

Pipe Lever Scale

Stainless Steel and Mild Steel Versions

Installation Manual



RICE LAKE[®]
WEIGHING SYSTEMS
To be the best by every measure[®]

64506 Rev A

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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.



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 is intended for use by service technicians when installing and servicing mild steel and stainless steel pipe lever scales.

This manual includes assembly instructions and a replacement parts list for the pipe lever scale.



Authorized distributors and their employees can view or download this manual from the Rice Lake Weighing Systems distributor site at www.ricelake.com.

1.1 Safety

Safety Symbol Definitions:



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



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

Safety Precautions



Do not operate or work on this equipment unless you have read and understand the instructions and warnings in this Manual. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing System dealer for replacement manuals. Proper care is your responsibility.

General Safety



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.

2.0 Assembly Instructions

Before installing the pipe lever scale, ensure the base on which the scale will be built is plumb and level. The base must be a suitable, poured-concrete foundation, built according to standard construction practices. Full grouting is recommended under the fulcrum stands.

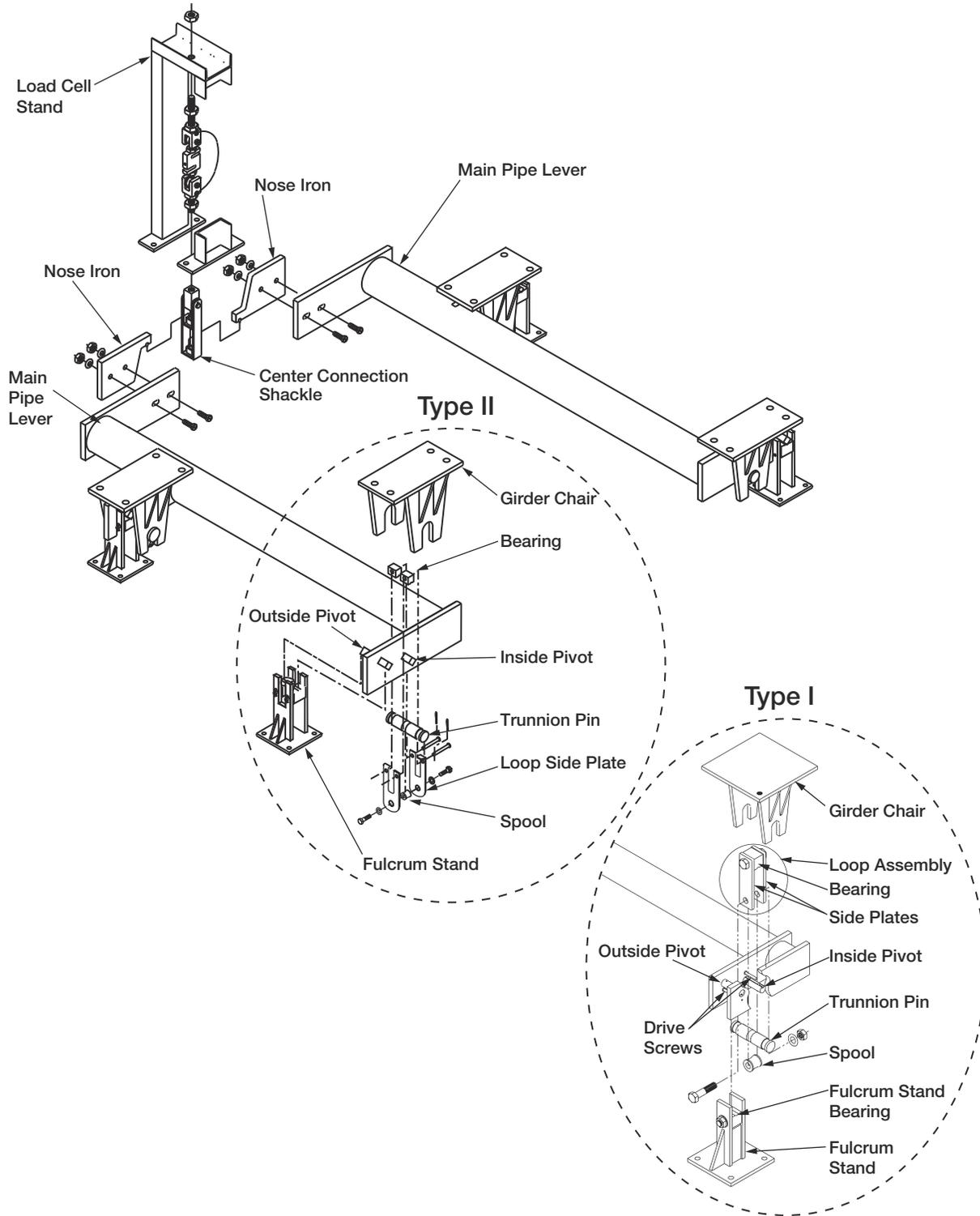


Figure 2-1. Pipe Lever Assembly

1. Position the four fulcrum stands (Figure 2-1) on the concrete base with gussets facing outward from the scale. Ensure fulcrum stands are square and level with each other.



Note *If mounting the scale to a frame, ensure the frame is square and all stands are positioned squarely on the frame.*

2. Assemble the load cell, ITCM hardware, and center connection shackle to support the nose irons, see Figure 2-2.
3. Temporarily secure load cell assembly with top and bottom jam nuts on top plate of load cell stand.

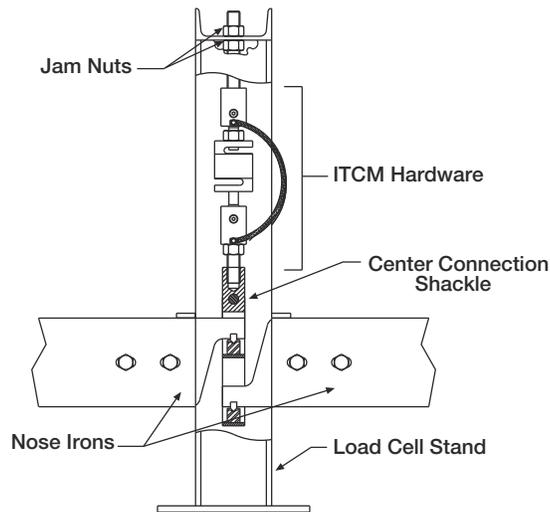


Figure 2-2. Load Cell Assembly

4. Loosely bolt nose irons to ends of main pipe levers.
5. Set pipe levers in place with outside pivots on bearings of fulcrum stands (see Figure 2-3) with nose irons supported by center connection shackle in load cell stand.



Important *Center load cell stand between main levers. Levers must be level when suspended by the center connection shackle.*

