

# Super

INSTRUCTION MANUAL

# Frontier-20



**0.20-0.25 cu.in. displacement 2-cycle**  
**0.26 cu.in. displacement 4-cycle**

**Radio required : 4 channels, 4 servos airplane radio**

## Specifications

Wing Span	54.0 in / 1360mm
Wing Area	496 sq in / 32 sq dm
Flying Weight	3.5-4.0 lbs / 1500-1700g
Fuselage Length	44.0 in / 1170mm

\* Specifications are subject to change without notice.\*

### Warning ! This model is not a toy.

It is designed for maximum performance. Please seek advice if one is not familiar with this kind of engine powered precision model. Operating this model without prior preparation may cause injuries. Remember, safety is the most important thing. Always keep this instruction manual at hand for quick reference.



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# Super Frontier - 20

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### BEFORE YOU BEGIN

- 1** Read through the manual before you begin, so you will have an overall idea of what to do.
- 2** Check all parts. If you find any defective or missing parts contact your local dealer. Please DRY FIT and check for defects for all parts that will require CA or Epoxy for final assembly. Any parts you find to be defective after the gluing process may be difficult to remove for warranty replacement. The manufacturer will replace any defective parts, but will be difficult to extend to the good parts that are good before gluing to defective parts during assembly.
- 3** Symbols used throughout this instruction manual comprise of the following :-



Apply epoxy glue.



Apply instant glue  
(C.A. glue, super glue.)



Assemble left and right  
sides the same way.



Ensure smooth non-binding  
movement while assembling.



Peel off shaded portion  
covering film.



Cut off shaded portion.



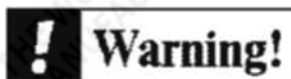
Drill holes with the specified  
diameter (here: 3mm).



Must be purchased separately!



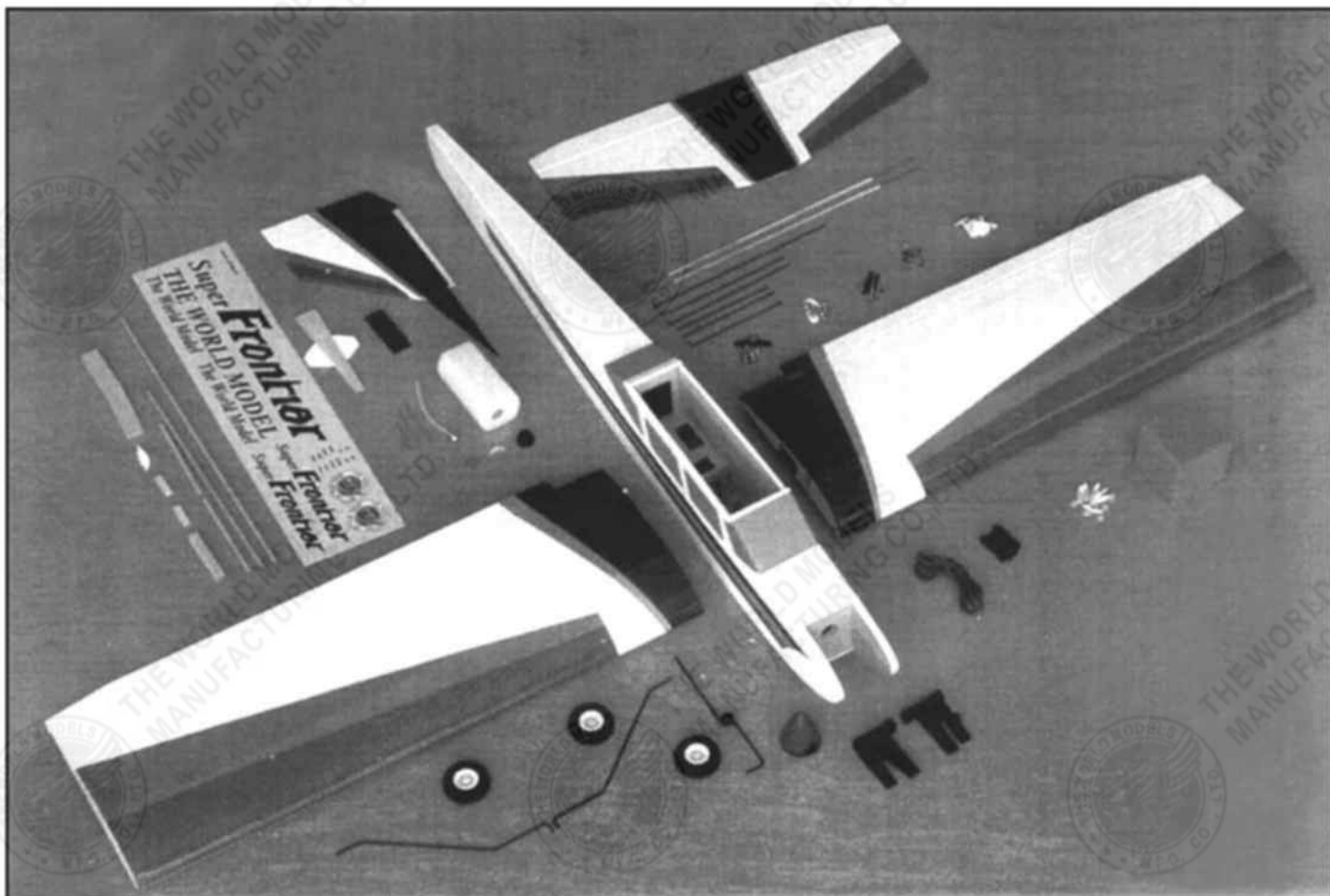
Pay close attention here!



Do not overlook this symbol!



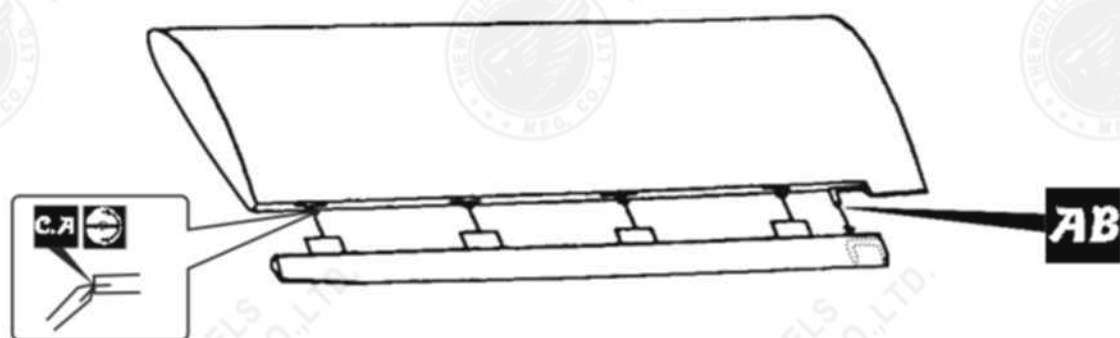
Pierce the shaded portion  
covering film.



