RADIO CONTROLLED ELECTRIC POWERED HELICOPTER

EP CONCEPT

- ○FOR EXPERIENCED HELICOPTER FLIERS. HIGH−PERFORMANCE WITH ELECTRIC CONVENIENCE AND QUIET.
- ○SIMPLY SWITCH ON AND FLY. NO STARTER REQUIRED.
- ○CAPABLE OF SMOOTH STABLE OUTDOOR FLIGHT PLUS AEROBATIC PERFORMANCE.
- ○HIGH−QUALITY MACHINE. 20 BALL BEARINGS FOR LOW FRICTION AND PRECISION. LIGHT WEIGHT, HIGH−STRENGTH MATERIALS THROUGHOUT.
- ○SEMI FACTORY ASSEMBLED.
  MAJOR SUB−UNITS EASILY MOUNTED AND ADJUSTED.
- ○BELL−HILLER SYSTEM FOR ACCURATE FLIGHT CONTROL.
- ○OVER−RUN BALL CLUTCH FOR EASY AUTOROTATION.
- ○LIGHT, RELIABLE BELT−TYPE TAIL ROTOR DRIVE SYSTEM, PRECISE PITCH CONTROL.
- ○MAIN ROTOR AND FLYBAR IN SAME PLANE FOR QUICK, PRECISE STABLIZING ACTION.
- □BATTERY : 8.4V−1000mAh (NOT INCLUDED)
  RADIO : 5 CHANNEL 4 SERVOS+SPEED CONTROLLER WITH GYRO

MAIN ROTOR SPAN 892mm

KYOSHO®
THE FINEST RADIO CONTROL MODELS

KIT NO. 3546

PARTS NEEDED BISIDES THIS KIT

1 5 channel radio system for EP Concept.

- These servos are useable for EP Concept. (Use 4pcs.)

JR ·····NES-321
NES-311
NES-3021
NES-307

SANWA···SM-401
SM-531
SM-501

FUTABA···FP-S135
FP-S143

If you have another radio system, you should by these servos only.

- Speed Controller

KYOSHO··NO. 2594 FET Power Controller

SANWA ··MA-5

FUTABA··FP-MC114H 42.95

- Gyro

JR·····NEJ-130
NET-120BB

SANWA···SM-401 (exclusive gyro)

FUTABA·G-154

KO·····SG-86

※ We recommend small and light radio system.

2 Electric cells for transmitter. (Designated by each radio system maker)

3 NiCd Battery

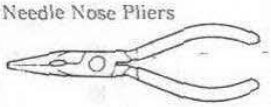
- NO. 2355 8.4V-900SCR Battery (Light and powerful. For in the upper air.)
- NO. 2318 8.4V- Flight Power SCR (For practice and hovering)
- NO. 2333 8.4V-1700SCE (For practice as flight time is long)

4 Charger

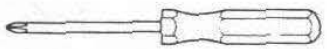
- DC12V (Car or 12V Battery) — NO. 1849 Multi Charger II / NO. 2246 FET Auto Charger

5 Tools Required

Needle Nose Pliers

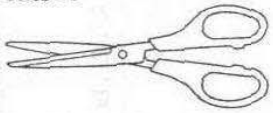


Phillips Screw Driver



Awl

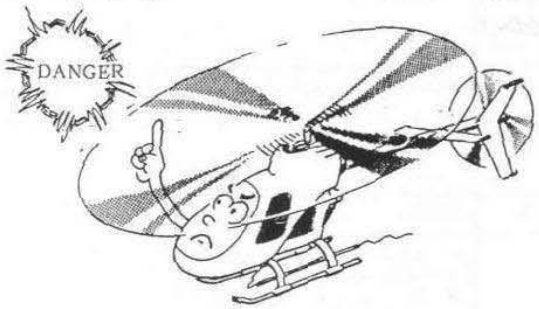
Scissors



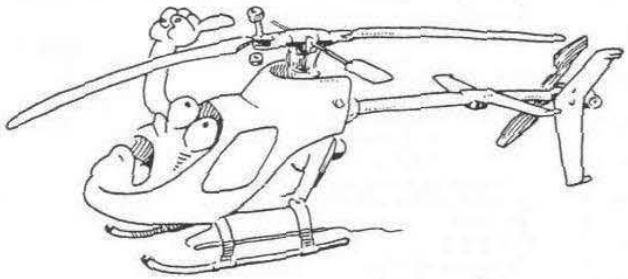
Hobby Knife

"FOR SAFE FLIGHTS ALWAYS OBSERVE THE FOLLOWING"

- As the helicopter flies with the main and tail rotor spinning at extremely high speed, be very careful and enjoy flying safely.



- Also, just because of one loose screw, it may lead to a serious accident. Always keep in mind to check and double check.

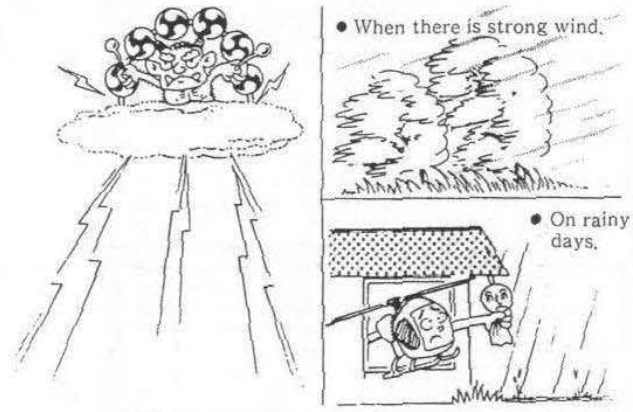


- When flying... Pick a calm day without any winds.

Let's not fly in below listed places and areas.

PLACES NOT TO FLY

SHOULD NOT BE FLOWN IN BAD WEATHER

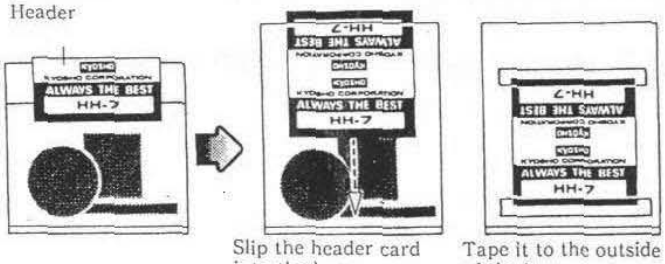


The Bagged Parts List (1)

● Carefully remove the header card from the bag and discard the staple.

*These bag numbers will be used throught out the assembly proccess and will prove invaluable when locating parts.

Header



Slip the header card into the bag.

Tape it to the outside of the bag.

Bag No	Key No	Parts Name	Q'ty	
SNOW BOX	● 1	Rotor Head (A)	1	● Marked Head assembled parts 5
	● 2	〃 (B)	1	
	● 3	Stabilizer Blade	2	
	● 4	Stabilizer Holder	2	
	● 5	Stabilizer Bar	1	
	● 6	Hiller Control Lever	1	
	● 7	Stabilizer Seesaw	1	
	● 8	Flapping Hinge	2	
	● 9	Feathring Shaft	2	
	● 10	Main Rotor Grip (A)	2	
	● 11	〃 (B)	2	
	● 15	φ 3×φ 6×2 Bearing	2	
	● 16	φ 4×φ 10×4 Bearing	4	
	◎ 17	Mixing Base	1	◎ Marked Main frame assembled parts 1
	◎ 18	Mixing Lever	2	
	◎ 19	Cyclic Lever	2	
	◎ 20	Lever Bush (A)	2	
	◎ 21	〃 (B)	2	
	◎ 22	Cyclic Lever Link	2	
	◎ 23	φ 2×10 Parallel Pin	2	
	◎ 24	Pitch Rod	1	
	◎ 25	Swash Plate Assembly	1 set	
	◎ 29	φ 7×φ 14×5 Bearing	1	
	◎ 30	φ 7 Stopper	1	
	◎ 31	Pitch Slider	1	
	◎ 32	Pitch Slide Ring	1	
	◎ 33	φ 10 Stopper Ring	1	
	◎ 34	Main Mast	1	
	◎ 35	Slide Ring Washer	1	
	◎ 37	Main Frame (L)	1	
	◎ 38	〃 (R)	1	
	◎ 39	Elevator Lever	1	
	◎ 40	Elevator Link	2	
	◎ 41	φ 2×14 Parallel Pin	2	
	◎ 42	φ 4.8 Ball (A)	2	
	◎ 43	〃 (B)	1	
	◎ 44	Pitch Lever	1	

Bag No	Key No	Parts Name	Q'ty	
SNOW BOX	◎ 45	Pitch Lever Base	1	◎ Marked Main frame assembled parts 1
	◎ 46	Pulley Stopper	2	
	◎ 47	Belt Guide	2	
	◎ 48	Pulley (A)	1	
	◎ 49	φ 4×φ 8×4 Bearing	6	
	◎ 50	Pulley Shaft	1	
	◎ 51	Elevator Lever Shaft	2	
	◎ 52	Motor	1	
	◎ 54	Motor Base	1	
	◎ 55	Sub. Frame (A)	1	
	◎ 56	〃 (B)	1	
	◎ 57	Pinion Gear (16T)	1	
	◎ 58	Main Gear	1	
	◎ 59	Idle Gear	1	
	◎ 60	Motor Pinion	1	
	◎ 61	Idle Shaft	1	
	◎ 62	φ 7×φ 14×3.5 Bearing	2	
	◎ 63	One Way Bearing	1	
	◎ 64	One Way Shaft	1	
	◎ 84	Body Mount	1	
	◎ 98	Tail gear (L) (L)	1	
	◎ 99	〃 (R)	1	
	◎100	Pulley (B)	1	
	◎103	P C Guide	1	
	◎104	Tail Boom	1	
	◎105	Belt	1	
	◎112	Pitch Lever Shaft	1	
	◎114	Out Put Shaft	1	
	81	Body	1	16
	82	Canopy	1	16
HH-1	53	Motor Code	1 set	15
	83	Grommet	2	17
	92	Tail Rotor	2	3
	108	Stabilizer Fin	1	4
	109	Bracket	1	4
	110	Vertical Fin	1	4
	120	Condenser	1	15

The Bagged Parts List (2)

Bag #	Key #	Parts Name	Q'ty	Step Used In
HH-2	75	Battery Holder	2	1
	76	Brace Holder	1	1
	77	Front Brace	1	2
	78	Rear Brace	1	2
	79	Stopper Ring	1	20
	80	Skid	2	2
	119	Skid Cap	4	2
HH-3	12	Rod End	4	5
	13	M2×17 Shaft	2	5
	14	M2×37 Shaft	2	5
	26	Aileron Rod	1	10
	27	Rod End (L)	7	5 10 11 14
	36	Strap (S)	4	15
	86	Elevator Rod	1	11
	87	Pitch Linkage Rod	1	14
	115	Tail Linkage Guide	1	13
	116	E Ring (E2)	1	13
HH-4	65	Servo Mount (1)	1	6 12
	66	〃 (2)	1	6 12
	67	〃 (3)	1	6 8
	68	〃 (4)	1	6 8
	69	〃 (5)	2	6 8
	70	〃 (6)	1	7 12
	71	〃 (7)	1	7 12
	72	〃 (8)	1	7 9
	73	〃 (9)	1	7 9
	74	〃 (10)	2	7 9
HH-5	85	Decal	1	17
	111	Double Sided Tape	1	15
	118	Double Sided Tape for Canopy	2	16
HH-6	○ 88	Tail Rotor Grip (A)	2	○ Marked Tail Rotor assembled parts
	○ 89	〃 (B)	2	
	○ 90	Tail Center Hub	1	
	○ 91	φ3×φ6×2.5 Bearing	4	
	○117	Tail Rotor Shaft	2	3
HH-7	▲ 93	Rod End (S)	2	▲ Marked Tail Slide assembled parts
	▲ 94	Tail PC Plate	1	
	▲ 95	Tail Pitch Ring	1	
	▲ 96	φ6×φ10×3 Bearing	1	
	▲ 97	Tail Slide Bush	1	3
	101	Tail Pitch Lever	1	4 temporary assembly
	102	Lever Bush	1	
Box	28	Main Rotor	2	19

Bag #	Key #	Parts Name		Q'ty	Step Used In
Box	106	P C Pipe		1	4
	107	P C Rod		1	
SCREW NUT WASHER OTHERS		RH Screw	M2×6	1	for mount
		〃	M2×8	12	〃
		〃	M2×20	2	〃
		TP Bind Screw	M2×5	2	〃
		〃	M2×8	9	〃
		〃	M2.6×8	5	〃
		〃	M2.6×10	10	〃
		〃	M2.6×12	4	〃
		〃	M2.6×14	2	〃
		Cap Screw	M2×6	2	〃
		〃	M2×10	2	〃
		〃	M2.6×6	2	〃
		〃	M2.6×10	2	〃
		〃	M3×6	2	〃
		Set Screw	M3×3	6	〃
		〃	M3×5	3	〃
		Nut	M2	15	〃
		Nylon Nut	M2.6	2	〃
		Washer	M2	4	〃
			M2×8	3	〃
		RH Screw	M2×15	1	for assembly
		〃	M2.6×10	2	〃
		TP Bind Screw	M2×5	2	〃
		〃	M2.6×10	16	〃
		〃	M2.6×8	9	〃
		〃	M2.6×14	2	〃
		〃	M2.6×18	2	〃
		Cap Screw	M2×15	1	〃
		〃	M2.6×10	2	〃
		〃	M2.6×15	2	〃
		〃	M2.6×18	2	〃
		TP FH Screw	M2.6×8	2	〃
		Set Screw	M3×3	2	〃
		Nut	M2	1	〃
		〃	M2.6	2	〃
		Nylon Nut	M2.6	4	〃
		Washer	M2	2	〃
SNOW BOX	● 12	Rod End	(M)	2	assembled
	● 13	〃	(L)	2	
	● 27	M2×17 Shaft		2	
	▲113	φ6 Stopper Ring		1	

BEFORE ASSEMBLY

○ Read the instruction carefully.

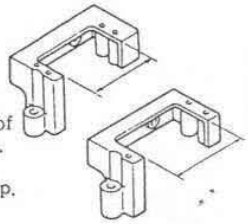
You can assemble the kit more easily if you have grasped the general idea of steps and structure beforehand by reading it through to the end.

○ Learn the marks described in the instruction.

OR ··· Steps where your particular attention is required.

○ Be sure about the location and direction of parts to install.

Double-Check the location and orientation of parts with the illustration before installation. When necessary, assemble the themselves tentatively before proceeding to the next step.



○ Do not tighten the TP screw too tight.

• TP Screw — Coarser Thread

Ordinary Screw — Finer Thread

Do not use excessive force when tightening the TP screw, or you may strip the thread in the plastic. It is recommended to stop tightening it when the thread part on the screw goes into the plastic part and you feelsome resistance from the tightening.

good ○ wrong × Over tighten may strip the thread in the plastic.

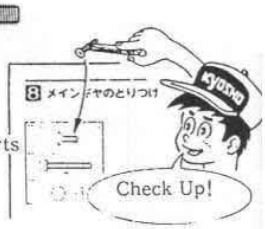
○ The kinds of screws which will be used in the instruction.

