

ACADEMY

HOBBY MODEL KITS

# Matiz

## 1/10 EP ON-ROAD RACING CAR

# SP3

### INSTRUCTION MANUAL 설명서



#### Technical Data

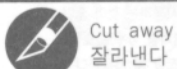
Length(전장) .....	316mm
Width(전폭) .....	172mm
Wheel base(휠베이스) .....	198mm
Tread(F/R)(트레드) .....	137mm
Weight(Approx. with battery)	
(전비중량(배터리포함)) .....	906g



- Body, RS380 motor, speed control included
- Independent front wheel suspension
- Ball differential included
- Adjustable caster, camber, ride height
- Option parts available to tune-up
- Easy to set-up & tune-up
- High grip radial tires with inner foam
- Nerfwing, Rear chassis brace included

- 바디 · RS380모터 · 변속기 포함
- 전륜 독립 현가 방식
- 볼디프 기본장착
- 캐스터, 캠버, 지상고 조정가능
- 다양한 옵션으로 튜닝이 가능하다
- 세팅 및 튜닝이 쉽다
- 인너폼이 포함된 래디얼 타이어
- 너프윙, 리어세시브레이스 포함

CA164/ #1579



Cut away  
잘라낸다



Use allen key,  
⊕wrench.



3 Repeat operation  
수 만큼 조립한다



Optional parts  
선택한다



L자 또는 ⊕자렌치를  
사용하여 조립한다.



Make hole  
구멍을 뚫어준다.



Apply grease to the place.  
그리스를 바른다



Apply instant glue to the place.  
순간접착제를 바른다

※ THIS KIT REQUIRES 2 CHANNEL  
RADIO CONTROL  
SYSTEM WITH 7.2V Ni-Cd BATTERY.  
(이키트는 2채널 조종기와 7.2V  
니카드 배터리가 필요합니다.)

## ■부품을 조립하기전에

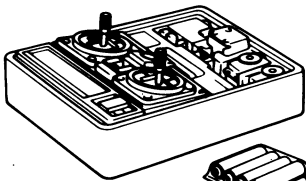
- 구입 후 조립하기 전에는 반드시 부품도와 대조, 확인하고 불량 부품이나 부족한 부품이 있을 경우에는 구입한 직매점이나 A/S센터에 이용하시기 바랍니다.
  - 조립을 시작한 후에는 부품이나 교환을 사절합니다. ●작은 비스, 너트 등은 모양이 비슷하므로 설명서를 잘 읽어 본 후 조립한다.
  - 송수신기 및 서어보에 물이 들어갔을 경우 보증수리가 되지 않으니 취급에 주의한다.
  - 한 가지씩 조립을 확실히 해나가는 것이 고장을 막고 제성능을 충분히 발휘하는 좋은 R/C모델이 된다.
- ※ Do not use excessive force when tightening the tapping screws and bolts. 볼트 및 비스를 질 때 너무 무리하게 힘을 가하지 않는다.

## ■부품이 파손되었거나 분실했을 경우

- 부품의 가격 및 판매에 관한 자세한 사항을 본사 서비스센터, 직매점, 총판점 및 가까운 과학교재사에 문의하시고 부품명과 부품번호를 확인하여 구입하시기 바랍니다
  - 직매점 겸 A/S센터 : 삼선교:742-9293, 대치동:552-9293, 양재동:575-9997, 용산:706-9293
  - 총판점 겸 A/S센터 : 노원아카데미:907-0940, 양천아카데미:691-7108, 강남아카데미:522-1577, 강북아카데미:762-0980, 경기아카데미:(0343)458-5591, 부산아카데미:(051)293-7449, 대구아카데미:(053)744-9293
- ♣ 고객 상담 문의 : 080-969-7000

## ■ RADIO CONTROL UNIT

2채널 송수신기 세트



2 channel Radio Control unit  
2채널 송수신기 세트



Battery  
송수신기용 배터리  
(1.5V 12EA)

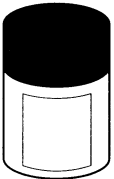
This kit is designed for a 2 channel 2 servo digital proportional type of radio control system.

Almost any 2 channel radio can be used. A unit can be used in other model.

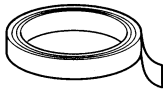
본 키트에는 2채널 송수신기 세트를 이용한다. 어느 회사의 것이든 무방하며, 일단 1세트가 준비되면 여러가지 R/C모형에 응용하여 사용할 수 있다.

## ■ POLYCARBONATE PAINT

색칠에 필요한 재료



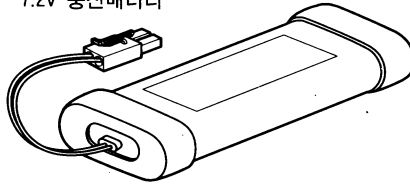
Polycarbonate paint  
포리카보네이트 스프레이



Masking tape  
마스킹테이프

## ■ Ni-Cd BATTERY

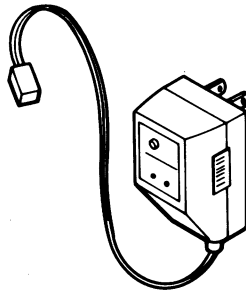
7.2V 충전배터리



It can be recharged more than 300times.  
니카드 배터리라고도 하며 충전하여 계속 사용(300회 정도) 할 수 있는 전지를 말한다.

## ■ CHARGER for Ni-Cd Battery

배터리 전용 충전기



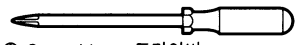
Academy Ni-Cd battery has high effectiveness and can be recharged more than 300 times.

