

Weigh Belt Feeder

Maintenance Instructions

This document includes the necessary directions for maintenance of weigh belt feeders. Safety and lubrication information is provided, along with weekly cleaning requirements. Procedures for belt replacement and leveling, as well as material scraper adjustment is also included.

This document is an addendum for the weigh belt feeder system and should be referenced in conjunction with:

- MASTER 421 Belt Scale Weigh Frame Installation Manual (PN 176119)
- 882D Belt Scale Integrator Technical Manual (PN 184260)

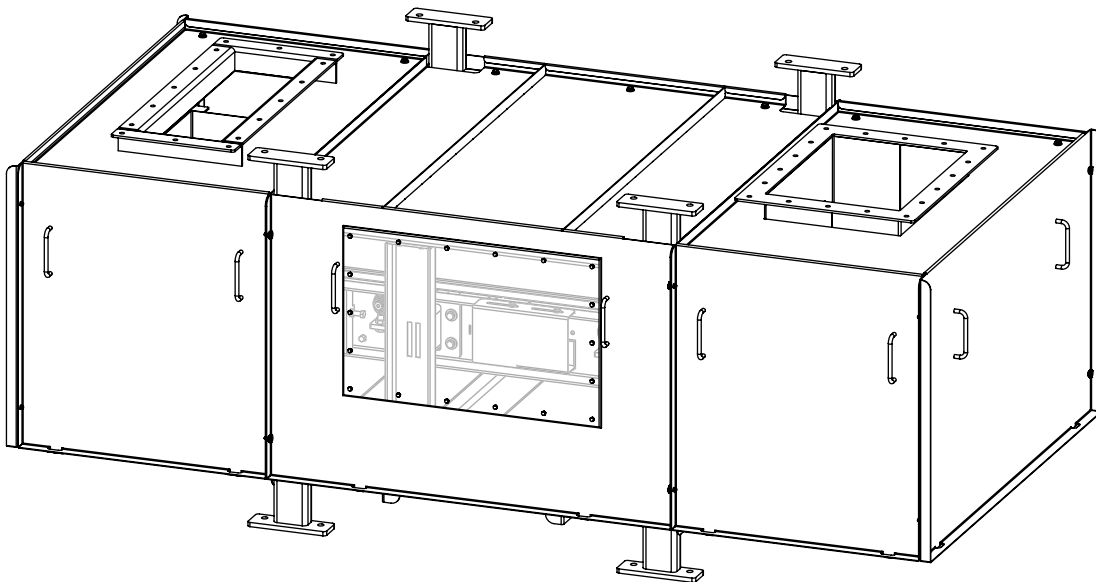


Manuals and additional resources are available from Rice Lake Weighing Systems at www.ricelake.com/manuals



Note

Figures and illustrations in this document are for reference only and may include visual differences for some weigh belt feeders, but the contents apply to all similar weigh belt feeders.



Risk of electrical shock. Belt motor uses 460 volts.



Always disconnect power and Lockout/Tagout equipment before performing any maintenance, service or work inside of the weigh belt feeder enclosure. Procedures requiring work inside the weigh belt feeder enclosure must be performed by qualified service personnel only.

IMPORTANT

Load cells must be grounded before performing any welding on the weigh belt feeder enclosure or frame.

Safety Map

This section includes an illustration that shows locations of the major safety hazards. While these example locations represent the major safety hazards, safety hazards are not limited to these locations. Examples of product safety labels are also included.

