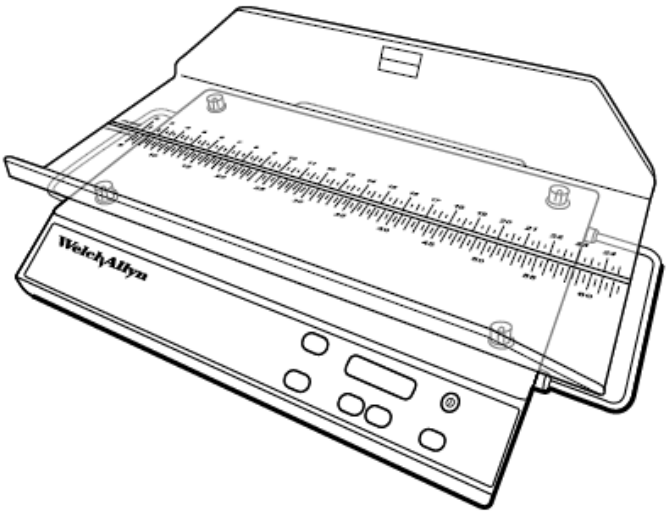
Welch Allyn Pediatric/Infant Scale with USB



Service Manual

Model 4802D – Pediatric/Infant Scale
For Serial Numbers Beginning with: U1072 only

Welch Allyn®
Advancing Frontline Care™

For information about any Welch Allyn product, contact your local Welch Allyn representative:
http://www.welchallyn.com/en/other/contact-us.html

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Customer Support
Placing orders, checking on pricing, billing, or repairs
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1.800.535.6663, Option 2, 1, 5
9am - 5pm EST
Mon - Fri

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Introduction

Intended use

The Welch Allyn Pediatric/Infant Scale is intended to be used by clinicians for weighing patients from 0.35 oz. to 44 lbs. (10 g to 20 kg) and measuring patients up to 32 inches (81 cm), depending on the size of the scale cradle.

Indications for use

The Welch Allyn Pediatric/Infant Scale is used by clinicians to weigh and measure the length of neonate and pediatric patients.

Pediatric scales can make contact with a patient's head, neck, back, arms, legs, and side. Contact duration is intended to be limited to less than 30 seconds.

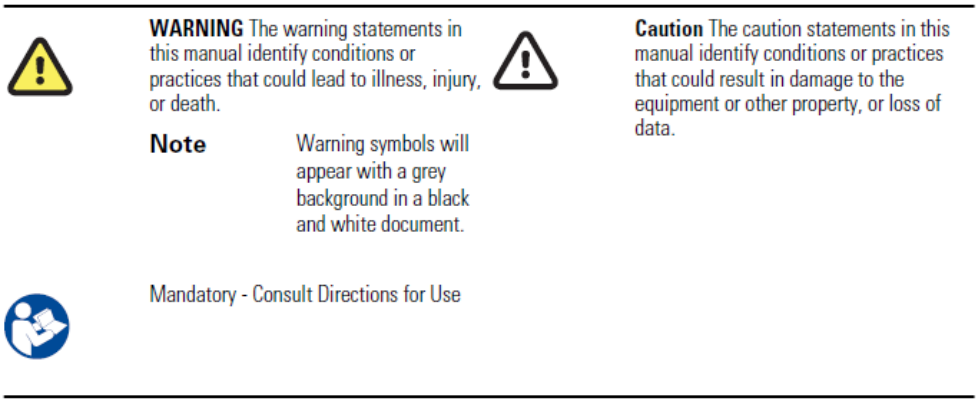
Intended clinical care environments

The Welch Allyn Pediatric/Infant Scales are intended to be used in the following clinical care environments:

- Hospitals
- Ambulatory care centers
- Physicians' offices
- Other professional medical facilities

Symbols

Documentation symbols



Shipping, storing, and environment symbols

	Temperature limitation		Keep dry
	Separate collection of Electrical and Electronic Equipment. Do not dispose as unsorted municipal waste.		Fragile
	Humidity limitation		Atmospheric pressure limitation
	This way up		Stacking limit by number
	Recyclable		Keep away from sunlight
	Atmospheric pressure limitation		Date of manufacture

Miscellaneous symbols

	Manufacturer		Reorder Number
	Product Identifier		For indoor use only
	Serial Number		Prescription only or "For Use by or on the order of a licensed medical professional"
	Battery		Direct current (DC)
	USB		On/Off Pushbutton
	Class II equipment		Type B applied part **Note** The entire scale is considered an applied part.
	Do not re-use		Mass
	Maximum safe working load limits		Rated power input, DC
	With respect to electrical shock, fire, and mechanical hazards only In accordance with: ANSI/AAMI ES60601-1:2005/(R)2012 and A1:2012, C1:2009/(R)2012 AND A2:2010/(R)2012, CAN/CSA C22.2 No. 60601-1:14 IEC 60601-1 Ed. 3.1		Lot code
	Global Trade Item Number		

Safety

About warnings and cautions

Caution statements can appear on the Welch Allyn Pediatric Scales, the packaging, the shipping container, or in this *Service manual*.

The Welch Allyn Pediatric Scales are safe for patients and trained clinicians when used in accordance with the instructions and caution statements presented in this *Service manual*.

Before using the device, you must familiarize yourself with all cautions, with the steps to power up the device, and with the sections of this *Service manual* that pertain to your use of the device. In addition to reviewing the general cautions presented in the next section, you must also review the more specific cautions that appear throughout the manual in conjunction with setup/startup, operation, and maintenance tasks. No additional training is required.

- Failure to understand and observe any warning statement in this manual could lead to patient injury or illness.
- Failure to understand and observe any caution statement in this manual could lead to damage to the equipment or other property, or loss of patient data.

General warnings and cautions

WARNING Patient injury risk. Never leave the infant unattended on the scale. Only remove your hands from the infant for a brief amount of time to allow for an accurate weight measurement.

WARNING Patient or operator injury risk. Make sure the scale is positioned on a stable surface and in a way to avoid damage or bumping hazards.

WARNING Patient injury risk. Make sure the scale is set in the proper measurement units for your facility. Make sure you record the measurement units as they are displayed.

WARNING Electric shock hazard. Use only a Welch-Allyn approved power supply. The use of an unapproved power supply could increase chassis or patient leakage currents.

WARNING Electric shock hazard. Use only a Welch-Allyn approved power supply. The use of an unapproved power supply could cause electric harm and shock to you or the patient.

WARNING Electric shock hazard. All signal input and output (I/O) connectors are intended for connection of only devices complying with IEC 60601-1, or other IEC standards (for example, IEC 60950), as applicable to the scale. Connecting additional devices to the scale could increase chassis or patient leakage currents. To maintain operator and patient safety, consider the requirements of IEC 60601-1-1. Measure the leakage currents to confirm that no electric shock hazard exists.

WARNING Electric shock hazard. Make sure that the USB (SIP/SOP) port and the patient are never touched or come in contact at the same time.

WARNING No modification of this equipment is allowed.

CAUTION Make sure that you routinely perform general maintenance and equipment safety checks on your scale. Remove the scale from service when you notice damaged to the power cable.

CAUTION Do not use this scale to transport patients or items.

Electrostatic discharge (ESD)

CAUTION Electrostatic discharge (ESD) can damage or destroy electronic components. Handle static-sensitive components only at static-safe workstation.

CAUTION Assume that all electrical and electronic components of the monitor are static-sensitive.

Electrostatic discharge is a sudden current flowing from a charged object to another object or to ground. Electrostatic charges can accumulate on common items such as foam drinking cups, cellophane tape, synthetic clothing, untreated foam packaging material, and untreated plastic bags and work folders, to name only a few.

Electronic components and assemblies, if not properly protected against ESD, can be permanently damaged or destroyed when near or in contact with electrostatically charged objects. When you handle components or assemblies that are not in protective bags and you are not sure whether they are static-sensitive, assume that they are static sensitive and handle them accordingly.

- Perform all service procedures in a static-protected environment. Always use techniques and equipment designed to protect personnel and equipment from electrostatic discharge.
- Remove static-sensitive components and assemblies from their static-shielding bags only at static-safe workstations—a properly grounded table and grounded floor mat—and only when you are wearing a grounded wrist strap (with a resistor of at least 1 megaohm in series) or other grounding device.
- Use only grounded tools when inserting, adjusting, or removing static-sensitive components and assemblies.
- Remove or insert static-sensitive components and assemblies only with monitor power turned off.
- Insert and seal static-sensitive components and assemblies into their original static shielding bags before removing them from static-protected areas.
- Always test your ground strap, bench mat, conductive work surface, and ground cord before removing components and assemblies from their protective bags and before beginning any disassembly or assembly procedures.

Overview

Purpose and scope

This service manual is a reference for periodic preventive maintenance and corrective service procedures for the Welch Allyn Pediatric Scales. It is intended for use only by trained and qualified service personnel.

Corrective service is supported to the level of field-replaceable units. These include circuit-board assemblies and some subassemblies, and other parts.

WARNING When performing a service procedure, follow the instructions exactly as presented in this manual. Failure to do so could damage the scale, invalidate the product warranty, and lead to serious personal injury.

CAUTION No component-level repair of circuit boards and subassemblies is supported. Use only the repair procedures described in this manual.

Find instructions for functional testing and performance verification in the Calibration section in this manual.

This manual applies only to this device. For servicing of any other product, see the service manual for the specific device.

Service work not described in this manual must be performed by qualified service personnel at the factory or at an authorized Welch Allyn service center.

Technical support services

If you have a problem with the device that you cannot resolve, call the Welch Allyn Technical Support Center nearest you for assistance. A representative will assist you in troubleshooting the problem and will make every effort to solve the problem over the phone, potentially avoiding an unnecessary return. Technical support is available 9am-5pm EST.

Welch Allyn offers the following technical support services:

- Telephone support
- Replacement service parts
- Product service

For information on any of these services, go to this site: http://www.welchallyn.com/en/service-support.html.

Warranty Service

Welch Allyn will warranty the weight scale to be free of defects in material and workmanship and to perform in accordance with manufacturer specifications for the period of one year from the date of retail purchase.

The warranty period shall start on the date of purchase. The date of purchase is:

1. The invoiced ship date if the device was purchased directly from Welch Allyn
2. The date specified during product registration
3. The date of purchase of the product from a Welch Allyn authorized distributor as documented from a receipt from said distributor

This warranty does NOT cover damages caused by misuse or abuse, including but not limited to:

- Failure caused by unauthorized repairs or modifications
- Damage caused by shock or dropping during transportation
- Damage caused by improper use of the power supply
- Failure caused by improper operation not consistent with the instructions stated in this *Service Manual*

Should this device require maintenance (or replacement at our option) under warranty, contact your local Welch Allyn representative: http://www.welchallyn.com/en/service-support.html.

Non-warranty service

Welch Allyn Product Service Centers and Authorized Service Providers support non-warranty repairs. Contact any Welch Allyn regional service center for pricing and service options.

Welch Allyn offers modular repair parts for sale to support non-warranty service. This service must be performed only by qualified end-user biomedical/clinical engineers using this service manual.

Returning products

When returning a product to Welch Allyn for service, ensure that you have the following information:

a. Product name, model number, and serial number. This information may be found on the product and serial number labels.
b. A complete return shipping address.
c. A contact name and phone number.
d. Any special shipping instructions.
e. A purchase-order number or credit-card number if the product is not covered by a warranty.
f. A full description of the problem or service request.

1. Contact Welch Allyn and request a RMA number.
   Note: Welch Allyn does not accept returned products without an RMA.

2. Ship the device to Welch Allyn, observing these packing guidelines:
   - Packaging - If you are returning a scale to a Welch Allyn Repair facility please ensure you use proper packing materials. Contact Welch Allyn for details and part numbers for materials if needed.
   - Remove from the device the battery, power cords, and other ancillary products and equipment, except those items that might be associated with the problem.
   - Dispose of damaged or leaking batteries in an environmentally safe manner consistent with local regulations.

3. Clean the device

Note: To ensure safe receipt of your device by the service center and to expedite processing and return of the device to you, thoroughly clean all residue from the device before you ship it to Welch Allyn. For cleaning requirements, see the Cleaning instruction in the Directions for Use.

Welch Allyn thoroughly cleans all returned devices on receipt, but any device that cannot be adequately cleaned cannot be repaired.

4. Write the Welch Allyn RMA number with the Welch Allyn address on the outside of the shipping carton.

Recommended service intervals

To confirm that the device is functioning within the design specifications, perform periodic service as indicated below. Customers can perform the basic functional verification and calibration procedures referenced below by following the instructions in this manual.

Perform the following preventive maintenance quarterly to keep your scale in working order, or as required based on usage or per your facility maintenance schedule, whichever comes first.

1. Have your service department check the calibration annually or as required. Calibration instructions are provided in the scale service manual.
2. Inspect the cradle for cracks or loose mounting hardware. Replace or repair as necessary.
3. Inspect the scale's enclosure for damage or loose or missing hardware. Replace or repair as necessary.
4. Inspect the power adapter cable for abrasions or other sign of wear.
5. Do not expose the scale to excessive water or moisture.
6. Do not store the scale where heavy objects can be placed on it.
7. Replace the batteries annually or as required.
8. When storing the scale, remove the batteries from the battery area. Batteries can corrode over a period of time. Make sure to check the batteries before putting the scale back into use.
9. Do not service or perform any maintenance while the scale is in use with a patient.

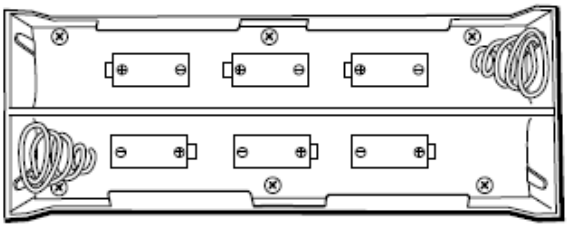
Battery replacement

WARNING Electronic shock hazard. Do not replace the battery under the following conditions:

- in the vicinity of the patient
- with wet hands
- in the presence of flammable anesthetics

CAUTION Use only size D disposable alkaline batteries. The use of any other battery will void the warranty.

1. Make sure the scale is powered down.
2. Remove the cradle from the scale.
3. Remove the battery cover by removing the two screws with a Phillips screwdriver.
4. Remove the old batteries and install six new size D batteries in the battery holder. Make sure to follow the polarity instructions.



5. Re-attach the top cover of the enclosure by installing the two screws.
6. Re-install the cradle by gently pressing down.

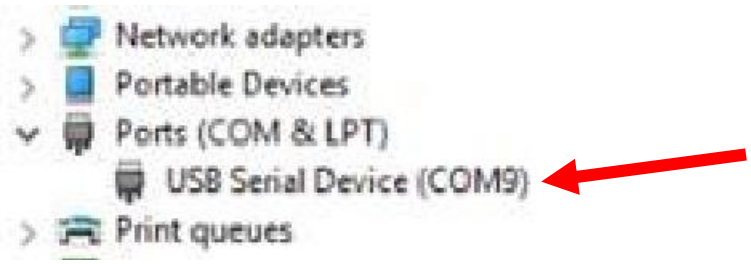
Firmware Update

While rarely performed, Welch Allyn may release a new version of firmware to support your device. Updating your device firmware ensures you have access to the latest features, fixes, and security updates.