TP Bind Screw — TP FH Screw

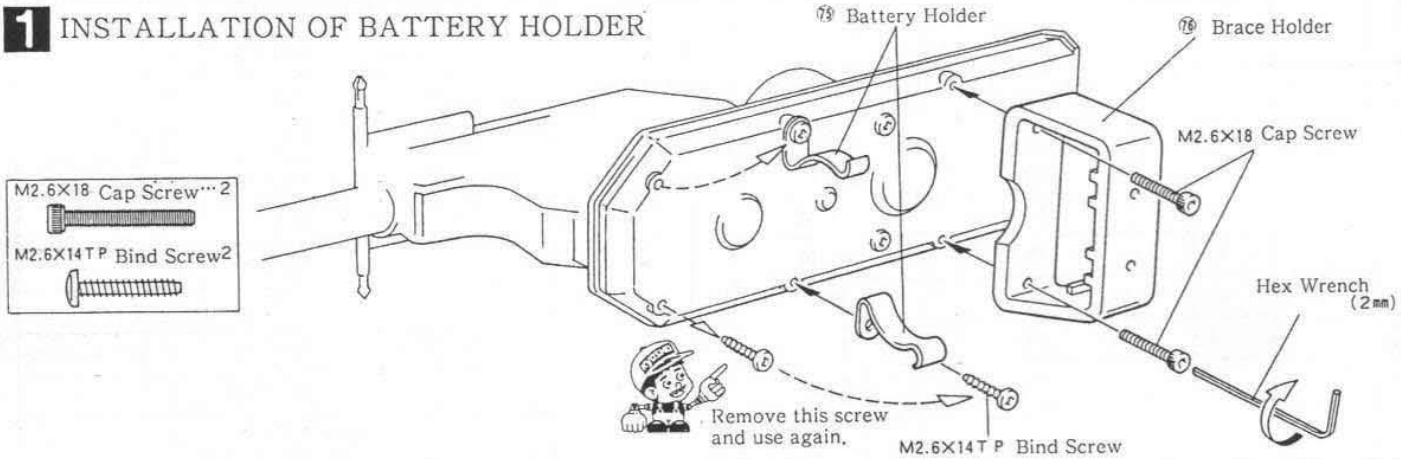
RH Screw — Cap Screw

Set Screw

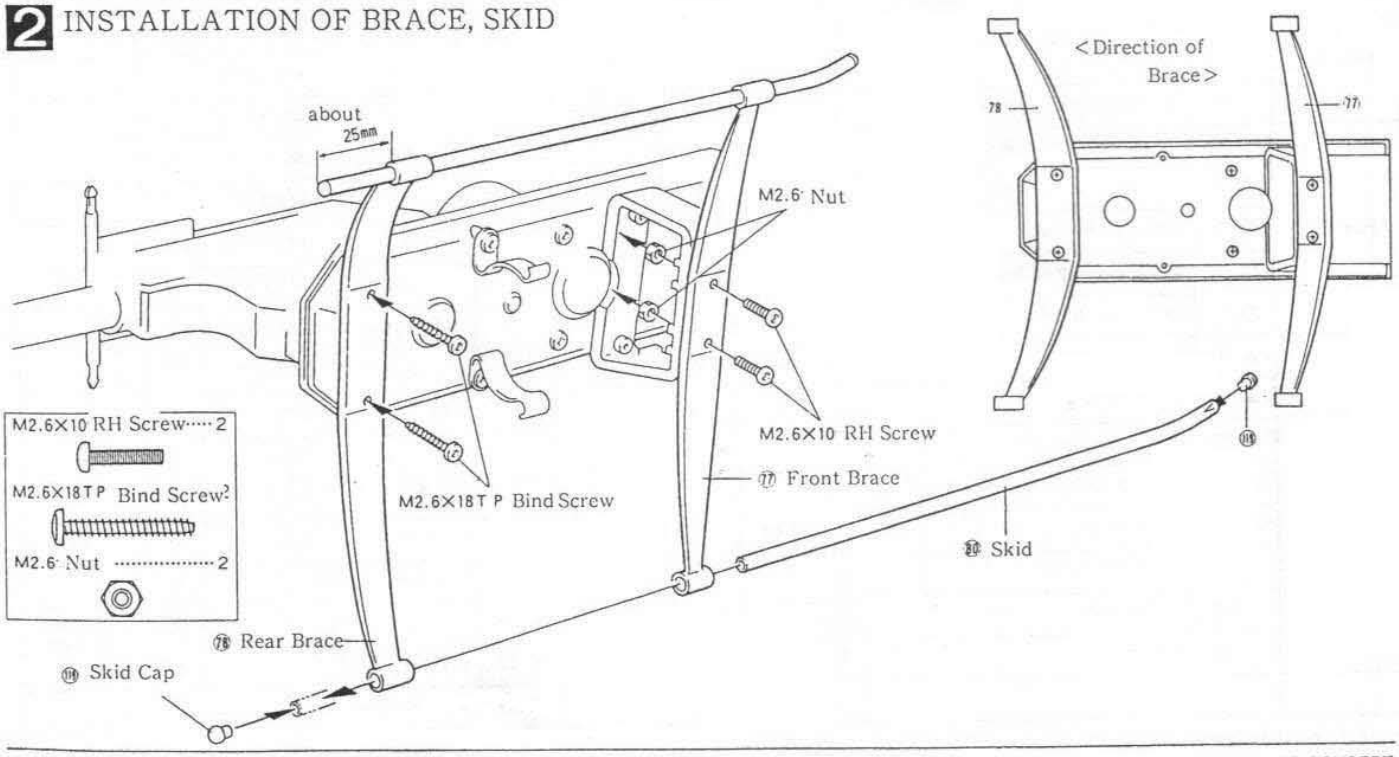
○ Pick up the correct parts and screws. Compare the shape and size of small parts such as screws nuts and washers with the actual size drawing of each step.



1 INSTALLATION OF BATTERY HOLDER

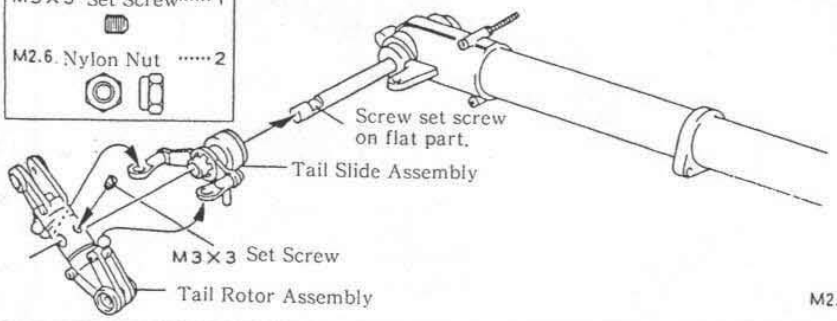


2 INSTALLATION OF BRACE, SKID

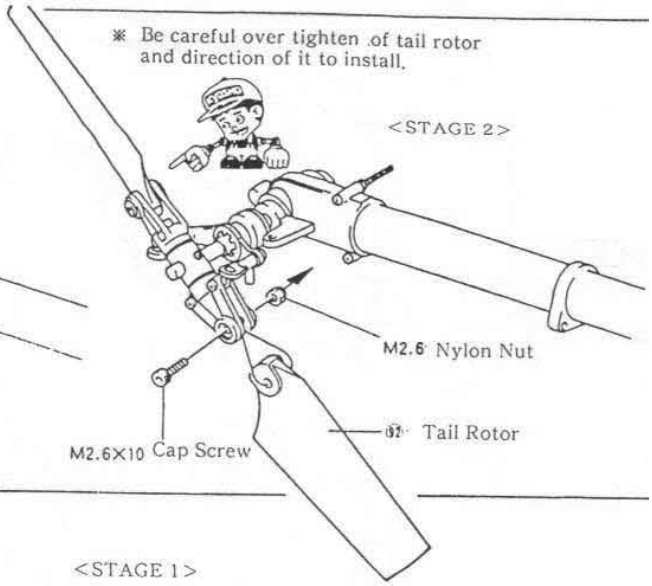


3 INSTALLATION OF TAIL ROTOR

M2.6×10 Cap Screw ··· 2
M3×3 Set Screw ····· 1
M2.6 Nylon Nut ····· 2

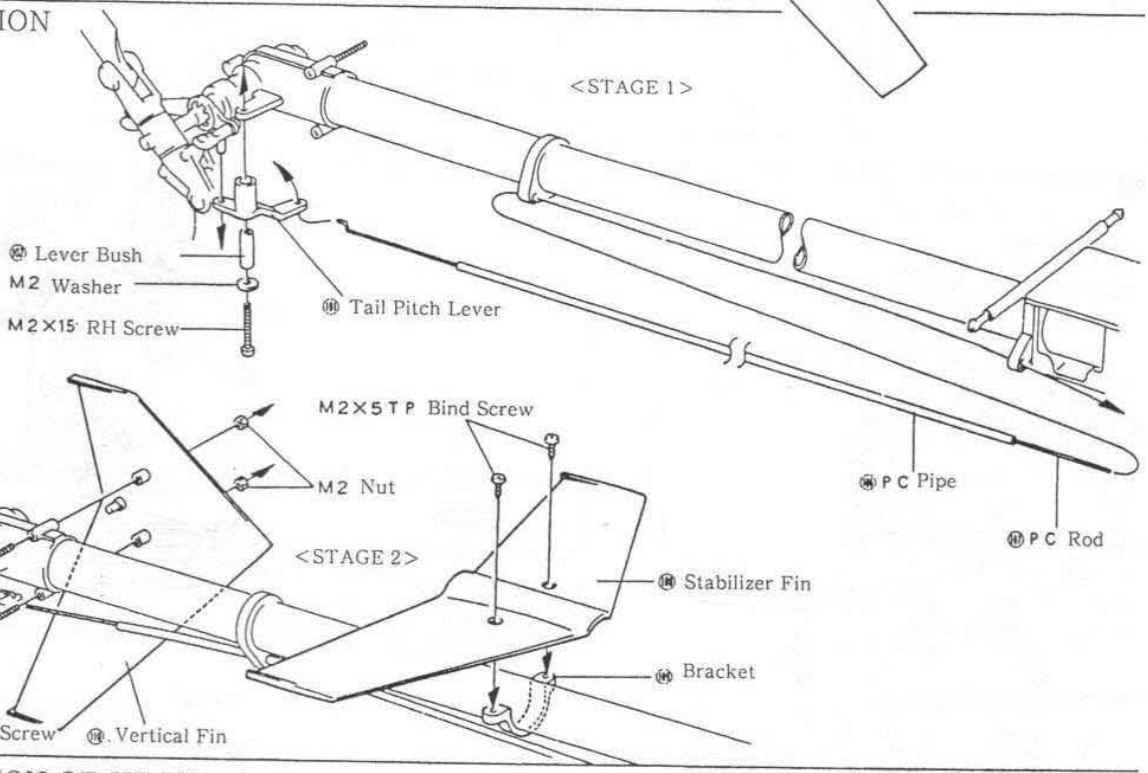


※ Be careful over tighten of tail rotor and direction of it to install.



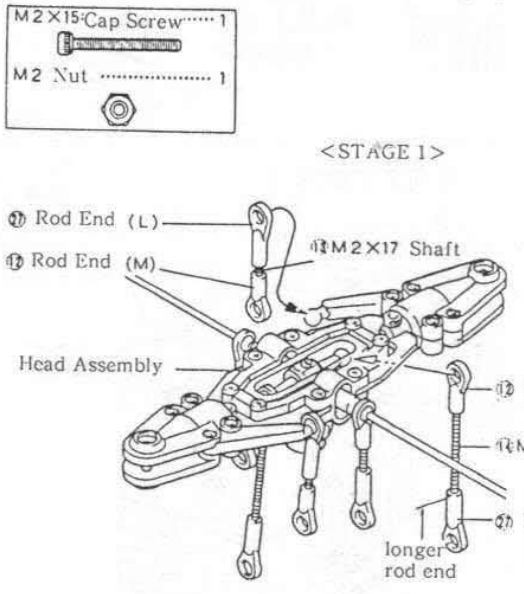
4 INSTALLATION OF FIN

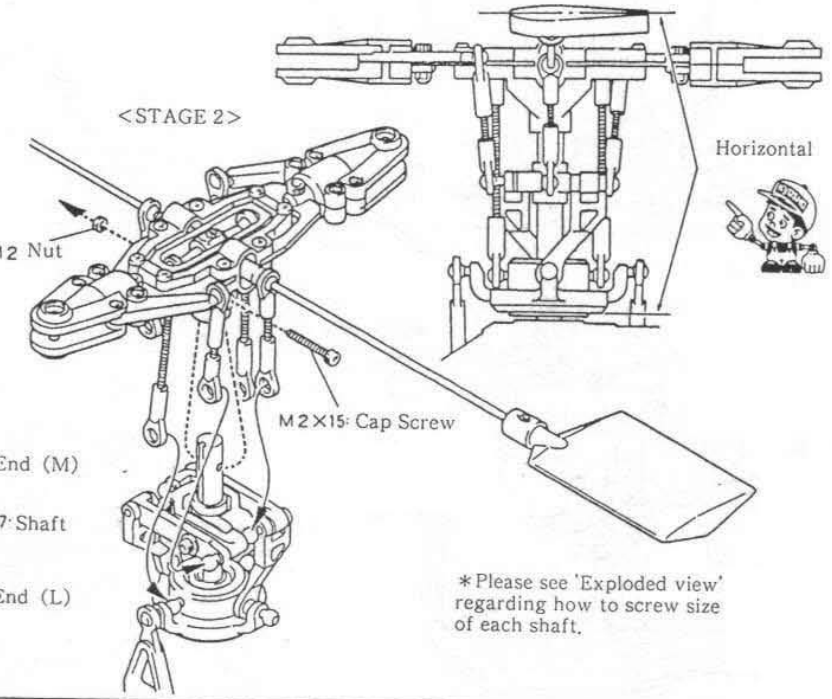
M2×5TP Bind Screw ·· 2
M2×15 RH Screw ····· 1
M2 Washer ····· 1
Use screw & nut assembled temporary
M2×20 RH Screw ····· 2
M2 Nut ····· 2



5 INSTALLATION OF HEAD

M2×15 Cap Screw ····· 1
M2 Nut ····· 1

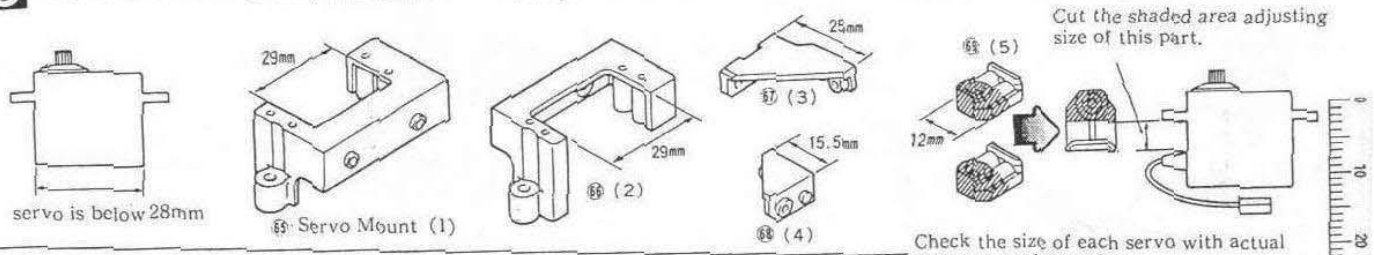




*Please see 'Exploded view' regarding how to screw size of each shaft.

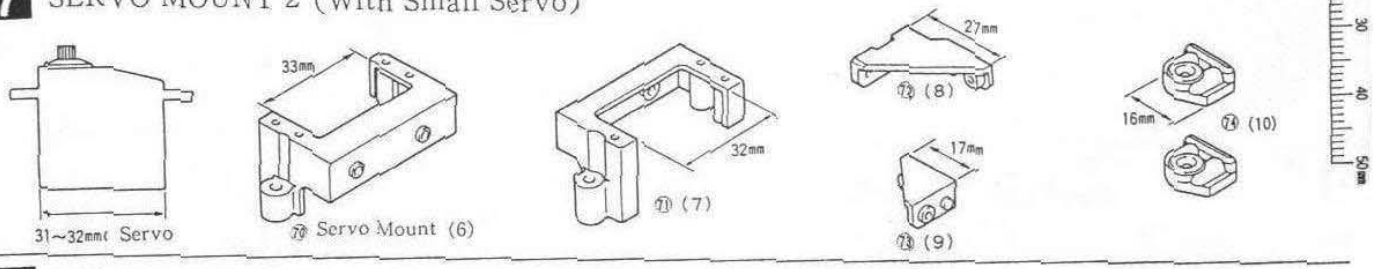
6 SERVO MOUNT 1 (With Micro Servo)

※ In case of using micro servo, use the following servo mount.