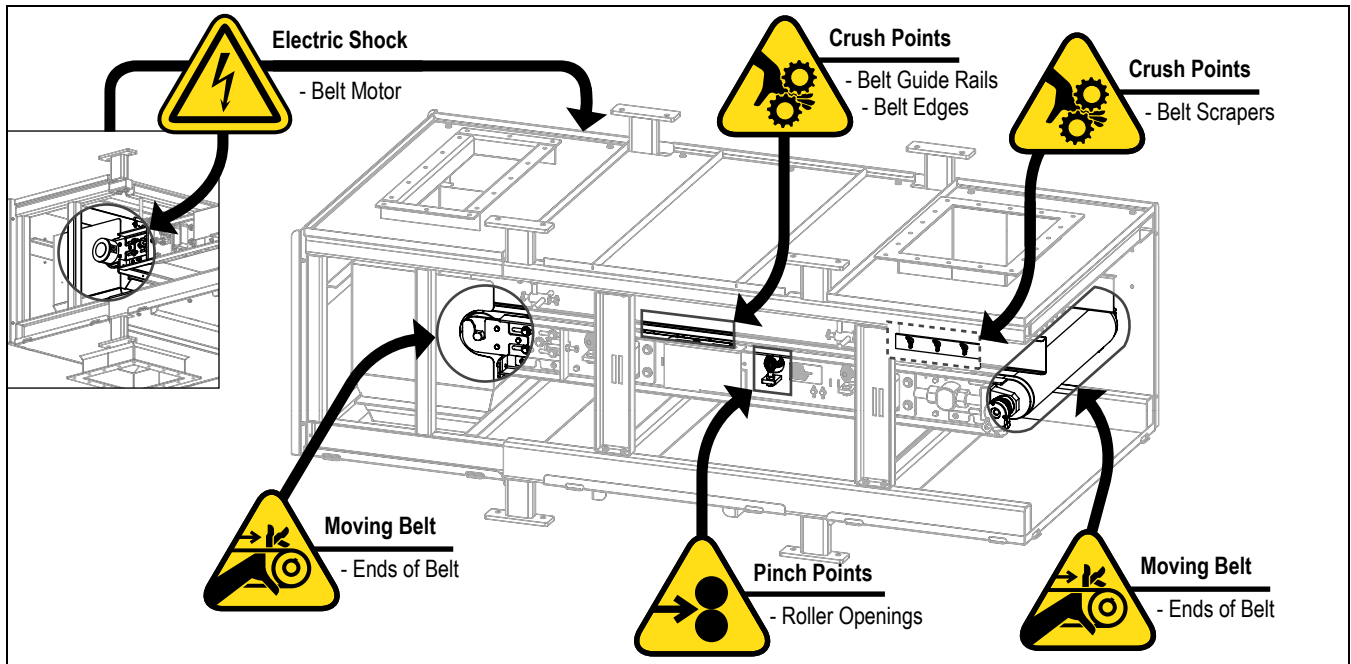


Figure 1. Safety Map

Product Safety Labels



PN 158334
2.5 in x 1.5 in



PN 158333
2.5 in x 1.75 in



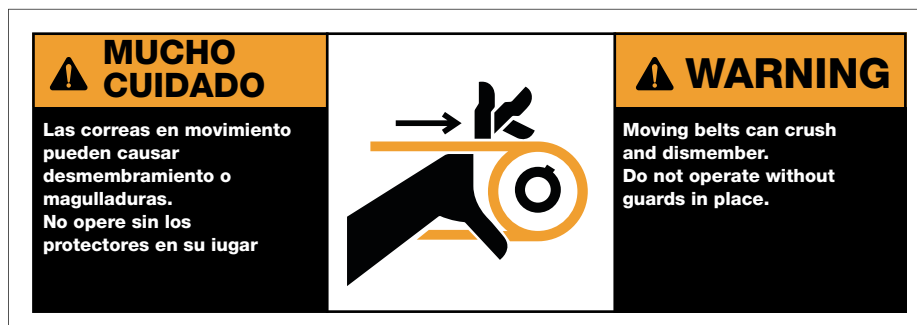
PN 158338
3.5 in x 5.0 in



PN 158335
2.5 in x 1.75 in



PN 211029
2.0 in x 0.5 in



PN 158339
10.0 in x 3.5 in

Material Scrapers Adjustment

Feed Hopper Scrapers

The scrapers connected to the feed hopper at the front of the belt are used to direct the material forward and control the amount of material that is allowed to move down the belt. Check placement of scrapers and adjust as needed before running the belt. The scraper should be positioned as close to the belt as needed, without making contact with the belt.

IMPORTANT *Belt scrapers will cause unnecessary wear on the belt if scrapers are positioned so they are contacting the belt.*

1. Remove the end panel at the start of the belt by removing the four end panel screws.
2. Remove one of the side panels adjacent to the end panel by removing the two side panel screws.
3. Loosen scraper adjustment wingnuts and position the scrapers as needed.



Note

The sides and end scrapers should be positioned close to the belt, without making contact with the belt. The down belt scraper should be positioned to control the amount of material that is allowed to move down the belt.