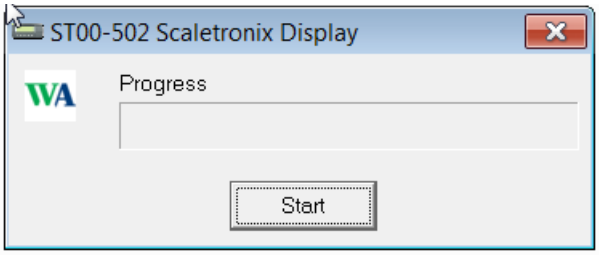
NOTE: THIS FIRMWARE UPDATE PROCEDURE REQUIRES A LAPTOP/PC WITH WINDOWS 10 AND A USB TYPE A TO B CABLE.

Firmware Upgrade Process

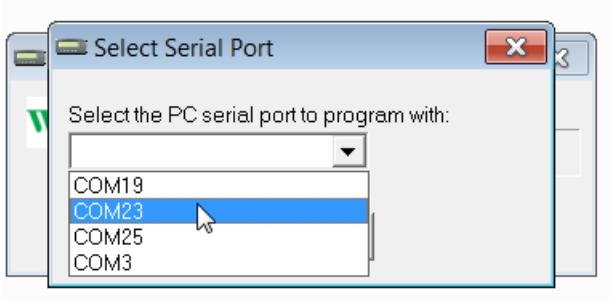
1. Obtain the required firmware file (exe file) from Welch Allyn.
2. Record the serial number of the Scale.
3. With the Scale powered OFF, connect the scale to the laptop/PC with a USB Type A to B cable. Check that the Scale is being detected by the laptop/PC in Device Manager as **"USB Serial Device"** (Refer to below image). (Note: If this is the first time the Scale is plugged into the laptop/PC, the driver will be automatically installed.). The port number may or may not be COM9.



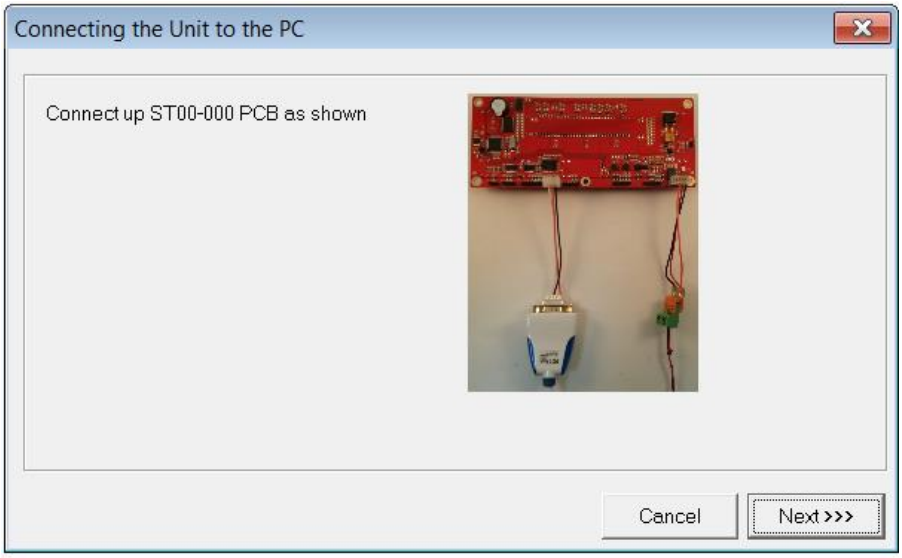
4. Double click on the exe file. A dialog box will appear (Refer to below image)



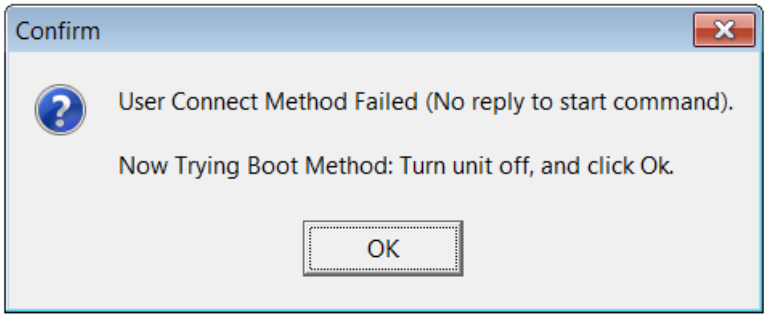
5. Click on the “Start” button shown in dialog box. Select the COM PORT to which the Scale is connected to. (Refer to image below as an example).



6. Click “Ok”. The following dialog box will appear.

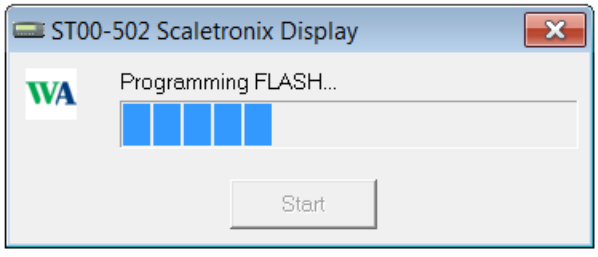


7. Click “Next”. The following dialog box will appear.

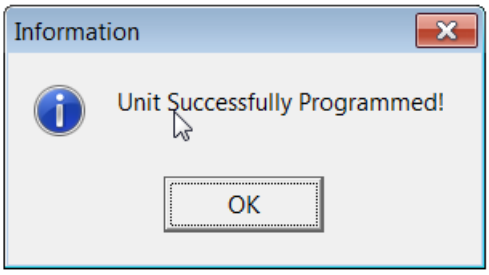


8. Go to BOOT MODE by pressing **“ZERO”**, **“LB/KG”**, and **“POWER”** button simultaneously. Once the Scale powers up and displays **“88.88.88”**, click “OK” within 2 seconds. (**IMPORTANT. If the 2 seconds lapsed, the scale needs to be powered off and the above steps need to be repeated.)**

9. Firmware update will begin when the above step is successfully executed and the below dialog box will appear. Wait for it to complete.



10. Click “OK” when firmware update is completed (see below dialog box).



11. Power off the scale and unplug the USB cable.
12. Power on the scale and "**Err db**" is displayed. This means the database needs resetting. To reset the database, follow the below steps.

a.) Press Zero 5 times
b.) "db rSt" will be displayed.
c.) Press "LB/KG" button once and "No" will be displayed
d.) Press "RE WEIGH" button to change to "Yes".
e.) Press "LB/KG" button and the scale will automatically turn off.

Firmware Verification

Verification of firmware will be completed going into SETUP MODE and checking the firmware version.

1. With the scale powered OFF, press **"ZERO"**, **"RE WEIGH"**, and **"POWER"** button simultaneously. The display will show "0000".

2. Enter PIN number **"9821"** into the Scale. (Press **'RE WEIGH'** button to increment the value, **'RECALL'** button to decrement the value, **'LB/KG'** button to shift to the next digit or to confirm the PIN).
3. Once the scale SETUP MODE, the display will show "**Set-UP**".

4. Press the **“LB/KG”** button until **“SOFt”** is displayed. Press **“LB/KG”** one more time, the firmware version will be shown (U X.X.X). (See below reference).

Scale setup

You can customize the scale to best suit your needs using the **Custom Modes**.

The custom modes on the scale are Setup, Service, Factory, Calibration.

1. Press and hold **ZERO** and **REWEIGH** while pressing the power button to enter Custom mode.
2. Key in different PIN to access the mode.

Some menu items include editors. These can be interacted with using the following keys: (e.g. Show '0000' as initial 4 digits PIN):

REWEIGH: Increment the selected character. If the current selected character is "9", it shall wrap to "0" when the "Reweigh" button is pressed.
RECALL: Decrement the selected character. If the current selected character is "0", it shall wrap to "9" when the "Recall" button is pressed.
LB/KG: Move to the next character/enter.

Keying through the menu with the **LB/KG** key will show the option, then the current setting for that option. To change a setting select the current setting for the desired option and use the **REWEIGH** key to increment or move to the next setting option, or the **RECALL** key to decrement or move to the previous setting option. Set the selected option and move to the next setting with the **LB/KG** key.

Note Options indicated with an asterisk (*) require an additional press of **LB/KG** to change the value.

Enter Setup Mode

Device will enter setup mode by entering PIN **9821**.
The scale will cycle through these parameters by pressing **LB/KG** key. Some of these options may be turned off or on through the Factory Mode

SOFt displays the software version.

dAtE displays the software release date in US date format (MM.DD.YY)

SCALE displays the scale model.

AutOFF* displays the number of seconds before the scale turns off when operating on battery power. The **Cont** value prevents the scale from turning off automatically.

ACCont* allows the user to configure the scale to be continuously on if AC power is connected. This overrides the "**AutOff**" option.

rES allows the user to configure the resolution the scale will display weights at to the following options:

0.001 kilograms
0.002 kilograms
0.005 kilograms (Default)
0.010 kilograms

UnitS* allows the user to configure the units the scale will be able to use in typical display mode.

Note: Do not change the scale units if you have purchased the kilogram-only option

UI Display Light ON	
KILOS*	This option displays weight in kilograms (0.000). Default is **ON**
POUNDS and OUNCES*	This option displays weight in pounds and ounces (0 pounds 0.0 ounces). Default is **ON**
POUNDS*	This option displays weight in pounds (0.000). Default is **ON**
OUNCES*	This option displays weight in ounces (0.00). Default is **ON**

bEEPEr* allows the user to configure the external sound. The default is **OFF**.

rEcALL allows the user to configure whether the scale can be powered on in recall mode. If set to off, then Recall key will not operate.

USb* allows the user to send weight data to the computer. **ON** is to enable usb data transfer option, **OFF** is to disable usb data transfer option.

Prtunt* allows the user to configure which unit (pounds or kilograms) will be used in the send data function when the scale is connected to a computer or a Welch Allyn device.

Press **REWEIGH** or **RECALL** to switch between the following options:

If the pounds and kilograms indicators are illuminated on the control panel, the data sent is determined by whichever unit is selected on the control panel.

If the kilogram indicator is illuminated, it will only send data in kilograms, regardless of the unit selected on the control panel.

If the pounds indicator is illuminated, it will only sed data in pounds, regardless of the unit selected on the control panel.

PrtOPt* Press **REWEIGH** or **RECALL** to switch between the following options:

PnlPrt: The current weight is sent to a computer or a Welch Allyn device when **SEND DATA** is pressed on the control panel.

AutPrt: The current weight is automatically sent when a weight reading occurs.

Set-UP This option is displayed when you have cycled through all the options. Press and hold the power button to power down the scale

Power off scale to exit Set-up Mode

Enter Service Mode

Device will enter service mode by entering PIN **4351.**

The scale will cycle through these parameters by pressing **LB/KG** key.

ñvv (Mvv) displays the current mV/V reading on the scale.

A-d displays the current weight. ‘Zero’ may be pressed to perform a user zero.

tESt displays a LED test sequence.

Displays a LED test sequence for numbers from 0, 1, 2, ----, 9 for one cycle with long beep and all annunciators On

Displays a LED test sequence for numbers from 0., 1., 2., ----., 9. for one cycle with long beep and all annunciators OFF

Sequences continue one after other till user presses **LB/KG** to move to the next menu item.

PR-OnS displays the number of power ons.

PC-rC displays the number of power ons using the recall key.

COUntS displays the number of times a weight has been acquired.

rEcntS displays the number of times the reweigh key has been pressed.

rECLLS displays the number of times the scale has recalled the prior weight.

bñiS (BMIs) displays the number of times of the Height/BMI key has been pressed.

OFFS displays the number of times the scale has manually been powered off.

PrintS displays the number of dockets that have been printed from the scale.

SEndS displays the number of the **SendData** key has been pressed.

SEtUPS displays the number of times the setup menu has been entered into.

SErvES displays the number of times the service menu has been entered into.

CALS displays the number of times the scale has been span calibrated.

Menu will restart to **SrvicE** menu title when you have cycled through all the options.

Power off scale to exit Service Mode

Factory Mode

Device will enter factory mode by entering PIN **0294**.

The scale will cycle through these parameters by pressing **LB/KG** key.

Functn

AdC.CFG gives the user the option of connecting to the measurement board via the display board. If yes is pressed, this option will be enabled until the user progresses from the "_____" screen.

SOFt displays the software version.

dAtE displays the software release date in US date format (MM.DD.YY)

SCALE displays the scale model.

FiltEr displays the scale motion filter level

AutOFF* allows the user to configure the time in seconds until the scale powers off.

ACCont* allows the user to configure the scale to be continuously on if AC power is connected. This overrides the **AutOFF** option.

FCt.UNt allows the user to configure the scale so that the units (display and print) cannot be changed from "Set-Up" menu. ("ON" - the units cannot be changed in Setup mode)

UnitS* allows the user to configure the units the scale will be able to use in typical display mode.
Note: If all units are set to **Off**, the scale defaults to **KILOS**.

UI Display Light ON	
KILOS*	This option displays weight in kilograms (0.000). Default is **ON**
POUNDS and OUNCES*	This option displays weight in pounds and ounces (0 pounds 0.0 ounces). Default is **ON**
POUNDS*	This option displays weight in pounds (0.000). Default is **ON**
OUNCES*	This option displays weight in ounces (0.00). Default is **ON**

bEEPEr* allows the user to configure the external buzzer. The default is **OFF**.

rEcALL allows the user to configure whether the scale can be powered on in recall mode. If set to off, then Recall key will not operate.

USb* allows the user to send weight data to the computer. **ON** is to enable usb data transfer option, **OFF** is to disable usb data transfer option.

PrntEr allows the user to send weight data to the built-in-printer. **ON** is to enable printer option, **OFF** is to disable printer option. Printer option is **not available** to this device and turning on the option will not change functionality

Prtunt* allows the user to configure which unit (pounds or kilograms) will be used in the send data function when the scale is connected to a computer or a Welch Allyn device.

Press **REWEIGH** or **RECALL** to switch between the following options:

If the pounds and kilograms indicators are illuminated on the control panel, the data sent is determined by whichever unit is selected on the control panel.

If the kilogram indicator is illuminated, it will only send data in kilograms, regardless of the unit selected on the control panel.

If the pounds indicator is illuminated, it will only sed data in pounds, regardless of the unit selected on the control panel.

Printing is **not available** on this unit, changing this setting will not change functionality.

PrtOPt* Press **REWEIGH** or **RECALL** to switch between the following options:

PnlPrt: The current weight is sent to a computer or a Welch Allyn device when **SEND DATA** is pressed on the control panel.

AutPrt: The current weight is automatically sent when a weight reading occurs.

Menu will restart to **FACtrY** menu title when you have cycled through all the options.

