METTLER TOLEDO

8442

Stand Alone Scale / Printer

Technical Manual

1325230TC
(7/00)

INTRODUCTION

This publication is provided solely as a guide for individuals who have received Technical Training in servicing the METTLER TOLEDO product.
Information regarding METTLER TOLEDO Technical Training may be obtained by writing to:

METTLER TOLEDO
1900 Polaris Parkway
Columbus, Ohio 43240
(614) 438-4511

FCC Notice

This device complies with Part 15 of the FCC Rules and the Radio Interference Requirements of the Canadian Department of Communications. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

METTLER TOLEDO RESERVES THE RIGHT TO MAKE REFINEMENTS OR CHANGES WITHOUT NOTICE.

PRECAUTIONS

READ this manual BEFORE operating or servicing this equipment.

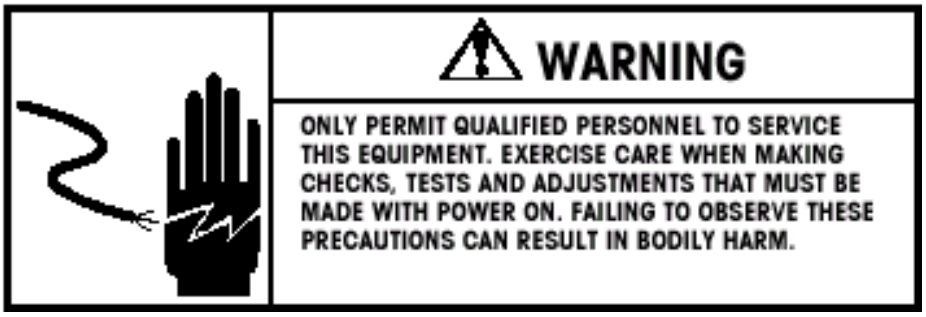
FOLLOW these instructions carefully.

SAVE this manual for future reference.

DO NOT allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.



Contents

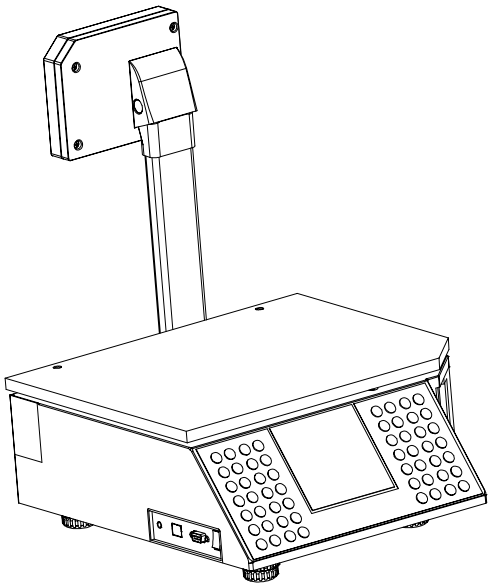
1 Specifications

General Description

The METTLER TOLEDO 8442 is a digital computing scale with an integrated thermal label printer. 8442 is a stand alone scale, which has a database containing the PLU, Exra Text and etc. A PC program -SPCT is avaliable to download or upload database from PC. The 8442 has 512K RAM. The PLU memory can handle up to 1,000 items.

The standard 8442 weighing capacity is 30 x .01lb U.S., and 15 x .005kg or 6 x .002kg on Canada version. This scale integrates seven-segment display on each display for weight, tare, unit price and total price. It also includes a 16 character display on each side to show item description.

The 8442, like all METTLER TOLEDO products is designed for maximum durability and reliability in even the most demanding application environments. The 8442 is manufactured in one of METTLER TOLEDO's ISO 9000 certified facilities so you are assured to receive a high quality product.



Features

· 30 x .01lb U.S. and 15 x .005kg or 6 x .002kg on Canada version.

· LCD display with LED backlight on both operator side and customers side.

· Four seven-segment numeric display for : 5 digits weight, 5 digits tare, 6 digits unit price and 6 digits total price. One 16-character alphanumeric display for programming and item description.

· Indicators for zero, net and prepack mode.

· Compliance with H44 3000e, R76 OIML 3000e and Canadian W&M.

· Tactile feel membrane keyboard and an audible beeper.

· A 28 position preset keyboard for fast PLU retrieval.

· Real time clock and RAM are backed up by a lithium rechargable battery with at least 1 month memory retention without external power.

· Push button zero (auto zero at power up) and automatic zero tracking.

· VOID key for clearing previous transaction from accumulator.

· Price, Shelf Life, Quantity, Net Weight, lable format and Extra Text override capability.

· Computer interface port (RS232) for use with SPCT software.

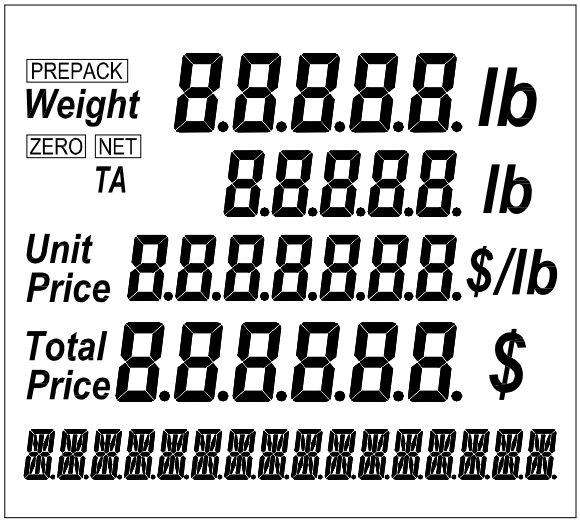
· Integral thermal label printer with 8 dots/mm print head. Adjustable 40 to 60mm width. Support both UPC and EAN symbology. The printer can use die cut labels, continuous strip labels and continuous thermal paper.

Customer/Vendor Display

There are two displays on the scale, one is on the vendor side and the other is on the customer side. The vendor display is mounted in the top cover. The customer display can be installed either on the base or on the tower.

These two LCD displays incorporate LED backlight. The backlight is orange color. Both the customer and vendor displays show 5 digits of weight, 5 digits of tare, 6 digits of unit price and 6 digits of total price values along with cursors for Zero, Net and Prepack mode. Both the customer and vendor displays can also show 16 of alphanumeric characters for commodity description, marquee message and prompt message during programming.

The Weight and Total Price display characters are 12mm high by 7.4mm wide. The Tare and Unit Price display are 10mm high by 6mm wide. The alphanumeric characters are 7.6mm high and 5mm wide.



The Display Legends Definitions are shown in the following Table.

CURSOR	DEFINITION
NET	Indicates a tare has been entered and the weight is net .
ZERO	Indicates scale at zero, i.e. within 1/4 increment.
PREPACK	Indicates Prepack mode has been selected.

Weighing Capacity

The standard 8442 weighing capacity is 30 x .01lb U.S., and 15 x .005kg or 6 x .002kg on Canada version. The built-in scale is designed to withstand static overloads up to five times the rated capacity without sustaining permanent damage. A weight greater than five increments over capacity causes the weight display to "-----" and printing is inhibited. If the scale is under zero by more than five increments, the weight field will display dashes "l_____l". When zero can not be captured, the weight field will display EEEEE.

Keyboard

The keyboard consists of a membrane switch pad with an overlay that thas raised domes over the switch positions to provide tactile feedback and an audible tone.
The 28 keys on the right keypad are used for entering basic scale functions.

Meaning of the function key

CODE	To activate code mode, or log on/off an operator
↓	To scroll down to the next selection
↑	To scroll up to the previous selection
ENTER	To confirm a selected item
CLEAR	To clear last entry
PRINT	To register a transaction and issue a label. This key is used as a default operator key.
VOID	To delete a transaction from the scale's accumulators
MODE	To switch the scale modes
FEED LABEL	To actuate label feeding
ZERO	To return the scale to zero
TARE	To tare the weight or clear a tare
PRICE CHANGE	To override the price of a PLU
CNT/WT CHANGE	To override the quantity or the net weight of a By Count item.
SHELF LIFE CHANGE	To override the sell by date
ET CHANGE	To override the Extra Text number of a called PLU
ADV. CHANGE	To override the Advertise Text number of a called PLU
LBL FMT CHANGE	To override the label format number of a called PLU
QTY LABEL	To print a batch of By Count PLU labels.

The 28 key on the left keypad can be programmed as direct access keys.The direct access key should be configured first before being used, by means of KEYBOARD CONFIGURATION.

Meaning of Direct Access Key

PLU PRESET	To recall a PLU, all of the direct access keys can be configured as PLU PRESET key
DISCOUNT KEY	To offer a discount for a called PLU. Only "Y" can be configured as DISCOUNT KEY.
OPERATOR KEY	To register a transaction into the operator's accumulator, who has logged on this key. Only "Z", "." and "SPACE" keys can be configured as OPERATOR KEY. "PRINT" key on the function key area also is a OPERATOR KEY.

The following function keys can be used as programming keys while entering PLU description, store address, Extra Text and etc.

