RMS CONTROL MIXER

INSTRUCTION MANUAL

Mixer for "DG-1000" produced by ST-Model

FOREWORD

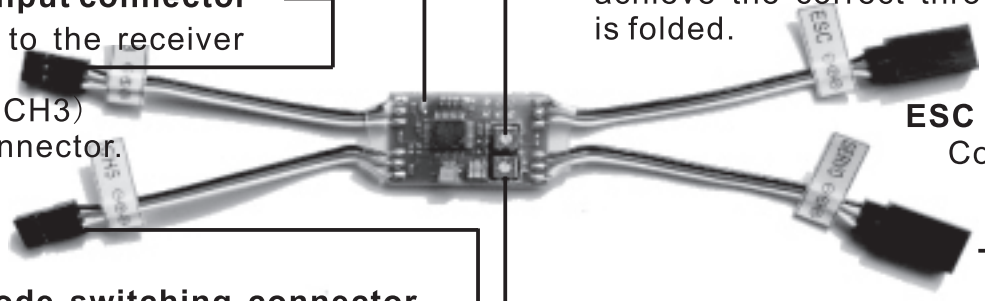
There are a retractable motor system (RMS) in DG-1000. The motor is installed on the retractable gear!Motor system will be unfolded from the fuselage when the plane needs to climb, and the motor runs the propeller to provide thrust. When the plane is in the situation of glide, the motor system will be retracted into the fuselage to reduce the drag.

There are two flying mode of DG-1000: "NORMAL" mode and "AUTO" mode, which are switched by a selector switch on the transmitter.The motor system is always unfolded when the"NORMAL" mode is on. The throttle stick (CH3) just control the motor speed; When you choose the "AUTO" mode, the folding/unfolding of motor system will be controlled by the throttle stick in special process, while the throttle stick controls the motor speed.

If your plane is RTF packaging with the transmitter, you can control the RMS folding/unfolding by the transmitter directly, and test or fly the DG-1000 following《DG-1000 PRODUCT MANUAL》.

If your plane is ARF packaging without the transmitter, the RMS control mixer should be installed into the plane before a safe flight. The following will help you get the mixer installed correctly.

MIXER FUNCTIONS



Monitor LED

Indicates the work status of the mixer.

Throttle input connector

Connects to the receiver throttle channel (CH3) output connector.

Low end point adjuster of RMS servo (L-EPA).

Sets the low end point of RMS servo to achieve the correct throw when the RMS is folded.

ESC Connector

Connects the ESC.

Flying mode switching connector

Mixer flying mode switching signal input connector. Connects to the receiver flying mode switching channel (normally CH5),And this channel must be controled by a double-throw switch on the transmitter. Then you can choose the flying mode by the switch on transmitter.

If this connector is connected to nothing,the RMS of DG-1000 will work in "Auto"mode. For example, the mixer is used with a 4 CH-R/C system.

RMS servo connector

Connects the RMS servo.

High end point adjuster of RMS servo (H-EPA).

Sets the high end point of RMS servo to achieve the correct throw when the RMS is unfolded.

