

P-47D THUNDERBOLT



1.20 cu. in. displacement 4-stroke
**Requires: 6-channel radio w/ 7 standard servos
 and 2 low profile retract servos**

Specifications

Wing Span	70 in / 1780 mm
Wing Area	893 sq in / 56.7 sq dm
Flying Weight	10.7 lbs / 4850 g
Fuselage Length	67 in / 1580 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
 Manufacturing Co., Ltd.
www.theworldmodels.com

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

P-47D THUNDERBOLT

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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 threadlocker



Must be purchased separately!



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!

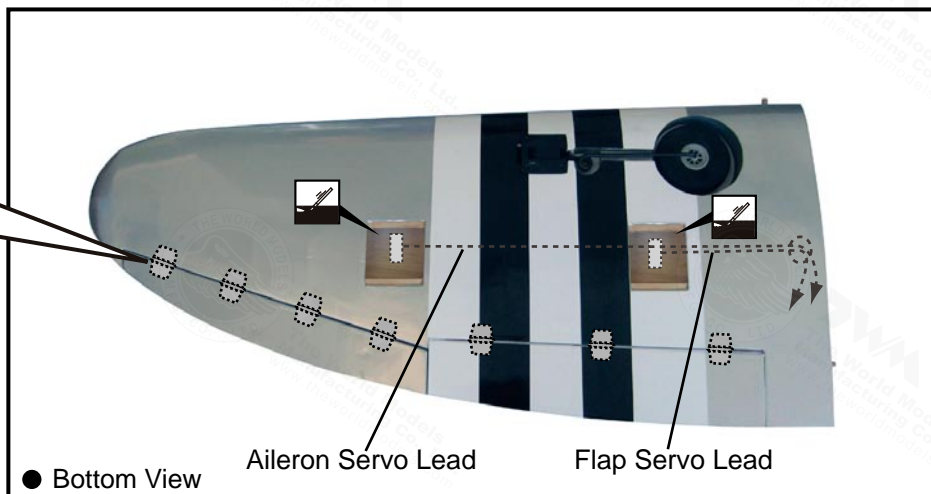
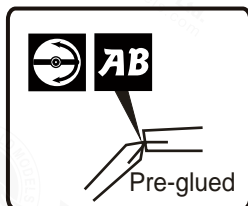


Parts List

1. MAIN WING -- 1 pair
 2. RETRACTABLE LANDING GEAR -- 1 pair
MAIN WHEEL PL3112090 Ø90mm -- 2 pcs
MAIN LANDING GEAR COVER -- 1 pair
PVC PLATE 0.5mm -- 2 pcs
SCREW PM2x6mm -- 12 pcs
M2 NUT -- 12 pcs
WASHER d2xD5mm -- 24 pcs
 3. WING TUBE Ø25.4x500mm -- 1 pc.
 4. SCREW PB2x18mm -- 6 pcs
SCREW PB2x20mm -- 6 pcs
SCREW PWA2x8mm -- 16 pcs
TRI-HORN M3x14mm(L) PL4111185 -- 4 sets
SERVO MOUNTING PANEL PL5310000 -- 4 pcs
PUSHROD Ø1.8x115mm (For Aileron Servos) -- 2 pcs
PUSHROD Ø1.8x125mm (For Flap Servos) -- 2 pcs
STRAPER PL4112102 -- 4 pcs
CLEVIS PL4112103 -- 4 pcs
FUEL TUBE D6x5mm -- 8 pcs
 5. LINKAGE CONNECTOR 2.1mm HW7111060 -- 2 sets
COVERING FILM 50x80mm -- 2 pcs
PLYWOOD 3x38x60mm -- 2 pcs
 6. FUSELAGE -- 1 pc.
STABILIZER & ELEVATOR -- 1 set
 7. VERTICAL FIN & RUDDER -- 1 set
 8. TAIL LANDING GEAR PL7100002 -- 1 set
SCREW PA3x12mm -- 2 pcs
COLLAR 2.6mm w/ set screw -- 1 set
TAIL WHEEL Ø30mm -- 1 pc.
 9. SCREW PB2x25mm -- 6 pcs
PUSHROD Ø1.8x935mm w/ Threads (For Elevator Servo) -- 2 pcs
TRI-HORN M3x22mm PL4111251 -- 2 sets
CLEVIS PL4112103 -- 2 pcs
FUEL TUBE D6x5mm -- 2 pcs
 10. SCREW PB2x30mm -- 3 pcs
PUSHROD Ø1.8x1025mm w/ Threads (For Rudder Servo) -- 1 pc.
TRI-HORN M3x22 mm PL4111251 -- 1 set
CLEVIS PL4112103 -- 1 pc.
FUEL TUBE D6x5mm -- 1 pc.
 11. SOCKET HEAD SCREW M6x30mm -- 4 pcs
WASHER d6xD15mm -- 4 pcs
BLIND NUT M6x18mm -- 4 pcs
ENGINE MOUNT PL5911120 -- 1 set
DOWEL Ø7.2x9mm (For Firewall) -- 4 pcs
 12. FUEL TANK 450cc PL1111450 -- 1 set
CABLE TIE (For Fuel Tank) 1.5x5x400mm -- 1 pc.
DOUBLE-SIDED TAPE 40x120mm -- 1 pc.
 13. LINKAGE CONNECTOR 2.1mm HW7111060 -- 1 set
 14. THROTTLE PUSHWIRE Ø1.2x430mm -- 1 pc.
PLASTIC TUBE d2xd3x200mm -- 1 pc.
ENGINE MOUNT ALUMINUM PLATE HW2604210 -- 1 pc.
ANTI-VIBRATION MOUNT 4C-120 PL5214092 -- 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
 15. FUEL TUBE D6x5mm -- 2 pcs
STRAPER PL4112102 -- 2 pcs
SPONGE 10x80x200mm -- 2 pcs
PUSHROD Ø1.8x100mm -- 1 pc.
PUSHROD CONNECTOR PL4410010 -- 1 set
PLYWOOD 6x67x120mm (For Servo Stand) -- 1 pc.
BALSA 8x8x67mm (For Servo Stand) -- 2 pcs
 16. SCREW HM4x60mm -- 2 pcs
WASHER d4xD15mm -- 2 pcs
PLYWOOD 3x30x112mm (Wing Protection) -- 1 pc.
 17. AIR SCOOP -- 1 pc.
SUPER CHARGER EXIT -- 1 pc.
INTERCOOLER AIR EXIT -- 2 pcs
 18. CANOPY -- 1 pc.
DOUBLE SIDED TAPE 6x900mm -- 1 pc.
SCREW PWA2.3x8mm -- 4 pcs
SILICON GROMMET d1.5xD6.5mm -- 4 pcs
PILOT PC001085A -- 1 pc.
 19. COWLING -- 1 pc.
TRANSPARENT 3D TEMPLATE -- 1 pc.
COWLING BRACKET PL5320010 -- 6 pcs
QUICK RELEASE NYLON RIVET PL1208042 -- 6 pcs
SCREW KA2.3x8mm -- 6 pcs
OIL COOLER SHUTTER -- 2 pcs
SCREW PWA2.6x12mm -- 12 pcs
SPINNER NUT Ø25mm HW2340001 -- 1 set
 20. DECALS: A213DEC -- 1 set
- COVERING:--
- TOUGHLON STL 370 SILVER
 - TOUGHLON STL 340 OLIVE DRAB
 - LIGHTEX SGX 100 WHITE
 - LIGHTEX SGX 201 BLACK

