

Weigh Lorry

Installation and Operation Manual

PNEG-2154

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All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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1. Introduction

General Information

1. InterSystems reserves the right to improve its product whenever possible and practical to do so. We reserve the right to change, improve and modify products at any time without obligation to make changes, improvements and modifications on equipment sold previously.
2. This manual covers the installation and operation for the Weigh Lorry Assembly. This manual provides guidelines for installing the product. You must retain a qualified contractor to provide on-site expertise. InterSystems is not responsible for the installation of this product.

General Safety Statements

1. The Weigh Lorry Assembly is designed and manufactured with operator safety in mind. However, residual hazards remain due to the nature of equipment. Use extreme caution at all times.
2. Modifications to equipment may cause extremely dangerous situations that could result in damage to the equipment as well as serious injury or death. Never modify the equipment.
3. InterSystems recommends that you contact the local power company to have a representative survey the installation to ensure wiring is compatible with their system and adequate power is supplied to the unit.

Receiving Inspection

1. Carefully inspect the shipment for damage as soon as it is received. Verify that the quantity of parts or packages actually received corresponds to the quantity shown on the packing slip. One or more cartons containing the fasteners required for assembly are included with the shipment. Report any damage or shortage to the delivering carrier as soon as possible.
2. InterSystems responsibility for damage to the equipment ended with acceptance by the delivering carrier. Refer to the bill of lading for more detailed information.
3. Save all paperwork and documentation furnished with any of the Weigh Lorry Assembly components.

Pre-Installation Preparation

1. The MOST IMPORTANT preparations are retaining a licensed engineer to plan the installation and a qualified millwright or contractor to install the Weigh Lorry Assembly and the accompanying equipment and structures. Before starting the Weigh Lorry Assembly installation, review this manual, the drawing(s) furnished with the equipment and other applicable documents, including but not limited to, O.S.H.A. Regulations and the National Electrical Code and all other applicable federal, state and local codes and regulations.
2. InterSystems does not assume responsibility for the installation.
3. The installation recommendations contained within this manual are for consideration only. The user or installer will want to consult a civil or structural engineer regarding the design, construction and supervision of the entire installation.

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Save these safety guidelines for future reference.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

ST-0001-3

Cautionary Symbol Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.



This symbol indicates an imminently hazardous situation which, if not avoided, **will result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury.**



This symbol is used to address practices not related to personal injury.



This symbol indicates a general hazard.



This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection

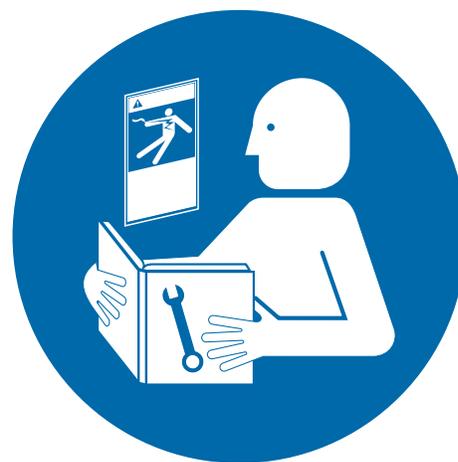


- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

2. Safety

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Stay Clear of Hoisted Equipment

- Always use proper lifting or hoisting equipment when assembling or disassembling equipment.
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which could crush personnel and cause serious injury or death.



ST-0047-1

Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment



ST-0036-2

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment and bins are properly grounded.



ST-0075-1

3. Installation

1. Position the weigh lorry support frame (A) over the crane rails (B).
2. Align and install the weigh lorry hopper (C) to the support frame.
3. Attach the square to round poly vinyl (D) transition to the hopper bottom.
4. Install the discharge gate (E) and the stiffeners (F) to the hopper (C) at the specified locations.
5. Install four (4) beam type load cells (G) on the front and back frame supports using safety rods (H) and connect the load cell link assemblies (I) with the hopper (C).
6. Install the trolley (J) to the support frame (A) and align it in such a way that it slides over the crane rails.
7. Use a tow bar (K) to connect the trolley (J) to the drive unit (L).
8. Install the dummy load cells (M) on the front and back frame supports using safety check rods (H).

