

BenchMark[®] HDP

Portable Heavy Duty Bench Scale

Installation Manual



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www.ricelake.com

Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
A	March 19, 2026	Established revision history

Table i. Revision Letter History



Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at www.ricelake.com/training or obtained by calling 715-234-9171 and asking for the training department.

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Rice Lake continually offers web-based video training on a growing selection of product-related topics at no cost. Visit www.ricelake.com/webinars

1.0 Introduction

This manual provides reference information to install and wire the BenchMark HDP series single-point bench-top scale.



Manuals are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information is available at www.ricelake.com/warranties

1.1 Safety

Safety Definitions:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.

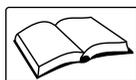


CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



IMPORTANT: Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety



Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



WARNING

Failure to heed could result in serious injury or death.

Failure to heed may result in serious injury or death.

Do not allow minors (children) or inexperienced persons to operate this unit.

Do not operate without all shields and guards in place.

Do not jump on the scale.

Do not use for purposes other than weight taking.

Do not place fingers into slots or possible pinch points.

Do not use any load bearing component that is worn beyond 5% of the original dimension.

Do not use this product if any of the components are cracked.

Do not exceed the rated load limit of the unit.

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Keep hands, feet and loose clothing away from moving parts.

1.2 Calibration

It is recommended that the scale be “exercised” by loading it to near capacity two or three times before calibration to be certain that everything is seated. To calibrate the BenchMark HDP scale place test weights on the scale platform equal to 70 - 100% of the scale capacity. If several weights are used, distribute them evenly around the platform.

See the indicator manual for specific indicator calibration procedures.

2.0 Installation

This section provides an overview of the BenchMark HDP installation procedure and grounding information.

2.1 Unpacking

Immediately after unpacking, visually inspect the BenchMark HDP to ensure that the unit is undamaged. The shipping carton should contain the bench scale and this manual. If the scale was damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

2.1.1 Leveling the Scale

1. Place the scale in the desired location.
2. Lift off the deck cover and locate the bubble level (Figure 2-1).

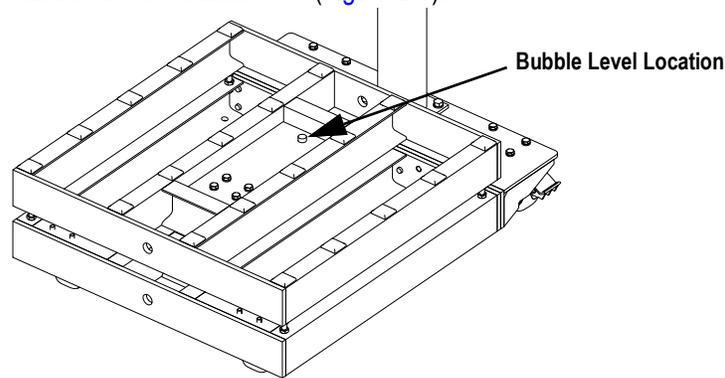


Figure 2-1. Top Plate Removed Showing Bubble Level Location

3. Adjust the four corner feet until the scale is level and all feet contact the support surface, so the scale does not move.
4. Lock the jam nuts on the feet when the final level is correct.

2.2 Connecting the Load Cell Cable

The BenchMark HDP comes with an RL26018A load cell and a standard 10' color-coded load cell cable.



NOTE: The load cell is temperature compensated for an exact length of 10'.



IMPORTANT: Do not cut the load cell cable.

See the indicator manual to determine the proper load cell cable input connectors. Use the following color codes to wire the load cell cable. Once complete, install the top cover for the bench scale back onto the scale.

Color Code	Function
Red	+ Signal
White	- Signal
Green	+ Excitation
Black	- Excitation
Blue	+ Sense
Yellow	- Sense

Table 2-1. 6-Wire Load Cell Wiring

2.3 Grounding the Scale Base

Bench scales can build up static electricity charge during weighing operations. If powerful enough, this charge can travel through the load cell cable to the indicator. To prevent this, all bench scales should be adequately grounded so that static charges and transient electrical surges can drain directly to the ground. A recommended practice is to connect the scale base to an AC ground circuit using at least #12 wire. All BenchMark series scales have either a grounding screw or a hole for such a grounding screw located on the bottom of the lower frame for this purpose.

