

GALAXY R/C OFF-ROAD RACING BUGGY

READY TO ASSEMBLE RADIO CONTROL OFF-ROAD RACING CAR MODEL KIT/REQUIRES TWO CHANNEL, TWO RADIO CONTROL EQUIPMENT AND 7.2V RACING PACK Ni-cd BATTERY/INCLUDES MARUI 360RS HIGH SPEED MOTOR

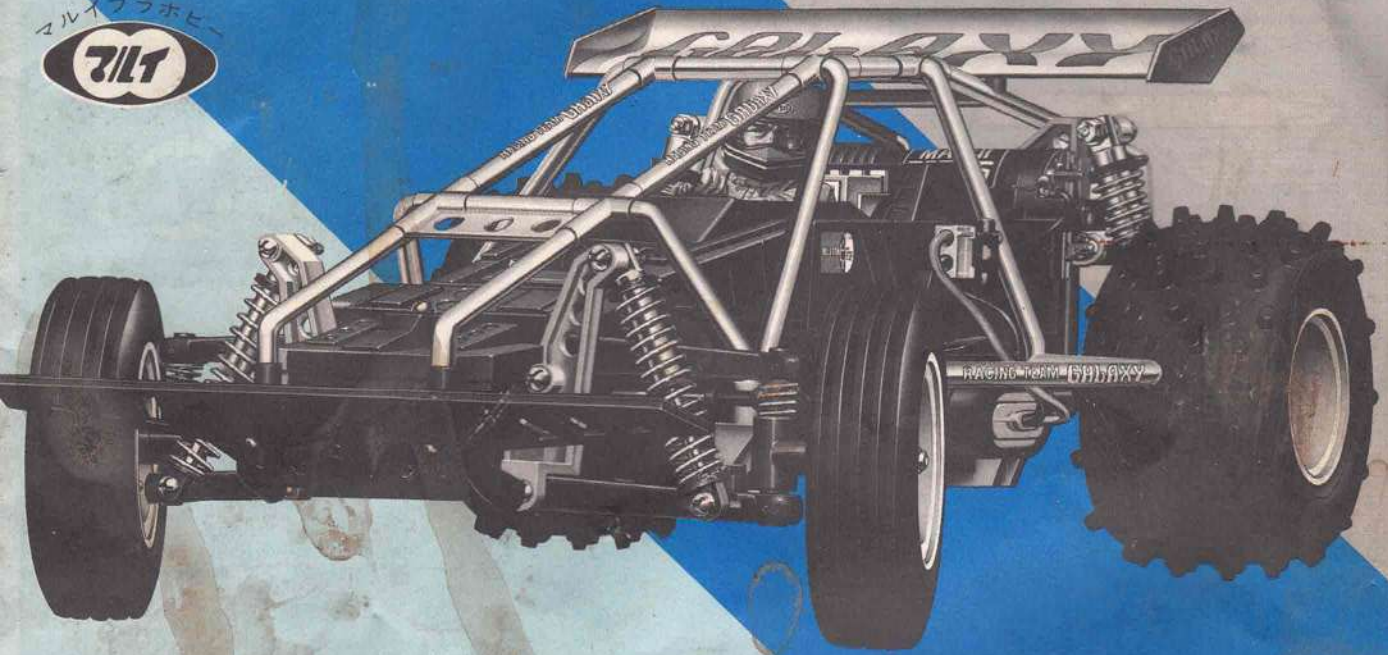


With 360RS High Speed Motor

1/10 Size, Electrically Powered, Radio Controlled Buggy Racing Model

MODELLING SKILLS HELPFUL IF UNDER 10 YEARS OF AGE.

- DIFFERENTIAL GEAR DRIVE SYSTEM.
- CHANGEABLE PINION GEAR RATIOS.
- STRAIGHT RIBBED FRONT TIRES.
- WART PATTERN REAR TIRES.
- DURABLE POLYCARBONATE REAR WING. ADJUSTABLE SUSPENSION SPRING.
- ASSEMBLED SPEED CONTROLLER.



Tokyo Marui Plastic Model Co., Ltd.

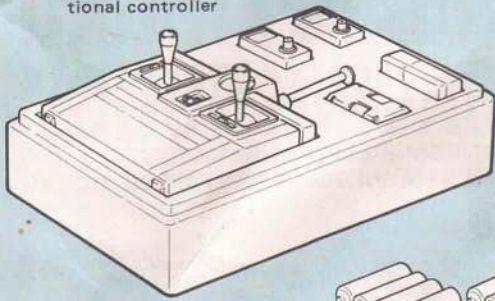
HIGH PERFORMANCE R/C OFF-ROAD RACING CAR



RCScrapyard.net

◀Parts not included in the kit▶

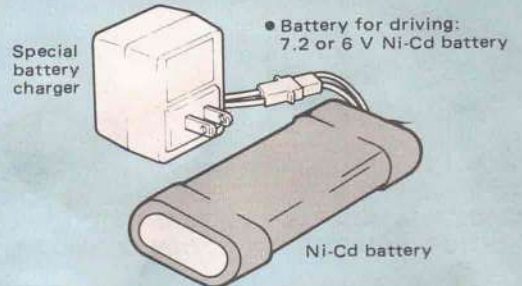
- 2-channel proportional controller



Most regular 2-channel portional controllers may be used, but be careful as some types do not fit with this model. For those who are going to purchase a controller, the following models are recommended:
 FUTABAATTACK
 SAMWADASH
 J.R.BEAT 2
 K.O.FX-II



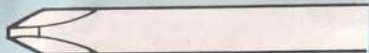
• Batteries for proportional controller



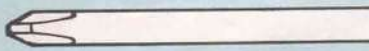
- Battery for driving: 7.2 or 6 V Ni-Cd battery

Use either 6 V or 7.2 V racing Ni-Cd battery. The battery may be recharged up to 300 times using a special charger connecting with household 100 V current or a quick charger (15 to 20 min) connecting with a 12 V power supply such as a car cigarette lighter plug.

◀Tools required for assembly▶



+ Phillips type screwdriver (Large) Use for ϕ 3 screws, ϕ 3 and ϕ 4 tapping screws.



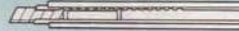
+ Phillips type screwdriver (Middle) Use for damper shaft, ϕ 2.6 tapping screws, and ϕ 2 screws.



Plain screwdriver (Middle)

+ Only phillips type screwdrivers are shown in actual sizes.

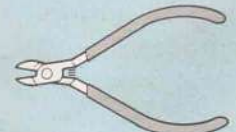
This kit includes many tapping screws. Use proper screwdriver and adequate torque to tighten screws. Release turning pressure on the screwdriver when the screw becomes tight and does not rotate any more. Be careful not to damage screws by applying too much torque.



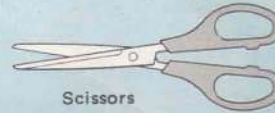
Cutter



Radio pliers



Cutting pliers



Scissors

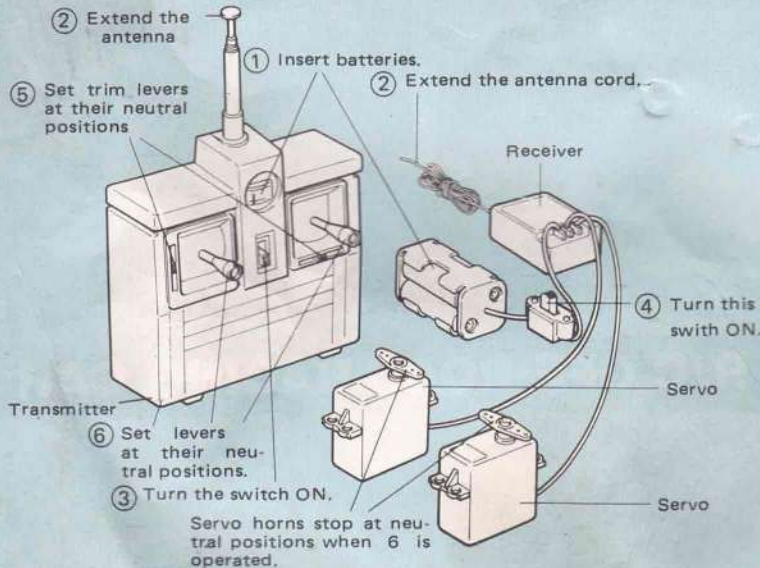


Small hammer



Insulation vinyl tape and scotch tape

◀Radio control unit▶



Most of 2-channel digital proportional radio controller can be used for this model. But be careful as some types of 2-channel unit do not fit. Receivers and servos of controllers with 3 channels or more may not fit with this model.

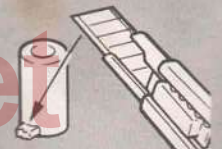
- Check the controller operation
- 1 Insert batteries in the transmitter and receiver.
 - 2 Extend the antenna of transmitter and receiver.
 - 3 Turn ON the transmitter power switch. (Always turn ON the transmitter switch first.)
 - 4 Turn ON the receiver power switch.
 - 5 Set the levers at their neutral positions.
 - 6 Set the levers at their neutral positions. (The servo horns stop at their neutral positions.)
 - 7 Check servos operate correctly by moving levers.
 - 8 Turn off the receiver and then transmitter switches in this order when test is complete.

See the radio controll equipment instruction sheet for details.

★ Read the following instructions carefully before assembly

- Read the entire assembly instruction before beginning assembly.
- A mark indicates the portion where grease included in the kit must be applied. Use a small hammer when the mark is shown in the figure.
- The actual sizes of all screws, washers, etc. are shown to simplify the assembly and ensure that correct parts are used.

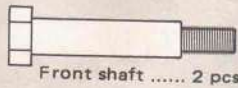
- Some screws, nuts, and washers may be left over as more than required numbers are included in this kit. Use them as spare parts.
- Thoroughly remove plastic part burrs with a cutter.
- Strengthened nylon part burrs must be completely removed as they may impair driving performance. (Be careful not to cut your fingers with a cutter.)



