STANDARD BASE

OPERATION & SERVICE MANUAL

Models XMC/XWS/XWT (-S)

ABOUT THIS MANUAL AND MT XPRESS

Thank you for purchasing an **METTLER TOLEDO Xpress** product.

All of our equipment is assembled and packed with great care. If you should find any incorrect item, please contact your **Xpress** Dealer immediately.

This **METTLER TOLEDO Xpress** product was developed, produced, and tested in a METTLER TOLEDO facility that has been audited and registered according to international ISO 9001 quality standards and ISO 14000 environment control program. Properly used and maintained, this product will provide years of accurate weighing. Handle it as you would any piece of fine electronic equipment.

Please READ this manual BEFORE operating or servicing this equipment. Follow the instructions carefully and save this manual for future reference.

We at **METTLER TOLEDO Xpress** want to make sure you received the product you expected. It is important to us that you are satisfied with your purchase. If there is anything we can help you with, or if you are not satisfied with either your product or the services received from the **Xpress** representative, let us know.

How can you reach us?

XPRESS CUSTOMER CARE CENTER, USA

24/7 Information and Support: www.mt.com/xpress
xpress@mt.com

8 AM to 8 PM EST Toll Free: 1-866-MTXPRESS

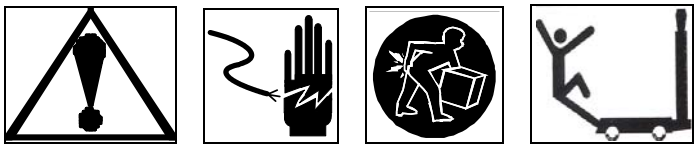
Xpress
Mettler-Toledo, Inc.
60 Collegeview
Westerville, OH 43081

FCC APPROVAL

This device complies with part 15 of the FCC Rules. Operation is subject to the following two 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.

CONTENTS

PRECAUTIONS



Product safety is a fundamental concern at METTLER TOLEDO Xpress. Use common sense and follow the simple precautions listed below to ensure your safety and to optimize the use and performance of this product.

- Read this manual before operating or servicing this product. Save this manual for future reference.
- Observe safety warnings located throughout this manual.
- Use caution when lifting or moving heavy equipment.
- This product should only be serviced by qualified personnel. Exercise care when moving, testing, or adjusting this product.
- Disconnect all power to this product before installing, servicing, or cleaning.
- Use only **METTLER TOLEDO Xpress** parts for repair.
- Observe electrostatic handling precautions for electronic components. Allow at least 30 seconds after power is disconnected to allow charges to dissipate before servicing any electronic components.
- Allow the product to adjust to room temperature before connecting the power source.

FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN DAMAGE TO OR DESTRUCTION OF THE EQUIPMENT, OR BODILY HARM.

PREPARING THE SCALE FOR USE

Xpress Standard Bench Scales are designed to meet the real world requirements of manufacturing, agricultural, packaging, and general weighing applications.

Xpress Standard Bench Scales with mild steel platforms (XMC, XWS and XWT) are intended for use in general purpose industrial and commercial environments. For the best performance, they should not be used in environments requiring washdown, immersion in liquids, or exposure to corrosive chemicals

Xpress Standard Bench Scales with stainless steel platforms (XMC-S, XWS-S and XWT-S) are supposed to be used in washdown applications.

This chapter gives detailed instructions and important information regarding the successful installation of the Xpress Standard Bench Scales.

ENVIRONMENT

Before you install the scale, identify the best location for the equipment. The proper environment enhances its operation and longevity. Keep in mind the following factors, which might have a negative influence on the scale's operation:

Vibration: Vibration diminishes the scale's ability to measure accurately. Electrical machinery such as conveyors and drill presses can cause inaccurate and non-repeatable readings. The scale may also read inaccurately if it is not leveled properly.

Air currents: Moving air can cause the scale to read wind movement as an additional force and cause inconsistency in the weighing results.

