BLADE™ CP

E-flite™

Specs

Length: 20.625 in (524mm)
Height: 7.125 in (181mm)
Main Rotor Diameter: 20.750 in (527mm)
Tail Rotor Diameter: 5.875 in (149mm)
Weight RTF w/Ni-MH battery: 11.4 oz (325 g)
Main motor: 370 (included)
Tail motor: N30 (included)
Battery: 9.6V 650mAh Ni-MH (included)
Transmitter: FM 6-Channel w/CCPM mixing (included)
On-Board Electronics: 4-in-1 receiver, mixer, speed controls and gyro (included)

Introduction

The Blade CP is a true breakthrough in micro class electric helicopters. Collective pitch and CCPM (Cyclic/ Collective Pitch Mixing) deliver smooth, solid control for all types of flying indoors and out, in a convenient, ready-to-fly package. Features—such as pre-installed servos and a 4-in-1 control unit with receiver, mixer, ESCs, and gyro, main and tail motors—have the Blade CP flying in no time. With the included 6-channel FM transmitter featuring servo reversing, CCPM mixing and idle up flight mode switch, you'll have precise control for hover, forward flight and more. The Blade CP can also be upgraded for inverted flight and more aggressive aerobatic performance using symmetrical blades and 3-cell Lithium Polymer battery packs.

While the Blade CP is nearly ready-to-fly right from the box, please take the time to read through this manual completely for tips on battery charging, control adjustments, blade tracking and more.

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Warning

An RC model helicopter is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio.

Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire.

Additional Required Equipment

Only 8 "AA" batteries are required to complete your Blade CP.

Blade CP RTF Contents

Item	Description
N/A	Blade CP RTF airframe
EFLH1044A	6CH CCPM Transmitter FM 72Mhz
EFLH1061	9.6V 650mAh Ni-MH Battery
EFLH1125	AC Charger, 9.6V Ni-MH Battery
EFLH1129	Mounting Accessories & Wrench

Warranty Information

Horizon Hobby, Inc. guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall Horizon Hobby's liability exceed the original cost of the purchased kit. Further, Horizon Hobby reserves the right to change or modify this warranty without notice.

In that Horizon Hobby has no control over the final assembly or material used for the final assembly, no liability shall be assumed nor accepted for any damage resulting from the use of the final assembled product. By the act of using the assembled product, the user accepts all resulting liability.

Please note that once assembly of the model has been started, you must contact Horizon Hobby, Inc. directly regarding any warranty question. Please do not contact your local hobby shop regarding warranty issues, even if that is where you purchased it. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

Horizon Hobby, Inc.
4105 Fieldstone Road
Champaign, Illinois 61822
(877) 504-0233
horizonhobby.com

Battery Charging

Note: The battery included with your Blade CP will arrive partially charged. It is recommended that you completely discharge the battery during the initial test flight before following the charging guidelines outlined below.

The included AC charger will charge a fully discharged 9.6V 650mAh Ni-MH battery (EFLH1061, also included) in approximately 2.0–2.5 hours (faster "quick charge" AC and DC peak detection chargers are also available, see below). To ensure your battery is near fully discharged before charging, it is best to fly until your Blade CP will no longer maintain hover, at which point you will need to allow the battery to cool before placing it on the charger. Be certain to monitor the charge process as batteries that are not fully discharged may be fully charged in less than 2.0–2.5 hours time. The battery is fully charged when it becomes warm to the touch during the charge process.

Note: Do not leave the charger and battery unattended during the charging process. While charging, place the battery on a heat resistant surface and constantly monitor the temperature of the battery pack. If the battery becomes hot at any time during the charge process, discontinue charging immediately. A fully discharged battery left to charge for more than 2.5 hours time will be damaged due to overcharging. A partially discharged battery not removed from the charger when the battery becomes warm may also be damaged due to overcharging. Do not allow children to charge battery packs without adult supervision.

For faster charging or charging from various AC/DC power sources, we suggest the purchase of a high quality peak detection battery charger capable of charging Ni-MH battery packs at a rate of 0.8 amps (800mA). This will allow you to charge the included battery in approximately 45 minutes or less. We recommend the E-flite Pinnacle Plus (EFLC2020) AC/DC peak prediction charger.

Note: Damage to the included battery pack will occur if you exceed the maximum recommended charge rate of 0.8 amps, or if you do not use a proper peak charger capable of charging Ni-MH battery packs.

Lithium Polymer Battery Upgrade Recommendations

While the included Ni-MH battery pack will allow the Blade CP to perform very well as configured, Lithium Polymer (Li-Po) battery packs are a very popular upgrade for improved performance and flight time, at similar or even less weight than their Ni-MH counterparts.

Note: Lithium Polymer batteries are significantly more volatile than the alkaline, Ni-Cd or Ni-MH batteries used in RC applications. All manufacturers instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire.

The Blade CP electronic components are designed to operate with up to 11.1V (3-Cell) Li-Po battery packs. However, the increased voltage under the load of 3-Cell Li-Po packs compared to 9.6V Ni-MH packs can accelerate motor wear. For this reason, if using 3-Cell Li-Po packs, you must change to a 370 main motor with smaller pinion (8- or 9-tooth), while also adding heat sinks to both the main and tail motors. These items are available separately:

Item	Description
EFLH1110A	370 Motor w/8T 0.5M Pinion: BCP
EFLH1110B	370 Motor w/9T 0.5M Pinion: BCP
EFLH1131	Tail Motor Heat Sink: BCP
EFLH1132	Main Motor Heat Sink: BCP

For sport flying, we suggest 3-Cell Li-Po packs from 860–1320mAh. Both E-flite and Thunder Power offer excellent choices in high-quality, high-discharge packs in these sizes:

Item	Description
EFLB1005	11.1V 860mAh 3-Cell Li-Po, JST
EFLB1015	11.1V 1200mAh 3-Cell Li-Po, JST
THP9003SJ	900mAh 3-Cell 11.1V Li-Po, JST
THP13203SJ	1320mAh 3-Cell 11.1V Li-Po, JST

For those interested in aerobatic flying such as loops, rolls, inverted, and more, we recommend you purchase the Blade CP Aerobatic Enhancement Kit (EFLH1168). This kit includes a symmetrical main blade set (EFLH1147B), 370 motor w/9T 0.5M pinion (EFLH1110B), tail motor heat sink (EFLH1131), and main motor heat sink (EFLH1132) specifically intended for use with 3-Cell Li-Po packs. For the best aerobatic performance, we suggest using 3-Cell 860-900mAh Li-Po packs. We recommend the E-flite™ and Thunder Power Li-Po packs as listed above.

Note: You must only use Li-Po capable chargers for charging Li-Po battery packs. Failure to do so may result in fire. Use of the included AC charger intended for 9.6V Ni-MH packs with Li-Po batteries is dangerous and not permitted as it will result in damage to your Li-Po pack, potentially causing a fire. We recommend using the E-flite Celectra™ 1-3 Cell Li-Po charger (EFLC3005) for safe Li-Po battery charging.

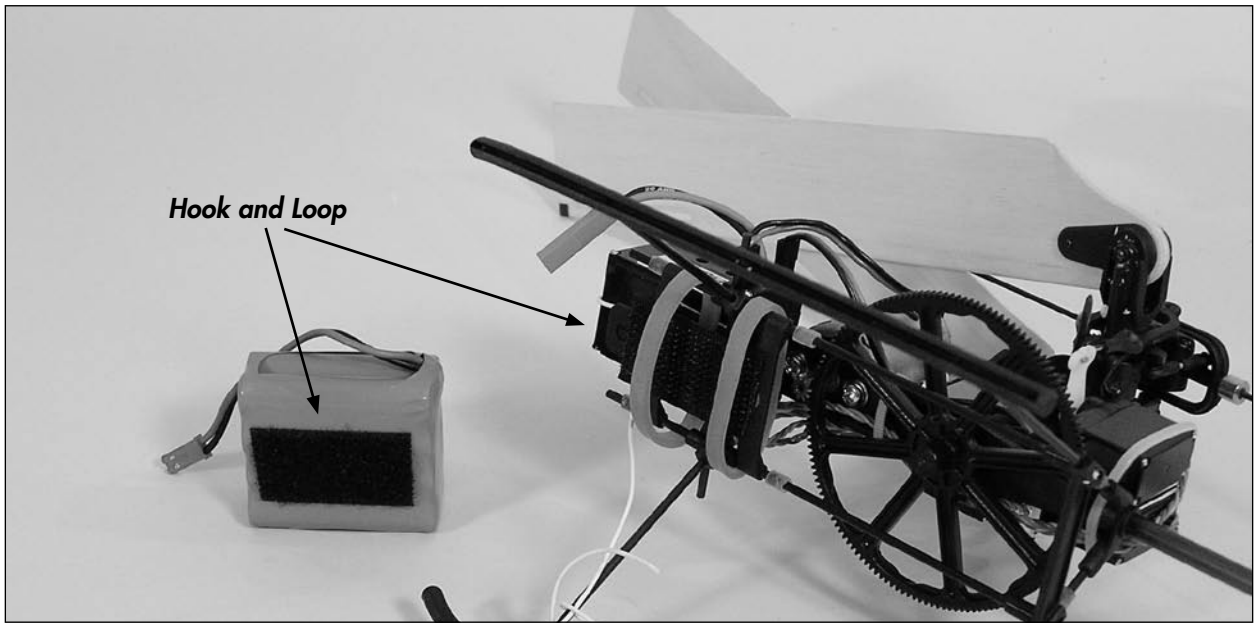
Note: Li-Po batteries should not be discharged to below 3V per cell under load. In the case of 3-Cell packs as used for the Blade CP, you will not want to allow the Li-Po battery to fall below 9V during flight. The Blade CP 4-in-1 unit does not feature a voltage cutoff of any type, so we suggest that you stop flying when it requires more throttle than typical to maintain hover. Typically if you land when the power just begins to fade, you have left a safe margin of capacity in the Li-Po battery pack. This may of course vary greatly depending on the make, model, and performance of your specific Li-Po pack. Please consult the instructions included with your Li-Po battery pack for more information on how to prevent over-discharging.

