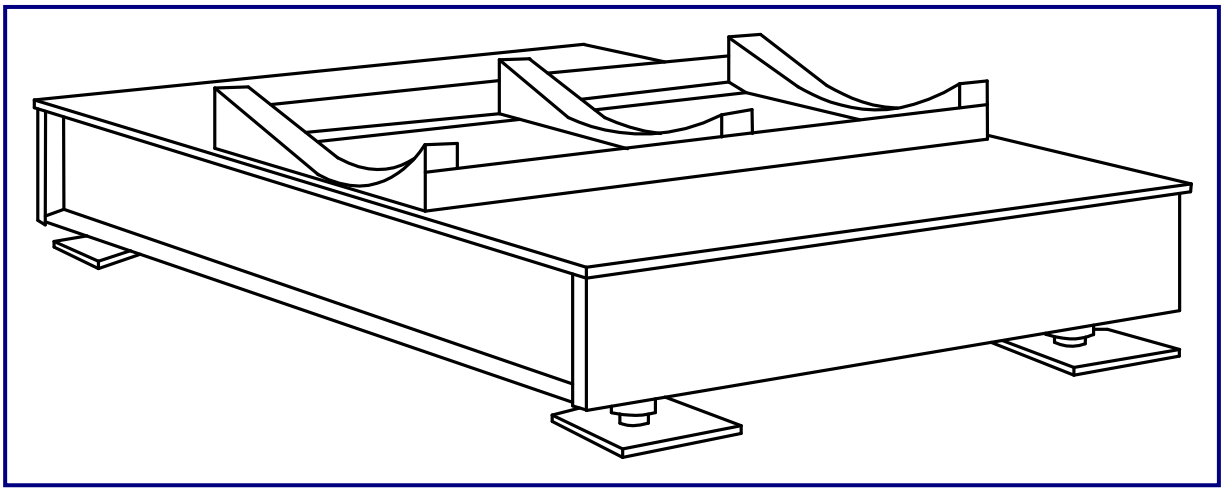
Installation Manual

Aegis Coil Scale



51205

Revision 3 08/18

Amendment Record

AEGIS COIL SCALE

Document 51205

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

Created	10/08	Created Document
Revision 1	12/08	Documentation Release
Revision 2	04/10	Updated cradle drawings, ***Parts List***, and per ECO 637.
Revision 3	08/18	Updated ***Parts List***

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.

Fairbanks Scales shall not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether or not based on express or implied warranty, contract, negligence, or strict liability arising in connection with the design, development, installation, or use the scale.

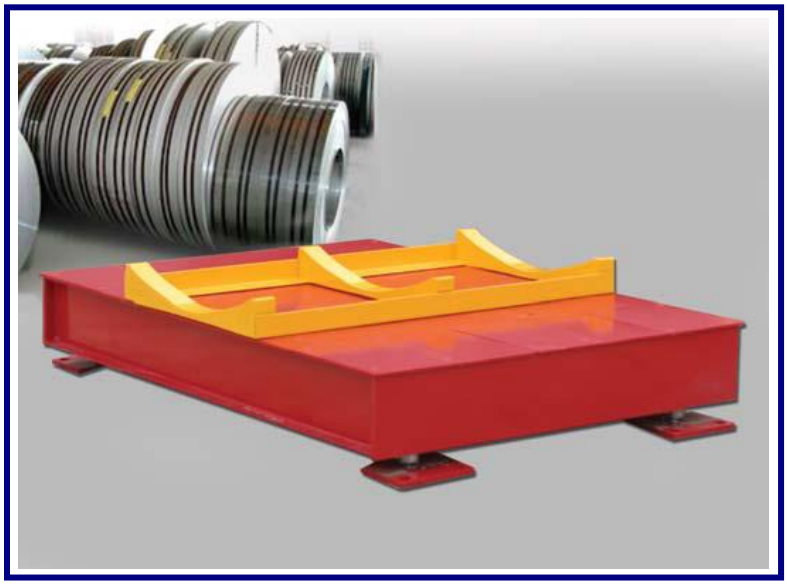
Table of Contents

Section 1: General Information

1.1. INTRODUCTION

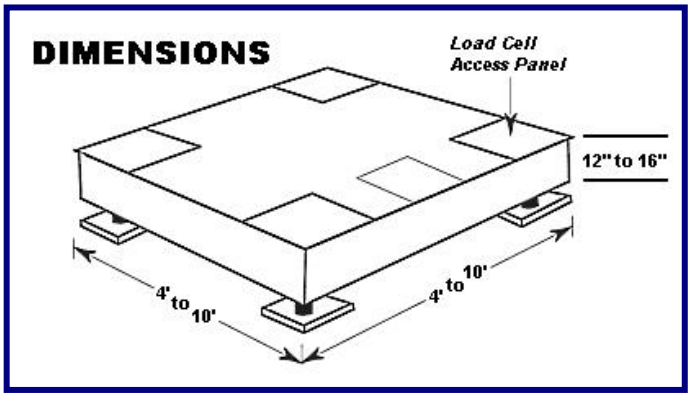
The **Aegis Coil Scale** is an extremely rugged floor scale, designed for high capacities and a wide variation of dimensional sizes.

- The Aegis Coil Scale was designed for weighing coils (steel, copper, aluminum, etc.).
- It features a free-floating platform and rocker column load cell design.
- Its smooth deck platform is designed for concentrated loads and harsh working environments found at steel mills and manufacturing plants.
- It is designed for applications 12” to 16” above grade.



The **Aegis Coil Scale** is designed for applications with high load concentrations.

- ***General Industrial***
- ***Extremely Heavy Point Loading that bends or dimples normal platforms***
- ***Heavy-Duty Industrial***
- ***When Impact Loading is necessary, dropping the product onto the scale***
- ***Warehousing***
- ***Weighing steel, aluminum, or copper coil, as well as billets, castings and cable spools***