(100-220V AC Charger)

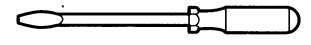
충전 배터리를 충전하는 것으로 가정용 100V~220V를 사용해서 15시간 정도 충전하는 것을 말한다.

## ■ TOOLS

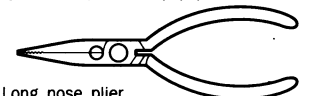
조립에 필요한 공구



⊕ Screwdriver 드라이버



⊖ Screwdriver 드라이버

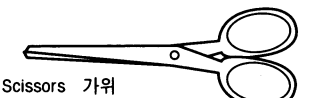


Long nose plier

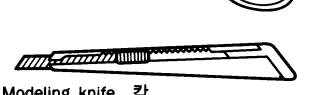
라디오벤치



Nipper 니퍼

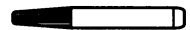


Scissors 가위



Modeling knife 칼

## ■ 접착제

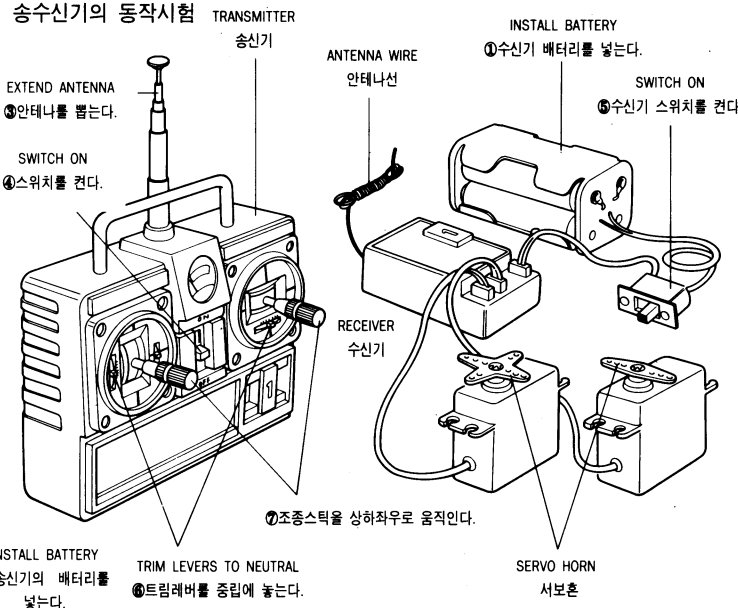


Instant glue

순간접착제

## ■ RC EQUIPMENT

송수신기의 동작시험



The digital proportional system comprises a transmitter, receiver, servos, etc.

●Transmitter - Servos as a control box. Stick movements are transformed into radio wave signals which are transmitted through the antenna.

●Receiver - Receives signal from the transmitter.

●Servos - Servo transforms signals received by the receiver into mechanical movements and actuates the control portion of the car.

●Trim Lever - Trim Lever is used to some change the direction of the front wheel or to speed control.

●Level Meter - Level Meter shows that batteries for the transmitter are playing out.

●Servo Horn - Servo Horn joints servo to the control portion of the car.

2채널 송수신기 세트는 송신기와 수신기, 서어보 및 배터리케이스로 구성되어 있다.

●송신기 - 조종하는 콘트를 박스로서 모터의 회전, 키의 좌우 움직임을 안테나를 거쳐 전파로 송신한다.

●수신기 - 송신기로부터 전파를 받아서 서어보로 보낸다.

●안테나 - 송신기의 안테나는 전파를 보내고 수신기의 안테나는 전파가 들어오는 중요한 것으로 최대한 길게 사용하는 것이 좋다.

●트림레버 - 송신기의 트림레버는 서어보의 중립위치를 좌우로 조금씩 움직여 속도조절이나 키의 방향을 수정할 때 사용한다.

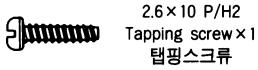
●레벨미터 - 송신기의 전원이 소모된 정도를 나타내는 눈금으로 송수신기의 전원이 약할 경우 잘못된 동작을 하는 경우가 있으니 항상 주의한다.

●서어보호른 - 서어보와 차의 콘트롤부를 연결하는 것으로서 여러종류가 있으므로 사용 목적에 맞는 형태를 사용한다.

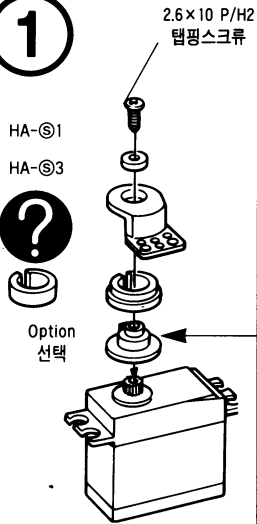
\* Chassis being semi-assembled, is ready to run only by being assembled linkage, tires, body. 새시가 90%완성 상태이므로 링케이지, 타이어, 몸체만을 조립하면 바로 주행시킬 수 있습니다.

주의사항 Caution

\* Do not use excessive force when tightening the tapping screws and bolts. 볼트 및 비스를 칠 때 너무 무리하게 힘을 가하지 않는다.

