

# Rice Lake Mechanical Physician Scale

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*Model RL-MPS, RL-MPS-10, RL-MPS-20*

## Operation Manual



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WEIGHING SYSTEMS

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# Revision History

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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](http://www.ricelake.com/training) or obtained by calling 715-234-9171 and asking for the training department.*

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# 1.0 Introduction

The Rice Lake Mechanical Physician Scale 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 plastic cover and a retractable aluminum height rod and rear wheels. This manual guides the user through basic instructions on pillar assembly, wheel installation, pillar height rod installation and the zero adjustment of the scale.



Manuals are available from Rice Lake Weighing Systems at [www.ricelake.com/manuals](http://www.ricelake.com/manuals)

Warranty information is available at [www.ricelake.com/warranties](http://www.ricelake.com/warranties)

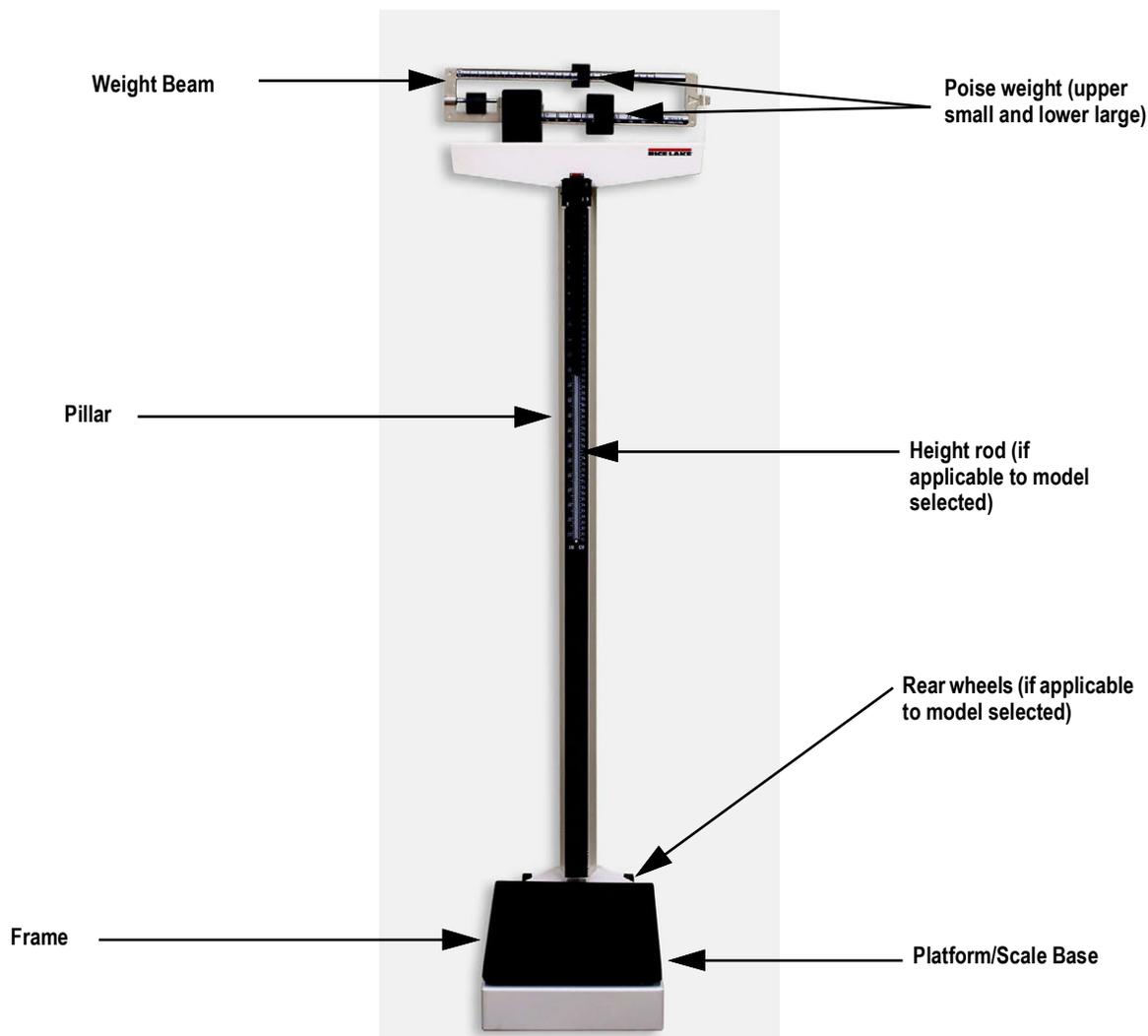


Figure 1-1. Mechanical Physician Scale Parts Breakdown (lb/kg version with height rod and rear wheels shown)

