

---

## Table of Contents

Introduction	page 2
- Device Overview	page 2
- Typographical Overview	page 3
- Symbols and Warnings	page 3
Specifications	page 4
Identification of Major Components	page 5
Joystick operation	page 5
Basic Operational Instructions	page 12
- Function Description	page 12
- Scale system compatibility	page 16
Cleaning Instructions	page 17
Storage of the Bed	page 17
Service/ Fuses	page 17
Troubleshooting	page 18

Copyright 2004 Burke, Inc.

All rights reserved. No part of this text shall be reproduced or transmitted in any form or means, electronic or mechanical, including photocopying, recording, or by any information retrieval system without written permission of BURKE, INC.

Tri-Flex is a trademark of Burke, Inc.

The information in this manual is subject to change without notice. Burke, Inc. makes no commitment to update or keep current, the information contained in this manual.

Additional copies of this manual may be obtained from Burke, Inc. Please contact you local representative.

## **TRI-FLEX BED IMPULSE DRIVE SYSTEM OPERATIONAL MANUAL**

### **Overview**

This bed is intended for use whenever a patient's weight and/or overall size exceeds existing unit limitations or patient's weight exceeds that which the staff can care for without reducing the quality of service and endangering the safety of patient and staff. This patient weight usually includes anyone over 400 lbs (181.4 Kg) but not to exceed 1000 lbs (454.5 Kg).

The Tri-Flex system can also facilitate patient transport. The impulse drive system allows for safe and easy control during transport.

NOTE: This manual covers the use and functions of the impulse drive system. Instructions for other options and accessories such as scale systems and mattress systems will be covered in supplemental literature provided with those accessories.

### **Operating Precautions**

Before operating this drive system insure that you have read and understood in detail the content of this manual. It is important that you read and strictly adhere to the safety information contained in this manual. This product is intended for indoor use at room temperatures by health care professionals only.

Any reference to a side of the bed is from the patient's view laying in the bed on their back.

## Typographical Conventions

This manual contains different typefaces and icons designed to improve readability and increase understanding of content. Note the following examples:

- Standard text - used for regular information
- **Boldface text** - emphasizes a word or phrase.
- **NOTE:** - in boldface type and capital letters, this sets apart special information or important instruction clarification.

## Symbols and Warnings

- The symbol below highlights a WARNING or CAUTION:



- **A WARNING** identifies situations or actions that may affect patient or user safety. Disregarding a warning could result in patient or user injury.

- **A CAUTION** points out special procedures or precautions that personnel must follow to avoid equipment damage.

- The symbol below indicates READ MANUAL. This symbol occurs on bed labels that indicate a function or procedure that may be better defined in the manual should some question arise regarding operation.



- The symbol below indicates that this product is identified as a Class B device:



- The symbol following indicates that this device is for indoor use only:



- The symbol below indicates a battery:



# Specifications

---

## Mechanical

Battery Size	U1 (33 amp hour gel sealed)
Speed: Adjustable	2.5 mph
Range:	5-7 miles(varies with weight)
Turning Radius:	50"
Ground Clearance:	3"
Max Climbing:	2"
Max Incline:	5 degrees
Tires:	foam filled
Maximum weight capacity:	1000 lbs.

## Electrical

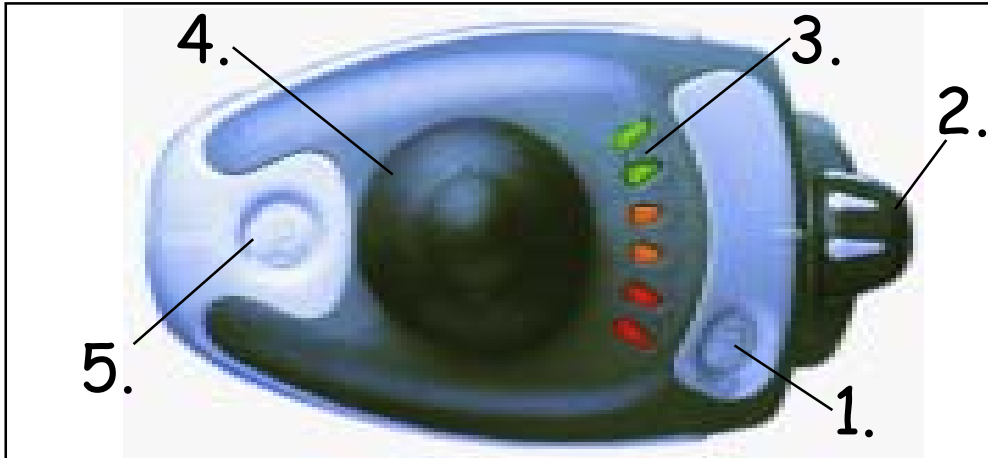
Input voltage:	120V AC, 60Hz
Current:	2.7 amperes
Charger Output voltage:	24V DC
Classification:	Class B 1P-54

Manufactured by Burke, Inc.  
1800 Merriam Lane  
Kansas City, Kansas

# Major Component Identification

The Impluse Drive System is controlled by a Dynamic Mobility Shark drive controller. This system comprises two modules: the power module which is located beneath the bed near the drive wheels, and the joystick control which is mounted on the headboard of the bed. Become familiar with all controls with the power button in the OFF position. A detailed explanation follows.

