



## **AC-X-05 Mobility Scooter Operating Manual**



**Zatori Results Ltd.**

**[www.Zatori.ie](http://www.Zatori.ie)**

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# **I .INTRODUCTION**

Read and follow all instructions,warnings,and notes in this manual before attempting to operate your power wheelchair for the first time.If there is any information in this manual which you do not understand,or if you require additional assistance for assembly or operation,please contact with your authorized local provider.

Whether to use your product safely is up to whether you follow instructions,cautions and warnings in this manual.We are not liable for any damage and /or injures resulting from individual unsafe operation or failure to follow instructions,cautions and warnings in this manual.

These symbols below in this manual are used to identify warnings and important information. All of them are very important to your safety.It is strongly recommended that you should read and understand them completely.



WARNING! Failure to heed the warnings in the manual may result in personal injury.



ATTENTION! Failure to heed the cautions in the manual may result in damage to the powered wheelchair

To your safety, Please be sure to read all the operating instructions of the manual and follow them strictly when you use the power wheelchair for the first time. These instructions are fully for your vital interests. Comprehending the instructions is the basic protection for operating the wheelchair safely.

Once you really comprehend how to operate and maintain the wheelchair, we believe this product will bring you the service without worry and endless fun for year.

We will be appreciated to hear your suggestions for this manual and the evaluation to the safety, reliability of this product and the dealers authorized of this company.

## **II .STRUCTURE AND PERFORMANCE**

This scooter mainly consists of four parts: front body, rear body, seat unit and batteries (See pic.1 ).



Pic.1

Front body consists of controlle,handlebar and footrest .

Rear body consists of drive motor, brake, electric controller unit.

Seat unit consists of backrest ,armrest and cushion .

## **TILLER CONTROL**

**(see pic 2)**



Pic.2

### **a. Key switch**

Control power of the entire scooter.

### **b. Speed dial**

Adjust the maximum speed of the scooter, turn it clockwise to increase the speed.

Rotate counterclockwise to decrease the speed.

### **c. Power indicator**

Turn on the power switch, the meter will show the battery's power level, the green part indicates that the power is strong, the yellow part indicates that the power is weak, and the red part indicates that the power is very

low. The battery must be charged in time.

**d. Front light button**

Press this button to turn on the light, then press this button again to turn off the light.

**e. Horn button**

Press this button, the horn sounds.

**f. Left control lever**

Pull the lever backward with your left hand, the scooter moves backwards. The bigger the angle is, the faster the speed is. Slowly release the lever and the scooter will slow down. When it is fully released and the lever is reset, the scooter will stop and be in braking state.

**g. Right control lever**

Pull the lever backwards with your right hand to move the scooter forward. The bigger the angle is, the faster the speed will be. Slowly release the lever and the scooter will slow down. When it is fully released and the lever is reset, the scooter will stop and be in braking state.

\*If the user wants left lever forward, right lever backward, we can adjust the controller to achieve customer's request.

## The other Function:



pic.3

The yellow lever is the Manual brake lever.(see pic.3)

Move the position of the yellow lever,the brake can be controlled to switch between "electric driving" and "hand pushing" .

" Electric driving " : When the brake lever is moved backwards to the "closed" position, the scooter is in braking state and cannot be pushed. At this position, turn on the power,so the scooter can run normally.

"Push by hand": When the brake lever is moved forward to the "open" position, the scooter is in a brake release state and can be pushed. (This function can be achieved by pulling the handle whether the power is on or off, but in this position, the scooter cannot be drove.).

It is absolutely forbidden to push the brake lever forward to the " open " position(push by hand) when going



downhill, because there is no brake effect at this time to ensure the safety of the user and the electric scooter.

