User Manual

E160

EC REP
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CE FC RoHS MADE IN CHINA

This product is compatible with FUTABA 2.4GHZ S-FHSS regulations.
Brushless motor, super power, compatible with 3-axis gyroscope and 6-axis gyroscope modes, 3-axis for ultra-stable flight and 6-axis for beginners.

ITEM LIST

NO.	PARTS	QUANTITY
1	Gift Box	1
2	Sports backpack	1
3	User Manual	1
4	Helicopter	1
5	Transmitter	1
6	Charger	1
7	Battery 7.4v 700mah 25C	1
8	Cross Screwdriver / Hex Wrench	1
9	Main Blade	2
10	Tail Blade	1
11	Main Gear	1

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of our company. For up-to-date product literature, please visit www.eachine.com

WARNING

Read the ENTIRE user manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other properties. This product is not intended for use by children without direct adult supervision. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

ADDITIONAL SAFETY PRECAUTIONS AND WARNINGS

1. Age Recommendation: Not for children under 14 years. This is not a toy.
2. Always operate your model in open spaces away from full-size vehicles,traffic and people.
3. Follow the operation notice, warmning and any support equipment (charger, battery, etc) carefully.
4. Keep away from any chemicals; keep children away from any small parts and electrical equipment.
5. Always keep away from water, especially for this product don't have waterproof function; It will be damaged by moisture.
6. Never place any portion of the model in your mouth as it could cause serious injury or even death.
7. Never operate your model with low voltage transmitter batteries.

INT TRODUCTION

This is a super classic helicopter with exellent fight performance. Flybarless design, decrease resistance of rotor head. Quote to aerodynamics, the blades can supply strong power and keep stability. Using new type gyro, compatble with 3D and 6G modes. You can make a variety of stunts by 3D mode; 6G mode is suitable for beginners especially.

After flying this mini helicopter, you will find other mini helicopters which you have flying are eclipsed, This is a incomparable and popularization hellcopter. Beginners will find it is easy to fly, masters will find it is interesting. It is worth to be possessed.

This manual with detalild instruction ,will help you leam more about the product Please read it before your flying

TABLE OF CONTENTS

HELICOPTER PARAMETERS

Length	345 MM
Height	108MM
Weight	156g
Length of Main Propeller	350MM
Diameter of Tail Propeller	62.5MM
Battery Specification	7.4v 700mah 25C
Flight Time	5–6 Min
Main Brushless Motor	1312
Brushless Tail Motor	1103

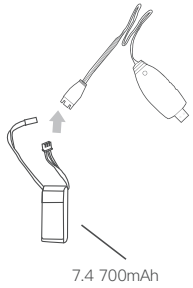
WARNING AND THE GUIDE OF BATTERY USAGE

To ensure safety, please use the icluded standard charger

WARNING: It is recommended to use the original power supply charger when charging, otherwise property damage and injury will occur.

Notice: When it is lower than 7.4V, the lithium battery may be damaged, or it may no longer be charged. When the battery voltage is lower than 7.4V when the aircraft is flying, the power of the aircraft drops significantly. Please immediately land and charge the battery in time.

BATTERY CHARGING



1. The user should connect to the power adapter with a USB port or connect to the USB port of computer.
2. Connect the USB cable to the power adapter, at the same time the USB charger red light flashes.
3. The partial voltage charging head of the battery is connected with the USB cable. At this time, the USB charger's red light always on and charging is in progress.
4. When the USB charger red light is off, charging is completed.

Warning

1. To ensure safety, please charge under the supervision of someone.
2. Children cannot charge alone, they should charge with the assistance of an adult.
3. Please use the original standard charger of this product for charging. The charger of unknown origin may cause a fire and explosion accident.
4. It is recommended that users prepare their own 2A current adapter, which will shorten the charging time.

NOTICE BEFORE FLIGHT

1. Make sure the battery power is full both for TX and helicopter.
2. Before open the power of TX, please make sure the TH. Stick at the bottom and the switch of TH.HOLD and 3D mode in back position (back cover direction).
3. Make sure the TX has paired with helicopter ,or please pair them again.
4. Please open TX first, then connect the battery with the RX board on helicopter to pair with TX. When close, please cut the power of helicopter first, and then turn off the TX.
5. Keep away from crowd, cars, high–tension towers and pond. Then you can start your flying.