A213PO25911108

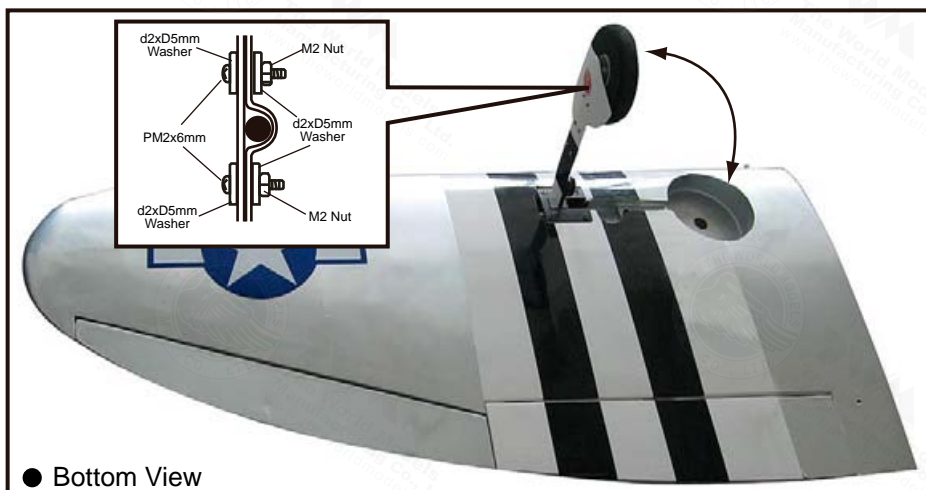
1 Main Wing



L/R

2 Retractable Landing Gear

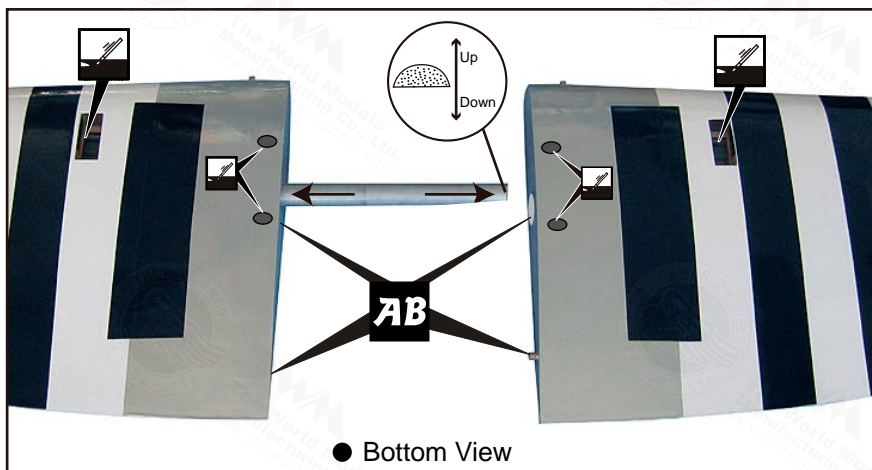
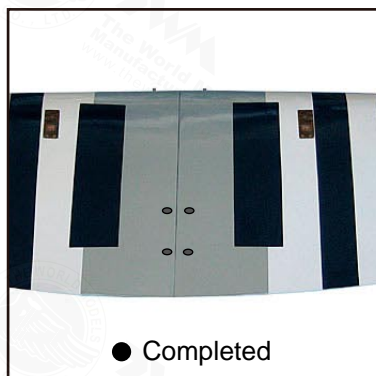
PM2x6mm Screw	12
M2 Nut	12
d2xD5mm Washer	24



L/R

3 Main Wing

- Please dry fit wing joiner into left and right wing to make sure they fit with the proper dihedral angle, mark the wing joiner if necessary. Apply epoxy glue to both sides of all surfaces in contact. Use a stick to apply the glue to inner side of wing joiner sleeve, and apply the glue to wing joiner before putting them together. Wing joiner not glued properly will lead to wing failure and plane crash.

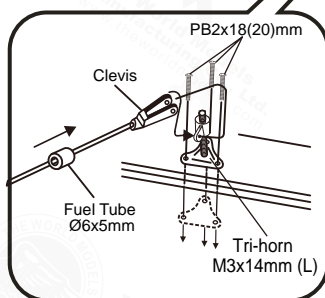
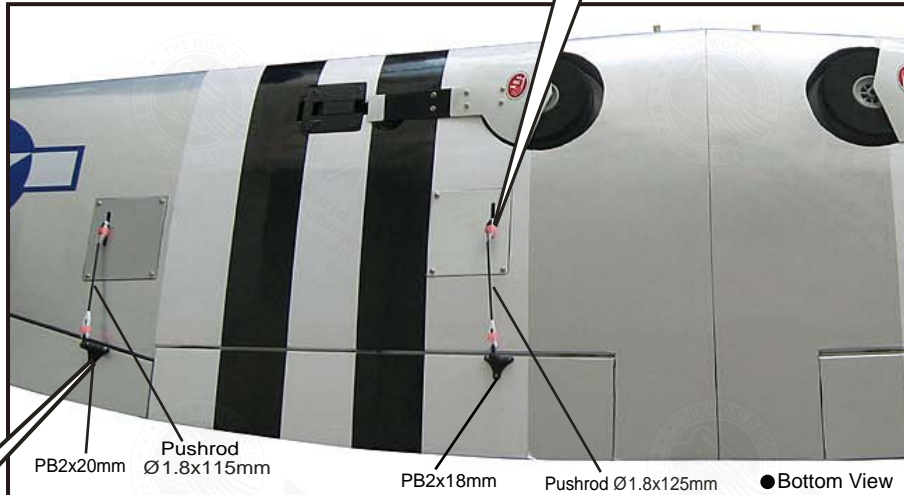
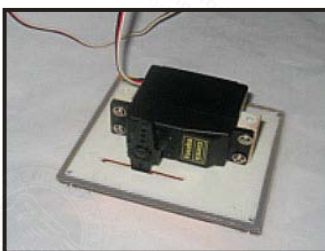
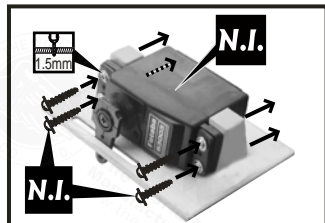
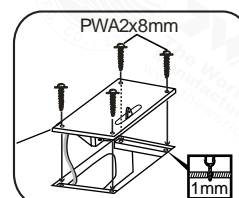
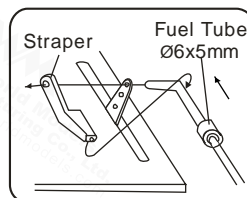


L/R

4 Flap & Aileron Servo

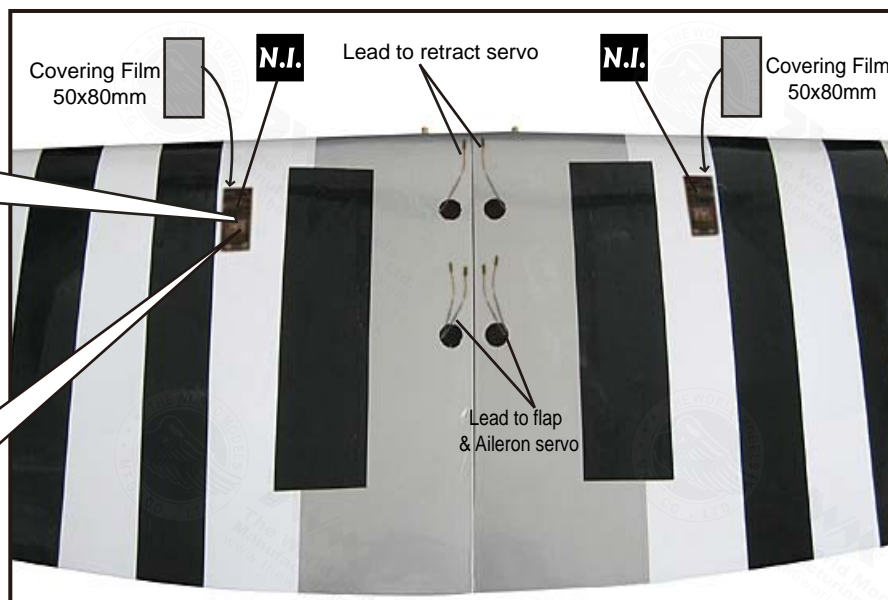
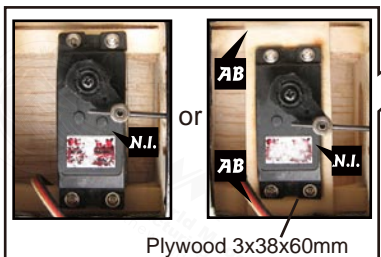
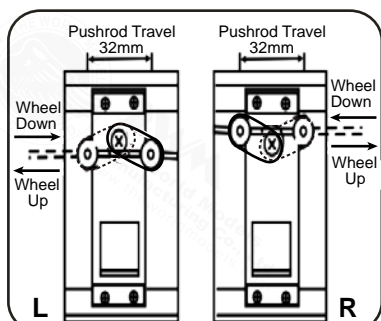
PB2x18mm Screw	6
PB2x20mm Screw	6
PWA2x8mm Screw	16

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

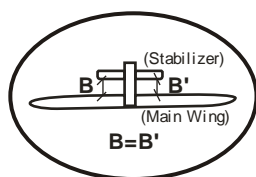
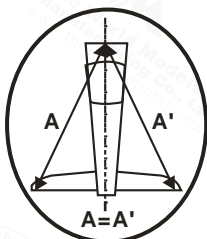


