
KYMCO Healthcare Limited



K-ACTIV

Powered Wheelchair -User Manual

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1. Introduction

Dear User:

Thank you for purchasing your new KYMCO Healthcare K-ACTIV Powered Wheelchair.

The K-ACTIV Powerchair is manufactured with cutting edge technology. Please note that this product requires routine maintenance to keep it in top performance and safety. This manual contains the key information regarding the correct operation, maintenance, and adjustment of your Powerchair, which are essential for safe and comfortable use. It is recommended that you read this manual carefully as inappropriate handling may lead to injury or accidental damage.

- ※ The descriptions regarding the appearance and use are helpful for preventing possible accidents.
- ※ This manual is accompanied with a product warranty, which should be kept in a safe place.

2. Notice for Driving Safety

2.1 Before Driving

Before driving users should be familiar with correct usage and operation, and respect safety during operation.

- **The rules for this Powerchair are the same as those that apply for pedestrians for pavement use.**

Note:

- For your safety, please respect the traffic rules for pedestrians.
- This Powered wheelchair is to be used on pathways, walkways, parks etc. and can be used on roads as it is a class 3 vehicle, but the speed should be limited.
- Follow the indicated direction of the road when the powerchair proceeds to the end of paths.
- The Powerchair should be carefully handled when traveling through busy roads or business areas.
- Do not use the Powerchair if you are under the influence of alcohol or if you are tired.
- We do not recommend the use of your Powerchair in the evening or at night.
- Please follow the traffic signs for pedestrians

- **Practice Using Your New K-ACTIV Powerchair**

Note:

- While becoming familiar with your Powerchair, try practicing in wide-open areas such as parks and sports fields. Practice should be started with easy tasks, for example, acceleration, deceleration, braking, turning, going backward and going up and downward slopes (observe safe inclines for driving).

Note:

- The speed switch should be turned to the range specified. At the beginning of practicing, the switch should be adjusted to "minimum speed".
- For your first drive, you should be accompanied by someone to take care of your safety.
- A higher speed can be selected when you feel confident for safe use of your Powerchair.

- **The K-ACTIV Powerchair is to be used by a single user only.**

Note:

- Never carry another person (including children) with you on your Powerchair.

- **Do not carry or drag goods with your Powerchair**

✂ The maximum load for your Powerchair is stated in the specification section of this manual. Please check the specification table.

2.2 When Driving

- **Perform daily examinations (refer to 2.5 "daily examinations" for details)**
- **Do not move any body part out of the Powerchair**

Note:

- Moving body parts outside of the Powerchair may cause it to lose balance, which may lead to injury or even falling.
- Avoid getting clothes trapped in the wheels.

-
- **When proceeding to an intersection or railroad crossing !**

Note:

- Before crossing an intersection, please ensure your own safety, avoid getting the wheels trapped into the rail gaps, and always respect traffic rules!

- **Do not use Your K-ACTIV Powerchair under the following environments**

1. Ensure your own safety by staying away from busy, muddy, rocky, narrow roads and paths beside canals or fairways or those without fences or barriers.
2. Avoid use of the Powerchair at night or on rainy, foggy, or excessively windy days.
3. Avoid making S-shape turns or sudden U-turns.
4. Do not take automatic escalators when using this Powerchair.

- **Mobile phones and other electric devices**

1. Do not use mobile phones or other radio communication equipment when using your Powerchair.
2. Do not charge mobile phones or other electrical products with the battery system.

- **Going up or down a slope**

1. Do not climb precipitous slopes.
2. When driving on reasonable slopes, drive slowly and turn down the speed switch to a "minimum".
3. Keep speed slow when going downwards on a slope.

Note:

- Never disengage the drive levers to freewheel while going upward or downward on a slope
- To ensure safety, the motor braking system will cause the Powerchair to stop when it is used to go downward on a slope.
- To avoid damage of the controller and braking system, never turn the power switch off when going downward on a slope.

2.3 Loading Limitation for Safety

- **Maximum loading**

See specification table for maximum loading!

- ※ A load exceeding the stated limitation may cause damage or failure of your Powerchair which can be a safety concern.



2.4 Information regarding electromagnetic safety

1. Do not use personal communication devices such as mobile phones or stock devices. Turn off the Powerchair when these electromagnetic sources transmit.
2. Keep away from electromagnetic waves from TV or radio broadcasters.
3. To ensure safety, turn off the power when there are problematic functions or any suspected failure.
4. Unpredictable failure of the Powerchair could occur if non-original components are used.
5. Contact your approved KYMCO Healthcare Dealer in the rare occasion of malfunction or any abnormal operation.

