

IVC Bed Series

***Full Electric Beds
Semi-Electric Beds
Manual Beds***

DEALER: THIS MANUAL MUST BE GIVEN
TO THE USER OF THE BED.

USER: BEFORE USING THIS BED, READ
THIS MANUAL AND SAVE FOR FUTURE
REFERENCE.

For more information regarding
Invacare products, parts, and services,
please visit: www.invacare.com



Yes, you can.™

WARNING

DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT A HEALTHCARE PROFESSIONAL, DEALER OR TECHNICAL PERSONNEL IF APPLICABLE BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.

THE INITIAL SET UP OF THIS BED MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.

PROCEDURES OTHER THAN THOSE DESCRIBED IN THIS MANUAL MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.

SAVE THESE INSTRUCTIONS

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REGISTER YOUR PRODUCT!

The benefits of registering:

1. Safeguard your investment.
2. Ensure long term maintenance and servicing of your purchase.
3. Receive updates with product information, maintenance tips, and industry news.
4. Invacare can contact you or your provider if servicing is needed on your product.
5. It will enable Invacare to improve product designs based on your input and needs.

Register ONLINE at www.invacare.com

- or -

Complete and mail the form on the next page

Any registration information you submit will be used by Invacare Corporation only, and protected as required by applicable laws and regulations.



PRODUCT REGISTRATION FORM

Register **ONLINE** at www.invacare.com - or -
Complete and mail this form

Name _____

Address _____

City _____ State/Province _____

Zip/Postal Code _____

Email _____ Phone No. _____

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Invacare Model No. _____ Serial No. _____

Purchased From _____ Date of Purchase: _____

1. Method of purchase: (check all that apply)

Medicare Insurance Medicaid Other _____

2. This product was purchased for use by: (check one)

Self Parent Spouse Other

3. Product was purchased for use at:

Home Facility Other

4. I purchased an Invacare product because:

Price Features (list features) _____

5. Who referred you to Invacare products? (check all that apply)

Doctor Therapist Friend Relative Other _____

No referral Advertisement (circle one): TV, Radio, Magazine, Newspaper

6. What additional features, if any, would you like to see on this product?

Fold
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7. Would you like information sent to you about Invacare products that may be available for a particular medical condition? Yes No

If yes, please list any condition(s) here and we will send you information by email and/or mail about any available Invacare products that may help treat, care for or manage such condition(s):

8. Would you like to receive updated information via email or regular mail about the Invacare home medical products sold by Invacare's dealers? Yes No

9. What would you like to see on the Invacare website?

10. Would you like to be part of future online surveys for Invacare products? Yes No

11. User's Year of birth: _____

If at any time you wish not to receive future mailings from us, please contact us at Invacare Corporation, CRM Department, 39400 Taylor Parkway, Elyria, OH 44035, or fax to 877-619-7996 and we will remove you from our mailing list.

To find more information about our products, visit www.invacare.com.

Cut Along Line



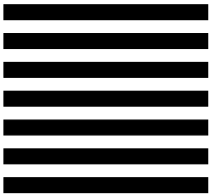
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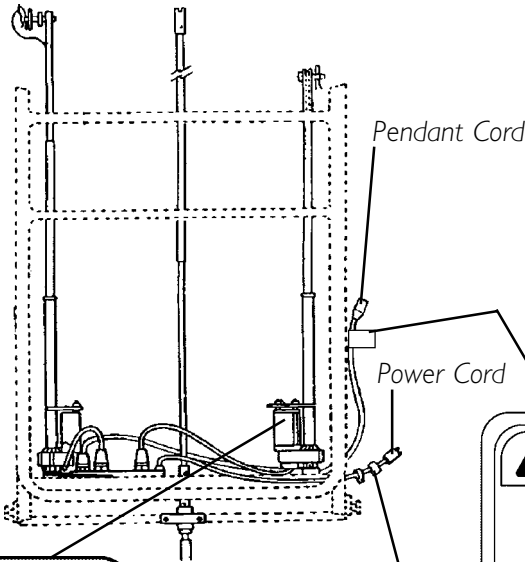
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**LABEL LOCATIONS
WARNING/CAUTION LABEL LOCATIONS**

LABEL LOCATIONS

NOTE: Underside of bed shown.



NOTE: This warning label is for CANADIAN MODELS ONLY!

⚠ CAUTION

CLEANING INSTRUCTIONS
See Owner's Manual

1. Unplug product before washing.
2. Make sure all electrical parts (motors, junction box and pendant) are not damaged and that all connection ports are plugged.
3. Disinfect and wash all components.
4. DO NOT power wash or steam clean. Use household water pressure.
5. Rinse thoroughly with water (maximum temperature 110°).
6. Dry all components before storing.

P/N 1116654

⚠ WARNING

REMOVE PENDANT WHEN NOT IN USE AND STORE OUT OF REACH OF CHILDREN.

Label P/N - 1118366 - Rev A 03/03

CAUTION

KEEP SWITCH CORD CLEAR OF MOVING PARTS

⚠ WARNING

Close cover when not in use otherwise personal injury may occur.

1117179 Rev A

NOTE: This warning label is located on the gearbox (not shown).

SPECIAL NOTES

WARNING/CAUTION notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

PENDANT OPERATION

A safety feature of this product includes protection against overheating caused by excessive or extended periods of operation. Depending on the duration, this includes multiple or repeated adjustments or the use of multiple functions at one time. To assure trouble free operation, always allow a slight pause between multiple adjustments and avoid pressing more than one function button at a time. If thermal protection activation should occur, the bed will not respond to pendant commands. Given this situation, release the pendant button and allow the bed unit to sit for several minutes. This will allow the protection function time to reset and restore bed function. Depending on severity of the initial overheating, this could take up to 30 minutes.

WARNING

FULL ELECTRIC BEDS

On Full Electric beds, the Hi/Lo crank **MUST** be removed before the bed is used. Failure to remove the crank may cause damage or personal injury.

TYPICAL PRODUCT PARAMETERS

BEDS		
MODEL NO.	DESCRIPTION	SHIPPING WEIGHT
5410IVC	Full Electric	176.5 lb (80.1 kg)
5310IVC	Semi-Electric Single Crank Hi/Lo	172 lb (78.0 kg)
5307IVC	Manual Single Crank-Hi/Lo	161.5 lb (73.3 kg)

MEASUREMENTS (ALL MODELS)

FOOT END	FABRIC HEIGHT*		
Min.	26 1/4in (66.7cm)	Min. (down position)	15in (38cm) ± 2in
Max.	33 3/4in (85.7cm)	Max. (up position)	23in (58.3cm) ± 2in
* Height from floor to bed deck.			
SPRING	BED		
Overall Length	88in (223.4cm)	Width	36in (91.4cm)
SPLIT SPRINGS To Ends			
Head	43in (109.2cm)		
Foot	45in (114.3cm)		

The following table lists each bed model no. and the components associated with it. An "X" will denote the components required for a complete bed assembly.

Bed Name (Model No.)	FULL ELECTRIC		SEMI-ELECTRIC		MANUAL
	5410IVC	5411IVC Canada	5310IVC	5311IVC Canada	5307IVC
Head Spring (5000IVC)	X	X	X	X	X
Universal Bed Ends (5301IVC)	X	X	X	X	X
Foot Spring Three Motors (5490IVC)	X				
Foot Spring Three Motors Canada (5491IVC)		X			
Foot Spring Two Motors (5890IVC)			X		
Foot Spring Two Motors Canada (5891IVC)				X	
Foot Spring Two Crank (5770IVC)					X

TROUBLESHOOTING

TROUBLESHOOTING ELECTRICAL

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSES	SOLUTIONS
Bed spring does not move	End of stroke reached	Operate opposite button
Full Electric Bed: Hi/Lo function does not work	Bed not plugged in	Ensure power cord is plugged into power source
	Pendant not functioning	Ensure Pendant correctly connected to junction box (Section 3) Ensure Pendant cable not entangled/pinched
	Cables	Ensure motor cable(s) correctly connected (Section 3) Ensure cables are not entangled/pinched Call the dealer for repair/replacement of cables and/or motors
	Broken cable lock	Call dealer to replace cable lock
	Household fuse or breaker blown	Check household fuse/breaker box
	Motors are not functioning	Call dealer
	Hi/Lo Motor	Ensure Hi/Lo motor cable is correctly connected (Section 3) Ensure cables are not entangled or pinched Ensure Drive shaft is correctly installed
	Thermal Protection Activated	Allow bed unit to sit for 30 minutes and retry
Bed Spring does not stop moving	Pendant	Check for depressed/stuck buttons If button is stuck, call dealer for repair
Bed Hi/Lo movement does not stop		Check cables, if damaged call dealer

TROUBLESHOOTING (CONTINUED)

TROUBLESHOOTING MECHANICAL

SYMPTOM	PROBABLE CAUSES	SOLUTIONS
Bed does not stay in place	Locking Casters	Lock Casters (Section 3)
Bed springs do not move	Pull tube	Ensure pull tubes are properly connected (Section 3) Check pull tube(s) for binding Call dealer for repairs
	Manual Beds - crank(s) not working	Call Dealer
Bed ends move in opposite directions (electrical or manual bed)	Drive Shaft connected to wrong gear box shaft	Reinstall drive shaft (Section 3)
Hi/Lo function does not work	Crank not properly installed	Reinstall crank (Section 3)
	Drive shaft disconnected	Reinstall drive shaft (Section 3)
Pressing function on pendant results in motion other than that intended	Motor cable connections to junction box incorrect	Verify Connections (Section 3)

WARNING

Read ALL general guidelines, warnings and cautions before performing any repair/maintenance on the bed. All repair and maintenance on the bed should be performed by a qualified technician.

