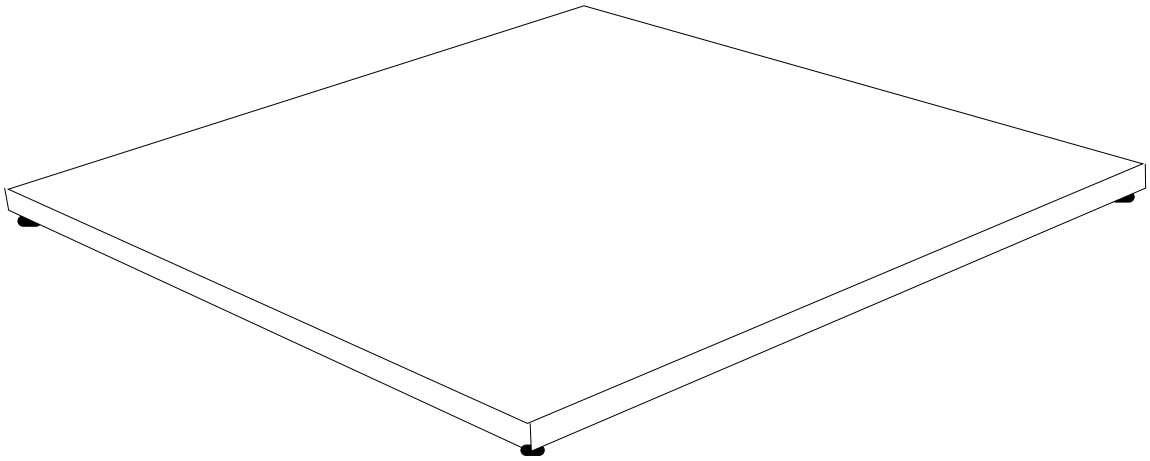
Installation Manual

Reliant Series
Floor Scale

Model: 3300



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Issue 2 10/06

Amendment Record

Reliant Series Floor Scale
Model: 3300
50783

Manufactured by Fancor
821 Locust
Kansas City, Missouri 64106

Created	03/05	
Issue 1	03/05	New Product
Issue 2	10/06	Added NTEP and CWM Cerficate of Conformance numbers

Table of Contents

Section 1: General Information

A. Introduction

The Reliant Series floor scale is a general purpose scale designed for basic weighing applications which require the platform to be installed and relocated in a minimal amount of time. It is available in two different models and has several different optional accessories which may be added to the scale. These optional accessories include ramps, bumper guards, and bolt down plates.

B. Specifications

Model:	3300	
Product Number:	25690	25691
Part Number:	83701	83702
Capacity:	2500 lb	5000 lb
e MIN:	0.5 lb	1 lb
n MAX:	5000	5000
Platform size:	4’ x 4’	4’ x 4’
Load Cell Specifications:		
Capacity	1000 lb	2500 lb
Material:	Mild Steel	
Resistance:	1000 Ohm	
Rated Output:	2 mV/V	
Safe Overload:	150 %	
Compensated Temp Range:	-10° C to 40° C	
Safe Operating Temp Range:	-10° C to 40° C	

NTEP CC: 05-032

CWM CC: AM-5579

Note:

The Reliant series floor scale is designed for general purpose applications and will not accomodate concentrated loading such as forklift traffic. Severe damage to the scale will occur and will void any warranties, written or implied.

Section 2: Installation

A. General Service Policy

Prior to installation, it must be verified that the equipment will satisfy 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. Other than the procedures authorized in the Operating manual, no service, repair, or adjustments may be performed by unauthorized / untrained service personnel. Any unauthorized repairs will void any verbal, implied, or written warranties.

B. Overview

1. These instructions apply to the floor scale and its specific installation procedures. The procedures for instruments, printers and other peripherals are given in manuals specifically provided for those units.

2. All mechanical calibrations and or adjustments required to make this equipment perform to accuracy and operational specifications are considered to be part of the installation, and 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.

