*In*Touch® Critical Care Bed

REF Model FL27 (2131/2141)

Version 2.5

stryker®

Maintenance Manual

For Parts or Technical Assistance:
USA: 1-800-327-0770

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Assembly Drawings (Continued)

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Symbols and Definitions

Warning/Caution, consult accompanying documentation

Safe Working Load

~ Alternating Current

Fuse Rating for Beds with the 100V~ or 120V~ Electric System

Fuse Rating for Beds with the 200V~ or 220V~ or 240V~ Electric System

Type B Equipment: equipment providing a particular degree of protection against electric shock, particularly regarding allowable leakage current and reliability of the protective earth connection.

Class 1 Equipment: equipment in which protection against electric shock does not rely on BASIC INSULATION only, but which includes an additional safety precaution in that means are provided for the connection of the EQUIPMENT to the protective earth conductor in the fixed wiring of the installation in such a way that ACCESSIBLE METAL PARTS cannot become live in the event of a failure of the BASIC INSULATION.

Mode of Operation: Continuous

IPX4 Protection from liquid splash

Dangerous Voltage

Protective Earth Terminal

Potential Equalization

Medical Equipment approved by the Canadian Standards Association with Respect to Electric Shock, Fire, Mechanical and Other Specified Hazards.

In accordance with European Directive 2002/96/EC on Waste Electrical and Electronic Equipment, this symbol indicates that the product must not be disposed of as unsorted municipal waste, but should be collected separately. Refer to your local distributor for return and/or collection systems available in your country.

Model Number

Manufacturer

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Symbols and Definitions

WARNING / CAUTION / NOTE DEFINITION

The words WARNING, CAUTION, and NOTE carry special meanings and should be carefully reviewed.

⚠ WARNING

Alerts the reader about a situation, which if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

⚠ CAUTION

Alerts the reader of a potentially hazardous situation, which if not avoided, may result in minor or moderate injury to the user or patient or damage to the equipment or other property. This includes special care necessary for the safe and effective use of the device and the care necessary to avoid damage to a device that may occur as a result of use or misuse.

Note

This provides special information to make maintenance easier or important instructions clearer.

INTENDED USE

This manual is designed to assist you with the maintenance of the Stryker *In*Touch® Critical Care Bed, Model FL27 (2131/2141). Carefully read this manual thoroughly before using the equipment or beginning maintenance on it. To ensure safe operation of this equipment, it is recommended that methods and procedures be established for educating and training staff on the safe operation of this bed.

This Maintenance Manual is an integral part of the bed and should be included if the bed is sold or transferred.

BRIEF PRODUCT DESCRIPTION AND INTENDED USE STATEMENT

INTENDED MEDICAL INDICATIONS: In-touch is an AC-powered adjustable hospital bed designed to position patients for procedures, therapy, and recovery in healthcare environment, transport patients between bays and procedural rooms, provide patient security, measure and display patient weight, allow patients to alert caregiver when the patient requires emergency assistance or any assistance to improve comfort levels, and monitor patient position to alert caregiver of a deliberate exit or potential fall. The bed has thirty-nine prerecorded clinical phrases in 24 languages and offers music therapy.

INTENDED PATIENT POPULATION: The intended patient population is acute-care human patients. The safe working load (i.e. the sum of the patient, the mattress, and accessory weight) for InTouch is 550lbs (250kg). This bed is not intended for use with patients 35 inches or less and/or patients that weigh less than 50 pounds.

INTENDED PART OF THE BODY: InTouch is intended to support a patient. It is intended to be used with a sleep surface. The Frame can come in contact with human skin but a patient should never be on the frame without a support surface.

INTENDED USER PROFILE: InTouch is intended for use in Acute Care settings. These settings may include critical care, step down, progressive care, med/surg, sub-acute care, and post anesthesia care unit (PACU) or other locations as prescribed. Intended operators are health care professionals (nurses, nurse aids, doctors) which can use all bed operations (e.g., bed motion functions, nurse call, siderail communications, bed exit, therapy options), patient and bystander, which can use bed motion functions, nurse call & siderail communications, and trained professionals for installation, service, and calibration.

INTENDED CONDITION OF USE AND EXPECTED LIFE: Stryker Medical Bed products are designed for a 10 year expected service life under normal use, conditions, and with appropriate periodic maintenance as described in the maintenance manual for each device. Stryker warrants to the original purchaser that the welds on its Bed products will be free from structural defects for the expected 10 year life of the Bed product as long as the original purchaser owns the products.

The product is intended to be used in a healthcare environment, including hospitals, surgery centers, long term acute care centers, and rehabilitation centers. The intended environmental conditions are 10 to 40 degrees Celsius and 30 to 75% RH. The product is compatible with 35” x 84” surfaces, the facility nurse call system, standard Med-Surg equipment, and the facility infrastructure. InTouch is intended to be used with a 6”-8.5” sleep surface; asleep surface or overlay greater than 6” that offers therapeutic value may be used with, patient supervision.

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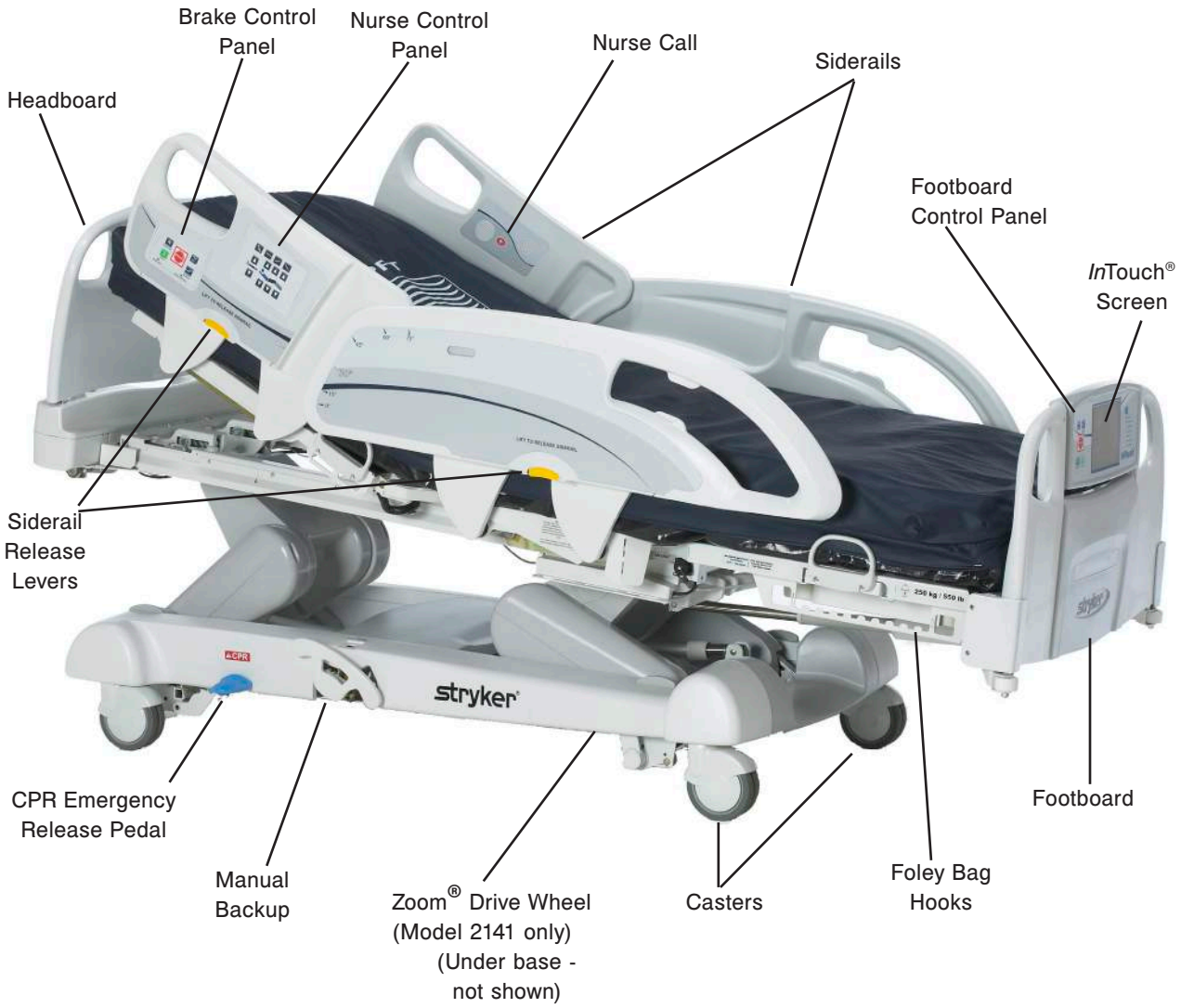
PRODUCT ILLUSTRATION



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SPECIFICATIONS

	**Safe Working Load** **Note:** Safe Working Load indicates the sum of the patient, mattress and accessory weight.	550 lbs	249 kg
Bed Weight		750 lbs	340.2 kg
Overall Bed Length		90”	228,6 cm
Overall Bed Width	Siderails Up	42”	106,7 cm
	Siderails Down	40”	102,9 cm
Base	Underbed Clearance	5”	12,7 cm
Litter	Patient Surface • Width • Length • Length (with Optional Bed Extender)	 35” 84” 90”	 88,9 cm 213,4 cm 228,6 cm
	Seat Section • Depth	 18.5”	 47 cm
	Foot Section • Length • Angle	 29” 0˚ to 50˚	 73,7 cm 0˚ to 50˚
	Fowler Section • Length • Width • Angle	 36” 34” to 35” 0˚ to 70˚	 91,4 cm 86,4 cm - 88,9 cm 0˚ to 70˚
	Gatch Section • Length • Width • Angle	 18” 34” to 35” 0˚ to 15˚	 45,7 cm 86,4 cm - 88,9 cm 0˚ to 15˚
	Cardiac Chair • Standard Cardiac Chair Position • Enhanced Cardiac Chair Position	 Head: 65˚, Seat: 17˚, Foot: 30˚, Trend: 3˚ Head: 70˚, Seat: 19˚, Foot: 47˚, Trend: 3˚	
Fowler	Length	36.5”	92,7 cm
Bed Lift System	Height (high) to top of litter	33”	83,8 cm
	Height (low) to top of litter	16”	40,6 cm
	Trendelenburg/Reverse Trendelenburg	12˚	
	Bed Lift Time	35 seconds maximum from lowest to highest position	
Scale System	Capacity	550 lbs	249 kg
	Accuracy: • For weight from 100 lb to 550 lb • For weight from 100 lb to 550 lb • For weight under 100 lb • For weight under 100 lb	 +/- 2% when in Trendelenburg or Reverse Trendelenburg +/- 2% when Flat +/- 2 lb when in Trendelenburg or Reverse Trendelenburg +/- 2 lb when Flat	
CPR System	Speed to level bed from any position • Fowler • Foot and Seat	 15 seconds 60 seconds	
Drive System	Speed (Optional Zoom® Drive) • Forward • Backwards	 3.6 mph 2.5 mph	 5.8 km/h 4.0 km/h

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SPECIFICATIONS (CONTINUED)

Mattress	Recommended Mattress Size • With Bed Extender DM64196 (PositionPRO) (35” x 6” x 4”) • With Bed Extender DM64197 (XPRT™) (35” x 6” x 5.5”)	35” x 84” x 6”	88,9 cm x 213,4 cm x 15,2 cm
		35” x 90” x 4”	88,9 cm x 228,6 cm x 10,1 cm
		35” x 90” x 5.5”	88,9 cm x 228,6 cm x 13,9 cm
	Recommended Air Mattress Size • With Bed Extender DM64196 (PositionPRO) (35” x 6” x 4”) • With Bed Extender DM64197 (XPRT™) (35” x 6” x 5.5”)	35” x 84” x 6” - 8.5”	88,9 cm x 213,4 cm x 15,2 cm - 21,6 cm
		35” x 90” x 4”	88,9 cm x 228,6 cm x 10,1 cm
		35” x 90” x 5.5”	88,9 cm x 228,6 cm x 13,9 cm
Maximum Current Consumption	Without Optional Auxiliary Outlet (120VAC Only)	4.8 Amps	
	With Optional Auxiliary Outlet(s) (120VAC Only)	9.8 Amps	
Environmental Conditions	Storage • Ambient Temperature • Relative Humidity • Atmospheric Pressure	-40˚F to 158˚F 10 to 100% 500 to 1060 hPa	-40˚C to 70˚C
	Operating • Ambient Temperature • Relative Humidity • Atmospheric Pressure • Scale Accuracy	50˚F to 104˚F 30 to 75% 700 to 1060 hPa 18 ˚C to 25 ˚C	10˚C to 40˚C 64 ˚F to 77 ˚F
Electrical Requirements	All electrical requirements meet CSA C22.2 No. 601.1, UL 60601-1 and IEC 60601-1.60601-2-38 specifications.	100V~, 50-60Hz, 7.5A - Two 250V, 10A Fuses 120 ± 10% Vac, 50/60Hz - Two 250V, 10A Fuses 120V~, 50-60Hz, 4.0A (9.8A with 120V Optional Auxiliary Outlet) - Two 250V, 10A Fuses 200V~, 50-60Hz, 3.2A -Two 250V, 10A Fuses 220V~, 50-60Hz, 2.9A -Two 250V, 10A Fuses 240V~, 50-60Hz, 2.7A -Two 250V, 10A Fuses	
Battery	12 V, 17.6 Ahr, Sealed Lead-Acid Battery (Part Number QDF9188) 3.0 V 220mAh Lithium Battery, Size 20mm - Varta Int. CR2032 Coin Cell PC Battery Holder, Size 20mm - MDP Int. BA2032		

Stryker reserves the right to change specifications without notice.
Specifications listed are approximate and may vary slightly from unit to unit or by power supply fluctuations.

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Summary of Safety Precautions

Before operating the bed, it is important to read and understand all information in this manual. Carefully read and strictly follow the safety guidelines listed below.

Note

To ensure safe operations of the bed, methods and procedures must be established for educating and training hospital staff on the intrinsic risks associated with the usage of electric beds.

⚠ WARNING

- To prevent permanent damage to this unit, the unit must reach room temperature prior to conducting any setup and/or unit operations.
- The Weigh system is intended to assist in the monitoring of the patient's weight variation. Under no circumstances should its reading be used as sole reference for medical treatment.
- Preventative maintenance should be performed at least once a year to ensure all bed features are functioning properly.
- This bed is not intended for pediatric use, i.e., for any patient measuring 35 inches (88,9 cm) or less.
- This bed is equipped with a hospital grade plug for protection against shock hazard. It must be plugged directly into a properly grounded receptacle. Grounding reliability can be achieved only when a hospital grade receptacle is used.
- Shock Hazard - Improper handling of the power cord may result in damage to the power cord and potential shock hazards. If damage has occurred to the power cord, immediately remove the bed from service and contact the appropriate maintenance personnel. Failure to do so could result in serious injury or death.
- Serious injury can result if caution is not used when operating the bed. Operate the bed only when all people and equipment are clear of the electrical and mechanical systems.
- Always apply the brakes when a patient is on the bed or entering/exiting the bed. Serious injury could result if the bed moves while a patient is getting on or off the bed. Once the brake pedal is engaged, push on the bed to ensure the brakes are securely applied. Do the same test when using the electrical brake.
- To help reduce the number and severity of a potential fall when the patient is unattended, keep the siderails in the fully raised position and the sleep surface horizontal in its lowest position, unless his/her medical condition dictates otherwise. When raising the siderails, be sure that you hear the "click" that signals the locked condition. Pull firmly on the siderail to ensure it is locked into position.
- When the sleep surface sections are articulated, ensure that all the patient's limbs are within the raised siderails to avoid patient injury.
- When a patient's condition requires greater safety measures for his/her security, use the lockout controls in the footboard control panel to inhibit the siderail functions or remove any optional pendant control and install protective pads on the siderails.
- Siderails, with or without their padded covers, are not intended to serve as restraint devices to keep a patient from exiting the bed. Siderails are designed to keep a patient from inadvertently rolling off the bed. It is the responsibility of the attending medical personnel to determine the degree of restraint necessary to ensure a patient will remain safely in bed. Failure to use the siderails properly could result in serious patient injury.
- To reduce the risk of injury, ensure the sleep surface is horizontal and in the lowest position with the siderails fully raised and locked when moving the bed with a patient in it.
- To avoid injury to the patient and/or user, do not attempt to move the bed laterally with the steer mode engaged. The steer wheel cannot swivel.
- The CPR emergency pedal is for emergency use only. When activating the CPR pedal, all people and equipment must be removed from the area below and around the head, thigh and foot sections of the bed or serious personal injury and/or equipment damage could occur.
- To stop the fowler from moving down, the CPR pedal can be released at anytime during activation.
- The manual backup brake is for emergency use only. It should not be used for any other situation than an emergency or it might get overused when the time comes to use it for an emergency.
- Possible fire hazard exists when this bed is used with oxygen administering equipment other than nasal, mask type or half bed-length tent type. Unplug the bed power cord from the wall when oxygen administering equipment is used.
- When using a half bed-length tent type, ensure that the siderails are outside the oxygen tent and that the tent does not extend below the mattress support level. Do not route the power cord between the mattress and the bed frame.
- Do not attach the power cord to any moving parts of the bed frame.
- The power cord could be pinched and may cause electrical shock if a bed extender is used.
- The Bed Exit system is not designed to be used with patients weighing less than 50 lbs (23 kg).

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⚠ WARNING (CONTINUED)

- The Bed Exit system is intended only to aid in the detection of a patient exiting the bed. It is not intended to replace patient monitoring protocol. The Bed Exit system signals when a patient is about to exit the bed. The addition or removal of equipment with the Bed Exit system armed must be done using the “Adding or Removing Equipment with the System Armed” procedure, otherwise the sensitivity of the system may be affected and the readings of the patient’s movements in the bed may be erroneous.
- Do not steam clean, hose off or ultrasonically clean the bed. Do not immerse any part of the bed. The internal electrical parts may be damaged by exposure to water. Hand wash regularly all surfaces of the bed with warm water and a mild detergent. Wipe cleaned surfaces dry to avoid build-up of cleaning substances. Inspect the mattress after each use. Discontinue use if any cracks or rips, which may allow fluid to enter the mattress, are found in the mattress cover. Failure to properly clean the mattress, or dispose of it if defective, may increase the risk of exposure to pathogenic substances and may bring about diseases to the patient and user.
- Always unplug the bed power cord from the wall socket when servicing or cleaning the bed. When working under the bed with the bed in the high position, always apply the brakes and place blocks under the Bed Lift levers to prevent injury in case the Bed Down switch is accidentally pressed.
- Please ensure patient is not in the bed prior to starting bed calibration. In calibration mode, the software does not control the interferences between the mechanical parts of the bed. Mechanical damage could occur without supervision. Only qualified personnel should perform the calibration.
- Battery posts, terminals and related accessories contain lead and lead compounds - chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.
- Do not modify the *In*Touch® bed. Modifying the unit can cause unpredictable operation resulting in injury to the patient or user. Modifying the unit will also void this warranty.

⚠ CAUTION

- When using a mattress thicker than 6 inches (15,24 cm) or a mattress overlay, extra caution and/or patient supervision may be required to reduce the likelihood of occurrence of a patient fall.
- Preventative maintenance should be performed at least once a year to ensure all bed features are functioning properly. Ensure that any bed malfunction is promptly reported to your service personnel for immediate attention.
- When large fluid spills occur in the area of the circuit boards, cables and motors, immediately unplug the bed power cord from the wall socket, remove the patient from the bed and clean up the fluid. Have maintenance completely check the bed. Fluids can have an adverse effect on operational capabilities of any electrical product. DO NOT put the bed back into service until it is completely dried and has been thoroughly tested for safe operation. Ensure, among other things, that the plastic components being used as covers for the siderail mechanism arms and the foot end casing are removed and that the parts they cover are thoroughly dried.
- To avoid damage to the siderail mechanisms, do not move the bed using the raised siderails. Move the bed using the handles integrated to the boards.
- Because individual beds may have different options, footboards should not be moved from one bed to another. Mixing footboards could result in unpredictable bed operation.
- The mattress thickness should not exceed 6 inches (15,24 cm).
- When servicing, use only identical replacement parts provided by Stryker.
- SOME CLEANING PRODUCTS ARE CORROSIVE IN NATURE AND MAY CAUSE DAMAGE TO THE PRODUCT IF USED IMPROPERLY. If the products described above are used to clean Stryker patient care equipment, measures must be taken to ensure the beds are wiped with a damp cloth soaked in clean water and thoroughly dried following cleaning. Failure to properly rinse and dry the beds will leave a corrosive residue on the surface of the bed, possibly causing premature corrosion of critical components. Failure to follow the above directions when using these types of cleaners may void this product’s warranty.

Note

- Throughout this Operations Manual, the words “right” and “left” refer to the right and left sides of a patient lying on his/her back on the bed.
- The addition of accessories affects the motion of the bed.
- The *i*Bed option is only used as an informational feature and is not supposed to replace normal patient monitoring protocol.

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OPTIONAL ZOOM® DRIVE SYSTEM (MODEL 2141)

In addition to the previous warnings and cautions, all of the following warnings and cautions apply to units equipped with the Zoom®.

⚠ WARNING

- The 2141 *In*Touch® Bed is intended for use by trained hospital personnel only. Failure to properly train personnel could result in injury.
- USE CAUTION while maneuvering the unit with the drive wheel activated. Always ensure there are no obstacles near the unit while the drive wheel is activated. Injury to the patient, user or bystanders or damage to the frame or surrounding equipment could occur if the unit collides with an obstacle.
- Use caution when transporting the unit down halls, through doors, in and out of elevators, etc. Damage to the siderails or other parts of the unit could occur if the unit comes in contact with walls or door frames.
- Put the drive wheel in the neutral position and release the brake before pushing the unit manually. For 2141 models; push the Brake Off button to disengage drive wheel (Zoom®) before pushing the unit manually. Do not attempt to push the unit manually with the drive wheel engaged. The unit will be difficult to push and injury could result.
- If unanticipated motion occurs, unplug the power cord from the wall socket, push the battery power on/off switch to the “OFF” (0) position (the LED will not be illuminated), actuate the drive wheel pedal to the neutral position and call maintenance.
- The power save mode is activated after one hour on battery power with no motion release switch activation. Functions including Bed Exit, Scale and Motion will cease to operate when the unit enters the power save mode. Injury to the patient could occur if proper patient monitoring protocol is not observed.
- Always unplug the power cord and push the battery power on/off switch to the “OFF” (0) position before service or cleaning. When working under the frame, always support the litter frame to prevent injury in case the Bed Down switch is accidently activated.

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Static Discharge Precautions

The electronic circuits in the *In*Touch® Critical Care Bed are completely protected from static electricity damage only while the bed is assembled. It is extremely important that all service personnel always use adequate static protection when servicing the electronic systems of the *In*Touch® Critical Care Bed. You should be using static protection whenever you are touching wires.

Static Protection Equipment

The necessary equipment for proper static protection is:

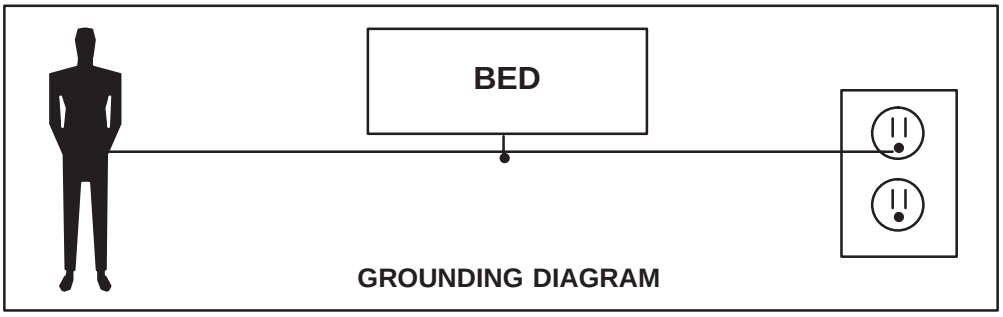
- 1 static wrist; 3M part number 2214 or equivalent,
- 1 grounding plug; 3M part number 61038 or equivalent,
- 1 test lead with a banana plug on one end and an alligator clip on the other; Smith part number N132B699 or equivalent.

⚠ CAUTION

All electronic service parts will be shipped in static shielding bags. Do not open the bags until you have completed steps 2 and 3 of the following procedure. Do not place unprotected circuit boards on the floor. All circuit boards to be returned to Stryker Medical should be shipped in the static shielding bags the new boards were shipped in.

Static Protection Procedure

1. Unplug the power cord from the power source.
2. Insert the grounding plug into a properly grounded hospital grade wall receptacle. Plug the banana plug of the test lead into the receptacle on the grounding plug. Connect the alligator clip on the other end of the test lead to a ground point on the bed.
3. Place the static control wrist strap on your wrist. Connect the alligator clip at the other end of the wrist strap cord to a ground point on the bed.



GROUNDING DIAGRAM

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Setup Procedures

To prevent permanent damage to this unit, the unit must reach room temperature prior to conducting any setup and/or unit operations.

It is important to ensure that the bed is working properly before it is put into service. The following list will help ensure that each part of the bed is checked.

- Install the foot and head boards on the bed. Insert the footboard carefully so that the footboard and the casing connectors fit in smoothly.

⚠ CAUTION

Because individual beds may have different options, footboards should not be moved from one bed to another. Mixing footboards could result in unpredictable bed operation.

- Plug the power cord to the bed connector at the head end of the bed and into a properly grounded hospital grade wall outlet.
- Turn the battery power switch to the “ON” (1) position (located below the litter surface at patient right side).
- Set the time and date through the touch screen (refer to the *In*Touch® Operations Manual for procedures).

⚠ WARNING

This bed is equipped with a hospital grade plug for protection against shock hazard. It must be plugged directly into a properly grounded receptacle. Grounding reliability can be achieved only when a hospital grade receptacle is used.

- To test the manual backup brake (located on the patient’s right side only), flip the manual backup brake pedal outward and depress down fully on the foot end side of the pedal. The word BRAKE in red will be visible in the clear window located on the base next to the pedal and the Brake symbol will be flashing on the footboard control panel. The brakes should now be applied.
- To test the electric brake; engage the brake by pressing the brake button on the siderail or footboard control panel. Try moving the bed to ensure the brakes are applied. Press the Neutral or Brake button on the siderail control panel or on the footboard to disengage the brake.
- For Model 2141 Beds only: On the patient’s right side, flip the manual backup brake pedal outward and depress down fully on the head side of the pedal. The letter D in GREEN should be visible in the clear window located on the base next to the pedal. The Zoom® Drive wheel should now be engaged. Depress down fully on the center of the pedal until the letter N in BLUE is visible in the clear window. The Zoom® Drive wheel should now be disengaged.
- Ensure that the siderails raise, lock in the fully raised position and lower smoothly.
- Run through each control on the footboard.
- Verify the scale system and the Bed Exit system for proper operation.
- Run through each control on both inner and outer control panels of the head siderails. If the bed is equipped with the optional Siderail Communication Pendant, plug the provided cable to the 37-pin connector located at the head end of the bed and into the proper wall outlet.
- Raise the bed completely and activate the Trendelenburg function. Ensure the head end lowers to the full down position (refer to the *In*Touch® Operations Manual for procedures). Level the bed using the Bed Lift system controls.
- Raise the bed completely and activate the reverse Trendelenburg function. Ensure the foot end lowers to the full down position (refer to the *In*Touch® Operations Manual for procedures). Level the bed using the Bed Lift system controls.
- Verify functionality of the CPR emergency release: raise the fowler up then depress down on the CPR pedal located on either side of the bed at the head end of the base. The fowler will lower towards a flat position until the pedal is released.
- Ensure the Knee Gatch (if raised) also starts flattening when the Fowler is completely down. Following the complete lowering of the Fowler, wait approximately 30 seconds (the time for the Fowler control motor to reset) and verify that the motor has indeed reset by raising the Fowler fully up using the “Fowler Up” control.
- Verify the following optional equipment for proper operation: 120V Auxiliary Outlet, Head End Nurse Controls, Pendant, Roller Bumpers, Zoom® Handles, etc.
- To prevent permanent damage to the bed, ensure the unit reaches room temperature prior to use.

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OPTIONAL XPRT™ THERAPY MATTRESS

If your bed is equipped with the **XPRT™** Therapy Mattress option, perform the following setup procedures to install the Mattress. For graphic representation of the setup procedures, refer to the **XPRT™** Therapy Mattress Operations Manual.

⚠ CAUTION

When using a mattress thicker than 6 inches (15,24 cm) or a mattress overlay, extra caution and/or patient supervision may be required to reduce the likelihood of occurrence of a patient fall.

1. Place mattress over bed litter with printed logo at head end of the bed.
2. Fold back foot end section of mattress.
3. Place foot box on foot end of bed litter.
4. Connect the two (2) color coded connectors on the foot box to the corresponding color coded connectors on the mattress. Connect black connection on foot box to cable adapter 2950-001-180 and then to the bed frame.
5. Turn the locking collars clockwise to secure the connections.
6. Connect the other end of the black connector to the bed (left side of litter at foot end behind the accessory outlet).
7. Connect the air line from the mattress to the corresponding fitting on the foot box.
8. Fasten the two (2) retaining clips to the two (2) D-Rings on the foot box.
9. Lower the foot section of mattress over the foot box. Attach the mattress to the bed frame using the mattress tie-downs.
10. Apply linens utilizing the “D” rings for the flat sheet.
11. To secure linens, to mattress, thread four corners through D-Rings attached to mattress.
12. To ensure proper therapy, do not pull linens taut. The linens should remain loose and wrinkly on the surface of the mattress.
13. Plug the mattress power cord into a properly grounded, hospital grade receptacle.

Note

The *In*Touch® bed will detect when the mattress has been connected as well as what type of mattress it is. This will be shown on the *In*Touch® screen.

⚠ WARNING

- Do not route the power cord between the mattress and the bed frame.
- Do not attach the power cord to any moving parts of the bed frame.
- The power cord could be pinched and may cause electrical shock if a bed extender is used.

OPTIONAL POSITIONPRO™ REPOSITIONING MATTRESS OPTION

If your bed is equipped with the PositionPRO™ Patient Repositioning Mattress option, perform the following setup procedures to install the mattress. For graphic representation of the setup procedures, refer to the PositionPRO™ Mattress Operations Manual.

⚠ CAUTION

When using a mattress thicker than 6 inches (15,24 cm) or a mattress overlay, extra caution and/or patient supervision may be required to reduce the likelihood of occurrence of a patient fall.

1. Place the mattress onto the bed.
2. Flip the foot section towards the head end.
3. Place the control box (upside down) into the opening in the foot section.
4. Connect outer transparent tubes to manifold, matching the color coding.

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OPTIONAL POSITIONPRO™ REPOSITIONING MATTRESS (CONTINUED)

5. Connect tilt sensor cables.
   a. Align the white dots.
   b. Twist clockwise to fasten.
6. Connect pendant cable.
7. Connect power cord (4') and turn the switch to on.
   Note: The switch is hidden under the power cord.
8. Fasten straps over the power cord.
9. Install the power cord in the two (2) retaining clips.
10. Fasten the three (3) retaining straps.
11. Carefully rotate the foot end control box and the mattress into the flat position.

⚠ CAUTION

Gently lower the foot end section to not damage the control box.

12. Fasten the retaining straps to secure the mattress to the bed frame (four (4) straps total).
13. Connect the power cord to the 110V outlet on the bed.

Applying the linens

1. Apply the linens using the "D" rings for the flat sheet.
2. To effectively use the "Turn Assist", do not pull linens taut. Linens should remain loose and wrinkly on surface of the mattress.

⚠ WARNING

Ensure that you have always access to the CPR straps.

Note

If any problems are found during bed setup, contact our Technical Service department at USA: 1-800-327-0770 (option 2).

OPTIONAL ZOOM® DRIVE SYSTEM (MODEL 2141)

If your bed is equipped with the Zoom® drive, run through the preceding setup procedures and continue with the procedures listed below.

- With the battery power switch in the "ON" (1) position and the drive wheel in the neutral position (not touching the floor), ensure the "Engage Drive Wheel" LED on the head end control panel is illuminated.
- Run through the operation of the drive wheel (refer to *In*Touch® Operations Manual for procedures) to ensure it is operating properly.
- On both sides of the bed, flip the manual backup brake pedal outward and depress down fully on the head side of the pedal. The letter D in GREEN should be visible in the clear window located on the base next to the pedal. The Zoom® drive (2141 Model only) should now be engaged. Depress down fully on the center of the pedal until the letter N in BLUE is visible in the clear window. The Zoom® drive should now be disengaged.

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The Maintenance Menu is accessed through the Touch Screen and contains additional features of the product. This menu provides an interface to the user and/or service personnel in order to provide the ability to control and access maintenance features.

ACCESSING CONFIGURATION SCREEN

⚠ WARNING

Please ensure patient is not in the bed prior to starting bed calibration. In calibration mode, the software does not control the interferences between the mechanical parts of the bed. Mechanical damage could occur without supervision. Only qualified personnel should perform the calibration.

Note

Verify that the bed is on a level surface which does not have any slopes or inclines prior to entering into the calibration mode.

1. Unseat and reseat the footboard and wait until the main control screen is displayed.
2. Push and hold the Main Menu button located in the upper right corner of the footboard control panel (see Figure 1 below). Continue pressing on the Main Menu button while executing steps 3-5.
3. Push and hold the Brake button for 8-10 seconds and then release.
4. Push the HOB 30°+ button once and release.
5. Push the Drive button once and release.
6. Release the Main Menu button and you will be taken into the Configuration Screen shown in Figure 2.

Figure 1: Footboard Control Panel

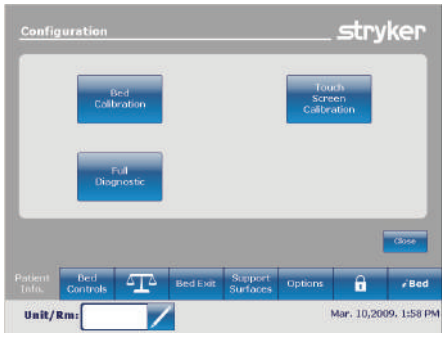

Figure 2: Configuration Screen

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CONFIGURATION SCREEN

The following items A, B, and C are configuration buttons available and displayed on the Configuration screen (Figure 3).

A. Bed Calibration
B. Full Diagnostic (see page 32)
C. Touch Screen Calibration (see page 33)

The following items D and E are configuration options available but are **not displayed** on the Configuration screen To access these configuration options, follow the procedures identified on page listed below.

D. Bed Options Configuration (see page 34)
E. Serial Number Configuration (see page 35)

Figure 3: Configuration Screen Menu Items

A. Bed Calibration

Note: During calibration, if the backlight shuts off touch the screen to continue.

⚠ WARNING

Refer to Figure 4 for WARNING details.

1. To start the bed calibration, press the Bed Calibration button on the Configuration Screen (refer to Figure 3).
2. After pressing the Bed Calibration button, Figure 4 will be displayed. Press “NEXT” to continue with calibration.

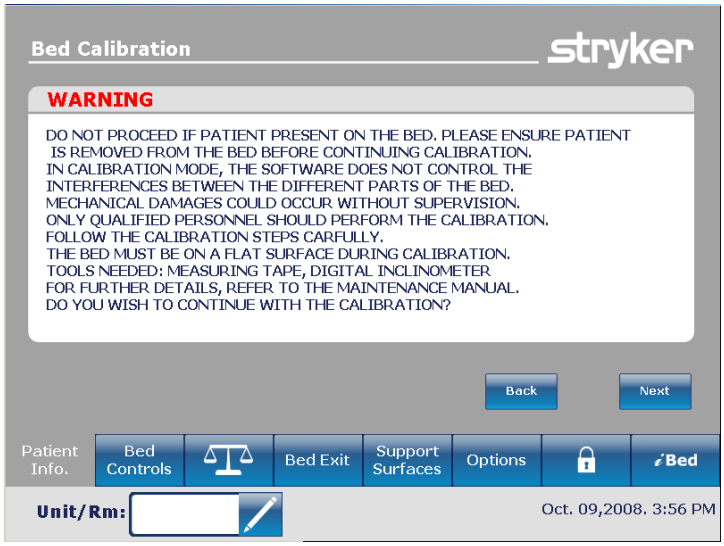

Figure 4: Bed Calibration - WARNING

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

3. After pressing “NEXT” to continue calibration, Figure 5 will appear.

Figure 5: Bed Calibration - Step #1 of 6

4. Place the Litter surface to a flat position by pressing simultaneously the **Foot Up**, **Fowler Down** and **Gatch Down** buttons as shown in Figure 6.

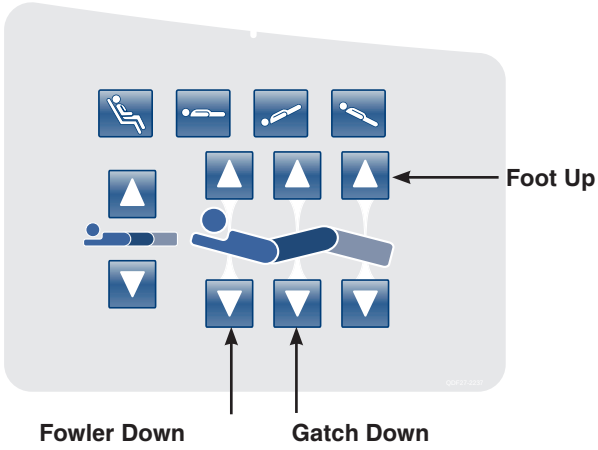

Figure 6: HE Siderail Control Panel - (Right Side Shown)

5. Lower the bed to the lowest position. Press the **Bed Height Down (Head Lift Down)** and **Reverse Trendelenburg (Foot Lift Down)** buttons simultaneously as shown in Figure 7.

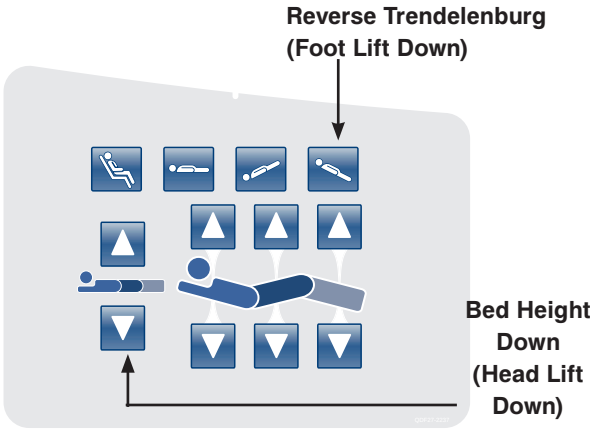

Figure 7: HE Siderail Control Panel - (Right Side Shown)

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

6. Press the Next button when done. The “Do Not Touch Bed” screen will appear as shown in Figure 8.

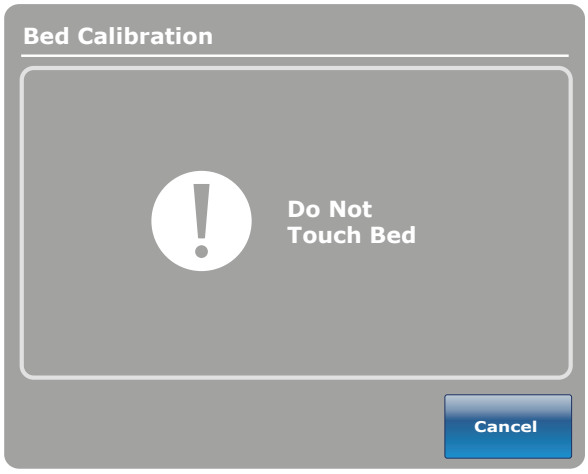

Figure 8

7. When step 1 of the calibration procedure has completed, step 2 of the calibration procedure will begin and Figure 9 will be displayed as shown below.

Figure 9: Bed Calibration - Step 2

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

8. Raise the bed height to 20 inches measuring from the top of the seat section to the floor. Press the **Bed Height Up (Head Lift Up)** and **Trendelenburg (Foot Lift Up)** buttons as shown in Figure 10.

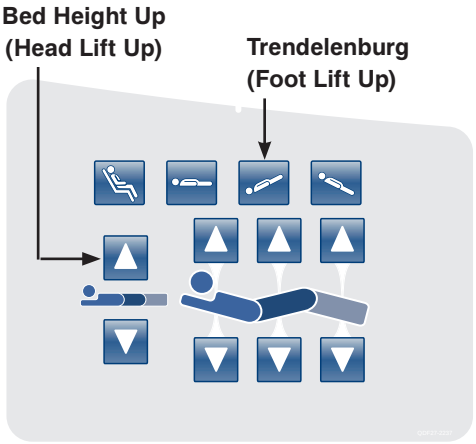

Figure 10: Head Siderail Control Panel (Right Side Shown)

9. Standing on either side of the bed at the fowler section, raise the foot siderail and then position the digital level/inclinometer on the bottom of the litter below the mattress retainer (refer to Figure 11). Using the digital level/inclinometer, verify the bed is level (0.0 +/- 0.2).

   Note: Cycle power on the digital level/ inclinometer prior to placing it on the bottom of the litter frame and do not zero/ calibrate the digital level/inclinometer.

Figure 11: Inclinometer placement

10. Press the Next button when done. The "Do Not Touch Bed" screen will appear as shown in Figure 12.

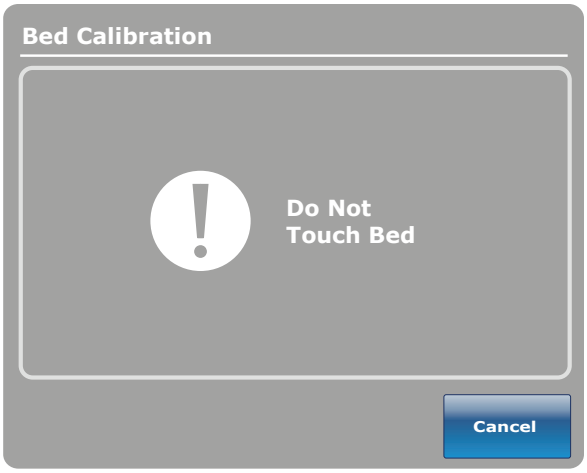

Figure 12: Do Not Touch Bed Screen

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

11. When step 2 of the calibration procedure has completed, step 3 of the calibration procedure will begin and Figure 13 as shown below will appear on the screen.

Figure 13: Bed Calibration - Step 3

12. Place the bed at +12 degrees Trendelenburg by pressing the **Trendelenburg (Foot Lift Up)** button as shown in Figure 14. Verify +12 degrees +/- 0.1 with the inclinometer you previously placed on the litter frame in step 9.

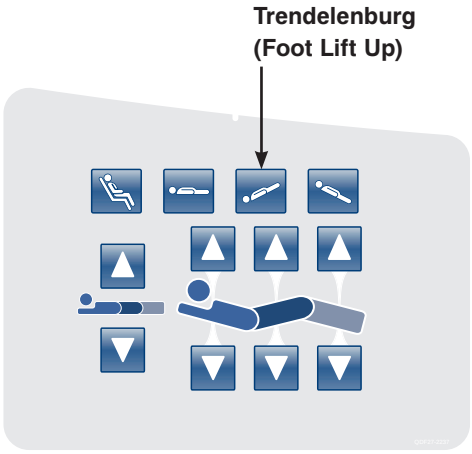

Figure 14: Head Siderail Control Panel

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

13. Press the 

button when done.

14. The “Do Not Touch Bed” screen will appear as shown in Figure 15.

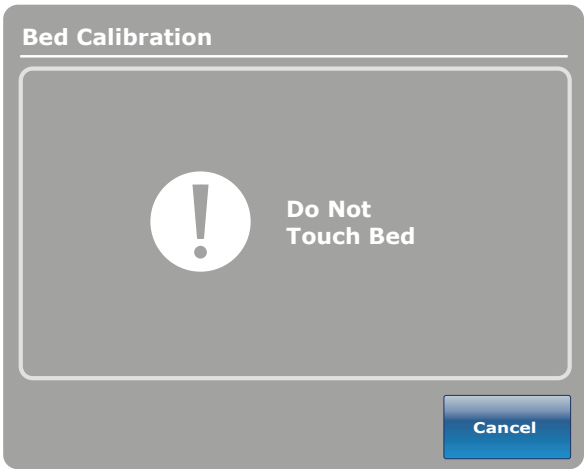

Figure 15: Do Not Touch Bed Screen

15. When step 3 of the calibration procedure has completed, step 4 of the calibration procedure will begin and Figure 16 will be displayed as shown below.

Figure 16: Bed Calibration - Step 4

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

16. Level the bed back out to zero degrees by pushing the Reverse Trendelenburg button until the litter is level while referencing the inclinometer. Note: Confirm inclinometer reads zero degrees.

17. Place the bed at -12 degrees Reverse Trendelenburg by pressing the **Bed Height Up (Head Lift Up)** button as shown in Figure 17 below. Verify -12 degrees +/- 0.1 with the inclinometer you previously placed on the bottom of the litter frame in step 9.

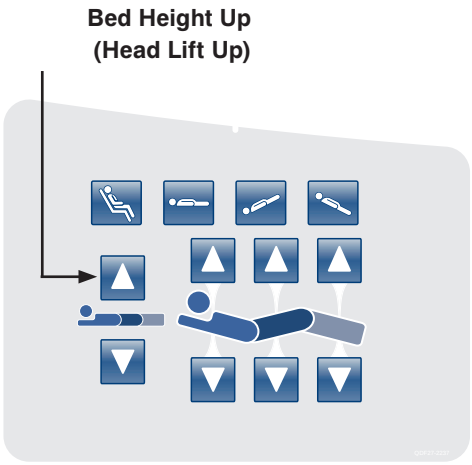

Figure 17: Head Siderail Control Panel - (Right Side Shown)

18. Press the 

button when done.

19. The “Do Not Touch Bed” screen will appear as shown in Figure 18.

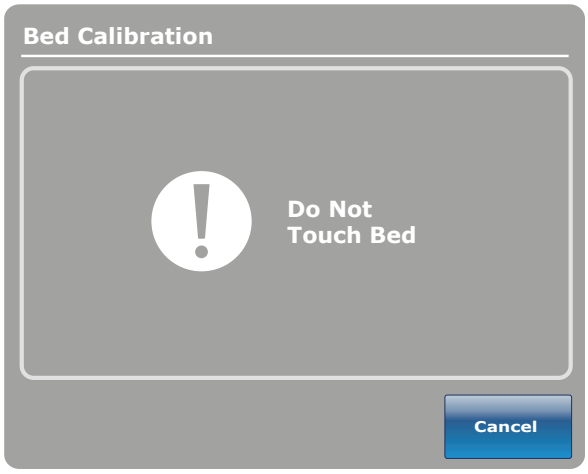

Figure 18: Do Not Touch Bed Screen

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

20. When step 4 of the calibration procedure has completed, step 5 of the calibration procedure will begin and Figure 19 will appear on the screen as shown below.

Figure 19: Bed Calibration - Step 5

21. Place the bed at the highest height by pressing simultaneously the **Trendelenburg (Foot Lift Up)** button and **Bed Height Up (Head Lift Up)** button as shown in Figure 20.