4. Tighten wingnuts to secure scrapers into position.
5. Reattach the side and end panels, securing with previously removed screws.

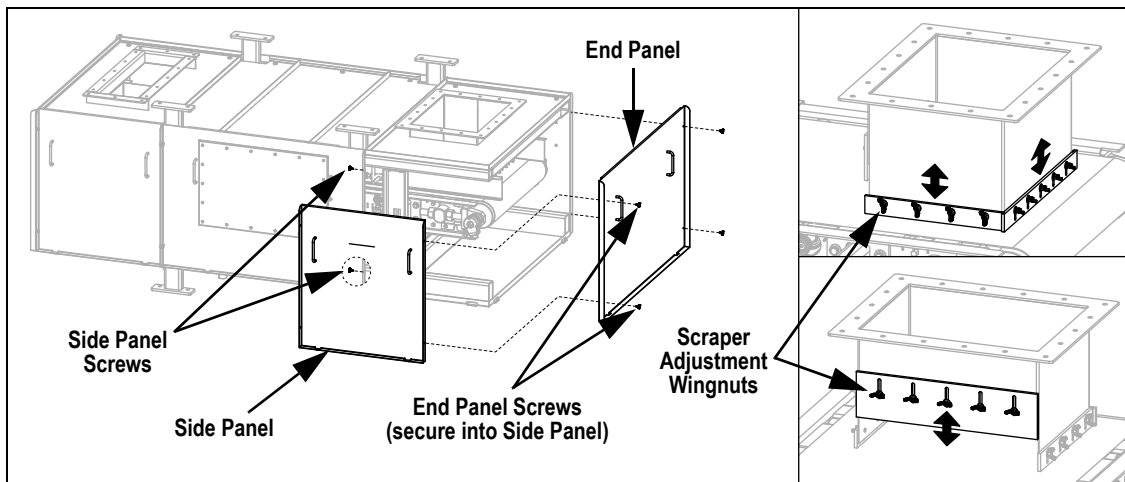


Figure 2. Feed Hopper Scraper Adjustment

Belt Return Scraper

The scraper at the end of the belt is positioned on the underside of the belt. Check placement of scraper and adjust as needed before running the belt. The scraper should be positioned as close to the belt as needed, without making contact with the belt.

IMPORTANT *Belt scraper will cause unnecessary wear on the belt if scraper is positioned so it is contacting the belt.*

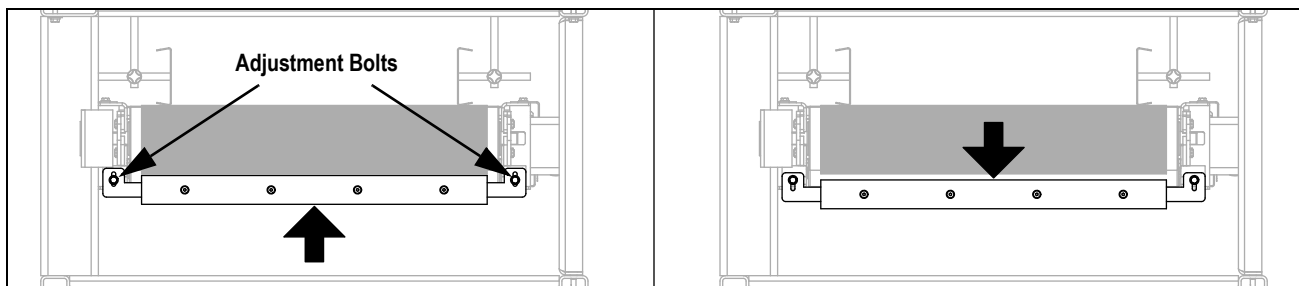


Figure 3. Belt Return Scraper Adjustment



Note

The belt return scraper needs to be removed for belt replacement.

Belt Side Walls Adjustment

This section covers how to adjust the belt side walls. The belt side walls can be adjusted vertically and horizontally using the adjustment fixtures shown in Figure 4. Loosen the left-side knob to adjust vertically and the right-side knob to adjust horizontally. Both of the belt sides walls have two adjustment fixtures. The purpose of the belt side walls are to help control the flow of material down the belt.