5 Retract Servo

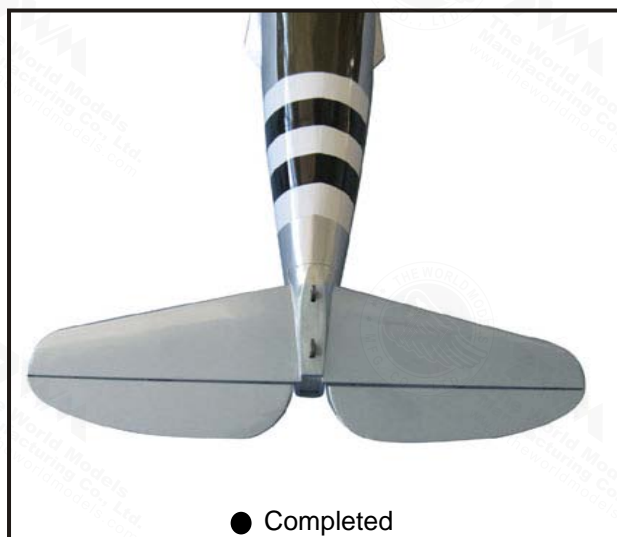
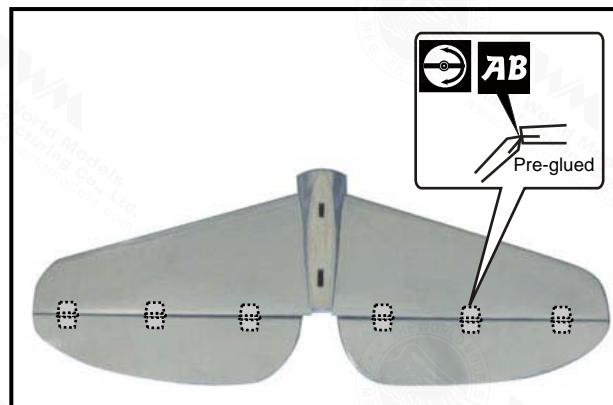
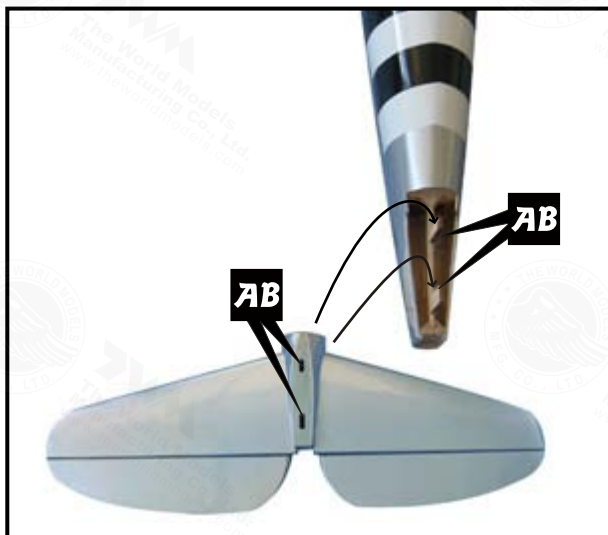
L/R



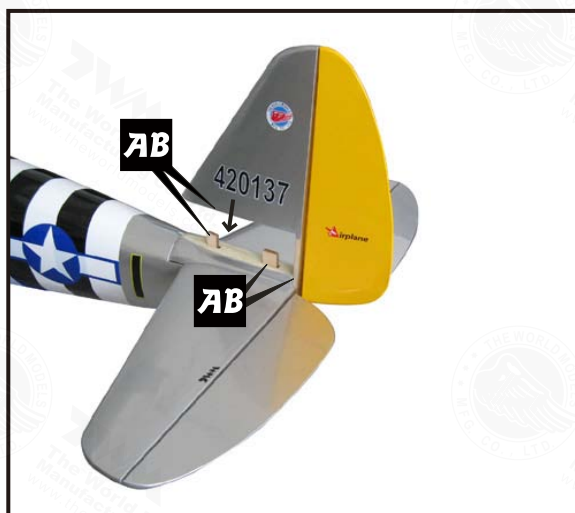
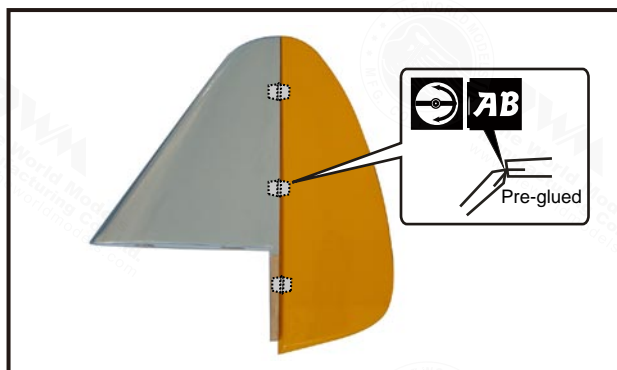
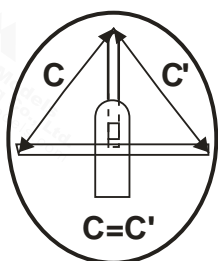
6 Stabilizer & Elevator



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



7 Vertical Fin & Rudder



8 Tail Landing Gear

PA3x12mm Screw

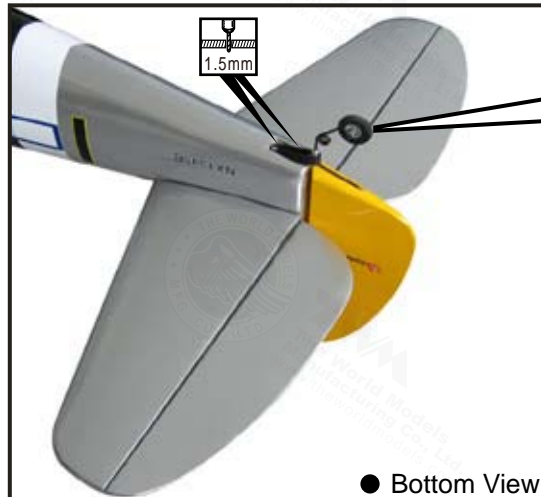
2

2.6mm Collar

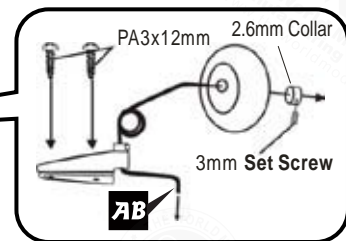
1

3mm Set Screw

1



● Bottom View



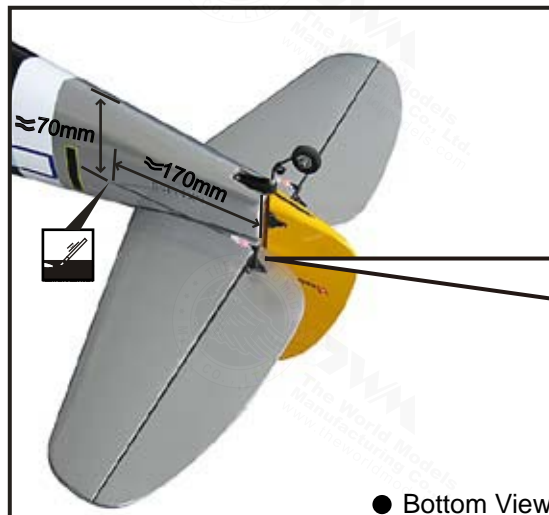
L/R

9 Elevator Pushrod

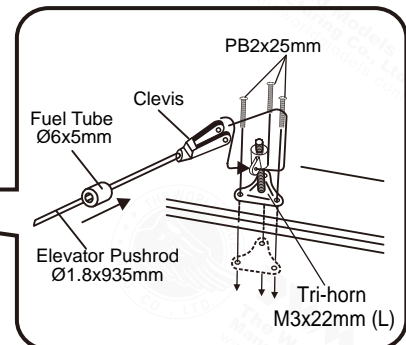
- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x25mm Screw

6



● Bottom View



L/R



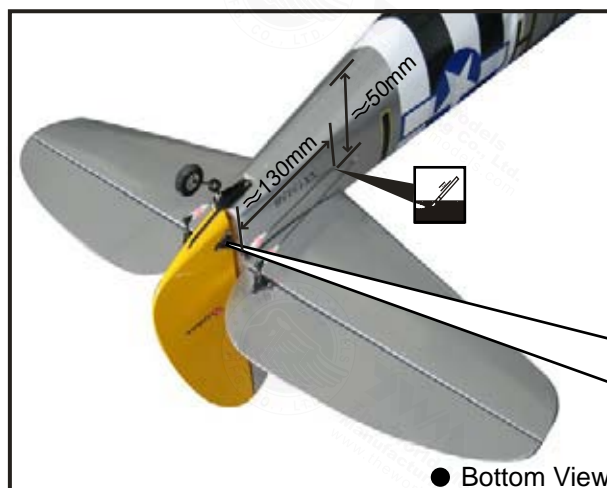
N.I. TWM PL8210010
CLEVIS WRENCH

10 Rudder Pushrod

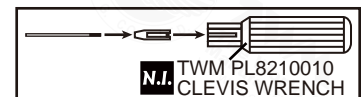
- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x30mm Screw

