HDV250 Horizontal Benchtop Comparator System

Unpacking and Stage Lock Removal Instructions

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1. About This Guide

1.1 Purpose

These instructions provide information on how to unpack the HDV250 system and how to remove the stage locks that secure the stage during shipment.

1.2 Audience

This guide is intended for end-user customers, SKE Technical Services specialists, and Authorized Service Partners.

1.3 Conventions

Information that Requires Special Attention

This guide uses the following three conventions to present information that requires special attention: a warning, a caution, or a note.

A warning looks like this:

> **WARNING**
>
> **Warning information is printed in a box. Warnings direct your attention to operating or maintenance procedures or practices that must be followed correctly to prevent personal injury, loss of life and, possible, hardware or software damage.**

A caution looks like this:

> **Caution**
>
> Caution information is printed in a box. Cautions provide information that helps to prevent accidental hardware or software damage.

A note looks like this:

Note: *Pay special attention to the information printed in italics that follows the* ***Note:*** *heading. Notes provide additional information that is important to the surrounding text.*

1.4 Related Production Information

The following documents provide information that is related to the subject of this guide.

HDV250 Horizontal Benchtop Comparator System User Guide (PN 10558)

This guide provides instructions on how to install, operate, and maintain the HDV250 benchtop comparator system.

2. Unpacking the System

This section provides information on unpacking the HDV250 system. SKE metrology systems are normally installed by factory-trained technicians who also provide operator training. The following information covers basic hardware installation if an installer is not available.

2.1 Planning the Placement of Equipment

When planning the placement of the HDV system, refer to the following recommendations:

- Ensure a clean operating environment to minimize the accumulation of dirt on the optics and on precision mechanical parts, such as lead screws and encoder scales.
- Ensure the planned installation location has the proper electrical requirements. Refer to “Electrical Specifications” earlier in this document for detailed information.
- Select an installation location where the temperature can be controlled to within 20°C ± 0.5°C (68°F ± 5°F), which is the calibration temperature of the system.
- It is recommended (but not essential) the system be placed on a level work surface using a bubble level for verification.
- Allow clearance of 30 centimeters (12 inches) on both sides of the system for general access.

2.2 Required Tools and Equipment

The following items are required to uncrate and install HDV250 system:

- Forklift or pallet cart (to move shipping crate inside building).
- Battery powered drill with Phillips bit (to remove top and sides of shipping crate).
- 4mm hex wrench (to remove the stage lock)
- Two crescent wrenches (to remove screws that attach shipping tabs to the crate, also to adjust the height of feet of the cabinet stand and metrology unit).
- Bubble level (to level the system).

2.3 Moving the Crated System

Caution

The HDV system and shipping crating weight 234 pounds (106 kilograms). The system is designed to be moved by a forklift or pallet cart. Do not attempt to move the system without the proper equipment.

The HDV system is shipped in a single wooden shipping crate, which is designed to be moved by a forklift or a pallet cart. Use a forklift or pallet cart to move the crate within the building to the final location where the system will be installed. Exercise care in handling the unopened shipping crate, as excessive force or a drop might damage its contents. If ordered, the cabinet stand is shipped in a separate shipping container.

2.3.1 Uncrating the System

To uncrate the HDV system, refer to the following figure and perform the following steps:

1. Use a reversing battery powered drill with a Phillips bit to remove all wood screws from the top of the crate.

Figure 1. Removing Screws from the Shipping Container

2. Remove the top of the crate.
3. Remove all wood screws from the side panels of the crate, then remove the panels.

   This action exposes the HDV system on the pallet base of the crate. Refer to the following figure.

Figure 2. System on Wooden Pallet

4. Remove the additional items included with the crate such as accessories.

2.4 Leveling the Cabinet Stand

Locate the cabinet stand so that it has a clearance of at least one foot (30 cm) on the sides and in the back for installation and maintenance. The cabinet should be leveled before the system is placed on top. In addition, the weight on each of the four feet of the cabinet should be made about equal to avoid deformation of the cabinet under the load.

