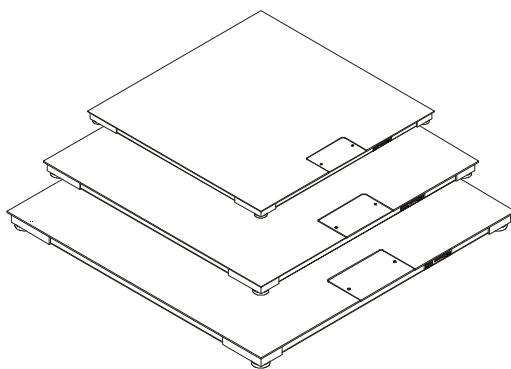


**Any-Weigh™
FLOOR SCALES**

**OPERATION AND INSTALLATION
MANUAL**



9440 Carroll Park Drive, Suite 150

San Diego, CA 92121

San Diego, CA 92123-1825

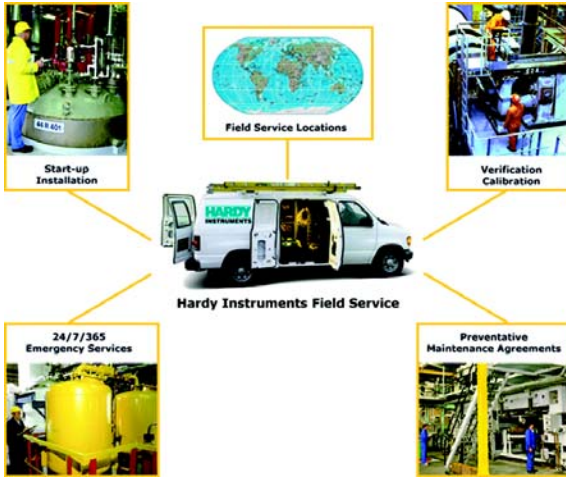
Phone: (858) 278-2900

FAX: (858) 278-6700

Web-Site: <http://www.hardyinst.com>

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Any-Weigh™ Series Floor Scales

SPECIFICATIONS

| | |
|--------------------------|---|
| Platform Material | 0.25 inch |
| Platform Height | 3.0 inches +.275" |
| Rated Output | 2.0mV/V ±0.1% |
| Excitation | <ul style="list-style-type: none">• Recommended 5 Volts DC• Maximum 5 Volts DC |

WARNING

FOR SCALES FITTED WITH AN INTEGRATED TECHNICIAN SUMMING CARD, DO NOT EXCEED 5 VDC EXCITATION. DOING SO MAY CAUSE PROPERTY DAMAGE. DO NOT USE WITH THESE INSTRUMENTS: HI 2160, HI 1771 OR ANY INSTRUMENT WITH AN EXCITATION VOLTAGE ABOVE 5 VDC.

| | |
|---------------------------|---|
| Total Error | 0.03% of FS Output |
| Maximum Overload | 150% of the Rated Scale Capacity |
| Endloading | 100% of the Rated Scale Capacity |
| Temperature Range | <ul style="list-style-type: none">• Safe -40° to +80° Degrees C (-40° to +176° F)• Compensated -10 to +40 Degrees C (+14° to 104° Degrees F) |
| Temperature Effect | <ul style="list-style-type: none">• On Output - 0.0011% of load/Deg. C• On Zero - 0.0011% of FSO/Deg C |
| Cable Length | 20 feet (C2 Cable) |

NOTE:

To purchase C2 Cable contact our local Hardy Instruments Representative or Hardy Instruments Service Center.

Materials of Construction

| | |
|--------------|---|
| Steel | <ul style="list-style-type: none">• Mild Steel: Type A36 carbon plate steel (slip resistance - tread or smooth surface) |
|--------------|---|

Any-Weigh™ Series Floor Scales

- Stainless Steel: Type 304 plate steel (slip resistance - tread or smooth surface)

Paint

100% Acrylic Emulsion (mild steel floor scale models only - Stainless Steel scales are not painted)

Foot Elastomer

- Natural Rubber (Standard)

Grade Level

In operation, the scale must be firmly and adequately supported at all four corners to accommodate the maximum load in your application. The scale must be installed to within 3° of level.

Accessories

Ramps, Pit Frames, Bumper Guards, Lifting Eyebolts, Bolt Down Plates

Anchor Bolt Holds

1/2 inch bolts - 9/16" (.5625") hole, 3.75 inches deep
5/8 inch bolts - 5/8" (.6250") hole, 4.0 inches deep

Approvals

- NTEP Class III Number: 04-087

NEMA Rating

Summing Junction Box Enclosure - NEMA 4X Stainless Steel

Test Criteria

Must exclude at least 65 GPM of water from 1" inch nozzle delivered from a distance not less than 10 ft for 5 minutes.

GENERAL INFORMATION

The Hardy Instruments AnyWeigh™ Series Floor Scales are designed for applications that require a low profile weighing surface with high commercial accuracy and reliability. The Hardy Floor Scales can be configured with a complete range of accessories. The scales can also be configured to fit any floor scale application.

The typical platform height is three (3) inches. Each corner can be adjusted an additional .275" (7mm) to compensate for a non-level floor or pit mounting surface.

The Any-Weigh Floor Scales do not have bearings, levels or moving parts that can be damaged or wear

out. The active elements of the floor scales are four precision strain gauge load sensors, mounted on all four corners of the scale platform. The unique Blind Hole Load Introduction technology allows the foot to move to compensate for uneven floors. This ensures that the load forces are always applied to the load sensor at precisely the same point regardless of where the load is placed on the scale. This ensures you will get accurate and repeatable weighments.

Each platform load sensor is initially certified for use in a C2® Second Generation Calibration system.

UNPACKING

The Any-Weigh Series Floor Scales are shipped fully assembled and wired. Inspect the container for any signs of damage that might occur during shipment. Since almost all of the Floor Scales are shipped F.O.B. factory, such damage is normally the responsibility of the carrier and should be reported to them.

Step 1. Remove the banding straps and any shipping restraints.

WARNING

DO NOT USE HOOKS OR UNCLOSED EYE-BOLTS OR ATTEMPT TO LIFT THE SCALE MANUALLY. FAILURE TO USE THE PROPER LIFTING TOOLS OR LIFTING METHODS CAN CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.

Step 2. Screw 2 closed eyebolts into the threaded holes on the top plate of the scale. (See Fig. 1)

- Mild Steel - 1/2 - 13 x 1.5" (Hardy Model Number HI EB2250-1)

Step 3. Attach a chain, cable or nylon strap to the eyebolts.

Step 4. Use a forklift or crane with rated lifting capacity that is equal to or greater than the total weight of the platform scale to lift the scale high enough to remove from the

crate bottom. See Tables 2 & 3 for shipping weights.

- Step 5. Be sure to use all safety precautions when lifting the platform so that it does not fall on equipment or personnel. It is highly recommended that blocks be placed under the platform before working near the platform scale.

