Me-109

Me-109
EPS-300C/EDP-400C

Length : 758mm (29.8 in.)
Wing Span : 900mm (35.4 in.)
Wing Area : 13.55dm² (210sq.in)
Flying Weight : 310~410g (10.9~14.5oz)
Wing Loading : 22.9 ~ 30.26g/dm²
(7.47 ~ 9.95 oz/sq.ft)

Power System: GW/EPS-300C-CS
GW/EDP-400C-CS
Propeller: EP-1080/EP-7035
Battery Required:
7.2~8.4V/270~600mAh (Ni-cd)
7.2~9.6V/500~730mAh (Ni-MH)
Servo Required: PICO or NARO Series
Electronic Speed Controller:
Above ICS-100 / Above ICS-300
Receiver: R4N or R6N
Radio Required: 4-Channel Radio

SPECIFICATIONS

Me-109
SLOPE GLIDER

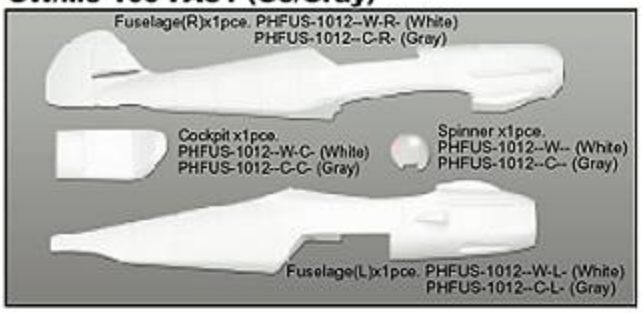
Length : 758mm (29.8 in.)
Wing Span : 900mm (35.4 in.)
Wing Area : 13.55dm² (210sq.in)
Flying Weight : 230~330g (8.11~11.6oz)
Wing Loading : 22.9 ~ 30.26g/dm²
(7.47 ~ 9.95 oz/sq.ft)
Battery Required:
4N "AA" 600mAh (Ni-Cd)
Servo Required: PICO or NARO Series
Receiver: R4N or R6N
Radio Required: 2~4 Channel Radio

RADIO CONTROL SYSTEM

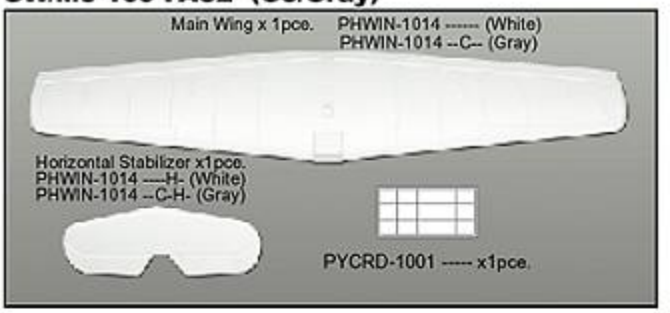
TOOLS AND ITEMS

To assemble this airplane you need to prepare some tools.

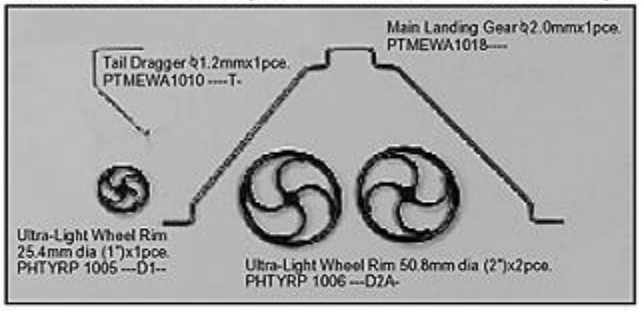
GW/Me-109-FAS1 (G8/Gray)



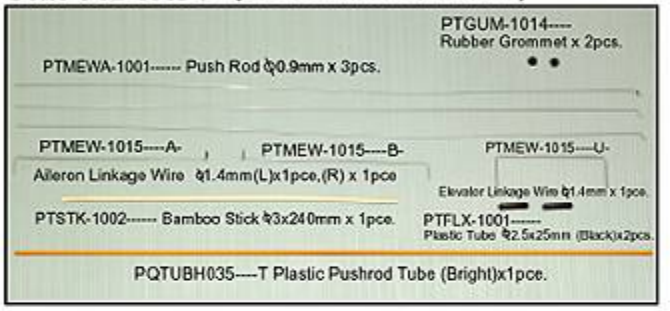
GW/Me-109-FAS2 (G8/Gray)