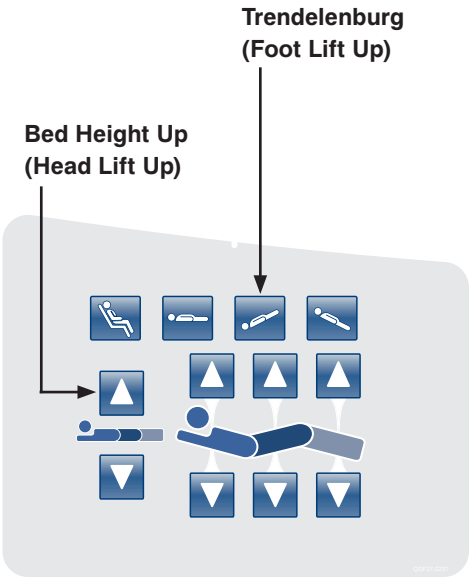

Figure 20: Head Siderail Control Panel - (Right Side Shown)

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

22. Press the **Fowler Up** button until the Fowler reaches the highest height, next press the **Gatch Up** button until the Gatch reaches its highest height, lastly press the **Foot Up** button until the foot section reaches its highest height (refer to Figure 21 below). The foot section should be at a flat position.

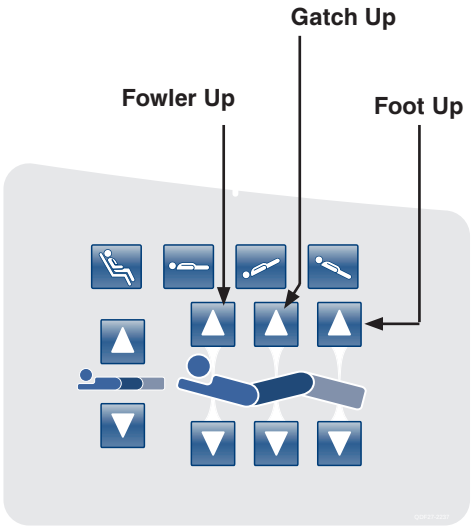

Figure 21: Head Siderail Control Panel - (Right Side Shown)

23. Press the 

button when done.

24. The “Do Not Touch Bed” screen will appear as shown in Figure 22.

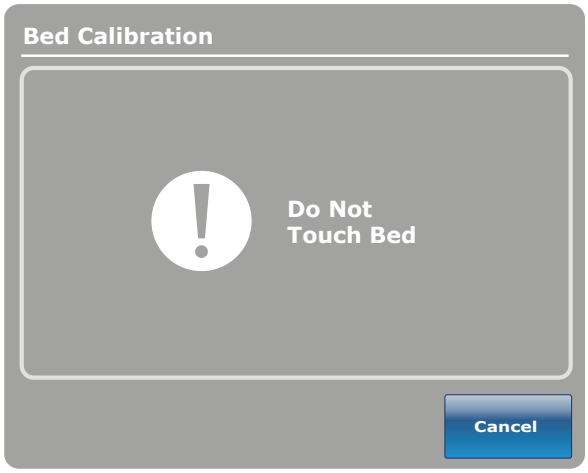

Figure 22: Do Not Touch Bed Screen

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CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

25. When step 5 of the calibration procedure has completed, step 6 of the calibration procedure will begin and Figure 23 will be displayed as shown below.

Figure 23: Bed Calibration - Step 6

26. Place the bed at the highest height by pressing simultaneously the **Trendelenburg (Foot Lift Up)** button and **Bed Height Up (Head Lift Up)** button (see Figure 24).
27. Place the Fowler and Gatch section of the bed at the highest height by first pressing the **Fowler Up** button then the **Gatch Up** button (See Figure 24).
28. Place the foot at the lowest position by pushing the **Foot Down** button until limit is met (see Figure 24) . **CAUTION: The Gatch must be raised to the highest height prior to running the Foot Down or damage could occur.**

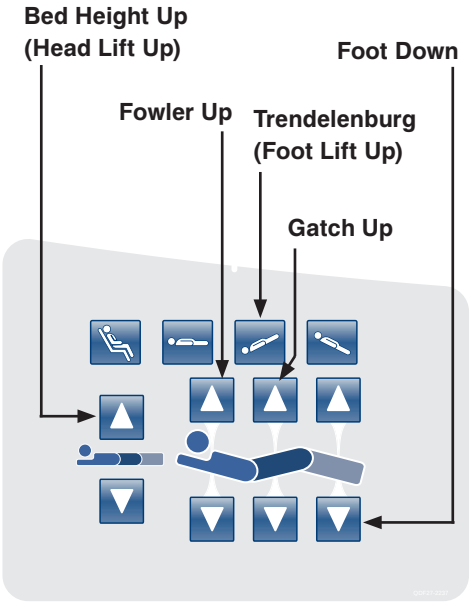

Figure 24: Calibration Complete

CONFIGURATION SCREEN (CONTINUED)

A. Bed Calibration (Continued)

29. When the calibration procedure is completed, Figure 25 will be displayed as shown below.
30. Press the Close button to exit the Calibration Procedure Menu.
31. Level the litter flat using the CPR pedal. Verify all display readings are zero degrees while the bed is at 33” (84 cm) (highest height). Lower the bed to 16” (41 cm) (lowest height) and verify the display readings maintain a constant reading of zero degrees with no fluctuations. When the bed reaches it lowest height at 16”, verify the display readings are still at zero degrees.

    Note: If readings are not all zero, you will need to recalibrate the bed by repeating steps 1-30.

Figure 25: Calibration Complete

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CONFIGURATION SCREEN (CONTINUED)

B. Full Diagnostic

1. From the Configuration Screen, press the Full Diagnostic button. Figure 26 will appear.

Figure 26: Full Diagnostic Screen

2. The following menu items may be selected by pressing their button.
   a. **BOARDS** (Figure 27a)
   Provides information on the switch boards and the touch screen's software version.
   b. **ERROR CODES** (Figure 27b)
   Provides information on errors which the CPU board has identified.
   c. **INPUT STATES** (Figure 27c)
   Provides information on the status of all switches and jumpers on the bed.
   d. **MOTORS** (Figure 27d)
   Provides information on what a motor is doing when a function button is pushed.
   Note: This requires assistance to press the buttons on the head siderails or at the head end control.
   e. **BUTTONS PRESSED** (Figure 27e)
   Provides information on when the CPU has detected a button being pressed.
   Note: This requires assistance to press the buttons on the head siderails or at the head end control.
   f. **SIGNAL VALUES** (Figure 27f)
   Provides information on CPU voltages, load cell values, and angle sensor values.

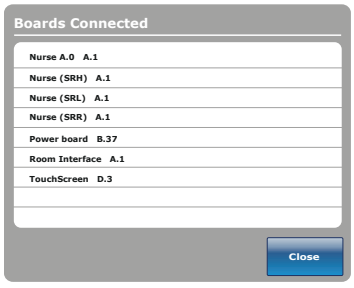

Figure 27a: Board

Figure 27b: Error Codes

Figure 27c: Input States

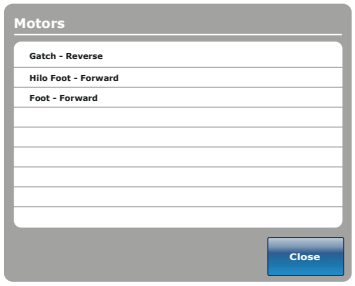

Figure 27d: Motor

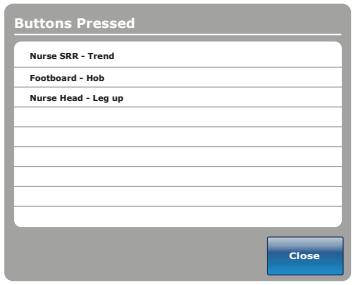

Figure 27e: Pressed Buttons

Figure 27f: Signal Values

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CONFIGURATION SCREEN (CONTINUED)

C. Touch Screen Calibration

Ensure patient is not present on the bed before performing the Touch Screen Calibration.

1. From the Configuration Screen, press the Touch Screen Calibration button, Figure 28 will appear.
   NOTE: If the touch screen will not respond, you will need to push the HOB 30^0+, Brake and Drive buttons on the footboard at the same time (this will enable you to get directly into the touch screen calibration).
   CAUTION: When pushing the buttons above the fowler, brakes, or drive actuators may activate.
2. Carefully press and briefly hold a stylus or your finger on the center of the target (cross-hair) shown on the screen. Repeat as the target moves around the screen. There will be four different locations to press: upper center, lower center, center left and center right.
3. When the last target has been touched, the Figure 29 will be displayed to inform you the 'New calibration settings have been measured'.
4. Tap the screen to register saved data.

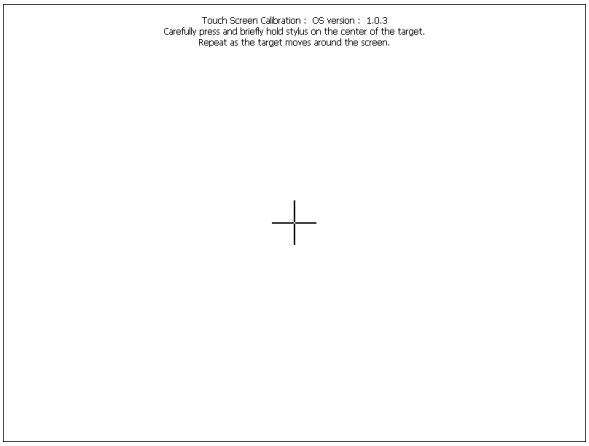

Figure 28: Touch Screen Calibration: Start

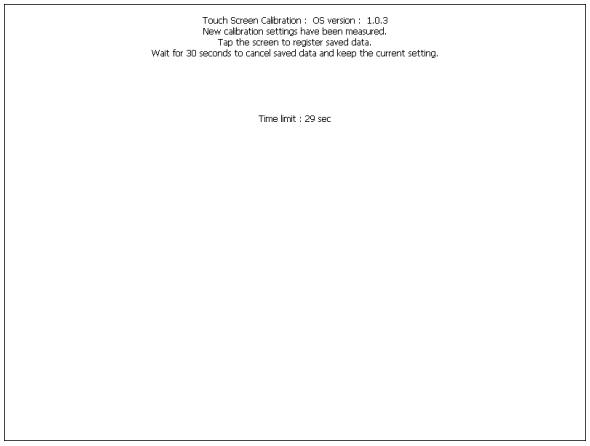

Figure 29: Touch Screen Calibration: Completed

5. If you do not want to save the new data, wait for 30 seconds to cancel saved data and keep the current setting.

NOTE: The TOUCH SCREEN CALIBRATION SCREEN is a validation of the touch screen's calibration. When the user presses anywhere on the screen, the coordinates x and y are displayed on the lower part of the screen.

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CONFIGURATION SCREEN (CONTINUED)

D. Bed Options Configuration

Access the configuration screen as shown on page 20 . Once in the configuration screen you will need to follow the steps below to access the options screen or the serial number screen.

To access the Bed Options screen:

1. Press and hold the **HOB 30** button and the **BRAKE** button at the same time for 25 seconds then release both buttons. The Bed Options screen (Figure 30) will be displayed.
   NOTE: When the European Community message window displays, push the Close button to close out of the message. That is not applicable in this configuration.

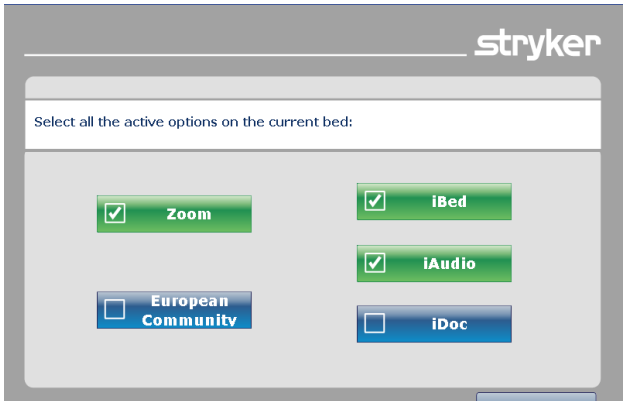

Figure 30: Bed Options screen

2. Select all of the options shown on the Bed Options screen that apply to the bed configuration then press the **Continue** button.
   Note: In Figure 30, the options selected are Zoom, iBed and iAudio. All of the options selected will turn green.
3. After pressing **Continue** in step 2, a confirmation screen as shown in Figure 31 will be displayed verifying the options you selected.
   a. If the options on the confirmation screen do not match the options on the bed, press the **Back** button.
   b. If the options on the confirmation screen match the options on the bed, press the **OK** button.
4. After pressing the **OK** button, the options will be saved and the screen will return to the configuration screen. Press the **Close button** to close the configuration screen.
5. Cycle the power to the bed by first turning the battery disconnect switch to **OFF** (O) then unplug the power cord from the wall outlet. Plug the power cord back into the wall outlet and then turn the battery disconnect switch back **ON** (|).
6. Test bed functionality prior to returning the bed into service.

Figure 31: Bed Options Confirmation Screen

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CONFIGURATION SCREEN (CONTINUED)

E. Serial Number Configuration

To access the Serial Number screen:

1. Press and hold the **HOB 30** button and the **Vascular Position** button at the same time for 25 seconds then release both buttons. The Bed Configuration - Serial Number screen (Figure 32) will be displayed.

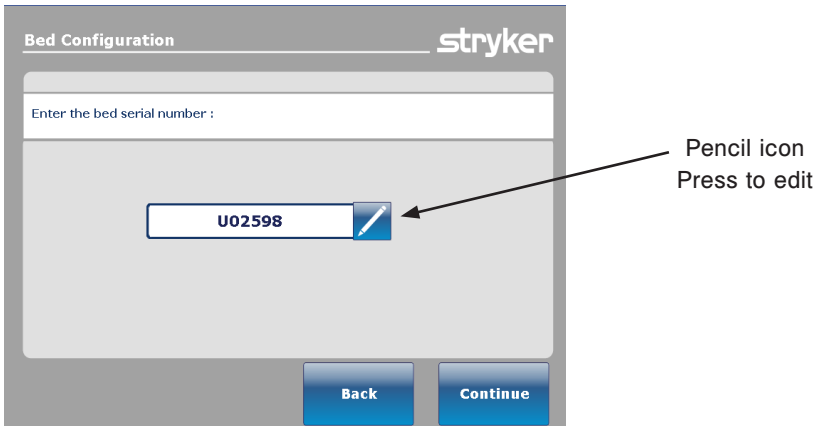

Figure 32: Bed Configuration Serial Number Screen

2. Enter or confirm the serial number of the bed (Figure 32).
   - **a. To enter the serial number**:
     - i. Press the pencil button located to the right of the serial number field. The Edit screen will be displayed.
     - ii. Enter the serial number of the bed in the serial number field, then press the **OK** button. You will be returned to the serial number main screen as shown in Figure 32.
     - iii. Press the **Continue** button and proceed to step 3.
   - **b. To confirm the serial number**:
     - i. Review the serial number displayed in the serial number field.
     - ii. If serial number is correct, press the **Back** button and proceed to step 6
     - iii. If the serial number is incorrect, press the pencil icon button to open the Edit screen then enter the correct serial number.
     - iv. Press the **OK** button and you will be returned to the serial number main screen.
     - v. Press the **Continue** button and proceed to step 3.
3. After pressing the **Continue** button, the serial number will be saved and the serial number Confirmation screen (Figure 33) will be displayed. Press the **OK** button.
4. After pressing the **OK** button a Cycle Power screen (Figure 34) will be displayed stating to cycle power on the bed.
5. To cycle power on the bed, turn the battery disconnect switch to **OFF** (O) then unplug the power cord from the wall outlet. Plug the power cord back into the wall outlet then turn the battery disconnect switch back **ON** (|).
6. Test bed functionality prior to returning the bed into service.

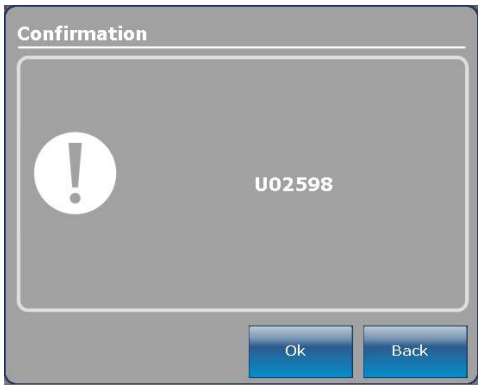

Figure 33: Serial Number Confirmation Screen

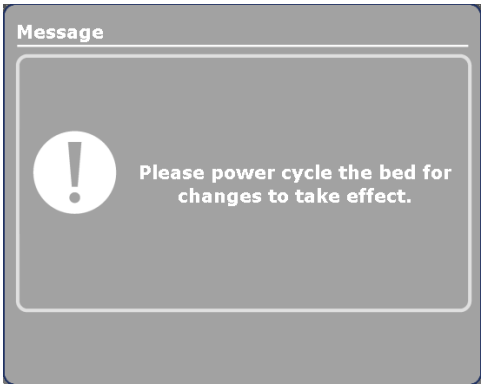

Figure 34: Cycle Power Screen

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Preventative Maintenance

Beds require an effective maintenance program. We recommend checking these items annually. Use this sheet for your records. Keep on file.

CHECKLIST

_____ All fasteners secure (reference all assembly prints).
_____ Engage brake pedal and push on the bed to ensure all casters lock securely.
_____ “Brake Not Set” LED on the footboard and head end siderails when brakes are not engaged.
_____ Locking steer caster engages and disengages properly (2131 Model only).
_____ Siderails move, latch and stow properly.
_____ CPR release working properly.
_____ I.V. pole working properly (if on bed).
_____ No cracks or splits in head or footboards.
_____ No rips or cracks in mattress cover.
_____ All functions on head end siderails working properly (including LED’s).
_____ All functions on footboard working properly (including LED’s).
_____ Scale and bed exit system working properly.
_____ Night light working properly.
_____ Power cord not frayed.
_____ No cables worn or pinched.
_____ All electrical connections tight.
_____ All grounds secure to the frame.
_____ Ground impedance not more than 100 milliohms.
_____ Current leakage not more than 300 microamps.
_____ Engage drive wheel and ensure it is operating properly (Zoom® option - 2141 model only).
_____ Motion release switches working properly (Zoom® option - 2141 model only).
_____ Confirm head end Zoom® handle functionality (2141 model only).
_____ Confirm battery powered functionality.
_____ Ensure ground chains are clean, intact, and have at least two links touching the floor.
_____ Check fowler angle for accuracy 0^0 - 70^0.
_____ Check gatch angle for accuracy 0^0 - 15^0.
_____ Check foot section angle for accuracy 0^0 - 50^0.
_____ Siderail switches working properly (*i*BED Awareness option).
_____ *i*BED Awareness Light Bar LED’s on footboard and siderails working properly (*i*BED Awareness option).
_____ Inspect footboard control labeling for signs of degradation.
_____ Ensure calibration of the touch screen is accurate.
_____ Ensure calibration of the bed is accurate.

Bed Serial Number:		

Completed by: _____ Date: _____

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Cleaning

Hand wash all surfaces of the bed with warm water and mild detergent. Dry thoroughly. Do not steam clean or hose off the *In*Touch® Critical Care Bed. Do not immerse any part of the bed. Some of the internal parts of the bed are electric and may be damaged by exposure to water.

Suggested cleaners for bed surfaces:

Quaternary Cleaners (active ingredients - ammonium chloride)
Phenolic Cleaners (active ingredient - o-phenylphenol)
Chlorinated Bleach Solution (5.25% - less than 1 part bleach to 100 parts water)

Avoid over saturation and ensure the product does not stay wet longer than the chemical manufacturer's guidelines for proper disinfecting.

CAUTION

SOME CLEANING PRODUCTS ARE CORROSIVE IN NATURE AND MAY CAUSE DAMAGE TO THE PRODUCT IF USED IMPROPERLY. If the products described above are used to clean Stryker patient care equipment, measures must be taken to ensure the beds are wiped with a damp cloth soaked in clean water and thoroughly dried following cleaning. Failure to properly rinse and dry the beds will leave a corrosive residue on the surface of the bed, possibly causing premature corrosion of critical components. Failure to follow the above directions when using these types of cleaners may void this product's warranty.

For mattress cleaning instructions, please see the tag on the mattress, or contact the mattress manufacturer.

Clean Velcro® **after each use**. Saturate Velcro® with disinfectant and allow disinfectant to evaporate. (Appropriate disinfectant for nylon Velcro® should be determined by the hospital.)

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Note

See “Bed Circuit Boards” section for an outline of bed PCB’s and voltage test points.

<table>
<tr><th>Problem / Failure</th><th>Recommended Action</th></tr>
<tr><td>No Power to Bed.
(On wall voltage 120VAC)

COUNTRY VOLTAGE (CV) TABLE
<table>
<tr><th>VOLTAGE</th><th>FUSE</th></tr>
<tr><td>100V</td><td>10A</td></tr>
<tr><td>110V</td><td>10A</td></tr>
<tr><td>120V</td><td>10A</td></tr>
<tr><td>200V</td><td>10A</td></tr>
<tr><td>220V</td><td>10A</td></tr>
<tr><td>230V</td><td>10A</td></tr>
<tr><td>240V</td><td>10A</td></tr>
</table></td><td>1. Verify the bed is plugged into a functional wall outlet.
A. Check your country voltage option at wall outlet.
I. If your country voltage option is present, go to step 2.
II. If 1your country voltage option is not present, contact hospital maintenance staff and try another outlet.

2. Verify the Bed main power fuses are good, located in drawer where power cord plugs into the bed.
A. Check for continuity of each 10A fuse.
I. If each fuse (see CV Table) is good, go to step 3.
II. If either fuse (see CV Table) does not have continuity, replace the fuse.

3. Verify there is power at the transformer connection (J11) on the CPU/Power board at the foot end.
A. Check for 24VAC at J11 between the blue and red wires.
I. If 24VAC is present, go to step 4.
II. If 24VAC is not present, check the 25 Amp fuse in the fuse holder on the red wire from the transformer. If bad, replace the fuse.
III. If 24VAC is not present, check the power cable quick connection going to the transformer for (see CV Table) VAC. If no voltage, follow the cable and repair or replace the damaged component.
IV. If (see CV Table) VAC is present, replace the transformer assembly.

4. A. Check for 30VAC at J11 between the yellow and orange wires for the transformer.
I. If 30VAC is present, go to step 5.
II. If 30VAC is not present, check the power cable quick connection going to the transformer for (see CV Table) VAC. If no voltage, follow the cable and repair or replace the damaged component.
III. If (see CV Table) VAC is present, replace the transformer assembly.

5. A. Check fuse F1 on the CPU/Power board.
I. If fuse is good, replace CPU/Power board.
II. If fuse does not have continuity, replace the fuse (littelfuse 215008.P).</td></tr>
</table>

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Problem / Failure		Recommended Action
No Bed Up Motion.	FOOT	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the trend button. I. If the foot lift motor runs up, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the litter angle sensor and recalibrate. II. If the foot lift motor does not run up, check for 24VDC at connector J6 while pressing the trend button. Black lead to pin 1, red lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
	HEAD	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the bed up button. I. If the head lift motor runs up, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the litter angle sensor and recalibrate. II. If the head lift motor does not run up, check for 24VDC at connector J4 while pressing the trend button. Black lead to pin 1, red lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
No Bed Down Motion.	FOOT	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the reverse trend button. I. If the foot lift motor runs down, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the litter angle sensor and recalibrate. II. If the foot lift motor does not run down, check for 24VDC at connector J6 while pressing the reverse trend button. Red lead to pin 1, black lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
	HEAD	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the bed down button. I. If the head lift motor runs down, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the litter angle sensor and recalibrate. II. If the head lift motor does not run down, check for 24VDC at connector J4 while pressing the trend button. Red lead to pin 1, black lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.

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Problem / Failure	Recommended Action
No Fowler Up Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the fowler up button. I. If the fowler motor runs up, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the fowler angle sensor and recalibrate. II. If the fowler motor does not run up, check for 24VDC at connector J5 while pressing the fowler up button. Black lead to pin 1, red lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
No Fowler Down Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the fowler down button. I. If the fowler motor runs down, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the fowler angle sensor and recalibrate. II. If the fowler motor does not run down, check for 24VDC at connector J5 while pressing the fowler down button. Red lead to pin 1, black lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.

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Problem / Failure	Recommended Action
No Gatch Up Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the gatch up button. I. If the gatch motor runs up, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the gatch angle sensor and recalibrate. II. If the gatch motor does not run up, check for 24VDC at connector J3 while pressing the gatch up button. Red lead to pin 1, black lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
No Gatch Down Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the gatch down button. I. If the gatch motor runs down, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the gatch angle sensor and recalibrate. II. If the gatch motor does not run down, check for 24VDC at connector J3 while pressing the gatch down button. Black lead to pin 1, red lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.

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Problem / Failure	Recommended Action
No Foot Up Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the foot up button. I. If the foot motor runs up, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the foot angle sensor and recalibrate. II. If the foot motor does not run up, check for 24VDC at connector J1 while pressing the foot up button. Red lead to pin 1, black lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.
No Foot Down Motion.	1. Put the bed into the Bed Calibration menu. A. Using one of the head siderails, push the foot down button. I. If the foot motor runs down, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the foot angle sensor and recalibrate. II. If the foot motor does not run down, check for 24VDC at connector J1 while pressing the foot down button. Black lead to pin 1, red lead to pin 2. a. If voltage is present, replace the motor. b. If voltage is not present, replace the CPU/Power board.

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Problem / Failure	Recommended Action
No Trendelenburg Motion.	1. Check the touch screen trend angle display for accuracy of the level of the litter. I. If not accurate, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the trend angle sensor and recalibrate. b. If replacement of the trend angle sensor did not resolve the problem, replace the CPU/Power board.
No Reverse Trendelenburg Motion.	1. Check the touch screen trend angle display for accuracy for the accuracy of the level of the litter. I. If not accurate, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the trend angle sensor and recalibrate. b. If replacement of the trend angle sensor did not resolve the problem, replace the CPU/Power board.
No Cardiac Chair Motion.	1. Check the touch screen fowler and foot section angle display for accuracy for the accuracy of the angle of the fowler and foot section. I. If not accurate, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the fowler or foot section angle sensor depending on the one which was not accurate, then recalibrate. b. If replacement of the fowler or foot section angle sensor did not resolve the problem, replace the CPU/Power board.
HOB $30^{0.}$	1. Check the touch screen fowler angle display for accuracy of the angle of the fowler. I. If not accurate, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the fowler angle sensor and recalibrate. b. If replacement of the fowler angle sensor did not resolve the problem, replace the CPU/Power board.
No Vascular Motion.	1. Check the touch screen fowler, gatch, foot, and trend/rev. trend display for accuracy of the angle of all. I. If not accurate, recalibrate the bed (refer to the Bed Calibration procedures located on page 21). a. If recalibration does not work, replace the angle sensor of the section that is not accurate and then recalibrate the bed (refer to the Bed Calibration procedures located on page 21). b. If replacement of the fowler angle sensor did not resolve the problem, replace the CPU/Power board.

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Problem / Failure	Recommended Action
No Electric Brake Motion.	1. Verify the Brake Not Set LED is flashing and the Brake Set LED is OFF. I. If the Brake Set LED is ON, check manual brake position. a. If manual brake pedal is in the brake position, the bed should not move and is okay; go to step 2. b. If manual brake is not in the brake position, check the switch on the patients left side in the middle below the base hood. 2. If the brake motor does not run down when the brake button is pushed, check for 24VDC at connector J7 while pressing the brake button. Black lead to pin 1, red lead to pin 2.

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SCALE TROUBLESHOOTING

When the Scale System is unable to correctly weigh the patient weight due to a problem with the electronics, Figure 40 will be displayed. It also appears when there is a problem with the Trendelenberg angle sensor; thus the value for the weight and the angle cannot be displayed.

When the weight exceeds 550 lbs., Figure 41 will be displayed. If the weight is less than 2 lbs., the screen will display “0 lb.”

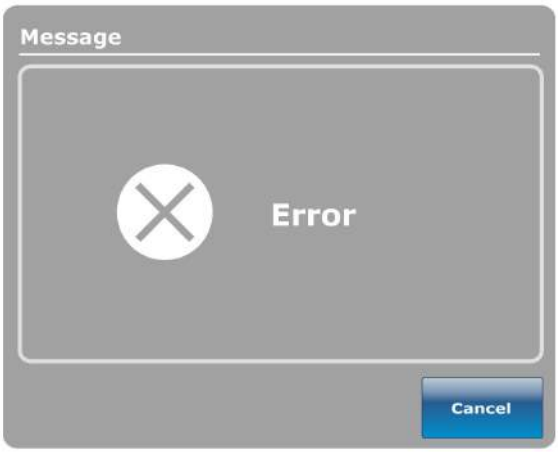

Figure 40

Figure 41

When the Trendelenburg or Reverse Trendelenburg angle is above 12^0 or below -12^0, Figure 42 will be displayed.

The display in Figure 43 will appear as long as the correct weight has not been taken and also when the patient moves too much for the weight to be taken properly.

Figure 42

Figure 43

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Maintenance Error Messages

ERROR HANDLING

- There are two different CAN networks; each of the networks is divided into two connectors.
- A safe error without command can be obtained when a bad connection is carried out on the Power Sensor Board when the control panel is defective (there is no message sent on the network when a button is pressed) or when the network is defective (short-circuit between the signals, open circuit or defective network circuit).
- A command error without safe is obtained when a bad connection is done on the Power Sensor board, when the control panel is defective (a message is sent over the network but not the safe signal) or when the safe signal is defective (short-circuit panel or open circuit or safe circuit on the Power Sensor board is broken).
- These errors can be present when a button is pressed, or at any time, and will thus cause the Call Maintenance LED to light up.
- There is a LED on the Power Sensor Board (DS2 SAFE) which is active when there is at least one safe signal which is active. There are also four LEDs on the Power Sensor board, which shows the activity of the network. Every time a message is sent on the network, the LEDs will flash. If the network is defective, the LEDs will remain on or remain off. If there is nothing connected to the network, the LEDs will remain on or off.
- A safe error can be obtained if a command button is pressed without having the Power Sensor Board receiving a safe signal or if a safe signal is received by the Power Sensor board without having any command button pressed.
- The control panel for the weighing scale of the Power Sensor board can also send errors to the micro-controller which will display them. An error of the weighing scale control panel will light on the Call Maintenance LED.

ERROR MESSAGES

Touch Screen Error Messages Name	Definition
Atd Invalid Values	Digital to analog converter is damaged (Replace the Control Board).
Brake pot bad range	Verify if potentiometer is still in place.
Brake unable to elec ctl	Verify wiring to Brake motor and limit switch for manual engage.
Brake pot Disconnected or short	Verify wiring to potentiometer and replace potentiometer. Ensure potentiometer is still in place.
Brake motor time out	Verify wiring to brake motor.
Calibration Error	Previous calibration step performed incorrectly, redo calibration procedure.
Cmd WO safe from nurse SRR	Right siderail outside board has a network communication error (Check network connections, dip-switch configuration of board or if a button is stuck).
Cmd WO safe from nurse SRL	Left siderail outside board has a network communication error (Check network connections, dip-switch configuration of board or if a button is stuck).
Cmd WO safe from nurse SRH	Head end board has a network communication error (Check network connections).
Cmd WO safe from pat pend R	Optional pendant control has a network communication error (Check network connections).
Cmd WO safe from pat pend L	Optional pendant control has a network communication error (Check network connections).
Cmd WO safe from pat pend H	Optional pendant control has a network communication error (Check network connections).
Cmd WO safe from TS	Touch screen has a network communication error (Check network connections).

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ERROR MESSAGES (CONTINUED)

Touch Screen Error Messages Name	Definition
Cmd WO safe from room	Communication board has a network communication error (Check network connections).
Cmd WO safe from room	Communication board has a network communication error (Check network connections).
GPIO Failure Init	Initialization of the PCA9555 (GPIO expansion chip) failed (Replace control board).
GPIO Failure Read	Reading from the PCA9555 (GPIO expansion chip) failed (Replace control board).
GPIO Failure Write	Writing to the PCA9555 (GPIO expansion chip) failed (Replace control board).
Limit switch head side rail right	Verify wiring to limit switch and replace limit switch.
Limit switch head side rail left	Verify wiring to limit switch and replace limit switch.
Limit switch foot side rail right	Verify wiring to limit switch and replace limit switch.
Limit switch foot side rail left	Verify wiring to limit switch and replace limit switch.
Foot Right Load cell over range	Foot Right load cell or cabling is damaged (Replace load cell).
Head Right cell over range	Head Right load cell or cabling is damaged (Replace load cell).
Foot Left Load cell over range	Foot Left load cell or cabling is damaged (Replace load cell).
Head Left Load cell over range	Head Left load cell or cabling is damaged (Replace load cell).
Motor Brake Overheat	Brake motor has ran too long (Leave motor stationary for 54 minutes).
Motor Brake Overload	Brake motor is drawing too many AMPS (remove restriction or replace motor).
Motor Foot Overheat	Foot motor has ran too long (Leave motor stationary for 54 minutes).
Motor Foot Overload	Foot motor is drawing too many AMPS (remove restriction or replace motor).
Motor Gatch Overheat	Gatch motor has ran too long (Leave motor stationary for 54 minutes).
Motor Gatch Overload	Gatch motor is drawing too many AMPS (remove restriction or replace motor).
Motor Head Overheat	Fowler motor has ran too long (Leave motor stationary for 54 minutes).
Motor Head Overload	Fowler motor is drawing too many AMPS (remove restriction or replace motor).
Motor HL Foot Overheat	Foot lift motor has ran too long (Leave motor stationary for 54 minutes).
Motor HL Foot Overload	Foot lift motor is drawing too many AMPS (remove restriction or replace motor).
Motor HL Head Overheat	Head lift motor has ran too long (Leave motor stationary for 54 minutes).
Motor HL Head Overload	Head lift motor is drawing too many AMPS (remove restriction or replace motor).
Motor Zoom® Overheat	Zoom® motor has ran too long (Leave motor stationary for 54 minutes).
Motor Zoom® Overload	Zoom® motor is drawing too many AMPS (remove restriction or replace motor).
No Error	Angle sensor failure or calibration issue.
One Motor Drive Short	Short on drive motor detected.
Safe WO Cmd from A1	Network A1 has a wiring issue (Check cabling).
Safe WO Cmd from A2	Network A2 has a wiring issue (Check cabling).
Safe WO Cmd from B1	Network B1 has a wiring issue (Check cabling).

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ERROR MESSAGES (CONTINUED)

Touch Screen Error Messages Name	Definition
Safe WO Cmd from B2	Network B2 has a wiring issue (Check cabling).
Scale ADC Error	Scale chip not calibrated. DC Control Board needs to be replaced.
Scale Chip Failure	Control board is bad (Replace Control Board).
Tilt base over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Tilt Error Base	Angle sensor is damaged (Replace sensor).
Tilt Error Foot	Angle sensor is damaged (Replace sensor).
Tilt Error Gatch	Angle sensor is damaged (Replace sensor).
Tilt Error Head	Angle sensor is damaged (Replace sensor).
Tilt Error HiLo Foot	Angle sensor is damaged (Replace sensor).
Tilt Error Trend	Angle sensor is damaged (Replace sensor).
Tilt foot over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Tilt gatch over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Tilt head over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Tilt hiLo foot over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Tilt trend over range	Verify if tilt sensor is still in place. Inspect for a damaged or improperly assembled tilt sensor or recalibrate bed.
Zoom® time out for switch	Verify wiring to Zoom® motor.

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Quick Reference Replacement Parts List

The parts and accessories listed on this page are all currently available for purchase. Some of the parts identified on the assembly drawing parts in this manual may not be individually available for purchase. Please call Stryker Customer Service USA: 1-800-327-0770 for availability and pricing.

Part Name	Part Number
Electrical Components	
Actuator, Brake	QDF27-1227
Actuator, Foot	QDF27-1216
Actuator, Fowler	QDF27-1214
Actuator, Gatch	QDF27-1215
Actuator, Lift, Foot End	QDF27-1251
Actuator, Lift, Head End	QDF27-1252
Angle Sensor, Foot, Fowler, Base, Gatch, Lift	27-2477
Batteries (Replace both at same time)	QDF9188
Board, CPU/Power	QDF75-0450
Board, Drive (2141 Zoom® Only)	QDF27-1430
Board, Headwall	QDF75-0410
Board, Brake Control	QDF27-1097
Board, Footboard, Function Section/LED's	QDF75-0010
Board, Siderail, Outside (Bed Motion)	QDF27-1099
Board, Touch Screen, Foot	QDF2125
Fuse, 8Amp Ceramic	QDF2120
Fuse, 10Amp, Main Power	QDF8078
Fuse, 25Amp Cartridge	QDF2119
Load Cell	QDF27-1372
Motor, Drive (2141 Zoom® Only)	QDF27-1445
Motor, Drive Actuator (2141 Zoom® Only)	27-1683
Position Sensor, Brake/Brake Off/Drive	QDF27-2024
Power Cord	QDF8066
Speaker, Right Siderail	QDF27-2216
Speaker, Left Siderail	QDF27-2175
Touch Screen, Footboard	QDF27-2193
Transformer	QDF27-2038

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Quick Reference Replacement Parts List

Part Name	Part Number
Other Components	
Caster (2141 Model - all four casters) (2131 Model - both head end casters)	RD27-1970
Caster, Steer (2131 Model Only - both foot end casters)	RD27-1971
Headboard Assembly	27-2583K
Footboard Assembly without iBed	27-2702K
Footboard Assembly with iBed without iAudio	27-2704K
Footboard Assembly with iBed and iAudio	27-2703K

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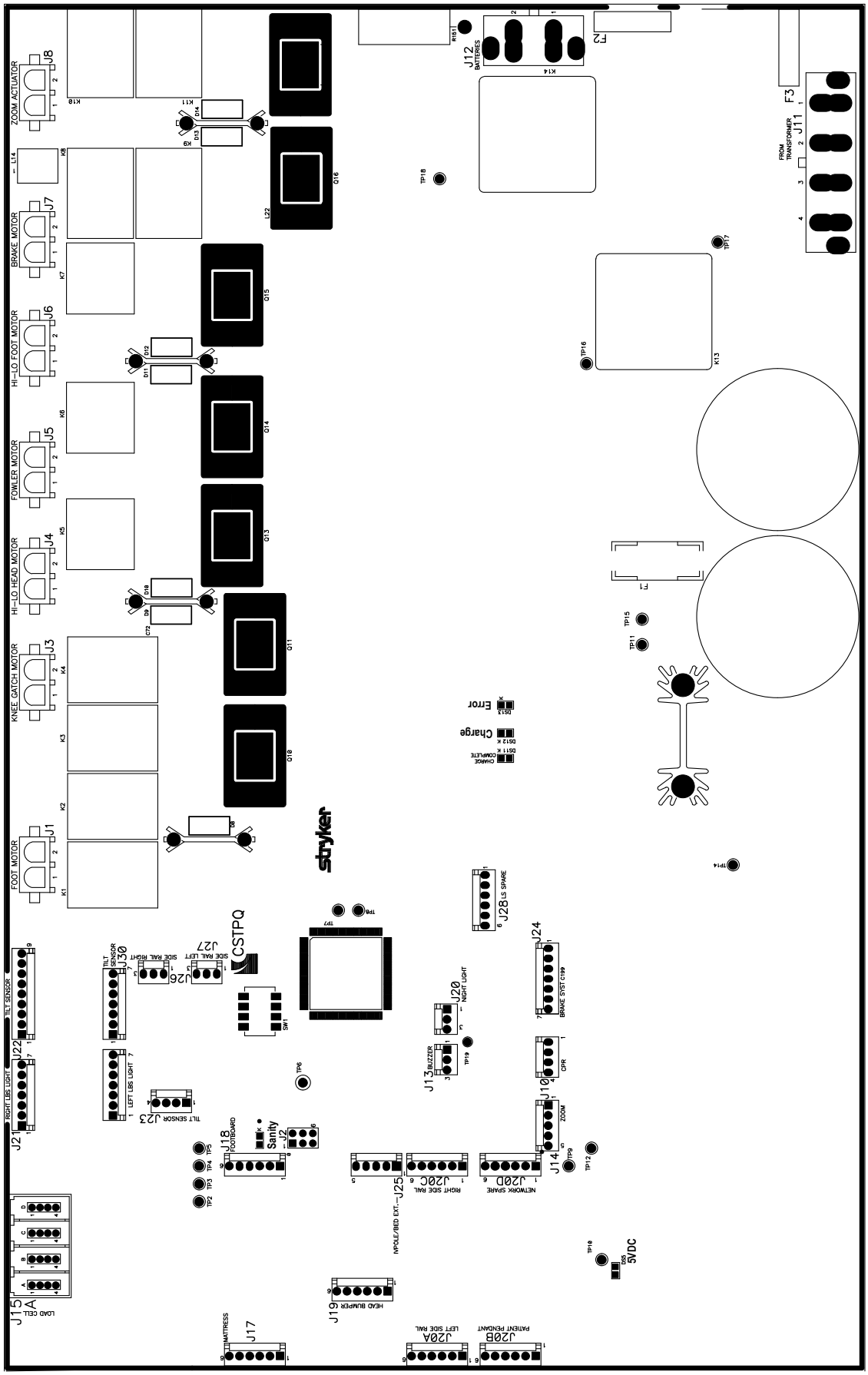
CPU/Power Board - QDF75-0450



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FUSE SPECIFICATION

Location	Description	Amp
F1	30VAC from transformer for the battery charger and the 5VDC / 12VDC supply	10 Amp - 215008.P
F2	24 VDC from batteries for power supply	40 Amp - 142.6185.5402
F3	24 VAC from transformer for power supply	40 Amp - 142.6185.5402

Cable Location	Voltage	Positive Lead	Negative Lead	Description
J11	24-31VAC	Blue	Red	Stepped down voltage from transformer for power supply
J11	30-39VAC	Yellow	Orange	Stepped down voltage from transformer for battery charger and power supply
J12	24-29DC	Pin 1 - Red	Pin 2 - Black	Battery/Charger
J1	24-28VDC	Pin 1 - Black	Pin 2 - Brown	Foot Actuator Up
J1	24-28VDC	Pin 2 - Brown	Pin 1 - Blue	Foot Actuator Down
J3	24-28VDC	Pin 1- White	Pin 2 - Black	Gatch Actuator Up
J3	24-28VDC	Pin 2 - Black	Pin 1 - White	Gatch Actuator Down
J6	24-28VDC	Pin 2 - White	Pin 1 - Black	Bed Lift-Foot Up
J6	24-28VDC	Pin 1 - Black	Pin 2 - White	Bed Lift-Foot Down
J4	24-28VDC	Pin 2 - White	Pin 1 - Black	Bed Lift-Head Up
J4	24-28VDC	Pin 1 - Black	Pin 2 - White	Bed Lift-Head Down
J5	24-28VDC	Pin 2 - White	Pin 1 - Black	Fowler Actuator Up
J5	24-28VDC	Pin 1 - Balck	Pin 2 - White	Fowler Actuator Down
J7	 24-28VDC 24-28VDC 24-28VDC	 Pin 1 - Black Pin 1 - Black Pin 1 - Black	 Pin 2 - White Pin 2 - White Pin 2 - White	Brake/Brake Off/Drive Actuator • Brake • Brake Off • Drive
J8	Bed Unplugged 25VDC 25VDC	 Pin 2 - White Pin 1 - Black	 Pin 1 - Black Pin 2 - White	Zoom® Drive Actuator (Model 2141 Only)

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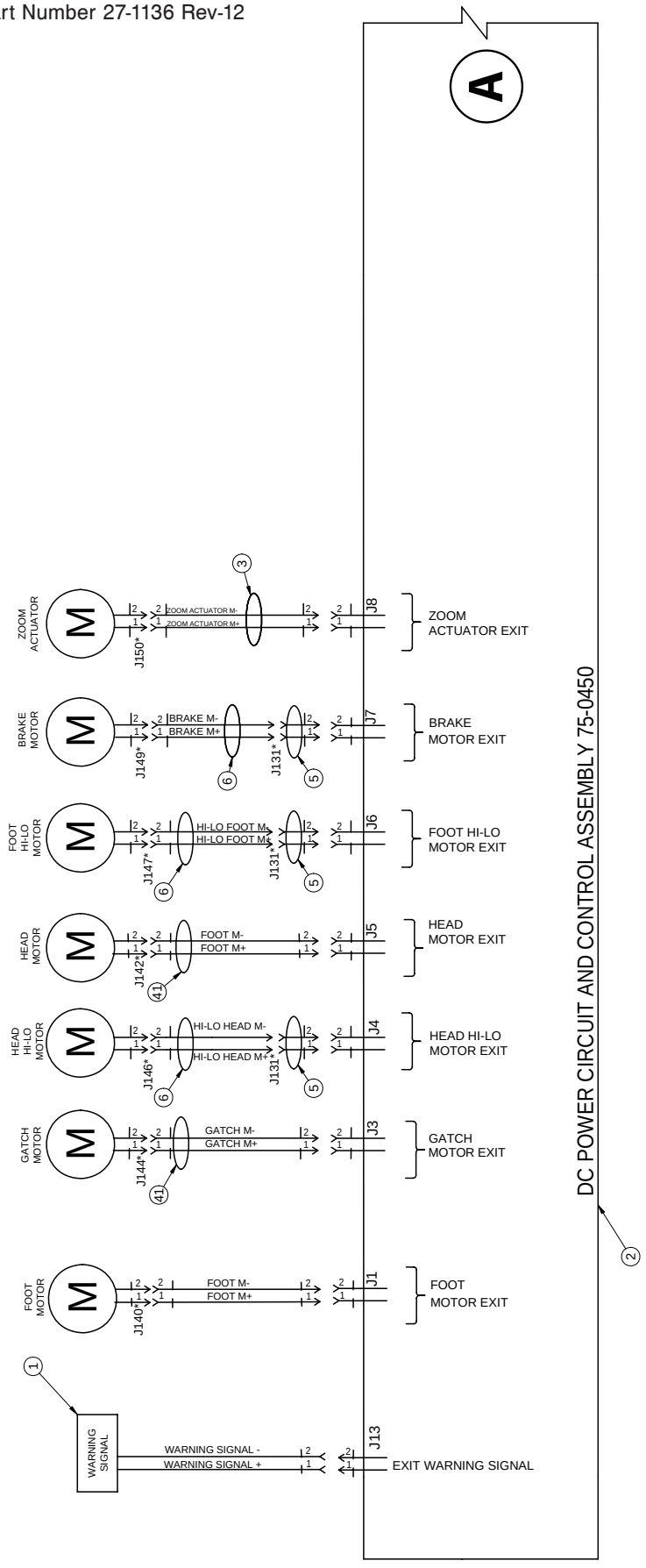
Bed Electrical Diagram

