WEIGH-TRONIX

BridgePort Installation Guide

Introduction

Please refer to the general installation drawing for installation details.

Recommended equipment list:
- *Wrench set*
- *Socket set*
- *Tape measure*
- *Chalkline*

The Weigh-Tronix BridgePort vehicle scale is an electronic, low profile, self-contained, portable scale suited for a wide variety of applications.

It is designed and manufactured for simplified, temporary installation and relocation when necessary.

The basic units are available in lengths of 20, 25, 30 and 35 feet. Each module has its own frame, four 50,000 lbs weigh bars, and a junction box.

For a longer scale, simply join 2 or more modules together. Refer to Figure 1. The BridgePort has a CLC capacity of 40 ton and a weighing capacity up to 100 ton.

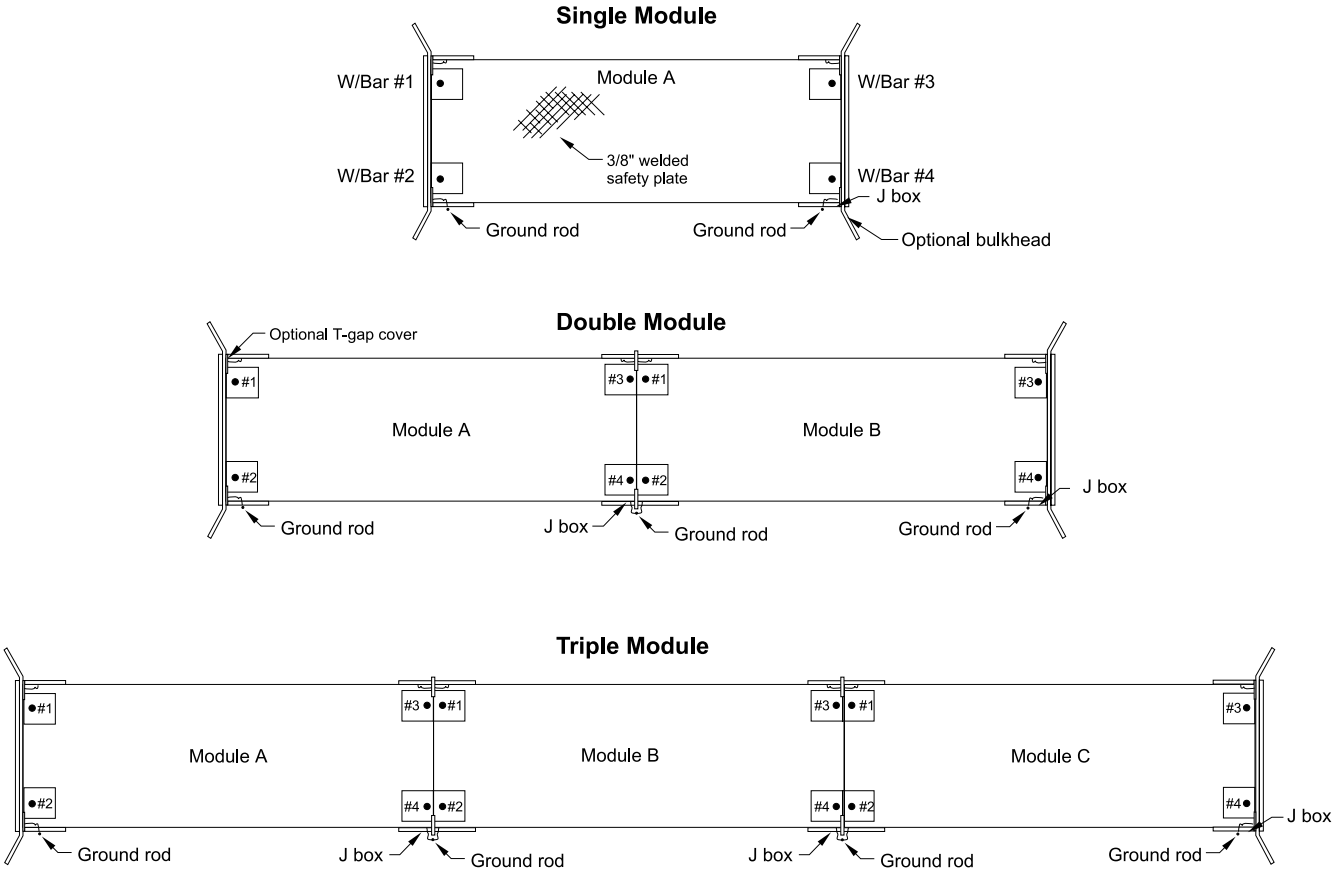

Figure 1
Scale modules

Installation

The BridgePort scale may be installed on a pier made of bridge planks, concrete footers, swamp pads, or other suitable surfaces. The pier should extend the width of the scale. The owner is responsible for soil stability conditions of at least 3,000 lb/sq. ft. The pier shown on the drawing is nominal and based on a soil bearing capacity of 3,000 lb/sq. ft. If soil conditions will not sustain this load, increase the pier size accordingly.