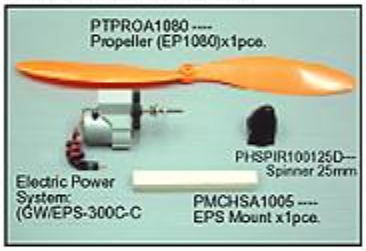
GW/Me-109-FAS3 (Me-109 LANDING GEAR PARTS)



GW/P51D-FAS4 (Me-109 LINKAGE PARTS)



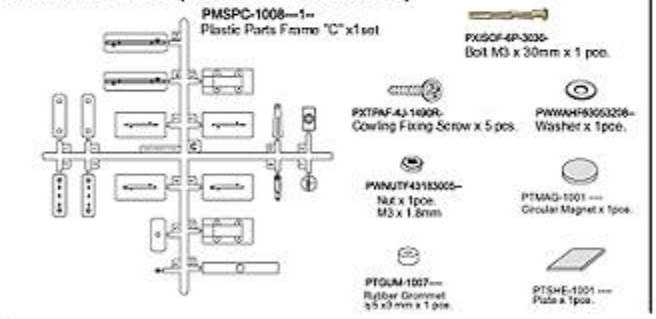
GW/ZERO-FAS300



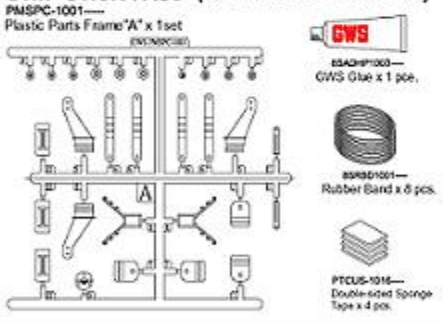
GW/FUNNYPARK-FAS400

GW/Me-109-FAS5

GW/P-51D-FAS6 (Me-109 Accessories C)



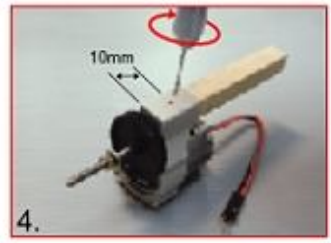
GW/P-STICK-FAS6 (Me-109 Accessories A)

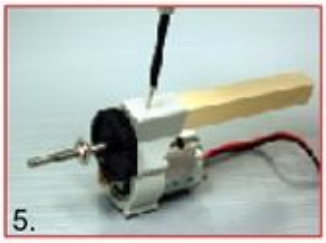


CONTENTS OF KIT(PARTS LIST)

01. Me-109 Fuselage(Left Side) x1
02. Me-109 Fuselage(Right Side) x1
03. Me-109 Cockpit x1
04. Me-109 Main Wing x1
05. Me-109 Horizontal Stabilizer x1
06. Me-109 Canopy x1
07. Ultra-light Wheel Rim(2") x2
08. Ultra-light Wheel Rim(1") x1
09. Main Landing Gear(ϕr2.0mm) x1
10. Instruction Manual x1
11. Rubber Band x8
12. Tail Dragger(ϕr1.2mm) x1
13. Push Rod Tube(ϕr3.0x460mm) x1
14. Plastic Tube ϕr2.5x25mm 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(ϕr0.9mm) x3
20. Plastic Parts Frame"A" x1
21. Plastic Parts Frame"C" x1
22. Bamboo Stick(ϕr3x240mm) x1
23. Me-109 Decal x1
24. GWS Decal x1
25. Circular Magnet x1
26. Plate x1
27. Rubber Grommet(ϕ5x3mm) x1
28. Bolt(3x30mm) x1
29. Washer(3.2x8x0.5) x1
30. Nut(M3) x1
31. Cowling Fixing Screw(M1.4x9mm TPA) x5
32. Electric Power System(EPS-300C or EDP-400C) or Slope Glider Parts x1
33. Eps Mount(10x10x90mm) x1
34. Propeller(EP1080 or EP7035) x1
35. Double-Side Sponge Tape x4
36. GWS Glue x1
37. Clay x1