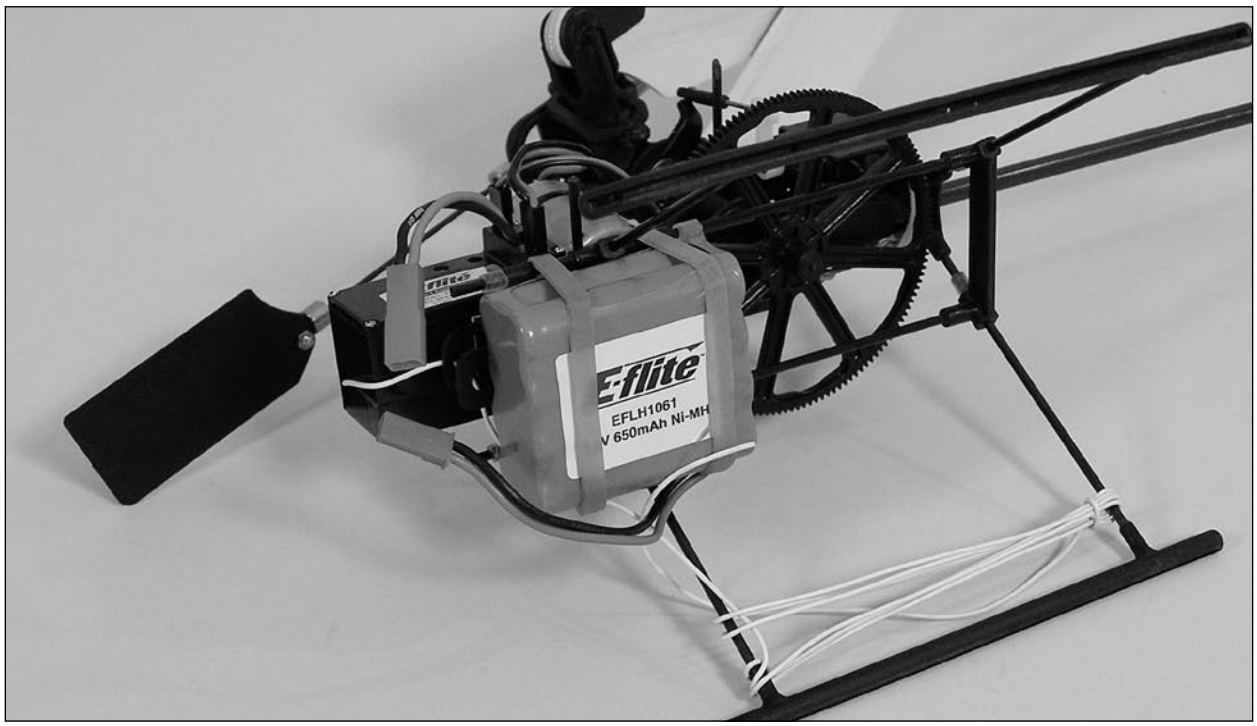
Install Transmitter Batteries

Install 8 new “AA” batteries in the included transmitter.

Flight Battery Installation to Helicopter

Use the included hook and loop material for mounting the Ni-MH battery pack. You should also use the included rubber bands for the most secure attachment of the battery to the helicopter.



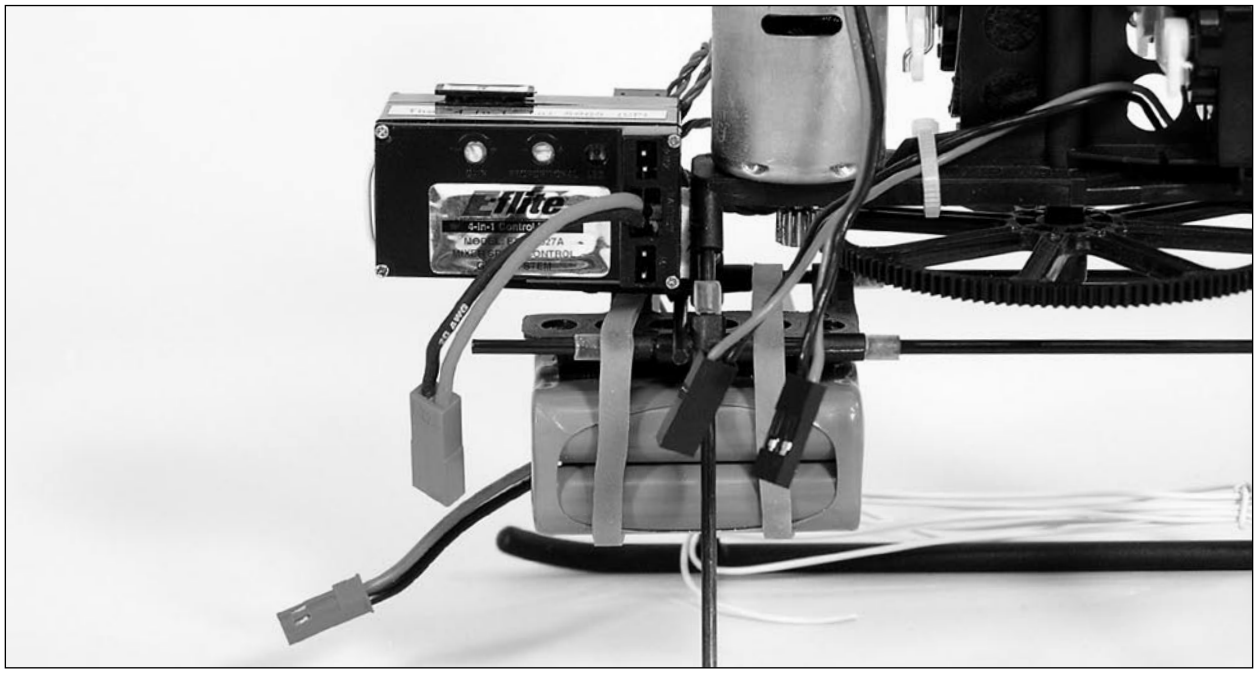


Center of Gravity

Once the battery has been properly installed and secured, you will need to check the helicopter's center of gravity. With the canopy installed, lift the helicopter by the flybar with the flybar positioned perpendicular to the tail boom. Slide the battery support and battery forward or rearward as required to achieve a slightly nose down or perfectly level helicopter position. You should always check the CG of your Blade CP before flying, especially if you are switching between different sizes and types of battery packs.