## 2.0 Installation

You will receive your Mechanical Physician Scale partially assembled. Those items that need additional assembly are:

- Pillar assembly
- Steelyard rod connection
- Height rod installation (for models having a height rod)
- Wheel installation (for models having wheels)

Remove all components from the shipping box (shown in [Figure 2-1](#)) and lay out in a convenient place.

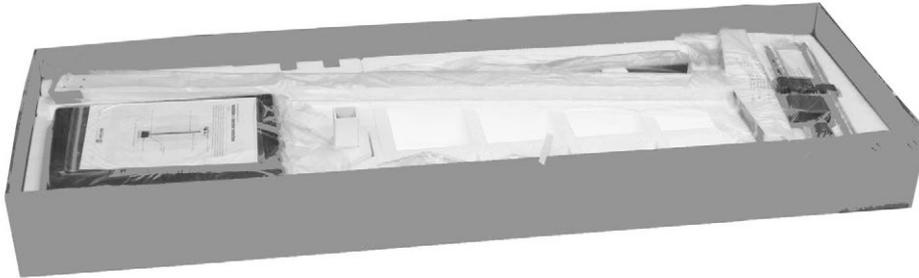


Figure 2-1. Box Contents

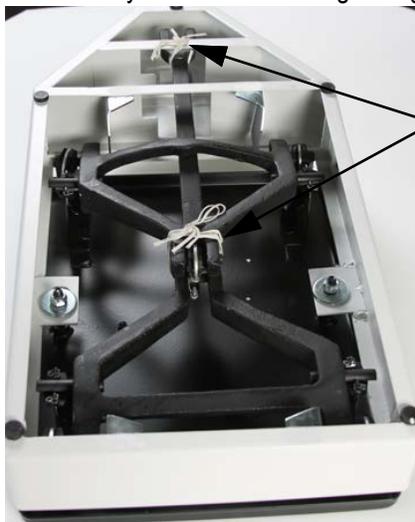
### 2.1 Pillar Installation

Prior to assembly, you'll need the following tools to finish assembling the Mechanical Physician Scale.

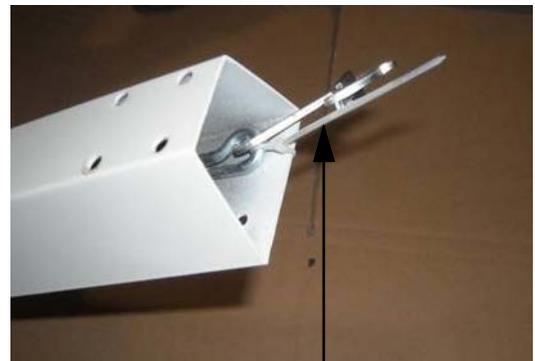
- Phillips head screwdriver
- Wrench (included)

The pillar comes separate from the scale base and must be attached prior to use. Use the following steps to attach the pillar to the scale base.

1. Set the scale base on a table or other convenient place.
2. Remove the twisty ties off the scale base as shown on the left hand side of [Figure 2-2](#). Remove the cable tie that holds the steelyard rod from shifting during transit (shown on right side of [Figure 2-2](#)).