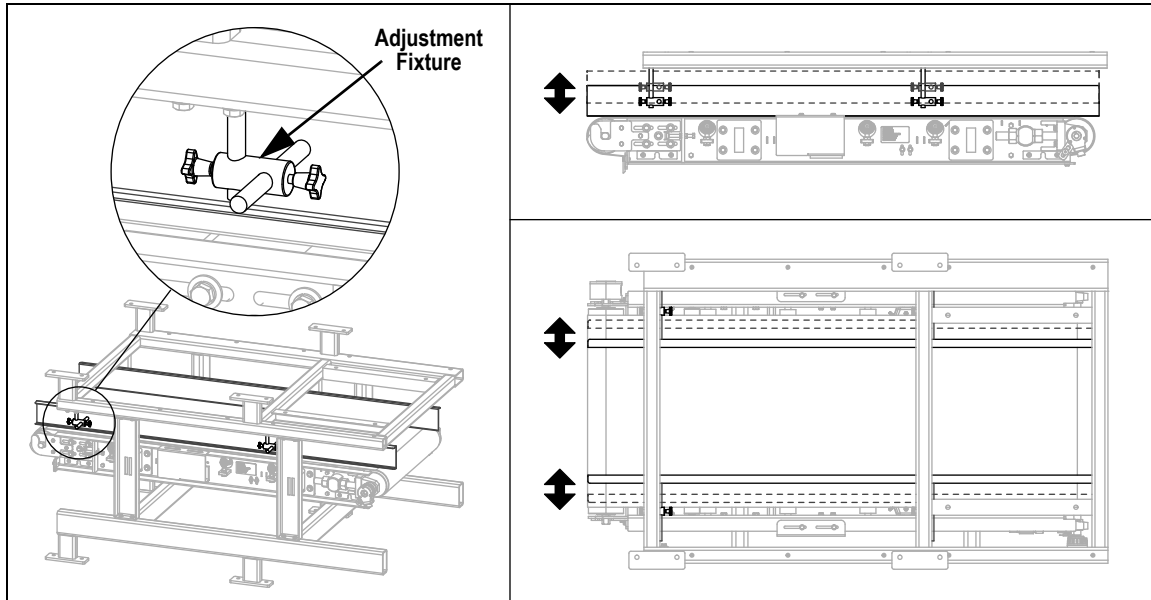


Figure 4. Belt Side Wall Adjustment

Bearing Lubrication

This section shows the locations of the two roller bearings that require lubrication. These two bearings are located at the starting end of the belt near the feed hopper. The interior rollers use grease-less bearings and do not require lubrication.

Use the grease fitting on each bearing for adding grease. White lithium grease is recommended.

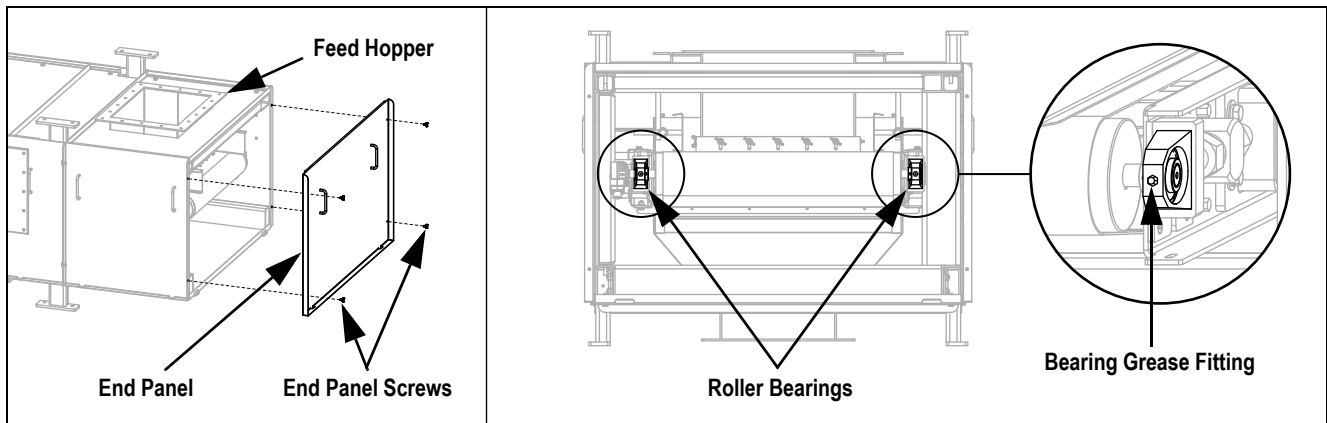


Figure 5. Bearing Lubrication Locations

Inspection Schedule

This section covers the weekly inspection schedule and the necessary items that need to be checked. Weekly inspection and maintenance is important to ensure proper operation and functionality of the weigh belt feeder.



