INSTRUCTION MANUAL

VELOX REV II-60

ALMOST-READY-TO-FLY ARF

0.60-0.75 cubic inch displacement 2-stroke
0.70-0.91 cubic inch displacement 4-stroke
Radio requires: 4-channel radio w/ 5 standard servos

Specifications

Wing Span	65 in / 1650 mm
Wing Area	769 sq in / 49.6 sq dm
Flying Weight	8 lb / 3650 g
Fuselage Length	57 in / 1450 mm

*** 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.

THE WORLD MODELS MFG. CO., LTD.

TWM
The World Models
Manufacturing Co., LTD.
www.theworldmodels.com

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

A143PO22951003

VELOX REV Ⅱ-60

INDEX

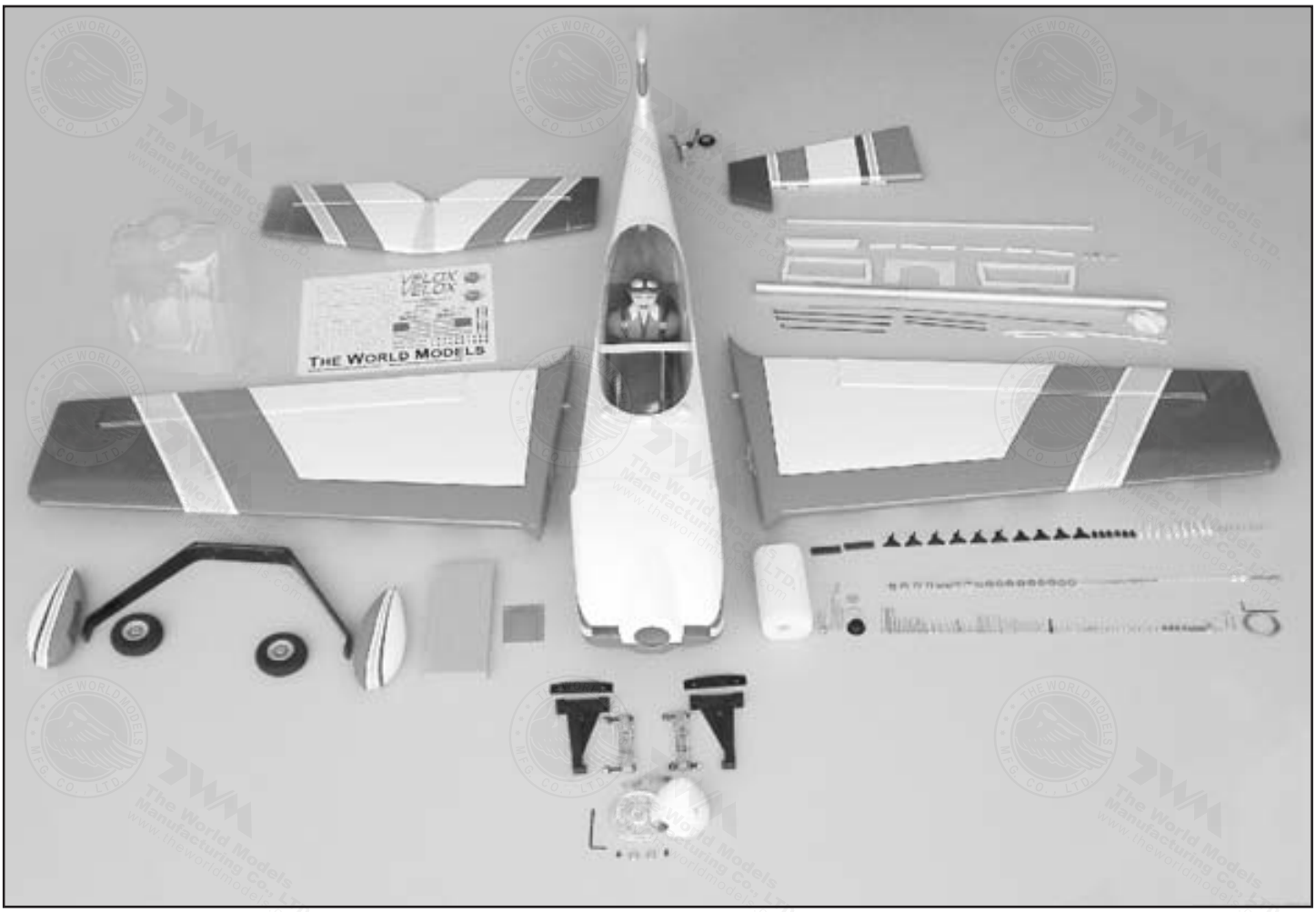
BEFORE YOU BEGIN

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 : -

AB	Apply epoxy glue.	C.A	Apply instant glue (C.A.glue, super glue.)
	Apply thread locker	N.I.	Must be purchased separately!
L/R	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).		Pierce the shaded portion covering film.
!	Pay close attention here!	! Warning !	Do not overlook this symbol!



