

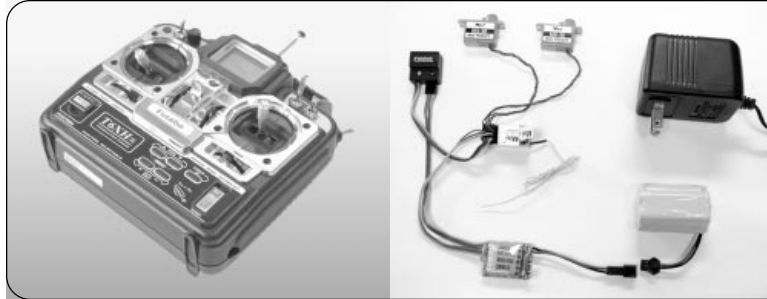


Century HummingBird

The Hummingbird is the perfect electric helicopter for indoor flying and calm days at the park. At just over 9 ounces, the Hummingbird will fly for 7-10 minutes on the 7cell NiMH battery. The helicopter is completely assembled requiring only the radio equipment to be purchased separately and installed.

Specifications:

Main Rotor 20.5in, Tail Rotor 5.74in, Length 18.5in, Height 6.3in, Weight 9.6oz



Necessary Items Not Included:

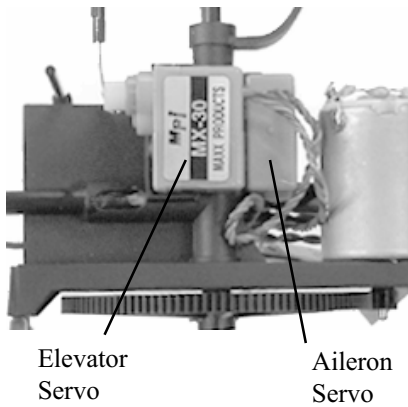
- 1 x 4 Channel FM/PCM Transmitter (minimum)
- 1 x 4 Channel FM/PCM Micro Receiver
- 2 x Micro Servos
- 1 x Century Micro Gyro [#CN2022E]
- 1 x Hummingboard Mixer [#CNE052]
- 1 x 8.4V 600mAh NiMH Battery [#CNE050]
- 1 x 8.4V Hummingbird Wall Charger [#CNE051]

IMPORTANT ! READ THIS FIRST.

The following instructions detail installing the servos, receiver, gyro and mixer control board into the Hummingbird micro electric helicopter CN1020. Warning, this is not a toy, it is a precision machine requiring proper assembly and setup to avoid accidents. It is the responsibility of the owner to operate this product in a safe manner as it can inflict serious injury. It is recommended that if you are in doubt of your abilities, seek assistance from experienced radio control helicopter modelers and associations. As manufacturer, we assume no liability for the use of this product.

1

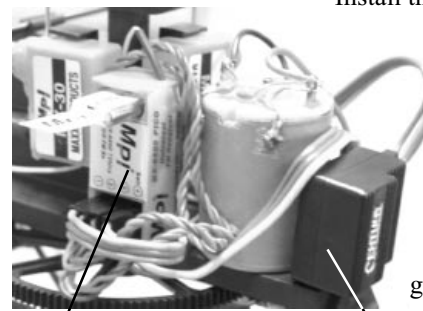
Servo mounting



The double sided servo tape is already segmented, simply cut with scissors. While looking at the photo, attach the servos so the elevator & aileron servo's output shaft is upward. Press the servos firmly onto the main frame aligning with the molded servo mount guides.

2

Receiver & Gyro Mounting



Install the receiver using servo tape the bottom of the aileron servo. Attach the gyro on its side with servo tape in front of the motor with the Century name reading upwards. If another gyro is used, verify that it is installed in the correct direction.

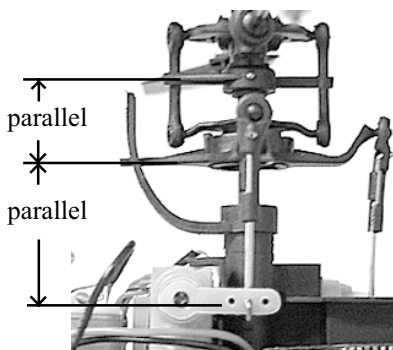
Micro Receiver

Your radio equipment may be different than pictured.

Micro Gyro

3

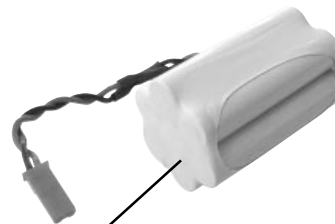
Servo Linkage



Having charged the radio overnight, center the trims. Using a servo horn that has a hole 10mm from the center, install the arm at 90° degrees to the main shaft. Remove and trim of the remaining arms and install the "z" end of the pushrod from the bottom of the horn. Repeat for the other servo. Verify that everything is parallel (paddle, swashplate & servo horn are parallel and 90° degrees to the main shaft) for proper setup.