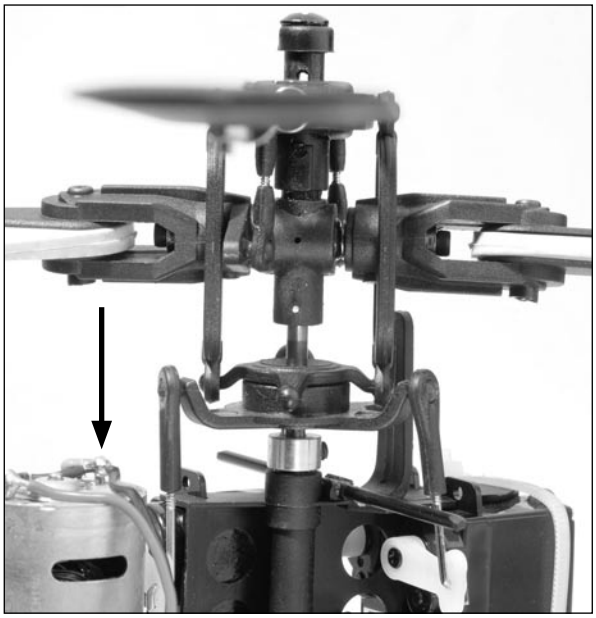
Control Test

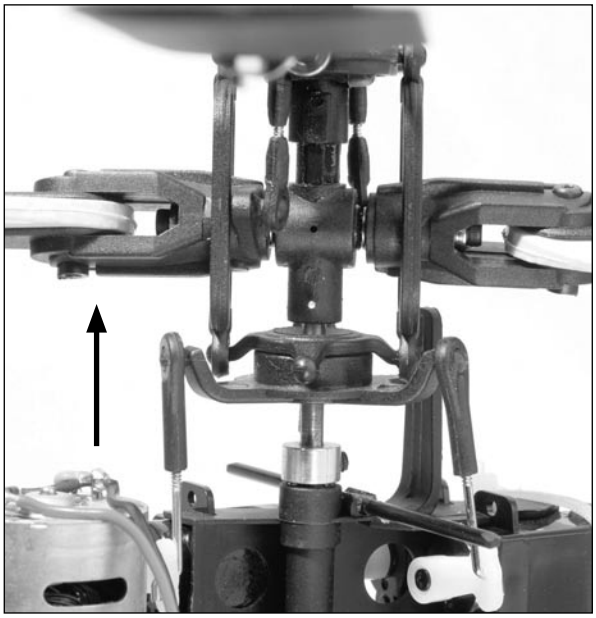
Although each Blade CP model is test flown at the factory, it is a good idea to test the controls prior to the first flight to ensure none of the servos, linkages or parts were damaged during shipping and handling. Before proceeding, unplug both the main and tail motor wires from the 4-in-1 control unit making note of their direction and polarities for proper re-installation after the control test is complete. It is not safe to perform the control test with the main or tail motor plugged into the 4-in-1 control unit after power up.



Control Test (continued)

Turn the transmitter on first, and lower the throttle stick completely. Plug the battery into the battery lead of the 4-in-1 unit. Position the helicopter to view it from the left or right side. Move the left-hand stick up and down to check the collective pitch control. When the stick is pushed up, the swashplate should lower, increasing the pitch of the main blades. With the stick pulled back down, the swashplate should raise, decreasing the pitch of the main blades.



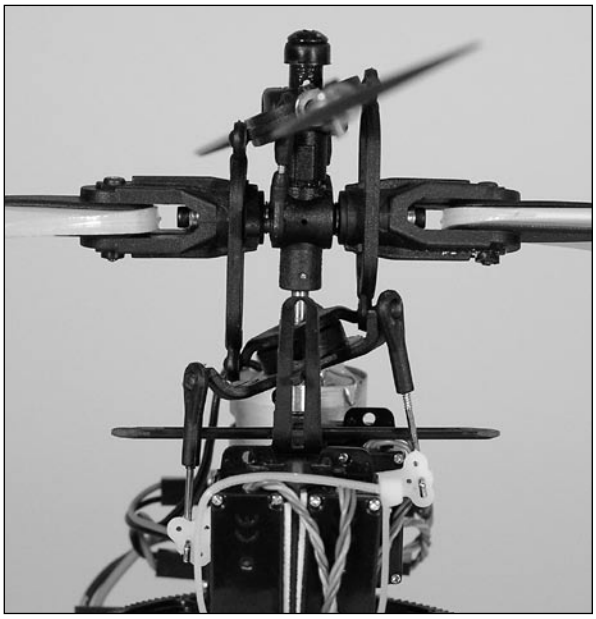


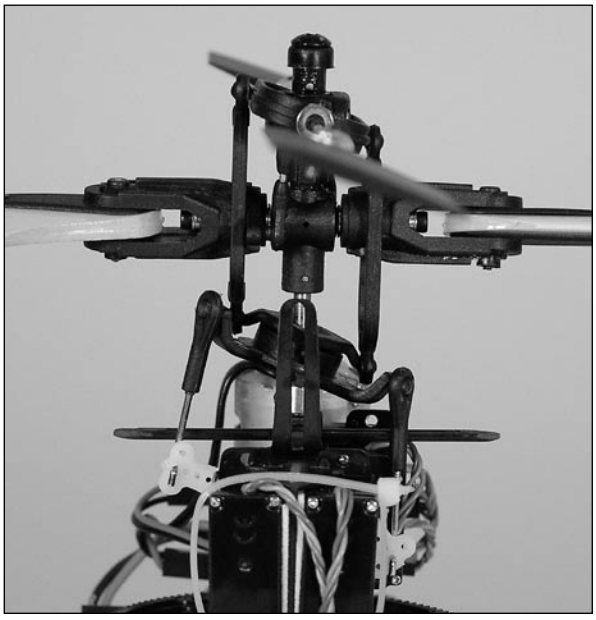
Control Test (continued)

Again viewing the helicopter from the left or right side, move the right-hand stick forward and aft to check elevator pitch control. When the stick is pushed forward, the swashplate should also tilt forward. With the stick pulled back, the swashplate will tilt toward the rear.

Control Test (continued)

Viewing the helicopter from the rear (tail boom toward you), move the right-hand stick left and right to check aileron roll control. When the stick is pushed to the left, the swashplate should also tilt left. With the stick pushed right, the swashplate will tilt to the right.





Control Test (continued)

If at any time during the test the controls do not respond properly, double-check the servo reversing switches on the transmitter. They should be positioned as follows:

AIL – NOR
ELE – REV
THR – NOR
RUD – REV

If the controls still do not respond properly after ensuring the servo reversing switch positions are correct, you may also check the servo connections to the receiver of the 4-in-1 unit. These should be positioned as follows (when viewing the helicopter from behind):

Channel 1 – Right-hand rear “aileron” servo
Channel 2 – Forward “elevator” servo
Channel 6 – Left-hand rear “pitch” servo

Once you have confirmed proper reversing switch and servo connection locations, all controls should be functioning properly. If you do encounter any problems with your Blade CP responding properly to the transmitter, do not fly. Call Horizon’s Product Support staff at 1-877-504-0233.

If you have confirmed proper control operation of your Blade CP, re-connect the main and tail motor wires to the 4-in-1 unit taking note to keep the proper polarity and location of each as they were before the test.

4-in-1 Control Unit Description, Arming and Adjustment

The unique 4-in-1 Control Unit installed on your Blade CP is a lightweight combination of 6-channel FM receiver, main motor and tail motor mixer, main motor and tail motor electronic speed controls and piezo gyro. The 4-in-1 unit also contains a gyro gain trimmer pot, proportional tail rotor mix trimmer pot and status LED.

4-in-1 Control Unit Description, Arming and Adjustment (continued)

Below are tips for use and adjustment of your 4-in-1 unit to achieve the best performance of your Blade CP.

While each Blade CP model is test flown at the factory with adjustments made to both the gain and proportional trimmer pots, further adjustment to these trimmer pots may be required based on the type of battery used, or preference and flying style of the pilot. However, before any changes to the trimmer pots are made, test flights will need to be conducted. Use the following check list for your first and all subsequent flights:

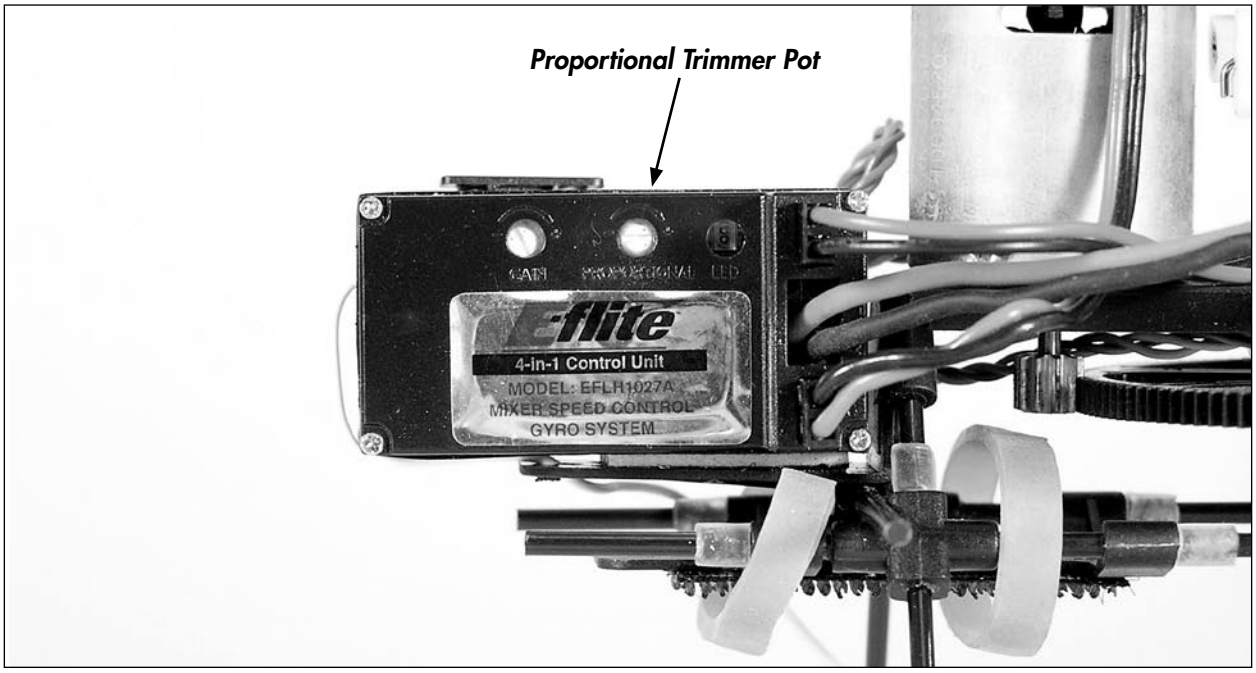
- Each time before you fly you must always turn on the transmitter power first before connecting the flight battery to the 4-in-1 unit. Also be certain to fully extend the transmitter antenna before flight.

