

Compaq StorageWorks TM

ESL9326 Tape Library

Unpacking Guide

Third Edition (September 2000)
Part Number 146585-003
Compaq Computer Corporation

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Compaq StorageWorks ESL9326 Tape Library Unpacking Guide
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About This Guide

This guide is designed to be used as step-by-step instructions for unpacking and installing a Compaq StorageWorks ESL9326 Tape Library.

Text Conventions

This document uses the following conventions to distinguish elements of text:

Keys	Keys appear in boldface. A plus sign (+) between two keys indicates that they should be pressed simultaneously.
USER INPUT	User input appears in a different typeface and in uppercase.
<i>FILENAMES</i>	File names appear in uppercase italics.
Menu Options, Command Names, Dialog Box Names	These elements appear in initial capital letters.
COMMANDS, DIRECTORY NAMES, and DRIVE NAMES	These elements appear in uppercase unless case sensitive.
Type	When you are instructed to <i>type</i> information, type the information without pressing the Enter key.
Enter	When you are instructed to <i>enter</i> information, type the information and then press the Enter key.

Symbols in Text

These symbols may be found in the text of this guide. They have the following meanings:



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or loss of life.



CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

IMPORTANT: Text set off in this manner presents clarifying information or specific instructions.

NOTE: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Symbols on Equipment

These icons may be located on equipment in areas where hazardous conditions may exist.



Any surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

WARNING: To reduce the risk of injury from electrical shock hazards, do not open this enclosure.



Any RJ-45 receptacle marked with these symbols indicates a Network Interface Connection.

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.



Power Supplies or Systems marked with these symbols indicate the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electrical shock, remove all power cords to completely disconnect power from the system.



Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

Cabinet Stability



WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
 - The full weight of the cabinet rests on the leveling jacks.
 - The stabilizing feet are attached to the cabinet if it is a single cabinet installation.
 - The cabinets are coupled in multiple cabinet installations.
 - Only one component is extended at a time. A cabinet may become unstable if more than one component is extended for any reason.
-

Getting Help

If you have a problem and have exhausted the information in this guide, you can get further information and other help in the following locations.

Compaq Technical Support

In North America, call the Compaq Technical Phone Support Center at 1-800-OKCOMPAQ. For continuous quality improvement, calls may be monitored or recorded. This service is available 24 hours a day, 7 days a week.

Outside North America, call the nearest Compaq Technical Support Phone Center. Telephone numbers for worldwide Technical Support Centers are listed on the Compaq website. Visit the Compaq website at www.compaq.com.

Be sure to have the following information available before you call Compaq:

- Technical support registration number (if applicable)
- Product serial number
- Product model name and number
- Applicable error messages
- Add-on boards or hardware
- Third-party hardware or software
- Operating system type and revision level

Compaq Website

The Compaq website has information on this product as well as the latest drivers and Flash ROM images. Visit the Compaq website at www.compaq.com.

Compaq Authorized Reseller

For the name of your nearest Compaq authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- Elsewhere, visit the Compaq website at www.compaq.com.

Chapter 1

Introduction



WARNING: Be sure to read this guide completely before attempting to unpack or move the tape library. Failure to follow the procedures in this guide could result in personal injury and/or equipment damage.

This document outlines procedures for unpacking the Compaq *StorageWorks ESL9326 Tape Library™*. Once the tape library is moved to the desired installation location and unpacked, set up the tape library using the instructions in the *Compaq StorageWorks ESL9326 Tape Library Reference Guide*.

NOTE: If you have not already done so, read the information in Appendix A and then perform the instructions in Appendix B.

1-2 Compaq StorageWorks ESL9326 Tape Library Unpacking Guide

The ESL9326 is an automated storage and retrieval library consisting of up to 16 tape drives and up to 326 Digital Linear Tape (DLT) cartridges (see Figure 1-1).

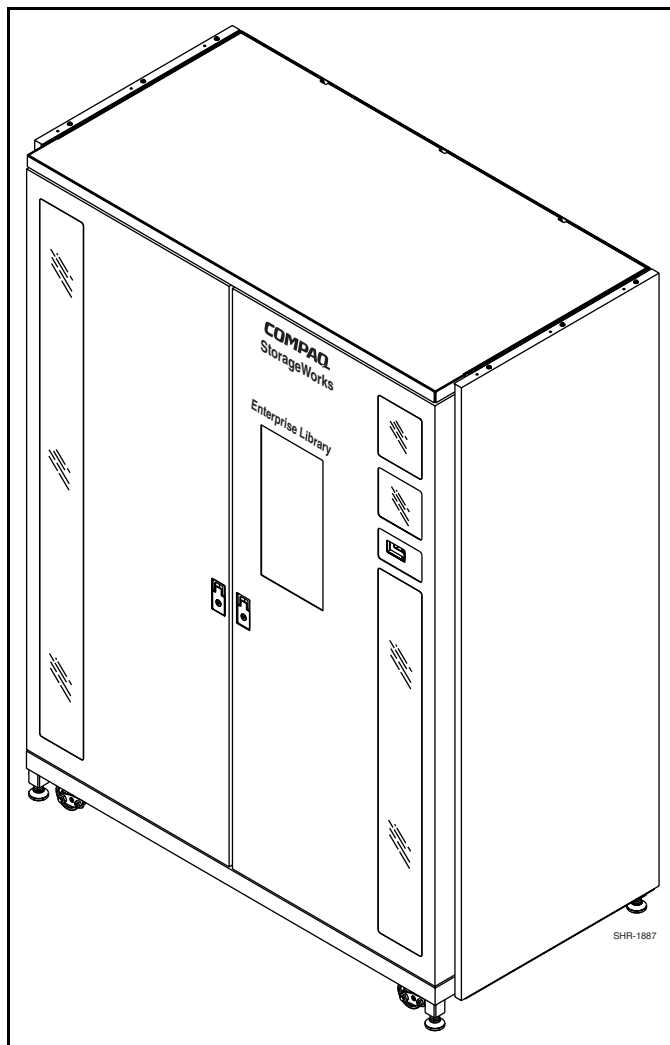


Figure 1-1. Compaq ESL9326 Tape Library

Selecting an Installation Location



WARNING: Be sure to read and understand the pre-installation site survey instructions in Appendix B before selecting an installation site, moving, and unpacking the tape library. Failure to follow the instructions in Appendix B could result in personal injury and/or equipment damage.

When choosing an installation site for the StorageWorks ESL9326 Tape Library, consider the following requirements:

- Floor space
- Floor clearance
- Floor strength and inclination
- Power and grounding
- Environmental conditions

Floor Space

Figure 2-1 shows the minimum floor space required for the tape library (see Table 2-1).

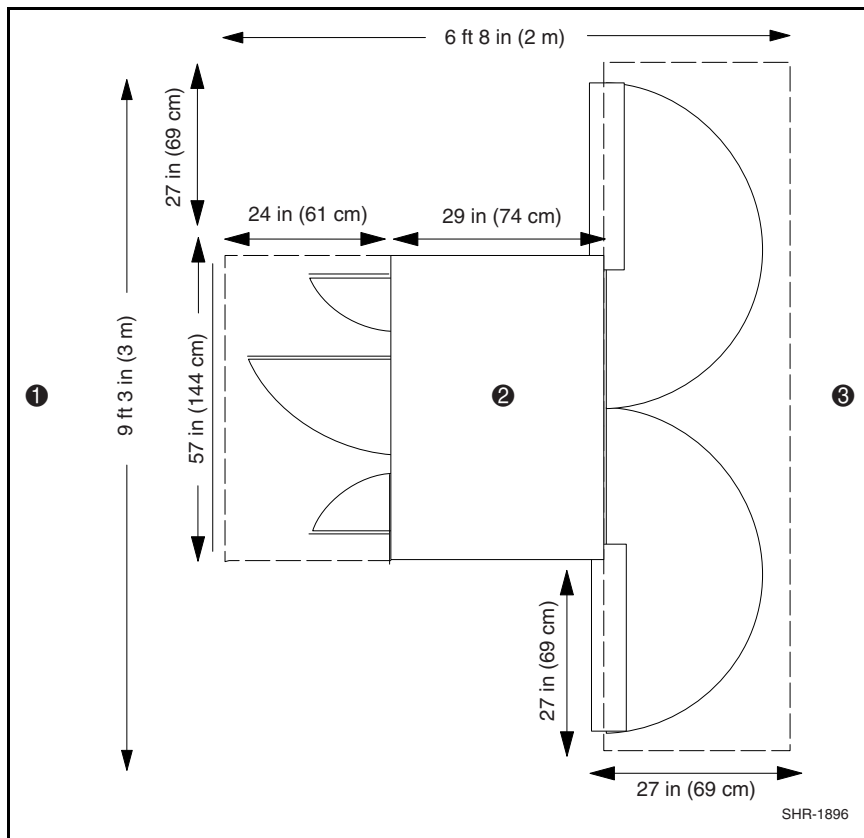


Figure 2-1. Floor space requirements (top view)

Table 2-1
Space Requirement Orientation

Figure Legend	Description
①	Rear of tape library
②	Tape library
③	Front of tape library

Floor Clearance

The tape library has a floor clearance of $\frac{3}{4}$ of an inch (1.9 cm). Place the tape library on a level, uncarpeted floor that is free of defects.

Floor Strength and Inclination

The floor at the installation site must be rated at 250 lb/ft² (1221 kg/m²). This is sufficient to support a fully loaded tape library.

The floor must be level to within $\frac{1}{4}$ of an inch (0.64 cm) over a 6 foot x 6 foot (1.83 m x 1.83 m) area.

Power and Grounding

The tape library ships with two power supply cords (see Figure 2-2). The power supply cord and wall outlet receptacles are listed in Table 2-2. The tape library is rated for 100-240 VAC~, 50-60 Hz, 16 A-8 A, 1600 W service.

