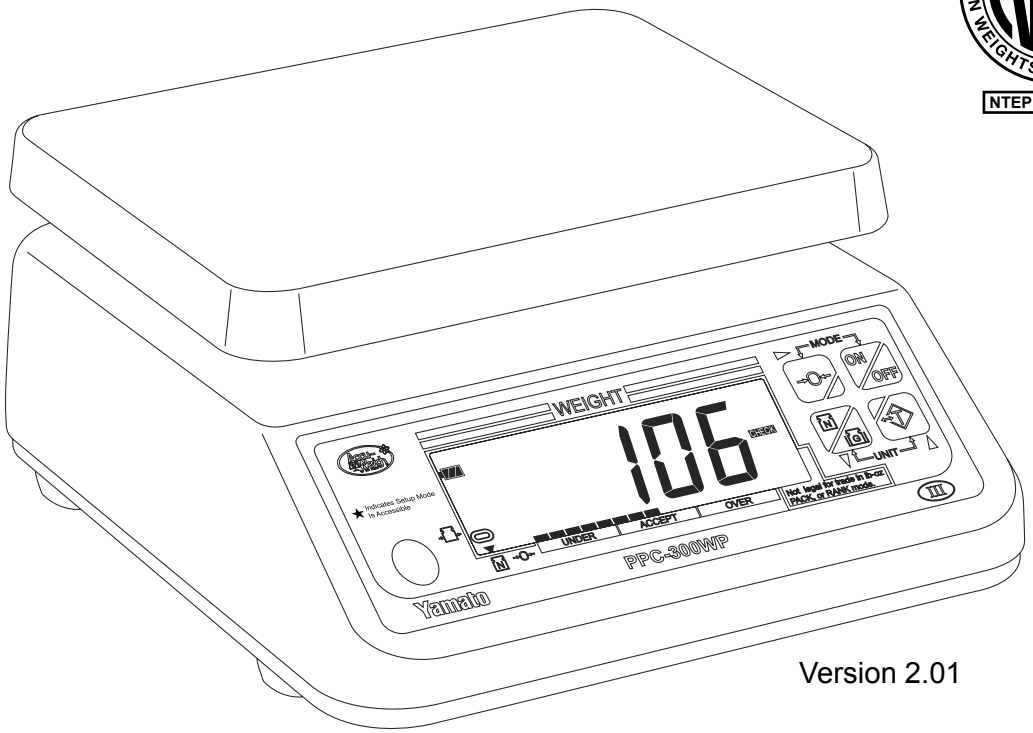
PPC-300WP Technical Manual

NTEP CC 08-041



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I Introduction

This technical manual provides you with information on configuration and repair of the PPC-300WP. Setup and operating instructions can be found in the PPC-300WP.

Before using the scale, carefully read, understand, and follow the “Safety Precautions” described in this manual. Observe the advice given in the “Directions for Use” section to ensure proper operation.

Conventions

The following conventions are used in this manual.

⚠ **Danger** : **Warns users about a procedure that could result in serious injury or death if not performed properly or if ignored.**

⚠ **Warning** : Warns users about a procedure that could result in injury or property damage if not performed properly or if ignored.

⚠ **Caution** : Warns users about a procedure that could result in minor injury or damage to the scale if not performed properly or if ignored.

⃠ : Indicates an action that must never be performed.

❗ : Indicates an action that must always be performed.

Note : Statements that provide additional information.

Safety Precautions

⚠ **Danger - To Avoid Electric Shock**

⃠ Do not step on, or place heavy or edged objects on the AC adapter cord.
Do not disconnect the AC adapter by pulling on the cord. Connect and disconnect the AC adapter by holding the plastic body of the AC adapter.
Do not connect or disconnect the AC adapter while the adapter body, cord, or your hands are wet.
Do not spray water onto or submerge the scale when using an AC adapter. Removal of the battery cover seal for the AC adapter cord voids the water-tight seal of the scale.

⚠ **Danger - To Avoid Explosion and Fire**

⃠ This scale is not an explosion-proof model. Do not use the scale in an atmosphere containing flammable gases or explosive fumes. A fire or an explosion can result.

I Introduction

Danger - To Avoid Fire and Electric Shock

Do not operate the scale if there is smoke or a burnt smell coming from the scale. Remove the batteries or unplug the AC adaptor immediately. After making sure there is no danger, consult your dealer. Never try to repair the scale yourself!

Warning

Do not step or sit on the scale. This will damage the scale and you could be injured.
Do not insert your fingers into gaps or holes in the scale. You could be injured.
If the LCD display should break, do not touch the liquid or broken glass from the LCD. The liquid is toxic if ingested, and the glass can be sharp. Be especially careful around children.
Do not short, submerge or heat the batteries. They could burst and leak corrosive chemicals.

Place the item to be weighed in the center of the platform. Items placed on the edge of the platform may fall off and cause injury or damage.
When weighing a heavy, large or unbalanced item, make sure the item is stable on the platform to prevent injury or damage.
Place the scale on a stable, level surface to prevent injury or damage.

Caution

Do not lift or carry the scale by the platform. This can damage the scale. Carry and lift the scale with both hands using the hand grips on the bottom of the scale.
Do not twist the platform. This can damage the scale.
Do not shock load the scale. This can damage the scale.
Do not push the indicator or keys with sharp objects. They can puncture or break the switch membrane panel, voiding the watertight seal.
This scale is a sensitive weighing instrument, avoid physical shocks. If you drop something on the scale, overload the scale, step on the platform, or drop the scale, the scale may be damaged and lose accuracy.
Never open the housing. The electronics may be damaged and you may be injured by sharp edges on the internal parts.
Do not open the battery lid in extremely dusty environments. Dust could stick to the battery lid seal and prevent a watertight seal when the lid is closed.
Do not place the scale upside down. This could damage the load cell.
Do not lick or place batteries in the mouth.

If the housing is opened or screws loosened, the water-tight seal must be tested after reassembly to ensure no leaks are present before exposing the scale to liquids.
Use the specified adapter or batteries, and choose a suitable environment. If you do not, the weight readings may be inaccurate and the scale may be damaged.
When the low battery indicator appears, replace all four of the batteries. When installing the batteries, install them according to the polarity markings in the case (+, -). If the scale will not be used for a long period, remove the batteries. Do not mix alkaline and manganese batteries.
After changing batteries, wipe the battery lid seal with a damp cloth to remove foreign matter that could prevent a watertight seal. Fasten the battery lid tightly.
Keep batteries out of the reach of small children.
Dispose of batteries in accordance with all applicable regulations.

I Introduction

To keep the scale working efficiently

The PPC-300WP is rated IP68 (waterproof) when it has been closed by Yamato authorized technicians using Yamato approved equipment and procedures. When closed by other technicians or methods, the PPC-300WP is only rated IP65 (washdown).

Do not place the scale in an area exposed to direct sunlight, wind currents, fire or steam, otherwise, the measurements will not be accurate.

Do not place the scale near machines that create vibrations or electromagnetic disturbance, such as microwave ovens, portable phones, or large motors. This will affect the accuracy.

The operating environment is a work temperature range of –10°C to +40°C (14°F to 104°F) and a humidity range of 30% RH to 85% RH. Do not subject the scale to sudden temperature changes. Allow the scale to adjust to new temperatures before use. For example, a 10°C change in temperature will require approximately 5 minutes before thermal equilibrium is reached.

If the scale is sealed as legal for trade, do not break the seal. If you break the seal, the scale will not be considered legal for trade. In this case, contact your dealer.

Do not disassemble or modify the scale, you will void the warranty. Modified scales may not be legal for trade and may loose thier IP rating.

Remove the batteries when using the AC adapter. The scale will continue to draw power from the batteries, if they are installed, even with an AC adapter connected.

Place the scale on a flat stable surface that will support the scale and the load.

Use only parts and modifications specified by Yamato. Yamato cannot be held responsible for problems caused by modifications or parts not specified by Yamato.

If dust or foreign matter becomes lodged in the lower diaphragm chamber, remove it following the instructions in Cleaning the Lower Diaphragm.

End of life disposal

Dispose of all electronic equipment in accordance with all applicable laws and regulations.

Cleaning

If the scale becomes dirty, clean it with a soft cloth and clean water. For stubborn stains, apply a little neutral detergent and then wipe the scale with a dry cloth.

When sanitizing the stainless steel platform and platform support with hypochlorous acid; use a concentration of 200 ppm or less, soak for 5 to 10 minutes, rinse with clean water and dry with a clean cloth.

When sanitizing the scale body with hypochlorous acid; spray the scale with the hypochlorous acid solution, rinse with clean water and dry with a clean cloth.

When cleaning the scale with an alchol solution; use a concentration of 80% or less, rinse all plastic parts and the overlay with clean water and dry with a clean cloth.