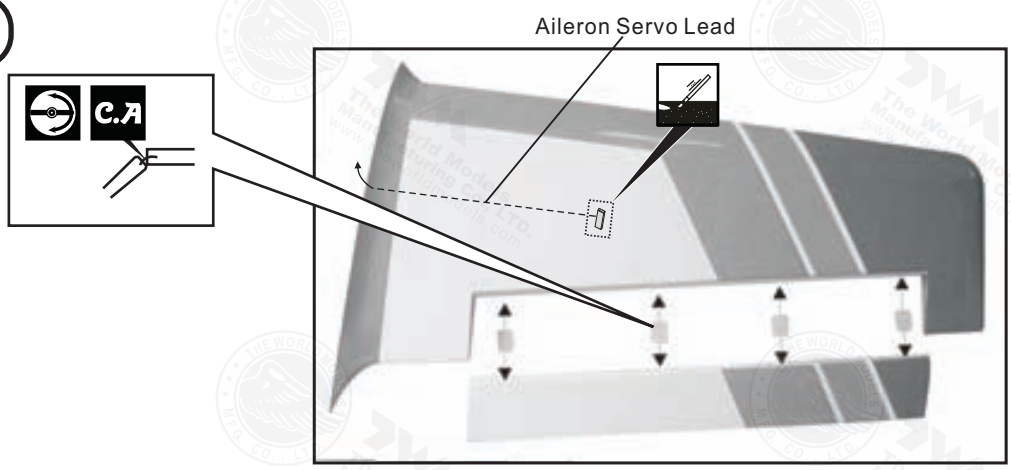
Parts List

1. MAIN WING--1 pair
2. SCREW PB2x30mm--6 pcs
   FUEL TUBE Ø6x5mm--4 pcs
   STRAPER--2 pcs
   CLEVIS--2 pcs
   TRI-HORN M3x14mm(L)--2 sets
   PUSHROD Ø1. 8x125mm w/Threads(For Aileron)--2 pcs
3. FUSELAGE--1 pc.
   CARBON FIBER MAIN LANDING GEAR--1 pair
   WHEEL PANTS--1 pair
   SOCKET HEAD SCREW M5x43mm--2 pcs
   M5 NUT--2 pcs
   M3 NUT--2 pcs
   NYLON BOLT M3x18mm--2 pcs
   PLASTIC COLLAR Ø5. 1mm--2 pcs
   SCREW HM4x16mm--4 pcs
   WASHER d4xD9mm--4 pcs
   WASHER d5xD12mm--2 pcs
   WHEEL Ø70mm--2 pcs
   COLLAR Ø5. 1mm w/set screw--4 sets
4. ENGINE MOUNT PL5111080
   SOCKET HEAD SCREW M4x25mm--4 pcs
   WASHER d4xD12mm--4 pcs
   BLIND NUT M4xD12mm--4 pcs
   WOODEN DOWEL Ø5. 5x8mm(For Firewall)--4 pcs
5. FUEL TANK 380cc--1 set
   BALSA 10x10x120mm(For Fixing Fuel Tank)--1 pc.
   PLYWOOD 2x60x112mm(Fuel Tank Holder)--1 pc.
   BALSA 4x4x60mm(For Fuel Tank Holder)--2 pcs
6. STABILIZER & ELEVATOR--1 set
7. SCREW PB2x20mm--6 pcs
   TRI-HORN M3x14mm(L)--2 sets
   CLEVIS--2 pcs
   FUEL TUBE Ø6x5mm--2 pcs
   PUSHROD Ø1.8x685mm w/ Threads (For Elevator)--2 pcs
8. VERTICAL FIN & RUDDER--1 set
9. TAIL LANDING GEAR--1 set
   SCREW PA3x12mm--2 pcs
   COLLAR Ø2. 1mm w/set screw--1 set
   WHEEL Ø30mm--1 pc.
10. SCREW PM2x25mm--3 pcs
    M2 NUT--3 pcs
    CLEVIS--2 pcs
    FUEL TUBE Ø6x5mm--2 pcs
    TRI-HORN M3x14(L) (w/o-Base For Rudder)--2 sets
    RIGGING COUPLER Ø1. 8x27mm w/Threads(For Rudder)--2 pcs
    COPPER TUBE d2. 5xD3. 2x8mm(For Rudder)--2 pcs
    WIRE Ø1x840mm(For Rudder)--2 pcs
11. LINKAGE CONNECTOR Ø2. 1mm--1 set
12. BALSA 6x6x41mm(For Throttle Elevator&Rudder Servo Stand)--4 pcs
    PLYWOOD 5x60x155. 8mm(For Elevator Servo)--1 pc.
    PLYWOOD 5x60x147. 3mm(For Rudder Servo)--1 pc.
    RIGGING Z BEND Ø1. 8x27mm(For Rudder)--2 pcs
    COPPER TUBE d2. 5xD3. 2x8mm(For Rudder)--2 pcs
    SPONGE 60x70x165mm(For Radio Equipment)--1 pc.
    STRAPER--1 pc.
    FUEL TUBE Ø6x5mm--1 pc.
    PUSHROD Ø1.8x85mm (For Elevator)--1 pc.
    PUSHROD CONNECTOR PL4410010--1 set
13. THROTTLE PUSHWIRE1. 2x450mm--1 set
    PLASTIC TUBE d2xD3x250mm--1 pc.
    ALUMINUM PLATE(For Engine Mount)--1 pc.
    ANTI-VIBRATION MOUNT PL5111080--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
14. SCREW HM3x22mm--1 pc.
    WASHER d3xD7mm--2 pcs
    SCREW PA3x22mm--1 pc.
    WING TUBE Ø18x638mm--1 pc.
    WING LOCK PIN Ø1. 2x20mm--2 pcs
15. COWLING--1 set
    TRANSPARENT 3D TEMPLATE--1 pc.
    PLASTIC SPINNER(w/alu. back plate) Ø76mm--1 set
    SCREW PWA2. 6x12mm--4 pcs
    SCREW PWA2. 3x8mm--4 pcs
    SILICON GROMMET d1. 5xD6. 5mm--4 pcs
    DUMMY ENGINE COVER--1 pc.
16. CANOPY--1 pc.
    SCREW PWA2. 3x8mm--6 pcs
    SILICON GROMMET d1. 5xD6. 5mm--6 pcs
    SCREW HM3x16mm--2 pcs
    WASHER d3xD7mm--2 pcs
    DOUBLE-SIDED TAPE--1 pc.
    PILOT PC001102A--1 pc.
17. DECALS: A143DEC--1 set

● **COVERING:--**

TOUGHLON STL 100 WHITE
TOUGHLON STL 312 BRIGHT RED
TOUGHLON STL 331 CUB YELLOW
TOUGHLON STL 250 BLUE

1 Main Wing

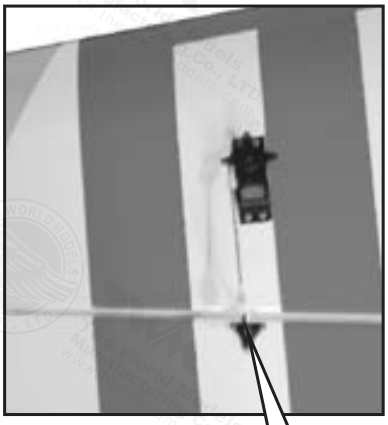


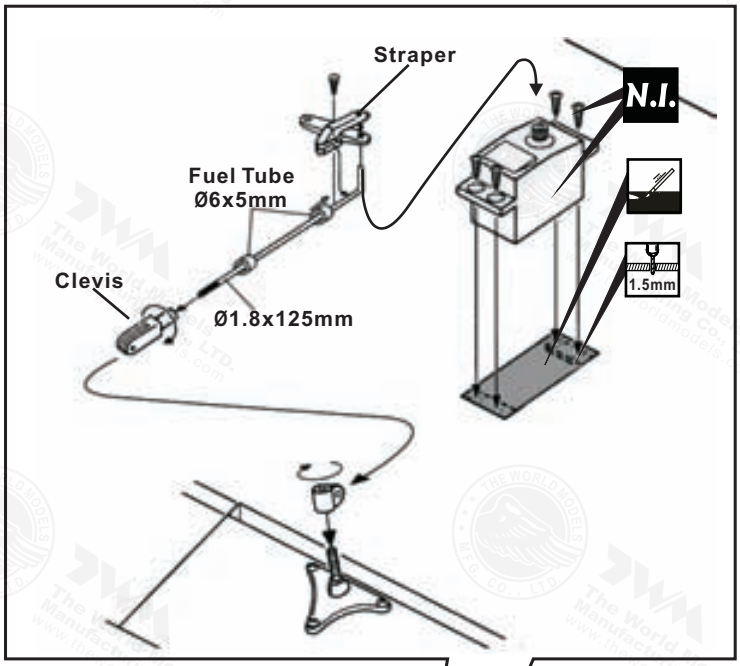
L/R

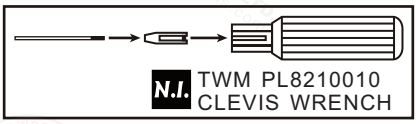
● Apply instant type CA glue to both sides of each hinge.

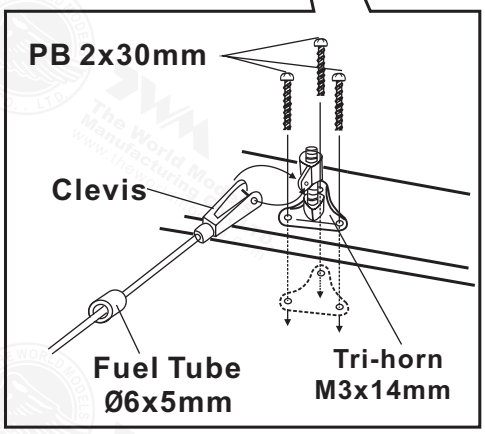
2 Aileron Servos

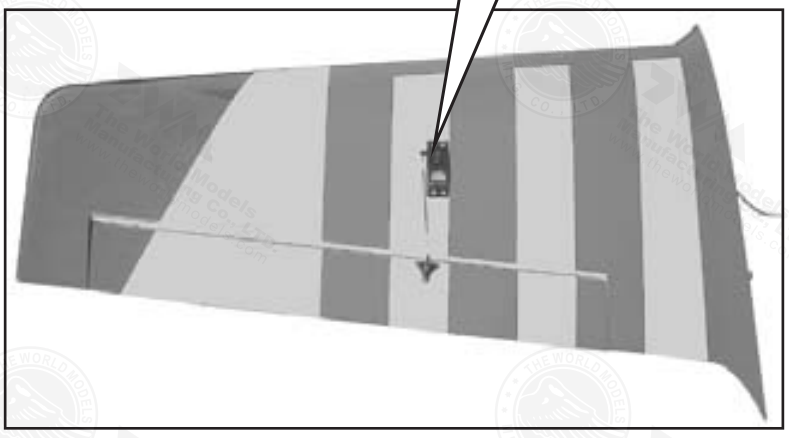
PB2x30mm Screw









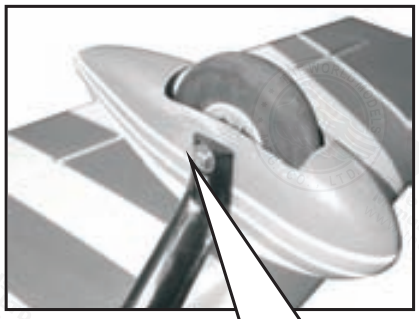


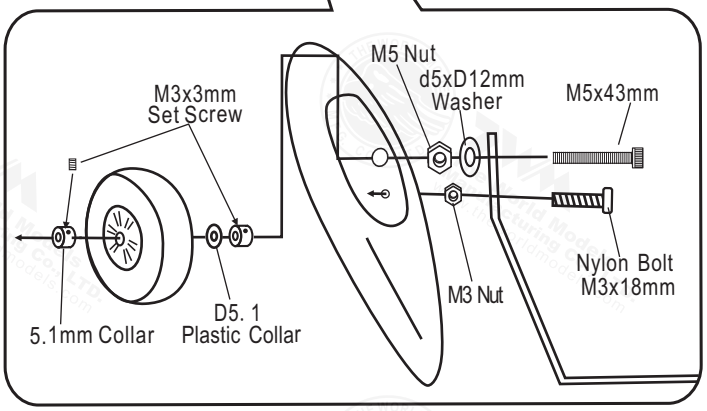
● Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