PAIR THE TRANSMITTER WITH THE RECEIVER

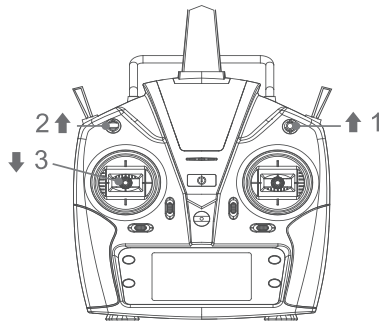
You buy the original model The pairing has been reset before factory. If you need to pair again, please comply with the following steps.

1. First open the remote control, make sure the throttle joystick is in the bottom position, 3D1 IDLE switch in the OFF position
2. Take down the canopy for touching the code switch.
3. Charge the helicopter, the red lamp flashes slowly, press the code button for 1 second, then the red lamp will go out and get ready for pairing.
4. When the red and blue lights turn solid, the pairing has been successful.
5. Ensure there are no other remote controllers of the same type at work to avoid interference.

Tips: This product is compatible with all FUTABA 2.4GHZ S–FHSS remote controller.
Notice: If the throttle of the transmitter has not been positioned at the lowest position with the throttle switch and 3D mode switch turned on, the transmitter will beep to prompt you that it fails to proceed to pair.

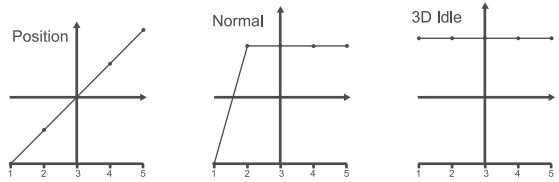
Notice:

1. When the remote control is turned on, the throttle hold switch is in the ON state, and the remote control beeps . The switch should be turned back to the OFF position.
2. When the remote control is turned on, the 3D switch is in the ON state, and the remote control will beep. The switch should be turned back to the OFF position.
3. When the remote control is turned on, the throttle stick is not in the lowest position, and the remote control will beep. The throttle stick should be pulled down to the lowest position.

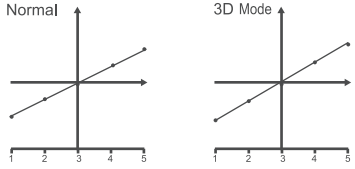


THROTTLE CURVE AND PITCH CURVE

	Position	Normal	3D Idle
Throttle Curve	1	0	90
	2	85	90
	3	85	90
	4	85	90
	5	85	90



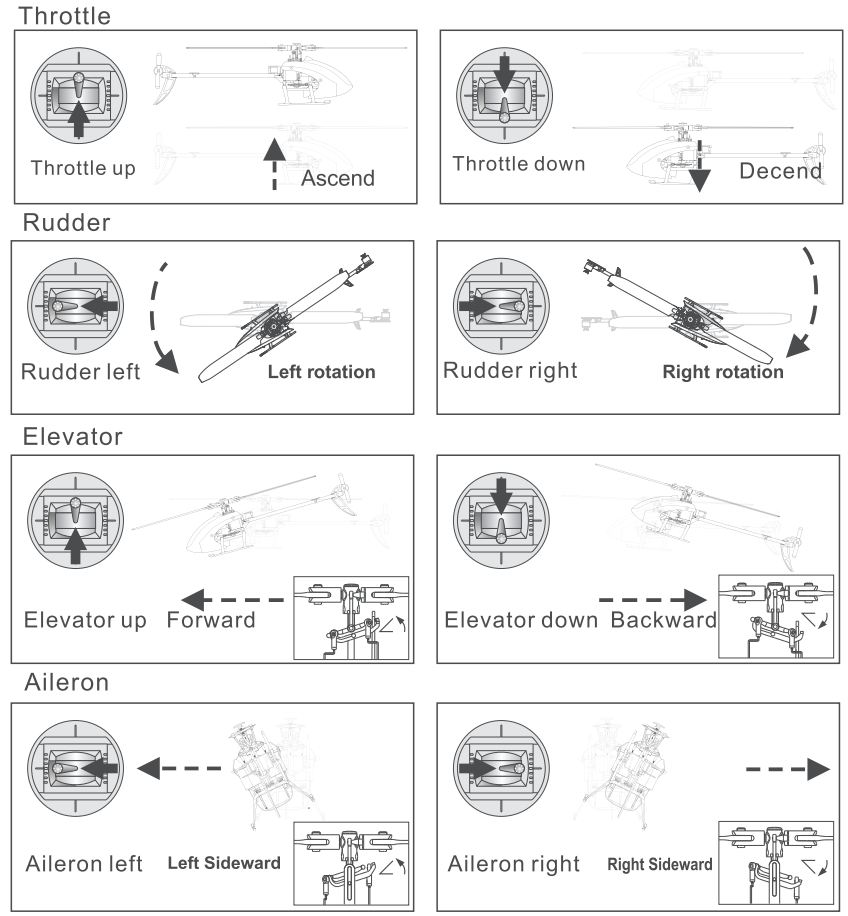
	Position	Normal	3D Mode
Pitch curve	1	25	32
	2	35	40
	3	50	50
	4	58	60
	5	65	68



