P-51D

EASY WAR II FIGHTER

SPECIFICATIONS

P-51D-EPS-300C

Length: 737 mm (29 in.)
Wing Span: 870 mm (34 in.)
Wing Area: 13.2 dm^2 (204 $in.^2$)
Wing Loading: 26 g/dm^2
Flying Weight: 340~400g (12~14oz)
Power System: GW/EPS-300C-C
Propeller: EP-1080
Battery required: 7N8.4V 400mAh~600mAh (Ni-cd)
7N8.4~8N9.6V 730mAh (Ni-MH)
Radio required: 4~5 CH
Servo required: PICO series or NARO series
Electronic Speed Controller: ICS-100
Receiver : R4N or R6N

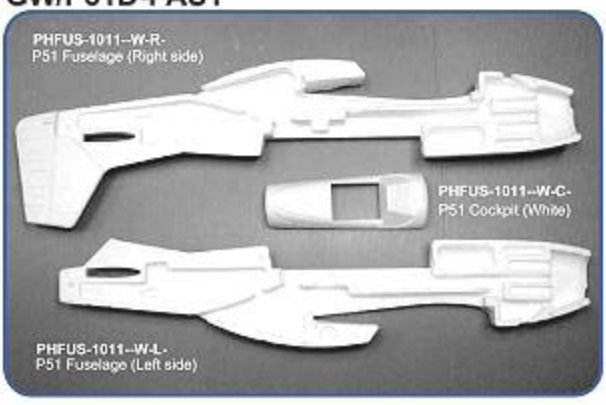
P-51D-EDP-400C

Length: 737 mm (29 in.)
Wing Span: 870 mm (34 in.)
Wing Area: 13.2 dm^2 (204 $in.^2$)
Wing Loading: 26 g/dm^2
Flying Weight: 340~400g (12~14oz)
Power System: GW/EDP-400C-C
Propeller: EP-7035
Battery required: 7N8.4V 400mAh~600mAh (Ni-cd)
Radio required: 4~5 CH
Servo required: PICO series or NARO series
Electronic Speed Controller: ICS-400
Receiver : R4N or R6N

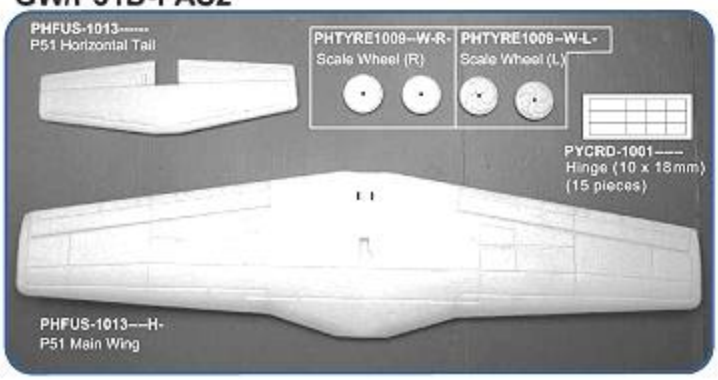
CONTENTS OF KIT (PART LIST)

01.P-51 Fuselage (left Side)	x1
02.P-51 Fuselage (right Side)	x1
03.P-51 Cockpit	x1
04.P-51 Main Wing	x1
05.P-51 Horizontal Stabilize	x1
06.P-51 Scale Wheel (L)	x2
07.P-51 Scale Wheel (R)	x2
08.P-51 Canopy	x1
09.Ultra-light Wheel Rim (2")	x2
10.Ultra-light Wheel Rim (1")	x1
11.Main Landing Gear (⌀1.6mm)	x2
12.Tail Dragger (⌀1.2mm)	x1
13.Push Rod Tube (⌀3.0 X 420mm)	x1
14.Plastic Tube ⌀2.5 X 25mm	x2
15.Rubber Grommet	x2
16.Aileron Linkage Wire (L)	x1
17.Aileron Linkage Wire(R)	x1
18.Elevator Linkage Wire	x1
19.Push Rod (⌀0.9mm)	x3
20.Plastic Parts Frame "A"	x1
21.Plastic Parts Frame "C"	x1
22.Bamboo Stick (⌀3 X 240mm)	x1
23.Circular Magnet	x1
24.Plate	x1
25.Rubber Grommet (3mm)	x1
26.Bolts (M3 X 30)	x1
27.Washer (3.2x8x0.5)	x1
28.Nut (M3)	x1
29.Cowling Fixing Screw (M1.4x9mm APA)	x5
30.Electric Power System (EPS-300C OR EDP-400C)	x1
31.P-51 Spinner	x1
32.P-51 Spinner Mount	x1
33.Eps Mount (10 X 10 X 82mm)	x1
34.Propeller (EP1080)	x1
35.Double-Side Sponge Tape	x4
36.GWS Glue	x1

GW/P51D-FAS1



GW/P51D-FAS2



P-51D

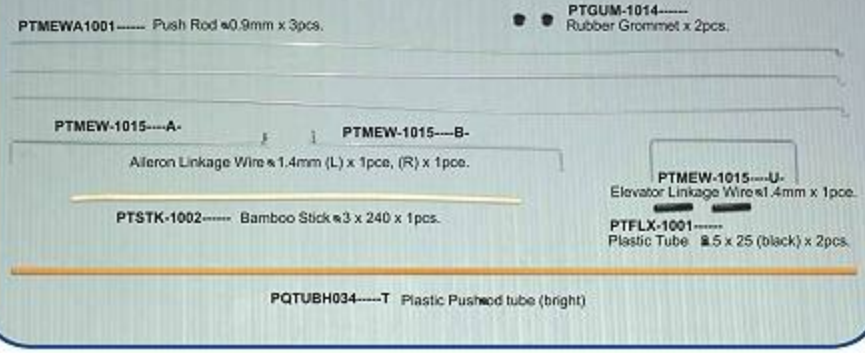
EASY WAR II FIGHTER

PYINS-1060------
Instruction Manual x 1 pce.

PYPOP-1033------
P51D Decal x 1 pce.

PYPOP-1003------
GWS Decal x 1 pce.

GW/P51D-FAS4 (P51D LINKAGE PARTS)



PTMEWA1001------ Push Rod ø0.9mm x 3pcs.

PTGUM-1014------
Rubber Grommet x 2pcs.

PTMEW-1015----A-

PTMEW-1015----B-

Aileron Linkage Wire ø1.4mm (L) x 1pce, (R) x 1pce.

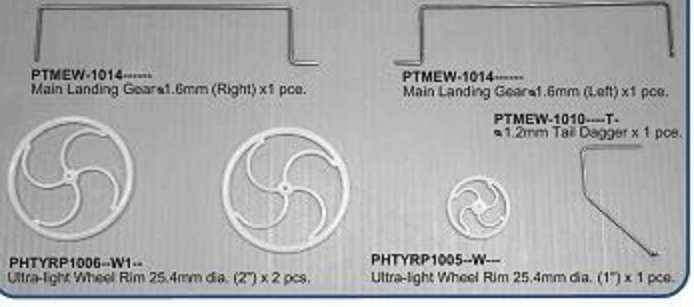
PTMEW-1015----U-
Elevator Linkage Wire ø1.4mm x 1pce.

PTSTK-1002------ Bamboo Stick ø3 x 240 x 1pcs.

PTFLX-1001------
Plastic Tube ø5 x 25 (black) x 2pcs.

PQTUBH034------T Plastic Pushrod tube (bright)

GW/P51D-FAS3 (P51D LANDING GEAR PARTS)



PTMEW-1014------
Main Landing Gear ø1.6mm (Right) x1 pce.

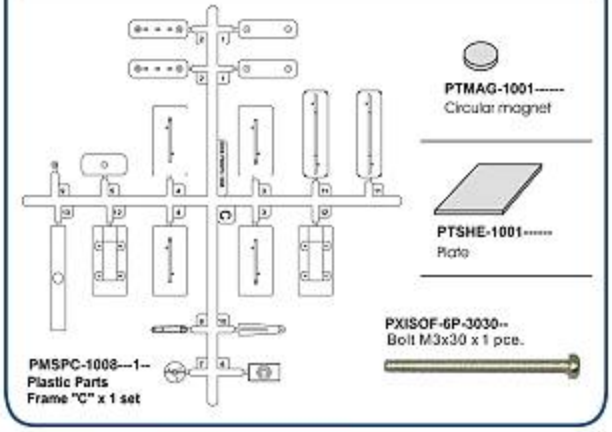
PTMEW-1014------
Main Landing Gear ø1.6mm (Left) x1 pce.

PTMEW-1010----T-
ø1.2mm Tail Dagger x 1 pce.

PHTYRP1006--W1--
Ultra-light Wheel Rim 25.4mm dia. (2") x 2 pcs.

PHTYRP1005--W---
Ultra-light Wheel Rim 25.4mm dia. (1") x 1 pce.

GW/P51D-FAS6 (P51D ACCESSORIES C)



PXTPAF-4J-1490R-
Cowling Fixing Screw x9 pcs.

PWWAHF63053208--
Washer x 1pce.

PWNUTF43183005--
Nut x 1 pce. M3

PTGUM-1007------
Rubber Grommet ø 5 x 3 mm x 1 pce.

PTMAG-1001------
Circular magnet

PTSHE-1001------
Plate

PXISOF-6P-3030--
Bolt M3x30 x 1 pce.

PMSPC-1008---1--
Plastic Parts
Frame "C" x 1 set

GW/P51D-FAS300 (P51D EPS300 electric power system)

PMCHSA1007------
EPS Mount 10x 10 x82
(white wood) x 1 pce.

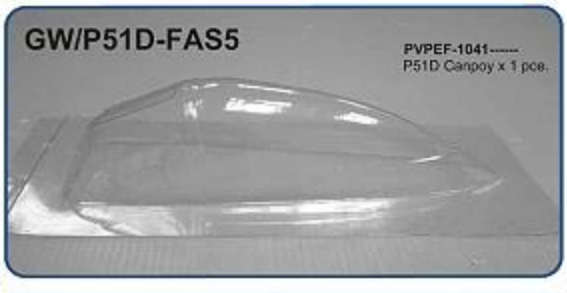
PTPROA1080------
Propeller (Ep1080) x 1 pce.

AASMEPS------3C-
Electric Power System:
GW/EPS-300C

PHSPIR1007------
P51D Spinner Mount

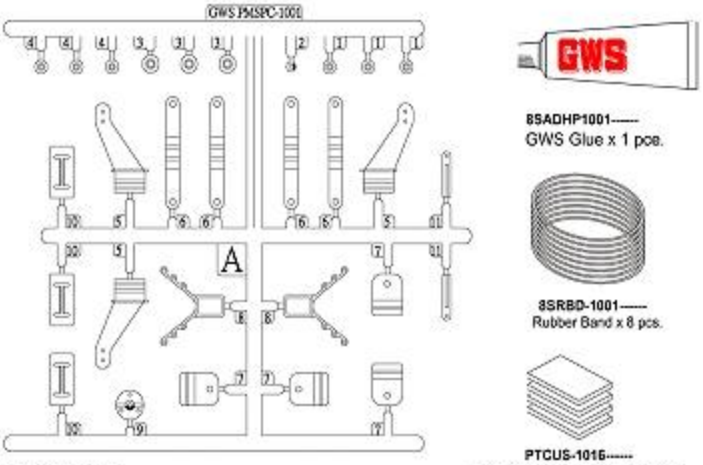
PHSPIR1007------
P51D Spinner

GW/P51D-FAS5



PVPEF-1041------
P51D Canpoy x 1 pce.

GW/P-STICK-FAS6 (P51D ACCESSORIES A)



PMSPC-1001------
Plastic Parts Frame "A" x 1 set

8SADHP1001------
GWS Glue x 1 pce.

8SRBD-1001------
Rubber Band x 8 pcs.

PTCUS-1016------
Double-sided Sponge Tape x 4 pcs.

OPTIONAL PART:

PHSPIR1007------
P-51D Spinner

PHSPIR1009------
P-51D Spinner Mount

PTPROA108004----
EP1080 x 3 Propeller
(4blade) x 1pcs.

RADIO CONTROL SYSTEM

4 Channel
Transmitter
發射機

Quick Charger 快速充電器

Overnight Charger
充電器

8.4~9.6V 730mAh
(Ni-MH 鎳氫)

Series Servos 伺服機系列
GWS 2~3 PICO, NARO

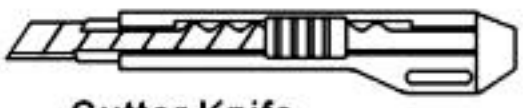
Electronic Speed Controller
電子變速器 ICS-300 above 以上

FM Receiver 接收機
GWS R4N II or R6N II

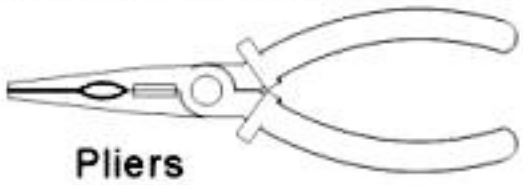
7.2~8.4V 2/3 270~400mAh
or 8.4V 600mAh (Ni-Cd 鎳鎘)

TOOLS AND ITEMS

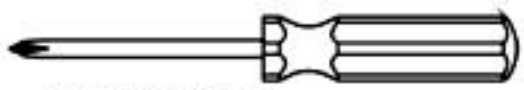
To assemble this airplane you need to prepare some tools.



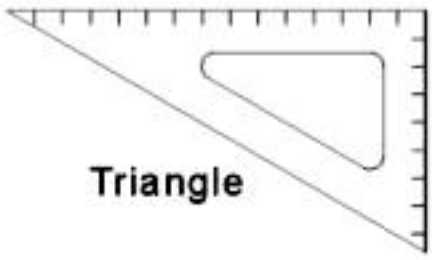
Cutter Knife



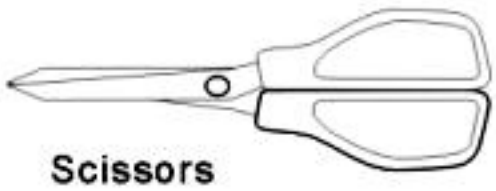
Pliers



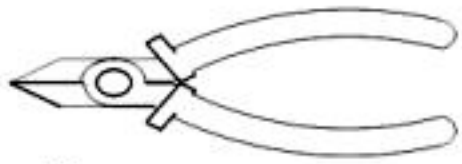
Screwdriver



Triangle



Scissors

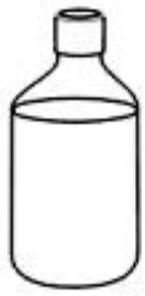


Nippers

Drill

Paper Tape

Spray Paint



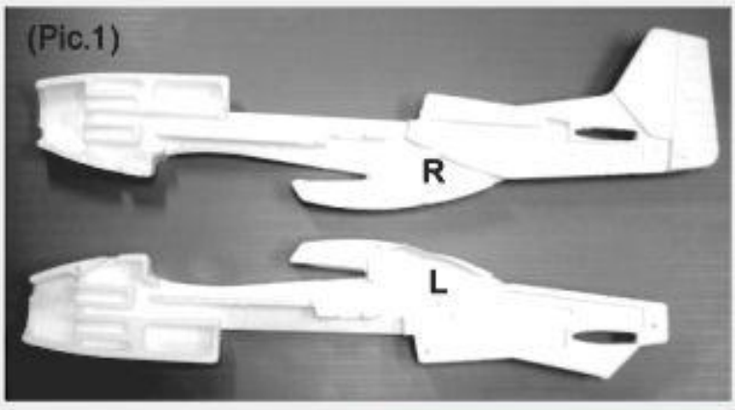
Alcohol

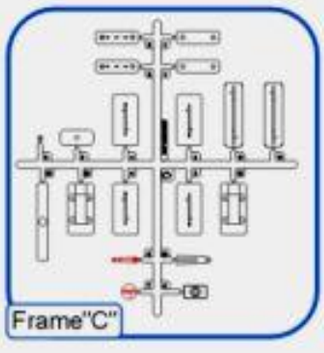
CA Glue

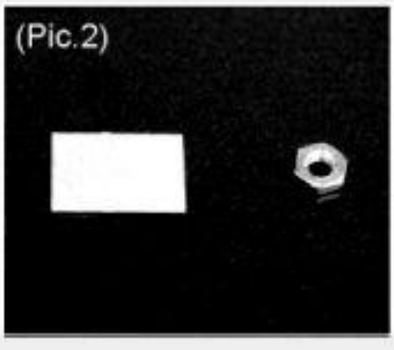
Epoxy

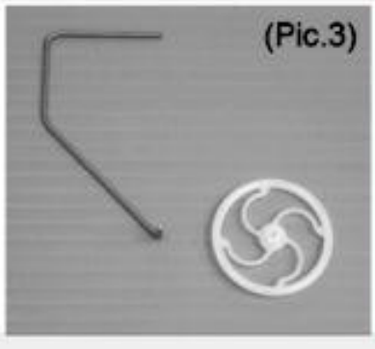
FUSELAGE ASSEMBLY

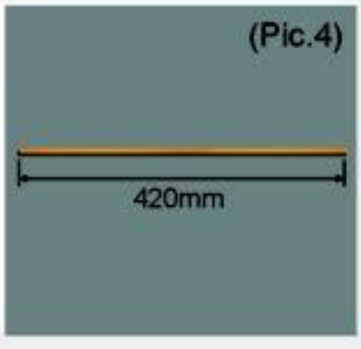
1.Fuselage parts list as follows: (Pic.1,2,3,4)
(1)P-51 Fuselage L & R.
(2)Plastic parts frame"C" NO⑥& ⑩.
(3)Plate and 3mm Nut.
(4)Tail gear and Ultra-light wheel rim (25MM dia.).
(5)Plastic pushrod tube (⌀3 X L420mm).