Remove twisty ties from scale parts



Remove cable tie from steelyard

Figure 2-2. Remove Twisty Ties and Cable Ties

3. Insert the pillar into the scale base assembly ensuring that the RLWS logo located on the beam faces the scale base.

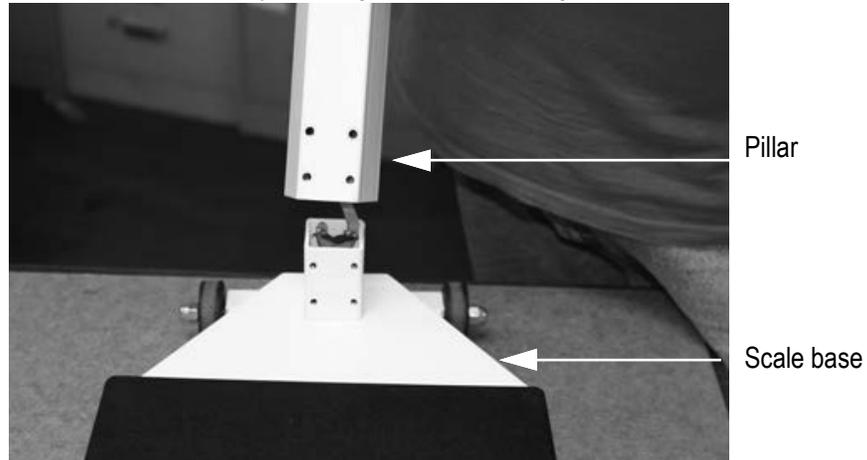


Figure 2-3. Attach the Pillar to the Scale Base

4. Using a phillips head screwdriver, screw in the eight bolts and washers to secure the pillar to scale base.



Figure 2-4. Attach Eight Bolts and Washers to Secure the Pillar to the Scale Base

## 2.2 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 as shown in [Figure 2-5](#).

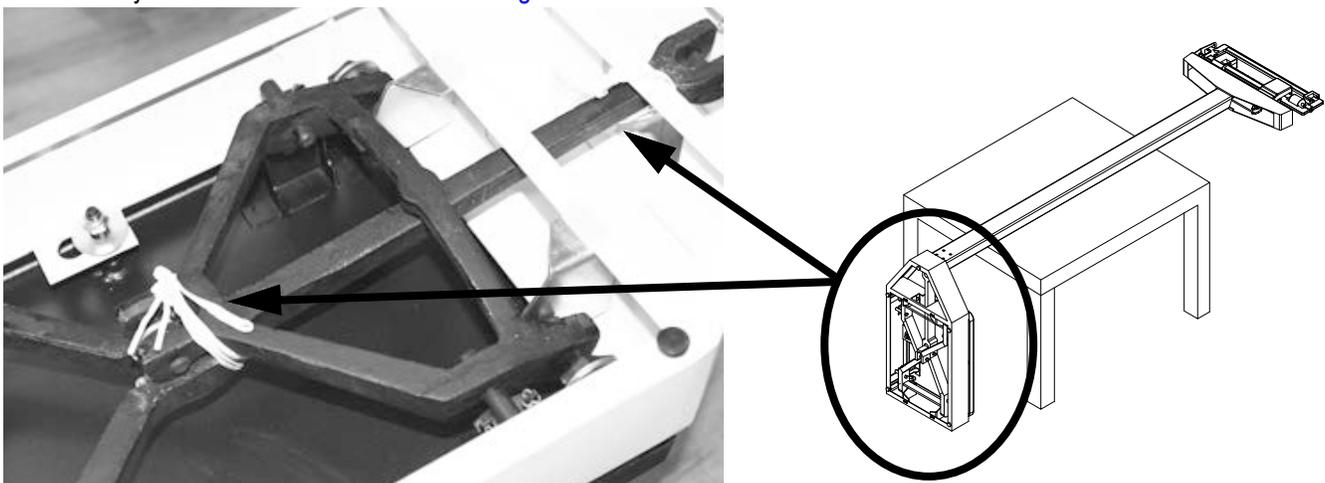


Figure 2-5. Lay Scale on Table to Access Bottom of Scale

2. There are tie wrap wires that prevent the underside of the scale carriage from shifting during shipping. Remove and discard the wires on the levers as shown in [Figure 2-5](#).
3. Insert the wrench (included) to the small hole in front of the steelyard rod, and pull the hook of the steelyard rod with the hook of the wrench to connect it to the scale base as shown in [Figure 2-6](#).