Friction: A scale cannot measure accurately if an object is rubbing or pressing against the scale platform.

UNPACKING AND ASSEMBLY

Please inspect the package immediately upon receipt. If the box is damaged, check for internal damage and file a freight claim with the carrier if necessary. If the container is undamaged, open the box, remove the scale and place it on a solid, flat surface. Please keep the packing material and shipping insert in case you need to return the scale to an METTLER TOLEDO Xpress representative.

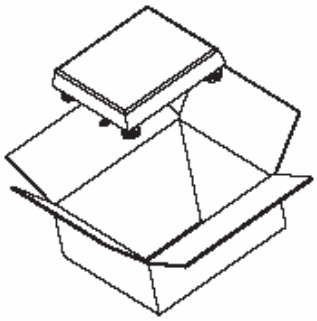
Package contents for all Xpress Standard Bases include:

Product
- Xpress Standard Base

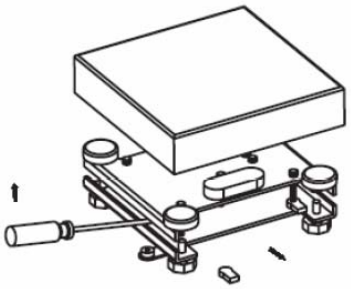
Documents
- Quick Start Guide
- Installation Instructions

CD-ROM
- Operation & Service Manual

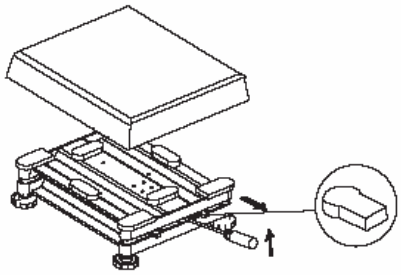
1. Open the box and take out the scale. Remove the packing material from each side of the scale and place the unit on a sturdy workplace.



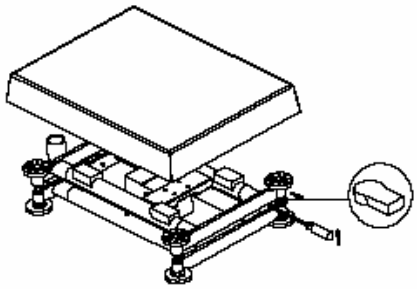
2. Remove four red protective tabs showed in the picture.



XMC/XMC-S Model



XWS/XWS-S Model



XWT/XWT-S Model

3. Level the scale by turning the adjustable feet. It is leveled correctly when the bubble indicator is in the center of the circle.

Proper alignment Improper alignment

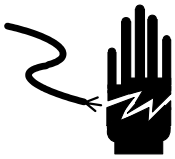
LOAD CELL WIRING

Refer to the below information for the load cell cable color code:

Signal	Loadcell color code for MT1022/SSP1022 series	Loadcell color code for MT1241/MT1260/ SSP1241/SSP1260 series
+EXC	GRN	GRN
+SEN		BLU
+SIG	RED	RED
CGND		YLW
-SIG	WHT	WHT
-SEN		BRN
-EXC	BLK	BLK

SERVICING YOUR SCALE BASE

For the following services, please contact your Xpress representative at www.mt.com/xpress.



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.

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 BEFORE ANY CONNECTIONS OR DISCONNECTION'S ARE MADE. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN DAMAGE TO OR DESTRUCTION OF THE EQUIPMENT, OR BODILY HARM.

LOAD CELL REPLACEMENT

- Disconnect the power.
- Remove the stainless steel platform from the base.
- Loosen and remove the top load cell mounting bolts that secure the top frame to the load cell.
- Set the top frame and the load cell spacer aside.
- Turn the scale on its side to access the bottom load cell bolts.
- Loosen and remove the bottom load cell mounting bolts.
- Remove the load cell from the base and pull the excess cable out through the bottom of the column.
- Reinstall a new load cell by following the steps above in reverse order.