Power off scale to exit Service Mode

Default Factory Settings

Test Setting

	4802 Standard(lb/Kg) Display	4802 Kg Only Display
Factory Func		
SOFt	U x.x.x	
dAtE	xx.xx.xx	
FiltEr	3.0	
SCALE	4802	
AutOFF	90	
ACCont	On	
FCt.UNt	OFF	
UnitS	KG LED (On) LB OZ LEDs (On) LB LED (On) OZ (On)	KG LED (On) LB OZ LEDs (Off) LB LED (Off) OZ (Off)
bEEPEr	OFF	
rEcALL	On	
USb	On	
PrntEr	Off	
Prtunt	Kilos Led (On) Pounds Ounces LEDs (On) Pounds LED (On) Ounces (On)	Kilos Led (On) Pounds Ounces LEDs (Off) Pounds LED (Off) Ounces (Off)
PrtOPt	PnlPrt	

Calibration of Scale

Your scale has been carefully calibrated at the factory. This calibration involves matching and tuning of the load cells and readout electronics. The scale calibration should be checked annually. Only use calibrated, certified scale test weights for this purpose. Traction or physical therapy weights are NOT acceptable since their actual weight can often be in error as much as +/-10%. Calibration weights may be purchased from WELCH ALLYN or a local scale dealer. An alternative to calibration weights is the weight comparison method. This requires a known accurate, calibrated scale. A fixed weight is "weighed" on the calibrated scale then the same weight is placed on the scale for comparison.

TEST CALIBRATION WEIGHTS ARE AVAILABLE FROM WELCH ALLYN.

TWO (2) 10 KILOGRAM TEST WEIGHTS ARE RECOMMENDED.

ORDER PART NO. 20022W. (10 KG TEST WEIGHTS)

If only "pound" test weights are available conversion is as follows:

1.0 Pound = 0.454 Kilograms
5.0 Pounds = 2.268 Kilograms
10.0 Pounds = 4.536 Kilograms
20.0 Pounds = 9.072 Kilograms
25.0 Pounds = 11.34 Kilograms

Large changes in calibration often indicate a damaged load cell or faulty readout component. It is generally recommended that if calibration is necessary for your scale it should be returned to the factory. Calibration procedure follows for those situations where it is not desirable. Calibration should not be attempted by those not having the proper tools or knowledge of electronic systems and their attendant shock hazards.

Calibration Procedure

Enter the **calibration mode** by following **exactly** the procedure outlined below:

1. Press **ZERO**, **REWEIGH** and **Power** together to enter Custom mode.
2. Device will enter calibration mode by entering PIN **8933**.
   The scale will cycle through these parameters by pressing **LB/KG** key.
3. **n̄vv (Mvv)** shows the current mV/V on the scale (identical to the option in service mode).
4. **ZEr0** is to do zero calibration, press **LB/KG** key to enter options, press the **REWEIGH** key to go to the next option
   a. **No**: Do nothing.
   b. **Yes**: Zero calibrate the scale using the weight currently on the scale.
      i. Place the cradle on the scale and make sure it is properly seated. Press the **LB/KG** key to begin calibration.
      ii. Screen will show **ZErO** and a number while the calibration is in process and **dONE** when the calibration is complete.
   c. **Defult**: Zero calibrate the scale for 0kg = 0mV/V.
5. **SPAN** is do span calibration, press **REWEIGH** key for the options
   a. **No**: Do nothing.

b. **Yes**: Span calibrate the scale with the user-entered weight and the weight currently on the scale.
    i. Place the calibration weight in the center of the cradle and press the **LB/KG** key to begin calibration.
    ii. The screen will show **US** for lbs, press the **RECALL** key to change to **ñEtriC(MEtriC)** for kilograms. Press the **LB/KG** key to select units for calibration.
    iii. Enter the calibration weight being used. The default for lbs is 40.000 and the default for kg is 20.000. The **REWEIGH** key increments and the **RECALL** key decrements the selected digit. The **LB/KG** key moves to the next digit and starts the calibration after the last digit.
    iv. Screen will show **SPAN** and a number while the calibration is in process and **dONE** when the calibration is complete
c. **Defult**: Span calibrate the scale with the capacity and mV/V taken from the scale type table.

6. The follow error messages may show:

Error Message	**Meaning**
ER ZR0	Reading is outside the scale type's acceptable mV/V range.
ER ZR1	Calibration message failed to send.
ER ZR2	There was an error while waiting for the scale to calibrate.
ER ZR3	The calibration did not save.
ER OL	The span weight was greater than the capacity weight of the scale.
ER SP1	The span weight was outside the acceptable span margin for the given mV/V reading.
ER SP2	Calibration weight message failed to send.
ER SP3	Does not currently exist.
ER SP4	Calibration weight message failed to send.
ER SP5	There was an error while waiting for the scale to calibrate. This can occur if the user presses the Zero key while calibrating, or if the measurement board has an internal error.
ER SP6	The calibration did not save.

If an error occurs, press the **LB/KG** key to exit back to the Calibration options. Retry the calibration. If the error continues see the **Disassembly and repair** and **Troubleshooting** sections to identify.

USB Details

For detailed help and information regarding the data output capabilities, consult Welch Allyn for details.

Disassembly and repair

These procedures provide instructions for device disassembly and board removal, as well as component replacement and reassembly.

Each part's disassembly instructions might include one or both of the following:

- **Reassembly notes:** This subsection contains information specific to reassembly. At a minimum, these notes indicate whether reassembly is the reverse of disassembly. The notes also list service kits of replacement parts where applicable.
- **When replacing the *component***: This subsection contains additional instructions related to installing a new option or replacement part.

Each disassembly step includes drawings that illustrate the components to be removed. The reassembly notes could be as short as one or two lines when reassembly is the reverse of disassembly. When reassembly is more complicated, these notes alert you to any special care required to complete the repair or installation and sometimes introduce separate reassembly instructions. Line drawings appear in the reassembly notes only when they differ from the drawings in the disassembly instructions.

WARNING Electrical shock hazard. Disconnect AC power before opening the device. Disconnect and remove the battery before proceeding with disassembly. Failure to do this can cause serious personal injury and damage to the device.

CAUTION Before disassembling the device or installing options, power down the device, and disconnect the AC power cord and any attached accessories from the device.

CAUTION Perform all repair procedures at a static-protected station.

CAUTION When the device case is opened, regard all parts as extremely fragile. Execute all procedure steps with care and precision.

CAUTION Observe screw torque specifications, especially with screws that secure directly into plastic standoffs.

CAUTION To avoid mismatching screws and holes, keep the screws for each piece with that piece as you remove modules and circuit assemblies.

Required tools:

Cart

- 7/16” socket and open-end wrench
- Phillips head torque screwdriver
- T25 socket driver
- 3/8" socket
- Torque socket wrench
- Pickle fork

Cradle

- 3/32" Allen socket driver
- 1/2” Open-end wrench
- Torque socket wrench

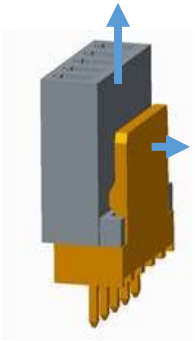
Scale

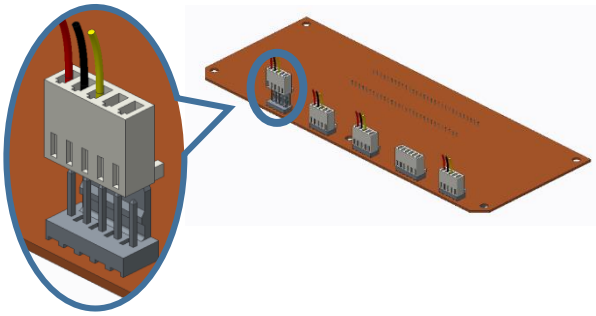
- T25 Torx
- #0 Phillip screwdriver
- #1 Phillip screwdriver
- Phillips head torque screwdriver
- T25 socket driver
- 5/64" Allen socket driver
- 1/8" Allen socket driver
- 5/32" Allen socket driver
- 1/4" Allen socket driver
- 3/8" socket
- 7/16" socket
- 3/16" Allen socket driver (Load beam only)
- 3/32" Allen socket driver (Load beam only)
- Torque socket wrench

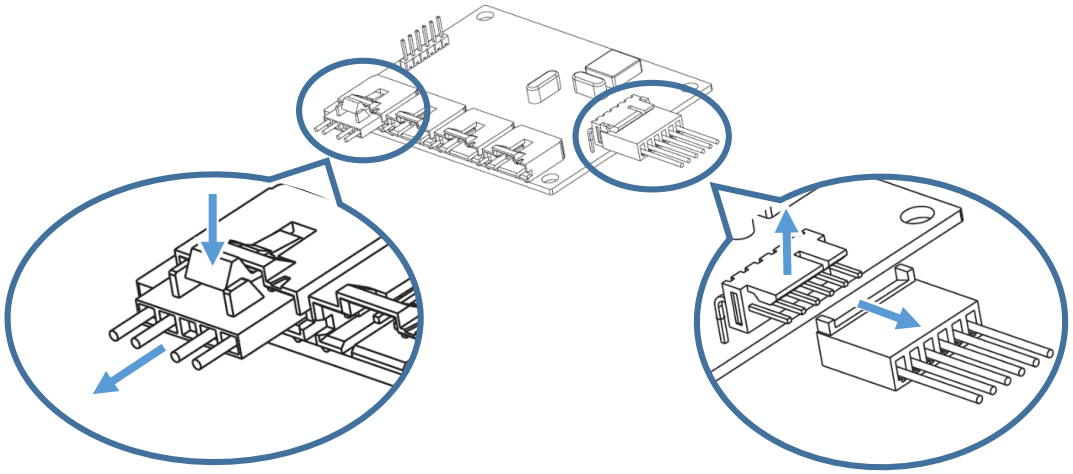
Connector types

Disassembly and repair procedures require that you disconnect and reconnect the following connector types inside the device:

• **Locking (squeeze-release)**: Locking connectors use a latching mechanism to prevent accidental disconnection during assembly and use. The latch is located on one end of a tab so it may flex and lock into place when coupled with its matching connector. The tab provides a lever to release the latch. Some connectors have multiple latches that require you to press multiple tabs to release.

