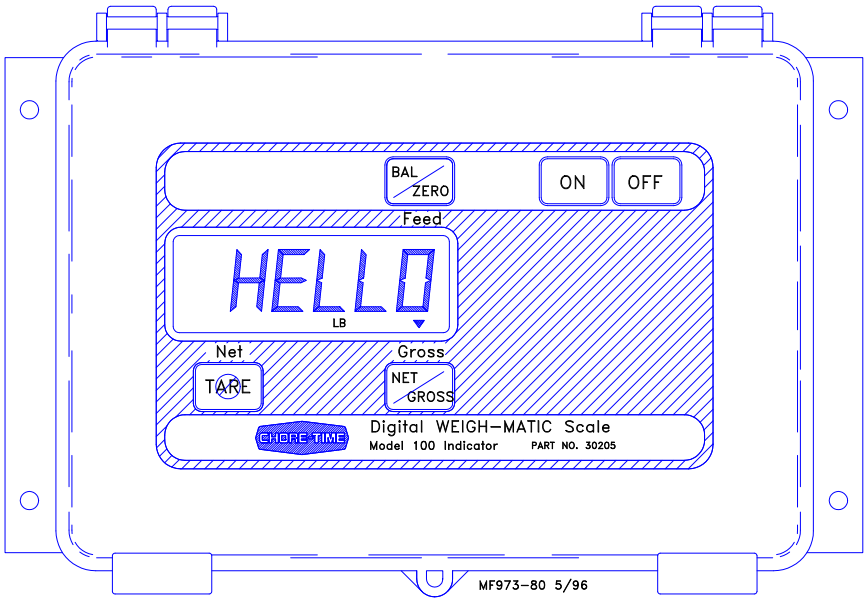
CHORE-TIME®

Featuring the Model 100
Digital Indicator

Digital WEIGH-MATIC®

Installation & Operation Manual



FEATURES INCLUDE:

- *Scrolling HELP messages for easy operation.*
- *Large 1" display for greater readability.*
- *Front panel calibration without simulator or weight.*
- *Fiber-Optic back-lighting for extremely long life.*
- *RS-232 Port for computer/printer hook-up.*
- *Multi-Lingual Display*

June 1996 MF973D44

The Chore-Time Warranty

Chore-Time Equipment warrants each new product manufactured by it to be free from defects in material or workmanship for one year from the date of initial installation by the original purchaser. If such a defect is found by Chore-Time to exist within the one year period, Chore-Time will, at its option, (a)repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement.

Additional extended warranties are herewith provided to the original purchaser as follows:

1. TURBO™ and RLX™ Fans, less motors, for three years from date of installation.
*2. Poultry feeder pans that become unusable within five years from date of installation. Warranty prorated after three years usage.
3. MEAL-TIME® Hog Feeder pans that become unusable within five years of installation.
4. Rotating centerless augers, excluding applications involving High Moisture Corn (exceeding 18%), for ten years from date of installation. Note: MULTIFLO® and applications involving High Moisture Corn are subject to a one year warranty.
5. Chore-Time manufactured roll-formed steel auger tubes for ten years from date of installation.
*6. Laying cages that become unusable within ten years. Warranty prorated after three years usage.
*7. ULTRAFLO® Auger and ULTRAFLO® Feed Trough (except ULTRAFLO® Trough Liners) are warranted for a period of five (5) years from date of original purchase against repeated breakage of the auger or wear-through of the feed trough caused solely by the auger.

Conditions and limitations:

1. The product must be installed and operated in accordance with instructions published by Chore-Time or warranty will be void.
2. Warranty is void if all components of a system are not supplied by Chore-Time.
3. This product must be purchased from and installed by an authorized Chore-Time dealer or certified representative thereof, or the warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under this warranty.
5. This warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this warranty.

Chore-Time shall not be liable for any consequential or special damage which any purchaser may suffer or claim to have suffered as a result of any defect in the product. "Consequential" or "special damages" as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

THIS WARRANTY CONSTITUTES CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Any exceptions to this warranty must be authorized in writing by an officer of the company. Chore-Time reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

*See separate Chore-Time Cage Wire Warranty as to these products.

CHORE-TIME EQUIPMENT, A Division of CTB, Inc.
P.O. Box 2000, Milford, Indiana 46542-2000 U.S.A.

Support Information

The Chore-Time Digital WEIGH-MATIC Scale Systems is designed to assist in inventorying poultry and livestock feed. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury and/or death.

This manual is designed to provide comprehensive planning, installation, operation, and parts listing information. The Table of Contents provides a convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personnel, installer, and consumer (end user).

Chore-Time Equipment recognizes CE Mark and pursues compliance in all applicable products. Fill in the CE-Mark serial number in the blank space provided for future reference.

CE

(CE-mark serial number)

Please fill in the following information about your Chore-Time feeding system. Keep this manual in a clean, dry place for future reference.

Distributor's Name _____

Distributor's Address _____

Distributor's Phone _____ **Date of Purchase** _____

Installer's Name _____

Installer's Address _____

Installer's Phone _____ **Date of Installation** _____

System Specifications _____

Feed Delivery System Supplying _____

Table of Contents

*Legend: C = Customer, D = Distributor, I = Installer

Safety Information

Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety signs.

Using the equipment for purposes other than specified in this manual may cause personal injury or damage to the equipment.

Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury. Chore-Time equipment is designed to be installed and operated as safely as possible...however, hazards do exist.

Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.

DANGER - - indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING - - indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION - - indicates a hazardous situation which, if not avoided, MAY result in minor or moderate injury.

DANGER—ELECTRICAL HAZARD

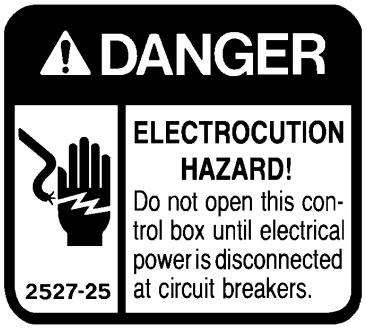
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.

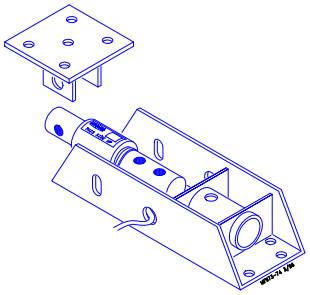


Glossary of Terms

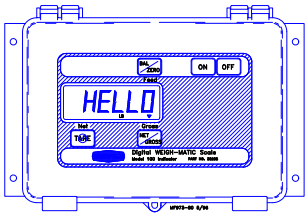
Mount Base .. . . The Mount Base is the heavy, steel frame that the bin leg sets on. The Load Cell is secured within the Mount Base. (T.C. type shown)

Load Cell . . .. The Load Cells are the sensing devices of the scale. They mount inside the Base and are secured in place by (2) pins. (T.C. type shown)

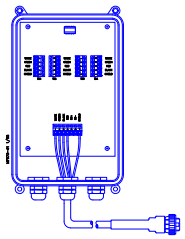
Top Mount . .. . The Top Mount is the flat steel plate that connects the bin leg to the Mount Base.



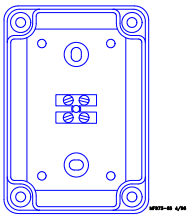
Digital Indicator . . .. The Digital Indicator, mounted inside the house, is used to control the scales. It has an electronic, visual readout showing weights and help messages. The Digital Indicator is equipped with an RS-232 port making it capable of communicating with a computer and/or printer.



Junction Box . .. . The J-Box, mounted on a bin leg or within steel framing, serves as a junction box into which all the Load Cells are wired. The Junction Box is referred to as the J-Box throughout this manual.



Connection Box . . .. The Connection Box, mounted near the Digital Indicator, is a water tight enclosure used to connect 12 V power from the Transformer to the Indicator power cord.



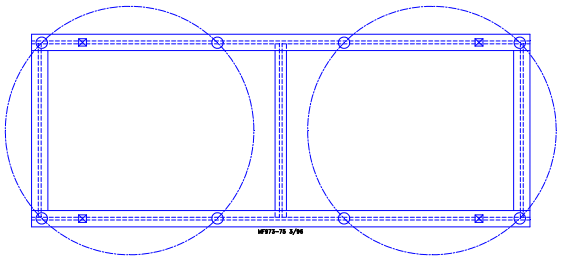
Gross Weight .. . . Gross weight refers to the total weight on the scale, including feed bin, ladder, feed, fill system, and steel framing (if required).

Dead Weight .. . . Dead weight refers to the weight of the bin, ladder, fill system, and steel framing. Does not include weight of feed. See pg. 32 (Balancing the Scale).

Net Weight . .. . Net weight refers to the total weight of the feed. Does not include the weight of the bin, fill system, or steel framing.

Beam Assembly . .. . The Beam Assembly is used on 6-legged bins that are not to be mounted on a bin platform. The (2) Beam Assemblies carry the load of (2) legs each, thus requiring (4) Mount Kits instead of 6. The Beam Assemblies may be used on bins that carry a maximum gross weight of 48,000 lbs or 21,773 kg.

Steel Framing . .. . Steel framing is used in applications that require both feed bins be combined. One scale system in installed beneath the steel framing.



...about the Chore-Time Digital WEIGH-MATIC Scales...

All Chore-Time Digital WEIGH-MATIC Scale systems include temperature compensation which is advantageous for continuous inventory applications. The temperature compensation provides an accurate inventory of weight through a broad range of temperature variations. The Chore-Time Digital Scale system models available are based on maximum feed capacity. The gross capacity of the scale system includes the weight of the feed bin and FLEX-AUGER Feed Delivery System.

The Digital Scale indicators feature micro-processor control with non-volatile memory to retain the current inventory if power is interrupted. The indicators have a help feature to provide easy set-up and operation. The Model 100 Digital Indicator is used to provide feed inventory amounts and is available with a computer interface port (RS 232). The Scale Junction Control is required as a connection box for the Model 100 Indicator.

Features and Specifications

- Accurate to 99%.
- Weather-resistant to water, moisture, and dust.
- Reliable 12-volt operation eliminates problems with fluctuating electrical power. System uses 110-volt AC or 220 VAC to 12-volt DC power supply.
- Temperature range -20 to 140 degrees F (-28 to 60 degrees C).
- Easy to read backlight LCD display.
- The scales are an effective management tool.
- Easy to use and set-up (scrolling help messages).
- Temperature compensated load cells
- Easy to install and operate.

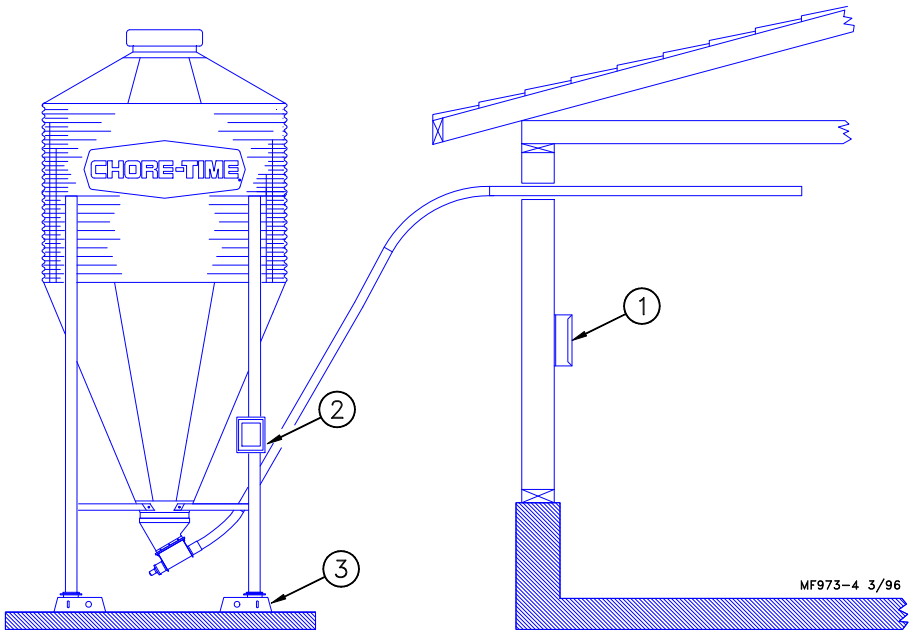
System Planning

Carefully plan the system layout prior to beginning the installation.

Important: The standard scale kit includes 30’ (9.1 m) of wire to connect the J-Box (mounted on bin leg/frame) to the Indicator (mounted inside the house). For installations that require the J-Box to Indicator distance to be up to 100’ (30 m), an Extension Cable must be ordered separately. If desired, the J-Box may be ordered with a 30’ (9.1 m), 50’ (15.2 m), 70’ (21.3), or 90’ (27.4 m) cord.

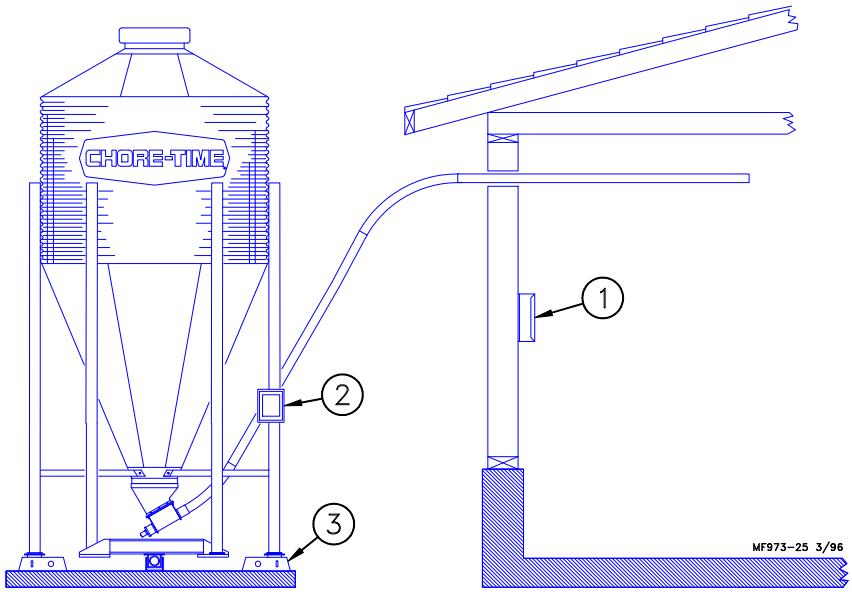
The bin should be installed so that no components (such as ladders, conveyors, conduit, etc.) come in contact with the ground or other building structures in a way that would cause an inaccurate weight reading.

The diagrams, on pages 7 & 8, show the common system layouts for the Digital WEIGH-MATIC Scale components. Refer to the diagram that best fits your particular application. Note: For bins with six legs, use of Beam Assemblies is recommended.