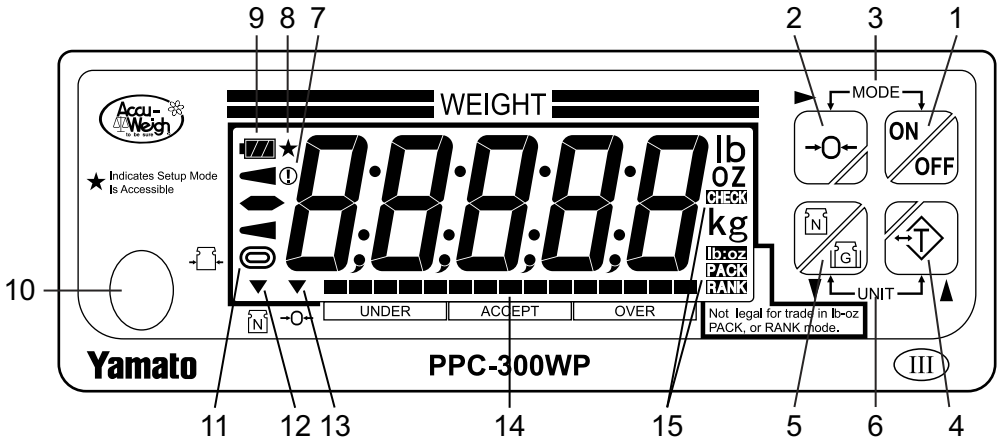
When cleaning the scale with mild detergent; place the detergent on a sponge or cloth, use the sponge or cloth to clean the scale, rinse with clean water and dry with a clean cloth.

Do not submerge the scale body in liquid to clean it. This will prevent deterioration of some of the plastic components.

Do not use abrasive cleaners, thinner, benzene, boiling water or cleaning implements (scrub brushes, scourers, etc.) which may damage the scale body and overlay, or cause discoloration.

II Description

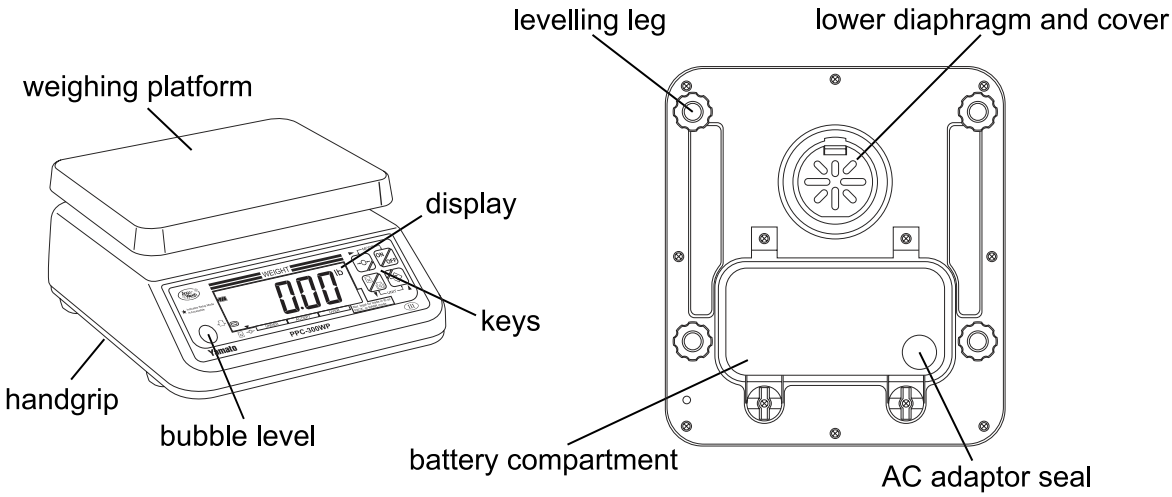
Name and Function of Parts



1) ON/OFF Key	Press to turn the power on or to enter function mode. Hold to turn power off.
2) Zero Key	Press to zero the display, select a digit, select the next parameter, or store a setting. Simultaneously press the Zero and Tare keys to enter user parameter mode.
3) Mode Toggle	Press the ON/OFF and Zero keys simultaneously to toggle between function and normal weighing modes.
4) Tare Key	Press to tare off the current load or to increment a digit. Simultaneously press the Zero and Tare keys to enter user parameter mode.
5) Net/Gross Key	Press to toggle between net and gross weight readings if a tare is entered, or to decrement a digit.
6) Unit Toggle	Press the Net/Gross and Tare keys simultaneously to toggle through the available weight units.
7) User Parameter Mode	Indicates that the scale is in user parameter mode.
8) Test Mode	In normal weighing mode: indicates that the scale is not configured to be sealed for legal for trade operation. In test mode: indicates that the scale is in test mode.
9) Battery Status	Indicates approximate remaining battery capacity in thirds.
10) Bubble Level	Use to level the scale.
11) Stable Indicator	Indicates the weight reading has stabilized.
12) Net Weight Indicator	Indicates the displayed weight is a net weight.
13) Center of Zero Indicator	Indicates the scale is at zero gross load.
14) Bar Chart	Indicates relationship between load and desired weight. The exact meaning depends on the function mode in use.
15) Function Modes	CHECK - The scale is in Checkweighing function mode. PACK - The scale is in Packing function mode. RANK - The scale is in Grading function mode.

II Description

Name and Function of Parts



Specifications

Weighing system: Strain-gauge load cell
Platform: 9.1” x 7.9” (232 x 202 mm), stainless steel
Capacities and divisions:

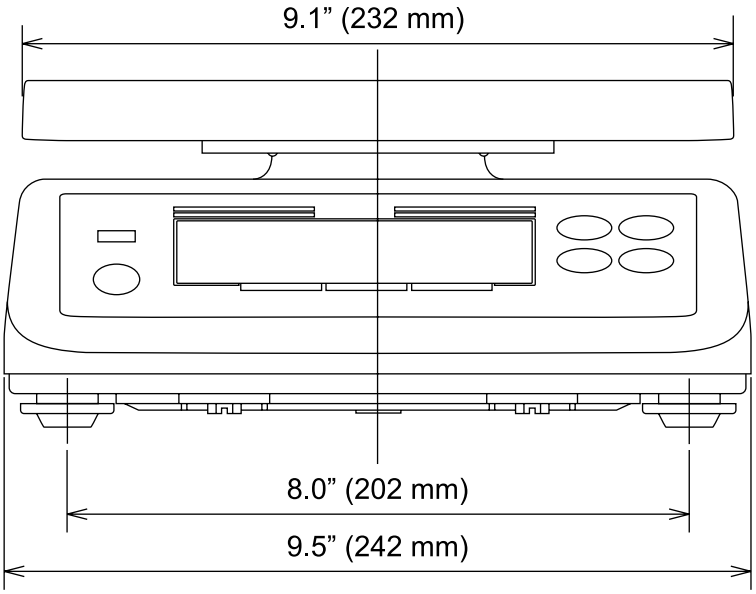
Kilogram	Pound	Ounce	Pound-Ounce*	Max. Tare
2 kg x 0.001 kg	4.4 lb x 0.002 lb	80 oz x 0.05 oz	5 lb x 0.05 oz	Capacity
4 kg x 0.002 kg	10 lb x 0.005 lb	160 oz x 0.1 oz	10 lb x 0.1 oz	Capacity
10 kg x 0.005 kg	22 lb x 0.01 lb	352 oz x 0.2 oz	22 lb x 0.2 oz	Capacity
20 kg x 0.01 kg	44 lb x 0.02 lb	704 oz x 0.5 oz	44 lb x 0.5 oz	Capacity
* Combined units, such as pound-ounce, are not legal-for-trade.				

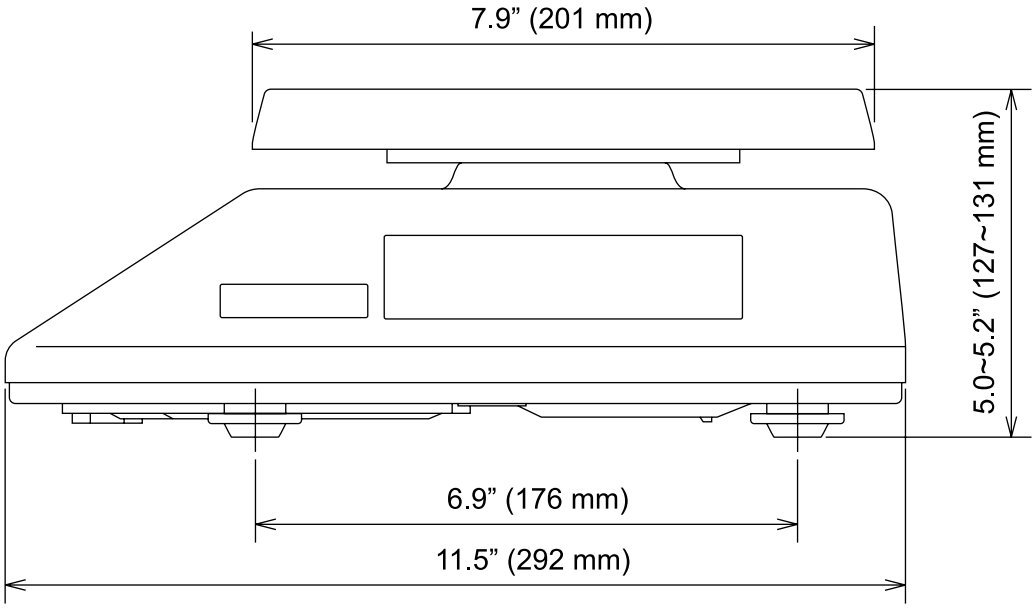
Weight display: PPC-300WP - single display
Type: 7 segment LCD
Character size, etc.: 0.5” (13.5 mm) (W) x 1.2” (30 mm) (H), 5 digits
Functions: One touch tare, battery charge indicator, auto-off timer, and check-weighing, packing and grading functions
Housing: Upper - 304 Stainless Steel
Lower - ABS resin
Enclosure Rating: IP68 when sealed by Yamato authorized technicians,
IP65 otherwise.
Optional equipment: AC adaptor (use voids watertight seal)
Power supply: 6 VDC - four “D” size batteries or optional AC adaptor
Consumption: 0.07 W (max.)
Battery life: ~ 1400 hours of continuous use with alkaline batteries
Operating temperature: 14°F to 104°F (-10°C to 40°C)
Operating humidity: 30% to 80% relative humidity (no condensation)
Weight: 3.7 kg