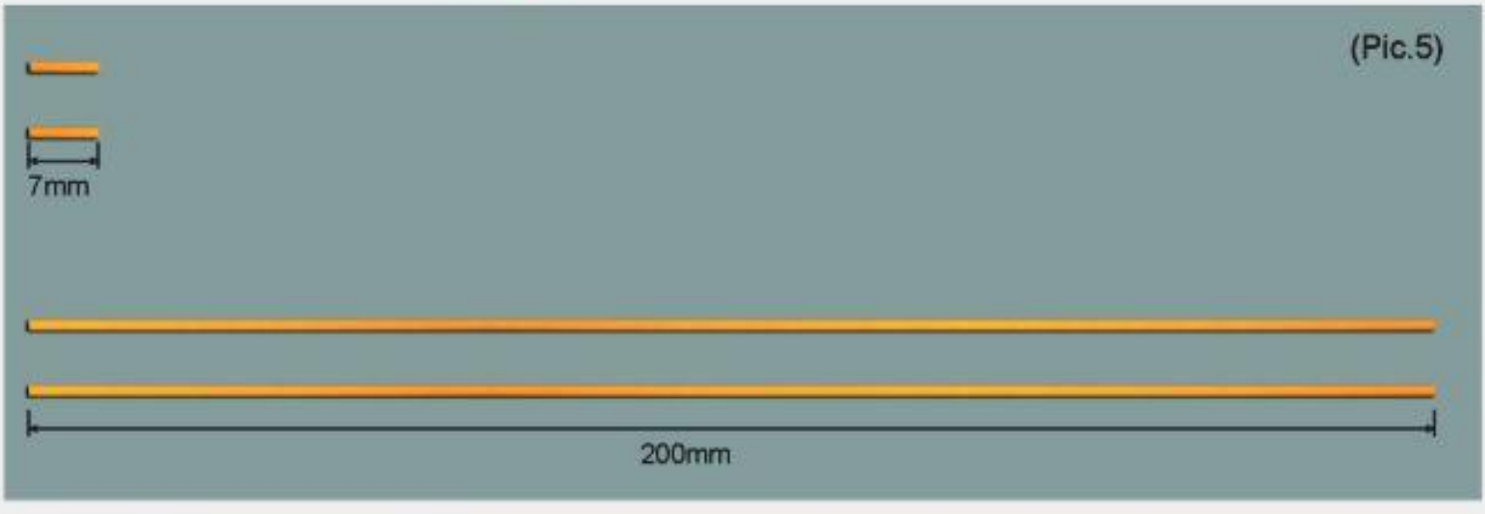


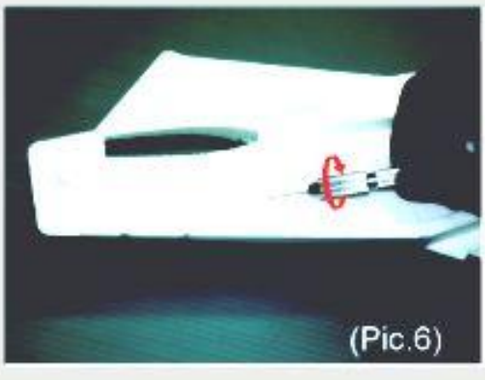


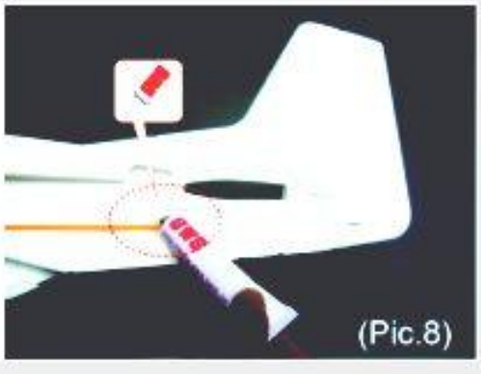




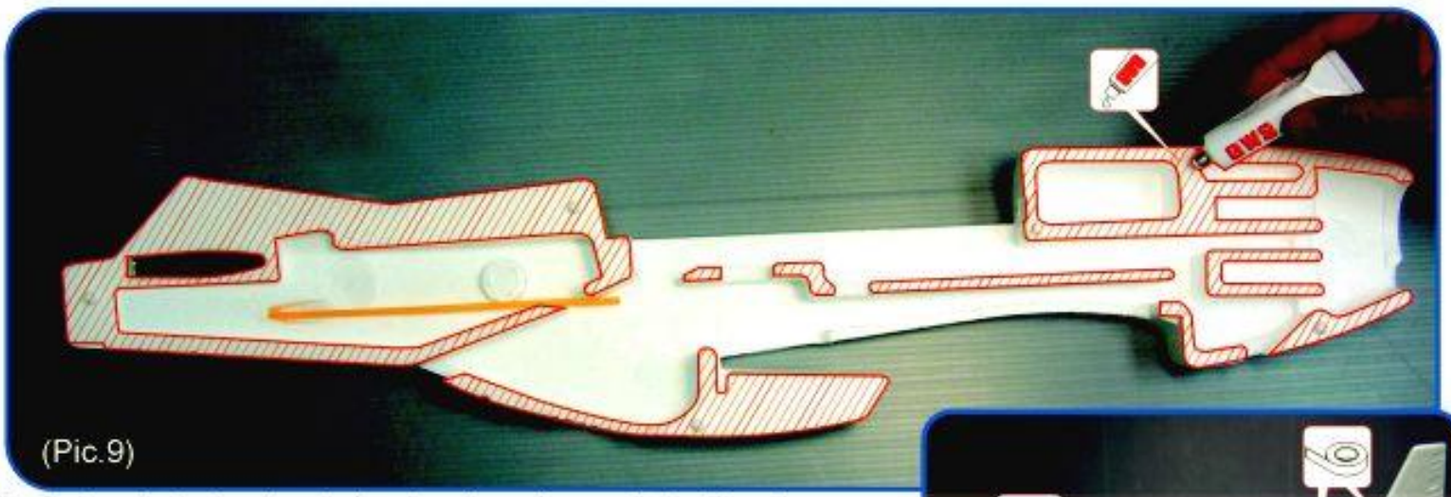
2. (1) Cut the plastic tube to specific length as show in the picture. (200mm x 2, 7mm x 2). (Pic.5)
(2) Drill 3mm holes into the L and R fuselage pushrod guide slot. (Pic.6)
(3) Insert the plastic pushrod tube (200mm) into the hole, from inside of fuselage and come out for approximately 10mm. (Pic.7)
(4) Glue the tube in place with GWS glue. (Pic.8)

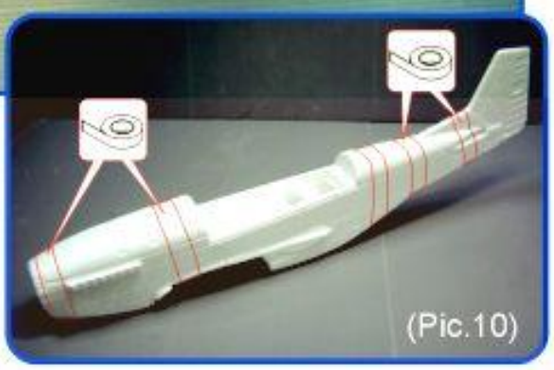




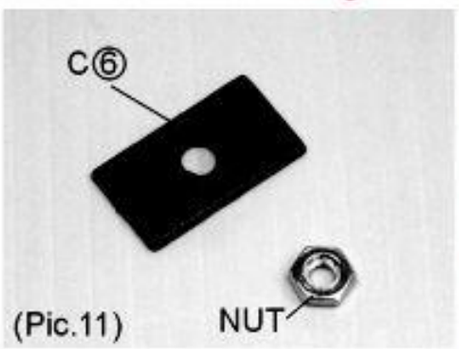


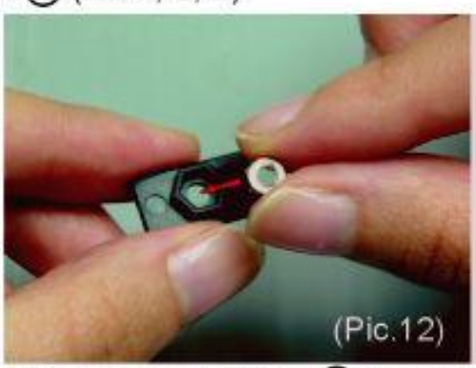
use GWS glue.

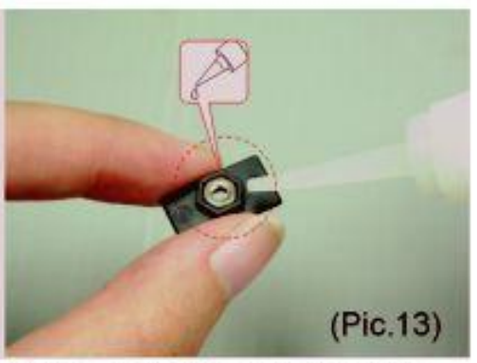




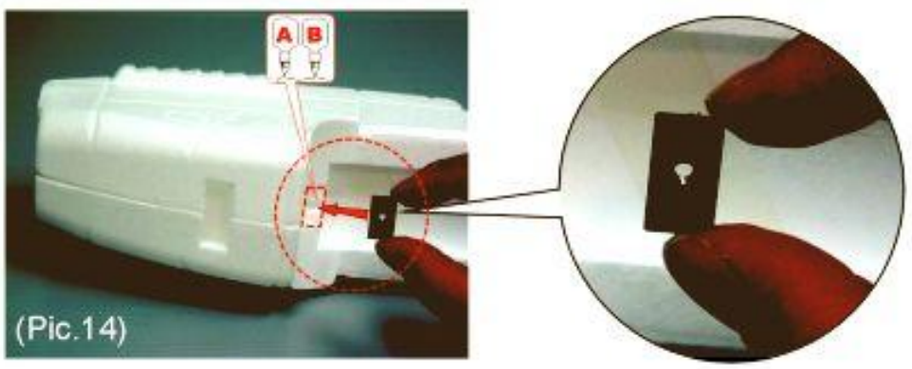
3. Before gluing fuselage halves together, please refer to Step 7 on Page 25-It may be necessary to sand battery cabin for better fit.
   (1) Apply GWS glue at the indicated area. (Pic.9)
   (2)Once glued, fix in place in 5 or 6 position using either a very low tach masking tape (such as blue painters tape), Velcro tie wraps, or make up paper tie wraps and secure with tape that dose not come in contact with the painted foam. Note: The adhesive on certain tape can pull off paint from the fuselage.(Pic.10)
4. (1) Press the hexagonal 3mm nut into the plastic parts C⑥ and apply a small amount of CA glue to the C⑥.(Pic.11,12,13)

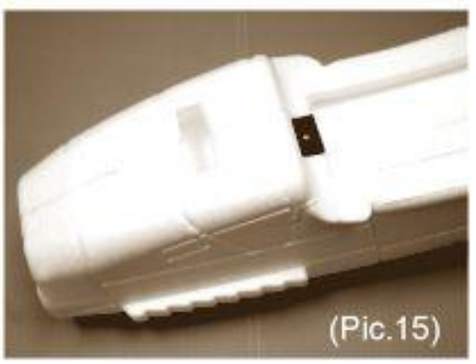




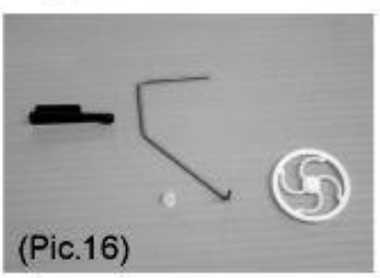


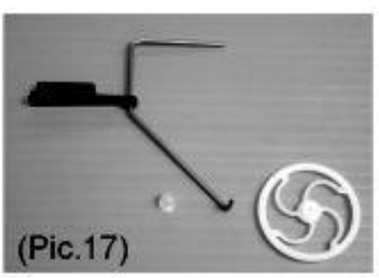
(2) Apply epoxy glue to the slot of the fuselage, then put the C⑥ in place. Make sure that there is no glue on the thread of the nut. (Pic.14,15)



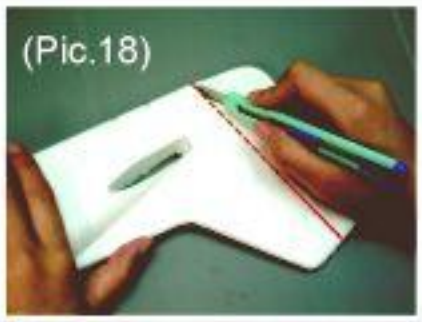


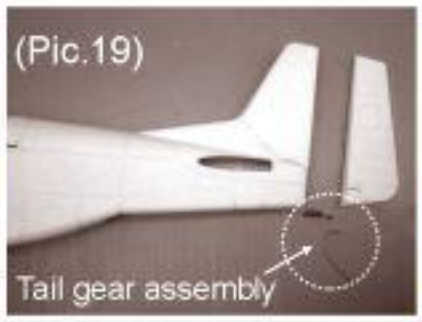
5. (1) P-51D tail wheel bracket assembly, insert the tail gear into the bracket (plastic parts C⑩), then install the Ultra-light wheel (25mm dia.) And fix it with the retainer (plastic parts A④) (Pic.16,17)





6. (1) Cut the rudder on the vertical fin apart with a knife as per the groove then glue the tail wheel bracket to the fuselage with GWS glue. (Pic.18,19,20,21)

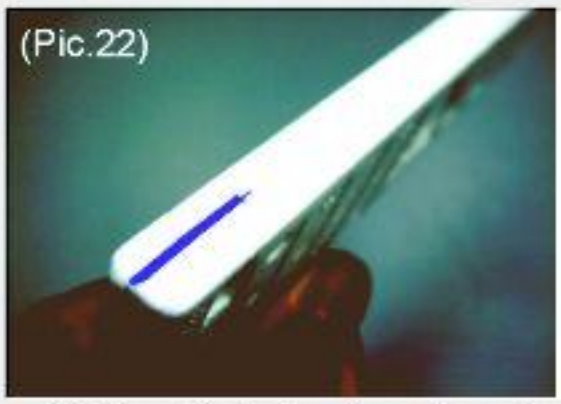

(Pic.18)

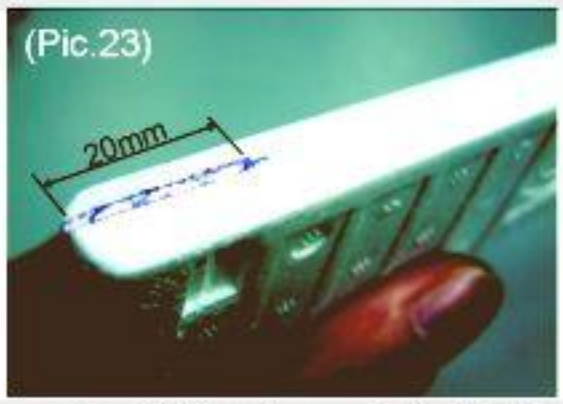


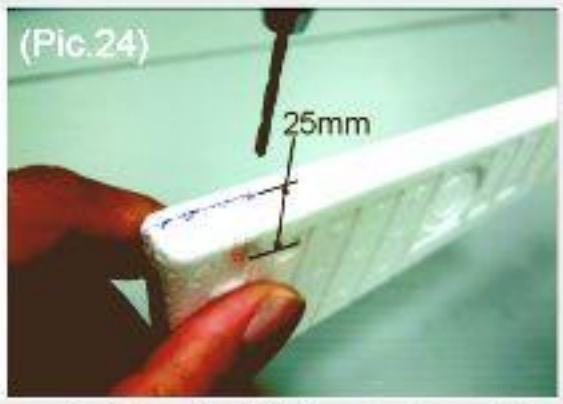

(Pic.20)


(Pic.21)

(2) For the tail gear wire, cut a 1mm x 1mm x 20mm slit and drill 1mm dia & 25 mm deep hole on the rudder. (Pic.22,23,24)

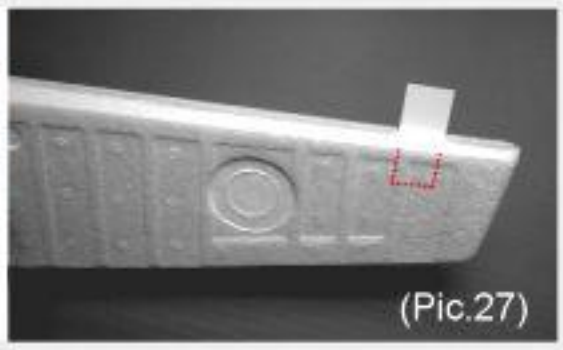

(Pic.22)





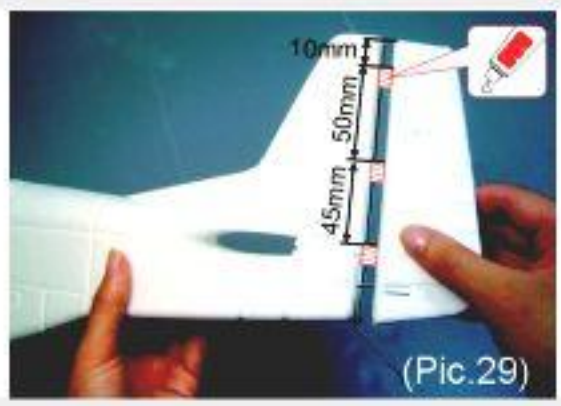
(3) According to the dimensions shown, cut a slit (10mm long and deep) at 3 places for hinge installation on the rudder and vertical fin. (Pic.25,26,27)

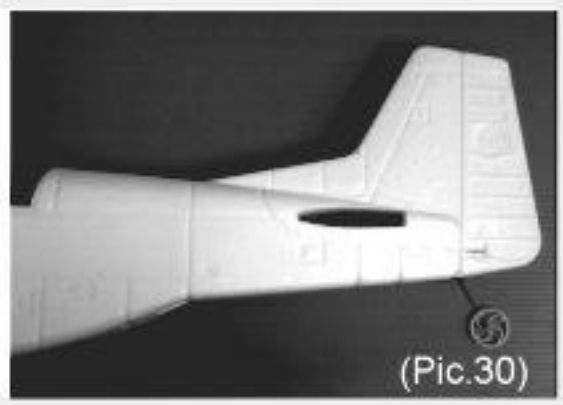

(Pic.25)


(Pic.27)