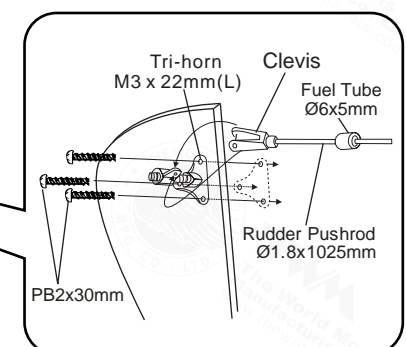
3



● Bottom View



N.I. TWM PL8210010
CLEVIS WRENCH

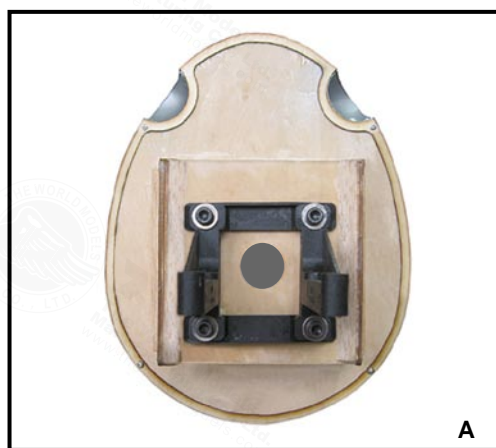
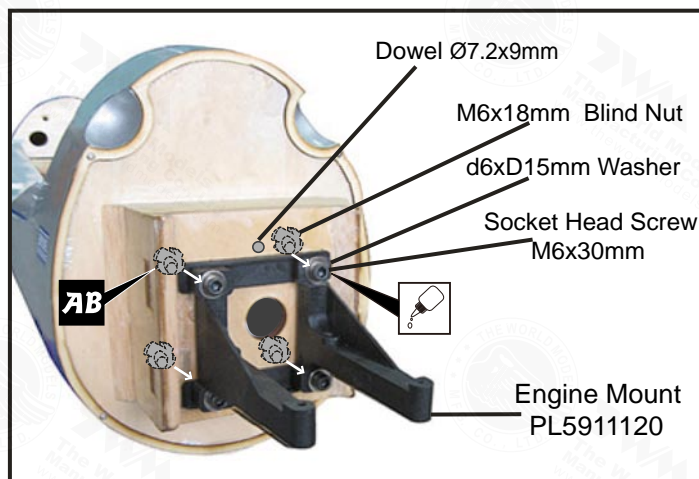


11 Engine Mount

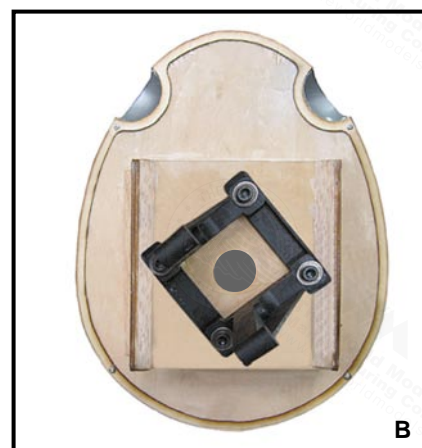
M6x30mm Socket Head Screw	4
d6xD15mm Washer	4
M6x18mm Blind Nut	4

● Apply thread locker to screws

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

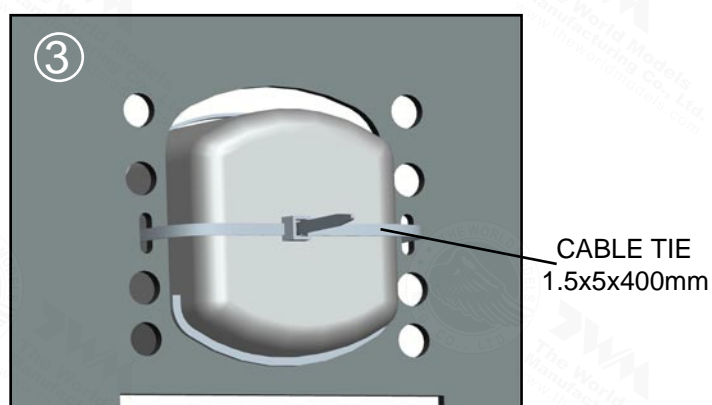
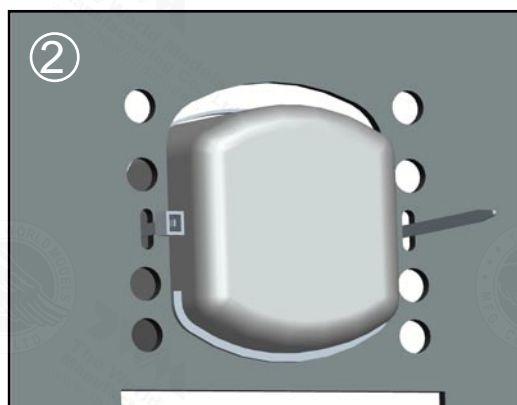
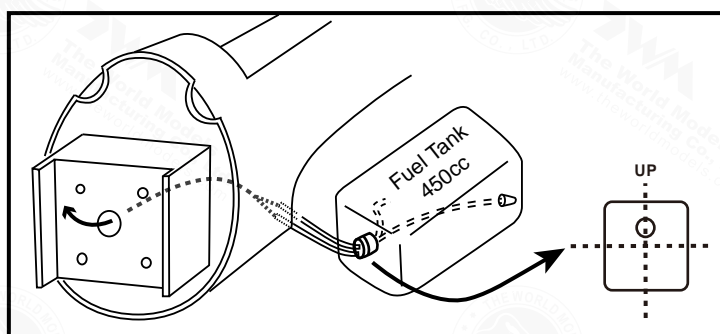
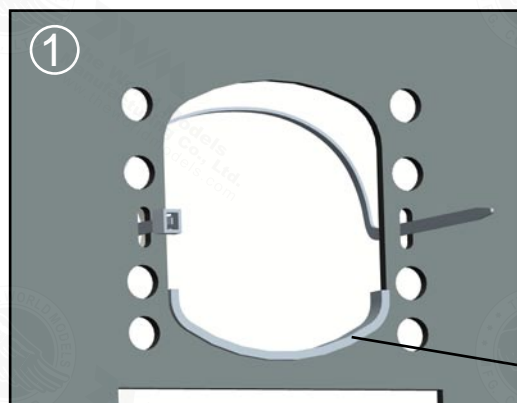


A: Inverted mount with Pitts type muffler.



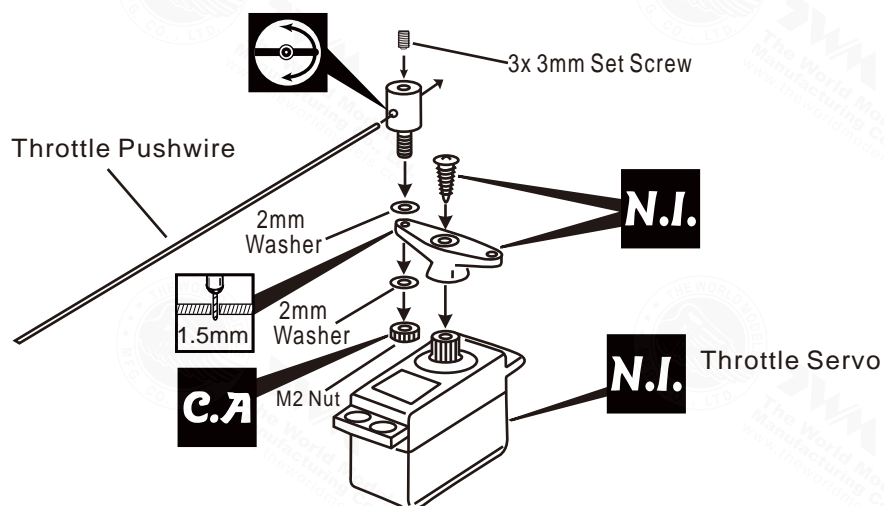
B: Inverted mount for stock muffler installation

12 Fuel Tank



13 Servo Set

3x3mm Set Screw	1
Linkage Connector	1
M2 Nut	1
2mm Washer	2



Please refer to the attached sheet for linkage connector installation.

