SERVICE MANUAL

On3™ Lateral Transfer Device

From Hill-Rom

Product No. P652

For Parts Or Technical Assistance **man269**
USA (800) 445-3720 Canada (800) 267-2337
International: Contact your distributor.

On3™ Lateral Transfer Device Service Manual

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Chapter 1 Introduction

Chapter Contents

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Purpose

This manual provides requirements for the On3™ Lateral Transfer Device normal operation and maintenance. It also includes parts lists (in chapter 5) for ordering replacement components.

Audience

This manual is intended for use by only facility-authorized personnel. Failure to observe this restriction can result in severe injury to people and serious damage to equipment.

Organization

This manual contains seven chapters.

Chapter 1: Introduction

In addition to a brief description of this service manual, chapter 1 also provides a product overview.

Chapter 2: Troubleshooting Procedures

Repair analysis procedures are contained in this chapter. Use these procedures to gather information, identify the maintenance need, and verify the effectiveness of the repair.

Chapter 3: Theory of Operation

This chapter describes the application of the electrical system used in the On3™ Lateral Transfer Device.

Chapter 4: Removal, Replacement, and Adjustment Procedures

Chapter 4 contains the detailed maintenance procedures determined necessary in chapter 2.

Chapter 5: Parts List

This chapter contains the warranty, part-ordering procedure, and illustrated parts lists.

Chapter 6: General Procedures

Cleaning, preventive maintenance, and other general procedures are described in this chapter.

Chapter 7: Accessories

There are no accessories for the On3™ Lateral Transfer Device.

Typographical Conventions

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

- Standard text—used for regular information.
- **Boldface text**—emphasizes a word or phrase.
- **NOTE:**—sets apart special information or important instruction clarification.
- The symbol below highlights a WARNING or CAUTION:

Figure 1-1. Warning and Caution

  - A WARNING identifies situations or actions that may affect patient or user safety. Disregarding a warning could result in patient or user injury.
  - A CAUTION points out special procedures or precautions that personnel must follow to avoid equipment damage.
- The symbol below highlights a CAUGHT HAZARD WARNING:

Figure 1-2. Caught Hazard Warning

- The symbol below highlights a CHEMICAL HAZARD WARNING:

Figure 1-3. Chemical Hazard Warning

- The symbol below highlights an ELECTRICAL SHOCK HAZARD WARNING:

Figure 1-4. Electrical Shock Hazard Warning

Introduction

Overview

The On3™ Lateral Transfer Device is designed to laterally transfer patients from one surface to another. The device simplifies the transfer process, reducing the risk of back injury to the health care professional and ensuring a safe, smooth, and dignified transfer for the patient.

The height-adjustable cart, transfer bridge, transfer rod, and remote control make lateral transfers easy. The rechargeable battery allows the On3™ Lateral Transfer Device to be used in any location, without the need for an electrical outlet.

Operating Precautions

The On3™ Lateral Transfer Device is compatible with most hospital beds and carts. If there is a question regarding the compatibility of the device with a specific bed or cart, call Hill-Rom Technical Support at (800) 445-3720.

Specifications

Physical Description

For On3™ Lateral Transfer Device specifications, see table 1-1 on page 1-7.

Table 1-1. On3™ Lateral Transfer Device Specifications

Feature	Dimension
Overall length	31½" (80.01 cm)
Overall width	32" (81 cm)
Overall height Head mechanism fully lowered Head mechanism fully raised	 41" (104 cm) 53" (135 cm)
Head mechanism vertical adjustment	12" (30 cm)
Weight	170.9 lb (77.52 kg)
Maximum safe working load	400 lb (181 kg)
Webbing strap extension	67" (170 cm)
Retractable power cord	72" (183 cm)
Power recharging cord	36" (91 cm)
Storage and transport environment Temperature Humidity Atmospheric Pressure	 -40°F to 158°F (-4°C to 70°C) 10% to 100% 7 psi to 15 psi (50 kPa to 106kPa)

The transfer bridge is stored on the device handle. For transfer bridge specifications, see table 1-2 on page 1-7.

Table 1-2. Transfer Bridge Specifications

Feature	Dimension
Overall length	66" (168 cm)
Overall width	14" (36 cm)
Folded length	19" (48 cm)
Folded width	16" (41 cm)
Weight	4¼ lb (1.93 kg)

The transfer rod is stored on the device. For transfer rod specifications, see table 1-3 on page 1-8.

Table 1-3. Transfer Rod Specifications

Feature	Dimension
Overall length	66" (168 cm)
Overall width	2" (5 cm)
Overall height	1" (3 cm)
Folded length	33" (84 cm)
Weight	5¾ lb (2.61 kg)

Electrical Description

For electrical system specifications, see table 1-4 on page 1-8.

Table 1-4. Electrical System Specifications

Description	Specification
Power supply Battery Supply circuit (North America)	 12V rechargeable, sealed, lead acid 240V, center-tapped, single-phase
Battery charger input ratings	90 to 264V AC, 47 to 63 Hz
Battery charger current to battery	2.0 A maximum
Battery life When powered off When powered on	 14 days 1 day
Internally fused	15 A, 32V
AC external maximum current draw	0.8 A
DC internal maximum current draw	13 A
Power consumption At maximum load transfer When powered off	 155 W 0.2 W
Operating temperature	50°F to 80°F (10°C to 27°C)
Number of transfers per charged battery	Approximately 60
Time to fully recharge battery	8 h

Regulations, Standards, and Codes

The On3™ Lateral Transfer Device is classified by Underwriters Laboratories Inc., with respect to electrical shock, fire, and mechanical hazards only in accordance with UL2601-1 and CAN/CSA C22.2 No. 601.1-M90.

The On3™ Lateral Transfer Device meets all requirements of the Medical Device Directive as a Class I device and has the CE marking.

Model Identification

For On3™ Lateral Transfer Device model identification, see table 1-5 on page 1-10.

Table 1-5. Model Identification

Model Number	Description
P652A	On3™ Lateral Transfer Device with standard bumper extension
P652B01	On3™ Lateral Transfer Device without optional bumper extension
P652B02	On3™ Lateral Transfer Device with optional bumper extension

Safety Tips

WARNING:
Only facility-authorized personnel should troubleshoot the On3™ Lateral Transfer Device. Troubleshooting by unauthorized personnel could result in personal injury or equipment damage.

WARNING:
Only facility-authorized personnel should perform preventive maintenance on the On3™ Lateral Transfer Device. Preventive maintenance performed by unauthorized personnel could result in personal injury or equipment damage.

WARNING:
Adhere to the *Infection Control Policies and Procedures* from Hill-Rom. Failure to do so could result in the spread of infection.

WARNING:
Follow the product manufacturer's instructions. Failure to do so could result in personal injury or equipment damage.

WARNING:
The elastic cord in the transfer rod is under tension. Always use eye protection when replacing the elastic cord. Failure to do so could result in personal injury.

WARNING:
The cable adjustment nut is under tension. Use caution when removing it from the plunger pivot arm. Failure to do so could result in personal injury and equipment damage.

WARNING:
Replace the webbing straps if they become frayed or soiled. Failure to do so could result in personal injury or equipment damage.

WARNING:
Dispose of the battery in accordance with the proper disposal procedure as specified by the local regulating authority. Failure to do so could result in personal injury.

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

SHOCK HAZARD:
Do not expose the unit to excessive moisture. Personal injury or equipment damage could occur.

CAUTION:
Do not use harsh cleaners, solvents, or detergents. Equipment damage could occur.

CAUTION:
Do not use silicone-based lubricants. Equipment damage could occur.

CAUTION:
The power on board cable must be unplugged from the head of the unit before the top shell is completely removed from the unit. Failure to do so will result in equipment damage.

CAUTION:
The square knot loop in the retractor cord must be placed over the plastic boss in the remote control casing . Failure to do so could place strain on the retractor cord connection in the remote control, resulting in equipment damage.

CAUTION:
Connect the wires securely to the battery. Failure to do so will result in improper charging of the battery.

CAUTION:
Connect the wires to the proper battery terminals. Failure to do so will blow the in-line fuse adjacent to the battery.

CAUTION:
Do not use acetone-based cleaners to clean any part of the unit, including the transfer rod. Equipment damage could occur.

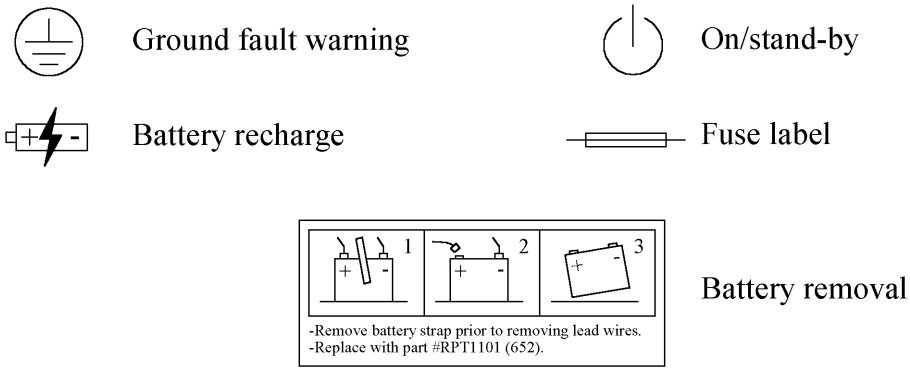
CAUTION:
To prevent component damage, ensure that your hands are clean, and **only** handle the P.C. boards by their edges.

CAUTION:
When handling electronic components, wear an antistatic strap. Failure to do so could result in component damage.

CAUTION:
For shipping and storage, place the removed P.C. boards in antistatic protective bags. Equipment damage can occur.

Warning and Caution Labels

Figure 1-5. Warning and Caution Labels



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Chapter 2
Troubleshooting Procedures

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Chapter Contents

NOTES:

Getting Started

WARNING:
Only facility-authorized personnel should troubleshoot the On3™ Lateral Transfer Device. Troubleshooting by unauthorized personnel could result in personal injury or equipment damage.

Begin each procedure in this chapter with step 1. Follow the sequence outlined (each step assumes the previous step has been completed). In each step, the normal operation of the product can be confirmed by answering **Yes** or **No** to the statement. Your response will lead to another step in the procedure, a repair analysis procedure (RAP), or a component replacement. If more than one component is listed, replace them in the given order.

To begin gathering information about the problem, start with **Initial Actions**.

To isolate or identify a problem and to verify the repair after completing each corrective action (replacing or adjusting a part, seating a connector, etc.), perform the **Function Checks**.

To verify the repair, perform the **Final Actions** after the Function Checks.

If troubleshooting procedures do not isolate the problem, call Hill-Rom Technical Support at (800) 445-3720 for assistance.

Initial Actions

Use Initial Actions to gather information from operators concerning problems with the On3™ Lateral Transfer Device. Note symptoms or other information concerning the problem that the operator describes. This information helps identify the probable cause.

1. Someone who can explain the problem is available.

   Yes **No**
   ↓ → Go to “Function Checks” on page 2-4.

2. Ask that person to demonstrate or explain the problem. The problem can be duplicated.

   Yes **No**
   ↓ → Go to “Function Checks” on page 2-4.

3. The problem is a result of improper operator action.

   Yes **No**
   ↓ → Go to “Function Checks” on page 2-4.

4. Instruct the operator to refer to the procedures in the *On3™ Lateral Transfer Device User Manual*. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

Function Checks

1. Initial Actions have been performed.

   Yes **No**
   ↓ → Go to “Initial Actions” on page 2-3.

2. Turn the unit on. The remote control retracts the webbing straps properly.

   Yes **No**
   ↓ → Go to RAP 2.1.

3. Plug the unit into an appropriate power source. The amber recharge indicator illuminates steadily, without flashing.

   Yes **No**
   ↓ → Go to RAP 2.2.

4. The green on/standby indicator and the amber recharge indicator are not alternating between flashing green and solid amber.

   Yes **No**
   ↓ → Go to RAP 2.3.

5. Go to “Final Actions” on page 2-4.

Final Actions

1. Complete the required preventive maintenance procedures. See “Preventive Maintenance Checklist” on page 6-11.

2. Complete all required administrative tasks.

2.1 Remote Control Does Not Work

1. The unit is unplugged from its power source.

   Yes **No**
   ↓ → Unplug the unit from its power source. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 2.

2. The green on/standby indicator is lit.

   Yes **No**
   ↓ → Turn on the unit; check the battery connection, or charge the battery. See "Charging the Battery" on page 6-6. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 3.

3. The pivot door is not stuck open.

   Yes **No**
   ↓ → Free the pivot door torsion spring to allow the pivot door to swing closed. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 4.

4. The pivot door is not engaged by the clamp.

   Yes **No**
   ↓ → Pull the webbing straps out of the unit. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 5.

5. The unit is correctly positioned for transfer, with the line on the bumper approximately 1" (3 cm) above the transfer surface.

   Yes **No**
   ↓ → Use the foot pedal to adjust the head of the unit to the correct height. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 6.

6. The end caps are installed properly, engaging the interlock switch.

   Yes **No**
   ↓ → Install the end caps properly to engage the interlock switch. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 7.

7. Cables J1, J2, J6, and J8 are installed according to the wiring diagram. (Refer to fold-out FO 3-1 at the rear of this manual).

Yes **No**
↓ → Correct the installation of cables J1, J2, J6, and J8. See "Electrical System" on page 3-3. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 8.

8. The membrane switch inside the remote control is properly connected.

   Yes **No**
   ↓ → Correct the connection of the remote control retractor cord to the membrane switch. (refer to procedure 4.5) If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

9. Go to "Final Actions" on page 2-4.

2.2 The Amber Indicator Is Flashing When the Unit is Plugged into a Power Source

1. The power cord is plugged into an appropriate power source.

   Yes **No**
   ↓ → Plug the power cord into an appropriate power source. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 2.

2. The power cord is plugged into the AC receptacle on the unit.

   Yes **No**
   ↓ → Plug the power cord into the AC receptacle on the unit. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 3.

3. The fuses in the AC receptacle are not blown.

   Yes **No**
   ↓ → Replace the fuses in the AC receptacle (refer to procedure 4.9). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 4.

4. The battery charger displays the proper voltage output when checked with a voltmeter.

   Yes **No**
   ↓ → Replace the battery charger (refer to procedure 4.7). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

5. Go to "Final Actions" on page 2-4.

2.3 The Indicators Alternate Between Flashing Green and Solid Amber

1. The power cord is plugged into an appropriate power source.

   Yes **No**
   ↓ → Plug the power cord into an appropriate power source. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 2.

2. The power cord is plugged into the AC receptacle on the unit.

   Yes **No**
   ↓ → Plug the power cord into the AC receptacle on the unit. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 3.

3. Return the unit to battery operation. The indicators reset after several transfers.

   Yes **No**
   ↓ → Call Hill-Rom Technical Support at (800) 445-3720.

4. Go to "Final Actions" on page 2-4.

Chapter 3
Theory of Operation

Chapter Contents

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NOTES:

Electrical System

Figure 3-1. Electrical System Wiring Diagram

Refer to fold-out FO 3-1 at the rear of this manual.