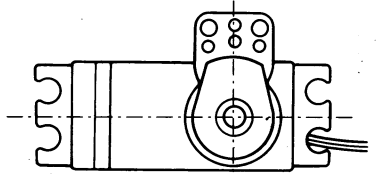


1

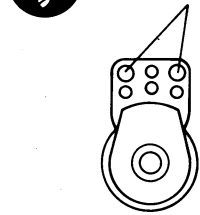


- HA-⊙11 FU Futaba 후타바
- HA-⊙8 SA Sanwa 산와
- HA-⊙10 HI Hitec 하이텍
- HA-⊙4 JR
- HA-⊙7 Spare 여분

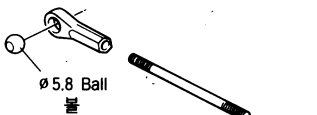
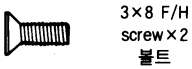
Attach as shown with servo in neutral. 서보에 직각이 되도록 조립한다.



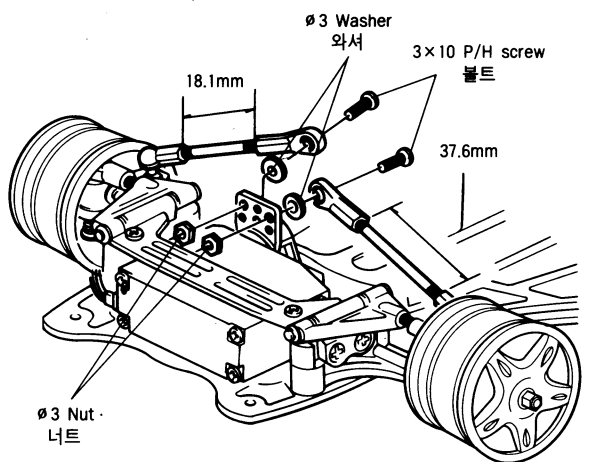
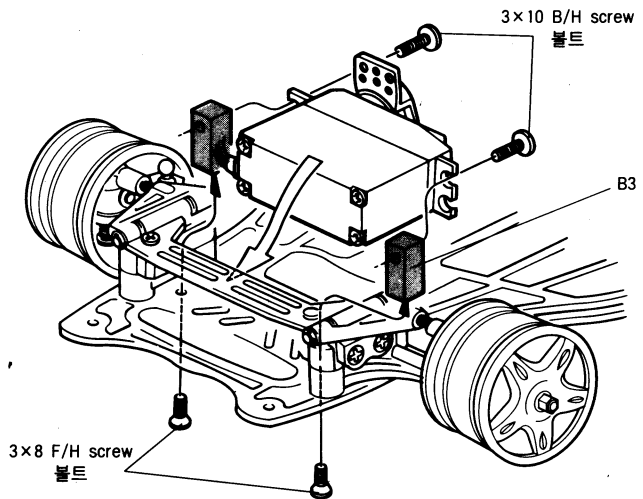
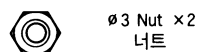
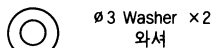
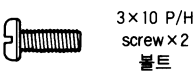
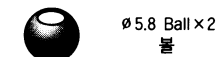
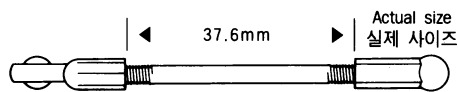
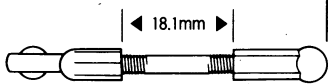
Make  $\varnothing 2.7$  holes.  $\varnothing 2.7$ 로 구멍을 넓혀준다.



2



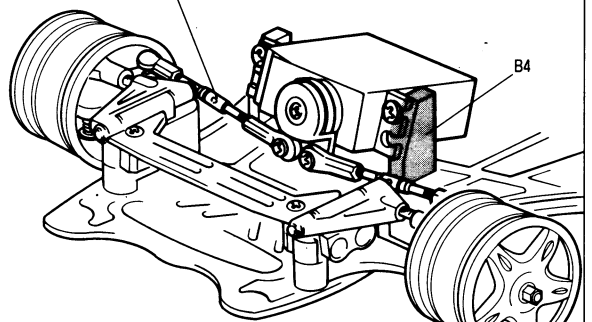
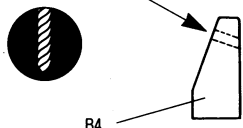
Use long nose pliers 라디오 벤치 사용.

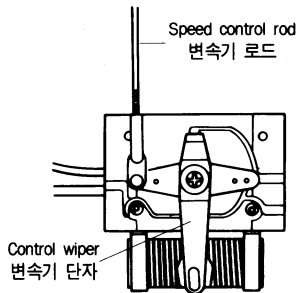
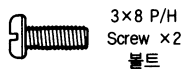
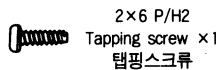
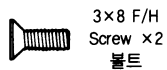
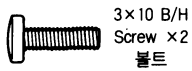
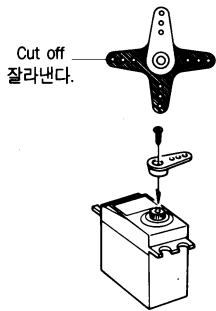


WT-14B Turnbuckle rod (not included) 턴버클로드 (42mm) 별매

(ESC Type) 전자변속기 타입

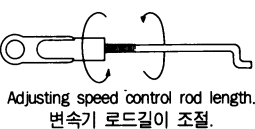
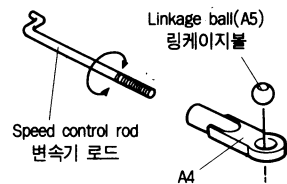
Make  $\varnothing 2.7$  Holes.  $\varnothing 2.7$ 로 구멍을 넓혀준다.



