

# User Manual

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair  
with DeltaSense™ Technology

Model Number R100



INDEPENDENCE TECHNOLOGY  
a Johnson & Johnson company

INDEPENDENCE™  
**iGLIDE™**  
Manual Assist Wheelchair

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## *Congratulations*

Congratulations on your purchase of the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair with DeltaSense™ Technology. This manual contains the information you need to understand the features of the iGLIDE™ Manual Assist Wheelchair and its safe operation. Do not operate this equipment without first reading and understanding this manual. Improper use can result in injury or equipment damage. Please save this manual for future reference.

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair is intended to provide mobility to persons who are limited to a seating position and who are capable of operating a manual wheelchair.

DO NOT use this product if your weight exceeds 220 lbs (100 kg).

DO NOT use this product if you are not able to use both of your arms to propel yourself short distances of 10 feet (3 meters).

If, for some reason, your iGLIDE™ Manual Assist Wheelchair fails to function properly, notify us immediately so that we can resolve the problem as quickly as possible.

To speak with an Independence Technology Technical Support Specialist, please call the Technical Support Center. (See back cover for contact information.)

## Warnings

The "Warnings" in this manual are designed to call your attention to unsafe practices and hazards that may cause injury or death to you or other people. Please read these warnings carefully so that you can operate this product safely.

**GENERAL WARNINGS ALERTING YOU TO POTENTIAL HAZARDS ARE LISTED HERE, AND OTHER WARNINGS APPEAR AT APPROPRIATE PLACES IN THE MANUAL.**

### **WARNING!**

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair has appropriate water spray resistance, but **DO NOT** operate the wheelchair in very wet environments, such as heavy rainstorms or thunderstorms, showers, lakes, rivers, or oceans. Immersing the wheelchair in fresh or salt water (showers, pools, or beaches) could lead to electrical malfunction and risk injury to you or others. Also, **DO NOT** attempt to move up, down, or across an incline that is wet, slick, or icy.

### **WARNING!**

**DO NOT** use the iGLIDE™ Manual Assist Wheelchair if you are not able to propel, control, and stop a manual wheelchair. Unexpected loss of power or unintended movement may cause injury if you cannot control the wheelchair manually.

### **WARNING!**

**DO NOT** exceed the weight limit of 220 lbs (100 kg). This weight includes the rider and any objects carried in or accessories added beyond the standard components of the wheelchair. Exceeding this weight limit may lead to failure of the seat, frame, or fittings on the wheelchair and cause serious injury to you or others.

### **WARNING!**

Know your physical limits. Manual assist wheelchairs respond more quickly than manual wheelchairs. Improper setup can lead to a tip-over or fall, which can cause serious injury. Set up the wheelchair appropriately, paying particular attention to center of gravity (axle position), back angle, and footrest height.

### **WARNING!**

Manual assist wheelchairs respond to a push on the handrims. Turn the power OFF and engage the wheel locks when stationary or when transferring. If you or someone else pushes the handrim inadvertently, the wheelchair will move suddenly and may lead to serious injury.





## Overview

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair was designed to provide greatly improved mobility for people who use manual or powered wheelchairs. The iGLIDE™ Manual Assist Wheelchair works like a manual wheelchair; pushing on the handrims propels and controls the wheelchair. There is no joystick. For the most part, the techniques and skills for using a manual wheelchair will be the same for the iGLIDE™ Manual Assist Wheelchair. Adjustments for balance, seating position, back support, and most other options are like a manual wheelchair. You must be able to manipulate a manual wheelchair by means of the handrims in order to use the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair safely and effectively.

Before using your INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair, please read the entire manual thoroughly, paying special attention to all highlighted warnings. We suggest you keep the manual handy for reference.

Here are some things you should consider as you begin using your iGLIDE™ Manual Assist Wheelchair.

### ***If you have been using a conventional manual wheelchair...***

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair is different from a conventional manual wheelchair in some important ways.

The iGLIDE™ Manual Assist Wheelchair has electric motors that help drive the rear wheels of the wheelchair on a variety of different surfaces and terrains. You don't have to make any adjustments; the motors will automatically provide additional power to help you negotiate slopes, carpet, grass, or gravel.

You will notice that pushing the iGLIDE™ Manual Assist Wheelchair is easier than a conventional manual wheelchair. As a result, the chair may seem much more responsive than you are used to. We recommend that you take time getting used to the responsiveness of the wheelchair in a safe environment and, ideally, with the help of a healthcare professional.

At about 56 pounds (with battery), the iGLIDE™ Manual Assist Wheelchair does weigh somewhat more than a conventional manual wheelchair. If you have been using a conventional manual wheelchair, you or your assistant will have to adjust to the additional weight when transporting the wheelchair.

### ***If you have been using a conventional power wheelchair...***

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair is different from conventional joystick-controlled powered wheelchairs in the following important ways.

Although it is powered, the iGLIDE™ Manual Assist Wheelchair does not work like other power wheelchairs. The wheelchair must be moved, steered, and braked by means of the handrims. If you do not push on the handrim, the manual assist system will not engage. Therefore, you must be able to exert some force on the handrim in order to use the iGLIDE™ Manual Assist Wheelchair.

Because the iGLIDE™ Manual Assist Wheelchair needs to be pushed like a manual wheelchair, you should work up gradually to the increased muscular and cardiovascular activity associated with using the iGLIDE™ Manual Assist Wheelchair. Consult with your healthcare professional, especially if it has been some time since you used a manual wheelchair.

The iGLIDE™ Manual Assist Wheelchair battery is a Nickel Metal Hydride (NiMH) battery that is much smaller and lighter than typical power chair batteries. It is designed to last a typical full day on a single charge, although this may vary based on weight and surfaces traveled.

***If you have been using a power assist wheelchair...***

You will notice that the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair technology is integrated into the design of the wheelchair. You do not have to remove the motors along with the wheels on the wheelchair. See page 19 for directions on how to remove the quick-release wheels.

The iGLIDE™ Manual Assist Wheelchair has DeltaSense™ Technology, a patented system of microprocessors and sensors that measures a user's input and the resistance from the terrain, and automatically adjusts the power for a consistent ride with less manual effort. You will not have to change power settings. You will notice that the wheelchair will continue to "coast" even going up a grade or onto a carpeted surface and that the wheelchair will slow automatically going downhill.

Refer to Figure 1 for a full view of the iGLIDE™ Manual Assist Wheelchair and many of the parts described in the manual.

