

# Extra 300S-160R



**1.60 cu.in. displacement 2 - stroke (glow)**  
**Requires : 4 - channel radio w/ 6 high torque servos**

## Specifications

<b>Wing Span</b>	<b>80.5 in / 2040mm</b>
<b>Wing Area</b>	<b>1175sq in / 75.5sq dm</b>
<b>Flying Weight</b>	<b>14.0 lb / 6380g</b>
<b>Fuselage Length</b>	<b>71.0 in / 1800mm</b>

\* 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.



**TWM**  
**The World Models**  
**Manufacturing Co., Ltd.**  
[www.theworldmodels.com](http://www.theworldmodels.com)

FACTORY PRE-FABRICATED  
 ALMOST-READY-TO-FLY (ARF) SERIES  
 MADE IN CHINA

# Extra 300S-160R

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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 not extend to the parts that are good before gluing to defective parts during assembly. Warranty will not cover any parts modified by customer.
- 3 Symbols used throughout this instruction manual comprise of the following : -



Apply epoxy glue.



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



Apply thread locker



Ensure smooth non-binding  
movement while assembling.



Assemble left and right  
sides the same way.



Cut off shaded portion.



Peel off shaded portion  
covering film.



Must be purchased separately !



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



Pierce the shaded portion  
covering film.

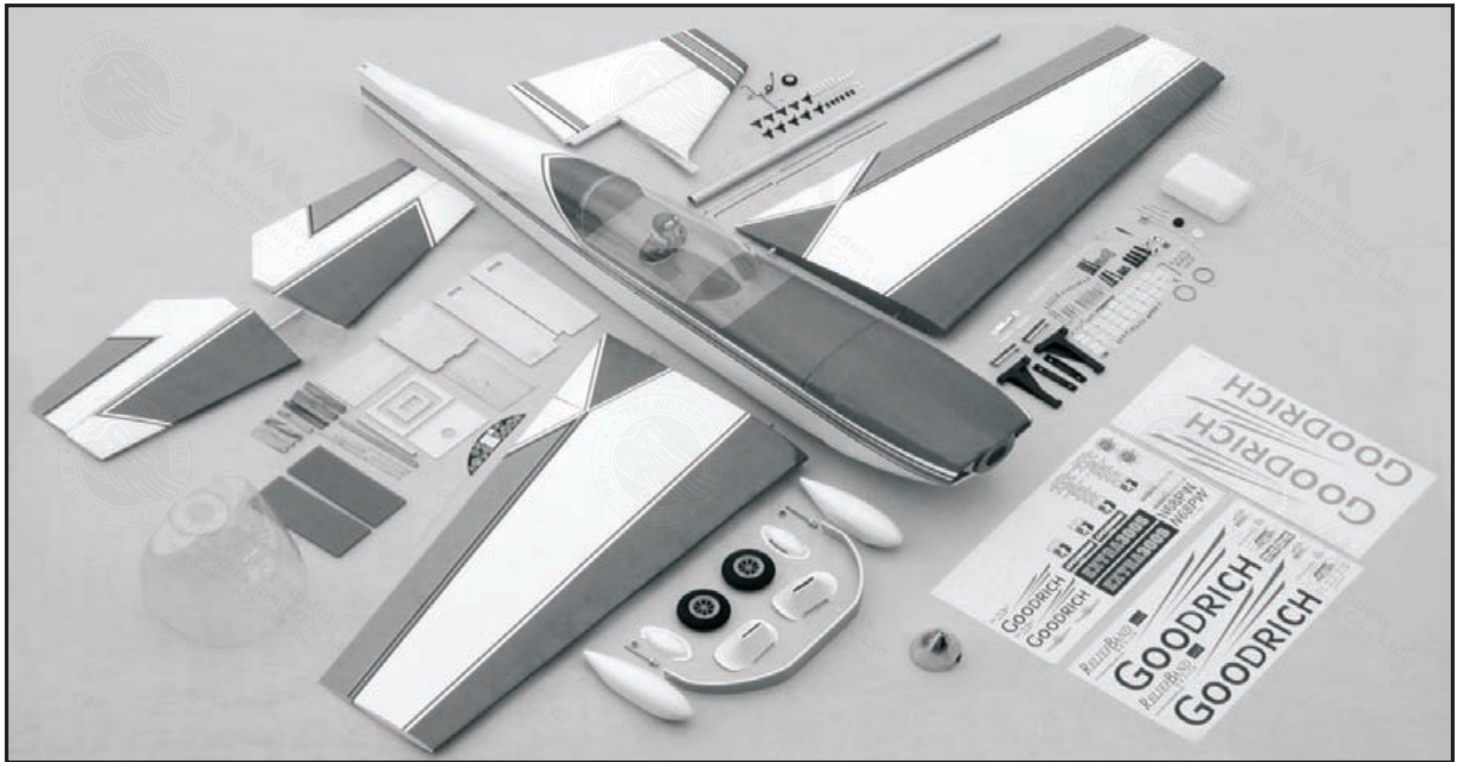


Pay close attention here!



**Warning!**

Do not overlook this symbol !

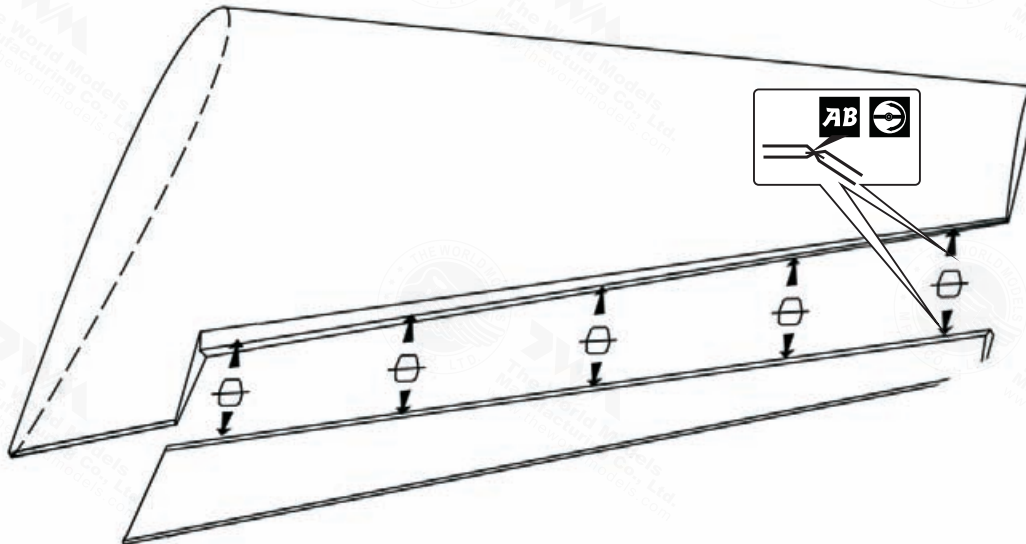


## Parts List

1. MAIN WING -- 1 pair  
METAL HINGES -- 10 pcs
3. PUSHROD  $\varnothing 1.8 \times 135$ mm w/Threads (For Aileron) -- 2 pcs  
CLEVIS PL4112103 -- 2 pcs  
FUEL TUBE  $\varnothing 6 \times 5$ mm -- 4 pcs  
STRAPER PL4112102 -- 2 pcs  
TRI-HORN M3x14mm(L) -- 2 pcs  
SCREW PB2x22mm -- 2 pcs  
SCREW PB2x25mm -- 4 pcs
4. FUSELAGE -- 1 pc.  
ENGINE BOX -- 1 set  
M6 BIND NUT -- 4 pcs
5. UPPER PLATE (F21A) -- 1 pc.  
HARD WOOD (F21B) -- 1 pc.  
HARD WOOD (F22) -- 2 pcs  
HARD WOOD (F23) -- 2 pcs  
HARD WOOD (F51) -- 2 pcs
6. ENGINE MOUNT PL5911120 -- 1 set  
WASHER d6xD15mm -- 4 pcs  
SOCK HEAD SCREW M6x30mm -- 4 pcs
7. FUEL TANK 800cc -- 1 set  
CABLE TIE (For Fuel Tank) 1.5x8x500mm -- 1 pc.  
DOUBLE-SIDED TAPE 40x160mm -- 1 pc.
8. ANTI-VIBRATION MOUNT 4C-120 -- 1 set  
INCLUDE: SOCKET HEAD SCREW M4x35mm -- 4 pcs  
SCREW KM3x20mm -- 8 pcs  
WASHER d4xD12mm -- 8 pcs  
M3 NYLON INSERT LOCK NUT -- 8 pcs  
M4 NYLON INSERT LOCK NUT -- 4 pcs  
ALUMINIUM PLATE -- 1 pc.  
SPINNER  $\varnothing 89$ mm -- 1 set
10. STABILIZER & ELEVATOR -- 1 set  
METAL HINGES -- 6 pcs  
STABILIZER TUBE  $\varnothing 9.5 \times 288$ mm -- 1 pc.  
WASHER d3xD7mm -- 2 pcs  
SCREW PA3x12mm -- 2 pcs
11. VERTICAL FIN & RUDDER -- 1 set  
METAL HINGES -- 3 pcs
12. TAIL LANDING GEAR -- 1 set  
TAIL WHEEL  $\varnothing 30$ mm -- 1 pc.  
COLLAR 2.6mm w/set screw -- 1 set  
SCREW PA3x12mm -- 2 pcs
13. LINKAGE CONNECTOR 2.1mm -- 1 set  
PUSHWIRE  $\varnothing 1.2 \times 410$ mm  
PLASTIC TUBE d2xD3x170mm -- 1 set  
BALSA 7x7x67mm(For Throttle Servo Stand) (F54A) -- 2 pcs  
PLYWOOD 3 x47x67mm (For Throttle Servo) (F54) -- 1 pc.
14. WIRE  $\varnothing 1 \times 890$ mm (For Rudder) -- 2 pcs  
COPPER TUBE d2.5xD3x8mm (For Rudder) -- 2 pcs  
RIGGING Z BEND  $\varnothing 1.8 \times 27$ mm (For Rudder) -- 2 pcs  
PLYWOOD 9x58x183.6mm (For Rudder Servo) -- 1 pc.  
BALSA 8x8x57mm (For Rudder Servo Stand) (F27) -- 2 pcs  
SPONGE 60x70x195 -- 1 pc.
15. TRI-HORN M3x14mm(L) (w/o-Base For Rudder) -- 2 sets  
SCREW PM2x30mm -- 3 pcs  
M2 NUT -- 3 pcs  
CLEVIS PL4112103 -- 2 pcs  
RIGGING COUPLER  $\varnothing 1.8 \times 27$ mm w/Threads (For Rudder) -- 2 pcs  
FUEL TUBE  $\varnothing 6 \times 5$ mm -- 2 pcs  
COPPER TUBE d2.5xD3x8mm -- 2 pcs
16. PUSHROD  $\varnothing 1.8 \times 145$ mm w/Threads (For Elevator) -- 2 pcs  
STRAPER PL4112102 -- 2 pcs  
FUEL TUBE  $\varnothing 6 \times 5$ mm -- 4 pcs  
TRI-HORN M3x14mm(L) -- 2 sets  
SCREW PB2x30mm -- 6 pcs  
CLEVIS PL4112103 -- 2 pcs
17. MAIN LANDING GEAR -- 1 set  
SCREW HM4x16mm -- 4 pcs  
SCREW PWA2.3x8mm -- 8 pcs  
MAIN LANDING GEAR COVER -- 1 pair
18. AXLE SHAFT  $\varnothing 4 \times 66$ mm (For Main Landing Gear) -- 2 pcs  
MAIN WHEEL  $\varnothing 90$ mm -- 2 pcs  
WHEEL PANTS -- 1 pair  
WHEEL PANT DECORATIVE COVER -- 1 pair  
COLLAR 4.1mm w/set screw -- 4 pcs  
M8 NYLON INSERT LOCK NUT -- 2 pcs  
SCREW PWA2.3x8mm -- 8 pcs  
PLATE 1mm -- 1 pair  
SCREW PM3x12mm -- 4 pcs
19. WING TUBE  $\varnothing 25 \times 878$ mm -- 1 pc.  
SELF TIGHTENING WING LATCH 6mm w/ set screw -- 2 sets  
WIRE  $\varnothing 0.8$ mm -- 2 pcs
20. COCKPIT -- 1 pc.  
SCREW HM3x22mm -- 2 pcs  
WASHER d3xD7mm -- 2 pcs
21. COWLING -- 1 pc.  
TRANSPARENT 3D TEMPLATE -- 1 pc.  
SILICON GROMMET d1.5xD6.5mm -- 6 pcs  
SCREW PWA3x12mm -- 6 pcs
22. CANOPY -- 1 pc.  
DASH PANELS AVAILABLE (1mm PEC PLATE) -- 1 pc.  
PILOT PC001102A -- 1 pc.  
DOUBLE-SIDED TAPE -- 1 pc.  
SILICON GROMMET d1.5xD6.5mm -- 8 pcs  
SCREW PWA2.3x8mm -- 8 pcs
23. ALLEN WRENCH -- 1 pc.
24. DECALS A120NDEC -- 1 set
- COVERING:--  
TOUGHLON STL312 BRIGHT RED  
TOUGHLON STL100 WHITE  
TOUGHLON STL 201 BLACK  
TOUGHLON STL 202 GRAY