Note: The receiver antenna exiting the 4-in-1 unit will be coiled around the landing skid struts. We have made many successful flights indoors and out (some nearly out of sight) with the antenna coiled this way and did not experience any problems with performance of the radio system. If you are tempted to uncoil this antenna, please be sure to route it safely away from all moving parts and electronic items. Remember, due to the relatively small size of the Blade CP, you will not want to fly it very far away from yourself in order to keep proper orientation.

- **Both the throttle stick and throttle trim need to be in their lowest possible position in order for the unit to arm.** The “idle up” flight mode switch must also be in the “normal” position with the switch toggled toward the back of the transmitter for the unit to arm.
- If this is the first test flight, or a test flight following repairs, you will also want to center the rudder, aileron and elevator trims.
- Once confirming the transmitter has been turned on and has an adequate level of battery power as displayed by the LEDs at the top of the transmitter, it is now safe to plug the flight battery into the 4-in-1 unit.
- With power applied, the 4-in-1 unit status LED will blink red, then blink green. It is extremely important that during this time of calibration the helicopter is not moved or swayed in order for the gyro to properly initialize. If the helicopter was moved or swayed during this time, unplug the flight battery and repeat the initialization process.
- When the status LED becomes solid green, the unit is armed and ready for flight. Use caution as both the main and tail rotors will now run with throttle stick input. For safety, once the unit is armed the main and tail motors will not run with the throttle stick and trim in their lowest positions. Do not advance the throttle stick until you are clear of the rotor blades and ready to fly.
- Once you have placed the helicopter in a safe area to fly, free of obstructions, and are clear of the rotor blades you can safely power up the model. Advance the throttle stick slowly, noting the direction of the main and tail rotor blades as the rpms increase. The main rotor blades should spin clockwise when viewed from the top, with the tail rotor blades spinning counterclockwise when viewed from the right- hand side of the helicopter. If either set of rotor blades is operating in the wrong direction, unplug the battery, then simply reverse its motor wire plug polarity on the 4-in-1 unit.
- Once the tail rotor has begun to spin, and before lifting off, it is best to check that the tail rotor is responding properly to transmitter inputs. When inputting a slight amount of right rudder, the tail rotor rpms should increase, pushing the nose of the helicopter to the right. If you are on carpet, grass, or an otherwise uneven surface, be very careful not to allow the helicopter to catch the vertical tail support when testing the tail rotor control on the ground or during liftoff.
- If both rotor directions are correct, and the tail rotor is responding properly to rudder inputs, you can now lift your Blade CP into hover to check gyro gain and tail rotor proportional mix.

Tail Rotor Proportional Mix Trimmer Pot Description and Adjustment

After establishing a stable hover, you will first want to adjust the tail rotor proportional mixing. The “proportional” trimmer pot adjusts the amount of tail motor to main motor mixing.



In hover, with the rudder trim centered and no rudder input, note which direction the nose of the helicopter is trying to spin. If the nose of the helicopter is spinning to the left, you will want to increase the amount of tail motor to main motor mixing. By turning the “proportional” trimmer pot clockwise (+), you increase the tail motor/rotor rpm for a given main motor/rotor rpm. This increase in tail motor/rotor rpm will help to push the nose of the helicopter to the right when in hover.

If the nose of the helicopter is trying to spin to the right in hover, decrease the tail rotor proportional mix by turning the “proportional” trimmer pot counterclockwise (-).

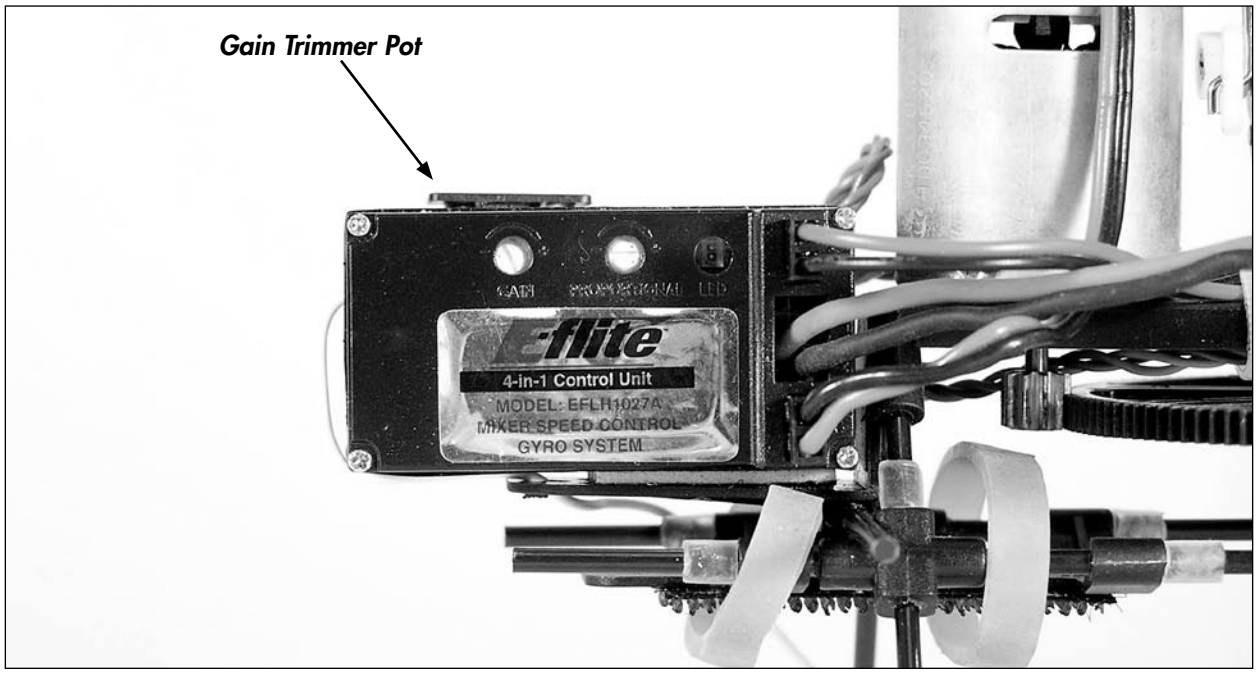
Note: You must always power down the helicopter before making adjustments to the proportional mix trimmer pot. Any changes made to this trimmer pot will not take effect until the 4-in-1 unit is initialized and re-armed.

As the battery output voltage decreases throughout the flight, it may be necessary to make small trim adjustments to the rudder in order to keep the nose of the helicopter straight. More experienced pilots may also choose to adjust the proportional mix to better hold the tail during aggressive climb outs and aerobatics rather than in hover only.

The amount of tail rotor proportional mix required may vary based on the type and performance of the chosen flight battery. When switching from 8-cell Ni-MH to 3-cell Li-Po for example, adjustments to the proportional mix will be required.

Gyro Gain Trimmer Pot Description and Adjustment

The “gain” trimmer pot adjusts the gain of the piezo gyro used to aid in keeping the tail of the helicopter straight while flying.



Pilots interested most in hovering-type maneuvers with very little forward flight and aerobatics may choose to have the gain set as high as possible (without making the tail twitch quickly from side to side), keeping the tail of the helicopter very solid during flight. More experienced pilots interested most in fast forward flight and aerobatics may prefer a somewhat lower gyro gain that allows for more control of the tail in flight.

To increase (+) the gyro gain, simply turn the trimmer pot clockwise. Dial the trimmer pot counterclockwise to decrease (-) gyro gain. The gain value is set too high if the tail of the helicopter twitches quickly from side to side. This gain value can also be set too low, allowing the tail of the helicopter to feel “loose” in flight. Take your time adjusting the gyro gain, finding the right amount to best suit your style of flying.