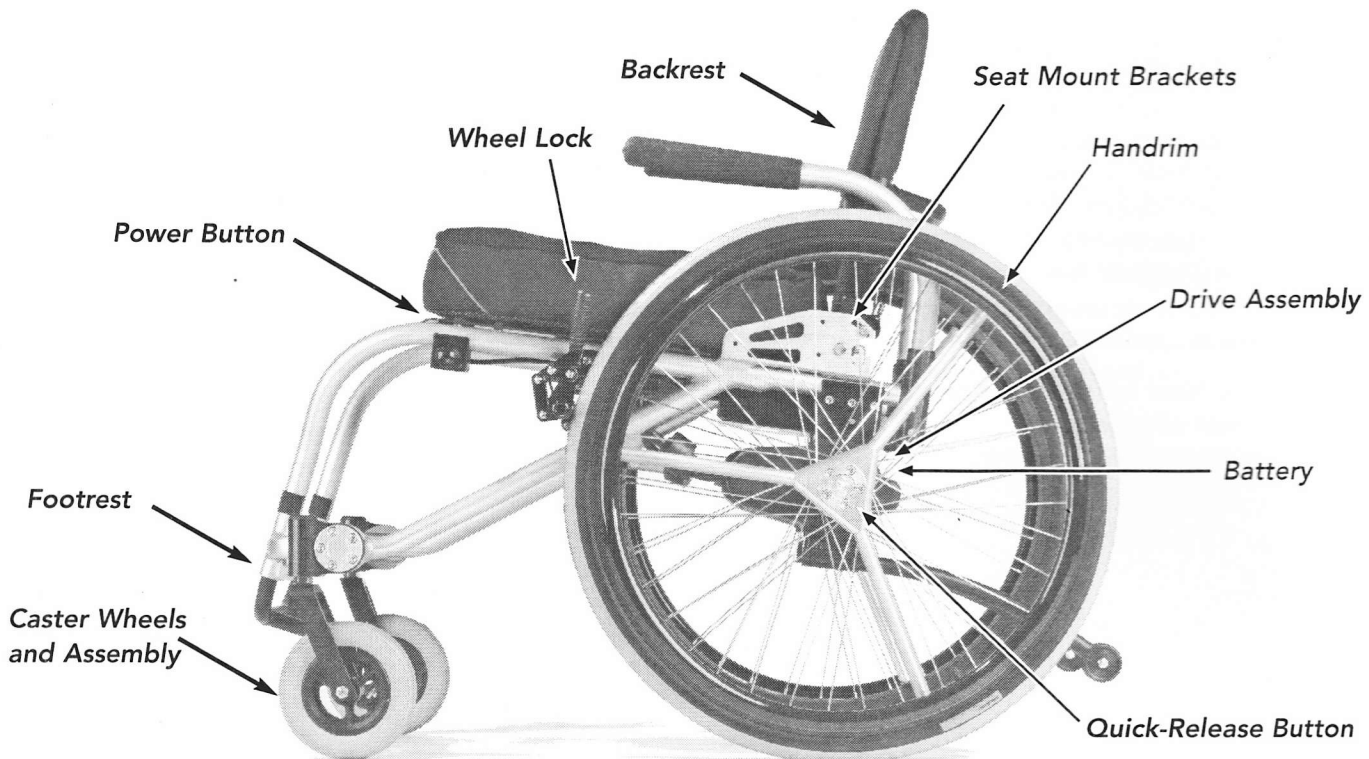


Figure 1: iGLIDE™ Manual Assist Wheelchair

## General Instructions

### **WARNING!**

Using an unfamiliar wheelchair without sufficient training may lead to injury! To determine and establish your particular safety limits, practice bending, reaching, and transferring activities in several combinations in a supervised environment BEFORE attempting active use of the wheelchair.

### **1. General Operation Guidelines**

- 1.1. Like any wheelchair, the following actions while using the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair could cause instability and result in tipping of the wheelchair:
  - moving forward in the seat
  - leaning over the top of the back upholstery
  - shifting weight in the chair
  - tilting the chair without assistance
  - attempting curbs or obstacles
  - climbing or descending slopes greater than 6 degrees
- 1.2. Like any wheelchair, the following alterations could result in increased instability of the wheelchair:
  - center of gravity adjustment
  - position of the footrests
  - tautness of the back upholstery
  - rear seat height
  - back angle adjustment

### **WARNING!**

BEFORE attempting to transfer into or out of the product, power the system OFF, and then every precaution should be taken to reduce the distance between the wheelchair and the surface you are transferring onto. Also, be certain the wheel locks are engaged to prevent the wheels from moving.

### **WARNING!**

When transferring into or out of the product, avoid placing your hands on the seat mount brackets located on both sides of the seat pan.

### **WARNING!**

Use EXTREME caution when using a new seating position for the first time.

### **WARNING!**

DO NOT use an escalator to move a wheelchair between floors.

### **WARNING!**

DO NOT operate on roads, streets, or highways except when absolutely necessary to cross them, and then do so only in a well-lit, controlled area and with extreme caution.

### **WARNING!**

It is possible for bolts and screws to work loose over time. Retighten all bolts and screws monthly. Failure to do so could result in personal injury or damage to your wheelchair.

### **WARNING!**

DO NOT attempt to move up or down an incline with a water, ice, or oil film.

### **WARNING!**

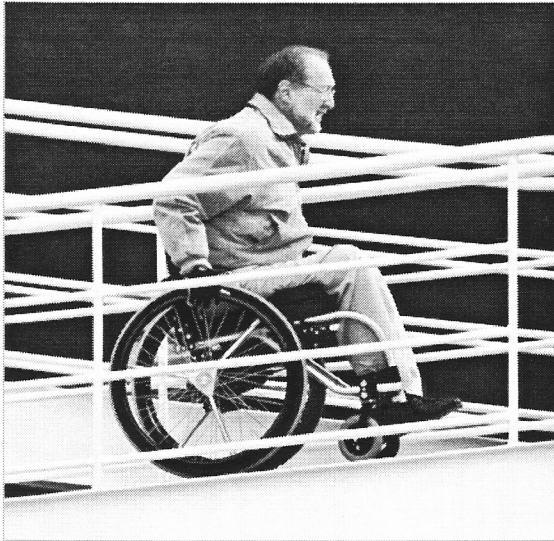
DO NOT use parts, accessories, or adapters other than those authorized by Independence Technology.

### **WARNING!**

DO NOT attempt to lift the product by any removable (detachable) parts.

### **WARNING!**

DO NOT stand on the frame of the wheelchair.



**WARNING!**

The supplied anti-tip devices should be used, especially while getting used to the iGLIDE™ Manual Assist Wheelchair. Without the anti-tippers in place, the wheelchair can tip over backwards and personal injury can occur.

**WARNING!**

DO NOT use the footrest as a platform when getting in or out of the wheelchair.

**WARNING!**

ALWAYS wear your lap belt if one is required for positioning.

**WARNING!**

DO NOT attempt to move up, down, or across an incline of more than 6 degrees.

**WARNING!**

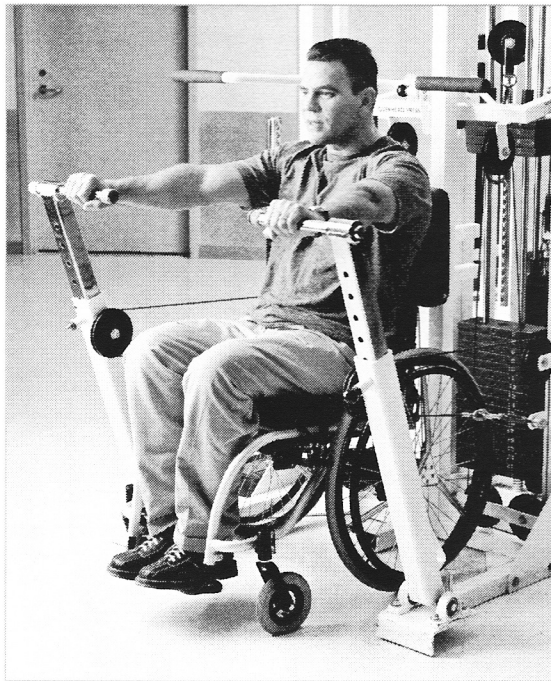
DO NOT allow clothing or other objects to come in contact with the wheel spokes. Failure to keep wheel spokes clear of objects could result in injury or damage to the product.