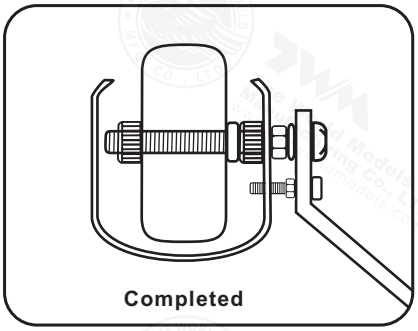
L/R

3 Landing Gear

- M5x43 mm **Socket Head Screw** — 2
- M5 **Nut** — 2
- HM4x16mm **Screw** — 4
- d4xD9mm **Washer** — 4
- d5xD12mm **Washer** — 2
- 5.1mm **Collar** — 4
- M3x18mm **NYLON BOLT** — 2
- M3 **Nut** — 2





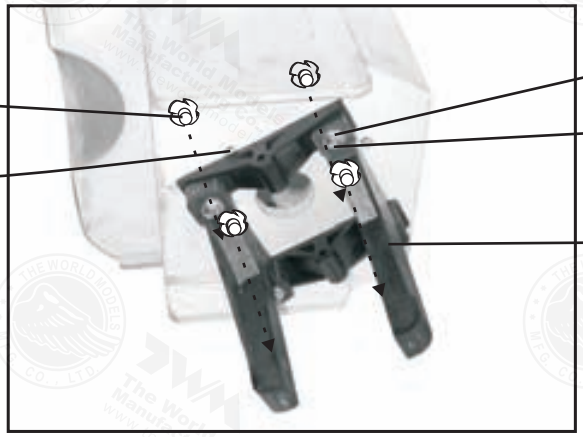


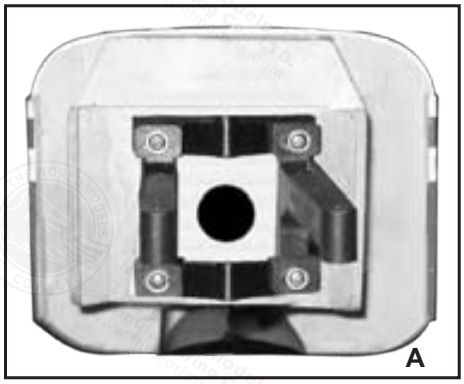
4 Engine Mount

- M4x25mm Socket Head Screw — 4
- d4xD12mm Washer — 4
- M4xD12mm Blind Nut — 4

● Apply thread locker to screws

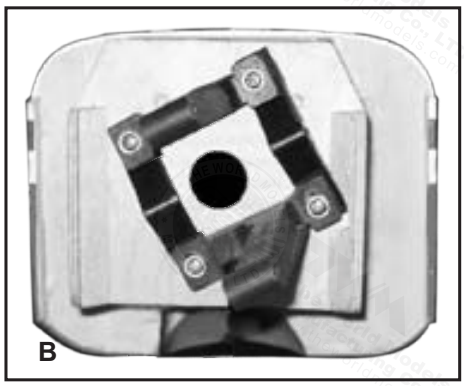
! Blind nuts are off-centered to keep the spinner at the fuselage axis.



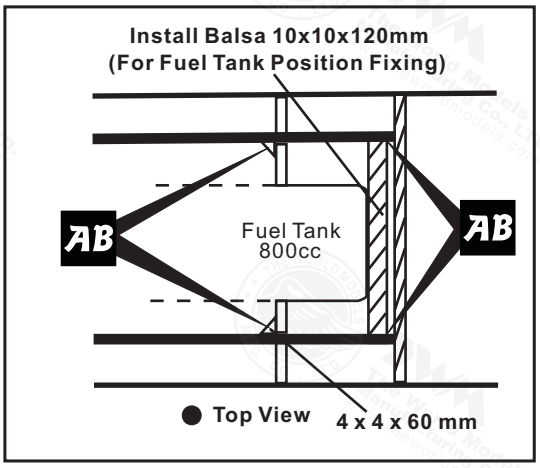


A: Inverted mount

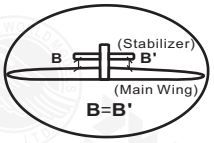
B: Inclined mount



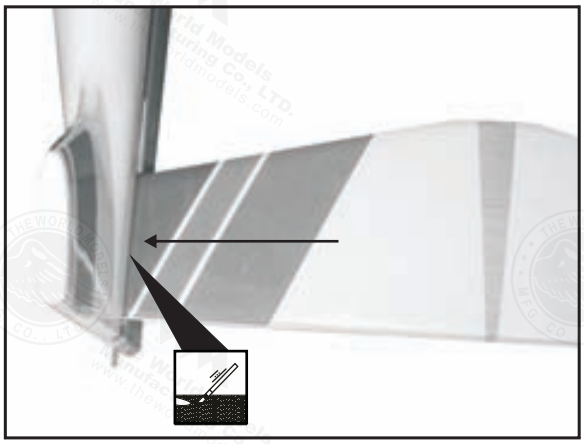
5 Fuel Tank

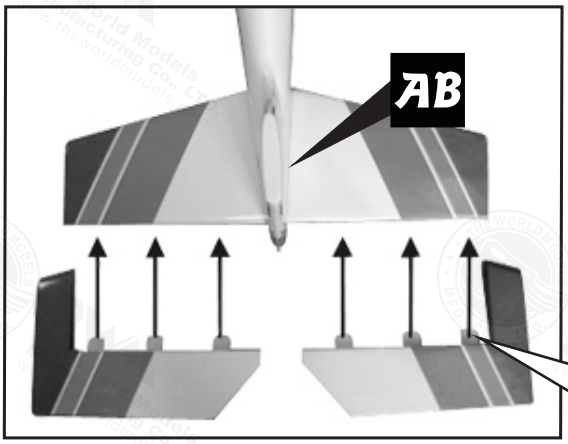


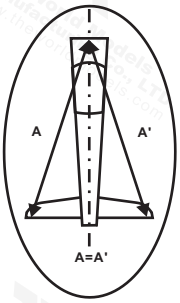
6 Stabilizer&Elevator

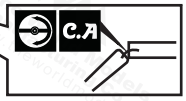


Temporary install the main wing, adjust leveling of the stabilizer to make it as parallel to the main wing as possible.





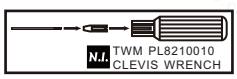


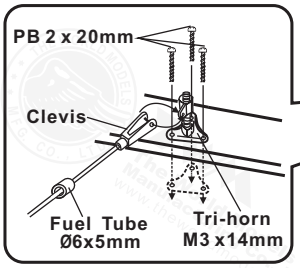


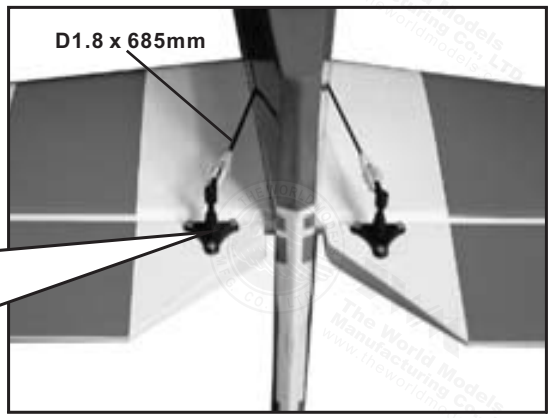
●Apply instant type CA glue to both sides of each hinge.

