7566

Truckmate®
Steel Deck Weighbridge

Installation and Service Manual

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(4/01).00

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:

METTLER TOLEDO
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Columbus, Ohio USA 43240
Phone: (614) 438-4511
Fax: (614) 438-4958
www.mt.com

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.

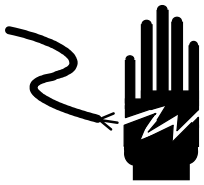
FOLLOW these instructions carefully.

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.

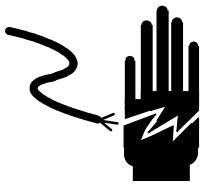


⚠ WARNING

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.

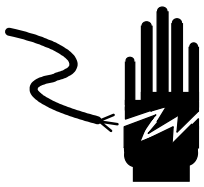
⚠ CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.



⚠ WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.



⚠ WARNING

FOR CONTINUED PROTECTION AGAINST SHOCK HAZARD, CONNECT TO PROPERLY GROUNDED OUTLET ONLY. DO NOT REMOVE THE GROUND PRONG.

⚠ CAUTION

BEFORE CONNECTING OR DISCONNECTING ANY INTERNAL ELECTRONIC COMPONENTS OR INTERCONNECTING WIRING BETWEEN ELECTRONIC EQUIPMENT, ALWAYS REMOVE POWER AND WAIT AT LEAST THIRTY (30) SECONDS. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN BODILY HARM OR DAMAGE TO OR DESTRUCTION OF THE EQUIPMENT.

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1 Introduction

The Model 7566 TRUCKMATE® truck scale is designed for weighing heavy-duty highway and off-road vehicles. It has a steel deck reinforced with orthotropic ribs. A variable footer foundation is standard, but a beam slab foundation can be used if required. The scale profile from the top of the pier to the top of the pit wall is approximately 30 inches. Two versions of this scale are available:

Single-Width Scale

This scale is designed to weigh large trucks that drive on standard-width roads. Each steel-deck module is 11 feet, 10 inches wide by 17.5 or 20 feet long. An installed scale will be one module wide and from one to six modules long (20 to 120 feet). The concentrated load capacity for a single-width scale is 130,000 pounds.

Double-Width Scale

This scale is designed to weigh trucks used for off-road hauling. Each steel-deck module is 9 feet, 9 inches wide by 15 feet long. To accommodate wider off-road vehicles, two modules are installed side-by-side. Depending on the gap between these modules, the overall width of the scale can range from 19 feet, 9 inches to 22 feet. An installed scale will consist of one to five pairs of modules (15 to 75 feet long). The concentrated load capacity for a double-width scale is 250,000 pounds.

Maximum Loading

Model 7566 weighbridges have a gross scale capacity of 300,000 lb for single-width scales and 500,000 lb for double-width scales. 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 7566 weighbridges.

Scale	Maximum Capacity	CLC
7566 Single Width	300,000 lb	130,000 lb
7566 Double Width	500,000 lb	130,000 lb per side

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 7566 single-width scale, which has a CLC rating of 130,000 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 × 130,000 = 172,120 lb.

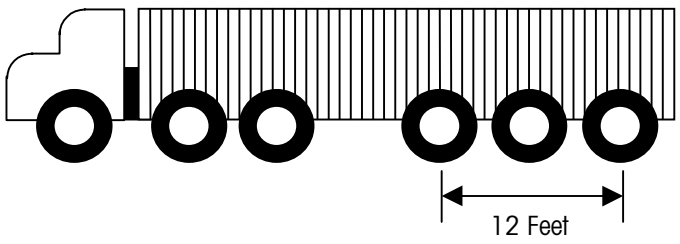


Figure 1-1: Sample Truck

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.

Install the Foundation

The standard foundation for a 7566 truck scale is a variable footer, but a beam slab foundation can be used if required. Install the foundation according to the correct drawing (see Chapter 11). Make sure 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. Cast-in-place concrete recommendations are provided in Chapter 8

Foundations are designed to support a 7566 single-width scale rated 150 tons or a 7566 double-width scale rated 250 tons, assuming the ground has a bearing surface of at least 2,500 lb per square foot for a variable footer and 1,500 lb per square foot for a beam slab design.

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.

⚠ CAUTION

THE TOP REBAR MUST BE PLACED TO CLEAR THE ANCHOR BOLTS. REFER TO THE FOUNDATION DRAWINGS FOR ANCHOR BOLT LOCATIONS.

Curing

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

3 Receiving and Inspection

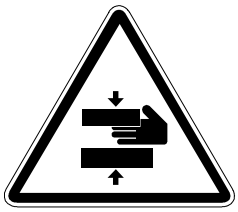
Inspection

Check 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.

⚠ WARNING

WEIGHBRIDGE MODULES SHOULD ALWAYS BE MOVED SLOWLY AND CAREFULLY TO AVOID MECHANICAL SHOCK. MAKE SURE THAT THE LIFTING DEVICE USED TO MOVE THEM HAS A SUFFICIENT CAPACITY TO HANDLE THE MODULES SAFELY AND SECURELY.



⚠ 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.

Unloading Procedure

If a METTLER TOLEDO truck is delivering the 7566 truck scale, the METTLER TOLEDO driver will handle and supervise unloading. Otherwise, unload the modules by lifting them with a quadlift chain attached to the lifting brackets as shown in Figure 3-1. Approximate module weights are listed in Table 3-1.