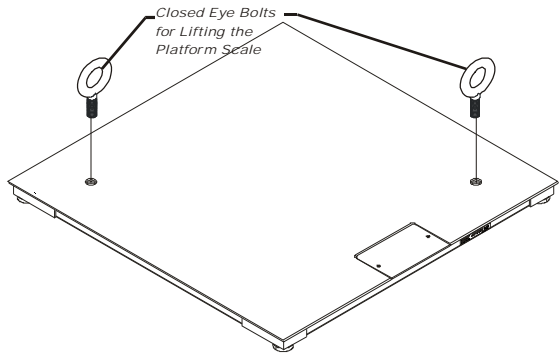


FIG. 1 INSTALLING THE CLOSED EYE-BOLTS INTO THE TOP PLATE

COMPONENT DESCRIPTIONS

1. **Steel Plate Platform** - The platform material is either low carbon steel plate or 304 stainless steel plate. The low carbon steel platform cover is made from a single piece of 1/4" A36 carbon steel floor plate (skid resistant) or smooth steel plate. The steel platforms are primed and coated with a tough weather resistant paint (See Paint Specifications). The 304 stainless steel platform is made from a single piece of 1/4" diamond tread (Conforms to ASTM A793-85) floor plate (skid resistant) or smooth stainless steel plate with a bead blast finish.
2. **Summing Junction Card Assembly** - Accessed by unfastening the face plate on the center side of the platform. (See Fig.2) The summing junction card routes the excitation voltage to each of the four load sensors and sums the weight signal

back from them. The C2® second generation electronic calibration is included with your scale.

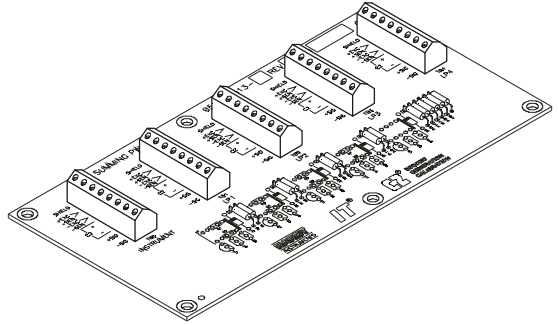


FIG. 2 SUMMING JUNCTION CARD

3. **Load Sensors** - The AnyWeigh series scales use four (4) steel Advantage like load sensors with hermetic seals. The output of each sensor is 2mV/V with 5 Volts DC excitation. For more specifications see the electrical specification section of this manual.
4. **INTEGRATED TECHNICIAN™ (Option)** - (If IT summing card is installed) A built-in system diagnostics utility, continuously monitors the weighing system for possible malfunctions. This capability also allows the operator to rapidly troubleshoot a weighing system from the controller or indicator.
5. **Leveling Feet** - Each AnyWeigh series scale comes with four (4) 304 stainless steel adjustable leveling feet. The leveling feet are adjustable to a maximum of 7mm (.275"). The leveling feet are attached to each of the load sensors.

SITE PREPARATION

- All mounting surfaces for the floor scale should be level to within 3°, corner to corner, end to end. Keep in mind that the adjustable leveling feet have a maximum adjustment of 7mm (.275").

Any-Weigh™ Series Floor Scales

- Before welding anything on the floor scale, contact Hardy Instruments Service Center for instructions and precautions.
- Proper drainage must be provided to prevent the load sensors from standing in water.

Precautions

- Do not do any electric welding on or near the platform scale.
- Do not drop items to be weighed on the scale. Set them on the platform scale.
- Do not set items on the platform scale that weigh more than the capacity of the scale.
- Do not store or operate the scale in environments out of the specified temperature range.
- Do not store other equipment on the scale even temporarily when it is not used or in storage.
- Do not allow debris to accumulate on, around or under the scale.
- Do not set the scale in water or allow water to accumulate around the scale. Always provide proper drainage.
- Do not let moisture get on or into any of the electrical interconnections.
- Do not allow static or other electrical discharges go through the scale.
- Do not leave the screws for the summing junction box cover plate loose so that the junction box is not sealed.
- Do not drop the scale when moving or installing.
- When driving heavy equipment on and off the scale for weighing purposes, make sure that you drive onto and off of the platform in the direction indicated in Figure 3. Also See Access Ramp Installation Section.

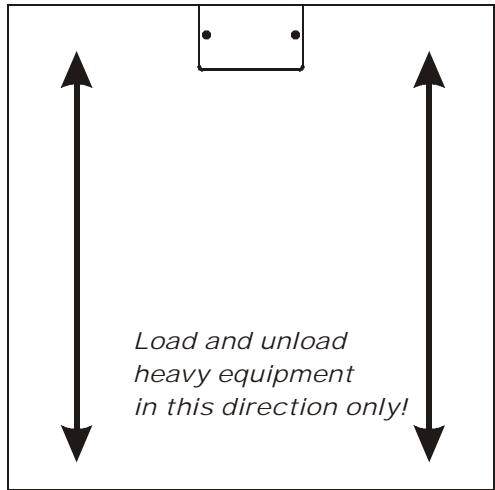


FIG. 3 DIRECTION WHEN DRIVING HEAVY EQUIPMENT ON AND OFF THE SCALE

FLOOR SCALE INSTALLATION

- Step 1. Place the platform scale on the operating location. Make sure that the platform height is within 3 to 3.275" as measured from the top of the cover plate to the top of the floor surface. (See Fig. 4)

NOTE:

With the scale in place, the clearance around the edge of the platform and pit coping should be 1/4" to 3/8".

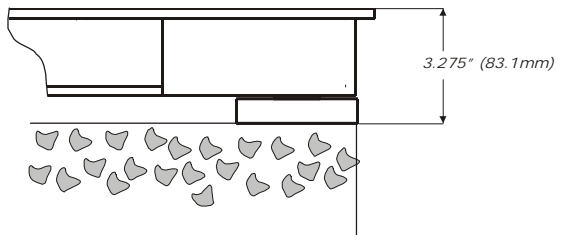


FIG. 4 MAXIMUM HEIGHT

Any-Weigh™ Series Floor Scales

- Step 2. Make sure that the platform mounting surface is level to 1/8".
- Step 3. Use a spirit level to check if the platform is level, side to side, corner to corner and diagonally. (See Figs. 9, 10, 11, 12)

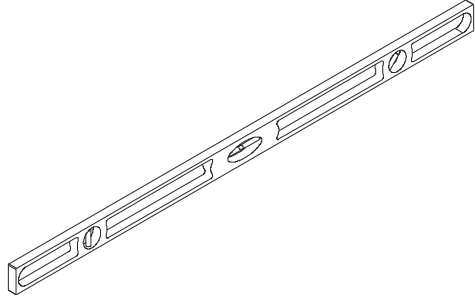
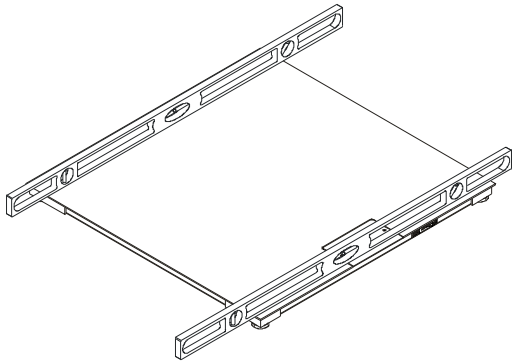


FIG. 5 SPIRIT LEVEL



**FIG. 6 CHECKING PLATFORM LEVEL/SIDE
TO SIDE**

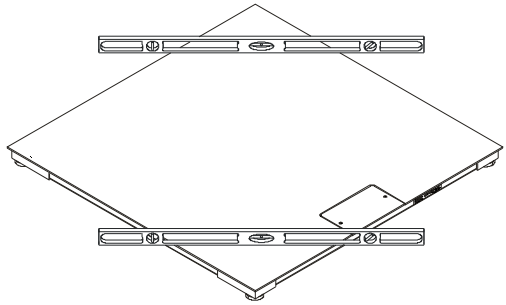


FIG. 7 CHECKING PLATFORM LEVEL/CORNER TO CORNER

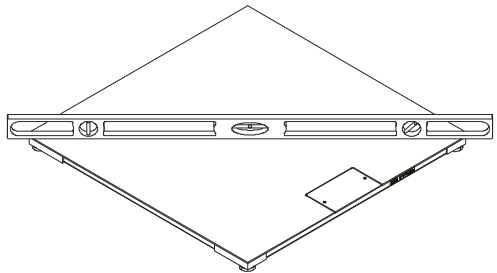


FIG. 8 CHECKING PLATFORM LEVEL/DIAGONALLY

Step 4. Adjust each of the leveling feet in the direction (either up or down), indicated by the level readings. (See Fig. 9)

- To increase the height rotate the foot counter clockwise.
- To decrease the height rotate the foot clockwise.