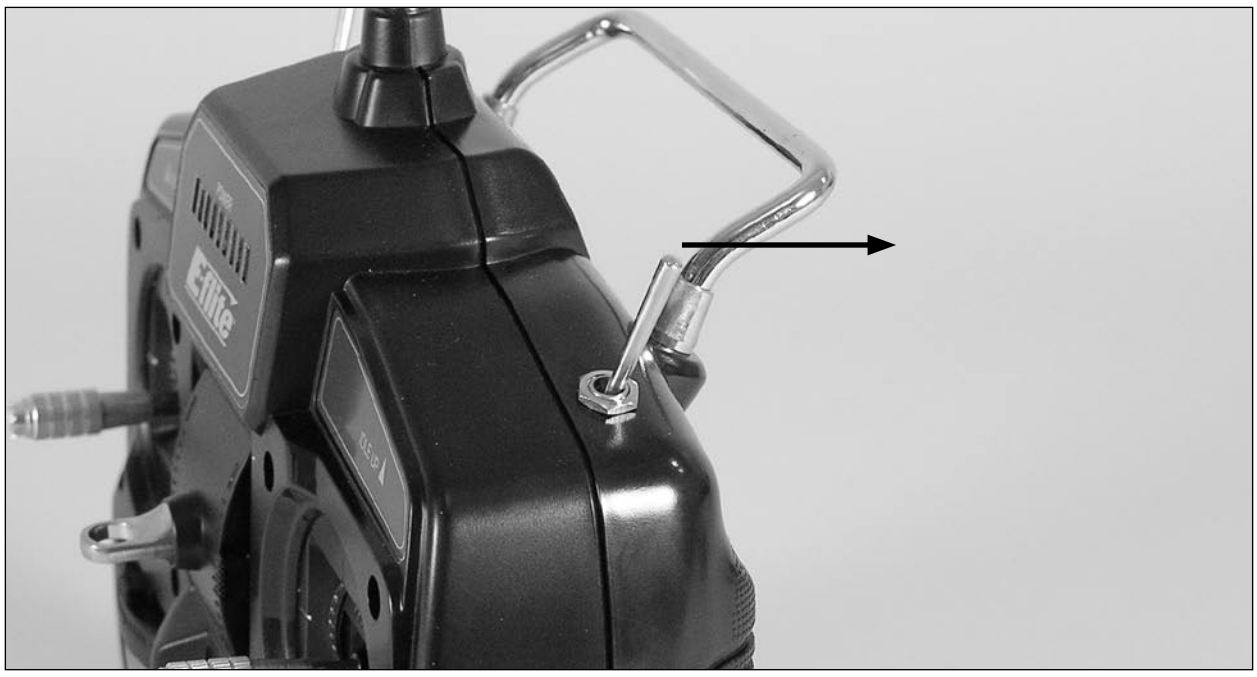
Note: When adjusting the gyro gain trimmer pot, the changes will take effect without the need to power down and re-arm the 4-in-1 unit. Please excercise extreme caution when adjusting the gyro gain trimmer pot with the model armed to prevent personal injury or damage to the model.

The amount of gyro gain value required may also vary based on the type and performance of the chosen flight battery.

Normal and Idle Up Flight Modes

The 6-channel FM transmitter included with your Blade CP features servo reversing and CCPM mixing, as well as an “idle up” flight mode switch. This switch allows the pilot to toggle between “normal” and “stunt (aerobatic)” flight modes during flight.

With the switch toggled toward the rear of the transmitter, the Blade CP will be flying in “normal mode.” In this flight mode, the throttle curve is linear from 0% to 100%, with a pitch range of 0 degrees to +10 degrees. (See Page 19 for additional data and graphics relating to the throttle and pitch curves pre-set for your Blade CP.) This is the preferred flight mode for general hovering and gentle forward flight.



Normal and Idle Up Flight Modes (continued)

When the idle up switch is toggled toward the front of the transmitter, the Blade CP will now be flying in the “stunt (aerobatic)” flight mode. In this flight mode, the throttle curve is “V” shaped from 100% to 100% with 50% throttle at mid-stick, and a pitch range of -10 degrees to +10 degrees. (See Page 19 for additional data and graphics relating to the throttle and pitch curves pre-set for your Blade CP.) This flight mode is preferred for forward flight, aerobatics and inverted flying (requires symmetrical main blades).

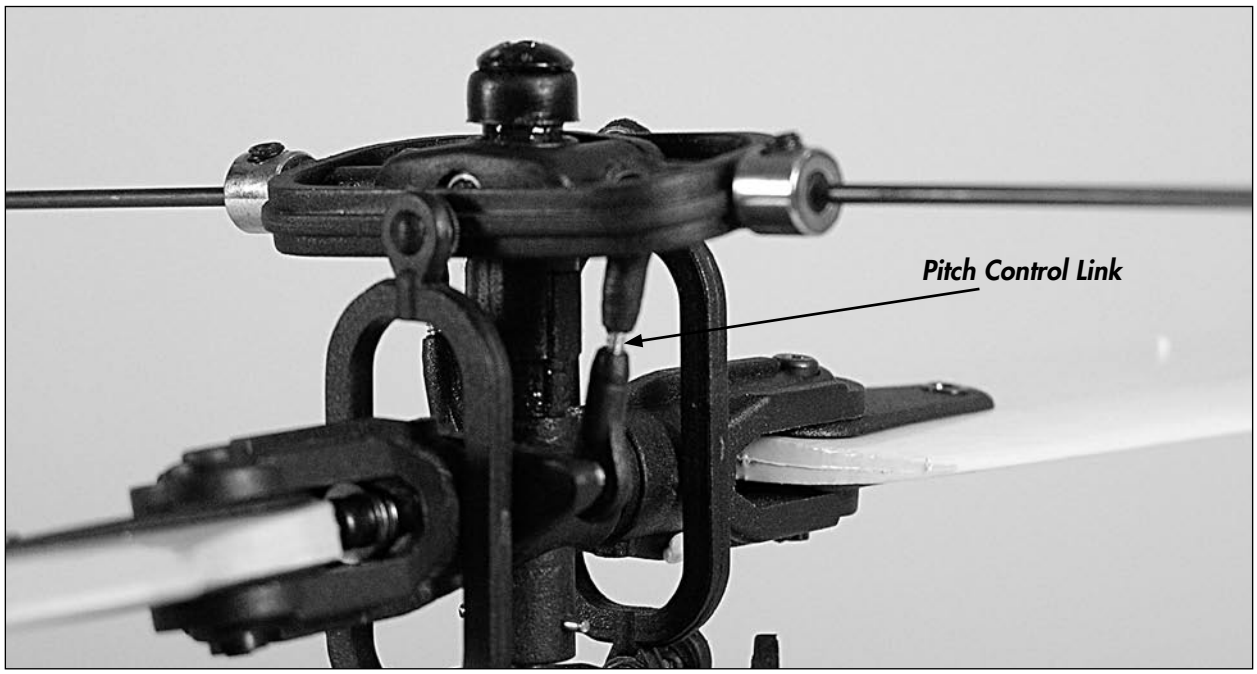
Note: When in stunt mode, even with the throttle stick all the way down, the blades and motors will continue to spin. You must use the normal flight mode to safely turn off the motors. For safety, the 4-in-1 unit will not arm if the flight battery is plugged in and the flight mode switch is in the stunt position.

When switching between normal and stunt flight modes, it is best to do so in the air while hovering. The throttle and pitch curves of each flight mode have been optimized to transition smoothly around hover. Please be sure to never switch into stunt mode without having powered the main and tail motors up in normal mode first. The abrupt start could cause damage to the gears, motors or possibly even the 4-in-1 unit.

Throttle and Pitch Curve Adjustments

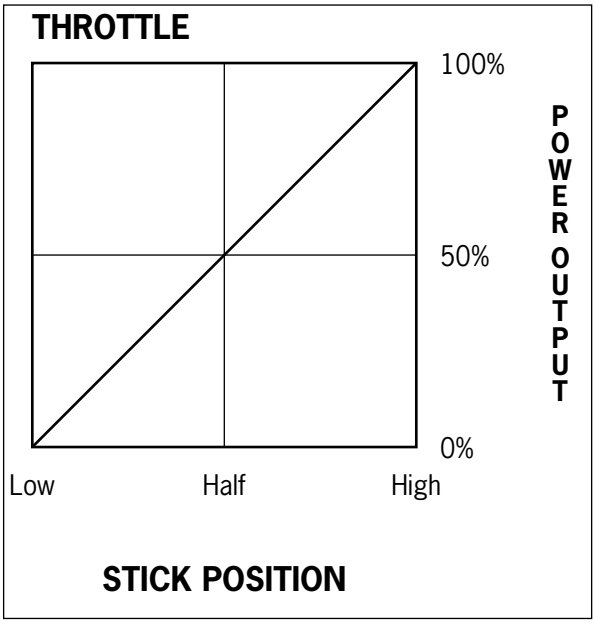
The throttle and pitch curves have already been set in the transmitter for both normal and stunt flight modes. These curves have been tested and optimized for the best overall performance in either flight mode.

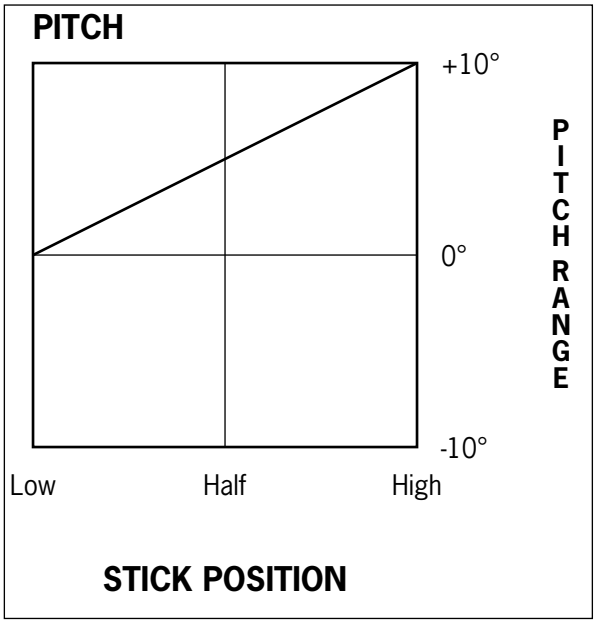
Although the curves have already been factory set, minor changes to the pitch curves can be made by adjusting the pitch control links.