**Table1 SPECIFICATIONS**

<b>Overall size (LxWxH)</b>	<b>1080*490*940cm</b>
<b>Battery</b>	<b>24V 12AH</b>
<b>Scooter weight(N.W)</b>	<b>44kg</b>
<b>Maximum speed</b>	<b>0-8km/h</b>
<b>Brake</b>	<b>Electromagnetic brake system</b>
<b>Weight capacity</b>	<b>120kg</b>
<b>Ground Clearance</b>	<b>80mm</b>
<b>Tyres</b>	<b>Φ 197*64mm</b>
<b>Power of motor</b>	<b>24v 180w</b>
<b>Controller</b>	<b>24V 50A</b>
<b>Charger</b>	<b>DC24V2A</b>
<b>Max Grade Ability</b>	<b>12°</b>
<b>Running distance</b>	<b>16km</b>

### **III.ASSEMBLY**

For convenience of transportation and reduction of possible damage, the batteries and seat unit are separately packaged. So you need assemble them onto the main frame of your scooter.

#### **OPENING THE PACKING BOX**

Open the packing box of your new scooter ,and take off all protective liner ,and then take off the scooter that has folded from the box .

#### **ADJUSTING ANGLE OF TILLER**

- a.Loose the lock-nut ( see pic.4)
- b.Life the tiller up until a proper angle for yourself
- c.Tighten the lock-nuts to fix the tiller



Pic.4

## **ASSEMBLE THE SEAT SUPPORT**

Insert the seat support into the seat tube located on the rear body ( see pic.5 )

a.Align the bolt hole

b.Insert the bolt into the hole



Pic.5

## **BATTERY ASSEMBLY**

Put the batteries into the battery tray. Note that the electrode terminals on the batteries should be aligned with that on the rear body .Then , a battery platen on the rear body is turned by 90° to suppress the battery box , and then firmly tighten a knob on the platen.

### **NOTICE**

1. Check and clean the electrodes and remove any foreign bodies on them that may cause poor electrical contact .
2. Incorrect placement of the batteries may cause the scooter unusable.

## **SEAT ASSEMBLY**

1. Put the seat onto the seat post.
2. Unlock the seat lock level , adjust the seat toward the front and the lock level will automatically lock the seat .
3. Assemble the left/right armrests respectively into the square tubes below the seat.
4. Adjust the seat width between the armrests suitable for you , tighten the knob.

## **Basket ASSEMBLE**

1. Remove the two screws in the tiller. Assemble the

basket holder onto the tiller .

2.Assemble the basket into the holder.



**NOTICE :** The basket belongs to a optional accessory , and the customers who need it should make an additional order

#### **IV.COMFORT ADJUSTMENTS**



**WARNING! Pull out the power key before adjustment , never do it when driving.**

##### **SEAT HEIGHT**

- ◆ Pull up the seating fixing bar to release the seat .
- ◆ Pull up the seat .
- ◆ Remove the latch by pulling the latch-ring outward ( see pic.5 ) .
- ◆ Adjusting the seat height .
- ◆ Reload the latch .
- ◆ Reset the seat .

##### **SEAT ROTATION**

- ◆ Pull up the seat lock lever to release the seat.
- ◆ Rotate the seat to your desired direction.

- ◆ Release the seat lock lever, then it will lock the seat automatically.

### **ARMREST WIDTH**

- ◆ Find the fixing screws on the armrest adjusting frame.
- ◆ Release the screws .
- ◆ Move the armrests outward or inward according to your favorite width.
- ◆ Refasten the screws .

### **TILL ANGLE ADJUSTMENT**

- ◆ Loosen the lock knob on the lower end of the tiller.  
Adjust the tiller back and forth according to your favorite angle.
- ◆ Fasten the knob.

## **V.OPERATION**

### **How to drive this mobility scooter**

- a. Get on the scooter, pull the electric lock key and turn on the power.
- b. Hold the handle with both hands and slowly pull the lever backward with your right hand to move forward.
- c. Adjust the speed adjustment knob according to the road conditions, surrounding conditions and personal preferences.
- d. When you want to stop, you only need to release the lever with your right hand to return it to the neutral position, so you can stop it smoothly.
- e. When retreating, pay attention to the surrounding conditions. Pull the lever slowly backward with your left hand. When the left lever is released, the scooter can be stopped smoothly.

### **2.CHARGING BATTERIES**

The battery charger is important to the batteries . This off-board charger can charge your scooter' s batteries safely, quickly and easily.

