# RoughDeck™

*Low-Profile Floor Scale*

# Installation Manual


RICE LAKE WEIGHING SYSTEMS
Industrial Solutions on a Global Scale®

ISO 9001 REGISTERED

16960

# Contents





March 1999

# 1.0 Introduction

## 1.1 General Description

The RoughDeck™ Floor Scales are fully electronic, low profile load receivers. The RoughDeck is available in sizes from 30 in. x 30 in. (.76 m x .76 m) to 96 in. x 120 in. (2.44 m x 3.05 m), and capacities from 2K- to 30K-lbs (1000–15000 Kg). The RoughDeck comes in several versions, including the stainless steel HE model designed for harsh washdown environments.

All models use four corner-mounted, FM-approved load cells, with the cells recessed into the frame channels for protection. A signal-trim summing board for any necessary corner corrections is enclosed in a junction box mounted on a slide-out tray for easy access. The stainless steel models use a stainless steel NEMA Type 4X junction box. Mild steel models feature the same board housed in a standard plastic junction box. All assembled models come pre-trimmed, and corner corrections should not be necessary. Unassembled versions require trimming.

Load cell cables are enclosed in conduit through the main channels, and held down with replaceable cable ties near each corner, eliminating the possibility of cable damage in portable applications. Also useful for portable applications are threaded corner holes in the deck for removable eyebolts to allow lifting the scale from above with chains. Because of the possibility of foot and load cell damage from forklift tines, the scale should always be lifted from above with chains through the eyebolts.

The adjustable feet are used to allow leveling the scale to make up for minor floor irregularities. For permanent installations, two of the four feet can be held in place on the floor with optional floor mounting plates to guard against deck movement.

Other available options include custom frames for pit installations, and access ramps for all sizes and models of the RoughDeck. Decks designed for use in pits can be ordered with holes drilled in the deck directly above each foot for adjusting foot height with a screwdriver from above. See Section 4.4 for replacement part and optional equipment part numbers.

## 1.2 Model Designations

The model identification plate is located on the side of the frame next to the slide-out junction box tray. Include both model number and serial number when ordering replacement parts.

The following four model designations are used to describe the different scale versions:

**SP** — Mild steel, non-NTEP-certified model with FM-approved load cells standard. This is the only RoughDeck model shipped in unassembled form.

**HP** — Mild steel, high precision, NTEP-certified as "legal-for-trade" and FM-approved load cells.

**HP-H** — 20K- and 30K-lb capacity HP models.

**HC** — Similar to HP models, the HC includes overload stops at each corner of the platform. This model is approved by Measurement Canada (formerly LMB) and available for use in Canada.

**SS** — Non-washdown stainless steel, NTEP-certified model, for dry chemical and corrosive environments.

**HE** — Washdown stainless steel, NTEP-certified model with hermetically-sealed load cells and NEMA 4X J-box for hostile environments.

## 1.3 Operating Requirements

### Electrical Grounding

For systems where the scale is connected to a 120 VAC circuit, the instrument must be directly connected to an earth ground with a ground interface cable of no more than 3Ω resistance throughout its length.

### Load Cell Excitation

Rated Excitation: 10 VDC
Maximum Excitation: 15 VDC

### Grade Level Requirements

The supporting surface for the four feet of the scale must be level within 1/4 in. of horizontal.

### Safe Static Overloading Capacity

Maximum: 150% of scale capacity

### Nominal Scale Height

| | |
|---|---|
| 2K–10K lb (1000–5000 Kg) models: | 3.5 in. (89 mm) |
| 20K lb (10000 Kg) models: | 4.0 in. (102 mm) |
| 30K lb (15000 Kg) models: | 5.0 in. (127 mm) |

# 2.0 Installation

## 2.1 Overview

Standard installation of an assembled scale consists of the following steps:

1) Selecting a site
2) Checking levelness and smoothness of site
3) Unpacking scale
4) Adjusting the four feet on the scale
5) Installing mounting plates to the floor
6) Connecting cable from junction box to indicator
7) Calibrating the unit

Pit installations and access ramps are described in Sections 2.6 and 2.7.

## 2.2 Site Preparation

The scale must not be loaded beyond its capacity, even momentarily. Do not select a site where overweight loads would have to maneuver to avoid crossing the platform. Avoid areas where the scale might receive damaging side impacts from wheels or forklift tines, or shock damage from falling objects. Avoid areas where water may damage a scale not meant for a washdown environment.

The interface cable between the scale and the indicator must be protected against crushing, cutting, or moisture damage. If the chosen site has such potential dangers, some method of protection, such as running the cable in conduit, will be necessary.

In operation, the scale must be level within 1/4 in. Either choose a site where the floor is close to this standard to avoid excessive shimming, or modify the floor at the chosen site to meet this standard.

## 2.3 Unpacking

Depending on the model, the scale may be shipped assembled, or may be shipped unassembled with the following components to be installed:

- Four load cells
- Four foot assemblies for corners
- Summing board and junction box
- Cable ties and miscellaneous hardware

Remove all packing material and inspect scale for visible damage caused during shipment.