## Parts List

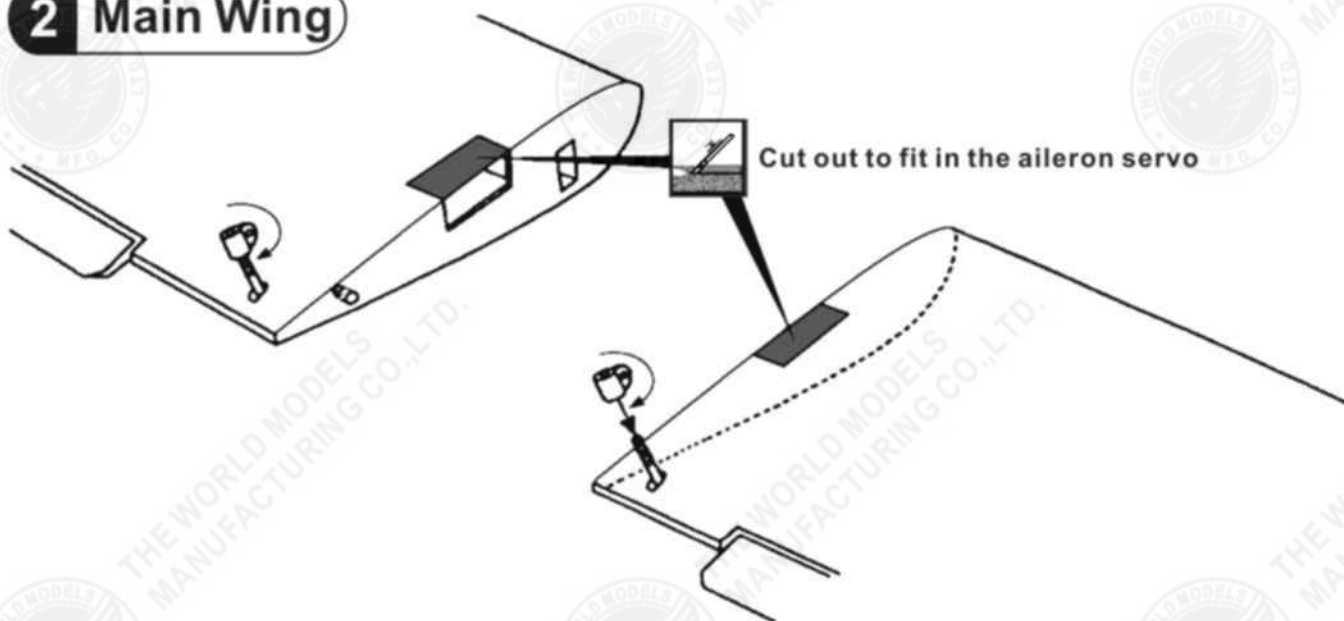
1. FUSELAGE – 1 pc
2. MAIN WING (w/Wing Joiner) – 1 pair
3. STABILIZER & ELEVATOR – 1 set
4. VERTICAL FIN & RUDDER – 1 set
5. ENGINE MOUNT PL5111-030 – 1 set
6. SPINNER Ø45mm - 1 pc
7. FUEL TANK 200cc – 1 set
8. WHEEL Ø50mm – 3 pcs
9. SPONGE 75x75x70mm  
(For Radio Equipment) – 1 pc
10. FRONT LANDING GEAR – 1 pc
11. MAIN LANDING GEAR – 1 pair
12. PUSHROD:–  
WOODEN ROD Ø6x300mm (For Rudder Servo) – 1 pc  
WOODEN ROD Ø6x420mm (For Elevator Servo) – 1 pc  
METAL ROD Ø1.8x175mm (For Rudder Servo) – 1 pc  
METAL ROD Ø1.8x175mm (For Elevator Servo) – 1 pc  
METAL ROD Ø1.8x250mm w/Threads (For Rudder Servo) – 1 pc  
METAL ROD Ø1.8x130mm w/Threads (For Elevator Servo) – 1 pc  
METAL ROD Ø1.8x130mm w/Threads (For Aileron Servo) – 2 pcs  
METAL ROD Ø1.2x400mm (For Front Wheel & Throttle) – 2 pcs
13. PUSHWIRE:–  
FRONT WHEEL & THROTTLE PUSHWIRE  
d2xD3x300mm – 2 pcs
14. WOODEN PARTS:–  
BALSA 7x8x30mm (For Aileron Servo) – 1 pc  
PLYWOOD (Fin Tip) 10x39mm – 1 pc  
PLYWOOD 144x64mm (For Fixing Stabilizer) – 1 pc  
PLYWOOD 2x20x55mm (Wing Protection) – 1 pc  
PLYWOOD 3x8x30mm (For Aileron Servo) – 2 pcs  
PLYWOOD 10x10x71mm (For Fixing Fuel Tank) – 1 pc  
WOODEN ROD Ø6x115mm (For Fixing Wing) – 2 pcs  
WING JOINER 9x20.5x140mm – 1 pc
15. PLASTIC PARTS:–  
STRAPER (FOR AILERON & ELEVATOR SERVO) – 3 pcs  
PLASTIC RING (FOR AILERON HORN) – 2 pcs  
HORN (FOR RUDDER & ELEVATOR) – 2 sets  
STEERING ARM (FOR FRONT WHEEL) – 1 pc  
PLASTIC PLATE (FOR MAIN LANDING GEAR) 2 pcs  
CLEVIS – 4 pcs
16. METAL PARTS:–  
NUT 3mm – 10 pcs  
LINKAGE CONNECTOR 2.1mm – 3 sets  
COLLAR 3.1mm – 8 pcs  
SCREW PA3x12mm – 4 pcs  
SCREW PM2x12mm – 4 pcs  
SCREW PM3x16mm – 2 pcs  
SCREW PM3x22mm – 4 pcs  
SCREW PM3x25mm – 4 pcs  
WASHER d3xD7mm – 12 pcs  
WASHER d3xD12mm – 4 pcs
17. FUEL TUBE Ø6x5mm – 7 pcs  
HEAT - SHRINK TUBE Ø6x40mm – 4 pcs
18. RUBBER BAND 60x4mm – 8 pcs
19. DECALS PN:ST200015 – 1 set