II Description

Specifications

Dimensions:





III Calibration

Pound or Kilogram Calibration Setting

The PPC-300WP can be setup to be calibrated with pound weights or with kilogram weights. Check the setting of factory parameter 50 (see section IV - Setup). A setting of 000 means kilogram weights should be used, and a setting of 001 means pound weights should be used. The table below contains the calibration weights and resulting full scale counts for a three point calibration at each capacity.

Capacity	Calibration Units	Parameter 50	Half Scale Weight	Full Scale Weight	Full Scale Counts
2 kg / 4.4 lb	kg	000	1 kg	2 kg	20000
	lb	001	2.2 lb	4.4 lb	22000
4 kg / 10 lb	kg	000	2 kg	4 kg	20000
	lb	001	5 lb	10 lb	20000
10 kg / 22 lb	kg	000	5 kg	10 kg	20000
	lb	001	11 lb	22 lb	22000
20 kg / 44 lb	kg	000	10 kg	20 kg	20000
	lb	001	22 lb	44 lb	22000

III Calibration

Enter Test Mode

Test mode provides access to calibration, and to system and factory parameter modes. There are two ways to enter test mode, depending on whether or not the PPC-300WP is configured for legal for trade use. Factory parameter 77 determines if keypad access to test mode is enabled, or if the scale is configured to be sealed for legal for trade operation. The Setup indicator (★) displays if keypad entry is enabled, and indicates that the scale cannot be sealed for legal for trade use until parameter 77 is changed.

Keypad Entry (Setup Indicator ★ Active)

With factory parameter 77 set to 000 or 001 the scale is not configured for legal for trade use, the Setup indicator (★) will display, and a keypad combination can be used to enter Test Mode.

With the scale on:

1. Press and hold the N/G and →0← keys.
2. Keeping the N/G key pressed, release the →0← key and press the → key four times.
3. Release the N/G and → keys, then press and release the ON/OFF key.
4. The scale should now display at or near five zeros and the test mode indicator (Ⓘ).

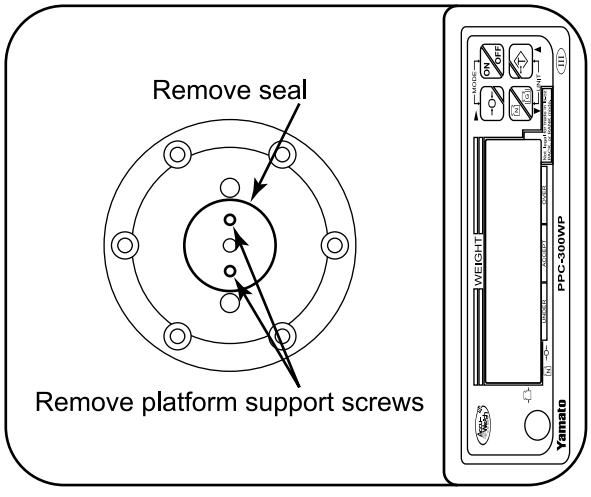
Opening the Scale (Setup Indicator ★ Inactive)

With factory parameter 77 set to 002 or 003 the scale is configured for legal for trade use, the Setup indicator (★) will not display, and Test Mode is only accessible by opening the scale and shorting the test mode jumpers.

⚠ Caution

The PPC-300WP must be vacuum tested after it is closed to ensure that an IP68 seal (waterproof) is obtained. If the PPC-300WP is not closed and tested by Yamato authorized technicians using a vacuum test, the enclosure is only rated IP65 (washdown) and should not be submerged or cleaned with water jets. Opening the PPC-300WP requires the replacement of the platform support seal sticker and the housing seal to obtain a watertight seal.

1. Remove the stainless steel platform cover and platform.
2. Peel off and dispose of the platform support sealing sticker. Remove the two support screws with a #2 Phillips screwdriver.



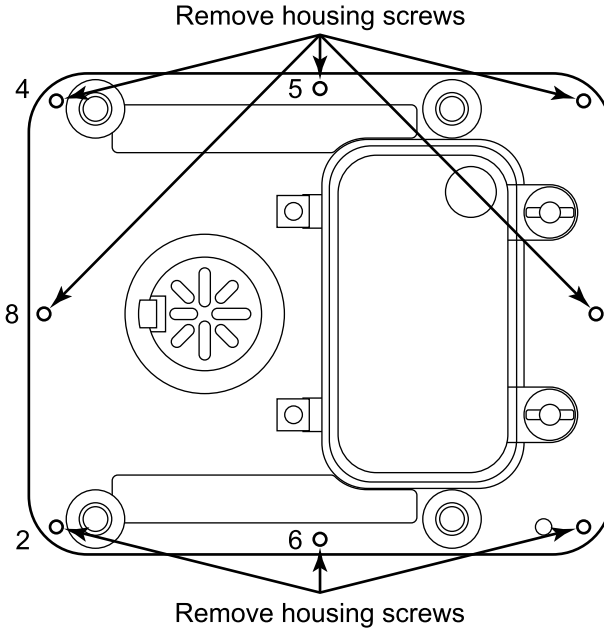
III Calibration

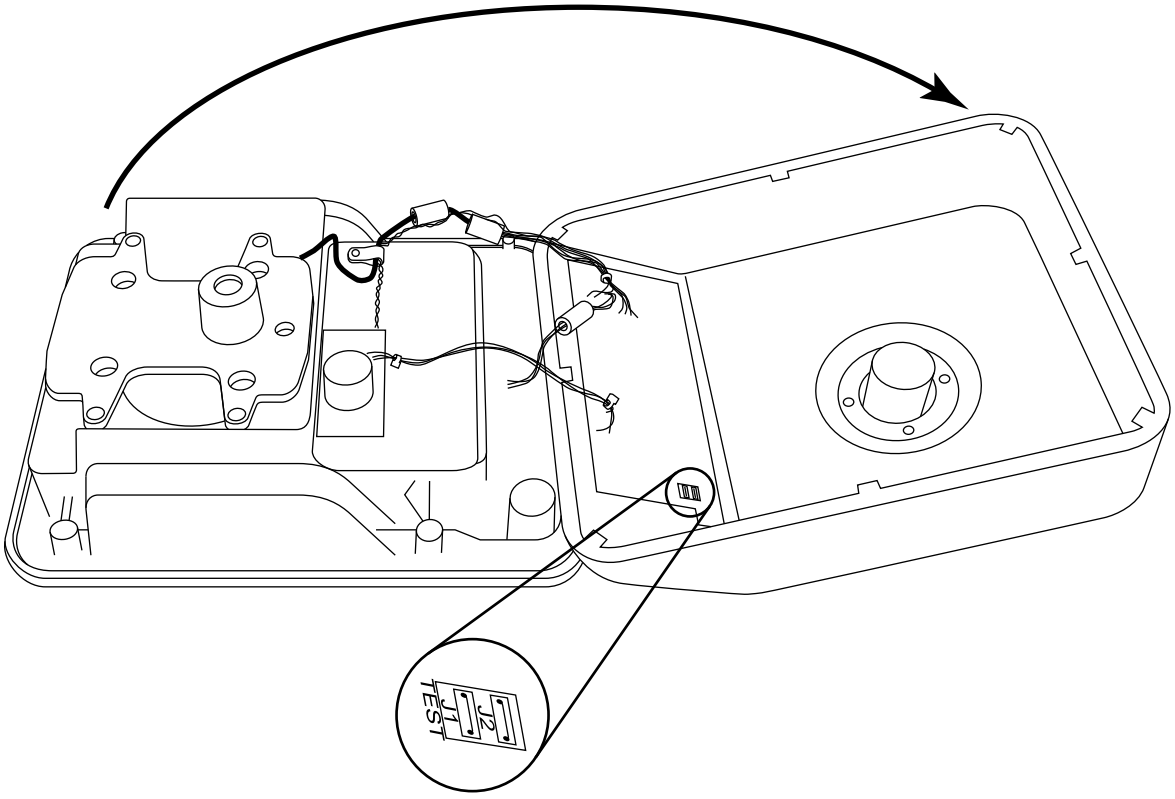
3. Place the scale on its side and remove the eight housing screws, in the order shown. A powered screwdriver is not recommended due to the possibility of damaging the stainless steel threads in the upper housing.