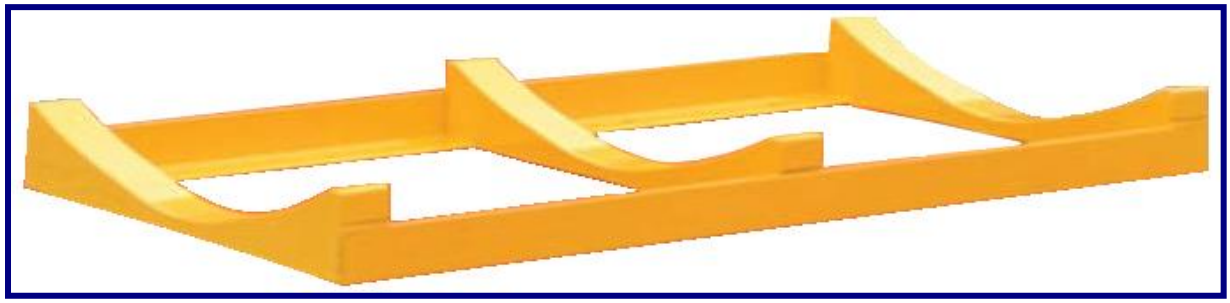
1.1.1. Specifications

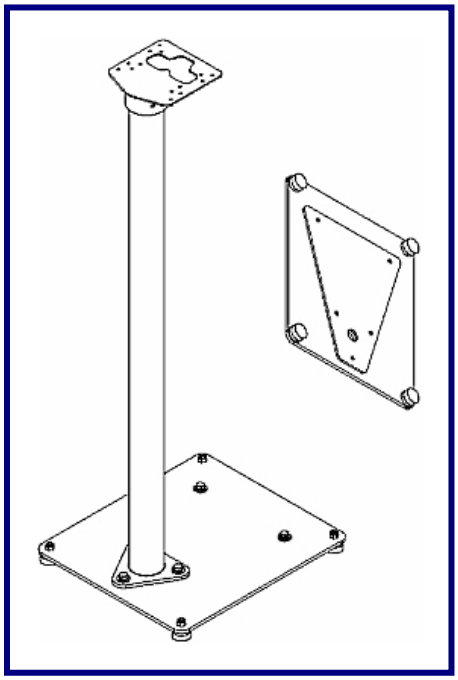
Feature	Description
Standard Platform Sizes	4’ x 4’ thru 10’ x 10’
Platform Height	12” to 16” Smooth Tread
Deck Thickness	¼” to ½” Plate
Scale Capacities	30,000 to 80,000 lbs.
Overload Capacity	300%
Sideload Protection Rating	100%
Temperatures	• Operating: -10°C to 40°C (14°F to 104°F) • Storage: -20°C to 70°C (-4°F to 158°F)
Humidity	10 to 100%
Accuracy	Platform Accuracy up to 0.02%
Load Cell Excitation	5 to 15 VDC
Grounding	Less than 3 Ohms to True Earth Ground
Scale Construction	• Type A36 carbon steel • Deck plate – ¼”, 3/8”, ½”
Junction Box	• Analog • Stainless Steel • NEMA 4X
Load Cells	• Four (4) Rocker Column Design • IP69K – “True” Hermetically Sealed, with the highest ingress protection available • 17-4 PH Stainless Steel • 15,000 to 50,000 Capacity • Combined Error -- ≤ ±0.02% of Rated Capacity
Interface Cable	31’ PVC Jacketed
Approvals	• FM Approved • NTEP Approval CC# 07-097 (for 6,000 divisions) • Load Cell NTEP Approval CC# 07-037

1.1.2. Accessories

Available modifications and accessories include the following:

- ***Coil Cradle***
- ***Stand-alone Instrument Pillar***
- ***QMB***
- ***Intrinsically Safe Controller***
- ***Smart Sectional Controller***





Section 2: General Service Policy

2.1. GENERAL SERVICE POLICY

Prior to installation, ***always*** verify that the equipment satisfies the customer's requirements as supplied, and as described in this manual.

If the equipment cannot satisfy the application and the application cannot be modified to meet the design parameters of the equipment, the installation should *NOT* be attempted.

It is the customer/operator's responsibility to ensure the equipment provided by Fairbanks is operated within the parameters of the equipment's specifications and protected from accidental or malicious damage.

W A R N I N G !

Absolutely NO physical, electrical or program modifications other than selection of standard options and accessories can be made by customers to this equipment

Repairs are performed by Fairbanks Scales Service Technicians and Authorized Distributor Personnel ONLY!

Failure to comply with this policy voids all implied and/or written warranties

2.1.1. Service Technician's Responsibilities

- All electronic and mechanical calibrations and/or adjustments required for making this equipment perform to accuracy and operational specifications are considered to be part of the original installation.
  - They are included in the installation charge.
  - Only those charges which are incurred as a result of the equipment's inability to be adjusted or calibrated to performance specifications may be charged to warranty.

- The equipment consists of printed circuit assemblies which must be handled using ESD handling procedures, and must be replaced as units.
  - Replacement of individual components is not allowed.
  - The assemblies must be properly packaged in ESD protective material and returned intact for replacement credit per normal procedures.

2.1.2. Users' Responsibility

✓ ***Absolutely no physical, electrical or program modifications other than selection of standard options and accessories are to be made to this equipment.***

Section 3: Scale Installation

3.1. CONFERRING WITH OUR CLIENT

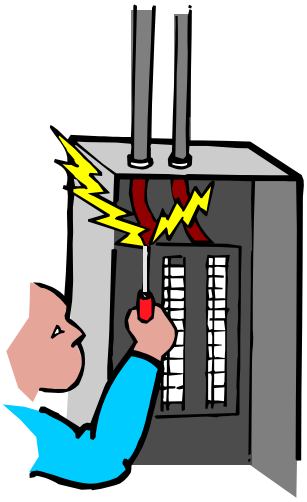
- The technician must be prepared to recommend the arrangement of components which provide the most efficient layout, utilizing the equipment to the best possible advantage.
- Assist the customer in selecting a site which allows easy access to and from the scale.
  - The site needs good drainage away from the scale, elevated enough so the surrounding areas drain away from the scale.
- Explain and review the warranty policy with the customer.

The installing technician is responsible that all personnel are fully trained and familiar with the equipment's capabilities and limitations before the installation is considered complete.

- All electrical assemblies must be returned intact for replacement credit using the standard procedures.
- At the time of installation, all electronic and mechanical adjustments are considered to be part of the installation, and are included in the installation charge(s).
- The AC receptacle/outlet shall be located near the Indicator and easily accessible.
- Electrical connections other than those specified may not be performed.

★ ★ IMPORTANT INSTALLATION NOTICE ★ ★

- All load cells, load cell cables and interconnecting cables used to connect all scale components shall be located **a minimum of thirty-six (36”) inches distance away** from all single and multiple phase high energy circuits and electric current carrying conductors.



- This includes digital weight indicators, junction boxes, sectional controllers, and power supplies.
- This includes any peripheral devices, such as printers, remote displays, relay boxes, remote terminals, card readers, and auxiliary data entry devices.
- Also included is the scale components themselves, such as 120 volt AC, 240 volt AC, 480 volt AC and electric supply of higher voltage wiring runs and stations, AC power transformers, overhead or buried cables, electric distribution panels, electric motors, florescent and high intensity lighting which utilize ballast assemblies, electric heating equipment, traffic light wiring and power, and relay boxes.
- All scale components, including digital weight indicators and peripheral devices are not designed to operate on internal combustion engine driven electric generators and other similar equipment.

✓ **Electric arc welding** ***can severely damage scale components such as digital weight indicators, junction boxes, sectional controllers, power supplies, and load cells.***

NOTE: *For additional information, please contact your* **Fairbanks Scales Service Representative.**

3.2. STANDARD INSTALLATION STEPS

The **Aegis Coil Scale Platform** standard installation consists of the following steps.

A. Unpack scale, and check off all components.

B. Prepare tools, materials and documentation.

C. Select site location.

D. Foundation check, layout, and base plate setting.

E. Set up deck.

F. Set deck on load cells.

G. Level platform.

H. Install and wire instrument to platform.

I. Adjust and calibrate scale according to appropriate indicator service manual.

J. Install coil cradle (if applicable).

3.2.1. Standard Components

The **Aegis Coil Scale Platform** is shipped with these standard components:

- **The Weighbridge Platform**
- **Load Cells**
- **Load Cell Base Plates**
- **Side Checking Assemblies**
- **Mounting Hardware**
- **Analog Junction Box**

3.2.2. Unpacking

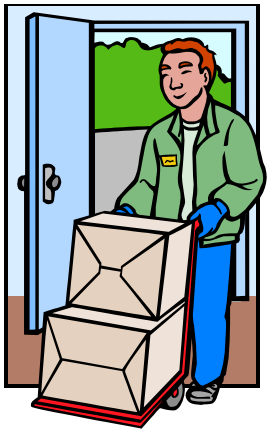
Follow these guidelines when unpacking all equipment.

- Check in all components and accessories according to the customer's order.
- Remove all components from their packing material, checking against the invoice that they are accounted for and not damaged.
  - *Advise the shipper immediately, if damage has occurred.*
  - *Keep the shipping container and packing material for future use.*
  - *Order any parts necessary to replace those which have been damaged.*
  - *Check the packing list.*

The **CUSTOMER** is the ***receiving party*** if the equipment was ***shipped to the Customer's address.***

FAIRBANKS is the ***receiving party*** if the equipment was ***shipped to the Fairbanks Service Center.***

- Collect all necessary installation manuals for the equipment and accessories.
- Open the equipment and perform an inspection, making certain that all hardware, electrical connections and printed circuit assemblies are secure.
- Do not reinstall the cover if the final installation is to be performed after the pre-installation checkout.
- Do not load the platform if there is any evidence of damage to the platform or supporting structure.



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

3.2.3. Preparing for the Installation

The following tools, equipment and materials are suggested to be on hand before the installation begins.