## 1 Main Wing

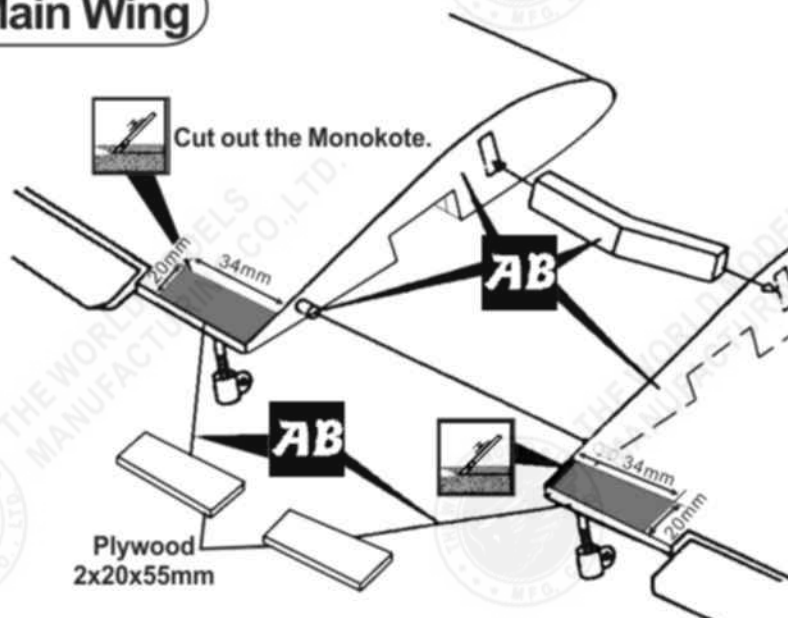


**L/R**

## 2 Main Wing



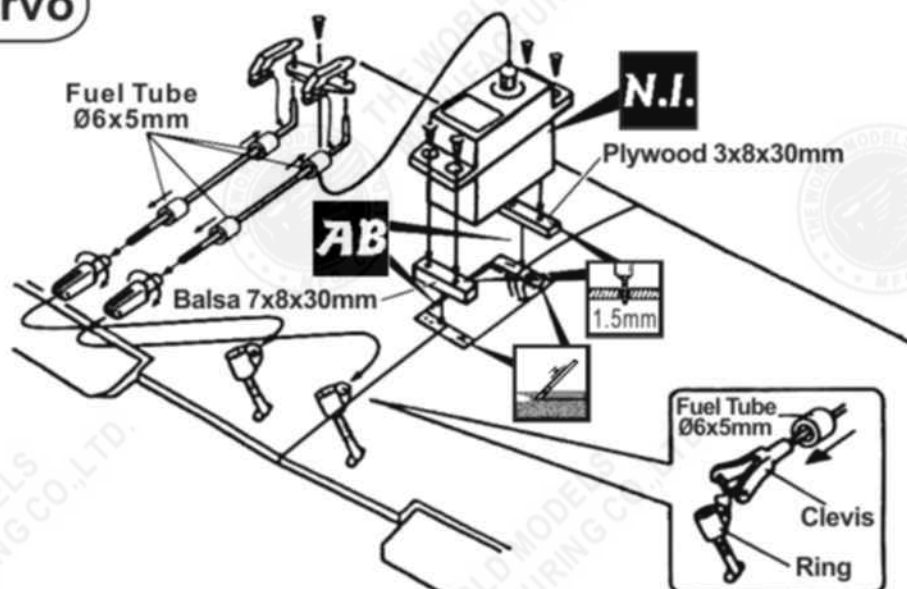
### 3 Main Wing



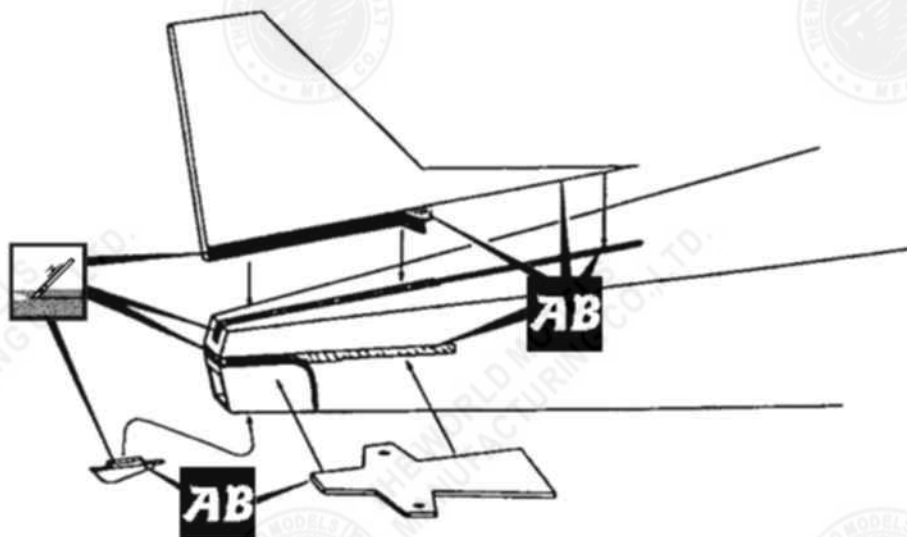
**! Warning!**

**Securely glue together. If coming off during flights, you lose control of your airplane which leads to accidents!**

## 4 Aileron Servo

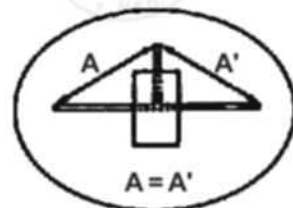
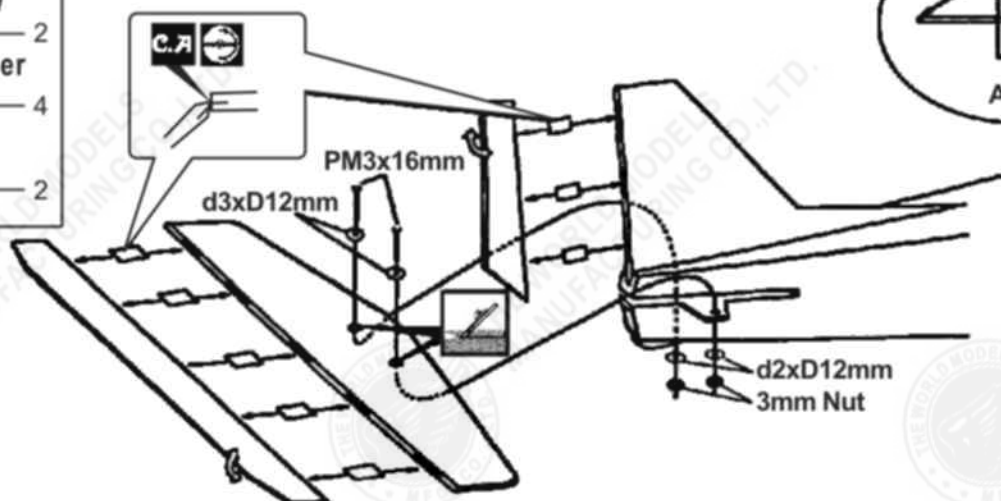


