

Service Manual

OUTLINE

- **Purpose of this manual**




This manual is edited for the authorized servicing personnel and used when carrying out services and maintenance of the machine.

- **Relative manual**




Refer to the operation manual for usual operations.

- **Symbols used in this manual**

1. Warning symbols

| Symbol | Meaning |
|--|--|
|  Danger | Indicates information that, if not avoided, is likely to result in loss of life or serious injury. |
|  Warning | Indicates information that, if not avoided, may result in loss of life or serious injury. |
|  Caution | Indicates information that, if not avoided, could result in relatively serious or minor injury, damage to the machine or faulty operation. |

2. Explanatory symbols

| Symbol | Meaning |
|--|---|
|  Note | Indicates information to call or emphasize for attention to the note. |
|  Reference | Indicates the reference page. |
|  Information | Indicates information to help understanding. |

- **Readers of this manual**

This manual is edited for the servicing personnel. Use by other personnel is not permitted.

- **Note**

This manual may be revised in accordance with modification when made in the machine.

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Chapter 1. Product Overview

1.1 Product Overview

- The IPC-WP Series is a water proof type digital scale which can be operated with two batteries.
- The large LCD with 25mm height is provided for the display.

1.2 Standard Specifications

| Item | Description | | |
|--|---|--|--|
| Model name | IPC-WP Series /IPC-WP DUAL Series | | |
| | IPC-WP 3 | IPC-WP 6 | IPC-WP 15 |
| Non-OIML(ASIA) | | | |
| Weighing capacity | 3kg | 6kg | 15kg |
| | Single range | Single range | Single range |
| Scale unit | 0.001kg | 0.002kg | 0.005kg |
| | 3.000kg/0.001kg | 6.000kg/0.002kg | 15.000kg/0.005kg |
| Accuracy | 1/3000 | | |
| OIML R76 Class III | | | |
| Weighing capacity | 3kg | 6kg | 15kg |
| | Multi interval | Multi interval | Multi interval |
| Scale unit | 0kg to 1.5kg/0.001kg | 0kg to 3kg/0.002kg | 0kg to 7.5kg/0.005kg |
| | 1.5kg to 3kg/0.002kg | 3kg to 6kg/0.005kg | 7.5kg to 15kg/0.01kg |
| Accuracy | 1/1500 | 1/1200 | 1/1500 |
| lb/kg Switching Specification (USA) | | | |
| Weighing capacity | 6lb/3kg | 15lb/6kg | 30lb/15kg |
| | Multi interval | Multi interval | Multi interval |
| Scale unit | 0lb to 3lb/0.002lb | 0lb to 7.5lb/0.005lb | 0lb to 7.5lb/0.01lb |
| | 3lb to 6lb/0.005lb | 7.5lb to 15lb/0.01lb | 15lb to 30lb/0.02lb |
| | (0kg to 1.5kg/0.001kg) (1.5kg to 3kg/0.002kg) | (0kg to 3kg/0.002kg) (3kg to 6kg/0.005kg) | (0kg to 7.5kg/0.005kg) (7.5kg to 15kg/0.01kg) |
| Accuracy | 1/1500 | | |
| Weigh platter size | 196mm(L)×226mm(W) | | |
| Display | Single display / Dual display LCD type 6 digits (7segments) Height : 25mm | | |
| Environment condition | Ambient temperature: -5°C to +40°C Relative humidity: 80%RH (Max.), no condensation | | |
| Power source | Two D-sized dry batteries or AC adaptor [Battery duration] Two alkaline D-sized batteries (Approximately 500 hours) | | |
| Current consumption | Max. 25mA | | |
| Auto power off | Select: 60 minutes (default), 20 minutes or non Auto power off | | |
| Weight (excl. battery) | 3.2kg | | |

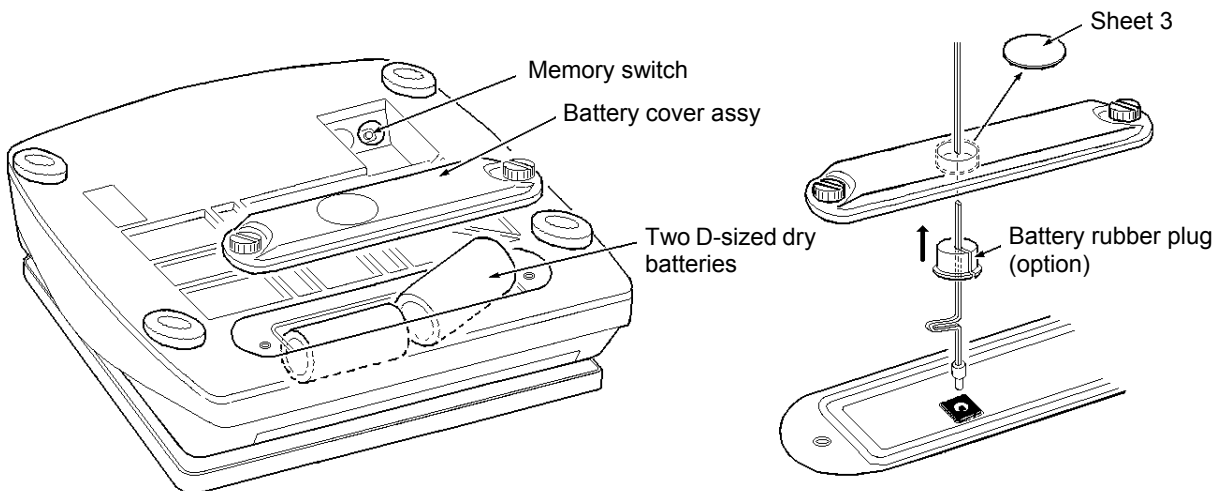
| Item | Description |
|--------|--|
| Option | <p>AC adaptor (Dealer Option)</p> <ul style="list-style-type: none"> • Output voltage • 3.2 to 6.0VDC (current load at 25mA, or at IPC connection) (caution) <ol style="list-style-type: none"> 1. Output voltage must not exceed 6.0V even if power supply voltage is at +10%. 2. Output voltage exceeds 3.2V even if power supply voltage is at -15%. • Generally, AC adaptor output voltage varies with load current. Confirm output voltage with a 25mA load current (IPC current) • Output plug configuration/polarity <ul style="list-style-type: none"> • Configuration Specification EIAJ RC-5320-2 - Polarity Center Plus |

1.3 Appearance

■ Front & Rear view



■ Bottom view

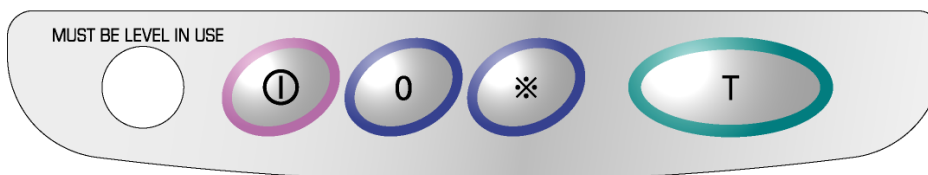
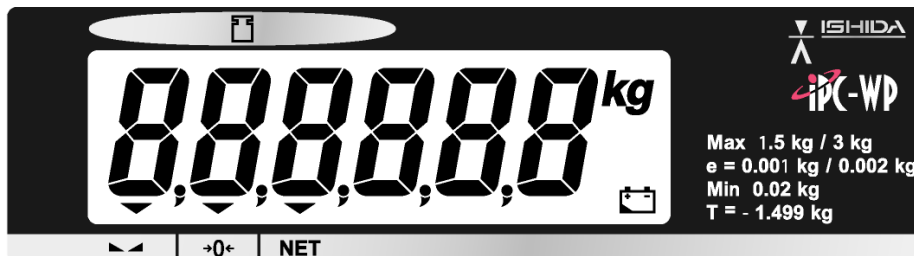