# 1 Main Wing

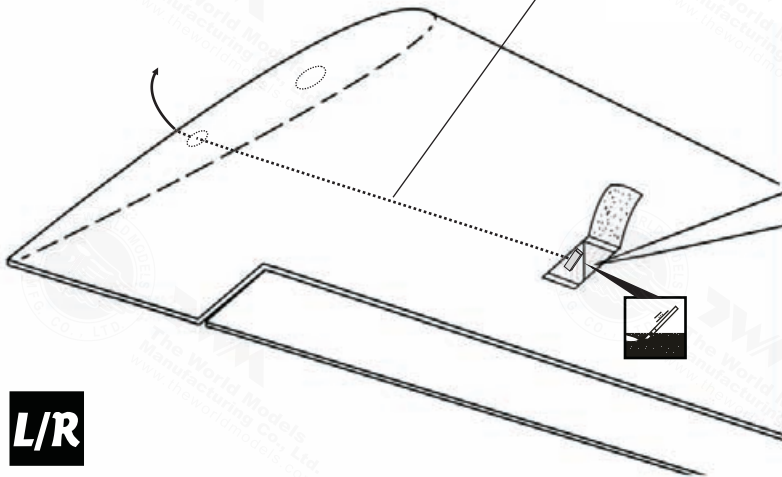
● Replace CA hinges by metal hinges. Glue the metal hinges towing and aileron by epoxy.



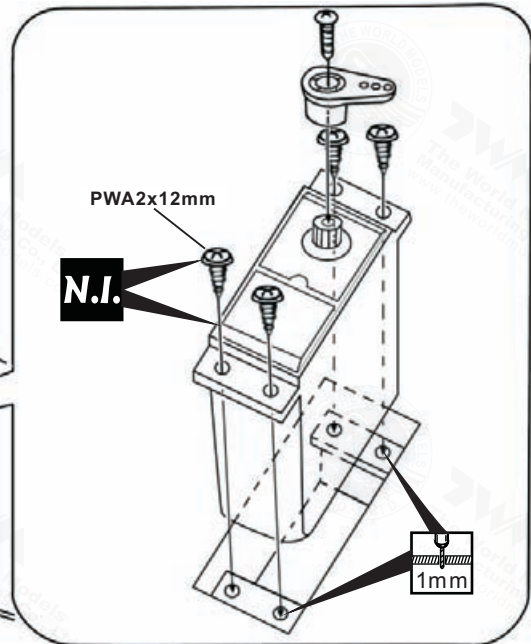
L/R

# 2 Main Wing

Aileron Servo Lead



L/R



# 3 Main Wing

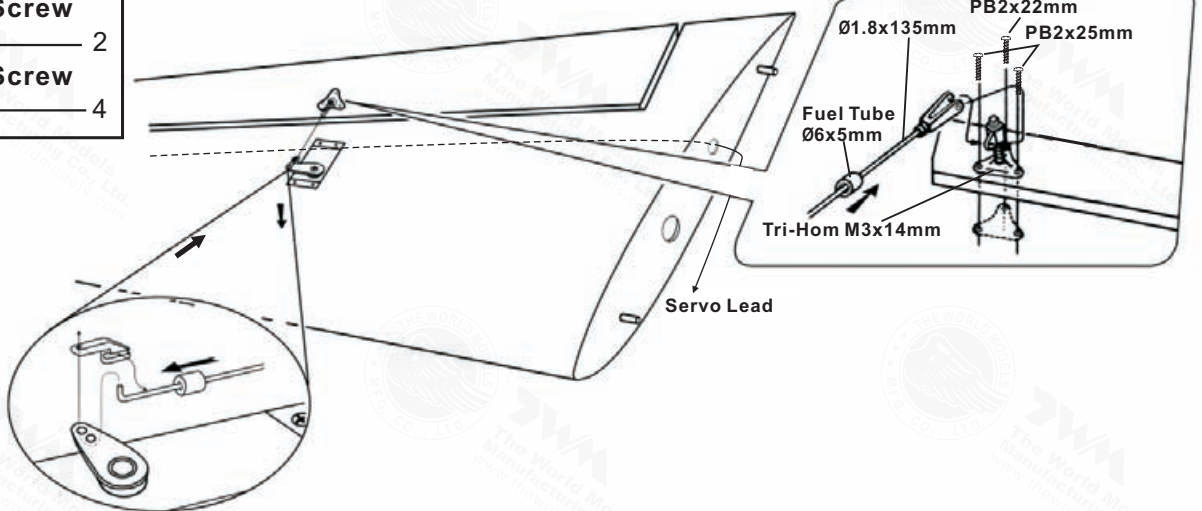
Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x22mm Screw

