

P-40 WARHAWK



0.46 Cubic inch displacement 2-stroke
0.70-0.81 Cubic inch displacement 4-stroke
 Requires : 5-channel radio w/5 standard servos
 and 1 low profile retract servo.

Specifications

Wing Span	57 in / 1450 mm
Wing Area	564 sq in / 36.4 sq dm
Flying Weight	6.3 lbs / 2860 g
Fuselage Length	49 in / 1240 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-40 WARHAWK

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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



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!

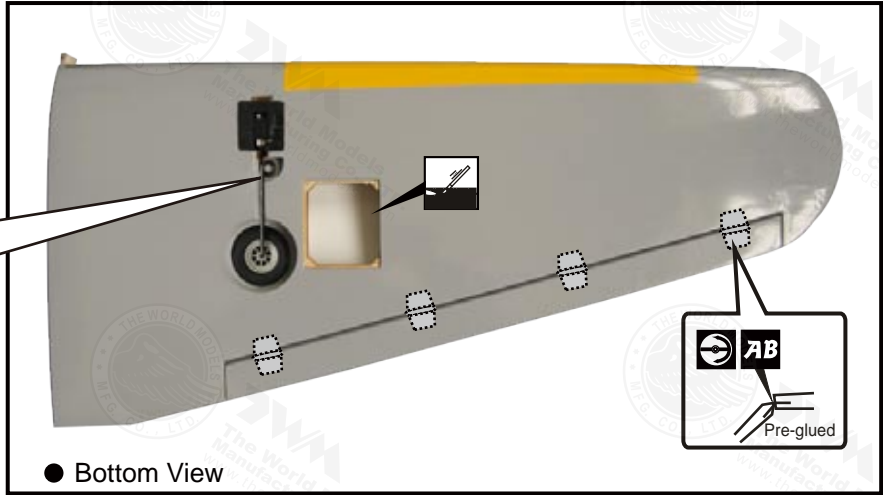
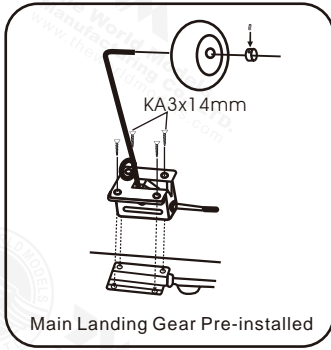
Do not overlook this symbol!



Parts List

1. MAIN WING -- 1 pair
2. SERVO MOUNTING PANEL (PL5310000) -- 1 pair
 SCREW PB2x16mm -- 6 pcs
 SCREW PWA2x8mm -- 8 pcs
 TRI-HORN M3x14mm(L) -- 2 sets
 PUSHROD Ø1.8x110mm (For Aileron Servos) -- 2 pcs
 STRAPER -- 2 pcs
 CLEVIS -- 2 pcs
 FUEL TUBE Ø6x5mm -- 4 pcs
3. WING JOINER 6x20x309mm -- 1 pc.
4. LINKAGE CONNECTOR 2.1mm -- 2 sets
 COVERING FILM 32x42mm -- 2 pcs
5. FUSELAGE -- 1 pc.
 STABILIZER & ELEVATOR -- 1 set
 Balsa 8x20.4x44mm -- 1 pc.
6. VERTICAL FIN & RUDDER -- 1 set
7. TAIL LANDING GEAR -- 1 set
 SCREW PA3x12mm -- 2 pcs
 PM2x10mm -- 1 pc.
 M2 NUT -- 1 pc.
 ALUMINUM PLATE 0.5mm -- 1 pc.
 COLLAR 2.1mm w/ set screw -- 1 set
 TAIL WHEEL Ø25mm -- 1 pc.
8. SCREW PB2x14mm -- 6 pcs
 PUSHROD Ø1.8x457mm w/ Threads (For Elevator Servo) -- 2 pcs
 TRI-HORN M3x14mm(L) (For Elevator Servo) -- 2 sets
 CLEVIS -- 2 pcs
 FUEL TUBE Ø6x5mm -- 2 pcs
9. SCREW PB2x14mm -- 3 pcs
 PUSHROD Ø1.8x560mm w/ Threads (For Rudder Servo) -- 1 pc.
 TRI-HORN M3x14 mm(L) (For Rudder Servo) -- 1 set
 CLEVIS -- 1 pc.
 FUEL TUBE Ø6x5mm -- 1 pc.
10. SOCKET HEAD SCREW M4x25mm -- 4 pcs
 WASHER d4xD9mm -- 4 pcs
 ENGINE MOUNT PL5111050 -- 1 set
11. FUEL TANK 320cc -- 1 set
 Balsa 8x8x104mm (For Fuel Tank Position Fixing) -- 1 pc.
12. LINKAGE CONNECTOR 2.1mm -- 1 set
13. THROTTLE PUSHWIRE Ø1.2x440mm -- 1 pc.
 PLASTIC TUBE d2xd3x300mm -- 1 pc.
 SOCKET HEAD SCREW M3.5x30mm -- 4 pcs
 WASHER d3.5xD8mm -- 8 pcs
 M3.5 NUT -- 8 pcs
14. COWLING -- 1 pc.
 TRANSPARENT 3D TEMPLATE -- 1 pc.
 SCREW PWA2.6x12mm -- 4 pcs
 SILICON GROMMET d1.5xD6.5mm -- 4 pcs
 SPINNER Ø82mm -- 1 set
15. CANOPY -- 1 pc.
 DOUBLE SIDED TAPE 500mm -- 1 pc.
 SCREW PWA2.3x12mm -- 4 pcs
 SILICON GROMMET d1.5xD6.5mm -- 4 pcs
 PILOT PC001065B -- 1 pc.
16. FUEL TUBE Ø6x5mm -- 2 pcs
 STRAPER -- 2 pcs
 SPONGE 60x70x105mm -- 1 pc.
 PUSHROD Ø1.8x70mm -- 1 pc.
 PUSHROD CONNECTOR (PL4410010)-- 1 set
 PLYWOOD 3x64.5x94.7mm (For Elevator & Rudder Servos) -- 1 pc.
 PLYWOOD 3x64.5x102mm (For Throttle Servo) -- 1 pc.
 Balsa 6x6x64mm (For Servo Stand) -- 4 pcs
17. SOCKET HEAD SCREW M4x35mm -- 2 pcs
 SCREW PWA3x12mm -- 1 pcs
 WASHER d4xD15mm -- 2 pcs
 AIR SCOOP -- 1 pc.
18. DECALS A079SDEC -- 1 set
- COVERING:--
 TOUGHLON STL 203 LIGHT GRAY
 TOUGHLON STL 340 OLIVE DRAB
 LIGHTEX SGX 331 CUB YELLOW

