7563

DigiTOL®
Truckmate®
(Steel Deck)
Service Manual

14852000A
(8/96).00

PROPRIETARY NOTICE

The information contained in this publication is derived in part from proprietary and patented data of Mettler Toledo. This publication shall not be copied in whole or in part without prior written approval of Mettler Toledo, nor shall it be used for any purpose other than that intended. This document is subject to change without notice.

STANDARD WARRANTY: 7563 Steel Deck DigiTOL Truckmate

Mettler Toledo warrants that the equipment covered by this warranty will be free from defects in workmanship and materials for a period of two years from date of installation or twenty six (26) months from date of shipment to the buyer, whichever comes first.

Should any such defects be found and reported during the first thirty (30) days after installation (if installation occurs during the warranty period), Mettler Toledo (herein referred to as the "Company"), will, at its option, refund the purchase price or correct such defects furnishing replacements parts and service free of charge to the buyer. For the remainder of the first 12 months of the warranty term, the Company will furnish necessary replacement parts and on site technician's service free of charge, provided the Buyer agrees to pay reasonable technician's travel time, vehicle mileage, and associated travel expenses to and from the nearest authorized Company service location. For the last 12 months or remaining balance of the warranty period, whichever comes first the Company will furnish necessary replacement parts to the buyer free of charge, provided the Buyer agrees to pay reasonable technician's on site labor services, travel time, mileage, and expenses to and from the nearest authorized Company service location. The following are NOT covered under any of these warranties:

1) Initial installation and ongoing scale calibration.
2) Damage to scale components by gross abuse, fire, flooding, explosion, water, voltage surges, or civil disturbance.
3) Normal maintenance or consumable items.

This warranty covers only the Model 7563 DigiTOL® Truckmate Truck Scale. Refer to Mettler Toledo Standard Product Warranty for coverage of other scale system components including scale instrument, printer, and/or other accessories.

THE COMPANY EXPRESSLY WARRANTS THE EQUIPMENT MANUFACTURED BY IT AS SET FORTH HEREIN. THE COMPANY MAKES NO OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED (INCLUDING WITHOUT LIMITATION WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). IN ADDITION, THIS DOCUMENT SHALL CONSTITUTE THE SOLE AND EXCLUSIVE REMEDIES OF THE BUYER FOR ANY BREACH BY THE COMPANY OF ITS WARRANTIES HEREIN.

COMPANY LIABILITY UNDER THIS WARRANTY OR ANOTHER WARRANTY WHETHER EXPRESSED OR IMPLIED IN LAW OR FACT SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE MATERIAL AND WORKMANSHIP, AND IN NO EVENT SHALL IT BE LIABLE FOR CONSEQUENTIAL OR INDIRECT DAMAGES.

This warranty coverage is only applicable to the United States of America. Consult Mettler Toledo for Export Warranty Terms and Conditions.

APPLICATION GUIDES

The only warranty of Mettler Toledo is for the product it supplies under the Product Warranty Statement listed above. Weighing application guidelines pertain to Mettler Toledo products.

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 may be obtained by writing, calling, or faxing:

METTLER TOLEDO
1900 Polaris Parkway
Columbus, Ohio 43240 USA
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.

Mettler-Toledo, Inc. **Printed in U.S.A.** **15350500A**

PRECAUTIONS

READ this manual BEFORE operating or servicing this equipment.

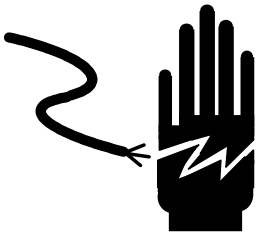
FOLLOW these instructions carefully.

SAVE this manual for future reference.

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

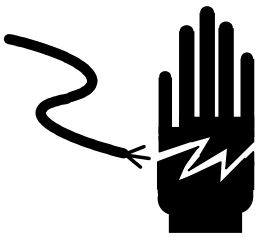
ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.



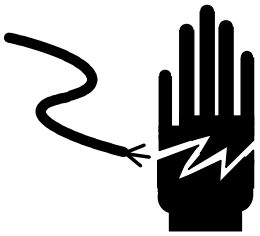
WARNING

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.



WARNING

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



WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE REMOVING THE FUSE OR SERVICING.

CAUTION

BEFORE CONNECTING/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.

CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

CONTENTS

1

Introduction

The 7563 DigiTOL® TRUCKMATE® is a pitless 80,000 lb tandem axle capacity truck scale. DigiTOL TRUCKMATE scales are specifically designed to weigh highway vehicles while minimizing installation and maintenance cost. The DigiTOL TRUCKMATE is modular, consisting of 10 foot wide standard steel deck modules supported by Mettler Toledo DigiTOL POWERCELLs.

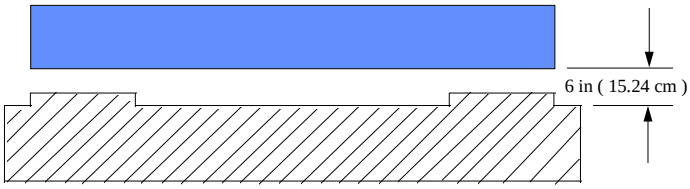
The 7563 DigiTOL TRUCKMATE weighbridge is a nominal 14 inches high and maintains approximately 6 inch clearance between the bottom of the weighbridge and the foundation. The overall height is approximately 1 ft -5 in at the piers. The nominal capacity varies with the number of modules used in the scale. Please refer to the Scale Capacity and Increment Size table in Chapter 6 of this manual.

Note: These scales are designed to weigh highway vehicle traffic. They are NOT designed to weigh concentrated load devices such as heavy-capacity forklifts.

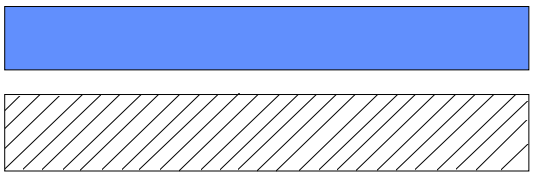
Due to the unique construction of these scales and the number of weighbridge support points (a 4-module scale has ten DigiTOL POWERCELLs), the force exerted on the foundation is only slightly more than the force that a truck would exert on the highway. The foundations are available in two designs:

- Floating Beam Slab
- Variable Footers (Optional Footer Depth)

Foundation designs are available depending on specific installation requirements. Most popular, the beam slab is designed to “float” and does not require deep footers.



Beam Slab - High Clearance



Variable Footer

Figure 1-1: Foundation Designs

The variable footer design uses separate footers with depth options from 2 ft to 6 ft. In some locations, a connecting “Washout Slab” may be mandatory.