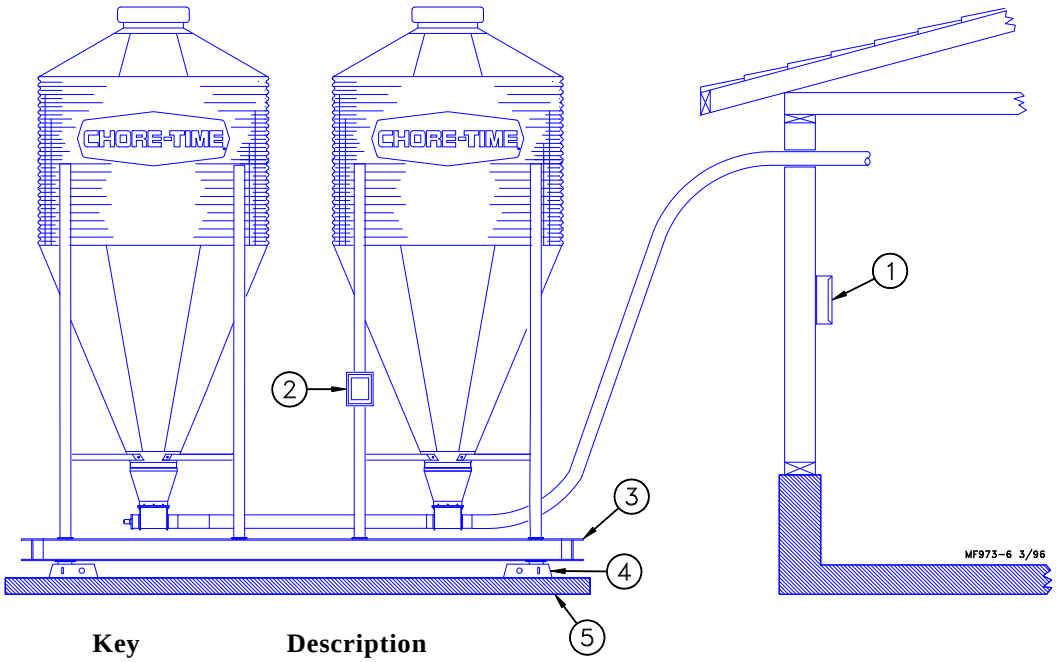
Key	Description
1	Indicator Box
2	J-Box
3	Mount Kit

Figure 1. Digital WEIGH-MATIC System components layout for 4-Legged Bin (side view)



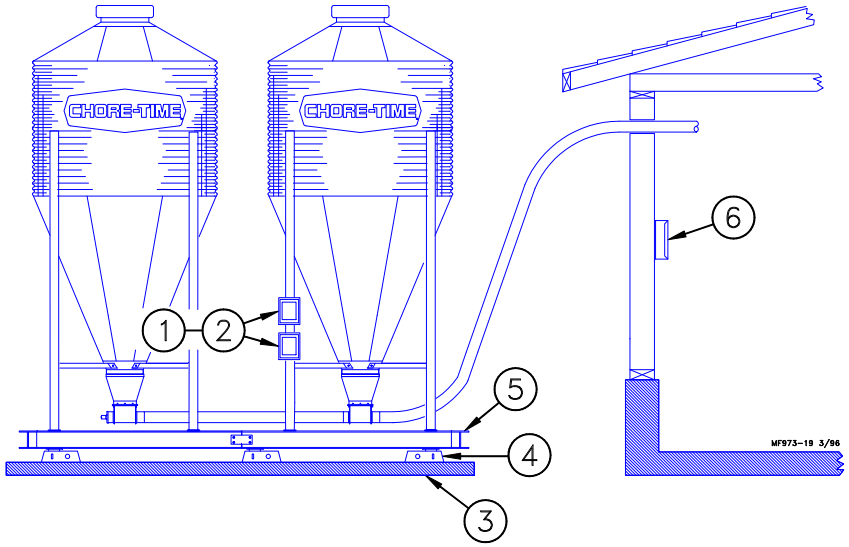
Key	Description
1	Indicator Box
2	J-Box
3	Mount Kit

Figure 2. Digital WEIGH-MATIC System components layout for 6-Legged Bin (side view)



Key	Description
1	Indicator Box
2	J-Box
3	Bin Platform
4	Mount Kit
5	Concrete Pad

Figure 3. Digital WEIGH-MATIC System components layout for (2) Bins and Bin Platform with (4) Load Cells (side view)



Key	Description
1	Duplex Kit
2	J-Box
3	Concrete Pad
4	Mount Kit
5	Bin Platform
6	Indicator Box

Figure 4. Digital WEIGH-MATIC System components layout for (2) Bins and Bin Platform with (6) Load Cells (side view)

Site Planning

To insure accurate operation, the scales must be installed on a flat, level, well drained surface. Chore-Time recommends setting the scales and bins on a 12" (305 mm) thick concrete pad. Consult your feed bin manual for concrete specifications.

Allow concrete to harden completely before anchor bolt holes are drilled.

Refer to the Flex-Auger Installation Manual and the Feed Bin Assembly Manual to determine bin-to-building placement.

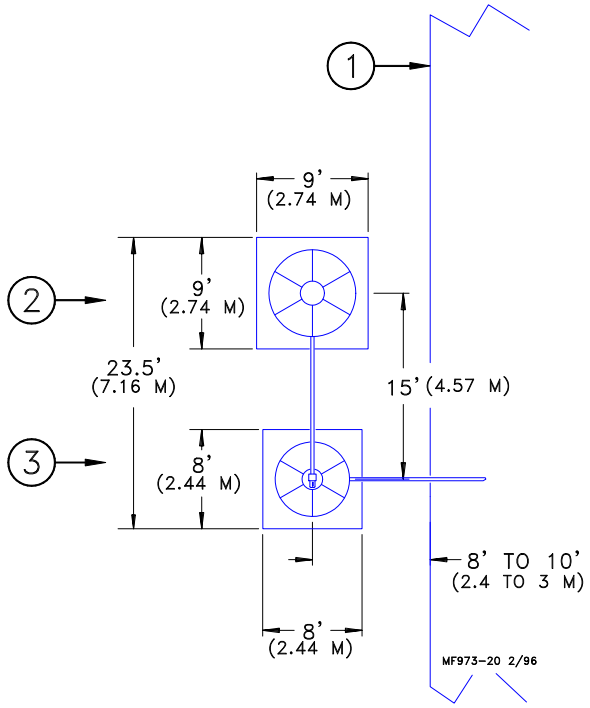
For installations that require a storage bin to fill a Weigh Bin, some dimensional specifications are provided (see Figures 5 - 8). For ease of installation and most trouble-free operation, the Weigh Bin should be located directly in line with the FLEX-AUGER Delivery System. Some installations may require the storage bin to be placed at 90 degrees to the fill system. This type of installation is acceptable.

Typically, the Weigh Bin is set 8 to 10 feet (2.4 to 3 m) from the building. This varies somewhat depending on the desired height of the FLEX-AUGER System inside the building. Two 45 degree PVC elbows and one 10 foot (3 m) PVC tube are required to go between the Weigh Bin and the building. To place the bin nearer to or farther from the building, additional tubes or elbows may be required.

Note: One pad should be used for installations that require a Bin Platform. Refer to the Bin Platform Information and Specifications on pages 11 through 17.

Bin pad locations & dimensions for

7' Storage Bin & Weigh Bin using (2) pads

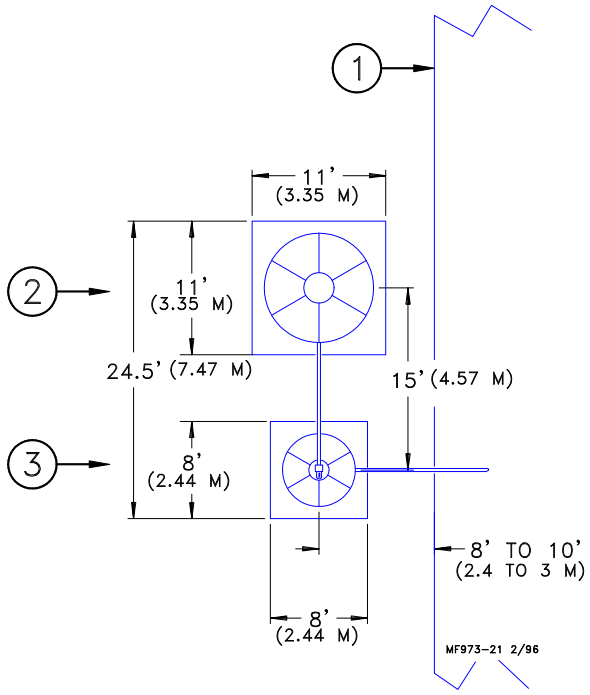


Key	Description
1	House
2	7' Dia. Storage Bin
3	Weigh-Bin

Figure 5. Bin Pad Layout and Position Diagram (top view)

Bin pad locations & dimensions for

9' Storage Bin & Weigh Bin using (2) pads

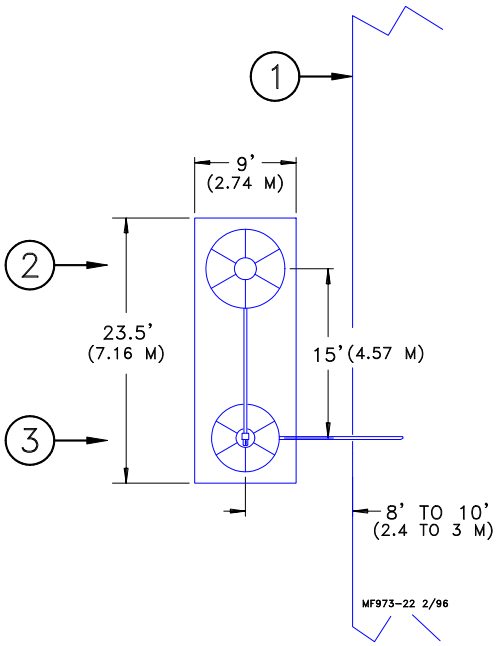


Key	Description
1	House
2	9' Dia. Storage Bin
3	Weigh-Bin

Figure 6. Bin Pad Layout and Position Diagram (top view)

Bin pad locations & dimensions for

7' Storage Bin & Weigh Bin using (1) pad

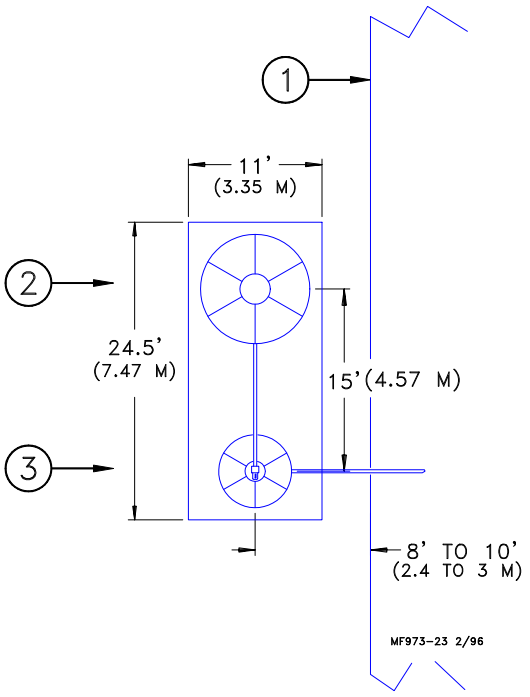


Key	Description
1	House
2	7' Dia. Storage Bin
3	Weigh-Bin

Figure 7. Bin Pad Layout and Position Diagram (top view)

Bin pad locations & dimensions for

9' Storage Bin & Weigh Bin using (1) pad



Key	Description
1	House
2	9' Dia. Storage Bin
3	Weigh-Bin

Figure 8. Bin Pad Layout and Position Diagram (top view)

Bin Platform Specifications

Chore-Time does not supply bin platforms. However, the necessary specifications and dimensions are provided on pages 12 through 18 to have the bin platforms built locally.

Construction drawings, along with steel specifications, are provided for various sizes of bins and scale capacities. Refer to the applicable diagram for the system you are installing. Please note that some of the bin platforms specify a pivot bracket to allow each half of the platform move freely.

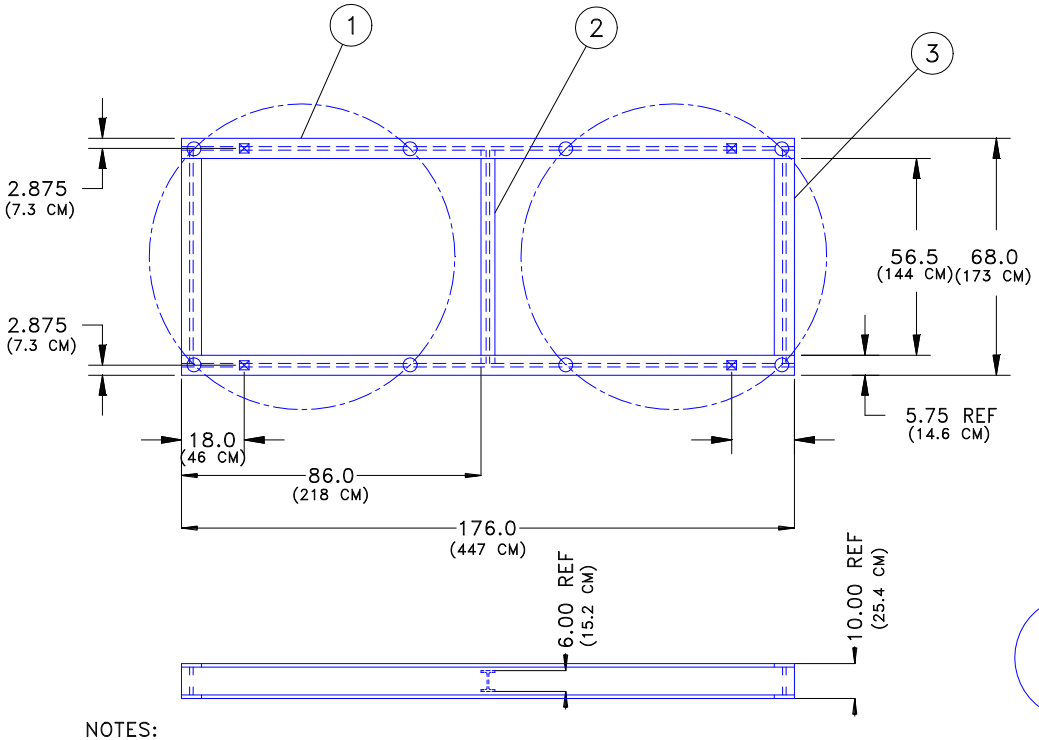
For specifications of bin platforms other than those supplied in this manual, consult your building contractor/engineer.

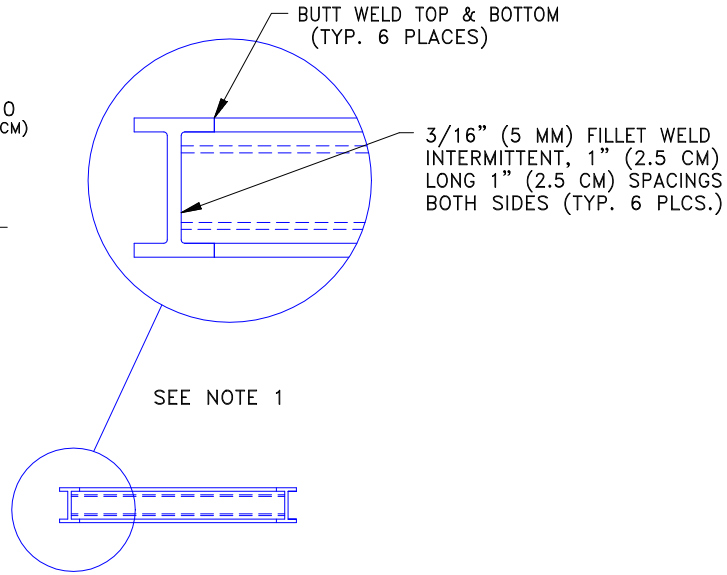
Bin Platform for

(2) 7 Foot, 4 Legged Bins

48,000 lbs (21, 773 kg) Scale System

50,000 lbs (22,680 kg) Maximum Capacity





NOTES:

1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.