2

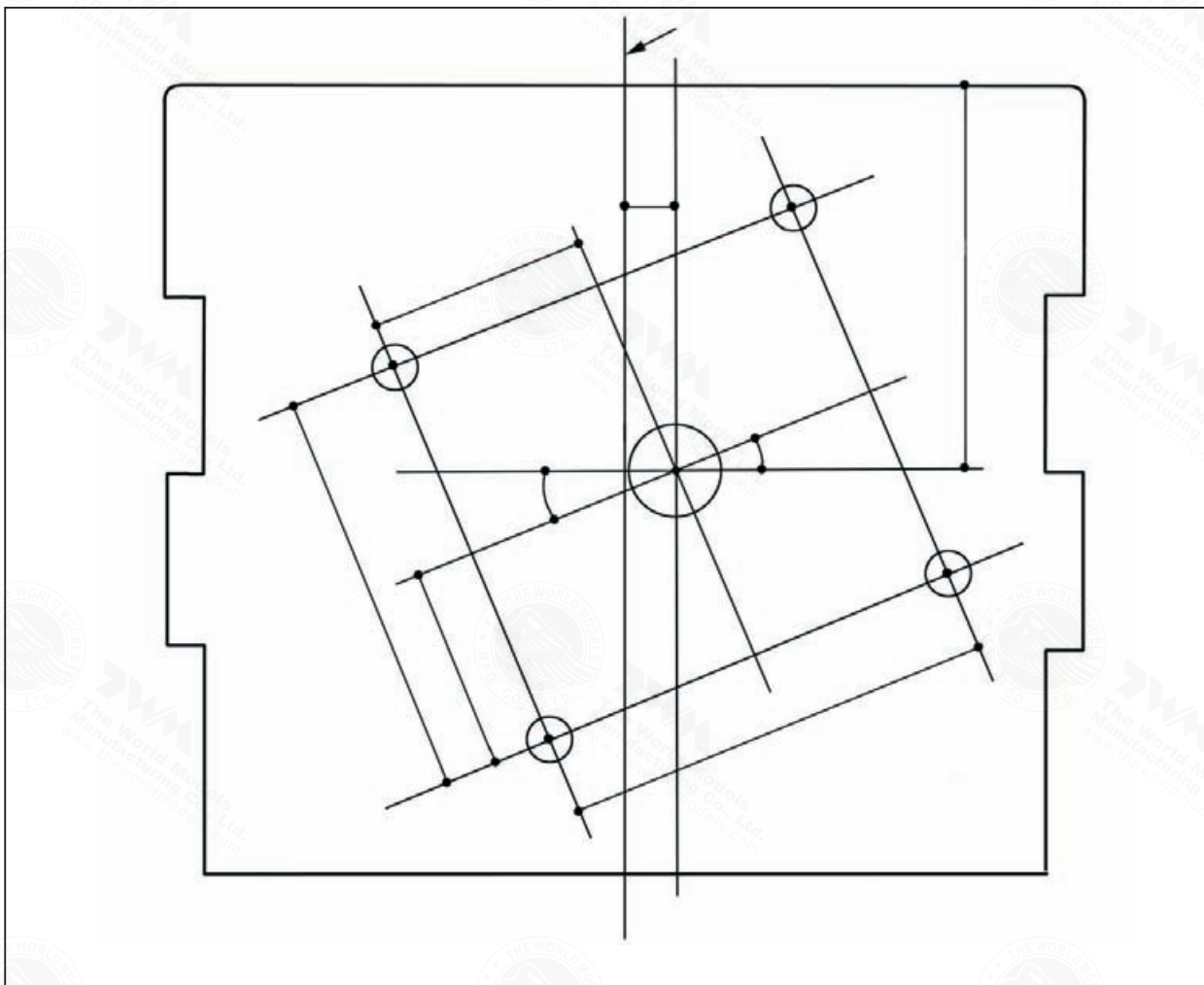
PB2x25mm Screw

4

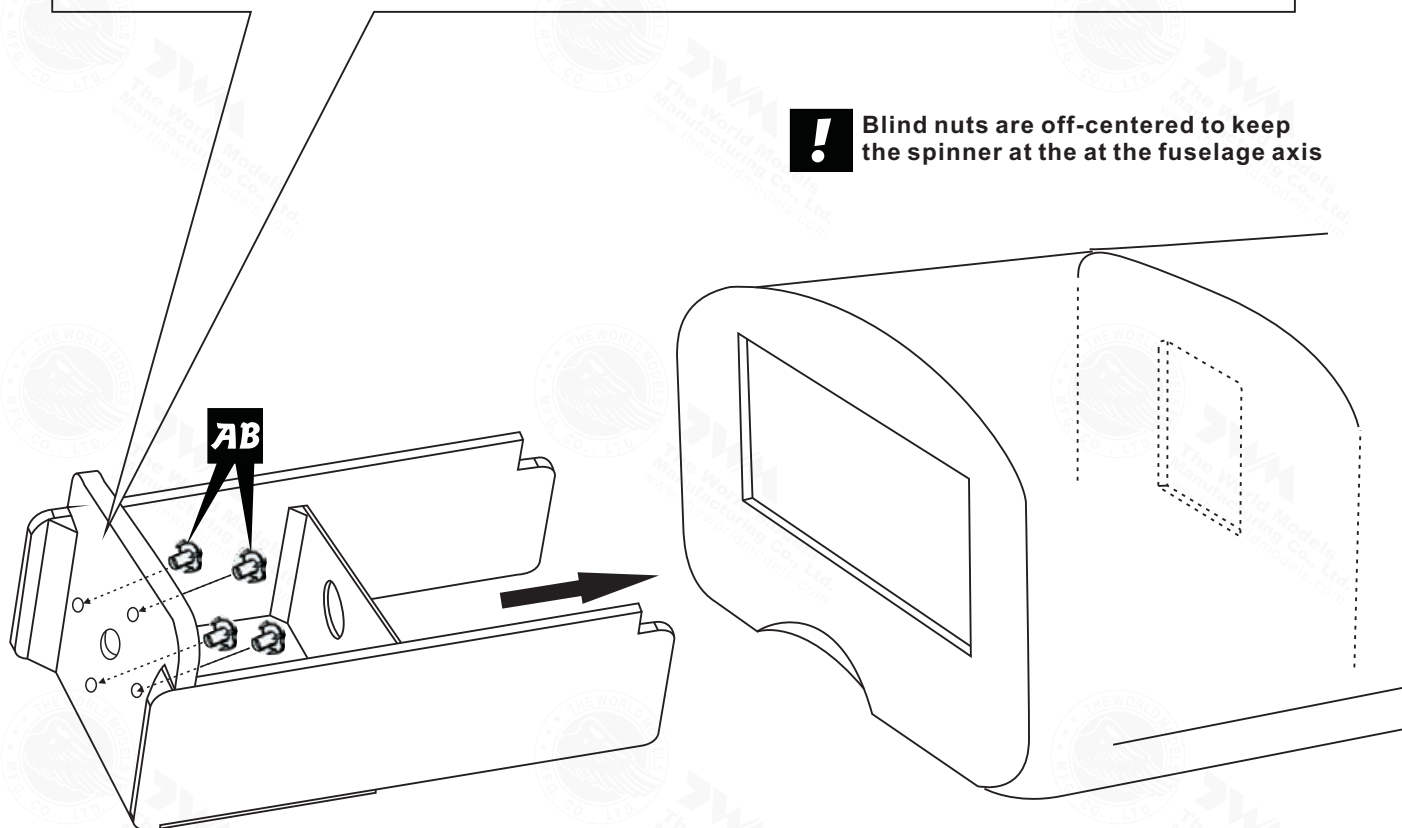


# 4 Engine Box

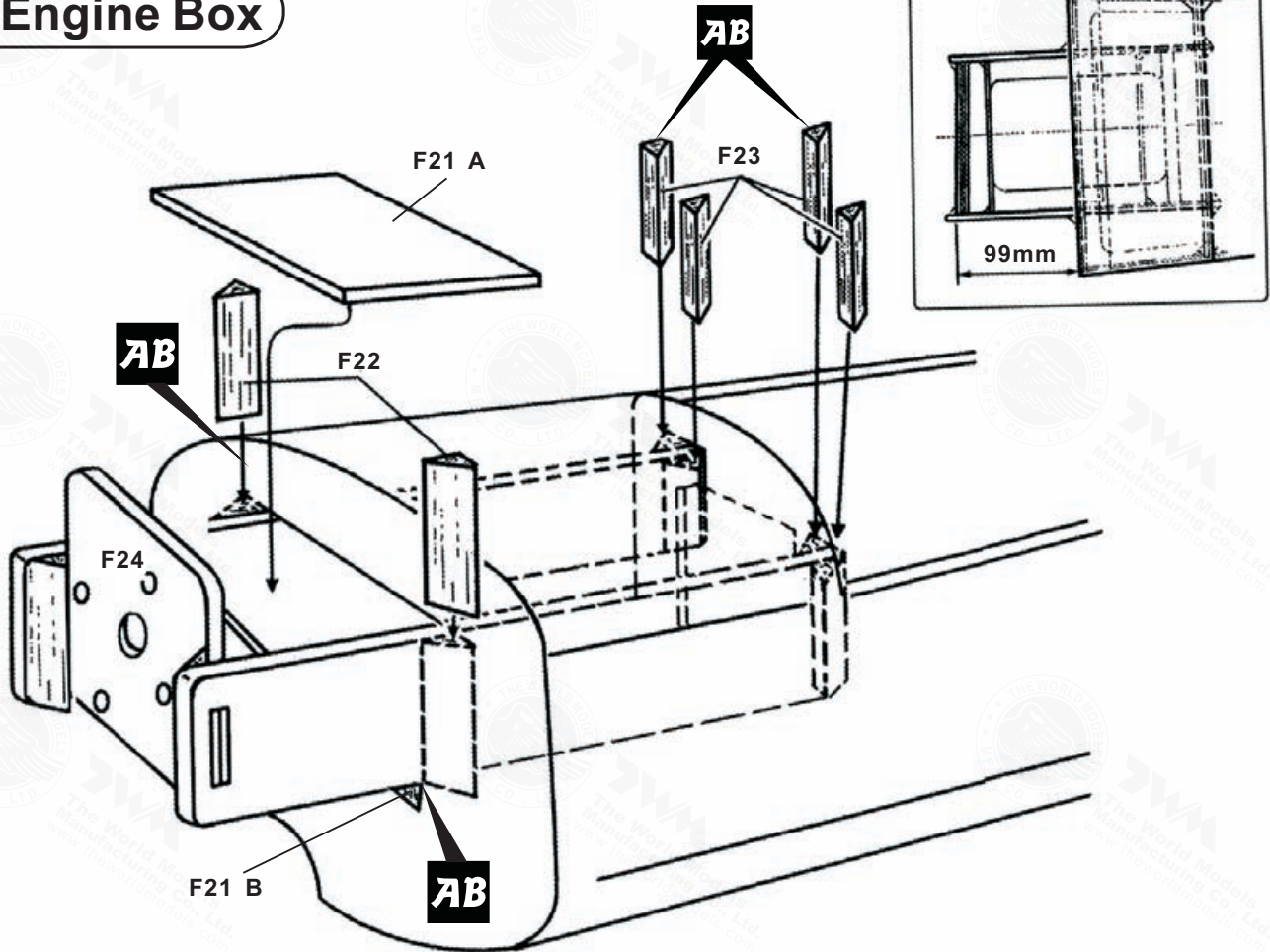
• Use epoxy glue to glue all parts together.



**!** Blind nuts are off-centered to keep the spinner at the fuselage axis



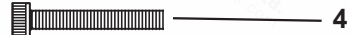
## 5 Engine Box



● Use epoxy to glue all parts to gather

## 6 Engine Mount

M6x30mm Socket Head Screw



4

d6xd15mm Washer



4

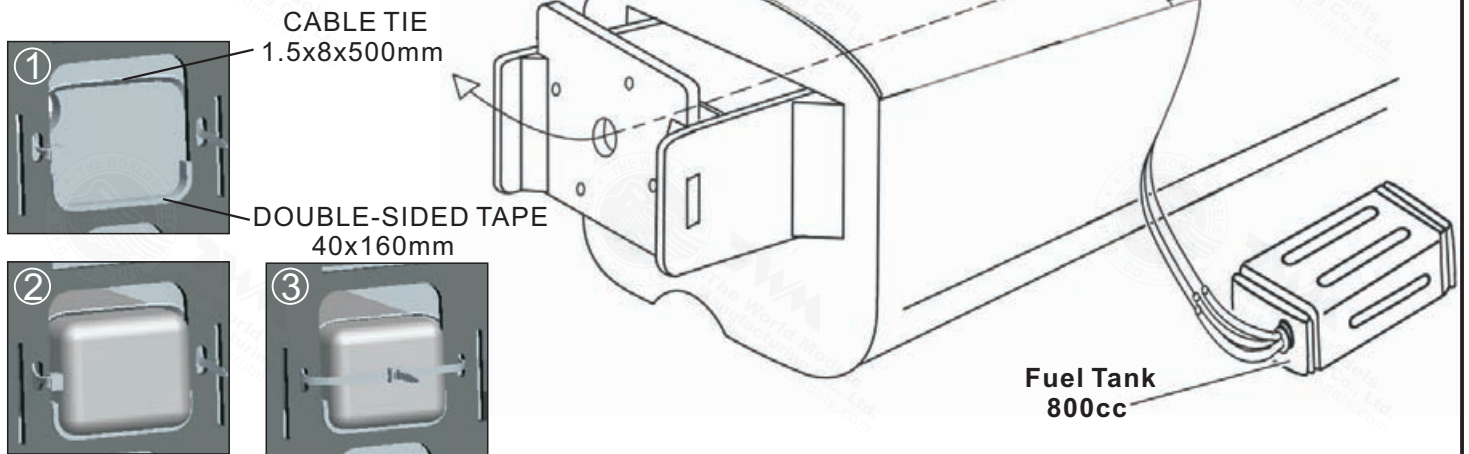
M6x30mm  
Socket Head Screw

d6xD15mm  
Washer

Engine Mount  
PI5911120

● Apply thread locker to screws.