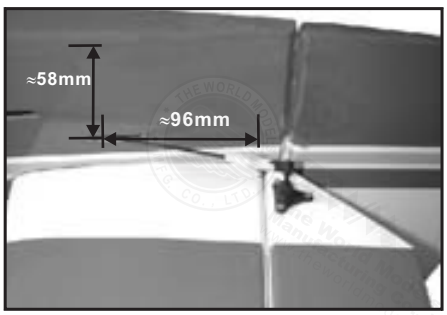
7 Elevator Pushrod

● ∅1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

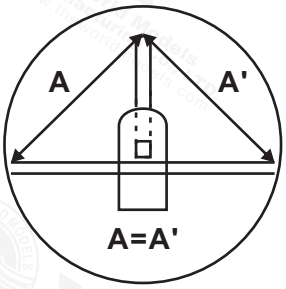


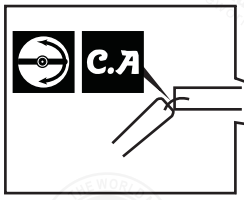


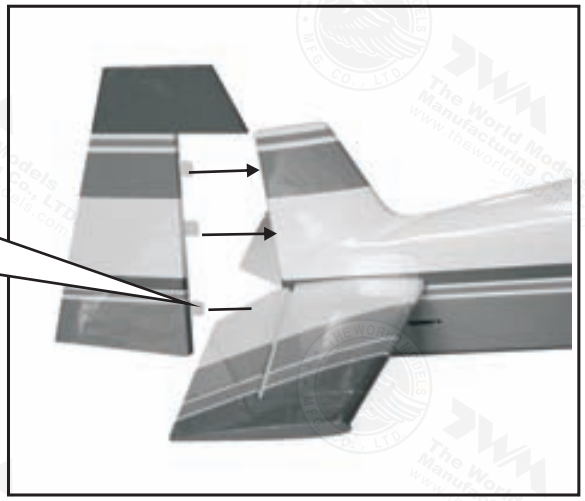




8 Vertical Fin / Rudder



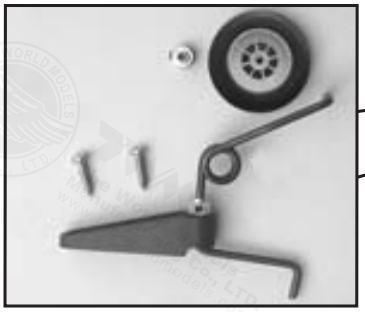


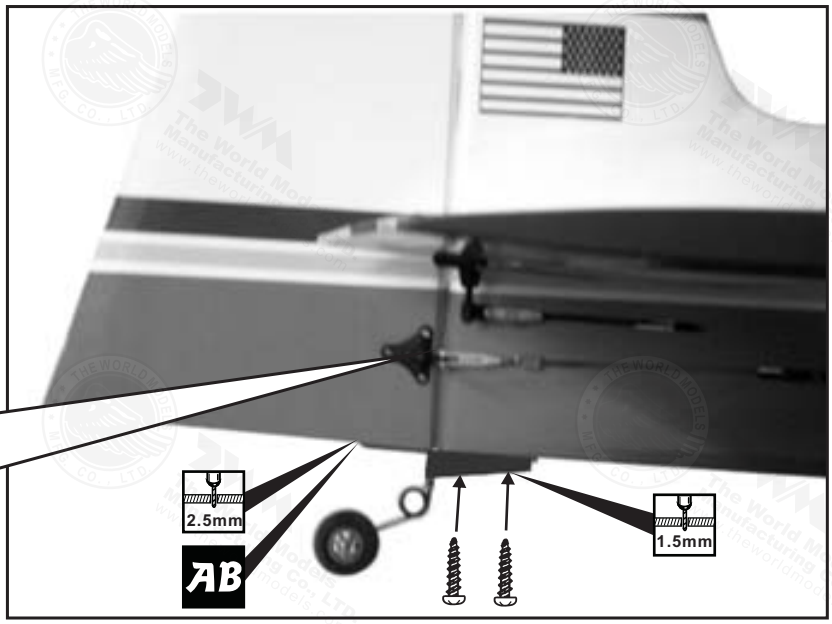


● Apply instant type CA glue to both sides of each hinge.

9 Tail Landing Gear

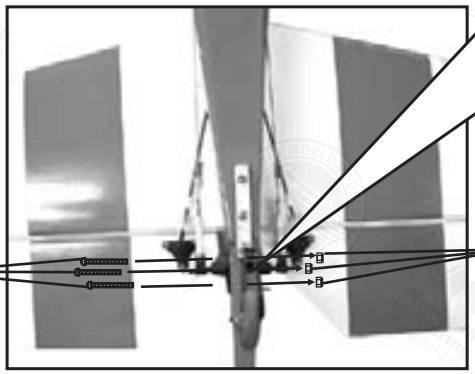
PA3x12mm Screw	2
3mm Set Screw	1
2.1mm Collar	1