If the scale is to be used during winter season, the piers must descend a minimum of 6" below the frost line.

To speed the installation of the scale, ensure the proper installation of the piers before receiving the scale.

For the dimension information, refer to the installation drawing.

The top of the piers must be level and on the same plane within 1/8".

One 5/8" x 8' copper or zinc plated ground rod must be installed for each end of the scale and for each joint between modules. The ground rod must be driven down to the water table. If eight feet is not enough, use a longer rod.

Single Module Installation

Lower the scale module on the foundation using the lifting lugs in the bridge. Refer to Figure 2.

Warning

Never use the frame or guide rails to lift the scale module

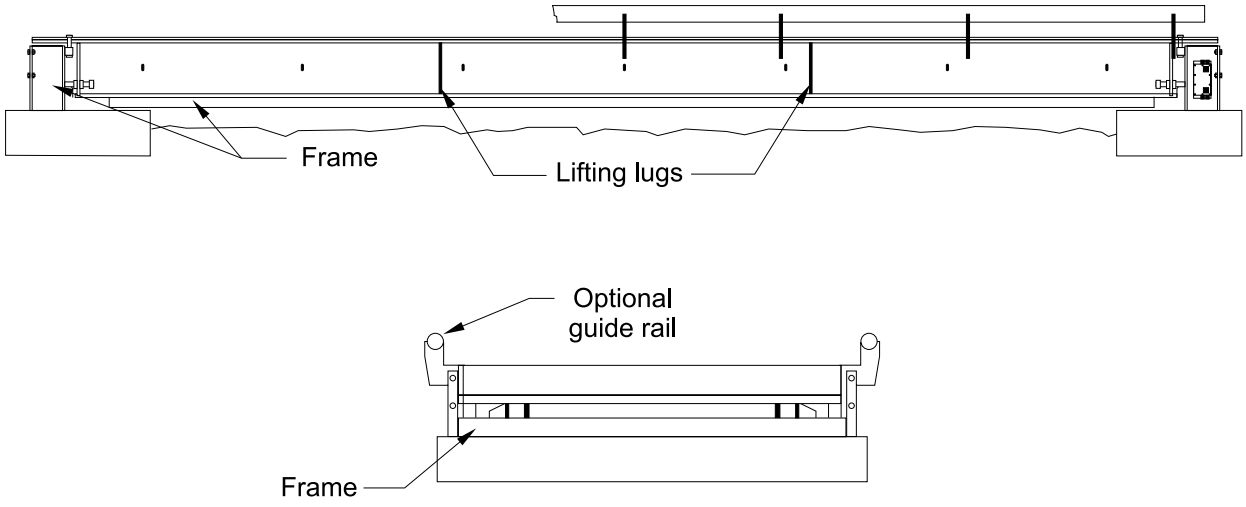

Figure 2
Lifting lug locations

Make sure all corner base plates are fully and rigidly supported. If necessary, use metal shims to ensure a good, level support.

Loosen all check bolts - 4 per module

Remove the nuts from the hold down bolts; lower the bolts; then, replace the nuts on the bolts, so they remain on the holding block on the frame.

