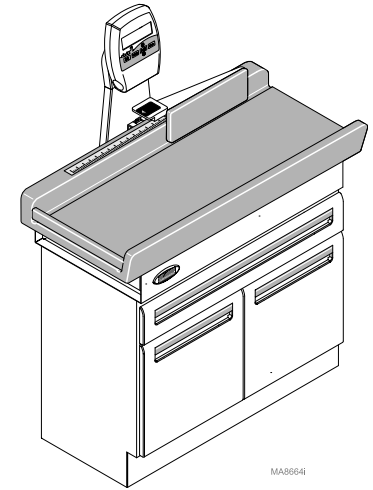




Troubleshooting Guide: 640 Pediatric Exam Table with Midmark Scale



Contents	Description	Refer To:
Troubleshooting	Scale	Troubleshooting Chart
	Error Codes	Error Messages
Adjustments / Repair Procedures	Calibration Procedure for Scale	Calibration
	Parameter Set-Up	Parameter Set-Up Mode
	Revision Display Mode Test	Revision Display Mode Test
	Load Cells	Load Cell Check
	Linear Scale - Checking Arm Alignment	Linear Scale
	Door / Drawer Alignment	Door / Drawer Alignment
	Drawer Installation / Removal	Drawer Installation / Removal

TP210 Rev. A

Troubleshooting Chart

Problem	Symptom	Check	Solution
Nothing appears on display when the On / Zero button is pressed.	(If applicable) AC adapter is disconnected or malfunctioning.	Check AC adapter connection at the display and at the wall outlet.	Secure connections. Verify wall outlet is functioning. If necessary, replace AC adapter.
	Display is malfunctioning.	-	Replace scale.
Scale overloads before scale capacity is reached.	Scale overloads.	Calibrate the scale.	Refer to: Calibration Procedure
Scale drifts off zero.	Table is located where excessive vibration occurs or close to air currents.	Check for signs of vibration and or air currents around table.	Move table to another location.
Scale shuts itself off or will not turn on.	Cable to platform is pinched.	Check cable to platform to make sure it is not being pinched by platform.	Move cable so it is not being pinched.
	Indicator connector is loose.	Verify the connector at the rear of the indicator is properly installed.	Plug connector into rear of indicator.
	(If applicable) AC adapter is disconnected or malfunctioning.	(if applicable) Check AC adapter connection at the display and at the wall outlet.	If using an AC adapter, confirm that it is firmly plugged into a functioning wall outlet. If necessary, replace AC adapter.
Digital display acts erratically.	Display may have lost connection.	Reboot system	Shut power off to scale. Turn power back on.
	Parameters need set.	Perform parameter set-up.	Refer to: Parameter Set-up Mode
	Mode setting has been lost due to a power surge or replacement of digital display.	Check mode setting.	Adjust mode setting. Refer to: Revision Display Mode Test
Digital display works, but measured weight stays at zero with weight on table.	Display harness loose or damaged. (The display harness connects the digital display to the scale platform)	Check display harness connections.	Secure connections.
	Scale platform is malfunctioning.	Verify there is nothing caught in or interfering with the platform.	Replace scale.
Measured weight is inaccurate.	Paper roll interfering with table top.	Check to see if paper roll is in contact with table top.	Reduce the diameter of the paper roll, or remove paper roll completely.
	Table is not level.	Place level on table top.	Adjust leveling feet as necessary.
	Table is located where excessive vibration occurs.	Check for signs of vibration at table location.	Move table to another location.
	Digital scale out of calibration.	Calibrate the scale.	Refer to: Calibration Procedure
	Display harness loose or damaged. (The display harness connects the digital display to the scale platform)	Check display harness connections.	Secure connections.
	Load cell may not be functioning correctly.	Check to see if patient is in center of table.	If weight is accurate in center of table, Refer to: Load Cell check
	Digital display or scale platform malfunctioning.	-	Replace scale.

Troubleshooting Chart continued...

Problem	Symptom	Check	Solution
Linear scale is inaccurate.	Scale label is not positioned properly.	Measure from end of table top to scale label.	Reposition label if necessary.
	Measuring arm out of adjustment.	Adjust arm as necessary.	Refer to: Linear scale Checking Arm Alignment
Display reads 0, or nothing.	Cable might be loose or pinched.	Verify cable to platform is connected and not pinched.	Connect cable. Move cable so it is not being pinched.
	Display may have lost connection.	Reboot system.	Shut power off to scale. Turn power back on.