Note:

- The radio waves from radio / TV broadcasters and personal mobile communication devices may affect the normal operation of your Powerchair. Follow all safety notices to reduce the risk of abnormal conditions and to maintain the normal operation of Powerchair.
- To avoid damage to you Powerchair, do not lean on or pull up the joystick controls.

Note:

The normal operation of the Powerchair could be affected by radio waves from radio / TV broadcasters and personal wireless communication devices. To reduce the risk of abnormal operation and brake failure, the following should be respected:

1. Do not use personal wireless communication devices (e.g. mobile phones) after turning on the power.
2. Avoid using the Powerchair at the source of radio waves such as radio/TV broadcasters and radio stations.
3. Turn off the power if it is safe to do so when there is abnormal operation or brake failure.
4. Do not use non-original components because the radio wave generated by such components could cause unpredictable effects to the Powerchair (Note: it is not possible to determine the effect of radio wave on powered vehicles).
5. Vehicles experiencing abnormal conditions under normal operation should be sent to your approved KYMCO Healthcare Dealer for maintenance.

2.5 Daily Examination

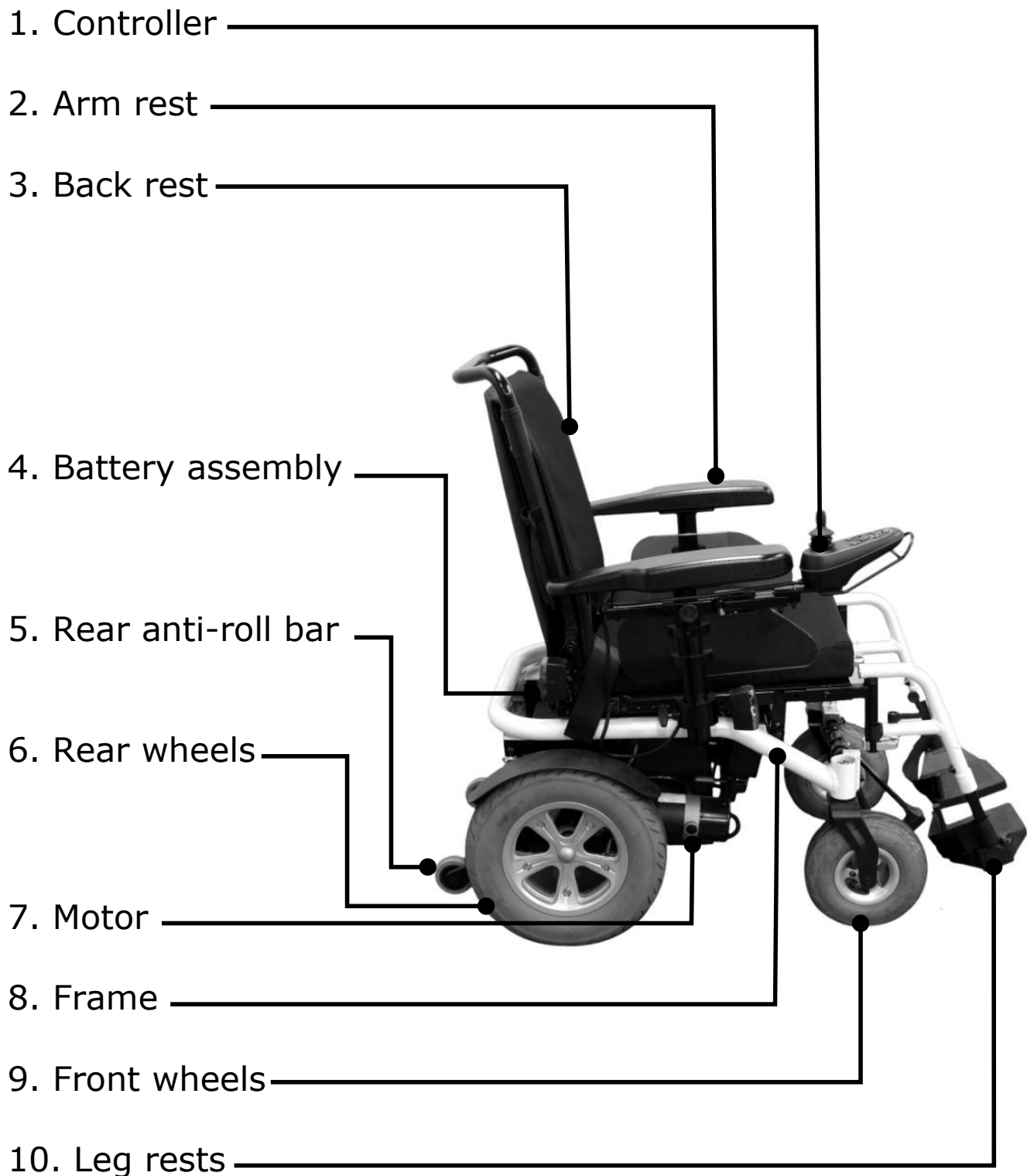
Examine the following before driving. Ask for further examinations from your Approved KYMCO Healthcare Dealer before use if you find any abnormal functioning:

Joystick	※ Is there anything that is loose? ※ Can it be turned forward, backward, leftward or rightward? ※ Does the Powerchair move forward when the joystick is pushed forward? ※ Does the Powerchair move backward when the joystick is pulled backward? ※ Does the Powerchair stop safely when the joystick is released?
Speed switch button	※ Does it function well and allow adjustment freely?
Motor	※ Are there abnormal motor sounds? ※ Does the motor drive smoothly?
Power gauge	※ Does the power gauge light up when the power is turned on? ※ Is there sufficient battery power for your journey?
Horn	※ Does the horn work correctly?
Seat	※ Is the seat well locked and secure?
Tire	※ Are there any breakages or other damage to the tires? ※ Check the depth of the tread patterns
Other	※ Are there abnormal sounds?

Note:

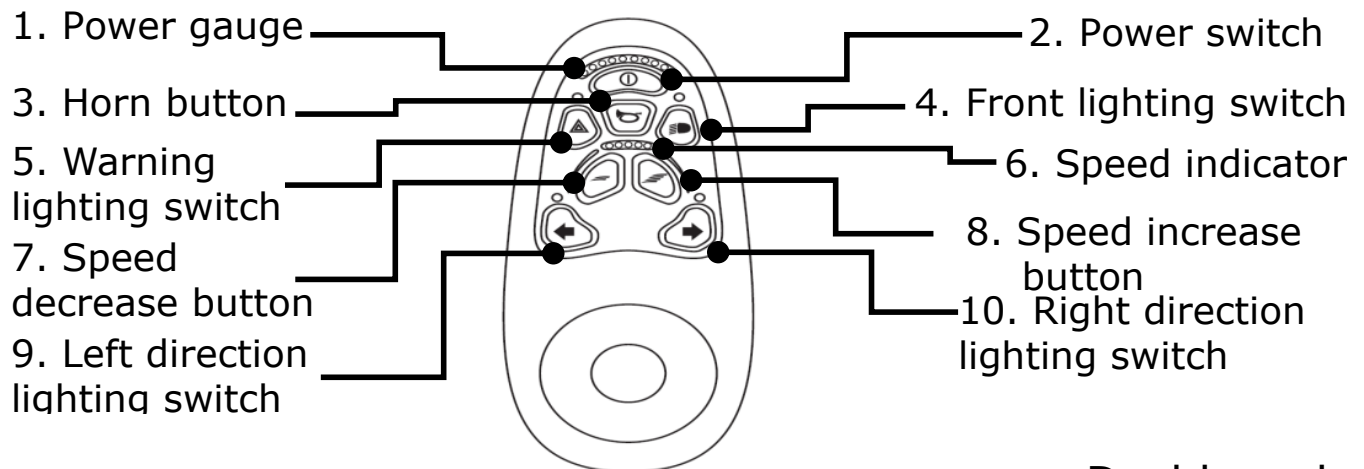
Visit your KYMCO Healthcare approved Dealer for examinations and maintenance if you spot any problems. They are qualified to check your Powerchair.

3. Introduction of Components



4. Operation

4.1 Dashboard



4.2 How to Use Powerchair

- **Power Switch**

Press the button once and the power gauge lights up (power turned on).
Press the button again and the power gauge goes out (power turned off).

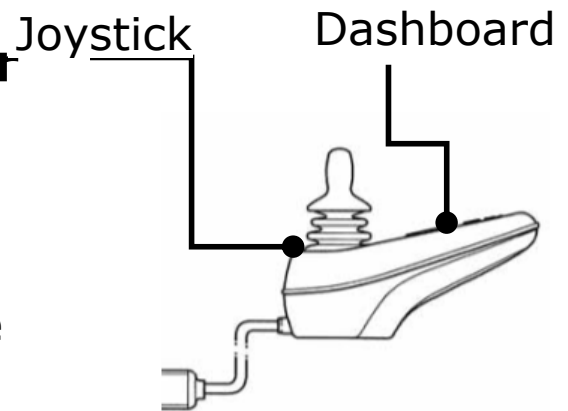
- **Speed Switches**



: Speed decrease button (the speed gauge is reduced by one level when this button is pressed once).