4

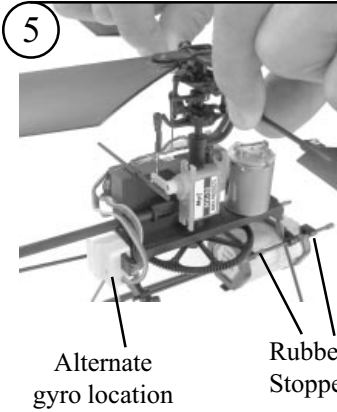
Bird Seed 8.4V 600mAh NiMH Battery



Connect the battery pack to the HummingBird charger (purchased separately). The battery will be fully charged in 1.5 hours, do not overcharge.

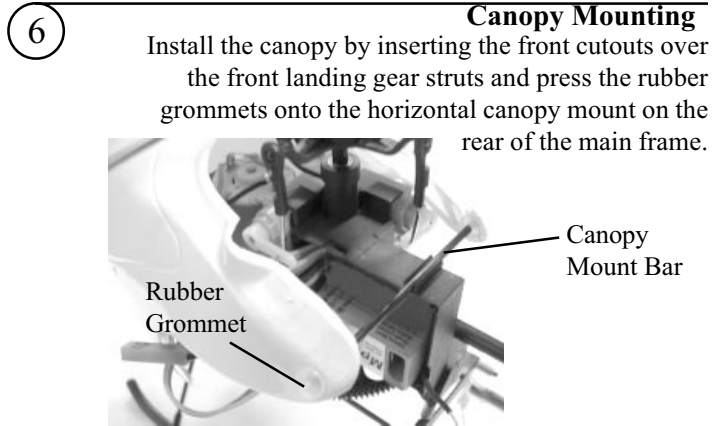
Bird Seed 8.4V 600mAh NiMH Battery [#CNE050]

! This is a nickel metal hydride battery, only use Century's charger to avoid damaging or exploding the battery.



Battery mounting

Insert the battery into position by sliding the battery holders along the horizontal rails to clamp in place. Press the rubber stoppers to secure the top and the rubber band at the bottom. Pickup the Hummingbird by the flybar and position the battery until the helicopter hangs level or slightly nose heavy.

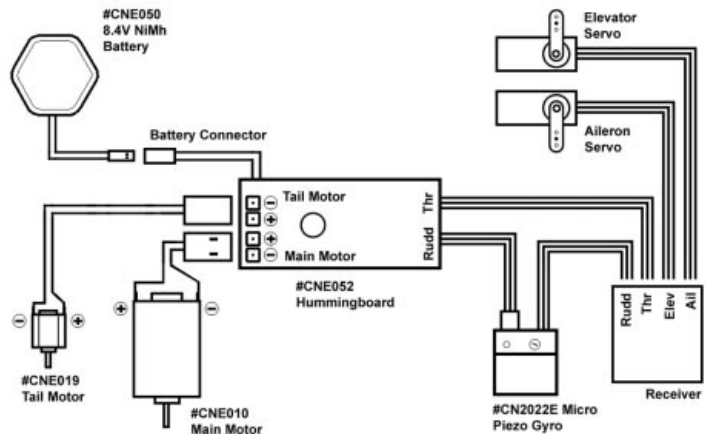


Canopy Mounting

Install the canopy by inserting the front cutouts over the front landing gear struts and press the rubber grommets onto the horizontal canopy mount on the rear of the main frame.

7 Wiring Connections

Having installed the servos, receiver and the gyro (all purchased separately), now make the final connections. Be careful when installing the motor connectors to the electronic mixer control board to verify the polarity is correct for the red wire and black wire on the small connectors. Mount the mixer control board in the cavity of the main frame after all the connections have been made using servo tape. Using the cable ties, route and arrange the servo wires in a clean bundle, making sure that none of the wires touch the gyro mounted in the front or back. Leave the power connector long enough to make the battery connection.



8 Antenna Mounting

The last important wire to route is the antenna, it is vital that the antenna wire is isolated from all the other wires and motors on the helicopter. Install the antenna along the bottom of the frame, making sure it does not touch another wire and that it does not cross itself. Run the end of the antenna out to the horizontal fin, attaching it with a small elastic or piece of tape.

9 Starting the helicopter for the first time.

Turn the transmitter on first. While making the battery connection, ensure that the rotor blades will not touch yourself or anything on the work surface. After the battery is connected, wait for 5 seconds for the control board and gyro to initialize, the red LED on the gyro will stop blinking. If the throttle stick is not at the lowest position, the LED will remain solid red. The LED must change to green to start the motors. While firmly holding the landing skids, slowly lift the throttle stick to turn the main blades slowly, stopping at half stick (50% power). If the blades do not turn and the LED is red, lower the throttle stick, disconnect the battery and change the position of the Servo Reversing function for the throttle channel on the radio. Repeat the procedure. If the LED blinks from red to green there is no signal from the radio.