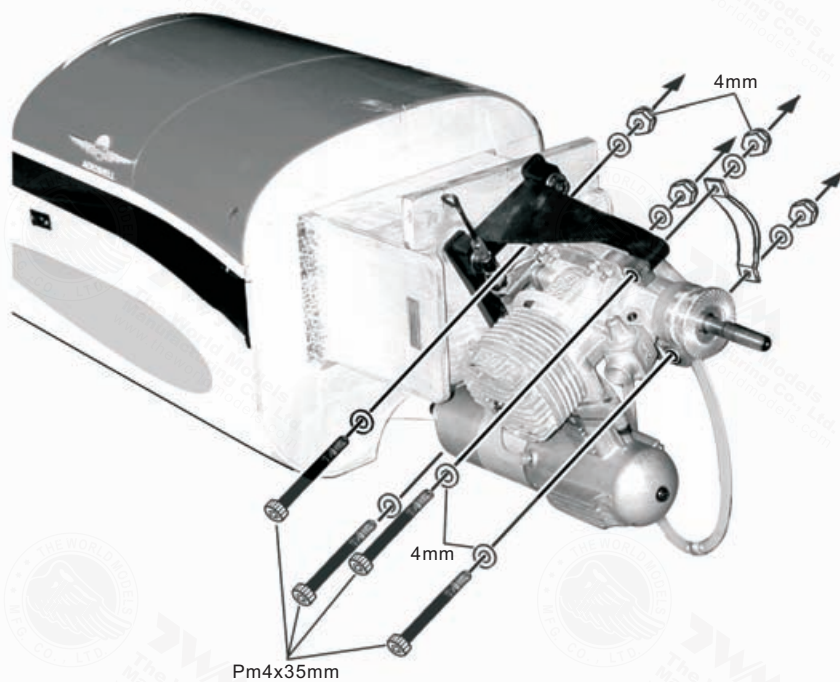
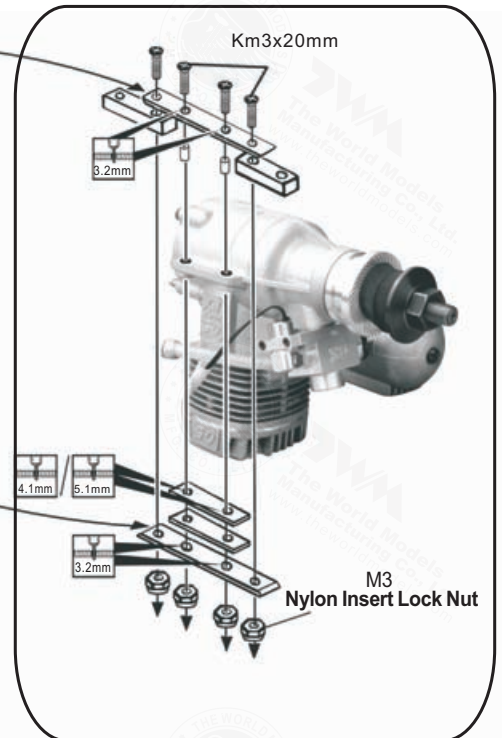
## 7 Fuel Tank



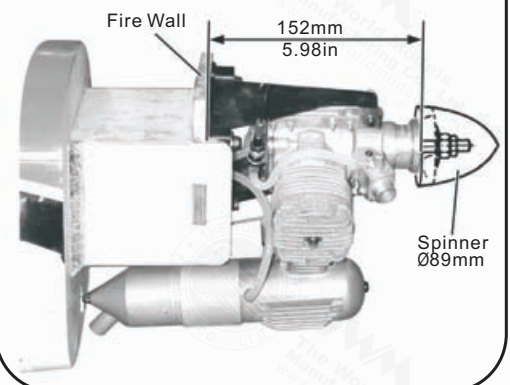
## 8 Engine

M4X35mm Screw	4
4mm Washer	8
M3 Nylon Insert Lock Nut	4
M3 Nylon Insert Lock Nut	8
KM3x20mm Screw	8

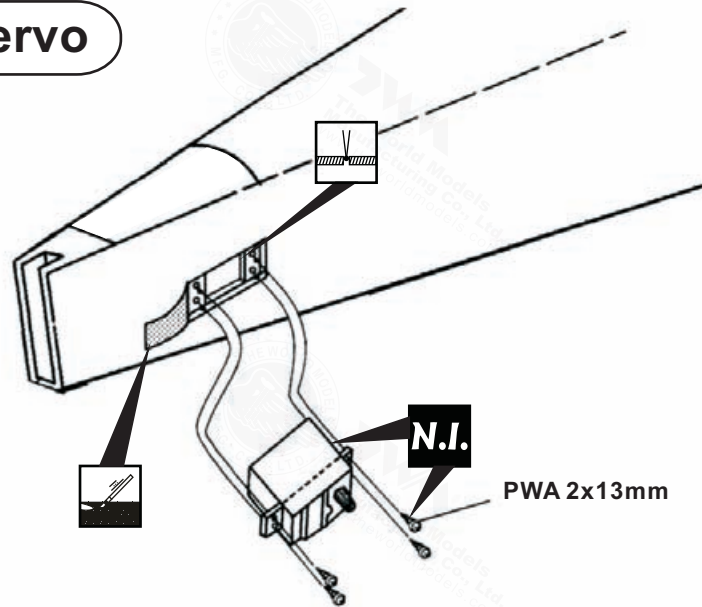
**!** Make sure the rounded edges are facing the shock absorbing SILICON PAD



### Install Engine Position



## 9 Elevator Servo



L/R

## 10 Stabilizer

PA3x12 Screw

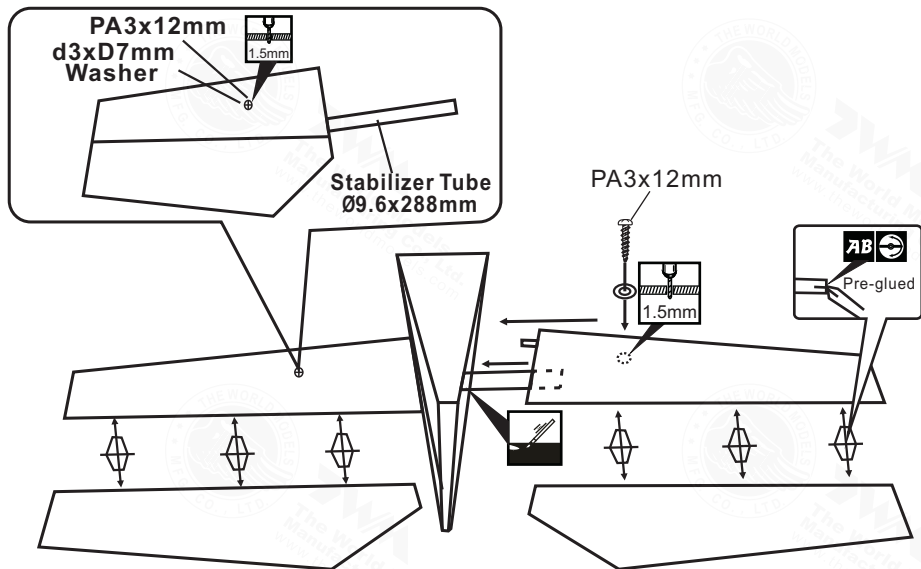


2

d3xD7mm Washer

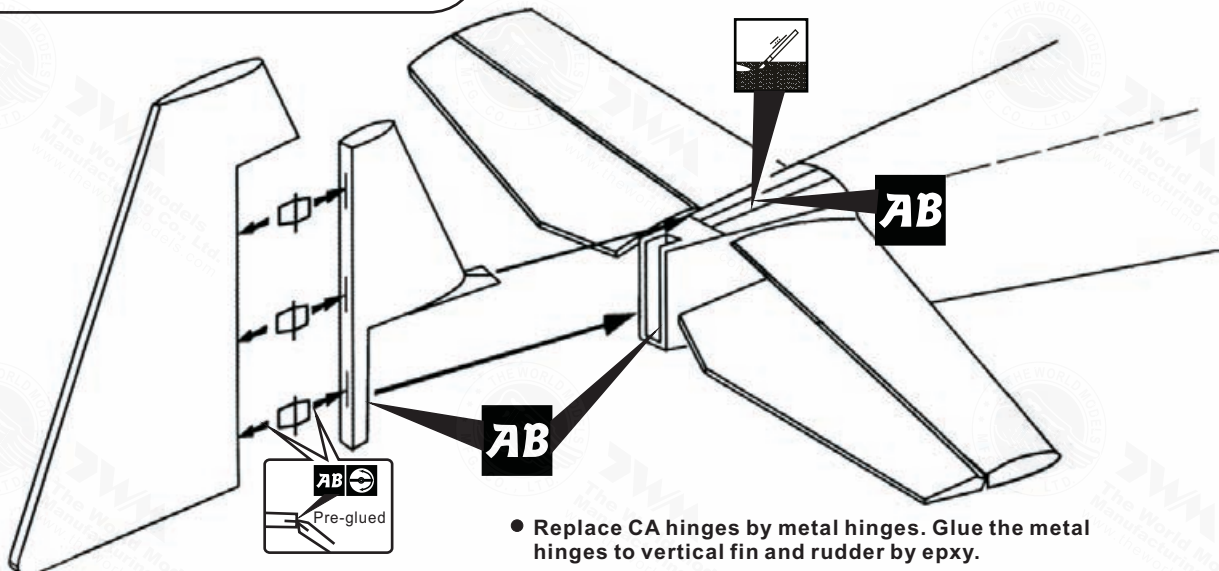


2



- Replace CA hinges by metal hinges. Glue the metal hinges to stabilizer and elevator by epoxy.

## 11 Vertical Fin / Rudder



- Replace CA hinges by metal hinges. Glue the metal hinges to vertical fin and rudder by epoxy.

