

Rice Lake Mechanical Physician Scale

Model RL-MPS-40

Operation Manual



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WEIGHING SYSTEMS

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Revision History

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

Revision	Date	Description
B	January 14, 2025	Established revision history; updated troubleshooting section

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

The Rice Lake Mechanical Physician Scale (RL-MPS-40) is ideal for use in health clinics and doctors' practices for height and weight measurement.

The scale is durable, having a sturdy enameled steel body, removable slip resistant cover, a retractable aluminum height rod and rear wheels. This manual guides the user through basic instructions on pillar assembly, wheel installation, height rod installation and the zero adjustment of the 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.

Do not transport the scale while someone is standing on it.

To avoid cross contamination, the scale should be cleaned regularly.

Avoid contact with excessive moisture.

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

Do not jump on the scale.

Do not place fingers into slots or possible pinch points.

Do not use in the presence of flammable materials.

Use the scale only to determine weight of people while standing.

Do not make alterations or modifications to the scale.

People with disabilities, or who are physically frail, should always be assisted by another person when using this scale.

Do not use the scale on slippery surfaces, such as a wet floor.

Do not use this scale when the body/feet are wet, such as after taking a bath.

Weight exceeding the maximum capacity may damage the scale.

Do not drop the scale or subject it to violent shocks.

For accurate weighing, the scale must be placed on a flat, stable surface.

1.2 Disposal



Product Disposal

The product must be brought to appropriate separate waste collection centers at the end of its life cycle.

Proper separate collection to recycle the product helps prevent possible negative effects on the environment and to health, and promotes the recycling of the materials. Users who dispose of the product illegally shall face administrative sanctions as provided by law.

2.0 Assembly

Place the unopened shipping container in an open area with room for unpacking the scale.

When unpacking the *RL-MPS-40*, ensure that all assembly parts are accounted for. Check the *RL-MPS-40* for any visible damage. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

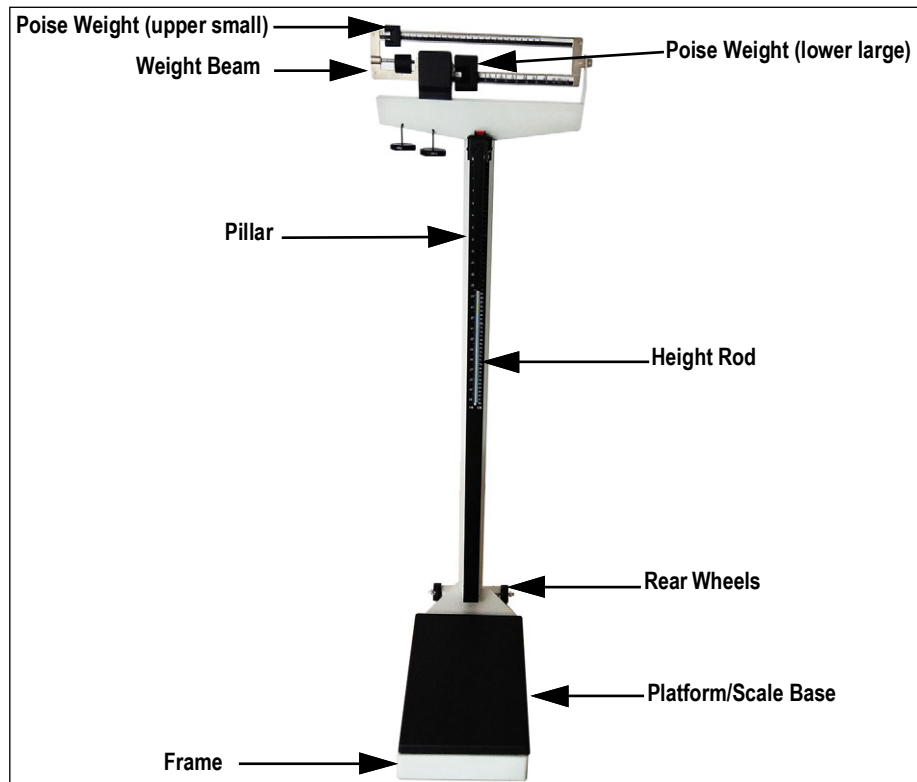


Figure 2-1. RL-MPS-40 Parts



IMPORTANT: The *RL-MPS-40* must be properly packed with sufficient packing materials prior to being moved or shipped. Retain the original shipping materials and container, if possible.

Damage caused by improper packaging is not covered by the warranty.