WARNING Always disconnect power and Lockout/Tagout equipment before performing inspections, maintenance or service on or inside of the weigh belt feeder enclosure. Procedures requiring work inside the weigh belt feeder enclosure must be performed by qualified service personnel only.

Daily Inspection Items

Side-view windows should be utilized in daily checks of interior debris buildup and the cleanliness of and around the load cells. It is also important to check the edges of the belt through the side-view windows daily to confirm the belt isn't drifting.

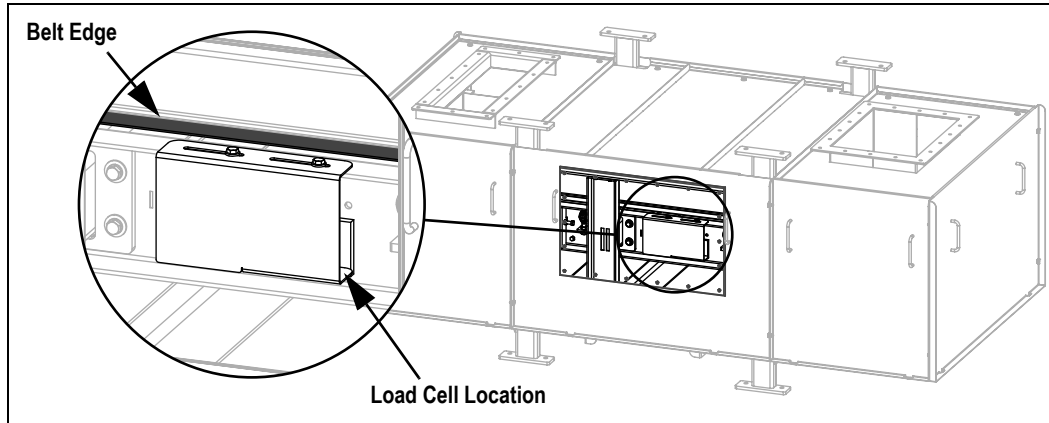


Figure 6. Daily Inspection Items

Weekly Inspection Items

It is necessary to remove side panels to gain access to the interior of the weigh belt feeder to perform weekly inspection.

- **Load cells** – Important to keep load cells clean and free of debris; located in the center, on both sides of the belt
 - Remove the load cell covers for proper inspection of the load cells
- **Lubricated roller bearings** – Two only, located at the starting end of the belt near the feed hopper
 - Grease fitting on bearing for adding grease ([Figure 5 on page 4](#)); white lithium grease recommended
 - Inspection must including making sure the bearings are lubricated and aren't binding
- **Grease-less roller bearings** – All interior rollers use grease-less bearings and do not require lubrication
 - Bearings should free spin with hand to confirm they aren't binding
- **Belt Tracking** – Adjustment of belt tracking is needed if the belt drifts more than ½ inch to avoid unnecessary belt wear
- **Belt Wear** – Important to look over the belt for wear or possible locations that could cause wear of the belt
 - Make sure material scrapers ([page 3](#)) and the belt side walls ([page 4](#)) are not contacting the belt



Note It is recommended to combine the weekly inspection with weekly cleaning ([page 3](#)). Doing these two items together minimizes the number of times access to the interior of the weigh belt feeder is performed.

Cleaning Map

This section includes illustrations that show interior access and key cleaning locations for the weigh belt feeder and includes the proper procedures for cleaning. Weekly cleaning is important to ensure proper operation and functionality of the weigh belt feeder. It is necessary to remove all side panels to gain access to the interior of the weigh belt feeder for proper cleaning.