L/R



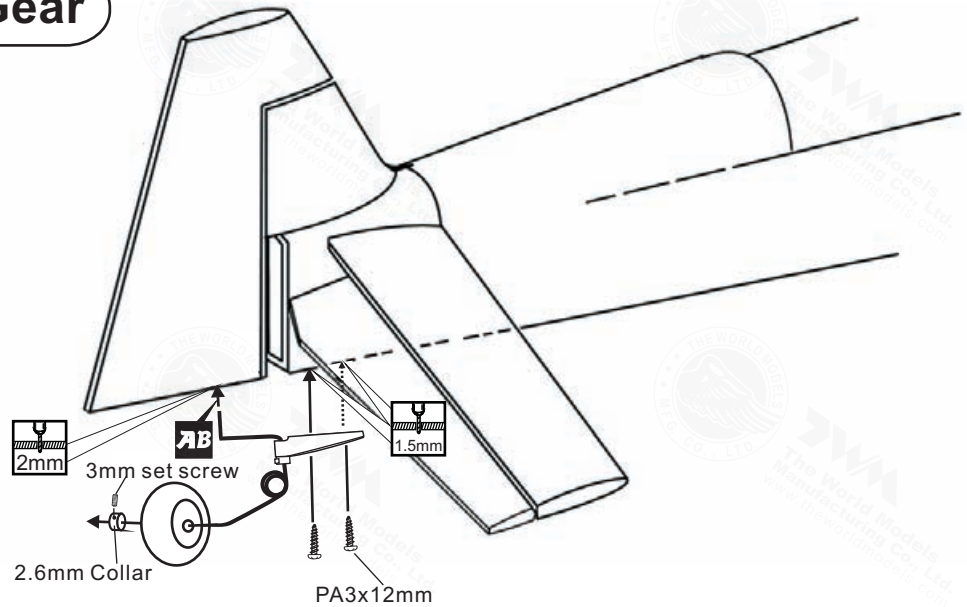
## 12 Tail Landing Gear

PA3x12mm Screw

 2

2.6mm Collar

 1



## 13 Throttle Servo

### LINKAGE CONNECTOR


3x3mm Set Screw

 1

Linkage Connector

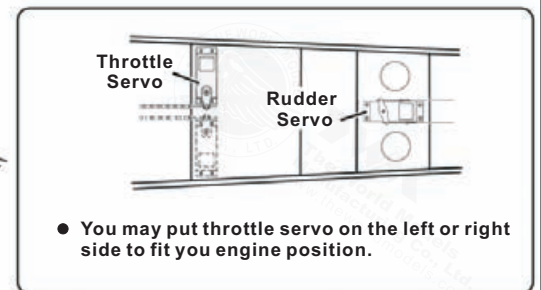
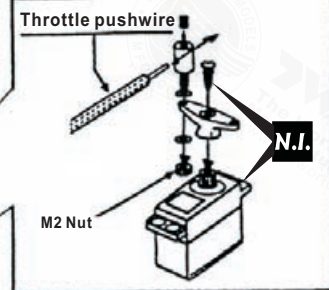
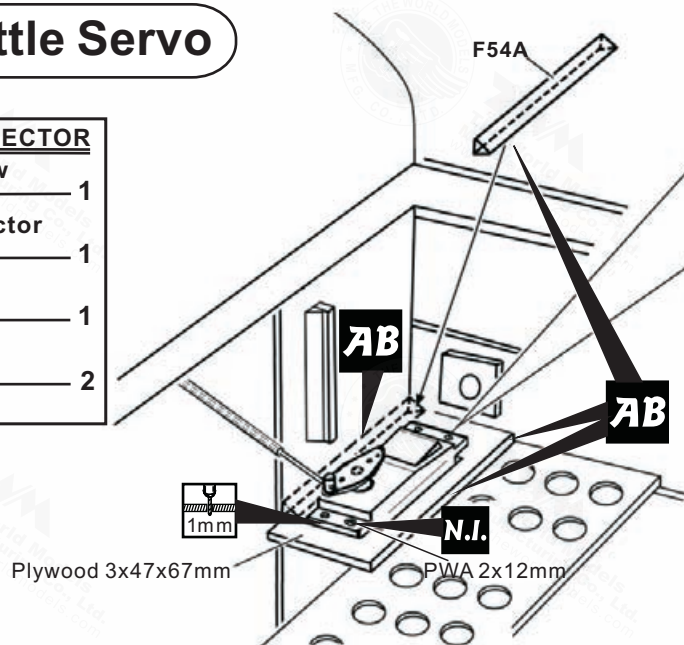
 1

M2 Nut

 1

2mm Washer

 2

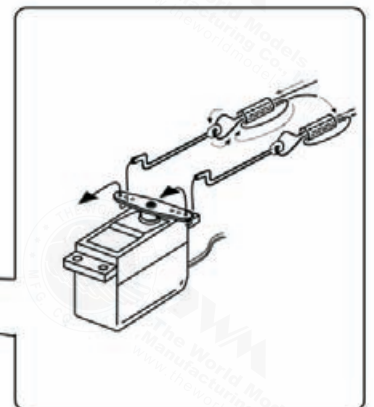
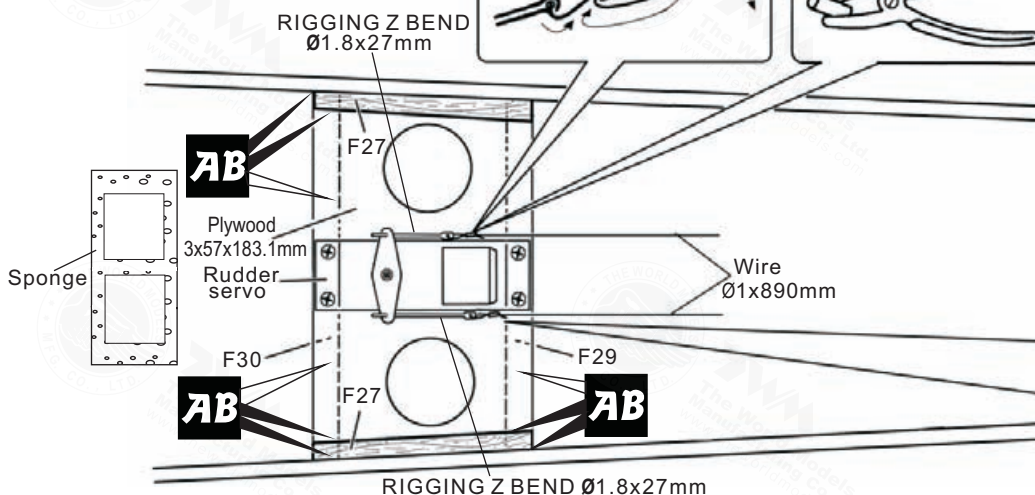


## 14 Rudder Servo

Copper Tube

Clamp the copper tube

RIGGING Z BEND  
Ø1.8x27mm



# 15 Rudder Pushrod

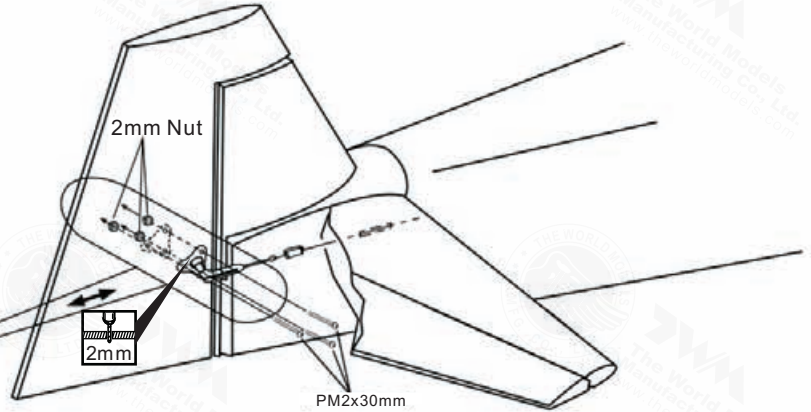
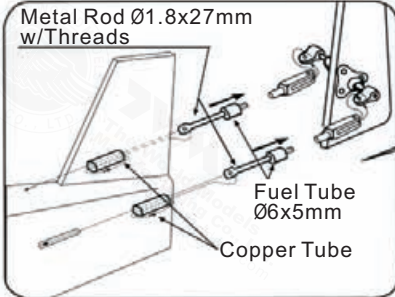
PM2x30mm Screw



2mm Nut



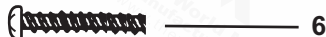
Metal Rod  $\varnothing 1.8 \times 27 \text{mm}$   
w/Threads



•  $\varnothing 1 \text{mm}$  pilot holes for World Models tri-horn are pre-drilled. Please look for Pin-hole marks at under side of control surface.

# 16 Elevator Pushrod

PB2x30mm Screw

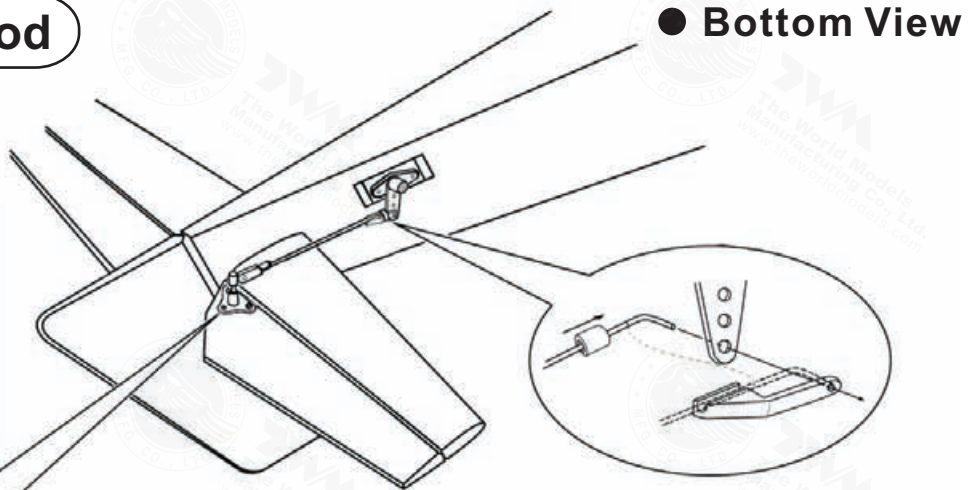
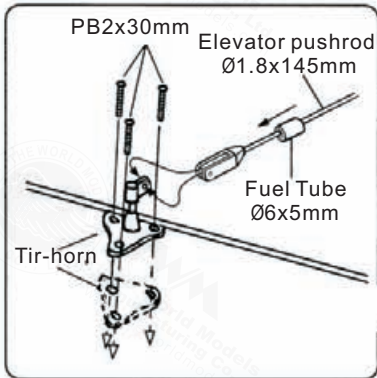


PB2x30mm

Elevator pushrod  
 $\varnothing 1.8 \times 145 \text{mm}$

Fuel Tube  
 $\varnothing 6 \times 5 \text{mm}$

Tir-horn

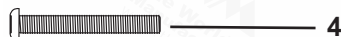


•  $\varnothing 1 \text{mm}$  pilot holes for World Models tri-horn are pre-drilled. Please look for Pin-hole marks at under side of control surface.