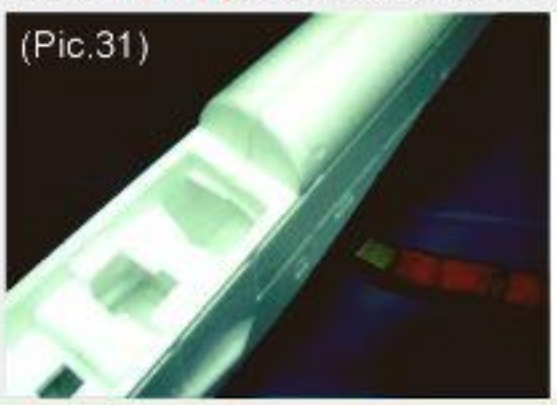
(4) Glue the hinges onto the rudder and install it to the vertical fin. (Pic.28,29,30)

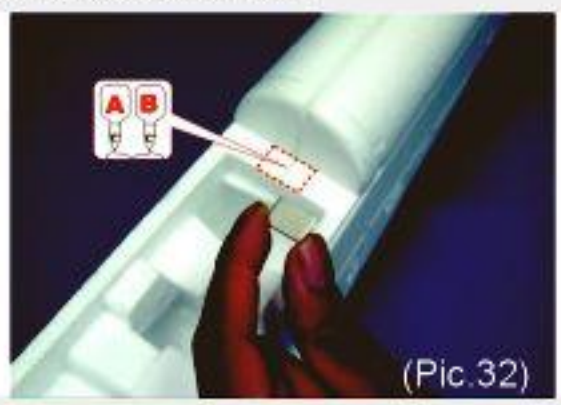

(Pic.28)

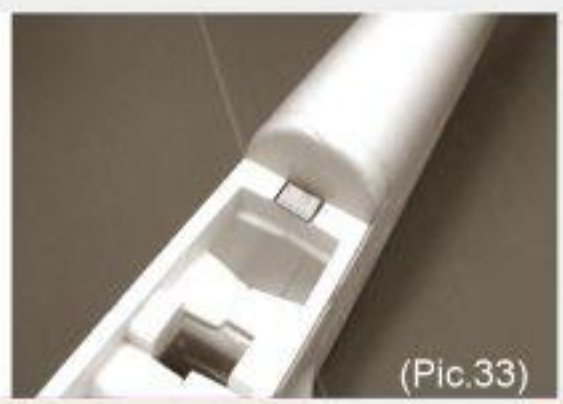



(Pic.30)

7. Apply epoxy glue on the slot to glue the plate. (Pic.31,32,33)


(Pic.31)

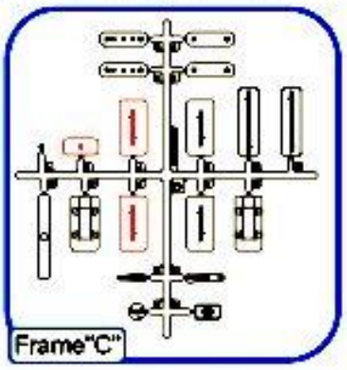


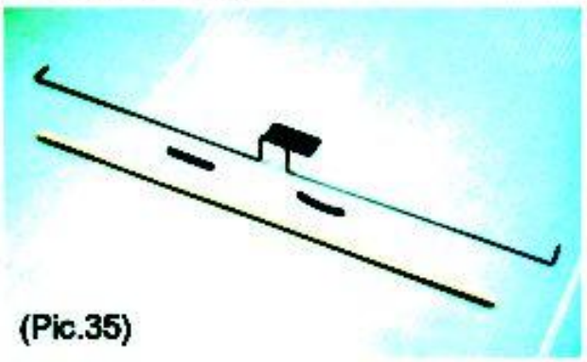

(Pic.33)

WING ASSEMBLY

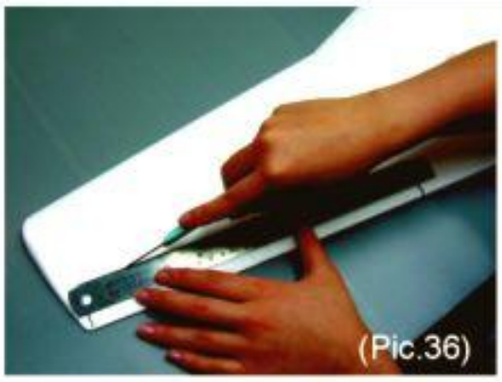
1. (1) Main wing. (Pic.34)
   (2) Plastic parts frame© No. 4.
   (3) Aileron linkage wire (left & right), rubber tube (2 pcs.) and bamboo stick. (Pic.35)

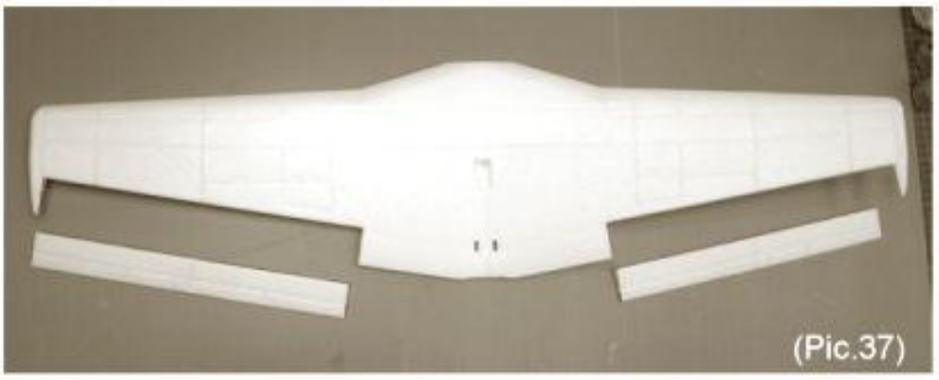

(Pic.34)



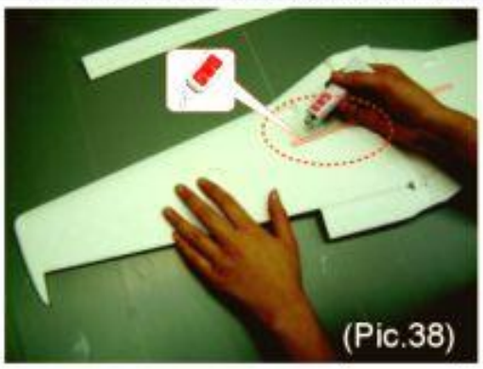

(Pic.35)

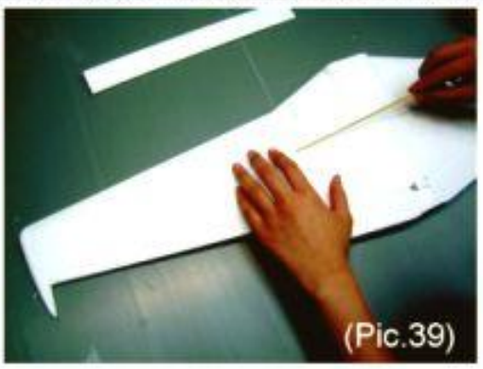
2. Cut the aileron apart from the main wing (both right and left) with a knife as per the groove. (Pic.36,37)

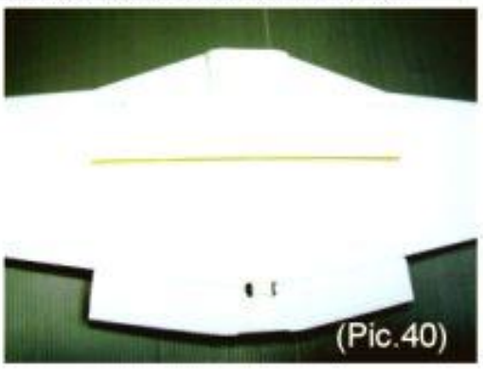

(Pic.36)


(Pic.37)

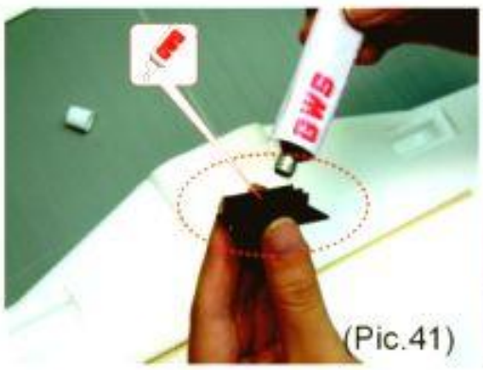
3. Clue the bamboo stick for wing enforcement on the bottom of the wing (leading edge side). (Fig.38,39,40)


(Pic.38)


(Pic.39)


(Pic.40)

4. Glue the main gear mounts (plastic parts"C" No. ④) on the bottom of the wing (leading edge side) (Pic.41,42,43)



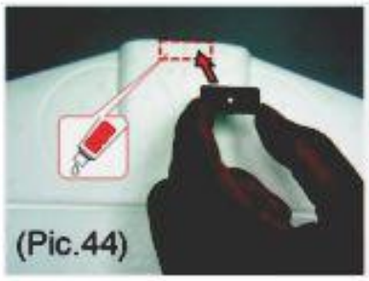
(Pic.41)


(Pic.42)

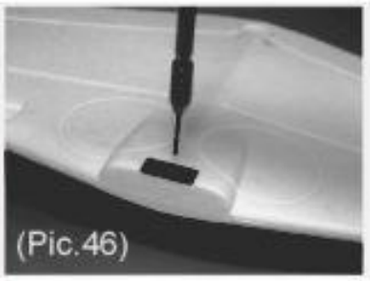

(Pic.43)

use GWS glue.

5. (1)Glue the plastic part C⑤ on the center bottom of the wing (leading edge). (Pic.44,45)
   (2)Drill a ⌀3mm hole on the plastic part C⑤ for bolting the wing to the fuselage. (Pic.46,47)


(Pic.44)

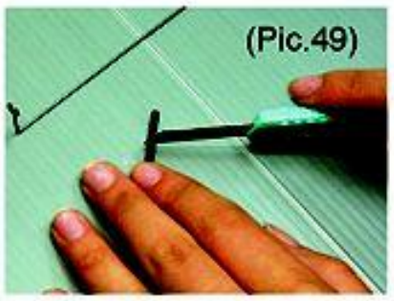

(Pic.45)

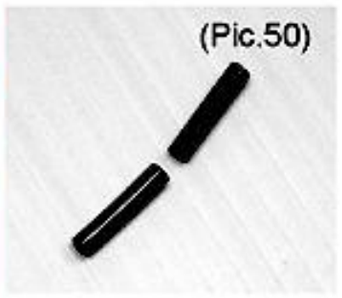

(Pic.46)


(Pic.47)

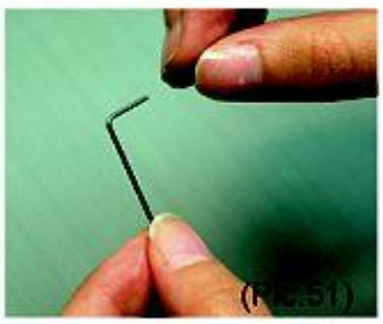
6. (1)Take the aileron linkage wire and two pieces of rubber tube. (Pic.48)
   (2)Cut the rubber tube to a half. (Pic.49,50)


(Pic.48)

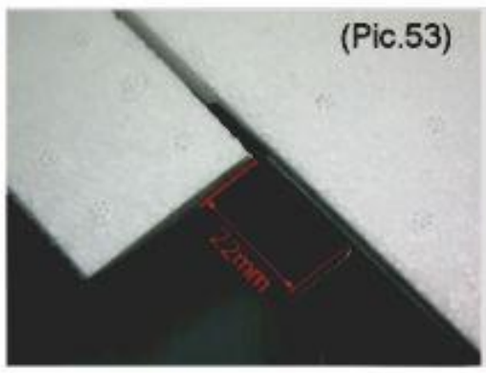

(Pic.49)


(Pic.50)

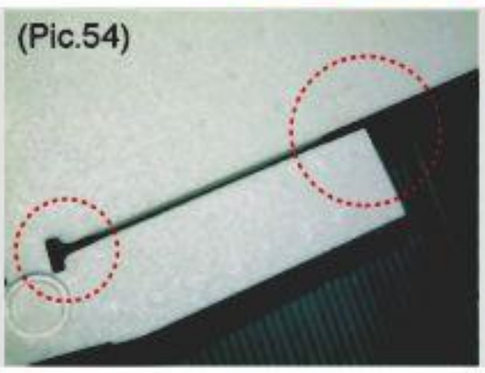
   (3)Slide two of the rubber tube onto the aileron linkage wire. (Pic.51,52)
   (4)Put the aileron linkage wire into the aileron slot. (Pic.53,54)
   (5)Glue the rubber tube in place and trim the aileron wire as shown. Assemble left and right sides the same way. (Pic.54,55)

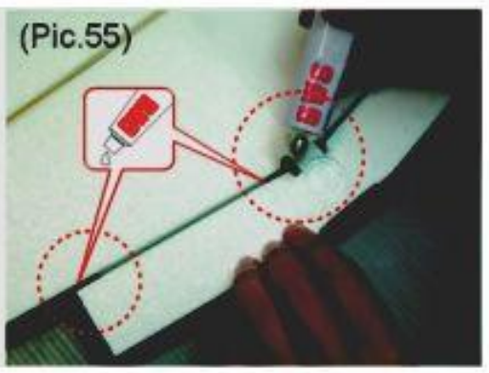

(Pic.51)


(Pic.52)



(Pic.53)


(Pic.54)



(Pic.55)

7. (1)For the aileron linkage wire, cut a 1mm x 1mm x 22mm slit. (Pic.56,57)
   (2)Drill 1mm dia. & 10mm deep hole on the aileron. (Pic.58)

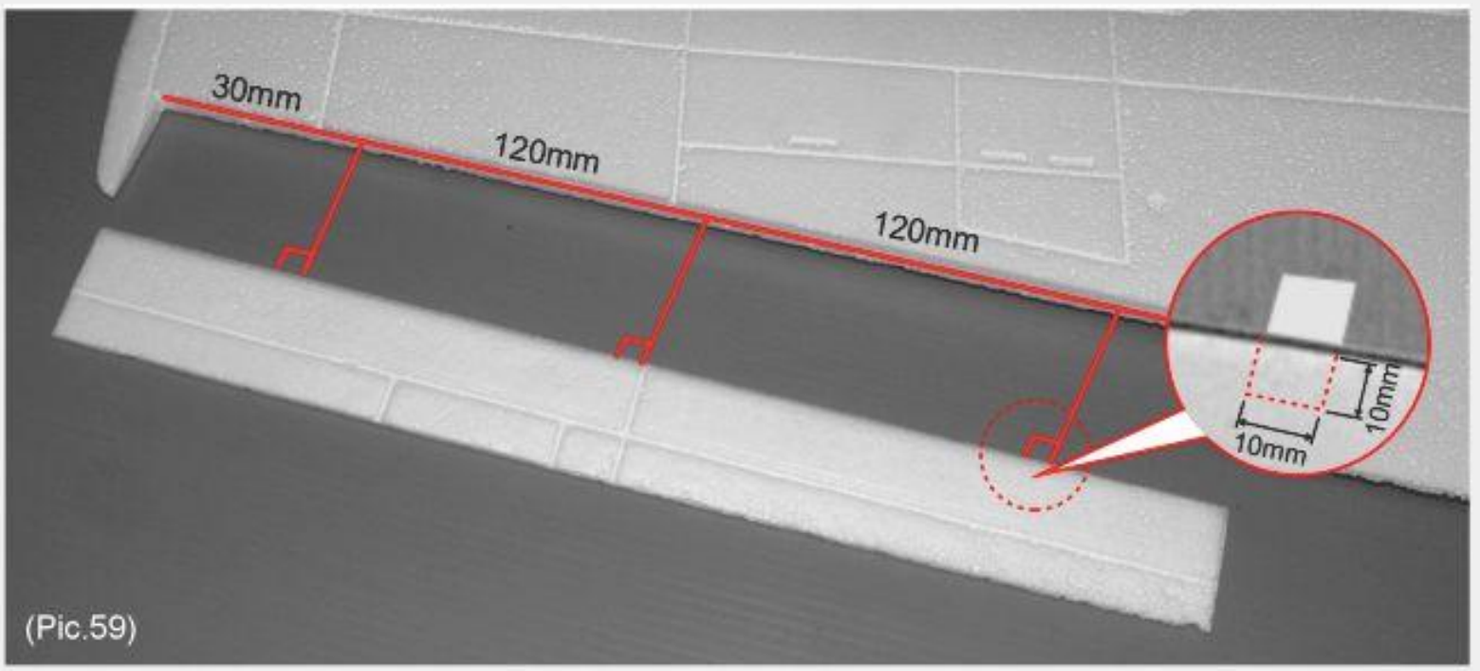

(Pic.56)

(Pic.57)

(Pic.58)

use GWS glue.

8. (1) Shown below are the dimensions for the hinge placement. (Pic.59).
(2) Cut a slit (10mm x 10mm) at 3 places for hinge installation on the aileron. (Pic.60).
(3) Then apply glue to a half of the hinge and insert them into the slits of aileron. (Pic.61.62).
(4) Apply glue on all hinges and aileron wire then insert them to the wings securely. (Pic.63).
Assemble left and right sides the same way.