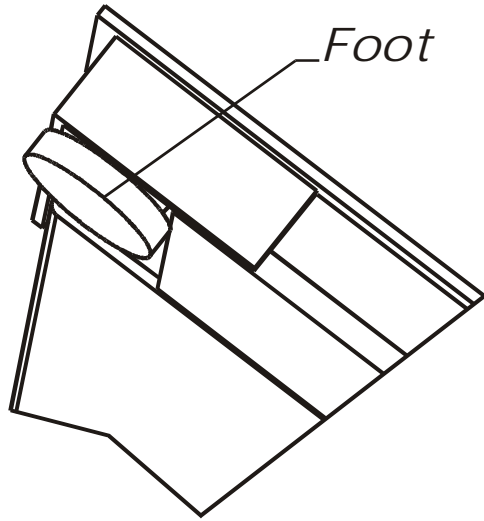


FIG. 9 ADJUSTING THE FEET FOR LEVEL

- Step 5. Place a spirit level on the platform surface again to check the adjustment for level. Keep adjusting the legs until the platform is level and all four leveling feet are firmly on the floor surface.
- Step 6. Check the distance from the top of the platform to the floor surface at each corner. All the measurements should be within 3° of each other and the platform should be level.
- Step 7. If the installation requires bolt down plates to keep the floor scale in place go to the Optional Bolt Down Plates Section for instructions.

CALIBRATION

Pre-Calibration Procedures

- Step 1. Open the Junction box cover. (See Fig. 11 for Instructions)
- Step 2. Thread the C2® Certified cable through the grommet on the side of the scale that houses the junction box.

Step 3. Connect the C2 Certified Summing Card Interface Cable to the weight instrument. Color code wires as follows:

- + Excitation Red
- + Sense Blue
- + Signal Green
- - Signal White
- - Sense Brown
- - Excitation Black
- + C2 Grey
- - C2 Violet

Step 4. Use the weight instrument/indicator manual for calibration instructions.

NOTE:

To purchase C2® certified cable, contact your local Hardy Representative or the Hardy Instruments Service Center.

C2® Second Generation Calibration

Definition - C2® electronically calibrates a scale system without the need for test weights. This feature is in all Hardy weight or rate controllers, and in the Allen-Bradley weight modules.

Step 1. Refer to the Hardy weight or rate controller manuals or the Allen Bradley module manual for instructions.

Test Weight Calibration (Hard Cal)

Requirements:

- Test weight calibration requires the use of certified class F test weights equal to a minimum of 80% of the rated scale capacity.
- Three weights between 10% and 100% of the scale capacity should be used to check the mid range.
- Several low capacity weights equivalent to one or two instrument divisions are required to check the systems' sensitivity.

Any-Weigh™ Series Floor Scales

Material Substitution:

- When certified test weights are not available you can use an accurately weighed material instead.
- The material must be weighed on a secondary, calibrated scale and delivered to the site of the primary floor scale for calibration.
- The secondary calibrated scale should be of the same accuracy or greater and have a capacity approximately equal to the primary floor scale.

SCALE VERIFICATION

- Step 1. Get a test weight that is equal to 10% of the full scale capacity.
- Step 2. Place the test weight at Position #1 on the platform. (See Fig. 10)

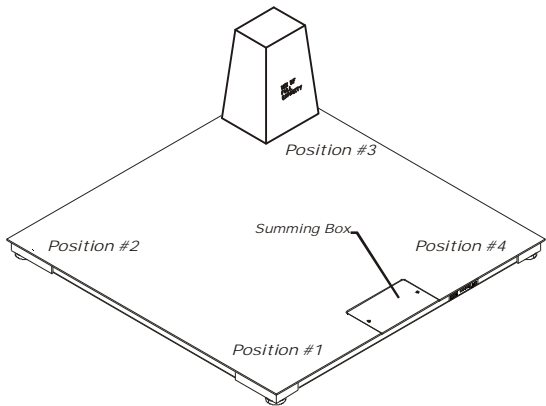


FIG. 10 SCALE VERIFICATION/POSITION #3

- Step 3. Write down the weight for position #1.
- Step 4. Place the weight at position #2.
- Step 5. Write down the weight for position #2.
- Step 6. Place the weight at position #3.
- Step 7. Write down the weight for position #3.
- Step 8. Place the weight at position #4.
- Step 9. Write down the weight for position #4.
- Step 10. Check all the readings. If all the readings are within an acceptable tolerance, no recalibration is required.

Step 11. If all the readings are not within an acceptable tolerance contact the Hardy Instruments Service Center.

**MODEL CODE
BREAKDOWN**

**Mild Steel Deck,
Painted**

| Tread Plate Deck Painted | Smooth Plate Deck Painted | CAPACITY | | Overall Size | | Ship Wght |
|-----------------------------|------------------------------|----------|------|--------------|-----------|--------------|
| | | LBS | KGS | Feet | CM | LBS (KGS) |
| HI AFSU303001-41T | HI AFSU303001-41S | 1000 | 454 | 30" x 30" | 76 x 76 | 200 (91) |
| HI AFSU3301-41T | HI AFSU3301-41S | 1000 | 454 | 3' x 3' | 91 x 91 | 250 (113) |
| HI AFSU3302-41T | HI AFSU3302-41S | 2500 | 1134 | 3' x 3' | 91 x 91 | 250 (113) |
| HI AFSU4402-41T | HI AFSU4402-41S | 2500 | 1134 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4405-41T | HI AFSU4405-41S | 5000 | 2268 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4410-41T | HI AFSU4410-41S | 10000 | 4536 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4505-41T | HI AFSU4505-41S | 5000 | 2268 | 4' x 5' | 122 x 152 | 500 (227) |
| HI AFSU4510-41T | HI AFSU4510-41S | 10000 | 4536 | 4' x 5' | 122 x 152 | 500 (227) |
| HI AFSU4605-41T | HI AFSU4605-41S | 5000 | 2268 | 4' x 6' | 122 x 183 | 600 (272) |
| HI AFSU4610-41T | HI AFSU4610-41T | 10000 | 4536 | 4' x 6' | 122 x 183 | 600 (272) |
| HI AFSU5505-41T | HI AFSU5505-41T | 5000 | 2268 | 5' x 5' | 152 x 152 | 650 (295) |
| HI AFSU5510-41T | HI AFSU5510-41T | 10000 | 4536 | 5' x 5' | 152 x 152 | 650 (295) |