1 Main Wing

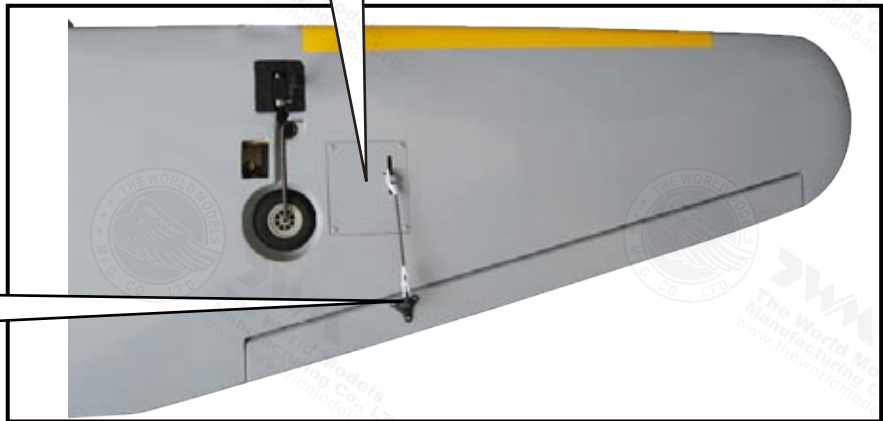
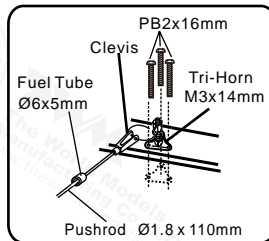
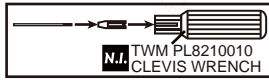
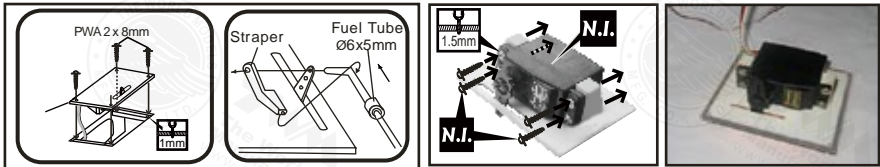


L/R

2 Aileron Servo

- PB2x16mm Screw — 6
- PWA 2x8mm Screw — 8

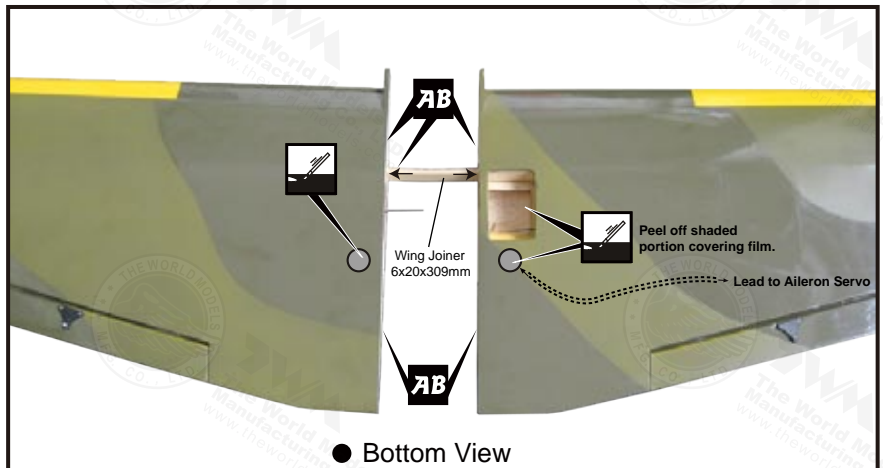
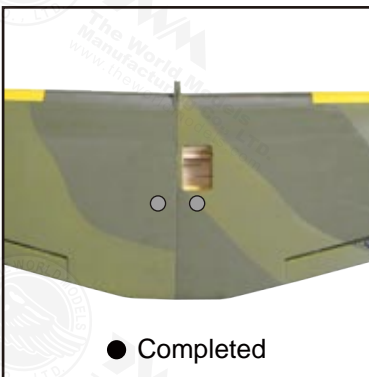
● Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.



L/R

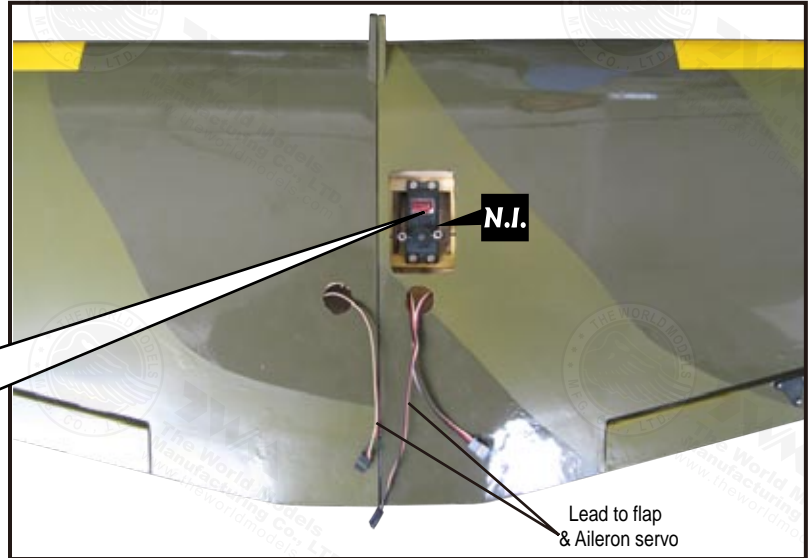
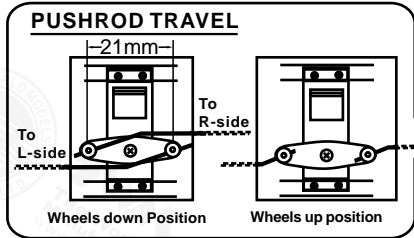
3 Main Wing

● 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.

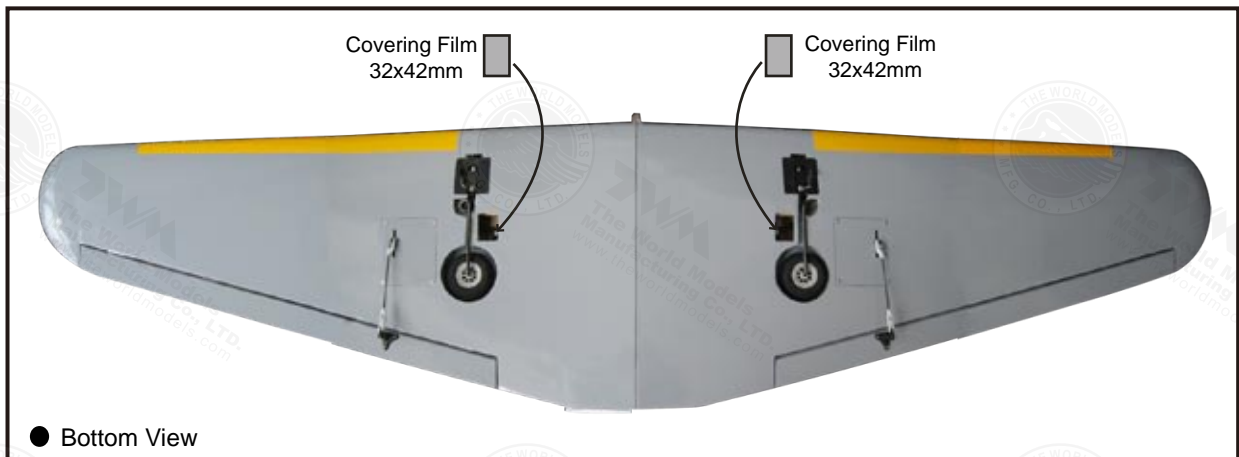


L/R

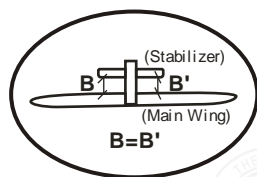
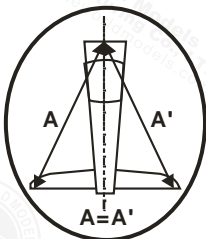
4 Retract Servo