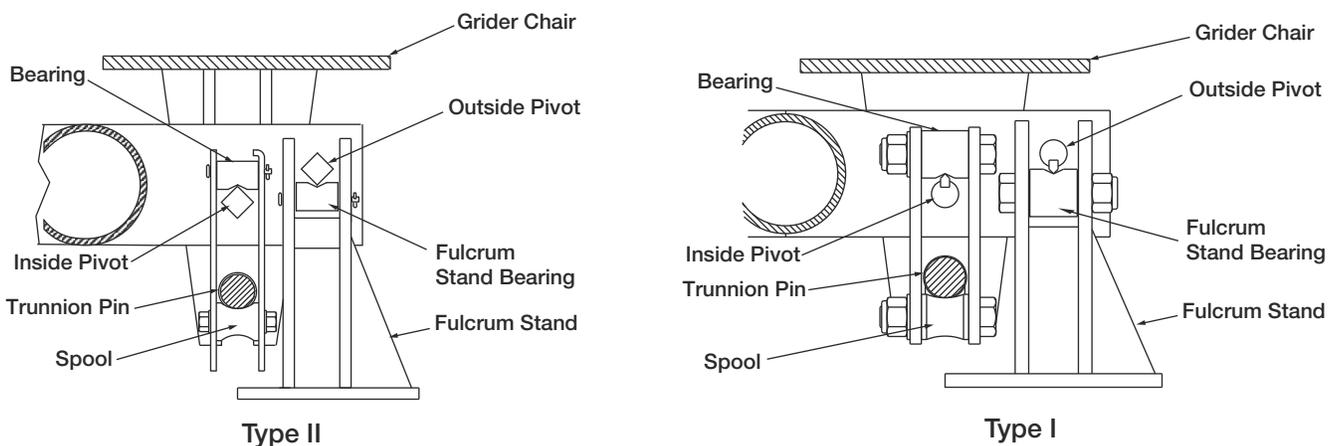


Figure 2-3. Fulcrum Stand Assembly

6. Locate and assemble the loop assembly spool using two bolts and two washers. Position loop assembly under inside pivot. Attach bearing to two loop side plates using two clevis pins and two cotter pins with loop bearing resting on inside pivot. Insert trunnion pin.



Important *Bolt heads must face the fulcrum stands.*

7. Hold trunnion pins in place on loop assemblies and set girder chairs on trunnion pins (see Figure 2-1). Tilt chairs inward against main pipes to support chairs until hopper or tank is added.
8. Clamp or loosely bolt hopper or tank to top plates of girder chairs.
9. Check each pivot to make sure it is contacting the bearing. Shim under the fulcrum stand or between the girder chair base plate and the hopper or tank if necessary to obtain even pressure on all pivots.



Note On Type II scales, ensure levers have equal gap at both ends of each bearing in the fulcrum stand.

10. Secure fulcrum stands to concrete base.



Note Bolt or weld stands to frame, if used.



Important To prevent damage to the system, the welder must be grounded near the weld point before welding.

11. Bolt or weld girder chairs to hopper or tank.
12. Adjust nose irons in bolt slots (see Figure 2-4) so distance X from each nose iron pivot to the end of its lever is equal.
13. Tighten nose iron bolts securely.
14. Position load cell stand over nose iron pivots so load cell assembly hangs plumb. Anchor load cell stand to concrete.



Note Bolt or weld the load cell stand to frame, if used.

15. Secure jam nuts on top of plate of load cell stand.

The scale is now fully assembled.

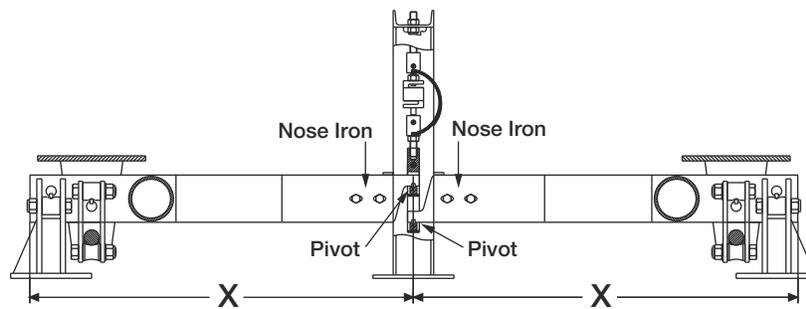


Figure 2-4. Nose Iron Adjustment

3.0 Safety Chain Option Assembly Instructions

The safety chain provides four chains and 16 washers to anchor the hopper and girder chair to the pipe lever fulcrum stand. This helps prevent the hopper from tilting too far off the girder chair and becoming unstable. The optional safety chain kit provides the chains and washers only. All other hardware (bolts, nuts, etc.) must be provided by the customer. Use Figure 3-1 and the procedure below to install the chain option on your pipe lever scale.

1. Place one chain and four washers at each of the four scale base corners.
2. Place two stacked washers and upper end link underneath girder chair baseplate (Position A). Be sure washers are between girder chair baseplate and end link.
3. Secure washers and upper end link to girder chair baseplate with customer-provided hardware.
4. Place lower end link and two stacked washers over fulcrum stand baseplate (Position B). Be sure washers are positioned between end link and fulcrum stand baseplate.
5. Secure washers and lower end link to fulcrum stand baseplate with customer-provided hardware.