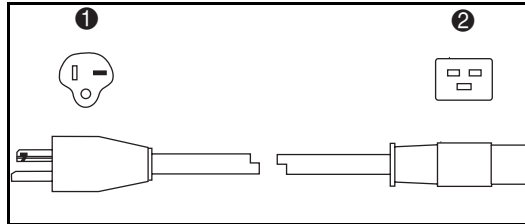


Figure 2-2. Power supply cord (United States and Canada shown)

Table 2-2
Power Supply Cord

Figure Legend	Description
①	Plug: NEMA 5-20 (connects to the wall outlet)
②	Connector: IEC-C320 C19 (connects to the tape library power supply)

The tape library power requirements may need you to modify the facility's existing power capabilities. Only a qualified electrician should perform these power modifications. The required wall outlet for the United States and Canada is rated at 125 VAC, 20 A (see Figure 2-3 and Table 2-3).

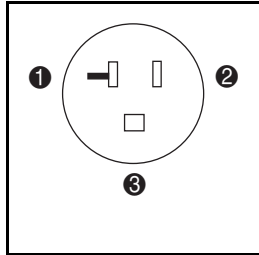


Figure 2-3. Wall outlet requirements for North America

Table 2-3
Wall Outlet: NEMA 5-20R Rated 125 VAC 20 A

Figure Legend	Description
①	Neutral
②	Line
③	Ground

A dedicated outlet and a 20 A circuit breaker must provide power to the tape library only. It is necessary to use a harmonized 3 x 1.5 mm² power cord that is approved by the associated country of use, and to install the appropriate wall outlet. For a listing of power cords available from Compaq Products, refer to Appendix E of the *Compaq StorageWorks ESL9326 Tape Library Reference Guide*.



WARNING: The tape library must be connected to a grounded electrical outlet. Failure to properly connect the tape library to a grounded electrical outlet could result in personal injury and/or equipment damage.

Environmental Conditions

The installation site must provide the following environmental conditions during normal tape library operation:

- Humidity: 20% - 80% non-condensing
- Temperature: 59°F to 90°F (15°C to 32°C)
- Altitude: sea level to 10,000 feet (3,048 m)

NOTE: For additional tape library specifications (including environmental requirements during shipping and storage), see Appendix A.

Preparing for the Installation



WARNING: Be sure to read and understand the pre-installation site survey instructions in Appendix B prior to preparing the tape library for installation. Failure to follow the instructions in Appendix B could result in personal injury and/or equipment damage.

Before you begin the installation procedure in this guide, make the following preparations as described in this chapter:

- Providing necessary tools and equipment
- Taking Electrostatic Discharge (ESD) precautions

Providing Necessary Tools and Equipment

Provide the following tools for unpacking the tape library:

- Metal shears for cutting the steel packing bands
- Ratchet with 15/16-inch socket

Provide the following tools for removing the shipping restraints:

- #2 Phillips screwdriver
- Tie wraps (various lengths)

Provide the following tools for leveling the tape library:

- Carpenter's levels (12 inches [40.4 cm] and 2 feet [60.9 cm])
- 5/32-inch hex key wrench (for opening the rear door)

Taking ESD Precautions

Components within the tape library might contain static-sensitive parts. To prevent damage to these parts while performing the installation procedures, always observe the following precautions:

- Keep the tape library turned off during all installation procedures.
- Keep the tape library power cord connected to a grounded power outlet except when working with AC electrical components.



CAUTION: Avoid contact with the power supplies, EMI filter, and all other AC electrical components while the tape library is connected to a power outlet.

- Wear an antistatic wrist strap when touching the internal components of the tape library. The wrist strap is not dangerous; it discharges static electricity from your body. To use the wrist strap properly, place the band around your wrist and attach the clip to the tape library frame. Keep the strap on until you are ready to close the tape library doors.
- Keep static-sensitive parts in their shipping containers until ready for installation.
- Do not place static-sensitive parts on any metal surfaces. If you need to put down a static-sensitive part, place it inside its protective shipping bag or on a grounded anti-static mat.
- Avoid direct contact with static-sensitive parts. Avoid touching connectors and discrete components.
- Close the tape library doors and access panels when not working on the tape library.
- Be very careful when installing the tape library or handling components in dry climates or environments where cold weather heating is used. Environments such as these with lower relative humidity have greater potential to produce static electricity.

NOTE: In environments with high potential for static electricity, you should take additional precautions, such as the use of an anti-static smock or a grounded anti-static mat.

Chapter 4

Unpacking and Moving the Tape Library

This chapter explains how to unpack the tape library and move it to its final installation location. The ESL9326 Tape Library is shipped in packing materials designed to protect it from damage during transit. By following these instructions, you help ensure that the tape library will continue to be safeguarded after it arrives at the installation site.

Major steps in this procedure are:

- Receiving the tape library
- Removing the shipping container
- Moving the tape library
- Removing the shipping plate
- Removing the shipping restraints
- Storing the shipping materials
- Leveling the tape library
- Reinstalling the gripper restraint

Receiving the Tape Library

To receive the tape library:



WARNING: The tape library weighs approximately 1300 pounds (589 kg). At least two people should move and install the tape library. Failure to use two people could result in personal injury and/or equipment damage.

1. Unpack the tape library as close to the installation site as possible.
2. Inspect the shipping pallet and shipping container for damage that may have occurred during shipment. Report any damage to the shipper.

Removing the Tape Library Shipping Container

To remove the tape library shipping container:

1. Choose the unloading side. The tape library can be unloaded from either the right or the left side of the pallet.
2. Verify the minimum floor space requirements.

NOTE: Removing the tape library shipping container requires a minimum of 3 feet (92 cm) on all sides. For the side being used for the ramp, an additional 7 feet (2.14 m) is required for a total of 10 feet (3.05 m). The minimum height requirement is 7 feet (2.16 m). Figure 4-1 shows the minimum floor space required by the tape library to remove its shipping container (see Table 4-1).

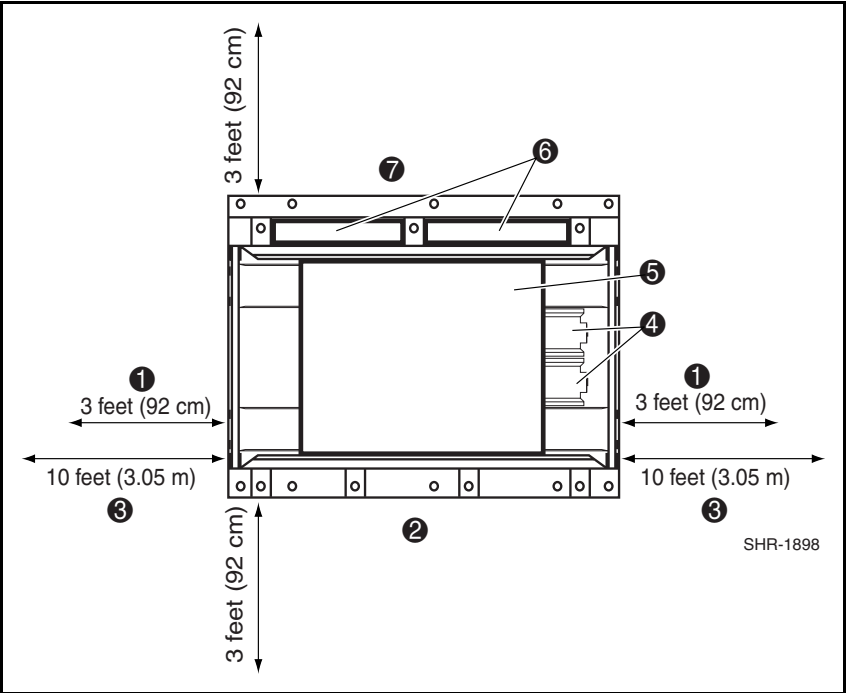


Figure 4-1. Minimum floor space requirements (top view)

Table 4-1
Minimum Floor Space Requirements

Figure Legend	Description
1	Without ramp extensions
2	Front
3	With ramp extensions
4	Ramp extensions
5	Tape library
6	Accessory kits
7	Rear

- Using metal shears, cut the two steel bands that secure the tape library and packing material to the pallet (see Figure 4-2).



WARNING: The steel bands are under tension and will snap away from the shipping container when cut. Be sure to stand clear of the bands while cutting. Failure to stand clear of the bands could result in personal injury.

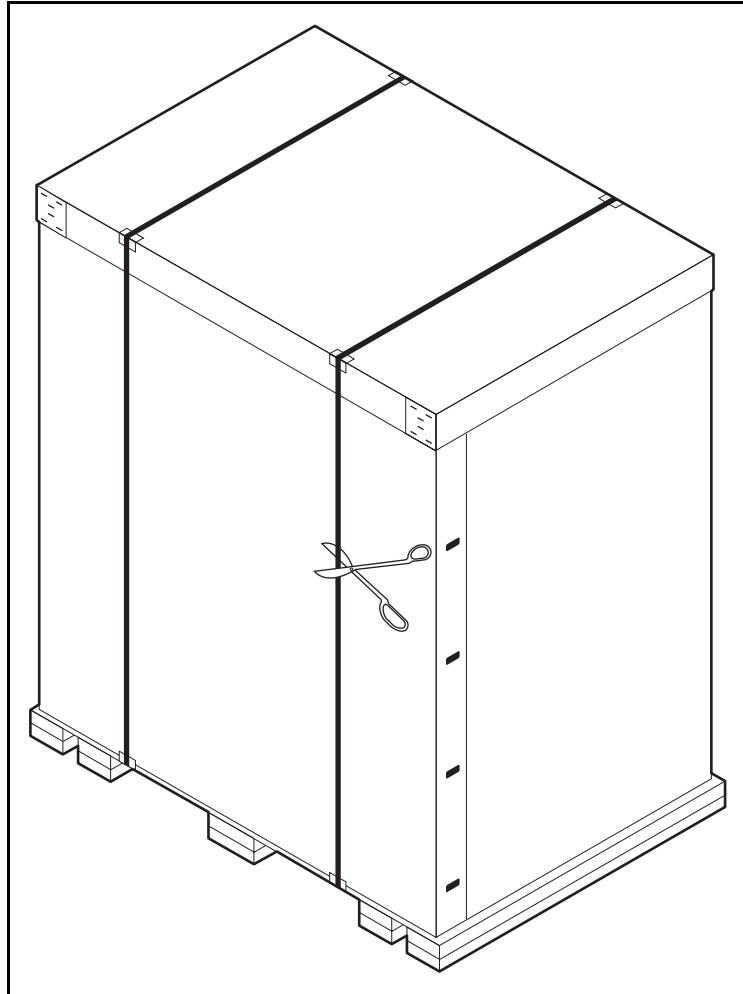


Figure 4-2. Removing the steel bands

4. Lift the top cover straight up and off the shipping container (see Figure 4-3).
5. Pull the eight retaining clips, on opposing corners of the shipping container, to their open position (❶, Figure 4-3).