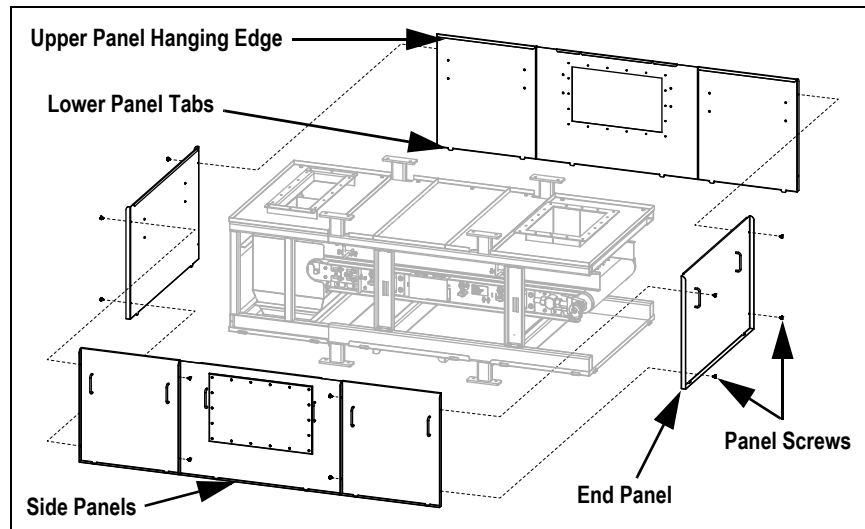


Figure 7. Interior Access

The side and end panels of the weigh belt feeder are secured together with panel screws and are fitted to the feeder frame with lower panel tabs and upper panel hanging edges. Remove all of the panel screws and lift the end panels up and away from the frame first, followed by the side panels to access the interior of the weigh belt feeder.

Weekly Cleaning Items

- Vacuum and wipe down entire interior of the weigh belt feeder; interior must be free of excess dust and debris
 - Keep adjustment fixtures/hardware, bearings and speed sensor components clean
 - Clean off ledges and the bottom area of the weigh belt feeder
- Remove load cell covers and make sure they are clean and free of debris
 - Load cells need to be free of debris to maintain proper operation and accuracy

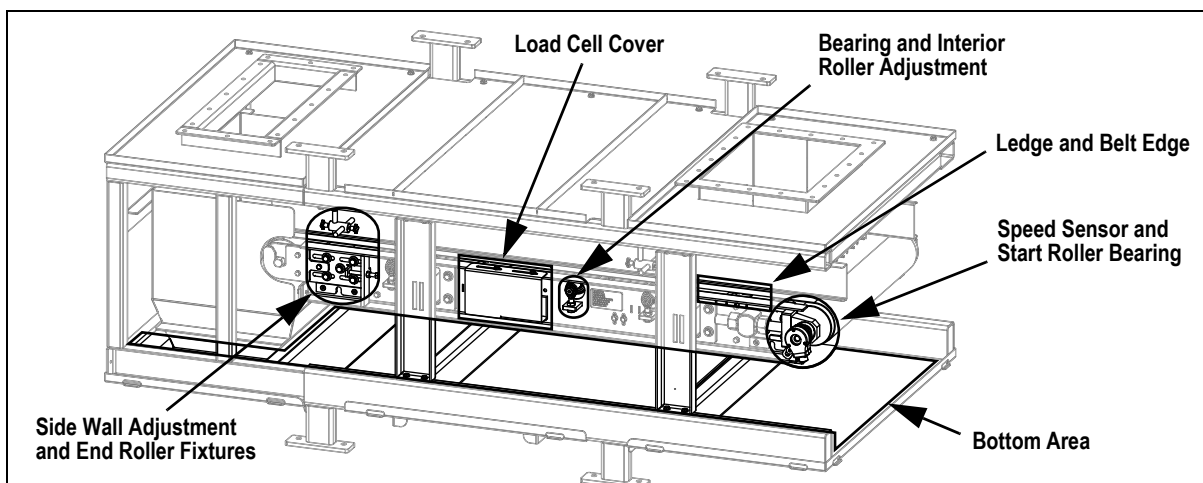


Figure 8. Cleaning Map



Note It is recommended to combine the weekly cleaning with weekly inspection ([page 5](#)). Doing these two items together minimizes the number of times access to the interior of the weigh belt feeder is performed.