MODE	Go to the beginning of the line
QTY LABEL	Go to the end of the line
LBL FMT CHANGE	Move the cursor to the left
ADV. CHANGE	Move the cursor to the right
PRICE CHANGE	Switch between insert status and overwrite status
ZERO	Backspace
TARE	Carriage return
VOID	Delete
PRINT	Shift-lock key, normal/CAPITAL character switching
CLEAR	Clear the whole text
ET CHANGE	Enter a character in ASCII table

CNT/WT CHANGE	Select font size, only used for ticket header and footer
SHELF LIFE CHANGE	Centralize the text, only used for ticket header and footer

The following numerical keys can be used to enter the special characters while SHIFT is active.

0	=
1	!
2	-
3	+
4	$
5	%
6	&
7	/
8	(
9	)

Tare

Tare is limited to a maximum of 30 lb or 6kg.

Memory Specifications

The Main Logic PCB contains a rechargable lithium battery that will retain backup PLU's and the time/date in the SRAM memory for up to one month. The Main Logic PCB contains 512K of SRAM memory which will hold 1000 PLU and 150 Extra Texts . Other data, including calibration data are retained in the EEPROM which requires no battery for memory retention.

Agency Approvals

The model 8442 is designed to meet the requirements of the following agencies:

UL	UL1950 Information Technology Equipment
cUL	CSA Std. C22.2 No. 950 Information Technology Equipment.
NIST	NTEP requirements for Class III weight device. NTEP/California Electronic Cash Registers General Code Requirements
FCC	Requirements for FCC Conducted Emissions and Radiated Emissions for a Class A device.

Label Printer

Labels can be printed with the built-in thermal label printer. The printer uses a 60mm (2.36'') wide, high resolution, 8 dots/mm, thermal printhead. The printer driver PCB incorporates a heat detection circuit to ensure the best possible print quality while eliminating any possibility of overheating the head. Overheating is the major cause of premature printhead failure. The print speed and density can be adjusted via SERVICE MENU to compensate for varying types of labels.

The printer can use standard label sizes ranging from 48mm(1.9'') to 94mm(3.7") long, and continuous strip stock or continuous thermal paper. Label can be loaded in a stripped or unstripped mode. In stripped mode, the labels automatically peel from the backing liner. In the unstripped mode, the label and liner will be delivered. A tear/bar allows continuous stock to be torn to exact length needed. Print specifications for the thermal printer are as follows:

PRINTHEAD TYPE:	Thick Film Thermal Printhead
DOT DENSITY:	8 Dots/mm
PRINT SPEED:	75 mm/second (2.95 in/Second) maximum

Electrical

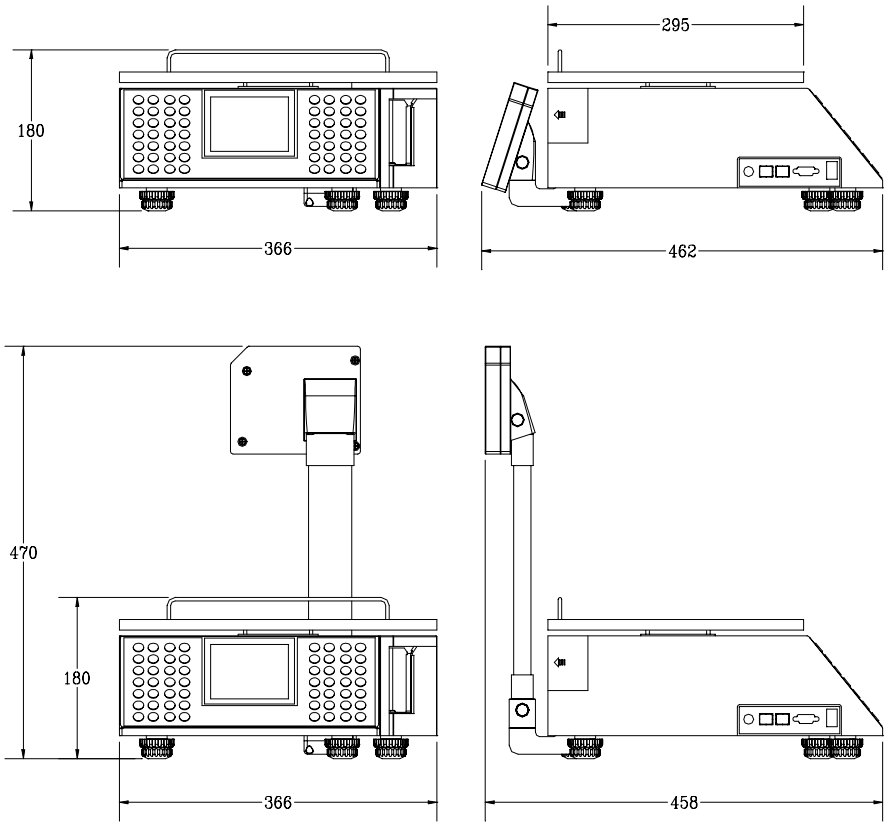
The 8442 requires a dedicated grounded 120 VAC, 60 HZ supply, and draws 0.3 amps (scale/printer versions.) The AC line (including ground) must not be shared with noise and surge generating equipment such as, electric motors, compressors, thermostats, fluorescent lights, etc. A line conditioning device is recommended to provide protection from surges and spikes. The Power supply uses an electronic overload protection circuit designed to protect the internal electrical components.

Operating & Storage Temperature

Operating Range: 0°C to 40°C (32°F to 104°F), humidity from 5% to 95% non-condensing.

Storage Range: 0°C to 70°C (32°F to 158°F), humidity from 5% to 95% non-condensing.

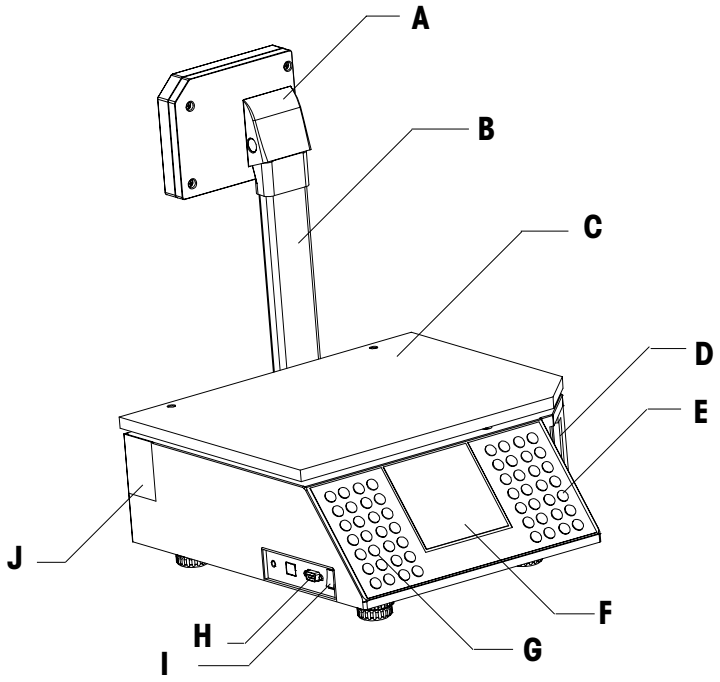
Dimensions



Unit: mm

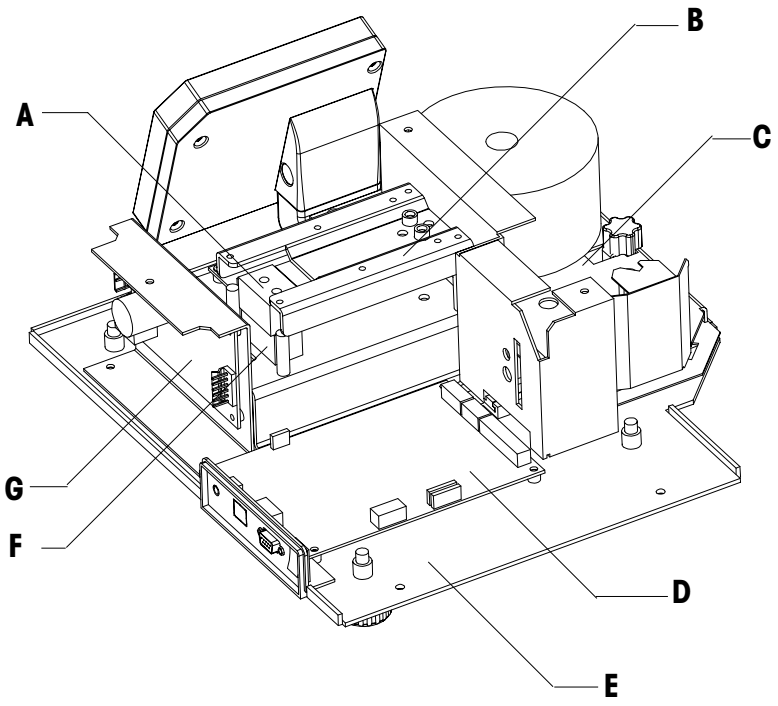
Major Component Map

External Components



Ref	Description
A	Customer Display
B	Tower
C	Platter
D	Printer
E	Numeric Keypad
F	Operator Display
G	Preset Keypad
H	Serial Port
I	Power Switch
J	Tower box

Internal Components



Ref	Description
A	Load Cell
B	Spider, lower
C	Printer
D	Main Logic PCB
E	Base
F	Spacer, lower
G	Switching Power Supply

Database Records

The PLU database file consists of:

PLU	The Price Look Up Number is a number between 1 and 999999 used for database indexing and to call up a record
ITEM NUMBER	The product number that is encoded in the UPC or EAN Bar Code symbol. This number can be inputed up to 13 digit.
DESCRIPTION	Text used to describe the product. Normally two lines of 36 characters.
GROUP	A two digit number between 1 and 20 used for reports.
UNIT PRICE	Pricing range is 9999.99
TARE	A two digit number between 1 and 16 used to link a preprogrammed tare to the PLU record. The tare range is up to 30.00 lb or 6.000 kg.
LABEL FORMAT	A two digit number between 1 and 15 used for label format indexing.
ADVERTISE TEXT	A two digit number between 1 and 10 used to link a preprogrammed Advertise Text Record to the PLU record.
EXTRA TEXT	A three digit number between 1 and 150 used to link a preprogrammed Extra Text Record to the PLU record.
SHELF LIFE	0 to 499 days, used for Sell-By or Best Before dates printed on the label.
FIX WEIGHT	The Net Weight of By Count PLU. Up to 30.00 lb or 15.000 kg.