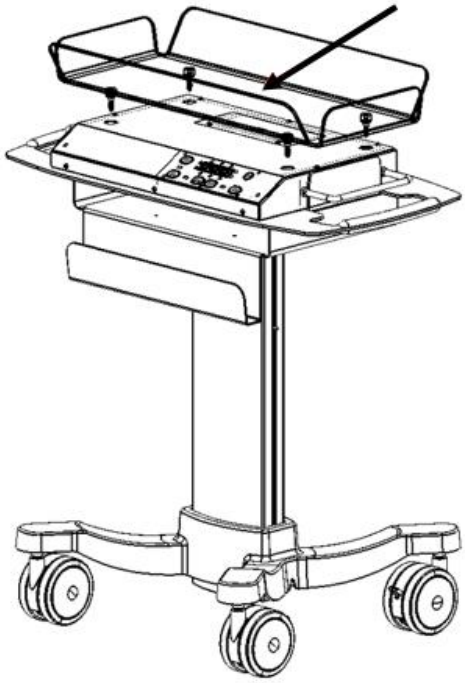




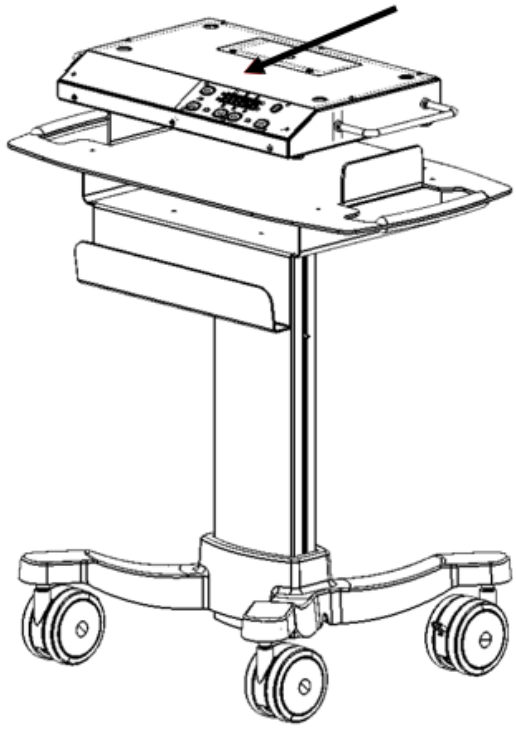


Cart Disassembly

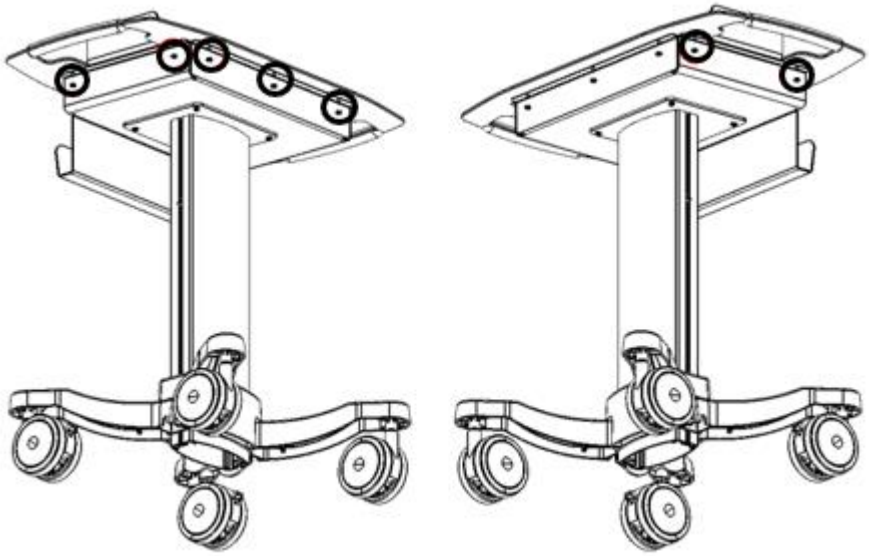
1. Remove cradle from scale

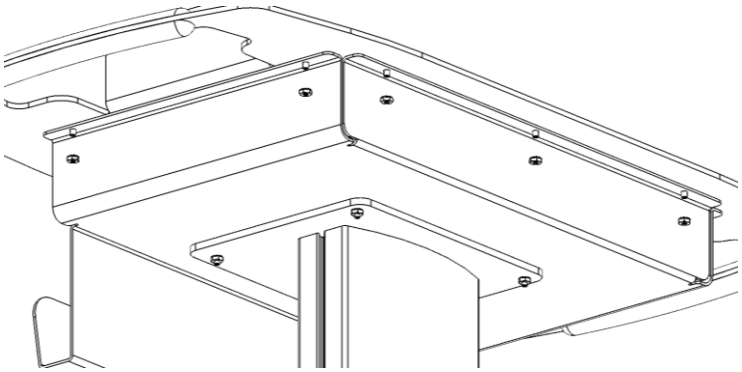


2. Remove scale from top plate

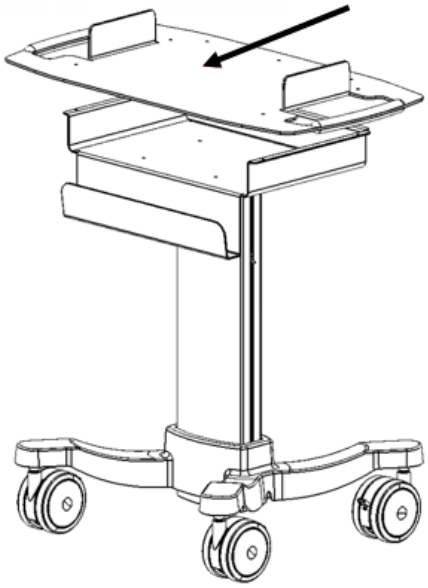


3. Remove Top Plate nuts (7)

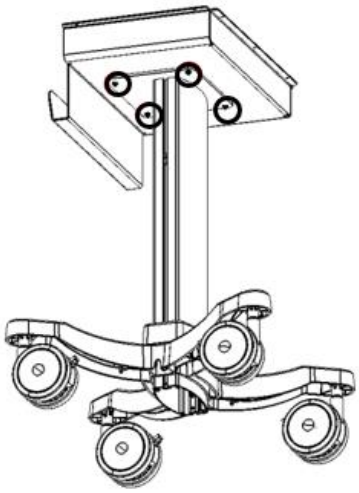


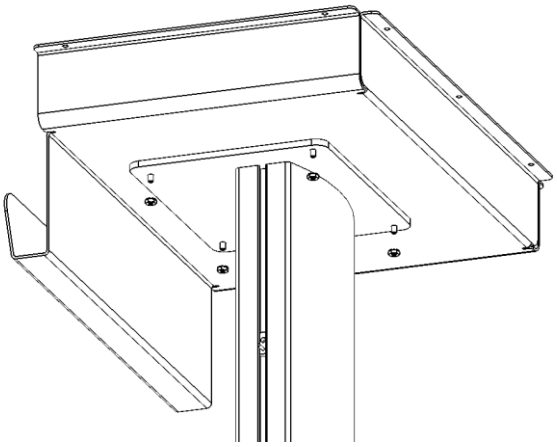


4. Remove Top Plate

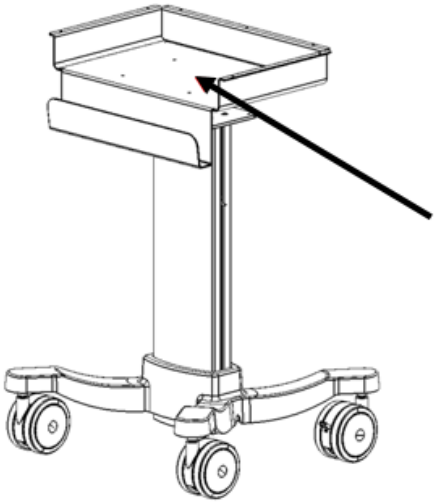


5. Remove Paper Shelf Nuts (4)

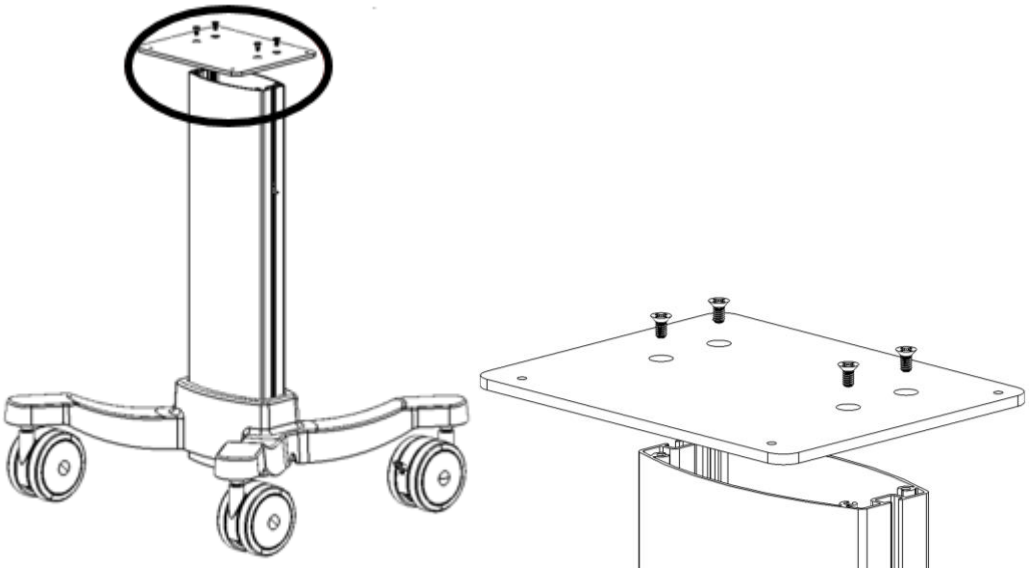




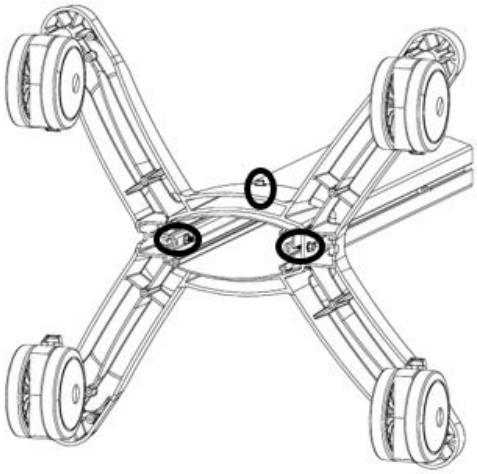
6. Remove Paper Shelf

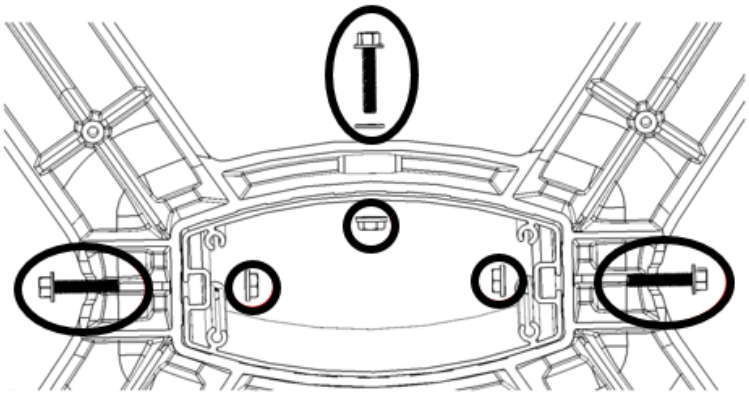


7. Remove Column Top Plate adaptor screws (4) and Column Top Plate

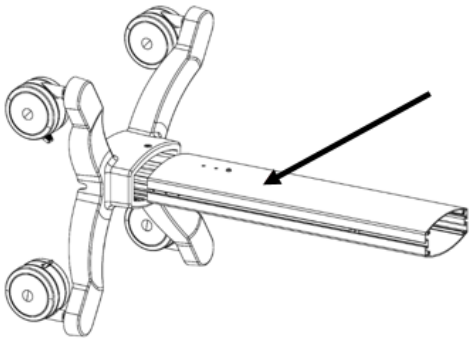


8. Tip the base over to access the bottom to remove the wheel base assembly mounting bolts (3), nuts (3), and washer (1). Note: The base is to be installed in the center mounting hole for correct height

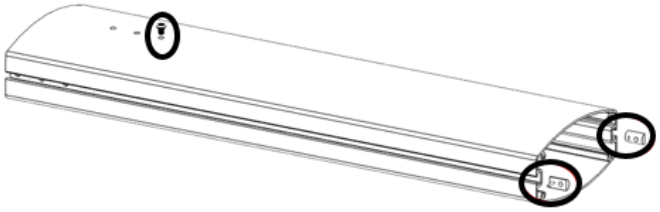




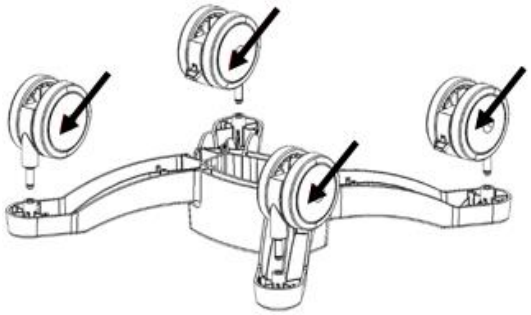
9. Remove the column from the wheel base assembly



10. Remove the accessory t-nuts (2) and stop screw from the column



11. Remove wheels (4) from the wheel base assembly



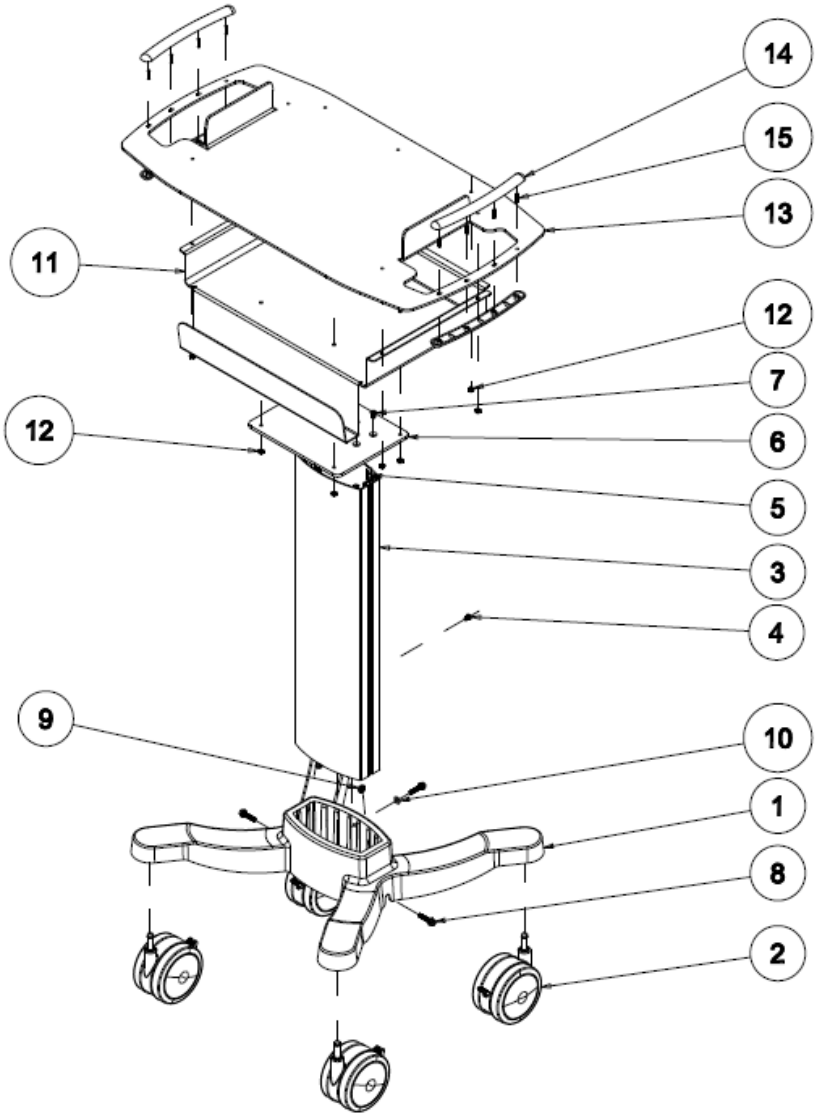
Cart Torque Specification Values

Use this table to determine how much torque to apply to screws by type and location when reassembling the device (See table in the Cart Exploded Repair Parts View Diagrams for identifiers).

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)
719962	SCREW, T25 - 2 1/4" -20	25 ± 2.0
719686	SCREW, 1/4-20 X .50 LG FHP VIBRA TITE	25 ± 2.0
106137-4	NUT,10-32 EXTLOCK	20 ± 2.0

Cart Exploded Repair Parts View Diagrams

To see the details of fasteners, see the Fastener Reference.



Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	719206	1	LPC FOUR LEG CAST BASE
2	719390	4	CASTER 5IN TWIN WHEEL WITH BRAKE
3	718936	1	LPC EXTRUSION
4	719962	1	SCREW, T25 - 2 1/4" -20
5	703775	2	NUT, T, 1/4-20 15 SERIES
6	718935	1	LPC COLUMN ADAPTER
7	719686	4	SCREW, 1/4-20 X .50 LG FHP VIBRA TITE
8	719684	3	SCREW, 1/4"-20 X 1.25" SERRATED FLANGE

9	719683	3	NUT, 1/4-20 SERRATED FLANGE
10	726730	1	WASHER, FLAT 1/4 ID X .56 OD X .049 THK
11	412492	1	4802 CART PAPER SHELF W/PEM SCALE-T
12	106137-4	11	NUT,10-32 EXTLOCK
13	412491	1	4802 CART TOP PLATE W/PEM, SCALE-T
14	719225	4	LPC HANDLE
15	703832	8	ROLL PIN, 3/16 X .75 STL

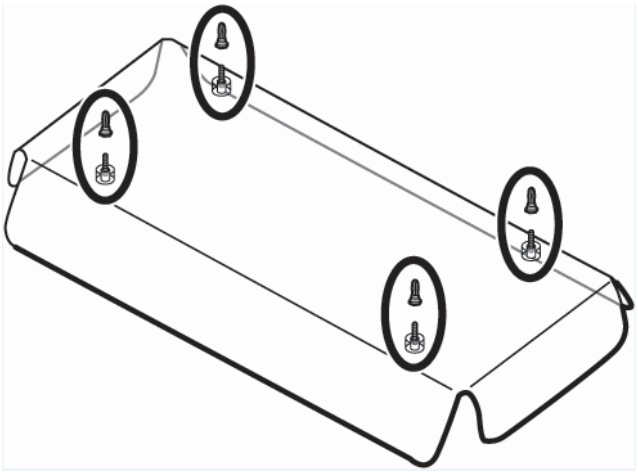
Cart Accessories/Kits

Welch-Allyn Part Number	Welch-Allyn Part Number Description
48217	SCALE LINERS (500 PER CARTON)
412589	4802D PEDIATRIC SCALE CART TOP PACKAGE (Parts 1-7)
412588	4802D PEDIATRIC SCALE CART BASE PACKAGE (Parts 8-14)