Product Setting Plans (Drawing)

Measuring, Testing & Checking Equipment

- Machinist's Levels (**Starrett #134 & 132-6**)
- Stringline and chalkline
- Steel tape measure.
- Multimeter

Assembly Tools

- Hand tools
- Proper equipment to lift and position all parts, including a 2 ton weighbridge
- 20 ft. lifting chains or cables with hooks
- Pry Bars
- Torque Wrenches
- Hammer Drill
- 13/16" or 7/8" drill bit, 24" long

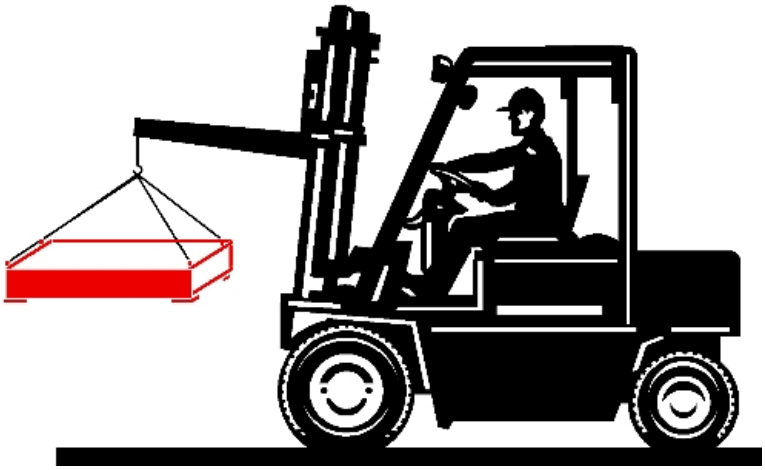
Materials

- Quality vehicle wheel bearing grease
- Anti-seize
  - Found at local Automotive Parts & Supply retailer.

3.2.4. Positioning the Scale

Position the Scale with these points in mind:

- Use the proper lifting equipment to position and place the scale.
- The scale is to be placed on a flat, solid, level surface, one that fully supports the weight of the platform plus a full capacity load.
- The smooth surface must be within 1/8", and on a level plane, within ¼" across both the length and width of the platform.
- The four corners of the Platform must rest solidly on the surface, and not rock. Irregular bumps and foreign material under the Platform can cause an "out-of-level" condition, which will affect the weight accuracy.
- Platform vibrations may also affect the weighing accuracy. Wherever possible, locate the platform as far away from heavy, low frequency vibrations as much as possible.
- Do not load the platform if there is any evidence of damage to the platform or supporting structure.
- Ease of access is very important. Allow plenty of room for maneuvering a fork lift.
- Reading the Indicator is also important to workers, so place it in a very visible position.
- When installing the Scale and Indicator in an outdoor location, set it up so the snow, ice accumulation, rain and other conditions do not affect the platform operations.



3.2.5. Installing the Foundation

When the scale is installed on an existing flooring, the floor must be able to provide adequate support.

- Fairbanks Scales is not responsible for the integrity of the existing foundation.

1. Using the Fairbanks Prints, layout, position and level the Base Plates.
2. Grease and install the inner O-Ring into the Load Cell Cup.
3. Insert Load Cell Cup into the base plates.
4. Place the Load Cell Locating Tool next to each Base Plate.

3.2.6. Installing the Platform

1. Place wooden cribbing blocks near the Scale, where the Platform will be placed.
   - The Platform will be set at a height slightly less than the Scale's finished height.
2. Place the hooks of the straps or chains into ALL four (4) of the lifting lugs welded to the sides of the Platform.
   - No bolts are required.
   - The straps or chains should be long enough to form a 45° angle with the platform while lifting.
3. Lift the Platform to a location above the four Load Cell Base Plates.

OPTION 1:

Set the Platform directly onto the Locating Tools and the wooden shoring blocks that act as safety stands.

4a. Install a Load Cell Bearing Cup into the Upper Receiver of each corner.

- Grease helps hold the Cup in place.

5a. Insert the upper end of the Locating Tool into the Upper Cup on the Platform.

6a. Lower the Platform while holding the Locating Tool upright, guiding the bottom of the Tool into the Lower Cup.

7a. When the Platform is set on all four (4) Locating Tools, keep tension on the cables until the Platform is centered and straight.

8a. Use hydraulic jacks to lift the unit slightly and shift the Base Plates to get the Locating Tools plumb, and the Top and Bottom Flanges ***FLUSH*** with the sides of the cup.

OPTION 2:

Set the Platform on the blocks first, then onto the Locating Tools.

4b. When the Platform is set on the blocks, keep tension on the cables until the Module is properly aligned.

5b. Use hydraulic jacks to lift the unit slightly, then install the Locating Tools.

6b. Shift the Base Plates to get the Tools plumb, and the Top and Bottom Flanges ***FLUSH*** with the sides of the cup.

NOTE: ***DO NOT*** *release tension on the lifting cables at this time.*

3.2.7. Installing the Checking Brackets

1. Place the Check Brackets in the proper locations
2. Mark and drill the twelve (12) holes for the Check brackets.
3. Using the hammer drill and a 13/16” or 7/8” diameter bit, drill to a depth of 6 ¾” .
   - ***DO NOT drill the bolt holes*** *for the Load Cell Plates at this time.*
4. Install the check bracket anchors, leaving approximately 2 ½” of the threads above the foundation.
   - Allow two (2) hours for the epoxy curing time.
5. Install two (2) 1” Bumper Bolts onto each Check Bracket with one (1) nut.
   - Do this to both sides of the Bracket, totaling two (2) nuts per bolt.
6. Insert each Check Bracket, as designed, inside the Cover Plate (via the Load Cell area).
   - Ensure the holes are aligned correctly.
   - Load Cell area **1 and 3** each have a ***left-hand*** bracket.
   - Load Cell area **2 and 4** each have a ***right-hand*** bracket.
7. Tighten the Check Brackets into place with the fastening lock washers and nuts.
   - Tighten the nuts to 500 ft/lbs.

NOTE: ***DO NOT tighten*** *the nuts and bolts until the epoxy has fully cured a* ***minimum of two (2) hours.***

8. Adjust each Checking Bolt as needed, ensuring the bap between the end of the bolt and the Check Plate is from **1/32”** to **1/8”.**
9. Tighten the Jam Nuts to the Checking Bolts.
   - Recheck to be certain the gapping is correct.

3.2.8. Securing the Base Plate

1. Drill the eight (8) **13/16" or 7/8"** holes for the Load Cell Plates using a hammer drill.
   - Use the bolt holes in the load cell plate as a locating guide.
   - Drill to a depth of 6 ¾".
2. Install the Load Cell Base Plate Anchor Bolts.
   - Leave approximately 1 ½" of threads above the Base Plate.
   - Set these into place using epoxy anchors.
   - A two (2) hour minimum cure time is required.
3. Tighten lock washer and nut onto threads, finger tight.
4. Once the tension on the lift cables is released, remove the cables.

3.2.9. Installing the Load Cells

1. Unpack the Load Cells.
2. Mark each Calibration Certificate with the Load Cell location/position.
3. Starting at one end of the assembled platform, place a hydraulic jack at the corner so the platform can be lifted off the locating tool.
4. Lift the platform and remove the Load Cell Locating Tool from the upper and lower bearing cups.
5. Fill both cups with grease.
6. Install the Load Cell by aligning the two flat sides of the Lower Cup on the bottom of the Load Cell.
7. Carefully lower the scale (hydraulic jacks) while seating the bottom of the cell into the lower cup.
   - ***Verify that all of the load cells are plumb, square and level.***
   - Use the load cell shims provided to adjust load cell cups for correct height, and to ensure that all cells share an equal amount of the load.
8. Route the Load Cell Cables to the conduit that goes through the scale.
9. Pull excess cable into the Junction Box area to store.
10. Recheck to be certain that all Check Bracket Anchors are securely tightened.
11. Check the gap on all check brackets for proper tolerance. and the jam nuts are tightened.
12. Make sure underside of scale is free from debris and load cell cables are routed correctly and not touching the foundation.
13. After waiting the ***minimum of two (2) hours*** for the epoxy to cure, tighten the nuts on the anchors for the load cell base plates.

Section 4: Electrical Installation

4.1. INTRODUCTION

The **Aegis Coil Scale** is used with either analog instruments or with Intalogix™ systems.