Table 3-1. Normal Operating Conditions for the Logic Board

Connector	Pin	Voltage			Operating Function
		Power Switch			
		OFF	ON	ON	
		Transfer in Operation			
		NO	NO	YES	
J1	1	0 to 0.1	11.6 to 13.2	11.6 to 13.2	Battery voltage when control relay 1 (CR1) on
Note 3	2	0 to 0.1	11.6 to 13.2	0 to 0.1	Left clutch on
J2	1	0 to 0.1	11.6 to 13.2	11.6 to 13.2	12V DC when CR1 on
Note 3	2	0 to 0.1	11.6 to 13.2	0 to 0.1	Right clutch on
J3	1	0 to 0.1	11.6 to 13.2	11.6 to 13.2	12V DC when CR1 on
	2	0 to 0.1	11.6 to 13.2	0 to 0.1	Motor running
J4	1	11.6 to 13.2	11.6 to 13.2	11.6 to 13.2	Battery voltage after fuse
	2	0 to 0.1	0 to 0.1	0 to 0.1	Battery ground
	3	11.6 to 13.2	11.6 to 13.2	11.6 to 13.2	Battery charger on
	4	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC supply
	5	0 to 0.1	0 to 0.1	0 to 0.1	AC sensing on
J5	1	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if end covers on
	2	0 to 0.1	4.8 to 5.2	4.8 to 5.2	Power-on switch
	3	0 to 0.1	0 to 0.1	0 to 0.1	Ground
Note 1	4	0 to 0.1	1.4 to 2.7	1.4 to 2.7	Output to green LED steady when power switch on, flashing when AC power sensed
Note 2	5	3.2 to 3.8	3.2 to 3.8	0 to 0.6	Output to amber LED steady when battery charging, flashing when battery low
Note 2	6	4.8 to 5.2	4.8 to 5.2	1.4 to 2.7	Current supply to amber LED
J6	1	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if right end cover on
	2	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC supply
	3	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC until right home switch open
	4	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if end covers on

Connector	Pin	Voltage			Operating Function
		Power Switch			
		OFF	ON	ON	
		Transfer in Operation			
		NO	NO	YES	
J7	1	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if end covers on
	2	NA	NA	NA	Not used
	3	0 to 0.1	0 to 0.1	4.8 to 5.2	5V DC when left remote push button depressed
	4	NA	NA	NA	Not used
	5	0 to 0.1	0 to 0.1	4.8 to 5.2	5V DC when right remote push button depressed
J8	1	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if end covers on
	2	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if right end cover on
	3	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC until left home switch open
	4	4.8 to 5.2	4.8 to 5.2	4.8 to 5.2	5V DC if end covers on
J9	1	0 to 0.1	11 to 13	11 to 13	12V DC when CR1 on
	2	0 to 0.1	9 to 10.2	0 to 0.1	Ground when motor is running

NOTE:
All voltage readings are with respect to the battery ground terminal

1. The operating voltage applies when the LED is on steady, and not flashing. If the LED is flashing, the operating voltage will be lower.

2. The operating voltage applies when the LED is on steady, and not flashing. If the LED is flashing, the operating voltage will be higher.

3. The voltage with the power on and the clutch not operating exists only if the webbing straps are pulled out.

Theory of Electrical Operation

Power Switch Function

The power switch controls the power to the output drivers for the clutches and the motor. This power is controlled by a relay. The green indicator is powered by this supply and illuminates to indicate that the relay has been energized.

The power for the logic electronics is not controlled by the power switch. This is necessary so that the battery condition can be monitored continuously. The logic requires only 0.015 A, which will not rapidly deplete the battery energy. If the On3™ Lateral Transfer Device is left unused for an extended period of time, the unit should be connected to the AC supply; or the battery should be disconnected.

Logic Operation

The electronic system of the On3™ Lateral Transfer Device:

- Controls the clutches and motor during a transfer.
- Monitors the condition of the battery.
- Monitors the charging of the battery.
- Monitors the connection of the unit to the AC receptacle.

Clutches and Motor

The activation of the proper clutch in response to the remote control is a function of the clutches and motor control. This control turns on the motor when one or more of the clutches are energized, turns off the proper clutch when the end-of-travel switch is actuated, and locks out the clutch until the remote control is cycled off and on. The lock out feature keeps the clutch from chattering when the end of travel is reached.

The clutches and motor control prevents clutch or motor operation when one of the end caps is removed for maintenance or service, or when the unit is plugged into the AC receptacle. This control also turns on the hour meter when the motor current is above 1 A, which indicates that a transfer is being performed.

Battery Condition

The battery condition monitor detects when the battery voltage drops below 11.8V DC and holds this status until the battery has been charged. This typically occurs during a transfer, at which point the amber indicator begins to flash, indicating that the battery needs to be recharged. The battery will allow the transfer in progress to be completed, but if the battery is not recharged prior to the next transfer, the electronics will cease to work properly when the battery voltage drops below 11.4V DC. Once the battery voltage drops below the range of 11.8V DC to 11.6V DC, most of the stored energy has been used, and the battery voltage will drop off rapidly.

Battery Charger Condition

The battery charger monitor detects when the battery charger is putting more than the trickle level charge of 0.1 A into the battery. The amber indicator is turned on to indicate that the battery charger is above the trickle charge level, and the green indicator is locked out until charging is completed.

AC Supply Connection

The AC supply connection monitor detects when the unit is connected to an AC power supply that exceeds 100V and is less than 264V. The operation of the unit is locked out when the AC connection is detected, and the green indicator begins to flash. If the battery is being charged, and the amber indicator is on, the green indicator is locked out until charging is completed.

NOTES:

Chapter 4
Removal, Replacement, and Adjustment Procedures

Chapter Contents

4.1 Webbing Strap

Tools required: Phillips head screwdriver
3 mm hex head key

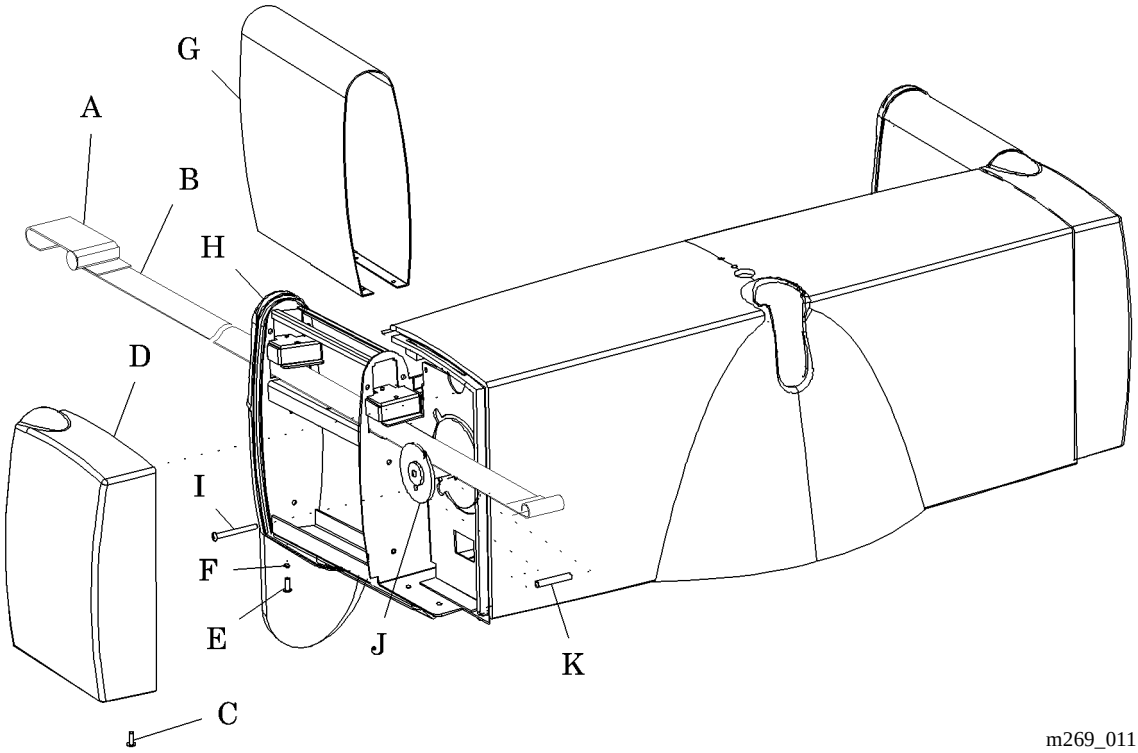
Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.

2. Remove the clamp (A) from the webbing strap (B) (refer to procedure 4.2) (see figure 4-1 on page 4-3).

Figure 4-1. Webbing Strap



3. Using a phillips head screwdriver, remove the screw (C) that secures the end cap (D) to the head of the unit.

4. Remove the end cap (D).

5. Using a phillips head screwdriver, remove the four screws (E) and four external tooth washers (F) that secure the bumper extension exterior shroud (G) to the bumper extension (H).

6. Remove the bumper extension exterior shroud (G) from the bumper extension (H).

7. Draw the webbing strap (B) through the front opening of the bumper extension (H) until the webbing strap (B) is fully extended.

8. Using a 3 mm hex head key, remove the low socket head screw (I) from the drum (J).

9. Remove the webbing strap (B) and spacer (K) from the drum (J).

Replacement

1. Thread the webbing strap (B) through the front opening of the bumper extension (H) pivot door.

2. Attach the webbing strap (B) to the drum (J) using the low head socket screw (I) and spacer (K).

3. Using a 3 mm hex head key, tighten the low head socket screw (I).

4. Roll the webbing strap (B) onto the drum (J), ensuring that the webbing strap (B) rolls over the top of the drum (J) from the front.

5. Assemble the bumper extension exterior shroud (G) on the bumper extension (H).

6. Using a phillips head screwdriver, install the four screws (E) and four external tooth washers (F) that secure the bumper extension exterior shroud (G) to the bumper extension (H).

7. Assemble the end cap (D) on the head of the unit.

8. Using a phillips head screwdriver, install the screw (C) that secures the end cap (D) to the head of the unit.

9. Install the clamp (A) on the webbing strap (B) (refer to procedure 4.2).

10. Plug the unit into an appropriate power supply.

11. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.2 Clamp

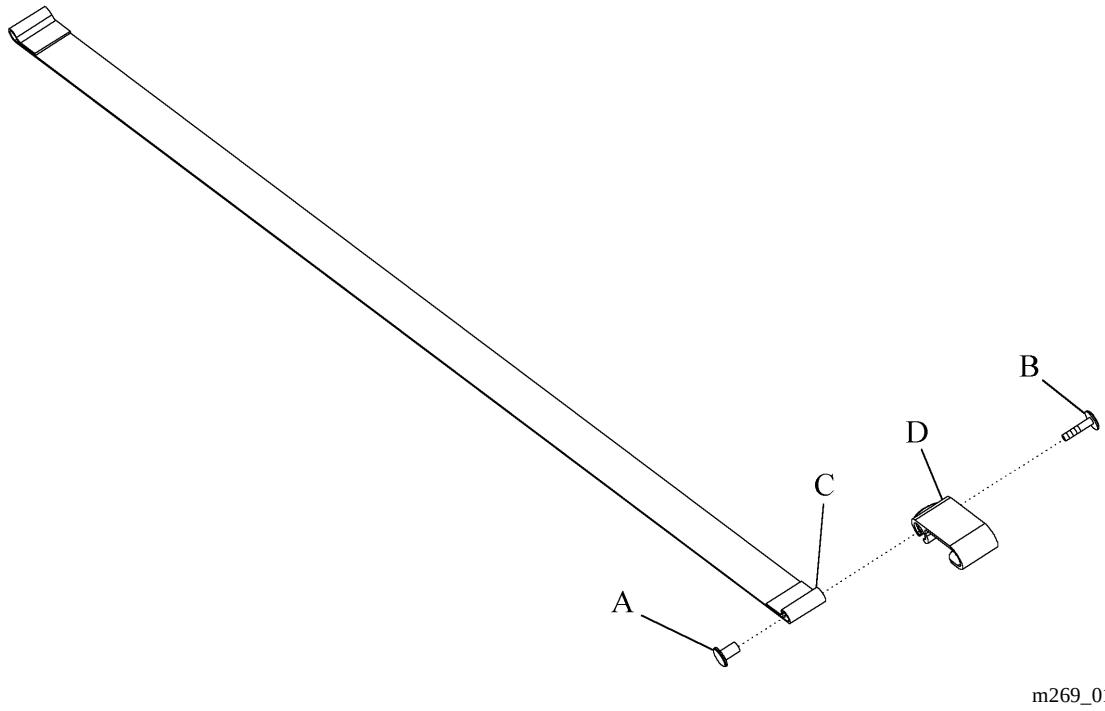
Tools required: 4 mm hex head key
5 mm hex head key
Blue Loctite®[1] adhesive

Removal

1. Remove the joint connector nut (A) from the joint connector bolt (B) (see figure 4-2 on page 4-6).

NOTE:
Remove the joint connector nut with a 5 mm hex head key, while holding the joint connector bolt in position using a 4 mm hex head key.

Figure 4-2. Clamp



2. Remove the joint connector nut (A) and the joint connector bolt (B) from the webbing strap (C).

3. Remove the webbing strap (C) from the clamp (D).

1. Loctite® is a registered trademark of Loctite Corporation.

Replacement

1. Install the joint connector bolt (B) in the loop in the end of the webbing strap (C).

2. Install the joint connector bolt (B) and the webbing strap (C) into the clamp (D) by sliding the clamp (D) over the loop in the end of the webbing strap (C).

NOTE:
Position the clamp so that when the webbing strap is lying flat, the hooked end of the clamp is facing down.

3. Using blue Loctite®[1] adhesive, install the joint connector nut (A) to the joint connector bolt (B).

NOTE:
Hold the joint connector bolt in position using a 4 mm hex head key, while installing the joint connector nut with a 5 mm hex head key.

4. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

1. Loctite® is a registered trademark of Loctite Corporation.

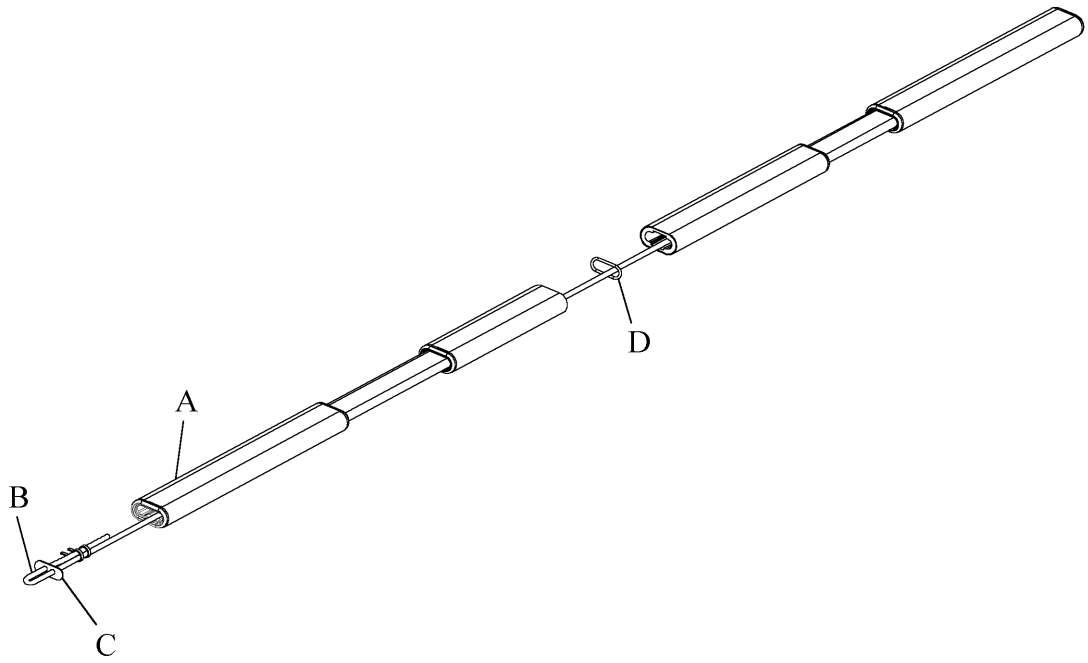
4.3 Transfer Rod—Elastic Cord

Tools required: Vise
Knife or scissors
Cable ties
Stiff wire with a loop on one end
Self-locking pliers

Removal

1. Mount the transfer rod (A) in a vise, with one end of the transfer rod (A) touching the ground (see figure 4-3 on page 4-8).