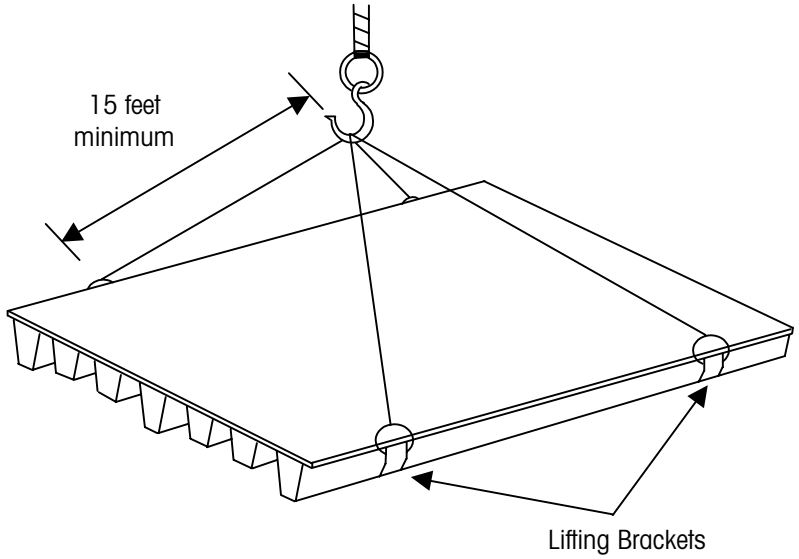


Figure 3-1: Module Lifting Procedure

Module Type	15-foot Module	17.5-foot Module	20-foot Module
7566 Single Width	—	10,200 lb	11,500 lb
7566 Double Width	8,400 lb	—	—

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 modules, 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, 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).

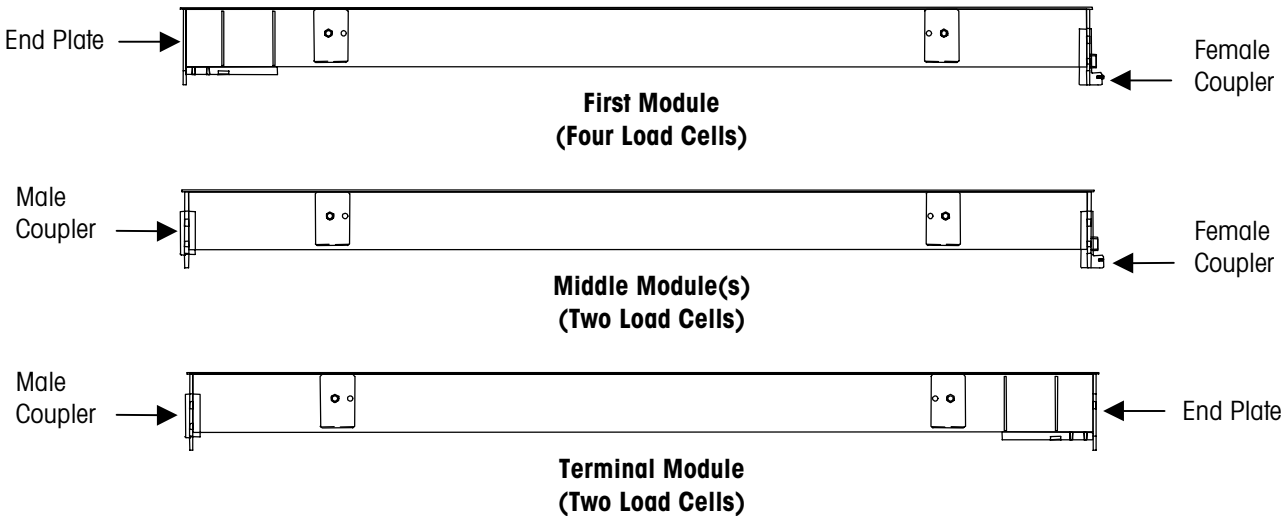


Figure 3-2: Types of Modules (Side View)

4 Installation Supplies Checklist

The following material and tools are needed to properly install a 7566 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:

  5/8 inch – Side bumper bolts
  3/4 inch - End bumper bolts
  1-1/4 inches - Tie bolts
- 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 a 7566 truck scale on a dimensionally correct foundation.

		Check (✓) When Completed
1.	Snap Chalk Lines on Foundation	_____
2.	Position Base Plates	_____
3.	Drill Holes for Anchor Bolts	_____
4.	Set Receivers into Base Plates and Check Height with Transit	_____
5.	Insert Locating Tools in Receivers	_____
6.	Set Modules on Locating Tools	_____
7.	Make Sure Scale is Centered on Foundation and Level	_____
8.	Check Base Plate Alignment (Verify that Locating Tools are Vertical)	_____
9.	Install Anchor Bolts	_____
10.	Replace Locating Tools with Load Cells	_____
11.	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 and complete conduit installation, if necessary.

Note: Spray a clear polyurethane coating on the chalk lines that mark the anchor bolt locations to maintain the lines while you are drilling.

1. Snap a chalk line on the foundation to mark the center line of the scale. Using the foundation drawing as a guide, snap chalk lines to mark the locations of the anchor bolt holes for the base plates. Check the distance between the approach copings and check the diagonal measurements.
2. Position the base plates on the foundation. Figure 5-1 shows the base plate positions for 20'x11'10" modules in single and multiple configurations. For the actual dimensions of your scale, refer to the foundation drawing.
3. Using a hammer drill, drill holes in the foundation for the anchor bolts. Use the holes in the base plates as a guide for drilling. Do not install anchor bolts at this point. The bolt holes in the base plates are large enough to allow you to reposition the plates slightly after you have set the modules in place.
4. Install a roll pin in each base plate.
5. Grease (with Never-Seez) the lower receivers and insert one in each of the base plates, aligning the notch with the roll pin. Use a transit to check the elevation of the receiver at each base plate location, relative to the top of the approach coping and to the other receivers. 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 of End Base Plates (without shims) = 25-1/4 inches

   Height of Middle Base Plates (without shims) = 28 inches

   The total, nominal height of the scale is 29-5/8 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 shims on top and 3/8 inch 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).
6. Insert a locating tool in each of the receiver base plates, aligning the notch with the roll pin.
7. Prepare modules for installation.
   - Grease (with Never-Seez) the upper receivers with O-Ring and insert a receiver into each load cell receiver block on the undersides of the modules.

