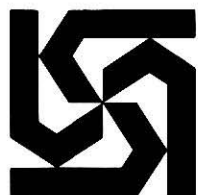


KALT ROTER HEAD

K-5

取扱説明書

English Instructions from page 6.



KALT 株式会社カルト産業

K-5 OPERATING INSTRUCTIONS

Thank you very much for your patronage of KALT products.

Please read these instructions carefully before using "K-5 rotor head" for safe flying. The specifications of this product are subject to change for improvement without notice.

ACCESSORIES

Make sure that the following parts are supplied together with the head body.

- Control lever (with M4 x 4 SET B.) 1
- Stabilizer stopper (with M3 x 3 SET B.) 2
- Head installation bolt and nut (M3 x 25 CAP B. M3 N.N.) 1 each
- Rotor installation bolt and nut (M4 x 40, CAP B. M4 N.N.) 2 each
- M2.3 x 14 continuous thread rod (for connecting pitch arm with see sawarm) 2
- Universal link (for connecting pitch arm with seesaw arm) 4

NAME OF EACH PART

Refer to the exploded view attached at the end of these instructions.

PARTS LIST

Part No.	Item	Q'ty	Remarks
0200-017-8	Stabilizer stopper	2	With M3 x 3 SET B.
0204-101-8	Blade grip assembly	2	With Brg.
0204-102-8	Seesaw assembly	1	With Brg.
0204-103-6	Center hub yoke assembly	1	
0204-105-8	Spindle shaft	1	
0204-106-7	Blade grip spacer	4	
0204-107-7	Spindle spacer	2	
0204-108-6	Center pin	1	
0204-110-7	Seesaw spacer	2	
0204-111-8	Center cap	2	With M2 x 6 + bolt
0204-017-7	Thrust washer	2	
0207-018-8	Hub spindle bolt and washer	2	
0207-032-8	Seesaw arm assembly	2	With Brg.
0207-036-8	Control lever	1	With M4 x 4 SET B
0207-075-7	Damper (hardness: 50)	2	
Bearings			
1002-010-6	1680ZZ	4	
1002-050-6	1680 DSG thrust bearing	2	
1002-056-6	LE-840 ZZ	4	
Special bolts			
1101-126-7	M3 x 10 button CAP B.	2	

Assembly of Rotor Head

☆The following are instructions for installing stabilizer bars and stabilizer blades manufactured by KALT.

- 1 Install the control levers into the seesaws and insert stabilizer bars and then install stabilizer stoppers through the stabilizer bars as shown in Fig. 1. At this time, each set bolt is to be temporarily tightened.

- (M4 x 4 SET B. 1)
- (M3 x 3 SET B. 4)

- 2 Screw stabilizer blades into the end of both stabilizer bars.
At this time, mark a at a distance of 25 mm from the end of stabilizer bars, and be sure that stabilizer blades are screwed in up to these marks. Adjust these two stabilizer blades so that the chord line (line connecting the front edge and back edge) are in parallel.

Note: Use bolt locking agent to fix stabilizer blades and stabilizer bars.

- 3 Fix the stabilizer stoppers so that the two stabilizer blades are installed at an equal distance from the seesaw.

Adjust by opening a small space between seesaws and stabilizer stoppers so that the stabilizer bars can rotate lightly.