Adjust the check bolts to a maximum of 3/16" clearance. Refer to Figure 3.

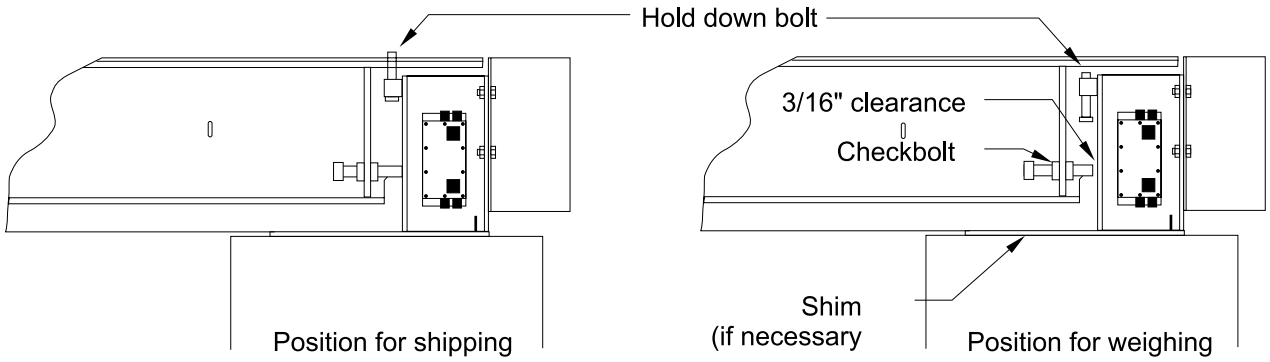

Figure 3
Checkbolts

Install the optional bulkheads on each end of the scale.

If the bulkheads are from Weigh-Tronix, use (4) 3/4 - 10 x 2 1/2" bolts, bevel washers, and nuts supplied by Weigh-Tronix. Refer to Figure 4.

If other than Weigh-Tronix bulkheads are used, ensure the proper clearance between the scale platform and the bulkhead. Weigh-Tronix will not be responsible for error caused by other bulkheads.