## 2. Weight Training

We realize the importance of exercise in providing overall health benefits, and we do not discourage participation in weight-training activities while in your iGLIDE™ Manual Assist Wheelchair.

**WARNING!**

To weight train safely and effectively in the iGLIDE™ Manual Assist Wheelchair, the following precautions MUST be observed: 1) Make sure the iGLIDE™ Manual Assist Wheelchair is turned OFF, secured down, and wheel locks are engaged before using any weight-training apparatus, 2) Overhead lifting CANNOT be performed in the iGLIDE™ Manual Assist Wheelchair, and 3) You must work with a qualified supervisor or spotter at all times. Failure to comply with all of these precautions can result in serious injury to you or damage to the wheelchair.





### 3. Transporting the Wheelchair

When transporting the iGLIDE™ Manual Assist Wheelchair, both wheels can be removed (as described on page 19). Remove the battery (as described on page 12) and seat cushion and fold the backrest forward (as described on page 19).

When transporting the iGLIDE™ Manual Assist Wheelchair (Figure 2), take care in handling the wheels when they are off the chair to protect the handrims and quick-release axles (Figure 3).



Figure 2: Transporting the iGLIDE™

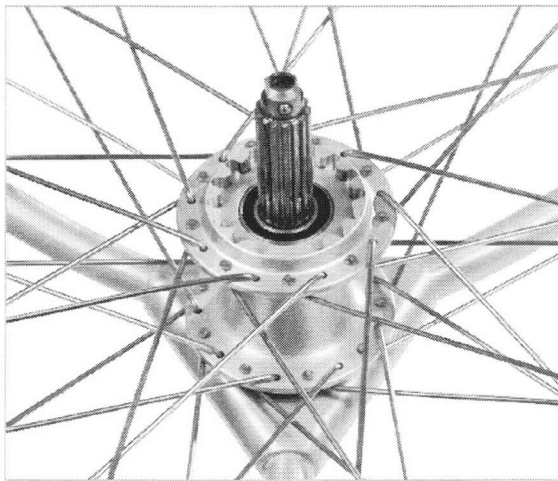


Figure 3: Quick-Release Axle

Also, make sure that the quick-release axles remain free of dirt and debris when transporting the wheelchair.

### 4. Wheelchair Tie-Down Restraints and Seat Restraints

Users of the iGLIDE™ Manual Assist Wheelchair cannot be transported in vehicles of any kind while in the wheelchair. Independence Technology recommends that users of wheelchairs be transferred into appropriate seating in vehicles for transportation and that they use the restraints made available by the auto industry. Independence Technology cannot and does not recommend any wheelchair transporting systems.

### 5. Some Unique Characteristics

Your INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair operates differently than a manual wheelchair. Below are several unique characteristics that should be understood.

- 5.1 When moving around corners or through doorways in the iGLIDE™ Manual Assist Wheelchair, you **MUST** continue to control the system with the handrims.

#### **WARNING!**

If the iGLIDE™ Manual Assist Wheelchair is moving forward, grabbing an object other than the handrim to slow or turn may result in injury.

- 5.2 When climbing a ramp or curb cut, **DO NOT** accelerate as you approach. The iGLIDE™ Manual Assist Wheelchair software will compensate for the change in terrain or slope for you.

When entering or exiting a building that does not have automatic doors, you may want to turn OFF the power on your iGLIDE™ Manual Assist Wheelchair to provide a free hand to pull yourself through the door and to avoid resistance when you are not pushing on the handrim.

### **Electromagnetic Interference (EMI) from Radio Wave Sources**

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic (EM) energy emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause a manual assist wheelchair to move by itself or to move in unintended directions. It can also permanently damage a manual assist wheelchair's control system.

The intensity of the EMI can be measured in volts per meter (V/m). A manual assist wheelchair can resist EMI up to a certain intensity called the "immunity level"; the higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which provides useful protection from the more common sources of radiated EMI. The immunity level of this model of the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair, as shipped with no further modification, is 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent, and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk from EMI will be minimized.

The sources of radiated EMI can broadly be classified into these three types:

1) Handheld portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens

band (CB) radios; walkie-talkies; security, fire, and police transceivers; cellular telephones; and other personal communication devices. NOTE: Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

2) Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle.

3) Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

NOTE: Other types of handheld devices such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your iGLIDE™ Manual Assist Wheelchair.

### **Manual Assist Wheelchair Electromagnetic Interference (EMI)**

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from handheld radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect manual assist wheelchair movement. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the manual assist wheelchair.

### **WARNING!**

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect the iGLIDE™ Manual Assist Wheelchair. Following the warnings listed below should reduce the chance of unintended product movement, which could result in serious injury.

- 1) DO NOT operate handheld transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the iGLIDE™ Manual Assist Wheelchair is turned ON;
- 2) Be aware of nearby transmitters such as radio or TV stations, and try to avoid coming close to them;
- 3) If unintended movement occurs, turn the manual assist wheelchair OFF as soon as it is safe;
- 4) Be aware that adding accessories or components, or modifying the manual assist wheelchair, may make it more susceptible to EMI (NOTE: There is no easy way to evaluate their effect on the overall immunity of the manual assist wheelchair); and
- 5) Report all incidents of unintended movement to the Technical Support Center and note whether there was a source of EMI nearby at the time of unintended movement.

### **1. ON/OFF Button**

The ON/OFF button is located under the seat to the left side of the seat rail (see Figure 4). The chair can be used with or without the manual assist function.

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair is designed to reset its computer program each time the power is turned ON. Wait at least 7 seconds after turning ON the power before pushing the handrims. Also, DO NOT switch the power ON or OFF while the wheelchair is in motion or while pushing on the handrims. Otherwise, the chair will shut down and you must recycle power (turn it OFF, count to 3, then turn it ON again).

To conserve battery power, turn OFF the wheelchair when not in use. If the chair is left ON and not used for more than 3 minutes, it will turn OFF automatically. To turn the chair back ON, recycle the power (turn it OFF, count to 3, then turn it ON again).

### **2. Using the iGLIDE™ Manual Assist Wheelchair**

**Please take the time to get familiar with your iGLIDE™ Manual Assist Wheelchair in a safe and supervised environment, with an assistant or an experienced healthcare professional.**

The INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair can be used in a forward or reverse direction, and can be steered just like a conventional manual wheelchair.

However, you must be alert to the following characteristics of the manual assist system:

- At first, the wheelchair will seem much more responsive than a conventional manual wheelchair. This is a common experience, and you will adjust to it with normal use. You may want to make adjustments to the setup of your wheelchair to take advantage of the manual assist function.
- If you push on the **tire** to move the wheelchair, it will resist. This is because the computer that controls the motor tells the wheelchair to stay stationary if it does not detect a push on the handrim.
- Turn OFF the iGLIDE™ Manual Assist Wheelchair when pushing from behind, because with the power ON it will resist moving without pushing on the handrims.
- Always turn OFF the wheelchair and apply the wheel locks to both wheels before getting into or out of the iGLIDE™ Manual Assist Wheelchair.

