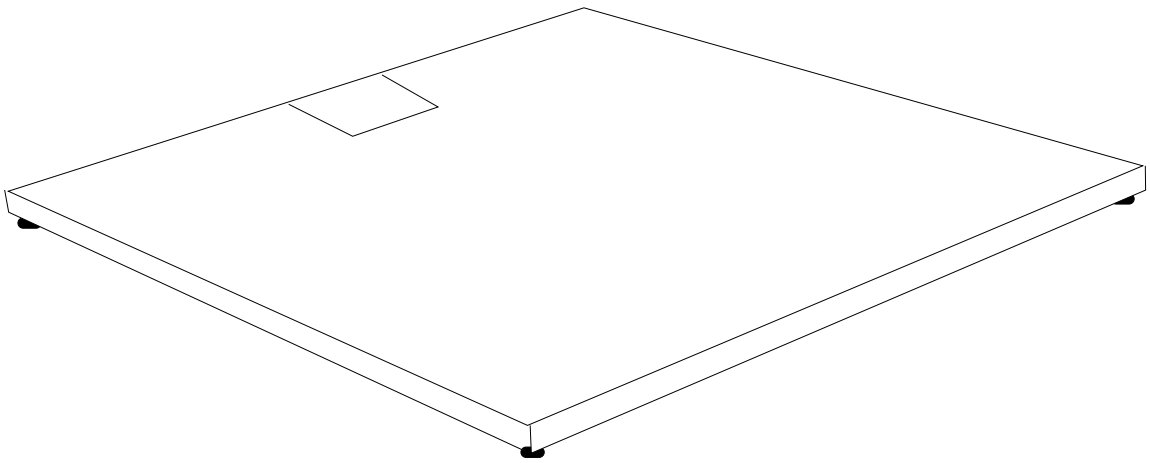
Installation Manual

Floor Scale



50612 / SJ4747

Issue 8 12/02

Amendment Record

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Manufactured by Fancor
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Kansas City, Missouri 64106

Created

Issue 1

Issue 2 11/97

Issue 3 8/01 Update the procedures.

Issue 4 10/01 Update the Electrical Schematic on page 6.

Issue 5 11/01 Removed brand name references.

Issue 6 01/02 Updated manual.

Issue 7 05/02 Added note on page 16.

Issue 8 12/02 Corrected part number on analog series parts list / Updated note callouts.

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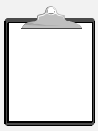
Section 1: Introduction

The floor scale is available in two series; the Analog Series using a standard junction box for interfacing to most analog indicators and the Intalogix™ series using a Quad Multiplexer Box (QMB) for interfacing to an Intalogix™ Technology indicator.



Note: *It is the owner's responsibility to document, notify, and follow-up regarding shipping damage with the carrier.*

Section 2: Description

The scale platform is shipped in a crate, fully assembled and wired. The floor scale sizes range from 3' x 3' to 5' x 7', with capacities from 1K to 10K (lbs). The scale is available with an analog or Intalogix™ interface, both types are equipped with a 25 foot interface cable. All junction boxes are constructed of stainless steel and all models have threaded holes in the decks for attaching eyebolts to facilitate installation and cleaning.

Specifications and sizes are included in a chart in Appendix I.

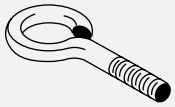
Section 3: Installation

1. Select a location that is level and will fully support the weight of the platform plus a full capacity load.

2. Remove the top of the crate and all packing/banding material

3. Screw the two (2) eyebolts into the threaded adapters in the platform top, use a forklift or other lifting means along with chains, cables, or nylon straps to remove the scale from the crate bottom.

FYI:
There are two different kinds of eye bolts:
One kind is **bent** into a 360° radius leaving a open gap.



The second is molded into a closed eye bolt.

Caution: Do NOT use hooks or unclosed eyebolts.
Failure to use the proper lifting tools may result in personal injury.

4. Set the scale so that the interface cable exits in a direction where it can be protected. If possible, use a cable protector to reduce 'trip' hazards and to protect the interface cable from being damaged.

5. Level the scale by removing the hole plugs in the corners, then use a screwdriver to turn the threaded 'leg' of the foot assembly.