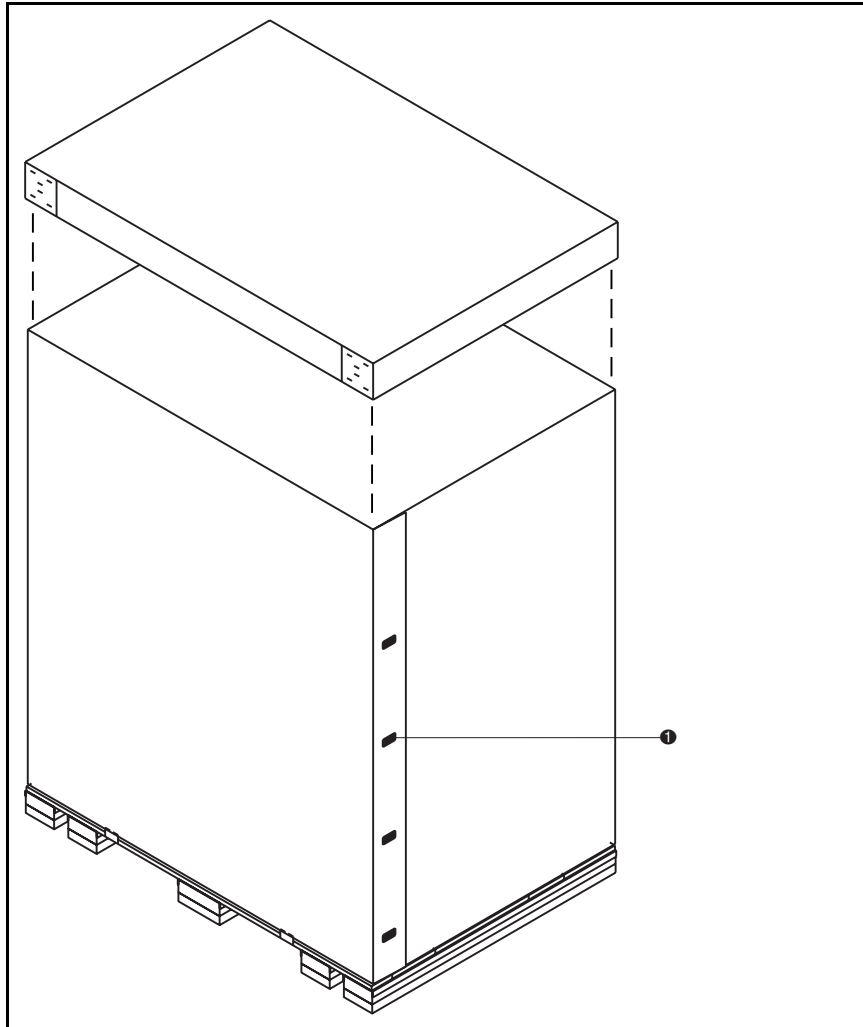


Figure 4-3. Removing the box top cover

6. Unwrap the shipping container from the tape library (see Figure 4-4).

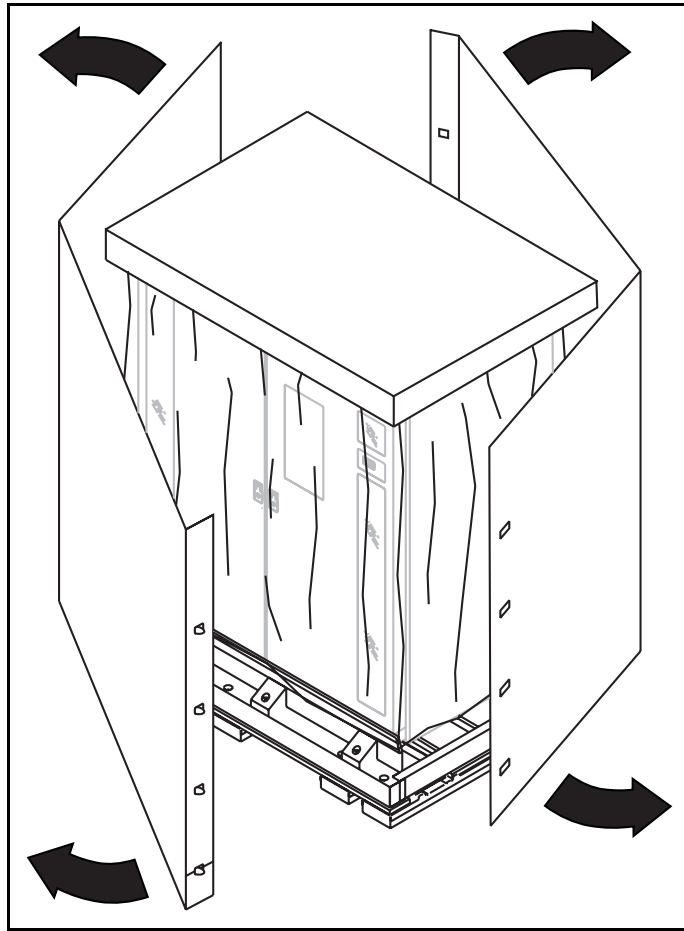


Figure 4-4. Unwrapping the shipping container

7. Remove the accessory kits from the rear compartment of the crate (⑥, Figure 4-1).
8. Check the packing list and verify that all accessories have been received. If any part is missing or damaged, contact your authorized reseller.
9. Lift the foam cap up and off the tape library (see Figure 4-5).