Figure 4-3. Transfer Rod—Elastic Cord



m269_013

WARNING:
The elastic cord in the transfer rod is under tension. Always use eye protection when replacing the elastic cord. Failure to do so could result in personal injury.

2. Using a knife or scissors, cut the loop of the elastic cord (B) that comes through the uppermost cord plate (C).

3. Remove the transfer rod (A) from the vise.

4. Separate the two halves of the transfer rod (A), and remove the O-ring (D).

5. Using a knife or scissors, cut the loop of elastic cord (B) that comes through the other cord plate (C), and remove the elastic cord (B).

Replacement

1. Thread 6" (15 cm) of the elastic cord (B) through the cord plate (C).

2. Fold the 6" (15 cm) end of the elastic cord (B) back against the remainder of the cord length and apply two cable ties, forming a loop that contains the cord plate (C).

3. Using the wire loop, thread the elastic cord (B) through one half of the transfer rod (A).

4. Thread the O-ring (D) onto the elastic cord (B).

5. Using the wire loop, thread the elastic cord (B) through the second half of the transfer rod (A).

6. Position the two halves of the transfer rod (A) in the vise, with the elastic cord (B) extending from the top.

7. Pull the elastic cord (B) until it extends from the end of the transfer rod (A) approximately 18" (46 cm).

8. Using self-locking pliers, clamp the elastic cord (B) to keep it from snapping back into the transfer rod (A).

9. Thread 6" (15 cm) of the elastic cord (B) through the other cord plate (C).

10. Fold the 6" (15 cm) end of the elastic cord (B) back against the remainder of the cord length and apply two cable ties, forming a knot that contains the cord plate (C).

11. Carefully remove the self-locking pliers, and feed the elastic cord (B) back into the transfer rod (A).

12. Make certain that the cord plates (C) are seated in the ends of the transfer rod (A).

13. Remove the transfer rod (A) from the vise.

14. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.4 Actuator Cable

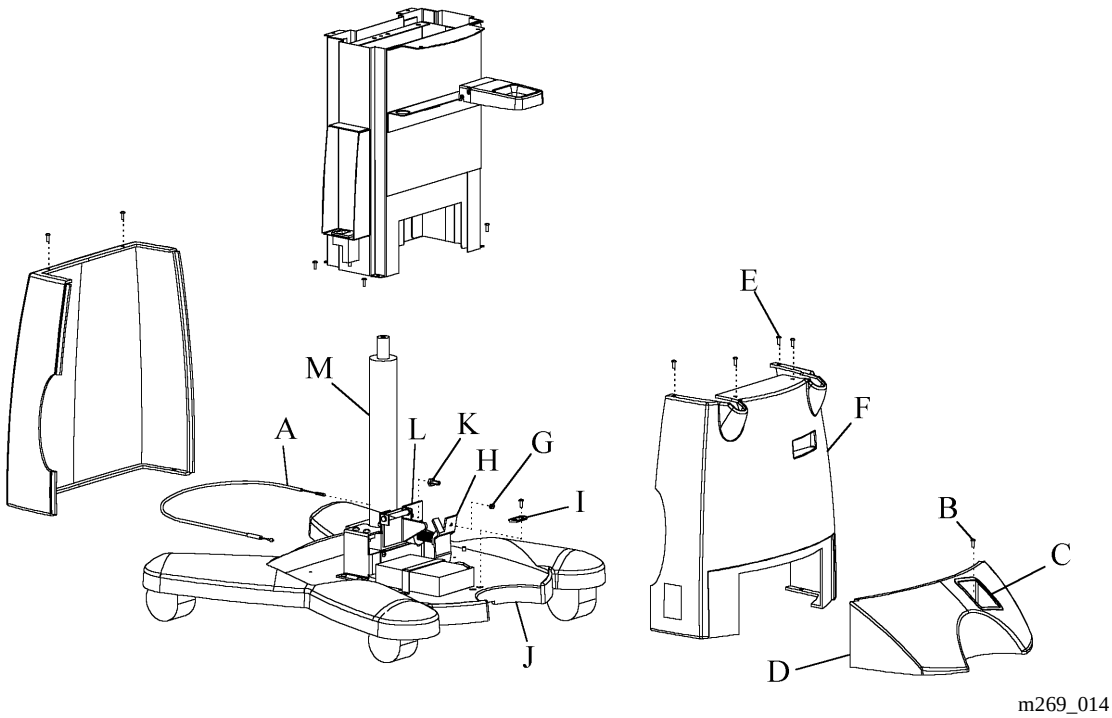
Tools required: Phillips head screwdriver
Adjustable wrench

Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury and equipment damage.

1. Unplug the unit from its power source.
2. Raise the head of the unit to its full height.
3. If the actuator cable (A) is damaged, manually lift the head section approximately 6" (15 cm).
4. Using a phillips head screwdriver, remove the screw (B) from the rod holder base (C) (see figure 4-4 on page 4-11).

Figure 4-4. Actuator Cable



5. Remove the battery cover (D).

6. Using a phillips head screwdriver, remove the four screws (E) and the base back cover (F).

WARNING:
The cable adjustment nut is under tension. Use caution when removing it from the plunger pivot arm. Failure to do so could result in personal injury and equipment damage.

7. Using an adjustable wrench, remove the cable adjustment nut (G) from the plunger pivot arm (H).

8. Remove the retaining clip (I) from the base (J).

9. Using an adjustable wrench, remove the nut (K) from the right actuator support (L).

10. Remove the actuator cable (A).

Replacement

1. Position the actuator cable (A) around the actuator (M).

2. Route the non-threaded end of the actuator cable (A) through the base (J).

3. Install the actuator cable (A) and the retaining clip (I) to the base (J).

4. Using an adjustable wrench, install the threaded end of the actuator cable (A) and the nut (K) to the right actuator support (L).

5. Draw the remaining length of the actuator cable (A) through the hole in the plunger pivot arm (H).

6. Compress the plunger pivot arm (H), and using an adjustable wrench, install the cable adjustment nut (G).

7. Using a phillips head screwdriver, install the base back cover (F) and the four screws (E).

8. Install the battery cover (D).

9. Using a phillips head screwdriver, install the screw (B) in the rod holder base (C).

10. Plug the unit into an appropriate power source.

Adjustment

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury and equipment damage.

1. Unplug the unit from its power source.
2. Raise the head of the unit to its full height.
3. Remove the screw (B) from the rod holder base (C) (see figure 4-4 on page 4-11).
4. Remove the battery cover (D).
5. Remove the four screws (E) and the base back cover (F).
6. Turn the cable adjustment nut (G) clockwise to tighten the actuator cable (A), or counterclockwise to loosen the actuator cable (A).
7. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.5 Remote Control Retractor

Tools required: Phillips head screwdriver

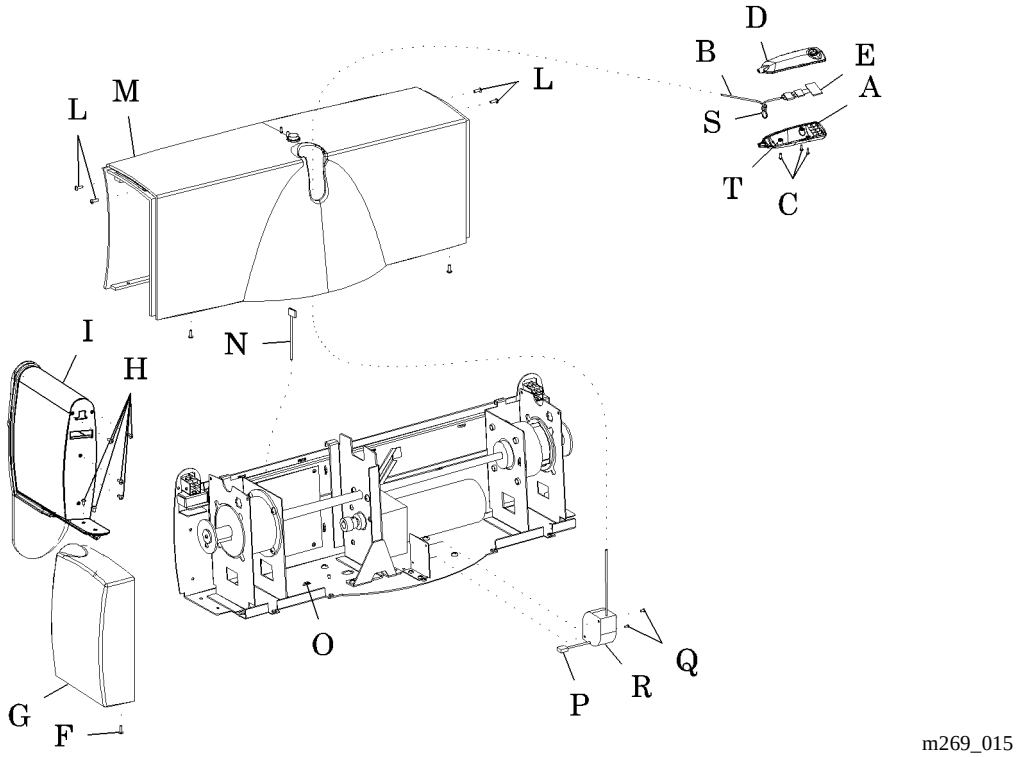
Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.

2. Pull the remote control (A) out of the unit to obtain slack in the retractor cord (B) (see figure 4-5 on page 4-14).

Figure 4-5. Remote Control Retractor



3. Using a phillips head screwdriver, remove the three screws (C), and separate the top remote control casing (D) from the remote control (A).

4. Unplug the retractor cord (B) from the membrane switch (E).

5. Raise the head of the unit to its full height.

6. Using a phillips head screwdriver, remove the screw (F) that secures each end cap (G) to the head of the unit.

7. Remove the two end caps (G) from the head of the unit.

8. Using a phillips head screwdriver, remove the six screws (H) that secure each bumper extension (I) to the head of the unit.

9. Remove the two bumper extensions (I) from the head of the unit.

10. Using a phillips head screwdriver, remove the 12 screws (L) that connect the top shell (M) to the head of the unit.

CAUTION:
Before the top shell is completely removed from the unit, the power on-board cable must be unplugged from the head of the unit. Failure to do so could result in equipment damage.

11. To partially remove the top shell (M) from the head of the unit, flex the top shell (M) out and up to disengage it.

12. Unplug the power-on board cable (N) from the circuit board (O).

13. Feed the retractor cord (B) down through the hole in the top shell (M).

14. Completely remove the top shell (M) from the unit.

15. Disconnect the retractor wire (P) from the circuit board (O).

16. Using a phillips head screwdriver, remove the two screws (Q) and the retractor (R).

Replacement

1. Using a phillips head screwdriver, install the retractor (R) and the two screws (Q).

2. Connect the retractor wire (P) to the circuit board (O).

3. Pull the retractor cord (B) out of the retractor (R), and feed it up through the hole in the top shell (M).

4. Position the top shell (M) on the unit.

5. Plug the power-on board cable (N) into the circuit board (O).

6. Install the top shell (M).

7. Using a phillips head screwdriver, install the 12 screws (L).

8. Using a phillips head screwdriver, install the bumper extensions (I) and the six screws (H) that secure each bumper extension (I).

9. Raise the head of the unit to its full height.

10. Using a phillips head screwdriver, install the end caps (G) and the screws (F).

11. Plug the retractor cord (B) into the membrane switch (E).

CAUTION:
The square knot loop in the retractor cord must be placed over the plastic boss in the remote control casing. Failure to do so could place strain on the retractor cord connection in the remote control, resulting in equipment damage.

12. Install the square knot loop (S) in the retractor cord (B) over the plastic boss (T) in the remote control (A).

13. Assemble the top remote control casing (D) to the remote control (A).

14. Using a phillips head screwdriver, install the three screws (C).

15. Plug the unit into an appropriate power source.

16. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.6 Battery

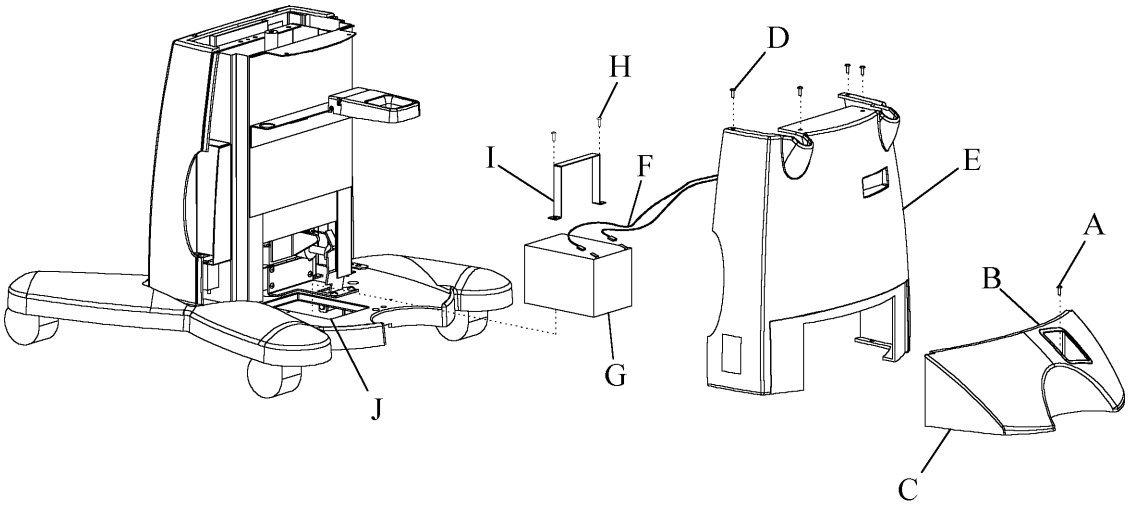
Tools required: Phillips head screwdriver

Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury and equipment damage.

1. Unplug the unit from its power source.
2. Using a phillips head screwdriver, remove the screw (A) from the rod holder base (B) (see figure 4-6 on page 4-17).

Figure 4-6. Battery



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3. Remove the battery cover (C).
4. Raise the head of the unit to its full height.
5. Using a phillips head screwdriver, remove the four screws (D).
6. Remove the base back cover (E) by tilting it back and pulling it up.

7. Disconnect the wires (F) from the battery (G).
8. Using a phillips head screwdriver, remove the two screws (H) and the battery strap (I).
9. Remove the battery (G) from the battery slot (J).

Replacement

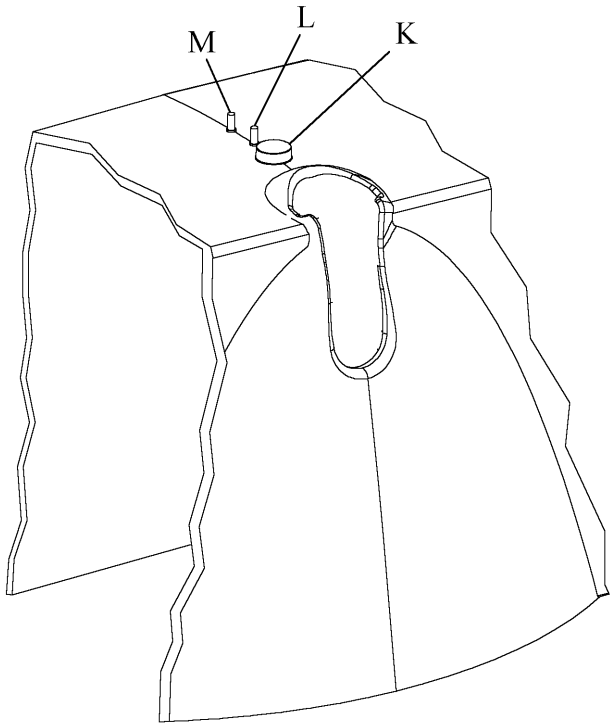
1. Install the battery (G) in the battery slot (J).
2. Using a phillips head screwdriver, install the battery strap (I) and the two screws (H).

CAUTION:
Connect the wires securely to the battery. Failure to do so will result in improper charging of the battery.

CAUTION:
Connect the wires to the proper battery terminals. Failure to do so will blow the in-line fuse adjacent to the battery.

3. Connect the wires (F) to the battery (G) securely.
   a. Connect the red wire with the blue connector (+) to the red terminal.
   b. Connect the black wire with the double connector (-) to the black terminal.
4. Perform the following to test the battery (G):
   a. Press the main power button (K) on top of the unit (see figure 4-7 on page 4-19).
   b. View the indicators (L and M).
      - If the green on/standby indicator (L) is lit, proceed to step 5.
      - If the green on/standby indicator (L) is not lit, return to step 3 and verify that the wires were connected to the battery correctly.
      - If the amber recharge indicator (M) is flashing, complete the replacement procedure, and then charge the battery. See “Charging the Battery” on page 6-6.

Figure 4-7. Battery Indicators



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5. Using a phillips head screwdriver, install the base back cover (E) and the four screws (D) (see figure 4-6 on page 4-17).

6. Install the battery cover (C).

7. Using a phillips head screwdriver, install the screw (A) in the rod holder base (B).

8. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.7 Battery Charger

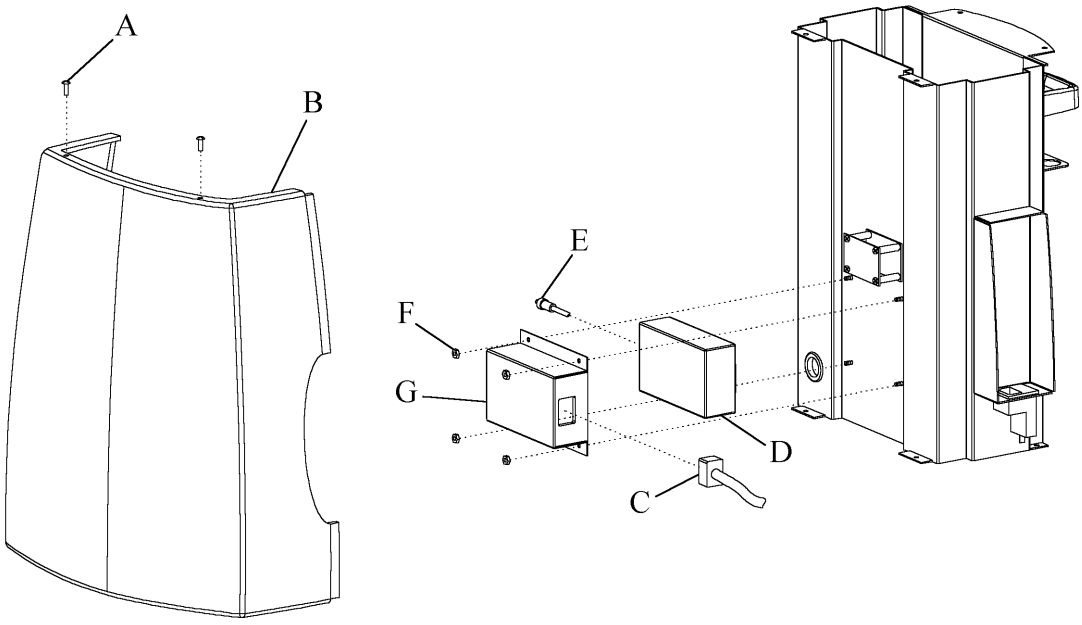
Tools required: Phillips head screwdriver
Adjustable wrench

Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.
2. Raise the head of the unit to its full height.
3. Using a phillips head screwdriver, remove the screws (A) and the base front cover (B) (see figure 4-8 on page 4-20).

Figure 4-8. Battery Charger



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4. Unplug the input connector (C) from the battery charger (D).
5. Unplug the output connector (E) from the battery charger (D).

6. Using an adjustable wrench, remove the four nuts (F) and the battery charger casing (G).

7. Remove the battery charger (D).

Replacement

1. Install the battery charger (D).

2. Using an adjustable wrench, install the battery charger casing (G) and the four nuts (F).

3. Plug the output connector (E) into the battery charger (D).

4. Plug the input IEC connector (C) into the battery charger (D).

5. Using a phillips head screwdriver, install the base front cover (B) and the screws (A).

6. Plug the unit into an appropriate power source.

7. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.8 In-Line Fuse

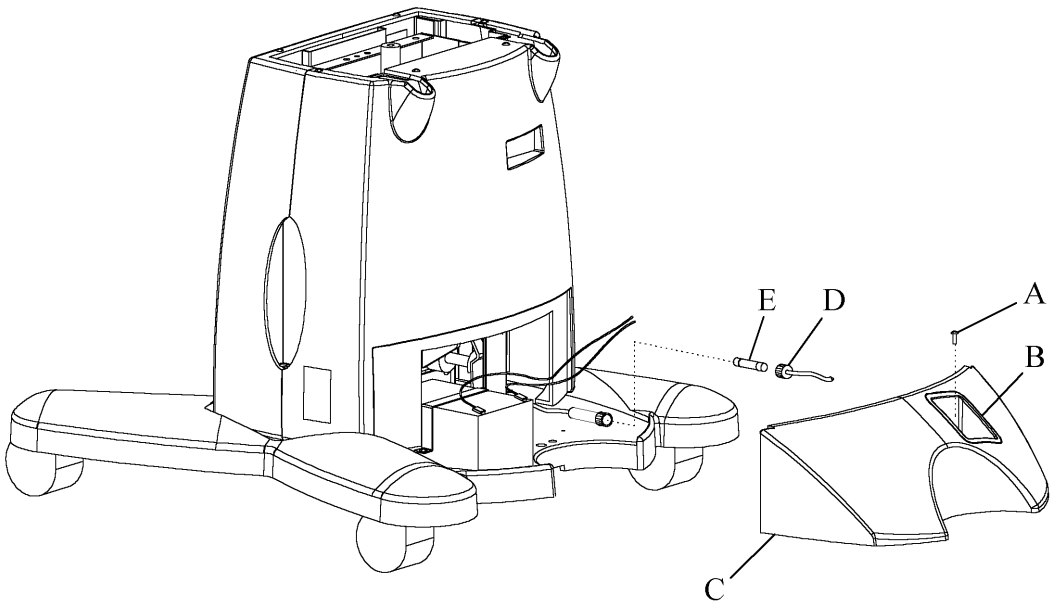
Tools required: Phillips head screwdriver

Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.
2. Using a phillips head screwdriver, remove the screw (A) from the rod holder base (B) (see figure 4-9 on page 4-22).

Figure 4-9. In-Line Fuse



m269_019

3. Remove the battery cover (C).
4. Remove the fuse cover (D).
5. Remove the fuse (E).

Replacement

1. Install the fuse (E).
2. Install the fuse cover (D).
3. Install the battery cover (C).
4. Using a phillips head screwdriver, install the screw (A) in the rod holder base (B).
5. Plug the unit into an appropriate power source.
6. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.9 AC Fuse Receptacle

Tools required: Small screwdriver

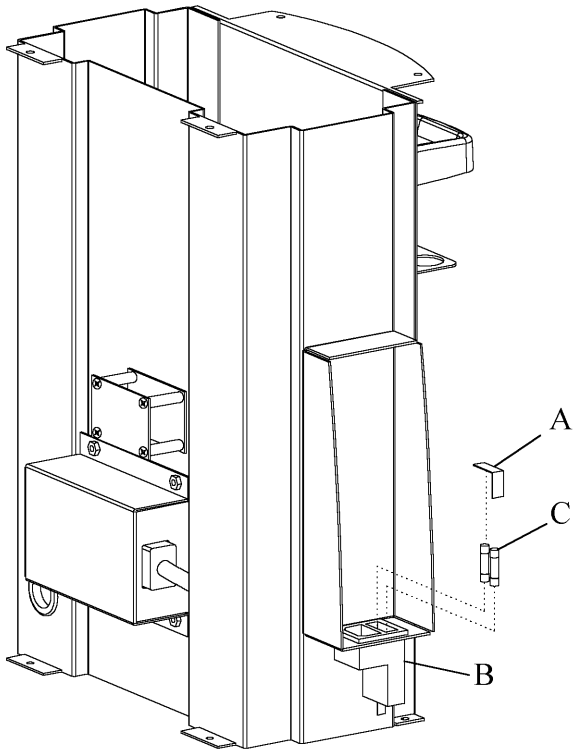
Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.

2. Using a small screwdriver, gently pry under the tab of the fuse holder (A) to remove it from the AC receptacle (B) (see figure 4-10 on page 4-24).

Figure 4-10. AC Fuse Receptacle



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3. Remove the fuses (C) from the fuse holder (A).

Replacement

1. Install the fuses (C) in the fuse holder (A).

2. Install the fuse holder (A) in the AC receptacle (B).
3. Plug the unit into an appropriate power source.
4. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

4.10 Bumper Extension

Tools required: Small phillips head screwdriver
Phillips head screwdriver
Small wire cutter

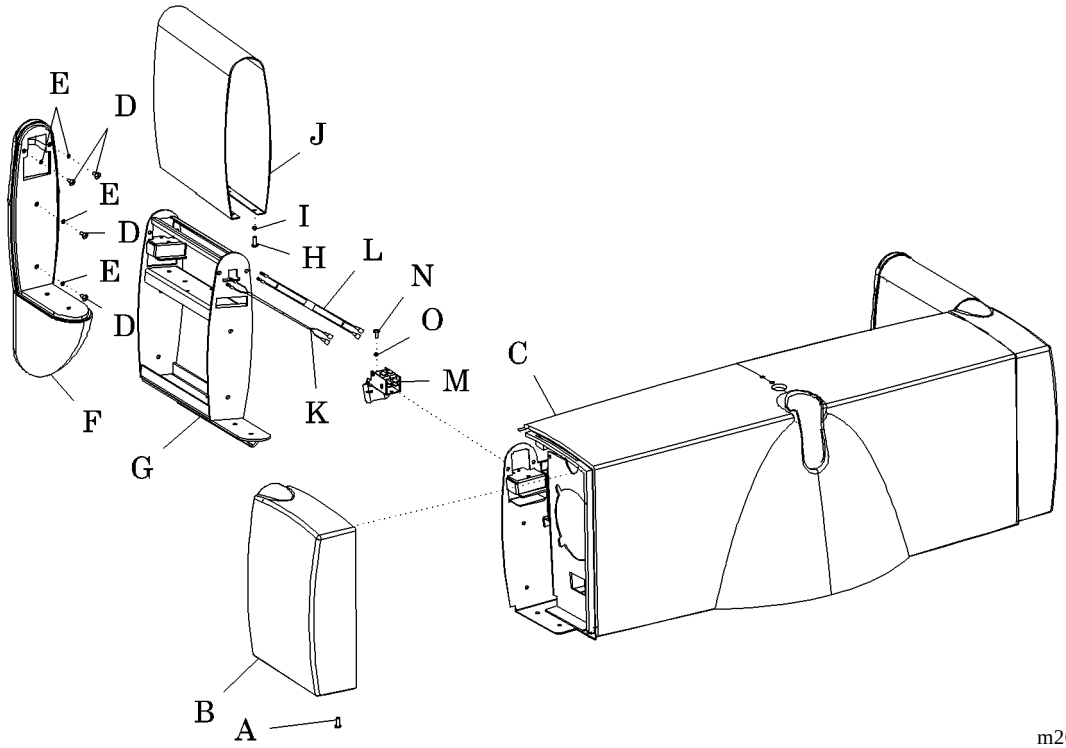
Removal

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

1. Unplug the unit from its power source.

2. Using a phillips head screwdriver, remove the screw (A) that secures the end cap (B) to the head of the unit (C) (see figure 4-11 on page 4-26).

Figure 4-11. Bumper Extension



3. Remove the end cap (B) from the head of the unit (C).

4. Using a phillips head screwdriver, remove the four screws (H) and four external tooth washers (I) that secure the bumper extension exterior shroud (J) to the bumper extension (G).

5. Remove the bumper extension exterior shroud (J) from the bumper extension (G).

6. Using a phillips head screwdriver, remove the six screws (D) and six external tooth washers (E) that secure the bumper assembly (F) to the bumper extension (G).

7. Remove the webbing strap from the bumper extension (G) (refer to procedure 4.1).

8. Using small wire cutters, remove the cable ties that secure the cable #61 (K) and cable #11 (L) to the bumper extension (G).

9. Disconnect the cable #61 (K) and cable #11 (L) from the switch bracket (M) and the bumper extension (G).
   a. Disconnect the cable #61 (K) thin red wire from the bottom left proximity switch connector at the switch bracket (M).
   b. Disconnect the cable #61 (K) thin black wire from the top left proximity switch connector at the switch bracket (M).
   c. Disconnect the cable #11 (L) solid black wire from the bottom right proximity switch connector at the switch bracket (M).
   d. Disconnect the cable #11 (L) black and white wire from the top right proximity switch connector at the switch bracket (M).

10. Disconnect the cables from the head of the unit (C).
    a. Disconnect the heavy black wire from the cable #11 (L) black and white wire.
    b. Disconnect the medium black wire from the cable #11 (L) black wire.
    c. Disconnect the thin red wire from the cable #61 (K) thin red wire.
    d. Disconnect the thin black wire from the cable #61 (K) thin black wire.

11. Pull the cable #61 (K) and cable #11 (L) through the head of the unit (C) and bumper extension (G).

12. Using a phillips head screwdriver, remove the screw (N) and external tooth washer (O) that secure the switch bracket (M) to the bumper extension (F).

13. Remove the bumper extension (F) from the head of the unit (C).

Replacement

1. Perform the removal procedure in reverse order.

2. To ensure proper operation of the On3™ Lateral Transfer Device, perform the “Function Checks” on page 2-4.

Chapter 5
Parts List

Chapter Contents

5

NOTES:

Warranty

HILL-ROM, INC.
LIMITED WARRANTY

Hill-Rom, Inc. (Hill-Rom) has a long tradition of providing superior products and service to our customer. Our goal is "Total Customer Satisfaction". In that spirit, Hill-Rom is proud to offer the following warranty.

GENERAL WARRANTY (APPLICABLE UNLESS A SPECIFIC WARRANTY IS LISTED)

Hill-Rom warrants to the original purchaser that its products and replacement parts shall be free from defects in material and workmanship for a period of one (1) year from date of delivery. Hill-Rom's obligation under this warranty is expressly limited to supplying replacement parts and/or service for, or replacing, at its option, any product which is, in the sole discretion of Hill-Rom, found to be defective. In addition to the foregoing one year warranty, Hill-Rom warrants to the original purchaser that the frame and welds on its products will be free from structural defects for the life of the product. Any product upgrade or modification initiated by Hill-Rom does not affect the original product warranty.

SPECIFIC WARRANTIES

MATTRESS WARRANTIES

Hill-Rom warrants to the original purchaser that its mattress product shall be free from defects in material and workmanship for a period of two (2) years from date of delivery. However, electro mechanical mattress components (compressors, valves, printed circuit boards, hoses, and couplers) are covered by the general one (1) year warranty.

EXPENDABLES WARRANTIES

A sixty (60) day limited warranty from date of delivery applies to expendable parts such as cushions, coverlets, software diskettes, locator badge batteries, dome light incandescent bulbs, overhead fluorescent tubes, heating elements, temperature probes, filter sheets, and microspheres. This warranty is limited to replacement of the parts covered.

TO OBTAIN PARTS AND SERVICE

In the United States, call Hill-Rom Technical Support Department at (800) 445-3720, Monday through Friday. In Canada, call Hill-Rom Technical Support Department at (800) 267-2337, Monday through Friday. Outside the United States and Canada, call your authorized Hill-Rom Distributor. In order to expedite service, we request you furnish the following information: customer identification number, product model number, serial number, and description of problem. A qualified specialist will provide, via telephone (United States and Canada), or FAX (Outside the United States and Canada), troubleshooting assistance for facility personnel and provide necessary parts to make repairs. If troubleshooting determines the need for on-site technical service, a qualified service representative will be dispatched. Replacement of non-technical items will be the responsibility of the customer. If requested by Hill-Rom, products or parts for which a warranty claim is made shall be returned prepaid to Hill-Rom's factory.

OUT OF WARRANTY EXCHANGE POLICY

After the expiration of the original warranty, upon request, Hill-Rom will ship as a replacement, components such as selected: motors and printed circuit boards, for like units returned to Hill-Rom by the original purchaser at a substantial savings. Please call Hill-Rom Technical Support Department for current pricing.

PARTS AVAILABILITY POLICY

Hill-Rom will offer parts for new and remanufactured products for ten (10) years from date of sale; for communications products for five (5) years from date of sale.

Note: Some original component parts and assemblies may not be available; functional equivalents may be substituted.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OF PURPOSE. HILL-ROM'S OBLIGATION UNDER THESE WARRANTIES SHALL NOT INCLUDE ANY LIABILITY FOR LOSS OF PROFITS, DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES OR DELAYS. Some states, provinces, or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply. Any improper or negligent use, any alterations or repairs not in accordance with Hill-Rom's manuals or performed by others in such manner as in Hill-Rom's sole judgment affects the product materially and adversely, shall void these warranties. These warranties do not cover failures due to misuse, abuse, neglect, or lack of routine maintenance. No employee or representative of Hill-Rom is authorized to change these warranties in any way or grant any other warranty unless in writing and signed by a Hill-Rom officer. These warranties provide specific legal rights; but, there may be other available rights, which vary from state to state, province to province, or country to country.

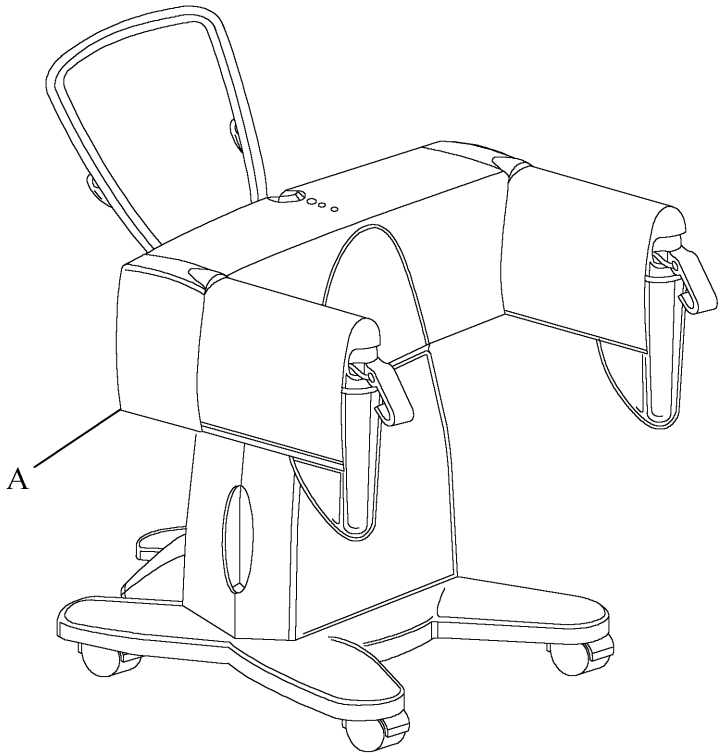
Revised October 20, 1998

NOTES:

Service Parts Ordering

Using the parts lists in this manual, identify the part number(s) you require. Find the product number and serial number on the product identification label (A) (see figure 5-1 on page 5-5).

Figure 5-1. Product Identification Label Location



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Call Hill-Rom Technical Support at (800) 445-3720 with the following information:

- Six-digit customer account number
- Purchase order number
- Product number
- Serial number
- Part number(s)

To promptly order parts, request part prices and availability, or follow up on a service order, use the following Hill-Rom fax number:

(812) 934-8472

Terms:

- Net 30 days
- F.O.B. Batesville, IN
- Prepaid shipping charges added to invoice
- All orders shipped UPS ground unless specified

Address all inquiries to:

ATTN TECHNICAL SUPPORT—PARTS
HILL-ROM COMPANY, INC.
1069 STATE ROUTE 46 E
BATESVILLE IN 47006-9167

Address all return goods to:

ATTN SERVICE STORES
DISTRIBUTION CENTER DOOR D23
HILL-ROM COMPANY, INC.
COUNTY ROAD 300E
BATESVILLE IN 47006-9167

NOTE:
To eliminate possible delays or incorrect billings, **do not** return any items without a Return Material Authorization (RMA) number. When a return is requested, an RMA packet is included with each order. This packet includes an RMA number, instructions, and a shipping label. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720.

Exchange Policy

The following are policies for in-warranty and out-of-warranty exchanges from Hill-Rom.

In-Warranty Exchanges

In some cases, Hill-Rom will request that parts/products be returned for inspection. When this occurs, you are expected to return parts/products within 30 days of receipt of the exchange part. If you fail to return the inoperative parts/products within the 30 day period, Hill-Rom will invoice your facility for the full selling price of the parts/products.

NOTE:
The preceding billing procedure pertains **only** to parts/products that Hill-Rom requests to be returned.

In some cases, the invoice accompanying the parts will show the full selling price (only for internal use at Hill-Rom). Do not confuse this price with your price.

Do not return any parts without an RMA number. When parts/products have been requested to be returned, Hill-Rom will include an RMA packet with the parts/products shipment. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720.

Out-of-Warranty Exchanges

You are expected to return the inoperative parts/products within 30 days of receipt of the exchange part. Hill-Rom will include an RMA packet with the parts/products shipment. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720. Hill-Rom will invoice your facility for the full selling price of the parts/products. Upon return of the inoperative parts/products, Hill-Rom will issue a credit for **the difference between the exchange price and the full selling price of the parts/products**.

Recommended Spare Parts

For a recommended spare parts list to service five or more units, see table 5-1 on page 5-8.

Table 5-1. Recommended Spare Parts

Part Number	Quantity	Description
RPT1001 (652)	4	Spacer
RPT1031 (652)	2	Pivot door
RPT1032 (652)	1	Remote control bottom
RPT1033 (652)	1	Remote control top
RPT1041 (652)	1	Rod holder, midway
RPT1055 (652)	2	Clamp
RPT1058 (652)	2	Power cord, 36" (91 cm)
RPT1061 (652)	1	Actuator cable
RPT1063 (652)	4	Webbing strap
RPT1080 (652)	1	Retractor assembly
RPT1127 (652)	1	Caster
RPT1132 (652)	2	Membrane switch
RPT1134 (652)	2	Joint connector bolt
RPT1135 (652)	2	Proximity switch, low amp
RPT1136 (652)	2	Joint connector nut
RPT1137 (652)	2	Proximity switch, high amp
RPT1141 (652)	4	Torsion spring
RPT1190 (652)	2	Low socket head drum screw, M5 x 0.8 x 60
RPT1191 (652)	8	Elastic cord
RPT1030 (652)	1	Drum
RPT1138 (652)	1	LTD tool box

NOTES:

Base

Figure 5-2. Base

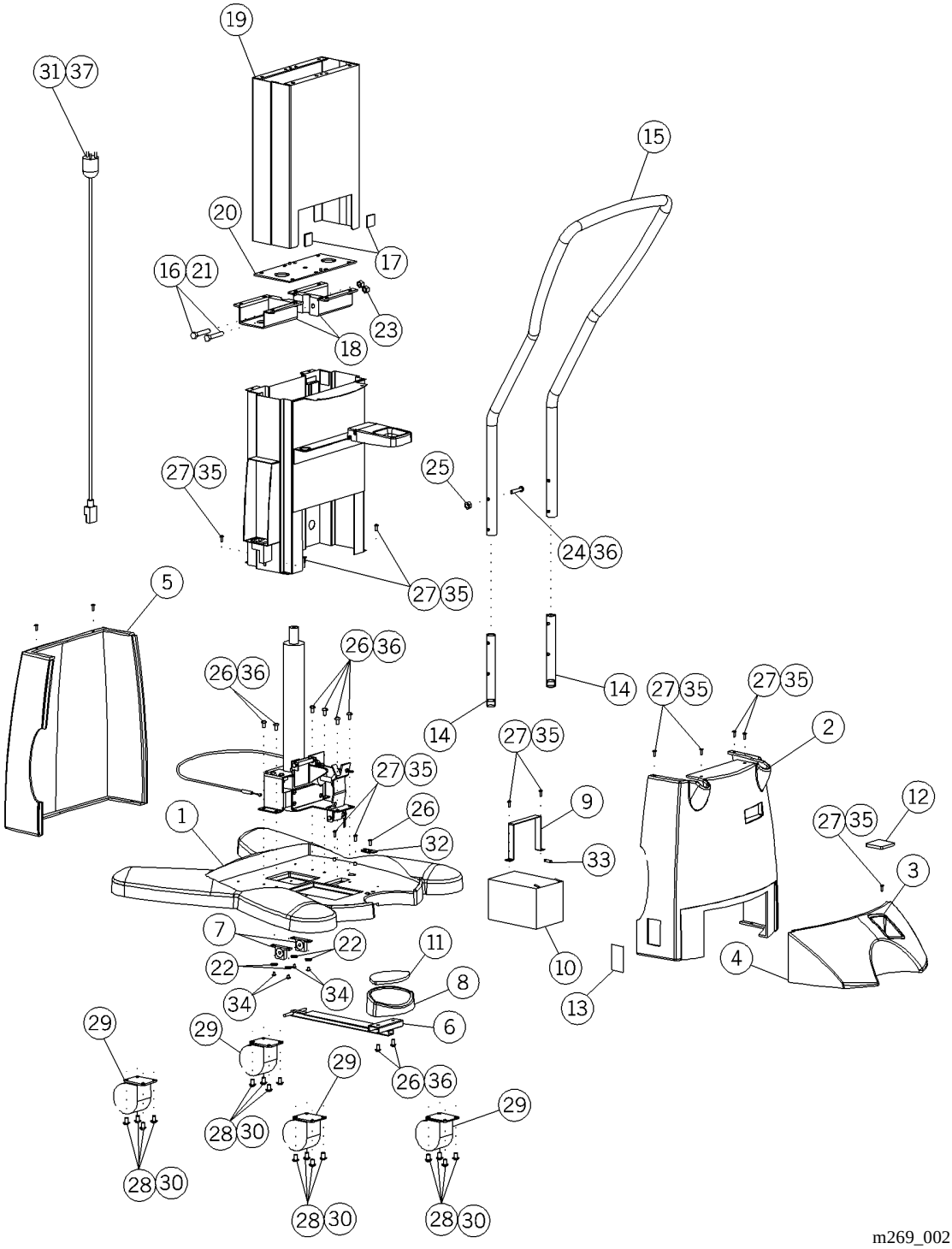

Table 5-2. Base

Item Number	Part Number	Quantity	Description
1	RPT1003 (652)	1	Base
2	RPT1046 (652)	1	Back cover, base
3	RPT1040 (652)	1	Rod holder, base
4	RPT1045 (652)	1	Battery cover
5	RPT1047 (652)	1	Front cover, base
6	RPT1018 (652)	1	Bracket lever pedal
7	RPT1143 (652)	2	Pedal pivot bearing
8	RPT1004 (652)	1	Foot pedal
9	RPT1023 (652)	1	Battery strap
10	RPT1101 (652)	1	Battery
11	RPT1067 (652)	1	Foot pedal rubber
12	RPT1065 (652)	1	Rod holder base rubber
13	RPT1066 (652)	1	Label
14	RPT1024 (652)	2	Handle support
15	RPT1021 (652)	1	Handle
16	RPT1183 (652)	2	External tooth washer, M10
17	RPT1019 (652)	2	Wear strip
18	RPT1012 (652)	2	Hat section
19	RPT1013 (652)	1	Trunk skirt
20	RPT1014 (652)	1	Plate top skirt
21	RPT1186 (652)	2	Hex bolt, M10 x 1.5 x 60
22	RPT1188 (652)	4	Flat washer, M4
23	RPT1171 (652)	2	Nut, M10 x 1.5
24	RPT1167 (652)	4	PPH screw, M6 x 1 x 40
25	RPT1163 (652)	4	Nut, M6 x 1
26	RPT1164 (652)	9	PPH screw, M6 x 1 x 12
27	RPT1157 (652)	15	PPH screw, M4 x 0.07 x 12
28	RPT1182 (652)	16	External tooth washer, M8
29	RPT1127 (652)	4	Caster
30	RPT1168 (652)	16	PPH screw, M8 x 1.25 x 12
31	RPT1058 (652)	1	Power cord, 36" (91 cm)

Item Number	Part Number	Quantity	Description
32	RPT1199 (652)	1	Cable retaining clip
33	RPT1145 (652)	1	Fuse, F15A 32VL
34	RPT1187 (652)	4	PPH screw, M4 x 0.07 x 8
35	RPT1179 (652)	14	External tooth washer, M4
36	RPT1181 (652)	13	External tooth washer, M6
37	RPT1058C (652)	1	Power cord, 60" (152 cm)

NOTES:

Trunk

Figure 5-3. Trunk

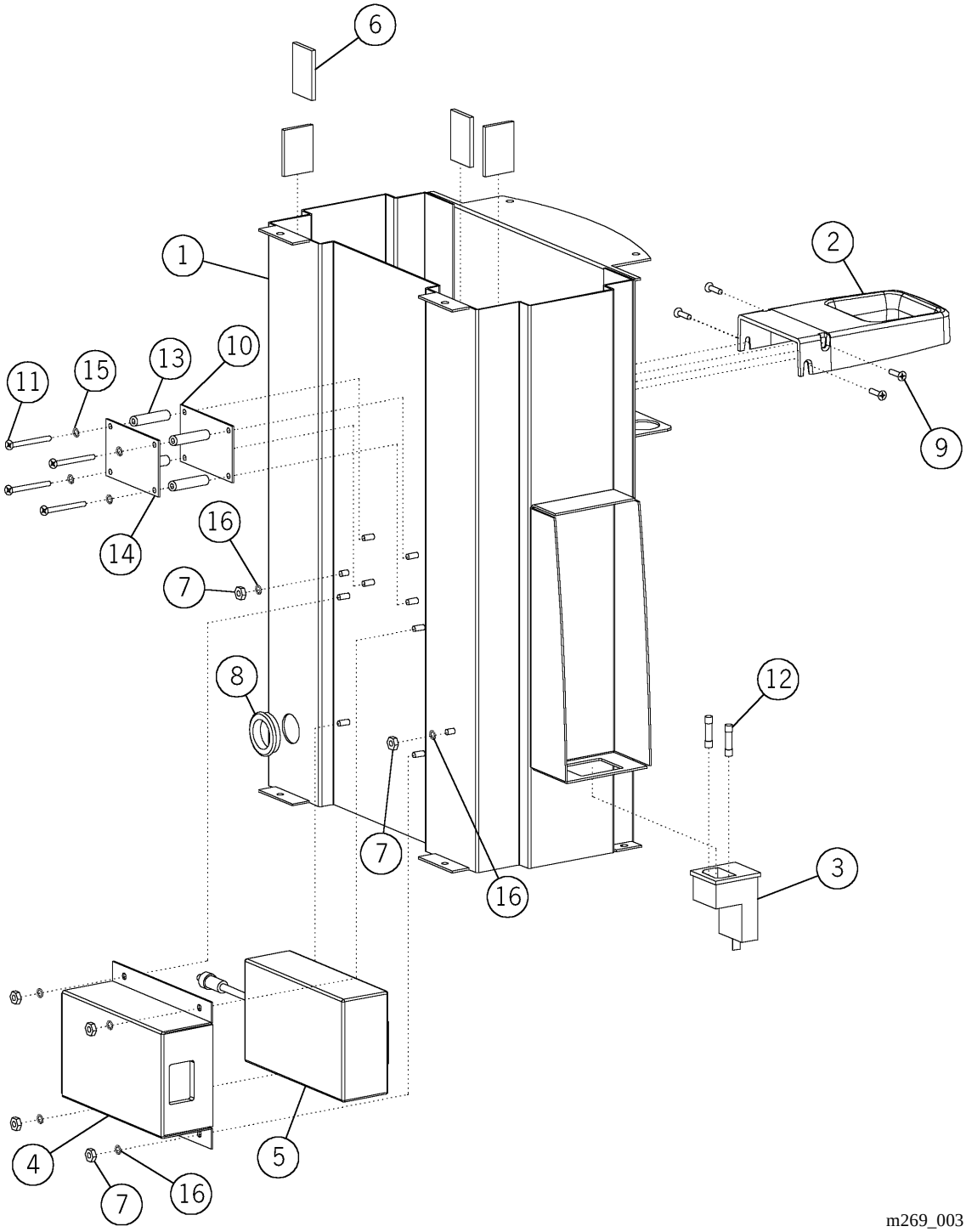

Table 5-3. Trunk

Item Number	Part Number	Quantity	Description
1	RPT1011 (652)	1	Bottom frame weldment
2	RPT1041 (652)	1	Rod holder, midway
3	RPT1076 (652)	1	Receptacle assembly
4	RPT1020 (652)	1	Battery charger cover
5	RPT1100 (652)	1	Battery charger
6	RPT1019 (652)	4	Wear strip
7	RPT1160 (652)	6	Nut, M4 x 0.7
8	RPT1176 (652)	1	Grommet
9	RPT1158 (652)	4	PFH screw, M3.5 x 0.6 x 12
10	RPT1107 (652)	1	AC sensor board
11	RPT1169 (652)	4	PPH screw, M3 x 0.5 x 45
12	RPT1146 (652)	2	Fuse, TIA 250V L 2
13	RPT1170 (652)	4	Spacer, M3 x 30
14	RPT1069 (652)	1	Cover
15	RPT1177 (652)	4	External tooth washer, M3
16	RPT1179 (652)	6	External tooth washer, M4

Actuator

Figure 5-4. Actuator

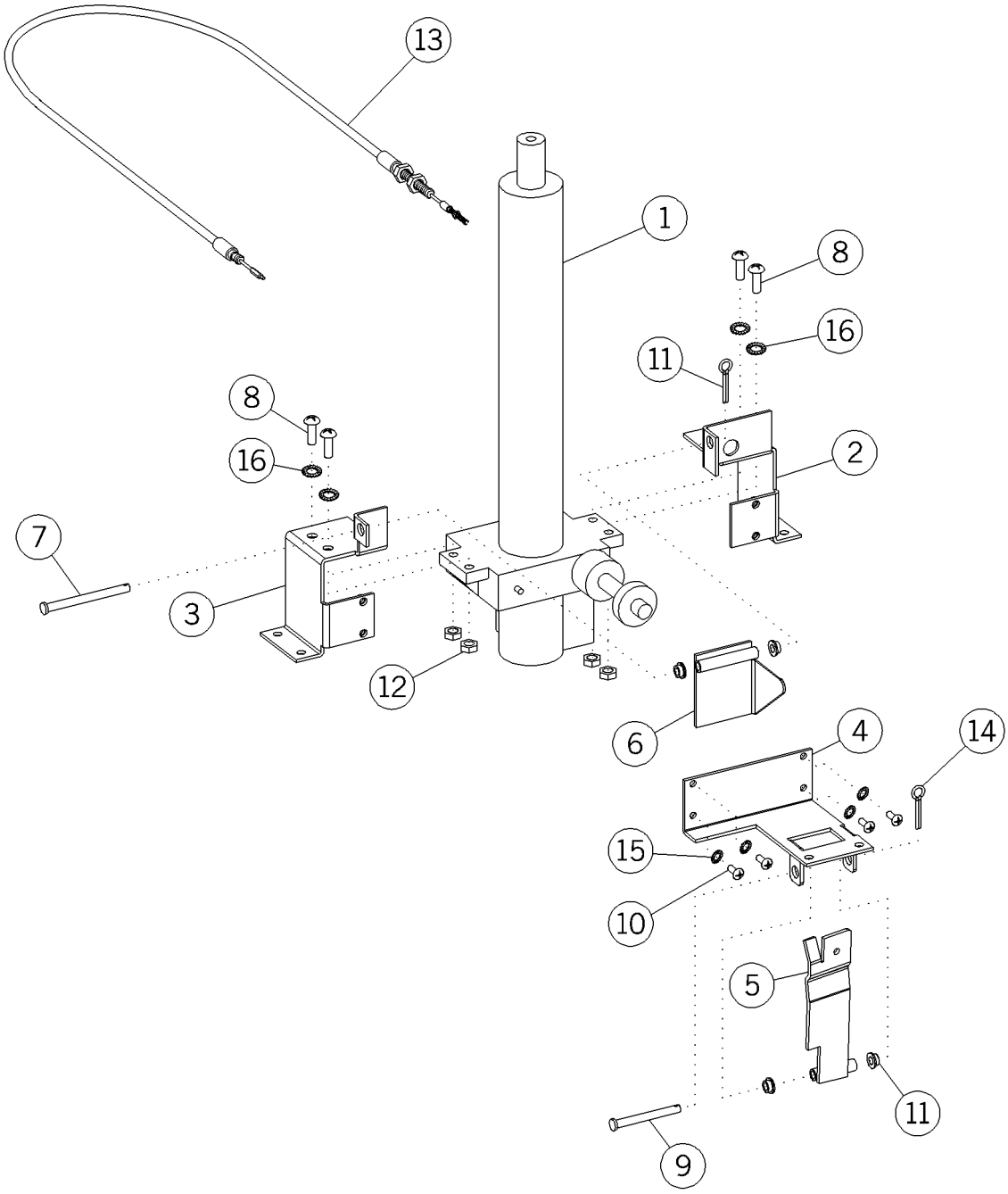

Table 5-4. Actuator

Item Number	Part Number	Quantity	Description
1	RPT1104 (652)	1	Actuator
2	RPT1007 (652)	1	Right actuator support
3	RPT1006 (652)	1	Left actuator support
4	RPT1008 (652)	1	Bracket, plunger arm
5	RPT1002 (652)	1	Plunger pivot arm
6	RPT1009 (652)	1	Release pivot arm
7	RPT1028 (652)	1	Clevis pin, release
8	RPT1166 (652)	4	PPH screw, M6 x 1 x 25
9	RPT1027 (652)	1	Clevis pin, pivot
10	RPT1161 (652)	4	PPH screw, M5 x 0.8 x 12
11	RPT1148 (652)	4	Bushing
12	RPT1163 (652)	4	Nut, M6 x 1
13	RPT1061 (652)	1	Actuator cable
14	RPT1147 (652)	2	Cotter key
15	RPT1180 (652)	4	External tooth washer, M5
16	RPT1181 (652)	4	External tooth washer, M6

Head

Figure 5-5. Head

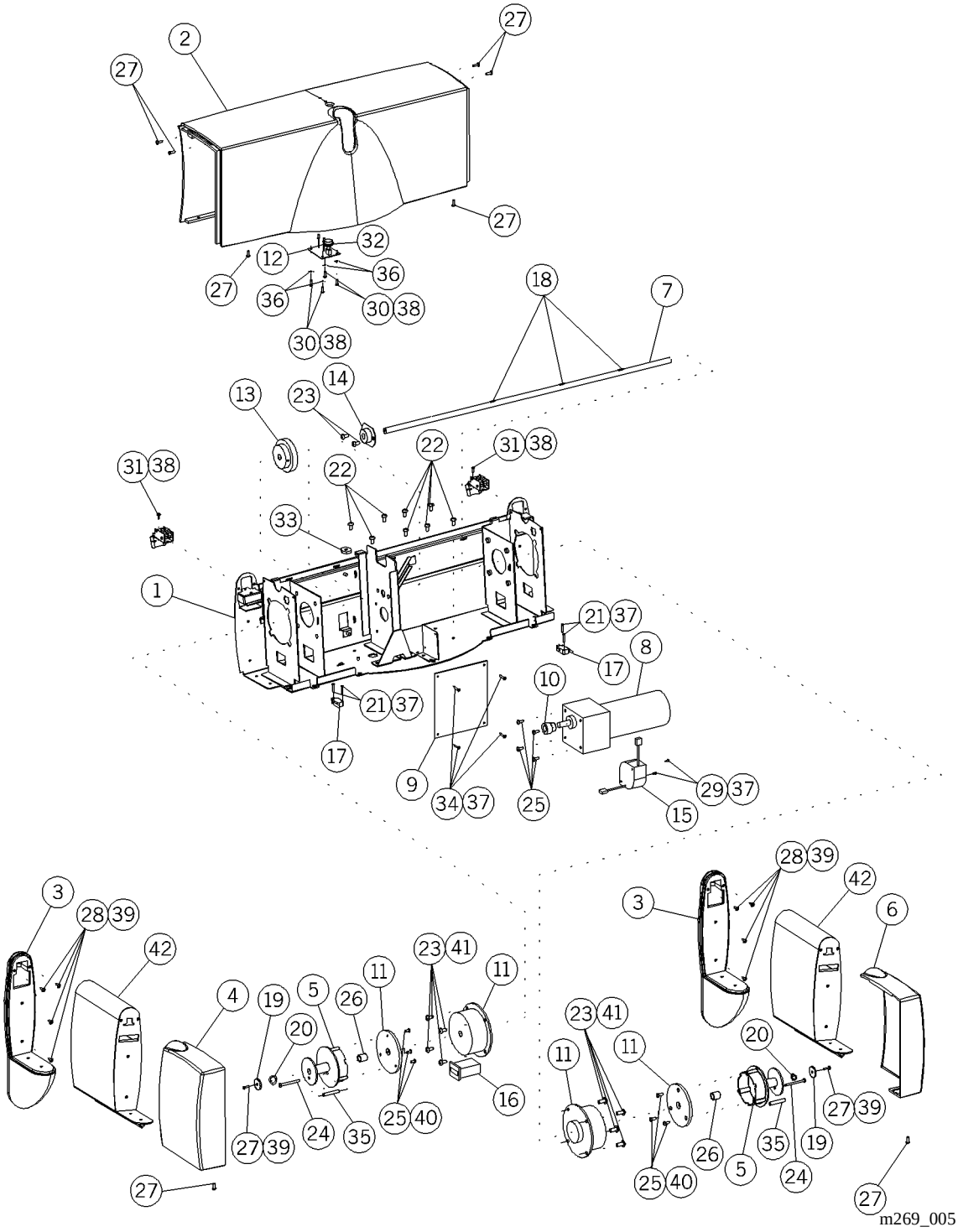

Table 5-5. Head

Item Number	Part Number	Quantity	Description
1	RPT1005 (652)	1	Top frame weldment
2	RPT1044 (652)	1	Top shell
3	RPT1016 (652)	2	Bumper assembly
4	RPT1042 (652)	1	End cap, left
5	RPT1030 (652)	2	Drum
6	RPT1043 (652)	1	End cap, right
7	RPT1015 (652)	1	Shaft
8	RPT1103 (652)	1	Motor
9	RPT1105 (652)	1	Logic board
10	RPT1121 (652)	1	Gear, motor
11	RPT1102 (652)	2	Clutch
12	RPT1106 (652)	1	Power on board
13	RPT1122 (652)	1	Gear, shaft
14	RPT1123 (652)	1	Shaft bearing
15	RPT1080 (652)	1	Retractor assembly
16	RPT1140 (652)	1	Counter
17	RPT1135 (652)	2	Proximity switch, low amp
18	RPT1173 (652)	3	Moon woodruff key, 1/8" x 1/2"
19	RPT1068 (652)	2	Washer, plastic
20	RPT1174 (652)	2	Wave washer
21	RPT1151 (652)	4	PPH screw, M3 x 0.5 x 16
22	RPT1165 (652)	8	PPH screw, M6 x 1 x 20
23	RPT1164 (652)	10	PPH screw, M6 x 1 x 12
24	RPT1190 (652)	2	Low socket head drum screw, M5 x 0.8 x 60
25	RPT1161 (652)	10	PPH screw, M5 x 0.8 x 12
26	RPT1160 (652)	2	Nut, M4 x 0.7
27	RPT1157 (652)	16	PPH screw, M4 x 0.7 x 12
28	RPT1156 (652)	12	PPH screw, M4 x 0.7 x 10
29	RPT1155 (652)	2	PPH screw, 4-40 x 1/4"
30	RPT1154 (652)	4	PPH screw, M3.5 x 0.6 x 12
31	RPT1153 (652)	2	PPH screw, M3.5 x 0.6 x 10

Item Number	Part Number	Quantity	Description
32	RPT1025 (652)	1	Power button
33	RPT1160 (652)	1	Nut, M4 x 0.7
34	RPT1172 (652)	4	PPH screw, M3 x 0.5 x 10
35	RPT1001 (652)	2	Spacer
36	RPT1189 (652)	4	Flat washer, M3
37	RPT1177 (652)	10	External tooth washer, M3
38	RPT1178 (652)	6	External tooth washer, M3.5
39	RPT1179 (652)	13	External tooth washer, M4
40	RPT1180 (652)	16	External tooth washer, M5
41	RPT1181 (652)	18	External tooth washer, M6
42	RPT1085 (652)	2	Bumper extension, cool gray