- The Aegis Coil Scale comes standard with one (1) Analog Summing Junction Box.
- Intalogix™ Systems use **Smart Sectional Controllers** (**SSC**) and **Pit Power Supplies** (**PPS**) for load cell excitation and signal processing.

When using Intalogix™ Technology, order the following components separately.

- Two (2) SSCs and one (1) PPS for the entire platform.
- The SSC boxes have four (4) terminals.
  - *Two (2) SSC Terminals are for Load Cells.*
  - *Two (2) SSC Terminals are for interfacing to other SSC boxes, or for terminating to a PPS.*
  - *All Cell/Section/Scale adjustments are made using the Intalogix™ System Instrument.*

4.1.1. Moisture Protection

The **LCF-4020 Rocker Column Load Cells** give full moisture protection.

- The load cells are calibrated with the cable attached.
- The cable ***MUST NOT be cut.***
- The cable is connected directly to the Junction Box through a sealed bushing which ***MUST BE TIGHTENED WITH PLIERS*** to keep moisture out of the box.

On ***all*** Junction Boxes, the black plastic fittings have O-rings that can be forced out of position if the bushing itself is not tight.

1. To prevent this, first tighten the inner nut securing the bushing in the hole.
2. Then insert the cable and carefully tighten gland with pliers until it is very snug.
   - ***DO NOT over-tighten*** where bushing 'turns'.
- All Junction Box covers ***MUST BE SECURED*** and tightened.

*An example of a "**drip loop**". This helps prevent water entry.*

4.1.2. Data Recording

Keeping records of work completed for every customer is extremely important, and can pay off in great measure in future visits.

- ✓ ***Record scale serial number from the tag.***
- ✓ ***Record instrument, junction box and load cell serial numbers.***
- ✓ ***Keep a copy of the sheet in the customer file.***

4.2. WIRING THE JUNCTION BOX

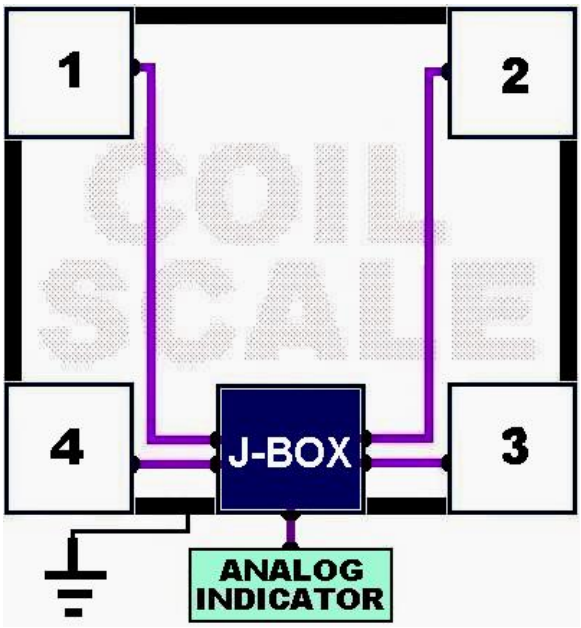
4.2.1. Load Cells to J-Box

Wire the Load Cells to the Analog Summing Junction Box (**67171M**) ***using the following steps.***

1. Open the platform access cover, then the junction box cover.
2. Loosen all gland bushing nuts.
3. Wire the Junction Box according to the chart.
4. Follow the indicator installation manual to connect it with the platform.
5. Tighten all gland bushing nuts.

IMPORTANT NOTE: *Leave the Junction Box Cover **off** until all corner adjustments are completed.*

WIRE COLOR	FUNCTION
Red	(–) Signal
White	(+) Signal
Black	(–) Excitation
Green	(+) Excitation
Yellow	Ground



4.2.2. Load Cells to the SSC

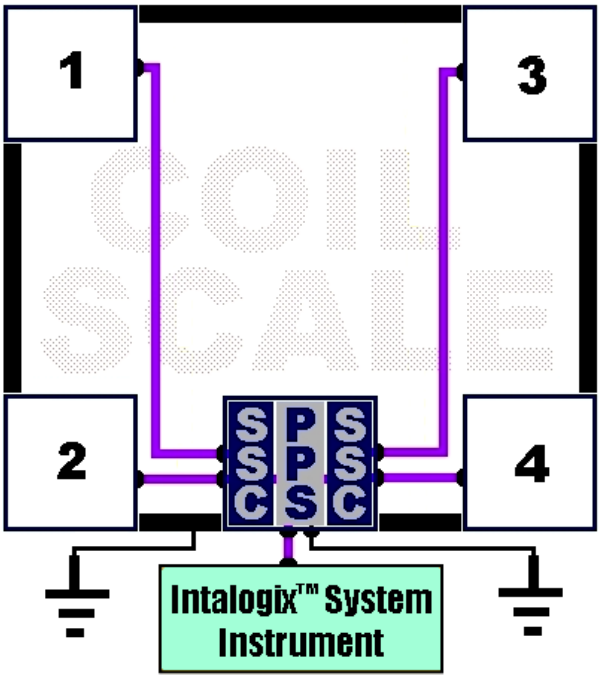
NOTE: *Used only for wiring* **Intalogix™ Technology.**

Wire load cells into each **Smart Sectional Controller (SSC)** using the appropriate service manual.

- The Intalogix™ SSC is optional, when used for digital system
- SSCs have two load cell connections, **TB1** and **TB2**.
  - The **odd number load cell** connects to **TB1.**
  - **Even** connects to **TB2**.

4.2.3. Intalogix™ Technology Load Cell Numbering

- **Intalogix™ Technology** installations use a specific numbering system for load cells because of digital addressing of the **SSCs**.
- With respect to the following starting position, face the platform where the indicator is located.
- The cell at the **upper-left** (far side) of the platform is **Cell One (1).**
- The cell positions along the **far side** have **odd cell numbers.**
- The **near side locations** have **even cell numbers.**



4.2.4. Additional Wiring

When wiring the Indicator to the Platform and to the *optional* PPS connection, ***use the appropriate Service/Installation Manual(s)*** for wiring instructions.

4.3 GROUNDING THE SCALE

4.3.1. Standard Analog Type Assembly

The Aegis Coil Scale comes standard with the Analog type assembly, needing **one (1) ground rod kit.**

- For accurate operation and protection against damage from lightning strikes, all of the components of the system must be properly grounded.

4.3.2. Intalogix™ Technology Systems

The *optional* **Intalogix™ Technology Systems** require **two (2) ground rods** in the pit for proper connection.

- **If Intalogix Technology** is used, then **one (1) additional** ground rod kit will be required for SSC (**two total**).

4.3.3. Standard Grounding Guidelines

Use the following guidelines to correctly ground the system:

- Use **8 AWG** or larger wire, or **braided ground straps.**
- All ground connections should be two feet (2') or less, or as conditions warrant as short as possible.
- The **117 VAC Surge Voltage Protection (SVP) Unit connects to a ground** at the instrument's incoming power outlet.
  - Use a voltmeter to test the electrical power source available.
  - The **Neutral-to-Ground** voltage level must be **0.2 VAC or less**.

4.3.4. Grounding with Intalogix™ Technology

- One ground rod connects to the PPS, and the second ground rod connects to the weighbridge.
  - The SSCs and PPSs enclosures attach connections to the weighbridge in the Access Area Grounding Stud. The weighbridge is then connected to a ground rod.
  - The insulated **WHITE WIRE** from the PPS connects directly to the separate ground rod, ***and not to the same rod as the Weighbridge***.

4.4. INSTALLING ACCESSORIES

Listed below are the standard **Aegis Coil Scale Accessories**.

- ***Coil Cradle***
- ***Stand-alone Instrument Pillar***
- ***QMB***
- ***Intrinsically Safe Controller***
- ***Smart Sectional Controller***

C A U T I O N

Absolutely NO ARC WELDING is to be performed on, or near this scale while the Load Cells are in place and/or connected.

Disconnected and removed ALL the Load Cells during ANY welding.

4.4.1. Coil Cradle Installation

The Coil Cradle arrives to the site fully assembled.