1.4 Operation Panel

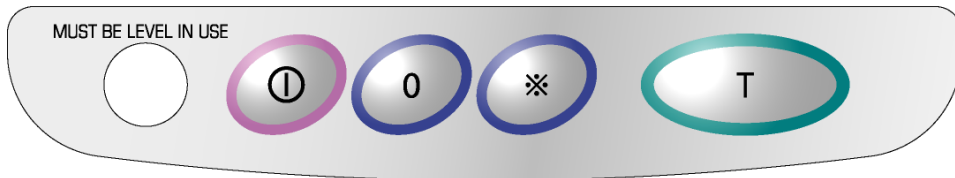
■ ASIA Specification



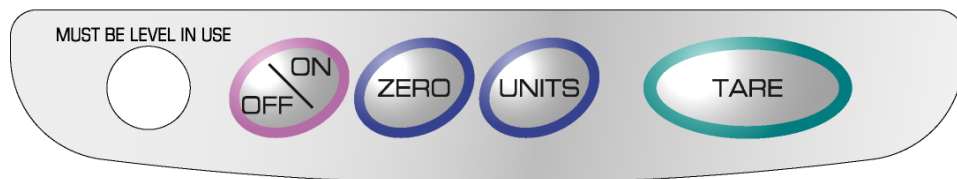
■ Oceania Specification



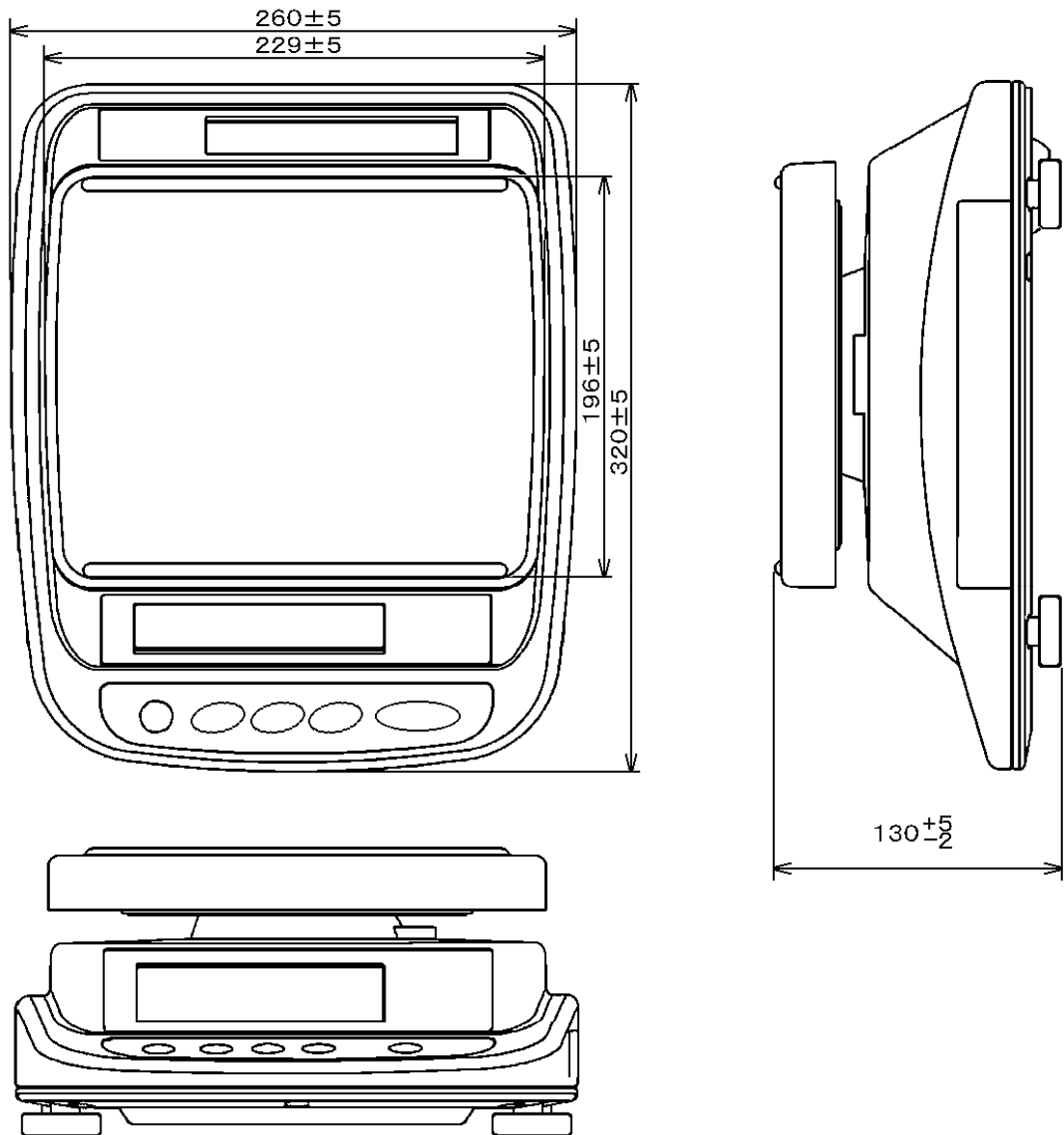
■EU Specification



■USA Specification



1.5 Outer Dimensions

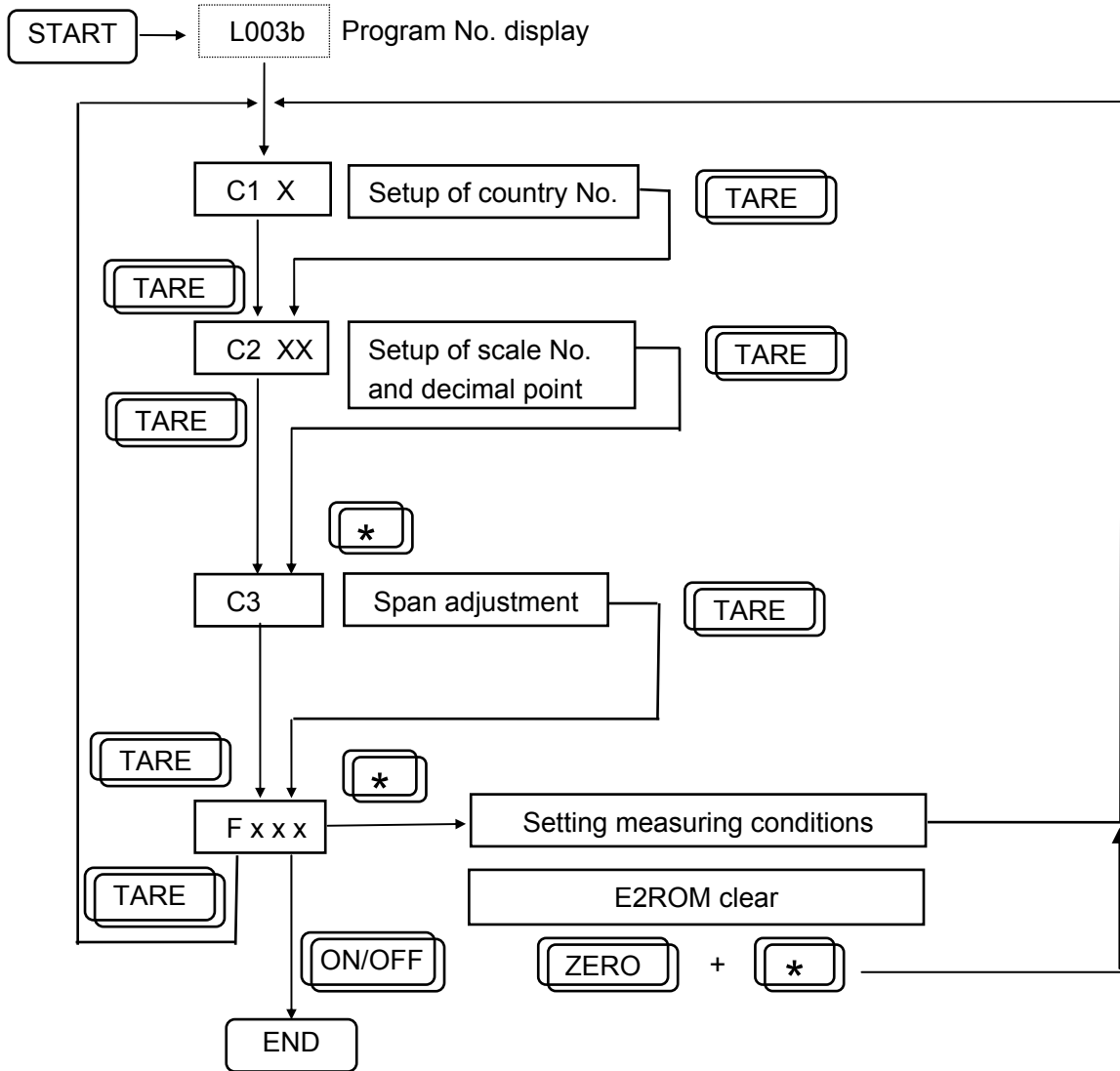


(Unit: mm)

Chapter 2 Test Mode


















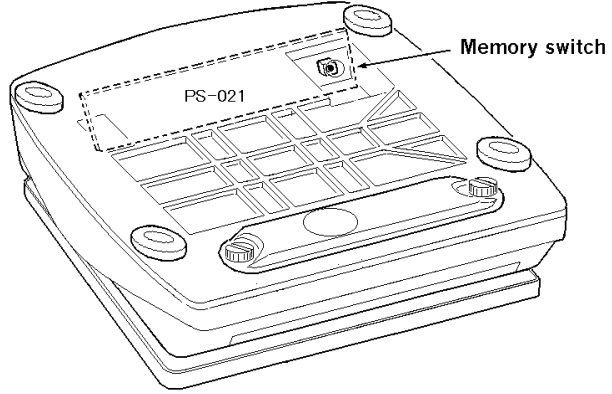
The Test Mode is used for diagnosis and/or setting at maintenance service.

2.1 Test Mode Flow





Note: Press the memory switch at any time during test mode to record the data to the E2PROM. Then "P-EP" appears in the display.