3. Absolutely no physical or electrical modifications are to be made to this equipment. Electrical connections other than those specified may not be performed, and physical alterations (holes, etc.) are not allowed.

4. Before the installation is considered complete, the equipment is to be calibrated to meet or exceed any applicable weights and measures requirements, if applicable. The installing technician is responsible to make certain customer personnel are fully trained and familiar with the capabilities and limitations of the equipment. Be prepared to recommend the arrangement of components which will provide the most efficient layout, utilizing the equipment to the best possible advantage. The warranty policy must be explained and reviewed with the customer.

C. Unpacking

1. Check that all components are on hand, and agree with the customer's order.

2. Remove all components from their packing material, checking to make certain that all parts are accounted for and no parts are damaged. Advise the shipper immediately if damage has occurred. Order any parts necessary to replace those which have been damaged. Keep the shipping container and packing material for future use. Check the packing list.

3. Collect all necessary installation manuals.

4. Perform an inspection, making certain all hardware and electrical connections are secure.

D. Safety

As is the case with any material handling equipment, certain safety precautions should be observed during operation:

1. Never load the platform beyond its rated capacity. Refer to the rating on the serial number plate of the platform.

2. Ensure that any structure which supports the platform is capable of withstanding the weight of the platform plus its rated capacity load.

3. Do not load the platform if there is any evidence of damage to the platform or supporting structure.

4. Use safety chains or other suitable restraining devices if there is any possibility of the load shifting, falling, or rolling from its position on the platform.

E. Installation Procedure

1. Select a location which 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.

~Caution~

Failure to use the proper lifting tools may result in personal injury.

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

5. Wire the scale interface cable to the proper type indicator using the following platform wiring/ color code:

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

Section 3: Calibration

A. Calibration Procedure

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

a. Perform a coarse platform calibration which will be close to the actual weight.

b. Identify the platform's corner numbers.

c. Place a concentrated weight (25% of platform capacity) on corner 1, note the displayed weight, move the weight to corner 2, note the displayed weight, move and note the displayed reading on each of the remaining corners.

d. If corners require adjustment:

1. Refer to the Maintenance and Service Section A Errors chart.

e. Final Calibration

1. Remove all weights.

2. Zero the indicator.

3. Perform a final calibration with test weights.

4. Follow the appropriate indicator service manual's calibration procedures to ensure a proper calibration.

Section 4: Accessories

A. Introduction

The Reliant series floor scales have several accessory options available. These accessories are Bolt-down plates, Ramps, and Bumper-Guards.

B. 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 scale's feet.

1. Installation

a. Place the platform in position.

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

c. 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, a set of four bolt-down plates will be required.

C. Ramps

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

1. Installation

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

b. 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, a set of two bolt-down plates is needed
- Only two ramps total may be installed on opposite sides of a scale platform.

D. Bumper Guards

Bumper Guards are designed to *help* protect the platform from abuse resulting from ensuing 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 nonscale traffic, but will not touch or interfere with the platform's 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.

E. Balance Junction Box

1. Installation

a. Remove the scale access cover plate.

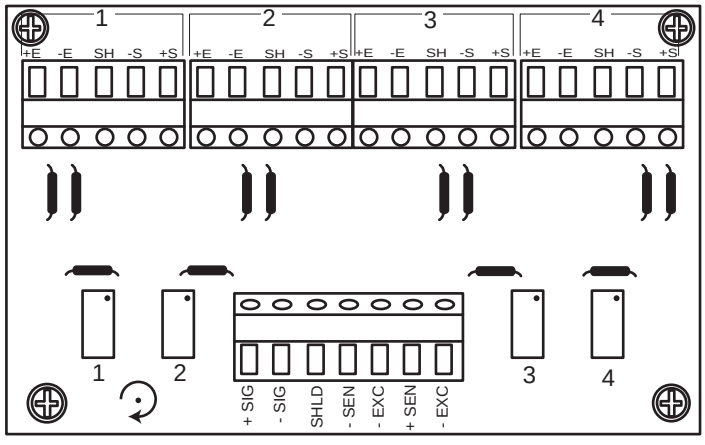
b. Check that all load cells have wire markers on the cable ends. If not, identify load cells with wire markers or other means, then disconnect the load cell wires and the main interface cable wires.