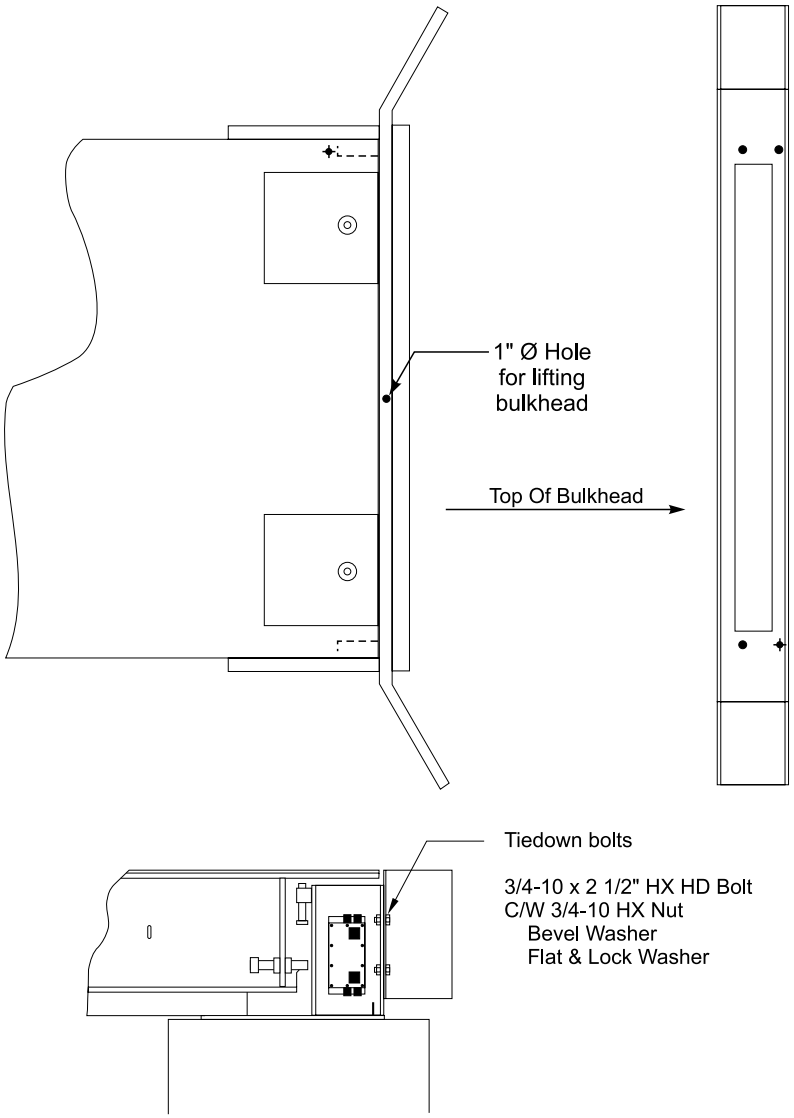

Figure 4
Optional bulkhead attachment

Once the bulkheads are properly installed, prepare the ramps at each end of the scale. The ramps must be straight and level, for a minimum of 10 feet at each end of the scale.

The ground rods must be installed as close as possible to the scale module at each end and same side as the junction box. Connect the ground rod to the scale module frame using the supplied ground strap. Refer to Figure 5.

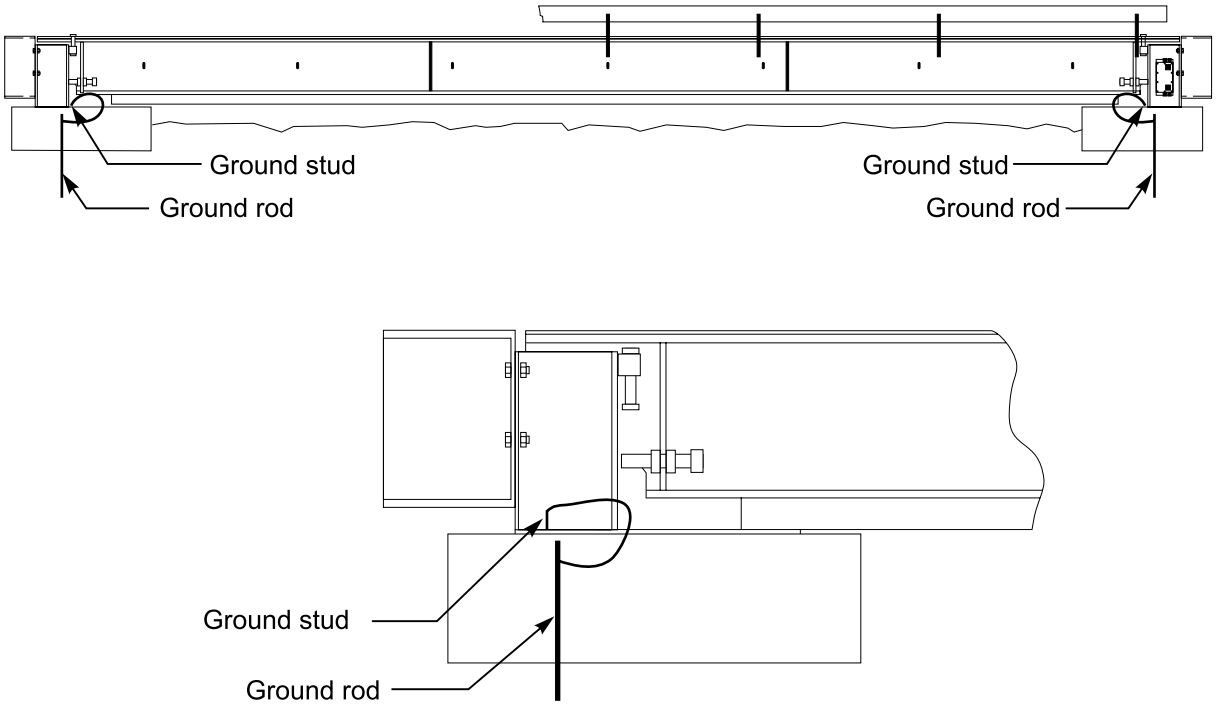

Figure 5
Grounding details

Attention

For best grounding we recommend one grounding rod for each end of a scale, one grounding rod for each junction of scale decks, and a separate ground for the power source in accordance with NEC Code 250. When possible, this power source ground should also be tied to the scale grounds.

