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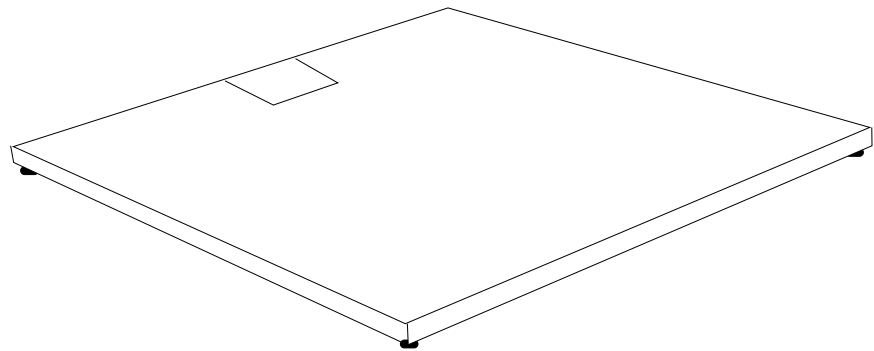
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Installation Manual



Aegis Heavy Capacity 20K Floor Scale

MODEL: 6200 Series

Aegis Heavy Capacity 20K Floor Scale

Model: 6200 Series

Document 50637

Manufactured by
Fairbanks Scales Inc.
821 Locust
Kansas City, Missouri 64106

Amendment Record

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Issue #1	01/97	New Product Manual Release
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Disclaimer

Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual, and reserves the right to make changes to this manual without notice when and as improvements are made.

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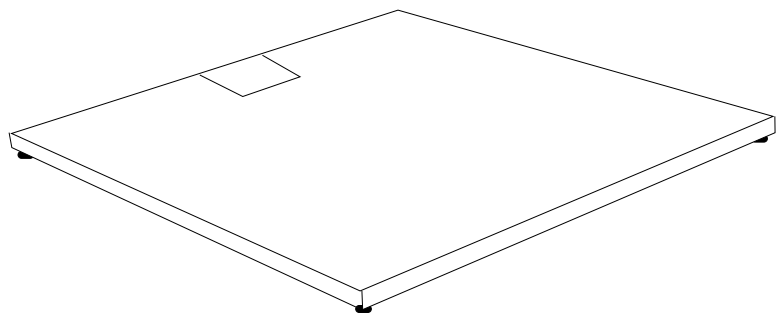
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Section 1: General Information

1.1. DESCRIPTION

The **Aegis Heavy Capacity (HC) Floor Scale** is constructed of mild steel, and is available in **four (4) sizes**. All sizes and models have a capacity of twenty thousand pounds (20K lbs.)

- The scale platform is shipped fully wired and assembled.
- This scale is available with an analog or Intalogix™ interface.
 - The analog series uses a standard junction box for interfacing to most analog indicators.
 - The Intalogix™ series uses a **Quad Multiplexer Box (QMB)** for interfacing to an Intalogix™ Technology indicator.
 - Both types are equipped with a **twenty five feet (25')** interface cable.
 - All junction boxes are constructed of **stainless steel**.
 - All models have threaded holes in the decks for attaching eyebolts to facilitate installation and cleaning.



Section 2: Installation

2.1. INSTALLATION PROCEDURES

Follow these steps to install the **Aegis Heavy Capacity Floor Scale**.

1. Select a level location that 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 **two (2) eyebolts** into the threaded adapters in the platform top and use a forklift or other lifting means along with chains, cables, or nylon straps to remove the scale from the crate bottom.



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 first loosening the lock nut on the foot assembly.
6. Use a screwdriver to turn the threaded leg of the foot assembly.
7. Retighten the lock nut to **75 ft./lbs.** when finished.
8. Wire the scale cable according to **one the two following charts**.