6. Wire the scale cable to the proper type indicator as follows:

A. Analog Interface (Junction Box 67171) :

L/C Wire Color	Function	Analog Instrument
Black	(-) Excitation	(-) Excitation
Red	(+) Excitation	(+) Excitation
Yellow	Shield	Shield
Green	(+) Signal	(+) Signal
White	(-) Signal	(-) Signal

B. Using an Intalogix™ Technology interface (QMB 15291):

QMB Terminal	Wire Color	Function	Intalogix™ Technology Inst
1	Green	(-) Excitation	1
2	Red	(+) Excitation	2
3	Black	Ground	3
4	White	D out	4
5	Brown	D In	5
6	Blue	EOC	6
7	Orange	SCLK	7
8	Yellow	CS	8
9	Violet	Temperature	9
10	Gray/Shield	Chassis	10

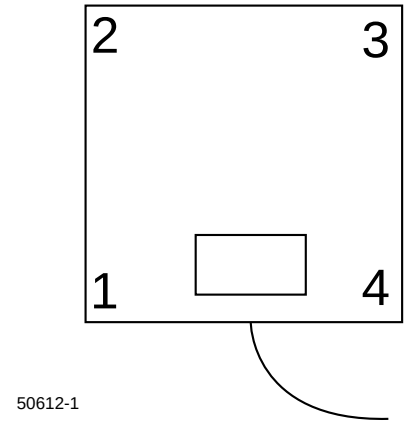
Note: *Calibrate the Intalogix™ platform/ indicator. Follow the appropriate indicator service manual to ensure a good calibration.*

1. Adjust the analog interface indicator to the platform. First, ensure that all corners are within one (1) division of each other at 25% of rated capacity. Follow the appropriate indicator service manual to ensure a good calibration.

To accomplish this:

a. Perform a platform calibration that will be 'close' to the actual weight.

b. Identify the platforms corner 'numbers'.



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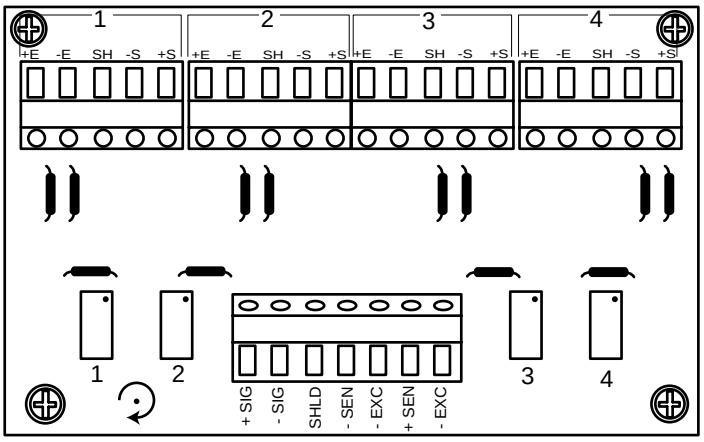
c. Place a concentrated weight (25% of platform capacity) on corner #1, then move it to #2, #3 and #4, noting the displayed reading on each corner.

d. If corners require adjustment:

1). Place the concentrated weight on the corner displaying the *lowest* weight and use the appropriate potentiometer to change the displayed weight to read the same as the *highest* reading by turning the potentiometer CW. Repeat this procedure while rechecking all corners until there is no errors. Perform a 'zero reference' check with an unloaded platform, then repeat the corner test to ensure all readings are the same before proceeding.



96141

Note: *As you move the weight(s) from corner to corner, do NOT zero the scale.* ***Remember****, at this time you are only adjusting the corners to be the same, not a performing a correct calibration.*

Note: *Junction box assembly 67171 has four extended range, multiturn potentiometers, one for each load cell. If you have difficulty 'cornering' the platform, turn all potentiometers to the fully CCW position (until a clicking is heard when turned). Then with the weight on the lowest reading corner, turn the corresponding potentiometer CW to read the same as the highest reading corner until the platform is properly 'cornered'.*

e. When the corners are the same in reference to each other:

1) Remove all weights

2) Zero the indicator

3) Perform a final calibration with test weights

4) Follow the appropriate indicator service manual to ensure a good calibration.

Section 4: Accessories Installation:

Accessories: Bolt-down plates, Ramps, Bumper-Guards and Pit-frames are installed as follows:

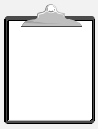
A. Bolt-Down Plates: Bolt down plates are used to keep the scale from sliding or moving when loads are applied. The plates are bolted via anchors at each of the scales feet.

To install:

1. Place the platform in position

2. Place the bolt-down plate under the foot, plate edge extending out from under the scale.

3. Drill the two (2) holes using a hammer drill. Insert anchors with the nut and washer already ON. Tap the anchor into the hole then tighten the nuts securely. Repeat this process for each plate used.