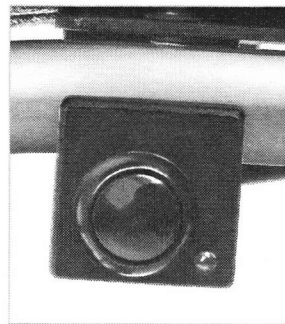


Figure 4: ON/OFF Button

**WARNING!**

Grabbing the handrim while transferring into or out of the product with the power ON can cause the wheelchair to move rapidly and may lead to a fall.

When driving down a slope with the power ON, the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair will brake automatically. If you need to stop completely, use the handrim as normal (this will require much less force than normal to effect a full stop). If you wish to descend faster, push the handrims to drive the wheelchair as if on level ground.

**WARNING!**

DO NOT shut OFF power while on an incline, as the wheelchair will not stop or slow itself going downhill when turned OFF.

**WARNING!**

If on an incline and holding onto the handrim for more than 30 seconds, thereby providing resistance, the system has a built-in safety feature that will shut OFF and revert to manual mode, which may lead to unexpected downhill movement and a potential fall. If in manual assist mode, DO NOT hold the handrim for more than 30 seconds unless you are able and prepared to use your own strength to slow yourself down.

**WARNING!**

The wheelchair is designed to shut OFF power when the battery level is too low or when the wheelchair has not been moving for 3 minutes. If you will be idle for up to 3 minutes, turn the power OFF and revert to manual mode. A low battery or idle condition may cause the wheelchair to lose braking assist on a slope. Without power, braking must be accomplished solely by physical force on the handrims. Please check, or have your assistant check, that the battery has sufficient charge before attempting a slope greater than you can manage without manual assist. Refer to page 14 on checking the battery charge level.

**WARNING!**

The battery tends to lose power more quickly when traveling on terrain such as carpet or grass. Regularly check your battery charge level (or have your assistant check) to ensure that the battery has sufficient charge before traveling on varied terrains. Refer to page 14 on checking the battery charge level.

### 3. Battery

**WARNING!**

NEVER open the battery case. If the case is cracked or otherwise damaged, DO NOT use it. The battery stores dangerous levels of energy and can cause serious injury.

#### Removing/Replacing Battery

The battery weighs 7 lbs (3 kg) and is located on the underside of the chair toward the rear (Figure 5).

Turn OFF the power before installing or removing the battery. Lock the wheels on the wheelchair.

To remove the battery (Figure 6), grab the strap on the battery and gently pull toward the rear. The battery should disengage from the motor, and the receiver plates on the battery will rest in the battery mount slides. Continue sliding the battery toward the rear and lift up to remove it from the battery mount slides.

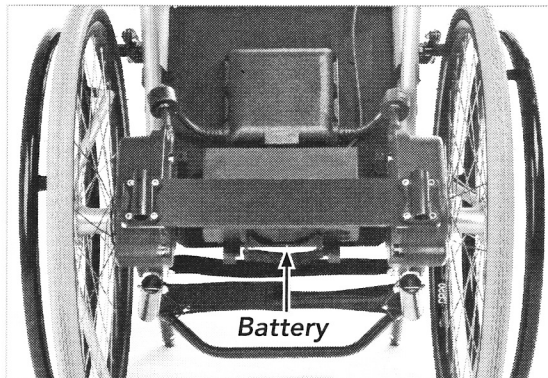


Figure 5: Battery Location



To replace the battery (Figure 7), grasp the battery strap and, while holding the battery vertically, gently set the battery receiver plates into the battery mount slides. Release the battery strap and let the battery settle into a horizontal position on the battery mount slides. Place your fingers on the back of the battery and firmly push forward until it snaps into place.

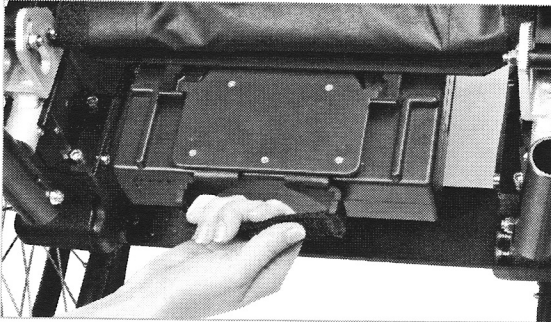


Figure 6: Removing the Battery

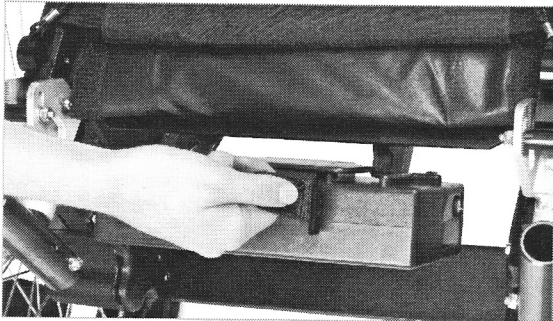


Figure 7: Replacing the Battery

#### 4. Charging Battery

**WARNING!**

DO NOT charge the battery near a source of heat or sparks or in wet environments.

**WARNING!**

When the battery is removed from the wheelchair, be careful that metal objects DO NOT come in contact with the recessed battery contacts. Serious personal injury or damage to the battery may result.

To charge the battery (Figure 8):

1. Connect the power cord to the AC input terminal on the charger.
2. Connect the charger lead to the battery.
3. Connect the power cord/plug to the power outlet (see table on page 14). Red and green LEDs on the charger are now lit. Charging now starts.
4. Green LED is lit (a solid green light) during rapid charge (approximately 3.25 hours).
5. Trickle charge starts after rapid charging. Green LED flashes rapidly (2 times per second) during trickle charge.
6. Trickle charge stops after 10 hours from starting charge. Green LED flashes slowly (1 time every 2 seconds) when charging cycle is complete.
7. Disconnect the charger lead from the battery.
8. Disconnect the power cord from the power outlet socket.

NOTE: Trickle charging is required to maintain battery memory and to extend battery life. Performing only rapid charge could significantly reduce battery life.

The charger will be supplied with the appropriate power cord for the country of delivery. The charger will accept 100–240V 50/60Hz AC input, but connection cords vary by country. If you require additional or replacement power cords, please contact the Independence Technology Technical Support Center. (See back cover for contact information.)

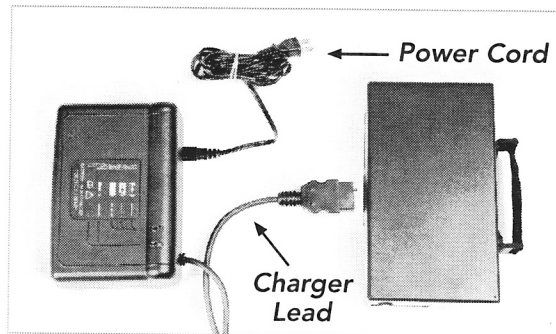


Figure 8: Battery Charging

Country	Power Cord/Plug Type
USA	2 parallel flat plate pins
Europe (excluding UK)	2 round pins
UK	3 rectangular pins 13A fused BS1363

**WARNING!**

The supplied charger should only be used to charge the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair battery; it **MUST NOT** be used with other batteries due to the risk of explosion, fire, and personal injury.