Programmed Curves for the Normal Flight Mode

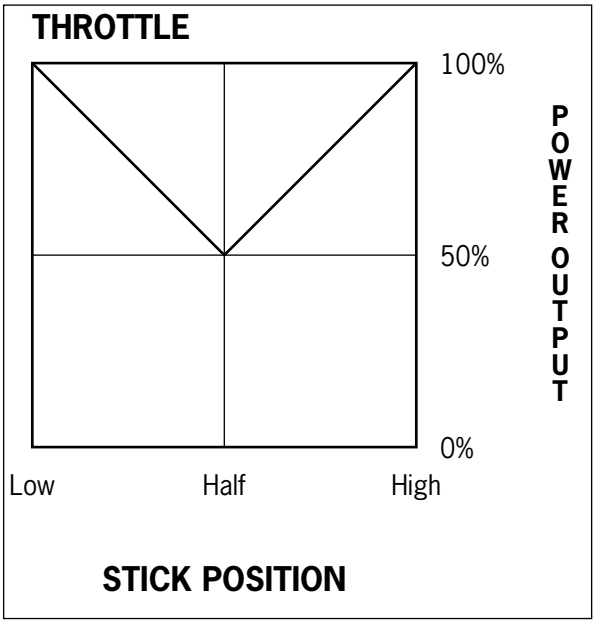
Right from the box, your Blade CP transmitter has been programmed for the following throttle and pitch curves in the normal flight mode:

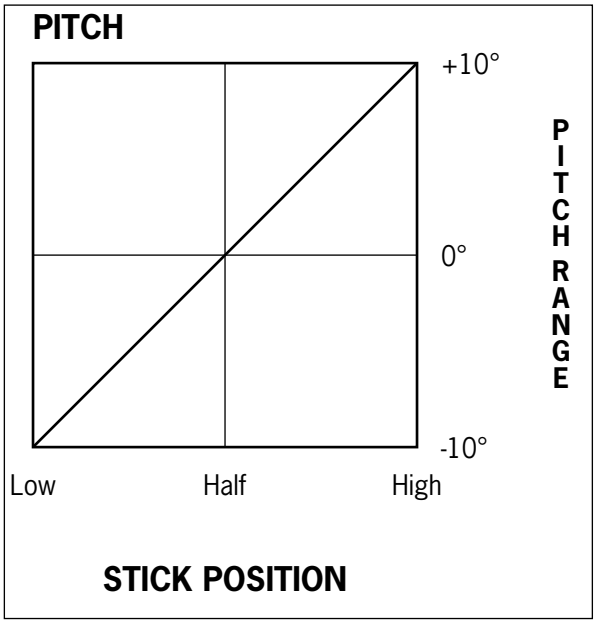




Programmed Curves for the Idle Up (Stunt) Flight Mode

Right from the box, your Blade CP transmitter has been programmed for the following throttle and pitch curves in the idle up (stunt) flight mode:





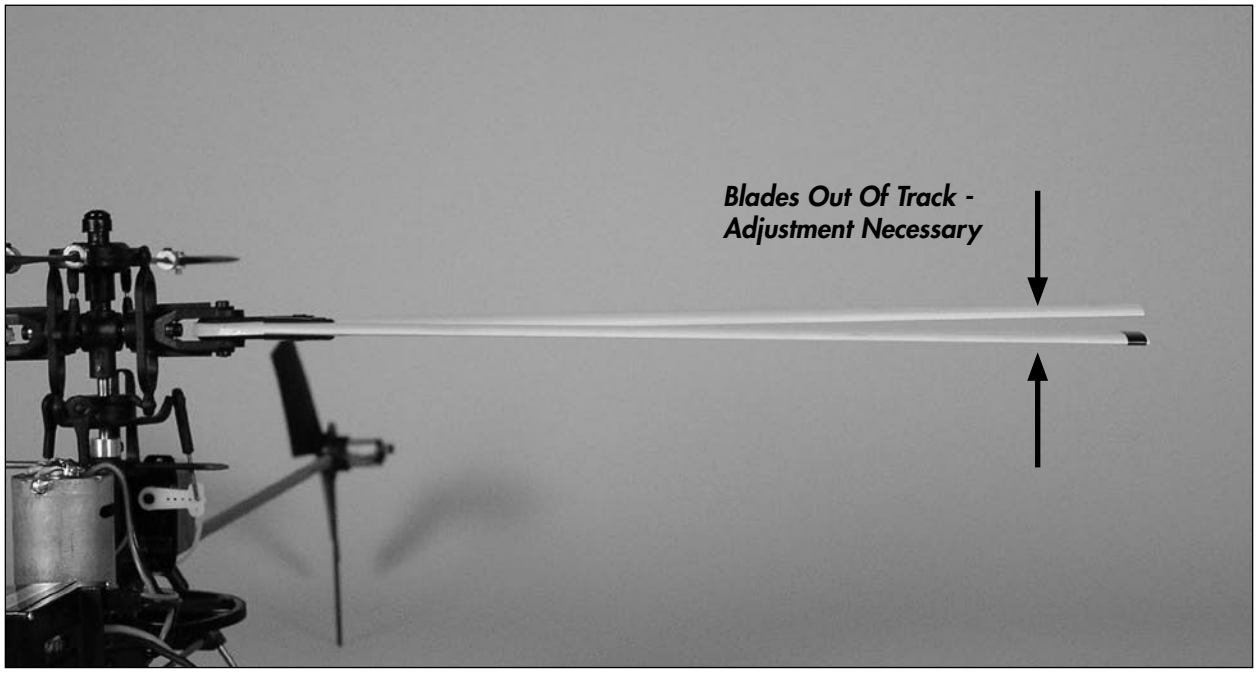
Blade Tracking Adjustment

Caution: Be sure to maintain a safe distance from the helicopter (10–15 feet) when tracking the main rotor blades.

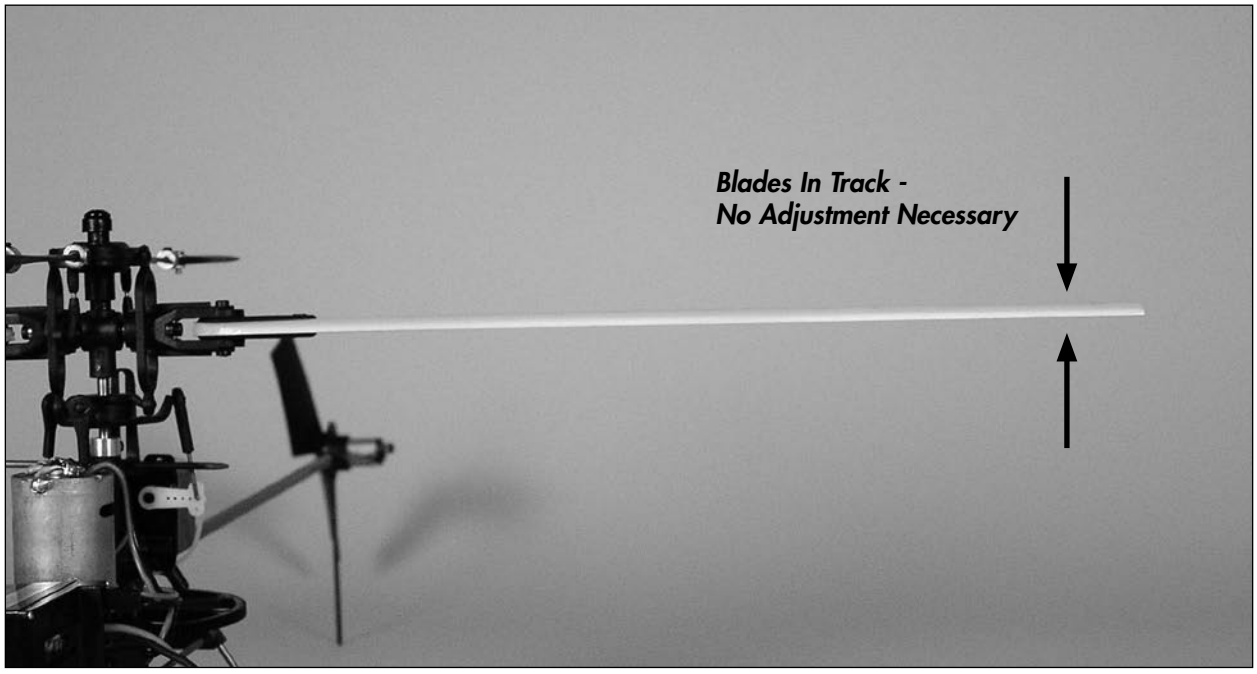
Blade tracking is a critical element to the flight performance of just about any helicopter, including the Blade CP. Main rotor blades that are out of track may cause vibration, instability, and loss of power due to increased drag. Although each Blade CP model is test flown with blades tracked at the factory, minor adjustments to blade tracking may be required after blade changes, repairs, or pitch curve adjustments.