Note: *If ramps are NOT installed and bolt-down plates are needed, then a set of four bolt-down plates are required.*

B. Ramps: Each mild steel ramp accessory comes with two integral bolt-down plates and four anchors.

Installation:

1. Place the ramp in position, then lift and set the platform feet into the bolt-down plate holes.

2. Drill the two (2) holes using a hammer drill. Insert the anchors with the nut and washer already ON. Tap the anchor into the hole then tighten the nuts securely.

- 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.

C. **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.

1. Place the bumper guard so it will protect the platform from non-scale traffic, but not touch or interfere with the platforms movement.

2. Drill the holes using a hammer drill. Insert anchors with the nut and washer already ON. Tap the anchor into the hole then tighten the nuts securely.

D. **Pit Frames:** The pit frame accessory is a one-piece welded unit with no additional welding required. There are 3 different *type* frames *(2 for the standard duty scale and 1 for the heavy capacity unit)* 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 for all six 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.

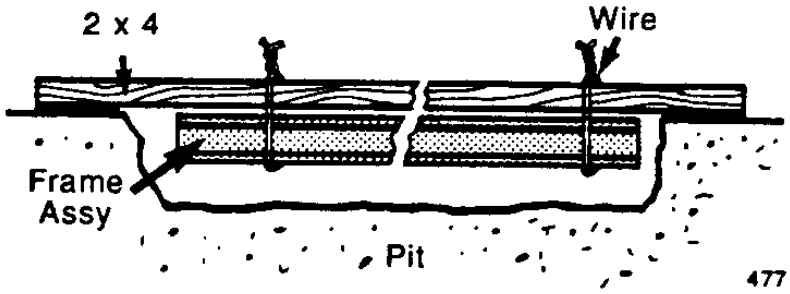
1. Place the pit frame in the approximate position it will occupy on the floor.

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. Should pit drainage be required, slope the pit floor to an installed drain while maintaining a level area at each corner. Use the drawing in *Appendix III* for measurements.

3. The hole will have to be deep enough to accommodate the pit coping, plus the thickness of the pit floor. Use the drawing in *Appendix III* for measurements.

4. Once the properly sized and prepared hole has been cut in the concrete floor, use these steps to help set the frame properly.

- Set the frame in the hole supported at about the correct height.
- Set two 2 x 4 's on edge (longer than the width of the hole) across the opening
- Use soft wire and make 2 loops by twisting wire around each 2 x 4 and the frame



- With the frame supported by the wire and 2 x 4's, use a level to set the frame flush with the surrounding floor, level, and at the correct height by twisting or untwisting the wire
- Use the drawing in *Appendix III* for measurements, concrete specifications and amounts
- 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
- If a drain is required, form the pit (*using the drawing in Appendix III)* to place a slope in the pit floor to the drain.
- Cure to a minimum of 2000 psi before cutting wire.
- Pull the cable through the conduit before placing the scale platform in the frame
- Level the platform before installing the instrumentation

Section 5: Parts Replacement

A. **Load Cell Replacement:**

1. Remove power to the indicator.

2. Remove the platform access cover, then the junction box cover and disconnect the failed load cell cable at the junction box. Loosen the gland bushing and tie a string or wire to the end of the cable to act as a pull wire. *(Check that all cells have wire markers on the cable ends. If not, identify cells with wire markers or other means.)* disconnect the faulty load cells' wires from the terminal block.

3. Lift the platform end with a forklift or heavy pry bar using wood blocks for safety.

4. Remove the load cell mounting bolts (use a ¾" socket), then the cell, pulling the load cell cable through the scale while leaving the pull string/wire in the scale.

5. Remove the foot assembly from the old cell and install on the new cell, using anti-seize on the threads.

6. Disconnect the pull string/wire from the old cell's cable and attach to the new cell's cable end. Pull the cable of the new cell through to the junction box, then mount the cell using anti-seize on the mounting bolts, torque to 90 ft/lbs.

7. Lower the scale to the surface removing the safety blocks.

8. Ensure that the weight is shared evenly by all four (4) feet. Connect the load cell wires into the junction box, tighten the box gland bushing(s) then test and calibrate the scale. Replace the box cover and torque all screws to 18-20 in/lbs. Replace the platform access cover .