All RoughDeck models have threaded holes in opposite corners of the deck to allow installation of eyebolts for use when lifting the scale with chains from a spreader bar. (Large platforms–7 ft x 9 ft and larger–have threaded holes in each corner). Use 1/2 in. eyebolts in 2K–10K-lb capacity scales, 3/4 in. eyebolts in 20K- and 30K-lb capacity models.

**Caution** *Lift the scale only with a properly designed spreader bar as shown in Figure 1. Lifting force must be vertical to avoid bending the eye bolts.*

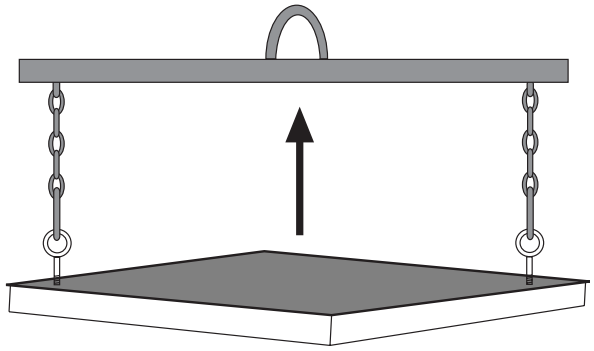


*Figure 1. Proper Lifting Technique*

**If the scale you purchased was shipped completely assembled, skip ahead to Section 2.4.3.**

## 2.4 Assembly

### 2.4.1 Installing Load Cells

Lay out the four load cells near the corners where they are to be installed. Thread the cable from each load cell through the conduit tubing in the frame and into the junction box according to the wiring diagram in Figure 2.

Note that in Figure 2 both the scale and the junction box are viewed from the bottom. To verify correct load cell/junction box terminal matching, see the numbers on the terminals inside the junction box and the corner numbering diagram in Figure 5 on page 3.

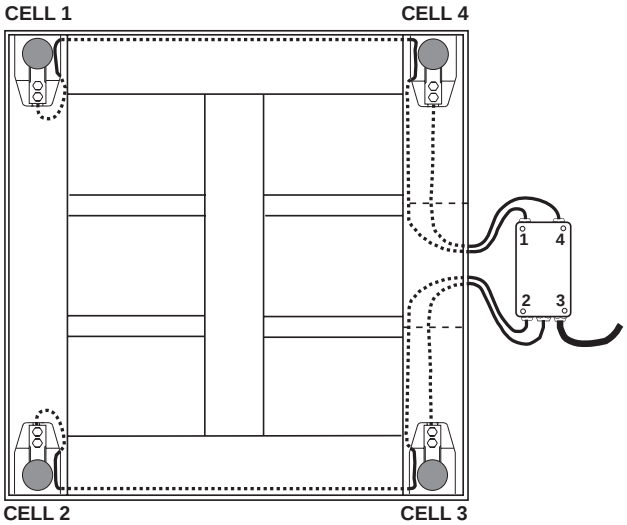



*Figure 2: Bottom View of Scale*

Check that the threaded holes for the load cell screws are free of debris. Use compressed air to blow out holes if necessary.

Position load cells with alignment arrows pointed up toward the deck and loosely install the hex head cap screws provided, as shown in Figure 3. If the base is used with a pit frame or access ramp, position the load cell to maintain the dimension shown in Figure 4. With a torque wrench, tighten all bolts as follows:

- 2K–10K-lb capacities: Torque to 75 ft-lbs.
- 20K-lb and 30K-lb capacities: Torque to 250 ft-lbs.

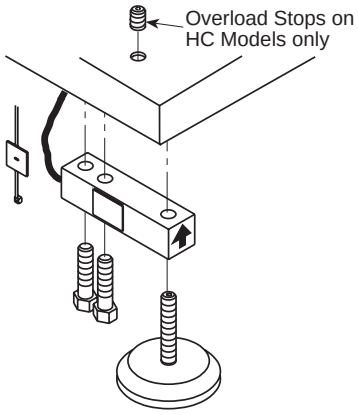



*Figure 3: Load Cell Assembly*

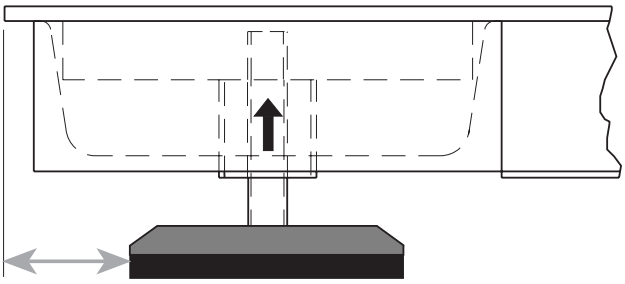



*Figure 4: Foot Pad—Side View*

Route the load cell cables near each corner so that the cable is free from possible contact with each foot. Hold the cable in position with the adhesive-backed cable ties supplied in the hardware kit.

**Do not cut load cell cables**. Coil extra cable before it enters the junction box, tie with cable ties, and insert the coils into the channel near the junction box.

After coiling excess cable, pass each individual end of load cell cable through its grommet in the junction box cover (or through cable fittings in the NEMA 4X junction box).

### 2.4.2 Load Cell Wiring to Junction Box

The four load cells are each wired to their respective terminals in the junction box according to the corner numbering system shown in Figure 5, and the color coding in Table 1.

