

INSTRUCTION MANUAL



XO-101 POWER STAND UP WHEELCHAIR

KARMAN HEALTHCARE INC.

City of Industry, CA 91748

www.karmanhealthcare.com

*Karman Healthcare Inc. Recommends Patient Seek Physicians Counsel Prior to Purchase

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XO-101 Series



- | | |
|---------------------------------|-----------------------|
| 01 Backrest | 08 Armrest |
| 02 Chest Strap | 09 Side Panel |
| 03 Controller | 10 Seat Belt |
| 04 Hand Rim & Rear Wheel | 11 Leg Straps |
| 05 Wheel Lock | 12 Gas Spring |
| 06 Anti-Tippers | 13 Control Box |
| 07 Footrest | 14 Heel Strap |

Chapter I. SAFETY TIPS

I-1. Standing

Attention:

- Before you use the standing wheelchair, you should be familiar with the operation and the functions of the XO unit's parts.
- When using the standing functions, use only in the standard household and/or hard even ground conditions. Do not use when the ground is wet or slippery.
- In case of a staircase, the stand up wheelchair must be carried by 2 people on the left and right hand side.
- When the user leaves the standing wheelchair, he/she should not use their feet to push from the footplate to avoid danger.

WARNING:

Maximum weight limit should not exceed: XO-101: 250 lbs.

I-1-1 Standing up stresses your body in ways you may not be used to. Therefore, we recommend you consult with your doctor or physical therapist before using the stand up wheelchair.

I-1-2 Before standing up, it is vital the knee support, safety belt, and chest belt are fixed correctly.

I-2 Wheels & Locks

Wheel locks are not designed to slow the stand up wheelchair down when it is moving. It holds the stand up wheelchair in place when it is at a complete stop. Always set both wheel locks when entering, standing up, or leaving the wheelchair.

I-3. Rear Wheel

I-3-1 Quick Release Axles

Make sure the wheel axles are all the way through before mounting the XO unit. If the release button is inside the frame, the wheels will release and the user will be in danger.

I-3-2 Pneumatic Tires

Check pneumatic tires weekly for proper inflation level that is listed on the tire sidewall.

I-3-3 Curbs, Inclines, and Ramps

Always practice with a healthcare professional or attendant before attempting to go towards curbs, inclines, or ramps alone. It is important for you to develop a safe technique that is suitable to your abilities.

WARNING:

Doing a “wheelie” (tilting the wheelchair backward to its balance point) can be dangerous, It is not recommended for you to perform this maneuver under any circumstances.

I-4 Armrests

Flip back Armrests

Never lift the wheelchair by the armrests. These parts are detachable and lifting the wheelchair by them may cause damage to the chair or injure the user.

I-5 Power Drive Attachments

Karman Healthcare Inc. standing wheelchair does not advocate the use of power drive attachments on any XO series wheelchair. The use of a power drive attachment on a XO series wheelchair alters its intended use. Installation of a power drive attachment is considered an alteration to the frame and voids the warranty.

I-6 Modifications

Making any unauthorized modifications or using parts not supplied by Karman Healthcare Inc. or any change to the wheelchair structure might make it unsafe and void the warranty.

Chapter 2. UNPACKING AND PREPARING THE STANDING WHEELCHAIR XO SERIES FOR USE

2-1. The original package contains the following components:

- Standing wheelchair with heel strap and chest belt
- Knee Support
- Charger
- Pump
- Oil pot
- User manual and tool for adjustments
- Option as ordered

2-2. To unfold the standing wheelchair, please proceed as follows:

- Remove any transport straps or transport guards.
- Grasp the wheelchair at the backrest and pull backward and then push downward up position to stop (Fig -1)
- Tighten both sides of the knob. (Fig - 2)
- Press the flip back arm rest forward (Fig-3)
- Connect the DC power cord to power socket of the battery. (Fig-4)