Label Specifications

Label formatting is flexible with the 8442. Many different types of labels can be used. The following Table shows standard label sizes available from METTLER TOLEDO and general guidelines for fields on the labels.

Label Length	Label Width	# Lines of Extra Text
1.9 in/48 mm	2.32 in/59 mm	N/A
2.1 in/53 mm	2.32 in/59 mm	N/A
2.4 in/61 mm	2.32 in/59 mm	5
3.3 in/84 mm	2.32 in/59 mm	12
3.7 in/94 mm	2.32 in/59 mm	12

Index of Specifications

COUNTRY	CAPACITY	LENS/KYBD	SCALE FACTORY#
US	30 x .01lb	English-lb/English	8442-4000-000
CANADA	6 x .002kg	English-kg/English	8442-1000-089
CANADA	15 x .005kg	English-kg/English	8442-2000-089
CANADA/QUEBEC	6 x .002kg	French-kg/French	8442-1000-020
CANADA/QUEBEC	15 x .005kg	French-kg/French	8442-2000-020

Index of Accessories

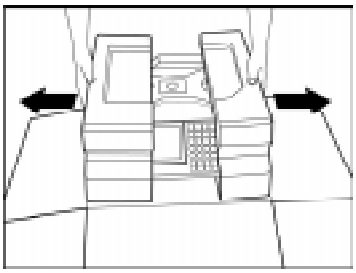
PART #	DESCRIPTION
124066OTC	Keyboard, Preset
123848OTC	Cable, PC DB9 Serial Port to 8442, 10ft (3 m)
133461OTC	Cable, PC DB25 Serial Port to 8442, 10ft (3 m)
133462OTC	SPCT Software
133463OTC	FLASH software
133466OTC	Interface test kit

Bar Code Symbols

The 8442 is capable of printing both UPC and EAN bar code symbols. The bar code must be setup correctly to work with the store's scanner.

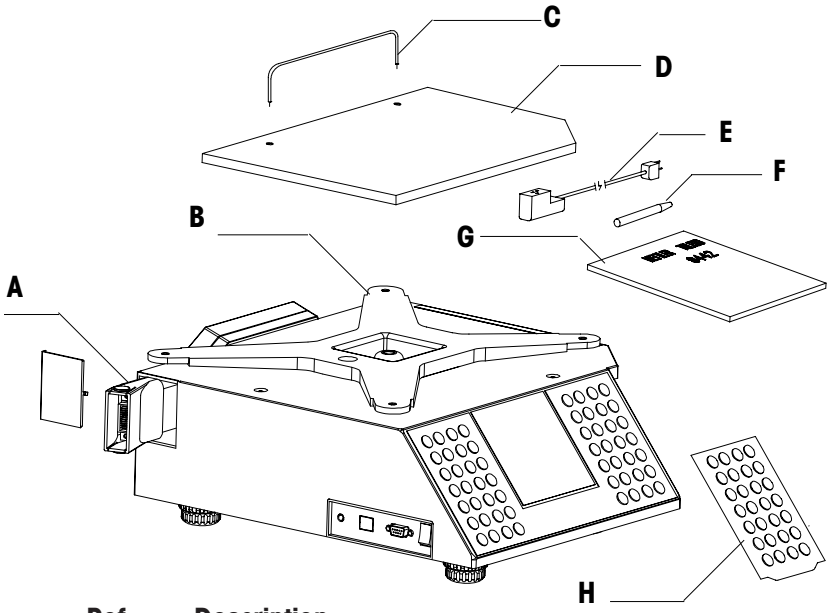
2 Setup

Unpack the shipping carton



Open up the package box. Take out the platter first, then take out the scale. Remove the foam inserts and plastic bag. Put the scale on the working counter and inspect for damage. Report any damage to the carrier promptly. DO NOT LIFT THE SCALE USING THE SPIDER OR BACK DISPLAY. Verify you received the accessories listed below.

Note: If you choose to dispose of the package, please recycle the materials. The packaging is recyclable natural fiber with biodegradable adhesives.



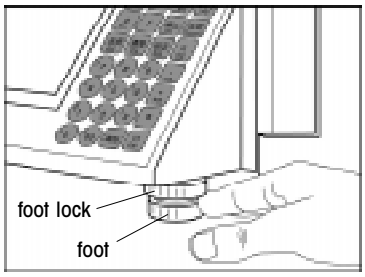
Ref.	Description
A	Tower
B	8442
C	Protecting rod
D	Platter
E	Power cord
F	Cleaning pen
G	Operator manual
H	Preset keypad

Not shown: Security Seal and Quality Feedback card.

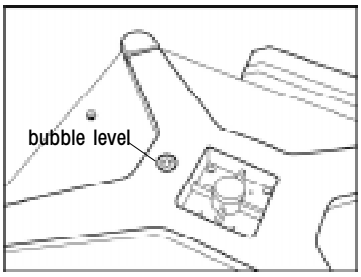
Setup Checklist

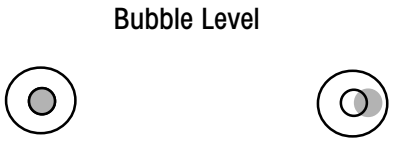
Leveling	level the unit using the feet for adjustment and bubble indicator as a guide.
Install Tower	Install Display Tower.
Install platter	Install protecting rod on the platter.
Install label	Install labels in the printer.
Calibration	New scales must be calibrated on site.
Reset RAM	Initialize the scale and set all softswitches to factory default.
Password	To configure the passwords of the specific menus.
keyboard	To configure the function keys and directly access keys of the keyboard.
Operator Configuration	To configure printed media, individual label or ticket or total label.
Label format	To configure default label format.
Barcode	To select bar code type.
Date/Time	To set up current date and time.
SPCT	SPCT is a PC program, which can be used to download or restore the PLU record, configuration, or other data.

Leveling

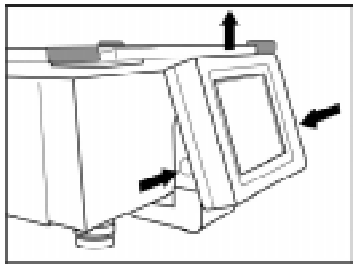


Adjust the four feet until the bubble is in the center of the bubble level. Then adjust the foot locks until the feet are fixed.

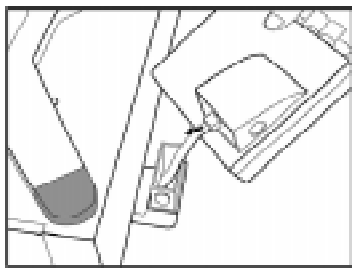




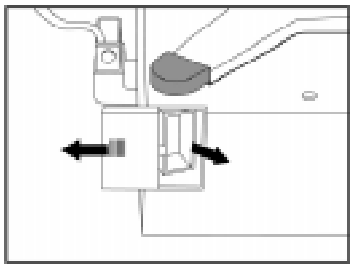
Install Tower



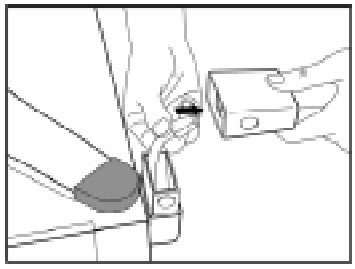
Press two buttons, which are at the two sides of the back display base. Then release the back display from base.



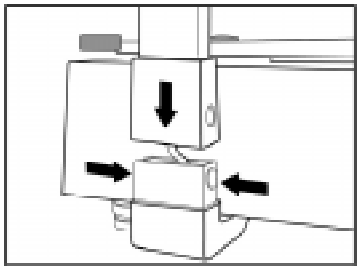
Unplug the phone jack connector from the socket on the back display.



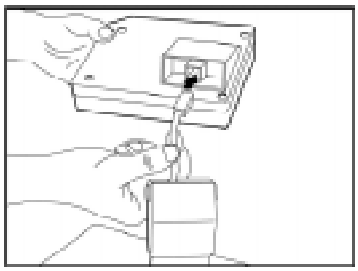
Open the small door at the left side of the scale. Take out the tower from the scale. Then close the door. Remove the adhesive tape around one head of the tower.



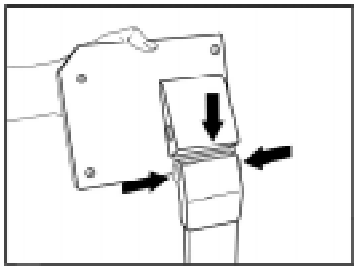
Plug the phone jack connector of the display base into the socket on the straight end of the tower.