2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.

3). ○ BIN LEG LOCATION

⊠ LOAD CELL LOCATION

KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W10 x 21 LB. BEAM 176.0 LG.
2	1	–	–	W6 x 12 LB. BEAM 62.0 LG.
3	2	–	–	W10 x 21 LB. BEAM 62.0 LG.

(30193)
BIN PLATFORM
2–7', 4–LEGGED 50,000# CAP.

MF973–39 8/94

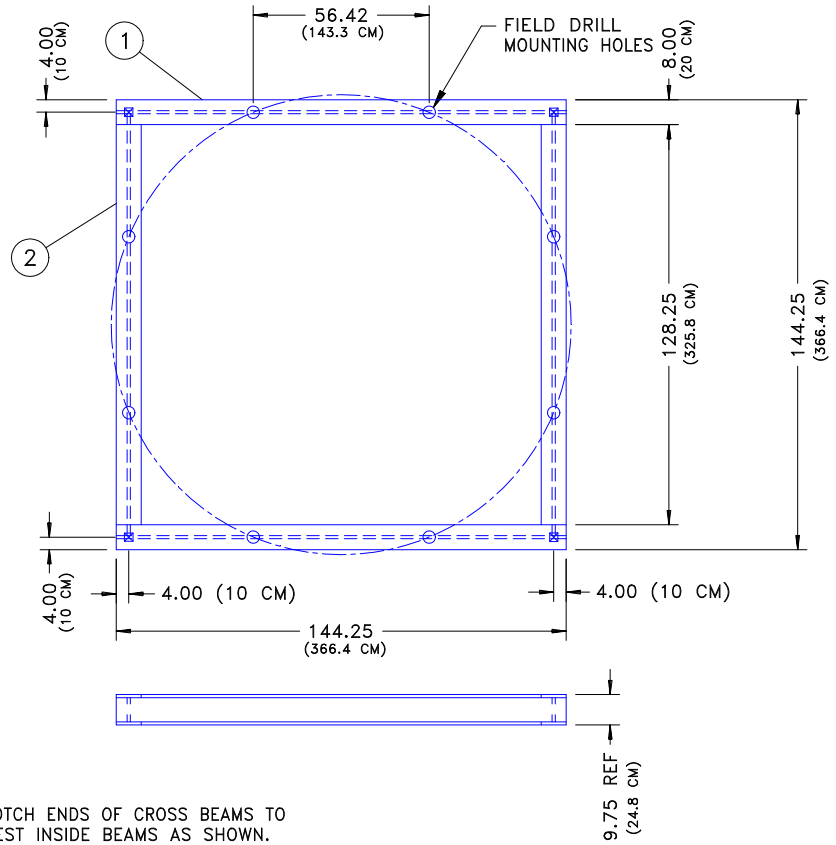
Note: All measurements on this page are in inches.

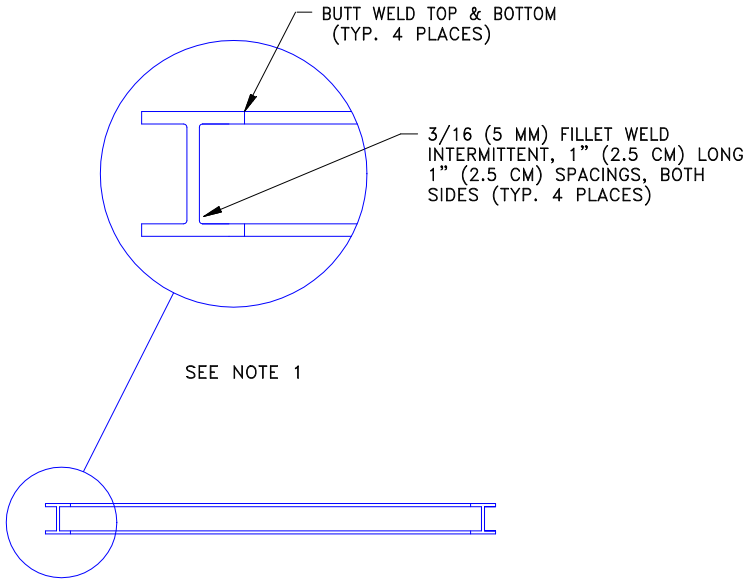
Bin Platform for

12 Foot, 8 Legged Bins

60,000 lbs (27,216 kg) Scale System

72,000 lbs (32,659 kg) Maximum Capacity





NOTES:

1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.

2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.

3). ○ BIN LEG LOCATION

⊠ LOAD CELL LOCATION

KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W10x33LB STL BEAM 144.25
2	2	–	–	W10x33LB STL BEAM 136.0

(30195)
BIN PLATFORM
12' 8–LEGGED, 72,000# CAP.

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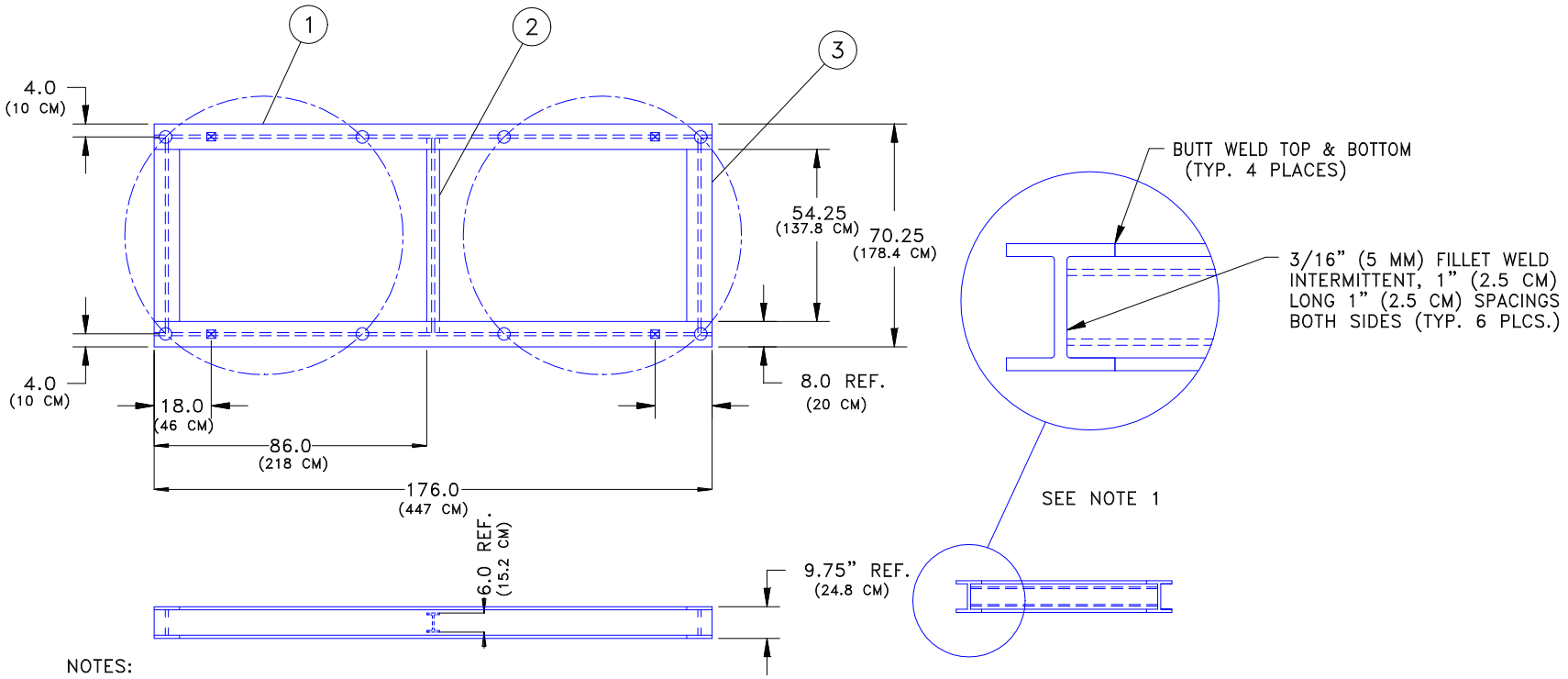
Note: All measurements on this page are in inches.

Bin Platform for

(2) 7 Foot, 4 Legged Bins

60,000 lbs (27,216 kg) Scale System

72,000 lbs (32,659 kg) Maximum Capacity



NOTES:

1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.

2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.

3). ○ BIN LEG LOCATION

⊠ LOAD CELL LOCATION

KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W10 x 33 LB. BEAM 176.0 LG.
2	1	–	–	W6 x 12 LB. BEAM 62.0 LG.
3	2	–	–	W10 x 33 LB. BEAM 62.0 LG.

(30185)
BIN PLATFORM
2–7', 4–LEGGED 72,000# CAP.

MF973–10 8/94

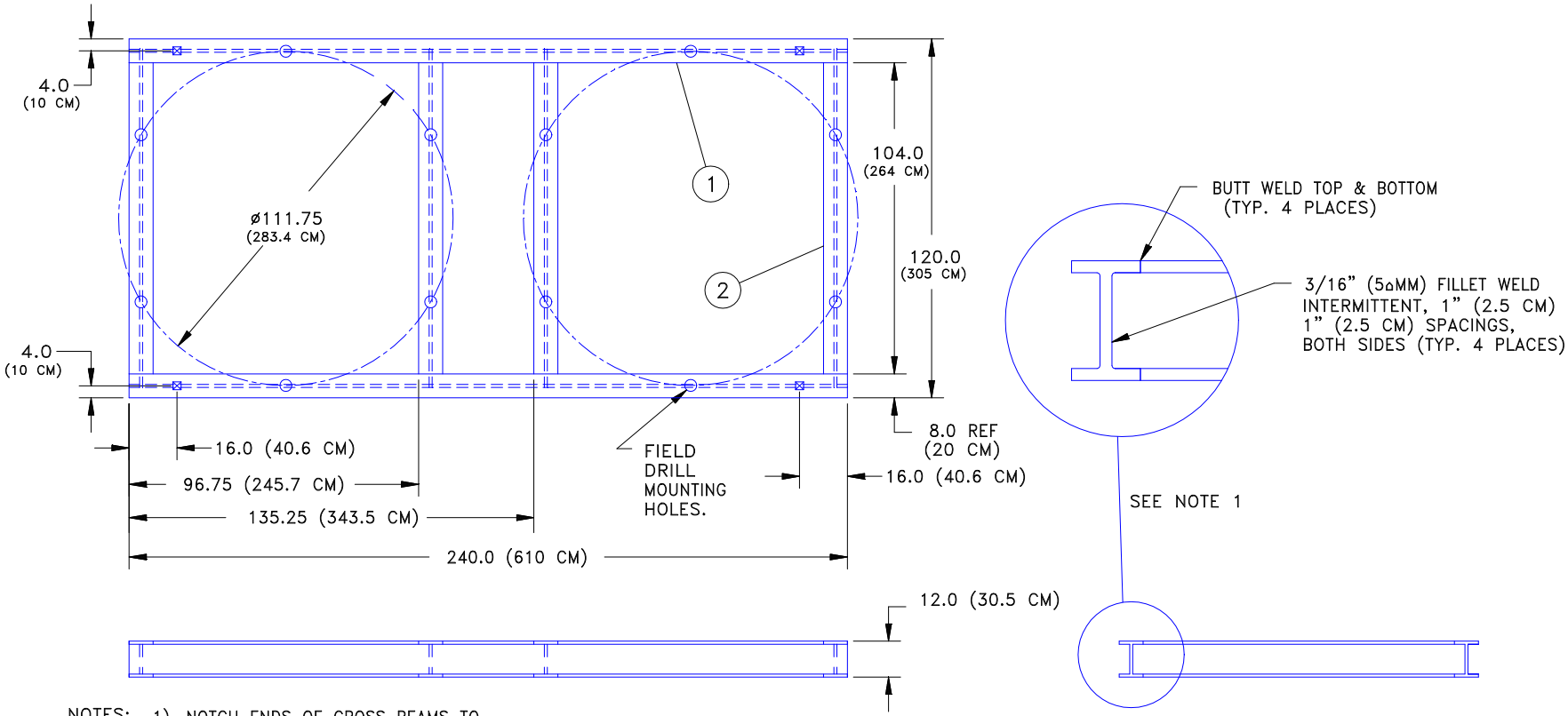
Note: All measurements on this page are in inches.

Bin Platform for

(2) 9 Foot, 6 Legged Bins

60,000 lbs (27,216 kg) Scale System

72,000 lbs (32,659 kg) Maximum Capacity



NOTES:
1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.
2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.
3). ○ BIN LEG LOCATION
⊠ LOAD CELL LOCATION

KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W12 x 40 LB. BEAM 240.0 LG.
2	4	–	–	W12 x 40 LB. BEAM 111.7 LG.

(30180)
BIN PLATFORM
2–9', 6–LEGGED 72,000# CAP.

MF973–9 8/94

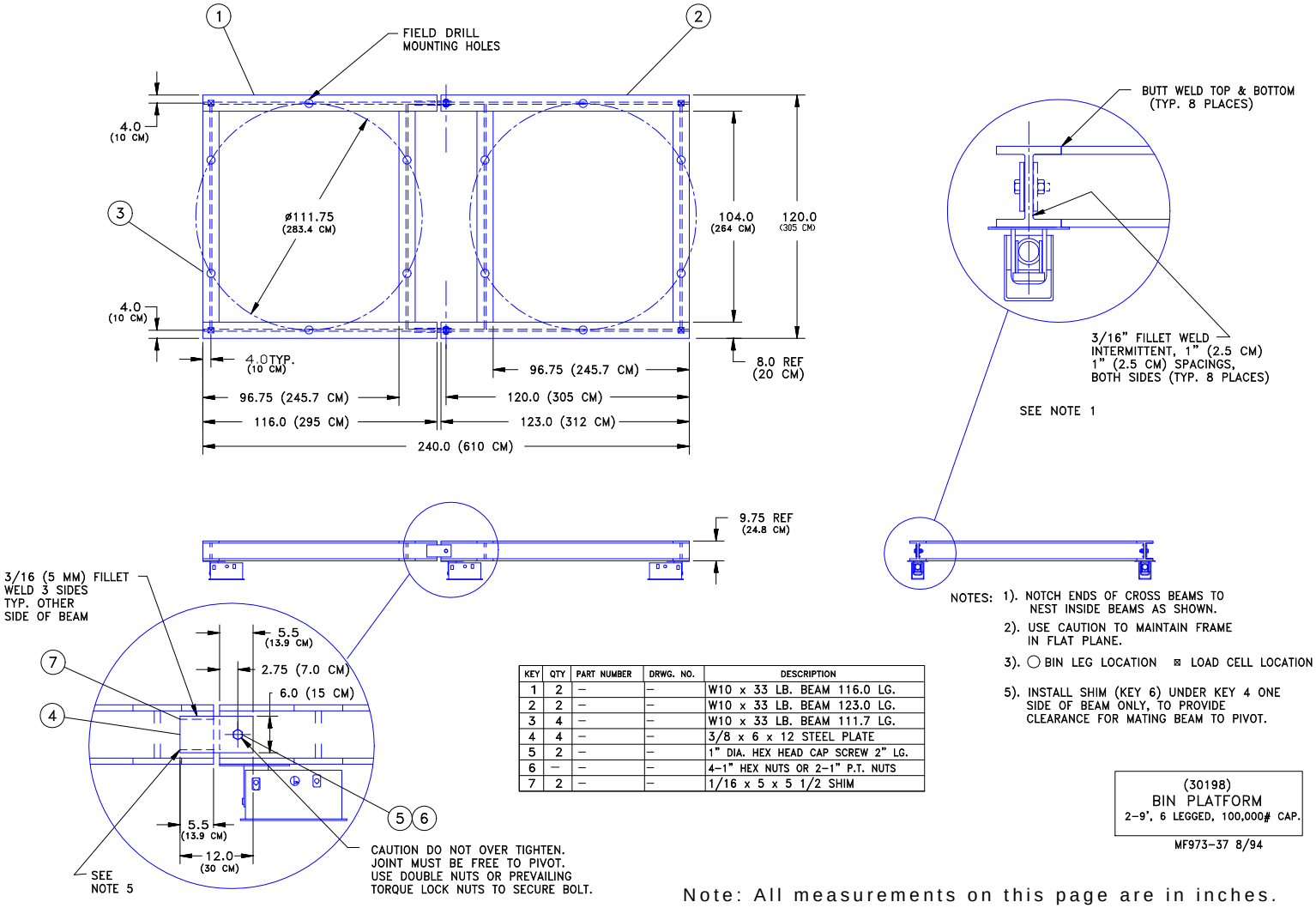
Note: All measurements on this page are in inches.

