

SERVICE MANUAL

DuraStar™ Series Stretcher From Hill-Rom



Product No. P8005, P8035

For Parts or Technical Assistance
USA (800) 445-3720 Canada (800) 267-2337
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man268

DuraStar™ Series Stretcher Service Manual

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Chapter 1

Introduction

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Purpose

This manual provides requirements for the DuraStar™ Series Stretcher 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. These procedures are used to gather information, identify the maintenance need, and verify the effectiveness of the repair.

Chapter 3: Theory of Operation

A theory of operation is not available for the DuraStar™ Series Stretcher.

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

A list of additional products, that can be used in conjunction with the DuraStar™ Series Stretcher, is available in chapter 7. Installation procedures for these accessories are also included.

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

General Description

The DuraStar™ Series Stretcher is available in two models: fixed height and hydraulic. Both models are mounted on casters to move easily, have pneumatic-assisted back sections that rise to 90°, and have non-marring bumpers on corners and siderails. The hydraulic model also has two hydraulic cylinders mounted vertically in twin towers on the base. They enable manually operated, variable-height, top surface and Trendelenburg positions.

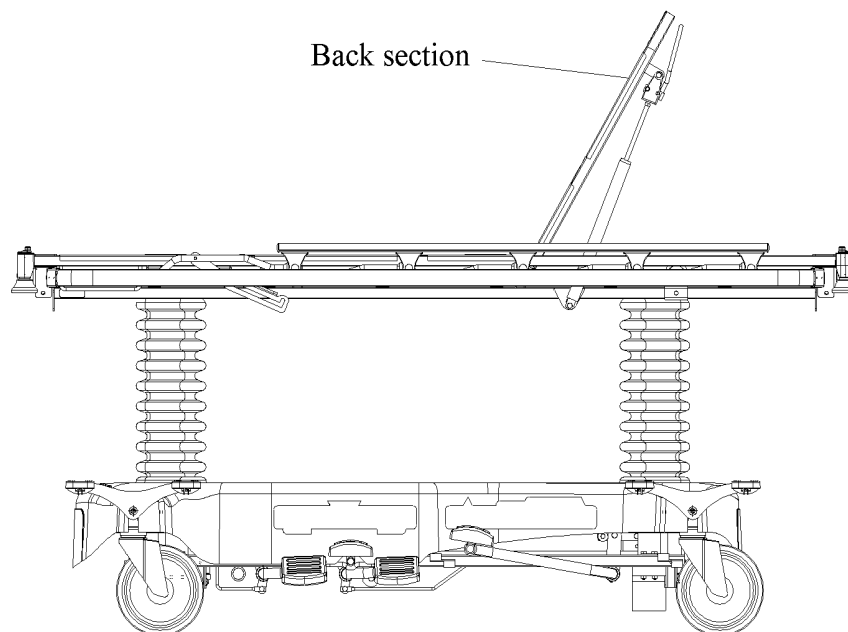
Operating Precautions

Before operating the stretcher, ensure you have read and understand in detail the contents of this manual. It is important that you read and strictly adhere to the safety information contained in this manual and the applicable user manuals.

Stretcher Positions

The DuraStar™ Series Stretcher has a pneumatic-assisted back section. The stretcher positions are shown in figures 1-5 through 1-9.

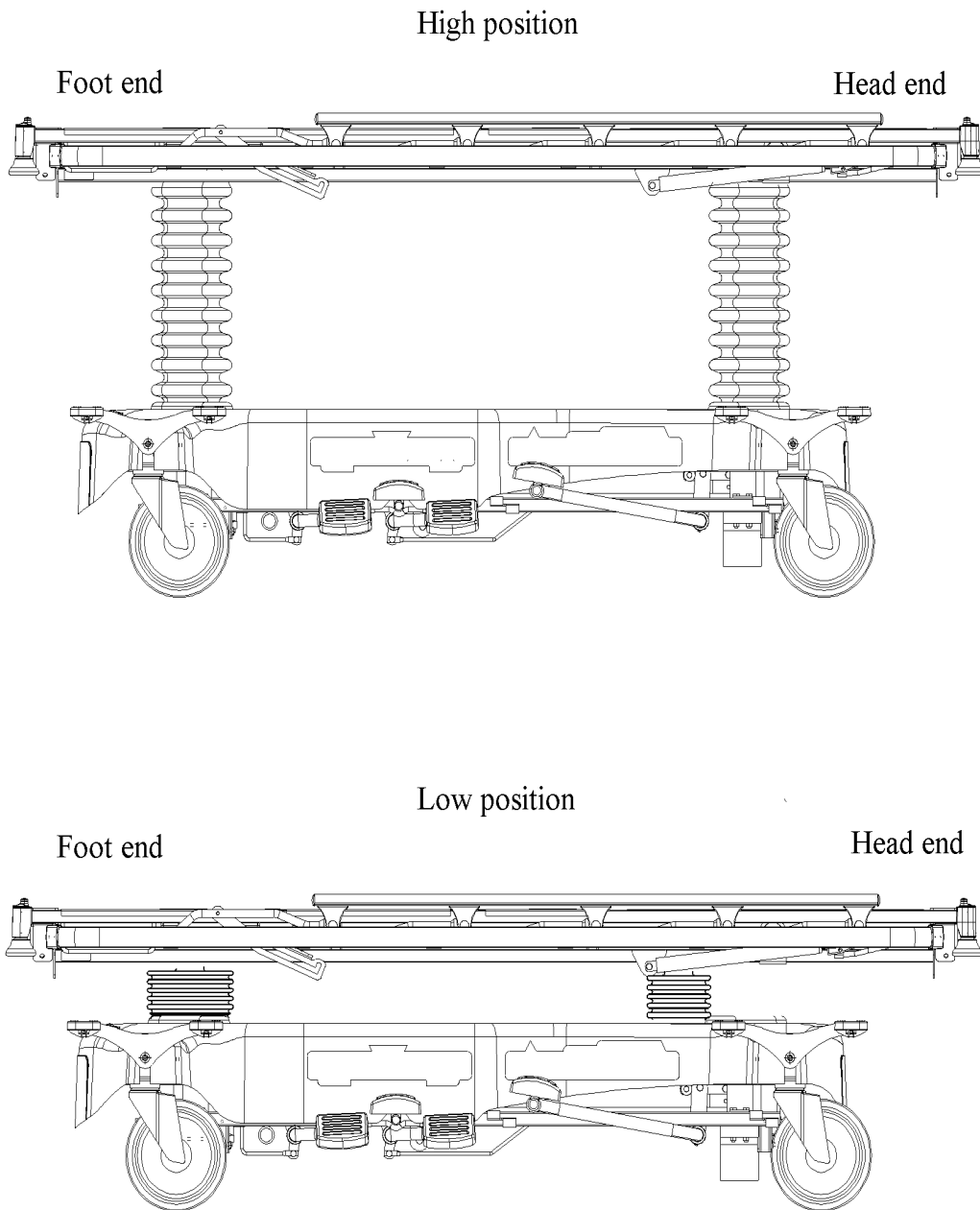
Figure 1-5. Pneumatic-assisted Back Section



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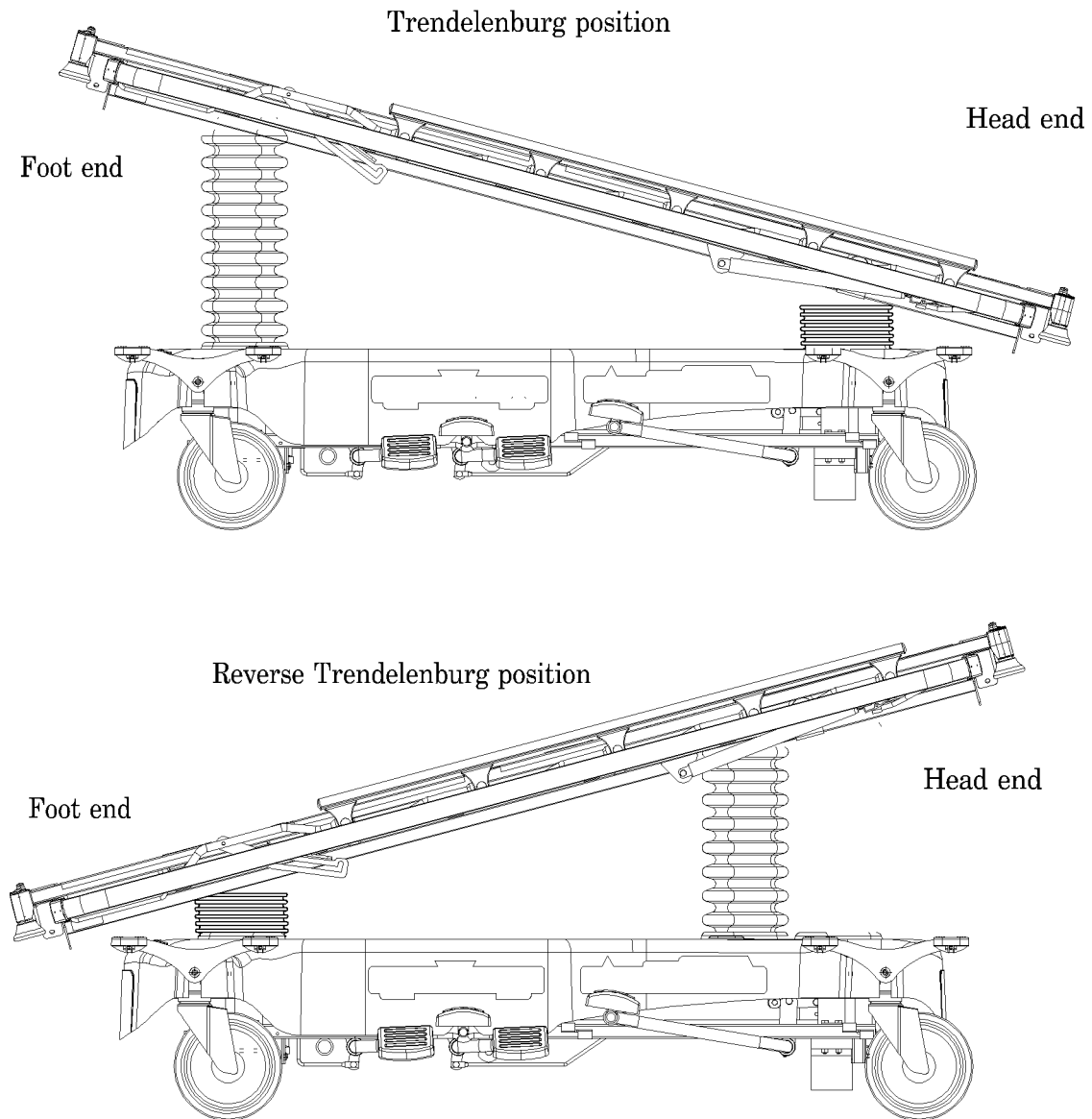
NOTE:
The hydraulic model is shown.

Figure 1-6. Hilow Positions of Hydraulic Model



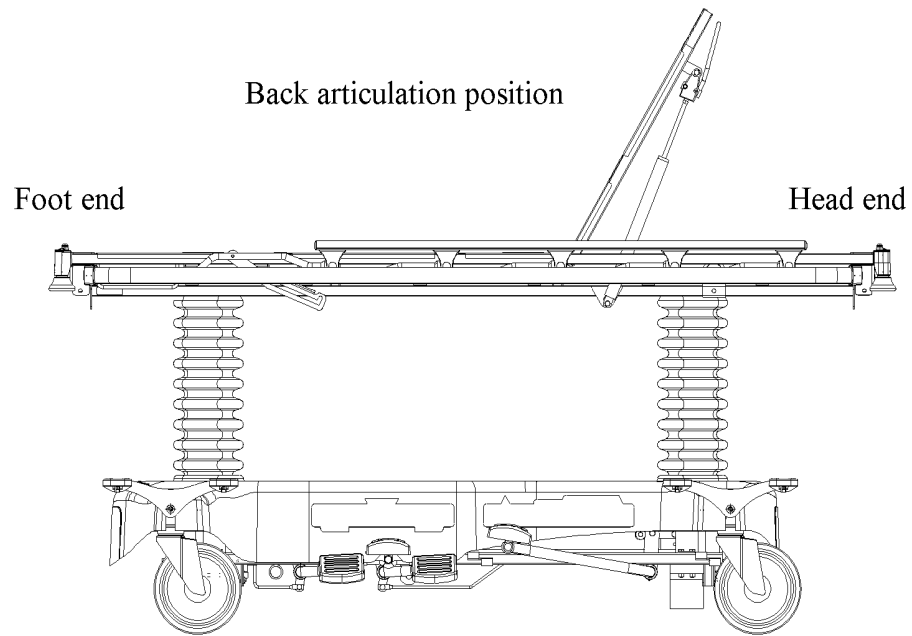
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Figure 1-7. Trendelenburg/Reverse Trendelenburg Positions for Hydraulic Model



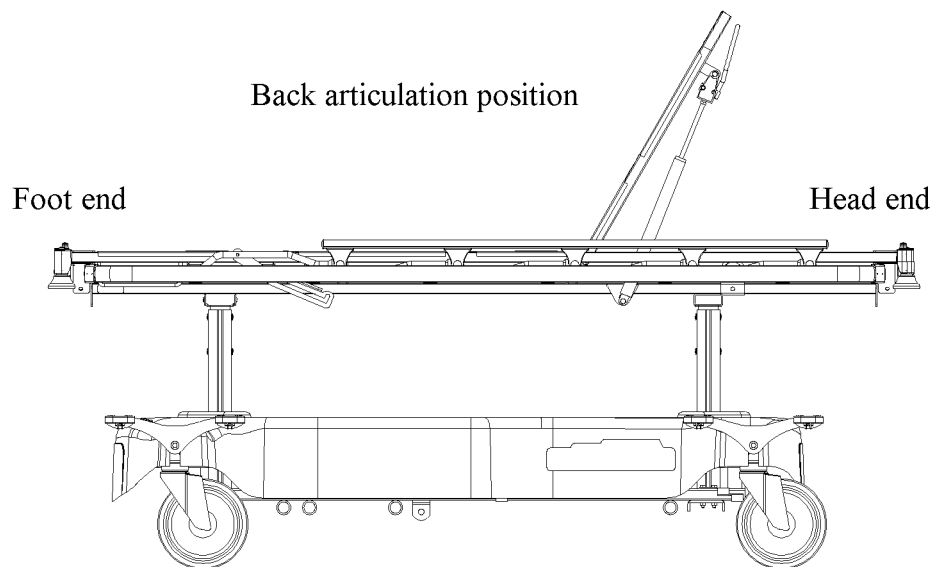
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Figure 1-8. Hydraulic Stretcher Back Section



m268_008

Figure 1-9. Fixed Height Stretcher Back Section



m268_009

Specifications

Physical Description

See table 1-1 on page 1-12 for DuraStar™ Series Stretcher specifications.

Table 1-1. Specifications

Feature	Dimension
Overall Length	83" (211 cm)
Overall width	32" (81 cm)
Siderail height above sleep surface	14" (35 cm)
Mattress size	26" x 75" (66 cm x 191 cm)
Mattress thickness	2" (5 cm)
Hydraulic cylinder specifications: Rated pressure Burst pressure	1000 psi (6895 kPa) 5000 psi (34474 kPa)
Hydraulic Top of sleep deck to the floor: Height—low position Height—high position	23" (58 cm) 35" (89 cm)
Fixed Height* Top of sleep deck to the floor: Height—low position Height—high position *Adjustable by Maintenance/Service in 1" increments.	28" (71 cm) 32" (81 cm)
Floor to base clearance	3 1/2" (9 cm)
Caster size	8" (20 cm)
Clearance under hilow cylinders	2" (5 cm)
Maximum back incline	90°
Maximum Trendelenburg/Reverse Trendelenburg	18°
Stretcher mass weight (hydraulic)	225 - 260 lb (102 - 118 kg)
Stretcher mass weight (fixed height)	195 - 230 lb (88 - 104 kg)
Maximum safe working load	500 lb (227 kg)

Stretcher Back Section Inclination

Both models of the DuraStar™ Series Stretcher are mechanized so that the attendant can raise or lower the back section by squeezing the release handle located under the back section. The back section can be elevated from 0° to 90°.

Hilow

The hydraulic stretcher is mechanized so that the attendant can raise or lower the sleep surface by pressing the appropriate pedals located on either side of the stretcher. The stretcher is equipped with two hydraulic cylinders to ensure that the stretcher lowers evenly with uneven loads.

Brake/Steer

Both stretcher models are mechanized so that the attendant can set the brake, steer, or put the stretcher in the neutral position from anywhere around the stretcher. The pedals are color-coded to enable quick use. All four casters provide braking for the stretcher.

Trendelenburg/Reverse Trendelenburg

The hydraulic stretcher is mechanized to achieve the Trendelenburg/Reverse Trendelenburg positions by pressing the proper foot pedals located on either side of the stretcher. Quick Trendelenburg can be achieved by grasping the foot end of the stretcher and pulling up. A maximum of 18° Trendelenburg/Reverse Trendelenburg can be achieved with the stretcher raised to the high position.

Siderails

Both stretcher models are equipped with 3/4 length siderails. They can be moved from the stored position to the upright position in one motion.

The siderails should always be in a full upright position and latched when a patient is unattended. When the siderails are raised, an audible *click* indicates that they are completely raised and locked in place.

Siderails are intended to be a reminder, **not a patient retaining device**. Appropriate medical personnel should determine the level of restraint necessary to ensure a patient remains safely in bed. Consult the security strap manufacturer's instruction for use to verify the correct application of each security device.

Bumpers

Both stretcher models are equipped with non-marring, rolling, disk bumpers on the corners and non-marring, bumper material around the perimeter of the siderails whether they are raised or stored.

Sleep Surface

The stretcher is equipped with a metal sleep surface that accommodates Velcro®¹ straps to secure the mattress to the sleep surface.

IV Pole Accommodation

The DuraStar™ Series Stretcher can be equipped with a permanent IV pole.

Mattress Configuration

There are many mattress configurations available for the DuraStar™ Series Stretcher (see table 5-16 on page 5-42).

Regulations, Standards, and Codes

Stretcher

The DuraStar™ Series Stretcher will obtain regulatory approvals after production launch.

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Model Identification

See table 1-2 on page 1-15 for DuraStar™ Series Stretcher model identification.

Table 1-2. Model Identification

Model Number	Description
P8005	DuraStar™ Hydraulic Stretcher
P8035	DuraStar™ Fixed Height Stretcher

General Operation

The DuraStar™ Series Stretcher is a mechanically operated stretcher. The following paragraphs explain the basic operation of this stretcher.

Siderail Operation

Raising the Siderail

- Pull the siderail up until it locks into position.
- To ensure it is fully locked, push the siderail down.

Lowering the Siderail

- Lift on the siderail release handle, and push down on the siderail.
- Lower the siderail completely.

Back Articulation



WARNING:

Ensure you fully control the lift of the back section. The back section could raise quickly with little or no weight on it, and personal injury could occur.

Raising the Back Section

- Squeeze the back release handle located under the back section of the stretcher.
- Lift up on the back section. When the desired position is reached, release the handle.

NOTE:

The gas cylinders are only to assist in lifting.

Lowering the Back Section

- Squeeze the back release handle located under the back section of the stretcher.
- Push down on the back section. When the desired position is reached, release the handle.

Hilow Operation

The hilow pedals are located on both sides of the hydraulic stretcher.

- To raise the stretcher, press the foot pedal with the graphic showing the UP arrow, and pump it until the desired height is reached.
- To lower the stretcher, press the foot pedal with the graphic showing the DOWN arrow until the desired height is reached.

Trendelenburg/Reverse Trendelenburg Operation

The Trendelenburg/Reverse Trendelenburg pedals are located on both sides of the hydraulic stretcher. The stretcher must be in a raised position to achieve Trendelenburg/Reverse Trendelenburg positions.

Trendelenburg

Press the foot pedal marked with the graphic showing Trendelenburg until the desired angle is reached.

Reverse Trendelenburg

Press the foot pedal marked with the graphic showing Reverse Trendelenburg until the desired angle is reached.

Quick Trendelenburg

Grasp the permanent push handle located at the foot end, and pull up on the stretcher until the desired angle is reached.

Leveling the Sleep Surface

- If the stretcher is in the Trendelenburg position, press the Reverse Trendelenburg pedal until the stretcher is level.
- If the stretcher is in the Reverse Trendelenburg position, press the Trendelenburg pedal until the stretcher is level.

Central Brake and Steer

The foot caster on the patient's left side locks parallel with the length of the stretcher to provide steering capability.

Steer

- Press down on the green **steer** pedal.
- To release the locked steering caster, press the orange **brake** pedal until the pedal is parallel to the floor.

Brake

- Press down on the orange **brake** pedal. All four casters lock into place.
- To release the brake, press the green **steer** pedal until the pedal is parallel to the floor.

Safety Tips

**WARNING:**

Establish policies and procedures to train and educate your staff on the stretcher operation. Personnel should never have their entire body below the sleep surface and within the confines of the stretcher. If service personnel need to get under the stretcher, block up the pillow portion as an added precaution. Personal injury can occur.

**WARNING:**

Set the brakes and leave the stretcher in the low position when the patient is unattended. Give the stretcher a solid tug to ensure the brakes are set. Patients may use the stretcher for support when getting on or off the stretcher, and injuries may result if the brakes are not set. Use the steer mode only when transferring the patient.

**WARNING:**

Leave the siderails fully up and locked when the patient is unattended or when transferring the patient. When raising the siderails, ensure that you hear the click that signals the up and locked condition. Give the siderails a solid tug to ensure they are firmly in position. Personal injury can occur.

**WARNING:**

Only facility-authorized maintenance personnel should troubleshoot the DuraStar™ Series Stretcher. Troubleshooting by unauthorized personnel could result in personal injury or equipment damage.

**WARNING:**

Only facility-authorized maintenance personnel should perform preventive maintenance on the DuraStar™ Series Stretcher. Preventive maintenance performed by unauthorized personnel could result in personal injury or equipment damage.



WARNING:

Ensure you fully control the lift of the back section. The back section could rise quickly with little or no weight on it, and personal injury could occur.



WARNING:

Do not use retaining rings that are overextended. Personal injury could occur.



WARNING:

Ensure you use proper lifting methods. Personal injury can occur. One person can safely lift the upper frame when one end of the upper frame is still secured to the hydraulic cylinder.



WARNING:

Ensure you use proper lifting methods. Personal injury can occur. The weight of the lower frame, with one end of the upper frame still secured to the hydraulic cylinder, acts as counterweight during the lifting process. One person can safely perform this procedure.



WARNING:

Two people are required for removal, adjustment, and replacement of the upper frame. If you do not use two people, personal injury could occur.



WARNING:

Make sure you use the hydraulic cylinder with the correct part number for this product. The surgical stretcher uses a hydraulic cylinder that has a slower descent rate. The replacement of the cylinders is the same; be sure the correct hydraulic cylinder is used, or personal injury can occur.



WARNING:

Before you put the convertible footboard into the transport shelf position, remove the chart holder from the convertible footboard to avoid injury to the patient.

**WARNING:**

When the stretcher is occupied, ensure the siderails are in the full upright and locked position before gliding the patient platform. Failure to do so could result in personal injury.

**WARNING:**

Adhere to the “Infection Control Policies and Procedures” outlined in the *Safety Coordinator Reference Guide*. 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.

**CAUTION:**

The upper pivot bracket is made of plastic. Do not use a screwdriver to remove the top rail ratchet rivet. Damage to the bracket could occur.

**CAUTION:**

The pivot bolt has self-tapping threads. Ensure you use a new pivot bolt for the installation procedure, and hand-start the pivot bolt to avoid damage to the bolt hole threads.

**CAUTION:**

The latch shoulder bolt has self-tapping threads. Ensure you use a new latch shoulder bolt for the installation procedure, and hand-start the bolt to avoid damage to the bolt hole threads.

**CAUTION:**

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Equipment damage can occur.

**CAUTION:**

Be careful not to damage the base shroud when you remove or install the upper frame assembly.



CAUTION:

Leave the cylinder rod, hold-down assembly in place until the cylinder is secured to the frame assembly. Equipment damage can occur.



CAUTION:

Do not rotate the gas spring, cylinder rod with a clamping device. Damage to the cylinder rod can occur.



CAUTION:

Mattress damage caused by improper draping and/or cleaning procedures is not covered by warranty.



CAUTION:

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



CAUTION:

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



SHOCK HAZARD:

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

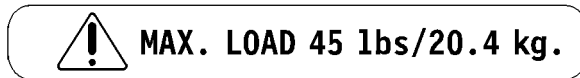


SHOCK HAZARD:

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

Warning and Caution Labels

Figure 1-10. Warning and Caution Labels



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NOTES:

Chapter 2

Troubleshooting Procedures

2

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NOTES:

Getting Started



WARNING:

Only facility-authorized maintenance personnel should troubleshoot the DuraStar™ Series Stretcher. 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 steps are correct). Each step is the normal operational event of the product and 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 order given.

Start with **Initial Actions** to begin gathering information about the problem.

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

Perform **Final Actions** after the Function Checks to verify the repair.

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

2

Initial Actions

Use Initial Actions to gather information from operators concerning problems with the DuraStar™ Series Stretcher. 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 “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4 or “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

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

Yes No

↓

→ Go to “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4 or “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

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

Yes No

↓

→ Go to “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4 or “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

4. Instruct the operators to refer to the procedures in the applicable *DuraStar™ Series Stretcher User Manual*. Perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4 or “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7 to ensure proper operation of the DuraStar™ Series Stretcher.

DuraStar™ Hydraulic Stretcher Function Checks

Brake/Steer Function

1. Initial Actions have been performed.

Yes No

↓

→ Go to “Initial Actions” on page 2-3.

2. Put the stretcher in the brake position. The brake pedal seats in that position, and none of the four casters roll or rotate.

Yes No

↓

→ Go to RAP 2.1.

3. Inspect the brake pads for wear. All brake pads are serviceable.

Yes No

↓

→ Go to RAP 2.1.

4. Put the stretcher in the steer position. Only the patient left foot end (patient right head end for Europe) caster locks into a position parallel to the side of the bed, and all other casters spin freely.

Yes No

↓

→ Go to RAP 2.2.

5. Put the stretcher in the neutral position. The pedal seats in that position, and all four casters rotate and roll freely.