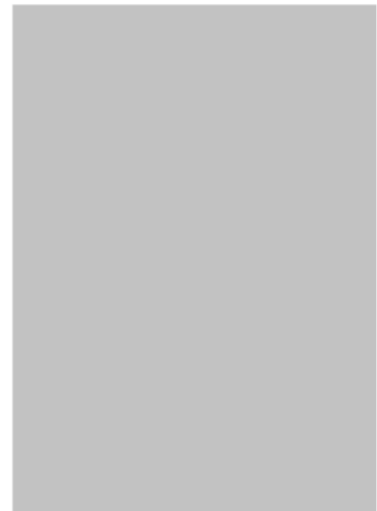
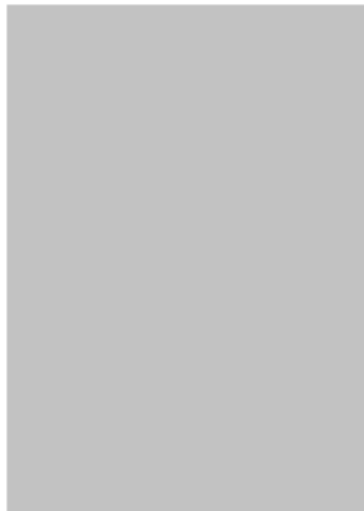
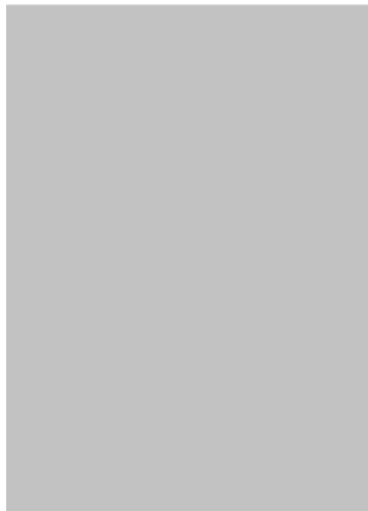


Chapter 3. ADJUSTMENT

Should you require adjustments and alterations to the mechanism of the wheelchair, or any maintenance work, please contact qualified technicians.

3-1. Adjusting the Seat Depth

- (1) Pull upward or push forward on the handle controller. Let the wheelchair frame rise over the rear wheel.
- (2) After loosening the screws on both sides of the seat depth, the seat depth can be adjusted using the various holes at 1" increments. (Fig 5-7)
- (3) Retighten the screws on both side. (Fig 8-9)



3-2. Adjusting the Backrest Height (Fig-10-13)

- (1) Remove the backrest padding.
- (2) After opening the screws, the backrest height can be adjusted in 2 cm increments.
- (3) Retighten the screws.



3-3. Adjusting the Footrest Height

The height of the footrest is adjustable. It should be adjusted to compliment your body proportions to guarantee the best and most comfortable standing position possible. Footrest adjustment should also take account of your choice of seat cushion. (Fig-14-16)



- After loosening the screws, the footrest height can be adjusted by using the different holes at 1.8cm. intervals.
- Retighten the screws. (not too tight)

3-4. Adjusting the Footrest Angle

- After removing the screws, the footplate angle can be adjusted by using a different hole at 10° incline angle. (Fig-17 & 18)
- Retighten the screws. (Fig-19)



3-5. Adjusting the Wheel Lock

Note: Make sure the pneumatic tires are properly inflated (level listed on tire side wall) before adjusting the wheel locks.

- Loosen the socket head cap screw on top of the clamp. Slide the mounting bar forward or backward and rotate it to the correct angle position. The knurl should be embed into the tire approximately 5/16" when in the locked position (Fig-20)
- Make sure to retighten the socket head cap screw.



3-6. Adjusting the Armrest Height

The most important safety features of the stand-up wheelchairs are the knee support, safety belt, and chest belt. It is essential that these features are correctly placed before you attempt to stand up.

3-6-1 The Knee Support

The knee support holds the knees in an extended posture and prevents you from slipping out the wheelchair while standing up.

Attach the two triangular form of the knee lock support to the double head screws on either side of the wheelchair (Fig-21)



Center the knee support in front of each knee by using the velcro fasteners then pull it until it is sitting firmly below the knee cap.



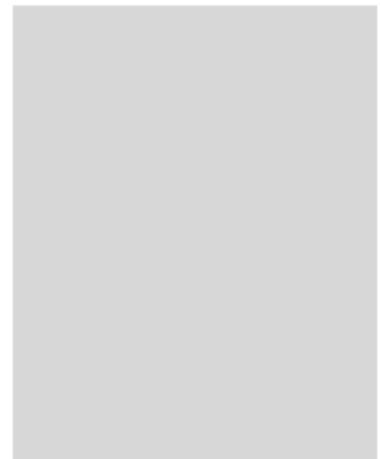
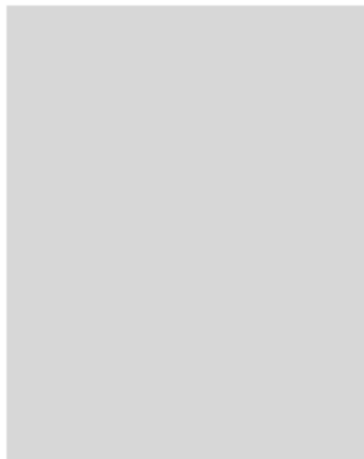
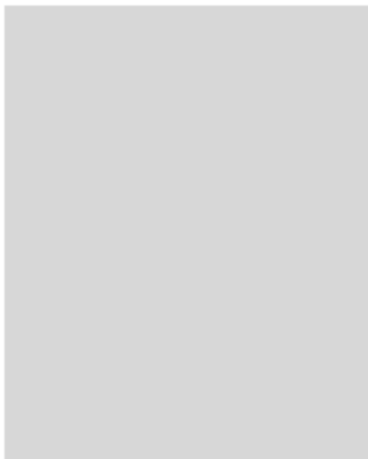
3-6-2 The Safety Belt