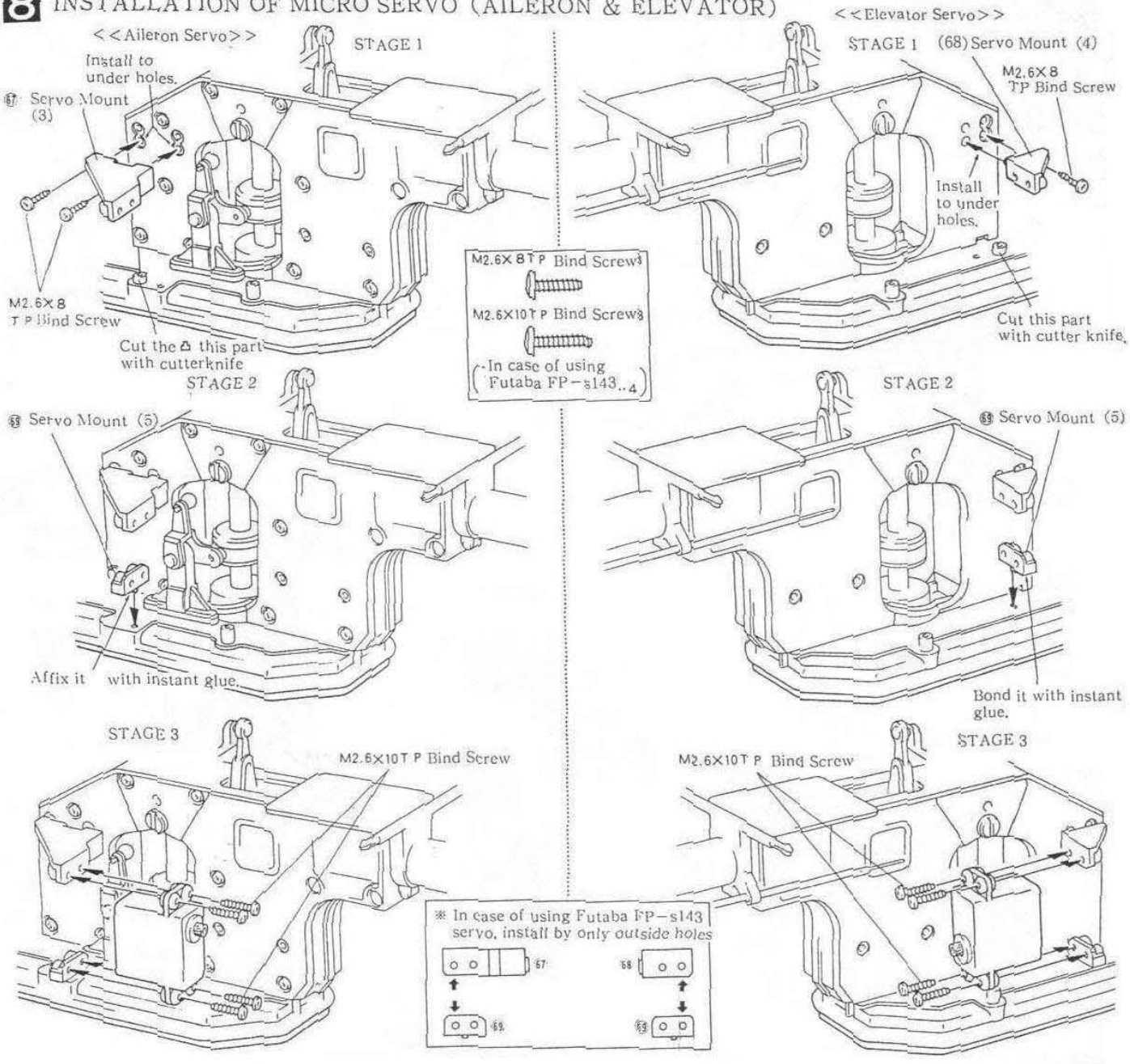
㊺ Servo Mount (1)
㊻ (2)
㊼ (3)
㊽ (4)
㊾ (5)

7 SERVO MOUNT 2 (With Small Servo)



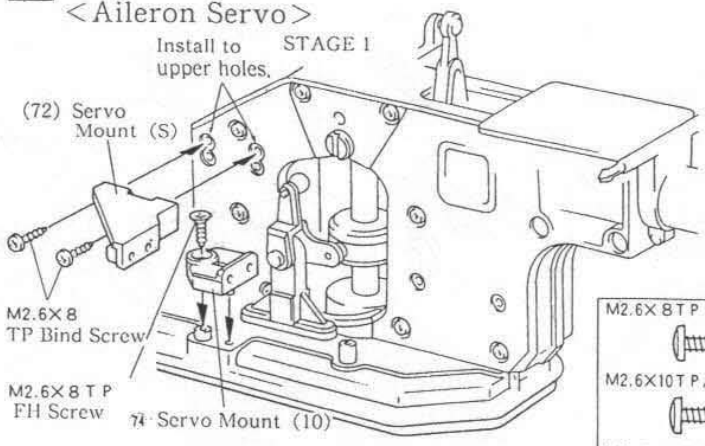
㊿ Servo Mount (6)
(7)
(8)
(9)
(10)

8 INSTALLATION OF MICRO SERVO (AILERON & ELEVATOR)

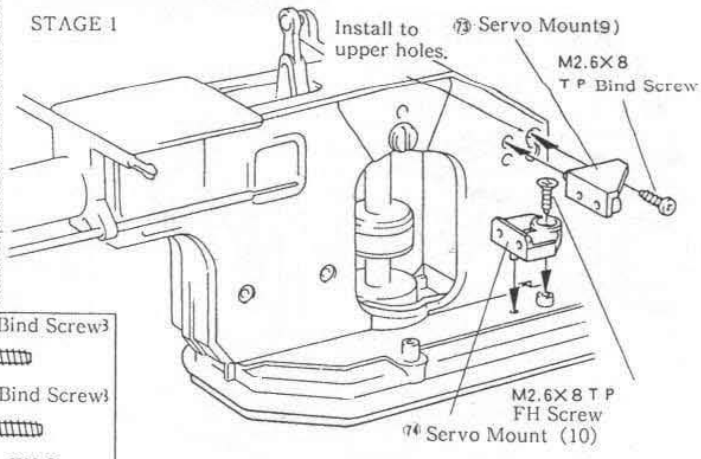


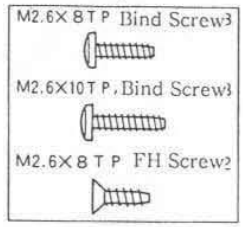
9 INSTALLATION OF SMALL SERVO

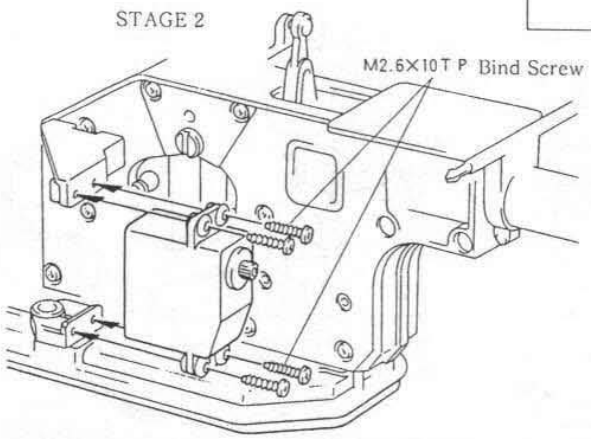
<Aileron Servo>

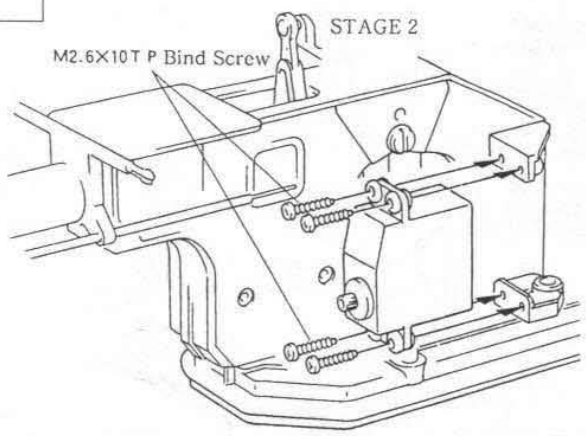


<Elevator Servo>





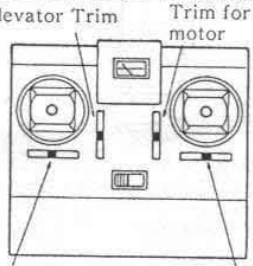


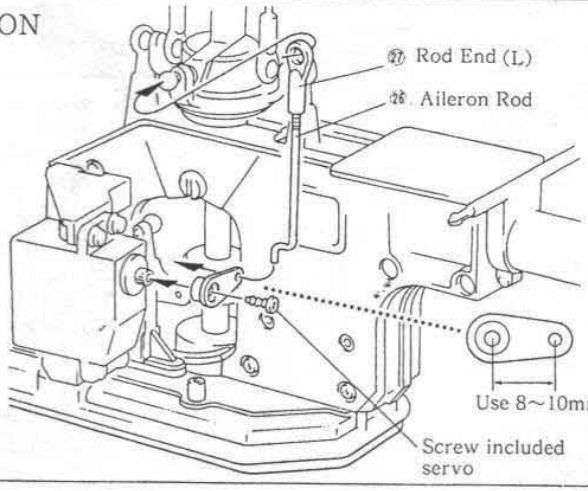


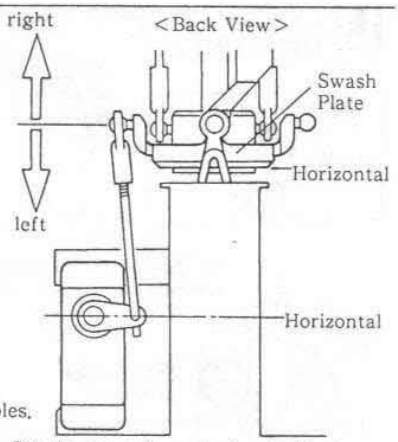
10 LINKAGE OF AILERON

Common to each linkage

- Set each trim in neutral, also set servo hone in neutral.

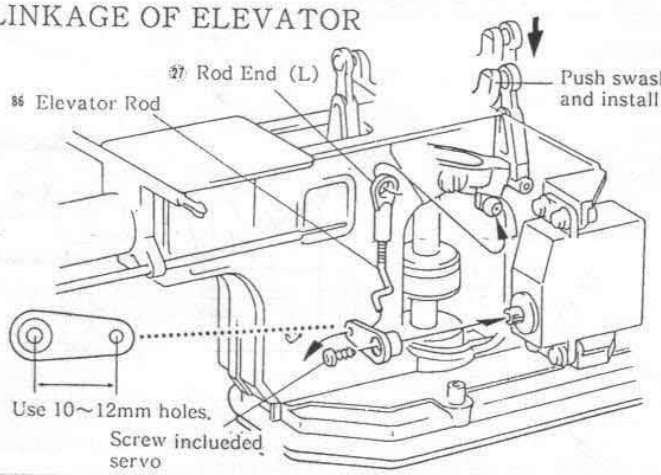


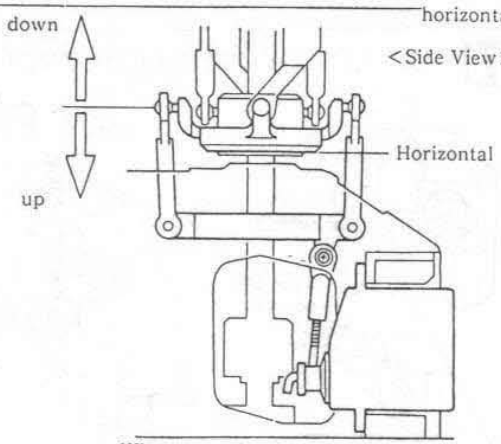




Set the servo in neutral and adjust linkage rod so that swash plate becomes horizontal.

11 LINKAGE OF ELEVATOR



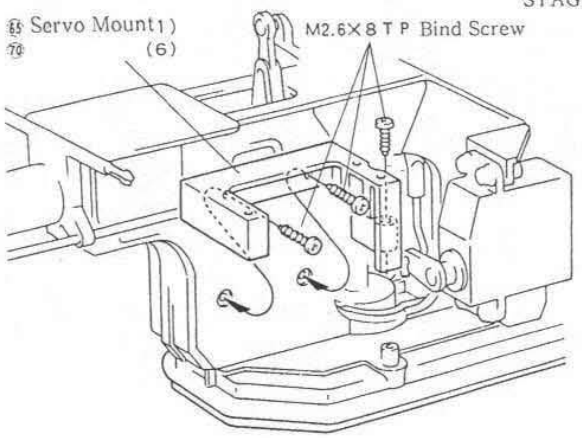


When servo in neutral, adjust as swash plate becomes horizontal.

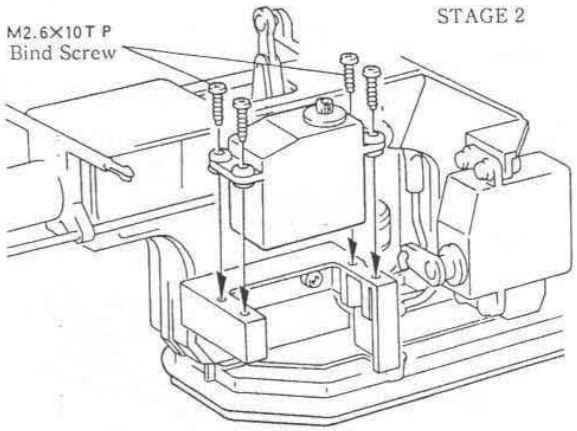
12 INSTLLATION OF RUDDER AND PITCH SERVO

<RUDDER SERVO>

STAGE 1



STAGE 2

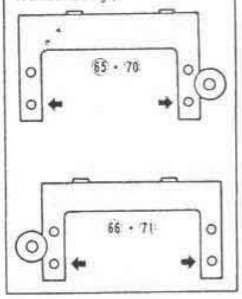


M2.6×8 T P Bind Screw 6

M2.6×10 T P Bind Screw 3

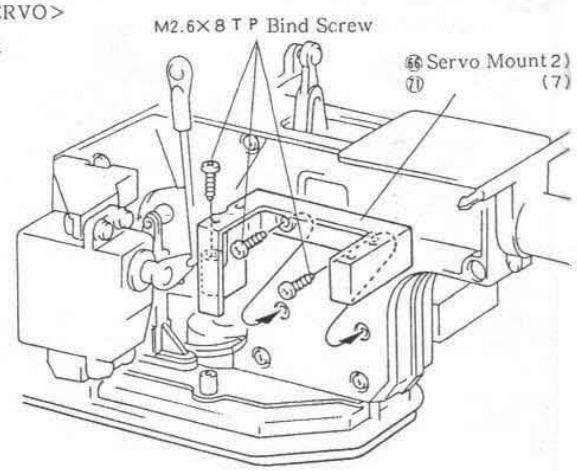
(In case of using Futaba FP-S143...4)

※ In case of using Futaba FP-S143, install on outside holes only.