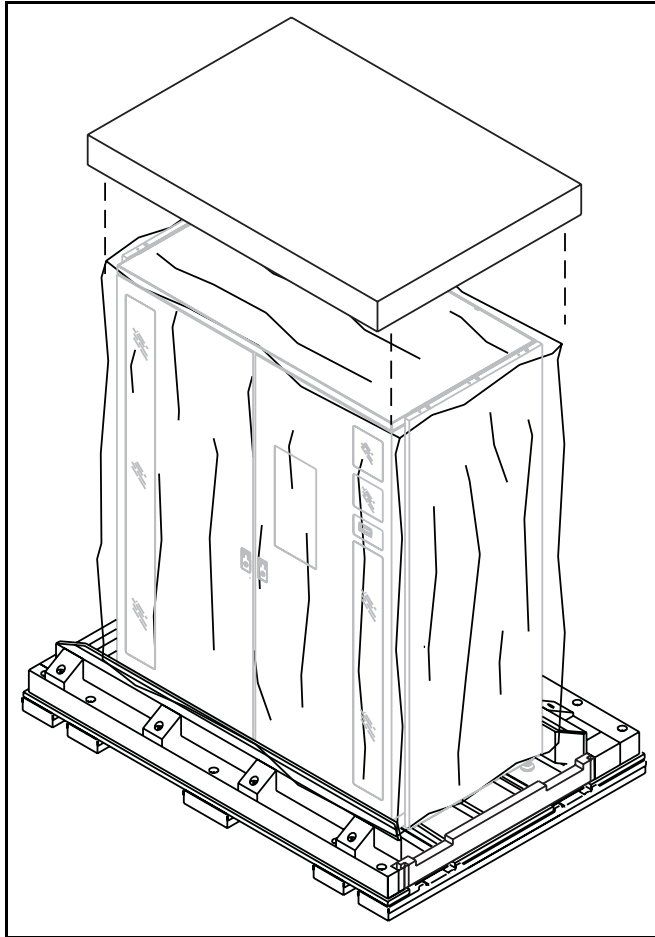


Figure 4-5. Removing the foam cap

10. On the left side of the tape library, lift the wooden bar out of its brackets on the pallet (see Figure 4-6).

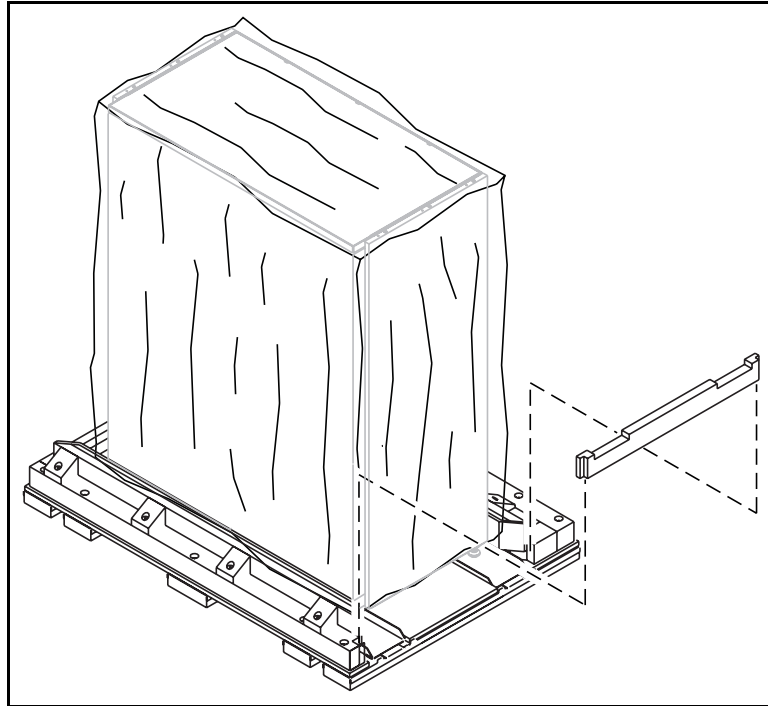


Figure 4-6. Removing the wooden bar

11. On the left side of the tape library, unscrew the two bolts that secure each of the two stop blocks.

12. Remove the two stop blocks from under the left side of the tape library (see Figure 4-7).

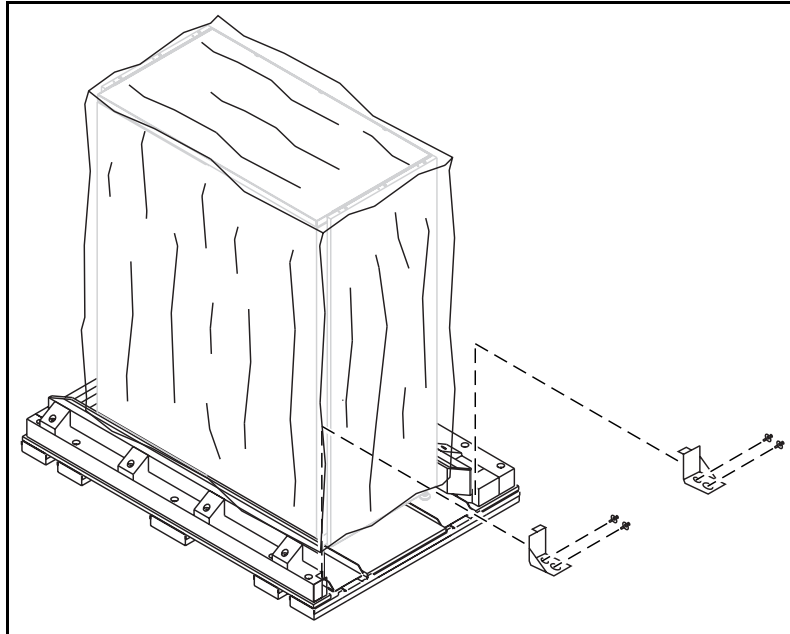


Figure 4-7. Removing the two stop blocks

13. Reinsert the left wooden bar in its brackets on the pallet to hold the tape library in place (see Figure 4-6).
14. Repeat steps 10, 11, and 12 for the right side of the tape library. Do not replace the right wooden bar.

15. Slide out the two ramp extensions and the foam block out from under the right side of the tape library (see Figure 4-8). Set the ramp extensions aside until you are ready to move the tape library.

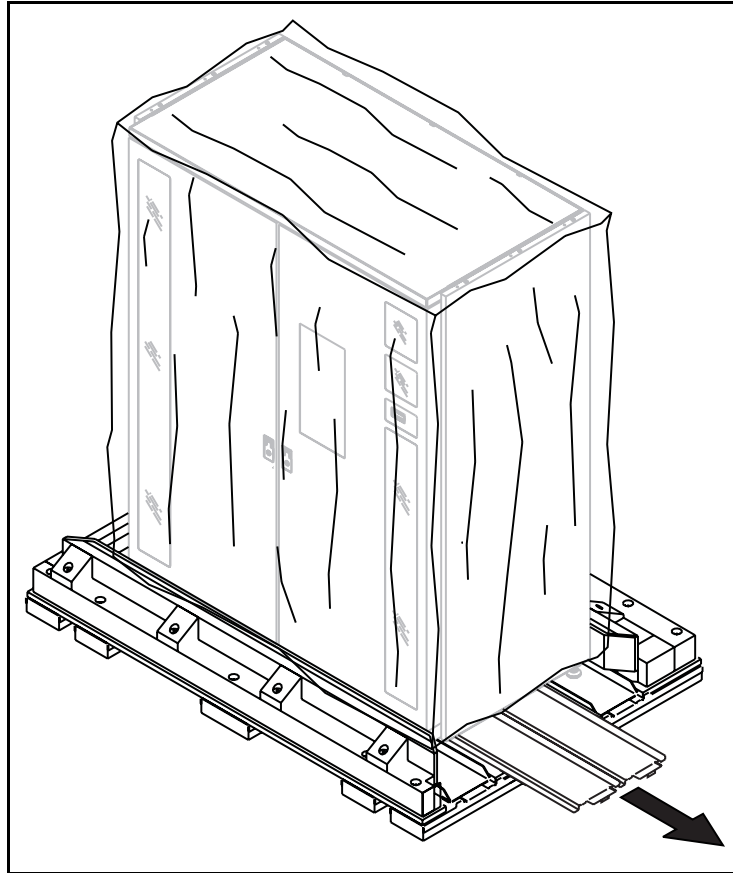


Figure 4-8. Removing the ramp extensions

16. Reinsert the right wooden bar into its brackets on the pallet to hold the tape library in place (see Figure 4-6).

Moving the Tape Library

To move the tape library to its installation site:

1. Carefully lift the shipping bag off of the tape library (see Figure 4-9).

NOTE: Use caution when removing the shipping bag so that it can be used to repack the tape library.

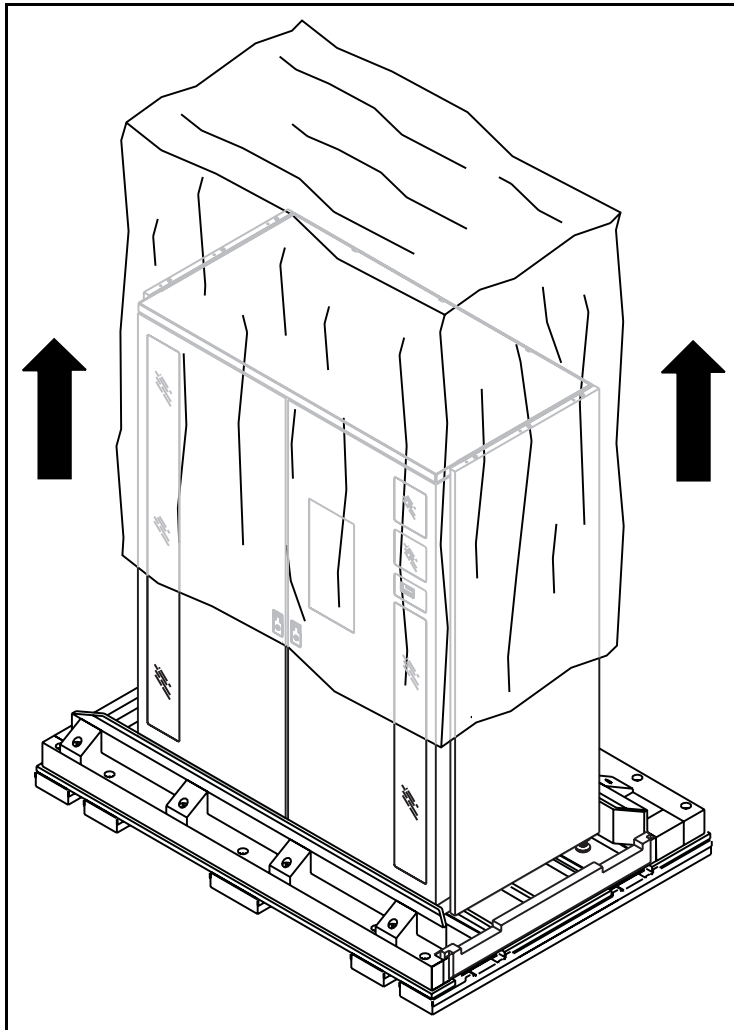


Figure 4-9. Removing the shipping bag

4-12 Compaq StorageWorks ESL9326 Tape Library Unpacking Guide

2. Inspect the tape library for any damage that might have occurred during shipment.
3. Place the two ramp extensions in the slots provided at the edge of the pallet (see Figure 4-10). The ramp can be set up on either the right side or the left side of the pallet.

NOTE: The following illustrations show the ramp setup procedure from the right side of the tape library.

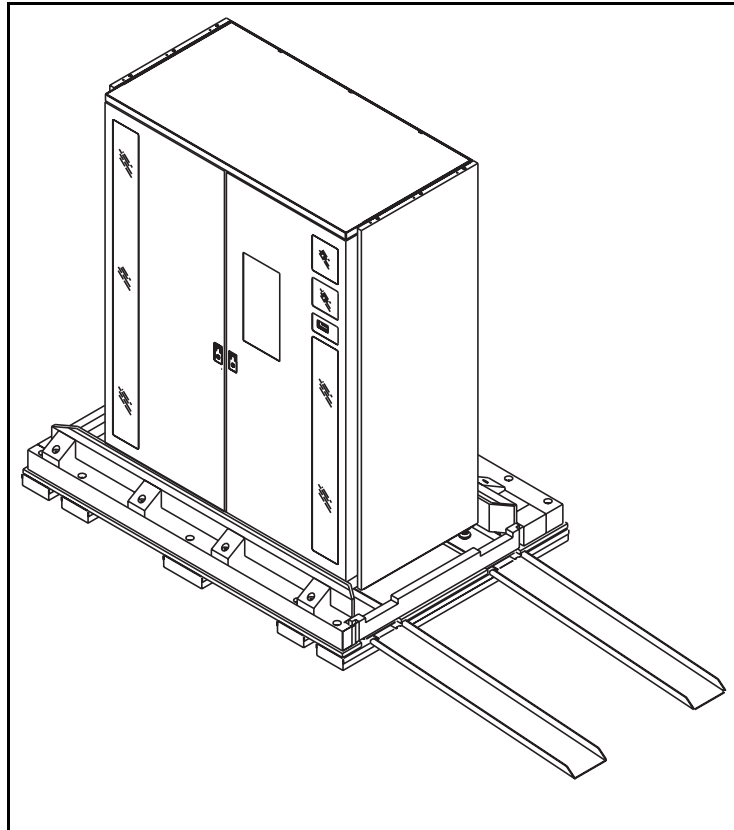


Figure 4-10. Preparing the ramp

4. Verify that the tape library's four leveling feet are raised. If the tape library is resting on the leveling feet, turn each of them to the right (using the $\frac{3}{4}$ -inch open-end wrench supplied in the Accessory Kit) until they are all $\frac{1}{2}$ inch above the pallet (see Figure 4-11).