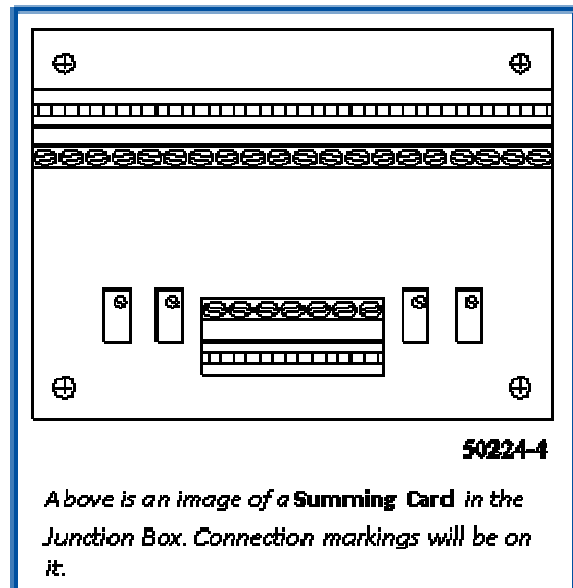
Using Analog Interface (Junction Box 67171M)

LC WIRE COLOR	FUNCTION	ANALOG INSTRUMENT
Black	(-) Excitation	(-) Excitation
Red	(+) Excitation	(+) Excitation
Yellow	Shield	Shield
Green	(+) Signal	(+) Signal
White	(-) Signal	(-) Signal

2.1. INSTALLATION PROCEDURES, CONTINUED

Using Intalogix® Technology Interface (QMB 15291)

QMB TERMINAL	WIRE COLOR	FUNCTION	INTALOGIX TECHNOLOGY INSTRUMENT
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



9A. Calibrate the Intalogix™ platform/ indicator.

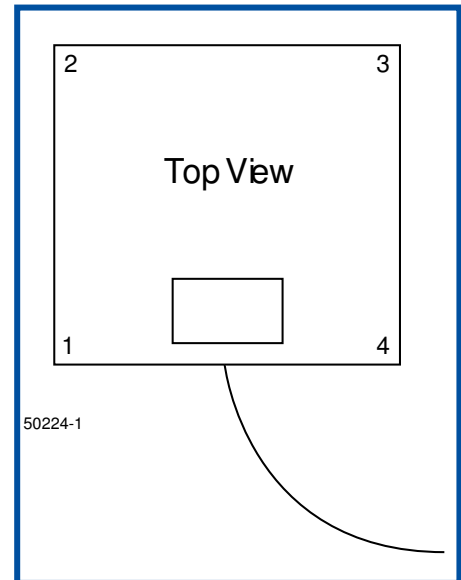
- Follow the appropriate indicator service manual to ensure a good calibration.

OR...

2.1. INSTALLATION PROCEDURES, CONTINUED

9B. Adjust the **analog interface indicator** to the platform.

- a. Ensure all corners are within **one (1) division** of each other at **twenty-five percent (25%) of rated capacity**.
- b. Follow the appropriate indicator service manual to ensure a good calibration.
- c. Perform a coarse platform calibration which is close to the actual weight.
- d. Identify the platform's corner numbers.
- e. Place a concentrated weight on **Corner one (1)**.
 - *25% of platform capacity.*
- f. Note the displayed reading.
- g. Move the weight to Corner two (2), Corner three (3), and then to Corner four (4), noting the displayed reading on each.



NOTE: Do **NOT Zero the scale** when moving from corner-to-corner. Adjust each one to be **the same weight**, and not a correct calibration value.

10. Follow these steps if the corners require further adjustment.
 - a. Place the concentrated weight on the corner displaying the lowest weight.
 - b. Use the appropriate potentiometer to change the displayed weight to read the same as the highest reading by turning the potentiometer clock-wise.
 - c. Repeat while rechecking all corners until there is no error.
 - d. Perform a Zero reference check with an unloaded platform.
 - e. Repeat the corner test for each one to ensure all readings are the same before proceeding.