If using the NEMA - 4X stainless steel model of junction box with strain relief hubs, pull excess cable out of the junction box enclosure and tighten the strain relief hubs with a wrench. To be watertight, the hubs must be tightened to the point where the rubber sleeving begins to protrude out of the hub. Finally, pull on each of the four cables to make sure they do not slip.

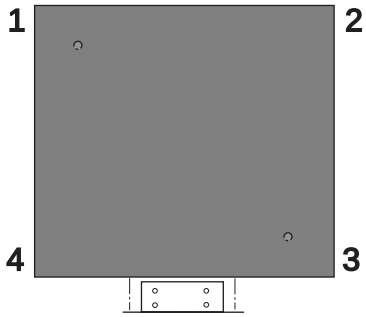



*Figure 5: Corner Numbering–Top View*

### 2.4.3 Installing and Adjusting Feet

For load cell protecting during shipping, the scale feet are shipped detached from the load cells. The feet are shipped with the cable and strain relief fitting in a separate carton. Remove all parts from the carton.

Screw one foot into each load cell and turn all the way in until the foot touches either the load cell or the underside of the deck. Then unscrew each foot three complete turns.

Place a spirit level on the deck. Adjust any “high” corners not in contact with the floor by further unscrewing the feet on those corners until they just contact the floor surface. When all feet are in contact with the floor, check the deck with the spirit level to be sure the scale within 1/4 in. of level.

| Cable Color Code | J-Box Terminal |
|---|---|
| Red | +Excitation |
| Black | –Excitation |
| Green | +Signal |
| White | –Signal |
| Bare or Clear | Shield |

*Table 1: Load Cell Wiring*

### 2.4.4 Mounting Plate Installation

For permanent applications, the scale should be secured to the floor to prevent sideways movement. Two mounting plates, with holes that slightly exceed the foot diameter, are available as an option for that purpose.

Lift the scale so that the feet are approximately 1" off the floor. Slide mounting plates under two diagonally opposed feet. Lower the scale back to the floor, and position the plates as shown in Figure 6 so that the boltdown holes are accessible from above.

Using the mounting plates as templates, drill pilot holes into the floor for suitable anchor bolts. Bolt the plates to the floor using 1/2-in. anchor bolts (3/4-in. bolts for 20K and 30K-lb capacity scales). Recheck foot adjustment and deck level after this operation.

For installations using access ramps, mounting plates are not necessary, as the ramps have built-in mounting plates to secure the scale feet.

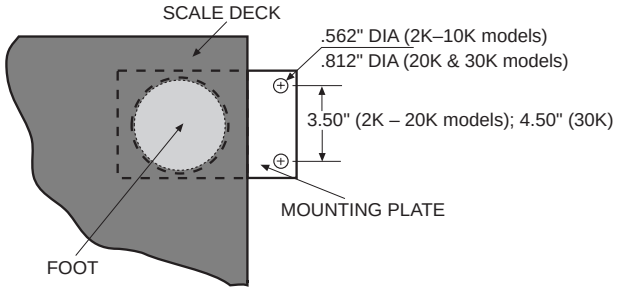



*Figure 6: Mounting Plate Installation*

## 2.5 Electrical Interface to Indicator

20 feet of 6-wire cable to connect the scale to the weight indicator is supplied with each scale. If your scale uses the NEMA 4X junction box, push one end of this cable into the junction box through the strain relief bushing hole in the tray. Connect the wires to the INDICATOR terminal (shaded area of Figure 7) as shown in Table 2. Pull out excess and tighten the strain relief bushing to hold the cable snugly.

If using the standard junction box, put the cable through the hole in the junction box tray. Slide the two parts of the strain relief flex fitting onto the cable with the threaded piece inside the faceplate, and the flexible spiral portion to the outside. Push the cable end into the junction box and connect the wires to the INDICATOR terminal. Pull out excess cable and tighten the two parts of the strain relief flex fitting to hold the cable snugly.

| Cable Color Code | Junction Box |
|---|---|
| Red | #7 (+Excitation) |
| Black | #5 (–Excitation) |
| Green | #3 (+Signal) |
| White | #2 (–Signal) |
| Bare | #1 (Shield) |
| Yellow | #6 (+Sense) |
| Blue | #4 (–Sense) |

*Table 2: Junction Box Connections*

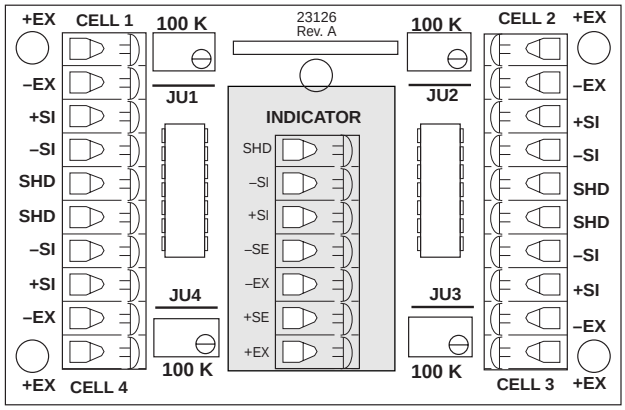



*Figure 7: Junction Box Indicator Terminal*

The cable must be routed to the indicator in a manner that will protect the cable from damage. Two methods of cable protection in non-washdown applications are shown in Figure 8. When planning cable routing with either of these two methods, leave a loose coil of excess cable under the scale to facilitate future lifting of the scale for servicing or cleaning.

