7561
7562

Truckmate®
Steel Deck
Weighbridge

Installation and
Service Manual

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(12/00).00

METTLER TOLEDO

Publication Revision History

An overview of this manual's revision history is compiled below.

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Part Number	Date	Revisions
15632800A	1/99	Reformatted manual and changed part number to TEDS number. Added information about 20-foot modules and portable scale options. Added reference drawing numbers.
A15632800A	12/00	Added information about 7561 scale. Replaced method for determining maximum loading with new CLC method.

INTRODUCTION

This publication is provided solely as a guide for individuals who have received Technical Training in servicing the METTLER TOLEDO product.

Information about METTLER TOLEDO Technical Training can be obtained by writing, calling, or faxing:

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FCC Notice

This device complies with Part 15 of the FCC Rules and the Radio Interference Requirements of the Canadian Department of Communications. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

METTLER TOLEDO RESERVES THE RIGHT TO MAKE REFINEMENTS OR CHANGES WITHOUT NOTICE.

Precautions

READ this manual BEFORE operating or servicing this equipment.

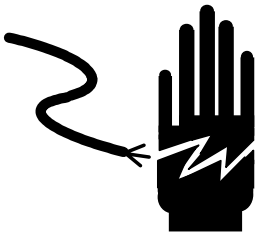
FOLLOW these instructions carefully.

SAVE this manual for future reference.

DO NOT allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.



⚠ WARNING

PERMIT ONLY QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS, AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

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OBSERVE PROPER DRILLING PRACTICES WHEN DRILLING ANCHOR BOLT HOLES. THE TOP REBAR MUST BE PLACED TO CLEAR THE ANCHOR BOLTS. OTHERWISE THE DRILL BIT MIGHT STRIKE THE REBAR. REFER TO THE FOUNDATION DRAWINGS FOR ANCHOR BOLT LOCATIONS.

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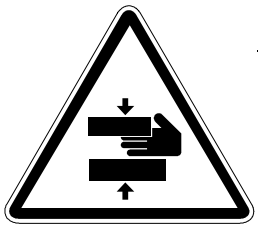

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CONTENTS

1 Introduction

Model 7561 and 7562 TRUCKMATE® truck scales have all-steel decks and can be installed above ground or in a pit. They are designed for weighing highway vehicles, not for weighing concentrated-load vehicles such as heavy-capacity forklifts.

A weighbridge consists of individual modules (11 feet wide standard) that can be connected to form a single scale 10 feet long or longer. Each weighbridge is a nominal 11.5 inches high with 3 inches of clearance between the bottom of the weighbridge and the foundation, making the overall height approximately 14.5 inches.

The concentrated load capacity (CLC) is 60,000 lb for Model 7561 weighbridges and 80,000 for Model 7562 weighbridges. The nominal capacity varies with the number of modules (number of load cells) used in the scale (see Table 6-1).

Due to the unique construction of these scales and the number of weighbridge support points (a four-module scale uses ten DigiTOL® load cells), the force exerted on the foundation is only slightly more than the force that a truck would exert on the highway.

Maximum Loading

Model 7561 and 7562 weighbridges have a gross scale capacity of 200,000 lb. A scale's gross capacity, however, is not the best indication of whether a truck is too heavy to be weighed on the scale. This is because trucks with different numbers and arrangements of axles apply their loads to a scale differently. To measure the actual strength of a weighbridge, we use its concentrated load capacity (CLC). A weighbridge's CLC represents the maximum axle load for a group of two axles spaced 4 feet apart (with an axle width of 8 feet). Table 1-1 shows the CLC ratings for Model 7561 and 7562 weighbridges.

Scale	Maximum Capacity	CLC
7561	200,000 lb	60,000 lb
7562	200,000 lb	80,000 lb

Table 1-1: Weighbridge CLC Ratings

Use Table 1-2 to determine the maximum load that a group of axles can apply to a weighbridge. Find the ratio that corresponds to (1) the number of axles in a group and (2) the distance between the front and rear axles in the group. Multiply that ratio by the CLC of the scale to determine the maximum combined axle load for the scale.

Distance between the front and rear axles in a group of axles	Two Axles	Three Axles	Four Axles	Five Axles	Six Axles
4 feet	1.000				
5 feet	1.000				
6 feet	1.000				
7 feet	1.000				
8 feet and less	1.000	1.000			
More than 8 feet	1.118	1.235			
9 feet	1.147	1.257			
10 feet	1.176	1.279			
11 feet		1.301			
12 feet		1.324	1.471	1.632	
13 feet		1.346	1.490	1.651	
14 feet		1.368	1.510	1.669	
15 feet		1.390	1.529	1.688	1.853
16 feet		1.412	1.549	1.706	1.871
17 feet		1.434	1.569	1.724	1.888
18 feet		1.456	1.588	1.743	1.906
19 feet		1.478	1.608	1.761	1.924
20 feet		1.500	1.627	1.779	1.941

Table 1-2: Ratio of CLC to Maximum Load on a Group of Two or More Consecutive Axles

Example:

What is the maximum combined axle load for the group of three axles at the rear of the truck shown in Figure 1-1? The truck will be weighed on a 7562 scale, which has a CLC rating of 80,000 lb. According to Table 1-2, the ratio for a group of three axles with a spacing of 12 feet is 1.324. Multiply 1.324 by the CLC rating to determine the maximum combined axle load: $1.324 \times 80{,}000 = 105{,}920$ lb.

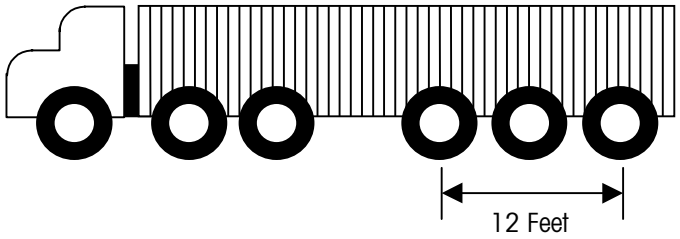


Figure 1-1: Sample Truck

2 Site Selection and Preparation

Site Requirements

The site selected for the scale must meet state and local requirements. The following is taken directly from Handbook 44 (H-44) 1999 edition issued by the National Institute of Standards and Technology:

> "UR.2.6. Approaches.
>
> UR.2.6.1. Vehicle Scales. - On the entrance and exit ends of a vehicle scale installed in any one location for a period of 6 months or more, there shall be a straight approach as follows:
>
> (a) the width at least the width of the platform,
>
> (b) the length at least one-half the length of the platform but not required to be more than 12 m (40 ft), and
>
> (c) not less than 3 m (10 ft) of any approach adjacent to the platform shall be constructed of concrete or similar durable material to ensure that this portion remains smooth and level and in the same plane as the platform. However, grating of sufficient strength to withstand all loads equal to the concentrated load capacity of the scale may be installed in this portion. Any slope in the remaining portion of the approach shall ensure (1) ease of vehicle access, (2) ease for testing purposes, and (3) drainage away from the scale."

Note: The scale drawings provided meet part (a) of this requirement. The site must be located to meet parts (b) and (c).

Other requirements or considerations:

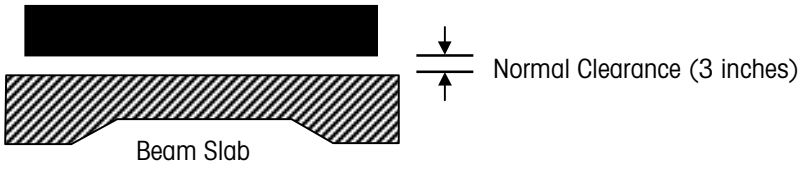
- The site should have good drainage. Surrounding areas should not drain through the site. The ideal scale site is on ground that is higher than the surrounding area.
- Make sure there are no buried pipes, sewer lines, wires, or foundations that would interfere with footing construction.
- The scale should be located away from high-power electrical transmission lines or substations.
- The site should have enough room to align trucks with the scale platform before pulling them onto the platform. This is especially important if trucks must turn before pulling onto the scale. There should also be enough room for trucks to pull off the scale.
- Trucks should not be left on the scale for longer than is necessary to take a vehicle weight reading.
- Some jurisdictions require that the scale platform be visible from the location of the scale instrument. Others allow the use of a closed-circuit TV or a voice intercom. Obtain official approval before starting construction.
- Provide clearance on at least one side of the scale for the full length of the platform to allow for testing and calibration.