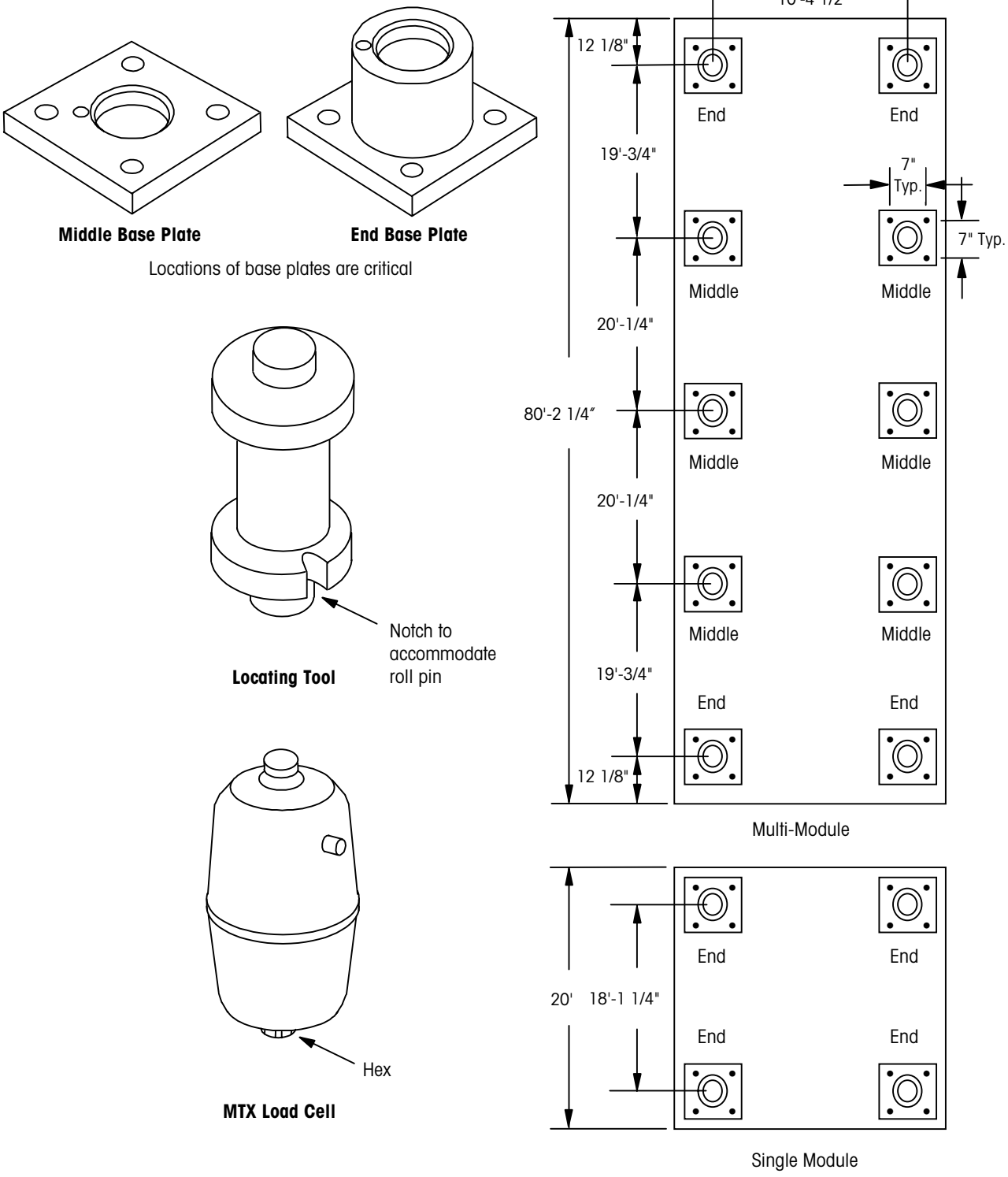


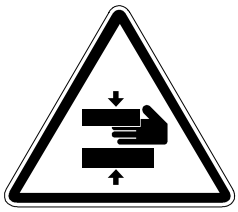
Figure 5-1: Base Plate Locations

IMPORTANT! Be sure there are 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.

8. 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 has been installed. Position the module so that the end with the female couplers faces away from 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 positioning the male couplers on the female couplers of the First Module (see Figure 5-2). The module will seat best if it is lowered almost level. Lower the other end onto the locating tools. Line up the bolt holes in the end plates of the two modules. Insert tie bolts through the holes. Place a washer and nuts on each bolt, but do not tighten them completely.

Note: As you set each module in place, make sure that it lines up with the chalk lines marked on the foundation. If the scale starts to drift to the left or right, add shims at one of the tie bolt locations to align the scale. Add shims between the male and female couplers if needed to level the modules.