This Section includes the following:

Operating Information

Replacement Parts/Accessories

Electrical

Radio Frequency Interference

Weight Limitation

GENERAL WARNINGS

Check all parts for shipping damage and test before using. In case of damage, **DO NOT** use. Contact a qualified technician for further instruction.

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely.

Close supervision is necessary when the manual/electric bed is used by or near **CHILDREN** and **PHYSICALLY CHALLENGED INDIVIDUALS**.

DO NOT let any individual underneath the bed or in between the raised bed frame components at anytime.

When bed is not to be used for an extended period, **UNPLUG** electric bed from the wall outlet.

Keep the product a minimum of 12" away from any direct heat source.

DO NOT unplug power cord from junction box.

If a liquid is spilled in or around the electric bed, **UNPLUG** the electric bed **BEFORE** cleaning. Clean up the spill and allow the electric bed or the area around the electric bed to dry thoroughly **BEFORE** using the electric controls again.

The manual/electric bed is **NOT** designed to be used as a patient transport. When transporting a patient, use an approved patient transport. Otherwise, injury or damage may result.

OPERATING INFORMATION

GENERAL WARNINGS

When operating/moving manual/electric beds, **ALWAYS** ensure that the individual utilizing the bed is positioned properly within the confines of the bed. **DO NOT** let any extremities protrude over the side or between the bed rails when performing these functions.

After the manual/electric bed has been assembled, **ALWAYS** test to make sure that all sections of the manual/electric bed are properly and securely in place **BEFORE** using.

Make sure head and foot springs/sections are connected securely to the universal bed ends **BEFORE** use.

GENERAL WARNINGS (CONTINUED)

The pendant and power cords **MUST** be routed and secured properly to ensure that the cords do **NOT** become entangled, pinched and/or severed during operation of the electric bed.

Never operate the unit if these cords are damaged.

If the unit is not working properly, call a qualified technician to examine the unit and repair it.

Keep **ALL** moving parts, including the main frame, mattress deck (head and foot springs/sections) **AND** all drive shafts, free of obstruction (i.e. blankets/sheets, heating blankets/pads, tubing, wiring, etc. and other types of products using electric cords which may get tangled around the bed, side rails or legs) during operation of the manual/electric bed.

The manual/electric bed is equipped with locking casters. When transferring into **OR** out of the manual/electric bed, **ALWAYS** lock the locking caster(s). Inspect the wheel locks for correct locking action **BEFORE** actual use. Even with casters properly locked, some flooring surfaces such as tile or wood, will allow the bed to move under some conditions. Use on surfaces such as these must be evaluated by the care provider.

Always remove manual crank(s) before performing electronic functions. Otherwise, the crank(s) will turn when the motor is on and could cause personal injury or damage to the bed.

REPLACEMENT PARTS/ACCESSORIES**GENERAL WARNING**

Use masked or nasal type oxygen administering equipment **ONLY** in conjunction with the manual/electric bed. The use of **ANY** other type of oxygen administering equipment can result in a fire hazard.

When using nasal or masked type oxygen administering equipment, the oxygen or air tubing **MUST** be routed and secured properly to ensure that the tubing does **NOT** become entangled and/or severed during normal operation of manual/electric bed.

ALWAYS test to make sure that the side rails are properly and securely in place **BEFORE** using the manual/electric bed.

Invacare recommends that the mattress be centered on the bed frame. Otherwise, individuals may become entangled between the bed rail and the bed frame.

Physically challenged individuals who **CANNOT** prevent themselves from rolling/climbing out of the manual/electric bed may require alternative safe means of restraint.

GENERAL WARNINGS (CONTINUED)

When used with a manual/electrical bed, the bed rails **DO NOT** fall under any weight limitations. Bed rails can be deformed or broken if excessive side pressure is exerted on the bed rails. These bed rails are used for the purpose of preventing an individual from inadvertently rolling out of bed. The bed rails are **NOT** intended nor may be used for restraint purposes. If an individual is capable of injuring himself/herself, a physician or a healthcare professional should be consulted for alternative means of safe restraint.

After raising/lowering the head/foot end of the manual/electric bed, check the distance between the bottom of the bed rail and the mattress. If there is excessive distance between the bottom of the bed rail and the mattress in which individuals may become entangled, adjust the height of the bed rail (if applicable), **OR** provide alternative means of patient protection.

DO NOT use the side rails as push handles for moving the manual/electric bed.

Trapeze units **MUST** be positioned on a universal bed end as near as possible to the center point of the bed end. The trapeze is to be used **ONLY** in **ASSISTING** the patient in repositioning or transferring in or out of the manual/electric bed.

Traction units **MUST** be securely fastened to universal bed ends of the manual/electric bed. These units are to be used **ONLY** for immobilizing a patient in various traction setups or **ASSISTING** the patient in repositioning or transferring in or out of the manual/electric bed.

NEVER allow patients to use trapeze or traction units as a total individual weight support.

Replacement mattresses and bed side rails with dimensions **DIFFERENT** than the original equipment supplied or specified by the bed frame manufacturer are **NOT** interchangeable. Variations in bed side rail design, width and thickness or firmness of the mattress could cause/contribute to entrapment. Use **ONLY** authorized Invacare replacement parts and/or accessories otherwise the warranty is void. Invacare will not be responsible for any damage or injury that may result.

ELECTRICAL**GENERAL WARNING**

NEVER operate if the unit has a damaged cord or plug. If it is not working properly, call a qualified technician for examination and repair.

Keep **ALL** electrical cords away from **HEATED** or **HOT** surfaces.

Ensure all cables and cords are routed such that they will not become entangled or pinched. Otherwise damage or injury may result.

ELECTRICAL**GENERAL WARNING (CONTINUED)****REPAIR OR SERVICE INFORMATION**

DO NOT open assemblies such as the motors, pendant, junction boxes or gear boxes. No user serviceable parts are inside. **ONLY** qualified technicians are permitted to repair these parts. If unqualified individuals perform any work on these beds, the warranty is void.

DO NOT use **ANY** parts or accessories other than those authorized by Invacare. Otherwise the warranty is void.

UNPLUG the power cord from its power source **BEFORE** performing any maintenance on the manual/electric bed. **DO NOT** unplug the power cord from the junction box. Damage to cord will result.


The junction box is mounted to the foot motor with an actuator clip-lock. If replacing the junction box, remove the actuator clip-lock and slide the junction box away from the foot motor until it is free. Disconnect all cable connections.

Before connecting/disconnecting the connections at the junction box, make sure the cable lock is removed by lightly depressing on the end tabs and lifting. After connectors are plugged in, route all cables into the cable lock slots and snap the cable lock in place.

When installing any connectors into the junction box, be sure the cable lock is secure after installation - otherwise, injury or damage may occur.

DO NOT force the connector into the junction box, otherwise - injury or damage may occur.

SERVICING OF DOUBLE-INSULATED PRODUCTS

In a double-insulated product, two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product, nor is a means for grounding to be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system, and is to be done **ONLY** by qualified service personnel. Replacement parts for a double-insulated product must be identical to the parts they replace. A double-insulated product is marked with the words "DOUBLE INSULATION" or "DOUBLE INSULATED". The symbol (square within a square)  is also able to be marked on the product.

RADIO FREQUENCY INTERFERENCE**GENERAL WARNING**

Electronic equipment may be influenced by Radio Frequency Interference (RFI). Caution should be exercised with regard to the use of portable communications equipment in the area around such equipment. If RFI causes erratic behavior, unplug the electric bed immediately. Leave unplugged while transmission is in progress.

WEIGHT LIMITATIONS**GENERAL WARNING**

The **TOTAL** weight limit of the Invacare 36-inch (91.4 cm) wide Manual/Electric bed (including accessories, mattress, occupant and **ANY** other person/object positioned on the bed) is 450 pounds (204 kg.).

NEVER permit more than one (1) person on/in the manual/electric bed at any time.

Body weight should be evenly distributed over the surface of the manual/electric bed. **DO NOT** lay, sit or lean in such a way that your entire body weight is placed only on **RAISED** head or foot sections of the bed. This includes when repositioning or transferring in or out of bed.

This Section includes the Following:

Unpacking

Inspection

Storage

UNPACKING (FIGURES 1 & 2)

The bed is contained in three cartons.

1. Check bed components for any obvious damage to the carton or its contents. If damage is evident, contact your local INVACARE dealer.
2. Remove any loose packing from the cartons.
3. Carefully remove all components from the cartons.

CAUTION

DO NOT plug the power cord into a power source until assembly is complete. To do so could result in damage or personal injury.

DO NOT attempt to operate bed controls prior to completion of assembly otherwise damage to bed components may occur.