Note:

The **Junction Box Assembly (67171M)** has **four (4)** extended range, multi-turn potentiometers, one for each load cell.

If it is difficult to adjust the platform corners, turn all potentiometers to the fully **counter-clock-wise** position until clicking is heard when turned. With the weight on the lowest reading corner, turn the corresponding potentiometer **clock-wise** to indicate the same as the highest reading corner until the platform is properly adjusted.



2.1. INSTALLATION PROCEDURES, CONTINUED

Once the corners are the same in reference to each other, complete these steps.

11. Remove all weights.
12. Zero the Indicator.
13. Perform a final calibration with the test weights.
14. Follow the appropriate indicator service manual to ensure a good calibration.

Section 3: Accessories

3.1. INTRODUCTION

Accessories for the Aegis Heavy Capacity Floor Scale include the following components.

- Bolt-down Plates
- Ramps
- Pit Frames
- Lifting Eyebolt
- Eyebolt Hole Plug
- Stand Alone Pillar

3.2. INSTALLING BOLT-DOWN PLATES

Bolt-down Plates keep the scale from sliding or moving when loads are applied.

- The plates are anchored at each of the scales feet.

*Follow these steps to install the **Bolt-down Plates**.*

1. Place the **Platform** into position.
2. Place the **Bolt-down Plate** under the foot.
 - The plate edge should extend out from under the scale.

Drill the two holes using a hammer drill.

3. Insert the **anchor bolts** into the holes, with the nut and washer already on.
4. Tap the **anchor bolt** into the hole, and then tighten the nuts securely.
5. Repeat this process for each plate used.

3.3. INSTALLING RAMPS

Each **Ramp Accessory** comes with **two (2) Integral Bolt-down Plates** and four **(4) Anchors**.

- If **one (1) Ramp** is installed, then **two (2) Bolt-down Plates** are required.
- If **two (2) Ramps** are installed, no additional Bolt-down Plates are needed.
- Only **two (2) Ramps total** may be installed on opposite sides of a scale platform.

3.3. INSTALLING RAMPS, CONTINUED

Follow these steps to install the **Bolt-down Plates**.

1. Place the **Ramp** into position.
2. Set the **Platform Feet** into the **Bolt-down Plate holes**.
3. Drill the two holes using a hammer drill.
4. Insert the **anchor bolts** into the holes, with the nut and washer already on.
5. Tap the **anchor bolt** into the hole, and then tighten the nuts securely.

3.4. INSTALLING PIT FRAMES

The **Pit Frame Accessory** is a one-piece welded unit with no additional welding required.

- This accessory is designed for in-floor 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.

- **Heavy Duty Frames** are available in mild steel for all Aegis Heavy Capacity (HC) 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.

CAUTION

Heavy duty frames require substantially more concrete work and preparation than standard duty frames.

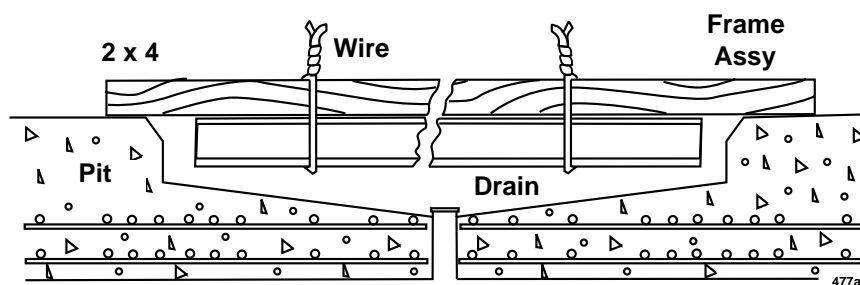
Rebar and properly rated concrete is required to accept the pier loading which a 20K scale will have.

- See [APPENDIX II: DRAWING 21897](#).
- See [BULLETIN 50644: PIT FRAME INSTALLATION GUIDE](#).