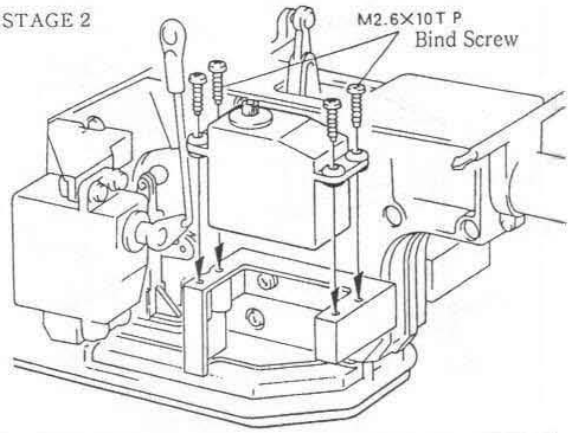


<PITCH SERVO>

STAGE 1



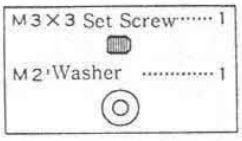
STAGE 2



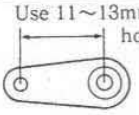
13 LINKAGE OF RUDDER

M3×3 Set Screw····· 1

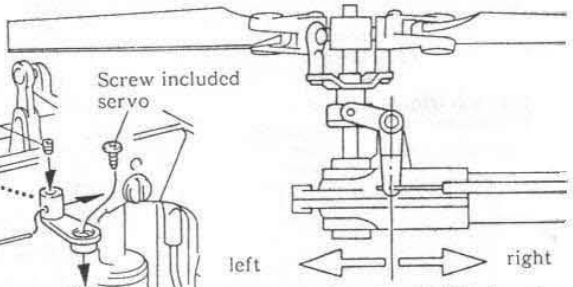
M2 Washer ····· 1



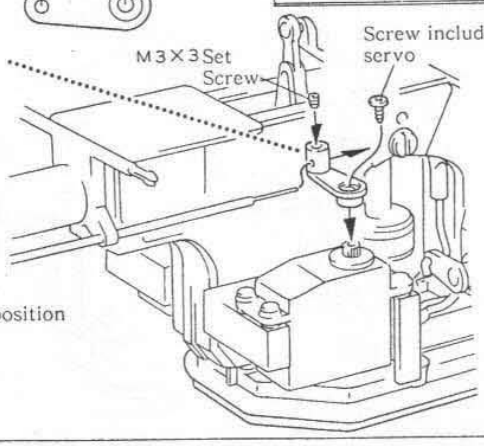
Use 11～13mm holes.



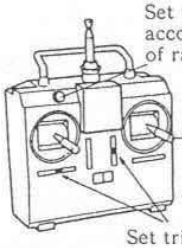
＊Under View＊



Adjust the length of PC Rod so that tail pitch lever become same as drawing, servo in neutral position and fixing the M3x3 set screw.



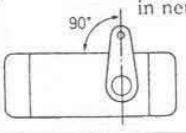
Set the switch of revolution according as instruction manual of radio.



Set the stick in neutral

Set trims in neutal

Linkage the servo in neutal position

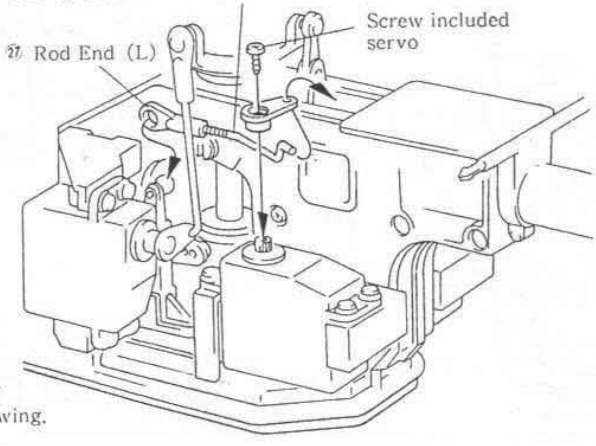


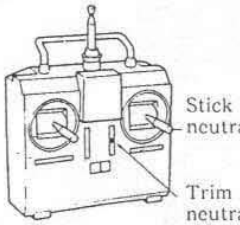
14 LINKAGE OF PITCH CONTROL

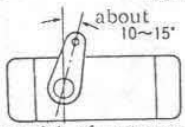
㊲ Pitch Linkage Rod

㉗ Rod End (L)

Screw included servo

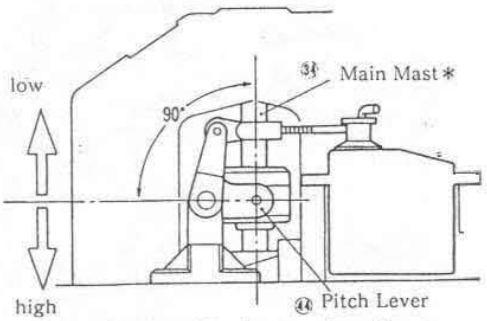






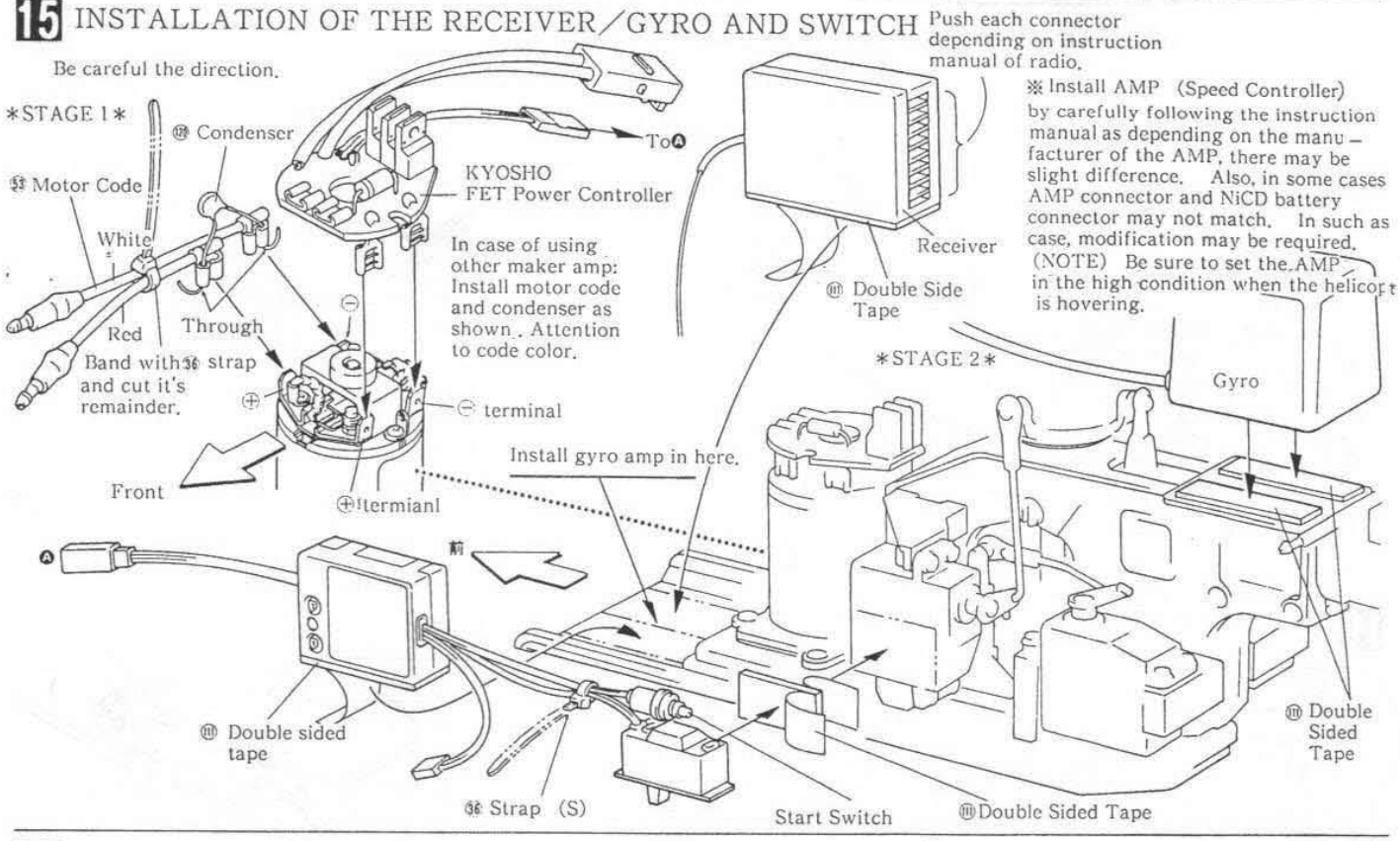
When stick of motor control in neutral, set neutral position of servo on same as the right-drawing.

＊Side View＊

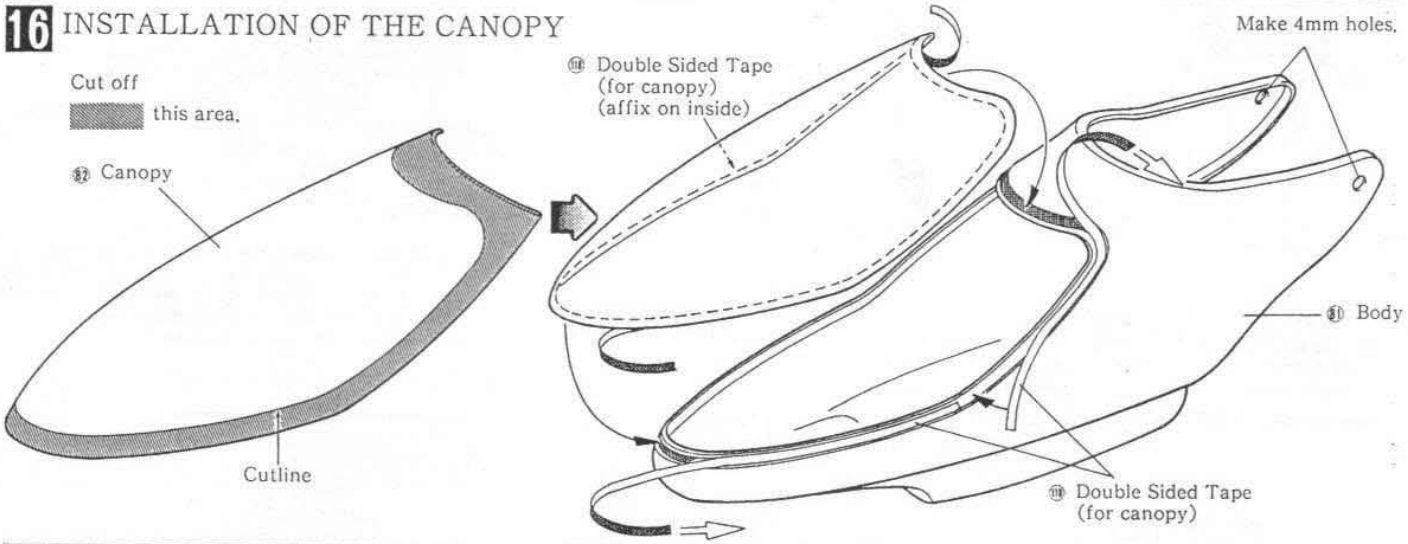


When the stick in neutral position and servo in left drawing position (10～15 adjust the pitch lever at right angles to the main mast.

15 INSTALLATION OF THE RECEIVER/GYRO AND SWITCH

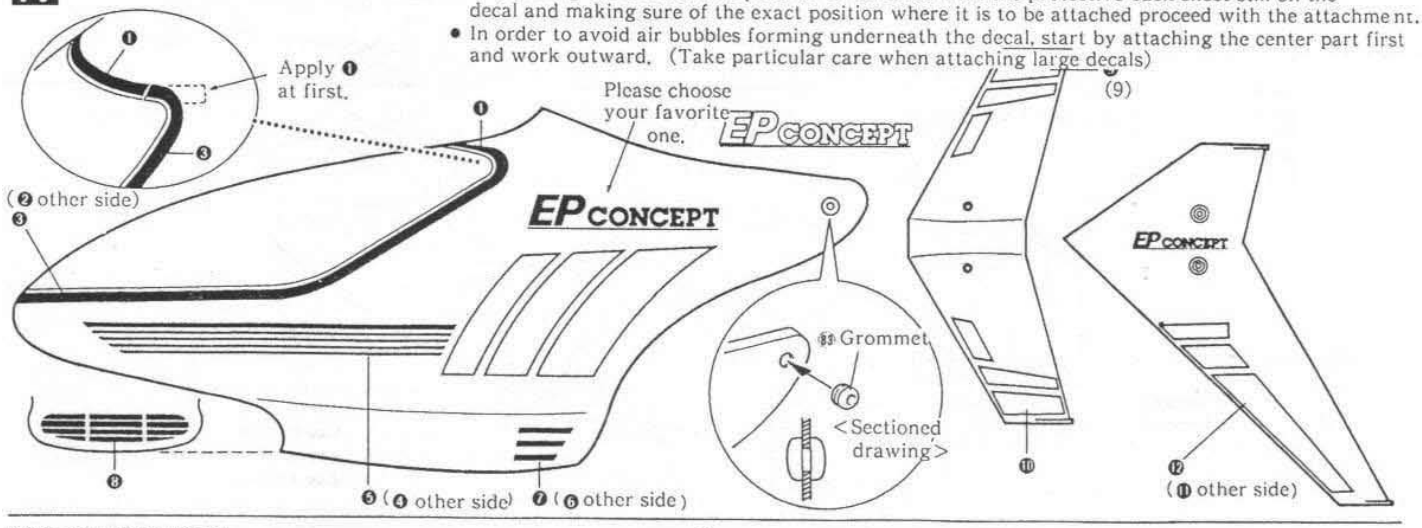


16 INSTALLATION OF THE CANOPY

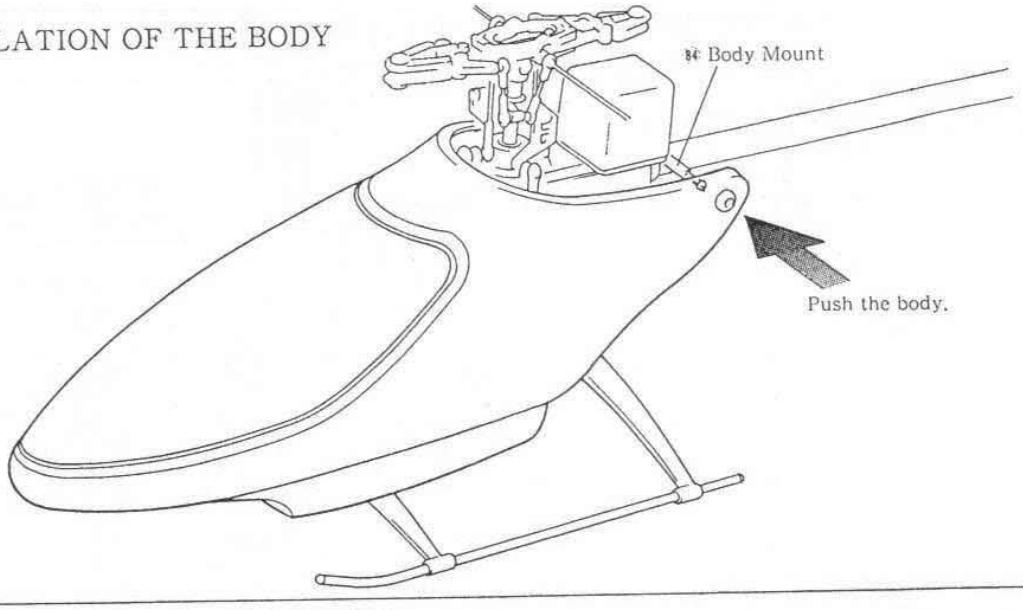


17 APPLYING THE DECALS

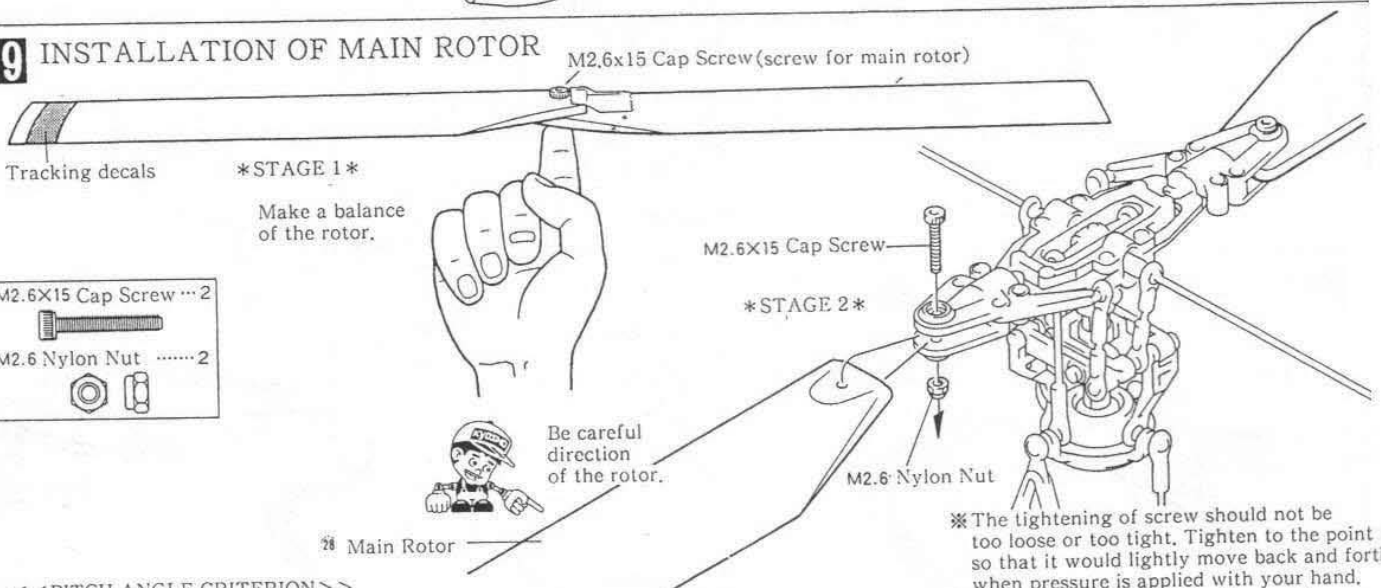
- Cut out the decals without leaving any blank space.
- Try placing the decal on the place to be attached with the protective back sheet still on the decal and making sure of the exact position where it is to be attached proceed with the attachment.
- In order to avoid air bubbles forming underneath the decal, start by attaching the center part first and work outward. (Take particular care when attaching large decals)