2 Site Selection and Preparation

Site Requirements

The site selected must meet state and local requirements. The following is taken directly from Handbook 44 (H-44) 1996 edition issued by the National Institute of Standards and Technology.

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

"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 meters (40 feet), and

c) Not less than 3 meters (10 feet) 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."

Drainage
The site should have good drainage. Surrounding areas should not drain through the scale site. The ideal scale site is on ground elevated above the surrounding area.

Buried Interference
Check for buried pipes, sewer lines, wires, or foundations that would interfere with footing construction.

Electrical Interference
The scale should be located away from high power electrical transmission lines or substations.

Space Requirements
The site should have adequate room for trucks to properly align with the platform before pulling on. This is especially important if trucks must turn before pulling onto the scale. Similar consideration applies for trucks pulling off the scale platform.

Weigh Period
Trucks should remain on the scale for a period of time no longer than necessary to obtain the vehicle weight.

Visibility
Some jurisdictions require that the scale platform be clearly visible from the location of the scale instrument. Others will allow the use of closed circuit TV or even a voice intercom. Obtain official approval before starting construction.

Clearance
Provide clearance on at least one side of the scale for the full length of the platform to allow for testing and calibration.

Foundation Type

The foundation for the 7563 DigiTOL TRUCKMATE may be a floating slab foundation or separate adjustable depth footers. Select the type of foundation which satisfies the particular installation requirement. The foundations are designed to support a DigiTOL TRUCKMATE rated at 100 tons (90.78 metric tons), assuming the ground has a minimum bearing surface of 1,500 lb per sq. ft. (7,323 kg per sq. meter) for a beam slab or 2,500 lb per sq. ft. (12,205 kg per sq. meter) for an adjustable depth footer design.

Foundation Drawing

Install the foundation per the correct drawing. Ensure that the end walls are parallel and measure diagonally within 1/2 inch (12.7 mm). Ensure that the instrument cable conduit is in place before pouring the slab.

Base Plates

At the location of the base plate, the concrete should be level and in the same plane within ± 1/8 inch (3.18 mm). 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 cure seven to ten days before installing the scale. Expanding anchor bolts must be installed after the foundation has cured for the anchor to set properly. 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 so you can collect damages.

Inspect all items received for physical damage. If damage is noted, notify the carrier immediately so you can collect damages.

Note: In the shipping packet is a warranty card. For your warranty to be in effect, this card must be completed and returned to Mettler Toledo. If the optional Lightning Protection System is included, a lightning warranty card must also be returned.

CAUTION

Whenever moving the module, avoid mechanical shock. These modules should always be moved slowly and carefully. Ensure that the lifting device being used to move the module is of sufficient capacity to safely and securely handle the platforms.

When the module is being moved, never place your hands or other items between the platform and any other surface. If it is necessary to place your hands under the module during installation, ensure that the section is properly blocked so that it cannot move. Failure to follow this warning could result in physical harm and/or property damage.

Unloading

If the DigiTOL TRUCKMATE is being delivered by a Mettler Toledo truck, the unloading will be handled and supervised by the Mettler Toledo driver. If the scale is being delivered by a common carrier or customer truck, the modules must be lifted per the procedure described below. To avoid damage to the scale, hook to the module as shown in Figure 3-1.

1. Lift by gap cover supports only via quadlift.
2. The Power Cell covers must be removed before lifting to eliminate the possibility of damage to the covers.

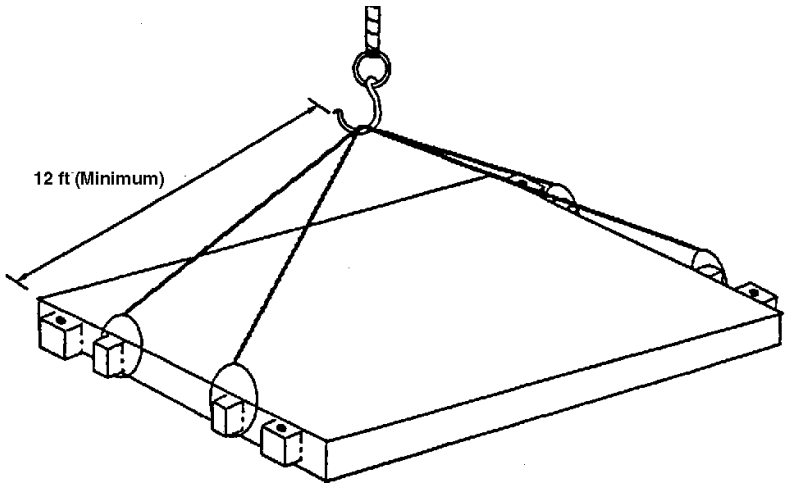


Figure 3-1: TRUCKMATE Lifting Procedure

Approximate Module Weight		
Module Type	Module 15 ft	Module 17.5 ft
Steel	5,700 lb	6,600 lb

3. If the platforms are to be placed immediately on the foundation, then proceed to Chapter 4 - Installation. If the platforms are to be stored, unload them and stack one on top of the other in the following order:

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

(Refer to Figure 3.2 for module illustrations.) Modules are to be separated by 4 X 4 blocking.

4. Place all other mechanical accessories in a clean, dry area.

5. Ensure that the bottom module is stored off the ground by using 4 X 4 blocking. Place electrical instrumentation and DigiTOL POWERCELLs in a clean, dry area.