POWER SYSTEM INSTALLATION





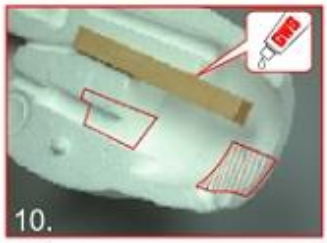
- Prepare parts(EPS-300C or EDP-400C) (Pic.1.2)
- As shown,mark a line on the EPS mount that is for the thrust angle indication when it is installed on the fuselage. (Pic.3)

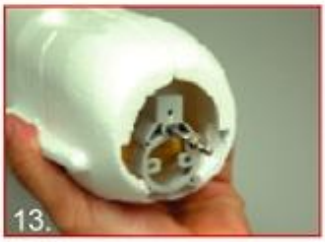
(I) Insert the EPS mount to the electric power system(EPS). Make sure that the mount is pushed into the EPS by 10mm, if it is too tight to insert the mount, trim the mount slightly with knife or sand paper. Drill a 1mm hole by hand drill as picture 4, Secured by a screw. (Pic.5)

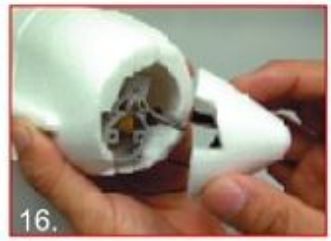
Or

(II) Insert the GW/EMM-400M mount to the motor mount. (Pic.6)
Install the EDP-400 motor by front 2 bolt and use rubber band to keep it in place. (Pic.7.8)

FOR SLOPE GLIDER







- For battery installation cut the foam out as shown. (Pic.9.10)
- Glue the wooden mount in position. (Pic.10)
- The battery pack connecting. (Pic.11)
- Insert EPS frame into the wooden mount, then fix with a screw. (Pic.12.13)
- Glue safety spinner inside of the foam spinner. (Pic.14.15)
- Insert spinner on to the shaft as shown. (Pic.16.17)

CAUTION: Please note that the Slope Glider does not include the propeller, motor, gearbox, main landing gear, tail dragger, and ultra-light wheel rim.

FUSELAGE ASSEMBLY


18.


19.


20.


21.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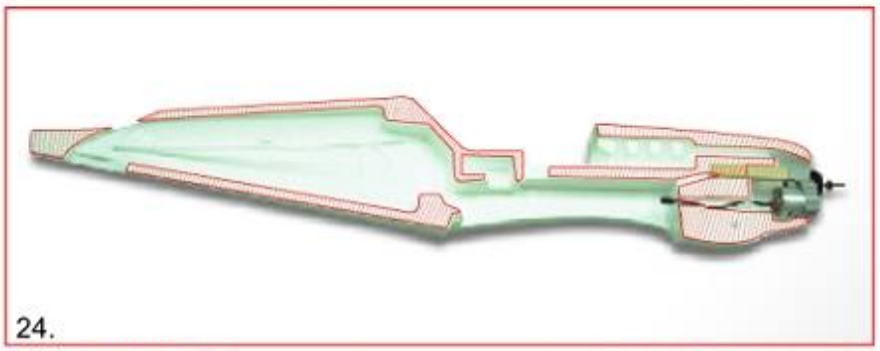
23.

- Cut the plastic tube to specific length 200mmx2, 60mmx1 (P.ic.23)
- Drill 3mm holes into the L and R fuselage pushrod guide slot. (Pic.18.19)
- Insert the plastic pushrod tube (200mm) into the hole, from inside of fuselage and come out the other side approximately 10mm. Glue the tube in place with GWS glue or epoxy. (Pic.20)
- Put the power system in the fuselage upper chamfer,making sure it fits and is not too tight,then pull it out. Apply glue or epoxy and install permanently.
  (Ⅰ) EPS-300C (Pic.21) (Ⅱ) EDP-400C (Pic.22)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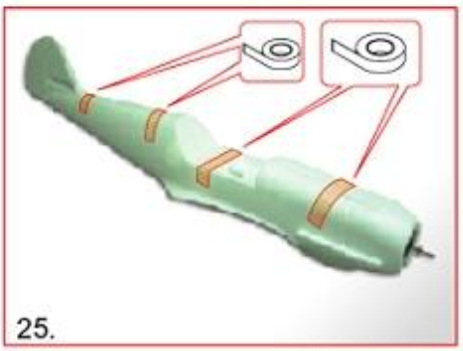
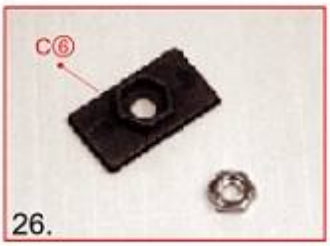

25.