  Note: Lubricate the threads of the load cell mounting bolts before reinstalling.
- Using a torque wrench, tighten the load cell mounting bolts to the specifications shown in this table:

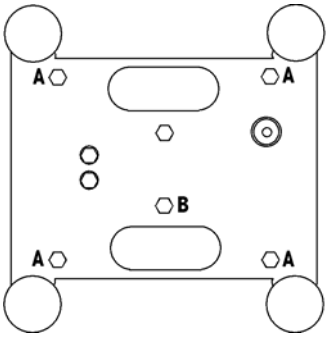
Scale Base Model	Metric	English
XMC03, XMC03S	10 Nm	7.5 ft-lb
XMC06, XMC06S	10 Nm	7.5 ft-lb
XMC15, XMC15S	10 Nm	7.5 ft-lb
XWS30R, XWS30RS	10 Nm	7.5 ft-lb
XWS60R, XWS60RS	10 Nm	7.5 ft-lb
XWS60M, XWS60MS	10 Nm	7.5 ft-lb
XWS150M, XWS150MS	15 Nm	11 ft-lb
XWT150M, XWT150MS	25 Nm	18 ft-lb
XWT300M, XWT300MS	30 Nm	22 ft-lb

- After replacing a load cell, the overload stops must be checked and adjusted as needed. Refer to the next section, for the overload stop adjustment procedure.
- Thread the load cell cable through the column from the bottom.
- Connect load cell cable to terminal.
- Coil the excess load cell cable and insert it into the column. A small length of tape applied to the ends of the coils allows the cable to slide into the column easier.
- Re-establish power to the scale.
- Recalibrate and test the operation of the new load cell.

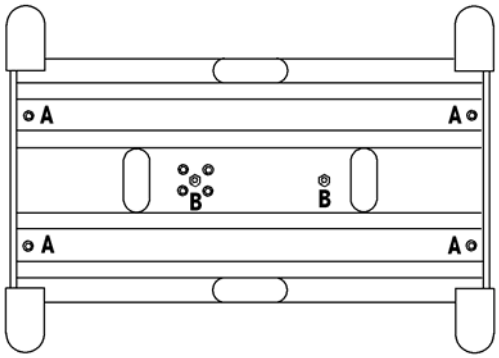
OVERLOAD STOP ADJUSTMENT

The overload stops must be checked and reset if the top or bottom frame or the load cell has been replaced.

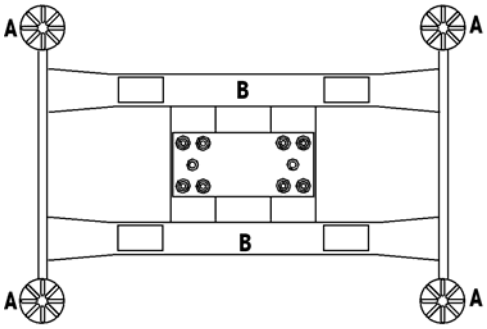
- Remove the stainless steel platform from the base.
- Using the proper size feeler gauge, check all six overload stops as shown in the figure below. The correct gap measurements can be found in the table below.
- If the gaps are not set properly, proceed to the following steps.
- Loosen the overload screw jam nuts. Refer to the figures below.
- Using the proper size feeler gauge, turn the screw until you feel a slight drag on the feeler gauge.
- Tighten the jam nut and recheck the gap. Readjust if necessary.
- Adjust all six overload stops using this procedure.
- Reinstall the platform and make sure the scale weighs to full capacity.