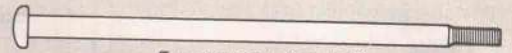
<Metallic part actual sizes used on P. 3>

φ 3 x 8 flat-head screw 2 pcs

2 mm nut 2 pcs



Front shaft 2 pcs



Front suspension shaft (Long) 2 pcs

φ 3 x 12 tapping screw 2 pcs

3 mm nut 5 pcs



Free ball (A) 2 pcs

φ 2 x 16 Spring pin 2 pcs

3 mm spring washer 4 pcs

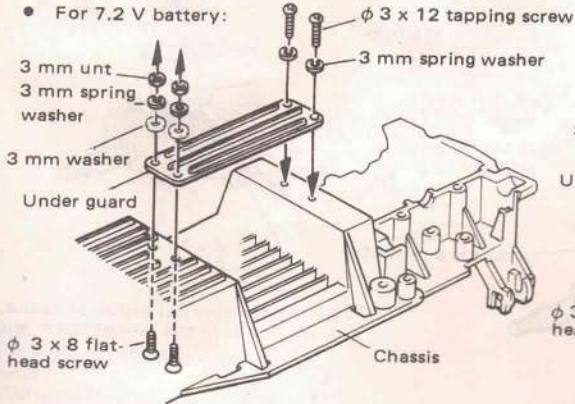
3 mm washer 4 pcs

φ 3 x 8 screw 3 pcs

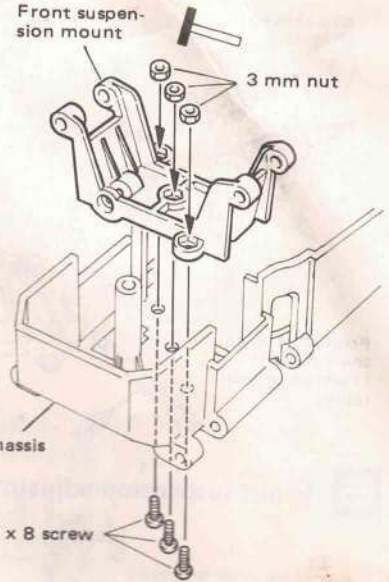
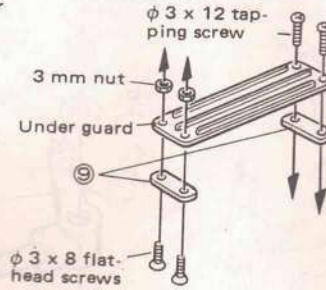
φ 3 x 10 spacer 4 pcs

1 Under guard and front suspension mount assembly

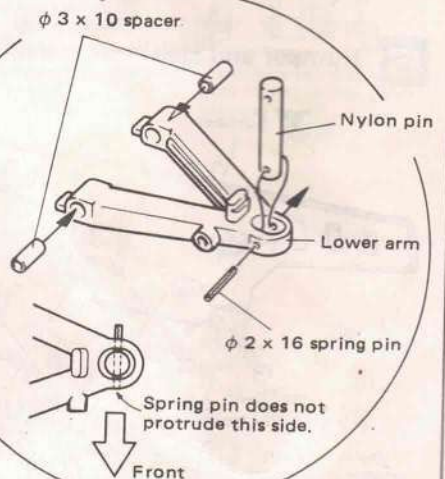
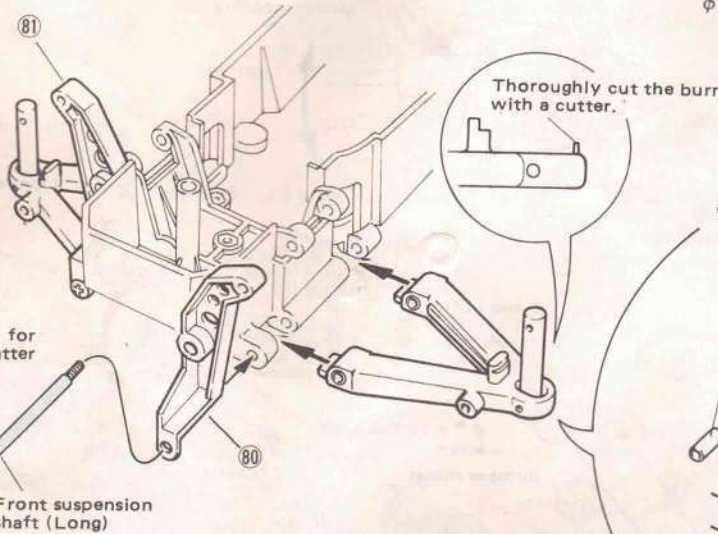
• For 7.2 V battery:



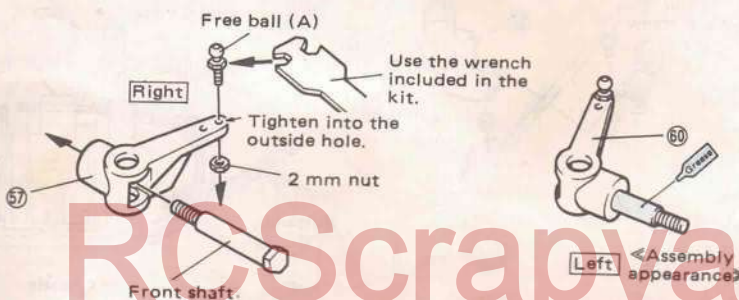
• For 6 V battery : Install parts 9 as shown.



2 Lower arm assembly



3 Knuckle arm assembly

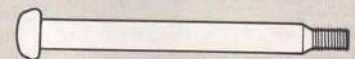


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<Metallic part actual sizes used on P. 4>