The charger may be stored between -15 and 50°C (5 and 122°F), but can only be used between 0 and 40°C (32 and 104°F). If the battery/charger is under/over temperature, the red LED will be lit on the charger. Charging will recommence when suitable temperature is reached.

The red LED flashes when a charge error is detected. Try disconnecting the battery and power cord, then reconnect. If the problem persists, please contact the Independence Technology Technical Support Center.

The charger is intended for indoor use only in a dry environment (10%–80% relative humidity). Avoid damp, dusty environments. Remove any dust or deposits regularly but only when the unit is disconnected from the battery and from the power supply.

**WARNING!**

**DO NOT** expose the charger or battery to water. **DO NOT** immerse in any liquids.

Avoid physical damage to the charger and associated cords. If the cords become damaged, **DO NOT** connect to the battery or the power outlet, and please contact the Technical Support Center. There are no serviceable parts in the charger; **DO NOT** disassemble or modify the charger.

Ensure charger and battery are placed on a firm, secure surface and are not covered during use. **DO NOT** store items on top of the charger or battery.

All rechargeable batteries eventually lose the ability to hold charge and will need to be replaced. Please see back cover for information on contacting the Technical Support Center.

**5. Checking Battery Charge Level**

To check the charge level of the battery (Figure 9), push in the battery handle and release, and look at the indicator. If all four LEDs are lit (two green, one yellow, one red), the battery is fully charged. If only the red and yellow LEDs are lit, the battery is 25%–50% charged. If only the red LED is lit, the battery power is low (less than 25% charged) and should be charged as soon as possible. If only the red LED is lit and is flashing, the battery needs to be charged immediately. Switch to manual mode (turn power OFF) as soon as safely possible.

**Remember! Check to make sure the battery is sufficiently charged before using the iGLIDE™ Manual Assist Wheelchair.**

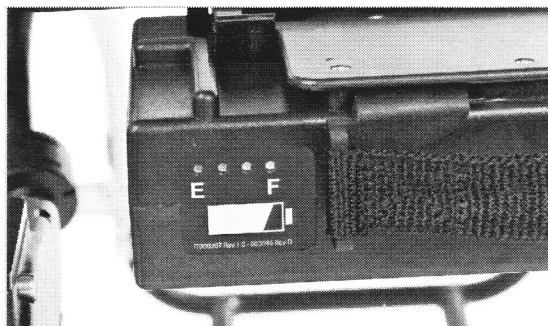
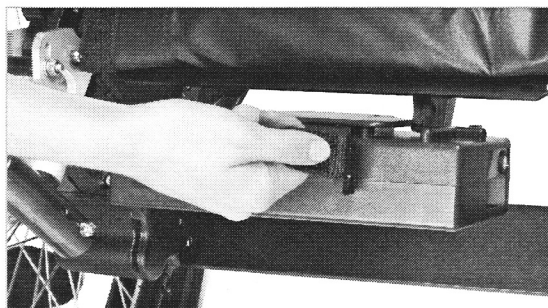


Figure 9: Battery Charge Indicator

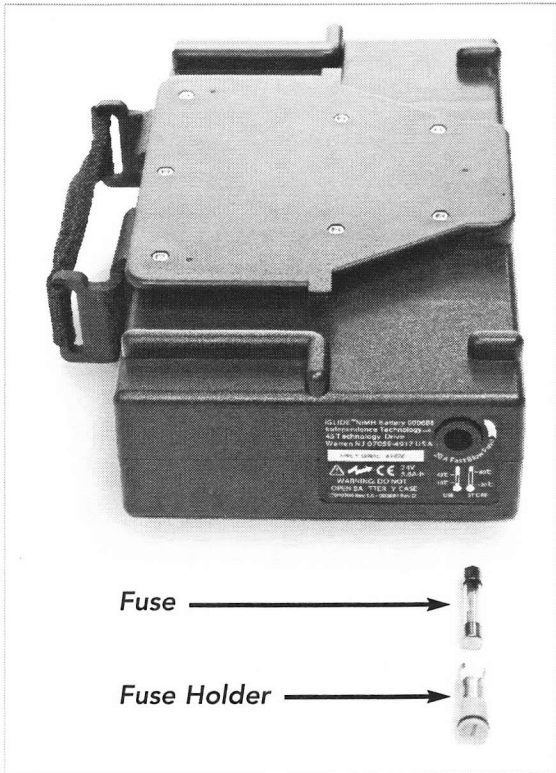
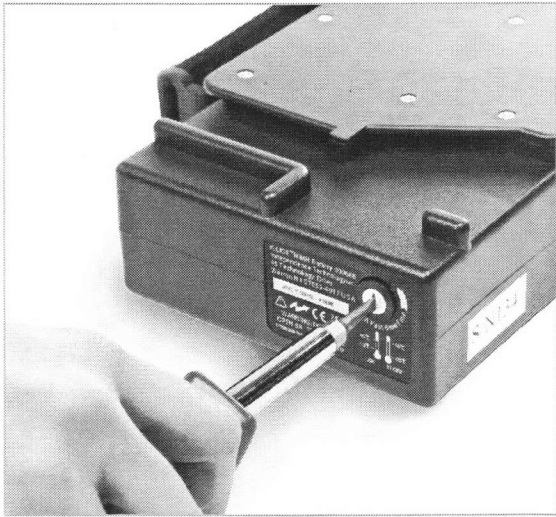


Figure 10: Removing/Replacing Battery Fuse

## 6. Replacing Fuse on Battery Case

The fuse on the battery case protects the battery from malfunctioning (Figure 10). In normal operation of the iGLIDE™ Manual Assist Wheelchair, the fuse should not blow. However, in case of a battery or wire short, the fuse will need to be replaced. To replace the fuse on the battery case, first remove the battery from the wheelchair as described previously. With the case on a firm surface, place a screwdriver in the slot on the fuse holder, push in and turn counterclockwise 1/4 of a turn. The fuse will pop out of the case. Remove the fuse from the fuse holder by pulling gently. Replace the fuse with a 20A/32V fast-blow fuse that is available through the Technical Support Center (see back cover for contact information). Push the new fuse in the fuse holder and place it back into the battery case. Use a screwdriver to push the fuse holder into the hole and turn 1/4 of a turn clockwise until the fuse is back in place.

## 7. Storing Battery

DO NOT store battery in direct sunlight or in extreme humidity or heat. Be particularly careful about leaving a battery in a car or van on extremely hot or cold days. If the battery is to be stored for a substantial period, arrangements should be made to charge the battery at least every month.

## 8. Battery Disposal

Please use proper disposal methods for a NiMH battery.

# Adjustments

## CAUTION!

Always turn OFF the power and remove the battery before making any adjustments or replacing any parts on your iGLIDE™ Manual Assist Wheelchair.

### 1. Wheel Locks

## WARNING!

The wheel locks are not designed to slow the velocity of a moving wheelchair. Using the wheel locks to brake the wheelchair may lead to loss of control.

There is a wheel lock located toward the front of each rear wheel (Figure 11). To apply the wheel lock, push forward on the lever until it locks in place. This prevents the rear wheels from rolling. To release the wheel lock, pull the lever back until it is completely disengaged.

Check to make sure the wheel lock is fully functioning before using the iGLIDE™ Manual Assist Wheelchair.