- Apply GWS glue or epoxy at the indicated area. (Pic.24)
- 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 does not come in contact with the painted foam. Note:The adhesive on certain tape can pull off paint from the fuselage. (Pic.25)



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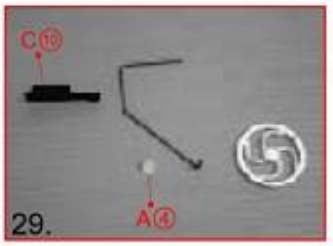
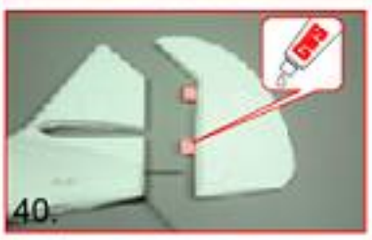


29.

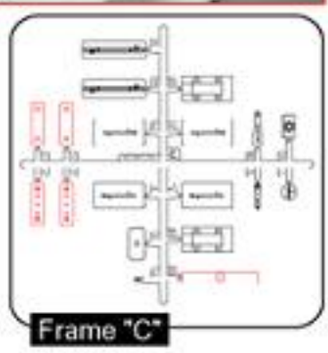

30.

- Press the hexagonal 3mm nut into the plastic parts C⑥ and apply a small amount of CA glue to the C⑥. (Pic.26.27) Make sure you do not get glue on the threads.
- Apply epoxy glue to the slot of the fuselage, then put the C⑥ in place. Be sure the exposed nut is facing the top of the fuselage when you insert it into the slot. (Pic.28)
- ME-109 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.29.30)

FUSELAGE ASSEMBLY



- 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.31.32.33.34)
- For the tail gear wire,cut a 1mmx1mmx20mm slit and drill 1mm dia & 25mm deep hole on the rudder.(Pic.35.36.37)
- According the the dimensions shown,cut a slit (10mm long and deep)at 2 places for hinge installation on the rudder and vertical fin. (Pic.38.39)
- Glue the hinges into the rudder and install it to the vertical fin. (Pic.40.41.42)
- Press the magnet into the plastic part C⑬. (Pic.43)
- Apply a small amount of glue to the C⑬. (Pic.44)
- Glue the plastic part C⑬ to the recess of the fuselage. (Pic.45.46)

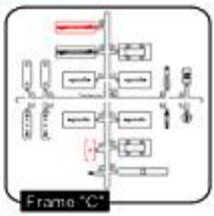


COCKPIT ASSEMBLY

- Glue the plastic part C① on the recess of the fuselage. (Pic.47.48)
- Drill two 3mm holes on the fuselage of the plastic part C① to connect with part C②of canopy. (Pic.49)
- Apply epoxy glue on the slot to glue the plate. (Pic.50.51)
- Put the plastic parts frame C② on the front of the plastic parts frame C① then glue it in place. (Pic.52.53.54)
- Fix the cockpit in place and glue the steel plate in place to catch the cockpit. (Pic.55)

WING ASSEMBLY

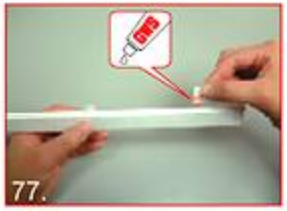
- Main wing. (Pic.56)
- Plastic parts frame C⑤⑭
- Aileron linkage wire (left & right), rubber tube (2pcs.) and bamboo stick. Rubber grommet (2pcs) (Pic.57)
- Cut the aileron apart from the main wing (both right and left) with a knife as per the groove. (Pic.58.59)