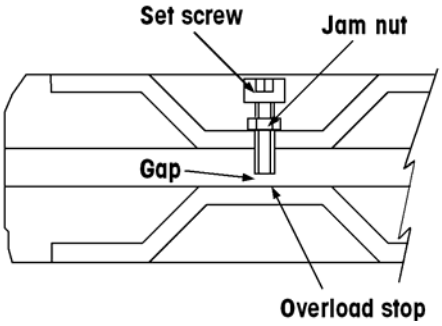
XMC, XMC-S models



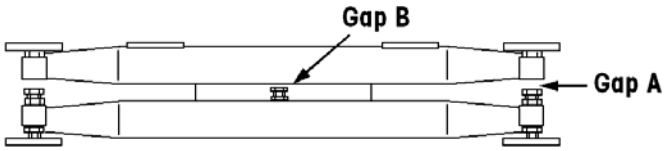
XWS, XWS-S models



XWT, XWT-S models



Overload screw jam nuts



Gap measurement points

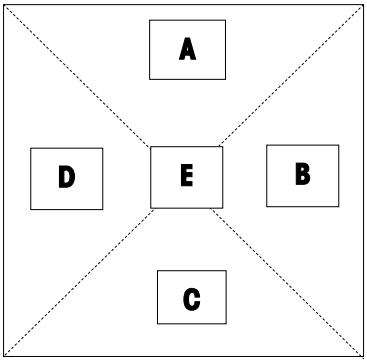
Position	XMC03, XMC03S Overload Gap	XMC06, XMC06S Overload Gap	XMC15, XMC15S Overload Gap
A	1 mm (0.04 in)	1 mm (0.04 in)	1.5 mm (0.06 in)
B	0.5 mm (0.02 in)	0.5 mm (0.02 in)	0.5 mm (0.02 in)

Position	XWS30R, XWS30RS Overload Gap	XWS60R, XWS60RS Overload Gap	XWS60M, XWS60MS Overload Gap	XWS150M, XWS150MS Overload Gap
A	2 mm (0.078 in)	2 mm (0.078 in)	3 mm (0.118 in)	3 mm (0.118 in)
B	0.5 mm (0.02 in)	0.5 mm (0.02 in)	0.75 mm (0.03 in)	0.75 mm (0.03 in)

Position	XWT150M, XWT150MS Overload Gap	XWT300M, XWT300MS Overload Gap
A	4 mm (0.157 in)	6 mm (0.236 in)
B	1 mm (0.04 in)	1 mm (0.04 in)

SHIFT TEST

A shift test verifies that the scale weighs correctly irrespective of load placement. If the scale does not pass the shift test, verify the overload stop gaps before replacing the load cell. No adjustment for the shift is possible. If the scale does not pass the shift test, the load cell must be replaced.



For NTEP and Canadian Weights and Measures tests, use test weights equal to ½ of the scale's capacity. Place the test weight sequentially at each of the positions A, B, C, D, and E as shown in the figure of the right. These positions are the centers of the four quadrants of the platform and the center of the platform. Note the terminal's reading of the weight at each position. The difference between any two positions in the shift test cannot exceed the tolerance shown in the table below.

MODEL	SCALE CAPACITY	DISPLAY INCREMENT	USA / CANADA TEST WEIGHT	TOLERANCE (NEW)	TOLERANCE (IN SERVICE)
XMC03(S)	5 lb/2.5 kg	0.001 lb/0.0005 kg	2.5 lb/1.25 kg	±0.001 lb ±0.0005 kg	±0.002 lb ±0.001 kg
XMC06(S)	10 lb/5 kg	0.002 lb/0.001 kg	5 lb/2.5 kg	±0.002 lb ±0.001 kg	±0.004 lb ±0.002 kg
XMC15(S)	25 lb/10 kg	0.005 lb/0.002 kg	12.5 lb/5 kg	±0.005 lb ±0.002 kg	±0.01 lb ±0.004 kg
XWS30R(S)	50 lb/25 kg	0.01 lb/0.005 kg	25 lb/12.5 kg	±0.01 lb ±0.005 kg	±0.02 lb ±0.01 kg
XWS60R(S)	100 lb/50 kg	0.02 lb/0.01 kg	50 lb/25 kg	±0.02 lb ±0.01 kg	±0.04 lb ±0.02 kg
XWS60M(S)	100 lb/50 kg	0.02 lb/0.01 kg	50 lb/25 kg	±0.02 lb ±0.01 kg	±0.04 lb ±0.02 kg
XWS150M(S)	250 lb/100 kg	0.05 lb/0.02 kg	125 lb/50 kg	±0.05 lb ±0.02 kg	±0.1 lb ±0.04 kg
XWT150M(S)	250 lb/100 kg	0.05 lb/0.02 kg	125 lb/50 kg	±0.05 lb ±0.02 kg	±0.2 lb ±0.04 kg
XWT300M(S)	500 lb/250 kg	0.1 lb/0.05 kg	250 lb/125 kg	±0.1 lb ±0.05 kg	±0.2 lb ±0.1 kg