Belt Maintenance

This section covers roller alignment and leveling, which are major contributors to belt tracking. Also provided in this section is a procedure for belt replacement. It is important to periodically check the belt for wear and drifting, while maintaining belt tension.

Interior Roller Alignment

Loosen the locking nut and then use the adjusting nut to adjust the vertical alignment of the interior. Re-tighten the locknut once necessary vertical alignment is achieved (see [Roller Leveling](#)).

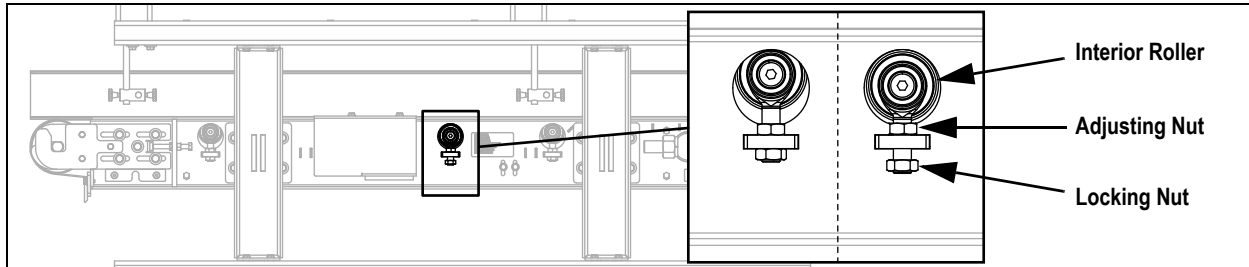


Figure 9. Interior Roller Adjustment

Roller Leveling

It is recommended to use a string to level all the rollers. Run a string down the entire length of the belt and secure string ends to the base frame at both ends. The string must be tight to both end rollers, allowing the string to be used as a level reference to adjust the interior rollers (see [Interior Roller Alignment](#)). Level rollers is important for consistent belt operation.

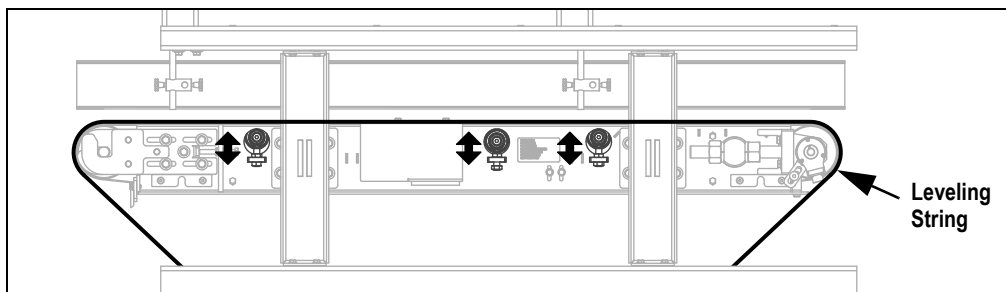


Figure 10. Roller Leveling String

Belt Replacement

It is necessary to remove the three side panels from one side of the weigh belt feeder to gain access to the interior for belt replacement. Refer to [Figure 12 on page 8](#) (End Roller Adjustment) for belt tensioning if needed.

1. Remove the three side panels from one side of the weigh belt feeder enclosure.
2. Remove hardware securing the two side braces and set side braces aside.