Make sure that the tires are inflated to the pressure indicated on the tire. The effectiveness of the wheel lock is reduced if the tire pressure is too low.

Remember that changing tires, adjusting the center of gravity of the wheelchair, or changing the seat angle may affect the adjustment of the wheel locks. To adjust the wheel locks forward or rearward, loosen the retaining clamp bolts with a 4 mm Allen key just enough to slide the wheel lock assembly forward or rearward. With the

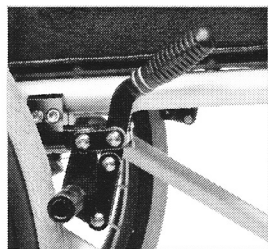
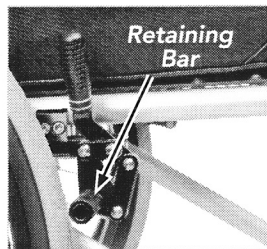


Figure 11: Wheel Lock Engaged



Wheel Lock Disengaged

wheel lock lever open (disengaged), position the wheel lock so that the retaining bar is 4 mm from the fully inflated tire. Tighten the retaining clamp bolts until firmly secure. Test that the wheel lock assembly locks properly. Readjust if necessary.

### 2. Footrest Adjustment

## WARNING!

Make sure that all bolts on the footrest are tightened properly with a 5 mm Allen key before using wheelchair. Serious injury or damage may result if these bolts are not properly fastened.

The footrest can be adjusted between 14 and 17 inches (36 and 43 cm) from the seat pan (Figure 12). To adjust footrest height, loosen the bolts with a 5 mm Allen key. Adjust the footrest to the desired height, tightening the bolts when finished. Make sure the footrest is secure before reuse.

### 3. Rear Wheel Location

## WARNING!

Changing the position of the rear wheels can affect the stability of the wheelchair because it directly affects the wheelchair's center of gravity. Moving the rear wheels forward will make the wheelchair more likely to tip backward and cause injury. Consult your healthcare professional before making this change.

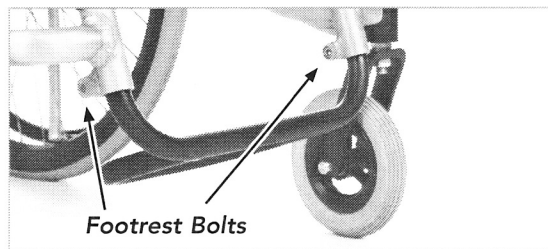


Figure 12: Footrest Adjustment



**WARNING!**

Make sure that all bolts on motor mount are tightened properly with a 5 mm Allen key before using wheelchair. Serious injury or damage may result if these bolts come loose during use.

To change the rear wheel location (Figure 13), turn power OFF and remove the battery. Invert the wheelchair and remove wheels as described on page 19. Loosen the three bolts (5 mm Allen key) on the motor mount on each side of the chair. Loosen the bolts just enough to slide the motors either fore or aft to desired position. Tighten the three bolts on each side. Reinstall wheels.

DO NOT attempt to move the motors past the limits indicated on the frame rails and ensure that the motor mount positioning is the same on both sides of the wheelchair, as measured from the limits.

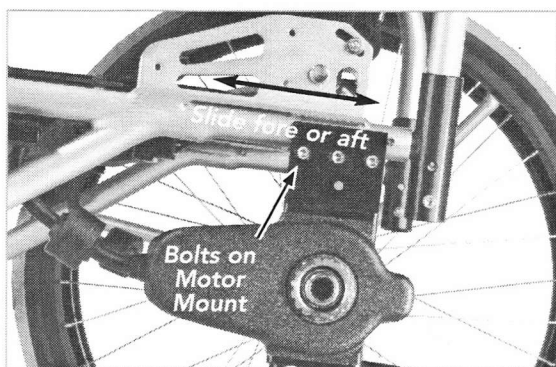


Figure 13: Rear Wheel Position Adjustment

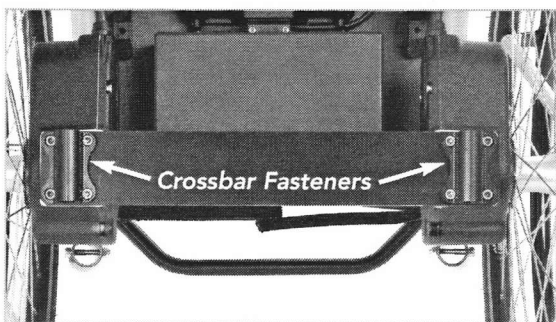


Figure 14: Crossbar Fasteners

**WARNING!**

Leave crossbar fasteners in position when changing the location of the rear wheels (Figure 14). Removing the crossbar could result in misalignment or damage to the wheelchair.

#### 4. Front Caster Location

**WARNING!**

Make sure that all bolts on caster mount are tightened properly with 5 mm and 3 mm Allen keys before using wheelchair. Serious injury may result if these bolts come loose during use.

For best performance, the front caster housing should be perpendicular to the ground. The position of the caster housing may be affected by changes in the rear tire size, caster wheels, or other settings.

To adjust the front caster orientation (Figure 15), turn the power OFF and place the wheelchair on a flat surface and engage the wheel locks. Loosen the five mounting bolts (5 mm Allen key) that attach the housing to the frame, about one-half a turn. Loosen the stop bolt (3 mm Allen key) at the bottom of the caster mount, about one-half to one turn. If you want to move the caster housing forward, turn the top stop bolt clockwise (3 mm Allen key) until the desired position is reached. To move the housing backward, turn the top stop bolt counter-clockwise. The housing should be perpendicular to the ground, or use a level if you have one.

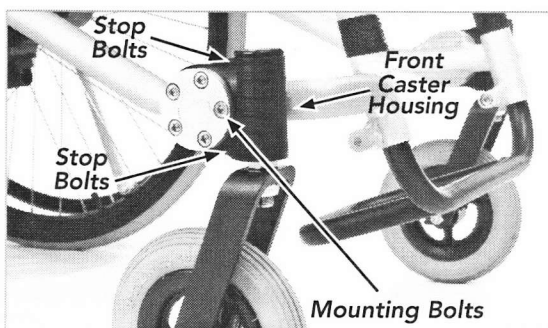


Figure 15: Caster Adjustment

Once at the desired position, retighten the mounting bolts. Check that the alignment has not changed; tighten the stop bolts.

## 5. Back Angle

### **WARNING!**

Make sure that all bolts on backrest are tightened properly before using wheelchair. Serious injury may result if these bolts come loose during use.

The backrest angle is adjustable from 10 degrees forward to 20 degrees back. To adjust the angle of the back support (Figure 16), fold the backrest forward and remove the bolts (using a 5 mm Allen key and a 10 mm open-end wrench) in the slotted hole of the back bracket on each side of the chair and remove the back stop tubes. Adjust the back stop on each side to desired angle by moving the back stop tube up or down in the slotted hole, ensuring that the tooth count is the same on all four surfaces of the inside face of the backrest mounting bracket. Use the markings on the bracket to ensure the back stops are aligned on both sides. Reinsert bolts and secure bolts snugly, but not too tight. Raise backrest and ensure that the engagement of plastic back latches is uniform. Firmly tighten all bolts.