9. Recalibrate as necessary.

10. Load Cell Specifications:

Specifications

Material	**Mild Steel**
Resistance	350 Ohm
Rated Output	3 mV/V
Safe Overload	150 %
CompensatedTemp Range	-10° C to 40° C
Safe Operating Temp Range	-10° C to 40° C

B. Junction Box/QMB PCB Replacement:

1. Remove power to the indicator

2. Open the platform access cover, then the box cover

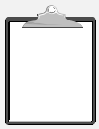
3. Loosen all gland bushing nuts

4. Check that all load cells have wire markers on the cable ends. If not, identify cells with wire markers or other means, then disconnect the load cells' wires from the terminal blocks. Disconnect the home- run wires.

5. Remove the PCB, clean the box, then install the new PCB.

6. Reconnect all load cell and home-run wires to the new PCB

7. Tighten all gland bushing nuts



NOTE: *For analog systems, Leave the box cover OFF until all corner adjustments are completed.*

8. Replace the box cover and torque all screws to 18-20 in/lbs. Replace the platform access cover .

9. Recalibrate as necessary.

C. **Foot Assembly Replacement:**

1. Lift the platform end with a forklift or heavy pry bar using wood blocks for safety.

2. Remove the hole plug over the foot to be replaced.

3. Use a common screwdriver and unscrew the foot assembly. Use anti-seize on the new foot and screw into the load cell.

4. Lower the scale to the surface removing the safety blocks.

5. Ensure that the weight is shared evenly by all four (4) feet.

6. Replace the hole plug in the access hole.

Section 6: Parts

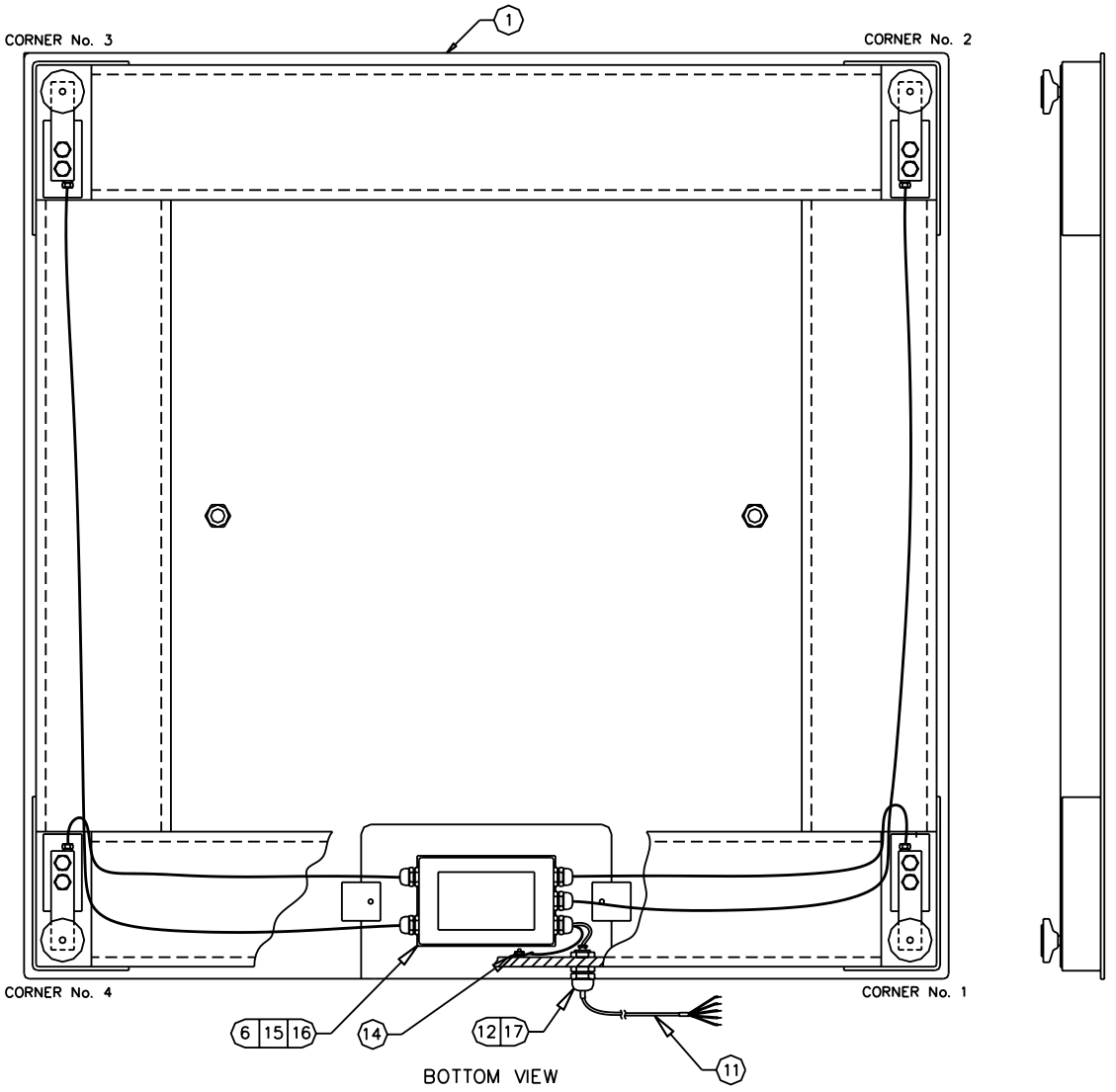
A. **Analog Series:**

Item	Part#	Description	Models
1	- - - -	Platform Weldment	- - - - -
2	58925	Load Cell	1K, 2.5K
2	12896	Load Cell	5K
2	63593	Load Cell	10K
3	66754	Load Cell Shim	ALL
4	63913	Foot Assembly	ALL
5	54502	Load Cell Mtg Bolt ½'-20 x 1 ¾"	ALL
*6	67171	Analog Junction Box	ANALOG
*	96141	PCB for Analog box	ANALOG
11	12838	Cable Assembly	ANALOG
12	17546	Liquid Tight Connector	ALL
13	63586	Hole Plug, 5/8"	ALL
14	54203	SS Hex Nut 10-24 (for ground)	ALL
15	14721	5" Velcro Loop (use with hook)	ALL
16	14722	5" Velcro Hook (use with loop)	ALL
17	11175	Rubber Bushing (for #11 conn)	ALL

NOTE: *Older 2000 and Avenger Series used an EVO type corner network (1.75" X 5") Part No. 97025*

If complete assembly is required Box and Board, order Part No. 67171 as the new style replacement

Analog Series:



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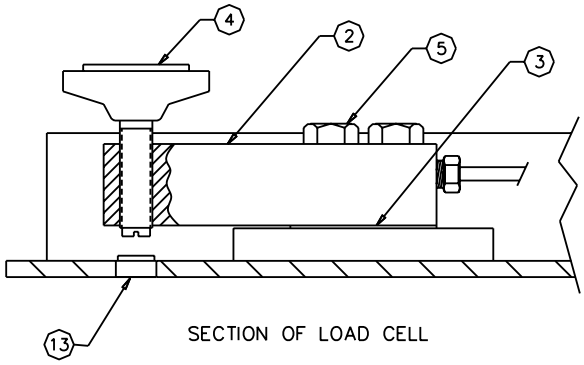
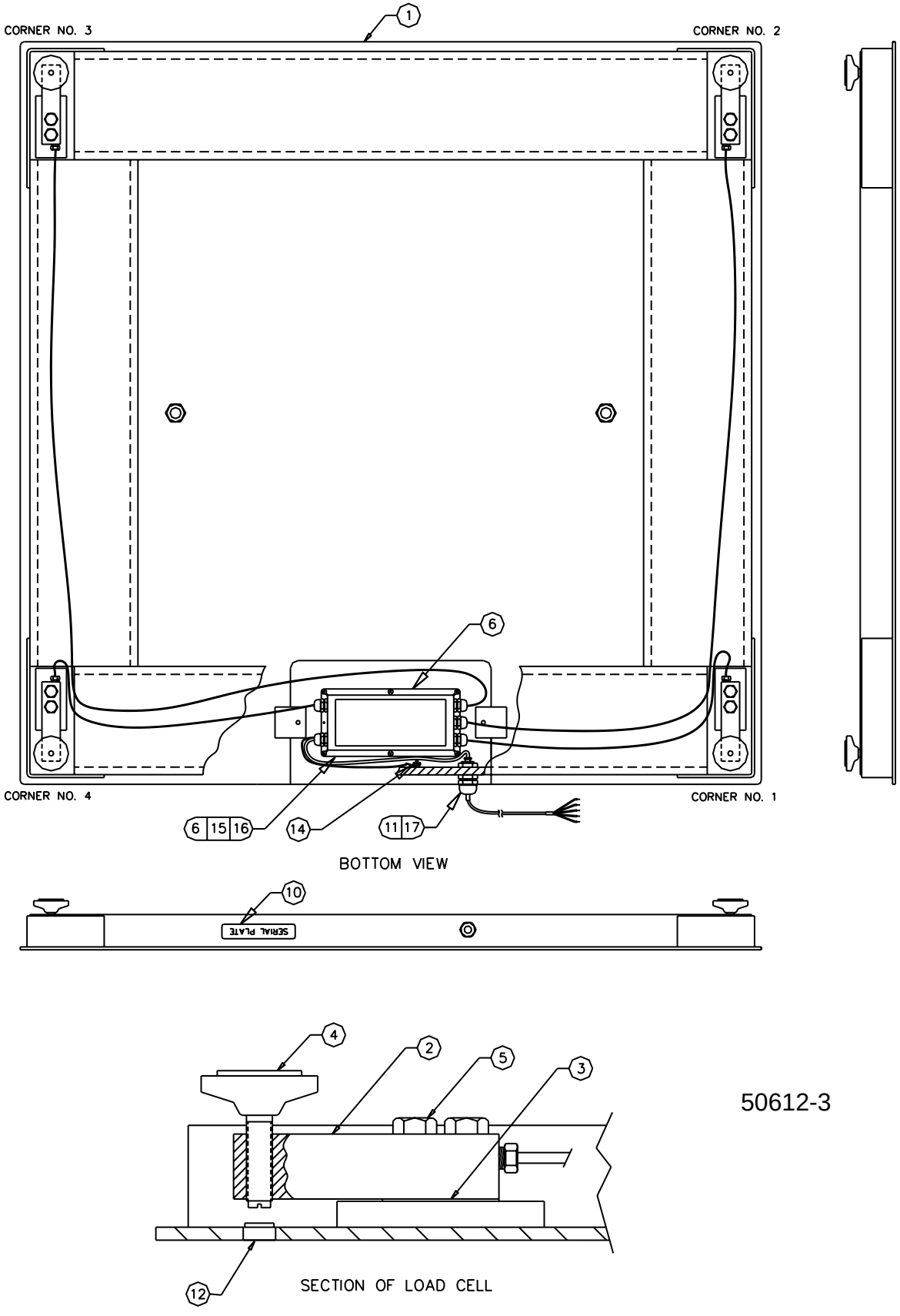