## Shark Joystick Console



**1. TURNING THE POWER ON** Press the Power button. All indicators will flash briefly. The current state of battery charge will be displayed and the drive system may be operated as normal.

*Note: If the SHARK is turned on while the joystick is out of neutral, an OONAPU (Out Of Neutral At Power Up) fault will be displayed - refer to table on page 18. Release the joystick back to neutral and the fault will disappear.*

*OONAPU (Out Of Neutral At Power Up) is a feature that prevents SHARK from driving if the joystick is out of neutral when SHARK is turned on or an inhibit condition removed.*

*This feature prevents sudden and unexpected movements of the bed.*

**1.1 TURNING THE POWER OFF** Press the Power button. The LED's will turn off.

**2. SPEED SETTING KNOB** The speed knob is used to adjust the top speed of the bed without a loss of power. It ranges from slow to fast. A low setting (smallest mark on the knob upward) should be used in tight areas where speed is not required. A higher setting of medium to fast (larger marks on the knob upward) can be used in open areas where higher speeds are manageable. PLEASE NOTE: This drive system has a power compensation feature which allows you to leave the knob set at a lower speed on a ramp, incline, or soft surface and still maintain sufficient power.

# Major Component Identification

---

**3. BATTERY INDICATOR.** The SHARK Information Gauge (located on the joystick console) is the primary source of user feedback. It displays every possible status that SHARK may have.

True state-of-battery-charge, including notification of when the battery desperately requires charging.

- **Any green** LED's lit indicates **well-charged** batteries.
- If **only amber and red** LED's are lit, the batteries are **moderately charged**.  
Recharge before undertaking a long trip.
- If **only red** LED's are lit the batteries are running out of charge. **Recharge** as soon as possible.

**4. THROTTLE CONTROL JOYSTICK LEVER.** The black knob mounted on the top of the control panel is both the throttle and direction control lever (Push Slowly). Pushing the lever with your thumb toward the foot of the bed will make the bed go forward or backward accordingly. Pushing the lever slightly will make the bed begin to move. The further you depress the lever, the faster the bed moves. The top speed set by the SPEED KNOB is reached by fully depressing the joystick lever. Completely releasing the lever will stop power to the motor, activate the brakes, and you will come to a complete stop. For faster stops in forward, pull the joystick into reverse until the unit stops moving, then release the throttle.

## **5. HORN BUTTON**

**Your unit also comes equipped with a built in horn, activated by depressing the horn button.**

**PLEASE NOTE:** Should the joystick / brake control system not stop the unit, turning the power switch off will engage all brakes and stop the unit abruptly. This backup system should only be used in the unlikely event that the primary brake control is disabled.

**6. LOCKING THE SHARK** Some SHARKs may be supplied factory programmed with a LOCK Feature that prevents unauthorized people from turning the SHARK on.

## **DRIVE LOCKOUT:**

While the power is ON, press and hold the Power button for 2 seconds. The horn will sound a short beep and all LED's will flash briefly. The drive control will then turn off.

**The drive system should always be locked when not being used by a health care professional.**

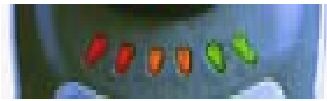
# Major Component Identification

## **TO UNLOCK DRIVE LOCKOUT:**

While the SHARK is locked, press the Power button to turn the SHARK on. All LED's will flash briefly. The LED's will then perform a right-to-left "chase". Press the Horn button twice before the timer completes its pass (approximately 6 seconds). The current state-of-charge will then be displayed and SHARK may be operated normally.

*Note: If the health professional does not press the Horn button twice within the time limit, the Horn will sound a short beep and SHARK will turn itself off. The unlock sequence must be completed successfully before the SHARK will drive again normally.*

## **SHARK Information Gauge**



The SHARK Information Gauge (located on the joystick console) is the primary source of user feedback. It displays every possible status that SHARK may have.

- SHARK Power ON
- True state-of-battery-charge, including notification of when the battery desperately requires charging.
  - **Any green** LED's lit indicates **well-charged** batteries.
  - If **only amber and red** LED's are lit, the batteries are **moderately charged**.  
Recharge before undertaking a long trip.
  - If **only red** LED's are lit the batteries are running out of charge. **Recharge** as soon as possible.
- SHARK Lock Mode countdown.
- Program, inhibit or charge modes.
- Fault indication (Flash Codes)

The table on the following page indicates what the gauge will display for any given state.

# Major Component Identification

Display	Description	This means...	Notes
	All LEDs OFF	Power is OFF or may be locked	
	All LEDs ON Ready	Power is ON	Low LEDs imply a reduced battery charge.
	Lowest LED extending	Battery charge is low	The battery capacity is about as much as possible.
	Single led over	Battery warning, charge must be soon	To avoid SH-POW, press the termination button before the LEDs begin flashing over.
	High level over Warning SH-POW soon	SH-POW is in programming, avoid short charging soon	The warning LEDs indicate the current state of battery charge.
	High battery LEDs flashing	SH-POW is in SH-POW LEDs	The current state of battery charge will be displayed on the next line.
	All LEDs flashing over	SH-POW has entered SH-POW (SH-POW) Power Up SH-POW/Shutdown	SH-POW has entered SH-POW.
	All LEDs flashing over	SH-POW has entered SH-POW LEDs	SH-POW has entered SH-POW. SH-POW has entered SH-POW. SH-POW has entered SH-POW. SH-POW has entered SH-POW.