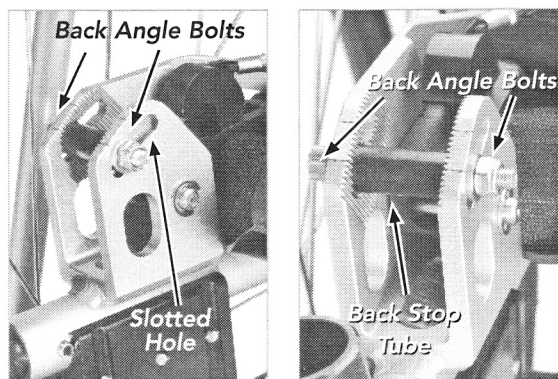


Figure 16: Backrest Angle Adjustment

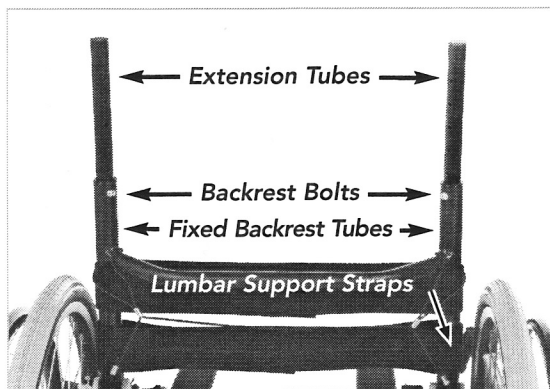


Figure 17: Backrest Height Adjustment

## 6. Backrest Height

The backrest height can be adjusted from 13 to 18 inches (33 to 46 cm) in 1-inch (2.5-cm) increments. To adjust the backrest height, remove the upholstery. With the upholstery off (Figure 17), remove the bolts (3 mm Allen key) from the backrest on both sides of the wheelchair, adjust to desired height, and replace bolts. When pulling on the extension tube, make sure the small plastic collar remains in the fixed backrest tubing or the height adjustment will not be completely secure.

Make sure that the bolts securing the backrest height are retightened properly. Replace the upholstery, ensuring that it rests inside of the release cord.

To replace the upholstery, make sure the lumbar support straps are tightly secured with the Velcro® fasteners. Slide the upholstery down over the backrest extension tubes (the logo should be facing rearward on the upper right corner), being careful not to snag the edge of the fabric when pushing down. Place the back flap of the upholstery over the lumbar support straps, but in front of the release cord, and secure with the Velcro® fasteners. Push front flap to back of chair and fasten into place. Make sure that this flap has some slack and is not stretched too tight. Fold back upholstery pad forward and secure with the Velcro® fasteners.

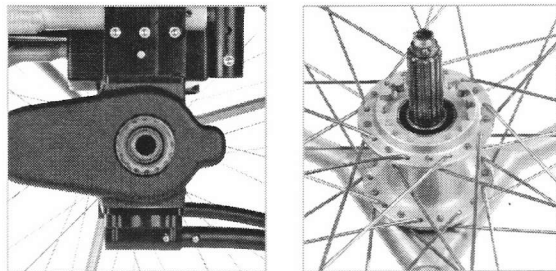
## 7. Quick-Release Wheels

### **WARNING!**

The wheel can come off in use if the quick-release is not fully engaged, which may cause injury.

The rear wheels are equipped with a quick-release function to allow the removal of the wheel without any tools. Notice that the handrim and wheel are separate parts. To remove the rear wheels, make sure the power is turned OFF. Press the quick-release button at the center of the handrim spider and pull the wheel and handrim firmly away from the wheelchair (Figure 18).

To replace the wheel, first ensure that the wheel being replaced is on the correct side (left=red, right=green). The color-coded handrim arm must be centered



Drive Opening

Quick-Release Axle

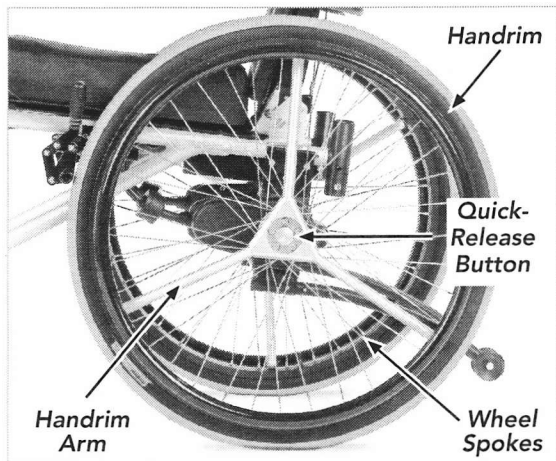


Figure 18: Quick-Release Axle

between the wheel spokes containing the same color-coded mark.

Align the quick-release axle with the opening in the drive. (NOTE: The quick-release axle will not go in more than half an inch unless the teeth are aligned. Also, remember to keep the color-coded handrim arm centered between the corresponding spokes.) Press the quick-release button, ensuring that the handrim arm is not touching the spokes, and push the wheel on until the teeth of the quick-release axle fully engage in the motor. You may have to rotate the handrim slightly in order to line up parts of the quick-release axle with the mating parts in the drive.

Release the quick-release button and check to make sure that the wheel is firmly locked in place by ensuring that the quick-release button has returned to its original position AND by pulling firmly on the wheel.

### **WARNING!**

DO NOT make adjustments to the wheel assembly and associated mechanisms. Such adjustments should only be made by a qualified Independence Technology Technical Support Specialist.

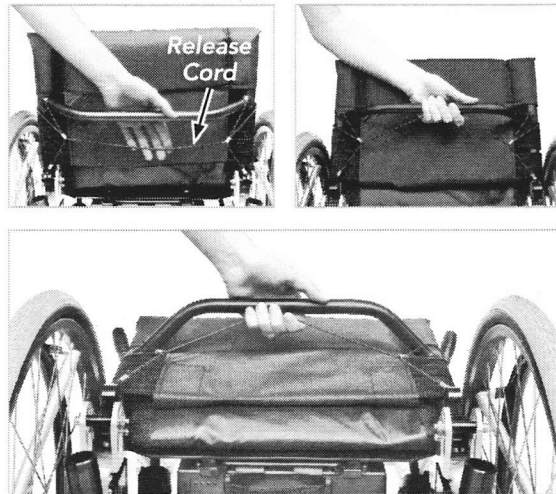


Figure 19: Folding Backrest Latch

## 8. Folding Backrest Latch

To fold the backrest when the iGLIDE™ Manual Assist Wheelchair is unoccupied, first remove your cushion. Locate the release cord found low on the rear of the backrest upholstery. Pull up on the release cord and fold the backrest forward (Figure 19). To unfold the backrest, grab the crossbar and lift the backrest until it firmly locks into position. Test that the latch is engaged by pressing the backrest slightly forward. If it resists, it is properly engaged.

## 9. Anti-Tippers

### **WARNING!**

The anti-tip devices should be used, especially while getting used to the iGLIDE™ Manual Assist Wheelchair. Without the anti-tippers in place, the wheelchair can tip over backwards and personal injury can occur.

The anti-tippers may prevent the wheelchair from tipping over backwards (Figure 20). When properly installed, the wheels should be facing downward at all times.