For Reference Only: Part Number 27-1136 Rev-12



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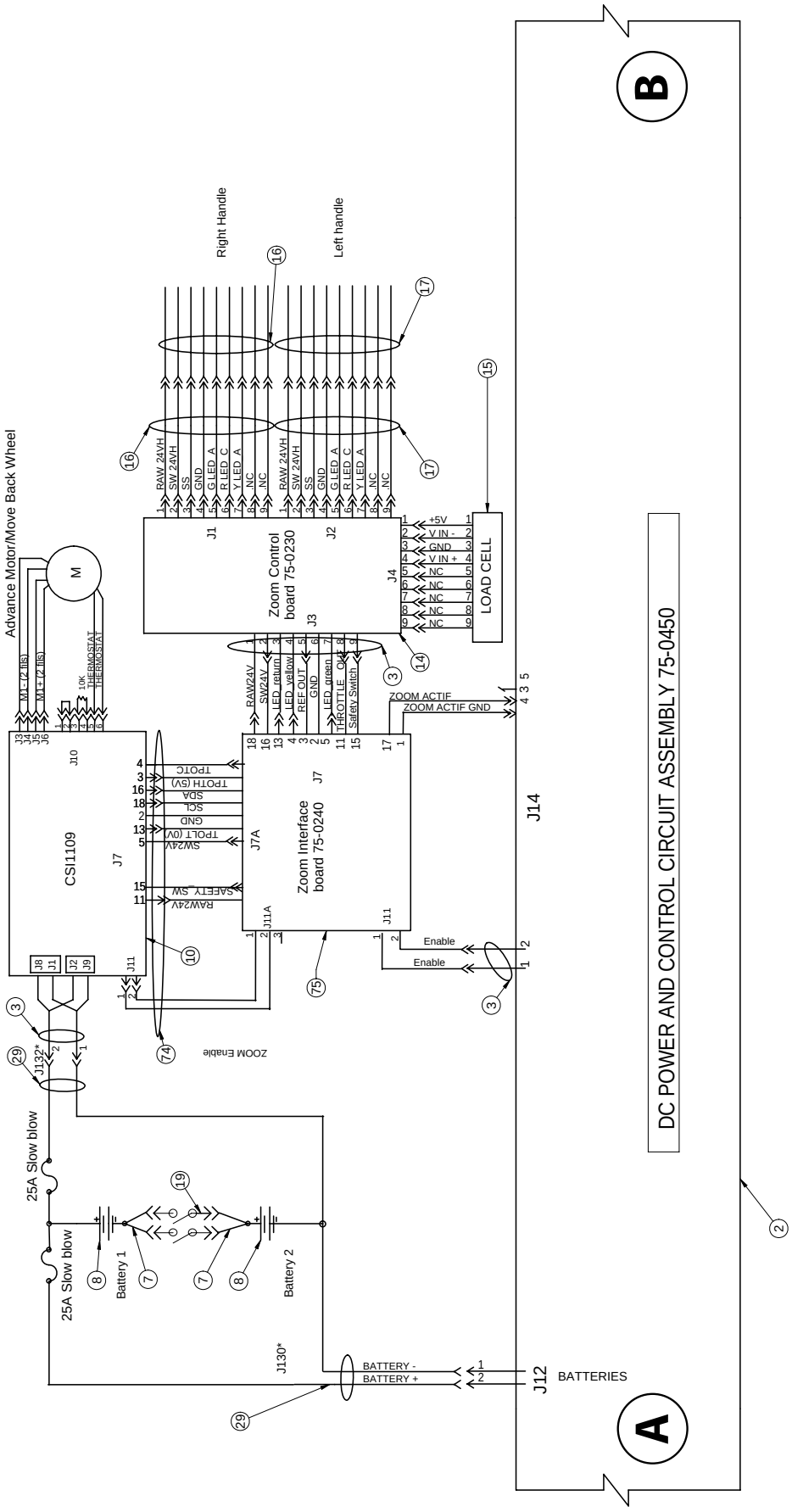

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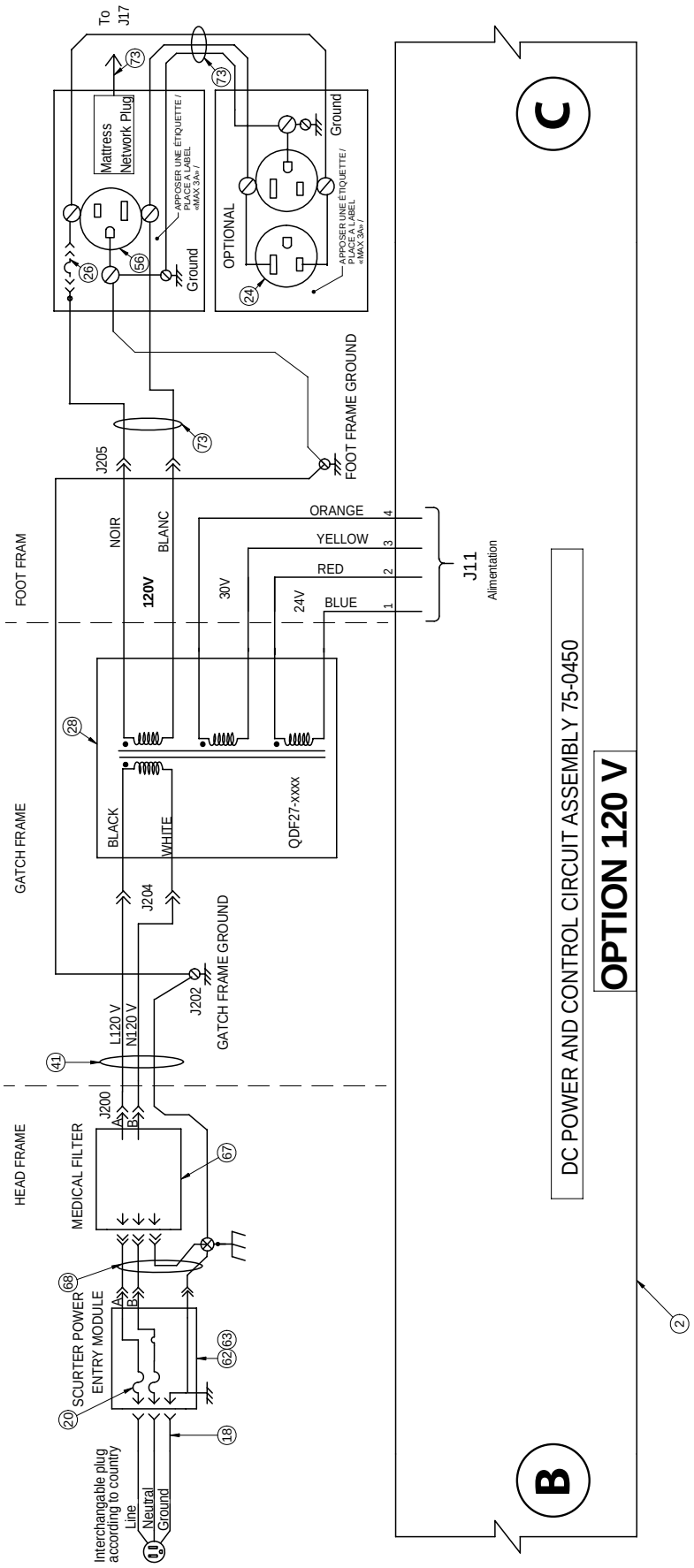

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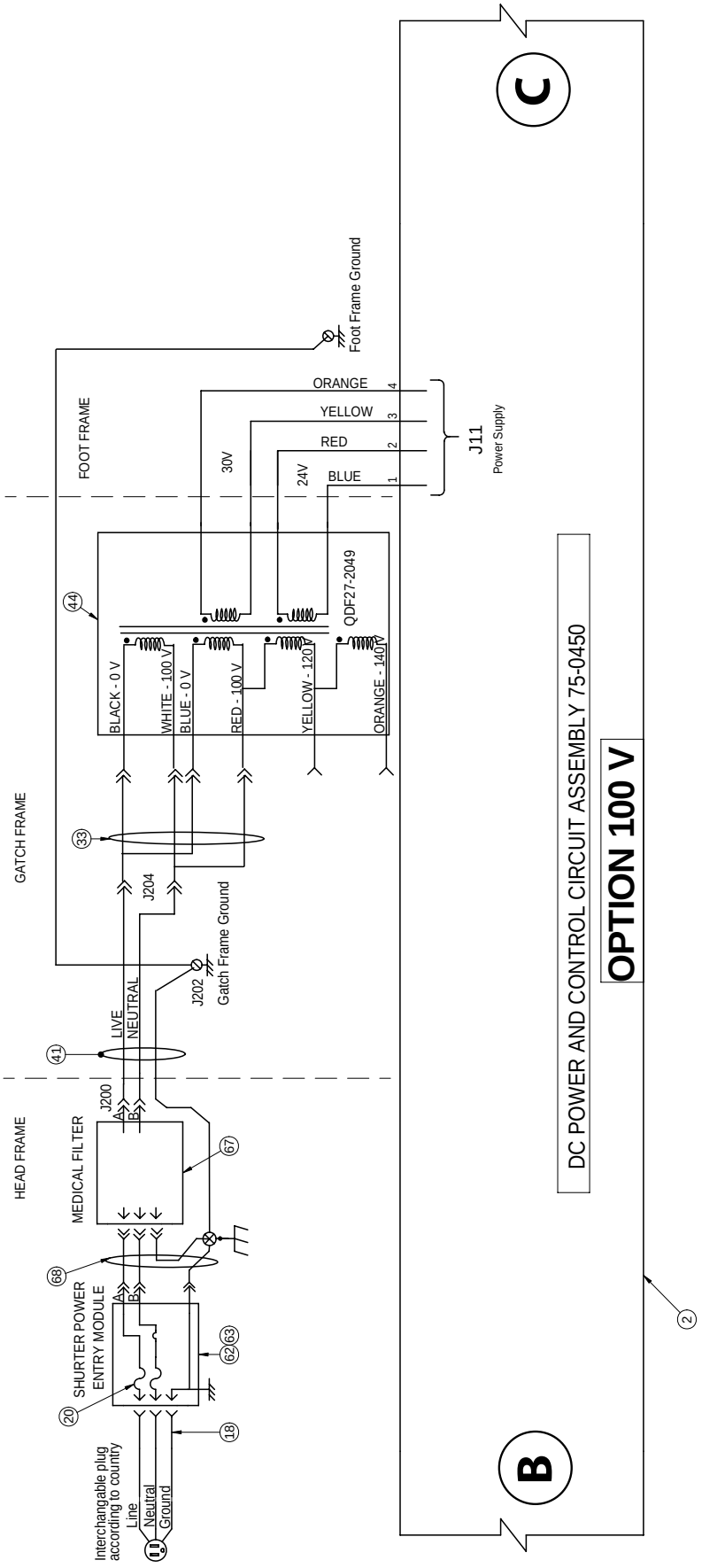

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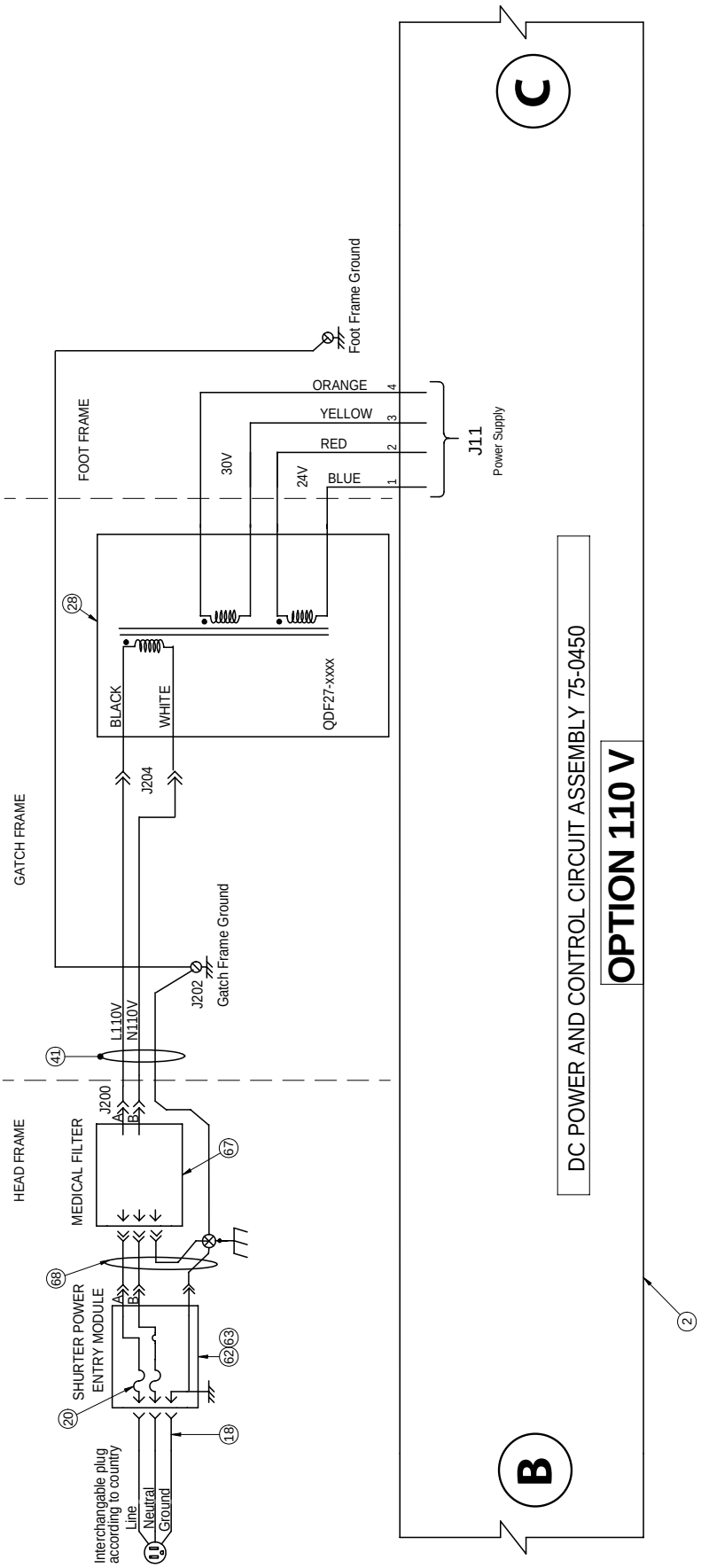

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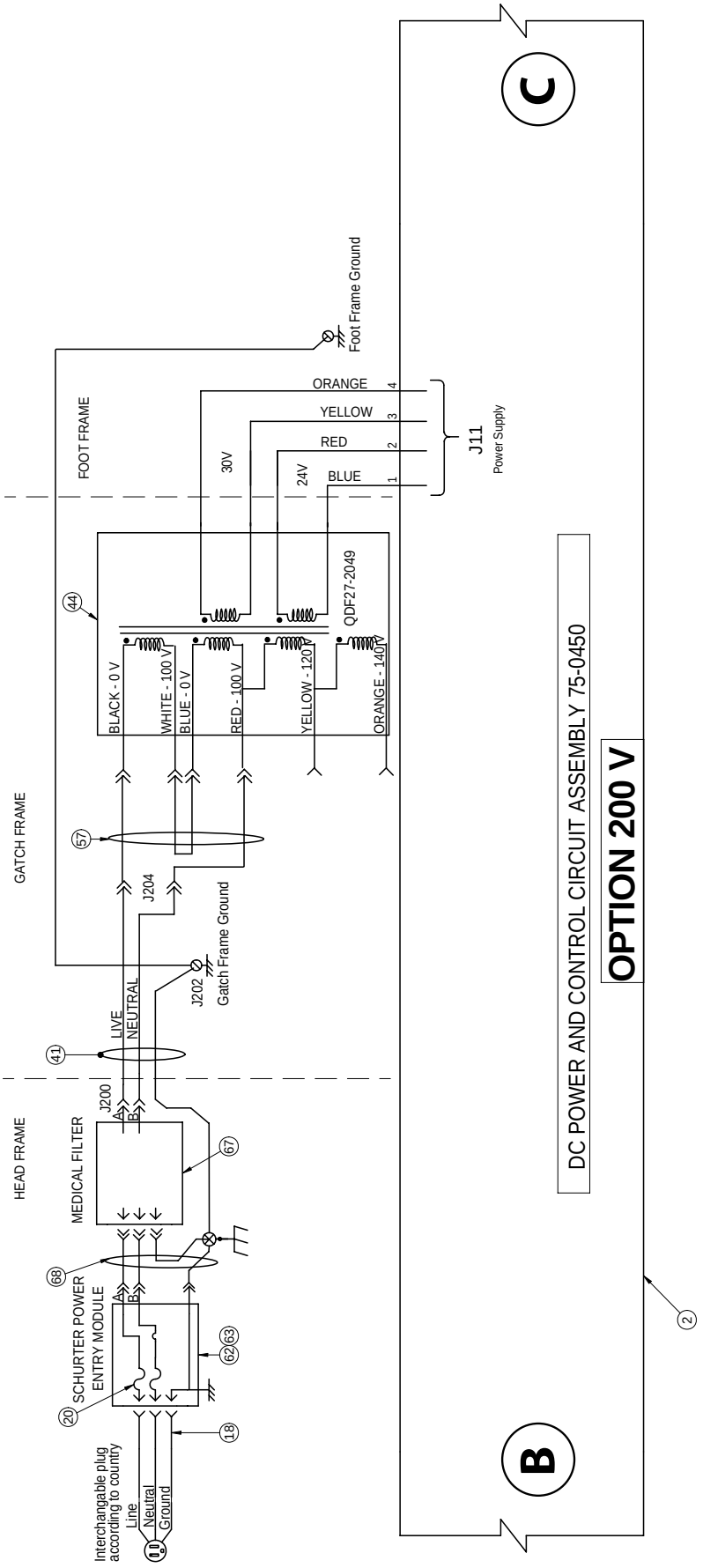

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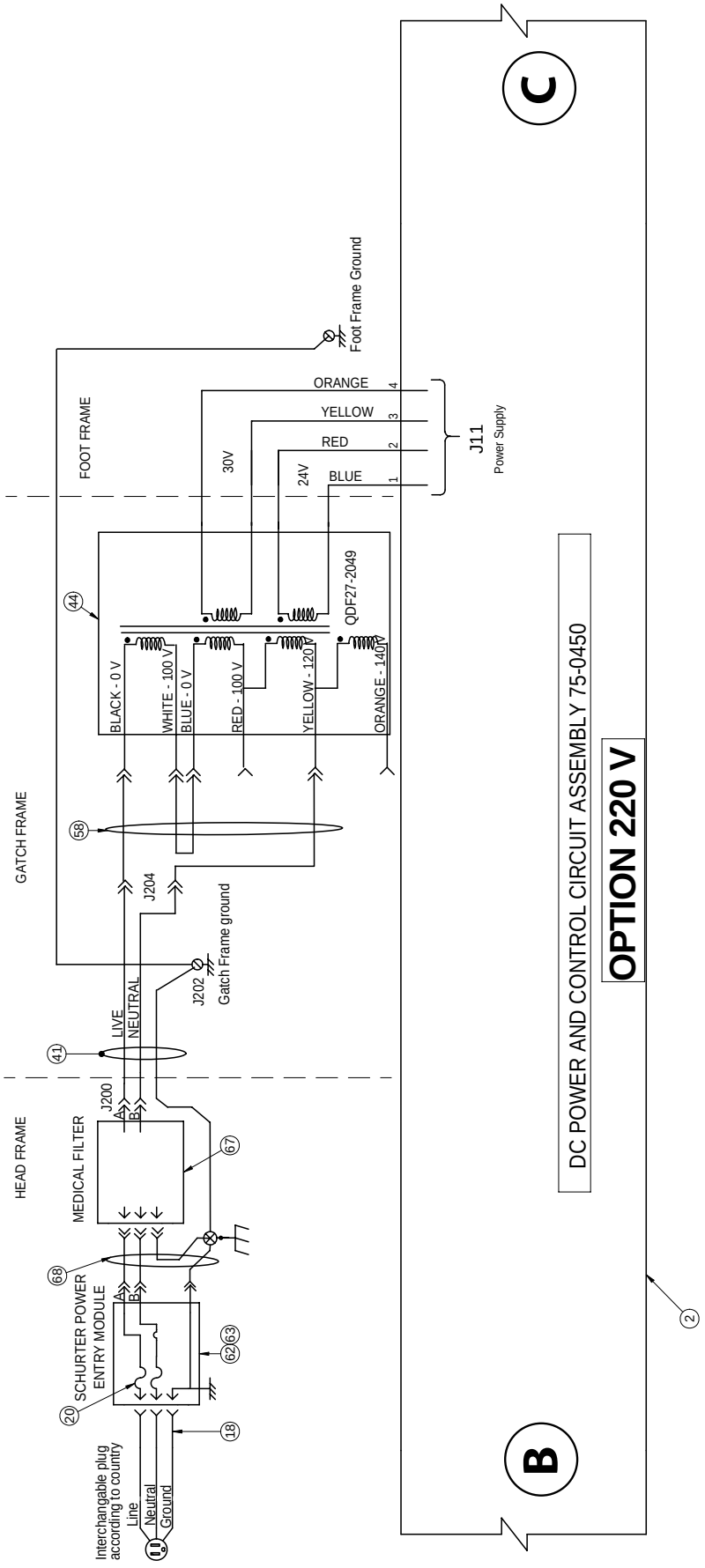

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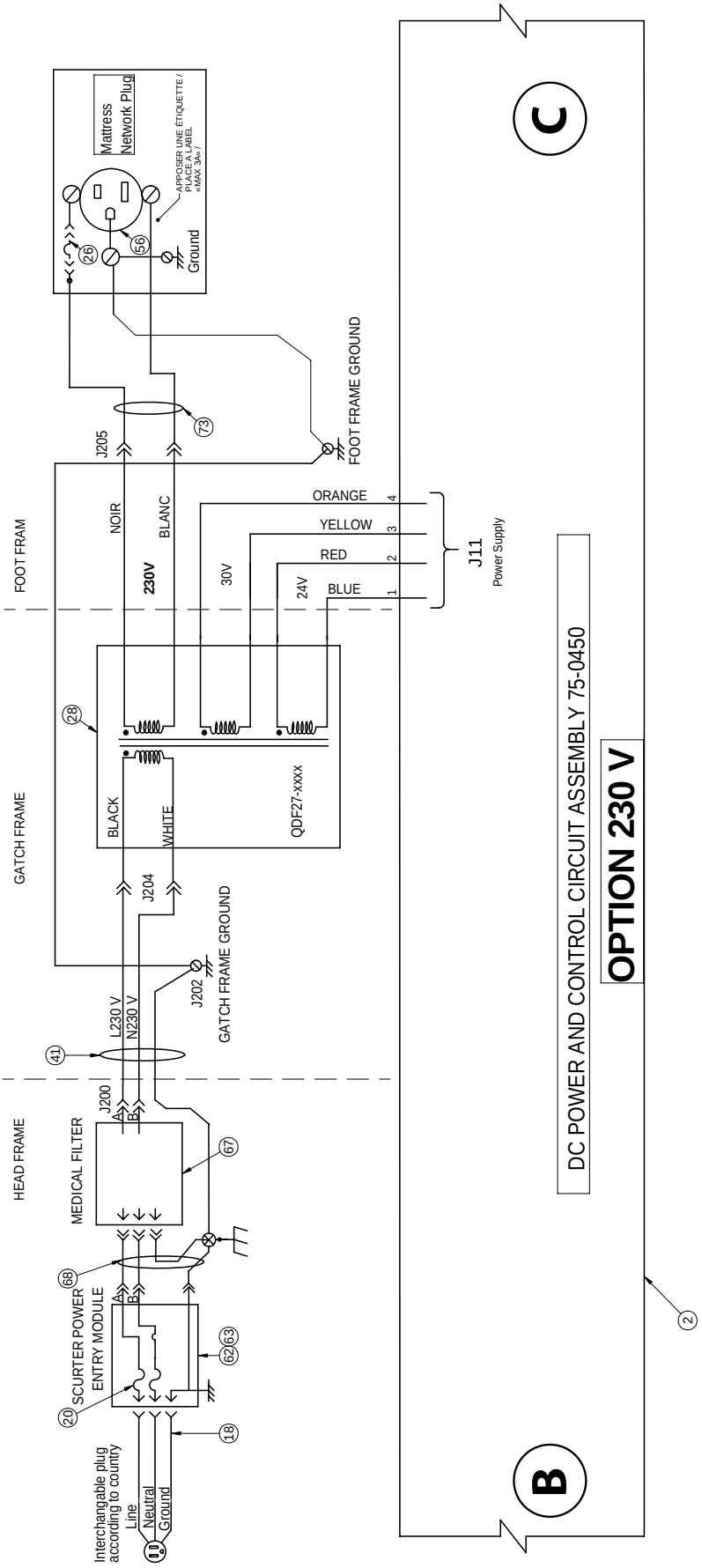

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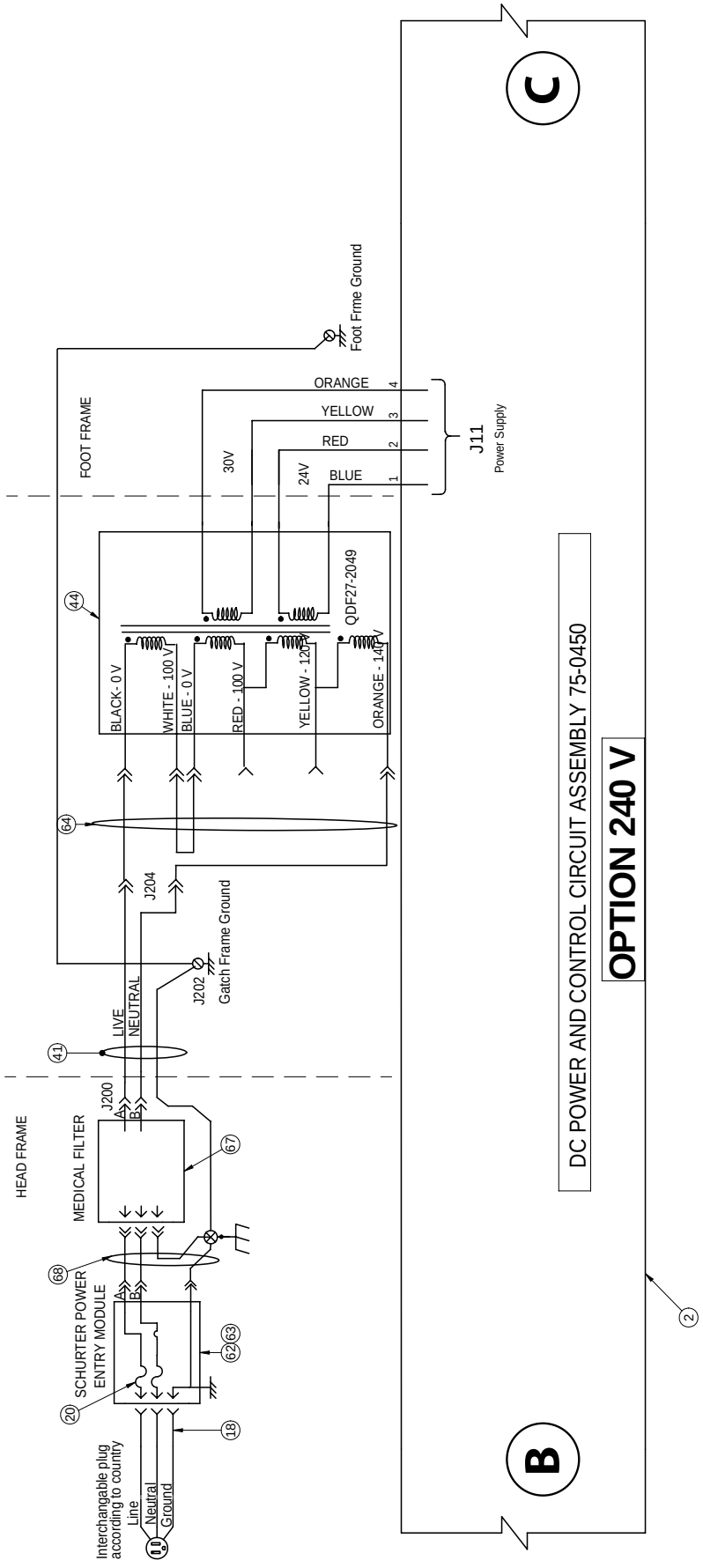

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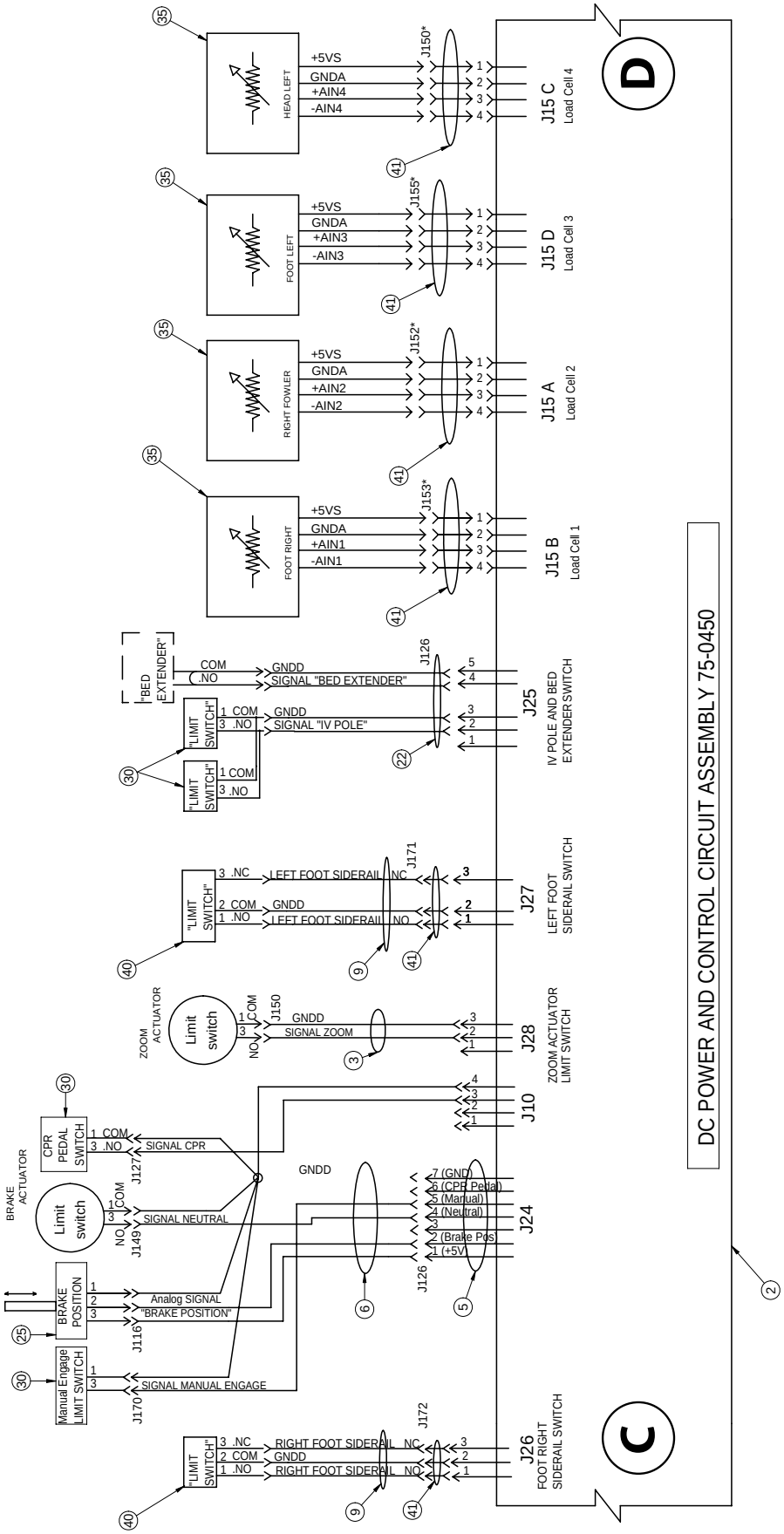

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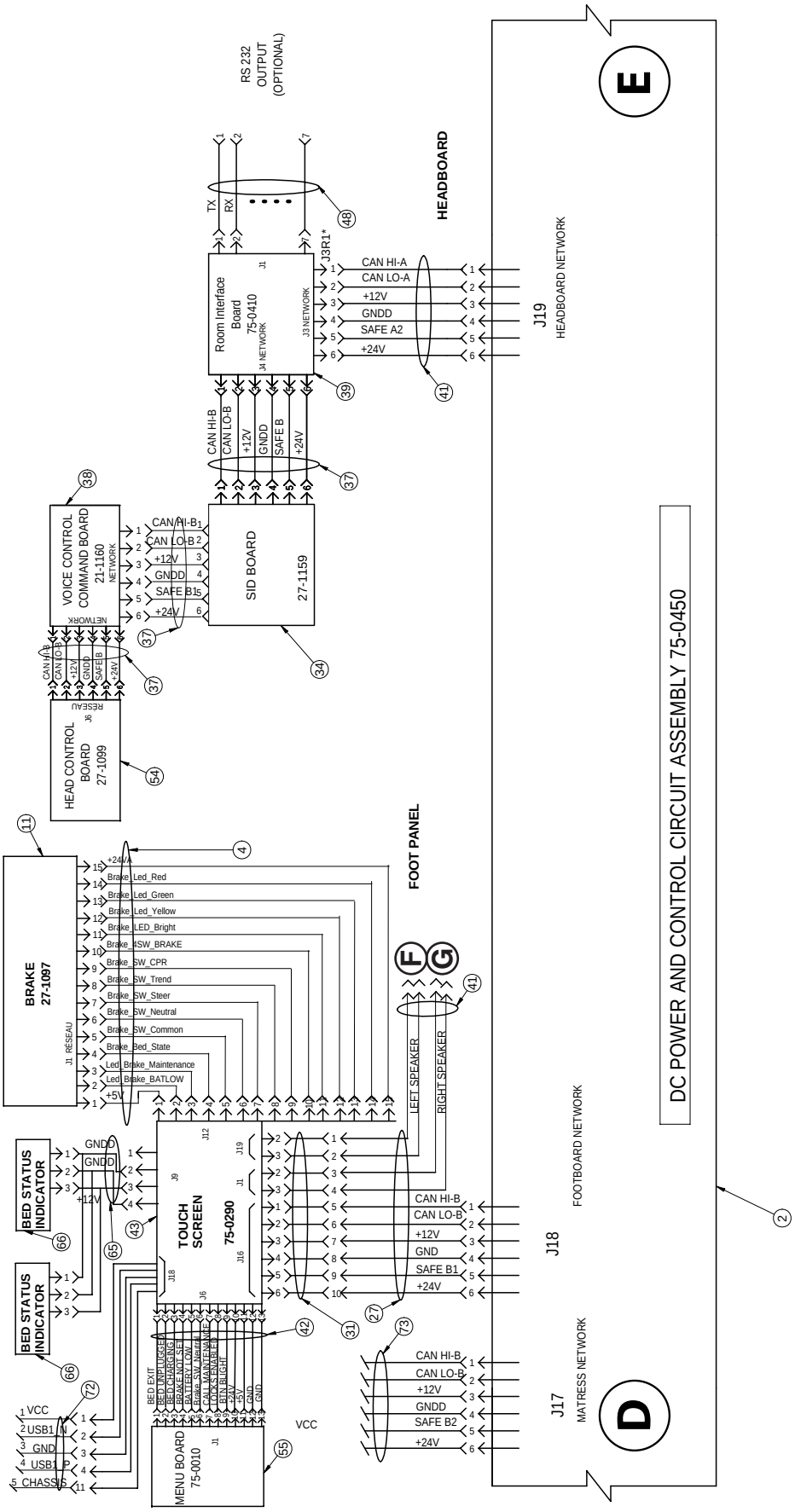

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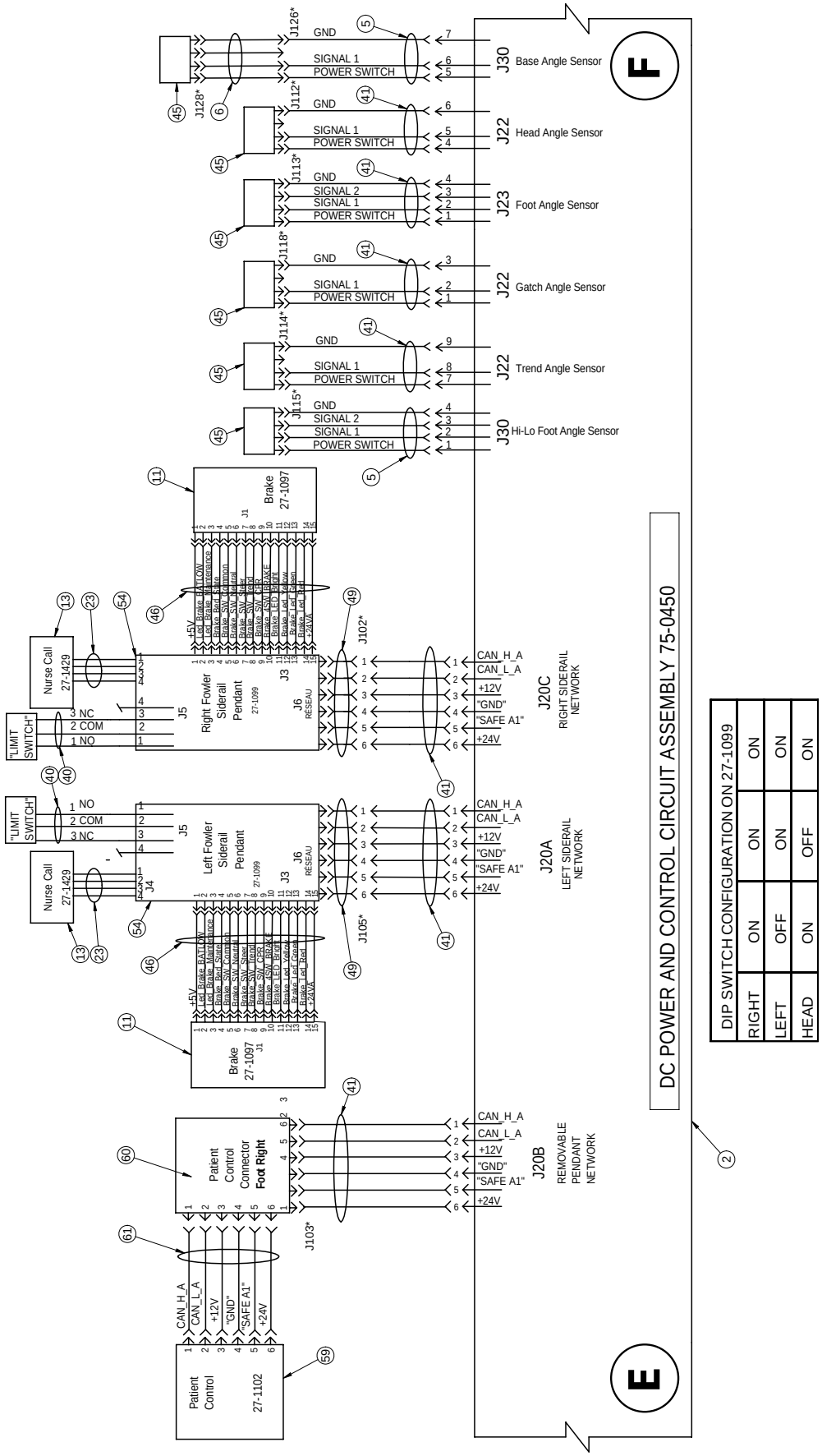

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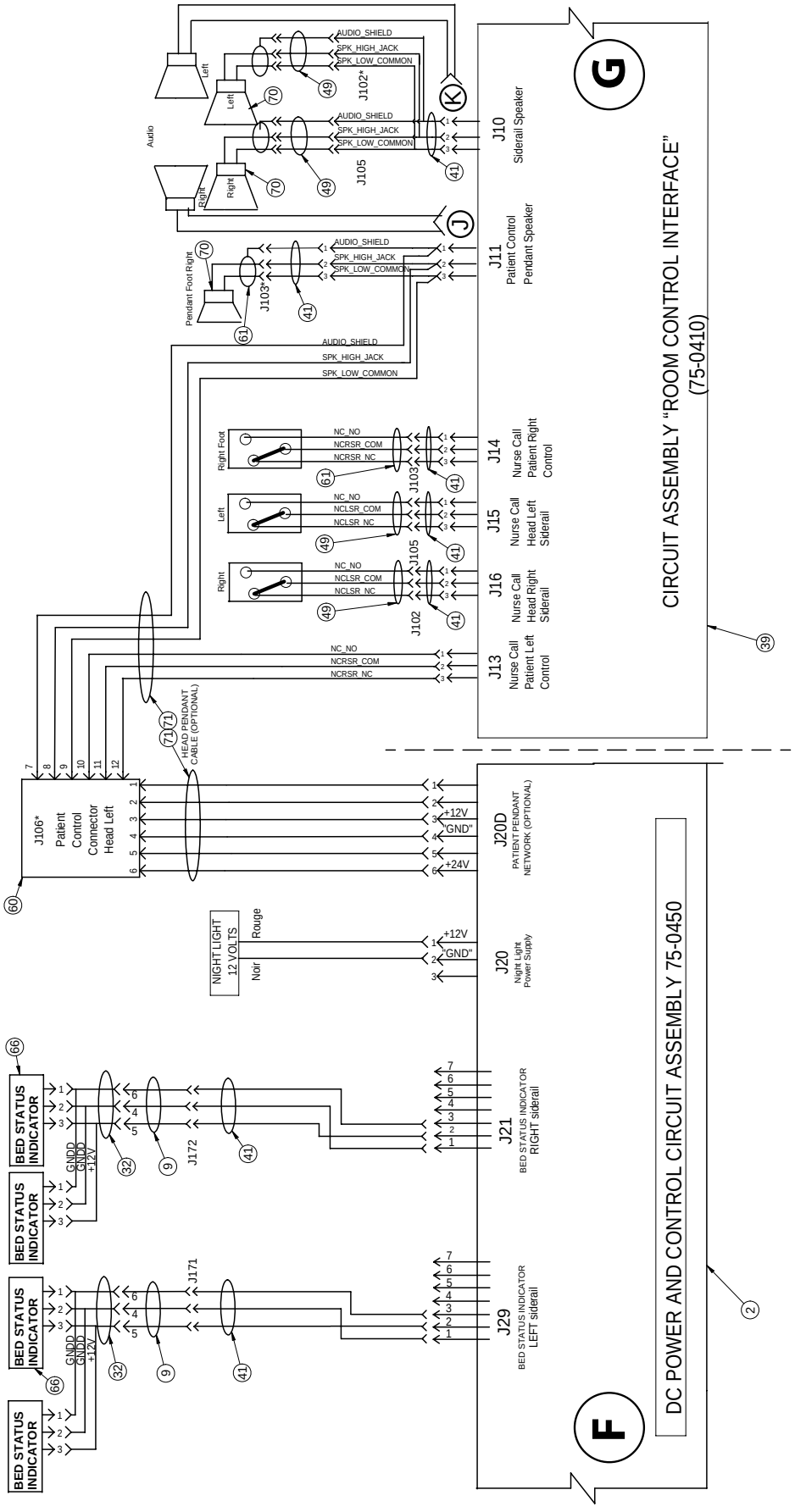

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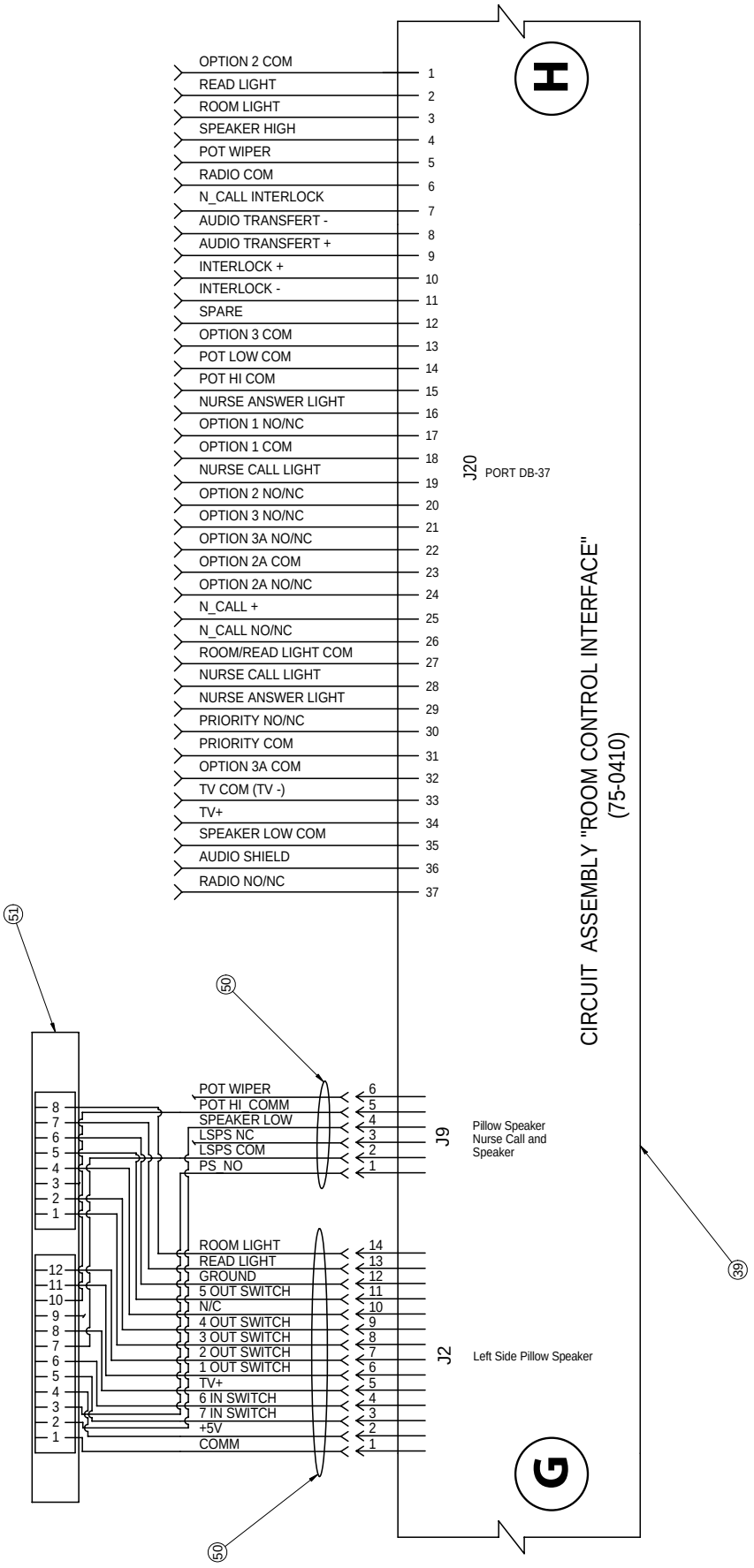
Bed Electrical Diagram