Foundation Designs

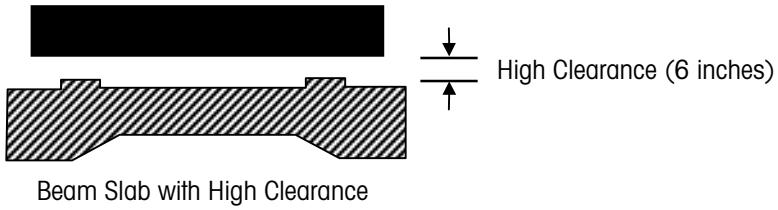
The truck scale should be installed on one of the following types of foundations:

1. Floating Beam Slab (with normal or high clearance)
2. Variable Footer
3. Pit (2-foot or 4-foot clearance options)

Select the type of foundation that meets a site's installation requirements. The foundations are designed to support a 7561 or 7562 truck scale rated 100 tons, assuming the ground has a bearing surface of at least 1,500 lb per square foot for a beam slab, 2,000 lb per square foot for a pit, and 2,500 lb per square foot for a variable footer design.

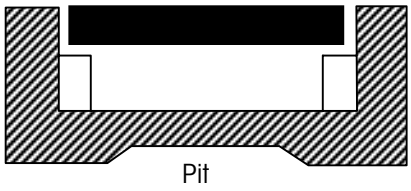


A beam slab is designed to "float" and does not require a deep footer.



A beam slab with high clearance is required in some states.

A variable footer design uses separate footers with depths of 2 feet to 6 feet. Connecting "washout" slab is mandatory in some areas.



A pit design provides 2 feet or 4 feet of clearance under the scale. It generally requires manholes for access. A deep pit is mandatory in some states.

Figure 2-1: Foundation Designs

Foundation Drawing

Drawings are available for each size and type of foundation (see Chapter 11). Install the foundation according to the correct drawing. Make sure that the end walls are parallel and measure the same distance diagonally within 1/2 inch. The instrument cable conduit should be in place before the slab is poured.

Base Plates

At the locations of the base plates, the concrete should be level and in the same plane (within ± 1/8 inch). The rest of the foundation should be graded slightly for drainage.

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Curing

Let the concrete foundation cure for 7 to 10 days before installing the scale. Wait until after the foundation has cured before installing expanding anchor bolts, so that the anchors will seat correctly. Do not allow traffic or loading on the scale until concrete reaches full strength, normally in 28 days.

3 Receiving and Inspection

Inspection

When the scale is delivered, check off all items received against the shipping bill of lading. If any items are missing, notify the carrier immediately in order to collect damages.

Inspect all items received. If there is any physical damage, please notify your carrier immediately in order to collect damages.

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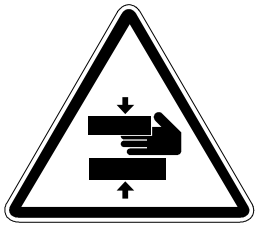

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Unloading Procedure

If the truck scale is being delivered by a METTLER TOLEDO truck, unloading will be handled and supervised by the METTLER TOLEDO driver. Otherwise, unload the modules by lifting them as shown in Figure 3-1. Remove the gap and load cell covers before lifting, so that the covers are not damaged. Lift the modules with a quadlift chain attached to the gap cover supports. Approximate module weights are listed in Table 3-1.

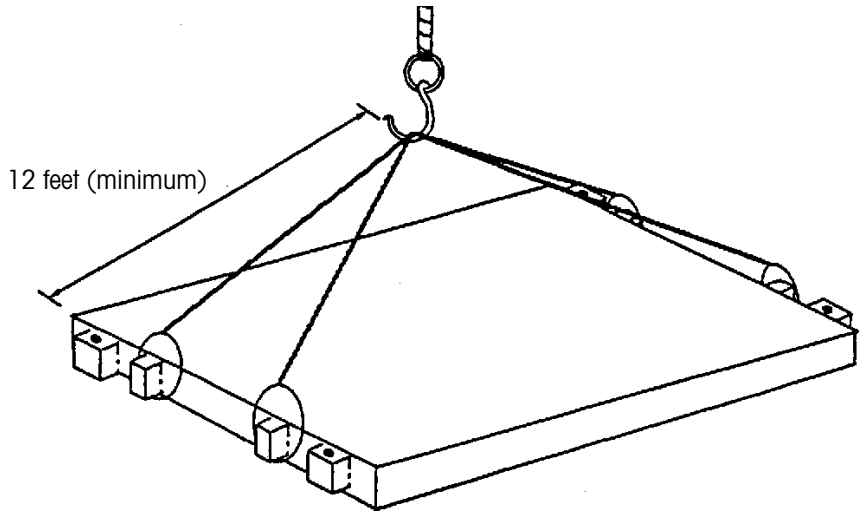


Figure 3-1: Module Lifting Procedure

Note: Unloading a 7562 portable scale will require a separate crane. To lift a 35-foot portable module, attach chains at the four lifting points on the sides of the module (see layout drawing). The chain length should be 17 feet minimum.

Module Type	15-foot Module	17.5-foot Module	20-foot Module
7561	4,300 lb	4,900 lb	5,500 lb
7562	5,500 lb	6,300 lb	7,100 lb

Module Type	35-foot Scale	70-foot Scale*
7562 Portable (Deck and Frame)	17,000 lb	33,500 lb

* For 70-foot scales, lift each 35-foot section separately.

Table 3-1: Approximate Module Weights

Storing Platforms

The scale will be installed by placing the First Module on the foundation first, followed by the Middle Module(s), and then the Terminal Module. If you are going to store the platforms, stack them one on top of the other in the following order:

Bottom = Terminal Module
Center = Middle Module(s)
Top = First Module

Figure 3-2 shows the three types of modules. Make sure that the bottom module is stored off the ground. We recommend placing lengths of 4 x 4 lumber under the module to support it. Place additional lengths of 4 x 4 lumber between each pair of modules. Store all other mechanical accessories in a clean, dry area. Store electrical instrumentation and load cells in a clean, dry area. If the modules will be stored for more than one month, the cable connectors should be filled with connector dielectric compound (TN203056).