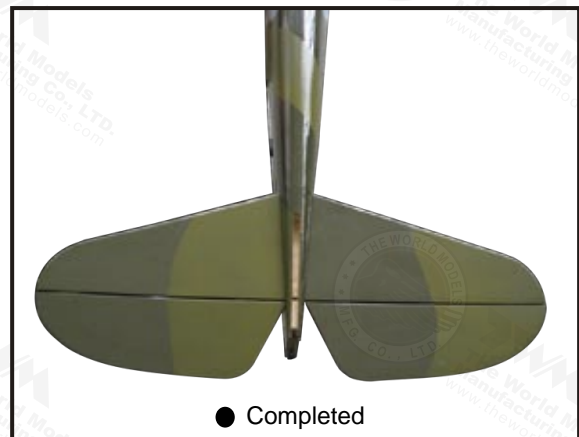
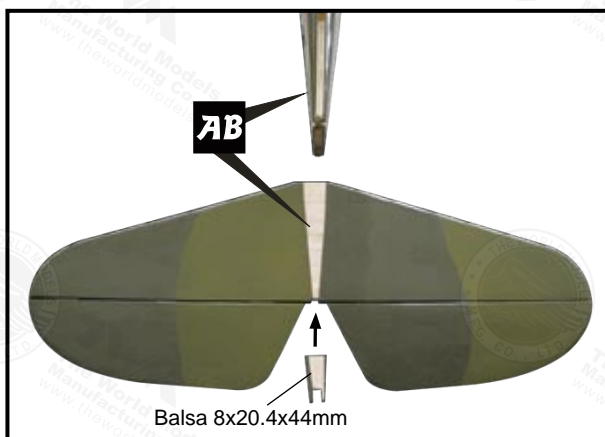
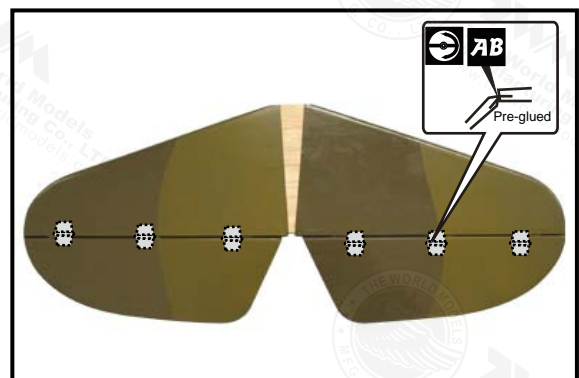
L/R



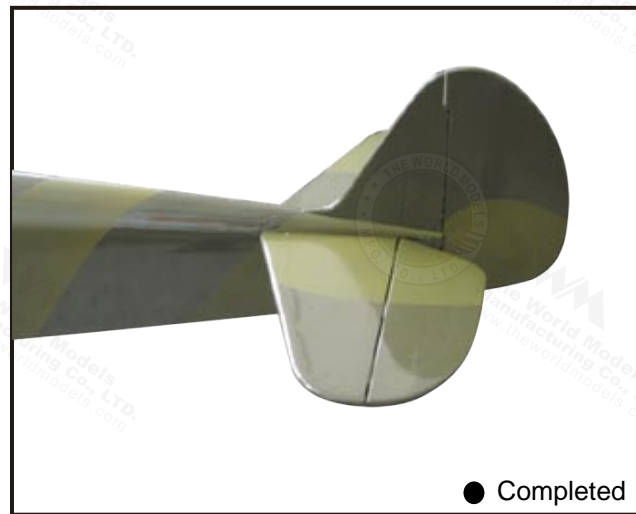
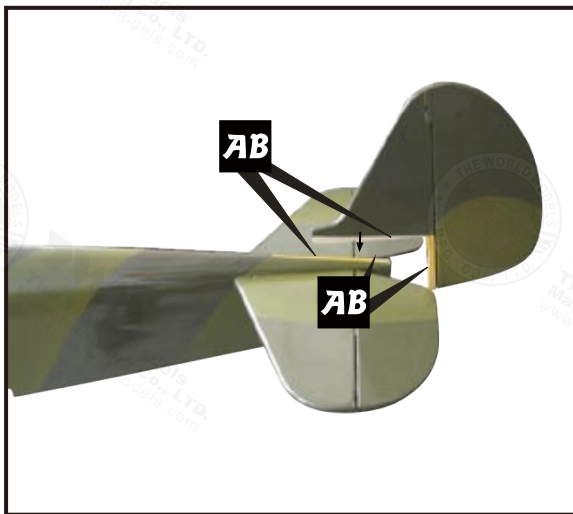
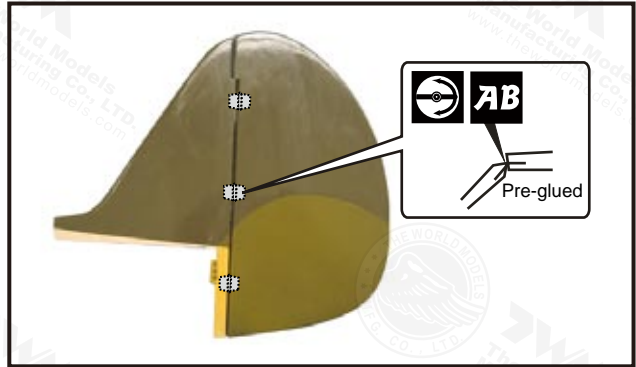
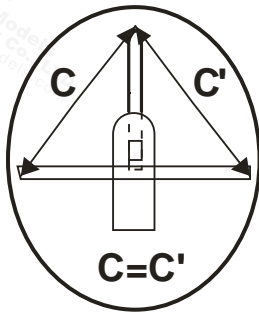
5 Stabilizer & Elevator



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

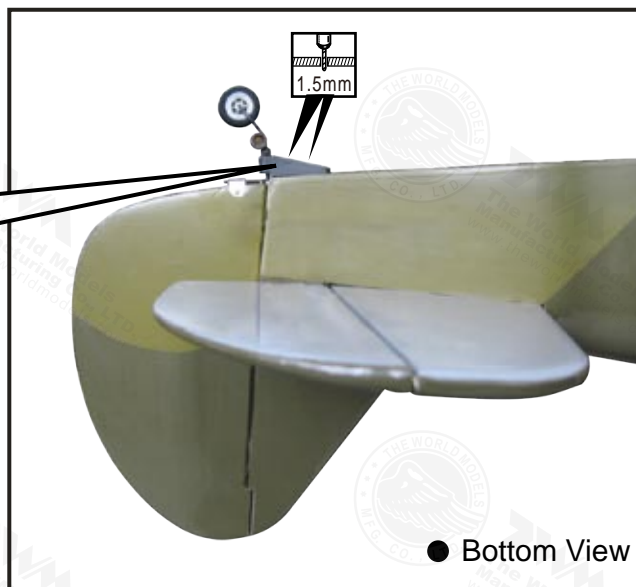
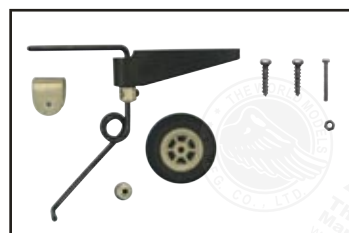
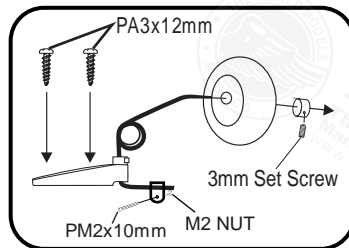