- The Cradle is made from a Polyurethane cradle affixed to a metal angle iron.
  - Resistant to temperatures up to 180°F.
    - *If products to be weighed have a higher temperature **than 180F**, contact the Fairbanks Solutions Group with complete application specifications.*
  - This fastens directly to the deck of the scale.
- Check the corner welds on all joints carefully to be certain they are secure.
- If any part of the Cradle is damaged, return and replace it.

STEPS:

1. Position the Cradle on the Coil Scale Platform.
2. Insert the bolts from the Cradle through the Platform with the provided lock-washers.
   - Holes are pre-drilled and tapped.
3. Tighten bolts to **18 to 20 lb/ft.**

4.4.2. Pillar Installation Steps

1. To remove the Top Plate, loosen the three (3) **one quarter inch (¼") Allen Screws.**
2. Carefully run the Interface Cable into the bottom Access Hole, up through the Pillar, and then thread it out through the top Access Hole.
   - Allow extra cable slack to accommodate the Instrument wiring.
3. Replace the Top Plate, then secure it into position using the **one eighth inch ($^1/_8$") Allen Wrench.**

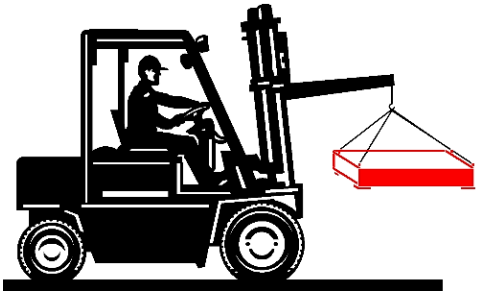
4. Install the Instrument Top Bracket, secure it with the supplied hardware
5. Connect the Interface Cable to the Indicator.
   - Refer to the appropriate instrument service manual for correct wiring information.

Section 5: Service & Maintenance

5.1. RECOMMENDED PREVENTIVE MAINTENANCE SCHEDULE

5.1.1. Performed every month

- Lift up the scale, checking all attached wires, wear points, and that all bolts are securely tightened.
- Check all clearances around the scale for any obstructions or interference with the free movement of the platform.
- Check deck surface for any signs of damage or deterioration. Fix as needed, or move the scale's position.
- Lower the scale onto its permanent position.
- Check all check bolt clearances, both with and without a concentrated load over each section, one at a time.
- Check load cells for a level condition.



5.1.2. Performed every six (6) months

- Lift up the scale, checking all attached wires, wear points, and that all bolts are securely tightened.
- Check cups and "O" rings for any damage.
- Inspect and adjust all Check Bolts, using anti-seize on the threads.
- Ensure that the system is has proper ground connections
- Remove the J-box covers and inspect for water seepage.
- Check that all terminal screws and contacts are secure.
- Check that all jumpers are in place.
- Dress all wires, being certain they are completely off the ground.
- Check that waterproof gland nuts are tight.
- Reinstall the box cover, fasten the latches, and check the seal.
- Check all clearances around the scale for any obstructions or interference with the free movement of the platform.
- Check all bumper bolt clearances, both with and without a concentrated load over each section, one at a time.

5.2. TROUBLESHOOTING

From the following chart, identify the symptom(s) and cause(s) of each malfunction, solving each issue with an appropriate solution.

SYMPTOM	CAUSE	SOLUTION
Displays stay at zero	1. Load Cell connections faulty. 2. Instrument faulty. 3. Faulty/bad Load Cell(s).	1. Cable replacement. 2. Service Instrument. 3. Test and replace the Load Cell(s) as described in **Section 5.3.3.**
Erratic Weights	1. Foreign object around load cells or under platform. 2. Excessive vibration near platform. 3. Instrument faulty. 4. Platform not level within ¼" (3.0°). 5. Surface not smooth enough (within 1/8"). 6. Faulty/bad Load Cell(s).	1. Clear the area. 2. Remove the vibration source. 3. Service Instrument. 4. Level the platform surface. 5. Find a smoother surface for the platform. 6. Test and replace the Load Cell(s) as described in **Section 5.3.3.**
Inaccurate Weights	1. Instrument out of span. 2. Instrument not properly adjusted to zero. 3. Faulty/bad Load Cell(s).	1. Check and alter per the Instrument Service Manual. 2. Zero the instrument according to normal operation procedures. 3. Test and replace the Load Cell(s) as described in **Section 5.3.3.**

5.3. SCALE PLATFORM TROUBLESHOOTING

Except for severe structural damages, most Platform Assembly problems can be traced to the following causes.

- Material under or around the Platform
- Incorrect, loose or damaged Load Cells

5.3.1. Scale Platform Testing

5. Inspect the Interface Cable from the Platform to the Instrument for visible breaks or cracks.
6. **ZERO** the Instrument Display.
7. Apply a test load of **25% of the Load Cell capacity** to one corner.
   - The Instrument should display a weight reading within 0.1% of the applied weight, or One Instrument Division, whichever is greater.
8. Repeat Step 3 for all the corners, placing the same Test Load on each corner.

5.3.2. Load Cell Testing

When corners do not match the correct tolerances, disconnect the leads from the summing card's terminal strip and test the load cell using the settings on the following chart.

.

TEST	READING	REMARKS
Green to Black (Input)	1106 Ohms (+5 / -2 Ohms)	Input Resistance
Red to White (Output)	1000 Ohms (+5 / -2 Ohms)	Output / Bridge Resistance
Yellow (Shield) to Load Cell Case	More than 1,000 megohms	Insulation Resistance
Input and Output Leads to Shield		
Input and Output Leads to Case		

5.3.3. Load Cell Replacement Steps

1. Cycle-down the power to the indicator, then unplug the unit.
2. Remove the platform and junction box access covers
3. Lift the platform end with a hydraulic jack(s) or forklift, using wood blocks for safety.
4. Check the upper and lower receiving cups and O-rings for possible damage.
   - Replace as necessary and reapply grease.
5. Disconnect the failed load cell cable(s) at the Junction Box or SSC.
6. Loosen the gland bushing, and tie a string or wire to the end of the cable to act as a pull wire.
7. Place wire markers on the cable ends.
8. Masking tape is an effective alternative
9. Remove the load cell, pulling the cable through the scale while leaving the pull string/wire in the scale.
10. Disconnect the pull string/wire from the old cell's cable, then attach to the new cell's cable end.
11. Pull the cable from the new cell through to the junction box.
12. Lower the scale to the surface, removing the safety blocks.
13. Distribute the scale's weight evenly by all four (4) feet.
14. Connect the load cell wires into the junction box, then tighten the box gland bushing(s).
15. Replace the platform access cover.