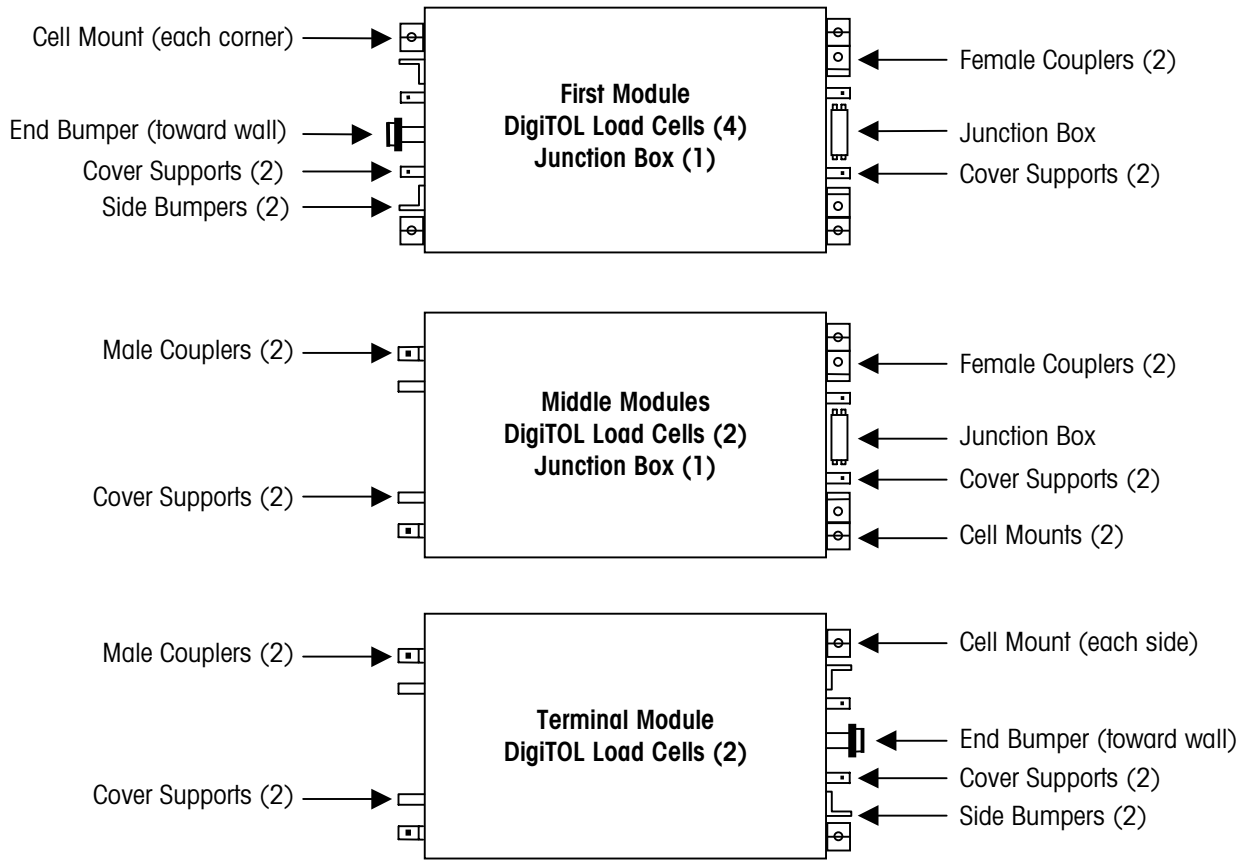


Figure 3-2: Types of Modules

4 Installation Supplies Checklist

The following material and tools are needed to properly install a 7561 or 7562 truck scale. They are not supplied by METTLER TOLEDO.

Material

- A small supply of Never-Seez bearing compound or a quality grease.
- Non-shrink, high-quality grout and mixing tools (not normally used, but might be required).

Tools

- Transit, tripod, rod
- 6-inch spirit level
- 100-foot measuring tape
- 100-foot chalk line
- 100-foot extension cords, 3/#14 wire
- Hammer drill, 1-inch or greater capacity
- 3/4-inch carbide drill bit at least 18 inches long for anchor bolts
- 6-foot crowbar to align modules
- Beckman or Fluke digital multimeter, 100+ meg ohm for insulation, wiring, and ground check
- Socket set, with sockets for the following bolt sizes:
  - 1/2 inch - Access plate bolts
  - 5/8 inch - End bumper bolts
  - 3/8 inch - Coupler pin retainer bolts
  - 5/8 inch - Open end wrench - side bumper bolt
- Air compressor or air pressure tank (cleaning nozzle to blow out anchor bolt holes)
- Normal installation tools
- Locating tools, 10 (supplied only if scale is delivered by METTLER TOLEDO delivery system; otherwise, they must be purchased—Part No. TA200831)
- Welding apparatus (not normally used, but might be required)

Weighbridge Installation Checklist

This list summarizes the basic steps required for installing of a 7561 or 7562 truck scale on a dimensionally correct foundation.

		Check (✓) When Completed
1.	Snap Chalk Lines and Position Base Plates	_____
2.	Set Receivers into Base Plates and Check with Transit	_____
3.	Insert Locating Tools in Receivers	_____
4.	Set Modules on Locating Tools	_____
5.	Make Sure Scale is Centered on Foundation and Level	_____
6.	Check Base Plate Alignment (Verify that Locating Tools are Vertical)	_____
7.	Drill Anchor Holes and Insert Anchors (Five Holes in Corner Plate / Three Holes in Center Plate)	_____
8.	Replace Locating Tools with Load Cells	_____
9.	Connect Cables according to the Wiring Diagram	_____

5 Installation

Installing Modules

After installing the concrete foundation (according to Chapter 2 and the foundation drawing for the scale), allow it to cure. Stub off the instrument cable conduit where it extends from the foundation, and complete conduit installation, if necessary.

1. Snap a chalk line on the foundation to mark the location of each side of the scale from approach coping to approach coping. These chalk lines will be used to align the modules as they are set in place. Check the distance between the approach copings and the diagonal measurements.
2. Roughly position the base plates on the foundation. Figure 5-1 shows the base plate positions for 20x11 modules in single and multiple configurations. For the actual dimensions for your scale, refer to the foundation drawing.
3. Install a roll pin in each base plate.
4. Grease (with Never-Seez) the lower receivers and insert one in each of the base plates, aligning the notch with the roll pin. Then use a transit to check the elevation of the receiver at each base plate location. Make sure that all receivers are at the same height and that there is the same distance between each receiver and the top of the approach coping. To check this accurately, rest the measuring rod on the top surface of the receiver at each base plate location. The nominal height of the scale from the top (flat) surface of the receiver to the top of the weighbridge is as follows:

   Height Without Shims = 13 inches

   The total, nominal height of the scale is 14.5 inches when shimmed 1/8 inch at the top and 1/8 inch at the bottom. The scale should be shimmed to fit the installation, with a maximum of 3/8 inch of shims on top and 3/8 inch of shims on bottom for a total of 3/4 inch. Never exceed either of these numbers. If more than 3/4 inch of shimming is required, shim under the base plate and grout under the entire base plate after accurately locating the scale and securing the anchor bolts. If 1 inch or more shimming is used, you will need anchor bolts that are long enough to extend to a depth of at least 4 inches into the foundation slab (longer anchor bolts are not supplied by METTLER TOLEDO).
4. Insert a locating tool in each of the receiver base plates, aligning the notch with the roll pin.
5. Prepare modules for installation.
   - Remove all access covers.
   - Grease (with Never-Seez) the upper receivers with O-Ring and insert the receivers into each load cell receiver block on the undersides of the modules.
   - Loosen the bumper bolts on the side brackets so that adjustments can be made after the modules are in position.