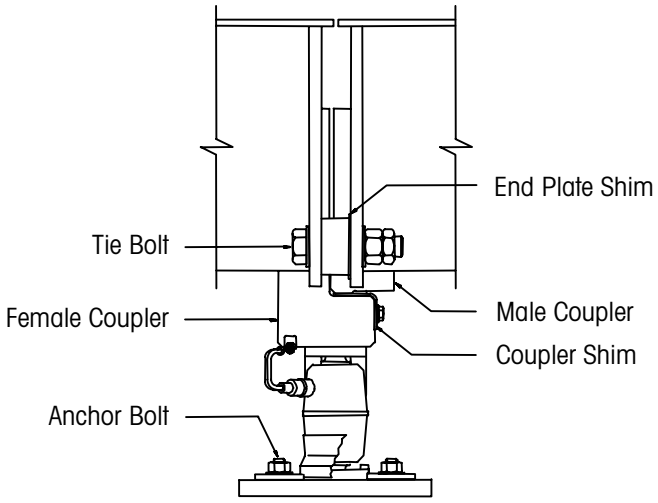


Figure 5-2: Module Alignment

c. Set each remaining Middle Module in place by slowly lowering it and positioning the male couplers on the female couplers of the previous module. Lower the other end onto the locating tools. Insert tie bolts and align the module (if necessary) as described in the previous step.

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 out of square, then the clearance will vary across the approach wall. This clearance should not be less than 3/8 inch at any point.

9. Tighten the tie bolts that connect each pair of modules.

10. 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.**

11. Anchor the base plates to the foundation by installing the 3/4-inch diameter anchor bolts and securing them.

12. Use anchor bolts to secure the side bumper brackets to the end walls of the foundation. Adjust the side bumpers and end bumpers according to the bumper gaps shown in Figure 5-3.

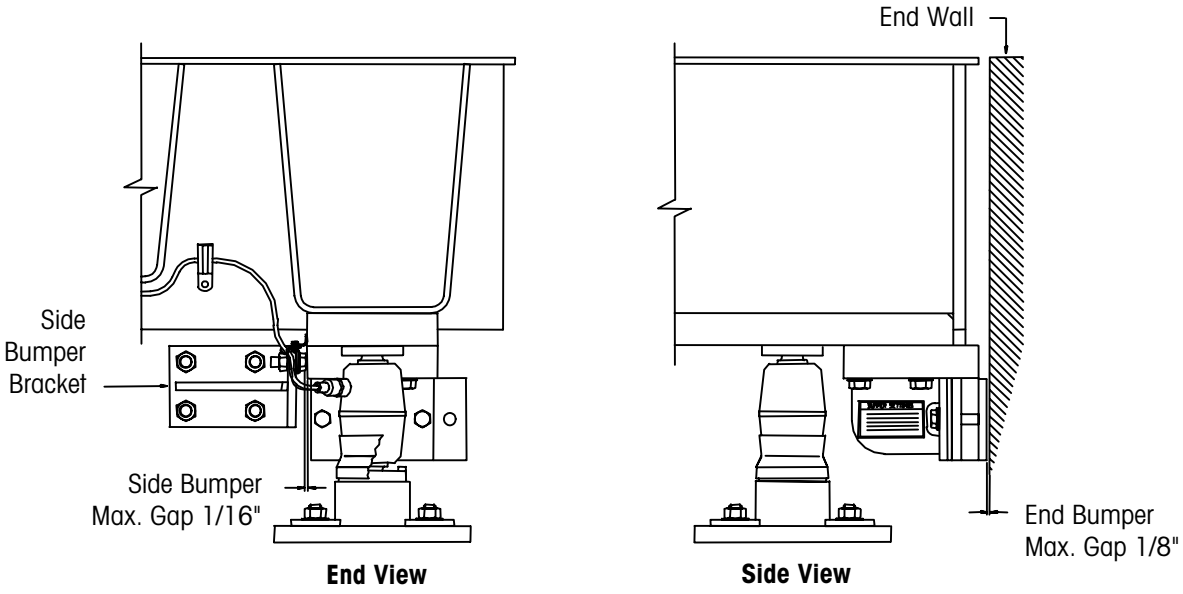


Figure 5-3: Module Alignment

Installing Load Cells

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

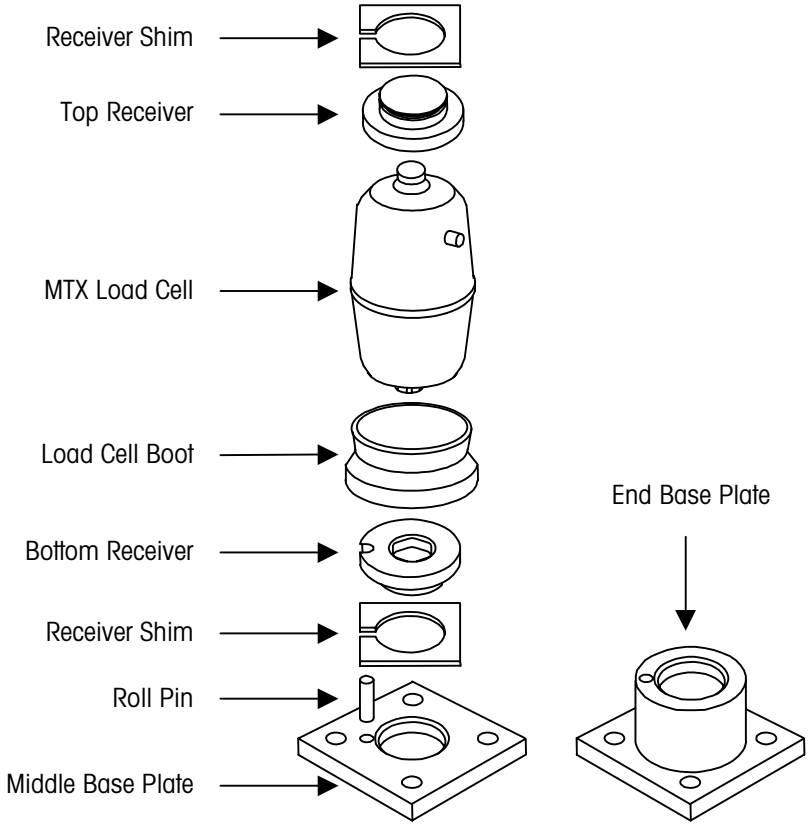


Figure 5-4: Load Cell Installation

Install each load cell as shown in Figure 5-4, 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 hexagonal opening in the bottom 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). Final shimming should be done after addressing the load cells and before calibrating the scale (see Chapter 9 for the shimming sequence).