TP210 Rev. A

Error Messages

Error Message	Symptom	Check
Er EP	The setup parameters loaded in nonvolatile memory have become corrupted.	Reset all parameters to factory default with the rst parameter.
Er Ad	The A/D communication is not detected.	Ensure the cable is connected to the rear of the indicator.
Ernn	Motion Error, weight reading during calibration is too unstable. This error is displayed during zero or span calibration attempt. Error will disappear when platform becomes stable.	Refer to: Calibration Procedure
Er SP	The span calibration is out of range. This error is displayed after a span calibration attempt.	Place the proper weight on the platform and press Length to perform the span calibration again. Refer to: Calibration Procedure
Erng	The span calibration is in a negative range. This error is displayed after a span calibration attempt.	Place the proper weight on the platform and press Length to perform the span calibration again. Refer to: Calibration Procedure
udrLd	The scale is underload. The load on the scale platform is less than the calibration zero level by more than 20% of the scale capacity.	Add table top to scale platform. If problem persists, recalibrate. Refer to: Calibration Procedure
ourLd	The scale is in overload. The load on the scale platform exceeds the scale capacity by more than 105%.	Check if table was lifted by the upholstered top.
gr5oL	The scale is in an extreme overload condition. The load on the scale platform exceeds the scale input range, or there is a bad connection between indicator and platform.	Remove excess weight from scale platform. If problem persists, recalibrate. Refer to: Calibration Procedure
gr5uL	The scale is in an extreme overload condition. The load on the scale platform exceeds the scale input range, or there is a bad connection between indicator and platform.	Immediately remove excess weight from scale platform as damage can occur.
		Check if cable between indicator and platform is disconnected or damaged.
		Check if load cell or mounting weldment is bent or damaged.
gr5uL	The scale is in an extreme underload condition. No signal or very low signal, is detected. This error occurs when the raw counts present at the scale's input falls below 250.	Check if table was lifted by the upholstered top.
		Check if cable between indicator and platform is disconnected or damaged.
		Check if load cell or mounting weldment is bent or damaged.
gruL or gruL	The span calibration is out of range.	Check connections between indicator and base. Press Length to perform the zero calibration again. Refer to: Calibration Procedure

Calibration Procedure



Equipment Alert

The Two Point calibration will calibrate the scale using only one weight that can be user defined. This calibration procedure is effective and can be used in the field with a test weight.



Step 1: Enter Setup mode.

- A) Press and hold Reweigh and Zero together.
- B) Release both buttons when the display reads CAL n.



Step 2: Press + button to change display to CAL y.



Step 3: Press length.

Note: Display reads CAL 0

Step 4: Remove all weight from the scale platform.

Note: During calibration be sure vibration and air currents are not present.

Calibration Procedure *continued...*



Step 5: Calibrate

- A) Press length to perform zero calibration.
- B) The display will count down to zero. The counter will reset if too much motion (*Er nn*) is detected.
- C) The scale will display 40.00, representing a 40 lbs span point calibration.
- D) Change the calibration weight by using the + or - buttons to scroll the weight value to 30 lbs.
- E) Place a 30 lbs weight on the platform.
- F) Press length to accept the span weight value. The display will count down to zero and return to the weigh mode.

Note: The span weight value can be changed to any weight between 5 and 40 LB. For maximum accuracy, use between 20 lbs to 40lbs.

Note

If Erng appears on the display, the span calibration has detected a negative range. If this error persists, consult the raw counts table. The following table shows the acceptable Raw Counts for no load and full load. Raw Counts can be viewed through the last setup parameter. Refer to parameter setup on the next page for more information regarding parameter viewing. If the scales raw count is not within the ranges specified in the following table, replace the scale.

Calibration Requirement in Raw Counts	Minimum	Maximum
Zero Calibration Point	200	20000
Required Calibration Span <i>(100% of Capacity Scale Cal Point - Zero Cal Point)</i>	6000	30000
Required Calibration Span <i>(5% of Capacity Scale Cal Point - Zero Cal Point)</i>	300	1500

TP210 Rev. A

Parameter Set-Up Mode

Step 1: Enter Setup mode.

- Press and hold Reweigh and Zero together.
- Release both buttons when the display reads CAL n.



Step 2: Navigate through each parameter to adjust desired user settings.

- Press Length to scroll forward to each parameter.
- Press + or - buttons to change the current parameter setting.
- Press Reweigh to save any changes and exit setup mode.