c. Dress all wires in order to be inserted into terminal blocks.

d. Remove balance junction box cover and loosen all gland fittings.

e. Insert the cables into the gland fittings and connect the cables to the appropriate terminal block. The load cell cable for load cell number one (1) will connect to the terminal block designated one (1). This process will continue for all four (4) load cell cables. The main interface cable will connect to the terminal block opposite the load cell terminals.

f. Connect the load cell cable as follows:



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Cable Wire Color	Function	Balance Junction Box
Black	(-) Excitation	- E
Green	(+) Excitation	+ E
Yellow	Shield	SH
White	(+) Signal	+ S
Red	(-) Signal	- S

g. Connect the main interface cable as follows:

Cable Wire Color	Function	Balance Junction Box
Black	(-) Excitation	- EXC
Green	(+) Excitation	+ EXC
Yellow	Shield	SHLD
White	(+) Signal	+ SIG
Red	(-) Signal	- SIG
*	(-) Sense	- SEN
*	(+) Sense	+ SEN

* = Used only when main interface cables exceed twenty five (25) feet.

h. Tighten all gland bushing nuts

i. Calibrate as necessary. See Platform Cornering Adjustments.

j. Replace the box cover and tighten all screws. Replace the platform access cover .

2. Platform Cornering Adjustments

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

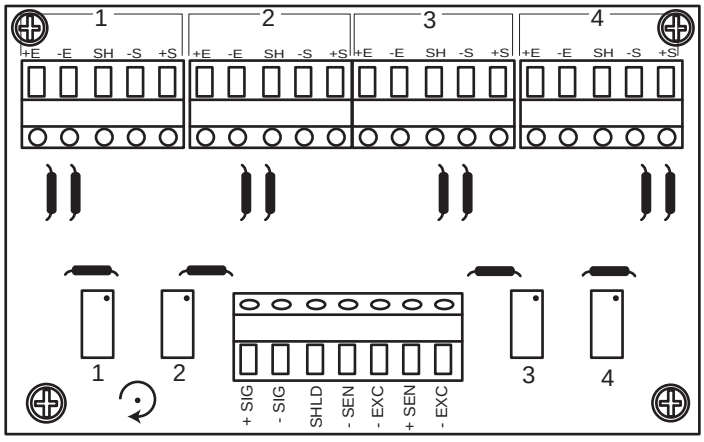
1.) Perform a course platform calibration close to the actual weight.

2.) Identify the platform corner numbers.

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

4.) If corners require adjustment:

a.) 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 clockwise (CW). Repeat this procedure while rechecking all corners until there are no errors. Perform a zero reference check with a unloaded platform, then repeat the corner test to ensure all readings are the same before proceeding.



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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:
The balance *junction box assembly has four (4) extended range, multi-turn potentiometers, one for each load cell. If you have difficulty cornering the platform, turn all potentiometers to the fully counter clockwise (CCW) position until a clicking is heard when turned. With the weight on the lowest reading corner, turn the corresponding potentiometer clockwise (CW) to read the same as the highest reading corner. Repeat this procedure for each corner until the platform is properly calibrated.*

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

a.) Remove all weights

b.) Zero the indicator

c.) Perform a final calibration with test weights

d.) Follow the appropriate indicator service manual for indicator calibration.

Section 5: Maintenance and Service

A. Errors

Symptom	Cause	Solution
Corner Errors	Debris under scale.	Remove debris.
	Load cell failure.	Replace load cell.
	Broken foot assembly.	Replace foot.
	Platform not level.	Level platform.
	Load cell tolerance change.	Adjust balance junction box per Section 4, if equipped.
Unstable indication	Cables damaged.	Repair cables.
	Load cell failure	Replace load cell.
	Indicator failure	Repair indicator

B. Load Cell Replacement

1. Remove power to the indicator.

2. Remove the cover plate. Identify the load cells with wire markers or other means and disconnect the failed load cell cable at the splice connections.