To connect the indicator to the scale using the home run cable, remove the protective cap from the bottom connector on the junction box. Apply nonconductive silicone grease inside the protective cap and if needed, also on the cable connector, before connecting. Refer to Figure 6.

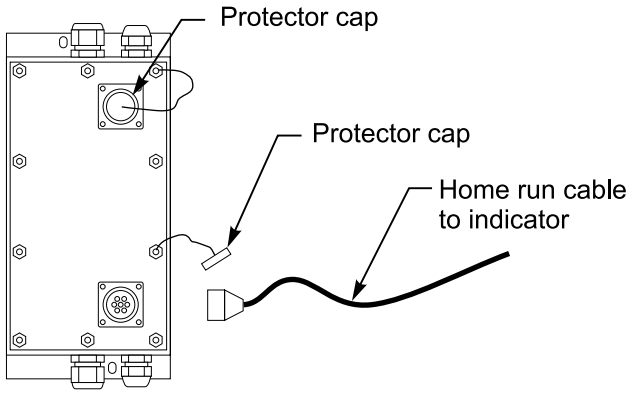

Figure 6
Interconnecting details

Install the T-gap covers, (optional), at each end of the scale to cover the gap between the edge of the scale deck and the bulkhead.

The scale is now ready for testing, calibration, and inspection (as required).

Multi-Module Installation

Lower the module as described in *Single-Module Installation*.

Remove the tie down bolts on each unit. (4 at each end) Refer to Figure 7.

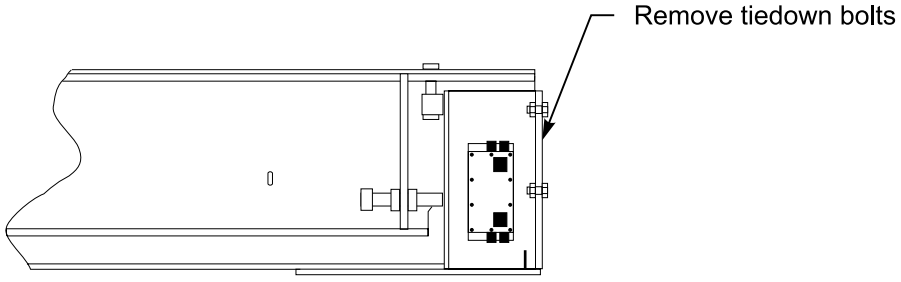

Figure 7
Multi-module installation

Position each module end to end. Make sure the junction boxes remain on the same side of the scale.

To ensure the proper positioning of the second and third module (if applicable), the units must be as close as possible together on the same plane and the holes in the frame must line up straight. Refer to Figure 8.