6 Vertical Fin & Rudder



7 Tail Landing Gear

PA3x12mm Screw	2
PM2x10mm Screw	1
M2 Nut	1
2.1mm Collar	1
3mm Set Screw	1

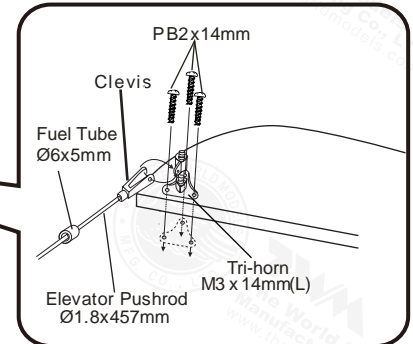
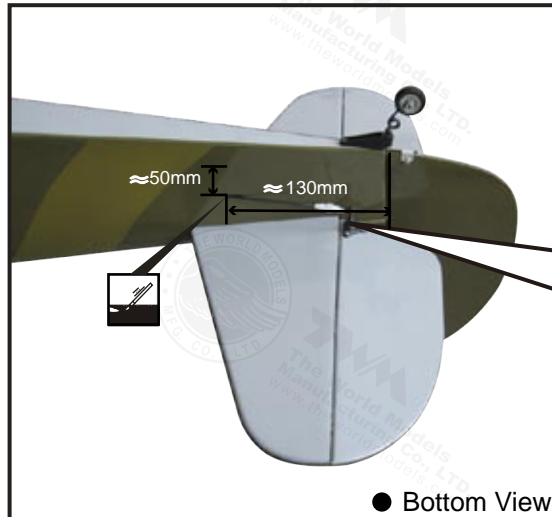


L/R

8 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.

PB2x14mm Screw — 6



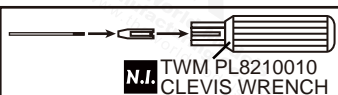
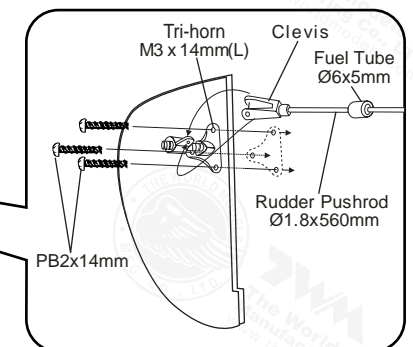
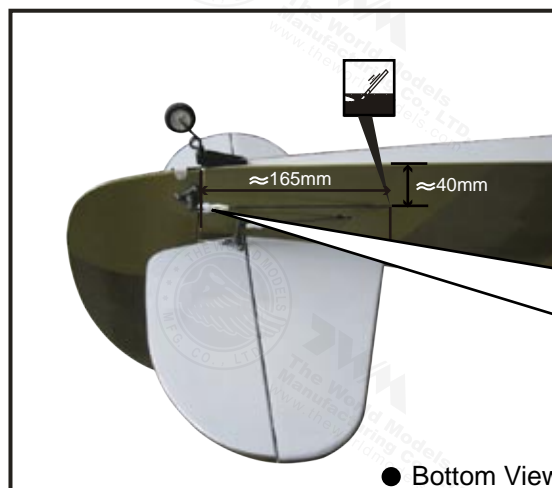
L/R



9 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.