$\phi 3 \times 6$ screw 2 pcs

Partially nylon 4 mm locknut 2 pcs



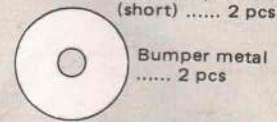
Front suspension shaft (short) 2 pcs

$\phi 3 \times 12$ flat-head screw 3 pcs

3 mm nut 5 pcs



6 mm washer 4 pcs

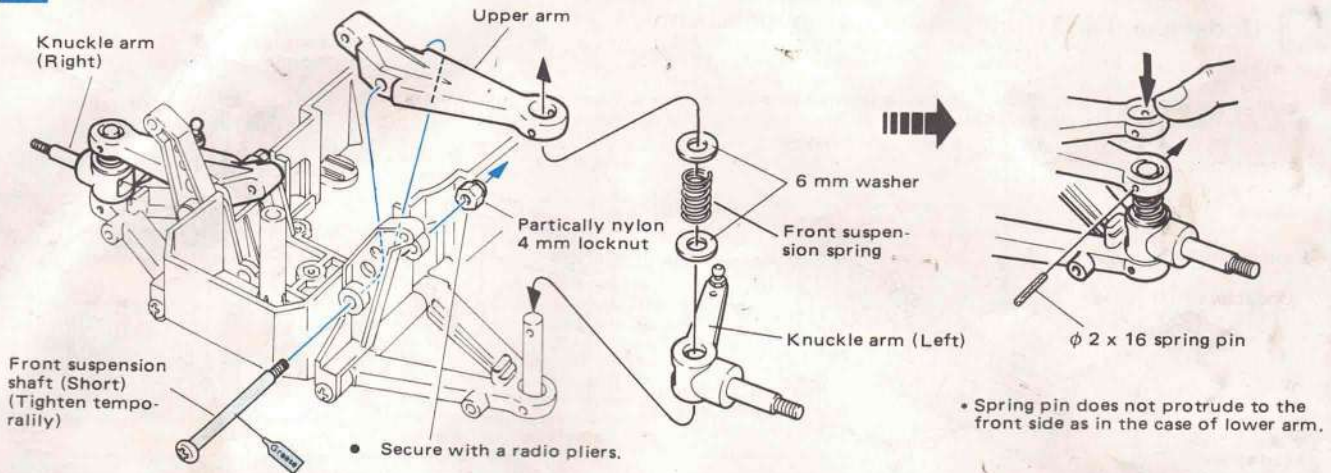


Bumper metal 2 pcs

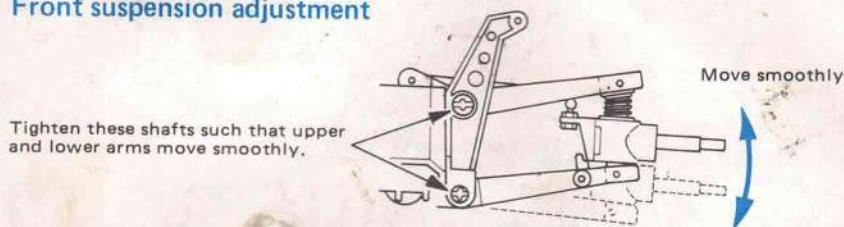
$\phi 2 \times 16$ spring pin 2 pcs

Front suspension spring 2 pcs

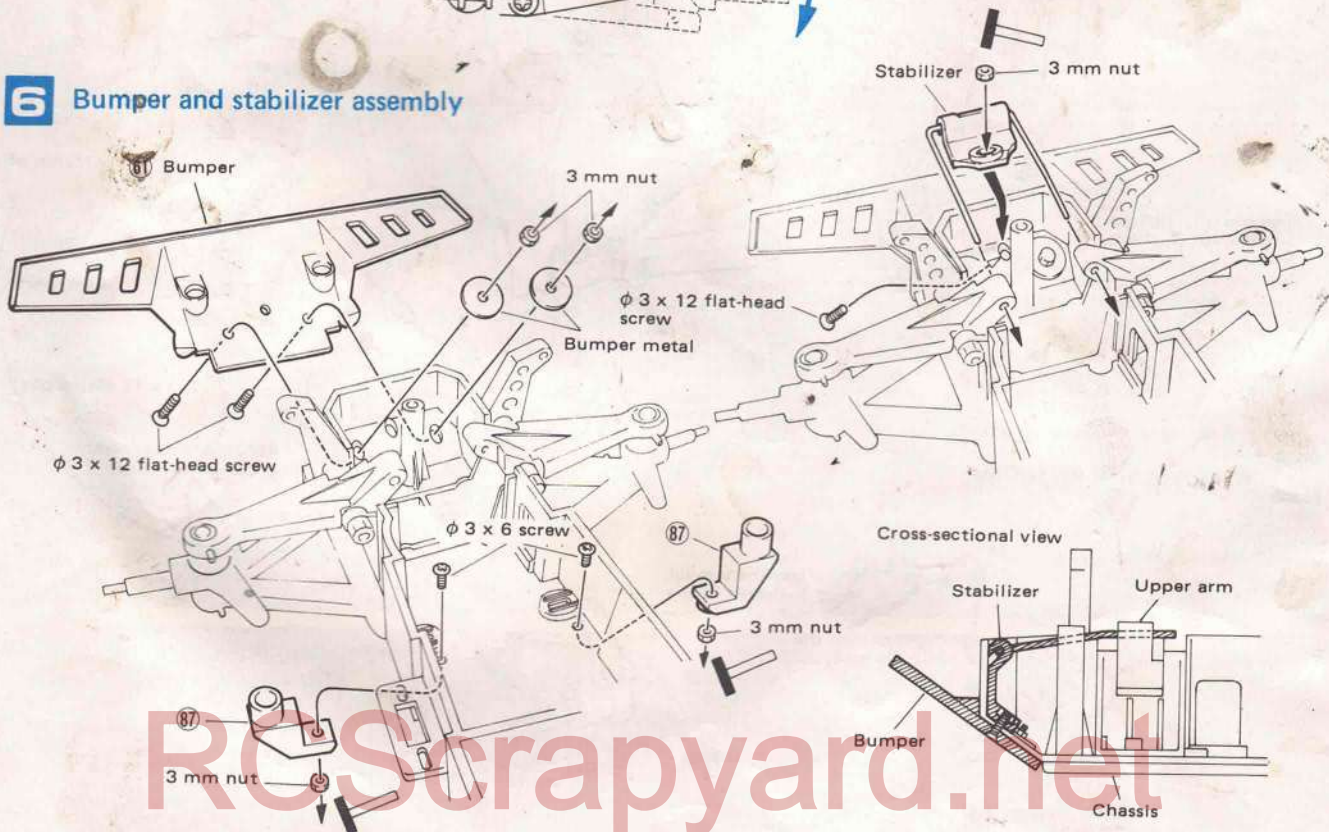
4 Upper arm assembly



5 Front suspension adjustment

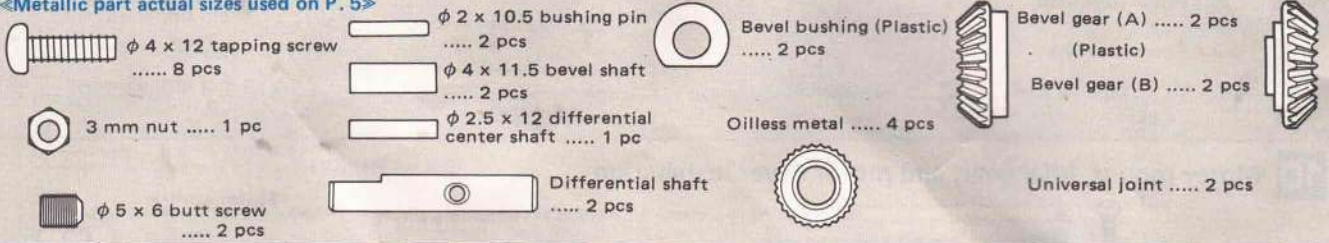


6 Bumper and stabilizer assembly

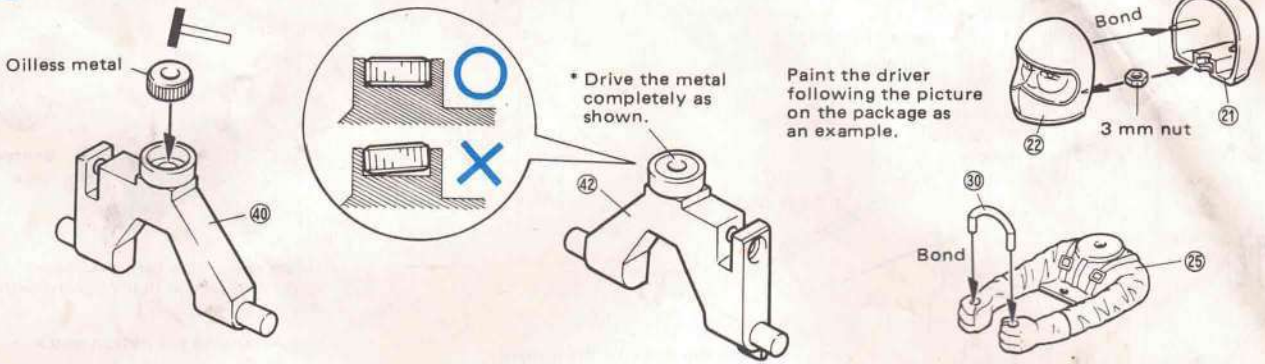


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«Metallic part actual sizes used on P. 5»

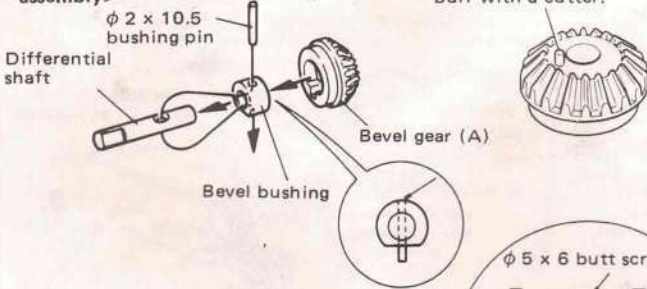


7 Driving the metal and bonding the driver



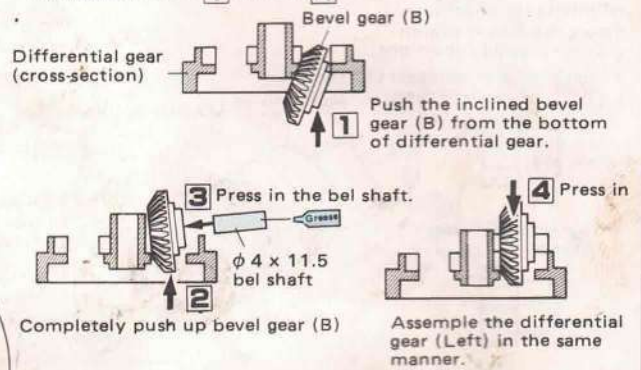
8 Gear assembly

«Differential shaft assembly»

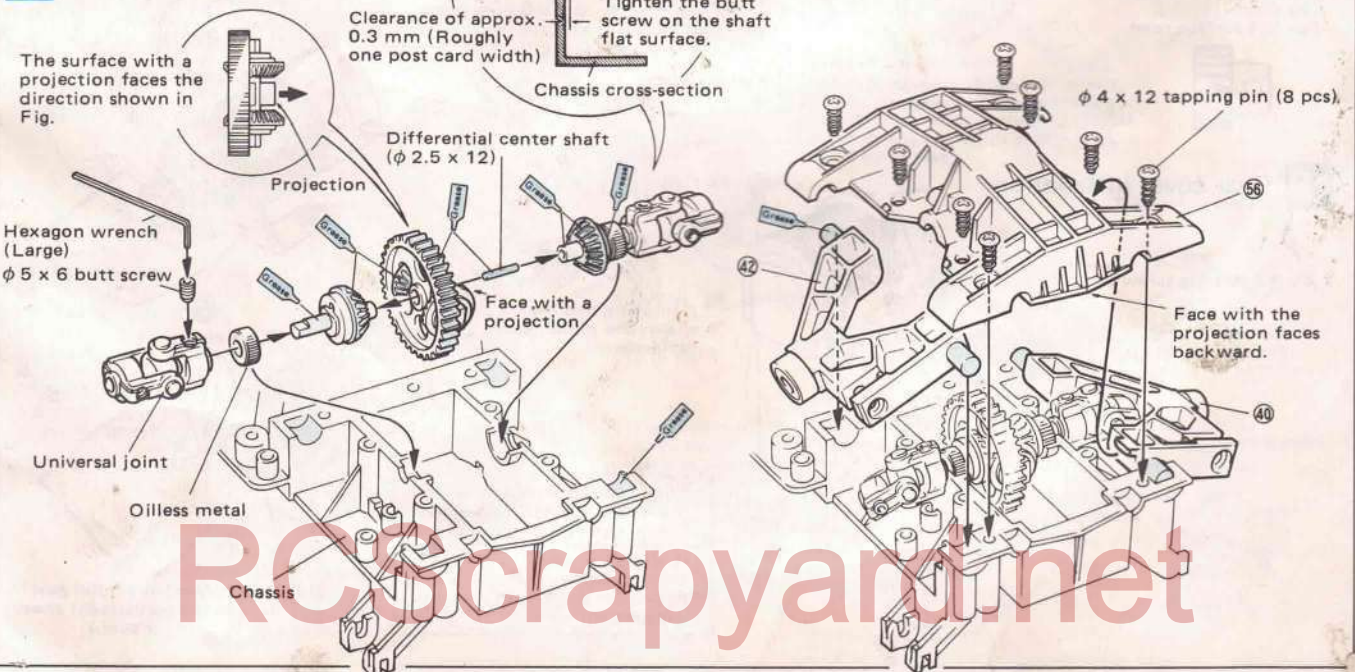


«Differential gear assembly»

Assemble in order 1 through 4



9 Gear assembly



◀Metallic part actual sizes used on P. 6▶

φ 3 x 6 screw 2 pcs

φ 3 x 10 tapping screw 2 pcs

φ 4 x 12 tapping screw 7 pcs

3 mm washer 3 pcs

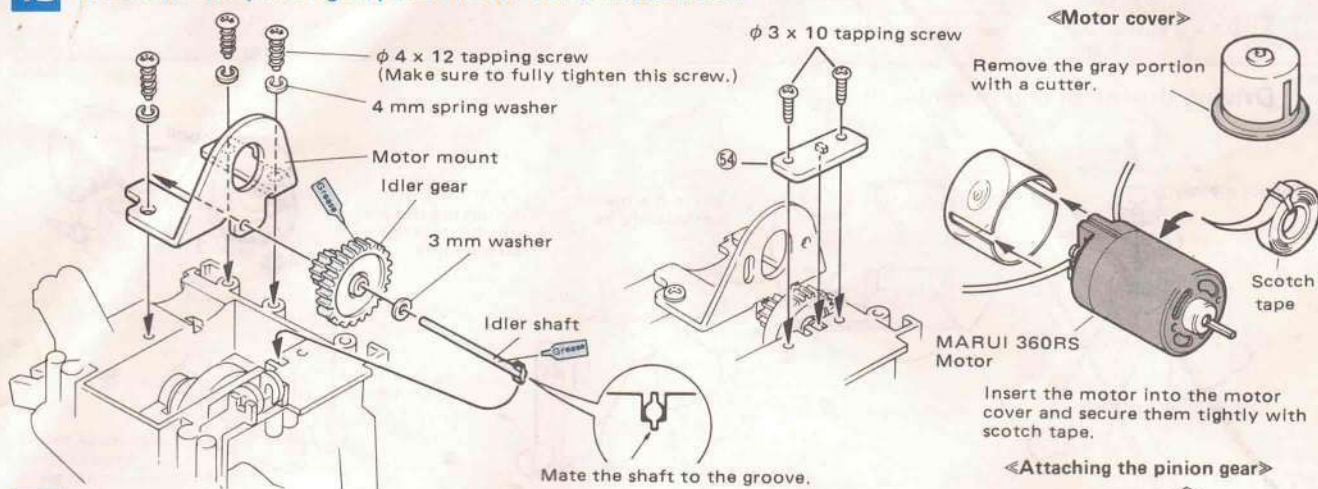
φ 3 x 3 butt screw 1 pc

Idler shaft 1 pc

3 mm spring washer 2 pcs

4 mm spring washer 3 pcs

10 Motor mount, idler gear, and motor cover installation



11 Pinion gear and motor installation

The motor becomes hot after operation. Be careful not to burn yourself.

◀Pinion gear selection▶

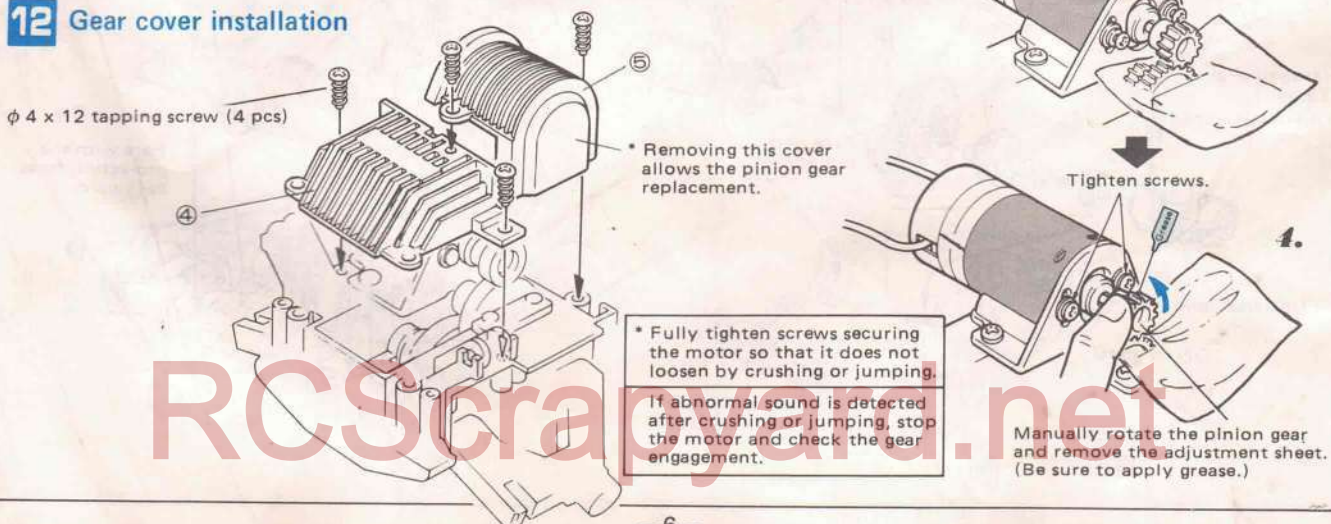
Select the proper pinion gear for driving conditions.