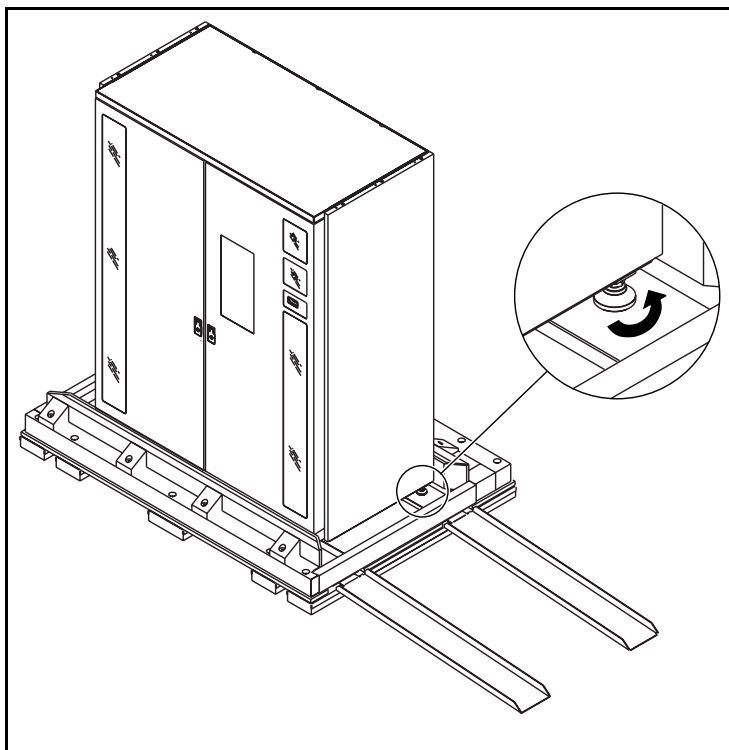


Figure 4-11. Raising the leveling feet

5. Move the wooden bar (see Figure 4-12):
 - a. Remove the wooden bar from the ramp-side of the pallet.
 - b. Place the wooden bar under the ramp extensions for support.

NOTE: Align the notches in the wooden bar with the ramp extensions.

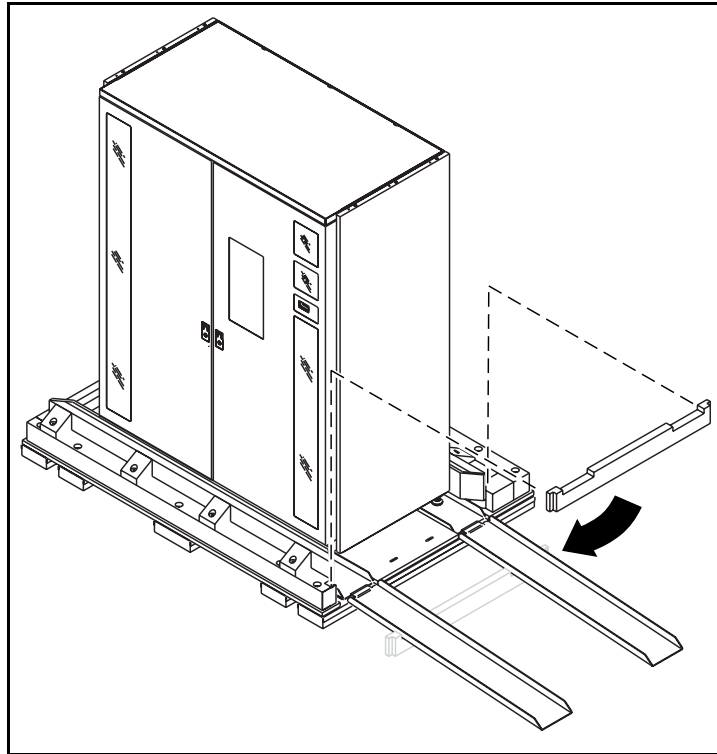


Figure 4-12. Moving the wooden bar

6. With the help of two people, slowly guide the tape library down the ramp (see Figure 4-13). Control the speed of its descent.
7. Move the tape library to its final installation site.



WARNING: The tape library weighs approximately 1300 pounds (589 kg). At least two people must roll it down the ramp. Failure to use two people could result in personal injury and/or equipment damage.

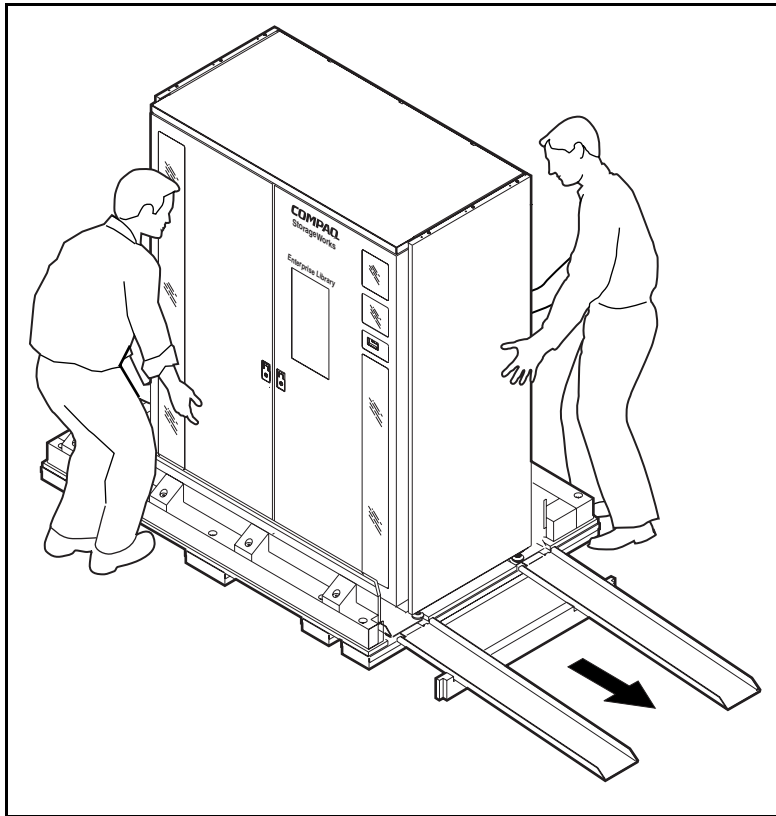


Figure 4-13. Rolling the tape library down the ramp

Removing the Shipping Plate

To remove the shipping plate:

1. Connect the tape library to a grounded power source.

NOTE: Do not turn on the tape library.

2. Unlock and open the right-front tape library door:
 - a. Using the key from the accessories kit, unlock the door.
 - b. Lift the door handle straight up and then turn the handle to unlatch it.
 - c. Gently pull the door handle to open the door.
3. Remove the foam pads from inside the front doors and around the robotics.
4. Remove the shipping plate that protects the load port (see Figure 4-14):
 - a. Unscrew and remove the 12 bolts and washers securing the plate to the load port.
 - b. Remove the shipping plate from the load port.

NOTE: Save the bolts, washers, and shipping plate to use in repacking the tape library.

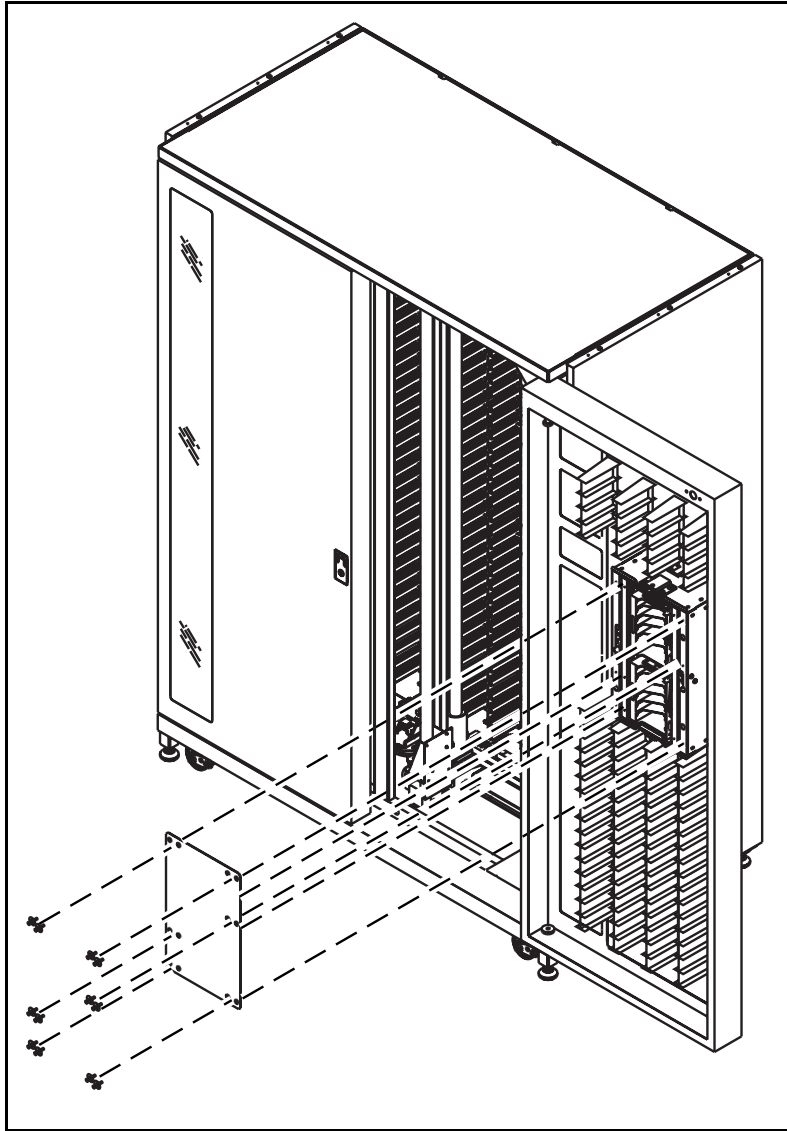


Figure 4-14. Removing the shipping plate

Removing the Shipping Restraints

Use the following procedures to remove the tape library shipping restraints.