Parameters

Reset All parameters to Default Settings

rSt	Default parameters
n	No. Parameters are not defaulted. <i>(default)</i>
y	Yes. Set all parameters to factory default values when Length is pressed. Calibration is preserved.

Automatic Shutoff Timer

Ao	Automatic shutoff timer. The timer controls the period of time the scale stays on after non-use.
0.2	12 Seconds
0.5	30 Seconds <i>(default)</i>
1	1 Minute
2	2 Minutes
5	5 Minutes
10	10 Minutes
15	15 Minutes
on	Automatic shutoff timer disabled.

Average Aperture

AA	Determines the amount of motion allowed to hold a stable weight. A slower setting will result in more accurate weights, but will require a longer time to achieve a stable weight. A faster setting will achieve a stable weight faster, but may be less accurate.
4	Fastest Setting
8	Default Setting
16	Slowest Setting

Data Output

d.o	Parameter reserved for future use. Do not change.
t.d.	<i>(default)</i>

Parameters continued...

EMR Format

For.	Parameter reserved for future use. Do not change.
1U	(default)

LB Units Enable / Disable

	lb
on	lb weighing units active (default)
oF	lb weighing units disabled

KG Units Enable / Disable

	kg
on	kg weighing units active (default)
oF	kg weighing units disabled

LB:OZ Units Enable / Disable

	lb:oz
on	lb:oz weighing units active (default)
oF	lb:oz weighing units disabled

Inches Units Enable / Disable

	ft:in
on	in length units active (default)
oF	in length units disabled

Centimeters Units Enable / Disable

	cm
on	cm length units active (default)
oF	cm length units disabled

Stable or Average Hold Weight Beep

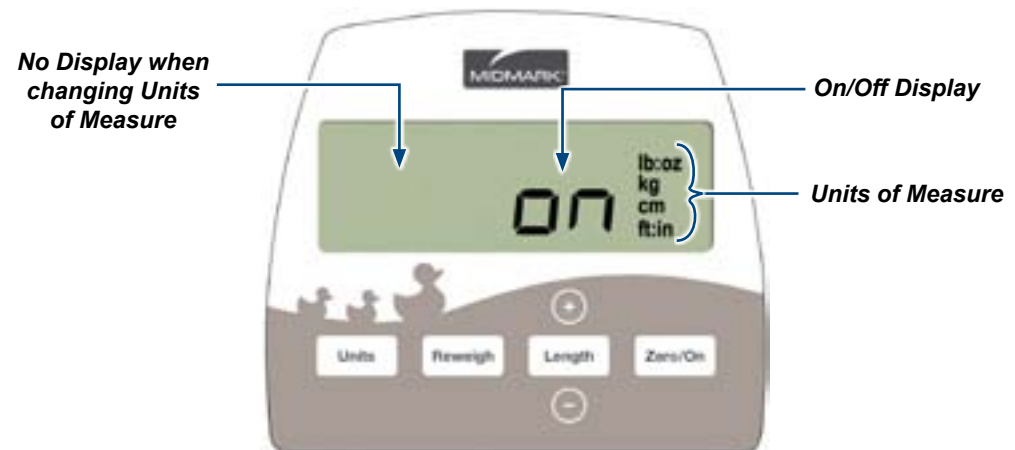
bH	Enables/Disables beep when a stable or average hold weight is achieved
n	Beep disabled (default)
y	Beep enabled

Voltage Level

dC	8.8 Vdc - 9.6 Vdc
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Raw Counts

XXXX	Raw counts from A/D converter
	View these numbers if calibration is unsuccessful. Refer to chart in Calibration section for interpretation of these numbers. Press Length or Reweigh to exit setup mode.



Revision Display Mode Test

To revision display mode test...

- A) Press and hold Reweigh for three seconds to perform display test.
- B) Software **Su169** will show, then the revision, for example **r3.2**.
- C) Number of calibration audit counter will display as **c 2**.
- D) Display will show, **StEst** to indicated switch test mode is active.

The switch mode test will stop after 10 seconds, If no switch was pressed. Scale will then enter into a high resolution mode and display weight. Zero and Units buttons are functional in this mode. Scale will power down if stable for 30 seconds.