- The safety belt holds the waist in place.
- Make sure the safety belt is secure on the backrest of velcro fasteners.
- To release the safety belt, simply press the red button in the center of belt.
- To tighten, hold the belt at a right angle to the belt and pull.



3-6-3 Adjusting the chest belt (Fig 24-26)

- Make sure that the chest belt is secure on the backrest of the velcro fasteners.
- The chest belt is to hold the upper body (chest) in place.



3-7 Adjusting the Armrest Height

1. Release both left and right side of the knobs (Fig 27)
2. Release the left and right screws on the clamp. Adjust the clamp to upright position (height 7"-10") (Fig 28 & 29)
3. Retighten the screws of the clamp.

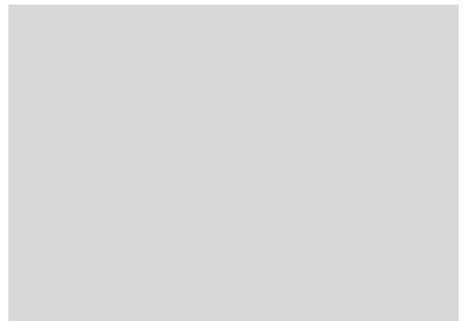


Folding the Backrest

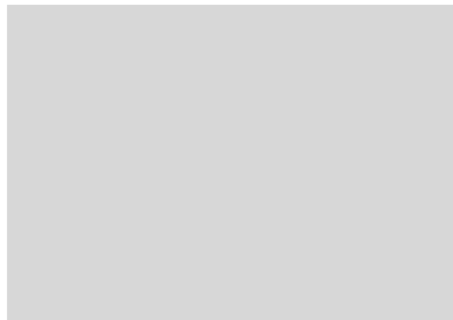
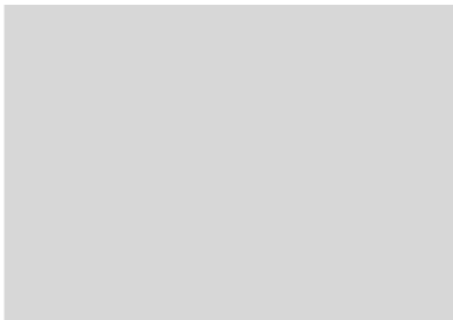
- Release the knobs (Fig 30)



- Pull the flip back armrest upward (Fig 31) standing position.



- Grasp the wheelchair at the backrest and pull upward and then push upward to stop (Fig 32 & 33)



3-8 The Quick Release Rear Wheels

- The quick release rear wheels can be easily removed (Fig 34).
- Press the release button in the center of the wheel then pull outward.
- When the wheel is mounted, push and pull several times to ensure the quick release axle has been locked in.



3-9 The Heel Strap

The purpose of the heel strap is to prevent the legs and/or feet from slipping backwards. It is placed behind the heels. It is possible to alter the velour fastening to adjust the length of the strap to find the ideal position for the feet on the footrest.



3-10 Gas Pring

The gas springs are designed to help hold your body weight to keep in in balance.

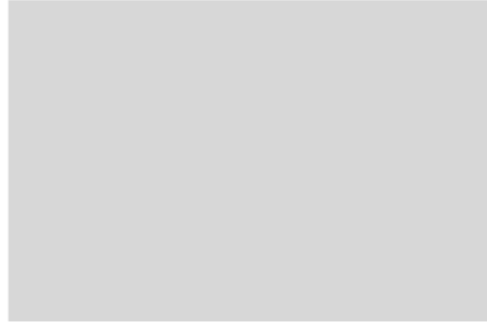
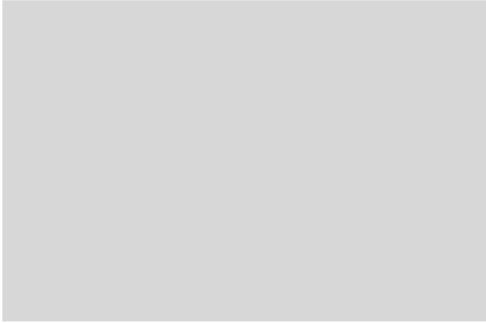
3-11 The Seat Cushion

The velcro fastners place on the surface of your seat allows you to attach the cushion securely. It prevents the cushion from slipping out of place even when you are standing up. The height of the footrest should be adjusted to take in account the height of a given seat cushion.