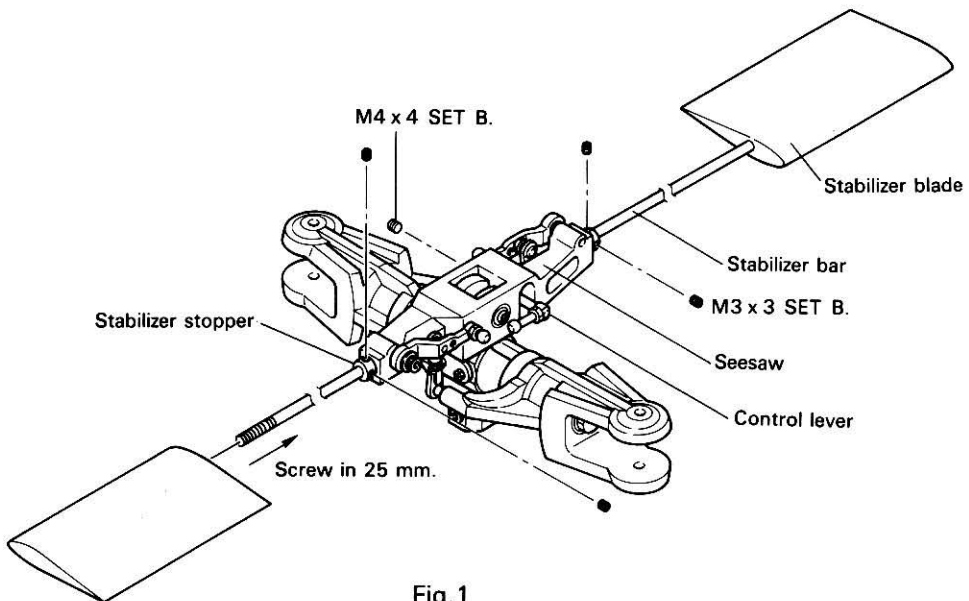


Fig. 1

4 Fix the control levers. At this time joint balls at the end of the control levers are to be fixed as shown in Fig. 2 so that their centers come to the same level with the chord line of the two stabilizer blades, and they are positioned at the center of see-saw.

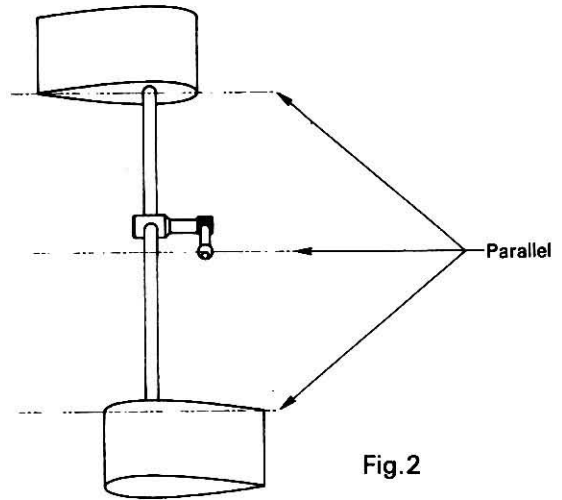


Fig.2

5 Install rotor head onto the main rotor. If the installation point is 12 mm in thickness, insert the attached blade grip spacer between the rotor head and main rotor. Do not tighten this installation bolt tightly. Adjust it so that the main rotor can move forward and backward while rotating after it is locked with nut. An extremely light movement is not needed, but make sure that it is not too loose.

[M4 x 40 CAP B.2]

[M4 N. N.2]

6 Lift the stabilizer bars of the completely assembled rotor head to check if the left and right rotors are well balanced. If the rotors are slanted and do not maintain a horizontal level, maintain balance by winding a vinyl tape around the tip of the higher (lighter) rotor.

Even if well balanced horizontally from the beginning, wind vinyl tapes in different colors of the same length around the tips in order to distinguish the two rotors. This becomes necessary later for tracking adjustment.

7 After balance adjustment is completed, install the rotor head onto the mast. At this time, make sure that the head is facing such that the control lever ball comes onto the remaining ball arm on the swash plate.

[M3 x 25 CAP B.1]

[M3 N. N.1]

8 Cut four universal links by about 5 mm as illustrated in Fig. 3., and then screw in M2.3 x 14 continuous thread rods to connect the seasaw arms with the pitch arms. Make the overall rod length 37 mm for the time being. Adjust the rod length when adjusting main rotor pitch after assembly.

[M2.3 x 14 continuous thread rod
.....2]

[Universal link4]

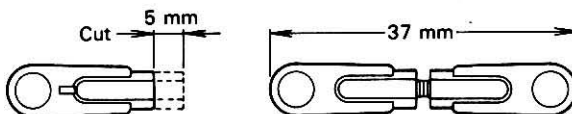


Fig.3

[Cyclone installation example]