Software Display



Press and Hold for 3 seconds

Revision Display



Revisions display could vary

Calibration Display



Total number of calibration

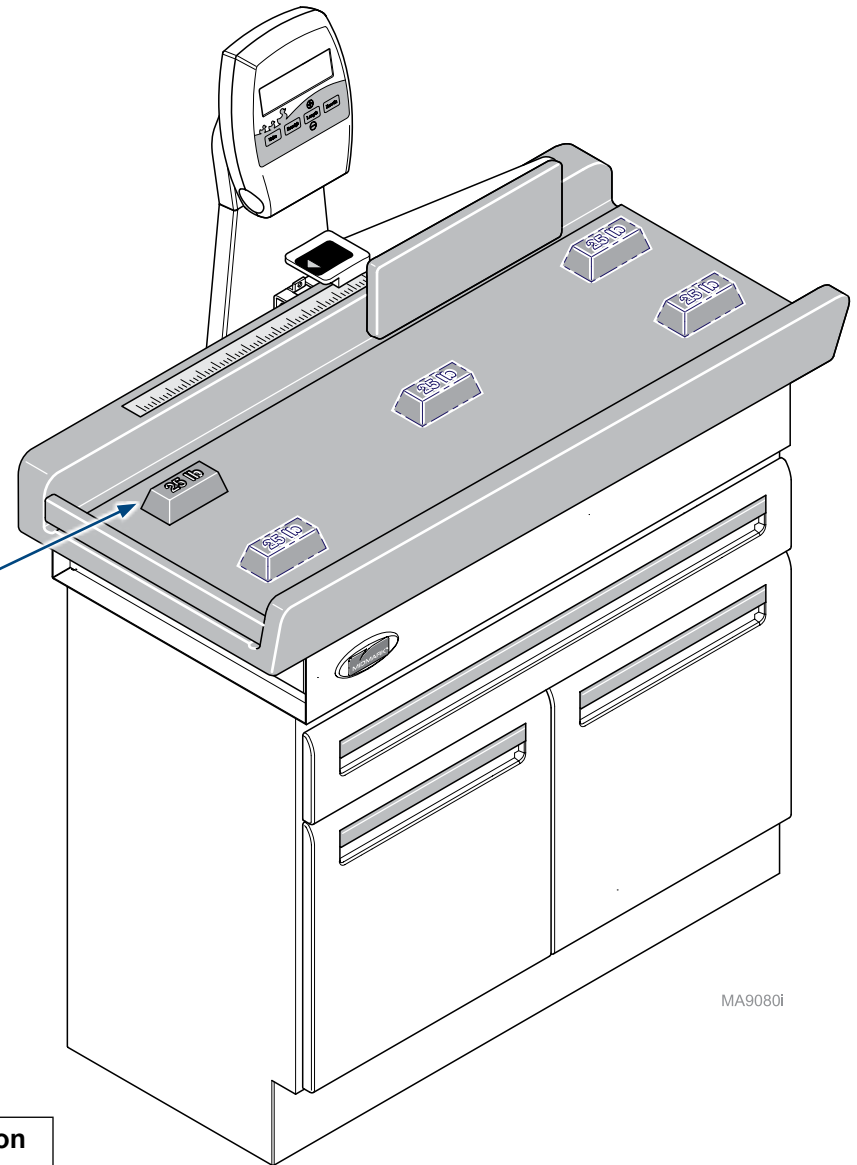
Test Mode Display



Load Cell Check



To check load cells..

- A) Calibrate scale with known weight. Refer to: Calibration
- B) Verify weight in center of table.
- C) Verify weight within a few inches of each corner of platform.



Check Weight in Center and Each
Corner of Table Separately

MA9080i

Results	Status	Required Action
All weights checked are within a few tenths.		Load Cells are good, no action required.
One weight checked is one pound or more different than other weights.		One or more load cells are damaged. Replace scale and base.