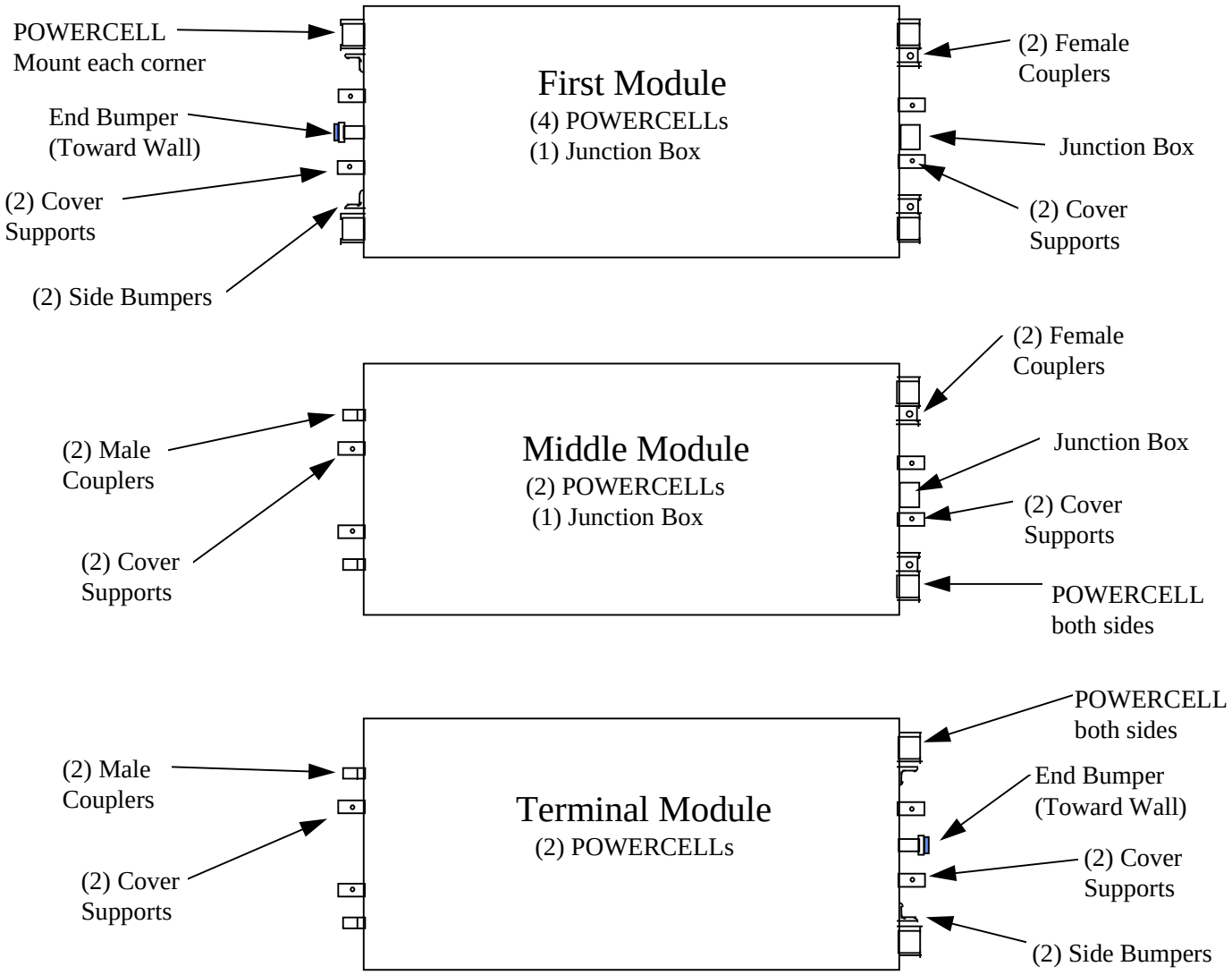


Figure 3-2: Module Type

4

Installation Supplies Checklist

The following equipment and items are required to properly install a 7563 DigiTOL TRUCKMATE.

These items **are not** supplied by Mettler Toledo.

Material

- A small supply of Never-Seez bearing compound or good quality grease
- Non-shrink, high quality grout and mixing tools (may 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 bit at least 18 inches long for anchor bolts
- 5 foot crowbar to align modules
- Beckman or Fluke digital multimeter, 100 + Mohm for wiring, insulation, and ground check
- Socket set, including:

  1 1/8-inch access plate bolts
  15/16-inch end bumper bolts
  3/4-inch coupler pin retainer bolts (may require 3/4 in. open end wrench)
  1 1/16-inch open end wrench - side bumper bolt
  1 1/16-inch Crowfoot® wrench - side bumper bolt

- Air compressor or air pressure tank - cleaning nozzle to blow out anchor bolt holes
- Normal installation tools
- Locator tools (10)— Only supplied if scale delivered by Mettler Toledo delivery system; otherwise, must be purchased (P/N TA200831)
- Welding apparatus (may be required)

Note: 3/4 inch x 24 inches long carbide bit required, if Hammer drill is too big to fit down into the gap between the modules.

Weighbridge Installation Checklist

This list summarizes the basic sequence of events required for proper installation of a 7563 DigiTOL TRUCKMATE on a dimensionally correct foundation.

Check (✓) When Complete:

- ❑ Snap chalk lines and position base plates
- ❑ Set receivers into base plates and check with transit
- ❑ Set modules on locating tools
- ❑ Ensure that scale is centered on foundation and is level
- ❑ Check base plate alignment (verify that locating tools are vertical)
- ❑ Drill anchor holes and insert anchors (5 holes in corner plate; 3 holes in center plate)
- ❑ Replace locating tools with power cells
- ❑ Connect cables per the wiring diagram

5 Installation

Installation of Modules and POWERCELLs

1. Stub off conduit and complete conduit installation, if necessary.
2. Snap chalk line on foundation on each side of scale from approach coping to approach coping. These chalk lines should be used to keep modules aligned as they are being set in place. Also at this time, the distance between approach copings and diagonal measurements should be checked.
3. Roughly locate the base plates on the foundation per the appropriate Mettler Toledo foundation drawing. (refer to Figure 5-1 for reference).
4. Grease (Never-Seez) the lower receivers and insert them in each of the base plates, aligning slot 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 each other. To check this accurately, rest the measuring rod on the top surface of the receiver at each base plate location. The nominal distance from the top (flat) surface of the receiver to the top of the weighbridge is 1 ft - 3 in (38.10 cm).

Note: The norminal height of the scale is the distance from the top of the deck to the bottom of the base plate.

The total nominal height of the scale is 1 ft - 5 in (43.18 cm), when shimmed as follows: (1) 1/8 inch shim top and (1) 1/8 inch shim bottom. The scale should be shimmed to fit the installation with a maximum of 3/8 inch shims on top and 1/4 inch shims on bottom for a total of 5/8 inch. Never exceed either of these numbers. If greater than 5/8 inch shim is required, shim under the base plate and grout under the entire base plate after accurately locating the scale and securing the anchor bolts (supplied by Mettler Toledo). If 1 inch or more shimming is used, longer anchor bolts will be required to ensure 4 inch minimum depth into the foundation slab.

5. Insert a locating tool in each of the receiver base plates.
6. Prepare modules for installation:
   - Remove all access covers.
   - Grease (Never-Seez) the upper receivers with O-ring and insert the receivers into each load cell receiver block on the modules.
   - Loosen the bumper bolts on the side check brackets so that adjustments can be made after the modules are in position.

