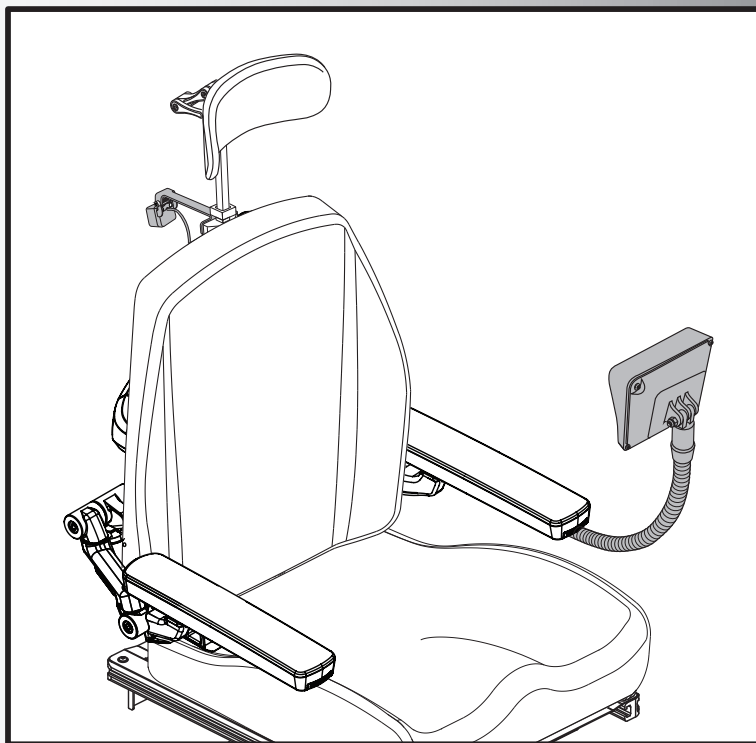
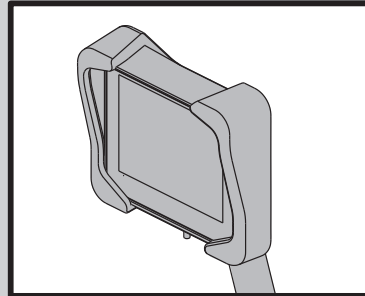
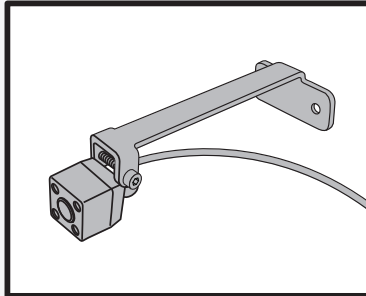




Quantum Backup Camera



QUANTUM[®]

PROVIDING GREATER INDEPENDENCE

WARNING!

A Quantum Rehab Provider or a qualified technician must perform the initial setup of this product and must perform all of the instructions in this manual.

The symbols below are used throughout this owner's manual and on the power chair to identify warnings and important information. It is very important for you to read them and understand them completely.

WARNING!

Indicates a potentially hazardous condition/situation. Failure to follow designated procedures can cause either personal injury, component damage, or malfunction. On the product, this icon is represented as a black symbol on a yellow triangle with a black border.

MANDATORY!

These actions should be performed as specified. Failure to perform mandatory actions can cause personal injury and/or equipment damage. On the product, this icon is represented as a white symbol on a blue dot with a white border.

PROHIBITED!

These actions are prohibited. These actions should not be performed at any time or in any circumstances. Performing a prohibited action can cause personal injury and/or equipment damage. On the product, this icon is represented as a black symbol with a red circle and a red slash.

Intended Use

This product is intended to aid the power chair user's awareness of their surroundings. It should only be used as a supplement and never be relied upon exclusively. The power chair user must always survey their surroundings to identify and avoid potential obstacles.

Regarding Devices for Prescription Use

WARNING!

CAUTION! Federal law restricts this device to sale by or on the order of a physician or other certified personnel licensed by the law of the State (US only) or region in which this personnel practices to use or order the use of the device.

NOTE: These instructions are compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased. The latest/current version of this manual is available on our website.

NOTE: This product is compliant with WEEE, RoHS, and REACH directives and requirements.