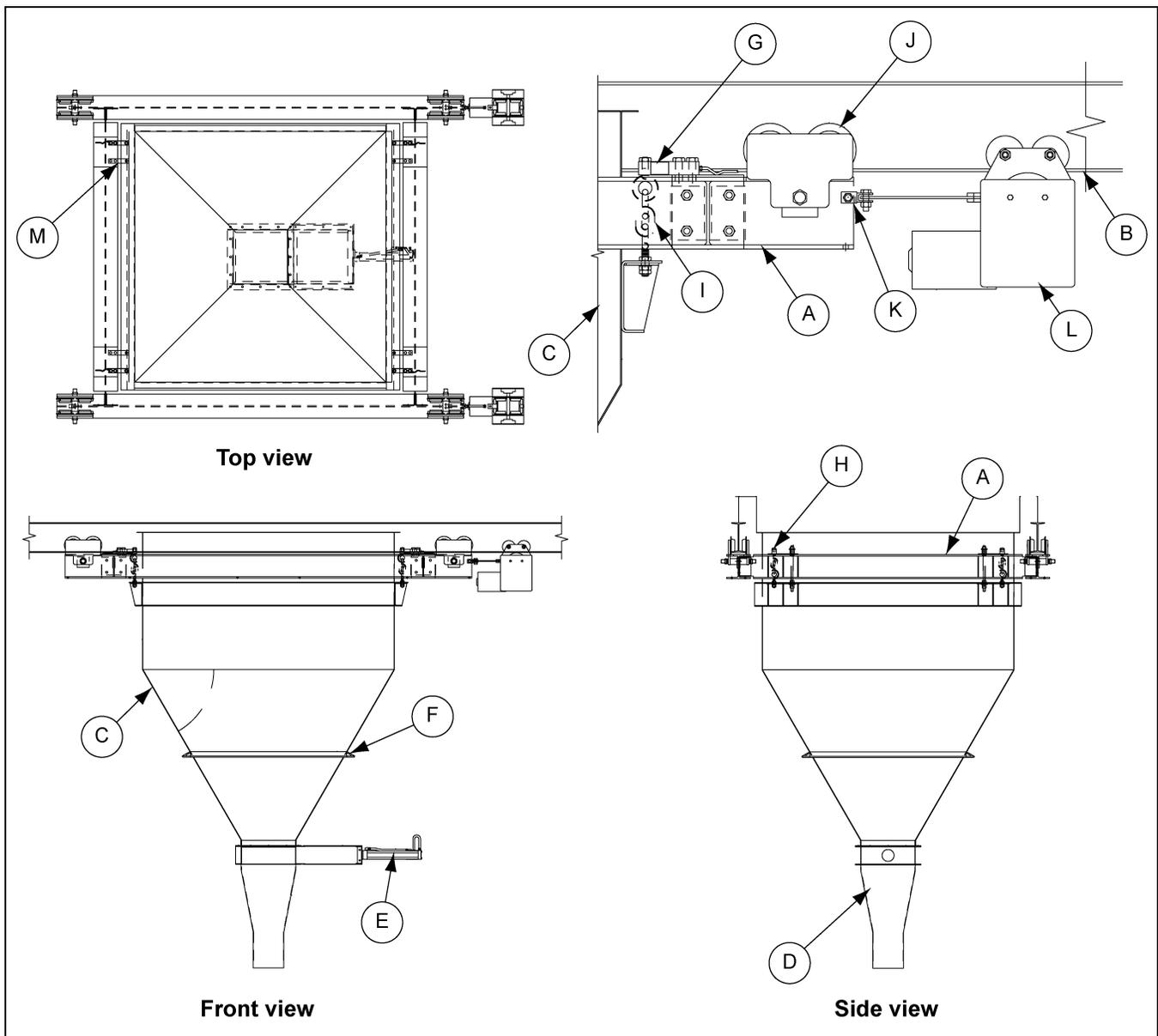


Figure 3A

Ref #	Description
A	Weigh Lorry Support Frame
B	Crane Rails By T and S
C	Weigh Lorry Hopper
D	Weigh Lorry Poly Vinyl
E	Discharge Gate
F	Stiffeners
G	Load Cells

Ref #	Description
H	Weigh Lorry Check Rod
I	Load Cell Link Assembly
J	Weigh Lorry Demag Trolley
K	Tow Bar
L	Drive Train Unit
M	Dummy Load Cell

4. Operation and Discharge

1. Close the discharge gate and fill the hopper with required amount of grain that needs to be transported. The quantity of grain inside the hopper is displayed in the load cell.
2. Once the required quantity is filled, use the 6-button pendant to operate the drive unit and move the hopper to the required location.
3. After moving to the required location, stop the drive train unit. Open the discharge gate and unload the hopper.