Bin Platform for

(2) 9 Foot, 6 Legged Bins

90,000 lbs (40,824 kg) Scale System

108,000 lbs (48,989 kg) Maximum Capacity



KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W10 x 33 LB. BEAM 116.0 LG.
2	2	–	–	W10 x 33 LB. BEAM 123.0 LG.
3	4	–	–	W10 x 33 LB. BEAM 111.7 LG.
4	4	–	–	3/8 x 6 x 12 STEEL PLATE
5	2	–	–	1" DIA. HEX HEAD CAP SCREW 2" LG.
6	–	–	–	4–1" HEX NUTS OR 2–1" P.T. NUTS
7	2	–	–	1/16 x 5 x 5 1/2 SHIM

NOTES:
1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.
2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.
3). ○ BIN LEG LOCATION ⊠ LOAD CELL LOCATION
5). INSTALL SHIM (KEY 6) UNDER KEY 4 ONE SIDE OF BEAM ONLY, TO PROVIDE CLEARANCE FOR MATING BEAM TO PIVOT.

(30198)
BIN PLATFORM
2–9', 6 LEGGED, 100,000# CAP.

MF973–37 8/94

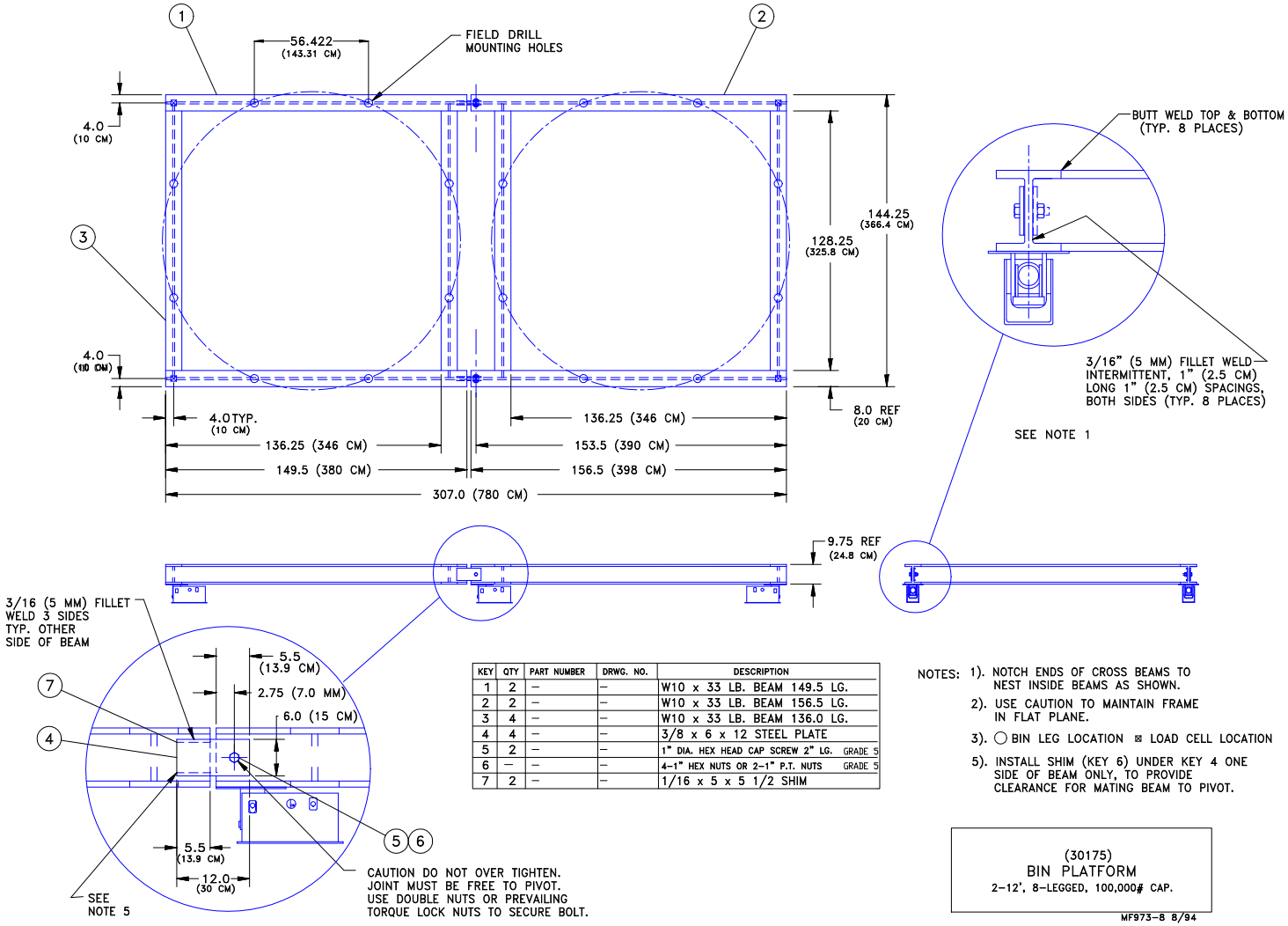
Note: All measurements on this page are in inches.

Bin Platform for

(2) 12 Foot, 8 Legged Bins

90,000 lbs (40,824 kg) Scale System

108,000 lbs (48,989 kg) Maximum Capacity



KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W10 x 33 LB. BEAM 149.5 LG.
2	2	–	–	W10 x 33 LB. BEAM 156.5 LG.
3	4	–	–	W10 x 33 LB. BEAM 136.0 LG.
4	4	–	–	3/8 x 6 x 12 STEEL PLATE
5	2	–	–	1" DIA. HEX HEAD CAP SCREW 2" LG. GRADE 5
6	–	–	–	4-1" HEX NUTS OR 2-1" P.T. NUTS GRADE 5
7	2	–	–	1/16 x 5 x 5 1/2 SHIM

NOTES:
1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.
2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.
3). ○ BIN LEG LOCATION ⊠ LOAD CELL LOCATION
5). INSTALL SHIM (KEY 6) UNDER KEY 4 ONE SIDE OF BEAM ONLY, TO PROVIDE CLEARANCE FOR MATING BEAM TO PIVOT.

(30175)
BIN PLATFORM
2-12', 8-LEGGED, 100,000# CAP.

MF973-8 8/94

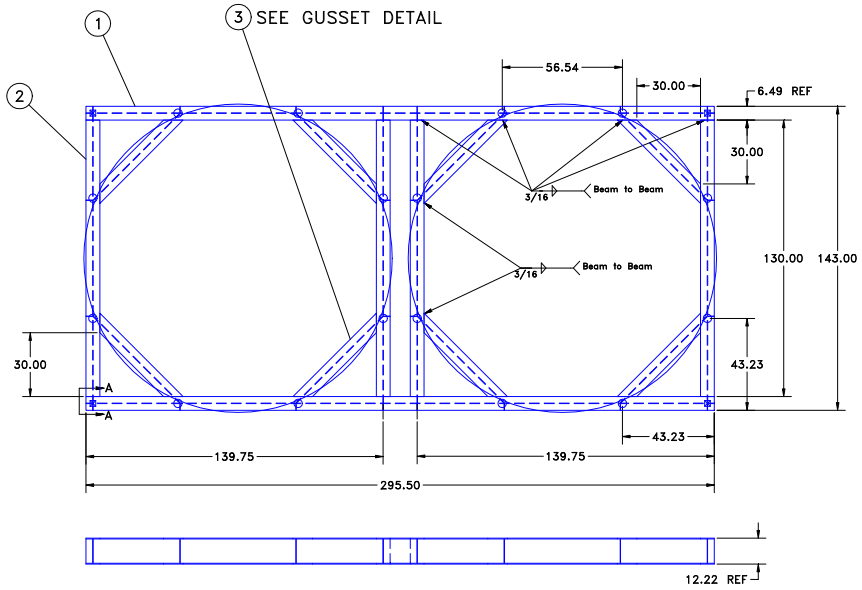
Note: All measurements on this page are in inches.

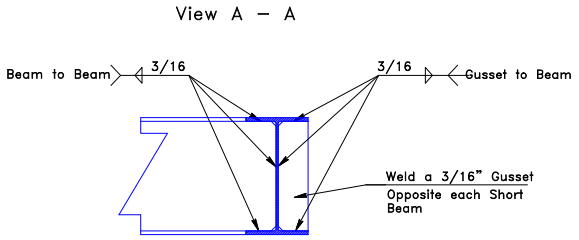
Bin Platform for

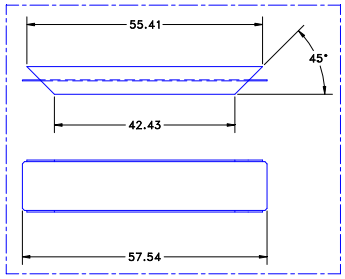
(4) 12 Foot, 8 Legged Bins

110,000 lbs (49,896 kg) Scale System

120,000 lbs (54,432 kg) Maximum Capacity







GUSSET DETAIL

KEY	QTY	PART NUMBER	DRWG. NO.	DESCRIPTION
1	2	–	–	W12 x 26 LB. BEAM 295.5 LG.
2	4	–	–	W12 x 26 LB. BEAM 130.0 LG.
3	8	–	–	W12 x 26 LB. BEAM 57.5 LG.
4				
5				
6				
7				

NOTES:
1). NOTCH ENDS OF CROSS BEAMS TO NEST INSIDE BEAMS AS SHOWN.
2). USE CAUTION TO MAINTAIN FRAME IN FLAT PLANE.
3). ○ BIN LEG LOCATION ⊠ LOAD CELL LOCATION

BIN PLATFORM
4–12', 8–LEGGED, 120,000# CAP.
MF973-75 7/95

Note: All measurements on this page are in inches.

Installation of the Scale Components

Step 1: Mount Base Location

Refer to the feed bin assembly instructions to determine the exact dimension between the bin legs.

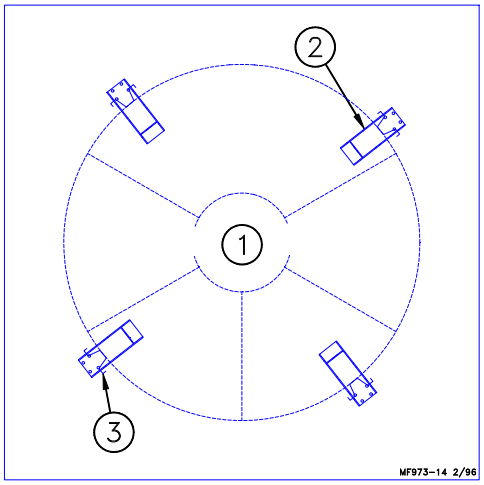
Lay the Mount Bases in their final locations so that a Top Plate is directly under each feed bin leg. See Figure 9.

Secure the Mount Base to the concrete with the concrete anchors supplied. The T.C. 15 uses 7/16" concrete anchors. All others use the 1/2" concrete anchors.

Secure a Top Mount to each bin leg, using 1/2" hardware supplied.

If the bin legs must be welded to the Top Plate, be careful not to damage the Load Cells (or other components) during welding. Later in the installation, it may be necessary to install some shims between the bin and the Top Mount, therefore welding is not recommended.

IMPORTANT: If welding is required, clamp welding ground cable to bin leg (not to the Load Cell Mount).



Key	Description
1	Feed Bin
2	Mount Base
3	Bin Leg

Figure 9. Mount Base Location (top view)

Step 2: Mount Base Assembly and Installation (for T.C. Load Cells)

For ease of installation, lubricate the long end of the Load Cell and the Mount Tube with grease.

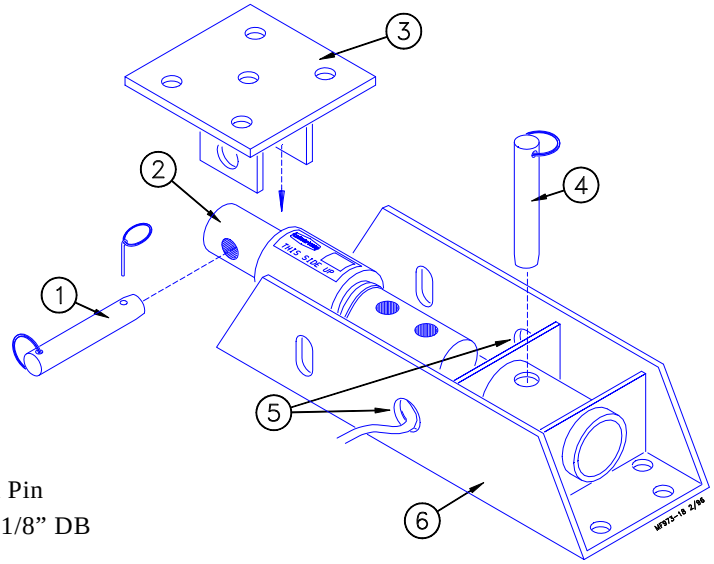
Install the long end of the Load Cell in the Mount Tube as shown in Figure 10. The Load Cell should be retained in the Mount Tube using a 3/4" pin, supplied.

Route the cable through either of the 1" (25 mm) holes in the side of the Mount Base.

Note: Refer to the decal on the Load Cell to determine proper orientation of the Load Cell in the Mount Base.

Set the bin on the Mount Bases and secure the Top Mounts to the Load Cell using the 5/8" pins supplied.

When the bin is empty, each mount must equally share the load. Use the shims, supplied with the bin, to evenly distribute the weight. The shims should be located between the bin leg and the Top Mount.