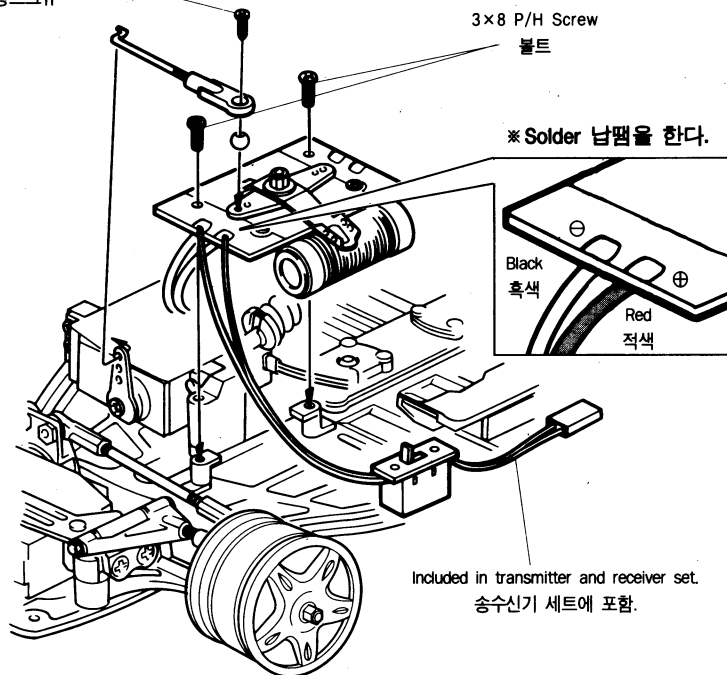
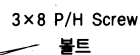
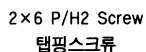
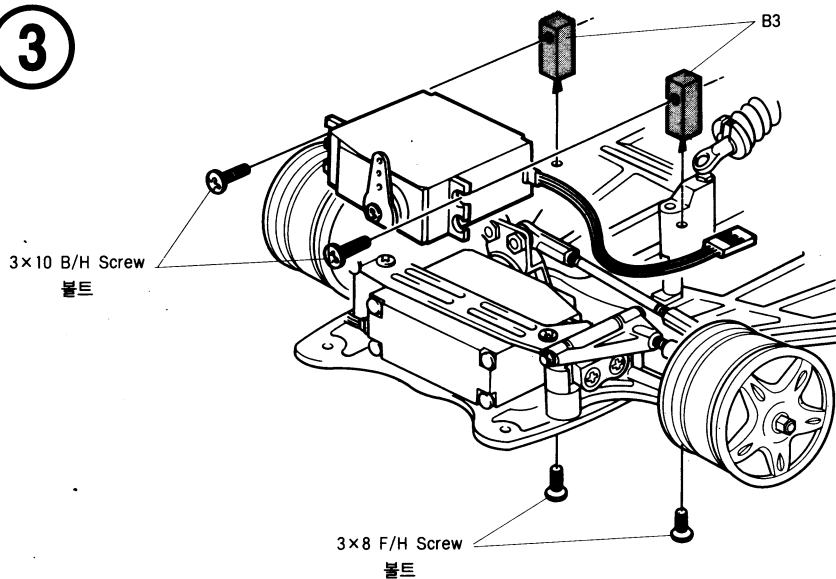


Adjust the speed control rod so the speed control is in neutral when the throttle is centered.

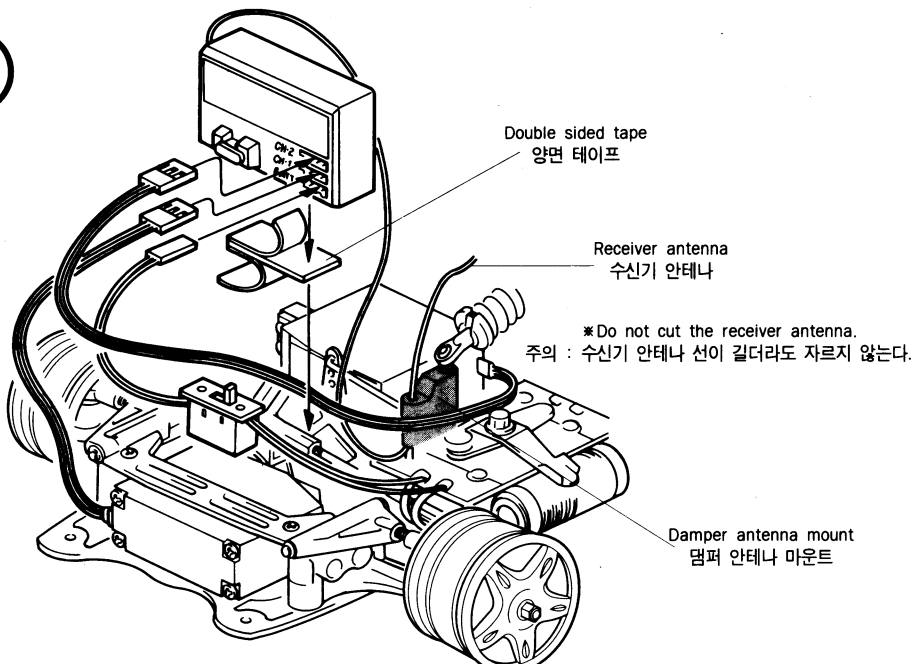
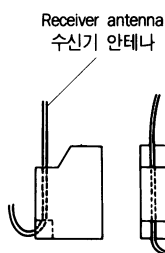
그림과 같이 중립 위치에 변속기 단자가 오도록 변속기 로드의 길이를 조절한다. 이때 조종기의 스틱, 트림 레버도 중립에 오도록 한다.