◆Key Functions (when setting value)

| Key | | | | Function |
|---|---|---|---|--|
| Asia | Oceania | EU | USA | |
|  |  |  |  | <ul style="list-style-type: none"> • Use at TEST mode startup. (Press this key while the TARE key is depressed.) • Use at TEST mode end |
|  |  |  |  | <ul style="list-style-type: none"> • Use when selecting digits. |
|  |  |  |  | <ul style="list-style-type: none"> • Press when fixing values after mode or data selection. • Increments values for each press during data change. |
|  |  |  |  | <ul style="list-style-type: none"> • Press when entering C3 or F mode |
|  Memory Switch | | | | (Tactile switch in the main circuit board) Stores E2ROM data set for each item of the C and F mode. |
| | | | |  |

2.2 Starting Test Mode

| Operation | Display |
|--|---|
| 1. Press and release the ON/OFF key while the TARE key is depressed. |  |
| 2. Release the TARE key. |  |

2.3 Ending Test Mode

| Operation | Display |
|--|---|
| 1. C mode / F mode status |  |
| 2. Release the ON/OFF key after depressing for one second or more. |  |

2.4 Memory Switch

| Operation | Display |
|------------------------------|---------|
| 1. C mode / F mode status | |
| 2. Press the Memory Switch. | |

2.5 C1 Mode – Country No. Setting

2.5.1 Country No. Table

| Country No. | | | | | | | Item | Data | Weight | Digit | Bit |
|-------------|------|-----|-----|-----|------------|-----|---|---|--------|-----------------|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | |
| JPN | ASIA | | USA | | AUS CAN | EU | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | Start range | 0: ±10% 1: ±2% | 1 | 10 ⁰ | D0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | Zero point mark | 0: Lights on at true zero 1: Lights on at Provisional zero | 2 | | D1 |
| 1 | 0 | 0 | 0 | 1 | 0 | 0 | Below true zero indication | 0: "____" 1: Negative value | 4 | | D2 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | Cleaning tare weight by pressing ZERO key | 0: No 1: Yes | 8 | | D3 |
| 0 | 0 | 1 | 0 | 0 | 0 | 1 | Decimal point Indicator | 0: "." 1: "," | 1 | 10 ¹ | D4 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | Over-scale indication | 0: BLANK 1: "OL" | 2 | | D5 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | Tare subtraction | 0: Not possible 1: Possible | 4 | | D6 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | Tare clear with ZERO key | 0: Possible 1: Not Possible | 8 | | D7 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | Stabilized, re-stabilized frequency | 0: 5 times. 1: 8 times. | 1 | 10 ² | D8 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | Re-stabilization Starting range | 0: 2 times over 1: 4 times over | 2 | | D9 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | Stabilized/re-stabilized range | 0: 3 times 1: 5 times | 4 | | D10 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | Section adjustment | 0: No 1: Yes (JAPAN) | 8 | | D11 |
| 804 | 000 | 010 | 020 | 04E | 080 | 090 | ←Display of F mode Measurement Condition | | | | |

2.5.2 Operation

| Operation | Display |
|---|---------|
| 1. Stating Test | |
| 2. Setup of Country No. <ul style="list-style-type: none"> • To select the No., use the [*] key • Example: ASIA=2 | |
| 3. When the C2 mode is then required, press the TARE key. <ul style="list-style-type: none"> • When finishing, press the <input type="checkbox"/> Memory Switch to record the data to the memory, and enter the Ending Test Mode. | |
| | |

2.6 C2 Mode – Scale No. and Decimal Point Setting


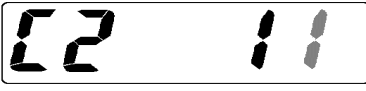





2.6.1 Scale No.[X1] Table

| X1 | Specifications | A/D Counts |
|----|--|-------------------------------|
| 1 | 3kg (2g/1g) Multi interval | 30000 (20/10) |
| 2 | 6kg (5g/2g) Multi interval | 30000 (25/10) |
| 3 | 15kg (10g/5g) Multi interval | 30000 (20/10) |
| 4 | 30kg (20g/10g) Multi interval | 30000 (20/10) |
| 5 | 3kg (1g) Single range | 30000 (10) |
| 6 | 6kg (2g) Single range | 30000 (10) |
| 7 | 15kg (5g) Single range | 30000 (10) |
| 8 | 30kg (10g) Single range | 30000 (10) |
| 9 | 6lb (0.005lb/0.002lb) / 3kg (2g/1g) Multi interval lb/kg | 30000 (25/10) / 30000 (20/10) |
| A | 15lb (0.01lb/0.005lb) / 6kg (5g/2g) Multi interval lb/kg | 30000 (20/10) / 30000 (25/10) |
| B | 30lb (0.02lb/0.01lb) / 15kg (10g/5g) Multi interval lb/kg | 30000(20/10) / 30000 (20/10) |
| C | 60lb (0.05lb/0.02lb) / 30kg (20g/10g) Multi interval lb/kg | 30000(25/10) / 30000 (20/10) |
| D | 100oz (0.1oz/0.05oz) Multi interval oz | 20000 (20/10) |

2.6.2 Decimal Point Indication [X2] Table

| X2 | Display |
|----|---------|
| 1 | "0" |
| 2 | "0.0" |
| 3 | "0.00" |
| 4 | "0.000" |

2.6.3 Operation

| Operation | Display |
|--|---|
| 1. Stating Test |  |
| 2. Scale No. and Decimal point indication mode • Press the [TARE] key ON → (1 st digit flashes) • Example: ASIA 3kg (1g) Single range X1=5, X2=4 2.1 Scale No. Setting • Press the [*] key ON four times (X1=5) 2.2 Decimal point indication Setting • Press the [ZERO] key ON → (2 nd digit flashes) • Press the [*] key ON three times (X2=4) |  <p style="text-align: center;">X2 X1</p>  <p style="text-align: center;">X2 X1</p>  <p style="text-align: center;">X2 X1</p>  <p style="text-align: center;">X2 X1</p> |
| • When the C3 mode is required, press the TARE key. • When finishing, press the <input type="checkbox"/> Memory Switch to record the data to the memory, and enter the Ending Test Mode. |   |

2.7 C3 Mode – Span Adjustment

2.7.1 Operation



| Operation | Display |
|--|---------|
| 1. Stating Test | |
| 2. Span Adjustment mode | |
| 2.1 Press the TARE key ON for two times. | |
| 2.2 Press the [*] key ON → displays original A/D data (The normal range for original A/D data is 1000 to 25000 counts). | |
| 2.3 Press the [*] key ON with zero load on the weigh platter → Approx. 5000 count is displayed. | |
| 2.4 Press the ZERO key if the count diverges from 5000 counts. | |
| 2.5 Put the weight same as weighing capacity on the weigh platter, then press the [*] key → "CAL" is displayed, then the A/D count becomes "35000" on the display. If the count diverges from 5000 counts, unload the weight and repeat the operations as set out in 2.4 and 2.5. | |
| 2.6 When the C3 mode is required, press the TARE key. | |
| • When finishing, press the <input type="checkbox"/> Memory Switch to record the data to the memory, and enter the Ending Test Mode. | |



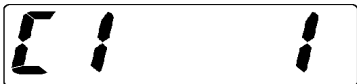
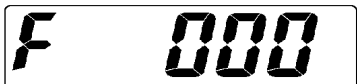


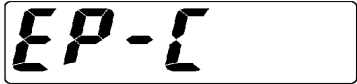





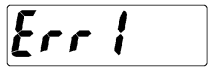
Note

- "CAL" operation can not be performed unless zero-point adjustment is finished.
- "CAL" operation can not be performed unless the original A/D value exceeds 33300 counts when the weight is loaded.

2.8 F Mode – Setting Measuring Conditions and E2ROM Clear

| | |
|---|--|
|  Note | <ul style="list-style-type: none"> • All data has been fixed according to country specifications. • Altering data may not conform to weighing and measuring tests for a country. |
|  Reference | <ul style="list-style-type: none"> • See 1.6 “C1 Mode-Country No. Setting” for Measurement Conditions Setup Table. |

2.8.1 Operation

| Operation | Display |
|--|--|
| 1. Stating Test |  |
| 2. Setting measuring conditions 2.1 Press the TARE key for three times 2.2 Press the [*] key → The least significant digit blinks. Whenever the [*] key is pressed, the required digit can be selected. 2.3 Whenever the [*] key is pressed, the figure of the digit which has blinked does the increment. |    |
| 3. E2ROM clear • Any scene of F mode is possible. Press the ZERO key and [*] key. → "EP-C" then "C1-1" is displayed. |  |
|  Note | At this point, writing in E2ROM of change data in F mode and the default value to E2ROM clear has not been completed. Push the memory switch.  |
|  Note | E2ROM clear initializes Country No., Scale No., Zero, and Span adjustment values. It is necessary to set it again. |
| 4. Writing in E2ROM • Push the memory switch to memorize data. |  |
|  Note | After E2ROM is cleared, if writing is performed in E2ROM without setting Country No., Scale No. nor Zero/Span adjustment value, and the power is turned on, "Err1" is displayed and it is not possible to use the machine. Set C1, C2, and C3 again.  |

◆Data after E2ROM is cleared

| Mode | Data | Item |
|------|------|---|
| C1 | 1 | JAPAN |
| C2 | 11 | Scale No.= 3kg (2g/1g) Multi interval Decimal point indication= " 0" |
| C3 | | Zero point and span adjustment value and each approximate value |
| F | 804 | Measurement condition |