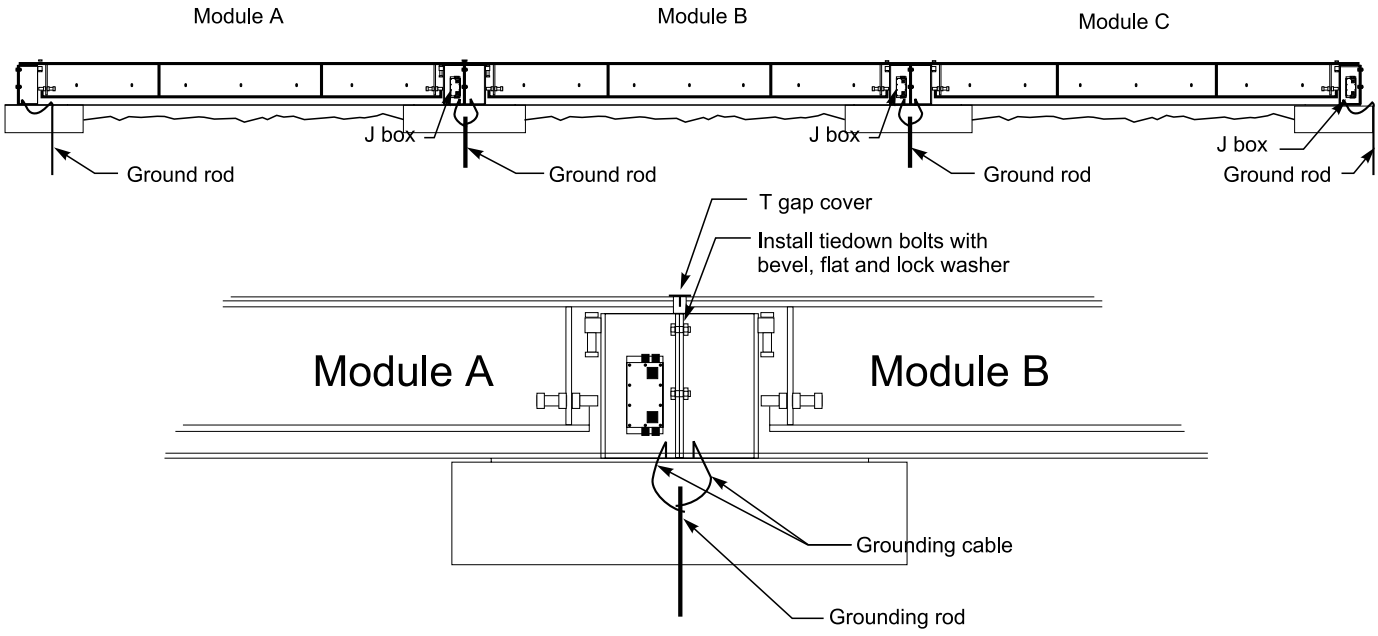

Figure 8
Connecting modules

Make sure the corner of the frames are fully and rigidly supported. If necessary, use metal shims to ensure a good, level support.

Once the modules are properly installed, use the connector bolts, bevel washers, and nuts to firmly attach each module together. Refer to Figure 8.

Loosen all check bolts - 4 per module

Remove the nuts from the hold down bolts; lower the bolts; then, replace the nuts on the bolts, so they remain on the holding block on the frame.

Adjust the check bolts to a maximum of 3/16" clearance. Refer to Figure 3.

Install the optional bulkheads on each end of the scale.

If the bulkheads are from Weigh-Tronix, use (4) 3/4 - 10 x 2 1/2" bolts, bevel washers, and nuts supplied by Weigh-Tronix. Refer to Figure 4.

If other than Weigh-Tronix bulkheads are used, ensure the proper clearance between the scale platform and the bulkhead. Weigh-Tronix will not be responsible for error caused by other bulkheads.

Once the bulkheads are properly installed, prepare the ramps at each end of the scale. The ramps must be straight and level, for a minimum of 10 feet at each end of the scale.

The ground rod must be installed as close as possible to the scale module at the opposite end and same side as the junction box. Connect the ground rod to the scale module frame using the supplied ground strap. Refer to Figure 5. One ground rod should be installed for each end of a scale plus one ground rod for each junction between modules.

Use the interconnecting cables to connect the modules together and to connect the scale to the indicator. Leave the protective cover on the unused connector. Apply nonconductive grease inside the removed protective caps and if needed, apply nonconductive silicone grease on the cable before connecting it to the box. Refer to Figure 9 for 2 module installations and Figure 10 for 3 module installations.