**** Once you are certain the steps have been completed, you are ready to stand up! ****

Chapter 4. Operating the Standing and Sitting Functions

1. First adjust and fix the knee support to suit the position. Make sure the two triangular form of knee support lock to the double head screws of frame (Fig 36 & 37).



2. Fix and lock in the safety belt (Fig 38)

3. Fix and strap on the chest belt (Fig 39)



4. Pull upward on the joystick button of the wheelchair controller to operate the standing up function.
5. Push downward the joystick button of the wheelchair controller to operate the sitting down function.

NOTE: Please make sure your hand is not under the stand up mechanism.

Chapter 5. Control System

5-1 Battery and Control Box Connection

The main electrical control system is composed of motor, control box, battery, and controller.


Connect the power cord of control box to the battery (Fig 40 & 41).



5-2 Battery Charge (Fig 42)

- 1. First connect the battery charge cords to the battery DC power socket. Make sure teh cord is securely connected.
- 2. Connect the AC power cord to the AC socket (100-240 V)
- 3. Make sure to fully charge your battery every time. Not charging it will cause the life span of the battery to diminish faster.

Battery capacity indictor color	Power condition
Green	Full power
Yellow	Low power
Red	Empty power



The Buzzers for Battery Capacity & Controller

Battery Power Indicator Color	Battery Capacity	Controller	Sound of Buzzer
Green	Full power	Switch ON Switch OFF (when not using for over 30 min)	Short sound one time
Yellow	Low power	Switch ON Switch OFF (when not using for over 30 min)	Short sound one time
	Empty power	Control mode Switch can only push downward (Safety mode)	Short sound continue for control time
Red		Shut down (must charge immediately)	Long sound one time and continuous short sound five times
<p>Note: If the energy indicator is yellow, charge the battery immediately. If you happen to be standing up without any power left, charge for approximately 5 minutes to enable the sit down function,</p>			

ATTENTION:

1. Battery can be used for 250 cycles (depending on the weight and condition)
2. New battery must be charge for over 8 hours.
3. Used battery must be charge for up to 8 hours (depending on the use).
4. Charge your battery from the battery charger provided by the manufacturer only.

Battery Troubleshooting Guide

When encountering issues with the standing function, battery, or power, view the below troubleshooting instructions

1. If the chair is not able to stand or sit, please make sure the battery is fully charged and the battery gauge indicates a fully charged unit. (refer to image 42, page 15 of the owner's manual). If no audible sound is heard when engaging the toggle switch (standing switch), it may indicate no power is being transmitted to the controller (ECU) or potential controller is damaged. Please inspect all cables, cable connections, and ensure there are no damage or kinks on the cables. If the chair continues to be non-responsive, please proceed to replace the controller to determine if controller or battery is at fault.
2. If the chair is able to stand or sit, and the battery gauge demonstrates a full battery, but no audible sound is heard when first engaging the chair after sleep mode (sleep mode is engaged for 15 min of no use), audible buzzer may be compromised. Replace is necessary.
3. If the chair stops the standing function during mid-stand or mid-sit, and battery is fully charged and indicated via gauge, it may relate to gas dampers requiring lubrication with oil on the metal strut. Please apply a lubricant such as a light weight oil (WD-40) to the chrome struts. Proceed to sit or stand the chair up to 5-10 times to ensure oil is distributed evenly throughout the struts.

Reactivating Battery

1. Battery may become low on power if unused up to a certain extent of time. Nickel hydride battery voltage should be 24V and above. If below, reactivating the battery may be required prior to replacing the battery unit.
2. To reactivate battery, please fully charge battery (indicated on gauge), and discharge immediately (recommend discharger to properly and safely discharge battery) to 21.5V and no more than 3A. Repeat this process 2 to 3 cycles in order to restore the battery.