- Glue the bamboo stick for wing enforcement on the bottom of the wing (leading edge side). (Pic.60.61)
- Glue the main gear mounts (plastic parts C⑭) on the bottom of the wing. (Pic.62.63)

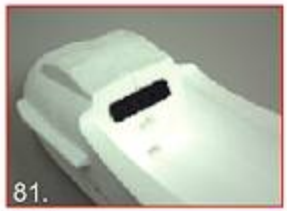
- Glue the plastic part C⑤ on the center bottom of the wing (leading edge). (Pic.64)
- Drill a ϕ3mm hole on the plastic part C⑤ for bolting the wing to the fuselage. (Pic.65)
- Take the aileron linkage wire and two pieces of rubber tube. (Pic.66)
- Cut each of the rubber tubes in half. (Pic.67)
- Slide two of the rubber tube into the aileron linkage wire. (Pic.68.69)
- Put the rubber grommets into the ring on one end of the aileron linkage wires as shown. (Pic.70)
- Put the aileron linkage wire into the aileron slot. (Pic.71)
- Glue the rubber tube in place and trim the aileron wire as shown.Assemble left and right sides the same way. (Pic.72)

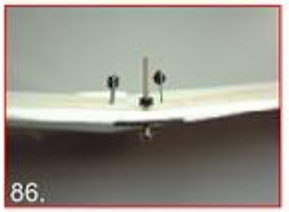
WING ASSEMBLY



- For the aileron linkage wire, cut a 1mmx1mmx33mm slit. (Pic.73)
- Drill 1mm dia & 10mm deep hole on the aileron. (Pic.74)
- Shown as picture 75 is the dimensions for the hinge placement.
- Cut a slit (10mmx10mm) at 3 places for hinge installation on the aileron. (Pic.75.76)
- Then apply glue to a half of the hinge and insert them into the slits of aileron. (Pic.77)
- Apply glue on all hinges and aileron wire then insert them to the wings securely. (Pic.78)
  Assemble left and right sides the same way.
- Cover the aileron linkage wires and wing enforcement with the supplied decals ㉖㉗&㊵. (Pic.79.80)

WING MOUNTING



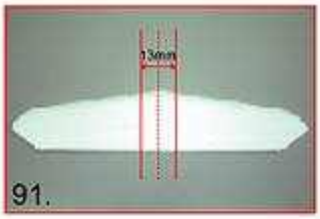


- Place the plastic part C② in position and install the main wing and glue the C② as per guide holes. (Pic.81.82.83.84.85)
  To fix wing, use ϕ3xL30mm screw and M3 washer.
- Place the screw through the hole and insert the ϕ5x3 Grommet. (Pic.86)

TAIL ASSEMBLY

- Horizontal stabilizer & Elevator linkage wire. (Pic.87)
- Cut the elevators apart from the horizontal stabilizer with a knife as per the groove. (Pic.88.89)
- Insert the elevator linkage wire into the fuselage. (Pic.90)

TAIL ASSEMBLY



91.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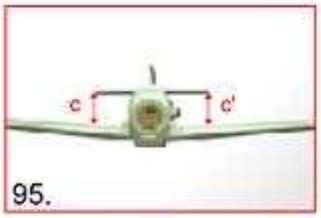

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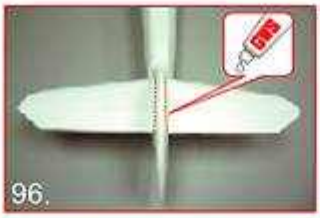
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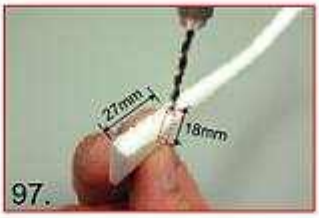

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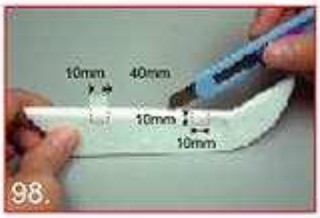


98.

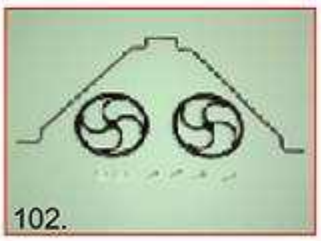

99.