5. Install an MTX load cell and boot as described below (see Figure 5-5):

- 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.

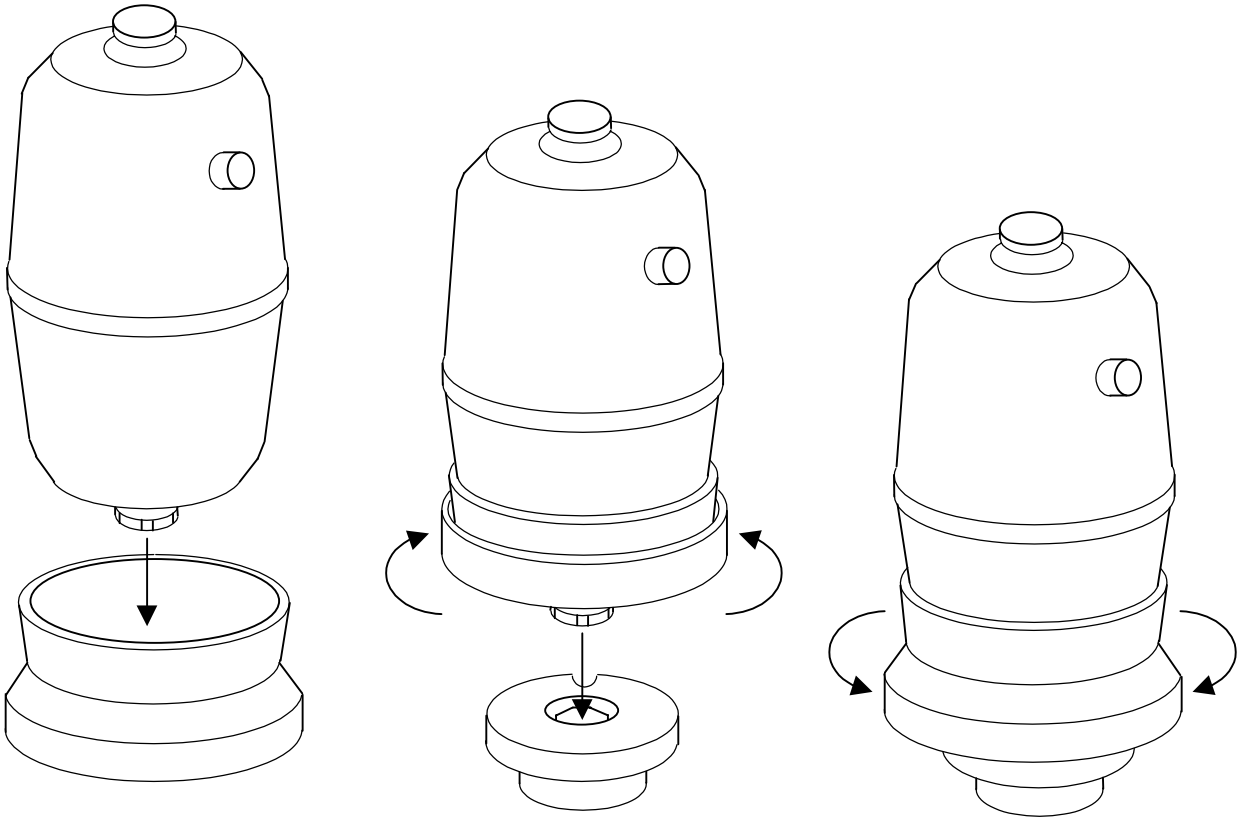


Figure 5-5: MTX Load Cell Installation

Load Cell Cables

At this point, connect the load cell cables to the junction boxes. See the 7566 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 the 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 ultimately allow moisture to reach sensitive parts. Penetration of moisture can cause drifting, zero change, and in general degrade 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. 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 for 7566

Instructions for programming and calibrating the scale indicator can be found in the indicator's manual. The following 7566 setup information will be needed.

Scale	Total Capacity*	Scale Length	No. of Load Cells	Programmed Capacity	Increment Size
Single Width	95 Tons	Less than or equal to 20 feet	4	190,000 lb	20 lb
	150 Tons	Greater than 20 feet	6 or more	300,000 lb	50 lb
Double Width	175 Tons	Less than or equal to 20 feet	8	350,000 lb	50 lb
	250 Tons	Greater than 20 feet	12 or more	500,000 lb	50 lb

*Check serial plate on scale for total capacity.