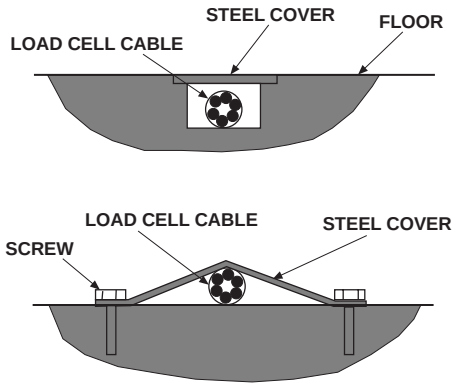



*Figure 8: Cable Protection*

**NOTE:** In washdown applications, we recommend removing the junction box entirely from the floor platform and mounting it externally on a wall or in some other protected location. Load cell cables from the scale platform to the junction box should be protected with conduit.

When the interface cable is protected and in its final position, the connections may be completed at the indicator. Refer to the instruction manual for the indicator to determine its input wiring leads.

If necessary, trim corners as described in Section 3.2. Install the standard junction box onto the junction box tray with the four #4 x 5/8 self-tapping screws provided. The junction box must be positioned so that the indicator cable exits the junction box on the same side as the hole in the junction box tray as shown in Figure 9.

If using the NEMA 4X junction box, screw the box onto the tray with the four flat head screws supplied so that the indicator cable strain relief hub lines up with the large hole in the center of the tray. Check all strain relief fittings for tightness, and screw on the junction box cover.

Slide the junction box tray into the cutout and secure it with the two #10 x 3/8" screws provided.

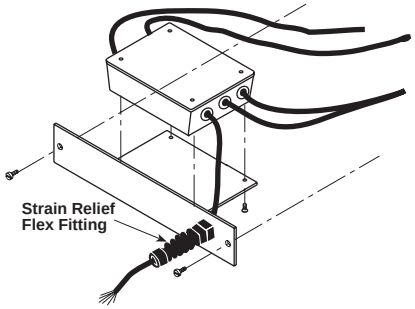



*Figure 9: Standard Junction Box Tray*

## 2.6 Pit Installation

Any of the RoughDeck models may be installed in a shallow pit using the optional RoughDeck Pit Frame. Optional height-adjustment holes are available. The following site considerations and pit frame drawings are meant only as a brief overview of the principles involved with mounting the scale in a floor-level pit. The pit must be installed in a suitable poured-concrete foundation according to standard construction practices.

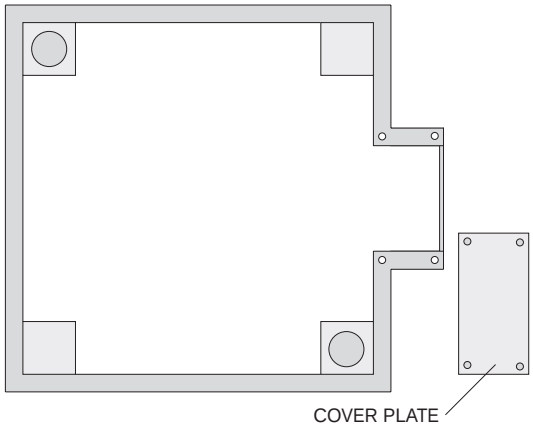



*Figure 11: Heavy Capacity Pit Frame (top view)*

### Site Considerations

Debris, floor sweepings, or material spills may accumulate in the pit and interfere with scale operation. You should periodically clean the pit. All RoughDeck models have threaded holes for eyebolts so the scale can be easily lifted from the pit.

Weight overloads, even momentary ones such as driving a loaded forklift over a scale corner, will damage load cells. Plan the pit location out of main traffic areas to prevent such accidental damaging overloads.

In washdown applications using HE models, the pit floor must slope to a center drain with sump or sewer connections.

A 1:24 slope is recommended for the pit, with full grouting under the corner pads as shown in Figure 9.