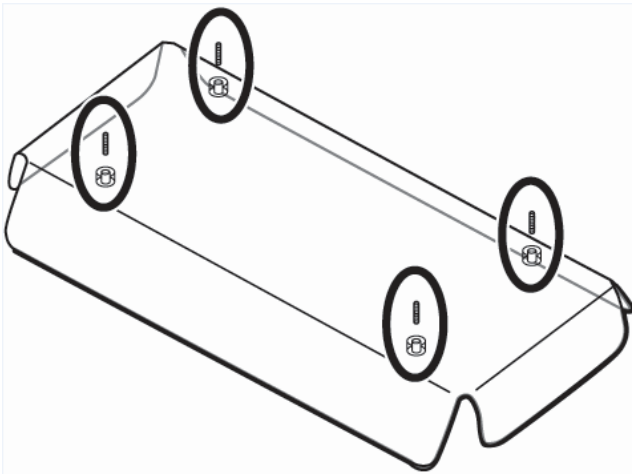
Scale Disassembly

Cradle Disassembly

1. Remove the Mounting Posts (Banana clips) (4) from the cradle.

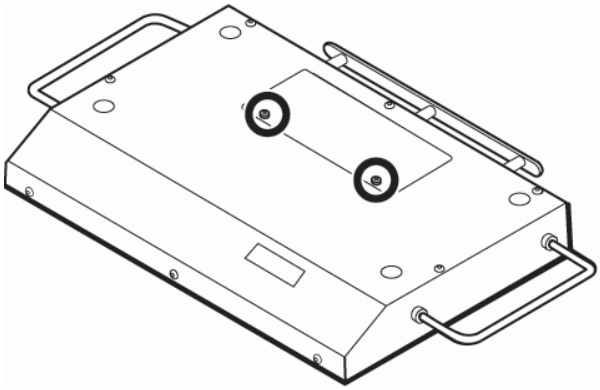


2. Remove the set screws (4) from the cradle. Then remove from the cradle by lifting it upward.

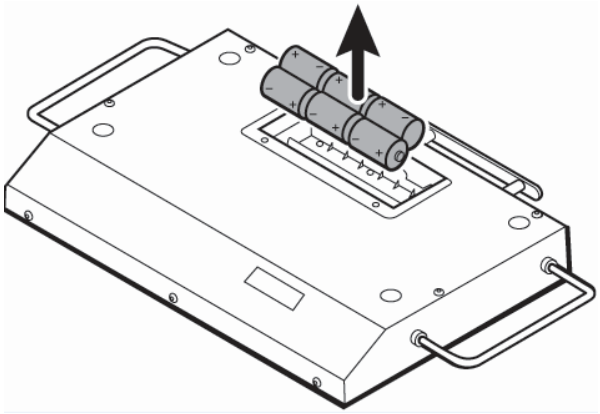


Scale Disassembly

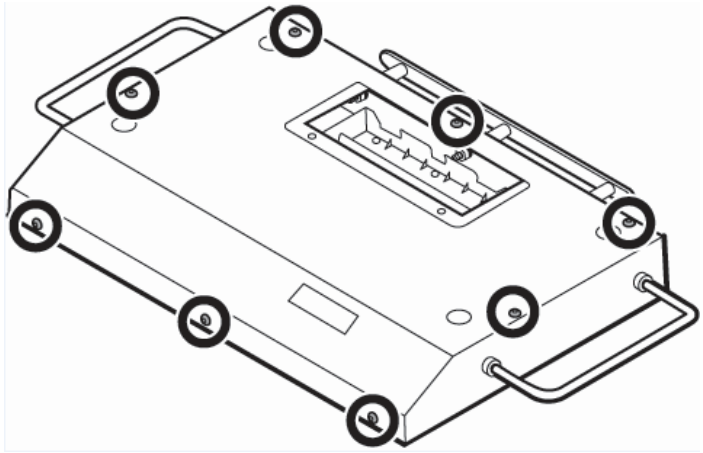
1. Remove battery door screws (2) and battery door



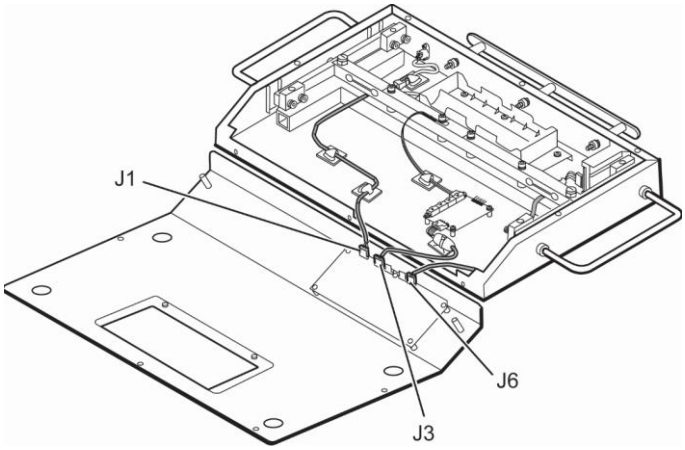
2. Remove batteries (6)



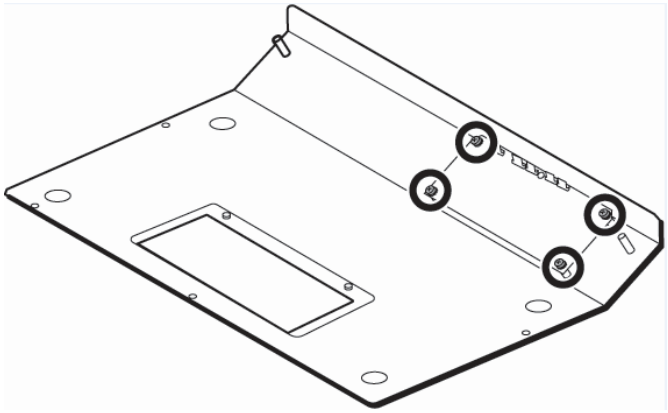
3. Remove Cover plate screws (8)



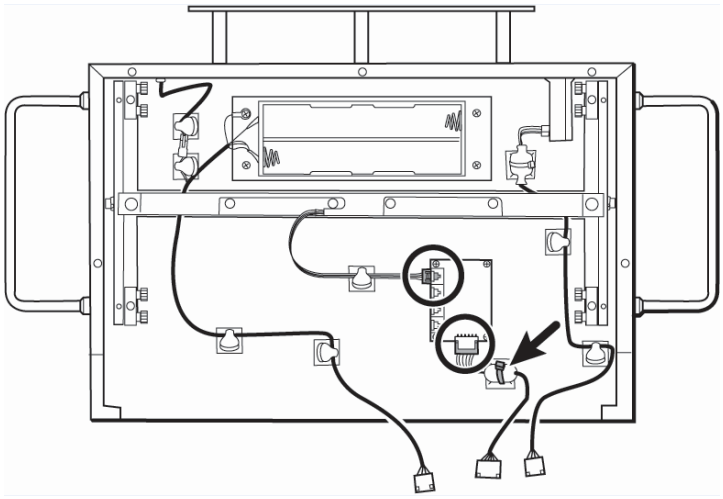
4. Lift Cover Plate and disconnect wiring harnesses from display board to remove it completely



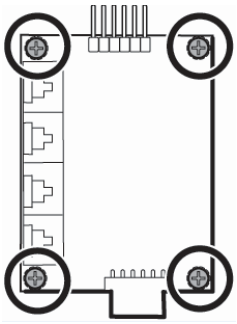
5. Turn over Cover Plate and remove display mounting screws (4) and display board



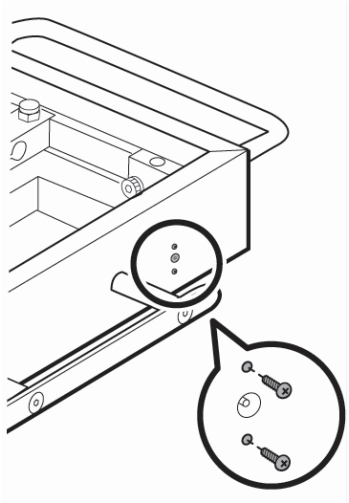
6. Disconnect the wire connection and wire tiedown from the PCBA board



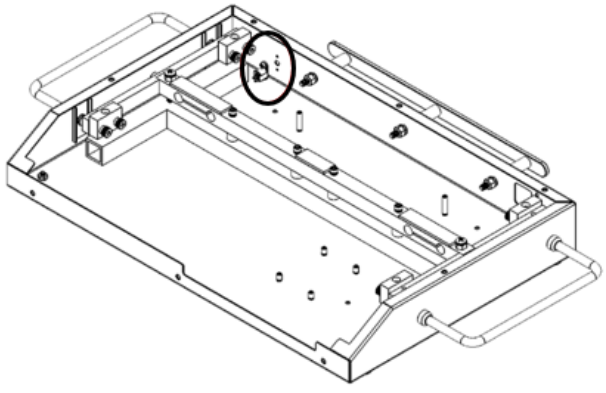
7. Remove PCBA screws (4) and PCBA Board



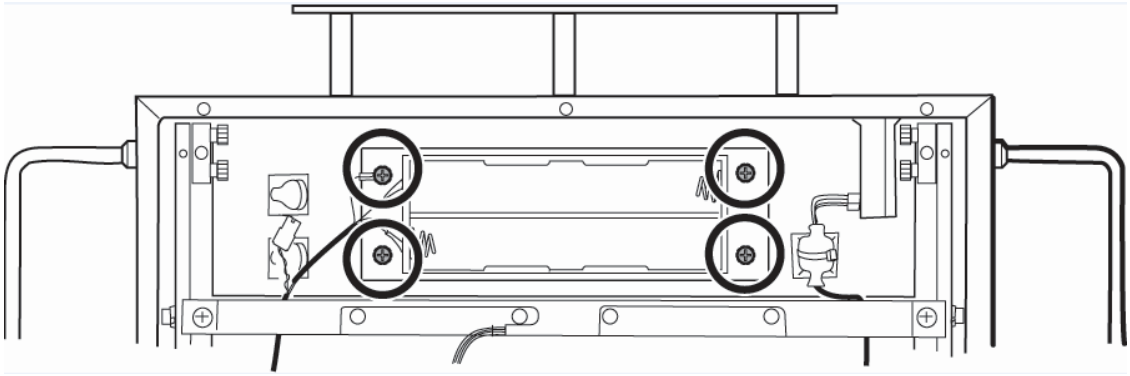
8. Remove Power Jack Mounting screws (2)



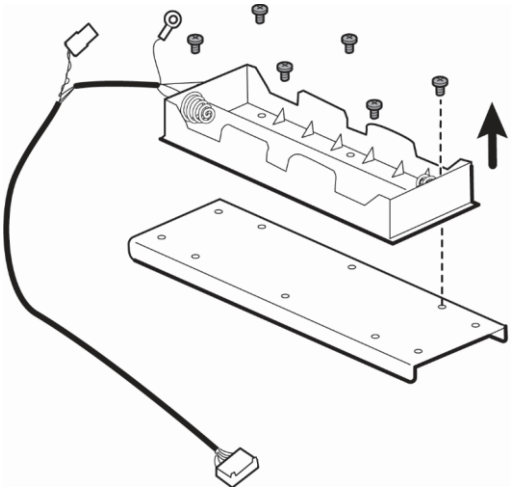
9. Remove Power Jack



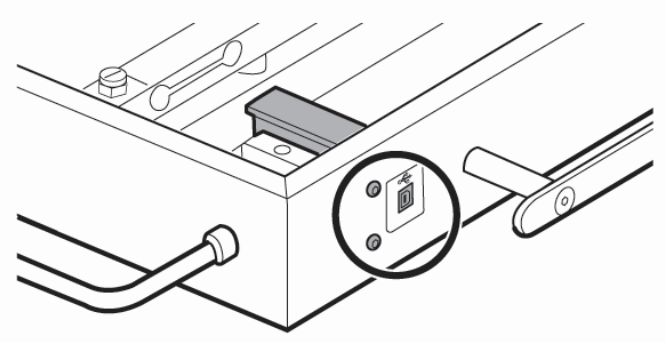
10. Remove Battery Bracket Mounting screws (4) and Battery Bracket



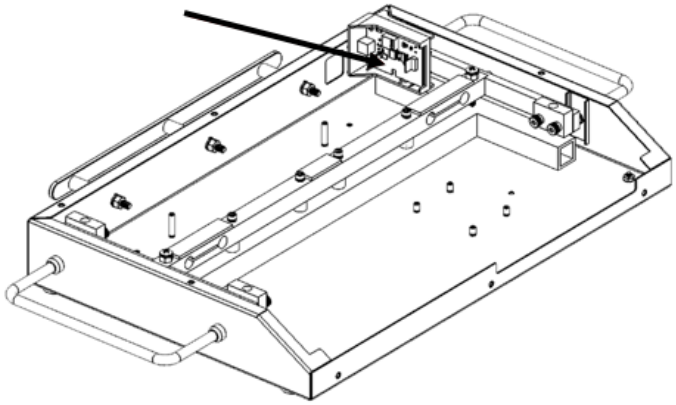
    a. Battery Holder Disassembly
        i. Disconnect the Power Jack
        ii. Remove the battery holder mounting screws (6) and the battery holder from the mounting plate



11. Remove the USB assembly
    a. Disconnect the USB wiring harness from the PCB board
    b. Remove USB assembly mounting screws (2)

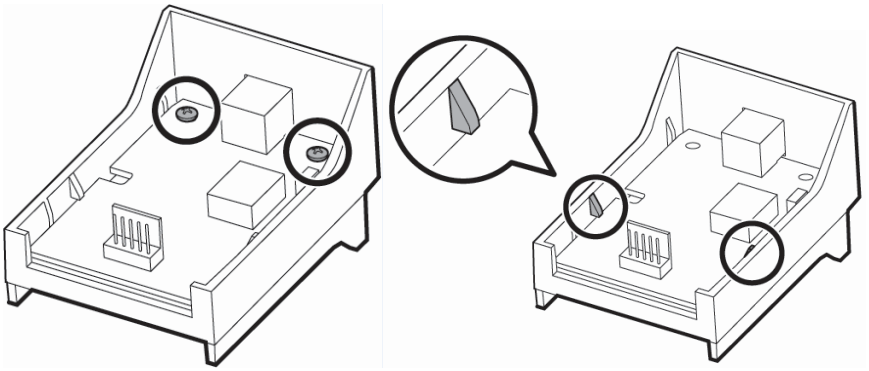


c. Remove USB assembly

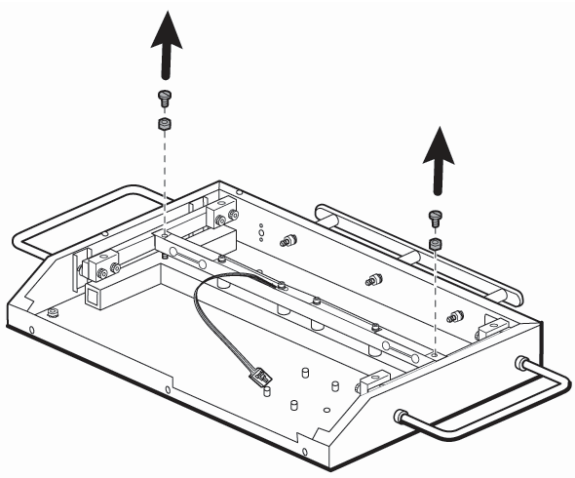


i. USB Assembly disassembly

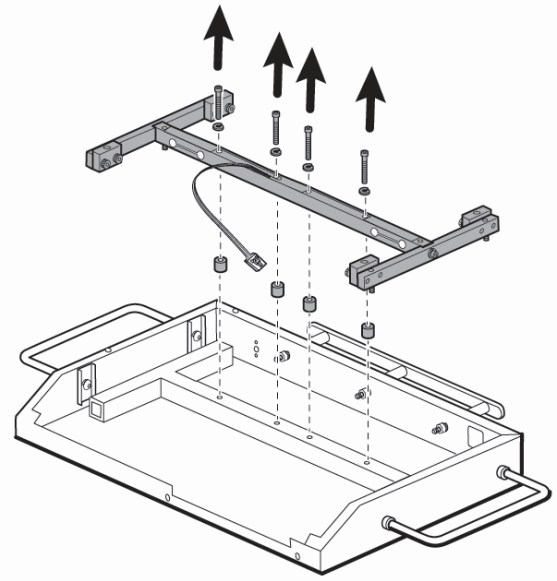
1. Remove the USB PCBA board mounting screws (2) and then carefully remove the PCBA board from the bracket by using the snap fit.



