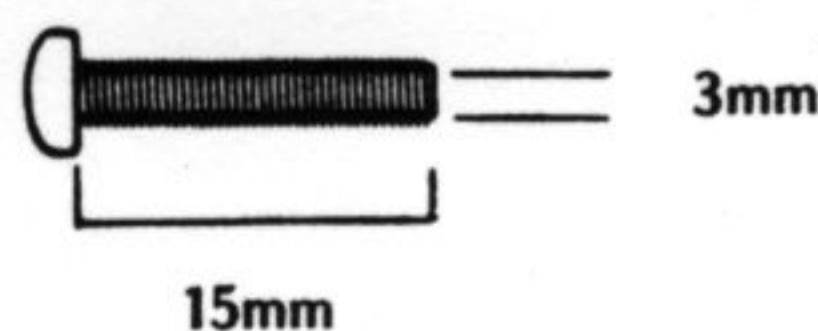
This is a sophisticated model with a large number of moving parts. Before you begin assembly, take a look through the box and these instructions carefully to decide whether or not you are ready for this challenge! If you do not feel that this type of model is for you, it may be returned to the dealer as long as it is NEW and UNUSED. UNDER NO CIRCUMSTANCES CAN YOUR DEALER ACCEPT A KIT FOR RETURN IF ASSEMBLY HAS ALREADY BEGUN! If this is not what you bargained for, then go no further and return this kit to the dealer immediately. BUT, if a little maintenance doesn't bother you and the thrill of high performance driving is for you, then don't hesitate another minute! Read through this entire manual thoroughly to familiarize yourself with the parts and methods of construction before actually starting to build.

NOTE: Please refer to the instructions supplied by O.S. for your engine. Pay particular attention to the "Safety Instructions and Warnings".

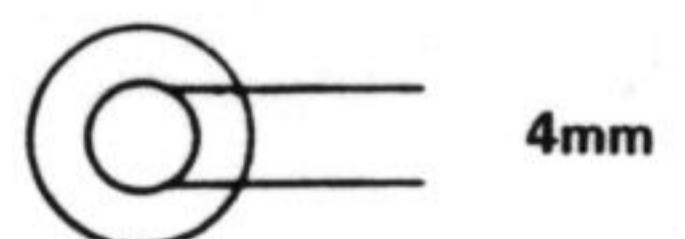
METRIC NUTS AND BOLTS

All nuts and bolts used throughout this kit are metric size. Therefore, some of the notations may not be familiar to you. An M3 nut is a 3 millimeter (3mm) nut. An M3 x 15 screw is 15mm long and 3mm in diameter. Some round parts may be labeled as a "4ø Washer" (this would be a washer with a 4mm inside

M3 x 15 SCREW

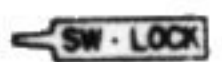


4ø WASHER



diameter) or a "3ø Bushing" (a bushing with a 3mm inside diameter). At various points throughout the manual these parts are labeled and pictured in their actual size on the left hand side of the page. For your reference, 1 millimeter equals approximately .039 inches.

In addition to the shock/gearbox oil (red liquid) you will also find a small tube labeled "screw cement". This bluish-green locking compound should be used on all nuts and bolts in the car including those parts which are ALREADY ASSEMBLED to ensure reliability. We have labeled those parts of the car where it is ESPECIALLY

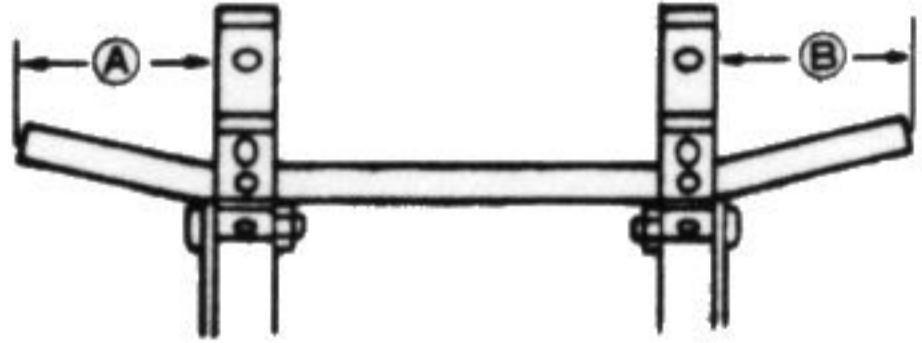
IMPORTANT to apply the compound with this symbol . Remember that these are not the only places to apply it. If you do not use the screw cement, all the nuts and bolts of the car WILL eventually fall out.

1 SMALL PARTS NEEDED

- M2.6 x 12 SCREW (4) 
- M3 x 15 SCREW (2) 
- M2.6 NUT (4) 
- M3 NUT (2) 

2 SMALL PARTS NEEDED

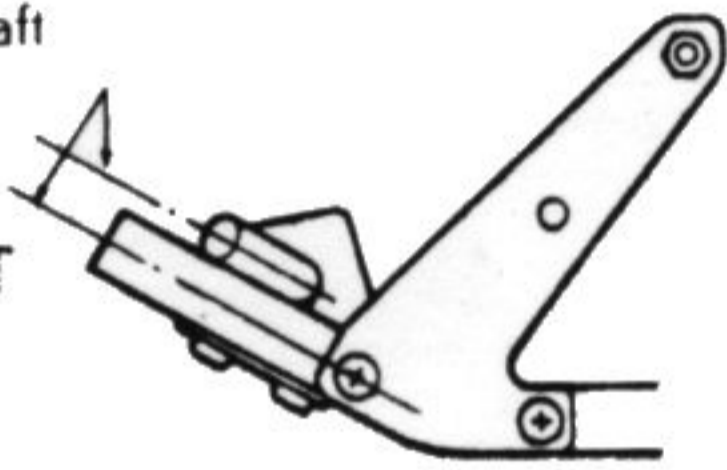
- M3 x 12 SCREW (4) 



Make sure A and B are the same length.

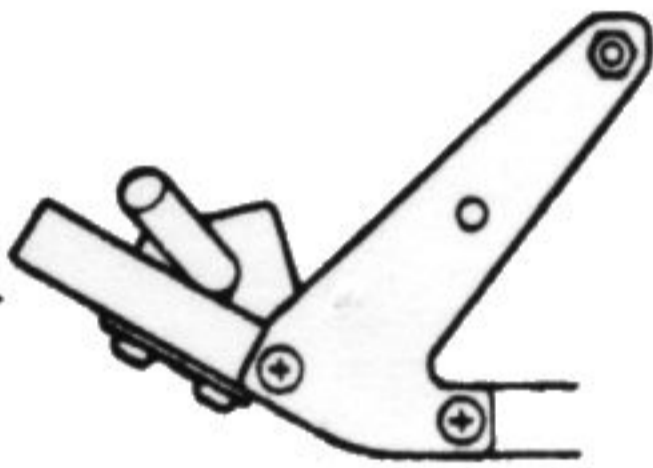
Set Arm Shaft at this angle.

CORRECT



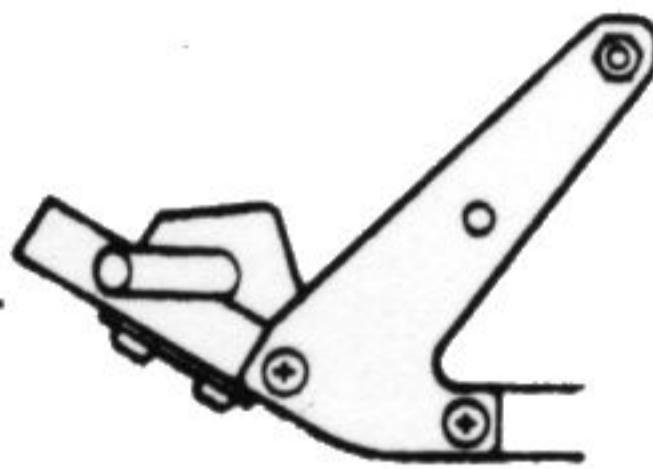
Arm Shaft is too high.

INCORRECT









Arm Shaft is too low.

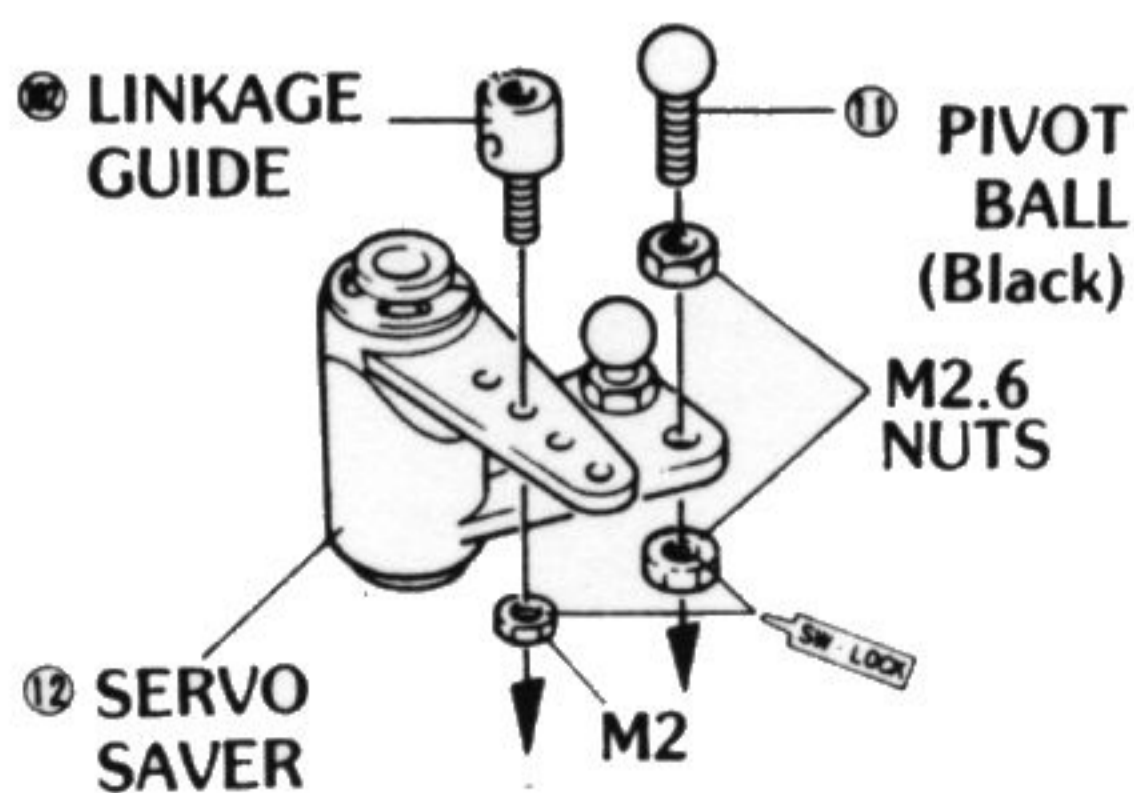
INCORRECT



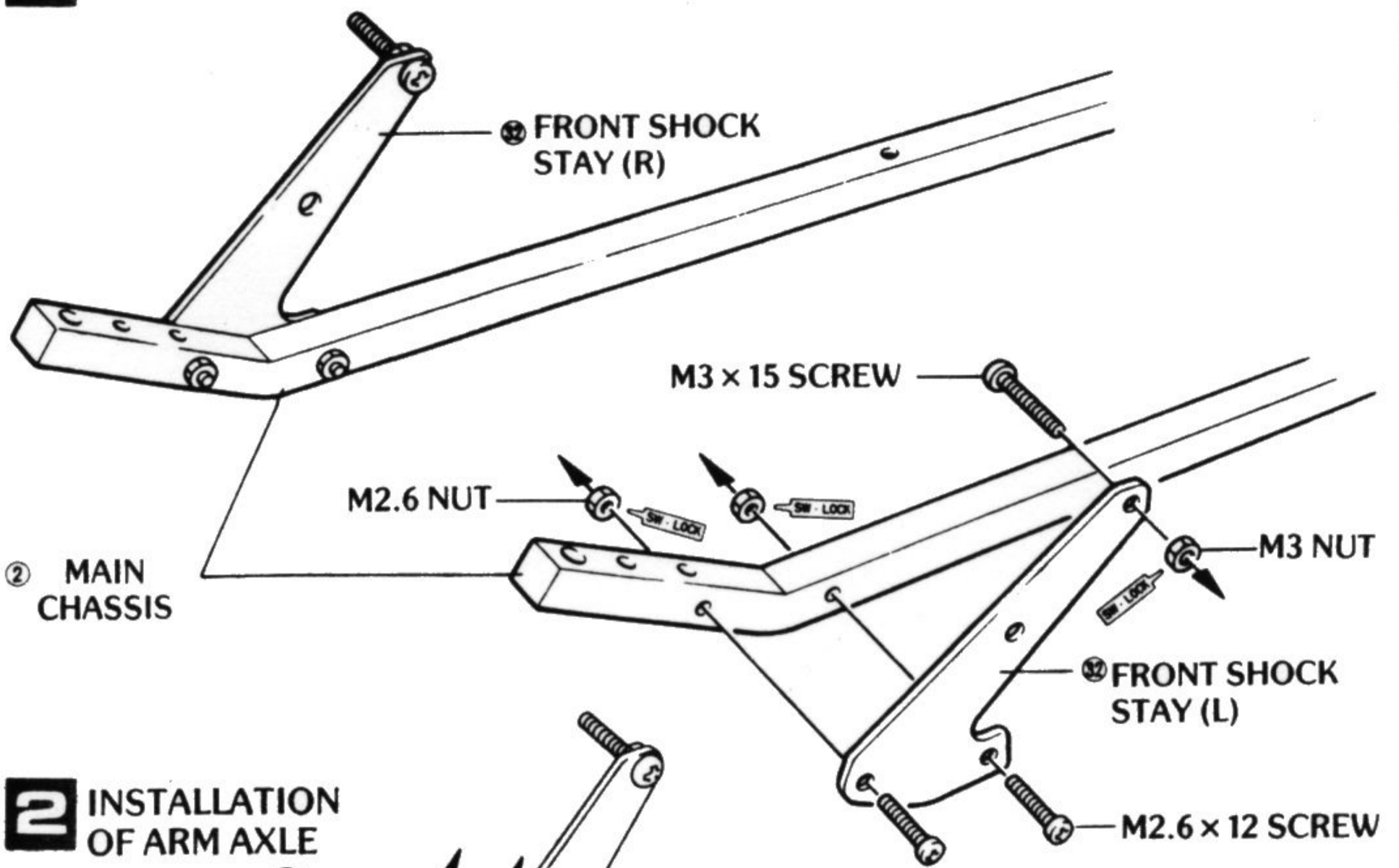
3 SMALL PARTS NEEDED

- ① PIVOT BALL (2) (Black) 
 - ② LINKAGE GUIDE (1) 
 - M4 x 35 SCREW (1) 
 - M2 NUT (1) 
 - M2.6 NUT (4) 
 - M4 NUT (2) 
- Note internal shape.

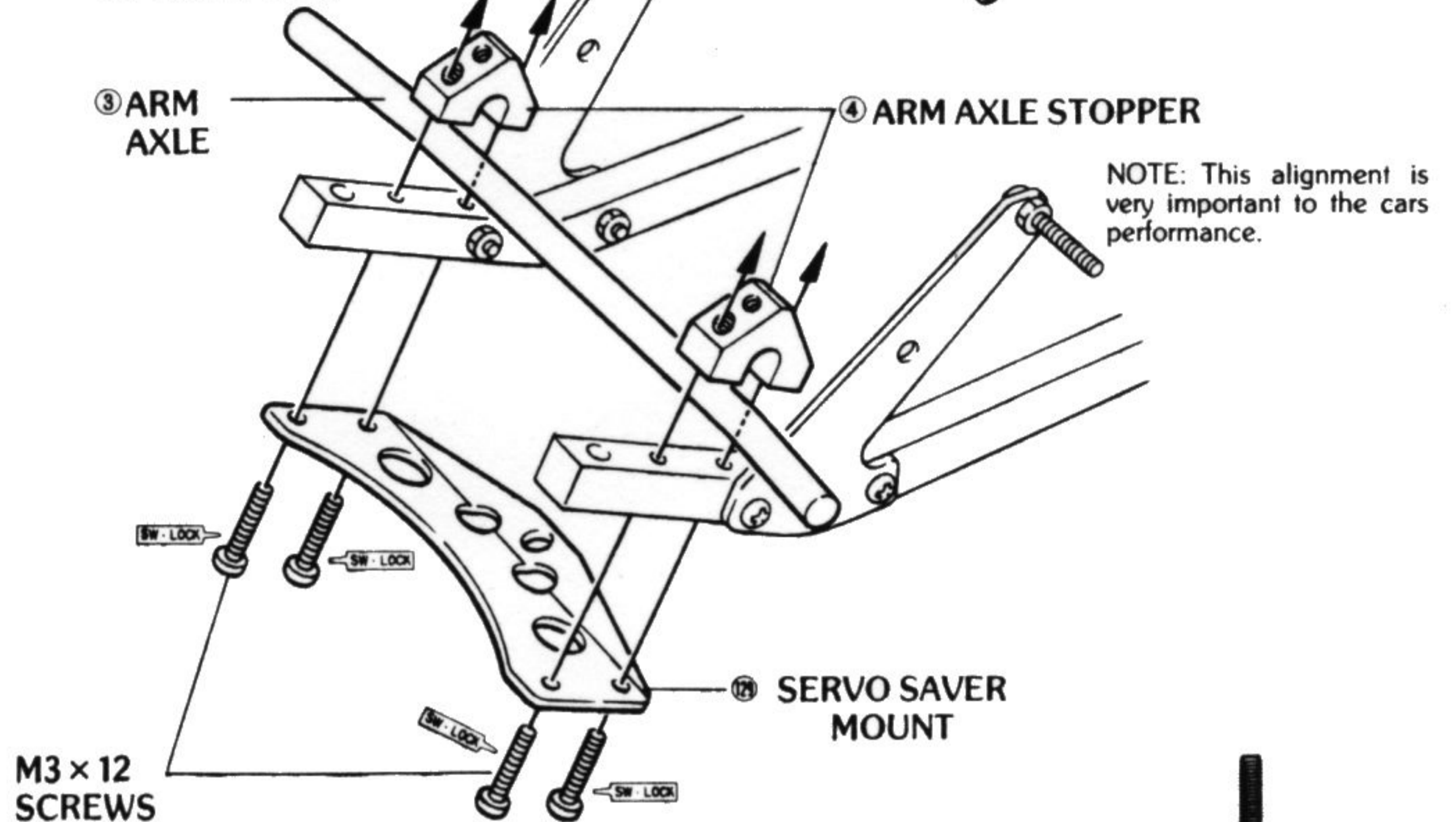
Assemble the servo saver as shown, below.



1 INSTALLATION OF FRONT SHOCK STAY

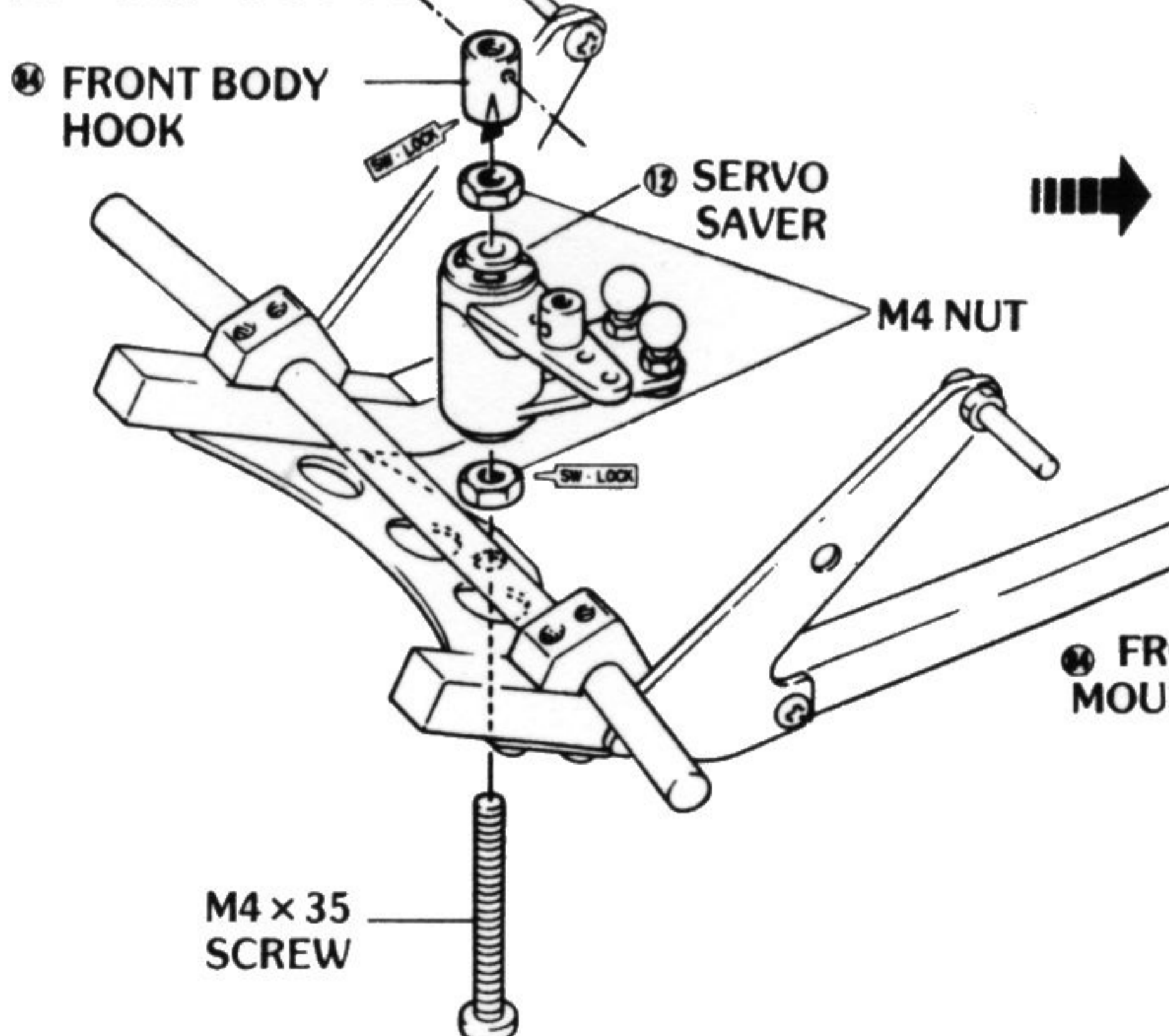


2 INSTALLATION OF ARM AXLE

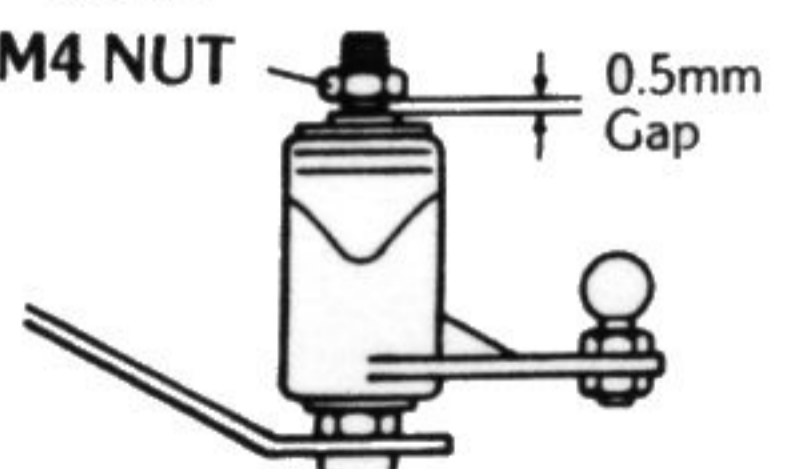


NOTE: This alignment is very important to the cars performance.

3 INSTALLATION OF SERVO SAVER



1. Affix the M4 screw and nut to the servo saver mount as shown.








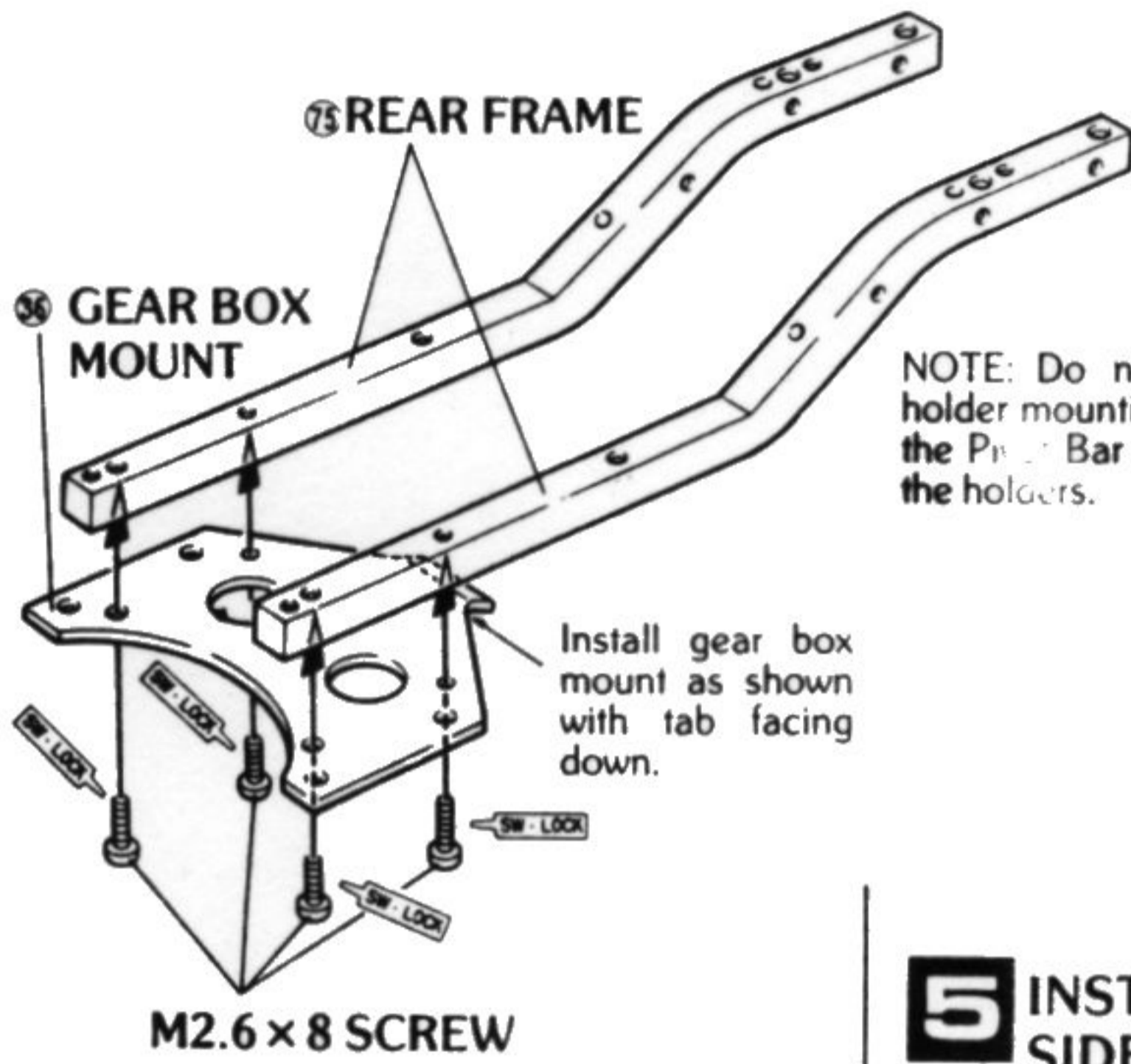
2. Attach the M4 Nut leaving 0.5mm gap.



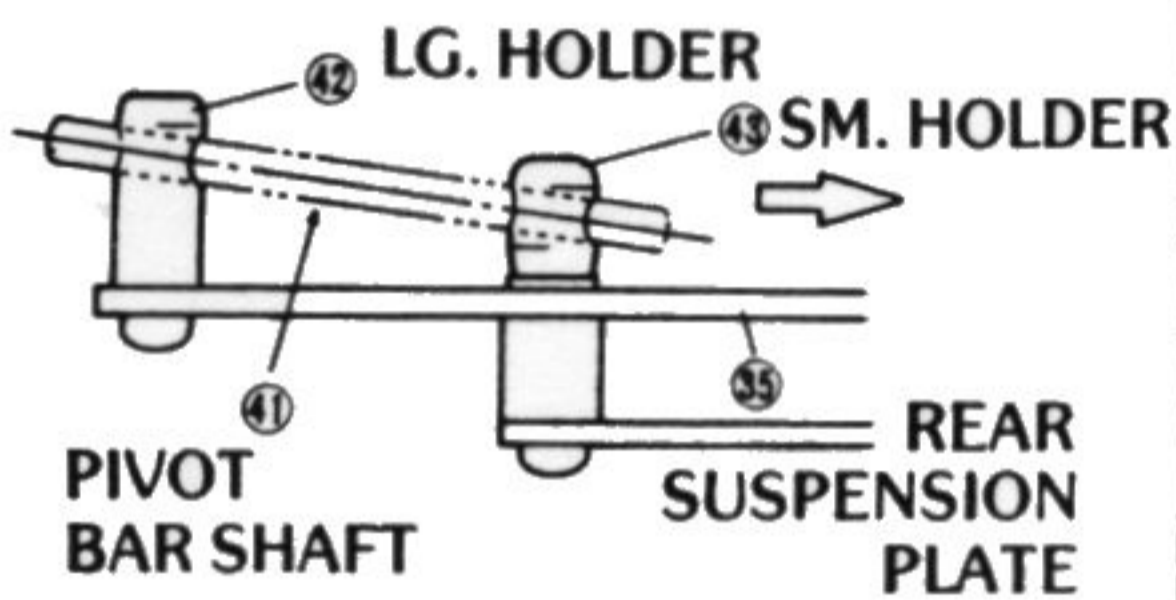
3. Hold the M4 Nut in place and affix the front body hook.

4 SMALL PARTS NEEDED


- ④ LARGE PIVOT BAR HOLDER - A (2) 
- ⑤ SMALL PIVOT BAR HOLDER - B (2) 
- M2.6 x 8 SCREW (4) 
- M3 x 6 SCREW (2) 
- M3 x 15 SCREW (2) 






Note that ④⑤ should be positioned so that the holes in them are at the angle shown.

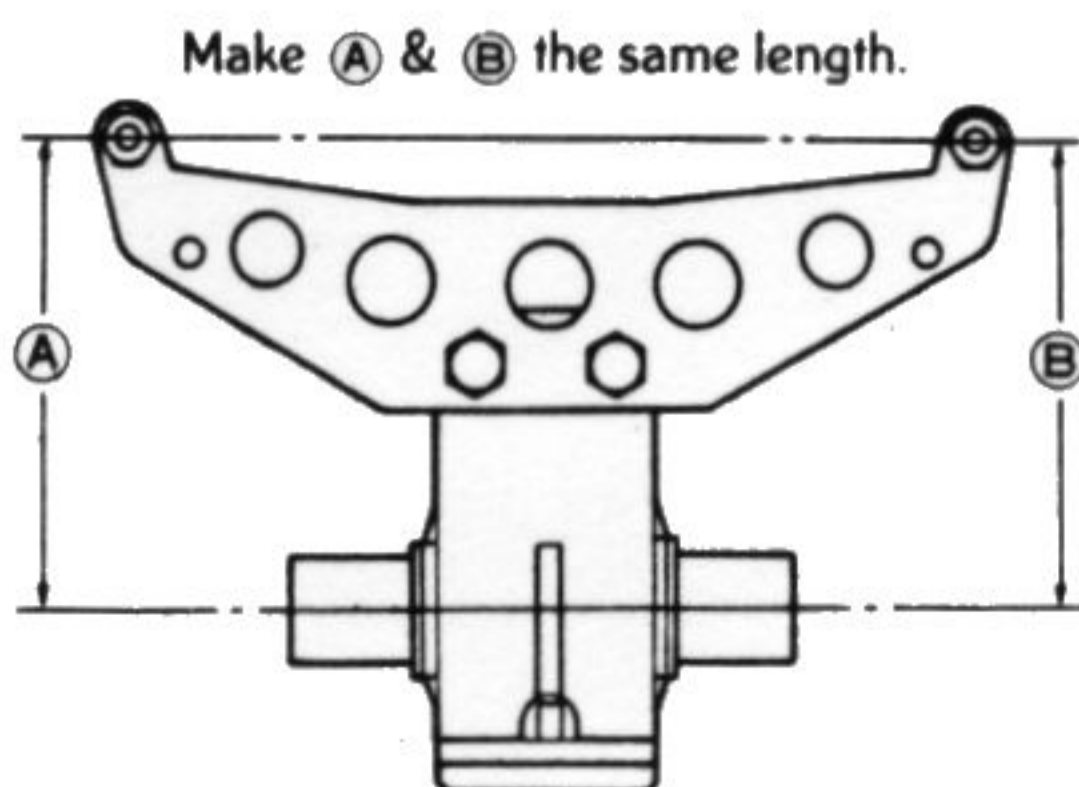


5 SMALL PARTS NEEDED

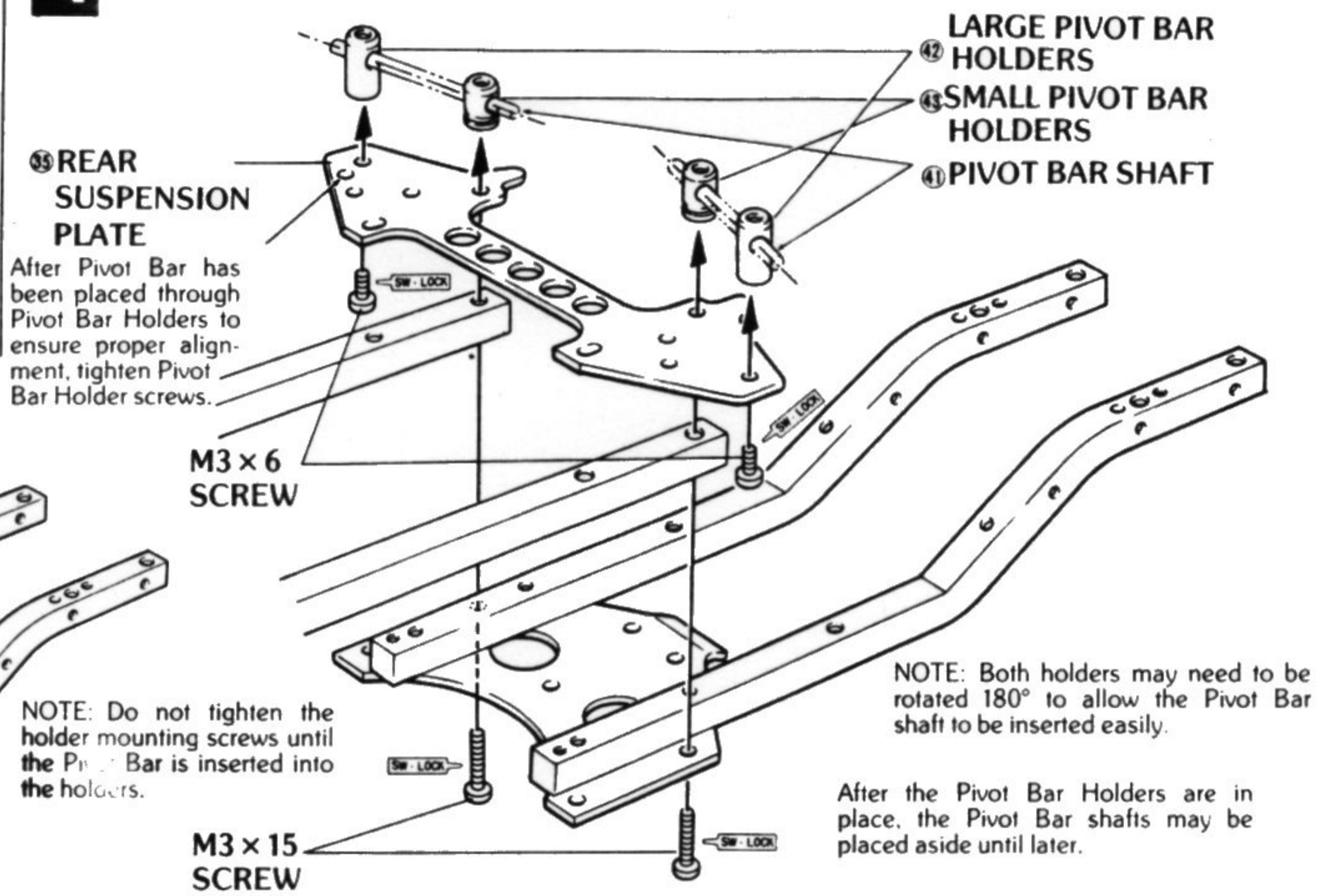
- M2.6 x 8 SCREW (4) 

