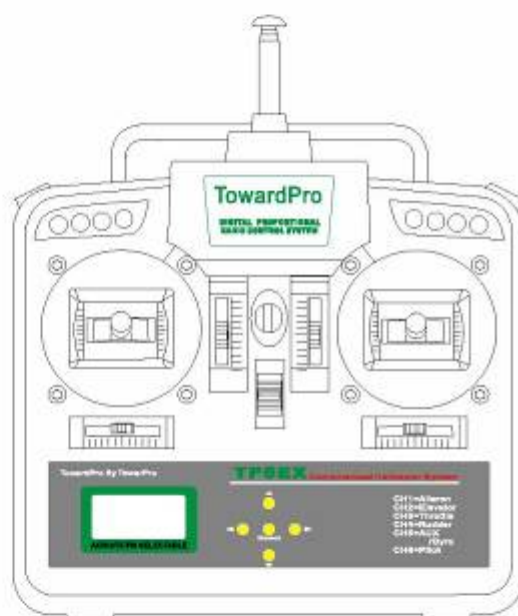


# TowardPro<sup>®</sup>

## 6 CHANNEL RADIO CONTROL SYSTEM

### MODE 1 & MODE 2

# INSTRUCTION MANUAL



## FOR HELICOPTERS/AIRCRAFT FM SYSTEM, 6CHANNELS

Thank you for purchasing this product. Please read this manual carefully before operating.

### PRECAUTIONS

1. Use of this product with other than models may be restricted. Relevant products mentioned in this manual are used for models only.
2. Our is not responsible for unauthorized modification, adjustment and replacement of parts of this product.
3. Please abide the local law when using the model.

### MEANING OF SPECIAL MARKINGS



**DANGER**

Procedures which may lead to a dangerous condition and Cause death or serious injury to the user if not carried out Properly



**WARNING**

Procedures which may lead to a dangerous condition or Cause death or serious injury to the user if not carried out properly or procedures where the probability of superficial injury or physical damage is high.



**CAUTION**

Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly.

Sym bol:



**PROHIBITED**



**MANDATORY**

## NONRESPONSIBILITY

© Whole or any section of this manual is refused to be republished without the written Authorization of ours.

© Ours is not responsible for the results of use of this product the customer.

© Information contained in this manual is subject to change without notice due to possible.

#### FCC INFORMATION

Warning: Modifying, tampering and/or adjusting this or replacement of any transmitter component (crystal, semiconductor, etc.) in this unit could result in a violation of the rules. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## TABLE OF CONTENTS

PRECAUTIONS	2
MEANING OF SPECIAL MARKINGS	2
NONRESPONSIBILITY	2
TABLE OF CONTENTS OF THIS PAGE	3
SPECIFICATIONS	3
PRECAUTIONS DURING FLIGHT	4
PROHIBITED ITEMS	4
MANDATORY ITEMS	5
HELPFUL HINTS	5
PRECAUTIONS BEFORE FLIGHT	6
FRONT PANEL OF TRANSMITTER	7
RECEIVER	9
ADJUSTMENT OF THE LENGTH OF STICK LEVER HEAD	9
REAR PANEL OF TRANSMITTER	10
BATTERY / SPARE CRYSTAL BAY	10
INTRODUCTION OF AIRPLANE FLIGHT	11
SERVO	12
RECEIVER POWER SOURCE CONNECTION	12
TROUBLE SHOOTING	13
AFTER SERVICE	13
WARRANTEE	13

## SPECIFICATIONS

- (1) 6 channel proportional radio control
- (2) Channel reverse switch (6 pcs)
- (3) RF power:  $\leq 26\text{dBm}$
- (4) Maximum Current:  $\leq 250\text{mA}$
- (5) Power supply:  
AA 1.5V  $\times$  8 batteries or rechargeable battery pack
- (6) Coding: PPM
- (7) Modulation: FM
- (8) Low voltage alarm
- (9) Charging jack

## PRECAUTIONS DURING FLIGHT

Do not fly in the following places:

1. Near other R/C flying fields (within about 2km)
2. In radius of 40m to people on the ground or over crowd.
3. Near by school, hospital, residential area, gas station.
4. Near by high tension lines, high structures or communication facilities.