Press the buttons, which are on the sides of the back display base. Then insert the tower.

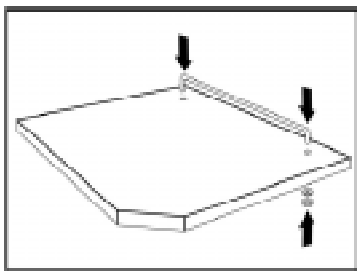


Plug the phone jack connector on the other end of the tower, into the socket on the back display.



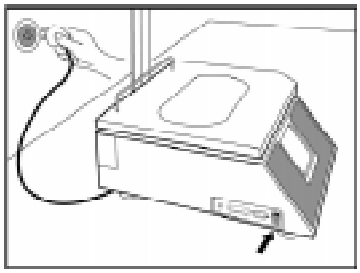
Press the buttons, which are on the sides of the tower. Then insert the back display.

Install Platter



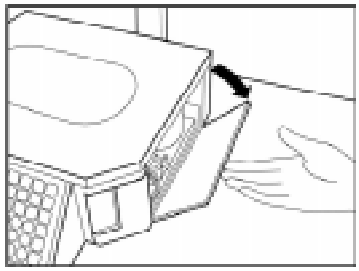
Take out the nuts, washers and the protecting rod from accessory bag. Insert the rod into the two holes on the platter , then fix it with the nuts and washers. Put the platter on the scale.

Power On

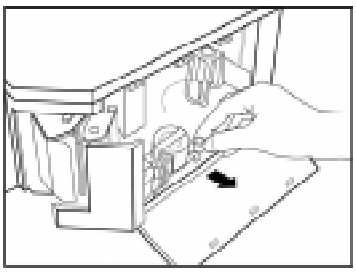


Take the power cord from the package box. Install the power cord in the receptacle on the bottom of the scale. (If unit has been stored or transported in below freezing temperatures, allow the unit to warm up to room temperature before turning on AC power.). Connect the power cord to AC power. Set the power switch to the ON position. Allow at least 30 minutes warm-up time before initial calibration.

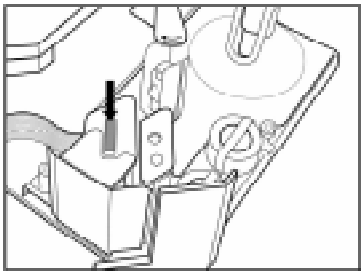
Install Label



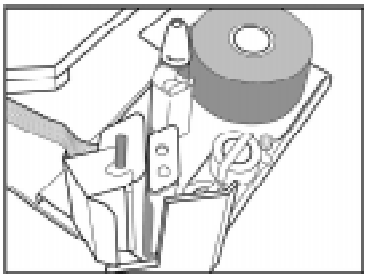
Remove the adhesive tape on the plastic door on the right side of the scale, and open the door.



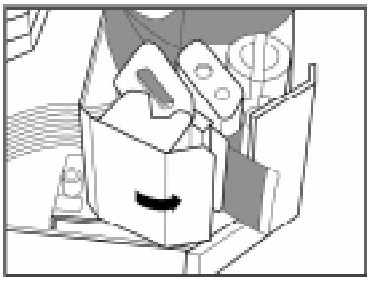
Slide out the printer.



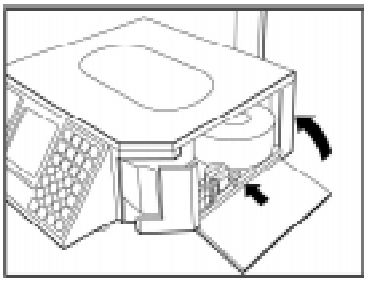
Press the trigger to open the printer head.



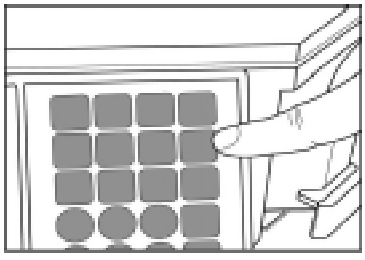
Install the label according to the instruction legend on the printer frame. Don't forget to roll the liner on the rewind Spool.



Close the printer head gently, until it clicks.



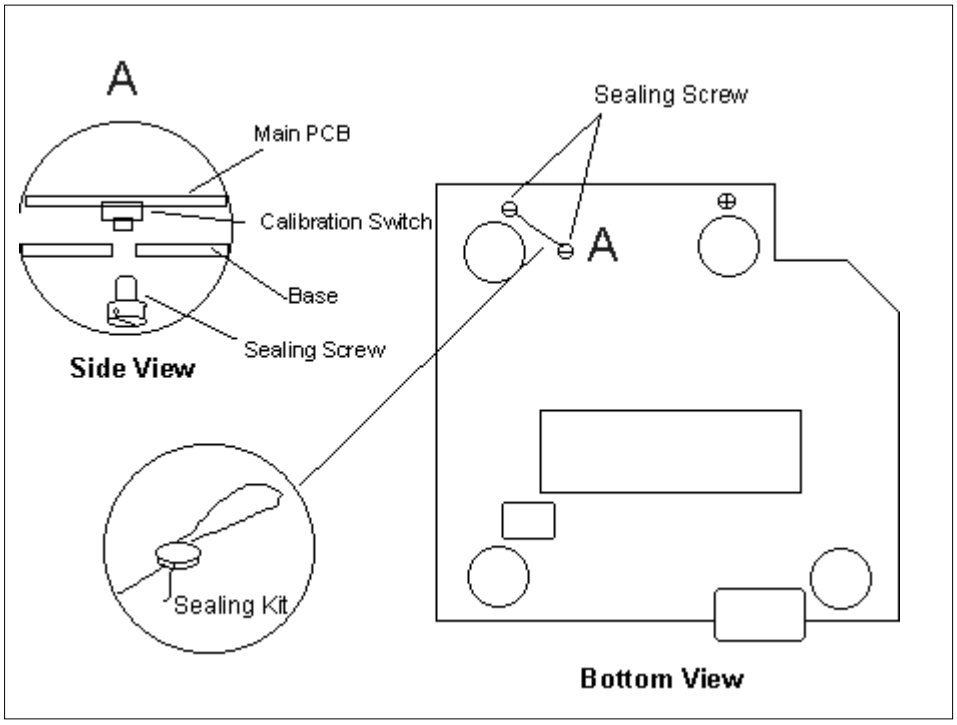
Slide the printer into the scale. Close the plastic door.



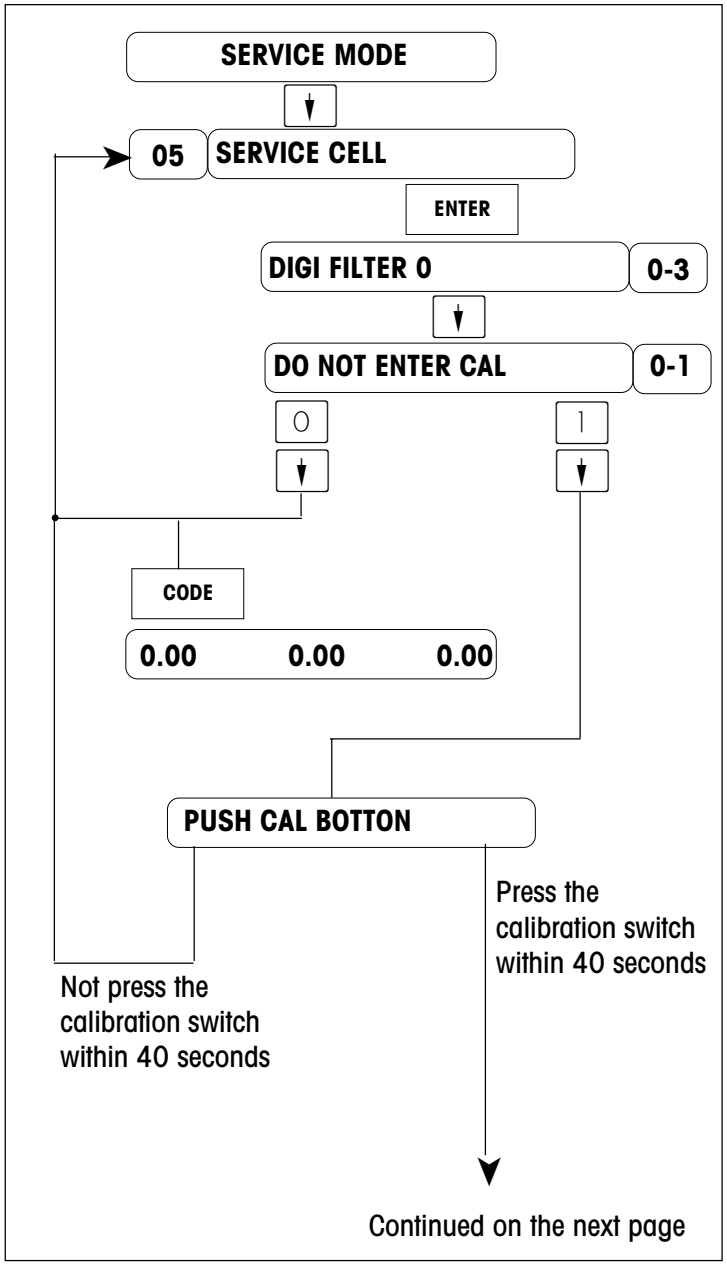
Press the FEED LABEL key to bring the label into the start position.