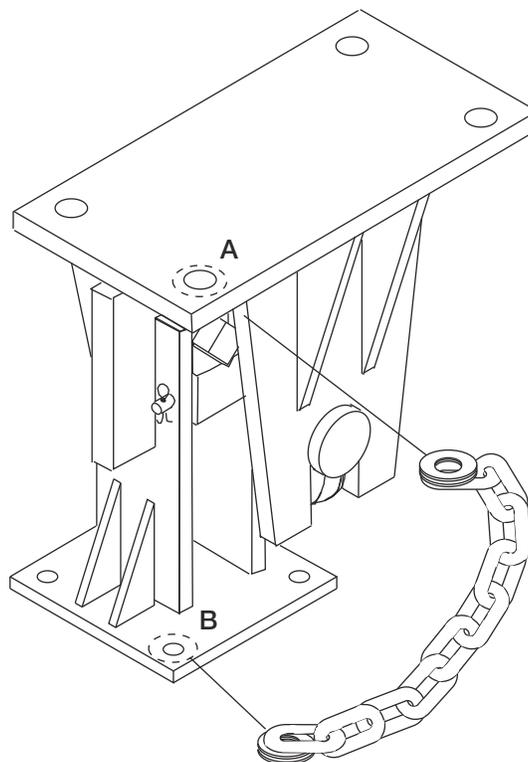


Figure 3-1. Safety Chain Option Assembly

4.0 Replacement Parts

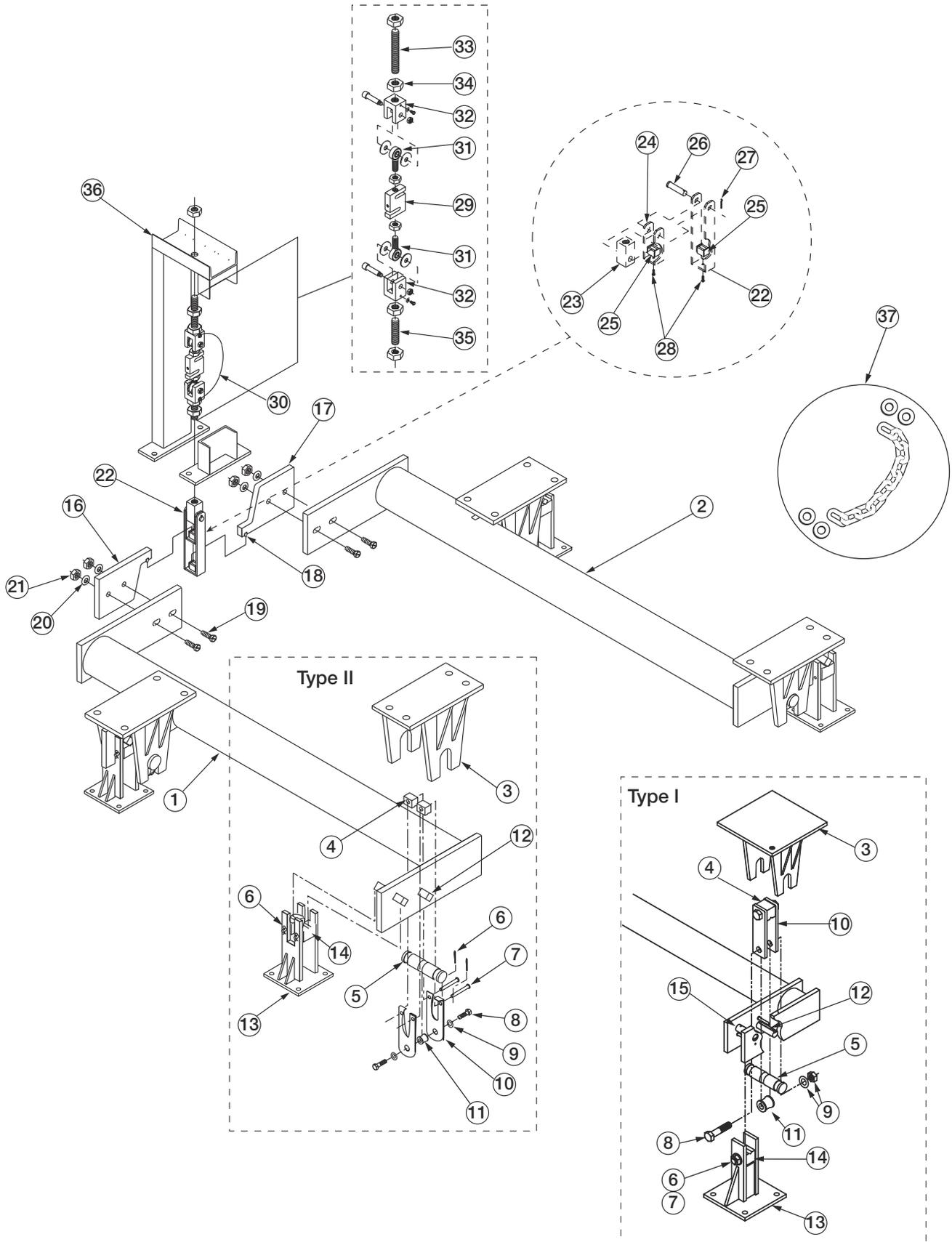


Figure 4-1. Pipe Lever Scale Parts Illustration

Item No.	Description
1	Main Pipe Lever, Left
2	Main Pipe Lever, Right
16	Nose Iron, Left
17	Nose Iron, Right
18	Pivot
19	Cap Screw
20	Washer, Plain
21	Lock Nut
22	Shackle Loop, Large**
23	Shackle Support Block**
24	Shackle Loop, Small**
25	Bearing Assembly**
26	Clevis Pin**
27	Cotter Pin**
28	Machine Screw**
29	Load Cell, SBM RL 20000-3K
30	Ground Strap
31	Rod End
32	Clevis Assembly
33	Shackle Support Rod
34	Jam Nut
35	Threaded Adaptor
36	Load Cell Stand
37	Hold-down chain option
	Washer, plain 3/4 Type A
	Chain, 5/8 Grade 40

Table 4-1. Type I & II Pipe Lever Scale Parts List



For Mild Steel Models

* Loop Assembly (PN CM729)

** Shackle Assembly (PN N110)

Item No.	Description
3	Girder chair
4	Bearing
5	Trunnion Pin
6	Washer
7	Lock nut
8	Bolt
9	Lock nut
	Washer
10	Loop side plate
11	Spool
12	Bolt
	Pivot
13	Fulcrum Weldment
14	Bearing
15	Drive screw

Table 4-2. Type I Pipe Lever Scale Parts List

Item No.	Description
3	Girder Chair
4	Bearing*
5	Trunion Pin
6	Cotter Pin*
7	Clevis Pin*
8	Cap Screw (Stainless Steel)
	Bolt, Hex (Mild Steel)*
9	Washer, Plain STD*
10	Slide Plate, Loop*
11	Spool*
12	Pivot
13	Fulcrum Stand
14	Bearing

Table 4-3. Type II Pipe Lever Scale Parts List

Pipe Lever Scale 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 in accordance with written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for two 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.

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For More Information

Contact Information

Hours of Operation

Knowledgeable customer service representatives are available 6:30 a.m. - 6:30 p.m. Monday through Friday and 8 a.m. to 12 noon on Saturday. (CST)

Telephone

- Sales/Technical Support 800-472-6703
- Canadian and Mexican Customers 800-321-6703
- International 715-234-9171

Immediate/Emergency Service

For immediate assistance call toll-free 1-800-472-6703 (Canadian and Mexican customers please call 1-800-321-6703). If you are calling after standard business hours and have an urgent scale outage or emergency, press 1 to reach on-call personnel.

Fax

Fax Number 715-234-6967

E-mail

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 - prodinfo@ricelake.com
- International (non-US) sales and product information at
 - intlsales@ricelake.com

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