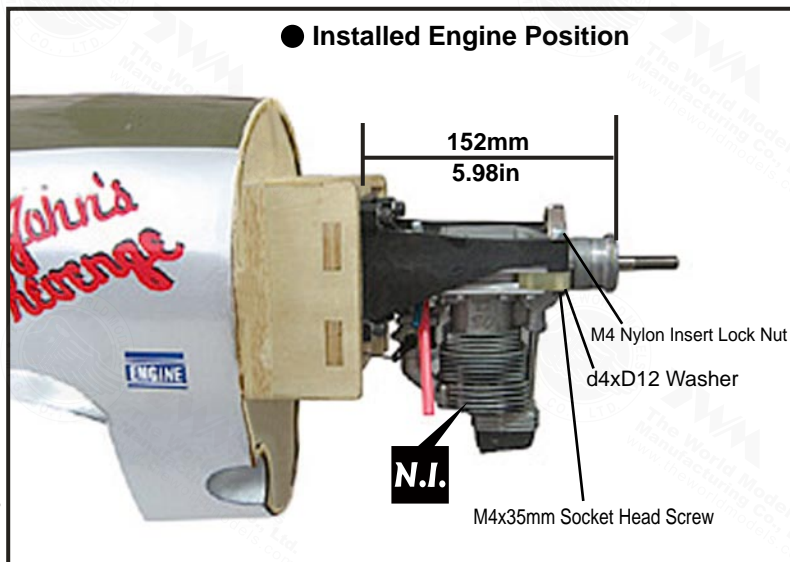
14 Engine

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

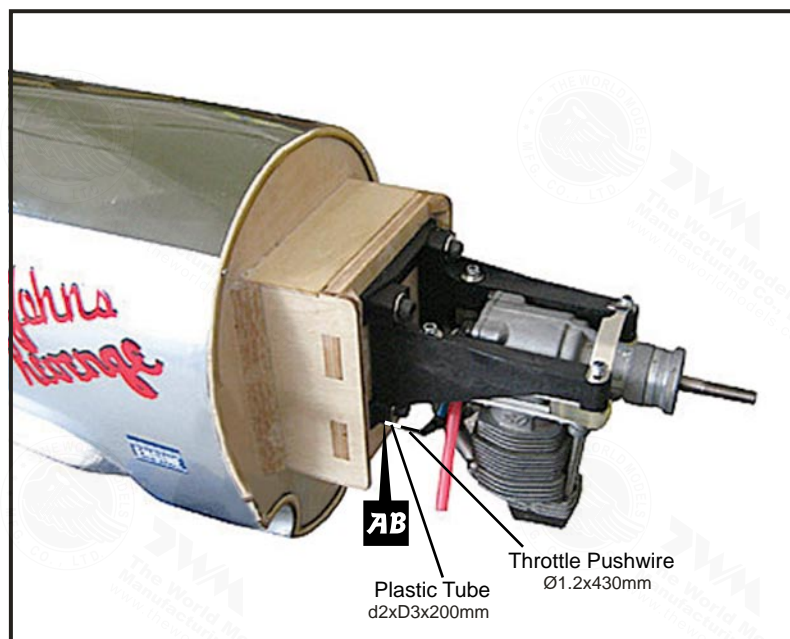
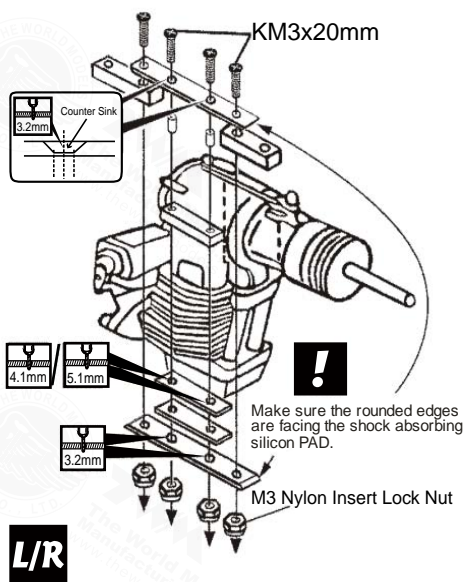


Illustration is for inverted mounting. You can mount the engine upright or sideways simply by rotating the engine mount. Thrust angles will not be affected.

● Installed Engine Position

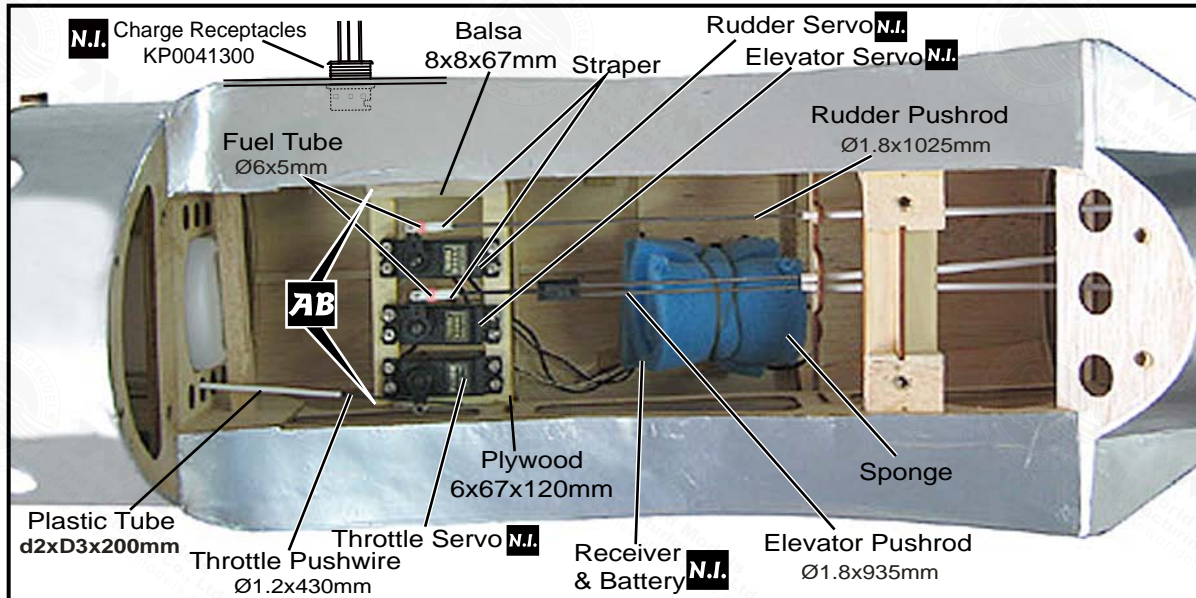
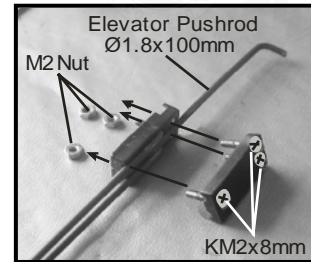
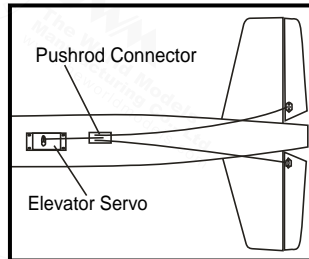
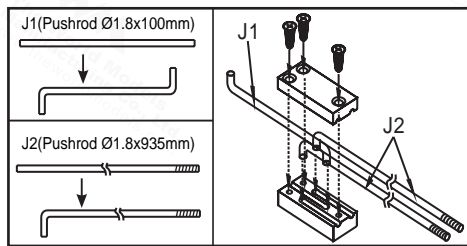


ANTI-VIBRATION MOUNT INSTALLATION

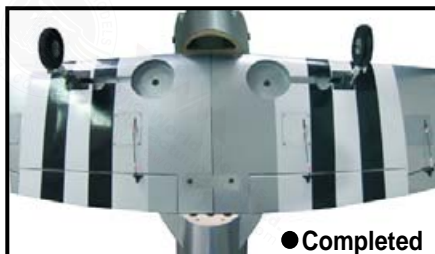
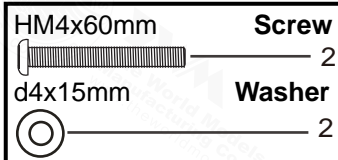


15 Radio Equipment

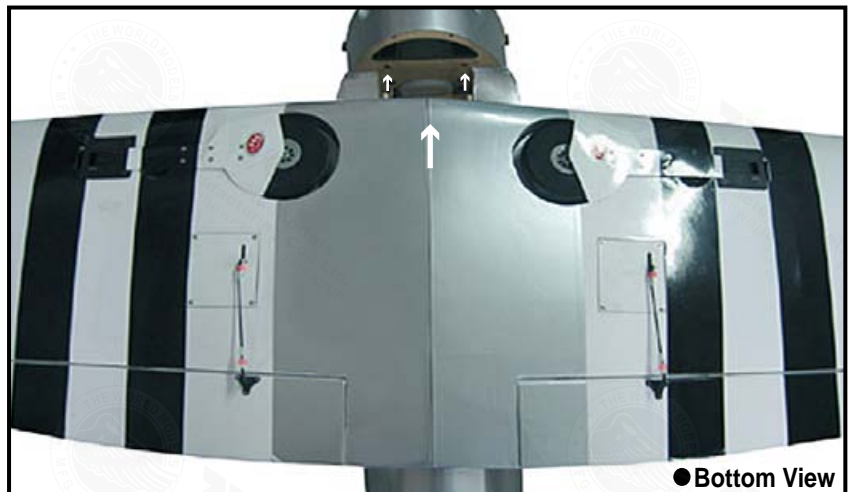
- Install and arrange the servo as shown in the diagram.