2.1 Scale Assembly

The following tools are required to assemble the *RL-MPS-40*. Use the following sections to assemble the scale.

- Phillips head screwdriver
- Wrench (included)

2.1.1 Pillar Installation

1. Set the scale base on a hard level surface.
2. Remove the ties from the scale base and the cable tie that holds the steelyard rod from shifting during shipping.



Figure 2-2. Remove Ties

3. Insert the pillar into the scale base assembly ensuring that the smaller face of the weight beam faces the scale base.

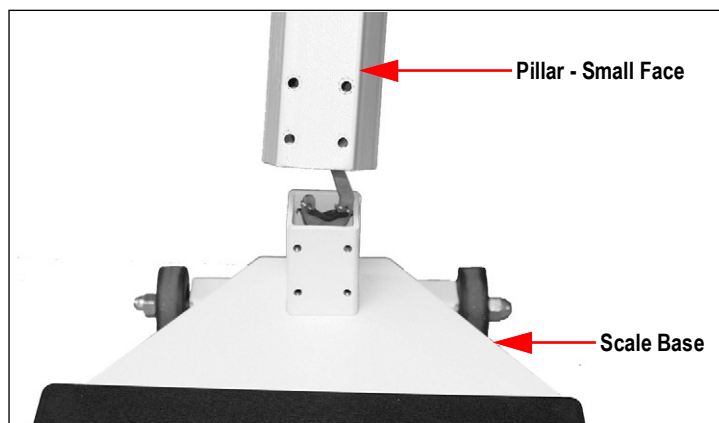


Figure 2-3. Install Pillar

4. Secure the pillar to the scale base using a Phillips head screwdriver and eight bolts with washers.



Figure 2-4. Secure Pillar to Scale Base

2.1.2 Steelyard Rod Connection

The steelyard rod is located inside the scale pillar. Once the pillar is attached to the scale base, the steelyard rod must be attached to the bottom of the scale.

1. Lay the scale on a table. Ensure that the scale base ties have been removed.

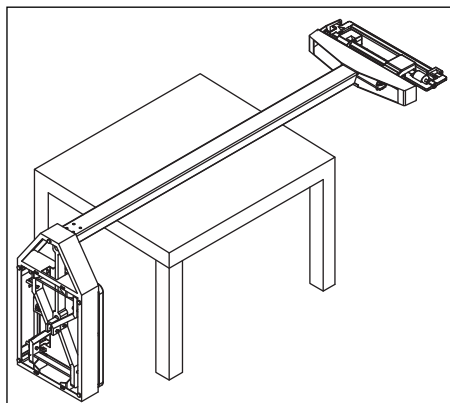


Figure 2-5. Lay Scale on Table

2. Insert the hook end of the included wrench into the small hole in front of the steelyard rod. Pull the rod to connect it to the scale base.