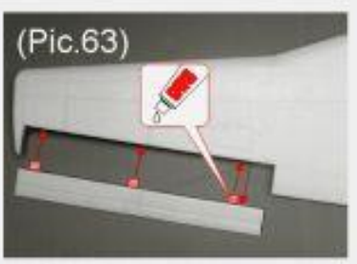


(Pic.59)

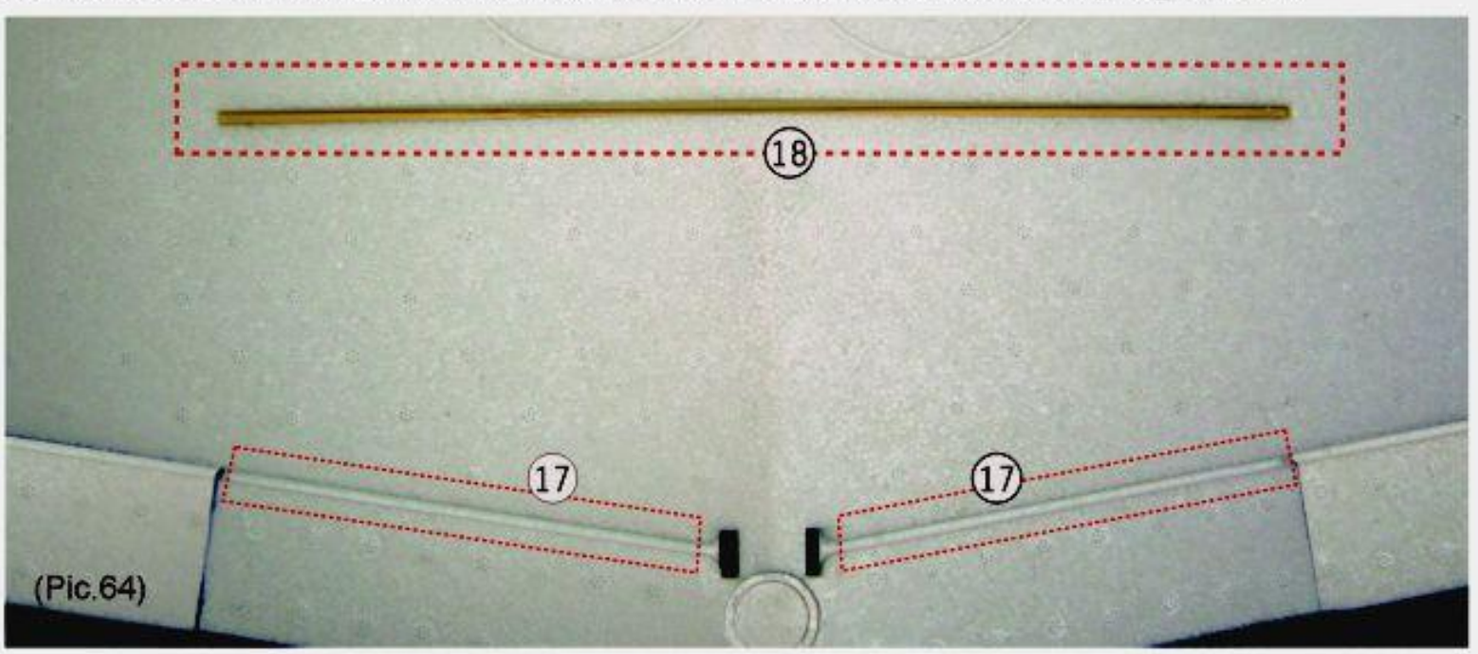

((Pic.60)


(Pic.61)


(Pic.62)


(Pic.63)

9. Cover the aileron linkage wires and wing enforcement with the supplied decals ⑰&⑱ (Pic.67).

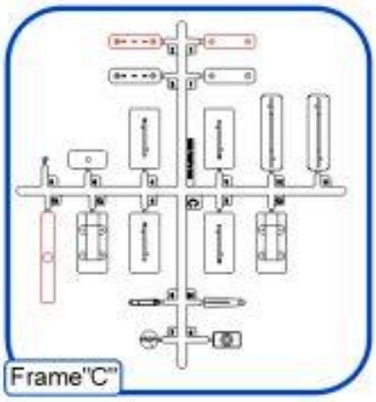


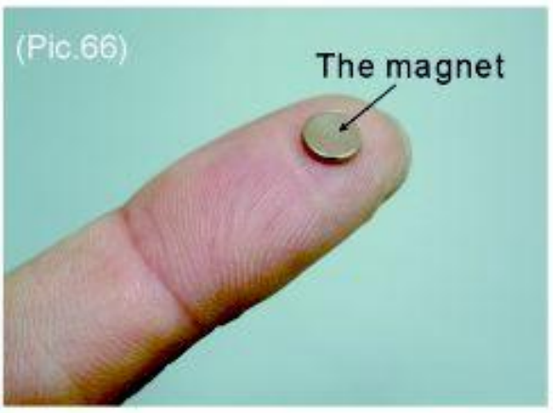
(Pic.64)

use GWS glue.

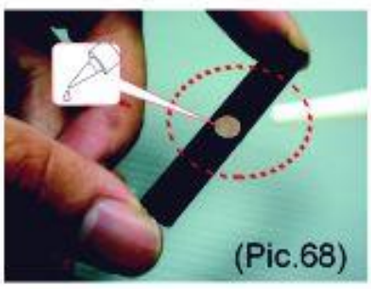
COCKPIT ASSEMBLY

1. (1) Cockpit. (Pic.65).
   (2) Plastic parts frame C No. ①. ② & ⑬
   (3) The magnet (Pic.66).



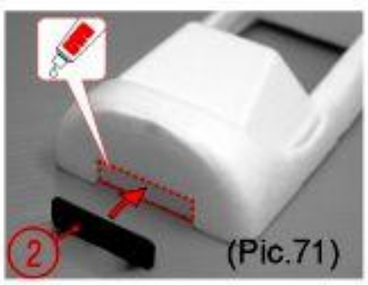


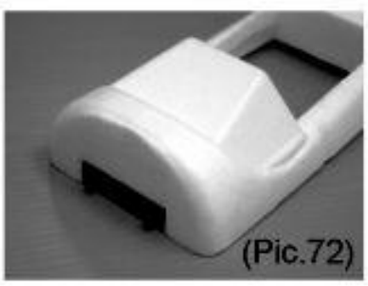
2. (1) Press the magnet into the plastic part C ⑬. (Pic.67).
   (2) Apply a small amount of glue to the C⑬. (Pic.68).
   (3) Glue the plastic part C ⑬ to the recess of the cockpit (Pic.69.70).

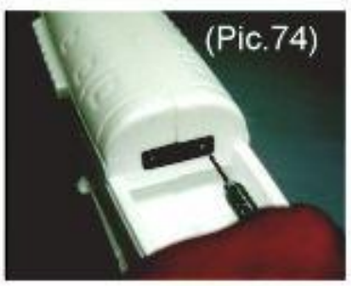


3. Glue the plastic part C② on the front of the cockpit (recess)(Pic.71.72).

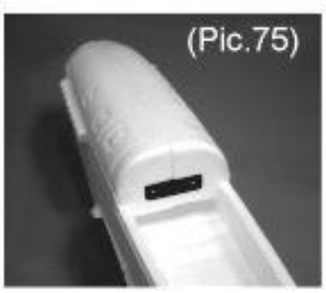
4. (1) Glue the plastic part C① on the recess of the fuselage. (Pic.73.74).
   (2) Drill two 3mm holes on the fuselage of the plastic part C① for receipt part C② of canopy. (Pic.74.75).

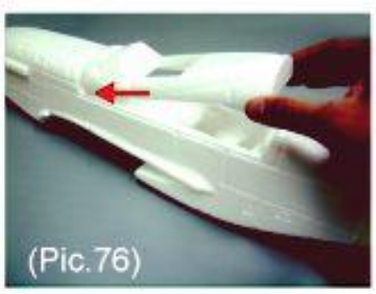






5. (1) When glue cures completely, trial fit the cockpit to the fuselage. (Pic.76).
   (2) Fix the cockpit in place and glue the steel plate in place to catch the cockpit. (Pic.77.78).



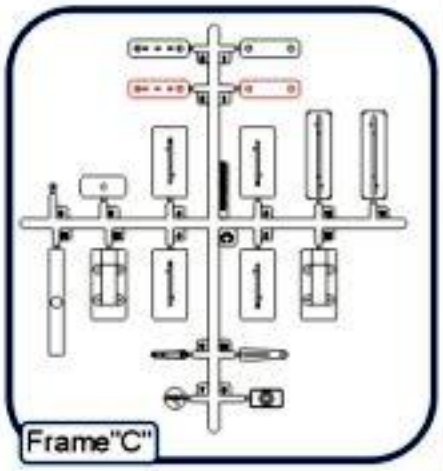


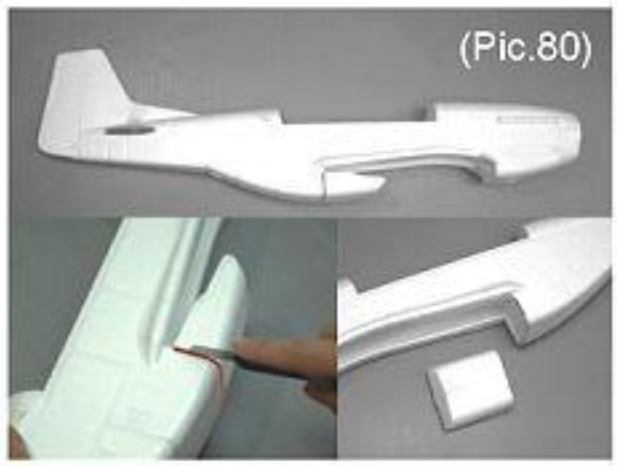
use CA glue. use epoxy. use GWS glue.

WING MOUNTING

1. (1) 3mm screw & washer, rubber grommet. (Pic.79).
   (2) Plastic part frame C No. ① . & ② .
2. Cut the radiator air scoop apart from the finished fuselage. (Pic.80)


(Pic.79)

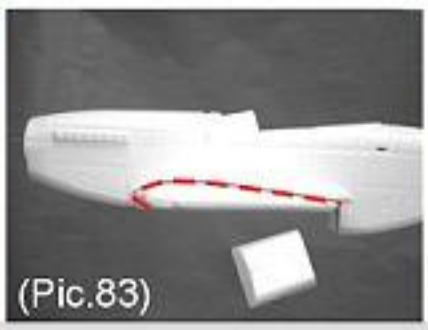



(Pic.80)

3. (1) Trail fix the wing into the fuselage. (Pic.81).
   (2) Put the 3mm wing bolt screw through the wing from top, then check the wing and fuselage meet exactly no gap. Adjust the wing and fuselage configuration as in the diagrams. (Pic.82.83.84).


(Pic.81)


(Pic.82)


(Pic.83)


(Pic.84)

4. Glue the air scoop to the wing at the indicated area (Pic.85. 86.87).

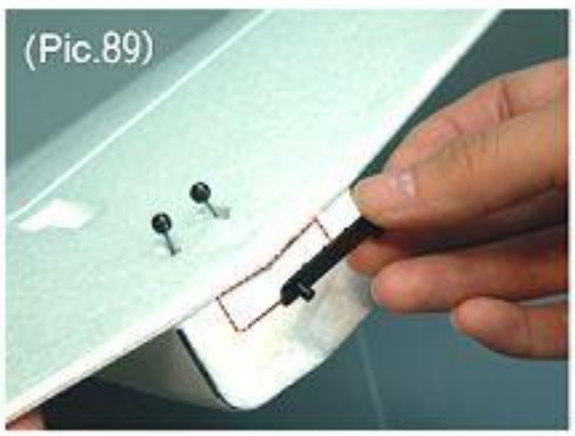
(Pic.85)

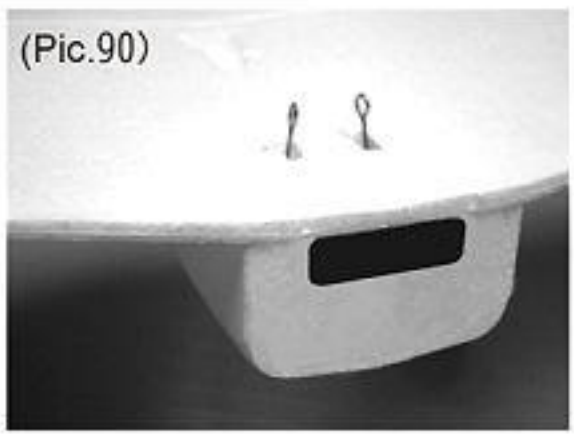

(Pic.86)


(Pic.87)

5. Glue the plastic part C (2) to the rear of the radiator air scoop. (Pic.88.89.90).

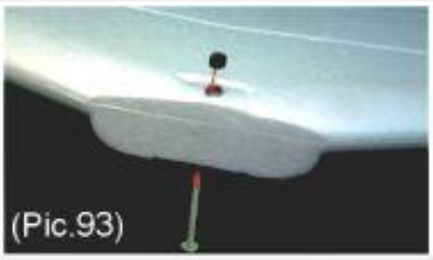
(Pic.88)

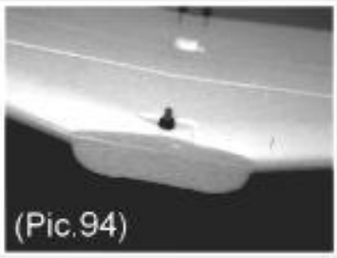

(Pic.89)


(Pic.90)

use GWS glue.

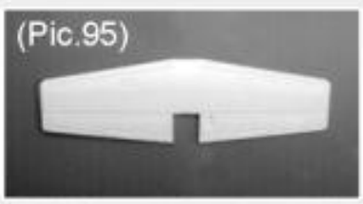
6. Glue the plastic part C1 to the air scoop of the fuselage (hollow) (Pic.91. 92).
7. Put the 3mm screw & washer through the wing bolt mounting hole, then insert the rubber grommet to the other side of 3mm screw. (Pic.93.94).
8. Try to fix the wing into the fuselage, then fasten the screw and trim away any problem areas that prevent a good fit. (Pic.94).



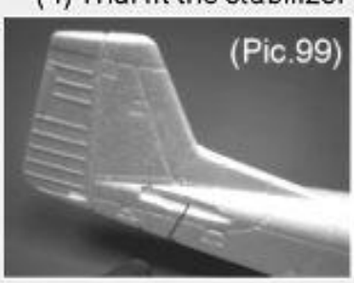


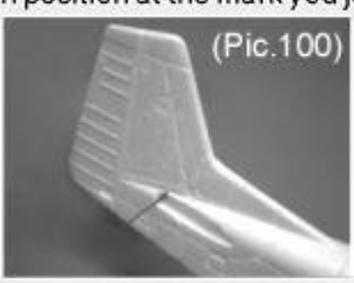
TAIL ASSEMBLY

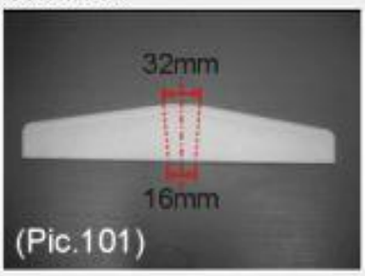
1. (1) Horizontal stabilizer (Fig-95).
   (2) Elevator linkage wire. (Pic.96).
2. Cut the elevators apart from the horizontal stabilizer with a knife as per the groove. (Pic.97.98).

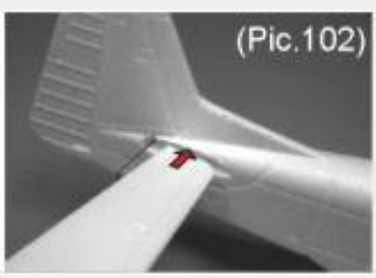


3. (1) Insert the elevator linkage wire into the fuselage. (Pic.99,100)
   (2) Use a triangle to determine the center of the horizontal stabilizer and mark indication lines as shown. (Pic.101).
   (3) Insert the stabilizer into the fuselage. (Pic.102).
   (4) Trial fit the stabilizer in position at the mark you just made.

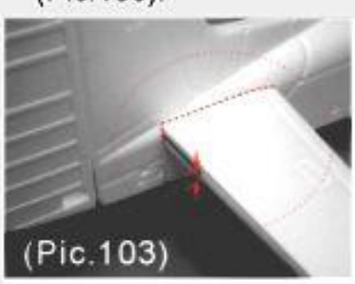


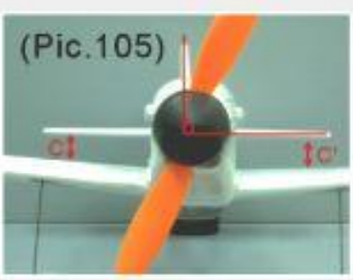


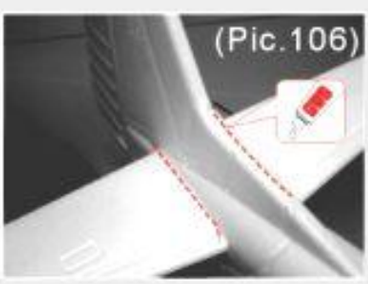




   (5) Trim the elevator linkage wire on the center line of the stabilizer.(Pic.103).
4. (1) Check the horizontal stabilizer with the wing and adjust the alignment as described. (Pic.104).
   (2) Ensure that the horizontal stabilizer is also level in regards to the fuselage and vertical fin. (Pic.105).
5. Make sure all is in place, then spread the glue on the horizontal stabilizer which contacts the fuselage. (Pic.106).

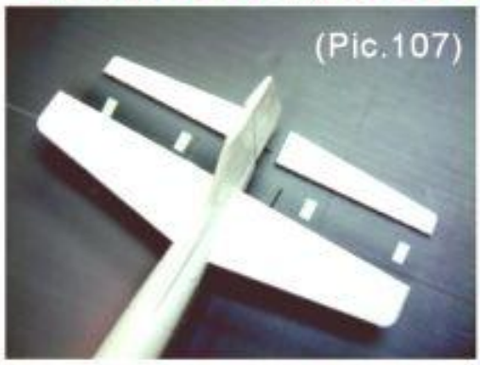


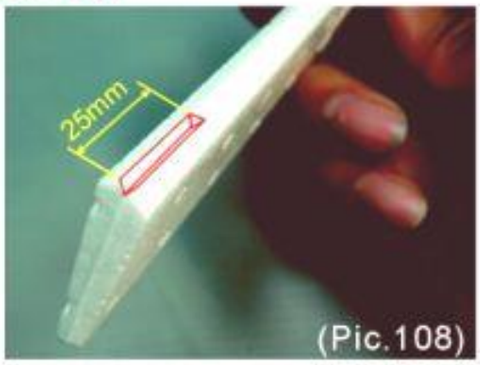




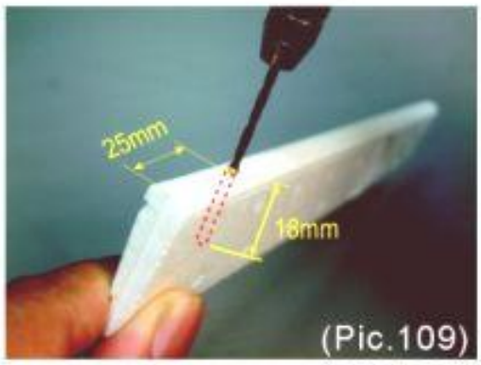
use GWS glue.