UNPACKING THE BED ENDS (FIGURE 1)

1. BED END carton includes:
 - Two (2) Universal Bed Ends
 - Four (4) Casters (two [2] locking and two [2] non-locking casters)
 - One (1) Drive Shaft Assembly in two (2) pieces
 - One (1) Hand Crank

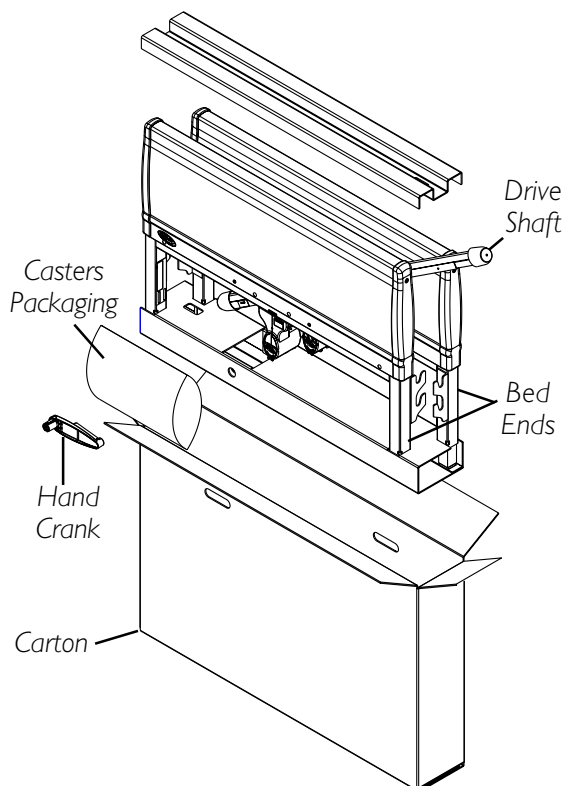


FIGURE 1 - UNPACKING THE BED ENDS

UNPACKING (CONTINUED) (FIGURES 1 & 2)

UNPACKING FOOT AND HEAD SPRING SECTIONS (FIGURE 2)

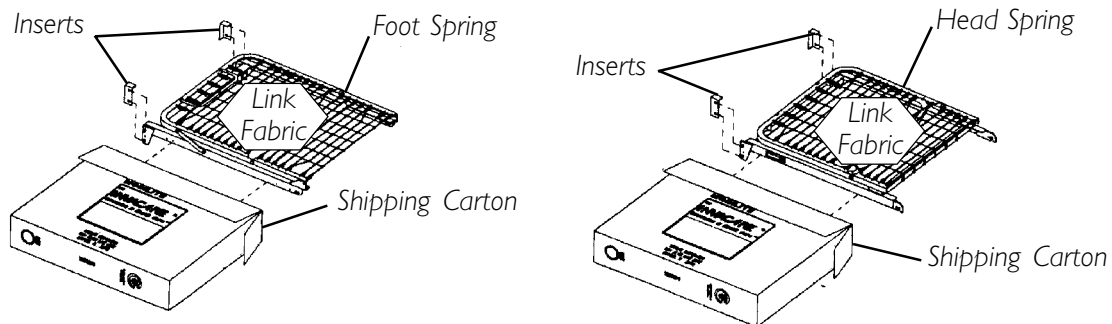
2. FOOT SPRING SECTION carton includes:

One (1) FOOT SPRING (electric beds include pendant, junction box with power cord, and head, foot and hi/lo [full electric only] motors with cables).

One (1) emergency crank handle (electric beds ONLY).

3. HEAD SPRING SECTION carton includes:

One (1) HEAD SPRING.



NOTE: Not Shown - Junction Box with Cord, Motors with Cables attached, Pendant, Emergency Crank Handle for full electric or semi-electric beds.

FIGURE 2 - UNPACKING FOOT AND HEAD SPRING SECTIONS INSPECTION

All beds

Examine each item carefully for scratches, nicks, dents or any other apparent damage.

NOTE: Check all parts for shipping damage. In case of shipping damage, DO NOT use. Contact Dealer/Carrier for further instruction.

Full electric and semi-electric beds

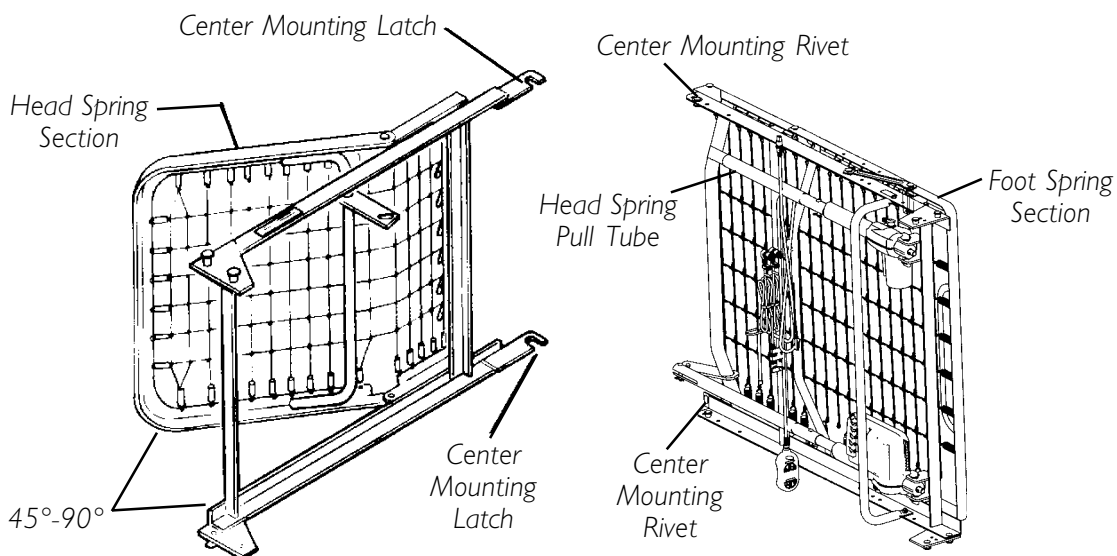
1. Inspect the power supply cord and cables for cuts or damage to the cord and/or plug.
2. Inspect the junction box for any damage to the connectors.
3. Ensure that the motor plugs are plugged into the junction box and fit properly.
4. Ensure cable lock is installed on the junction box.

STORAGE

1. If bed is not to be assembled immediately, retain the cartons and packaging for storage until assembly is to be performed.
2. Store the Invacare homecare bed in a dry area.
3. DO NOT place other objects on top of the cartons.

This Section Includes the Following:***Connecting the Head and Foot Spring Sections******Connecting the Spring Fabric******Adjusting and Connecting Head Spring Pull Tube******Installing the Casters******Assembling the Universal Bed Ends******Drive Shaft Assembly and Installation******Manual Crank Installation for Hi/Lo Function******Pendant Location and Notes******Activating the Bed Functions (FOR DEALERS ONLY)******Installing/Removing Cable Lock (FOR DEALERS ONLY)*****CONNECTING THE HEAD AND FOOT SPRING SECTIONS (FIGURES 1 & 2)****WARNING****DO NOT attempt to operate bed controls prior to completion of assembly as damage to bed components or personal injury may occur.**

1. Remove the head spring section (5000IVC) of the bed from the packing carton.
2. Place the head spring section on its side to your LEFT so the center mounting latches are on the RIGHT. Refer to FIGURE 1.
3. Open the head spring section to a 45° to 90° angle to support the spring section. Refer to FIGURE 1.
4. Remove the foot spring section of the bed from the packing carton.
5. Place the foot spring section on its side on your RIGHT with the head spring pull tube at the top of the assembly. The center mounting rivets should be on the LEFT. Refer to FIGURE 1.

**FIGURE 1 - CONNECTING THE HEAD AND FOOT SPRING SECTIONS**

NOTE: For set-up purposes, the motors on the semi-electric (5890IVC and 5891IVC) and full electric (5490IVC and 5491IVC) foot springs as well as the crank handles on the manual foot springs (5770IVC) should be on your RIGHT.

6. Place the head and foot springs approximately 90° from each other.
7. Hook the BOTTOM head spring center mounting latch to the BOTTOM foot spring center mounting rivet. Refer to FIGURE 2.
8. Hook the TOP head spring center mounting latch to the TOP foot spring center mounting rivet. Refer to FIGURE 2.

NOTE: It may be necessary to lift the head spring or foot spring slightly to secure the mounting latches and rivets.

9. After head and foot springs are connected, push the springs into a horizontal (straight) position while keeping the springs on their sides.

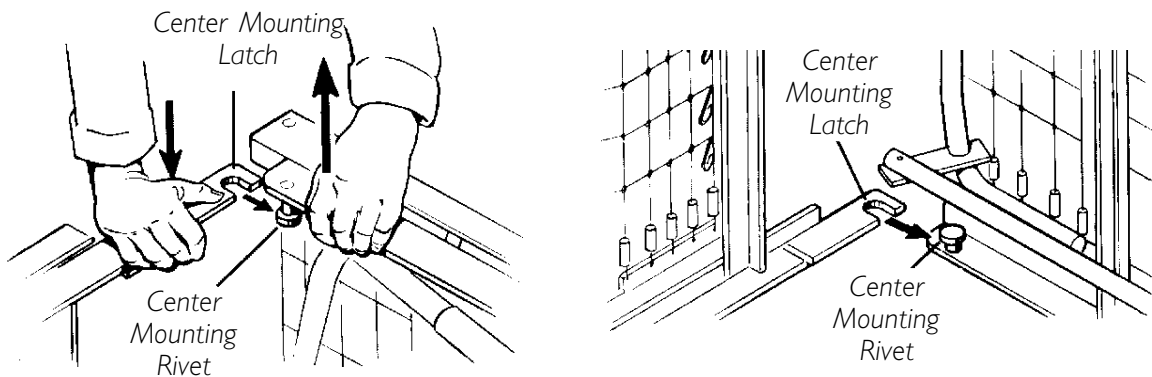


FIGURE 2 - CONNECTING THE HEAD/FOOT SPRING SECTIONS

CONNECTING THE SPRING FABRIC (FIGURE 3)

1. Lift the head spring away from the bed frame to give slack to the fabric.
2. Connect the spring fabric together with the links provided. Refer to FIGURE 3.

