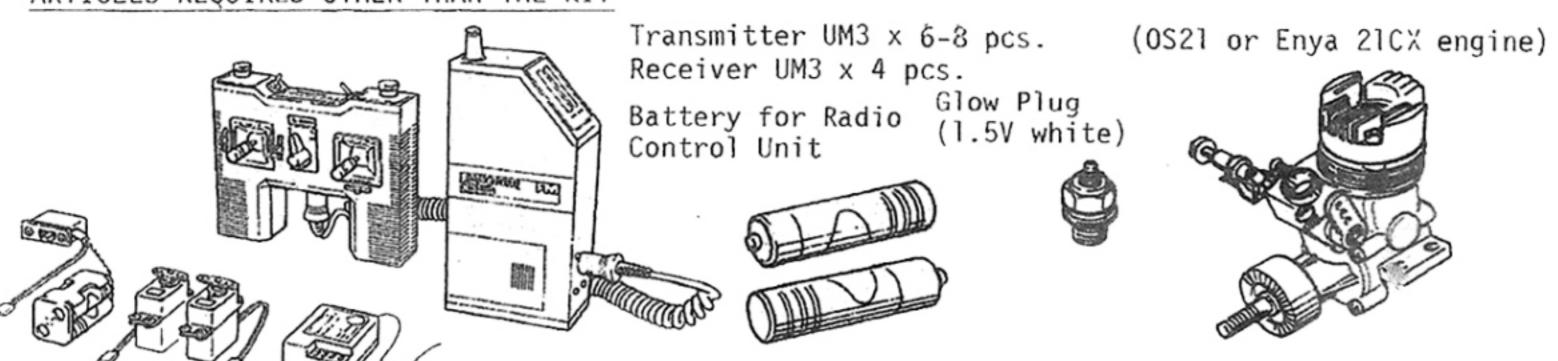
4 WHEEL DRIVE RACING BUGGY KIT RADIO CONTROLLED ENGINE POWERED



Thank you very much for purchasing the R/C Car "LAND JUMP 4D". To be able to assemble your "LAND JUMP 4D" properly so it will run with maximum performance, we recommend that you proceed with the assembly work following closely this instruction booklet.

By reading this instruction booklet to the end throughly before you start to assemble and keeping in mind the general construction of the car, it will enable you to get started with the assembly work very smoothly. If you are going to use a new engine, by BREAKING IN the engine in accordance with the instruction sheet that comes with the engine, it will enable you to get long engine life and miximum performance.

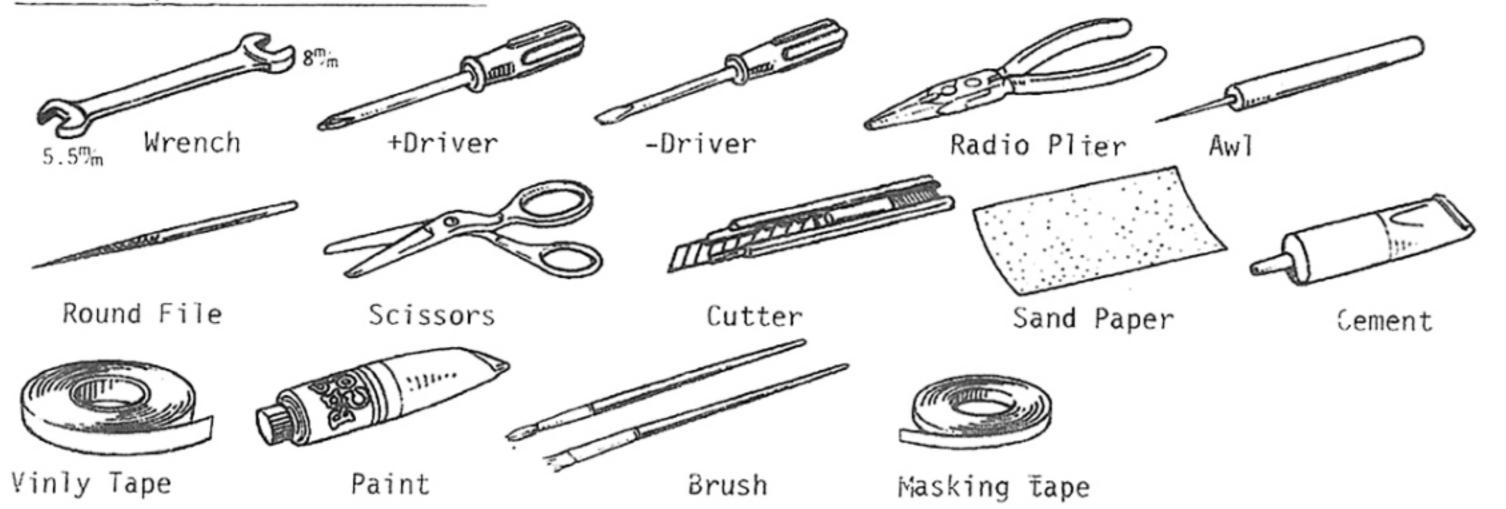




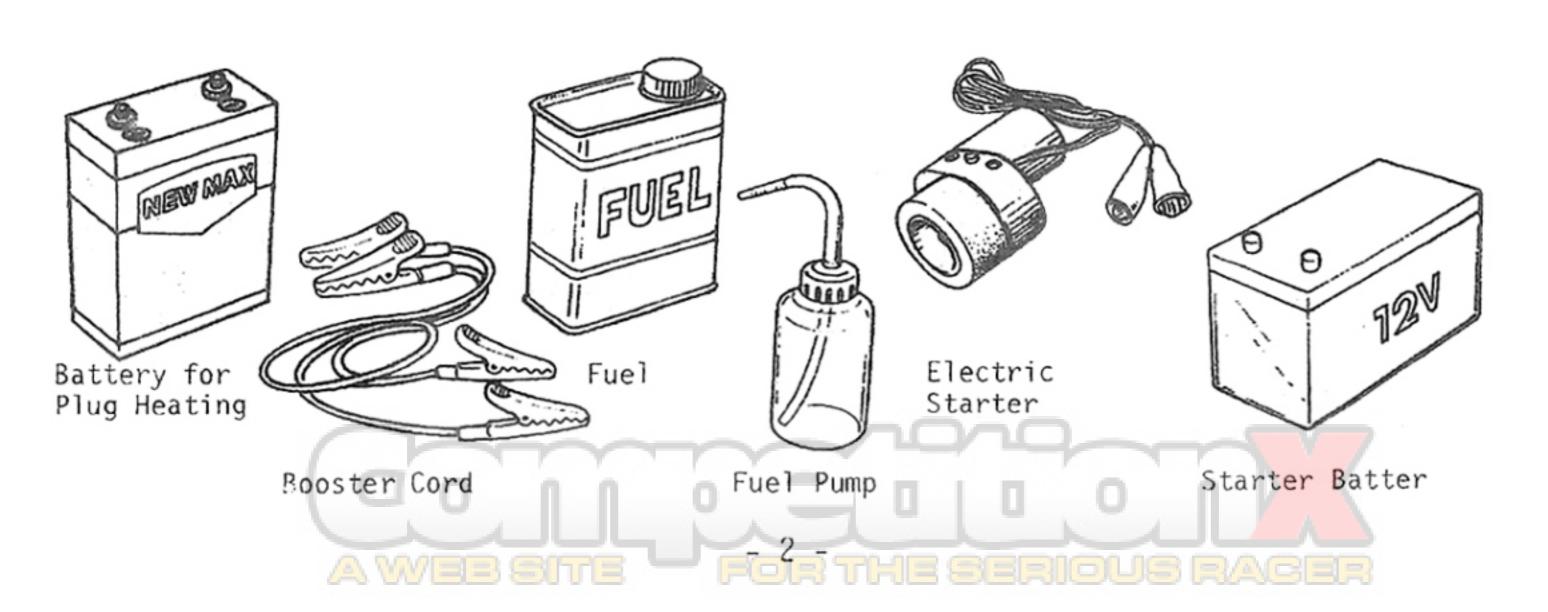
Note: Use reverse-servo for steering.

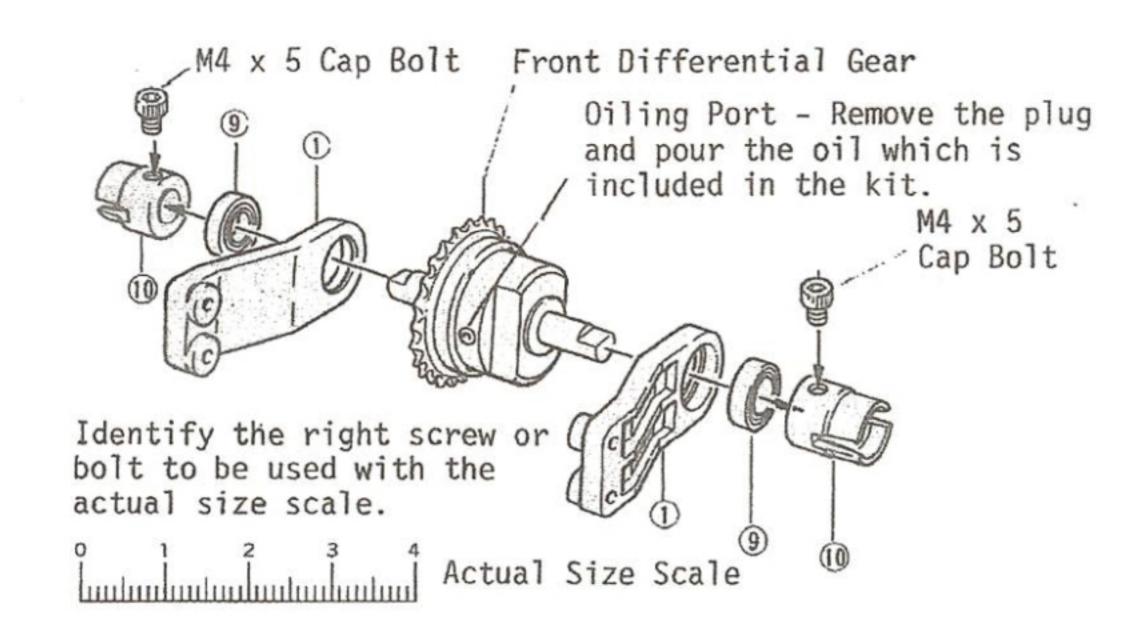
Note: This model being designed for Enya 21CX and OS21 engines. An optional parts and modifications necessary when use other engines.

TOOLS REQUIRED FOR ASSEMBLING



ARTICLES REQUIRED FOR RUNNING





OILING

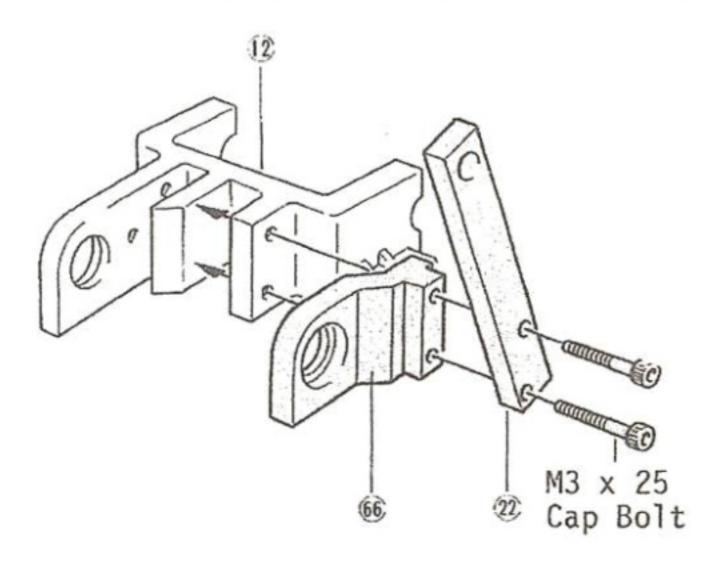
The differential gear needs to be filled with oil. Viscosity of the oil give it some resistance so that the differential gear will operate properly.

*M4 x 5 Cap Bolt is;

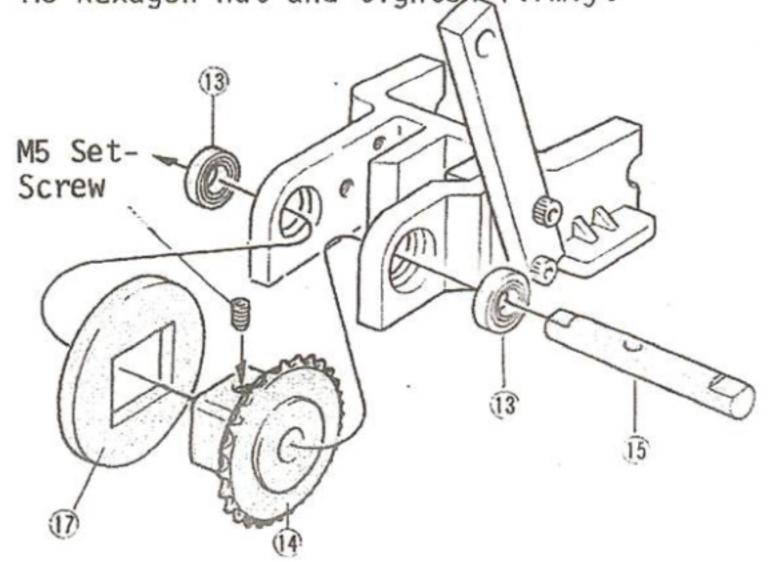
4mm diameter of the bolt leg.

5 mm long bolt leg under the head.

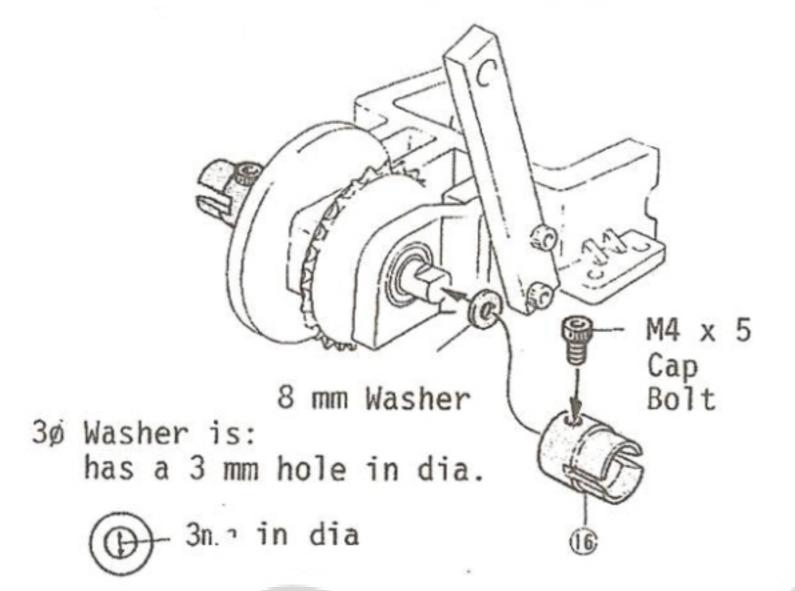
2 Bolt the rear axle 66 and the muffler installing stay 22 to the rear axle 10.



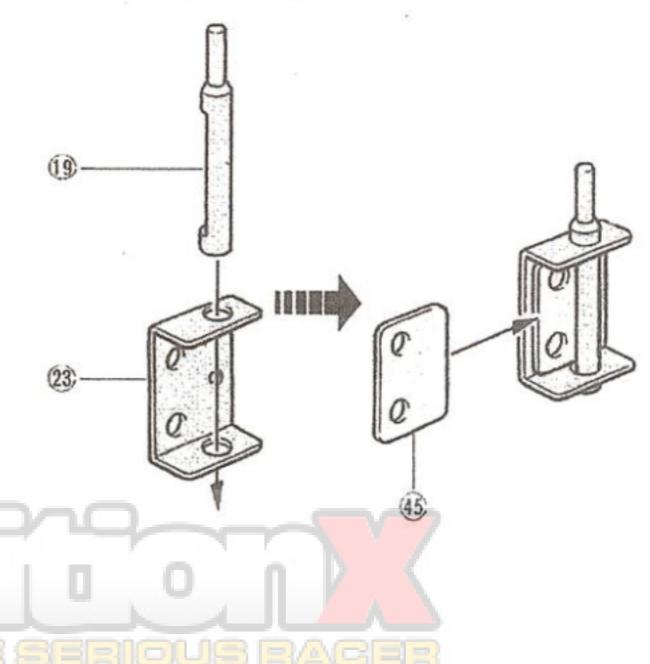
Insert the rear shaft bearing (3 into the rear axle (2), fit onto the rear sprocket (4) boss, the main disc (1) as illustrated, insert the rear center shaft (5) as shown in illustration, match the "D" cut portion to M5 hexagon nut and tighten firmly.