APPENDIX

BASE SPECIFICATIONS

Base size: Xpress Standard Bases are available in four sizes and seven capacities:

Size/Capacity	5 lb	10 lb	25 lb	50 lb	100 lb	250 lb	500 lb
9″ x 9″	X	X	X				
12″ x 14″				X	X		
16″ x 20″					X	X	
20″ x 28″						X	X

CONSTRUCTION

Platform

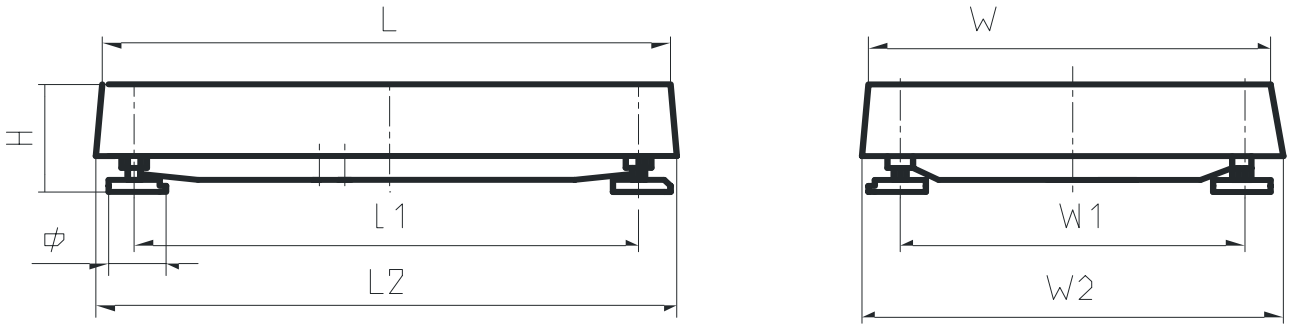
XMC, XMC-S: Fabricated of Stainless Steel
XWS, XWS-S: Fabricated of Stainless Steel
XWT, XWT-S: Fabricated of Stainless steel

Scale Base

XMC, XWS: Formed and welded mild steel, painted blue; aluminum load cells.
XWT: Welded tubular mild steel, painted blue; aluminum load cells.
XMC-S, XWS-S: Formed and welded stainless steel; stainless steel load cells.
XWT-S: Welded tubular stainless steel; stainless steel load cells.

Overloading	Corner loading:	100% of full capacity
	Safe Overload:	150% of full capacity
	Ultimate Overload:	300% of full capacity
Operating temperature	-10°C to +40°C (10° to 104°F)	
Humidity	XMC, XWS and XWT base: 0 to 95% relative humidity	
	XMC-S, XWS-S and XWT-S base: Washdown applications	

PHYSICAL DIMENSIONS



Model	L	W	H	L1	L2	W1	W2	4-φ
XMCxx / XMCxxS	9″	9″	3.1″	7.1″	9″	7.1″	9″	1.2″
XWSxxR / XWSxxRS	14″	12″	3.7″	12.3″	14.8″	10.4″	12.8″	2.0″
XWSxxM / XWSxxMS	20″	16″	4.1″	18.0″	20.5″	14.1″	16.5″	2.0″
XWTxxM / XWTxxMS	28″	20″	5.6″	24.6″	28.3″	16.7″	20.5″	2.8″