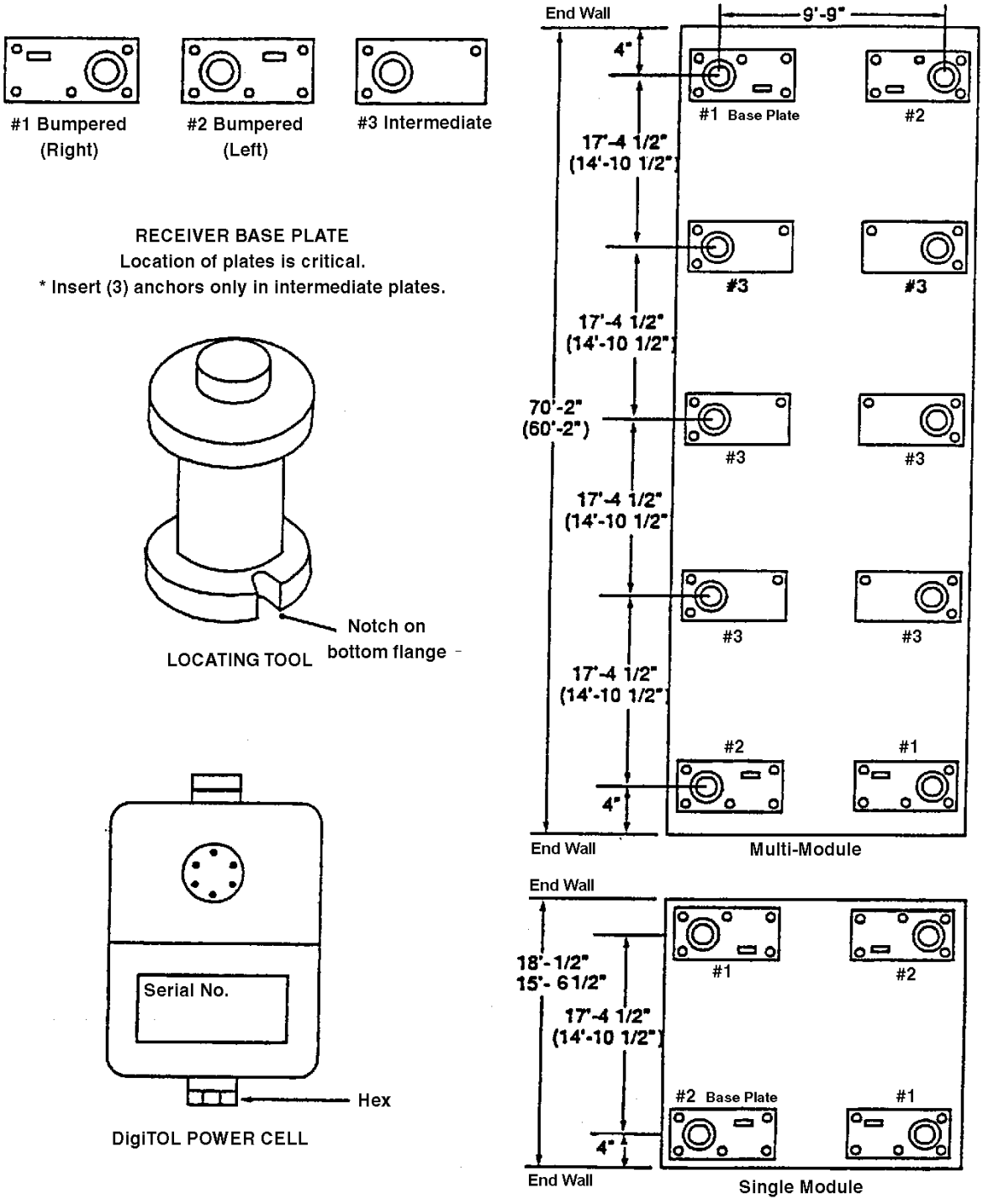


Figure: 5-1 Base Plate Location

Ref. to Mettler Toledo drawing for actual measurement

7. Place the scale modules in location using the following sequence.

   - The first module to be placed in location is the module which requires four DigiTOL POWERCELLs (refer to Figure 3-2). The end of the First Module which has the end bumper and side bumper angles goes toward the approach wall. Verify that end bumper assembly and side bumper bolts have been installed prior to placing this module. Place the first module reasonably square with the end wall and spaced away from the end wall per assembly drawing. Use care when placing the module on the location tools (refer to Figure 5-1).

Note: 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 truck crane is driving on a previous module to set the next one.

WARNING

Do not place anything under the scale module which could be damaged if the crane or carrying vehicle lost its hold on the module. Keep hands, fingers, and other body parts clear of module. Failure to do so could result in bodily harm.

Slowly lower module onto locating tools (approach end first) then continue lowering onto the other two locating tools. Refer to Figure 3-1.

Check the module alignment with chalk line snapped on the foundation.

- Place first Middle Module in location by slowly lowering male coupler bracket into female pocket on 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.
- Place the next middle module in position. It is important to note alignment of scale with chalk line as module placement proceeds. If scale starts to drift beyond a satisfactory point, and it is determined that the base plates are in line, follow this procedure to correct misalignment:

  1. Note whether drift is to the right or to the left while facing approach end of first module.
  2. Remove last module placed and set aside.
  3. Remove retaining bolt from octagonal coupler pin of adjoining module and lift from socket. Rotate pin one position counterclockwise for left drift or one position clockwise for right drift, then drop back into socket. Replace retaining bolt. (Refer to Figure 5-2.)