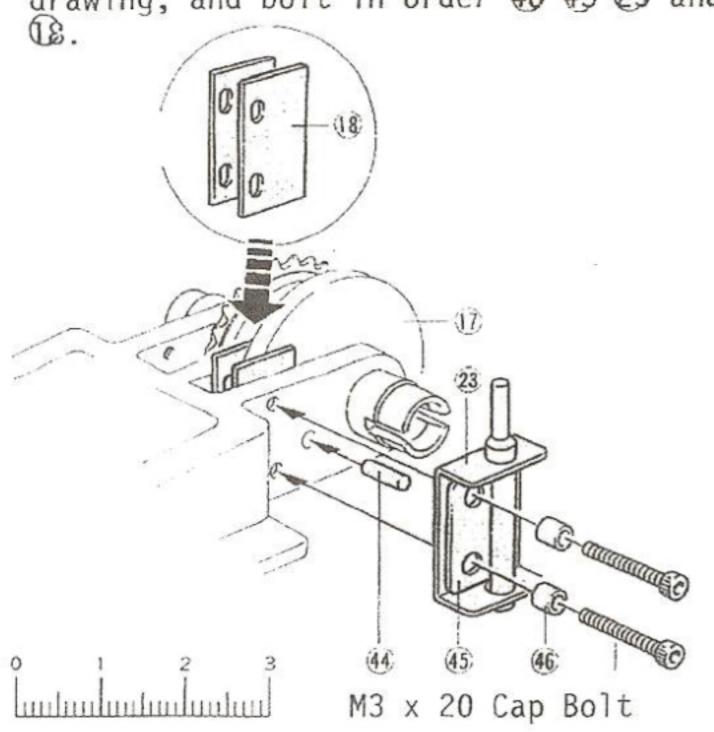
4 Install the joint (onto the shaft.



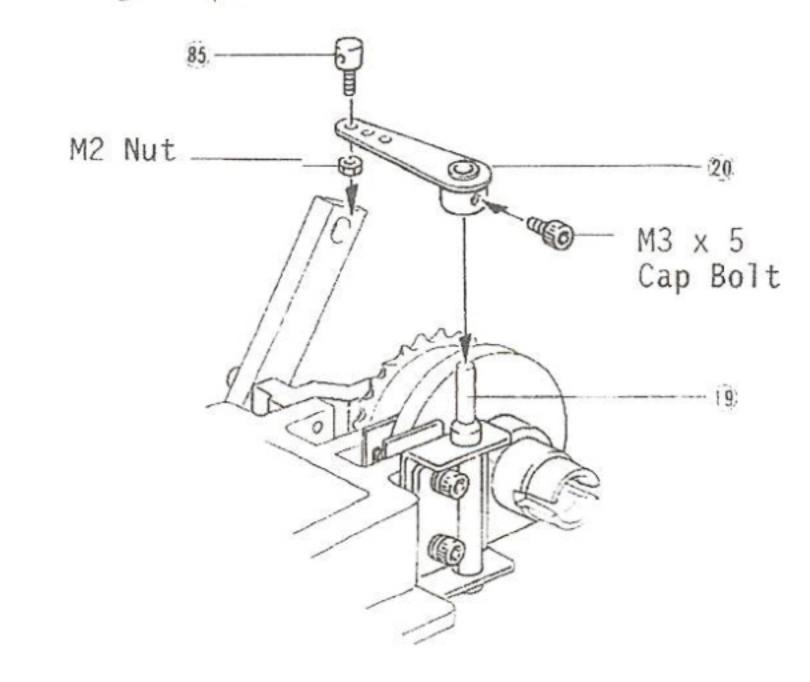
5 Assemble the brake caliper (3) with the brake shaft (9), and insert the brake shaft plate (5) between (9) and (23).



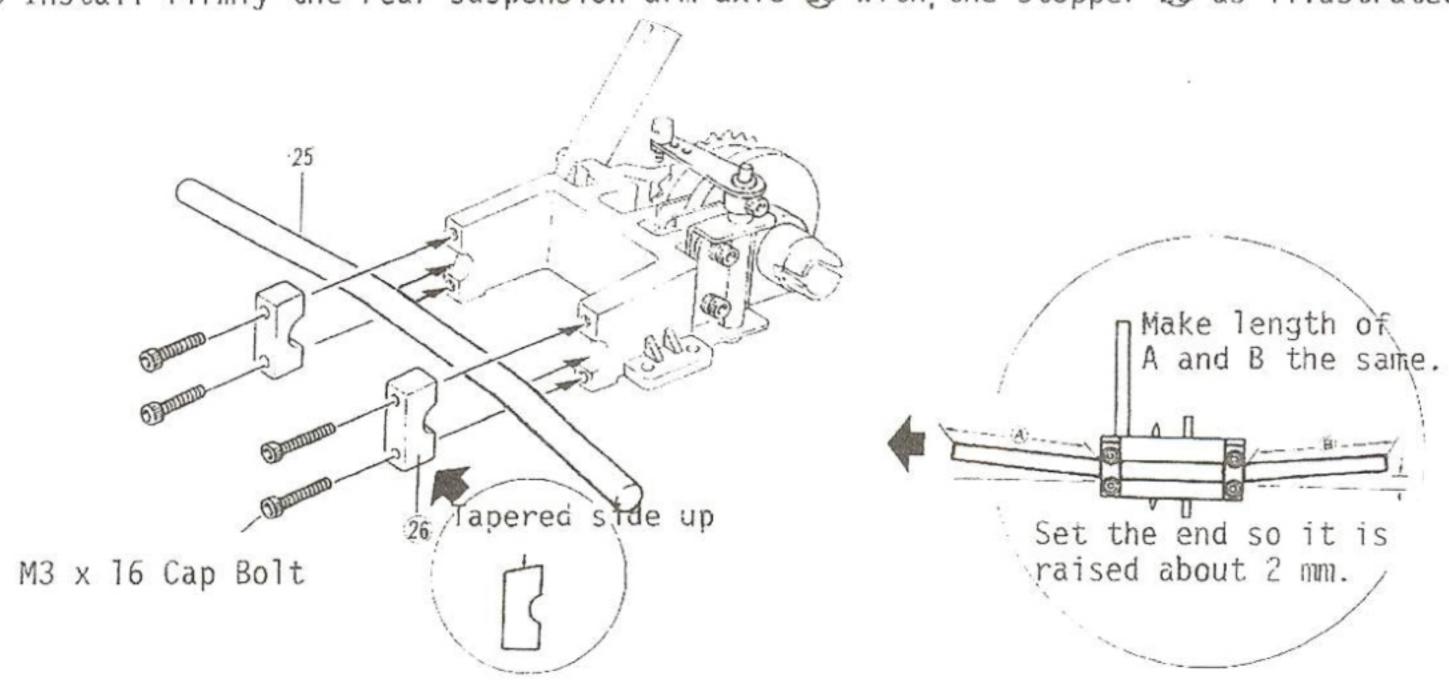
6 Insert the brake pin (44) as shown in the drawing, and bolt in order 46 45 23 and



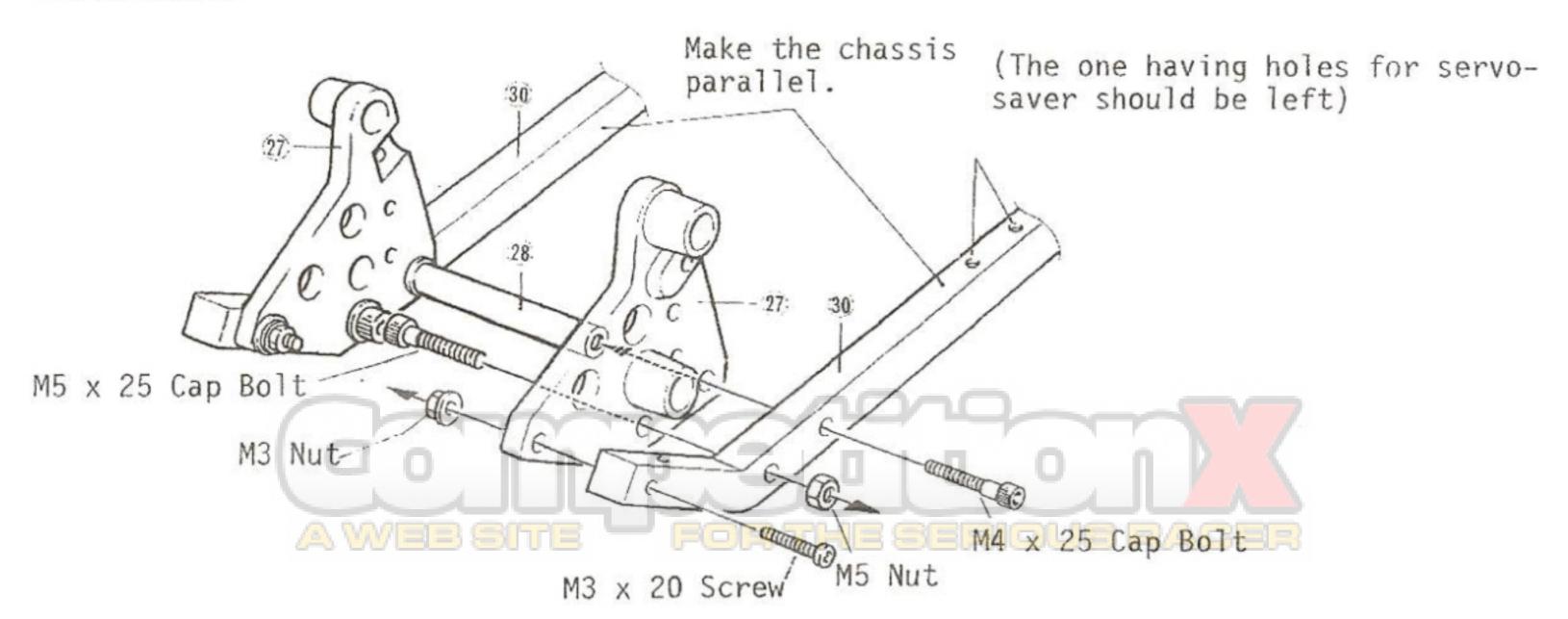
7 Fix the linkage guide 85 onto the brake horn 20, then install the assembly to the brake shaft 19 in parallel with the rear axle.



8 Install firmly the rear suspension arm axle @ with the stopper 26 as illustrated.

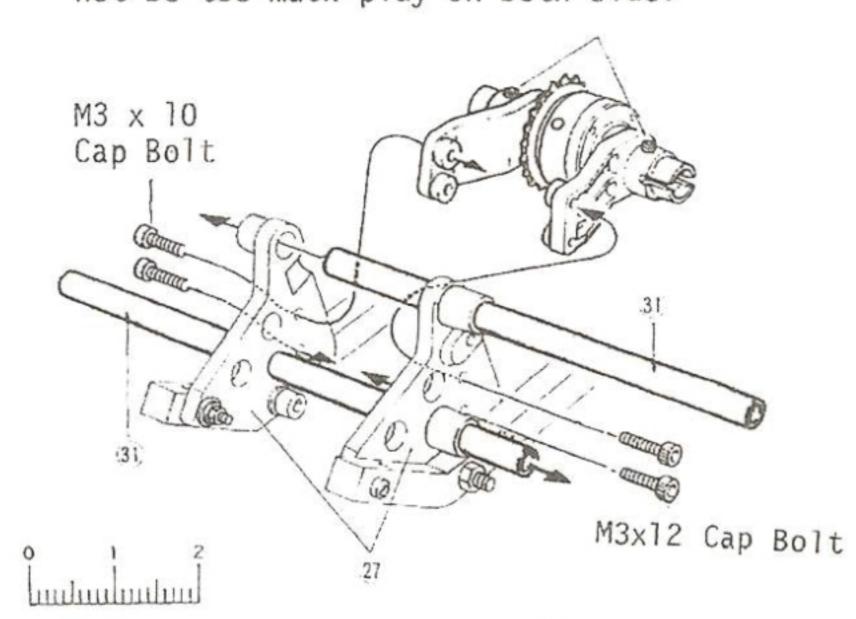


9 Install onto the main chassis 80 the front axle mount 27 and the joint collar 28 as illustrated.

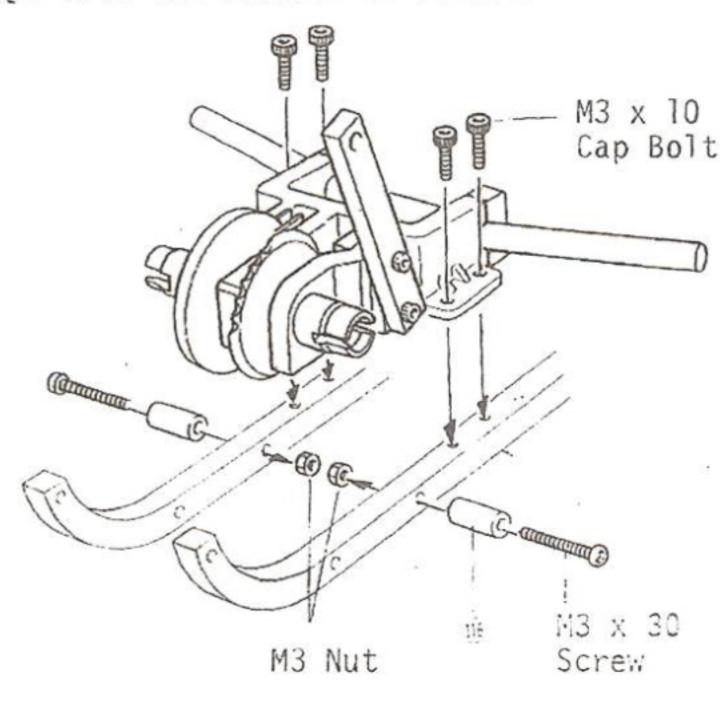


10 Install the completed torque clutch parts onto the front axle mount 2. Have front arm axle B 3 inserted through the mount 2.

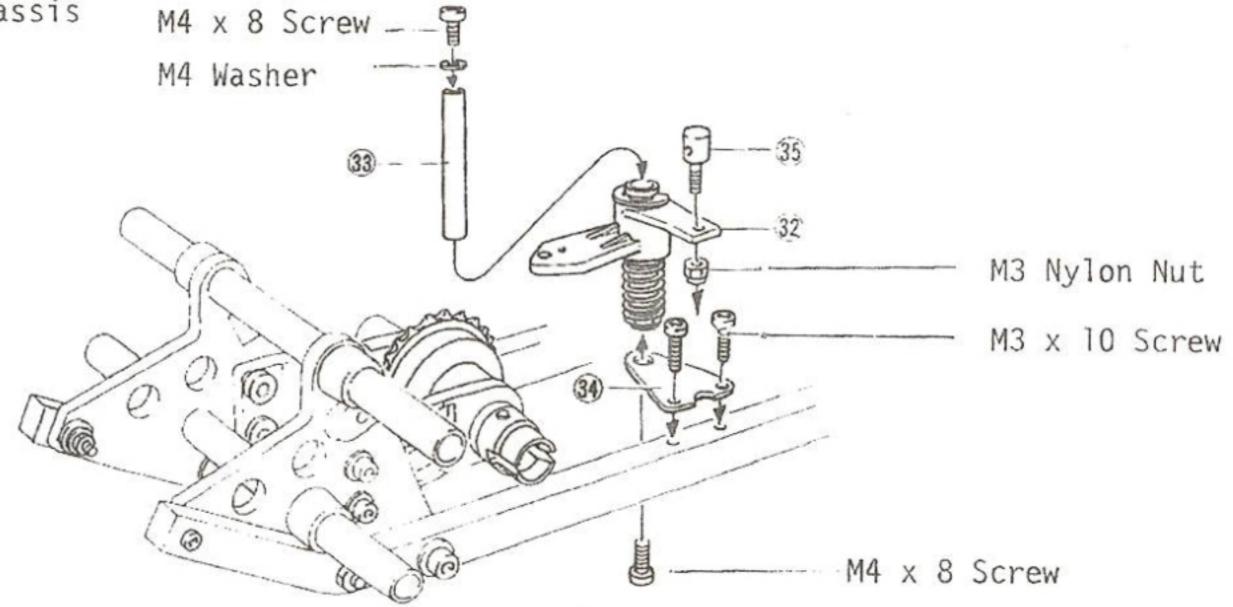
Loosen up once and after setting in place has been finished, tighten so there will not be too much play on both side.