PB2x14mm Screw — 3

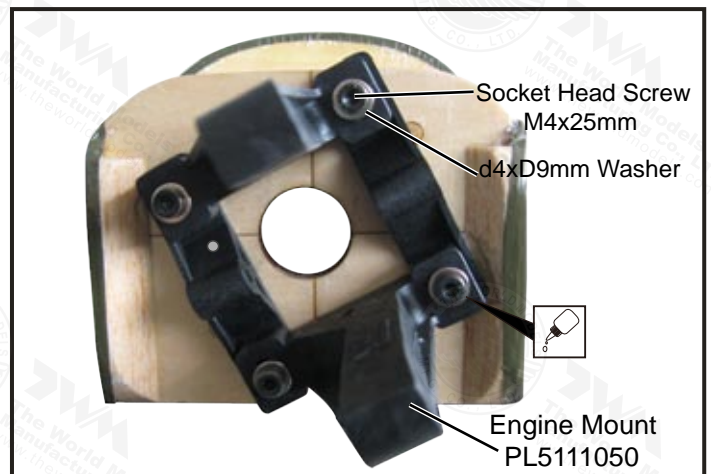


10 Engine Mount

- Apply thread locker to screws

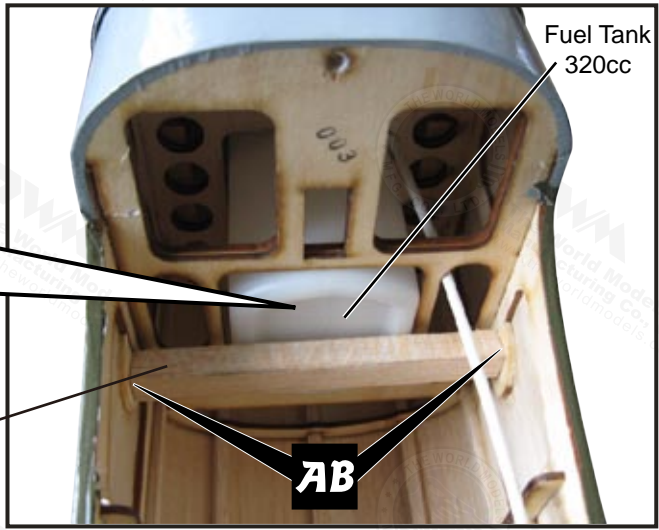
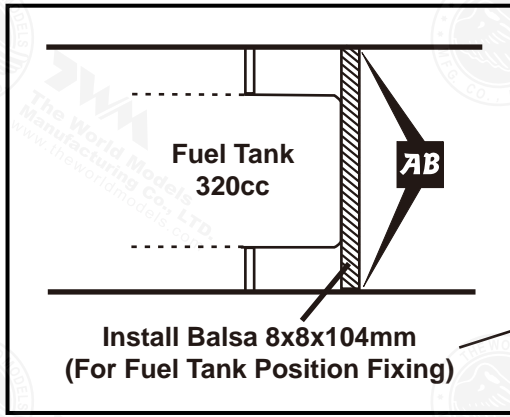
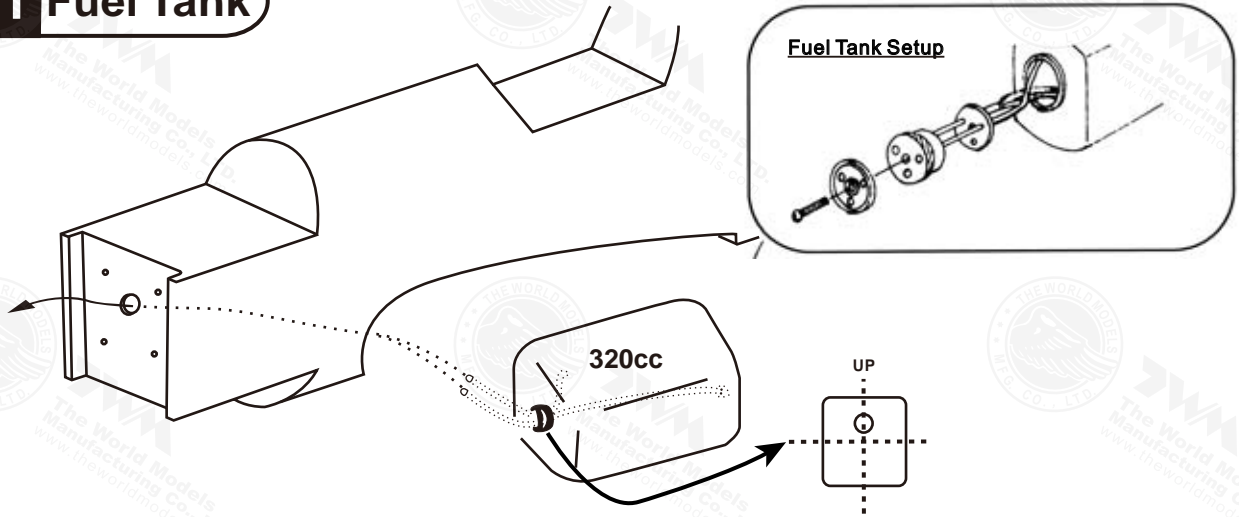
M4x25mm Socket Head Screw — 4

d4xD9mm Washer — 4



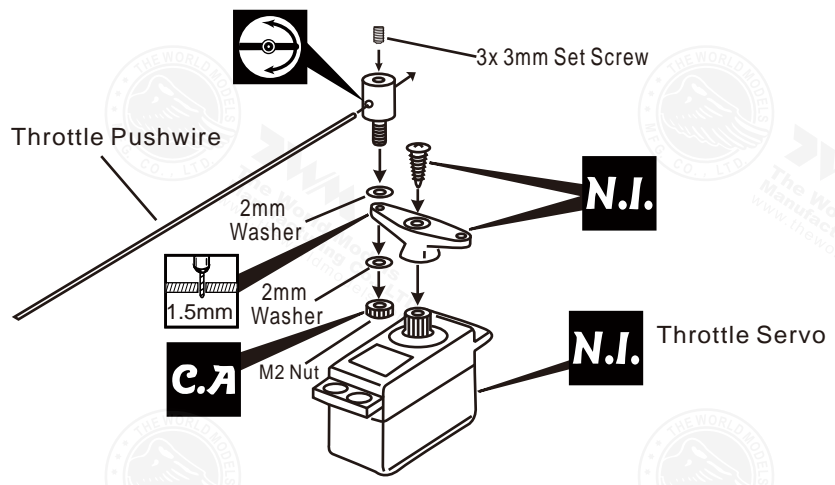
! Blind nuts are off-centered to keep the spinner at the fuselage axis.

11 Fuel Tank



12 Servo Set

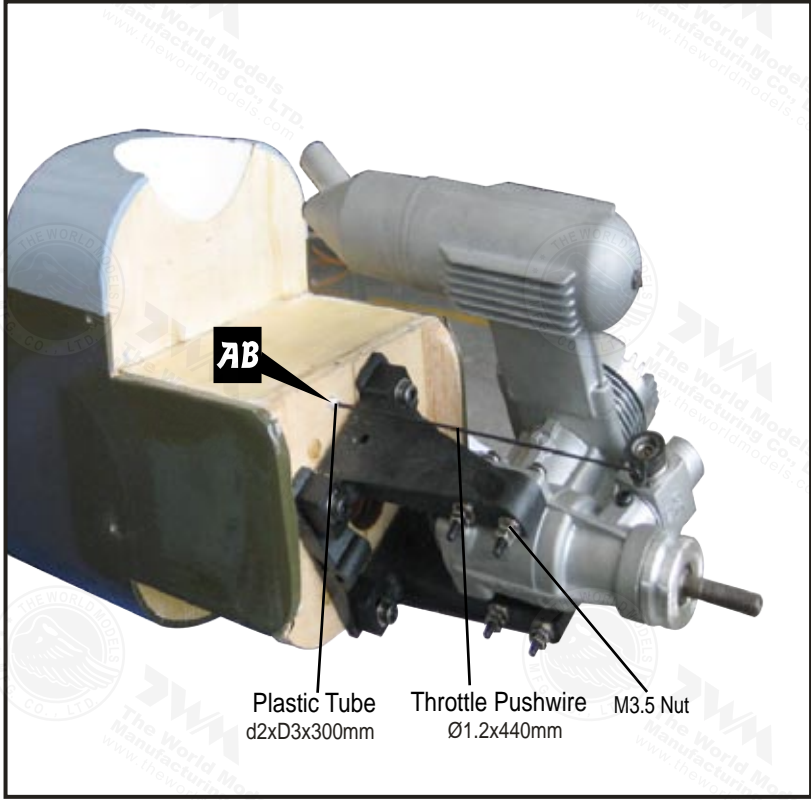
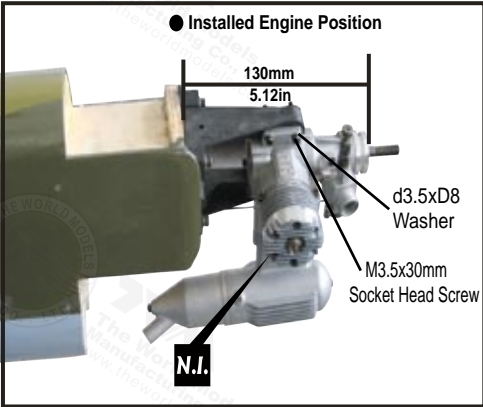
- | | |
|-------------------|---|
| 3x3mm Set Screw | 1 |
| Linkage Connector | 1 |
| M2 Nut | 1 |
| 2mm Washer | 2 |