2.4 Dimensions

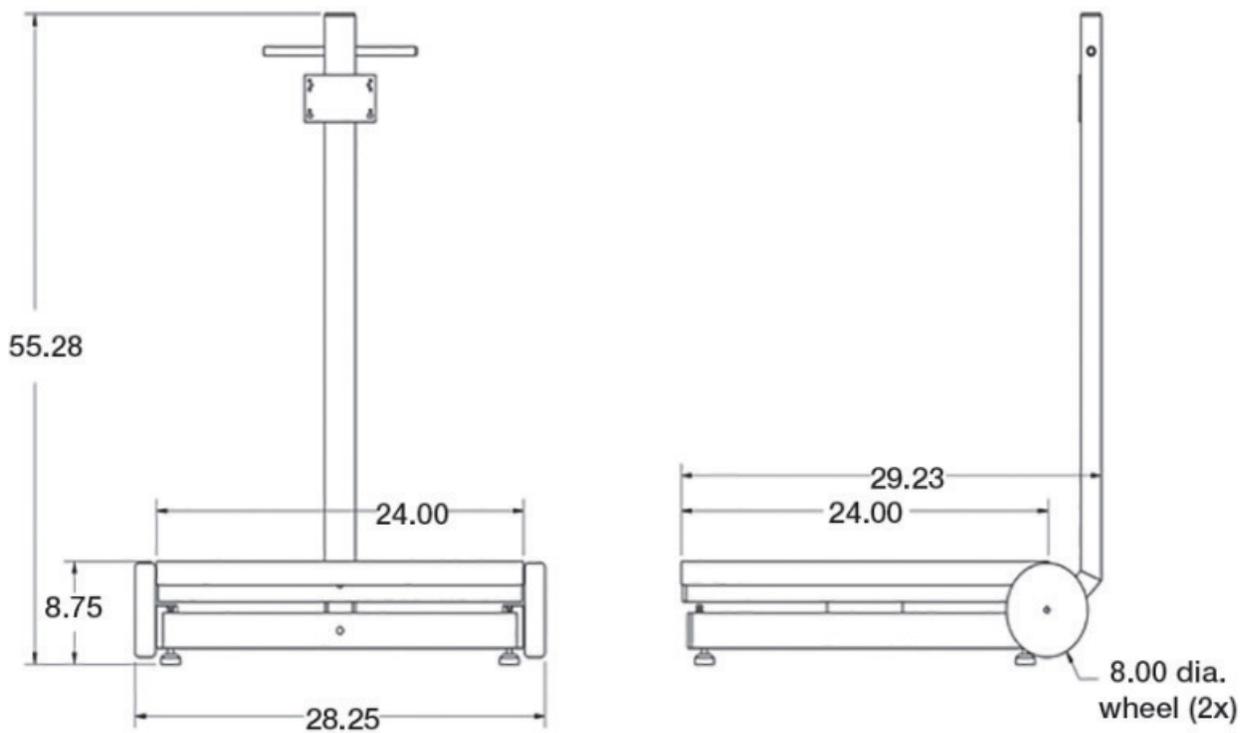


Figure 2-2. BenchMark HDP Wheel Model Dimensions (in inches)

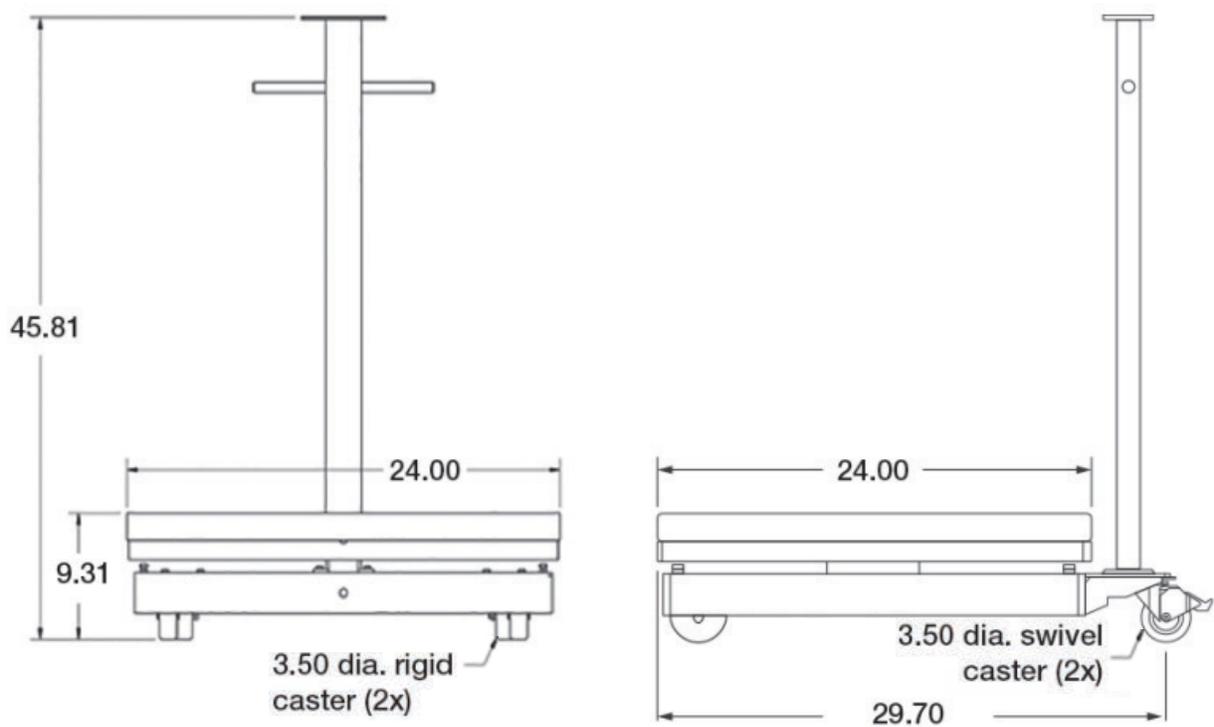


Figure 2-3. BenchMark HDP Caster Model Dimensions (in inches)

3.0 Maintenance

This section provides additional information about the BenchMark HDP.