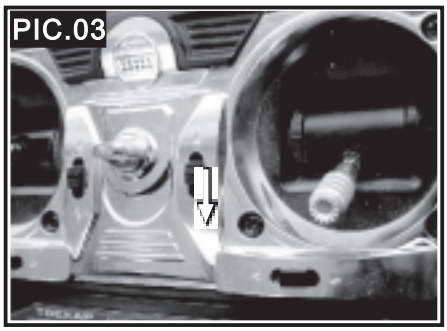
PREPARE THE TRANSMITTER

(Example of setting with FUTABA T6EXAP)**(PIC.01).**

PIC.01

PIC.02

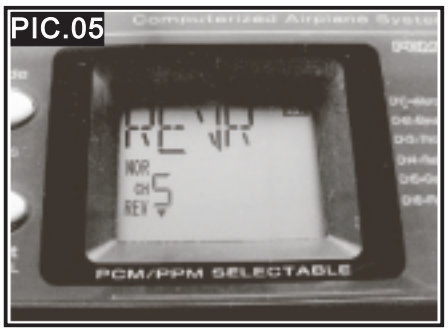
PIC.03



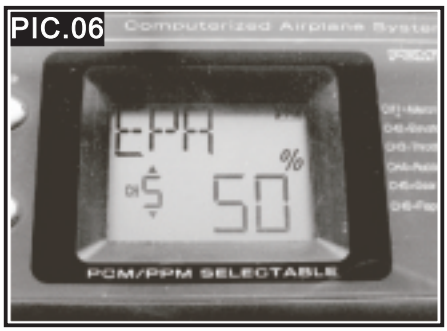
1.Switch the transmitter on. Reverse the CH3**(PIC.02)**.Pull the throttle control stick to its lowest position and adjust its trim lever near to +24%**(PIC.03,PIC.04).**

PIC.04

PIC.05



PIC.06



2.Reverse the CH5(**PIC.05**),and set the EPA value of CH5 to above 50% each throws(**PIC.06**). The CH5 switch on transmitter will be a flying mode selector.

3.Switch the transmitter off and stand by for later use.

MIXER INSTALLATION

CAUTION:

(1) .Before connect the mixer with the ESC or the receiver, you should disconnect the battery from the plane.

Please ensure the mixer is connected correctly before you connect the battery to the plane.

(2). Do not connect the connects of mixer each other.

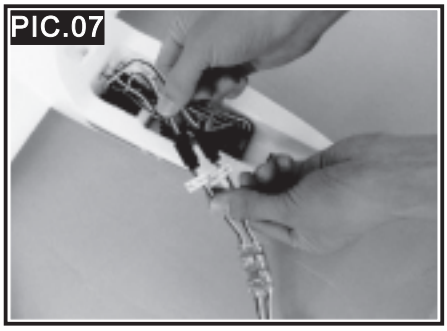
(3) .Keep the mixer from the water and the heat.

1.Connect the ESC connector with ESC ; Connect the RMS servo connector with RMS servo wire.Ensure the polarity is contacted correctly**(PIC.07).**

2.Connect the throttle input connector and flying mode switching connector to receiver. Ensure the polarity is contacted correctly**(PIC.08).**

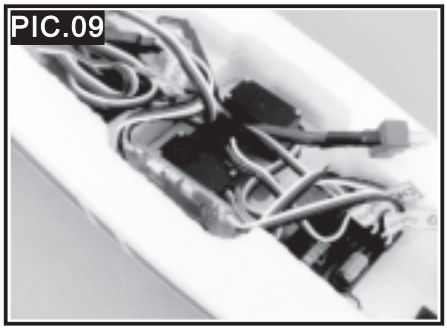
3.Locate the Mixer inside the canopy as illustration**(PIC.09).**