3



4



**GEAR RATIO (기어비)**

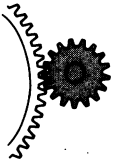
48 Pitch(피치)

스퍼어 피니언	76(EX30)	80(EXT12)
18T (WY30)	4.22	4.44
20T (WT10)	3.80	4.00

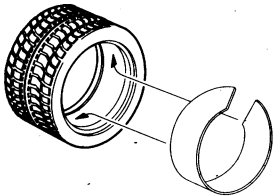
64 Pitch(피치)

스퍼어 피니언	100T (EXT13)	105T (EXT14)
22T (EXT10)	4.54	4.77
23T (EXT11)	4.35	4.56

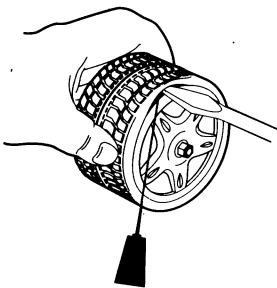
Adjust the gear meshing with some "back lash"  
그림과 같이 스퍼어 기어와 피니언 기어가 부드럽게 돌 수 있도록 간격을 둔다.



Insert Inner-sponge inside of tire.  
타이어 속에 인너스폰지를 넣는다.

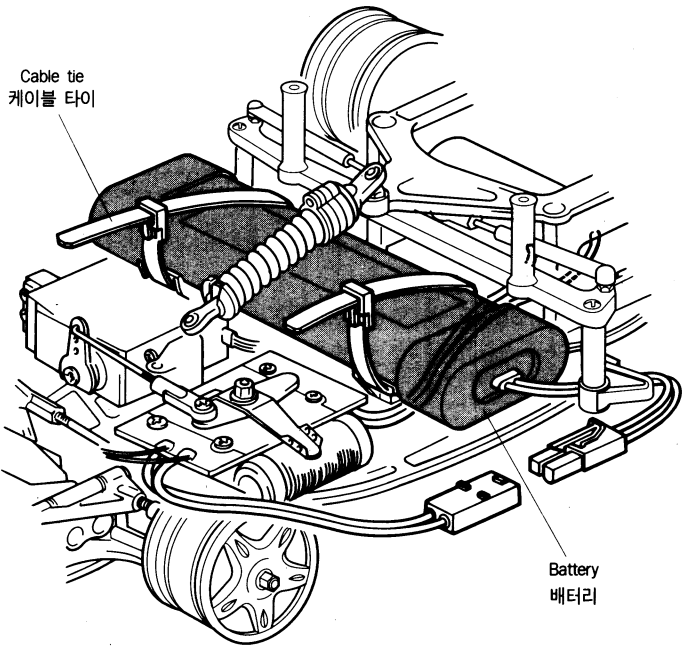


Apply instant glue or rubber cement between the tire and wheel.  
드라이버등을 이용하여 그림과 같이 순간 접착제나 고무제 접착제로 휠과 타이어를 접착한다.



**5**

Cable tie  
케이블 타이

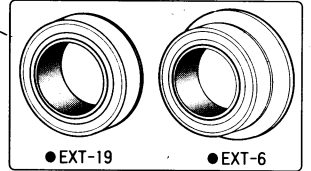
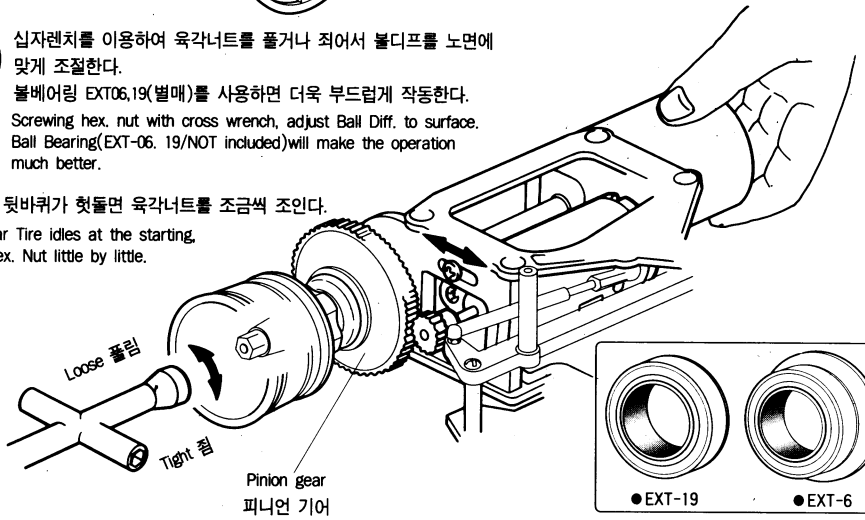


Battery  
배터리

**6**

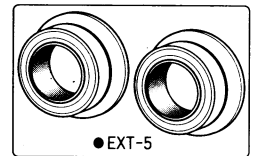
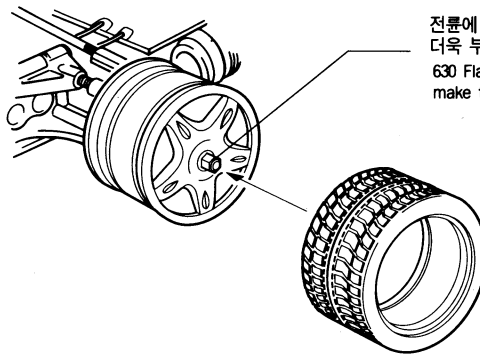
십자렌치를 이용하여 육각너트를 풀거나 죄어서 볼디프를 노면에 맞게 조절한다.  
볼베어링 EXT06,19(별매)를 사용하면 더욱 부드럽게 작동한다.  
Screwing hex. nut with cross wrench, adjust Ball Diff. to surface.  
Ball Bearing(EXT-06, 19/NOT included)will make the operation much better.