Yes **No**
↓ → Go to RAP 2.3.

Hilow Function

6. Put a 40 lb (18 kg) weight on the stretcher. Press the right side pump pedal 24 times to raise the stretcher to the high position. The stretcher rises evenly, and no more than 24 full pumps are required to reach the high position.

Yes **No**
↓ → Go to RAP 2.4.

7. Press the center release pedal, and lower the stretcher. The head and foot ends of the stretcher lower evenly.

Yes **No**
↓ → Go to RAP 2.5.

8. Press the left side pump pedal 24 times to raise the stretcher to the high position. The stretcher rises evenly, and no more than 24 full pumps are required to reach the high position.

Yes **No**
↓ → Go to RAP 2.4.

9. Press the center release pedal, and lower the stretcher. The head and foot ends of the stretcher lower evenly.

Yes **No**
↓ → Go to RAP 2.5.

10. Remove the 40 lb (18 kg) weight, and continue to step 11.

Trendelenburg/Reverse Trendelenburg Function

11. Press the pump pedal 24 times to raise the stretcher to the high position. Press the Trendelenburg pedal. The head end of the stretcher lowers smoothly.

Yes **No**
↓ → Go to RAP 2.5.

12. If necessary, press the pump pedal 24 times to raise the stretcher to the high position. Press the Reverse Trendelenburg pedal. The foot end of the stretcher lowers smoothly.

Yes **No**
↓ → Go to RAP 2.5.

Siderail Function

13. Raise and lower the siderails. The siderails go up and down without binding and excessive force is not required to raise or lower the siderails.

Yes **No**
↓ → Go to RAP 2.6.

Back Section Function

14. Raise and lower the back panel. The back panel moves evenly without binding.

Yes **No**
↓ → Go to RAP 2.7.

Optional Push Handle Function

15. Raise the push handles. The push handles lock into position.

Yes **No**
↓ → Go to RAP 2.8.

16. Lift up on the push handle release latch. The push handles drop into the stored position.

Yes **No**
↓ → Go to RAP 2.8.

17. Go to “Final Actions” on page 2-8.

DuraStar™ Fixed Height Stretcher Function Checks

1. Initial Actions have been performed.

Yes **No**



→ Go to “Initial Actions” on page 2-3.

Brake/Steer Function

2. Put the stretcher in the brake position. The brake pedal seats in that position, and none of the four casters roll or rotate.

Yes **No**



→ Go to RAP 2.1.

3. Inspect the brake pads for wear. All brake pads are serviceable.

Yes **No**



→ Go to RAP 2.1.

4. Put the stretcher in the steer position. Only the patient’s left foot end caster locks into a position parallel to the side of the bed, and all other casters spin freely.

Yes **No**



→ Go to RAP 2.2.

5. Put the stretcher in the neutral position. The pedal seats in that position, and all four casters rotate and roll freely.

Yes **No**



→ Go to RAP 2.3.

Siderail Function

6. Raise and lower the siderails. The siderails go up and down without binding and excessive force is not required to raise or lower the siderails.

Yes **No**



→ Go to RAP 2.6.

Optional Push Handle Function

7. Raise the push handles. The push handles lock into position.

Yes	No
↓	→ Go to RAP 2.8.
8. Lift up on the push handle release latch. The push handles drop into the stored position.

Yes	No
↓	→ Go to RAP 2.8.
9. Go to “Final Actions” on page 2-8.

Final Actions

1. Complete the required preventive maintenance procedures. See “Preventive Maintenance Checklist” on page 6-8.
2. Complete all required administration tasks.

2.1 Reduced Braking Ability

1. The brake/steer pedal locks into the brake position.

Yes No

↓

→ Check the brake/steer link at the head and foot ends of the stretcher for proper orientation. If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, continue to step 2.

2. When the brake/steer pedal is activated, the hex rod rotates 45° in either direction from neutral.

Yes No

↓

→ Check the brake/steer link at the head and foot ends of the stretcher for proper orientation. If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, continue to step 3.

3. All four caster brake shoes are properly adjusted.

Yes No

↓

→ Adjust the brake caster shoes (refer to procedure 4.9). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 4.

4. All four casters lock in the brake position and do not rotate or swivel.

Yes No

↓

→ Replace the damaged caster(s) (refer to procedure 4.6). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 5.

5. Another part of the stretcher interferes with the brake/steer mechanism.

Yes No

↓

→ Call Hill-Rom Technical Support at (800) 445-3720.

6. Take appropriate actions to eliminate the interference. This solves the problem.

Yes No

↓

→ Call Hill-Rom Technical Support at (800) 445-3720.

7. Go to “Final Actions” on page 2-8.

2.2 Loss of Corner Steer

1. The brake/steer pedal locks into the steer position.

Yes **No**
↓ → Go to step 3.

2. The corner steer caster locks into position.

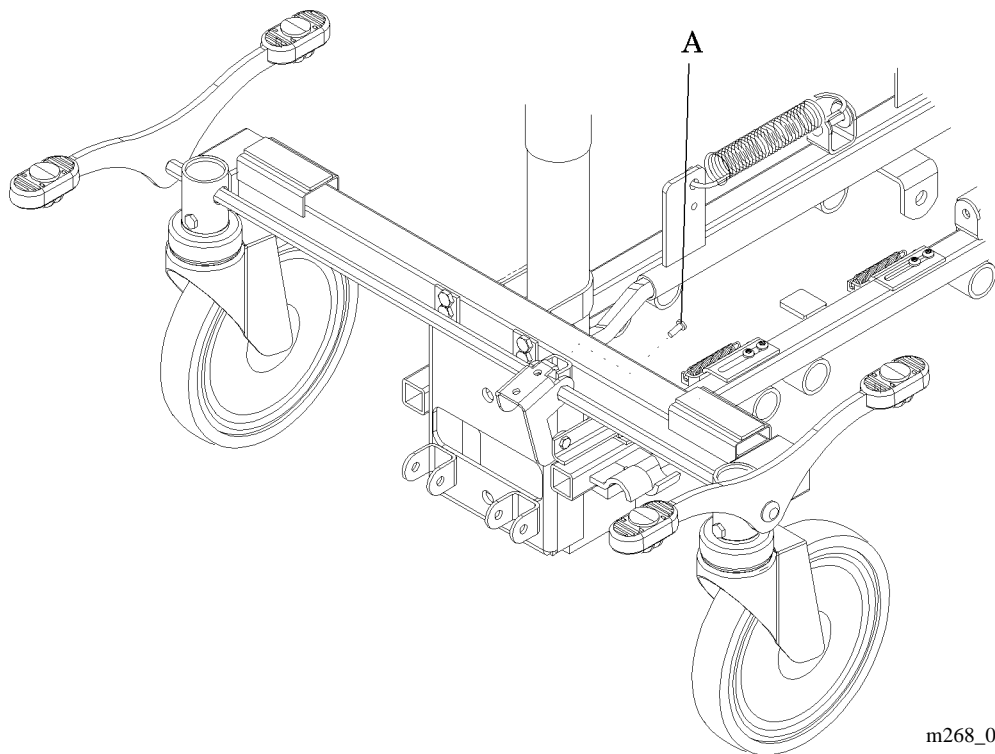
Yes **No**
↓ → Replace the caster (refer to procedure 4.6). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, continue to step 3.

3. Tighten the hex rod screw (A) (see figure 2-1 on page 2-10).

This solves the problem.

Yes **No**
↓ → Go to step 5.

Figure 2-1. Hex Rod Screw Location



m268_010

4. Go to “Final Actions” on page 2-8.

5. Another part of the stretcher interferes with the steering linkages.

Yes No

↓

→ Call Hill-Rom Technical Support at (800) 445-3720.

6. Take appropriate actions to eliminate the interference.

This solves the problem.

Yes No

↓

→ Call Hill-Rom Technical Support at (800) 445-3720.

7. Go to “Final Actions” on page 2-8.

2.3 Stretcher Will Not Go Into the Neutral Position

1. The brake/steer pedal locks into the neutral position.

Yes **No**
↓ → Go to step 4.

2. The stretcher rolls freely in all directions.

Yes **No**
↓ → Inspect each caster. Replace any defective casters (refer to procedure 4.6). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 3.

3. Go to “Final Actions” on page 2-8.

4. When the brake/steer pedal is activated, the hex rod rotates 45° in either direction from neutral.

Yes **No**
↓ → Check the brake/steer link at the head and foot ends of the stretcher for proper orientation. If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 5.

5. Remove the hex rod from the caster(s) (refer to procedure 4.6). Block the stretcher with a piece of 8" x 2" x 4" (20 cm x 5 cm x 10 cm) lumber. Put the lumber at the corner of the lower frame, and rotate the caster. A ratchet noise is heard when the caster is rotated.

Yes **No**
↓ → Go to step 8.

6. Replace the worn caster (refer to procedure 4.6).

This solves the problem.

Yes **No**
↓ → Go to step 8.

7. Go to “Final Actions” on page 2-8.

8. Another part of the stretcher interferes with the brake/steer pedal.

Yes No



→ Call Hill-Rom Technical Support at (800) 445-3720.

9. Take appropriate actions to eliminate the interference.

This solves the problem.

Yes No



→ Call Hill-Rom Technical Support at (800) 445-3720.

10. Go to “Final Actions” on page 2-8.

2.4 Reduced Pedal Pumping

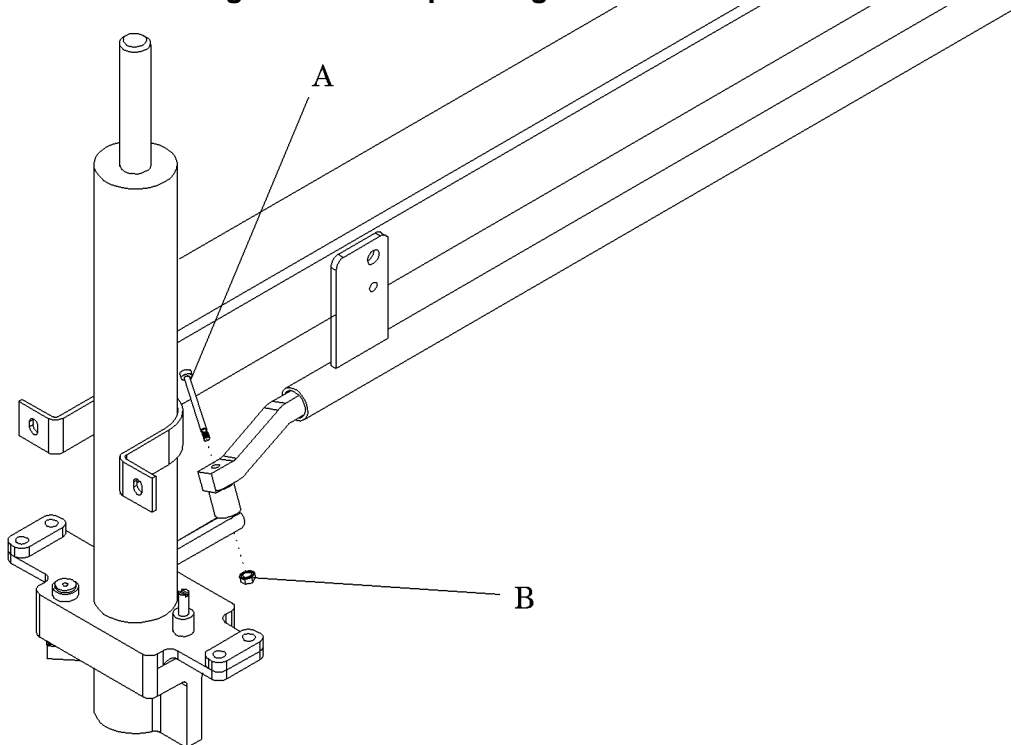
1. Press the pump pedal 24 times to raise the stretcher to the high position.
The stretcher rises to the high position.

Yes No



→ Ensure the pump linkage shoulder bolt (A) and locknut (B) are in place, and check the nut torque of 40 ± 8 in-lb (4.5 ± 0.9 N·m) (see figure 2-2 on page 2-14). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 2.

Figure 2-2. Pump Linkage Shoulder Bolt Location



m268_012

2. Another part of the stretcher interferes with the pump pedal weldments.

Yes No



→ Go to step 5.

3. Take appropriate actions to eliminate the interference.

This solves the problem.

Yes No



→ Go to step 5.

4. Go to “Final Actions” on page 2-8.

5. Lower the stretcher, and press the pump pedal 24 times to raise the stretcher to the high position. Both the head and foot ends of the stretcher rise evenly.

Yes No

↓

→ If the head end does not rise, replace the hydraulic cylinder at the head end of the stretcher. If the foot end does not rise, replace the hydraulic cylinder at the foot end of the stretcher (refer to procedure 4.7). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

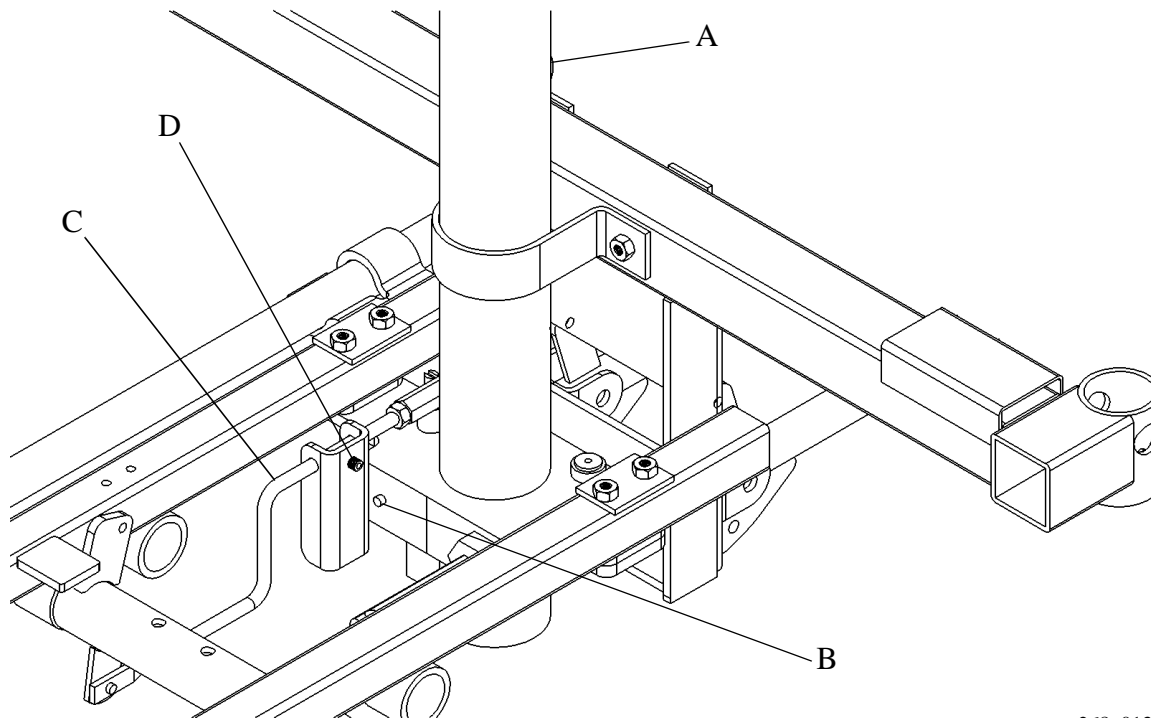
6. Go to “Final Actions” on page 2-8.

2

2.5 Stretcher Will Not Lower

1. When the foot release pedal is pushed, the Trendelenburg offset plunger (D) fully depresses the release pin (B) on the hydraulic cylinder (A) (see figure 2-3 on page 2-16).

Figure 2-3. Release Mechanism Location



m268_013

- | | |
|------------|---|
| Yes | No |
| ↓ | → Adjust the release mechanism (refer to procedure 4.10). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 2. |
-
2. The wireforms (C) are bent or missing.

Yes	No
↓	→ Go to step 3.
 3. Replace the bent or missing wireforms.

This solves the problem.

Yes	No
↓	→ Go to step 5.
 4. Go to “Final Actions” on page 2-8.

5. Press the pump pedal 24 times to raise the stretcher to the high position. Press the Trendelenburg pedal. The head end of the stretcher lowers.

Yes No



→ Replace the hydraulic cylinder at the head end of the stretcher (refer to procedure 4.7). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 6.

6. If necessary, press the pump pedal 24 times to raise the stretcher to the high position. Press the Reverse Trendelenburg pedal. The foot end of the stretcher lowers.

Yes No



→ Replace the hydraulic cylinder at the foot end of the stretcher (refer to procedure 4.7). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

7. Go to “Final Actions” on page 2-8.

2.6 Siderail Malfunction

1. Raise the siderail, but do not allow the latch to lock. The siderail falls without assistance.

Yes **No**



→ Go to step 4.

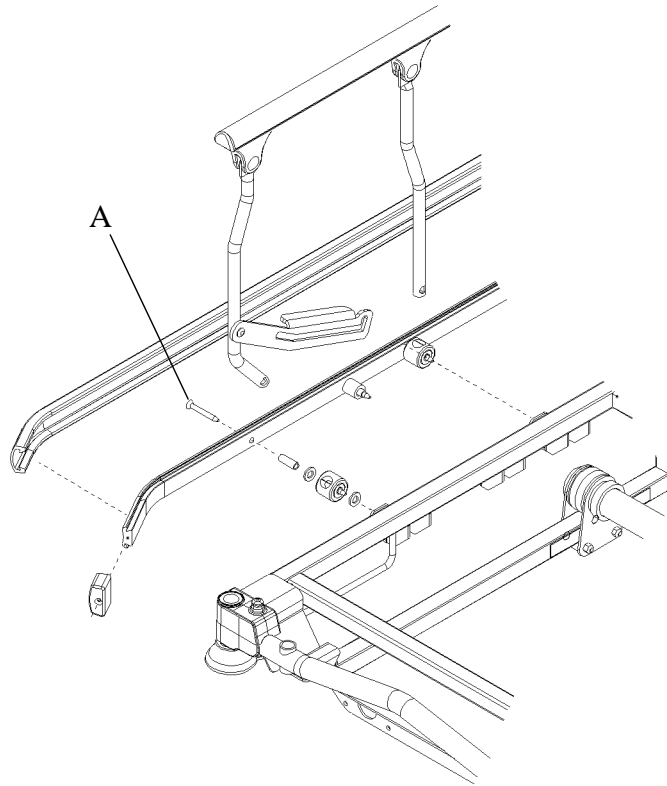
2. Torque the lower pivot bolts (A) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) (see figure 2-4 on page 2-18). This solves the problem.

Yes **No**



→ Go to step 4.

Figure 2-4. Siderail Pivot Bolts



m268_014

3. Go to “Final Actions” on page 2-8.

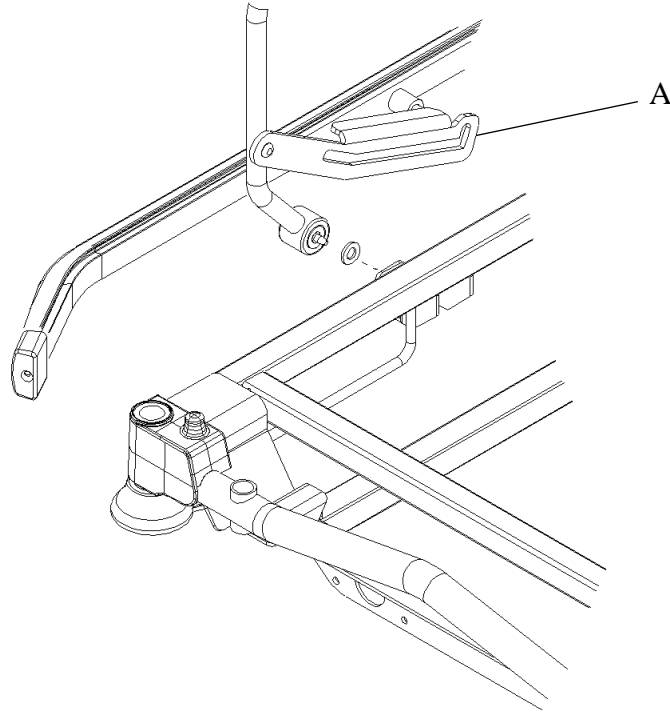
4. Raise the siderail. The siderail latch (A) falls into the locked position (see figure 2-5 on page 2-19).

Yes No



→ Replace the latch (refer to procedure 4.2). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 8.

Figure 2-5. Siderail Latch



m268_015

5. Another part of the stretcher interferes with the siderail.

Yes No



→ Call Hill-Rom Technical Support at (800) 445-3720.

6. Take appropriate actions to eliminate the interference.

This solves the problem.

Yes No



→ Call Hill-Rom Technical Support at (800) 445-3720.

7. Go to “Final Actions” on page 2-8.

2.7 Stretcher Back Panel Does Not Go Up/Down Correctly

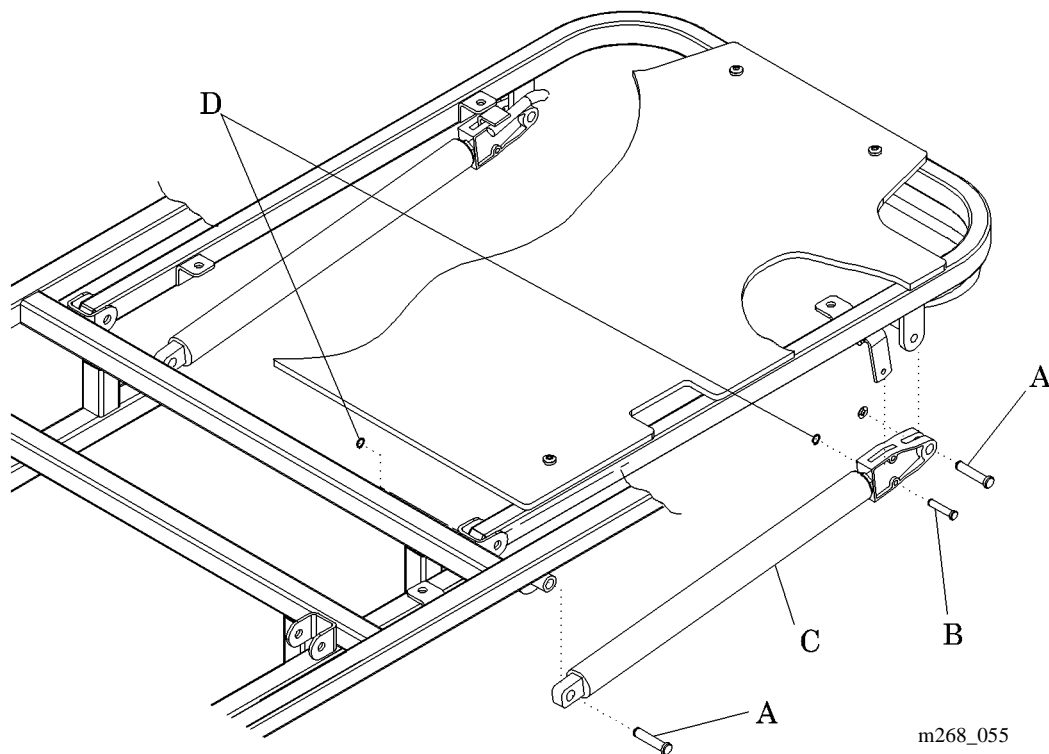
1. Headed pins (A), solid rivet (B), push nut (C), and retaining rings (D) are in place (see figure 2-6 on page 2-20).

Yes **No**



→ Replace any missing hardware. If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 2.

Figure 2-6. Back Panel



2. When the release handle is activated, the back panel rises without assistance.

Yes **No**



→ Replace the damaged back panel gas spring (refer to procedure 4.3). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

3. Go to “Final Actions” on page 2-8.

2.8 Push Handle Malfunction

1. Another part of the stretcher keeps the push handle from locking into position.

Yes No

↓

→ Go to step 4.

2. Take appropriate actions to eliminate the interference.

This solves the problem.

Yes No

↓

→ Go to step 4.

3. Go to “Final Actions” on page 2-8.

4. The push handle falls into position when the release handle is activated.

Yes No

↓

→ Replace the push handle latch (refer to procedure 7.7). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, go to step 5.

5. The push handle locks into position.

Yes No

↓

→ Replace the push handles (refer to procedure 7.7). If this solves the problem, go to “Final Actions” on page 2-8. Otherwise, call Hill-Rom Technical Support at (800) 445-3720.

6. Go to “Final Actions” on page 2-8.

NOTES:

Chapter 3

Theory of Operation

Chapter Contents

A theory of operation is not available for the DuraStar™ Series Stretcher.