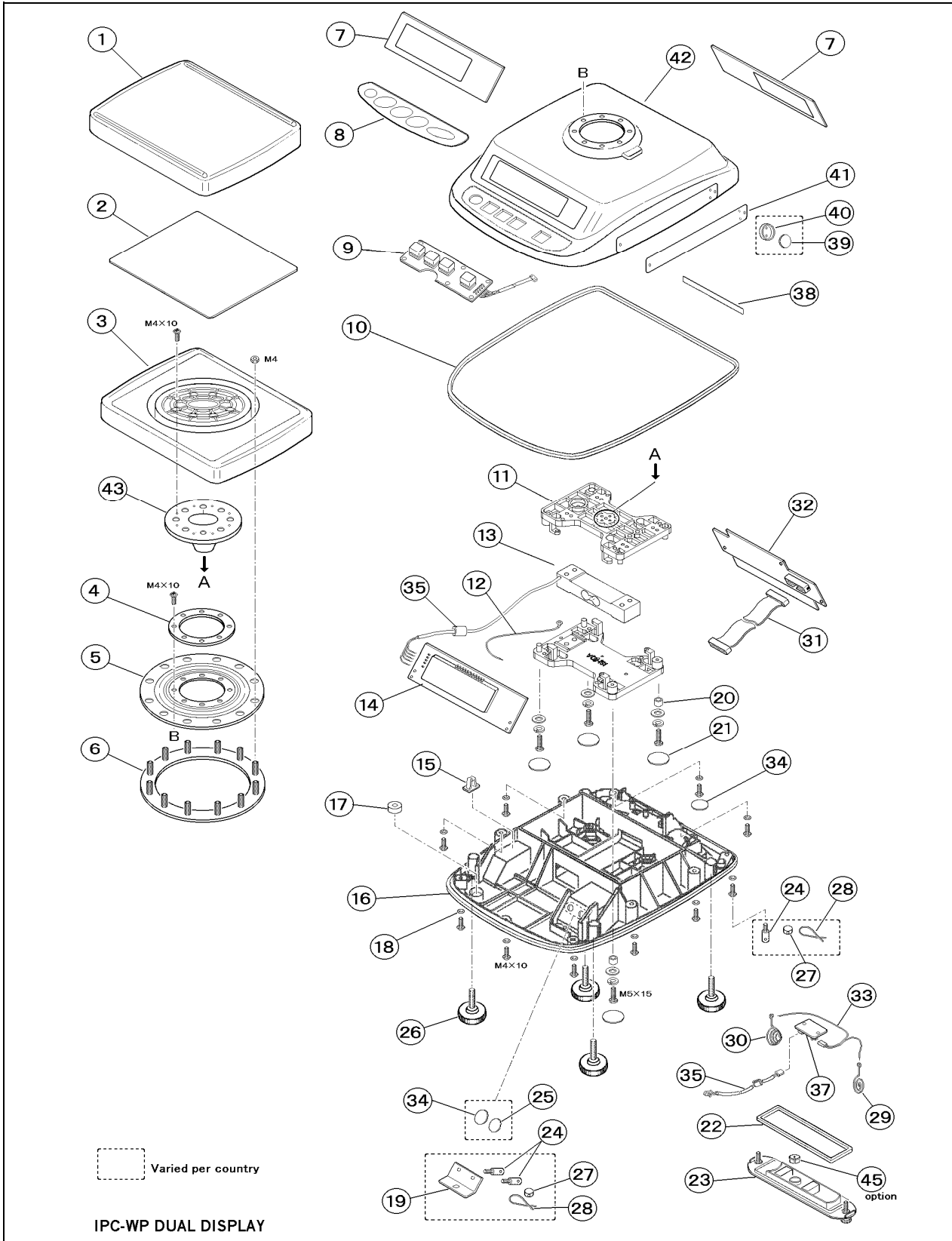
2.8.2 Error No. List

| Error No. | Mode | Item |
|-----------|-------------|--|
| Err1 | At power ON | E2PROM unsetting or garbled data |
| Err2 | At power ON | Outside start range |
| Err3 | Test mode | Outside range where zero point can be adjusted (original A/D 1000 count or less) |
| Err4 | Test mode | (Original A/D 25000 count or more) |
| Err5 | Test mode | Outside span adjustment possible range (original A/D 33300 count or more) |
| Err6 | Normal mode | Original A/D zero count or less |

Chapter 3 Hardware Configuration

3.1 Mechanisms

3.1.1 Dual Display

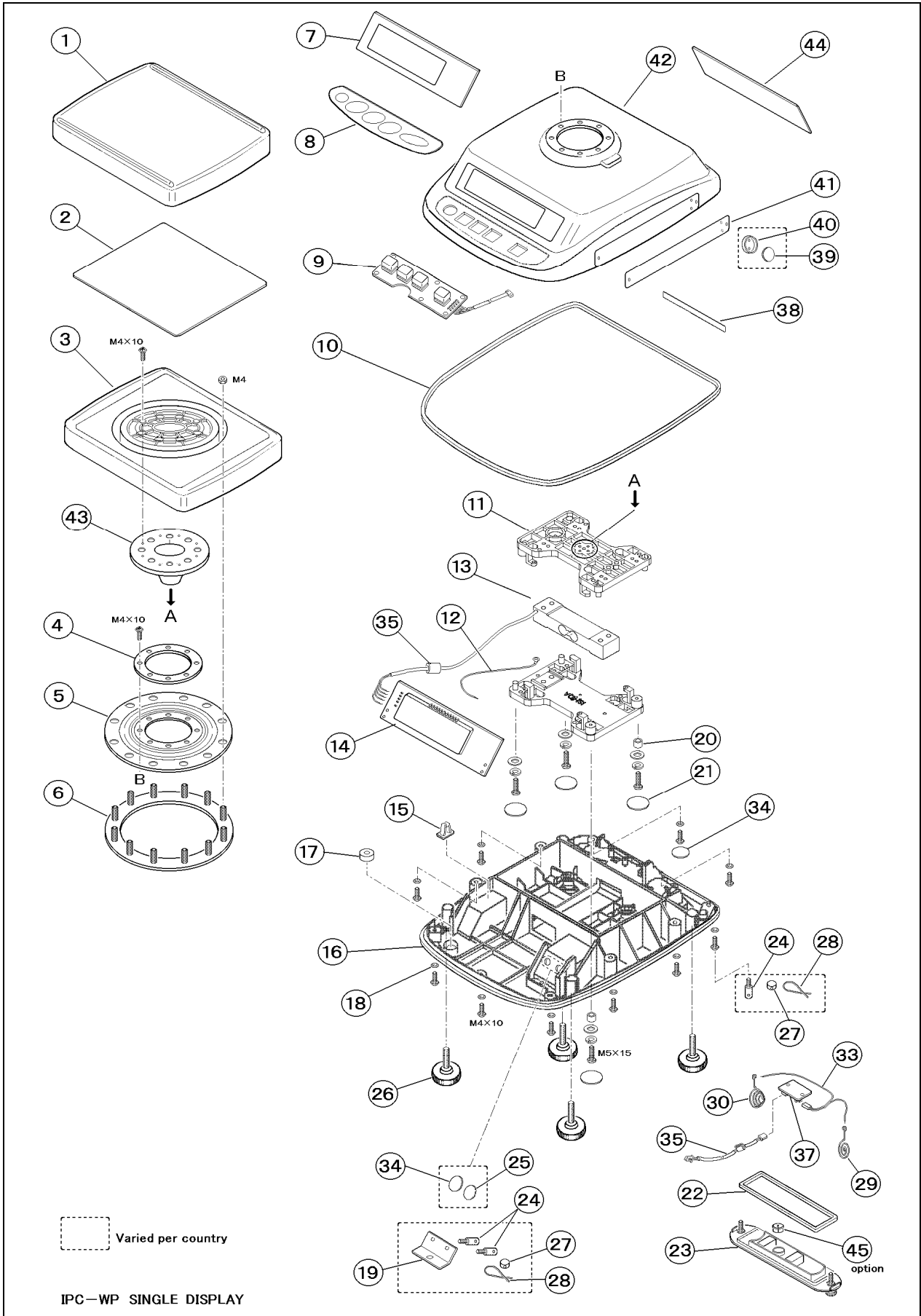


IPC-WP Dual Display Service Parts List

| No. | Parts Name | Weighing Capacity | Q'ty |
|-----|-----------------------------------|--------------------|------|
| 1 | PLATTER | | 1 |
| 2 | SHEET PROTECT | | 1 |
| 3 | PLATTER BRACKET | | 1 |
| 4 | SUS RING INSIDE | | 1 |
| 5 | AIRPROOF RUBBER RING | | 1 |
| 6 | SUS RING OUTSIDE | | 1 |
| 7 | SHEET 'DISPLAY' (---KG) | Varied per country | 2 |
| 8 | SHEET 'DISPLAY' SWITCH | Varied per country | 1 |
| 9 | PWB 'PS-022, KEY | | 1 |
| 10 | AIRPROOF SPONGE BASE | | 1 |
| 11 | PLATE SUPPORT | | 2 |
| 12 | HARNESS ,C2, GND | | 1 |
| 13 | LOAD CELL | 3kg/6kg/15kg | 1 |
| 14 | PWB,PS-021A,MAIN | | 1 |
| 15 | WIRE SADDLE | | 1 |
| 16 | BASE | | 1 |
| 17 | LEVEL UNIT | | 1 |
| 18 | O-RING (RUBBER) 3.75*1.8 | | 10 |
| 19 | | Varied per country | |
| 20 | SLEEVE | | 2 |
| 21 | SHEET_3 | | 5 |
| 22 | SPONGE BATTER COVER | | 1 |
| 23 | BATTERY COVER ASSY | | 1 |
| 24 | | Varied per country | |
| 25 | SHEET_2 | | 1 |
| 26 | FOOT LEVEL | | 4 |
| 27 | | Varied per country | |
| 28 | | Varied per country | |
| 29 | SPRING 1 | | 1 |
| 30 | SPRING 2 | | 1 |
| 31 | HARNESS ,S2, DISPLAY | | 1 |
| 32 | PWB , PS-023, DISPLAY | | 1 |
| 33 | HARNESS ,C3, BATTERY | | 1 |
| 34 | SHEET | | 2 |
| 35 | HARNESS ,S2, AC-ADAPTER | | 1 |
| 36 | FERRITE CORE (K5B RH14.2*15*6.36) | | 1 |
| 37 | PWB 'PS-019' | | 1 |
| 38 | SHEET_1 | | 1 |
| 39 | LEAD | Varied per country | 1 |
| 40 | HOLDER | Varied per country | 1 |
| 41 | NAMEPLATE | Varied per country | 1 |
| 42 | CASE | | 1 |
| 43 | BRACKET | | 1 |
| 44 | | | |
| 45 | BATTERY RUBBER PLUG | Option | 1 |

Note: Parts number may change without notice due to product improvement.