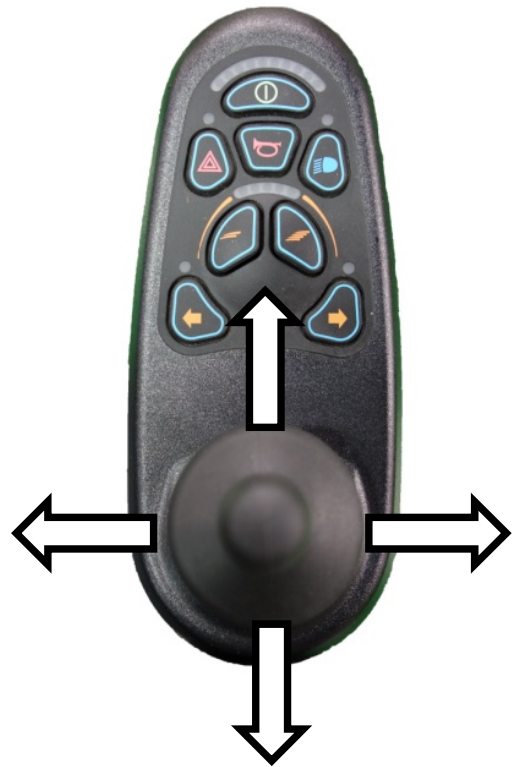


: Speed increase button (the speed gauge is increased by one level when this button is pressed once).



- **Operation**

1. Forward: push the joystick forward
2. Backward: pull the joystick backward
3. Turning left: push the joystick leftward
4. Turning right: push the joystick rightward
5. The electromagnetic brake takes effect and causes the vehicle to stop when the joystick is released from any of four directions operated (i.e. forward, backward, leftward, rightward).



- **Horn button**

The horn makes sound when this button is pressed and the horn is silenced when the button is released.

- **Warning light switch**

The front/rear direction light flash when turned on. When this switch is pressed again the light will go off.

- **Front light switch**

The front light is turned on when this switch is pressed and the lights go off when the switch is pressed again.

- **Left/Right direction light switch**

The left/right direction lights flash when turned on. When the switch is pressed again, the corresponding light goes off.

- **Brake**

The electromagnetic brake takes effect and causes the powerchair to slow down when the joystick is left to go to the neutral position.

4.3 Adjustments

• Battery Overload Protector

1. A Powerchair uses two batteries connected in series.
2. If the Powerchair is overloaded, the overload protector (100 A) pops out. Press the protector button back in, to turn on the Powerchair again (see Figure 2).
3. Turn off the Powerchair before resetting Overload switch.

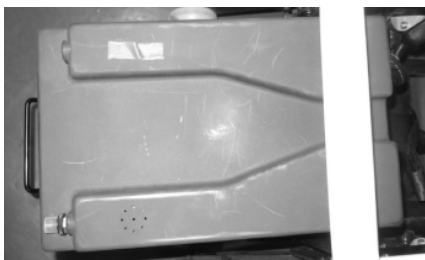


Figure 1

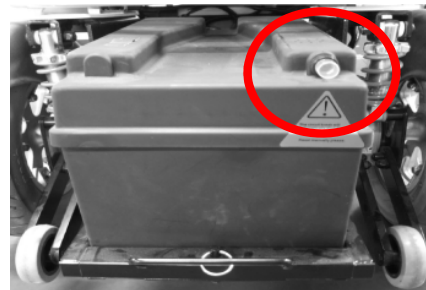


Figure 2

• Leg rests

1. Fold up the leg rests and remove the leg straps (see Figure 1).
2. Turn the leg rest shaft to 90° left and right (see Figure 2)
3. Turn 90° left and lift the leg rest to remove it (see Figure 3)



Figure 1



Figure 2



Figure 3

● Arm Rest



The height of the armrest can be adjusted when the flat knob handle screw is unscrewed.

Note:

● Unscrew the flat head knob screw to a degree that allows the armrest to be taken out easily. Do not put too force the screw or the plastic coat may be squeezed out.

● Controller Retractable Bar



The controller's retractable bar can be installed on either left or right armrest - unscrews the flat head knob screw and move it forward or backward until comfortable.