To level the cabinet, refer to the following figure and perform the following steps:

1. Place a bubble level on the top surface in the right-to-left and front-to-back directions.
2. Adjust the height of the feet until the top surface is horizontal as follows:
   a. On each foot, turn the locknut counterclockwise to its lowest position.
   b. Use a crescent wrench to rotate the bolt clockwise to achieve the desired corner height.
   c. Assess the force required to rotate each foot to ensure that each foot bears about the same weight.
   d. Rotate the locknut clockwise to prevent the bolt from further rotation.

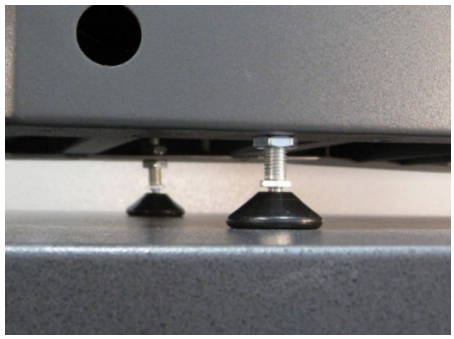

Figure 3. Leveling Cabinet Feet

2.5 Moving the System

If you are using a cabinet stand, ensure the stand has been leveled prior to placing the HDV system on the cabinet. Refer to “Leveling the Cabinet” earlier in this section.

The system is secured to the wooden pallet by four mounting tabs and bolts, do the following to move the system:

1. Use a crescent wrench to loosen the nut of each bolt, then remove the nuts. This allows the system to be lifted off the pallet. Refer to the following figure.

Figure 4. Wooden Pallet Secured by Mounting Tabs and Bolts

Caution

The HDV system weighs 122 pounds (55 kilograms). Do not attempt to move the system without proper assistance.

2. Using two people, carefully lift the system, which weighs approximately 122 pounds (55 kilograms). Carry the system to the final operating location.
3. Repeat the previous steps to level the cabinet after the system has been placed on the cabinet stand. Ensure that unit is level and that each foot bears about the same weight.
4. Use an Allen wrench to loosen the mounting tabs and rotate them by 90 degrees so that they no longer protrude from the system.

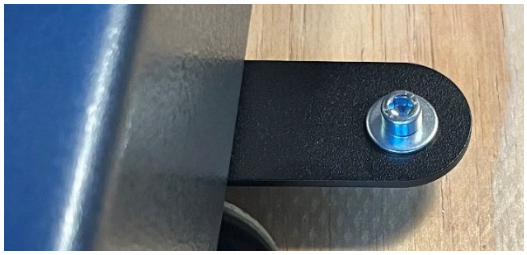

Figure 5. Mounting Tab

3. Removing the Stage Lock

The HDV system uses one stage lock to prevent movement of the stage during shipment. The stage lock is located on the left side of stage. Refer to the following figure. Remove the lock once the system has been placed in its final position. In addition, remove any tape and packing materials that might have been added to protect the equipment during shipment.

To remove the stage lock, perform the following steps:

1. Locate the stage lock on the system. Refer to the following figure.
2. Using a metric hex wrench, remove the two M4 socket head cap screws that secure the stage lock. Refer to the following figure.
3. Retain the stage locks for future use.

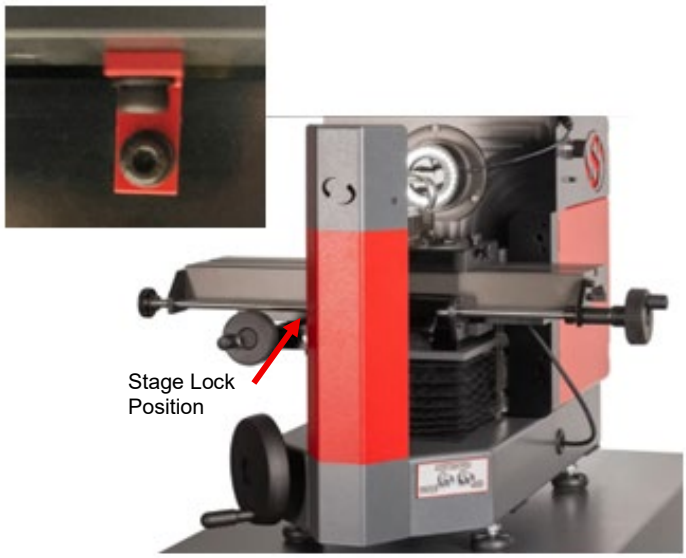

Figure 6. Removable Stage Lock