4. Grasp both halves of the scale body and place the scale rightside up on a flat surface.

5. Turn the scale on.

6. Lift the back of the upper housing up, rotating it towards the front to place it upside down in front of the lower housing without straining the load cell, power and buzzer cables. See the illustration below.





7. Short the two test jumpers with a screwdriver. The scale will emit a quick triple beep if the buzzer is enabled.

III Calibration

7. Short the two test jumpers with a screwdriver. The scale will emit a quick triple beep if the buzzer is enabled.

8. Rotate the upper housing back onto the lower housing. Be carefull not to pinch the load cell and power cables between the two housings. The scale should now read at or near five zeros, and the test mode indicator ⓘ should display.

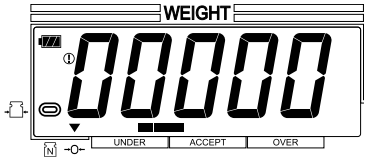
Test mode displays the internal count, initial count, direct raw count, average raw count, battery check or A /D conversion value, and display segment check in sequence. Rotate through these displays using the ⇧ key.

III Calibration

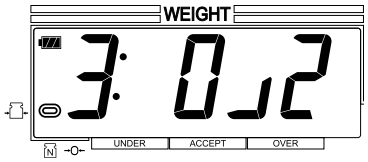
Calibrate the Scale

Calibration can be done with pound or kilogram weights. Pound weights are the default setup, but this can be changed through factory parameter 50 (see section IV Setup, Factory Mode.) A three point calibration is also the default setup, but two and four point calibrations can be selected when beginning the calibration using the N/G key. Two point calibration is not recommended, since it is less accurate than three or four point calibration. Press the →0← key to exit calibration mode and return to test mode.

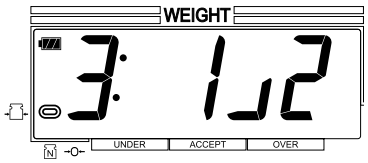
1. With the scale in test mode, displaying internal counts, and on its feet, place the platform and platform cover back in place and tighten the thumbscrew. The platform will not be level if it the two nubs on th e platform support are not aligned with the holes in the platform cover. Do not place weights on the scale platform if it is not stable.



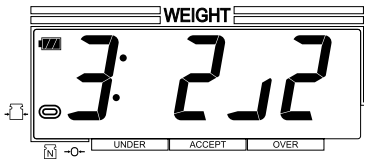
2. Press N/G + →0← (see note) to enter calibration mode. Press the N/G key if you want to change the number of calibration points. Ensure there is nothing on the platform, then press the →T← key while the stable indicator is displayed.



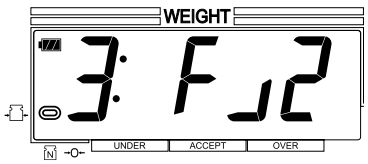
3. For three point calibration, place one half of the scale's full capacity on the platform. Press the →T← key while the stable indicator is displayed.



4. Place the scale's full capacity on the platform. Press the →T← key while the stable indicator is displayed.

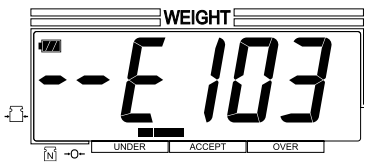


5. The scale should briefly display an 'F' followed by either 20000 or 22000 counts (see the table at the beginning of this chapter.) The calibration was successful if the reading is within +/- 3 counts of the target number. Press the ON/OFF key for a few seconds to turn the scale off and exit test mode.



6. If the scale displays error 103 the scale is either misconfigured, incorrect weights were use for the calibration, or the scale may be damaged. Check that the weights are one half of capacity, and full capacity. If the weights are correct, check the scale configuration using section IV Setup, Default Parameter Tables. If the setup is correct, follow the steps in section V Troubleshooting.

A four point calibration would use weights for one third of full capacity, two thirds of full capacity, and full capacity. A two point calibration would only use weights for full capacity. Two point calibration does not perform any linearity corrections, making it less accurate.



Note: Two key icons joined by a plus sign (N/G + →0←) means to press and hold the first key, press the second key, and then release both keys.

IV Setup

Change Parameters

The scale setup is controlled by three groups of parameters that determine how the scale operates. These three groups are user parameters, system parameters and factory parameters.

User parameters (01 - 23) can be changed in both user mode and system mode. They are easily accessed, without braking the seal or opening the scale housing, and control features such as function selection, function configuration, auto-off and units at startup. The user parameters are included in system mode for the convenience of the scale technician.

System parameters (30 - 39, C0 and C1) can be changed in system mode. They control functions that the scale technician may need to change under unusual circumstances, such as the stable reading configuration. Since these parameters can alter the accuracy of the scale, the seal has to be broken to access system mode through test mode.

Factory parameters (40 - 99, A0 - A5, and B0) can be changed in factory mode. They control functions that directly relate to the accuracy, capacity and divisions of the scale, and are rarely changed outside of the factory. Factory parameters are usually only changed if a different capacity load cell is installed, or if a non-standard configuration is desired. Since these parameters can alter the accuracy of the scale, the seal has to be broken to access factory mode through test mode.

Each parameter has two components, the parameter keyword and the parameter value. The first two digits are the keyword and determine which parameter is being viewed. The last three digits are the parameter value and determine how the selected parameter is configured.

While each mode is accessed differently, all modes use the same keys to select and change the parameter settings, as follows.

To select the desired parameter keyword, use the keys as follows:

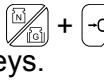
-  - increase the keyword by one
-  - decrease the keyword by one

To change a parameter value, use the keys as follows:

-  - increase the value by one
-  - increase the value by ten
-  - decrease the value by one
-  - decrease the value by ten

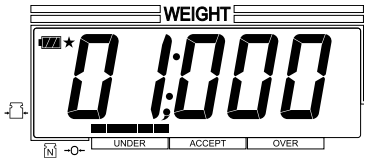
The arrows placed above the  key and below the  and  keys illustrate each key's function when in any of the setup modes.

! To save the last value changed it is necessary to advance to the next parameter before exiting the current parameter setup mode.

Note: Two key icons joined by a plus sign () means to press and hold the first key, press the second key, and then release both keys.

IV Setup

User Mode



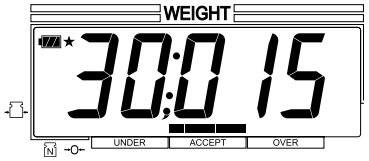
With the scale on and in the normal display mode, press [→0←] + [→T←] to enter user mode.

Press the [→0←] key to cycle through the user parameters.

Press the [ON/OFF] key for about three seconds to turn the scale off and exit user mode.

User mode entry can be disabled by factory parameter 77.

System Mode



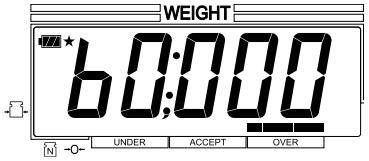
Enter test mode (see Section III Calibration - Enter Test Mode.)

With the display showing initial counts, press [→0←] + [→T←] to enter system mode.

Press the [→0←] key to cycle through the user parameters.

Press [→0←] + [→T←] a second time to return to test mode, or press the [ON/OFF] key for about three seconds to turn the scale off and exit system and test modes.

Factory Mode



Enter test mode (see Section III Calibration - Enter Test Mode.)

With the display showing initial counts, press [N/G] + [→0←] to enter calibration mode, then press [→T←] + [→0←] to enter factory mode.

Press the [→0←] key to cycle through the user parameters.

Press [→0←] + [→T←] to return to test mode, or press the [ON/OFF] key for about three seconds to turn the scale off, and exit factory and test modes.

Note: Two key icons joined by a plus sign ([N/G] + [→0←]) means to press and hold the first key, press the second key, and then release both keys.