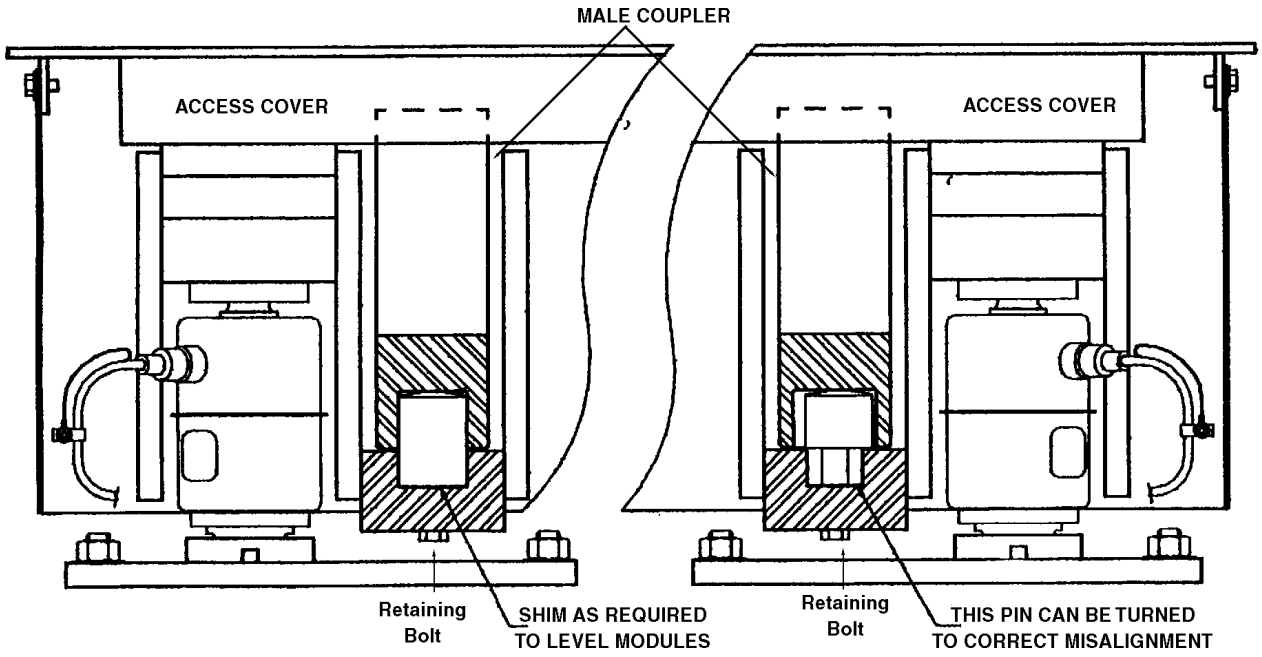


Figure 5-2: Module Alignment

4. Reset module and check alignment.
5. If module is still not aligned satisfactorily, rotate pin once more in the same direction. Any remaining misalignment can be adjusted in subsequent modules.

- Place the Terminal Module in position. The gap between the end of the scale platform and the end approach wall should be approximately the same as gap at other end of scale and should not be larger than one inch. If the foundation diagonals are out of square, then the clearance across the approach wall will vary. **This clearance must be a minimum of 3/8 inch at any point**.

8. Square the base plates and check all the locating tools carefully. In order to move the base plates, it may be necessary to pry with a crowbar while another person taps the base plate with a hammer. **There should be no clearance between the shoulders on the locating tools and the top of the base plate receivers.** This ensures the proper relationship between upper and lower receivers.

IMPORTANT! Failure to use locating tools or failure to check that the locating tools are aligned correctly will cause excessive wear on the edges of the POWERCELL load buttons.

- Using a hammer drill, drill through holes in the base plates under each access cover. Note that only the end sections require five bolts. The

middle section requires three bolts. Insert the 3/4 inch diameter anchor bolts and secure.

- Check elevation of deck near each power cell with a transit to determine if shimming is required for power cell installation.

POWERCELL Installation

Refer to the instructions and Figure 5-3 below to install the POWERCELL.

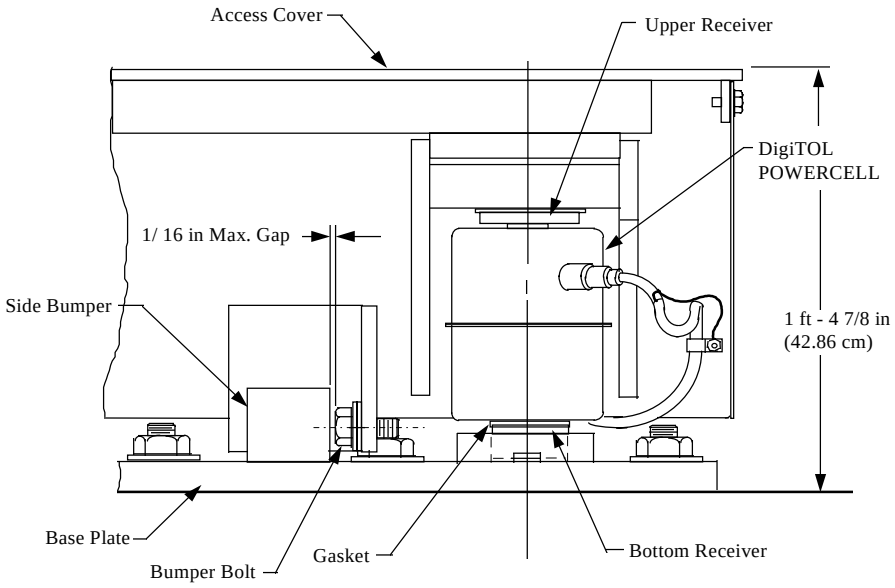


Figure 5-3: POWERCELL Installation

1. Remove all locating tools and install POWERCELLs.

   Before installing POWERCELL apply Magnalube "G" to the load surface of the cell buttons and fill the lower hex receiver with a multi-purpose grease. Shims can be added under the top and bottom receivers to adjust the height of the scale up to 5/8 inch. **Do not place** more than 3/8 inch of shims under the top or 1/4 inch of shims under the bottom, as the receiver could become dislodged.

2. Be sure that the hex end of the POWERCELL is down and that the cable connectors point toward the outside of the scale. Also, the connector should be oriented 30° out and away from pocket for best cable routing.

Note: Final shimming to be determined by raw count reading of the DigiTOL POWERCELLs. See the End and Middle Cell Raw Count Range in Chapter 6. Final shimming should be done after addressing the POWERCELLs and before calibrating the scale.

POWERCELL Cabling

At this point, connect the POWERCELL cables to the J-Boxes. See 7563 wiring diagram for routing and terminating POWERCELL cables.

Do not connect the POWERCELL cables to the POWERCELLs at this time. This will be done as the POWERCELLs 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. Exposure will cause corrosion, eventually breaking down the seal and allowing moisture to reach sensitive parts. Moisture penetration can cause drifting, zero change, and general degradation of scale accuracy.

To help ensure satisfactory operation:

- Dress the POWERCELL cables to form a drip loop to a point before the cable connects to the load cell or to the junction box. Normally, water will drip onto the cable and follow it to its lowest point before dripping off, and if a drip loop is provided, the water will run off before reaching a moisture-sensitive component.
- The POWERCELLs do not have cables integrally attached; therefore, when connecting the cable connector to the POWERCELLs, the connector must be correctly and completely seated. Correct seating ensures that the gasket will seal out all moisture and that the pins will not be bent. Do not use wrenches or pliers on this fitting. If the fit is correct and free of foreign material, it can be assembled by hand.
    - **IMPORTANT**! Do not use tools to tighten. Also, before applying grease to connection, be sure the connection is free of any foreign material. (Use grease supplied with scale.)
- See 7563 Wiring Diagram for maximum home run cable length.