Calibration

To access calibration switch, remove the sealing wire and screw first.



CODE | 2 | 4 | 6 | 8 | 1 | 3 | 5 | 7 | ENTER — ENTER SERVICE MODE



Enter the preset 05

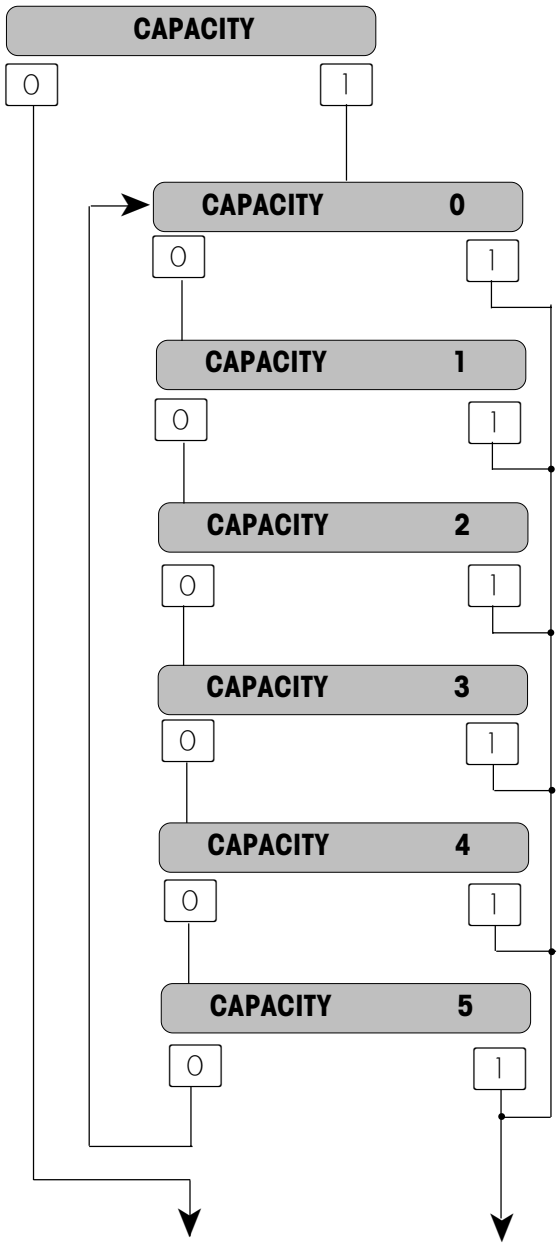
Select digital filter
0=no digital filter; 1= light ; 2= medium; 3=heavy

Select: enter calibration
0= not enter; 1=enter

Press the calibration switch within 40 seconds, otherwise the scale will exit SERVICE CELL menu automatically.

Remarks:
You can press <CODE> key to exit anytime during the calibration. The scale will reset.

Continued from the last page



Press 1 to select capacity, or press 0 to skip this step.

Capacity 0 = 6kgx0.002kg

Capacity 1 = 15kgx0.005kg

Capacity 2 = 6/15kg dual range

Not used.

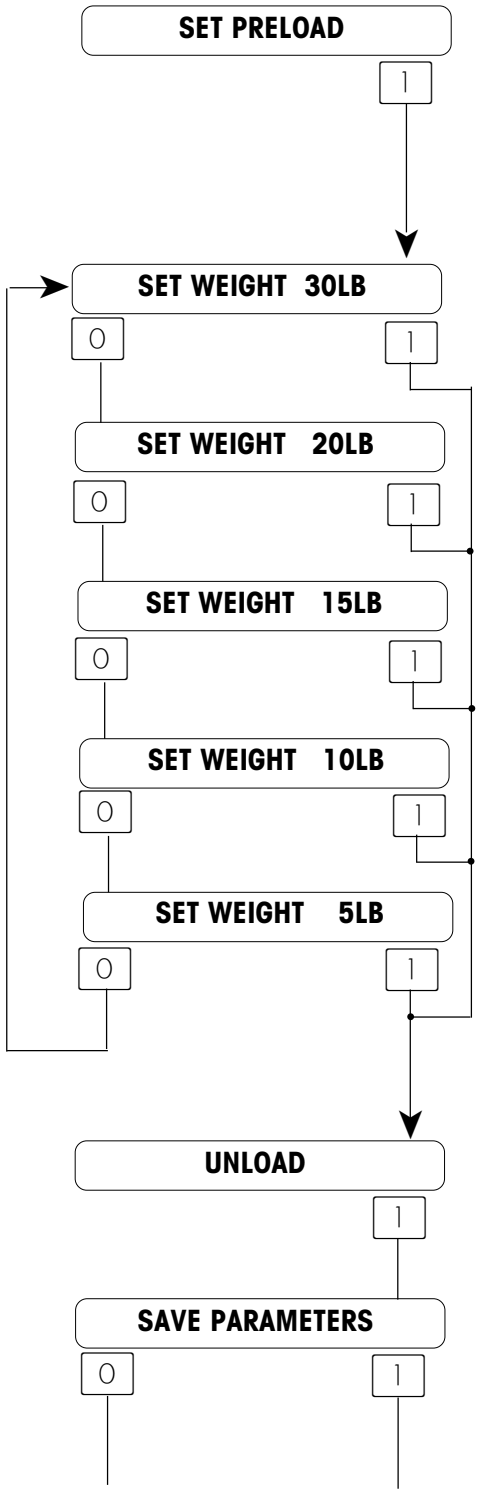
Not used.

Not used.

Continued on the next page

Remarks:
The steps with a grey background will not be available in the U.S. version. They will, however, be available in the Canadian version.

Continued from the last page



Remove all goods from the platter, Confirm with [1]

The scale will read the zero data. Please keep the weight stable and wait for 5 seconds...

Calibration weight = 30 lb

Calibration weight = 20 lb

Calibration weight = 15 lb

Calibration weight = 10 lb

Calibration weight = 5 lb

Add the selected weight on the platter, and confirm with [1]

The scale will read the weight data. Please keep the weight stable and wait for 5 seconds...

Remove the weight on the platter and confirm with [1]

Remarks:
To achieve the optimal weighing performance, please choose the calibration weight closest to full capacity load.

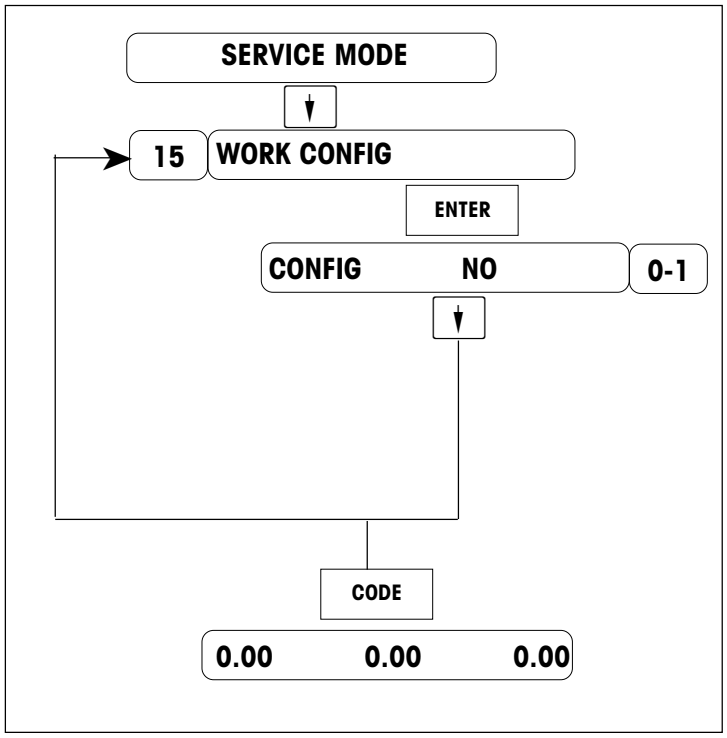
Remarks:
If the scale shows " INIT. CELL...", when it is saving the calibration data. It indicates you mis-operated the scale during the calibration , try to calibrate the scale again according the intructions in this manual.

Reset RAM

CAUTION! This operation will clear all PLU records and reset all formats to factory defaults! This should be used when setting up a new unit, or if the Main Logic PCB is replaced.