Radio wave interference and obstructions may cause a crash. A crash caused by trouble in the R/C set may cause death or property damage.

Do not fly following situation:

1. Children under 14 years old.
2. When feeling tired, sick or intoxicated.
3. Psychopath and people taking drug.



Fatigue, illness, or intoxication will cause a loss of concentration or normal judgment and result in operation errors and a crash.

Hang the transmitter neck strap on your neck before turn on the drive power.



The strap may be entangled in the rotating propeller and cause damage.

## ..... PROHIBITED ITEMS .....

Do not fly simultaneously on the same frequency.

Interference may cause a crash.  
Use of the same frequency will cause interference.



Simultaneous flight  
on the same frequency  
prohibited.



Do not fly on rainy, windy and turbid days or at night.

Water penetrating into the transmitter,  
poor sight at night and strong wind  
interference will cause a crash or  
property damage.



NIGHT

DO NOT FLY





## MANDATORY ITEMS

### 1. Extend the antenna to its full length.

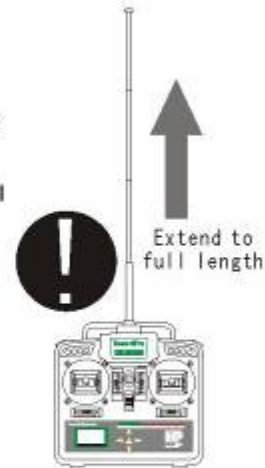
If the antenna is too short, the effective range of the radio wave will become shorter. Short control range will cause a crash.

If the transmitter antenna comes off during use, control will be lost and the model will crash.

### 2. Always test the transmitter and receiver before fly.

Any abnormality in the radio set or model may cause a crash.

★ Before starting the engine, check that the direction of operation of each servo matches the operation of its control stick. If a servo does not move in the proper direction, or operation is abnormal, do not fly the plane.



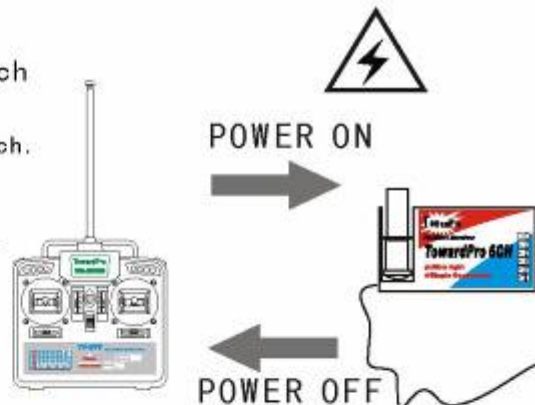
### 3. When turning on the power switch

- ⊙ Set the transmitter throttle stick to maximum slow.
- ⊙ Turn on the transmitter power switch.
- ⊙ Then turn on the receiver power switch.

### 4. When turning off the power switch

- ⊙ Stop the engine.
- ⊙ Turn off the receiver power switch.
- ⊙ Then turn off the transmitter power switch.

If the power switch is turned off in the opposite order, the engine may go to full throttle unexpectedly and cause an injury.



## HELPFUL HINTS

If it is your first time to touch the model aircraft, you may feel very excited, but do not forget to read this manual carefully before any operation. If you have a seasoned model fan, it is helpful to learn from him instead of making a detour.

- ⊙ You can study the manual with the veteran.
- ⊙ You should get information on the test-fly field from others.
- ⊙ You can ask how to fly at the beginning.
- ⊙ You can read the flight record and flight log from the seasoned pilot.



## PRECAUTIONS BEFORE FLIGHT

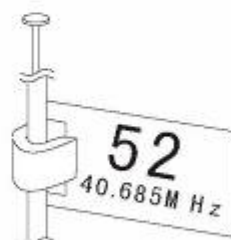
1. Do not place the transmitter on the ground before fly. Avoid the wind knocking the transmitter over and cause improper operation of control stick.