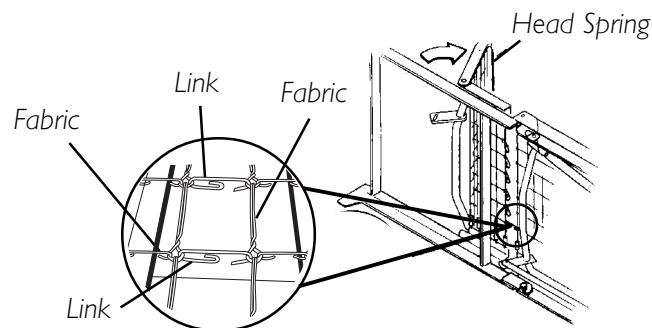


FIGURE 3 - CONNECTING THE SPRING FABRIC

ADJUSTING AND RECONNECTING THE HEAD SPRING PULL TUBE (FIGURE 4)

1. To disconnect the head pull tube assembly from the side frame of the foot spring remove the hitch pin, grommet/washer from the clevis pin. Refer to FIGURE 4, DETAIL "A".
2. Extend the inner pull tube shaft manually until the spring button "clicks" into the adjustment hole of the outer pull tube.
3. Connect the pull tube end assembly to the lift arm of the head spring as follows. Refer to FIGURE 4, DETAIL "B".
 - A. Insert the clevis pin into the lift arm slot.
 - B. Replace the grommet/washer.
 - C. Secure with hitch pin.

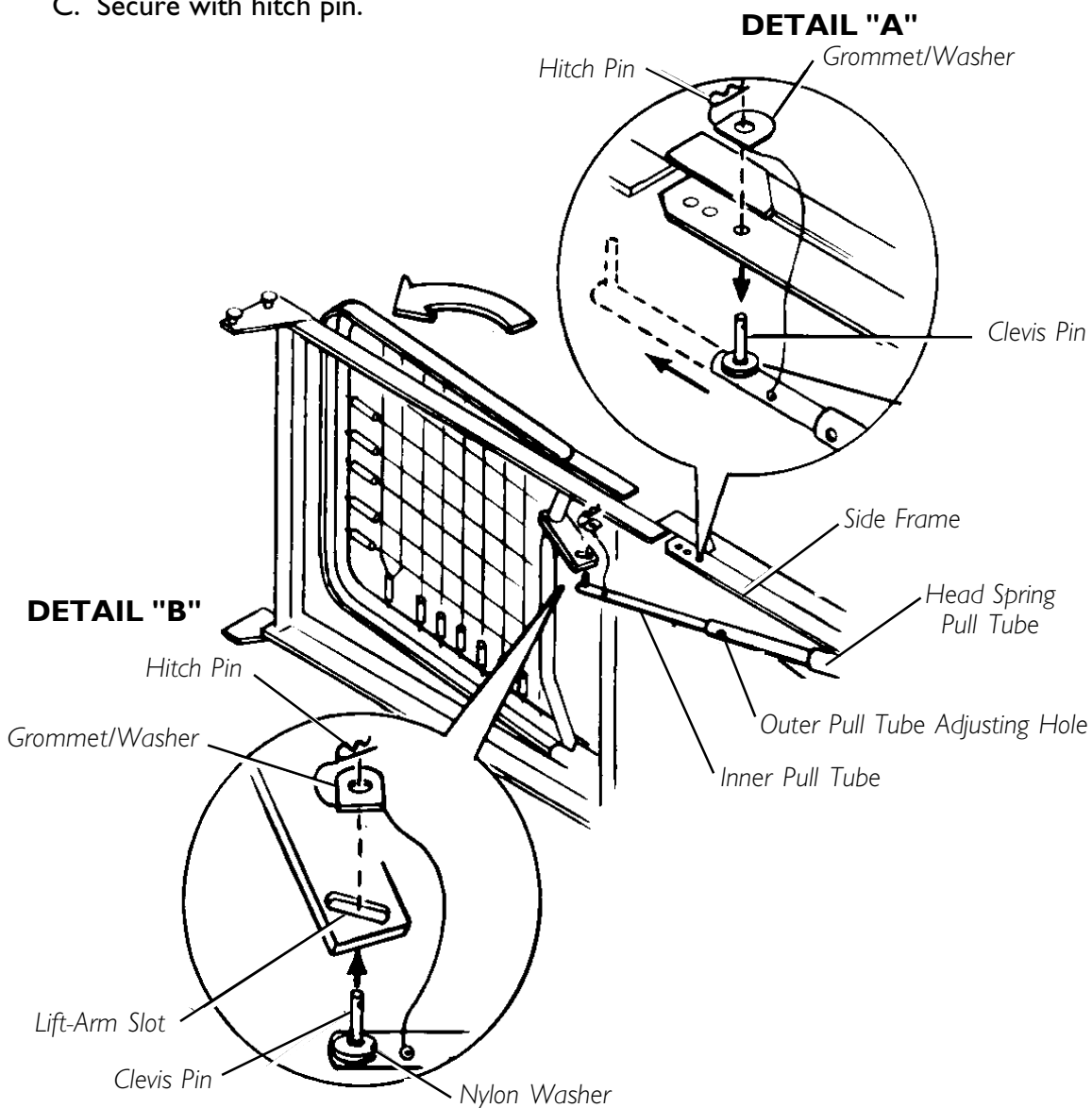


FIGURE 4 - ADJUSTING AND RECONNECTING THE HEAD SPRING PULL TUBE

INSTALLING THE CASTERS (FIGURE 5)

WARNING

Ensure that the locking casters are installed diagonally from each other and are locked. Otherwise damage or personal injury could occur.

DEALER NOTE: Always locate locking caster in the same location on each bed end so that they will always be assembled diagonally opposite each other when inventory is mixed.

NOTE: Position the two (2) locking casters so that they will be diagonally opposite from one another when the bed is assembled.

NOTE: If two (2) locking casters are NOT included with the bed, contact a qualified dealer.

1. To install casters lay the bed ends flat on the floor.
2. Insert the shaft of caster assembly into the caster socket.
3. To prevent excess movement of the bed during assembly, lock each of the two (2) locking casters by pushing DOWN on the caster lock.

NOTE: Locking the casters may NOT prevent the bed from moving on slick or slippery surfaces.

4. To unlock each of the two (2) locking casters, pull UP on the caster lock.

WARNING

Ensure that casters are locked and that the bed does not move BEFORE transferring. DO NOT transfer occupant if bed is not stable.

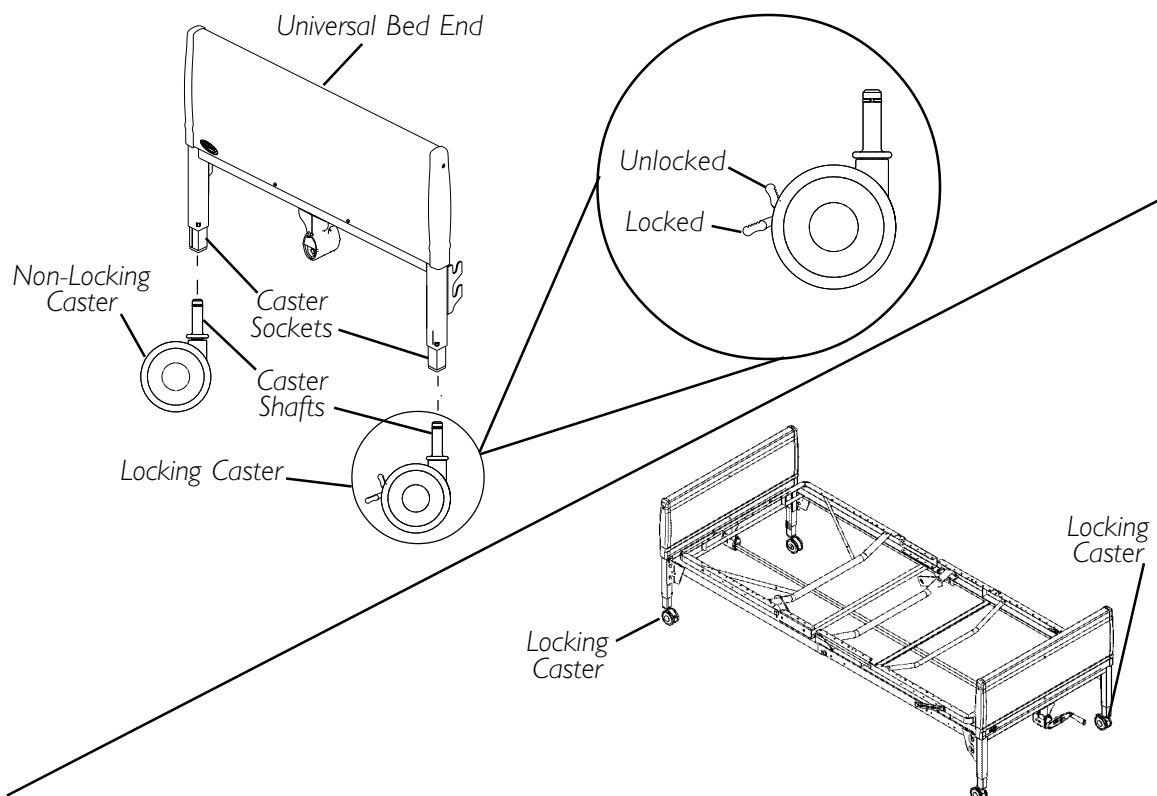


FIGURE 5 - INSTALLING THE CASTERS

ASSEMBLING THE UNIVERSAL BED ENDS (FIGURE 6)

NOTE: Invacare recommends that two (2) people perform this procedure.