## 5 Vertical Fin / Stabilizer



## 6 Vertical Fin / Stabilizer

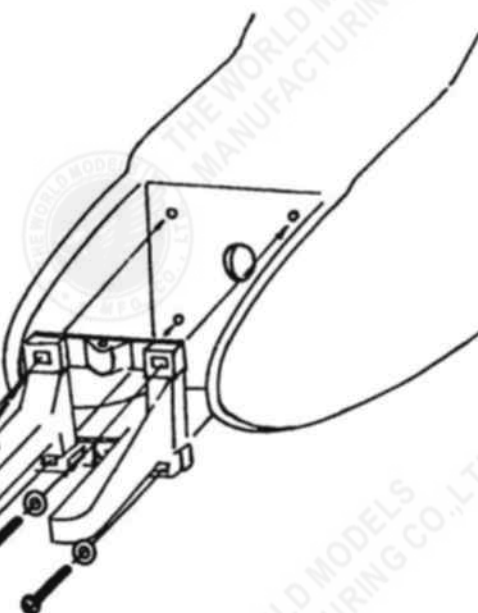
PM3x16mm Screw	2
d2 x D12mm Washer	4
3mm Nut	2



## 7 Engine Mount

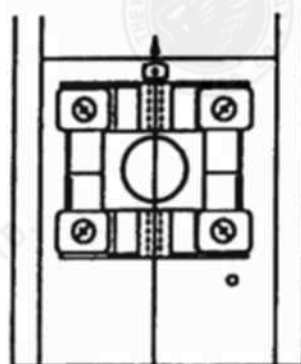
PM3x 22mm Screw  
4  
d3 x D7mm Washer  
4

Engine Mount  
PL5111-030  
3mm  
PM3x22mm

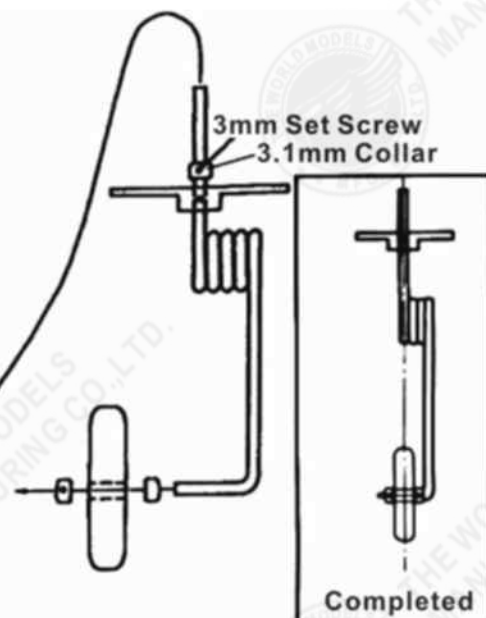


## 8 Front Wheel

3mm Set Screw  
4  
3.1mm Collar  
4



● Front View



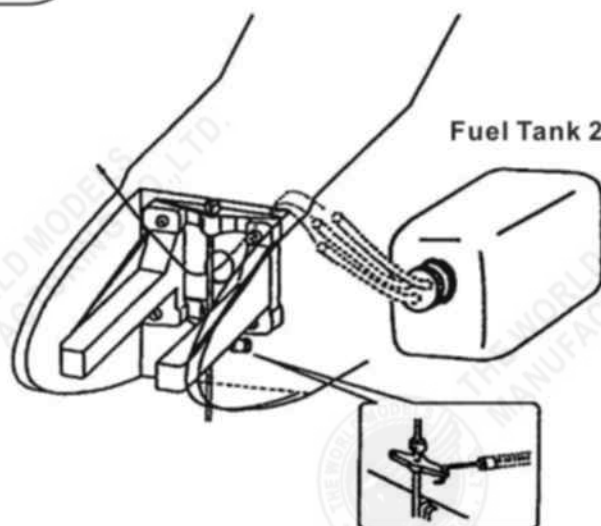
## 9 Fuel Tank

Fuel Tank 200cc

Install plywood 10x10x71mm  
(For fixing fuel tank)

Fuel Tank

● Top View





## 10 Engine

PM3x 25mm **Screw**

3mm Washer

3mm Nut

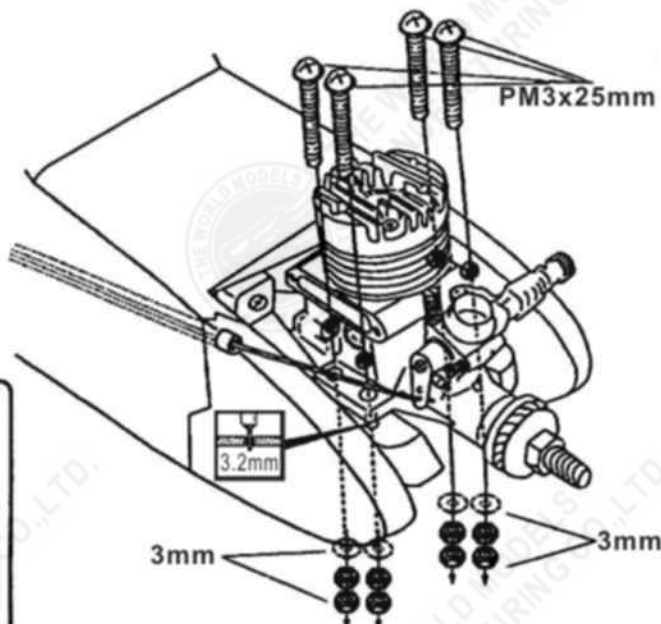
### Install Engine Position

Spinner  
Ø45mm

Ø45mm

106mm

42 in



- If the engine throttle control is on the opposite side, install the throttle pushwire accordingly.

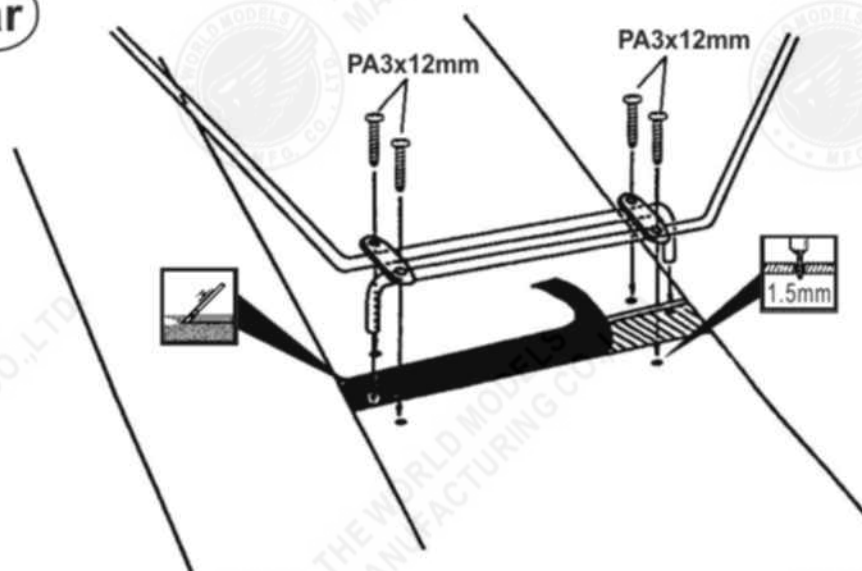
Install the throttle servo with the drive pinion on the same side of throttle pushwire.