L/R

# 17 Main Landing Gear

HM4x16mm Screw

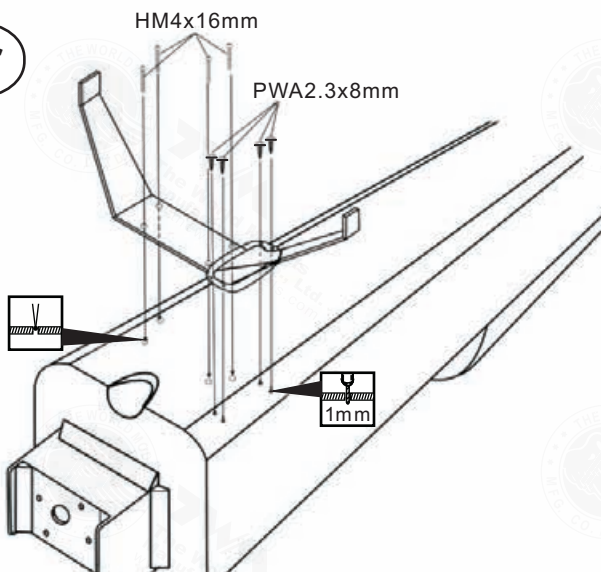


PWA2.3x8mm Screw



HM4x16mm

PWA2.3x8mm



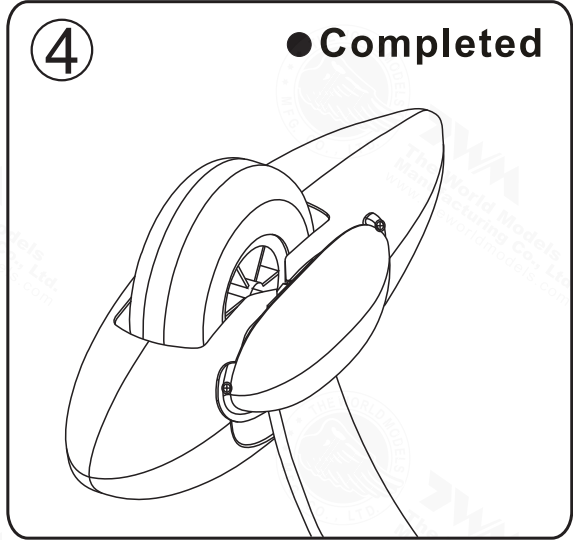
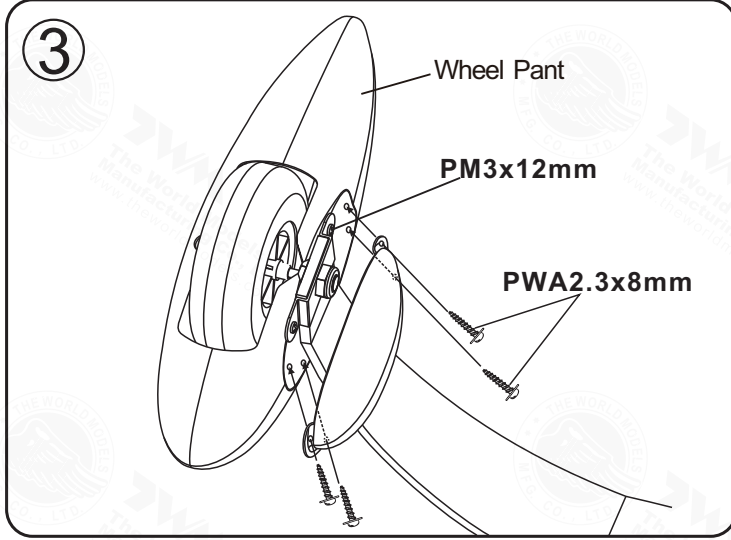
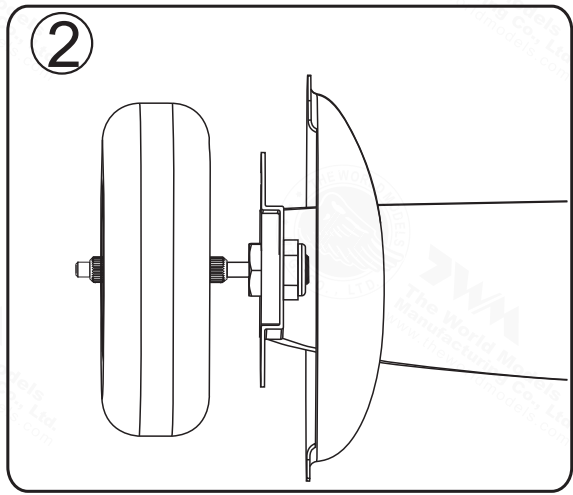
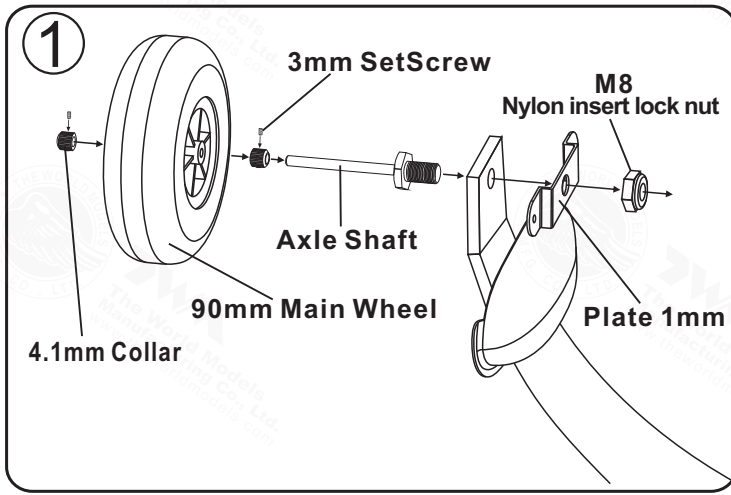
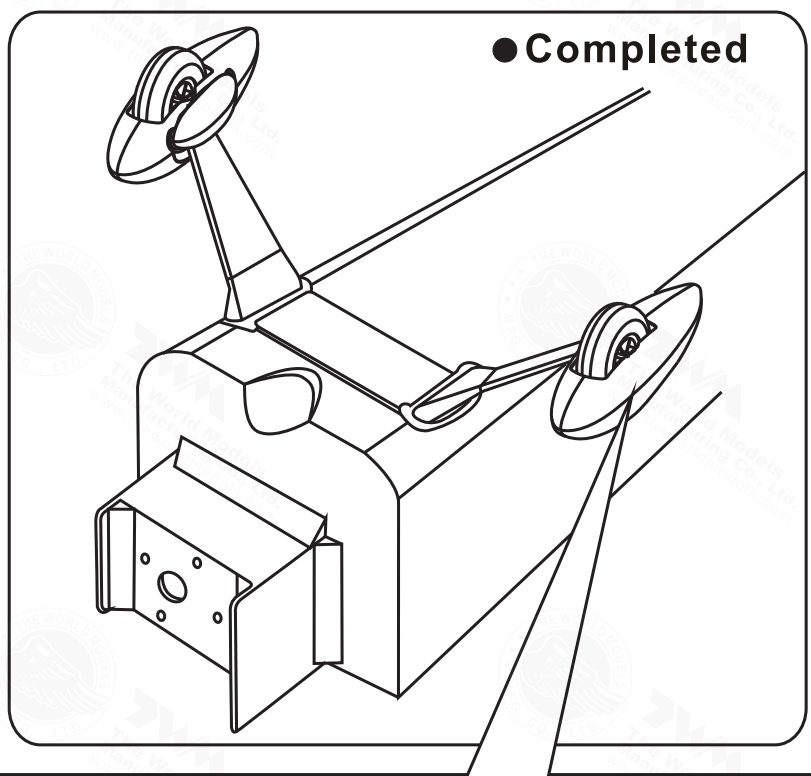
● Bottom View

L/R

# 18 Landing Gear

L/R

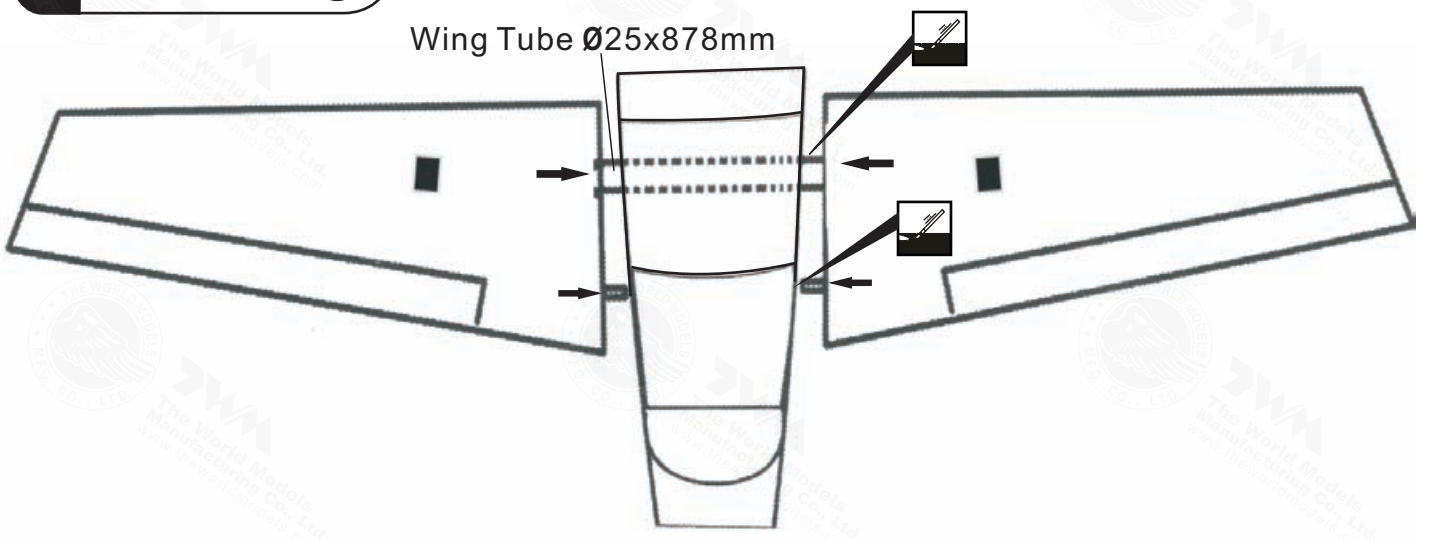
- PWA2.3x8mm Screw ————— 8
- M8 Nylon insert lock nut ————— 2
- 4.1mm Plastics Wheel Collar ————— 2
- 4.1mm Collar ————— 4
- 3mm Set Screw ————— 4
- PM3x12mm Screw ————— 4
- 4x66mm Axle Shaft ————— 2