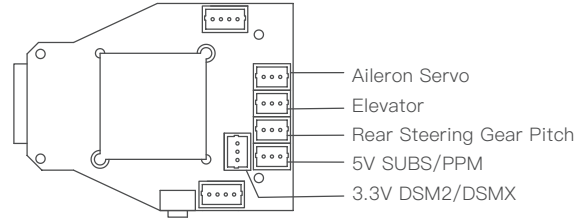
The above information is for your reference only, you can set the parameters to your demand.

INITIAL FLIGHT

If you are not familiar with the control of the E160 , take a few minutes to get familiar with them and then try your first flight.

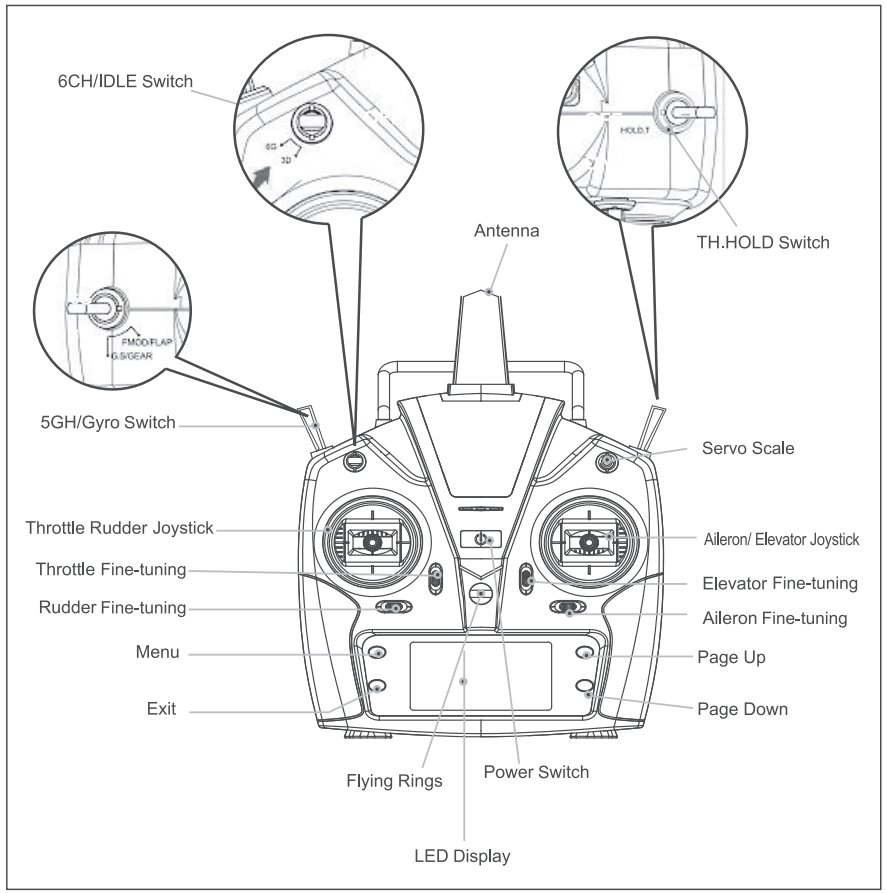


RECEIVER INTERFACE DIAGRAM

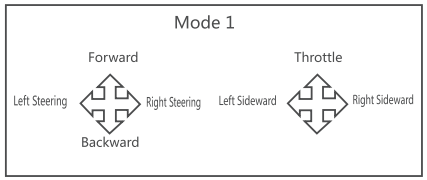


Notes: 3.3V is suitable for DSM receiver and 5V is suitable for FUTABA (S-BUS) J receiver.