Raise throttle servo if necessary to provide clearance between throttle and front wheel pushwires.

## 11 Landing Gear

PA3 x 12 Screw

4



## 12 Landing Gear

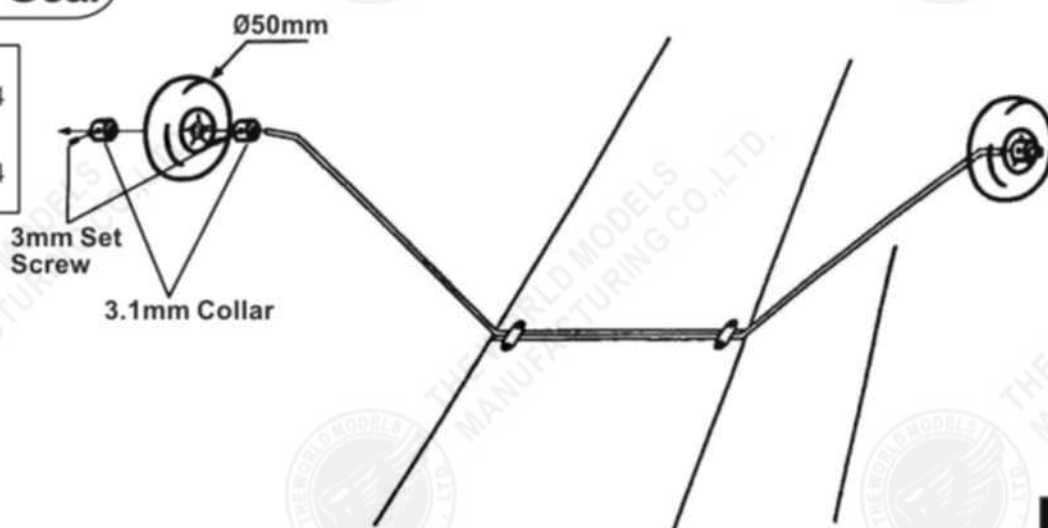
3mm **Set Screw**

### 3.1mm Collar

3mm Set  
Screw

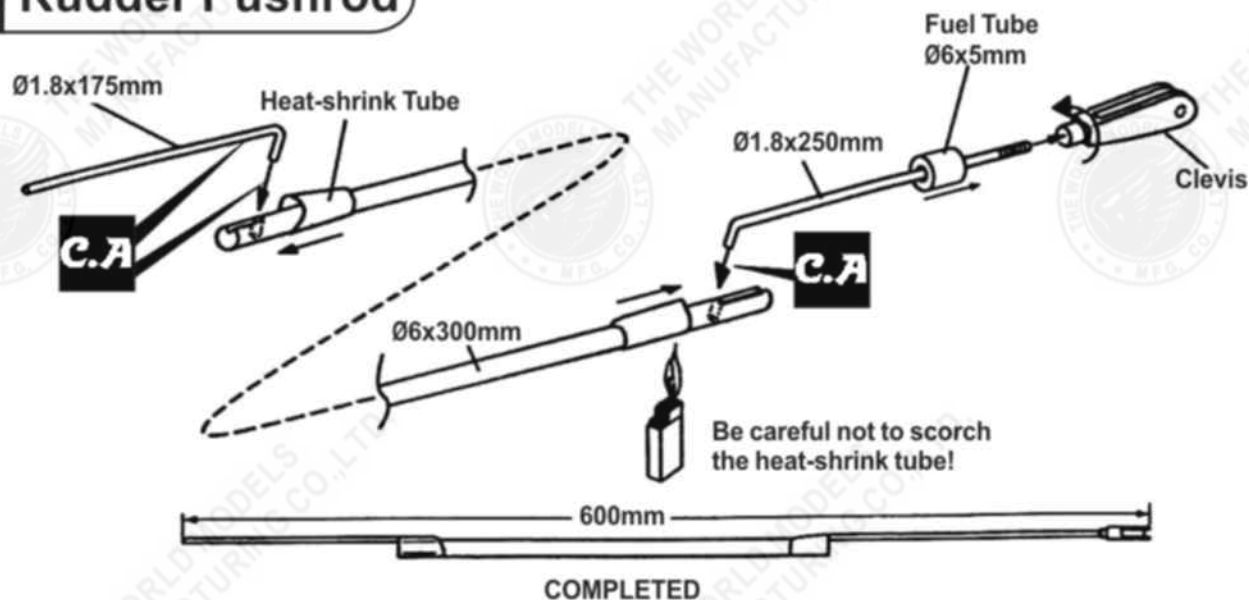
3.1mm Collar

Ø50mm