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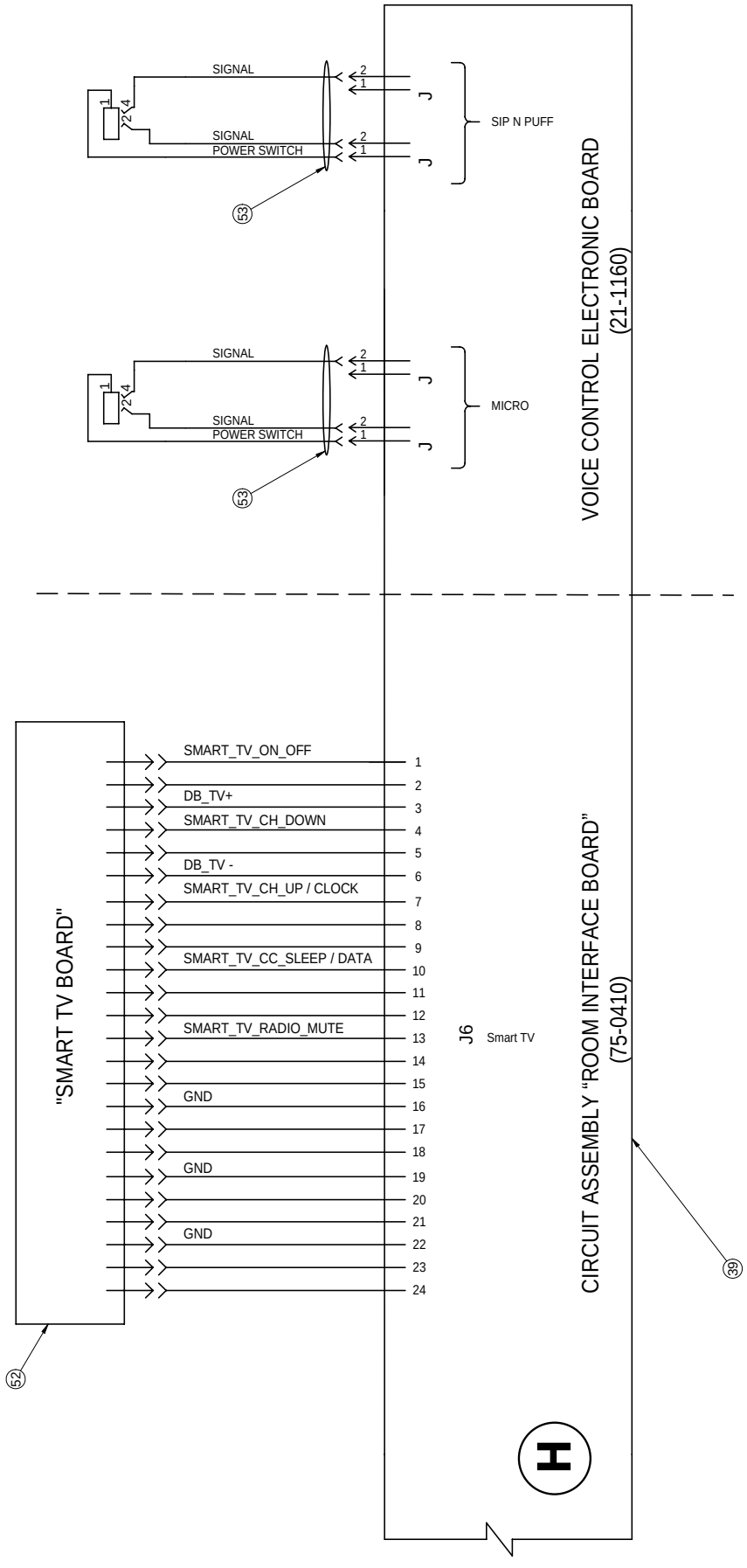
Bed Electrical Diagram



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Bed Electrical Diagram

Bed Electrical Diagram - 27-1136 Rev-12 (reference only)

Item	Part No.	Part Name	Qty.
1	QDF5095	Sound Alarm	1
2	QDF75-0450	DC Power Control	1
3	QDF27-1185	Number 3 Harness	1
4	QDF27-2229	Footboard Brake Cable	1
5	QDF27-2181	Number 2 Harness	1
6	QDF27-2182	Base Structure Extension	1
7	QDF27-1381	Battery Switch Cable	2
8	QDF9188	12V, 17.9 Ah Battery	2
9	QDF27-1208	Limit Switch Siderail Cable	2
10	QDF27-1430	CSI 1109 Board	1
11	QDF27-1097	Brake / Neutral / Drive Board	3
12	QDF27-1382	Speaker	5
13	QDF27-1429	Nurse Call Board	2
14	QDF75-0230	CSI 1157 Board	1
15	QDF9136	Load Cell Handle	1
16	QDF9130	Right Handle	1
17	QDF9131	Left Handle	1
18	QDF8066	Power Cord	2
19	QDF2087	Rocker Switch	1
20	QDF8078	10A (100V, 120V) Fuse	2
21	QDF8068	6.3A (200V, 220V, 240V) Fuse	2
22	QDF27-1607	I.V. Pole and Bed Extender Cable	1
23	QDF27-1682	Nurse Call Board Cable	2
24	QDF8024	120V Auxiliary Outlet	1
25	QDF27-2024	Linear Position Sensor	1
26	QDF9025	Breaker	1
27	QDF27-2214	Footboard Control Board Cable	1
28	QDF27-2038	Toroidal Transformer	1
29	QDF27-1646	Battery Cable	2
30	QDF9004	Micro-Switch	2
31	QDF27-2232	Footboard Cable	1
32	QDF27-1834	Footboard LBS Cable	2
33	QDF27-1841	100V Adapter	1
34	QDF27-1159	SID CAN Board	1
35	QDF27-1372	Load Cell	4
36	QDF21-1151	Exterior Side Head COM CAN-Mod Board	3
37	QDF21-2895	12” Network Cable	4
38	QDF21-1160	Voice Control CAN Board	1
39	QDF75-0410	Without GEN III/37 BRO CAB-CONN Board	1
40	QDF27-1521	Siderail Limit Switch	2
41	QDF27-2213	Number 1 Harness Wire	1
42	QDF27-2230	Touch Screen Cable	2
43	QDF75-0290	Touch Screen	1
44	QDF27-2049	Multivoltage Transformer	1
45	QDF75-0140	Angle Sensor	6
46	QDF27-1156	Cable for Brake Board	2
47	QDF27-2025	12V 3 LED’s Night Light	1
48	QDF27-2432	Cable for Serial Interface Connector	1
49	QDF27-2212	Siderail “Y” Wire	2

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Bed Electrical Diagram - 27-1136 Rev-12 (reference only) (Continued)

Item	Part No.	Part Name	Qty.
50	QDF21-4109	20 PINS Auxiliary Cable Port	1
51	QDF9186	Stryker Pendant Port	1
52	QDF2060	Smart TV Board	1
53	QDF21-2901	SIP-N-PUFF Cable	2
54	QDF27-1099	Fowler Side COM CAN-MOD Board	3
55	QDF75-0010	Touch Screen CAN-MENU Board	1
56	QDF9573	**XPRT™** Mattress Outlet	-
57	QDF27-1842	200 V Adaptor	1
58	QDF27-1843	220 V Adaptor	1
59	QDF27-1102	Patient Pendant Control	2
60	---	Patient Pendant Connector	1
61	QDF27-1525	Patient Pendant Cable	2
62	QDF9574	Schurter PEM TYPE KEC #4303.0001	1
63	QDF9575	Schurter PEM Fuse Holder #4303.2001	1
64	QDF27-1840	240 V Adaptor	1
65	QDF27-2253	LBS Cable	1
66	QDF27-1562	Local Bed Status Board	2
67	QDF9571	Medical Filter	1
68	QDF27-1524	Filter and Receptacle Connector	1
69	QDF27-1681	Interior Siderail Wire	2
70	QDF27-1526	Speaker	4
71	---	Patient Pendant Cable (Optional)	1
72	QDF27-2231	USB Cable	1
73	QDF27-1976	Auxiliary Outlet Cable + Mattress	1
74	QDF27-2542	Zoom® Interface Board Harness	1
75	QDF27-0240	Zoom® Interface Board	1

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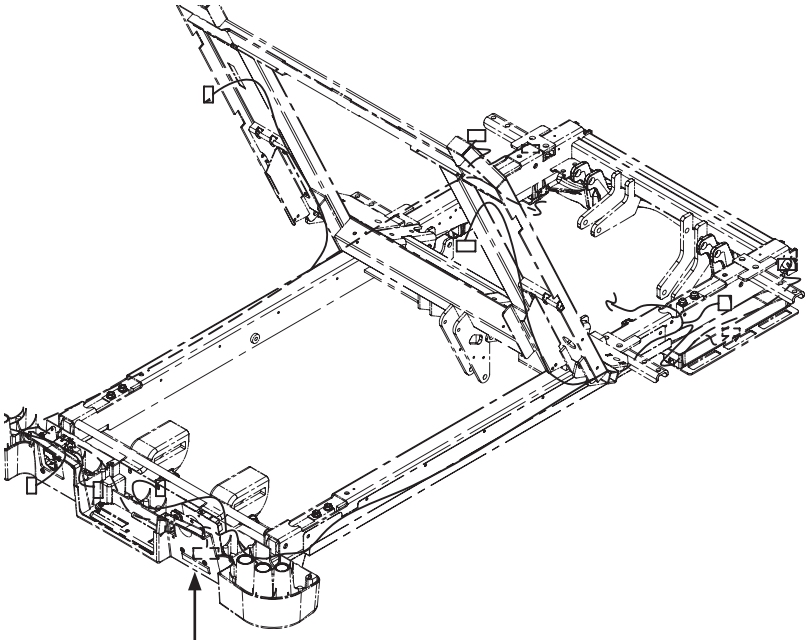
BED LIFT ACTUATOR (HEAD) REMOVAL AND REPLACEMENT - (BASE)

Tools Required:

- Needle-Nose Pliers
- Diagonal Pliers
- Jack (if needed)
- 2 x 4 (20” recommended)



Step #8:
Locate Jack Stand between floor and underside of Foot Frame.

Floor

Procedure:

1. Plug bed into wall outlet.
2. Raise the head end siderails to the full up position and set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Remove head end base cover by pulling up and out.
4. Remove center base cover by pulling up and out.
5. Using diagonal pliers, cut the zip tie securing the actuator cable to the base frame.
6. Using Needle-nose pliers, remove the rue clips from the clevis pins securing the actuator.

⚠ CAUTION
Do not remove the clevis pins.

7. If the bed will lower down, run it all the way down so the litter is supported by the base litter stop.
8. If the bed will not lower all the way down; using a jack and a 2 x 4, take tension off of the actuator clevis pins by placing the jack and 2 x 4 between the bottom of the right side of the litter and the floor and jack up just enough to take the litter weight off of the base frame (reference picture below).

⚠ CAUTION
Make sure that prior to jacking, the 2 x 4 is perpendicular to the floor.

9. Using the bed up/down controls, tap the up or down button to remove tension on the clevis pins and remove clevis pins.
10. Unplug the cable quick connect and remove the actuator.
11. Reverse the steps to install the new actuator.
12. Test all bed functionality prior to putting bed back in service.

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BED LIFT ACTUATOR (FOOT) REMOVAL AND REPLACEMENT - (BASE)

Tools Required:

- Needle-Nose Pliers
- Diagonal Pliers

Procedure:

1. Plug bed into wall outlet.
2. Raise head end siderails to full up position and ensure brakes are activated.
3. Remove head end base cover by pulling up and out.
4. Remove center base cover by pulling up and out.
5. Using diagonal pliers, cut the zip tie securing the actuator cable to the base frame.
6. Using Needle-nose pliers, remove the rue clips from the clevis pins securing the actuator.

⚠ CAUTION

Do not remove the clevis pins.

7. Lower the bed all of the way down so the litter is supported by the base litter stops.
8. Using the bed up/down controls, tap the up or down button to remove tension on the clevis pins and remove clevis pins.
9. Unplug the cable quick connect and remove the actuator.
10. Reverse the steps to install the new actuator.
11. Test all bed functionality prior to putting bed back in service.

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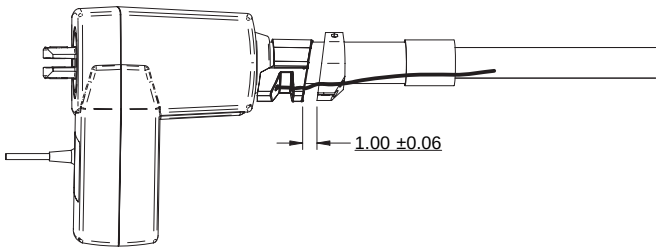
FOWLER ACTUATOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Diagonal Pliers
- Regular Screwdriver
- Phillips Screwdriver #2
- 3/8” Combination Wrench

Procedure:

1. Plug bed into wall outlet.
2. Raise bed to the full up position.
3. Raise the head end siderails to the full up position and set the brakes using one of the brake control locations or by using the manual brake pedal.
4. Working from the right side of the bed, step on the CPR pedal to lower the fowler all the way down.
5. Raise the gatch to the full up position.
6. Remove the three center base hoods (head, center, foot), then remove the right base hood.
7. Using Needle-nose pliers, remove the two rue clips from the clevis pins holding the actuator.
8. Using diagonal pliers, cut the zip ties securing the CPR cable to the actuator and the litter frame. Also cut the zip ties securing the actuator cable to the wire harness.
9. Unplug the actuator from the quick connect.
10. Holding the actuator with one hand remove the clevis pins from the actuator and carefully lower the actuator down.
11. Using a Phillips screwdriver and a 3/8” combination wrench, remove the CPR cable retaining screw from the right CPR pedal.
12. Using a regular screwdriver, loosen the CPR cable retainer on the actuator just enough so it will move.
13. Slide the gray cable retainer lock towards the CPR cable retainer and unclip the CPR cable from the red actuator release activator.
14. Remove actuator.
15. Reverse these steps to reinstall.
16. When re-adjusting the cable retainer lock set, set it to 1.00 +/- 0.06 as shown (right). When the actuator is back in place, use needle-nose pliers to reattach the spring to the center of the clevis pin.
17. Test all bed functionality prior to putting bed back into service.



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GATCH ACTUATOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Needle-Nose Pliers

Procedure:

1. Plug bed into wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Remove the mattress and set aside.
4. Raise bed to the full up position.
5. If the actuator will run, lower the gatch down to take the tension off of the actuator mounting pins. If the actuator will not run, support the gatch section to take tension off of the actuator mounting pins.
6. Unplug the actuator cable from the quick connect near the actuator.
7. Using Needle-nose pliers, remove the two rue clips from the clevis pins holding the actuator in place.
8. Holding the actuator with one hand, remove the clevis pins securing the actuator to the bed then remove the actuator.
9. Reverse these steps to reinstall.

   Note: If new actuator shaft does not line up with mounting holes, mount the base of the actuator then plug the actuator in and run it electrically in or out until lined up.

10. Test all bed functionality prior to putting bed back in service.

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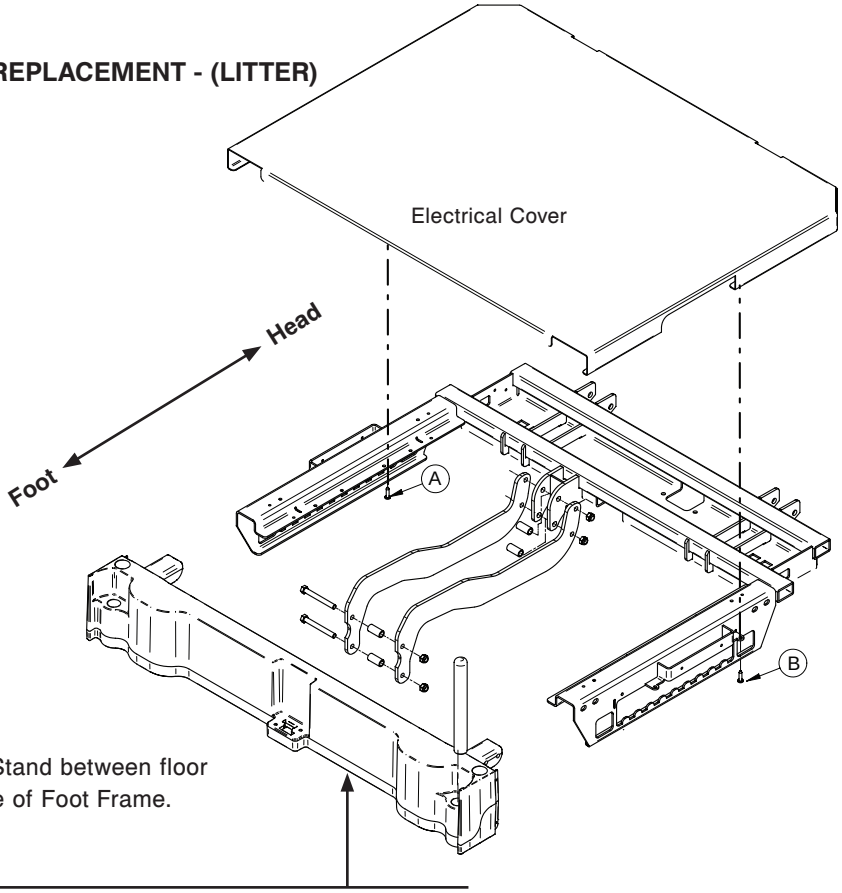
FOOT ACTUATOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Needle-Nose pliers
- Diagonal Pliers
- Phillips Screwdriver #2
- Jack Stand



Procedure:

1. Plug bed into wall outlet.
2. Set the brakes by using one of the brake control locations or the manual brake pedal.
3. Remove the mattress and set aside.
4. Using a jack stand, support the foot section by lowering the bed height down enough to take the tension off the actuator mounting pins (reference drawing above).
5. Using diagonal pliers, cut the zip ties securing the actuator cable to the bed.
6. Remove the mattress assembly or fold back to expose the foot section.
7. Using a Phillips screwdriver, remove the two screws (reference drawing above, item A and B) securing the electrical cover from the foot section and remove the cover.
   Note: Use caution as the cover is large and heavy.
8. Unplug the actuator from J1 and feed cable down to actuator.
9. Using needle-nose pliers, remove the two rue clips from the clevis pins holding the actuator in place.
10. Holding the actuator with one hand, remove the clevis pins securing the actuator to the bed then remove the actuator.
11. Reverse these steps to reinstall.
    Note: If new motor shaft does not line up with mounting holes, mount the base of the actuator then plug the actuator in and run it electrically in or out until lined up.
12. Test all bed functionality prior to putting bed back in service.

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Zoom® DRIVE ACTUATOR REMOVAL AND REPLACEMENT (2141 MODEL ONLY) - (BASE)

Tools Required:

- Needle-Nose Pliers
- Pry Bar or 2 x 4
- Diagonal Pliers

Procedure:

1. Plug bed into wall outlet.
2. Position the bed height in the middle range.
3. Remove the center base cover then remove the Zoom® drive actuator cover and set aside.
4. Using Needle-nose pliers, remove the two rue clips from the clevis pins securing the actuator to the base frame.
5. Using diagonal pliers, cut the zip ties securing the actuator cable and then unplug the actuator from the quick connect.
6. Using a pry bar or a 2 x 4, pry upward on the Zoom® drive actuator frame and push the actuator clevis pins out.
7. Remove actuator.
8. Reverse steps to install new actuator.
9. Test all bed functionality prior to putting bed back into service.

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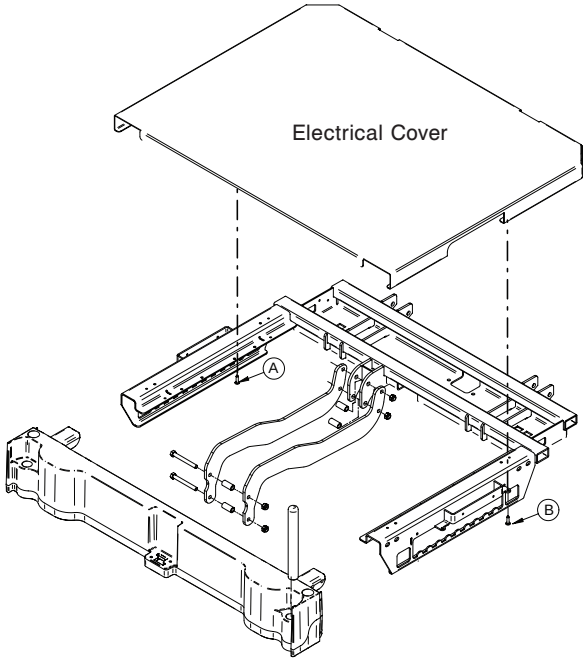
CPU / POWER BOARD REMOVAL AND REPLACEMENT - (LITTER)

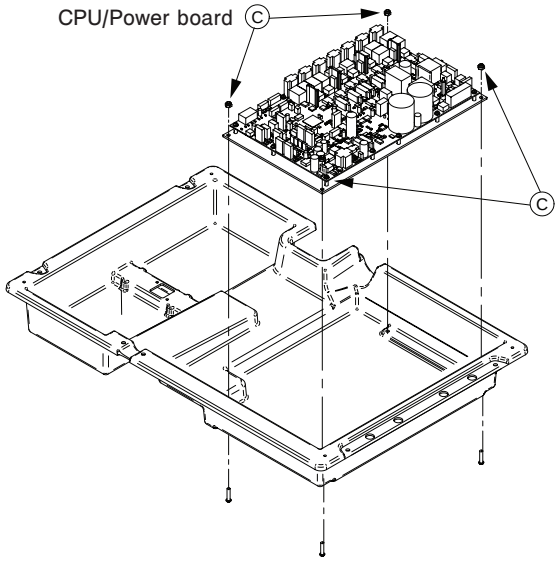
Tools Required:

- Phillips Screwdriver #2
- ESD System
- 3/8” Nutdriver



Procedure:

1. Plug bed into wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Raise the bed to the full upright position.
4. Remove the mattress assembly or fold back to expose the foot section.
5. Using a Phillips screwdriver, remove the two screws (reference drawing, item A and B) securing the electrical cover and remove the cover.
   Note: Use caution as the cover is large and heavy.
6. Unplug the bed from the wall outlet and turn battery switch OFF. The bed should now have no power.
7. Using an ESD system, properly ground yourself.
8. Unplug all cable connections from the CPU/Power board.
9. Using a 3/8” nutdriver and a Phillips screwdriver, unscrew the four screws (C) securing the metal CPU/ Power board mounting plate to the electrical tray (reference drawing above).
10. Remove CPU/Power board and discard.
11. Reverse steps 9-4 to install the new CPU/Power board (QDF75-0450).
12. Plug bed back into wall outlet and turn the battery switch back ON.
13. Configure bed options (refer to the Bed Options Configuration procedure on page 34).
14. Configure the bed serial number (refer to the Serial Number Configuration procedure on page 35).



15. Recalibrate the bed by referring to the Bed Calibration procedure on page 21.
16. Test all bed functionality prior to putting the bed back into service.

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LOAD CELL (HEAD END) REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- Needle-Nose Pliers
- 3/8” Drive Ratchet
- 1/2” Socket
- 1/2” Combination Wrench

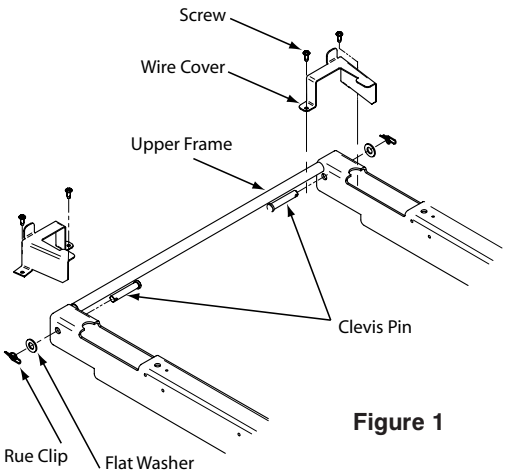
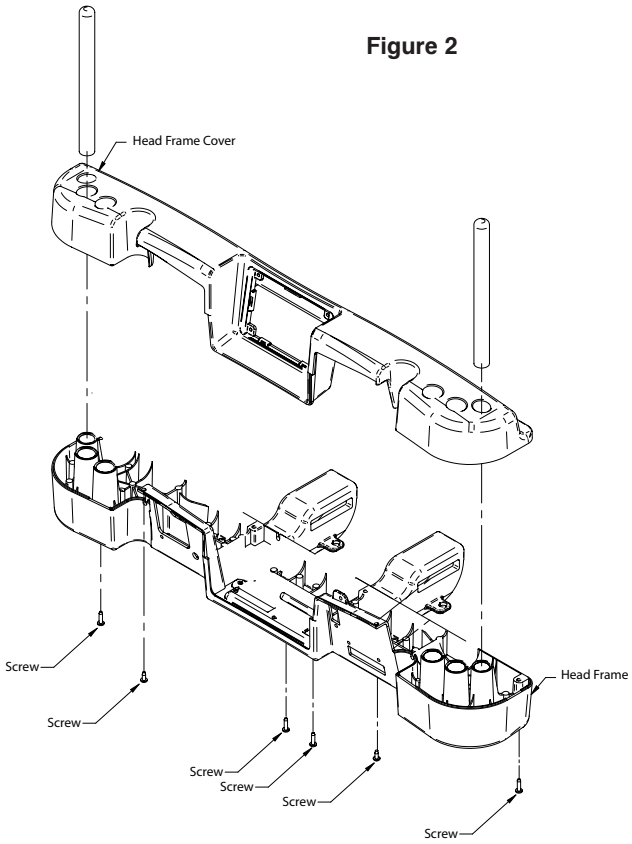


Figure 1

Figure 2



Procedure: (procedure the same for left and right sides)

1. Plug bed into wall outlet.
2. Raise bed and fowler to full up position, gatch down and foot up.
3. Raise head end siderails.
4. Using a Phillips screwdriver, remove the two screws securing the wire cover to the head frame (Figure 1).
5. Using a Phillips screwdriver, remove the six screws from the head frame cover, lift up on the cover and lay it on the litter (Figure 2)
6. Unscrew the load cell connection and feed the connection back towards the cell.
7. Using Needle-nose pliers, remove the rue clip and the flat washer.
8. Using one hand, grab the upper frame cross bar to remove tension on the litter then push the clevis pin out.
9. Using a ratchet with a 1/2” socket and a 1/2 combination wrench, remove the two bolts securing the load cell then remove the load cell.
10. Reverse procedures to install the new load cell.
    CAUTION: Ensure cables do not get pinched when securing the head end fame cover together.
11. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
12. Test all bed functionality prior to putting bed back into service.

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LOAD CELL (FOOT END) REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- Needle-Nose Pliers
- 1/2” Combination Wrench
- 3/8” Ratchet
- 1/2” Shallow Well Socket
- Diagonal Pliers
- Jack
- 2 x 4 (20” recommended)

Procedure: (procedure the same for left and right sides)

1. Plug bed into wall outlet.
2. Raise bed to around 24” (reference the footboard display) and gatch to full up position.
3. Remove the mattress assembly.
4. Using a 1/2” combination wrench, remove the four bolts securing the gatch section cover and remove by lifting up on the foot end and then pushing backwards on the cover.
5. Raise the foot end siderails up.
6. Using needle-nose pliers, remove the rue clip and flat washer.
7. Remove the foot end base cover.
8. Using a Phillips screwdriver, remove the four screws securing the foley bag bracket.
9. Using a jack and 2 x 4, take the tension off of the load cells and remove the clevis pins from both foot end load cells.
10. Unscrew load cell cable connector.
11. Using diagonal pliers, cut the two cable ties securing the main wire harness and the siderail cable located just behind the load cell.
12. Using a ratchet and 1/2” socket, remove the two nuts and bolts securing the load cell to the litter frame.
13. Remove the load cell by pulling back and upward towards the middle of the bed while feeding the cable through the litter frame.
14. Reverse procedures to install the new load cell.
    CAUTION: When installing new load cell do not pinch the cable with the load cell.
15. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
16. Test all bed functionality prior to putting bed back into service.

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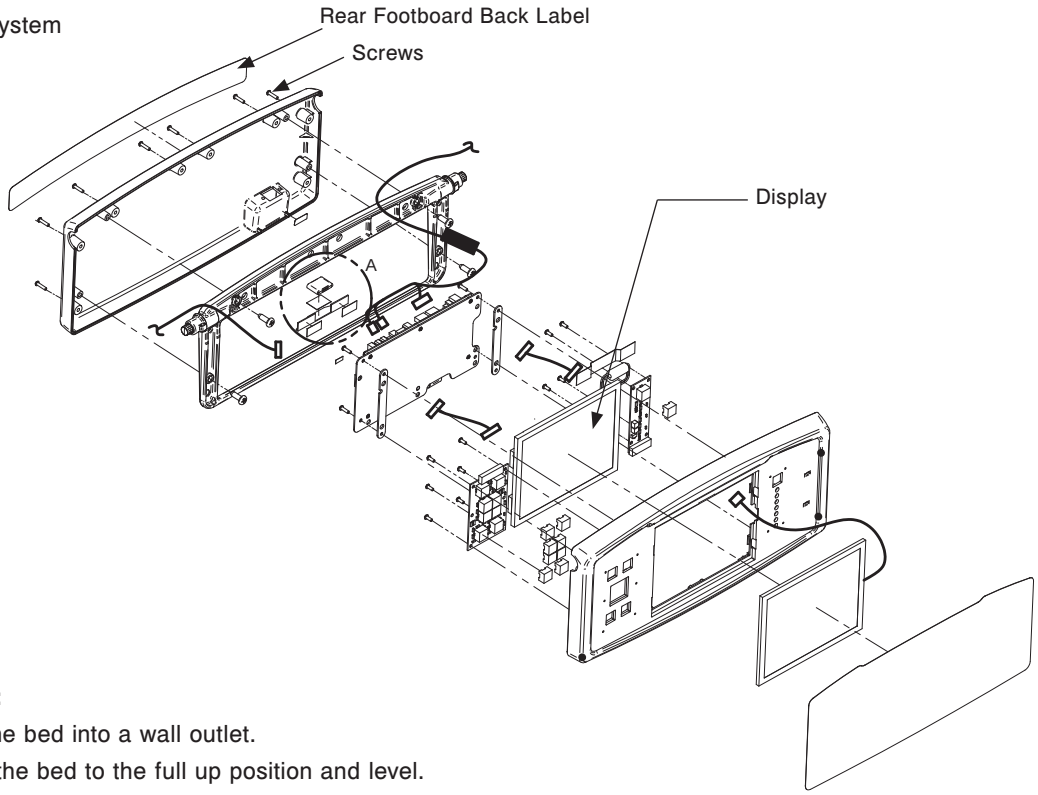
DISPLAY REMOVAL AND REPLACEMENT - (FOOTBOARD)

Tools Required:

- Phillips Screwdriver #2
- Stubby Phillips Screwdriver #2
- Small Regular Screwdriver
- Utility Knife
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level.
3. Unplug the bed and turn the battery disconnect “OFF” (0).
4. Using a small regular screwdriver or a utility knife, remove the rear footboard label.
   NOTE: You will need to replace this label: QDF27-1768.
5. Using a Phillips screwdriver, remove the six screws from the top of the control panel which the label was covering.
6. Raise the display up and using a stubby Phillips screwdriver, remove the three screws on the bottom.
7. Remove the display housing and unplug the two cables from the function control board and set the display assembly on a bench to work on.
8. Using a Phillips screwdriver, remove the four screws securing the display to the display housing.
9. Unplug the ribbon cable going to the touch screen by pulling outward on the black locking tab and then pulling out on the ribbon cable.
10. Unplug the two cables going to the display, making note of their location and orientation.
11. Carefully work your way around the support bracket display, pulling upward evenly; then remove the display.
12. Reverse the procedures to install the new display.
13. Recalibrate the touch screen (refer to Touch Screen Calibration procedures on page 30).
14. Test all bed functionality prior to putting the bed back into service.

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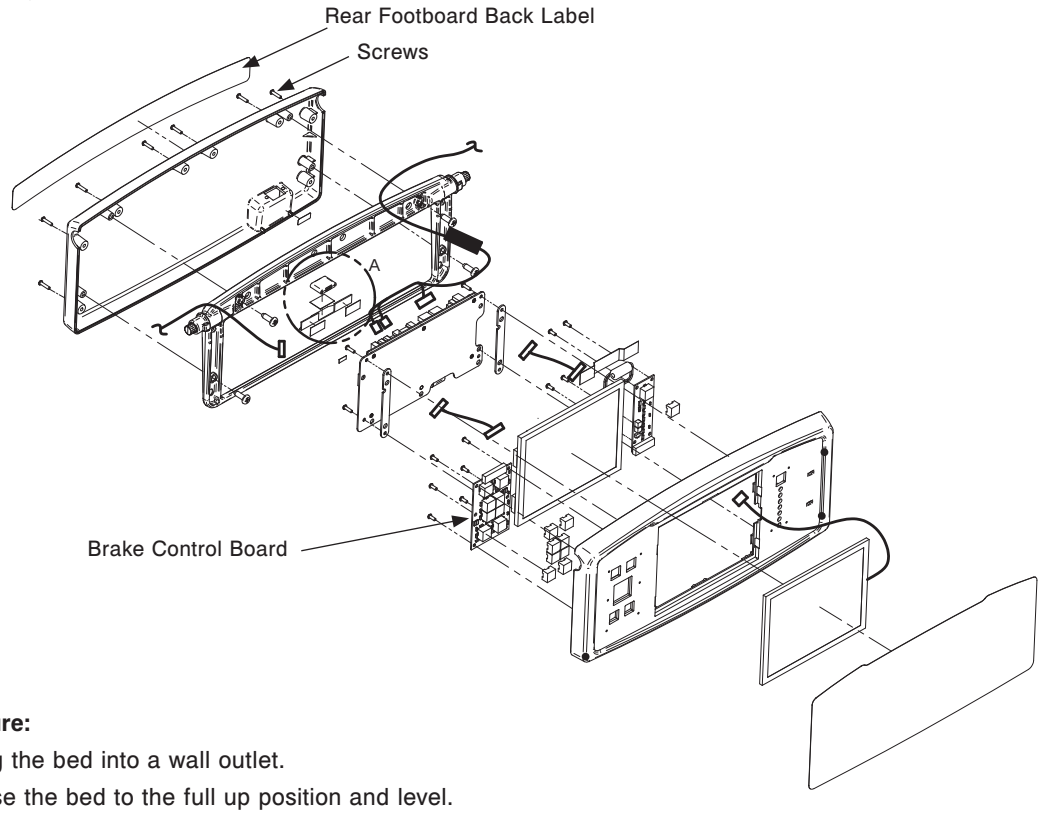
BRAKE CONTROL BOARD REMOVAL AND REPLACEMENT - (FOOTBOARD)

Tools Required:

- Phillips Screwdriver #2
- Stubby Phillips Screwdriver #2
- Small Regular Screwdriver
- Utility Knife
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level.
3. Unplug the bed and turn the battery disconnect “OFF” (0).
4. Using a small regular screwdriver or a utility knife, remove the rear footboard label.
   NOTE: You will need to replace this label: QDF27-1768.
5. Using a Phillips screwdriver, remove the six screws from the top of the control panel which the label was covering.
6. Raise the display up and using a stubby Phillips screwdriver, remove the three screws on the bottom.
7. Remove the display housing and unplug the two cables from the function control board and set the display assembly on a bench to work on.
8. Using a Phillips screwdriver, remove the six screws securing the brake control board.
9. Unplug the cable going to the brake control board.
10. Reverse the procedures to install the new brake control board.
11. Test all bed functionality prior to putting the bed back into service.

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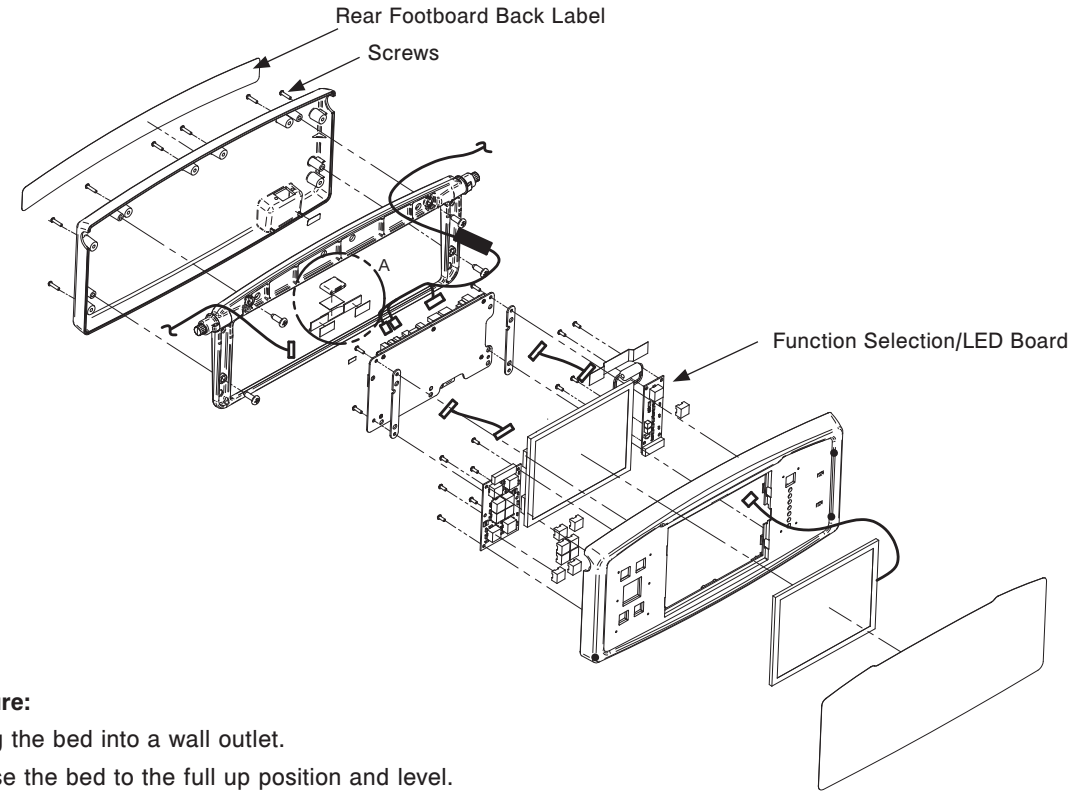
FUNCTION SELECTION/LED BOARD REMOVAL AND REPLACEMENT - (FOOTBOARD)

Tools Required:

- Phillips Screwdriver #2
- Stubby Phillips Screwdriver #2
- Small Regular Screwdriver
- Utility Knife
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level.
3. Unplug the bed and turn the battery disconnect “OFF” (0).
4. Using a small regular screwdriver or a utility knife, remove the rear footboard label.
   NOTE: You will need to replace this label: QDF27-1768.
5. Using a Phillips screwdriver, remove the six screws from the top of the control panel which the label was covering.
6. Raise the display up and using a stubby Phillips screwdriver, remove the three screws on the bottom.
7. Remove the display housing and unplug the two cables from the function control board and set the display assembly on a bench to work on.
8. Using a Phillips screwdriver, remove the four screws securing the function selection/LED board.
9. Unplug the cable going to the function selection/LED board.
10. Reverse the procedures to install the new function selection/LED board.
11. Test all bed functionality prior to putting the bed back into service.

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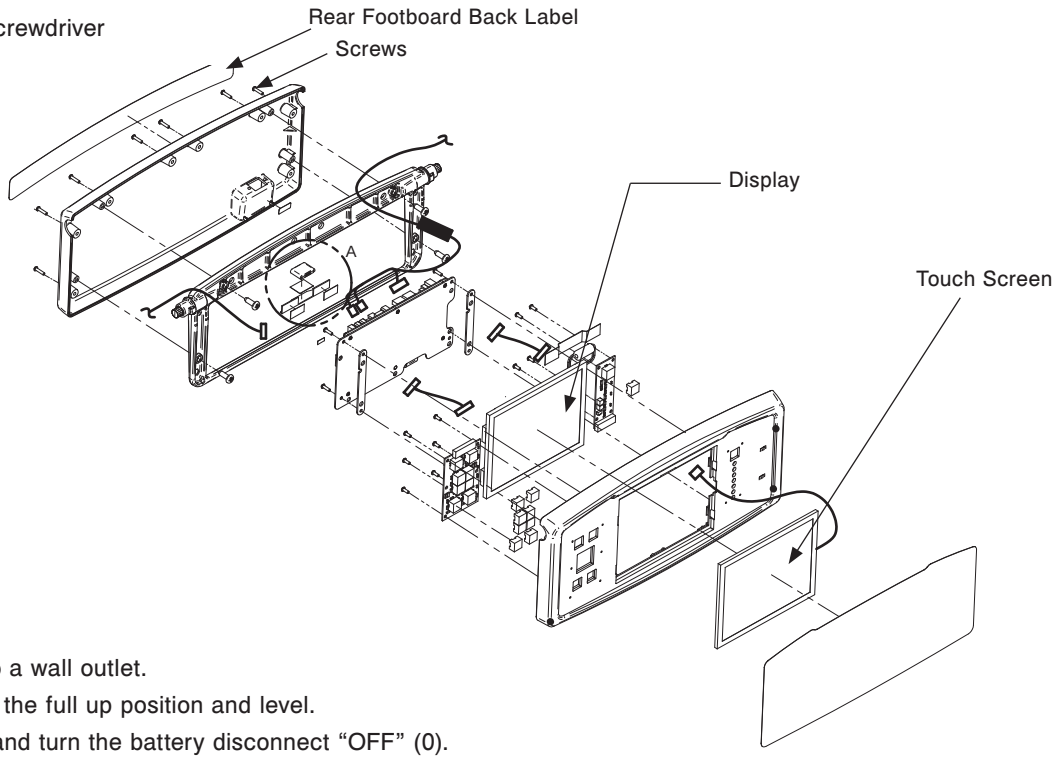
TOUCH SCREEN REMOVAL AND REPLACEMENT - (FOOTBOARD)

Tools Required:

- Phillips Screwdriver #2
- Stubby Phillips Screwdriver #2
- Small Regular Screwdriver
- Utility Knife
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level.
3. Unplug the bed and turn the battery disconnect “OFF” (0).
4. Using a small regular screwdriver or a utility knife, remove the rear footboard label.
   NOTE: You will need to replace this label: QDF27-1768.
5. Using a Phillips screwdriver, remove the six screws from the top of the control panel which the label was covering.
6. Raise the display up and using a stubby Phillips screwdriver, remove the three screws on the bottom.
7. Remove the display housing and unplug the two cables from the function control board and set the display assembly on a bench to work on.
8. Using a Phillips screwdriver, remove the four screws securing the display to the display housing.
9. Unplug the ribbon cable going to the touch screen by pulling outward on the black locking tab and then pulling out on the ribbon cable.
10. Unplug the three cables going to the display, making note of their location and orientation.
11. Carefully work your way around the support bracket display, pulling upward evenly; then remove the display.
12. Using a small regular screwdriver or utility knife, remove the foot control label.
    NOTE: You will need to replace the following labels:
    *** Without *i*Bed Awareness** - QDF27-2188-ENG; *** With *i*Bed Awareness** - QDF27-2188-ENG
13. From the back of the display housing push out on the touch screen and remove.
14. Reverse the procedures to install the new touch screen.
15. Recalibrate the touch screen (refer to Touch Screen Calibration procedures on page 30).
16. Test all bed functionality prior to putting the bed back into service.

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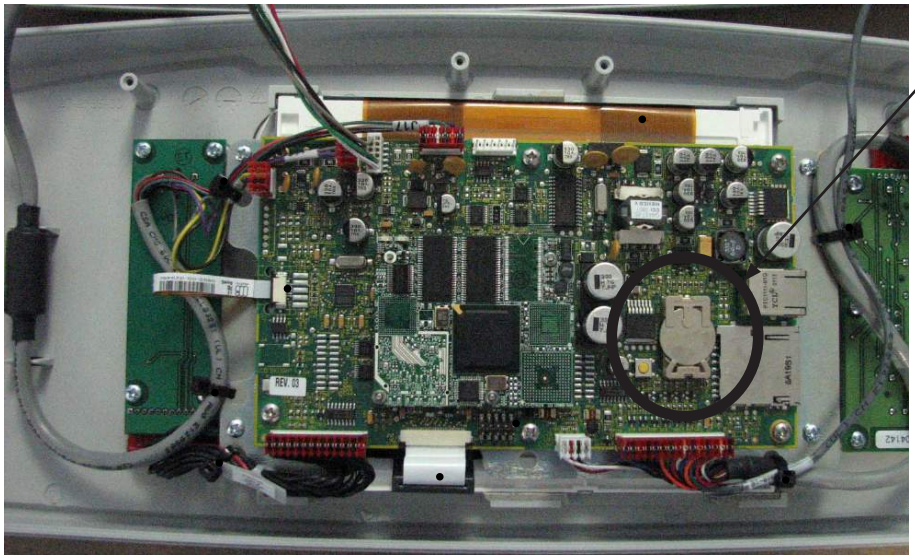
BATTERY REMOVAL AND REPLACEMENT - (FOOT BOARD)

Tools Required:

- Phillips Screwdriver #2
- Stubby Phillips Screwdriver #2
- Small Regular Screwdriver
- Utility Knife
- ESD System

Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level.
3. Unplug the bed and turn the battery disconnect switch to the “OFF” (0) position.
4. Using a small regular screwdriver or a utility knife, remove the rear footboard label.
   NOTE: You will need to replace this label: QDF27-1768.
5. Using a Phillips screwdriver remove the six screws from the top of the control panel which the label was covering.
6. Raise the display up and using a stubby Phillips screwdriver, remove the three screws on the bottom.
7. Remove the display housing and unplug the two cables from the function control board and set the display assembly on a bench to work on.
8. Remove the battery and replace with new battery (see figure below).
9. Reverse the above steps to reassemble.
10. Referencing the operation manual complete the Time / Date Setup procedure.