1. Locate the vertical carriage assembly ⑤ as shown in Figure 4-15 (see Table 4-2).

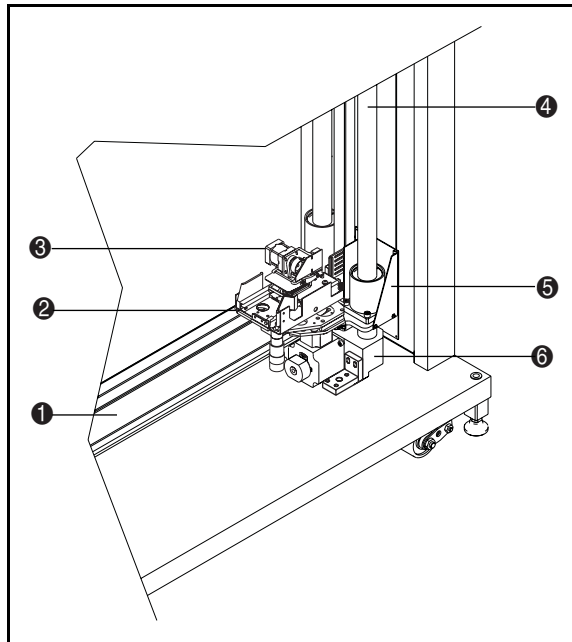


Figure 4-15. Locating the vertical carriage assembly

Table 4-2
Vertical Carriage Assembly

Figure Legend	Description
①	Horizontal axis
②	Extension axis assembly
③	Gripper assembly
④	Vertical axis
⑤	Vertical carriage assembly
⑥	Horizontal carriage assembly

2. Remove the horizontal carriage restraint ⑥ as shown in Figure 4-16 (see Table 4-3):
 - a. Remove the two screws ① that secure the horizontal carriage restraint to the horizontal carriage.
 - b. Remove the screw ④ that secures the horizontal carriage restraint to the floor of the tape library.
 - c. Remove the horizontal carriage restraint.

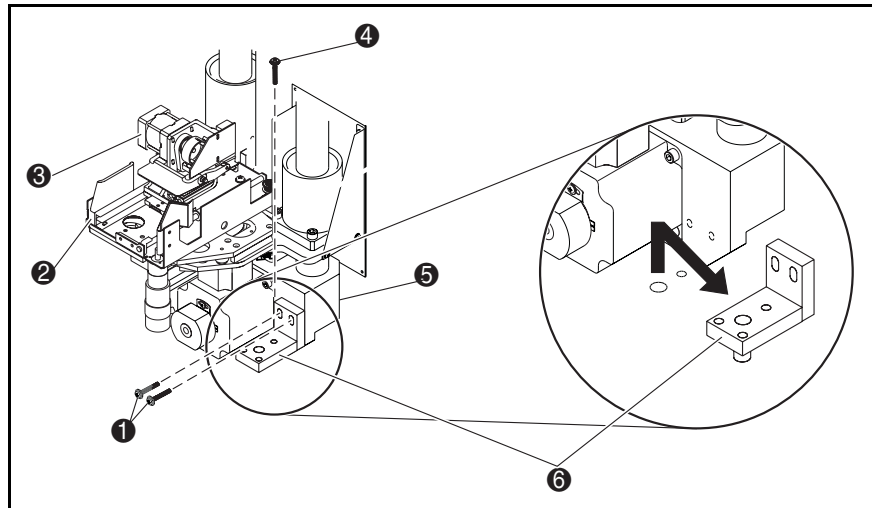


Figure 4-16. Removing the horizontal carriage restraint

Table 4-3
Horizontal Carriage Restraint

Figure Legend	Description
①	Horizontal carriage restraint screws
②	Extension axis assembly
③	Gripper assembly
④	Horizontal carriage restraint screw
⑤	Horizontal carriage assembly
⑥	Horizontal carriage restraint

3. Slide the horizontal carriage assembly along the horizontal axis toward the middle of the tape library.
4. Remove the gripper restraint:
 - a. Remove the screw that secures the gripper restraint to the belt clamp ④ as shown in Figure 4-17 (see Table 4-4).

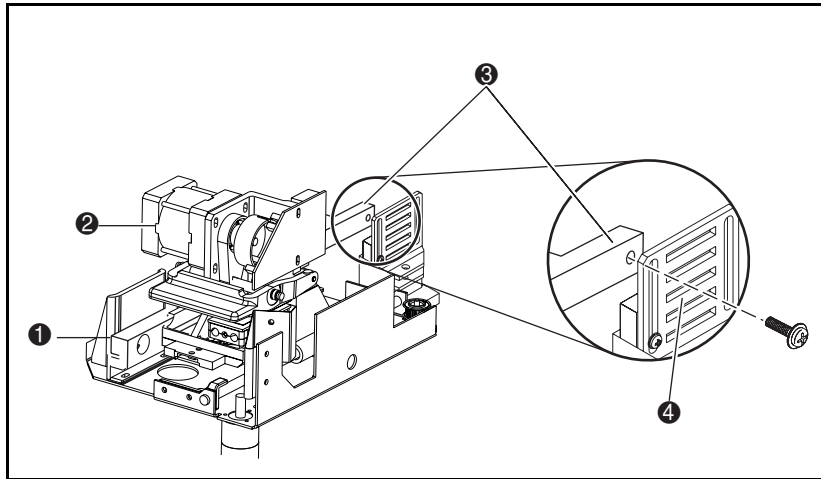


Figure 4-17. Removing the gripper restraint screw

Table 4-4
Gripper Restraint Screw

Figure Legend	Description
①	Extension axis assembly
②	Gripper assembly
③	Gripper restraint
④	Belt clamp

- b. Slide the gripper assembly ④ away from the vertical axis until the gripper assembly is fully extended and the gripper restraint ② disengages from the follower guide ① (see Figure 4-18).

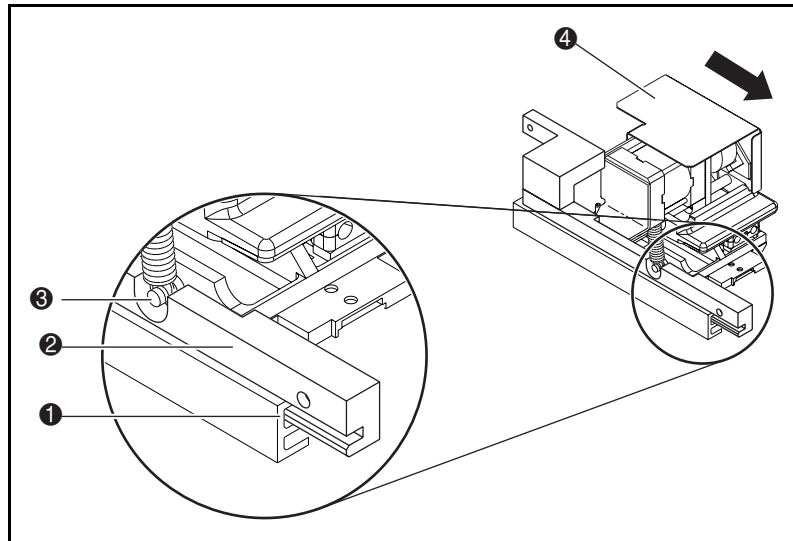


Figure 4-18. Releasing the gripper restraint

Table 4-5
Gripper Restraint

Figure Legend	Description
①	Follower guide
②	Gripper restraint
③	Spring post
④	Gripper assembly (view rotated)

- c. Pivot the gripper restraint ③ until it clears the motors and spring post as shown in Figure 4-19.
- d. Remove the gripper restraint ③ by gently pulling it back toward the vertical axis.
- e. Slide the gripper assembly ① toward the vertical axis.

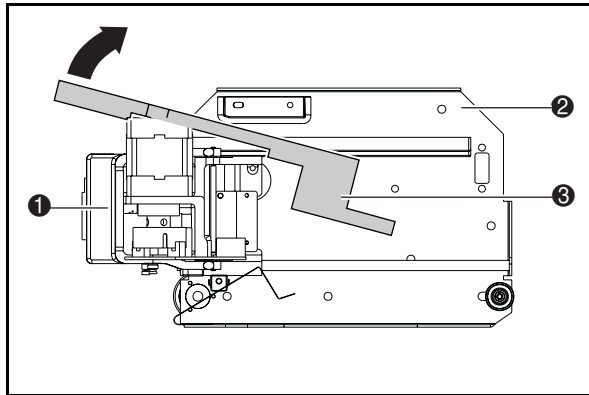


Figure 4-19. Removing the gripper restraint

Table 4-6
Removing the Gripper Restraint

Figure Legend	Description
❶	Gripper assembly (fully extended)
❷	Extension axis assembly (top view)
❸	Gripper restraint

5. Remove the vertical carriage restraint as shown in Figure 4-20 (see Table 4-7):



WARNING: The vertical carriage assembly is extremely heavy.

- a. Rotate the extension axis assembly ❷ 90 degrees.
- b. Remove the screw that secures the vertical carriage assembly to the restraint.
- c. Gently slide the vertical carriage assembly ❸ up to eye level.
- d. Squeeze the two sides of the vertical belt together, making sure to interlock the belt cogs.
- e. Secure the vertical belt to the vertical carriage assembly using a tie wrap.

- f. Remove the two screws ❶ that secure the vertical carriage restraint to the horizontal carriage.
- g. Remove the vertical carriage restraint ❷.
- h. Remove the tie wrap installed in step 5e.
- i. Gently lower the vertical carriage assembly ❸.

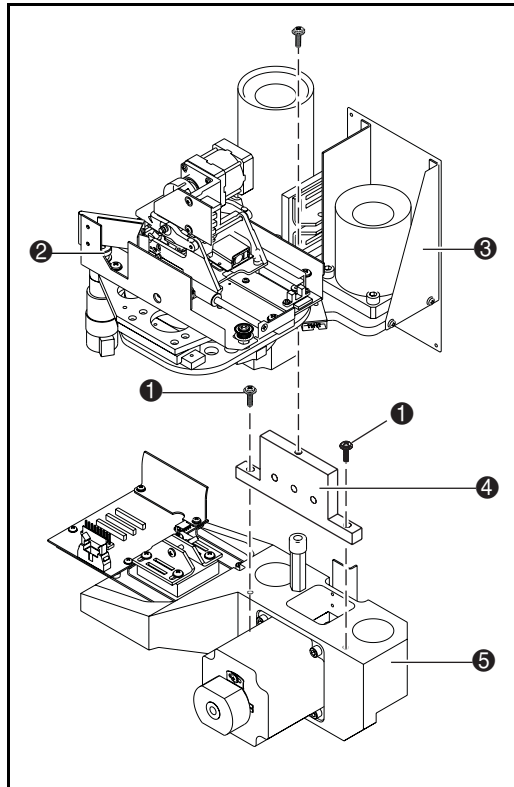


Figure 4-20. Removing the vertical carriage restraint

Table 4-7
Vertical Carriage Restraint

Figure Legend	Description
①	Vertical carriage assembly screws
②	Extension axis assembly (rotated 90°)
③	Vertical carriage assembly
④	Vertical carriage restraint
⑤	Horizontal carriage assembly

Storing the Shipping Materials

To store the shipping and packaging materials for future use:

1. Using the gripper, horizontal, and vertical restraint screws, secure the shipping restraints to the inside of the tape library as shown in Figure 4-21 (see Table 4-8).