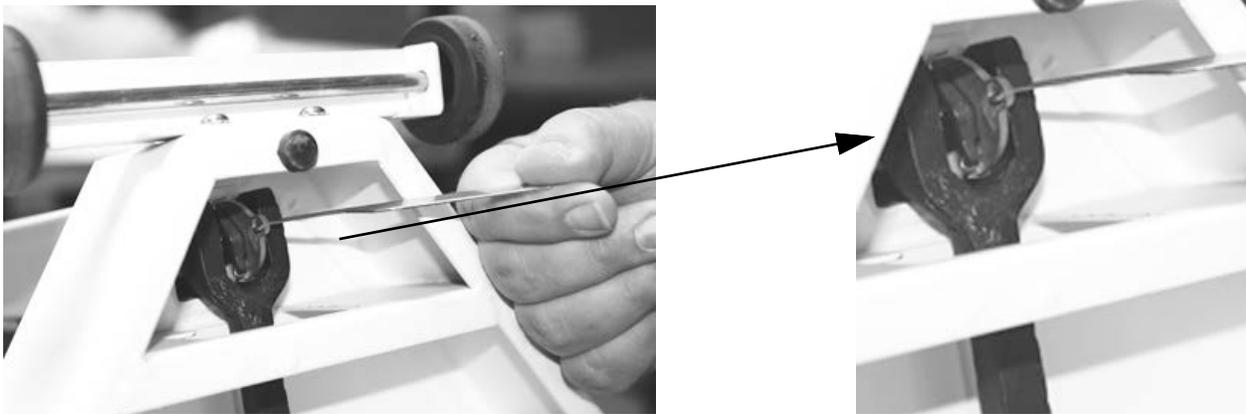


Figure 2-6. Connecting the Steelyard Rod to the Scale Base

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



**NOTE:** Visually ensure that the force lever assembly linkage is centered and properly aligned. Occasionally during shipping, the alignment will become skewed however a plug is installed to ensure that the linkage stays aligned. The linkage must be free floating in order for the scale to weigh properly. The linkage can be seen by looking up underneath the top weigh beam if the scale is slightly tipped to one side.