NOTE: This product meets IPX4 classification (IEC 60529).

NOTE: The Quantum Backup Camera and its components are not made with natural rubber latex. Consult with the manufacturer regarding any after-market accessories.



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NOTE: There are more warnings identified and explained in the Consumer Safety Guide that is included with your power chair. Please become familiar with all the warnings and safety information found in the Consumer Safety Guide and refer to this resource often.

NOTE: Please refer to the Q-Logic 3 Operation Instructions and the Consumer Safety Guide included with the power chair prior to making any changes to the pre-programmed parameters of the controller.

WARNING!

A Quantum Rehab Provider or a qualified technician must perform the initial setup of this power chair and must perform all of the procedures in this manual.

Always fasten the positioning belt when operating the power chair.

NOTE: Read the following warnings regarding backup camera use. Failure to heed may result in personal injury, property damage, and/or personal liability for backup camera misuse.

WARNING!

Do not use the backup camera's low light mode as a primary visual aid for driving at night or as a means of being visible to others.

The backup camera should only be used as a secondary means to assist with identifying obstacles and/or people in the path of the power chair to ensure safe navigation. Any misuse of the backup camera, including personal or corporate privacy violations, is expressly forbidden. Adhering to any regulations regarding camera usage is the responsibility of the power chair user.

Make sure that there are no persons, animals or objects in the area in which you are maneuvering.

Do not use backup camera when driving on uneven terrain or near stairs, ledges, or drop offs.

Do not use backup camera on any kind of ramp or incline.

Do not use backup camera in unfamiliar settings.

The backup camera should never be used as a visual aid or as a means of visibility.

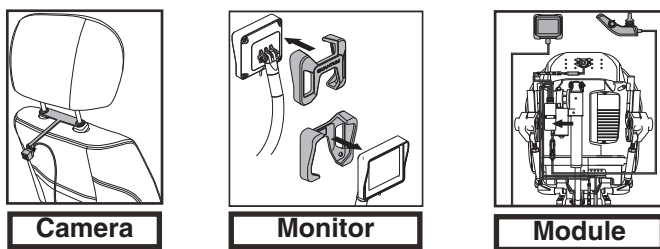
Never use the backup camera to make intentional impact with people or objects.

Always be aware of federal, state, local laws, and public and private rules set forth regarding camera use. NEVER intentionally use the backup camera to violate privacy laws in any way.

Please **read** and **follow** all instructions, warnings, and notes in this manual carefully before attempting to install your Quantum Backup Camera for the first time. Please consult your Quantum Technician if your camera is not working.

Please do not attempt to modify your Quantum Backup camera or components. Service should be done by an authorized provider.

The Quantum Backup Camera comes in three parts: one is the camera, one is the monitor, and the other is the module with connection cables. When you are about to install the backup camera be sure to place the camera in a secure location.



NOTE: The end user must follow the proper sequences to activate their desired input device.

NOTE: After installation, test the camera before using.

Quantum Backup Camera

This product is intended to aid in the environmental awareness of the power chair user's surroundings. This product is not intended to be used as a primary guidance device nor should it be solely relied upon to maneuver or operate the power chair. The user should only use the Quantum Backup Camera as a secondary means to confirm an object is potentially in their path, not to identify it. The Quantum Backup Camera is only an aid. It is not a replacement for your attention to your immediate surroundings. You are always responsible for safe maneuvering of your power chair. (See figure 1).

Please read through this manual before operating your power chair with your backup camera.

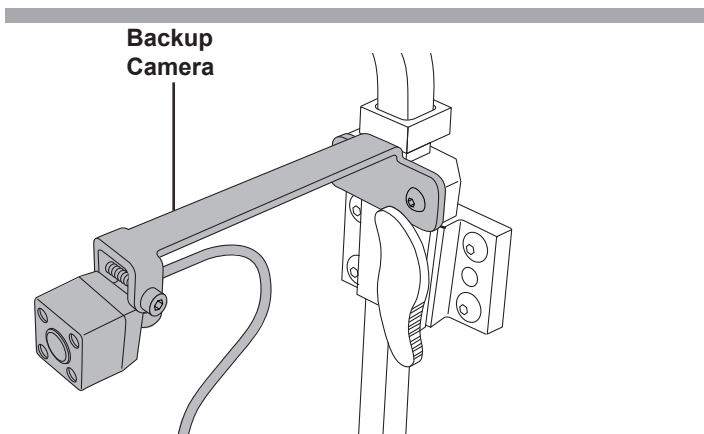


Figure 1. Camera (Optional)

Based on the setup and angle of the camera, the display may not show objects that are very close to the power chair. Caution should be taken, and adjustments made to the camera angle to suit your needs.