**NOTE:** Corner pads must be fully grouted.

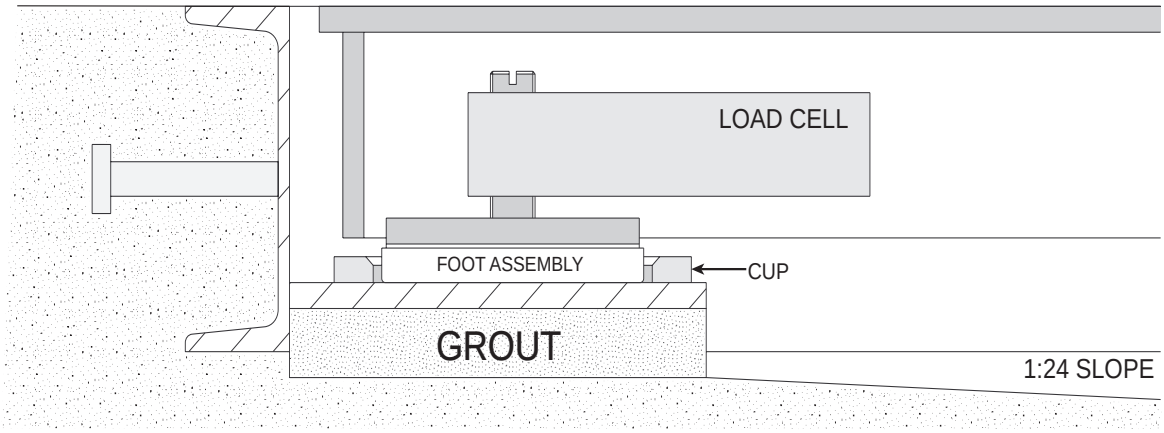



*Figure 10: Section Showing Installed Heavy Capacity (HP-H Model) RoughDeck and Pit Frame*

## 2.7 Access Ramps

Access for RoughDeck floor scales are designed to bolt to the floor, with built-in mounting plates that attach to the scale feet. When used with access ramps, side movement of the scale is automatically eliminated, and no other mounting plates are necessary.

Access ramps can only be attached to the scale on one of the two scale sides that are perpendicular to the longitudinal axis of the load cells. For example, the scale shown in Figure 12 could have an access ramp on the left side as shown, and/or on the right side. The top and bottom sides, however, will not accept the ramp mounting plates.

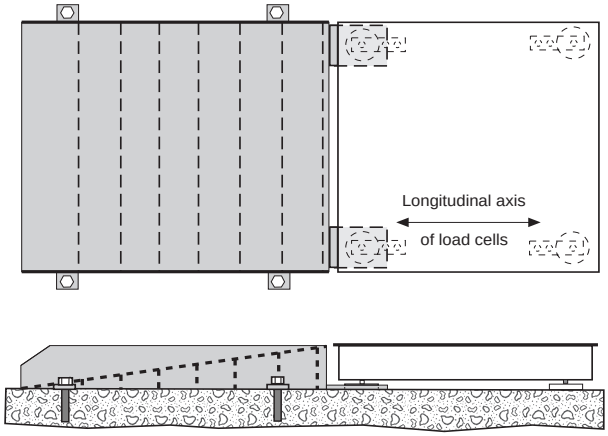



*Figure 12: Optional Access Ramps*

See Tables 4 and 5 in Section 4.4.2 for information about available access ramps.

# 3.0 Adjustments and Calibration

## 3.1 Mechanical Adjustments

To accommodate minor floor unevenness, scale feet can be used to adjust scale height up or down a fraction of an inch. Adjust the feet by hand (lift the scale corner slightly with a pry bar) until all feet are contacting the floor equally. No jam nuts are supplied for locking the feet, as there is a slight decrease in accuracy when jam nuts are tightened. However, if you feel that your application requires jam nuts to secure the feet, they may be added. The feet will have to be unscrewed beyond the minimum height to allow room for the jam nuts between the foot pads and the load cells.

**⚠Caution** *When adjusting scale feet, use care to prevent scale foot from bottoming out against the underside of the load cell. Also, the foot stem may be damaged by bending or stripping threads if extended beyond the maximum height adjustment.*

When height adjustments are complete, recheck level of the deck with a spirit level. The deck must be level within 1/4".

## 3.2 Corner Correction

All assembled RoughDeck scales are delivered with the junction box corner-trimmed, but unassembled versions will require corner trimming. Corner trimming is also necessary after replacing a load cell.

To calibrate the scale, the output from each load cell must be matched by adjusting the signals with potentiometers at the junction box—a process known as trimming.

Remove the junction box cover and identify the correct load cell terminal corresponding to each corner (labeled CELL 1, CELL 2, and so on). See Figure 5 on page 3 for scale deck corner numbering.

The indicator must be connected and calibrated approximately, but it need not indicate exactly the correct weight value. A test weight will be required. The recommended test weight for all RoughDeck models is 25% of scale capacity: for example, 500 lbs for 2K-lb models, 5000 lbs for 20K-lb models.

With no weight on the scale, zero the indicator. Then turn all four potentiometers (shaded areas of Figure 13) to increase the reading until a clicking sound is heard from each potentiometer. This insures the maximum signal from each load cell.

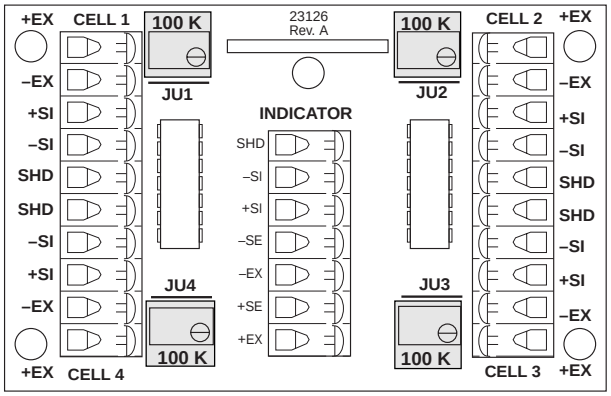



*Figure 13: Trim Potentiometers*

With all potentiometers at full signal, place the test weight over one corner and record the indicated weight. Repeat the process for each of the other three corners. The load cell with the lowest corner reading will be used as a reference point and will not be trimmed.