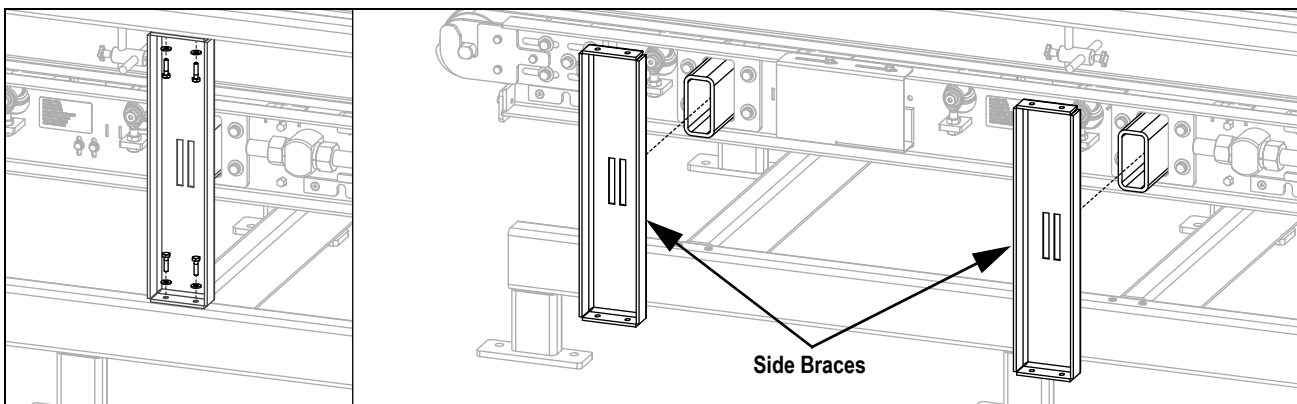


Figure 11. Side Brace Removal

3. Remove the locking bolt that secures the end of belt roller in place.
4. Adjust the end of belt roller by:
 - Loosen the locking nut and then use the adjusting nut to shift the tension bolt as far as possible
 - Loosen the four bolts securing the end of belt roller fixture in place
 - Slide the end of belt roller in towards the center of the weigh belt feeder (creating slack in the belt)

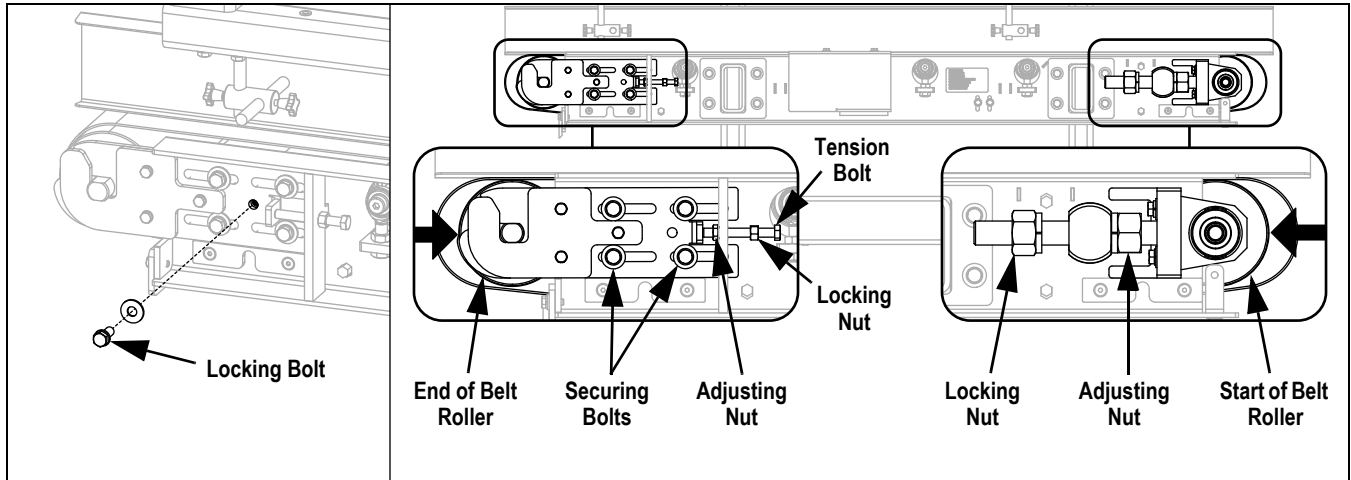


Figure 12. End Roller Adjustment

5. Adjust the start of belt roller by:
 - Remove the speed sensor encoder mounted on top of the roller bearing at one end of the belt roller
 - Loosen the locking nut (only an 1/8 turn is necessary; a slight turn makes re-tensioning of the belt easier)
 - Use the adjusting nut to shift the start of belt roller in towards the center of the weigh belt feeder
6. Remove the current belt and replace with a new belt.
7. Repeat previous steps to tension the new belt. See [Interior Roller Alignment](#) and [Roller Leveling](#) sections on the previous page if needed.



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230 W. Coleman St. • Rice Lake, WI 54868 • USA
U.S. 800-472-6703 • Canada/Mexico 800-321-6703 • International 715-234-9171 • Europe +31 (0)26 472 1319