# Major Component Identification

---

## **CHARGING THE DRIVE SYSTEM BATTERIES**

Charging the batteries is the most important part of operating and maintaining the drive system. Be sure you do it properly! It is required that only a gel cell or sealed suspended lead-acid type deep cycle battery be used on the drive system. These batteries do not require water and have no danger of spillage.

### **Introduction to Features of the Charger**

The charger is fully automatic and has a 24-volt/ 2 -ampere constant current output. It is designed to operate from a 115v AC line source and provides a constant charging output until the batteries are fully charged.

The charger is recommended for use with deep cycle, gel or sealed lead acid batteries, and can be left "on charge" indefinitely without harm to the batteries.

This charger is provided with a Light Emitting Diode (LED) on the front that provides the following indications:

1. When the AC is connected to the charger and the charger is connected to the batteries the green LED will flash.
2. At full battery charge -the green LED turns to steady on, and the charger goes to a float mode (charges at a lower rate than the 2-amperes) and continues to monitor the batteries.

### **Basic Safety Instructions:**

1. Do not expose the charger to rain, snow or other moisture sources (i.e., sprinkler, car wash, etc.). When storing bed, keep inside a building.
2. Use of the charger in a manner not recommended by the manufacturer may result in the risk of fire, electrical shock or personal injury.
3. To reduce the possibility of damage to the AC cord or the connector, disconnect the AC line cord by grasping the plug and not the cord, when disconnecting from the wall or receptacle.
4. Locate cord so that it will not be stepped on, tripped over or subjected to the possibility of damage.
5. An extension cord is not recommended for use with this equipment. Use of an improperly rated extension cord could result in risk of fire or electrical shock. Should it be required to use an extension cord, make certain that it is of 3-wire construction and has a wire size of 16-gauge, and the cord must be in good electrical condition.
6. Do not operate this charger with damaged AC cord or receptacle. If they are damaged, replace them immediately.

## Important Safety Information

---

### **Before Charging:**

Verify that battery terminals are clean and that all charger connections are secure and in good condition.

### **Grounding and AC Power Connection:**

The charger must be plugged into a grounded electrical outlet. The unit is provided with an electrical cord which contains a conductor for grounding. The charger cord must be plugged into an AC outlet that is properly installed, and is grounded in accordance with the National Electrical Code and all local electrical codes and ordinances.

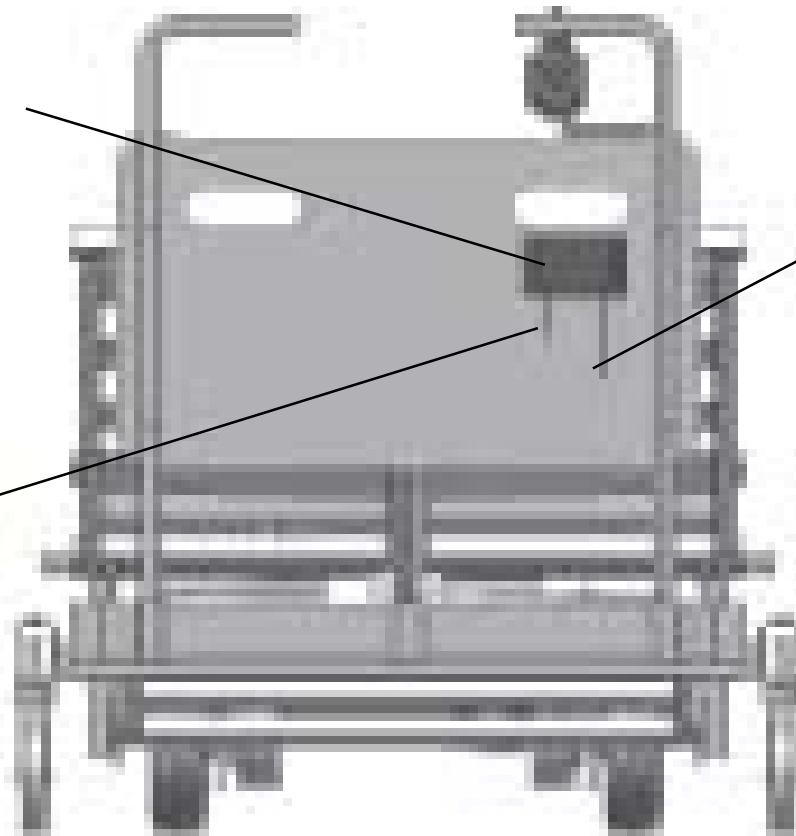
**!! WARNING !!** - *Failure to plug the charger into a grounded receptacle could cause a condition allowing an electrical shock hazard to be present while charging.*

**!! WARNING !!** *Improper connection of the equipment grounding conductor can result in a risk of electrical shock.*

**!! CAUTION !!** - Never alter the AC cord or plug provided with this equipment. If it does not fit the outlet, have a properly grounded outlet installed by a qualified electrician.