NOTE: The profile of each shipping restraint is clearly outlined on the storage label.

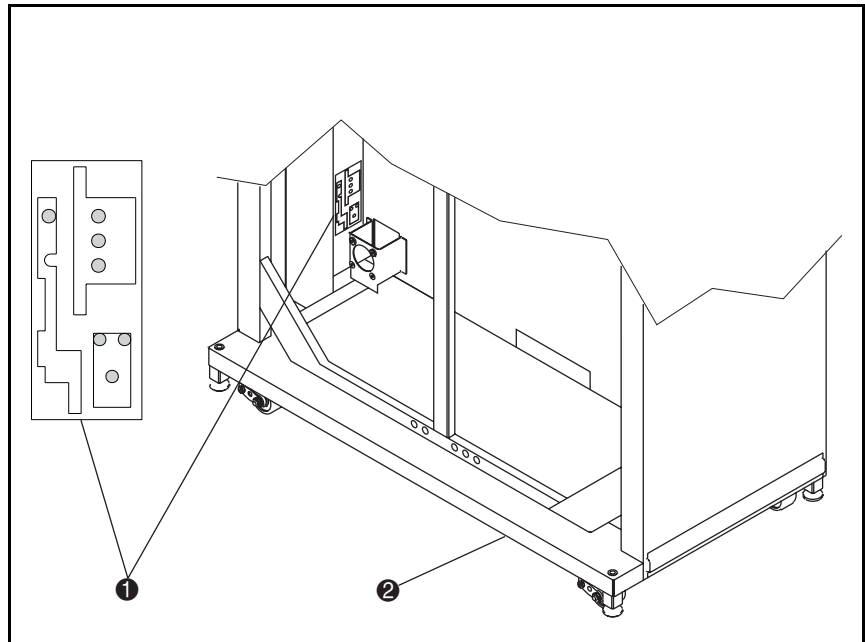


Figure 4-21. Storing the shipping restraints

Table 4-8
Shipping Restraints

Figure Legend	Description
①	Label with shipping restraints outlined
②	Front of tape library

2. Slide the two ramp extensions into their shipping position on top of the pallet.
3. Secure the ramp extensions with the foam block.
4. Re-insert the wooden bar into its brackets on the pallet.
5. Fold the shipping bag.
6. Place the shipping bag, load port shipping plate, stop blocks, foam cap, screws, and other packaging materials on the pallet.

7. Collapse the shipping container.
8. Place the shipping container on top of the packaging materials on the pallet.
9. Secure the pallet, packaging materials, and shipping container for future use.

Leveling the Tape Library

To level the tape library:

NOTE: If a multi-unit tape library is being implemented, refer to the installation instructions in Chapter 6 of the *Compaq StorageWorks ESL9326 Tape Library Reference Guide*.

1. Using the $\frac{3}{4}$ -inch open-end wrench (supplied in the Accessory Kit), rotate each foot of the tape library until it makes contact with the floor.
2. Rotate each foot an additional one-quarter turn to begin raising the tape library.
3. Center a carpenter's level on the top front edge of the tape library.
4. Check the gauge on the level. If the front of the tape library is level, proceed to step 6. If it is not level:
 - a. Determine which side of the tape library is low.
 - b. Adjust the leveling foot on the low side of the tape library by rotating the leveling foot with the open-end wrench.
5. Repeat step 4 until the front is level.
6. Repeat steps 3 and 4 for the left edge, back edge, and right edge of the tape library.
7. Recheck the level on all top edges.
8. If necessary, repeat steps 3 and 4 until all four top edges of the tape library are level.

NOTE: You can now configure the tape library for normal operation. Refer to the *Compaq StorageWorks ESL9326 Tape Library Reference Guide* for more information.

Reinstalling the Gripper Restraint

If the tape library is to be moved to a different location, use this procedure to reinstall the gripper restraint:

NOTE: To prepare moving the tape library to a different location or to prepare it for shipment, refer to Appendix B in the *Compaq StorageWorks ESL9326 Tape Library Reference Guide*.

1. Pull the gripper all the way out toward you (see Figure 4-22).
2. Insert the gripper restraint ❶ into the follower guide so that it is in the same position as shown in Figure 4-22.
3. Slide the gripper and restraint to lock them into the groove (approximately half way in).
4. Rotate the gripper 90 degrees.
5. Line up the gripper restraint and then attach it. See the previously described section on “Removing the Shipping Restraints” for attaching information.

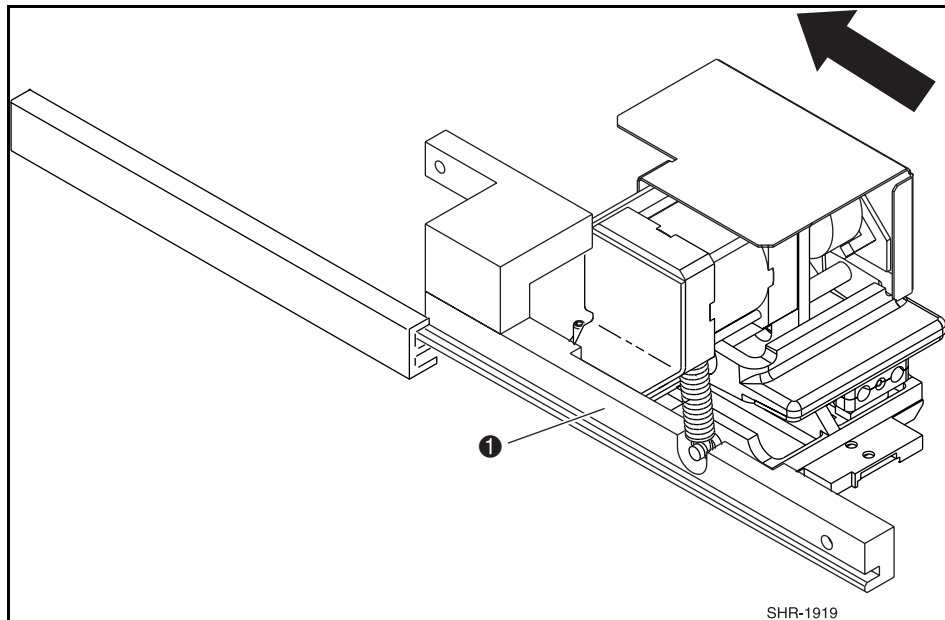


Figure 4-22. Reinstalling the gripper restraint

Appendix **A**

Tape Library Specifications

This appendix lists the physical, reliability, and environmental specifications for the Compaq StorageWorks ESL9326 Tape Library (see Tables A-1 through A-3).

Table A-1
Physical Specifications

Description	Specification
Width:	
Uncrated	57 in (145 cm)
Crated	67 in (170 cm)
Depth:	
Uncrated	29 in (75 cm)
Crated	48 in (122 cm)
Footprint	29 in x 57 in (75 cm x 145 cm)
Height:	
Uncrated	75 in (191 cm)
Crated	80 in (203 cm)

continued

Table A-1
Physical Specifications *continued*

Description	Specification
Weight (16 drives, no media):	
Uncrated	1300 lb (589 kg)
Crated	1650 lb (748 kg)
Tape Drives	
Quantity	0 to 16
Type	Compaq TZ89/DLT8000 (HVD)
Weight	13.5 lb (6.12 kg)
Cartridges	
Quantity	Up to 326
Type	DLT tape III, IIIXT, or IV
Weight	7.7 oz (218 g)
Host to Library Interface	
	High Voltage Differential SCSI-3 "P" Fast and Wide, 68-pin Micro D female connector
Software	SCSI-2 medium changer command set

NOTE: To calculate the total weight of a tape library with tape drives and tape cartridges use the following formula:

$$\begin{aligned}
 &1,084 \text{ lb (492 kg)} = \text{weight of unloaded library} \\
 &+ 13.5 \text{ lb (6.12 kg)} \times \text{number of drives installed} = \text{weight of all drives} \\
 &+ 7.7 \text{ oz (218 g)} \times \text{number of tapes} = \text{weight of all tapes}
 \end{aligned}$$

continued

Table A-1
Physical Specifications *continued*

Description	Specification
Power Input	
Power connector (2)	IEC 320 C19 female connector
Host to Tape Drive Interface	
	High Voltage Differential SCSI-3 "P" Fast and Wide, 68-pin Micro D female connector
Software	SCSI-2
Library Diagnostics	
Diagnostics	RS-232C service port for connection to a field service computer (MS-DOS based)

Table A-2
Reliability Specifications

Description	Specification
MTBF	250,000 power-on hours
MSBF	One million load/unload cycles
MTTR	Less than 30 minutes
Warranty	Three years parts First year on-site next day service

**Table A-3
Environmental Specifications**

Description	Specification	
Power Environment		
Electrical inputs	Voltage (range)	90 VAC to 264 VAC
	Current (A)	16 A @100/120 VAC 8 A @ 200/240 VAC
	Frequency	47 Hz to 63 Hz
	Power consumption	1600 W max
	Electrical connection to power	IEC 320 C20 male connector in rear door
Climatic Environmental		
Temperature (operating)	Dry bulb	59°F to 90°F (15°C to 32°C)
	Wet bulb	77°F (25°C) maximum
	Thermal transition	54°F (30°C) per hour
Temperature (shipping and storage)	Dry bulb	-40°F to 151°F (-40°C to 66°C)
	Wet bulb	115°F (46°C) maximum
	Thermal transition	54°F (30°C) per hour

continued

Table A-3
Environmental Specifications *continued*

Description	Specification	
Relative humidity	Operating	20% to 80%, non-condensing
	Shipping and storage	5% to 95%, non-condensing
Altitude	Operating	Sea level to 10,000 ft (3,048 m)
	Shipping and storage	Sea level to 12,000 ft (3,657 m)
Heat dissipation	Operating	5500 BTU/hr (1400 Kcal/hr or 1600 W)
Electromagnetic/Electrostatic Susceptibility		
Direct ESD	Contact discharge	@ 2.0, 4.0, 6.0, 8.0 kV to all external metal panels and doors
	Air discharge	@ 2.0, 4.0, 6.0, 8.0 10.0, 12.0, 15.0 kV to the front control panel display
Indirect ESD	Contact discharge	@ 2.0, 4.0, 6.0, 8.0 kV to the VCP
Radiated fields per IEC-801-3	Unmodulated	27 MHz to 500 MHz @ 3 V/m
Fast transients (EFT or Burst) per IEC-801-4	Data cables	@ 0.5 kV
	Power cables	@ 1.0 kV
Acoustical Noise		
Sound power level	Operating	7.8 Bel
	Idle	7.6 Bel
Sound pressure @ loudest bystander position	Operating	63 dB

Gripper Assembly

The gripper assembly includes a Class II laser bar code scanner that reads standard six-character, 3 of 9 bar code labels. The scanner is used to maintain an inventory of the tape cartridges within the tape library. For example, an inventory occurs automatically whenever the tape library is turned on or after the front door is closed. An inventory can also be initiated manually from a host computer.