To install the anti-tippers, insert the open end into the receiver at the rear of the wheelchair, depress both release buttons, and align the retaining buttons until they snap into their slots. To remove the anti-tip devices, depress the release buttons, twist slightly, and remove.

## 10. Lap Belts

Lap belts are offered as optional equipment on the iGLIDE™ Manual Assist Wheelchair. Please refer to the instructions accompanying your lap belt system for proper installation and use.



Figure 20: Anti-Tippers

### **WARNING!**

Serious injury can occur in the event of a fall from a wheelchair. If you require a lap belt for positioning, be sure to use it at all times.

DO NOT use the product without securing the lap belt if your healthcare professional has determined that it is required for safe operation of the wheelchair.

## 11. When to Use On-Call Service

Call the Technical Support Center anytime your INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair is *not functioning properly*. Please see back cover for instructions on how to contact the Technical Support Center.

## 12. Customer Replacement Units

### **WARNING!**

Use of unauthorized replacement parts or accessories can compromise the ability of the product to function safely. Personal injury could result. The warranty will become null and void. Use only replacement parts and accessories that are authorized by Independence Technology, L.L.C.

Customer replacement units are components you are responsible for removing and replacing. An authorized Independence Technology Customer Engineer will be sent to replace parts that are not designated for customer repair (these parts are called "field replacement units").

Order customer replacement units from the Technical Support Center. Replacement parts are shipped with instructions that describe how to remove the old part, and install and test the replacement part. If you have difficulty replacing a part yourself, call the Technical Support Center. You will be guided through the replacement procedure. You will also receive instructions on how to pack and ship damaged parts back to Independence Technology.

If a part is not functioning correctly, it should be repaired or replaced. Contact the Technical Support Center if you need assistance.



## **WARNING!**

Regular maintenance is necessary to assure that the wheelchair operates properly. Failure to do recommended maintenance can lead to injury, poor operation, or premature wear.

### **General**

We require that all repairs involving a field replacement unit be performed by an authorized Independence Technology Customer Engineer.

You should verify **each week** that the wheelchair powers down immediately (within seconds) after it is turned OFF. This test confirms the ability of the system to shut down in case of a malfunction.

The drive and motor system requires no routine maintenance. Keep the area around the drive clear of debris or dirt that may accumulate during use.

The quick-release axles should be lubricated approximately once every month or more frequently if the axles get dirty or are subjected to heavy use. Any petroleum-based grease can be used. Castrol wheel bearing grease is recommended. To lubricate the quick-release axles, first remove the wheel from the chair and wipe the axle clean of any old grease using a rag or paper towel. Apply a pea-size amount of new grease to the axle. Avoiding the wheel bearings as much as possible, spread the grease over the length of the axle in a thin, even coating using your fingers or a small brush. Wipe any excess grease on the rag or paper towel.

Check your wheels periodically for loose or broken spokes.

### **Battery**

The battery requires no maintenance. All batteries lose the ability to hold a charge over time. If the battery does not last as long on a full charge, you may need to replace the battery.

### **Tires**

Check at least **every week** to ensure that the tires are inflated to the pressure indicated on the tire sidewall (as specified by the manufacturer). Use a pump with an accurate pressure gauge. **DO NOT** use filling station air supplies because they typically deliver too much pressure for wheelchair tires.

Check for worn treads **every month**. If the rubber contact area is worn smooth, or there is physical damage visible on the sidewalls, replace the tire. Rubber deteriorates over time. Independence Technology suggests replacing tires and tubes **every year** even if not visibly worn or damaged.

### **Back Upholstery**

Back upholstery should be checked **every month** for tears, loosened stitching, and excessive wear or weakening of the Velcro® fasteners. Replace as necessary. Contact an Independence Technology Support Specialist for approved replacements.

### **Cleaning**

The tubular frame structure is anodized and requires no special maintenance other than wiping it clean periodically.

Brush away any accumulated debris from the area around the hub and wipe the gearboxes with a soft damp cloth.

Clean the nylon upholstery with a gentle detergent and air dry. **DO NOT** machine wash or dry the upholstery. Be aware that repeated washings might reduce the fire-retardant properties of the upholstery.

Keep the slide mount on the battery and the mating surfaces under the wheelchair seat free of dirt or debris. Carefully brush away or blow out any dirt that may have entered the sliding surface of the battery mount.

Keep the backrest latches clean and free of any obstructions.

## Troubleshooting

### **If Chair Is Not Responding**

Check the ON/OFF button. If the power is OFF, turn it ON.

Check the battery level as described on page 14. If the battery level is low, charge the battery for a complete charge cycle.

If the battery level indicator is not working, replace the fuse on the battery case (see page 15).

Make sure that the battery is securely positioned in the battery mounts. Reconnect if needed.

If none of the above resolves the issue, contact the Technical Support Center.

## Limited Warranty

Independence Technology, L.L.C., warrants the products listed below to be free from defects in materials and workmanship for the time periods noted below. All warranty periods begin on the date the product is delivered to the consumer. Independence Technology's obligation under this warranty is limited to the repair or replacement, at its sole option, of any product or component thereof that has been proven to be defective and is within the applicable warranty period. Independence Technology will supply new or rebuilt parts to replace parts that are found to be defective during the warranty period. Warranty service must be provided by an authorized service provider selected by Independence Technology. Independence Technology will not pay for any repair work from any nonauthorized service providers.

The warranty periods for the components of the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair are as follows:

Independence Technology warrants the iGLIDE™ Manual Assist Wheelchair base frame to be free from defects in materials and workmanship for five (5) years; the battery mount, camber bar, CPU drive assembly, left and right caster assemblies, handrim

assembly, quick-release axles, footrest, and backrest tubes for a period of one (1) year from date of the original purchase; and the battery and battery charger for a period of six (6) months or manufacturer's warranty, whichever is greater. Parts that are replaced under warranty are covered for an additional ninety (90) days or until the end of the original warranty, whichever is greater.

### **How to Obtain Warranty Service**

If you have any questions or need service, please call the Independence Technology Technical Support Center. (See back cover for your local contact information.)

### **Coverage Limitation**

This warranty is extended only to the original owner of the INDEPENDENCE™ iGLIDE™ Manual Assist Wheelchair.

### **Limitations and Exclusions**

The warranty shall not apply to any product if the serial number has been removed or defaced, or if it has been subjected to misuse, negligence, or accident. This warranty will be null and void if the product is modified or adapted without the prior written

approval of Independence Technology. This warranty will be null and void if the product is repaired or serviced by someone other than Independence Technology or its authorized representative. This warranty will not apply to failures due to normal wear and tear or failure to comply with proper use as outlined in the owner's manual.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED ABOVE. INDEPENDENCE TECHNOLOGY SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES UNDER THIS WARRANTY.

In the U.S., some states do not allow limitations on how long an implied warranty lasts and some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Independence Technology reserves the right to make changes in products manufactured and/or sold by it at any time without incurring any obligation to make the same or similar changes on products previously manufactured and/or sold by them.

#### ***Application of State Laws***


In the U.S., this warranty shall be extended to comply with state/provincial laws and requirements. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

## ***Appendix***

### ***Testing Specifications***

The iGLIDE™ Manual Assist Wheelchair was voluntarily tested in accordance with ISO 7176 Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 16, and 21. Where applicable, a 220-lb (100-kg) test dummy, as specified in ISO 7176-11, was used.

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