3

NOTES:

Chapter 4

Removal, Replacement, and Adjustment Procedures

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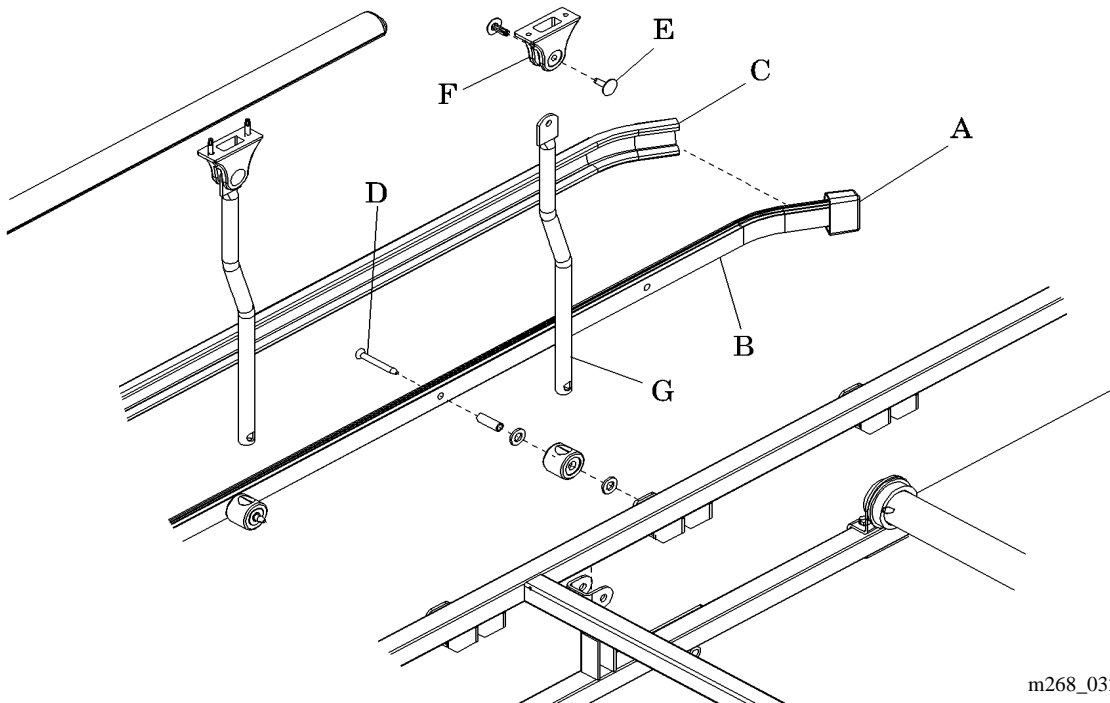
4.1 Stretcher Siderail Post

Tools required:	Drill	T30 Torx® ¹ head bit
	3/16" drill bit	1/8" pin punch
	1/2" open end wrench	Hammer
	1/2" socket	Torque wrench 0-250 in-lb
	1/4" socket	Ratchet
	Phillips head screwdriver	

Removal

1. Remove the bottom rail end caps (A) from the bent bottom rail extension (B) (see figure 4-1 on page 4-3).

Figure 4-1. Siderail Tube



2. Remove the side rail trim strip (C) from the bent bottom rail extension (B).
3. Remove the lower pivot bolt (D) from the siderail tube (G) that needs to be removed.
4. Remove and discard the two ratchet rivets (E) from the upper pivot (F).
5. Remove and discard the siderail tube (G) from the upper frame assembly.

1. Torx® is a registered trademark of Textron, Inc.

Replacement

1. Install the new siderail tube into the upper pivot (F).
2. Install the new ratchet rivets (E) into the upper pivot (F).
3. Install the lower pivot bolt (D) into the bent bottom rail extension (B) and torque to 140 ± 10 in-lb (15.8 ± 1.1 N·m).
4. Install the siderail trim strip (C) onto the bent bottom rail extension (B).
5. Install the bottom rail end caps (A) onto the bent bottom rail extension (B).
6. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

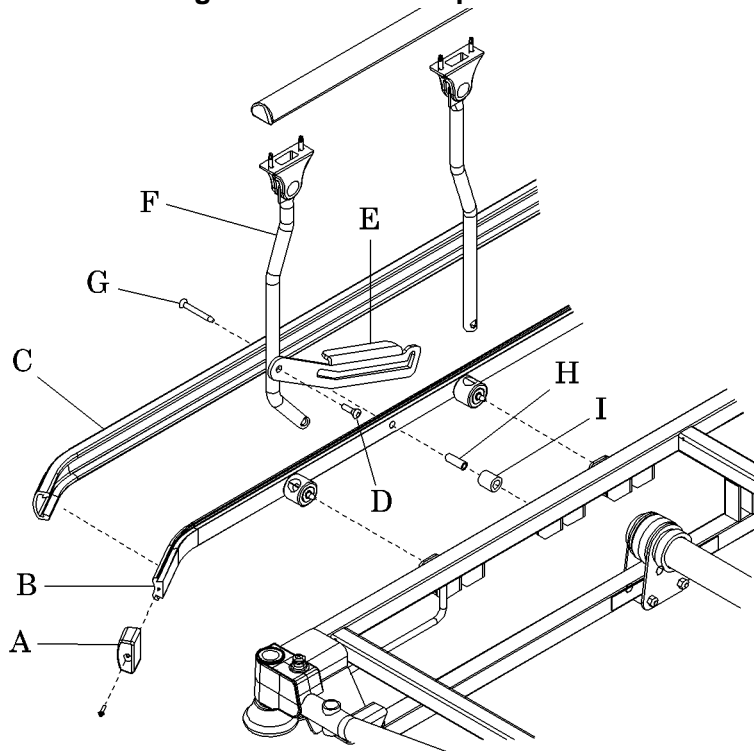
4.2 Stretcher Siderail Latch

Tools required:	T30 Torx® ¹ head bit	Ratchet
	Torque wrench 0-250 in-lb	1/4" socket
Parts required:	(1) 46362	Lower pivot bolt
	(1) 6515201	Siderail latch
	(1) 48645	Shoulder bolt latch

Removal

1. Remove the bottom rail end caps (A) from the bent bottom rail extension (B).
2. Remove the side rail trim strip (C) from the bent bottom rail extension (B).
3. Using the ratchet and the T30 Torx® head bit, remove and discard the latch shoulder bolt (D) that secures the latch (E) to the end tube (F) (see figure 4-2 on page 4-5).

Figure 4-2. Latch Replacement



m268_033

1. Torx® is a registered trademark of Textron, Inc.

4. Using the ratchet and the T30 Torx®¹ head bit, remove and discard the lower pivot bolt (G), roller spacer (H), latch bushing (I), and latch (E) from the rail assembly.

Replacement

1. Align the latch (E), roller spacer (H), and latch bushing (I) with the rail assembly.



CAUTION:

The pivot bolt has self-tapping threads. Ensure you use a new pivot bolt for the installation procedure and hand-start the pivot bolt to avoid damage to the bolt hole threads.

2. Insert the **new** pivot bolt (G) through them and turn it by hand.
3. Using the ratchet and the T30 Torx® head bit, carefully tighten the new pivot bolt (G) to secure the latch (E) to the siderail.
4. Using the torque wrench, torque the lower pivot bolt (G) to 140 ± 10 in-lb (15.8 ± 1.1 N·m).



CAUTION:

The latch shoulder bolt has self-tapping threads. Ensure you use a new latch shoulder bolt for the installation procedure and hand-start the bolt to avoid damage to the bolt hole threads.

5. Insert the **new** latch shoulder bolt (D) through the end tube (F), and turn it by hand.
6. Using the ratchet and the T30 Torx® head bit, tighten the new latch shoulder bolt (D) to secure the latch (E) to the end tube (F).
7. Using the torque wrench, torque the latch shoulder bolt (D) to 140 ± 10 in-lb (15.8 ± 1.1 N·m).

1. Torx® is a registered trademark of Textron, Inc.

8. Install the siderail trim strip (C) onto the bent bottom rail extension (B).
9. Install the bottom rail end caps (A) onto the bent bottom rail extension (B).
10. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

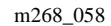
Tools required:

Screwdriver	Pliers
Retaining ring removal/installation tool	
17 mm wrench	



Ensure you fully control the lift of the back section. The back section could rise quickly with little or no weight on it, and personal injury could occur.

- ### Figure 4-3. Back Panel Gas Spring Replacement



**CAUTION:**

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Equipment damage can occur.

3. Using the retaining ring removal/installation tool, remove the retaining rings (A) and (F) from the top and bottom headed pins (B) and (E). **Do not remove the headed pins at this time.**
4. Lower the back panel to the horizontal position, and remove the bottom headed pin (E) from the gas spring (G).
5. Raise the back panel, and remove the top headed pin (B) from the gas spring (G).
6. Remove and discard the gas spring (G).

Replacement

**WARNING:**

Ensure you fully control the lift of the back section. The back section could rise quickly with little or no weight on it, and personal injury could occur.

1. Raise the back panel, put the **new** gas spring (G) into position, and install the top headed pin (B).
2. Lower the back panel to the horizontal position, and install the bottom headed pin (E) through the gas spring (G) and frame bracket.

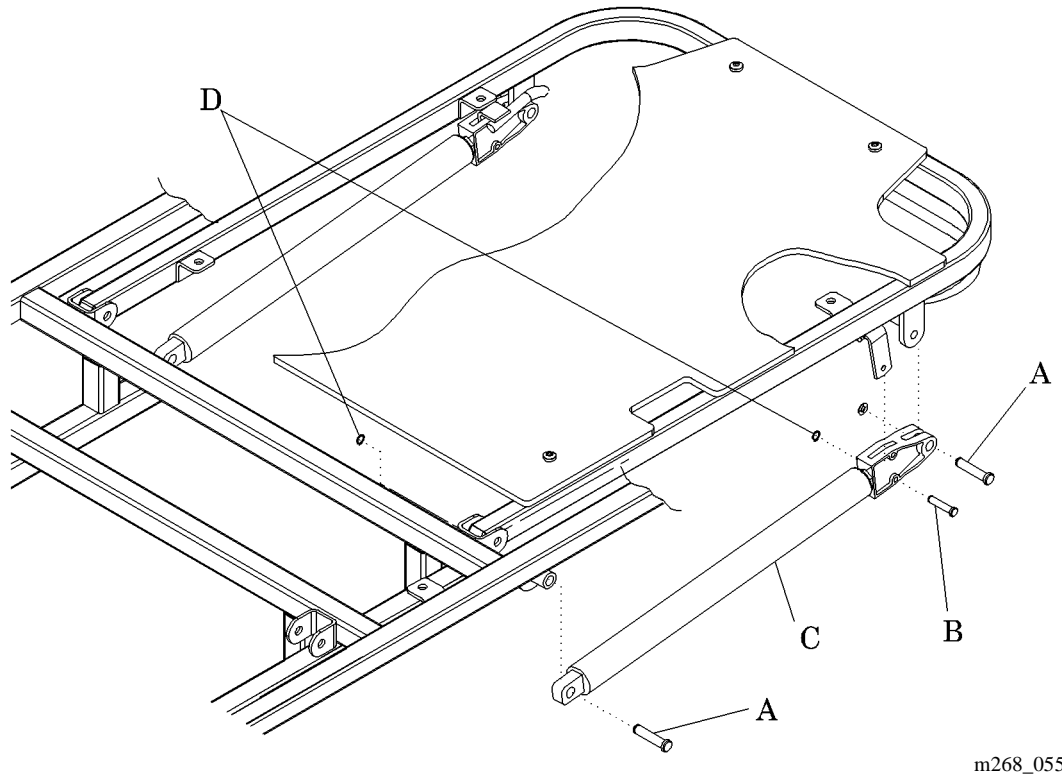
**WARNING:**

Do not use retaining rings that are overextended. Personal injury could occur.

3. Ensure the retaining rings are not overextended.
4. Using the retaining ring removal/installation tool, install the retaining rings (A) and (F) into the grooves of the top and bottom headed pins (B) and (E).
5. Install the solid rivet (C) that secures the release handle to the gas spring (G).

6. Install the push nut (D) onto the solid rivet (C).
7. Check the adjustment on the release handle (see figure 4-4 on page 4-10).

Figure 4-4. Release Handle Adjustment



Adjustment

1. Raise the back panel to approximately 45°, and apply a downward pressure on the side of the back section that requires the adjustment.
2. Squeeze the back panel release handle (I) located under the back panel.

NOTE:

The release handle should activate before the handle comes in contact with the back panel frame.

3. Ensure the release handle (I) does not release too early or with too little pressure applied to the handle.
4. If adjustment to the spring is required, using a 17 mm wrench, loosen the jam nut (H) located at the top of the gas spring (G).

5. Remove the retaining ring (F) and the headed pin (E) located at the bottom of the spring.
6. Rotate the spring clockwise or counterclockwise to adjust.
7. Install the headed pin (E) and the retaining ring (F) located at the bottom of the spring.
8. Check the operation of the release handle again, and repeat the adjustment procedure if necessary.
9. Using a 17 mm wrench, tighten the jam nut (H).
10. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

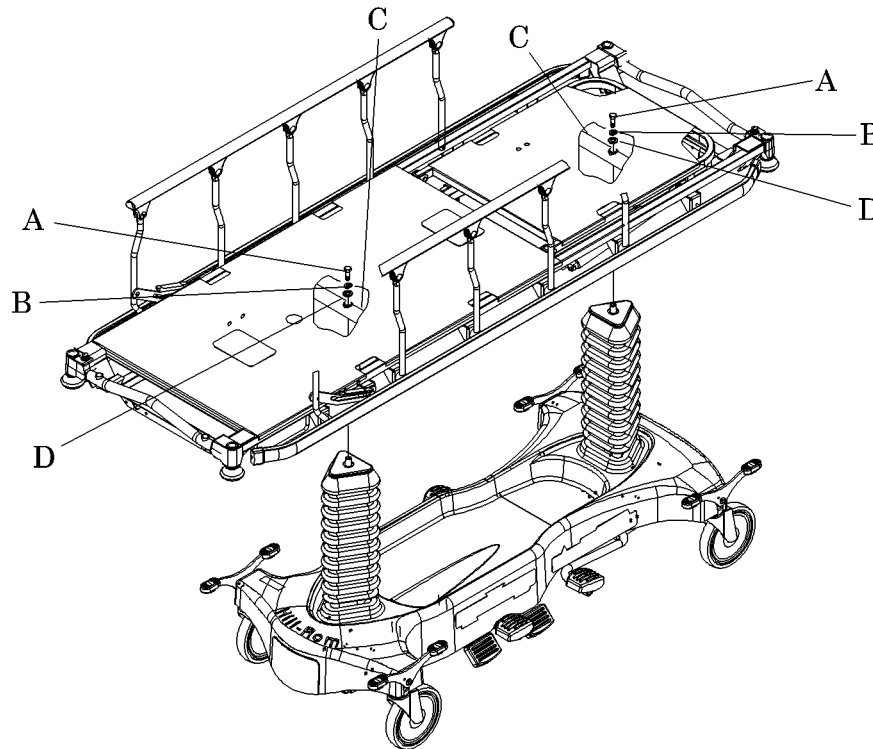
4.4 DuraStar™ Hydraulic Stretcher Upper Frame

Tools required: 9/16" socket Ratchet
Torque wrench 0-250 in-lb
Blue Loctite®¹ adhesive (P/N SA3618)
Rubber mallet/hammer

Removal

1. Raise the stretcher to the high position.
2. Using the ratchet and the 9/16" socket, remove the bolt (A), lockwasher (B), and washer (D) that attach the round crosstube (C) to the hydraulic cylinder (see figure 4-5 on page 4-12).

Figure 4-5. Upper Frame Replacement



m268_034

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



WARNING:

Two people are required for this procedure. If you do not use two people, personal injury could occur.



CAUTION:

Be careful not to damage the base shroud when you remove the upper frame assembly.

3. As you lift the upper frame assembly, tap on the underside of the round crosstube (C) with a rubber mallet/hammer until the frame separates from the hydraulic cylinder shaft.
4. Lift the frame from the hydraulic cylinders.

Replacement



WARNING:

Two people are required for this procedure. If you do not use two people, personal injury could occur.



CAUTION:

Be careful not to damage the base shroud when you install the upper frame assembly.

1. Lift the upper frame, and put the round crosstube (C) of the upper frame onto the hydraulic cylinders.
2. Ensure the frame is in position on both cylinders.
3. Using the ratchet and the 9/16" socket, install the washer (D), lockwasher (B), and bolt (A) to secure the upper frame to the hydraulic cylinder.
4. Using the torque wrench, torque the bolt (A) to 125 ± 19 in-lb (14.1 ± 2.1 N·m).
5. To ensure proper operation, verify that the frame is in position and secured on both cylinders.
6. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4.

4.5 Base Shroud Cover

Tools required: None

Removal

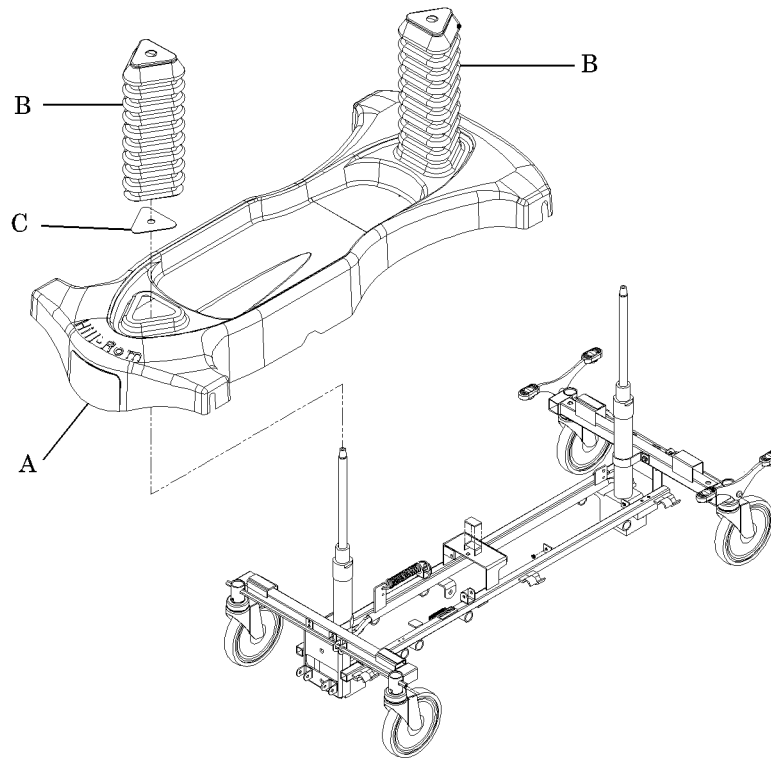
1. For the DuraStar™ Hydraulic Stretcher, remove the upper frame assembly (refer to procedure 4.4). For the DuraStar™ Fixed Height Stretcher, remove the upper frame assembly (refer to procedure 4.8).

NOTE:

The shroud is held in place with Velcro®¹ strips which release when the shroud is lifted.

2. Remove bellows (B), bellows attachment (C), and shroud (A) from the lower frame assembly (see figure 4-6 on page 4-14).

Figure 4-6. Shroud and Bellow Removal



m268_035

1. ¹Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Replacement

NOTE:

The shroud is held in place with Velcro®¹ strips.

1. Install the shroud (A), bellows (B), and the bellows attachment (C).
2. Ensure the shroud cover seats firmly into position and makes contact with all Velcro® strips.
3. For the DuraStar™ Hydraulic Stretcher, install the upper frame assembly (refer to procedure 4.4). For the DuraStar™ Fixed Height Stretcher, install the upper frame assembly (refer to procedure 4.8).
4. Check the shroud and bellows for proper operation.
5. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

4.6 Caster

Tools required:

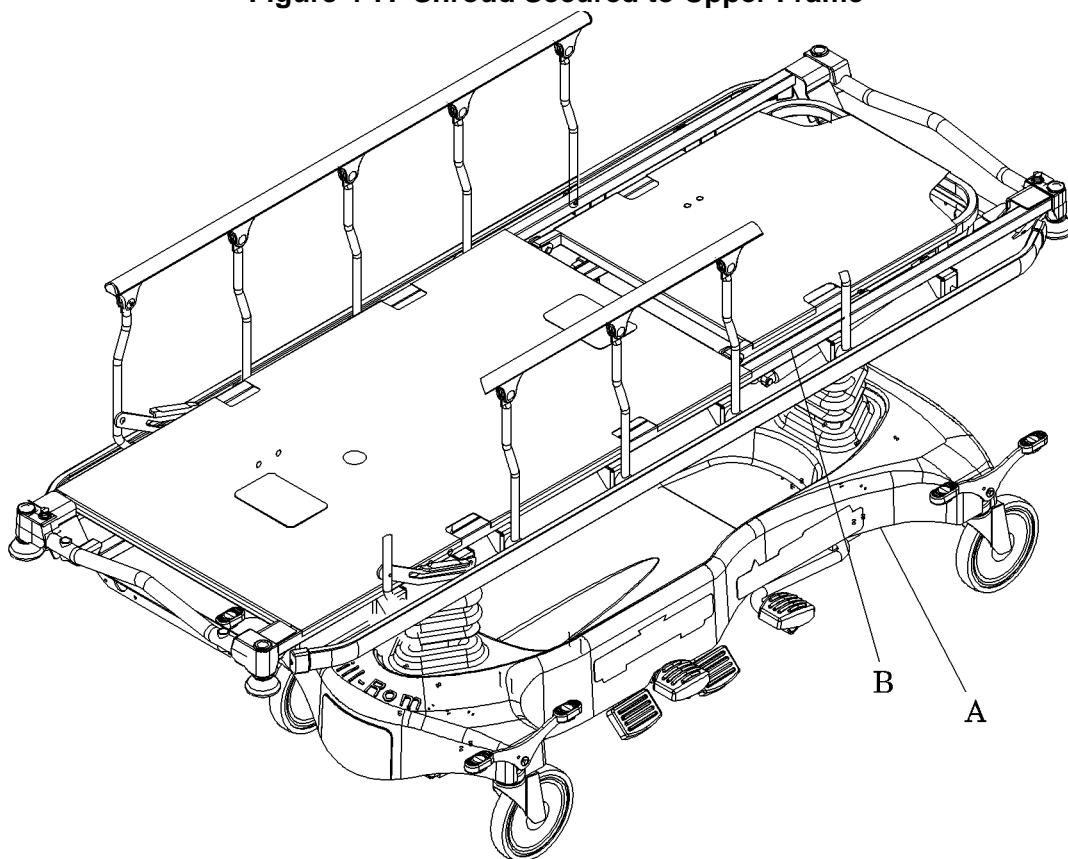
Hammer	
8" x 2" x 4" (20 cm x 5 cm x 10 cm) lumber	
5/16" pin punch	7/16" open end wrench
Phillips head screwdriver	Torque wrench
Blue Loctite® ¹ adhesive	T25 Torx® ² head bit

Removal

1. Secure the base shroud (A) to the upper frame (B) (see figure 4-7 on page 4-17).
 - If patient security straps are available, use them to secure the shroud to the upper frame.
 - If the patient security straps are not available, you can use rope, or you can remove the shroud cover assembly (refer to procedure 4.5).

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

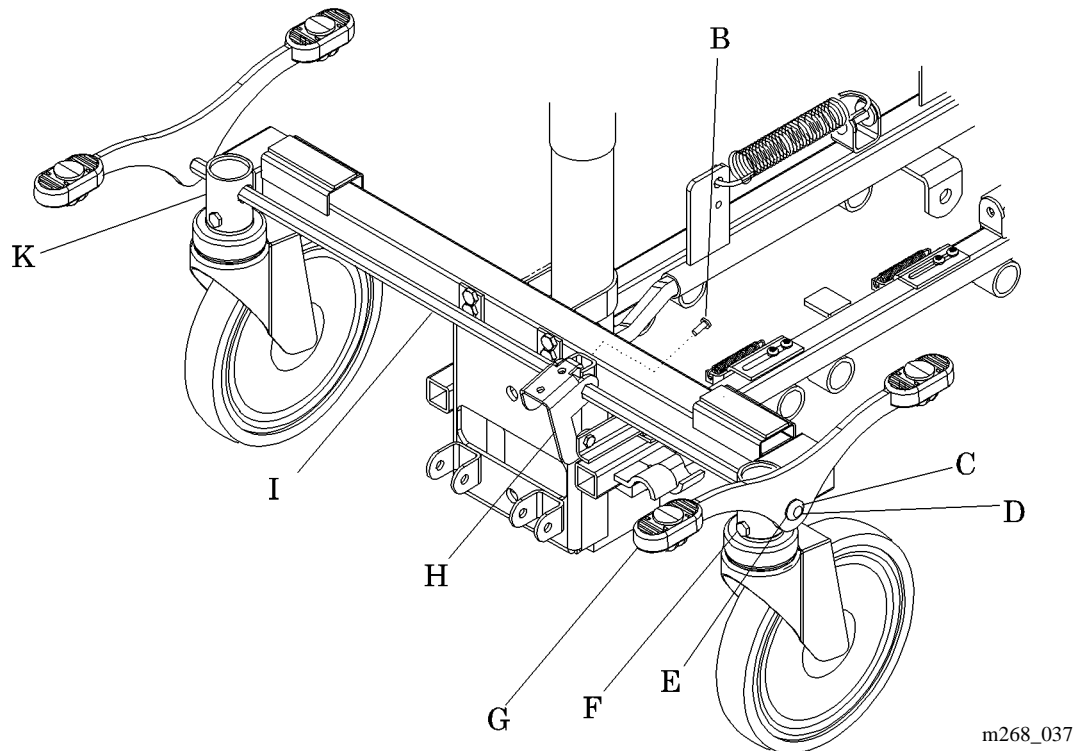
2. Torx® is a registered trademark of Textron, Inc.

Figure 4-7. Shroud Secured to Upper Frame

m268_036

2. Put the stretcher in the steer position by pressing down on the green steer pedal.
3. Remove the screw (B) from the brake/steer link (H) (see figure 4-8 on page 4-18).

Figure 4-8. Caster Replacement



m268_037

4. Put the stretcher in the neutral position.
5. Using the T25 Torx®¹ head, loosen and remove the cap plug (C), the 1/4-20 screw (D), and cap plug retainer (E) on the pedal assembly (G).
6. Remove the pedal assembly (G).
7. Using the hammer and the 5/16" pin punch, gently tap the hex rod (I) out of the old caster.
8. Using the 7/16" open end wrench, remove the caster screw (F).

¹ Torx® is a registered trademark of Textron, Inc.

**WARNING:**

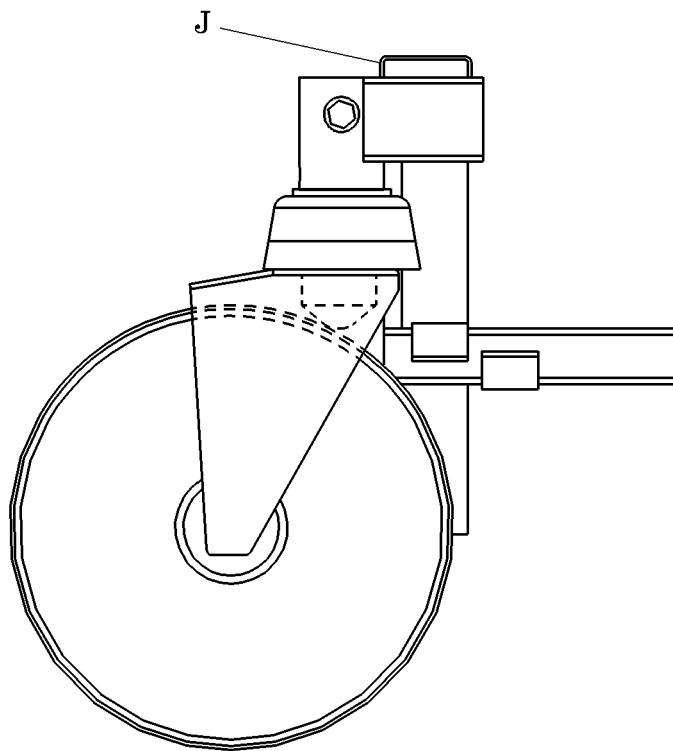
Two people are required for this procedure. If you do not use two people, personal injury could occur.