WARNING!

Check your backup camera functions properly, is correctly positioned, and securely mounted each time you operate your power chair.

Quantum Backup Camera Monitor

The Quantum Backup Camera is designed as an aid in detecting potential hazards. (See Figure 2).

The monitor can be turned on and off manually by using the external button. Once the monitor is turned on in this fashion, it will stay on until you turn it off with the button or shut the controller off. This will allow the user to have the monitor on while driving forward if desired. If the monitor is turned off with the button, then the system will be in automatic mode and can be activated in reverse again.

In automatic mode, tap the joystick in the reverse. This will activate the monitor without driving backward. Once the monitor is activated, you can check your surroundings and proceed backwards as needed. The monitor will have approximately 6 seconds before it will shut off unless you proceed to back up. If the monitor shuts off, tap the joystick again to turn it back on.

WARNING!

Never back up while looking only at the monitor display screen. Always make sure your driving area is clear to the best of your ability. Always back up slowly and with caution.

Never depend on the Quantum Backup Camera entirely while backing up. The image on the monitor may be different from actual conditions. Objects and distance will be skewed due to the camera's wide-angle lens.

To prevent screen damage, do not grab or pull the camera and/or screen.

Please be aware that even with the backup camera blind spots still exist, and can vary depending on location.

Do not use the backup camera unless the chair is in a safe driving position.

NOTE: The addition of an optional accessory to your TRU-Balance® 3 Power Positioning System may change the overall weight, size, and/or center of gravity to your power chair. Do not make any changes to your seating configuration without contacting you Quantum Rehab Provider.

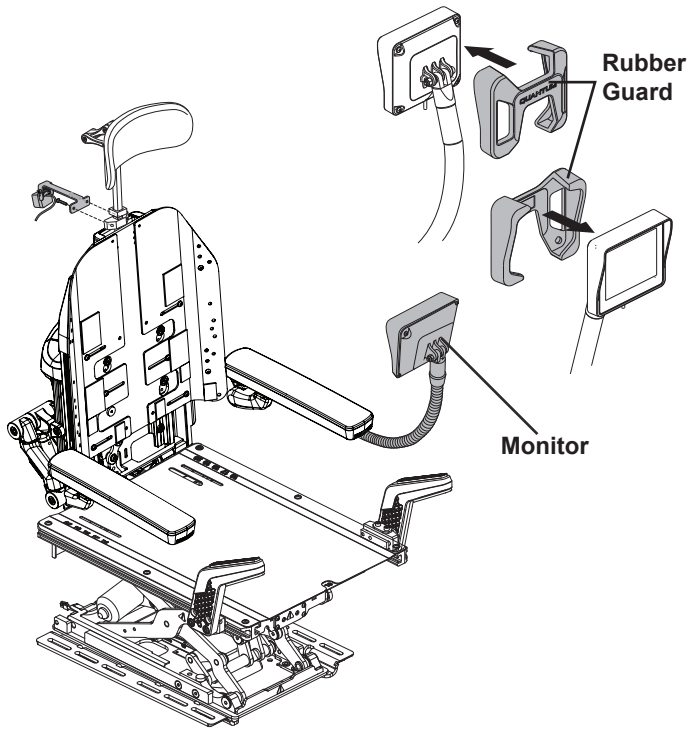


Figure 2. Monitor

NOTE: Your monitor is equipped with a rubber guard. See figure 2.

Multiple Mounting Locations

The Quantum Backup Camera can be mounted in multiple location, please make sure the view is optimal for the user. Offset locations may require additional care to operate.