18 INSTALLATION OF THE BODY

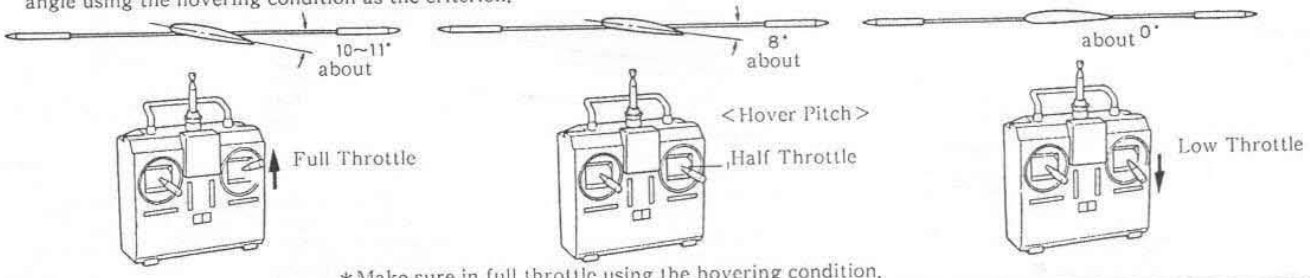


19 INSTALLATION OF MAIN ROTOR



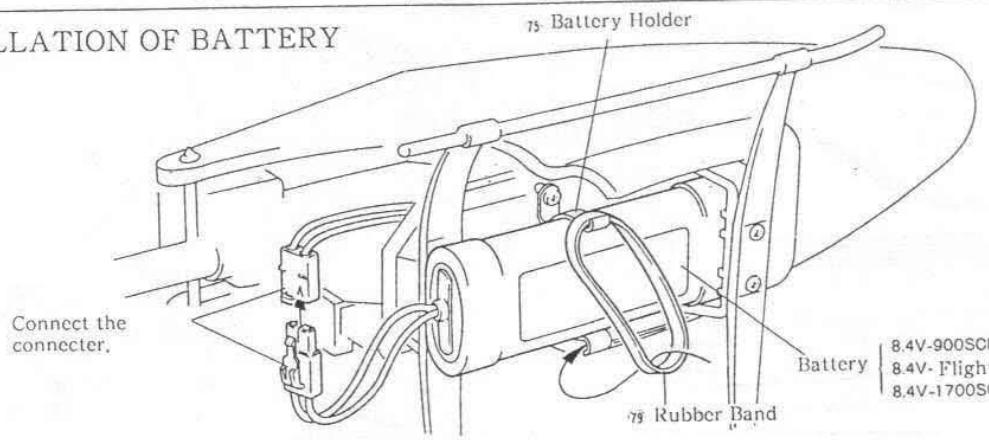
<<PITCH ANGLE CRITERION>>

※The pitch angle of the main rotor will vary depending on the weight of the proportional system you will be using and the condition of the charged battery. Adjust in the best angle using the hovering condition as the criterion.



*Make sure in full throttle using the hovering condition.

20 INSTALLATION OF BATTERY



21 BEFORE FLYING

Check the moving ❶～❽ of the radio and the moving ❶～❽ of the heli rightly.

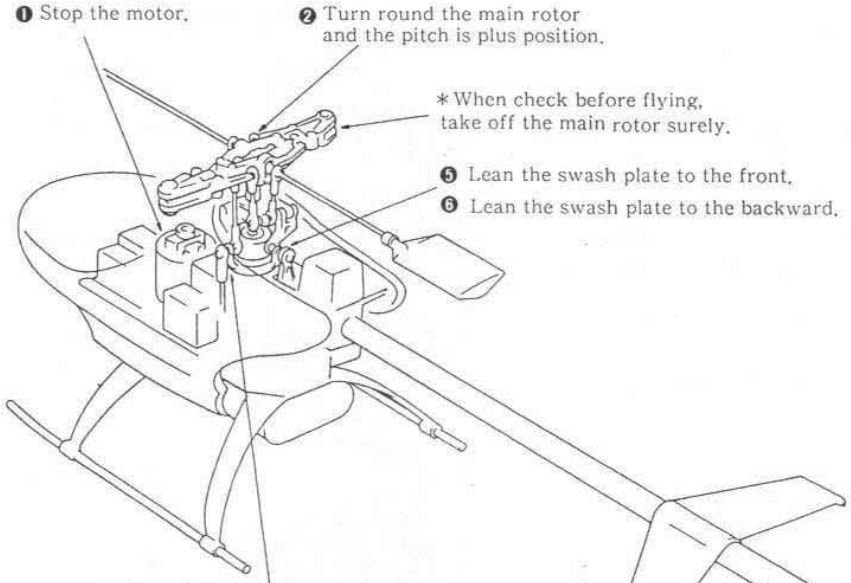
❶ Stop the motor.

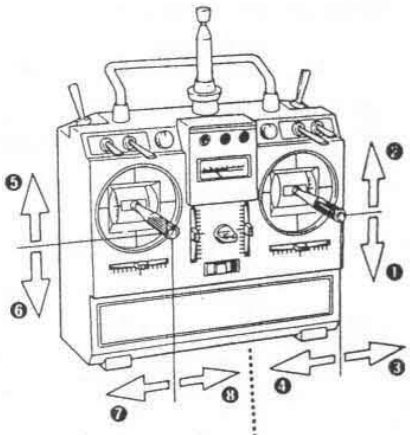
❷ Turn round the main rotor and the pitch is plus position.

＊When check before flying, take off the main rotor surely.

❺ Lean the swash plate to the front.

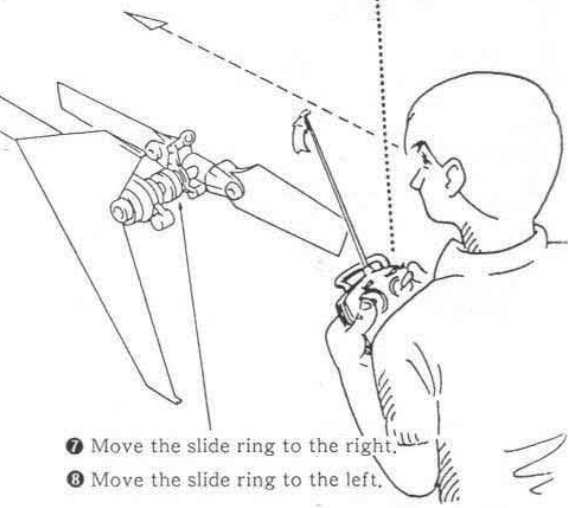
❻ Lean the swash plate to the backward.





❸ Lean the swash plate to the right.

❹ Lean the swash plate to the left.



＊Before turn on the radio...

Ⓐ Turn on the transmitter.
Ⓑ Engine throttle stick is in low position.
Ⓒ Turn on the main switch of the body.
Ⓓ Push on the start button.
Ⓔ Leave the concept 3～5m backward.
→Move the engine throttle stick up slowly.

＊Before turn off the switch of the radio...

Ⓕ Turn off the main switch of the body.
Ⓖ Turn off the transmitter.
Ⓗ Take off the connector of battery.

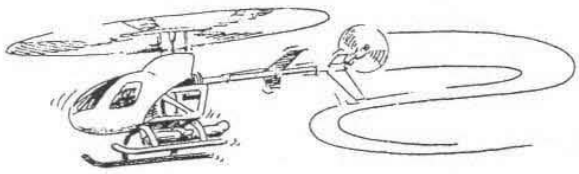
＊Keep the left order Ⓐ～Ⓗ every flying.

❼ Move the slide ring to the right.

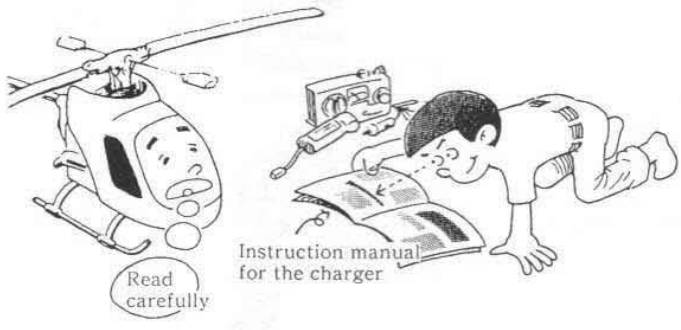
❽ Move the slide ring to the left.

22 CHARGING OF NiCd BATTERY

Depending on how the NiCd battery is charged, the flying time and flight performance of the EP Concept will vary. Read the instruction manual in the charger carefully and charge correctly.



Make sure that the batteries for the transmitter and receiver are both fully charged.



..... You can not control.

<<HOW TO CHARGE>>

● In case of Multi Charger II

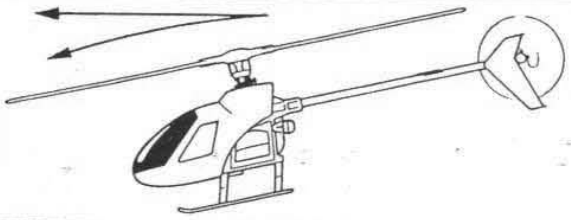
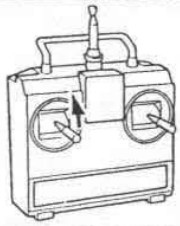
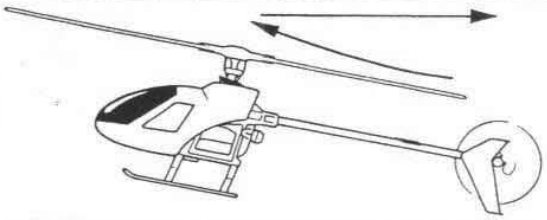
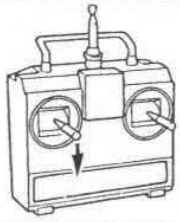
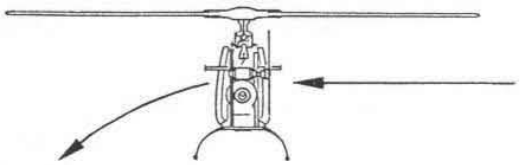
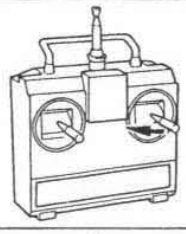
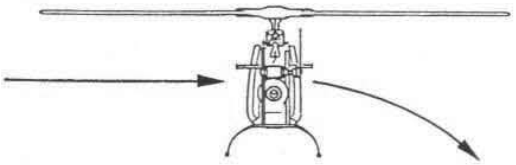
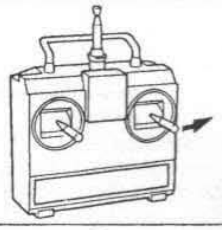
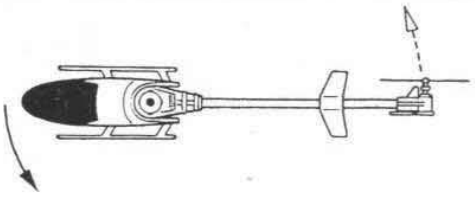
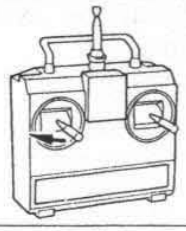
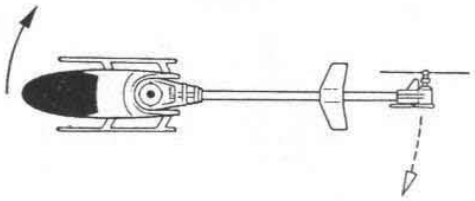
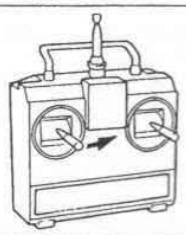
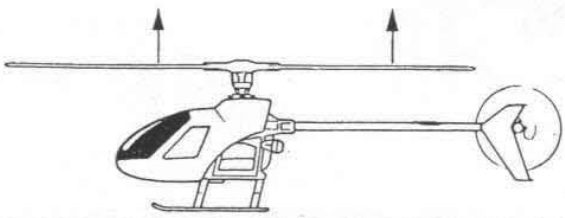
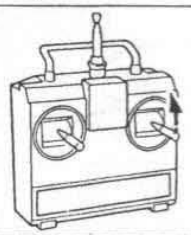
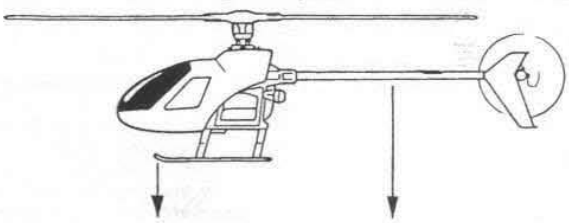
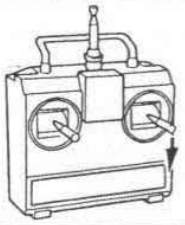
Start to charge the NiCd battery after it has been completely discharged or in used up condition.
Set the electric current at 3～4A, the timer at 20 minutes and as a criterion of full charge, stop the charging when the battery becomes a little warm.

● FET Auto Charger

Perform charging after the NiCd battery has been completely discharged.
Set the electric current at 3～4A, press the start button if the battery feels a little warm at the time of auto cut－off, the charging is finished. If the battery does not feel warm, charge by pressing the start button again. If the battery becomes warm before the auto cut－off in the second charge, end the charging.

CONTROL REACTIONS

The EP CONCEPT will respond with these reactions to each signal from the radio.

HELICOPTER RESPONSE		RADIO STICK POSITION	
TILTS AND MOVES FORWARD			ELEVATOR STICK PUSHED FORWARD
TILTS AND MOVES BACKWARD			ELEVATOR STICK BACK
TILTS AND MOVES LEFT			AILERON TO THE LEFT
TILTS AND MOVES RIGHT			AILERON TO THE RIGHT
THE NOSE MOVES LEFT COUNTER CLOCKWISE ROTATION			RUDDER STICK TO THE LEFT
THE NOSE MOVES RIGHT CLOCKWISE ROTATION.			RUDDER TO THE RIGHT
AS THE MOTOR'S RPMS INCREASE THE BLADE PITCH ALSO INCREASES AND THE HELICOPTER LIFTS UP.			MOTOR SPEED CONTROL STICK HIGH
AS THE MOTOR'S RPMS DECREASE THE BLADE PITCH DECREASES AND THE HELICOPTER DESCENDS.			MOTOR SPEED CONTROL STICK SLOW

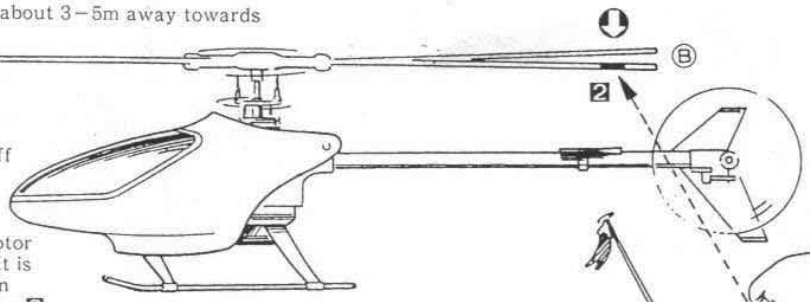
FLYING STEP 1 ... CHECKING THE TRACKING

* Adjust the tracking to line up the pitch angles of the main blades.

Turn to the switch on the proportional system in the order of Ⓐ ~ Ⓔ of page 12 making sure that there are no people around you and it is in an area where there are no houses nearby.

Placing the helicopter on a flat ground, stand about 3 – 5m away towards the rear part of the helicopter.

Distinguish if the rotor blade with the decal is rotating above or below.

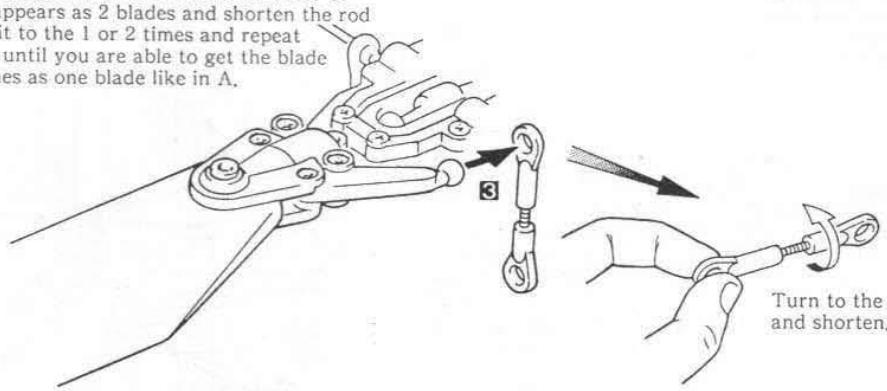


1 Raise the engine revolution up to the point where the helicopter would just about take off (about medium slow) and look at the main blade directly from the side.

2 In carefully checking the track of the main rotor blade and if it is rotating like A in one blade it is ready for flight. In case the blade appears in 2 peices like B, adjust the tracking as per below **3**

1 Gradually lift up the motor control stick.

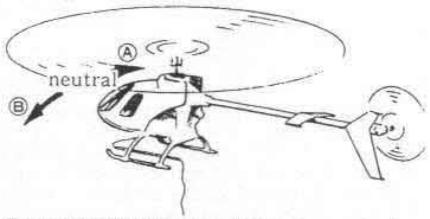
3 Remove the cyclic pitch rod underneath the rotor of the side which appears as 2 blades and shorten the rod end by turning it to the 1 or 2 times and repeat this adjustment until you are able to get the blade so that it becomes as one blade like in A.

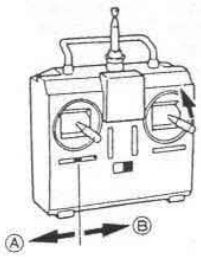


FLYING STEP 2 ... ADJUSTING THE TRIM

As the revolution on the main rotor blade increased and the helicopter tries to lift off the ground, different kind of flight characteristic will start to appear. To neutralize this characteristics is the adjustment of trim.

1 Adjustment of Rudder Trim



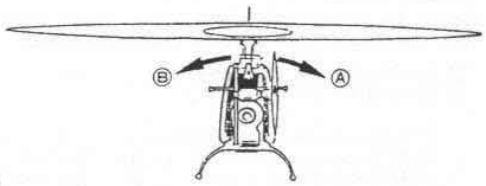


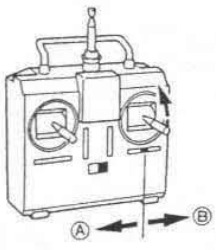
By gradually lifting up the motor control stick and just before take off :

If the nose heads swings to Ⓐ move the trimleft Ⓐ
" Ⓑ move the trim rightⒷ

adjust so it will not swing to right or left.

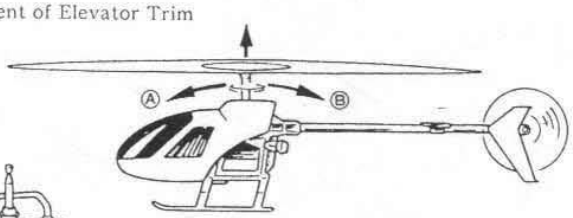
2 Adjustment of Aileron Trim

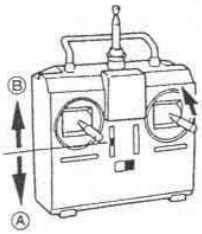




Looking at the helicopter from the rear, gradually lifts up the motor control stick until the helicopter just about is ready to lift off the ground
If the helicopter
tilts toward Ⓐ , move the trim left Ⓐ
tilts toward Ⓑ , move the trim right Ⓔ
to neutralize.

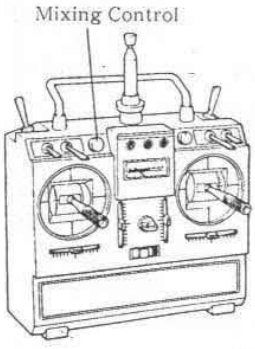
3 Adjustment of Elevator Trim





Looking at the helicopter from the rear, gradually raise the motor control stick until the helicopter just about is ready to lift off the ground
If the helicopter
tilts toward Ⓐ , move the trim back Ⓐ
tilts toward Ⓑ , move the trim forward Ⓑ
to neutralize.

4 Adjustment of throttle/tail rotor mixing

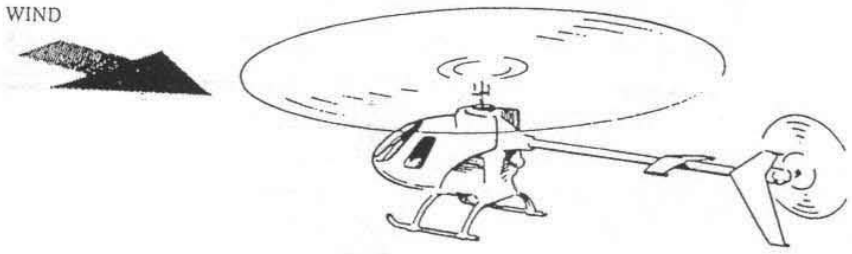


In a proportional system for a R/C helicopter, a mixing device is incorporated.
Revolution mixing is...
The anti torque is varied by changing the main rotor pitch. To cope with this mixing motion is called the revolution mixing. For adjustment, refer to instruction manuals that with the various manufacturers proportional system.

FLYING STEP 3 ... BEFORE PRACTISING HOVERING

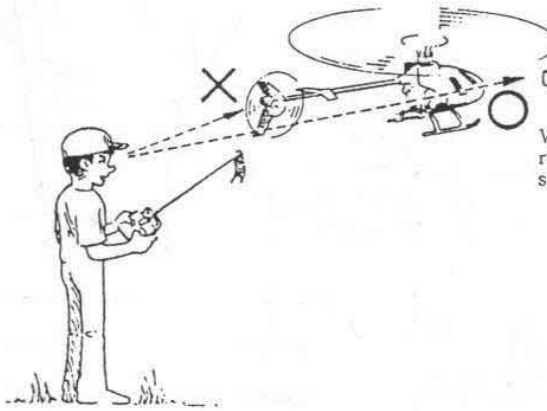
ALL OF THE BASICS IN FLYING HELICOPTER IS IN THE HOVERING. IF HOVERING CAN NOT BE DONE, IT WILL NOT BE POSSIBLE TO FLY IN THE AIR OR LAND. THEREFORE, PLENTY OF TIME SHOULD BE SPENT IN THE PRACTICE OF HOVERING. BEFORE PROCEEDING LET'S THOROUGHLY KEEP THE FOLLOWING MATTERS IN MIND.

1 Hovering should always be practised facing the wind.



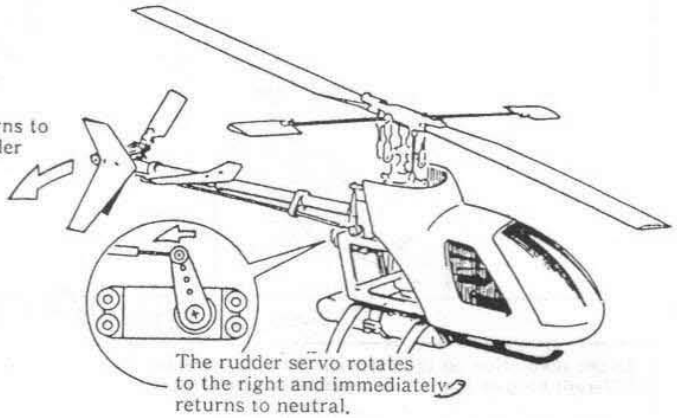
2 Do not look at the tail when controlling the rudder!

When flying R/C planes or running R/C cars people watch the nose or the front end but...
For some reason, majority of the people have a tendency of looking at the tail when flying a helicopter. Concentrate in flying a helicopter keeping in mind that the nose is to be controlled to go to the left or right and not to swing the tail to right or left.



3 Check once again the effective direction of the GYRO. (When used)

When the switch of the transmitter and receiver are turned on and the rudder servo rotates slightly to the right and immediately returns to neutral when the tail is moved toward this arrow , it is ready to go.

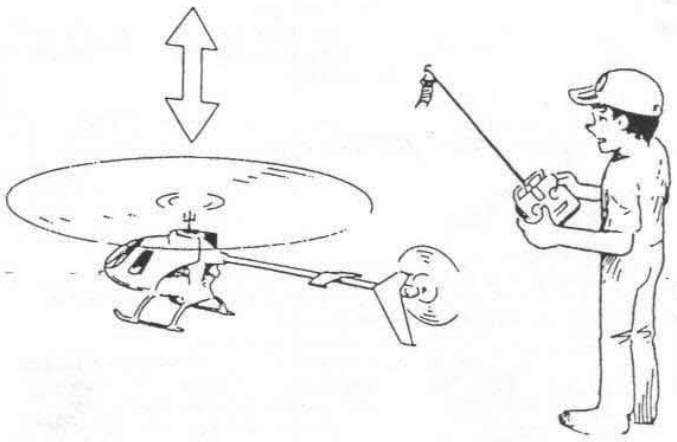


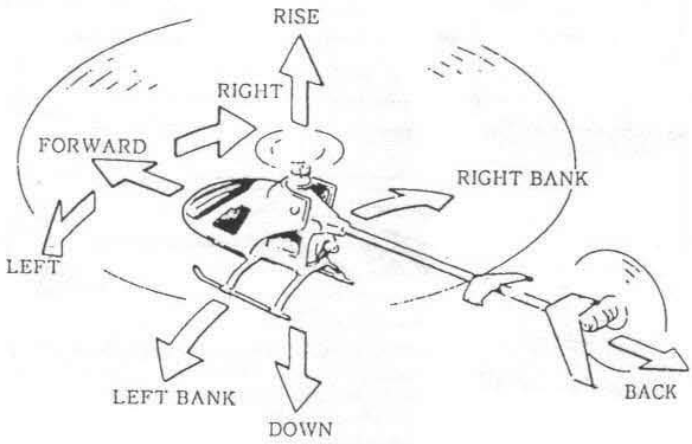
FLYING STEP 4 ... HOVERING PRACTISE

1 Looking at the helicopter from the rear, make it lift off the ground.

After lifting off the ground up to a height of about 10cm, return the motor control switch to "SLOW" position and make the helicopter land. Repeat this motion many time as possible and gradually raise the flying height.

2 Stick control is done by always estimating ahead of what kind of movement the helicopter will make. A hovering helicopter will not remain in the same spot. By estimating what kind of movement the helicopter will be making and by manipulating the stick ahead of time, try to practise so that you will be able to keep it in one set area. When you are able to do the hovering, it would mean that you have mastered 80% of the R/C helicopter flying technique.



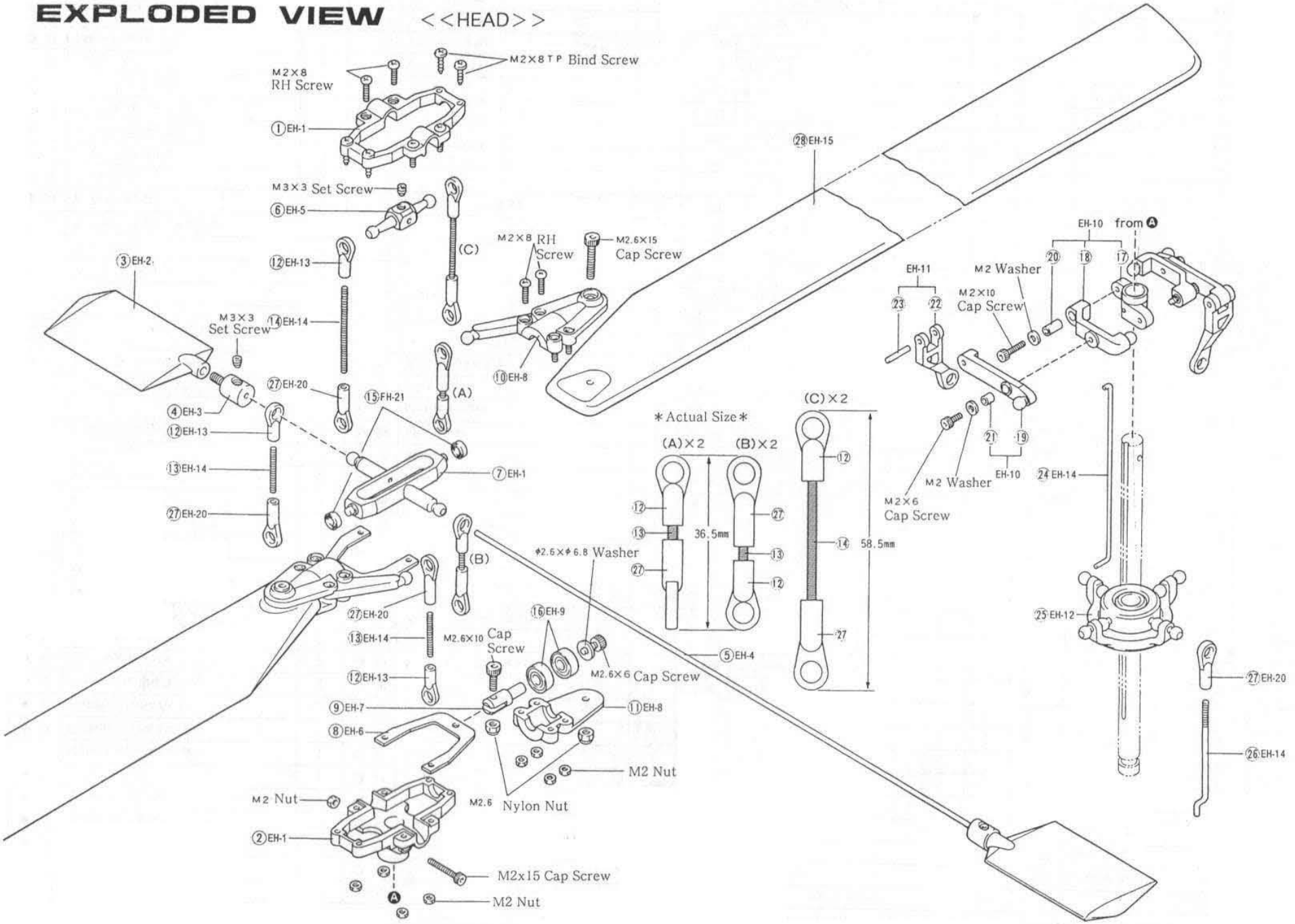


PARTS LIST

Assembly Parts for... ● HEAD ◎ MAIN FRAME ○ TAIL ROTOR ▲ TAIL SLIDE ★ SCREWS FOR ASSEMBLY