3.1.2 Single Display



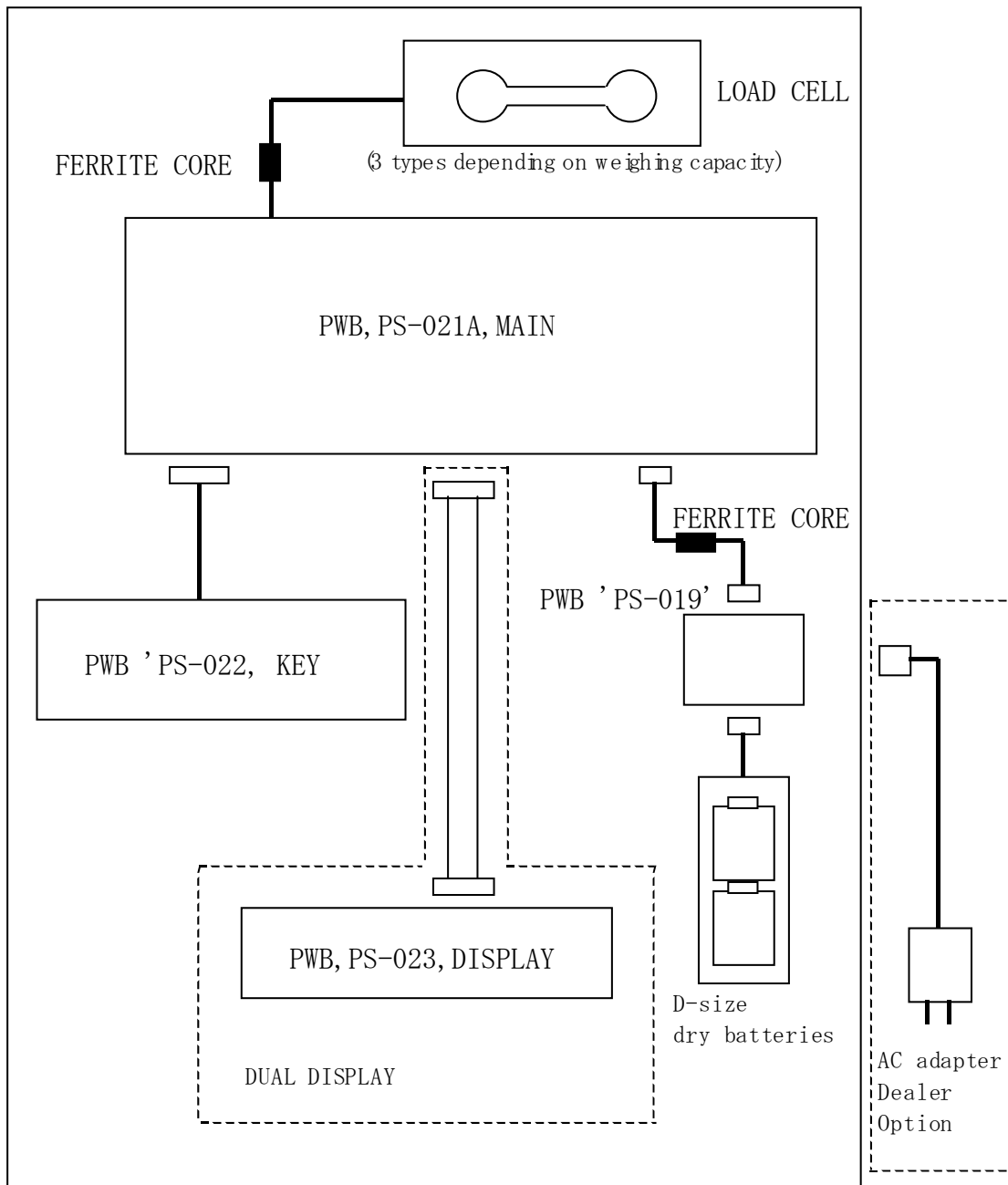
IPC-WP Single Display Service Parts List

| No. | Parts Name | Weighing Capacity | Q'ty |
|-----|-----------------------------------|--------------------|------|
| 1 | PLATTER | | 1 |
| 2 | SHEET PROTECT | | 1 |
| 3 | PLATTER BRACKET | | 1 |
| 4 | SUS RING INSIDE | | 1 |
| 5 | AIRPROOF RUBBER RING | | 1 |
| 6 | SUS RING OUTSIDE | | 1 |
| 7 | SHEET 'DISPLAY' (--- KG) | Varied per country | 1 |
| 8 | SHEET 'DISPLAY' SWITCH | Varied per country | 1 |
| 9 | PWB 'PS-022, KEY | | 1 |
| 10 | AIRPROOF SPONGE BASE | | 1 |
| 11 | PLATE SUPPORT | | 2 |
| 12 | GND CORD | | 1 |
| 13 | LOAD CELL | 3KG/6KG/15KG | 1 |
| 14 | PWB,PS-021A,MAIN | | 1 |
| 15 | WIRE SADDLE | | 1 |
| 16 | BASE | | 1 |
| 17 | LEVEL UNIT | | 1 |
| 18 | O-RING (RUBBER) 3.75*1.8 | | 10 |
| 19 | | Varied per country | 1 |
| 20 | SLEEVE | | 2 |
| 21 | SHEET_3 | | 5 |
| 22 | SPONGE BATTER COVER | | 1 |
| 23 | BATTERY COVER ASSY | | 1 |
| 24 | | Varied per country | 3 |
| 25 | SHEET_2 | | 1 |
| 26 | FOOT LEVEL | | 4 |
| 27 | | Varied per country | 2 |
| 28 | | Varied per country | 2 |
| 29 | SPRING 1 | | 1 |
| 30 | SPRING 2 | | 1 |
| 33 | HARNESS,C3, BATTERY | | 1 |
| 34 | SHEET | | 2 |
| 35 | HARNESS ,S2, AC-ADAPTER | | 1 |
| 36 | FERRITE CORE (K5B RH14.2*15*6.36) | | 1 |
| 37 | PWB 'PS-019' | | 1 |
| 38 | SHEET_1 | | 1 |
| 39 | LEAD | Varied per country | 1 |
| 40 | HOLDER | Varied per country | 1 |
| 41 | NAMEPLATE | 3KG/6KG/15KG | 1 |
| 42 | CASE | | 1 |
| 43 | BRACKET | | 1 |
| 44 | BRCKPANEL | | 1 |
| 45 | BATTERY_RUBBER_PLUG | Option | 1 |

Note: Parts number may change without notice due to product improvement.

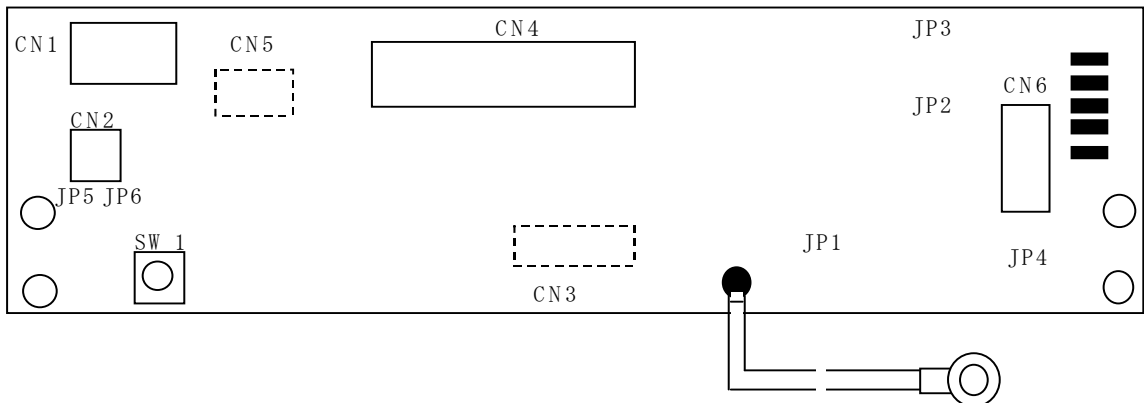
3.2 Electric Concerns

3.2.1 Block Diagram



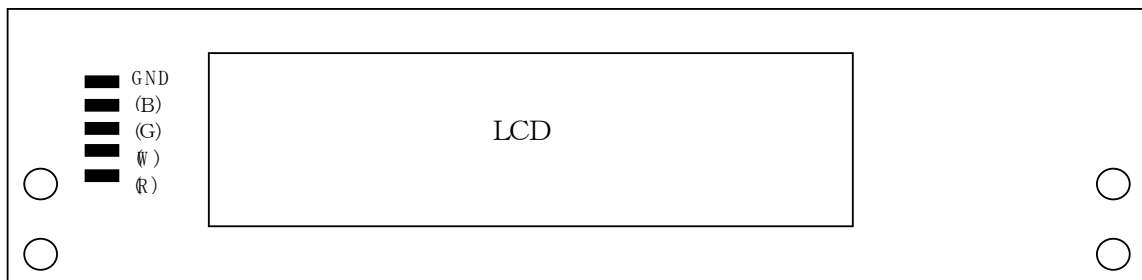
3.2.2 Main Board PS-021

◆ Parts side



Note: There is no grounding wire in the maintenance parts.