Table 1: Mild Steel, Painted

Any-Weigh™ Series Floor Scales

| Tread Plate Deck Painted | Smooth Plate Deck Painted | CAPACITY | | Overall Size | | Ship Wght |
|--------------------------|---------------------------|----------|------|--------------|-----------|------------|
| | | LBS | KGS | Feet | CM | |
| HI AFSU5705-41T | HI AFSU5705-41T | 5000 | 2268 | 5' x 7' | 152 x 213 | 900 (408) |
| HI AFSU5710-41T | HI AFSU5710-41S | 10000 | 4536 | 5' x 7' | 152 x 213 | 900 (408) |
| HI AFSU6810-41T | HI AFSU6810-41S | 10000 | 4536 | 6' x 8' | 183 x 244 | 1150 (522) |

Table 1: Mild Steel, Painted

Stainless Steel Deck (304 SS)

| Tread Plate Stainless Steel Deck | Smooth Stainless Steel Deck | CAPACITY | | Overall Size | | Ship Wght |
|----------------------------------|-----------------------------|----------|------|--------------|-----------|-----------|
| | | LBS | KGS | Feet | CM | |
| HI AFSU303001-43T | HI AFSU303001-43S | 1000 | 454 | 30" x 30" | 76 x 76 | 200 (91) |
| HI AFSU3301-43T | HI AFSU3301-43S | 1000 | 454 | 3' x 3' | 91 x 91 | 250 (113) |
| HI AFSU3302-43T | HI AFSU3302-43S | 2500 | 1134 | 3' x 3' | 91 x 91 | 250 (113) |
| HI AFSU4402-43T | HI AFSU4402-43S | 2500 | 1134 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4405-43T | HI AFSU4405-43S | 5000 | 2268 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4410-43T | HI AFSU4410-43S | 10000 | 4536 | 4' x 4' | 122 x 122 | 405 (184) |
| HI AFSU4505-43T | HI AFSU4505-43S | 5000 | 2268 | 4' x 4' | 122 x 152 | 500 (227) |
| HI AFSU4510-43T | HI AFSU4510-43S | 10000 | 4536 | 4' x 5' | 122 x 152 | 500 (227) |
| HI AFSU4605-43T | HI AFSU4605-43S | 5000 | 2268 | 4' x 6' | 122 x 183 | 600 (272) |

Table 2: Stainless Steel

| Tread Plate Stainless Steel Deck | Smooth Stainless Steel Deck | CAPACITY | | Overall Size | | Ship Wght |
|---|--|-----------------|------------|---------------------|-----------|----------------------|
| MODEL | MODEL | LBS | KGS | Feet | CM | LBS (KGS) |
| HI AFSU4610-43T | HI AFSU4610-43T | 10000 | 4536 | 4' x 6' | 122 x 183 | 600 (272) |
| HI AFSU5505-43T | HI AFSU5505-43T | 5000 | 2268 | 5' x 5' | 152 x 152 | 650 (295) |
| HI AFSU5510-43T | HI AFSU5510-43T | 10000 | 4536 | 5' x 5' | 152 x 152 | 650 (295) |
| HI AFSU5705-43T | HI AFSU5705-43T | 5000 | 2268 | 5' x 7' | 152 x 213 | 900 (408) |
| HI AFSU5705-43T | HI AFSU5705-43S | 10000 | 4536 | 5' x 7' | 152 x 213 | 900 (408) |
| HI AFSU6810-43T | HI AFSU6810-43S | 10000 | 4536 | 6' x 8' | 183 x 244 | 1150 (522) |

Table 2: Stainless Steel

**REMOVING SUMMING
BOX COVER**

- Step 1. Use a phillips screwdriver and remove the two flat head machine screws that fasten the summing box cover to the floor scale frame. (See Fig. 11)

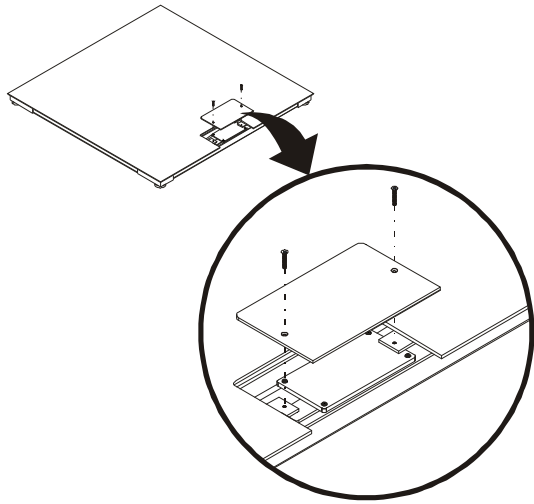


FIG. 11 REMOVING THE SUMMING BOX COVER

- Step 2. Gently pull the frame cover out of the enclosure. You now have access to the summing junction box C2 Certified Cable as shipped.
- Step 3. Using a phillips head screwdriver remove all the screws that fasten the cover to the summing box. (See Fig. 12)

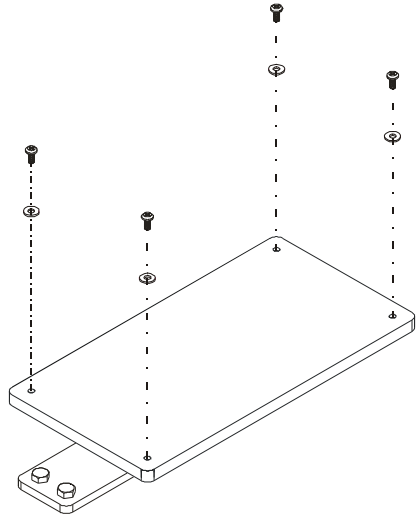


FIG. 12 REMOVING THE SUMMING BOX LID

- Step 4. Take the lid off the junction box so that you can see all the wiring from the load sensors and to the instrument/indicator. (See Fig. 13)

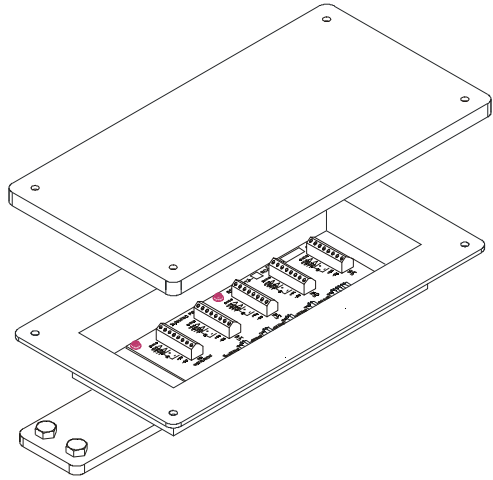


FIG. 13 REMOVING THE SUMMING BOX LID

**Installing the
Leveling Feet**

- Step 1. Remove the lock bolt and nut from the leveling foot.
- Step 2. With the scale raised and securely blocked, insert the leveling foot into the load sensor. Make sure the through hole in the foot is aligned with the bottom through hole on the load sensor. (See Fig. 14)