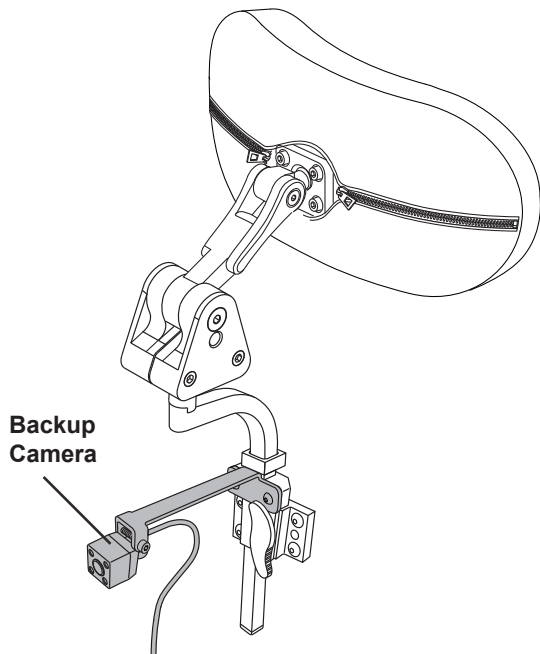


Figure 3. Rehab Headrest Bracket (Optional)

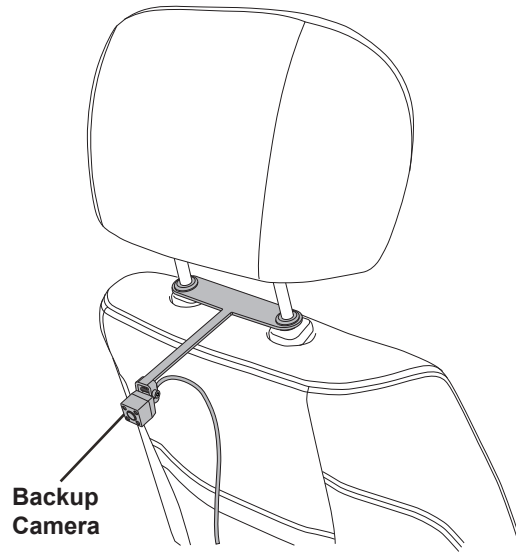


Figure 4. Captain's Seat Bracket (Optional)

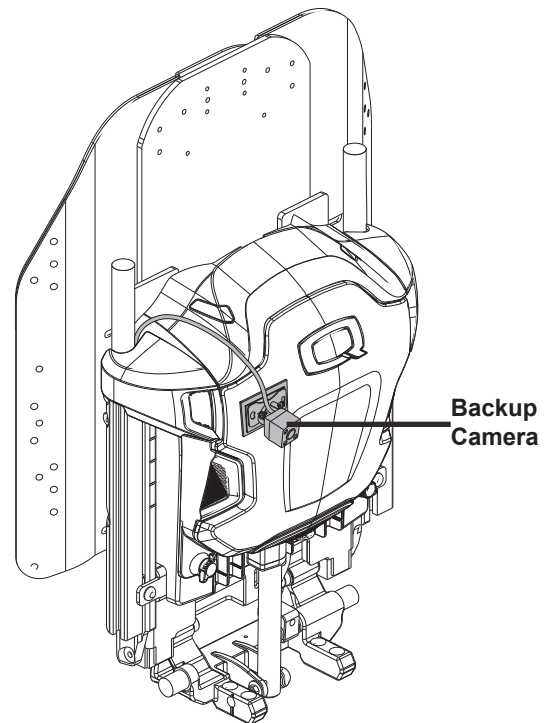


Figure 5. Reusable Hook and Loop Mounting Option

In the following cases, it may become difficult to see images on the screen even if the system functions correctly.

- The power chair is in a dark area, such as at night.
- Water droplets are on the camera lens or humidity is high, such as when it rains or is foggy.
- Foreign matter, such as snow, ice, slush, dirt or mud, adheres to the camera lens.
- The camera lens is scratched or has dirt on it.
- The sun or other lighting sources, such as headlights are shining directly into the camera lens.
- A bright object such as a white wall is reflected in the mirror surface over the screen.
- Weather conditions such as fog, ice, slush and dirt may cause poor visibility.