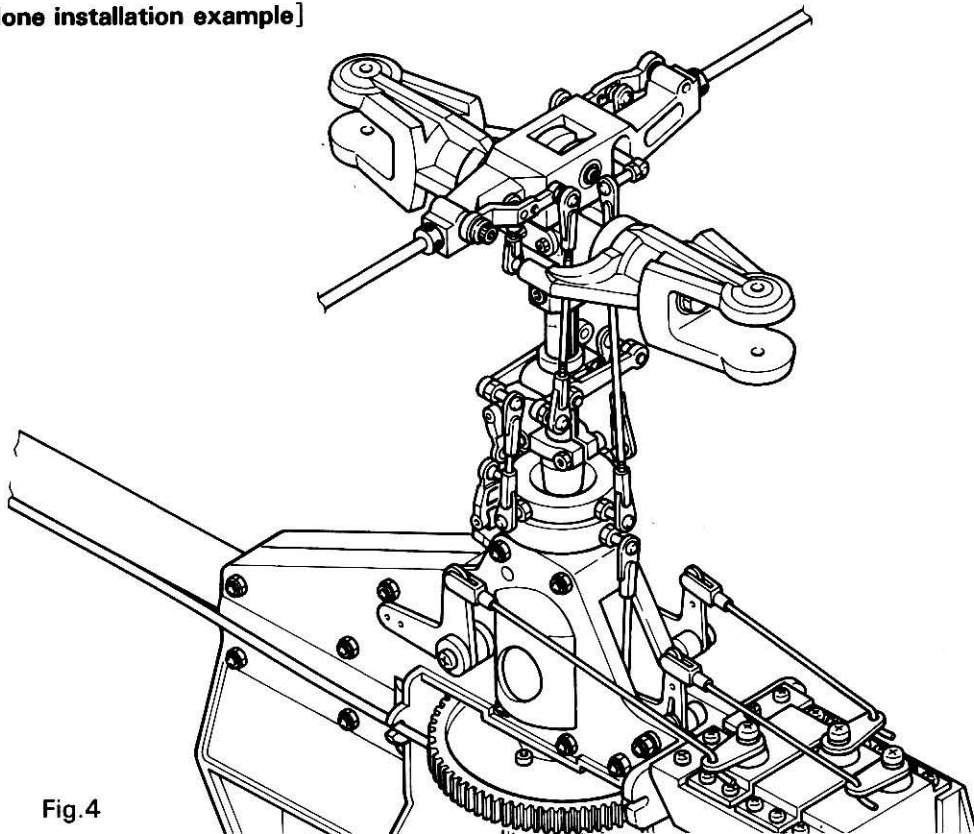


Fig.4

- 9 Connect control lever to swash plate. Adjust the rod length so that the stabilizer blades remain horizontal level when the swash plate is horizontal.
☆For linkage use rods supplied with the body.
- 10 Connect the scissor arm to the seesaw arm. Adjust the rod length so that the seesaw arm becomes horizontal when the swash plate and scissor arm are horizontal.
☆For linkage use rods supplied with the body.

Setting of Main Rotor Pitch

- The main rotor pitch to be set differs depending on the body weight, rotor diameter, wing type, engine power, etc.
As a guideline, however, set the lowest pitch at -2 to 0 degrees and the highest pitch at 6 to 9 degrees so that the engine can handle it.
- Set auto rotation pitch as well at -3 or -2 degrees to + 10 degrees as a criterion, and adjust it after test flight.

Flight Adjustment

Prior to flight adjustment, review the overall procedure to check for any trouble. Also check for loose bolts, etc. in each section.

- Start engine to adjust the respective tracking, engine and tail pitch. Refer to the mechanical assembling instructions for the adjustment method.
- Thereafter, adjust main rotor pitch. Adjust the highest pitch such that the rotor does not rotate excessively during hovering, and the engine rotation does not decrease when ascending with the throttle fully opened following the hovering operation.
- For auto rotation flight, it is necessary to adjust the lowest pitch. If the head drops while descending, lower pitch. If descending speed is too fast, adjust for a gentle descent by accelerating pitch.
- If jerking (misosuri?) movement occurs while hovering or descending at low speed, you can return to normal operation by changing the pitch setting to change rotor rotation. Jerking (misosuri?) movement can also be remedied by changing damper hardness. The main unit damper may also be used as the flapping damper of Black 10 FS. II. Use the following dampers for replacement.

☆Reference

Part No.	Item
0207-075-7	Flapping damper hardness:50
0207-078-7	Flapping damper hardness:70

Precautions for Rotor Head

- Always keep rotor head clean since many precision ball bearings are used. Avoid flying in sandy dust, etc. whenever possible.
- Inspect the rotor head from time to time checking for loose bolts, and ascertain that there are no abnormalities in any part.
- If any damage occurs as a result of a turnover, crash, etc., inspect each part carefully. Never use parts which are suspected of even the smallest abnormalities.
- When replacing parts, paint a small quantity of KALT Tight over the entire screw section to ensure firm tightening. At this time, great care must be taken so as not to let KALT Tight flow into bearings or moving parts.

Deal Drawing of K-5 Rotor Head