3.4. Installing Pit Frames, Continued

Follow these steps to install the **PIT FRAMES**.

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 twelve inches (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 II** 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 II** 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 II** for measurements, concrete specifications, rebar placement, and amount of concrete.



- 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

3.4. INSTALLING PIT FRAMES, CONTINUED

- If a drain is required, form the pit to place a slope in the pit floor to the drain.
- Use the drawing in [Appendix II](#).
- 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 4: Service and Maintenance

4.1. LOAD CELL REPLACEMENT

1. **Remove all power to the Indicator.**
2. Remove the platform access cover then the junction box cover.
3. Disconnect the failed load cell cable at the junction box.
4. Loosen the gland bushing.
5. Tie a string or wire to the end of the cable to act as a pull wire.
6. Check for all cells to have wire markers on the cable ends.
 - a. If not, identify cells with wire markers or other means.
7. Disconnect the faulty load cells' wires from the terminal block.
8. Lift the platform end with a forklift or heavy pry bar using wood blocks for safety.
9. Remove the load cell mounting bolts (use a 1 1/8" socket), and remove the load cell, pulling the load cell cable through the scale while leaving a pull string/wire in the scale.
10. Remove the foot assembly from the old cell and install on the new load cell, using anti-seize on the bolt threads.
11. Disconnect the pull string/wire from the old cell's cable.
12. Attach to the new load cells cable end.
13. Pull the cable of the new load cell through to the junction box.
14. Mount the load cell.
 - Use anti-seize on the mounting bolts
 - Torque to 250 ft./lbs.
15. Lower the scale to the surface removing the safety blocks.
 - Ensure that the weight is shared evenly by all four (4) feet.
16. Tighten all lock nuts to seventy-five (75) ft./lbs.
17. Connect the load cell wires into the junction box.
18. Tighten the box gland bushing(s).
19. **Add power to the Indicator.**
20. Test and calibrate the scale.
21. Replace the box cover and torque all screws to 18-20 in./lbs.
22. Replace the platform access cover .
23. Recalibrate the scale, as necessary.

4.1. LOAD CELL REPLACEMENT, CONTINUED

4.1.1. Load Cell Specifications

• Material	Alloy Tool Steel
• Resistance	350 Ohm
• Rated Output	3mV/V
• Safe Overload	150% (non-shock)
• Thread Hole Size	$\frac{3}{4}$ " – 16

4.2. JUNCTION BOX/ QMB PCB REPLACEMENT

1. **REMOVE ALL 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.
 - a. If not, identify the load cells with wire markers or other means.
 - b. Disconnect the load cells' wires from the terminal blocks.
 - c. Disconnect the home-run wires.
5. Remove the PCB.
6. Clean the box.
7. Install the new PCB.
8. Reconnect all load cell and home-run wires to the new PCB.
9. Tighten all gland bushing nuts

NOTE: For analog systems, leave the box cover off until all corner adjustments are complete.

10. Replace the box cover.
 - a. Torque all screws to 18-20 in./lbs.
11. Replace the platform access cover.
12. **Add power to the Indicator.**
13. Recalibrate as necessary.

4.3. FOOT ASSEMBLY REPLACEMENT

1. Lift the platform end with a forklift or heavy pry bar using wood blocks for safety.
2. Loosen the lock nut and remove the old foot assembly.
3. Use anti-seize on the new foot threads 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 then torque the lock nut to seventy-five (75) ft./lbs.