To prevent damage to the camera:

- The camera has a water resistant construction. Do not detach, disassemble and or modify it. This may cause incorrect operation.
- When washing the power chair, do not apply intensive bursts of water to the camera or camera area. Doing so may result in camera malfunctions.
- Check for interior condensation, or any sort of moisture on the inside of the camera lens. This can lead to camera malfunction contact an authorized provider for any repair.
- Take care so that organic solvent, car wax, window cleaner or glass coat does not adhere to the camera. If this happens, wipe it off as soon as possible.
- Make sure the lens is free from dirt and debris to protect screen damage.
- If your back up screen is dark, white, flashing or images do not appear on the screen it's likely the case that you could have a fraying wire or a faulty connection. Make sure all of the cables and connections in your backup camera are fully connected and contact an authorized provider for any repair.

 **WARNING!**

There is no audible indicator to warn of potential obstacles.

Check your backup camera functions properly, is correctly positioned, and securely mounted each time you operate your power chair.

Your backup camera is unable to view every obstacle of your drive path.

Your power chair must be driven slowly when using your backup camera to be able to stop in time when an obstacle is seen.

Always keep the camera lens clean. If the lens is covered with foreign matter, the backup camera may not operate normally.

This system is a supplementary function only. It is the responsibility of the user to always check their entire surroundings before and while backing up.

The display image may not be well lit or not entirely visible in low light.

Please keep the backup camera clean of debris and other obstructions. Use a soft cloth, or damp towel to clean debris from camera.

Visibility is reduced at night.

The backup camera cannot completely eliminate blind spots and may not show every spot.

If the Quantum backup camera is left on, it will reduce battery life.

Adjust the backup camera screen accordingly as too much glare on the screen may cause poor visibility.

Quantum Backup Camera Module with Connections

The Quantum Backup Camera is designed as an aid in detecting potential hazards.

Connect the camera, using the 4 pin cable to the module. Either of the two 4 pin connections on the module will work. Then mount the camera to the desired location. (See figure 6).

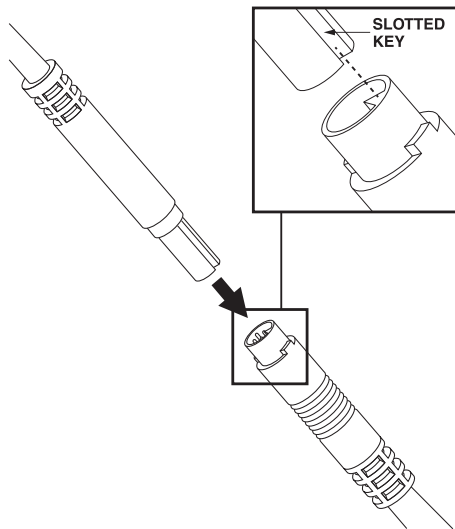


Figure 6. Connector

When running the connection cables, be sure to leave a small amount of extra cable to still be able to move the camera. (See Figure 7).

⚠ WARNING!

The single switch should be mounted in a location that is convenient for the power chair user and where the switch harness will not be caught in wheels or running gear, pinched in the seat frame, or damaged when passing through doorways.

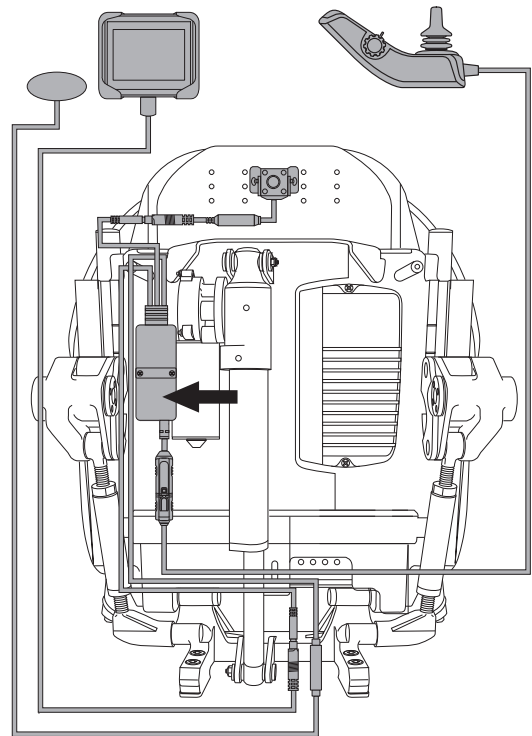
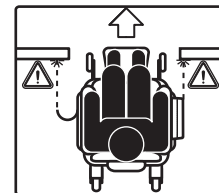


Figure 7. Module with Connection



⚠ WARNING!