Appendix **B**

Pre-Installation Site Survey

The following pre-installation site survey is required for installing a StorageWorks ESL9326 Tape Library for the following reasons:

- Advance planning is necessary to ensure that the tape library can be received, unpacked, moved to the installation site, and installed.
- The tape library crated, with 16 tape drives installed, weighs approximately 1650 lb (748 kg), occupies a footprint of 48 x 67 inches (122 x 171 cm), and is 80 inches (203 cm) tall.
- The tape library is rated for 100-240 VAC~, 50-60 Hz, 16 A-8 A, 1600 W service.
- A dedicated outlet (Figure B-1) and a 20 A circuit breaker must provide power to the tape library only (see Table 1). It is necessary to use a harmonized 3 x 1.5 mm² power cord that is approved by the associated country of use, and to install the appropriate wall outlet. For a listing of power cords available from Compaq Products, refer to Appendix E of the *Compaq StorageWorks ESL9326 Tape Library Reference Guide*.

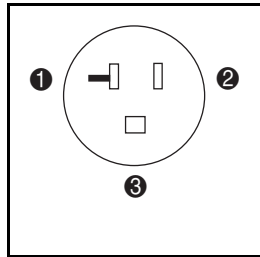


Figure B-1. Wall outlet requirements for North America

Table B-1
Wall Outlet: NEMA 5-20R Rated 125 VAC 20 A

Figure Legend	Description
①	Neutral
②	Line
③	Ground

NOTE: The tape library contains redundant power supplies. As a result, two wall outlets are required.

Site Information

Site Name: _____

Site Address: _____

Date: _____

Sales Reference #: _____

VAR: _____

Contacts

Contact	Name	Phone #	eMail
Customer 1:	_____	_____	_____
Customer 2:	_____	_____	_____
VAR SR:	_____	_____	_____
VAR FSE:	_____	_____	_____
Compaq SSR:	_____	_____	_____
Compaq Acct. Mgr.:	_____	_____	_____
Compaq FSE:	_____	_____	_____

Host System Information

Host system make and model: _____

Host system application software
and revision: _____

Host SCSI controller: _____

Type of data to be stored
(database, video, exchange mail, etc.): _____

Type of industry that identifies the company
(financial, manufacturing, software, etc.): _____

Country in which the tape library is to be operated: _____

Power cord that is required: _____

Receiving the Tape Library (Physical Requirements)

Site Ready?

	Yes	No
1. Is there a loading dock that is accessible by tractor-trailer?	[]	[]
2. Are a minimum of two people available to help uncrate the tape library?	[]	[]
3. Is there a location to store crating/packaging material for future use?	[]	[]
4. Are pallet jacks or moving dollies available?	[]	[]
5. Is there adequate space to uncrate the tape library?	[]	[]
6. Are tools for uncrating the tape library available?	[]	[]

Installation Route Requirements (Receiving Dock to Installation Site)

Site Ready?

Yes No

- | | | |
|--|-----|-----|
| 1. Are the clearances of all doorways and elevators on the route adequate (must be greater than 80 in (203.2 cm))? | [] | [] |
| 2. Is the route free of steps? (No steps should exist along route) | [] | [] |
| 3. Will all flooring (route and installation site) support 250 lb/ft ² (1221 kg/m ²)? | [] | [] |
| 4. Is the route free of carpet or obstacles that would impede caster movement? | [] | [] |

Installation Requirements

Site Ready?

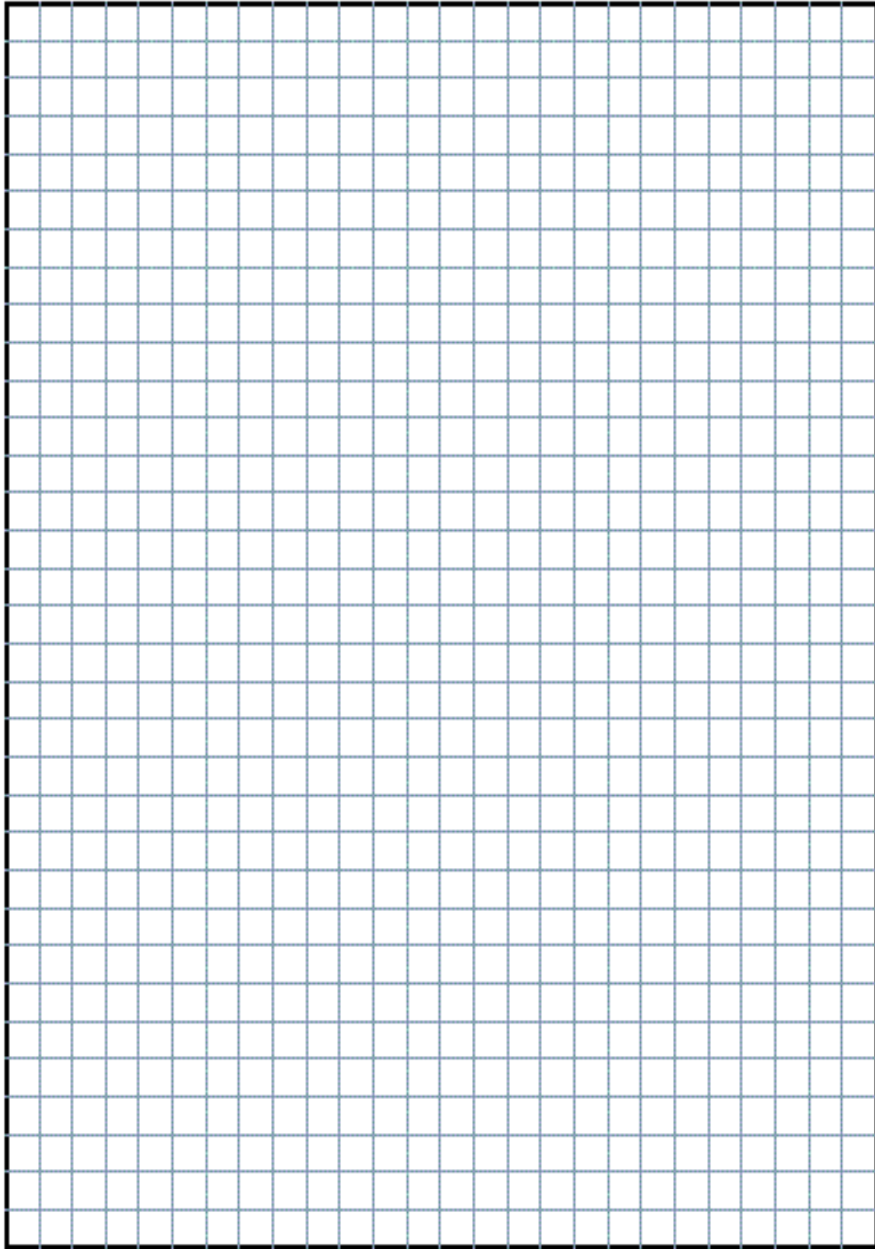
Yes No

- | | | |
|---|-----|-----|
| 1. Are the correct number of dedicated host SCSI controllers available or on order (Typical installation is one SCSI controller for every two tape drives)? | [] | [] |
| 2. Has the SCSI ID scheme been reviewed with the customer? | [] | [] |
| 3. Has the equipment location/arrangement been planned? (power source/host/tape library/cablings)? | [] | [] |
| 4. Is service and traffic clearance provided (ceiling height/sprinkler heads/cable racks)? | [] | [] |
| 5. Has flooring tile cutout (for cabling, if required) been arranged? | [] | [] |
| 6. Are SCSI cables available or on order? | [] | [] |
| 7. Are SCSI connection kits for forward connectivity available or on order? | [] | [] |
| 8. Are all SCSI cables less than or equal to 49.2 feet (15 m) (for forward connectivity)? | [] | [] |

Site Ready?

	Yes	No
9. Is a dedicated power source with the correct outlet available?	[]	[]
10. The tape library contains a redundant power supply. Are there two dedicated power sources with the correct outlets available?	[]	[]
11. Is a bypass switch planned (Note: Only BBM type is approved for use with the tape library)?	[]	[]
12. Is emergency power-off capability provided?	[]	[]
13. Is the power disconnect (breaker panel or bypass switch) located within sight of the tape library (This is a National Electric Code requirement)?	[]	[]
14. Is the power source backed up by a generator or UPS?	[]	[]
15. Are the temperature and humidity at the installation site controlled?	[]	[]
16. Has qualified application backup software been installed on the hosts?	[]	[]
17. If spares have been ordered, is a spares storage space available?	[]	[]
18. Has access to the customer site been provided to complete this survey?	[]	[]

Using the grid on the following page, draw a map on the following page of the route the tape library will follow from the receiving dock to the installation site. Note any potential obstacles such as steps, ramps, carpet, thresholds, elevator size and weight ratings, raised floor weight ratings, and rough surfaces. Confirm the installation site selection is appropriate for the size and weight of the tape library.



Unusual Conditions

Note any unusual or detrimental conditions that exist at the installation site.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Contingency Plans

Note the question number and the contingency plan for each item in the survey for which you answered “No” (site not ready).

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Site Status

This site has satisfied the survey requirements and is ready to receive a tape library.	[]
There are [] open items before the requirements of this survey are satisfied.	[]

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