6 SMALL PARTS NEEDED

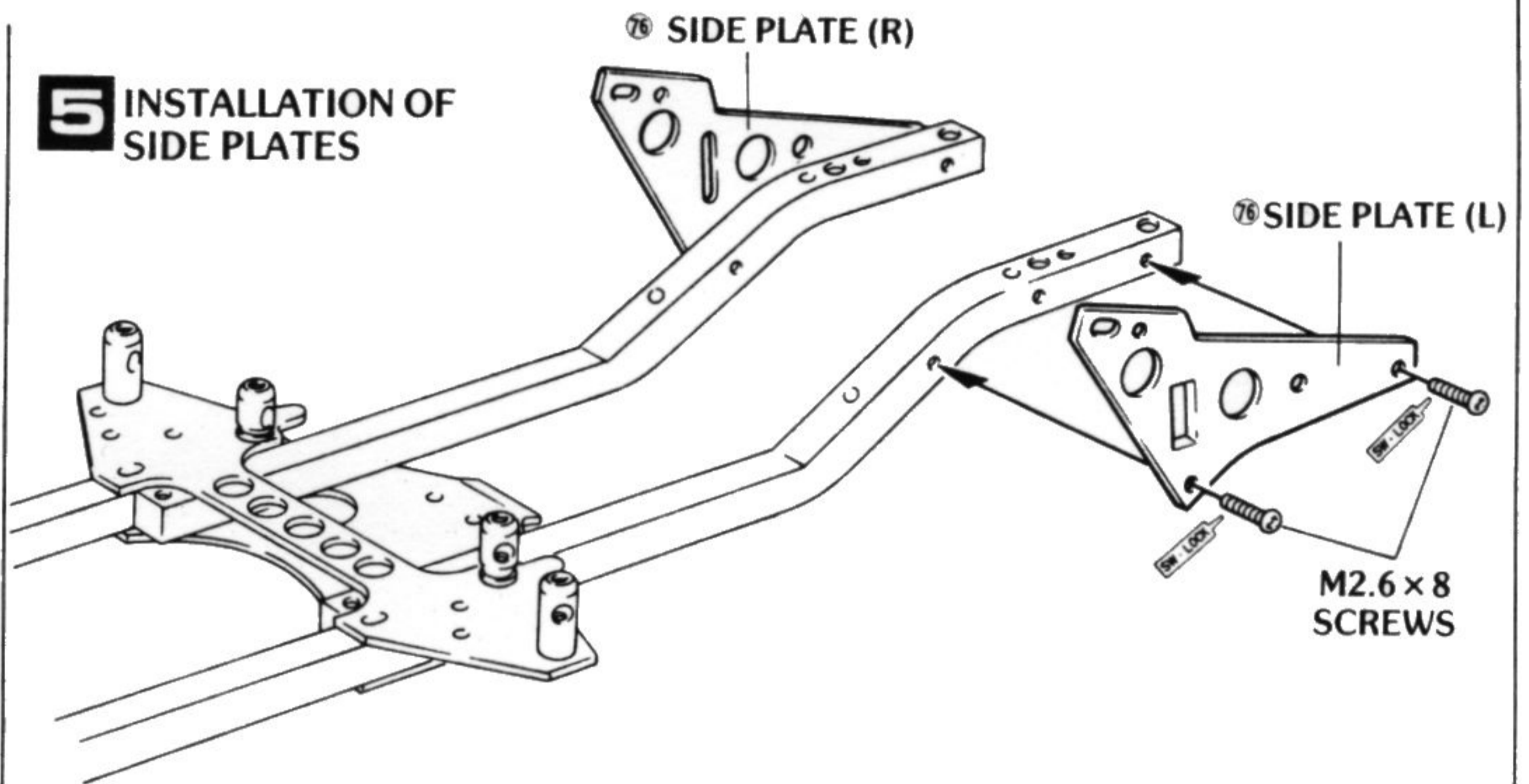
- M3 x 8 HEX BOLT (2) 
- M3 x 15 SCREW (2) 
- M3 NUT (2) 



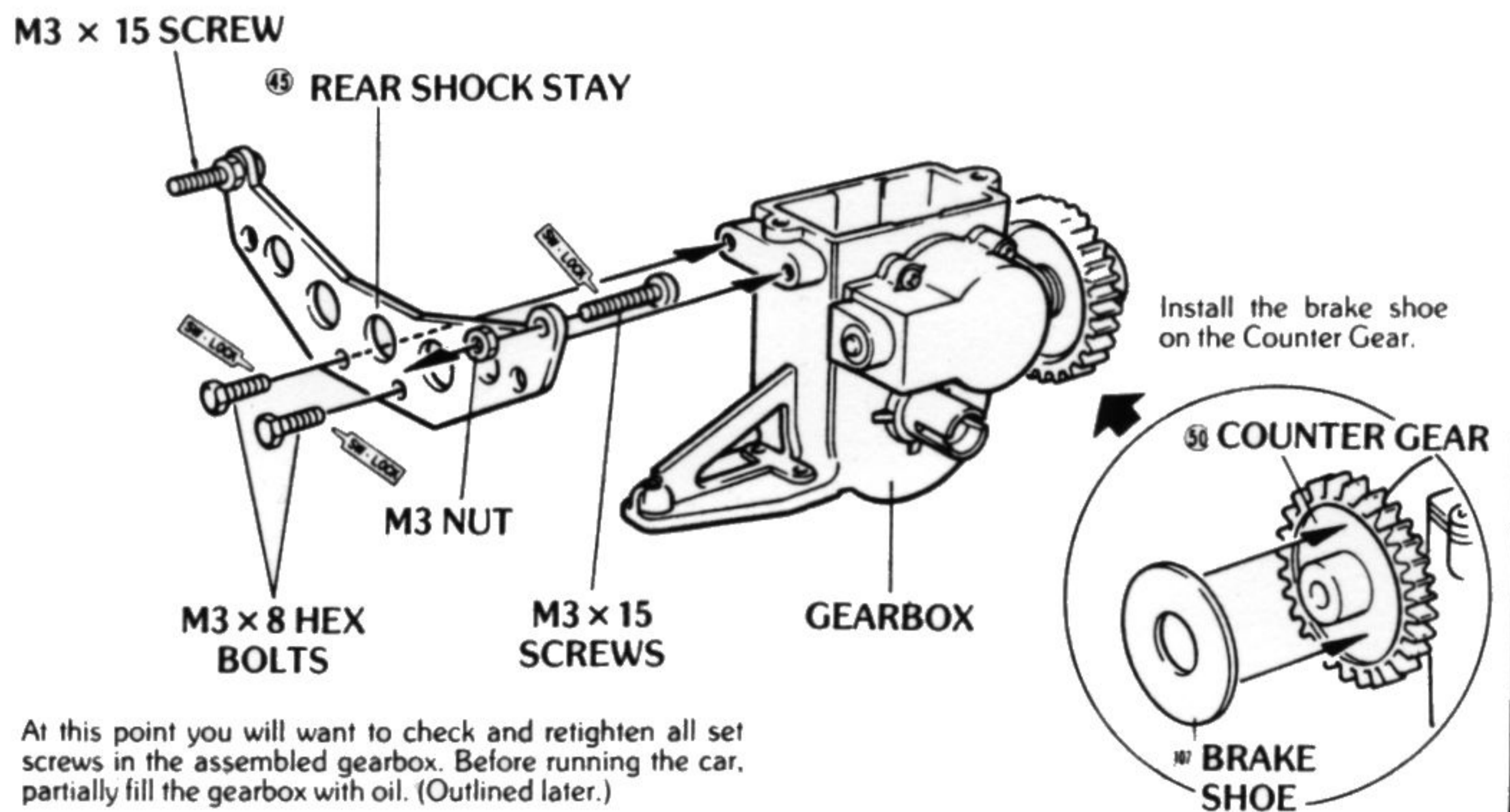
4 ASSEMBLING THE REAR CHASSIS



5 INSTALLATION OF SIDE PLATES



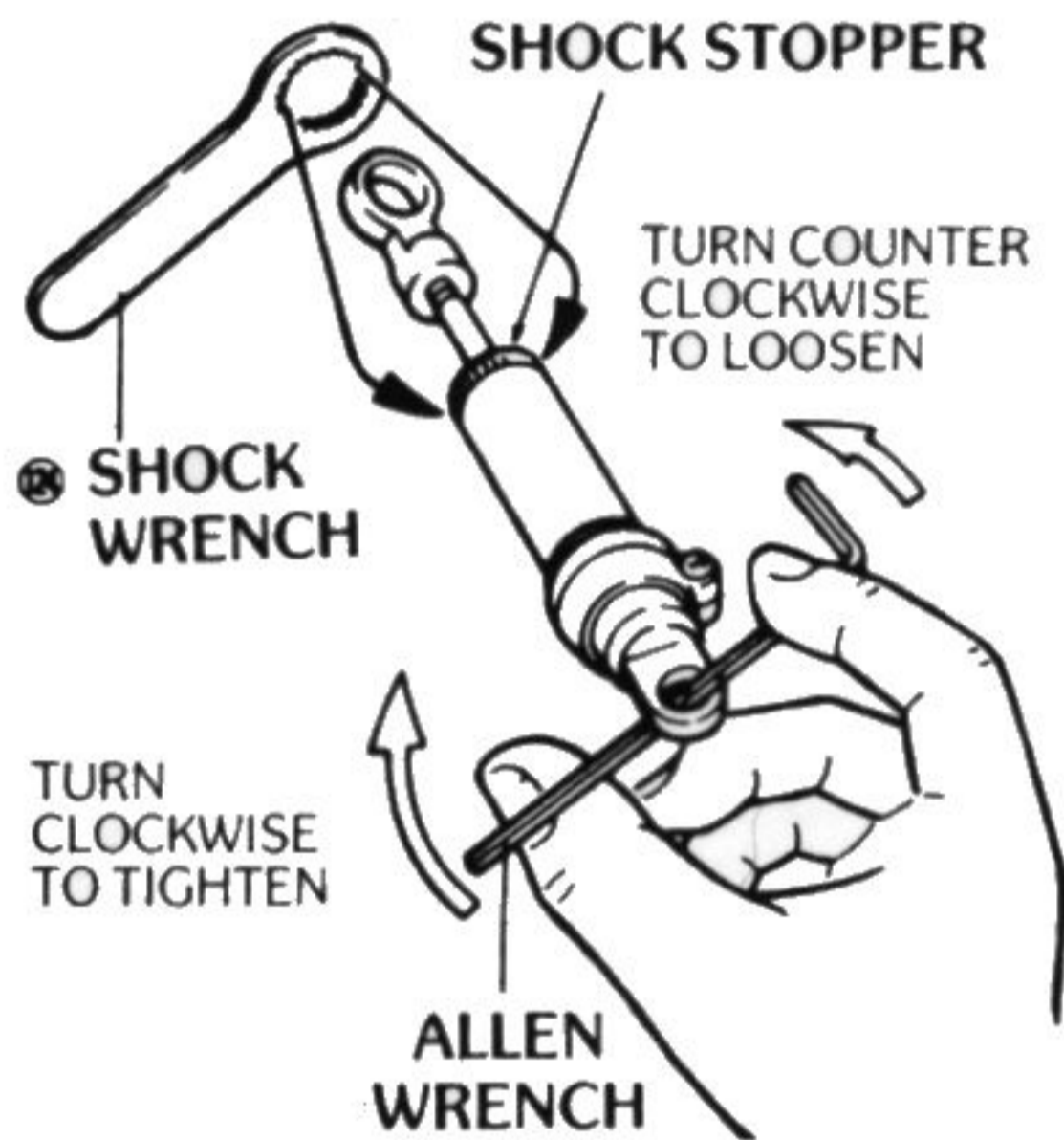
6 INSTALLATION OF GEAR BOX



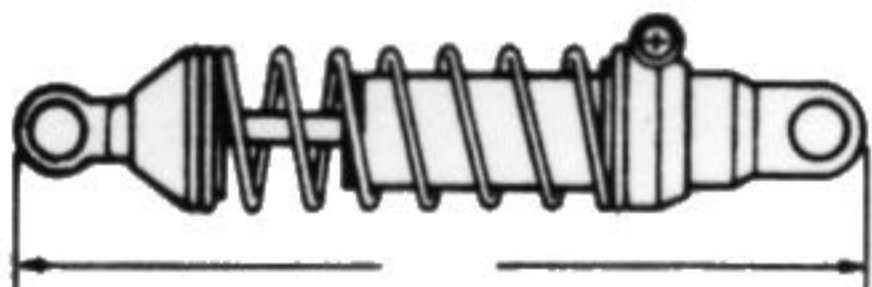
7 SMALL PARTS NEEDED

M3 x 6 NUT (3) 

8 The Shocks are already assembled, but they must be taken apart to fill them with oil. Use the (124) Shock Wrench and an Allen Wrench for disassembly.



You may adjust the length of the shock by screwing the (15) shock end in and out.



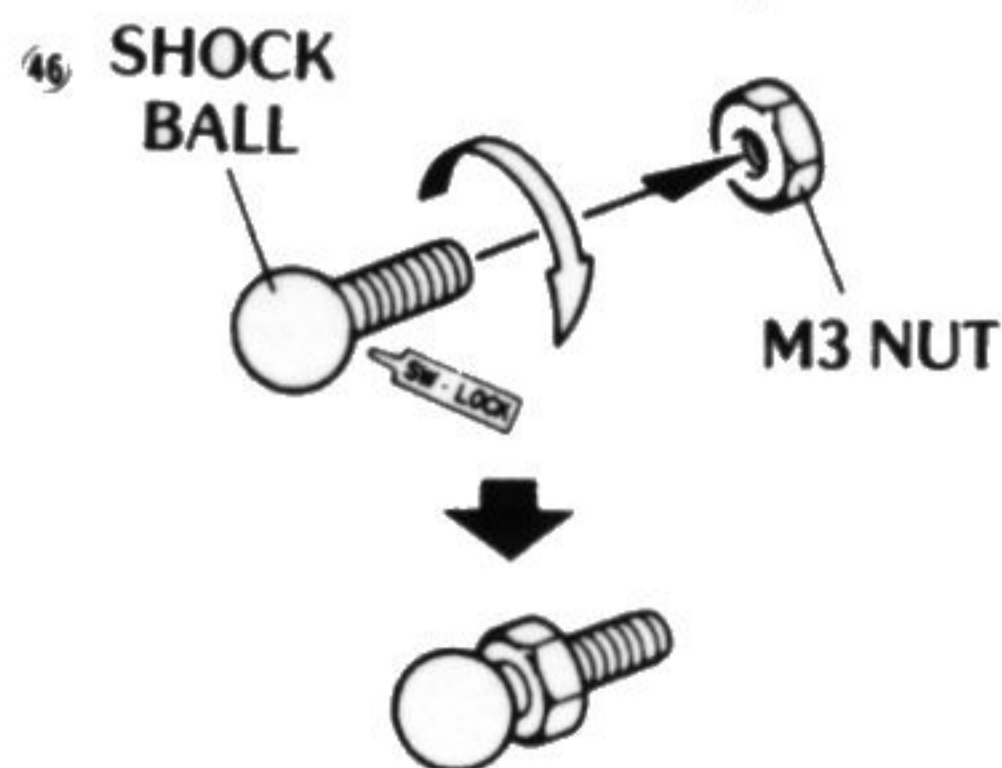
The assembled shock pairs should be uniform in length. Note that the rears are longer than the fronts.

9 SMALL PARTS NEEDED

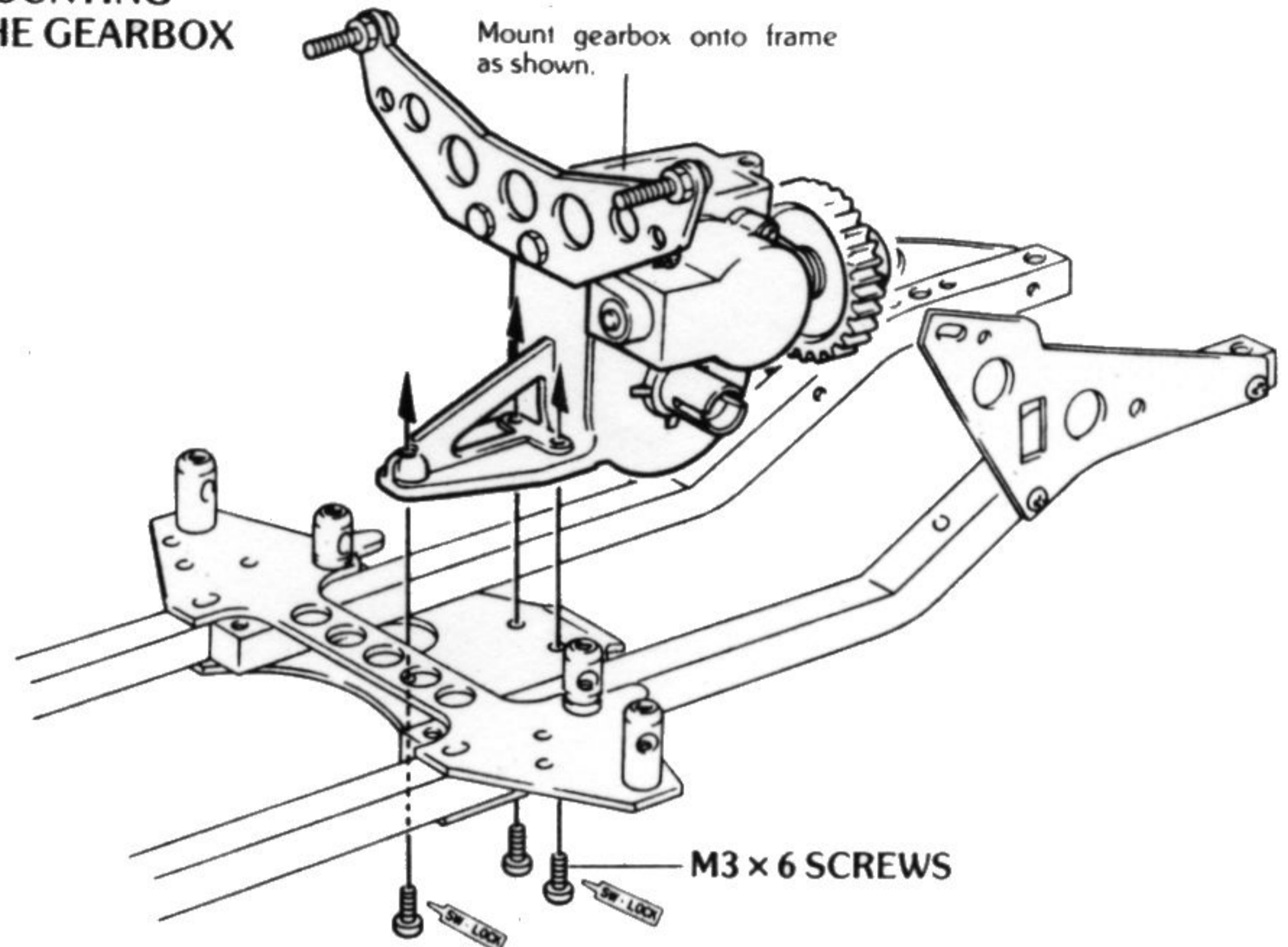
46 SHOCK BALL (4) 

M3 NUT (2) 

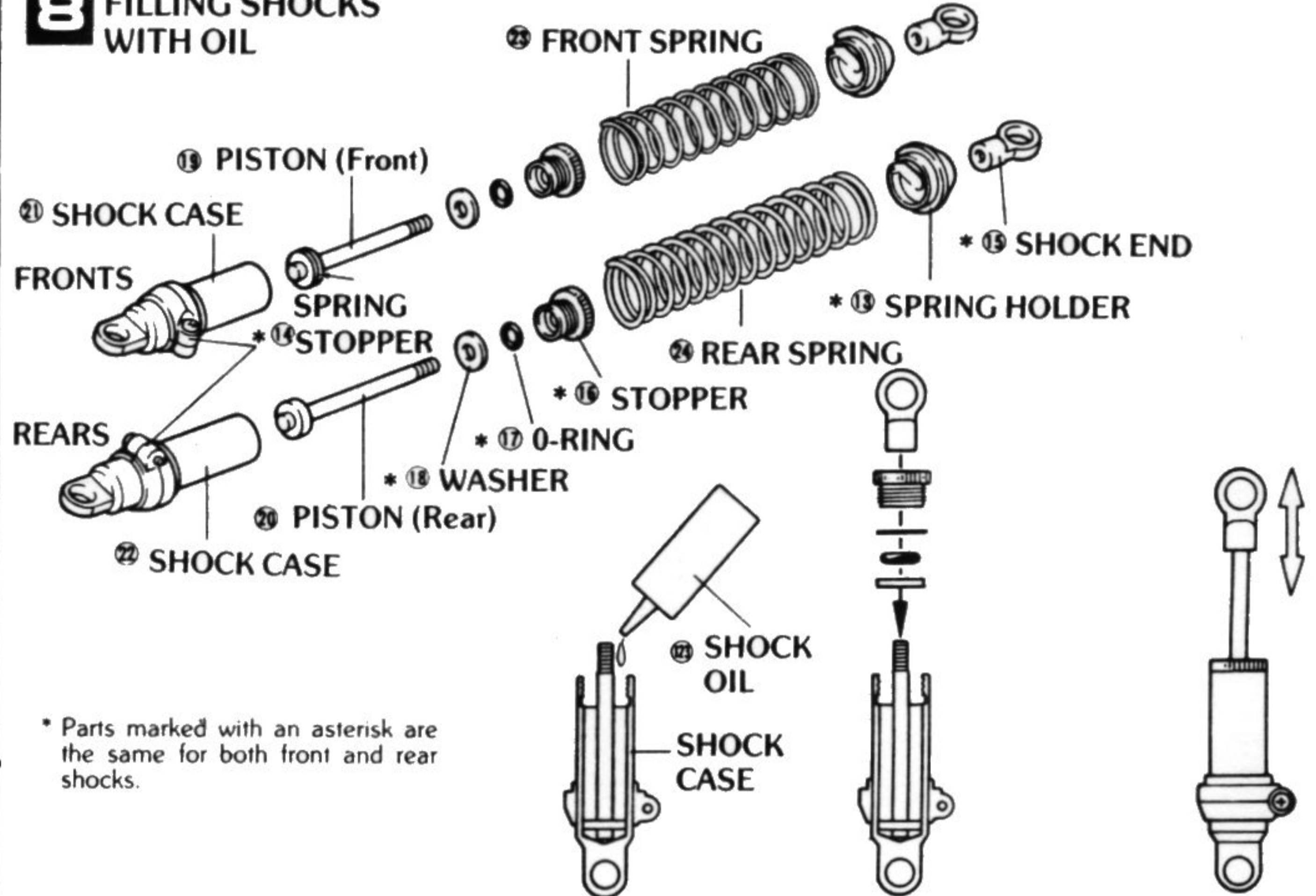
Make 2 of these for the Rear Suspension Arms.



7 MOUNTING THE GEARBOX



8 FILLING SHOCKS WITH OIL

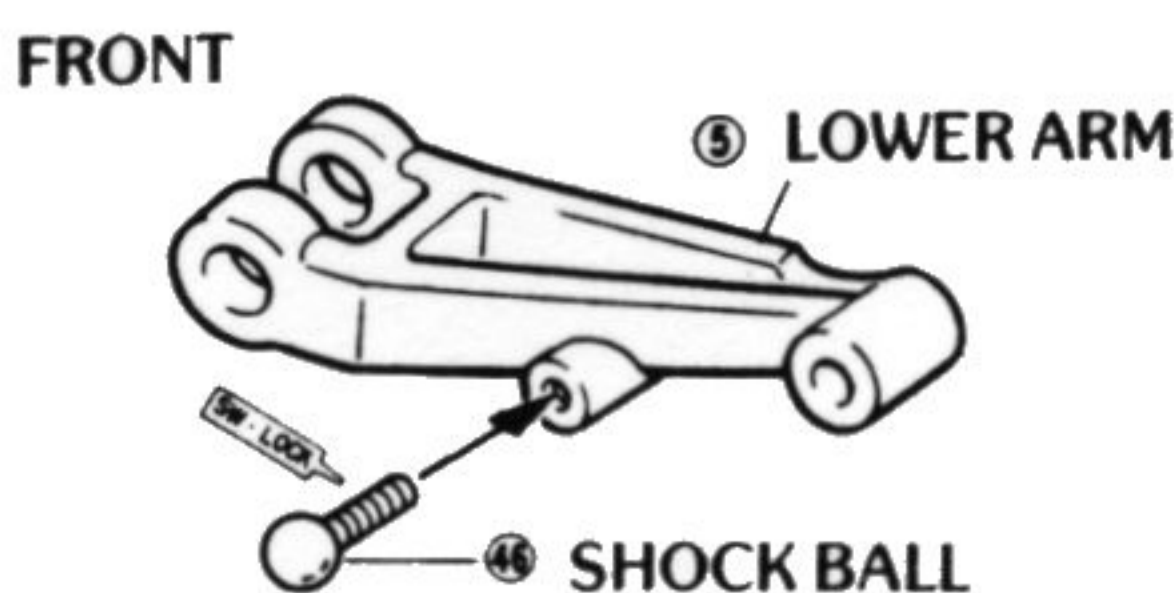
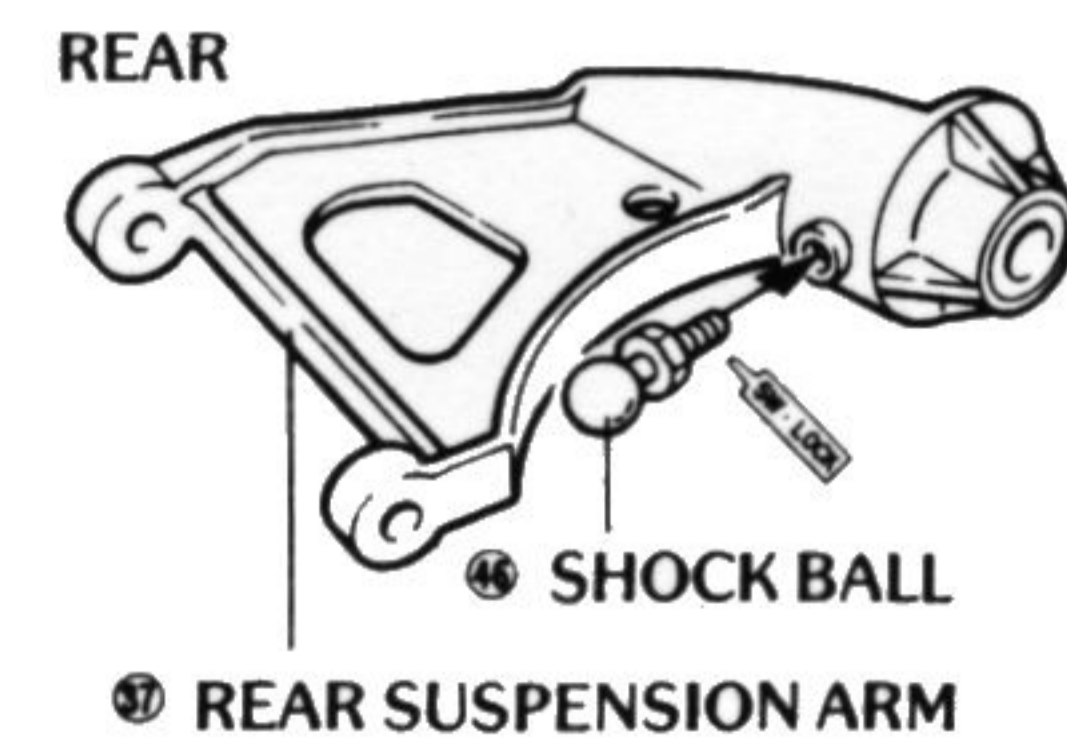


1. Remove stopper, pour oil provided into Shock to the level shown.

2. Replace stoppers & tighten.

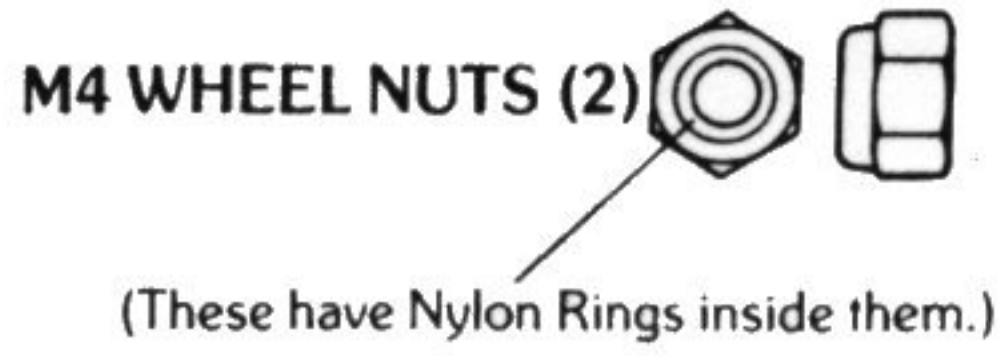
3. Move piston up and down to be sure it operates smoothly. If not, drain some of the oil.

9 INSTALLATION OF SHOCK BALLS

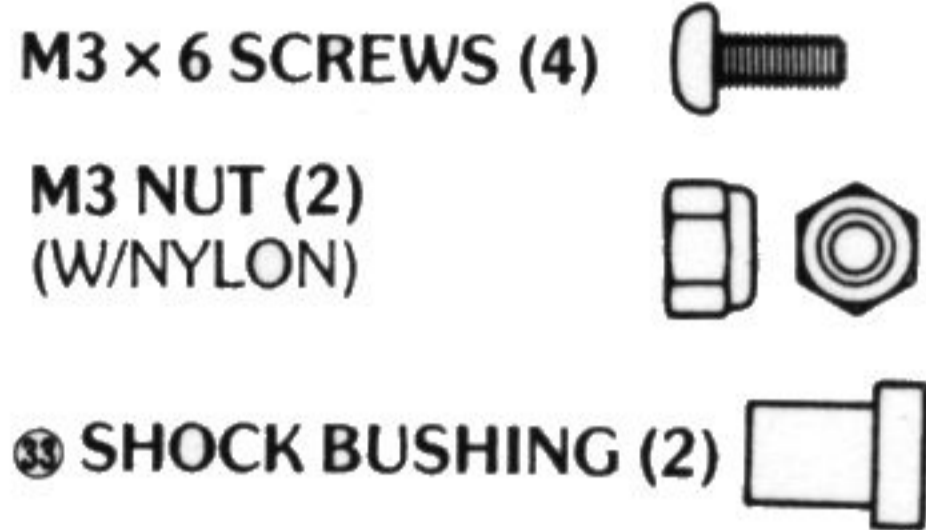


Tighten the nut with a wrench or pliers to install the Pivot Ball.

10 SMALL PARTS NEEDED



11 SMALL PARTS NEEDED

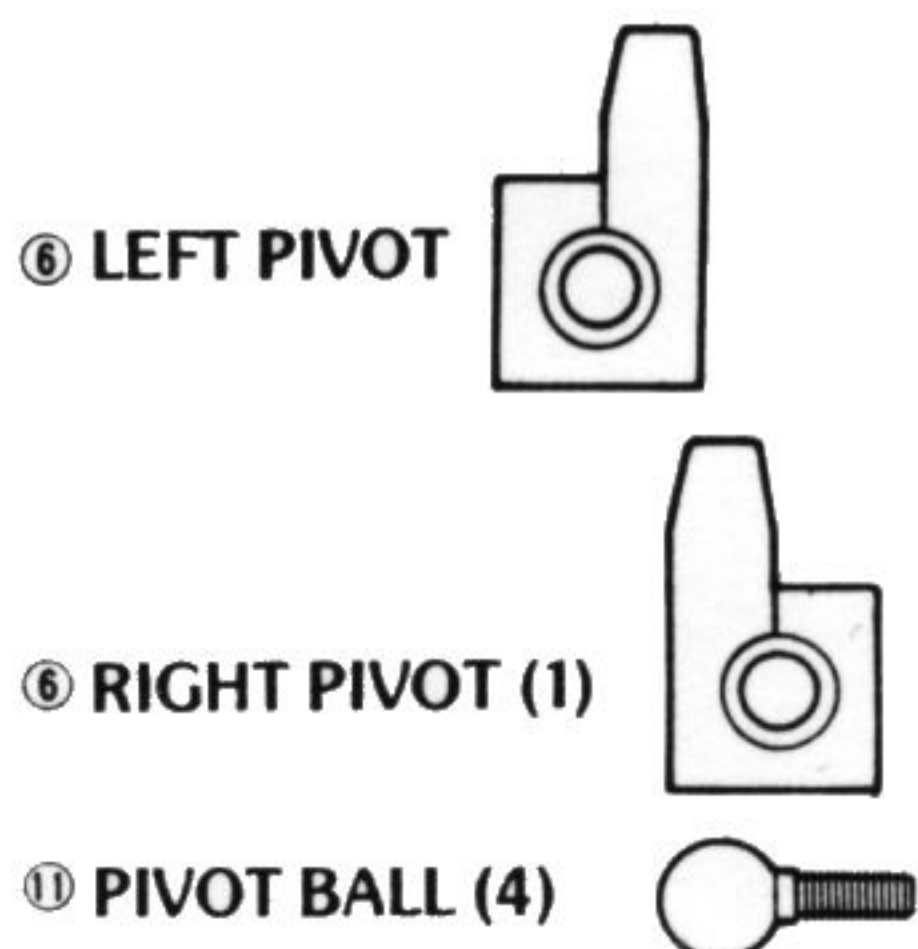


OPTIONAL BALL BEARINGS

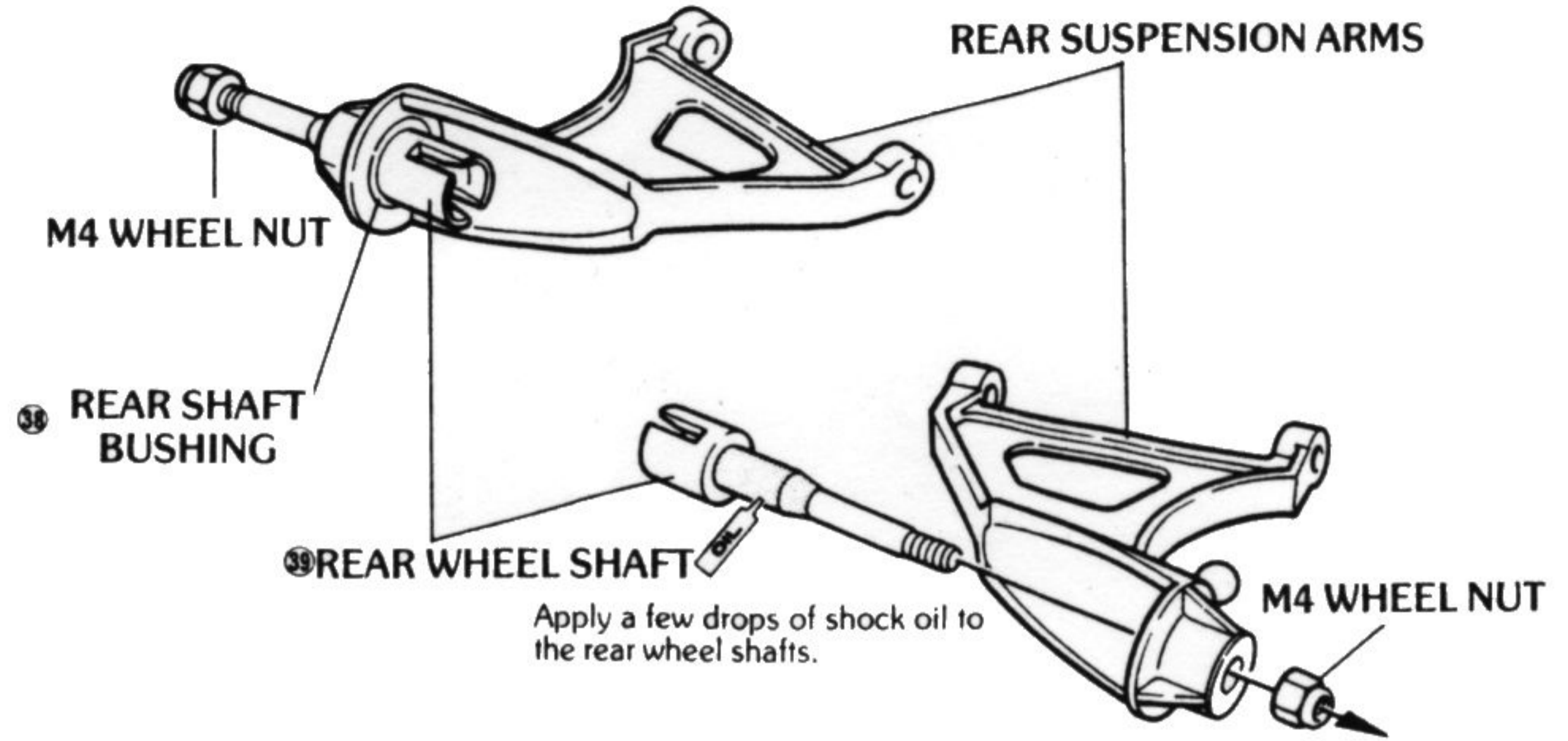
The Assault's running can be improved by replacing the standard bushings in the gear case and rear suspension arms with ball-bearings.



12 SMALL PARTS NEEDED

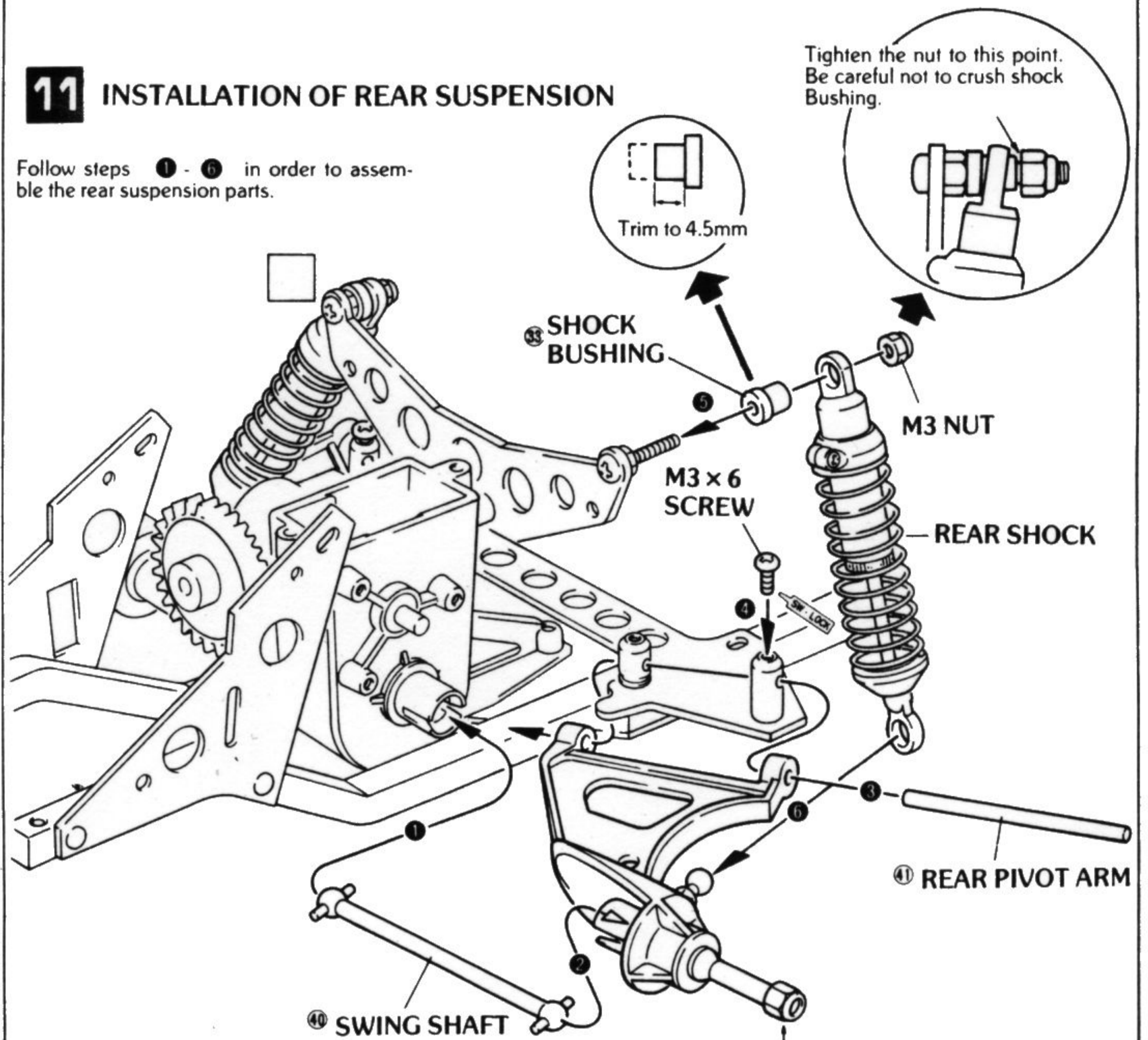


10 INSTALLATION OF REAR AXLE

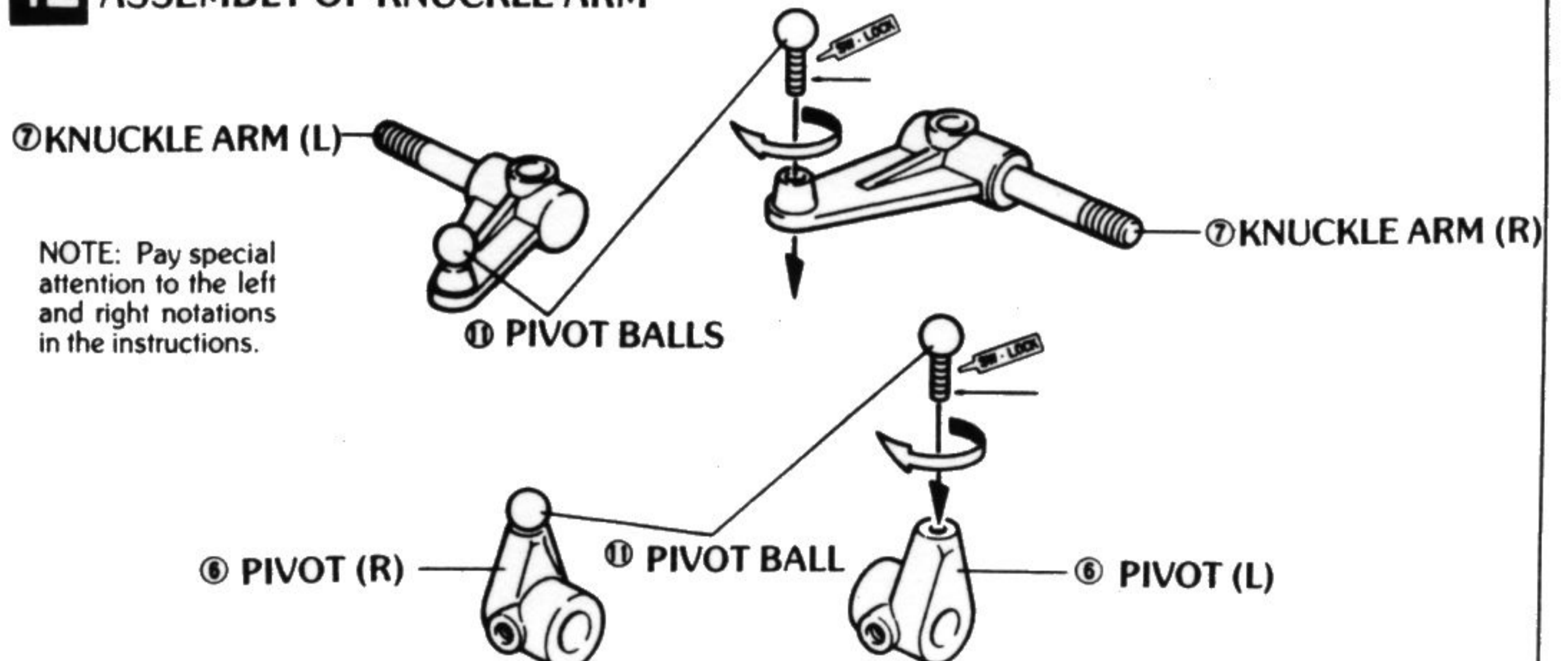


11 INSTALLATION OF REAR SUSPENSION




Follow steps 1 - 6 in order to assemble the rear suspension parts.



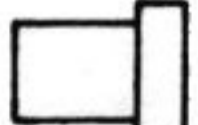


12 ASSEMBLY OF KNUCKLE ARM



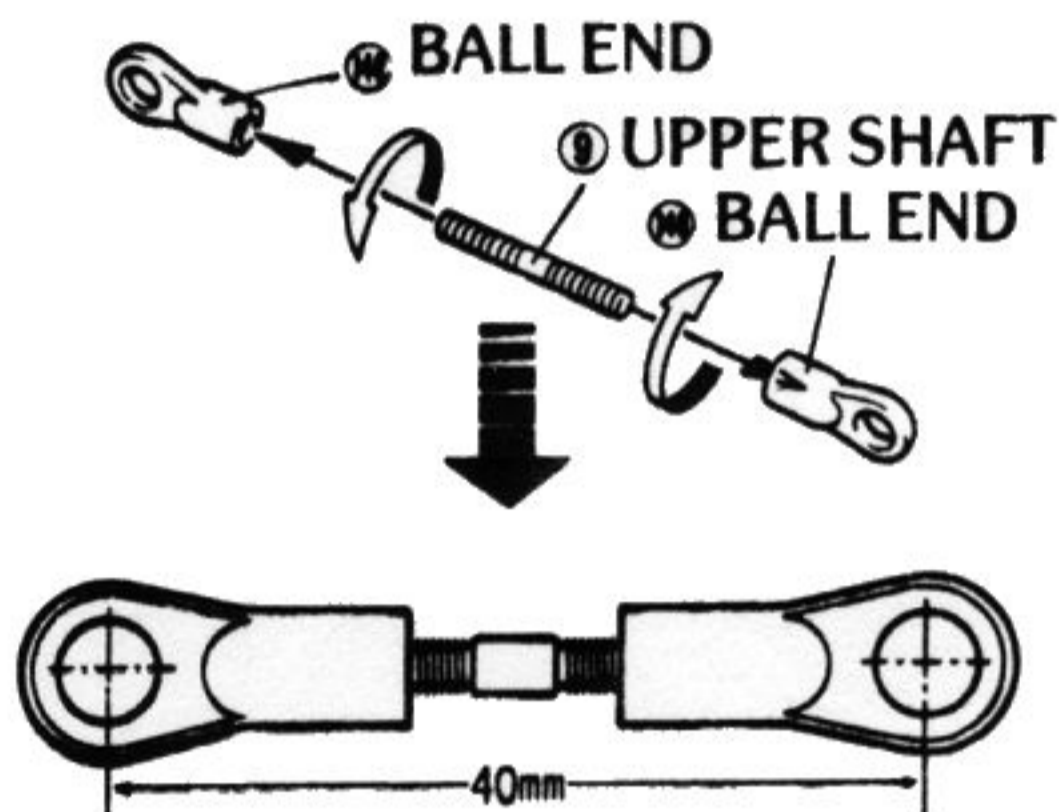
13 SMALL PARTS NEEDED

- ⑪ PIVOT BALL (2) 
- M2.6 NUT (2) 
- M4 NUT (2) (w/NYLON) 

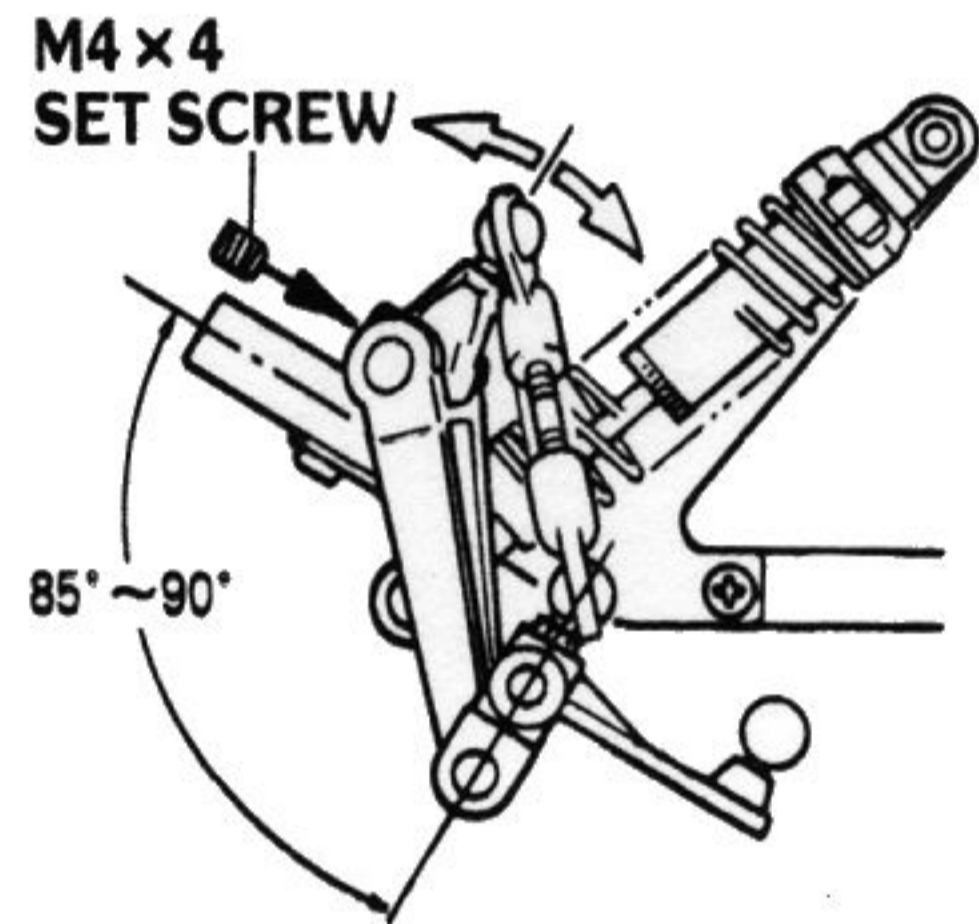
14 SMALL PARTS NEEDED

- ③ SHOCK BUSHING (2) 
- M3 NYLON NUT (2) 
- M4 x 4 SET SCREW (2) 

Assemble two of these.

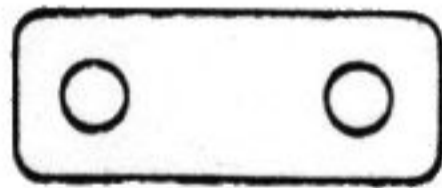







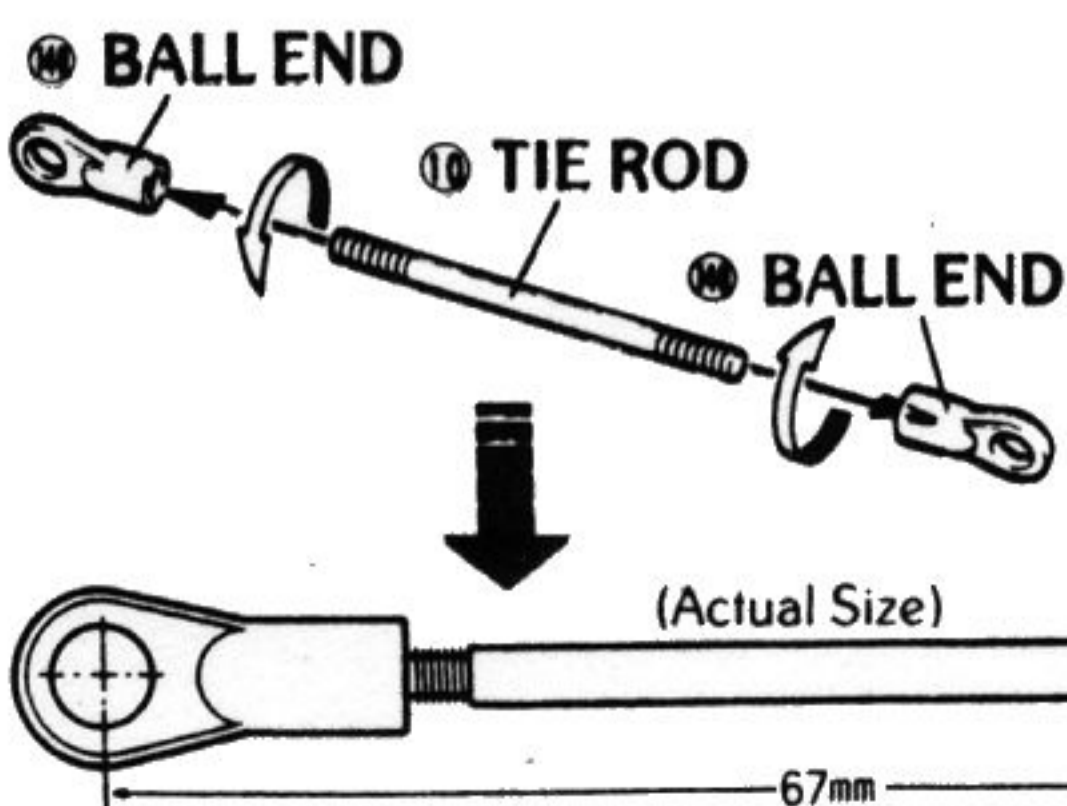
Tighten two ball ends onto the upper shaft. Make them exactly the same size as shown here.



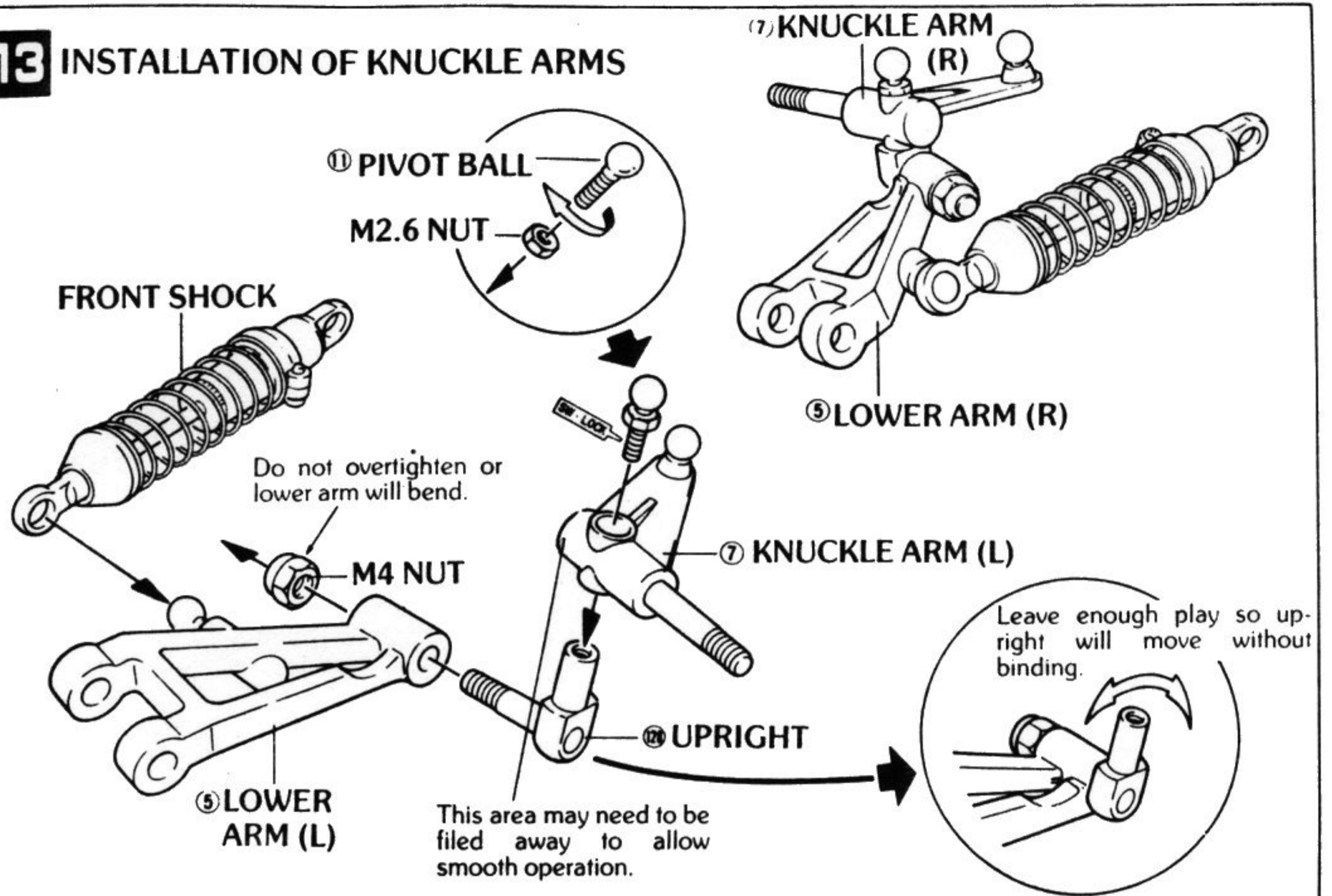
Adjust the pivot angle by moving it as shown by arrows so king-pin and front part of chassis are at the angle as shown. NOTE: Front end measurements may need to be adjusted slightly to obtain smooth operation.

15 SMALL PARTS NEEDED

- ⑩ GROUND PLATE (1) 
- M2.6 x 8 SCREW (2) 
- M3 x 15 SCREW (2) 
- M2.6 NUT (2) 
- M3 NUT (2) 
- 3 Ø WASHER (2) 

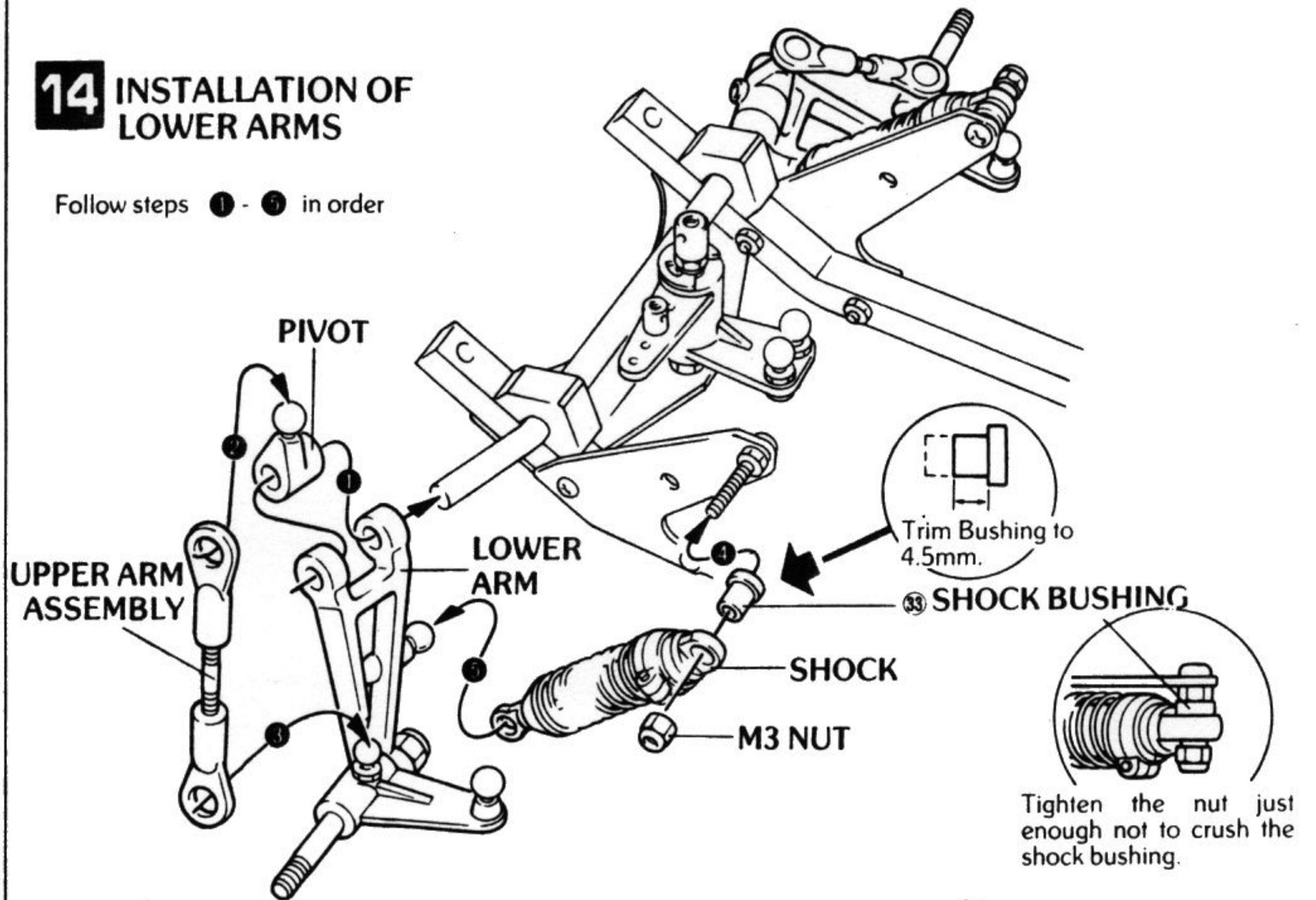


13 INSTALLATION OF KNUCKLE ARMS

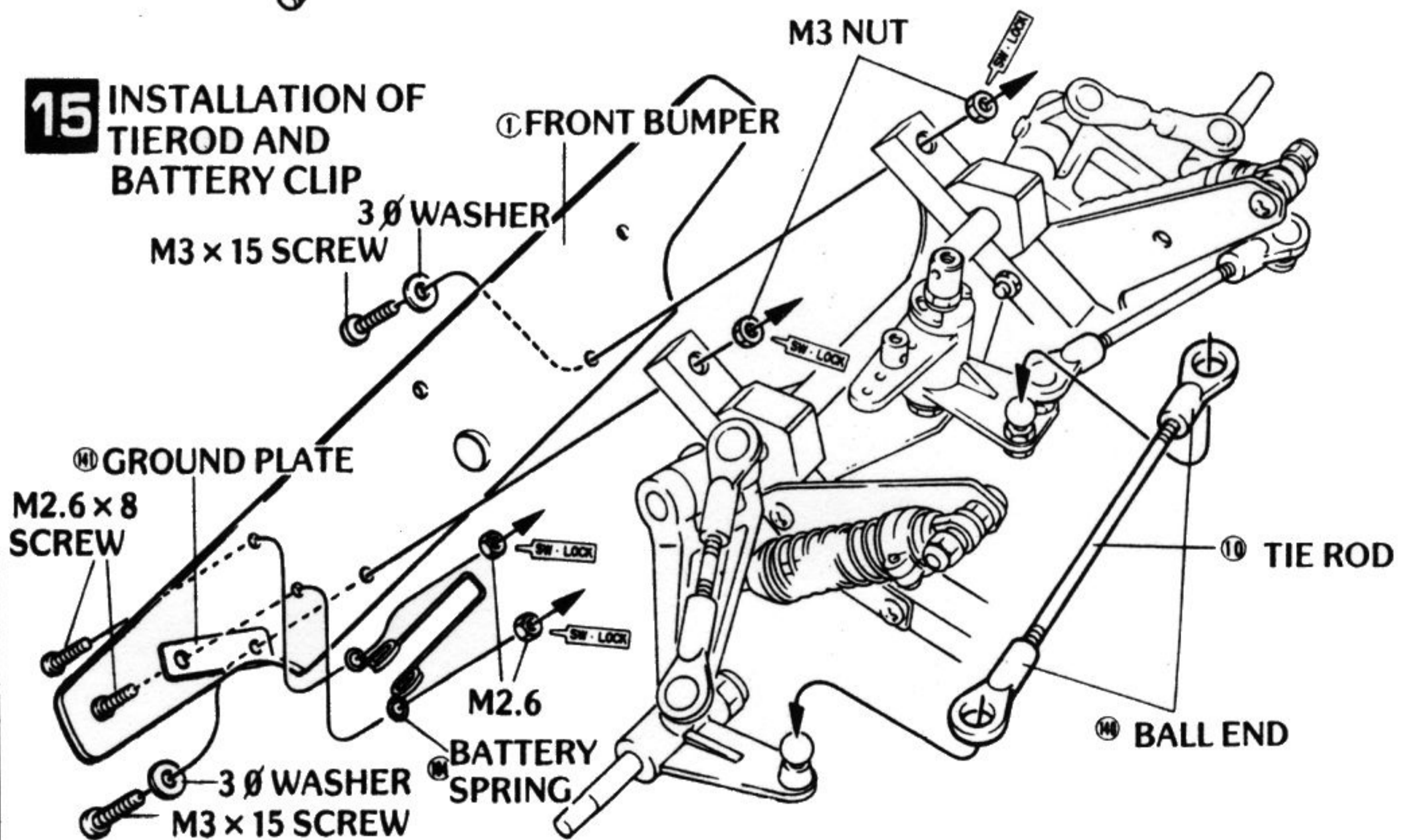


14 INSTALLATION OF LOWER ARMS

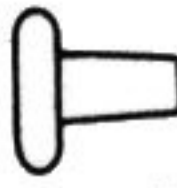
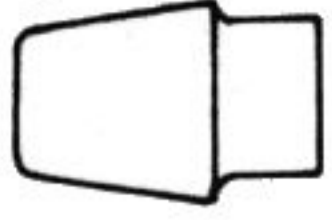



Follow steps ① - ③ in order



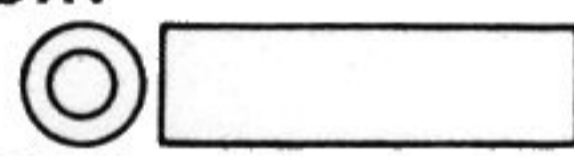

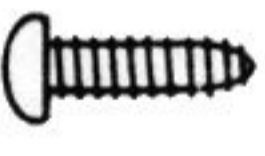

15 INSTALLATION OF TIEROD AND BATTERY CLIP



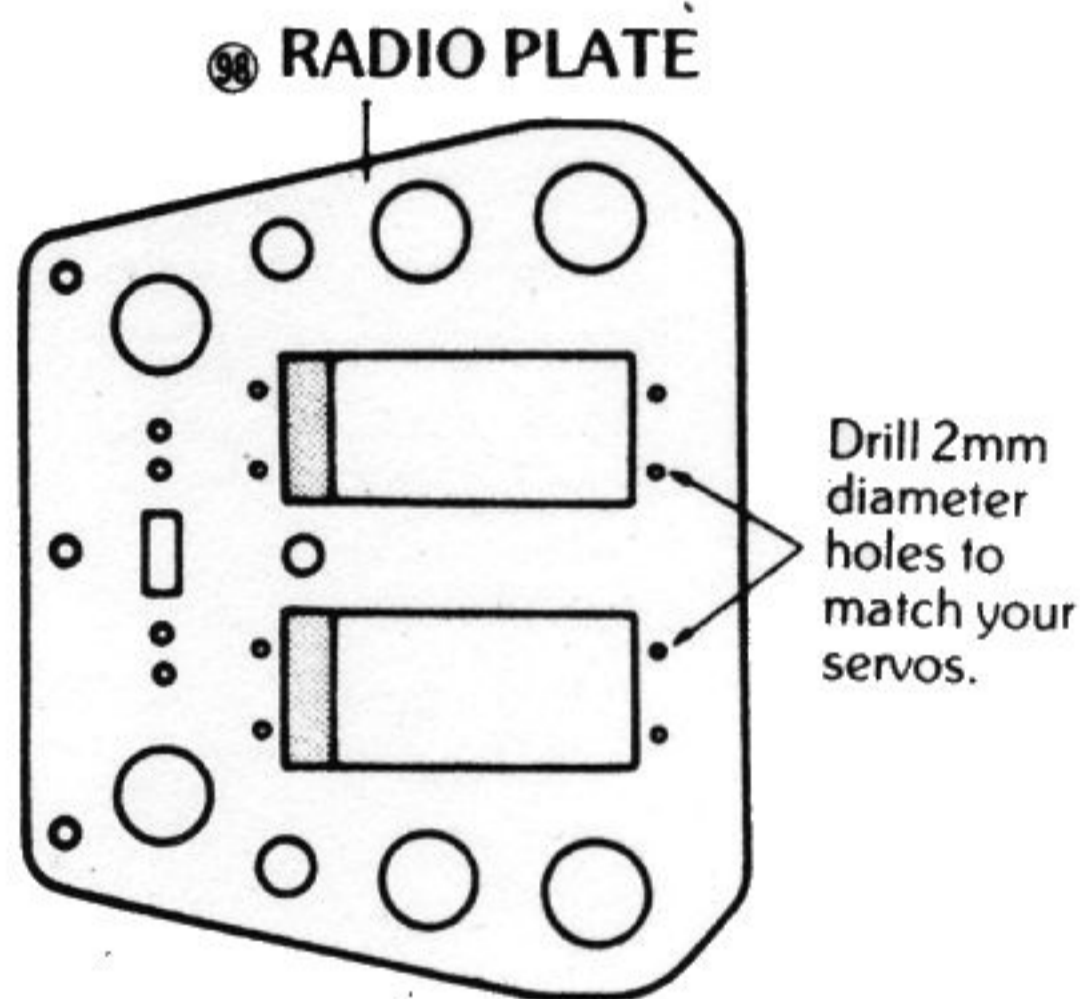
16 SMALL PARTS NEEDED

- ANTENNA CAP (1) 
- ANTENNA BASE (1) 
- M3 x 6 SCREW (4) 
- M3 x 14 SCREW (1) 
- M3 NUT (2) 

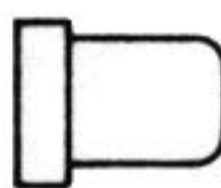
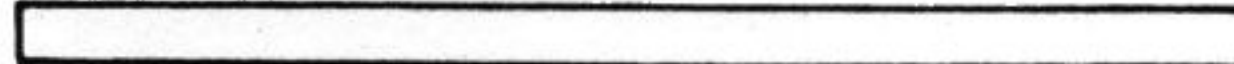
17 SMALL PARTS NEEDED

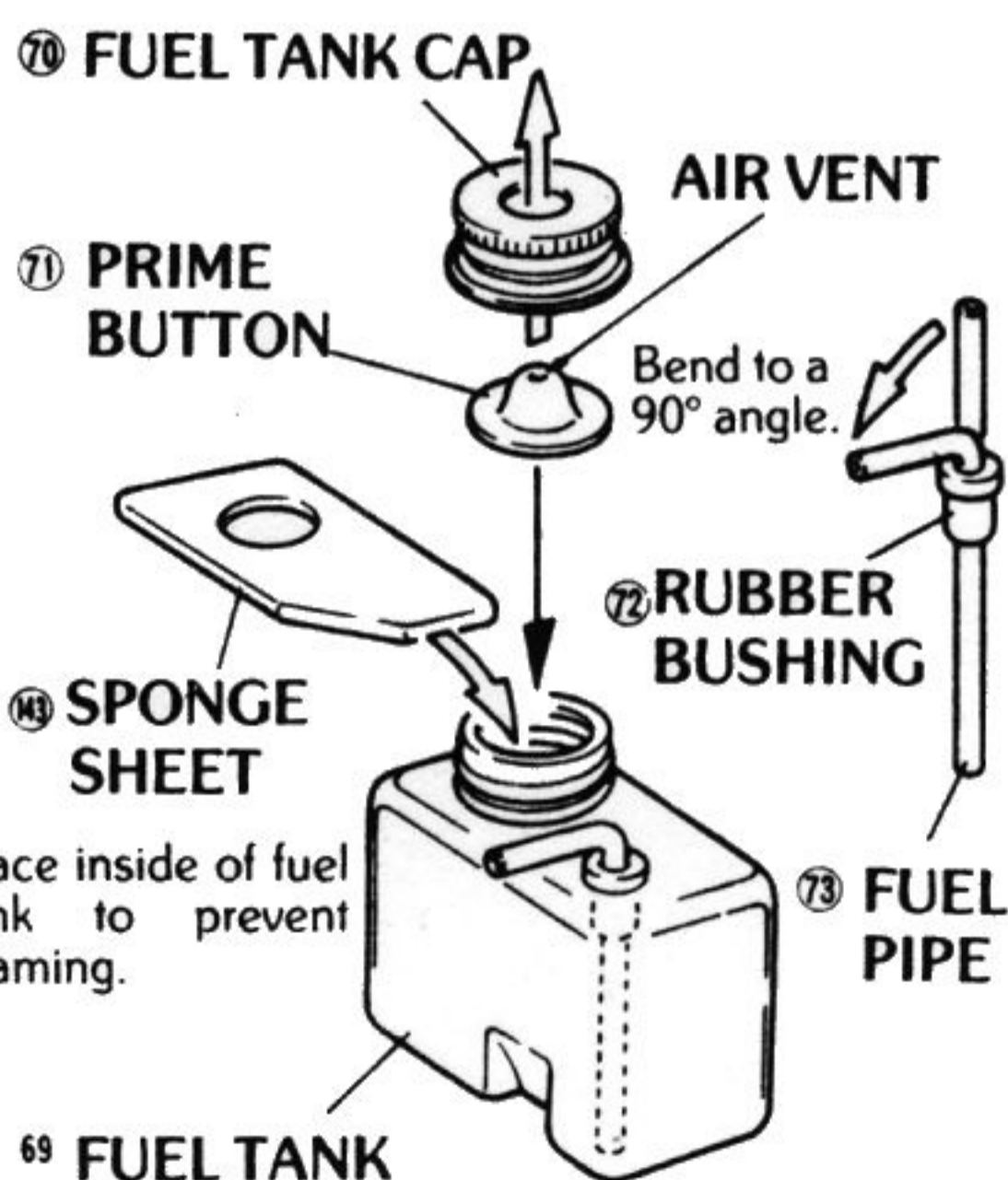
- 118 BODY SUPPORT POST (1) 
- M3 x 30 SCREW (1) 
- M3 x 30 SCREW (8) (Self Tapping) 
- M3 NUT (1) 

If you are using larger servos you may trim away the shaded area.

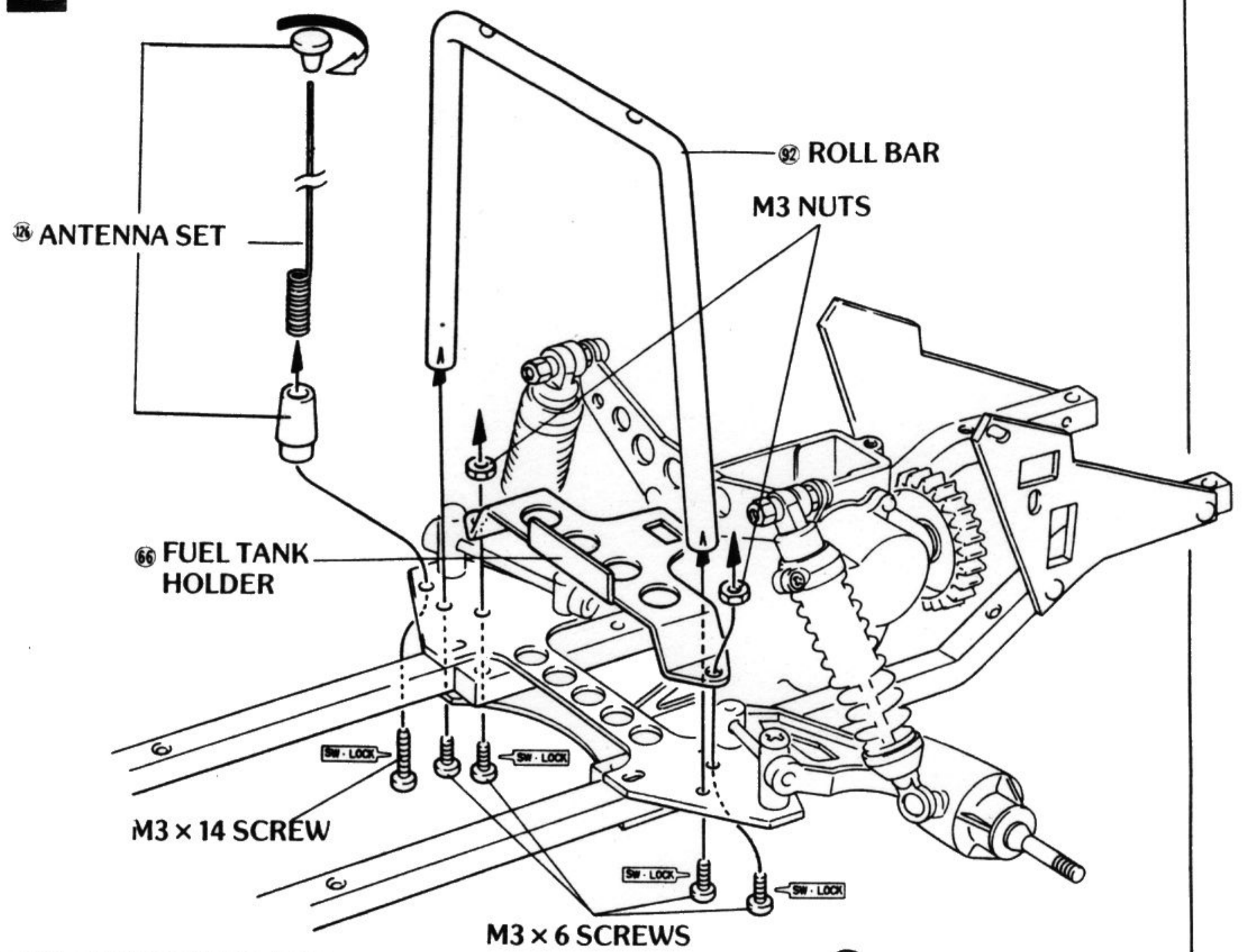


18 SMALL PARTS NEEDED

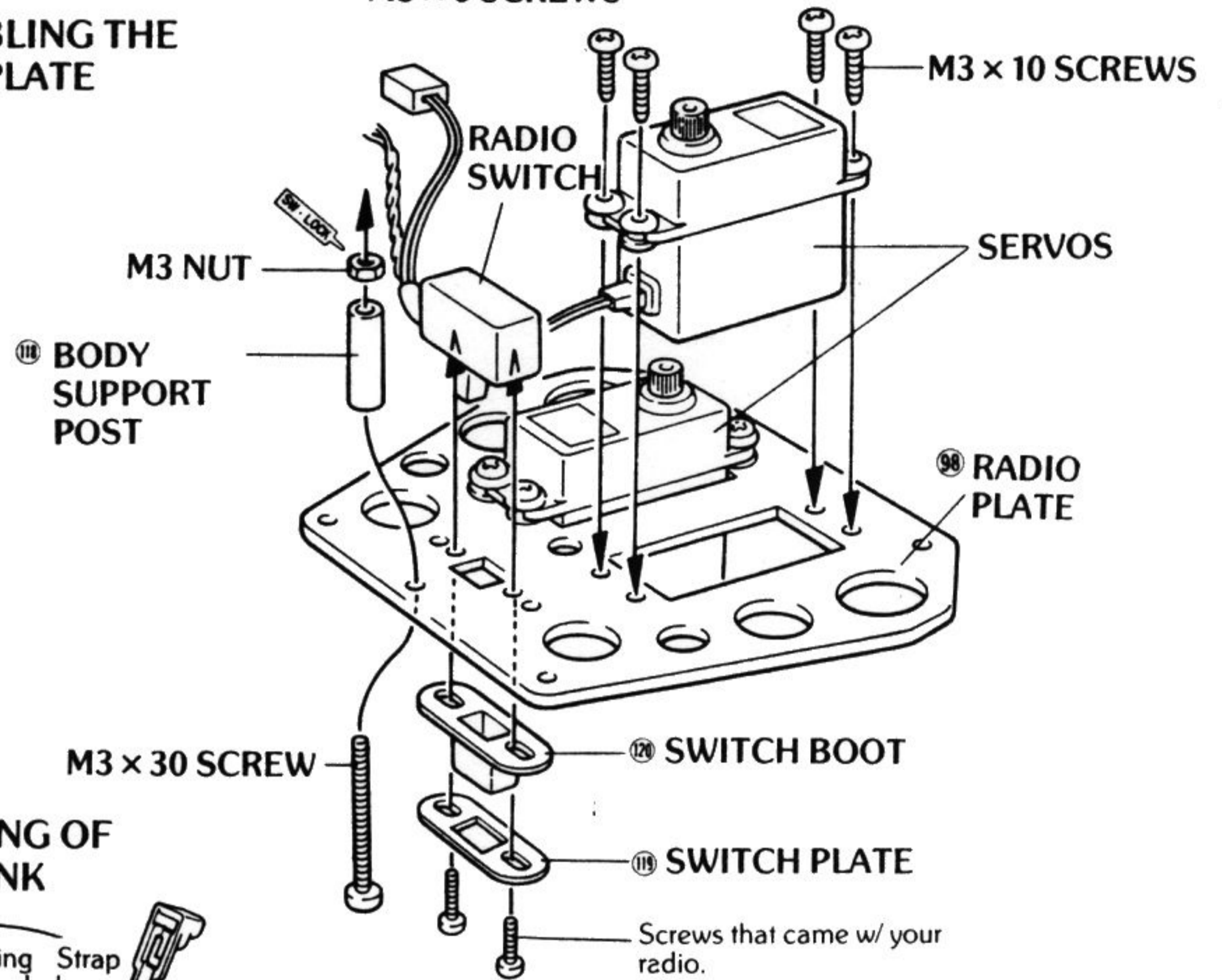
- 72 FUEL TANK BUSHING (1) 
- 73 FUEL TANK PIPE (1) 



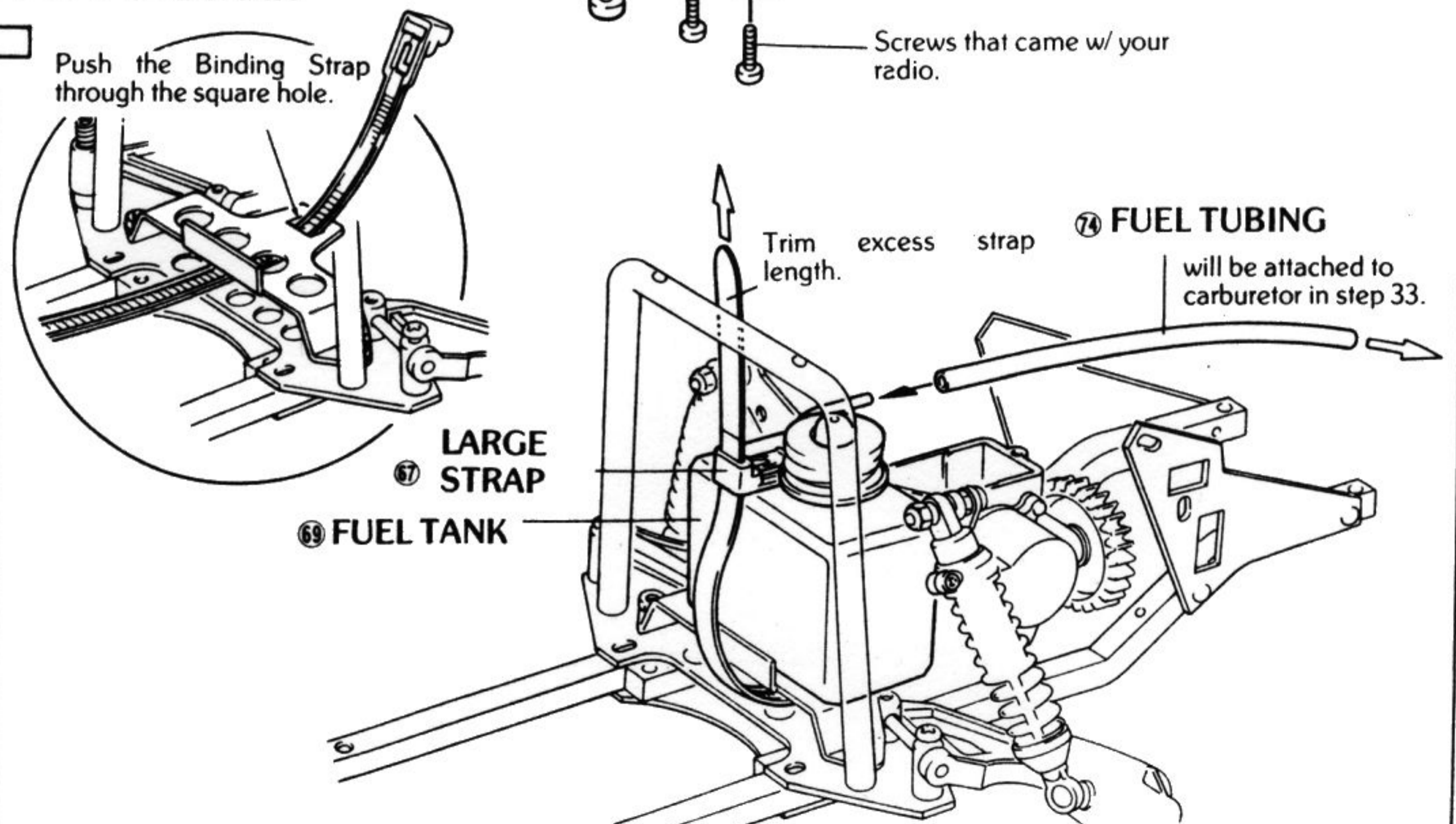
16 INSTALLATION OF ROLL BAR



17 ASSEMBLING THE RADIO PLATE

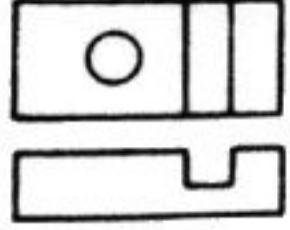


18 MOUNTING OF FUEL TANK

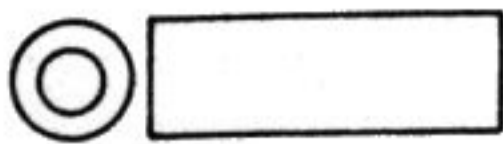


19 SMALL PARTS NEEDED

⊛ BRAKE LEVER HOLDERS (2)



⊞ RADIO PLATE MOUNTS (4)

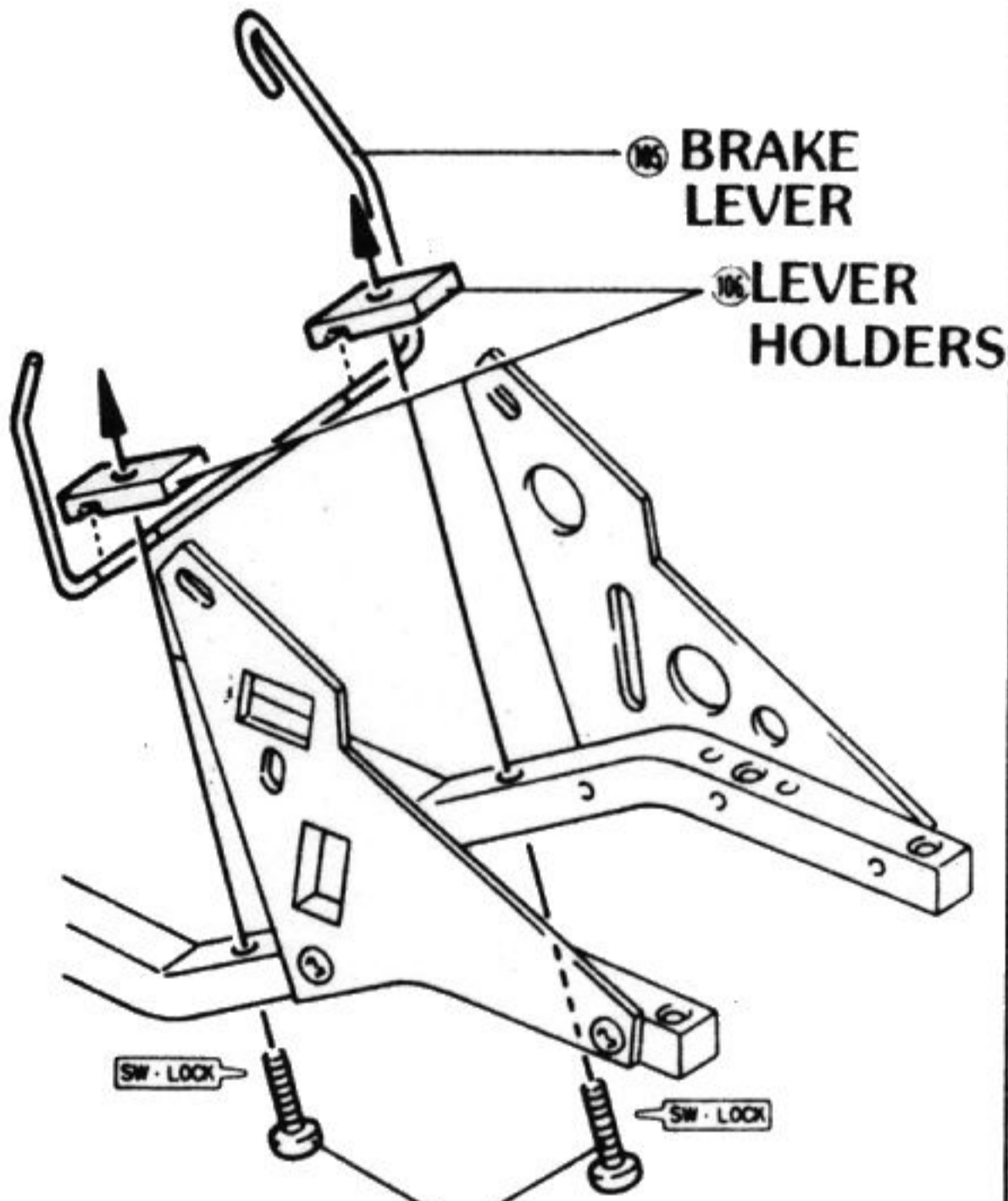
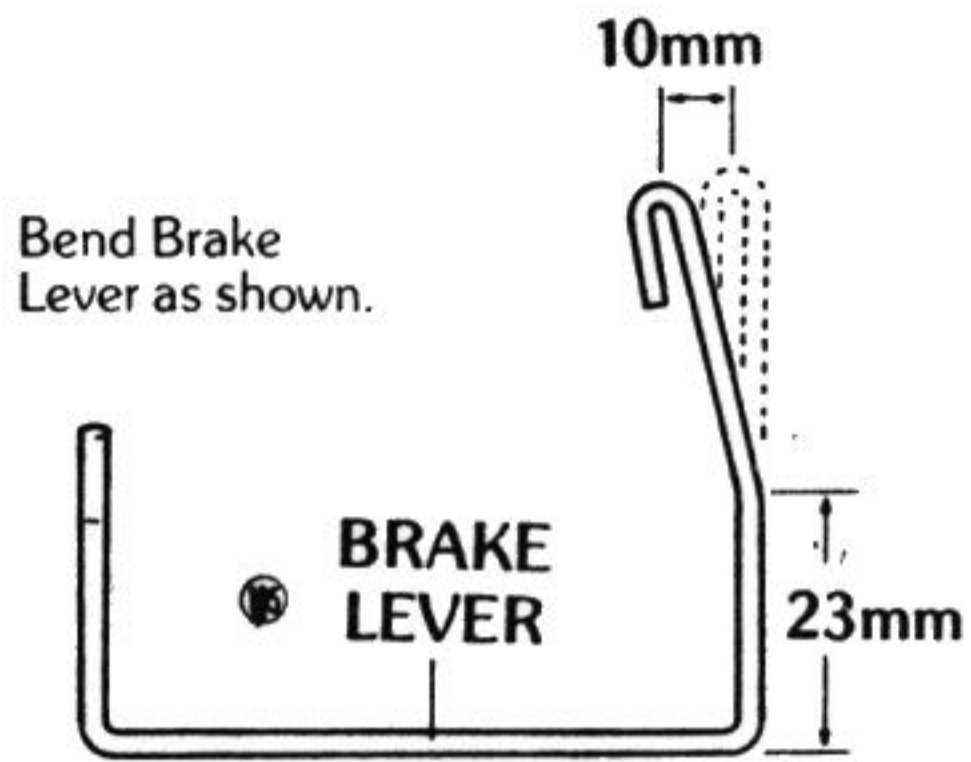


M2.6 x 10 SCREW (2)

M2.6 x 25 SCREW (2)

M3 x 35 SCREW (2)

M3 NUT (2)



M2.6 x 10 SCREWS

20 SMALL PARTS NEEDED

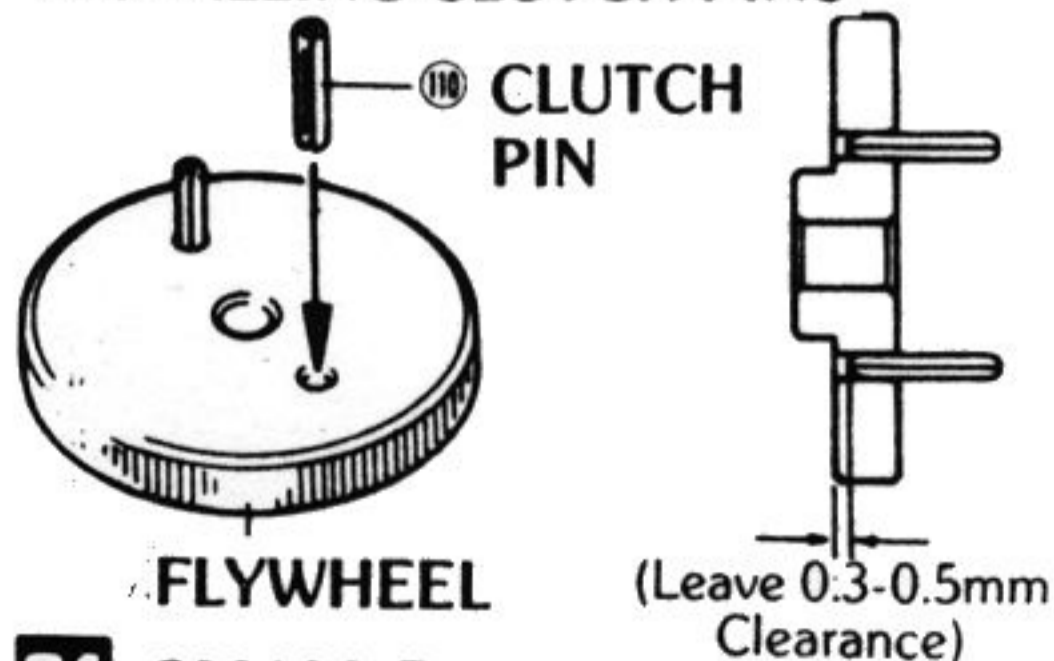
⊞ CLUTCH PINS (2)



⊞ STARTER PAWL (2)

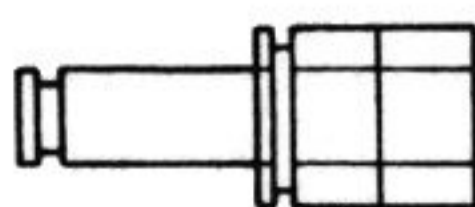
⊞ RATCHET SPRING (1)
(1 Spare Included)

INSTALLING CLUTCH PINS



21 SMALL PARTS NEEDED

⊞ PILOT SHAFT

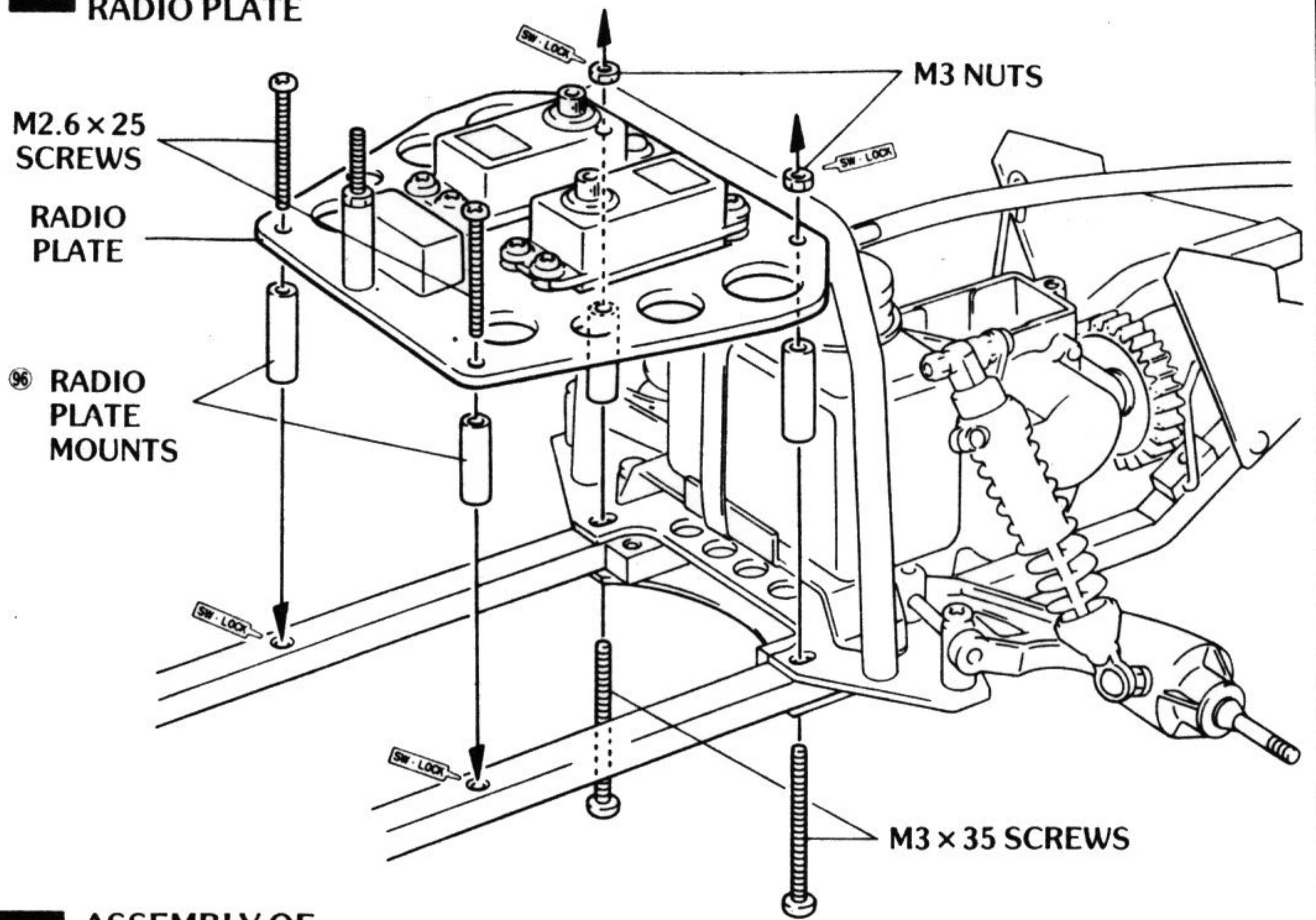


M3 x 55 SCREW (1)

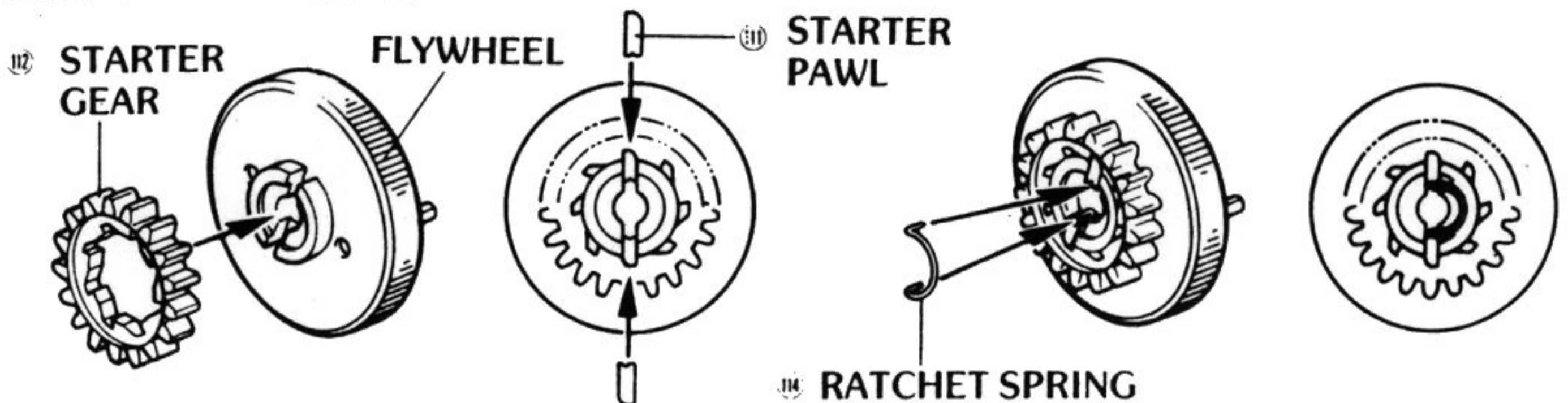
M3 x 10 SCREW (4)

M3 NUT (4)

19 INSTALLATION OF RADIO PLATE

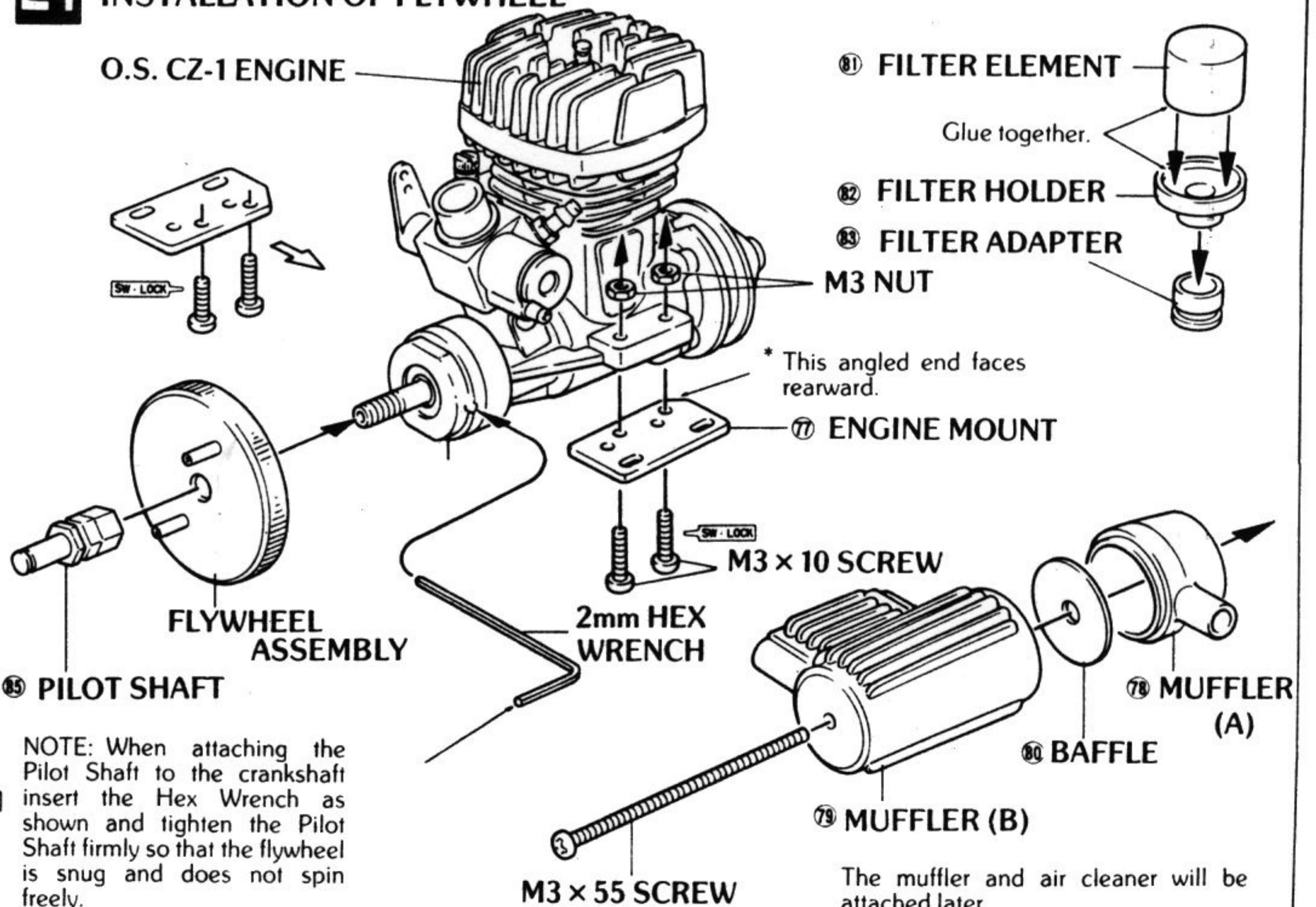


20 ASSEMBLY OF STARTER GEAR



1. Place Starter Gear on Flywheel.
2. Insert Starter Pawls into grooves on Flywheel. Re-check the direction of the Pawl.
3. Fit Ratchet Spring into dent on Starter Pawls as shown.

21 INSTALLATION OF FLYWHEEL



NOTE: When attaching the Pilot Shaft to the crankshaft insert the Hex Wrench as shown and tighten the Pilot Shaft firmly so that the flywheel is snug and does not spin freely.

The muffler and air cleaner will be attached later.

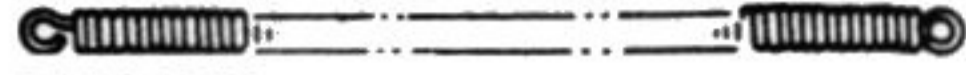
22 SMALL PARTS NEEDED

88 CLUTCH SHOES (2)

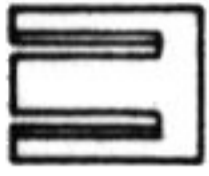


23 SMALL PARTS NEEDED

89 CLUTCH SPRING (1)



90 CLUTCH BEARING (1)



NEEDLE BEARINGS (6)



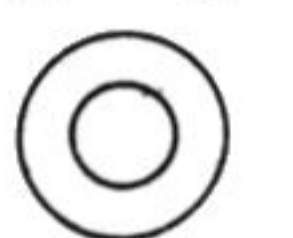
91 SMALL E-RING (E-3) (1)



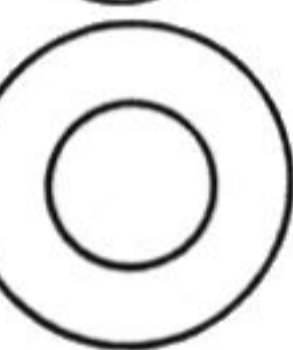
92 LARGE E-RING (E-7)



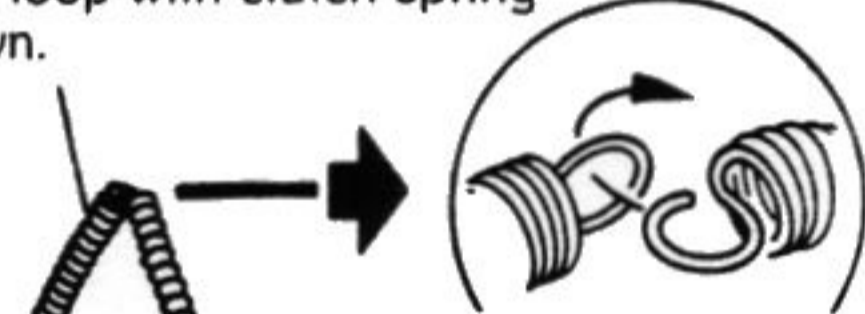
5mm WASHER (1)



8mm WASHER (1)

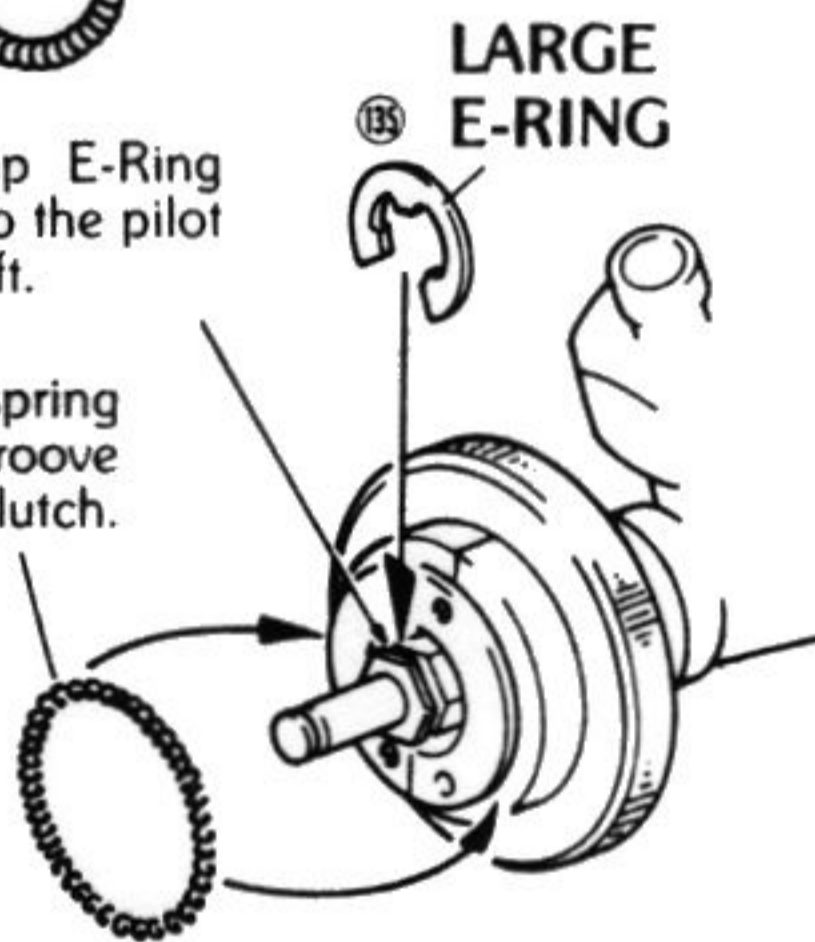


Make a loop with clutch spring as shown.



Snap E-Ring onto the pilot shaft.

Place spring along groove on the clutch.



24 SMALL PARTS NEEDED

M2.6 x 8 SCREW (4)

25 SMALL PARTS NEEDED

93 SPACER (2)



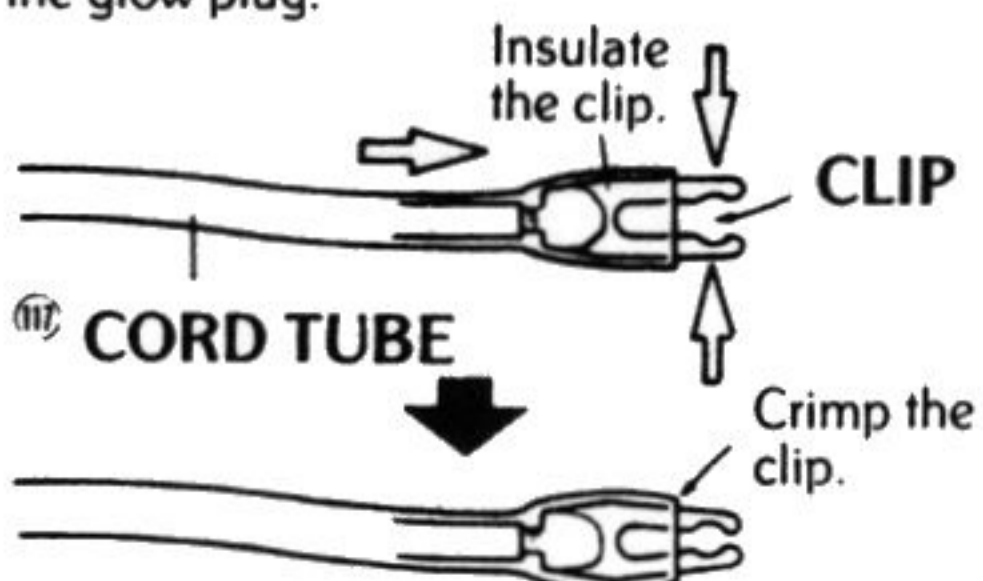
M2.6 x 10 SCREW (2)



M3 x 6 SCREW (2)

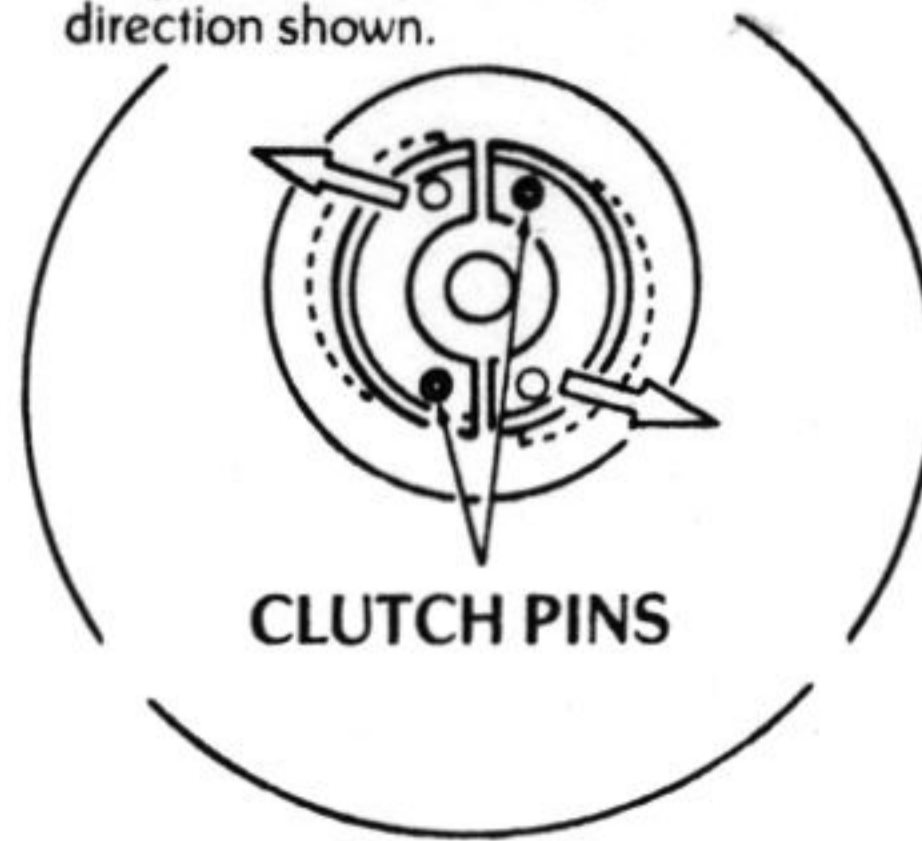


Insulate the plug heating cord with the cord tube. Crimp the clip as shown with pliers. Do not allow the clip to touch anything other than the tip of the glow plug.



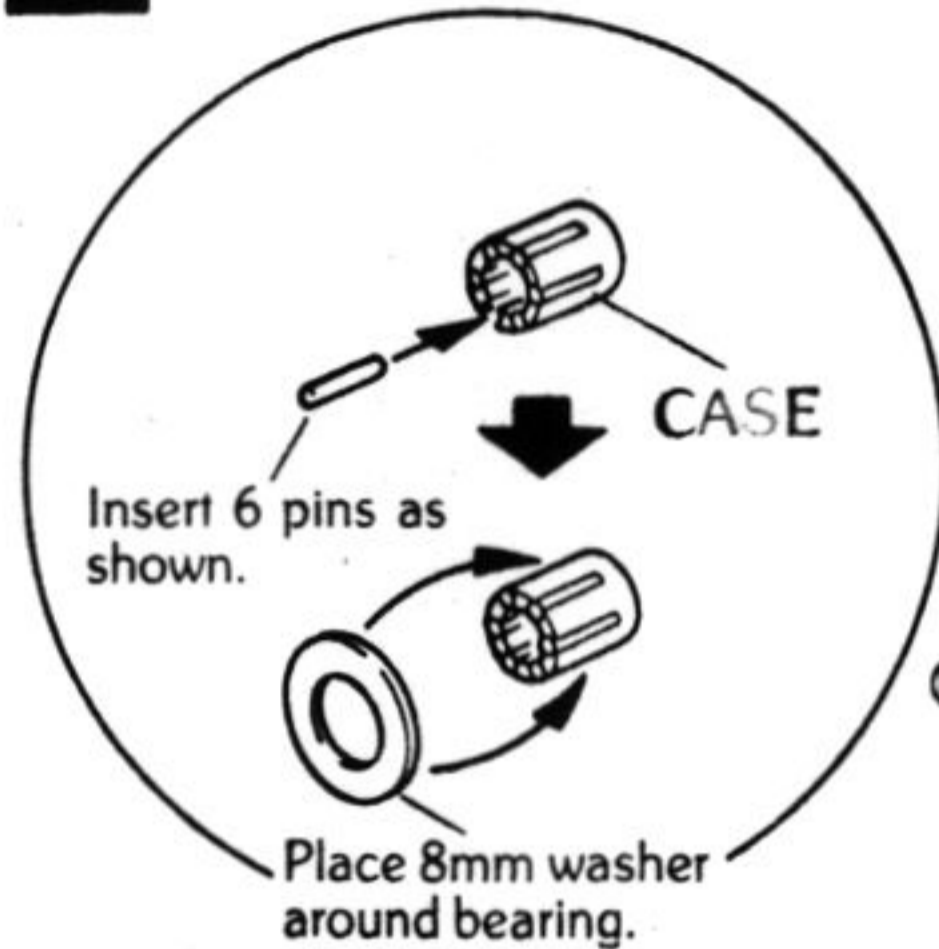
22 INSTALLATION OF CLUTCH SHOES

Install clutch shoes exactly as shown. They should be able to move in the direction shown.



CLUTCH SHOES

23 INSTALLATION OF CLUTCH BELL



Insert 6 pins as shown.

Place 8mm washer around bearing.

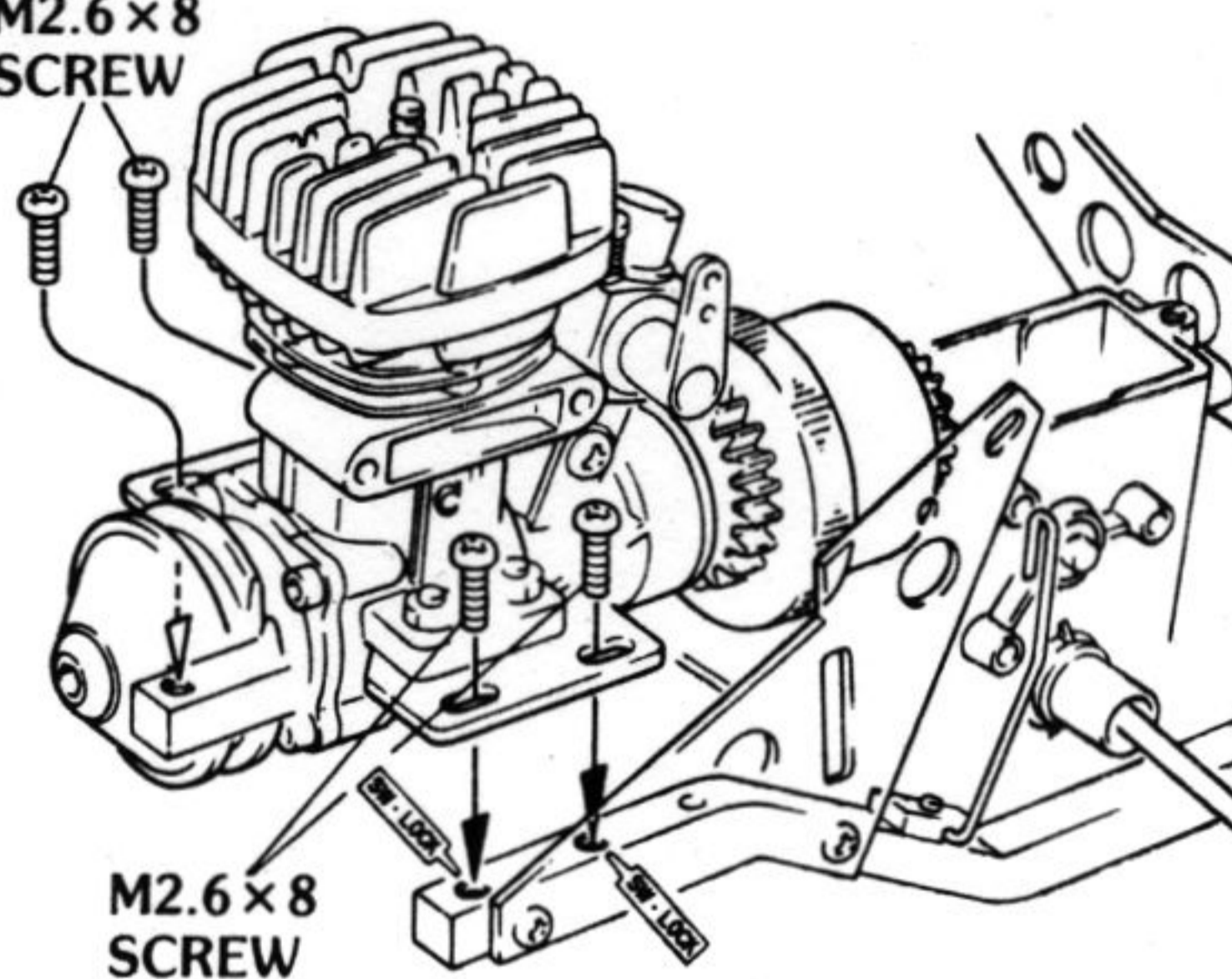
SMALL E-RING

CLUTCH BELL

5mm WASHER

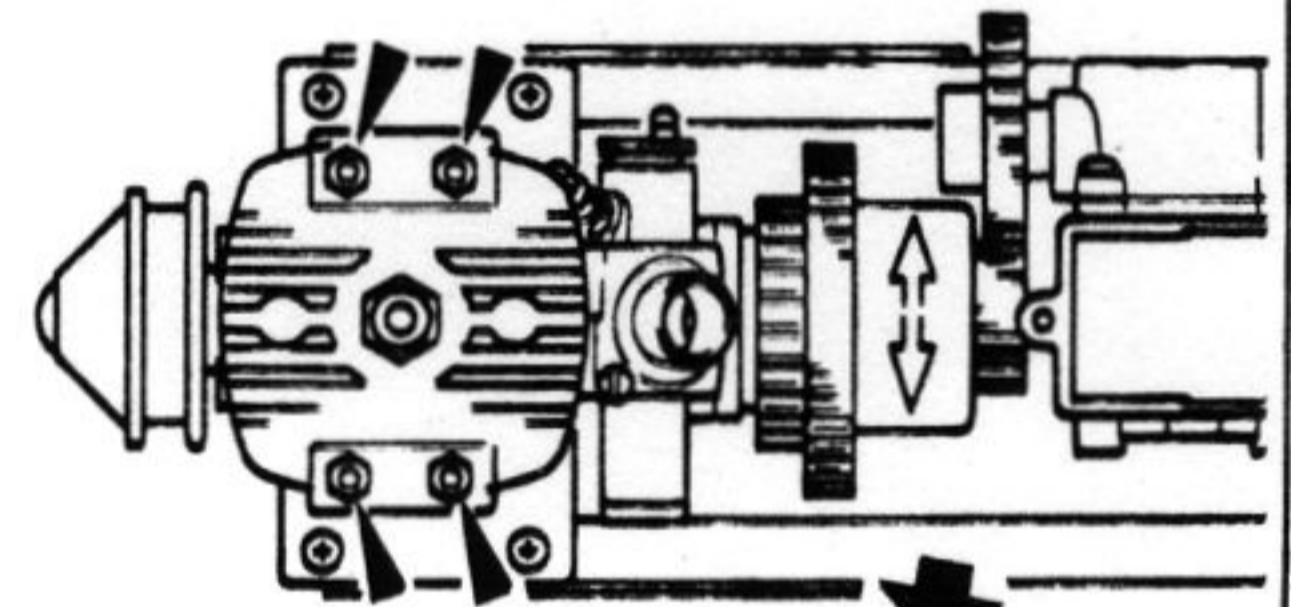
24 MOUNTING THE ENGINE

M2.6 x 8 SCREW



M2.6 x 8 SCREW

Adjust the meshing of the gear teeth by loosening the four engine mounting bolts.



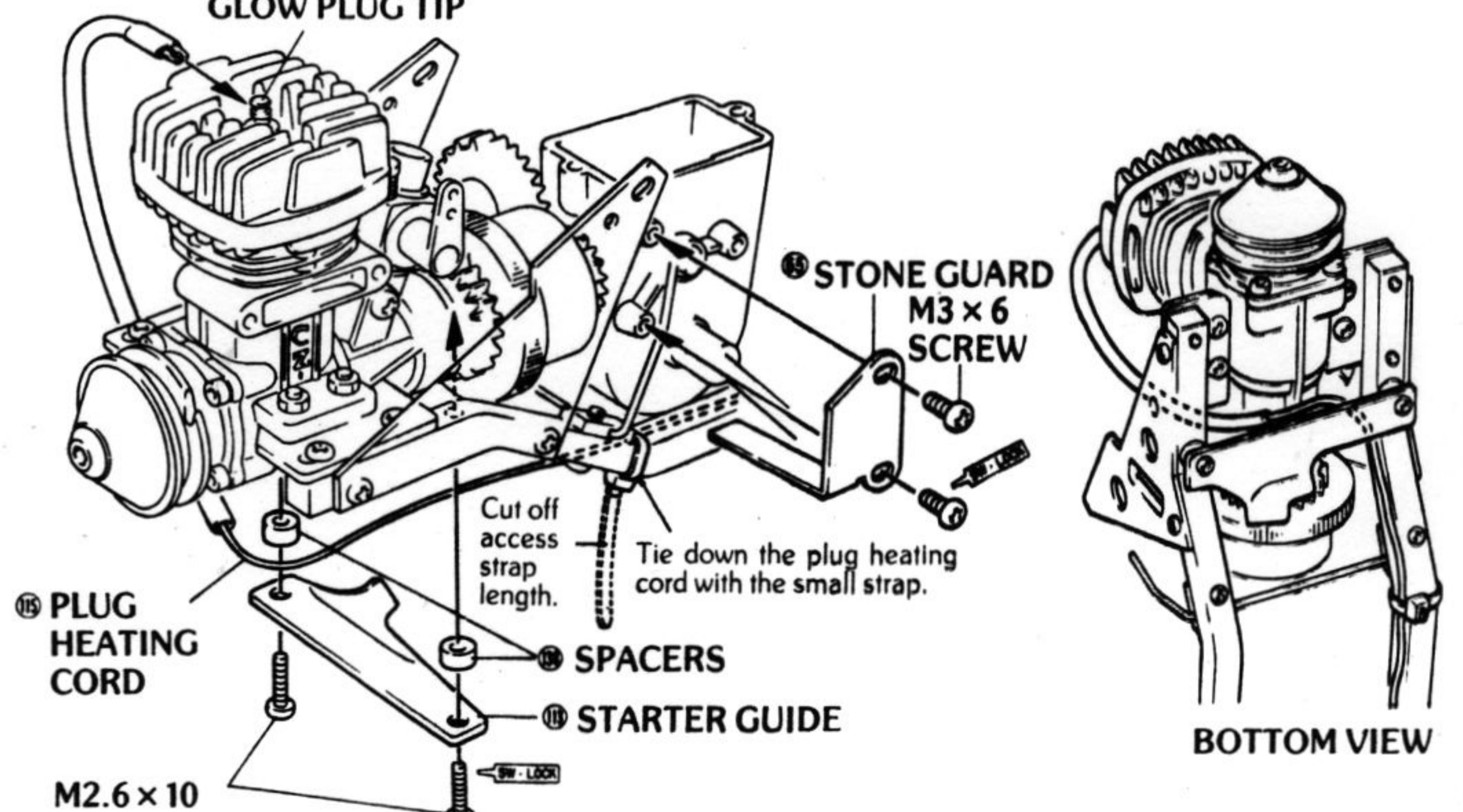
Proper spacing.

COUNTER GEAR

CLUTCH BELL

25 INSTALLATION OF PLUG WIRE

GLOW PLUG TIP



STONE GUARD M3 x 6 SCREW

PLUG HEATING CORD

Cut off access strap length.

Tie down the plug heating cord with the small strap.

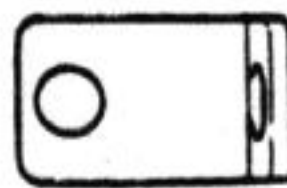


SPACERS

STARTER GUIDE

M2.6 x 10

BOTTOM VIEW

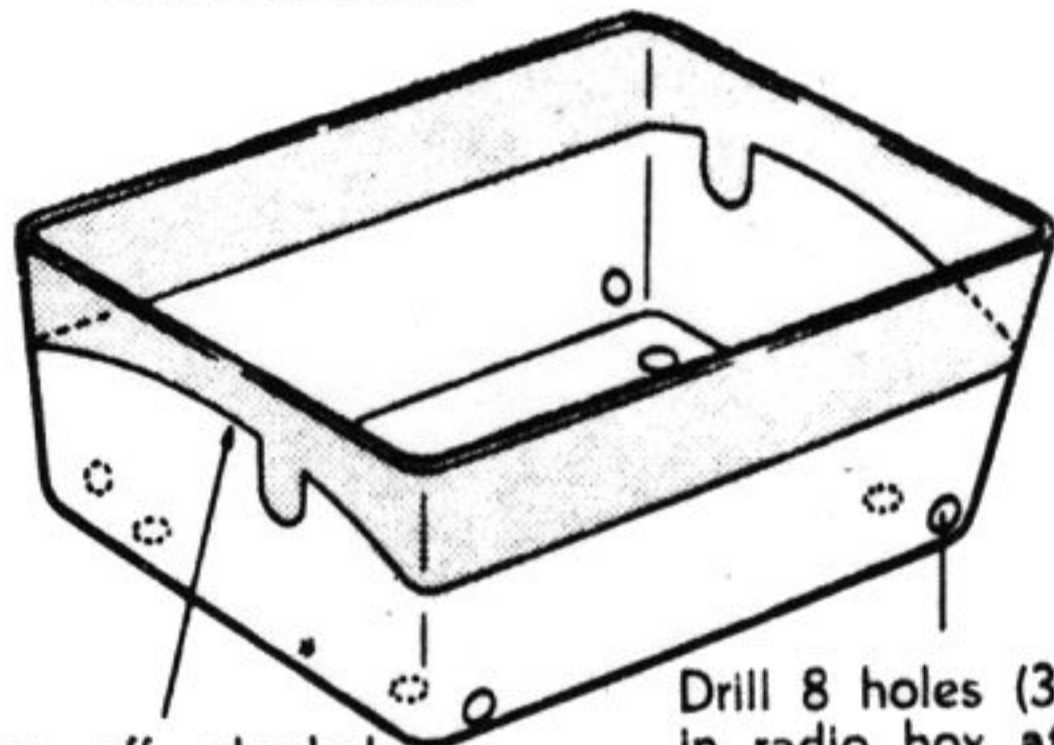
26 SMALL PARTS NEEDED

- ⑩ BATTERY TERMINAL (1) 
- M3 x 6 SCREW (1) 
- M3 NUT (1) 

27 PREPARING THE RADIO BOX

Trimming

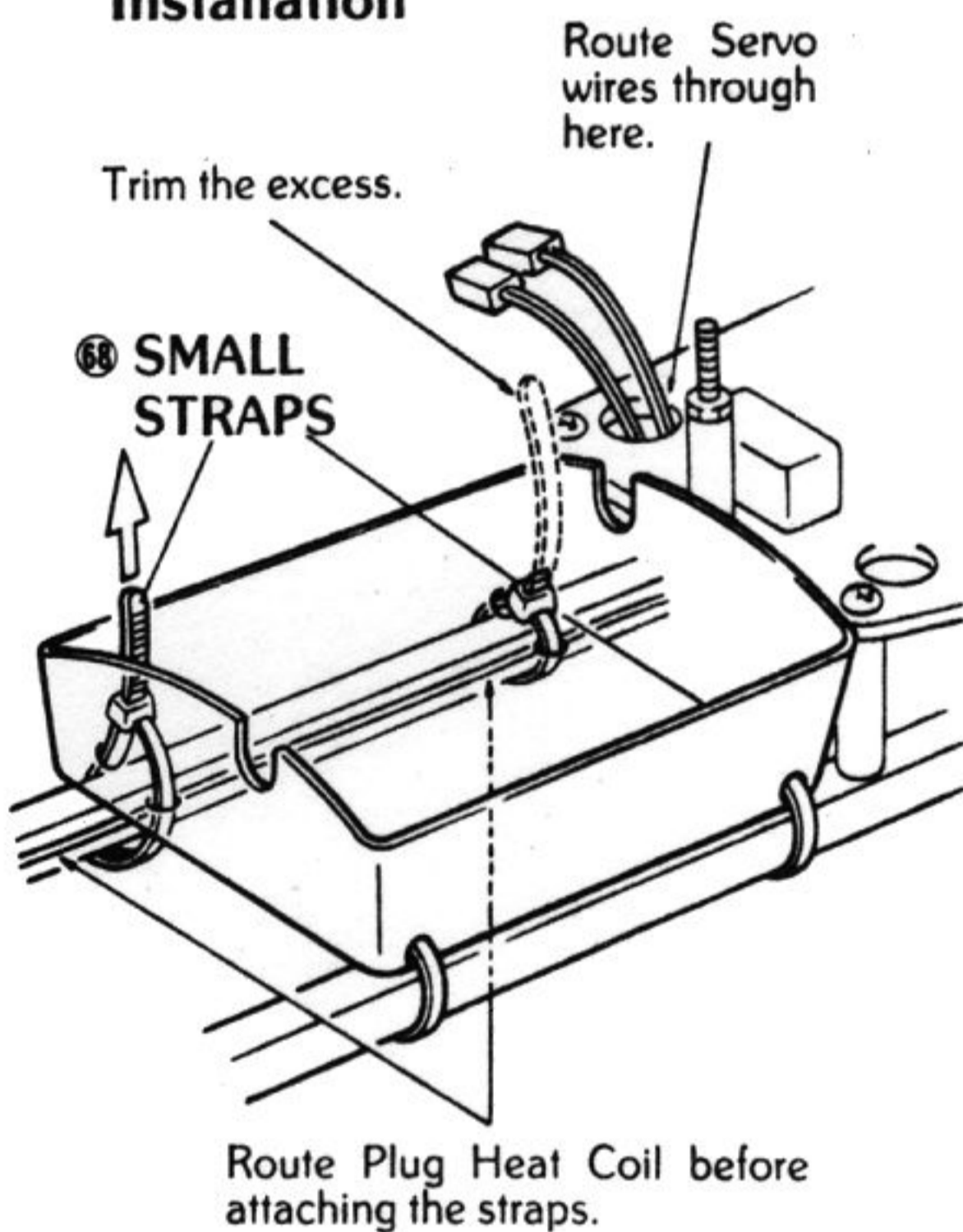
RADIO BOX



Trim off shaded portion of the radio box.

Drill 8 holes (3mm) in radio box at the points shown.

Installation



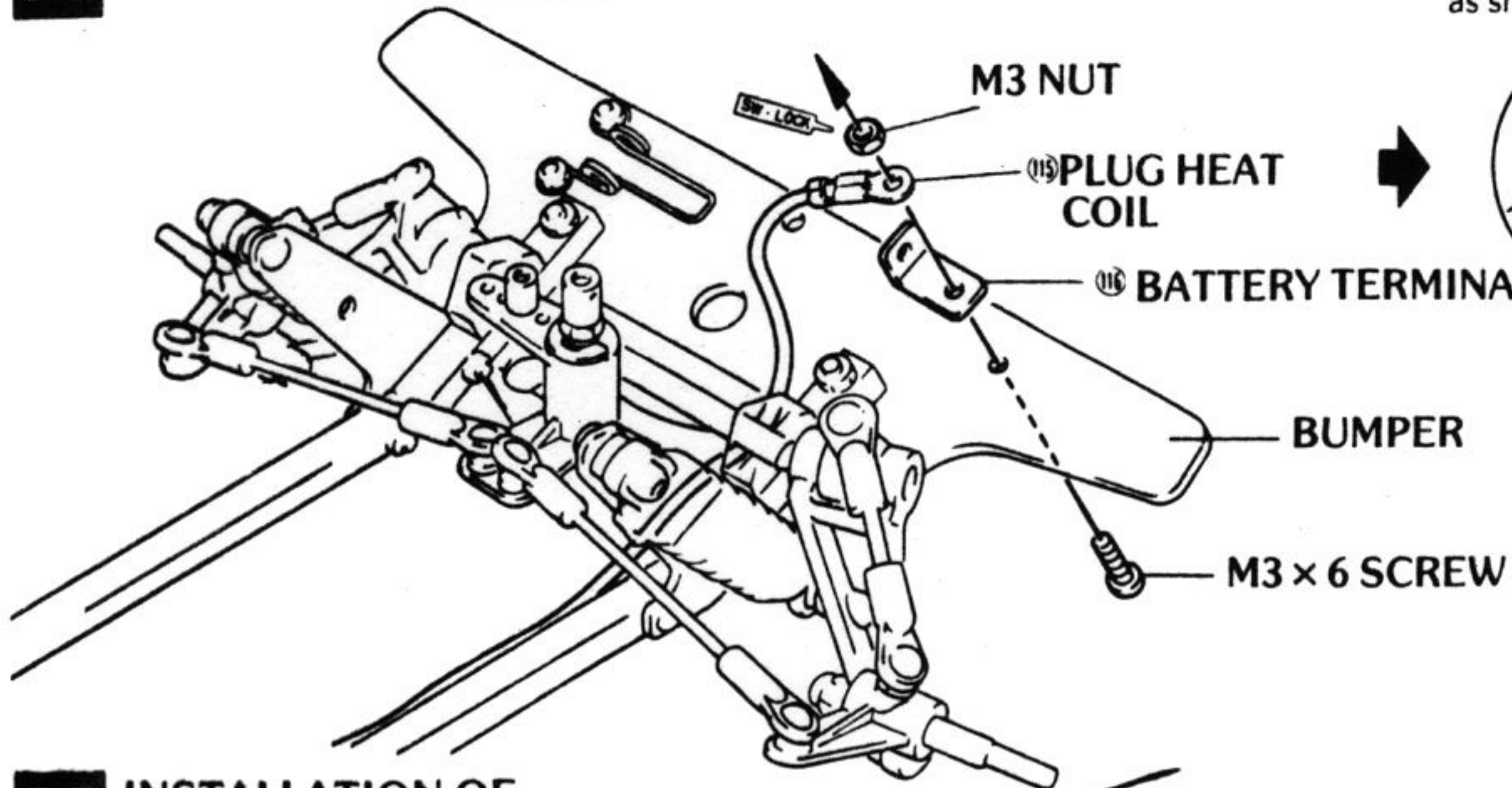
Route Servo wires through here.

Trim the excess.

⑩ SMALL STRAPS

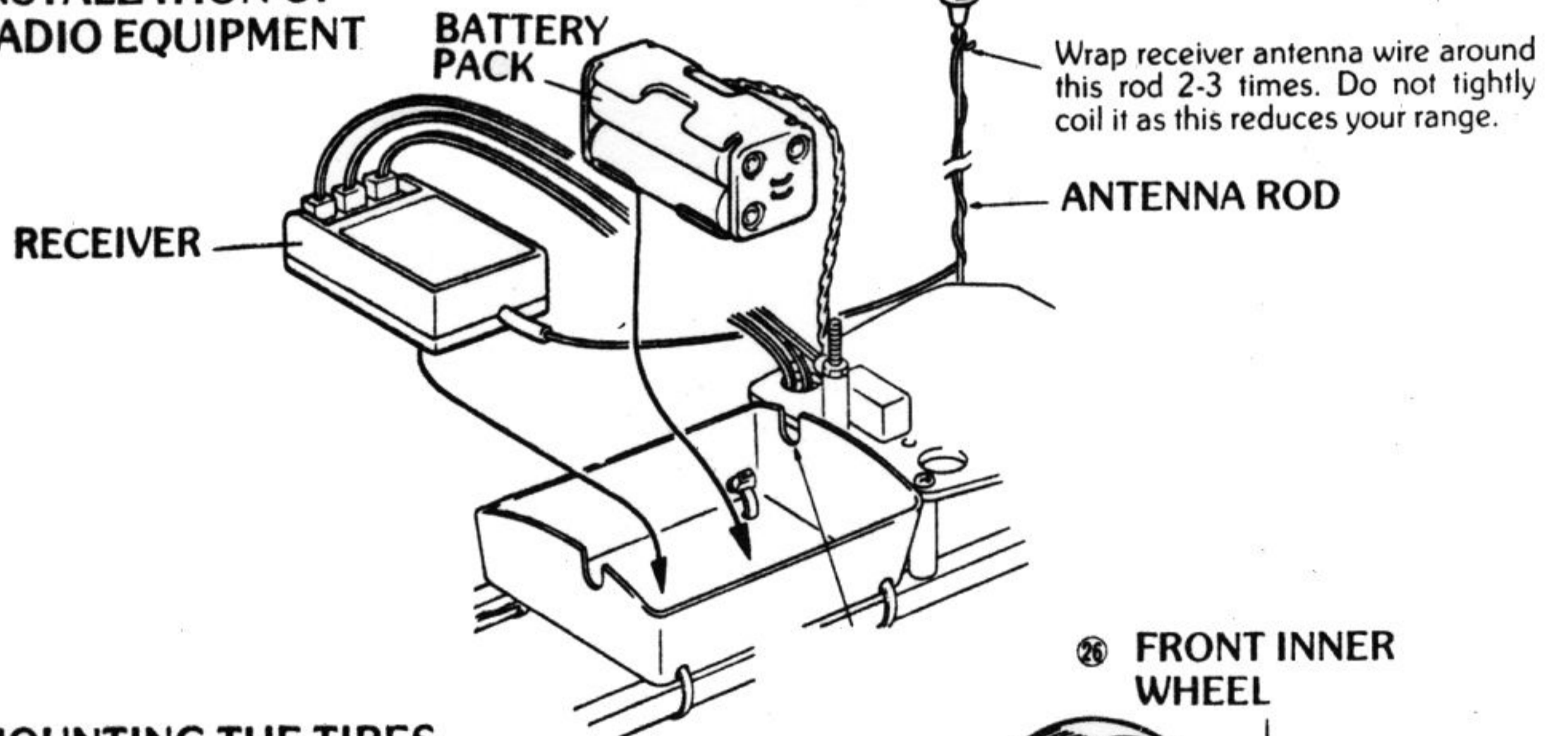
Route Plug Heat Coil before attaching the straps.

26 INSTALLATION OF BATTERY TERMINAL



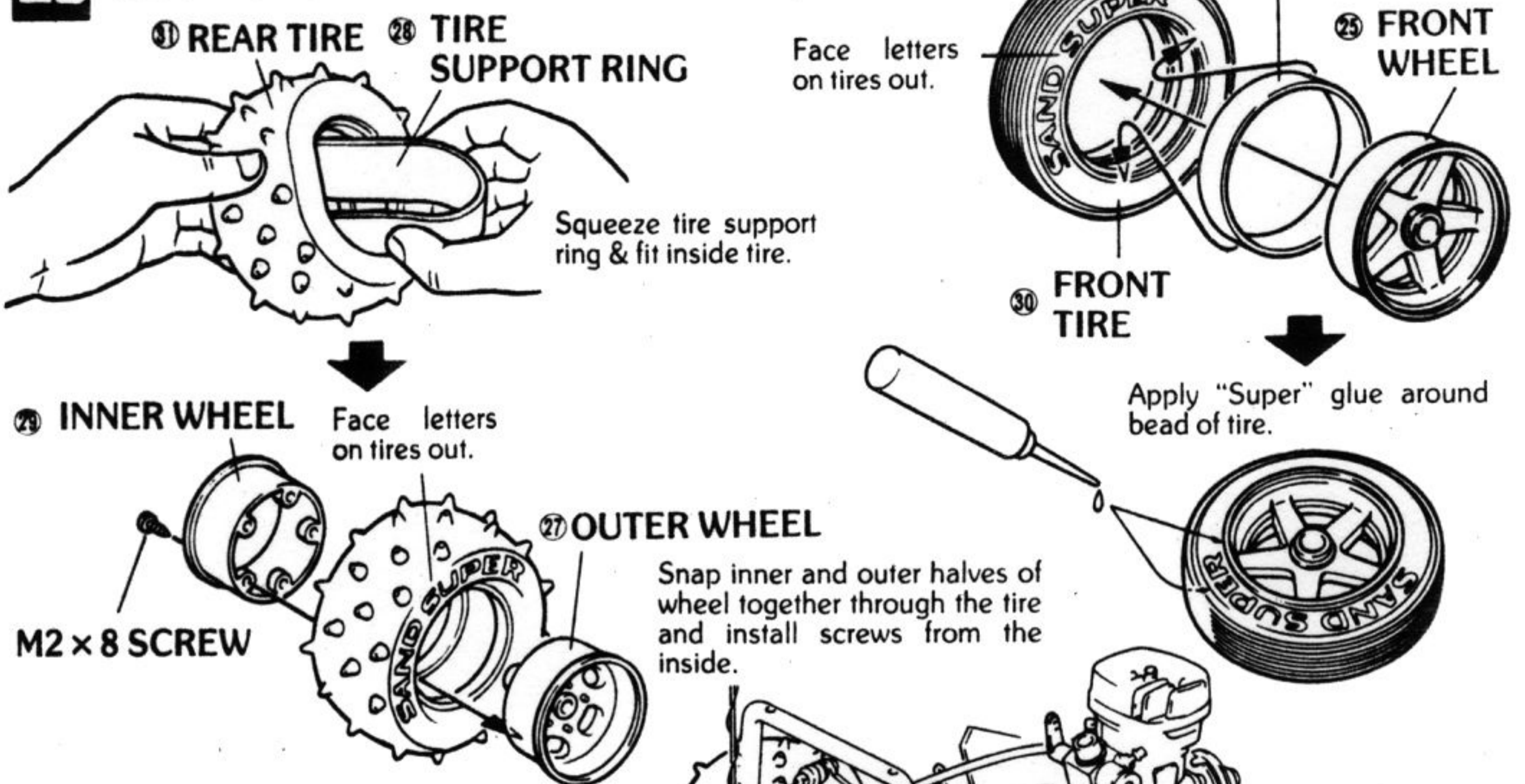
Attach the lug from the plug heat coil as shown.

27 INSTALLATION OF RADIO EQUIPMENT



Wrap receiver antenna wire around this rod 2-3 times. Do not tightly coil it as this reduces your range.

28 MOUNTING THE TIRES



⑪ REAR TIRE ⑫ TIRE SUPPORT RING

Face letters on tires out.

⑬ FRONT INNER WHEEL

⑭ FRONT WHEEL

Squeeze tire support ring & fit inside tire.

⑮ FRONT TIRE

Apply "Super" glue around bead of tire.

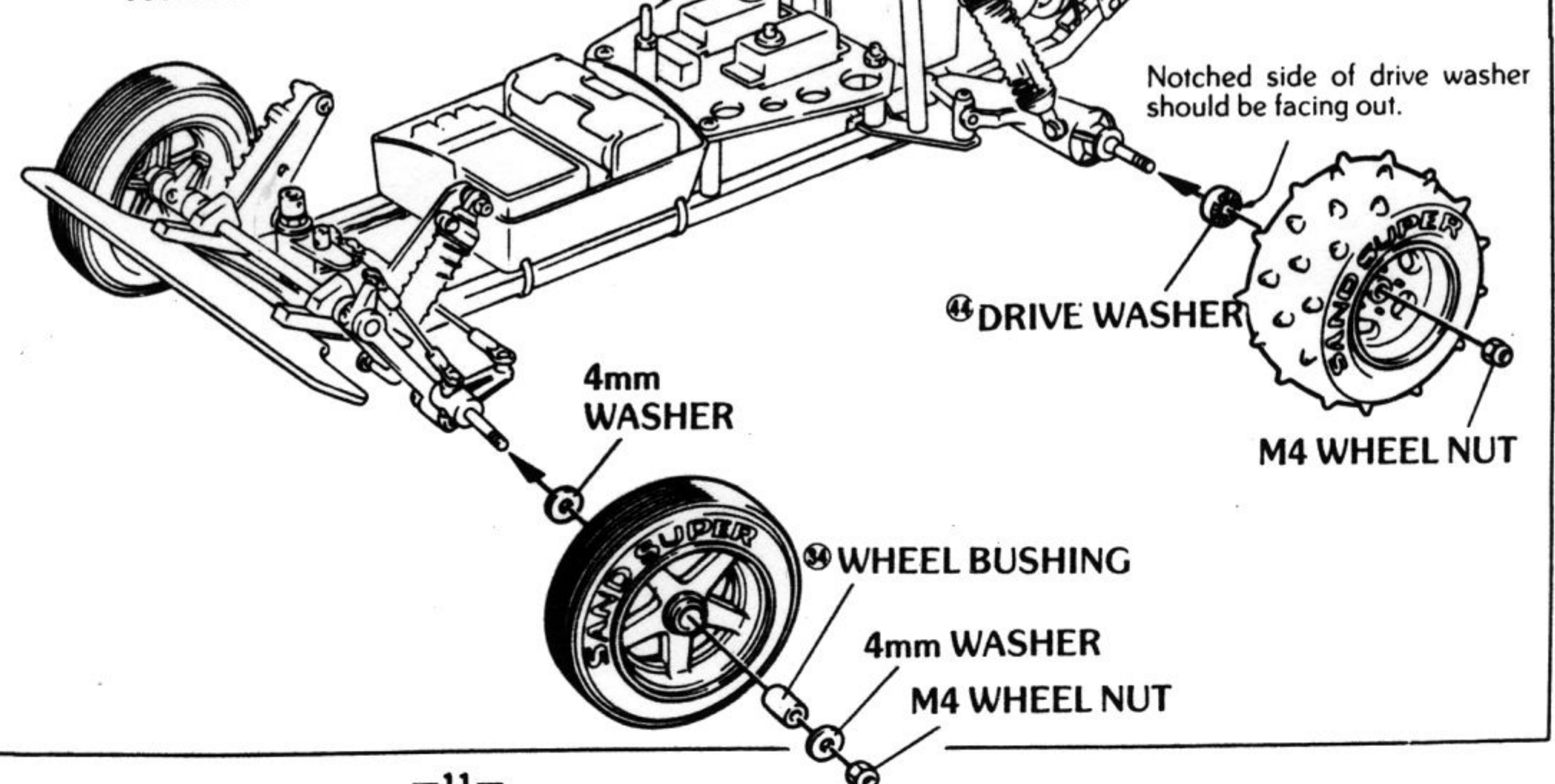
⑯ INNER WHEEL Face letters on tires out.