2. Do not touch the engine, motor, and speed controller during and immediately after use. They are hot and will cause a burn.

3. Always stop the engine, except when necessary when adjusting the R/C set. If the engine suddenly goes to high speed, it may cause an injury.

4. When flying, always install the frequency board to the transmitter antenna.



5. Always charge the rechargeable battery before each flight. If the battery goes dead during flight, the plane may crash. Charge the battery with the special charger sold separately. Overcharging may cause burns, fire, injury, blindness, etc. due to overheating, breakage, electrolyte leakage, etc.

The overcharging protection charger is recommended.

⊗ Do not short the terminals of battery, throw it into a fire, heat and shock it. Also, do not disassemble or rebuild the battery.

⊗ When not flying the model, store the Ni-Cd battery in the discharged state. Recharge the battery before the next flight. If a partially discharged Ni-Cd battery is recharged many times, its memory effect will reduce the flight time substantially and may cause a crash, even if the battery is recharged.

⊗ If you get the electrolyte on your skin or in your eyes, immediately wash it off with water and then go to the nearest hospital for treatment.

⊗ Please use the rechargeable battery with safety approval.

### 6. Storage and disposal precautions

⊗ Do not leave the battery, transmitter and receiver within the reach of small children.

Touching and operating the transmitter or licking the battery may cause injury or damage due to chemical matter.

⊗ Store the radio set in place -10°C to 40°C, without direct sunlight.

⊗ Do not store the radio set in where it is dusty and the humidity is high.

⊗ Remove the batteries from the transmitter and store them in a dry place if you not use the radio set for a long time.