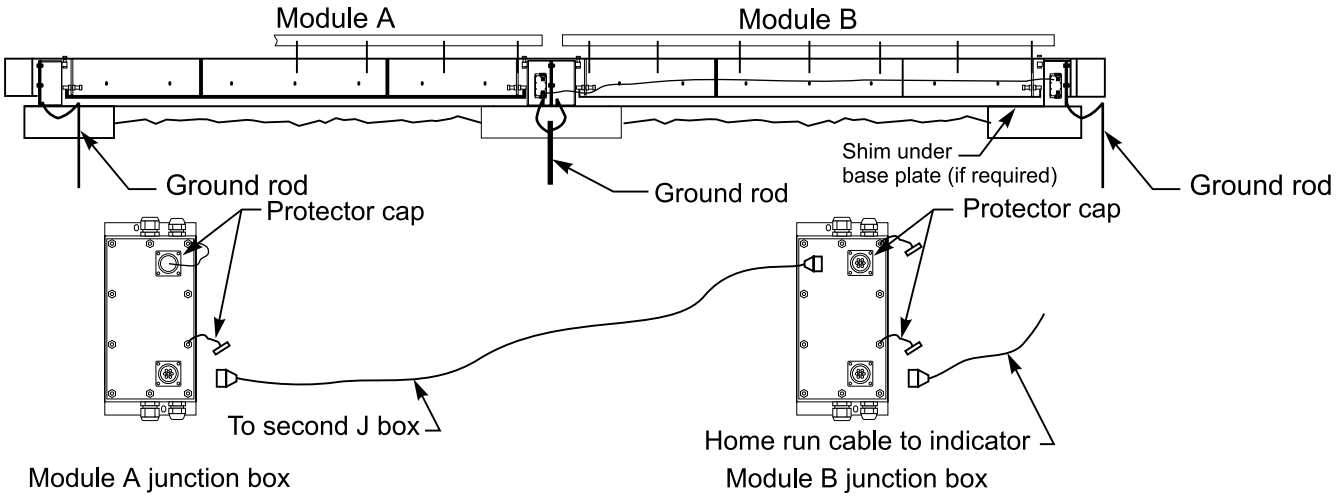

Figure 9
Dual module wiring

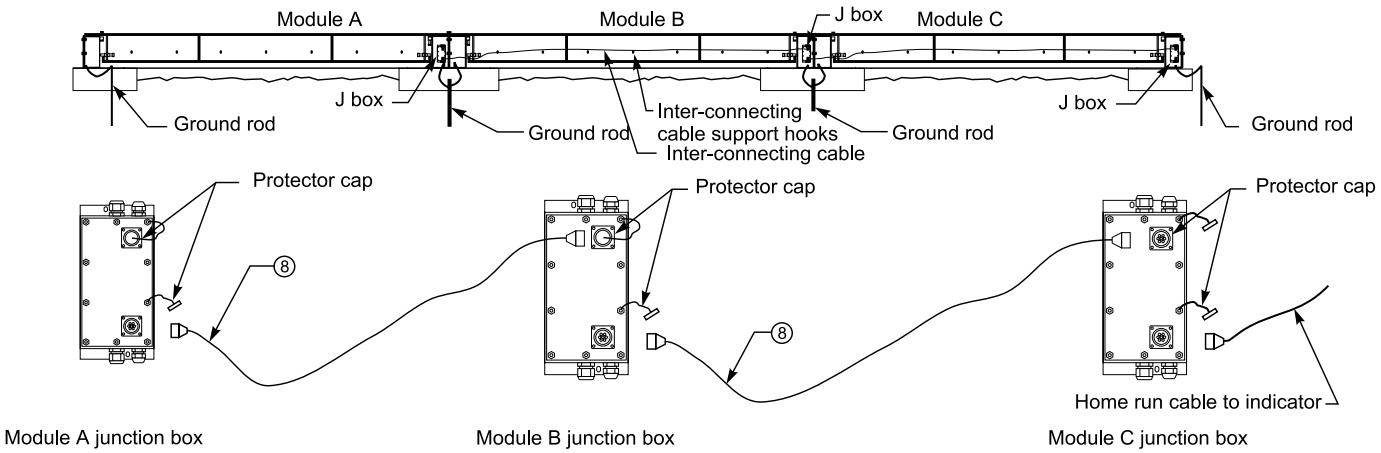

Figure 10
Triple module wiring

Install T-gap covers over the gap left between each module.

Install T-gap covers to cover the gap between the scale deck and the bulkhead.

The scale is now ready for testing, calibration, and inspection (if applicable).

Preparing The Scale Module For Relocation

Remove all the T-gap covers.