◆ LCD side



■ Connector

CN1: Key input

| Pin No. | Function | Remarks |
|---------|----------|---------|
| 1 | GND | |
| 2 | SW4 | tare |
| 3 | SW3 | * |
| 4 | SW2 | zero |
| 5 | SW1 | ON/OFF |

CN2: Power source input

| Pin No. | Function | Remarks |
|---------|--------------|----------------|
| 1 | Power source | DC 2.4 to 6.0V |
| 2 | GND | |

CN3: Not used

CN4: LCD display data output

CN5: Not used

CN6: Load cell input

| Pin No. | Soldering land | Function | Remarks |
|---------|----------------|----------|-------------|
| 1 | (R) | Vcc | DC5V |
| 2 | (W) | GND | GND |
| 3 | (G) | IN+ | Approx 2.5V |
| 4 | (B) | IN- | Approx 2.5V |
| 5 | GND | GND | GND |

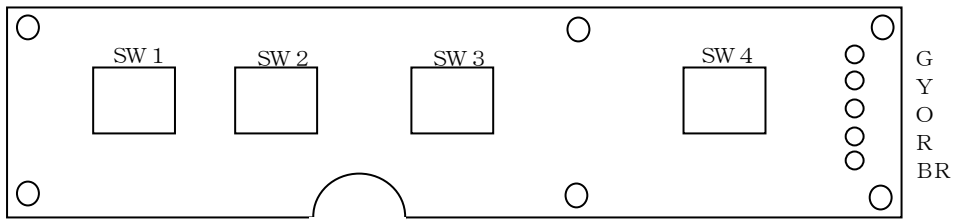
◆Jumper

JP1: Ferrite cut
JP2: Ferrite cut
JP3: Ferrite cut
JP4: Ferrite cut
JP5: Filter cut
JP6: Filter cut

◆Switch

SW5: E2ROM Memory switch

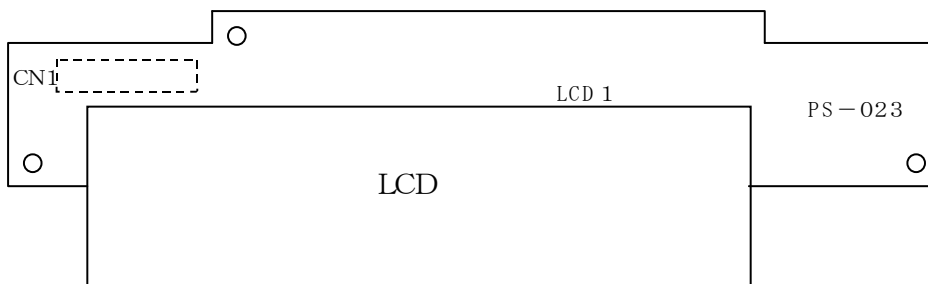
3.2.3 Switch Board PS-022



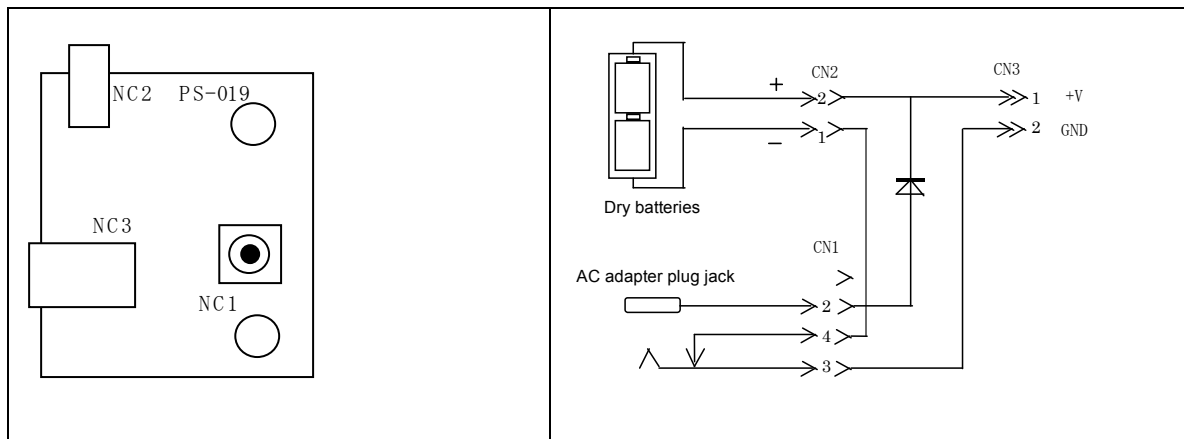
• Harness

| Pin No. | Function | Remarks |
|---------|----------|---------|
| BR | GND | |
| R | SW4 | tare |
| O | SW3 | * |
| Y | SW2 | zero |
| G | SW1 | ON/OFF |

3.2.4 Dual Display Board PS-023





3.2.5 Connection Board PS-019




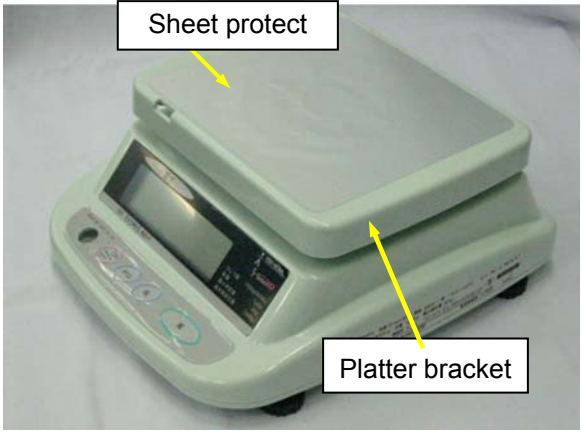
Chapter 4 Maintenance

4.1 Disassembly Procedure

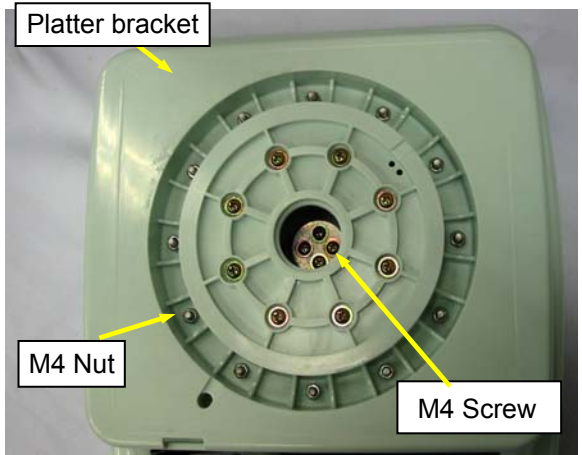
| | |
|---|--|
|  Note | The seal restricts the peel according to the country by a no report and doing as wanting put it. Follow the relevant procedure for the respective countries. |
|  Caution | The water proof sheet is to maintain the water proofing property. When you remove the sheet, replace it with a new one. |

4.1.1 Case Disassembly Procedure & Assembly Procedure

1. When using dry batteries, remove them before disassembly or assembly.
When using an AC adaptor, disconnect it before disassembly or assembly.
 2. Remove the weighing platter.
 3. Remove the Water proof sheet attached to the platter bracket.
-  **Caution**
When re-assembling the scale, use a new Sheet protect.
When affixing the new sheet protect, completely remove the starch left on the bracket.
Otherwise, the water proofing property will be deteriorated.



4. Remove the 12 M4 nuts.
5. Remove the 4 M4 screws, then remove the platter bracket.



6. Remove the Approval seal.

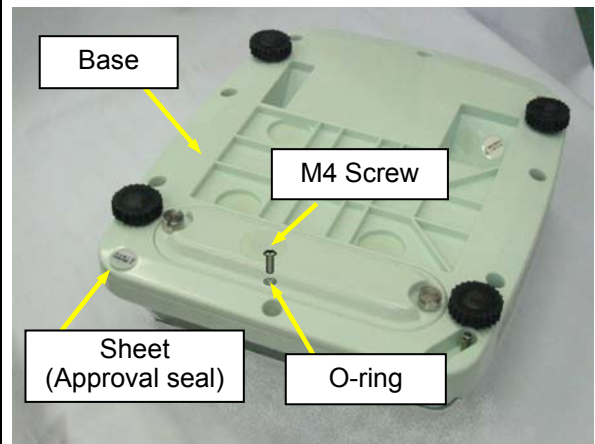
7. Remove the 10 M4 screws located around the base.



Caution

When re-assembling the scale, first fasten the screws tentatively, then tighten them completely one by one in a diagonal sequence.

If you strongly tighten a particular point first, the water proofing property will be deteriorated because you cannot push in the packing between the upper case and the base evenly.



8. Pull out the connector from CN1 on the main board, then remove the upper case.

Perform this procedure in reverse for assembly.

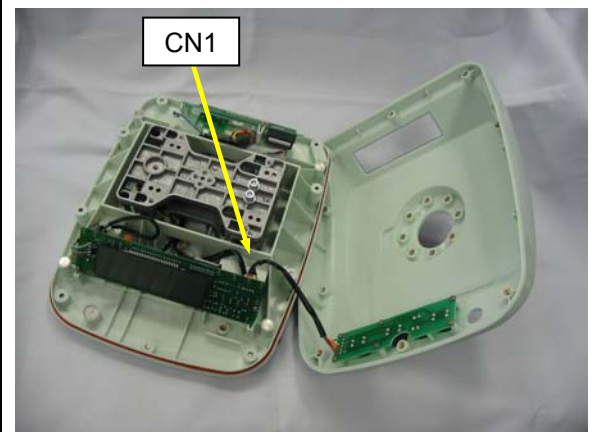


Caution

Affix a new Sheet protect.