Section 5: Parts

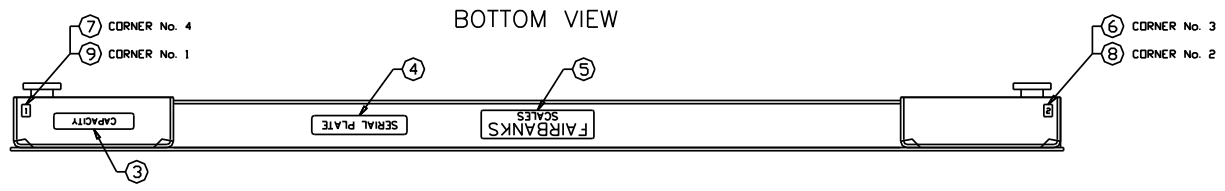
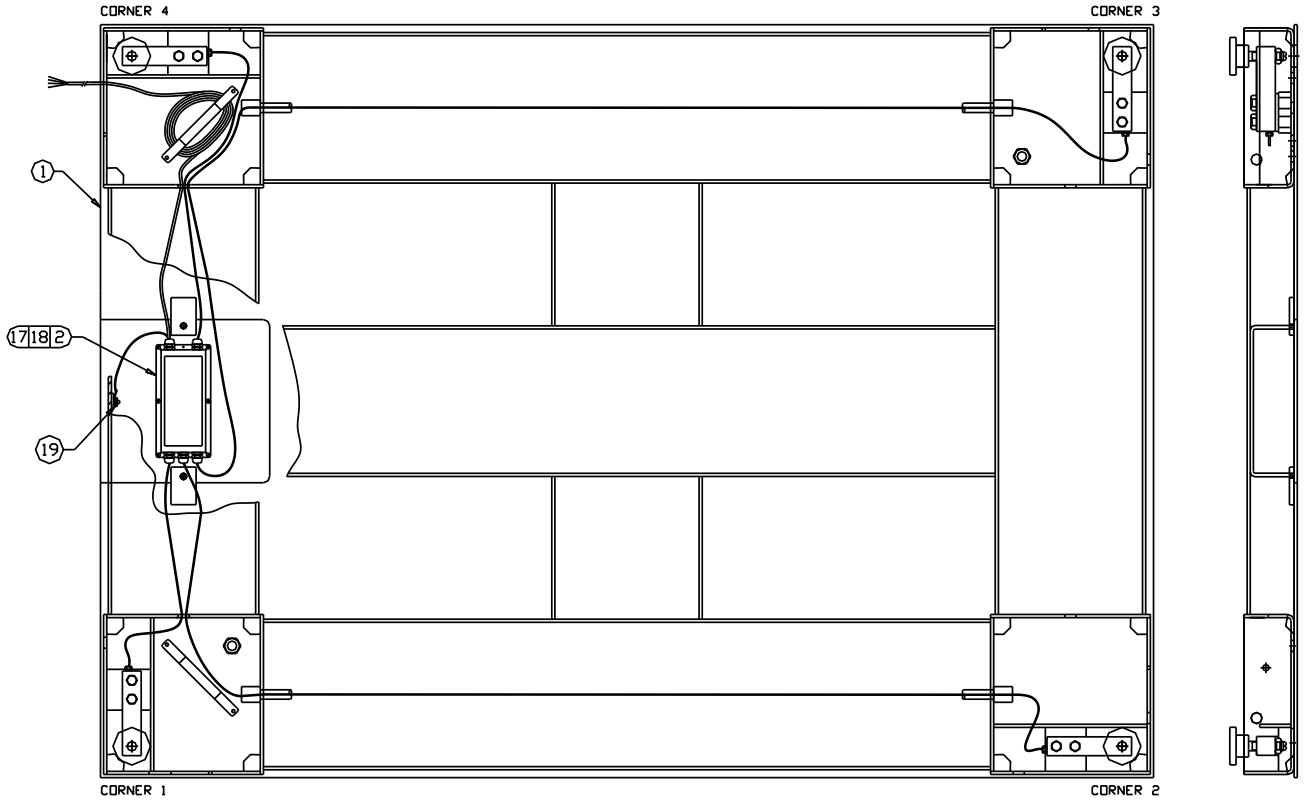
5.1. MILD STEEL PLATFORMS, INTALOGIX AND ANALOG TYPES