9. Using the 8" x 2" x 4" (20 cm x 5 cm x 10 cm) lumber, raise and temporarily block the stretcher to remove the caster.

Replacement

1. Orient the caster with the color mark (J) on the foot end of the stretcher. (see figure 4-9 on page 4-19).

Figure 4-9. Caster Brake Orientation



m268_038

2. Slide the caster into the base of the stretcher (K) (see figure 4-8 on page 4-18).
3. Using the 7/16" open end wrench, install the caster screw (F) and use blue Loctite®¹ adhesive to ensure the screws will stay in place.
4. Using the torque wrench, torque the caster screw (F) to 46 ± 6 in-lb (5.2 ± 0.7 N·m).
5. Using the hammer and the punch, tap the hex rod (I) back into place so that the hole in the hex rod matches up to install screw (B).
6. Replace the pedal.
7. Install and tighten cap plug retainer (E), 1/4-20 screw (D) and **new** cap plug (C).
8. Remove the 8" x 2" x 4" (20 cm x 5 cm x 10 cm) lumber.
9. Put the stretcher in the steer position by pressing down on the green steer pedal.
10. Install the brake/steer link screw (B).
11. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

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

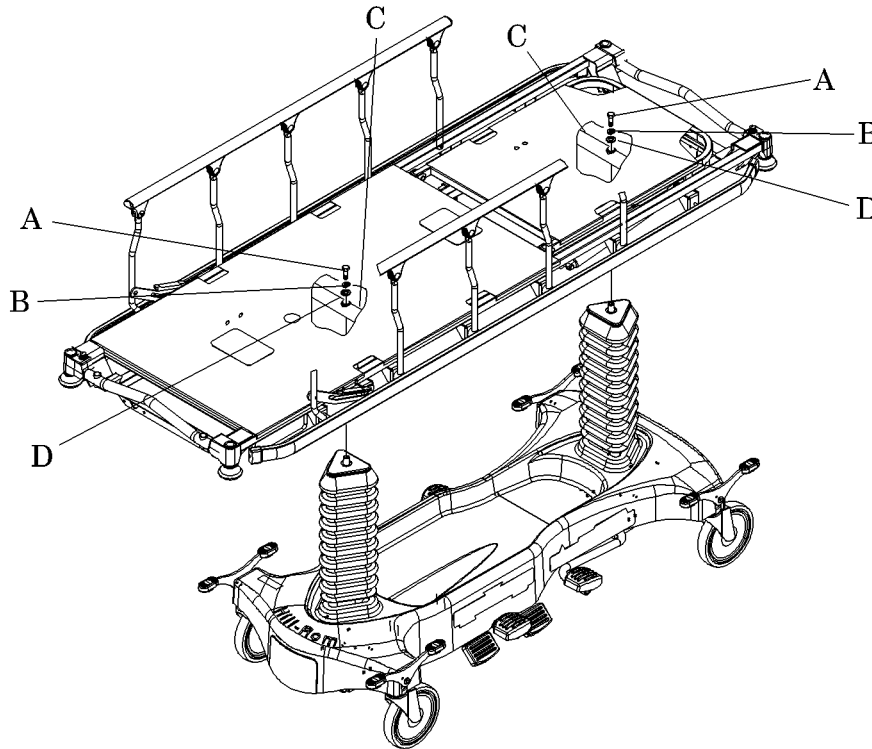
4.7 Stretcher Hydraulic Cylinder

Tools required:	9/16" socket	5/32" Allen™ ¹ wrench
	7/16" socket	Rubber mallet/hammer
	9/16" open end wrench	Torque wrench 0-250 in-lb
	7/16" open end wrench	Ratchet

Removal

1. Raise the stretcher to the high position.
2. Using the ratchet and the 9/16" socket, remove the bolt (A), lockwasher (B), and washer (D) that attach the round crosstube (C) to the hydraulic cylinder (see figure 4-10 on page 4-21).

Figure 4-10. Upper Frame from Hydraulic Cylinder Replacement



m268_034

3. As you lift the upper frame assembly, tap on the underside of the round crosstube (C) with a rubber mallet/hammer until the frame separates from the hydraulic cylinder shaft.

1. Allen™ is a trademark of Industrial Fasteners, Inc.



WARNING:

Ensure you use proper lifting methods. Personal injury can occur. One person can safely lift the upper frame when one end of the upper frame is still secured to the hydraulic cylinder.



CAUTION:

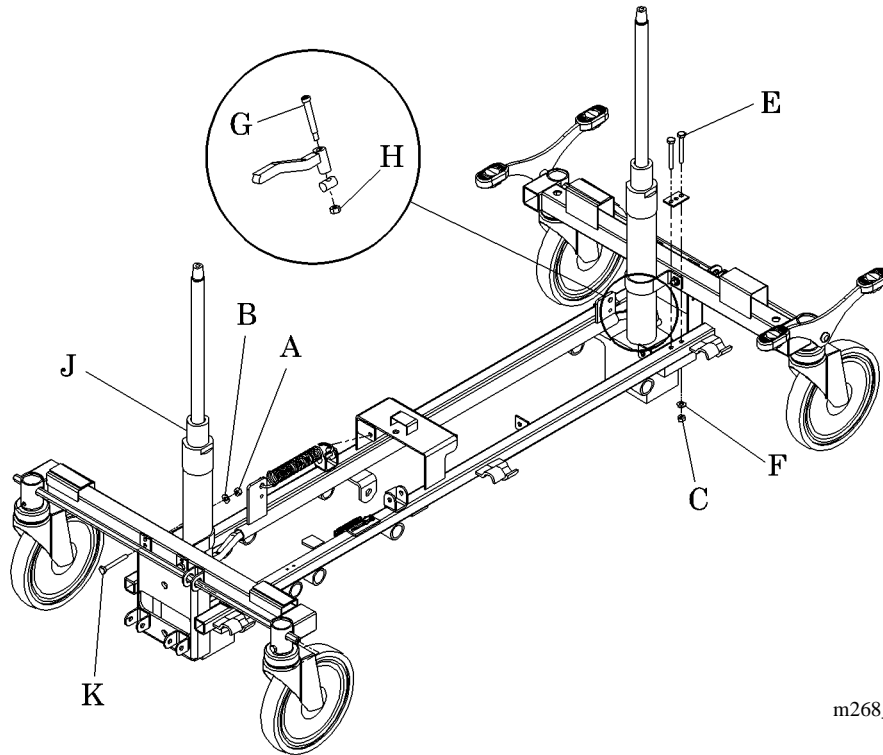
Be careful not to damage the base shroud when you remove the upper frame assembly.

4. Lift and slowly rotate the upper frame, and put the upper frame on the floor or a sturdy chair.

NOTE:

The base shroud and bellows can be removed as one assembly.

5. Lift and rotate the base shroud, bellows, and bellow attachment plates over and away from the cylinder (see figure 4-6 on page 4-14).
6. Remove the cylinder spacers (J) from the hydraulic cylinders (see figure 4-11 on page 4-23).

Figure 4-11. Hydraulic Cylinder Replacement

m268_040

7. Remove the pump linkage shoulder bolt (G) and nut (H) that secures the linkage to the hydraulic cylinder.
8. Using the 7/16" open end wrench, the ratchet, and the 7/16" socket, remove the four locknuts (C), bolts (E), and two washers (F) that secure the cylinder to the foot end support of the lower frame.
9. Using the 7/16" open end wrench, the ratchet, and the 7/16" socket, remove the locknuts (A), washers (B), and bolts (K) that secure the cylinder to the head end support of the lower frame.

**WARNING:**

Ensure you use proper lifting methods. Personal injury can occur. The weight of the lower frame, with one end of the upper frame still secured to the hydraulic cylinder, acts as a counterweight during the lifting process. One person can safely perform this procedure.

10. Lift the lower frame, and remove the cylinder.

Replacement



WARNING:

Ensure you use proper lifting methods. Personal injury can occur. The weight of the lower frame, with one end of the upper frame still secured to the hydraulic cylinder, will act as a counterweight during the lifting process. One person can safely perform this procedure.



WARNING:

Make sure you use the hydraulic cylinder with the correct part number for this product. The surgical stretcher uses a hydraulic cylinder that has a slower descent rate. The replacement of the cylinders is the same; be sure the correct hydraulic cylinder is used, or personal injury can occur.



CAUTION:

Leave the cylinder rod, hold-down assembly in place until the cylinder is secured to the frame assembly. Equipment damage can occur.

1. Lift the lower frame, and place the new cylinder with the correct part number into position.
2. Using the 7/16" open end wrench, the ratchet, and the 7/16" socket, install the bolts (K), washers (B), and locknuts (A) to secure the hydraulic cylinder to the head end support of the frame.
3. Using the 7/16" open end wrench, the ratchet, and the 7/16" socket, install the washers (F), bolts (E), and locknuts (C) to secure the cylinder to the foot end support of the frame.
4. Using the torque wrench, torque the nuts (A) and (C) to 65 ± 10 in-lb (7.3 ± 1.1 N·m).
5. Install the hydraulic cylinder spacers (J) onto the hydraulic cylinders.
6. Install the pump linkage shoulder bolt (G) and nut (H).
7. Using the torque wrench, torque the shoulder bolt (G) to 46 ± 6 in-lb (5.2 ± 0.7 N·m).
8. Remove the cylinder rod hold down assembly from the cylinder.

9. Check the pump release adjustment (refer to procedure 4.10).
10. Install the base shroud, bellow, and bellow attachment plates over the cylinder (see figure 4-6 on page 4-14).

**WARNING:**

Ensure you use proper lifting methods. Personal injury can occur. The weight of the lower frame, with one end of the upper frame still secured to the hydraulic cylinder, acts as a counterweight during the lifting process. One person can safely perform this procedure.

**CAUTION:**

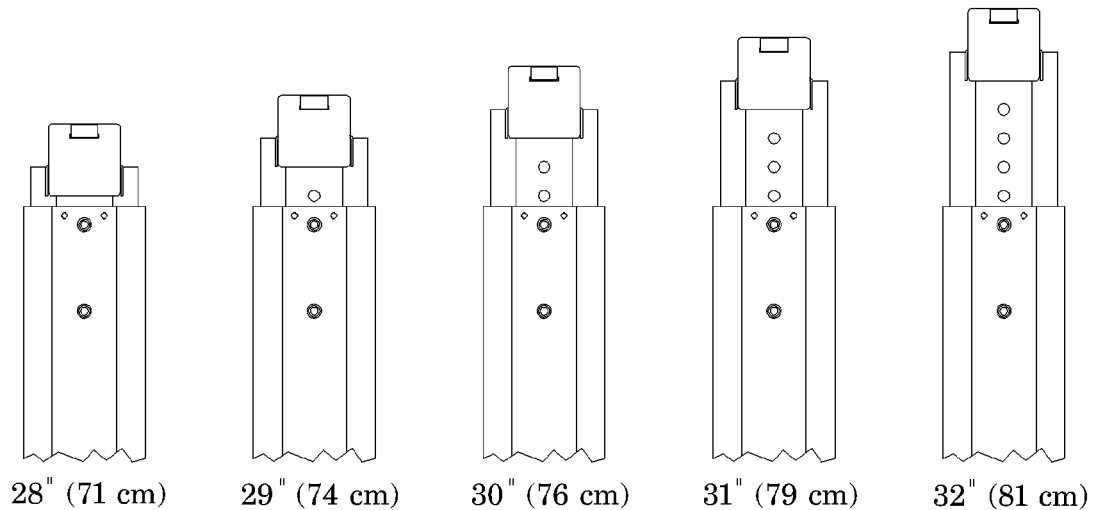
Be careful not to damage the base shroud when you install the upper frame assembly.

11. Lift the upper frame, and put the round crosstube (C) onto the cylinder (see figure 4-10 on page 4-21).
12. Using the ratchet and the 9/16" socket, install the washer (D), lockwasher (B), and bolt (A) to secure the upper frame to the hydraulic cylinder.
13. Using the torque wrench, torque the bolt (A) to 125 ± 19 in-lb (14.1 ± 2.1 N·m).
14. Raise the stretcher to the high position.
15. If more than 24 pumps are required to raise the stretcher to the high position, purge the hydraulic cylinders as follows:
 - a. Push the release pedal, and lower the stretcher to the low position.
 - b. Hold the release pedal down, and pump one of the pump pedals approximately 30 times.

16. Raise the stretcher to the high position.
17. If more than 24 pumps are required to raise the stretcher to the high position, repeat the purge procedure in step 15 until the stretcher can be raised to the high position with only 24 pumps or less.
18. Lower the stretcher to the low position, and verify that the cylinders are descending at the same rate.
19. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4.



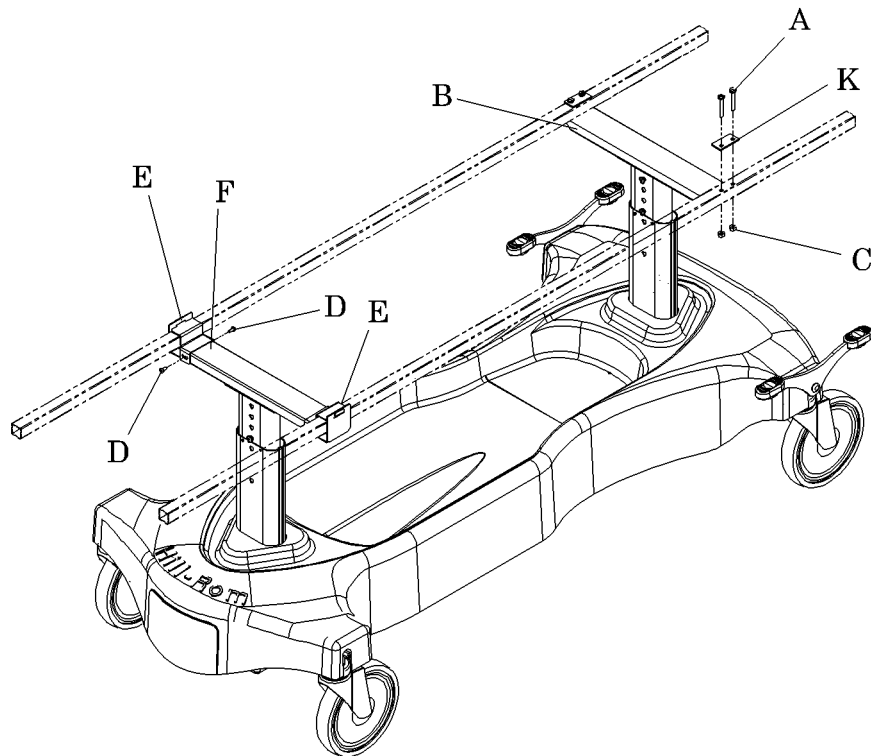
Figure 4-12. Fixed Height Stretcher Adjustment (Typical Head and Foot)



m268_039

2. Using the ratchet and the 1/4" socket, remove the four bolts (A), two plates (K) and nuts (C) that secure the upper frame to the head end weldment (B) (see figure 4-13 on page 4-29).

Figure 4-13. Fixed Height Stretcher Upper Frame Removal/Replacement



m268_041

3. Using the ratchet and T25 Torx®¹ head bit, remove the four screws (D) and two foot end clips (E) that secure the upper frame to the foot end weldment (F).
4. Lift the upper frame from the base assembly and set aside.

1. Torx® is a registered trademark of Textron, Inc.

Replacement

1. Put the upper frame onto the base assembly so that the frame is in position, and the holes align on the head end (B) and foot end weldments (F) (see figure 4-13 on page 4-29).
2. Using the ratchet and the 1/4" socket, install the four bolts (A), two plates (K), and nuts (C) that secure the upper frame to the head end weldment (B).
3. Using the ratchet and T25 Torx®¹ head bit, install the four screws (D) and two foot end clips (E) that secure the upper frame to the foot end weldment (F).
4. Using the torque wrench, torque the four nuts (C) to 65 ± 10 in-lb (7.3 ± 1.1 N·m).

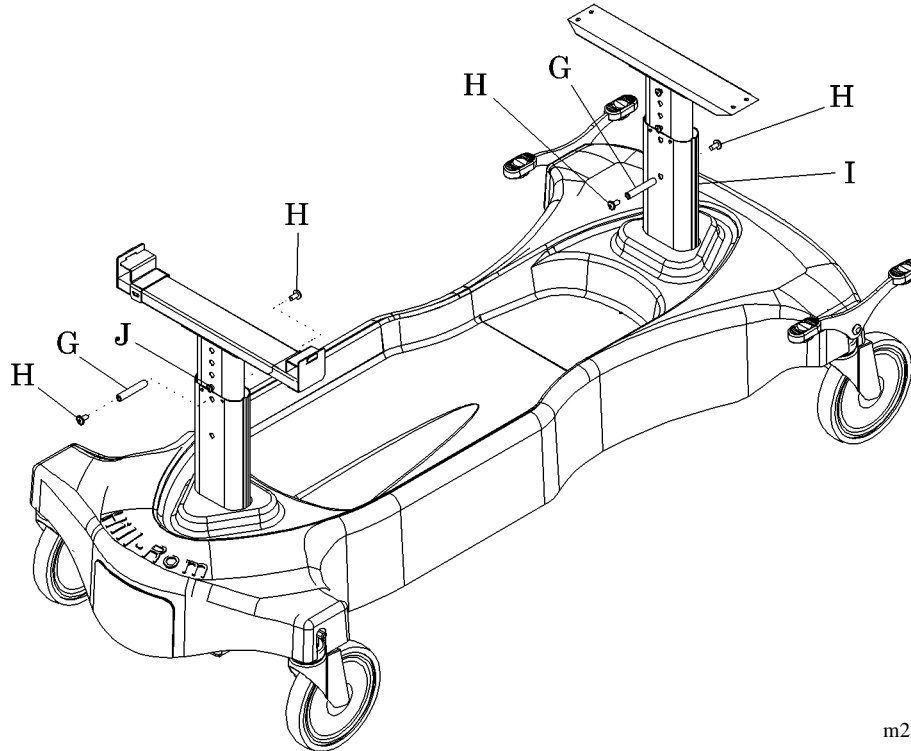
Adjustment

1. Using the 1/4" Allen™² wrench, remove the screws (H) from one side of the head column base weldment (I) and foot column base weldment (J) (see figure 7 on page 4-31).

1. Torx® is a registered trademark of Textron, Inc.

2. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-14. Fixed Height Upper Frame Height Adjustment



m268_042

2. Pull the four height adjustment pins (G) from the opposite end that the screws (H) were removed.
3. Raise or lower the upper frame to the height determined in step 1 of the removal procedure.
4. Install the four height adjustment pins (G) into both the head column (I) and foot column base weldments (J).

NOTE:

The pins should protrude from the opposite side of the base weldments.

5. Using the 1/4" Allen™ wrench, install the screws (H) into the head column base weldment (I) pins (G) and foot column base weldment (J) pins (G).
6. Fully seat the screws on the pins (see figure 4-14 on page 4-31).
7. To ensure proper operation of the DuraStar™ Fixed Height Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

4.9 Caster Brake

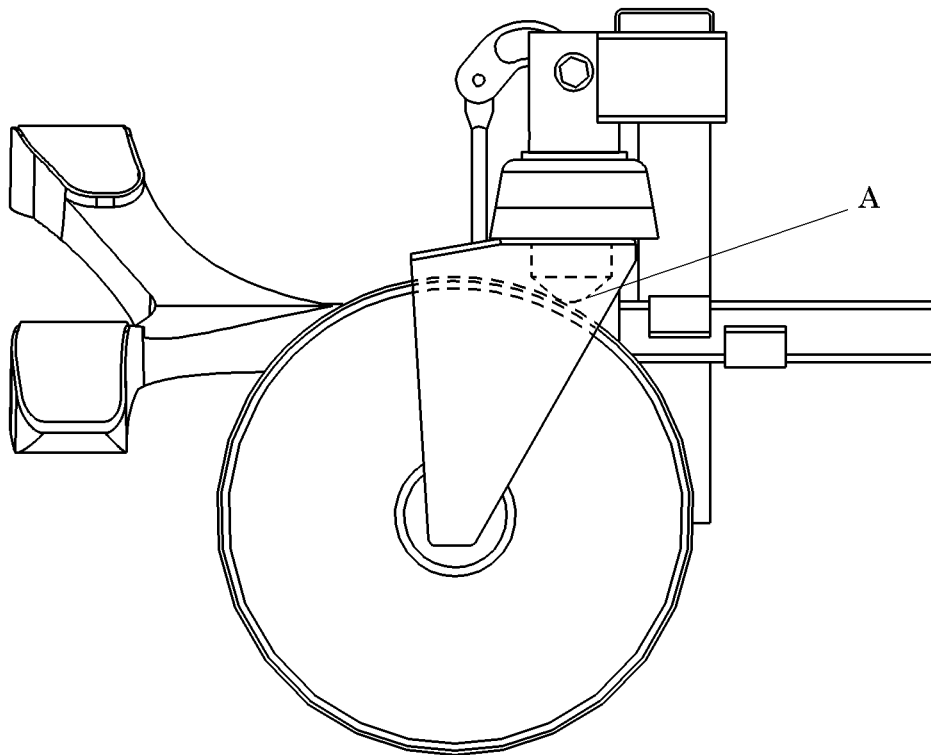
Tools required: 3/16" pin punch
Hammer

0.070" feeler gauge

Adjustment

1. Ensure the brake/steer pedal is in the neutral position.
2. Using the pin punch and hammer, gently spin the brake shoe (A) clockwise to tighten and counterclockwise to loosen (see figure 4-15 on page 4-32).

Figure 4-15. Caster Brake Adjustment



m268_043

3. Using the 0.070" feeler gauge, check the gap between the brake shoe and the wheel.

4. Adjust the gap between the brake shoe and the wheel to 0.073" (1.85 mm) \pm 0.023" (0.58 mm).
5. Check caster for proper operation.
6. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

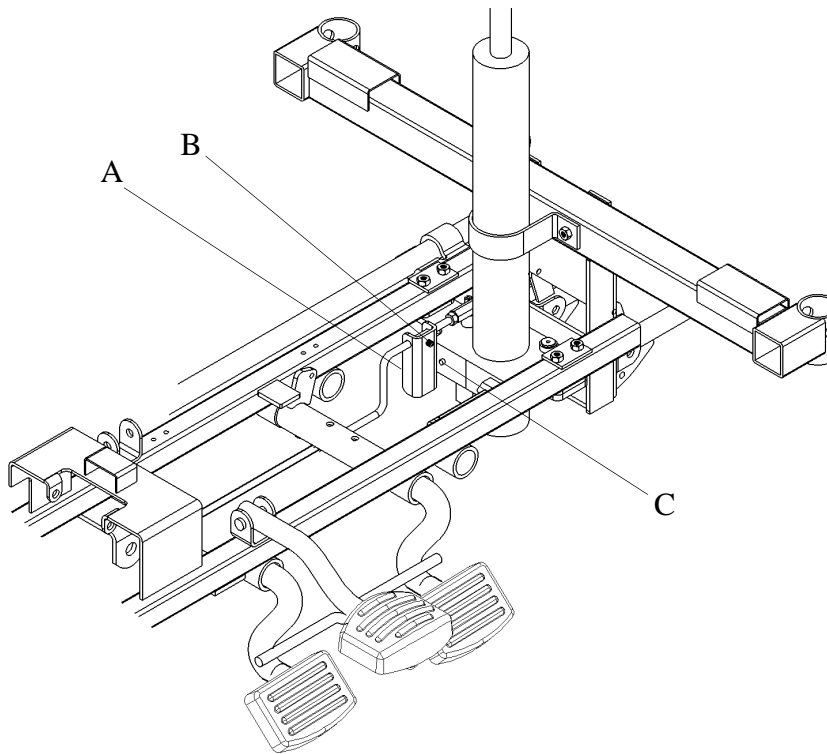
4.10 Hydraulic Cylinder Release

Tools required: Torque wrench 0-250 in-lb
1/8" Allen™¹ wrench

Adjustment

1. Push the corresponding release pedal down until the pedal stop comes in contact with the base frame.
2. Slide the plunger (A) until the cylinder release pin (C) is fully depressed, and the plunger (A) is flush with the cylinder (see figure 4-16 on page 4-34).

Figure 4-16. Release Pedals



m268_044

3. Ensure the plunger (A) is centered on the cylinder release pin (C).
4. Using the 1/8" Allen™ wrench, tighten the screw (B) that holds the plunger in place.

1. Allen™ is a trademark of Industrial Fasteners, Inc.

5. Using the torque wrench, torque the screw (B) to 40 ± 6 in-lb (4.5 ± 0.7 N·m).
6. Check for proper operation of all pedals.
7. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Hydraulic Stretcher Function Checks” on page 2-4. To ensure proper operation of the DuraStar™ Hydraulic Stretcher, perform the “DuraStar™ Fixed Height Stretcher Function Checks” on page 2-7.

NOTES:

Chapter 5

Parts List

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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.