**WARNING!** Your scooter' s batteries must be charged

with the off-board battery charger supplied by Exdo . Do not use any automotive-type battery charger.

### **Charging Batteries with the Off-board Charger .**

- ◆ You can charge your scooter in its entirety.
- ◆ Position your scooter near to a standard wall outlet .
- ◆ Lift the cover on the battery box.
- ◆ Ensure the scooter is off power.
- ◆ Plug the output connector the off-board charger into the 3-pin charger socket of the scooter .
- ◆ The red light on the charger turns on that indicates charging on .
- ◆ When charging is nearly finished ,the green light turns on.You should continue to charge the batteries for one or two hours.
- ◆ It is recommended that your batteries are charged for 10 to 12 hours .
- ◆ When the battery are fully charged , unplug the input connector of the charger from the wall outlet and then its output connector from the 3-pin charger socket of scooter .
- ◆ The batteries can also be charged off-scooter.





**\*Please turn off the power before charging.**

### **New Battery's Usage**

To break-in new batteries for maximum efficiency , please follow the notes here below :

1. Fully charge any new battery prior to its initial use.  
This brings the battery up to about 90% of its peak performance level .
2. Operate your scooter throughout house and yard.  
Move slowly at first, and do not stay too far until you can skillfully driving your scooter and know how to control the driving distance from the battery condition indicator .
3. Give the batteries another full charge of 10 to 12 hours and operate your scooter again. The batteries will now

perform at over 90% of their potential.

4. after four or five charging cycles, the batteries will top off at 100% charge and last for an extended period.

### **3. TILLER CONSOLE**

The tiller console houses all of the controls required for driving your scooter, including the key switch, the speed adjustment knob, throttle control lever, battery condition indicator, horn button and headlight button. With all of the controls on the console you can control various motions of your scooter.

Key Switch (see pic.2)

- ◆ Plug the key into the key switch.
- ◆ The light on the battery indicator illuminates.
- ◆ The light is off when the key is plugged out.



#### **WARNING!**

Do not use the key switch to stop your scooter unless an urgent event has happened.

**WARNING!**

If your scooter has stopped for a long period, power down it to prevent unintended motion.

Throttle Control Lever ( See pic.2)

This lever, which locates on the left side of the tiller console, allows you to control the forward or reverse speeds of your scooter up to the maximum speed you preset with speed adjustment knob.

- ◆ Push the throttle control lever forward to disengage the brakes and make the scooter start moving backward. Conversely, the scooter starts moving forward if pulling the lever backward .
- ◆ The larger the angle the lever is pushed, the faster the speed of your scooter .
- ◆ When you release the lever completely, it automatically return to the primary position, i.e. the stop position, and engages your scooter' s brakes to slow the scooter until it comes to completely stop.



**WARNING!**

**If your scooter occurs unintended motion , please release the throttle control lever immediately . The scooter will automatically come to stop unless this lever is out of order.**

**Speed Adjustment Knob (see pic.2)**

This knob allows you to preset and limit your scooter' s top speed . The maximum forward speed is 8 km/h and the maximum reverse speed 4km/h.



**CAUTION!**

**Before you are master of operating, please preset this speed adjustment knob to the lowest position .**

**Battery Condition Indicator ( see pic.2 )**

- ◆ When your scooter is powered up , this indicator shows the remaining capacity of the batteries by 3 color ranges on it : red, yellow and green .
- ◆ When pointing to green , it indicates that the batteries are fully charged .
- ◆ When pointing to yellow, it indicates that the batteries remain half of capacity, and they need to be recharged .
- ◆ When pointing to red , it indicates that the batteries have been fully discharged ,and they need to be recharged immediately.

**1. OFF-BOARD CHARGER ( see pic.3 )**

Open the hasp on the battery box, you can find a 3-pin charger socket.

Through it you can use the off-board charger to charge your scooter' s batteries. See Charging Batteries in this section.

Overload Protector ( See pic.3 )

The overload protector is a safety device. When the overload occurs , this protector automatically trip to protect the motor and other electric devices. When the protector trips , your scooter will be powered down immediately . And then you should wait a minute at least before you can press the button on the protector , which is under the cover at rear body of scooter , to resume it . After that you can power up again and drive normally .