CODE | 2 | 4 | 6 | 8 | 1 | 3 | 5 | 7 | ENTER

Call the "SERVICE MODE" menu



Enter the preset 05

0=Not reset RAM; 1= Reset RAM

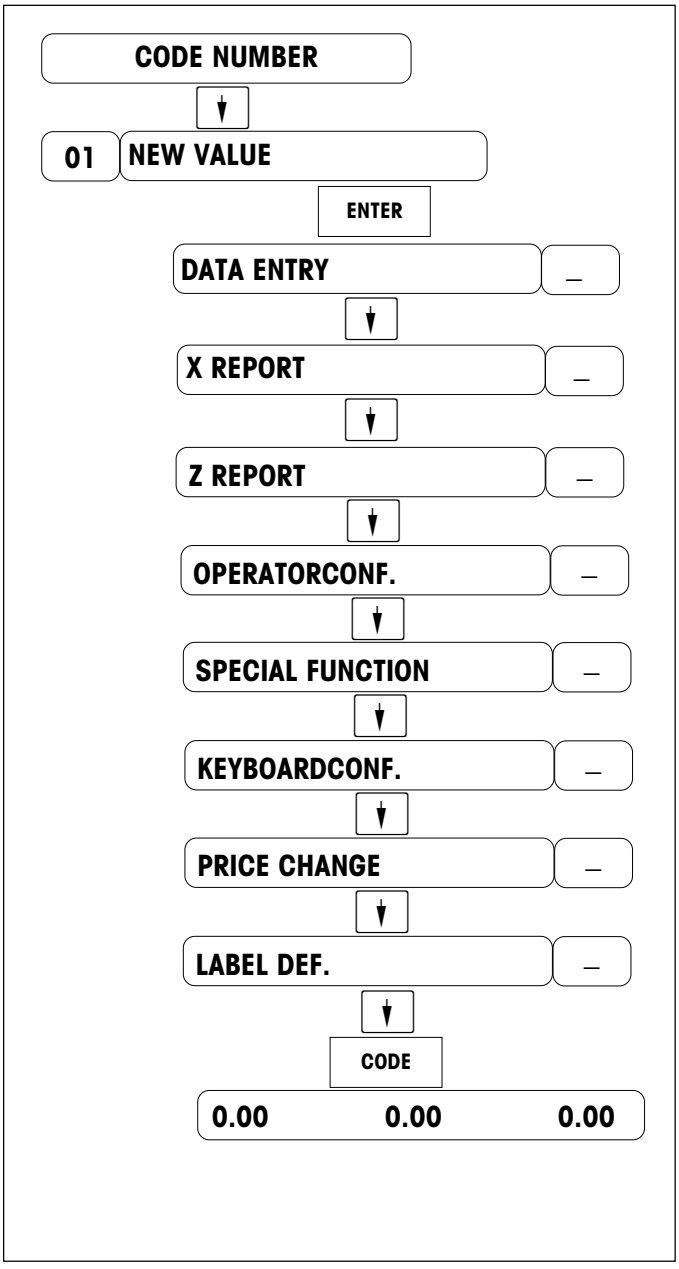
Press the CODE key to return to the weighing mode.

Password

This operation is used when the customer needs to change the default password of certain code menus.

CODE | 1 | 3 | 5 | 7 | 9 | 2 | 4 | ENTER

Call the "CODE NUMBER" menu



Enter the preset code 01.

Enter the code of "DATA ENTRY"

Enter the code of "X REPORT"

Enter the code of "Z REPORT"

Enter the code of "OPERATOR CONFIGURE"

Enter the code of "SPECIAL FUNCTION"

Enter the code of "KEYBOARD CONFIGURE"

Enter the code of "PRICE CHANGE"

Enter the code of "LABEL DEFINITION"

Press the CODE key to return to the weighing mode.

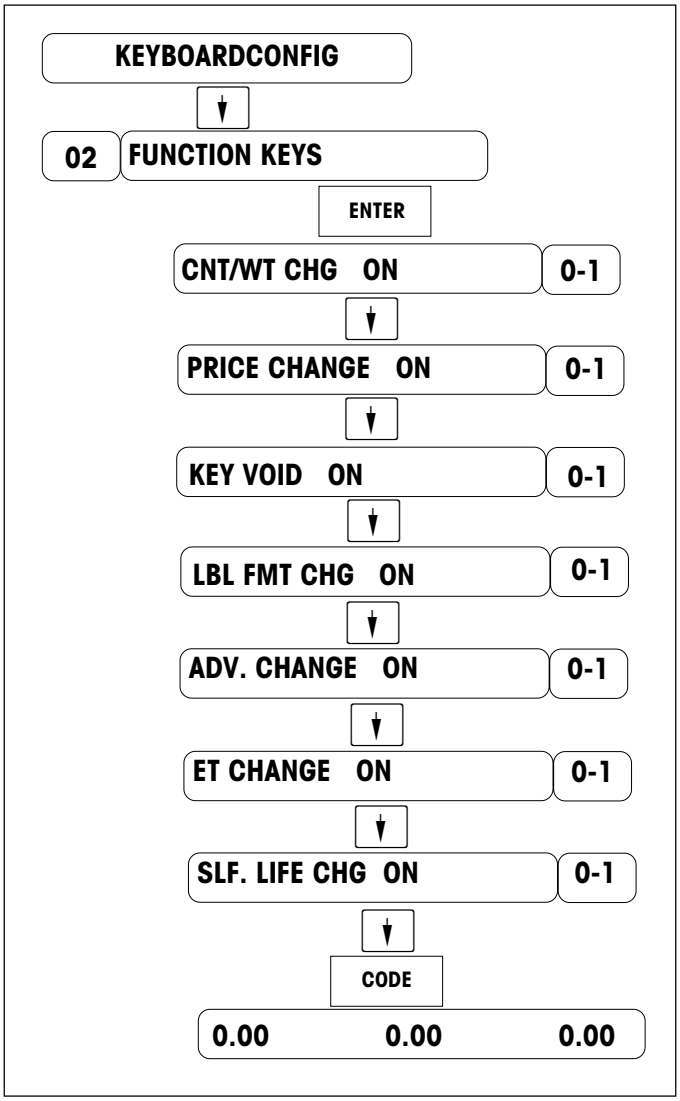
Configure Keyboard

This operation is used, when the customer needs to change the default configuration of the function override keys and direct access keys.

Function key

CODE | 4 | 4 | 5 | 5 | 6 | 6 | ENTER

Call the "KEYBOARD CONFIGURE" menu



Enter the preset code 02.

Select: CNT/WT CHANGE key on/off
0=off; 1=on

Select: PRICE CHANGE key on/off
0=off; 1=on

Select: VOID key on/off
0=off; 1=on

Select: LBL FMT CHANGE key on/off
0=off; 1=on

Select: ADV. CHANGE key on/off
0=off; 1=on

Select: ET CHANGE key on/off
0=off; 1=on

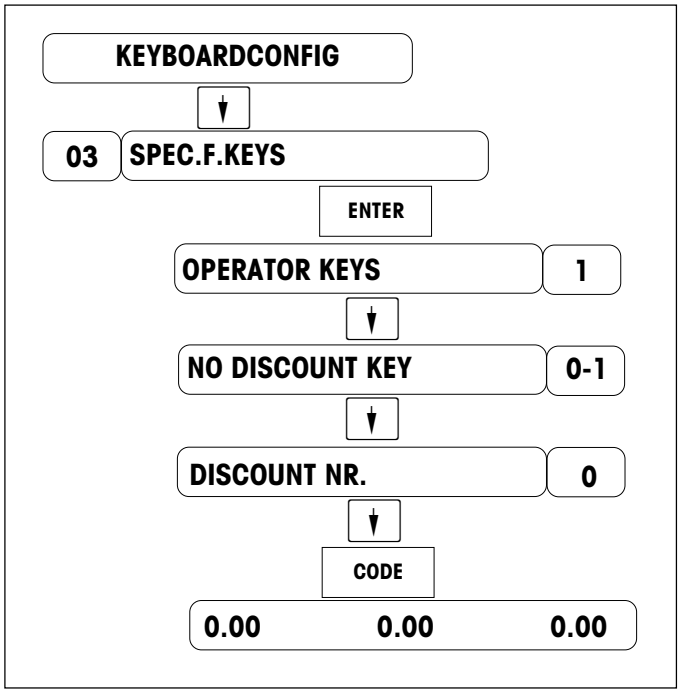
Select: SHELF LIFE CHANGE key on/off
0=off; 1=on

Press the CODE key to return to the weighing mode.

Direct access key

CODE | 4 | 4 | 5 | 5 | 6 | 6 | ENTER

Call the "KEYBOARD CONFIGURE" menu



Enter the preset code 03.

Enter the number of operator keys (1 .. 4)