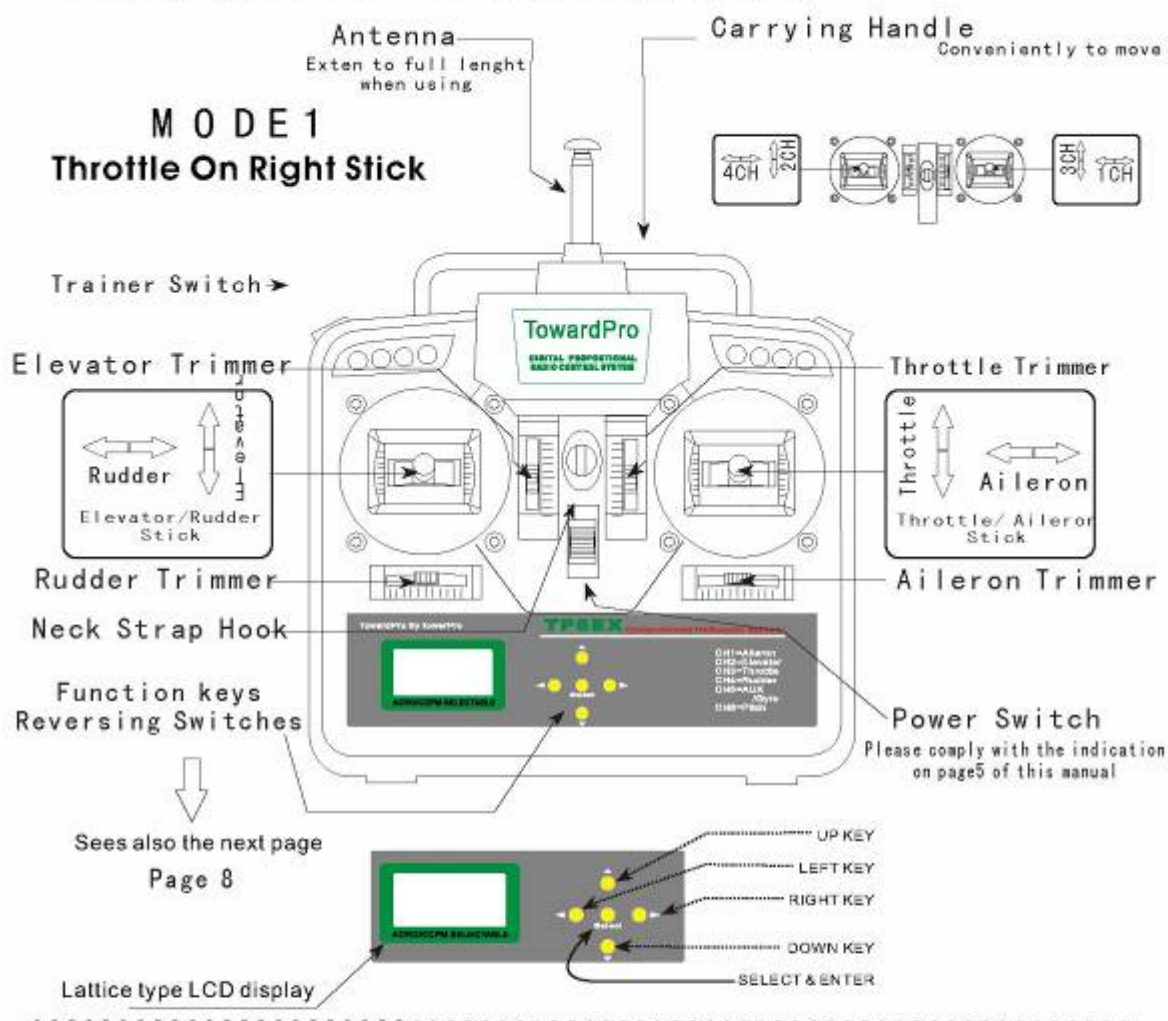


WARNING

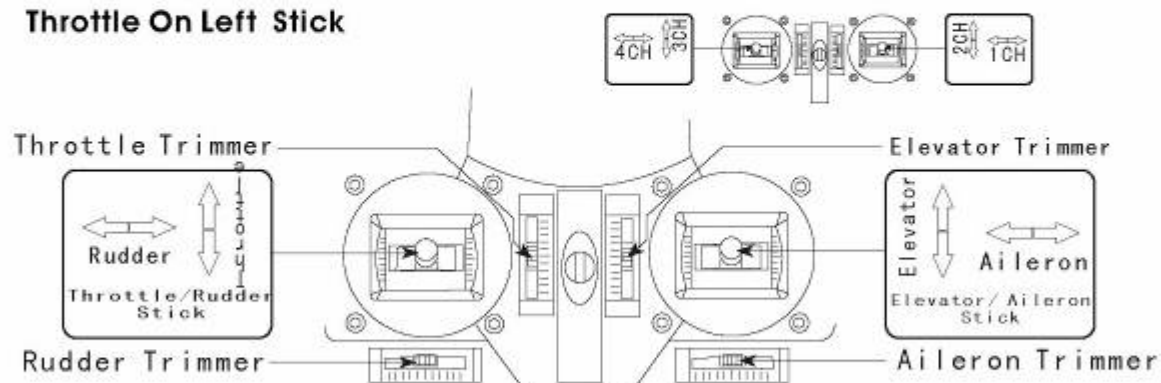
### 7. Rechargeable battery recycling

When the capacitance is too weak to perform, the battery is exhausted. Please take the used batteries to a recycling center.

## FRONT PANEL OF TRANSMITTER



## **MODE 2** **Throttle On Left Stick**



NOTICE: 3CH remote control not 4th channel [Rudder channel]



## Function keys

Before trun on the transmitter power switch, put through key <select>, then enters the setup mode.  
Lightly touches key<up>or key <down>, may choose in the menu the project:  
Lightly touches key<up>or key <down>,May change the correlation setting or the value,  
Did not forget to save your set.

### 1. MOD NUM

Eight models can be stored in the transmitter. This function allows you to choose from all of the different sets of model data stored in the transmitter.