Key No	Parts Name	Q'ty
● 1	Rotor Head (A)	1
● 2	〃 (B)	1
● 3	Stabilizer Plate	2
● 4	Stabilizer Holder	2
● 5	Stabilizer Bar	1
● 6	Hiller Control Lever	1
● 7	Stabilizer Seesaw	1
● 8	Flapping Hinge	2
● 9	Feathering Shaft	2
● 10	Main Rotor Grip (A)	2
● 11	〃 (B)	2
12	Rod End (M)	6
13	M2×17 Shaft	4
14	M2×37 Shaft	2
● 15	φ3×φ6×2 Bearing	2
● 16	φ4×φ10×4 Bearing	4
◎ 17	Mixing Base	1
◎ 18	Mixing Lever	2
◎ 19	Cyclic Lever	2
◎ 20	Lever Bush (A)	2
◎ 21	〃 (B)	2
◎ 22	Cyclic Lever Link	2
◎ 23	φ2×10 Parallel Pin	2
◎ 24	Pitch Rod	1
◎ 25	Swash Plate Assembly	1 set
26	Ailron Rod	1
◎ 27	Rod End (L)	9
28	Main Rotor	2
◎ 29	φ7×φ14×5 Bearing	1
◎ 30	φ7 Stopper	1
◎ 31	Pitch Slider	1
◎ 32	Pitch Slide Ring	1
◎ 33	φ10 Stopper Ring	1
◎ 34	Main Mast	1
◎ 35	Slide Ring Washer	1
36	Strap (S)	4
◎ 37	Main Frame (L)	1
◎ 38	〃 (R)	1
◎ 39	Elevator Lever	1
◎ 40	Elevator Link	2
◎ 41	φ2×14 Parallel Pin	2
◎ 42	φ4.8 Ball (A)	2
◎ 43	〃 (B)	1
◎ 44	Pitch Lever	1
◎ 45	Pitch Lever Base	1
◎ 46	Pully Stopper	2
◎ 47	Belt Guide	2
◎ 48	Pully (A)	1
◎ 49	φ4×φ8×4 Bearing	6
◎ 50	Pully Shaft	1
◎ 51	Elevator Lever Shaft	2
◎ 52	Motor	1
53	Motor Code	1 set
◎ 54	Motor Base	1
◎ 55	Sub Frame (A)	1
◎ 56	〃 (B)	1
◎ 57	Pinion Gear (16T)	1
◎ 58	Main Gear	1
◎ 59	Idler Gear	1
◎ 60	Motor Pinion	1
◎ 61	Idler Shaft	1
◎ 62	φ7×φ14×3.5 Bearing	2
◎ 63	Oneway Bearing	1
◎ 64	Onway Shaft	1
65	Servo Mount (1)	1
66	〃 (2)	1
67	〃 (3)	1
68	〃 (4)	1
69	〃 (5)	1
70	〃 (6)	1
71	〃 (7)	1
72	〃 (8)	1
73	〃 (9)	1
74	〃 (10)	2
75	Battery Holder	2
76	Brace Holder	1
77	Front Brace	1
78	Rear Brace	1
79	Rubber Band	1
80	Skid	2
81	Body	1
82	Canopy	1
83	Grommet	2
◎ 84	Body Mount	1
85	Decal	1
86	Elevator Rod	1
87	Pitch Linkage Rod	1
○ 88	Tail Rotor Grip (A)	2
○ 89	〃 (B)	2
○ 90	Tail Center Hub	1
○ 91	φ3×φ6×2.5 Bearing	4
92	Tail Rotor	2
▲ 93	Rod End (S)	2
▲ 94	Tail PC Plate	1
▲ 95	Tail Pitch Ring	1
▲ 96	φ6×φ10×3 Bearing	1
▲ 97	Tail Slide Bush	1
◎ 98	Tail Gear Box (L)	1
◎ 99	〃 (R)	1
◎100	Pully (B)	1
101	Tail Pitch Lever	1
102	Lever Bush (C)	1
◎103	PC Guide	1
◎104	Tail Boom	1
◎105	Belt	1
106	PC Pipe	1
107	PC Rod	1
108	Stabilizer Fin	1
109	Braket	1
110	Vertical Fin	1
111	Double Sided Tape	1
◎112	Pitch Lever Shaft	1
113	φ6 Stopper Ring	1
◎114	Out Put Shaft	1
115	Tail Linkage Guide	1
116	E Ring (E2)	1
○117	Tail Rotor Shaft	2
118	Double Sided Tape for Canopy	2
119	Skid Cap	-4
120	Condenser	1
★	Round Head Screw M2×6	1
★	〃 M2×8	12
★	〃 M2×20	2
★	T P Bind Screw M2×5	2
★	〃 M2×8	9
★	〃 M2.6×8	5
★	〃 M2.6×10	10
★	〃 M2.6×12	4
★	〃 M2.6×14	2
★	Cap Screw M2×6	2
★	〃 M2×10	2
★	〃 M2.6×6	2
★	〃 M2.6×10	2
★	〃 M3×6	2
★	Set Screw M3×3	6
★	〃 M3×5	3
★	Nut M2	15
★	Nylon Nut M2.6	2
★	Washer M2	4
	Round Head Screw M2×15	1
	〃 M2.6×10	2
	T P Bind Screw M2×5	2
	〃 M2.6×10	16
	〃 M2.6×8	9
	〃 M2.6×14	2
	〃 M2.6×18	2
	Cap Screw M2×15	1
	〃 M2.6×10	2
	〃 M2.6×15	2
	〃 M2.6×18	2
	T P Flat Head Screw M2.6×8	2
	Set Screw M3×3	2
	Nut M2	1
	〃 M2.6	2
	Nylon Nut M2.6	4
	Washer M2	2
	Oval Head Screw M2×8	3

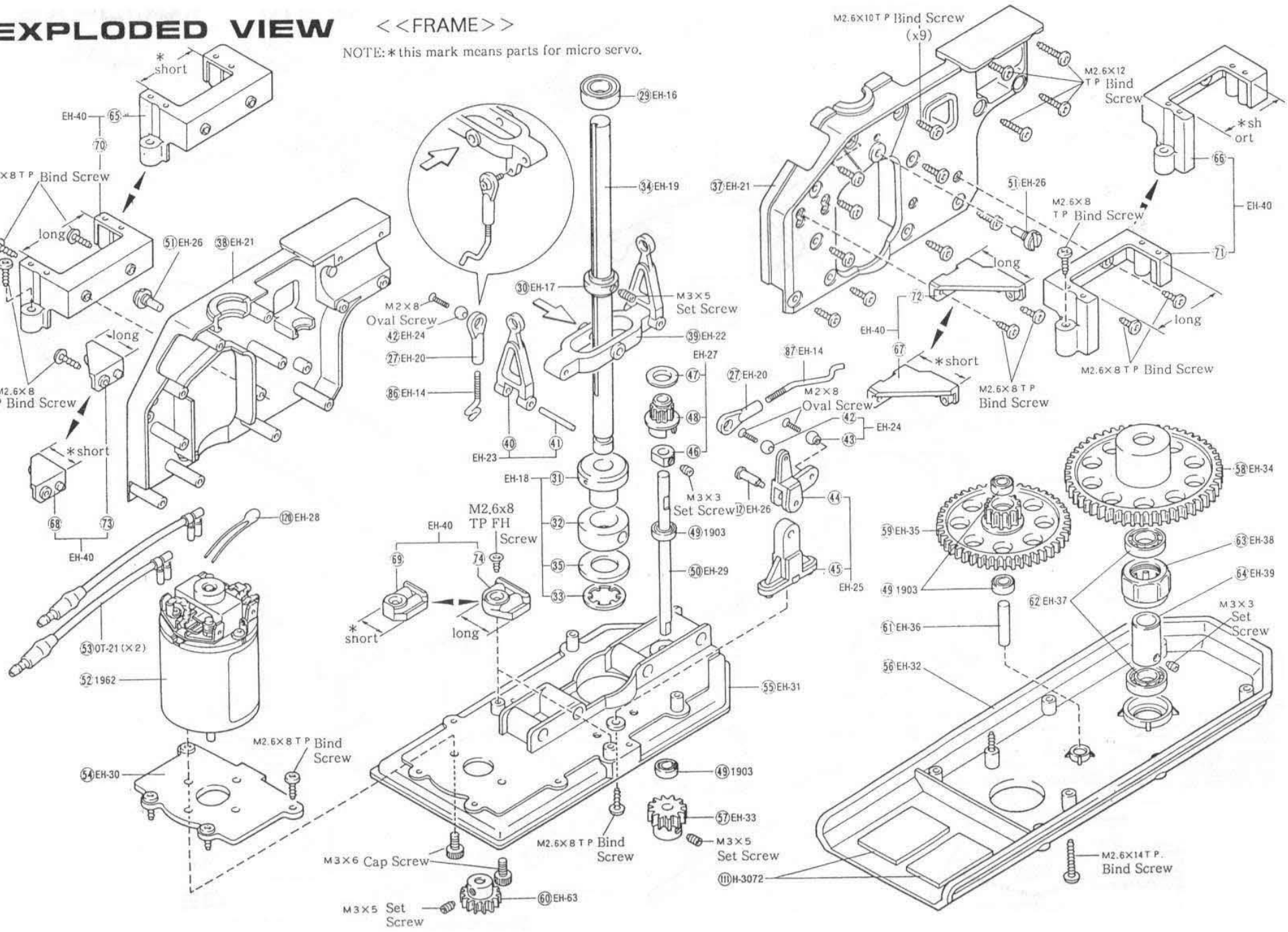
EXPLODED VIEW <<HEAD>>



EXPLODED VIEW

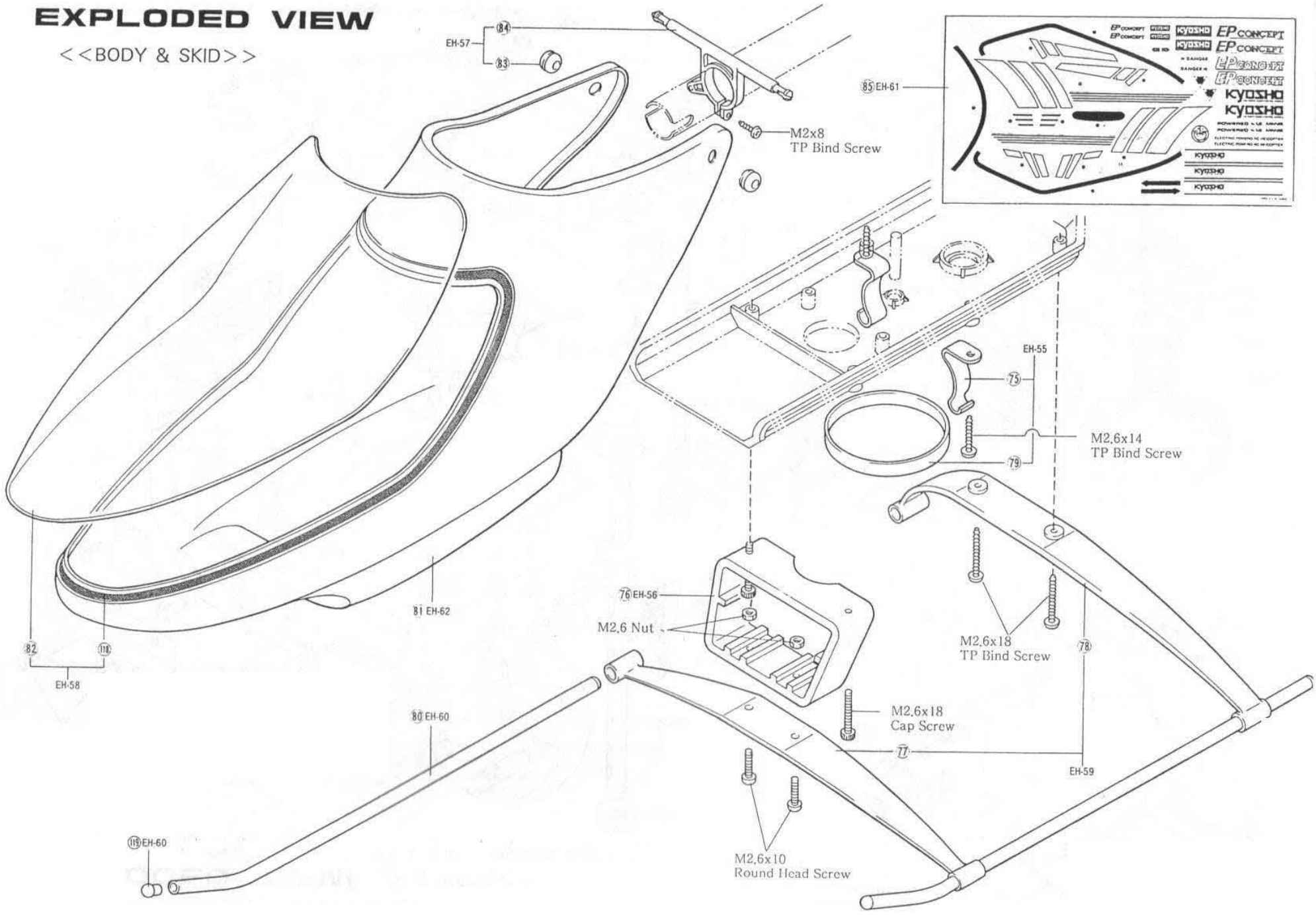
<<FRAME>>

NOTE: ＊this mark means parts for micro servo.



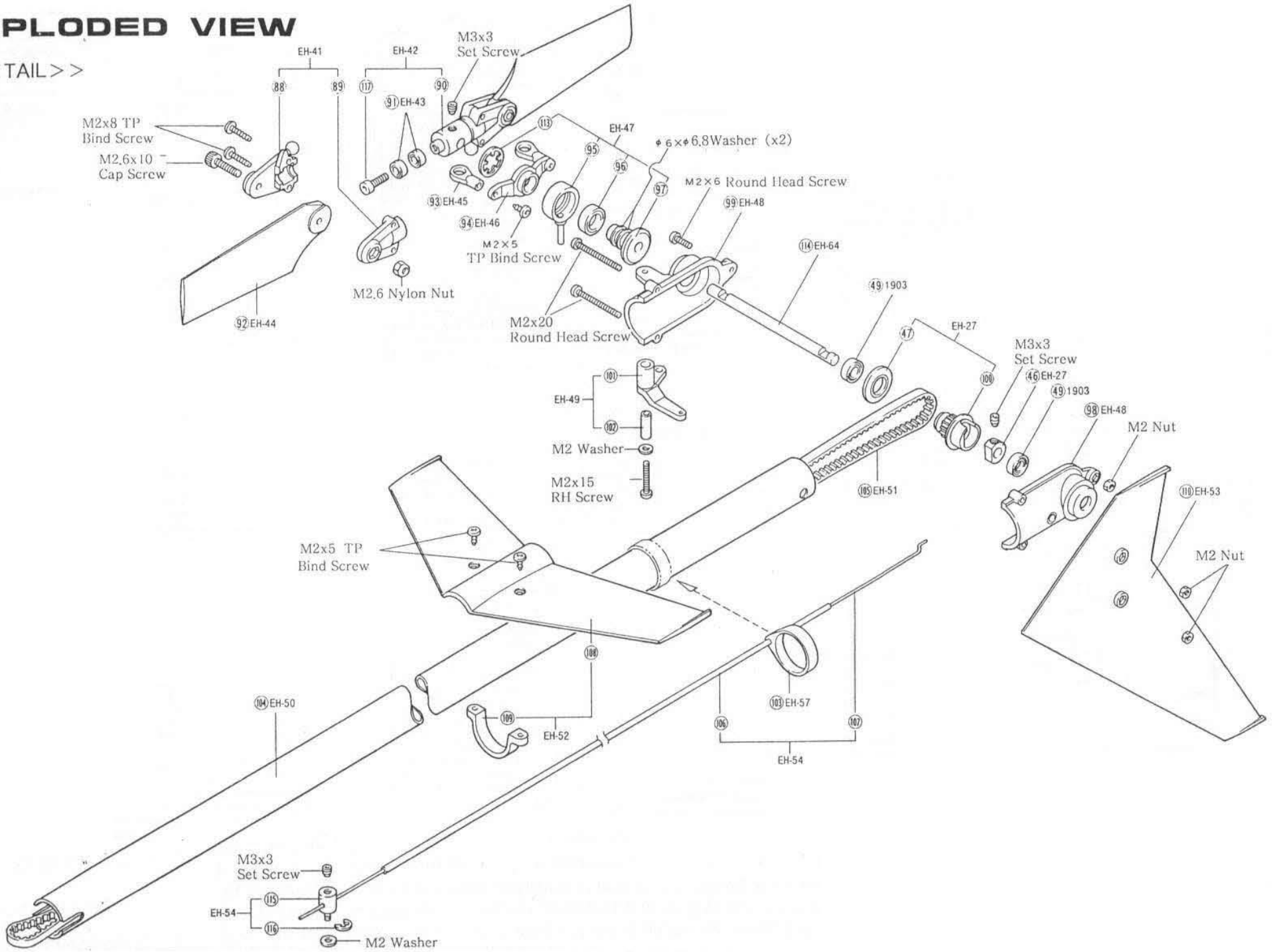
EXPLODED VIEW

<<BODY & SKID>>



EXPLODED VIEW

<<TAIL>>



** PURCHASABLE PARTS FOR YOUR KIT **

You can purchase replacement and optional parts for your kit. We offer these parts in convenient "parts packs" which can be purchased anywhere Kyosho kits are sold. Note that parts are not sold separately, but are available within a Parts Pack. When referring to the parts you need, always use the Kyosho Parts Pack Number. For instance, if you need a Rotor Head (A) ask your dealer for Kyosho Parts Pack EH−1 (Rotor Head Set).