●출발할때 뒷바퀴가 헛돌면 육각너트를 조금씩 조인다.  
When Rear Tire idles at the starting, tighten Hex. Nut little by little.



**7**

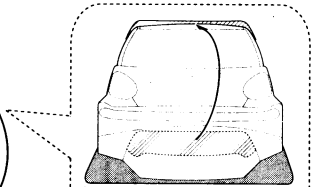
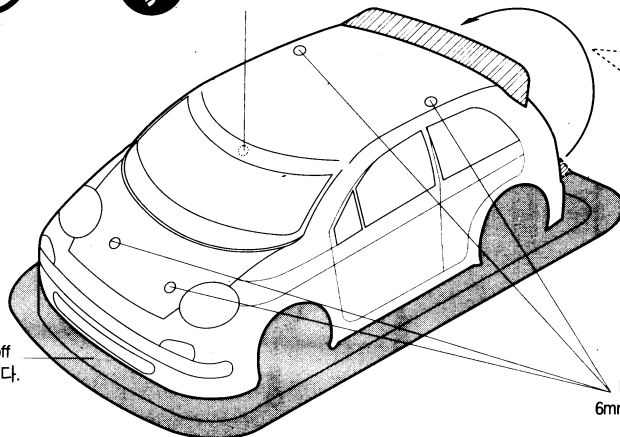
전륜에 630 플랜지 볼베어링(EXT-5.별매)을 사용하면 더욱 부드럽게 작동한다.  
630 Flange Ball Bearing(EXT-5/NOT included)will make the operation of Front Wheel much better.



**8**

Antenna hole  
안테나 구멍

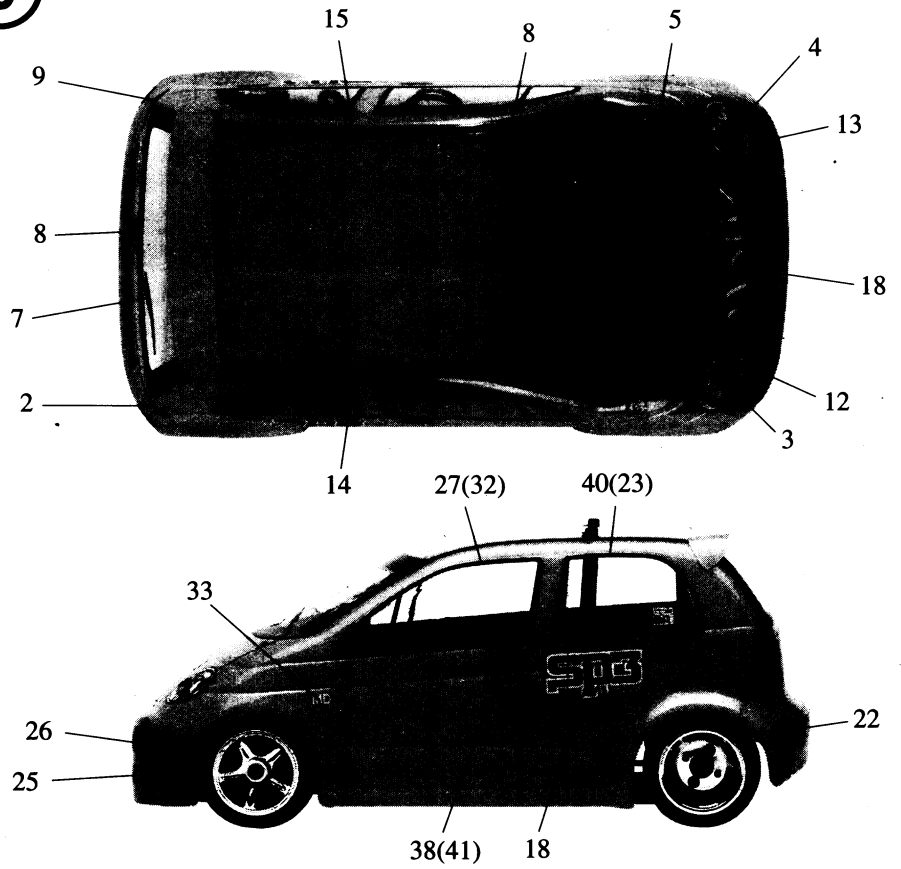
Cut off  
잘라낸다.



잘라낸 후 양면테이프 등으로 붙인다  
Use double-sided tape (Not included)

Make 6mm holes  
6mm 바디 마운트 구멍

# 9 STICKER(스티커 붙이기)



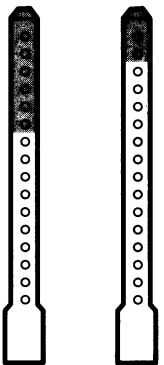
\* 나머지는 취향대로 붙인다. Other remains can be used by your taste.