Section 6: Parts

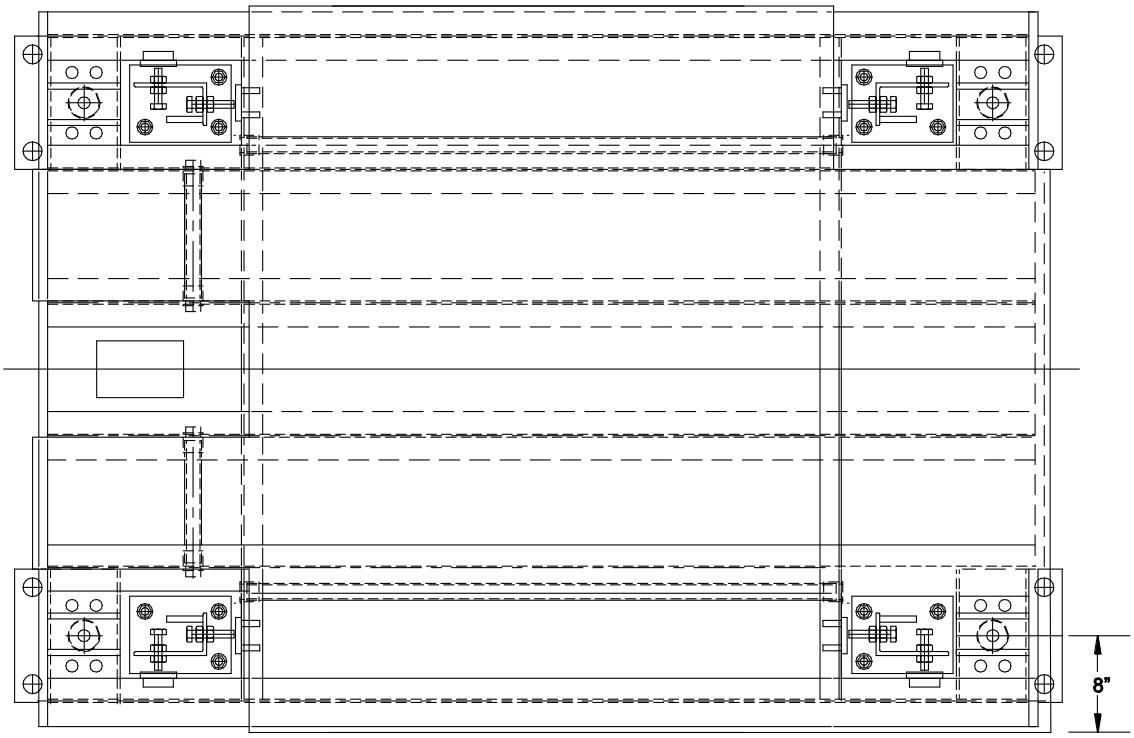
6.1. PLATFORM MODEL MATRIX

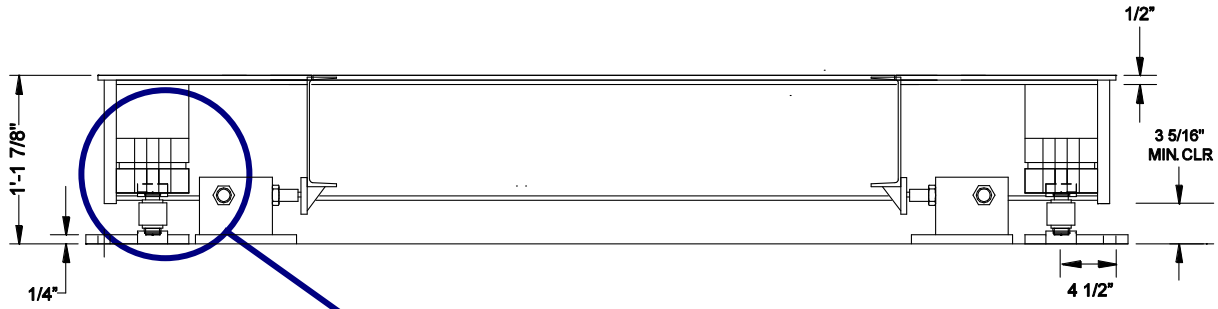
Part No.	Description
108417	Aegis Coil Scale, 4’ x 4’, 30K
108428	Aegis Coil Scale, 5’ x 5’, 30K
108219	Aegis Coil Scale, 6’ x 6’, 30K
108419	Aegis Coil Scale, 4’ x 6’. 50K
108214	Aegis Coil Scale, 5’ x 7’, 50K
108247	Aegis Coil Scale, 6’ x 6’, 50K
108420	Aegis Coil Scale, 6’ x 8’, 50K
108249	Aegis Coil Scale, 8’ X 8’, 80k
108421	Aegis Coil Scale, 8’ x 10’, 80K
108422	Aegis Coil Scale, 10’ x 10’, 80K

6.2. PARTS LIST

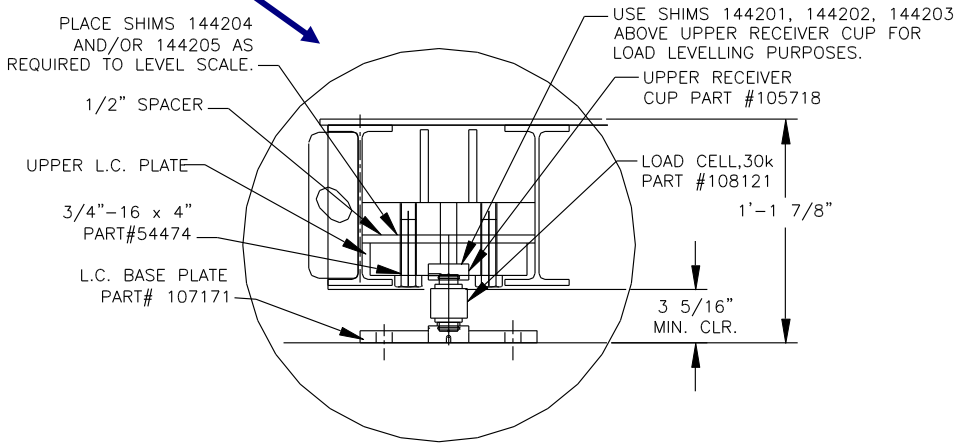
Part No.	Description	Location	Qty
107171	BASE PLT WLDMENT	Rests on foundation surface	4
86355	ROUND,THD,RH, 3/4 X 9 1/2"	Drill-in-place all-thread anchor	20
108877	ADHESIVE LOCTITE FIXMASTER	Epoxy tube for drill-in-place anchor bolts	20
108878	ADHESIVE APP GUN DISPENSER	Caulk-type gun for epoxy tubes	1
61743	CLAMP PLATE FOR BASE PLATE	Clamp plate for base plates	8
54233	3/4" FLAT WASHER	Flat washers for anchors	20
54264	3/4-10 HEX NUT	Hex nuts for anchors	20
54474	3/4-16 X 4 HEX BOLT GR 8 FINE	Secure top receiver plate to platform	16
54776	3/4" SPRING LOCK WASHER, ZINC	Used with part 54474 for top receiver plate	17
108120	FTEC 3 1/2" ROCKER 15K 15' CBL	For **30k** capacity scales	4
108121	FTEC 3 1/2" ROCKER 30K 15' CBL	For **50k** capacity scales	4
83669	FTEC 3 1/2" ROCKER 50K 15' CBL	For **80k** capacity scales	4
105718	2.5" UPPER CUP W/O ANTI ROTATE	Inserts into top receiver plate	4
144201	LOAD LEVELLING SHIM 2 1/8 OD .010 TH	Place between upper cup and top receiver plate.	8
144202	LOAD LEVELLING 2 1/8 OD .031 TH	Place between upper cup and top receiver plate.	8
144203	LOAD LEVELLING 2 1/8 OD .062 TH	Place between upper cup and top receiver plate.	4
86337	TOP REC PLT,2"X6"X9 3/4" LG	Bolts to platform	4
107174	SPACER PLT,1/2"X5 1/2"X9 3/4"	Between upper receiver plate and platform	4
144205	SHIM, 1/8" PLATFORM SHIM	Between upper receiver plate and platform	8
144206	SHIM, 3/16" PLATFORM SHIM	Between upper receiver plate and platform	4
144204	LOCATING TOOL, 3 1/2"	Load cell dummy	4
86326	CHECK BRKT WLDMNT, LH	Check bracket for one corner	2
86325	CHECK BRKT WLDMNT, RH	Check bracket for one corner	2
86357	1-8 X 4" FULL THD BOLT	Lateral and longitudinal check bolt	8
54277	1-8 HEX NUT, ZINC	Nuts to secure check bolts	16
12838	CABLE ASSY - 30'	Home run cable	1
67171M	J BOX ASSY, SS W/FM LABEL	Analog junction box	1
73732	O-RING 28.24 X 2.62	Inside of upper cup	4
55011	KIT, SINGLE, GROUND ROD	Single ground rod kit	1

6.3. DIMENSIONS DIAGRAM





51205-11



LOAD CELL ASSEMBLY DETAIL

51205-12

6.4. ACCESSORY PART LISTS

6.4.1. Aegis Coil Scale Cradle

Part No.	Description
144676	Aegis Coil Cradle for 4’ Scale: 2’ 9’ x 2’ 6” Cradle
144677	Aegis Coil Cradle for 5’ Scale: 2’ 9’ x 3’ 6” Cradle
144678	Aegis Coil Cradle for 6’ Scale: 2’ 9’ x 4’ 6” Cradle
145044	Aegis Coil Cradle for 8’ Scale: 2’ 9’ x 6’ 6” Cradle
145045	Aegis Coil Cradle for 10’ Scale: 2’ 9’ x 8’ 6” Cradle