Battery

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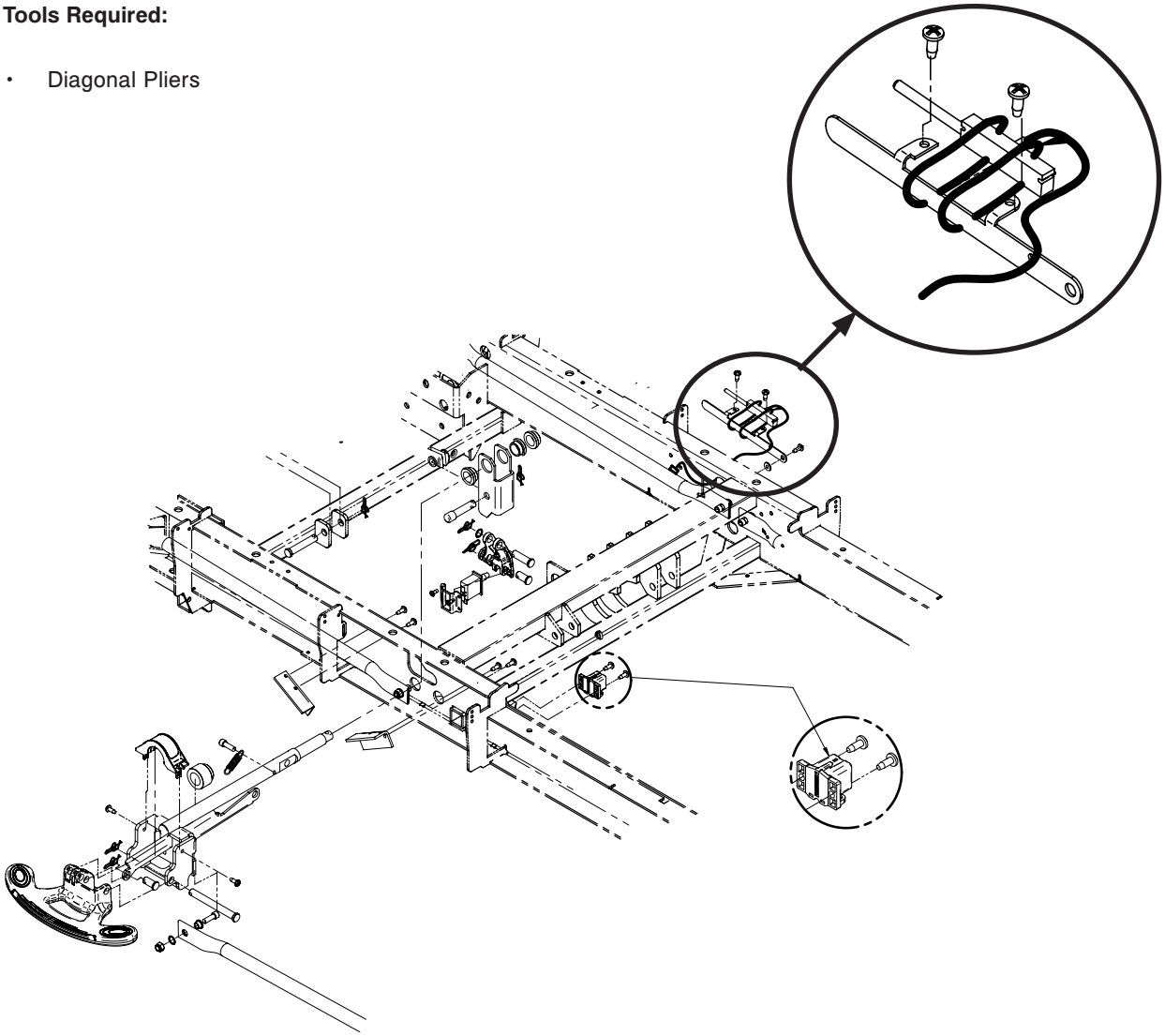
BRAKE / NEUTRAL / DRIVE POTENTIOMETER REMOVAL AND REPLACEMENT - QDF27-2024

Tools Required:

- Diagonal Pliers



Procedure:

1. Plug bed into wall outlet.
2. Raise the bed lift and patient's left siderails all the way up.
3. Remove the base center covers (foot, center, and head).
4. Remove the patient's left base frame cover.
5. Cut the two wire ties securing the potentiometer to the potentiometer bracket; then cut the two wire ties securing the potentiometer wires to the frame.
6. Remove the electrical tape holding the quick connection together.
7. Reverse the above procedures for installation of the new potentiometer.
   NOTE: Make sure to install new wire ties in the same location.
8. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
9. Test all bed functionality prior to putting the bed back into service.

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BATTERY REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- 5/16” Nutdriver
- 5/16” Combination Wrench

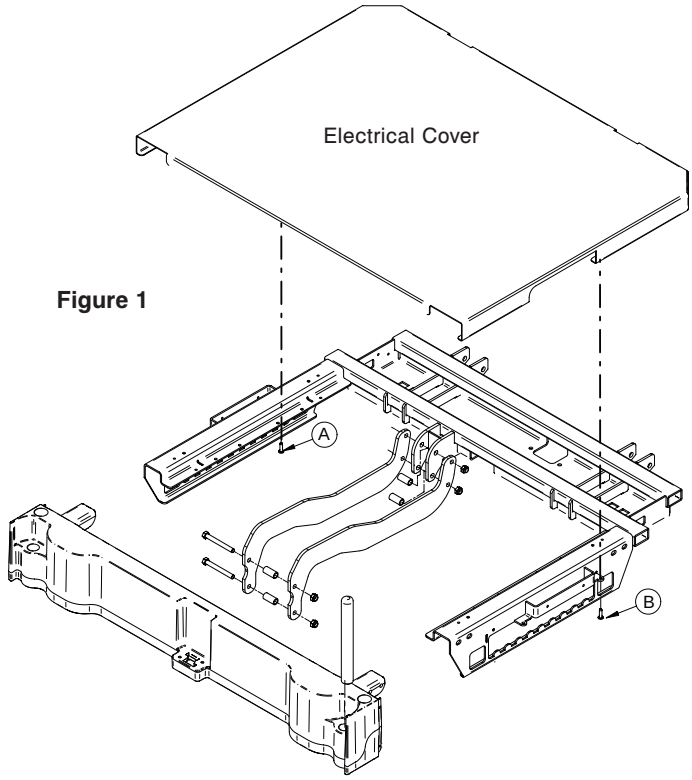

Figure 1

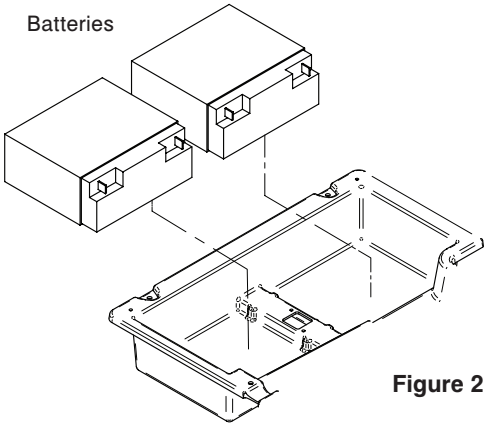

Figure 2

Procedure:

1. Plug bed into wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Raise the bed to the full up position.
4. Remove the mattress assembly or fold back to expose the foot section.
5. Using a Phillips screwdriver, remove the two screws securing the electrical cover and remove the cover (reference Figure 1 above, item A and B).
   Note: Use caution as the cover is large and heavy.
6. Unplug the bed from the wall outlet and turn battery switch “OFF” (0). The bed should now have no power.
7. Unplug J12 connector from the CPU/Power board.
8. Lift up on both batteries and stand them upright (reference Figure 2 above).
9. Using a 5/16” nutdriver and a 5/16” combination wrench, unbolt the wires from the battery posts.
10. Reverse the steps to install new batteries.
    Note: New battery information should be facing the right side when installing and upright when installed.
11. Test all bed functionality while plugged into wall outlet and when unplugged prior to putting back into service.

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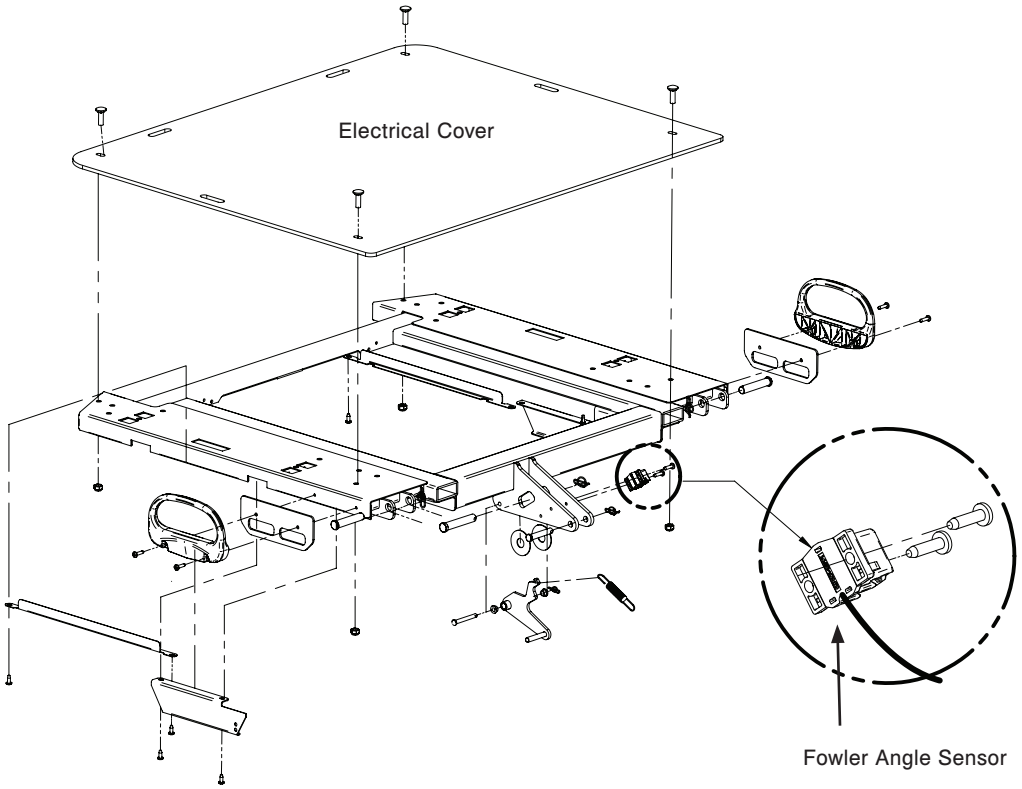
FOWLER ANGLE SENSOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Stubby Phillips Screwdriver #2
- ESD System



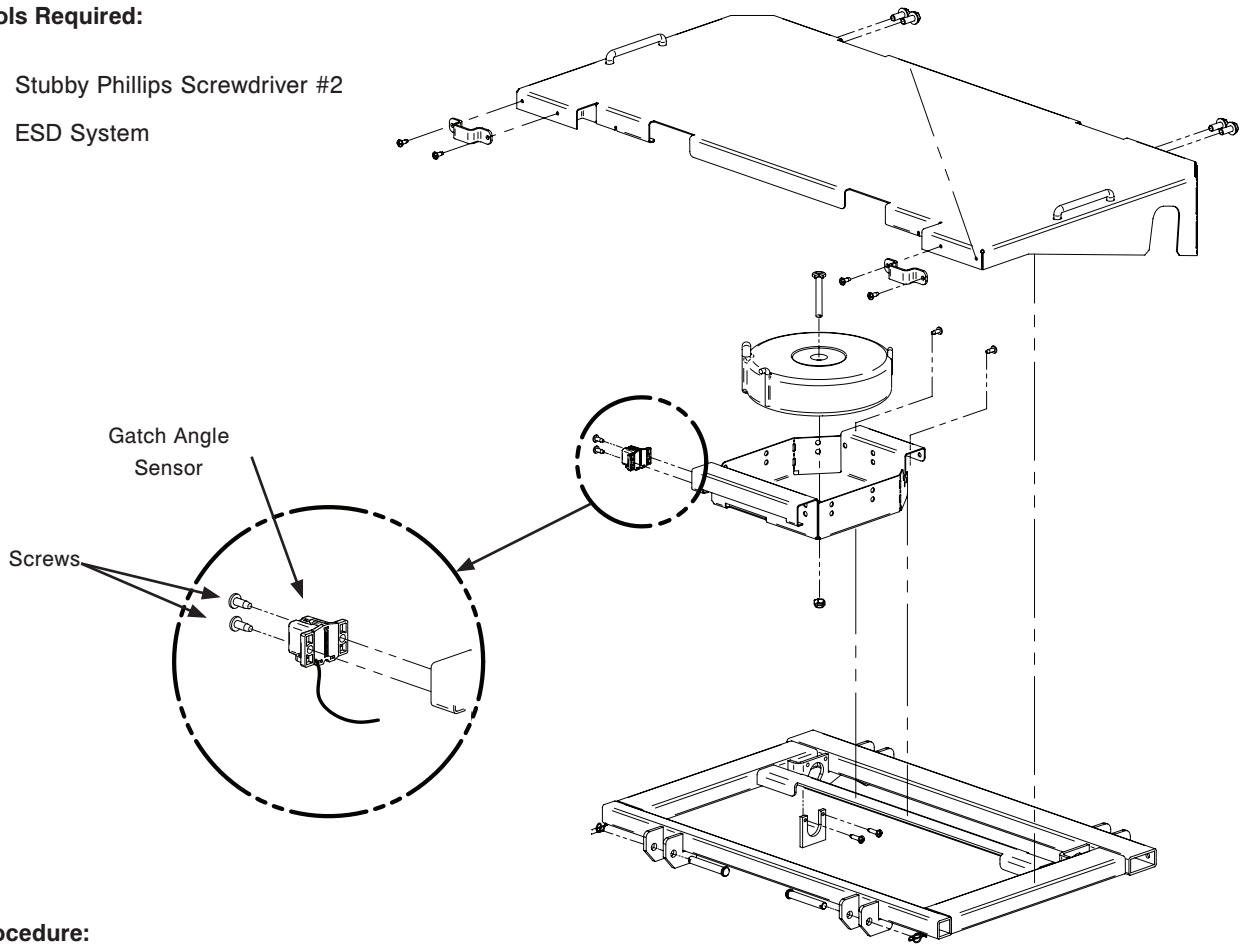
Procedure:

1. Plug bed into wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Raise the bed to the full up position and raise the patient left siderails (head end and foot end).
4. If fowler motor will run, raise fowler up to approximately 20 degrees. If the fowler motor will not run, put the bed into the calibration mode step one as shown on page 21. Run the Fowler up to approximately 20 degrees.
5. Working form the left side of the bed, use a stubby Phillips screwdriver and remove the two screws securing the fowler angle sensor to the bottom of the fowler frame.
6. Using an ESD system, properly ground yourself.
7. Unclip the three clips holding the board cover on.
8. Unplug the cable from the board.
9. Reverse the steps to install the new fowler angle sensor.
   Note: Do not over-tighten the two screws.
10. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
11. Test all bed functionality prior to putting the bed back into service.

GATCH ANGLE SENSOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Stubby Phillips Screwdriver #2
- ESD System



Procedure:

1. Plug bed into wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Raise the bed to the full up position.
4. If gatch motor will run, raise gatch up to approximately 20 degrees. If the gatch motor will not run, then put the bed into the calibration mode step one as shown on page 21.
5. Working from the bottom left side of the litter, under the gatch section, use a stubby Phillips screwdriver and remove the two screws securing the gatch angle sensor to the bottom of the gatch frame.
6. Using an ESD system, properly ground yourself.
7. Unclip the three clips holding the board cover on.
8. Unplug the cable from the board.
9. Reverse the steps to install new gatch angle sensor.
   Note: Do not over tighten the two screws.
10. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
11. Test all bed functionality prior to putting the bed back into service.

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FOOT ANGLE SENSOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- ESD System

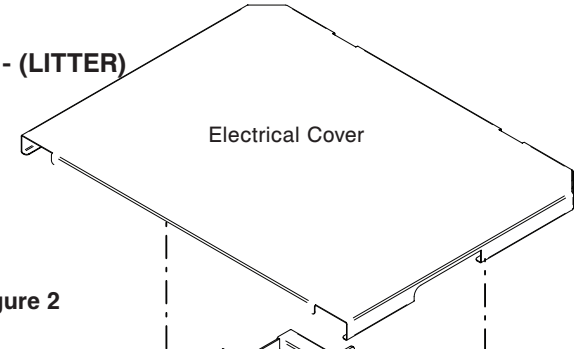


Figure 2

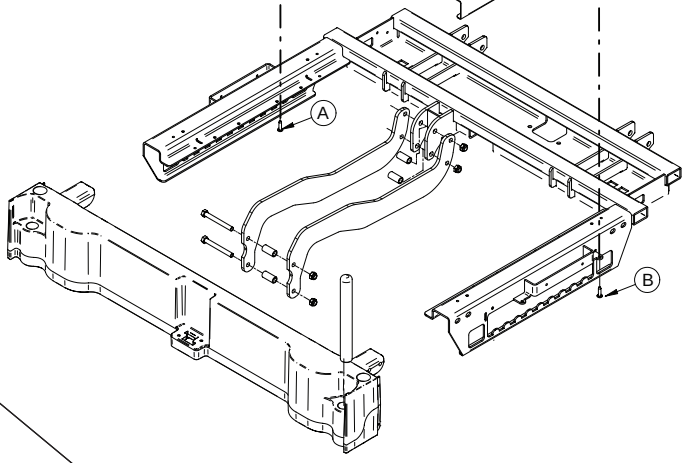
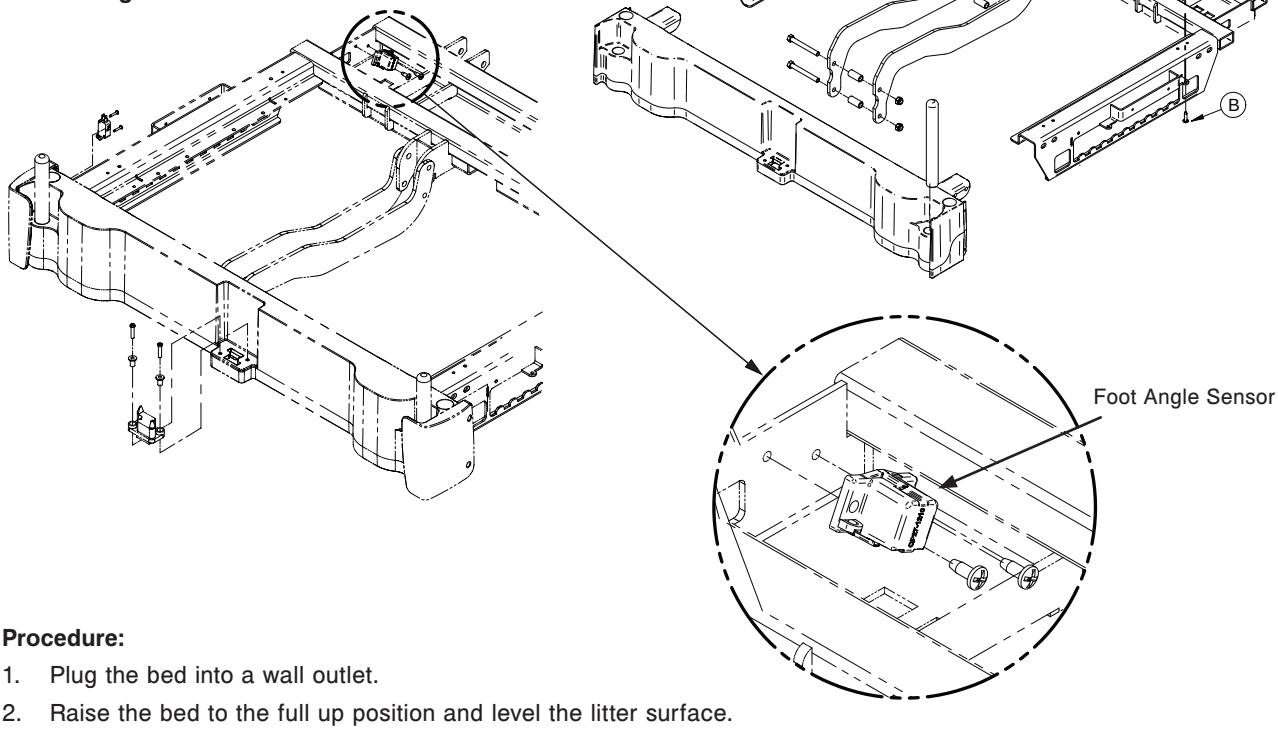


Figure 1



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and level the litter surface.
3. Remove or fold back the mattress, exposing the foot section.
4. Using a Phillips screwdriver, remove the two screws securing the electrical cover and then remove the cover (refer to Figure 1 above, item A and B).
5. Using a Phillips screwdriver, remove the two screws securing the angle sensor to the foot frame (refer to Figure 2 above). **Note: Use caution as the cover is large and heavy.**
6. Using an ESD system, properly ground yourself.
7. Unclip the three clips holding the board cover on.
8. Unplug the cable from the board.
9. Reverse the steps to install the new foot angle sensor.
   Note: Do not over-tighten the two screws.
10. Recalibrate the bed (refer to Bed Calibration procedures on page 35).
11. Test all bed functionality prior to putting the bed back into service.

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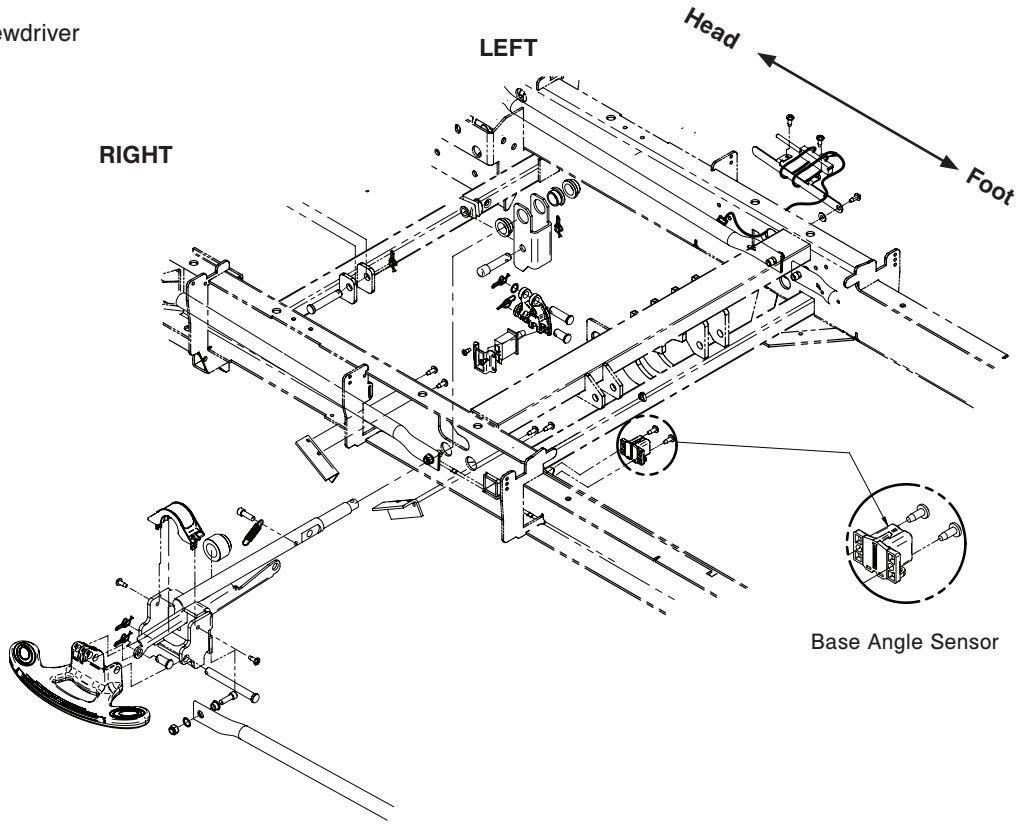
BASE ANGLE SENSOR REMOVAL AND REPLACEMENT - (BASE)

Tools Required:

- Stubby Phillips Screwdriver
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Set the brakes using one of the brake control locations or by using the manual brake pedal.
3. Raise the bed to the full up position and raise the patient right siderails (foot end and head end).
4. Remove the head end, enter, foot end, and right base cover.
5. Using a Phillips screwdriver, remove the two screws securing the base angle sensor to the base frame (reference Figure above).
6. Using an ESD system, properly ground yourself.
7. Unclip the three clips holding the board cover on.
8. Unplug the cable from the board.
9. Reverse the steps to install new base angle sensor.
   Note: Do not over-tighten the two screws.
10. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
11. Test all bed functionality prior to putting the bed back into service.

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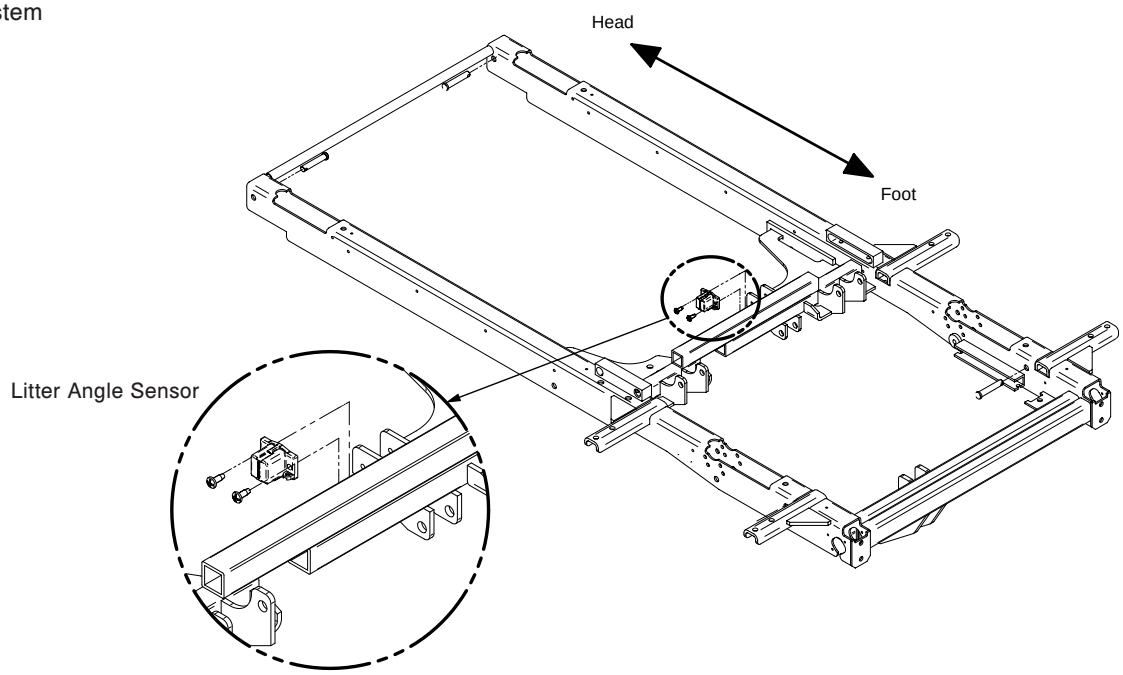
TREND ANGLE SENSOR REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position and raise the patient right siderail.
3. Working from the patient's right side, use a Phillips screwdriver and remove the two screws securing the trend angle sensor to the litter frame (refer to Figure above),
4. Using an ESD system, properly ground yourself.
5. Unclip the three clips holding the board cover on.
6. Unplug the cable from the board.
7. Reverse the steps to install new trend angle sensor.
   Note: Do not over-tighten the two screws.
8. Recalibrate the bed (refer to Bed Calibration procedures on page 21).
9. Test all bed functionality prior to putting the bed back into service.

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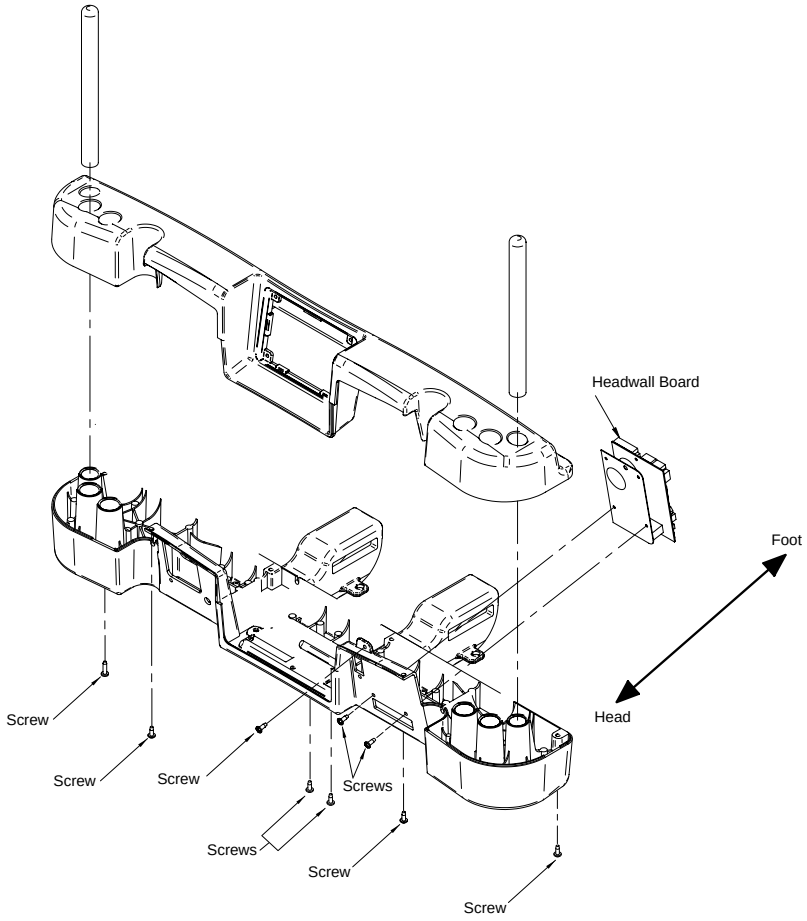
HEADWALL COMMUNICATION BOARD REMOVAL AND REPLACEMENT - (LITTER)

Tools Required:

- Phillips Screwdriver #2
- ESD System



Procedure:

1. Plug the bed into a wall outlet.
2. Raise the bed to the full up position.
3. Remove the head board and any accessories located on the head end.
4. Using a Phillips screwdriver, remove the six screws securing the head frame cover (reference figure above).
5. Using a Phillips screwdriver, remove the three screws securing the headwall board to the head frame (reference figure above).
6. Using an ESD system, unplug the seven cables (make note of their location; they are not all labeled). Compare the old board and new board and mirror all of the dip-switch settings from the old board to the new board. Verify if any jumpers need to be moved.
7. Reverse procedures to install new headwall communication board.
8. Test all bed functionality prior to putting the bed back into service.

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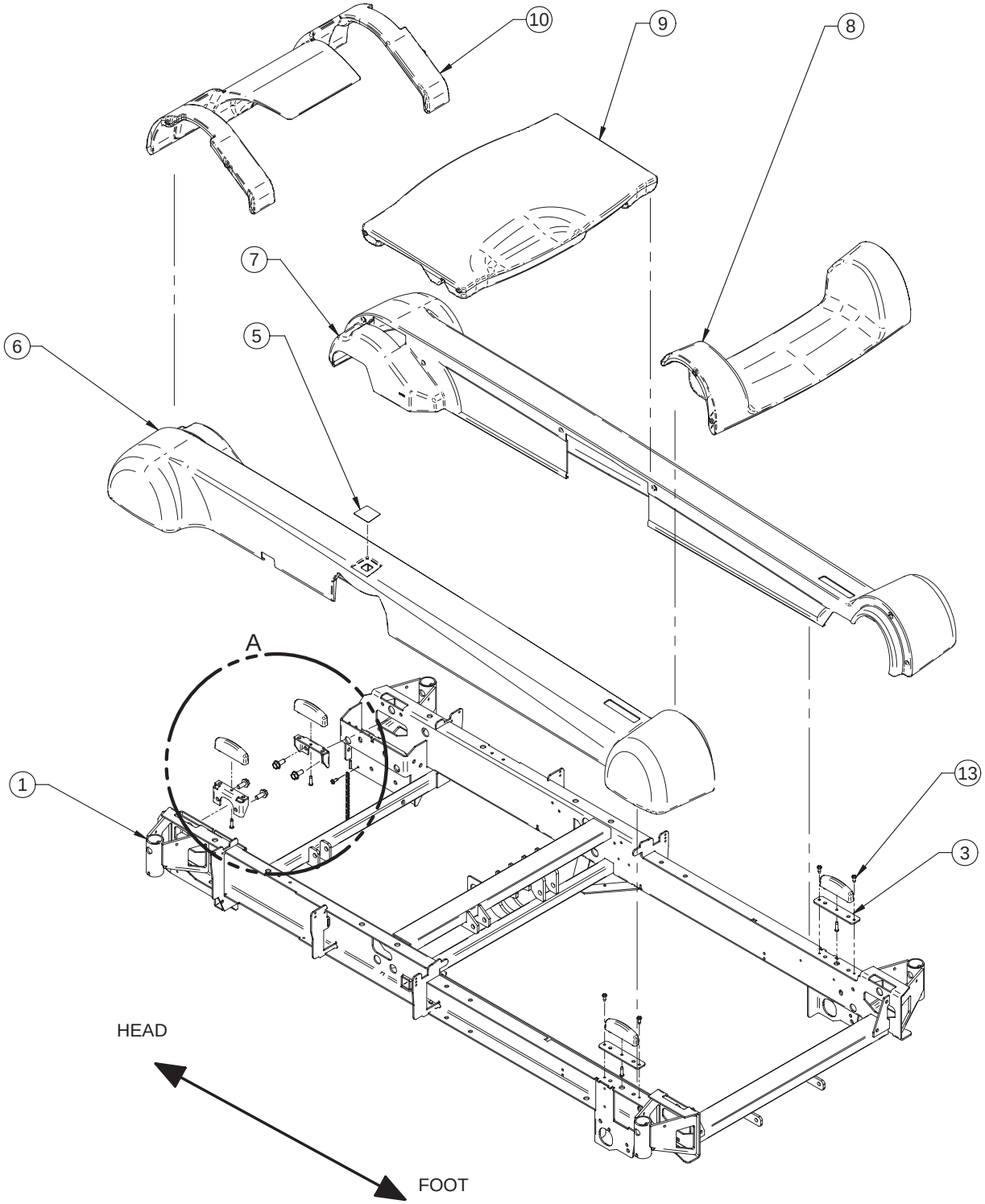
Base Assembly, Hood

For Reference Only: Part Number L27-026 Rev-07



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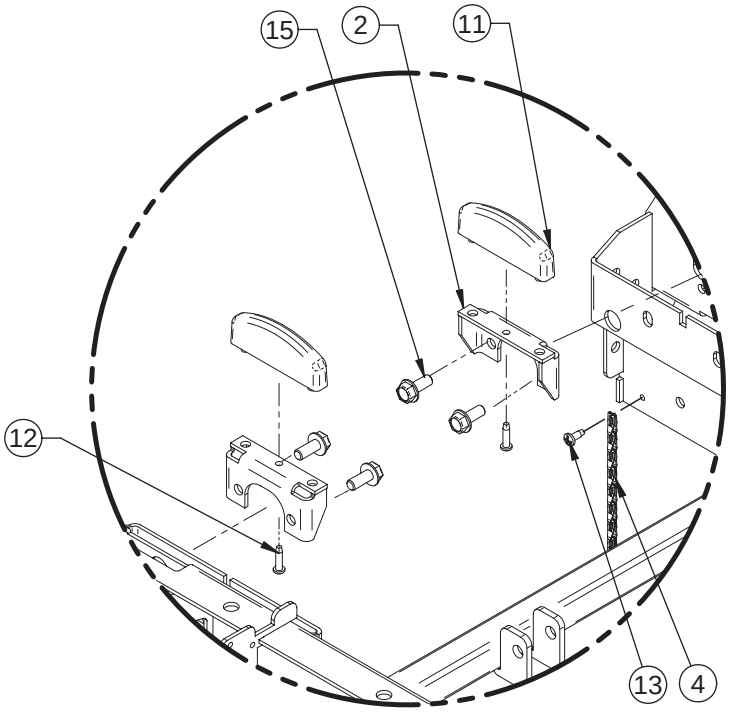
Base Assembly, Casters/Hood



DETAIL A

Base Assembly, Casters/Hood - Common Components - L27-026 Rev-07 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-0758W	Base Assembly	1
2	27-1462W	Support Stopper	2
3	27-1628W	Foot Stopper Support	2
4	27-2123	Ground Chain	1
5	QDF27-1419	Base Transparent Plate	1
6	QP27-1008-05	Right Base Cover	1
7	QP27-1009-05	Left Base Cover	1
8	QP27-1087-10	Foot Base Cover	1
9	QP27-1093-10	Center Base Cover	1
10	QP27-1105-10	Head Base Cover	1
11	QP27-1461-10	Stopper in Base	4
12	VV23A1G24HL	Tapping Screw #10 x ¾”	4
13	VV83A9G16	Tapping Screw # 10 x ½”	5
15	VVB4A1O24	Bolt 5/16-18 x ¾” Thread Rolling	4

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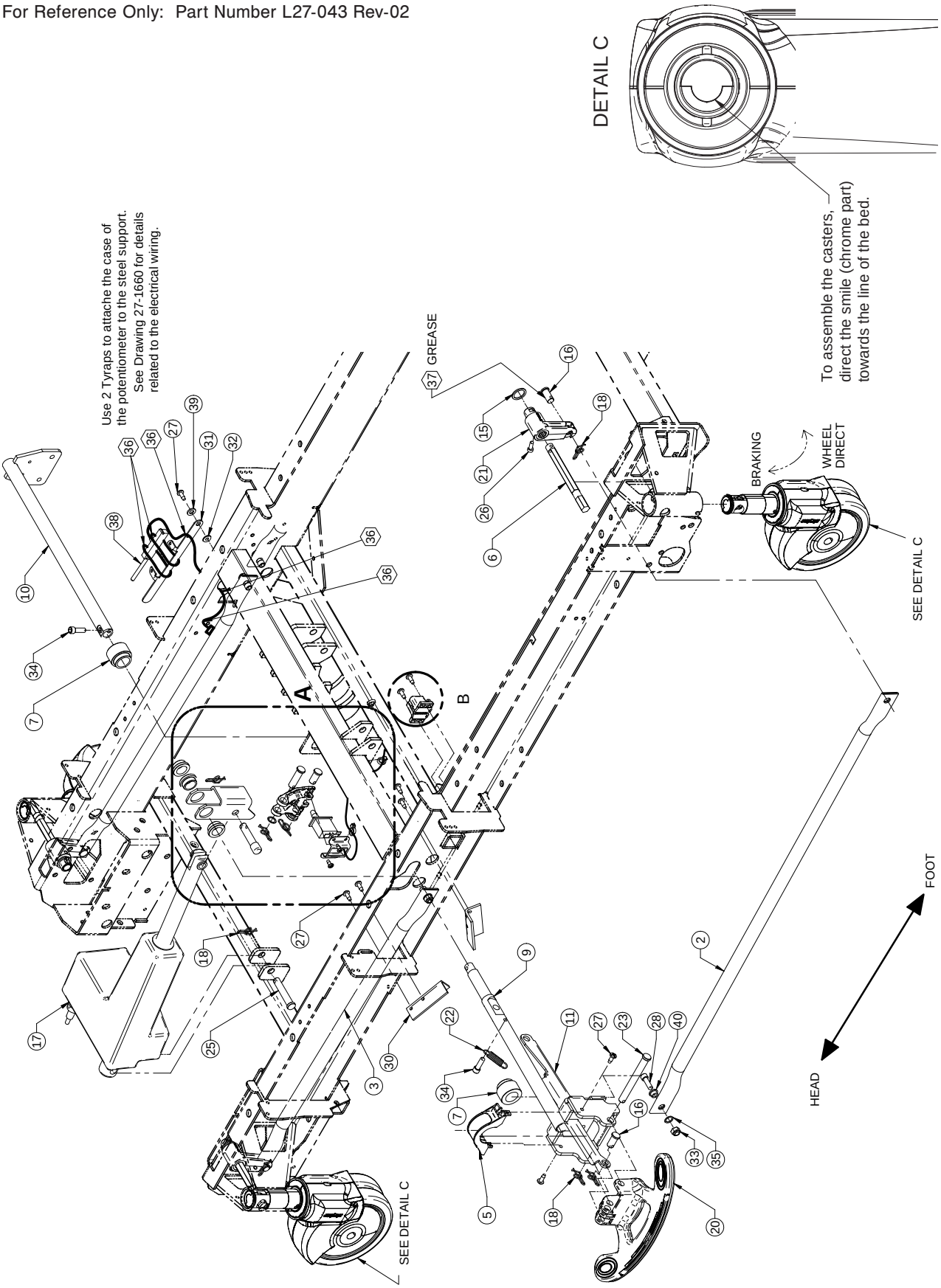
Notes

Base Assembly, Brake

For Reference Only: Part Number L27-043 Rev-02



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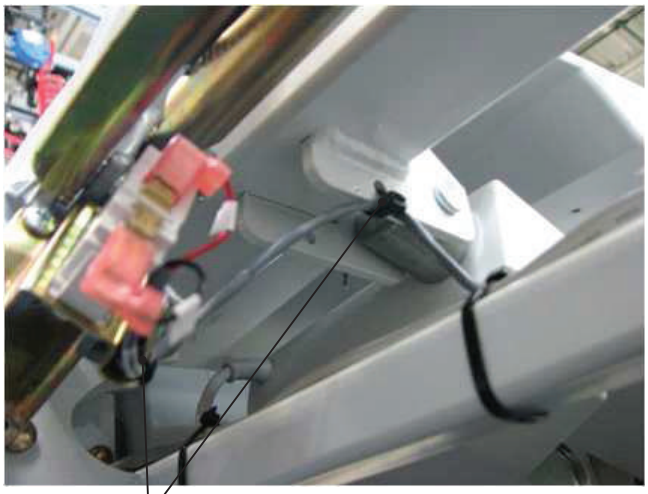
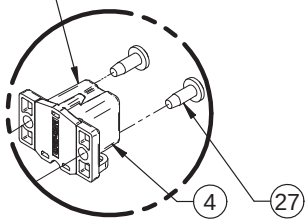
Base Assembly, Brake

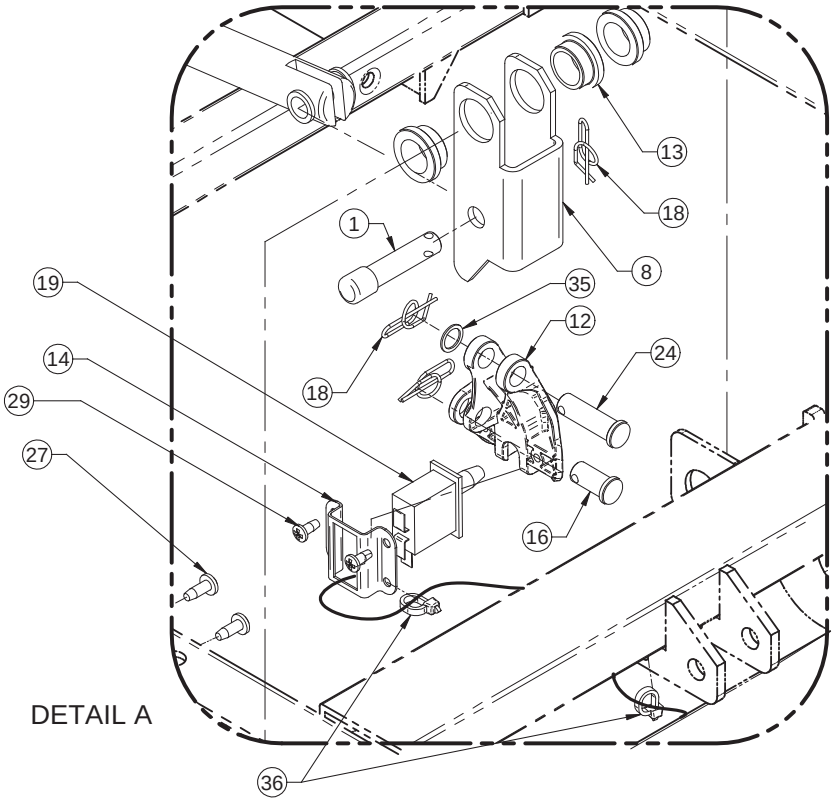


Tyrap positioning

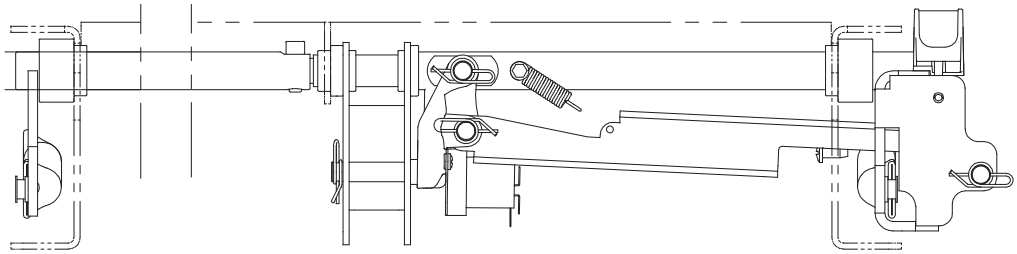
The angle sensor orientation is very important. Wire should exit towards the bottom.