11 Install completed rear axle part onto the chassis. Also install the rear stopper (10 onto the chassis as illustrated.

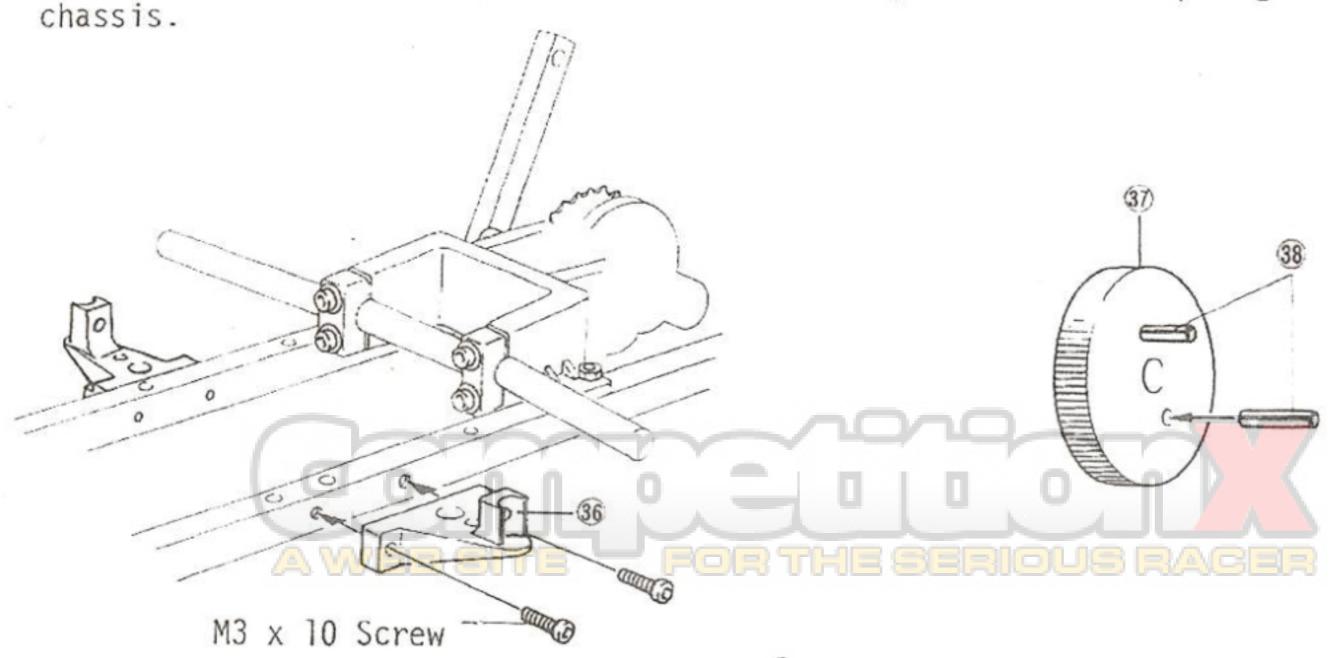


12 Install the linkage guide 69 onto the servo saver 32 so it will move freely. Next install the servo saver 33 the servo saver installation hardware 34 and then onto the chassis MA v 8 Screw 5

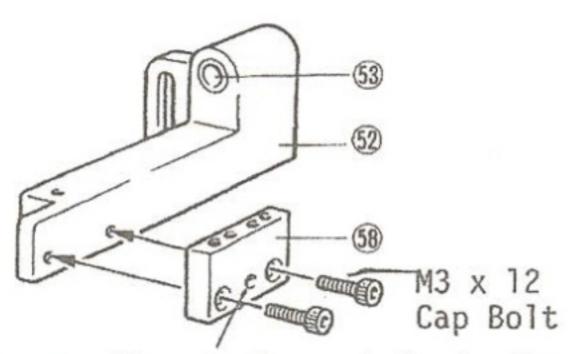


13 Install the side member 36 onto main

14 Tap in the clutch pin 38 into flywheel 3.

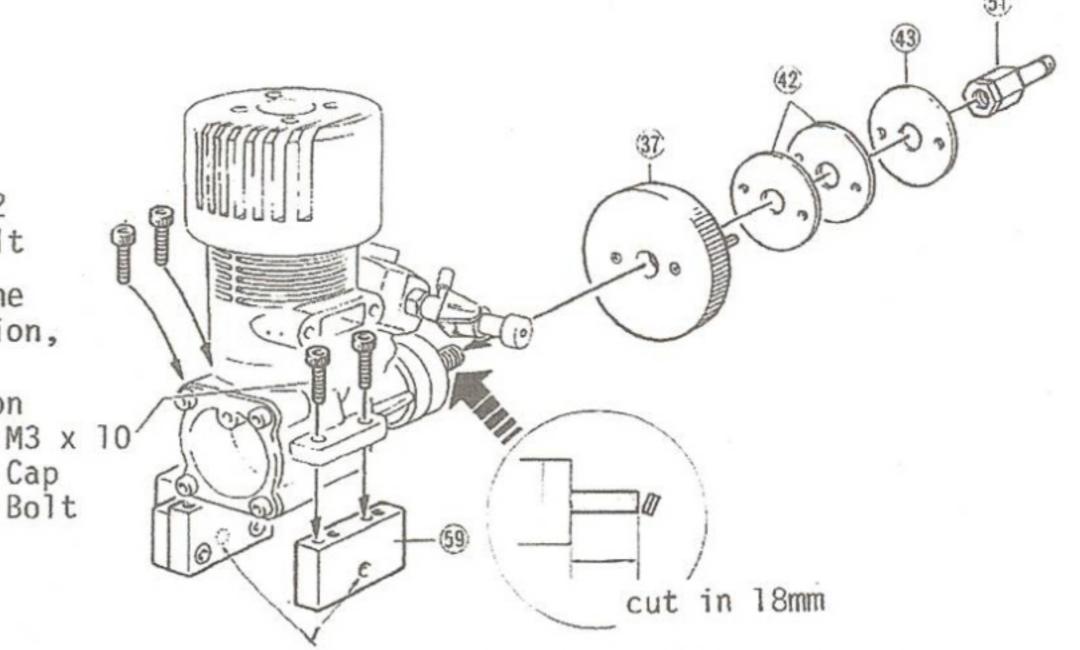


15 Engine mount (A) 60 is installed to spur gear mount 60 with M3 x 10 screw but be aware that the OS and Enya engine installation direction is different. Install by observing the illustration closely.



In case the circle mark is in the location shown in the illustration, it is for the OS21. The circle mark for the Enya 21CX will be on the opposite side.

M3 > Cap



shaft [5].

The round mark should be set outside

16 When using Enya 19X or 21X, first engine

mount (B) 59 is installed so that the

side with the circle mark will face

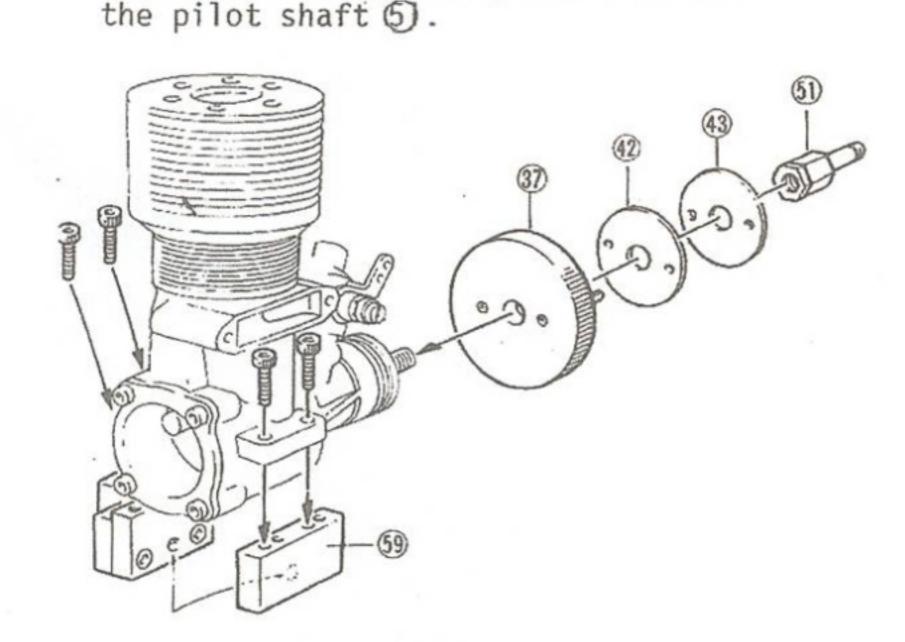
outward, then insert onto the engine

shaft in the order of flywheel spacer 42,

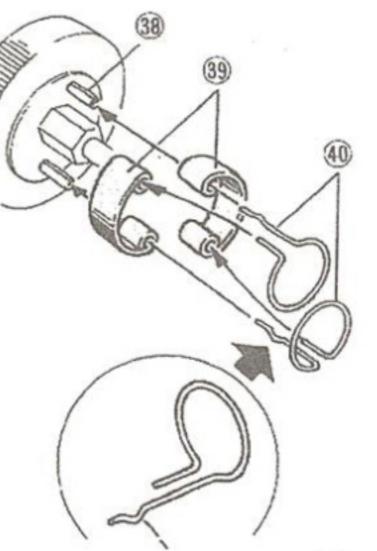
flywheel 37, clutch sheet 43 and install

firmly so it will not loosen with pilot

17 When using the OS21 engine, the engine mount B 69 is installed so the circle marked side will face inward and the flywheel 67, the spacer 42, the clutch sheet 43 are inserted in sequence and tightened firmly into place with the



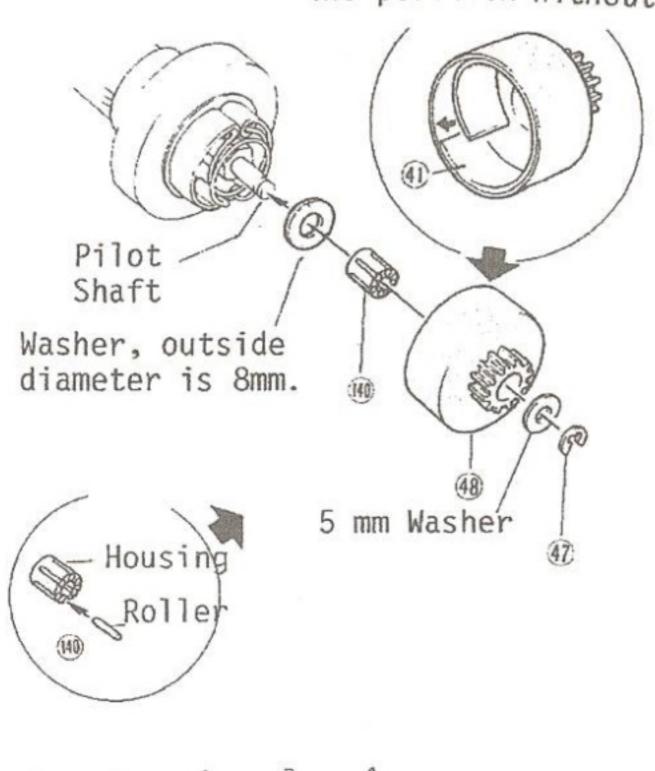
The round mark should be set inside.



bend longer side as illustrated, so it will not be loosened.

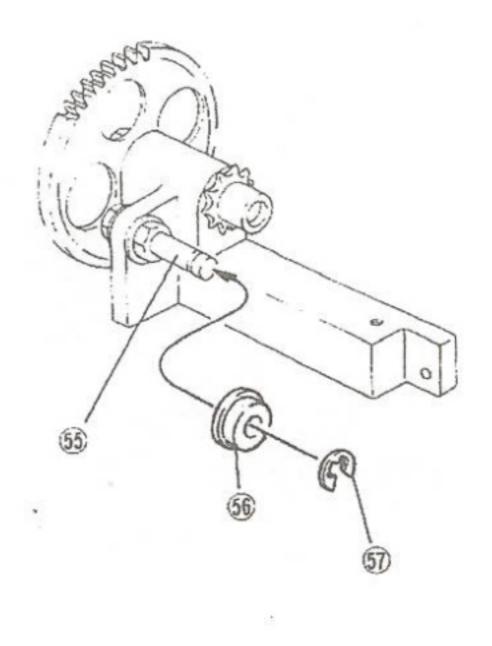


19 Insert the clutch bearing rollers into the casing. Fix in sequence 8 mm washer, clutch bearing (40), clutch bell (8), and 5 mm washer and secure the parts with the E ring (1) clipped at the tip of the pilot shaft. Thrust in the lining (1) in the position without glue.

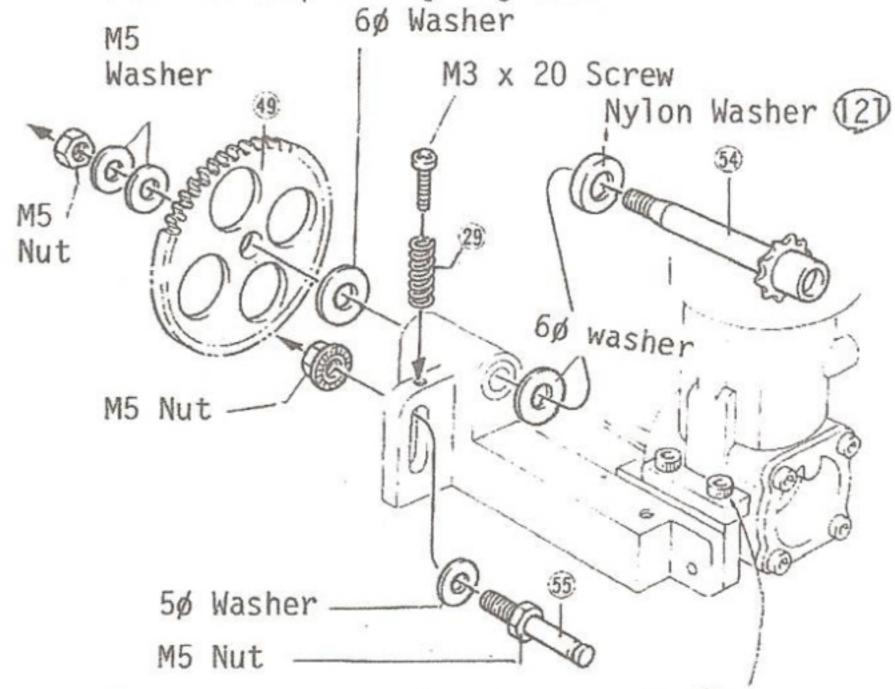


21 Fit onto the tensioner shaft 55 the tensioner guide 66 and set into place with E ring 67.

երակարհավայերդիունա



20 Insert the spur gear shaft (54) through each washer and tighten into place so it will not loosen up with M5 nut. Next screw on M5 nut onto the tensioner shaft 65 and install as illustrated by inserting the washers. As this tensioner shaft 65 is used to adjust the tension of the chain after the chain has been installed, have the nut temporarily tightened.

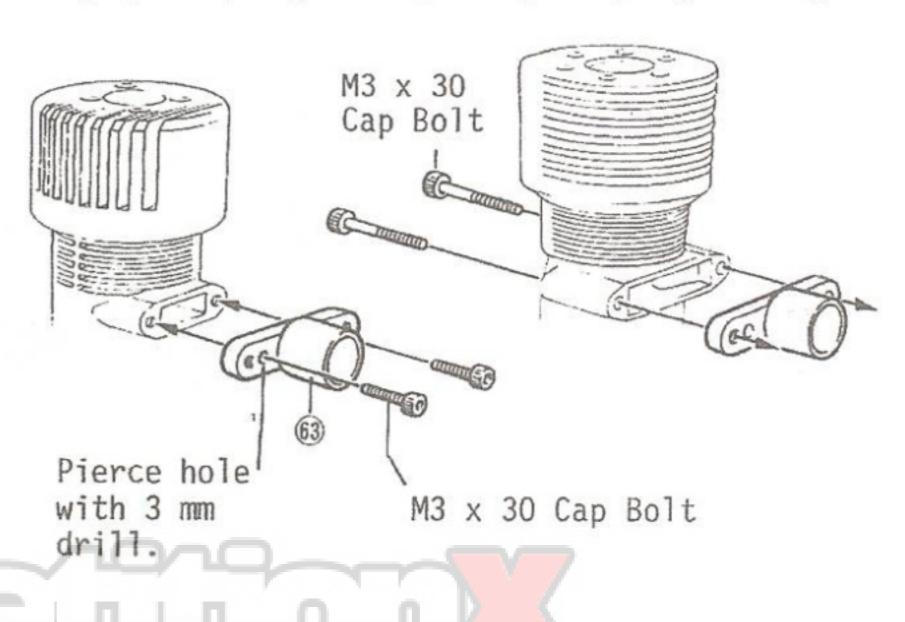


*The back lash of the clutch bell 48 and the spur gear 49 is adjusted by loosening engine stabilizing bolt.

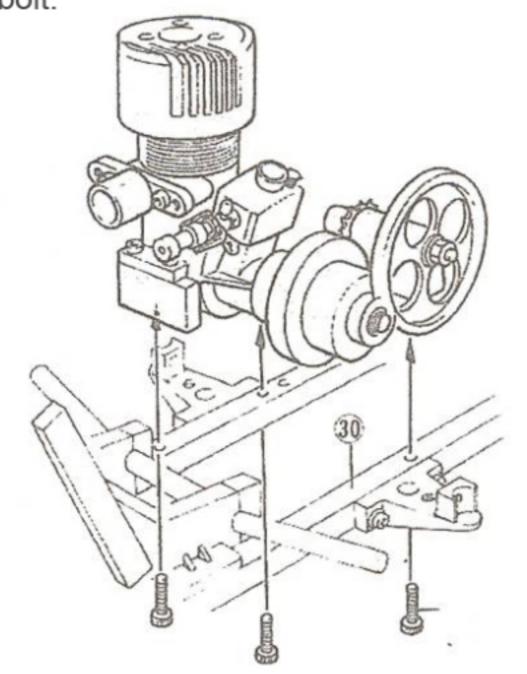
The muffler adapter 63 is installed onto the engine but be aware that the installation direction of the OS21 and Enya 21 is different. Install according to the illustration. Also, it is recommended to apply bath corking in between the engine and the muffler adapter 63 to avoid exhaust leakage.