IV Setup

Parameter Tables

User Parameters			
Parameter	**Function**	**Default**	**Settings**
01	Function selection	000	000: Functions disabled 001: Packing enabled 002: Checkweighing enabled 003: Grading enabled
02	Number of grades	006	000: Grading suspended 001 - 015: 1 - 15 grades
03	Buzzer	000	000: Disabled 001 - 004: PPC-300WP only
04	Grade Stability	000	000: Real time grade display 001: Grade displayed at stable reading
05	Auto-off timer	003	000: Disabled 001: After idle for 5 minutes 002: After idle for 10 minutes 003: After idle for 15 minutes 004: After idle for 30 minutes 005: After idle for 60 minutes
06	Automatic tare	000	000: Disabled 001: Enabled (packing function only)
07	Flashing display	000	000: Disabled 001: Flash when under weight 002: Flash for acceptable weight 003: Flash when over weight 004: Flash when not acceptabe weight 005: Flash when buzzer sounds
08 -19	Inactive	000	000: Do not adjust
22	Vibration compensation	000	000: Standard, highest response speed 001: Increased, slower response speed 002: Maximum, slowest response speed
23	Units at power on	001	000: kg 001: lb 002: oz 003: lb-oz

IV Setup

Parameter Tables

System Parameters			
Parameter	**Function**	**Default**	**Settings**
30	System ID	015	016: Change prohibited
31	Stable state sampling count	004	000 - 015
32	Stable state count	012	000 - 050
33	Very stable state count	008	000 - 050
34	Stable state collapse count	020	000 - 050
35	Stable state average count	006	000 - 015
36	Moving average count	003	000 - 001: Disabled 002 - 008: Average against sampling count
37	Multifunction data accumulation	000	000: Disabled 001: Enabled
38	Local multifunction setting	000	000: Enabled 001: Disabled
39	Display update rate	002	000: Disabled 001 - 015: Update counts
C0	Loading\unloading amount (DP)	004	004 -255
C1	Beep at data transmission (DP)	000	000: Disabled 001: Enabled

IV Setup

Parameter Tables

Factory Parameters			
Parameter	**Function**	**Default**	**Settings**
40	Gravity compensatin	106	000: No compensation 001 - 029: For specified zone (Japan) 030 - 210: 9.76 to 9.85 m/s^2 using $\frac{(g - 9.7600) \times 10^4}{5} + 30$
41	Scale mode	002	000: Fixed single increment 001: Multi-increment 002: U.S. mode 003 - 007: Do not use
42	Multi-increments Complex increment mode	000	000: Fixed accuracy, single increment 001: Fixed accuracy, 3 increments 002: Fixed accuracy, 2 increments 003: Increment change at 50% FS, 2 inc. 004: Increment change at 80% FS, 2 inc. 005: Increment change at 64% FS, 2 inc. 006: Increment change at 40% FS, 2 inc.
43	Weighing capacity mantissa, kg	*	000 - 099
44	Weighing capacity index, kg	*	001 - 004
45	Small capacity increment, kg	*	000: 1 001: 2 002: 5 003: 10 004: 20 005: 50 006: 100 007: 200
46	Location of decimal point, kg	*	000: 0 001: 0.0 002: 0.00 003: 0.000
47	Verification	000	000: Verified 001: Not verified
48	User mode calibration	000	000: Disabled 001: Enabled (47 must be set to 001)
50	kg or lb calibration	000	000: kg calibration 001: lb calibration
51	Weighing capacity mantissa, lb	*	000 - 099
52	Weighing capacity index, lb	*	000 - 004

* Value determined by capacity, see capacity specific table after parameter tables.

IV Setup

Parameter Tables

Factory Parameters			
Parameter	**Function**	**Default**	**Settings**
53	Location of decimal point, lb	*	000: 0 001: 0.0 002: 0.00 003: 0.000
54	Small capacity increment, lb	*	000: 1 001: 2 002: 5 003: 10 004: 20 005: 50 006: 100 007: 200
55	Weighing capacity mantissa, oz	*	000 - 099: Specify at lb (oz = lb x 16)
56	Weighing capacity index, oz	*	001 - 004
57	Location of decimal point, oz	*	000: 0 001: 0.0 002: 0.00 003: 0.000
58	Small capacity increment, oz	*	000: 1 001: 2 002: 5 003: 10 004: 20 005: 50 006: 100 007: 200
60	Type of decimal point	000	000: Period (.) 001: Comma (,)
61	Weighing unit	002	000: No unit 001: g 002 kg
62	Weighing unit display	001	000: Disabled 001: Enabled
65	Internal resolution	010	000: Do not use 001 - 255
66	Timer (ms)	035	000: Do no use 001 - 255
68	Over scale	005	000 - 010
70	Zero point range (FS%)	019	000 - 100
71	Positive zero point range %	012	000 - 100: Must be within range set in 70

* Value determined by capacity, see capacity specific table after parameter tables.

IV Setup

Parameter Tables

Factory Parameters			
Parameter	**Function**	**Default**	**Settings**
72	Zero key tare	000	000: Tare not cleared by zero key 001: Tare cleared by zero key
73	Zero tracking timing	006	000: Zero tracking disabled 001 - 050: Zero tracking at specified counts
74	Tare function	002	000: Tare disabled 001: One-time tare 002: Consecutive tare
75	Zero reset under tare	001	000: Zero reset under tare enabled 001: Zero reset under tare disabled
76	Normal or subtractive grading	000	000: Normal grading 001: Subtractive grading
77	Simple test mode	004	000: User mode enabled, test mode enabled, Setup indicator ★ active 001: User mode disabled, test mode enabled, Setup indicator ★ active 002: User mode enabled, simple test mode enabled, Setup indicator ★ active **003**: User mode disable, test mode disabled, **legal for trade setting** **004**: User mode enabled, test mode disabled, **legal for trade setting**
78	CPU motion clock	000	000: 6 MHz (PPC-300) 001: 8 MHz (DP-6500)
79	Grading accuracy improvement	000	000: Do not use 001: OEM setting
80	Combination matrix transmission	000	000: Disabled 001: Send displayed value 002: Send rank value
81	Packing weighing function	001	000: Locked out 001: Selectable
82	Checkweighing function	001	000: Locked out 001: Selectable
83	Grading function	001	000: Locked out 001: Selectable
85	Display hold function	000	000: Disabled 001: Enabled for greater than net + 20 d, #87 and switch key disabled
87	Adding weight under hold	000	000: Disabled 001 - 005: Update weight display when more than specified divisions added

* Value determined by capacity, see capacity specific table after parameter tables.

IV Setup

Parameter Tables

Factory Parameters			
Parameter	**Function**	**Default**	**Settings**
88	Span adjustment time delay	002	000: No delay 001 - 005: Delay of specified seconds
90	Mechanical zero 1	N/A	000 - 255: Automatically set during calibration, do not change
91	Mechanical zero 2	N/A	000 - 255: Automatically set during calibration, do not change
92	Mechanical zero 3	N/A	000 - 255: Automatically set during calibration, do not change
93	Span coefficient 1, small	N/A	000 - 255: Automatically set during calibration, do not change
94	Span coefficient 2, small	N/A	000 - 255: Automatically set during calibration, do not change
95	Span coefficient 3, small	N/A	000 - 255: Automatically set during calibration, do not change
96	Span coefficient 1, large	N/A	000 - 255: Automatically set during calibration, do not change
97	Span coefficient 2, large	N/A	000 - 255: Automatically set during calibration, do not change
98	Span coefficient 3, large	N/A	000 - 255: Automatically set during calibration, do not change
99	Region number and gravity for span adjustment	N/A	000 - 150: Automatically set during calibration, do not change
A0	Board sensitivity adjustment 1	N/A	000 - 099: Board sensitivity adjustment mantissa, x 1000
A1	Board sensitivity adjustment 2	N/A	000 - 255: Automatically set during board sensitivity adjustment, do not change
A2	Board sensitivity adjustment 3	N/A	000 - 255: Automatically set during board sensitivity adjustment, do not change
A5	Display of "lb:oz" unit	001	000: Enabled 001: Disabled
B0	Factory setting	*	000: Do not use 001 - 005: UDS-1V versions (Japan) 006 - 019: For specific OEM versions

* Value determined by capacity, see capacity specific table after parameter tables.

IV Setup

Capacity Specific Table

Capacity Dependent Parameter	Capacity				
	2 kg/4.4 lb/80 oz/5 lb-oz	4 kg/10 lb/160 oz/10 lb-oz	10 kg/22 lb/352 oz/22 lb-oz	20 kg/44 lb/704 oz/44 lb-oz	30 kg/60 lb/1056 oz/66 lb-oz
43	002	004	001	002	003
44	003	003	004	003	003
45	000	001	002	000	000
46	003	003	003	002	002
51	044	001	022	044	006
52	002	004	002	002	003
53	003	003	002	002	002
54	001	002	000	001	001
55	005	001	022	044	066
56	002	002	001	001	001
57	002	001	001	001	001
58	002	000	001	002	002
B0	015	016	017	018	019

V Sealing the Scale

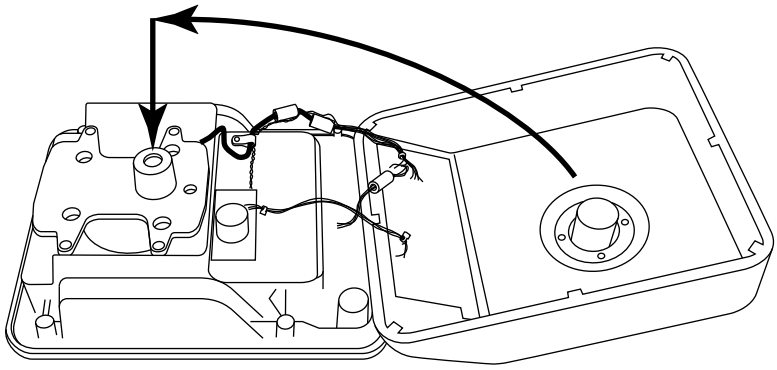
Close the Scale

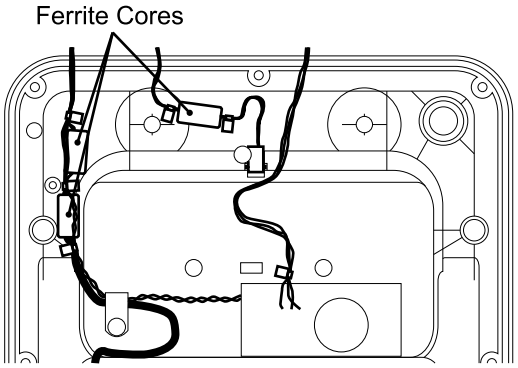
Caution

The PPC-300WP must be vacuum tested after it is closed to ensure that an IP68 seal (waterproof) is obtained. If the PPC-300WP is not closed and tested by Yamato authorized technicians using a vacuum test, the enclosure is only rated IP65 (washdown) and should not be submerged or cleaned with water jets. Opening the PPC-300WP requires the replacement of the platform support seal sticker and the housing seal to obtain a watertight seal.