6. (1) For the elevator linkage wire, cut a 1mm deep & wide and 25mm long slit. (Pic.107,108).
(2) Drill a ø1mm dia & 18mm deep hole on the elevator (Pic.109)
Assemble left and right sides the same way.


(Pic.107)

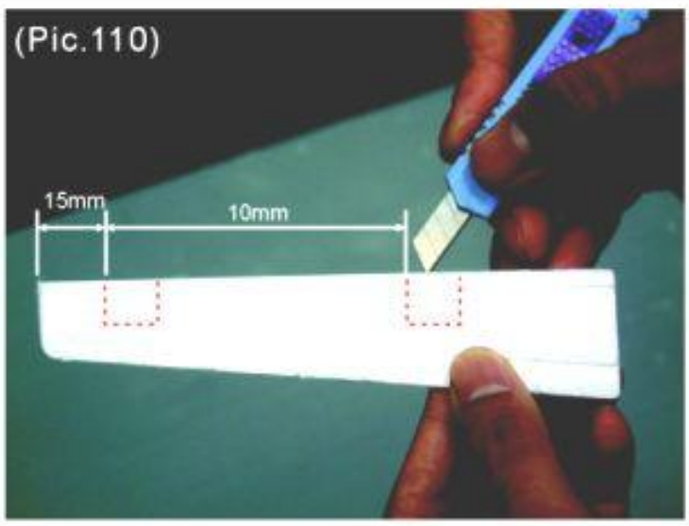


(Pic.108)

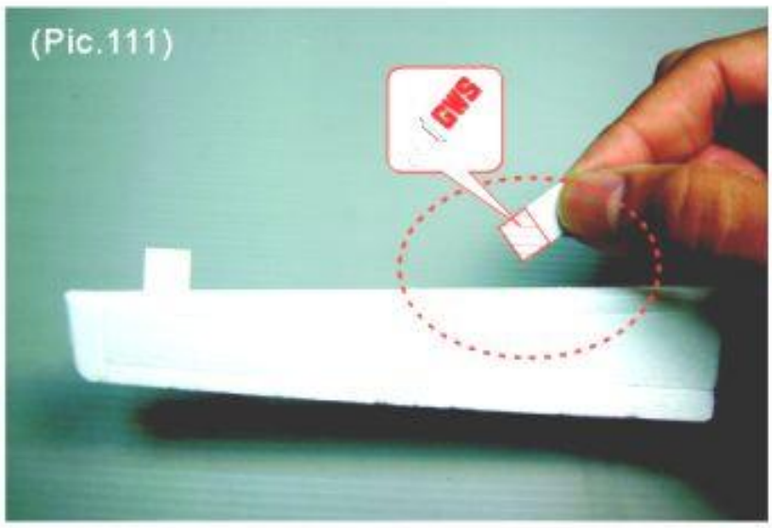


(Pic.109)

7. (1) According to the dimensions shown for hinges. (Pic.110).
(2) Cut a slit (10mm long & deep) at 2 places for hinge installation on the elevator.

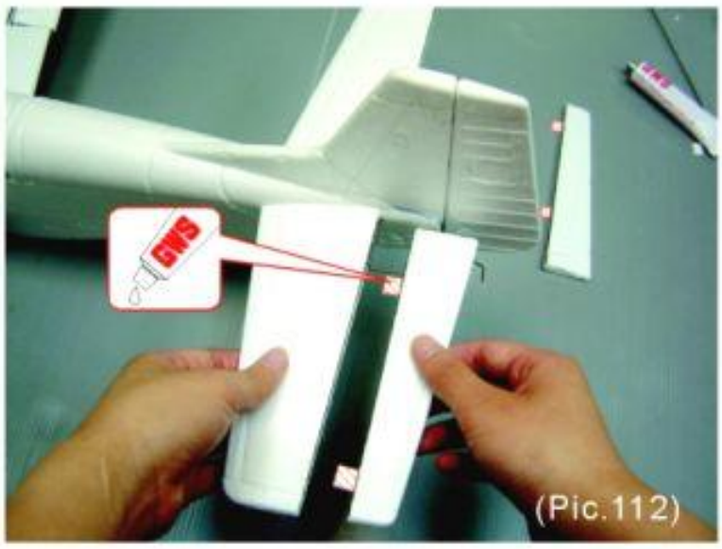


(Pic.110)

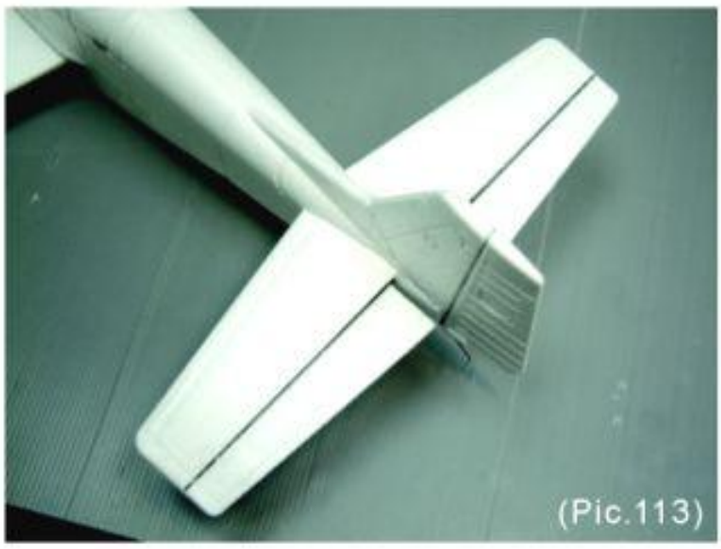


(Pic.111)

(3) Then apply glue to a half of the hinge and insert them into the slits.(Pic.111).
(4) Apply glue on all hinges and elevator linkage wire and insert them to the horizontal stabilizer securely.(Pic.112.113).
Assemble left and right sides the same way.



(Pic.112)


(Pic.113)

PAINTING

1. If you choose un-painted version, please refer these steps to paint your P-51D.
2. (1) Choose emulsion paint suitable for the polystyrene. (Pic.114).
   (2) Before painting, wipe all surfaces of the fuselage, wing, stabilizer and fin with medical alcohol and remove any oil, dust, dirt etc.
   (3) For best results, holding the can about 20cm away from the surface. Remember, to use as little paint as possible to complete coverage, because extra paint is extra weight. (Pic.115)

Warning:

(1)Always test the paint for compatibility on a small area before proceeding to paint the entire surface.
(2)Always paint in a well-ventilated area.


(Pic.114)

(Pic.115)

4. Several optional painting scheme as shown (Pic.120.121.122).
   You may wish to consider a different painting scheme for your favorite.

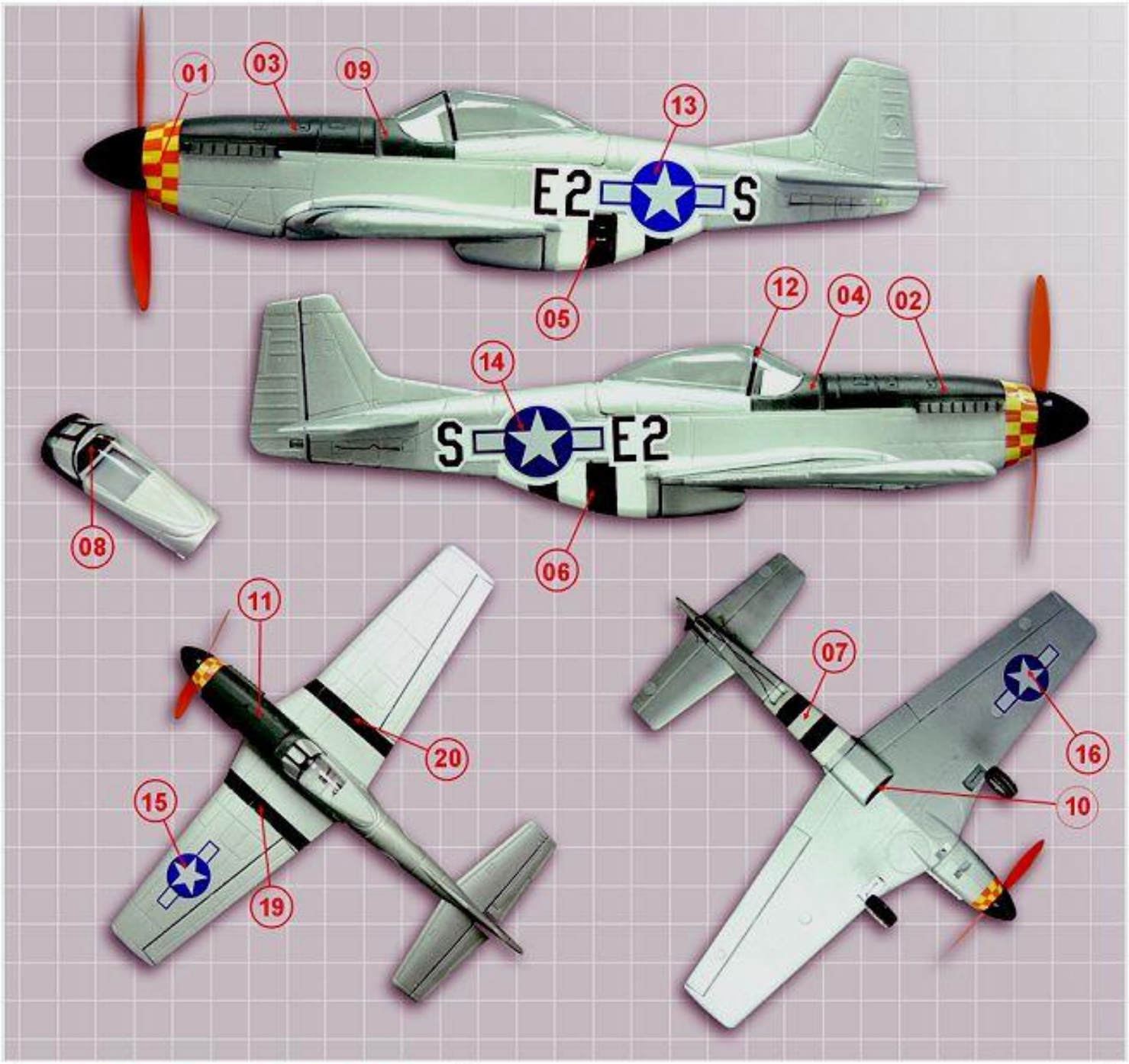

(Pic.120)

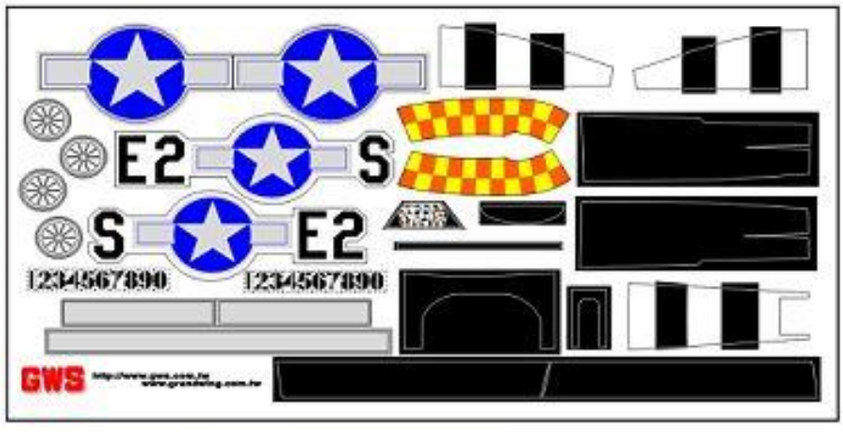

(Pic.121)


(Pic.122)

DECALS

For the correct placement of decals, please refer to the scheme shown.





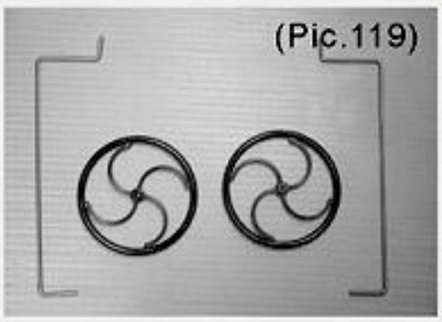
MAIN LANDING GEAR ASSEMBLY

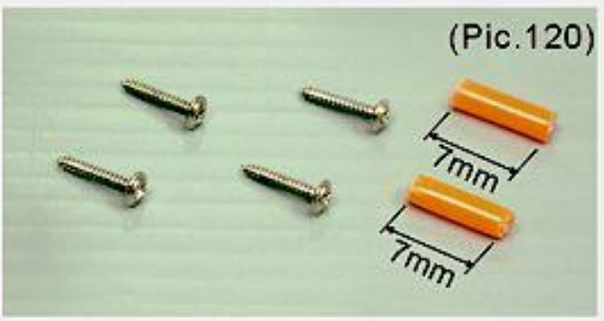
1.The main landing gear system including

(1)Main landing gear (⌀1.6mm piano wire x 2), ultra-light wheel rim x 2 (Pic.119)

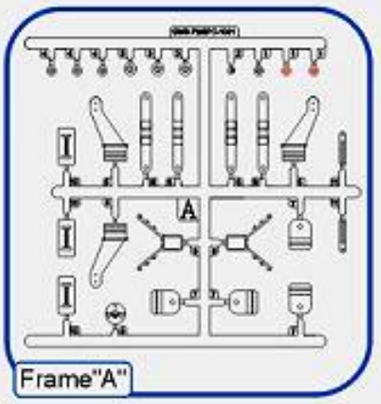
(2)Screws x 4 & plastic tubes (from fuselage assembly step one) (Pic.120)

(3)Retainer (GWS-STICK-FAS6 #1 x2)


(Pic.119)



(Pic.120)

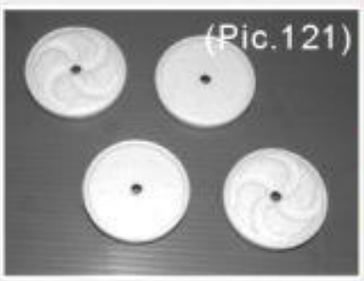


(4)Styrofoam from wheel caps (caps with wheel spoke track x 2, caps without wheel spoke track x 2). (Pic.121)

2.(1)Apply GWS glue on the wheel spoke and ring track of the cap. (Pic.122)

(2)Bond the ultra-light wheel to the glued cap and wait until it cured. (Pic.123)

(3)Apply GWS glue to the wheel ring and spokes and bond the other side of cap. (Pic.124)


(Pic.121)

(Pic.122)

(Pic.123)


(Pic.124)

3.Painting the wheel by black compatible paint. (Pic.125)

4.Stick with #22 sticker on the center of wheel on both side. (Pic.126,127)

5.Drill through the wheel retainer by ⌀ 1.4mm hand drill. (Pic.128)


(Pic.125)

(Pic.126)


(Pic.127)

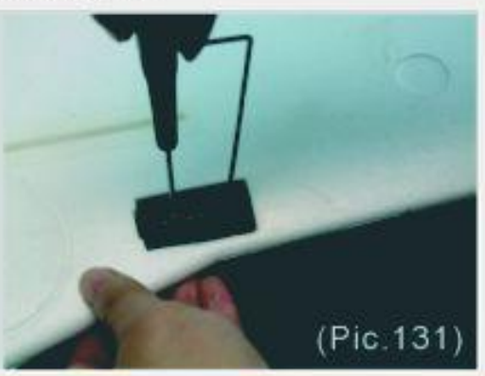

(Pic.128)

6.(1)Bond the landing gear mounts to the wing with GWS glue. (Pic.129)

(2)Secure the landing gear to the mount by screws, as picture shows. (Pic.130,131)

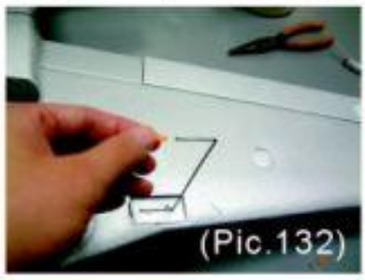

(Pic.129)

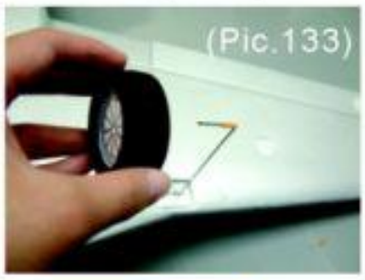

(Pic.130)


(Pic.131)

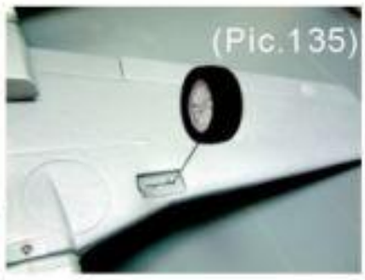
use GWS glue.