[Enya 19,21X]

[OS21, Enya 21CX]

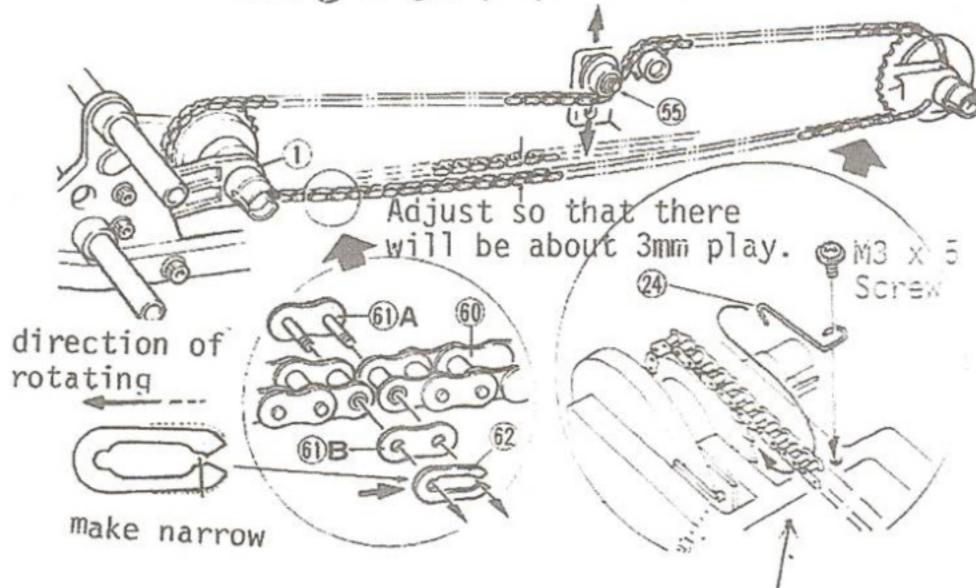


23 The completed power unit is installed onto the main chassis with M3 x 18 the cap bolt.



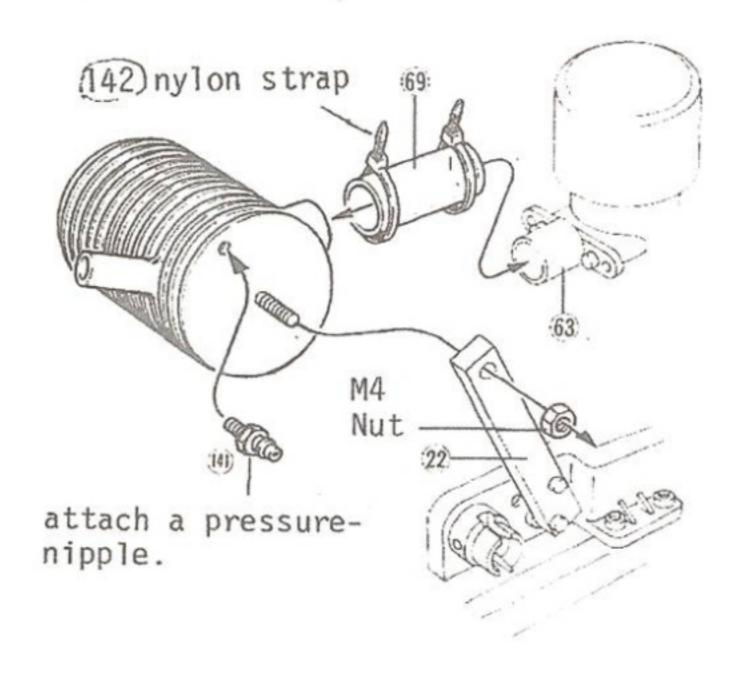
M3 x 18 Cap Bolt

24 The chain (60) for driving is set onto sprocket as illustrated, fit on the chain joint (6)A, and (6) B and joint with the chain clip (6). After joining of the chain (6) has been finished, adjust by moving the tension shaft (6) and the front axle (1) to get proper chain tension.



Before installin the Install chain pin. chain clip 62, make space of clip narrower with the plier, so that it becomes will not be loosened.

26 Connect the muffler adapter 63 with muffler onto the muffler pipe 69. And install muffler assembly onto the muffler bracket 62.



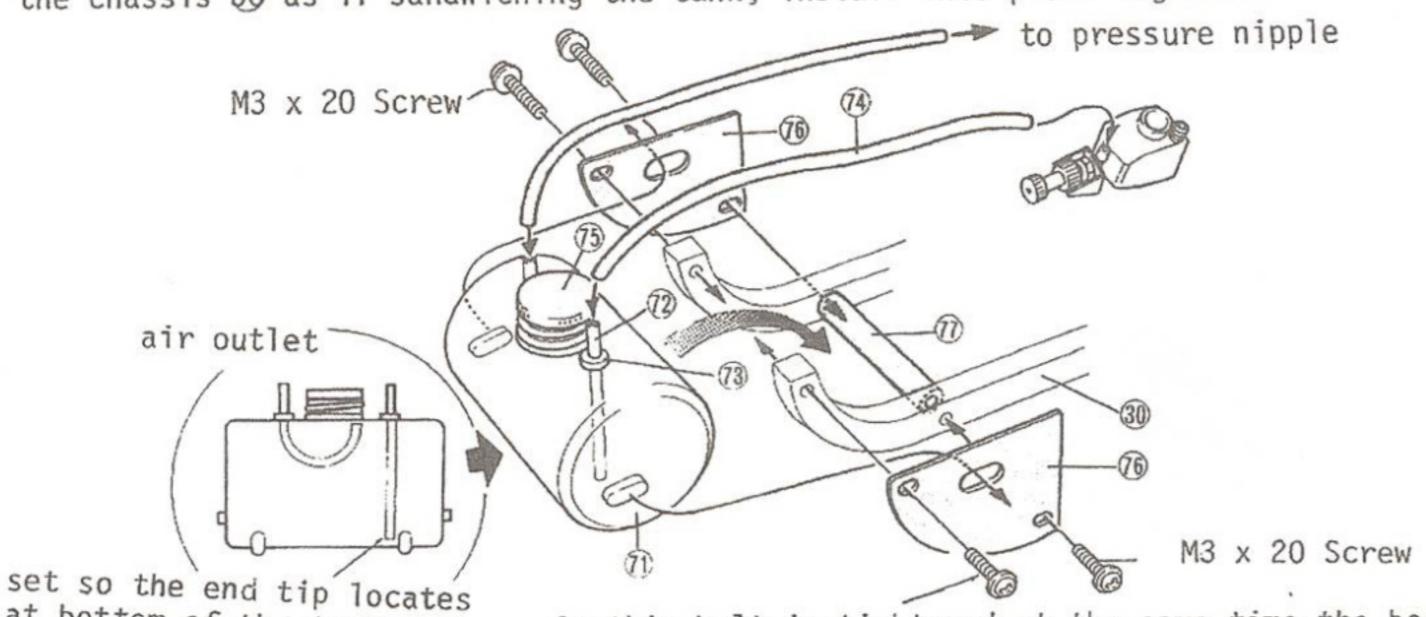
The muffler 67, 68 is assembled as illustrated but set into place so that the exhaust side of the pipe does not hit against the fuel tank. Also, it would be best if some kind or corking material is applied to the connection of the muffler to prevent exhaust leakage.

Set so the exhaust side will face up as illustration.

M4 Nut

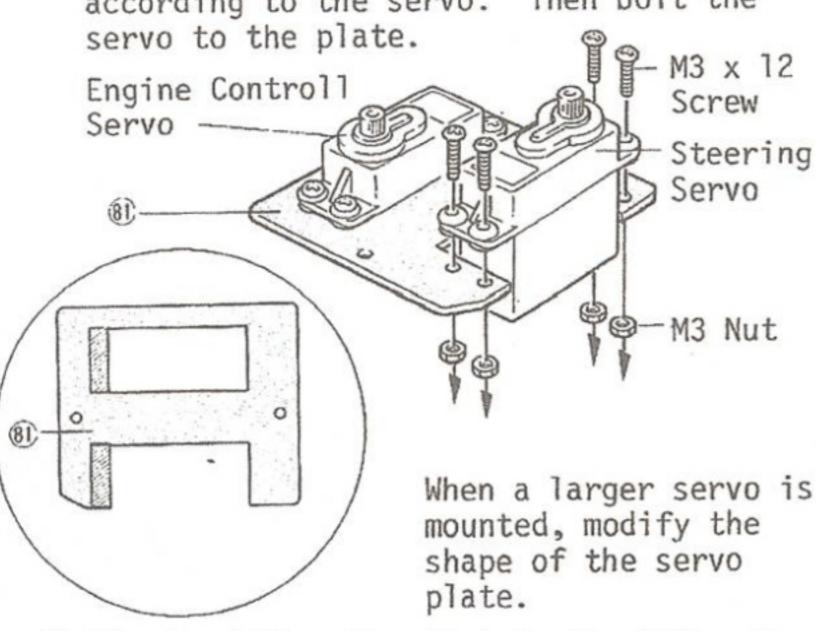
A WEE SITE FOR THE SERIOUS RACER

27 Install onto the fuel tank (71), the bushing (73), the pipe (72), and the cap (75) as illustrated. Next match the protruding part of the fuel tank (1) with the indented part on the fuel installation plate (6) and by setting the joint collar (7) in between the chassis (8) as if sandwiching the tank, install into place together.



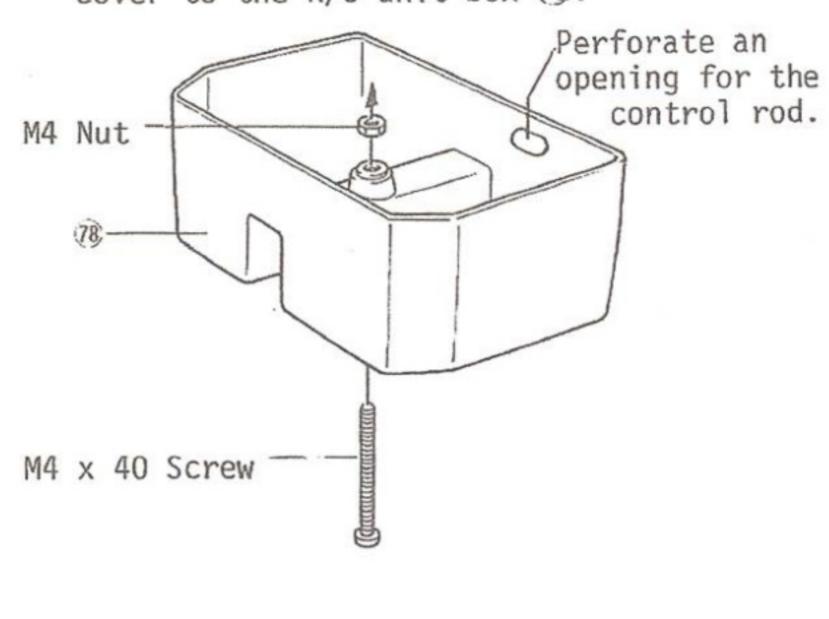
As this bolt is tightened at the same time the body is installed, just have the bolts inserted without tightening.

28 Bore installing holes of 3 mm diameter on the servo plate in the positions according to the servo. Then bolt the servo to the plate.

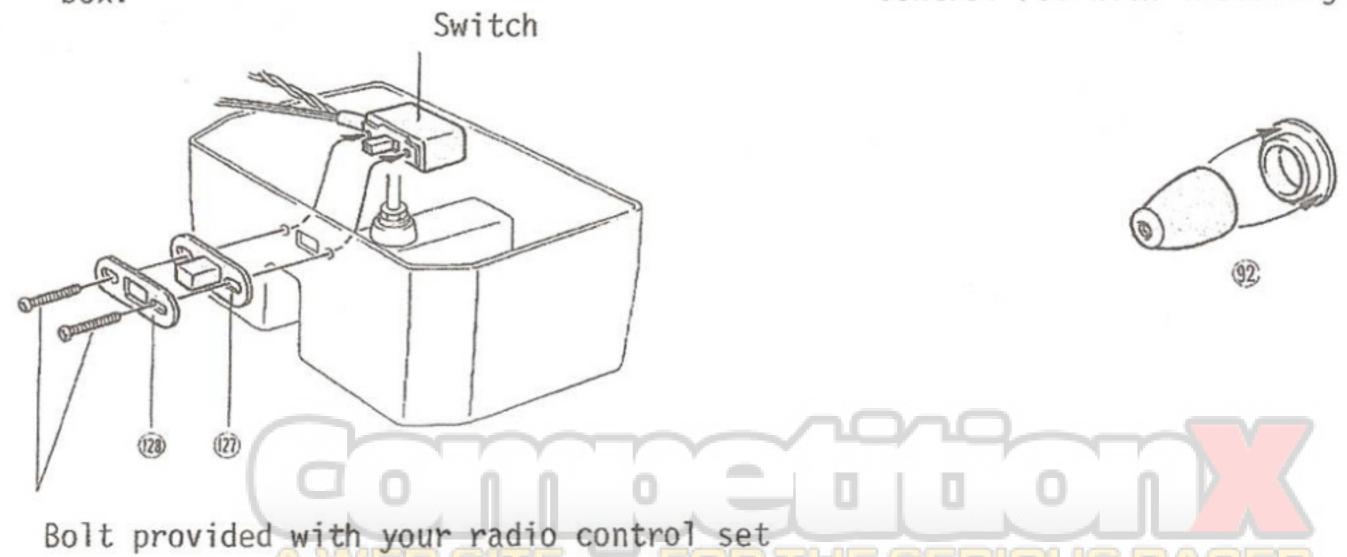


30 Fix the R/C unit switch in the R/C unit box.

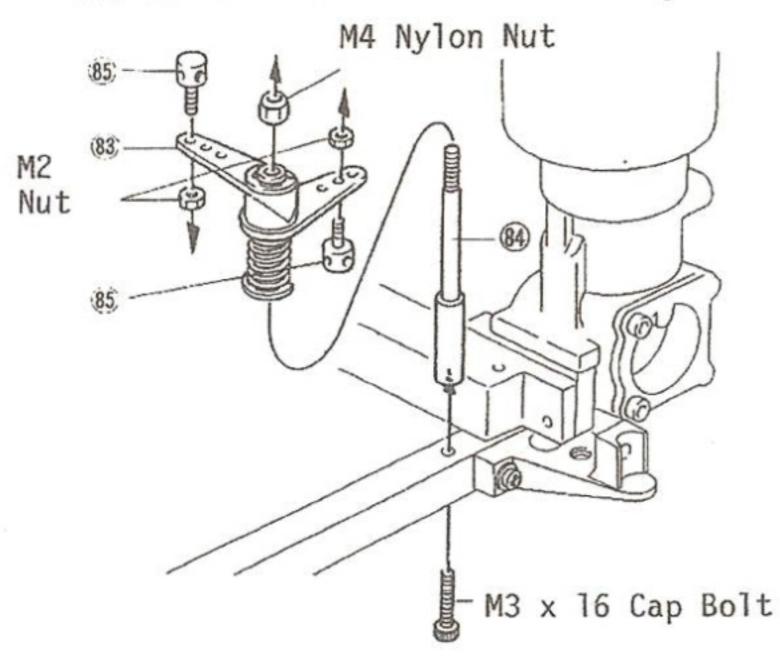
29 Fit the securing bolt for the R/C unit box cover to the R/C unit box (8.



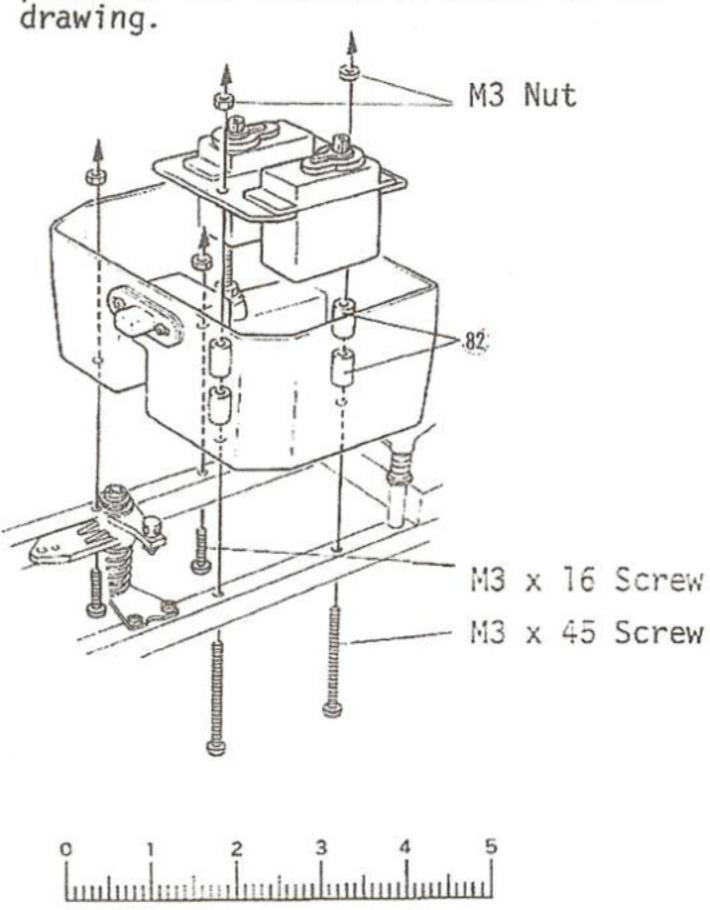
31 Cement the particles of the boot for the control rod with instant glue.



installation shaft &4 onto the main chassis and install the linkage guide &5 to the throttle control saver &3 so it will move quite freely then insert into the shaft of &4 and is tightened into place with M4 nylon nut but be careful not to tighten M4 nylon insert nut too much as the servo saver should move freely.