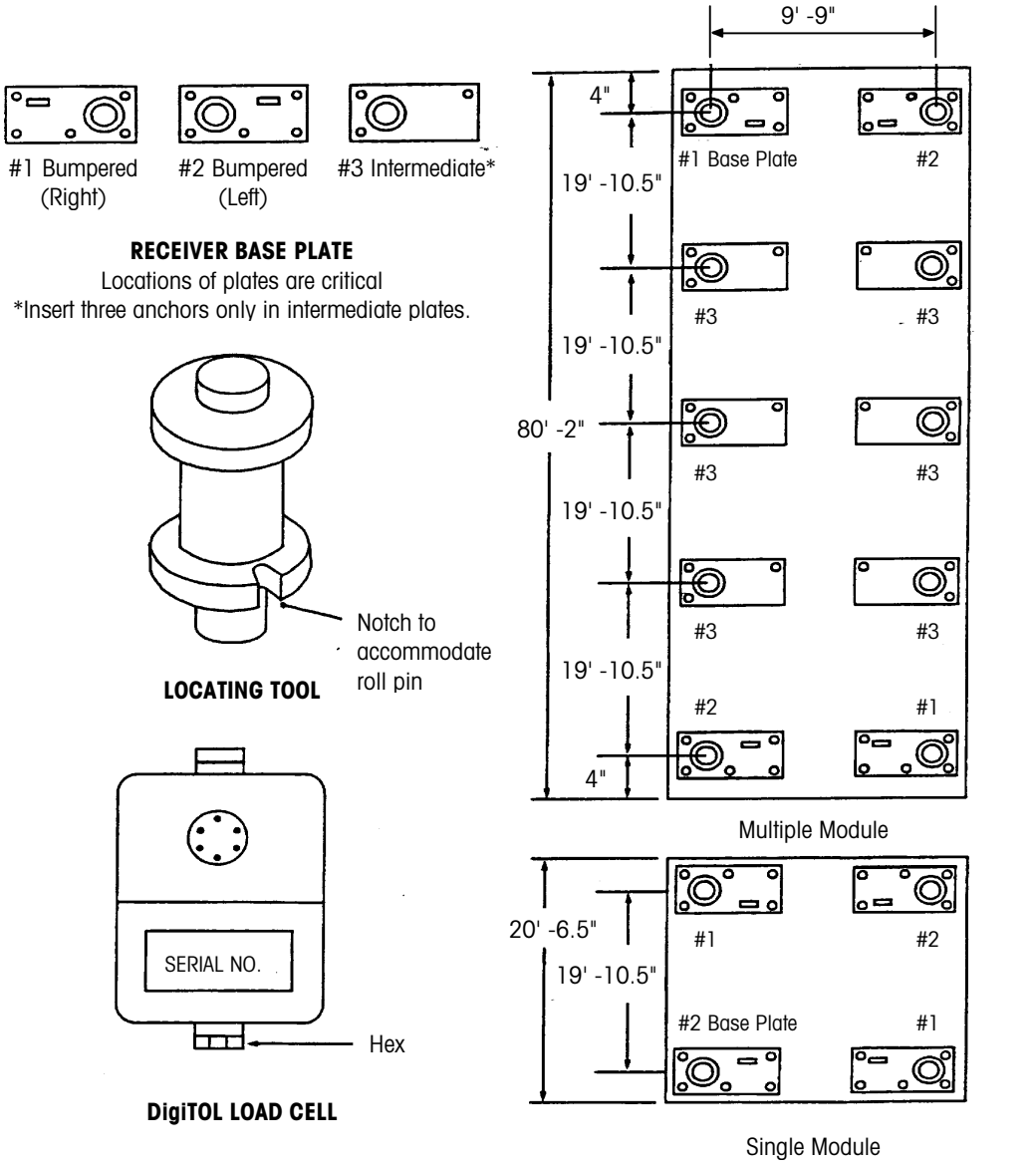


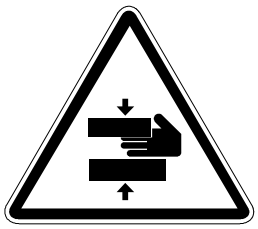
Figure 5-1: Base Plate Location

IMPORTANT! Be sure to have blocks under the modules any time the checking is not engaged (all modules are not set, or multi-scale platforms have not been coupled). This is especially true if the truck crane is driving on a previous module to set the next one.

6. Set the scale modules in place using the following sequence:

a. The First Module to be set in place is the module that requires four load cells (see Figure 3-2). Lift the module as shown in Figure 3-1. Before setting this module in place, make sure that the end bumper assembly and side bumper bolts have been installed. Position the module so that the end with the end bumper and side bumpers faces the approach wall. The first module should be reasonably square with the end wall and spaced away from the end wall as shown in the assembly drawing.

Slowly lower the module onto the locating tools, lowering the approach end first. Check the module's alignment with the chalk line snapped on the foundation.



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b. Set the first Middle Module in place by slowly lowering it and fitting the male coupler brackets into the female couplers on the First Module. Verify correct seating by noting engagement of coupler pins and male gusset level below female gusset level. Module will seat best if it is lowered almost level. Lower the other end onto the locating tools.

c. Set the next Middle Module in place. It is important to make sure that the scale is aligned with the chalk lines as you install the modules. If the scale starts to drift beyond a satisfactory point, check to make sure the base plates are in line. If the base plates are not in line, use the following procedure to correct misalignment.

- Note whether drift is to the right or left while facing the approach end of the first module.
- Remove the last module that you installed and set it aside.
- Remove the retaining bolt from the octagonal coupler pin of the adjoining module and lift the pin from the socket (see Figure 5-2). Turn the pin one position counterclockwise for left drift or clockwise for right drift, and then place it back into socket. Replace the retaining bolt.
- Reset the module and check alignment.
- If the module is still not aligned satisfactorily, turn the pin once more in the same direction. Any remaining misalignment can be corrected by adjusting the next module(s) that you set in place.

d. Set the Terminal Module in place. The gap between this module and the end approach wall should be approximately the same as the gap at the other end of the scale (the gap should not be larger than 1 inch). If the foundation diagonals are not square, then the clearance will vary across the approach wall. This clearance should not be less than 3/8 inch at any point.

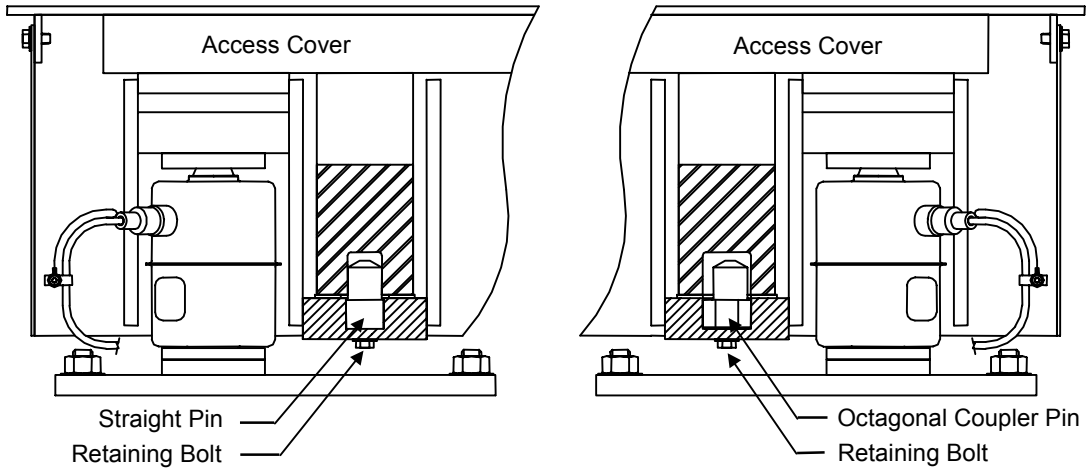


Figure 5-2: Module Alignment

7. Square the base plates (in order to move the base plates, it may be necessary to use a pry bar to lift the module slightly while another person taps the base plate with a hammer). Check all the locating tools carefully. **There should be no clearance between the shoulders on the locating tools and the upper or lower receivers.**

8. Using a hammer drill, drill through the holes in the base plates into the foundation. Each end section requires five bolts, and each middle section requires three bolts. Insert 3/4-inch diameter anchor bolts and secure.

Installing Load Cells

Use a transit to check the height of the scale deck near each load cell to determine if shimming is required.