- High torque pinion gear (18 tooth):
For rough surface road







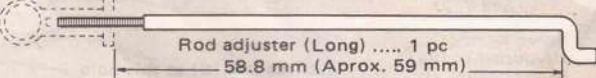
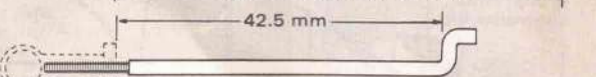



- Regular pinion gear (20 tooth):

- High-speed pinion gear (22 tooth):
For flat surface road

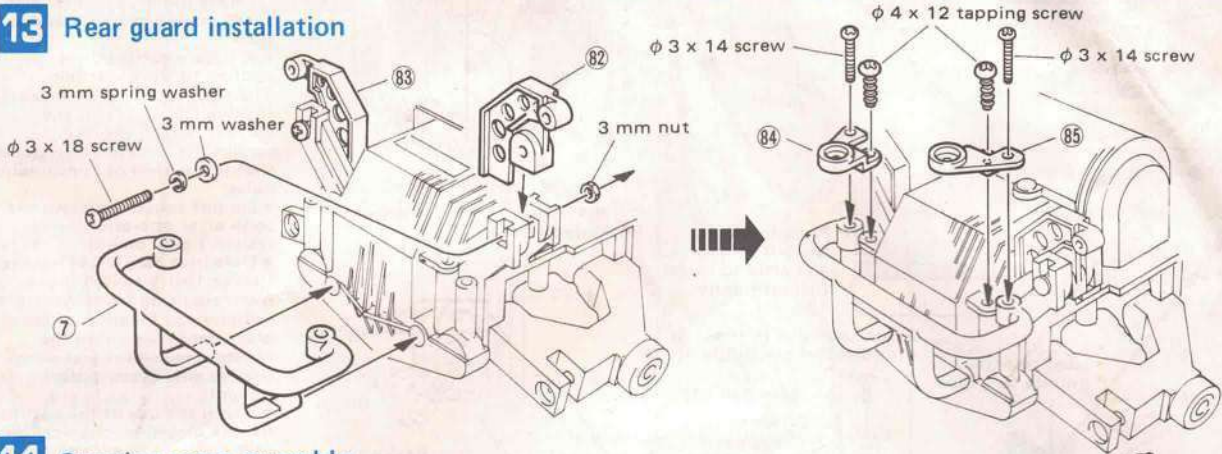
12 Gear cover installation



◀Metallic part actual sizes used on P. 7▶

-  φ 3 x 10 screw 4 pcs
-  3 mm spring washer 4 pcs
-  3 mm washer 8 pcs
-  3 mm nut 6 pcs
-  φ 3 x 16 screw 2 pcs
-  φ 3 x 14 screw 2 pcs
-  Rod adjuster (Long) 1 pc
58.8 mm (Aprox. 59 mm)
-  Rod adjuster (Middle) 1 pc
42.5 mm
-  φ 2.6 x 11 tapping screw 1 pc
(For servos of FUTABA, JR, or KO)
-  φ 3 x 10 tapping screw 3 pcs
-  φ 4 x 12 tapping screw 2 pcs

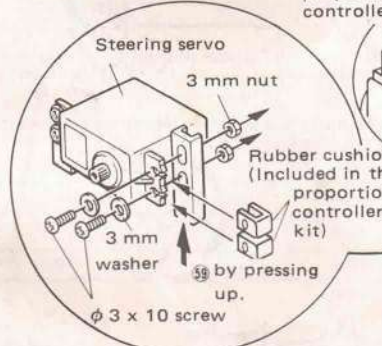
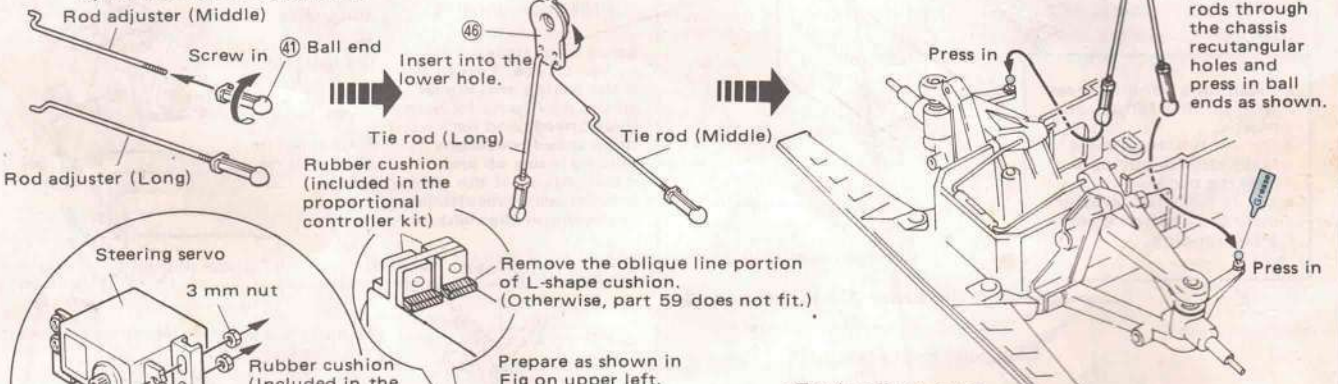
13 Rear guard installation



14 Steering servo assembly

◀Tie rod assembly▶

* Ensure the use of correct components by comparing their actual sizes.



Use part 50 for FUTABA servo and part 49 for JR, KO, or SANWA servo.

φ 2.6 x 11 tapping screw for FUTABA, JR, or KO.

φ 3 x 10 tapping screw for SANWA



φ 3 x 10 tapping screw

Prepare as shown in Fig on upper left.

FUTABA servo

SANWA, JR, or KO servo

Part with a hole

Two types of servo savor springs 48 and 52 are included. (Spring 52 is stronger than spring 48. Use proper spring for your purpose.)

Remove the oblique line portion of L-shape cushion. (Otherwise, part 59 does not fit.)

Rubber cushion (included in the proportional controller kit)

Insert into the lower hole.

Ball end

◀Toe-in adjustment▶
Toe-in is important for high-speed, straight driving. Adjust tie rod length so that knuckle arms slightly incline forward. Adjust toe-in angles with actual drive test.

◀Removing the ball end▶
Gouge the ball end with the wrench included in the kit.

Knuckle arm

Part with a hole

◀Adjusting rod length▶
Shorter

Install the part pressing toward the arrow.

Longer

Pass tie rods through the chassis rectangular holes and press in ball ends as shown.

Press in

15 Speed controller assembly and adjustment

(Set the servo to receiver before beginning assembly.)
See P. 2)

◀Metallic part actual sizes used on P. 8▶

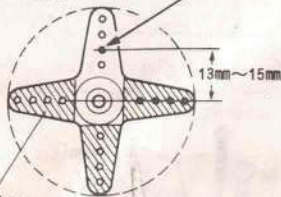
2 mm nut
..... 1 pc

Free ball (B)
..... 1 pc

Rod adjuster (short)
..... 1 pc

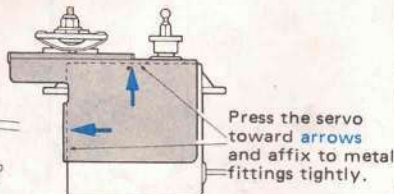
Servo horn
(Included in the
proportional
controller kit)

Fix free ball (B) at this hole.



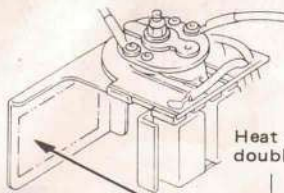
Use the servo horn
hole within 13 mm
or 15 mm from the
center.

Remove the
oblique portion.

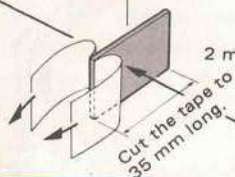


Press the servo
toward arrows
and affix to metal
fittings tightly.

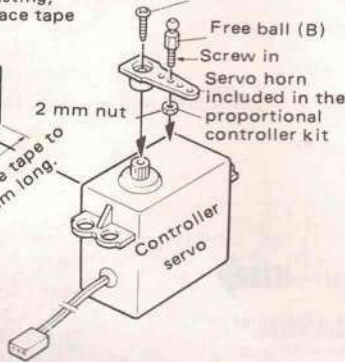
Screw included in the
proportional controller kit



Heat resisting,
double face tape



Cut the tape to
35 mm long.

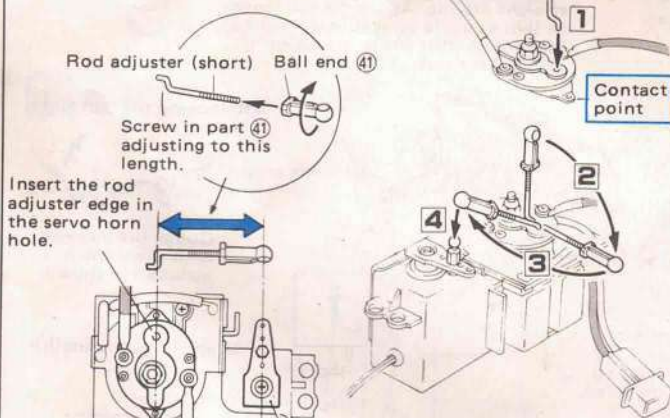


Free ball (B)
Screw in
Servo horn
included in the
proportional
controller kit

- Clean tape bonding areas with thinner for use on plastic.
- Do not touch adhesive faces after removing the backing paper
- Apply sufficient pressure onto the controller servo after bonding.

Install in the order of 1 through 4

Controller head portion



Rod adjuster (short) Ball end (4)

Screw in part (4)
adjusting to this
length.

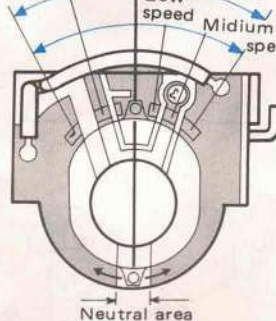
Insert the rod
adjuster edge in
the servo horn
hole.

Controller
neutral position

Servo neutral
position

When the controller head (contact point)
is located within the neutral area, the
horn is positioned as shown above.

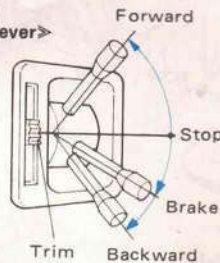
Backward, high-speed Brake Stop Forward, high-speed



◀Switch positions▶

- The controller may be damaged if it is used incorrectly. The controller has built-in resistors which may over-heat or burn if it is used only at low or medium speed ranges. Operate the model at its high-speed setting as much as possible.
- A large electric current is applied to the controller. The controller switch repeats turning ON and OFF the current, which shortens its service life. Please understand that it is a kind of consumable parts.
- Do not touch the controller soon after operation as its resistors may be hot.
- Defective controller installation or faulty switch movement resulting from incorrect switch head location or wire placement may cause the resistors over-heat and burn the bakelite electric components.
- Avoid the use of the controller in a closed mechanical box as it contains heat generating resistors.

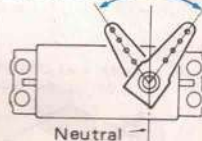
◀Forward/
Backward lever▶



◀Stroke adjustment▶

Servo horn stroke differs by servo type. Test to see if the switch arm moves all the way to its forward (high-speed) and backward (high-speed) positions by moving levers up and down. Adjust if the stroke is excessive or insufficient as shown on the right.