6.4.2. Aegis Coil Grounding Kit

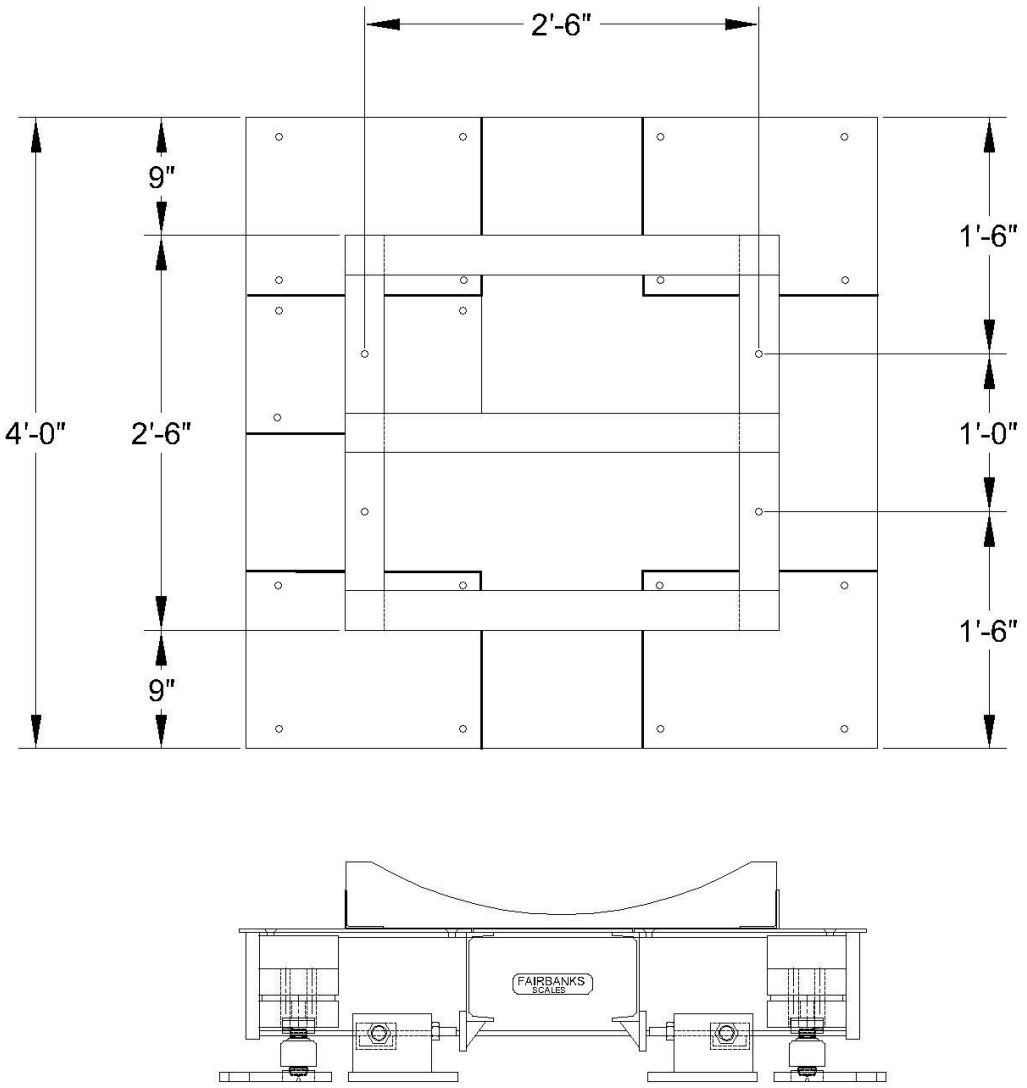
Part No.	Description
55011	Aegis Coil Grounding Kit