Key	Description
1	5/8” x 5” Quick Pin
2	1-7/8” DB or 2-1/8” DB
3	Top Mount
4	3/4” x 6” Quick Pin
5	Route Cable Through Either Hole
6	Mount

Figure 10. T.C. Mount Base Installation

Step 2: Mount Base Assembly and Installation (for C.T. Load Cells)

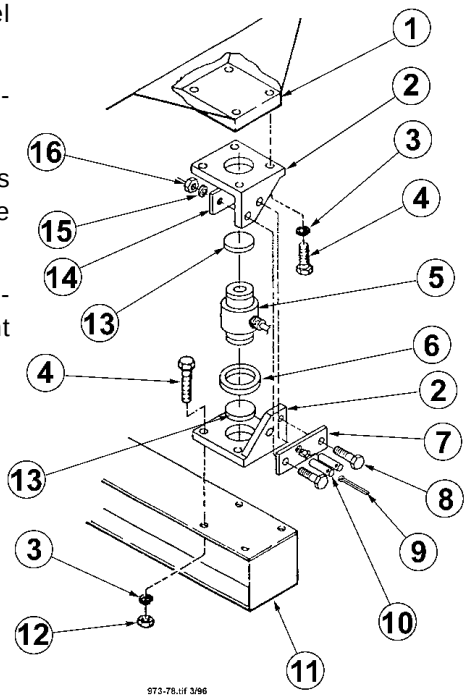
Clean mounts and Load Cells of all dirt and foreign material.

Secure Mount Halves to bin leg and steel frame.

Assemble the Load Cell and mounting components, as shown in Figure 11.

Check for vertical alignment. All Load Cells should maintain vertical alignment. Adjust the Mount Halves, as required for alignment.

Allow approximately 1/8” (3 mm) clearance between the Mounting Plates and the Mount Halves.



Key	Description
1	Bin Leg (not supplied)
2	C.T. Mount Half
3	Lock Washer (not supplied)
4	Hex Head Bolt (not supplied)
5	C.T. Load Cell
6	Sealing Ring
7	C.T. Mount Welded Plate
8	Hex Head Bolt
9	Cotter Pin
10	C.T. Mount Pin
11	Steel Bin Frame (not supplied)
12	Hex Nut (not supplied)
13	Lock Washer (not supplied)
14	C.T. Mount Threaded Plate
15	Lock Washer
16	Hex Nut

Figure 11. C.T. Mount Base Installation

Step 3: J-Box Location & Installation

The J-Box is water resistant, but not water proof. Mount the J-Box on a bin leg, nearby wall, or other structure. See Figure 12.

The J-Box must be mounted close enough to the Mount Bases so that each individual cable will reach the J-Box.

Ground the J-Box to a nearby ground rod. Connect the ground cable to the copper grounding lug on the outside of J-Box.

Note: The standard system is shipped with 30' (9.1 m) of cable to connect the J-Box to the Indicator. For distances up to 100' (30 m), extension cables must be purchased separately. **Do not exceed 100' or 30 m between J-Box and Indicator.**

Note: If more than (4) Mount Bases are to be used, a Duplex Kit must be installed. The Duplex Kit must be ordered separately. Refer to the instructions shipped with the Duplex Kit for proper installation and wiring procedure.

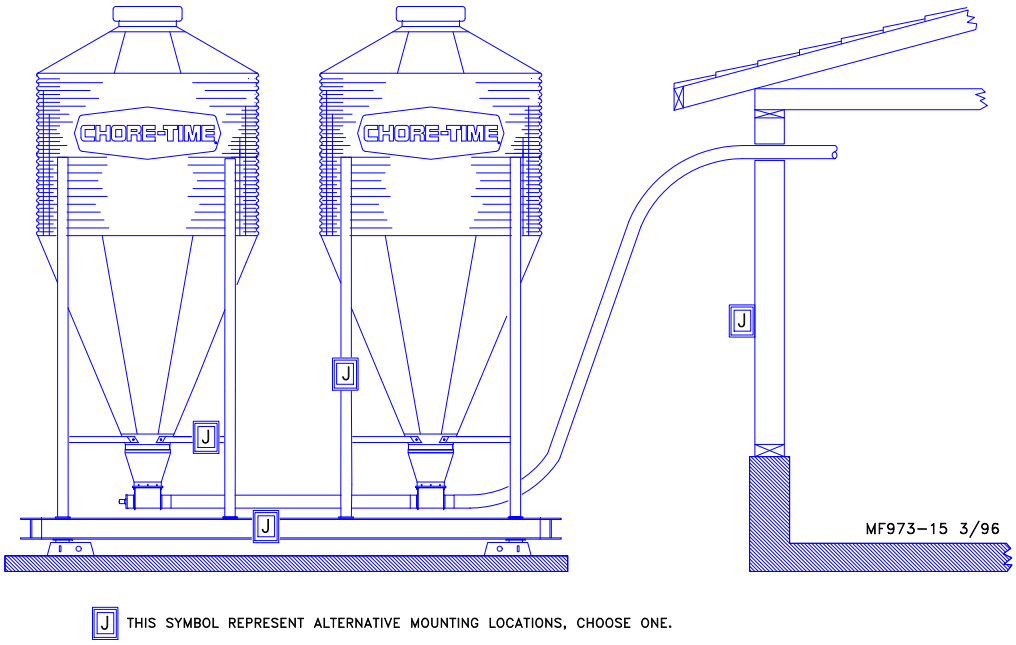


Figure 12. Mount Base Installation (side view)

Step 4: J-Box Wiring

Care should be taken so that all the cables are loosely routed to the J-Box. Chore-Time recommends routing the cables along the bin leg braces. Where possible, tie the cables to the bin braces and/or together using wire ties.

Use caution not to damage the cable on a sharp corner of the bin. **Do not cut the cable. The cable is calibrated for each individual load cell at the factory.**

Wire each of the Load Cell Cables into the J-Box terminal block. See Figure 13. Use the labels on the printed circuit board as a guide.

Later, when the Indicator is installed, connect the J-Box to the Indicator via the cable marked "TO INDICATOR." Refer to the section on installing the Indicator on pages 26 & 27.

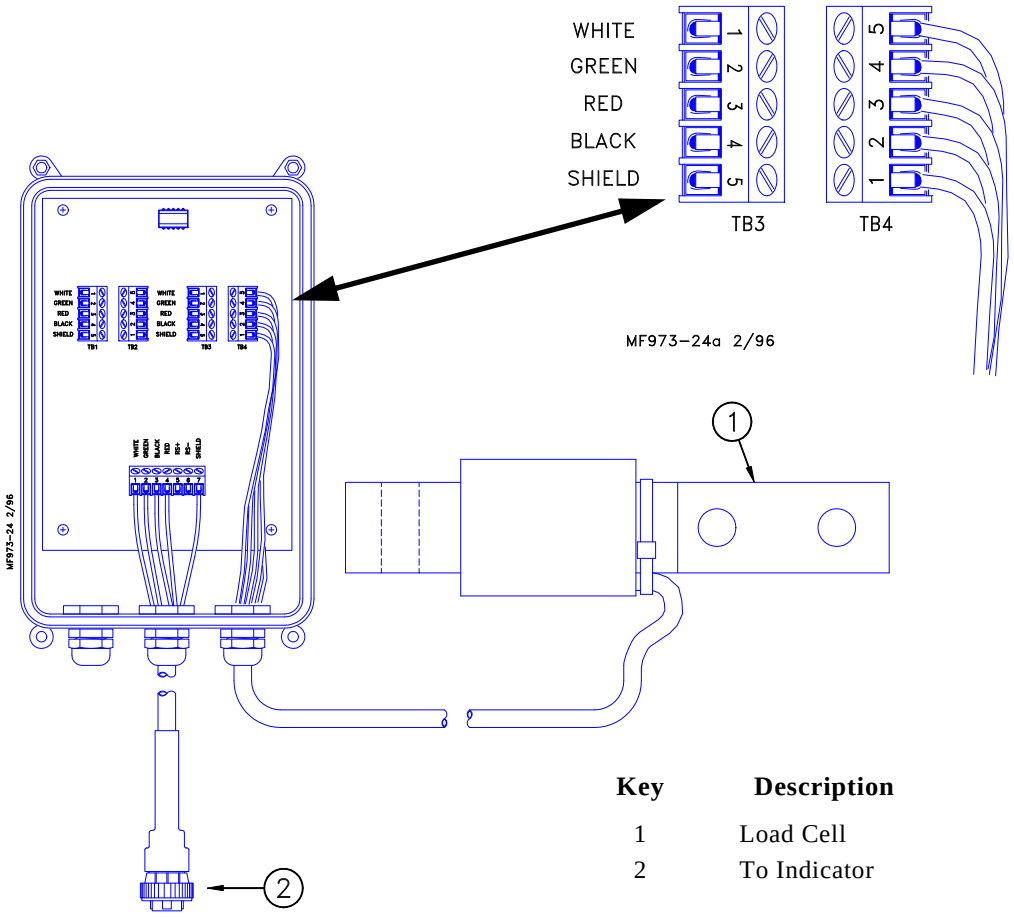


Figure 13. J-Box Installation (front view)

Step 5: Duplex Kit Installation

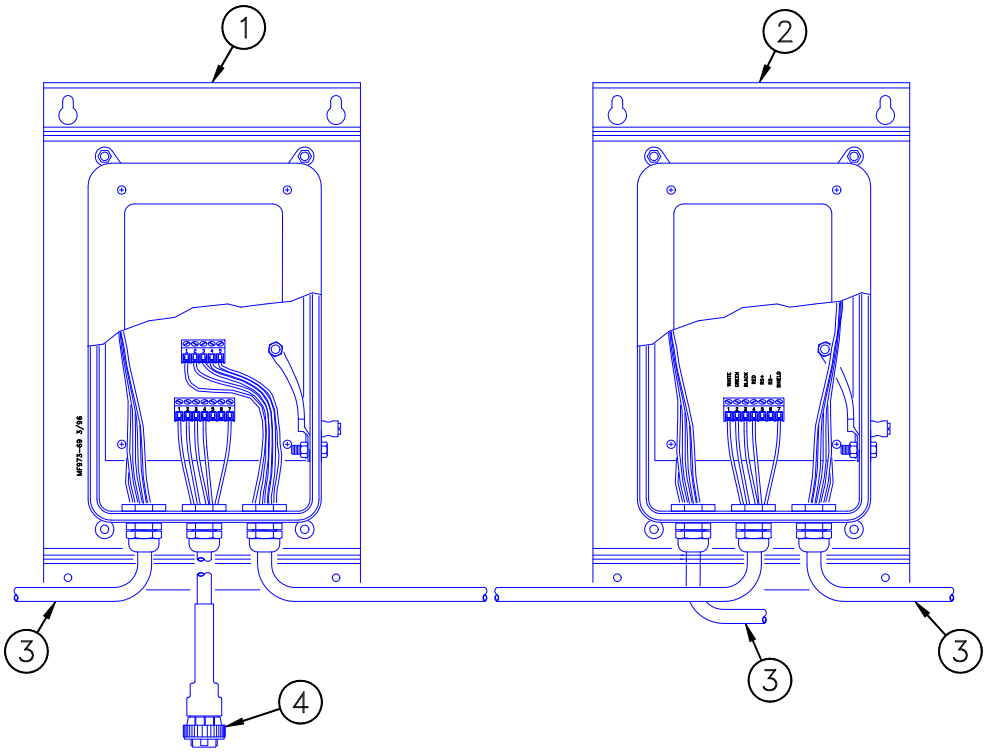
Scale systems that use more than (4) Load Cells require the Duplex Kit. See Figure 14.

The Duplex Kit provides a box with (4) additional terminal blocks for the Load Cell wire leads.

For example a scale using (6) Load Cells would have (4) Load Cells wire into box “A” and (2) Load Cells wired into box “B”. The wire from box “B” must be routed to the horizontal terminal block in box “A”. Route the wire from box “A” to the Indicator. See Figure 14 on page 23.

Note: The combined length of cable “A” and cable “B” must not exceed 100’ (30 m). These cables must be continuous cables with no cuts or splices. Coil the cables as specified in Figure 15 on page 24.

During Setup and Calibration the combined lengths of the cables must be considered when determining the proper setting numbers.



Key	Description
1	Box “A”
2	Box “B”
3	To Load Cell (note not all Load Cell wires are shown)
4	To Indicator

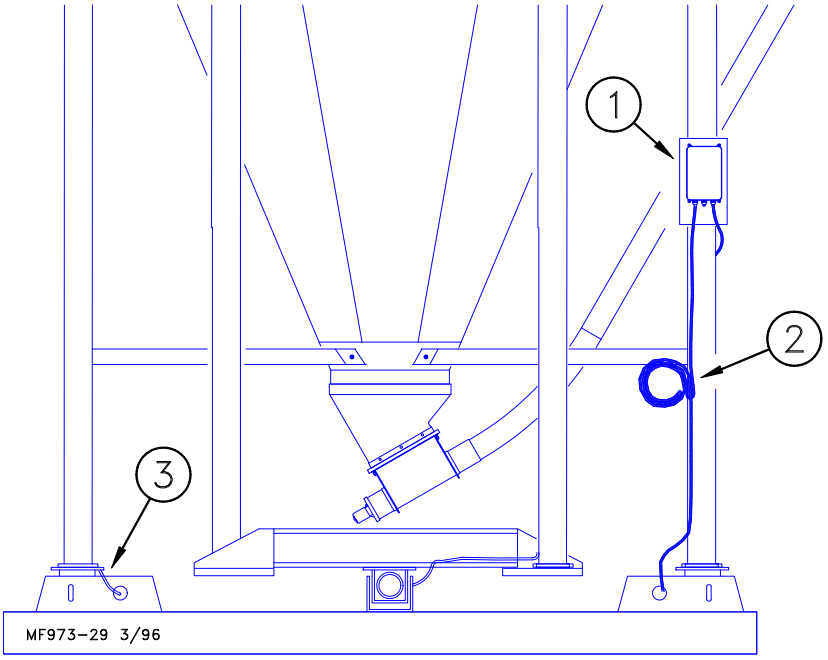
Figure 14. Duplex Kit Installation (front view)

Step 6: Properly Coiling the Cables

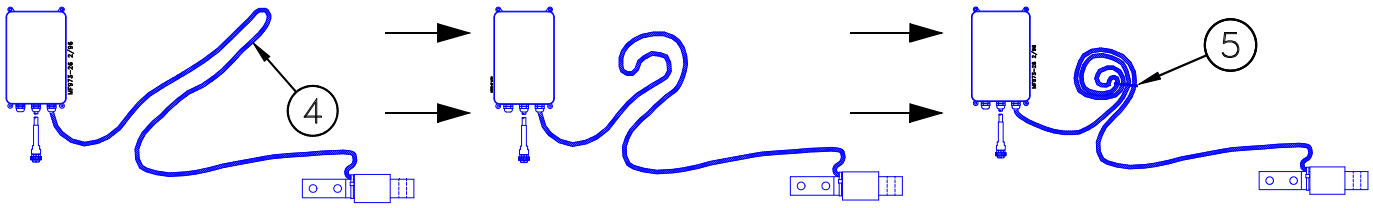
The excess J-Box and Load Cell Cables must be non-inductively coiled as shown, below. Note that when coiled in this manner, there will be an equal number of right hand and left hand coils. See Figure 15.

DO NOT CUT THE CABLES.

Use wire ties to secure the excess cable coils to the bin structure, as shown.



LOAD CELL CABLES MUST NOT BE CUT



Key	Description
1	Junction Box
2	Coil the excess cable and wire tie to bin leg.
3	Carefully route the cable along the bin framing. Allow enough cable for drip loop.
4	J- Box or Load Cell Cable
5	Cable Tie

Figure 15. Cable Routing and Coiling (front view)

Step 7: Grounding the System

Ground Rod Specifications:

The ground rod must be 8’ or 2.4 meters long (minimum) and must be free of non-conductive coatings, such as paint or enamel. The ground rod must be made from either: 1) 3/4" (19 mm) diameter or larger galvanized pipe, or 2) 1/2" (13 mm) diameter or larger copper-clad or solid copper rod.