Select: DISCOUNT KEY on/off
0=off; 1=on

Enter the number of discount

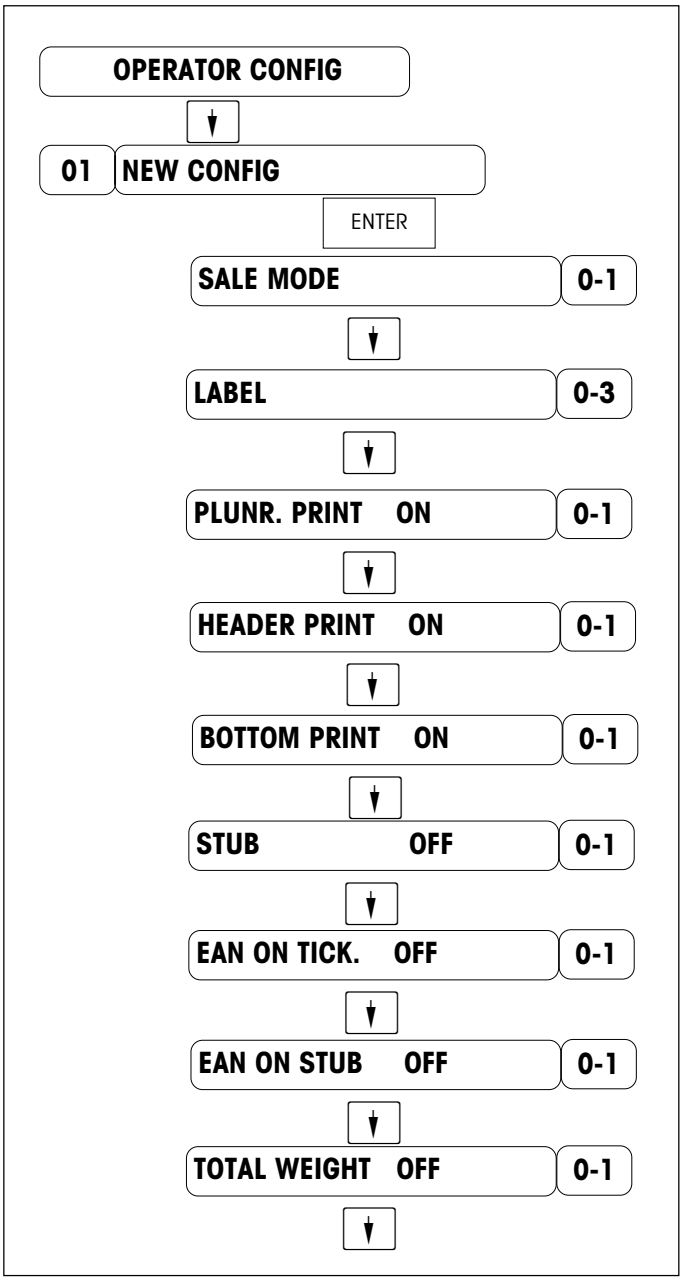
Press the CODE key to return to the weighing mode.

Operator Configuration

This operation is used, when the customer need to print ticket or total label.

CODE | 4 | 4 | 4 | 4 | ENTER

Call the "OPERATOR CONFIGURE" menu



Press the ↓ key or enter the preset code 01

Select the mode after applying power on
0= sale mode; 1=prepack mode

Printing of label or ticket
0= ticket ; 1= label ; 2= indiv. label with total label ; 3= ticket with liner

PLU number printed on ticket
0= off ; 1= on

Ticket header print
0= off ; 1= on

Ticket bottom print
0= off ; 1= on

Select: counterfoil on/off
0= off ; 1= on

Select: barcode printed on ticket on/off
0= off ; 1= on

Select: barcode printed on stub on/off
0= off ; 1= on

Total weight printed on ticket on/off
0= off ; 1= on

Continued on the next page

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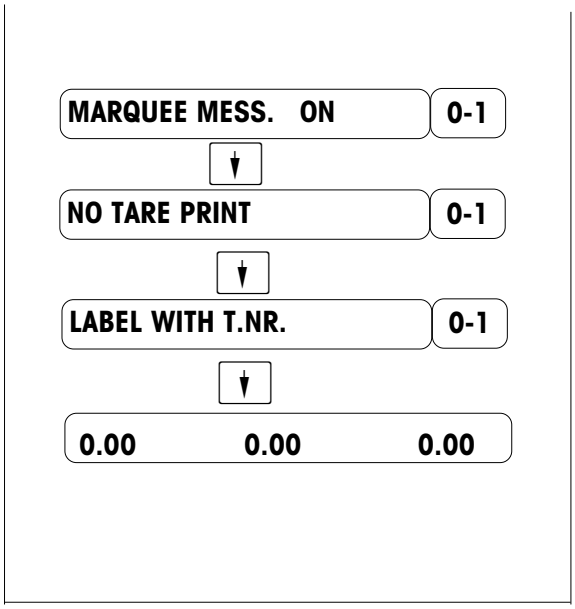

Marquee text on/off
0= off ; 1= on

Tare displaying and printing on/off
0= off ; 1= on

Ticket number on individual label on/off
0= off ; 1= on

Press ↓ to save the configured data and return to the weighing mode

label format

This operation is used, when the customer needs to change the default label formats.

CODE | 9 | 9 | 8 | 8 | 7 | 7 | ENTER

Call the "LABEL DEFINITION" menu

LABEL DEFINITION

↓

XX **Select the selected label type**

ENTER

Enter the preset code of the desire label type.
02 = By weight label
03 = Total label
04 = By Count label

LABEL NR. **0**

Enter the number of the label format.

↓

PLU TEXT LEFT **0-2**

0 = PLU text left justified
1 = centered PLU text
2 = PLU text auto formatted

↓

SIZE PLU L1 **0**

Font size of the 1st line of the PLU text

↓

SIZE PLU L2 **0**

Font size of the 2nd line of the PLU text

↓

SIZE EXTRA TEXT **0**

Font size of the extra text

↓

NO STORE ADDRESS **0-1**

Printing of the store address
0 = no printing / 1 = printing

↓

ADV. TEXT NR. **0**

Enter the number of the advertisement text
0 = no printing

↓

EXTRA. TEXT NR. **0**

Enter the number of the extra text
0 = no printing

↓

PACK. DATE TEXT NR. **0**

Enter the number of the packing date text
0 = do not print the date

↓

BEST BEFORE TEXT NR. **0**

Enter the number of the best before date text.
0 = do not print the date

↓

Continued on the next page

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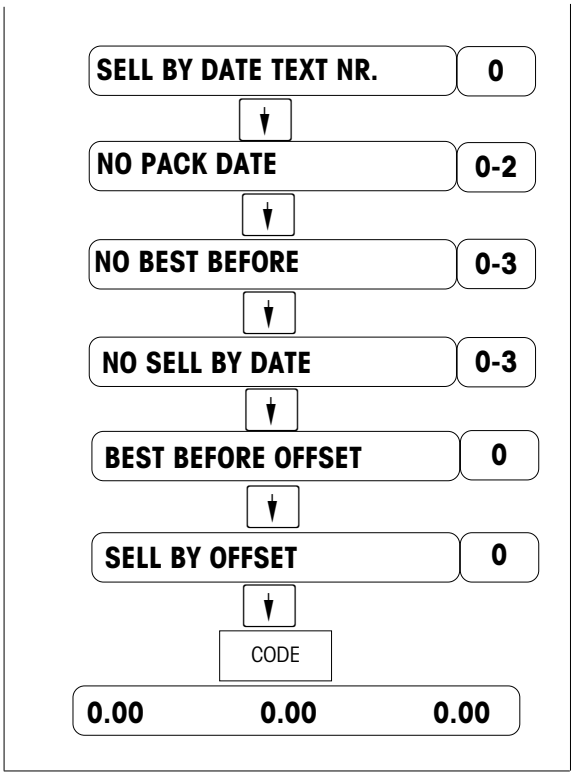


Enter the number of the sell by date text.
0 = Do not print

0 = Do not print the date ; 1 = MM/DD/YYYY ; 2 = DD/MM/YYYY

0 = Do not print the date ; 1 = MM/DD/YYYY ; 2 = DD/MM/YYYY ; 3 = days

0 = Do not print the date ; 1 = MM/DD/YYYY ; 2 = DD/MM/YYYY ; 3 = days

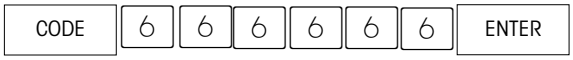
Offset of the best before date (0 .. 499 days).

Offset of the sell until date (0 .. 499 days).

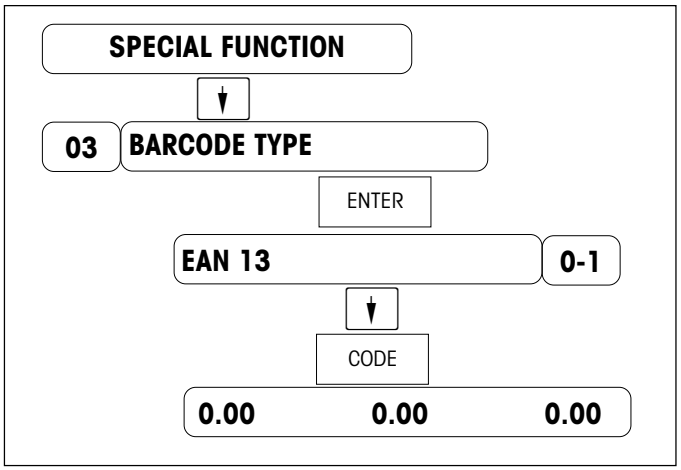
Press the CODE key to return to the weighing mode.

Barcode Type

This operation is used when the customer needs to change the bar code type from UPC to EAN.



Call the "SPECIAL FUNCTION" menu



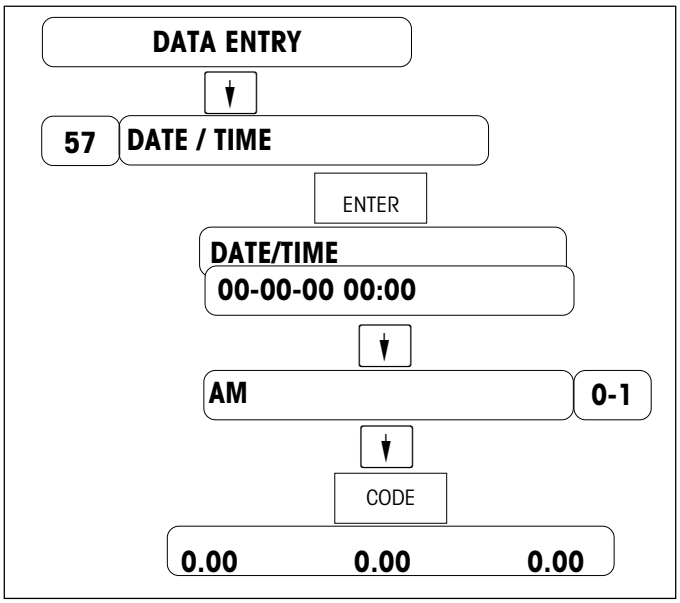
Enter the preset code 03.