Backward (high-speed) Stroke Forward (high-speed)

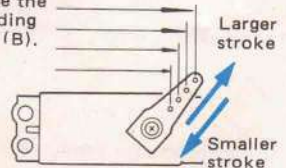
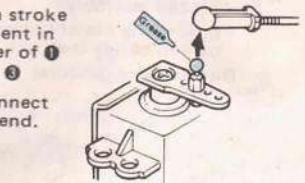


Perform stroke
adjustment in
the order of 1
through 3

1 Disconnect
the ball end.

2 Change the
hole holding
free ball (B).

3 Adjust rod adjuster length and connect
with free ball (B).



Shorter



Longer

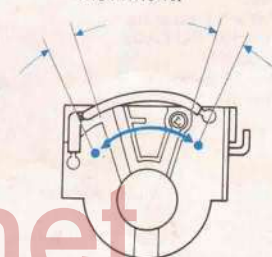
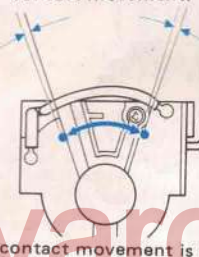
◀Switch contact position▶

Secure sufficient
contact movement.



Servo horn

Sufficient contact
movement.



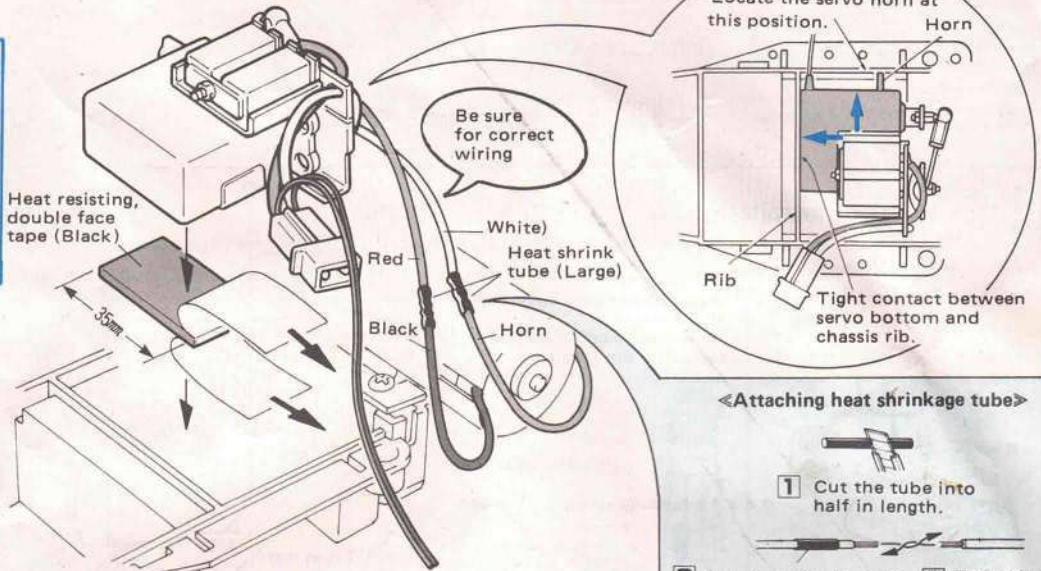
If contact movement is insufficient,
change the servo horn hole toward
the 15 mm side.

16 Speed control servo installation

- Clean bonding areas with thinner for use on plastic.
- Do not touch adhesive faces after removing the backing paper. (Oil on your fingers may adversely influence bonding strength.)
- Apply sufficient pressure to secure the servo.

Heat resisting, double face tape (Black)

35mm



Be sure for correct wiring

White) Heat shrink tube (Large)

Black) Horn

Locate the servo horn at this position.

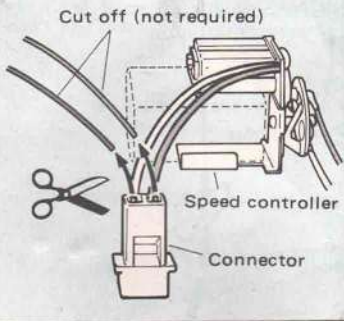
Horn

Rib

Tight contact between servo bottom and chassis rib.

- If the model runs backward when the lever is set to forward, the wiring is faulty.

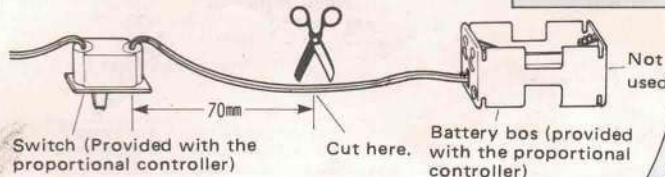
- To use the proportional controller as it is supplied or the 6 V battery pack:



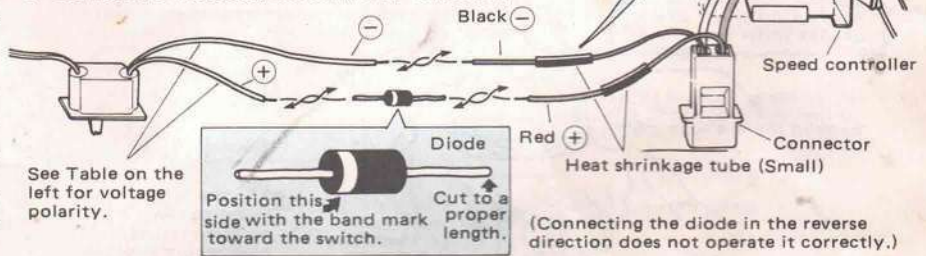
- To commonly use the 7.2 V battery pack as the receiver power supply (6 V battery pack is not suitable):

• This change is to decrease the total weight for racing purpose. When the battery is commonly used, controlling the model cannot be properly performed when the battery voltage drops (the model speed is reduced). Replace the battery pack.

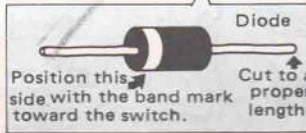
- 1 Disconnect the receiver battery box (provided with the proportional controller).



- 2 Connect the leads to speed controller connector.



See Table on the left for voltage polarity.

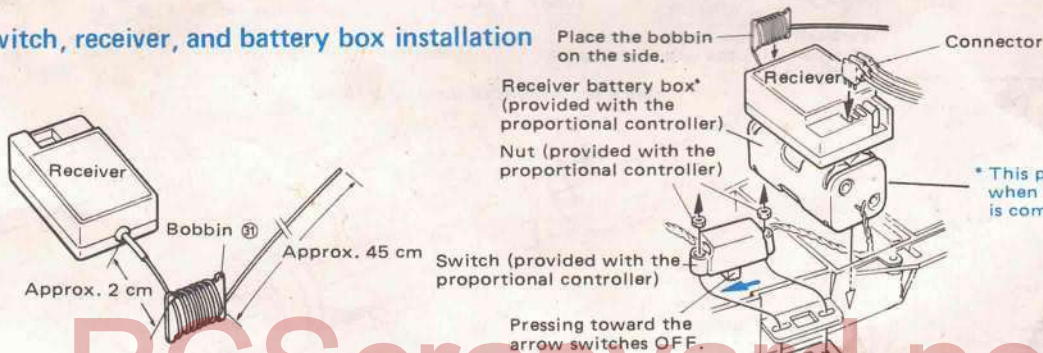


(Connecting the diode in the reverse direction does not operate it correctly.)

◀ + and - of switch leads ▶

Polarity Proportional controller	+	-
FUTABA	Red	Black
JR	Red	Brown
SANWA	White lined or red	Black
KO	Red	Black

17 Switch, receiver, and battery box installation













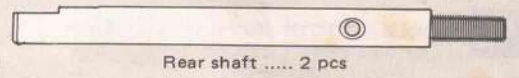
Wind the antenna on a bobbin starting 2 cm from the receiver and leave approx. 45 cm on the other end free.

Switch plate (provided with the proportional controller)

* This part is not used when the power source is commonly used.

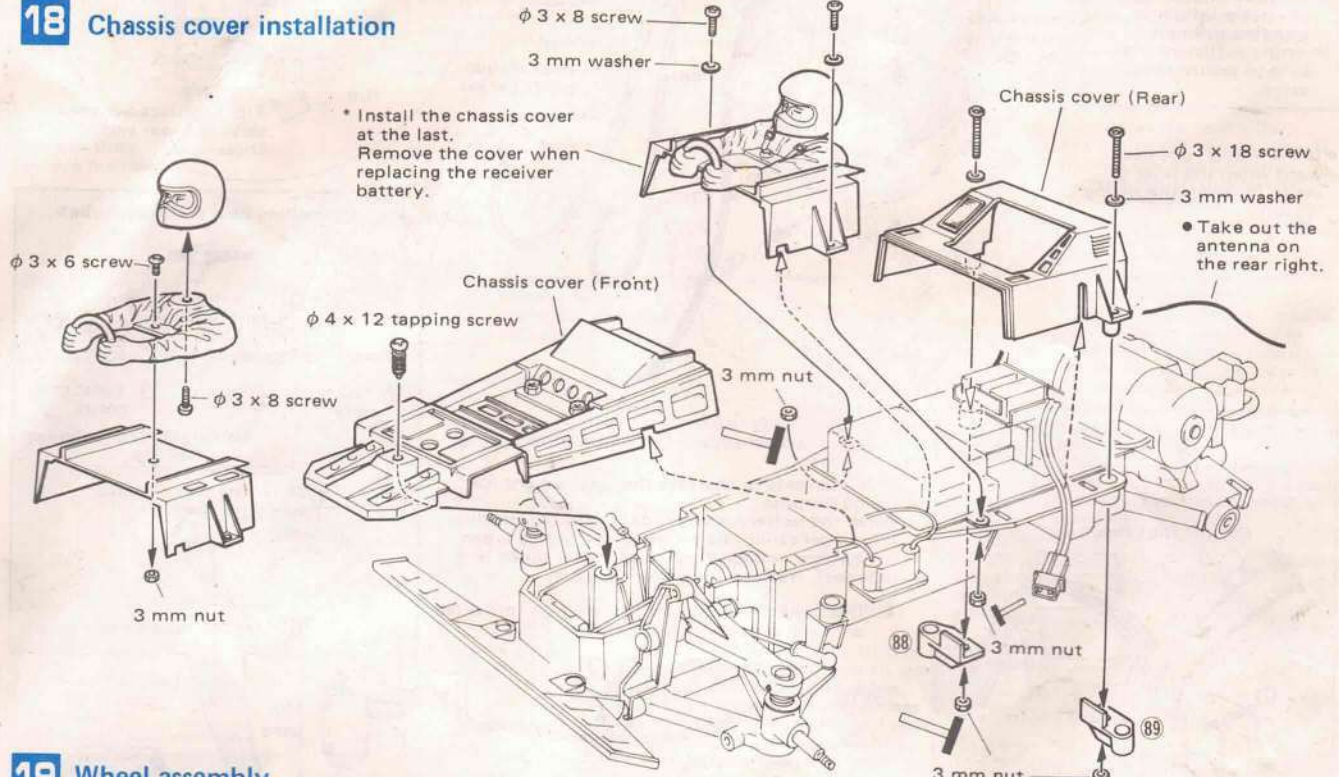
Metallic part actual sizes used on P. 10>

-  $\phi 3 \times 6$ screw 1 pc
-  $\phi 2 \times 15$ screw 8 pcs
-  $\phi 2 \times 9$ hub shaft 2 pcs
-  $\phi 3 \times 8$ screw 3 pcs
-  $\phi 2 \times 11$ tapping screw 8 pcs
-  3 mm washer 4 pcs
-  $\phi 3 \times 18$ screw 2 pcs
-  $\phi 4 \times 12$ tapping screw 1 pc
-  3 mm nut 5 pcs
-  Partly nylon 4 mm locknut 2 pcs



Rear shaft 2 pcs

18 Chassis cover installation



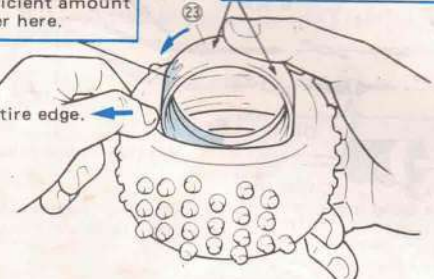
19 Wheel assembly

<Rear tires>

* Apply a sufficient amount of soap water here.