● Remove battery

Lift the latch and slide out the basket to remove the battery

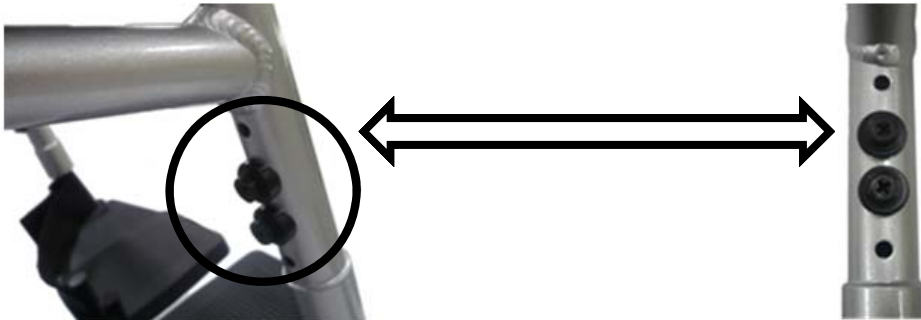


Latch lock
handle

Battery holder
handle

● Footrest Adjustment

The tube and adjustable aluminum stopper of the shaft are used for positioning the footrest to the correct height.

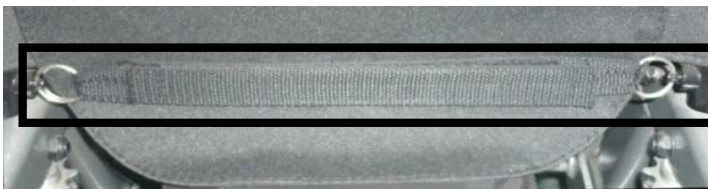


Unscrew the bolt in the legrest shaft to adjust the height of leg rests



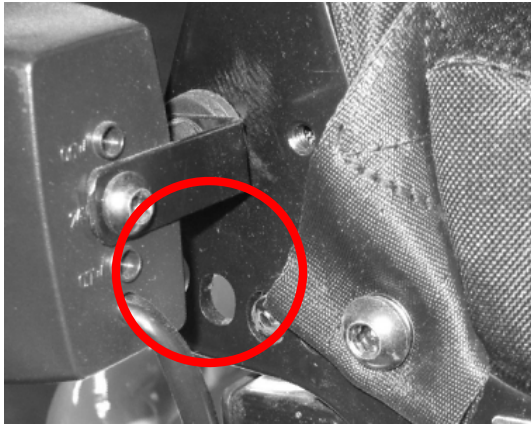
● Backrests

1. Install the strap on the backrest with latch.



(See left figure).

2. Install the plate on the sides of the vehicle structure.



3. The four holes on the plate are to be inserted with backrest latches after adjustments.
(See left figure).



Note:

- The backrest can be adjusted between 90°-120°.
- The backrest is adjusted with the four holes on the adjustment plate. These holes are at 10° increments.

4.4 Turning on and Driving

- 1.To maintain safety on your Powerchair, the control joystick should be adjusted to suit your most comfortable driving position.
- 2.If you are concerned with the remaining electricity available in the battery, check the power gauge and see if the power gauge is full.
- 3.Set a proper speed with the speed switch.
- 4.Move the vehicle forward, backward, leftward or rightward with normal operation of the joystick.
- 5.Check if the electromagnetic brakes work as intended.
- 6.Before driving on the road, check the safety of the surroundings and confirm that the safety belt is used properly.

(Correctly insert the tongue into the buckle as shown)

Note: Properly use the safety belt when driving	 Tongue Buckle
	

Note:

- Do not turn off the power during driving because it is similar to the effect of operating an electromagnetic brake while driving and may be dangerous.
- Do not place electric communication devices at the side of the joystick, as this may be dangerous.
- Drive carefully in busy traffic and crowded areas.
- Pay attention to any object or person around the vehicle when moving and reversing.

**Note:**

To freewheel the Powerchair, pull the lever to this position shown. The powerchair can now be pushed manually. When this action is taken never attempt to drive.

Note:

When the lever is turned to this position, the powerchair is in drive mode and can be operated electrically but not manually.



4.5 K-ACTIV Transportation & Securing Points

The K-ACTIV powerchair has provision for 4 tie-down points in the main frame, for securing it during transportation in motor vehicles. The powerchair should not be occupied during transportation. The tie-down points are clearly labeled for easy identification .



Guide for securing the K-ACTIV using the provided 4 tie-down points:

- Ensure the powerchair is facing in a forward direction in the motor vehicle.
- Only secure the tie-down strapping to the designated points labeled with the anchoring symbols . Make sure the straps are tight and that there is no slack present in any of the tie-down strapping.
- Never use any adjustable, moving or removable parts of the powerchair for fixing and securing purposes, such as footrests, armrests, backrests or wheels etc.
- Seek advice from your anchoring system provider on how best to attach the tie-down system correctly to your motor vehicle.