No.	Part Name	Key Number & Q'ty
EH-1	Rotor Head	① ② ⑦ 1 each
EH-2	Stabilizer Blade	③×2
EH-3	Stabilizer Holder	④×2
EH-4	Stabilizer Bar	⑤×2
EH-5	Hiller Control Lever	⑥×1
EH-6	Flapping Hinge	⑧×2
EH-7	Feathering Shaft	⑨×2
EH-8	Main Rotor Grip	⑩ ⑪ 2 each
EH-9	φ4×φ10×4 Bearing	⑯×2
EH-10	Mixing Lever	⑰×1 ⑱⑲⑳㉑ 2each
EH-11	Cyclic Lever Link	㉒ ㉓ 2 each
EH-12	Swash Plate Assembly	㉕×1 set
EH-13	Rod End (M)	⑫×10
EH-14	Rod Set	㉔ ㉖ ㊱ ㊲ 1 each ⑭×2 ⑬×4
EH-15	Main Rotor	㉘×2
EH-16	φ7×φ14×5 Bearing	㉙×1
EH-17	φ7 Stopper	㉚×1
EH-18	Pitch Slider	㉛ ㉜ ㉝ ㉟
EH-19	Main Mast	㉞×1
EH-20	Rod End (L)	㉗×10
EH-21	Main Frame	㊲ ㊳×
EH-22	Elevator Lever	㊴×1
EH-23	Elevator Link	㊵ ㊶
EH-24	φ4.8 Ball	㊷ ㊸
EH-25	Pitch Lever	㊹ ㊺
EH-26	Lever Shaft	㊽×1 ㊶×2
EH-27	Pully Set	㊽ ㊾ ㊻ ㊼×2

No.	Part Name	Key Number & Q'ty
EH-28	Condenser	㉔×2
EH-29	Pully Shaft	㊿×1
EH-30	Motor Base	㊹×1
EH-31	Sub Frame (A)	㊺×1
EH-32	〃 (B)	㊻×1
EH-33	Pinion Gear (16T)	㊼×1
EH-34	Main Gear	㊽×1
EH-35	Idle Gear	㊾×1
EH-36	Idle Shaft	㊿×1
EH-37	φ7×φ14×3.5 Bearing	㊿×1
EH-38	Oneway Bearing	㊿×1
EH-39	Oneway Shaft	㊿×1
EH-40	Servo Frame	㊿㊿㊿㊿㊿㊿㊿㊿ x1 ㊿ ㊿ 2 each
EH-41	Tail Rotor Grip	㊿ ㊿ 2 each
EH-42	Tail Center Hub	㊿×1 ㊿×2
EH-43	φ3×φ6×2.5 Bearing	㊿×2
EH-44	Tail Rotor	㊿×2
EH-45	Rod End (S)	㊿×10
EH-46	Tail PC Plate	㊿×1
EH-47	Tail Pitch Ring	㊿ ㊿ ㊿ ㊿ 1 each
EH-48	Tail Gear Box	㊿ ㊿ 1 each
EH-49	Tail Pitch Lever	㊿ ㊿ 1 each
EH-50	Tail Boom	㊿×1
EH-51	Belt	㊿×1
EH-52	Stabilizer Fin	㊿ ㊿ 1 each
EH-53	Vertical Fin	㊿×1
EH-54	Tail Linkage	㊿ ㊿ ㊿ ㊿ 1 each

No.	Part Name	Key Number & Q'ty
EH-55	Battery Holder	㊾×1 ㊺×2
EH-56	Brace Holder	㊻×1
EH-57	Body Mount Set	㊹ ㊿×1 ㊸×2
EH-58	Canopy	㊷×1 ㊿×2
EH-59	Brace	㊼ ㊽
EH-60	Skid	㊿×2 ㊿×4
EH-61	Decal	㊵×1
EH-62	Body	㊶×1
EH-63	Motor Pinion	㊷×1
EH-64	Tail Output Shaft	㊿×1
EH-65	Screw & Nut Set	1 set
FH-21	φ3×φ6×2 Bearing	⑮×2
OT-21	Motor Code	㊸×1 set
H-3072	Double Sided Tape	㊿×1
1903	φ4×φ8×3 Bearing	㊾×2
1962	Le Mans AP36 Motor	㊷×1

OPTIONAL PART

	• NiCD Battery	
2355	8.4V-1000SCR	for advanced flyer
2318	8.4V-1200SCR	for Hovering
2333	8.4V-1700SEC	for practice
	• Charger	
1849	Multi Charger II	
2246	FET Auto Charger	

The Super Hobby

KYOSHO®

THE FINEST RADIO CONTROL MODELS

This products is not to be sold in the United States. If you have purchased this product in the United States, please contact Kyosho U.S.A. phone number (217) 398-3630.

PRINTED IN JAPAN

ABH3T

PARTS LIST

EP CONCEPT

KYOSHO®

THE FINEST RADIO CONTROL MODELS

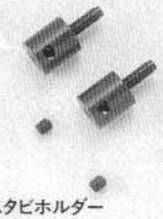
EH-1●500

ローターヘッド

EH-2●700

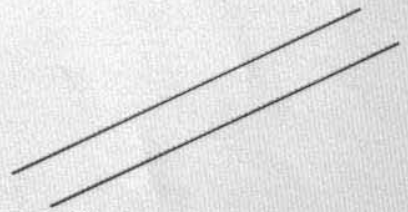
スタビライザーブレード

EH-3●1000



スタビホルダー

EH-4●400



スタビライザーバー

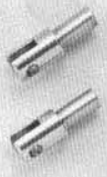
EH-5●1500

ヒラーコントロールレバー

EH-6●400

フラッピングヒンジ

EH-7●750



フェザリングシャフト

EH-8●550

メインローターグリップ

EH-9●1000

φ4×φ10×4ベアリング

EH-10●600

ミキシングレバー

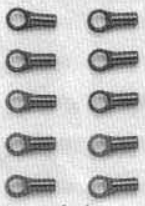
EH-11●400

サイクリックレバーリンク

EH-12●2200

スワッシュプレートアッセンブリー

EH-13●400

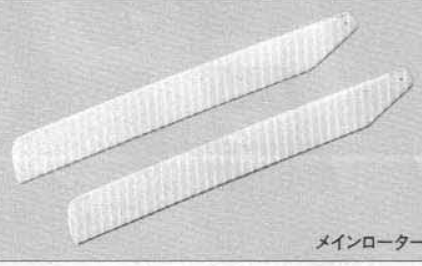


ロッドエンド(M)

EH-14●600

ロッドセット

EH-15●2000



メインローター

EH-16●550

φ7×φ14×5ベアリング

EH-17●400

φ7ストッパー

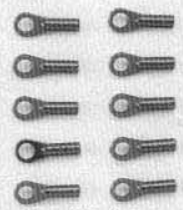
EH-18●550

ピッチスライダー

EH-19●1500

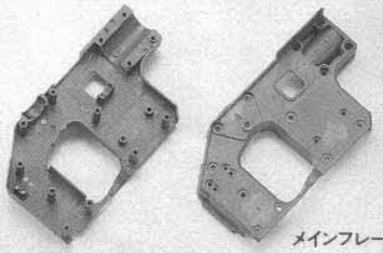
メインマスト

EH-20●400



ロッドエンド(L)

EH-21●1400

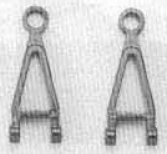


メインフレーム

EH-22●400

エレベーターレバー

EH-23●400

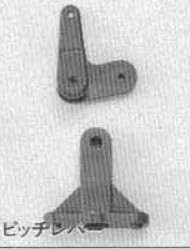


エレベーターリンク

EH-24●300

φ4.8ボール

EH-25●400



ピッチレバー

EH-26●600

レバーシャフト

EH-27●950

プーリーセット

EH-28●150

コンデンサー

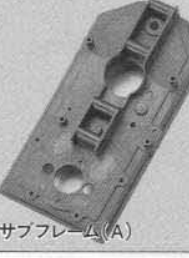
EH-29●350

プーリーシャフト

EH-30●450

モーターベース

EH-31●1500



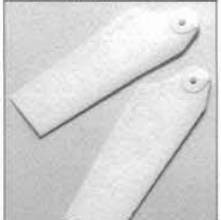
サブフレーム(A)

EH-32●400

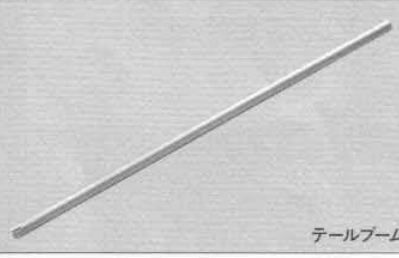
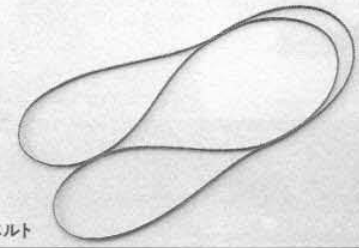
サブフレーム(B)

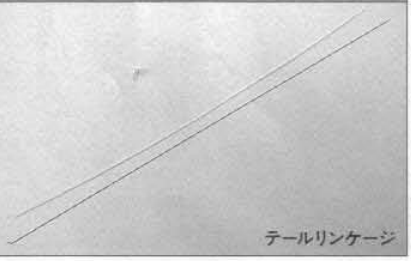
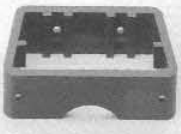
EP CONCEPT

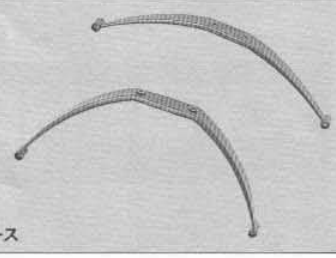
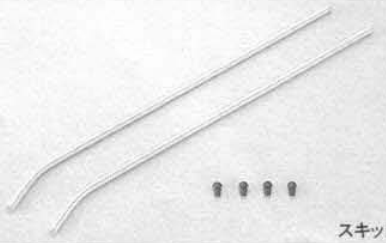
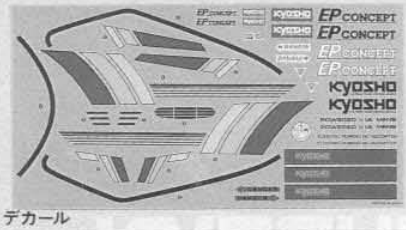
EH-33 ● 450	EH-34 ● 400	EH-35 ● 400	EH-36 ● 200	EH-37 ● 500	EH-38 ● 900
					
ピニオンギヤ(16T)	メインギヤ	アイドルギヤ	アイドルシャフト	φ7×φ14×3.5ベアリング	ワンウエイベアリング

EH-39 ● 400	EH-40 ● 650	EH-41 ● 550	EH-42 ● 500	EH-43 ● 900	EH-44 ● 400
					
ワンウエイシャフト	サーボプレート	テールローターグリップ	テールセンターハブ	φ3×φ6×2.5ベアリング	テールローター

EH-45 ● 450	EH-46 ● 450	EH-47 ● 800	EH-48 ● 550	EH-49 ● 450
				
ロッドエンド(S)	テールPCプレート	テールピッチリング(ベアリング入り)	テールギヤボックス	テールピッチレバー

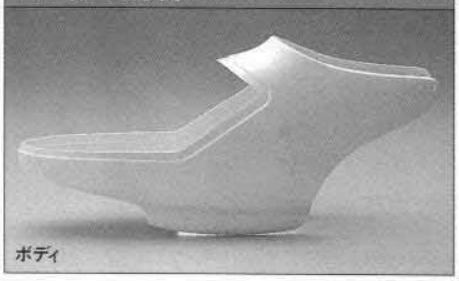
EH-50 ● 700	EH-51 ● 1100	EH-52 ● 700	EH-53 ● 600
			
テールブーム	ベルト	スタビライザーフィン	バーチカルフィン

EH-54 ● 450	EH-55 ● 300	EH-56 ● 450	EH-57 ● 500	EH-58 ● 500
				
テールリンケージ	バッテリーホルダー	ブレースホルダー	ボディマウントセット	キャノピー

EH-59 ● 400	EH-60 ● 600	EH-61 ● 400
		
ブレース	スキッド	デカール

EP CONCEPT

EH-62 ● 2000



ボディ

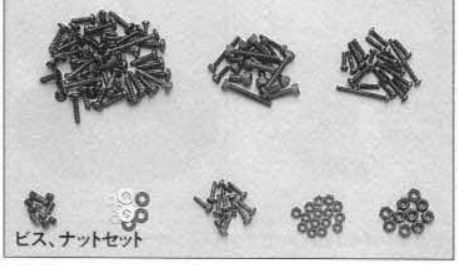
EH-63 ● 470

モーターピニオン

EH-64 ● 200

テールアウトプットシャフト

EH-65 ● 950



ビス、ナットセット

FH-21 ● 700

φ3×φ6×2ベアリング

OT-79 ● 400

モーターコード

H-3072 ● 200

両面テープ

No.1903 ● 700

φ4×φ8×3ベアリング

No.1962 ● 3000

ル・マンAP36モーター

オプションパーツ

●バッテリー

No.2355 ● 5600

8.4V-1000SCR

No.2318 ● 5800

8.4V-1200SCR

No.2338
8.4V-1700SCR
10月下旬発売!

●充電器

No.1849 ● 4800

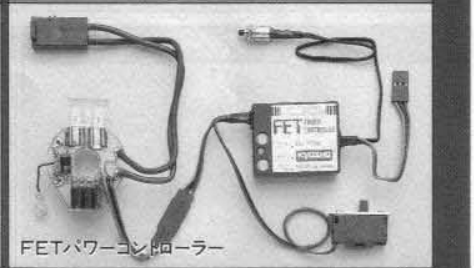
マルチチャージャーII

No.2246 ● 12000

FETオートチャージャー

●アンプ

No.2594 ● 14000



FETパワーコントローラー

※製品改良の為、予告なく仕様を変更する場合があります。 ※販売価格には、消費税は含まれておりません。

京商RCテレホンサービス 03-264-7131

KYOSHO
THE FINEST RADIO CONTROL MODELS

京商株式会社 厚木事業本部 〒243 神奈川県厚木市船子長ヶ町153
☎0462(29)1511(大代表) アフターサービス部☎0462(29)4115(お客様専用)
本社/〒102 東京都千代田区平河町