Do not apply soap water here. (Wheel will be slippery if applied.)

Expand the tire edge.

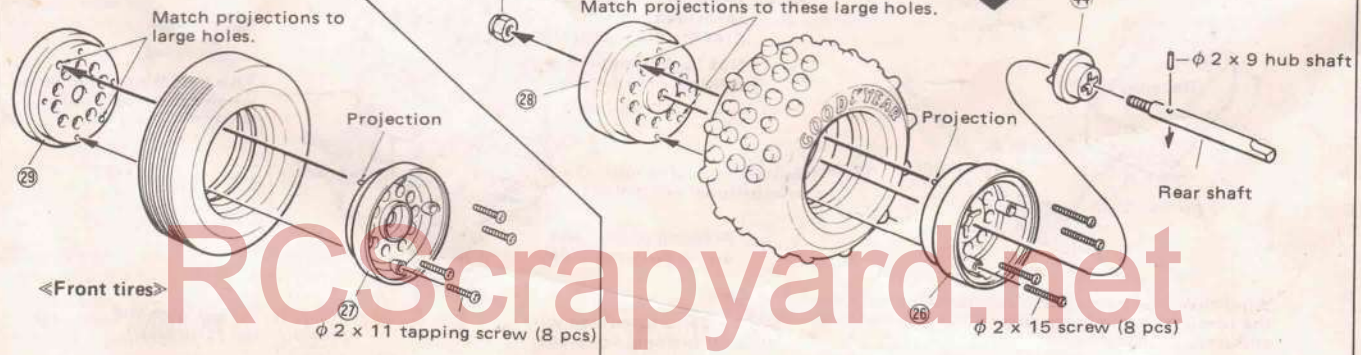


• The tire is tight when inserting rim 23 since abrasion resistance, high tensile strength rubber is used.

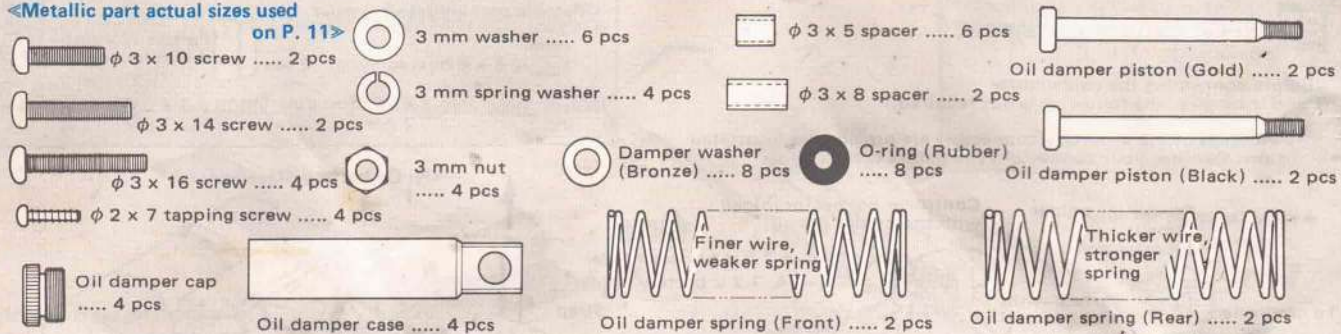
If wheel 23 is temporarily inserted in the tire, complete the job by rotating it toward the arrow.

Partly nylon 4 mm locknut (Tighten with the wrench included in the kit.)

Match projections to these large holes.

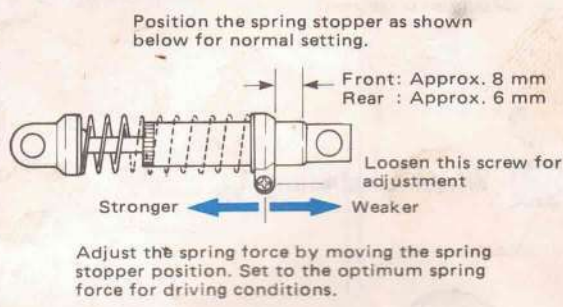
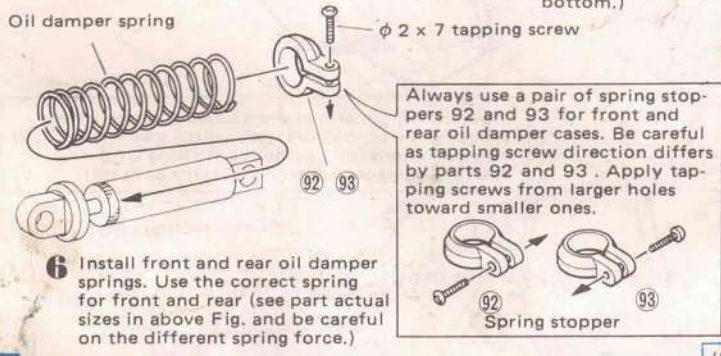
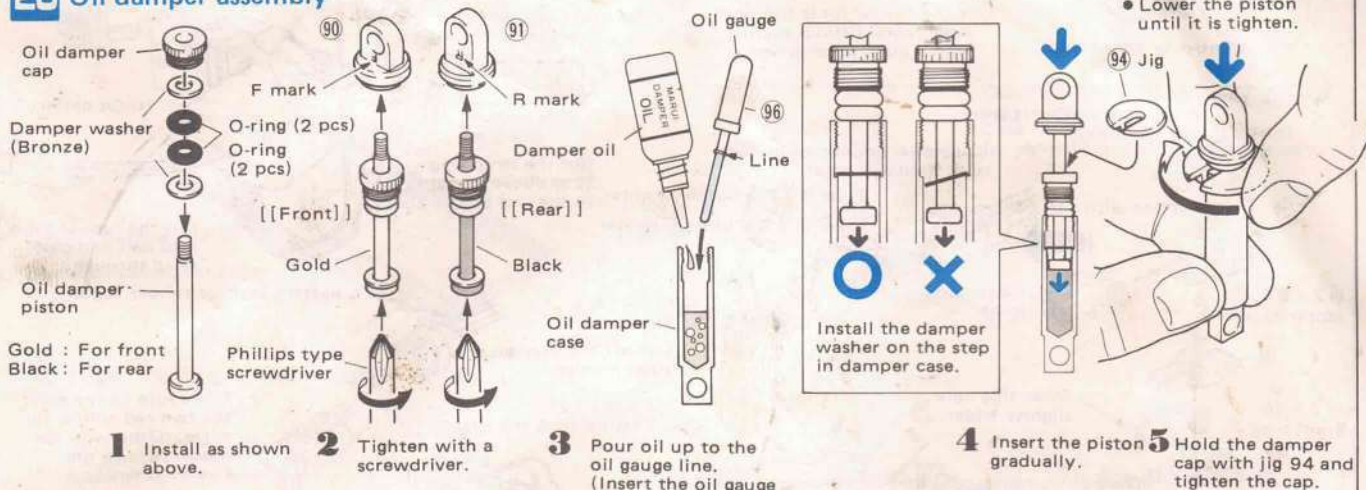


◀Metallic part actual sizes used on P. 11▶

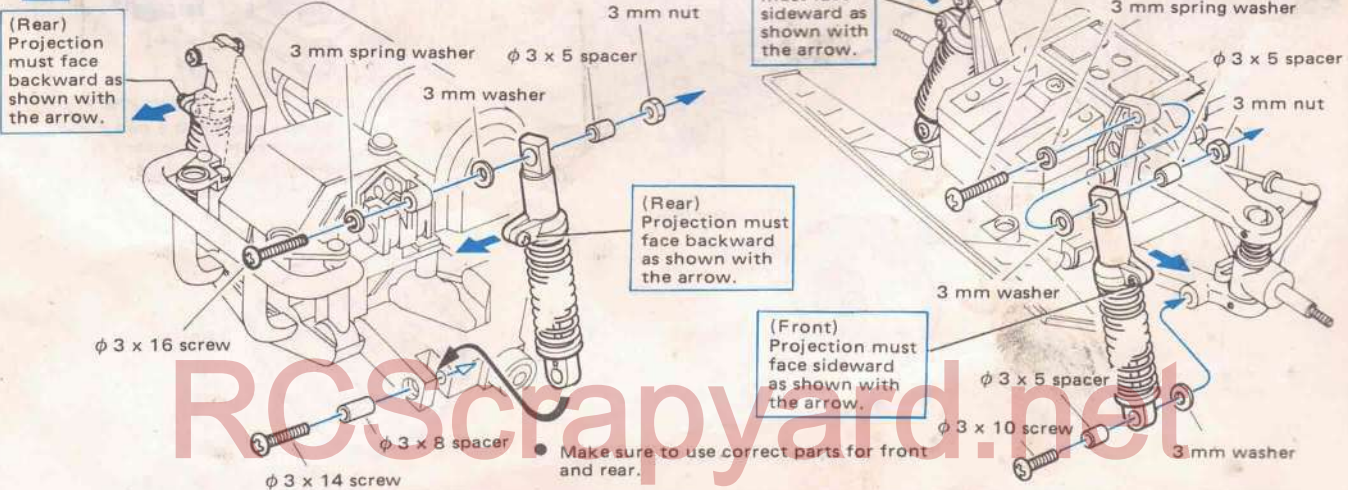


20 Oil damper assembly

● Be careful on colors for front and rear pistons. (Each two pistons)



21 Oil damper installation

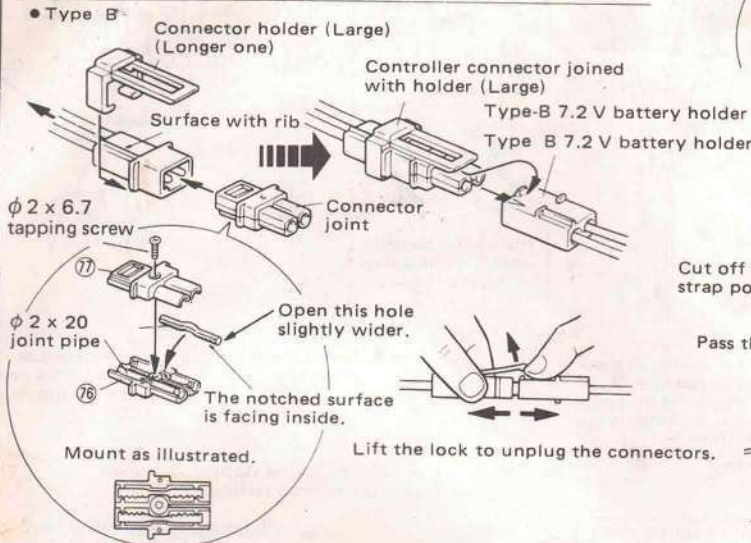
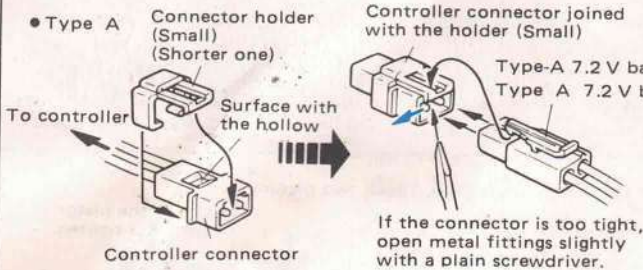


RCScrapyard.net

22 Ni-Cd battery placement

«Before connecting the connector»
(For 6 V battery, the following is not required.)