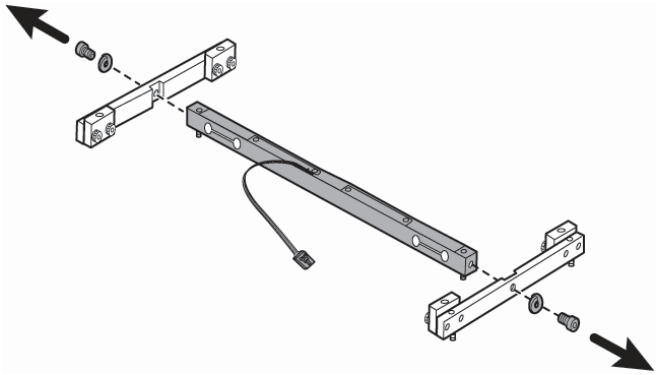
12. Remove Overload Screws (2) and Nuts (2). Note: Reassembly will require Loctite 242.



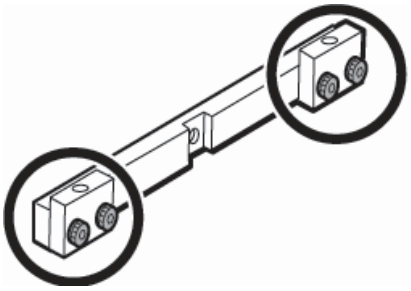
13. Remove Load Beam Mounting screws (4) and washers (4). Remove Load Beam and Load Beam spacers (4). Note: The load beam can be replaced as an assembly and is recommended due to the sensitivity of the components. Individual parts of the load beam can be serviced but with caution.



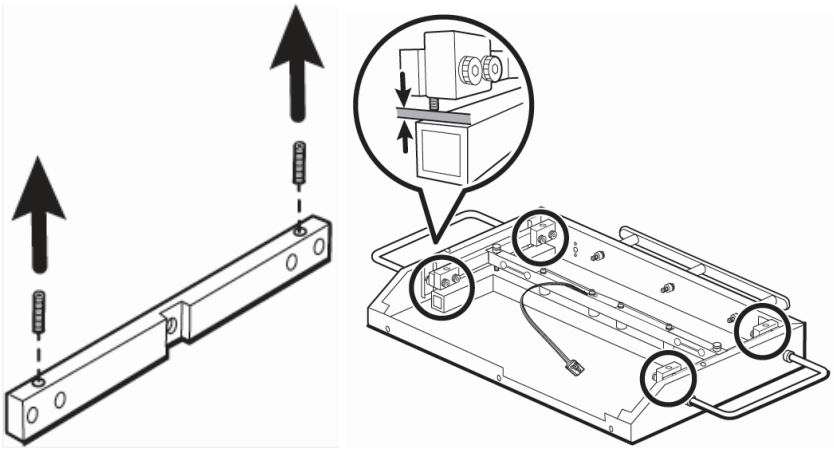
14. Remove Loading Arm Mounting screws (2) and washers (2) and Loading Arms (2). DO NOT OVER TORQUE during assembly. See torque from the Load Beam Assembly Mounting Table.



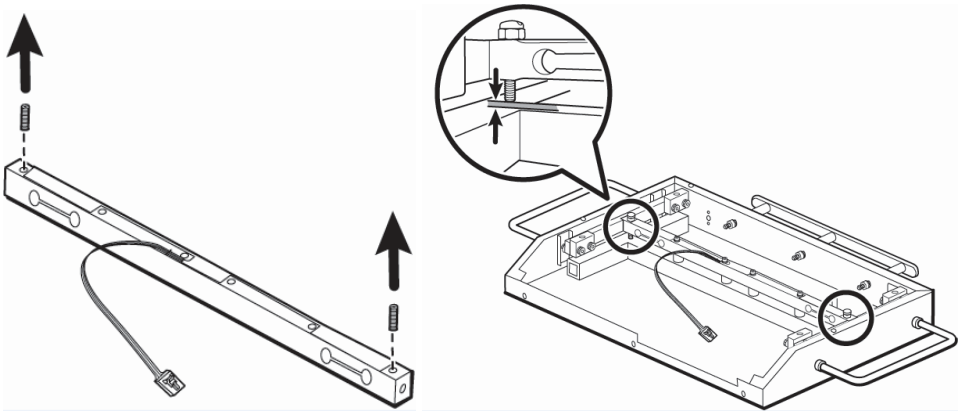
15. Remove Loading Block Mounting bolts (8) and Loading Blocks (4) from the two loading arms



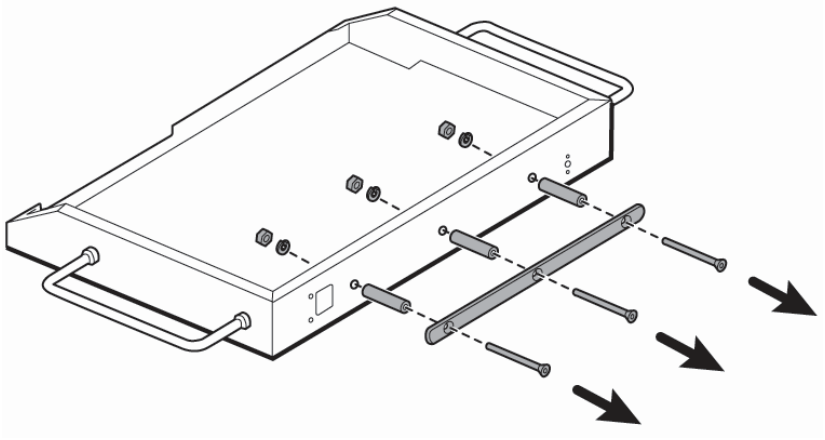
16. Remove overload stop set screws (4) from the loading arms. When installing these they ***MUST*** be set with a 0.09” Feeler Gauge.



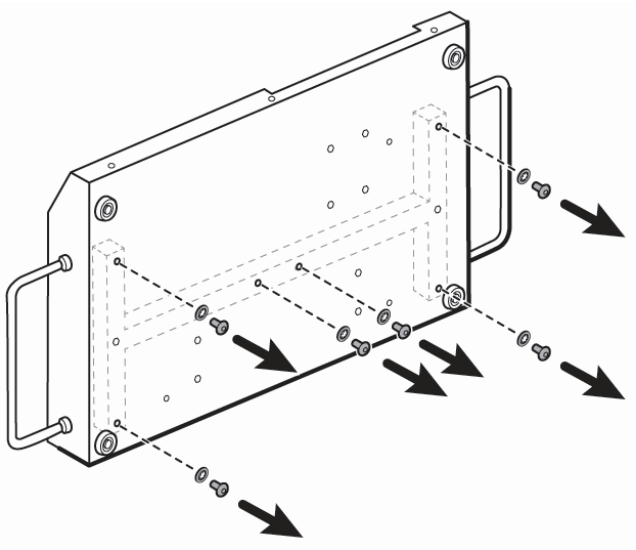
17. Remove overload stop set screws from loading beam (2). When installing, these they ***MUST*** be set with a 0.032” Feeler Gauge.



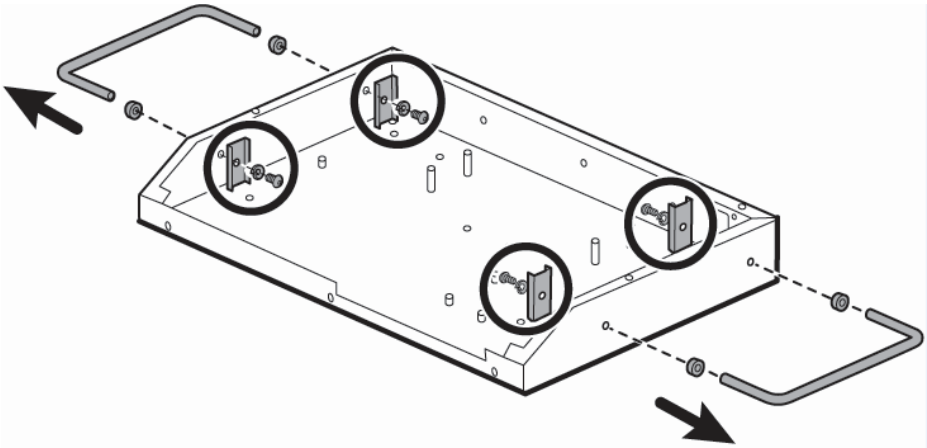
18. Remove the rear bumper mounting nuts (3) and washers (3). Then remove rear bumper mounting bolts (3), spacers (3) and plate



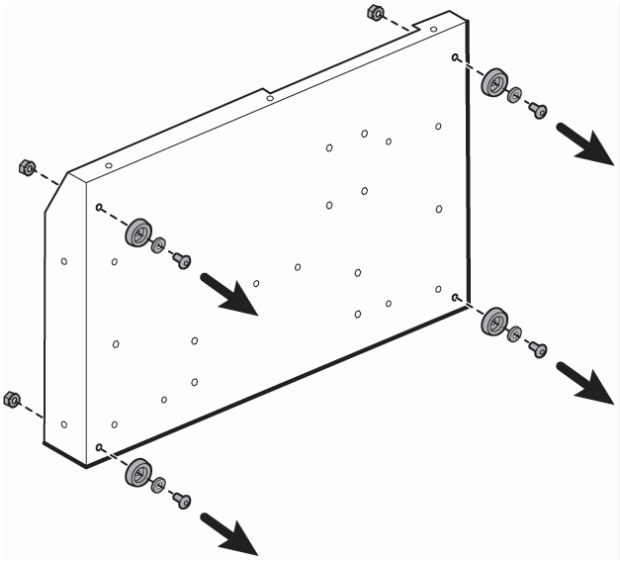
19. Tip the cabinet onto its back and while supporting the beam support remove the mounting screws (6) and washers (6) and the beam support



20. Remove handle mounting screws (4), washers (4), channel plates (4), handle (2), and ferrules (4) one side at a time



21. Remove the feet lock nuts (4), screws (4), washers (4) and feet (4)



Torque Specification Values

Use this table to determine how much torque to apply to screws by type and location when reassembling the device.

Cradle

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
130250	SCW, 10-32 X 1-1/4" CUP PT SET SCRW SOC	15 ± 3.75	3/32” Hex Bit

Scale Top Level Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
50535	SCW, 10-32x 1/4 SOC BUTTON, NICK	15 ± 3.8	1/8” Hex Bit
726534	SCREW, 10/32 X 1/4 PHILLIP PHP	15 ± 3.8	Phillips #1 Bit

Cover Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
48611	SCW, 6-32 X ¼” PHMS SEMS, NICKEL	8.7 ± 2.2	Phillips #1 Bit

Cabinet Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
726494	SCREW, 1-32 X 3/8”, RH, TORX, THREADFORM	1.8 ± 0.4	Phillips #0 Bit
726746	SCREW, 6-32X7/16", HEX RHS, ZINC STEEL	8.7 ± 2.2	8/64” Hex Bit
48611	SCW, 6-32 X ¼” PHMS SEMS, NICKEL	8.7 ± 2.2	Phillips #1 Bit

USB Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
727161	SCW, 3-24 X 1/4, PHILLIPS, PHP PLASTITE	3.0 ± 0.7	Phillips #1 Bit

Battery Holder Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
24014	SCW, 6-32 X 1/4 " PHIL PAN STEEL NICKEL	8.7 ± 2.2	Phillips #1 Bit
48611	SCW, 6-32 X ¼" PHMS SEMS, NICKEL	8.7 ± 2.2	Phillips #1 Bit

Load Beam Assembly Mounting

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
48511	SCW, 10-32 X 1.5" SHCS, SS	31.7 ± 7.9	5/32" Hex Bit

Load Beam Assembly

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
50511	SCW, 5/16" X 5/8" SHOULDER, SOC, CHROME	37.6 ± 9.4	5/32" Hex Bit
48508	SCW, 1/4-20 X 1/2" SOCKET HD CAP, SS	75.2 ± 18.8	3/16" Hex Bit

Cabinet Body

Welch-Allyn Part Number	Welch-Allyn Part Number Description	Torque spec (in-lb)	Bit Type
20108W	SCW, 10-32 X 1/2" BHMS, SS PASSIVATED	3 ± 0.8	1/8" Hex Bit
106137-4	NUT,10-32 EXTLOCK	3 ± 0.8	3/8" Socket
48112	SCW, 1/4-20 X 1/2" BHCS, SS, PASSIVATED	15 ± 3.8	5/32" Hex Bit
715680	NUT, HEX 1/4-20	75.2 ± 18.8	7/16" Socket
726747	SCREW, 10-32X1/2", TROX RHS, ALLOY STEEL	31.7 ± 7.9	1/8" Hex Bit

4802D Exploded Repair Parts View Diagrams

To see an overall exploded view and BOM for the entire scale assembly see the Scale Full Exploded View in the appendix.
To see the details of fasteners, see the Fastener Reference in the appendix.

Cradle

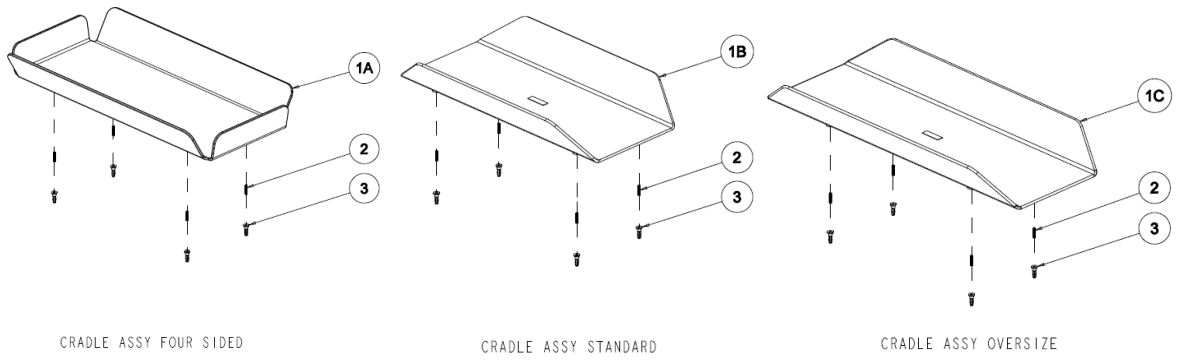


Table 1 Cradle Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1A 1B 1C	48220W 48200W 48222	1	CRADLE ASSY 4 SIDED CRADLE ASSY STANDARD 25” CRADLE ASSY OVERSIZED 32”
2	130250	4	SCW, 10-32 X 1-1/4" CUP PT SET SCRW SOC
3	48205	4	MOUNTING POST