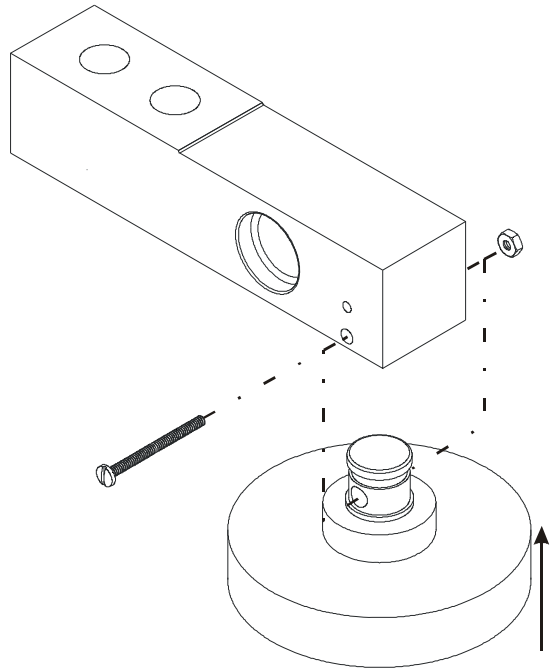


FIG. 14 INSERTING THE LEVELING FOOT INTO THE LOAD SENSOR

NOTE:

You may need to push with a little force due to some interference caused by the O-ring that is attached to the foot. DO NOT USE A HAMMER OR TRY TO DRIVE THE FOOT INTO THE HOUSING.

- Step 3. With the through holes aligned, insert the lock bolt going from the center of the scale outward. This eliminates having to remove the load sensors when installing the lock bolt.
- Step 4. Screw the nut onto the lock bolt until it is tight. The feet should look like the following: (See Figs. 15 & 16)

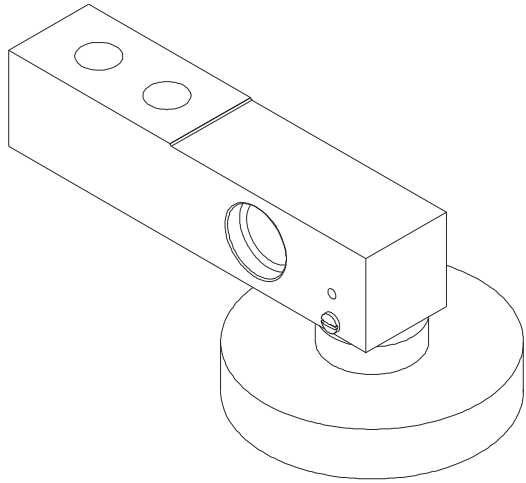


FIG. 15 INSIDE VIEW

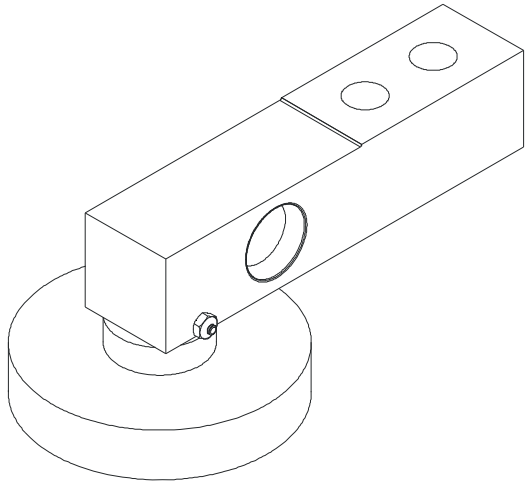


FIG. 16 OUTSIDE VIEW

Step 5. Install all four (4) feet. (See Fig. 17)

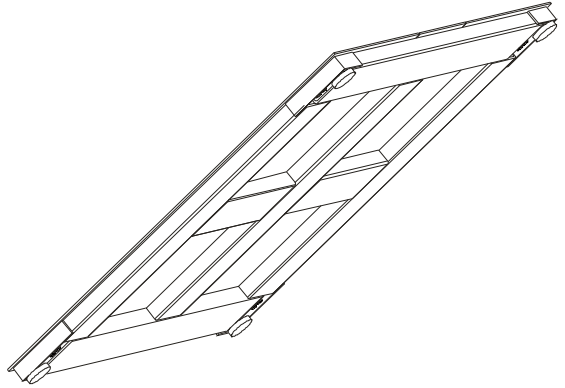


FIG. 17 ALL FOUR FEET INSTALLED

**INSTALLING A LOAD
SENSOR**

- Step 1. Shut all power off to the floor scale.
- Step 2. To gain access to the Summing Card follow the instructions above. You do not have to remove the summing card or the bottom of the Junction box to install a new load sensor. (See Fig. 18)

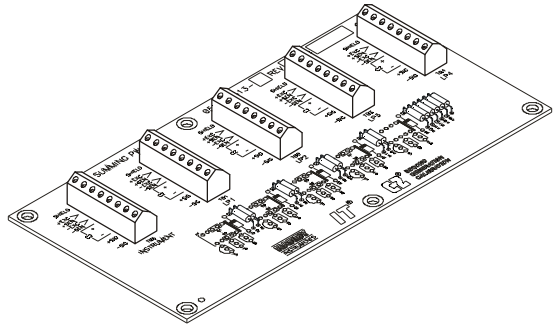


FIG. 18 SUMMING CARD

| Load Sensor # | Connector |
|----------------|-----------|
| Load Sensor #1 | TB1 |
| Load Sensor #2 | TB2 |
| Load Sensor #3 | TB3 |
| Load Sensor #4 | TB4 |
| To Instrument | TB5 |

Table 3: Summing Card Load Sensor Connectors

Step 3. Use a small slotted head screw driver and disconnect the Load Sensor cable. It is a good idea to mark the wires if the wire markers have been removed. Color code wires are as follows:

- + Excitation Red
- + Signal Green
- - Signal White
- - Excitation Black
- + C2 Grey
- - C2 Violet

Step 4. Loosen the cord grip nut for the load sensor cable you want to remove. (See Fig. 19)

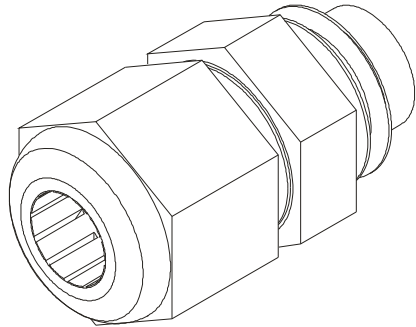


FIG. 19 CORD GRIP

- Step 5. From the load sensor pull the cable out of the junction box and through the channel until all the cable has been removed.
- Step 6. Use the closed eye bolts and chain, cable or nylon strapping to lift the floor scale high enough to remove the load sensor or turn the scale completely over and let the top plate rest on blocks for easier access to the feet.
- Step 7. Block the floor scale adequately so that the platform will not drop on any machinery or personnel.
- Step 8. Remove the lock bolt on the load sensor foot you are removing. Store in a safe place so that you don't forget to install it.
- Step 9. Pull the load sensor leveling foot out of the load sensor.
- Step 10. Use a socket wrench and remove the two bolts that fasten the load sensor to the mount.
- Step 11. Lift the load sensor out of the housing.