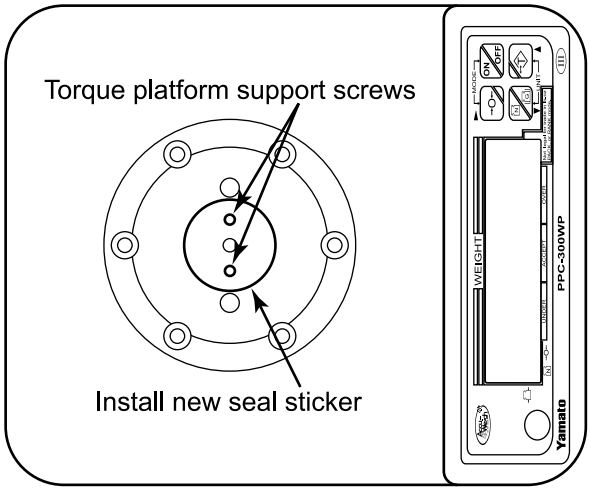
1. Replace the old housing seal with a new one. Ensure that no dust or other foreign matter is on the seal or the housing surfaces adjacent to the seal.

2. Lift and rotate the upper housing to align the platform support with the load cell assembly. Ensure that the ferrite cores on the load cell and power cables are directed into the areas indicated. If the ferrite cores become wedged between the circuit board and the base assembly, the circuit board could be damaged.





3. Lower the upper housing onto the load cell and base assemblies. If the plaform support catches on the load cell assembly, lift the upper housing and realign the platform support with the load cell assembly. Avoid straining the upper diaphragm to prevent damage to the diaphragm.



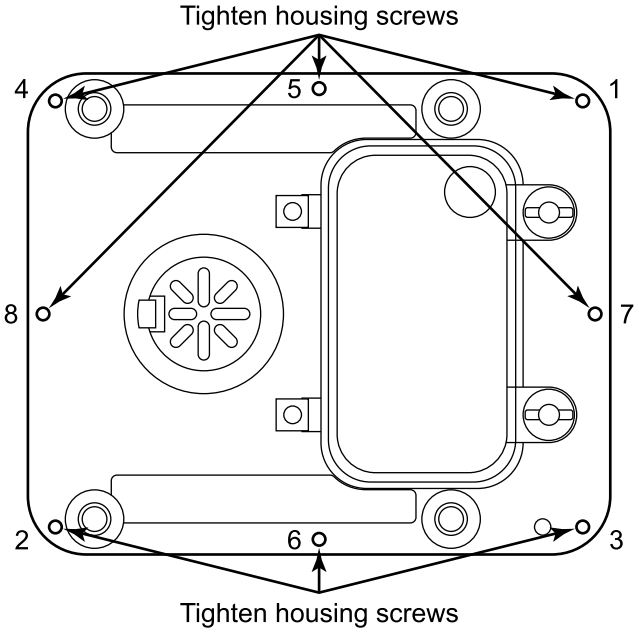
V Sealing the Scale

Close the Scale

4. Torque the two platform support screws with sealing washers to 10 Nm (88.5 Lb-In, 7.4 Lb-Ft). Do not exert pressure downward onto the load cell greater than the capacity of the load cell. Doing so could damage the load cell or require recalibration of the scale.

5. Place a new platform support sealing sticker over the platform support screws.

6. Place the scale on its side and tighten housing screws in the order shown with a #2 Phillips screwdriver. Do not use a powered screwdriver. A powered screwdriver can damage the stainless steel threads in the upper housing.



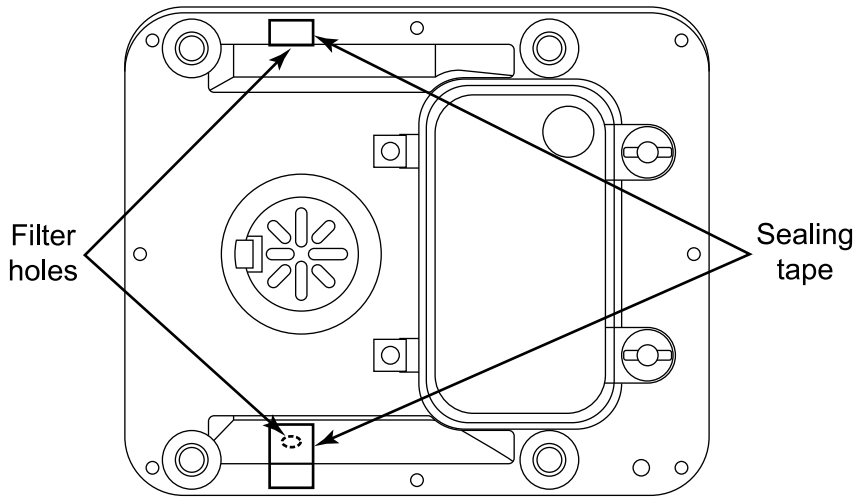
V Sealing the Scale

Test the Seal

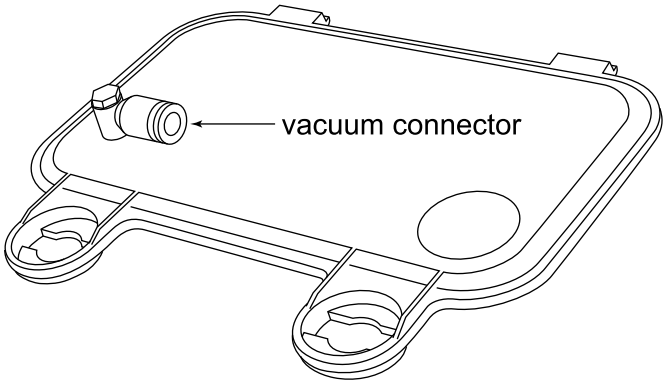
Caution

To retain the IP68 rating, this vacuum test must be completed successfully whenever the water-tight seal is broken.

1. Seal the two pressure filter holes inside each hand hold with sealing tape.



2. Remove the battery box lid and securely place the modified testing battery box lid onto the scale.



3. Firmly insert the tube from the vacuum testing device into the connector on the testing battery box lid.

4. Extend the feet of the PPC so that the battery lid vacuum connector will not contact the work surface, and place the scale on its feet.

5. Ensure that there is a sealing sticker on the platform support and place the platform on the scale.

6. With the valve closed, power on the leak-testing vacuum device.

V Sealing the Scale

Test the Seal

7. Power on the scale and ensure that it is in normal weighing mode and reads zero.

8. Activate the vacuum device valve slowly by turning the dial clockwise until the indication valve reaches the valves indicated.

⚠ **Caution:** Open the vacuum valve slowly to ensure not damaging the scale.