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

13 Engine

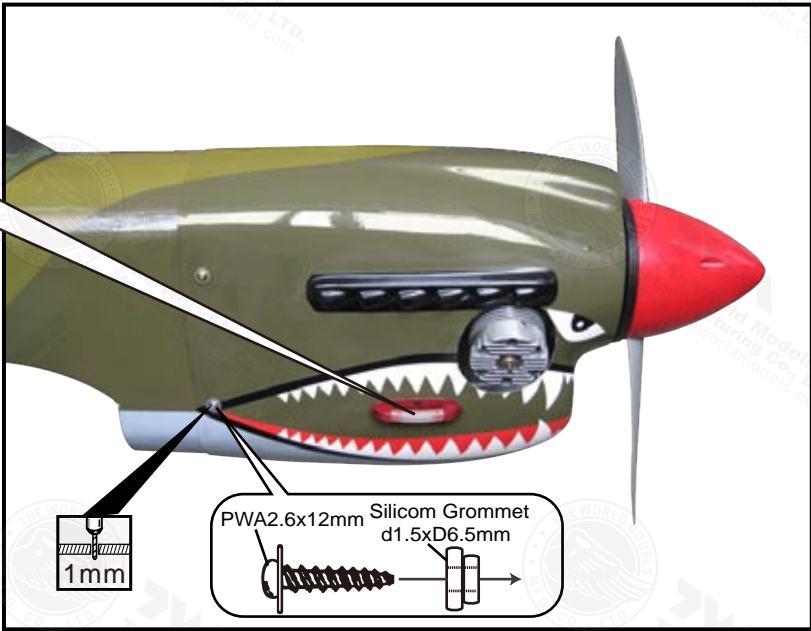
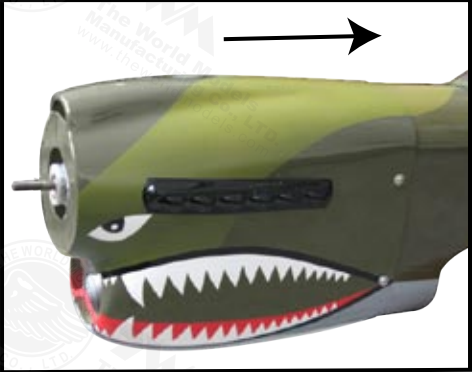
M3.5x30mm Socket Head Screw	4
d3.5xD8mm Washer	8
M3.5 Nut	8



14 Cowling

PWA2.6x12mm Screw	4
d1.5xD6.5mm Silicon Grommet	4

- Please refer to the attached sheet for usage of the transparent 3D template.
- First insert the grommet to the cowling then apply screw.



15 Canopy

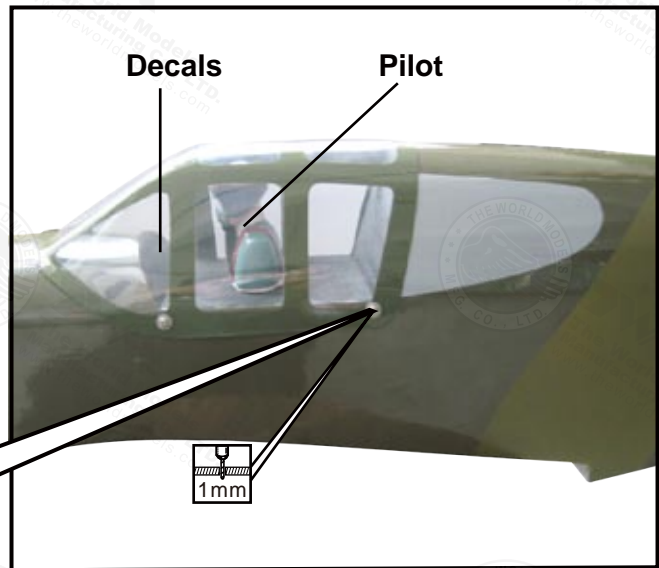
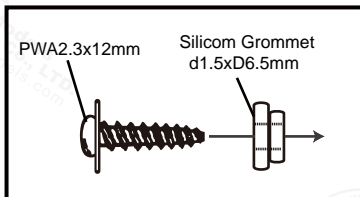
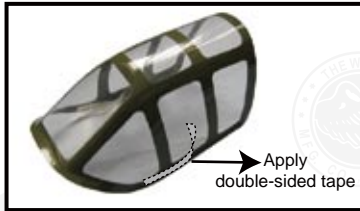
PWA2.3x12mm Screw

4

d1.5xD6.5mm Silicon Grommet

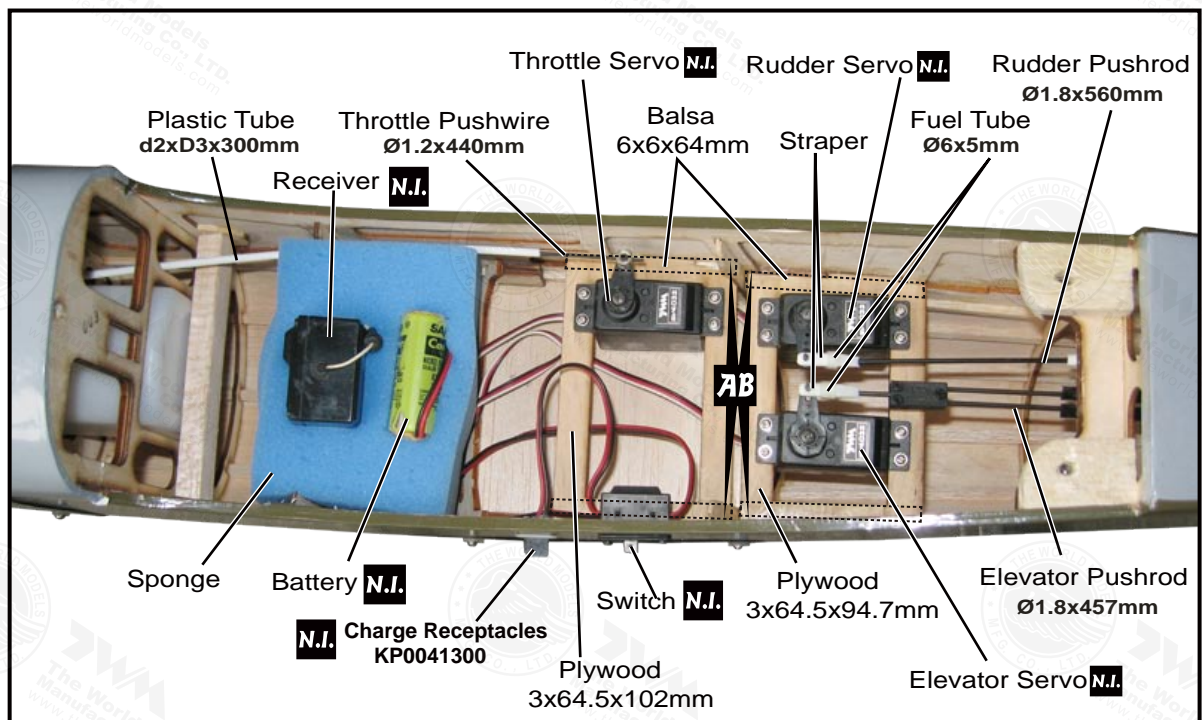
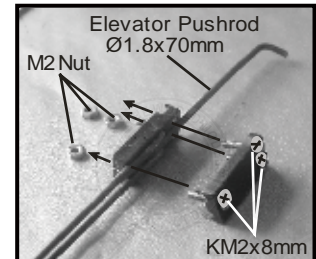
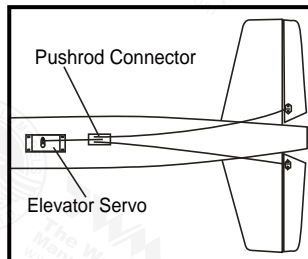
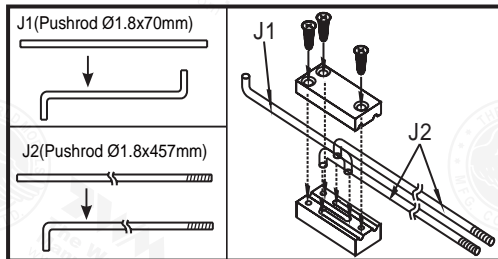
4