Ground Cable Specifications:

The ground cable must be at least 6 gauge, solid or stranded copper wire. The wire may be insulated, covered or bare, and should be one continuous length with no splices or joints.

The J-Box and feed/storage bin must all be grounded to provide lightning protection.

Proper grounding is absolutely required to insure warranty coverage.

Chore-Time recommendations for the number and locations of ground rods required are shown in Figure 16 - 18.

--Standard 4-legged bin requires (2) ground rods. Two legs should be grounded to each ground rod. See Figure 16.

--Two (4)-legged bins, with separate scales systems, requires (4) ground rods. Two legs should be attached to each ground rod. See Figure 17.

--Single or multiple bins set on scale platform require (2) ground rods. The ground rods should be located at opposite ends of the pad. Only the platform needs to be attached to the ground rod. See Figure 18.

The ground rod must be installed so that 8’ (2.4 m) of its length is in contact with the soil.

The ground rod should be driven as near as possible to vertical and flush with the ground.

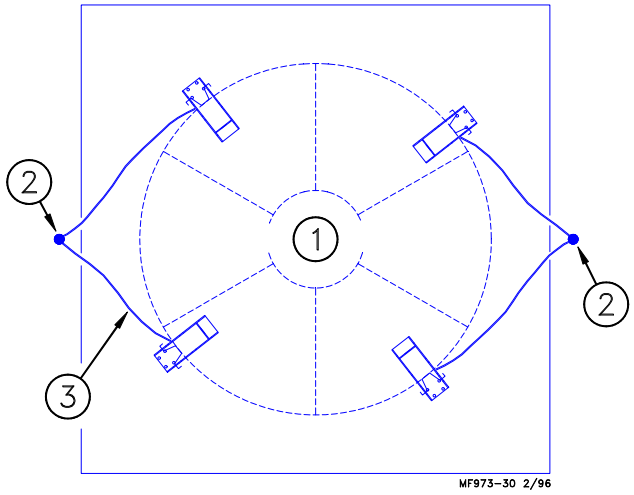
The ground rod should be embedded below permanent moisture level in the soil. If the ground rod cannot be driven further than 5’ (1.5 m), contact Chore-Time for additional grounding instructions.

The ground rod should be installed as close as possible to the equipment to be protected.

Multiple ground rods should be located at least 6’ (1.8 m) apart.

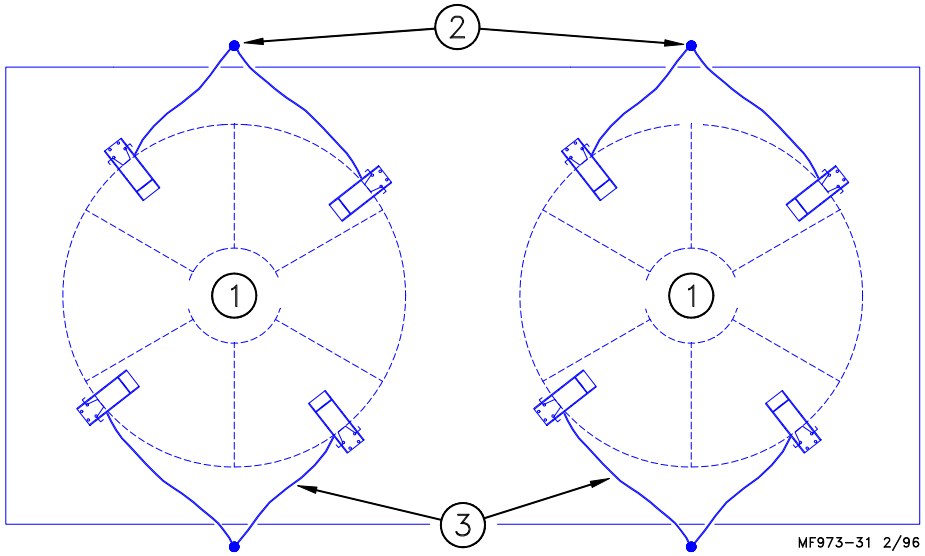
The ground wire should be kept as short as possible, preferably under 5’ (1.5 m). Smooth, gradual bends should be used when routing the cable; avoid sharp corners. Make sure the cable is not restricting the accuracy of the bin in any way.

Connect the ground wire to the rod, and to the metal structure, with cast bronze or brass clamps.



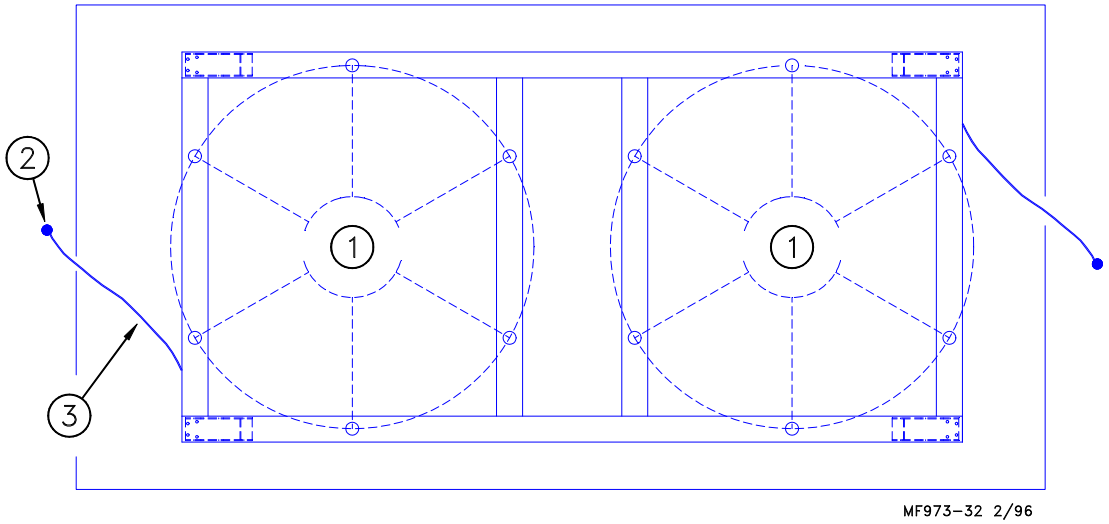
Key	Description
1	Feed Bin
2	Ground Rod
3	Ground Wire: 6 Gauge Maximum Length: 5’ (1.2 m)

Figure 16. Ground Rod placement for single bin installations (top view).



Key	Description
1	Feed Bin
2	Ground Rod
3	Ground Wire: 6 Gauge Maximum Length: 5’ (1.2 m)

Figure 17. Ground Rod placement for multiple bin installations (top



Key	Description
1	Feed Bin
2	Ground Rod
3	Ground Wire: 6 Gauge Maximum Length: 5’ (1.2 m)

Figure 18. Ground Rod placement for bin platform installations (top view).

Step 8: Indicator Installation

Mount the Indicator to the wall using hardware (not supplied). Mounting holes are provided in the box for ease of installation. See Figure 19.

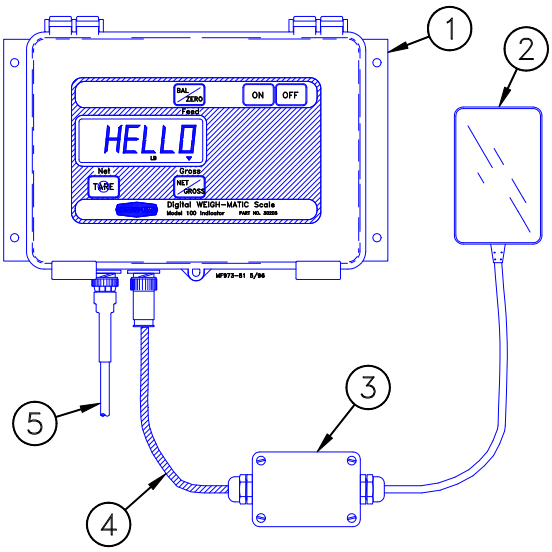
The Indicator should be mounted in a convenient location inside the building.

The power cable should be connected directly to a regulated power supply. The scale end of the power cable is attached to the J901 connector located on the bottom panel of the Indicator.

The Power Supply must be plugged in to either a 110V or 220V 50/60 Hz outlet, depending on which Power Supply you have ordered.

Make the following cable connections (see Figure 20);

1. Connect the RED wire from the power cable to +12 VDC.
2. Connect the BLACK wire to GROUND.

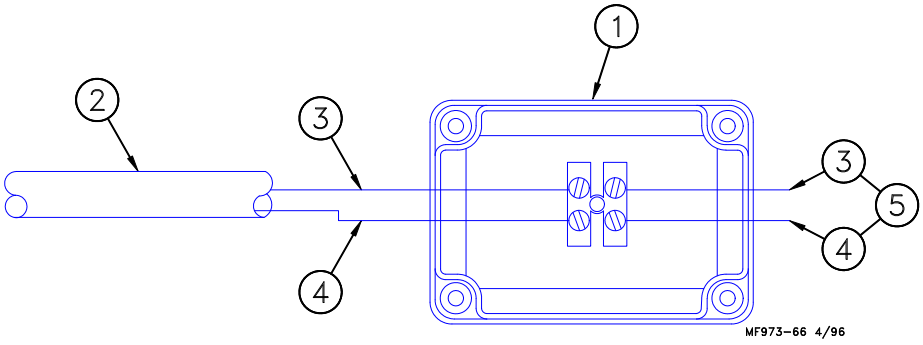


Key	Description
1	Indicator
2	Power Supply
3	Junction Box
4	Power Cord: Do Not Cut Power Cord. Coil excess cable and wire tie.
5	To J-Box

DO NOT CUT THE POWER CORD.

DO NOT CUT THE J-BOX CORD.

Figure 19. Indicator Installation (front view).



Key	Description
1	Connection Box
2	Cord to the Indicator
3	Black
4	Red
5	Power Supply

Figure 20. Connection Box Wiring Diagram (front view).

Computer Port (RS-232)

System Specifications:

• The Digital WEIGH-MATIC is capable of communicating with a computer or printer using the RS-232 port provided. The signal levels move between +8 and -8 Volts.

• Data is transmitted and received in the ASCII format, which is allowed by most computers and printers.

• Port Configuration: 1200 BAUD, 1 Start Bit, 7 Data Bits, 1 EVEN Parity Bit, 1 Stop Bit. These parameters are not adjustable in the scale. Equipment interfacing to the scale must match this configuration.

• Refer to your software supplier for additional information on interfacing your Digital WEIGH-MATIC and computer/printer.

Port Wire Connections:

• All serial communications use the J904 connector on the bottom panel of the Indicator.

To Printer:	RS-232 out	pin 1
	Printer ground	pin 6
From Computer:	RS-232 in	pin 3
	Computer ground	pin 5
To Score board:	RS-232 out	pin 4
	Score board ground	pin 7

Setup & Calibration

for the

Model 100 Chore-Time Digital WEIGH-MATIC Indicators

The Chore-Time Digital WEIGH-MATIC Scale Indicator must be calibrated in the field for the specific Load Cells that are to be used.

Carefully follow the instructions below. Improper setup & calibration will result in improper and/or inaccurate scale operation.

Preparing for Setup & Calibration

1. Determine maximum allowable weight of Load Cells you have to install. Refer to the decal on the Load Cells for this information. Also, determine how many of these are to be installed.

   For convenience, mark your system on the Setup & Calibration Chart on page 31. Example: If you have (4) 1,500 lbs. Load Cells, mark the chart as shown in Figure 21.

Description Load Cell	Kit No.	J-Box Cable	Set Up Lbs.
T.C. 15 4 Point	30209 6000#	30’ (9.1 m) 50’ (15.2 m) 70’ (21.3 m) 90’ (27.4 m)	144006 144006 144006 144006
T.C. 35 4 Point	30211 12000#	30’ (9.1 m) 50’ (15.2 m) 70’ (21.3 m)	145015 145015 145015

Figure 21. Setup & Calibration Chart

2. Determine the (total) length of the cables from the J-Box to the Indicator. Thirty feet (9.1 m) of cable is standard. However, Extension Cables are available to allow the J-Box to be located up to 100’ (30 m) from the Indicator.

   Mark the applicable length of cable on the chart. Example: If you are using the standard J-Box (includes 30’ of cable) and a 30’ Extension Cable, mark the chart as shown in Figure 22. When necessary, round up to the next longer length.

Description Load Cell	Kit No.	J-Box Cable	Set Up Lbs.
T.C. 15 4 Point	30209 6000#	30’ (9.1 m) 50’ (15.2 m) 70’ (21.3 m) 90’ (27.4 m)	144006 144006 144006 144006
T.C. 35 4 Point	30211 12000#	30’ (9.1 m) 50’ (15.2 m) 70’ (21.3 m)	145015 145015 145015

Figure 22. Setup & Calibration Chart

3. Finally, mark the applicable Setup Numbers and Calibration Numbers, as determined by whether the Indicator is to display in pounds or kilograms, as shown in Figure 23.

Description Load Cell	Kit No.	J-Box Cable	Set Up Lbs.	Cal No. Lbs.	Set Up Kilos	Cal No. Kilos
T.C. 15 4 Point	30209 6000#	30’ (9.1 m)	144006	5300	544002	2404
		50’ (15.2 m)	144006	5314	544002	2410
		70’ (21.3 m)	144006	5328	544002	2416
		90’ (27.4 m)	144006	5342	544002	2423
T.C. 35 4 Point	30211 12000#	30’ (9.1 m)	145015	14358	545016	6512
		50’ (15.2 m)	145015	14390	545016	6527
		70’ (21.3 m)	145015	14425	545016	6543
		90’ (27.4 m)	145015	14465	545016	6561

Figure 23. Setup & Calibration Chart

Performing the Setup & Calibration:

1. Check installation of the Indicator. Make sure Indicator and/or cords are not damaged.
2. Connect the Indicator to a 12 volt power supply as specified in the wiring diagrams in this manual.

   Do not connect the Load Cells to the Indicator during Setup & Calibration.

   The Indicator will automatically be activated when 12V power is supplied to the unit.
3. The Indicator will display "HELLO" for a few seconds, then go to a number display.
4. Press "ON" to view existing Setup and Calibration numbers.

   Note: Indicators are factory setup and calibrated for (4) T.C. 125 Load Cells (48,000 lbs. or 21,773 k) and 30’ (9.1 m) of cable. No further setup is required for this configuration. For all other configurations, go to Step 5.
5. **Press** and **hold** the "BAL/ZERO" key and the "ON" key until "SETUP" is displayed.
6. The first number to display will be the setup number. The flashing digit is ready to be set.
7. Refer to the Setup & Calibration numbers previously determined (and marked).

   Use the NET/GROSS key to scroll the number. When the correct number is displayed, press the TARE key to go to the next digit.

   Repeat this procedure to set all the setup numbers.
8. Press the "ON" key to move to the calibration numbers.
9. Follow the procedure specified in step 7 to set the Calibration numbers.
10. Press the "ON" key to exit setup.
11. To check the Setup & Calibration numbers, press the "ON" key.
12. After the setup review has been completed, press the NET/GROSS key then the BAL/ZERO key to zero out the Indicator. The display should show (0).