ITEM	PART NO.	DESCRIPTION	MODELS
1	See below	Platform Weldment	See Below
2	67171M	Junction Box	Analog
	96141	PCB for Junction Box	Analog
2	15291	QMB Box	Intalogix
	15635	PCB for QMB Box	Intalogix
3	11240	Capacity Label (20K)	All
5	11225	Name Plate	All
10	12838	Cable Assembly	Analog
11	54881	1 3/4" - 16 Hex Jam Nut	All
12	14118	Load Cell Shi	All
13	67198	Foot Assembly	All
14	58857	10K Load Cell	All
15	54528	3/4"-10 x 2 1/4" Hex Hd Bolt	All
17	14722	5" Velcro Hook (use with loop)	All
18	14722	5" Velcro Hook (use with loop)	All

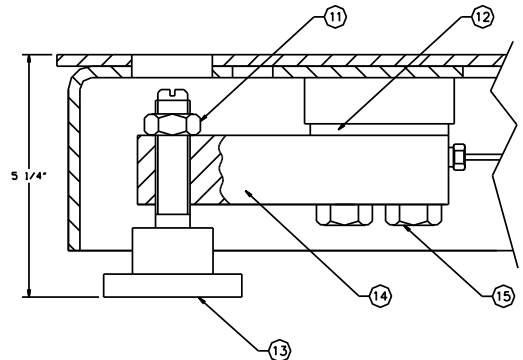
5.2. PLATFORM SIZES

PRODUCT NO.	SIZE	CAPACITY	COMPONENT NO.
64096	4' x 4'	20K lbs.	59066
64095	5' x 5'	20K lbs.	59065
64093	5' x 7'	20K lbs.	59062
64094	6' x 8'	20K lbs.	59063

5.3. PARTS DIAGRAM



heavy capacity aegis



SECTION OF LOAD CELL

Appendix I: Accessories

6.1. MILD STEEL RAMPS AND PIT FRAMES

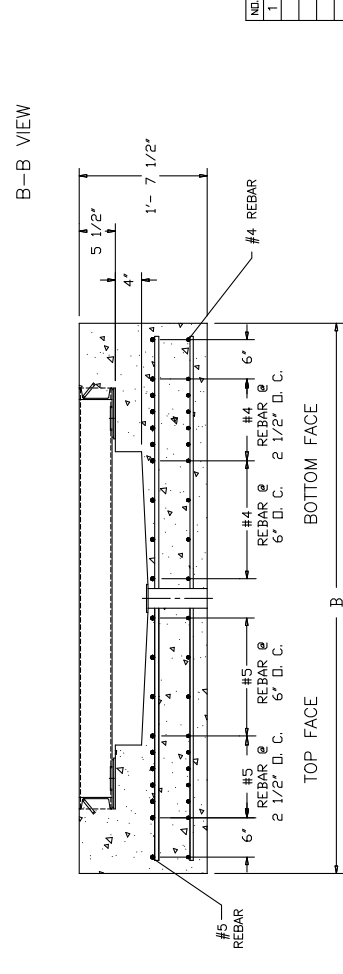
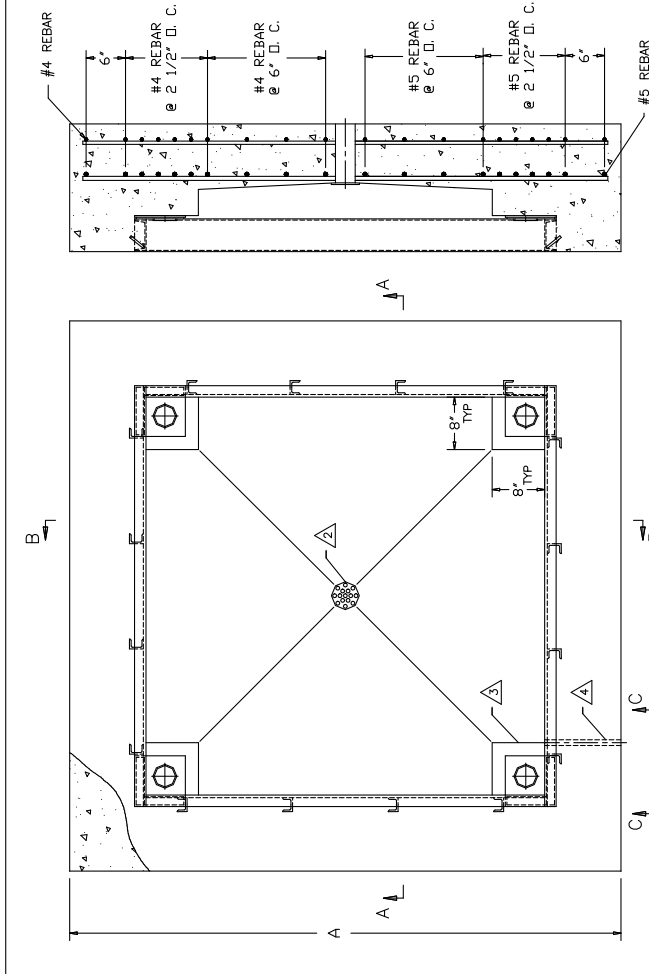
SIZE	CAPACITY	RAMP	PIT FRAME
4' x 4'	20K lbs.	64153	64152
5' x 5'	20K lbs.	64111	64142
5' x 7'	20K lbs.	64111	64138
6' x 8'	20K lbs.	64112	64139