5. Recharging and Battery

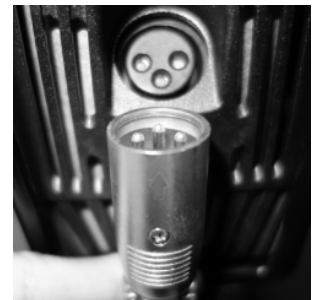
5.1 Recharging Battery

Complete the following procedures:

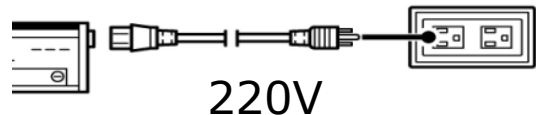
1. Turn the charger power switch to "OFF" (as shown in the right figure)
2. Connect the round pin of "24V output cable" of charger to the charging socket under the joystick.
3. Connect the "220V cable" to the charger socket and household socket".
4. Turn the charger "ON" (see right figure)
5. The charging process starts when the red power indicator of the charger and orange charging indicator light up.



O→Turn



Charging
socket 24V



The charging process normally lasts for 8 hours, sometimes it may become 8~12 hours (the battery status is related to the temperature of environment, refer to 5.4 "Battery").

6. The charging process is complete when the charging indicator turns from orange to green.
7. Turn off the charger and remove the "24V output cable" from the charging socket.



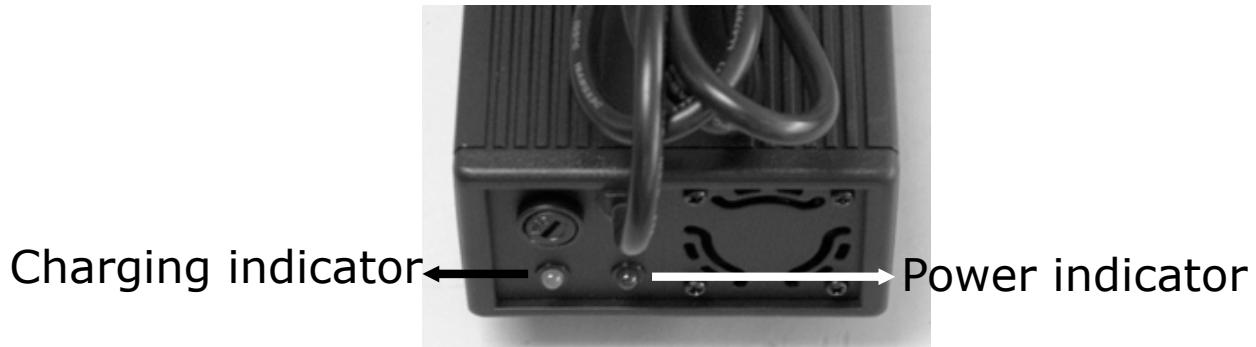
--→ Turn On

Note:

- Do not remove the "24V output cable" before the completion of charging. The life of the batteries may be significantly reduced or even be damaged if the battery is frequently used after inadequate charging. Please ensure that the batteries are fully charged.
- Do not interrupt the charging process before the batteries are fully charged.
- If the "24V output cable" is not removed when the charging process is complete, the electricity will be slowly consumed even if the power of the charger is cut off.
- The batteries should be fully charged before use if the Powerchair has not been turned on for a long time.
- The time required for charging varies with the temperature of environment: it is longer in winter than in summer.
- Only the original KYMCO Healthcare charger should be used and the batteries should be fully charged. Failure to do so may cause damage to batteries.
- Unauthorized disassembling and modification of the charger is prohibited.
- Charge the batteries at a location with good ventilation. Do not expose the charger to direct sunlight or places with high humidity such as the presence of rain or dew.
- Do not cover the Powerchair with raincoat or other impermeable objects when charging.
- Do not charge at a temperature lower than -10 °C or higher than +50 °C or the charging efficiency is affected, or even causes damage to the batteries.
- Keep away from flammable objects when charging to avoid the risk of fire or explosion.
- Do not smoke during charging because the batteries generate oxygen and hydrogen. Charge the batteries in a well-ventilated area.
- Do not plug in or remove the "24V output cable" and pin connector of the charger with wet hands, or plug in or remove these objects when they are wet because of the risk of electric shock.

5.2 Charger

The red and orange indicators light up when charging, the orange indicator turns to green when the battery is fully charged.



5.3 Power Gauge

1. When the power gauge is reduced to the last level when the power is turned on, the batteries are short of electricity and require charging immediately.
2. When the power gauge is full, it is okay to drive.
3. Power consumption depends on the time and method of driving. For example, repeated turning, stopping and starting or climbing hills requires more power.

Note:

- The cooling fan in the charger should be operating when the power switch of the charger is turned on. Do not use the charger with a non-functional cooling fan.
- The charger should not be exposed to prolonged sunlight or placed on the ground for a long time. Maintain indoor storage at a cool dry place.