*If the LED **WILL NOT** change to green on radios with endpoint adjustments, increase the travel percentage on the throttle channel.

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|--------------------|---|-----------------------------|--|
| 1. Connect battery | Wait 5 seconds for LEDs on the hummingboard and gyro to stop flashing. Do not move helicopter until LEDs are solid. | 4. Solid red LED | Throttle stick is moved to low stick, but LED will not change to green. Use endpoint adjustment to expand low stick position. Disconnect and repeat steps 1-2. |
| 2. Solid green LED | Hummingboard functioning properly. | 5. Solid red LED | Throttle stick is moved to high stick and LED changes to green. Throttle channel needs to be reversed. Disconnect and repeat steps 1-2. |
| 3. Solid red LED | Throttle stick must be moved to low stick, then raised slightly to change to green LED. Ok to fly. | 6. Red & green flashing LED | Hummingboard not receiving signal from transmitter. Check transmitter power and verify channel matches on receiver. |

During regular operation the Hummingboard will remain solid green but as the battery starts to run out and the voltage drops the helicopter will simply descend, it is best to land immediately. On helicopter radios that have revolution mixing, either inhibit the function or set the revolution mixing amounts to 0 (zero) percentage. Also remove any rudder offsets, or tail curves if available on the radio. The Hummingboard is designed to automatically add tail rotor into the main rotor to compensate for increased torque as the throttle is advanced.

10

Transmitter Adjustments

All flight trimming adjustments should be done on a flat, hard surface in a minimum area of 20 feet by 20 feet to ensure that trimming can be completed. All helicopter trimming is always observed from the pilot home position. Position the Hummingbird 6 feet ahead of your position with the nose forward. When observing reactions from the helicopter, always think in terms of which direction the nose moves. Never be concerned with the tail, and never watch the tail. It is recommended to use optional training gear, #CNE053 before trying to trim or fly the model.

Rudder Setup - Turn the transmitter on. Insert your hand and hold the landing gear firmly while making the battery connection, ensuring that the main and tail rotor blades will not touch yourself or anything on the testing surface. Move the helicopter to the testing position, 6 feet in front of yourself. Slowly raise the throttle until the main blades are slowly turning. Carefully add right rudder on the transmitter, and observe that the nose of the helicopter turns to the right. If the helicopter turns to the left, reverse the rudder channel on the transmitter.

Gyro Setup - Gyro gain is preset. Insert your hand and hold the landing gear firmly while making the battery connection, ensuring that the main and tail rotor blades will not touch yourself or anything on the testing surface. Wait 5 seconds after power on to initialize the gyro (blinking green LED goes solid), do not move the helicopter during this time. Verify that when the rudder stick is moved to the right the nose rotates to the right, the throttle stick may need to be raised slightly to activate the electric motors. Holding the tail boom at the back of the frame from below jerk the nose to the left, the tail rotor should start rotating moving the nose right. This may take a few tries to verify gyro is in the correct direction. If the helicopter is powered up with the gyro reversed, the helicopter will spin uncontrollably. To reverse the gyro direction, reinstall the gyro upside down. Repeat the gyro setup test.

Aileron & Elevator Setup - Turn the transmitter on. Insert your hand and hold the landing gear firmly while making the battery connection. While looking at the swashplate, move the aileron stick to the right and verify that the swashplate tilts to the right, when viewing the helicopter from the rear. Again, move the elevator stick forward and verify that the swashplate tilts forward. If any channel is backwards, simply toggle the reversing switch on the transmitter.

11

Hummingbird Trimming

Blade Tracking and Lift Adjustment - If the transmitter throttle stick is at 1/2 power and the helicopter will not lift off the ground, bend or twist the main blades slightly to increase the angle of attack of the blades and adjust both blades equally. This will increase the blade pitch.