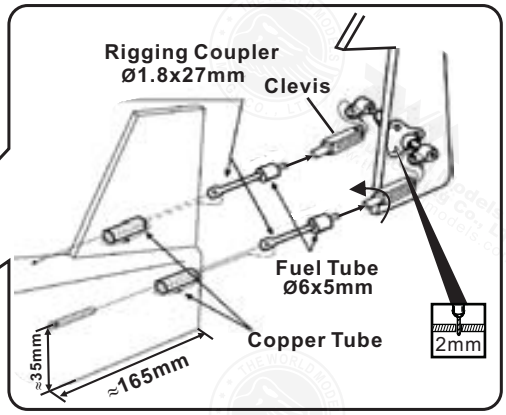




10 Rudder Pullwire

PM 2 x 25mm Screw	3
M2 Nut	3





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

11 Servo Set

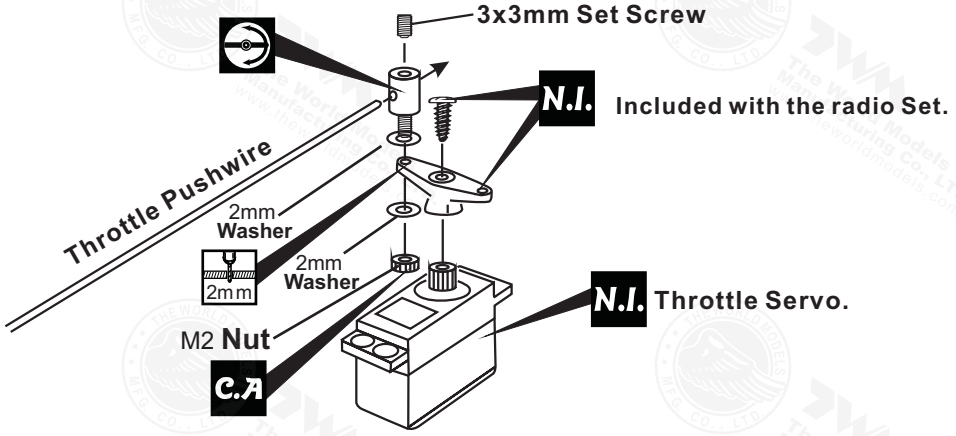
LINKAGE CONNECTOR

3 x 3mm **Set Screw** — 1

Linkage Connector — 1

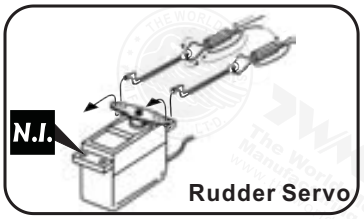
M2 **Nut** — 1

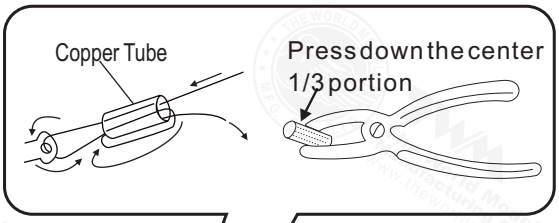
2mm **Washer** — 2



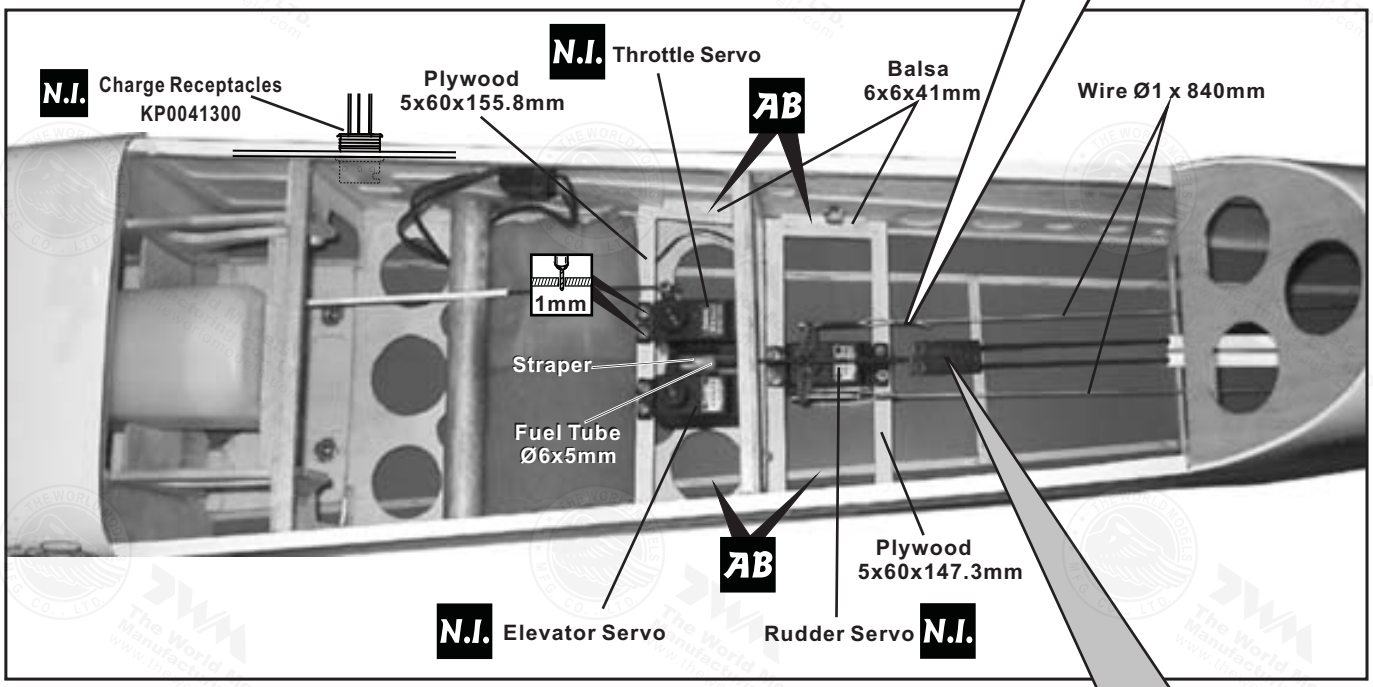
! **Please refer to attached sheet for linkage connector installation.**

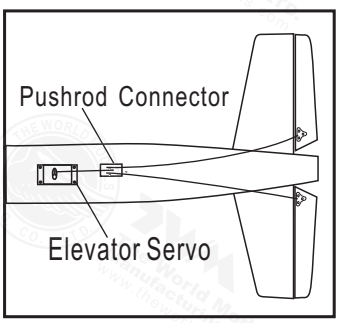
12 Servos

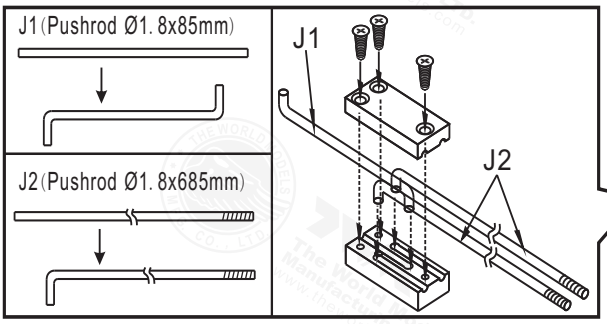


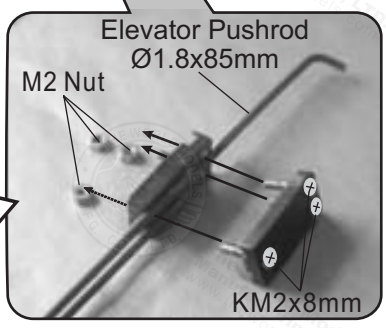


Front



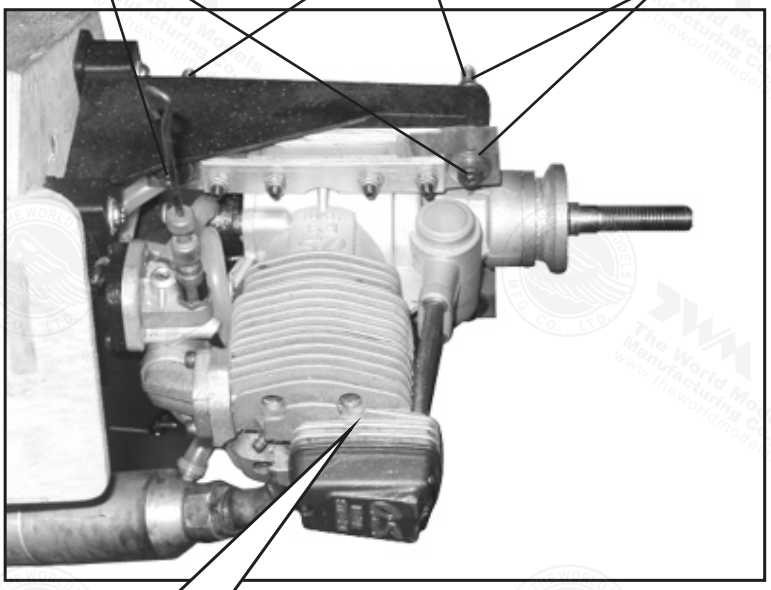


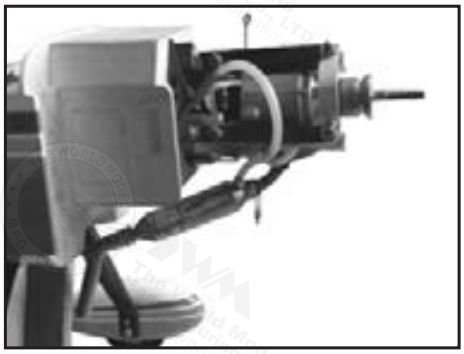




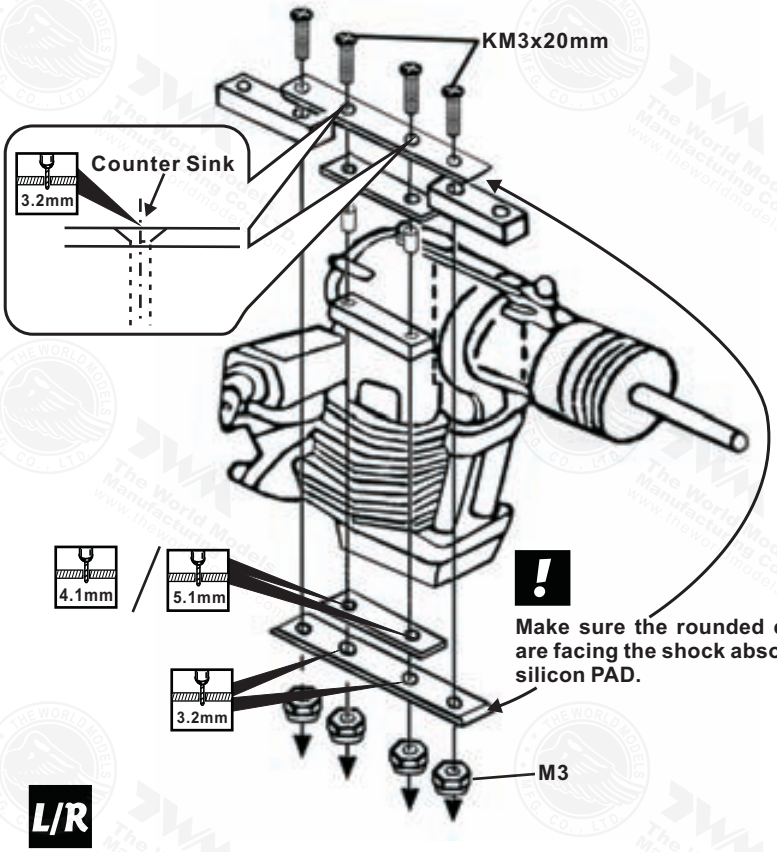
13 Engine

M4x35mm Set Screw	4
KM3x20mm Washer	8
M4 Nylon Insert Lock Nut	4
M3 Nylon Insert Lock Nut	8
d4xD12mm Washer	8