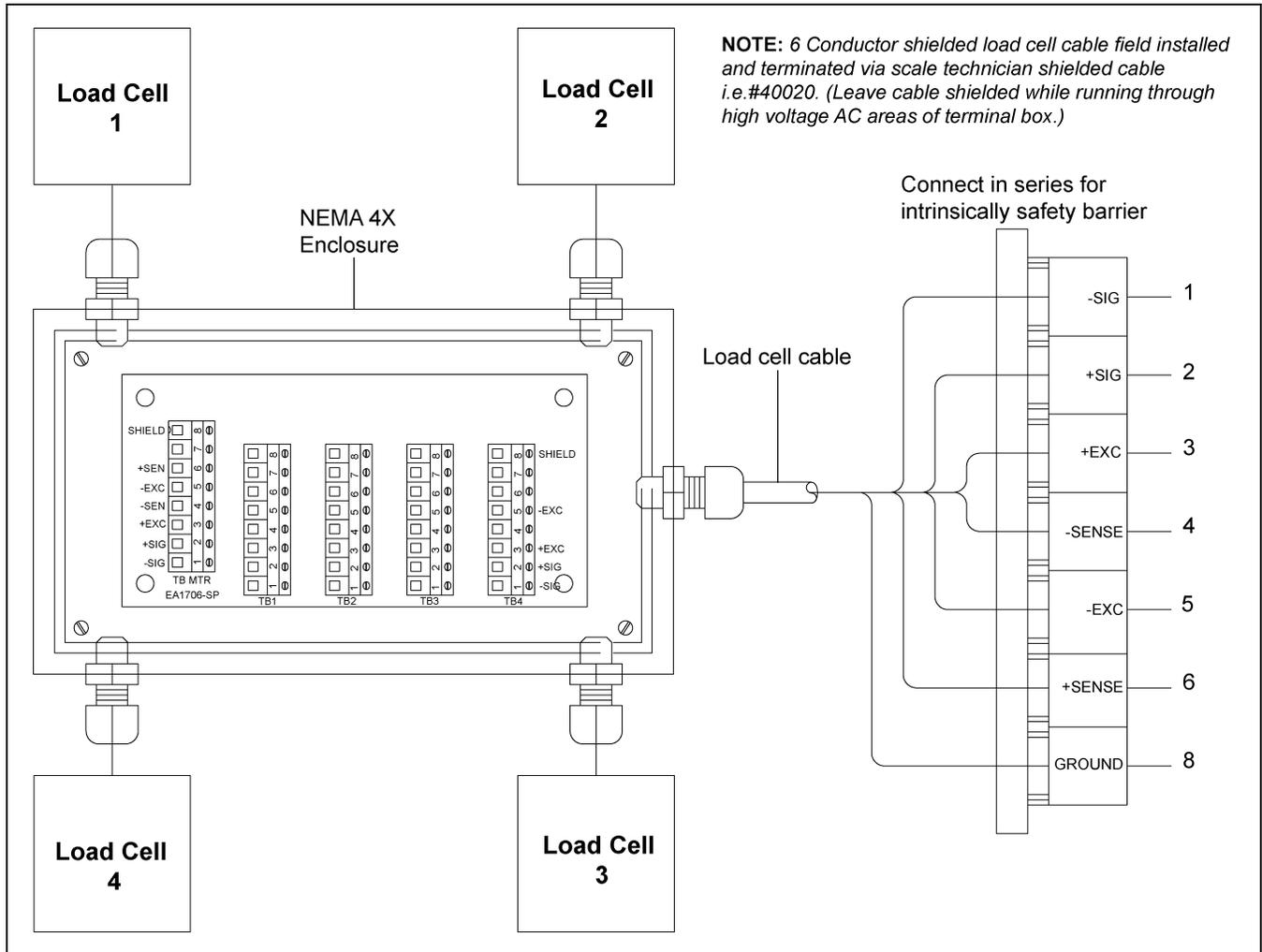


Figure 4A

Load Cell Connection Details

1. Up to four (4) load cells may be connected to J-box.
2. Maximum excitation voltage of 15 VDC.
3. Load cell cables should be of equal lengths.
4. All conduit runs to J-box shall not contain any wiring other than load cell cables.
5. All grounding of J-box and load cells should meet local codes.
6. Load cell color coding must be maintained.
7. Maximum length for 6 conductor load cell cable is 75'.
8. When using intrinsic safety barrier refer to manufactures specifications.