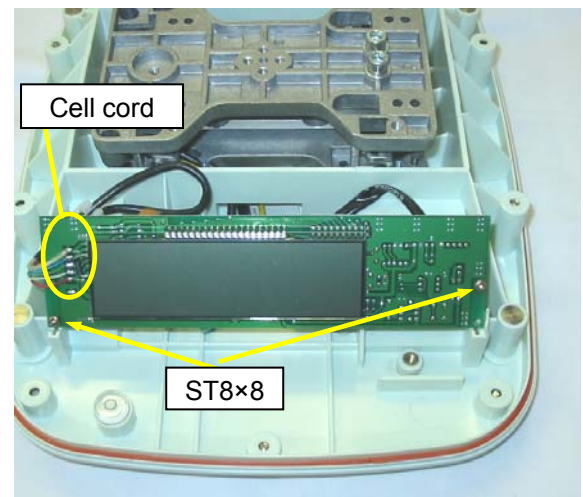
When affixing the new sheet protect, completely remove the starch left on the bracket.

Otherwise, the water proofing property will be deteriorated.

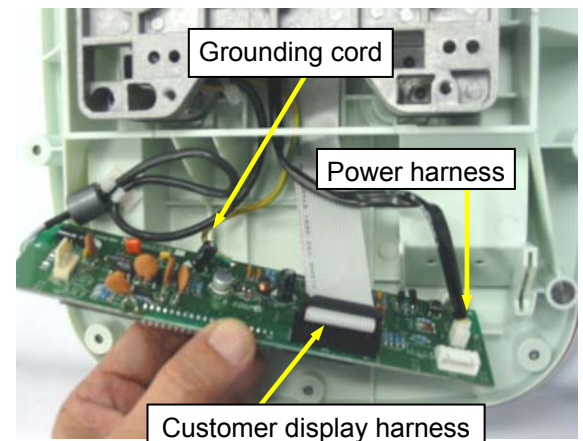


4.1.2 Main Board (PS-021) Replacement

1. Detach the cell cord wires by using a soldering iron.
2. Remove the screw (ST8x8).

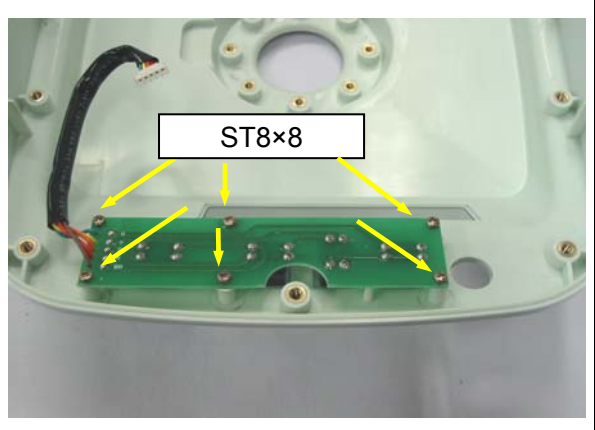


3. Disconnect the power harness from the connector.
4. Disconnect the power display harness from the connector.
5. Remove the grounding wire by using a soldering iron.
6. Perform the procedure in reverse when assembling a new main board.
7. After re-assembling all the parts (from the case to the weighing platter), clear E2ROM and perform settings and span adjustment in C1, C2, and C3 modes.



4.1.3 Switch Board (PS-022) Replacement

1. Remove the 6 screws (ST8x8).
- Perform this procedure in reverse for re-assembly.

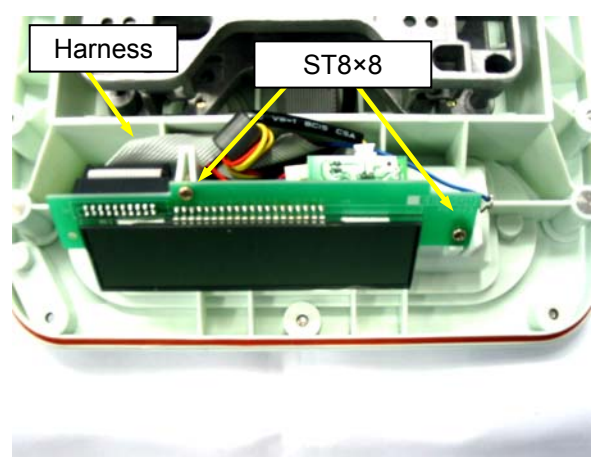


4.1.4 Customer Display Board (PS-023) Replacement

1. Disconnect the harness from the connector.

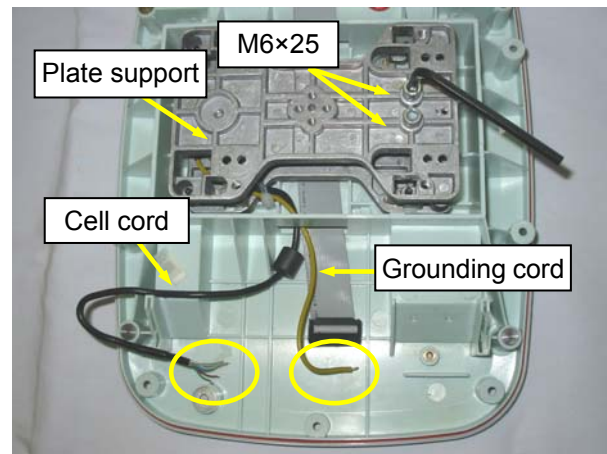
2. Remove the screw (ST8x8).

Perform this procedure in reverse for re-assembly.

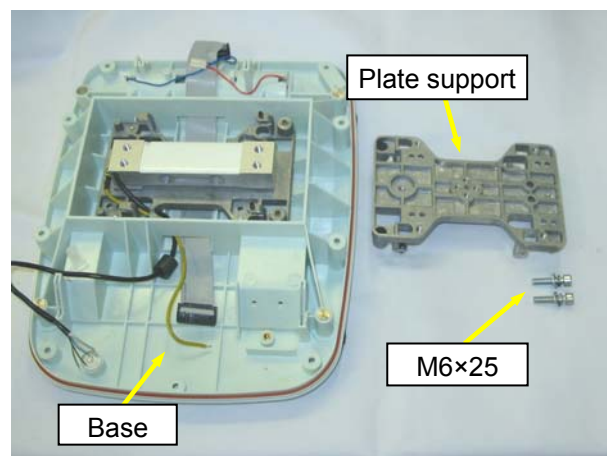


4.1.5 Load Cell Replacement

1. Disconnect the cell cord wires and the grounding wires by using a soldering iron in the same manner as for Switch Board Replacement (PS-022).



2. Remove the 2 screws (M6x25) on the Plate support by using a hexagonal wrench.



3. Remove the 4 Sheet 3s.

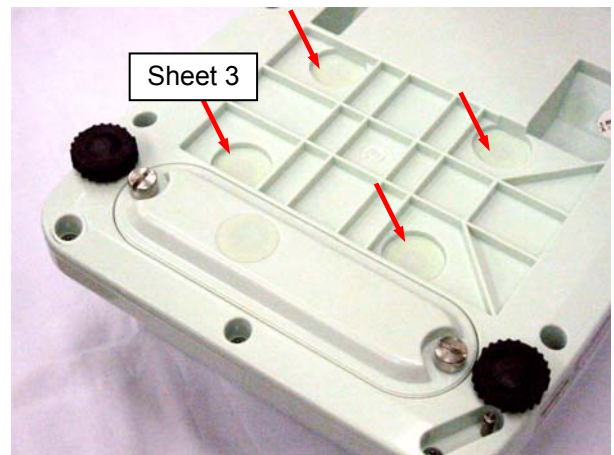


Caution

When re-assembling the scale, use a new sheet protect.

When affixing the new sheet protect, completely remove the starch left on the bracket.

Otherwise, the water proofing property will be deteriorated.

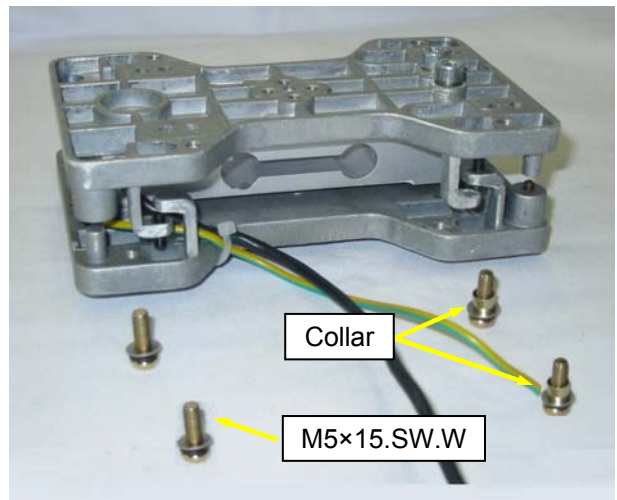


4. Remove the 4 Screws (M5x5)

The picture shows the position of the screws (M5x5).