100.


101.

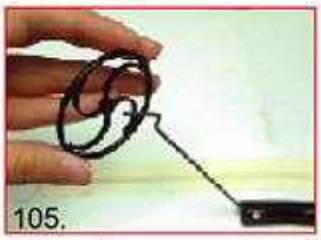
- Use a triangle to determine the center of the horizontal stabilizer and mark indication lines as shown. (Pic.91)
- Insert the stabilizer into the fuselage. (Pic.92.93)
- Trial fit the stabilizer in position at the mark you just made. (Pic.93)
- Trim the elevator linkage wire on the center line of the stabilizer. (Pic.93)
- Check the horizontal stabilizer with the wing and adjust the alignment as described. (Pic.94)
- Ensure that the horizontal stabilizer is also level in regards to the fuselage and vertical fin. (Pic.95)
- Make sure all is in place, then spread the glue on the horizontal stabilizer which contacts the fuselage. (Pic.96)
- For the elevator linkage wire, cut a 1mm deep & wide and 27mm long slit. (Pic.97)
- Drill a ϕ1mm dia & 18mm deep hole on the elevator. (Pic.97)
- Assemble left and right sides the same way.
- According to the dimensions shown for hinges. (Pic.98)
- Cut a slit (10mm long & deep) at 2 places for hinge installation on the elevator. (Pic.98)
- Then apply glue to a half of the hinge and insert them into the slits. (Pic.99)
- Apply glue on all hinges and elevator linkage wire and insert them to the horizontal stabilizer securely. (Pic.100.101)
- Assemble left and right sides the same way.

MAIN LANDING GEAR ASSEMBLY


102.


103.


104.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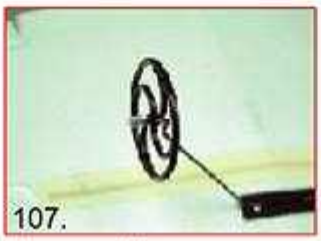
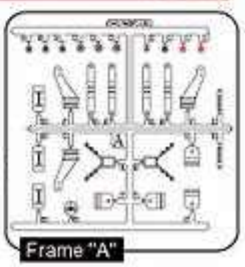

107.

- The main landing gear system including. Main landing gear (ϕ2.0mm piano wire), ultra-light wheel rimx2, Screwsx4
- Retainer (GWS-STICK-FAS6#1x2) (Pic.102)


Frame "A"

- Secure the landing gear to the mount by screws, as picture shows. (Pic.103.104)
- Fix the retainer to the axle. (Pic.105.106)
- A complete landing gear installation. (Pic.107)

CANOPY INSTALLATION


108.


109.


110.

111.

112.

113.


114.


115.

- Your transparent canopy. (Pic.108)
- Cut out the extra material of the canopy. (Pic.109.110)
- Use sticker ③④. Place on windshield as shown. (Pic.111)
- Use sticker ㉕. (Pic.112)
- Apply specialized adhesive on be windshield and canopy. (Pic.113.114.115)

RADIO CONTROL SYSTEM INSTALLATION

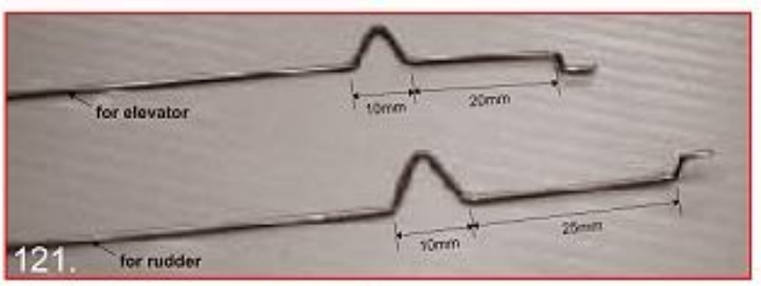

116.


117.


118.


119.


120.