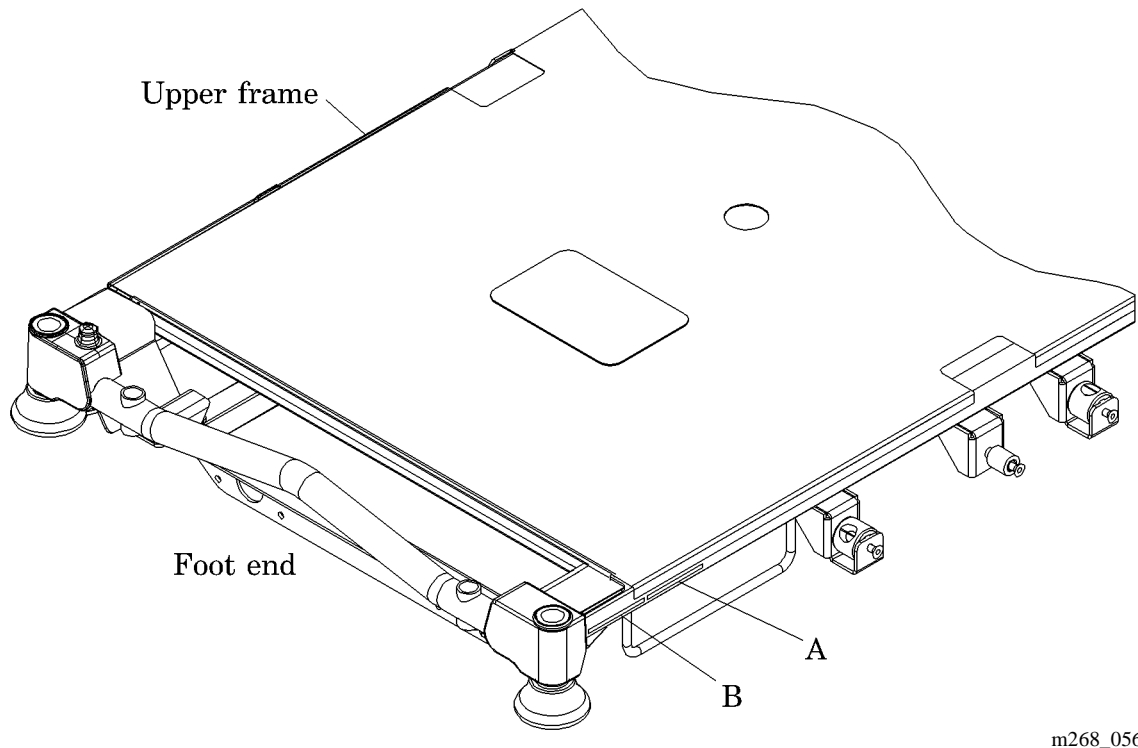
Revised October 20, 1998

NOTES:

Service Parts Ordering

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

Figure 5-1. Product Identification Label Location



m268_056

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)

Hill-Rom also provides a fax number to promptly order parts, request part prices and availability, or follow up on a service order. The fax number is (812) 934-8472.

To order parts, a \$40.00 minimum will prevent a charge for processing your order.

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. If you fail to return the inoperative parts/products within 30 days, Hill-Rom will invoice your facility for the **difference between the exchange price and new price of the part**. Upon return of the inoperative parts/products, Hill-Rom will issue a credit for the discounted price.

Recommended Spare Parts

See table 5-1 on page 5-6 for recommended spare parts list to service ten stretchers or more

Table 5-1. Recommended Spare Parts.

Part number	Quantity	Description
65144 (8000)	1	Hydraulic cylinder head
46150 (8000)	1	Hydraulic cylinder foot
9022927 (8000)	1	Corner steer caster
9022926 (8000)	1	Total lock caster
49174 (8000)	8	Pad, brake/steer
49142060 (8000)	4	Button, brake pedal
491420258 (8000)	4	Button, steer pedal

NOTES:

DuraStar™ Hydraulic Stretcher Base Assembly

Figure 5-2. DuraStar™ Hydraulic Stretcher Base Assembly

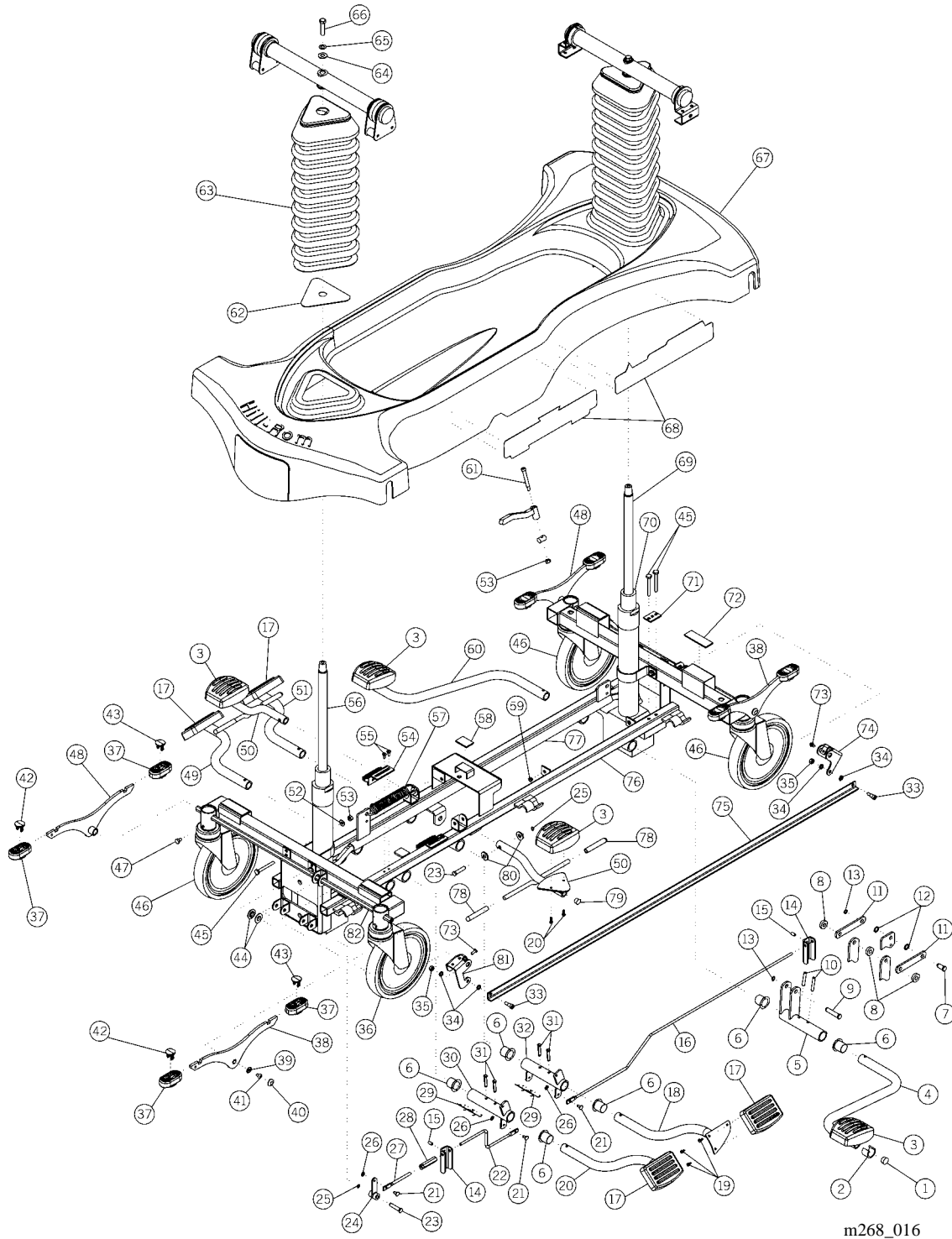


Table 5-2. DuraStar™ Hydraulic Stretcher Base Assembly

Item Number	Part Number	Quantity	Description
1	3815602 (8000)	2	Hole plug
2	48653 (8000)	2	Bumper
3	65084 (8000)	4	Pump/down pedal
4	4614648 (8000)	1	Pump pedal weldment, lh
5	61453 (8000)	1	Hydraulic cylinder head
6	46338 (8000)	6	Split bushing
7	4637502pl (8000)	1	Headed pin
8	46060 (8000)	3	Pump pedal linkage washer
9	4637501pl (8000)	1	Headed pin
10	64784 (8000)	2	Grooved pin, shear-proof
11	46323pl (8000)	2	Pump activation link
12	46061 (8000)	2	Pump linkage washer
13	36957 (8000)	2	Retaining ring
14	46343pl (8000)	2	Trendelenburg offset plunger
15	4648502 (8000)	2	Cup point set screw
16	46316 (8000)	1	Release rod, head
17	65231 (8000)	4	Pedal, Trendelenburg and Reverse Trendelenburg
18	4614348 (8000)	1	Trendelenburg pedal weldment, lh
19	42142 (8000)	20	Pan head screw
20	4645148 (8000)	1	Reverse Trendelenburg pedal weldment, lh
21	48650 (8000)	3	Grooved pin
22	46317 (8000)	1	Release rod, foot
23	4645404 (8000)	3	Pin
24	46053 (8000)	1	Reverse Trendelenburg rod support guide
25	43059 (8000)	3	Retaining ring
26	17291 (8000)	3	Pushnut
27	46430 (8000)	1	Wire form extension
28	46320pl (8000)	1	Turnbuckle

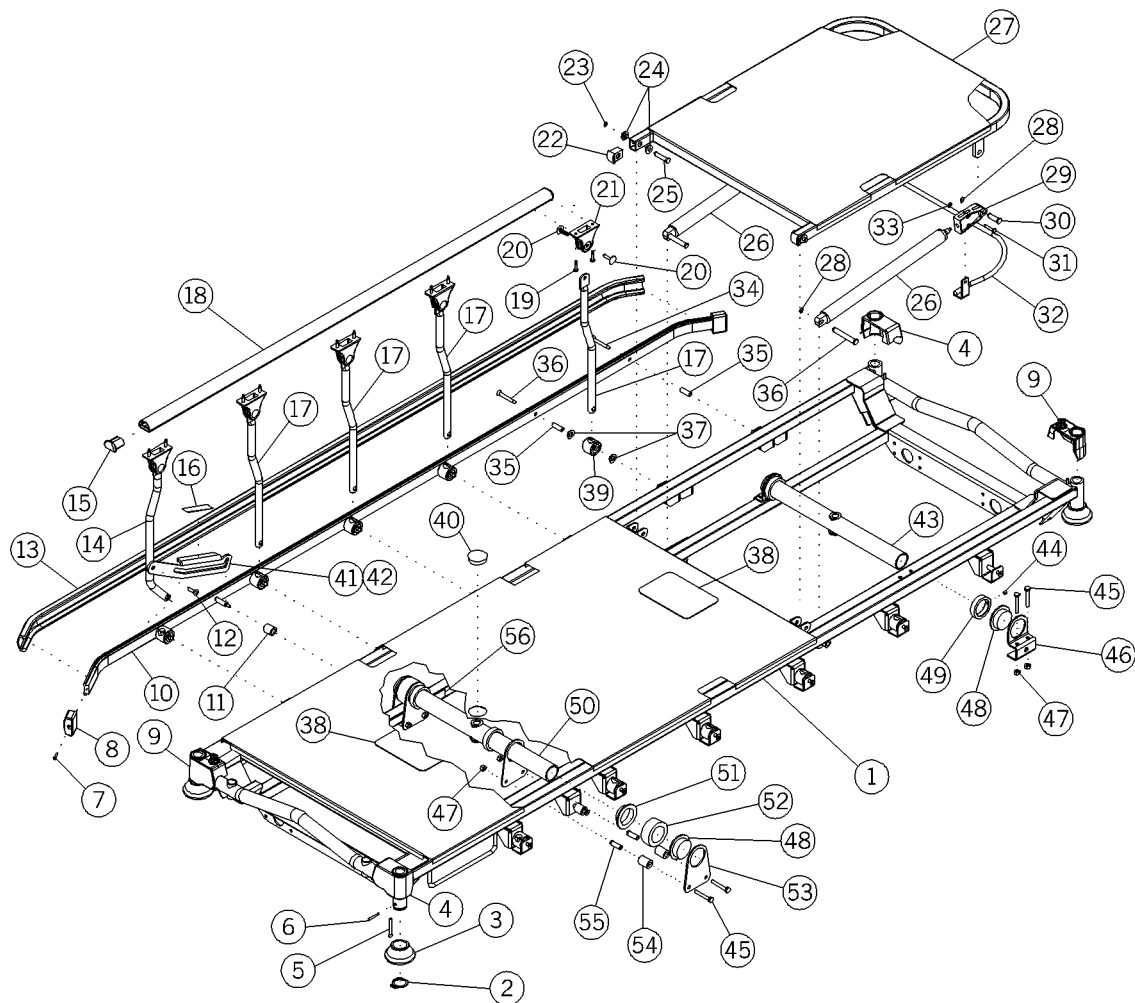
Item Number	Part Number	Quantity	Description
29	62050 (8000)	2	Rue ring
30	46094pl (8000)	1	Reverse Trendelenburg connection tube weldment
31	65024 (8000)	4	Clevis pin
32	46148pl (8000)	1	Trendelenburg connection tube weldment
33	9025806 (8000)	2	Shoulder screw
34	65142 (8000)	4	Plastic washer (brake/steer)
35	9023404 (8000)	2	Hex nylock nut
36	9022926 (8000)	1	Total lock caster (red)
37	49174 (8000)	8	Pad, brake/steer pedal
38	6514601 (8000)	1	Brake/steer pedal weldment
39	65298 (8000)	4	Cap plug retainer, brake/steer link
40	65297 (8000)	4	Cap plug, brake/steer link
41	4388002 (8000)	4	Screw, lock head
42	4914201 (8000)	4	Button, brake/steer pedal
43	4914202 (8000)	4	Button, brake/steer pedal
44	4630 (8000)	4	Bushing
45	9001836 (8000)	12	Bolt
46	9022927 (8000)	3	Corner steer caster (green)
47	46098 (8000)	4	Caster screw
48	6514602 (8000)	2	Brake/steer pedal weldment, rh
49	4645248 (8000)	1	Reverse Trendelenburg pedal weldment
50	4614248 (8000)	2	Center release pedal weldment
51	4614448 (8000)	1	Trendelenburg pedal weldment, rh
52	1012 (8000)	4	Washer
53	46088pl (8000)	2	Trendelenburg pedal spring bracket
54	4435 (8000)	14	Locknut
55	43878 (8000)	4	Button, head screw
56	46150 (8000)	1	Hydraulic cylinder, foot
57	46480 (8000)	1	Pump return spring
58	4640102 (8000)	1	Velcro® base
59	46491 (8000)	3	Split bushing
60	46145 (8000)	1	Pump pedal weldment, rh

Item Number	Part Number	Quantity	Description
61	9025828 (8000)	2	Screw
62	65513 (8000)	2	Bellows attachment plate
63	65105 (8000)	2	Bellows
64	4540 (8000)	2	Washer
65	41459 (8000)	2	Lock washer
66	9001724H (8000)	2	Screw
67	6510701 (8000)	1	Base shroud, hydraulic
68	65312 (8000)	2	DuraStar™ base label kit
69	61453 (8000)	1	Hydraulic cylinder, head end
70	6504702 (8000)	2	Gas cylinder spacer
71	4609201pl (8000)	4	Hydraulic cylinder bracket washer
72	4640101 (8000)	4	Velcro® base
73	16042 (8000)	2	Screw
74	65109 (8000)	1	Brake/steer link, head
75	65241 (8000)	1	Brake steer angle
76	4609501 (8000)	1	Base weldment
77	46057pl (8000)	1	Pump linkage weldment
78	39723 (8000)	4	Sleeve - Trendelenburg handle
79	3815601 (8000)	2	Hole plug
80	46487 (8000)	4	Plastic washer
81	65110 (8000)	1	Brake/steer link, foot
82	65106 (8000)	2	Hex rod

a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

DuraStar™ Hydraulic Stretcher Upper Frame Assembly

Figure 5-3. DuraStar™ Hydraulic Stretcher Upper Frame Assembly



m268_020

Table 5-3. DuraStar™ Hydraulic Stretcher Upper Frame Assembly

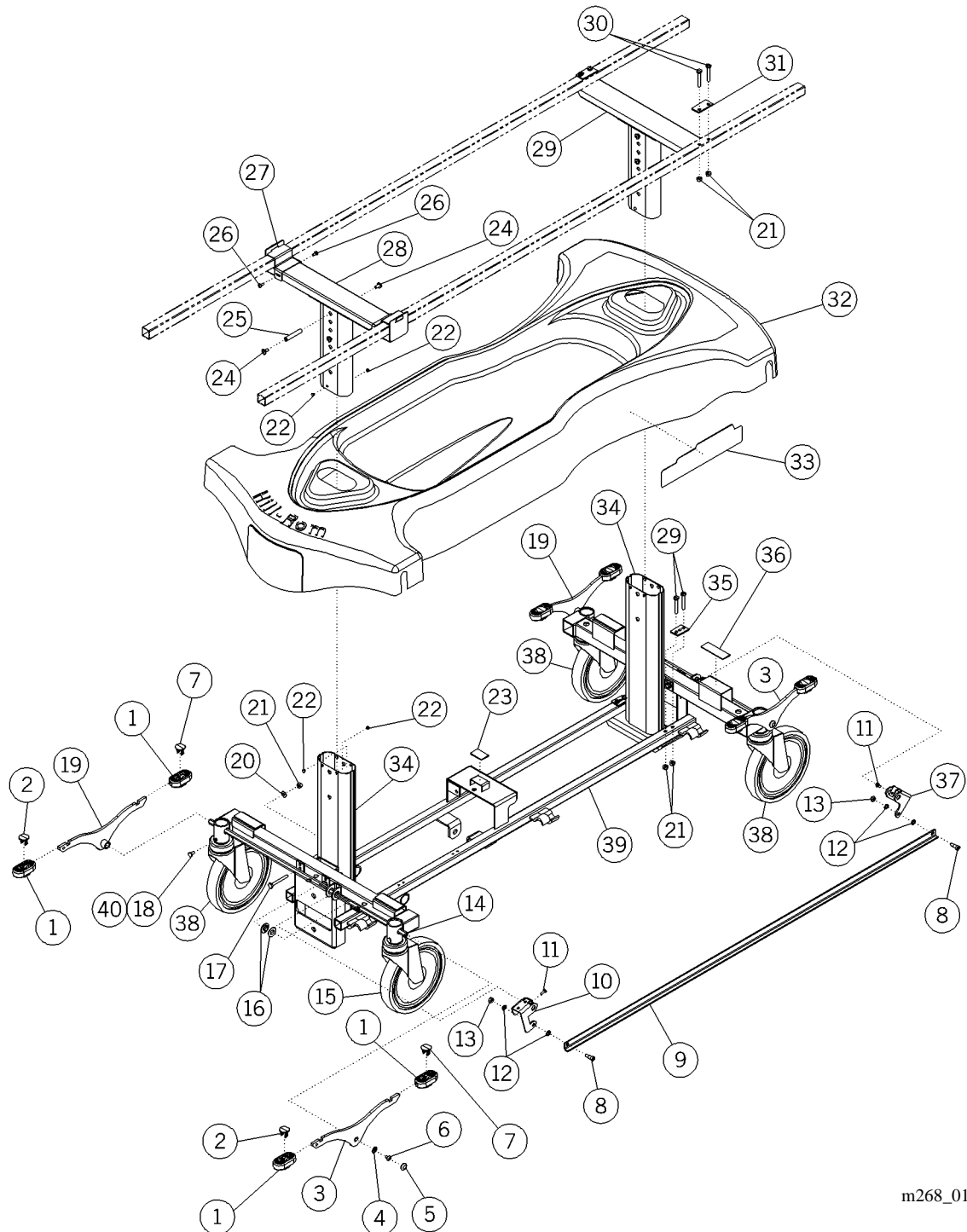
Item Number	Part Number	Quantity	Description
1	65149 (8000)	1	Upper frame weldment
2	46361 (8000)	4	Retaining ring
3	4603801 (8000)	4	Bumper, upper frame
4	46019 (8000)	2	Corner shroud, rh
5	48621 (8000)	4	Screw
6	40766 (8000)	4	Roll pin
7	46015 (8000)	4	Bottom rail end cap screw
8	46372 (8000)	4	Bottom rail end cap
9	46029 (8000)	2	Corner shroud, lh
10	65103 (8000)	2	Bent bottom rail extrusion
11	48643 (8000)	2	Latch bushing
12	48645 (8000)	2	Latch shoulder bolt
13	4637013 (8000)	2	Bent bottom rail extrusion
14	65046 (8000)	2	Siderail tube end
15	4637156 (8000)	4	Top rail end cap
16	4647501 (8000)	2	Labels
17	65045 (8000)	8	Siderail tube
18	4606601 (8000)	2	Top rail assembly
19	43879 (8000)	20	Screw
20	4610302 (8000)	20	Latch ratchet rivet
21	4610656 (8000)	10	Upper pivot bracket
22	46113 (8000)	2	Tube plug
23	43059 (8000)	2	Retaining ring
24	46045 (8000)	4	Surface pivot bushing
25	4645404 (8000)	2	Pin
26	46191 (8000)	2	Head panel gas spring
27	461950148 (8000)	1	Head/foot panel weldment
28	36957 (8000)	4	Retaining ring
29	38741 (8000)	2	Gas release spring
30	4637503pl (8000)	2	Headed pin
31	9001216 (8000)	2	Truss head rivet

Item Number	Part Number	Quantity	Description
32	46190 (8000)	1	Head release handle weldment
33	17291 (8000)	2	Pushnut
34	46362 (8000)	14	Lower pivot bolt
35	46022pl (8000)	14	Roller guide
36	4637504pl (8000)	2	Headed pin
37	46116 (8000)	20	Wave washer
38	46334 (8000)	2	Mattress attachment
39	46041 (8000)	10	Lower pivot block
40	6815603 (8000)	1	Disk, reinforcing
41	6515201 (8000)	1	Siderail latch rh
42	6515202 (8000)	1	Siderail latch lh
43	46197pl (8000)	1	Head support tube weldment
44	46485 (8000)	4	Set screw
45	9001828 (8000)	8	Screw
46	4602748 (8000)	2	Trendelenburg pivot bracket
47	4435 (8000)	8	Locknut
48	46110 (8000)	4	Trendelenburg outer foot bushing
49	49017pl (8000)	4	Anti-sway collar
50	46196 (8000)	1	Foot support tube weldment
51	46109 (8000)	2	Trendelenburg inner foot bushing
52	46172 (8000)	2	Trendelenburg upper roller
53	4611148 (8000)	4	Trendelenburg pivot plate
54	46023 (8000)	4	Roller bushing
55	46339pl (8000)	4	Roller guide, upper frame
56	46332 (8000)	4	Protective tape

NOTES:

DuraStar™ Fixed Height Stretcher Base Assembly

Figure 5-4. DuraStar™Fixed Height Stretcher Base Assembly



m268_017

Table 5-4. DuraStar™ Fixed Height Stretcher Base Assembly

Item Number	Part Number	Quantity	Description
1	49174 (8000)	8	Pad, brake/steer pedal
2	491420160 (8000)	4	Button, brake pedal
3	6514601 (8000)	2	Brake/steer pedal weldment
4	65298 (8000)	4	Cap plug retainer, brake/steer link
5	65297 (8000)	4	Cap plug, brake/steer link
6	4388002 (8000)	4	Screw
7	491420258 (8000)	4	Button, steer pedal
8	9025806 (8000)	2	Shoulder screw
9	65241 (8000)	1	Brake/ steer angle
10	65110 (8000)	1	Brake/steer link, foot
11	16042 (8000)	2	SEM screw
12	65142 (8000)	4	Plastic washer (brake/steer)
13	9023404 (8000)	2	Hex nylock nut
14	65106 (8000)	2	Hex rod
15	9022927 (8000)	1	Corner steer caster
16	4630 (8000)	4	Bushing
17	9001836 (8000)	4	Bolt
18	46098 (8000)	4	Caster screw
19	6514602 (8000)	2	Brake/steer pedal weldment
20	1012 (8000)	4	Washer
21	4435 (8000)	16	Locknut
22	34872 (8000)	12	Slide button
23	4640102 (8000)	1	Velcro® base
24	60480 (8000)	8	Screw
25	60479pl (8000)	4	Pin, upright adjustment
26	43878 (8000)	4	Screw
27	6020050 (8000)	2	Support tube brace, foot
28	65542 (8000)	1	Upper frame column weldment, foot
29	6021350 (8000)	1	Upper frame column weldment, head
30	9001828 (8000)	12	Cap screw, head

Item Number	Part Number	Quantity	Description
31	6019848 (8000)	2	Head support bolt spacer
32	6510702 (8000)	1	Base shroud fixed height
33	63829 (8000)	2	Base label kit
34	6021150 (8000)	1	Column base weldment, head
35	4609201pl (8000)	4	Hydraulic cylinder bracket washer
36	4640101 (8000)	4	Velcro® base (head and foot)
37	65109 (8000)	1	Brake/steer link, head
38	9022926 (8000)	3	Total lock caster
39	4609502 (8000)	1	Base weldment, fixed height
40	SA3618 (8000)	As required	Blue Loctite® ^b adhesive

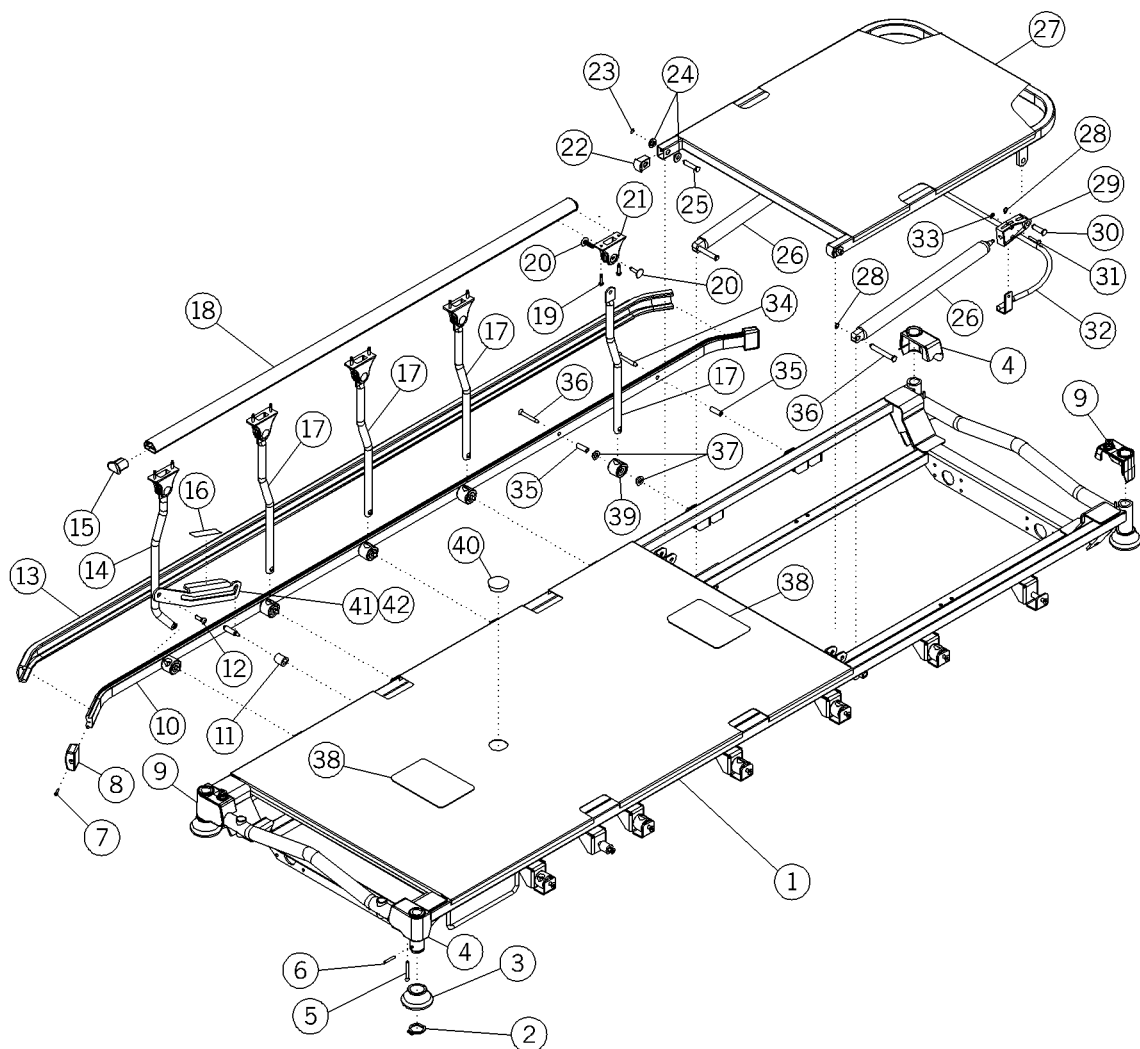
a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