For proper main rotor blade tracking and adjustments, please read the tips below:

- Before proceeding with the test flight of a new model or any model to which changes or repairs have been made, be certain that the main rotor blades have been properly installed and secured. The main blades should be tightened so they can pivot in the blade grip when moderate pressure is applied. Never allow the main blades to swing freely in their grips.
- Following the proper arming and start-up procedure previously listed in "4-in-1 Control Unit Description, Arming and Adjustment" section, bring the main rotor blades of your Blade CP up to speed. You can check the blade tracking either on the ground or in the air at eye level. It might be a good idea to have an assistant on-hand to help sight the blades. Again, be certain to maintain a safe distance of 10–15 feet from the helicopter when checking the tracking of the main rotor blades.
- Once the main rotor blades have been brought to speed, note which blade is running low (by the colored tracking tape).



- You can then power the helicopter down and increase the pitch of the low blade by turning its Pitch Control Link end in one turn at a time. Repeat the process to check the blade tracking and make adjustments until both blades run in track.



Typically, not much adjustment should be necessary to properly track the main rotor blades. If significant adjustments are required, be sure to double-check the length of both pitch control links (they should be close to the same length) and also check the blades for warps or twists. In most cases, you should be able to get both blades tracking perfectly in the same plane. However, due to the small size of the pitch links and threaded rods it may not always be possible to achieve absolutely perfect blade tracking. Don't worry as the helicopter should still perform well as long as the blade tracking is adjusted as closly as possible.

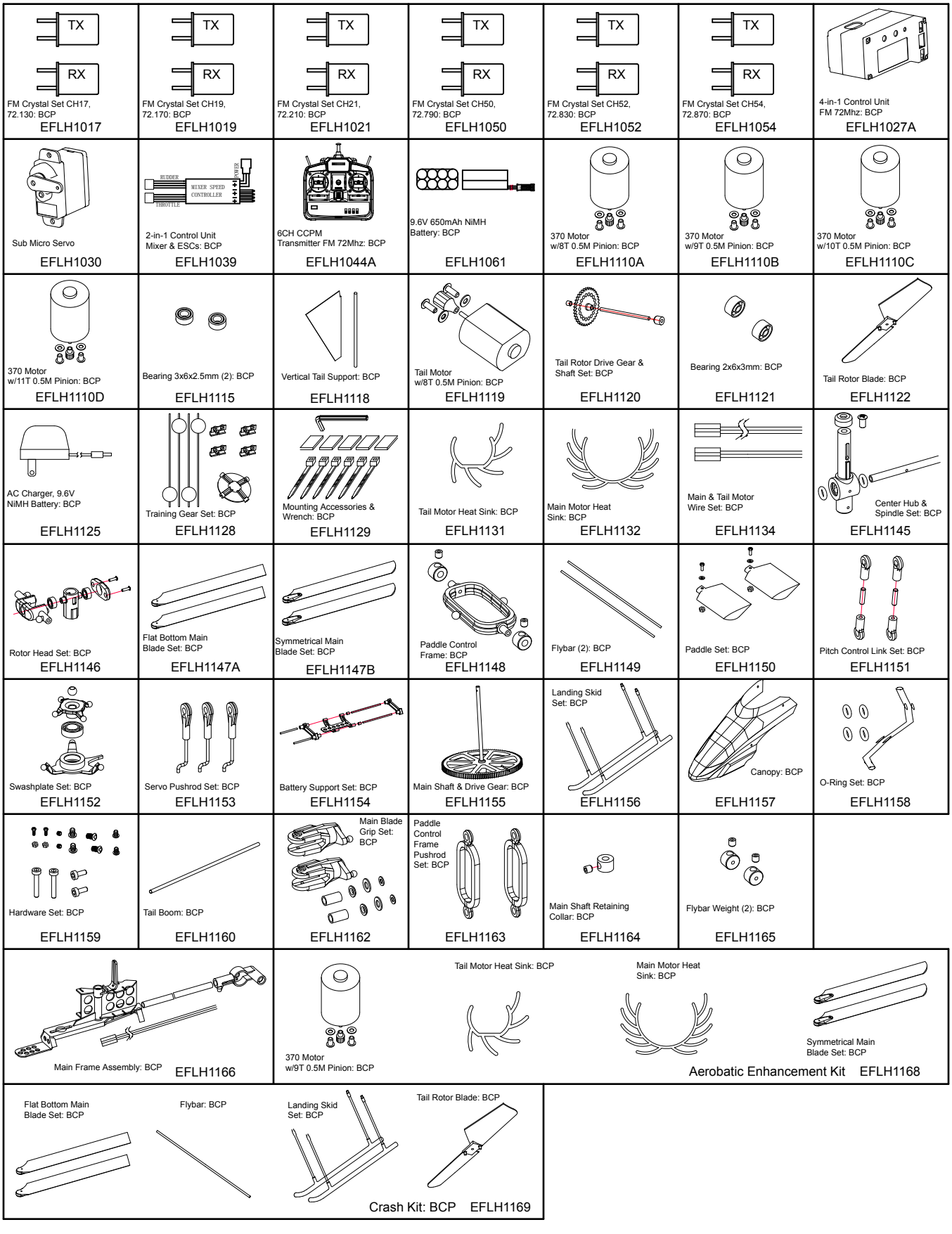
Replacement Parts List

EFLH1100	Blade CP RTF Electric Micro Heli
EFLH1101	Blade CP ARF Replacement Airframe
EFLH1017	FM Crystal Set CH17, 72.130: BCP
EFLH1019	FM Crystal Set CH19, 72.170: BCP
EFLH1021	FM Crystal Set CH21, 72.210: BCP
EFLH1027A	4-in-1 Control Unit FM 72MHz: BCP
EFLH1030	Sub Micro Servo: BCP
EFLH1044A	6CH CCPM Transmitter FM 72Mhz: BCP
EFLH1050	FM Crystal Set CH50, 72.790: BCP
EFLH1052	FM Crystal Set CH52, 72.830: BCP
EFLH1054	FM Crystal Set CH54, 72.870: BCP
EFLH1061	9.6V 650mAh NiMH Battery: BCP
EFLH1110C	370 Motor w/10T 0.5M Pinion: BCP
EFLH1115	Bearing 3x6x2.5mm (2): BCP
EFLH1118	Vertical Tail Support: BCP
EFLH1119	Tail Motor w/8T 0.5M Pinion: BCP
EFLH1120	Tail Rotor Drive Gear&Shaft Set: BCP
EFLH1121	Bearing 2x6x3mm (2): BCP
EFLH1122	Tail Rotor Blade: BCP
EFLH1125	AC Charger, 9.6V NiMH Battery: BCP
EFLH1129	Mounting Accessories & Wrench: BCP
EFLH1134	Main & Tail Motor Wire Set: BCP
EFLH1145	Center Hub & Spindle Set: BCP
EFLH1146	Rotor Head Set: BCP
EFLH1147A	Flat Bottom Main Blade Set: BCP
EFLH1148	Paddle Control Frame: BCP
EFLH1149	Flybar (2): BCP
EFLH1150	Paddle Set: BCP
EFLH1151	Pitch Control Link Set: BCP
EFLH1152	Swashplate Set: BCP
EFLH1153	Servo Pushrod Set: BCP
EFLH1154	Battery Support Set: BCP
EFLH1155	Main Shaft & Drive Gear: BCP
EFLH1156	Landing Skid Set: BCP
EFLH1157	Canopy: BCP
EFLH1158	O-Ring Set: BCP
EFLH1159	Hardware Set: BCP
EFLH1160	Tail Boom: BCP
EFLH1162	Main Blade Grip Set: BCP
EFLH1163	Paddle Control Frame Pushrod Set:BCP
EFLH1164	Main Shaft Retaining Collar: BCP
EFLH1165	Flybar Weight (2): BCP
EFLH1166	Main Frame Assembly: BCP
EFLH1169	Crash Kit: BCP

Optional Parts List

EFLB1005	11.1V 860mAh 3-Cell Li-Po, JST
EFLB1015	11.1V 1200mAh 3-Cell Li-Po, JST
EFLC2020	Pinnacle+ AC/DC 1-14C Charger
EFLC3005	Celectra 1-3 Cell Li-Po Charger
EFLH1039	2-in-1 Control Unit Mixer & ESCs:BCP
EFLH1110A	370 Motor w/8T 0.5M Pinion: BCP
EFLH1110B	370 Motor w/9T 0.5M Pinion: BCP
EFLH1110D	370 Motor w/11T 0.5M Pinion: BCP
EFLH1128	Training Gear Set: BCP
EFLH1131	Tail Motor Heat Sink: BCP
EFLH1132	Main Motor Heat Sink: BCP
EFLH1147B	Symmetrical Main Blade Set: BCP
EFLH1147C	Sym. Carbon Main Blade Set: BCP
EFLH1168	Aerobatic Enhancement Kit: BCP
THP9003SJ	900mAh 3-Cell 11.1V Li-Po, JST
THP13203SJ	1320mAh 3-Cell 11.1V Li-Po, JST