Table 6-1: Scale Capacity and Increment Size

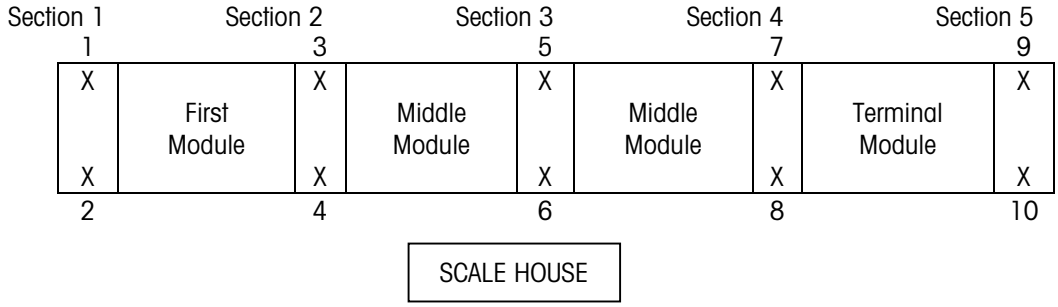


Figure 6-1: Recommended Load Cell Addressing

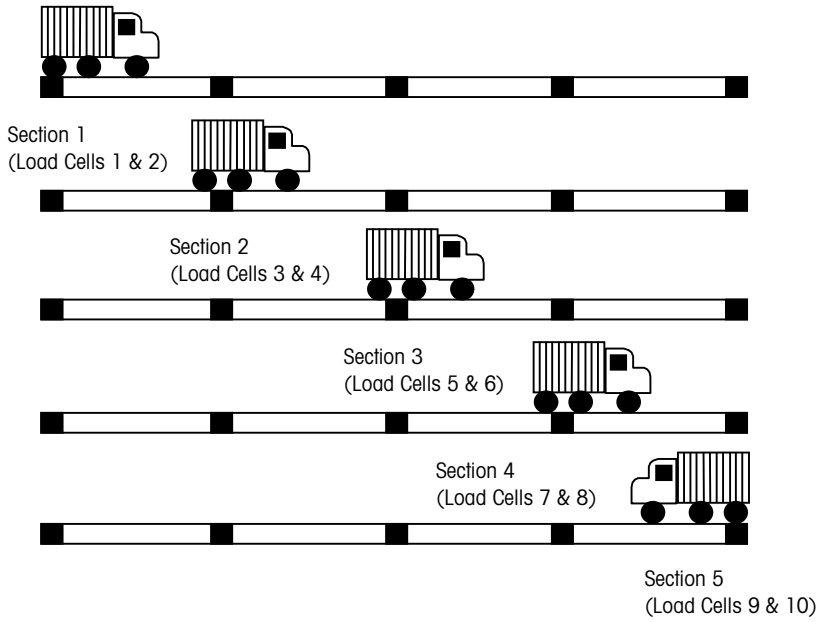


Figure 6-2: Test Truck Positions for Shift Compensation

End Cell Raw Count Range	
Module Size	**Raw Count**
15 feet	2,000 - 2,250
17.5 feet	2,400 - 2,750
20 feet	2,650 - 3,100

Middle Cell Raw Count Range	
Module Size	**Raw Count**
15 feet - 15 feet	4,000 - 4,500
17.5 feet - 17.5 feet	4,800 - 5,500
17.5 feet - 20 feet	5,050 - 5,850
20 feet - 20 feet	5,300 - 6,200

Table 6-2: Expected "Raw Count" Readings for Model 7566

IMPORTANT!

If raw counts do not fall into the ranges listed in Table 6-2, re-shim the scale using the shimming procedure described 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.

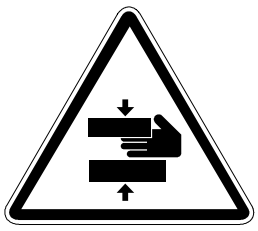
The underside and sides of the scale platform are painted with an epoxy paint. You will need to repaint these areas occasionally with an epoxy paint. Before repainting, clean the metal surfaces and remove all rust. The easiest method for painting the platform is with paint rollers. The temperature must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

Check the calibration of the scale every six months. Adjust the bumper bolts if necessary. Replace the desiccant bags in the junction box if necessary.

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. Refer to Chapter 3 for lifting procedures and module weights. To remove an MTX 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
15475900A	MTX Load Cell, 45t, H44 10Kd
TN203705	MTX Boot
TA200835	Receiver, Top
TA200830	Receiver, Bottom
TA200833-1	Receiver Shim, 11 gauge
TA200833-2	Receiver Shim, 16 gauge
TA200833-3	Receiver Shim, 7 gauge
TA203755-2	End Bumper Shims, 11 gauge
TA203755-3	End Bumper Shims, 16 gauge
TA200357-1	Side Bumper Shim, 11 gauge
TA200357-2	Side Bumper Shim, 16 gauge
TA200357-3	Side Bumper Shim, 22 gauge
TN203743-1	End Plate Shim, 16 gauge
TN203743-2	End Plate Shim, 11 gauge
TN203743-3	End Plate Shim, 0.25 inch
TA203759-1	Coupler Shim, 0.25 inch
TA203759-2	Coupler Shim, 11 gauge
13635300A	CMOS Junction Box PCB
TA200831	Locating Tool
TA000088-XXX*	Load Cell Cable

* See wiring kit drawing for load cell cables.

Load Cell Specifications

MTX Load Cell

Model: MTX, NTEP (National Type Evaluation Program) Certificate of Conformance Number 88-091A4 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

NTEP (National Type Evaluation Program) Certificate of Conformance Number 00-077 for Class IIIL, 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 fill in scale pan and 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 sections 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 10-1 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.