5.4 Battery

1. Do not charge or store the battery at a temperature lower than -10 °C or higher than +50 °C to prevent damage or reduced life of the batteries, secondary to icing or overheat.
2. The K-ACTIV Powerchair uses a closed lead-acid type battery which does not require electrolyte supply at maintenance or battery substitution.
3. Do not use motor oil, gasoline, or solvents when cleaning the battery. Use wet clothes instead of dry clothes to prevent static discharge. Wash with copious water if any electrolyte fluid gets onto skin or clothes.

● **Cleaning the Battery**

The battery undergoes rapid discharge when it comes into contact with dirty water, sulfate solution, dust or other waste. To clean using the following procedures:

1. Turn off the power off.
2. Remove the seat and clean any dust.
3. Remove the lid, and any lighting pin connectors.
4. Clean any soiling with a clean cloth.
5. Avoid short-circuiting of the battery pins during disassembling and take out the batteries with caution.
6. Clean the surface of battery with a clean, wet cloth. Warm water should be used if the connector of the batteries are covered with white powder.

Note:

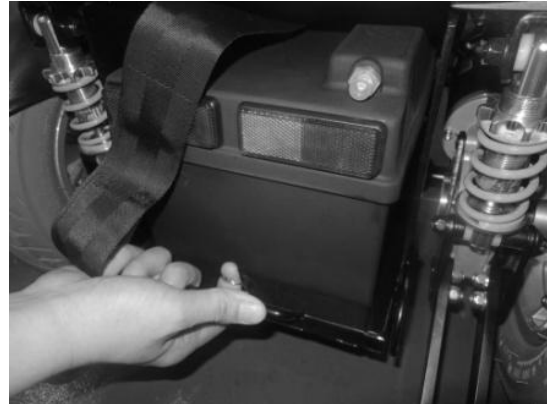
- When necessary, visit a KYMCO Healthcare approved Dealer to clean, maintain or replace the batteries.
- Check if the pins of the batteries and the jackets are installed as correctly.
- Do not use the batteries to charge other communication or electric devices.
- Battery capacity varies with the ambient condition: the driving distance is shorter in winter. Fully charge the batteries before use if the Powerchair has not been used for a long time.
- Both of the batteries should be replaced to avoid the new batteries being non-functional.

5.5 Battery exchange instruction

1. Pull out the third connector to disconnect the battery and power module:



2.Pull out the battery tray:



3.Open the cover of battery box, disconnect the cables:



4.Take out and exchange the batteries



5.Assemble the battery cables:



6.Put in the battery tray:

7. Plug the third connector to connect the battery and power module:



6. Tires

• Tire

1. Examine the tire pressure before use.
2. Examine for damage and cracking on the side surfaces of the tires.
3. Examine the depth of tread pattern and replace the tires with a depth of less than 0.5 mm.

Note:

1. Slipping may occur and longer braking distances when the depth of tread patterns is less than 0.5 mm. Replace the tires as soon as possible to avoid danger.
2. The tire pressure should be maintained at an optimal value of 2.3~2.5 kgf/cm².

7. Electromagnetic Interference (EMI)

Electromagnetic interference (EMI) may occur on your Powerchair, by the electromagnetic energy from radio stations, TV broadcasters, FM signal emitters, two-way wireless power sources and mobile phones. EMI will cause the control system of the Powerchair to lose function, leading to unintended start-up or random movements. In addition to the possibilities of accidental damage and injuries, EMI may cause permanent damage to the control system. All Powerchairs resist a certain degree of electromagnetic waves, i.e. immunity level, and have passed EMI testing of 20 V/m (the unit of measure for electromagnetic force) which means that it is immune to the possible and negative effects caused by typical EMIs.

Some of the electromagnetic fields can be avoided easily but some are not. You can reduce the risks of EMIs to minimum by gaining of the knowledge shown below:

- **EMI is generated by three major sources:**

1. Mobile radio transceiver (antennae attached)

For example, the transmission unit in the handheld transceivers used by traffic police or rescuers as well as the mobile phones and personal communication devices on the market are all examples of EMI sources.

Note:

Electromagnetic signals are typically emitted from transceivers when the power is turned on or during use.

-
2. Police cars, firefighting trucks, ambulances, taxis and other vehicles with antennae are equipped with middle-distance handheld transceivers.
 3. Commercial communication systems (radio and TV broadcasters) are examples of long-distance transceivers.

Note:

- Handheld transceivers, hand computer, AM/FM radio, TV, CD stereo and recorder and other devices or equipment may cause EMI.