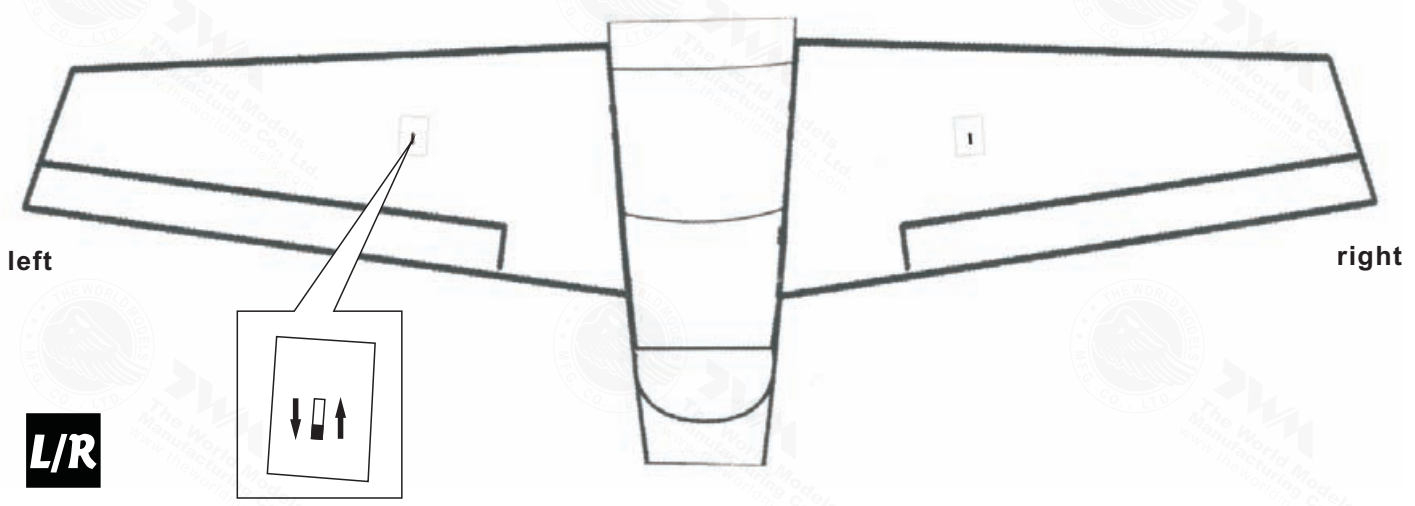
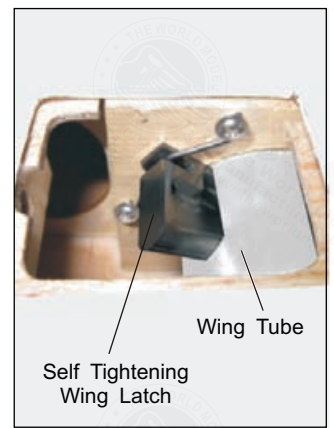
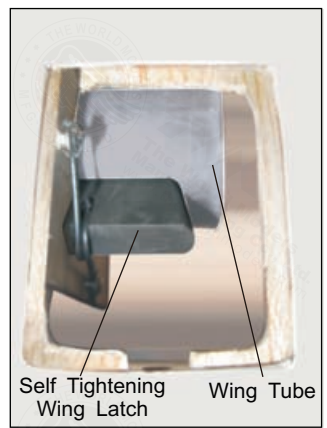
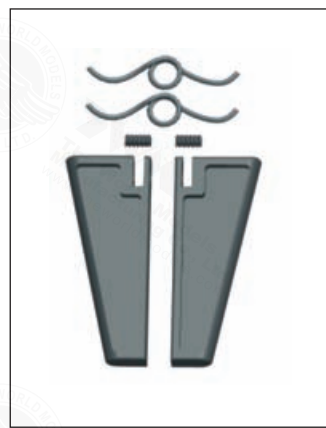
● Bottom View

# 19 Main Wing

Wing Tube Ø25x878mm



**Completed**

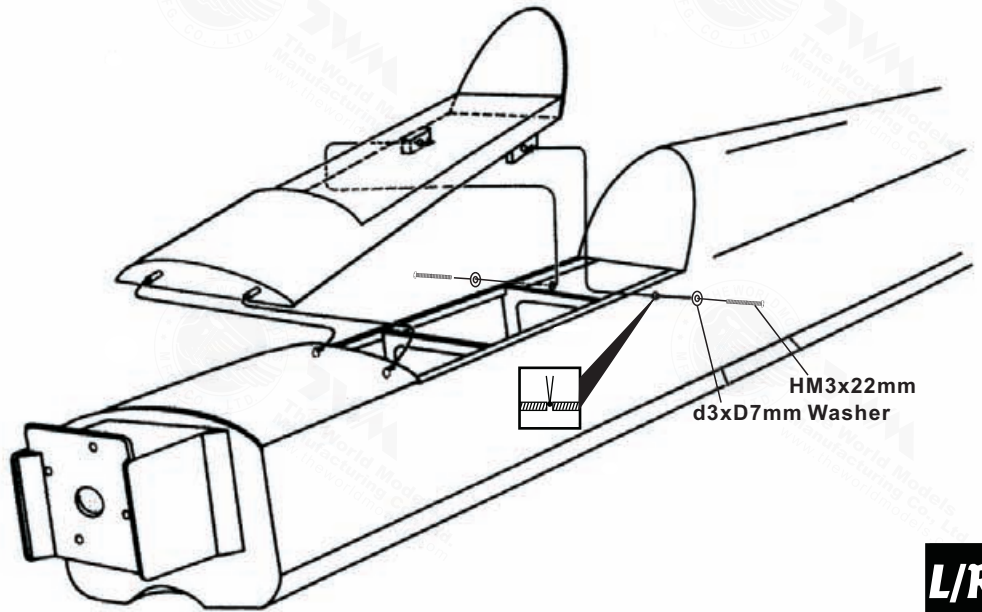


## 20 Cockpit

HM3x22mm Screw



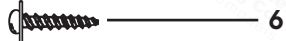
d3xD7mm Washer



L/R

## 21 Cowling

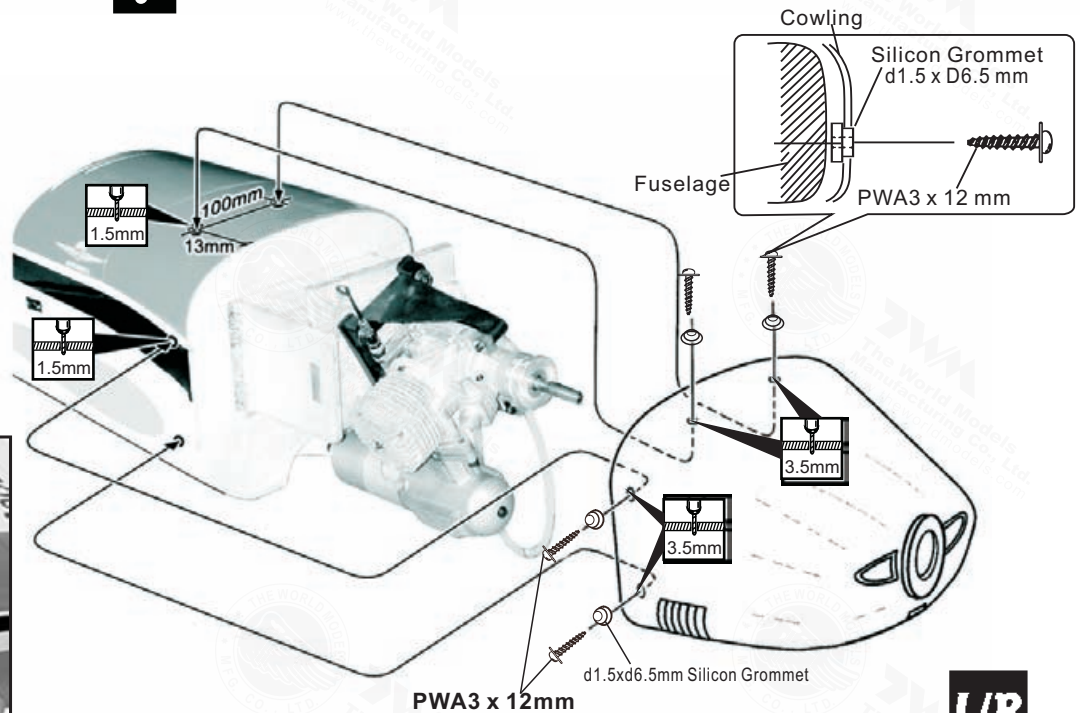
PWA3x12mm Screw



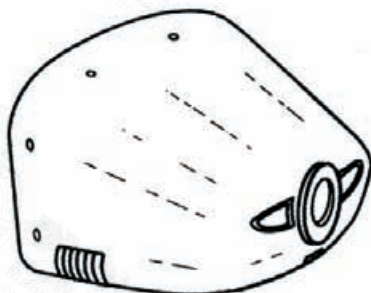
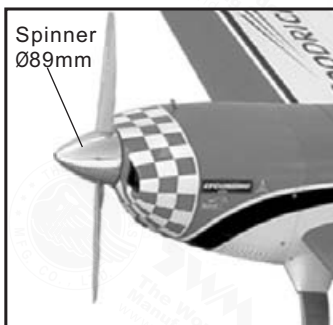
d1.5xD6.5mm Silicon Grommet



**!** Make sure the screws hit the reinforcement plywood.



L/R



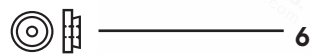
The openings on the cowl are scaled down from the actual. It is very unlikely that these openings could provide enough cooling for the engine. Please enlarge or cut air inlet\ outlet holes according to the engine position to achieve the best cooling effect.