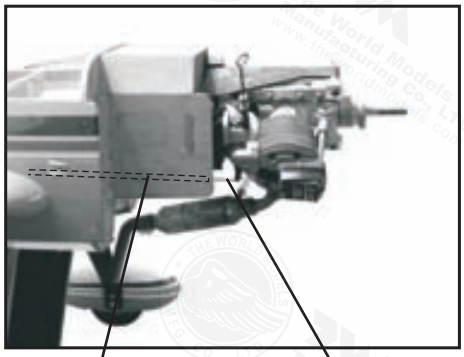




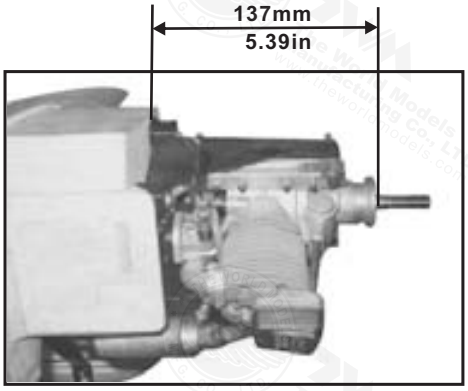
ANTI-VIBRATION MOUNT INSTALLATION



! Make sure the rounded edges are facing the shock absorbing silicon PAD.



! Illustration is for inclined mounting. You can mount the engine upright or sideways simply by rotation the engine mount. Thrust angles will not be affected.



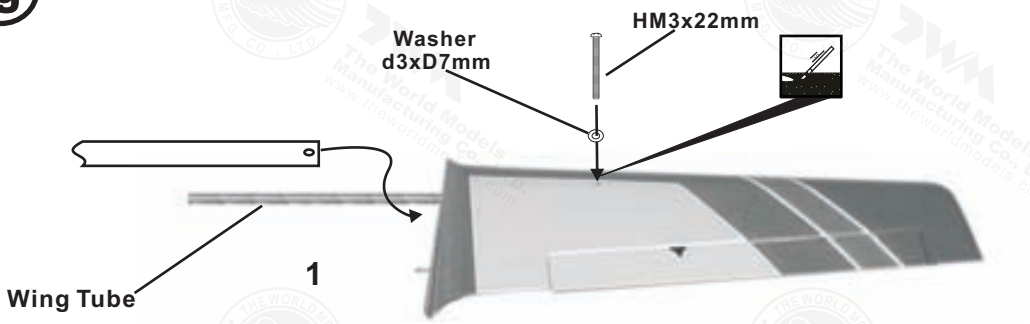
● Install Engine position

14 Main Wing

HM3x22mm Screw — 1

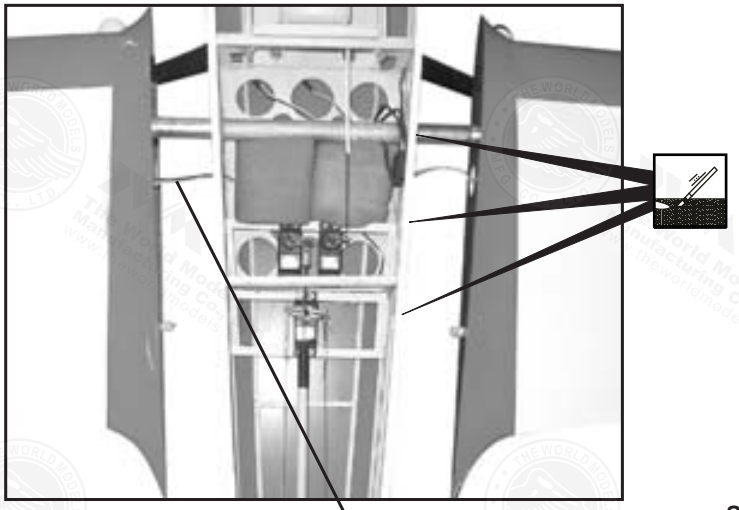
d3xD7mm Washer — 2

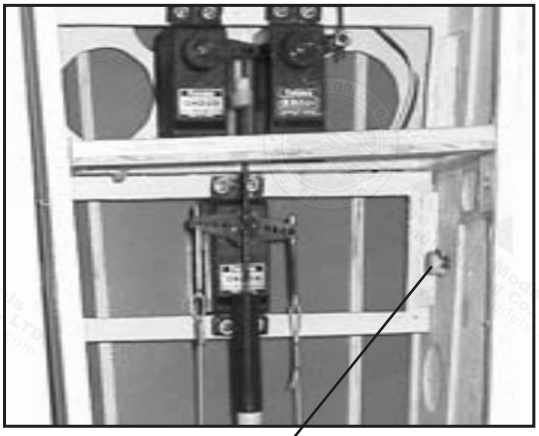
PA3x22mm Screw — 1



Step 1. Insert the aluminum wing tube with the pre-drilled hole end into the right wing. Align the lines marked at the wing root and wing tube and apply the HM3 x 22mm machine screw through the pre-drilled hole on top of the wing. (please confirm the alignment of the hole by putting a 2.5mm diameter rod through the pre-drilled wing hole before applying the screw) The hole on the wing tube is pre-threaded, do not over tighten the HM3 screw, the set up is for future removal of the wing.

2

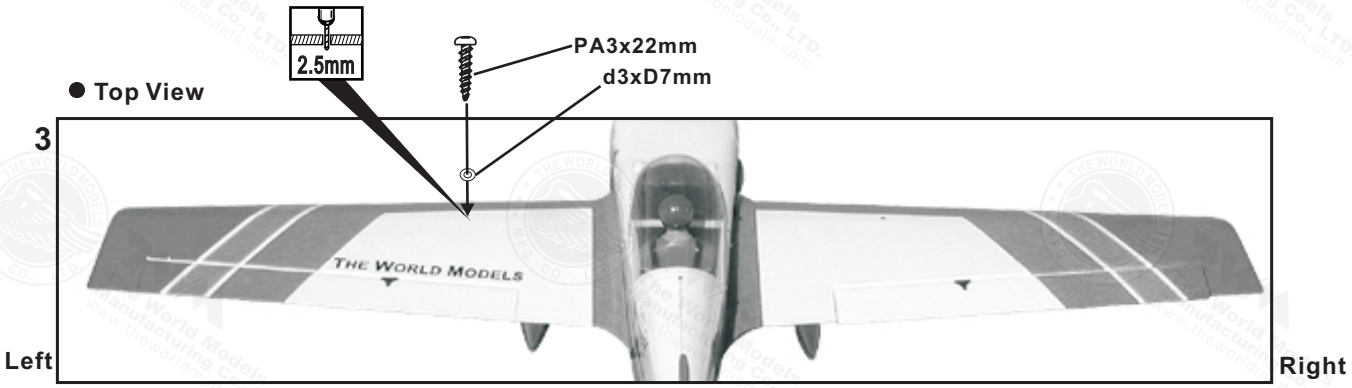




Step 2. Install the right wing to the fuselage by inserting the wing tube (now attached to the right wing) through the fuselage, then install the left wing.