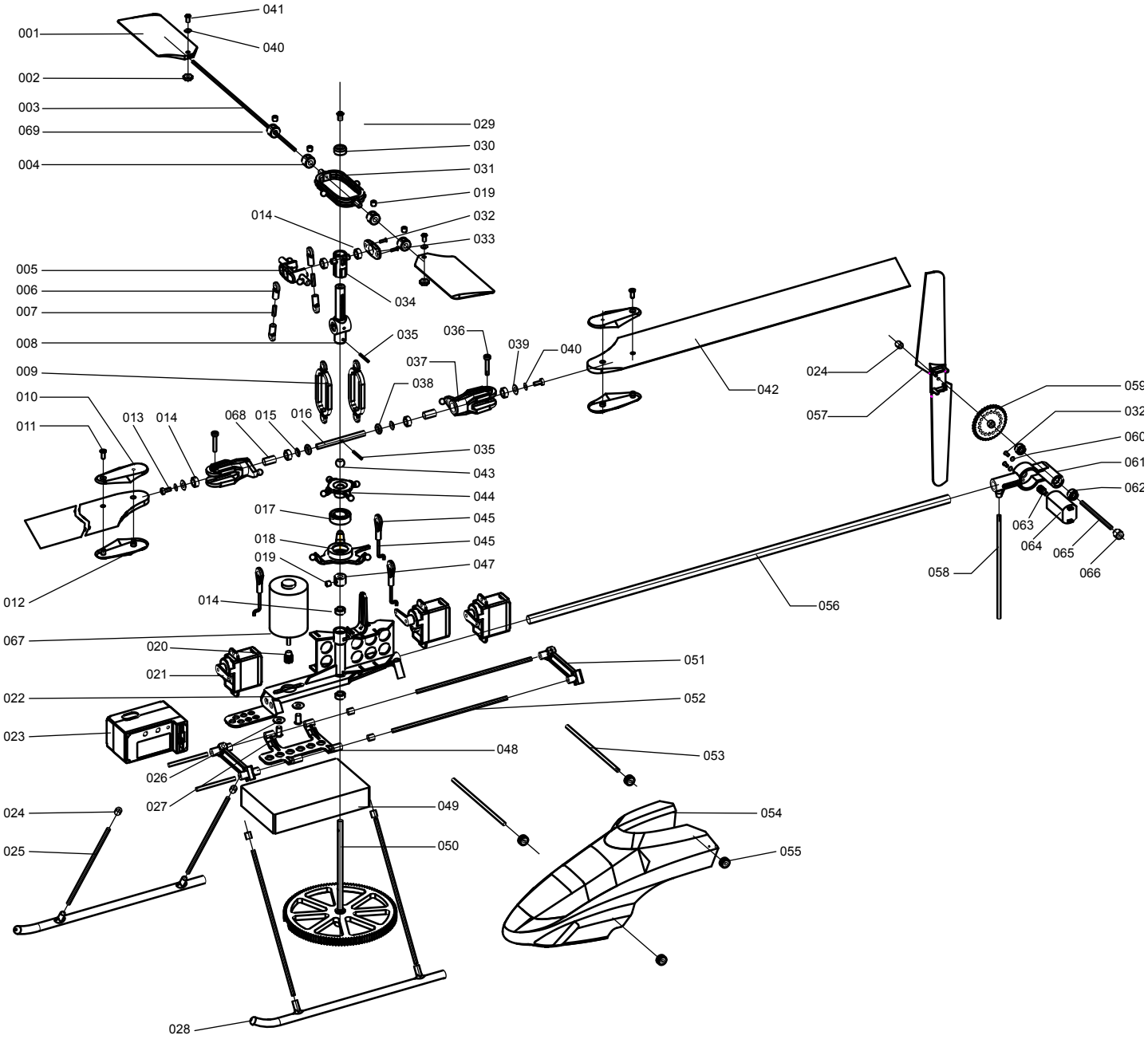
Replacement Parts



Exploded View Parts Listing

Number	Description	Quantity
001	Flybar Paddle	2
002	Nut	2
003	Flybar	1
004	Collar	2
005	Rotor Head Frame (A)	1
006	Pitch Control Link	4
007	Threaded Rod	2
008	Center Hub	1
009	Paddle Control Frame Pushrod	2
010	Main Blade Hold-Down Plate (A)	2
011	Flat Head Screw	2
012	Main Blade Hold-Down Plate (B)	2
013	Socket Head Cap Screw	2
014	Bearing (3x6x2.5mm)	8
015	Washer	2
016	Spindle	1
017	Bearing (7x13x4mm)	1
018	Lower Swashplate	1
019	Set Screw	5
020	Pinion Gear	1
021	Sub Micro Servo	3
022	Main Frame Assembly	1
023	4-in-1 Control Unit	1
024	Silicone Tube Section	9
025	Strut	4
026	Main Motor Washer	2
027	Main Motor Screw	2
028	Skid	2
029	Cap Head Screw	1
030	Center Hub Cap	1
031	Paddle Control Frame	1
032	Cap Head Screw	4
033	Rotor Head Frame (B)	1
034	Rotor Head	1
035	Retaining Pin	1
036	Socket Head Cap Screw	2
037	Main Blade Grip	2
038	O-Ring	2
039	Washer	2
040	Washer	4
041	Cap Head Screw	2
042	Main Blade	2
043	Swashplate Ball	1
044	Upper Swashplate	1
045	Servo Pushrod Control Link	3
046	Servo Pushrod Threaded Rod	3
047	Main Shaft Retaining Collar	1
048	Battery Support	1
049	Battery Pack	1
050	Main Shaft & Drive Gear	1
051	Battery Support Rod Joiner	2
052	Battery Support Rod	2
053	Canopy Mount Rod	2
054	Canopy	1
055	Canopy Mount Grommet	4
056	Tail Boom	1
057	Tail Rotor Blade	1
058	Vertical Tail Support	1
059	Tail Rotor Drive Gear	1
060	Tail Motor Washer	2
061	Tail Rotor Gearbox Housing	1
062	Bearing (2x6x3mm)	2
063	Tail Motor Pinion	1
064	Tail Motor	1
065	Tail Rotor Shaft	1
066	Tail Rotor Shaft Stop	1
067	Main Motor	1
068	Bearing Spacer	2
069	Flybar Weight Collar	2

Exploded View



Notes

2005 Official AMA National Model Aircraft Safety Code

GENERAL

1) I will not fly my model aircraft in sanctioned events, air shows or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.

2) I will not fly my model higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.

3) Where established, I will abide by the safety rules for the flying site I use, and I will not willfully or deliberately fly my models in a careless, reckless and/or dangerous manner.

4) The maximum takeoff weight of a model is 55 pounds, except models flown under Experimental Aircraft rules.

5) I will not fly my model unless it is identified with my name and address or AMA number on or in the model. (This does not apply to models while being flown indoors.)

6) I will not operate models with metal-bladed propellers or with gaseous boosts, in which gases other than air enter their internal combustion engine(s); nor will I operate models with extremely hazardous fuels such as those containing tetranitromethane or hydrazine.

RADIO CONTROL

1) I will have completed a successful radio equipment ground range check before the first flight of a new or repaired model.

2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.

3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in front of the flight line. Intentional flying behind the flight line is prohibited.

4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission. (Only properly licensed Amateurs are authorized to operate equipment on Amateur Band frequencies.)

5) Flying sites separated by three miles or more are considered safe from site-to site interference, even when both sites use the same frequencies. Any circumstances under three miles separation require a frequency management arrangement, which may be either an allocation of specific frequencies for each site or testing to determine that freedom from interference exists. Allocation plans or interference test reports shall be signed by the parties involved and provided to AMA Headquarters. Documents of agreement and reports may exist between (1) two or more AMA Chartered Clubs, (2) AMA clubs and individual AMA members not associated with AMA Clubs, or (3) two or more individual AMA members.

6) For Combat, distance between combat engagement line and spectator line will be 500 feet per cubic inch of engine displacement. (Example: .40 engine = 200 feet.); electric motors will be based on equivalent combustion engine size. Additional safety requirements will be per the RC Combat section of the current Competition Regulations.

7) At air shows or model flying demonstrations, a single straight line must be established, one side of which is for flying, with the other side for spectators.

8) With the exception of events flown under AMA Competition rules, after launch, except for pilots or helpers being used, no powered model may be flown closer than 25 feet to any person.

9) Under no circumstances may a pilot or other person touch a powered model in flight.

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