Figure 2-6. Connect Steelyard Rod to Scale Base

3. Push the long lever frontward, then hook the bearing of the steelyard rod on the pivot of the long lever.



Figure 2-7. Steelyard Rod Connected

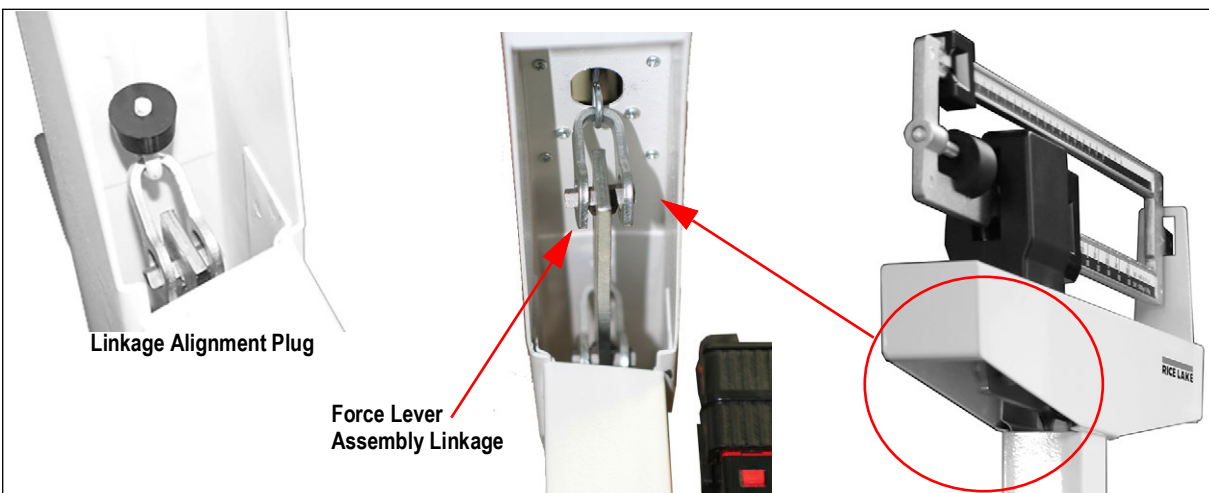


Figure 2-8. Linkage Underneath the Top Weigh Beam

4. Visually ensure the force lever assembly linkage is centered and properly aligned by looking underneath the top weigh beam. Tip scale slightly if needed. The linkage must be free floating in order for the scale to weigh properly.
5. Place the scale gently back on the floor, ensure all feet are out from under the scale location.



IMPORTANT: Ensure that the linkage is straight and free floating, if twisted it can cause weighing issues.

2.1.3 Height Rod Installation

Use the following steps to install the height rod.

1. Insert the slotted holes of the height rod onto the two hex-head screws on the front side of the pillar.

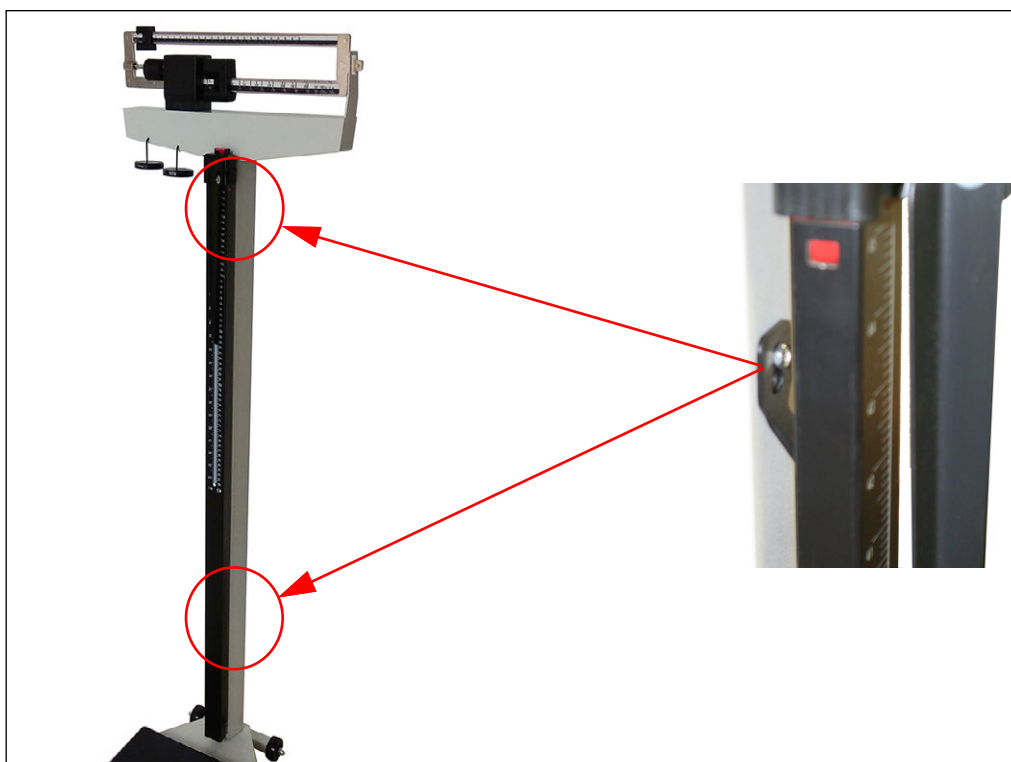


Figure 2-9. Attach Height Rod

2. Use the wrench to tighten the two hex-head screws until snug, do not over tighten.
3. Press the red button at the top of the height rod and ensure it moves easily.

2.2 Wheel Installation

To install the wheels onto the scale, use the following instructions.