Setup & Calibration Chart

Load Cell Description	Kit Part No.	J-Box Cable Length	Setup Numbers (pounds)	Calibration Numbers (pounds)	Setup Numbers (kilograms)	Calibration Numbers (kilograms)
T.C. 15 3 Pt.		30 Ft.	144006	3964	544002	1798
T.C. 15 4 Pt.	30209	30 Ft. 50 Ft. 70 Ft. 90 Ft.	144006 144006 144006 144006	5300 5314 5328 5342	544002 544002 544002 544002	2404 2410 2416 2423
T.C. 35 4 Pt.	30211	30 Ft. 50 Ft. 70 Ft. 90 Ft.	145015 145015 145015 145015	14358 14390 14425 14465	545006 545006 545006 545006	6512 6527 6543 6561
T.C. 35 6 Pt.		Duplex Box 30 Ft. 50 Ft. 70 Ft. 90 Ft.	 145022 145022 145022 145022	 21715 21760 21815 21875	 545009 545009 545009 545009	 9849 9870 9895 9922
T.C. 125 4 Pt.	30212 & 30213	30 Ft. 50 Ft. 70 Ft. 90 Ft.	146052 146052 146052 146052	32875 32960 33050 33135	546023 546023 546023 546023	14911 14950 14991 15029
T.C. 125 6 Pt.		Duplex Box 30 Ft. 50 Ft. 70 Ft. 90 Ft.	 147075 147075 147075 147075	 49720 49850 49985 50115	 547034 547034 547034 547034	 22552 22611 22672 22731
T.C. 125 8 Pt.		Duplex Box 30 Ft. 50 Ft. 70 Ft. 90 Ft.	 147100 147100 147100 147100	 66830 67000 67185 67360	 547045 547045 547045 547045	 30313 30390 30474 30554
T.C. 180/180A 4 Pt.	30214	30 Ft. 50 Ft. 70 Ft. 90 Ft.	147072 147072 147072 147072	33040 33130 33210 33300	547032 547032 547032 547032	14986 15027 15063 15104
T.C. 180/180A 6 Pt.	30215	Duplex Box 30 Ft. 50 Ft. 70 Ft. 90 Ft.	 147108 147108 147108 147108	 50060 50195 50315 50450	 547048 547048 547048 547048	 22706 22760 22822 22883
T.C. 180/180A 8 Pt.		Duplex Box 30 Ft. 50 Ft. 70 Ft. 90 Ft.	 148144 148144 148144 148144	 67290 67470 67635 67820	 548065 548065 548065 548065	 30522 30603 30678 30762
C.T. 30K 4 Pt.	35020	30 Ft. 50 Ft. 70 Ft. 90 Ft.	127120 127120 127120 127120	32060 32150 32225 32310	527054 527054 527054 527054	14542 14583 14617 14655
T.C. 125 4 Pt.		90 Ft. + 30 Ft. J-Box Cable	146052	33235		
T.C. 180 6 Pt.		90 Ft. + 30 Ft. J-Box Cable	147108	50211		

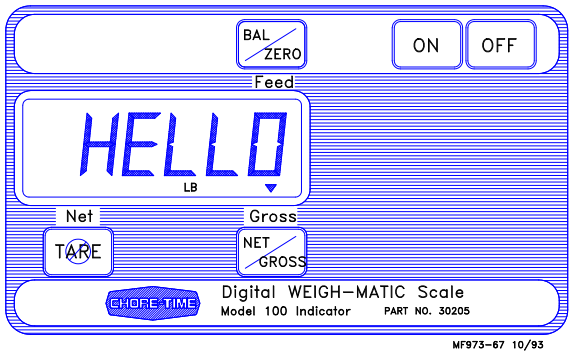
Operation of the Digital WEIGH-MATIC Scales

The Digital WEIGH-MATIC Indicator becomes activated when 12 volt power is supplied.

A brief message will be displayed ("HELLO"). The scale then selects the GROSS weighing mode.

GROSS mode displays the weight change since the unit was last ZERO/BALANCED.

Pressing the ON key during normal system operation starts the self-test.



Balancing the Scale (Zero/Balancing)

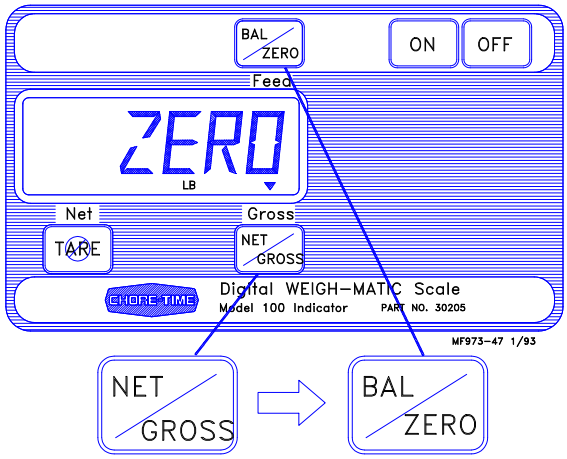
1. Press the NET/GROSS key and within three seconds,
2. Press the BAL/ZERO key.

   An audible tone will sound.

   The ZERO/BALANCE will balance off the dead load (such as the bin, feed, auger, etc.)

   "ZERO" is displayed to show completion of the step and the scale is then placed in the GROSS mode.

   Pressing only the BAL/ZERO key will cause the following message to appear--"TO ZERO/BALANCE PRESS NET/GROSS - THEN ZERO."

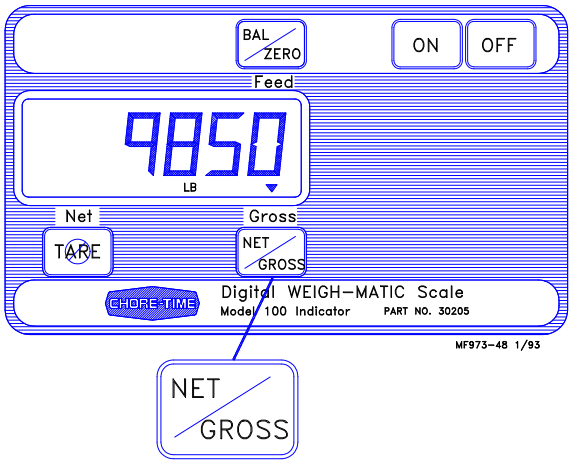


Selecting the GROSS mode

GROSS mode displays the weight change since the unit was last ZERO/BALANCED.

1. Press the NET/GROSS KEY.

   Note: A flashing arrow pointing toward the GROSS text just above the NET/GROSS key indicates that the scale is in the GROSS mode.



Operation of the Digital WEIGH-MATIC Scales

Selecting the NET mode

NET mode displays the weight change after a TARE has been performed. TARE is a temporary zero point.

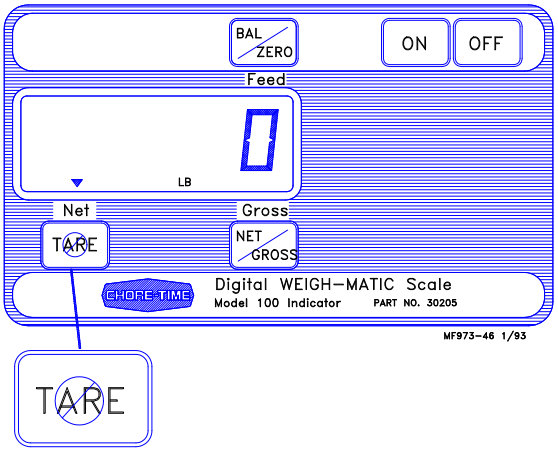
1. If the scale TARE weight has not been entered, press TARE to display a zero.

or

2. If in the GROSS mode, press NET/GROSS. The NET/GROSS key is an alternating action key. If the scale is in the GROSS mode, pressing the NET/GROSS key will place it in the NET mode. If the scale is in the NET mode, pressing the NET/GROSS key will place it in the GROSS mode.

If the TARE function has not been previously performed, the unit will stay in the GROSS mode and the following message will scroll across the screen--"FOR NET MODE PRESS TARE."

NOTE: A flashing arrow pointing toward the NET text just above the TARE key indicates that the scale is in the NET mode.



Changing the Display Language

The Model 100 Digital Weigh-Matic Indicators include a multilingual feature built in.

Five languages are available. They include the following; English, Dutch, French, German, and Spanish.

Follow the steps, below, to change the language to be displayed by your Indicator.

1. Press and hold the **NET/GROSS** key, then press the **ON** key.

   Display: *{Langag}*

2. Press the **NET/GROSS** key to toggle through the languages available.

   Display: *{ENGLSH}* = English

   {NEDERL} = Dutch

   {FRANCS} = French

   {DEUTSH} = German

   {ESPANL} = Spanish

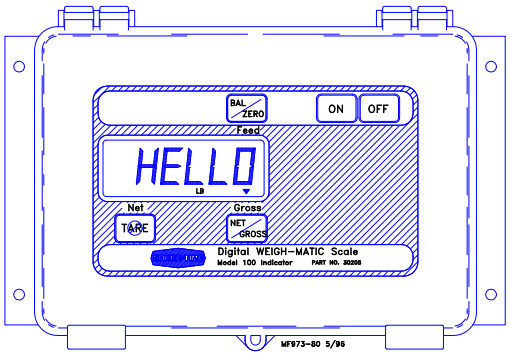
3. When the desired language is displayed, press the **ON** key.
4. Press and hold the **TARE** key, then press the **ON** key.

   The display will be in the language selected.

Parts Lists for the Digital WEIGH-MATIC Scales

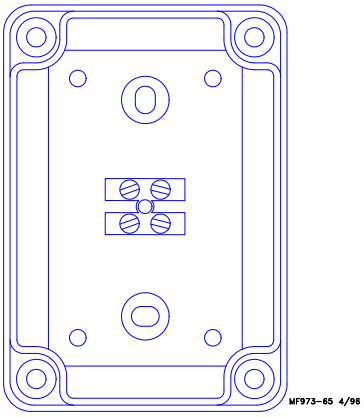
Model 100 Indicator

Description	Part No.
Model 100 Indicator w/Computer Interface	30210
Model 100 Indicator w/Computer Interface and Connection Box	30232
Not Shown	
Cable for RS232 Port	30189
Power Cable	30177
10' Data Cable	30194
20 Milliampere Connector	30187



Connection Box

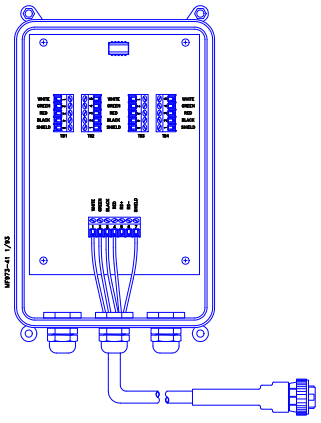
Description	Part No.
Connection Box	30226



J-Boxes & Cable Sets

Description	Part No.
J-Box w/30' Cord	30201*
J-Box w/50' Cord	30202*
J-Box w/70' Cord	30203*
J-Box w/90' Cord	30204*
J-Box Assembly (no Plug)	30182
J-Box Assembly	30235
Not Shown	
J-Box Extension Plug Kit (Plugs Only)	30192
J-Box Extension Cable (Cable only)	30190

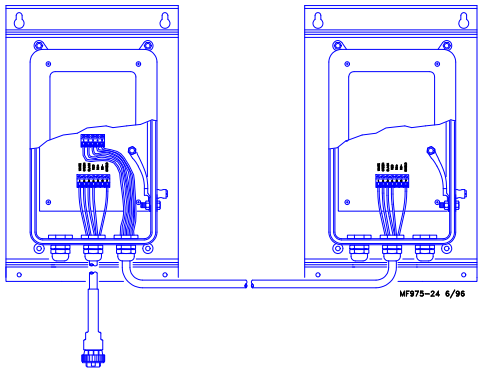
*Includes Power Cable and Cord (as specified)
Note: J-Box Cables may be ordered separately. See Miscellaneous Components and Cable Sets Parts List on page 37.



Parts Lists for the Digital WEIGH-MATIC Scales

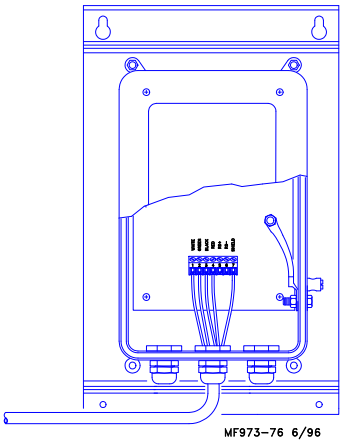
J-Box Duplex Kit

Description	Part No.
J-Box Duplex Kit w/30’ Cord	30207
J-Box Duplex Kit w/50’ Cord	36752
J-Box Duplex Kit w/70’ Cord	36753
J-Box Duplex Kit w/90’ Cord	36754



Duplex J-Box

Description	Part No.
Duplex J-Box w/50’ Cord	36687
Duplex J-Box w/70’ Cord	36688
Duplex J-Box w/90’ Cord	36689



Miscellaneous Components and Cable Sets

Description	Part No.
J-Box Cable (30’)	36690
J-Box Cable (50’)	36691
J-Box Cable (70’)	36692
J-Box Cable (90’)	36693
J-Box Extension Kit (Plugs only, no Cable)	30192
J-Box Extension Cable (Cable only)	30190
J-Box Extension Cable Assembly	30188*
Cable for RS232 Port	30189
Power Cable	30177
10’ Data Cable	30194
20 Milliampere Connector	30187
“Y” Cable (2 female, 1 male ampe Connectors)	37692**

*Includes (1) male and (1) female Cannon Plug
**”Y” Cable used only with the Livestock Scales

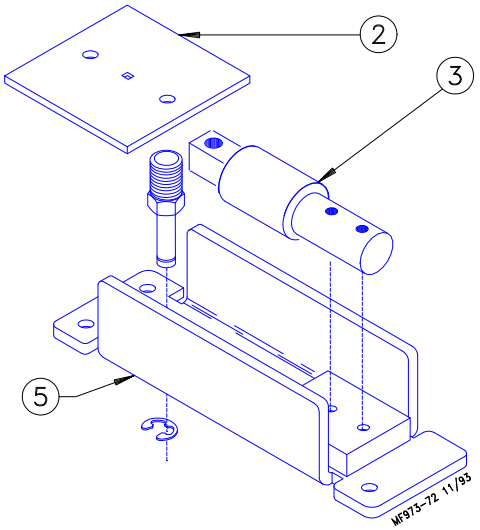
Parts Lists for the Digital WEIGH-MATIC Scales

Load Cells and Mount Kits

T.C. 15

Item	Description	Part No.
2	Top Plate	- - - -
3	T.C. 15 Load Cell	30219
5*	Mount Kit for T.C. 15	30176

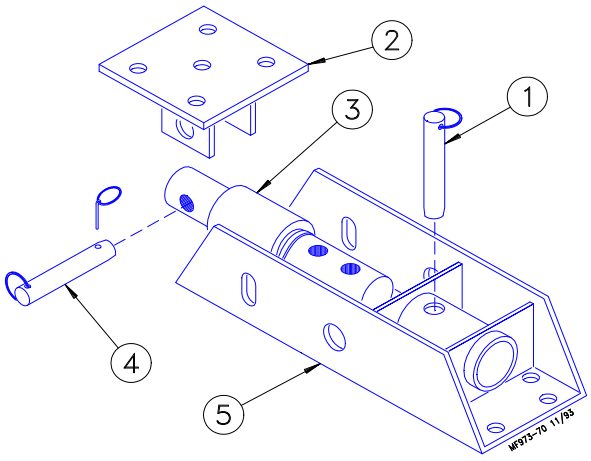
*The Mount Kit does not include the Item #3.