## **2. MANUAL FREE-WHEEL LEVER**

There is a free-wheel lever at the low right of the seat. Whenever you do not want to move your scooter by motor , you can put it in free-wheel mode.

- ◆ Push forward on the manual free-wheel lever to disengage the drive motor and switch to the free-wheel mode.
- ◆ Pull backward on the manual free-wheel lever to engage the drive motor and switch to the drive mode .



### **CAUTION!**

- 1. When your scooter is in free-wheel mode, the brake system is disabled, and the functions of the throttle control lever are inhibited by the control system . Meanwhile , the horn sounds while the power is on .**
- 2. Never use your scooter in free-wheel mode without your attachment. Failure to do so may cause personal injury.**
- 3. Never put your scooter in free-wheel mode on any incline. Failure to do so may cause personal injury.**

**WARNING! When scooter is in drive mode, the manual free-wheel lever must be in backward position, i.e. in drive mode , so as to guarantee the brake system to work normally. Disallow to push the lever to forward position in movement. Failure to do so may cause personal injury or damage to your scooter .**

### **3.3-PIN CHARGER SOCKET ( see pic .3 )**

This socket is used to connect to the charger. When the batteries are charged, this socket makes your scooter out of work.



### **WARNING!**

**A wrong connection may cause damages to the charger.**

## **VI.MAINTENANCE**

### GENERAL GUIDELINES

- ◆ Avoid knocking or bumping the tiller console and consoles.
- ◆ Avoid prolonged exposure of your scooter to extreme conditions, such as overheat, cold or moisture.
- ◆ Keep the tiller console clean.
- ◆ Check all connectors to ensure that they are tight and secured properly.
- ◆ Check all electrical connectors including the charger's connectors. Make sure they are all tight and are not corroded. Batteries must sit flat in the battery tray with the battery terminals facing backward and forward each other and with 3-pin charger socket backward.
- ◆ When you finished everyday usage, please pull out the key to reduce unnecessary consumption of the power.
- ◆ This product has the power saving facility, when you stop using it up to 20 minutes, the power will shut off automatically. When need drive again, please re-plug

the key.

- ◆ The body shroud has been sprayed with a clear sealant coating, and you can apply a light coat of car wax to help it retain its high-gloss appearance.
- ◆ All wheel bearings are pre-lubricated and sealed. They require no subsequent lubrication.

For keeping your scooter in a better condition, it should be checked before using. It is suggested that your scooter should be checked once per week and half a year as the following table 2.

**Table 2 CHECK LIST**

<b>Check Items</b>	<b>At any time</b>	<b>Wee kly</b>	<b>Month ly</b>	<b>Six monthl y</b>
<b>All parts</b>			●	
<b>Turning, Driving, Devices etc.</b>		●		
<b>Brakes</b>	●			
<b>Connections</b>		●		
<b>Battery Charge</b>	●			
<b>Tire wear</b>			●	
<b>Motors</b>				●
<b>Console devices</b>		●		
<b>Clean</b>	●			



## **VII.SAFETY**

### **1. PRE-RIDE SAFETY CHECK**

- ◆ Check all electrical connections. Make sure they are tight and not corroded.
- ◆ Check all connections to the battery box. Make sure they are secured properly.
- ◆ Check the brakes. Make sure they are sensitive and reliable.
- ◆ Check the battery charge. See V Operation.

### **2. WEIGHT LIMITATIONS**

Your scooter is rated for a 75 kg weight capacity and is limited to a 100 kg maximum weight limit.



**WARNING! Exceeding the weight limit voids your warranty and may result in personal injury and damage to your scooter.**

### **3.INCLINE INFORMATION**



**WARNING! When climbing an incline, do not zigzag or drive at an angle up the face of the incline. Drive your scooter straight up the incline. This greatly reduces the possibility of a tip or a fall. Always exercise extreme caution when negotiating an incline.**

**WARNING! Don't driving up or down a potentially hazardous incline (Areas covered with snow, ice, cut grass, or wet leaves etc.).**

**WARNING! Never drive down an incline backward. This could cause personal injury.**

The maximum safe slope of an incline is of 8° for your scooter. If a slope is less than this angle, it is safety for your scooter whenever climb or descent.