Bumper Extension

Figure 5-6. Bumper Extension

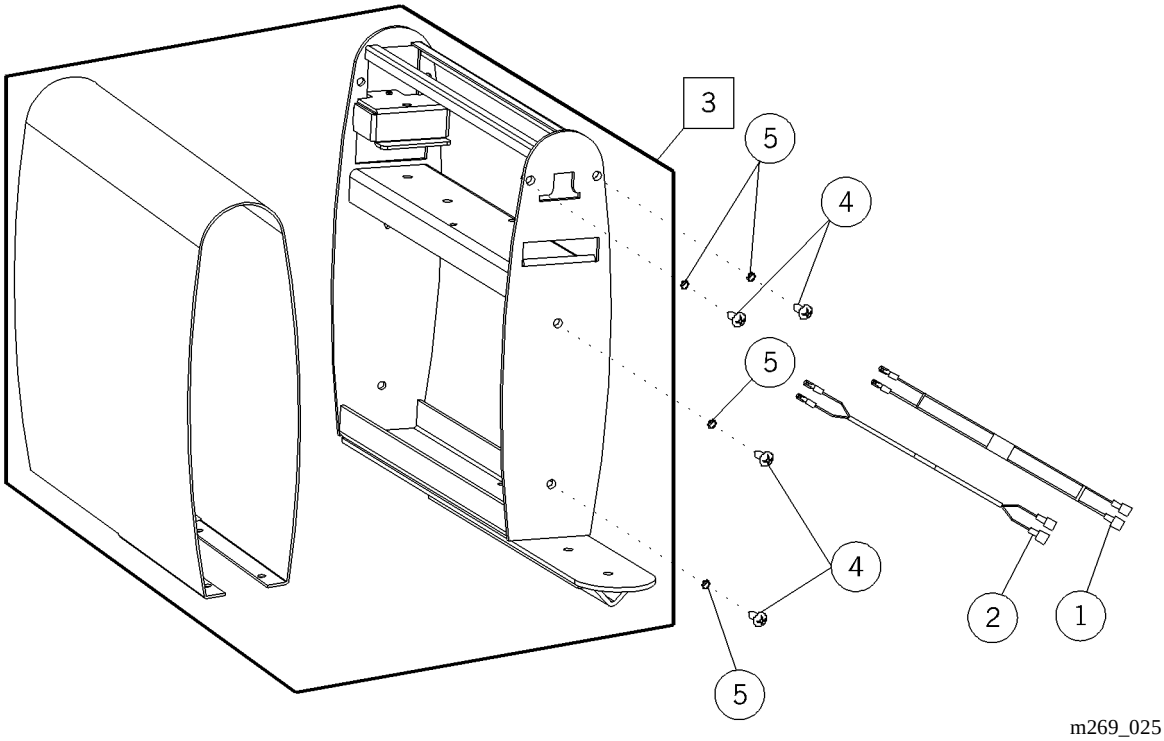

Table 5-6. Bumper Extension

Item Number	Part Number	Quantity	Description
1	RPT1083 (652)	1	Cable #11, rh/lh bumper extension cable
2	RPT1084 (652)	1	Cable #61, rh/lh bumper extension cable
3	RPT1085 (652)	1	Bumper extension, cool gray
4	RPT1156 (652)	10	PPH screw, M4 x 0.7 x 10
5	RPT1179 (652)	10	External tooth washer, M4

Switch

Figure 5-7. Switch

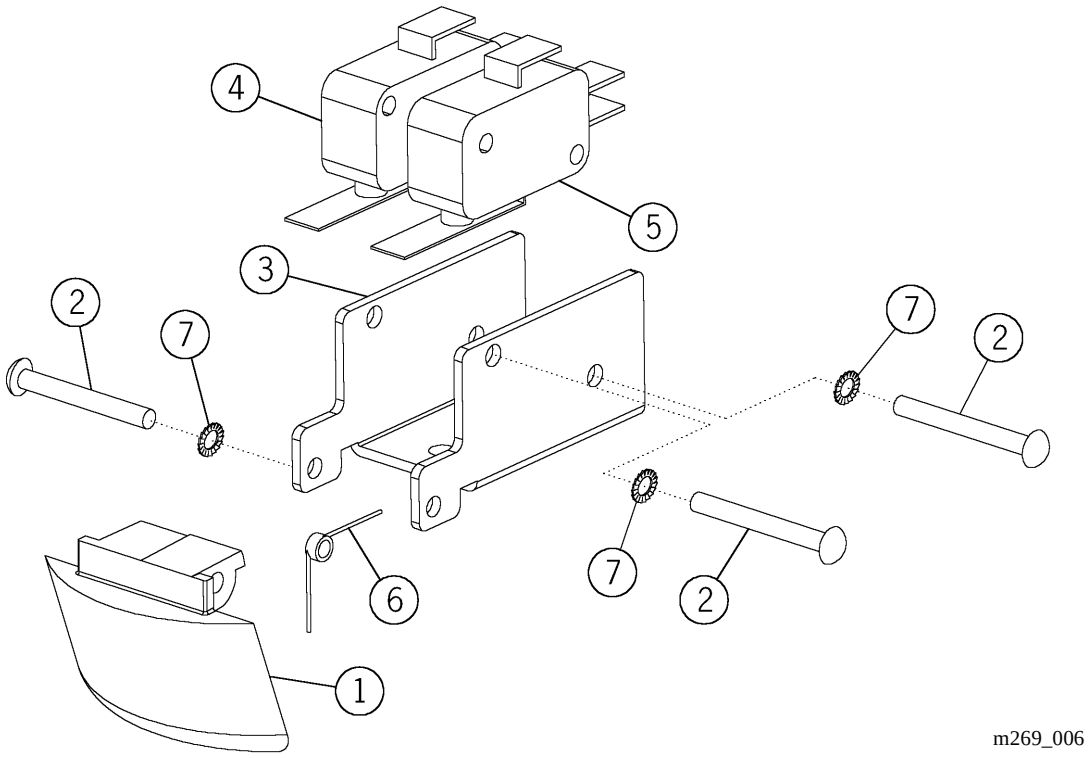

Table 5-7. Switch

Item Number	Part Number	Quantity	Description
1	RPT1031 (652)	1	Pivot door
2	RPT1152 (652)	3	PPH screw, M3 x 0.5 x 25
3	RPT1017 (652)	1	Switch bracket
4	RPT1137 (652)	1	Proximity switch, high amp
5	RPT1135 (652)	1	Proximity switch, low amp
6	RPT1141 (652)	1	Torsion spring
7	RPT1177 (652)	3	External tooth washer, M3

Webbing Strap

Figure 5-8. Webbing Strap

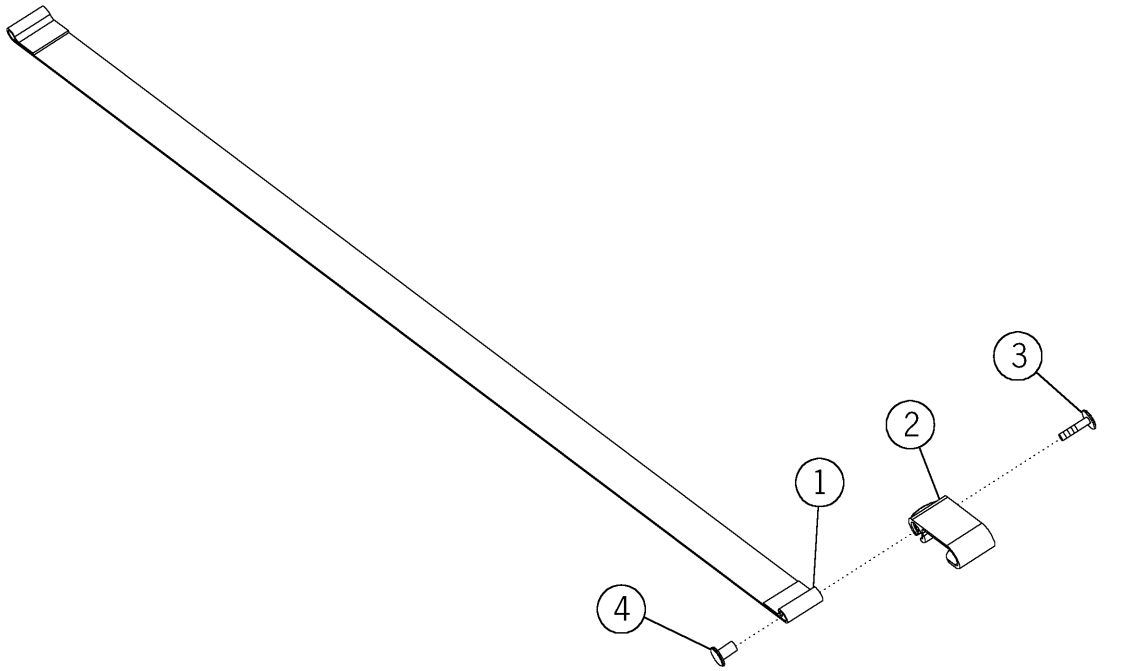

Table 5-8. Webbing Strap

Item Number	Part Number	Quantity	Description
1	RPT1063 (652)	2	Webbing strap
2	RPT1055 (652)	2	Clamp
3	RPT1134 (652)	2	Joint connector bolt
4	RPT1136 (652)	2	Joint connector nut

Remote Control

Figure 5-9. Remote Control

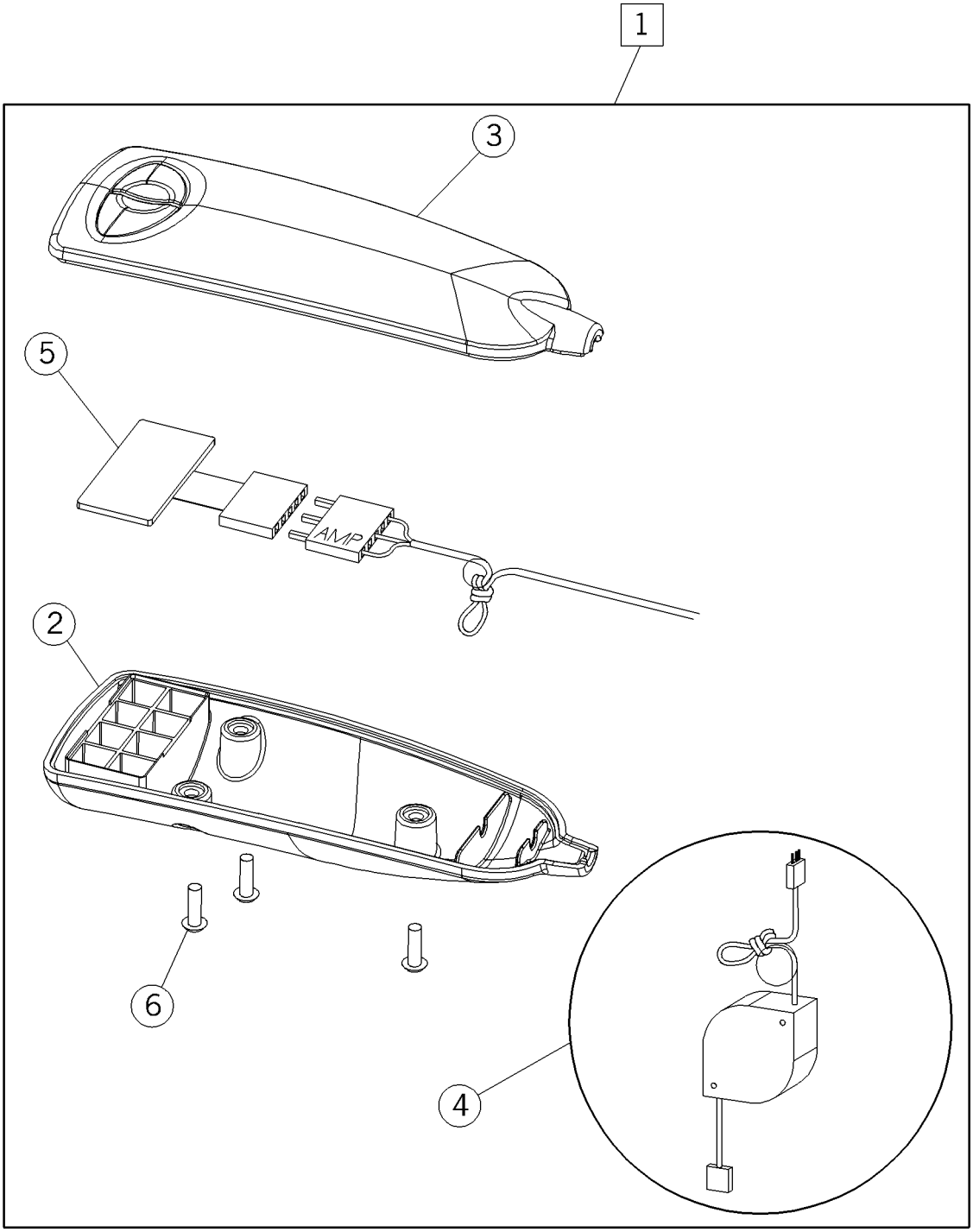

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Table 5-9. Remote Control

Item Number	Part Number	Quantity	Description
1	RPT1087 (652)	1	Pendant/retractor assembly
2	RPT1032 (652)	1	Remote control bottom
3	RPT1033 (652)	1	Remote control top
4	RPT1080 (652)	1	Retractor assembly
5	RPT1132 (652)	1	Membrane switch
6	RPT1185 (652)	3	Screw, self-tapping, M3 x 0.5 x 8

Transfer Rod

Figure 5-10. Transfer Rod

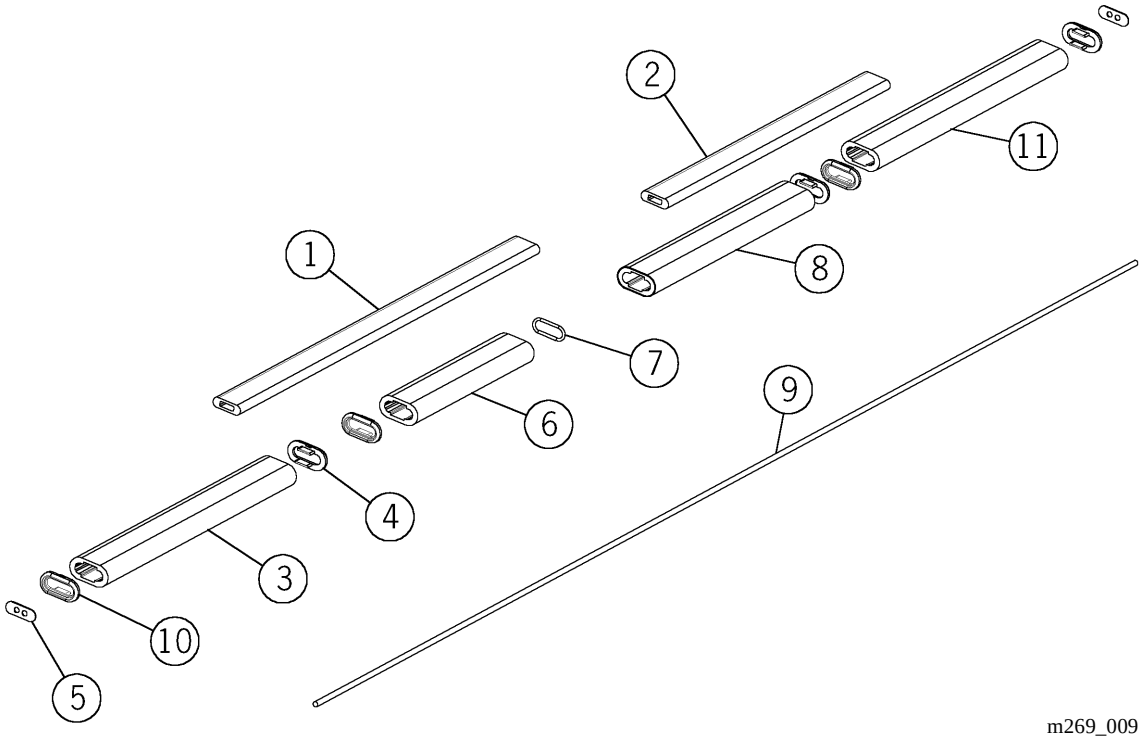

Table 5-10. Transfer Rod

Item Number	Part Number	Quantity	Description
1	RPT1053 (652)	1	Rod, 27" (69 cm)
2	RPT1054 (652)	1	Rod, 20" (51 cm)
3	RPT1050 (652)	1	Rod cover, 17" (43 cm)
4	RPT1057 (652)	5	Rod cap, gray
5	RPT1056 (652)	2	Cord plate
6	RPT1052 (652)	1	Rod cover, 10½" (26.67 cm)
7	RPT1144 (652)	1	O-ring
8	RPT1051 (652)	1	Broached rod cover, 14 3/8" (36.51 cm)
9	RPT1191 (652)	1	Elastic cord
10	RPT1059 (652)	2	Rod cap, yellow
11	RPT1049 (652)	1	Rod cover, 17" (43 cm), On3™ Lateral Transfer Device logo