# 10



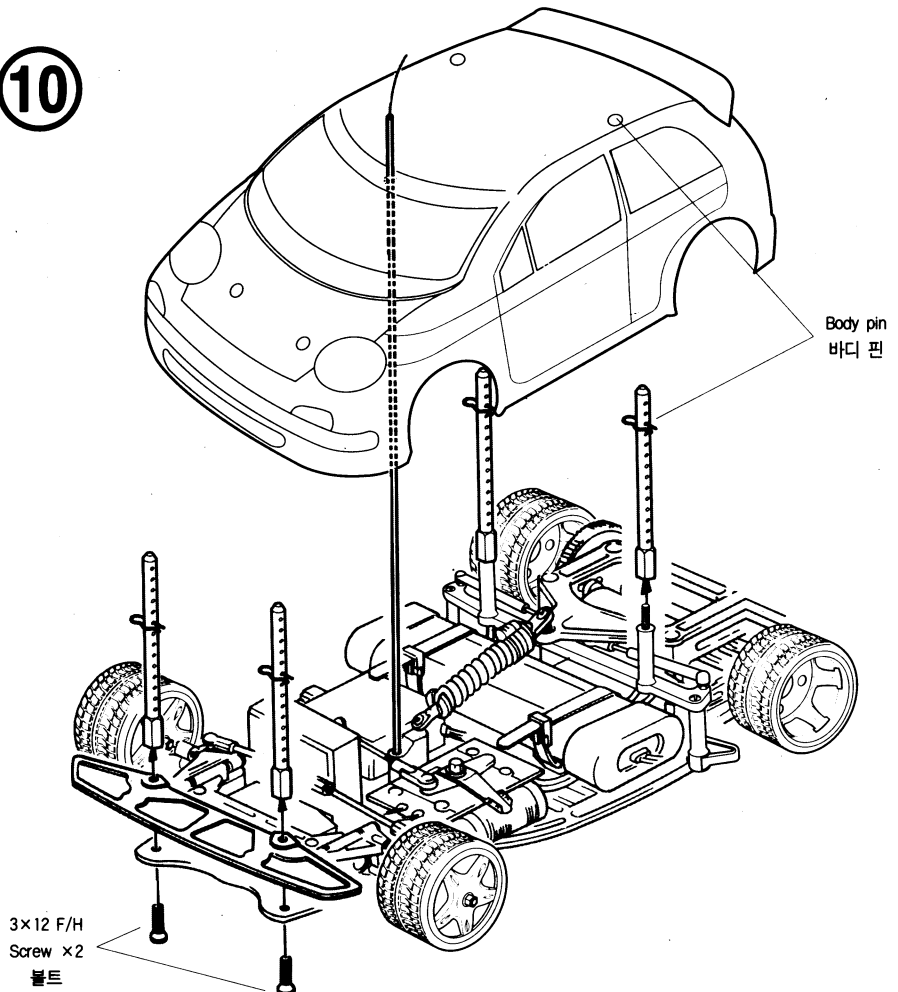
3×12 F/H  
Screw ×2  
볼트

Cut off excessive length.  
불필요 부분을 자른다.