Linear Scale

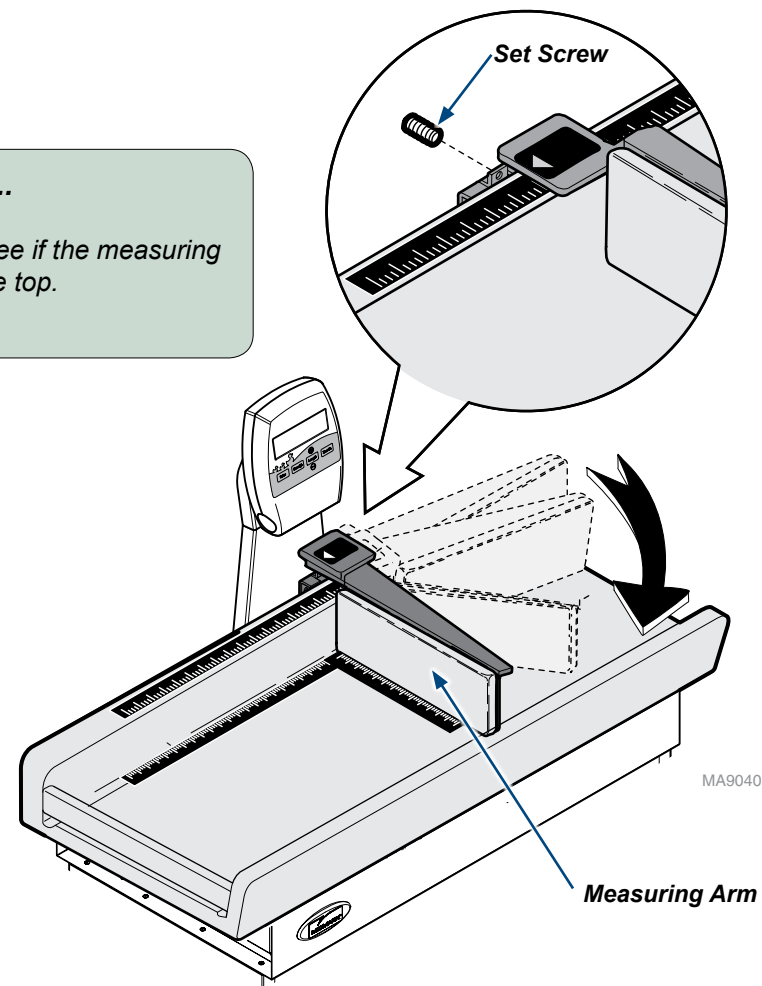
Checking / Adjusting Arm Alignment

To adjust measuring arm...

- A) Using a 3/32" allen wrench, adjust set screw in / out until measuring arm is square with the back of the table top.

To check measuring arm alignment...

- A) Pivot measuring arm out as shown.
B) Using a carpenter's square, check to see if the measuring arm is square with the back of the table top.
C) If necessary, adjust arm until square.



Doors / Drawer

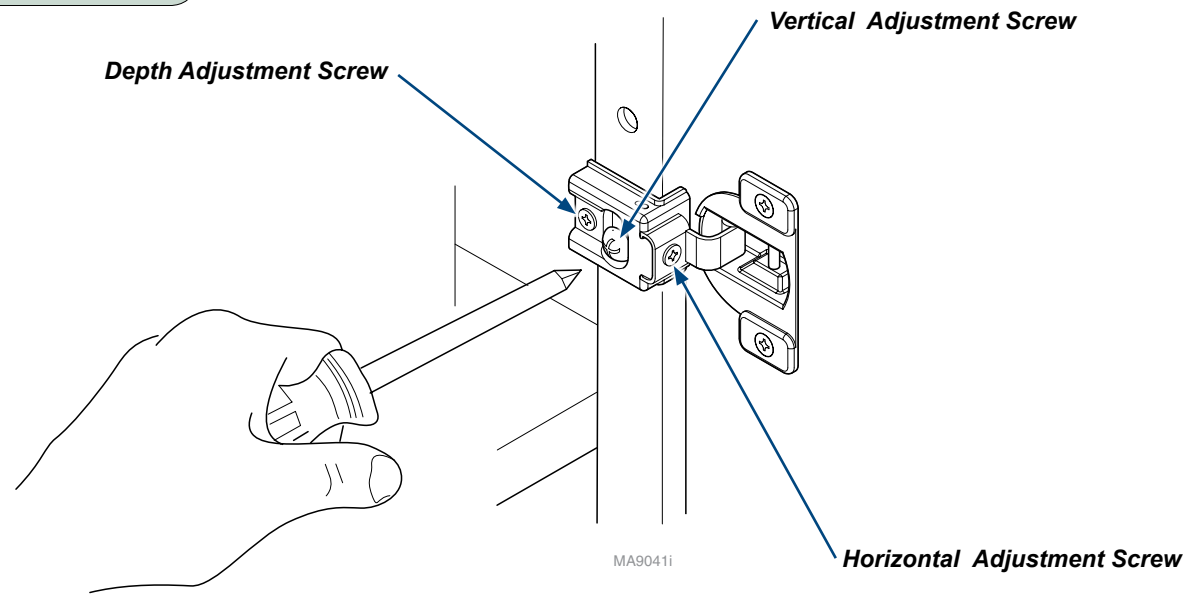
Door Alignment

To adjust depth...