Next, place the test weight over one of the other three corners and use that cell's potentiometer to adjust the cell output down to the reference cell output. Repeat this procedure with the other two high corners.

Adjustments are somewhat interactive, and adjusting the three higher outputs may affect the reference cell output, especially in smaller scale decks. Rezero the indicator and repeat the test until all corners are within ±.1% of the test weight being used.

## 3.3 Calibration Procedure

Refer to the operator's manual for the indicator to determine correct calibration procedure.

It is recommended that the scale be "exercised" before calibration to be certain that everything is seated. Load the scale to near capacity two or three times.

Then, with no load on the scale, place the indicator in its calibration mode and perform a zero calibration. Now place test weights on the platform equal to 70% - 80% of the scale's capacity. If several weights are used, they should be evenly distributed around the platform. Perform a span calibration.

Remove the test weights and check the zero reading. Repeat the calibration process if necessary.

# 4.0 Service Information

## 4.1 Troubleshooting Guide

### System does not operate—no display

- Power disconnected: *Check and reconnect.*
- Indicator fuse blown. *Replace fuse. Check for cause.*
- Interface cable cut or disconnected: *Repair.*
- Signal leads incorrectly installed at indicator: *Install according to indicator installation manual*

### Display stays at zero

- Indicator faulty: *Service indicator*
- Load cell connections faulty: *Check cable connections in junction box and at indicator*

### Erratic weights

- Vibration near scale: *Remove source of vibration or move scale.*
- Platform not level to within 1/4 in.: *Level scale by adjusting feet or shimming if necessary.*
- Load cell or cable water damage: *Replace.*
- Debris under load cells or platform: *Clean.*
- Indicator faulty: *Use simulator to test indicator for stability. Service indicator.*

### Consistently high or low weights

- Indicator not properly adjusted to zero: *Zero the indicator according to operator's manual.*
- Platform binding: *Obtain adequate clearance for free platform movement.*
- Indicator not calibrated: *Calibrate according to indicator manual and Section 3.3*
- Load cells faulty: *Test and replace load cells if necessary. For load cell testing procedures, see the Tech Notes section in the RLWS* Load Cell Product Selection Guide.
- Feet touching deck underside: *Adjust feet downward to provide clearance.*

## 4.2 Periodic Maintenance

The space between the platform side and pit frame, and the surface beneath the platform must be periodically cleaned to prevent debris build up. More frequent cleaning of these areas is necessary with scales mounted in pits.

**⚠Caution** *Do not attempt to use scales with load cells that are not hermetically sealed in washdown applications. Water damage is a common cause of failure in non-hermetically-sealed load cells.*

Use care with high pressure steam washdowns for hermetically-sealed load cells. The steam may not damage the load cells, but the elevated temperatures may cause incorrect readings until the unit cools to room temperature.

## 4.3 Load Cell Replacement

Replacement load cells may be ordered from Rice Lake Weighing Systems according to the part numbers in the chart on the following page.

Lift scale with chains and proper spreader bar and remove defective load cell. Remove foot from load cell. Disconnect load cell cable from junction box and cut cable ties. When the cable is freed, pull it out of the scale frame channels.

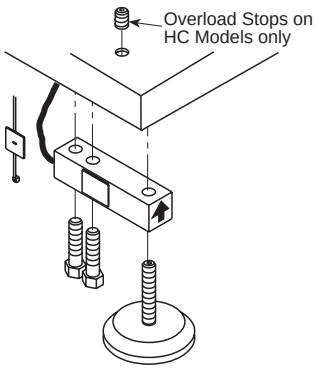



*Figure 14: Load Cell Replacement*

Install new load cell by following directions in Sections 2.4.1 and 2.4.2.

For Canadian HC models, overload stops should be loosened two full turns before installing new load cells. To reset overload stops after load cell installation, place a weight equal to 25% of the load cell capacity on the affected scale corner. Screw in the overload stop until the indicator reading changes. Then back off the overload stop 1/6 turn. Repeat for each corner where the load cell has been changed.

Corner correction trimming and calibration is necessary after load cell replacement. Follow instructions in Sections 3.2 and 3.3.

## 4.4 Replacement Parts List and Accessories

The following tables list the pit frames, access ramps, and replacement load cell part numbers for SP, HP, HC, HE, SS, and HP-H model RoughDeck floor scales.