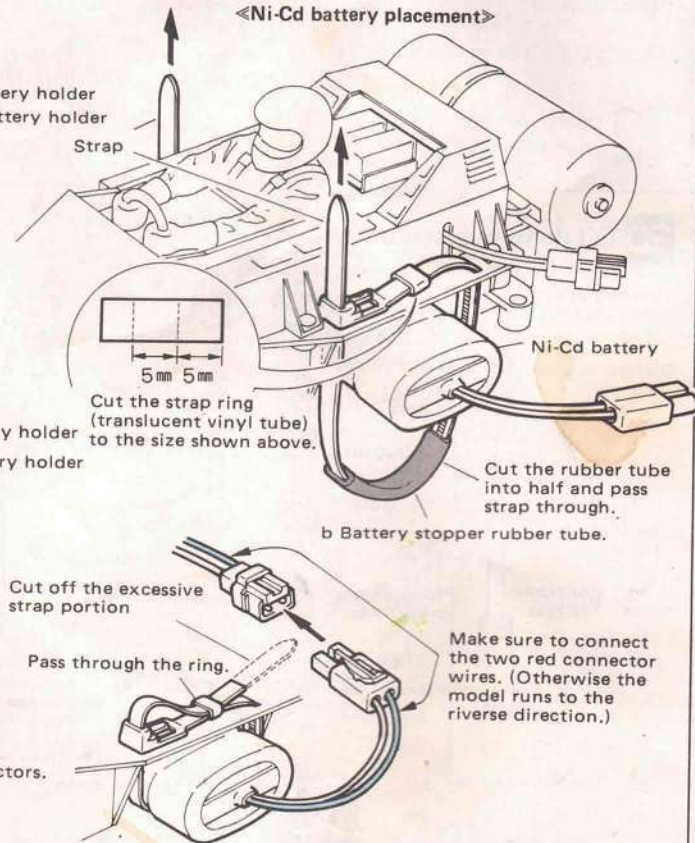
* Two types of 7.2 V battery connectors are provided as illustrated below. Confirm your connector type before connection.



«Metallic part actual sizes used on P. 12»

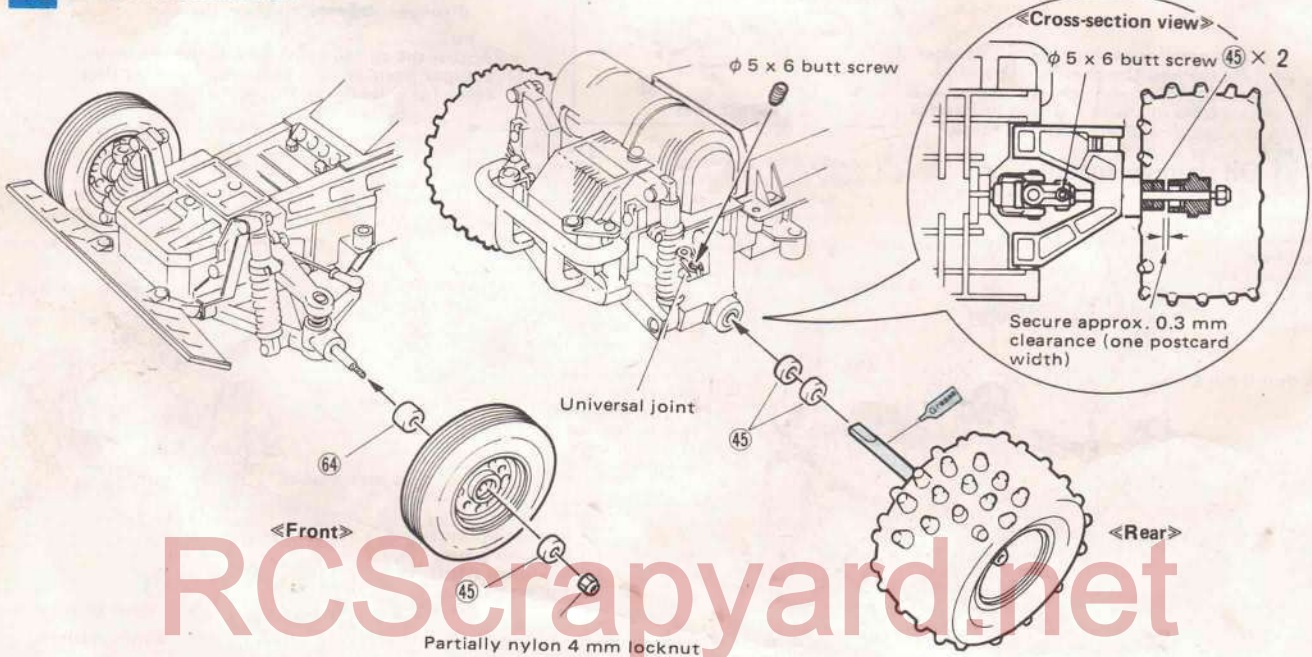
φ 5 x 6 butt screw 2 pcs
Partially nylon 4 mm locknut 2 pcs
φ 2 x 20 joint pipe 2 pcs
φ 2 x 6.7 tapping screw 1 pc

«Ni-Cd battery placement»



* Set the switch arm at the neutral position when plugging the connectors. (see switch position on P. 8) Plugging connectors without switching OFF may result in damaged controller battery or motor.

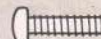
23 Wheel installation




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24 Wing and player's number plate installation

<Metallic part actual sizes used on P. 13>

 ϕ 3 x 10 tapping screw
..... 10 pcs

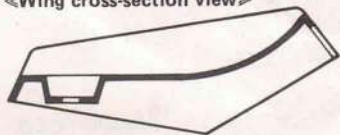
 3 mm washer 2 pcs

<Wing>



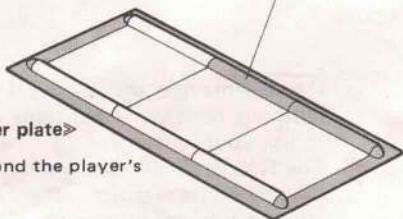
Drill a ϕ 3.2 hole with a gimlet or drill.

<Wing cross-section view>



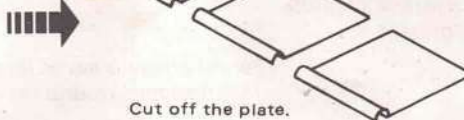
(Always paint from the reverse side.)

Remove the grey area with a cutter or scissors.



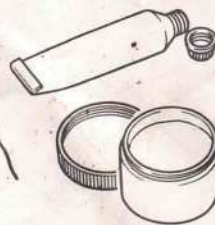
<Player's number plate>

- Required to bond the player's number



Cut off the plate.

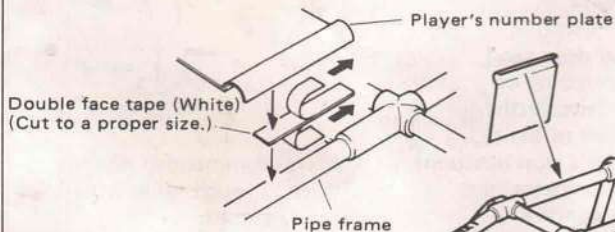
Paint for polycarbonate



- Clean dirt and oil with soapy water before painting.
- Coat the body interior with paint for polycarbonate or laquer for metal.

25 Pipe frame (roll bar) installation

- When participating in a race, bond the player's number plate with double face tape where you want.



Double face tape (White)
(Cut to a proper size.)

Pipe frame

Player's number plate

ϕ 3 x 10 tapping screw <Mounting the antenna pipe>
3 mm washer

Tie this portion so that wire does not fill.

About 5 cm long

Antenna pipe

Bond decals (see the picture on package as an example.)

Press antenna pipe into this chassis hole after passing the wire through the pipe.

95

ϕ 3 x 10 tapping screw
(all screws securing pipe frames are the same.)

Pass the wire through the bottom. The wire is stretched so that it will not be tangled with the tire.

ROScrapyard.net

Handling precaution

The R/C BUGGY is designed as a high-speed off-road racing car. Be careful while handling and operating this model.

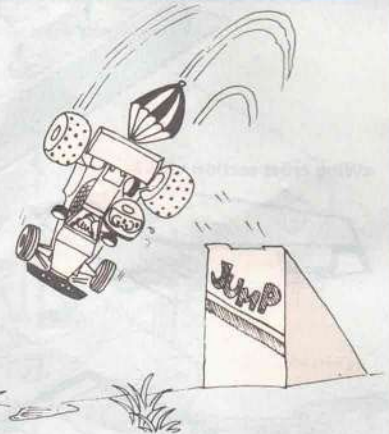


- ① Do not operate at a crowded location or where children are present.



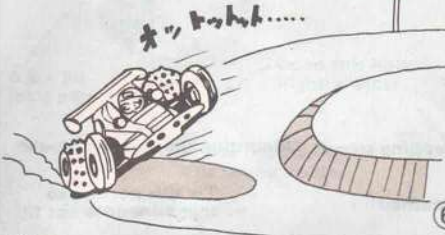
- ③ Avoid sloppy areas as water may damage the model.

- ④ The controller and motor are hot after operation. Be careful not to burn yourself. (Do not touch carelessly)



- ⑦ Damage may be anticipated if the car jumping, however when some races require it, use your judgement. The R/C BUGGY ideal weight balance enable landing on its rear tires after taking a level straight forward jump at full-speed. Avoid unbalanced front tire landings because these heighten the possibility of damage.

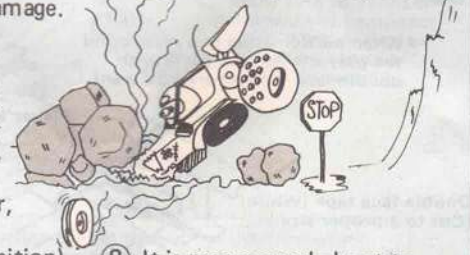
- ⑤ Avoid grassy areas as long grass may become wound on drive shafts.



- ② The car may overturn if a high-speed turn is performed on a paved road or grassy lawn. Make sure to remember the basic principle for cornering, slow in and fast out.



- ⑥ When driving is impaired by deep sand, obstacles, or wound grass or string on drive shafts, do not try to drive further, but set the transmitter levers to their neutral positions (controller's stop position). Be careful because the motor bears an excessive load under these conditions.



- ⑧ It is recommended not to drive in rough areas with many stones.

Checks before driving

- ① Check all screws and nuts for tightness. Pay special attention to screws and nuts securing the suspension, and butt screws attached to the universal joint.
- ② Check gears for correct engagement. Faulty pinion gear engagement due to loosened motor securing screws may cause idler gear damage. Check the pinion gear butt screw for correct tightness. (See Page 6.)
- ③ Are proportional controller batteries supplying sufficient power?
Receiver battery life is shorter than that of the transmitter, and early battery replacement is recommended. (See Page 2.)
- ④ Does the controller operate correctly?
Make sure that the controller is correctly adjusted. (See Page 8.)

- ⑤ Does the steering operate correctly?
Perform a test run to see if the car runs straight. If not, turn the steering lever trim toward the reverse direction of the car's drift. If still not corrected, adjust the steering rod length as instructed in the assembly sheet. (See Fig. 14 of page 7.)

- ⑥ Are all wire connections tight?
Faulty insulating vinyl or soldered areas may cause short circuit. Repair using vinyl insulating tape. (See Fig. 18 of Page 9.)

- ⑦ Are drive batteries sufficiently charged?
(See Page 2.)

• Following troubles may be corrected through performance of above described checks before operation.