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



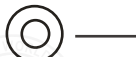


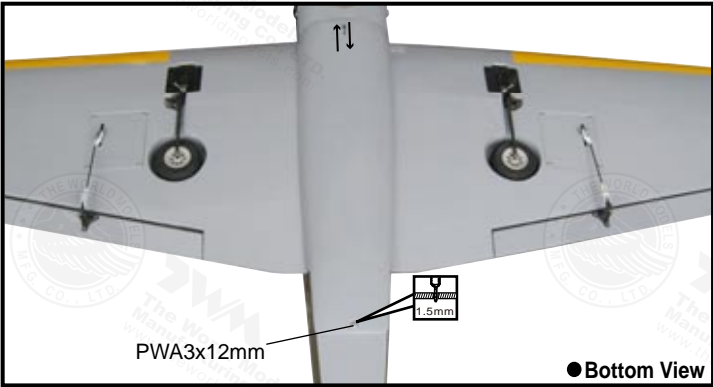
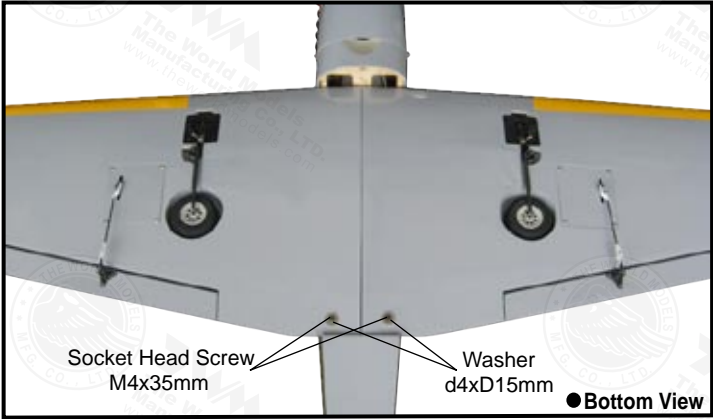
16 Radio Equipment

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



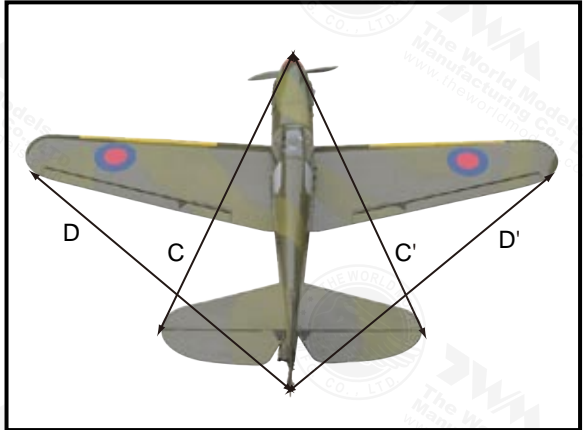
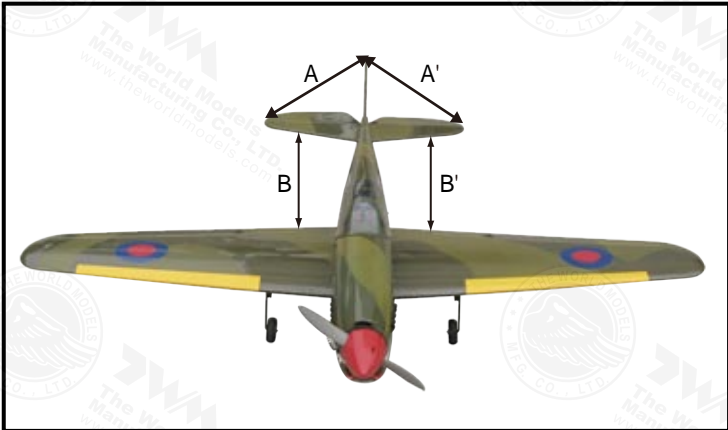
17 Main Wing

- M4x35mm Socket Head Screw  2
- PWA3x12mm Screw  1
- d4x15mm Washer  2



18 Wing Setting

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

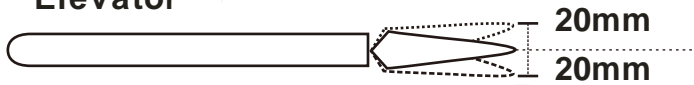


A=A' B=B' C=C' D=D'

19 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



Aileron



20 C.G.

- The ideal C.G. position is **80mm (3.15 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

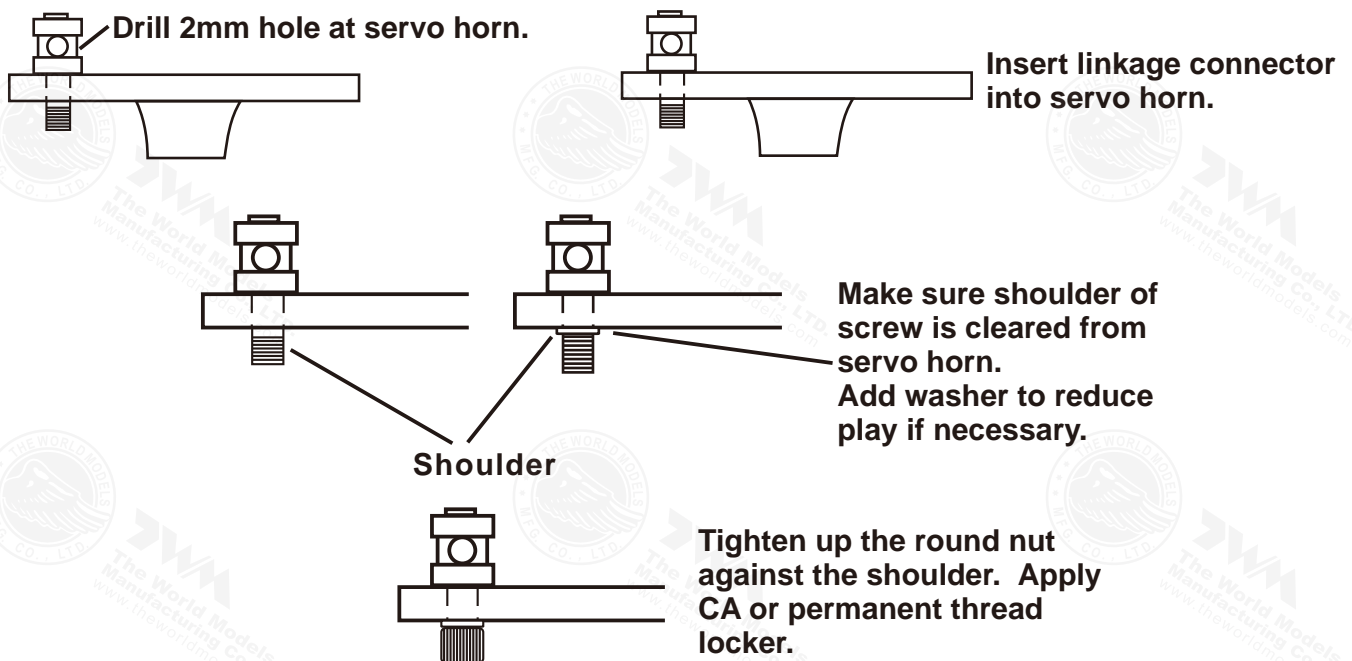
! Warning!