DETAIL B



DETAIL A



View of Assembled Brake System

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Base Assembly with Brake

Base Assembly with Brake - Common Components - L27-043 Rev-02 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-1402Z	Brake Clevis pin	1
2	27-0772Z	Foot Brake Tube	2
3	27-0773Z	Head Brake Tube	2
4	27-2477	Angle Sensor Assembly	1
5	QP27-1255-10	Brake Indicator	1
6	27-1336Z	Casters Activation Roller Strike	4
7	27-1354	Brake Bearing	2
8	27-1391Z	Brake Actuator Pivot	1
9	27-1405Z	Right Brake Cross Member	1
10	27-1406Z	Left Brake Cross Member	1
11	27-1411Z	Brake Shift Control Stem	1
12	QPA27-1448	Brake Trigger	1
13	27-1449	Braking Bearing	3
14	27-1452Z	Microswitch Bracket	1
15	VW10C202802	Washer 656 x 844 x 060	4
16	VG50A1224	Clevis Pin, 3/8” x 3/4”	6
17	QDF27-1227	Brake Actuator	1
18	QDF7878	Fastener Pin, 3/8”	10
19	QDF9159	Cherry Limit Switch	1
20	27-2519W	Emergency Pedal	1
21	QPA27-1335	Brake Lever	4
22	QRE27-1844	Extension Spring 3/8” x 1-5/8”	1
23	VG50A1259	Clevis Pin, 3/8” x 3-3/8”	1
24	VG50B1236	Clevis Pin, 3/8” x 1-1/4”	1
25	VG50B1248	Clevis Pin, 3/8” x 2”	1
26	VV10A0G16-S	Hexagon Cylinder Hd., #10-32 x 1/2”	4
27	VV83A9G16	Tapping Screw, #10 x 1/2”	9
28	VV10A1N24	Hexagon Cylinder Hd., 1/4-20 x 3/4”	4
29	VV83A9E12	Tapping Screw, #8 x 3/8”	2
30	27-1745Z	Head Brake Microswitch Stop	2
31	27-1946Z	Potentiometer Support	1
32	27-1948	Copper Sleeve Spacer	1
33	VE30A1N	Nylon Locknut, 1/4-20	4
34	VV10A1N24-S	Cylinder Hd. Hex Screw 1/4-20 x 3/4”	2
35	VW10C121601	Nylon Washer	5
36	QDF9518	Cable Tie	3
37	M0019	Grease	1
38	QDF27-2024	Position Sensor	1
39	VW10C081602	Nylon Washer	1
40	QB2938T1	Sleeve	4

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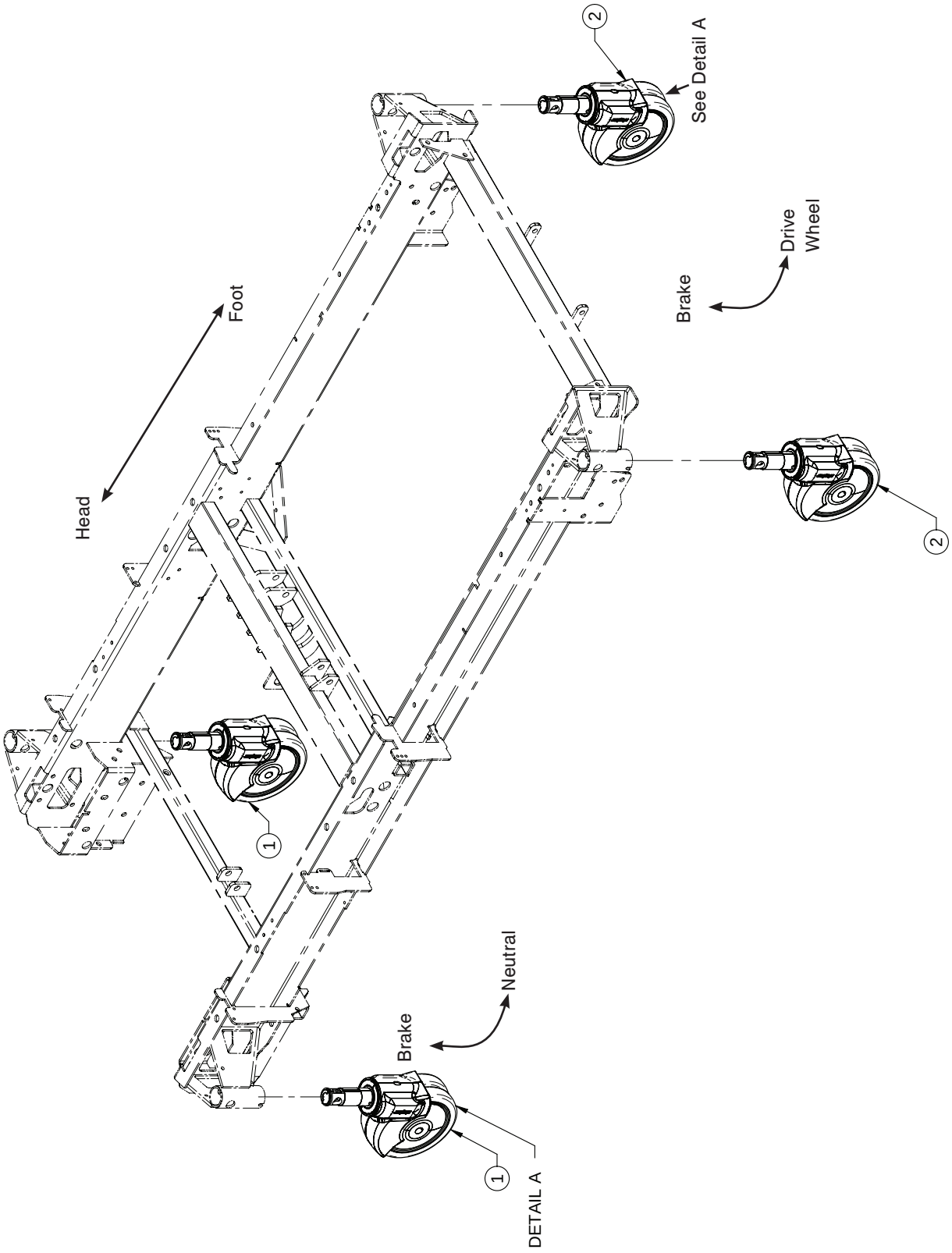
Base Assembly, Caster Lock (2131 Model Only)

For Reference Only: Part Number OL270006 Rev-02



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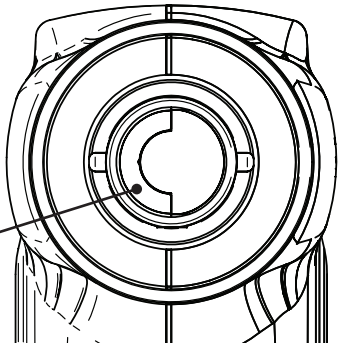
Base Assembly, Caster Lock (2131 Model Only)

To assemble casters, direct the smile (chrome part) toward the left side of the bed.



DETAIL A

Base Assembly, Caster Lock Option (No Zoom®) - Common Components - OL270006 Rev-02 (Reference only)

Item	Part No.	Part Name	Qty.
1	RD27-1970	5.5” Caster Brake/Neutral/Neutral	2
2	RD27-1971	5.5” Caster Brake/Neutral/Drive	2

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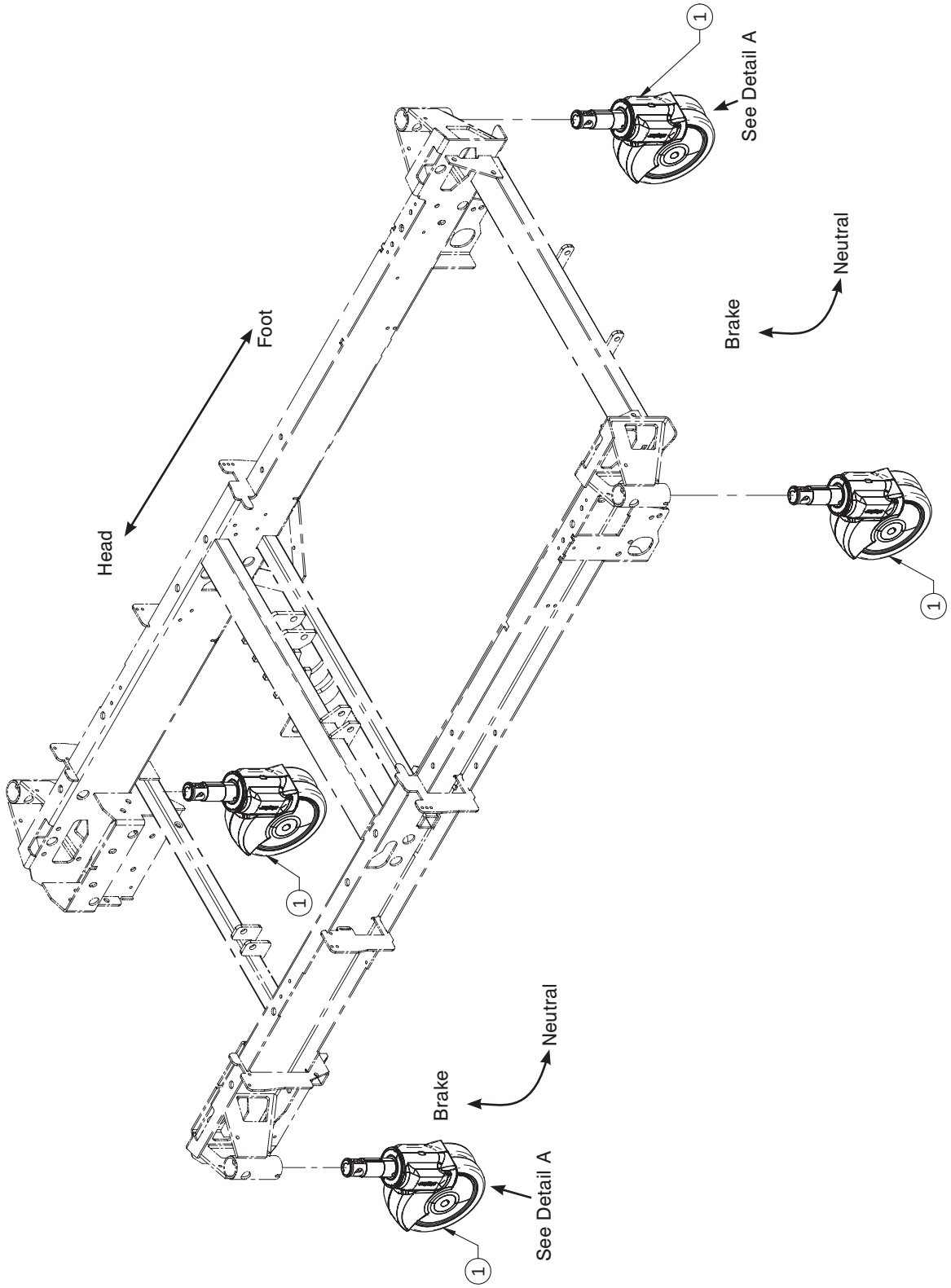
Base Assembly, Caster Non-Lock (2141 Model Only)

For Reference Only: Part Number OL270005 Rev-02



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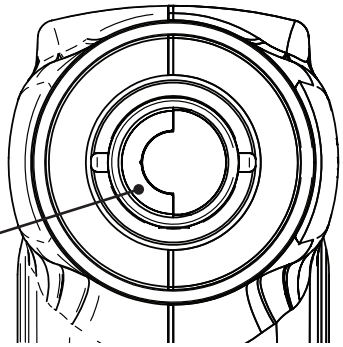
Base Assembly, Caster Non-Lock (2141 Model Only)

To assemble casters, direct the smile (chromed part) toward the left side of the bed.



DETAIL A

Base Assembly, Caster Non-Lock Option - Common Components - OL270005 Rev-02 (Reference only)

Item	Part No.	Part Name	Qty.
1	RD27-1970	5.5” Caster Brake/Neutral/Neutral	4

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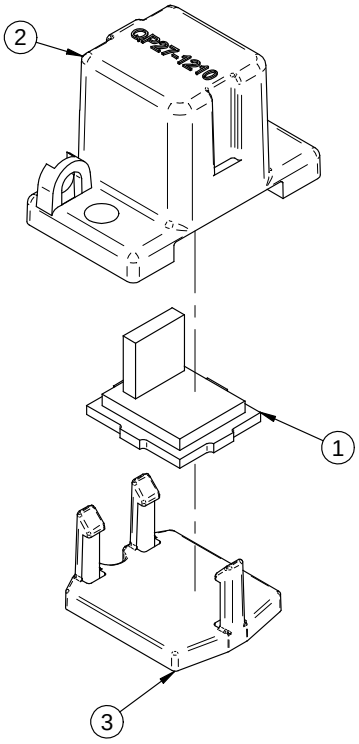
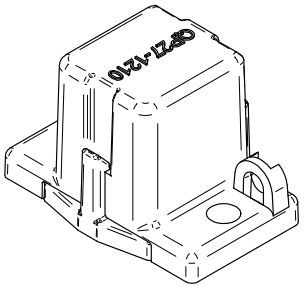
Angle Sensor Assembly - 27-2477





ISO

Item	Part No.	Part Name	Qty.
1	QDF75-0140	Angle Sensor	1
2	QP27-1210-05	Angle Sensor Case	1
3	QP27-1211-05	Bottom Lid for Tilt Sensor	1

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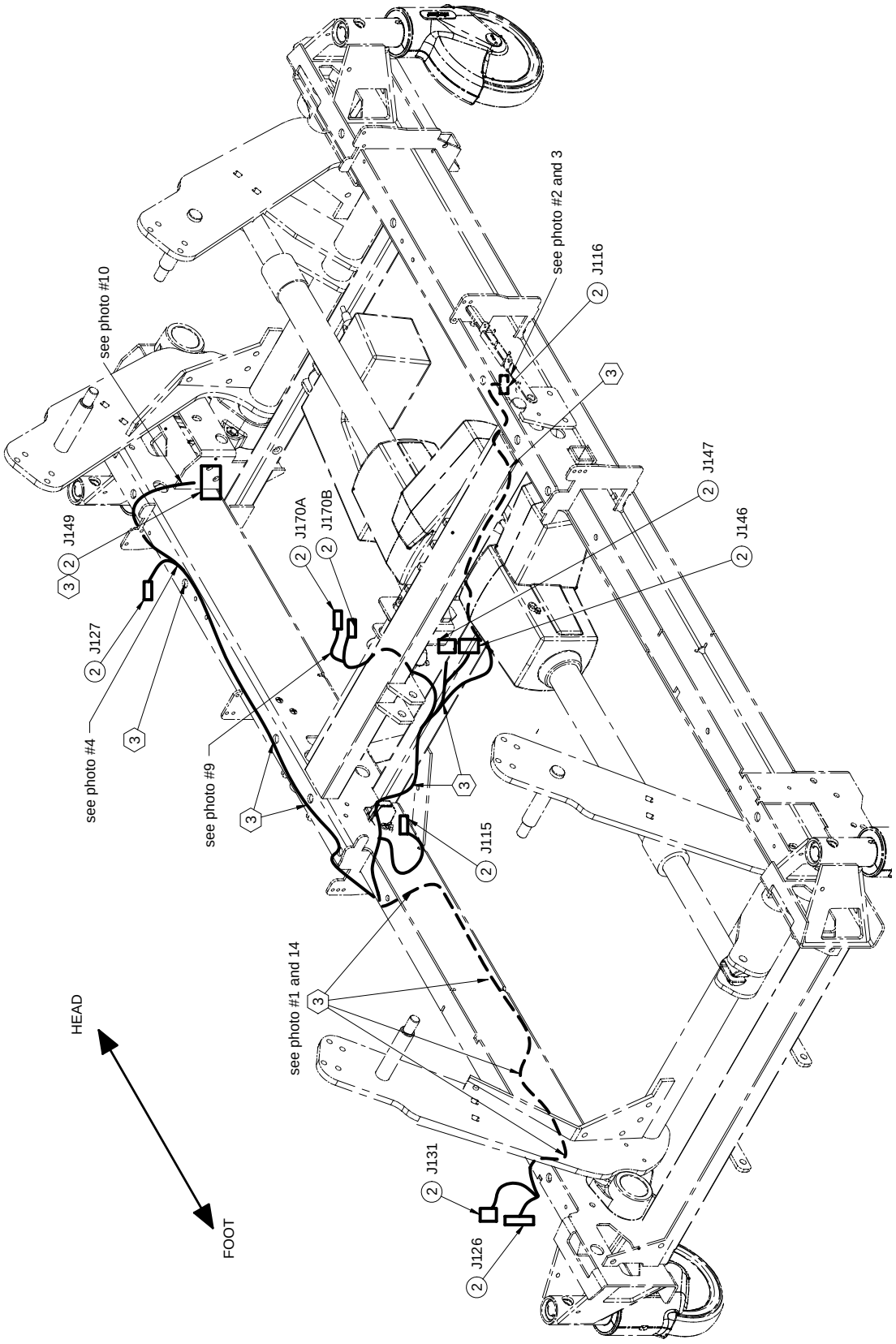
Base Assembly, Electrical

For Reference Only: Part Number 27-2687 Rev A



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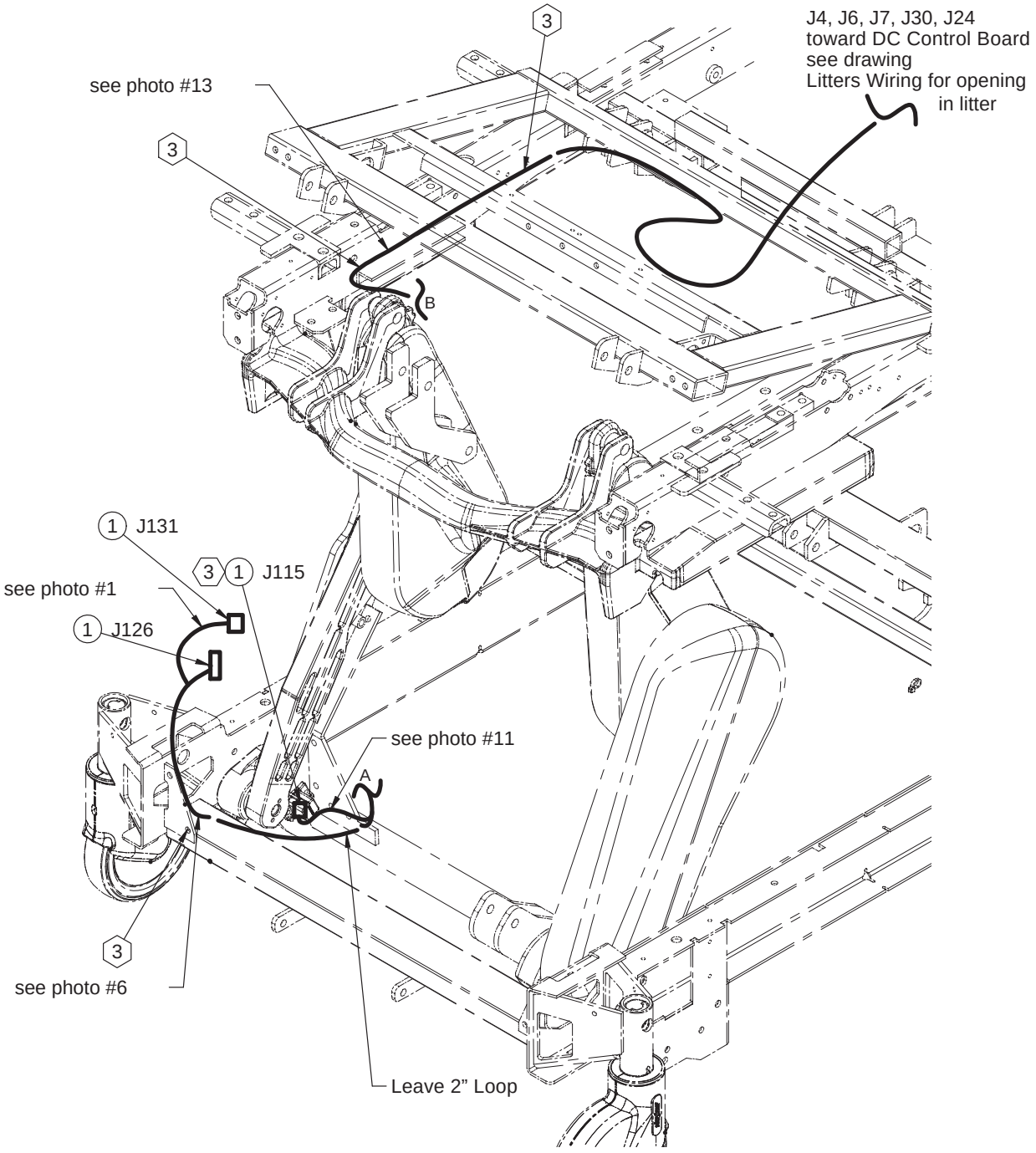
Base Assembly, Electrical



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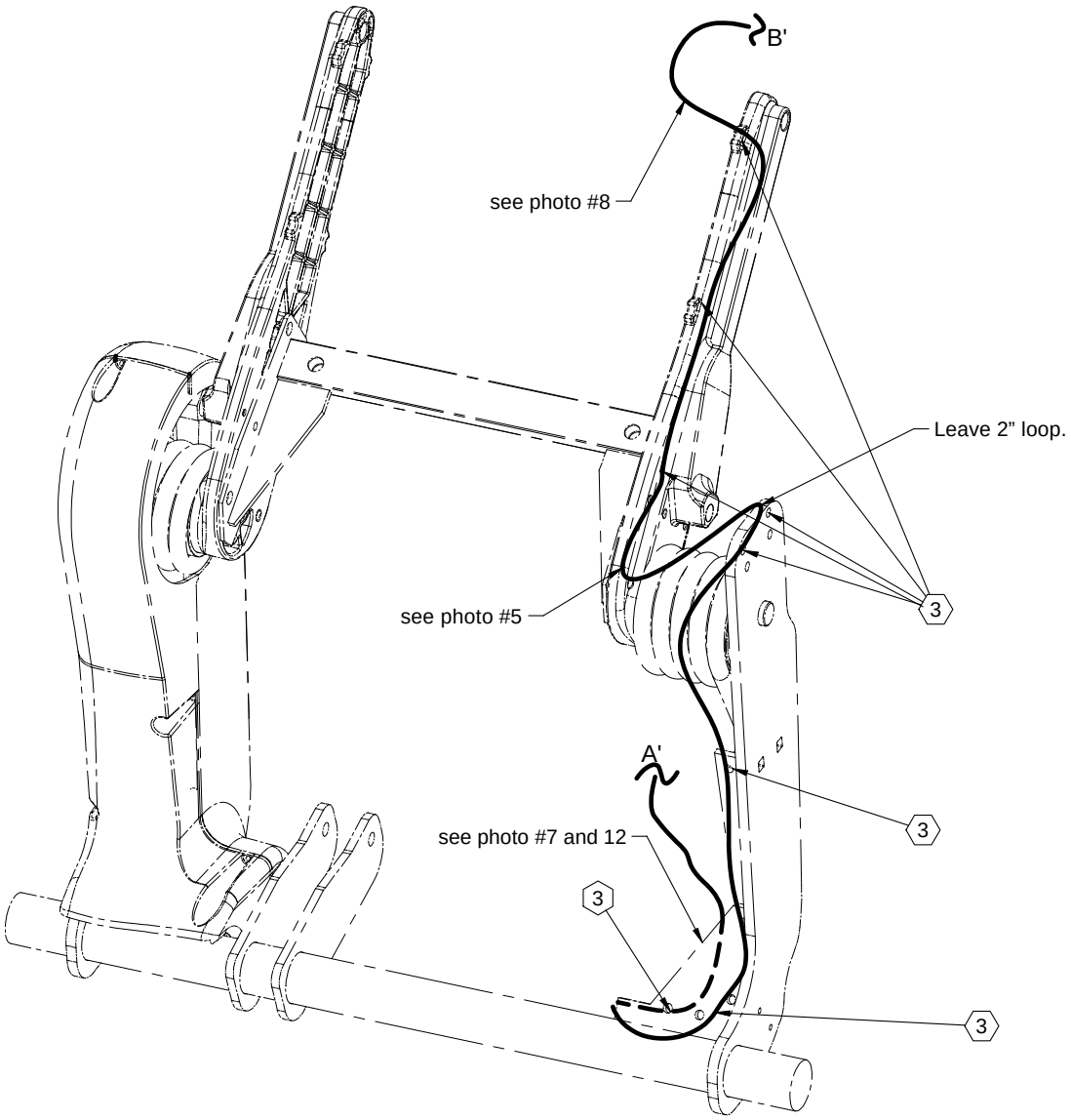
Note

To avoid any risk of pinching when assembling these cables:

- the bed must be in high position
- the Gatch must be at 15 degrees
- the Foot Litter must be at 45 degrees



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Base Assembly, Electrical

Be sure to place the connectors one beside the other and in a flat position.

PHOTO #1

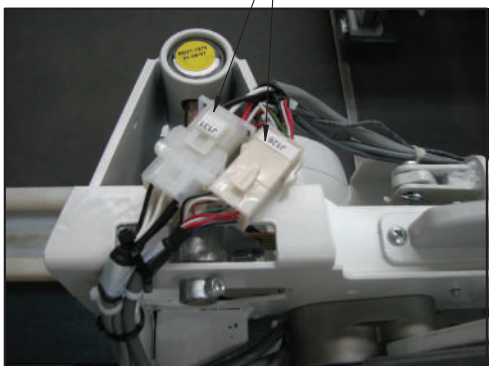

PHOTO #2

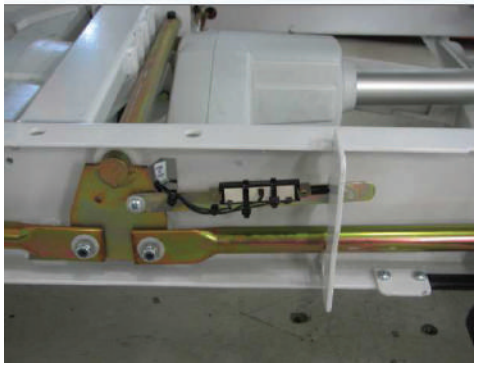

PHOTO #3

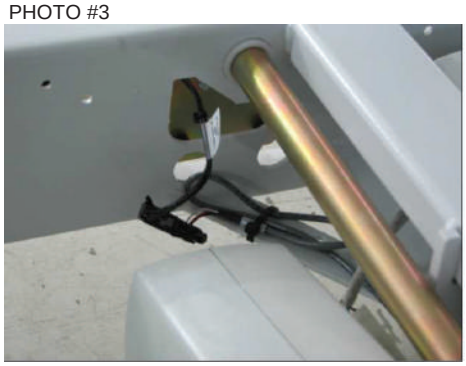

PHOTO #4

PHOTO #5

PHOTO #6

PHOTO #7

PHOTO #8

PHOTO #9

PHOTO #10

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Base Assembly, Electrical

PHOTO #11

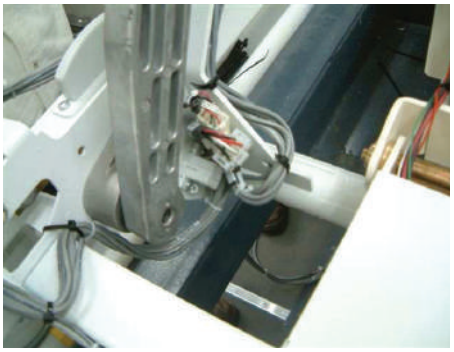

PHOTO #12

PHOTO #13

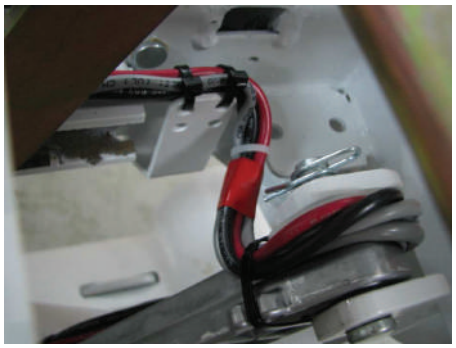

PHOTO #14

CABLE QDF27-2182 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2182	J126	To	27-1181	J126 Hi-lo Harness
QDF27-2182	J131	To	27-1181	J131 Hi-lo Harness
QDF27-2182	J115	To	27-2277	Sensor Base
QDF27-2182	J127	To	QDF2083	CPR Switch
QDF27-2182	J116	To	QDF27-2724	Brake Potentiometer
QDF27-2182	Bornes J170A	To	QDF9159	No Manual Switch
QDF27-2182	Bornes J170B	To	QDF9159	COM Manual Switch
QDF27-2182	J146	To	QDF27-1252	Hi-lo Head Motor
QDF27-2182	J147	To	QDF27-1251	Hi-lo Foot Motor
QDF27-2182	J149	To	QDF27-1227	Brake Motor

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CABLE QDF27-2181 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2181	J126	To	QDF27-2182	J126 Hi-lo Harness
QDF27-2181	J131	To	QDF27-2182	J131 Hi-lo Harness
QDF27-2181	J115	To	27-2477	Sensor Base
QDF27-2181	J7	To	QDF75-0450	J7 DC Control Board
QDF27-2181	J6	To	QDF75-0450	J6 DC Control Board
QDF27-2181	J4	To	QDF75-0450	J4 DC Control Board
QDF27-2181	J30	To	QDF75-0450	J30 DC Control Board
QDF27-2181	J24	To	QDF75-0450	J24 DC Control Board

Base Assembly, Electrical - Common Components - 27-2687 Rev A (Reference only)

Item	Part No.	Part Name	Qty.
1	QDF27-2181	Wires Harness #2	1
2	QDF27-2182	Base Structure Extender	1
3	QDF9518	Wire Tie	51
4	QDF9523	Wire Tie	2

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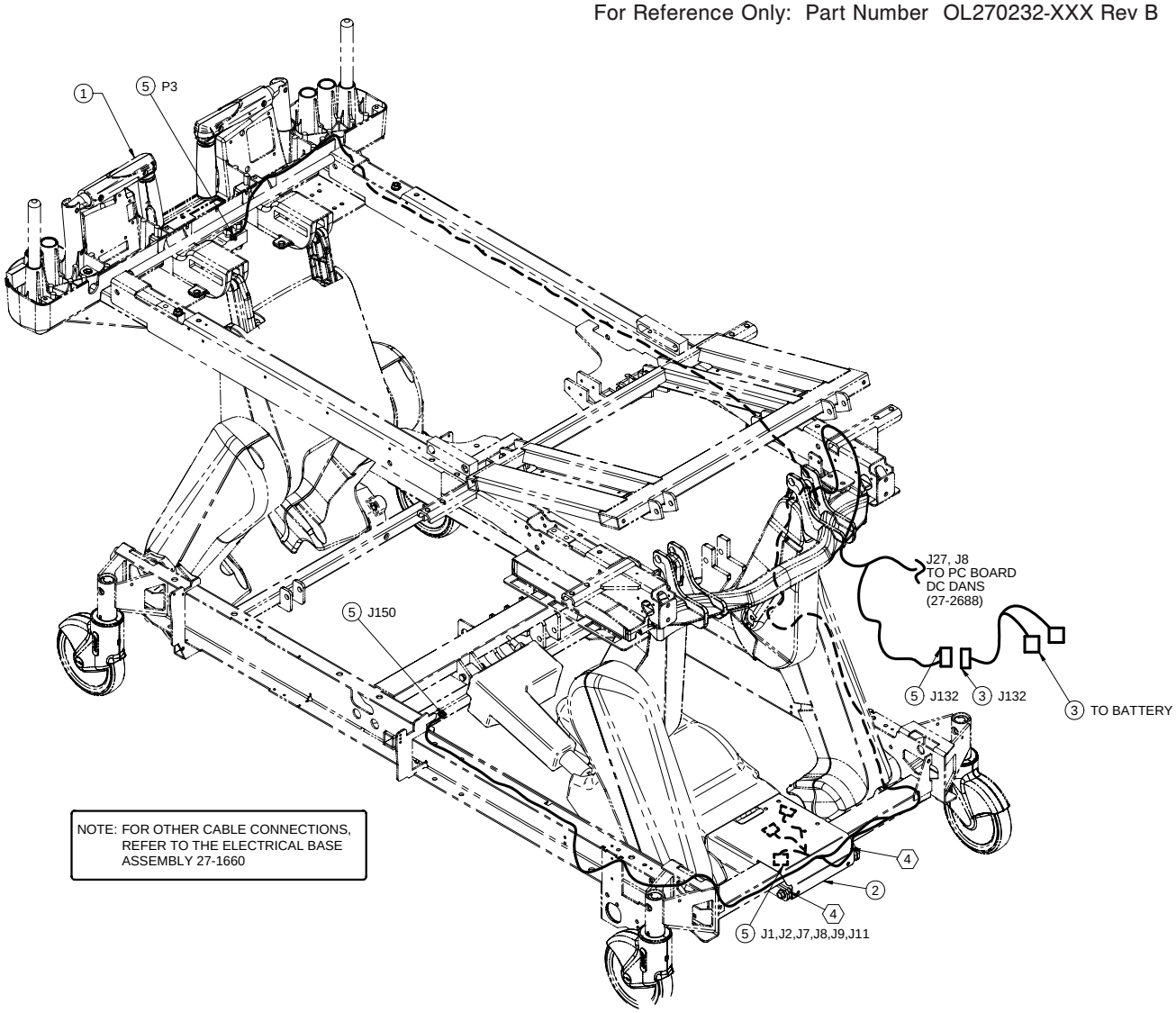
Base Assembly, Zoom®

For Reference Only: Part Number OL270232-XXX Rev B



CABLE CONNECTION QDF27-1646 TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1646	Mini Fit	To	QDF27-1185	J132
QDF27-1646	Black Eyelets	To	QDF9188	BAT #2 POLE -
QDF27-1646	White Eyelets	To	QDF9188	BAT #2 POLE +

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QDF27-1185 CONNECTIONS				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1185	J27	To	QDF21-1174	J27
QDF27-1185	J8	To	QDF21-1174	J8
QDF27-1185	J132	To	QDF27-1646	Mini Fit
QDF27-1185	P3	To	QDF27-1430	P3 (27-2547-XXX)
QDF27-1185	J150	To	QDF27-1445	Zoom (27-2546)
QDF27-1185	J1	To	QDF27-2548	J1 (27-2546)
QDF27-1185	J9	To	QDF27-2548	J9 (27-2546)
QDF27-1185	J2	To	QDF27-2548	J2 (27-2546)
QDF27-1185	J8	To	QDF27-2548	J8 (27-2546)
QDF27-1185	J7	To	QDF75-0240	J7
QDF27-1185	J11	To	QDF75-0240	J11

NOTE: XXX - indicates language choice (tri = English/French/Spanish; bil = English/French)

Base Assembly, Zoom® - OL270232-XXX Rev B (Reference only)

Item	Part No.	Part Name	Qty.
1	27-2547-XXX	Zoom® Handle Assembly	1
2	27-2546	Base Assembly, Zoom® Drive	1
3	QDF27-1646	Battery	1
4	QDF9518	Cable Attachment	1
5	QDF27-1185	Wire Harness	1

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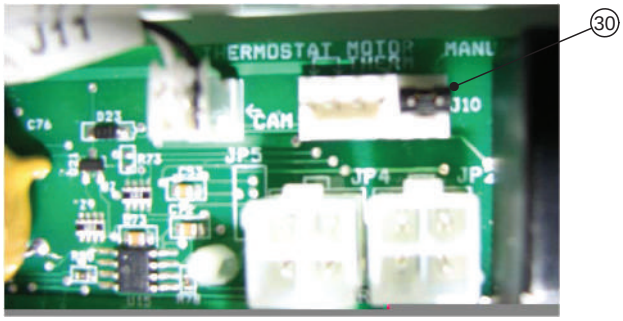
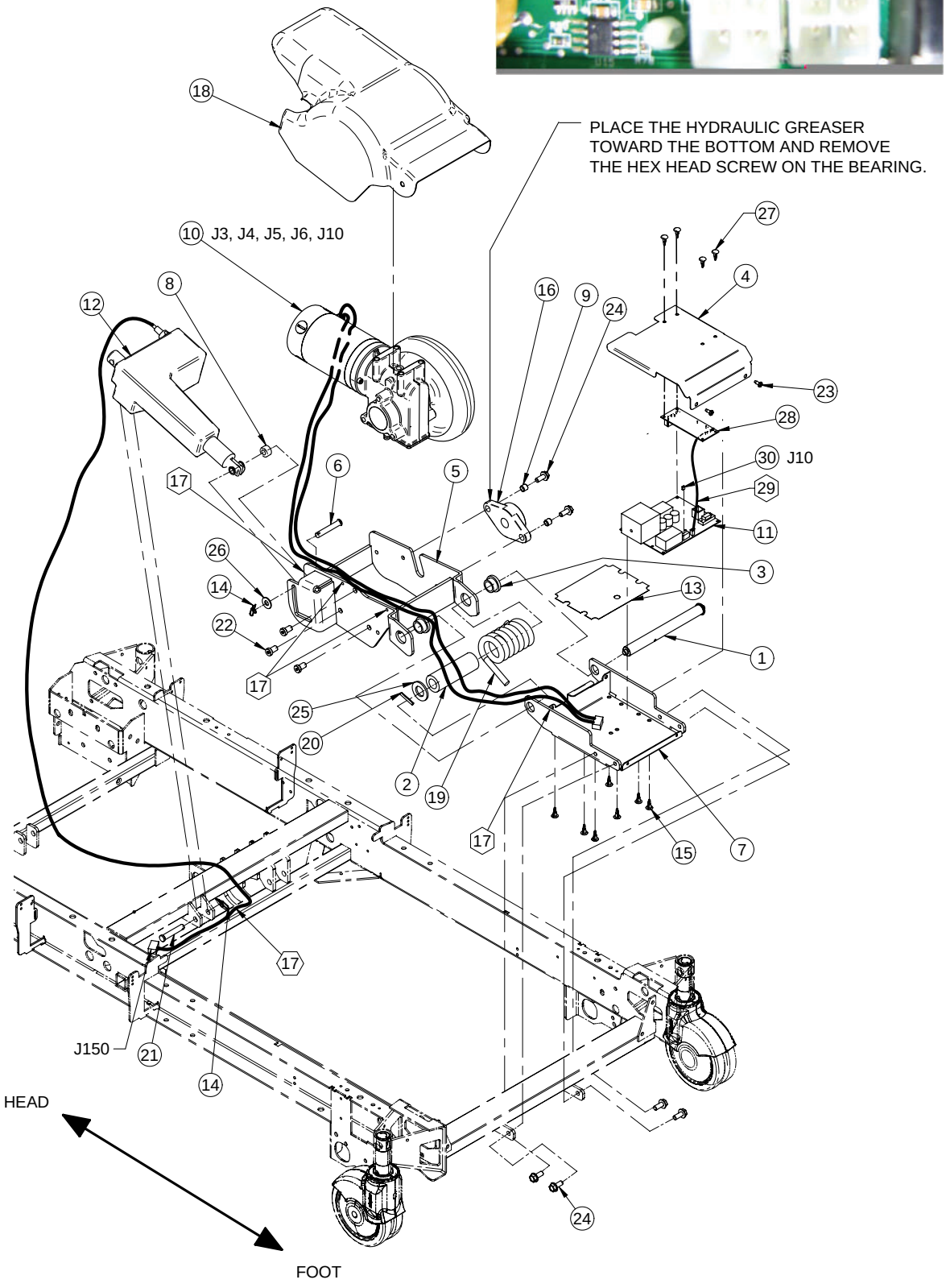
Base Assembly, Zoom® Drive (2141 Model Only)

For Reference Only: Part Number 27-2546 Rev-02





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Base Assembly, Zoom® Drive (2141 Model Only)

ACTUATOR CONNECTION QDF27-1445 TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1445	2-Positions Con.	To	QDF27-1185	J150 (OL270002)

MOTOR REDUCER CONNECTION 27-2593 TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2523	Red 2-Positions Con.	To	QDF27-1430	J3, J4
QDF27-2323	Black 2-Pos. Con.	To	QDF27-1430	J5, J6 (CSI 1109)
QDF27-2323	4-Positions MTA	To	QDF27-1430	J10 (CSI 1109)

CABLE CONNECTIONS 27-2542 TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2542	J7, 18-Position Mini Fit	To	QDF27-1430	J7 (CSI 1109)
QDF27-2542	J11, 2-Positions MTA	To	QDF27-1430	J11 (CSI 1109)
QDF27-2542	J7A, 9-Positions MTA	To	QDF75-0240	J7A, 9-Positions MTA
QDF27-2542	J11A, 3-Positions MTA	To	QDF75-0240	J11A, 3-Positions MTA

Base Assembly, Zoom® Drive Option - Common Components - 27-2546 Rev-01 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-0804Z	Fifth Wheel Long Shaft	1
2	QP27-2556	Motorized Fifth Wheel Spring Pivot	1
3	27-0915	Fifth Wheel Thread Spacer	2
4	27-2545W	CSI1109 Box Cover	1
5	27-1059W	Motorized Wheel Structure	1
6	27-1138	Fifth Wheel Actuator Axis	1
7	27-1140W	Fifth Wheel Structure Box	1
8	27-1150	Fifth Wheel Actuator Spacer	1
9	27-1636	Motorized Fifth Wheel Sleeve	2
10	27-2593	Fifth Wheel	1
11	QDF27-1430	CSI1109 Zoom® Board	1
12	QDF27-1445	Fifth Wheel Actuator	1
13	QE71-1019	Fifth Wheel Board Protector	1
14	QDF7878	Clevis Pin	2
15	QDF8011	Board Support	7
16	QDF9162	Fifth Wheel Flange Bearing	1
17	QDF9518	Cable Tie	5
18	QP27-1916-10	Motorized Wheel Cover	1
19	QRT27-0796	Fifth Wheel Torsion Spring	1
20	VG10B0636	Spring Pin	1
21	VG50B1248	Clevis Pin Diameter	1
22	VV10A1P20-S	Cylindric Head Screw	3
23	VV83A9G16	Pan Head Tapping Screw	2
24	VVB4A1O24	Thread Rolling Bolt	6
25	VW10B264004	Steel Washer	1
26	VW10C122802	Nylon Washer	1
27	QDF2134	Board Support	4
28	QDF75-0240	Zoom® Interface Board	1
29	QDF27-2542	Zoom® Interface Board Harness	1
30	QDF8047	Jumper	1

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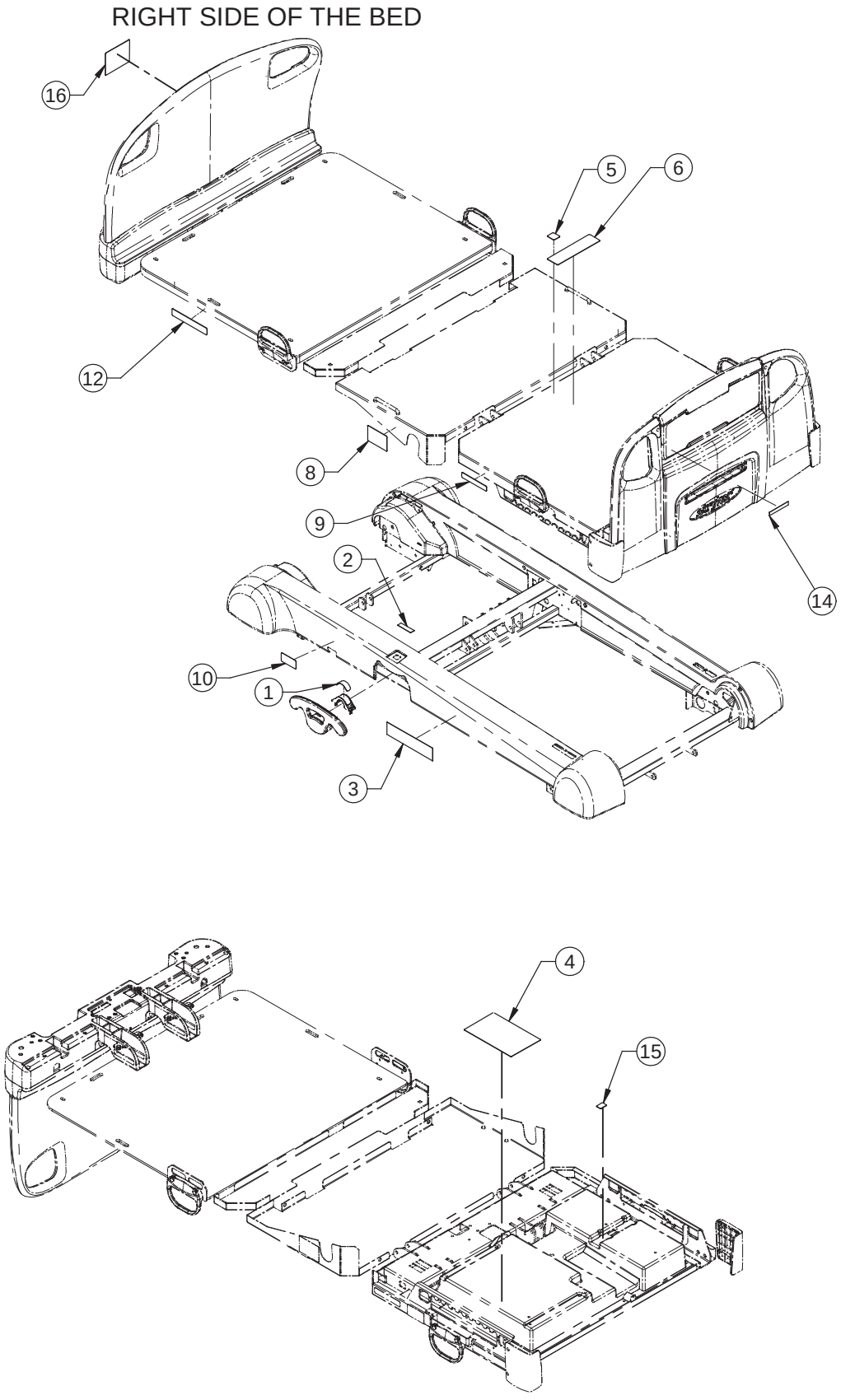
Bed Labeling

For Reference Only: Part Number OL270016-XXX Rev-12



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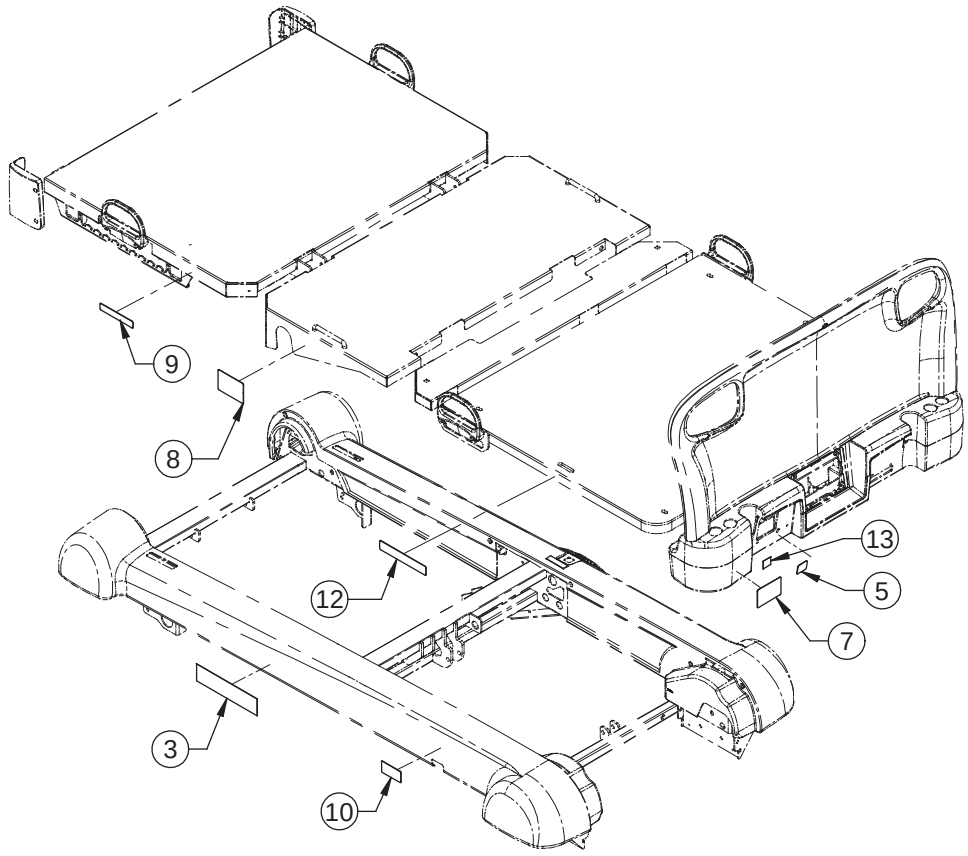
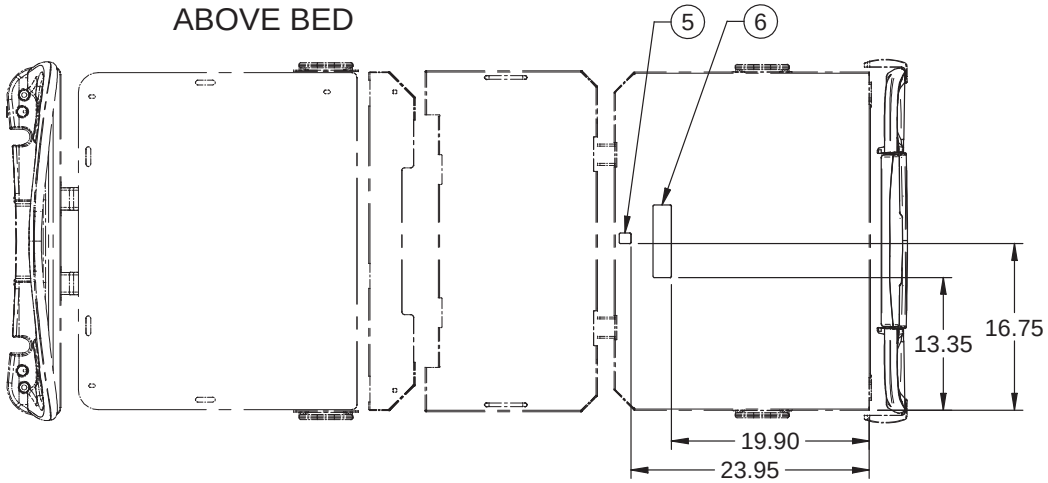
Bed Labeling