Notes

Notes

Xpress
Mettler-Toledo, Inc.
60 Collegeview
Westerville, OH 43081

Printed in China
5/2004
MTX04-0M003.1E

LOAD CELL WIRING

Refer to the following table for the load cell cable color code:

Signal	Loadcell color code for MT1022/SSP1022 series	Load cell color code for MT1241/MT1260/ SSP1241/SSP1260 series
+EXC	GRN	GRN
+SEN		BLU
+SIG	RED	RED
CGND		YLW
-SIG	WHT	WHT
-SEN		BRN
-EXC	BLK	BLK

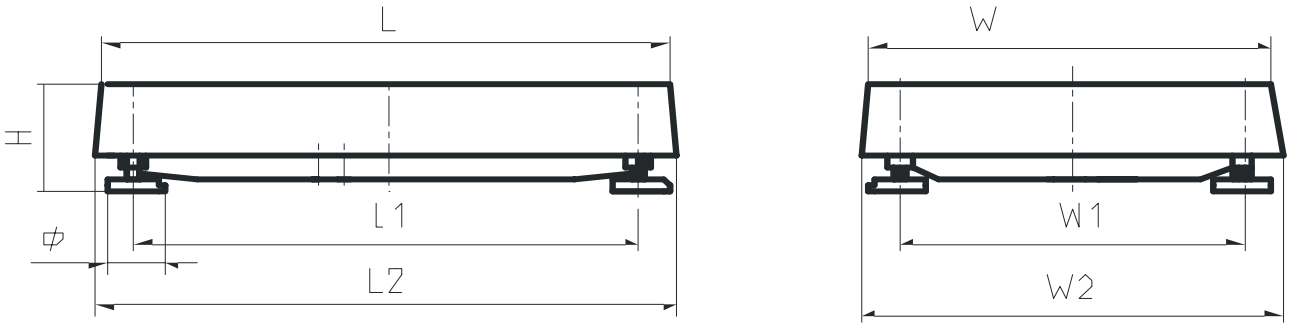
LOAD CELL REPLACEMENT

1. Disconnect the power. Remove the stainless steel platform from the base.
2. Loosen and remove the top load cell mounting bolts that secure the top frame to the load cell.
3. Set the top frame and the load cell spacer aside.
4. Turn the scale on its side to access the bottom load cell bolts.
5. Loosen and remove the bottom load cell mounting bolts.
6. Remove the load cell from the base and pull the excess cable out through the bottom of the column.
7. Reinstall a new load cell by following the steps above in reverse order.
   Note: Lubricate the threads and under the head of the load cell mounting bolts before reinstalling.
8. Using a torque wrench, tighten the load cell mounting bolts to the specifications shown in this table:

Model	Metric	English
XMC03, XMC03S	10 Nm	7.5 ft-lb
XMC06, XMC06S	10 Nm	7.5 ft-lb
XMC15, XMC15S	10 Nm	7.5 ft-lb
XWS30R, XWS30RS	10 Nm	7.5 ft-lb
XWS60R, XWS60RS	10 Nm	7.5 ft-lb
XWS60M, XWS60MS	10 Nm	7.5 ft-lb
XWS150M, XWS150MS	15 Nm	11 ft-lb
XWT150M, XWT150MS	25 Nm	18 ft-lb
XWT300M, XWT300MS	30 Nm	22 ft-lb

9. After replacing a load cell, the overload stops must be checked and adjusted as needed. Refer to the next section for the overload stop adjustment procedure.
10. Thread the load cell cable through the column from the bottom.
11. Connect load cell cable to terminal.
12. Coil the excess load cell cable and insert it into the column. A small length of tape applied to the ends of the coils allows the cable to slide into the column easier.
13. Apply power to the scale.
14. Recalibrate and test the operation of the new load cell.