B. **Intalogix™ Technology Series:**

Item	Part#	Description	Models
1	- - - -	Platform Weldment	- - - - -
2	58925	Load Cell	1K, 2.5K
2	12896	Load Cell	5K
2	63593	Load Cell	10K
3	66754	Load Cell Shim	ALL
4	63913	Foot Assembly	ALL
5	54502	Load Cell Mtg Bolt ½'-20 x 1 ¾"	ALL
6	15291	QMB Junction Box	INTALOGIX™
	15050	QMB PCB	INTALOGIX™
11	17546	Liquid Tight Connector	ALL
12	63586	Hole Plug, 5/8"	ALL
14	54203	SS Hex Nut 10-24 (for ground)	ALL
15	14721	5" Velcro Loop (use with hook)	ALL
16	14722	5" Velcro Hook (use with loop)	ALL
17	11175	Rubber Bushing (for #11 conn)	ALL

Intalogix™ Technology Series:



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Appendix I: Model Matrix

A. **Analog Series:**

Product #	Size	Capacity	Platform Weldment
63606	3' x 3'	1000 lbs	63489
63607	3' x 3'	2500 lbs	63489
63608	4' x 4'	2500 lbs	63491
63609	4' x 4'	5000 lbs	63491
63610	4' x 4'	10000 lbs	63491
63611	4' x 5'	5000 lbs	63523
63612	4' x 5'	10000 lbs	63523
63613	4' x 6'	5000 lbs	63525
63614	4' x 6'	10000 lbs	63525
63615	5' x 5'	5000 lbs	63493
63616	5' x 5'	10000 lbs	63493
63617	5' x 7'	5000 lbs	63495
63618	5' x 7'	10000 lbs	63495

B. **Intalogix™ Technology Series:**

Product #	Size	Capacity	Platform Weldment
63632	3' x 3'	1000 lbs	63489
63633	3' x 3'	2500 lbs	63489
63634	4' x 4'	2500 lbs	63491
63635	4' x 4'	5000 lbs	63491
63636	4' x 4'	10000 lbs	63491
63637	4' x 5'	5000 lbs	63523
71072	4' x 5'	10000 lbs	63523
63638	4' x 6'	5000 lbs	63525
63639	4' x 6'	10000 lbs	63525
63640	5' x 5'	5000 lbs	63493
63641	5' x 5'	10000 lbs	63493
63642	5' x 7'	5000 lbs	63495
63643	5' x 7'	10000 lbs	63495