● Top View

3



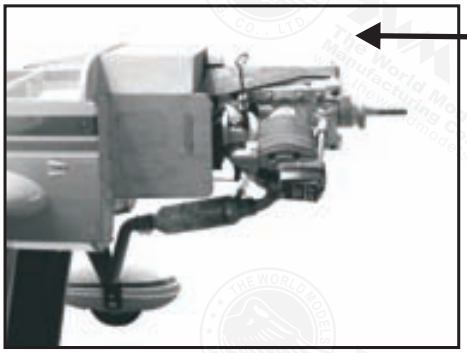
Step 3. Make sure the wings are resting against the fuselage tightly. Locate the pre-drilled 2.5mm hole at top of left wing, and drill along with 2.5mm drill bit until if passes through the wing tube. Apply the PA3 X 22mm self-tapping screw.

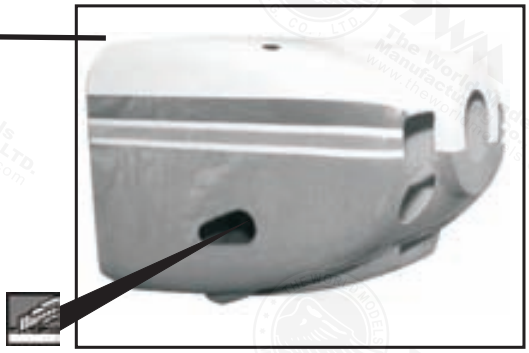
Note : It is recommended that the wing tube stays with the left wing. Removal of the wings could be achieved by removing the right wing machine screw, the right wing then the left with wing tube. If removal of wing tube from left wing is also required, it is recommended that instead of applying self-tapping screw in step 3, you pre-tap with M3 thread cutter and apply M3 machine screw.

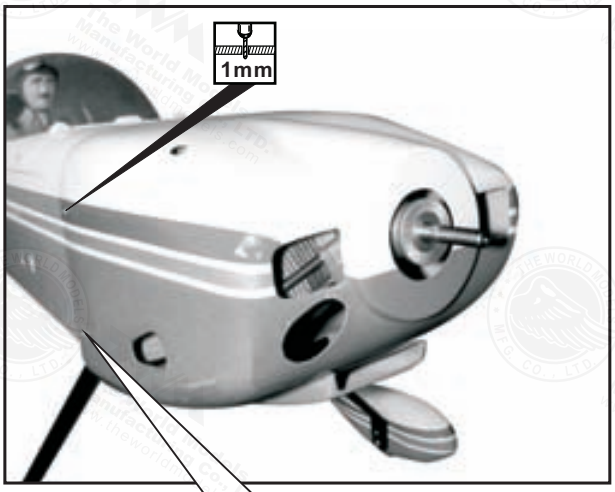
15 Cowling

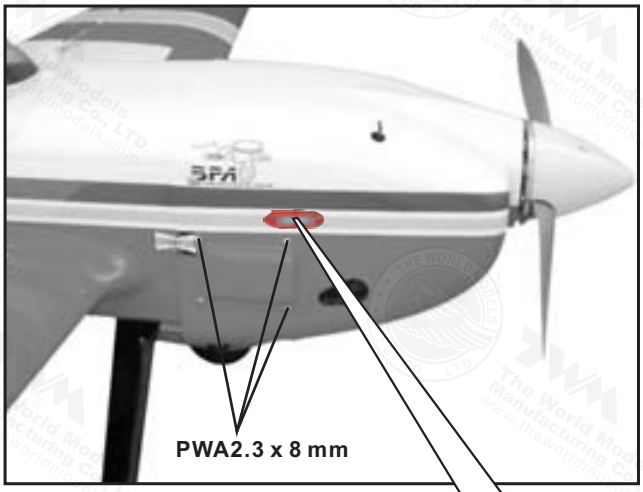
- PWA2.6 x 12 mm Screw — 4
- PWA2.3 x 8 mm Screw — 4
- d1.5 x D6.5 mm Silicon Grommet — 4

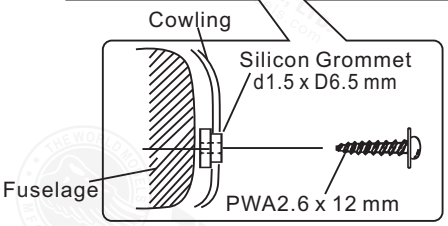
● First insert the grommet to the cowling then apply screw.







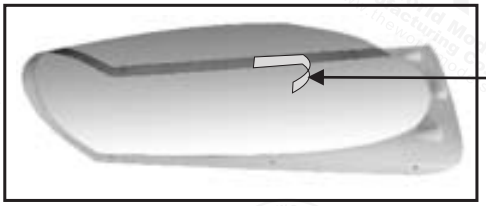


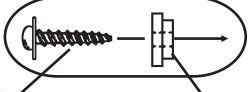


N.I. Fuel Filler PL8110030

16 Canopy

- PWA2.3 x 8 mm Screw — 6
- d1.5 x D6.5 mm Silicon Grommet — 6
- HM3 x 16mm Screw — 2
- d3 x D7mm Washer — 2

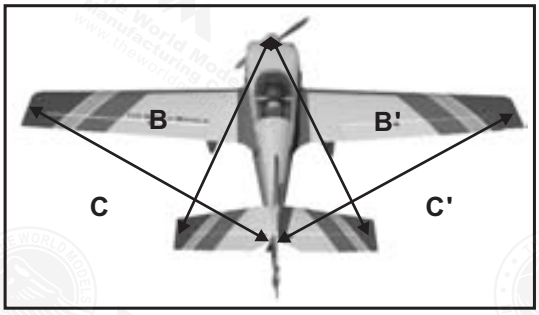




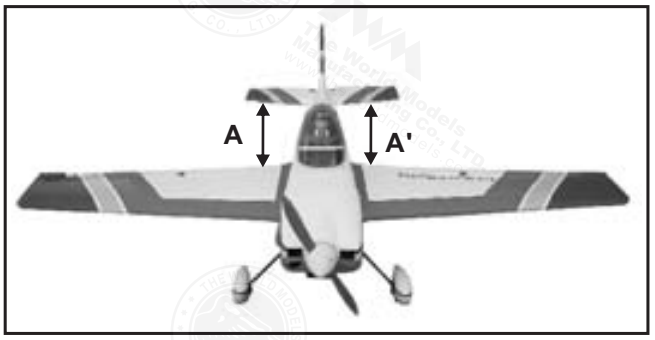
● First insert the grommet to the canopy then apply screw.

17 Wing Setting

Adjust the wing and fuselage configuration as shown in the diagrams.



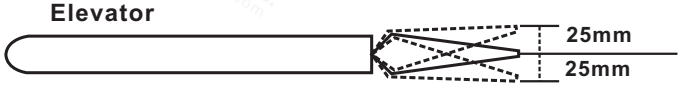
A = A '
B = B '
C = C '