### 2. Mod Type

This function is used to select the type of model to be programmed in the current model memory.  
a. acro b. heli c. ccpm heli

### 3. STICK

This function is used when you need to change the direction of stick. Channels 1-6 can be reversed.

### 4. REV

This function is used for servo reverse. Channels 1-6 can be reversed.

### 5. EPA CH

This function is used to set the travel of each servo in both directions from 0% to 125%.

### 6. D/R

You can use D/R settings to reduce or increase the servo travels of channels 1-6 by flipping a switch.

### 7. SUBT CH

This is used to make changes or corrections at the neutral position of each servo.

### 8. MIX CH

Yoursystemcontains seven separate programmable mixing to correct bad flight. You can choose from below:  
CH3&CH4,CH3&CH1,CH4&CH1,CH4&CH2,CH1&CH2,CH1&CH6,CH2&CH6

### 9. GYRO SET

This function used to adjust the gyro sensitivity from the transmitter. Use this function by connecting the gyro sensitivity adjustment input connector to channel 5.

### 10. THR NOR

You can program a 5-point normal throttle curve. Each point of curve can be adjusted over a range of 0% to 100%.

### 11. PIT NOR

You can program a 5-point normal pitch curve. Each point of curve can be adjusted over a range of 0% to 100%.

### 12. THR IDL

You can program a 5-point Idle-up throttle curve for stunt flying. Each point of curve can be adjusted over a range of 0% to 100%.

### 13. PIT IDL

You can program a 5-point Idle-up pitch curve for stunt flying. Each point of curve can be adjusted over a range of 0% to 100%.

### 14. THR HOLD

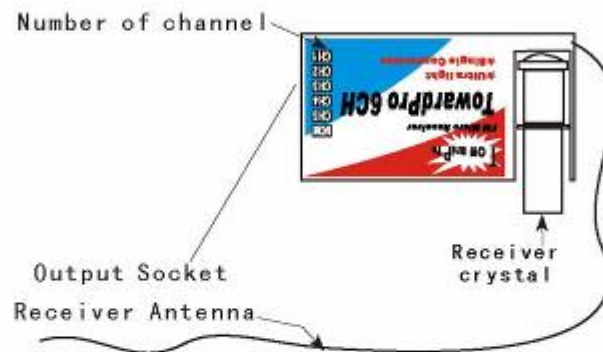
This function can holds the engine throttle in the idling position. (range from 0% to 100%)

### 15. SAVE SET

Save all data



## RECEIVER



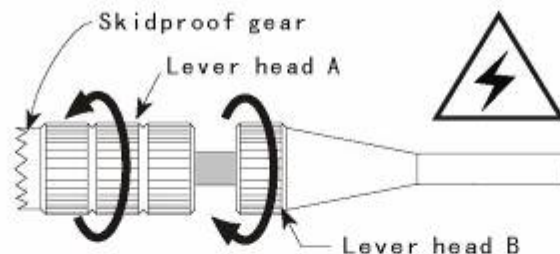
Receiver and servo connections

Receiver Output Channel	Helicopter	Airplane
1	Aileron	Aileron
2	Elevator	Elevator
3	Throttle	Throttle
4	Rudder	Rudder
5	Gyro	Landing gear
6	Pitch	Flap/MIX

NOTICE:

3CH remote control not 4th channel [Rudder channel]