Junction Box

After calibration is complete, the junction box should be carefully sealed against moisture. Place the desiccant pack in the box. Make sure the desiccant is in an active (dry) condition. Tighten 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

Some scratching and bumping of the scale modules during transit and installation is unavoidable. Paint is provided in the installation kit to touch up all of these areas to prevent rust. If a scratched area has started to rust, it should be cleaned 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 7563

Scale Capacity and Increment Size

Scale Capacity and Increment Size				
Total Capacity	**Scale Length**	**Number of Cells**	**Programmed Capacity**	**Increment Size**
60 ton	<60 ft	4 or 6	120,000	20
100 ton	•60 ft, •122 ft 6 in.	•8, •16	200,000	20
	>122 ft 6 in.	>16		50

Check serial plate on scale for total capacity.

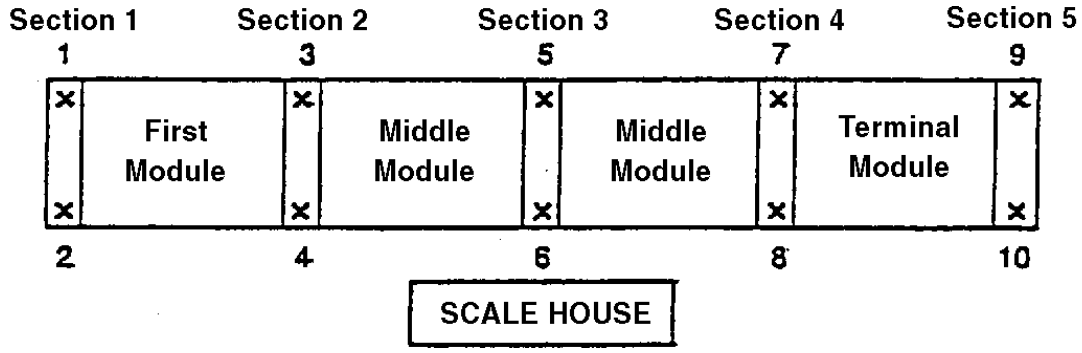


Figure 6-1: Recommended POWERCELL Addressing

End Cell Raw Count Range	
Module Size	**Raw Count**
15 ft	2400-2900
17.5 ft	2900-3600

Middle Cell Raw Count Range	
Module Size	**Raw Count**
15 ft - 15 ft	5600-6600
15 ft - 17.5 ft	6100-7300
17.5 ft - 17.5 ft	6400-8000

IMPORTANT!—If raw counts do not fall into the ranges listed above, re-shim the scale using the shimming procedure covered in Chapter 9 of this manual.

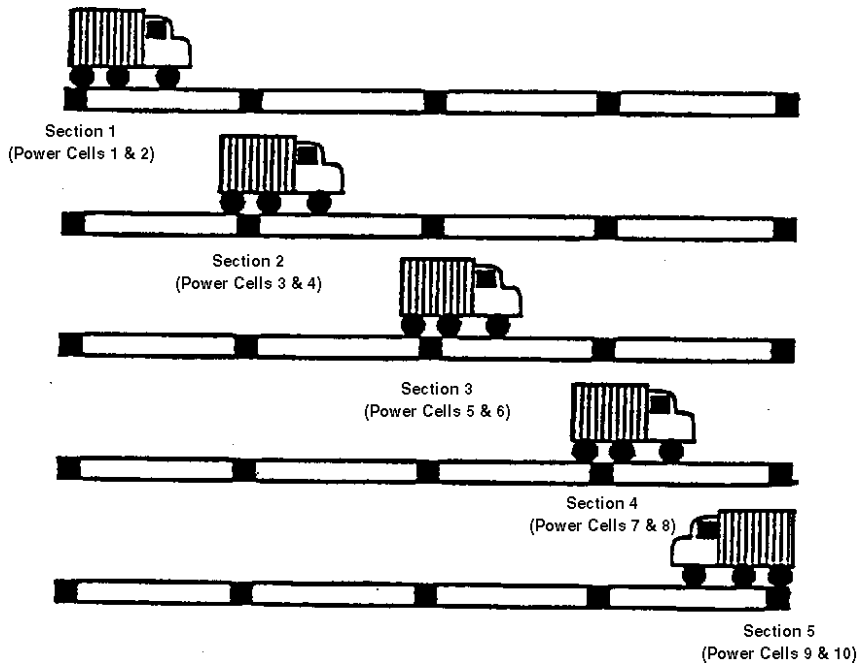


Figure 6-2: Test Truck Positions for Shift Compensation

7 Maintenance

Frequency

Because the scale has limited moving parts, it will require minimal maintenance, but normal service inspection schedules are recommended.

The calibration of the scale should be checked every six months. Bumper bolt adjustment should be checked and adjusted, if required and the J-box desiccant bags should be checked and replaced if required.

The underside and sides of the platform are painted with an epoxy paint. These areas will require occasional repainting. When repainting, ensure that the metal surfaces are clean and rust is removed. Resurface with an epoxy paint. The easiest method is to use paint rollers. The temperature must be 60 °F (15 °C) or higher.

POWERCELL Replacement

If a POWERCELL needs to be replaced, proceed as follows:

1. The platform must be raised using either a hydraulic jack, test truck, boom, or a forklift. The scale should be raised only when it is unloaded. The force required to lift a module at the ends of the scale is 3,300 lb. If a module on an interior section must be lifted, first lift the module that bears on the coupler bracket and block it up. Then the adjoining module can be lifted off the power cell. Refer to the section entitled Unloading Procedures in Chapter 3 for the deck weights. The scale module needs to be lifted only approximately 1 1/2 in. to remove a DigiTOL POWERCELL.

CAUTION

When the module is being lifted to replace a cell, never place your hands or other items between the platform and any other surface. If it is necessary to place your hands under the module during cell replacement, ensure that the section is properly blocked so that it cannot move. Failure to follow this warning could result in physical harm and/or property damage.

2. After the scale is raised up and blocked, enter the setup mode on the indicator and access cell replacement parameters.
3. Check the calibration of the scale and recalibrate if required.