3.1 Troubleshooting

Symptom	Probable Cause	Remedy
No display	Power disconnected	Connect power
	Cable cut or disconnected	Repair cable
	Signal leads incorrectly wired at indicator	Connect according to indicator manual
Display stays at zero	Incorrect load cell cable connections	Connect according to manual
	Faulty indicator	Service the indicator
Erratic weight display	Vibration near the scale	Remove the source of vibration, or adjust the digital averaging of the indicator to minimize the erratic display
	Scale is not level	Level the scale
	Water damage to the load cell or load cell cable	Replace the load cell
	Faulty indicator	Service the indicator
	Loose load cell screws	Tighten the correct torque
	Faulty load cell	Test and replace if necessary
Consistently low weights	Indicator is not properly adjusted to zero	Zero the indicator correctly
	Scale deck cover is binding	Obtain adequate clearance
	Overload stops set too high	Reset overload stops correctly
	Indicator not calibrated for scale	Calibrate
	Faulty load cell	Test and replace if necessary

Table 3-1. Troubleshooting Guide

3.2 Load Cell Replacement

Use the following steps to replace load cells.

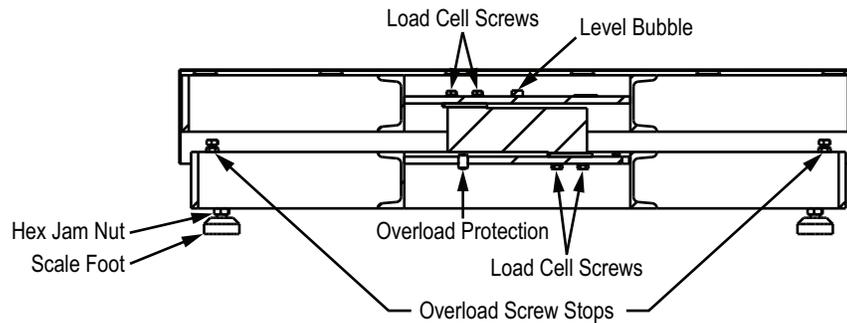


Figure 3-1. Load Cell Mount

1. Unplug AC power from the indicator and disconnect the load cell cable from the indicator.
2. Lift off the scale top cover and locate the four upper load cell screws. Use a 1/2" wrench to unscrew and remove those four load cell screws (Figure 3-1).
3. Lift off the scale's top frame.
4. Remove the spacer between the load plate and load cell and set it aside.
5. Loosen the four overload stop screws and turn each screw once to provide ample clearance for the new load cell.
6. Turn the scale over and back off the overload protection screw one complete turn to provide clearance.
7. Unscrew and remove the lower load cell screws.
8. Remove the bottom shim beneath of the load cell and set it aside.
9. Remove the load cell and cable from the scale.
10. Position the bottom shim directly beneath the load cell and screw in the lower load cell screws.



NOTE: Torque bolts to 200 in-lbs.

11. Turn the scale upright. Position the spacer plate on the load cell, then place the top frame into position.
12. Screw in the four upper load cell screws.
13. Connect the load cell cable to the indicator.
14. Recalibrate the scale as described in [Section 1.2 on page 5](#) of this manual.
15. Adjust the load cell overload protection screws on the bottom of the scale by loading the scale to 125% capacity. Place this weight on the top cover, centered on the platform. Use a hex wrench to screw in the load cell overload protection screw until it touches the load cell, then back off 1/6 turn.
16. Recheck calibration.
17. To reset corner overload stop screws, load the top spider over one corner with approximately 30% of scale capacity.
18. Adjust the screw under that corner to just touch the top frame.
19. Place a drop of a non-permanent, high-strength locking compound such as Loctite® on the thread.
20. Back screw off slightly so it is not touching the top frame.
21. Repeat for each corner.
22. Replace the top cover and re-level the scale if necessary.

4.0 Specifications

Load Cell, NTEP Certified

IP67 aluminum, environmentally sealed

Output Impedance

350 ohm

Maximum Overload

200%

Overload Protection

Five-point, independently adjusted

Scale Frame

Mild steel powder-coated black

Scale Cover

AISI304L, straight line finish, Ra=45 +/- 10

Cable Length

10 ft (3 m)

Temperature

Compensated:

14°F to 104°F (-10°C to 40°C)

Warranty

Two-year limited

Certifications and Approvals



NTEP

CoC 06-010

Accuracy Class III; 5000 d

Measurement
Canada
Approved

Measurement Canada

AM-5625, Class III 5000 d



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