**WARNING! Any attempt to climb or descent a slope steeper than 8° may have your scooter unstable and cause it to tip, resulting in personal injury and/or damage to your scooter.**

#### **4. OUTDOOR DRIVING SURFACES**

You scooter is designed to provide optimum stability under normal driving conditions-dry, level surfaces composed of concrete, blacktop, asphalt, or hard dirt. But you should avoid driving on the following roads:

- ◆ Surface that you feel unsure about or soft pavement.
- ◆ Tall grass that can become tangled in the running gear.
- ◆ Loosely packed gravel and sand beach.

## 5. MANUAL FREEWHEEL MODE

Your scooter is equipped with a manual freewheel lever that allows the scooter to be manually pushed by your attendant. For more information, see V “Operation” .



**WARNING! Do not use your scooter in manual freewheel mode without an attendant present. Failure to do so may cause personal injury.**

**WARNING! Do not attempt to place your scooter in manual freewheel mode while seated on it. Personal injury may result. Please ask an attendant for assistance if necessary.**

**WARNING! Do not place your scooter in manual freewheel mode while on an incline. The scooter could roll uncontrollably down on its own, causing personal injury.**

## 6. ELECTROMAGNETIC INTERFERENCE

Electrical devices may be affected by Electromagnetic Interference (EMI) or Radio Frequency Interference (RFI) that are produced by radio waves from radio stations, TV stations and other radio transmitters. Like any electrical devices, your scooter may be affected by EMI/RFI. Especially, when your scooter is driven in the interference influence range of these radio transmitters. In this case

your scooter may be out of order due to their interferences.

## 7. TRANSFER ONTO OR OFF SCOOTER

To avoid an injury, the following safety precautions are useful for you while you attempt to transfer on or off your scooter.

- ◆ Remove the key from the key switch, see V. OPERATION.
- ◆ Ensure your scooter is not in manual freewheel mode. Flip up or move away the armrests.
- ◆ Reduce the distance between you and your scooter or an object you are transferring onto.
- ◆ Turn the front wheels forward to improve your scooter's stability during transfer.



**WARNING! If unintended motion occurs due to EMI/RFI. Please immediately turn your scooter off and contact your authorized Inlowa provider. Inlowa Corporation is not liable for any damage and/or injuries due to failure.**

## 8. Inclement Weather Precautions



**WARNING! Do not operate your scooter on slippery roads with ice or snow. Failure to do so may cause you injury and affect the performances of your scooter.**

**WARNING! Do not expose your scooter to any type of moisture at any time (rain, snow, mist or wash). Such exposure will damage your scooter. Never operate your scooter if it has been exposed to moisture until it has been dried thoroughly.**



**WARNING! Before transferring, position yourself as far back as possible in the scooter seat to prevent the scooter from tipping and causing injury.**

**WARNING! Avoid putting all of your weight on the armrests. Failure to do so may cause your scooter to tip, resulting in your injury.**

**WARNING! Avoid putting all of your weight on the footplate. Such use may cause your scooter to tip, resulting in your injury.**

## **VII.WARRANTY**

All of design and production processes of Inlowa products are managed in accordance with ISO 9001 to guarantee their quality. Warranty service will be performed by the authorized Inlowa provider in cooperation with the Inlowa after-service department.

### **WARRANTY INCLUDING**

1. Five years warranty on the front and the rear main frames from the date of purchase.

2. One-year warranty on the following parts from the date of purchase from the date of purchase:

- ◆ Electric control system and the controller.
- ◆ Motor/gearbox assembly.
- ◆ Charger.

3. Six-month limited warranty on batteries from the date of purchase.

### **OUT OF THE WARRANTY**

- ◆ ABS Shroud worn out.
- ◆ Tires.
- ◆ Upholstery and seat.
- ◆ Damage caused due to abuse misoperation, accident and negligence.

- ◆ Damage caused due to improper operation, maintenance and storage.
- ◆ Business or other non-normal use.