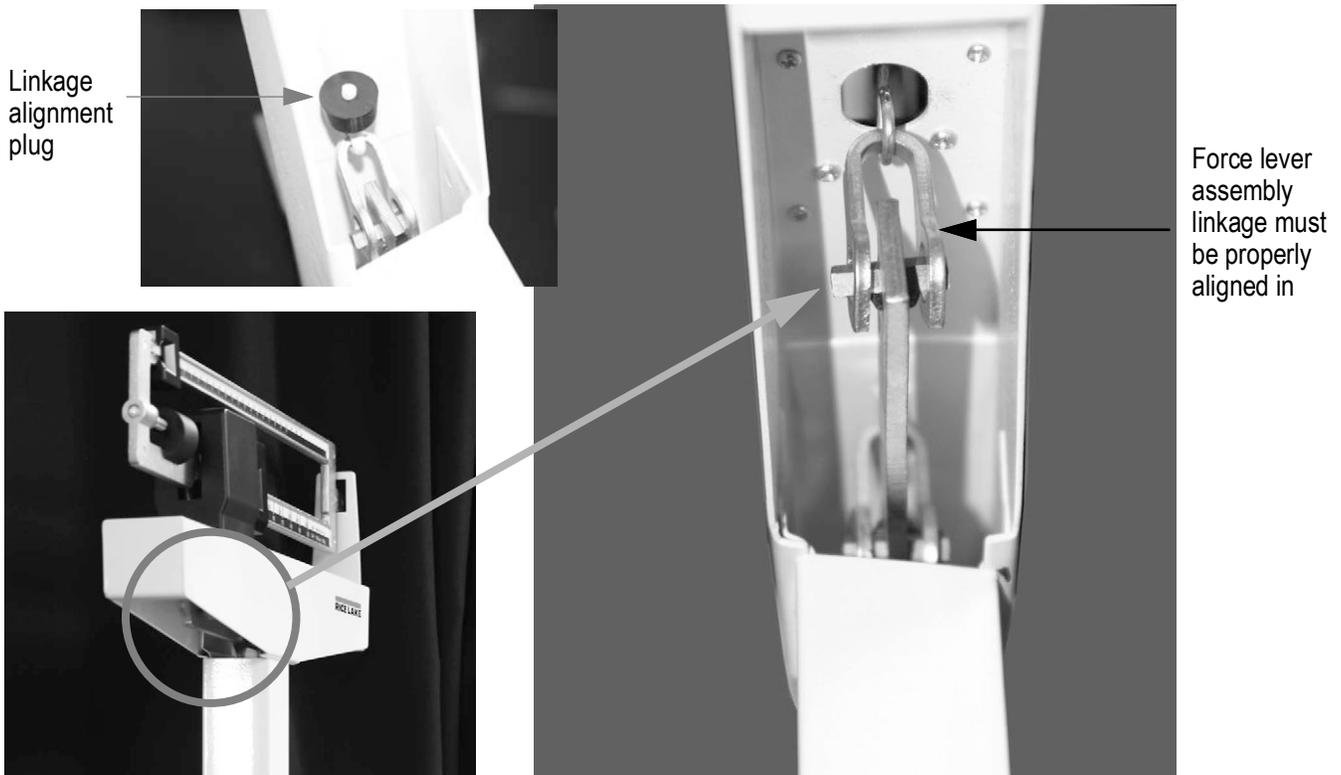


Figure 2-7. View Looking up at Linkage up Underneath the Top Weigh Beam

5. Place the scale gently back on the floor.

### 2.3 Height Rod Installation (for those models equipped with height rods)

Some models of the Mechanical Physician Scale comes with height rods. Use the following steps to install the height rod.

1. Insert the back side slotted holes of the height rod into the two bolts on the front side of the pillar as shown in [Figure 2-8](#). One is located at the top of the pillar and the other towards the bottom of the pillar.