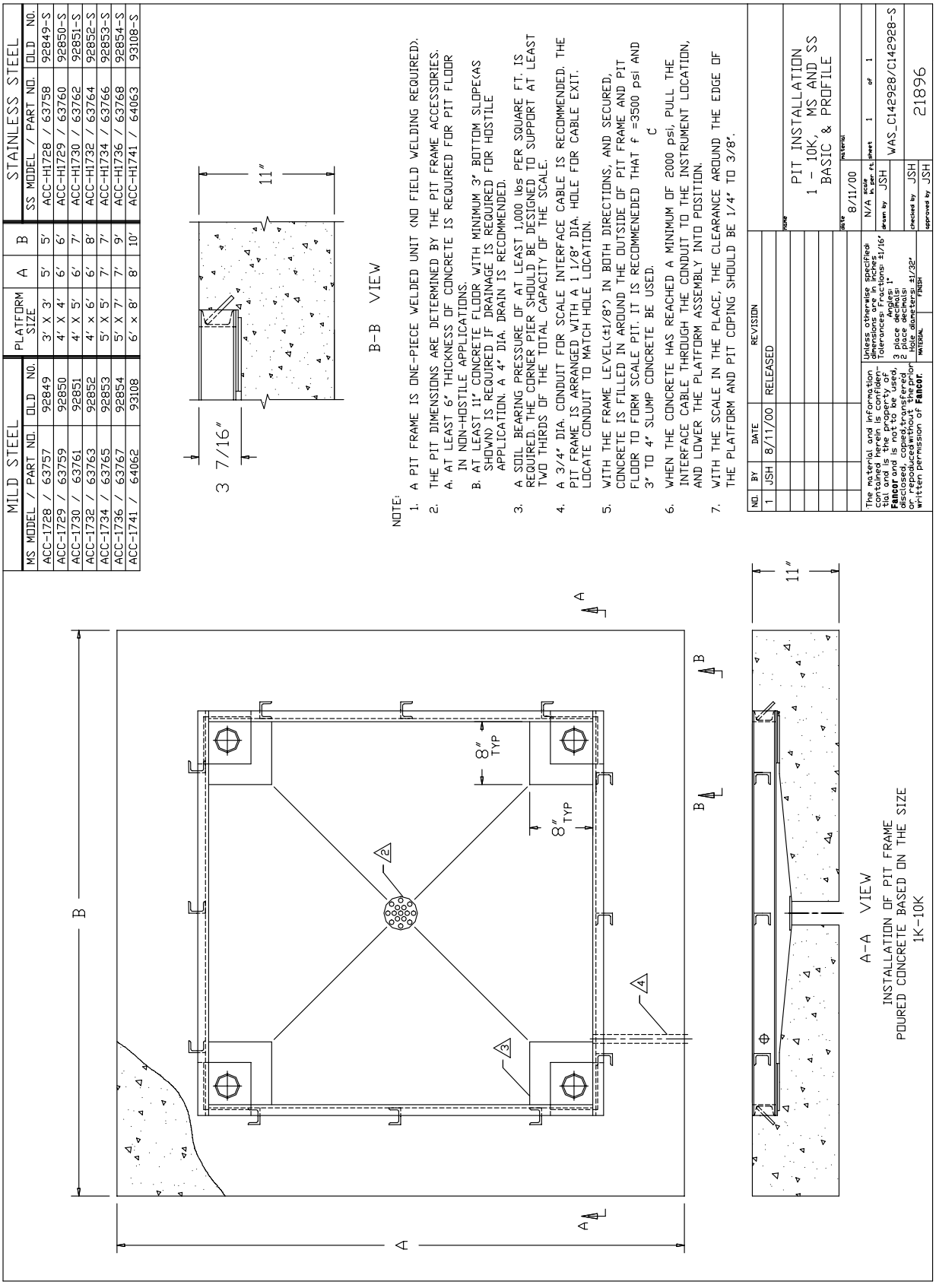
Appendix II: Accessories

A. **Ramps, Bumper Guards and Pit Frames**

Size	Cap	Ramp	Bumper Guard	Pit Frame
3' x 3'	1K	63751(3')	72198 (3')	63757
3' x 3'	2.5K	63751(3')	72198 (3')	63757
4' x 4'	2.5K	63753(4')	72194 (4')	63759
4' x 4'	5K	63753(4')	72194 (4')	63759
4' x 4'	10K	63753(4')	72194 (4')	63759
4' x 5'	5K	63753(4')	72190 (5')	63761
4' x 5'	10K	63753(4')	72190 (5')	63761
4' x 6'	5K	63753(4')	72196 (6')	63763
4' x 6'	10K	63753(4')	72196 (6')	63763
5' x 5'	5K	63755(5')	72190 (5')	63765
5' x 5'	10K	63755(5')	72190 (5')	63765
5' x 7'	5K	63755(5')	72192 (7')	63767
5' x 7'	10K	63755(5')	72192 (7')	63767