Status light on the charger. The status light will flash when charging the batteries. The light will stay on constantly when completed.

Charger output line. Leave this plugged into the joystick module at all times.



Charger AC cord. Plug this cord into an electrical outlet when the drive is not in use. Unplug and secure the cord in the holder when driving the bed.

## Important Safety Information



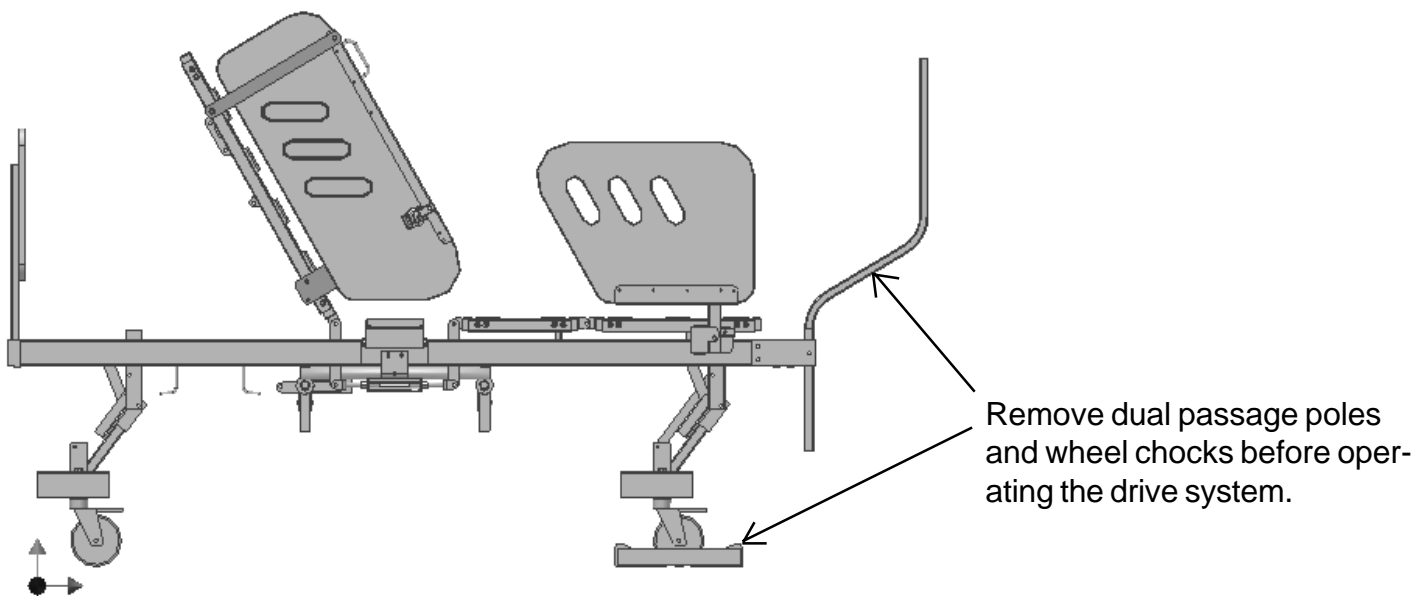
### **Important Safety Instructions:**

**WARNING:** Because you will be connecting and disconnecting AC voltage to the bed, DO NOT do so in the presence of moisture (i.e. rain, puddled water, snow, etc.). Electrical shock hazard could be present. Observe caution and safety warnings.

- a.) To reduce risk of battery explosion;
  - i. never smoke or allow open flame or sparks around a charging battery;
  - ii. never charge a frozen battery;
  - iii. use charger for charging lead acid-type or AGM batteries only; it is not intended to charge dry cell batteries, or act as a power source for low voltage circuits. Either of these conditions could harm the charger or cause dangerous conditions to exist. This charger is recommended for use with deep cycle-type batteries.
- b.) The user is instructed to NOT use the charger with a battery configuration not matching the output voltage rating of the charger.
- c.) Do not disconnect the DC portion of the charger circuit.

### **CAUTION:**

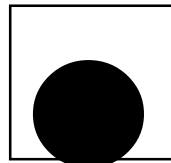
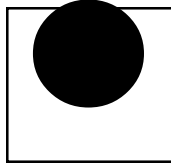
The drive system CAN NOT be activated if the dual passage assist option is installed. The dual passage assist poles must first be removed to allow the drive system wheels to fully contact the floor. If the drive system is activated with the dual passage assist poles in place equipment and/or floor damage may occur.



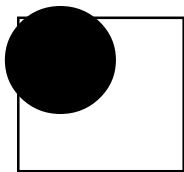
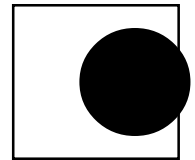
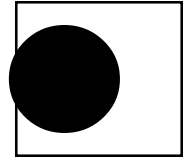
# Operational Instruction

## METHODS FOR CONTROLLING THE DIRECTION OF THE TRI-FLEX II WITH THE IMPULSE DRIVE SYSTEM

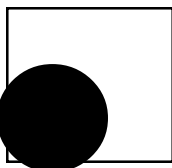
Pushing the Control Knob straight forward will cause the bed to move in a forward direction. Your speed is determined by how far forward you push the control knob and by the speed control setting (#2). Pulling back on the knob causes the bed to move in the reverse direction.



Moving the knob directly to the left (while stationary or moving) will cause the bed to turn to the left. Conversely, moving to the right will cause it to turn right. If you are stationary, the bed will tend to rotate where it sits. You may use this to position the bed in a room, or to prepare to travel in a different direction.

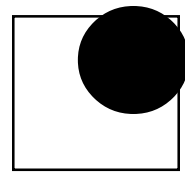


FULL SPEED  
LEFT TURN

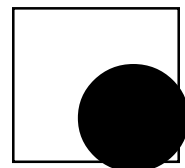


GRADUALLY BACK  
TOWARD THE RIGHT

The difficult part of controlling the drive system is all of those moves in between the four main directions. Shown here are different directions for turning the bed as you operate it. Remember these moves may be anywhere in between, it depends on the direction of travel required at the time. The important thing to remember is that in the forward positions, the joystick is like a pointer, point and that is the direction you will go. In reverse, the pointer is indicating the direction the foot of the bed will go, not the head. The best thing to do is learn to operate the power drive in a large flat open space, and practice making the bed move in the direction you desire.

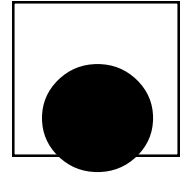


FULL SPEED  
RIGHT TURN



GRADUALLY BACK  
TOWARD THE LEFT

In an emergency or a "Quick-Stop" situation, you may pull straight back on the control knob momentarily to cause the motors to apply reverse current and stop quickly. Use extreme caution, as this may cause the patient to pitch forward in the bed.



### **For your first drive, we recommend the following.**

*When possible, always work with your dealer to learn how to use your bed.  
If you have any questions concerning the drive or bed please call your dealer.*

1. Make sure the area is a flat, hard, smooth, open and free of obstacles.
2. Make sure the bed is in it's lowest hi-lo position and all the casters are unlocked. All the casters must be unlocked for the drive to function properly. The steering and braking functions will be done by the drive wheels.
3. Turn the SPEED setting knob to low and secure all AC power cords.
4. Unlock the drive lockout(see pg. 7) and depress the power switch to turn the power ON.
5. Push the control knob forward toward the foot of the bed to go forward.
6. Steer the bed in different directions to get a feel for how the controls operate.
7. SLOWLY rotate the SPEED setting knob clockwise up from the slow position. Rotate the knob until the desired top speed is reached. Remember, power compensation will automatically give you more power and allow you to keep a slower speed should you need it.
8. Release the control knob to come to a stop. Take note of how the braking feels. The clicking you might hear upon starting, and shortly after releasing the control knob is the Electric Brake disengaging and engaging.
9. Pull the control knob backwards to go backward. The reverse direction will be at the same speed as the forward direction. Always make sure the area is clear behind you before backing up.
10. Remember to turn the power button OFF (no visible lights) and engage the drive lockout feature when not driving, or transferring the patient.

Speed controller characteristics are pre-set for the average driver in a close quarters setting.

#### **WARNING**

The *Impulse Drive System* is designed for high maneuverability but use caution when encountering obstacles. Failure to drive cautiously can result in collisions which may cause physical harm. When approaching an obstacle, keep your speed at a minimum and maintain a safe distance from that object. Avoid all small objects on the ground. The bed's ground clearance may be less than the size of the object. Running over an object or into a depression could cause damage to the bed. **NEVER** drive the bed near platforms, stairs, ledges, curbs or in any other potentially dangerous situation as severe injury can occur.

# Operational Instruction

---

## The *Impulse Drive System* Braking Systems

The drive system's brake systems allow for smooth start up and safe braking without undue jerking. There are three (3) separate modes to the braking system: Regenerative, Dynamic, and Posi-Lock Electric Braking. All braking occurs automatically during the drive operation. Each type of braking is described in the following.

1. Regenerative Braking is activated while driving the bed down an incline. When the bed picks up speed going down the incline, the motor generates electricity. This electricity is channeled back through the *Impulse Drive System's* electronic control circuits to recharge the batteries. This action keeps the bed from picking up excess speed and provides for smooth speed control.

2. Dynamic Braking is activated WITHOUT delay when all power is stopped to the motor. This is done by bringing the control knob back to the center position, as when coming to a complete stop. This braking works until the Posi-Lock Electric brake is activated.

3. The Posi-Lock Electric Brake is activated with delay when all power is stopped to the motor. This electric brake has a short delay and ultimately holds the bed at a complete stop. The bed cannot be moved when this brake is activated. Dynamic Braking works in conjunction with Posi-Lock Electric Braking to bring you to a gradual and complete stop.

## MOTOR/BRAKE DISENGAGE

Under normal conditions the motor/brake should not have to be disengaged. In the event the batteries run low, or there is a malfunction with the drive system the hi/lo of the bed can be raised to lift the drive wheels from the floor. Using several people the bed can now be manually pushed to an outlet for charging or to a service area.

### Caution:

**DO NOT** push the bed with the hi-lo raised for more than is absolutely necessary. There is a possibility that damage to the hi-lo system may occur. Should you experience any type of brake system malfunction, **DO NOT** drive or use the bed. Have the system repaired immediately!