- ① The car does not move forward although the motor is operating.
See Page 5, 6, 8, and 12.

- ② Irregular motor or gear sound.
Rear wheels do not rotate smoothly.
See Page 5, 6, and 12.

- ③ The car does not respond properly to control or runs at random during driving.
See Page 2, 7, and 8.

- ④ Speed controller does not operate correctly including no full-speed drive.
See Page 8.

- ⑤ Faulty straight driving, or turning to the right and left differs. See Fig. 14 to of Page 7.

- ⑥ Controller, drive batteries, or wires are over-heated. See Page 8.

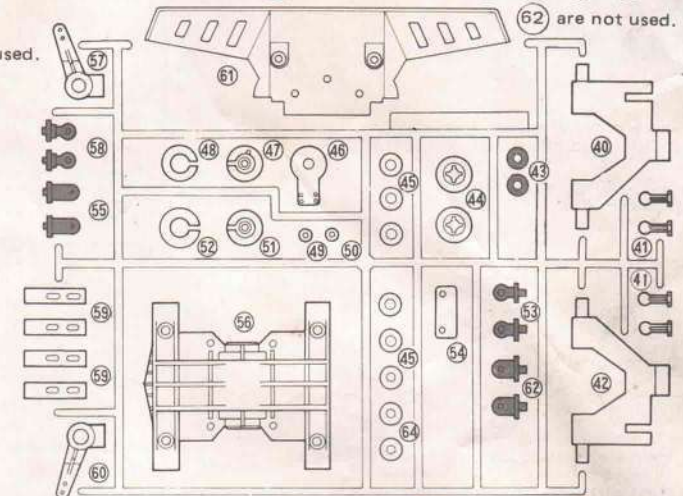
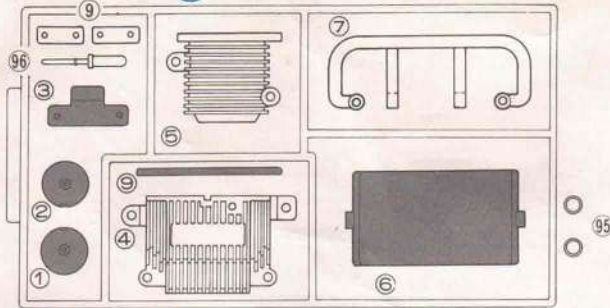
- ⑦ For faulty proportional controller operation including improper servo movement, check the following points:
Sufficient power supply by batteries, correct (+) and (-) battery connections, an discontinuous servo or connector wires.

- ⑧ If the faulty operation is still not corrects after the above, contact your dealer for repair.

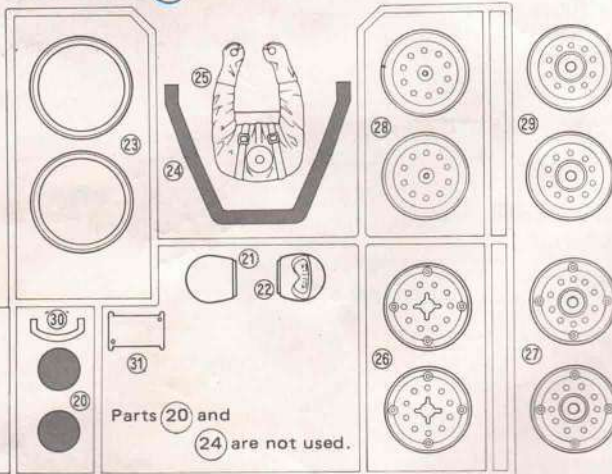
PART LIST

Reinforced nylon parts **A** x 1 Parts **(43, 53, 55, 58, and 62)** are not used.

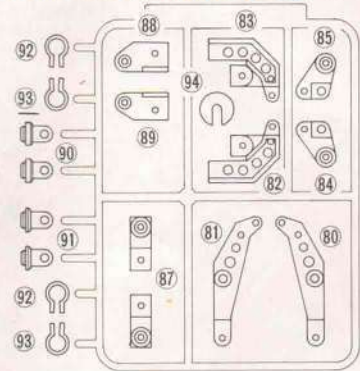
ABS Parts 1 x 1 Parts **(1, 2, 3, 6, and 9)** are not used.



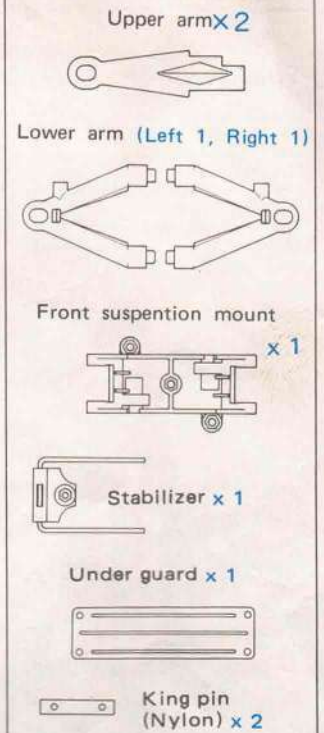
ABS Parts 2 x 1



Reinforced nylon parts **C** x 1



Front suspension set



Damper set

Oil damper sprint (Front) x 2



Oil damper spring (Rear) x 2

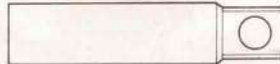


Oil damper cap x 4

Damper oil x 1



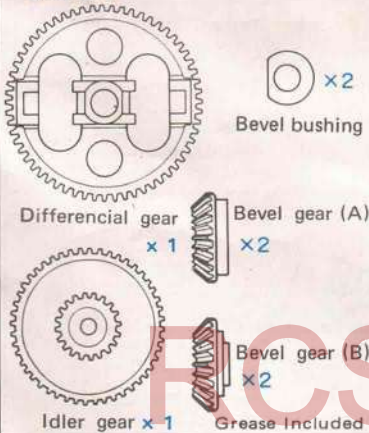
Damper case x 4



When a spare part set is required, the following parts are included:

- * Oil damper piston (Front x 2, Rear x 2)
- * Damper washer x 8
- * O-ring x 8

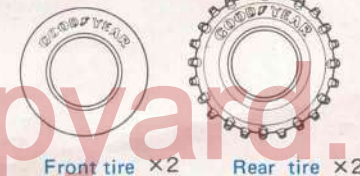
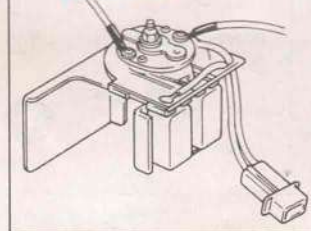
Gear set



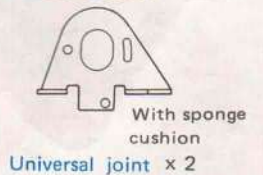
Pinion gear set



Controller



Motor mount x 1



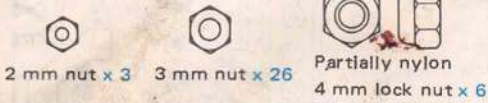
MARUI 360RS Motor x 1



PART LIST

● Some types of screws and nuts are included excessively for spare part use.
 ("φ3" in figures represents "3 mm diameter")

Nut set



C Set

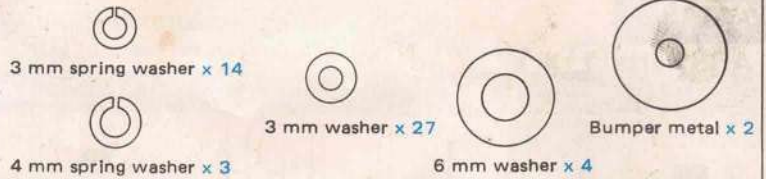
- | | |
|---------------------------------|-----------------|
| Heat shrinkage tube (Large) x 1 | Rubber tube x 1 |
| Heat shrinkage tube (Small) x 1 | Sponge x 1 |
| Translucent tube x 1 | Pliers x 1 |
| | Bond x 1 |
| | Grease x 1 |

Other Parts

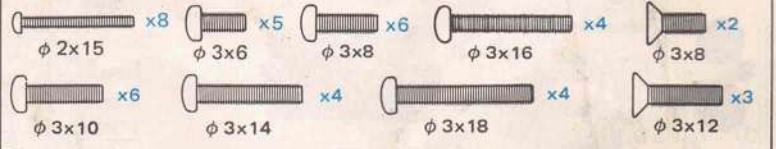
- | | |
|--|---------------------------|
| Chassis x 1 | Wing x 1 |
| Chassis cover (Front, Middle, Rear) 1 each | Player's number plate x 1 |
| Pipe frame x 1 | Motor cover x 1 |
| Heat resisting, double face tape (Black) x 1 | Decal sheet x 1 |
| Double face tape x 1 | Strap x 2 |
| Gear engagement adjustment sheet x 1 | |

* Spare parts may be purchased separately.

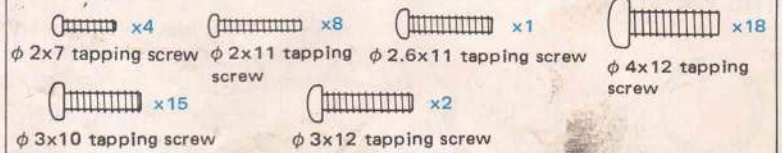
Washer set



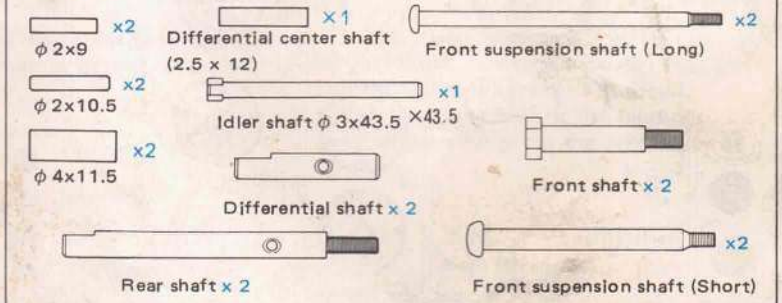
Screw set



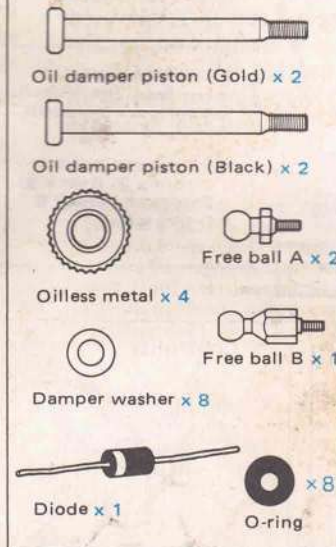
Tapping screw set



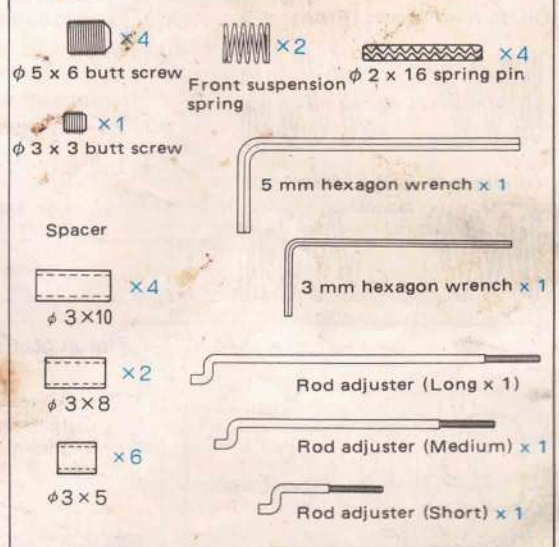
Shaft set



A set



B set



Connector set