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

NOTES:

DuraStar™ Fixed Height Stretcher Upper Frame

Figure 5-5. DuraStar™ Fixed Height Stretcher Upper Frame



m268_021

Table 5-5. DuraStar™ Fixed Height Stretcher Upper Frame

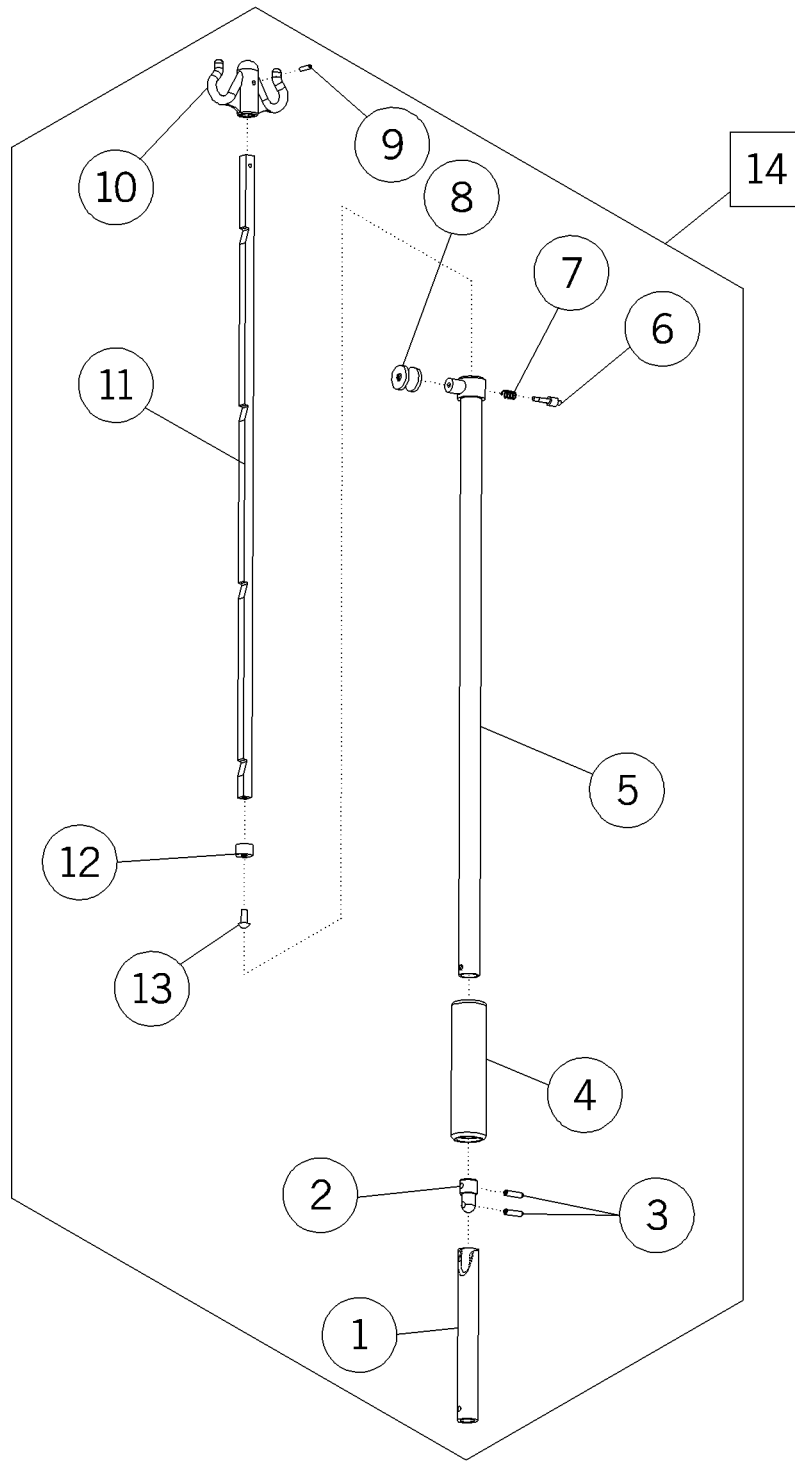
Item Number	Part Number	Quantity	Description
1	65149 (8000)	1	Upper frame weldment
2	46361 (8000)	4	Retaining ring
3	4603801 (8000)	4	Bumper, upper frame
4	46019 (8000)	2	Corner shroud, rh
5	48621 (8000)	4	Screw
6	40766 (8000)	4	Roll pin
7	46015 (8000)	4	Bottom rail end cap screw
8	46372 (8000)	4	Bottom rail end cap
9	46029 (8000)	2	Corner shroud, lh
10	65103 (8000)	2	Bent bottom rail extrusion
11	48643 (8000)	2	Latch bushing
12	48645 (8000)	2	Shoulder bolt, latch
13	4637013 (8000)	2	Bent bottom rail extrusion
14	65046 (8000)	2	Siderail tube end
15	4637156 (8000)	4	Top rail end cap
16	4647501 (8000)	2	Labels
17	65045 (8000)	8	Siderail tube
18	4606601 (8000)	2	Top rail assembly
19	43879 (8000)	20	Screw
20	4610302 (8000)	20	Latch ratchet rivet
21	4610656 (8000)	10	Upper pivot bracket
22	46113 (8000)	2	Tube plug
23	43059 (8000)	2	Retaining ring
24	46045 (8000)	4	Surface pivot bushing
25	4645404 (8000)	2	Pin
26	46191 (8000)	2	Head panel gas spring
27	461950148 (8000)	1	Head/foot panel weldment
28	36957 (8000)	4	Retaining ring
29	38741 (8000)	2	Gas spring release
30	4637503pl (8000)	2	Headed pin

Item Number	Part Number	Quantity	Description
31	9001216 (8000)	2	Truss head rivet
32	46190 (8000)	1	Head release handle weldment
33	17291 (8000)	2	Pushnut
34	46362 (8000)	14	Lower pivot bolt
35	46022 (8000)	14	Roller guide
36	4637504pl (8000)	2	Headed pin
37	46116 (8000)	20	Wave washer
38	46334 (8000)	2	Mattress attachment
39	46041 (8000)	10	Lower pivot block
40	6815603 (8000)	1	Disk, reinforcing
41	6515201 (8000)	1	Siderail latch, rh
42	6515202 (8000)	1	Siderail latch, lh

NOTES:

IV Pole Module Assembly

Figure 5-6. IV Pole Module Assembly



m268_022

Table 5-6. IV Pole Module Assembly

Item Number	Part Number	Quantity	Description
1	65235 (8000)	1	Tube
2	65236 (8000)	1	Pin
3	9685 (8000)	2	Roll pin
4	65288 (8000)	1	Sleeve
5	65237 (8000)	1	Outer tube guide assembly
6	35775 (8000)	1	Stop pin
7	2374 (8000)	1	Lock spring
8	35776 (8000)	1	Stop pin knob
9	42469 (8000)	1	Roll pin
10	46398 (8000)	1	IV hook
11	65234 (8000)	1	Extension rod
12	32202 (8000)	1	Nylon guide
13	10866 (8000)	1	Screw
14	65238 (8000)	1	IV Pole Module

Patient Tray—P490

Figure 5-7. Patient Tray—P490

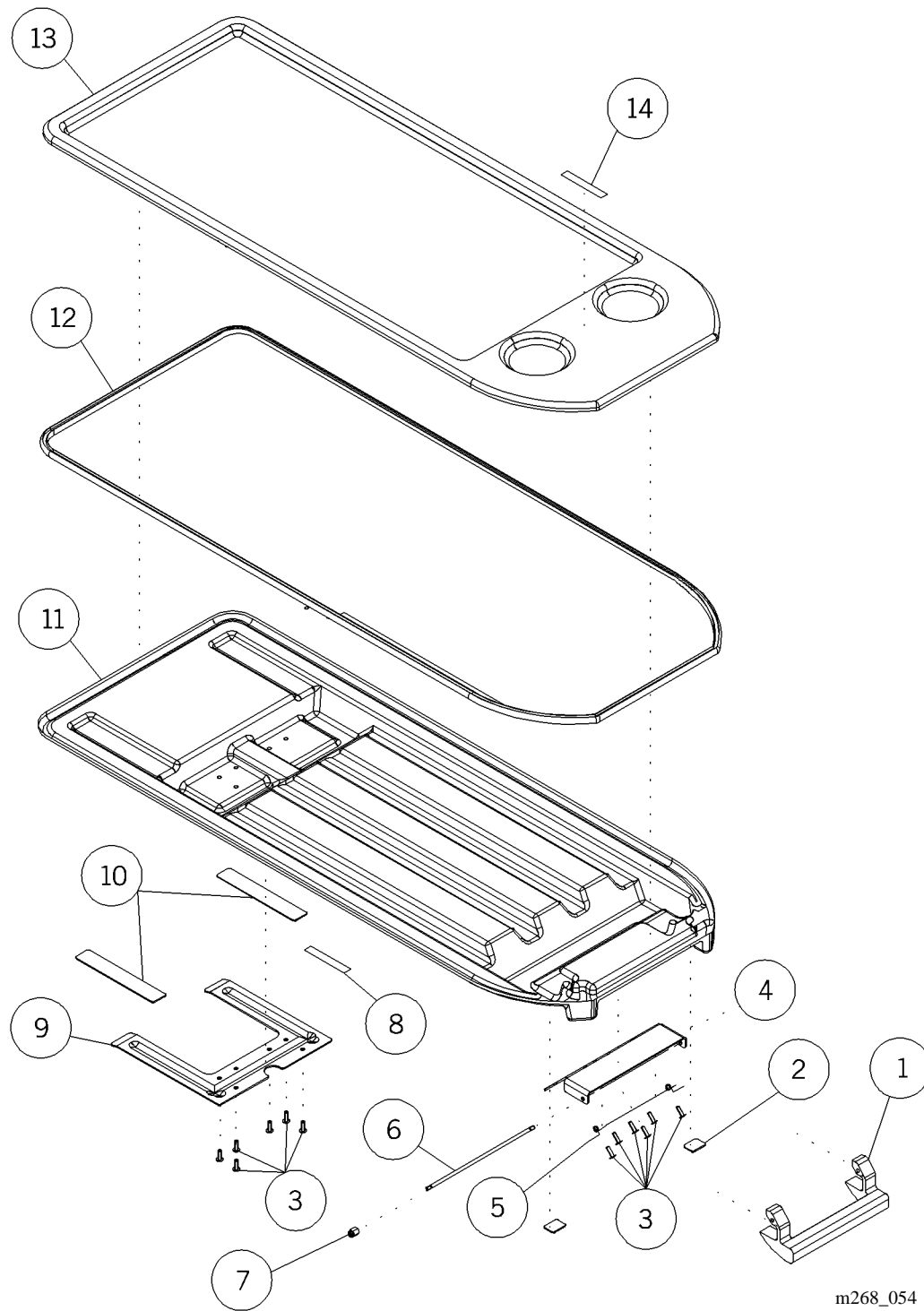


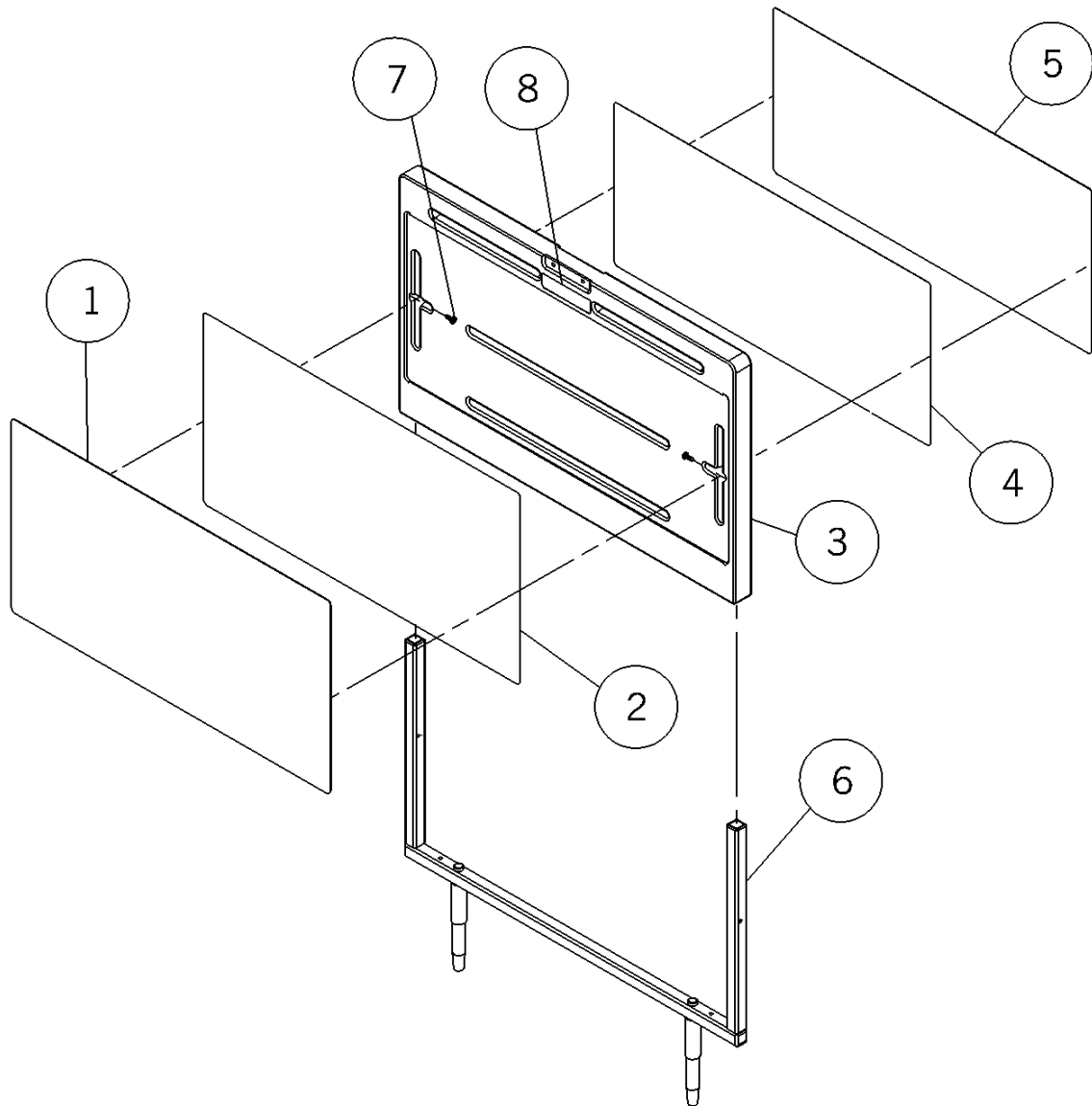
Table 5-7. Patient Tray—P490

Item Number	Part Number	Quantity	Description
1	4640701 (8000)	1	Latch handle hook
2	46436 (8000)	2	Pad
3	46411 (8000)	12	Bulbex® ^a blind rivet
4	4640648 (8000)	1	Latch retainer
5	46408 (8000)	1	Spring
6	46412 (8000)	1	Latch rod
7	52261 (8000)	2	Acorn nut
8	46409 (8000)	1	Label—patient tray part number
9	4642948 (8000)	1	Hook bracket
10	46436 (8000)	2	Pad
11	46404 (8000)	1	Bottom panel
12	46432 (8000)	1	Patient tray molding
13	46403 (8000)	1	Top panel
14	46410 (8000)	1	Label—patient tray weight warning

a. Bulbex® is a registered trademark of Industrial Machinery Company.

Footboard—P4120CT

Figure 5-8. Footboard—P4120CT



m268_048

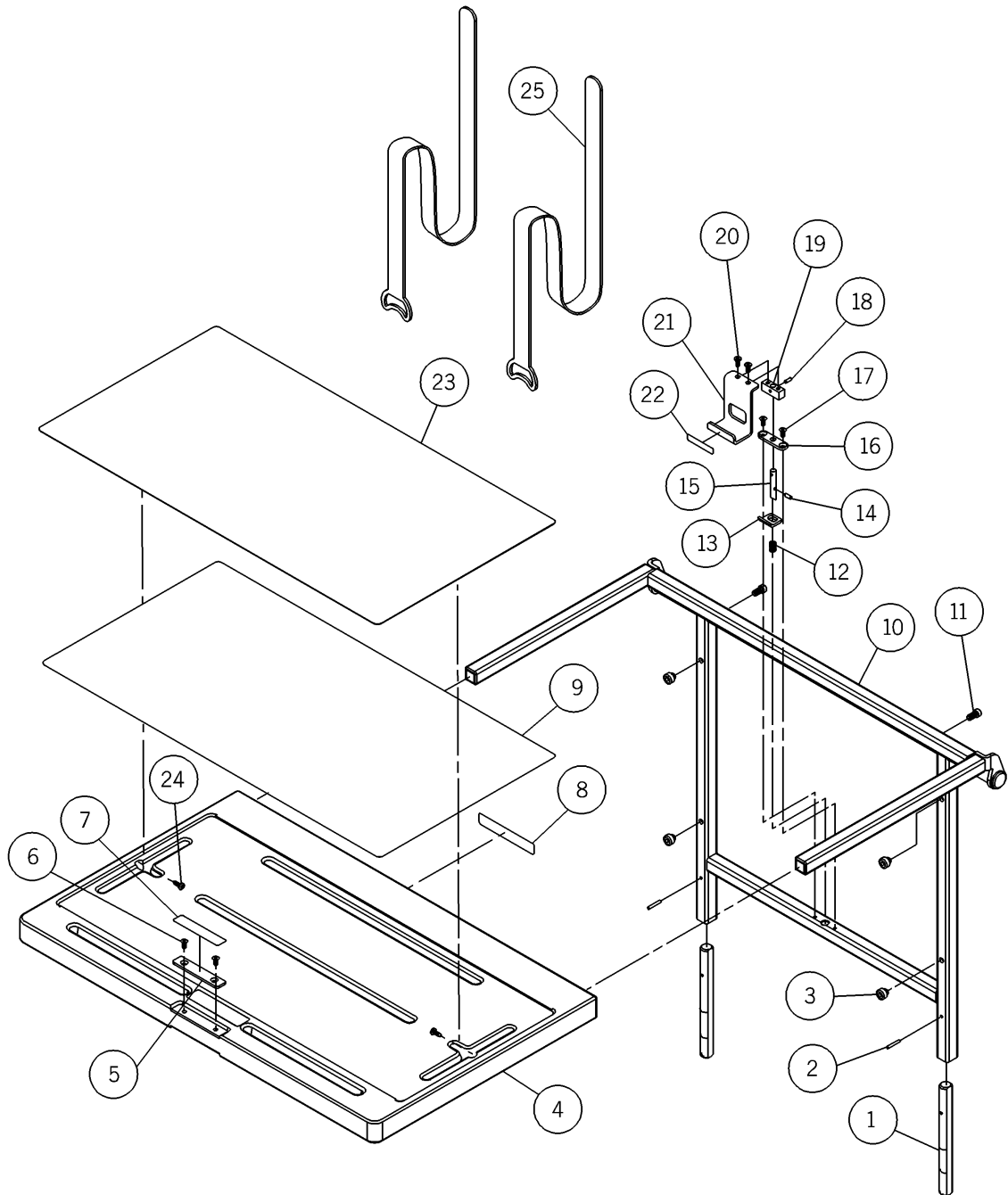
Table 5-8. Footboard—P4120CT

Item Number	Part Number	Quantity	Description
1	39970 (8000)*	1	HPL fascia
2	39969 (8000)	As required	Adhesive tape
3	39047 (8000)	1	Table
4	39034 (8000)	As required	Adhesive tape
5	39033 (8000)*	1	HPL fascia
6	46495pl (8000)	1	Support frame welded assembly
7	4403 (8000)	2	Screw
8	48613 (8000)	1	Label—product footboard

* Specify high pressure laminate color.

Convertible Footboard—P350CT

Figure 5-9. Convertible Footboard—P350CT



m268 049

Table 5-9. Convertible Footboard—P350CT

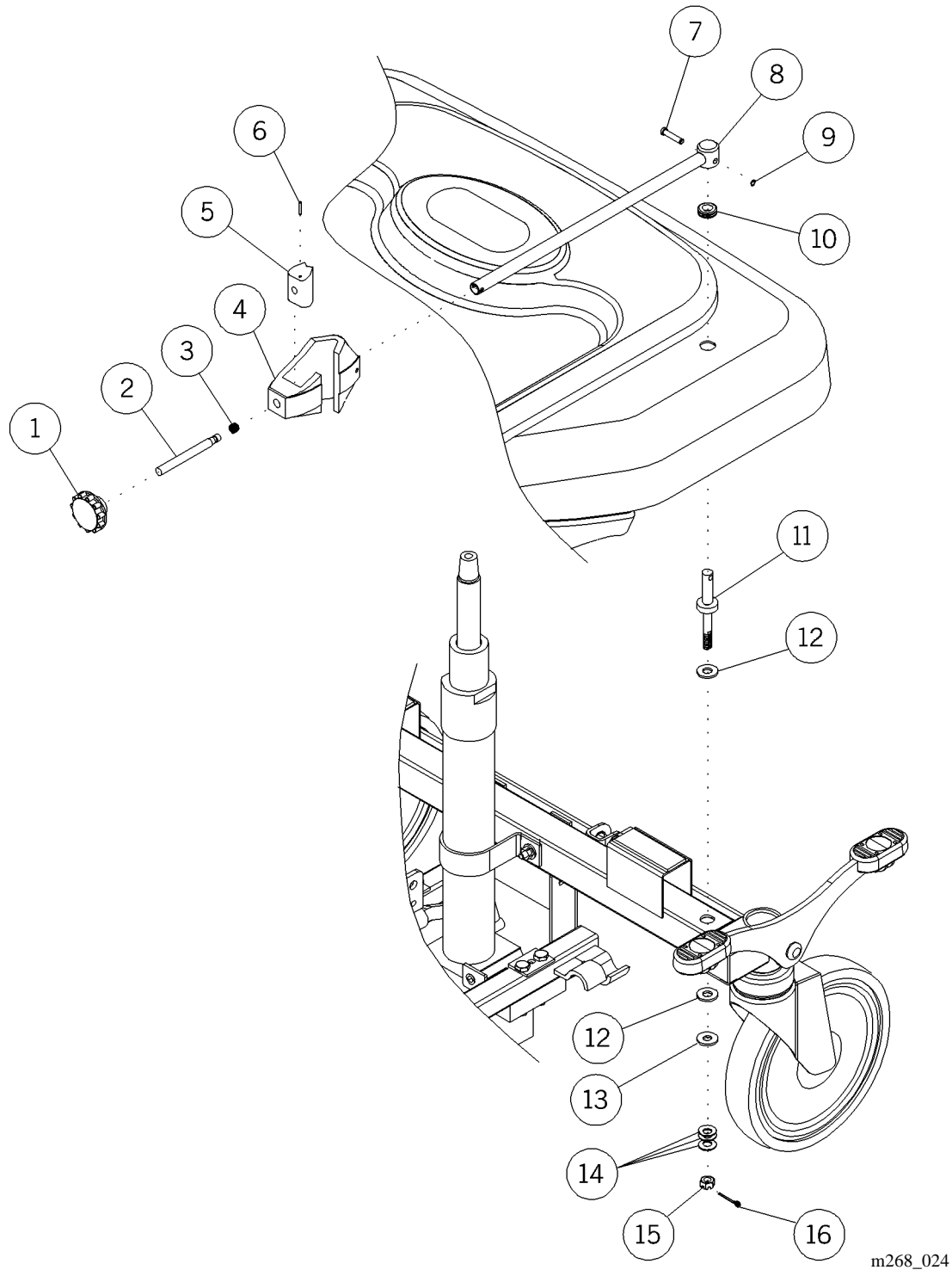
Item Number	Part Number	Quantity	Description
1	46114pl (8000)	2	Convertible footboard post
2	10640 (8000)	2	Roll pin
3	37346 (8000)	4	Button
4	48624 (8000)	1	Table
5	37132pl (8000)	1	Latch plate
6	90040-04 (8000)	2	Screw
7	48651-02 (8000)	1	Label—lift
8	36081 (8000)	1	Caution label—utility shelf
9	39034 (8000)	As required	Adhesive tape
10	4617348 (8000)	1	Assembly
11	3684248 (8000)	2	Levelizer bumper
12	37278 (8000)	1	Compression spring
13	37131 (8000)	1	Latch catch
14	38677 (8000)	1	Roll pin
15	38727 (8000)	1	Latch pin
16	38678 (8000)	1	Plate—plated
17	27671 (8000)	2	Screw
18	38677 (8000)	1	Roll pin
19	38729 (8000)	1	Pin plate—plated
20	17017 (8000)	2	Screw
21	38732 (8000)	1	Latch handle
22	48651-01 (8000)	1	Label—to release latch
23	39033 (8000)*	1	HPL fascia
24	43878 (8000)	2	Torx® button head screw
25	37238 (8000)	2	Equipment strap

a. Torx® is a registered trademark of Textron, Inc.