LEFT SIDE OF THE BED



ABOVE BED



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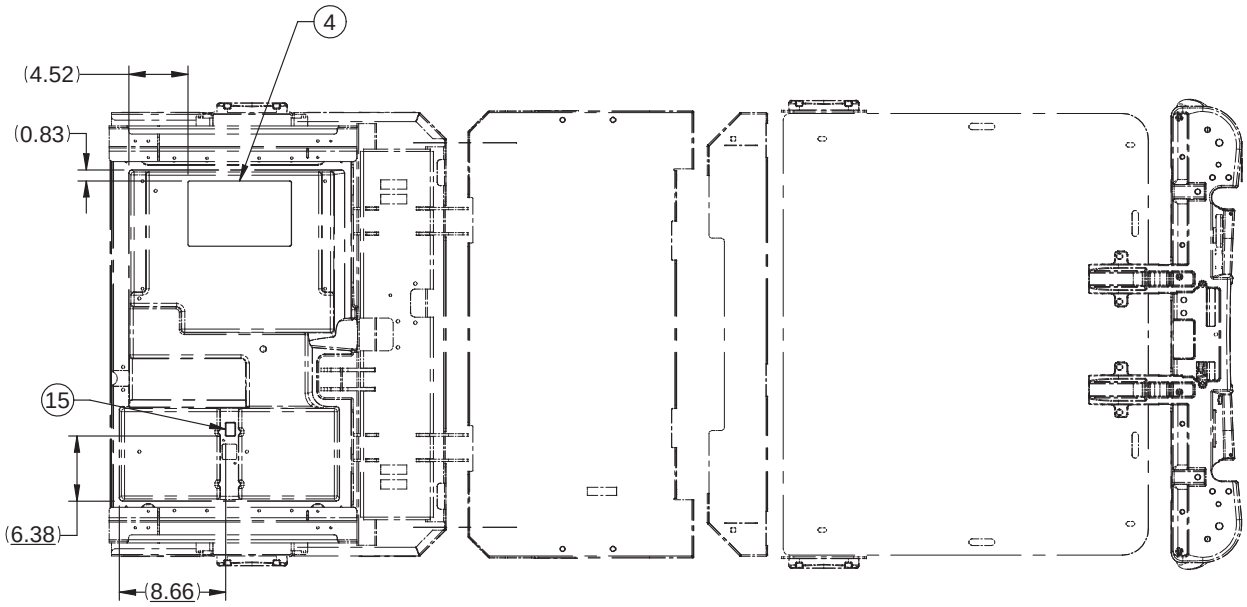
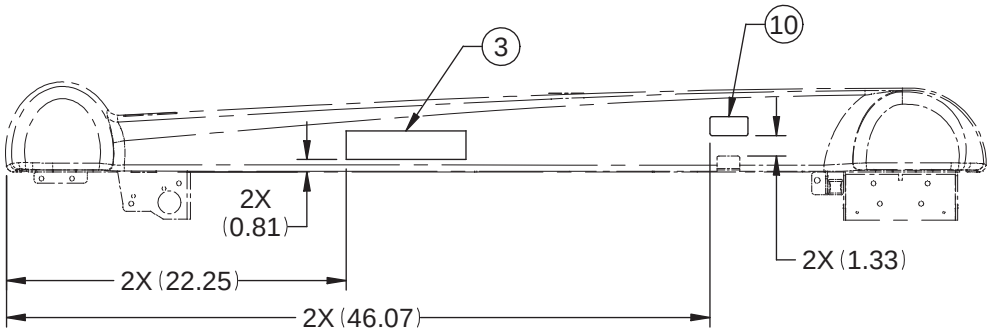
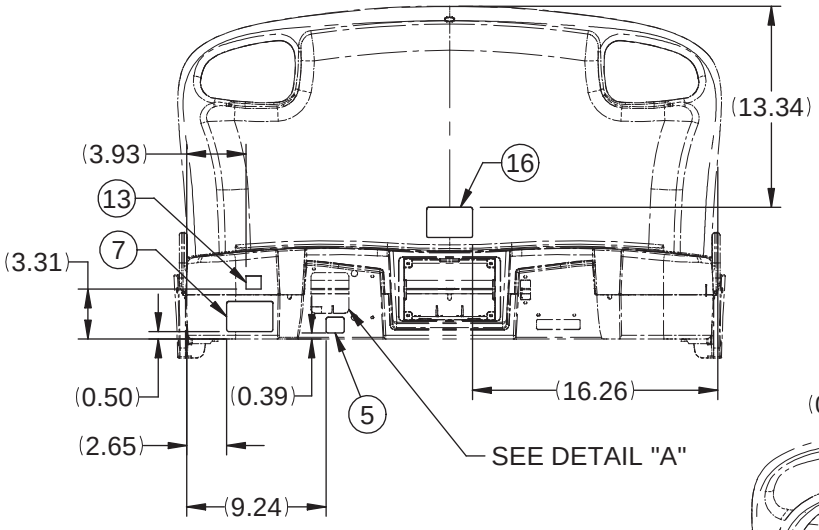
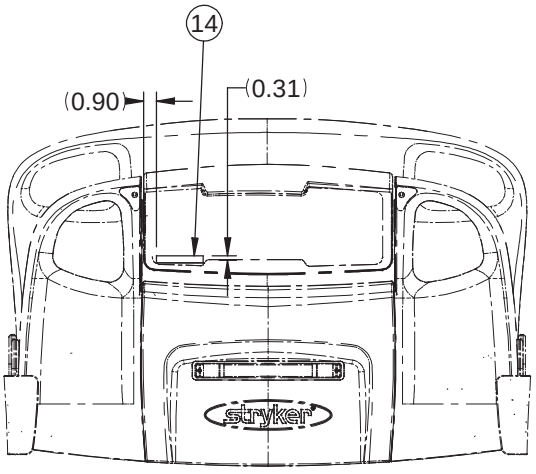
Bed Labeling









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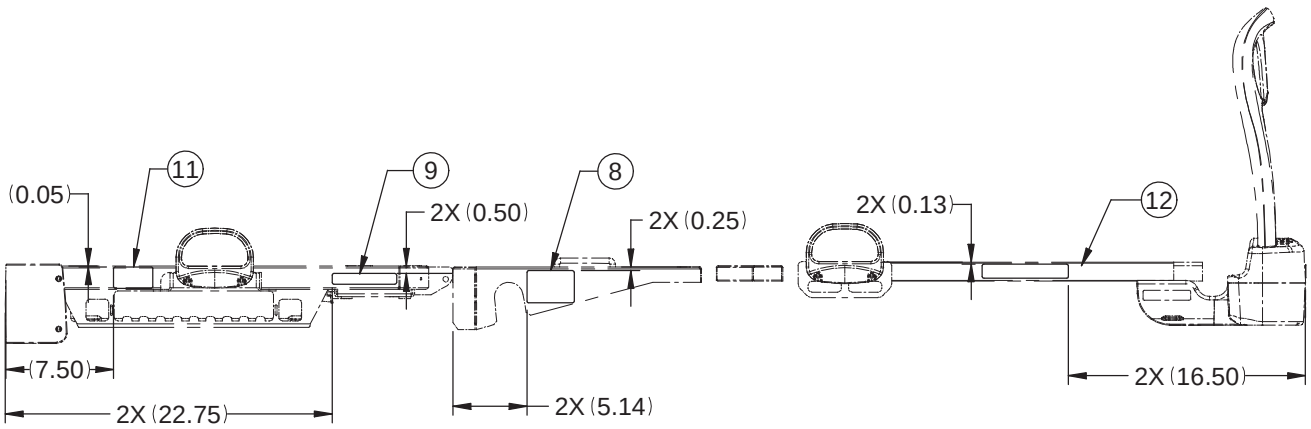
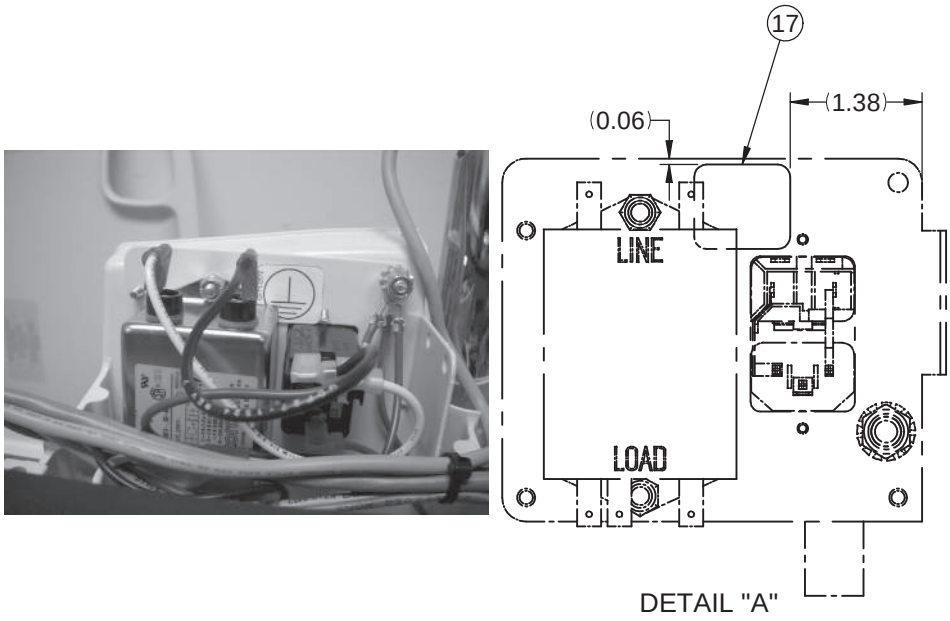
Bed Labeling





DETAIL "A"

VIEW FROM INSIDE

Base Labeling - Common Components - OL270016-XXX Rev-12 (Reference only)

NOTE: XXX - indicates language choice (tri = English/French/Spanish; bil = English/French)

Item	Part No.	Part Name	Qty.
1	QDF27-1256-XXX	Brake Position Label	1
2	QE71-0947-XXX	Manual Backup Label	1
3	QE71-1046	Stryker Label	2
4	QE14400-F	Result of Isolation Room Label	1
5	QE18545	Reference Customer Manual Label	2
6	QE71-1207-XXX	Electric Shock Hazard Label	1
7	QE71-0943-XXX	Grounding Reliability Label	1
8	QE71-0944-XXX	Oxygen Tent Label	2
9	QE71-0949-XXX	Maximum Mattress Thickness Label	2
10	QE71-0963-XXX	CPR Label	2
12	QE71-1010	550 lbs Safe Working Load label	2
13	QE71-0571	Fuse 10A 250V Label	1
14	QE71-1094-XXX	Patent Pending Label	1
15	QE71-1042-XXX	On-Off Label	1
16	QE71-1257-XXX	Orientation Label	1
17	QE71-0572	Grounding Label	1

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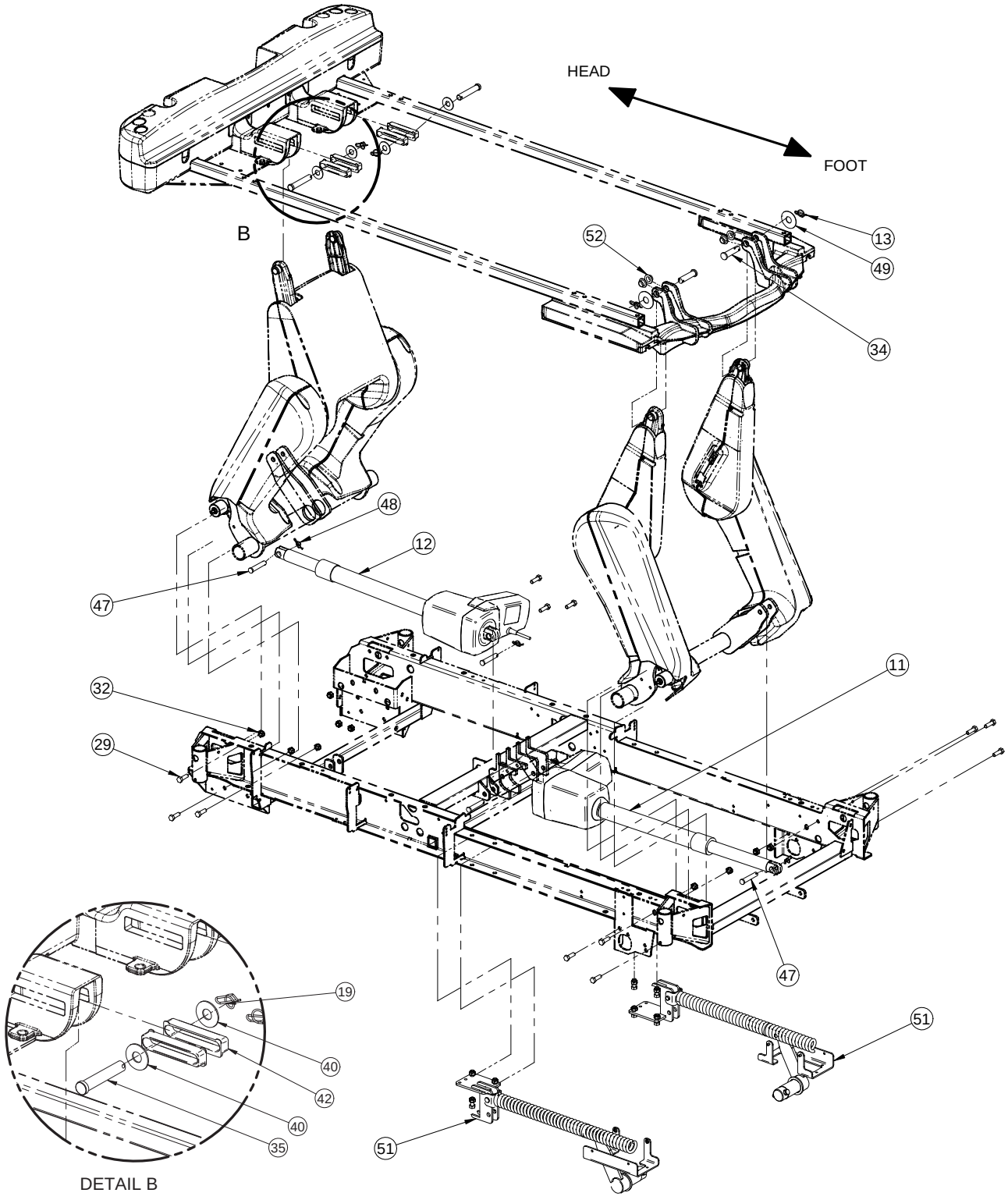
Lift Assembly

For Reference Only: Part Number L27-044 Rev-01



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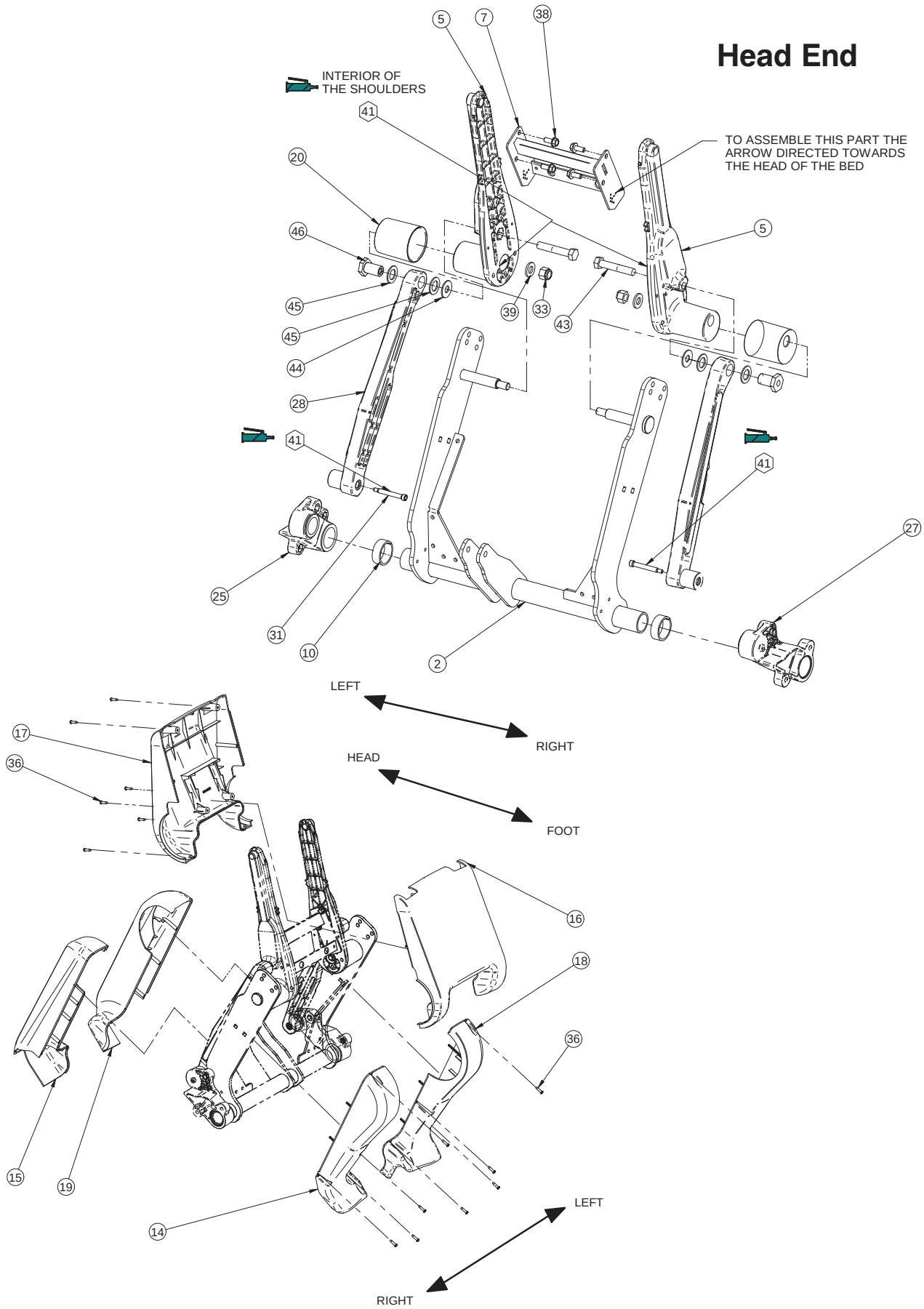
Lift Assembly



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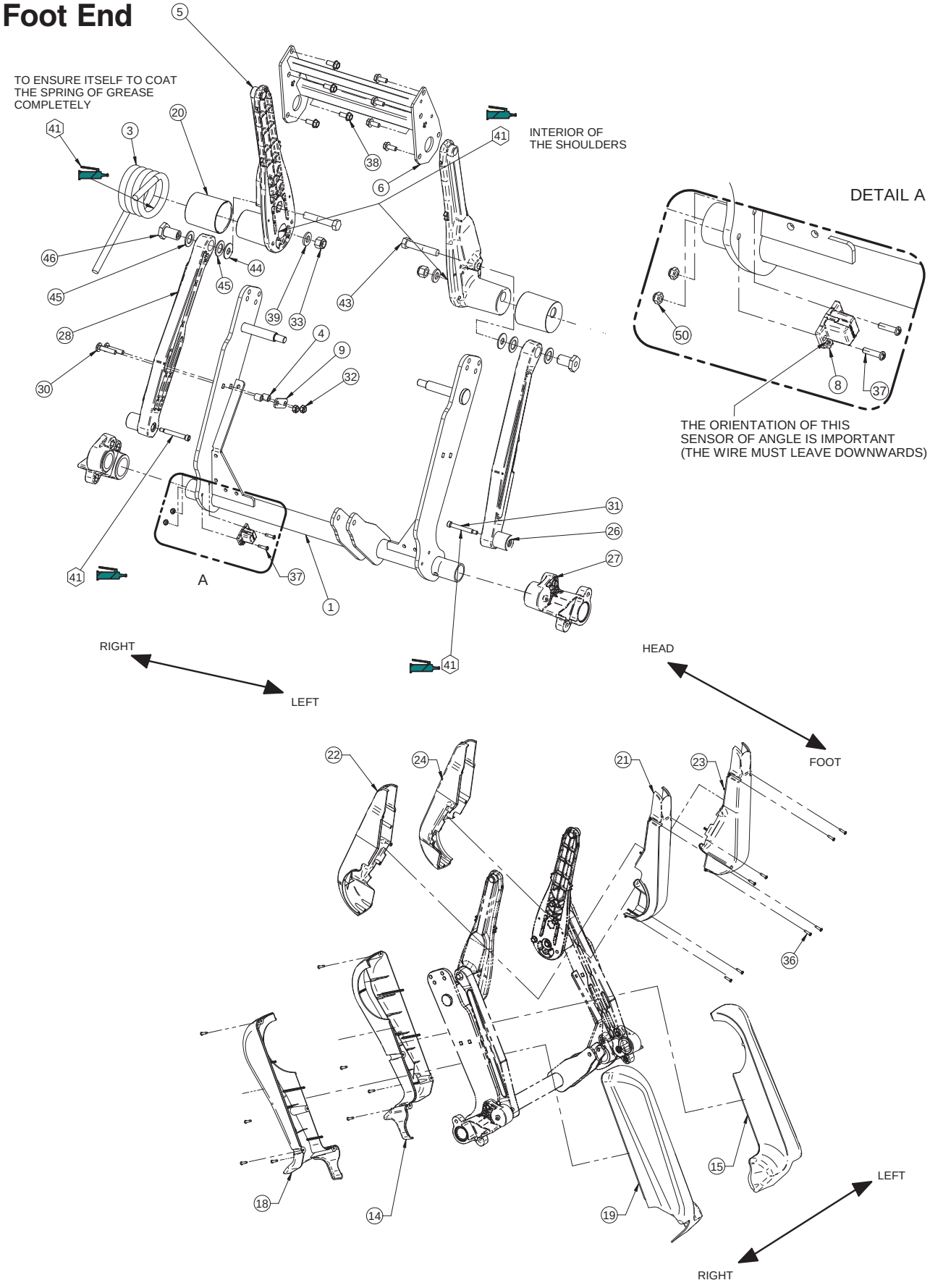
Foot End



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Lift Assembly

Lift Assembly - Common Components - L27-044 Rev-01 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-0992W	Foot Main Lift	1
2	27-0993W	Head Main Lift	1
3	QRT27-1011	Bed Lift System Right Spring	1
4	27-1012	Spring Stop	2
5	QPA27-1013	Molded Bed Lift System Arm	4
6	27-1977W	Foot Reinforcement	1
7	27-1089W	Head Transverse Reinforcement	1
8	27-2477	Angle Sensor Assembly	1
9	27-1243Z	Spring Retention Plate	1
10	27-1623	Lift Spacer	2
11	QDF27-1251	Foot Lift Actuator	1
12	QDF27-1252	Head Lift Actuator	1
13	QDF7899	Hitch Pin Diameter 1/2”	4
14	QP27-0982-10	Exterior Right Low Lift Cover	2
15	QP27-0983-10	Interior Right Low Lift Cover	2
16	QP27-0984-10	Interior Head High Lift Cover	1
17	QP27-0985-10	Exterior Head High Lift Cover	1
18	QP27-0986-10	Exterior Left Low Lift Cover	2
19	QP27-0987-10	Interior Left Low Lift Cover	2
20	QP27-1065	Spring Sleeve	4
21	QP27-1236-10	Exterior Right Foot High Lift Cover	1
22	QP27-1237-10	Interior Right Foot High Lift Cover	1
23	QP27-1238-10	Exterior Left Foot High Lift Cover	1
24	QP27-1239-10	Interior Left Foot High Lift Cover	1
25	QPA27-1024	Right Lever Support	2
26	QPA27-1030	Right Stiffener Arm	2
27	QPA27-1036	Left Lever Support	2
28	QPA27-1040	Left Stiffener Arm	2
29	VB18A1O32	Bolt 5/16”-18 x 1” LG	12
30	VB35A1O40	Carriage Bolt 5/16-18 x 1.5”	2
31	VD60B1O48	Shoulder Screw 5/16” x 2 x 1/4-20	4
32	VE30A1O	Nylon Locknut 5/16”-18	14
33	VE30A1R	Nylon Locknut Diameter 1/2-13	4
34	VG50A1648	Clevis Pin Diameter 1/2” x 2	2
35	VG50A1654	Clevis Pin Diameter 1/2” x 2.750” LG	2
36	VV23A1G24HL	Pan Head Tapping Screw, #10 x 3/4” P.Z.	32
37	VV33A0G24	Pan Head Tapping Screw, #10 x 1/2”	2
38	VVB4A1024	Bolt 5/16-18 x 3/4 Thread Rolling	12
39	VW10A173308	Flat Washer AA 1/2” P.Z.	4
40	VW10C173602	Nylon Washer	4
41	M0019	Grease	1
42	QP27-1830-01	Glider	4
43	VB18A1R54-S	Hexagon Bolt 1/2-13 UNC x 2 3/4”	4
44	27-2022Z	Stiffener Arm Steel Washer	4
45	QP27-2019	Stiffener Arm Acetal Washer	8
46	27-2018Z	Stiffener Arm Bearing	4
47	27-2053Z	Clevis Pin Diameter 10 mm x 50 mm	4
48	QDF7878	Hitch Pin Diameter 3/8”	4
49	VW10C432002	Nylon Washer	2
50	VE30A0G	Nylon Locknut #10-32	2
51	27-2117	Spring in Base	1
52	QDF2100	Round IGUS Wi 500x594x3125 .par	4

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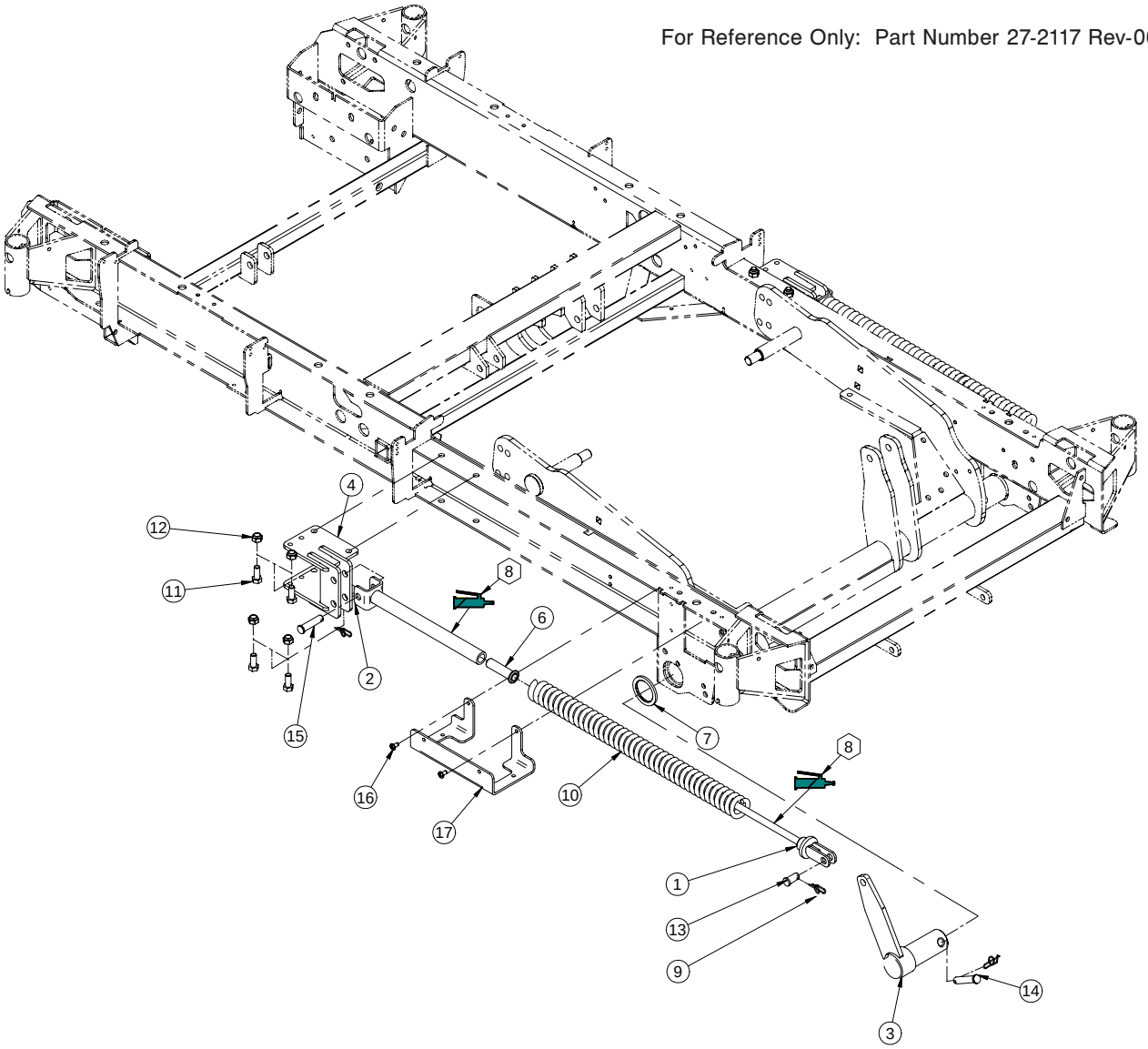
Spring Assembly

For Reference Only: Part Number 27-2117 Rev-06



Spring Assembly - Common Components - 27-2117 Rev-06 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-2096W	Hi-Lo Spring Support	2
2	27-2099W	Hi-Lo Spring Support Tube	2
3	27-2102W	Spring Tie	2
4	27-2107W	Spring Support Assembly	2
6	27-2115	Hi-Lo Spring Support Glider	2
7	27-2116	Acetal Washer 1.75 X 1.31 X 0.125	2
8*	M0019	Grease	1
9	QDF7878	Clevis Pin Diameter 3/8”	6
10	QRC27-2114	Base Compression Spring 0.79ID	2
11	VB15A1O24	Bolt 5/16-18 x 3/4” LG Grade 5	8
12	VE30A1O	Nylon Locknut 5/16”-18	8
13	VG50A1228	Clevis Pin Diameter 3/8” x 3/4”	2
14	VG50A1244	Clevis Pin Diameter 3/8” x 1-3/4”	2
15	VG50A1240	Clevis Pin Diameter 3/8” x 1-1/2”	2
16	VV83A9G12	Phillips Head Tapping Screw #10 x 3/8”	4
17	27-2139W	Base Wiring Routing	2

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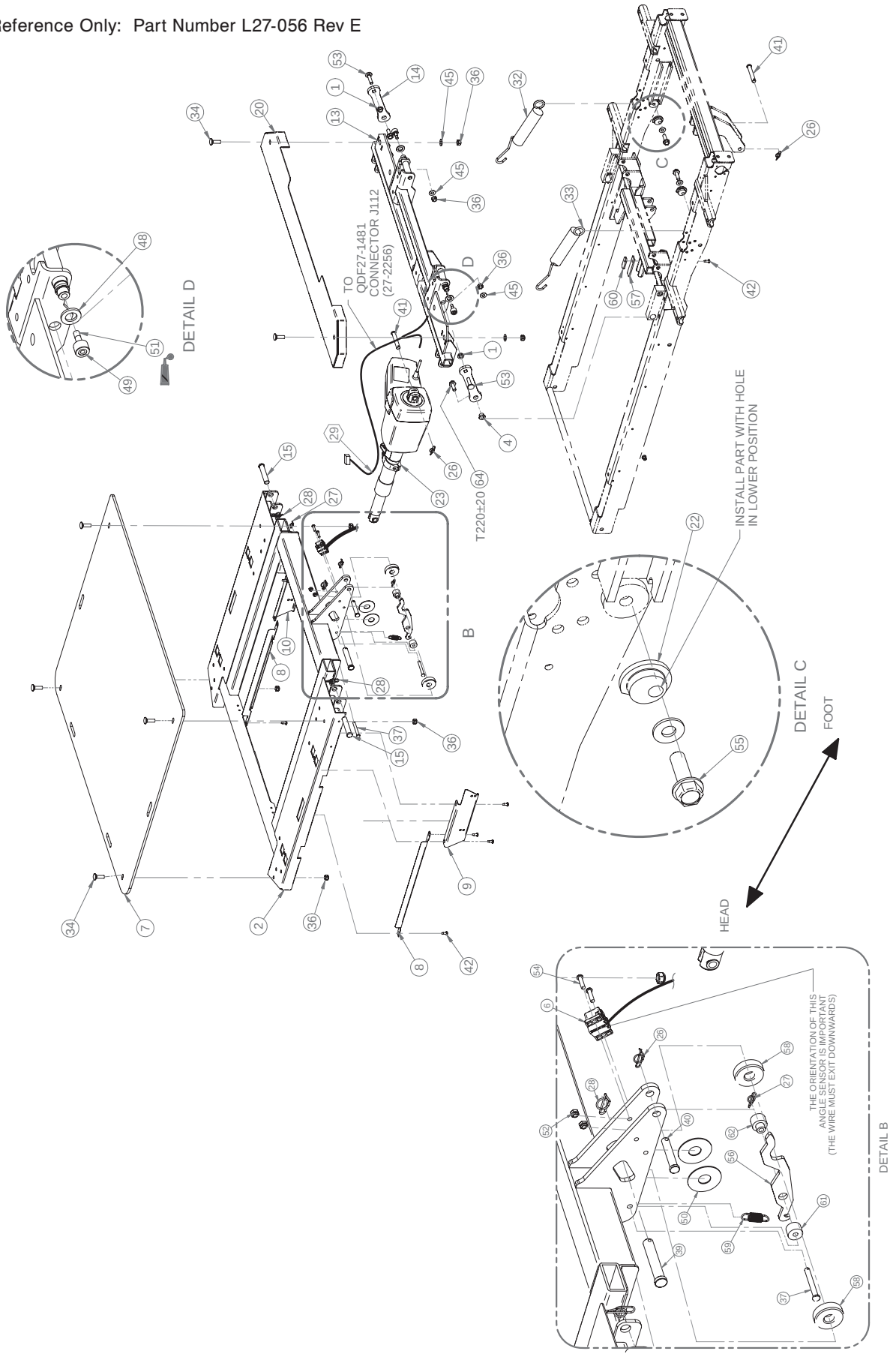
Notes

Litter Assembly

For Reference Only: Part Number L27-056 Rev E



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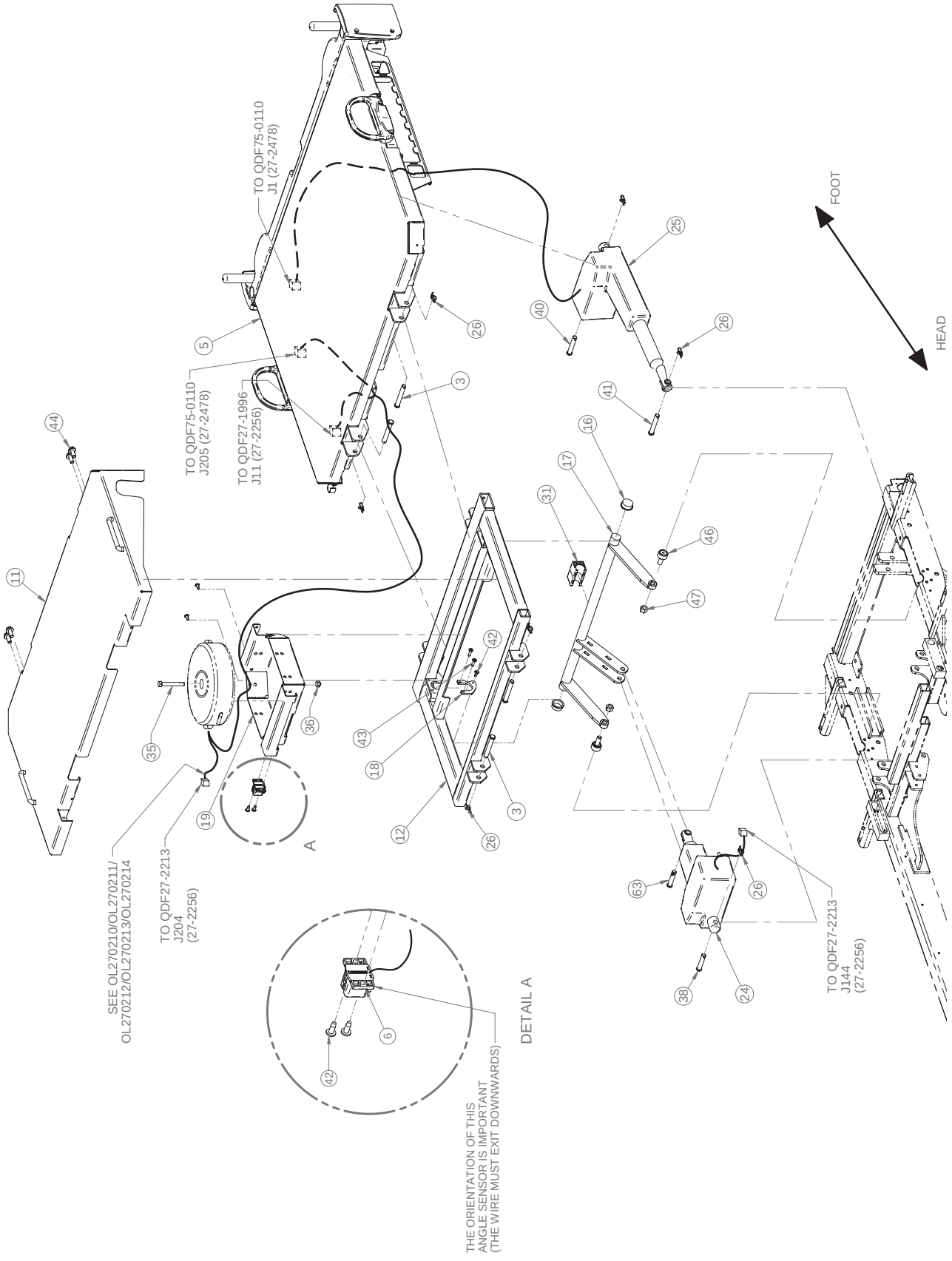
Litter Assembly



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Litter Assembly - Common Components - L27-056 Rev E (Reference only)

Item	Part No.	Part Name	Qty.
1	21-3613	5/16” Sleeve for 3/16	2
2	27-2269P	Fowler S.A.	1
3	27-0485	Clevis Pin -	4
4	27-0919	5/16” Sleeve for 5/16	2
5	27-2688	Bolted Foot Litter	1
6	27-2477	Angle Sensor Assembly	2
7	QDF27-1397	Fowler	1
8	27-1634P	Cable Protector	2
9	27-1652P	Right Cable Protector	1
10	27-1667P	Left Cable Protector	1
11	27-1825P	Welded Center Section Cover	1
12	27-1862P	Gatch	1
13	27-1888P	Intermediary Fowler	1
14	27-1919Z	Lever Arm	2
15	27-1920	Clevis Pin	2
16	27-1925	Gatch Bushing	2
17	27-1932Z	Gatch Pivot	1
18	27-1935Z	Upper Pivot Support	1
19	27-1940P	Transformer Box	1
20	27-1973P	Intermediary Section Cover	1
22	27-2141	Unbalanced Spring Support Rod	2
23	QDF27-1214	Fowler Actuator	1
24	QDF27-1215	Gatch Actuator	1
25	QDF27-1216	Foot Actuator	1
26	QDF7878	Cotter Pin	9
27	QDF7898	Cotter Pin	2
28	QDF7899	Cotter Pin	3
29	QDF9518	Cable Tie	1
31	QP27-1958	Gatch Pivot Stopper	1
32	QRT27-2020	Torsion Spring	1
33	QRT27-2026	Right Upper Frame Spring Base Rod	1
34	VB35A1O32	Carriage Bolt	6
35	VB15A1O50	Carriage Bolt	1
36	VE30A1O	Nylon Locknut 5/16-18	9
37	VG50A0848	Clevis Pin	2
38	VG50A1244	Clevis Pin	1
39	VG50A1654	Clevis	1
40	VG50B1248	Clevis Pin	2
41	VG50A1250	Clevis Pin	2
42	VV83A9G16	Phillips Screw	14
43	VV83A9G24	Phillips Screw	2
44	VVB4A1O24	Thread Rolling Bolt	4
45	VW10A10	Flat Washer	6
46	QDF2098	CAM Follower	2
47	VE59A0P	Nylon Locknut 3/8-24	2
48	27-2063	Intermediary Pivot Washer	2
49	QDF2110	Needle Bearing	2
50	VW10C432002	Nylon Washer	2
51	M0008	Threadlocker (Blue)	-

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Litter Assembly (Continued) - Common Components - L27-056 Rev E (Reference only) (Continued)

Item	Part No.	Part Name	Qty.
52	VE30A0G	Nylon Locknut	2
53	VB35A1O36	Carriage Bolt	2
54	VV33A0G24	Phillips Screw	2
55	VVB4A1O32	Hex Head Thread Rolling Bolt	2
56	27-2223Z	Finger	1
57	27-2217	PVC Slide	1
58	27-2227	Bushing Latch Finger	2
59	QRE27-2218	Finger Bracket Spring	1
60	27-2219Z	Plate of Tightening	1
61	27-2221	Female Bushing Latch Finger	1
62	27-2220	Male Bushing Latch Finger	1
63	QDF2132	Clevis Pin	1
64	VVB4A1O28	Thread Rolling Bolt	2

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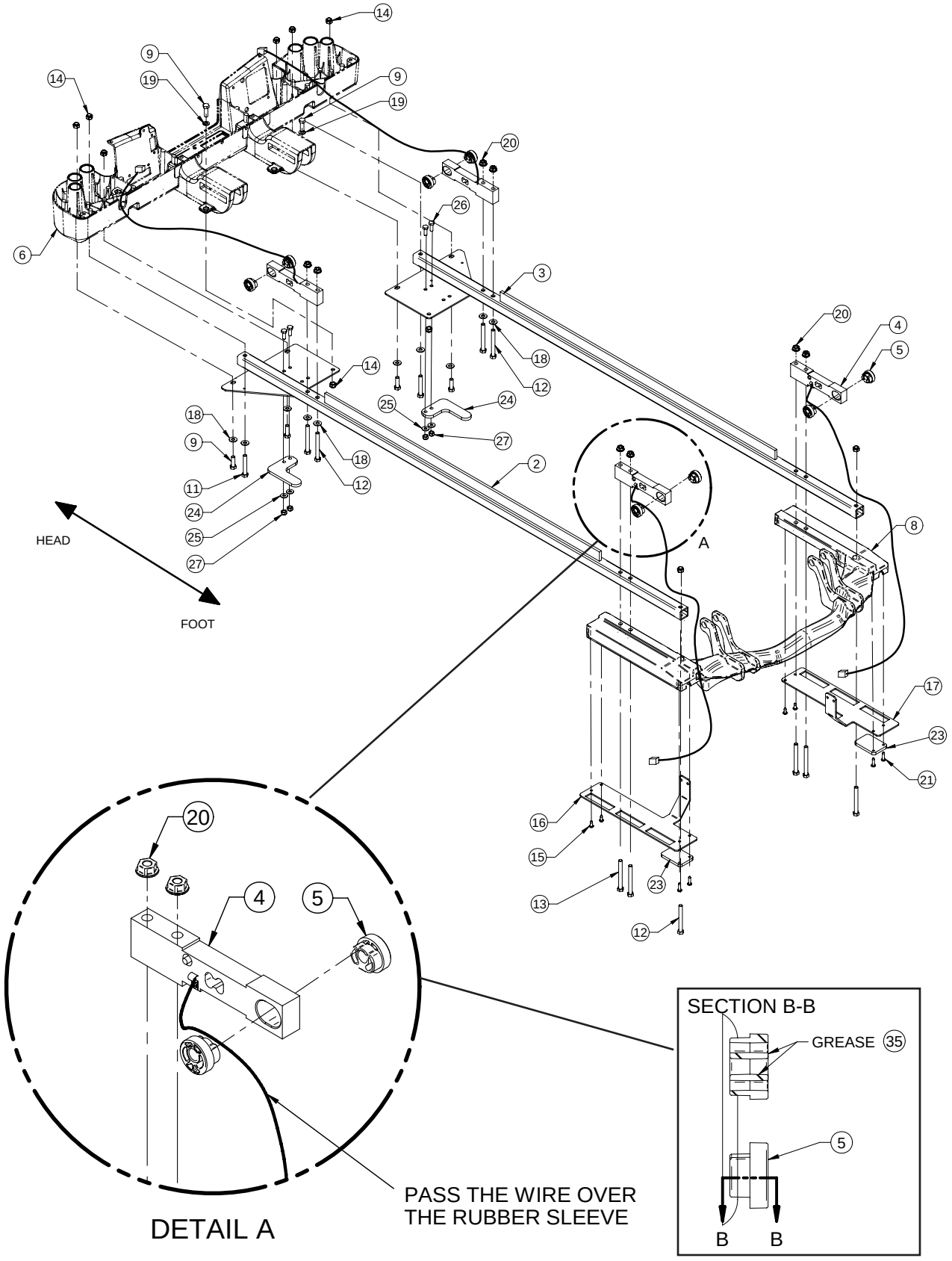
Litter Assembly, Interior Frame