## **TRANSPORTING THE BED & PATIENT**

To transport a patient on the Tri-Flex bed:

1.) Adjust head elevation to the desired position for patient comfort.

**WARNING:** Maximum patient weight in bed for transport is 1000 lbs. Transporting a patient above 1000# can damage the bed and injure persons.

2) To ensure patient safety, the height of the bed should be lowered to its lowest position.

**WARNING:** The bed high-low must be in the lowest position to prevent damage to the bed and provide for maximum stability and traction.

3) Ensure side rails are locked in an upright position.

**WARNING:** Side rails must be in the highest position to prevent patient from falling out of bed.

4) Use an IV pole to mount solutions.

5) Unplug the bed AC power cord, wrap the AC power cord around the cord holder. Automatic battery power will temporarily allow the use of all bed functions until AC power is restored. Unplug the drive charger AC power cord, wrap the cord around the handle post to keep it off the floor.

6) Unlock the two head end caster locks and the two foot end caster locks.

**CAUTION:** Check the bed width and side rail adjustment for doorway clearance to prevent damage to the bed and door frames.

**CAUTION:** Keep hands and feet clear of wheels during bed movement. Move the bed only at a slow walk.

**WARNING:** Moving bed down inclines or excursion off a ledge (such as moving into an elevator or across a threshold) can result in damage to the bed and injury to persons. The maximum threshold climbing capacity of the bed and drive system is 1”(one inch).

**WARNING:** The drive system is primarily intended to move the Tri-Flex bed on flat level surfaces. If necessary the drive system can transition and climb up to a 5 degree incline with a patient. Extra care should be taken when transitioning at the bottom and top of ramps. Loss of traction for the drive wheels may cause damage to the bed and injury to persons.

**NOTE:** *Remember to plug the Tri-Flex bed into the wall outlet once transport of the bed is complete.*

# Operational Instruction

---

## Scale System (if applicable)

If your bed is equipped with scales there will be some extra steps to be aware of to insure the scales function properly. The load cells for the scales are mounted above the each of the four casters. Thus the full weight of the bed and patient must be transferred through the casters. When the bed is in the lowest hi-lo position the drive system wheels contact the floor and will distort the scale reading.

1. Set up the empty bed with the proper linens.
2. Raise the hi-lo system at least 6" from the lowest position.
3. Power up the scale system and go through the menu to "Set up empty bed."
4. Raise or lower the hi-lo system as needed and place the patient in the bed.
5. Again raise the hi-lo system at least 6" from the lowest position.
6. Again power up the scale. The reading given will be correct for the patient.

If this is not done before the patient is placed in the bed the patient will have to be removed from the bed and these steps will have to be followed in order to achieve a correct scale reading.



# Operational Instruction

---

## **FOLDING THE BED FOR TRANSPORT OR STORAGE**

The bed with the drive system will fold and roll around on the transport casters just like a Tri-Flex without a drive system. The drive system cannot be used when the bed is folded.

When folding the bed there are some extra things to be aware of. At the base of the headboard there are two connectors that must be uncoupled before the headboard is removed. Also the drive system batteries are now at the foot of the bed. These batteries add another 50 lbs to the weight of the foot end. This will make the foot end of the bed about 150 lbs when you fold it. If you feel this is too much weight to lift when folding you can remove the batteries.

## **REMOVING THE BATTERIES FOR FOLDING**

1. Raise the hi-lo to the highest position.
2. Undo the velcro and release the straps that secure the boxes to the brackets.
3. Unplug the two connections from the batteries to the power harness.
4. Remove each battery by lifting on the straps that hold the lids on the boxes.

## **UNFOLDING THE BED FOR USE**

When unfolding the Tri-Flex II with a drive system the foot end will again be heavier than normal if the batteries are in place. Extra care should be taken when unfolding the bed. Get a good hold, let it down slowly, and use two people if necessary.

## **CHARGING THE DRIVE SYSTEM WHEN THE BED IS FOLDED**

When the bed is folded it is still possible to charge the batteries for the drive system. Place the headboard in the pockets on the transport axles just as in normal storage. Use the charger extension cord supplied with the drive system. Connect the charger cord at the base of the headboard. Connect the other end of the extension cord to the charger harness at the end of the foot main frame. Then plug the charger into a 110v outlet and watch for the green light to flash. This means the charger is charging.

# Cleaning, Storage, and Service

---

## **CLEANING**

Clean the mattress provided with the bed by wiping down with a cloth or sponge using mild soap and water only.

The hand pendant, scale display (optional), side rails, and bed frame can also be cleaned with a damp cloth or sponge and warm, soapy water.

Do not use any scouring or abrasive cleaners on the bed.

**CAUTION:** Do not hose down, high pressure spray, or place the bed in a shower as this may cause damage to the electronics system and void the warranty.

If any bed electrical components should become wet, disconnect bed from the 120VAC wall outlet until the device is thoroughly dry.

## **STORAGE OF THE BED**

This equipment is provided with a battery back up. To insure the longevity of the battery back up we recommend that the bed be plugged into an appropriate wall outlet to keep battery charged when not in use for extended periods of time. Failure to do so could render the battery backup system inoperable.