* Specify high pressure laminate color.

IV Transporter—P491

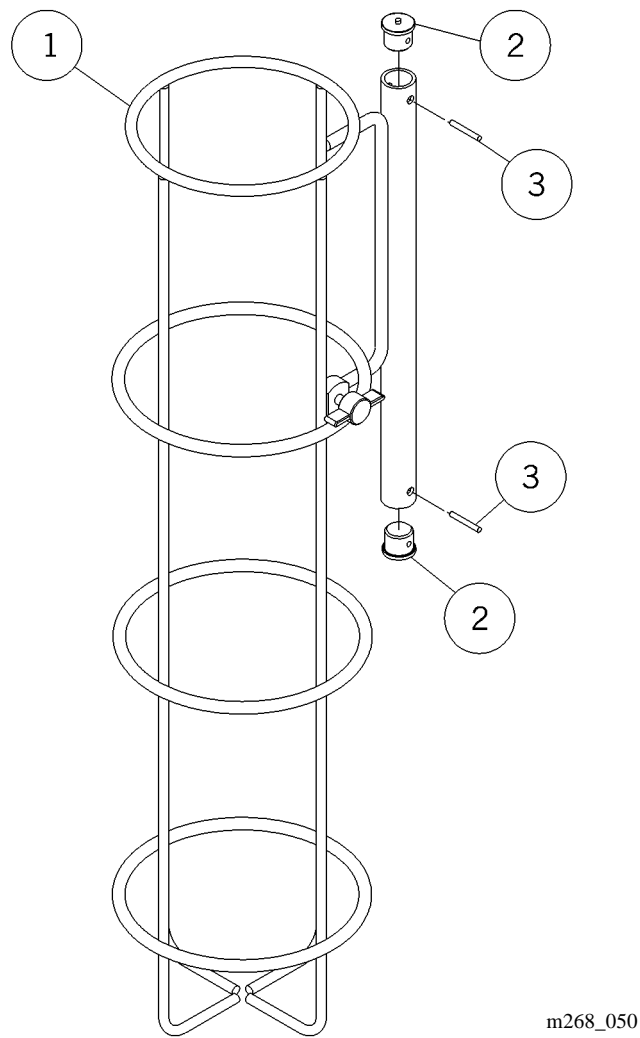
Figure 5-10. IV Transporter—P491



m268_024

Table 5-10. IV Transporter—P491

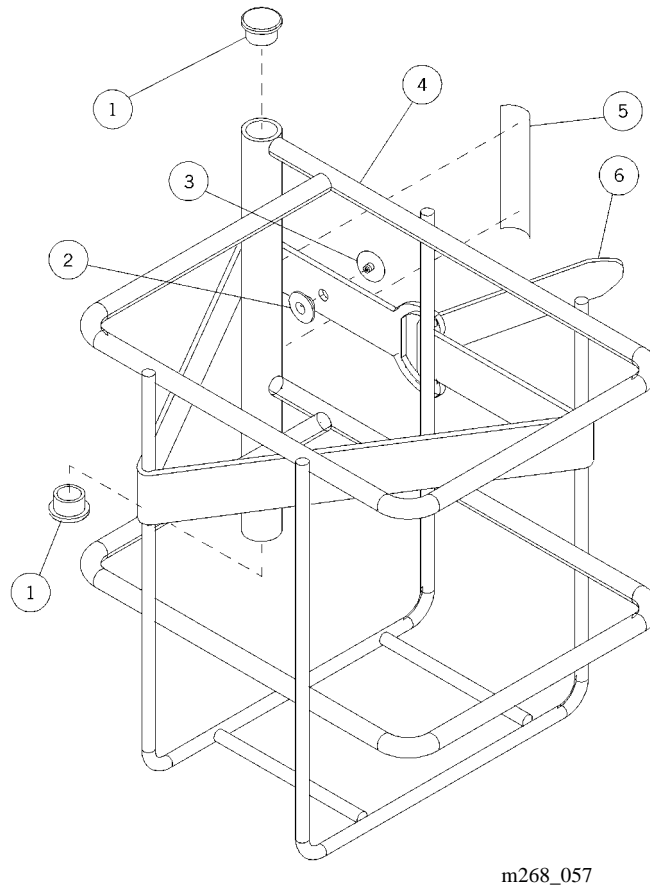
Item Number	Part Number	Quantity	Description
1	48648 (8000)	1	Plastic knob
2	48649pl (8000)	1	Threaded post, knob
3	48652 (8000)	1	Threaded insert
4	48646 (8000)	1	Clamp housing
5	48647 (8000)	1	Notched block, clamp
6	37275 (8000)	1	Roll pin
7	4645404 (8000)	1	Pin
8	4615448 (8000)	1	Tow arm welded assembly
9	43059 (8000)	1	Retaining ring
10	46468 (8000)	1	Rubber grommet
11	46324pl (8000)	1	Tow bar post welded assembly
12	46385 (8000)	2	Bushing
13	46387 (8000)	1	D-washer
14	46399 (8000)	3	Belleville washer
15	46469 (8000)	1	Locknut
16	43077 (8000)	1	Cotter pin

Oxygen Tank Holder—P276**Figure 5-11. Oxygen Tank Holder—P276****Table 5-11. Oxygen Tank Holder—P276**

Item Number	Part Number	Quantity	Description
1	42703 (8000)	1	Oxygen tank holder
2	36339 (8000)	2	Tube end
3	9685 (8000)	2	Roll pin

Liquid Oxygen Tank Holder—P273

Figure 5-12. Liquid Oxygen Tank Holder—P273



m268_057

Table 5-12. Liquid Oxygen Tank Holder—P273

Item Number	Part Number	Quantity	Description
1	29457-48 (8000)	2	Hole Plug
2	37291 (8000)	1	Grommet - female
3	37290 (8000)	1	Grommet - Male
4	6055148 (8000)	1	Liquid Oxygen tank holder weldment
5	60550 (8000)	1	Product label
6	37238 (8000)	1	Equipment strap

Chart Holder—P361

Figure 5-13. Chart Holder—P361

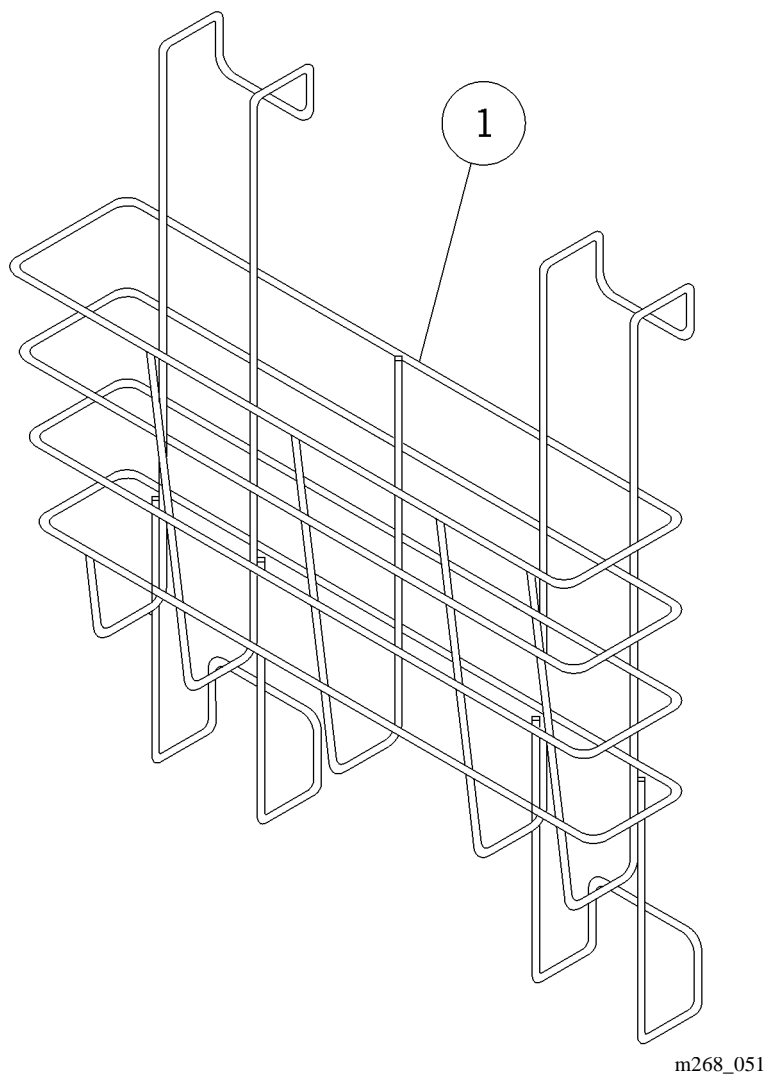
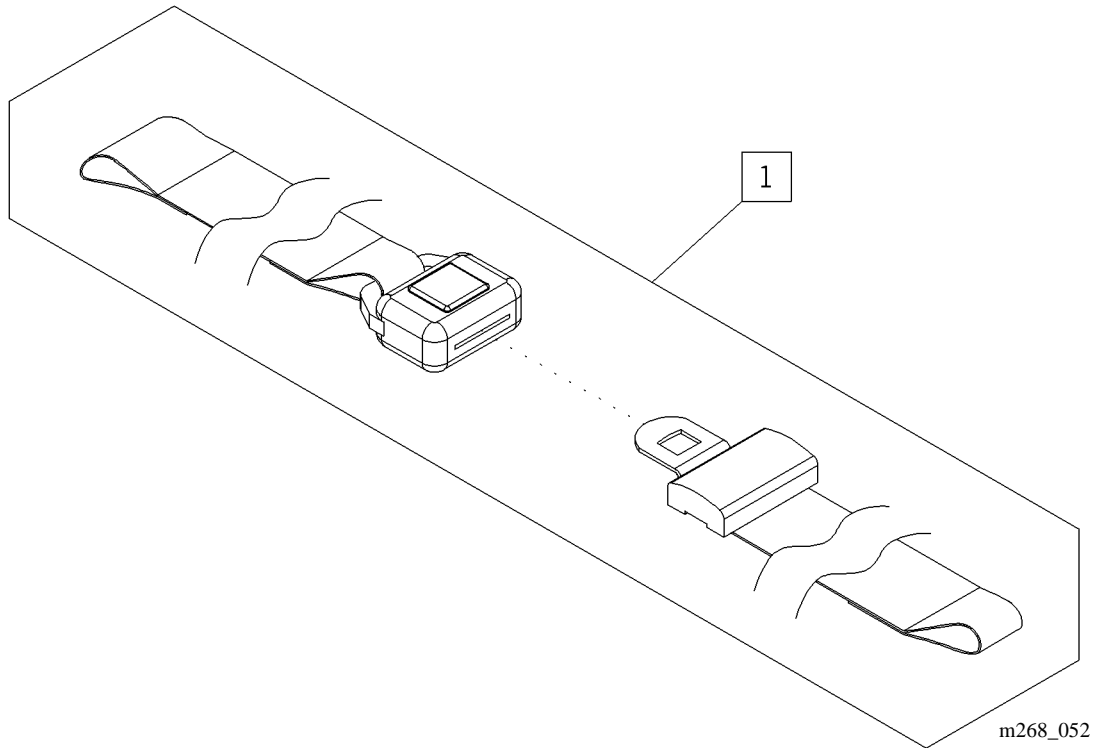


Table 5-13. Chart Holder—P361

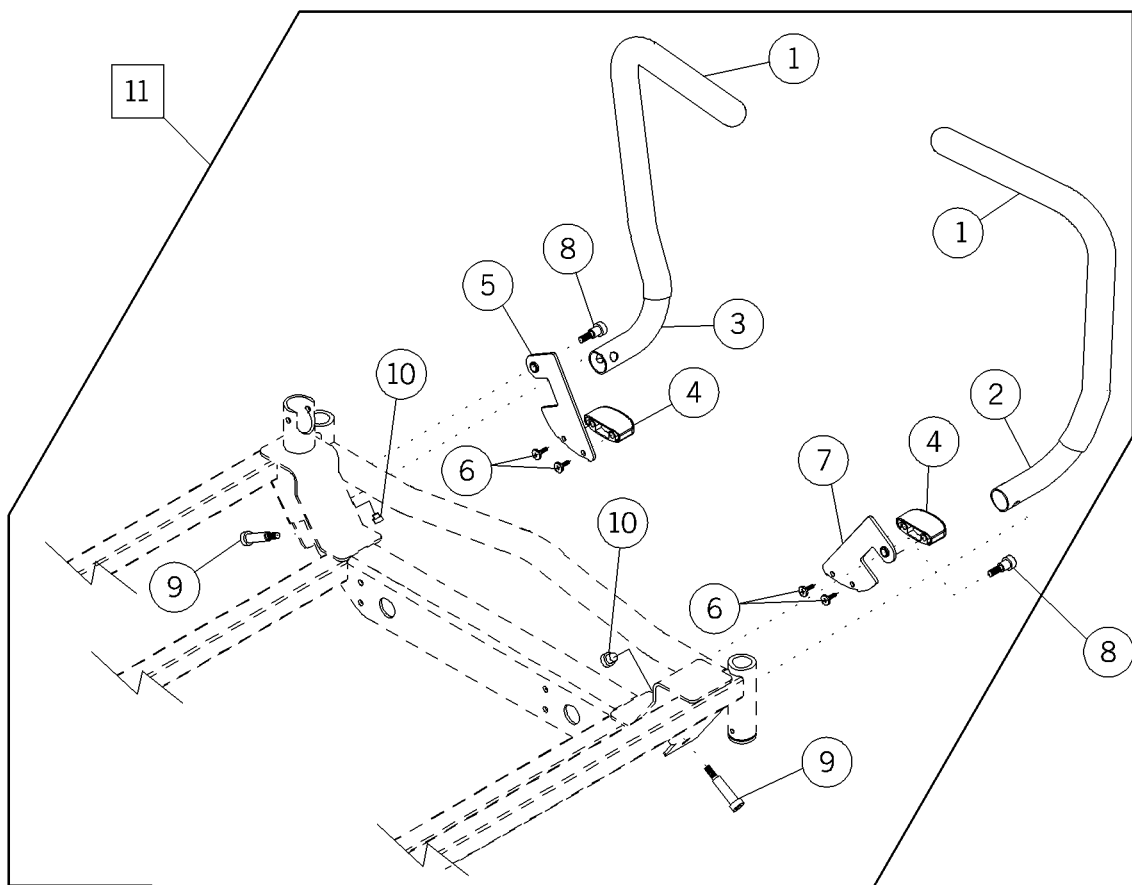
Item Number	Part Number	Quantity	Description
1	P361 (8000)	1	Chart holder

Security Straps—P349**Figure 5-14. Security Straps—P349****Table 5-14. Security Straps—P349**

Item Number	Part Number	Quantity	Description
1	37090 (8000)	2	Security strap

Push Handles

Figure 5-15. Push Handles



m268_053

Table 5-15. Push Handles

Item Number	Part Number	Quantity	Description
1	46395 (8000)	2	Cover
2	46030pl (8000)	1	Left push handle tube
3	46028pl (8000)	1	Right push handle tube
4	46108 (8000)	2	Push handle release
5	46089pl (8000)	1	Push handle latch assembly, rh
6	752 (8000)	4	Screw
7	46033pl (8000)	1	Push handle latch assembly, lh
8	90258-06 (8000)	2	Shoulder screw
9	60837 (8000)	2	Clevis pin
10	46350 (8000)	2	Bumper
11	60839 (8000)	2	Hitch pin
12	46392s (8000)	1	Push handle assembly

Mattresses

Table 5-16. Mattresses

Part Number	Ticking Number	Description
Standard Mattresses—Blue Penn Nyla Top and Bottom Cover		
P1430CAT2 (8000)	6002804	Standard width, tapered head and foot, 2"
P1430CAS2 (8000)	6002801	Standard width, tapered head, square foot, 2"
P1430EAT2 (8000)	6002804	Standard width, tapered head and foot, 2", flame retardant
P1430EAS2 (8000)	6002801	Standard width, tapered head, square foot, 2", flame retardant
P1430CAT3 (8000)	6002805	Standard width, tapered head and foot, 3"
P1430CAS3 (8000)	6002802	Standard width, tapered head, square foot, 3"
P1430EAT3 (8000)	6002805	Standard width, tapered head and foot, 3", flame retardant
P1430EAS3 (8000)	6002802	Standard width, tapered head, square foot, 3", flame retardant
P1430CAT4 (8000)	6002806	Standard width, tapered head and foot, 4"
P1430CAS4 (8000)	6002803	Standard width, tapered head, square foot, 4"
P1430EAT4 (8000)	6002806	Standard width, tapered head and foot, 4", flame retardant
P1430EAS4 (8000)	6002803	Standard width, tapered head, square foot, 4", flame retardant
P1430GA02 (8000 Europe)	—	Standard width, tapered head and foot, 51 mm (2")
P1430GA03 (8000 Europe)	—	Standard width, tapered head and foot, 77 mm (3")
P1431CACP (8000)	6008902 6009002 6009102	Surgical mattress, standard width Contoured head pad insert Contoured head pad

Part Number	Ticking Number	Description
P1431CAFP (8000)	6008902 6009202	Surgical mattress, standard width Flat head pad
P1431EACP (8000)	6008904 6009004 6009104	Surgical mattress, standard width Contoured head pad insert Contoured head pad
P1431EAFP (8000)	6008904 6009204	Surgical mattress, standard width Flat head pad
Comfortline® Mattresses—Blue Penn Nyla Top and Bottom Cover		
P1433CAT (8000)	6002814	Standard width, tapered head and foot
P1433CAS (8000)	6002813	Standard width, tapered head square foot
P1433EAT (8000)	6002814	Standard width, tapered head and foot, flame retardant
P1433EAS (8000)	6002813	Standard width, tapered head square foot, flame retardant
P1433GA0 (8000 Europe)	—	Standard width, tapered head and foot
Standard Mattresses—Lectrolite® Top and Bottom Cover		
P1431CACL (8000)	6008901 6009001 6009101	Surgical mattress, standard width Contoured head pad insert Contoured head pad
P1431CAFL (8000)	6008901 6009201	Surgical mattress, standard width Flat head pad
P1431EACL (8000)	6008903 6009003 6009103	Surgical mattress, standard width Contoured head pad insert Contoured head pad
P1431EAFL (8000)	6008903 6009203	Surgical mattress, standard width Flat head pad

a. Lectrolite® is a registered trademark of Herculite Products, Inc.

NOTES:

Chapter 6

General Procedures

Chapter Contents

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Tool and Supply Requirements.	6 - 9

NOTES:

Cleaning and Care



WARNING:

Follow the product manufacturer's instructions. 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 harsh cleaners, solvents, or detergents. Equipment damage could occur.

General Cleaning

Clean the unit with a lightly dampened cloth using an EPA registered cleaner/disinfectant. Do not use excessive liquid.

Steam Cleaning

Do not use any steam cleaning device on the DuraStar™ Series Stretcher. Excessive moisture can damage mechanisms in this unit.

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.

Disinfection

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

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:

- P/N 8252 M-1 penetrating oil (small bottle—apply to the Oilite® bushings and bearings)
- P/N SA3351 lithium grease (small tube)

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

Preventive Maintenance



WARNING:

Only facility-authorized personnel should perform preventive maintenance on the DuraStar™ Series Stretcher. Preventive maintenance performed by unauthorized personnel could result in personal injury or equipment damage.

The DuraStar™ Series Stretcher requires an effective maintenance program. We recommend that you perform 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 DuraStar™ Series Stretcher. PM will minimize downtime due to excessive wear.

The following PM schedule guides the technician through a normal PM procedure on the DuraStar™ Series Stretcher. 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 DuraStar™ Series Stretcher. However, your facility can modify this checklist or design another to fit your needs. Keeping close records and maintaining the DuraStar™ Series Stretcher are two effective ways to reduce downtime and ensure the patient remains comfortable.

Preventive Maintenance Schedule

Table 6-1. Preventive Maintenance Schedule

Function	Procedure
Brake	Place the stretcher in the brake position, checking to see whether the pedal seats in that position, and all four casters do not roll or rotate. Inspect the brake pads for wear. Adjust if required.
Corner steer	Ensure the pedal is in the steer position and that only the patient left foot end (patient right head end for Europe) caster locks into a position parallel to the side of the bed.
Neutral	Place the stretcher in the neutral position, checking to see that the pedal seats in that position, and all four casters rotate and roll freely.
Caster tires	Check the tires for cuts, wear, tread life, etc.
Pedals	Inspect for wear on pads or missing pads. Ensure all pads are fully seated.
Siderails	Inspect for proper up/down operation ensuring that the rail does not free fall. Inspect the latch for proper operation. Check all the pivot points on the stretcher.
Pivot points	Lubricate all pivot points on the stretcher with the exception of siderail power pivots.
Trendelenburg/ Reverse Trendelenburg	Activate the Trendelenburg and Reverse Trendelenburg. Inspect for proper operation.
Hilow positions	Test the pump action of the stretcher. It should not require more than 24 pumps to achieve maximum height. Test the smoothness of lowering.
Pump pedal	Inspect the pump pedals; ensure both cylinder rods extend. Also check for any linkage interferences.
Back section gas spring	Ensure the gas cylinder operates properly. At its highest position, inspect the gas spring rod for scratches, nicks, or dents. Inspect the gas spring jam nut to ensure it is flush and fully seated.
Push handles	Inspect for proper up/down operation and latching. Lubricate pivots, if required.
Fixed height adjustment	Check for tightness in height adjustment pins and screws.

Function	Procedure
Overall appearance	Inspect for general aesthetics of the stretcher. Touch up the paint where necessary. Inspect all labels, and replace as necessary. Inspect for cleanness.

Table 6-2. Preventive Maintenance Checklist

Date												Function
												Brake
Hill-Rom	Manufacturer											Corner steer
												Neutral
												Caster tires
												Pedals
												Siderails
												Pivot points
												Trendelenburg
												Reverse Trendelenburg
												Hilow positions
												Pump pedal
	Model Number											Back section gas spring
												Push handles
												Fixed height adjustment
												Overall appearance
	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

The following tools and supplies are required to service the DuraStar™ Series Stretcher:

- Torque wrench 0-250 in-lb range
- Phillips head screwdriver
- Slotted head screwdriver
- Sockets sizes 1/8" to 1" in 1/16" increments
- Torx®¹ head bit sizes T20, T25, T30
- Retaining ring removal/installation tool
- Open end and box end wrenches, 1/8" to 1" in 1/16" increments
- Allen™² head wrench, sizes 1/16" to 1/4" in 1/16" increments
- Rubber mallet
- Hammer
- Punch sizes 1/16", 1/8", 5/32", and 5/16"
- 17 mm wrench
- Ratchet
- Wire cutters
- Drill
- Drill bit sizes, 1/8" to 1" in 1/16" increments
- Extraction tool (P/N 429022)

1. Torx® is a registered trademark of Textron, Inc.

2. Allen™ is a trademark of Industrial Fasteners, Inc.

NOTES:

Chapter 7

Accessories

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Accessories

See table 7-1 on page 7-3 for the DuraStar™ Series Stretcher accessories.

Table 7-1. Accessories List

Product Number	Description
P490	Patient tray
P4120CT*	Headboard assembly
350CT*	Convertible footboard
P491	IV transporter
P276	Oxygen tank holder
P273	Liquid oxygen tank holder
46392s	Push handles
P361	Chart holder
P349	Security straps

* Specify high pressure laminate color.

7.1 Patient Tray

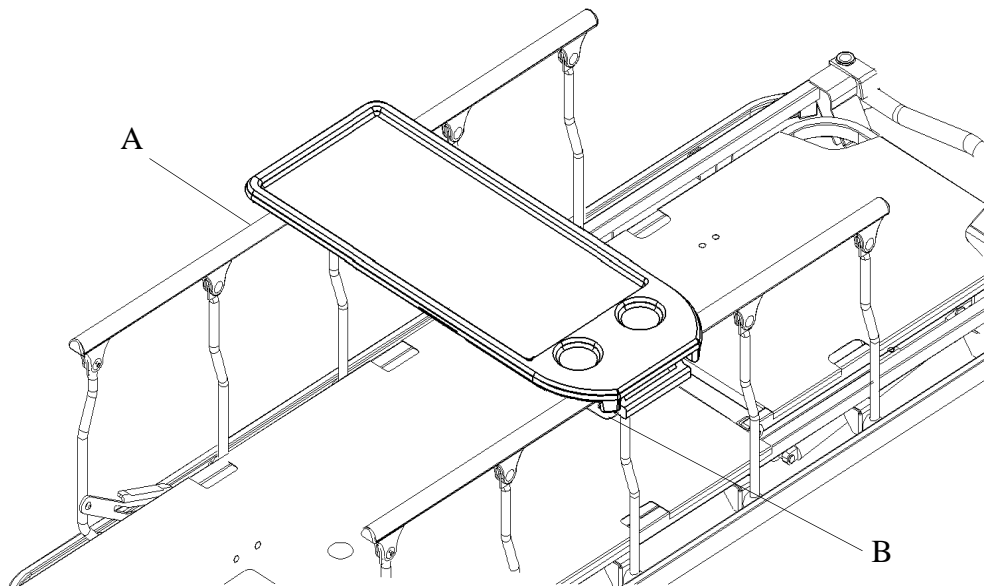
Tools required: None

The patient tray mounts on the top of the siderails when they are in the up and locked position. When properly installed, the patient tray can support up to 45 lb (20 kg).

Installation

1. Put the siderails in the up and locked position (see figure 7-1 on page 7-4).

Figure 7-1. Patient Tray Installation



m268_025

2. Slide the stationary hook (A) end of the tray onto one of the siderail top rails.
3. Rotate the handle end (B) of the tray down toward the other siderail until the handle snaps over the top of the siderail.