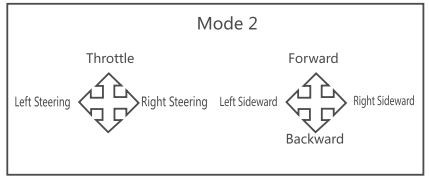
ABOUT REMOTE CONTROLLER



Right hand throttle



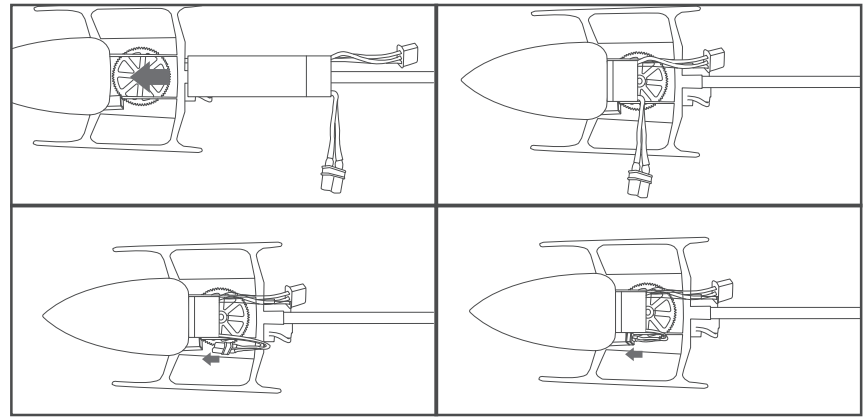
Left hand throttle



This remote control supports CCPM 120 degree helicopter dedicated remote control, with 3D 6G switching high/low rudder capacity for two joystick modes, flameout switch (TH.HOLD) and other modes, large screenLCD display multi-function remote control.

FLIGHT BATTERY INSTALLMENT

1. Put the throttle joystick to the bottom position.
2. Turn on the transmitter.
3. Install the battery into the rack and connect it properly with the receiving power.
4. Once the battery is connected, the signal starts to blink. Keep it still and wait until the signal light stops blinking, which means the receiver has completed self-inspection and gets ready for flight.

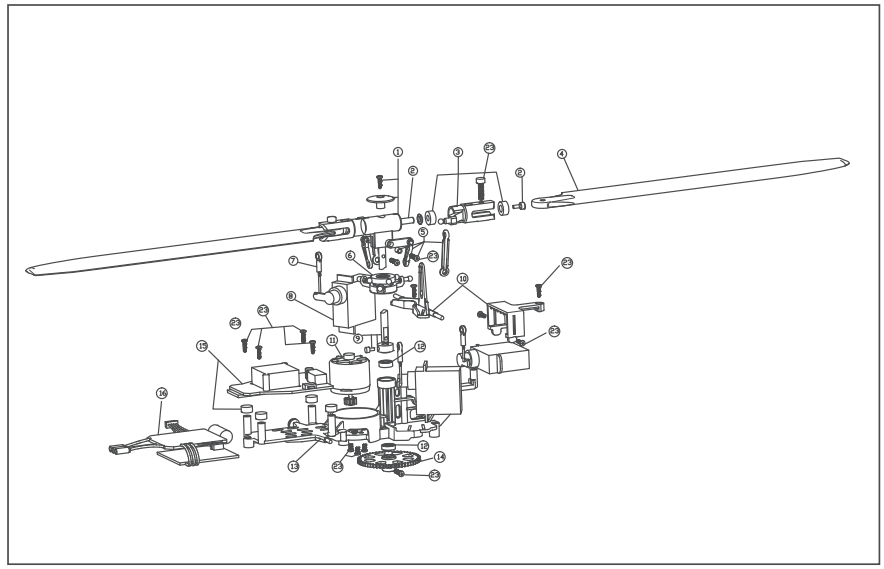


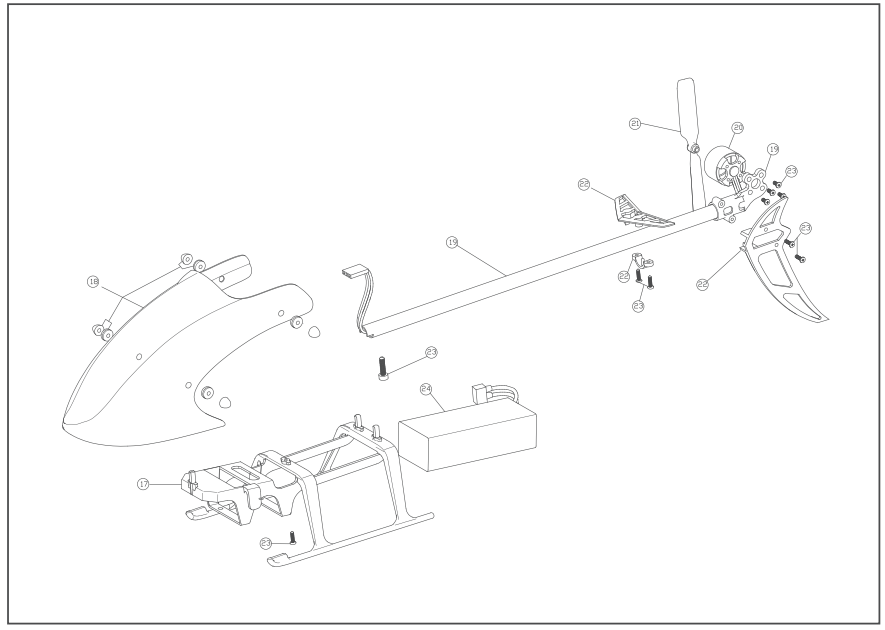
TROUBLESHOOTING

	Problem	Cause	Solution
1	LED on receiver flashes constantly with no responses after connecting batteries to transmitter.	Transmitter is not bound to receiver. Pairing of the transmitter and receiver failed.	Re-pair (Refer to P.5, Programming your Transmitter)
2	The helicopter has no response after connecting batteries to receiver.	Check whether the transmitter and receiver connecting to power; check the voltage of transmitter and receiver; Battery pole flake contact is not good.	Open the transmitter, make sure the batteries connecting is good Replace and charge transmitter batteries Make sure the battery pole flake contact is good.
3	When push the throttle pole, the rotor do not rotate and the LED on Receiver flashes cons tantly.	Low battery voltage; batteries connection is not good.	Replace and charge the batteries, reconnect the batteries to the receiver board.
4	Helicopter takes off immediately, once the batteries and receiver connected.	Didn't put the throttle to the lowest	Put the throttle pole at the lowest position before open the transmitter.

	Problem	Cause	Solution
5	Turn on the helicopter after binding successfully, the propeller rotate constantly but the helicopter can not take off.	Low charge in aircraft batteries or main gear loose.	Replace and charge the batteries ; press the spindle with gear tightly.
6	Helicopter vibrates or shakes in flight.	Damaged frotor blades and lateral axis blade grips too tight causing the movement of the main rotor isn't smooth.	Change the main rotor blades, and lateral axis Loosen the blade grips properly.
7	Main rotor blades are shaking in flying.	Lateral axis is bent Latreral axis screw is not tight .There are some debris in the servo, causing shakes . The loose between the swashplates. Deformed or damaged t ail rotor blades.	Replace the lateral axis. Tighten the lateral axis screw. Change the Bearing. Remove the servo, and clear debris. Compress the swash plates. change the tail rotor blades.
8	The sound of the main rotor becomes smaller.	Low battery voltage of helicopter.	Charge the battery or change a fully charged battery.
9	Helicopter has no reaction or can not fly smoothly.	Failure of binding	Rebind the helicopter and transmitter, make sure you place the helicopter static level next to the transmitter.
10	3D/6G model helicopter appeared yaw	Swashplate servos not back in to mid–position or damage	Length adjustment rod, so thatthe vertical spindle swashplate Replace the servo
11	Helicopter yaw occurs in 6G mode,	Helicopters hover need to reconfigure	Reference helicopter 6G mode setting
12	Helicopter took off spin to the left.	Tail motor power shortage loose blades Tail motor damage	Check with the tail rotor blades and the motor shaft, If loose replacement tail rotor blade. Motor damage Replace the tail motor.
13	Helicopter power is turned supreme speed govermor electric sound	Brushless speed governor fault or poor contact	Check the connectors replace speed governor