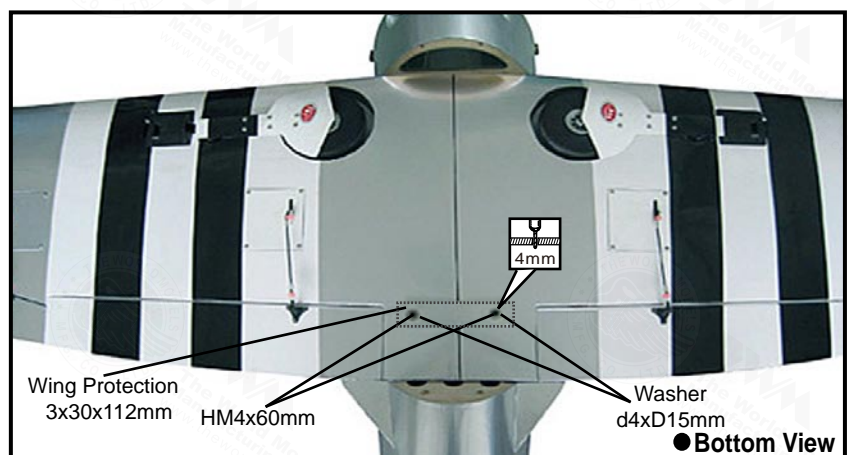
16 Main Wing



● Completed

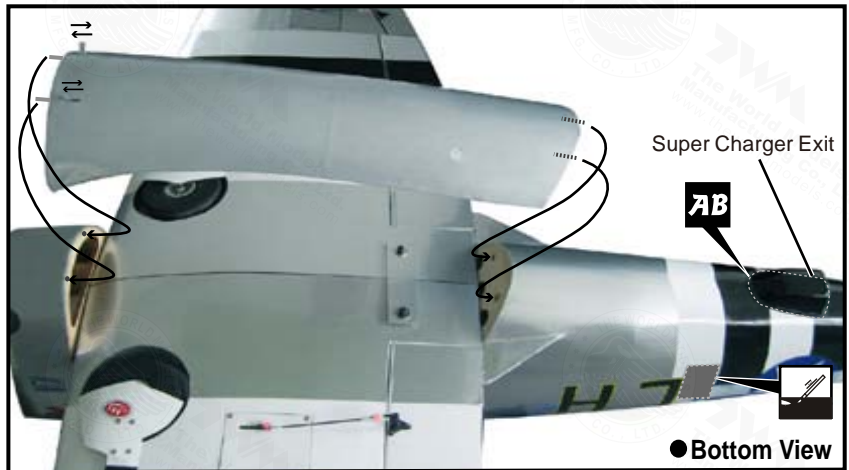
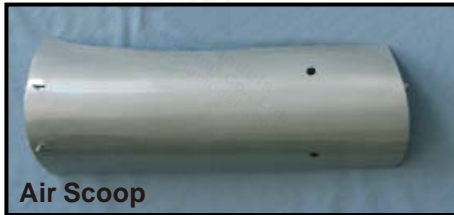


● Bottom View



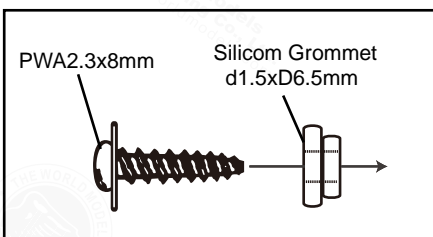
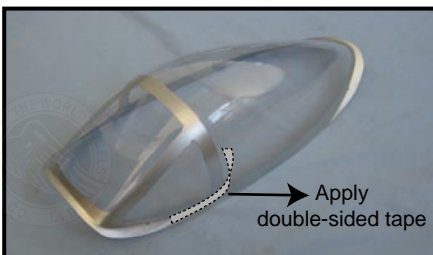
● Bottom View