Removal

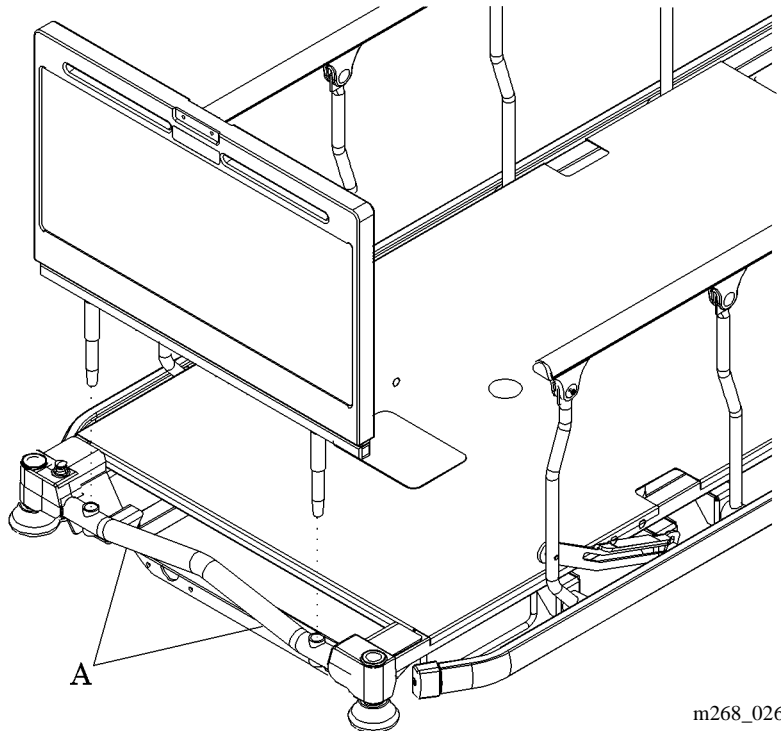
1. Pull up on the handle (B), releasing one side of the tray from the top of the siderail.
2. Lift the tray off the siderails.

7.2 Footboard

Tools required: None

The footboard mounts in the ISS sockets located at the foot end of the stretcher (see figure 7-2 on page 7-5). This section describes using the footboard as a 15" (38 cm) foot extender.

Figure 7-2. Footboard



Installation

1. Remove the footboard assembly from its mounting sockets.
2. Position the footboard horizontally, and slide its mounting posts into the extender brackets (A) located under the sleep surface.
3. Push the footboard toward the head end until it is fully engaged.

Removal

Perform installation steps in reverse order.

7.3 Convertible Footboard

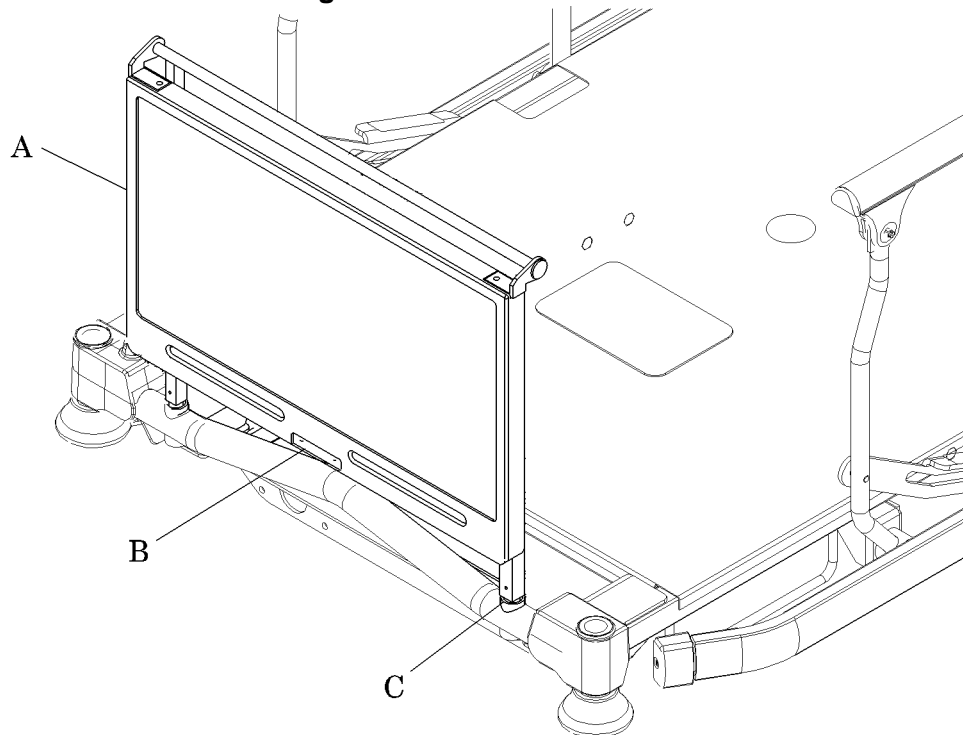
Tools required: None

The convertible footboard can be used as a footboard, a transport shelf, charting area, or as a 15" (38 cm) foot extender. When properly installed, it can hold up to 45 lb (20 kg).

Installing as a Footboard

Put the convertible footboard (A) in the ISS mounting sockets (C) located at the foot end of the stretcher (see figure 7-3 on page 7-6).

Figure 7-3. Convertible Footboard



m268_027

Installing as a Transport Shelf/Charting Area

**WARNING:**

Before you put the convertible footboard into the transport shelf position, remove the chart holder from the convertible footboard to avoid injury to the patient.

1. Release the convertible footboard (A) by lifting up on the lift latch (B) located on the lower center of the convertible footboard.
2. Grasp the lower portion of the convertible footboard, and pivot it toward the head of the stretcher until the shelf is in a horizontal position.
3. Use the securing straps to tie down equipment during transport.

Installing as a Foot Extender

1. Remove the convertible footboard (A) from the ISS mounting sockets (C).
2. Position the convertible footboard horizontally.
3. Make sure the lift latch (B) side of the convertible footboard is facing up, and the mounting posts are pointed toward the head end of the stretcher.
4. Slide the convertible footboard mounting posts into the extender brackets located under the sleep surface.
5. Push the convertible footboard toward the head end until it is fully engaged.

Removal

1. Pull the convertible footboard (A) out of the extender brackets.
2. Swing it back to a vertical position, and mount it into the ISS sockets (C).

7.4 IV Transporter

Tools required:	Drill	Ratchet
	1/4" drill bit	Torque wrench
	7/8" drill bit	3/4" socket
	Retaining ring removal/installation tool	

The IV transporter attaches to the base of the stretcher and enables the transport of a portable IV pole without the assistance of the caregiver.

The IV transporter can be mounted on either the right or left side of the stretcher at the head end only.

Installation

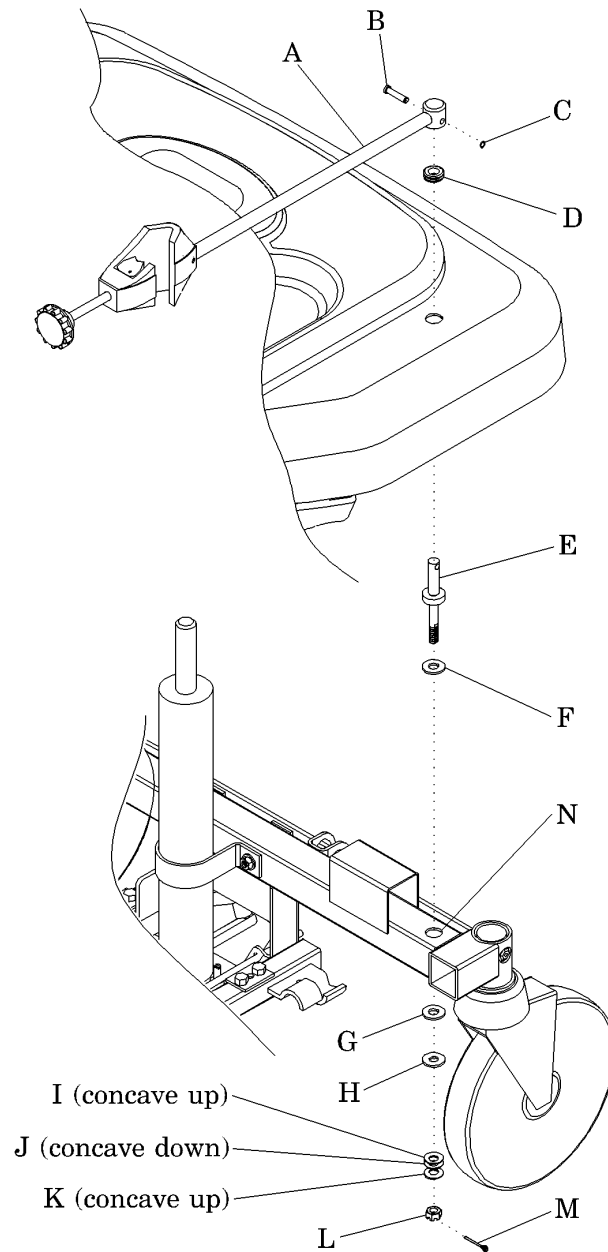
1. Decide on which side of the stretcher you will mount the transporter.

NOTE:

The proper location for the transporter hole is indicated by dimples located on the inside surface on both sides of the head end of the shroud.

2. Lift the shroud, and locate the dimple at the head end of the shroud that corresponds to the location where you want to mount the IV transporter.
3. Using the drill and the 1/4" drill bit, drill a 1/4" (6.4 mm) pilot hole through the center of the dimple.
4. Using the drill with the 7/8" drill bit and the pilot hole as a guide, carefully drill a 7/8" (22.4 mm) hole through the shroud.
5. Install the rubber grommet (D) into the hole you just drilled in the shroud (see figure 7-4 on page 7-9).

Figure 7-4. IV Transporter Installation



m268_028

6. Put one Oilite®¹ bushing (F) on the threaded end of the tow bar post weldment (E).
7. Install the threaded end of the tow bar post weldment (E) through the hole (N) in the base frame.

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

8. Using the ratchet and the 3/4" socket, install one Oilite®¹ bushing (G), D-washer (H), one belleville washer (I) (concave up), one belleville washer (J) (concave down), one belleville washer (K) (concave up), and castle nut (L) to secure the tow bar post weldment (E) to the base frame.
9. Using the torque wrench, torque the castle nut (L) to 200 in-lb (22.6 N·m).
10. Swing the tow arm (A) through a full range of motion.
11. If the tow arm makes a squeaking noise, loosen the castle nut (L) until the squeaking stops.
12. Install a portable IV pole into the transporter. Make sure the transporter arm stays in position when the stretcher is moved.
13. See if the slot in the castle nut (L) aligns with the hole in the tow bar post weldment (E).
14. If the hole and slot do not line up, tighten or loosen the castle nut (L) just enough to align the slots.
15. Insert the cotter pin (M) through the castle nut (L) and the tow bar post weldment (E).
16. Bend the cotter pin (M) around the castle nut (L).
17. Put the tow arm assembly (A) over the tow bar post weldment (E), and insert the headed pin (B) through the tow arm assembly (A) and tow bar post weldment (E).
18. Install the retaining ring (C) to secure the headed pin (B).

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

7.5 Oxygen Tank Holder

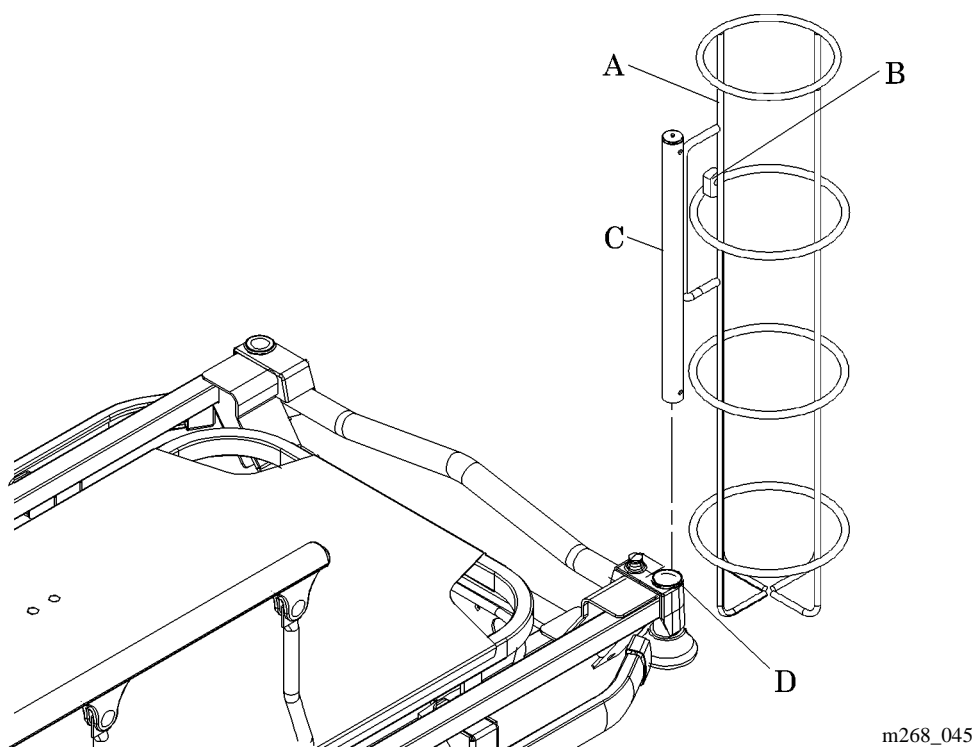
Tools required: None

The oxygen tank holder will hold an E size tank.

Installation

1. Place the oxygen tank holder's mounting bar (C) into one of the four IV sockets (D) located at all four corners of the stretcher (see figure 7-5 on page 7-11).

Figure 7-5. Oxygen Tank Holder



2. Place the oxygen tank in the oxygen tank holder (A).
3. Secure the oxygen tank in the oxygen tank holder (A) by turning the thumbscrew (B) clockwise until it stops.

7.6 Liquid Oxygen Tank Holder

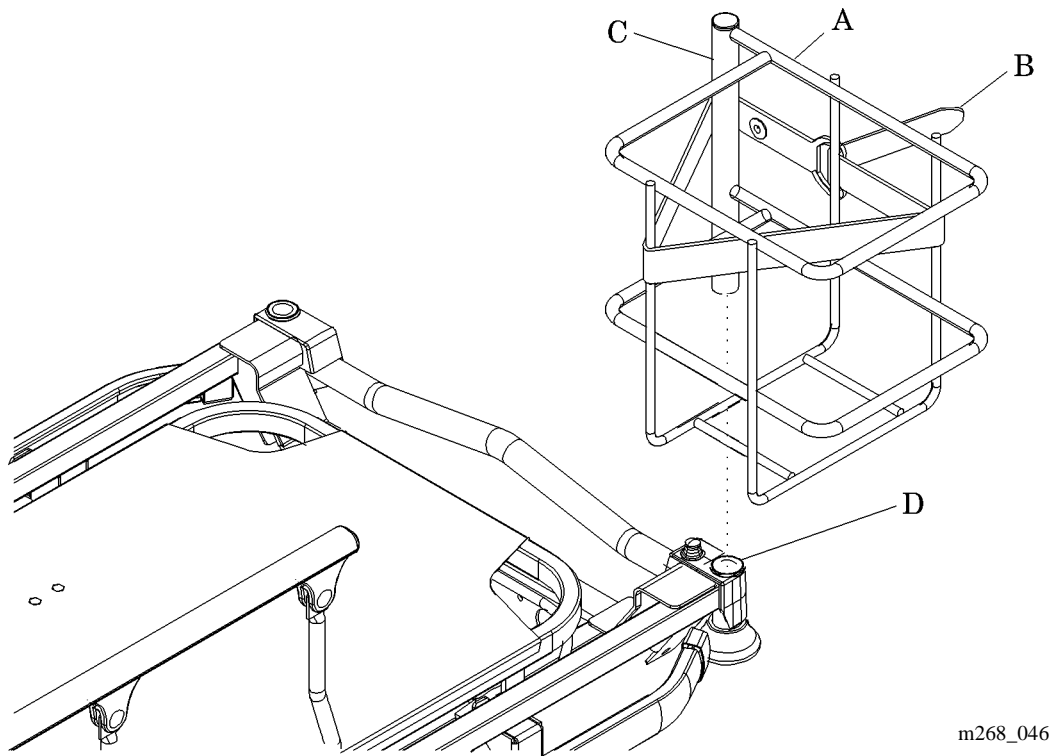
Tools required: None

The liquid oxygen tank holder holds tanks of various sizes in any of the four IV sockets located at the four corners of the stretcher.

Installation

1. Place the liquid oxygen tank holder's mounting bar (C) into one of the four IV sockets (D) (see figure 7-6 on page 7-12).

Figure 7-6. Liquid Oxygen Tank Holder



m268_046

2. Place the oxygen tank in the liquid oxygen tank holder (A).
3. Securely tighten the Velcro®¹ strap (B) around the oxygen tank.

¹Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

7.7 Push Handles

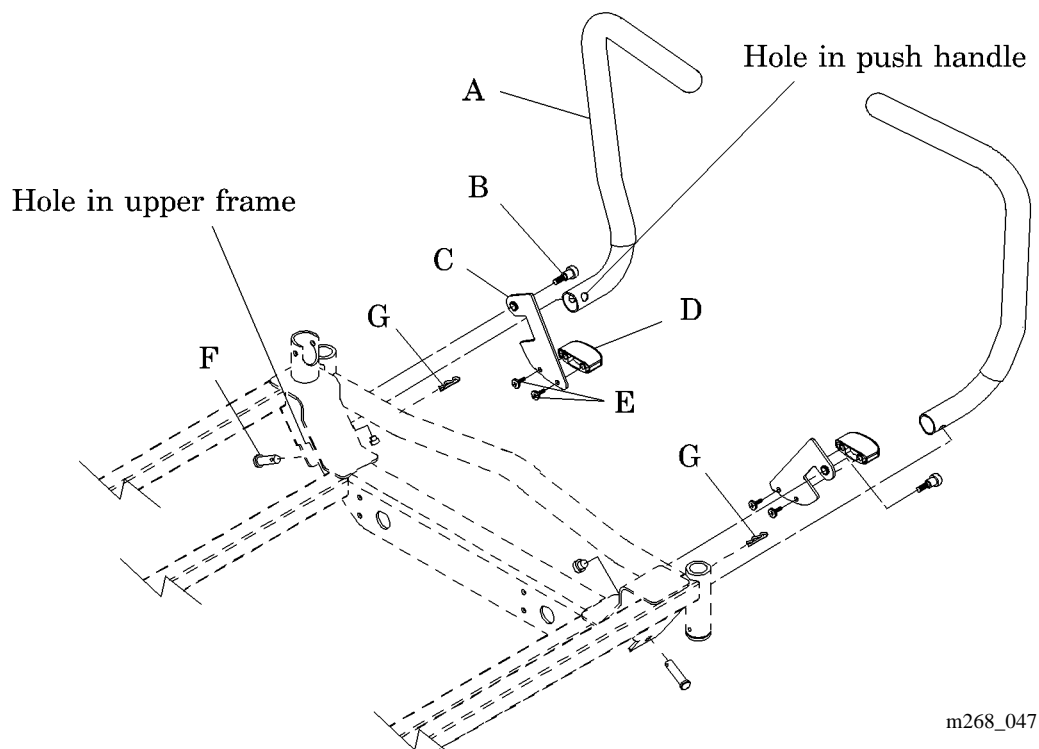
Tools required: 3/16" Allen™ wrench bit Phillips head screwdriver
1/4" drive Torque wrench
Ratchet

The push handles are located at the head end of the stretcher. They increase the caregiver's control over the stretcher during transport. The push handles fold down and out of the way when not in use.

Installation

1. Using the phillips head screwdriver, install two screws (E) to secure the push release handle (D) to the right-hand push handle latch assembly (C) (see figure 7-7 on page 7-13).

Figure 7-7. Push Handle Installation



2. Using the ratchet, the 1/4" drive ratchet, and the 3/16" Allen™ wrench bit, install the shoulder screw (B) through the right-hand push handle latch assembly (C) and into the upper frame.

1. Allen™ is a trademark of Industrial Fasteners Inc.

3. Using the torque wrench, the 1/4" drive ratchet, and the 3/16" Allen™¹ wrench, torque the shoulder screw (B) to 100-140 in-lb (11.3-15.8 N·m).
4. Put the right push handle tube (A) in position on the upper frame, aligning the holes in the right push handle tube (A) with the holes in the bracket on the upper frame.
5. Install the clevis pin (F) and hitch pin (G) through the bracket on the upper frame and the right push handle tube (A).
6. Repeat steps 1 through 5 for the left-hand push handle.

1. Allen™ is a trademark of Industrial Fasteners Inc.

7.8 Chart Holder

Tools required: None

The chart holder mounts on the footboard or the convertible footboard.

Installation

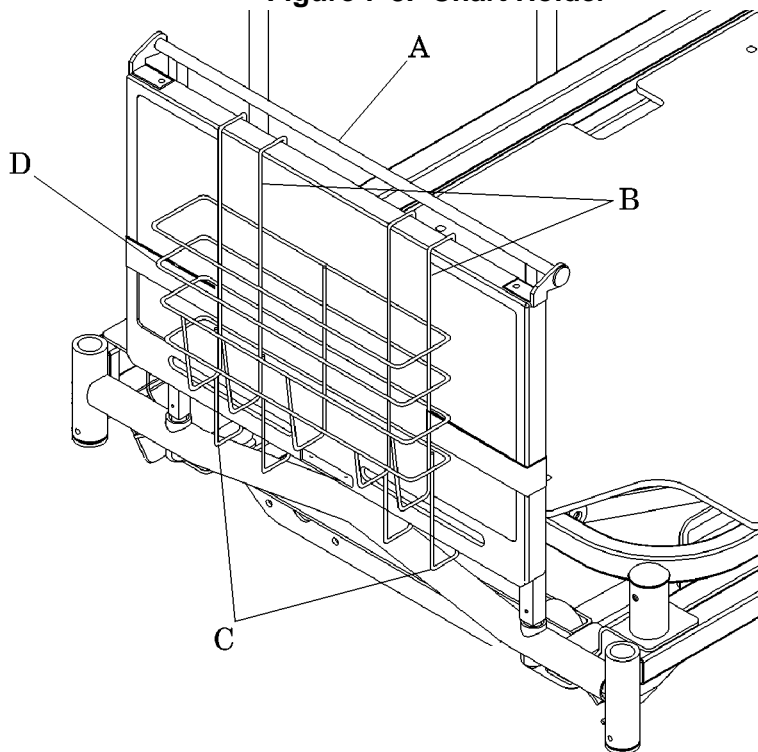


WARNING:

Before you put the footboard into the transport shelf position, remove the chart holder from the convertible footboard to avoid injury to the patient.

1. Slide the bottom wire hooks (C) of the chart holder (D) under the bottom of the convertible footboard (A) and lift up (see figure 7-8 on page 7-15).

Figure 7-8. Chart Holder



m268_029

2. Slide the top wire hooks (B) of the chart holder over the top of the convertible footboard (A).
3. Push down to lock the chart holder into position.

Removal

Lift up on chart holder until top wire hooks (B) are clear of the convertible footboard.

Push down on the chart hole until the bottom wire hooks (C) are clear of the convertible footboard.

7.9 Security Straps

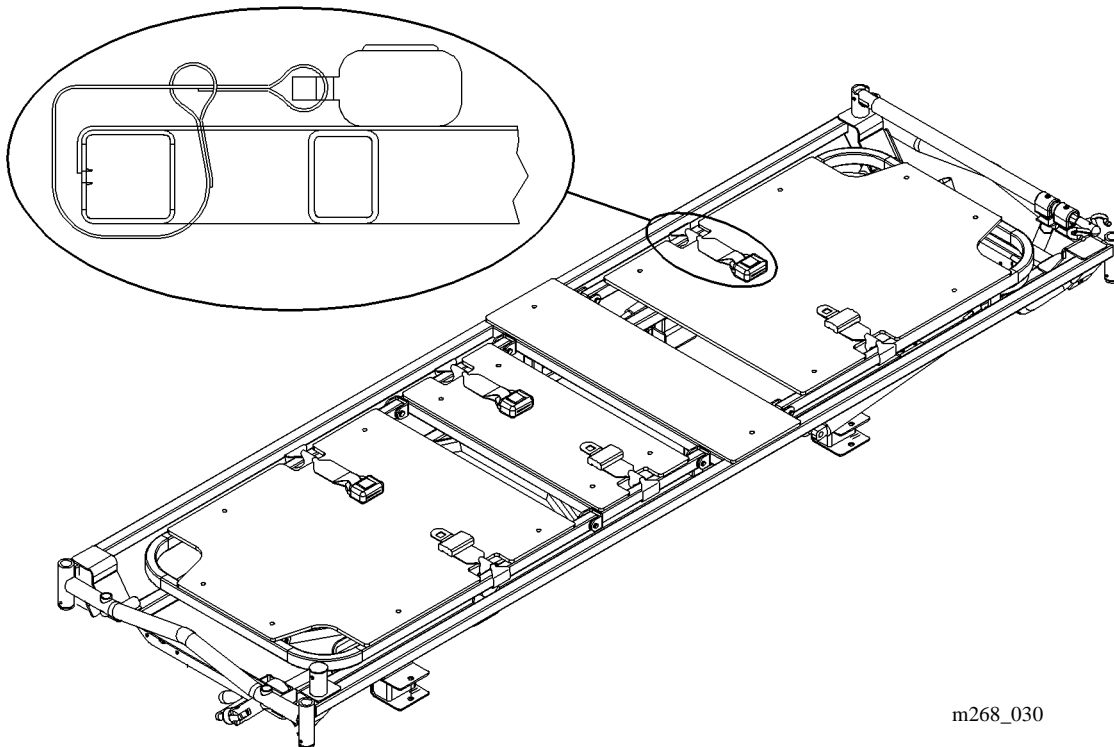
Tools required: Phillips head screwdriver

The stretcher has three security strap attachment areas. They are located at the back, thigh, and foot sections. The straps store under the mattress when not in use.

Installation

1. Route loop end of security strap through cut out in the sleep surface. (see figure 7-9 on page 7-17).

Figure 7-9. Security Straps



m268_030

2. Place the opposite end of the security strap through the loop end and pull to secure.
3. Repeat steps 1 and 2 for all remaining security straps.

Removal

Loosen and remove straps from the cut outs in the sleep surface.

NOTES:
