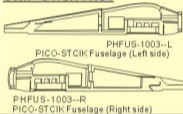


SPECIFICATIONS

Length: 665 mm (26.2 in.)
 Wing Span: 940 mm (37 in.)
 Wing Area: 15.28 dm² (237 sq. in.)
 Wing Loading: 13g/dm² (4.25 oz./sq.ft)
 Power System: IPS-DX2BB-AX,
 IPS-DX2BB-AXC or 280 motor
 Propeller: 25.4 x 12 cm (10" x 4.7")
 Flying Duration: 4~ 12 minutes
 Flying Speed: 2.5~ 4.2 m/sec.
 (8.5~ 14 ft./sec.)
 (9~ 15 km/hr. and Maximum 18 km/hr.)
 Flying Weight: 200 ~ 260 g (7.06~ 9.47 oz.)
 Radio required: 2~3 channel radio with
 2 sub-micro, micro or mini servos
 and electronic speed controller or
 auto cut-off
 Battery required: (**1)
 6.0~7.2V/110~270mAh

GW/P-STICK-FAS1



Remarks(**2): Please note that some plastic parts on the frame are not used for this airplane as this frame is designed for a use of other airplanes as well. Please consult the instruction manual for more details.

Caution (**3): To assemble this kit, please use only GWS glue supplied with this kit, and you can use epoxy glue if it is necessary.

GW/P-STICK-FAS2



PHWIN-1004--W-L
Wing (Left) x 1 pce.



PHWIN-1004--W-R
Wing (Right) X 1 pce.



PHWIN-1001--W-T
Horizontal Stabilizer &
Vertical Fin Set



PYPOP-1005-----
Double-sided Adhesive Tape for Wing Joint

CONTENTS OF KIT (PART LIST)

1. PICO-STICK Fuselage (Right side)	1	pce
2. PICO-STICK Fuselage (Left side)	1	pce
3. Wing (Right)	1	pce
4. Wing (Left)	1	pce
5. Double-sided Adhesive Tape for Wing Joint	1	set
6. Wing Joint Cover	1	pce
7. Horizontal Stabilizer & Vertical Fin Set	1	set
8. Min Landing Gear	1	pce
9. Tail Skid	1	pce
10. Ultra-light Wheel Rim (60 mm dia.)	2	pce
11. Rubber Tire (M)	2	pce
12. Cowling	1	pce
13. Cowling Fixing Screw	4	pce
14. Cowling Mount (1 x 8 x 8 mm x 4)	1	set
15. Battery Pack Holder	1	pce
16. Push Rod (0.9 mm dia.)	2	pce
17. Bamboo Stick (3 x 85 mm)	2	pce
18. IPS Mount (5 x 8 x 87mm/Wood)	1	pce
19. Plastic Parts Frame "A" (**2)	1	set
20. Indoor Power Unit (IPS-DX2BB-AX, IPS-DX2BB-AXC or 280 motor)	1	set
21. Propeller (25.4 x 12 cm)	1	pce
22. Soft Safety Spinner	1	pce
23. Rubber Band	8	pce
24. GWS Glue (**3)	1	pce
25. Double-sided Sponge Tape	4	pce
26. Sticker (Decal)	1	pce
27. Instruction Manual	1	pce

GW/P-STICK-FAS3

PTMEWA1004----M-

PTMEWA1004----T-

Main Landing Gear X 1 pce.

Tail Skid X 1 pce.



GW/AP008

Ultra-light WheelRim(60 mm dia.) x 2 pcs.
Rubber Tire (M) x 2 pcs.**PYINS-1020-----**

Instruction Manual x 1

PYPOP-1001-----

Sticker (Decal) x 1 pce.

GW/P-STICK-AS4B

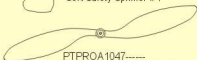
Indoor Power Unit

IPS-DX2BB-AX

IPS-DX2BB-AXC

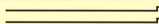
PHSPIR100125D

Soft Safety Spinner x 1



PTPROA1047-----

Propeller (25.4 x 12 cm) x 1 pce.

GW/P-STICK-FAS4PMSPC-1002-----
Cowling x 1 pce.PXTPAF-4J-1409R-
Cowling Fixing
Screw x 4 pcs.PVPEF-1015-----
Wing Joint Cover x 1 pce.PMSPC-1002-----
Cowling Mount
(1 x 8 x 8 mm) x 4PMSTD-1007-----
Barry Pack Holder X1 pce.**GW/P-STICK-AS5**PMSPC-1001-----
plastic Parts Frame "A" x 1 set8STAPS1001-----
Double-sided Sponge Tape x 4 pcs.8SADHP1001-----
GWS Glue x 1 pce.8SRED-1001-----
Rubber Band x 8 pcs.**GW/P-STICK-FAS5**PTSTK-1001-----
Bamboo Stick (3 φ x 85 mm) X 2 pcs.PMCHSA1002-----
5x8x87 x1 pce.PTMEWA1001-----
Push Rod φ 0.9mmx 2 pcs.**OPTIONAL PARTS**

- For better performance and longer life of the motor , the heat sink is available as an optional item.
- The propeller EP9070 is suitable for outdoor flying.

Heat Sink (for IPS)



RADIO CONTROL SYSTEM

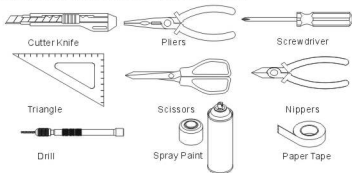
The following equipment and items are required separately to fly this airplane.

- Transmitter (2-3 channels)
- Receiver (GWS PICO Series or NARO Series Receiver recommended)
- Servo (GWS PICO Series, NARO Series or MINI Series Servo recommended)
- Electronic Speed Controller (GWS ICS-50E/ICS-50/ICS-100/AC50/AC-100 recommended) or Auto Cut-off Unit (GWS AC50E recommended)
- Ni-cad Battery pack (6.0- 7.2 V/110- 270mAh recommended)
- Battery Charger (Quick or Normal Charger)

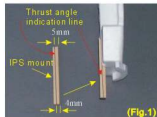


TOOLS AND ITEMS

To assemble this airplane you need to prepare some tools.



FUSELAGE



1 As shown, mark a line on the IPS mount that is for the thrust angle indication line when installed on the fuselage. (Fig.1)

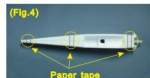
2 Insert the IPS mount to the indoor power system (IPS). Make sure that the boom is pushed into the IPS by 22 mm. (Fig.2)

It is too hard to insert the mount, trim the mount slightly with a knife or sand paper.

Temporarily pull the IPS out for easier assembly procedure of the fuselage.



3. Apply enough glue to grooves for the mount and the tail skid as well as all surface to be joined. Then, place the mount and the tail skid in the place and join the left and right fuselages firmly. Put paper tapes, 3-5 places as shown, around the fuselage until glue cures completely that will, at least, take half an hour. Make sure that the IPS mount is located along the guide line for thrust angle. (Fig.3, Fig.4)



BATTERY PACK HOLDER

- The battery pack holder is design for 100mAh and 270mAh (6.0-7.2V) battery packs.
- If you like to use 270mAh pack, cut the parts shown in red. (Fig.5)



- The shown is "AA" 7.2V/110mAh battery pack. (Fig.5)
- The shown is "AA" 7.2V/270mAh battery pack. (Fig.6)
- For your convenience, to remove battery pack from the holder, we suggest to put tape as shown. (Fig.7)
- We suggest you to glue the battery pack holder in the place after painting .
- Before installing a battery pack, cut two excess plastic parts off .



(Fig.6)



(Fig.7)

Caution (1): Do not use any bigger size propeller than we suggest (25.4x12cm/10"x4.7").**

Caution (2): Do not use any bigger capacity battery pack than we recommend (6.0-7.2V/110-270mAh) for the IPS, otherwise it may cause any damage on the motor such as weakening power, losing performance, shortening life, getting burnt ect.**

MAIN WING

1. Cut any excess parts of the joint section by a knife.
2. Cut the wing joint cover as per cutting lines with scissors or a knife. (Fig.9)
3. Wipe the wing joint section and the wing upper surfaces where the double-sided adhesive tapes will be attached with medical alcohol for better adhesion.
4. Using the wing rib - shaped double-sided adhesive tape, join the right and left wing together. (Fig.8 , Fig.9)
5. Put the double-sided tapes to underneath of the wing joint cover and trim any excess tapes. Then

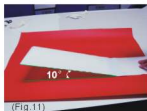


(Fig.8)

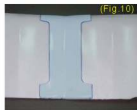


(Fig.9)

stick on the wing having 10 degrees dihedral angle as shown. It is very important to get easy flying characteristics and best flying performance of this aircraft. (Fig.10, Fig.11)



(Fig.11)



(Fig.10)

HORIZONTAL STABILIZER AND VERTICAL FIN

Fig.12



Fig.13

1. As shown apply the transparent tapes (supplied with decal) on the upper surface of the horizontal stabilizer and left side of the vertical fin along the bending line. Make sure that the tapes should be applied to flat surfaces, not groove side. (Fig.12, Fig.13)
2. Carefully bend the elevator (40 degrees up and down each side) and the rudder (40 degrees right and left each side) by hands several times until they move comfortably. (Fig.14)



Fig.14

3.

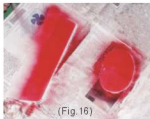
PAINTING (For painted version ,disregard this section except for cowling)

(Fig.15)



(Fig.17)

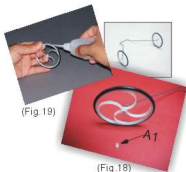
1. Choose an emulsion paint suitable for polystyrene (i.e. TAMIYA-PS spray paint etc.).
2. Before painting, wipe all surfaces of the fuselage, wings, stabilizer and fin with medical alcohol and remove any oil, dust, dirt etc.



(Fig.16)

3. Spray a paint as lightly as possible in order to keep flying weight lighter and paint the wing and the stabilizer on the upper surfaces only. Each additional painting will increase its weight by about 15-25 grams that will affect flight performance and characteristic. (Fig.15, Fig.16)
4. To keep glossy looking, paint inside of the cowling. (Fig.17)

MAIN LANDING GEAR



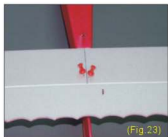
1. Install the wheel rims on the main landing gear and push on the stoppers (A-1). Carefully install the rubber tires on the grooves of the wheel rims and apply a little amount of an instant glue to secure. (Fig.18, Fig.19)
2. Insert the landing gear into the slot on the fuselage and apply enough glue to the slot. (Fig.20)

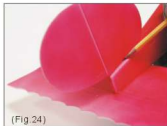
HORIZONTAL STABILIZER AND VERTICAL FIN



1. Use a triangle to determine the center of horizontal stabilizer as shown. (Fig.21)

2. Apply glue to the tail of the fuselage and stick the horizontal stabilizer. Put pins to secure until glue cures and make sure that the stabilizer is glued to the fuselage securely and horizontally. (Fig.22, Fig.23)





(Fig.24)

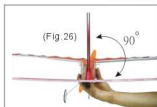
2. Insert the vertical fin to the fuselage slot and mark a guide line with a pencil. Then, apply glue to the root (about 3 mm) and bottom of the fin and insert it the slot as shown.

(Fig.24 Fig.25)



(Fig.25)

3. Make sure the fin is perpendicular to the stabilizer. (Fig.26)



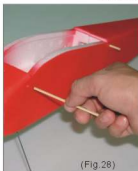
(Fig.26)



(Fig.27)

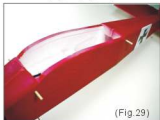
4. Stick the decals onto the fuselage, wing and fin in accordance with some pictures in this instruction and outer display box. (Fig.27)

MAIN WING MOUNTING



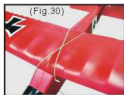
(Fig.28)

1. For mounting the main wing on the fuselage, insert two bamboo sticks (3 x 85mm) to the holes on the side wall of the fuselage and apply glue to secure. (Fig.28, Fig.29)



(Fig.29)

2. To mount the main wing, use 2-4 rubber band and hook them crossed as shown.(Fig.30)



INDOOR POWER SYSTEM (IPS), COWLING, PROPELLER AND SPINNER



(Fig.31-1)



(Fig.31-2)

1. Holding the IPS mount (wood part), insert the mount to the Indoor Power System (IPS). Make sure that the mount is pushed into the IPS by 22mm. The motor wires should go through a hole to inside of the fuselage.(Fig.31-1, Fig.31-2)



(Fig.32)

2. As shown glue 4 cowling mounts to the nose of the fuselage. Put the cowling in a position and drill 1.2mm dia. holes, then fix the cowling with 4 screws (1.4 x 9mm) .(Fig.32, Fig.33)
3. Install the propeller and fix it firmly with the washer and nut, then push on the spinner.(Fig.34)

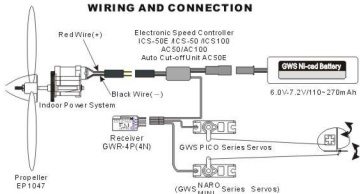


(Fig.33)



(Fig.34)

RADIO GEAR INSTALLATION WIRING AND CONNECTION



Connection for Receiver, Servos and Electronic Speed Controller

Connections for receiver, servos and speed controller are different according to the transmitter you are using. Please refer to the following chart for easy understanding.

	Futaba TX	JR TX	Sanwa(Airtronics)TX	Hi-tec TX
GWS RX 4/B	Rudder/Battery	Rudder/Battery	Rudder/Battery	Rudder/Battery
3	Throttle	Elevator	Elevator	Throttle
2	Elevator	Aileron	Aileron	Elevator
1	Aileron	Throttle	Throttle	Aileron

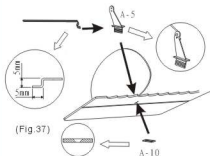
SERVO MOUNTING

1. Clean the servo case with medical alcohol and attached the double-sided adhesive tape. (Fig.34)
2. Stick two servos inside of the fuselage as shown. Be aware of mounting directions of the servos and servo output horns. (Fig.35)



CONTROL LINKAGE

1. Drill a small hole for the push rod. (Fig.36)
2. Insert the control horns into the slots on the stabilizer and find and fix them with the retainers. (Fig.37)

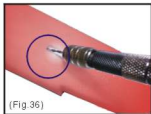
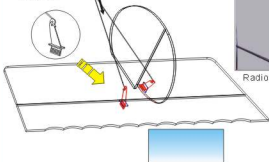


4. Holding the servos and the control surfaces in the neutral position, mark a position where the push rod passes the holes of the servo horns. (Fig.38)

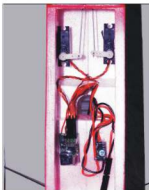
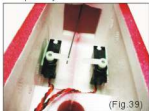


(Fig.40)

5. Make a Z shaped bend in the marked ends and connect the rods to servo horns. (Fig.39,40)



3. Bent the one end of the push rod (Z shape), then hook the push rods into the control horns temporarily.



Radio gear installation example

TIPS AND HINTS

PREFLIGHT CHECKS

It is always recommended that you charge your transmitter and receiver batteries as well as the battery pack for the motor before attempting to fly your airplane.

The Center of Gravity (C.G./balancing point) is located 50–60mm back from the leading edge of the main wing. After all radio gear and the battery pack is installed, check the C.G. point of your airplane. If the balancing point is offset, move the receiver and speed controller forward or vice versa until you find the recommended balancing point.

Check the radio gear and the linkage thoroughly on the ground and make sure that all the control surfaces are working properly and correctly before attempting to take off your airplane.

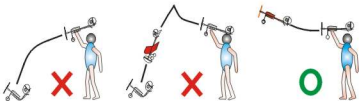
We recommend that you should check the range of your radio before the first flight of the day.

FLIGHT

Always turn on the receiver last after turning on the transmitter, and shut off the receiver first before turning off the transmitter.

You can take off you airplane from the smooth surface ground, normally 1-3 meters for run and take off.

If you are hand-launching your model, move the throttle stick up fully and see if the motor is running at the maximum rpm. Then, throw your model to the air horizontally as shown and apply up elevator as model climbs at a shallow angle. If you launch your airplane at a steep angle, upward or downward, it may result in a crash of your model.



CAUTION

- If you are only beginner for the radio control model flying, do not attempt to fly your model without any assistance or advice from advanced and expert fliers.
- Do not fly close to buildings, electric power lines, or roads. Do not fly near other people who are not aware of what you are doing.

NEVER FLY OVER PEOPLES' HEADS OR CARS

- Fly on a calm day. Gusty winds will make it hard for you until you learn to control your aircraft well. Turbulence caused by wind blowing over near by trees and buildings will make it very difficult for you to fly. Pick an open area and wait until the wind is calm.
- If you are going to attempt to fly your airplane in the indoor arena, closer attention and more safety preparation must be made in order to avoid any possible casualties

LIMITED WARRANTY

- Your new GWS PICO-STICK-F airplane kit is warranted against defects in material and workmanship.
- This warranty does not apply to any component parts, which have been improperly installed, handled, abused, damaged, modified and used.

WARNING:

- If you are a beginner to R/C model flight then we strongly recommend you seek advice from your supplier and local model flying club before attempting to fly your model.
- This model is not a toy and must be assembled and used responsibly in order for successful flight to be achieved.
- Improper use of this model may lead to injury or damage to persons or property. GWS and their distributors will not accept any responsibility for any injury or damage arising from improper use of this model.

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