6.2. MILD STEEL BOLT-DOWN PLATES, EYEBOLTS, AND HOLE PLUGS

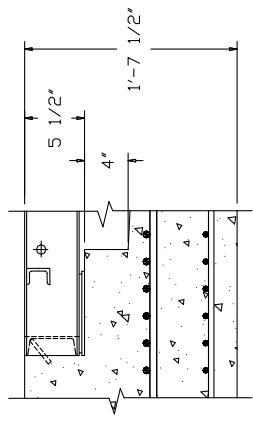
SIZE	CAPACITY	BOLT-DOWN PLATES	EYEBOLTS	HOLE PLUGS
All	All	64144 (Set of 4)	81832 (2)	88600 (2)
		64143 (Set of 2)		

Appendix II: Pit Frame Drawing

MODEL NO. / PART NO.	OLD NO.	PLATFORM SIZE	A	B
ACC-1744 / 64152	NONE	4' X 4'	6'	6'
ACC-1755 / 64142	93165	5' X 5'	7'	7'
ACC-1757 / 64138	93161	5' X 7'	7'	9'
ACC-1768 / 64139	93162	6' X 8'	8'	10'



C-C 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 9" THICKNESS OF CONCRETE IS REQUIRED FOR PIT FLOOR IN NON-HOSTILE APPLICATIONS.
 - B. AT LEAST 10" CONCRETE FLOOR WITH MINIMUM 1" 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 1,500 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 ($\pm 1/8"$) IN BOTH DIRECTIONS, AND SECURED, CONCRETE IS FILLED IN AROUND THE OUTSIDE OF PIT FRAME AND PIT CONCRETE IS FINISHED TO THE SAME LEVEL. IT IS RECOMMENDED THAT $f_c = 4000$ 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 FRAME SHOULD BE 1/4" TO 3/8".

NO.	BY	DATE	REVISION	RELEASED
1	JSH	8/11/00		
FAIRBANKS SCALES Meridian, Mississippi				
PIT INSTALLATION MODEL 6200 SERIES, 20K				
DATE: 8/11/00				
DRAWN BY: JSH				
CHECKED BY: JSH				
APPROVED BY: JSH				
WAS: D143143				
21897				

A-A VIEW

B-B VIEW

50644-2



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Aegis Heavy Capacity

20K Floor Scale

6200 Series

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