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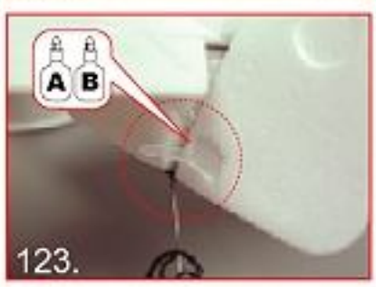

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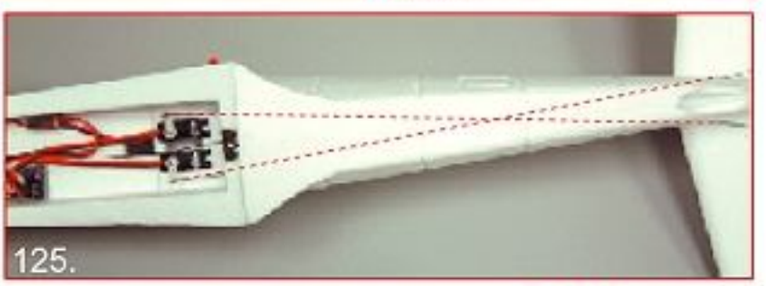
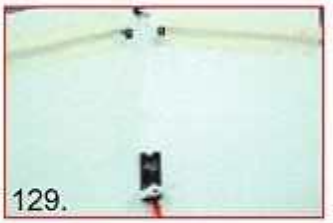

125.

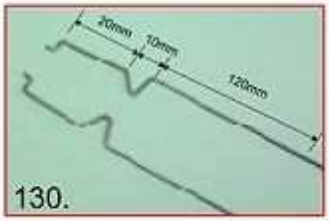
- Clean the outer shell of servo, receiver and speed controller with paper towel and alcohol. (Pic.116)
- Apply the double side foam tape to the servos as picture. (Pic.117)
- Put the servo in location. (Pic.118.119)
- Bend a "V" shape on the push-pull rod. (Pic.120.121)
  Please note the locations of "V" are different. (Pic.121)
- Connect the push-pull rod to control horns. (Pic.122)
  The horn has two holes if you use inner hole the moving angles are bigger then if you use the outer hole.
- Put the push-pull rod through the guided plastic tube. For the rudder please use the left side tube. For the elevator please use the right side tube. Fix the control horn to rudder and elevator with epoxy. (Pic.123.124)
- Push-pull rod arrangement for tail units. (Pic.125)


126.


127.


128.


129.



130.


131.


132.

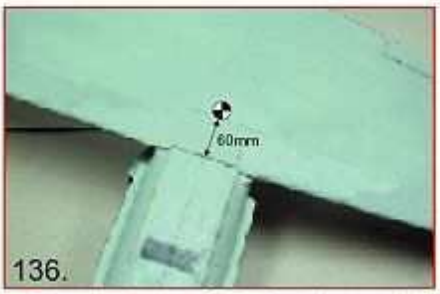

133.


134.

135.

- Connect the wires of SERVO, ESC and EXTENSION WIRE to receiver. (Pic.126)
- Put the receiver as picture 126 shown and use double side tape to keep it in location. (Please note the receiver is on the AFT side of fuselage.)
- Set the servo in neutral, install the servo horn, use a marking pen mark out the connecting point on the push-pull rod. (Pic.127.129)
- Bend a "Z" connector on marked point of push-pull rod and cut the extra wire. (Pic.128)
- 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.
- Servo horn connection complete. (Pic.126)
- Cut the rest push-pull rod to 2 parts.
- Please follow the instruction on picture 130 to make your Aileron push-pull rod. (Pic.130)
- Connect rod to rubber grommet of aileron connect rod. (Pic.131)
- Set the Aileron servo on netural 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.132)
- The correct arrangement of aileron servo connection. (Pic.133)
- Use aileron extension wire to connect to the servo wire. (Pic.134)
- Install the wing to fuselage. (Pic.136)
- Please keep away of all wires from the joint area.
- Put the plastic tube 60mm in the fuselage with GWS glue. (Pic.135)
- The assembly of your "Me-109" is now complete. (Pic.137)
- Do not cut or coiled the extra antenna.

— BALANCE AND BATTERY PACK LOCATION —



136.


137.

- The optimum C.G. for this model was 60mm from the leading edge. (see flight testing for results). With this setting the plane performed the best. (Pic.136)
- For more stable flight you may move the C.G. forward. But do not exceed to 5mm. (Pic.137)
- Please use part of the included clay stick to help achieve the desired C.G. if added weight is required for balancing.
- Do not fly without a properly balanced plane.