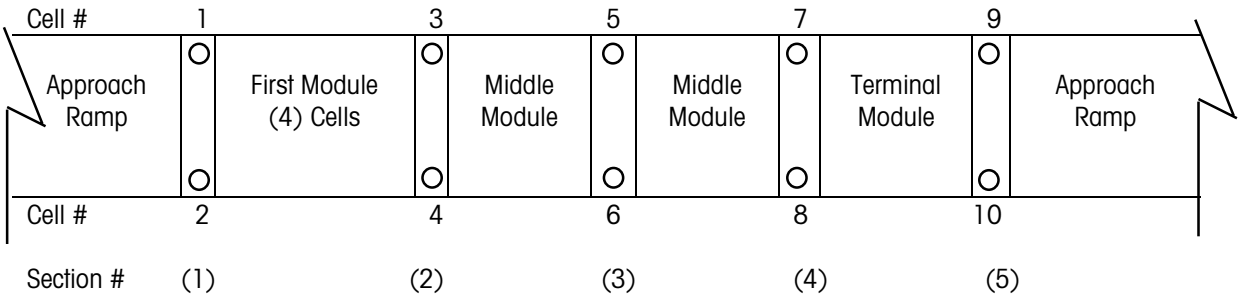


Figure 10-1: Recommended Load Cell Numbering

Note: Double-width scales are basically two scales installed side by side. Number the load cells and install shims as you would for two separate scales.

10 Service Parts

7566 Truck Scale

Refer to the following drawings and tables when ordering parts for 7566 truck scales.

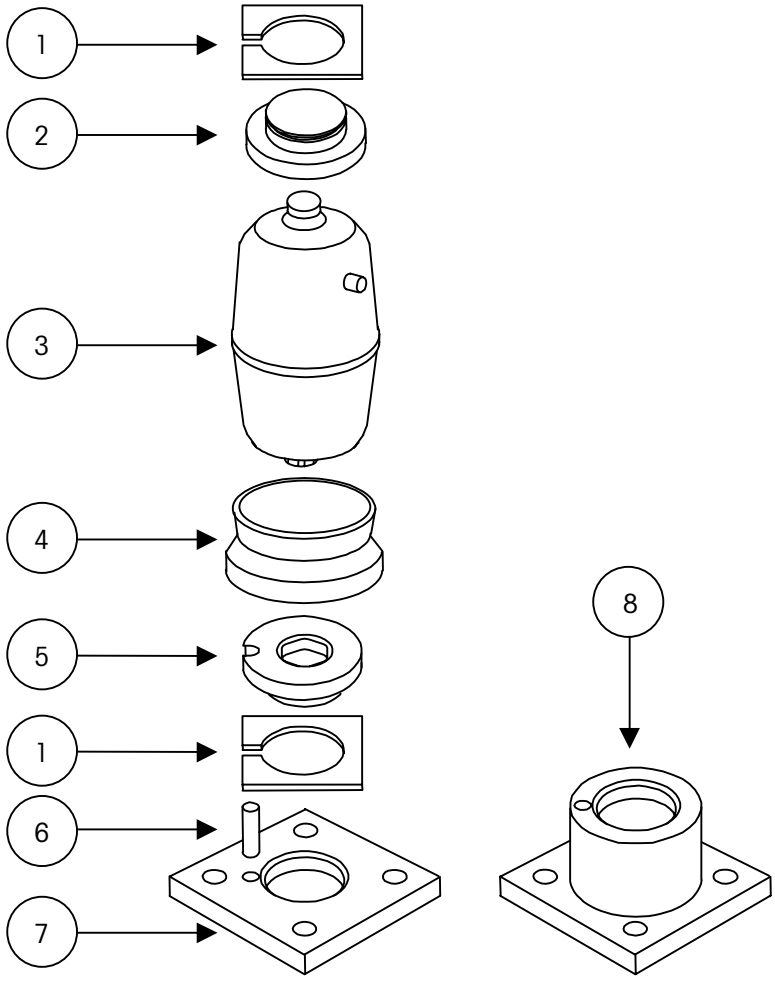


Figure 10-1: Load Cell Assembly

Ref. No.	Part Number	Description	Qty.
1	TA200833-1 TA200833-2 TA200833-3	Receiver Shim, Slotted, 11 gauge Receiver Shim, Slotted, 16 gauge Receiver Shim, Slotted, 7 gauge	Varies
2	TA200835	Top Receiver with O-ring	Varies
3	*15475900A	MTX Load Cell, 45t, H44 10Kd	Varies
4	TN203705	MTX Boot	Varies
5	TA200830	Bottom Receiver	Varies
6	MZ0904000063	Roll Pin, 1/2 x 1.5" long, SS	Varies
7	TA203762	Middle Base Plate	Varies
8	TN203765	End Base Plate	Varies

* May have a letter prefix.