**CAUTION:** Store in a clean dry area. Dampness may affect electronic components and cause rust.

## **SERVICE OF THE BED**

Refer to the service chart provided in this manual for basic problem solutions. Major service of this equipment should be referred to qualified personnel.

Refer to circuit layout diagram and part identification diagram provided in this manual. The manufacturer of this equipment will provide assistance to the user's appropriately qualified technical personnel to repair those parts of the equipment which are designated by the manufacturer as repairable. Use only replacement components which are approved and designated as acceptable by the manufacturer.

## **INSPECTION**

The recommended frequency of inspection for the drive system is once per month or before each new patient, whichever occurs first.

## **FUSES**

There are no replacable fuses in the drive system however there are resettable circuit brakers on each of the batteries.

## DIAGNOSTICS

*Note: SHARK is not user serviceable. Specialized tools are necessary for the repair of any SHARK component.*

### INTRODUCTION

A flashing SHARK information gauge indicates there is an abnormal condition somewhere on the drive system. The components that SHARK provides fault information for include, the motor, the park brakes, the batteries, the cabling and the SHARK modules themselves.

Note that joystick OONAPU (Out OF Neutral At Power Up) is not a fault. Simply by removing your hand from the joystick and allowing it to return to the neutral position, the fault will immediately clear.

The nature of the abnormal condition is indicated by a flash code. This is a sequence of flashes, separated by a pause, followed by a repetition of the sequence. The number of flashes relates to the condition. For instance, four flashes of the SHARK information gauge, a pause, followed by four flashes, etc. indicates a right motor fault. Five flashes would indicate a left park brake fault.

Depending on the severity of the condition, the powerchair may or may not allow driving. In some cases the chair may be allowed to drive but in a reduced speed ("limp") mode.

### DIAGNOSTICS & FAULTS



Flash codes indicate the nature of an abnormal condition directly from the SHARK Information Gauge. Without the use of any servicing tools, the condition can be simply diagnosed.

CODE	DESCRIPTION	CORRECTION
1	User Fault	Possible stall timeout or user error. Release the joystick to neutral and try again.
2	Battery Fault	Check the batteries and cabling. Try charging the batteries. Batteries may require replacing.
3	Left Motor Fault	Check the left motor, connections and cabling.
4	Right Motor Fault	Check the right motor, connections and cabling.
5	Left Park Brake Fault	Check the left park brake, connections and cabling.
6	Right Park Brake Fault	Check the right park brake, connections and cabling.
7	SHARK Joystick Console Fault	Check the SHARK Communications Bus connections and wiring Replace the Joystick Console.
8	SHARK Power Module Fault	Check SHARK connections and wiring Replace the Power Module.
9	SHARK Communications Fault	Check SHARK connections and wiring Replace the SHARK Bus cable.
10	Unknown Fault	Check all connections and wiring.

If the light continues to flash after following the procedures in the LED Diagnostic Code chart, do not drive the bed. Notify your dealer for repair.

---

## **Commonly Asked Questions and Possible Answers**

### **Why has there been a sudden loss of power?**

1. Undercharged batteries. Check the BATTERY indicator. The BATTERY indicator indicates the charge condition of the batteries while you are driving. The indicator will not indicate the “true condition” of their capacity until the bed has been setting on, in an idle condition, for several minutes. The green area corresponds to a good charge. The red area corresponds to a low charge, or a deep cycle condition. It is possible to drive the bed with the batteries in a deep cycle charge condition, but once they drop below a certain level of power, they will fail and you will be stranded. If, while you are driving, the indicator falls into the red area, charge the batteries as soon as possible. Charging will bring deep cycle condition batteries up to full charge. You will not receive maximum battery life if the batteries are routinely run to the deep cycle condition.
4. Under-inflated tires. The tires on the drive system are foam filled and will not require inflation.
5. Excessive weight on the bed. Remember that the Tri-Flex II takes a maximum of a 1000 Lb patient.
6. There may be other motor or driving mechanism malfunctions. Consult with your dealer.

### **Will leaving the batteries for a long time damage them?**

Yes. Storage of batteries is very important to their life span. The very best way to maximize battery life is to store them in a fully charged condition in a cool place. Then periodically (every 1-2 months!) charge to keep the batteries in this full charge condition. Do not store in cold or freezing temperatures. Batteries should never be subjected to freezing temperatures. Undercharged batteries can be ruined quickly in freezing conditions.