⑰ OUTER WHEEL

Snap inner and outer halves of wheel together through the tire and install screws from the inside.

M2 x 8 SCREW

29 ATTACHING THE WHEELS



Notched side of drive washer should be facing out.

⑱ DRIVE WASHER

M4 WHEEL NUT

4mm WASHER

⑲ WHEEL BUSHING

4mm WASHER

M4 WHEEL NUT

28 SMALL PARTS NEEDED

- M2 x 8 SCREW (10) 

29 SMALL PARTS NEEDED

- ⑳ FRONT WHEEL BUSHING (2) 

- ㉑ DRIVE WASHER (2) 

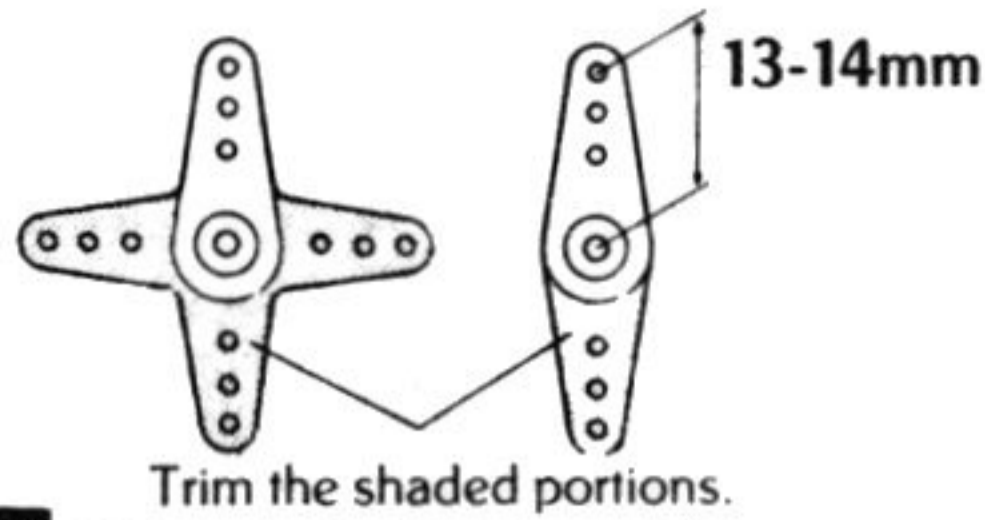
- M4 WHEEL NUT (4) (Nylon Type) 

- 4mm WASHER (4) 

30 SMALL PARTS NEEDED

M3 x 3 SET SCREW (1)

Use Single-Arm type servo horns or trim multi-armed horns as shown.



Trim the shaded portions.

31 SMALL PARTS NEEDED

2mm STOPPER (3)

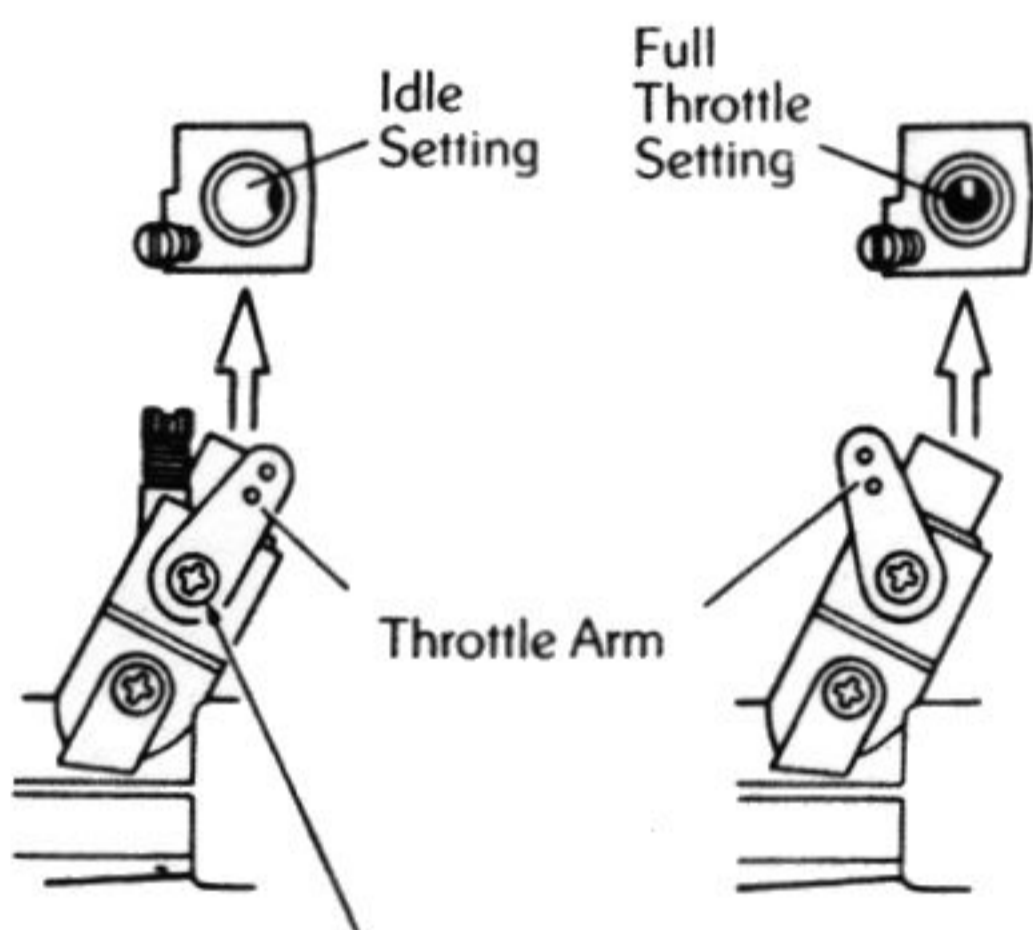
LINKAGE SPRING (1)

BRAKE PIPE (1)

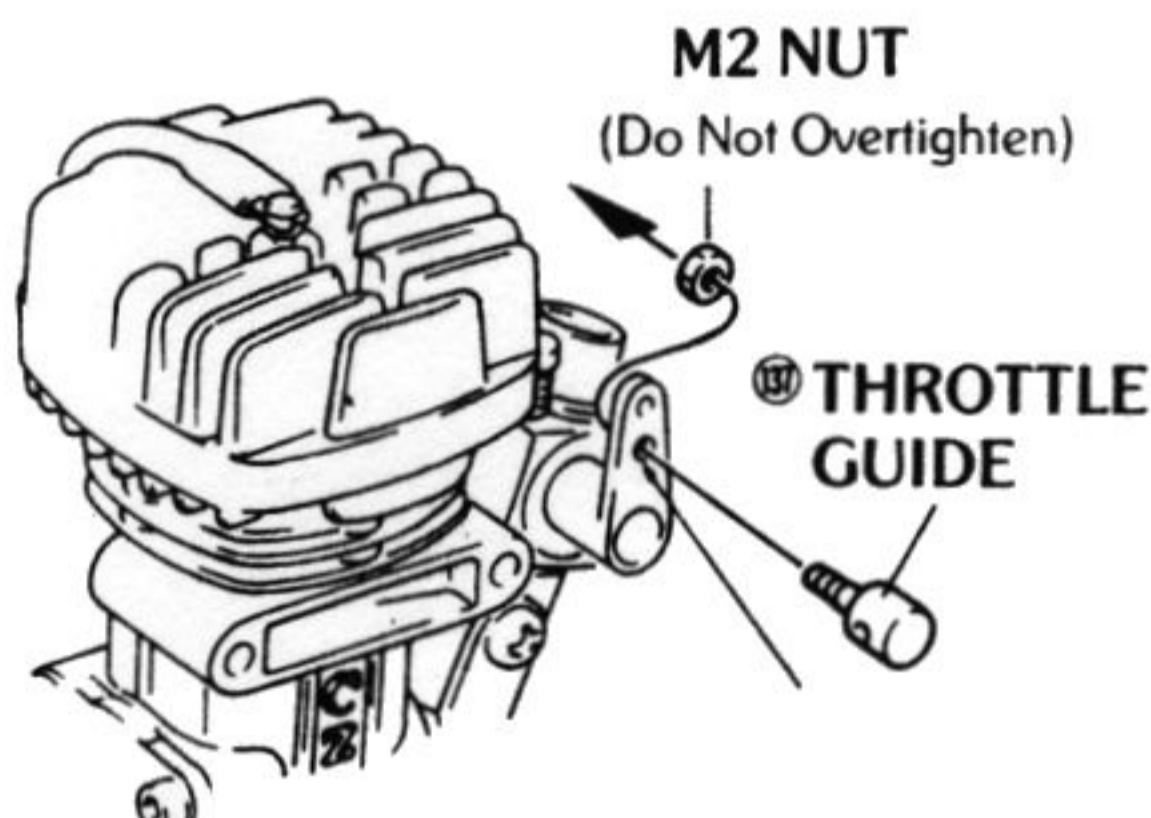
THROTTLE GUIDE (1)

M2 NUT (1)

M3 x 3 SET SCREW (3)



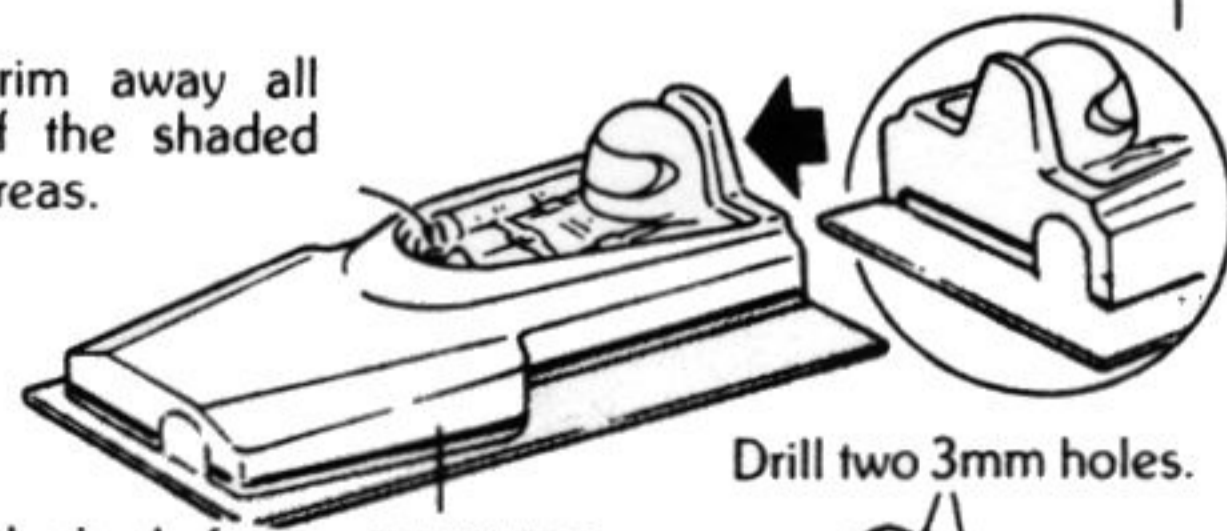
This screw can be loosened to adjust the position of the throttle arm. At idle, the arm should be approximately in the position shown, in the left side drawing.



You may need to enlarge the hole in the throttle arm for smooth operation.

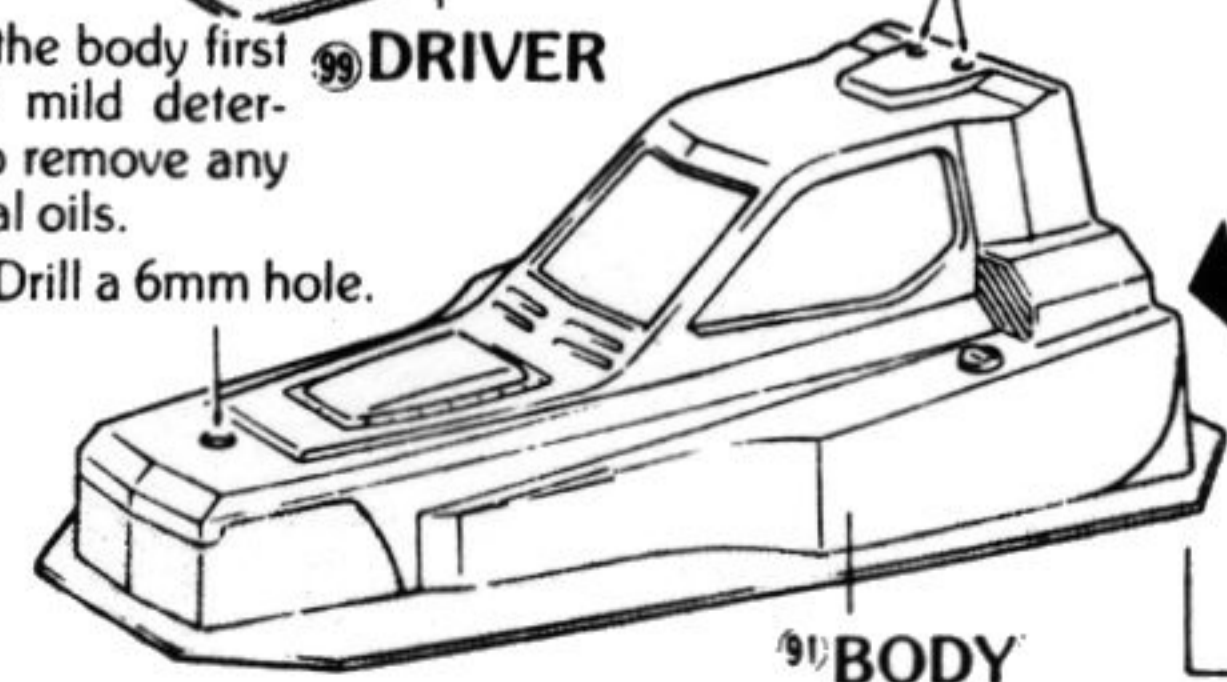
32 TRIMMING THE BODY AND DRIVER

Trim away all of the shaded areas.

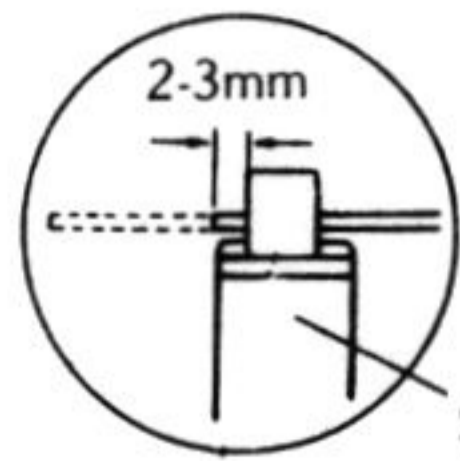


Wash the body first with a mild detergent to remove any residual oils.

Drill a 6mm hole.



30 INSTALLATION OF STEERING LINKAGE



SERVO SAVER

M3 x 3 SET SCREW

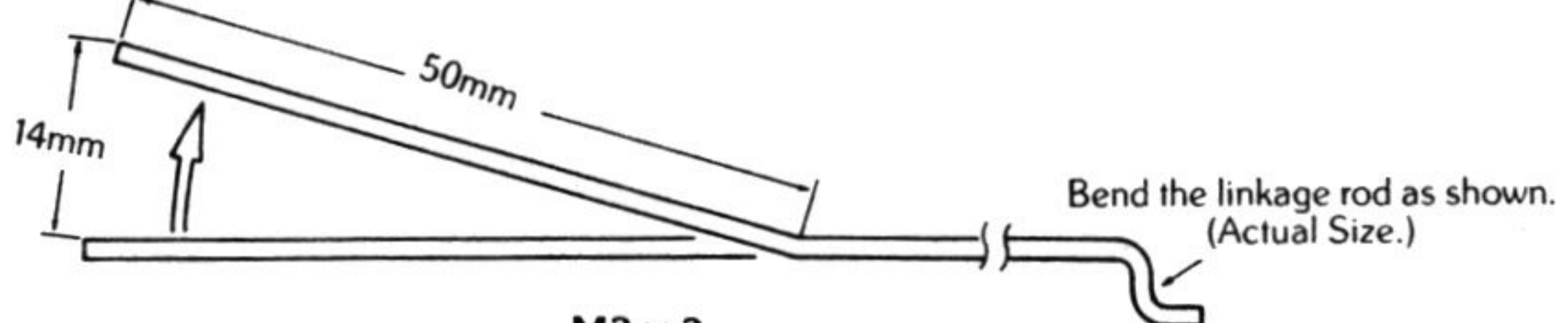
STEERING LINKAGE

SERVO SCREW

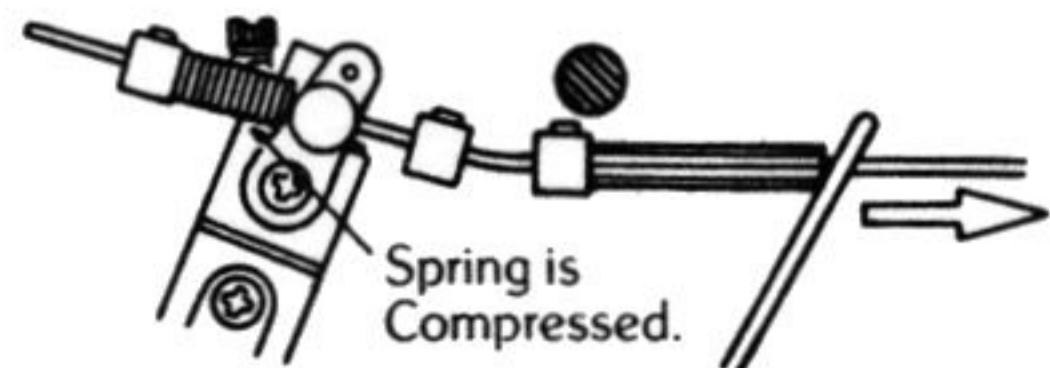
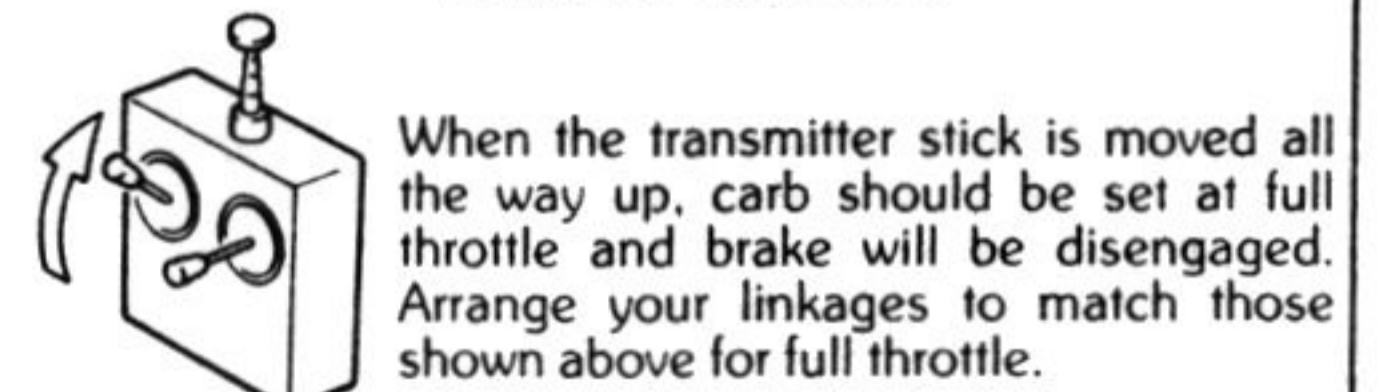
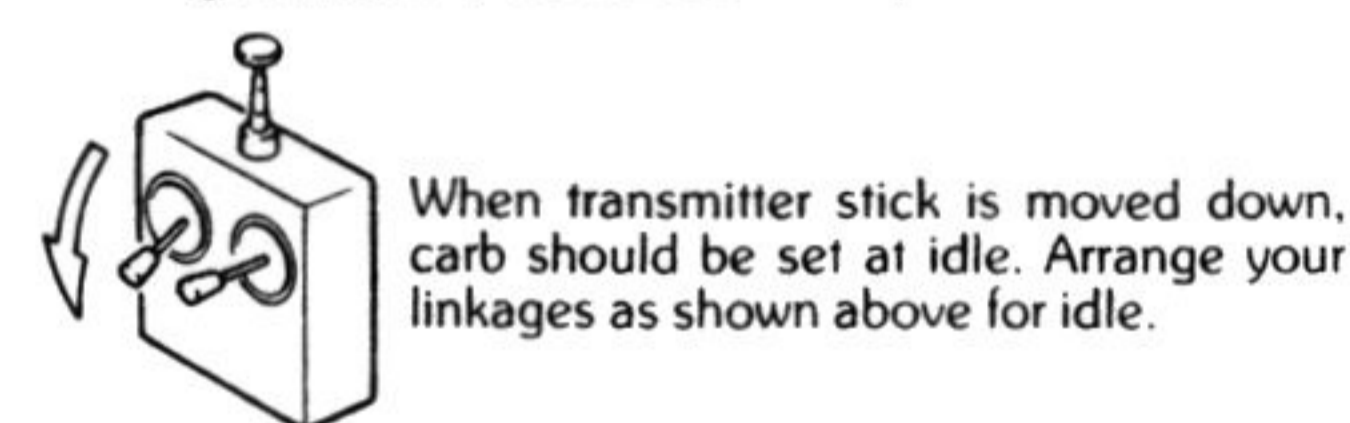
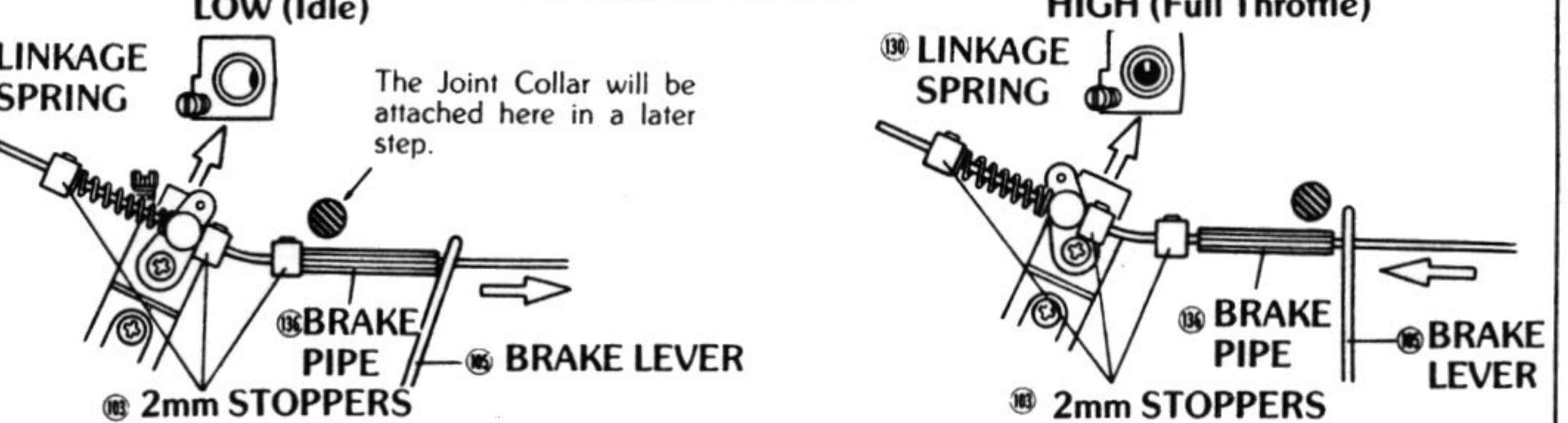
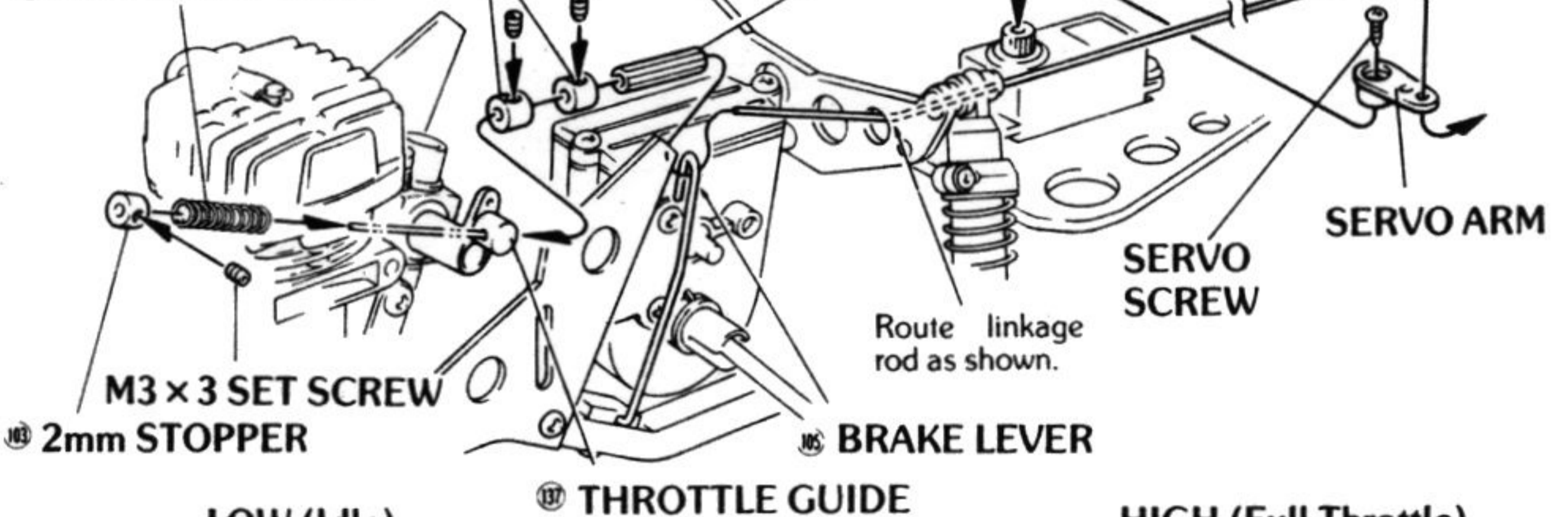
SERVO HORN

Adjust Servo Saver and Servo Horn so they are parallel when in neutral position.

31 INSTALLATION OF THROTTLE CONTROL LINKAGE



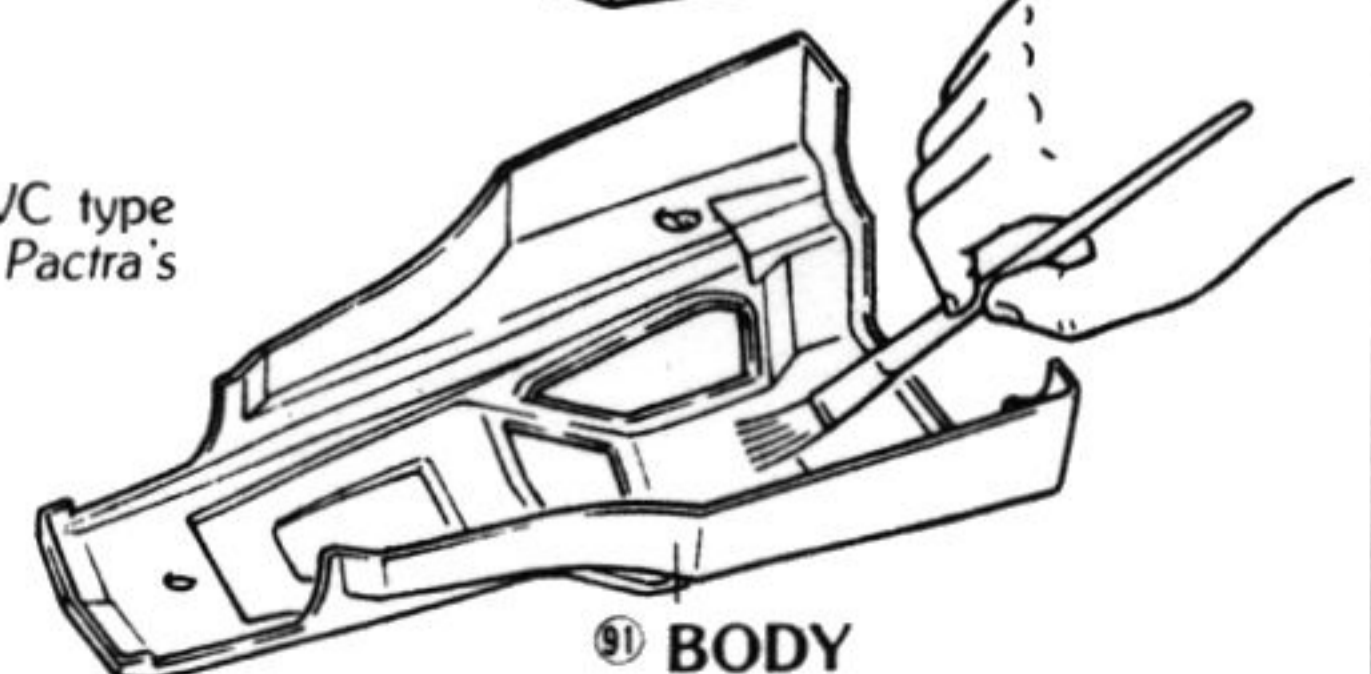
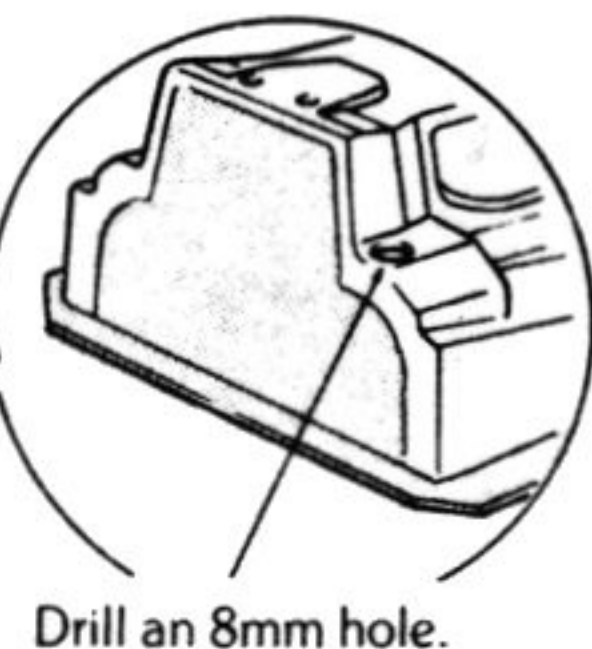
LINKAGE SPRING, 2mm STOPPER, M3 x 3 SET SCREW, BRAKE PIPE, LINKAGE ROD, SERVO ARM



32 PAINTING THE BODY AND DRIVER

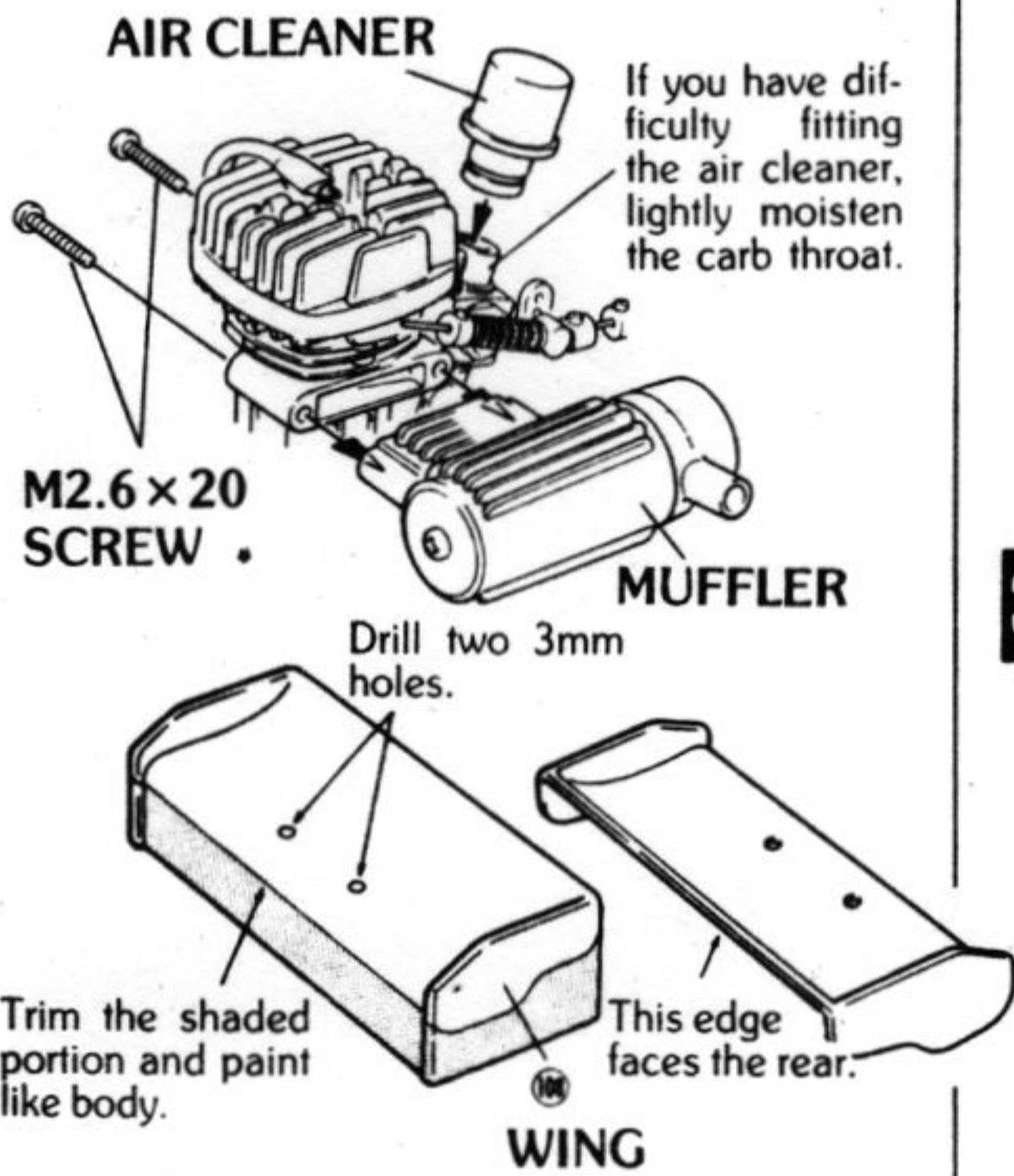
Always paint the INSIDE of the clear plastic.

Use a good quality, fuel proof PVC type paint such as Kyosho Polyca, Pactra's Formula-U or Chevron.