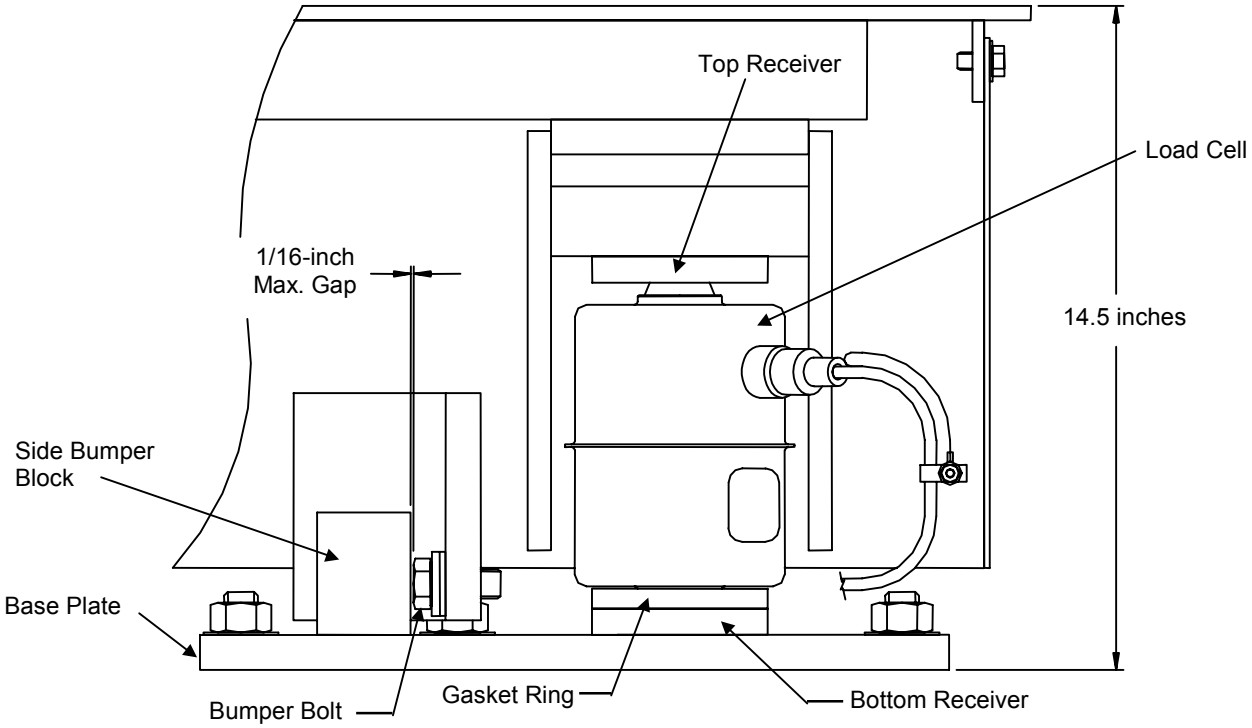


Figure 5-3: Load Cell Installation

Install each load cell as shown in Figure 5-3, using the following procedure:

1. Jack up the module and remove the locating tool.
2. Apply load cell lubricant to the load surface of the cell buttons at the top and bottom of the load cell.
3. Fill the lower hex receiver with a multi-purpose grease.
4. If you need to adjust the height of the deck, add shims under the bottom receiver and above the top receiver. The maximum shimming to be used for a load cell is 3/4 inch. DO NOT PLACE more than 3/8 inch of shims at the top or bottom receiver, or the receiver could become dislodged.

   NOTE: Final shimming should be determined by the raw-count reading of the load cells (see Table 6-2 or 6-3). Final shimming should be done after addressing the load cells and before calibrating the scale (the shimming sequence is described in Chapter 9).
5. Install a POWERCELL® or MTX load cell:

   POWERCELL Load Cell: Position the foam rubber gasket on the lower receiver, and then place the hex end of the load cell into the lower receiver. Make sure that the cable connector points toward the outside of the scale and is oriented 30° out and away from the best cable routing.

MTX Load Cell: Install the MTX load cell and boot as described below (see Figure 5-4).

- Place a rubber boot on the lower part of the load cell. If necessary, apply a small amount of food-grade lubricant to the boot to ease it onto the load cell.
- Roll up the lower part of the boot, and place the hex end of the load cell into the lower receiver.
- Once the load cell is in position, roll down the lower part of the boot so that it fits around the receiver. Make sure that the cable connector points toward the outside of the scale and is oriented 30° out and away from the best cable routing. Then lower the module onto the load cell.

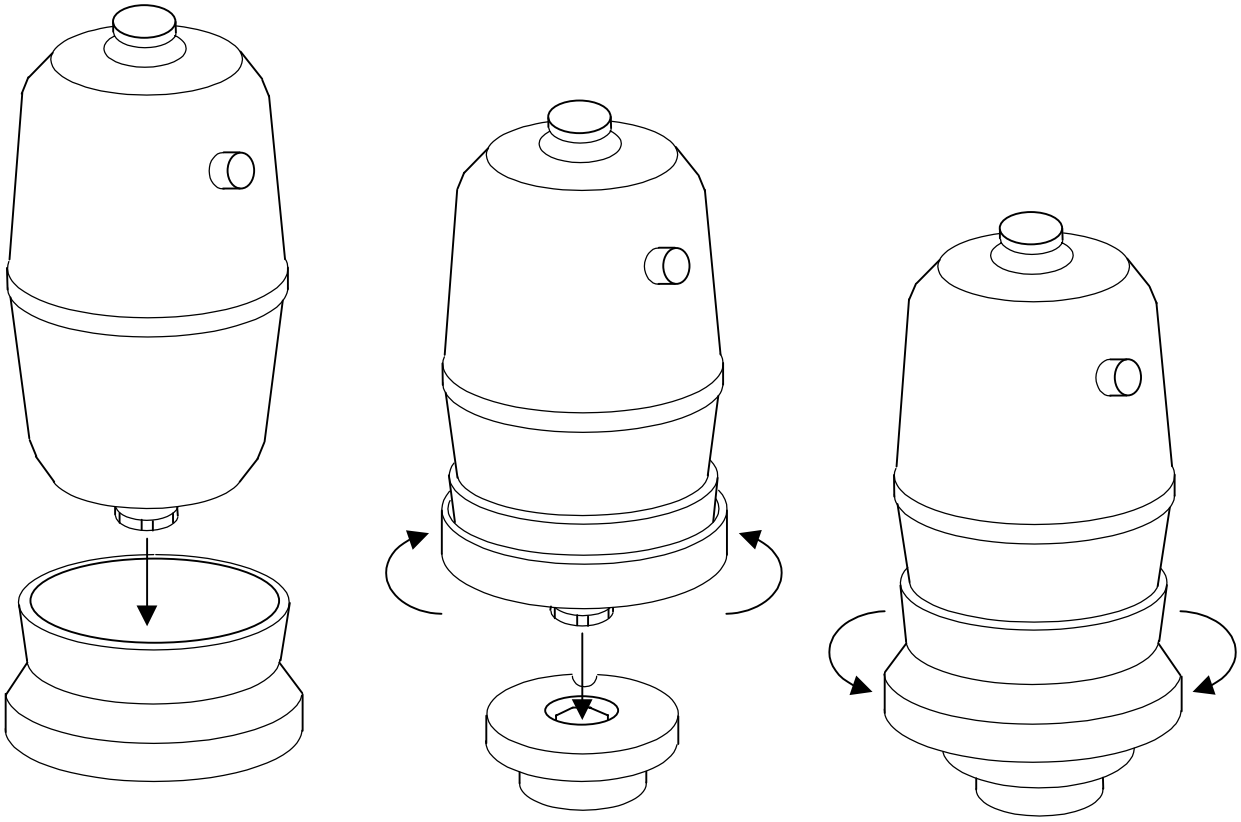


Figure 5-4: MTX Load Cell Installation

Load Cell Cabling

At this point, connect the load cell cables to the junction boxes. See the wiring diagram for routing and terminating load cell cables.

Do not connect the load cell cables to the load cells at this time. They should be connected as the load cells are being addressed.

It is important that all electrical parts are kept absolutely dry on the inside and as dry as possible on the outside. Continuous exposure can cause corrosion, which will eventually break down the seal and allow moisture to reach sensitive parts. Penetration of moisture can cause drifting, zero change, and reduce the accuracy of the scale.

Guidelines for installing cables:

- Dress the load cell cables to form a drip loop at a point before the cable connects to the load cell or to the junction box. Water will drip onto the cable and follow the cable to its lowest point before dripping off. If a drip loop is provided, the water will run off before reaching moisture-sensitive components such as connectors or seals.
- Cables are not integrally attached to the load cells. When you connect the cable connector to the load cells, the connector must be correctly and completely seated so the gasket will seal out all moisture and so the pins are not bent. Do not use wrenches or pliers on this fitting. If the fit is correct and free of foreign material, you should be able to assemble it by hand. IMPORTANT! Do not use tools to tighten the connector. Make sure the connection is free of any foreign material before applying connector dielectric compound to the connection. Use the dielectric compound supplied with the scale.
- See the wiring diagram for maximum home run cable length.

Junction Box

After calibrating the scale, place the desiccant pack in the junction box and carefully seal the junction box against moisture. Make sure the desiccant is in an active (dry) condition. Tighten the junction box cover securely. Be careful that the bolts are not over-tightened, as this could warp the cover or force the gasket out of place. The optimum screw torque is 20 in-lb.