Multi-Cell Hook-Up

Load Cell Cable Identification		
Wire #	Electrical Function	Color Code
1	-Signal	White
2	+Signal	Green
3	+Excitation	Red
4	-	-
5	-Excitation	Black
6	-	-
7	-	-
8	Shield	Shield

5. Maintenance

The care and maintenance section is provided to help extend the life of the unit. Like all equipment, the useful life of the salem valve is greatly reduced if not used properly and well-maintained.

Please follow the next few simple steps to ensure the safety and longevity of the equipment:

1. Make sure that ALL components are in good working condition before use.
2. Check all bearings and moving parts daily, during use.
3. Check for any structural damage, rust or corrosion.
4. Make sure the hopper and poly vinyl transition are clean and free from any foreign materials and debris.
5. Check the load cell for accuracy and wiring before start to use.
6. Follow supplier's maintenance instructions for drive unit.

Once you are sure all installations, safety checks, adjustments and lubrications have been completed

1. Ensure all connections are securely fitted.
2. Look and listen for any irregularities before running any material through the unit.
3. Check the hopper and transition for any blocks or grain spill before start-up.
4. Check the drive unit and wiring connections before start-up.

Normal Shut Down

1. Before shutting down the unit, make sure all the grain is discharged and the gate is closed.
2. Turn OFF the load cells, drive unit and lock down the power source. Before leaving the work area.
3. Clean the hopper and transition before leaving the work area.