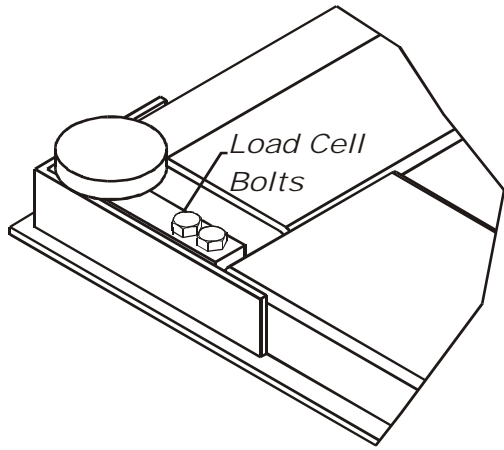


FIG. 20 REMOVING LOAD SENSOR BOLTS AND FEET

- Step 12. Place the new load sensor so that the through bolt holes are aligned with the threaded mounting holes and in the same direction as the old load sensor. **DO NOT CUT OR REUSE THE OLD CABLE ON THE NEW LOAD SENSOR.**
- Step 13. Screw in the two (2) load sensor bolts that fasten the load sensor to the mount. Tighten the bolts finger tight.
- Step 14. Use a Torque Wrench and tighten the bolts to the torque rating in Table 4. It is a good idea to switch back and forth between each bolt until the torque value has been reached.

| BOLT | Grade | Torque |
|----------------------------|--------------|-------------------|
| .500 - 20 UNC (M12 8.8) | 5 | 65 Ft/Lbs (90 Nm) |

Table 4: Torque Specifications for Load Sensor Bolts

- Step 15. Run the load sensor cable through the channel to the summing box. Bundle up any excess cable and store it in the channel. **DO NOT CUT THE CABLE TO MAKE IT FIT BETTER.** If you cut the cable, you will not get correct readings from the load sensors.
- Step 16. Reconnect the cable wires according to the color code in Step 3 to the correct load sensor connector.

OPTIONAL PIT FRAMES

About Pit Frames

The pit frame optional accessory is a one-piece welded unit with no additional welding required. There are 3 different type frames with many sizes for each type. This accessory is designed for in-floor or 'flush' applications. In general, a hole is cut in the concrete, the pit-frame accessory is installed in the hole, then concrete is poured around and under the frame. Once cured, the scale platform is set into the frame and installation can be completed.

Standard duty frames are available in mild steel or stainless steel for all the floor scale sizes. The concrete work and frame setting is usually done by a contractor, with a scale technician completing the project by setting and installing the scale.

- A soil bearing pressure of at least 1,000 lbs per square foot is required. The corner pier should be designed to support at least two thirds of the total capacity of the scale.
- A 3/4" diameter conduit for the scale interface cable is recommended. The pit frame is arranged with a 1 1/8" diameter hole for a cable exit. Locate the conduit to match the hole location.

- Step 1. Place the pit frame in the approximate position it will occupy on the floor. (See Fig. 21)

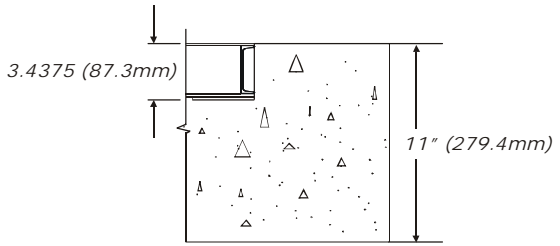


FIG. 21 FOUNDATION FOR THE PIT FRAME

Step 2. Mark out the position of the hole to be made. The hole **MUST** be a minimum of 12" larger than the pit frame on all sides. (See Fig. 22)

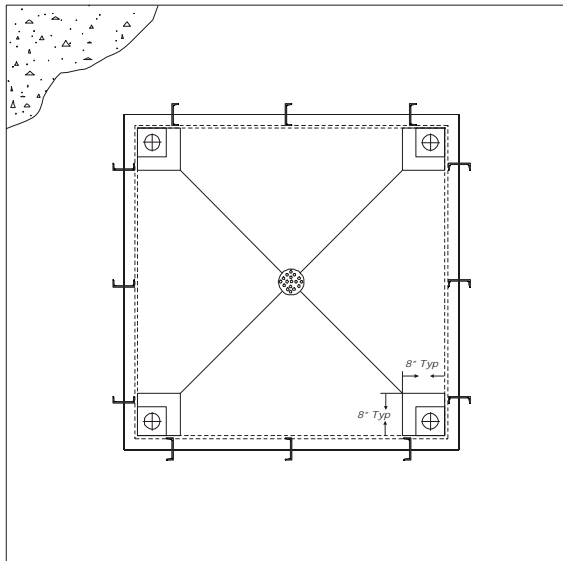


FIG. 22 PIT FRAME DIMENSIONS

| Model Number | Platform Size Feet | Platform Size CM | Material |
|---------------------|---------------------------|-------------------------|-----------------|
| HI APF3310-3 | 3' x 3' | 91cm x 91cm | Stainless Steel |
| HI APF4410-3 | 4' x 4' | 122cm x 122cm | Stainless Steel |
| HI APF4510-3 | 4' x 5' | 122cm x 152cm | Stainless Steel |
| HI APF4610-3 | 4' x 6' | 122cm x 183cm | Stainless Steel |
| HI APF5510-3 | 5 x 5 | 152cm x 152cm | Stainless Steel |
| HI APF5710-3 | 5' x 7' | 152cm x 213cm | Stainless Steel |
| HI APF6810-3 | 6' x 8' | 183cm x 244cm | Stainless Steel |

Table 5: Pit Frame Stainless Steel/Model Numbers and Dimensions

| Model Number | Platform Size Feet | Platform Size CM | Material |
|---------------------|---------------------------|-------------------------|-----------------|
| HI APF3310-1 | 3' x 3' | 91cm x 91cm | Mild Steel |
| HI APF4410-1 | 4' x 4' | 122cm x 122cm | Mild Steel |
| HI APF4510-1 | 4' x 5' | 122cm x 152cm | Mild Steel |
| HI APF4610-1 | 4' x 6' | 122cm x 183cm | Mild Steel |
| HI APF5510-1 | 5 x 5 | 152cm x 152cm | Mild Steel |
| HI APF5710-1 | 5' x 7' | 152cm x 213cm | Mild Steel |
| HI APF6810-1 | 6' x 8' | 183cm x 244cm | Mild Steel |

Table 6: Pit Frame Mild Steel/Model Numbers and Dimensions

- Step 3. Should pit drainage be required, slope the pit floor to an installed drain while maintaining a level area at each corner. (See Fig. 23)

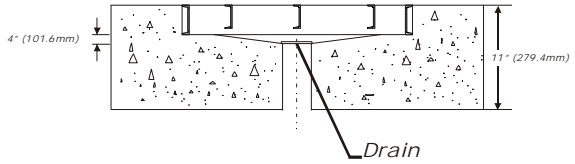


FIG. 23 DRAIN INSTALLATION DIMENSIONS

Step 4. The hole will have to be deep enough to accommodate the pit coping, plus the thickness of the pit floor. (See Fig. 24)

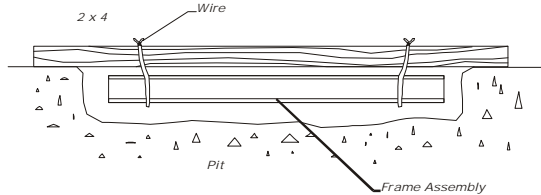


FIG. 24 EXCAVATED PIT AND SUPPORT FOR THE PIT FRAME

- Step 5. Set the frame in the hole supported at about the correct height.
- Step 6. Set two 2 x 4 's on edge (longer than the width of the hole) across the opening. (See Fig. 7)
- Step 7. Use soft wire and make 2 loops by twisting wire around each 2 x 4 and the frame
- Step 8. With the frame supported by the wire and 2 x 4's, use a spirit level to set the frame flush with the surrounding floor, level the frame to within 1/8", corner to corner, side to side and diagonally, and at the correct height by twisting or untwisting the wires. (See Fig. 7)
- Step 9. Concrete specifications:
- At least 6" thickness of concrete is required for pit floor in Non-Hostile applications.