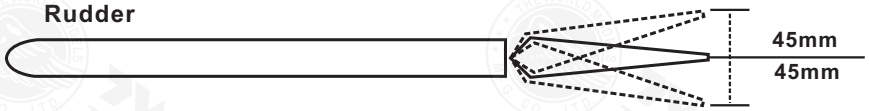
18 Control Throws

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

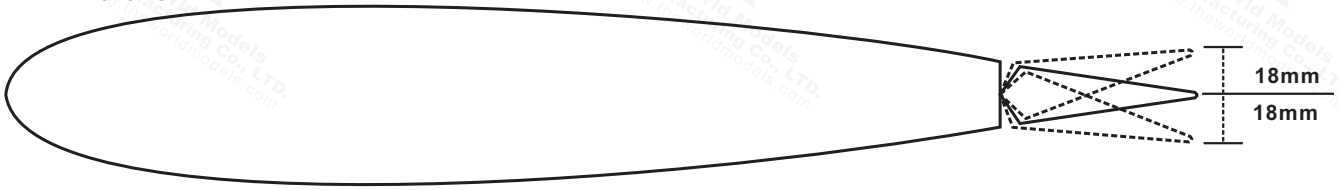
Elevator



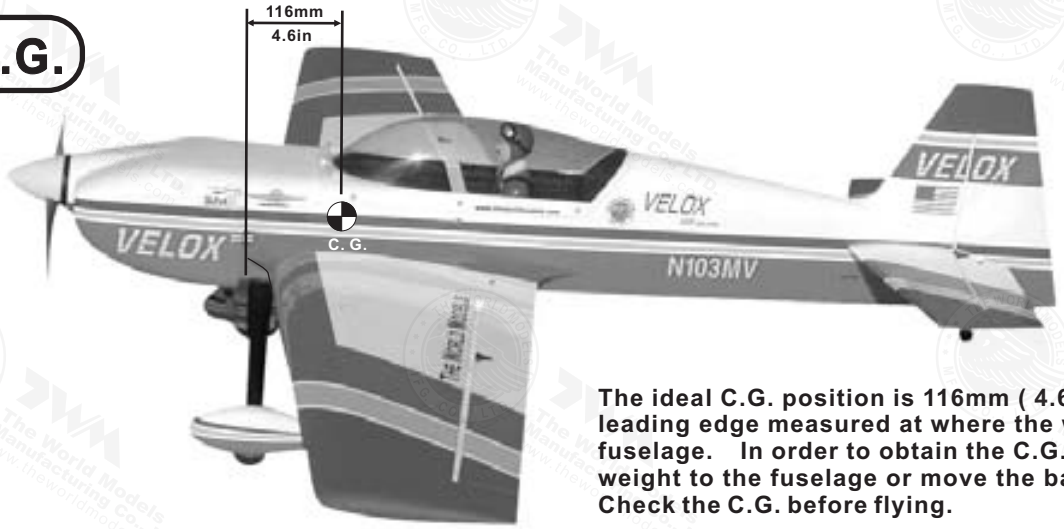
Rudder



Ailerons



19 C.G.



The ideal C.G. position is 116mm (4.6in) 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.

VELOX REV Ⅱ - 60 is specially designed to be powered by 0.60-0.75 2 stroke or 0.70-0.91 4 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.

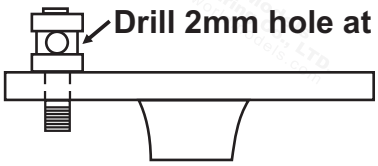
If you find wrinkles on the covering as a result of weather changes, you can use hot iron to remove the wrinkles. Please begin with lower temperature setting and gradually raise the temperature until the wrinkles are gone. Too hot an iron may damage the covering. Don't use hot iron near the seams or 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.

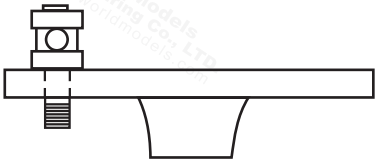
• Specifications are subject to change without notice.

LINKAGE CONNECTOR

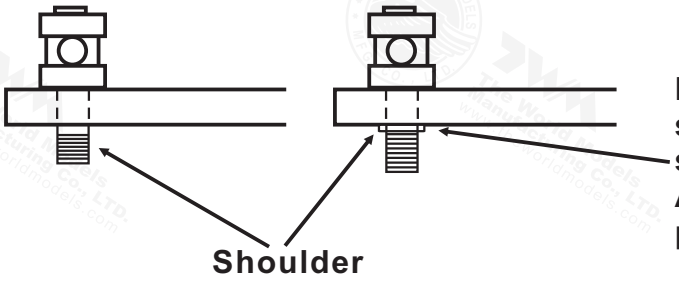
HW7111050 & HW7111060



Drill 2mm hole at servo horn.

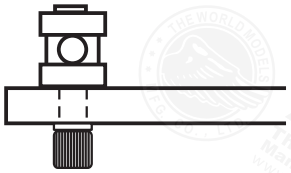


Insert linkage connector into servo horn.



Make sure shoulder of screw is cleared from servo horn.
Add washer to reduce play if necessary.

Shoulder



Tighten up the round nut against the shoulder. Apply CA or permanent thread locker.

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

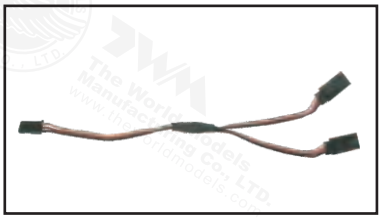
(TWM ACCESSORIES)

180mm Extension

Code No.	Size	Package
KW0011800	180mm	1 set

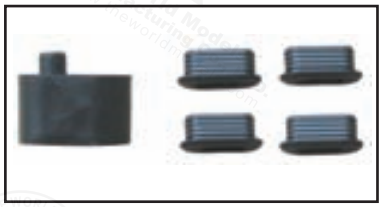
180mm Y-Cord

Code No.	Size	Package
KW0021800	180mm	1 pc



Charge Receptacles

Code No.	Size	Package
KP0041300		

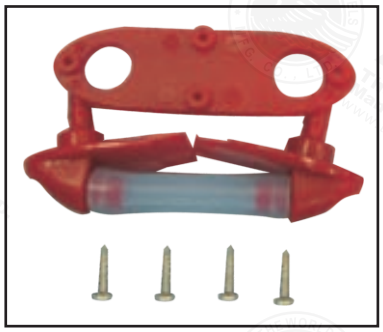


Field Stand

Code No.	Size	Package
MS9111430	600 x 240 x 310mm	1 pc

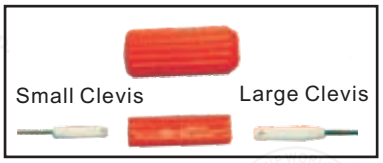
Fuel Filler

Code No.	Size	Package
PL8110030	15 x 22 x 49mm	1 x 1 pc



Clevis Wrench

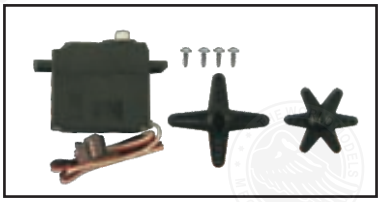
Code No.	Size	Package
PL8210010		1 set



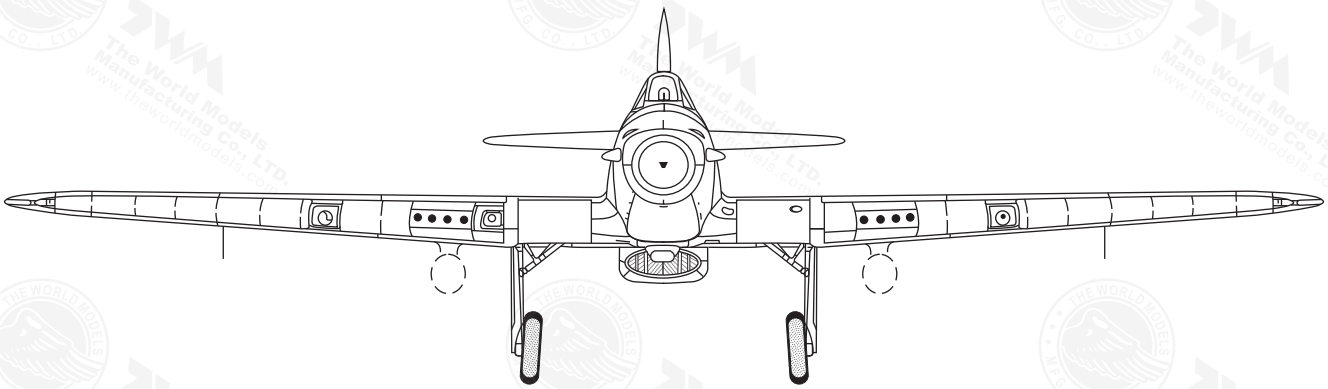
Special tool for clevis installation.
Suitable for standard and small (EP)clevis.

Standard Servo

Code No SV4031



Speed : 0.17 sec / 60° @4.8V
0.14 sec / 60° @6.0V
Torque : 3.2kg.cm / 44.8 oz - in @4.8V
4.1kg.cm / 57.4 oz - in @6.0V
Size : 40.6 x 20 x 37mm /
1.60 x 0.79 x 1.46 in
Weight : 39.4 g / 1.39 oz



Ducted Fan

Pattern

Warbirds

Funfly

Scale

Electric

Sports

Glider

Trainer

Boat

Accessories

Covering

(Lightex /oughlon)

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