Spare Parts List

Part Number	Description
*14002900A	POWERCELL, 45,000 kg CMOS
TA200835	Upper Receiver With O-Ring
TA200833-1	Top Receiver Shim, 0.125 inch
TA200833-2	Top Receiver Shim, 0.062 inch
TA200833-3	Top Receiver Shim, 0.180 inch
TA202695	Receiver, Lower Hex
TN202993-2	Bottom Receiver Shim, 0.125 inch
TN202993-3	Bottom Receiver Shim, 0.062 inch
TN203173	Gasket
TA202743-1	Round Coupler Pin
TA202743-2	Octagonal Coupler Pin
TA200856-1	End Bumper Shims, 0.250 inch
TA200856-2	End Bumper Shims, 0.125 inch
TA 200856-3	End Bumper Shims, 0.062 inch
TA200357-1	Side Bumper Shim, 0.125 inch

Part Number	Description
TA200357-2	Side Bumper Shim, 0.062 inch
TA200357-3	Side Bumper Shim, 0.031 inch
TN202990-2	Coupler Pin Shim, 0.062 inch
Ref.	POWERCELL Cable—See 7563 Wiring Kit Drawing for Load Cell Cables
*13635300A	CMOS J-Box PCB
TA200831	Locating Tool

*May have an alpha prefix

Specification—POWERCELLs

Model—0760

NTEP (National Type Evaluation Program) Certificate of Conformance Number—88-091 for Class IIIL, n MAX: 10,000.

Capacity—45,000 kg/99,202 lb

Material—Stainless Steel

Environmental Protection—Hermetically Sealed (NEMA 6P)

Output—Mettler Toledo DigiTOL Protocol

8 Cast-In-Place Concrete Recommendations (Foundation)

General Description

Work including—Providing all cast-in-place concrete work, including reinforcing, placing, curing, and clean up.

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

Products

Materials

- Cement: Portland Cement, ASTM Cl50-82, Type 1
- Water: Potable
- Aggregates: ASTM C33, size number 57
- Admixtures:
  - — Water-reducing: ASTM C494-79, Type A or D
  - — Air-entraining: ASTM C260-77
  - — High range water reducing admixture (superplasticizer): ASTM C-494, Type F or G
  - — Non-chloride, non-corrosive 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 Al85-79. Provide in sheet form.
- Curing Compound and Sealer: Federal Specification TT-C-800A. 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

Mixes

Use the following for exterior slabs on grade.

- Compressive strength to be 4000 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 in.

Execution

Finish—Finish on flatwork to be medium broom finish.

Curing and Protection

- Temperature—When air temperature during placement is less than 40°F, or will be within 2 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.
- Curing—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 is to commence immediately after disappearance of water sheen, and continue for at least 7 days. Do not allow curing to be delayed overnight.

9 Shimming Sequence

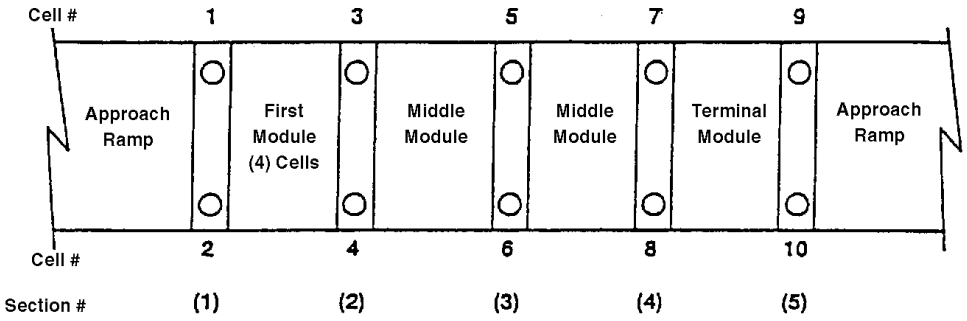


Figure 9-1: Shimming, Raw Count

1. Complete the initial installation work. Connect the scale to a DigiTOL indicator and apply power. Allow the load cells to warm up for approximately 1/2 hour.
2. Access the setup mode of the indicator and address the POWERCELLs. Reference the 10-cell layout above for recommended load cell numbering scheme. Note that cells 1 and 2 make up Section 1, cells 3 and 4 make up Section 2, and so on. Make sure 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. Shim load cells 1 and 2 as required to level the deck at Section 1 with the approach slab coping to ensure a smooth transition onto the weighbridge (assuming the approach coping at each end of the scale is in the same level plane). Do not exceed 3/8 inch of shims under top or 1/4 in. of shims under bottom load cell receivers, 5/8 inch total shims maximum. Then observe the raw counts displayed for each load cell in the scale.
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. Ensure that Section 5 is level with the approach; shim Section 5 cells as necessary. Next, check Section 4 and 5 cell counts to determine whether additional shimming is required. If so, shims must be placed under the coupler pin at Section 4. Shim as required to bring Sections 4 and 5 into tolerance.

The scale is now ready for shift adjust and calibration.