### ADJUSTMENT OF THE LENGTH OF STICK LEVER HEAD

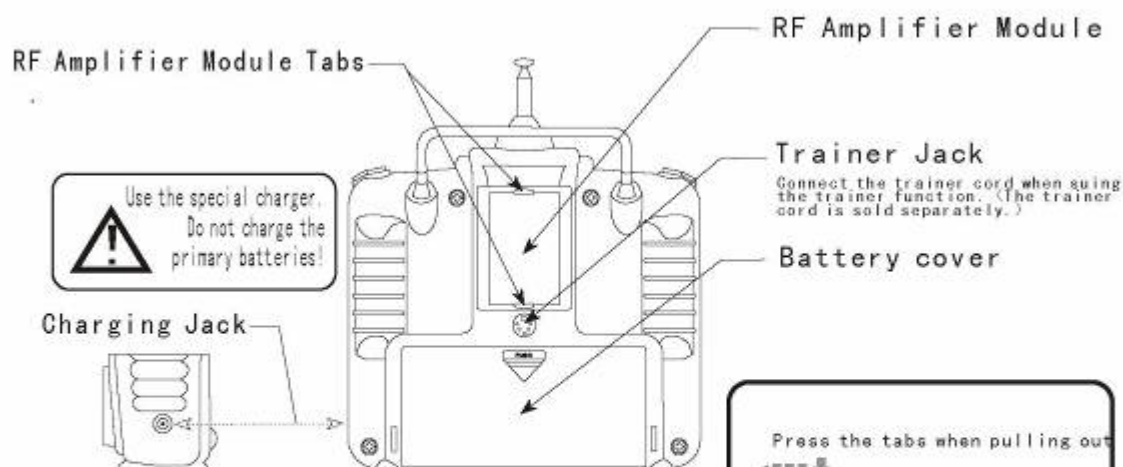


1. Unlock lever heads A and B by turning them in the arrow directions.
2. Set the stick to the most comfortable length and lock the lever heads by turning them in the opposite direction of the arrows.

The skidproof gear assures the safe operations, it is used on the throttle stick, aileron stick, elevator stick and rudder stick

After starting fly, do not leave your pollex from the skidproof gear, press it properly, otherwise the stick may slip and mislead the operation. This may cause damage!

## REAR PANEL OF TRANSMITTER



### About RF Amplifier Module

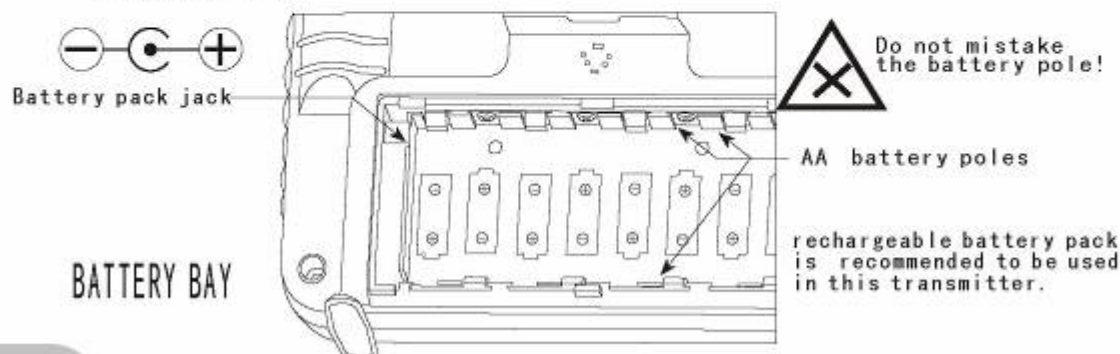
1. Remove --- Press the tabs and pull out the module at the same time.
2. Insert --- Press the tabs and insert the module. When you hear CLICK, it is locked. Please note the correct direction.
3. Usage --- When it is working, it normally heats.

### About Battery

1. When replacing the battery slide the cover downward while pressing the part marked "PUSH".
2. Take out the used batteries, do not mix the used and new batteries.
3. Insert the full charged batteries according to the polarity, or insert the battery pack and connect the plug. To avoid breaking, do not pull the battery wire.
4. When the voltage of battery in transmitter is low to 8.8V, the alarm light will blink, it is time to have your aircraft return. After the aircraft lands safely, cut off the drive power and then cut off the receiver supplied power, turn off the transmitter power. Only when you have finished above operations, you can replace the transmitter batteries or drive batteries.

### Precautions in assembly

1. Ensure that the connectors of receiver, servo and battery are tight.
2. Test the motion of servo, ensure that motion range can reach the end swimmingly.
3. If the servo motion is different from what your custom, please adjust the servo revising switches.