Note:

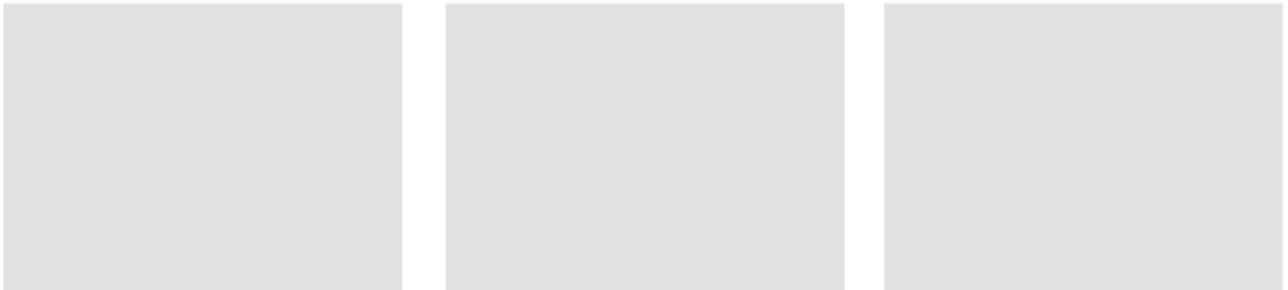
Normal condition when battery has 70% energy at temperature of 15 - 25 degree celsius

1. In one month, battery will be 35 - 40%
2. In two months, battery will be 20-25%
3. In three months, battery will be 15-20%
4. In 4-6 months, battery may remain 5%

XO-101 utilizes a nickel metal hydride battery (24V/4A), it will automatically discharge in time (higher temperature, the faster it will discharge. If not using the supplied original charger or using the battery when the voltage is lower than 21.5V, it may result in permanent damage.

Chapter 6. Maintenance

- When cleaning your XO series use a dry or slightly moistened cloth to wipe the wheelchair down. For stubborn or oily stains, apply a mild detergent to the cloth. Do not hose down your XO series with water.
- According to frequency of use, check tire pressure between once a week and once a month. If necessary, pump up the tires in line with manufacturer's recommendations.
- Check the state of the tread on the tires every one to six months. If a tire is heavily or unevenly worn, it should be replaced.
- Every one to six months, check that the brakes still work smoothly. Having applied the brakes, the wheels should stop turning completely. If the brakes are ineffective, they should be tightened up.
- According to frequency of use, lubricate the joint between one a week and once a month. (Fig-43- 45)



NOTE: This chair is not intended for users who have:

- Lower limbs joint contracture (absolute contra-indication)
- Instability on lower extremity joints
- Severe abnormal reflex (Lower extremities withdraw reflex)
- Total hip replacement (THR) and total knee replacement (TKR)
- Severe osteoporosis on lower extremities
- Severe postural hypotension

WARRANTY

Frame: 3 years	Electrical: 1 year	Parts: 6 months	Motor/Transaxle/Brake: 1 year
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1. Structural frame components including platform, fork, seat post and frame welds are warranted, to the original owner
2. To present a claim, Customer shall deliver the defective part for exchange or repair if possible to an Authorized Karman provider.
3. This warranty is for the replacement or repair, at the option of Karman Healthcare Inc., of defective parts only and does not cover any labor charges including, but not limited to, charges incurred for installation of replacement parts or additional fees, which may be imposed by Karman Healthcare Inc.
4. All warranty replacement parts are under warranty from the date of purchase of the original "product" and not from the date of part replacement.
5. This warranty is valid and enforceable only on "products" purchased in the United States and from a Karman provider.
6. This warranty is applicable only to the customer as an original purchaser of the "product" from an Authorized Karman provider and shall not apply to any subsequent purchaser, assignee or other recipient of the power chair from customer.
7. No provider or other similar person has any authority to make any warranties or representations concerning Karman Healthcare Inc. products, or to extend this warranty beyond the expressed terms contained within. Distributor assumes no responsibility for any warranties beyond the expressed terms contained in the warranty. Customer releases and holds distributor harmless from any claims stemming from any unauthorized representations.
8. This warranty does not apply unless the registration Card is signed, completed and returned within thirty days (30) from the date of purchase.
9. This warranty does not cover batteries or damage caused by battery leakage. The battery manufacturer covers warranty.
10. This warranty does not cover plastic covers, seat upholstery, tires, or armpads these are considered wear items.
11. All transportation costs and shipping damage incurred while submitting parts for repair or replacement are the responsibility of the original purchaser.
12. This warranty does not apply to any injury, loss, defect or malfunction of the "product" or failure to function resulting from any failure to operate or maintain "product" in accordance with the directions contained in the owners manual provided by Karman; or any injury, loss, damage or malfunction, or failure to function resulting from any accident, acts of God, alterations in the "product" by anyone other than the distributor, or misuse, unreasonable use, tampering, abuse, acts, omissions, failure or negligence by anyone other than the manufacturer.