Test Values:

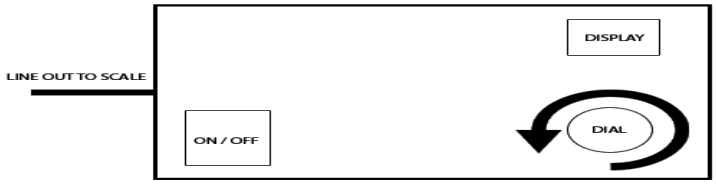
Scale Capacity	2 kg	4 kg	10 kg	20 kg
Indication Value	1600 g	2400 g	4000 g	4000 g

Stop Value:

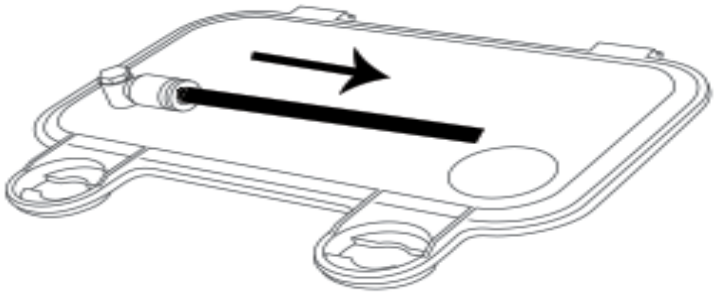
Indication Value	1200 g	1600g	2000 g	2000 g
Maximum Rate of Change	3 g / min	6 g / min	15 g / min	30 g / min

If the amount of change of value is within the above values, the product is acceptable

9. Turn the on/off valve on the vacuum device to OFF. This will stop vacuum from being created.

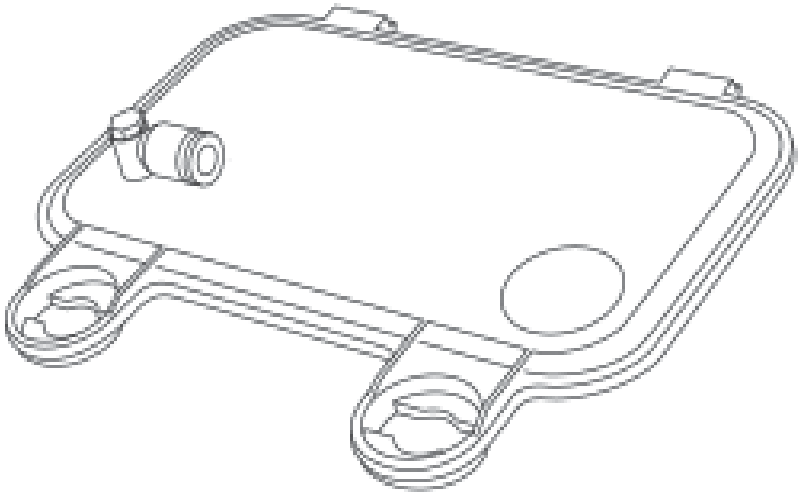


10. Pull the tube out of the battery lid. This will release the vacuum in the system. The scale will return to zero



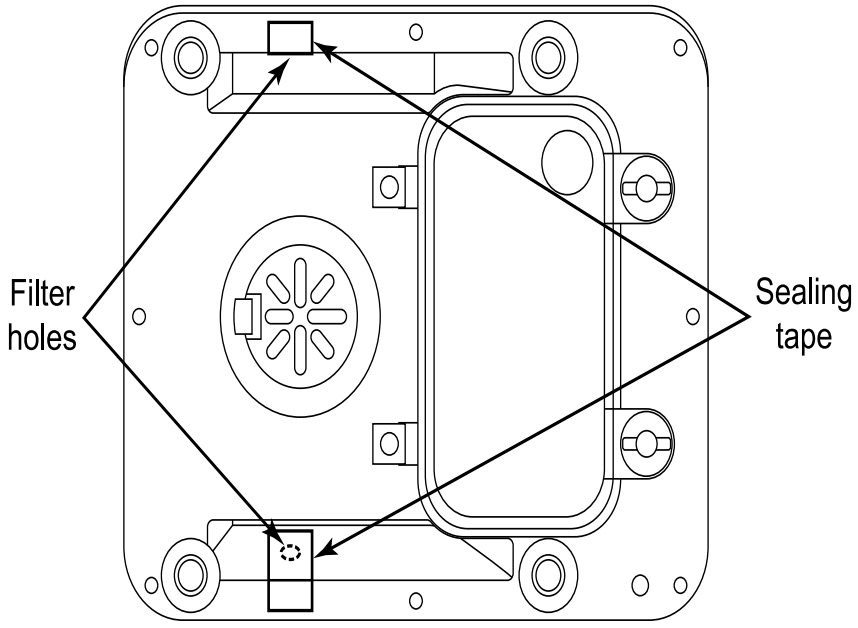
V Sealing the Scale

11. Remove the lid of the of the battery box that has the leak detection valve.



12.Once leak detection has been completed. Attach a new waterproof sticker on the AC jack. Reattach the stock battery box lid to the unit and turn the locking tabs.

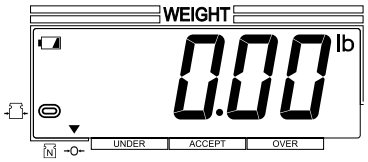
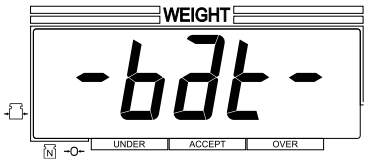
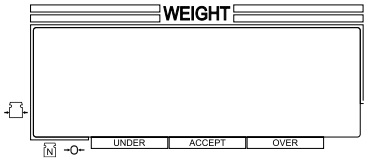
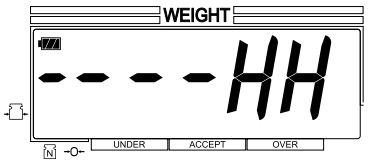
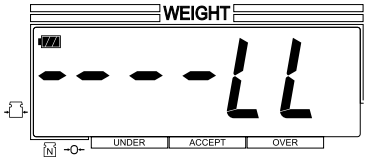
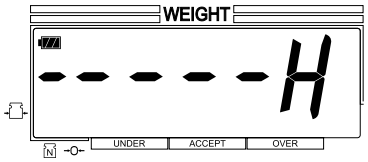
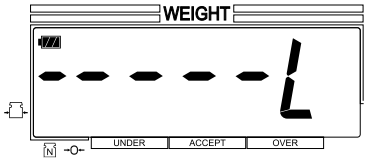
13. Remove the stickers fromt the bottom side of the unit that were used to seal the filter holes



14. Check the battery box lid to make sure it's on correctly and power the system up. The unit should be ready for regular use

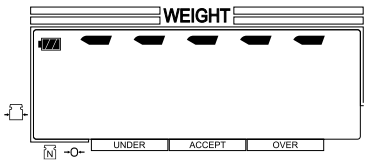
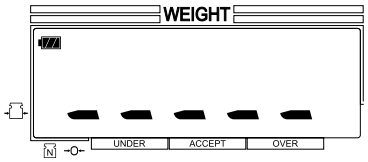
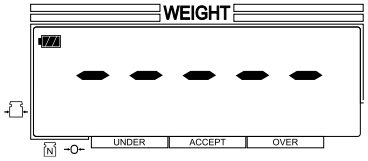
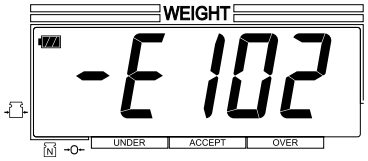
VI Troubleshooting

The scale automatically detects several errors. The following table describes the various errors that can be encountered, and provide user-level corrective actions. If these actions fail to correct the error, please contact a qualified scale technician.

Display	Condition	Action
	Low batteries.	Replace all four batteries with fresh batteries.
	Exhausted batteries, scale will shut off.	Replace all four batteries with fresh batteries.
	Scale will not turn on.	Verify that batteries are installed with the correct polarity. Replace all four batteries with fresh batteries. Verify proper adapter is connected to the scale and plugged into a powered outlet.
	Load over allowable limit at start up.	Remove all items from the scale platform and press the →0← key. Power the scale off and back on. Calibrate the scale.
	Load under allowable limit at start up.	Remove items wedged under the scale platform and press the →0← key. Power the scale off and back on. Calibrate the scale.
	Attempted to zero a load greater than allowed.	Remove all items from the scale platform and press the →0← key. Power the scale off and back on. Calibrate the scale.
	Zeroed the scale with a load on the platform, and then removed the load.	Remove all items from the scale platform and press the →0← key. Power the scale off and back on. Calibrate the scale.