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 a pull string/wire in the scale.

5. Remove the foot assembly from the old load cell and install on the new load cell. Use anti-seize on the bolt threads.

6. Disconnect the pull string/wire from the old load cell's cable and attach to the new load cell's cable end. Pull the cable of the new load cell through to the splice connection. Mount the load cell using anti-seize on the mounting bolts and torque to 90 ft/lbs.

7. Lower the scale and remove the safety blocks.

8. Ensure that the weight is shared evenly by all four (4) feet. Using crimp connectors, connect the load cell wires to the interface cable at the splice connection. Test and calibrate the scale. Replace the cover plate.

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 bolt which goes through the load cell and the post on the foot assembly.

3. Pull the foot assembly out of the load cell.

4. Ensure the “O” ring is on the post of the new foot assembly. The “O” ring should be lubricated before the foot assembly is replaced.

5. Slide the post of the foot assembly into the hole in the load cell. Align the position of the foot so that the holes of the foot align with the hole in the load cell.

6. Insert the bolt and tighten.

7. Lower the platform to the floor and adjust the foot to level the platform.

D. Balance Junction Box/PCB Replacement

1. Remove power to the indicator

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

3. Loosen all gland bushing nuts

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

5. Remove the balance junction box/ PCB, then install the new balance junction box/ PCB.

Note:

Leave the box cover OFF until all calibration adjustments are completed.