NOTE: Before assembling bed, ensure that the locking casters are attached to the universal bed ends diagonally across from each other. See Figure 4.

1. Stand one bed end as close to the head spring section as possible.
2. Grasp the head spring section, by the side, and raise it until the rivets on the corner plates of the spring section are high enough to place into the corner locks on the bed end.

WARNING

DO NOT place your hand between the spring section and the universal bed end while assembling the universal bed ends, otherwise injury may occur.

3. Tilt the bed end toward the head spring section and place the rivets into the corner locks.
4. Return the universal bed end to its full upright position. The head spring rivets will lock into place.
5. Repeat the same procedure for other universal bed end.

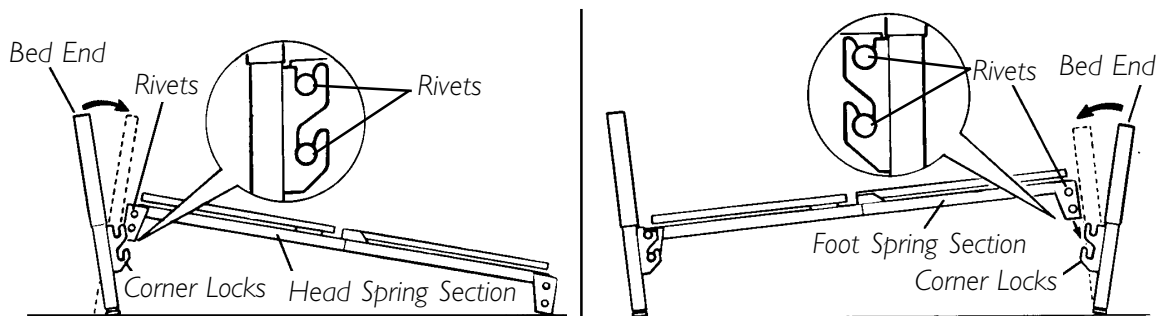


FIGURE 6 - ASSEMBLING THE BED ENDS

DRIVE SHAFT ASSEMBLY AND INSTALLATION (FIGURE 7 & 8)

NOTE: The drive shaft for the Hi/Lo function consists of two (2) sections that are shipped unassembled. The inner shaft has a positioning spring button, and the outer shaft has three (3) positioning holes, one (1) storage position hole and a telescoping end.

1. Remove the plastic caps from each end of the drive shaft.
2. Press spring button on the inner shaft and insert the inner shaft into the outer shaft.
3. Engage the spring button into the proper positioning hole.
 - A. For semi-electric and manual beds, use the first positioning hole. See FIGURE 7.
 - B. For beds with single shaft gear boxes use the second positioning hole. See FIGURE 7.
 - C. For full electric models, use the third positioning hole. See FIGURE 7.

NOTE: A common gear box is used on both bed ends. The bottom output shaft is used at the head end and the top output shaft is used at the foot end of the bed.

4. Attach the inner shaft to the bottom gear box output shaft on the head end of the bed.
5. Push in on the spring loaded end of the drive shaft and attach to the foot end of the bed as follows.
 - A. **FULL ELECTRIC BEDS:** Attach drive shaft to the Hi/Lo motor output shaft facing head end of bed.
 - B. **MANUAL AND SEMI-ELECTRIC BEDS:** Attach drive shaft to the foot end top gear box output shaft.

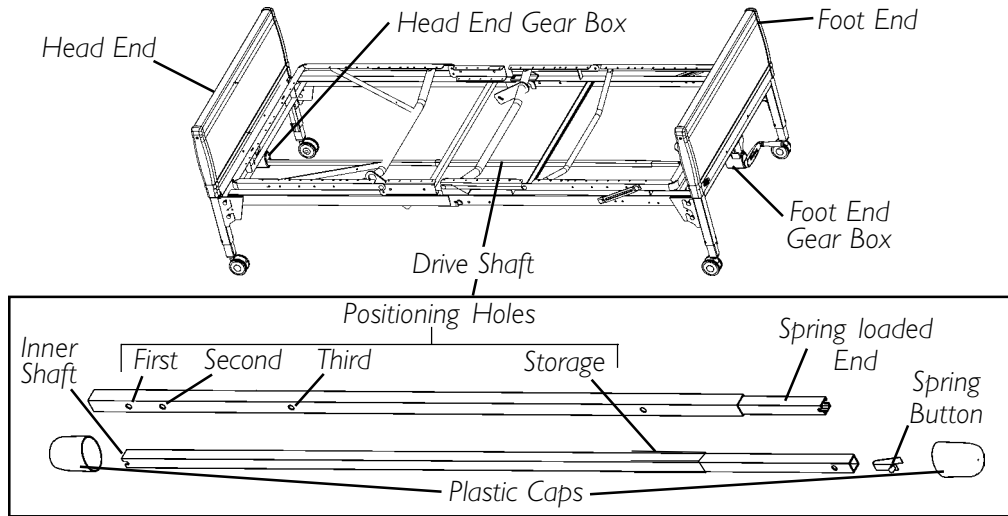


FIGURE 7 - DRIVE SHAFT ASSEMBLY AND INSTALLATION

6. **FULL ELECTRIC BEDS:** attach the Hi/Lo Motor to the foot end gear box as follows.
 - A. Locate the Hi/Lo motor output shaft spring-loaded coupler.

NOTE: If necessary, shift the bed end to the RIGHT or LEFT to align the Hi/Lo motor output shaft spring-loaded coupler with the foot end gear box.

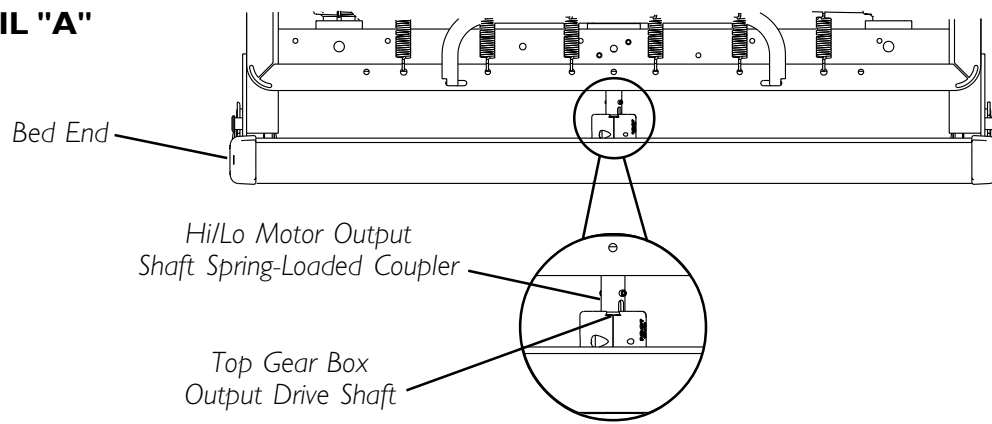
- B. Ensure the Hi/Lo motor output shaft spring-loaded coupler is properly aligned with the foot end gear box as shown in DETAIL "A" of FIGURE 8.
- C. Release the Hi/Lo motor output shaft spring-loaded coupler by pushing in against the Hi/Lo motor output shaft spring-loaded coupler and turning clockwise.
- D. The coupling will release and engage the foot end top gear box output shaft cross pins.
- E. Ensure that all components are securely installed.

WARNING

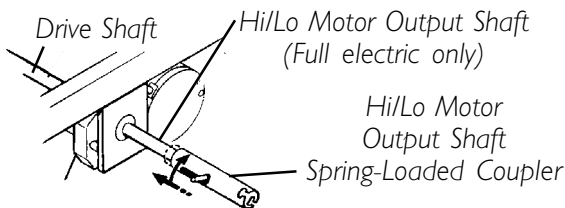
CLOSE the drive shaft covers over all drive shafts- not in use, before placing the bed in service. **Otherwise damage or injury may occur.**

FULL Electric Beds - Always remove the crank on the Hi/Lo gear box and close the drive shaft cover to avoid damage and injury.