- At least an 11” concrete floor with a minimum of 3” bottom slope is required if drainage is required for hostile applications. A 4” drain is highly recommended.
- Make sure the conduit for the scale cable is in place and secured into the frame opening.
- Pour the concrete around and under the frame ensuring a smooth and level finish. It is recommended that $f = 3500$ psi and 3” to 4” slump concrete be used.
- If a drain is required, form the pit to place a slope in the pit floor to the drain. (See Fig. 23)
- Cure to a minimum of 2000 psi before pulling the interface cable through the conduit.

Step 10. Pull the interface cable through the conduit.

OPTIONAL ACCESS RAMPS

Optional access ramps are available in low carbon steel or stainless steel. The low carbon ramps are constructed of Skid Resistant (tread) A36 low carbon steel floor plate. The Stainless Steel ramps are constructed of 304 Stainless Steel, diamond tread floor plate. All ramps are thirty inches (30") (76.2 centimeters) long in the direction of travel and provide a 5° degree incline.

Access Ramp Installation

- Step 1. Determine which side of the floor scale you want the access ramp to be placed. Consider the location of the summing junction box access plate. It cannot be covered by the access ramp. (See Fig. 26) Each mild steel ramp accessory comes with two integral bolt-down plates and four anchors.
- Step 2. Place the ramp in position, then lift and set the platform feet into the bolt-down plate holes. (See Fig. 25)

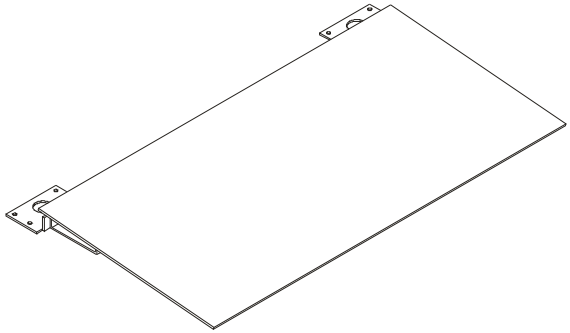


FIG. 25 RAMP WITH RETAINER PLATES

- Step 3. Drill the two (2) outer holes using a hammer drill. (See Specifications/Anchor Bolt Holds above for hole dimensions)
- Step 4. Insert the anchor bolts with the nut and washer already ON. (See Fig. 26)

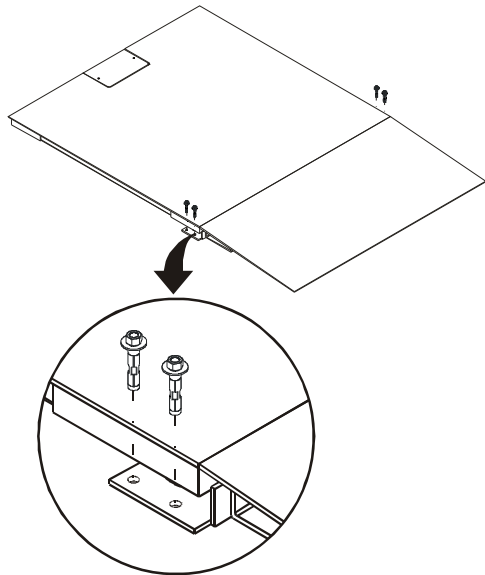


FIG. 26 INSTALLING ANCHORS FOR RAMP

- Step 5. Tap the anchor bolt into the hole then tighten the nuts securely.
- Step 6. Lift the Platform out and away from the bolt-down plate.
- Step 7. Drill the two (2) inner holes using a hammer drill. (See Specifications/Anchor Bolt Holds above for hole dimensions)
- Step 8. Insert the anchor bolts with the nut and washer already ON.
- Step 9. Tap the anchor bolts into the hole then tighten the nuts securely
- Step 10. Note the following:
 - If two ramps are installed, NO other bolt-down plates are needed
 - If one ramp is installed then a set of two bolt-down plates are needed.
 - Only two ramps total may be installed on opposite sides of a scale platform.

OPTIONAL BOLT-DOWN PLATES

Bolt down plates are used to keep the scale from sliding or moving when loads are applied. The plates are bolted via anchors at each of the scales feet. (See Fig. 27)

| Kit | Model Numbers | |
|---------------------|---------------|------------|
| | Stainless | Mild Steel |
| 4 Plates 8 Bolts | HI ABDP1-3 | HI ABDP1-1 |
| 2 Plates 4 Bolts | HI ABDP2-3 | HI ABDP2-1 |

Table 7: Bolt Down Plates and Anchor Bolts

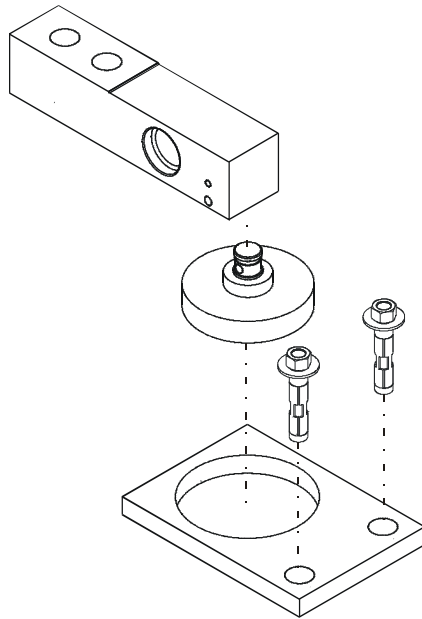


FIG. 27 BOLT DOWN PLATES/INSTALLATION

NOTE:

The platform has been removed for clarity purposes.

Bolt-Down Plates Installation

- Step 1. Place the Platform Scale in position.
- Step 2. Place the bolt-down plate under the foot, plate edge should extend out from under the scale.
- Step 3. Drill two (2) holes using a hammer drill. (See Specifications/Anchor Bolt Holds above for hole dimensions) Insert anchor bolts with the nut and washer already attached.
- Step 4. Tap the anchor bolts into the hole then tighten the nuts securely.
- Step 5. Repeat this process for each plate used in your installation.

NOTE:

If ramps are NOT installed and bolt-down plates are needed, then a set of four (4) bolt-down plates are required.

OPTIONAL BUMPER GUARDS

Bumper guards are designed to help protect the platform from direct hits from forklift traffic. The guards are slightly higher than the scale and will help deflect the forks.