10 Service Parts

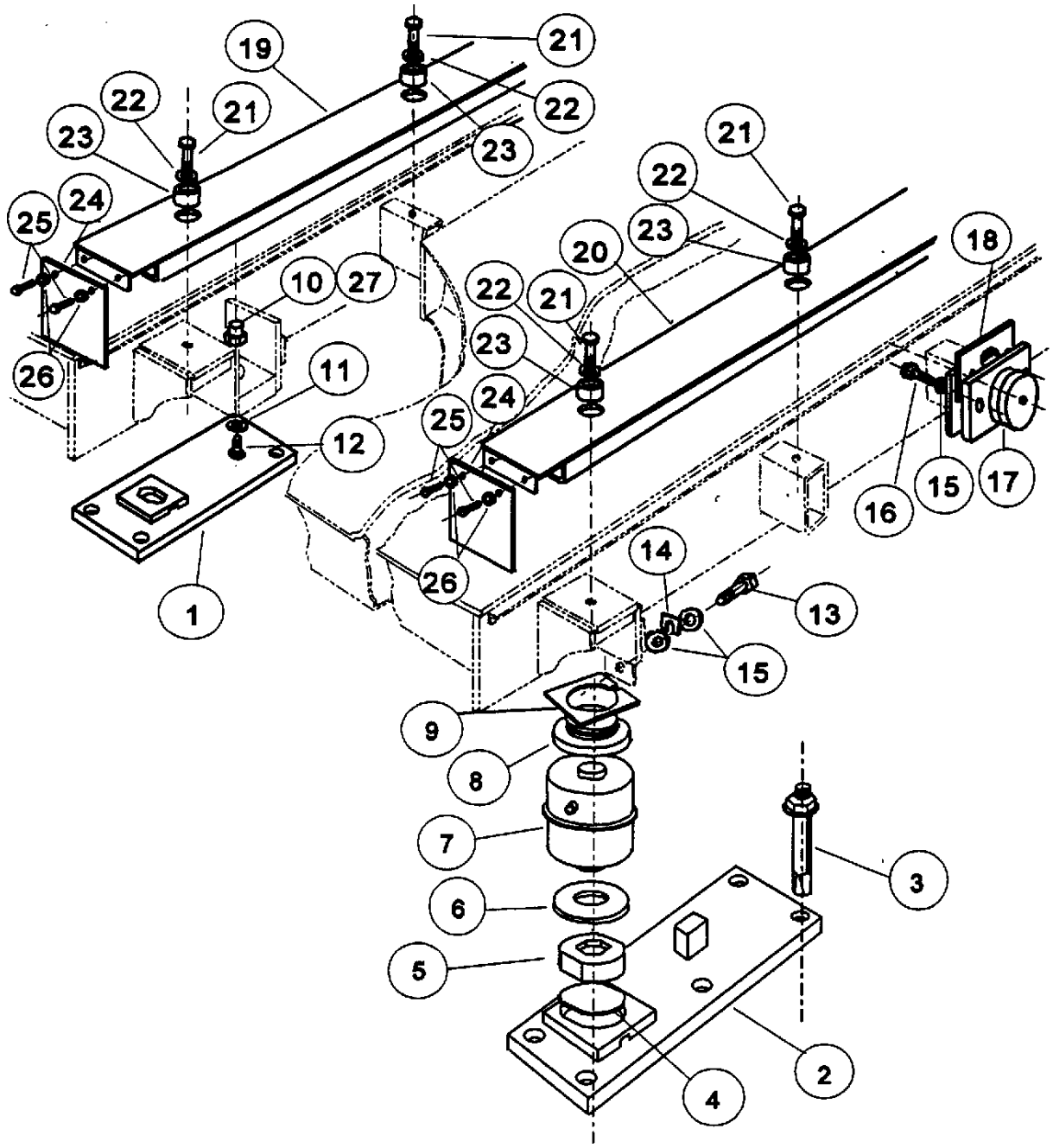


Figure 10-1: POWERCELL Assembly, Bumpers, and Gap Covers

Reference Number	Part Number	Description	Quantity
1	TB203076-2	Base Plate	varies
2	TB203076-3	Left Bumper Base Plate (Shown)	2
	TB203076-4	Right Bumper Base Plate	2
3	TN203216	3/4 - 10 Anchor Bolt	varies
4	TN202993-2	Bottom Receiver Shim 11 Ga.	varies
	TN202993-3	Bottom Receiver Shim 16 Ga.	varies
5	TA202695	Lower Hex. Receiver	varies
6	TN203173	Gasket	varies
7	*14002900A	45t DigiTOL POWERCELL (CMOS)	varies
8	TA200835	Upper Receiver with O-ring	varies
9	TA200833-1	Receiver Shim 0.125 in.	varies
	TA200833-2	Receiver Shim 0.062 in.	varies
	TA200833-3	Receiver Shim 0.180 in.	varies
10	TA202743-2	Octagonal Coupling Pin (Per Module)	varies
	TA202743-1	Round Coupling Pin (Per Module)	
11	MZ0901030098	1/2 in. Washer (Per Module)	2
12	MZ0901010441	1/2-13 Hex Hd Scr. X 2 in. Lg. (Per Module)	2
13	MZ0901010375	5/8 - 11 Side Bumper Bolt X 1 1/4 in. Lg.	4
14	TA200357-1	Side Bumper Shim 0.125 in.	varies
	TA200357-2	Side Bumper Shim 0.062 in.	varies
	TA200357-3	Side Bumper Shim 0.031 in.	varies
15	MZ0901030062	5/8 in. Washer, Plain	varies
16	TN202012	5/8 - 11 Bolt, Hex. Hd X 2 1/2 in. Lg. w/ 2 in. Th'd	4
17	TA200887	End Bumper Assembly	2
18	TA200856-1	End Bumper Shims, 0.250 in.	varies
	TA200856-2	End Bumper Shims, 0.125 in.	varies
	TA200856-3	End Bumper Shims, 0.062 in.	varies
19	TA202689	Middle Gap Cover (10 ft wide only)	varies
20	TA202690	End Gap Cover (10 ft wide only)	2
21	MZ0901010362	3/4-10 Bolt X 3 in. Lg. (Per Section)	4
22	MZ0901030096	3/4 in. Washer (Per Section)	4
23	TN202699	Sleeve (Per Section)	4

Reference Number	Part Number	Description	Quantity
24	TA202688	Side Cover (Per Section)	2
25	MZ0901010030	3/8 - 16 Hex Hd Scr. X 3/4 in. Lg. (Per Side Cover)	2
26	MZ0901030019	3/8 in. Washer (Per Side Cover)	2
27	TA202990-2	Coupler Shim, 0.062 in.	varies
Ref.	TN203217	Magnalube-G	
Ref.	MZ0602000117	Loctite # 242 Threadlocker	
Ref.	TA800582	METTLER TOLEDO Sign	
Ref.	TA200831	Locating Tool	
Ref.	TA800085	DigiTOL TRUCKMATE Sign	
Ref.	TN800345	Bumper Gap Label	

*May have an alpha prefix.

Model 7563 Truck Scale Reference Drawings						
Part Number	**General Layout**		**Foundation**		**Wiring Diagram**	
	CMOS Standard	**CMOS Hazardous**	**Beam Slab**	**Adj. Footer**	**CMOS Standard**	**CMOS Hazardous**
7563SX1010 7563SX1510	TC202745	TC203157	TC202730*	TC202729*	TC100460	TC100442
7563SX3510	TC202746	TC203158				
7563SX4510	TC202747	TC203159				
7563SX6010 7563SX7010	TC202748	TC203160				
7563SX8010	TC202749	TC203161				

*For reference only—dimensions vary from one size scale weighbridge to another, but design and general notes are typical.

Part Number X=D Standard
X=H Hazardous

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: 7563 DigiTOL TRUCKMATE Installation and Service Manual

Publication Part Number: 14852000A **Publication Date: 8/96**

PROBLEM(S) TYPE:	DESCRIBE PROBLEM(S):	*INTERNAL USE ONLY*
☐ Technical Accuracy	☐ Text ☐ Illustration	
☐ Completeness What information is missing?	☐ Procedure/step ☐ Illustration ☐ Definition ☐ Example ☐ Guideline ☐ Feature ☐ Explanation ☐ Other (please explain below)	☐ *Info. in manual* ☐ *Info. not in manual*
☐ Clarity What is not clear?		
☐ Sequence What is not in the right order?		
☐ Other Comments Use another sheet for additional comments.		

Your Name: _____ **Location:** _____

Phone Number: ( ) _____

Fax this completed form to METTLER TOLEDO at (614) 841-7295

METTLER TOLEDO
1900 Polaris Parkway
Columbus, Ohio 43240 USA

P/N: 14852000A

(8/96)

14852000A