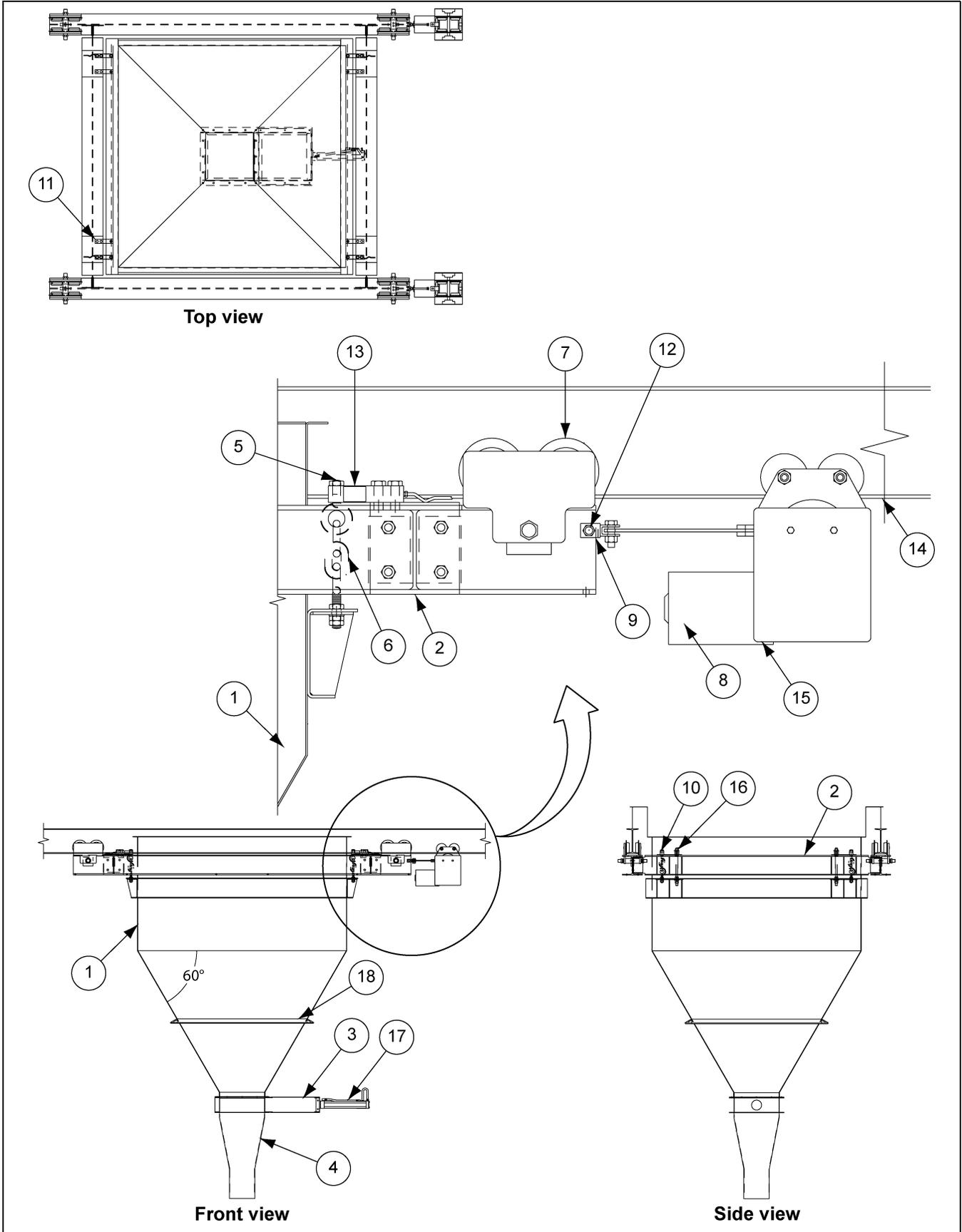
Emergency Shut Down

Close the discharge gate and stop the drive unit. Lock out all the power source.

Lock Out

Always close the discharge gate and lock out the power source before leaving the work area or before performing any maintenance or service.