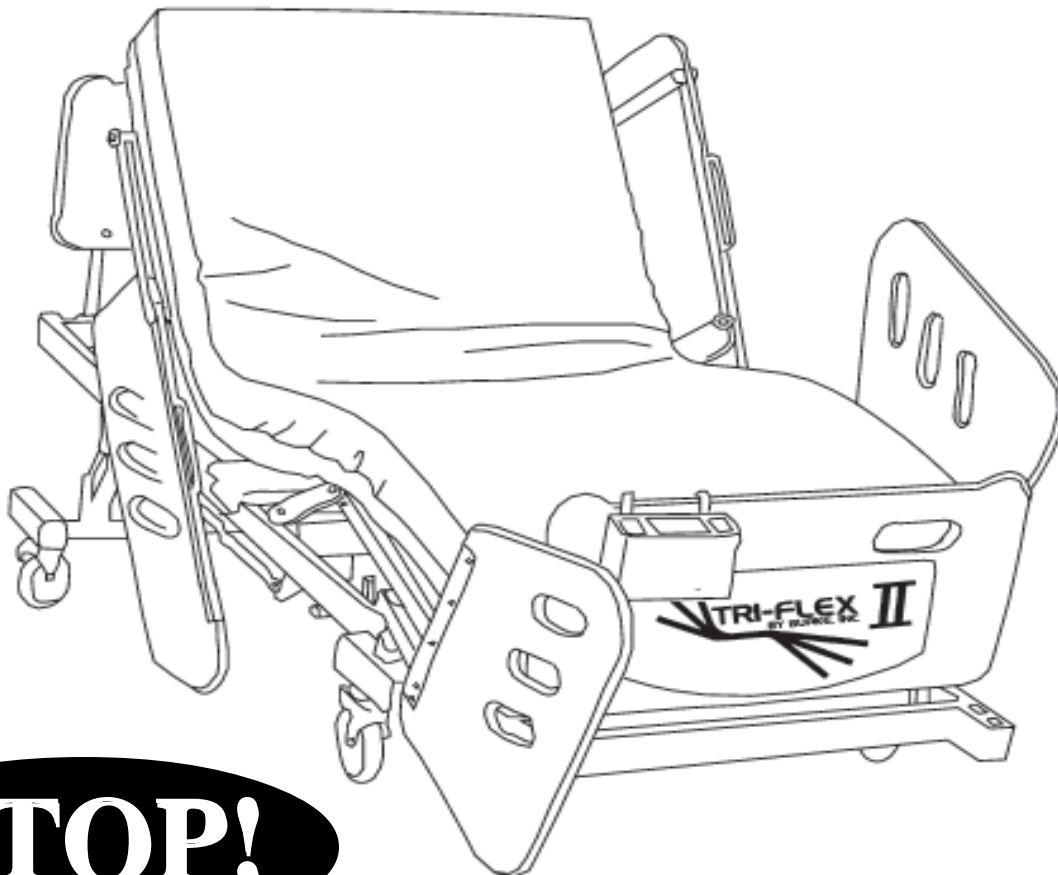
---

**KEEP THIS MANUAL WITH THE BED AT ALL TIMES!**

---



# Operation Manual Impulse Drive System



**STOP!**

For Inservice training or service call your dealer



**WARNING** - All persons operating this drive must read and understand this entire manual before using the drive!

## **BURKE TRI-FLEX LIMITED WARRANTY**

Burke, Inc. - Tri-Flex, Serial Number ( \_\_\_\_\_ ) warrants to the original purchaser (whom the bed is shipped to) against manufacturers defects in material and or workmanship for the indicated from the date of purchase under normal usage\* and so long as all applicable procedures\*\* are adhered to. Burke's warranty does not include labor in the field. Only labor performed at Burke's facilities is free during the warranty period (freight not included).

**Steel Bed Frame** - 5 years. Years 1 & 2 - 100% parts. Years 3, 4 & 5 - 50% parts (Pro-Rated).

**Electrical drive components** - include drive motors, electronics and hand control pendant - 1 year parts.

**Mechanical components** - including casters and hardware - 1 year parts.

**Foam Mattress** - 1 year parts not including normal wear, rips or cuts etc. subject to weight limitations.

*NOTE: All foams and fabrics will loose resiliency with use. This is considered normal wear and is not covered by this warranty.*

Burke's liability under this warranty and the buyers exclusive remedy is limited to the cost of materials to repair the defective parts or the replacement and should not exceed the original purchase price. Repair or replacement of defective components under this warranty will be made only upon prepaid return of the defective components to Burke. Buyer must obtain return goods authorization number and shipping instructions prior to the return of goods to Burke. This warranty does not include freight or labor other than labor at Burke's facility (at Burke's option).

Burke reserves the right to make engineering changes, additions or improvements upon current product without obligation to install the same upon its products previously manufactured.

All rights under this Limited Warranty must be exercised within 20 days after the end of warranty.

This Limited Warranty is not transferable and is valid only to the original purchaser.

Burke, Inc. is not responsible for incidental or consequential damages resulting from the breach of any expressed or implied warranty, including damage to property expenses and to the extent permitted by law damages for personal injury.

The limited warranty contained herein is in lieu of all other warranties expressed or implied including without limitation any implied warranties or merchantability and fitness for a particular purpose.

To the extend any portion of the Limited Warranty is held invalid under federal, state or local laws such invalidity shall not affect the validity of the remaining potions of this warranty. This warranty gives you specific legal rights; you may have other rights which vary from state to state.

Burke, Inc.  
1800 Merriam Lane  
Kansas City, KS 66106  
Toll Free 1-800-255-4147

After Hours Emergency Service ~ (913) 722-5658

\*Normal usage does not include damage by accidents, dropping, abuse, misuse, misapplication, rust, corrosion, improper storage, cleaning, burns, punctures, improper handling, the use of harsh cleaning solutions not recommended by the manufacturer or the result of unauthorized or improper service or modification.

\*\* Applicable procedures include without limitation those procedures in the Tri-Flex Bed Users Manual.