## INTRODUCTION FOR AIRPLANE FLIGHT

### 1. Before fly

Analogously to the helicopter without gyro, you can use 2 of the 4 channels.

#### Recommended settings for airplane

Receiver Output Channel	Helicopter	Airplane
1	Aileron	Aileron
2	Elevator	Elevator
3	Throttle	Throttle
4	Rudder	Rudder
5	Gyro	Landing gear
6	Pitch	Flap/MIX

NOTICE: 3CH remote control not 4th channel [Rudder channel]

You must fly at a clear field without crowd people and there is no other modelers flying with the same frequency radio within 2km to 3km range. Connect the receiver, gyro and servos according to the correct instruction.

### 2. Safety check

2.1 Check if the batteries supplying transmitter and receiver are full of power.

2.2 Check if the gas is enough for gas power model.

2.3 Turn on the transmitter power, set the throttle stick to the down position, aileron trimmer, elevator trimmer and rudder trimmer to the neutral position, turn the flight mode to NOR and then extend the antenna to full length. Do not stand your transmitter on the ground

2.4 Turn on the receiver power and plug in the flight battery in aircraft. Check if they are in good state before fly.

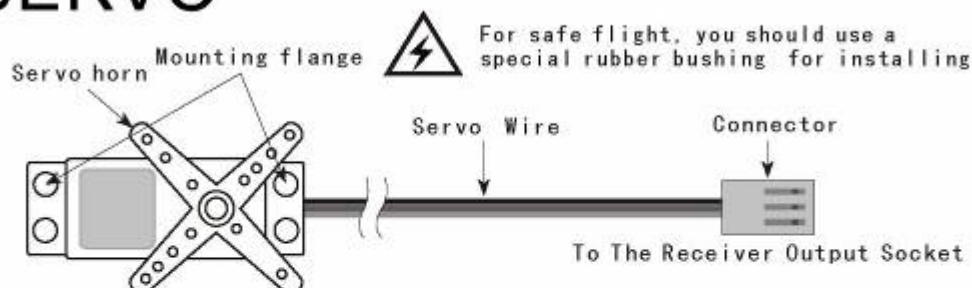
2.5 Check all the channels on transmitter. If a servo operates in the wrong direction, switch its Nor/Inv Flight Switch.

2.6 Check the aileron, rudder and elevator, if are not on the proper positions, adjust them according to following ways:

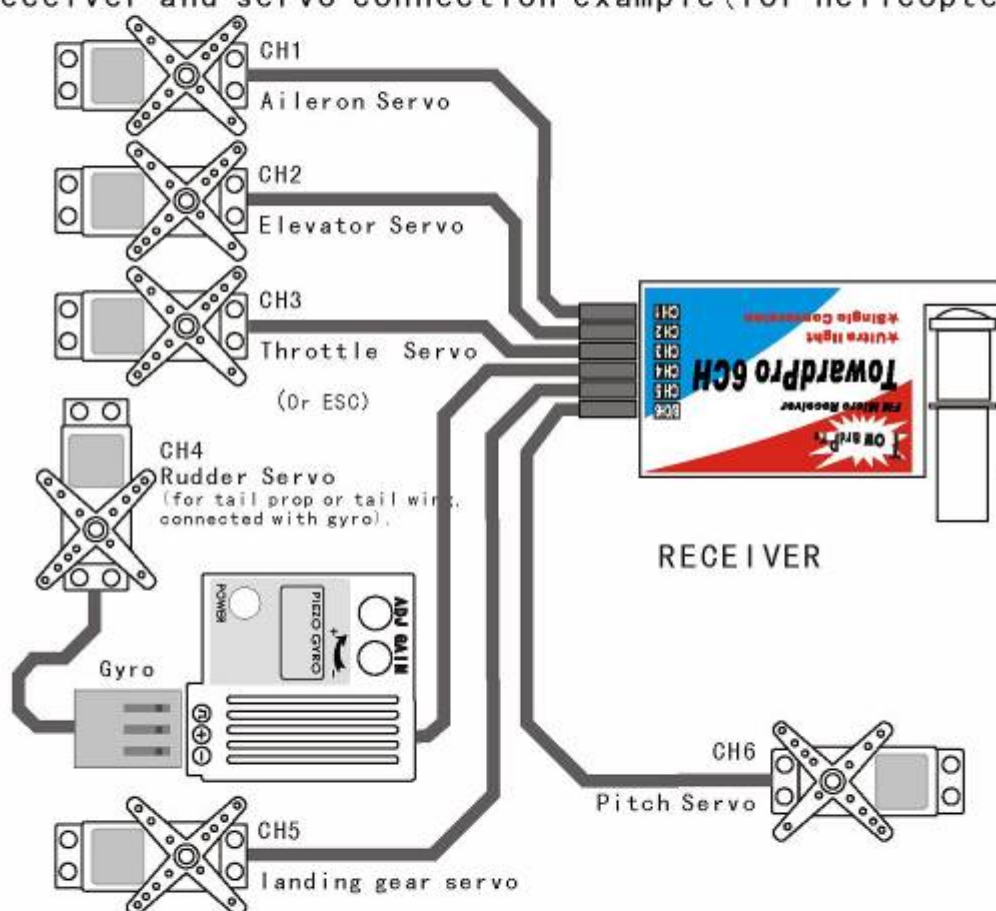
Adjust the relative servo horn center.  
Adjust the relative trimmer on transmitter.