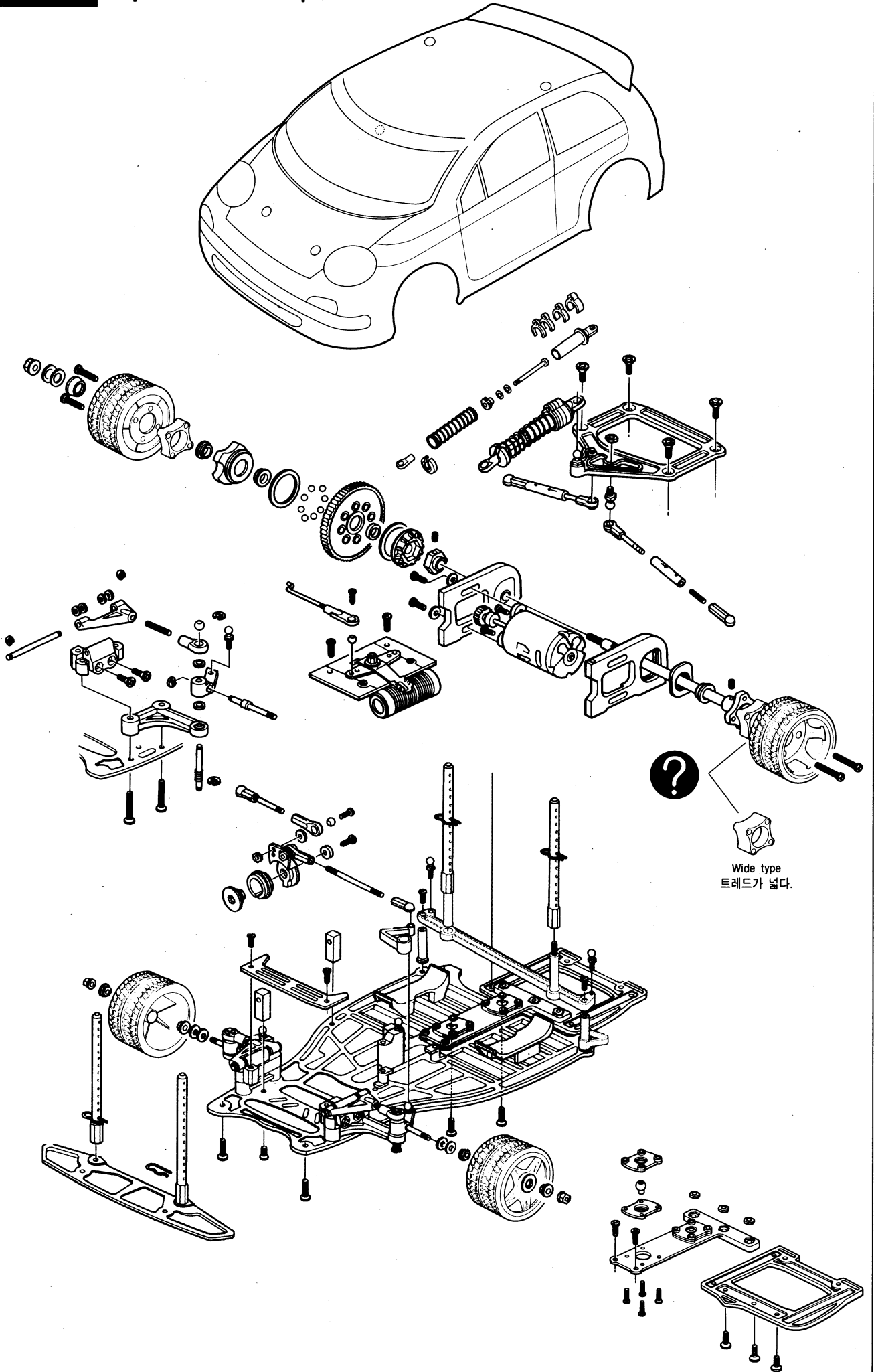


×2  
Front  
전

×2  
Rear  
후

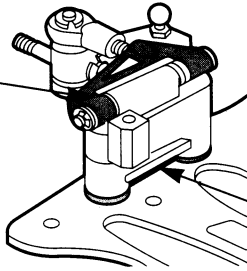
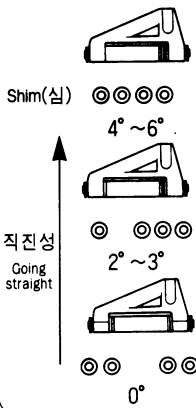


3×12 F/H  
Screw ×2  
볼트

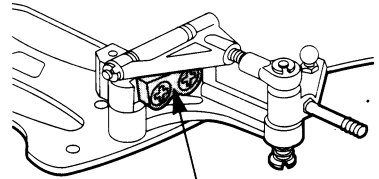
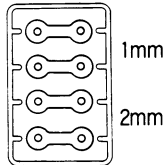


# Setup Tips

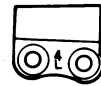
## ● Caster adjustment (캐스터의 변경)



## Front height adaptor 프론트 하이트 어댑터 (지상고 조절 가능)

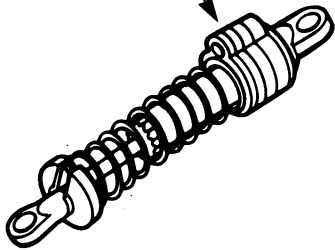
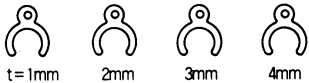


## 4° Upper arm mount 어퍼암 마운트포함 (예민한 조향)

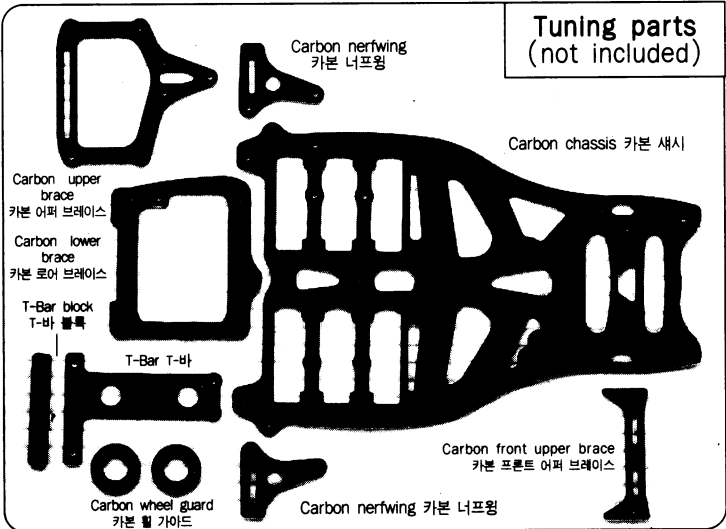


메인샴시와 로어브레이스가 수평이 되도록 스프링 장력을 조절한다.

Adjust tension of spring to make Main chassis even with Lower Brace.



## Tuning parts (not included)



**SP3- II Chassis Kit**  
**1575/CA157**

**EX-39**

- Rear chassis brace set
- $\varnothing 3 \times 8$  P/H Screw  $\times 2$
- $\varnothing 3 \times 10$  P/H Screw  $\times 2$
- $\varnothing 3 \times 15$  rod  $\times 2$

**EX-40**

- Nerfwing(Injection)  $\times 2$
- $\varnothing 3 \times 10$  F/H Screw  $\times 2$

**EX-41**

- F/ 5 spoke wheel  $\times 2$

**EX-42**

- R/ 5 spoke wheel  $\times 2$
- Wheel adapter  $\times 2$
- $\varnothing 3 \times 18$  P/H Screw  $\times 4$
- $\varnothing 3 \times 22$  P/H Screw  $\times 4$

**EX-43**

- Radial tire(F/R)  $\times 2$
- Inner sponge  $\times 2$

**EX-44**

- Matiz Body(P.C)  $\times 1$   
(포리카보네이트)

**EX-45**

- Sticker(Matiz)  $\times 1$

**EXT-29**

- Carbon rear chassis brace  $\times 1$
- Rear chassis brace mount  $\times 1$
- $\varnothing 3 \times 15$  F/H Screw  $\times 1$
- $\varnothing 3 \times 8$  P/H Screw  $\times 3$