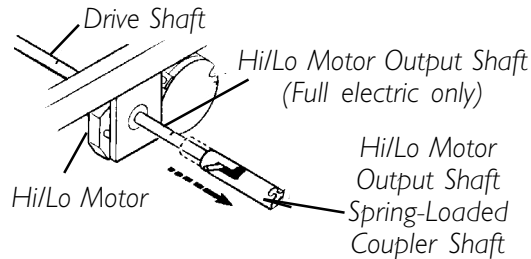
DETAIL "A"



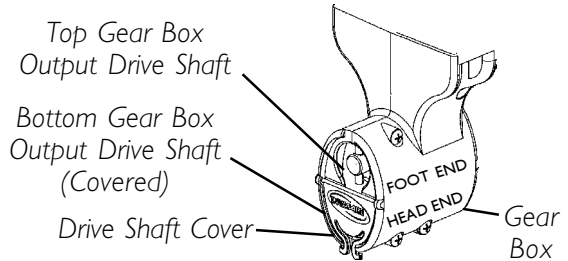
LOCKED POSITION



UNLOCKED POSITION



OUTPUT SIDE



INPUT SIDE

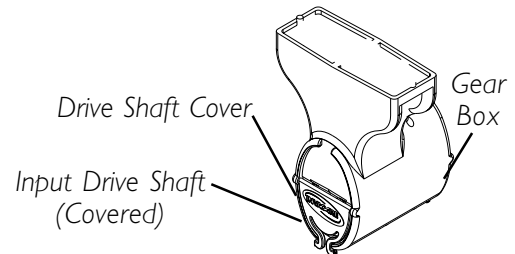


FIGURE 8 - DRIVE SHAFT ASSEMBLY AND INSTALLATION

MANUAL CRANK INSTALLATION FOR HI/LO FUNCTION (FIGURE 9)

Semi-electric and manual beds with Hi/Lo Function.

1. Pinch the ears on the input drive shaft cover to open the cover.
2. Flip the input drive shaft cover UP and push until it attaches to the gear box. The cross pins will now be accessible.
3. Connect the manual crank to the cross pins until the spring engages the cross pins.
4. Unfold the handle on the hand crank.

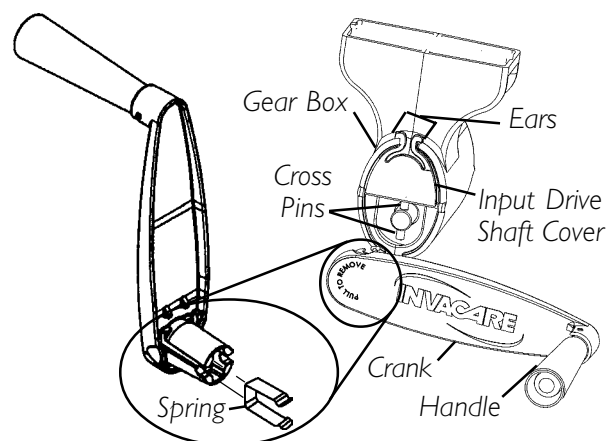


FIGURE 9 - MANUAL CRANK INSTALLATION FOR HI/LO FUNCTION

PENDANT LOCATION AND NOTES (FIGURE 10)

For Canadian Customers who need to disable operation of electric beds: These Models have pendants that can be removed and stored in a secure place.

1. To disable operation of the electric bed, unscrew the Union Nut on the standard pendant cable that attaches to the extension cable.
2. Unplug the standard pendant cable from the extension cable.

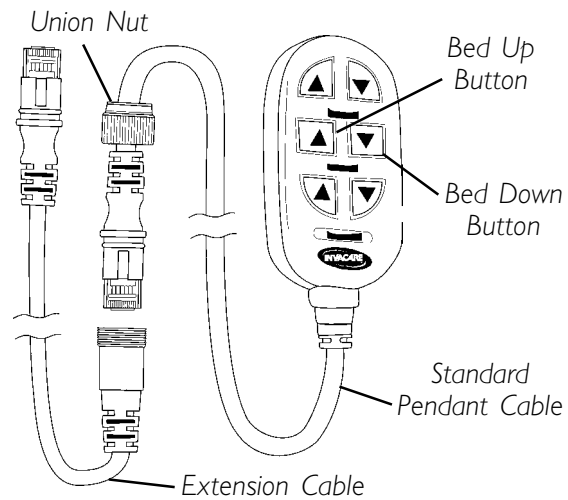


FIGURE 10 - PENDANT LOCATION AND NOTES

FOR DEALERS ONLY ACTIVATING THE BED FUNCTIONS (FIGURE 11 & 12)

WARNING

When installing any connectors into the junction box, be sure the cable lock is secure after installation - otherwise, injury or damage may occur.

NOTE: The following procedure is for full/semi-electric beds ONLY.

All motors, the junction box, connectors and wiring are located on the foot spring section.

All connectors will arrive plugged into the junction box. If a connector is not plugged into the junction box when received or if a function of the bed is not working use the color coding to check the placement of the connectors. Each connector and junction box slot is color coded.

NOTE: The color rings on the cables are not visible when the cables are plugged in and the cable lock is attached.

1. Check all electrical connections on junction box at foot end to ensure that all motors are plugged into the correct locations.
2. Make sure all cables are routed through the cable lock slots.
3. Securely attach the cable lock.
4. Plug the junction power box cord into a 110-volt, 50/60 cycle-per-second outlet.

WARNING

The Removal and Installation of Cables and the Cable Lock are to be performed by a qualified technician.

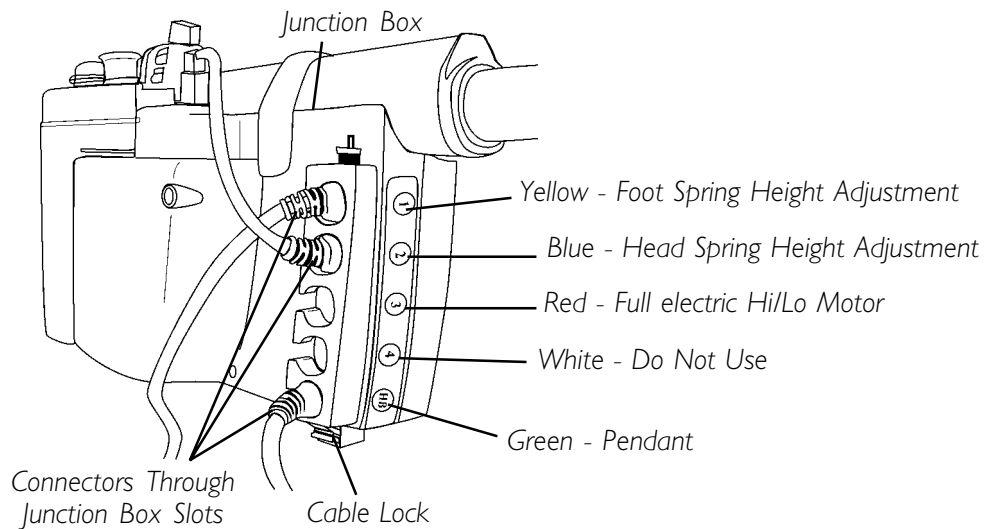


FIGURE 11 - ACTIVATING THE BED FUNCTIONS

FOR DEALERS ONLY

INSTALLING/REMOVING CABLE LOCK (FIGURE 12)

WARNING

The following procedures are to be performed **ONLY** by a qualified technician.

If the cable lock clips are broken have a qualified technician replace the cable lock. Otherwise damage or personal injury could result.

Installing

1. Slide the cables into the appropriate cable lock slots.
2. Depress the cable lock clips.
3. Push the cable lock clips into the locking slots on the junction box, until they click in place.

Removing

1. Compress the cable lock clips firmly.
2. Carefully pull the cable lock away from the junction box.
3. Slide the cable lock off of the cables.

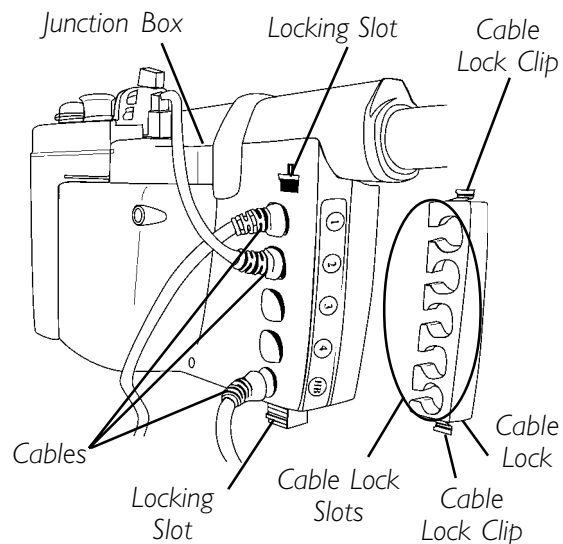


FIGURE 12 - INSTALLING/REMOVING CABLE LOCK

This Section Includes the following:

Full Electric Operation

Semi-Electric Operation

Emergency Crank

Manual Bed Operation

Optional Bed Rails

FULL ELECTRIC BED OPERATION - MODELS 5410IVC AND 5411IVC

NOTICE

Allow a slight pause between adjustments and avoid pressing multiple buttons at the same time. If pendant buttons are depressed too rapidly or multiple buttons are pressed at the same time, the desired feature may not activate. Simply release the pendant button, permit a slight pause and then activate the next operation.