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-40 WARHAWK** is specially designed to be powered by 2C 0.46 or 4C 0.70 - 0.81 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



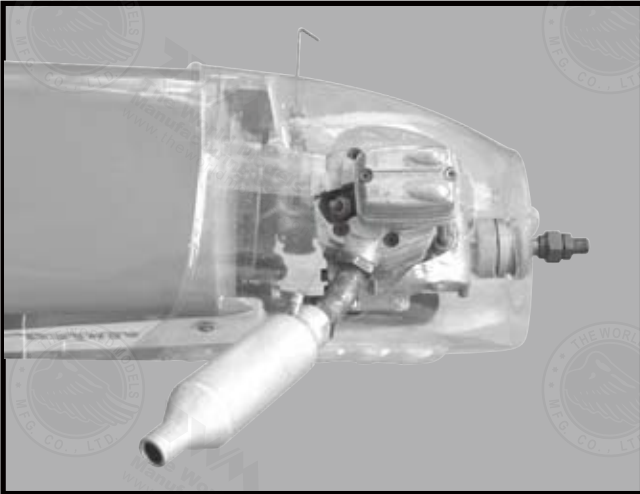
After fastening the round nut, make sure that the linkage connector can rotate freely.

Usage of the transparent 3D template

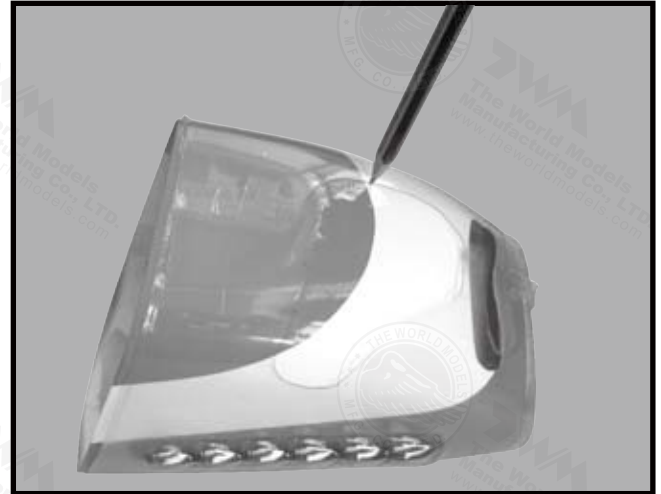


This transparent 3D template is used for position guidance of the actual cutting of the pre-painted cowling.

1



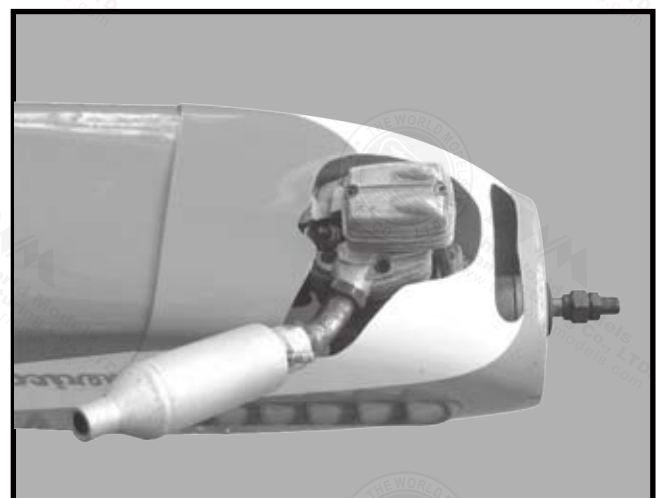
2



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

(ACCESSORIES)

180mm Extension

Code No.	Size	Package
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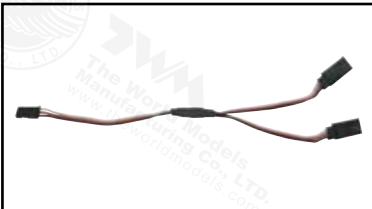
KW0011800 180mm 1 set



180mm Y-Cord

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

KW0021800 180mm 1 pc



Charge Receptacles

Code No.	Size	Package
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KP0041300



Field Stand

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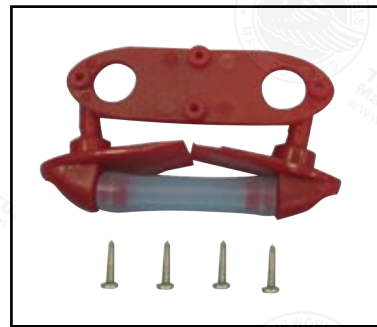
MS9111430 600 x 240 x 310mm 1 pc



Fuel Filler

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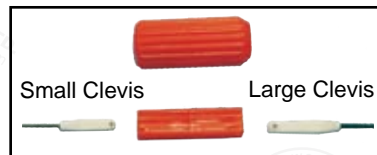
PL8110030 15 x 22 x 49mm 1 x 1 pc



Clevis Wrench

Code No.	Size	Package
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PL8210010 1 set



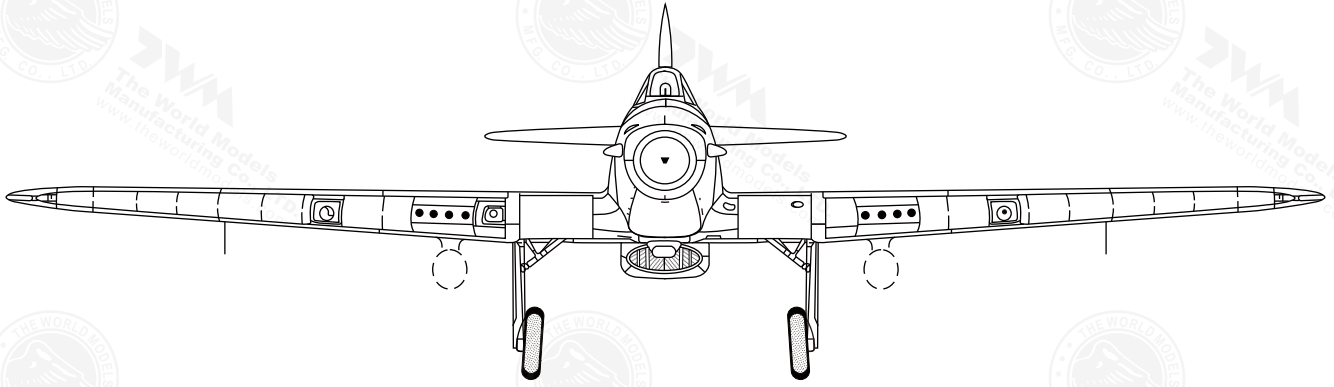
Special tool for clevis installation.
Suitable for standard and small (EP) clevis.

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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