Scale Finishing

Scale modules are often scratched and bumped in transit or during installation. To prevent rust, paint is provided in the installation kit to touch up any scratched or damaged areas. If a scratched area has started to rust, clean it with mineral spirits of lacquer thinner before applying the paint. Do not paint the scale platform when the temperature is below 60°F (15°C).

6 Scale Indicator Setup

Instructions for programming and calibrating the scale indicator can be found in the indicator's manual. The following setup information will be needed.

*Check serial plate on scale for total capacity.

Scale	Total Capacity*	Scale Length	No. of Load Cells	Programmed Capacity	Increment Size
7561	60 Tons	Less than 45 feet	4 or 6	120,000 lb	20 lb
	100 Tons	Greater than or equal to 45 feet	8 or more	200,000 lb	20 lb
7562	60 Tons	20 feet or less	4	120,000 lb	20 lb
	100 Tons	Greater than 20 feet	6 or more	200,000 lb	20 lb

Table 6-1: Scale Capacity and Increment Size

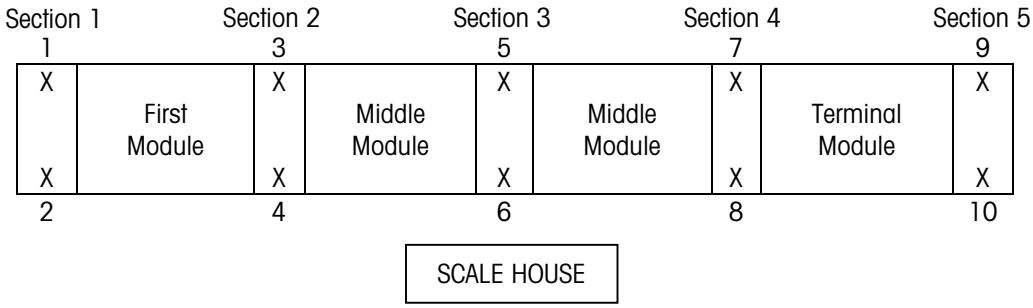


Figure 6-1: Recommended Load Cell Addressing

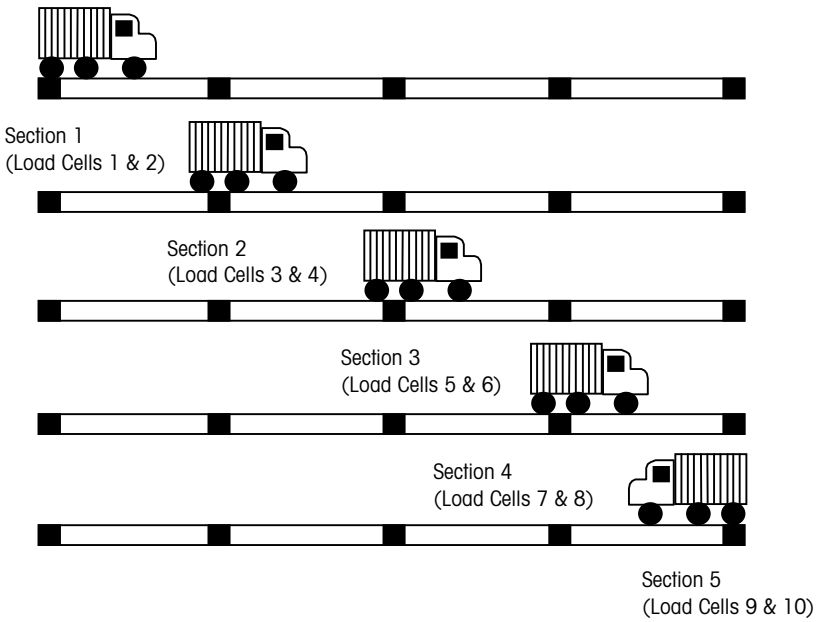


Figure 6-2: Test Truck Positions for Shift Compensation

End Cell Raw Count Range	
Module Size	**Raw Count**
15 feet	1,900 - 2,300
17.5 feet	2,200 - 2,800
20 feet	2,700 - 3,500

Middle Cell Raw Count Range	
Module Size	**Raw Count**
15 feet - 15 feet	3,700 - 4,600
15 feet - 17.5 feet	4,100 - 5,100
17.5 feet - 17.5 feet	4,500 - 5,600
15 feet - 20 feet	4,600 - 5,800
17.5 feet - 20 feet	5,000 - 6,300
20 feet - 20 feet	5,500 - 7,000

Table 6-2: Expected "Raw Count" Readings for Model 7561 (22.5t POWERCELL or 25t MTX Load Cells)

End Cell Raw Count Range	
Module Size	**Raw Count**
15 feet	1,200 - 1,450
17.5 feet	1,450 – 1,800
20 feet	1,800 - 2,250

Middle Cell Raw Count Range	
Module Size	**Raw Count**
15 feet - 15 feet	2,400 - 2,900
15 feet - 17.5 feet	2,650 - 3,250
17.5 feet - 17.5 feet	2,900 - 3,600
15 feet - 20 feet	3,000 - 3,700
17.5 feet - 20 feet	3,250 - 4,050
20 feet - 20 feet	3,600 - 4,500

Table 6-3: Expected "Raw Count" Readings for Model 7562 (45t POWERCELL or 45t MTX Load Cells)

IMPORTANT!

If raw counts do not fall into the ranges listed in these tables, re-shim the scale using the shimming procedure covered in Chapter 9.

7 Maintenance

Frequency

Since the scale has no moving parts, it requires only minimum maintenance. But normal service inspection schedules are recommended.

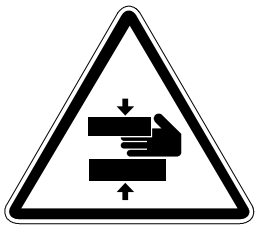
The underside and sides of the scale platform are painted with an epoxy paint. You will need to repaint these areas occasionally with an epoxy paint. Before repainting, clean the metal surfaces and remove all rust. The easiest method for painting the platform is with paint rollers. The temperature must be 60°F (15°C) or higher.

Check the calibration of the scale every six months. Check the bumper bolts and adjust them if necessary. Check the junction box desiccant bags and replace them as required.

Load Cell Replacement

If a load cell needs to be replaced, use the following procedure:

1. Raise the platform, using a hydraulic jack, test truck boom, or forklift. The scale should be raised only when it is unloaded. The force required to lift a module at either end of the scale is at least one half of the module weight shown in Table 3-1. If you are going to lift a middle module, lift the module that bears on the coupler bracket first and block it up before attempting to lift the adjoining module off the load cell. Refer to the lifting procedures in Chapter 3. To remove a load cell, you will need to lift the scale approximately 1.5 inches.



⚠ WARNING

WHEN A MODULE IS BEING MOVED, DO NOT PLACE YOUR HANDS OR OTHER ITEMS BETWEEN THE MODULE AND ANY OTHER SURFACE. IF IT IS NECESSARY TO PLACE YOUR HANDS UNDER A MODULE DURING INSTALLATION, MAKE SURE THAT THE MODULE IS PROPERLY BLOCKED SO THAT IT CANNOT MOVE. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN BODILY HARM OR PROPERTY DAMAGE.

2. After the scale is raised up and blocked, enter the setup mode on the indicator and access the load cell replacement parameter. Follow the indicator manual's instructions for replacing a load cell.
3. Check the calibration of the scale and recalibrate if required.

Spare Parts List

Part Number	Description
14002500A	POWERCELL, 22.5t, H44 10Kd (7561)
15475900A	MTX, 45t, H44 10Kd (7562)
TA200764	Receiver, Upper
TA200814	Receiver, Lower Hex
TN203173	Gasket (7561)
TN203705	MTX Boot (7562)
TA200712-1	Receiver Shim, 0.125 inch
TA200712-2	Receiver Shim, 0.063 inch
TA200712-3	Receiver Shim, 0.187 inch
TA200865-1	Round Coupler Pin
TA200865-2	Octagonal Coupler Pin
TA200856-1	End Bumper Shims, 0.250 inch
TA200856-2	End Bumper Shims, 0.125 inch
TA200856-3	End Bumper Shims, 0.063 inch
TA200357-1	Side Bumper Shim, 0.125 inch
TA200357-2	Side Bumper Shim, 0.063 inch
TA200357-3	Side Bumper Shim, 0.031 inch
TA200864-1	Coupler Pin Shim, 0.125 inch
TA200864-2	Coupler Pin Shim, 0.063 inch
TA000088-XXX*	Load Cell Cable
13635300A	CMOS Junction Box PCB
TA200831	Locating Tool

* See wiring kit drawing for load cell cables.