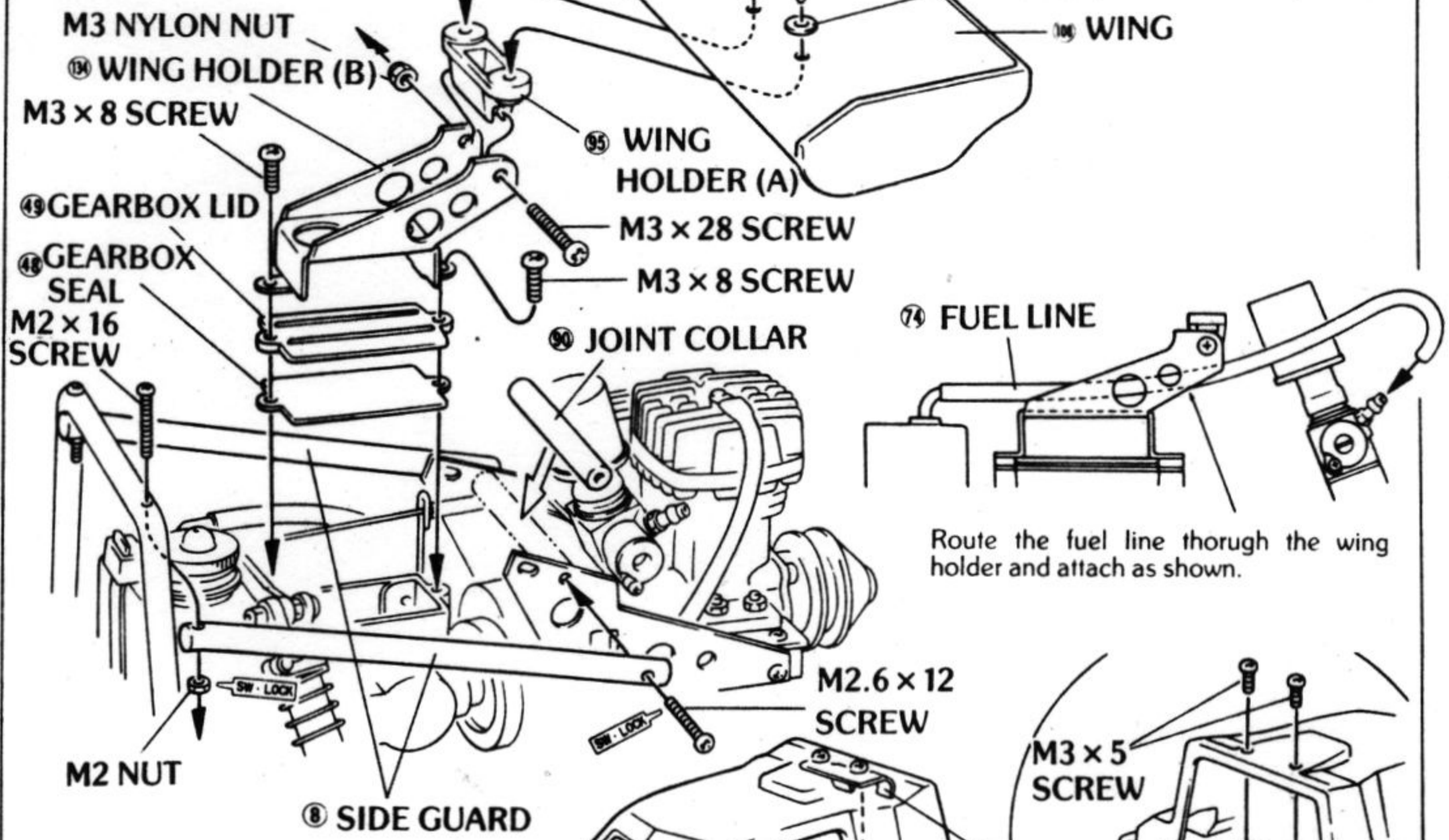


33 SMALL PARTS NEEDED

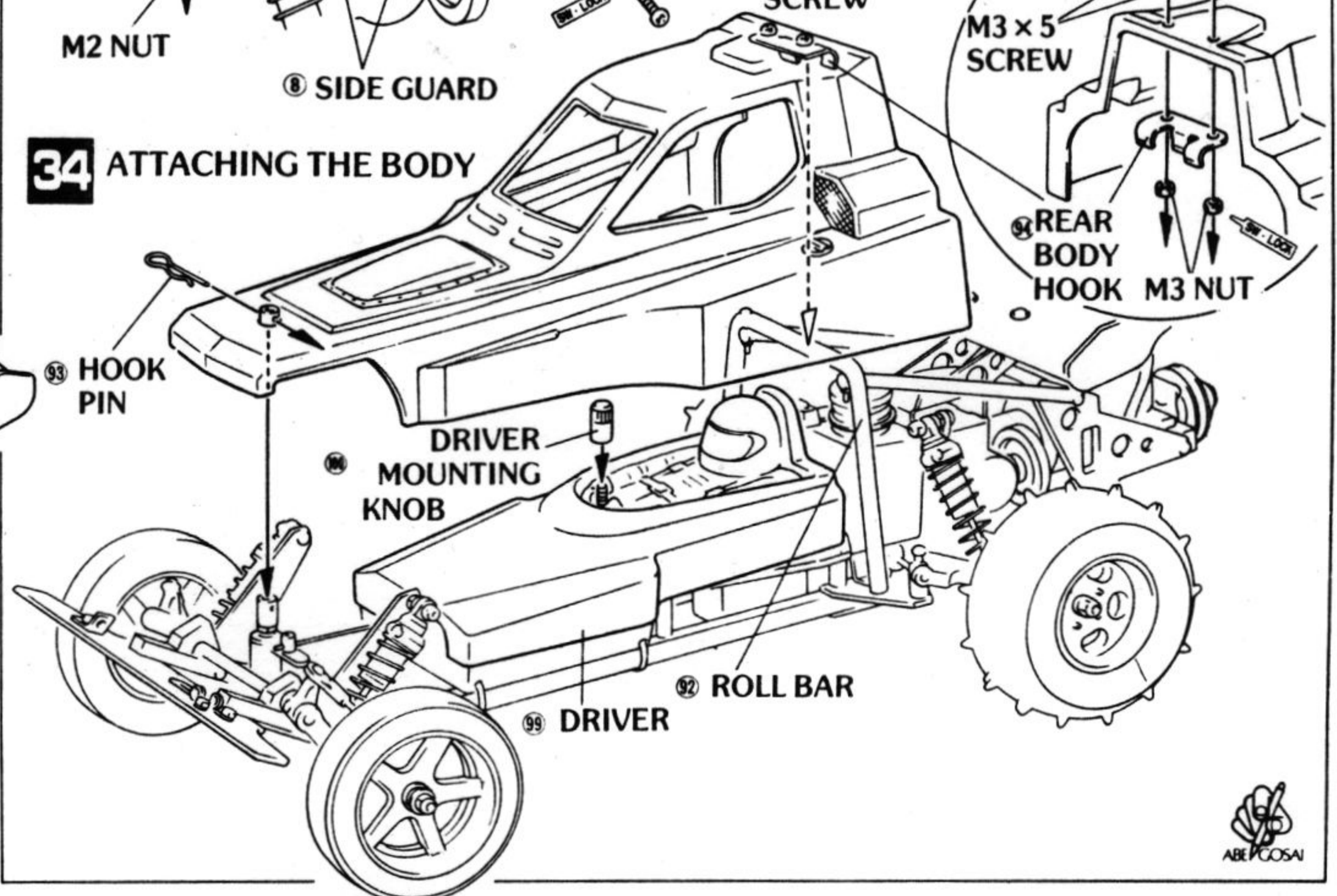
- M2 x 16 SCREW (2)
- M2.6 x 12 SCREW (2)
- M2.6 x 20 SCREW (2)
- M3 x 8 SCREW (Self Tapping) (2)
- M3 x 8 SCREW (2)
- M3 x 28 SCREW (1)
- M3 NYLON NUT (1)
- M2 NUT (2)
- M3 WASHER (2)



33 FINAL ASSEMBLY



34 ATTACHING THE BODY



34 SMALL PARTS NEEDED

- HOOK PIN (1)
- DRIVER MOUNTING KNOB (1)
- M3 x 5 SCREW (2)
- M3 NUT (2)

YOUR R/C ENGINE

Please read through the instructions supplied by O.S. for your engine before actually trying to run the Assault.

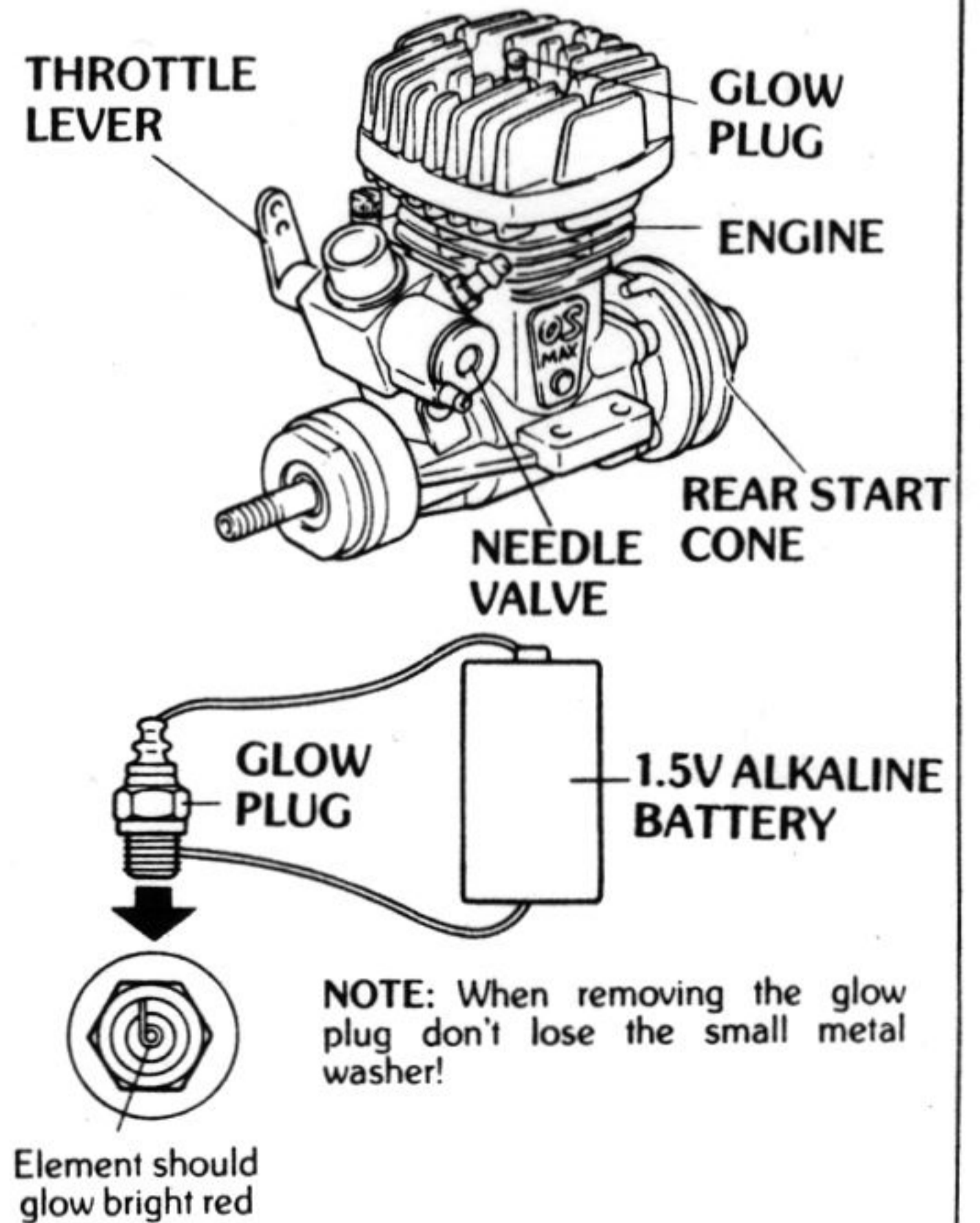
A model engine is a precision machine. It will develop high power and performance when it is treated correctly; however it may not even rotate if it is handled incorrectly. What follows are a few tips on how to use your engine properly.

The engine's shaft must be able to rotate freely by hand with the glow plug removed. The engine is started by spinning the shaft. If there is anything impairing its smooth movement it will not start. When you install the engine be certain that the clutch and gears operate smoothly and don't bind. You should be able to spin the flywheel of the car with your hand (when the glow plug is removed.)

Engines run FAST. At their peak, most engines in this class turn at about 12,000 revolutions per minute (rpm); at idle 2,000 rpm can be expected. To start a model engine you must spin the shaft at least as fast as the minimum rpm that it will operate at. The ZIP-START system will allow you to do just this. Some people also use an electric starter pressed onto the rear cone.

The glow plug must be installed and in proper working order. Before attempting to start the engine, the plug must be heated (with battery power) to a point where the small coil becomes RED-HOT. This allows it to ignite the air/fuel mixture in the cylinder chamber. If the plug does not heat sufficiently, the engine will refuse to start. You can check the plug by removing it from the engine head and applying battery power to it as shown in the drawing to the right. Replace bad plugs with the short, standard (non-idle bar) type. The O.S. #8 plug is recommended.

The amount of air-fuel mixture in the engine cylinder should be appropriate. Smooth operation is guaranteed only when the ratio of fuel to air is at the proper levels. FLOODING is the term used to describe when there is too much fuel (or not enough air) for the engine to run. This is probably the biggest cause of engines not starting.



RUNNING YOUR KYOSHO ASSAULT

ITEMS USED FOR RUNNING



PLUG WRENCH

The plug wrench allows you to take the glow plug from your engine for inspection or replacement.



BATTERY

To initially start the engine's glow plug, you will need one "D" size alkaline flashlight battery. The standard (non-alkaline) type does not work well.

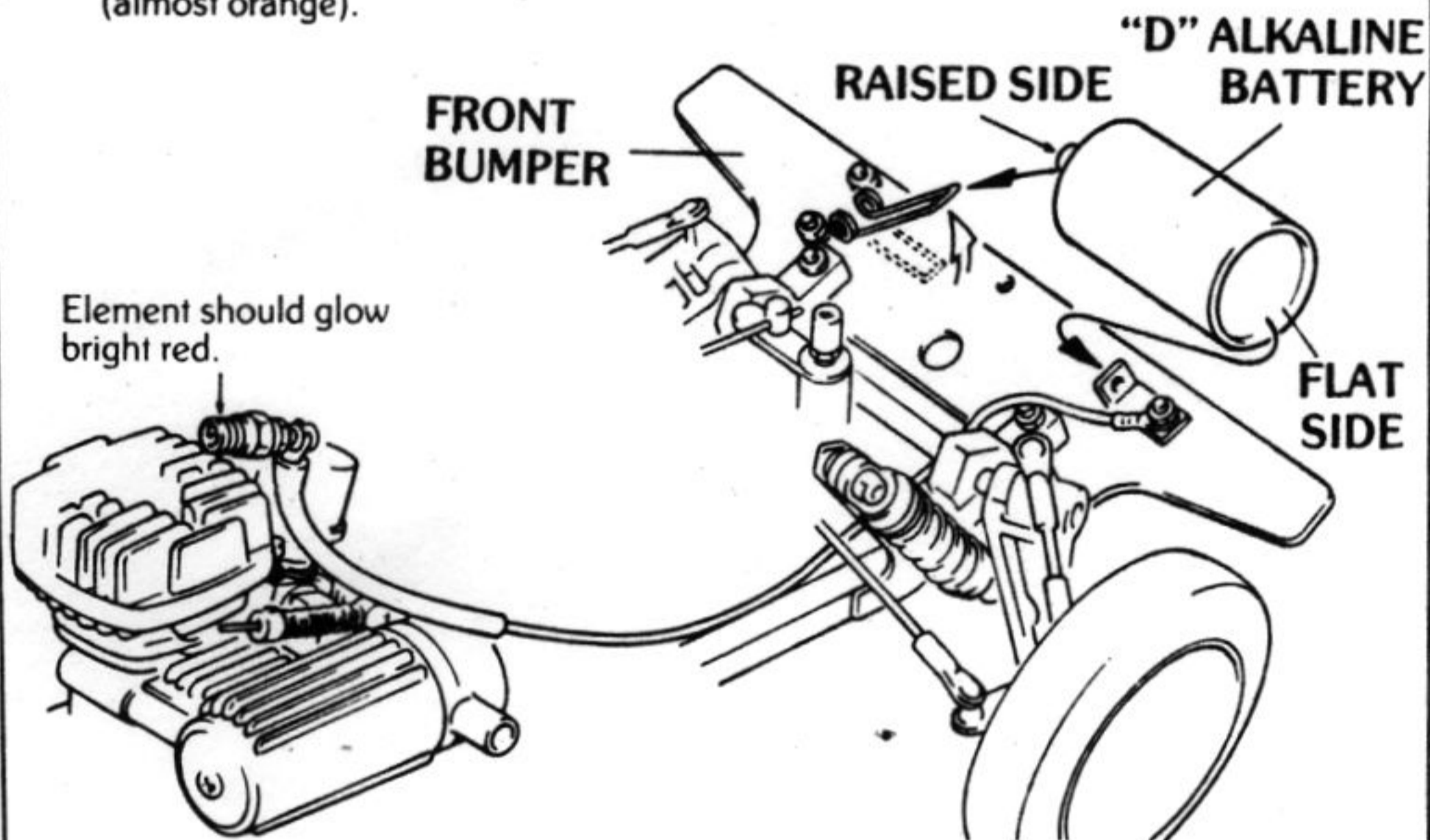
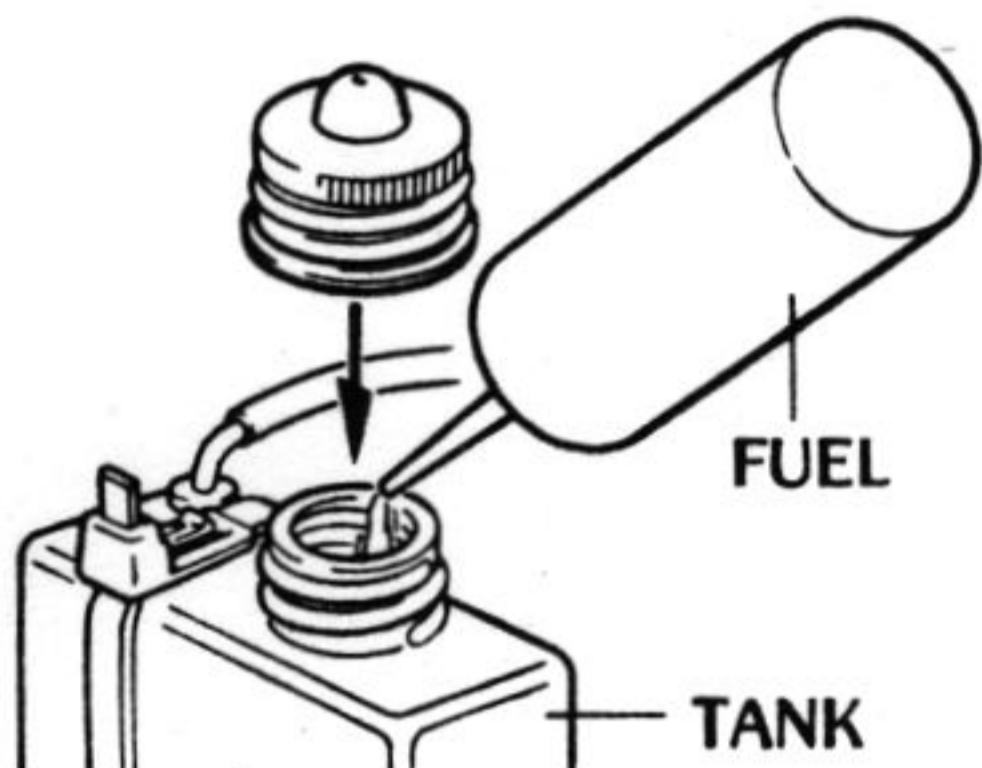


GLOW FUEL

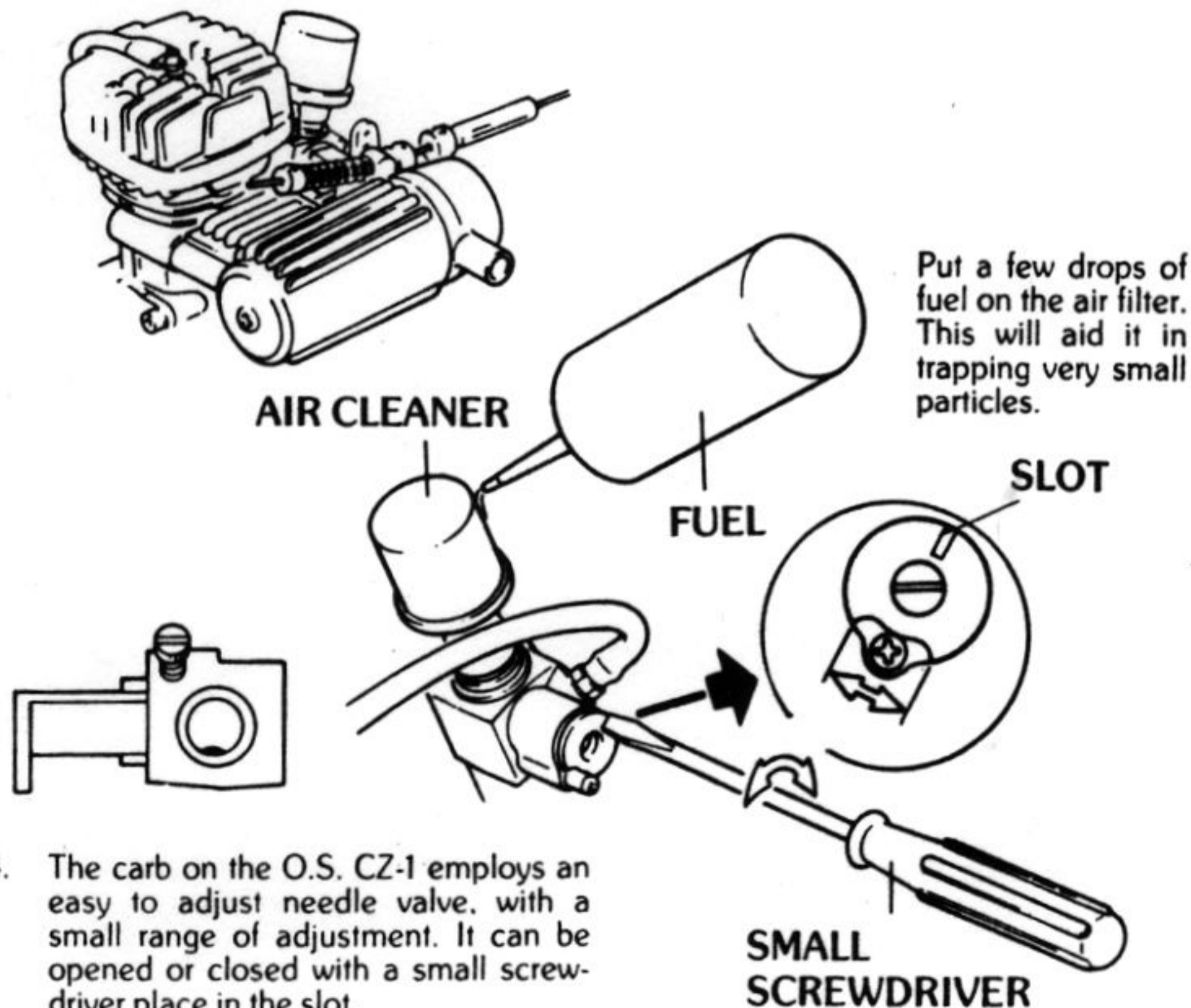
A GOOD QUALITY glow fuel is very important. Choose a blend with 10-25% nitro-methane content.

PREPARING TO START THE ENGINE

1. Fill the tank with fuel. Put the cap back on firmly.
2. Place your "D" flashlight battery in the clip at the front of the car as shown. Remove the glow plug from the engine with the wrench then re-connect the plug clip to the plug. Touch the threaded part of the plug to the engine's head as shown below. The plug's coil should glow bright red (almost orange).

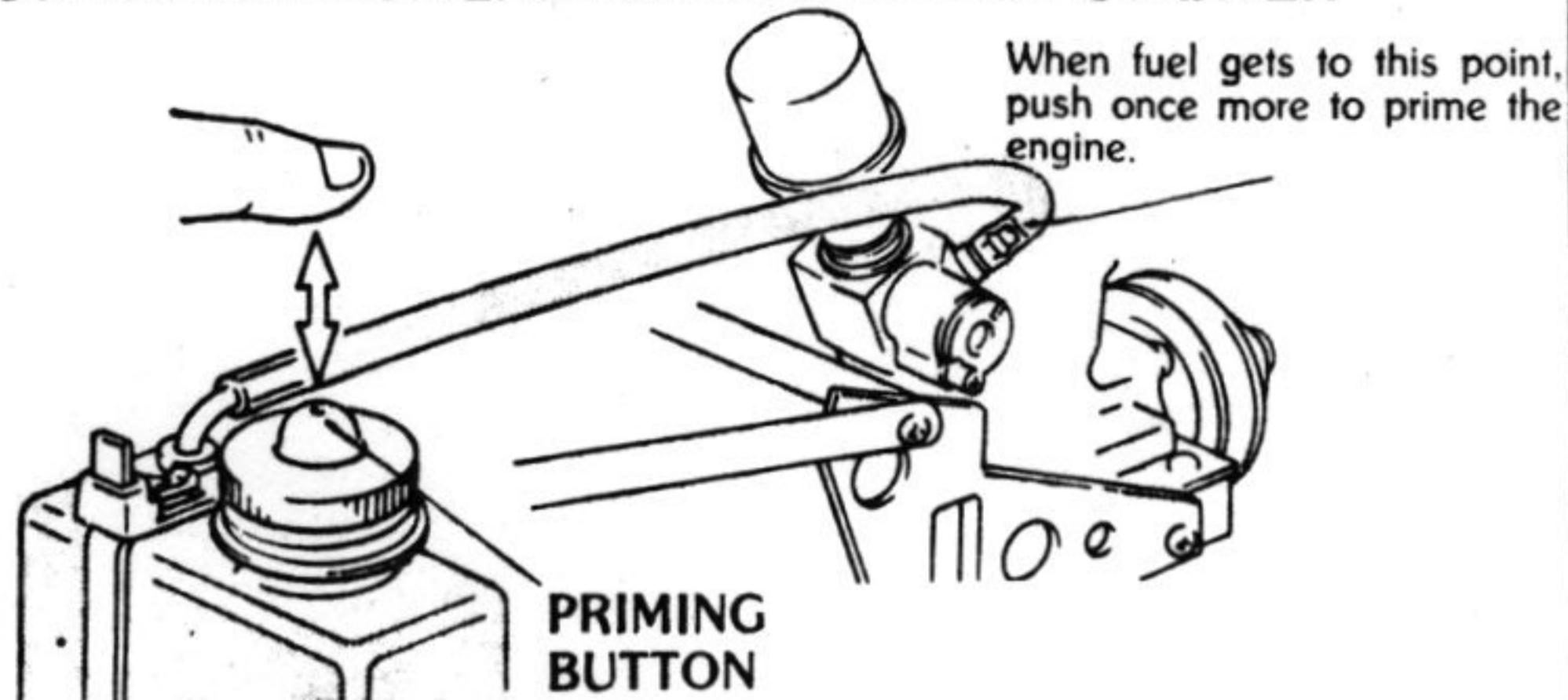


3. Once you have confirmed that the plug and electrical system are functioning properly, disconnect the clip from the plug and install the plug (and its washer) back into the engine. Reinstall the clip as shown below.



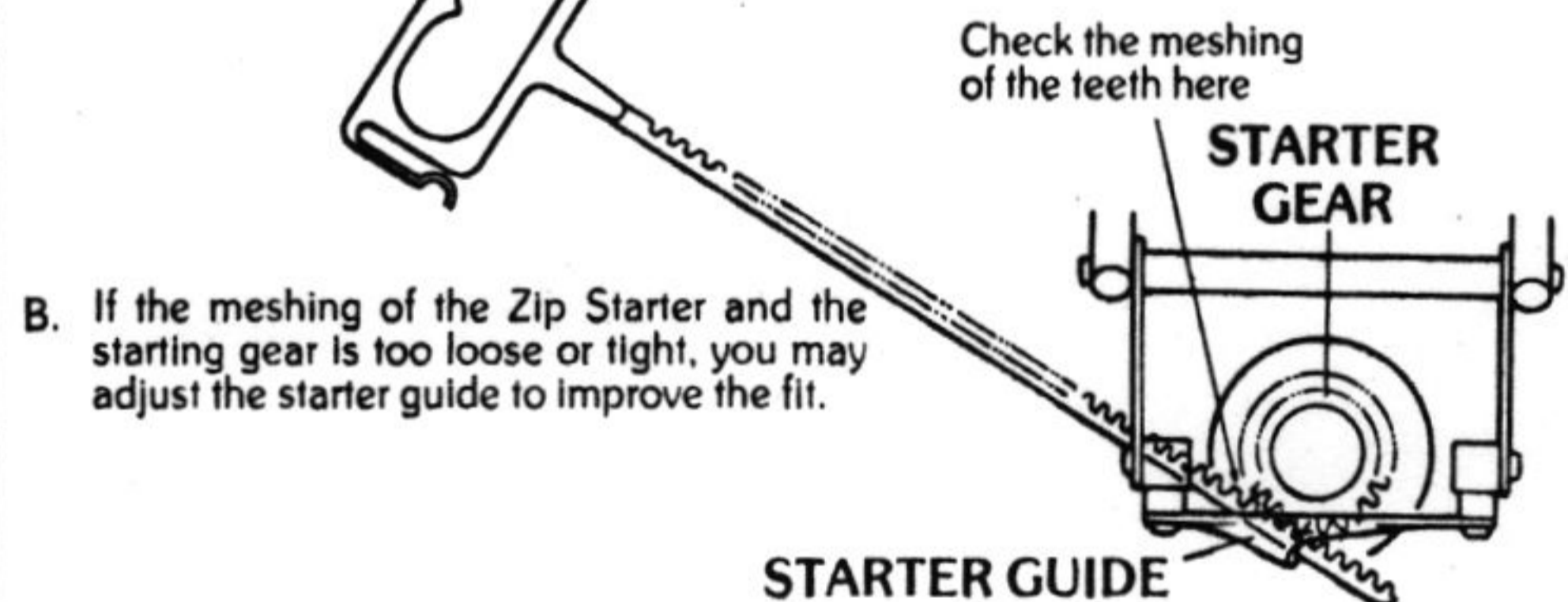
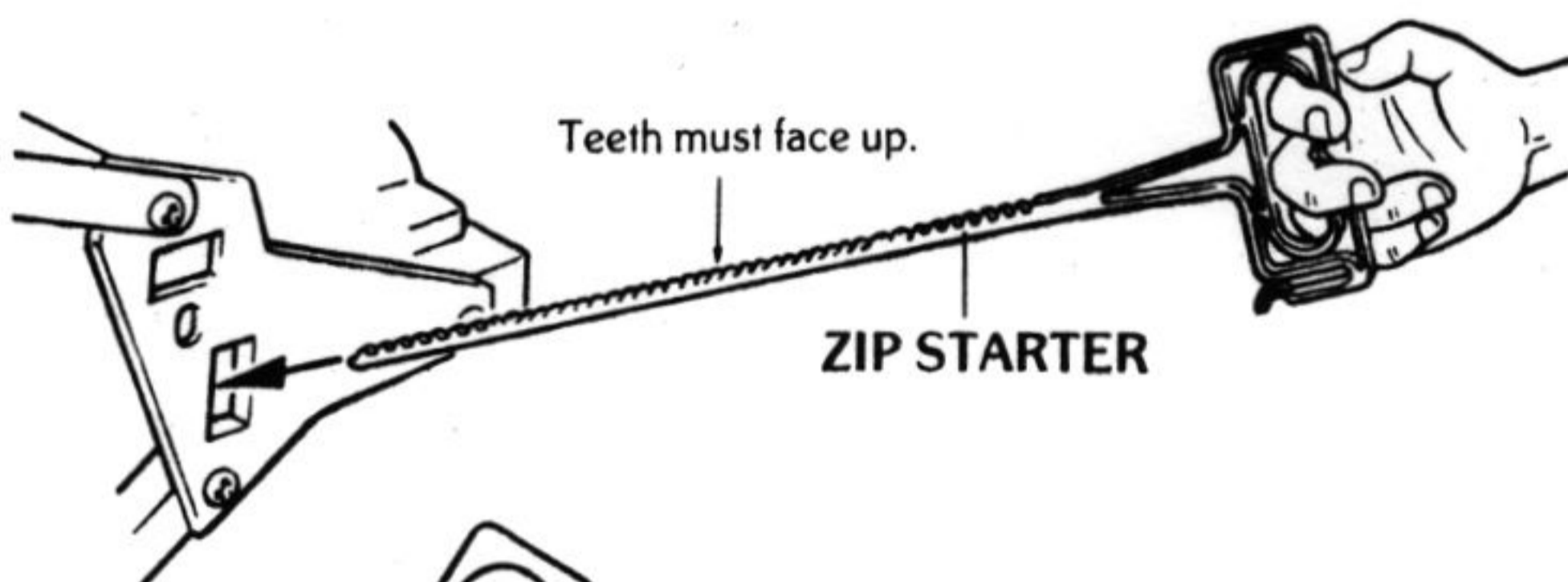
4. The carb on the O.S. CZ-1 employs an easy to adjust needle valve, with a small range of adjustment. It can be opened or closed with a small screwdriver place in the slot.

STARTING YOUR ENGINE WITH THE ZIP STARTER



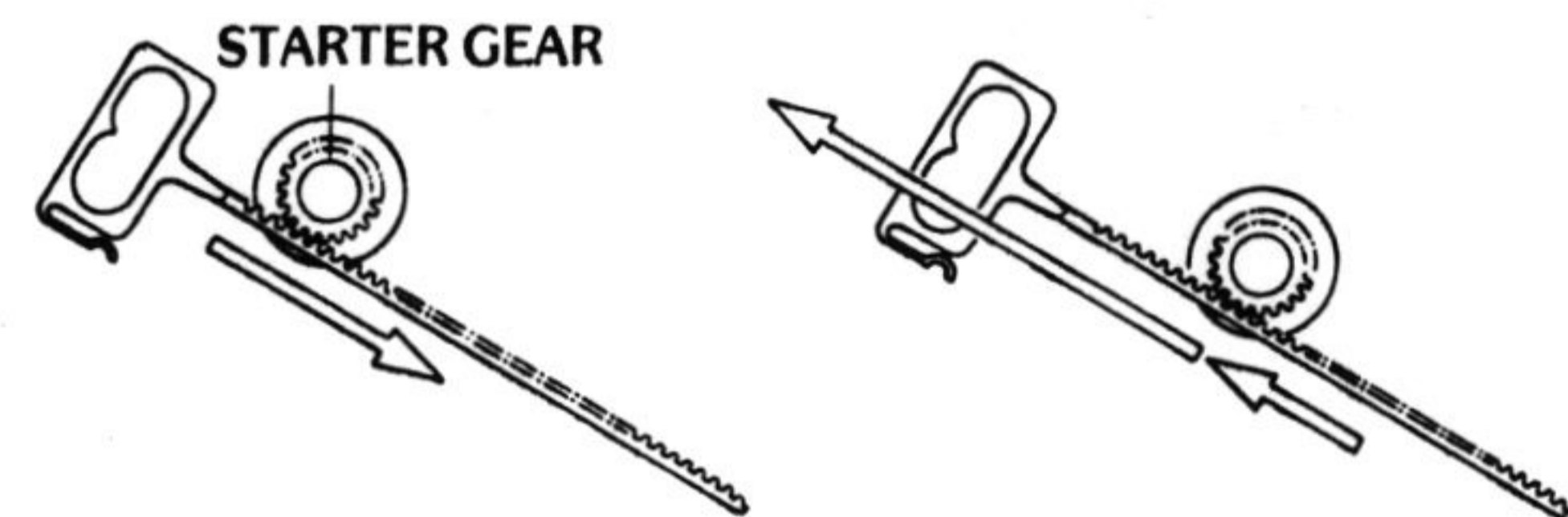
1. Push the priming button a few times until the fuel travels up the fuel line to the carb intake nipple. Push the priming button one final time which will place the fuel into the carb and prime the engine. Once pressed down, your finger must be removed before pressing again. This is to allow air to enter the tank.

- A. Insert the Zip Starter into the starting slot on the left, rear side of the Assault with its teeth facing up.



- B. If the meshing of the Zip Starter and the starting gear is too loose or tight, you may adjust the starter guide to improve the fit.

2. Push the Zip Starter all the way into the slot.

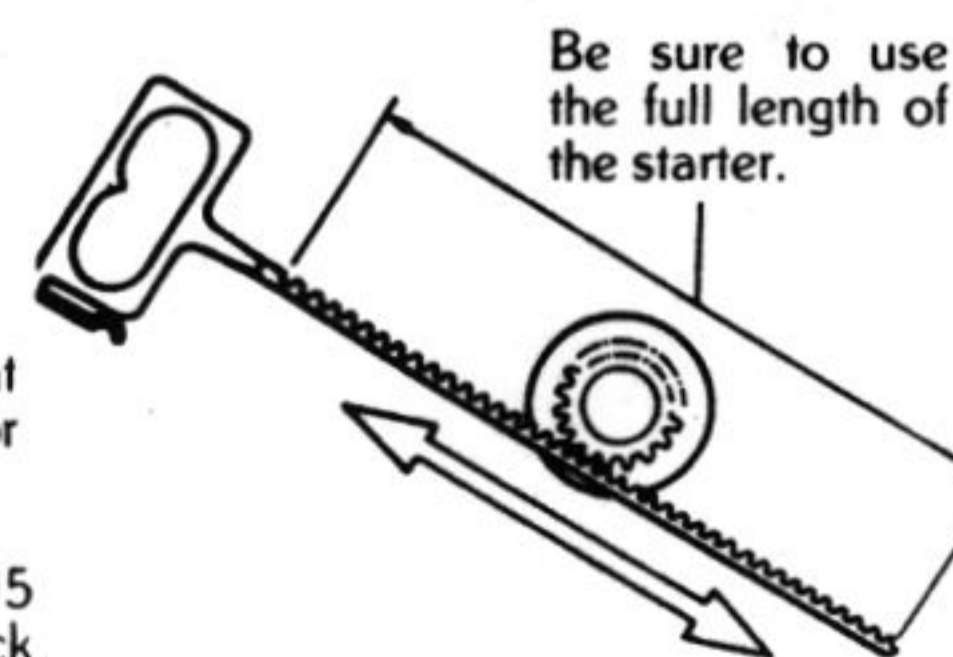


3. Turn on your receiver, then the transmitter. Move the throttle stick to the middle of its travel.
4. Slowly pull the Zip Starter out until you feel a slight resistance from the engine. Pause a moment, then pull the Zip Starter out sharply.