(3)Put the 7mm plastic tube to the wheel axle. As a spacer.(Pic.132)
(4)Put the finished wheel to the axle. (Pic.133)
(5)Fix the retainer to the axle. (Pic.134)
(6)A complete landing gear installation.(Pic.135)


(Pic.132)


(Pic.133)


(Pic.134)

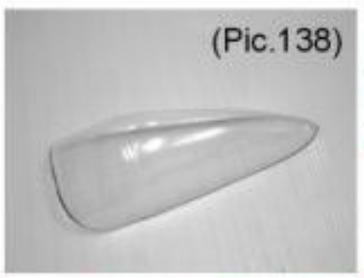

(Pic.135)

CANOPY INSTALLATION

1. Your transparent canopy. (Pic.136)
2. Cut out the extra material of the canopy. (Pic.137,138)
3. Apply glue to the inside edge of canopy. (Pic.139)

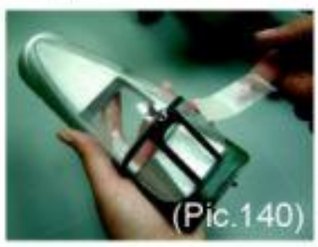

(Pic.136)

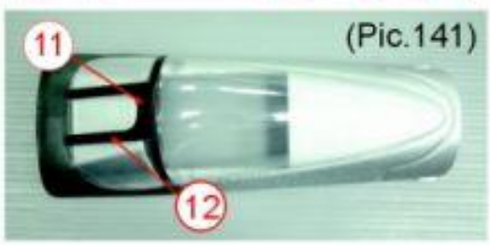

(Pic.137)


(Pic.138)


(Pic.139)

4. Bonding the canopy to the cabin, you may use paper tape to secured the canopy in place but you have to tear it off after glue cured. (Pic.140)
Be sure to use tape that will not remove the paint from the fuselage.
5. Use sticker # 11 and 12. Place on windshield as shown. (Pic.141)


(Pic.140)



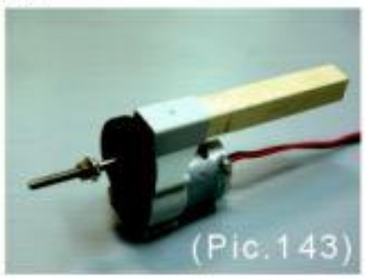
(Pic.141)

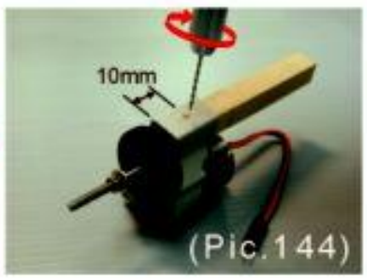
POWER SYSTEM INSTALLATION

(一)EPS-300C

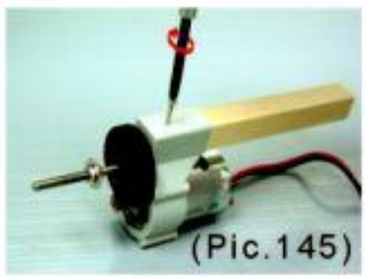
1. Prepare parts (GW/P51D-FAS300)
2. Insert the EPS mount to the electric power system (EPS). Make sure that the mount is pushed into the EPS by 20mm, if it is too tight to insert the mount, trim the mount slightly with knife or sand paper. (Pic.143)
3. Drill a 1mm hole by hand drill as picture 144.
4. Secured by a screw. (Pic.145)


(Pic.142)


(Pic.143)

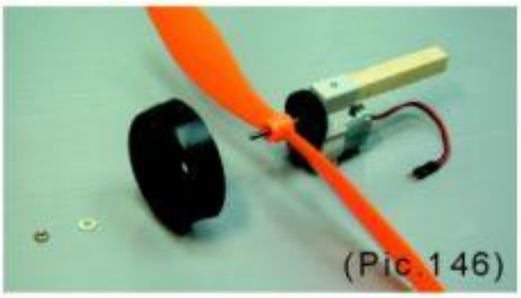


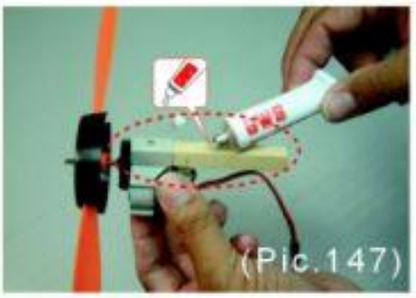
(Pic.144)

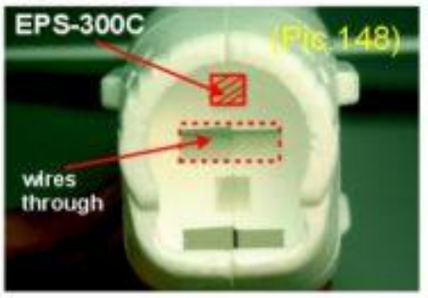

(Pic.145)

use GWS glue.

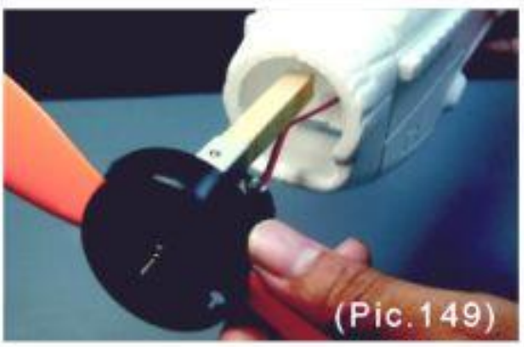
5. Install propeller and spinner seat and secured by nut. (Pic.146,147)
6. Put the power system in the fuselage upper chamfer, making sure it fits and is not too tight, then pull it out. Apply glue and install again. (Pic.148,149)

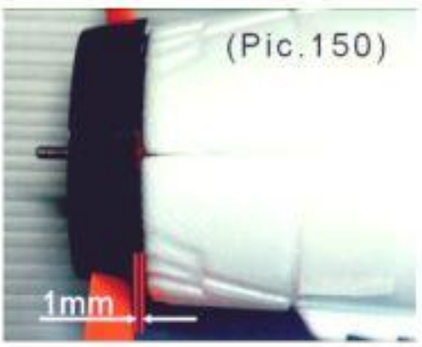

(Pic.146)


(Pic.147)



7.Please adjust the clearance in between spinner seat and fuselage about 1mm. (Pic.151)
8.Install spinner.


(Pic.149)




(Pic.151)

EDP-400C

1.Prepare your EDP-400C parts. (Pic.152)
2.Insert the GW/EMM-400M mount to the motor mount (Pic.153)
3.Install the EDP-400 motor by front 2 bolt and use rubber band to keep it in place. (Pic.154,155)


(Pic.152)


(Pic.153)

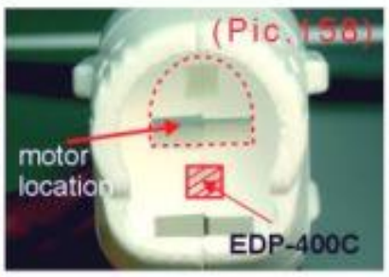

(Pic.154)

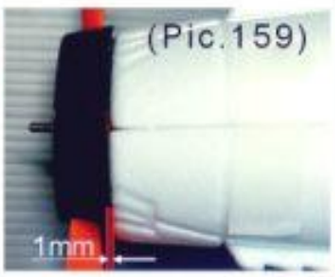

(Pic.155)

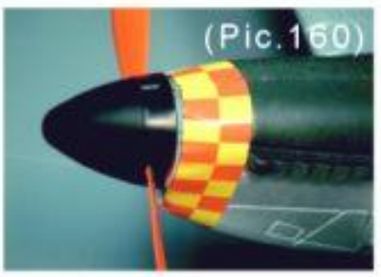

(Pic.156)

4.Install propeller and spinner seat, secure with a nut and washer. (Pic.156)
5.Put the power system to the fuselage lower chamfer make sure it is fit and not too tight (You may have to clean some styro form out from this chamfer as shown on pic.158)
6.Pull the power system out and apply glue then put it back. Be sure to adjust the clearance in between spinner seat and fuselage about 1mm. (Pic. 159)
7.Install the spinner. (Pic.160)


(Pic.157)






(Pic.160)

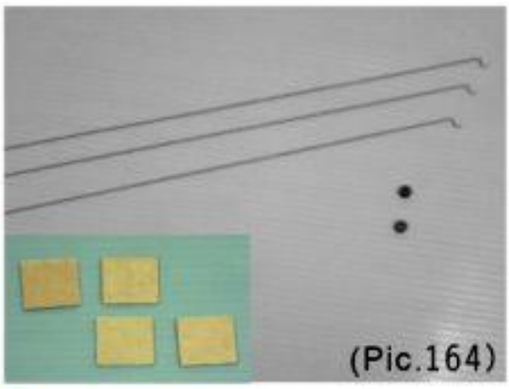
RADIO CONTROL SYSTEM

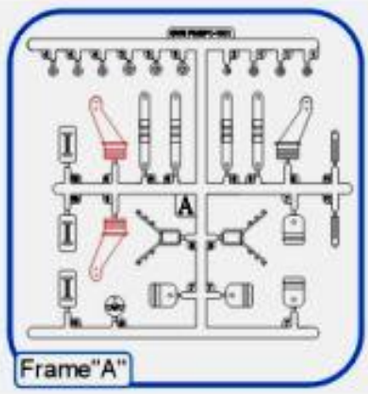
1.(1) You Have To Prepare 4 Channel Transmitter X 1, Electric Speed Controller X 1, Naro Servo X 3, Mini Receiver X 1, 8.4~9.6V Ni-MH or Ni-Cd Battery X 1, Extension Wire X 1. These parts are not included in this kit. (Pic.163)

(2) ⌀1mm Push-pull Rod X 3, Plastic Washer X 2, Double Side Sponge Tape X 4. (Pic.164) (REF GW/P51D-FAS4)

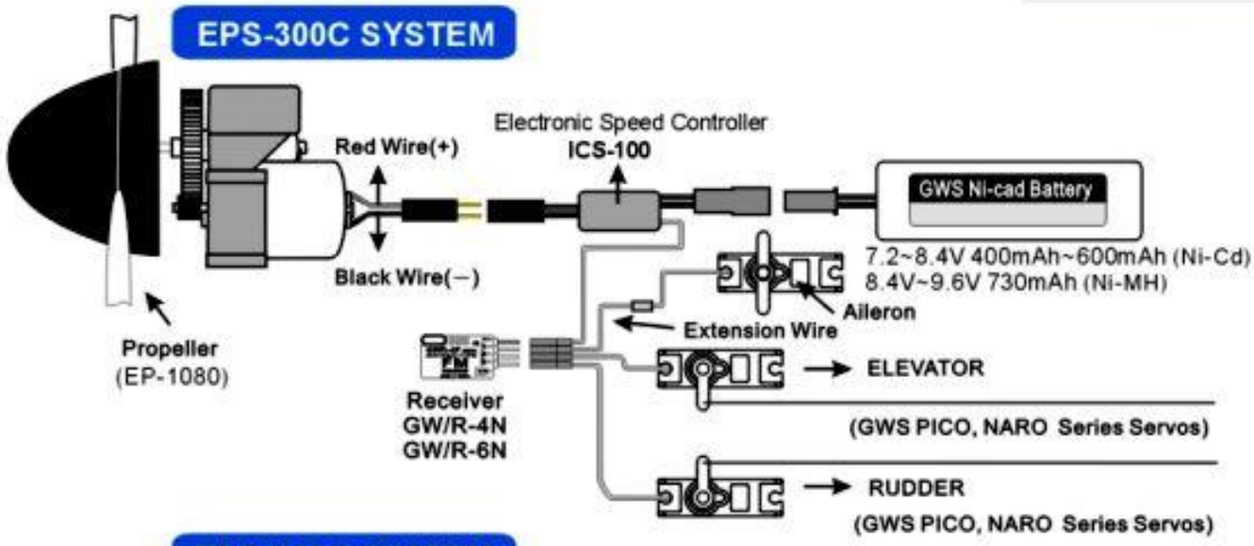
(3) Plastic parts frame A #5 X 2.


(Pic.163)

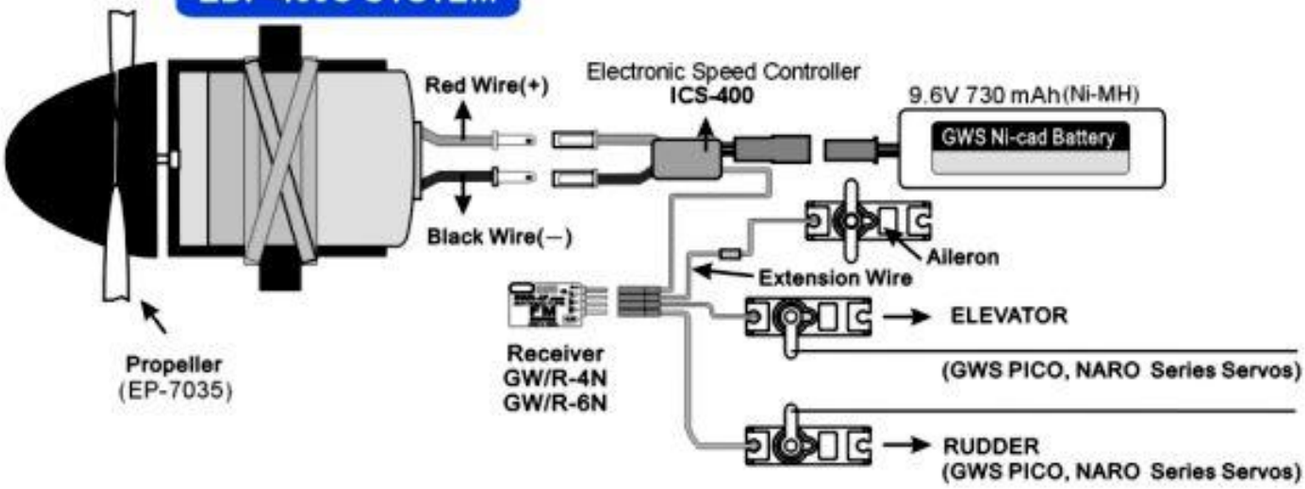

(Pic.164)



EPS-300C SYSTEM



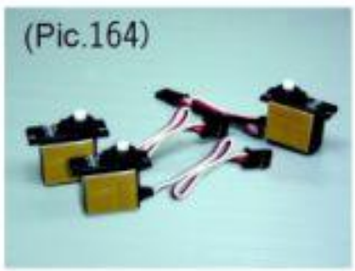
EDP-400C SYSTEM



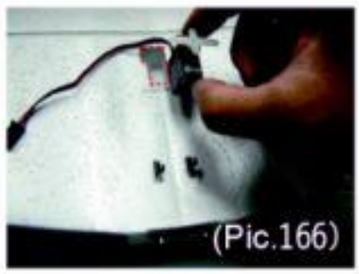
CAUTION: Before installation please read the instruction carefully. Please follow the above showing wiring diagram to connect the wire and be sure the servo are in neutral position. When you are testing the servo, please do not connect the motor wire and be sure to turn on transmitter first.

2.(1) Clean the outer shell of servo, receiver and speed controller with paper towel and alcohol. (Pic.163)
(2) Apply the double side foam tape to the servos as picture. (Pic.164)
(3) Put the servo in location. (Pic.165,166)

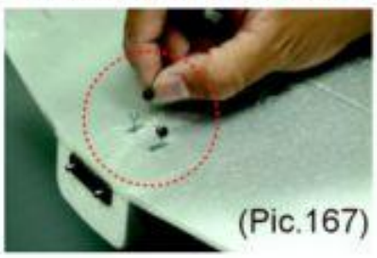

(Pic.163)

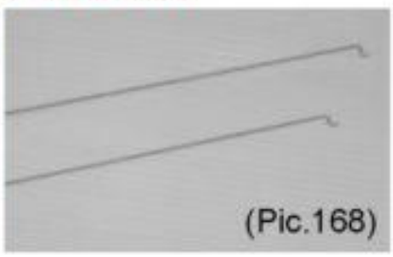

(Pic.164)

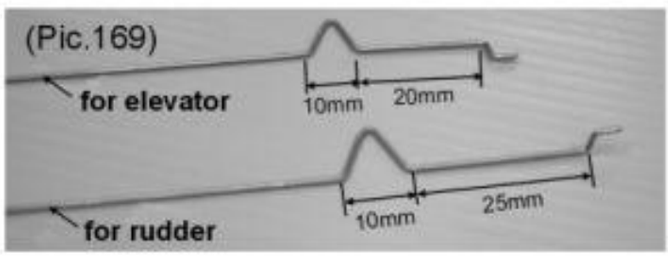

(Pic.165)


(Pic.166)

3. Put the rubber grommet to the aileron linkage. (Pic.167)
4. (1) Bend a "V" shape on the push-pull rod. (Pic.168.169)
Please note the locations of "V" are different.


(Pic.167)


(Pic.168)

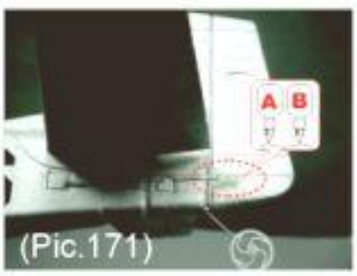


(2) Connect the push-pull rod to control horns. (Pic.170)
The horn has two holes if you use inner hole  the moving angle are bigger then if you use outer hole. 

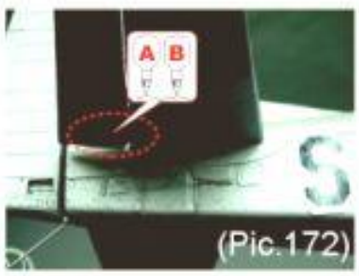
(3) Put the push-pull rod through the guided plastic tube, for rudder please use left side tube. For elevator use right side tube, fix the control horn to rudder and elevator with epoxy. (Pic.171.172)

(4) Push-pull rod arrangement for tail units.

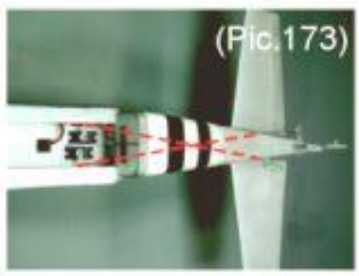

(Pic.170)



(Pic.171)



(Pic.172)

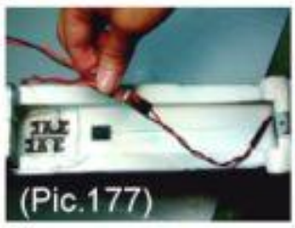

(Pic.173)

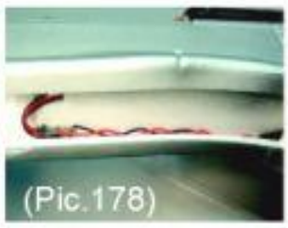
5. (1)This is the under side of fuselage. (Pic.174)
(2)Use knife to cut a "U" slope. (Pic.175)
(3)Pull out the power cord of power system. (Pic.176)
6.(1)This location is for the electronic speed control. (Pic.176)
(2)Put the ESC and extension wire on the side of the fuselage. (Pic.177)


(Pic.174)


(Pic.175)


(Pic.176)


(Pic.177)


(Pic.178)

(3) Connect the wires of SERVO, ESC, and EXTENSION WIRE to receiver. (Pic.179)
(4) Put the receiver as picture 179 shown and use double side tape to keep it in location. (Please note the receiver is on the AFT side of fuselage.)