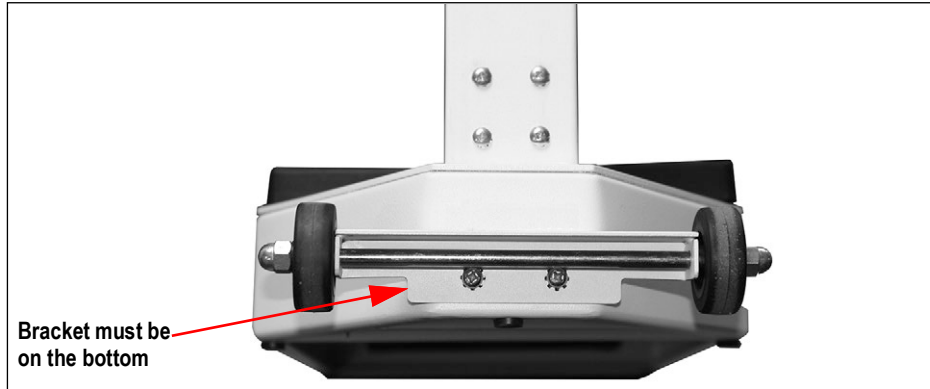


Figure 2-10. Attach Scale Wheels



IMPORTANT: Ensure the wheel mount bracket is toward the bottom of the scale, as illustrated in Figure 2-10. If wheels are mounted upside down, it can cause scale errors.

1. Align the wheel mount to the scale frame, ensuring the bracket is facing the bottom as illustrated in Figure 2-10.
2. Insert the screws with washers (included) through the bracket and the scale frame.
3. Adjusting the bracket to a level position and tighten screws.

To move the scale, hold both sides of the pillar top and tip slightly to keep the front side of the platform away from the floor while pushing to new location.



Figure 2-11. Moving the Scale



CAUTION: Ensure all feet and other body parts are clear from the location before setting the scale upright.

3.0 Counterpoise Weights

A 50 lb and 20 kg counterpoise weight are included and can be added to the first slot in the main beam of the mechanical physician scale to enable it to weigh larger capacities.



Figure 3-1. Counterpoise Weights

Weigh in Kilograms

Position the 20 kg counterpoise weight in the first slot and move the main poise weight to the 180 kg slot. Now the scale is ready to weigh 200 - 220 kg.

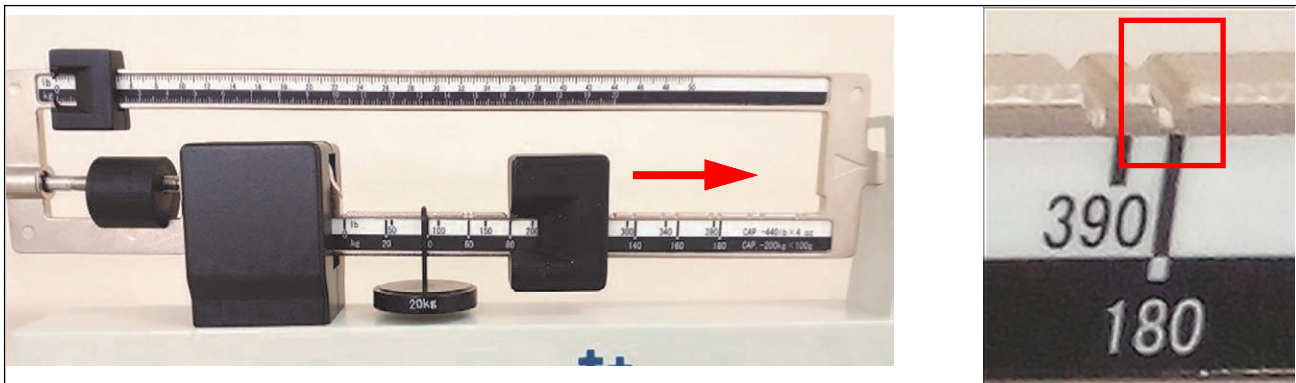


Figure 3-2. Weigh in Kilograms

Weigh in Pounds

Position the 50 lb counterpoise weight in the first slot and move the main poise weight to the 390 lb slot. Now the scale is ready to weigh 440 - 490 lb.



Figure 3-3. Weigh in Pounds

4.0 Maintenance and Troubleshooting

4.1 Zero Adjustment

To ensure accurate weighments, a zero adjustment should be done to the scale after assembly is complete.



Figure 4-1. Eye Loop Area and Zero Adjusting Screw Location

To perform a zero adjustment:

1. Ensure the scale is sitting on a level surface.
2. Check the eye loop area of the scale to ensure that the scale pointer is equally balanced between the eye loop area.
 - Gently press the scale pointer down until it touches the bottom of the eye loop area.
 - Release the scale pointer, it rises up and down in the eye loop area. It should settle in the center of the eye loop area.
3. If the scale does not settle in the center, the small zero balance weight must be adjusted. Turn the zero adjusting screw using a flat head screwdriver. The zero balance weight moves accordingly.
4. Perform Step 2 again. Continue adjusting the screw until the scale pointer settles in the center of the eye loop area.