While repeating this several times, you should hear popping sounds from the engine. This tells you that the fuel is igniting and the engine should start shortly. When the engine is new, the time required to start it will be longer than once it has been run a few times. If the engine refuses to fire or makes the popping sounds, prime it a bit more but don't FLOOD the engine by giving it too much fuel.

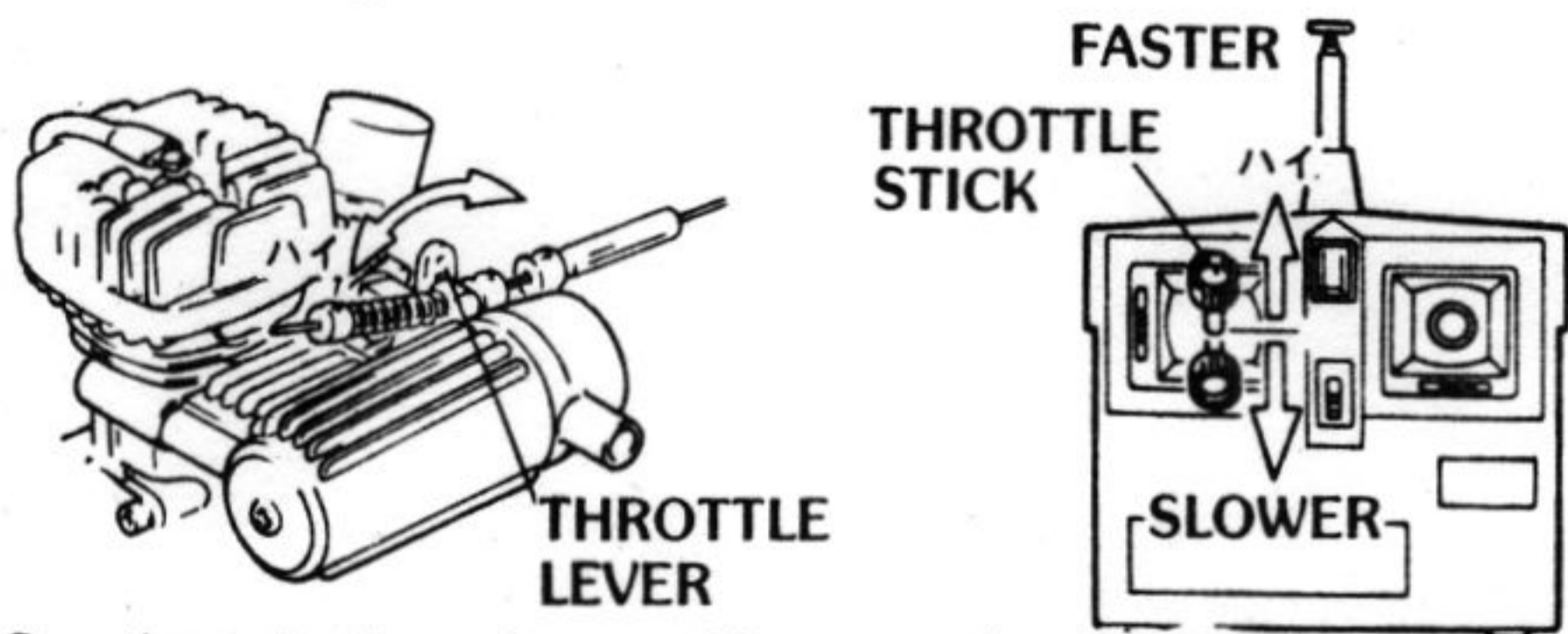
REMEMBER:

- A. Push the Zip Starter in slowly, and draw it out quickly.
- B. Don't stop in the middle of a pull.
- C. Pull the Zip Starter out in a straight line. Don't allow it to jerk to the left or right.
- D. If the engine doesn't start within 15 attempts it is not going to start. Check previous steps to make sure that procedure was followed.



ONCE THE ENGINE HAS STARTED

- Lift the rear end of the car off the ground and move your radio's throttle control stick slowly from low throttle to high throttle and back again. If the engine has good speed but stops suddenly while going from low to high, try opening the needle valve a little (see diagram) and start it again. If the engine responds very sluggishly from low to high, then it is probably too rich and you should try closing the needle valve a bit (see B). Repeat moving the stick and adjusting the needle valve until the engine responds reasonably smoothly. When the engine is new, the smoothness of control from low to high may not seem great. It will improve as the engine is run a few times.



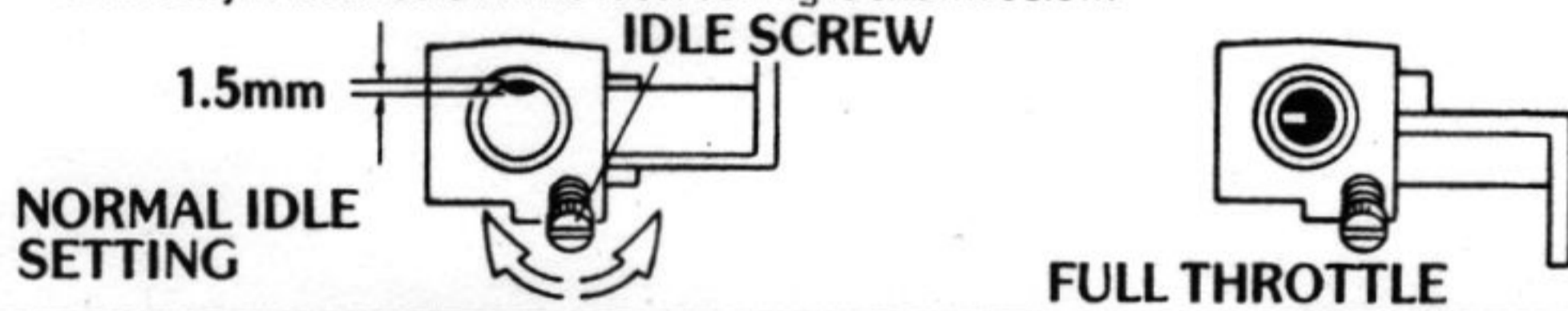
- Once the engine is running smoothly, remove the glow plug battery from the clip. The engine should now continue to run smoothly without power being applied to the plug.

NEEDLE VALVE ADJUSTMENTS



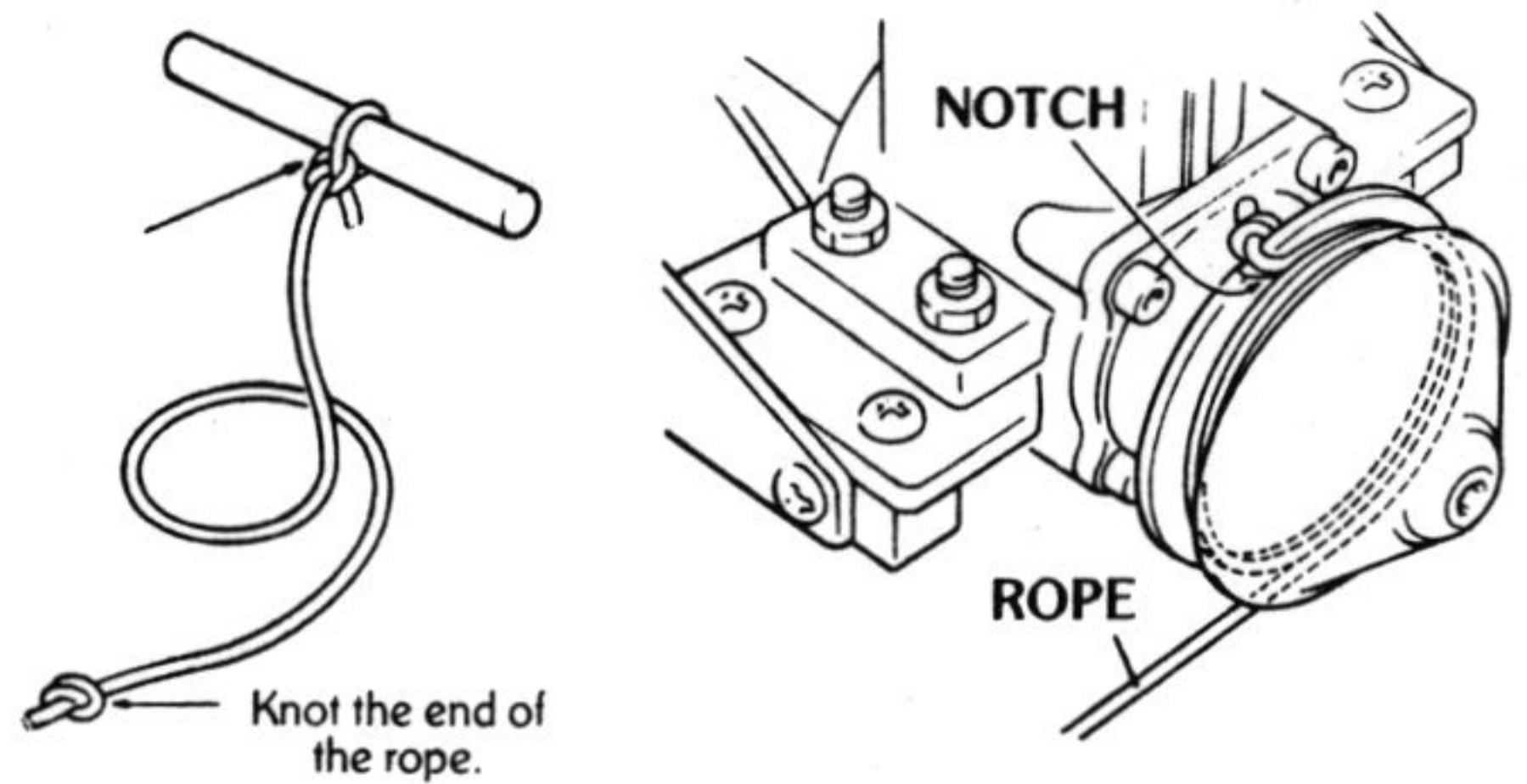
THROTTLE LEVER ADJUSTMENT

If the engine is running very fast even at a low throttle setting, the idle adjustment of the engine is set too high. If, on the other hand, the engine dies at a low throttle setting, the idle is probably set too low. You can adjust the low idle setting by turning the idle adjustment screw. The ideal setting is shown below.

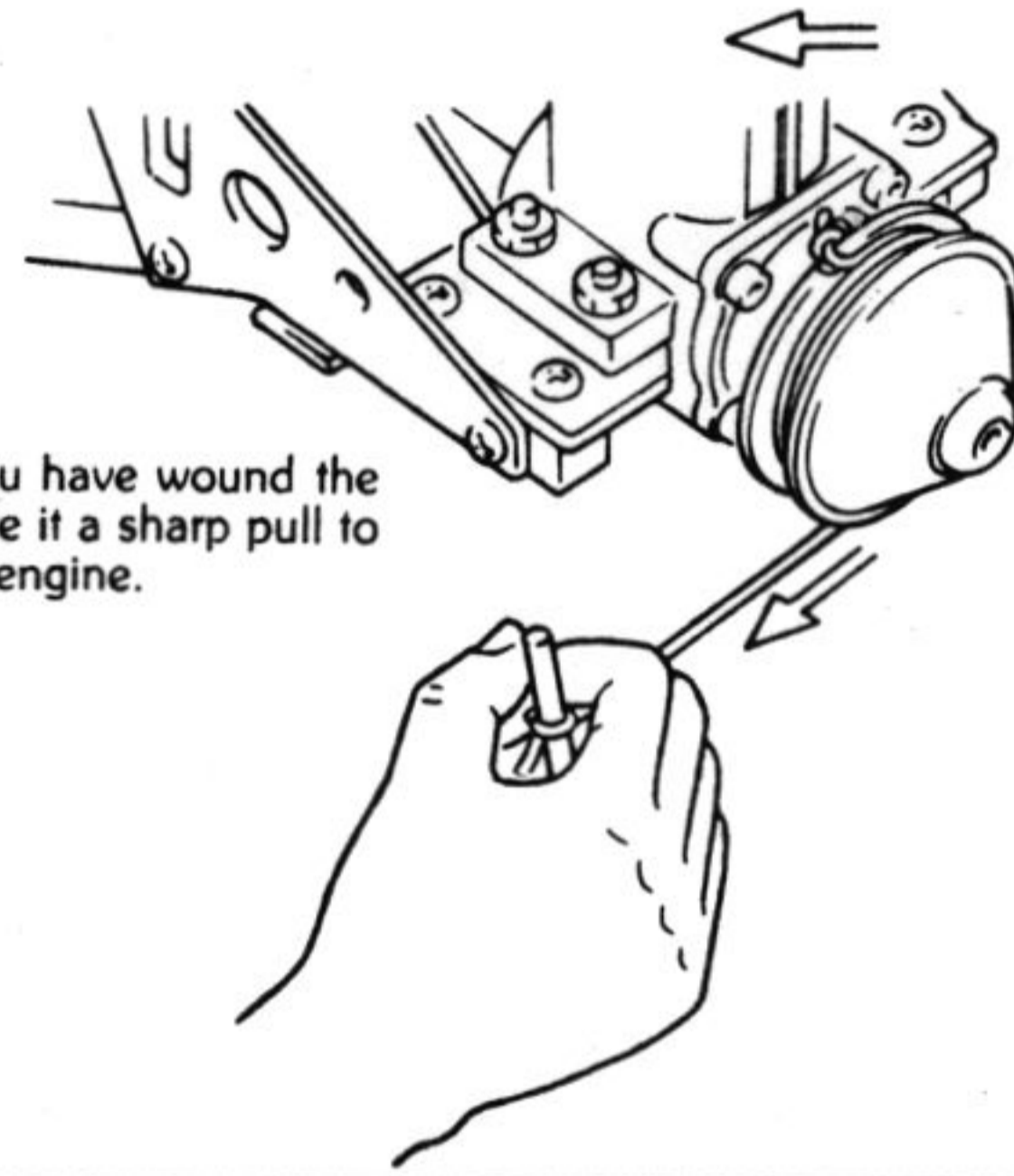


USING THE STARTER ROPE

- Put a knot in the end of the rope and slip it into the notch in the start cone. Wind the rope 2-3 turns clockwise.

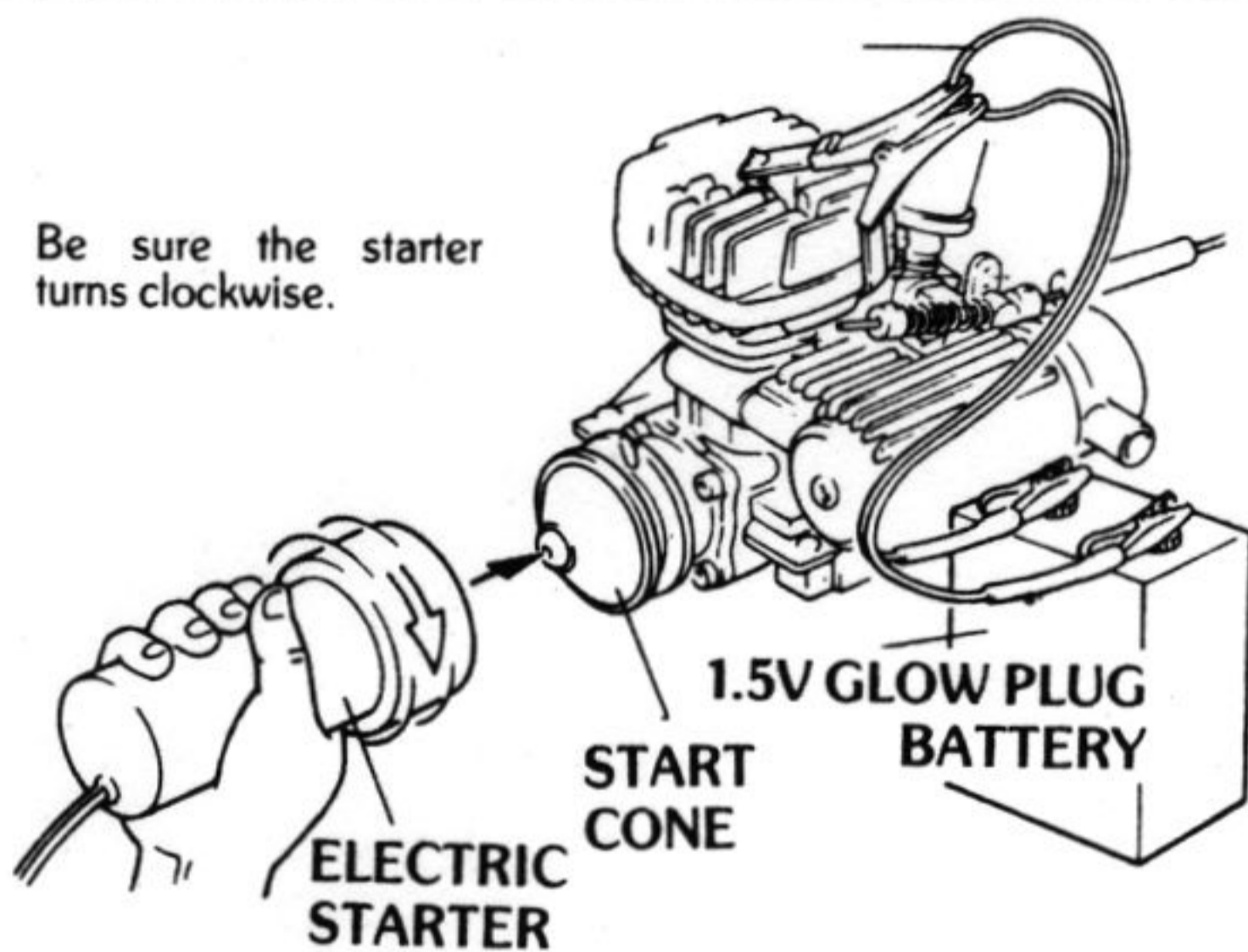


- Once you have wound the rope, give it a sharp pull to start the engine.



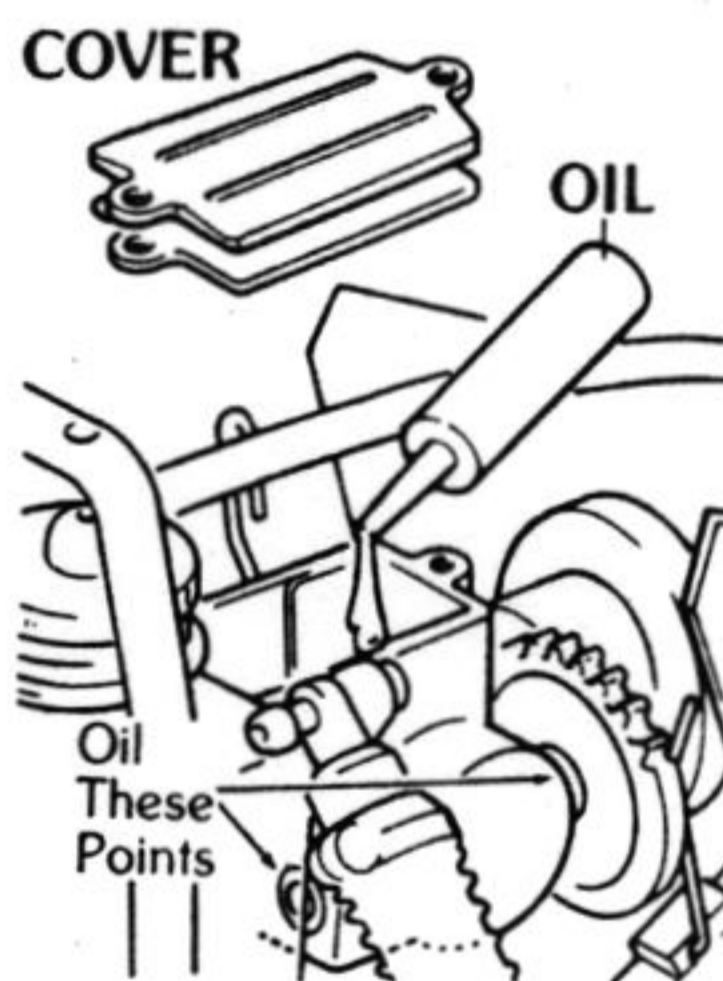
USING AN ELECTRIC STARTER

Be sure the starter turns clockwise.



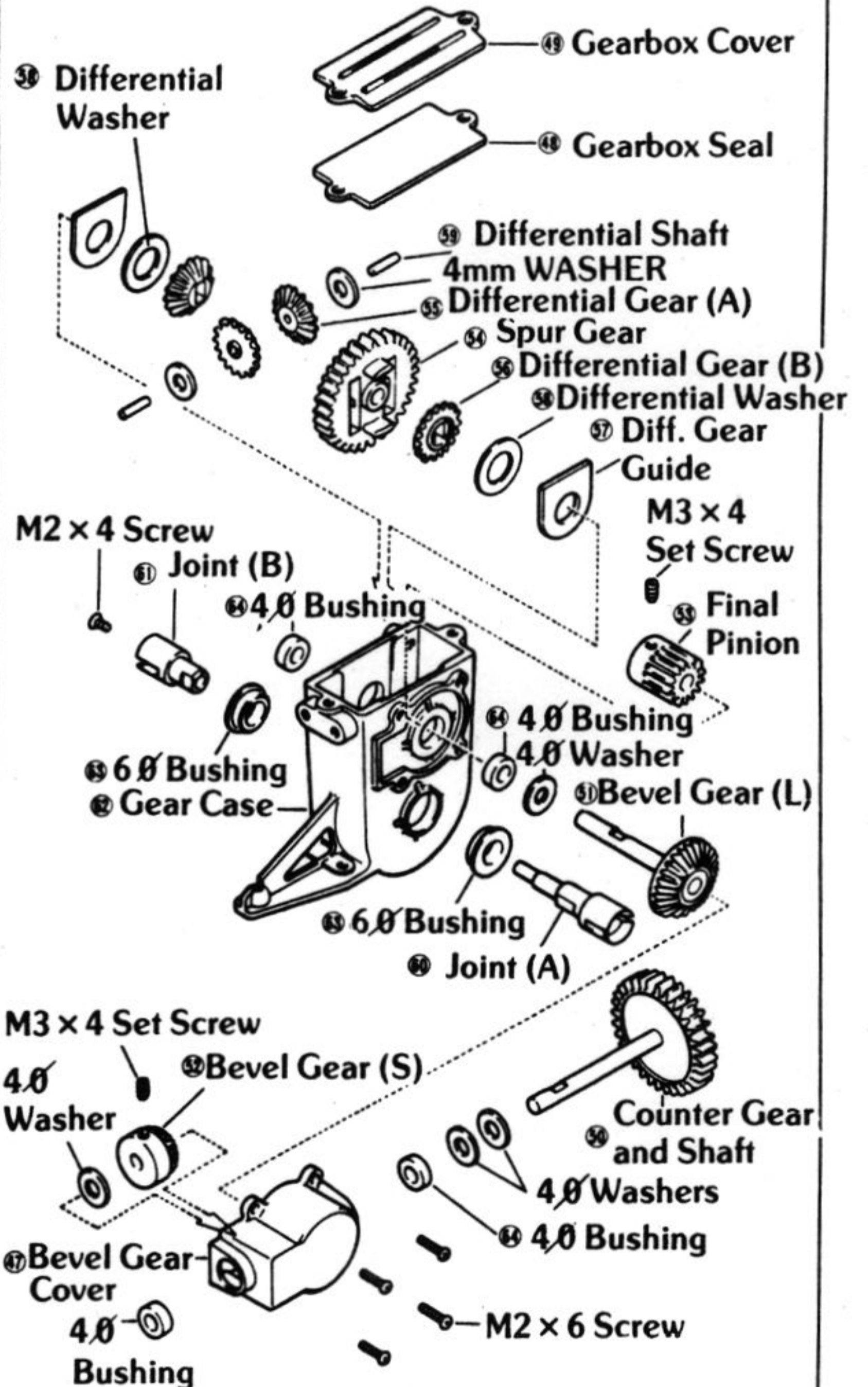
While the Zip Start method is easier, you may wish to use an electric starter. This is easy on the Assault because of the engine's built-in start cone. If you find it difficult to keep the "D" battery in place, use a separate glow plug battery and clip.

OIL THE GEARBOX



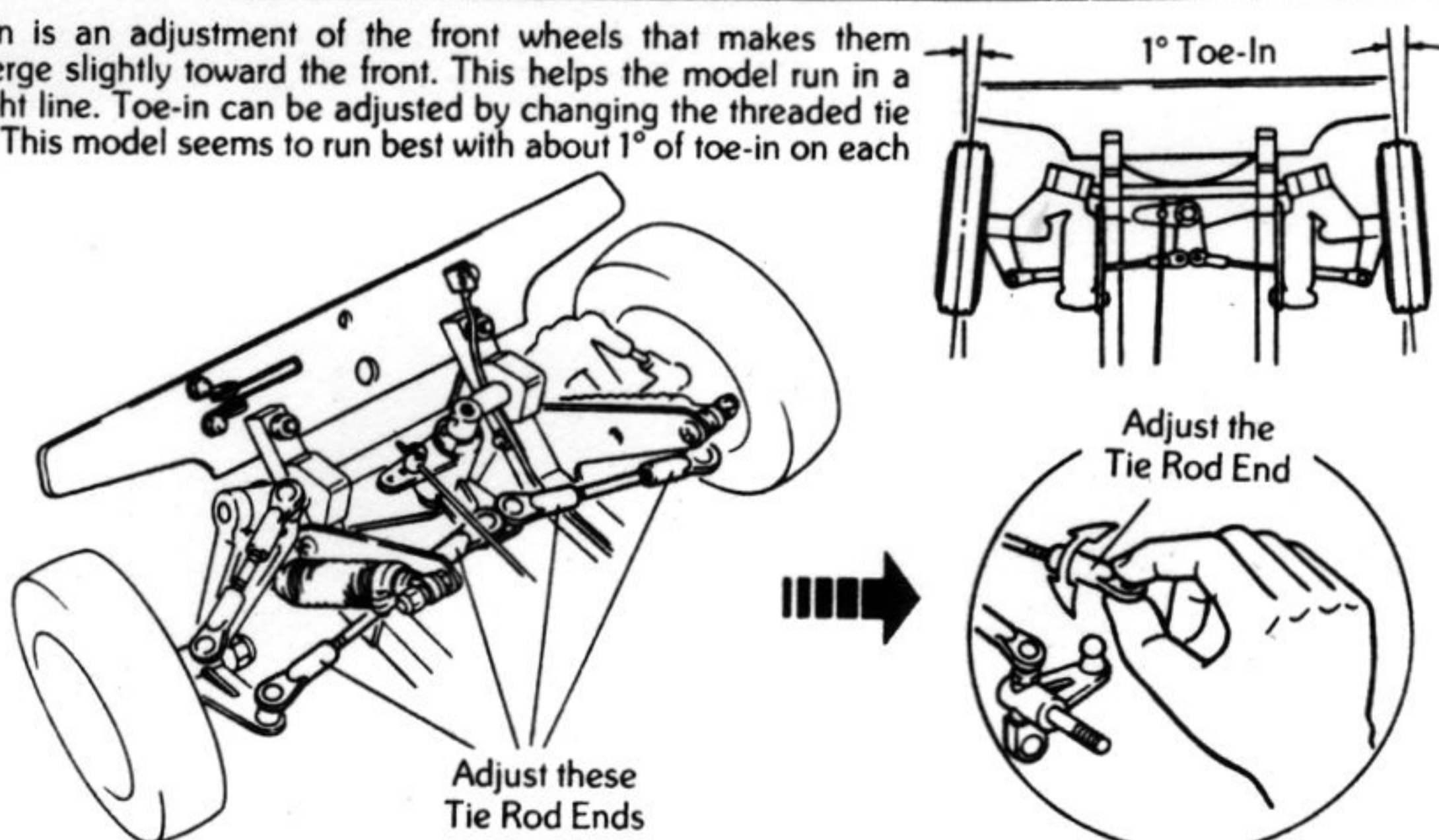
Remove the gearbox cover and pour in 1/2 teaspoon of the red oil. Occasionally check the gearbox to make sure it is lubricated. Apply oil to the bearings shown after EVERY RUN.

GEARBOX PARTS



ADJUSTING THE STEERING

Toe-in is an adjustment of the front wheels that makes them converge slightly toward the front. This helps the model run in a straight line. Toe-in can be adjusted by changing the threaded tie rods. This model seems to run best with about 1° of toe-in on each side.



KEY NUMBERS LIST

No.	Parts Name	Q'ty.	No.	Parts Name	Q'ty.	No.	Parts Name	Q'ty.	No.	Parts Name	Q'ty.	No.	Parts Name	Q'ty.
1	Bumper	1	30	Front Tire	2	59	Differential Shaft	2	88	Clutch Shoe	2	117	Cord Tube	1
2	Main Chassis	2	31	Rear Tire	2	60	Joint (A)	1	89	Clutch Spring	1	118	Body Stopper Collar	1
3	Arm Axle	1	32	Front Shock Stay	2	61	Joint (B)	1	90	Joint Collar	1	119	Switch Plate	1
4	Arm Axle Stopper	2	33	Shock Bushing	4	62	Gear Case	1	91	Body	1	120	Switch Boots	1
5	Lower Arm (L&R)	1 Set	34	Front Wheel Bushing	2	63	6/8 Bushing	2	92	Roll Bar	1	121	Zip Starter	1
6	Pivot (L&R)	1 Set	35	Rear Suspension Plate	1	64	4/8 Bushing	4	93	Hook Pin	2	122	Fuel Pump	1
7	Knuckle Arm (L&R)	1 Set	36	Gear Box Mount	1	65	Stone Guard	1	94	Rear Body Hook	1	123	Shock Oil	1
8	Side Guard (2)	2	37	Rear Suspension Arm	2	66	Fuel Tank Holder	1	95	Wing Holder (A)	1	124	Shock Wrench	1
9	Upper Shaft	2	38	Rear Wheel Shaft Bushing	2	67	Strap (L)	1	96	Servo Mount Collar	4	125	Wrench	1
10	Tie Rod	2	39	Rear Wheel Shaft	2	68	Strap (S)	7	97	Radio Box	1	126	Antenna Set	1 Set
11	Pivot Ball	8	40	Swing Shaft	2	69	Fuel Tank	1	98	Radio Mount Plate	1	127	Decal	1
12	Servo Saver	1 Set	41	Rear Suspension Shaft	2	70	Fuel Tank Cap	1	99	Driver	1	128	Upright	2
13	Spring Receptacle	4	42	Large Pivot Bar Holder (A)	2	71	Fuel Tank Priming Button	1	100	Driver Mounting Knob	1	129	Servo Saver Mount	1
14	Spring Stopper	4	43	Small Pivot Bar Holder (B)	2	72	Fuel Tank Rubber Bushing	1	101	Linkage Rod	2	130	Linkage Spring	1
15	Shock End	4	44	Drive Washer	2	73	Fuel Tank Pipe	1	102	Linkage Guide	1	131	E-Ring (E-3)	1
16	Shock Stopper	4	45	Rear Shock Stay	1	74	Fuel Tank Tube	1	103	2/8 Stopper	3	132	Hex Wrench (1.5mm)	1
17	Shock O-Ring	4	46	Shock Ball	4	75	Rear Frame	2	104	Battery Holding Spring	1	133	Hex Wrench (2.0mm)	1
18	Shock Washer	4	47	Bevel Gear Cover	1	76	Side Plate	1 Set	105	Brake Lever	1	134	Wing Holder (B)	1
19	Front Shock Piston	2	48	Gear Box Seal	1	77	Engine Mount	2	106	Brake Lever Holder	2	135	E-Ring (E-7)	1
20	Rear Shock Piston	2	49	Gear Box Cover	1	78	Muffler (A)	1	107	Brake Shoe	1	136	Brake Pipe	1
21	Front Shock Case	2	50	Counter Gear (w/Shaft)	1	79	Muffler (B)	1	108	Wing	1	137	Throttle Guide	1
22	Rear Shock Case	2	51	Bevel Gear (L)	1	80	Muffler Baffle	1	109	Flywheel	1	138	Spacer	2
23	Front Spring	2	52	Bevel Gear (S)	1	81	Air Filter Element	1	110	Clutch Pin	2	139	Eng. (O.S.-CZ-1)	1
24	Rear Spring	2	53	Final Pinion Gear	1	82	Air Filter Receptacle	1	111	Starter Pawl	2	140	Ball End (L)	8
25	Front Wheel	2	54	Spur Gear	1	83	Air Filter Adapter	1	112	Starter Guide	1	141	Ground Plate	1
26	Front Inner Wheel	2	55	Differential Gear (A)	2	84	Front Body Hook	1	113	Starter Gear	1	142	Shock Seal	4
27	Rear Wheel (R-1)	2	56	Differential Gear (B)	2	85	Pilot Shaft (For O.S.)	1	114	Ratchet Spring	1	143	Sponge Sheet	1
28	Rear Wheel (R-2)	2	57	Differential Gear Guide	2	86	Clutch Bearing	1 Set	115	Plug Heat Coil (w/Coil)	1 Set			
29	Rear Wheel (R-3)	2	58	Differential Washer	2	87	Clutch Bell (w/Bushing)	1	116	Plug Heat Terminal	1			

PURCHASING PARTS FOR YOUR ASSAULT

You can purchase replacement parts for your Assault. We offer these parts in convenient parts "packs" which can be purchased separately. To figure out which parts pack you need, find the part in the key number list at the top of this page. Then consult our parts pack guide,

below. When referring to the parts you need, always use the **Parts Pack Number**. For instance, if you need a Spur Gear (Key #54) ask your dealer for Kyosho Parts Pack SC-056 (Differential Gear Set).

Parts Pack No.	Description	Includes these parts:
SC-002	Main Chassis	2 X 2
SC-004	Lower Arm Set	5 6 X 1
SC-007	Knuckle Arm	7 X 1
SC-009	Servo Saver Mount	12 X 1
SC-012	Front Shock Stay	32 X 1
SC-013	Rear Shock Stay	45 X 1
SC-014	Gear Box Mount	36 X 1
SC-017	Swing Shaft	40 X 1
SC-018	Rear Wheel Shaft	39 X 1
SC-020	Drive Washer	44 X 1
SC-026	Front Tire	30 X 1
SC-041	Servo Saver	12 X 1
SC-042	Rear Suspension Arm	37 38 X 2
SC-048	Front Wheel	25 26 X 2
SC-049	Rear Wheel	27 28 29 X 2
SC-056	Differential Gear Set	54 60 61 X 1 55 56 57 58 59 X 2
SC-059	Joint Set for Differential	60 61 X 1
SC-063	Front Wheel Bushing	34 X 2
SC-083	Final Pinion Gear	53 X 1
SC-084	Special Rear Tire	31 X 2
SC-086	Rear Sus. Plate Set	35 X 1 41 42 43 X 2
SC-087	Upper Arm Set	9 X 2 11 14 X 4
SC-088	Upright Set	11 12 X 2
SC-089	Tie Rod	10 X 2 11 14 X 4
SC-100	Wing Set	95 100 104 X 1
EF-037	Strap (Small)	66 X 6
EF-039	Ni-Cad Strap	67 X 6
LD-070	Clutch Bearing	86 X 1
CB-124	Linkage Boots	118 119 X 1
1885	Antenna Set	126 X 1
MB-063	Zip Starter	121 X 4
AB-01	Bumper	1 X 1
AB-02	Arm Shaft Set	3 X 1 4 X 2
AB-03	Gear Case Set	47 48 49 X 1
AB-04	Counter Gear	50 X 1

Parts Pack No.	Description	Includes these parts:
AB-05	Bevel Gear Set	51 52 X 1
AB-06	Gearbox Bushing Set	63 X 2 64 X 4
AB-07	Fuel Tank	66 69 70 71 72 73 74 83 X 1
AB-08	Rear Frame	75 X 1
AB-09	Side Plate	90 X 1 76 X 2
AB-10	Engine Mount	77 X 2
AB-11	Muffler	78 79 80 X 1
AB-12	Air Filter	81 82 83 X 1
AB-14	Pilot Shaft	85 111 115 X 1
AB-15	Clutch Shoe	88 X 2
AB-16	Clutch Bell	87 X 1
AB-17	Clutch Spring	89 X 4
AB-21	Radio Box Set	97 98 100 110 X 1 96 X 4
AB-25	Linkage Set	102 103 107 X 1 101 X 2 105 X 3
AB-26	Brake Set	105 107 106 X 1 106 X 2
AB-27	Flywheel	109 X 1 110 X 2
AB-28	Starter Gear Set	112 114 X 1 111 X 2
AB-29	Starter Guide	65 113 X 1 108 X 2
AB-30	Front Shock Set	13 14 15 16 17 18 19 21 23 33 46 142 X 2
AB-31	Rear Shock Set	13 14 15 16 17 18 20 22 24 33 46 142 X 2
AB-34	Body	91 X 1
AB-35	Driver	99 X 1
AB-36	Roll Bar Set	92 X 1 8 X 2
AB-37	Body Hook Set	84 94 X 1
AB-38	Decal	127 X 1
AB-39	Screw, Nut, Wrench Set	
AB-40	Plug Heat Set	115 116 117 118 119 X 1
EP-22	Hook Pin	93 X 5

Optional Parts

CK-63	4/8 Ball Bearing (2 pcs.)	Replaces 4/8 Bushing
MS-26	6/8 Ball Bearing (2 pcs.)	Replaces 6/8 bushing
1951	Shock Oil Set	S, M, H, Set

To order parts for your engine, refer to last page of the engine's instructions and use the O.S. "Code Numbers" when referring to these engine parts.

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