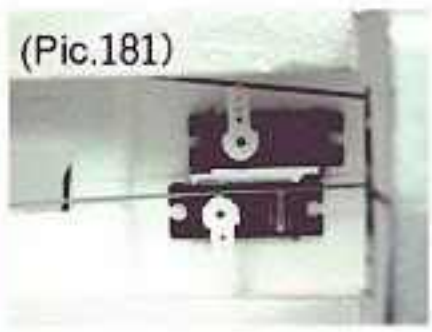
7. (1) Set the servo in neutral, install the servo horn, use a marking pen mark out the connecting point on the push-pull rod. (Pic.180.181)
(2) Bend a "Z" connector on marked point of push-pull rod and cut the extra wire.

Please note that the servo horn has several holes and the inner hole connection will always give more moving angle to rudder or elevator than outer holes.

(3) Servo horn connection complete. (Pic.182)

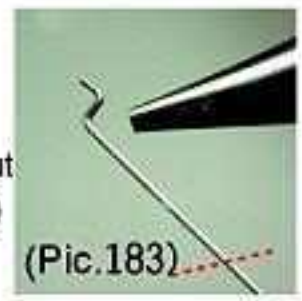

(Pic.179)

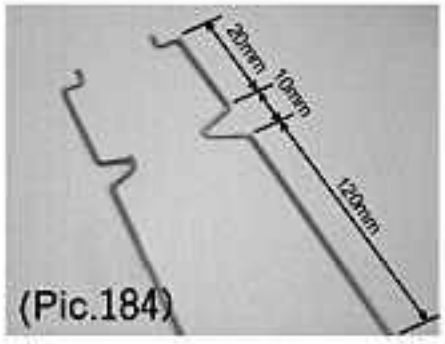

(Pic.180)


(Pic.181)

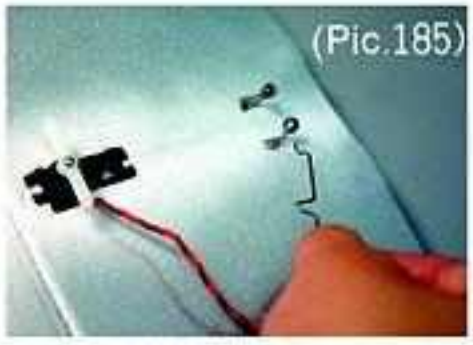

(Pic.182)

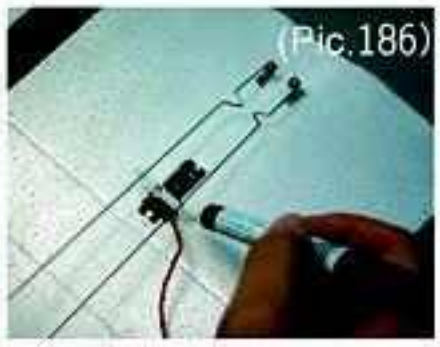
8. (1) Cut the rest push-pull rod to 2 parts. (pic.183)
(2) Please follow the instruction on picture 184 to make your Aileron push-pull rod.
(3) Connect rod to rubber grommet of aileron connect rod. (pic.185)
(4) Set the Aileron servo on neutral position, install Aileron horn, use a marking pen to measure out aileron push-pull rod length. Make a "Z" connector on the rod and cut the extra wire. (Pic.186)
(5) The correct arrangement of aileron servo connection. (Pic.187)

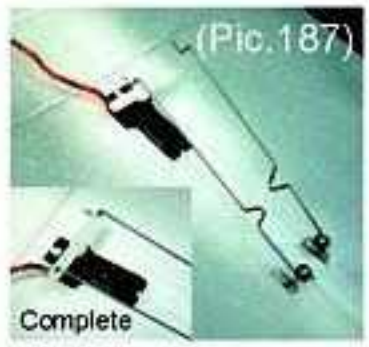

(Pic.183)



(Pic.184)


(Pic.185)


(Pic.186)



(Pic.187)

9. (1) Use aileron extension wire to connect to the servo wire. (Pic.188)
(2) Install the wing to fuselage. (Pic.189)

Please keep away of all wires from the joint area.

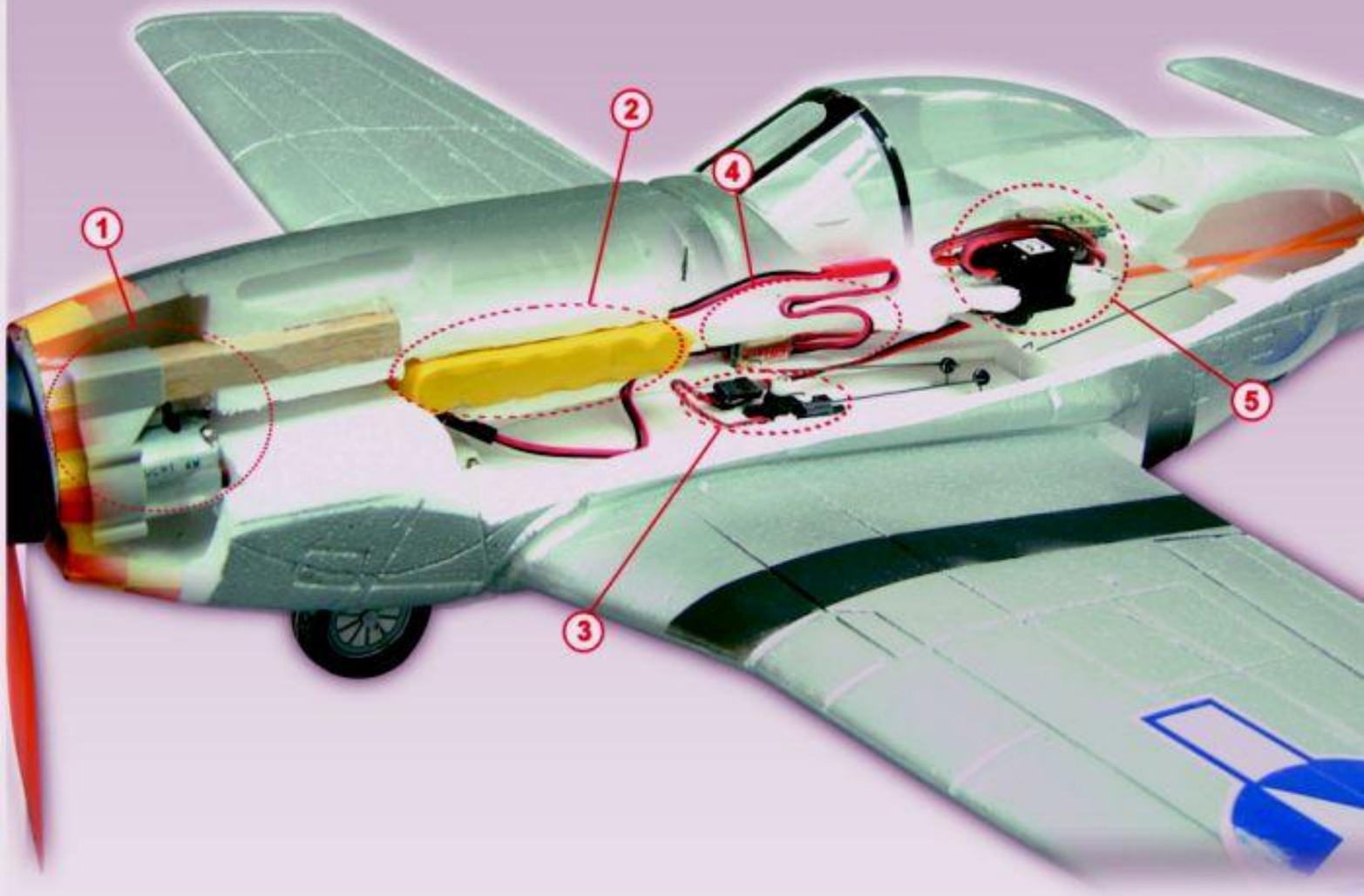
10. The assembly of your "Mustang" is now complete. (Pic.190)

Do not cut or coiled the extra antenna..


(Pic.188)


(Pic.189)

(Pic.190)

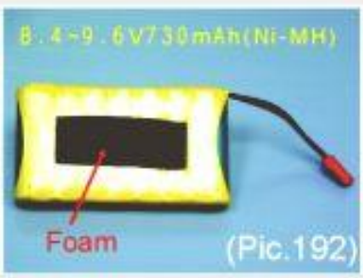


1. Electric power system (EPS-300C & EDP-400C)
2. Batteries
3. Extention wire & aileron servo
4. Speed controller
5. Receiver, rudder servo and elevator servo

BEFORE FLIGHT TEST

1. Turn on your transmitter. (Pic.191)
2. (1) Please use foam to stick on both side of your 8.4V~9.6V 730mAh battery. (Pic.192)
   (2) Push the battery pack to battery area of fuselage. (Pic.193.194)


(Pic.191)



(Pic.192)


(Pic.193)

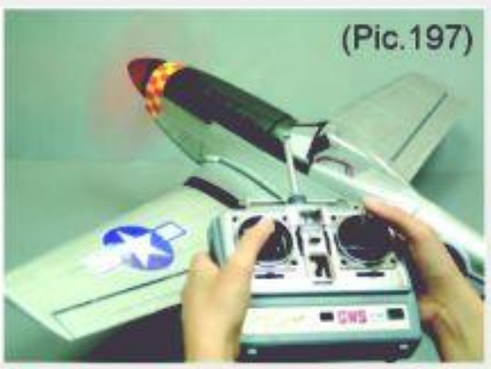

(Pic.194)

3.(1) Connect power wires (Pic.195) and turn on the receiver .
   (2) Pull down the throttle to the lowest position and also the micro adjustment to the minimum. The motor should in the neutral position and no operation
   (3) Push up the throttle stick slowly and watch the reaction of the motor. The motor should run from low to full throttle as you adjust the stick upward. (Pic.197)

NOTE: If the motor does not follow the stick control, please check to confirm the power wire connections is correct. Check with throttle control reverse switch on the transmitter.


(Pic.195)

(Pic.196)



(Pic.197)

NOTE: Throttle will be controlled on the left in Mode 2 transmitters such as those used in the U.S.

4. AILERON TEST
   (1) Stick move to left, the left side aileron on the airplane will move up, and right side aileron move down. Stick location on the transmitter varies by mode.
   (2) Aileron stick move to right. The right side aileron on the airplane move up, and left aileron move down.
   (3) Stick in neutral position. All aileron on the air plane should return to neutral.
   If the movement of aileron are working in opposite direction, please switching the aileron reverse switch on the transmitter.

(Pic.198)

(Pic.199)

(Pic.200)

5. RUDDER TEST

(1) Moving the stick to the left should move the rudder to the left. (Pic.201)

(2) Moving the stick to the right should move the rudder to the right. (pic.202)

(3) When the stick is in the neutral center position, the rudder should return to neutral. (Pic.203)

If the movement of the rudder is opposite to the stick movement, please switch the rudder reverse switch on the transmitter.


(Pic.201)


(Pic.202)


(Pic.203)

6.ELEVATOR TEST

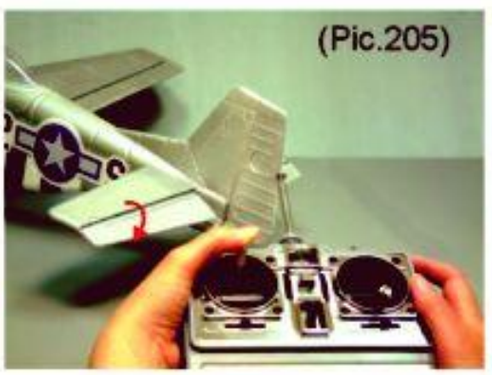
(1)Moving the stick down should move the elevator up. (Pic.204)

(2)Moving the stick up should move the elevator down. (Pic.205)

(3)When the stick is in neutral, the elevator should return to neutral. (Pic.206)

If the movement of elevator is opposite to the stick movement, please switch the elevator.

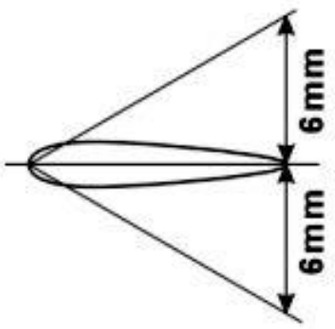

(Pic.204)


(Pic.205)

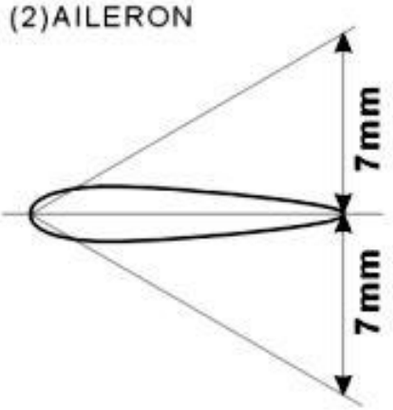

(Pic.206)

(7) MOVEMENT OF ALL MOVING SURFACE

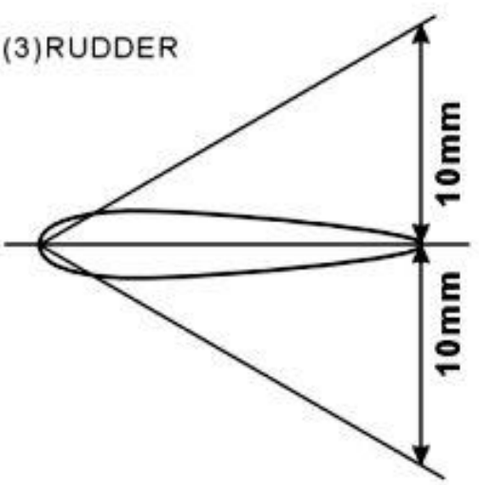
(1)ELEVATOR



(2)AILERON

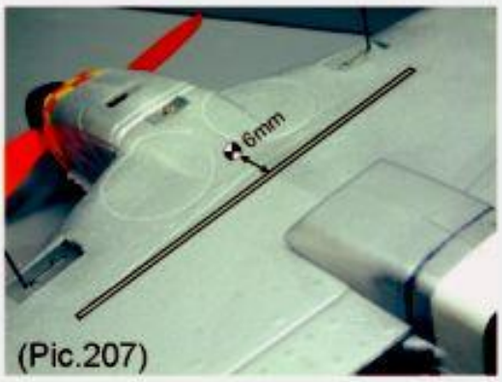


(3)RUDDER

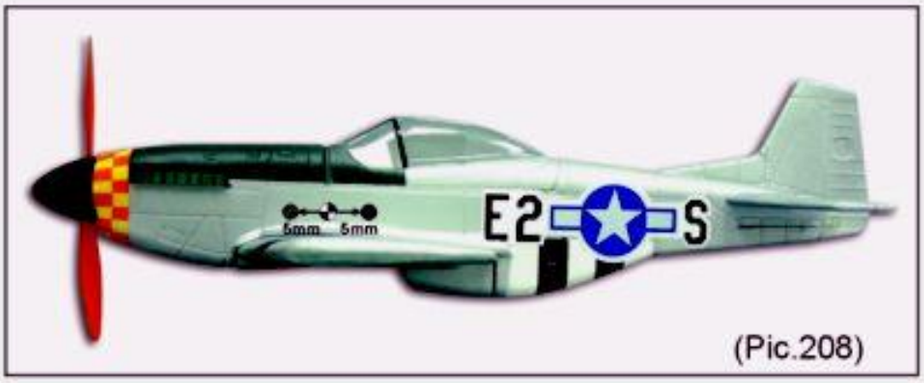


BLANCE AND BATTERY PACK LOCATION

1. The center of gravity of GWS P-51D is 6mm in front of reinforce bamboo stick. Pic. 207)
2. For more stable flight you may move the C.G. forward. But not exceed to 5mm (Pic.208)
3. We highly recommend GWS 7.2V~8.4V AA 400 mAh~600 mAh Ni-Cd battery or 8.4V~9.6V 730 mAh NI-MH battery for P-51D. When you use 7.2V~8.4V battery please use GWS EP1080 propeller and please use EP9070 for 9.6V battery.



(Pic.207)



(Pic.208)

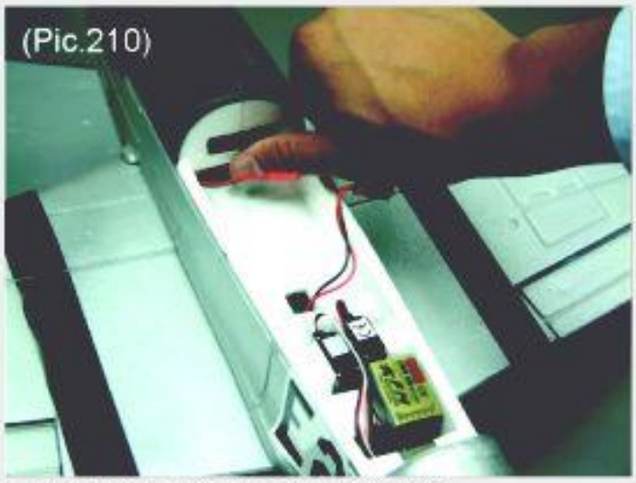
4. We highly recommend GWS 7.2V~8.4V AA 400 mAh Ni-Cd battery or 8.4V~9.6V 730 mAh NI-MH battery for P-51D.

When you use 7.2V~8.4V battery please use GWS EP1080 propeller and please use EP9070 for 9.6V battery.

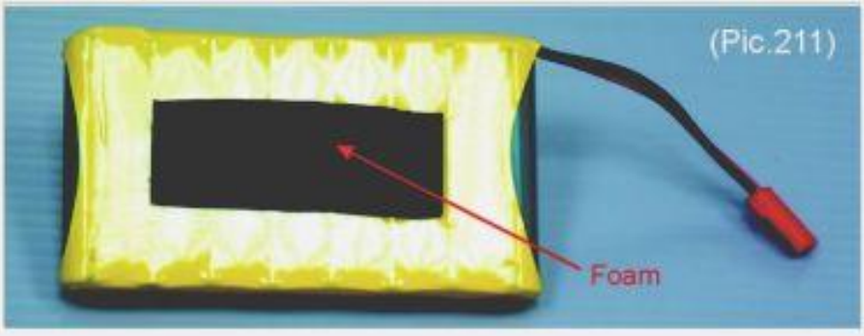
5. When you chose GWS 7.2V~9.6V 270mAh batteries you can just push it to the battery cabin in the fuselage the C.G. position will only need slight adjustment. (Pic.210)

Note: The C.G. Is very critical and it is important that you check and confirm the location for yourself before flying. Battery and other changes may affect this position.