2.7 Refer to the airplane instruction manual for more details.

# SERVO



Receiver and servo connection example (for helicopter)



NOTICE: 3CH remote control not 4th channel [Rudder channel]

## RECEIVER POWER SOURCE CONNECTION

1. For GP model, use 4 cell battery through any channel.
2. For EP model, use connect battery to main motor ESC and then to ch3 in receiver.

- ⓐ The independent pulse [PPM] output in receiver.
- ⓑ The receiver power source output and input, 6 channels are parallel.
- ⓒ The receiver grounding [GND], 6 channels are parallel.



## TROUBLE SHOOTING

Problem	Cause	Solution
Transmitter /receiver does not work	Dead battery. Incorrect loading. Faulty contact connection. Dirty contacts.	Replace the battery. Reload the batteries in the correct polarity. If the contact spring is deformed, correct it. Wipe with a dry cloth.
Range is short	Tx antenna not extended to full. Tx antenna cut. Rx antenna bundled. Rx antenna cut. RF Amplifier module on half power Dead battery in Tx. Frequency interference.	Extend fully. Replace the antenna. Install in accordance with instruction manual. Replace the antenna. Switch to FULL Replace the battery. Change the flying field.
Glitch or losing control	Connector loose. Servo incorrect assembly. Servo wire is too short or connector is loose. User's GSM cellphone is on Rx antenna inner wire cut or faulty contact connection.	Push in or replace the connector. Correct assembly. Replace the servo and connect it tightly. Turn off the communication facility. Replace the antenna.

## AFTER SERVICE

Before requesting repair, read this instruction manual again and recheck your system. Should the problem continue, request repair service as follows:

Sent your system to your local dealer.

Describe the problem in as much detail as possible and send it with a detailed packing list together with the parts that require service.

1. Symptom.
2. Status of usage, purchasing place and date, invoices and body code.
3. Servo's model name, attaching sample if necessary.
4. Your name, address, phone number and E-Mail.

## WARRANTEE

Manufacturer warrants the product to be free from defects in material or workmanship for a period of 12 months from the time of original purchase. Other than the radio set, such as the models (boat, car and aircraft etc.) are void.

The warrantee will be void if:

1. The defect was caused by improper use.
2. The defect was caused by unstated condition such as rain.
3. The defect was caused by unauthorized prepare or reconstruction.
4. The defect was caused by fire, flood, nature disaster or earthquake.
5. The defect was caused by improper storage, such as in high temperature, humidity, contacted with chemicals or medicament.