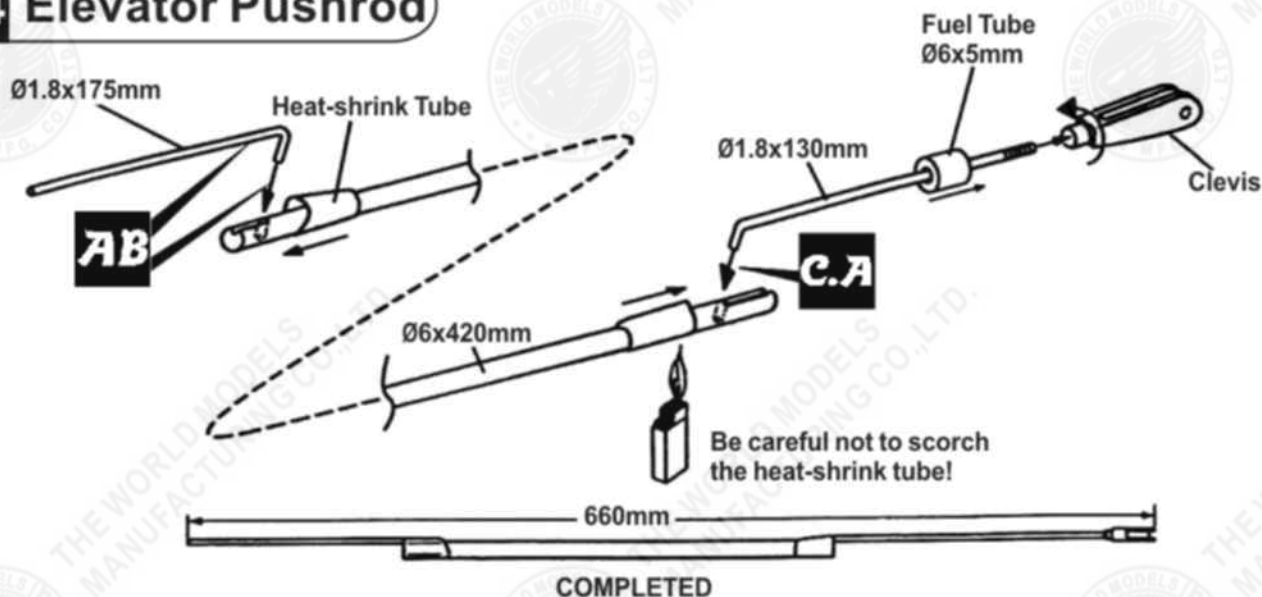


**L/R**

## 13 Rudder Pushrod



## 14 Elevator Pushrod



## 15 Servo Set

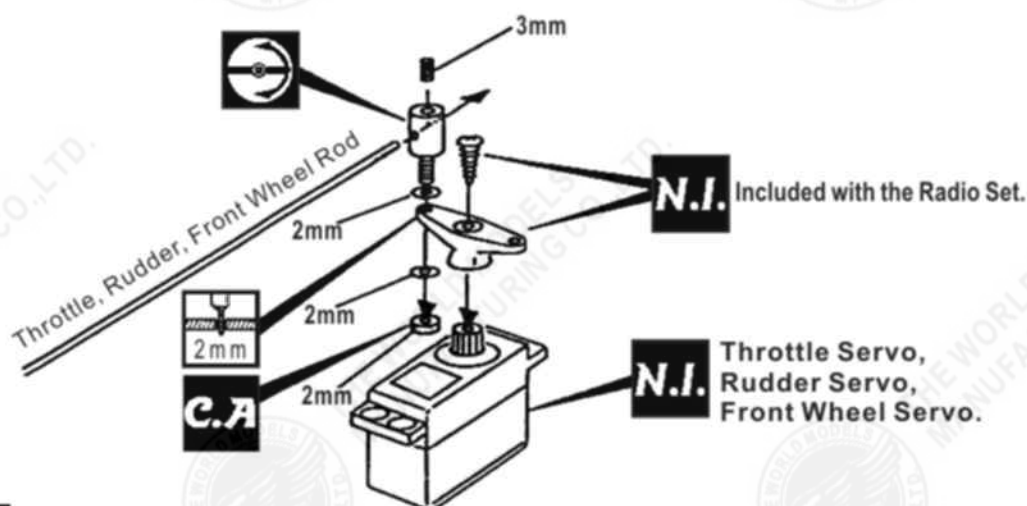
### LINKAGE CONNECTOR

3 X 3mm Set Screw 3

Linkage Connector 3

2mm Nut 3

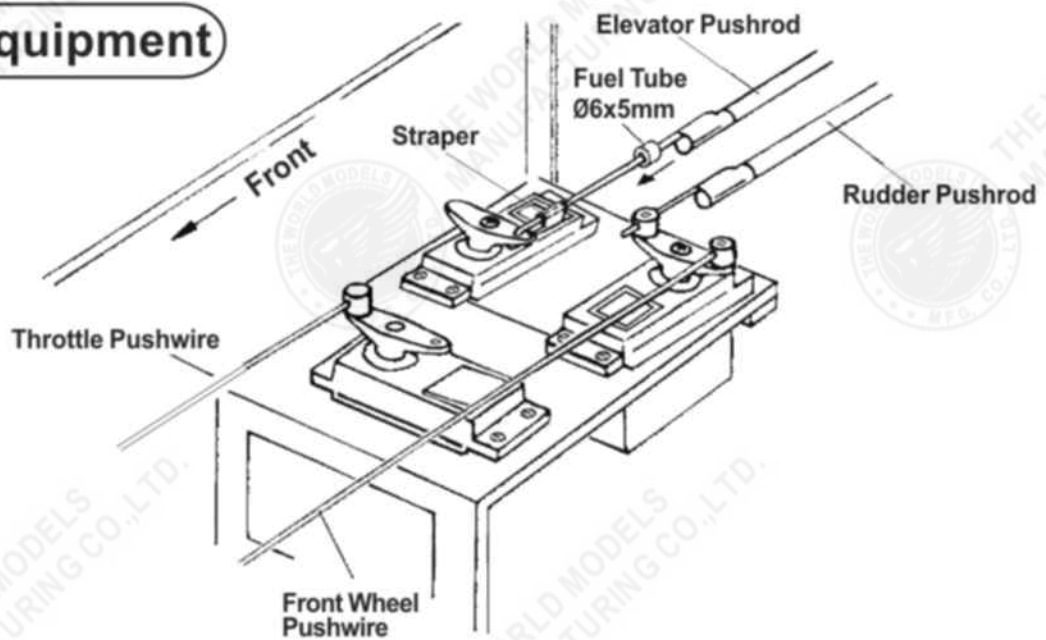
2mm Washer 6



Please refer to attached sheet for linkage connector installation.