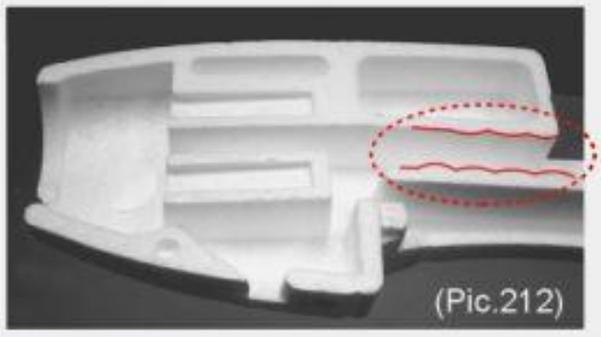
(Pic.209)


(Pic.210)

6. Please use foam to stick on both sides of the battery to secure the battery in position easier. (Pic.211)
7. The P-51D fuselage battery cabin is specially designed to carry these batteries. Some fits may be tighter so it may be necessary to sand the area for a much better fit. (Pic.212)

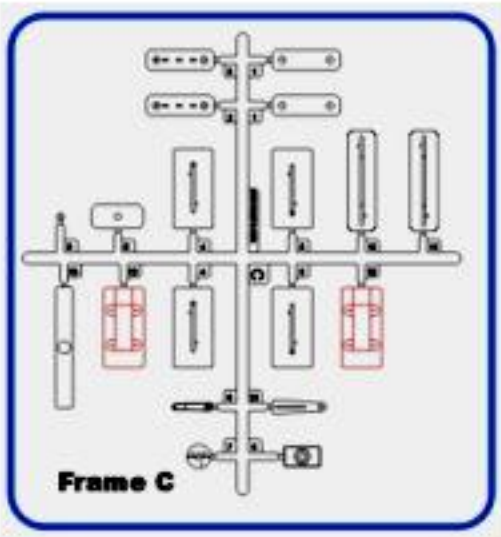


(Pic.211)


(Pic.212)

Modification Procedure for Retractable Landing Gear System

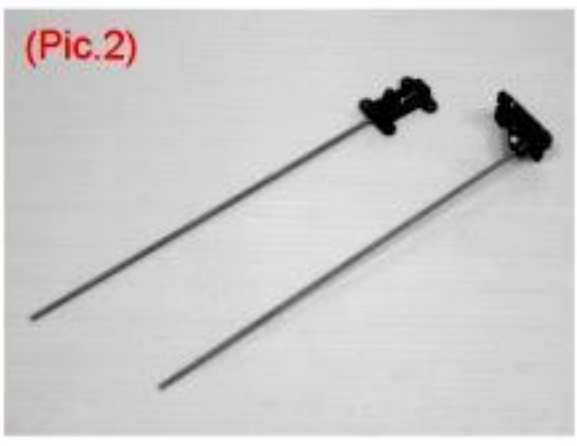
(1) Your will need at least a 5 channel radio system.
(2) Before you start to do the modification. please read the instruction of retract landing gear system carefully.
(3) Only the GWS ultra-light wheels are available for this modification.
(4) If you are not skillful enough, please don't try.



Procedure

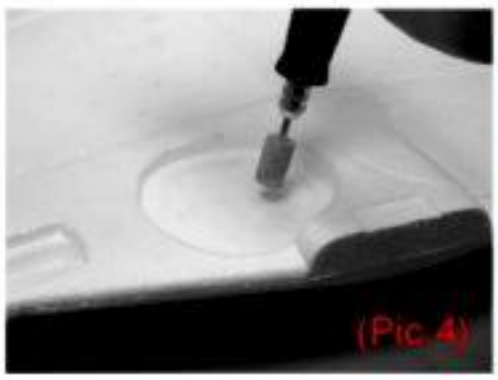
1. What you need
(1) Remove your wing from the airplane and disconnect the wires.(Pic.1)
(2) Part 12x2 from plastic parts frame C.
(3) GWS retract landing gear gear (GW-RG-PM). (Pic.2)
(4) Mini power (Pic.3) grinder.

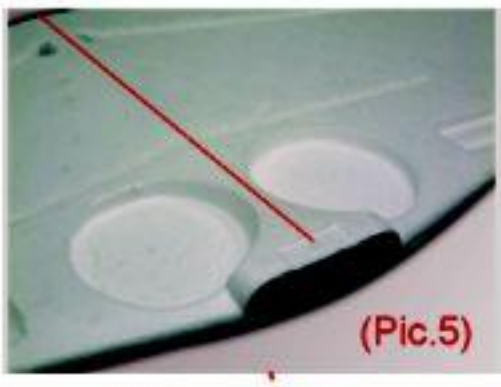

(Pic.1)

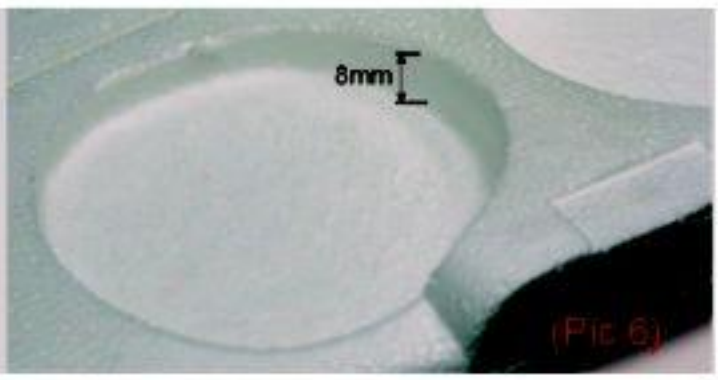

(Pic.2)


(Pic.3)

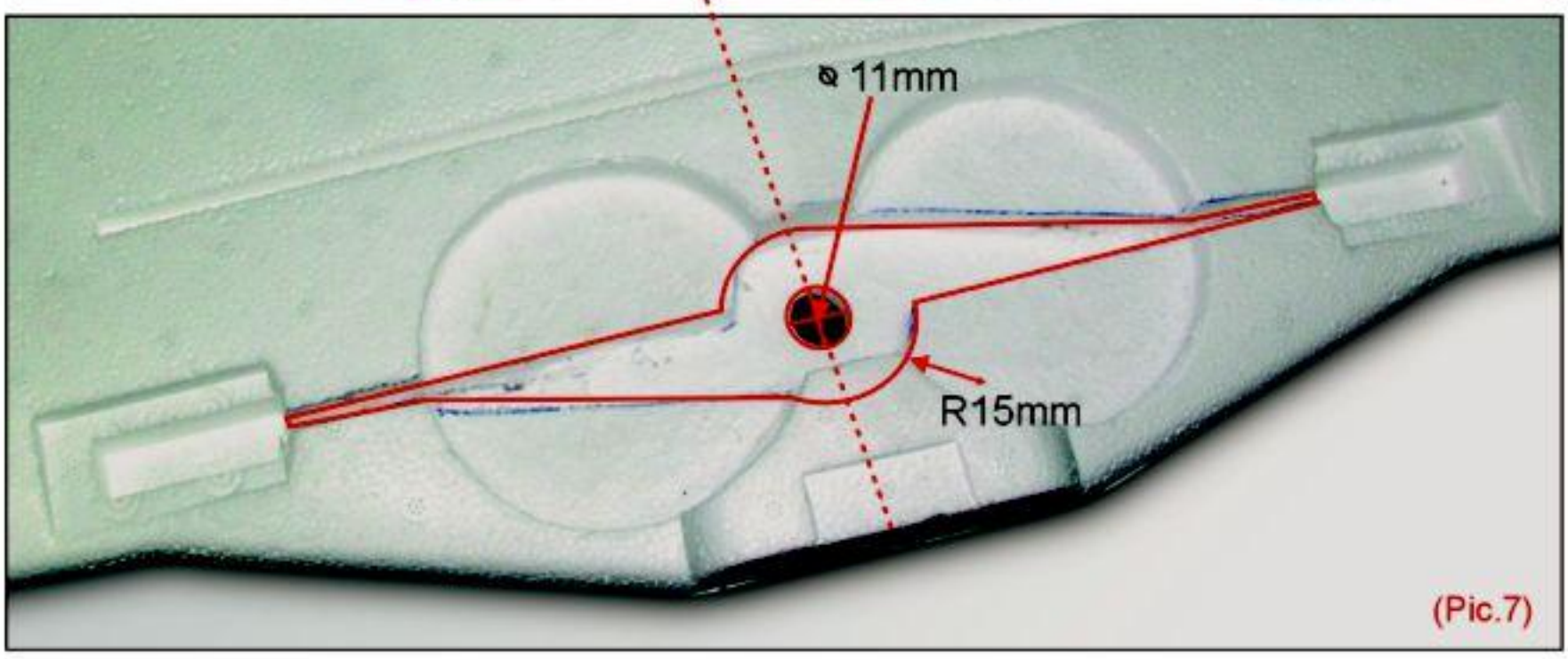
2. Use mini grinder to grind a 8mm deep wheel cabin. (the under surface of main wing are marked the size of wheel)(pic.4.5.6)
3. Drill one 11mm dia. through hole on the center line of the wing for servo shaft and grind out a r=15mm d=14mm recess. as picture 7 for servo horn movement.


(Pic.4)


(Pic.5)

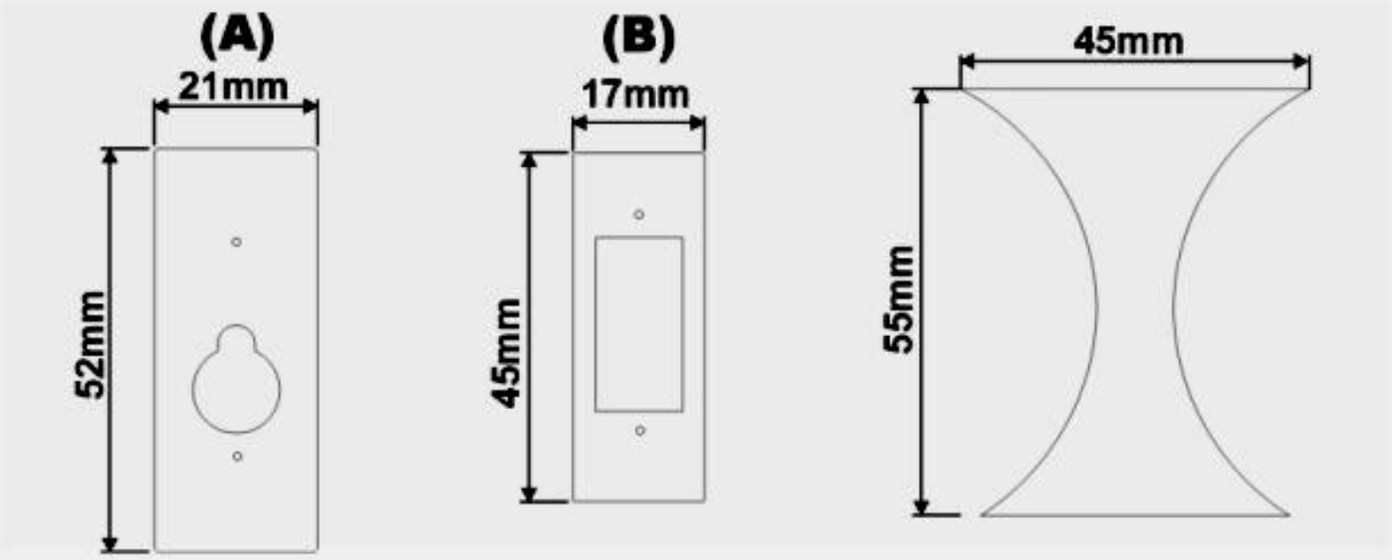


(Pic.6)

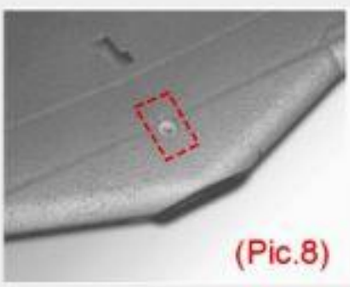


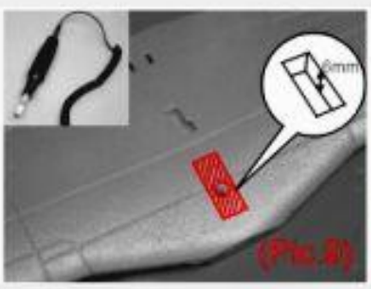
(Pic.7)

4.Use ABS board cut out 2 pieces of parts the dimentions are as showing below.

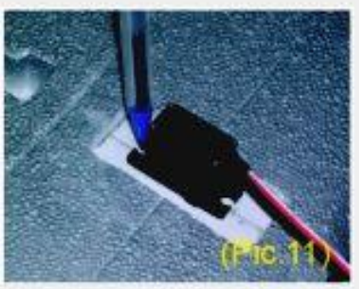


5 (1) Use pattern "A" as a guide to mark out shape on the upper surface of main wing.(pic.8)
(2) Grind out a 6mm deep recess. (Pic.9)
(3) Use epoxy to glue "A"pattern to the recess. (Pic.10)


(Pic.8)


(Pic.9)


(Pic.10)


(Pic.11)

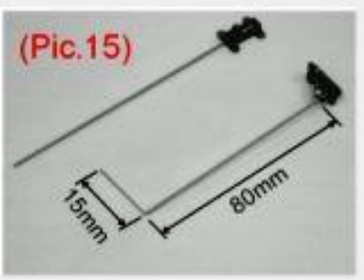
6. (1) Use a NARO servo to mark out the screw position. (Pic.11)
(2) Use a hand drill and dill the screw guide hole. (Pic.12)
(3) Put the NARO servo back to the pattern"A"and with "B" in between. (Pic.13)
(4) Secured by screws. (Pic.14)

7. Determine your landing gear length make a 90° inward and cut the extra wire.


(Pic.12)


(Pic.13)


(Pic.14)

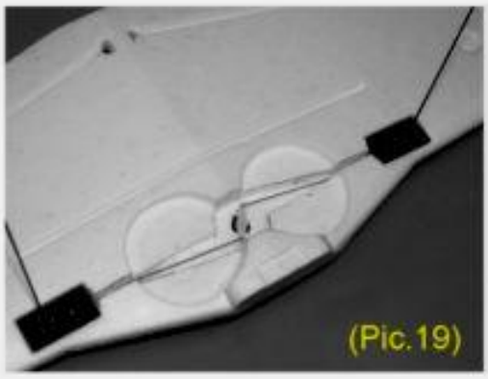


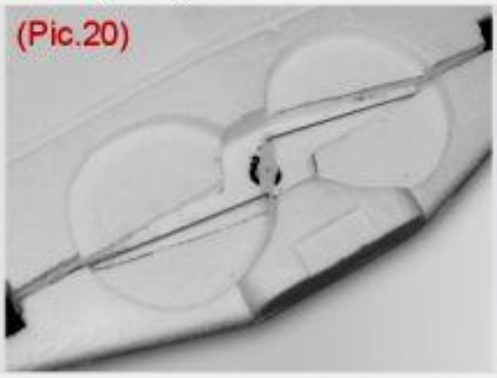
8. Bend the push-pull rod as picture 16.
9. Glue the #12 landing gear mount of plastic parts frame"C" to the wing(Pic.17,18)


(Pic.16)


(Pic.18)

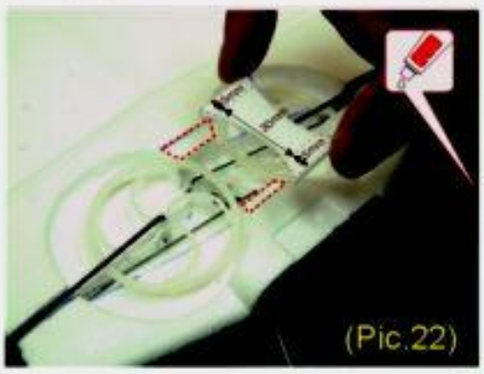
10. Install the retract gears to the mounts(Pic.19)
11. Connect the servo horn to the GW-RG-PM.(Pic.20)

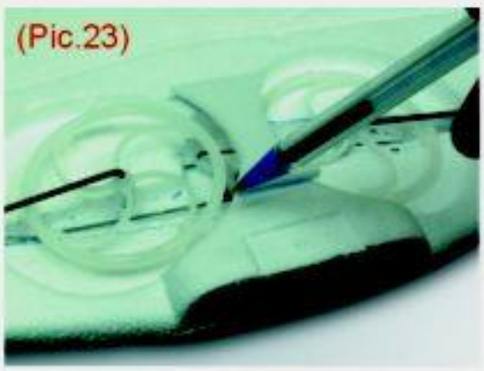

(Pic.19)


(Pic.20)


(Pic.21)

12. Make a test and see is it fit(Pic.21)you may have to make more recess for push-pull rods patterns & dimensions.
13. Make a styrofoam wheels a cabin hatch (Ref. To the front page)
14. (1) Use this hatch as a guide to mark out center part of wing.
    (2) Cut out a 3mm deep recess as picture 23.
    (3) Glue this hatch to the wing.(Pic.24)


(Pic.22)


(Pic.23)


(Pic.24)

EPS POWER SYSTEM SPECIFICATIONS

GW/EPS-300C-CS

Propeller	Volts (v)	Amps (A)	Thrust (g)	Thrust (oz)	Power (w)	Efficiency (g/w)	Efficiency (oz/w)
EP-1080	7.2	7.8	288	10.16	56.16	5.13	0.18
	8.4	9.7	332	11.1	81.48	4.07	0.14


EP-1080

GW/EPS-300C-CS

Propeller	Volts (v)	Amps (A)	Thrust (g)	Thrust (oz)	Power (w)	Efficiency (g/w)	Efficiency (oz/w)
EP-1080(4B)	7.2	8.6	310	10.93	61.92	5.01	0.18


EP-1080(4B)

GW/EPS-300C-DS

Propeller	Volts (v)	Amps (A)	Thrust (g)	Thrust (oz)	Power (w)	Efficiency (g/w)	Efficiency (oz/w)
EP-1080(4B)	8.4	7.8	314	11.08	65.52	4.79	0.17