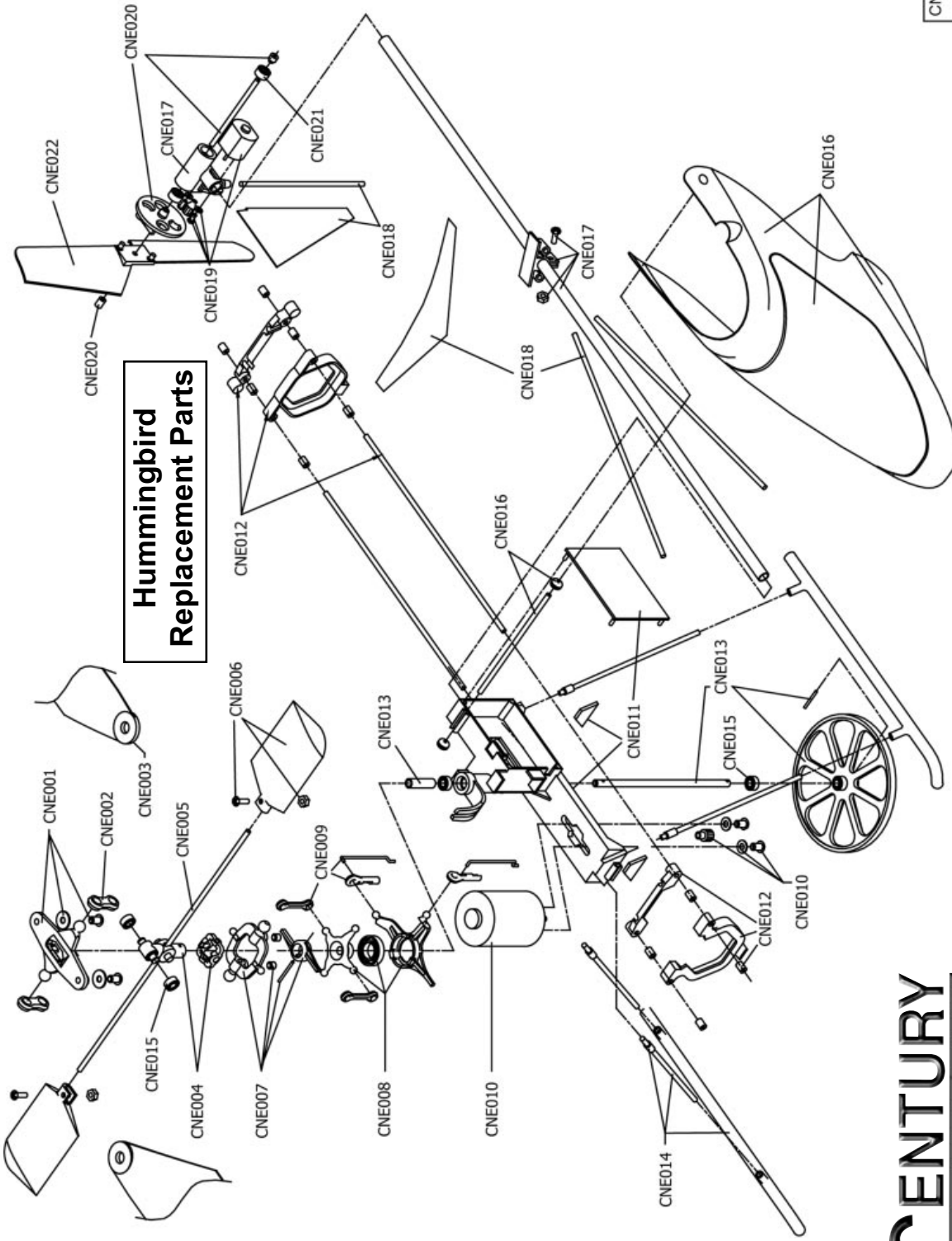


It is possible that after twisting or bending the blades that the blades may go out of track. When viewed from the side, there appears to be two blades. To correct this decrease the pitch on blade A and increase the pitch on blade B until only one blade can be seen. Attaching a small piece of colored tape to the tip of one blade will make this easier.



Control Movement - All trimming of the Hummingbird should be done one click or detent of the subtrims at a time until it will rise without moving left, right, forward or backward at a location without wind. Some tail rotation is normal at lift off until it is hovering. Start by lifting the Hummingbird 3-6 inches at a time to practice lift off and landing.

CNE001	CNE002	CNE003	CNE004	CNE005	CNE006	CNE007	CNE008	CNE009	CNE010	CNE011
CNE012	CNE013	CNE014	CNE015	CNE016	CNE017	CNE018	CNE019	CNE020	CNE021	CNE022



CENTURY

HELICOPTER PRODUCTS

Optional Accessories

<p>8.4V NiMH Battery 7-10 minutes flight time.</p> <p>CNE050</p>	<p>8.4V HummingBird Charger 1.5 hour recharge time.</p> <p>CNE051</p>	<p>Mixer Control Board Necessary to drive the tail and main electric motors.</p> <p>CNE052</p>	<p>Training Gear Great for beginners.</p> <p>CNE053</p>	<p>Micro Receiver & Crystal Just the right size.</p> <p>MX6800 & MX072</p>	<p>Micro Servo Two are needed to fly the Hummingbird.</p> <p>MX30S</p>	<p>Crash Kit Crash support package!</p> <p>CNE054</p>
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