B. **Bolt-Down Plates, Eyebolts, and Hole plugs:**

Size	Cap	Bolt-Down Plates	Eyebolts	Hole Plugs
ALL	ALL	63776 (Set of 4) 63778 (Set of 2)	70895 (2)	70896 (2)



MILD STEEL		PLATFORM SIZE	A	B
MS MODEL / PART NO.	OLD NO.			
ACC-1728 / 63757	92849	3' X 3'	5'	5'
ACC-1729 / 63759	92850	4' X 4'	6'	6'
ACC-1730 / 63761	92851	4' X 5'	6'	7'
ACC-1732 / 63763	92852	4' x 6'	6'	8'
ACC-1734 / 63765	92853	5' X 5'	7'	7'
ACC-1736 / 63767	92854	5' X 7'	7'	9'
ACC-1741 / 64062	93108	6' x 8'	8'	10'

STAINLESS STEEL	
SS MODEL / PART NO.	OLD NO.
ACC-H1728 / 63758	92849-S
ACC-H1729 / 63760	92850-S
ACC-H1730 / 63762	92851-S
ACC-H1732 / 63764	92852-S
ACC-H1734 / 63766	92853-S
ACC-H1736 / 63768	92854-S
ACC-H1741 / 64063	93108-S

3 7/16″

11″

B–B VIEW

NOTE:

1. A PIT FRAME IS ONE-PIECE WELDED UNIT (NO FIELD WELDING REQUIRED).
2. THE PIT DIMENSIONS ARE DETERMINED BY THE PIT FRAME ACCESSORIES.
   A. AT LEAST 6″ THICKNESS OF CONCRETE IS REQUIRED FOR PIT FLOOR IN NON-HOSTILE APPLICATIONS.
   B. AT LEAST 11″ CONCRETE FLOOR WITH MINIMUM 3″ BOTTOM SLOPE(AS SHOWN) IS REQUIRED IF DRAINAGE IS REQUIRED FOR HOSTILE APPLICATION. A 4″ DIA. DRAIN IS RECOMMENDED.
3. A SOIL BEARING PRESSURE OF AT LEAST 1,000 lbs PER SQUARE FT. IS REQUIRED. THE CORNER PIER SHOULD BE DESIGNED TO SUPPORT AT LEAST TWO THIRDS OF THE TOTAL CAPACITY OF THE SCALE.
4. A 3/4″ DIA. CONDUIT FOR SCALE INTERFACE CABLE IS RECOMMENDED. THE PIT FRAME IS ARRANGED WITH A 1 1/8″ DIA. HOLE FOR CABLE EXIT. LOCATE CONDUIT TO MATCH HOLE LOCATION.
5. WITH THE FRAME LEVEL(±1/8″) IN BOTH DIRECTIONS, AND SECURED, CONCRETE IS FILLED IN AROUND THE OUTSIDE OF PIT FRAME AND PIT FLOOR TO FORM SCALE PIT. IT IS RECOMMENDED THAT f ′c=3500 psi AND 3″ TO 4″ SLUMP CONCRETE BE USED.
6. WHEN THE CONCRETE HAS REACHED A MINIMUM OF 2000 psi, PULL THE INTERFACE CABLE THROUGH THE CONDUIT TO THE INSTRUMENT LOCATION, AND LOWER THE PLATFORM ASSEMBLY INTO POSITION.
7. WITH THE SCALE IN THE PLACE, THE CLEARANCE AROUND THE EDGE OF THE PLATFORM AND PIT COPING SHOULD BE 1/4″ TO 3/8″.

NO.	BY	DATE	REVISION
1	JSH	8/11/00	RELEASED

DRAWN	
DATE	8/11/00
material	
N/A	scale: N/A size: A sheet 1 of 1
drawn by	JSH
checked by	JSH
approved by	JSH

PIT INSTALLATION
1 – 10K, MS AND SS
BASIC & PROFILE

WAS_C142928/C142928-S

21896

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Unless otherwise specified: dimensions are in inches. tolerances: fractions ±1/16′ Angles: 1° 3 place decimals: ±.005 2 place decimals: ±.02 Hole diameters: ±1/32″

MATERIAL

FINISH

A–A VIEW

INSTALLATION OF PIT FRAME
POURED CONCRETE BASED ON THE SIZE
1K–10K

50612-5