### 4.4.1 Pit Frames

Table 3 shows the pit frames available for RoughDeck scales.

| Platform Size | | Pit Frame for Model | | | |
|---|---|---|---|---|---|
| ft | m | SP/HP/HC | HE/SS | HP-H 20K | HP-H 30K |
| 2.5 x 2.5 | .76 x .76 | 18757 | 18758 | | |
| 3 x 3 | .92 x .92 | 18759 | 18760 | | |
| 4 x 4 | 1.22 x 1.22 | 18761 | 18762 | 39595 | 39608 |
| 4 x 5 | 1.22 x 1.53 | 18765 | 18766 | 39596 | 39609 |
| 4 x 6 | 1.22 x 1.83 | 18767 | 18768 | 39597 | 39610 |
| 4 x 7 | 1.22 x 2.13 | | | 39598 | 39611 |
| 5 x 5 | 1.53 x 1.53 | 18763 | 18764 | 39599 | 39612 |
| 5 x 6 | 1.53 x 1.83 | 18769 | 18770 | 39600 | 39613 |
| 5 x 7 | 1.53 x 2.13 | 18771 | 18772 | 39601 | 39614 |
| 6 x 6 | 1.83 x 1.83 | | | 39602 | 39615 |
| 6 x 7 | 1.83 x 2.13 | | | 39603 | 39616 |
| 6 x 8 | 1.83 x 2.44 | | | 39604 | 39617 |
| 7 x 9 | 2.13 x 2.74 | | | 39605 | 39618 |
| 7 x 10 | 2.13 x 3.05 | | | 39606 | 39619 |
| 8 x 10 | 2.44 x 3.05 | | | 39607 | 39620 |

*Table 3. RoughDeck Pit Frames*

### 4.4.2 Access Ramps

Table 4 shows the standard access ramps available for 2K–10K lb-capacity RoughDeck scales.

| Ramp Width | | Ramp Length | | Ramp Height | | Access Ramp for Model | |
|---|---|---|---|---|---|---|---|
| ft | m | ft | m | in | mm | SP/HP/HC | HE/SS |
| 2.5 | .76 | 3 | .92 | 3.5 | 89 | 18779 | 18780 |
| 3 | .92 | | | | | 18781 | 18782 |
| 4 | 1.22 | | | | | 18783 | 18784 |
| 5 | 1.53 | | | | | 18785 | 18786 |
| 2.5 | .76 | 4 | 1.22 | 3.5 | 89 | 18789 | 18790 |
| 3 | .92 | | | | | 18791 | 18792 |
| 4 | 1.22 | | | | | 18793 | 18794 |
| 5 | 1.53 | | | | | 18795 | 18796 |

*Table 4. RoughDeck Access Ramps (2K- through 10K-lb models)*

Table 5 shows the standard access ramps available for 20K and 30K lb-capacity RoughDeck scales (HP-H models).

| Ramp Width | | Ramp Length | | Ramp Height | | Access Ramp for Model | |
|---|---|---|---|---|---|---|---|
| ft | m | ft | m | in | mm | HP-H 20K | HP-H 30K |
| 4 | 1.22 | 4 | 1.22 | 4 | 102 | 39585 | |
| 5 | 1.52 | | | | | 39586 | |
| 6 | 1.83 | | | | | 39587 | |
| 7 | 2.13 | | | | | 39588 | |
| 8 | 2.44 | | | | | 39589 | |
| 4 | 1.22 | 5 | 1.52 | 5 | 127 | | 39590 |
| 5 | 1.52 | | | | | | 39591 |
| 6 | 1.83 | | | | | | 39592 |
| 7 | 2.13 | | | | | | 39593 |
| 8 | 2.44 | | | | | | 39594 |