6.4.3. Mild Steel Stand-alone Instrument Pillar

Part No.	Description
28396	Stand-alone Pillar Assembly, Mild Steel

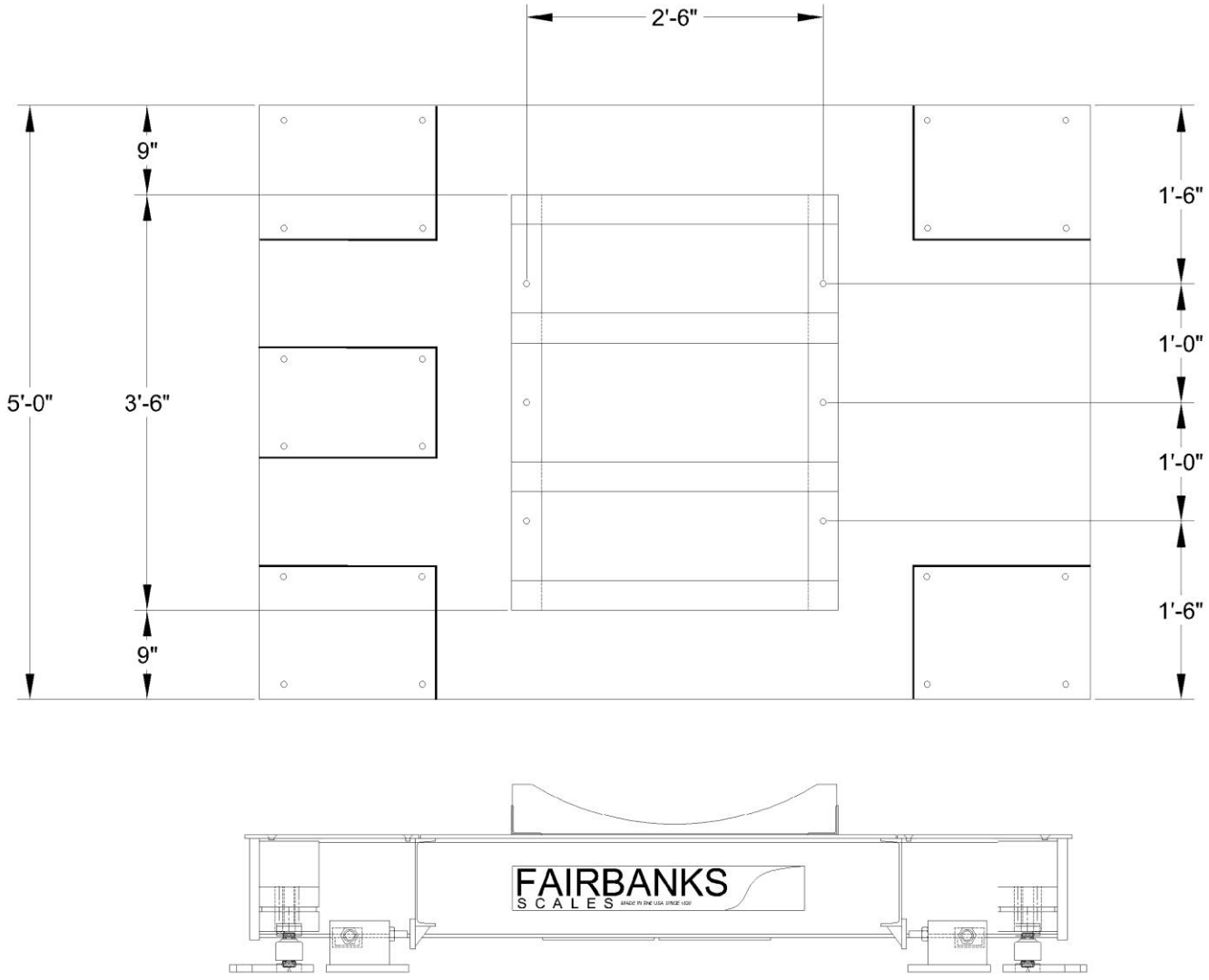
6.5. ACCESSORY PART DRAWINGS

6.5.1. Four (4') Foot Cradle, Aegis Coil Scale



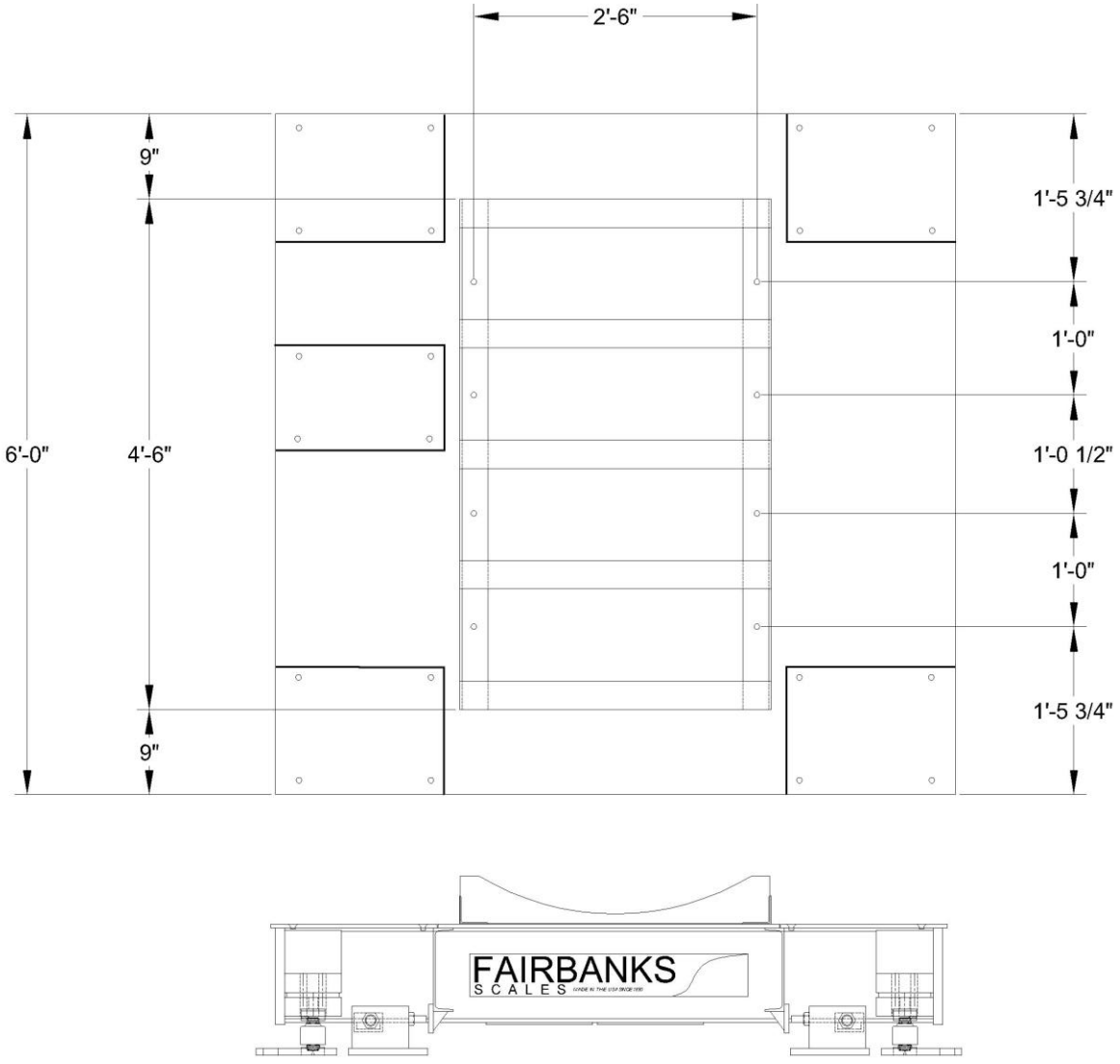
51205-16

6.5.2. Five (5') Foot Cradle, Aegis Coil Scale



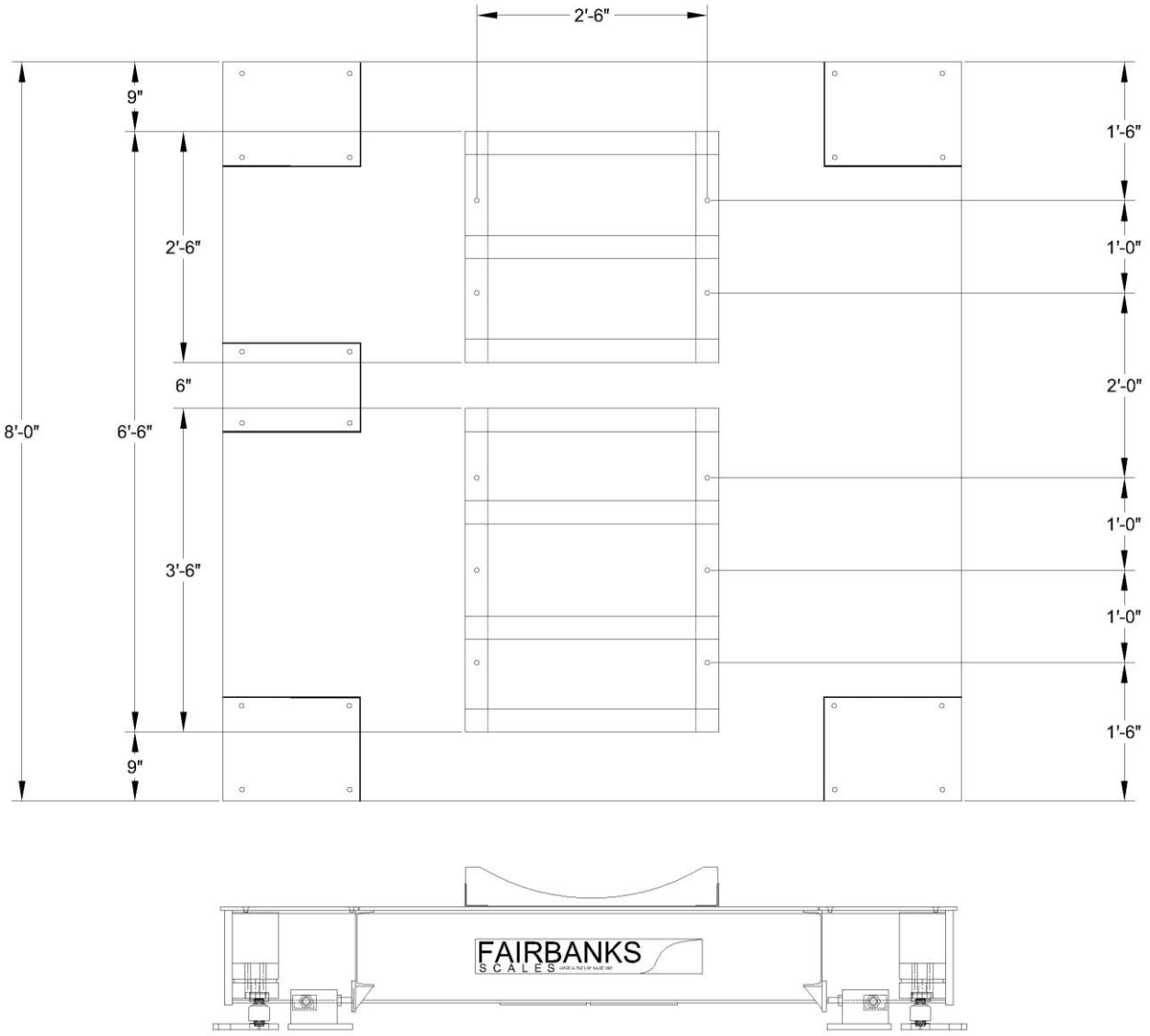
51205-17

6.5.3. Six (6') Foot Cradle, Aegis Coil Scale



51205-18

6.5.4. Eight (8') Foot Cradle, Aegis Coil Scale



51205-19

Aegis Coil Scale

INSTALLATION MANUAL

DOCUMENT 51205

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

www.fairbanks.com