Potential for damage in narrow areas.

Keep your hands, clothing and all other objects away from the tires when driving. Do not allow any personal belongings or objects to drag behind the power chair when driving. Be aware that loose fitting clothing or other objects can become caught in drive tires and/or they may become entangled in the running gear.

Make sure the camera lens is free from dirt or debris. Do not cover your backup camera lens with any accessories not approved for use by Quantum Rehab.

Error Codes

PROBLEM	POSSIBLE SOLUTION
Image on screen is dark	<ul style="list-style-type: none"> ■ Check to ensure camera lense if free of debris. ■ Adjust screen to see if to much natural light is on screen. ■ Make sure all of the cables and connections in your backup camera are fully connected. ■ Contact an authorized provider.
Image on screen is white	<ul style="list-style-type: none"> ■ Adjust screen to see if to much natural light is on screen. ■ Make sure all of the cables and connections in your backup camera are fully connected ■ Contact an authorized provider.
Image on screen is flickering	<ul style="list-style-type: none"> ■ Make sure all of the cables and connections in your backup camera are fully connected ■ Contact an authorized provider.
Image does not appear on screen	<ul style="list-style-type: none"> ■ Make sure all of the cables and connections in your backup camera are fully connected ■ Contact an authorized provider.

Care and Maintenance

Your power chair is a sophisticated power chair. Like any motorized vehicle, it requires routine maintenance checks. You can perform some of these checks, but others require assistance from your Quantum Rehab Provider. Preventive maintenance is very important. If you follow the maintenance checks in this section as scheduled, you can help ensure that your power chair gives you years of trouble-free operation. If you have any doubt as to your power chair's care or operation, contact your Quantum Rehab Provider.

WARNING!

Do not service the power chair when the seat is occupied.

Your power chair, like most electrical equipment, is susceptible to damage from the elements. Avoid damp areas of any kind.

WARNING!

Direct or prolonged exposure to water or dampness could cause the power chair to malfunction electronically and mechanically. Water can cause electrical components to corrode and the chair's frame to rust. Power chairs should be examined periodically for signs of corrosion caused by water exposure, bodily fluid exposure, or incontinence. Damaged components should be replaced or treated immediately.

Should your power chair come in contact with water:

1. Dry your power chair as thoroughly as possible with a towel.
2. Allow your power chair to sit in a warm, dry place for 12 hours to allow unseen water to evaporate.
3. Check the joystick operation and the brakes before using your power chair again.
4. If any inconsistencies are found, take your power chair to a Quantum Rehab Provider. Power chairs that are frequently exposed to sources of water, such as incontinence, should be inspected often for corrosion and electronic components may need to be replaced frequently.

Temperature

- Although your power chair can withstand short-term storage temperatures between -40°F (-40°C) to 149°F (65°C), it is recommended that long-term storage temperatures be between -13°F (-25°C) and 122°F (50°C). Ideal storage conditions are 68°F (20°C) to 70°F (21°C) wherever possible, but we realize that is not always feasible due to different climates and environments.
- In extremely cold temperatures the batteries may freeze. The specific temperature at which they freeze depends on a number of factors, such as battery charge, usage, and composition of the batteries (e.g., AGM or Gel-Cell).

General Guidelines

- Avoid knocking or bumping the controller, especially the joystick.
- Avoid prolonged exposure of your power chair to extreme conditions, such as heat, cold, or moisture.
- Keep the controller clean.
- Check all connectors to ensure that they are all tight and secured properly.
- Make sure pneumatic tires are inflated to the psi/bar/kPa air pressure rating indicated on the tire.
- Check all electrical connections. Make sure they are tight and are not corroded. Batteries must sit flat within the battery tray, with the battery terminals facing rearward. Refer to the battery wiring label for the correct wiring layout.

WARNING!

Even though the power chair has passed the necessary testing requirements for ingress of liquids, you should keep electrical connections away from sources of dampness, including direct exposure to water or bodily fluids and incontinence. Check electrical components frequently for signs of corrosion and replace as necessary.



Quantum Backup Camera

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