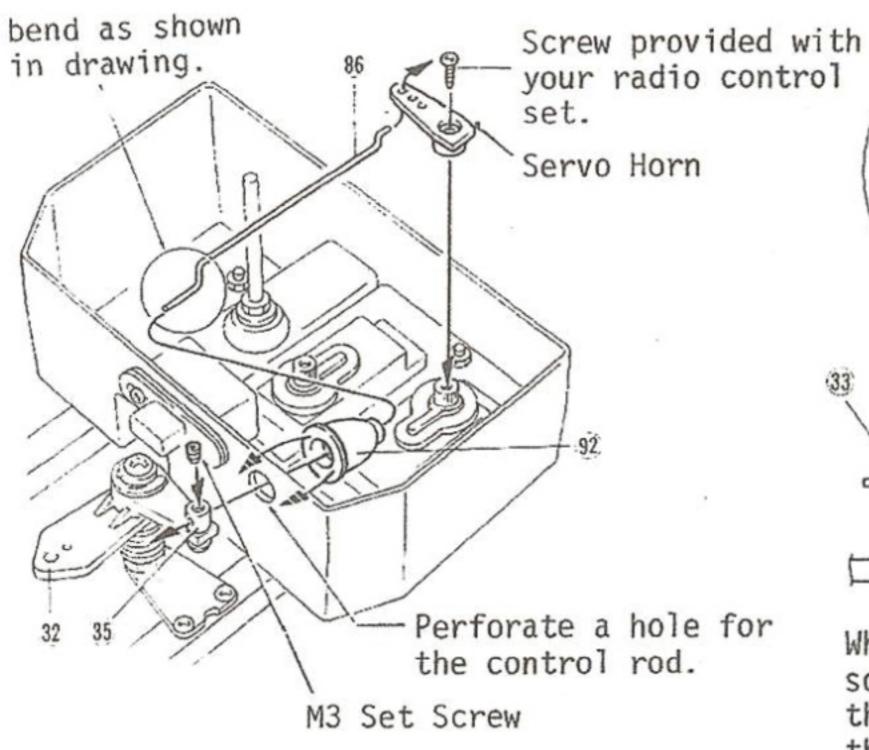


33 Bolt the R/C unit box with the servo plate to the chassis as shown in the drawing.



34 Mount the steering servo in an inversed way.

Fix the control rod &6 to the linkage guide &5 with M3 setscrew through the opening, while keeping the servo horn and the servo saver &5 in the neutral position. When the length of the rod is determined, cement the linkage boot &2 to the R/c unit box.



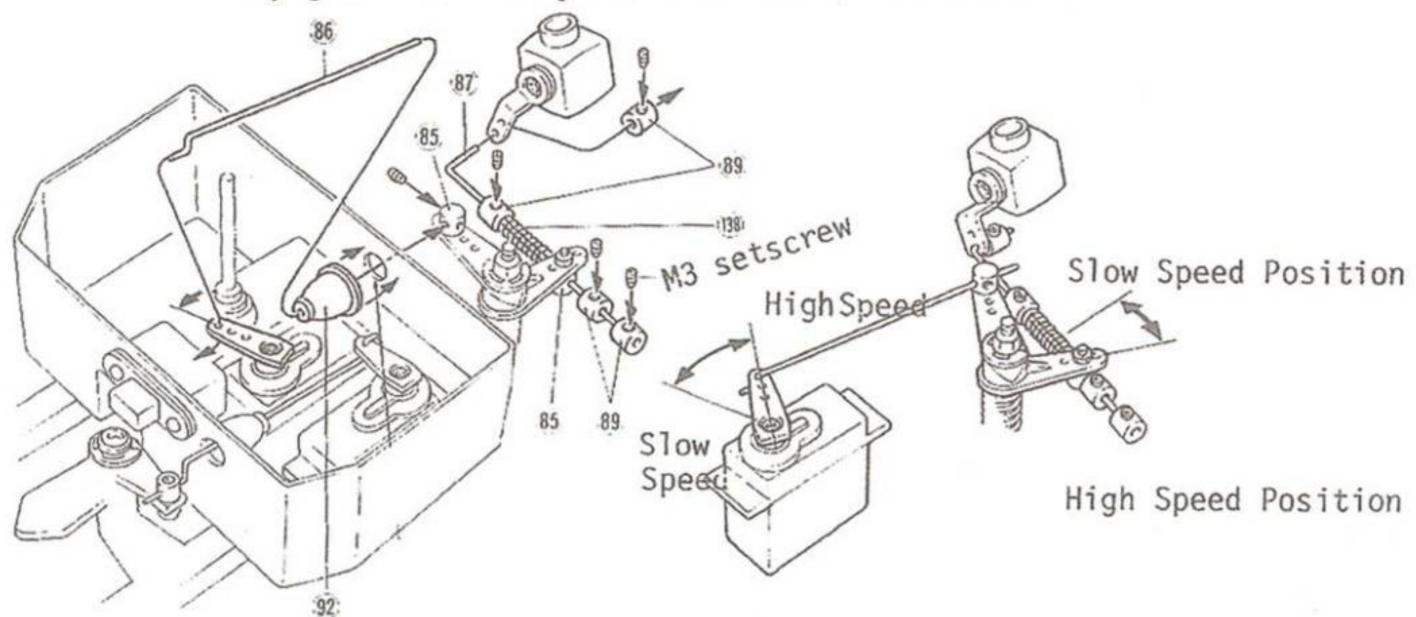
Cut off the unnecessary portion.

Cement the control rod boot 92.

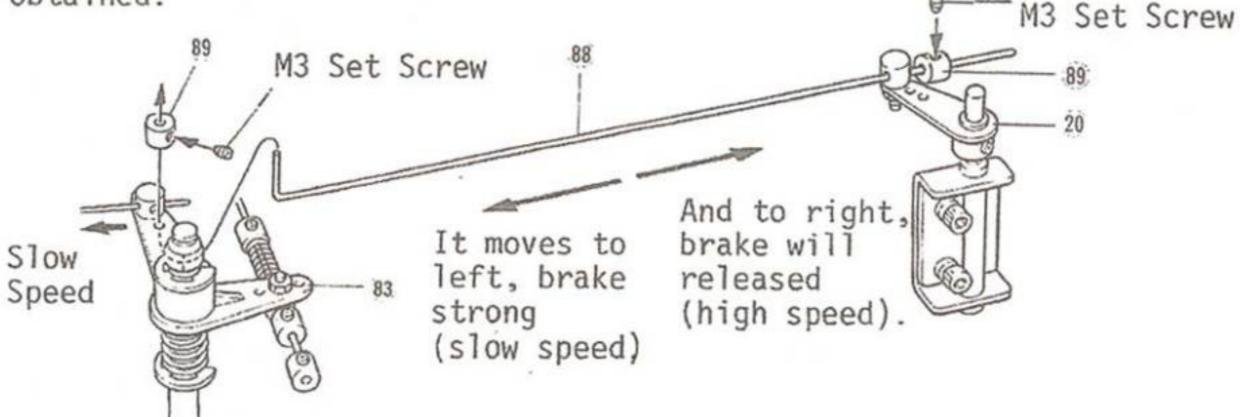
Steering Servo

When the steering rod is linkaged, adjust so that the rod 86, the servo horn and the linkage guide 35 are positioned in the same height, and then bend the rod in crank-shape to adjust length. So the width marked in arrow should be in approximate 10 mm to 12 mm.

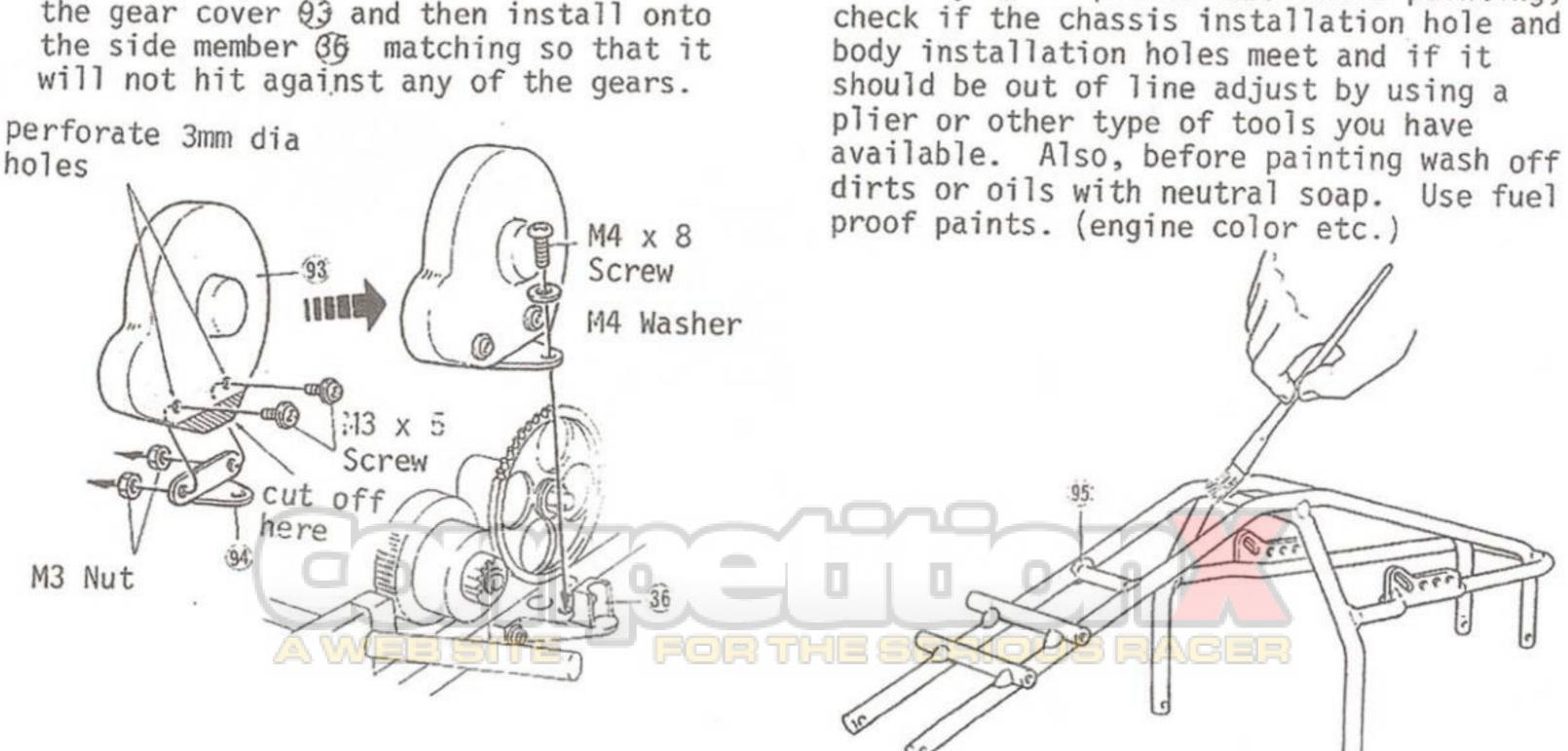
35 Insert the control rod (A) 86 through the rod boot 92 and connect the servo norn and the linkage guide 85, fixing it with a M3 setscrew while the servo is held in the slow speed position. Then link the engine throttle lever and the linkage guide 85 with the control rod (B) 87 fixing the engien control spring (138) and the linkage stopper 89 priviously as shown in the drawing, and adjust the linkage in such a way that the engine throttle is in the slow speed setting when the engine control servo is set to the slow position. Lastly glue the linkage boot to the R/C unit box.



36 The brake horn @O and the throttle contro servo saver 83 is connected but first, keep the throttle control servo in the slow position and connect as illustrated. In case the linkage rod(C)88 should hit against the engine, bend so that a smooth operation can be obtained.

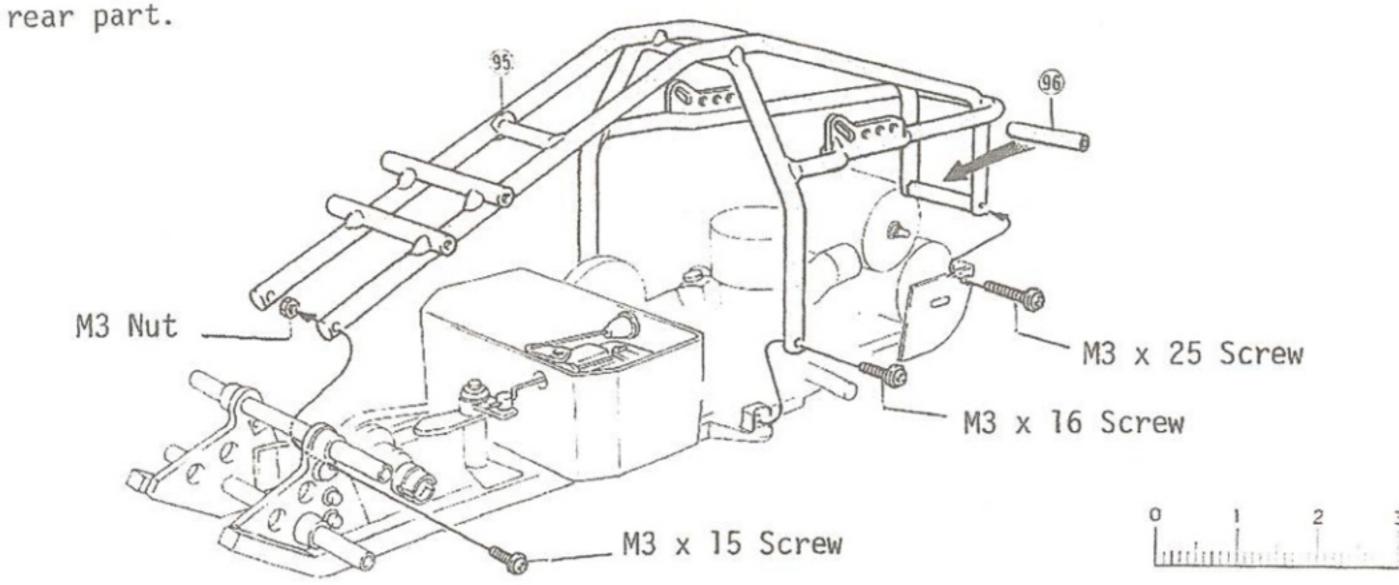


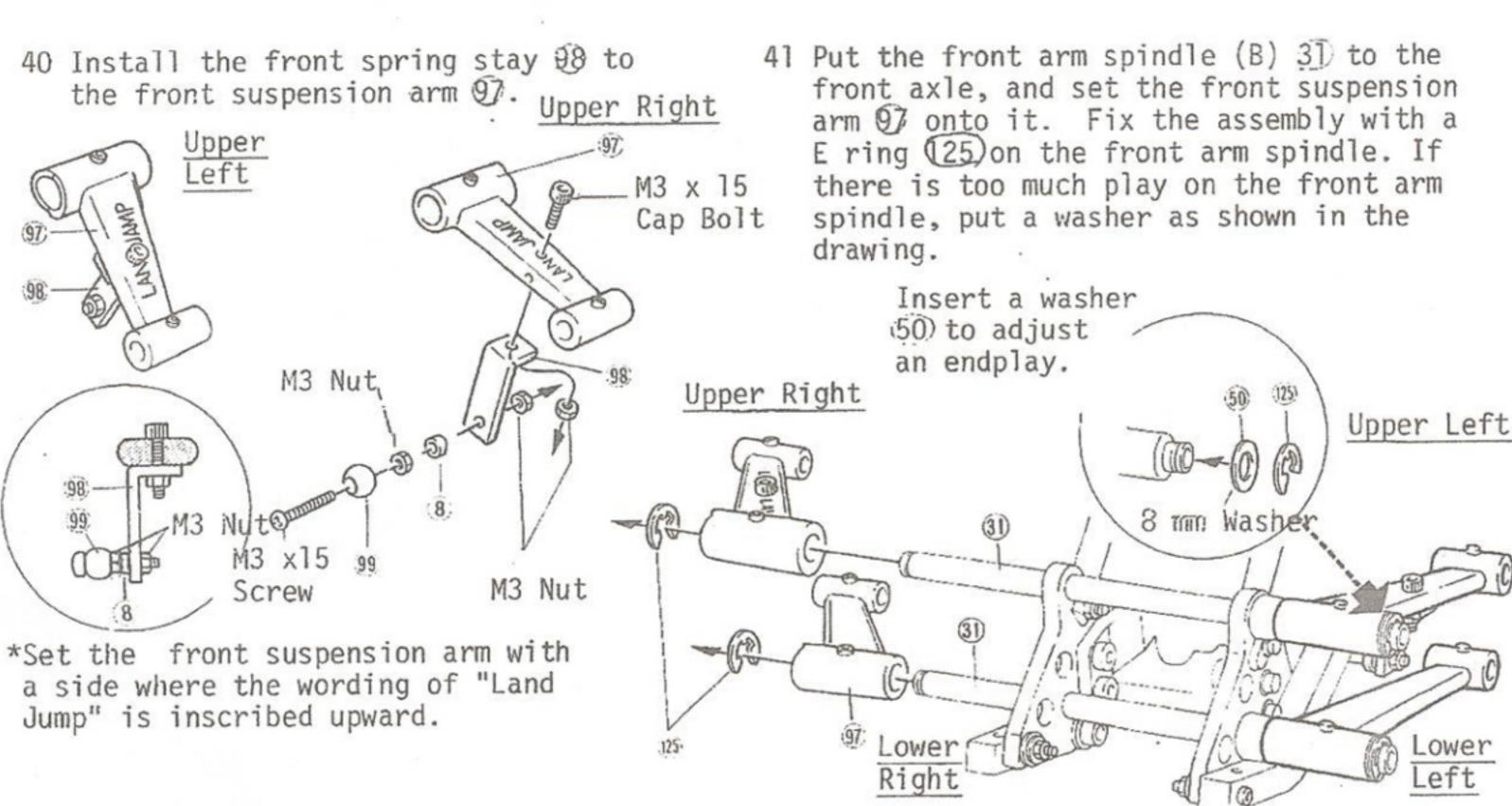
37 Install the gear cover braket 94 onto the gear cover 93 and then install onto the side member 86 matching so that it