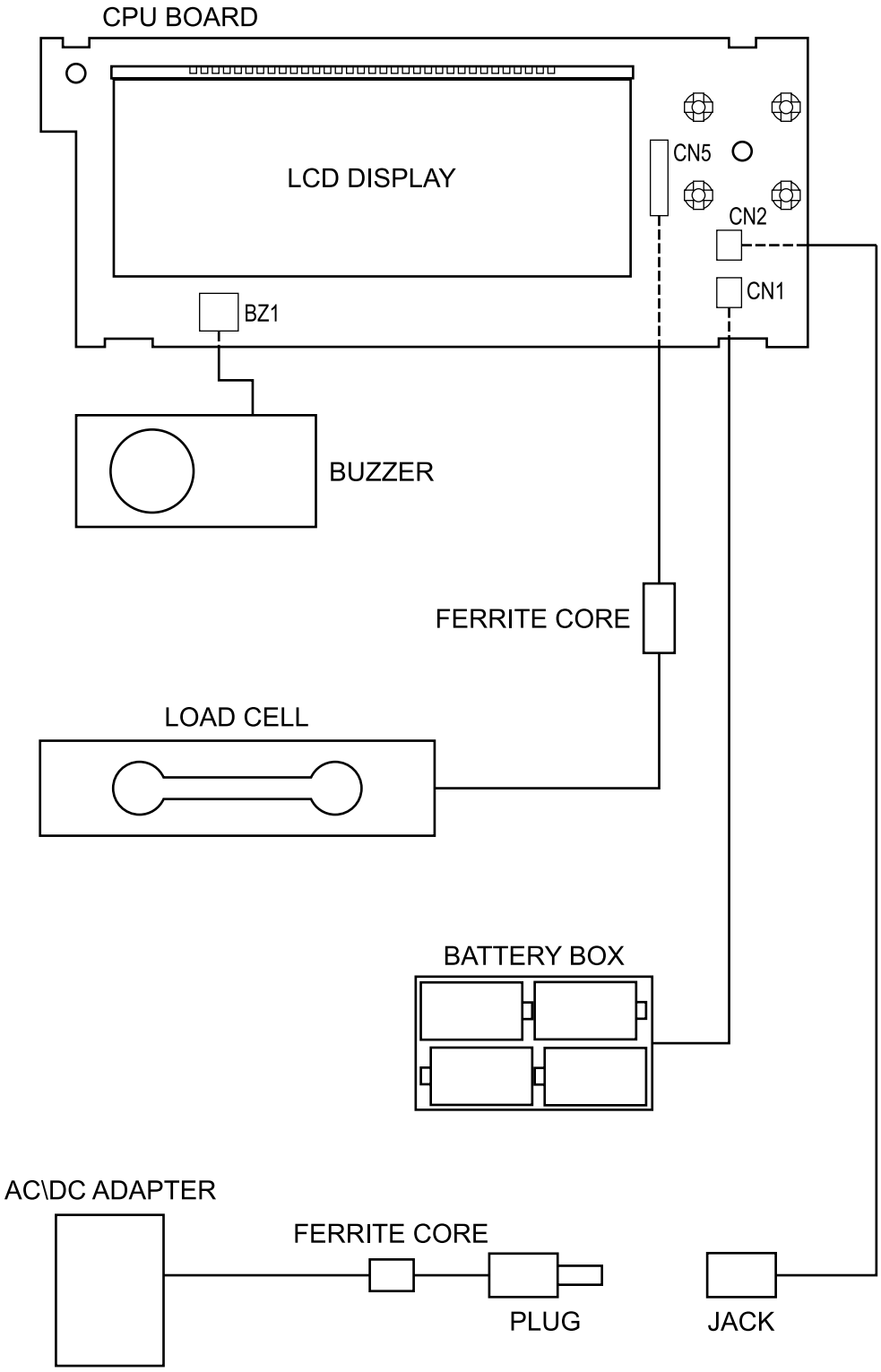
Additional troubleshooting steps require the services of a qualified scale technician. Do not attempt to service the scale yourself.

VI Troubleshooting

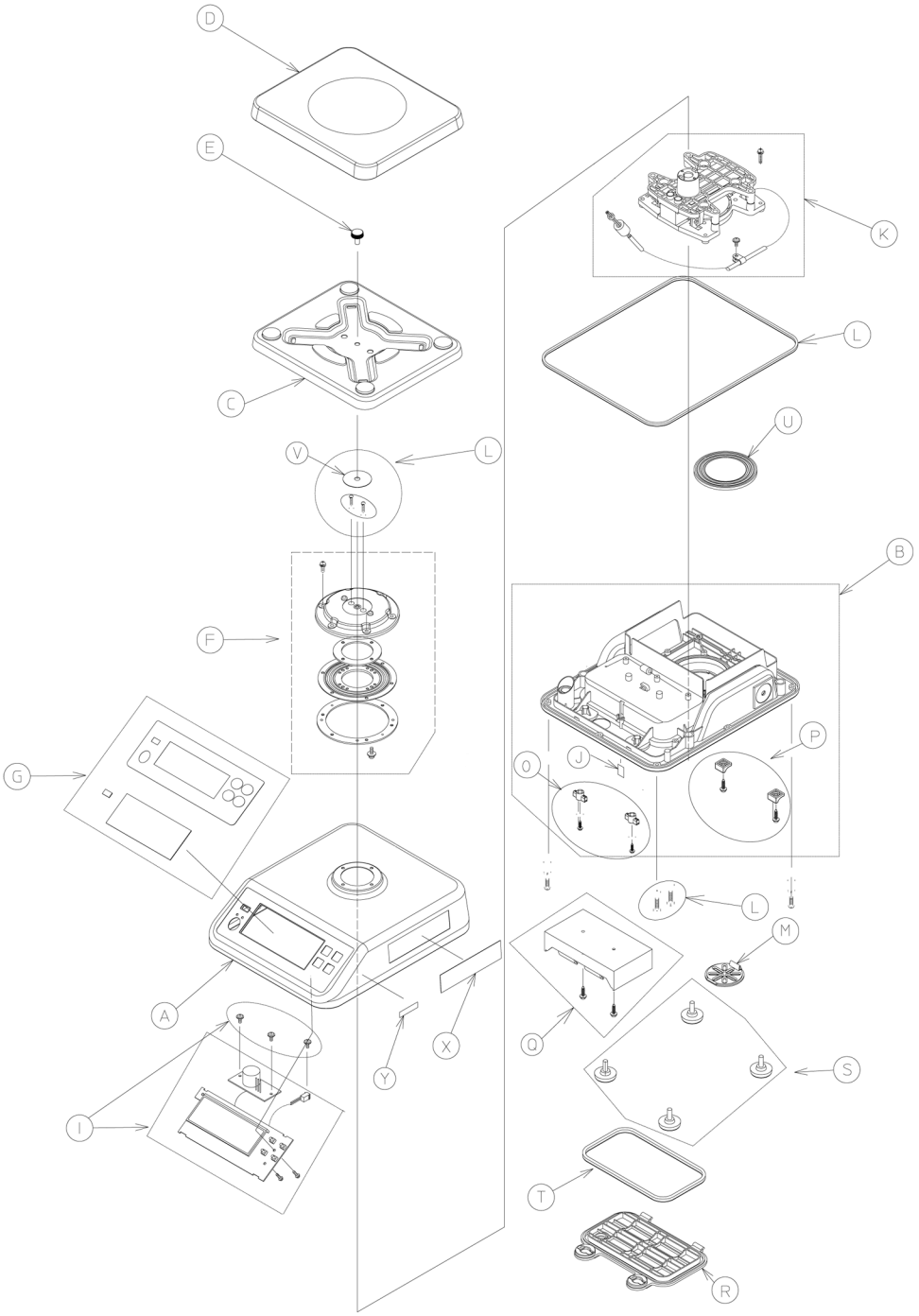
Display	Condition	Action
	Overload - there is too much weight on the scale platform.	Remove weight from the scale platform until the load is within the scale capacity.
	Negative gross weight reading greater than five divisions.	Replace the stainless steel pan on the scale platform, if removed. Remove all items from the scale platform and press the →0← key. Power the scale off and back on. Calibrate the scale.
	Sensor error.	Turn the scale off, wait one minute, and then turn the scale back on.
	Circuit error.	Turn the scale off, wait one minute, and then turn the scale back on.
	Controller error.	Turn the scale off, wait one minute, and then turn the scale back on.
	Displayed weight is inconsistent or unstable. Zero is unstable.	Remove all items from the scale platform and press the →0← key. Make sure the scale is on a stable and level surface. Adjust the feet to prevent wobble. Check for sources of wind, vibration or strong EMF (heating, airconditioning, motors, compressors, etc.)

Additional troubleshooting steps require the services of a qualified scale technician. Do not attempt to service the scale yourself.

VII Wiring Diagram



VIII Parts List



VIII Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY/UNIT
A	YAM-1250-303001	Upper housing assembly	1
B	YAM-1250-303002	Base assembly	1
C	YAM-1250-303003	Stainless steel platform	1
D	YAM-1250-300019	Stainless steel platform cover	1
E	YAM-1250-303004	Thumbscrew	1
F	YAM-1250-303005	Upper diaphragm assembly	1
G	YAM-1250-303006	Front mask	1
I	YAM-1250-303008	CPU/Display board assembly	1
not shown	YAM-1250-303009	Battery box lid waterproof sticker	1
K	YAM-1250-303010	Load cell assembly 2 kg / 4.4 lb	1
	YAM-1250-303011	Load cell assembly 4 kg / 10 lb	1
	YAM-1250-303012	Load cell assembly 10 kg / 22 lb	1
	YAM-1250-303013	Load cell assembly 20 kg / 44 lb	1
L	YAM-1250-303014	Screw, washer and seal kit	1
M	YAM-1250-303015	Lower diaphragm cover	1
O	YAM-1250-303016	Battery box lid locks and screws	2
P	YAM-1250-303017	Battery box lid stops and screws	2
Q	YAM-1250-303018	Battery holder and screws	1
R	YAM-1250-303019	Battery box lid	1
S	YAM-1250-303020	Set of leveling legs	1
T	YAM-1250-303021	Battery box seal	1
U	YAM-1250-303022	Lower diaphragm	1
V	YAM-1250-303023	Platform support waterproof sticker	1
X	YAM-1250-303024	Serial number label	1
Y	YAM-1250-303025	Capacity sticker	1

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