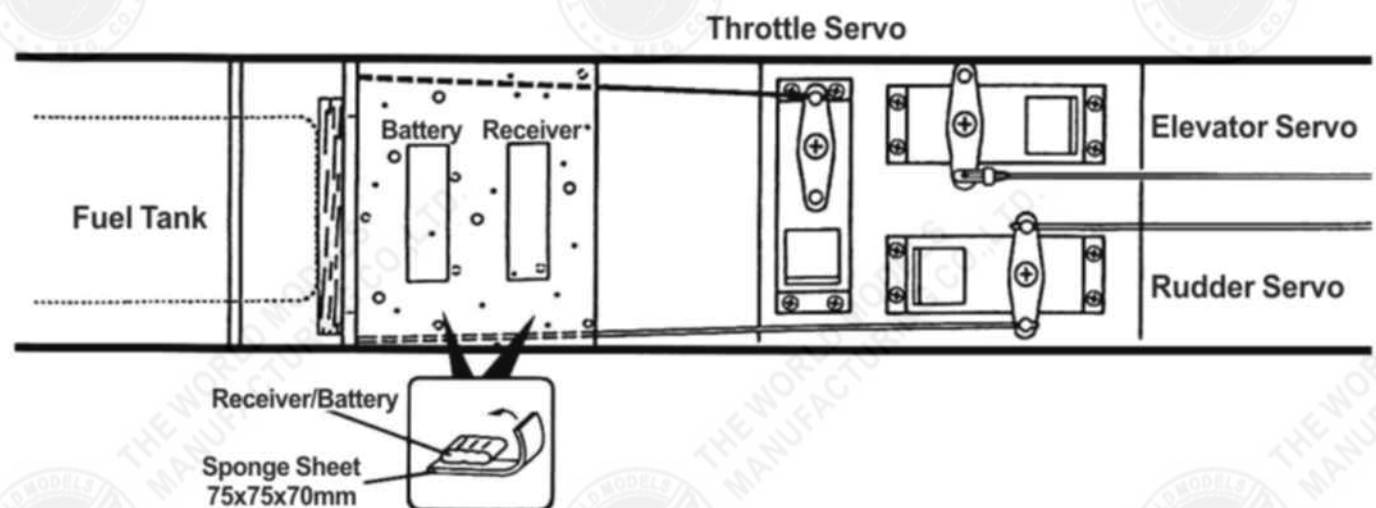


## 16 Radio Equipment



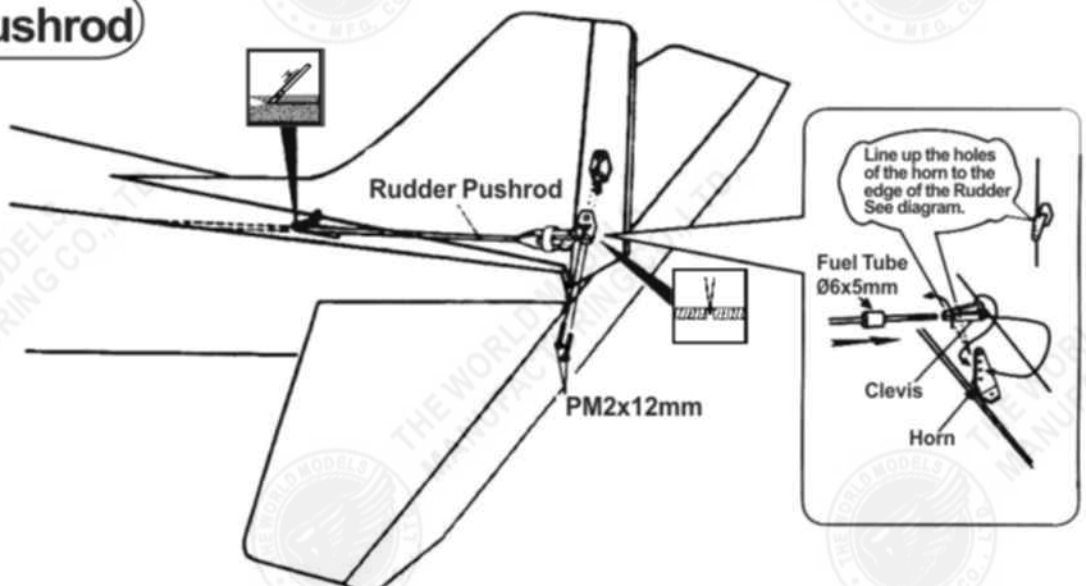
## 17 Radio Equipment

● Install and arrange the servo as shown in the diagram



## 18 Rudder Pushrod

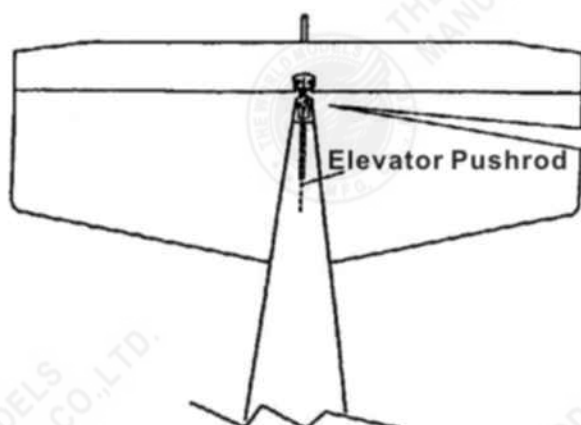
PM2 x 12mm Screw  
2



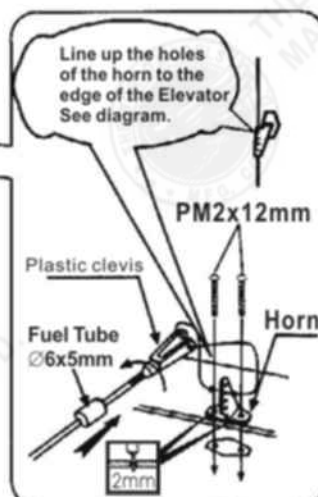
## 19 Elevator Pushrod

PM2 x 12mm Screw

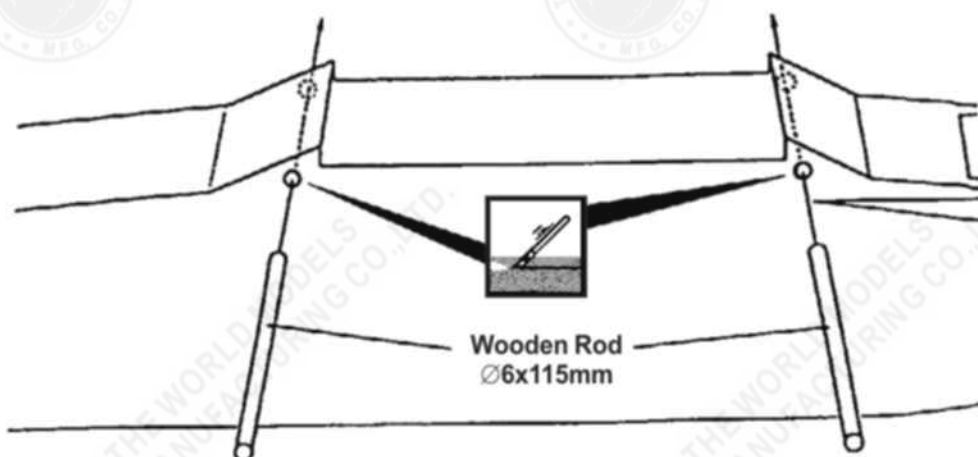
2



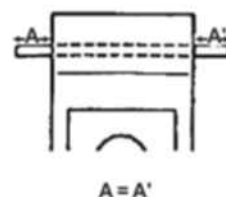
● Bottom View



## 20 Main Wing



Equal length on both sides, then apply CA glue.