T.C. 35 & 125

Item	Description	Part No.
1	3/4" x 6" Quick Pin	- - - -
2	Top Plate	- - - -
3	T.C. 35 Load Cell	30221
	T.C. 125 Load Cell	30222
4	5/8" x 5" Quick Pin	- - - -
5*	Mount Kit for T.C. 35	30216
	Mount Kit for T.C. 125	30217

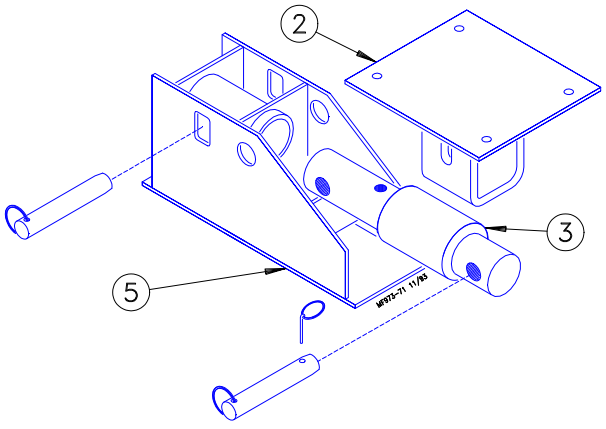
*The Mount Kit does not include the Item #3.



T.C. 180

Item	Description	Part No.
2	Top Plate	- - - -
3	T.C. 180 Load Cell	30223
	T.C. 180 Load Cell w/21' cord	30224
5*	Mount Kit for T.C. 180	30218

*The Mount Kit does not include the Item #3.

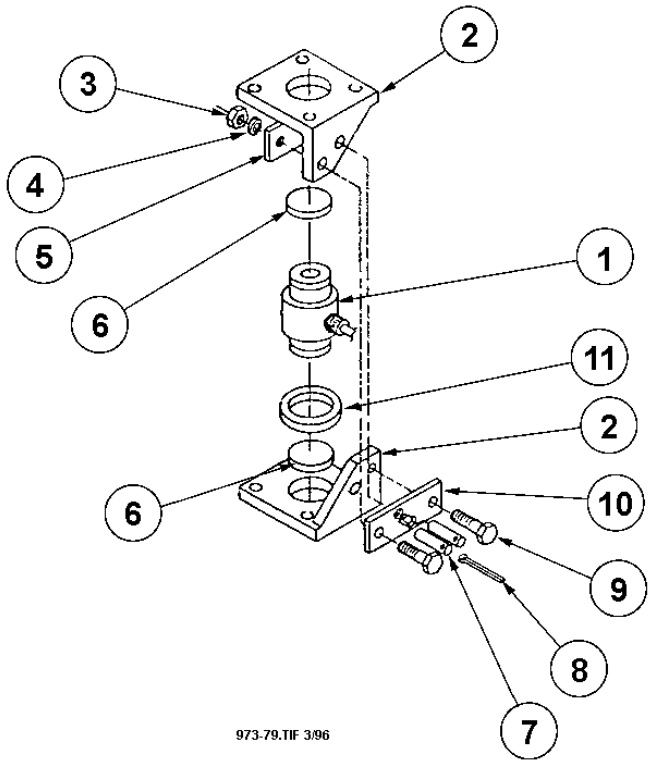


Load Cells and Mount Kits

C.T. 30K

Item	Description	Part No.
1	C.T. 30 Load Cell	35018
2	C.T. Mount Half	- - - -
3	M16 x mm Hex Nut	- - - -
4	M16 Lock Washer	- - - -
5	Threaded Plate	- - - -
6	Rubber Shim	- - - -
7	Pin	- - - -
8	Cotter Pin	- - - -
9	M16 x 2 mm x 65 mm Bolt	- - - -
10	Welded Plate	- - - -
11	Sealing Sponge Ring	- - - -

Note: Items 2 - 11 may be ordered as a Mount Kit for C.T. 30 Scale under Part No. 35017.



Parts Lists for the Digital WEIGH-MATIC Scales

6-Legged Bin Adapter Kit

Description	Part No.
Beam Assembly	30183
Beam Assembly Hardware Kit	30184

The 6-Legged Bin Adapter Kit, including (2) Beam Assemblies and (1) Beam Assembly Hardware Kit, may be ordered under Part No. 30208.

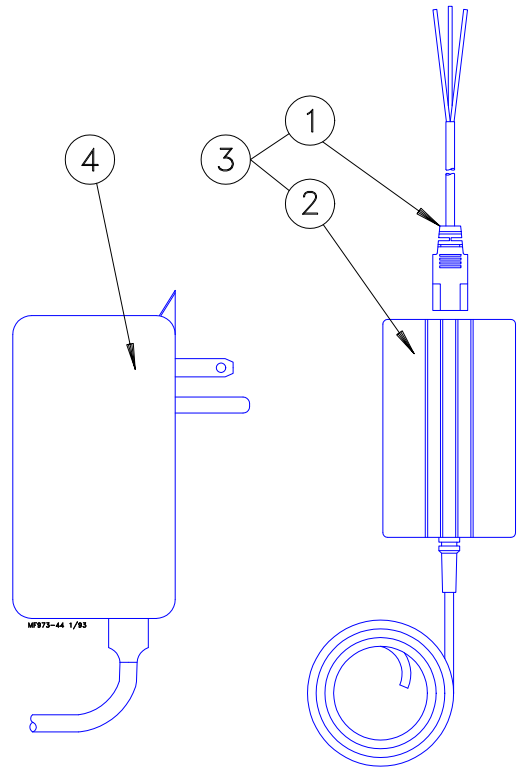
Scale Systems available (by weight):

5,000 Lbs.	30209
12,000 Lbs.	30211
48,000 Lbs. (7’ Bins)	30213
48,000 Lbs. (9’ Bins)	30212
60,000 Lbs.	30214
60,000 Lbs.	34580
80,000 Lbs.	34575
90,000 Lbs.	30215
120,000 Lbs.	35020

Note: Scale Systems include the Junction Box (or Duplex Kit), Load Cells and Mounts. The Indicator and Power Supply must be ordered separately.

Power Supply

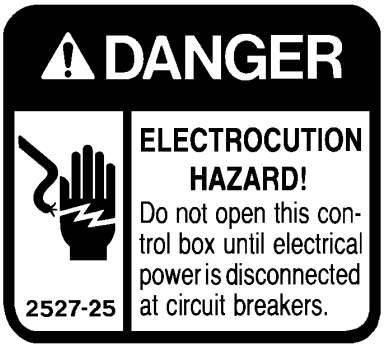
Item	Description	Part No.
1	Power Cord (220 V)	30682
2	Power Supply (220 V)	30683
3	Power Supply (includ. cord)	30200
4	Power Supply (110 V)	30206
--	Power Cord for Indicator	30177



Trouble Shooting the Digital Weigh-Matic Scale System

ALWAYS DISCONNECT POWER TO THE SYSTEM WHEN SERVICING OR MAINTAINING THE EQUIPMENT. FAILURE TO DISCONNECT POWER MAY CAUSE INJURY OR DEATH.

Service and maintenance work should be done by a qualified technician only.



Problem or Symptom	Possible Cause	Corrective Action
Indicator flashes "OVR CAP"	Overloaded Scale	Reduce amount feed stored in bin.
		Replace existing Load Cells will larger capacity Load Cells.
Indicator flashes "+RANGE"	Incorrect setup	See Setup Procedure in this manual.
	Bad Load Cell	Replace Load Cell.
	Cut or damaged cable	Replace cable.
	Bad junction or connection	Check and tighten all connections.
	Defective Indicator	Replace Indicator
The Indicator continues to flash "+RANGE" with power ON and the Junction Box disconnected.	Defective Indicator	Replace Indicator.
The Indicator flashes "+RANGE" then stops flashing and stabilizes at a weight.	Incorrect Junction Box wiring	Wire Junction Box as specified in this manual.
	Defective Load Cell	Test Load Cells by connecting the Load Cells one at a time until the defective Load Cell is identified. Replace defective Load Cell.
When certain the Indicator is not defective and all connections inside the Junction Box are correct, the Indicator flashes "+RANGE" when all the Load Cells are disconnected.	Defective Junction Box	Replace the Junction Box.

Problem or Symptom	Possible Cause	Corrective Action
The Indicator will not turn "ON" If power checks out and none of these options help, replace the Indicator.	No power or incorrect power to the Indicator.	Connect correct power to the Indicator (14.5 VDC maximum, 10.5 VDC minimum).
		Verify that power being supplied to the Indicator by removing the Power Connector (in the Indicator) and measure across Pin 1 (pos.) and Pin 2 (neg.). There should be between 10.5 and 14.5 VDC.
	Loose connection	Tighten all electrical supply connections.
	Incorrect Wiring	Wire the Scale as specified in this manual.
	Defective Indicator	Replace Indicator.
	Fuse on external alarm wire blown. This will not prevent the Indicator from turning ON.	Replace 10 amp. fuse.
No power (or improper power) to Indicator.	Incorrect house wiring.	Use a meter to verify 110/220 VAC is provided to Power Supply.
	Defective Power Supply	Replace Power Supply.

If your Indicator is unstable (slow drift) note the following:

Variations of 30 pounds (13.61 kg) with the 1" (2.5 cm) DB Cells and up to 350 pounds (158.76 kg) with the 2-1/8" (5.4 cm) DB or larger Cells are normal for most scale systems with daily temperature changes. Temperature compensated cells minimize temperature drift, but do not eliminate drift entirely. Balance the Indicator before use to prevent drift from causing inaccurate weight reading (except for feed bins where you want to save inventory data). For feed bins, scales must be empty before balancing. Note: Moisture in the Junction Box can cause unstable or drifting readings. Make sure J-Box is water tight, check strain reliefs and housing gasket.

Inaccurate readings are most often caused by the following:

1. Indicators with incorrect setup (i.e. an Indicator that was set up for another scale application).
2. Debris under/around mounts or structure.
3. Mounts or platform not shimmed or supported properly. Consequently, there is not and equal load to each of the Load Cells.
4. Defective Load Cells
5. Load Cells installed upside-down (new installations or replacements).
6. Load Cells installed in mounts backwards. System will usually lock at an unknown weight.

To determine if the inaccuracy is caused by the Indictor or some other factor, stand in the middle of the Scale and note your weight on the Indicator. Stand or hang at each load cell and note each reading. If the readings are within 1 display count, the Indicator is causing the problem.

If you find that one or more of the readings are more than 2 display counts different from the others, then assume that one (or more) of the following items may be causing the problem:

1. Indicator has wrong setup and calibration numbers entered.

   Fix: Compare the system configuration (size, type, and number of load cells) to the setup chart in this manual (page 32).

2. Debris under/around mounts or structure. Readings will be less than actual if debris are lodged under or around mounts and platform.

   Fix: Insure that the mounts and Load Cells are free of ice and other debris. Inspect for gravel or debris that may have fallen through cracks around the deck.

3. Mounts or platform not shimmed or supported properly to provide equal load at each Load Cell.

   Fix: On platform applications, use a large screw driver or pry bar to pry up on the corners of the deck. If one of the corners has noticeable less resistance, the deck may require shimming.

   On feed bin applications, rock the bin back and forth, checking the mounts for any movement or play. Insure that each mount has equal pressure and is secured to the slab.

4. Defective Load Cell

   Fix: If you suspect that you have a defective Load Cell, check it per the instructions later in this manual (page 43).

5. Load Cell upside-down. If a Load Cell is installed upside-down, that Load Cell would read a negative weight.

   Fix: Visually check each Load Cell for proper orientation. There should be a decal located on top of each Load Cell.

   The Load Cells are manufactured such that the cable exits the same side of each Load Cell. Decal are also placed on the same side of each Load Cell.

6. Indicator will not balance (Zero).

   Fix: Observe the display and watch for the “ZERO” indication to appear for two seconds after performing a balance to verify that the Indicator has balanced.

7. Bad Power Supply.

   Fix: The Indicator will not balance if you have a low power supply (less than 10.5 volts loaded). “LO BAT” should be displayed by the Indicator.

   Disconnect the J-Box and check if the Indicator will balance. If the Indicator will not balance, the Indicator is defective.

8. If the Power Supply is confirmed to be O.K., consider the following:

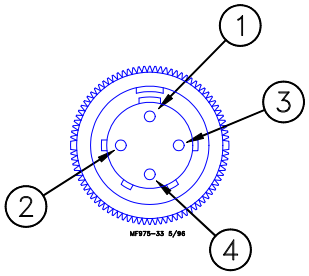
   Testing the Indicator using a simulator (if available).

   Inspect the Junction Box wiring (see the diagrams on pages 22 & 23).

   Remove the Load Cells and test the Junction Box.

   Test Load Cells.

Load Cell Connections:



Key	Description
1	Red Wire: +Excitation
2	Green Wire: -Signal
3	White Wire: +Signal
4	Black Wire: -Excitation and Shield

Inspect Junction Box Wiring

1. Connect the Junction Box to the Indicator.
2. Open the Junction Box Cover and check wiring for the following:
   a. Wires connected to the proper connection point by color code.
   b. Terminal blocks are clamped onto metal lead not insulation.
   c. Connections are tight.
3. Check for water or condensation in the Junction Box. If moisture is present, dry the entire box and printed circuit board thoroughly with a hair dryer. Note: If properly wired, there are no hazardous voltages are present in the Junction Box.

Test the Junction Box

Inspect the Junction Box, as specified above, before testing the Junction Box. Test the Indicator and Junction Box using a simulator.

a. Disconnect all Load Cell wires from Junction Box.

b. If the failure mode does not change and the Indicator checked out “O.K’ earlier, the Junction Box is probably defective.

c. If the display stops flashing and stabilizes at a weight, the Junction Box is “O.K.”

Test the Load Cells

When you are confident the Junction Box and Indicator are working properly, test the Load Cells.

1. Disconnect all Load Cells from the Junction Box.
2. Disconnect the Junction Box from the Indicator.
3. Balance the Indicator.
4. Reconnect the Junction Box. The Indicator should still read close to zero. It should be a steady reading.
5. Connect one Load Cell at a time to any Junction Box Terminal. Be sure the connections are tight and connected to the proper location by color code.
6. Observe a positive weight change after each Load Cell is connected. Record the reading of each Load Cell.

   There is a problem with any Load Cell that cause the following:

   a). Indicator flashes “+RANGE”,

   b). Indicators displays a negative weight (check for upside down Load Cell),

   c). Indicator is unstable.
7. Stand over (or hang a weight) each Load Cell and observe increase in weight readings on the Indicator. Note: The display weight will be heavy.
8. Disconnect all Load Cells and repeat step “5” and “6” for each Load Cell.
9. After all Load Cells are checked, compare readings. If one Load Cell is substantially different than the others, it is probably defective.

   Note: Be sure to compare ALL the Load Cells to insure there are not two defective Load Cells.

THANK-YOU for purchasing a Chore-Time Digital WEIGH-MATIC® Scale System.

Made to work.

Built to last.™

Revisions to this Manual

Page No	Description of Change
--	Updated to new CE Format
--	Added information on multi-lingual feature.
--	Added CT30 Scale information
--	Added 120,000 lbs. Bin Platform specifications
--	Updated parts listing to reflect available Cable Sets and other miscellaneous equipment.
--	Added Trouble Shooting information.

Contact your nearby Chore-Time distributor or representative for additional parts and information.
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