6. Reconnect all load cell and main interface cable wires to the new balance junction box/ PCB.

7. Tighten all gland bushing nuts

8. Recalibrate as necessary.

9. Replace the box cover and tighten all screws. Replace the platform access cover .

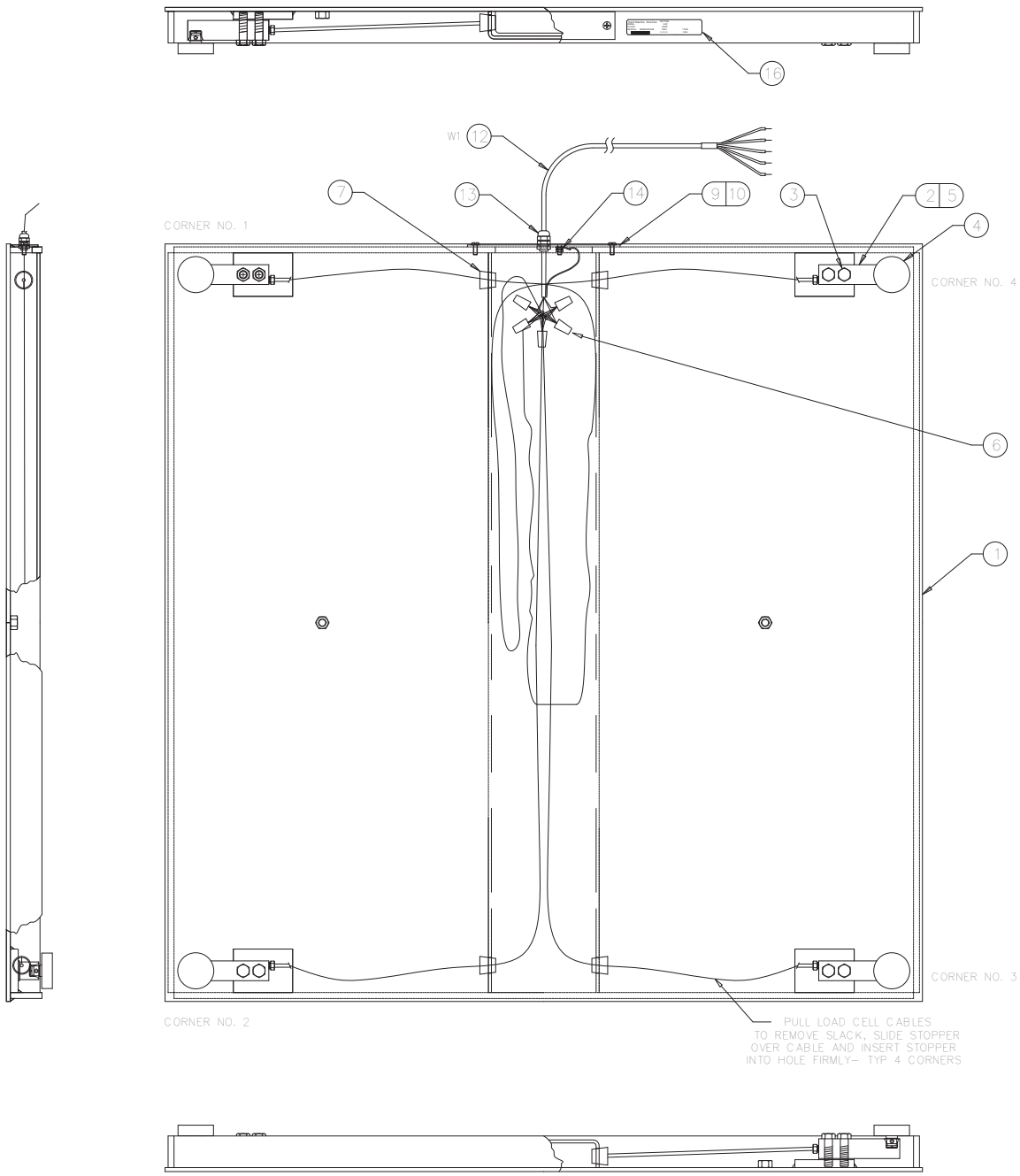
Section 6: Parts

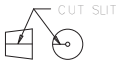
A. Platform Parts List

Item	Part#	Description	Models
1	83703	Platform Weldment	ALL
2*	83634	Load Cell	1K
2*	83635	Load Cell	2.5K
3	54502	Screw, Cap ½-20 x 1.75	ALL
4	63899	Foot Assembly	ALL
5	66754	Shim	ALL
6	24988	Crimp Connector	ALL
7	11330	Stopper	ALL
9	83709	Cover Plate Assembly	ALL
10	54054	Screw, Cap ¼-20 x 0.5	ALL
12	12838	Cable Assembly 30’	ALL
13	17533	Connector, Liquid Tight	ALL
14	11103	SS Hex Nut 10-24	ALL
16	N/A	Nameplate	ALL

B. Optional Accessories Parts List

N/S	96141	Balance Assy pcb only	ALL
N/S	63599	Balance junction box assy	ALL
N/S	63753	Ramp (4’)	ALL
N/S	72194	Bumper Guard (4’)	ALL
N/S	70895	Eyebolts (Set of 2)	ALL
N/S	63776	Bolt down plates (Set of 4)	ALL
N/S	63778	Bolt down plates (Set of 2)	ALL





DETAIL A

NOTES:
1. MODIFY STOPPERS, ITEM 7, BY CUTTING A SLIT AS SHOWN IN DETAIL A, PRIOR TO INSTALLING ON LOAD CELL CABLES.
2. APPLY ANTI–SEIZE SEALING COMPOUND TO THE SCREWS, ITEM 3, PRIOR TO ASSEMBLING AND TORQUE SCREWS TO 90 FT–LBS.
3. USE CRIMP STYLE WIRE NUTS TO MAKE ALL CONNECTIONS

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Appendix I: Accessories

A. Ramps and Bumper Guards

Size	Cap	Ramp	Bumper Guard
4' x 4'	2.5K	63753(4')	72194 (4')
4' x 4'	5K	63753(4')	72194 (4')

B. Bolt-Down Plates and Eyebolts

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

C. Balance Junction Box

Size	Cap	Product Number	Description
ALL	ALL	83941	*Balance junction box assy

* = Factory Installed upon initial product order only.