For Reference Only: Part Number L27-055 Rev B



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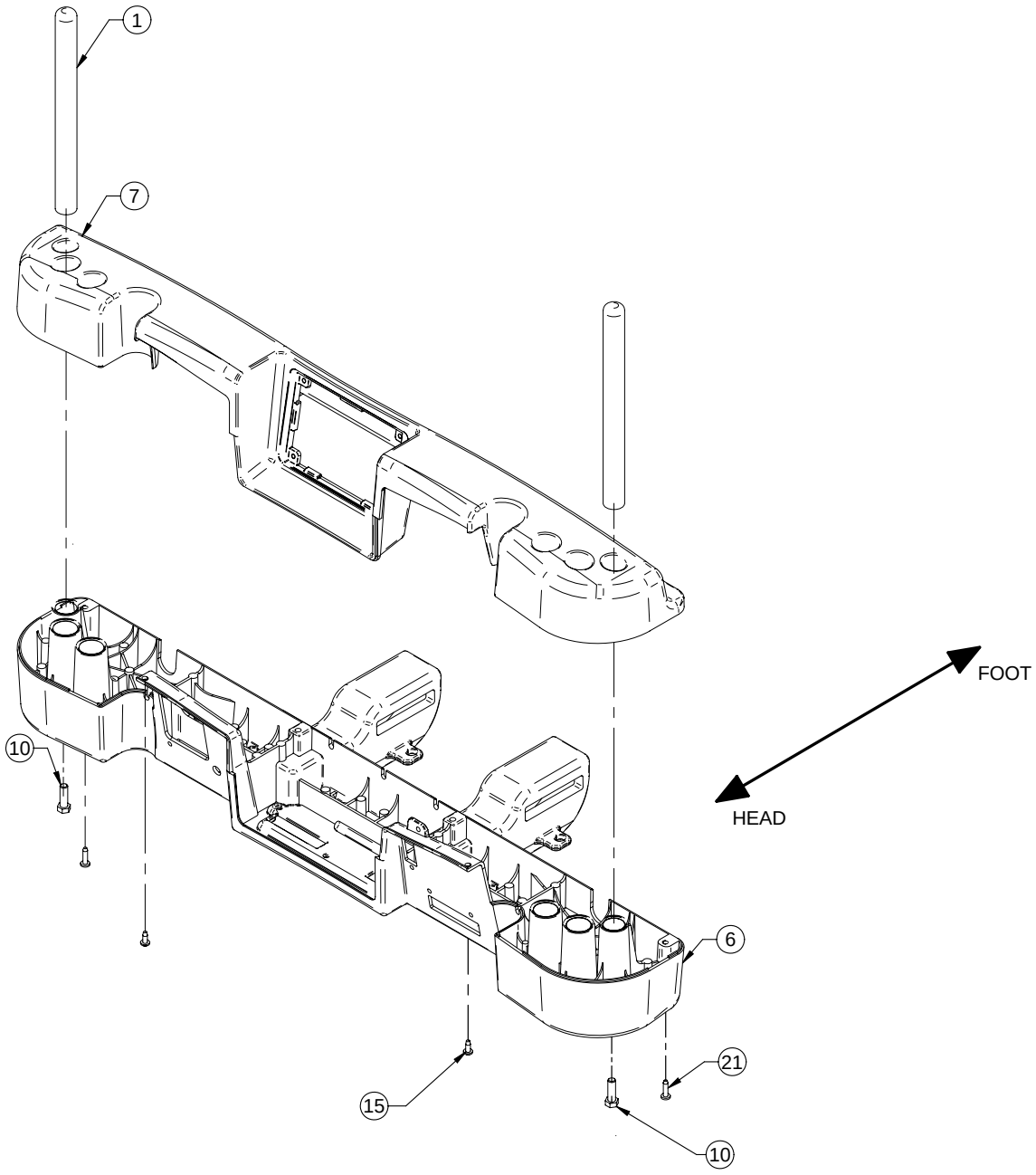
Litter Assembly, Interior Frame



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Litter Assembly, Frame - Common Components - L27-055 Rev B (Reference only)

Item	Part No.	Part Name	Qty.
1	27-1180C	Head Board Anchoring	2
2	27-1310W	Right Lower Frame Support	1
3	27-1368W	Left Lower Frame Support	1
4	QDF27-1372	Symmetrical Load Cell	4
5	QP27-1469-00	Elastimer Sleeve	8
6	QPA27-1290W	Head Chassis	1
7	27-1291W	Frame Head Cover	1
8	27-1426W	Foot Frame Support	1
9	VB15A1O32	Bolt 5/16”-18 x 1”	6
10	VB15A1O32-S	Bolt 5/16”-18 x 1”	2
11	VB15A1O48	Bolt 5/16”-18 x 2”	2
12	VB15A1O54	Bolt 5/16”-18 x 2-3/4”	6
13	VB15A1O56	Hexagon Bolt 5/16-18 x 3”	4
14	VE30A1O	Nylon Lock Nut	10
15	VV83A9G16	Tapping Screw, #10 x 1/2”	6
16	27-1806W	Right Frame Support Cover	1
17	27-1385W	Left Frame Support Cover	1
18	VW10A10	Flat Washer 5/16”	10
19	VW20A10	Spring Washer 5/16”	2
20	VE78A1O	Flanged Nut, 5/16-18	8
21	VV83A9G24	Tapping Screw, #10 x 3/4”	6
22	M0019	Grease	1
23	27-2143W	Spacer Foot	2
24	27-2144W	Spacer Head	2
25	VW10A08	Flat Washer 1/4”	4
26	VB15A1N24	Hex Bolt 1/4”-20 x 3/4”	4
27	VE30A1N	Nylon Self-Locking Nut 1/4”-20	4

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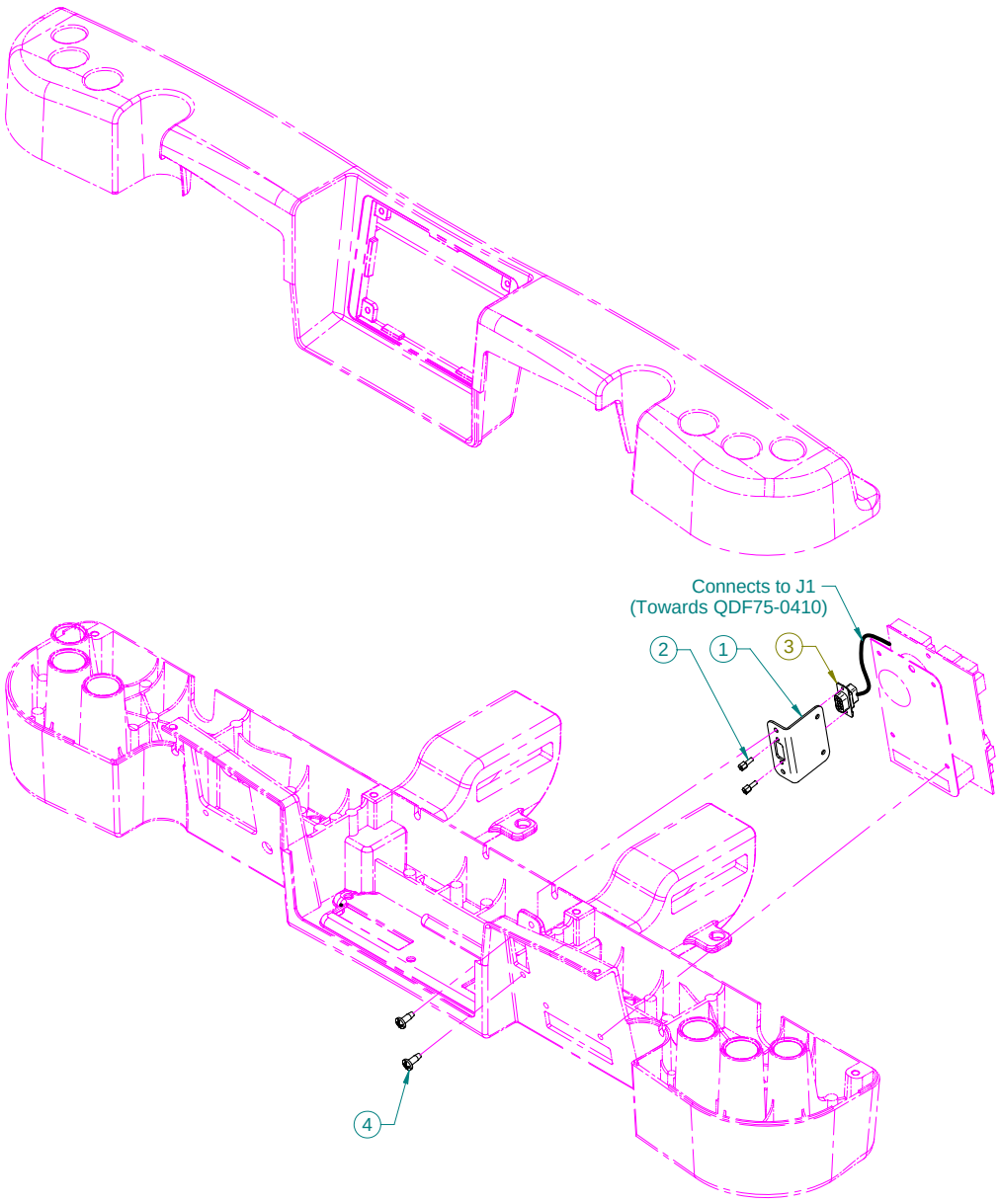
Litter Assembly with Serial Cable

For Reference Only: Part Number OL270262 Rev-00



Litter Assembly with Serial Port - Common Components - OL270262 Rev-00 (Reference Only)

Item	Part No.	Part Name	Qty.
1	27-1520W	Support Connector	1
2	QDF2056	#4 x 3/16” Standoff	2
3	QDF27-2432	Serial Interconnection Cable	1
4	VV83A9G16	#10 x 1/2” Pan Head Phillips Screw	2

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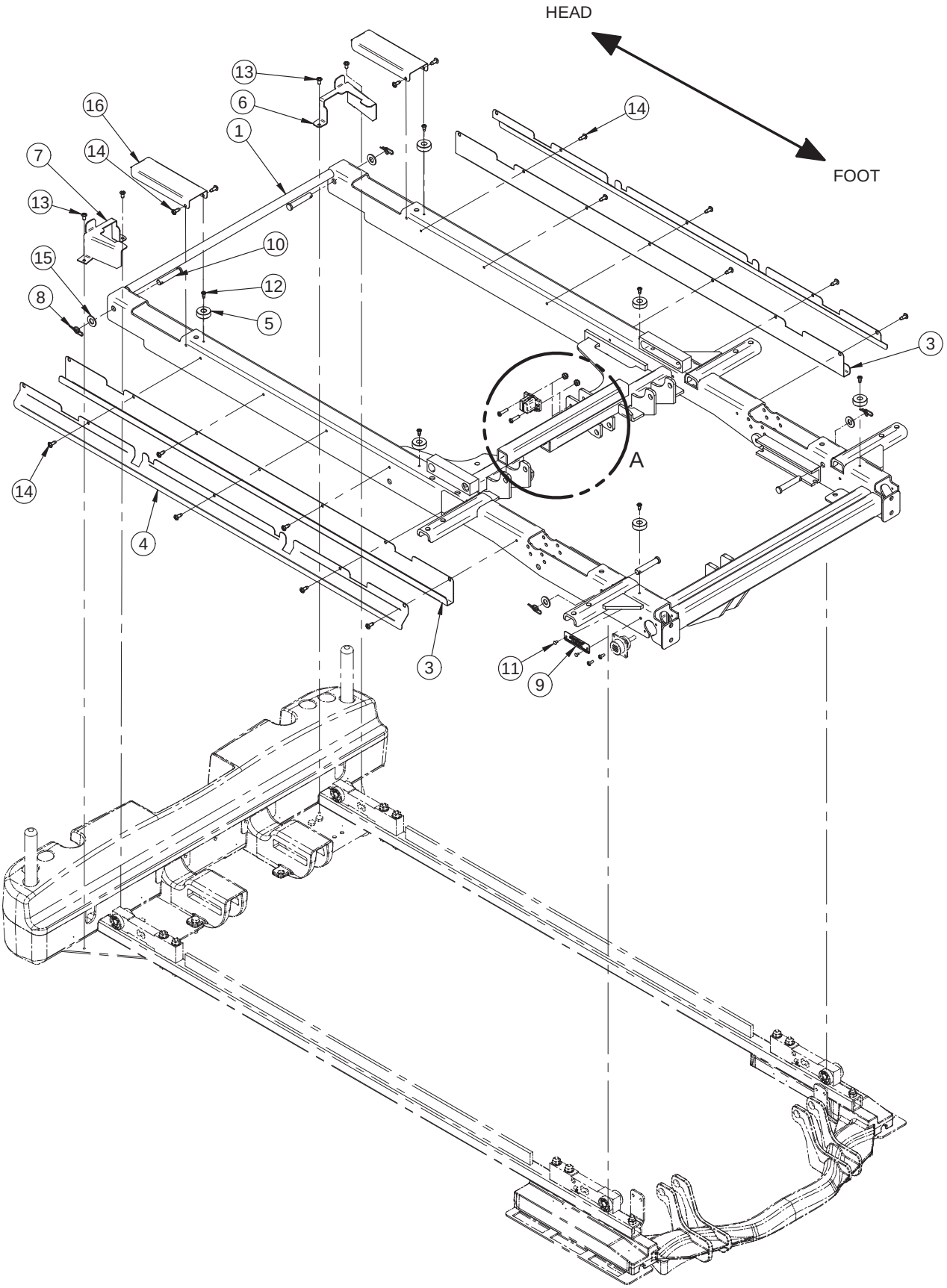
Notes

Litter Assembly, Upper Frame

For Reference Only: Part Number L27-046 Rev-01



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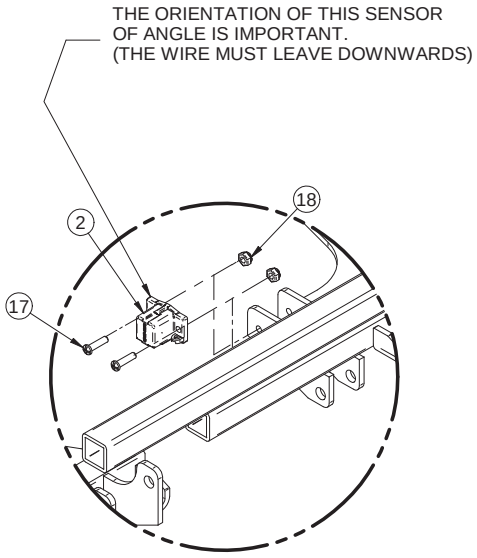
Litter Assembly, Upper Frame



DETAIL A

Litter Assembly, Frame - Common Components - L27-046 Rev-01 (Reference only)

Item	Part No.	Part Name	Qty.
1	27-2598W	Upper Frame	1
2	27-2477	Angle Sensor Assembly	1
3	27-1433W	Wire Channel	2
4	27-1434W	Wire Cover	2
5	QP27-1760	Stopper	6
6	27-1850W	Left Head Frame Wire Cover	1
7	27-1851W	Right Head Frame Wire Cover	1
8	QDF7878	Coupling Pin Diameter 3/8”	4
9	QE71-1181	Serial Number Plate	1
10	VG50B1248	Clevis Pin, Diameter 3/8” x 2”	4
11	VR11H43	Pop Rivet	2
12	VV83A9E12	Pan Head Tapping Screw, #8 x 3/8”	6
13	VV83A9G12	Pan Head Tapping Screw, #10 x 3/8”	4
14	VV83A9G16	Pan Head Tapping Screw, #10 x 1/2”	16
15	VW10A12	3/8” Washer	4
16	27-2005W	Hiding place cell	2
17	VV33A0G24	Screw, Phillips Head 10-32 x 3/4”	2
18	VE30A0G	Nylon Nut #10-32	2

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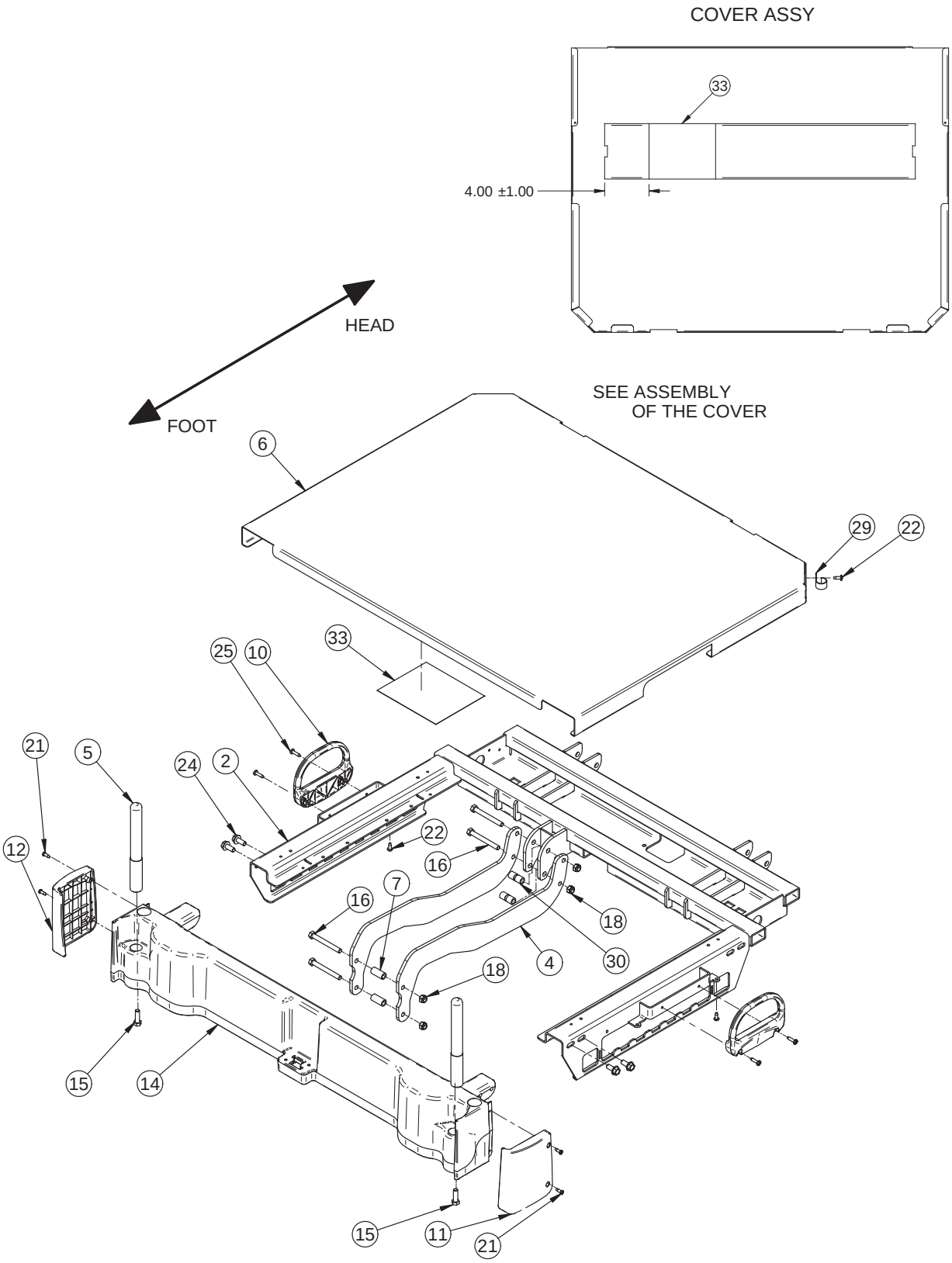
Litter Assembly, Foot End

For Reference Only: Part Number 27-2688 Rev A



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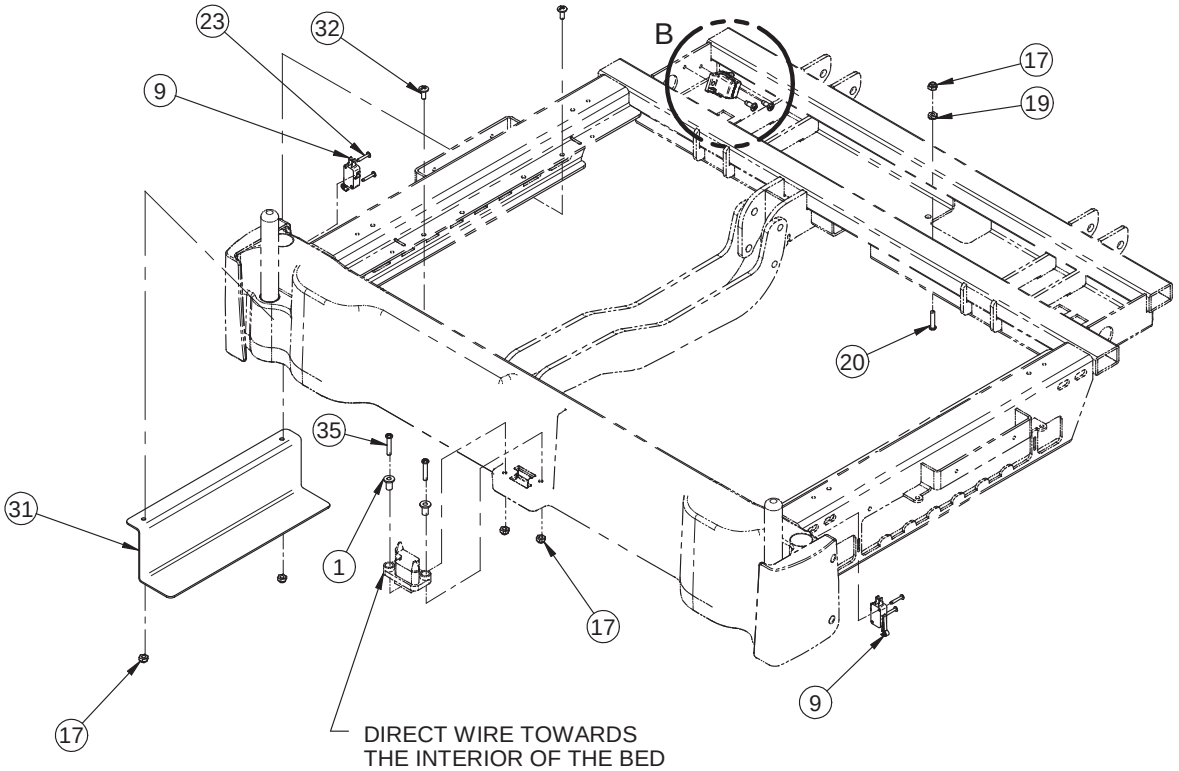
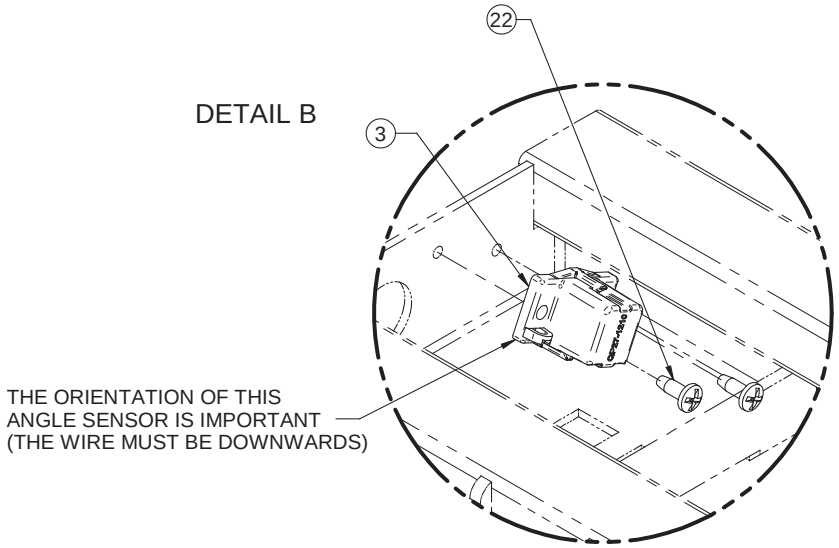
Litter Assembly, Foot End





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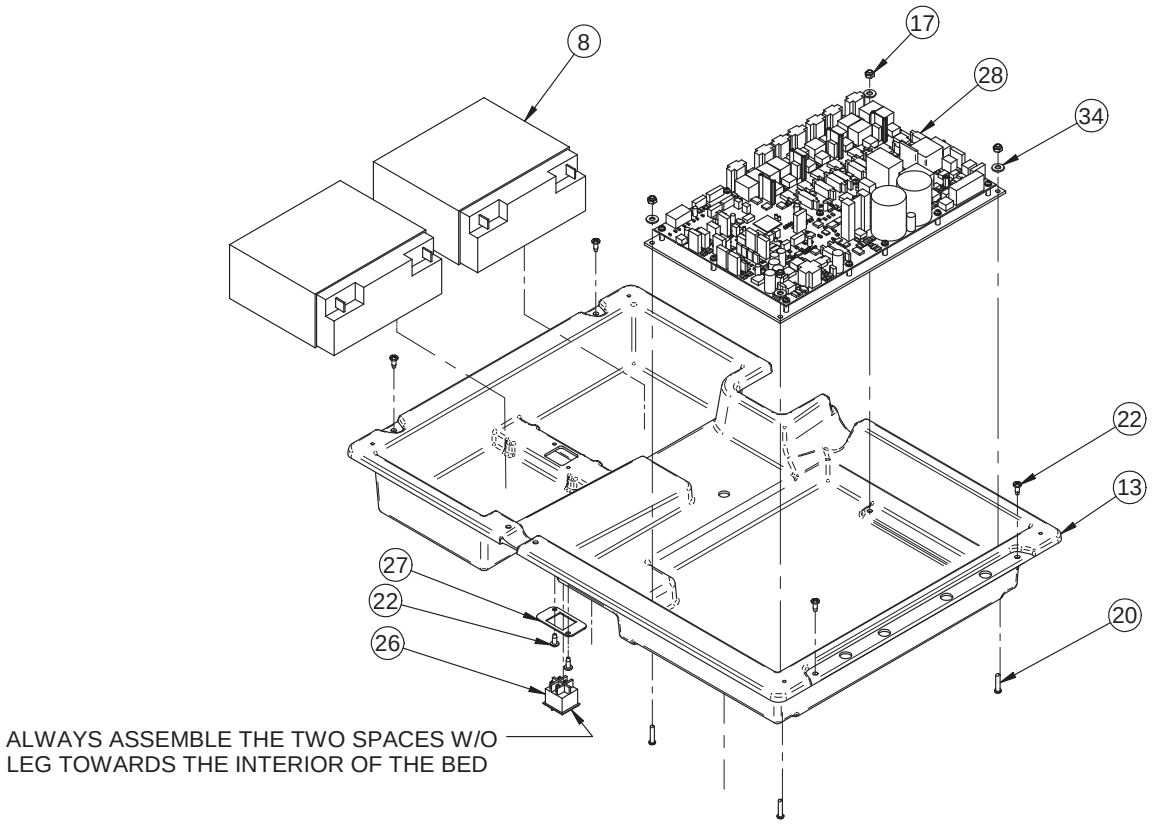
Litter Assembly, Foot End



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Litter Assembly, Foot End

Litter Assembly, Foot End - Common Components - 27-2688 Rev A (Reference only)

Item	Part No.	Part Name	Qty.
1	25-0527Z	Connector's Sleeve	2
2	27-0112W	Foot Section	1
3	27-2477	Angle Sensor	1
4	27-1579W	Foot Litter Center Plate	2
5	27-1833C	Footboard Rod	2
6	27-1606W	Mattress Support	1
7	27-1710Z	Spacer	2
8	QDF9188	12V 18AH Battery	2
9	QDF9535	Micro Switch	2
10	QP27-1435-10	Mattress Stopper	2
11	QP27-2644	Left Foot Bumper	1
12	QP27-2645	Right Foot Bumper	1
13	QP27-1597	Molded Electronic Box	1
14	QPA27-1576-W	Molded Foot Litter End	1
15	VB15A1O32-S	Scotch Grip Bolt 5/16"-18 x 1"	2
16	VB15A1O54	"Full Thread" Bolt 5/16-18 x 2 ¾"	4
17	VE30A0G	Nylon Locknut #10-32	9
18	VE30A1O	Nylon Locknut 5/16"-18	4
19	VE80A0G	Locknut #10-32	1
20	VV33A0G28	Phillips Machine Screw 10-32 x 7/8"	5
21	VV83A9E16	Phillips Screw #8 x 3/8"	4
22	VV83A9G16	Phillips Screw #10 x ½"	11
23	VV87A9A24	Phillips Tapping Screw #4 x ¾"	4
24	VVB4A1024	Thread Rolling Bolt 5/16-18 x ¾	4
25	VV83A9G24	Phillips Tapping Screw #10 x ¾"	4
26	QDF2089	Battery Switch	1
27	27-1972Z	Switch Support Plate	1
28	QDF75-0450	DC Control Board	1
29	QDF2091	Wiring Clip	1
30	27-2058Z	Spacer	2
31	27-1858W	Electronic Box Reinforcement	1
32	VV37A0G16	Phillips Machine Screw 10-32 x ½"	2
33	QE71-1061	Battery Protection Sticker	1
34	VW10C081802	Nylon Washer, 9/16" x 1/16"	4
35	VV31A0G32	Phillips Machine Screw 10-32 x 1"	2

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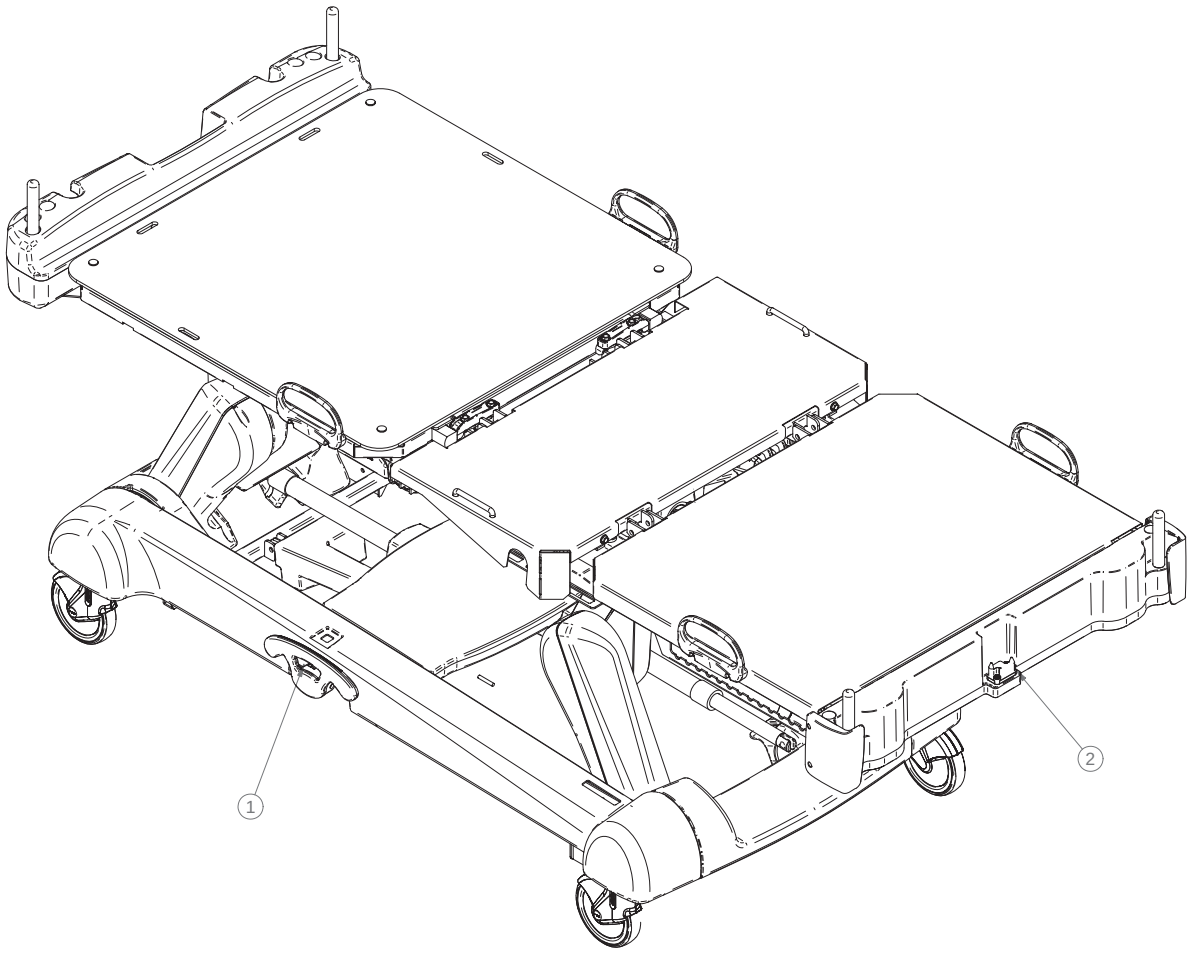
Litter Assembly, Standard Cabling

For Reference Only: Part Number L27-059 Rev B



Item	Part No.	Part Name	Qty.
1	27-2687	Base and Lever Wiring	1
2	27-2695	Litter Wiring	1

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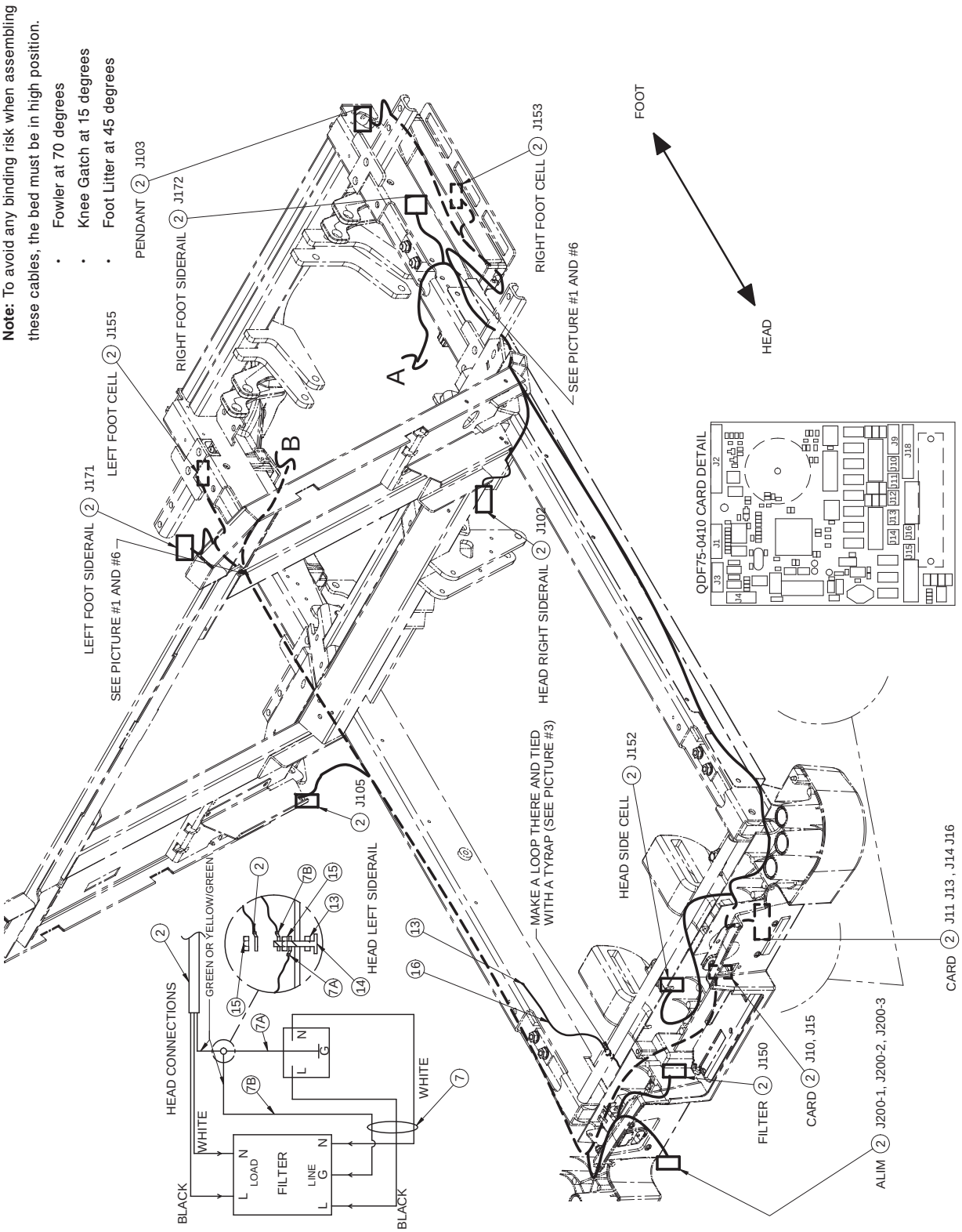
Litter Assembly, Electrical

For Reference Only: Part Number 27-2695 Rev A



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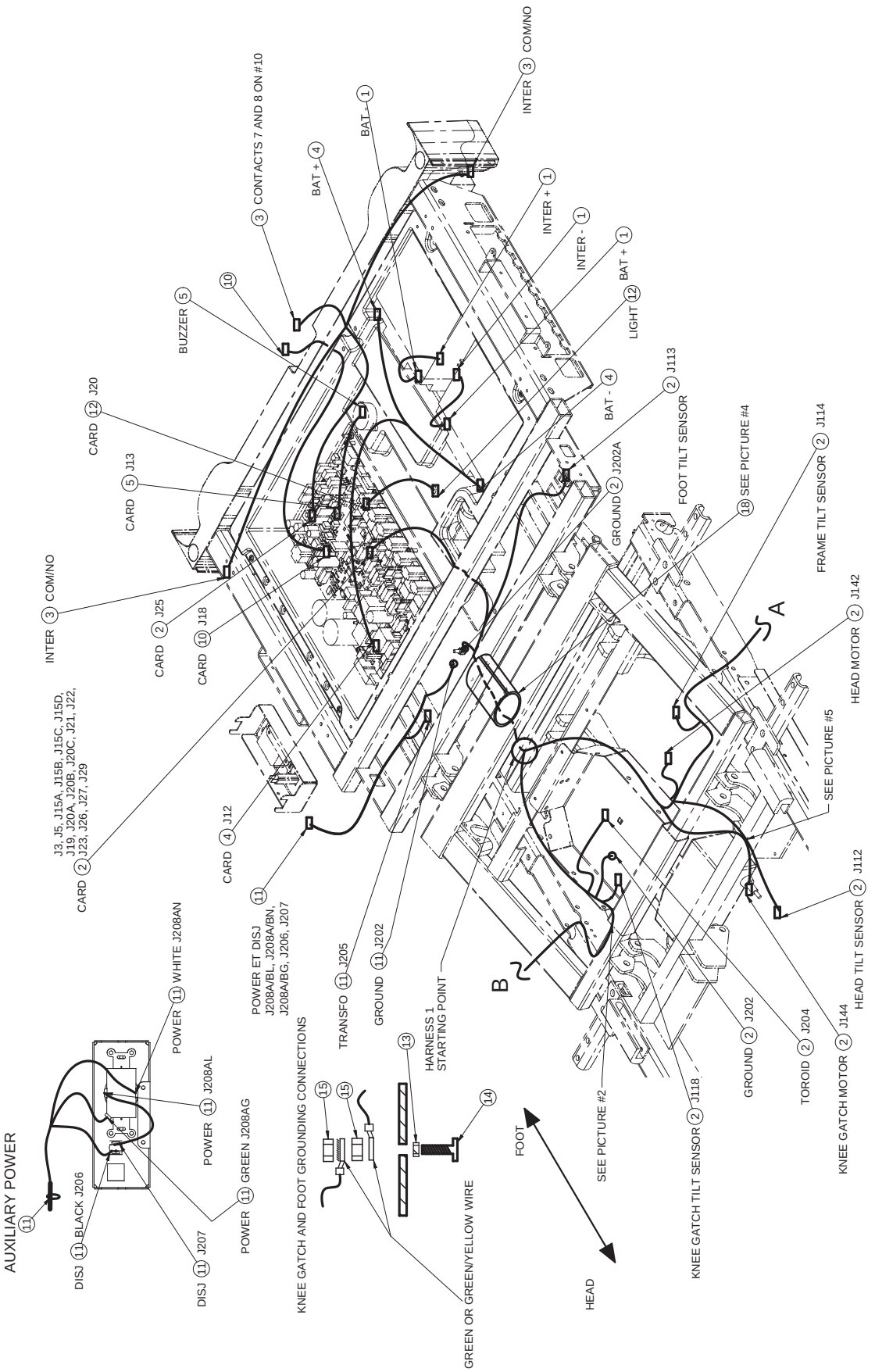
Litter Assembly, Electrical



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Litter Assembly, Electrical

Photo #1

Photo #2

Photo #3

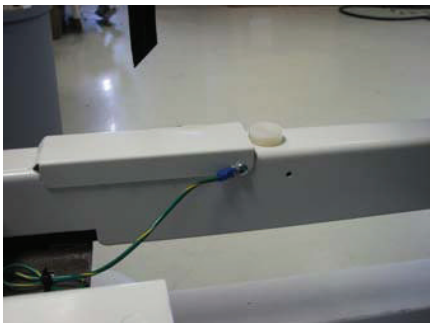

Photo #4

Photo #5

Photo #5

QDF27-1381 CABLES CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1381	Red Grommet	To	QDF9188	Battery A Pole + (27-2688)
QDF27-1381	Terminal	To	QDF9188	Switch (27-2688)
QDF27-1381	Terminal	To	QDF9188	Switch (27-2688)

QDF27-1646 CABLES CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1646	Mini Fit	To	QDF75-0450	J12 DC Board
QDF27-1646	Black Grommet	To	QDF9188	Battery B Pole + (27-2688)
QDF27-1646	White Grommet	To	QDF9188	Battery A Pole – (27-2688)

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QDF27-2213 CABLES CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2213	J22	To	QDF75-0450	J22 DC Board
QDF27-2213	J21	To	QDF75-0450	J21 DC Board
QDF27-2213	J20A	To	QDF75-0450	J20A DC Board
QDF27-2213	J20B	To	QDF75-0450	J20B DC Board
QDF27-2213	J20C	To	QDF75-0450	J20C DC Board
QDF27-2213	J19	To	QDF75-0450	J19 DC Board
QDF27-2213	J29	To	QDF75-0450	J29 DC Board
QDF27-2213	J15A	To	QDF75-0450	J15A DC Board
QDF27-2213	J15B	To	QDF75-0450	J15B DC Board
QDF27-2213	J15C	To	QDF75-0450	J15C DC Board
QDF27-2213	J15D	To	QDF75-0450	J15D DC Board
QDF27-2213	J204	To	QDF27-2038	Transformer J204
QDF27-2213	J27	To	QDF75-0450	J27 DC Board
QDF27-2213	J3	To	QDF75-0450	J3 DC Board
QDF27-2213	J5	To	QDF75-0450	J5 DC Board
QDF27-2213	J113	To	QDF75-0140	Foot Sensor (27-2688)
QDF27-2213	J202	To	---	Gatch Ground
QDF27-2213	J114	To	QDF75-0140	Trend Sensor
QDF27-2213	J153	To	QDF27-1372	Right Foot Cell
QDF27-2213	J103	To	27-0264	Removable Control
QDF27-2213	J172	To	QDF27-1208	Right Foot Siderail
QDF27-2213	J102	To	QDF27-2212	Right Head Siderail
QDF27-2213	J152	To	QDF27-1372	Right Head Cell
QDF27-2213	J202A	To	---	Foot Ground
QDF27-2213	J16	To	QDF75-0410	OL270254
QDF27-2213	J15	To	QDF75-0410	OL270254
QDF27-2213	J14	To	QDF75-0410	OL270254
QDF27-2213	J13	To	QDF75-0410	OL270254
QDF27-2213	J10	To	QDF75-0410	OL270254
QDF27-2213	J11	To	QDF75-0410	OL270254
QDF27-2213	J144	To	QDF27-1215	Gatch Motor
QDF27-2213	J142	To	QDF27-1214	Fowler Motor
QDF27-2213	J112	To	QDF75-0140	Fowler Sensor
QDF27-2213	J118	To	QDF75-0140	Gatch Sensor
QDF27-2213	J155	To	QDF27-1372	Left Foot Cell
QDF27-2213	J171	To	QDF27-1208	Left Foot Siderail
QDF27-2213	J105	To	QDF27-2212	Left Head Siderail
QDF27-2213	J150	To	QDF27-1372	Left Head Cell
QDF27-2213	J23	To	QDF75-0450	J23 DC Board
QDF27-2213	J26	To	QDF75-0450	J26 DC Board
QDF27-2213	J200A Black	To	QDF9571	Line “L”
QDF27-2213	J200B White	To	QDF9571	Line “N”
QDF27-2213	J200C Green	To	Ground	Head Screw

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QDF27-1607 CABLES #3 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1607	Con. MTA 5 Pos.	To	QDF75-0450	J25 DC Board
QDF27-1607	Contact	To	QDF27-1213	Contact 7 or 8
QDF27-1607	Contact	To	QDF27-1213	Contact 7 or 8
QDF27-1607	Terminal	To	QDF9535	Right Limit Switch (27-2688) No/Com
QDF27-1607	Terminal	To	QDF9535	Right Limit Switch (27-2688) Com/No
QDF27-1607	Terminal	To	QDF9535	Left Limit Switch (27-2688) No/Com
QDF27-1607	Terminal	To	QDF9535	Left Limit Switch (27-2688) Com/No

QDF5095 CABLES CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF5095	Con. MTA	To	QDF75-0450	J13 DC Board
QDF5095	Buzzer	To	Electrical Box	See Position on Drawing

QDF27-1524 CABLES CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-1524	Black 90º Terminal	To	QDF9571	Line “L”
QDF27-1524	White 90º Terminal	To	QDF9571	Line “L”
QDF27-1524	Green 90º Terminal	To	QDF9571	Line “L”
QDF27-1524	Black Right Terminal	To	QDF9574	“L” (Power Supply
QDF27-1524	White Right Terminal	To	QDF9574	“N” (Power Supply
QDF27-1524	Green Right Terminal	To	QDF9574	“E” (Power Supply
QDF27-1524	Cross Grommet	To	Head Ground	Screw
QDF27-1524	Cross Grommet	To	Head Ground	Screw

QDF27-1214 CABLES #10 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2214	Con. MTA 6 Pos.	To	QDF75-0450	J18 DC Board
QDF27-2214	Con. Metrimate	To	27-1547	Panel (27-1547)

QDF27-2025 CABLES #12 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2025	Light	To	QDF75-0450	J20 DC Board

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QDF27-2228 CABLES #11 CONNECTION TABLE				
Cable No.	**Connector No.**	**To**	**Cable No.**	**Connector No.**
QDF27-2228	J205	To	QDF27-2038	Transformer
QDF27-2228	J202 Grommet	To	---	Foot Litter Ground
QDF27-2228	J208AL (Black)	To	QDF9573	Single Outlet (27-2688)
QDF27-2228	J207 Terminal	To	QDF9025	Breaker (27-2688)
QDF27-2228	J206 Terminal	To	QDF9025	Breaker (27-2688)
QDF27-2228	J208AN (White)	To	QDF9573	Outlet (27-2688) White
QDF27-2228	J208AG (Green/Yellow)	To	QDF9573	Outlet (27-2688) Ground

Litter Assembly, Electrical - 27-2695 Rev A (Reference only)

Item	Part No.	Part Name	Qty.
1*	QDF27-1381	Battery Switch Wire	2
2*	QDF27-2213	#1 Wire Harness	1
3*	QDF27-1607	I.V. Pole and Bed Extender Cable	1
4*	QDF27-1646	Battery Wires	1
5*	QDF5095	Buzzer	1
6*	QDF9518	Cable Tie	51
7*	QDF27-1524	Filter and Receiver Connector	1
10*	QDF27-2214	Panel – Control Board Cable	1
11*	QDF27-2228	Auxiliary 120V Outlet Cable without Mattress Connector	1
12*	QDF27-2025	12V Night Light	1
13*	VW20A76	Locking Washer	4
14*	VV33A0G28	Phillips Machine Screw #10-32 x 7/8”	3
15*	VE30A0G	Nylon Locknut #10-32	6
16*	QDF27-2284	Electronic Board Ground Wire	1
18	QDF2115	1.25 Split Loom Polyethylene	1
19	QDF9523	Wire Tie	2

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Notes