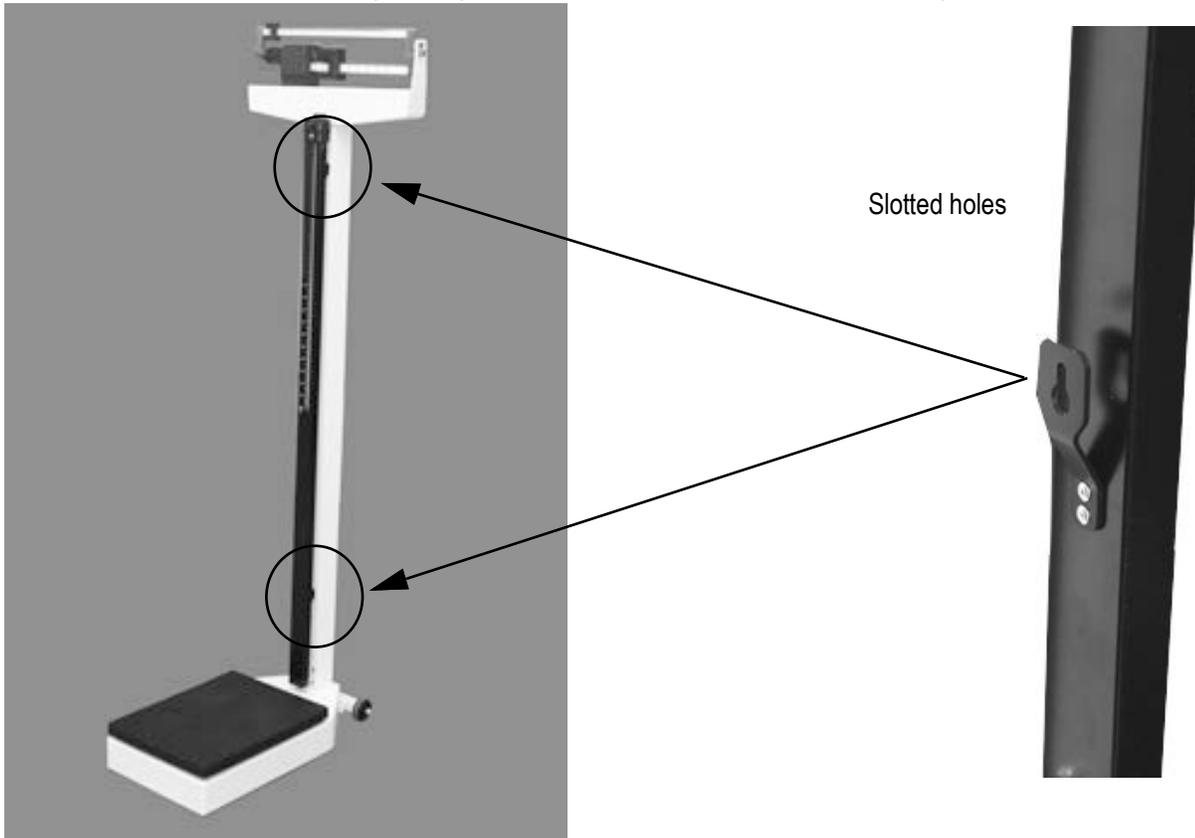


Figure 2-8. Attach the Slotted Screw Location onto the Pillar Bolt Location

2. Use the enclosed wrench to tighten the two hex-head screws, but ensure not to over tighten.
3. To raise or lower the height rod, press the red button at the top of the height rod and raise up or down.

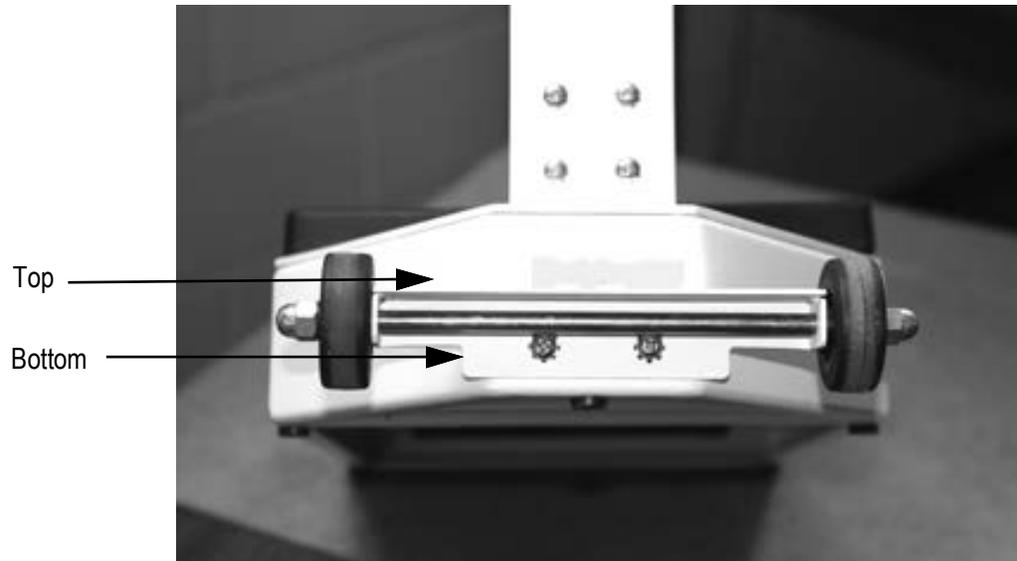
### 2.4 Wheel Installation (for those models equipped with wheels)

Some models of the Mechanical Physician Scale comes with sturdy wheels for easy portability. To install the wheels onto the scale, use the following instructions.



**NOTE:** Mounting the wheels upside down can create scale errors.

1. Align the angle iron of the wheel base to the scale platform as shown in [Figure 2-9](#).



*Figure 2-9. Attach the Scale Wheels onto the Scale Base*

2. Use the screws and washers that are included with the scale to fix the wheel to the platform, adjusting the angle iron at a level position, then tighten screws.
3. When moving the scale, hold the two side faces of the pillar to keep the front side of the platform away from the ground.



*Figure 2-10. Wheels Offer Easy Portability*

## 3.0 Zero Adjustment

To ensure accurate weighments, a zero adjustment should be done to the scale upon arrival and setup. To perform a zero adjustment, perform the following steps.

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. This can be accomplished by gently holding the scale pointer with your finger until it touches the bottom of the eye loop area. Release the scale pointer and let it rise freely up and down between the eye loop area until the scale pointer settles in the middle of the eye loop area.



Figure 3-1. Eye Loop Area and Zero Adjusting Screw Location (Lb and kg version without height rod shown)

3. If the scale is not balancing properly, then the small zero balance weight must be adjusted. Turn the zero adjusting screw (shown in [Figure 3-1](#)) using a flat head screwdriver. By adjusting the screw, the zero balance weight will move accordingly.