Load Cell Specification

POWERCELL Load Cell

Model: 0760, NTEP (National Type Evaluation Program) Certificate of Conformance Number 88-091 for Class IIIL, 10,000 divisions.

Capacity: 22,500 kg / 49,604 lb

Material: Stainless Steel

Environmental Protection: Hermetically Sealed

Output: METTLER TOLEDO DigiTOL Protocol

MTX Load Cell

Model: MTX, NTEP (National Type Evaluation Program) Certificate of Conformance Number 88-091 for Class IIIL, 10,000 divisions.

Capacity: 45,000 kg / 99,208 lb

Material: Stainless Steel

Environmental Protection: Hermetically Sealed

Output: METTLER TOLEDO DigiTOL Protocol

Scale Certification

Model 7561: National Type Evaluation Program (NTEP) Certificate of Conformance Number 99-101 for Class IIIL, nMAX = 10,000 divisions.

Model 7562: National Type Evaluation Program (NTEP) Certificate of Conformance Number 93-108 for Class IIIL, nMAX = 10,000 divisions.

8 Cast-in-Place Concrete Recommendations

General

Work including: Providing all cast-in-place concrete work, including reinforcing, placing, curing, and cleanup.

Submit, on request only, product literature for admixtures and curing compounds proposed for use.

Materials

Cement: Portland Cement, ASTM C150, Type 1
Water: Potable
Aggregates: ASTM C33, size number 67
Admixtures:

- Water-reducing: ASTM C494, Type A or D
- Air-entraining: ASTM C260
- High-range, water-reducing admixture (superplasticizer): ASTM C494, Type F or G
- Nonchloride, noncorrosive accelerator: ASTM C494, Type C or E
- Calcium Chloride is **NOT** permitted.
- Use of mixtures other than those listed will not be permitted.

Reinforcing

Deformed bars: ASTM A615, A616, or A617. Yield strength to be 60 ksi. Welded wire fabric (if required): ASTM A185. Provide in sheet form.

Mixes

Use the following for exterior slabs on grade:

- Compressive strength to be 4,000 psi (or as specified on foundation drawing), 28-day strength.
- Air content shall be 5 to 7 percent.
- Maximum water to cement ratio shall be 0.45.
- Maximum slump as placed shall be 4 inches.

Finish

Finish on flatwork shall be medium broom finish.

Curing and Protection

Curing Compound and Sealer: Federal Specification ASTM C309. The compound shall be a styrene butadiene type, 30% solids content minimum. The following are acceptable:

- Super Floor Coat, by Euclid
- Super Pliocure, by Euclid
- Masterseal 66, by Master Builders

When air temperature during placement is less than 40°F, or will be within 24 hours, temperature of concrete as placed is to be between 50°F and 90°F (55°F and 90°F for a section less than 12 inches thick). Maintain concrete temperature within these limits for the full curing period of 7 days.

Slab areas may be either moist-cured or receive an application of curing compound, except that when concrete above grade is placed in the open, and the air temperature exceeds 75°F, the concrete is to be moist-cured for the first 24 hours.

Whichever curing method is used, it shall begin immediately after the water sheen disappears and continue for at least 7 days. Do not allow curing to be delayed overnight.

9 Shimming Sequence

1. Complete the initial installation work. Connect the scale to a DigiTOL indicator and apply power. Let the load cells warm up for approximately 1/2 hour.
2. Access the setup mode of the indicator and observe the raw counts displayed for each load cell in the scale. Refer to the 10-cell layout in Figure 9-1 for the recommended load cell numbering scheme. Note that load cells 1 and 2 make up Section 1, cells 3 and 4 make up Section 2, and so on. Make sure that you know the proper location of each cell in your scale and that cells 1, 2, 3, and 4 are supporting the first or starting module of the scale.
3. Adjust the deck at Section 1 so that it is level with the approach ramp (assuming that the approach coping at each end of the scale is in the same level plane) to ensure a smooth transition onto the weighbridge. Shim load cells 1 and 2 as required (do not exceed 3/8 inch of shims at the top or bottom load cell receivers, 3/4 inch total shims maximum).
4. Shim under Section 2 cells until Section 1 cells are within raw count tolerance and equal side-to-side within 20% or less.
5. Shim under Section 3 cells to bring Section 2 cells into tolerance. Bring Section 3 cells into tolerance by shimming under Section 4 cells.
6. Make sure that Section 5 is level with the approach ramp. Shim Section 5 cells as necessary. Next, check Section 4 and 5 cell counts to determine if additional shimming is required. If so, shims must be placed at the coupler connections of Section 4. Shim as required to bring Sections 4 and 5 into tolerance.
7. Scale is now ready for shift adjust and calibration.

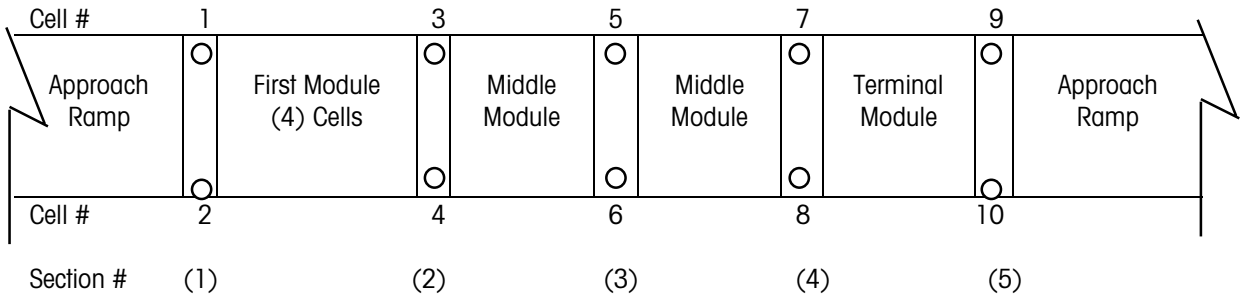


Figure 9-1: Recommended Load Cell Numbering

10 Service Parts

7561/7562 Truck Scales

Refer to the following drawings and tables when ordering parts for 7561 and 7562 truck scales.