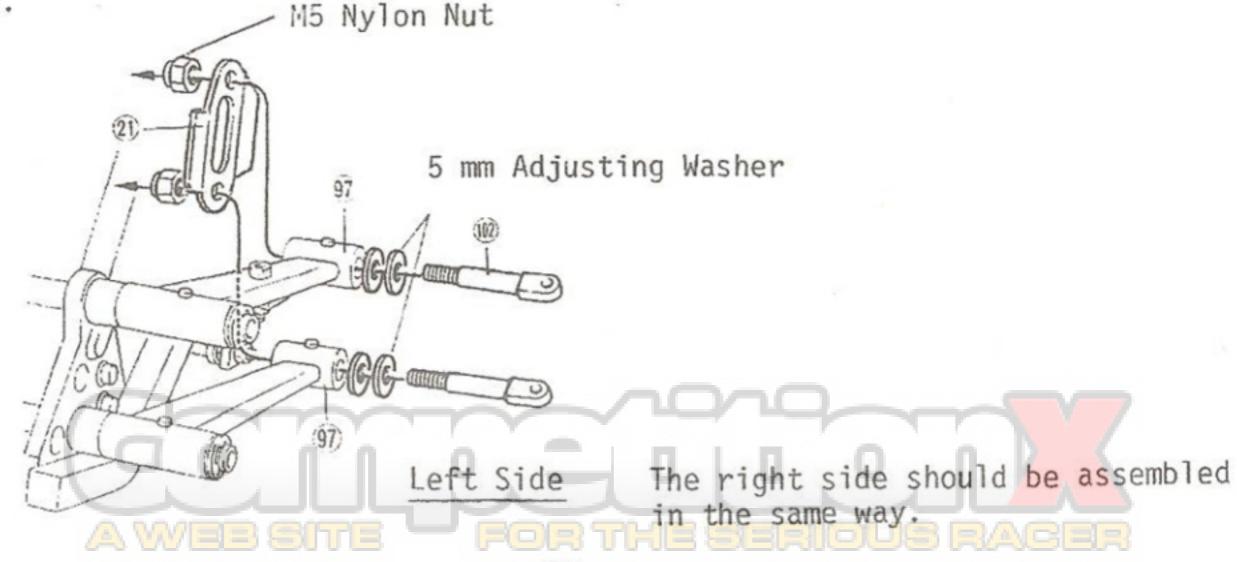
38 The body 95 is painted but before painting,

39 Install the body (95) onto the chassis as illustrated. The joint collar (96) is used for



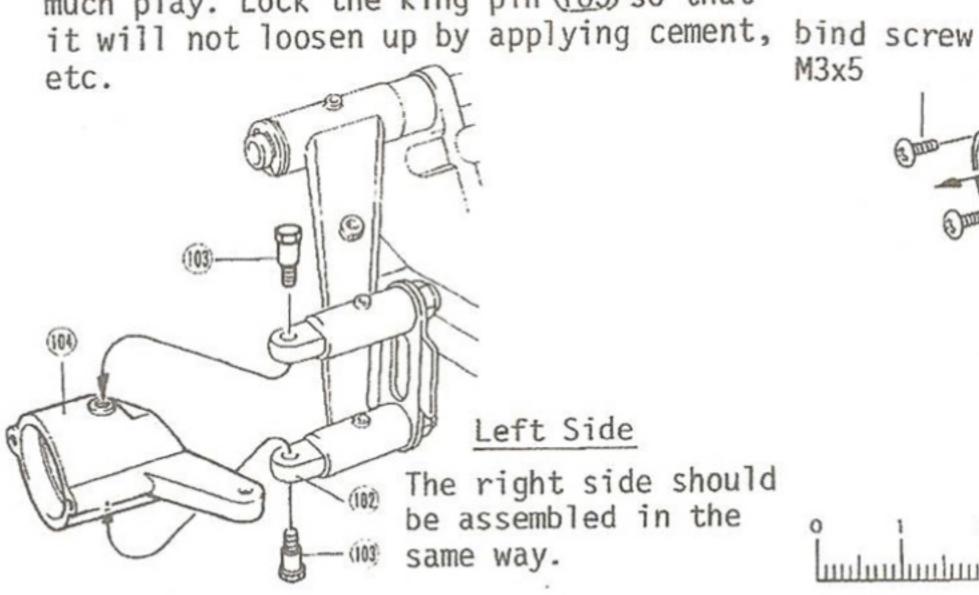


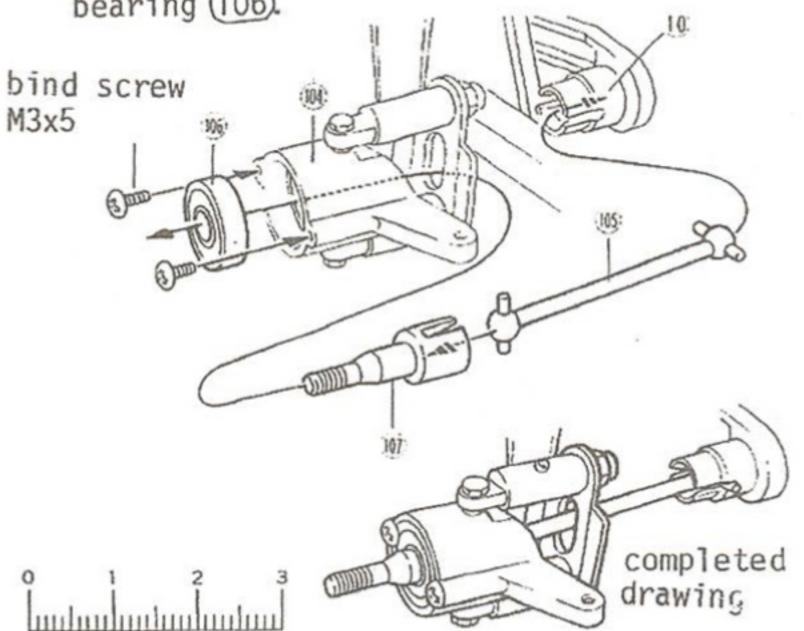
42 Fix the king pin holder (02) to the front suspension arm 97 and the steering stopper on the other side of the front suspension arm. Secure the assembly with a M5 nylon nut in such a way that there is no play, still the king pin holder (102) will turn lightly.



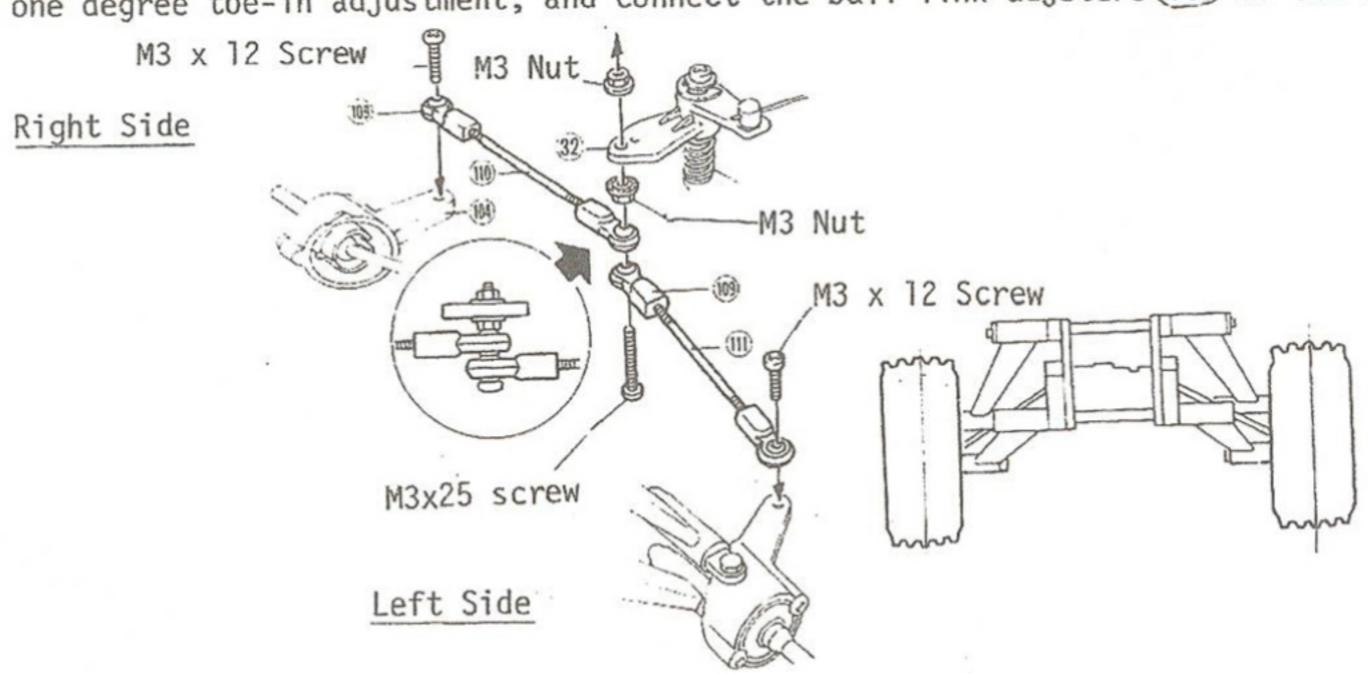
43 The front hub (104) ia assembled as illustrated but if the king pin (103) is tightened too much, the front hub will not move. Set so that the front hub (104) will move freely without having too much play. Lock the king pin (103) so that it will not loosen up by applying cement

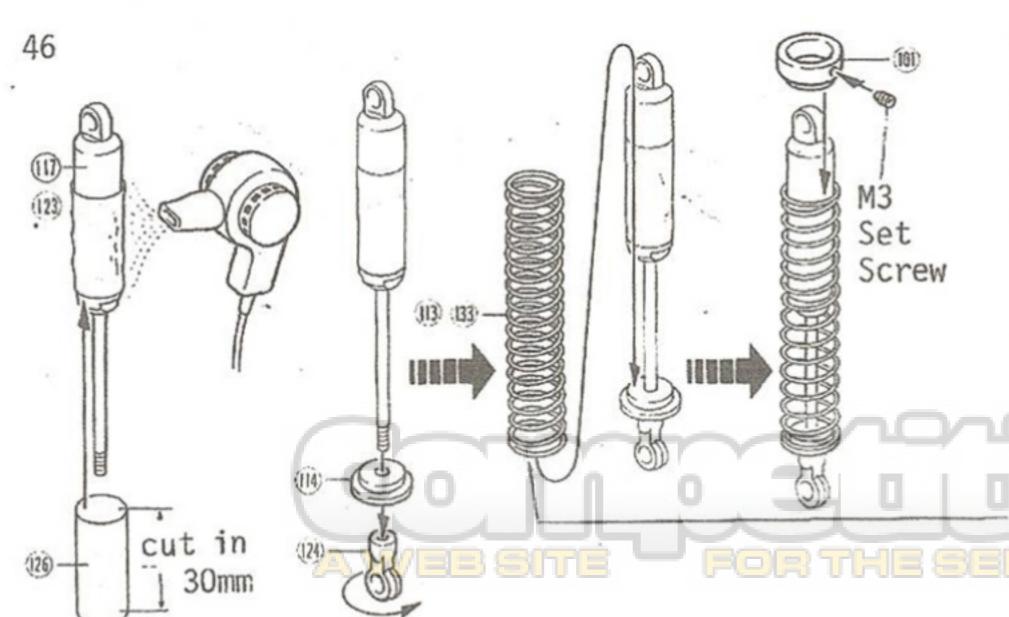
44 Insert the swing shaft (105) into the joint (10) and the other end into the front wheel shaft (107), then install by setting into the front hub (104) the front wheel shaft bearing (106).





45 Fix a M3 x 20 bolt through ball link adjusters (109) and tighten the bolt with a M3 nut. Insert the tip of the bolt into the servo saver and secure it with another M3 nut. Adjust the length of the tie rod in such a way that the front tires will be set with one degree toe-in adjustment, and connect the ball link adjsters (109) to the front hub.



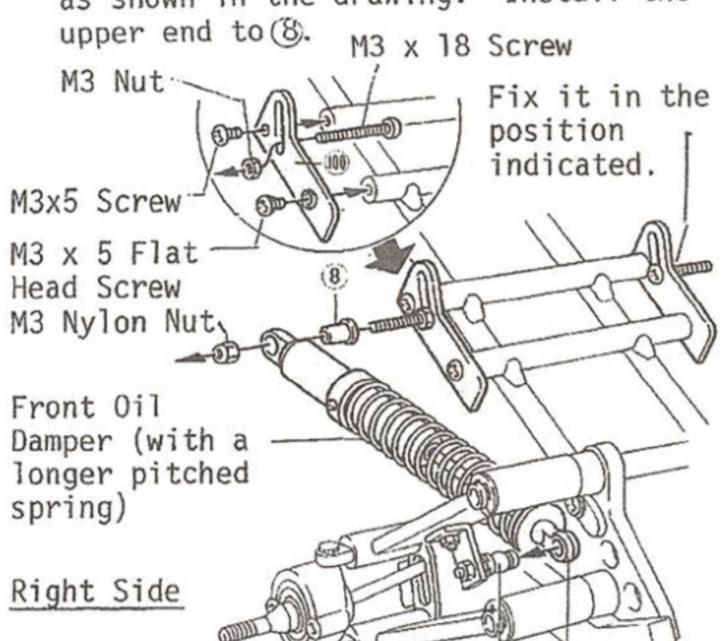


Sheathe the four oil dampers with the damper tube (26) which have been cut to 30 mm long, and shrink the tubes with a hair dryer as shwon in the drawing. The tubes will protect the oil dampers from any damage.

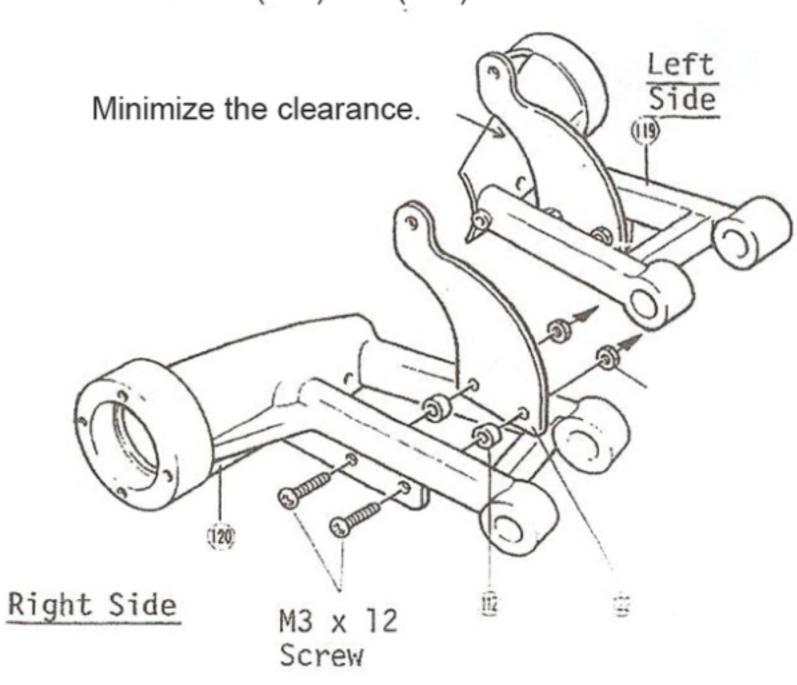
(Note) Tighten the M3 setscrew securing the suspension spring stopper (101) but not too tight.

(Note) Do not mistake the front damper springs with the rear ones. The rear springs have finer spring spirals than the front ones.