Disconnect all the cables and the ground connectors. Store them in a safe place for future use.

Apply nonconductive silicone grease on connectors and install the protective covers on the summing box connectors.

Remove the tie down bolts and store them in a safe place for future use.

Install the hold down bolts to secure the scale weigh bridge to the frame.

To prevent movement of the scale platform, tighten the bumper bolts.

Remove the approaches.

Remove the bulkheads. (if applicable)

If the corner frame on the scale has been anchored (optional), ensure the removal of these anchors before trying to lift the scale.

Ensure that the scale frame is not jammed in ice or heavy mud.

Use the lifting lugs to lift each module.

Never use the frame to lift the scale module

Installation On Concrete Pads With Concrete Approaches

Equipement List:

- *Rotary hammer drill*
- *24” driver pipe for anchor bolts*
- *24” x 2” masonary bit for anchor bolts*

If the scale has been installed between concrete approach slabs, the customer may anchor the module using the existing holes in the corner base plates for 1" anchor bolts. RED HEAD and WEJ-IT are two brand names of expansion anchor bolts but neither are endorsed by Weigh-Tronix, Inc.

Properly install the scale module on an adequate foundation.

Drill a 1" hole, a minimum of 7" deep, in concrete and anchor the scale module using adequate chemical or epoxy held anchors.

Spare Parts List

Part	Part Number
S.S.Junction box	C138736
Weigh bar 15' std. cable	271 73-0046
Weigh bar 50' std. cable	271 73-0053
Weigh bar 15' S.S. sheathed cable	27173-0061
Weigh bar 50' S.S. sheathed cable	27173-0079
50' home run std. cable	
(1) 7 pin male connector	47662-0034
(2) 7 pin male connectors	13644-0021
50' home run S.S. sheathed cable	
(1) 7 pin male connector	52245-0014
(2) 7 pin male connectors	52246-0013
Link	271 71-0014
Pin	26753-0012
24" ground strap	1C00739
40" ground strap	1C01632
Ground strap connector	
Protective, nonconductive silicone grease Electrical Insulating Compound DC4	1C01642

Corner Balancing

For proper weight reading, the signals reaching the indicator must be identical no matter where a weight is placed on the scale. Getting these signals to match is called corner balancing the scale.

Your goal is to get the readings from the weight sensors to match. You do not have to get the correct weight reading at this point. That is taken care of when you calibrate your indicator. (See the *Service Manual* for your indicator.) One potentiometer affects one weight sensor. You balance the weight sensors by adjusting the corresponding potentiometer in the junction box.

This scale was corner balanced at the factory, but in a new installation it is required that corner balancing and calibration be checked to ensure installation accuracy. Below are the steps you need to take to corner balance your scale:

1a. Test load the deck in both directions by driving a loaded truck on and off the scale 3 or 4 times.

1b. Check all mechanical hardware.

1c. Remove the junction box cover to access the potentiometers.

2. To capture the value of internal zero for your particular indicator, refer to your indicator's *Service Manual*.

3. Use test weights equal to 20-25% of full capacity and obtain a displayed weight value for the test weight applied to each of the four weight sensors, like this:

   3a. Disable AZT on indicator.

   3b. Place certified test weight directly above first weight sensor.

   3c. Record displayed weight value.

   3d. Repeat steps 3b and 3c for each weight sensor.

4. If displayed weight values for all weight sensors equal each other, within +/- 1 division, proceed to the calibration instructions for your indicator found in

5. If displayed weight value for any weight sensor varies from the others by more than +/- 1 division, adjust the appropriate junction box potentiometer by turning it the number of 360 degree turns indicated by this formula:

$$\frac{\text{Certified Test Weight Value - Displayed Weight Value}}{\text{Certified Test Weight Value x .0028}} = \text{Number of Turns}$$

   If the **Number Of Turns** is a positive value, turn the potentiometer clockwise. If **Number Of Turns** is a negative value, turn the potentiometer counterclockwise.

6. Repeat steps 3b and 3c followed by step 4 or step 5 until all weight sensors equal each other, within +/- 1 division.

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