Scale Repair Parts

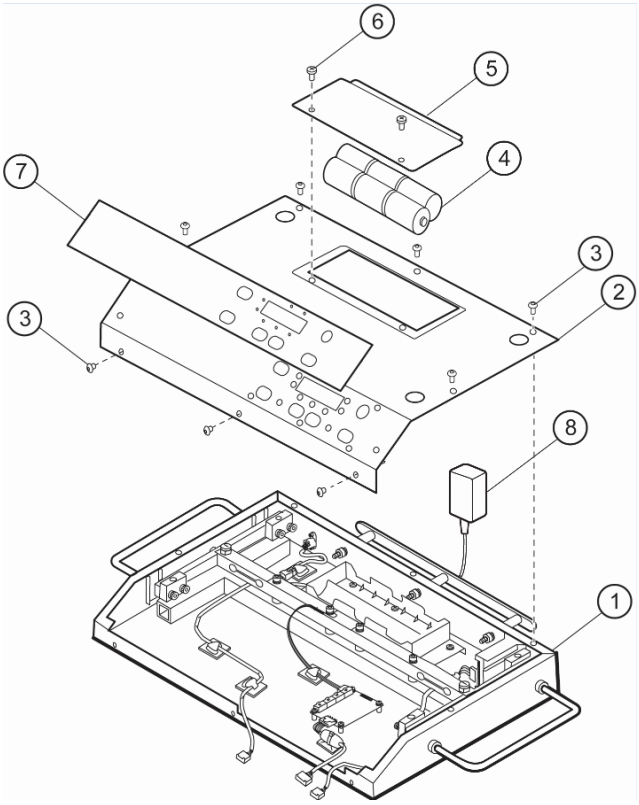


Table 2 Scale Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	412414	1	CABINET BOTTM ASSY 4802, SEE TABLE 4
2	412415	1	COVER FRONT READOUT ASSY 4802, SEE TABLE 3
3	50535	8	SCW, 10-32x 1/4 SOC BUTTON, NICK
4	700076	6	"D" CELL BATTERY
5	412632	1	ASSY, COVER BATTERY 4802, SCALE-T
6	726534	2	SCREW, 10/32 X 1/4 PHILLIP PHP
7	726588	1	LBL 4802D CONTROL PANEL SCALE-T
8	726551	1	POWER SUPPLY, EXT, 12VDC

Scale Labels

Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
726636	1	LBL ST PRODUCT 4802D
726588	1	LBL 4802D CONTROL PANEL SCALE-T
726583	1	SCALE EXTERNAL POWER LABEL
726975	1	LABEL, SCALE-T, 6 D BATTERY DOOR

726640	1	LBL ST TRANSPORT CAUTION 4802D AND CART
727304	1	LBL SCALE-T PED CART BASE
727305	1	LBL SCALE-T PED CART TOP
727712	1	LABEL 4802D CART WEIGHT SCALE-T
727882	1	LBL, 4802D CART SAFETY WT SHELF, SCALE-T
727883	1	LBL, 4802D CART SAFETY WT TOP, SCALE-T

Cover Assembly Repair Parts

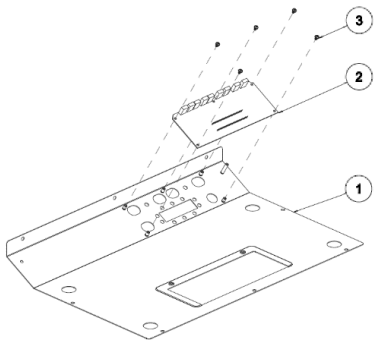


Table 3 Cover Assembly Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	726552	1	COVER, FRONT READOUT, 4802, SCALE-T
2	412270	1	PCBA, DISPLAY, W/TACT-SWITCH, SCALE-T
3	48611	5	SCW, 6-32 X ¼" PHMS SEMS, NICKEL

Cabinet Repair Parts

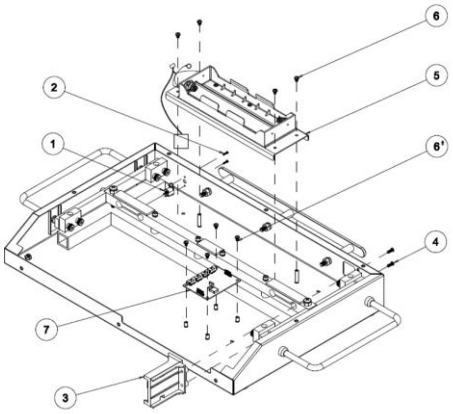


Table 4 Cabinet Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description

1	412432	1	HARNESS, POWER JACK, DC, 2-5MM, SCALE-T
2	726494	2	SCREW, 1-32 X 3/8”, RH, TORX, THREADFORM
3	412417	1	BRACKET, ASSY, USB PCBA, SEE TABLE 5
4	726746	2	SCREW, 6-32X7/16", HEX RHS, ZINC STEEL
5	412418	1	POWER ASSY BATTERY & DC, SEE TABLE 6
6	48611	8	SCW, 6-32 X ¼” PHMS SEMS, NICKEL
7	726349	1	PCBA, MEASUREMENT BOARD, SCALE-T

USB Assembly Repair Parts

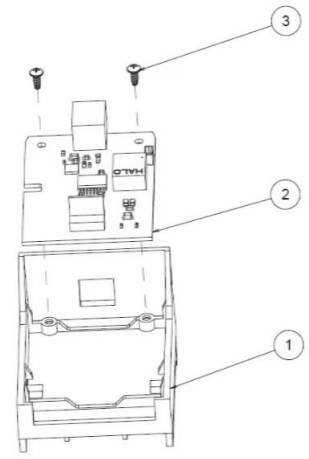


Table 5 USB Assembly Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	726555	1	BRACKET, USB PCBA, SCALE-T
2	412273	1	PCBA, USB, SCALE-T
3	727161	2	SCW, 3-24 X 1/4, PHILLIPS, PHP PLASTITE

Battery Holder Assembly Repair Parts

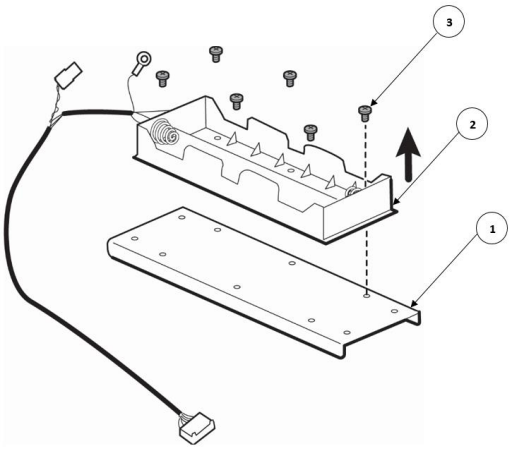


Table 6 Battery Holder Assembly Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	726556	1	TRAY, BATTERY HOLDER, SCALE-T
2	412431	1	HARNESS, BATT HOLDER, W/GRD, SCALE-T
3	24014	6	SCW, 6-32 X 1/4 " PHIL PAN STEEL NICKEL

Load Beam Assembly Mounting Repair Parts

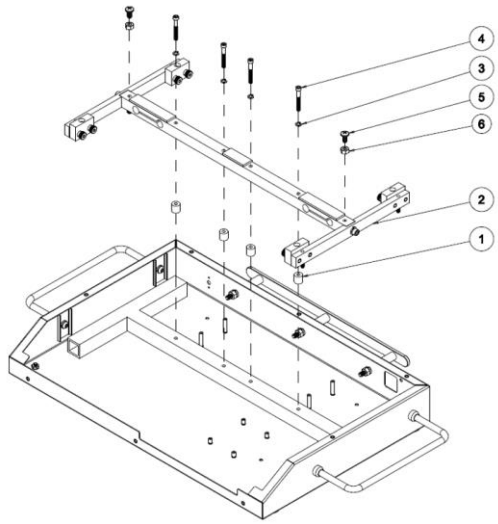


Table 7 Load Beam Mounting Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	726539	4	SPACER, 0.192 ID X .5 OD X .5 THK AL

2	412416	1	LOAD BEAM ASSEMBLY SEE TABLE 8
3	106105-4	4	SPLIT RING WASHER
4	48511	4	SCW, 10-32 X 1.5" SHCS, SS
5	33003	2	SCW, 1/4-20 X 1/2" PAN HD MACH
6	715680	2	NUT, HEX 1/4-20

Load Beam Assembly Repair Parts

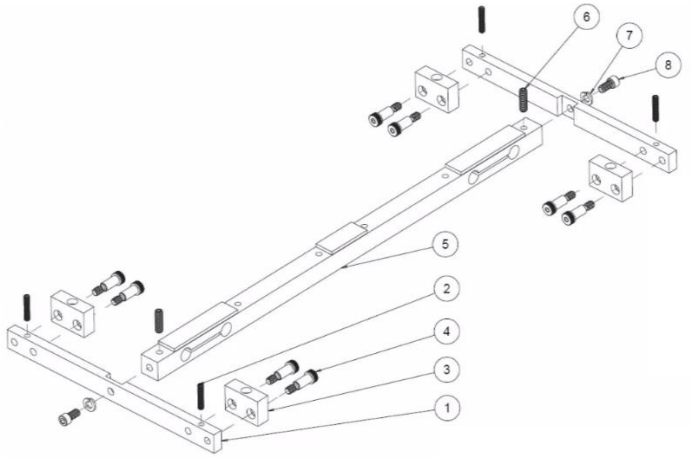


Table 8 Load Beam Assembly Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	48503	2	LOADING ARM
2	726743	4	SET SCREW, 10-32X1" CUP-PT NYL PATCH
3	48504	4	LOADING BLOCK
4	50511	8	SCW, 5/16" X 5/8" SHOULDER, SOC, CHROME
5	726557	1	LOAD CELL, DEBBW, 100LB, SCALE-T
6	726745	2	SET SCREW, 1/4-20X7/8" CUP-PT NYL PATCH
7	33004	2	WSH, 1/4 STEEL SPLIT LOCK
8	48508	2	SCW, 1/4-20 X 1/2" SOCKET HD CAP, SS

Cabinet Body Assembly Repair Parts

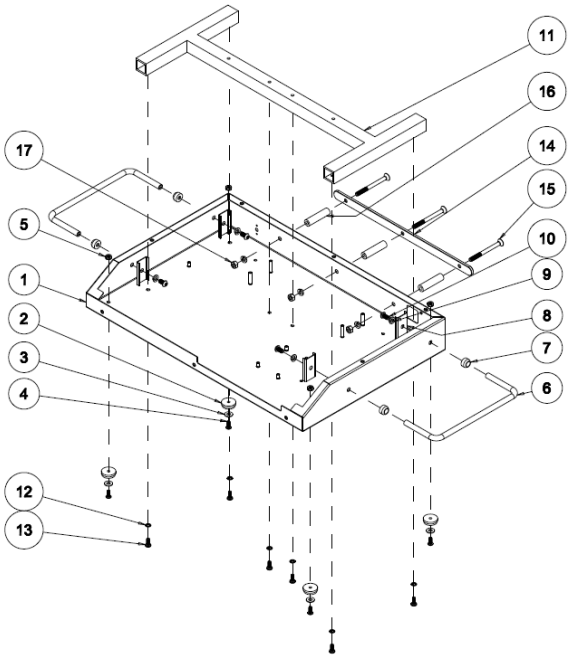


Table 9 Cabinet Body Assembly Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	726536	1	CABINET, 4802 WITH USB
2	66011	4	FOOT RUBBER
3	726730	4	WASHER, FLAT 3/16 ID X .56 OD X .049 THK
4	20108W	4	SCW, 10-32 X 1/2" BHMS, SS PASSIVATED
5	106137-4	4	NUT,10-32 EXTLOCK
6	48106	2	HANDLE SIDE
7	48118	4	FERRULE FOR 3/8" HANDLE
8	48122	4	U-CHANNEL, HANDLE
9	33004	7	WSH, 1/4 STEEL SPLIT LOCK
10	48112	4	SCW, 1/4-20 X 1/2" BHCS, SS, PASSIVATED
11	726537	1	LOAD BEAM SUPPORT, SCALE-T
12	106106-6	6	LOCKWASHER
13	726747	6	SCREW, 10-32X1/2", TROX RHS, ALLOY STEEL
14	727013	1	BUMPER. 4802, REAR, SCALE-T
15	48138	3	SCW, 1/4-20 X 3" FHMS, SOC, SS PASSIVATE
16	48137	3	SPACER, 1/4" ID X 1/2" OD X 2"THK, ALUM
17	715680	3	NUT, HEX 1/4-20

Wiring Repair Parts

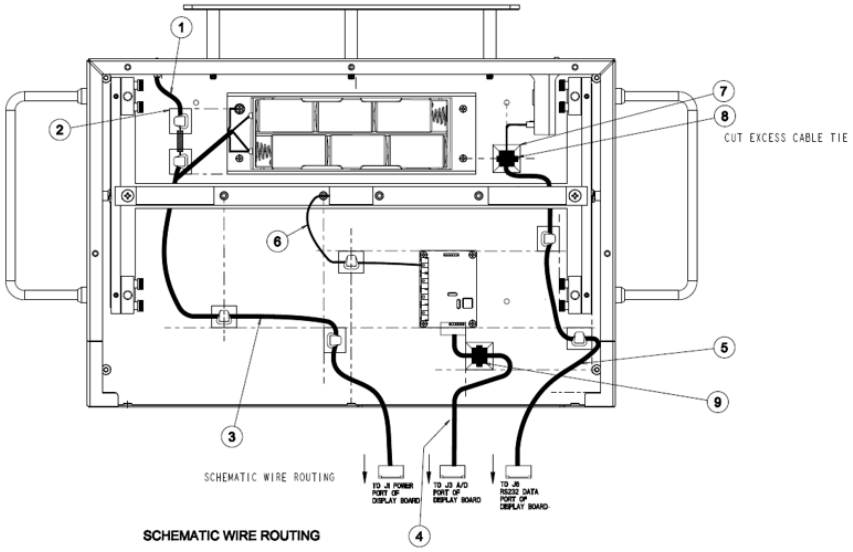


Table 10 Wiring Repair Parts

Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Number Description
1	412432	1	HARNESS, POWER JACK, DC, 2-5MM, SCALE-T
2	727162	7	ADHESIVE BACKED, LATCHING, WIRE CLIP
3	412431	1	HARNESS, BATT HOLDER, W/GRD, SCALE-T
4	412419	1	HARNESS, DISPLAY-MEASUREMENT, SCALE-T
5	412430	1	HARNESS, USB INTERFACE, SCALE-T
6	726557	1	LOAD CELL, DEBBW, 100LB, SCALE-T
7	620-0162-00	1	MOUNT,CABLE TIE,ADHESIVE BACKED,1SQ,NYLO
8	113P464	1	CABLE TIE, 6 INCH
9	719501	1	CP150 EMC HARNESS FERRITE

Troubleshooting

Scale Troubleshooting

The following beeps occur when using the scale

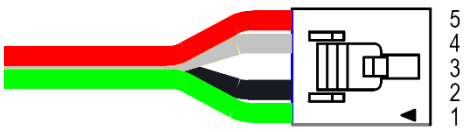
Sound	Meaning
One beep	Acknowledgment of a button press
Two beeps	A zero weight is obtained and ready to take a measurement
Three beeps	Weight reading is obtained and displayed
Four long beeps	The battery is too weak to operate the scale The scale has entered custom setup mode, factory mode, service mode and calibration mode
Long/ short beeps	There is a problem with the scale
Continuous long beep	There is a problem with the scale

Error Message	Meaning
bAttrY	Batteries power is insufficient to operate the scale
LOW BATTERY	The scale batteries are low on power
CAbLE	The measurement board's connection has been lost. A technician should ensure the connection is seated properly on both ends
O-LOAd	The object on the scale is larger than the maximum value allowed
- - - - - -	Out of calibration or bad load beam
ERR FD	The scale's factory database integrity is compromised
ERR DB	The scale's application database integrity is compromised
ERRoR	The scale's flash memory integrity is compromised
ERR AD	The measurement board cannot be read
ERR AV	The measurement board's version is wrong
ERR CL	Measurement board error, the weight display is blocked

READING DOES NOT CHANGE WHEN WEIGHT APPLIED

Check that the weight platform is plugged into the readout. The platform cable, connector or load cell transducer may be defective. The load cell transducer's resistance can be checked with an ohmmeter after unplugging from the measurement Board. The proper resistance values are listed below:

WIRE COLORS (PIN NO.)	RESISTANCE
WHT(4)/RED(5)	350 ± 3 Ω
GRN(1)/BLK(2)	386 ± 50 Ω
Pin to Ground	≥5000 MΩ
Full Scale Output	3.0mV/V ±0.1%



Consult Welch Allyn if readings differ from those shown.