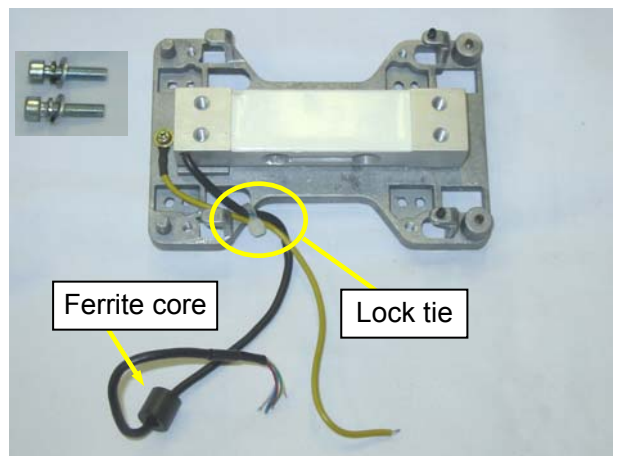
The two screws on the right side include a collar, flat washer, and spring washer.

The other two screws on the left side include a flat washer and spring washer, but no collar.



5. Cut the lock tie that is holding the cell cord wires and grounding wires to the bottom of the Platter bracket.

6. Pull out the Ferrite core that is inserted into the cell cord.



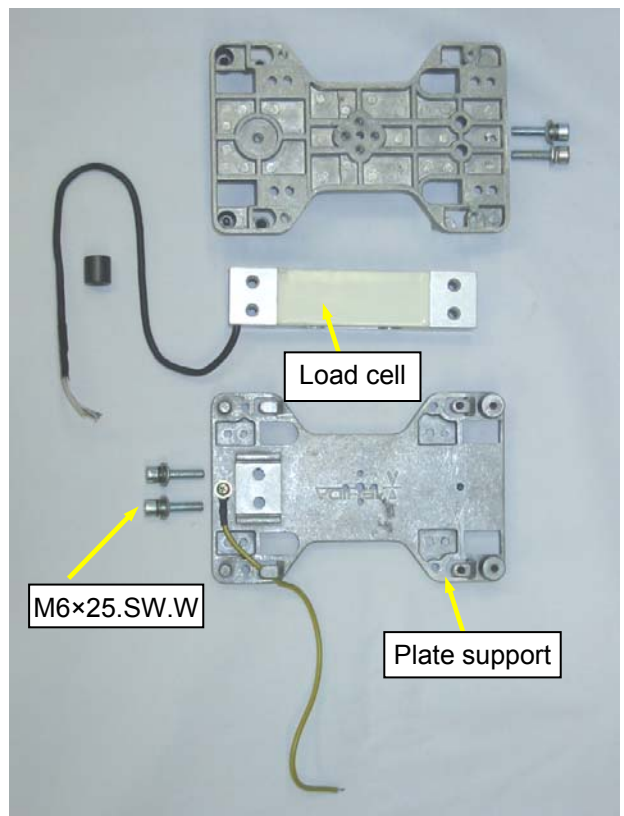
7. Remove the 2 Screws (M6x25) that are holding the Load cell.

Load Cell

3kg: CZL-6d-C3-5kg-1000

6kg: CZL-6d-C3-10kg-1000

15kg: CZL-6d-C3-25kg-1000

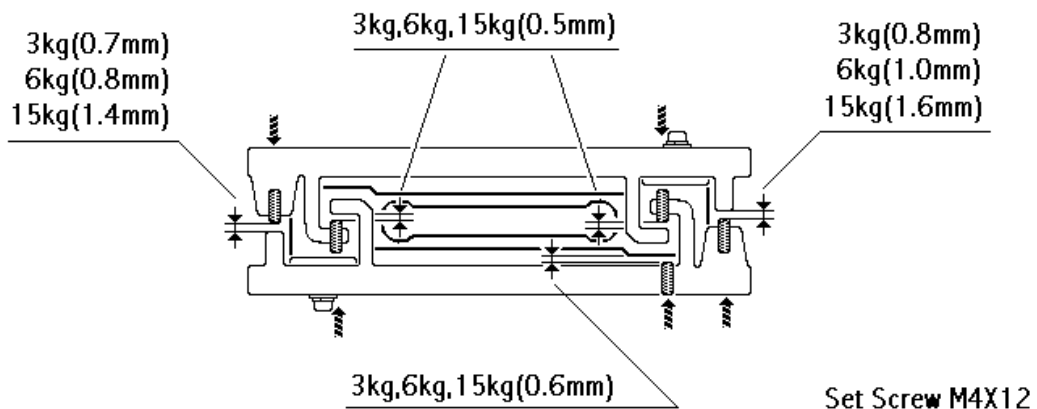


Assembly procedure

1. Adjust the clearance limit by tightening the screw, spring washer, and flat washer on the plate support.
2. When you finish adjusting the clearance, paste the screw lock coagulant.



The clearance limit is shown below.



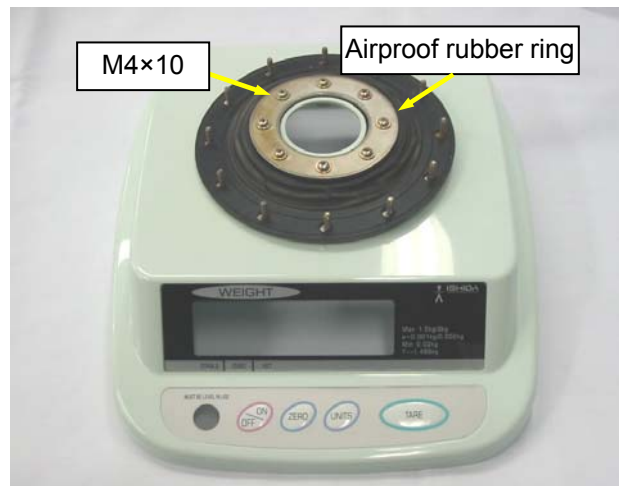
3. For assembly, perform the disassembly procedure in reverse.
4. After re-assembling all the parts, clear E2ROM and perform settings and span adjustment in C1, C2, and C3 modes.

4.1.6 Airproof Rubber Ring Replacement

 **Caution**

If the Airproof rubber ring is damaged, make sure that there is no water-ingression in the scale.

1. Remove the 8 Screws (M4x10) on the SUS ring inside.
2. Remove the Diaphragm and SUS ring outside.

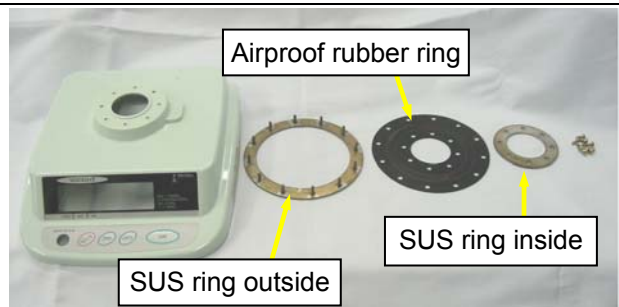


3. Perform the procedure in reverse for assembly.

 **Caution**

When re-assembling the scale, fasten screws tentatively, then tighten them completely one by one in a diagonal sequence.

If you strongly tighten a particular point first, the water proofing property will be deteriorated because you cannot push in the packing between the upper case and the base evenly.



4.2 Troubleshooting

| Symptom | Cause | Measure |
|--|---|--|
| 1. The display check does not start when the power switch is pushed. | 1. Trouble of dry battery power supply system | <ul style="list-style-type: none"> • Check and replace dry batteries • Confirmation and exchange of battery harness |
| | 2. AC adaptor trouble | <ul style="list-style-type: none"> • Check output voltage (DC2.4-6.0V) and replace AC adaptor |
| | 3. Main board PS-021 trouble | <ul style="list-style-type: none"> • Replace the main board PS-021. |
| 2. Power ON → Display check → "Err1" | 1. Garbled E2ROM data or initialized state. | <ul style="list-style-type: none"> • Initialize, perform C1, and C2 and C3 settings, then push the memory switch. |
| | 2. Main board PS-021 trouble | <ul style="list-style-type: none"> • Replace the main board PS-021. |
| 3. Power ON → Display check → "Err2" | 1. Outside weight value start range | <ul style="list-style-type: none"> • Check if anything is placed on the platter. If so, remove it. • Replace the load cell. • Replace the main board PS-021. |
| 4. Power ON → Display check → "0"kg does not appear on the display. | 1. Weight value is unstable. | <ul style="list-style-type: none"> • Check if something comes in contact with the platter. If so, remove it. • Check if there is wind or vibration near the machine. If so, avoid these. • Replace the main board PS-021. • Replace the load cell. |
| 5. Weight varies at four corners. | 1. External or load cell trouble | <ul style="list-style-type: none"> • Check if the horizontal state is being kept. • Check if there is foreign article between the platter and the case. • Check if space of limit adjustment screw is narrow • Replace the load cell. |
| 6. The ZERO or TARE key does not function. | 1. Outside of zero-adjustment or tare subtraction range | <ul style="list-style-type: none"> • Check that zero-adjustment or tare subtraction is within the specified range. |
| | 2. Weight value is unstable. | <ul style="list-style-type: none"> • Check if something comes in contact with the platter. If so, remove it. • Check if there is wind or vibration near the machine. If so, avoid these. • Replace the main board PS-021. • Replace the load cell. |
| 7. The power supply cuts when time passes. | 1. Auto power OFF setting. | <ul style="list-style-type: none"> • Check if the auto power OFF function works. • Default is 60 minutes. |
| | 2. Main board PS-0 21 trouble | <ul style="list-style-type: none"> • Replace the main board PS-021. |



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