Weigh Lorry Parts

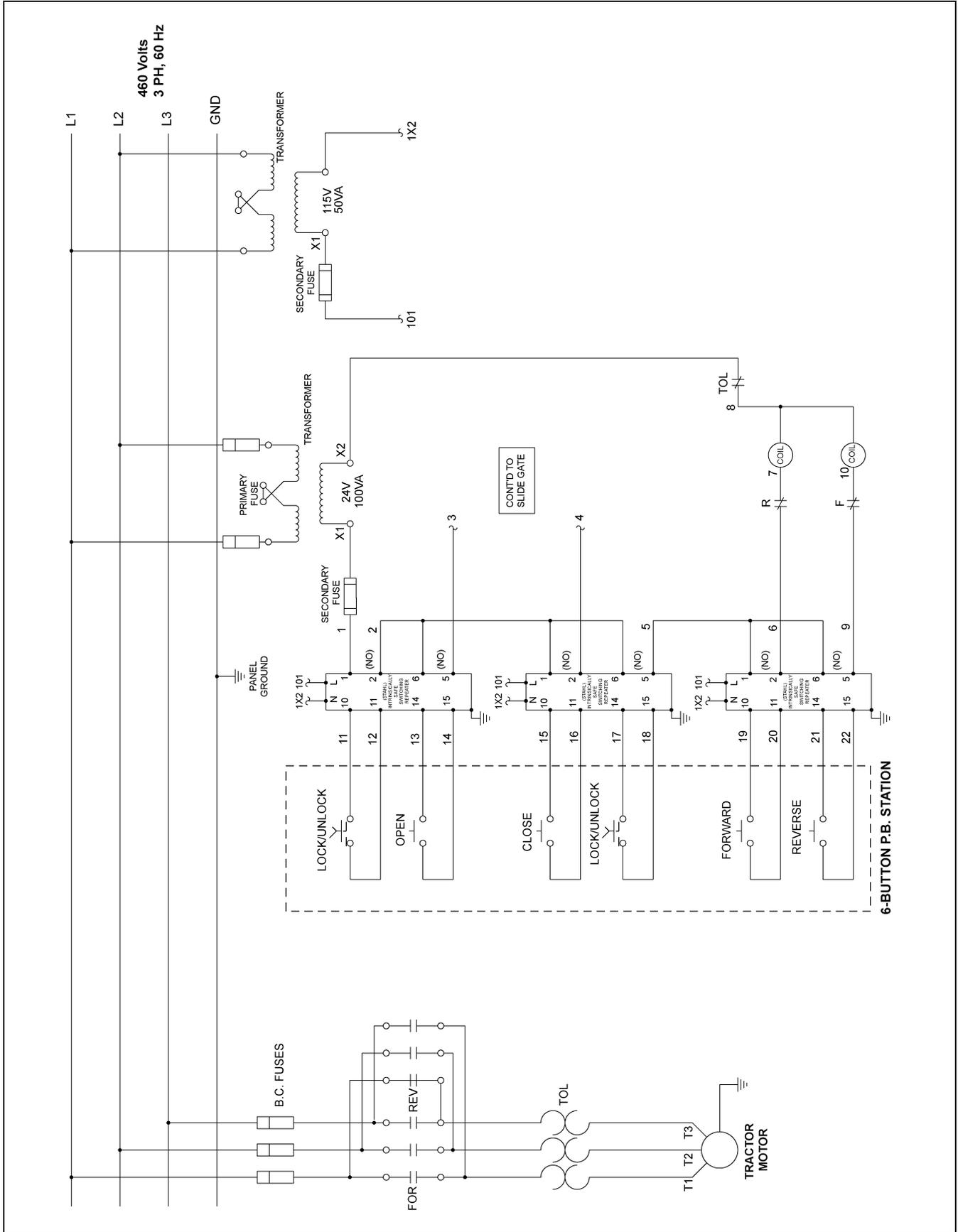


Weigh Lorry Parts List

Ref #	Description	Qty
1	Weigh Lorry Discharge Hopper	1
2	Weigh Lorry Support Frame	1
3	Weigh Lorry Slide Gate Assembly	1
4	Weigh Lorry Poly Vinyl	1
5	Weigh Lorry Load Cell 5K LE Single End Beam	4
6	Weigh Lorry 5K Load Cell Link Assembly	4
7	Weigh Lorry Demag U22 Trolley 2.3"-7.9"	4
8	Weigh Lorry Drive Tractor T-150-X Nema 9	2
9	Weigh Lorry T-150 Tow Bar Connector	2
10	Weigh Lorry 3/4"-10 x 1'-6" Check Rod	4
11	Weigh Lorry Dummy 5K Load Cell	4
12	Drill 11/16" Diameter through Beam	-
13	Rice Lake 5,000 LBS. Beam Type Load Cell	-
14	Crane Rails By T and S	-
15	Drive Train Unit	-
16	Safety Check Rod	-
17	18" Discharge Gate	-
18	3/8" x 3" Stiffeners	-
N/S	Weigh Lorry 6-Button Pendant	1
N/S	Indicator Weigh Lorry 820I Universal	1
N/S	Load Cell Cable 6 Cond. Shielded 20	75
N/S	Junction Box SH 4 Load Cell PCB Nema	1
N/S	Bolt Kit Weigh Lorry Frame	1
N/S	Indicator Weigh Lorry Ethernet IP	1

8. Wiring Diagram

Weigh Lorry Wiring



InterSystems, Inc. reserves the right to make changes in design or in construction of equipment and components without obligation to incorporate such changes in equipment and components previously ordered.

WARRANTY, LIMITATION OF LIABILITY, DISCLAIMER OF IMPLIED WARRANTIES: InterSystems, Inc. manufactured equipment and components are guaranteed against defects in workmanship or materials for one year from date of shipment. The obligation of InterSystems, Inc. with respect to any goods is limited to replacement or repair of defective parts and equipment provided those parts are returned, shipping costs prepaid, to InterSystems' factory and provided the product has not been subject to misuse, negligence, or accident, or repaired or altered outside of our factory, or other than by an Authorized Service Representative. This warranty does not cover the replacement of parts inoperative because of wear occasioned by use, the cost of replacing parts by a person other than an InterSystems employee or an Authorized Service Representative, or the adjustment of a product where the product was improperly adjusted by the purchaser. In addition, this warranty does not cover components manufactured by others such as motors, drives, clutches, cylinders, valves, blowers, and the like. On those components the standard Manufacturers' warranty applies. In any event, liability is limited to the purchase price paid, and InterSystems, Inc. will, under no circumstances, be responsible for special or consequential damages, or for incidental damages.

INTERSYSTEMS, INC. NEITHER MAKES NOR AUTHORIZES ANY WARRANTY OTHER THAN AS HEREIN CONTAINED. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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