- A) Turn depth adjustment screw to move panel forward and backward.

To adjust vertically...

- A) Loosen vertical adjustment screw on both hinges.
B) Move door up / down, then tighten screws.



To adjust horizontally...

- A) Turn horizontal screw to move panel side to side.

Doors / Drawer

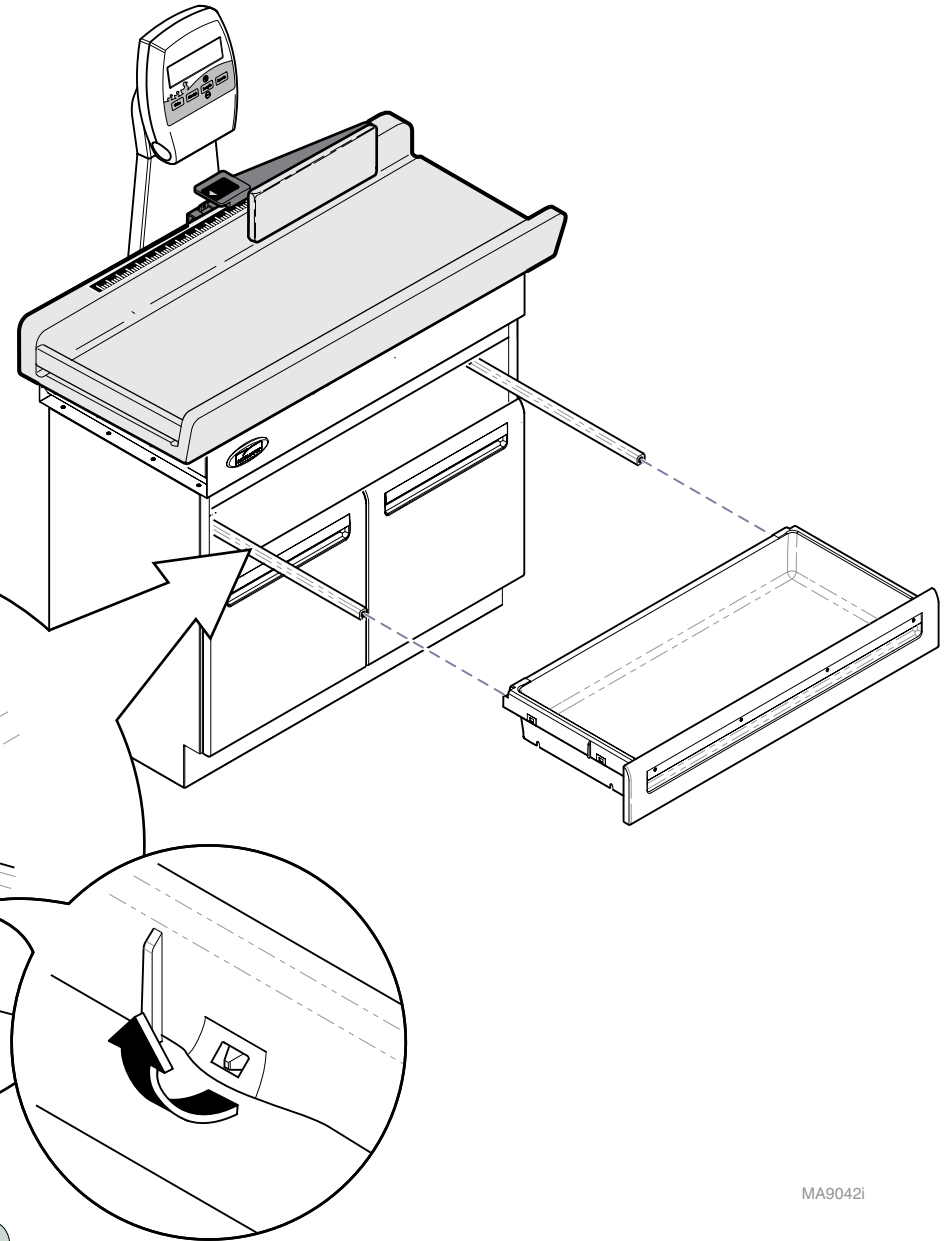
Drawer Installation / Removal

To install drawer..

- Place drawer on slides and push forward until it hits the stop tabs.
- Push drawer down until it snaps onto slide tabs.

Stop Tab

Slide Tab



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To remove drawer..

- Spread sides of drawer outward as shown to release from slide tabs.
- Pivot drawer upward, then pull out to remove.