- Step 1. Place the bumper guard so it will protect the platform from non-scale traffic and not touch or interfere with the platform's movement. (See Figs. 28 & 29)

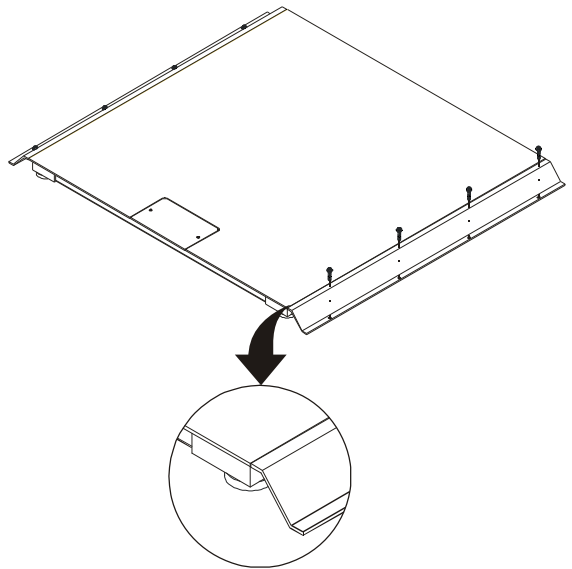


FIG. 28 BUMPER GUARD/GAP REQUIREMENT

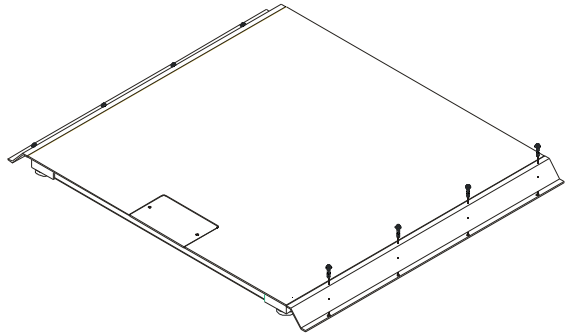


FIG. 29 BUMPER GUARD/INSTALLATION

- Step 2. Drill the holes using a hammer drill. (See Specifications/Anchor Bolt Holds above for hole dimensions)
- Step 3. Insert the anchor bolts with the nut and washer already installed.
- Step 4. Tap the anchor bolts into the hole then tighten the nuts securely.

| Bumper Guard | Material | Length | | Shipping Wght. | | Use on Scale Model # |
|--------------------------|-------------------------------|--------|----|----------------|-------|--|
| | | Ft | cm | lbs | Kg | |
| HI ABG03-1 HI ABG03-3 | Mild Steel Stainless Steel | 3 | 91 | 100 | 45.36 | HI AFSU3301-4XT HI AFSU3302-4XT HI AFSU3301-4XS HI AFSU3302-4XS |

Table 8: BUMPER GUARD MODEL NUMBERS AND COMPATIBILITY CHART

Any-Weigh™ Series Floor Scales

| Bumper Guard | Material | Length | | Shipping Wght. | | Use on Scale Model # |
|--------------------------|-------------------------------|--------|-----|----------------|--------|--|
| | | Ft | cm | lbs | Kg | |
| Model # | | | | | | |
| HI ABG04-1 HI ABG04-3 | Mild Steel Stainless Steel | 4 | 122 | 125 | 56.70 | HI AFSU4402-4XT HI AFSU4405-4XT HI AFSU4410-4XT HI AFSU4505-4XT HI AFSU4510-4XT HI AFSU4605-4XT HI AFSU4610-4XT HI AFSU4402-4XS HI AFSU4405-4XS HI AFSU4410-4XS HI AFSU4505-4XS HI AFSU4510-4XS HI AFSU4605-4XS HI AFSU4610-4XS |
| HI ABG05-1 HI ABG05-3 | Mild Steel Stainless Steel | 5 | 152 | 150 | 81.65 | HI AFSU4505-4XT HI AFSU4510-4XT HI AFSU5505-4XT HI AFSU5510-4XT HI AFSU5510-4XT HI AFSU5705-4XT HI AFSU5710-4XT HI AFSU4505-4XS HI AFSU4510-4XS HI AFSU5505-4XS HI AFSU5510-4XS HI AFSU5705-4XS HI AFSU5710-4XS |
| HI ABG06-1 HI ABG06-3 | Mild Steel Stainless Steel | 6 | 183 | 135 | 61.24 | HI AFSU4605-4XT HI AFSU4610-4XT HI AFSU6810-4XT HI AFSU4605-4XS HI AFSU4610-4XS HI AFSU6810-4XS |
| HI ABG07-1 HI ABG07-3 | Mild Steel Stainless Steel | 7 | 213 | 190 | 86.18 | HI AFSU5705-4XT HI AFSU5710-4XT HI AFSU5705-4XS HI AFSU5710-4XS |
| HI ABG08-1 HI ABG08-3 | Mild Steel Stainless Steel | 8 | 244 | 245 | 111.13 | HI AFSU6810-4XT HI AFSU6810-4XS |

Table 8: BUMPER GUARD MODEL NUMBERS AND COMPATIBILITY CHART

Any-Weigh™ Series Floor Scales

NOTE:

To purchase optional equipment for the AnyWeigh Floor Scales, contact your local Hardy Representative or Hardy Instruments Service Center.

TROUBLESHOOTING

1. Check all cables to be sure that they have no cracks, cuts or crimps. Check for broken cables.
2. Check for loose fitting connections.
3. Look for the presence of moisture at all connections and under or near the summing junction box cover.
4. Look for structural changes in the platform scale and supporting structures.
5. Periodically check to see if the platform is level.

Problem: Scale does not respond when a weight is placed on the platform.

Cause #1: Packing material or debris wedged or built up underneath the platform

Cause #2: Platform scale is not wired correctly to the weigh instrument.

Cause #3: Weigh Process Controller Malfunction

Remedies:

- Carefully lift the platform high enough to safely remove the built up debris.
- Check for loose connections or broken wires.
- Check the wiring color code to be sure that the wires are routed correctly. If they are not wired correctly change the wiring until it is correct.
- Check the Weighing Instrument Manual for trouble shooting instructions.

Problem: Scale indication is not linear.

Cause #1: Packing material or debris wedged or built up underneath the platform

Remedy #1:

- Carefully lift the platform high enough to safely remove the built up debris.
- Check for loose connections or broken wires.

Cause #2: Weight Instrument or floor scale is not calibrated.

- Remedy #2:**
- Re-calibrate either the weight instrument or the floor scale or both.
 - Check for corrosion on the electrical connections.

Problem: The scale reading drifts or is erratic.

Cause#1: Corrosion or moisture in the electrical connections.

- Remedy #1:**
- Check to see that the summing junction box is tightly fastened.
 - Check to see that the gaskets and seals are not cracked or damaged.
 - Remove the wires and clean any corrosion from the connectors and exposed wire.
 - For high humidity areas, place a desiccant packet in the summing junction card enclosure.

Cause#2: High voltage wires close to the load sensor cable.

Remedy #2: Move the high voltage wires away from the load sensor cable.

Cause #3: Instrument or floor scale improperly grounded (i.e. one or both not to connected to earth ground).

Remedy #3: Make sure that the weigh instrument and the floor scale platform cover are both connected to earth ground.

Cause #4: High static electricity present.

Remedy #4: Install a ground strap from the floor scale platform cover to earth ground.

WARNING

DO NOT CONNECT THE GROUND STRAP NEAR OR ON THE LOAD SENSORS. THEY ARE GROUNDED THROUGH THE SUMMING JUNCTION BOX. TO DO SO WILL DAMAGE THE LOAD SENSORS.

**INSTRUMENTATION
INTERFACE CABLE
COLOR CODES**

-EXCITATION
+SENSE

RED
BLUE

Any-Weigh™ Series Floor Scales

| | |
|-------------|--------|
| +SIGNAL | GREEN |
| -SIGNAL | WHITE |
| -SENSE | BROWN |
| -EXCITATION | BLACK |
| +C2 | GREY |
| -C2 | VIOLET |
| SHIELD | ORANGE |

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