17 Air Scoop & Exits

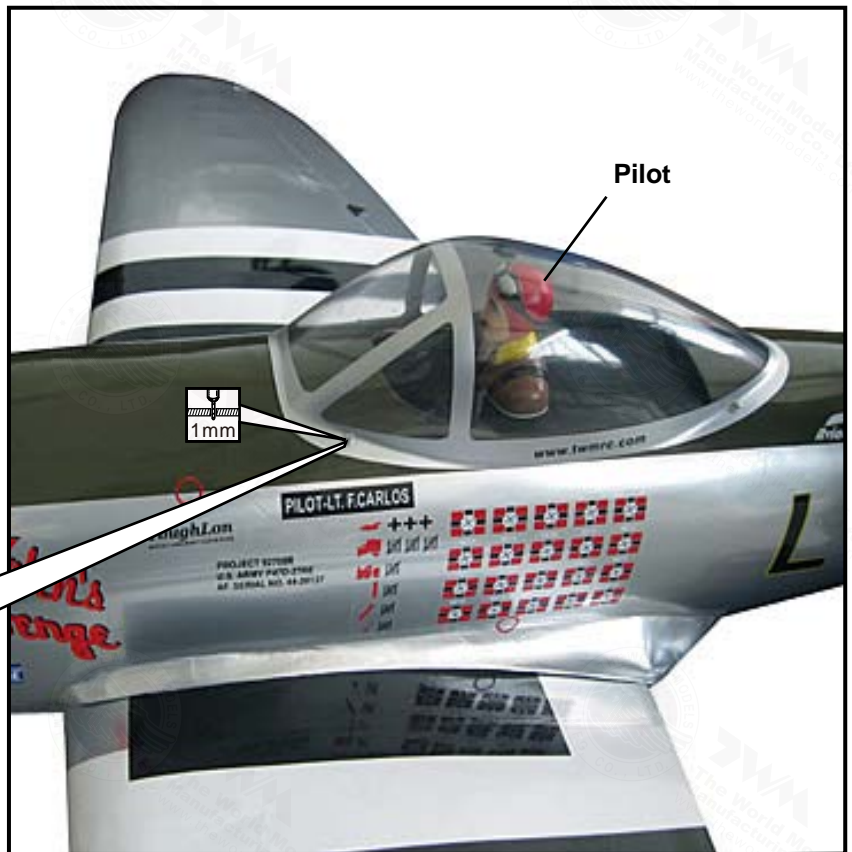


18 Canopy

PWA2.3x8mm	Screw
	4
d1.5xD6.5mm	Silicon Grommet
	4






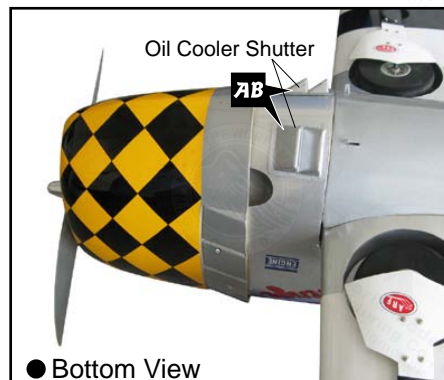
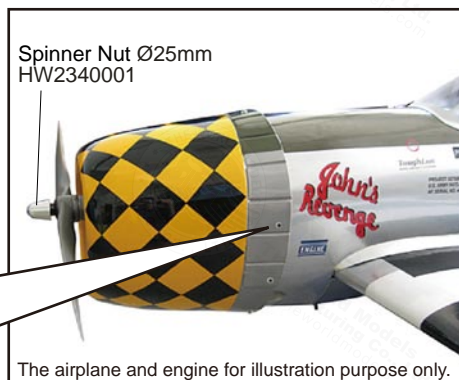
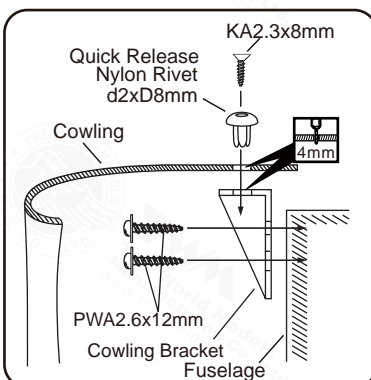
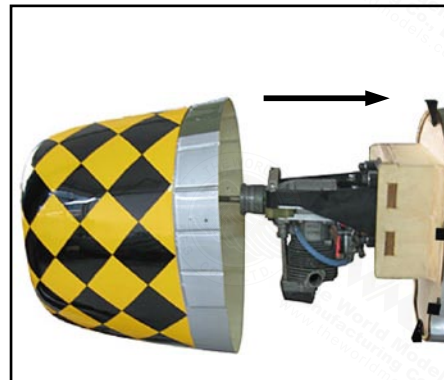
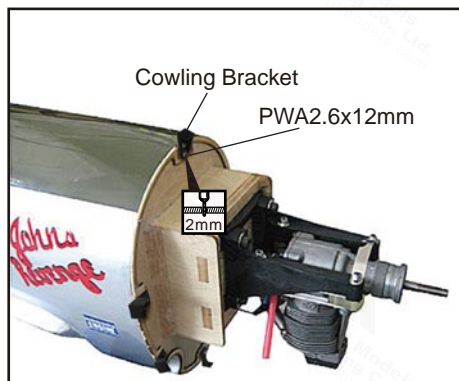
- First insert the grommet to the canopy then apply screw.



19 Cowling

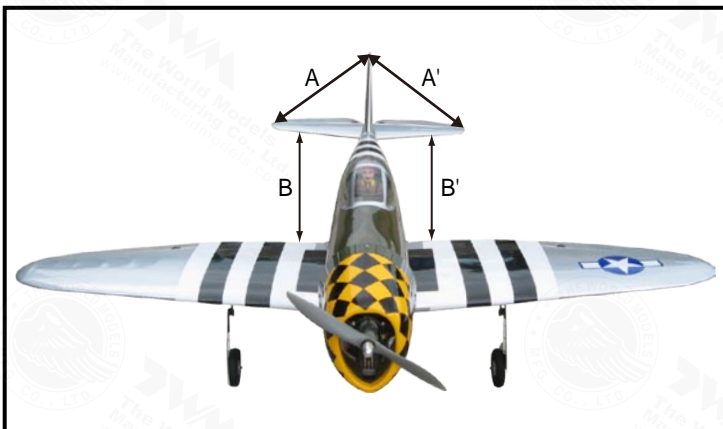
- Please refer to the attached sheet for usage of the transparent 3D template.

PWA2.6x12mm	Screw
	12
KA2.3x8mm	Screw
	12
d2xD8mm Quick Release Nylon Rivet	
	6

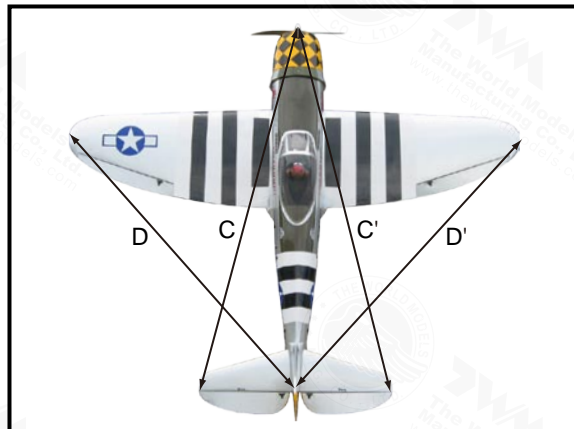


20 Wing Setting

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



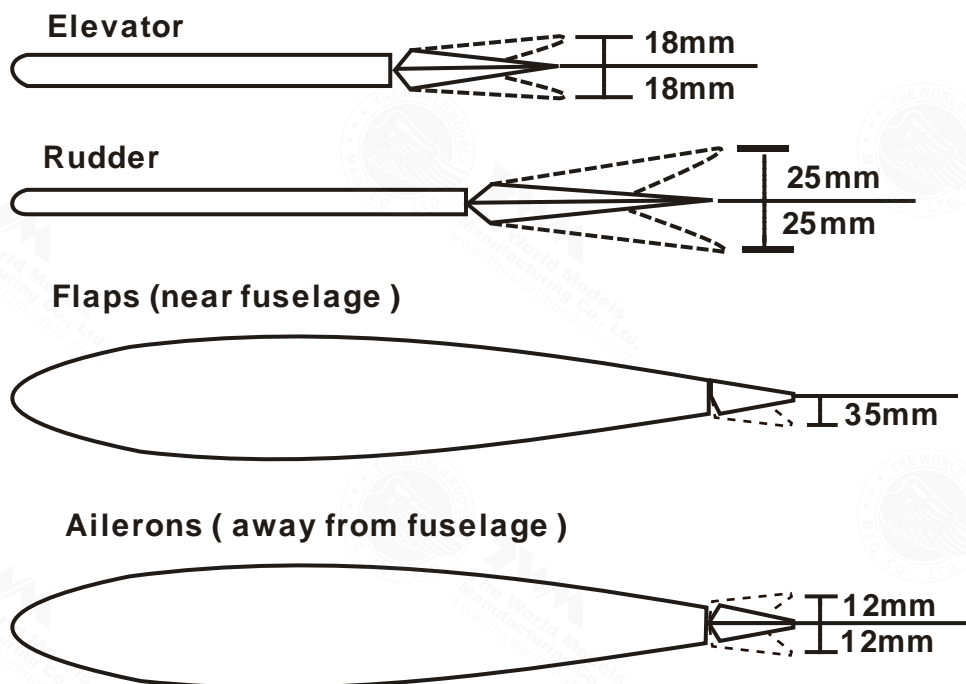
$$A=A' \quad B=B'$$



$$C=C' \quad D=D'$$

21 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.



22 C.G.

- The ideal C.G. position is **120mm (4.75 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.



- Measure C.G. with the wheels in retracted position

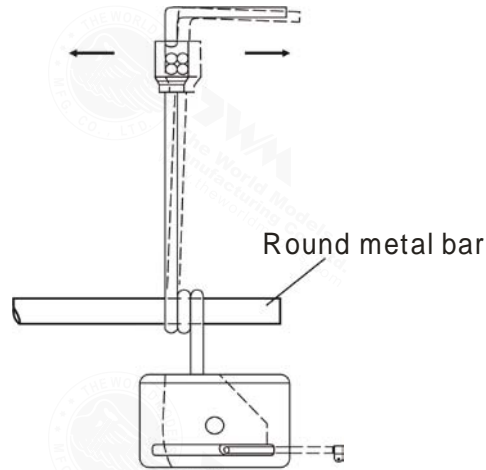
Warning!

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.
- # **P-47D THUNDERBOLT** is specially designed to be powered by 1.20 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.

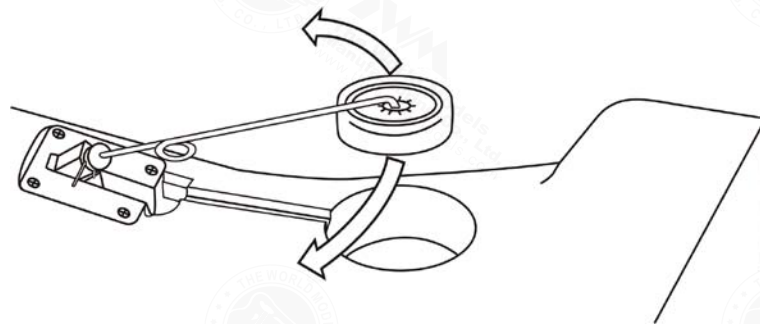
When Flaps are lowered, nose of model will rise. The nose-up varies with the speed at which the model is flying when you lower the flaps and the extent to which they are lowered. Check effect of flaps at higher altitude to avoid surprises during landing. You may apply down trim of the elevator to compensate for the nose-up effect when lowering the flaps. Taking off with flaps lowered is not recommended, as the increased drag may require a longer runway and more engine power for the model.

Should you require to bend the landing gear wire, please insert a round metal bar into the spring ring and apply force there as leverage. Bending the wire directly may damage the mounting block structure.