On Full Electric beds the Hi/Lo crank **MUST** be removed before the bed is placed in service. If left in place the crank may cause damage or personal injury.

WARNING

NEVER operate if the unit has a damaged cord or plug. If it is not working properly, call a qualified technician for examination and repair.

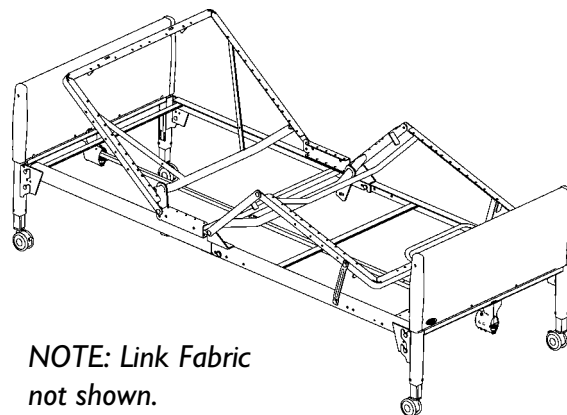
Keep **ALL** electrical cords away from **HEATED** or **HOT** surfaces.

Ensure all cables and cords are routed such that they will not become entangled or pinched. Otherwise damage or injury may result.

FULL ELECTRIC BED OPERATION (FIGURE 1)

Before placing the bed into use, test it by operating it through all phases of its operation.

1. If any problems arise during the test, recheck all electrical connections and mechanical hook ups.
2. Full electric beds use a six (6) function pendant for all bed operations.
3. All full electric beds come with an emergency crank to allow operation in the event of a power outage.



NOTE: Link Fabric not shown.

FIGURE 1 - FULL ELECTRIC BED OPERATION - MODELS 5410IVC AND 5411IVC

RAISING AND LOWERING THE ENTIRE BED (FIGURE 2)**WARNING**

DO NOT place pendant under or between objects. This may unintentionally press the buttons and may cause injury or damage to occur.

1. To raise the entire bed, press the "Bed Up" button as shown in FIGURE 2.
2. To Lower entire bed, press the "Bed Down" button as shown in FIGURE 2.

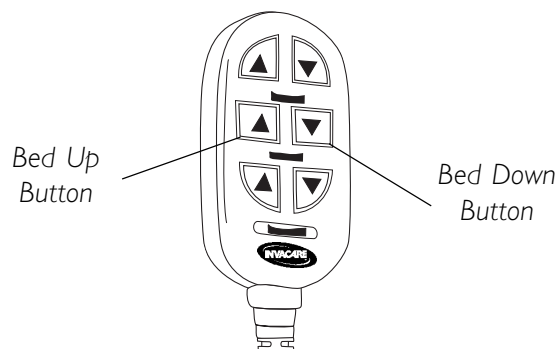


FIGURE 2- RAISING AND LOWERING THE ENTIRE BED (FULL ELECTRIC)

RAISING AND LOWERING THE HEAD AND FOOT SECTIONS (FIGURE 3)

1. To raise the head of the bed, press the "Head Up" button.
2. To lower the head of the bed, press the "Head Down" button.
3. To raise the foot of the bed, press the "Foot Up" button.
4. To lower the foot of the bed, press the "Foot Down" button.

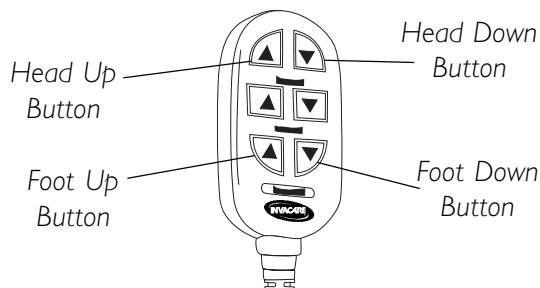


FIGURE 3 - RAISING AND LOWERING THE HEAD AND FOOT SECTIONS (FULL ELECTRIC)

SEMI-ELECTRIC OPERATION - MODELS 5310IVC AND 5311IVC**SEMI-ELECTRIC OPERATION (FIGURES 4 & 5)**

1. The semi-electric beds Models 5310IVC and 5311IVC.
 - A. Use a four (4) function pendant for head and foot spring functions.
 - B. Use a hand crank for Hi/Lo bed operation.
2. Test all operating features of the bed.

3. If any problems arise during test, recheck all electrical connections and mechanical hook ups.
4. All semi-electric beds come with an emergency crank to allow continued operation in the event of a power outage.

CAUTION

If a button on the pendant is not released or sticks the bed spring will not stop moving.

RAISING AND LOWERING HEAD AND FOOT SECTIONS (FIGURE 4)

1. To raise the head of the bed, press the "Head Up" button.
2. To lower the head of the bed, press the "Head Down" button.
3. To raise the foot of the bed, press the "Foot Up" button.
4. To lower the foot of the bed, press the "Foot Down" button.

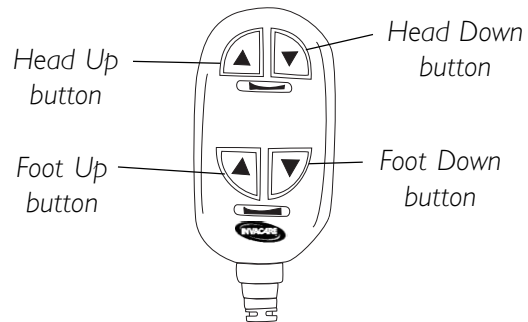


FIGURE 4 - RAISING AND LOWERING THE HEAD AND FOOT SECTIONS (SEMI-ELECTRIC)

RAISING AND LOWERING THE ENTIRE BED (FIGURE 5)

1. Model 5310IVC - Use crank "B" to raise and lower the entire bed.

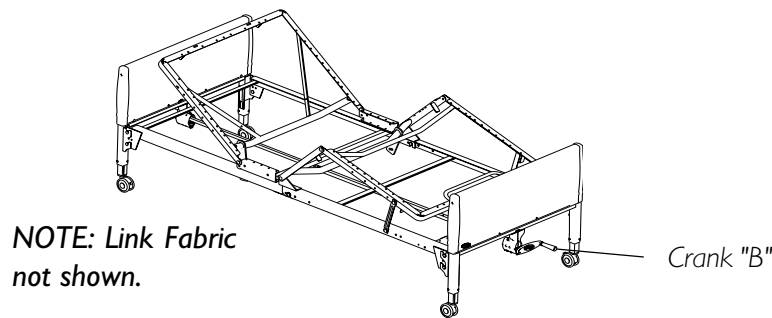


FIGURE 5 - MODEL 5310IVC RAISING AND LOWERING THE ENTIRE BED

EMERGENCY CRANK (FIGURE 6)

NOTE: If the full electric or semi-electric bed must be adjusted manually due to a power outage or an electronic malfunction, use the emergency crank to make the adjustments. You should find the Emergency crank stored in the link fabric of the spring deck. If you do not find the crank, contact your dealer.

1. Remove the emergency crank from the spring deck of the bed under the mattress.
2. Locate the exposed shaft end according to the function you want to perform. Refer to FIGURE 6.

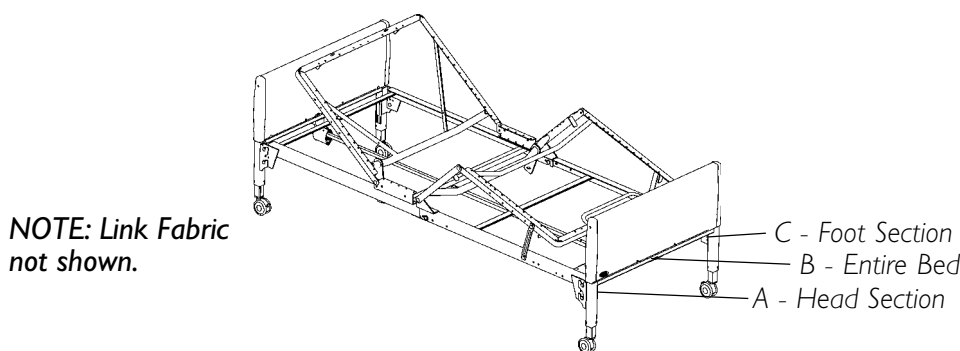


FIGURE 6 - PLACEMENT OF EMERGENCY CRANK (FULL ELECTRIC BED OPERATION - 5410IVC SHOWN)

3. Attach the emergency crank to A, B, or C.
4. Refer to the MANUAL BED OPERATIONS section below for further instruction.

NOTE: PUSH IN the emergency crank while turning it the desired direction.

NOTE: To move the entire bed on Full Electric models, open drive shaft cover on the foot end of the gear box.

MANUAL BED OPERATIONS (FIGURE 7)

1. The head and foot sections of the manual bed are operated using cranks.
 - A. The head section is raised and lowered with crank "A"
 - B. The foot section is raised and lowered using crank "C".
2. Model 5307IVC has a Hi/Lo adjustment. To raise or lower the entire bed turn crank "B".
3. Test all operating features of the bed.
4. If any problems arise during testing, recheck all mechanical hook ups.