Transfer Bridge

Figure 5-11. Transfer Bridge

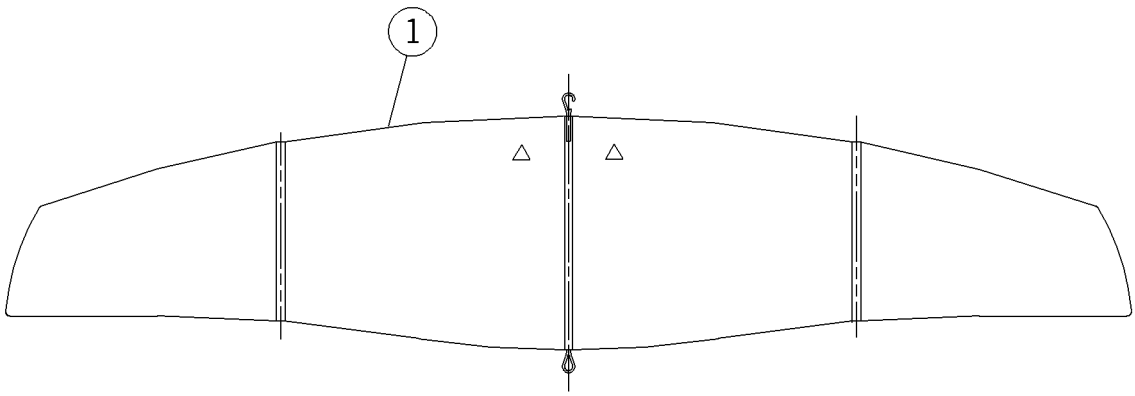

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Table 5-11. Transfer Bridge

Item Number	Part Number	Quantity	Description
1	LTD0500 (652)	1	Transfer bridge

NOTES:

Chapter 6
General Procedures

Chapter Contents

6

NOTES:

Cleaning and Care

WARNING:
Follow the product manufacturer's instructions. Failure to do so could result in personal injury or equipment damage.

WARNING:
Replace the webbing straps if they become frayed or soiled. Failure to do so could result in personal injury or equipment damage.

SHOCK HAZARD:
Unplug the unit from its power source. Failure to do so could result in personal injury or equipment damage.

SHOCK HAZARD:
Do not expose the unit to excessive moisture. Personal injury or equipment damage could occur.

CAUTION:
Do not use acetone-based cleaners to clean any part of the unit, including the transfer rod. Equipment damage could occur.

CAUTION:
Do not use harsh cleaners, solvents, or detergents. Equipment damage could occur.

General Cleaning

If the unit is soiled during a transfer, clean or replace the soiled component(s) immediately to prevent the possibility of infection transmission.

Clean the unit with a lightly dampened cloth and ordinary disinfectants. Do not use excessive liquid.

Do not use the unit if the webbing straps become frayed or soiled. For removal and replacement procedures, see "Webbing Strap" on page 4-3.

Steam Cleaning

Do not use any steam cleaning device on the On3™ Lateral Transfer Device. Excessive moisture can damage mechanisms in this unit.

Cleaning Hard to Clean Spots

To remove difficult spots or stains, use standard household cleaners and a soft bristle brush. To loosen heavy, dried-on soil or excreta, you may first need to saturate the spot.

Disinfecting

Dilute disinfectants and germicides as specified on the manufacturer's label.

Component Handling

CAUTION:
To prevent component damage, ensure that your hands are clean, and **only** handle the P.C. board by its edges.

CAUTION:
When handling electronic components, wear an antistatic strap. Failure to do so could result in component damage.

CAUTION:
For shipping and storage, place the removed P.C. board in an antistatic protective bag. Equipment damage can occur.

P.C. Board

When servicing the P.C. board, follow good handling practices. Mishandling a P.C. board can cause the following:

- P.C. board damage
- Shortened P.C. board life
- Unit malfunctions

Observe the following P.C. board handling rules:

- Ensure that hands are clean and free of moisture, oily liquids, etc.
- **Only** handle the P.C. board by its outer edges.
- Do not touch the P.C. board components. Finger contact with the board surface and/or with its components can leave a deposit that will result in board (and component) deterioration.
- When working with electronics, wear an appropriate antistatic strap, and ensure that it is properly grounded.
- Service the removed P.C. board at a static-free workstation that is properly grounded.
- For shipping and storage, place the removed P.C. board in an antistatic protective bag.

Charging the Battery

The battery shipped with the On3™ Lateral Transfer Device is charged and ready to use. When the battery needs recharging, the amber recharge indicator on the top of the unit will flash. For indicator configurations, see table 6-1 on page 6-6.

To charge the battery:

1. Plug the On3™ Lateral Transfer Device into an appropriate power source.

2. Allow the unit to remain plugged into the power supply until the green on/standby indicator begins flashing.

NOTE:
Charging can take up to 8 hours.

3. Unplug the unit from the power source.

4. If the unit will not be used for more than seven days, disconnect the connectors from the battery terminals in order to retain the charge. For the disconnection procedure, see “Battery” on page 4-17.

Table 6-1. Indicator Configurations

Indicator Configuration		On3™ Lateral Transfer Device Status
Green	**Amber**	
None	None	The battery is dead, or the unit is turned off.
Solid	None	The unit is ready to transfer, or a transfer is in progress.
None	Solid	The battery is recharging.
Flashing	None	The unit is fully charged and plugged into a power source.
None	Flashing	The battery needs recharged.
Solid	Flashing	The battery is low. The unit can be used to transfer, but recharge the battery as soon as possible.
Solid	Solid	Contact Hill-Rom Technical Support.
Flashing	Solid	Contact Hill-Rom Technical Support.
Flashing	Flashing	Contact Hill-Rom Technical Support.

Disposing of the Battery

WARNING:
Dispose of the battery in accordance with the proper disposal procedure as specified by the local regulating authority. Failure to do so could result in personal injury.

Dispose of the battery in accordance with the proper disposal procedure as specified by the local regulating authority.

Reading the Hour Meter

The On3™ Lateral Transfer Device is equipped with an hour meter that measures the total time the motor has run. The hour meter has six digits (00000.0), which enables it to measure in hours and tenths of an hour (or six minute increments).

To read the hour meter:

- If the hour meter reads 00004.2, the battery has run 4 h and 12 min.
- If the tenth indicator is half way between the 2 and 3, then the motor has run 4 h and 15 min.

To calculate the number of transfers:

- Each transfer takes 20 s to complete depending on the battery level, the amount of left and right motion, and the size of the bed. Therefore, roughly 12 to 18 transfers can be made in each tenth of an hour, or approximately 120 to 180 transfers can be made per hour.
- Based on a reading of 00004.2, the calculation would be as follows:
  4 h x 120 transfers per hour = 480 transfers
  0.2 h x 12 transfers per tenth of an hour = 24 transfers
  480 + 24 = 504 total number of transfers

Lubrication Requirements

WARNING:
Follow the product manufacturer's instructions. Failure to do so could result in personal injury or equipment damage.

CAUTION:
Do not use silicone-based lubricants. Equipment damage could occur.

Oilite®[1] bearings and bushings are utilized in several places on the system. By retaining oil, the pores give a self-lubricating quality to the bearings and bushings. If any silicone-based lubricant is applied to the bearings and bushings or anywhere else on the system, this self-lubricating quality is neutralized.

It is safe to apply the following lubricants to the system (see table 6-2 on page 6-8):

Table 6-2. Lubricants

Part Number	Description
8252 (100)	2 oz m-1 oil (apply to Oilite® bearings and bushings)
SA3351 (100)	4 oz lithium grease

1. Oilite® is a registered trademark of Beemer Precision, Incorporated.

Preventive Maintenance

WARNING:
Only facility-authorized personnel should perform preventive maintenance on the On3™ Lateral Transfer Device. Preventive maintenance performed by unauthorized personnel could result in personal injury or equipment damage.

The On3™ Lateral Transfer Device requires an effective maintenance program. We recommend that you perform semi-annual preventive maintenance (PM) and testing for Joint Commission on Accreditation of Healthcare Organizations (JCAHO). PM and testing not only meet JCAHO requirements but will help ensure a long, operative life for the On3™ Lateral Transfer Device. PM will minimize downtime due to excessive wear.

The following PM schedule guides the technician through a normal PM procedure on the On3™ Lateral Transfer Device. During this PM process, check each item on the schedule, and make the necessary adjustments.

Follow the PM schedule with the corresponding PM checklist. This checklist is designed to keep a running maintenance history and subsequent repair costs for one On3™ Lateral Transfer Device. However, your facility can modify this checklist or design another to fit your needs. Keeping close records and maintaining the On3™ Lateral Transfer Device are two effective ways to reduce downtime and ensure the patient remains comfortable.

Preventive Maintenance Schedule

Table 6-3. Preventive Maintenance Schedule

Function	Procedure
Motor	Lubricate motor gear. Check motor mounting screws for tightness.
Shaft	Lubricate shaft gear. Check shaft mounting screws for tightness.
Casters	Inspect the casters for wear and functionality. Replace as needed.
Wiring	Inspect the power cord and retractor assembly for exposed wires and wear. Ensure that the wiring is routed correctly, and no wires are pinched. Replace as needed.
Webbing straps	Inspect webbing straps for fraying, loose threads, and stains. Replace as needed.
Webbing strap drums	Inspect the webbing strap drums for cracks and wear. Check the low socket head drum screw for tightness. Replace as needed.
Transfer rod	Inspect the elastic cord in the transfer rod for wear. Inspect the transfer rod casing for cracks and wear. Replace as needed.
Transfer bridge	Inspect the transfer bridge for cleanliness and loose threads. Replace as needed.
Actuator assembly	Pump the foot pedal to test the actuator assembly for smooth operation. Tighten the actuator cable as needed.
Overall appearance	Inspect the condition of the labels, paint, and general aesthetics. Replace labels, touch-up paint, and clean as needed.

Preventive Maintenance Checklist

Table 6-4. Preventive Maintenance Checklist

Date																						**Function**
Hill-Rom	**Manufacturer**																					
																						Motor
																						Shaft
																						Casters
																						Wiring
																						Webbing straps
																						Webbing strap drums
																						Transfer rod
	Model Number																					Transfer bridge
																						Actuator assembly
	Serial Number																					
	Total Cost for this Page																					**Labor Time:**
																						Repair Cost:
																						Inspected by:
																						Legend L=Lube C=Clean A=Adjust R=Repair or Replace O=Okay N=Not Applicable Remarks:

Tool and Supply Requirements

To service the On3™ Lateral Transfer Device, the following tools and supplies are required:

- Phillips head screwdriver
- Small screwdriver
- Adjustable wrench
- 3 mm hex head key
- 4 mm hex head key
- 5 mm hex head key
- Self-locking pliers
- Knife or scissors
- Vise
- Cable ties
- Stiff wire with a loop on one end
- Voltmeter
- Blue Loctite®[1] adhesive

1. Loctite® is a registered trademark of Loctite Corporation.

Chapter 7
Accessories

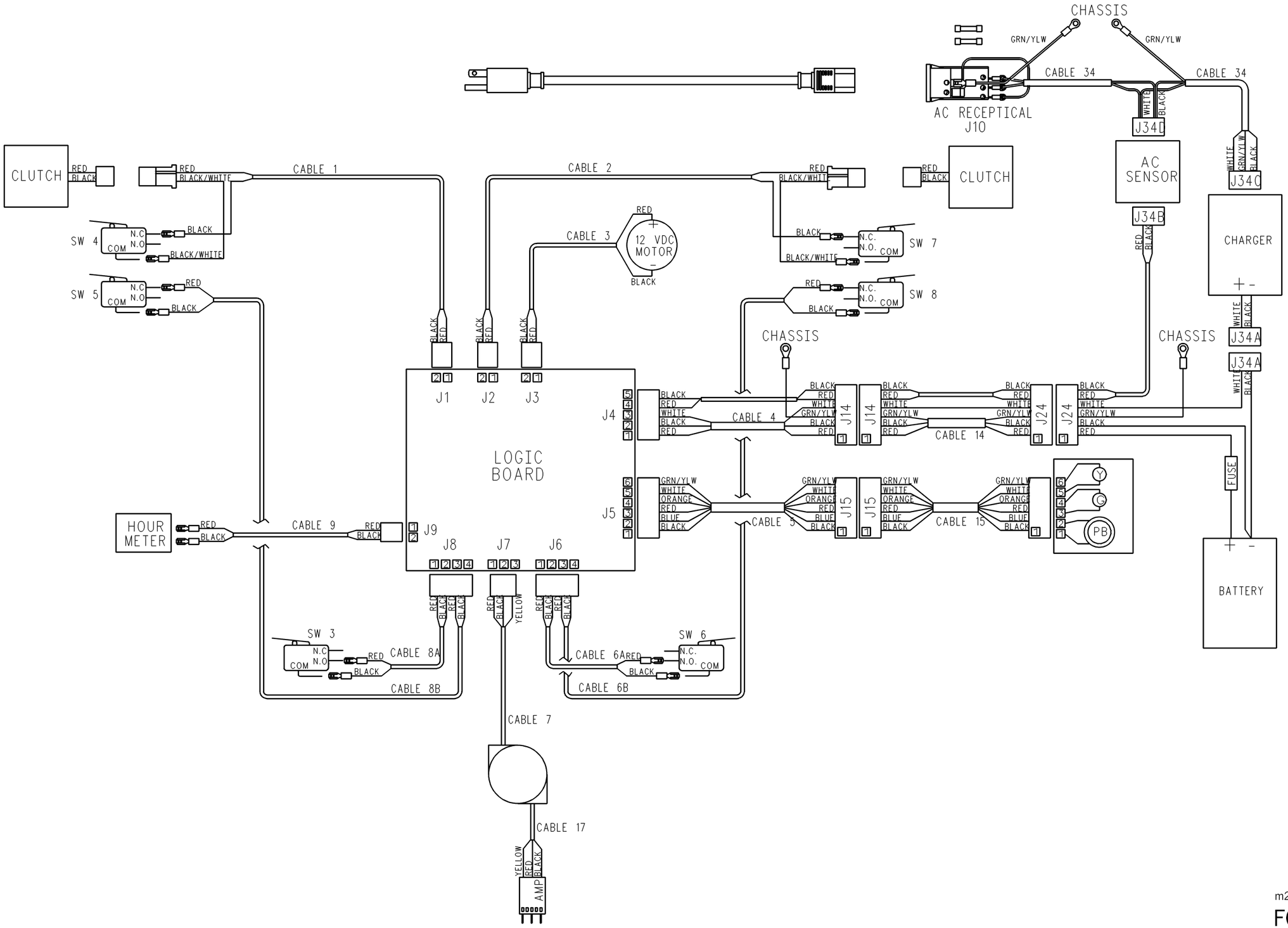
Chapter Contents

There are no accessories for the On3™ Lateral Transfer Device.

NOTES:

Electrical System Wiring Diagram

Back to Chapter 3



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