4.2 Troubleshooting

The accuracy of the *RS-MPS-40*, when calibrated at the factory, falls within plus or minus 1/4 pound. For the most accurate weight, always use the scale on a hard, level surface and stand in the center of the scale platform with the weight distributed as evenly as possible.

If an error occurs or seems excessive, check the following:

Problem	Possible Fix
Zero balance of beam	The weigh beam must be balanced so the pointer settles in the center of the eye loop when both poise weights are set at zero Adjust the balance by turning the zero adjusting screw at the left end of the weigh beam; see Section 4.1 on page 12
Beam does not move freely	Ensure the pointer is not touching the side of the eye loop in its range of travel Visually ensure that the linkage is centered and properly aligned; see Section 2.1.2 on page 8 .
Platform rocks excessively	Ensure scale is setting on a level surface
Beam does not move at all during a weighment	Ensure the poise weights are not set at a higher weight than the person's actual weight; if so set the weights lower Check to see that the steelyard rod is properly connected and aligned; see Section 2.1.2 on page 8

Table 4-1. Troubleshooting Guide

4.3 Pivot and Bearing Positions

The Rice Lake Mechanical Physician Scale has eight pivots. If the scale platform is crooked, slanted or immobile, the pivots may be positioned in their bearings incorrectly, preventing accurate weightment. To correct this, perform the following procedure:

1. Position the scale on its side to reveal the pivot and bearing locations underneath (see [Figure 4-2](#)).

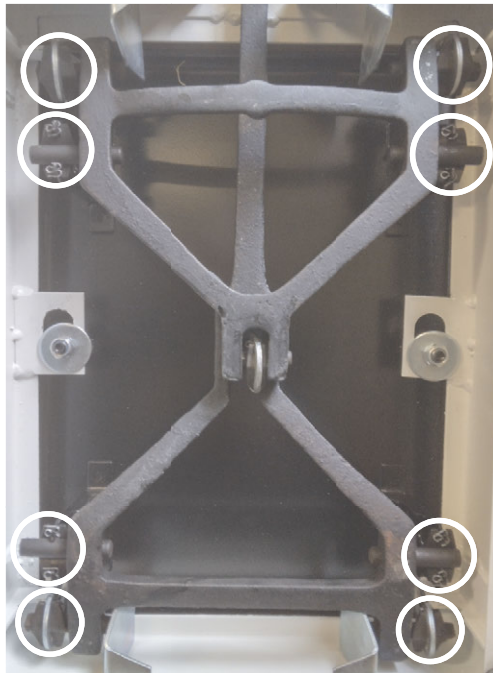


Figure 4-2. Eight Pivot and Bearing Locations

2. Check that the pivots are in the bearings correctly (see [Figure 4-3](#) and [Figure 4-4](#)).

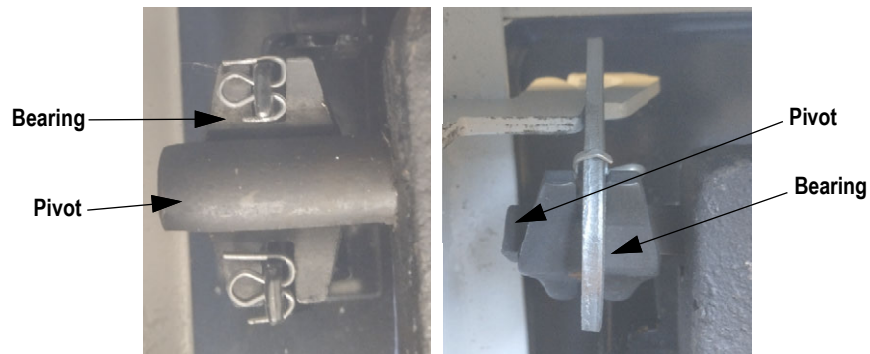


Figure 4-3. Correct Pivot and Bearing Positions



Figure 4-4. Incorrect Pivot and Bearing Positions

3. Manually correct if needed.

4.4 Specifications

Maximum Capacity.....	440 lb (200 kg)
with Counterpoise weights	490 lb (220 kg)
Graduation	0.25 lb (0.1 kg)
Height Rod Range.....	24-84" (60-212 cm)
Min. Value of Height per Division	0.125" (0.1 cm)
Platform Size.....	14.75" x 10.75" (374.65 x 273.05 mm)



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