PIC.07



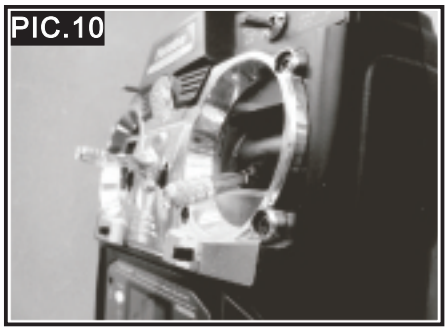
PIC.08

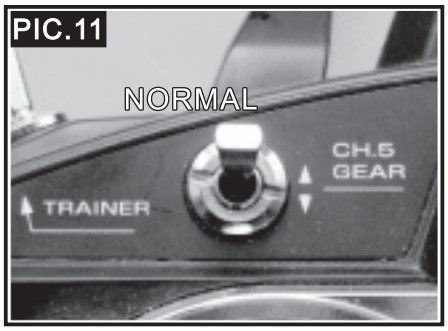
PIC.09

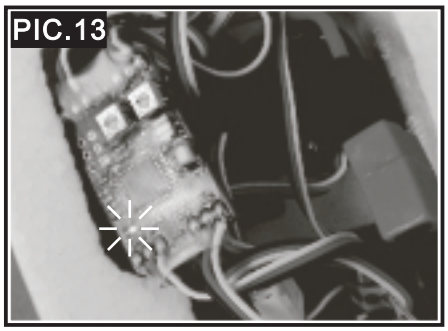


TESTING AND ADJUSTMENT

1. Switch the transmitter on , and ensure the throttle control stick in its lowest position. **(PIC.10).**Switch the flying mode switch to**"**NORMAL**"(PIC.11).**







2. Connect the battery to the power plug of plane**(PIC.12).**The monitor LED of mixer will light **(PIC.13).**And the RMS will be unfolded from fuselage**(PIC.14)**.The ESC will respond with **one** beep.

NOTE:

(1) .Ensure the battery has been charged and has enough power before this step.

(2). If the throttle control stick not in the bottom or its trim lever is under +24% when you connect the battery to the plane, the monitor LED of mixer will flash and the RMS could not move,whether in**"**NORMAL**"or**"AUTO".

(3). If there are two beeps, it shows that the propeller brake is on. And it may cause RMS to be out of folding possibility while flight.

According to the following instructions, you can switch from the brake mode to the mode without brake:

A.Disconnect the battery with the airplane.

B.Disconnect the mixer with the ESC and the receiver.Connect the single input wire of ESC to the receiver throttle channel(CH3) direct.

C.Move the throttle control stick forward(at the top).

D.Plug the battery to the fuselage.

E.Wait for 5 seconds, there is a beep.

F. Move the throttle control stick backward(to its lowest place).

G.There is a beep, the power system will work without brake.

H.Connect the mixer with the ESC and the receiver again following the step of"MIXER INSTALLATION".

3. Test the power system and the RMS:

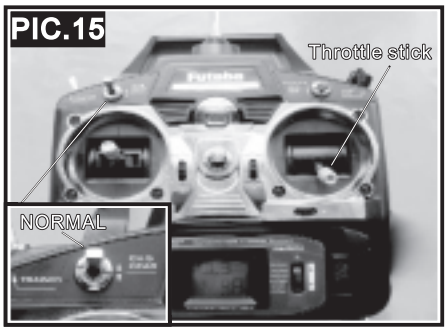
"NORMAL**"** mode: RMS will unfold from the fuselage if the transmitter mode is on the **"**NORMAL**"** mode **(PIC.15,PIC.16)**.

(1). Push the throttle stick and its trim to min**(PIC.17)**,propeller will be stopped completely **(PIC.18)**.

(2). Upward the throttle stick slowly **(PIC.19)**, the speed of prop will get faster gradually **(PIC.20).**

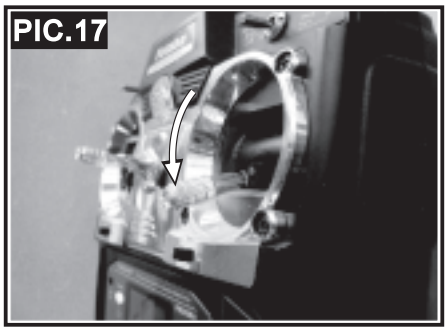
NOTE: If the RMS doesn't unfolded completely**(PIC.35)**,or the RMS driving servo is in long-time load status with sizzle,which would damage the servo easily,you can make it to correct position by adjusting the high end point adjuster of RMS servo as illustrated**(PIC.21,PIC.22)**.