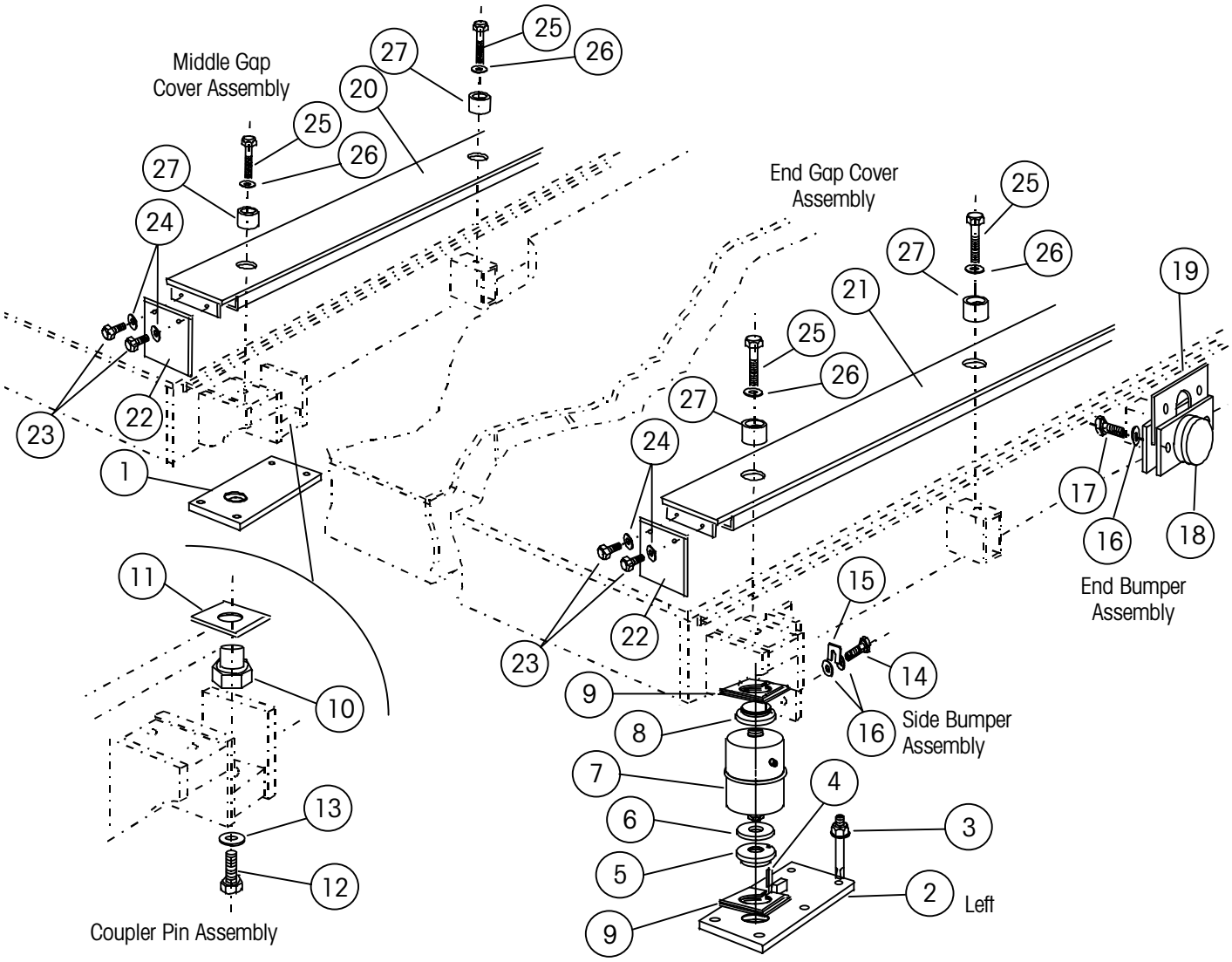


Figure 10-1: Model 7561 and 7562 Parts

Ref No.	Part Number	Description
1	TA200937-2	Base Plate
Not Shown	T204592-0600	Base Plate with 6-inch High Riser (Optional)
2	TA200937-3 TA200937-4	Left Bumper Base Plate Right Bumper Base Plate (not shown)
Not Shown	T204593-0600 T204594-0600	Left Bumper Base Plate with 6-inch High Riser (Optional) Right Bumper Base Plate with 6-inch High Riser (Optional)
3	TN203216	3/4-10 Anchor Bolt x 5.5 inches long
4	MZ0904000063	Roll Pin
5	TA200814	Lower Hex. Receiver
6	TN203173	Gasket (7561)
Not Shown	TN203705	MTX Boot (7562)

7	14002500A 15475900A 14002500A E12995400A	22.5t POWERCELL Load Cell, CMOS (7561) 45t MTX Load Cell (7562: after 6/99) 22.5t POWERCELL Load Cell, CMOS (7562: 4/93 to 6/99) 22.5t POWERCELL Load Cell, NMOS (7562: before April 1, 1993)
8	TA200764	Upper Receiver
9	TA200712-1 TA200712-2 TA200712-3	Receiver Shim, 0.125 inch Receiver Shim, 0.063 inch Receiver Shim, 0.187 inch
10	TA200865-1 TA200865-2	Round Coupler Pin (per module) Octagonal Coupler Pin (per module)
11	TA200864-1 TA200864-2	Coupler Shim, 0.125 inch Coupler Shim, 0.063 inch
12	MZ0901010030	3/8-16 Hex. Head Screw x 3/4 inch long (per module)
13	MZ0901030019	3/8-inch Washer (per module)
14	MZ0901010375	5/8-11 Side Bumper Bolt x 1 1/4 inches long
15	TA200357-1 TA200357-2 TA200357-3	Side Bumper Shim, 0.125 inch Side Bumper Shim, 0.063 inch Side Bumper Shim, 0.031 inch
16	MZ0901030062	5/8-inch Washer, Plain
17	TN202012	5/8-11 Hex. Head Bolt x 2.5 inches long w/ 2-inch thread
18	TA200887	End Bumper Assembly
19	TA200856-1 TA200856-2 TA200856-3	End Bumper Shims, 0.250 inch End Bumper Shims, 0.125 inch End Bumper Shims, 0.063 inch
20	TA202173 TA204083	Middle Gap Cover, 11 feet wide only (7562) Middle Gap Cover, 11 feet wide only (7561)
21	TA202174 TA204082	End Gap Cover, 11 feet wide only (7562) End Gap Cover, 11 feet wide only (7561)
22	TA202172	Side Cover (per section)
23	MZ0901010030	3/8-16 Hex. Head Screw x 3/4 inch long (per side cover)
24	MZ0901030019	3/8-inch Washer (per side cover)
25	MZ0901010330	1/2-13 Bolt x 3 inches long (per center gap cover)
26	MZ0901030098	1/2-inch Washer (per section)
27	TN202399	Sleeve (per section)
Not Shown	TN203217	Magnalube-G
Not Shown	MZ0602000117	Loctite #242 Threadlocker
Not Shown	TA800582	METTLER TOLEDO Sign
Not Shown	TA200831	Locating Tool
Not Shown	TA800085	DigiTOL TRUCKMATE Sign
Not Shown	TN800345	Bumper Gap Label

Table 10-1: Model 7561 and 7562 Parts

11 Reference Drawings

Scale Size	General Layout	Foundation			Wiring Diagram
		Beam Slab	Variable Footer	Pit	
10 x 11 feet	TC204661	TC202446	TC202445	TC202447	
15 x 11 feet		TC202449	TC202448	TC202450	
17.5 x 11 feet		TC202452	TC202451	TC202453	
20 x 11 feet		TC203585	TC203584	TC203586	
30 x 11 feet	TC204662	TC202455	TC202454	TC202456	Standard:
35 x 11 feet		TC202458	TC202457	TC202459	TC100460
40 x 11 feet		TC202505	TC202504	TC202506	
45 x 11 feet	TC204663	TC202461	TC202460	TC202462	Hazardous:
52.5 x 11 feet		TC305828	TC204707	TC204708	TC100442
60 x 11 feet		TC203508	TC203507	TC203509	
70 x 11 feet	TC204664	TC202259	TC202258	TC202260	
80 x 11 feet		TC203511	TC203510	TC203512	
90 x 11 feet	TC204665	N/A	TC308202	TC204199	
100 x 11 feet		TC203515	TC203514	TC203516	
110 x 11 feet	TC204666	TC204299	TC204393	N/A	
120 x 11 feet		TC203517	TC203516	TC203518	

Table 11-1: Reference Drawings for Model 7561 and 7562 Truck Scales

Scale Size	General Layout
35 feet	TC204191
70 feet	TC204192

Table 11-2: Reference Drawings for Model 7562 Portable Scales

METTLER TOLEDO

Publication Suggestion Report

If you have suggestions concerning this publication, please complete this form and fax it to (614) 841-7295

Publication Name: METTLER TOLEDO 7561/7562 TRUCKMATE Installation and Service Manual

Publication Part Number: A15632800A **Publication Date: 12/00**

PROBLEM(S) TYPE:	DESCRIBE PROBLEM(S):	*INTERNAL USE ONLY*
☐ **Technical Accuracy**	☐ Text ☐ Illustration	
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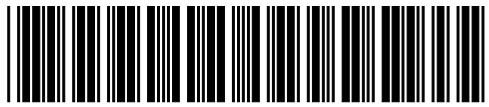

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