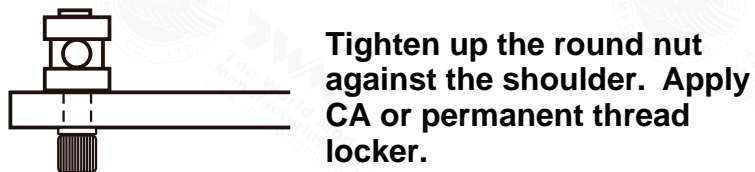
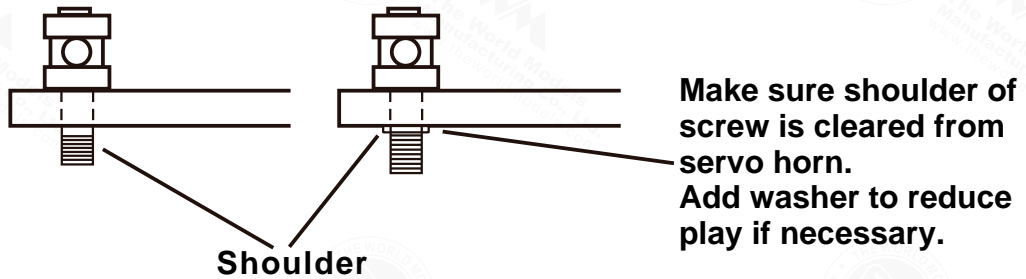
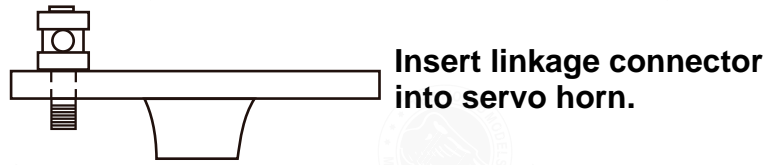
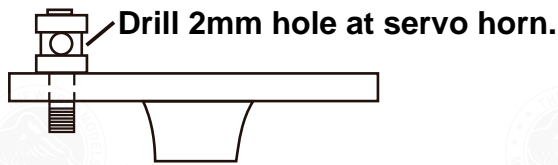
Landing Gear

Should you need to bend the landing gear wire, use the radio control to open or close the gear to 25% from fully retracted position and switch off the receiver. It is safe to bend the wire in this position. Bending the wire in fully open position may damage the supporting structure.



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: _____

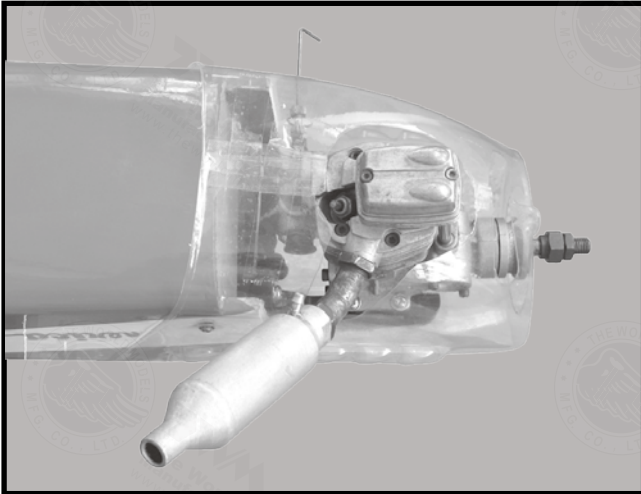
Please call AirBorne Models at 925 371 0922 for any assistance in filling this form.
Thank you very much for purchasing our product.

Usage of the transparent 3D template

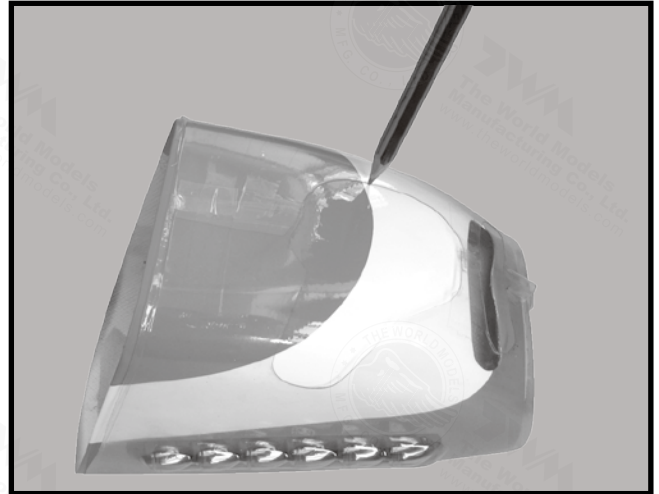


This transparent 3D template is used for position guidance of the actual cutting of the pre-painted cowling.

1



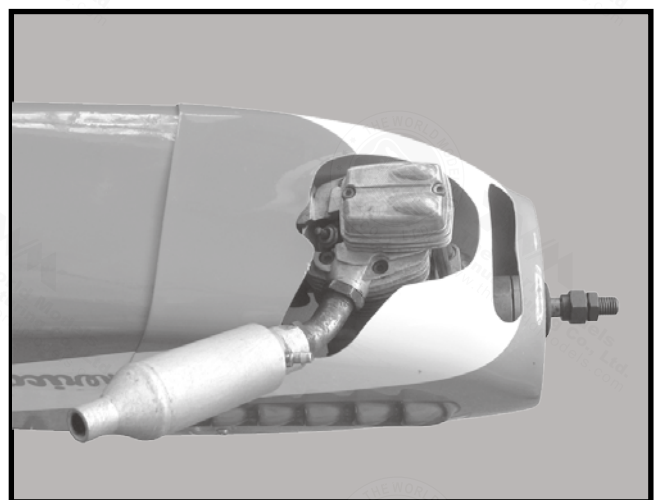
2



3



4



Simply cut the transparent 3D template to fit your engine and exhaust pipe, then slide onto the actual cowling and use as template to mark the openings required for final cutting.

Optional Parts

(TWM ACCESSORIES)

180mm Extension

Code No.	Size	Package
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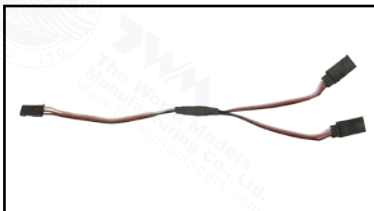
KW0011800 180mm 1 set



180mm Y-Cord

Code No.	Size	Package
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KW0021800 180mm 1 pc



For park flyers of small electric models

Charge Receptacles

Code No.	Size	Package
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KP0041300



Field Stand

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



Fuel Filler

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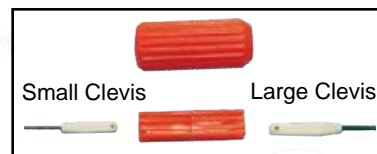
PL8110030 15 x 22 x 49mm 1 x 1 pc



Clevis Wrench

Code No.	Size	Package
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PL8210010 1 set



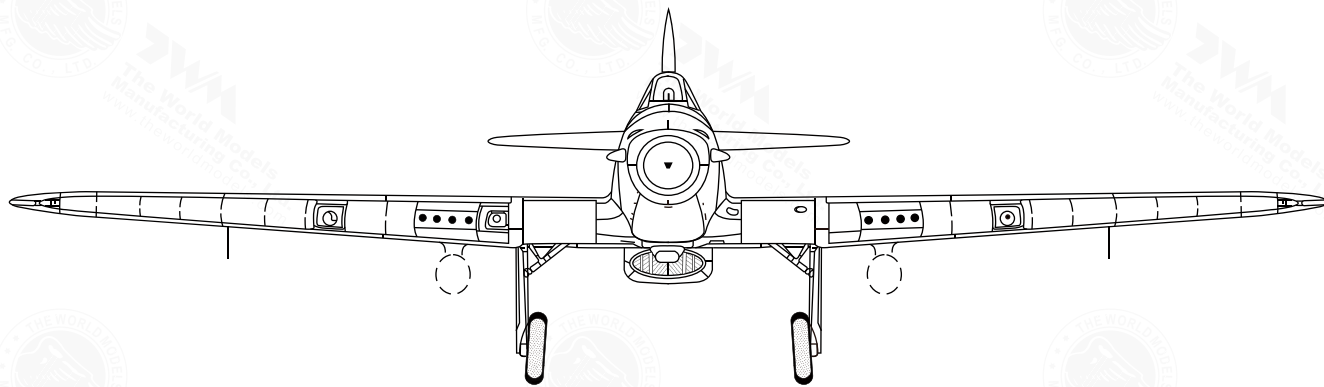
Special tool for clevis installation.
Suitable for standard and small (EP) clevis.

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 / Toughlon)



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