TECHNICAL DRAWINGS



Model	L	W	H	L1	L2	W1	W2	4-φ
XMCxx / XMCxxS	9″	9″	3.1″	7.1″	9″	7.1″	9″	1.2″
XWSxxR / XWSxxRS	14″	12″	3.7″	12.3″	14.8″	10.4″	12.8″	2.0″
XWSxxM / XWSxxMS	20″	16″	4.1″	18.0″	20.5″	14.1″	16.5″	2.0″
XWTxxM / XWTxxMS	28″	20″	5.6″	24.6″	28.3″	16.7″	20.5″	2.8″

STANDARD BASE **INSTALLATION INSTRUCTIONS**

Models XMC/XWS/XWT (-S)

UNPACKING

Thank you for purchasing an **METTLER TOLEDO Xpress** product. Please inspect the package immediately upon receipt. If the box is damaged, check for internal damage and file a freight claim with the carrier if necessary. If the container is undamaged, open the box, remove the scale and place it on a solid, flat surface. Please keep the packing material and shipping insert in case you need to return the scale to an Xpress representative.

Package contents for all Xpress Standard Bases include:

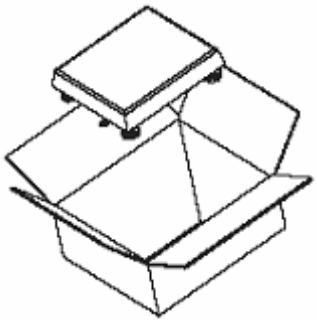
Product
- Xpress Standard Base

Documents
- Quick Start Guide
- Installation Instructions

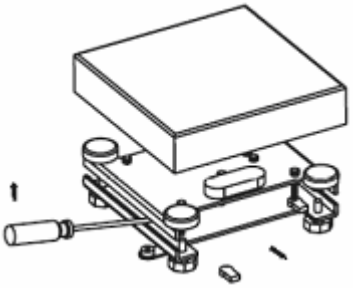
CD-ROM
- Operation & Service Manual

ASSEMBLY

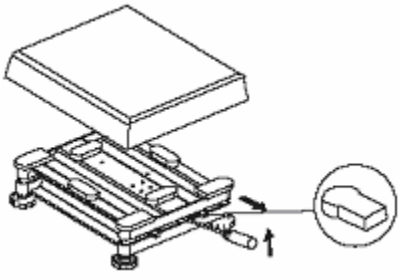
1. Open the box and take out the scale. Remove the packing material from each side of the scale and place the unit on a sturdy workplace.



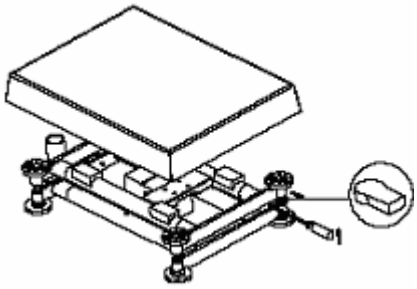
2. Remove four red protective tabs showed in the picture.



XMC/XMC-S Model



XWS/XWS-S Model



XWT/XWT-S Model

3. Level the scale by turning the adjustable feet. It is leveled correctly when the bubble indicator is in the center of the circle.

Proper alignment Improper alignment

For detailed product information, please consult the product manual provided on the CD-ROM.

CUSTOMER SERVICE

We at MT Xpress want to make sure you received the product you expected. It is important to us that you are satisfied with your purchase. If there is anything we can help you with, or if you are not satisfied with either your product or the services received from the Xpress representative, let us know:

24/7 Information and Support:	www.mt.com/xpress
	xpress@mt.com
8 AM to 8 PM EST	Toll Free: 1-866-MTXPRESS

Xpress
Mettler-Toledo, Inc.
60 Collegeview
Westerville, OH 43081