- **Effects of EMI on the KYMCO K-ACTIV Powerchair**

The Electromagnetic effect becomes more prominent when the vehicle is driven in proximity of electromagnetic emitters and antennae, especially when the driver uses radio wave sources such as transceivers. Unexpected release of substantial electromagnetic energy leading to controller damages or failures may happen if wireless devices are used when driving. To prevent the dangers associated with EMIs, exercise caution for the following warnings:

Note:

- Your vehicle may be affected by equipment or devices generating electromagnetic force such as radio and TV broadcasters, two-way wireless communication devices and mobile phones. You can prevent your vehicle from uncontrollable operations or brake failures by respecting the following precautions:

1. Do not use mobile radio transceivers such as wireless interphones, mobile phones and personal communication devices, and avoid turning on these devices on.
2. Keep away from radio or TV broadcasters
3. To ensure safety, turn off the power when there are unintended operation and brake failure.
4. Using non-original components may cause the vehicle to be affected by EMI (it is difficult to estimate the effect of EMIs on your vehicle).

8. Maintenance and Troubleshooting

8.1 Maintenance

1. Frequent maintenance is required for your Powerchair if driving on grassy, sandy or graveled roads.
2. To prevent damage to electrical components and computer units, the Powerchair should be cleaned with cloths lightly dampened with water (not soaking wet) or motor oil but not chemical solvents.
3. Examination and service should be carried out by your KYMCO Healthcare approved Dealer. Unauthorized self-maintenance or self-service may lead to unwanted damage.
4. Do not clean Powerchairs with water. Clean the vehicle with soft, clean cloths soaked in neutral or mild cleansing agents.
5. Do not knock or smash the controller and joystick.
6. Do not expose the Powerchair to extreme heat, cold or humidity.
7. Ensure that all cables are connected as intended.
8. Clean the vehicle structure and back rest cushion with soft cloths. Do not use cleansing agents to clean controllers, battery chargers or other power connectors.
9. Use original type batteries only. Replace the batteries by visiting your KYMCO Healthcare approved Dealer.
10. Turn off the power of controller and examine for any damage. The joystick should go back to the neutral position when released. Examine the rubber pad under the joystick. Contact your KYMCO Healthcare approved Dealer if you experience any problems.

-
12. Examine the surface of controller for any wear, or exposed wires. If you spot any problem, contact your KYMCO Healthcare approved Dealer for service. Do not carry out any form of service by yourself!
 13. Ensure that all cables are connected correctly. Take care not to force or over tighten any connecting plugs.

Note:

- Before vehicle maintenance, turn off the power and remove the "24V output cable" of the charger.
- Do not clean with water jet spray, as this is very likely to lead to malfunction of the electric circuits.
- Do not use gasoline or volatile solvents as they may affect the surfaces of the vehicle or cause damage.
- Do not apply vehicle wax.

8.2 Parking

- **Your K-ACTIV Powerchair should be parked under the following conditions:**

1. Check that the power is turned off.
2. Do not park at a place where it will be exposed to direct sunlight, rainfall, or dew.
3. If the vehicle is to be parked for a long time, remove the battery cables, after receiving a full charge.

8.3 Troubleshooting

- Visit your KYMCO Healthcare approved Dealer for any failures or maintenance.
- ✂ You can perform the following examinations before contacting your Dealer:

Problem	Key of Examinations and Solutions
Motor is not operational	Is the power turned off? ↓ Turn the power on again Is the battery charged? ↓ Is the power indicator showing green - full? ↓ If not, charge the battery. Is the charger connected? ↓ Remove the charger and "24V output cable" Turn on the Powerchair again after charging
Examine joystick	Are there abnormal sounds or loosening of the joystick when pushed forward or pulled backward?
Examine lighting	Turn on front/rear lights, check if they light up as intended and see if there is dirt on the housing. Turn on front/rear warning lights, check if they light up as intended and see if there is dirt on the housing.

9. Specification Table

Model	<i>K-ACTIV</i> (Powered Wheelchair)
Length	1120 mm
Width	625 mm
Weight (battery included)	66/97 kg
Motor Output	450W
Battery	50Ah x 2pcs
Charger	24V, 5A
Drive System	Direct drive rear wheels
Brake System	Motor electromagnetic brake Hand brake
Front Wheel	2.80/2.50-4,PU Tire
Rear Wheel	3.00-8, Pneumatic Tire.
Method of Operation	Joy stick
Max Speed (Forward)	9.6 km/h
Max Speed (Backward)	4.0 km/h
Angle of Climbing	10°
Travel Distance (surface)	34 km
Swing Radius	555 mm
Maximum Load	158 kg
Vehicle Clearance	125 mm

User Manual for Powered Wheelchair
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