## 4.0 Troubleshooting

The accuracy of the Mechanical Physician Scale, when calibrated at the factory, falls within plus or minus 1/4 pound accuracy. 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 comes to a rest in the center of the eye loop (shown in <a href="#">Figure 1-1 on page 5</a> ) when both poise weights are set at zero (see <a href="#">Figure 1-1 on page 5</a> for poise weight location). Adjust the balance by turning the zero adjusting screw at the left end of the weigh beam (see <a href="#">Figure 1-1 on page 5</a> ).
Beam does not move freely	Check if the beam pointer is touching the side of the eye loop in its range of travel. Visually ensure that the linkage is centered and properly aligned. Occasionally during shipping, the alignment will become skewed. The linkage must be free floating in order for the scale to weigh properly. The linkage can be seen by looking up underneath the top weigh beam if the scale is slightly tipped to one side.
Platform rocks excessively	When you push down on any corner of the platform, you should not feel any significant rocking. Ensure scale is setting on a level surface.
Beam does not move at all during a weighment	This can be caused by the poise weights being set to a higher weight than the person's actual weight. Reset the weights to a lower weight. Also check to see that the steelyard rod is properly connected and aligned.

Table 4-1. Troubleshooting Guide

### 4.1 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 4-1](#)).

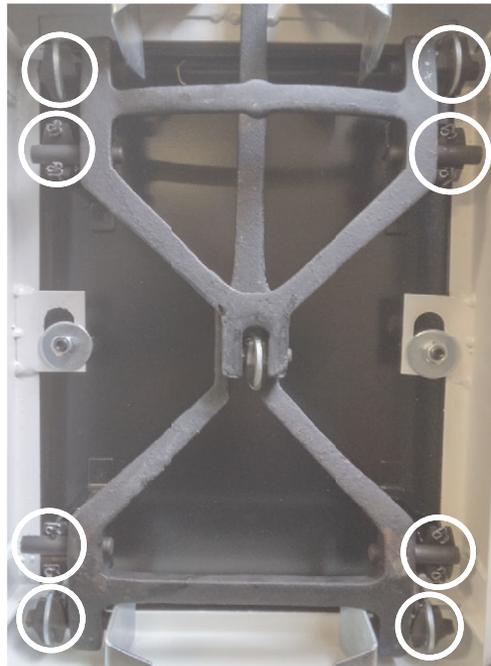


Figure 4-1. Eight Pivot and Bearing Locations

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

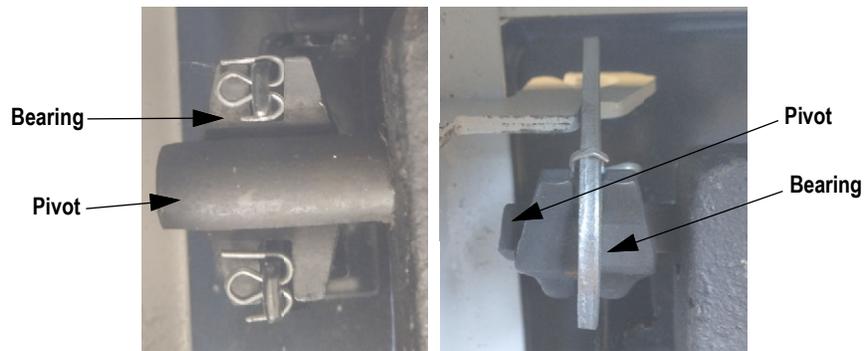


Figure 4-2. Correct Pivot and Bearing Positions



Figure 4-3. Incorrect Pivot and Bearing Positions

3. Manually correct if needed.

## 5.0 Specifications

	RL-MPS	RL-MPS-10	RL-MPS-20
Maximum Capacity	440 lb (200 kg)	450 lb (204 kg)	440 lb (200 kg)
Graduation	0.25 lb (0.1 kg)		
Height Rod Range	24-84" (60-212 cm)		N/A
Min. Value of Height per Division	0.125" (0.1 cm)		N/A
Platform Size	14.75" x 10.75" (374.65 x 273.05 mm)		

Table 5-1. Model Specifications





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