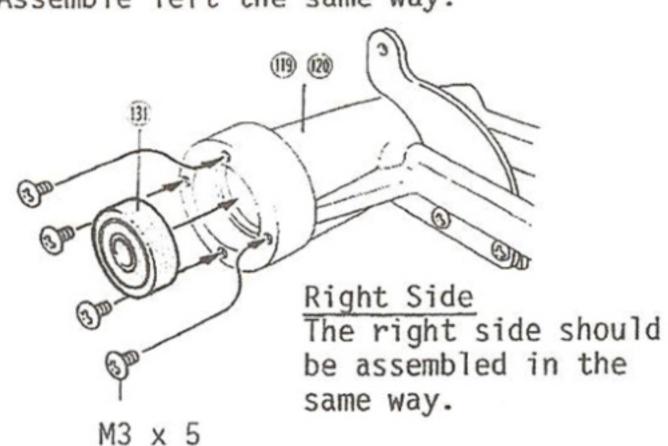
47 Fix the lower socket (124) at the lower end of the oil damper onto the ball (99) as shown in the drawing. Install the



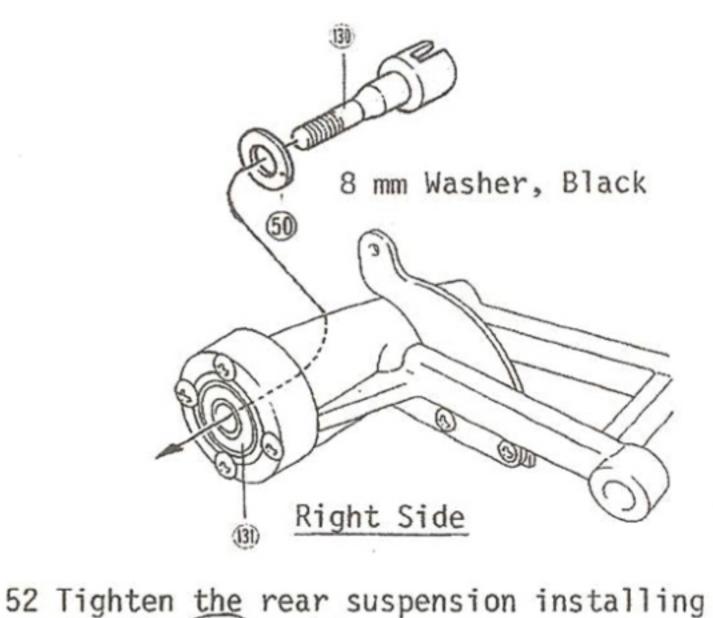
48 Install the rear sus spring stay onto the rear sus arm (119) and (120).



49 Install the rear wheel shaft bearing (131) onto the rear sus arm (119) and (120). Assemble left the same way.



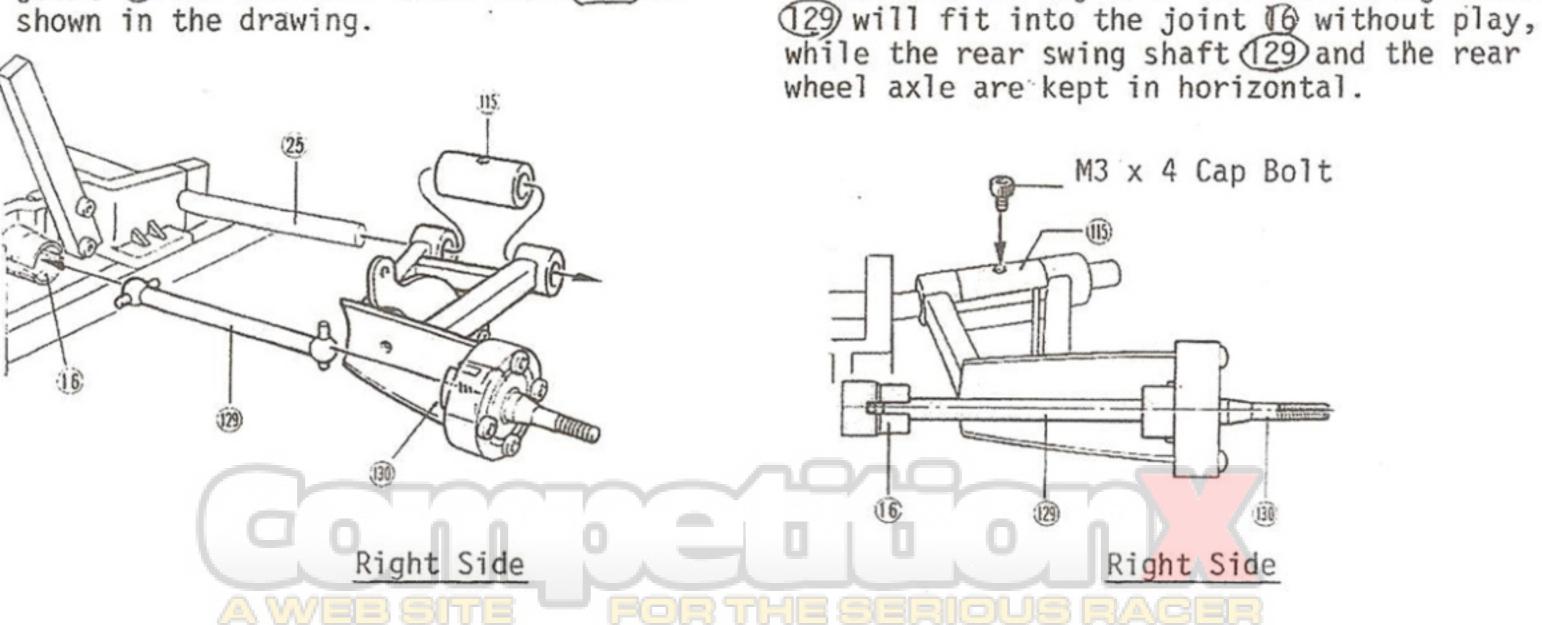
Insert the rear wheel shaft (130) into the rear wheel shaft bearing (3).



thimble (115) pushing the rear suspension arm

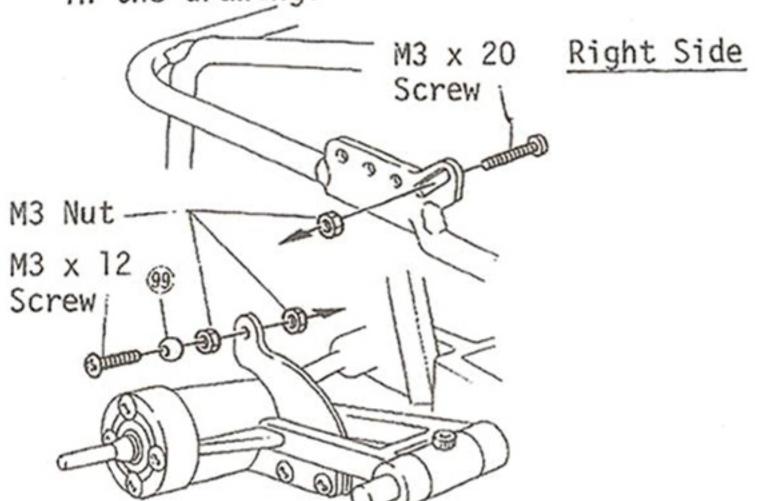
inward all the way till the rear swing shaft

51 Install the rear suspension arm with the rear swing shaft 129 fitted into the joint (6 and the rear wheel axle 130 as shown in the drawing.



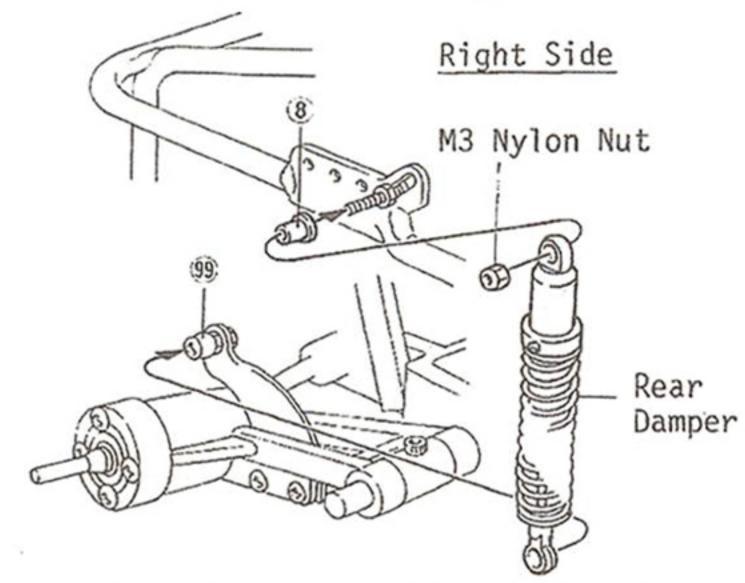
- 14 -

53 Fix the damper installing bolt as shown in the drawing.

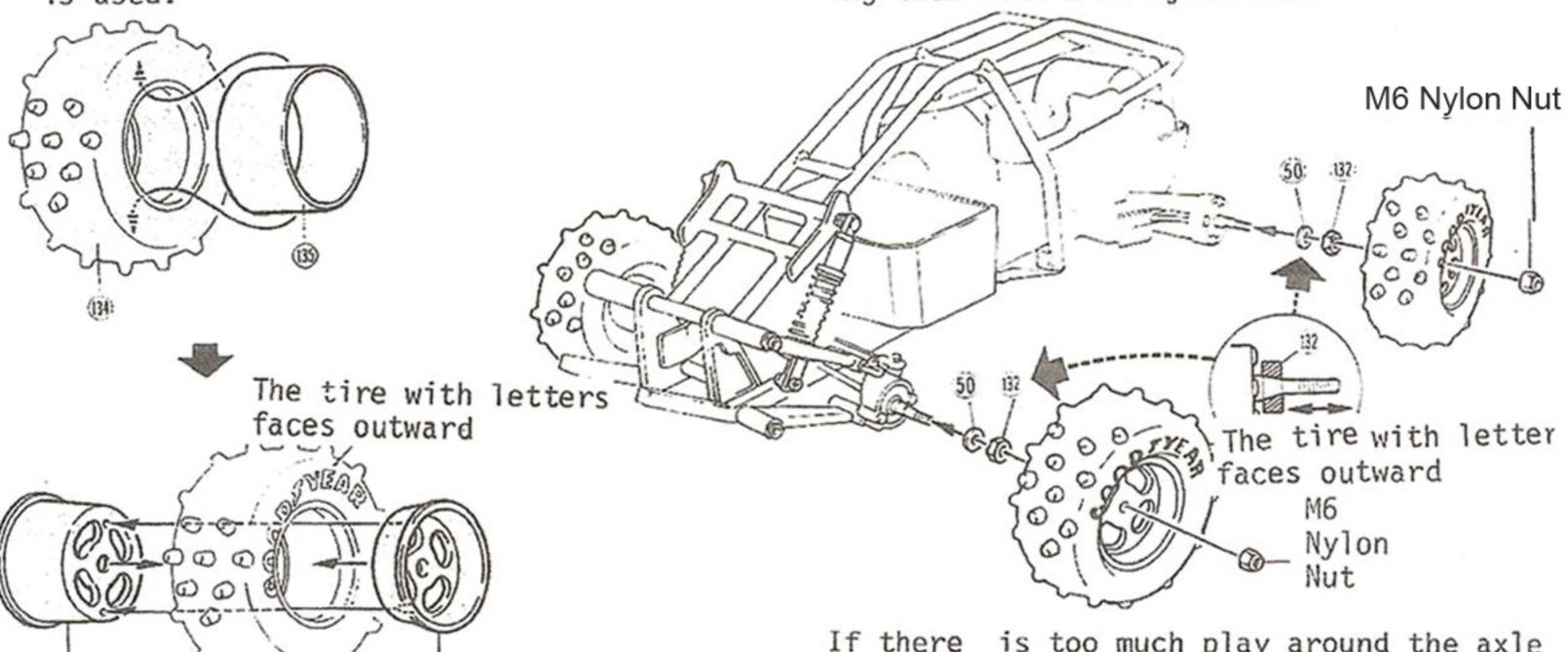


55 Put the inner wheel (35) into the tire (34). Fit the wheel (A) (36) outward and the wheel (B) (37) inward aligning the projection on (36) with the hole on (37). The wheel components are cemented and no bolt or screw is used.

54 Fix the damper fitting the lower end to a ball (99) and the upper end with a M3 nylon nut and a damper rubber bushing

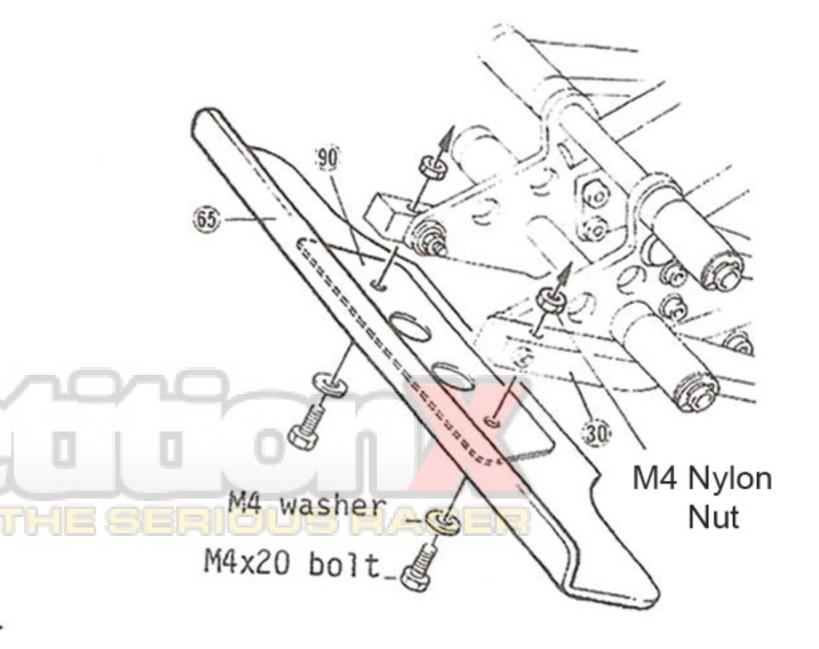


56 Put the drive washers (32) onto the front and rear axles. If there is excessive play, adjust it with the adjusting shim 60. True up the hexagonal concave inside of the wheel with the hexagonal convex outside of the drive washer (132), tightening them with a M6 nylon nut.

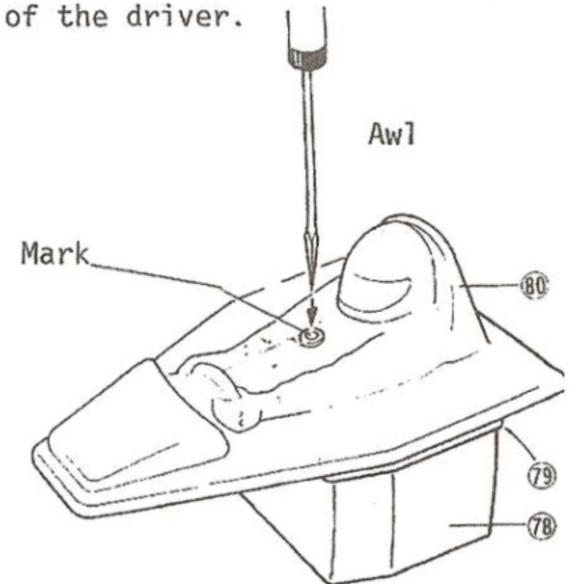


If there is too much play around the axle correct it with the adjusting shim 60.

57 Install the front bumper & and the bumper reinforcement plate (1) to the main chassis.

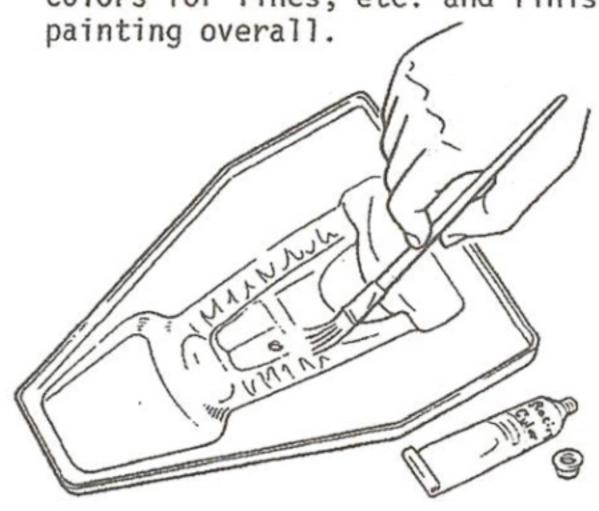


58 Mount the cover (79) and the driver doll (80) onto the R/C box (78). Drill a hole of 4 mm diameter between the arms



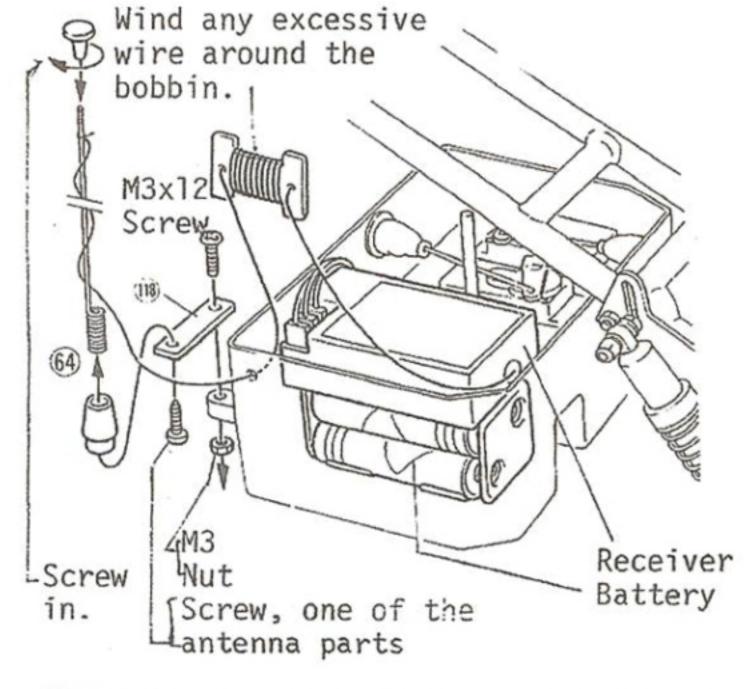
60 House the battery at bottom and the receiver upon it. Assemble the antenna as shown in the drawing, and fix it to the antenna stay (118). Wind up the antenna wire around the rod.