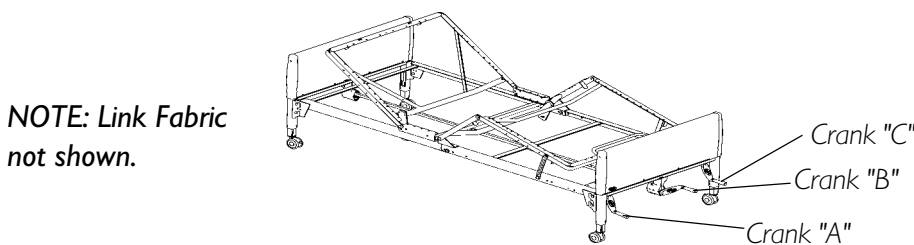


FIGURE 7 - MODEL 5307IVC MANUAL BED OPERATION

OPTIONAL BED RAILS

The optional bed rails come with an instruction sheet. Read all instructions on the Bed rail instruction sheet before installing bed rails.

WARNING

DO NOT install the Optional Bed Rails without reading and understanding all of the instructions in the instruction sheet that accompanies the bed rail kit.

This section includes the following:

Washing Beds

Maintenance and Cleaning Checklist

Maintenance Checklist

WASHABLE BEDS

Bed models 5410IVC, 5411IVC, 5310IVC, 5311IVC and 5307IVC manufactured after 4/03 can be washed with water. To wash these beds follow the instructions included in this section.

WARNING

Before disassembling or washing an electric bed disconnect it from the power source.

Before washing a bed disassemble it.

1. Remove the bed ends.

NOTE: Before washing and disassembling the bed, the gear box access door needs to be closed.

2. Disconnect the head spring section from the foot spring section.

NOTE: Inspect bed components for any exposed metal. To prevent rusting, Invacare recommends covering those areas with touch-up paint.

WASHING THE BED ENDS (FIGURE 1)

1. Stand or prop each bed end in an upright position on its legs.
2. Using a mild soap/detergent and soft bristle brush or sponge, scrub all exterior surfaces.
3. Using a hose and nozzle attachment, rinse bed ends thoroughly with plain cold or warm water.

NOTE: Do not exceed a water temperature of 110° F.

NOTE: Use household tap pressure. DO NOT use pressure washers or steam cleaners.

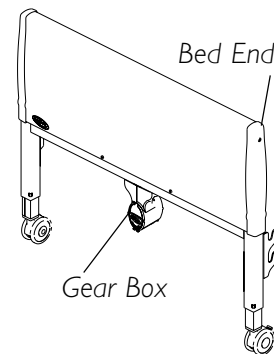


FIGURE 1 - WASHING BED ENDS

CAUTION

To protect flooring, ensure bed ends are completely drained and dry before placing on flooring. Otherwise, remaining dirty water may damage or stain flooring.

WARNING

Avoid spraying water directly into the gear box ends.

4. Tip bed end from side to side to allow any collected or trapped water to drain.
5. Thoroughly towel dry bed end and all components.
7. Repeat drying process until all components are dry.

NOTE: Ensure that the bed end is completely dry before storing.

WASHING BED SPRING SECTIONS (FIGURE 2)**WARNING**

Before washing the foot spring, make sure all cables are securely connected to the junction box.

DO NOT spray water into any open junction box connection ports.

The electronic motors, junction box and pendants on the full and semi-electric beds, are protected against the entrance of dust and water when properly attached. They are IP66 rated.

1. Remove spring sections and stand them on their sides.

NOTE: Stand the head section by adjusting the spring deck to act as a prop. The foot section should stand on its own on level ground.

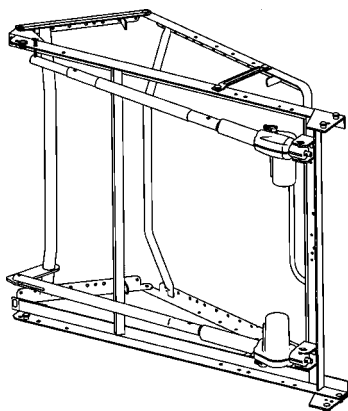
2. Using a mild soap/detergent and soft bristle brush or sponge, scrub all exterior surfaces.
3. Using a hose and nozzle attachment, thoroughly rinse the spring sections with plain cold or warm water.

NOTE: Do not exceed a water temperature of 110° F.

NOTE: Use household tap pressure. DO NOT use pressure washers or steam cleaners.

4. Tip spring sections from side to side to allow any collected or trapped water to drain.
5. Thoroughly towel dry spring sections.

NOTE: Ensure that the springs are completely dry before storing.

**FOOT SPRING SECTION
WASHING POSITION**

NOTE: Link Fabric not shown.

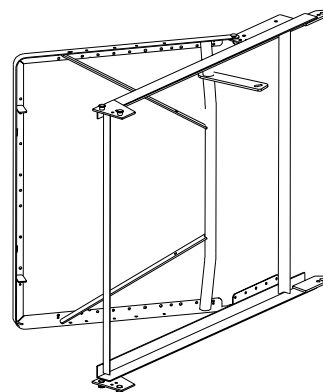
**HEAD SPRING SECTION
WASHING POSITION**

FIGURE 2 - WASHING BED SPRING SECTIONS

MAINTENANCE AND CLEANING CHECKLIST

Invacare recommends the following maintenance and cleaning procedures be conducted between users and at least once every three (3) years. This form is provided as a guide to help with documentation.

CLEANING AND DISINFECTING THE BED

- 1. Unplug the power cord of electric beds before performing maintenance.
- 2. Wipe down with disinfectant. Allow to dry completely. Wash the bed when extra cleaning is necessary, per washing instructions.

MECHANICAL INSPECTION AND MAINTENANCE

- 1. Inspect all bed components for damage or excessive wear.
- 2. Visually examine all welds for cracks.
- 3. Inspect the head and foot spring sections for bending, warping or damage.
- 4. Check drive shaft and drive shaft connections for bending, damage or excessive wear.
- 5. Inspect pull tubes and mounting hardware for bending, damage or excessive wear.
- 6. Inspect all bolts and rivets to ensure that they are securely tightened and functioning properly.
- 7. Check sleep surfaces to ensure all links are intact.
- 8. Check casters to ensure they lock, if applicable, and roll properly.

ELECTRICAL INSPECTION AND MAINTENANCE

- 1. Inspect all electrical bed components for damage or excessive wear (i.e. cracked or broken housings, or worn components).
- 2. Check pendant, power and motor cords for chafing, cuts or excessive wear.
- 3. Make sure all plugs are fully attached and free of damage.
- 4. Make sure cable lock on junction box is properly positioned and locked
- 5. Check all functions:
 - A. Head raises and lowers properly.
 - B. Foot raises and lowers properly.
 - C. Bed Ends raise and lower properly.

PASS / FAIL

- PASS** Bed and all components have passed all of the above inspection criteria and the bed is ready for placement into a client's home.
- FAIL** Bed, or any component, has failed ANY of the above inspection criteria. Tag the bed or component with a complete description of the failure(s) and have the bed serviced.

MAINTENANCE CHECKLIST

Invacare recommends the following maintenance procedures be conducted at least once every three (3) years. This form is provided as a guide to help with documentation.

MECHANICAL INSPECTION AND MAINTENANCE

- 1. Inspect all bed components for damage or excessive wear.
- 2. Visually examine all welds for cracks.
- 3. Inspect the head and foot spring sections for bending, warping or damage.
- 4. Check drive shaft and drive shaft connections for bending, damage or excessive wear.
- 5. Inspect pull tubes and mounting hardware for bending, damage or excessive wear.
- 6. Inspect all bolts and rivets to ensure that they are securely tightened and functioning properly.
- 7. Check sleep surfaces to ensure all links are intact.
- 8. Inspect bed ends for proper operation.
 - A. Adjust bed ends to the lowest position.
 - B. Remove universal bed ends from head or foot spring.
 - C. Remove universal bed end caps and plastic cover.
 - D. Inspect cables and pulleys for wear.
 - E. Inspect Acme screws for lubrication. Apply a light lithium based grease if necessary.
 - F. Reinstall the plastic cover and end caps.
- 9. Check casters to ensure they lock, if applicable, and roll properly.

ELECTRICAL INSPECTION AND MAINTENANCE

- 1. Inspect all electrical bed components for damage or excessive wear (i.e. cracked or broken housings, or worn components).
- 2. Check pendant, power and motor cords for chafing, cuts or excessive wear.
- 3. Make sure all plugs are fully attached and free of damage.
- 4. Make sure cable lock on junction box is properly positioned and locked
- 5. Check all functions:
 - A. Head raises and lowers properly.
 - B. Foot raises and lowers properly.
 - C. Bed Ends raise and lower properly.

PASS / FAIL

- PASS** Bed and all components have passed all of the above inspection criteria and the bed is ready for placement into a client's home.
- FAIL** Bed, or any component, has failed ANY of the above inspection criteria. Tag the bed or component with a complete description of the failure(s) and have the bed serviced.

LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants its product to be free from defects in materials and workmanship for a period of three (3) years from date of purchase for mechanical components and three (3) years from date of purchase for electrical components. All welds shall be warranted for the lifetime of the original purchaser for beds manufactured after 11/89. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address on the back cover, provide dealer's name, address, and the date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECT TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, COMMERCIAL OR INSTITUTIONAL USE, PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT (INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THE FOLLOWING INSTRUCTIONS.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.



Yes, you can.™

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