Table 10-1: Load Cell Assembly

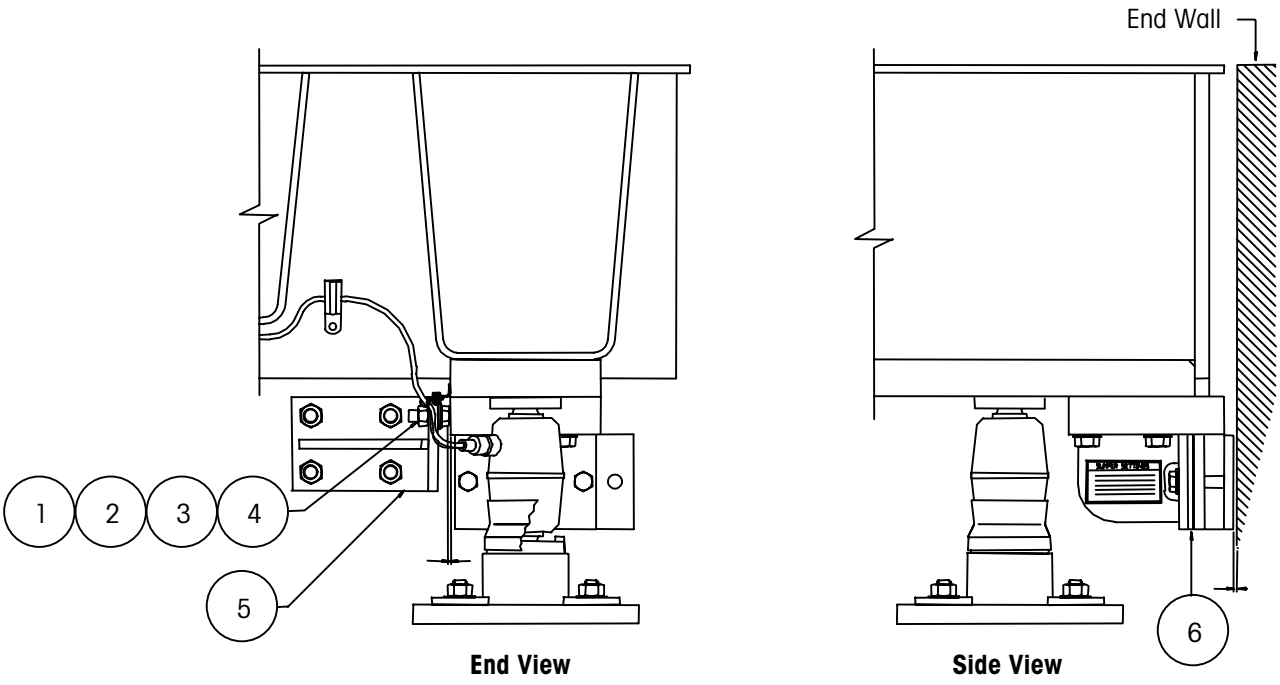
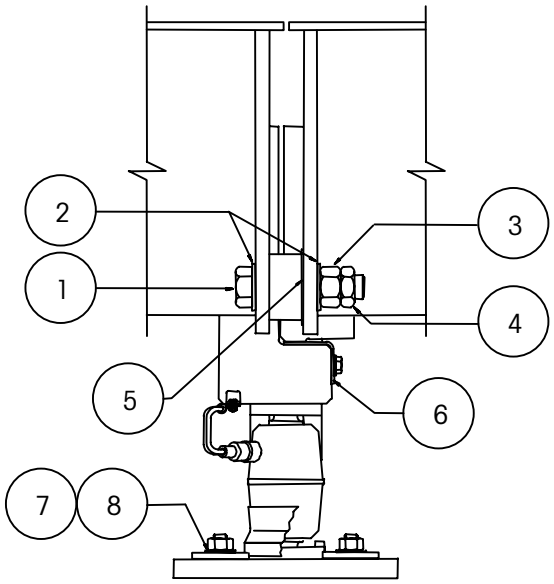


Figure 7-2: End of Scale Assembly

Ref. No.	Part Number	Description	Qty.
1	MZ0901030062	5/8 Washer, F436	Varies
2	MZ0901010506	5/8-11 Screw x 1.75	Varies
3	MZ0901020025	5/8 Nut	Varies
4	TA200357-1 TA200357-2 TA200357-3	Side Bumper Shim, Slotted, 11 gauge Side Bumper Shim, Slotted, 16 gauge Side Bumper Shim, Slotted, 22 gauge	Varies
5	TA203748	Side Bumper Bracket	Varies
6	TA203755-2 TA203755-3	End Bumper Shim, 11 gauge End Bumper Shim, 16 gauge	Varies

Table 7-2: End of Scale Assembly



Side View

Figure 7-3: Module Connection Assembly

Ref. No.	Part Number	Description	Qty.
1	MZ0901010507	1.25-7 Screw x 6.5	Varies
2	MZ0901030015	1.25 Washer	Varies
3	MZ0901020048	1.25-7 Nut	Varies
4	MZ0901020019	1.25-7 Jam Nut	Varies
5	TN203743-1 TN203743-2 TN203743-3	End Plate Shim, 16 gauge End Plate Shim, 11 gauge End Plate Shim, 0.25 inch	Varies
6	TA203759-1 TA203759-2	Coupler Shim, 0.250 inch Coupler Shim, 11 gauge	Varies
8	TN203216	Anchor Bolt, 3/4-10 x 5.5" long	Varies
9	TN203761	Base Plate Washer	Varies

Table 7-3: Module Connection Assembly

11 Reference Drawings

Size	Modules	General Layout	Foundation		
			Variable Footer (VF)	VF w/ Center Wall	Beam Slab
20' x 11' 10"	1	*	*	NA	*
40' x 11' 10"	2	TC203771	*	NA	*
60' x 11' 10"	3	TC203772	*	NA	*
70' x 11' 10"	4	TC203773	TC203952	NA	*
80' x 11' 10"	4	TC203773	TC204007	NA	*
90' x 11' 10"	5	TC203774	*	NA	*
100' x 11' 10"	5	TC203774	TC203789	NA	*
110' x 11' 10"	6	*	*	NA	*
120' x 11' 10"	6	TC203775	*	NA	*
30' x 19' 9"	4	TC203785	TC204311	TC203949	TC204312
45' x 19' 9"	6	TC203786	*	TC204093	*
60' x 19' 9"	8	TC203787	*	*	*
75' x 19' 9"	10	TC203788	TC203792	*	*

* Contact factory for drawing number.

Wiring Diagram (All Sizes)	
CMOS Standard	CMOS Hazardous
TC100460	TC100442

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Publication Part Number: 16148700A **Publication Date: 4/01**

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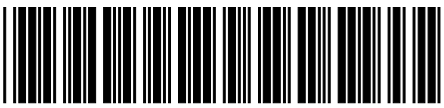

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