59 Paint the sheet and doll (80). Wash with the neutral soap before painting. After drying, paint the inner side of the body, masking places to be painted in different colors for lines, etc. and finish by

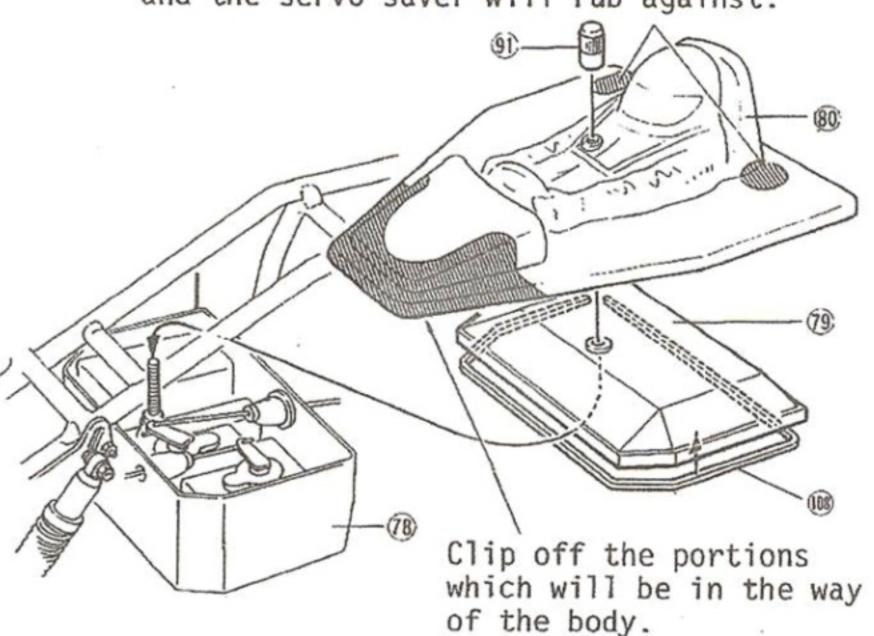


61 Cement the R/C unit box gasket (108) to the groove on the cover (9. Mount the R/C unit box cover 79 and the driver doll 80 and fix them with the securing stud 9).

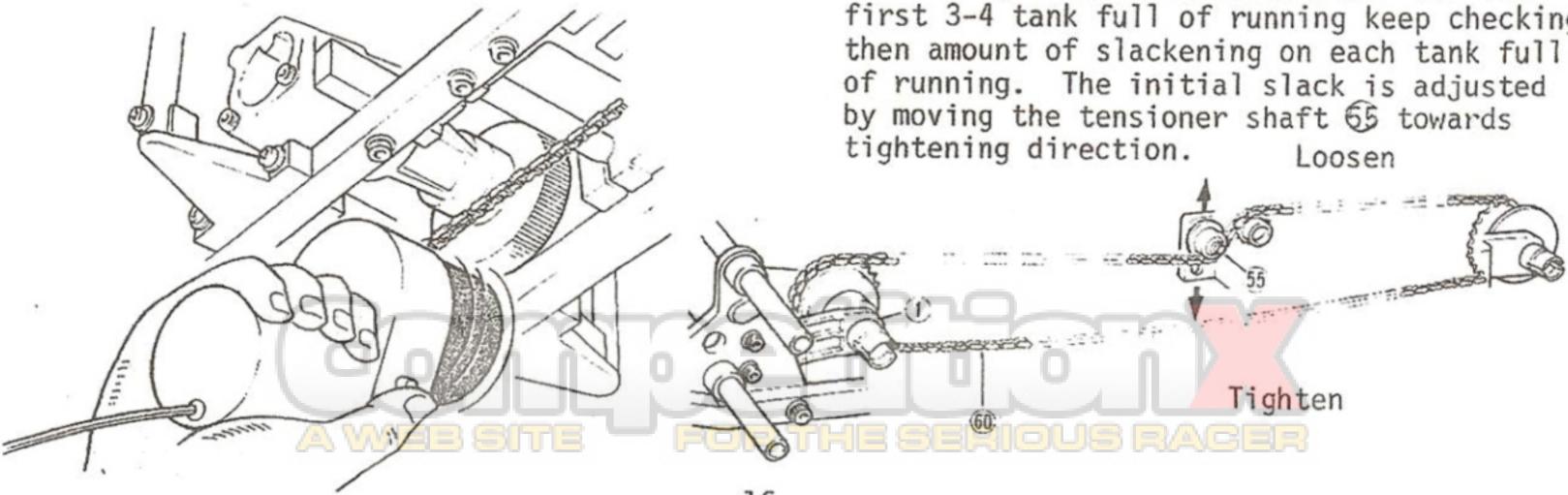
Cut away the places where the gear cover and the servo saver will rub against.



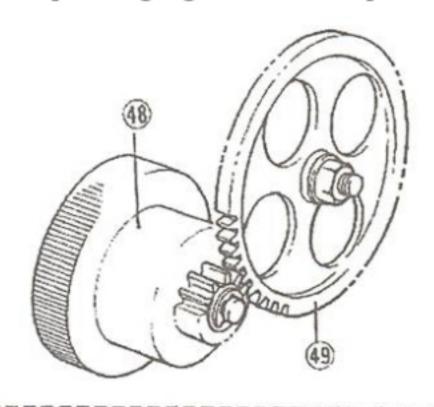
62 Method of starting Intaegra 4WD is performed in the same manner a racing car by revolving the flywheel with an electric starter from the bottom of the chassis.



63 [Inspection of Chain] The Chain 60 will slacken to a certain extent during the so-called First-Stage-Slackening when it is still new. For the first 3-4 tank full of running keep checking then amount of slackening on each tank full of running. The initial slack is adjusted by moving the tensioner shaft 65 towards



64 [Changing Gear Ratio]



The gear ratio set on this car has 10.6:1 ratio with Spur Gear 53Z 49 and the clutch bell 12Z 48. This can be replaced with optional gears 8.7:1 and 9.6:1.

66 The optional parts, rear differential gear

LD-61 will exhalt the running capability of

Clutch Bell	Spur Gear	Gear Ratio
12Z (SD-53)	53Z (LD-27)	10.6:1
13Z (SD-54)	52Z (LD-26)	9.6:1
14Z (SD-55)	51Z (LD-25)	8.7 : 1

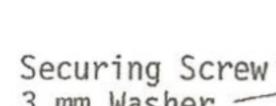
the model tremendously.

-[OPTIONAL PARTS]

65 [Use Air-Filter]

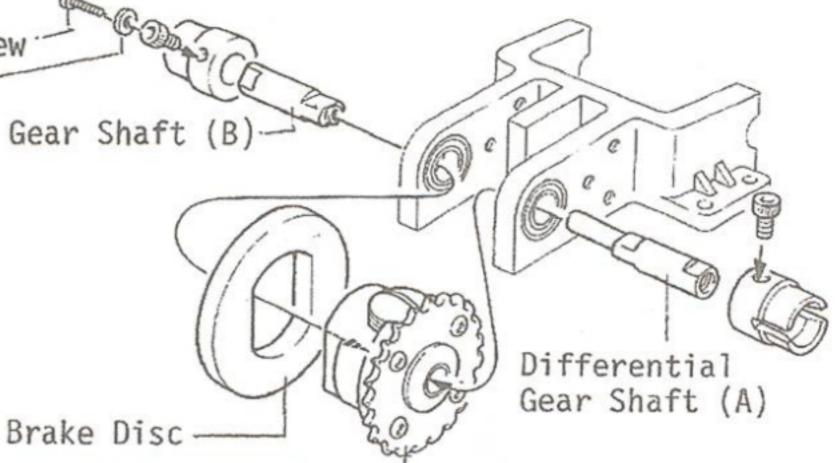
[CB-110]

To protect the engine from dirt, be sure to use Air-Filter on Carburetor. Available as option parts.



3 mm Washer

Differential Gear Shaft (B)



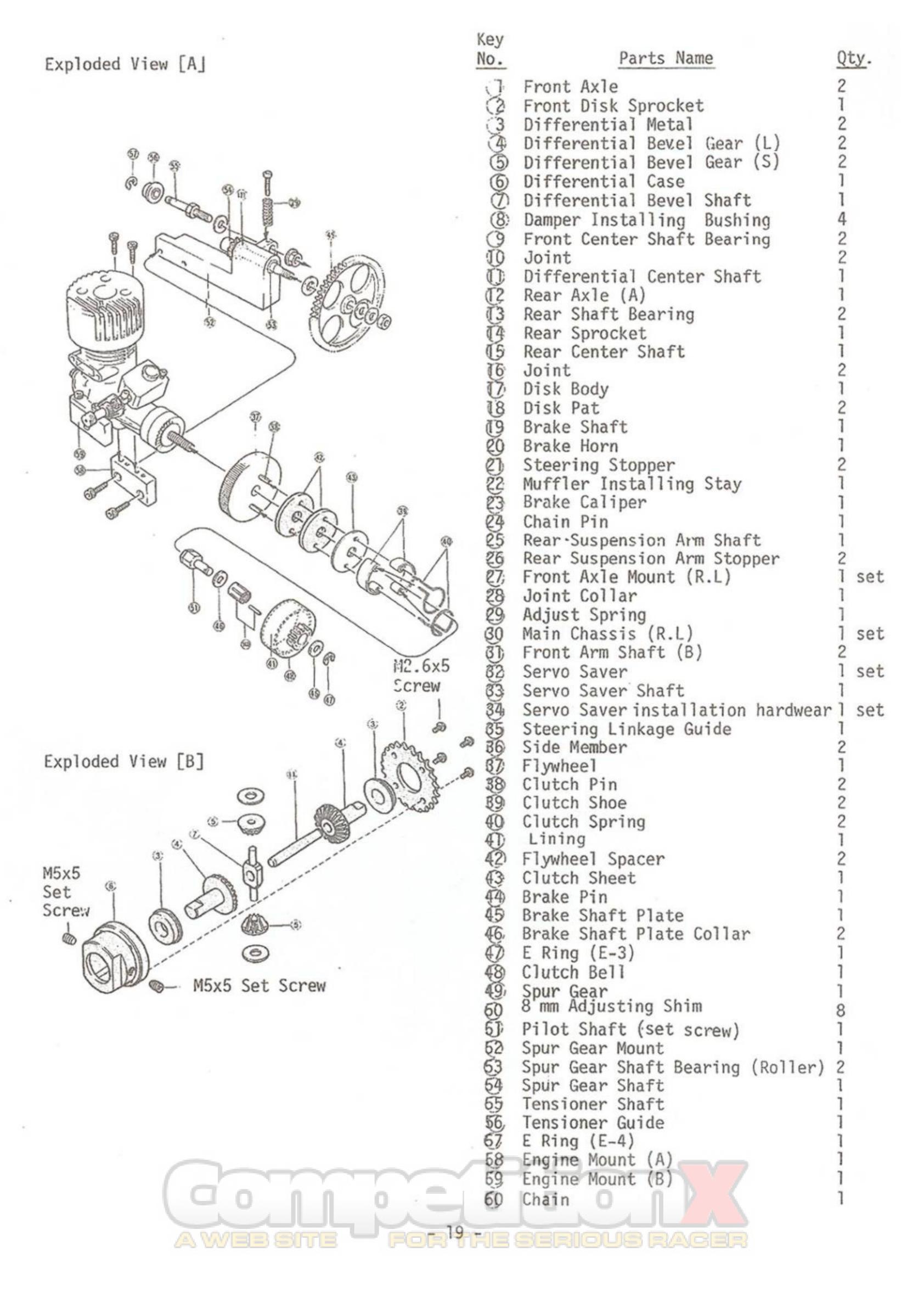
Rear Differential Gear

67 The buggy car is designed to run not only over a flat place, but also rugged or slippery or other very resistant surfaces. The one-way bearing is one of the effective tools to characterize the car in a particular way.

[Front Wheel Incorporated with the One-Way Bearing]

(Set of One-Way Bearing LD-40) (Set of Front Wheel Shaft LD-10)(Set of Front Wheel (41))





No.	Parts Name	Qty.	No.	Parts Name	Q
60	A Chain Joint ()	2	(121) (122) (123)	Nylon Coller	7
00000	B Chain Washer () Chain Clip ()	2	(123)	Rear Spring Installing Rear Oil Damper	Stay 2
63	Muffler Adampter	1	(124)	M3 Shaft End Link	4
	Antenna Set Front Bumper	1 set	(125)	E Ring (E-7) Damper Cylinder	4
65 66	Rear Axle (B)	i	126) 127) 128)	Switch Boot	1
60888	Muffler (A)	1	(128)	Switch Plate	1
69	Muffler (B) Muffler Pipe	1	130	Rear Swing Shaft Rear Wheel Shaft	2
0	Muffler Connect Bolt	1	131	Rear Wheel Bearing	2
72	Fuel Tank Fuel Pipe	i 2	131) 132) 133)	Drive Washer Rear Spring	. 2
C	Fuel Bush	2 .	134	Tire	4
75	Fuel Tube Fuel Cap	1	(135)	Inner Wheel Wheel (A)	4
16	Fuel Installation Plate	2	136) 137) 138)	Wheel (B)	4
	Joint Collar	1	(138) (139)	Engine Controll Spring Decal	1
	R/C Unit Box R/C Unit Box Cover	i	140	Clutch Bearing Set	1
80	Doll District	7	142	Pressure Nipple	1
82	Servo Plate Servo Plate Coller	4	(43)	Strap Baffle	í
63	Engine Controls Servo Saver	1 set			
84	Engine Controls Servo Saver Sha Linkage Guide	3			
86	Linkage Rod (A)	2			
00000000000000000000000000000000000000	Linkage Rod (B) Linkage Rod (C)	1			
69	Linkage Stopper	6			
	Bumper Reinforcement Plate Securing Stud	1			
9934	Rod Boot	2 set			
93	Gear Cover Stay	7			
05	Body	i ·			
95	Joint Coller	1			
98	Front Suspension Arm Front Spring Stay	2			
99	Ball	4			
(100)	Front Damper Stay Suspension Spring Stopper	4		*	
	King Pin Holder	4			
103	King Pin Front Hub	2			
105	Front Swing Shaft	2			
107	Front Wheel Shaft Bearing Front Wheel Shaft	2			
(108)	R/C Unit Box Gasket	1			
110	Ball Link (w/Ball) Tie Rod (L)	4			•
(II)	Tie Rod (S)	1			
	Damper Stay Installing Coller Front Spring	4			
110	Suspension Spring Holder	4			
	Rear Suspension Lower Stopper.	le 2			
	Front Oil Damper	2	~ _		
(118)	Antenna Installing Stay	17			
(120)	Pear Suspension Arm (Left) Rear Suspension Arm (Right)	FO	RTHE	SERIOUS RACER	
			00		

set

No.	Parts Name	Key No. & Contents
LD-77 58 69 70 71 72 73 74 75 76 78 88A 89A	Case Shaft Set Brake Caliper Clutch Bearing Spur Gear Bearing Wheel (One Lock Type) Body Drive Washer Rear Suspension Stopper Damper Rubber Bush Screw Set Damper Spring (Front) " (Rear)	6 x 1 7 1 x 1 19 20 23 44 45 x 1 46 x 2 140 x 1 (Roller Bearing) 53 x 1 135 (36 (37) x 2 95 x 1 132 x 4 115 116 x 2 8 x 10 Screw, Wrench Set 98 100 101 (13) x 1 101 (14) (12) (13) x 1
		Option Parts
SD-53 55 FM-62	Clutch Bell (12Z) Clutch Bell (14Z) Flywheel	For Enya X
28 74 LD-25 26	Flywheel Spacer Flywheel Main Gear 51T Main Gear 52T	For OS-21
CB-86 101 FM-59	Nylon Spike Front Wheel Bearing Nylon Nut	M6
1881 CB-110 95	Hard Oil for Differential Air Cleaner Rear Double Bearing	For OS-27 CAR & Wing