PIC.15

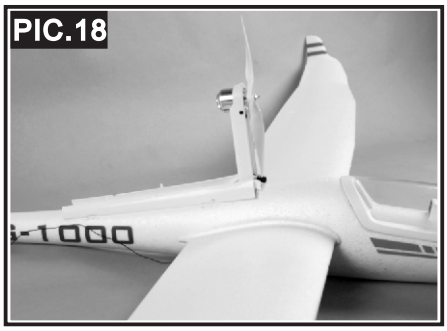


PIC.16

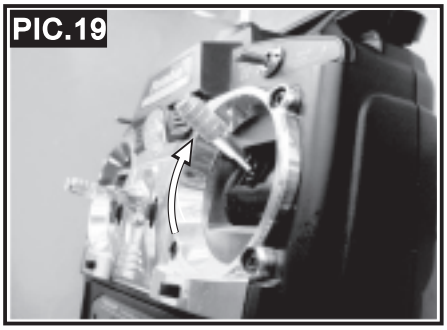
PIC.17



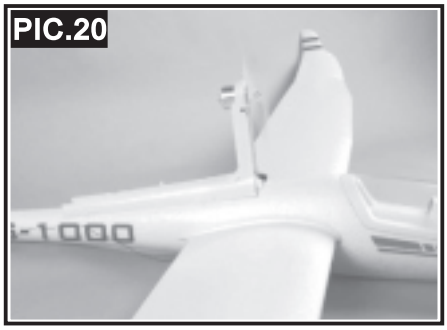
PIC.18



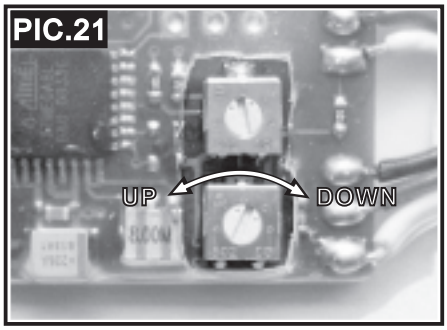
PIC.19



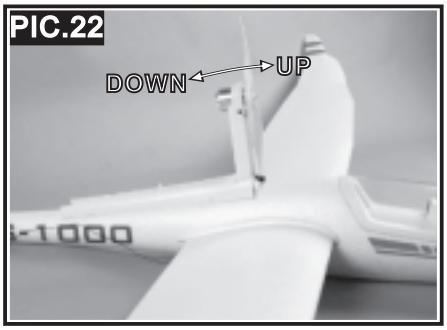
PIC.20



PIC.21



PIC.22



WARNING : Keep everything clear of the propeller once the battery is plugged in. Do not try to stop the propeller or the movement of RMS by hand or anything else.

"AUTO"mode:The transmitter mode is on "AUTO"**(PIC.23)**.

(1). Downwards the throttle stick to the min**(PIC.24)**, and the RMS will be retracted into the fuselage as the following steps.

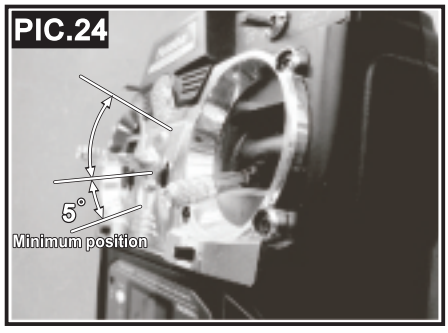
A.The ESC stop offering power to motor, and the RMS starts to fold**(PIC.25)**.

B.The RMS is retracted to**"**propeller stop"and keep waiting 3sec. on this position. The stopgear will stop the propeller**(PIC.26)**.

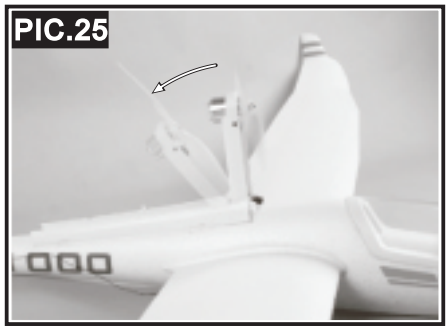
NOTE: When test the RMS on the ground, as there is no airstream , so it can't assure that the prop will stop upright automaticlly **(PIC.27)**, then you can set the propeller upright by tools**(PIC.28)**.