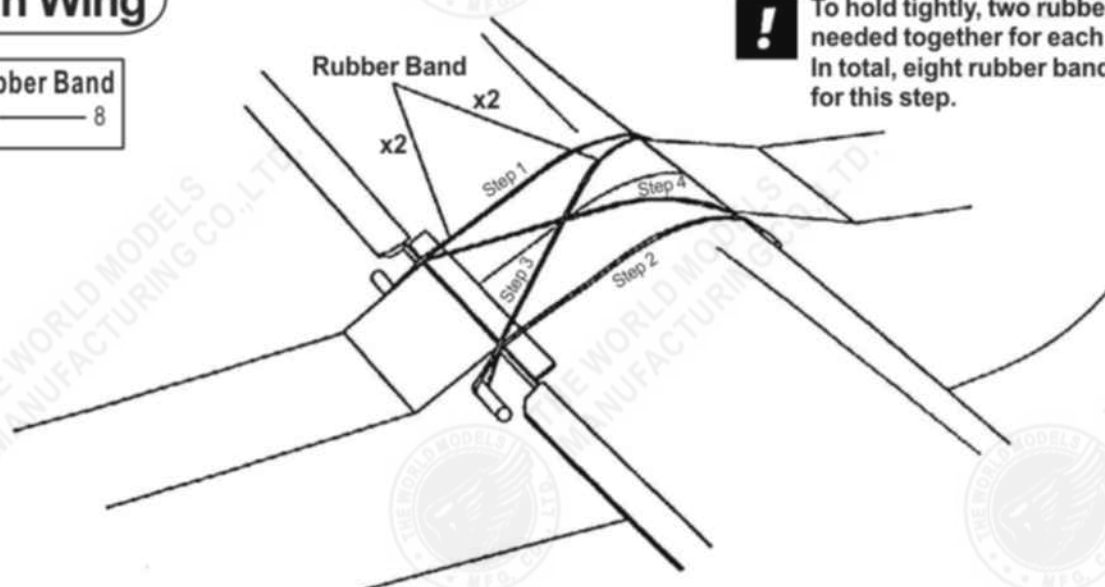


## 21 Main Wing

D60x4mm Rubber Band

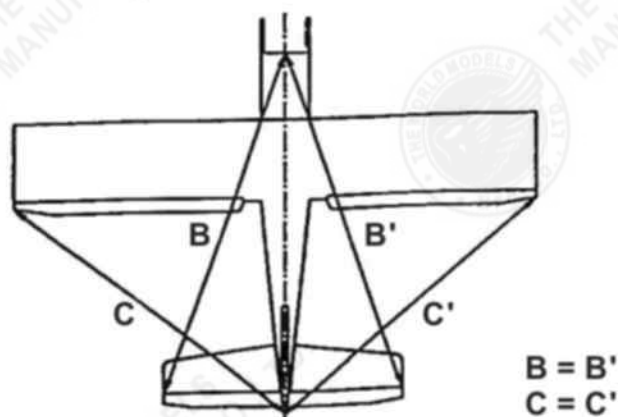
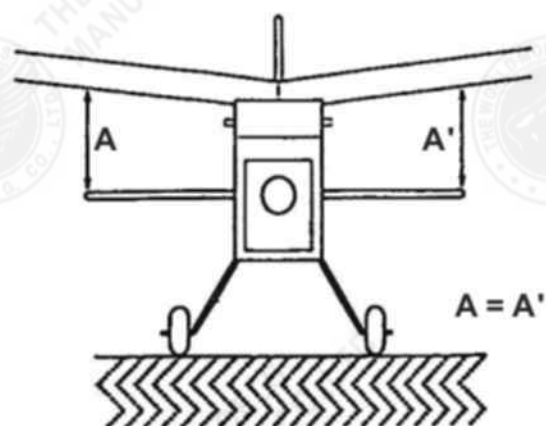
8

**!** To hold tightly, two rubber bands are needed together for each mounting. In total, eight rubber bands are used for this step.



## 22 Wing Setting

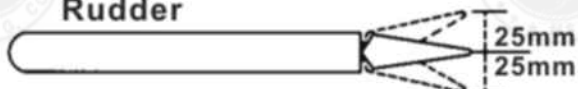
Adjust the wing and fuselage configuration as in the diagram.



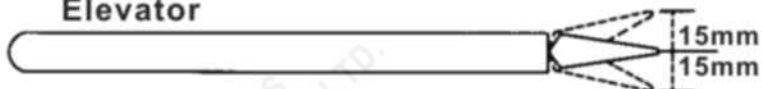
## 23 Control Throws

Adjust the control throws as shown in the diagram. These throws are good for general flying. You can adjust according to your personal preference.

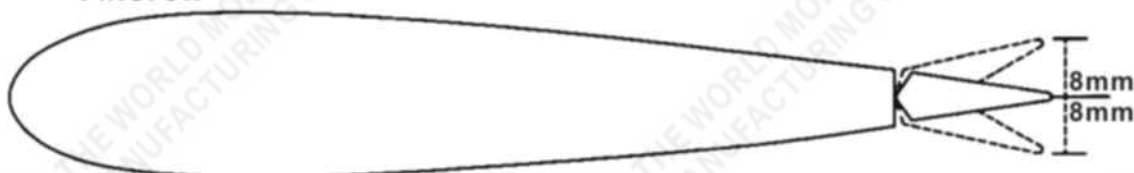
Rudder



Elevator

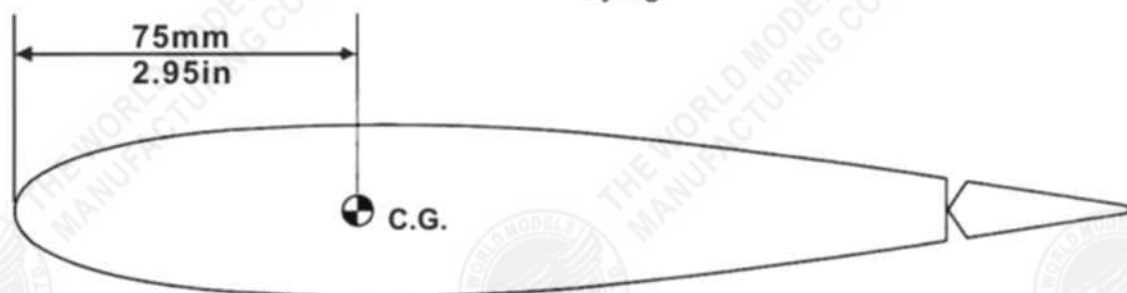


Aileron



## 24 C.G.

The ideal C.G. position is 75mm(2.95 in) behind the leading edge measured at where the wing meets the fuselage. In order to obtain the C.G. specified, add weight to the fuselage or move the battery position. Check the C.G. before flying.



## **! Warning!**

### **Important Safety Precautions**

#First time flyer should never fly by himself / herself. Assistance from experienced flyer is absolutely necessary.

#Pre-flight adjustment must be done before flying, it is very dangerous to fly a badly pre-adjusted aircraft.

#**SUPER FRONTIER-20** is specially designed to be powered by **2C 20-25** or **4C 26** engine, using a more powerful engine does not mean better performance. In fact, over powered engine may cause severe damage and injuries.

#Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller.

#If you find wrinkles on the covering as a result of weather changes, you can use hot iron to remove the wrinkles. Please begin with lower temperature setting and gradually raise the temperature until the wrinkles are gone. Too hot an iron may damage the covering.

#Check and re-tighten up all factory assembled screws, use thread locker if applicable.

A038R0402