## 22 Canopy

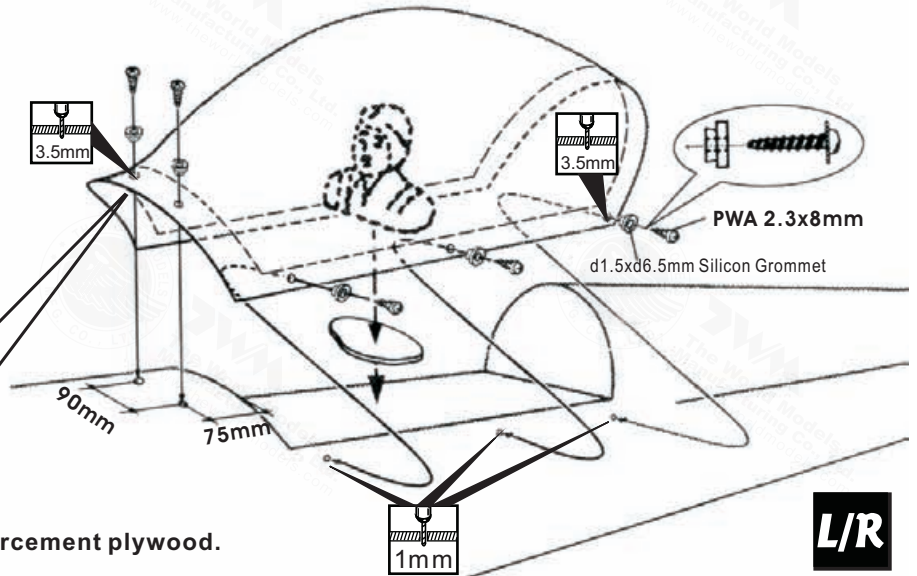
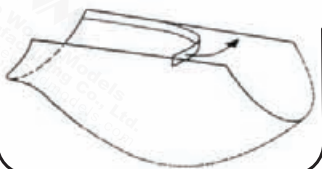
PWA 2.3x8mm Screw



d1.5Xd6.5mm Silicon Grommet



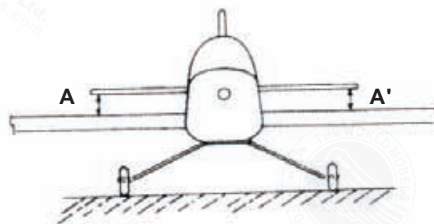
• Apply double-sided tape



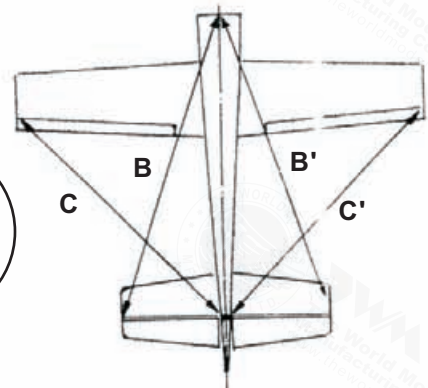
**!** Make sure the screws hit the reinforcement plywood.

**L/R**

## 23 Wing Setting



A = A'  
B = B'  
C = C'



## 24 Control Throws

Elevator



Rudder



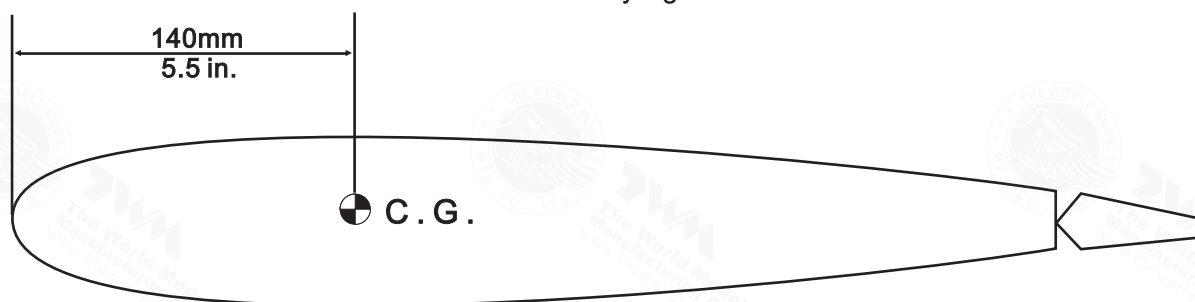
Aileron



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

## 25 C.G.

The ideal C.G. position is **140mm(5.5in)** 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.



<http://www.theworldmodels.com/para/instruction/instructionManuals.php>

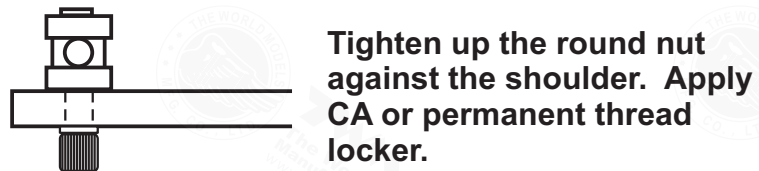
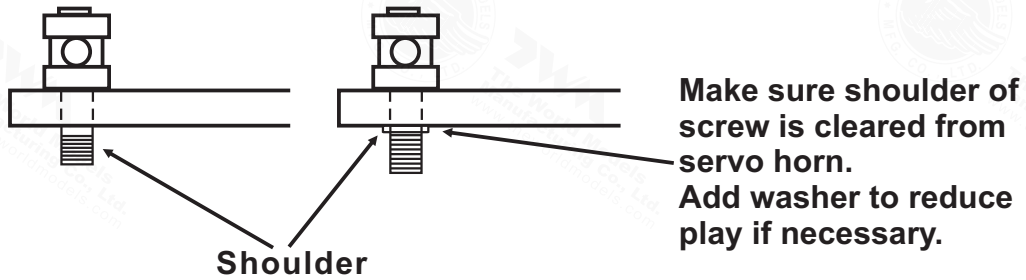
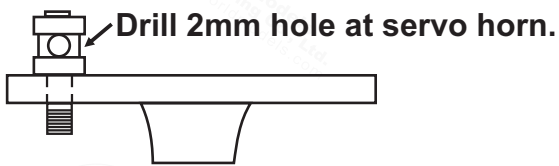
## ! Warning!

### 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.
- #**Extra 300S-160R** is specially designed to be powered by 1.60 2 stroke glow 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. Don't use hot iron near the seams or edges, hot iron will melt the glue and shrink the covering at the same time, causing the seams to pull away.
- #Check and re-tighten up all factory assembled screws, use thread locker if necessary.

# LINKAGE CONNECTOR

## HW7111050 & HW7111060



After fastening the round nut, make sure that the linkage connector can rotate freely.



# Product Registration Form (US Customers)

We would like to share with you any relevant information regarding your model, including product news and free upgrade parts when applicable. Please fill in the following and send to AirBorne Models, 4749-K, Bennett Drive, Livermore, CA 94551 USA.

1. Name: \_\_\_\_\_

2. Address: \_\_\_\_\_

3. Phone #: \_\_\_\_\_ E-mail: \_\_\_\_\_

4. Model: \_\_\_\_\_

Wing QC# \_\_\_\_\_ Fuselage QC# \_\_\_\_\_  
(QC numbers are stamped on wing and fuselage)

5. Date of Purchase: \_\_\_\_\_

6. Store Name: \_\_\_\_\_

Please call AirBorne Models at 925 371 0922 for any assistance in filling this form.  
Thank you very much for purchasing our product.

# Optional Parts

## ( ACCESSORIES)

### 180mm Extension

Code No.	Size	Package
----------	------	---------

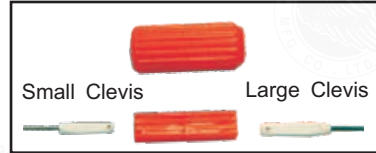
KW0011800 180mm 1 set



### Clevis Wrench

Code No.	Size	Package
----------	------	---------

PL8210010 1 set

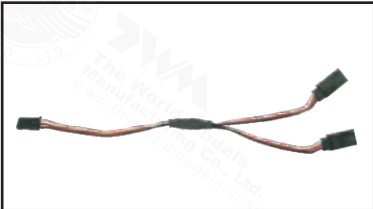


Special tool for clevis installation.  
Suitable for standard and small (EP) clevis.

### 180mm Y-Cord

Code No.	Size	Package
----------	------	---------

KW0021800 180mm 1 pc



### Field Stand

Code No.	Size	Package
----------	------	---------

MS9111450 600X240X350mm 1pc

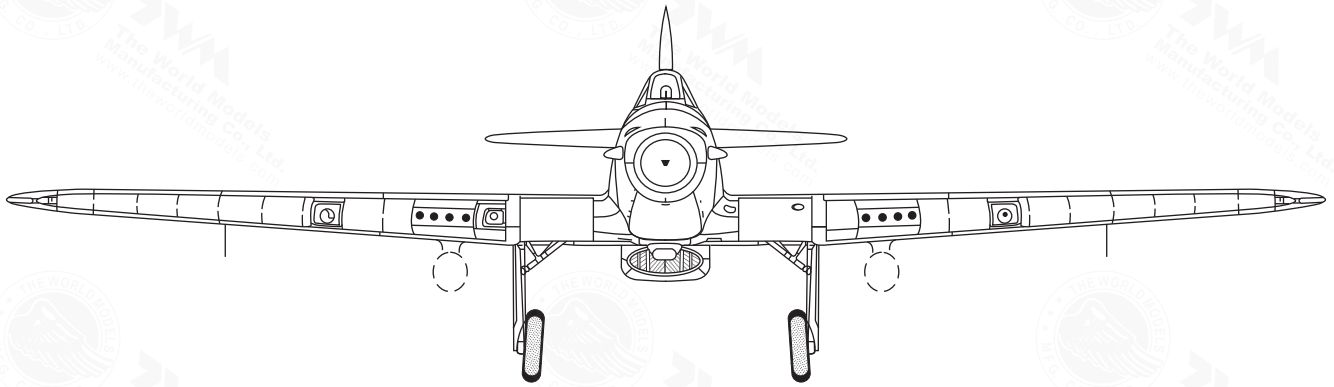


### Charge Receptacles

Code No.	Size	Package
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KP0041300





**Ducted Fan**

**Pattern**

**Warbirds**

**Funfly**

**Scale**

**Electric**

**Sports**

**Glider**

**Trainer**

**Boat**

**Accessories**

**Covering**

(Lightex / Toughlon)



**TWM**

**The World Models  
Manufacturing Co., Ltd.**  
[www.theworldmodels.com](http://www.theworldmodels.com)