EXPLODED VIEW





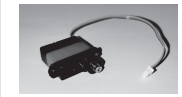
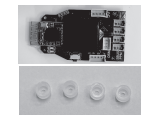
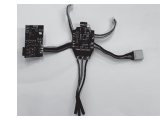
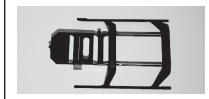
ACCESSORY LIST

NO.	PARA NAME	QUANTITY
1	Rotor Head Set	1
2	Horizontal Axis Group	2
3	Rotor Clip Set	1
4	Paddle Group	2
5	Link Group	1
6	Swash Plate Group	1
7	Lower Link Group	2
8	Rudder Unit	1
9	Spindle Group	2
10	Servo Pressure Plate Group	1
11	Main Motor Unit	2
12	Bearing Set	1
13	Main Rack Group	1
14	Big Gear Set	1
15	Flight Control Motherboard	2
16	Governor Group	1
17	Landing Gear Group	2
18	Chassis Group	1
19	Tailstock Group	1
20	Tail Motor Unit	2
21	Chassis Group	1
22	Rear Wing	1
23	Screw Set	1
24	Battery	1
25	USB Charger Set	1
26	Remote Control Unit	1

Notice for beginners:

1. Please fly you models with guidance in the first time.
2. Before fly the models, you need to understand all the function of the transmitter and reaction cause by the rockers.
3. Don't use 3D mode hurried. Practice flying and hovering flight under 6G mode until you are familiar with it. Then you can practice flying and hovering flight under 3D mode. When you are familiar with these two modes you can practice inverted flight with guidance.
4. Practice hovering flight of inverted flight to lay a foundation for making more brilliant flying.
5. This model is not a toy. To avoid damage, please take a simulated flight through computing before 3D flying.

ACCESSORIES LIST

Part No: 2.E160.001 **Part Name:** Rotor Head Set	**Part No:** 2.E160.002 **Part Name:** Horizontal Axis Group	**Part No:** 2.E160.003 **Part Name:** Rotor Clip Set	**Part No:** 2.E160.004 **Part Name:** Paddle Group
			
Part No: 2.E160.005 **Part Name:** Link Group	**Part No:** 2.E160.006 **Part Name:** Swash Plate Group	**Part No:** 2.E160.007 **Part Name:** Lower Link Group	**Part No:** 2.E160.008 **Part Name:** Rudder Unit
			
Part No: 2.E160.009 **Part Name:** Spindle Group	**Part No:** 2.E160.010 **Part Name:** Servo Pressure Plate Group	**Part No:** 2.E160.011 **Part Name:** Main Motor Unit	**Part No:** 2.E160.012 **Part Name:** Bearing Set
			
Part No: 2.E160.013 **Part Name:** Main Rack Group	**Part No:** 2.E160.014 **Part Name:** Big Gear Set	**Part No:** 2.E160.015 **Part Name:** Flight Control Motherboard	**Part No:** 2.E160.016 **Part Name:** Governor Group
			
Part No: 2.E160.017 **Part Name:** Landing Gear Group	**Part No:** 2.E160.018 **Part Name:** Chassis Group	**Part No:** 2.E160.019 **Part Name:** Tailstock Group	**Part No:** 2.E160.020 **Part Name:** Tail Propeller Unit
			
Part No: 2.E160.021 **Part Name:** Tail Propeller	**Part No:** 2.E160.022 **Part Name:** Rear Wing	**Part No:** 2.E160.023 **Part Name:** Screw Set	**Part No:** 2.E160.024 **Part Name:** Battery Pack
			
Part No: 2.E160.025 **Part Name:** USB Charger Set	**Part No:** 2.E160.026 **Part Name:** Remote Control Unit