NOTE: Ohmmeters will not indicate a change in resistance of the load cell transducer when weights are applied to scale. This is due to the extremely small change in resistance of the strain gauges employed (<1 ohm) and the fact that the bridge configuration presents a constant value of resistance when measured from its terminals.

Symptoms and Solutions

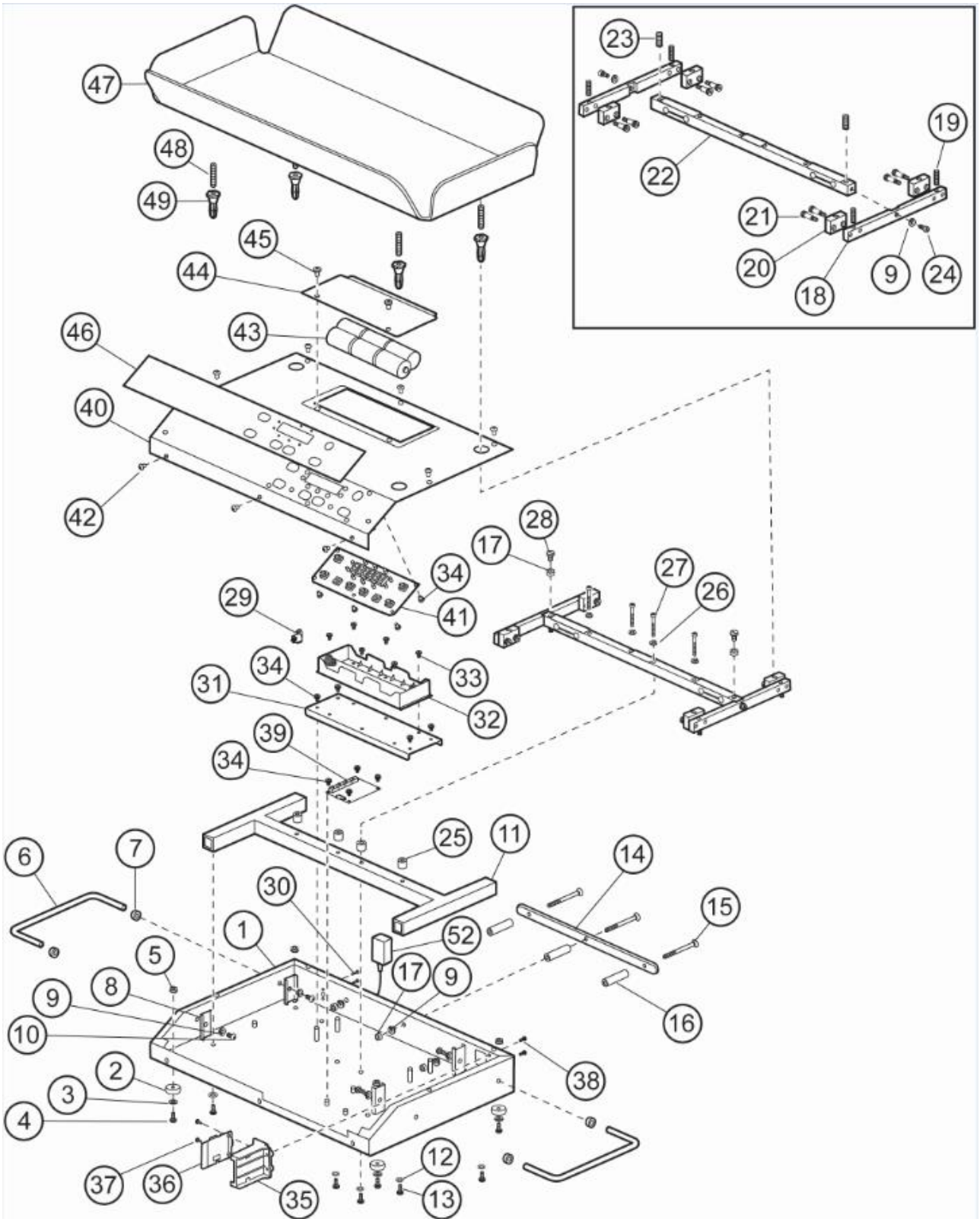
Symptom	Possible Cause	Corrective Action
Scale Does not turn on	**Dead Batteries "D" Cell**	Try operating the scale in both power modes; AC & Battery. If it functions normally when using AC power replace all 6 D cell Batteries.
	Damaged AC Adapter	Use a voltmeter or a multimeter to check continuity of the adapter. Replace if needed.
	Display Board/Mainboard	Repair or Replace.
	Cracked Battery Holder	Replace the Battery Holder Assembly.
	Load Beam/Calibration	(OHM out Load Cells) See Calibration procedure this Service Manual.
---------- on display	**Out of calibration**	See calibration instruction.
	Bad Load Beam	**Side to side platform test using 10KG certified weight** • Apply weight evenly on the center of the scale. Press "**REWEIGH**" two times and record your weight reading each time. • Remove weight from center and apply weight on each side one at a time and Press "**REWEIGH**" two times and record weight reading each time. **Examine your readings** Plot readings and they should be within ±0.4 lb./±0.2 kg from center reading. The side that reads differently from all others is the problem area. Repeat corner test if need be. Look for obstructions and/or replace the Load Beam if necessary.
Scale not weighing correctly, scale broken, drifting	**Cable**	Check Continuity of the Cable and if bad replace.
	Display Board	Repair or Replace.
	Main Board	Repair or Replace.
	Cradle Assembly	Replace.
Cracked broken Cradle Assembly	**Cradle Assembly**	Replace.

Appendix

Shipping Packing Materials

Welch-Allyn Part Number	Welch-Allyn Part Number Description
719810	LPC, SHIPPING BOX
726532	PACKING, FOAM, 4802, SCALE -T
727389	PACKING, CARTON BOX, PEDIATRIC, SCALE-T
726744	PACKAGING 4802 CART SIDE SUPPORT
726748	PACKAGING 4802 CART FRONT-BACK INSERT
726750	PACKAGING 4802D CART FILLER INSERT
727286	PACKING, INSERT TOP, PEDI-CART, SCALE-T
727385	PACKING, D-CELL BATT, BOX, SCALE-T
727386	PACKING, SIDE SLEEVE, 4802, SCALE-T
727387	PACKING, CRADLE INSERT, 4802, SCALE-T
727388	PACKING, SEPARATOR TRAY, 4802, SCALE-T
727934	PACKING, EPS FOAM BLOCK, PEDIATRIC, SCALE-T
719687	POLY BAG, 18 x 42" 3 MIL
719688	POLY BAG, 36 x 48" 3 MIL
M11177	30 X 36 POLYBAG 3 OR 4 MILL

Scale Full Exploded View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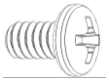
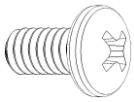
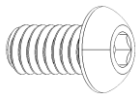
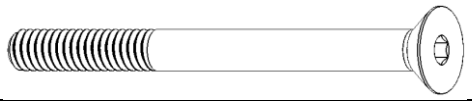
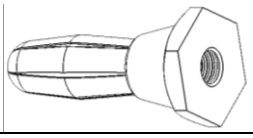
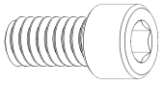
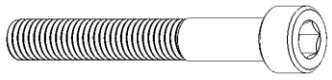
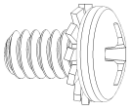
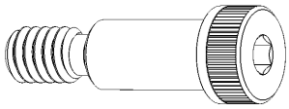
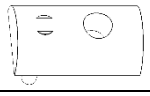
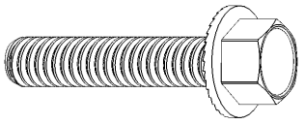
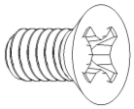
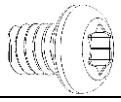
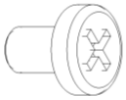
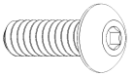
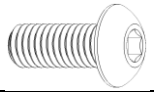
Unique Identifier	Welch-Allyn Part Number	Qty	Welch-Allyn Part Description
1	726536	1	CABINET, 4802 WITH USB
2	66011	4	FOOT RUBBER
3	726730	4	WASHER, FLAT 3/16 ID X .56 OD X .049 THK
4	20108W	4	SCW, 10-32 X 1/2" BHMS, SS PASSIVATED
5	106137-4	4	NUT,10-32 EXTLOCK
6	48106	2	HANDLE SIDE
7	48118	4	FERRULE FOR 3/8" HANDLE
8	48122	4	U-CHANNEL HANDLE
9	33004	9	WSH, 1/4 STEEL SPLIT LOCK
10	48112	4	SCW, 1/4-20 X 1/2" BHCS, SS, PASSIVATED
11	726537	1	LOAD BEAM SUPPORT, SCALE-T
12	106106-6	6	LOCK WASHER
13	726747	6	SCREW, 10-32X1/2", TROX RHS, ALLOY STEEL
14	727013	1	BUMPER. 4802, REAR, SCALE-T
15	48138	3	SCW, 1/4-20 X 3" FHMS SOC SS PASSIVATE
16	48137	3	SPACER, 1/4" ID X 1/2" OD X 2"THK, ALUM
17	715680	5	NUT, HEX 1/4-20
18	48503	2	LOADING ARM
19	726743	4	SET SCREW, 10-32X1" CUP-PT NYL PATCH
20	48504	4	LOADING BLOCK
21	50511	8	SCW, 5/16" X 5/8" SHOULDER, SOC, CHROME
22	726557	1	LOAD CELL, DEBBW, 100LB, SCALE-T
23	726745	2	SET SCREW, 1/4-20X7/8" CUP-PT NYL PATCH
24	48508	2	SCW, 1/4-20 X 1/2" SOCKET HD CAP, SS
25	726539	4	SPACER, 0.192 ID X .5 OD X .5 THK AL
26	106105-4	4	WASHER_0-2IDX0-334OD_SPLIT_RING
27	48511	4	SCW, 10-32 X 1.5" SHCS, SS
28	33003	2	SCW, 1/4-20 X 1/2" PAN HD MACH
29	412432	1	HARNESS POWER JACK DC 2.5MM
30	726494	2	SCREW, 1-32 X 3/8”, RH, TORX, THREADFORM
31	726556	1	TRAY BATTERY HOLDER SCALE-T
32	412431	1	HARNESS BATT HOLDER W/GRD SCALE-T
33	24014	6	SCW 6-32X1/4 PHIL PAN STEEL NICKEL
34	48611	13	SCW, 6-32 X ¼” PHMS SEMS, NICKEL
35	726555	1	BRACKET, USB PCBA, SCALE-T
36	412273	1	PCBA, USB, SCALE-T
37	727161	2	SCW, 3-24 X 1/4, PHILLIPS, PHP PLASTITE
38	726746	2	SCREW, 6-32X7/16", HEX RHS, ZINC STEEL
39	726349	1	PCBA MEASUREMENT BOARD, SCALE-T
40	726552	1	COVER, FRONT READOUT, 4802, SCALE-T
41	412270	1	PCBA DISPLAY W/TACT-SWITCH SCALE-T

42	50535	8	SCW, 10-32x 1/4 SOC BUTTON, NICK
43	700076	6	"D" CELL BATTERY
44	412632	1	ASSY, COVER BATTERY 4802, SCALE-T
45	726534	2	SCREW, 10/32 X 1/4 PHILLIP PHP
46	726588	1	LBL 4802D CONTROL PANEL SCALE-T
47	48220W	1	CRADLE 4 SIDED ACRYLIC
	48200W	1	CRADLE. STANDARD 25"
	48222	1	CRADLE, OVERSIZED 32" ACRYLIC
48	130250	4	SCW, 10-32 X 1-1/4" CUP PT SET SCRW SOC
49	48205	4	MOUNTING POST
52	726551	1	POWER_SUPPLY_EXT_12VDC_1 5A
	727162	6	ADHESIVE BACKED LATCHING WIRE CLIP (SEE TABLE 10)
	412431	1	HARNESS BATT HOLDER W/GRD SCALE-T (SEE TABLE 10)
	412419	1	HARNESS DISPLAY-MEASUREMENT SCALE-T (SEE TABLE 10)
	412430	1	HARNESS USB INTERFACE SCALE-T (SEE TABLE 10)
	620-0162-00	2	MOUNT,CABLE TIE,ADHESIVE BACKED1SQ NYLO (SEE TABLE 10)
	113P464	2	CABLE TIE 6 INCH (SEE TABLE 10)

Fastener Reference (NOT TO SCALE)

Welch-Allyn Part Number	Welch-Allyn Part Description and Image
24014	SCW 6-32 X 1/4 PHIL PAN STEEL NICKEL 
33003	SCW, 1/4-20 X 1/2" PAN HD MACH 
48112	SCW, 1/4-20 X 1/2" BHCS, SS, PASSIVATED 
48138	SCW, 1/4-20 X 3" FHMS, SOC, SS PASSIVATE 
48205	MOUNTING POST 
48508	SCW, 1/4-20 X 1/2" SOCKET HD CAP, SS 
48511	SCW, 10-32 X 1.5" SHCS, SS 
48611	SCW, 6-32 X ¼" PHMS SEMS, NICKEL 
50511	SCW, 5/16" X 5/8" SHOULDER, SOC, CHROME 
50535	SCW, 10-32x 1/4 SOC BUTTON, NICK 

130250	SCW, 10-32 X 1-1/4" CUP PT SET SCRW SOC 
703775	NUT, T, 1/4-20 15 SERIES 
715680	NUT, HEX 1/4-20 
719683	NUT, 1/4-20 SERRATED FLANGE 
719684	SCREW, 1/4"-20 X 1.25" SERRATED FLANGE 
719686	SCREW, 1/4-20 X .50 LG FHP VIBRA TITE 
719962	SCREW, T25 - 2 1/4" -20 
726494	SCREW, 1-32 X 3/8”, RH, TORX, THREADFORM 
726534	SCREW, 10/32 X 1/4 PHILLIP PHP 
726743	SET SCREW, 10-32X1" CUP-PT NYL PATCH 
726745	SET SCREW, 1/4-20X7/8" CUP-PT NYL PATCH 
726746	SCREW, 6-32X7/16", HEX RHS, ZINC STEEL 

726747	SCREW, 10-32X1/2", TROX RHS, ALLOY STEEL 
727161	SCW, 3-24 X 1/4, PHILLIPS, PHP PLASTITE 
106137-4	NUT, 10-32 EXTLOCK 
20108W	SCW, 10-32 X 1/2" BHMS, SS PASSIVATED