*Table 5. Access Ramps for RoughDeck HP-H Models*

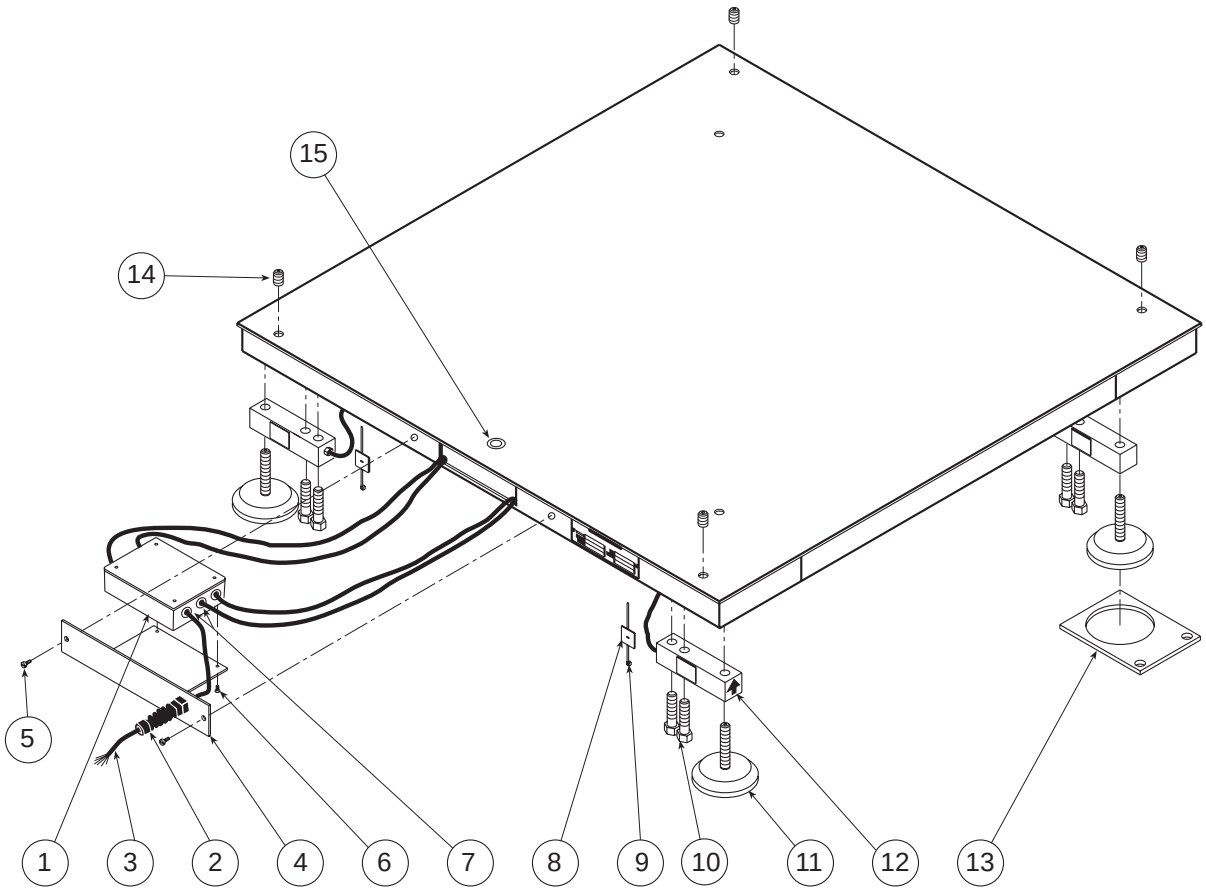
### 4.4.3 Load Cells

Table 6 lists the replacement load cells for all RoughDeck models.

| Capacity | | Replacement Load Cell for Model | | | |
|---|---|---|---|---|---|
| lbs | kg | SP/HP/HC | HE | SS | HP-H |
| 2K | 1000 | 21491 | 31283 | 30649 | |
| 5K | 2500 | 21495 | 31282 | 30651 | |
| 10K | 5000 | 21498 | 31281 | 30652 | |
| 20K | 10000 | | | | 21503 |
| 30K | 15000 | | | | 21503 |

*Table 6. Replacement Load Cells*

**Replacement Parts List and Accessories**




| Ref | Description | Part Number |
|---|---|---|
| 1 | Junction Box, Standard -- 4 Channel, Signal Trim (SP and HP/HP-H/HC models) | 21172 |
| | Junction Box, NEMA 4X -- 4 Channel, Signal Trim (SS and HE models) | 21173 |
| 2 | Strain Relief Flex Fitting (SP and HP/HP-H/HC models) | 26087 |
| 3 | Cable, 6 Wire, Deck to Indicator | 15611 |
| 4 | Junction Box Tray (SP and HP/HP-H/HC models) | 18882 |
| 5 | Junction Box Tray Screw (SP and HP/HP-H/HC models) | 14876 |
| | Junction Box Tray Screw (SS and HE models) | 14877 |
| 6 | Junction Box Enclosure Screw (SP and HP/HP-H/HC models) | 14908 |
| 7 | Rubber Grommet, Load Cell Cable (SP and HP/HP-H/HC models) | 15398 |
| | Rubber Grommet, Deck to Indicator cable (SP and HP/HP-H/HC models) | 15377 |
| 8 | Cable Tie Mount, 1" Square | 15658 |
| 9 | Cable Ties, 3" | 15631 |
| 10 | Load Cell Screw (SP and HP/HC models) | 15071 |
| | Load Cell Screw (SS and HE models) | 15075 |
| | Load Cell Screw (HP-H models) | 40337 |
| 11 | Foot Assembly (SP and HP/HC models) | 18755 |
| | Foot Assembly (SS and HE models) | 18756 |
| | Foot Assembly (20K HP-H models) | 39021 |
| | Foot Assembly (30K HP-H models) | 39022 |
| 12 | Load Cells | See page 10 |
| 13 | Mounting Plate, SP and HP/HC models, set of two plates (optional) | 18777 |
| | Mounting Plate, SS and HE models, set of two plates (optional) | 18778 |
| | Mounting Plate, 20K HP-H models, set of two plates (optional) | 40387 |
| | Mounting Plate, 30K HP-H models, set of two plates (optional) | 40388 |
| 14 | Overload Stops (HC Canadian legal-for-trade models only) | 15051 |
| 15 | Bubble Level (HC Canadian legal-for-trade models only) | 15410 |

# RoughDeck Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. RoughDeck fabricated platforms and weldments are warranted against defects in materials and workmanship for five (5) years. Load cells and all other components are warranted for two (2) years.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, "Protecting Your Components From Static Damage in Shipment," available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

**THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER RLWS NOR DISTRIBUTOR WILL, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

**RLWS AND BUYER AGREE THAT RLWS'S SOLE AND EXCLUSIVE LIABILITY HEREUNDER IS LIMITED TO REPAIR OR REPLACEMENT OF SUCH GOODS. IN ACCEPTING THIS WARRANTY, THE BUYER WAIVES ANY AND ALL OTHER CLAIMS TO WARRANTY.**

**SHOULD THE SELLER BE OTHER THAN RLWS, THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIMS.**

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.