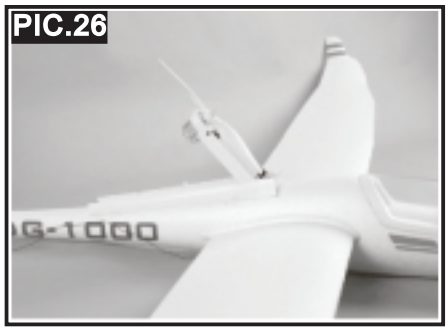
PIC.23

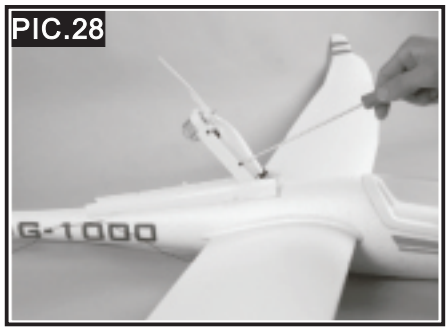
PIC.24



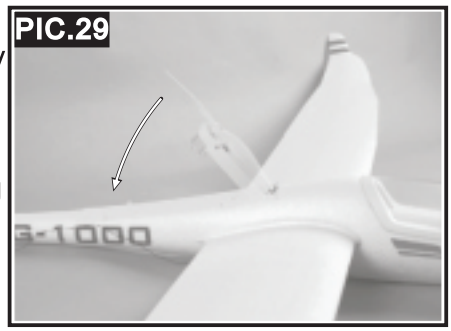
PIC.25

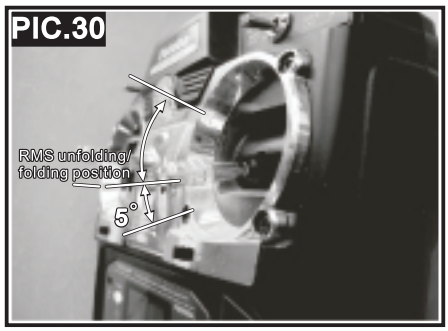






C.RMS is folded inside of the fuselage completely **(PIC.29)**.

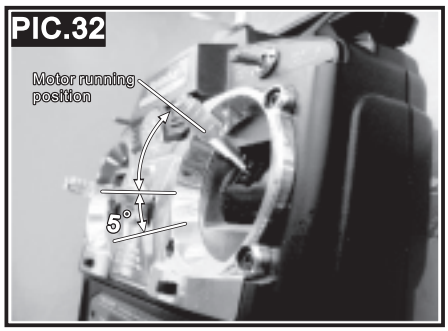


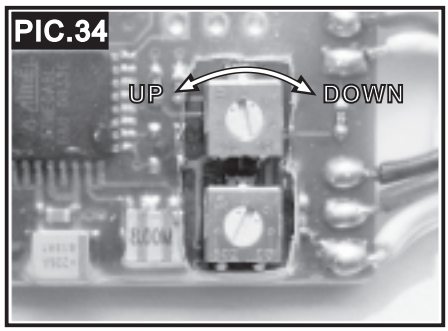


(2). Push the throttle stick to the position of unfolding /folding as the illustration**(PIC.30),** the RMS will unfold**(PIC.31).**

(3).Upward the throttle stick slowly**(PIC.32)**, the speed of prop will faster gradually **(PIC.33).**

NOTE: If the RMS doesn't folded completely, or the RMS driving servo is in long-time load status with sizzle, which would damage the servo easily,you can make it to correct position by adjusting the low end point adjuster of RMS servo as illustrate **(PIC.34).**





4. Adjustment of RMS:

After many times of motor system's work, maybe the transmission strap which control the RMS folding/unfold -ing will get loose**(PIC.35)**. And it will lead the RMS not work right**(PIC.36)**,then,you can tighten the transmission strap as picture shows if the strap is getting loose**(PIC.37 PIC.38)**and the end point of driving servo as above steps.