Select the barcode type
0= EAN 13; 1=UPC

Press the CODE key to return to the weighing mode.

Set Date/Time

CODE | 1 | ENTER — Call the "DATA ENTRY" menu



Enter the preset code 57

Enter current date (MM-DD-YY) and time (HH:MM)

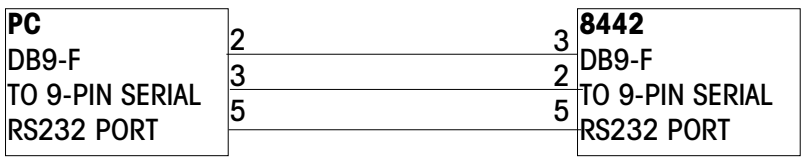
Select AM or PM
0= AM; 1= PM
Press ↓ to enter current date and time
.
Press the CODE key to return to the weighing mode.

SPCT program

PLU records and setup data of the 8442 can be programmed through a PC (Personal Computer) using the METTLER TOLEDO program SPCT. New scales can be easily set up by using this program.

SPCT requires an IBM or compatible PC with Windows 95/NT or higher version operating system. A 3.5 inch floppy drive and one serial port is required. The wiring diagrams shown in the following figure can be used to make cables from a 25-pin or a 9-pin PC serial port to the 9-pin connector at the 8442. Factory cables are available from METTLER TOLEDO using the part numbers shown in the figure.

123848OTC Cable, PC DB9 to 8442 10ft/3m



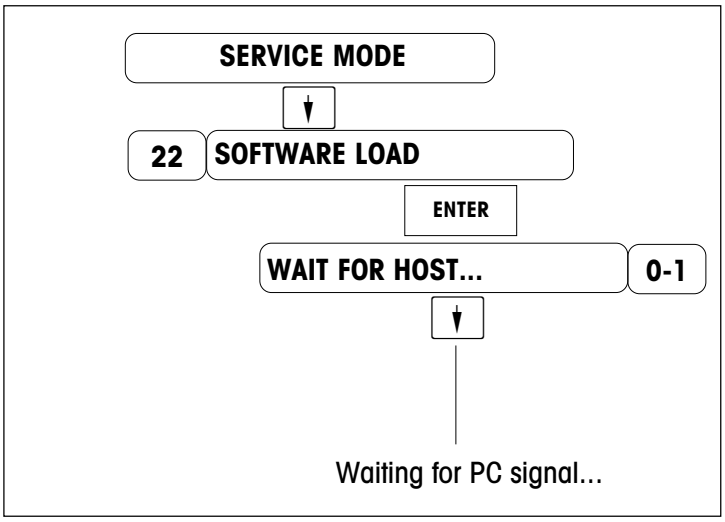
Flashing Software

The 8442 Operating System Software is retained in Flash EEPROM's on the Main Logic PCB. The EPROM's can be reprogrammed using a PC and a downloader program called FLASH. Cables and components are the same as used with SPCT.

Before downloading the software, turn the 8442 power OFF. Connect one end of the cable to the PC's serial port and the other end to the 8442 serial port. Then turn the 8442 power ON and enter flashing status according to the following instructions.

CODE | 2 | 4 | 6 | 8 | 1 | 3 | 5 | 7 | ENTER

Call the "SERVICE MODE" menu



Enter the preset code 22

Then enter FLASH command at DOS prompt. The FLASH command line is as follows:

FLASH *filename.dat*

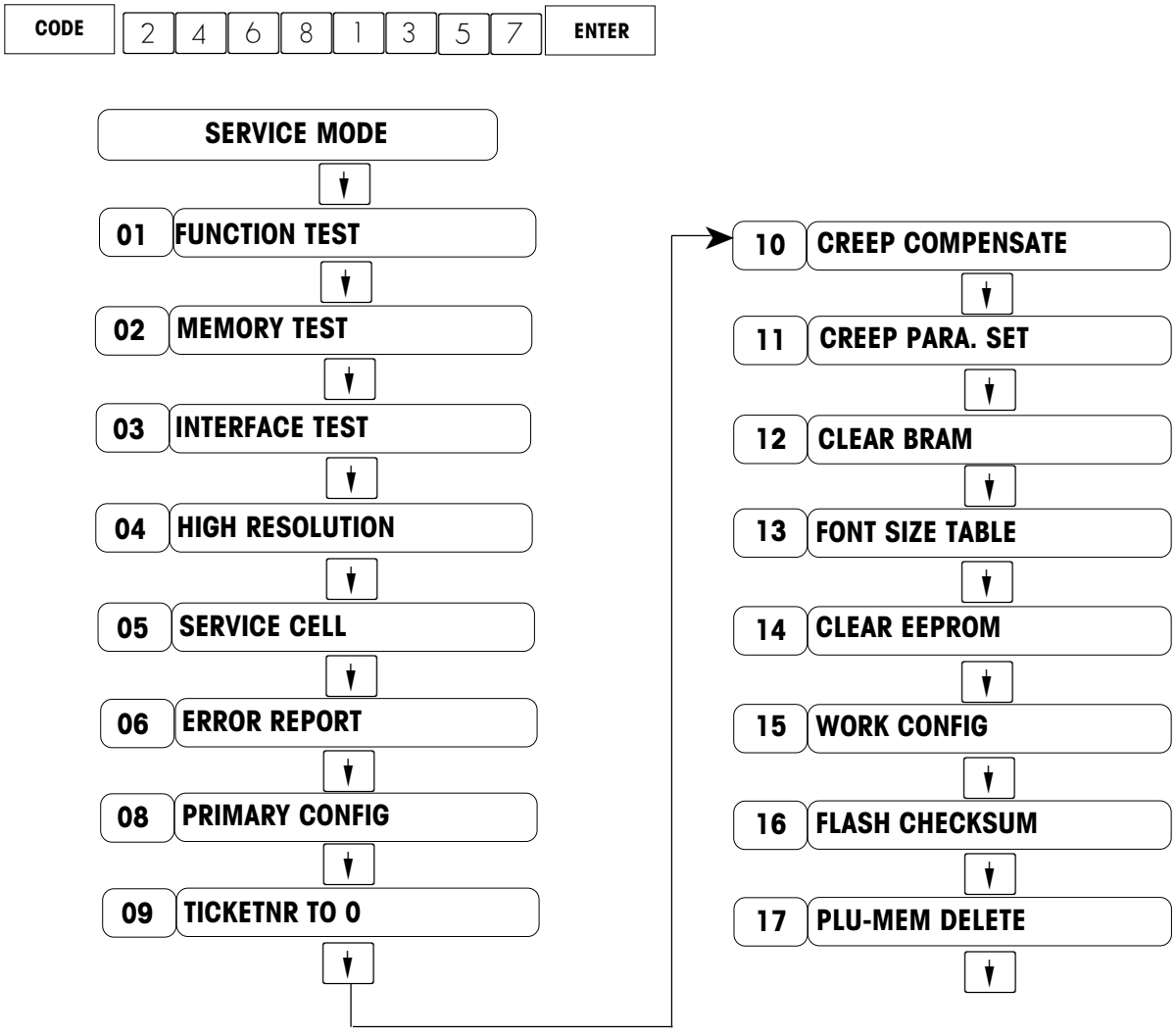
(Replace *filename.dat* with the actual file name. Example: FLASH 123456R.dat). If you get a DOS Bad command or file name error, check to make sure you have not mis-typed the file name, and the FLASH.EXE is in your PC's path or current directory. FLASH uses the COM1 RS232 Serial Port as a default. If COM2 is required, you will need to add "2" at the end of the command line. (For example: FLASH 123456R.dat 2).

After you typed FLASH command, the PC screen will display a status menu to show the flashing progress. When the flashing is completed, the scale will reset automatically. Press any key to exit FLASH program at the PC.

3 Service mode

Presentation of the "SERVICE MODE" menu

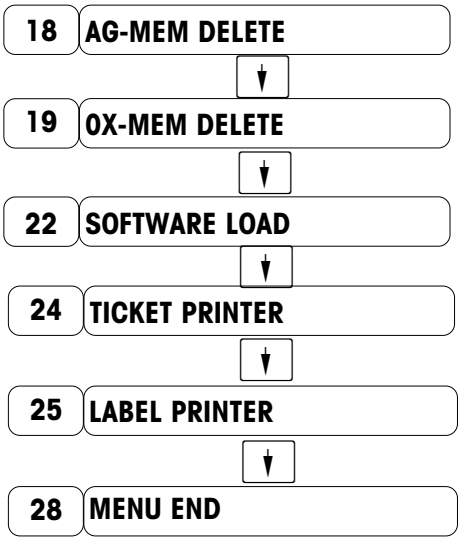
Service Mode is a special function menu which is provided to diagnose scale problems.



Select desired menu with ↓ or ↑ enter preset code and activate with ENTER key.

Continued :
Presentation of the "SERVICE MODE" menu on the next page

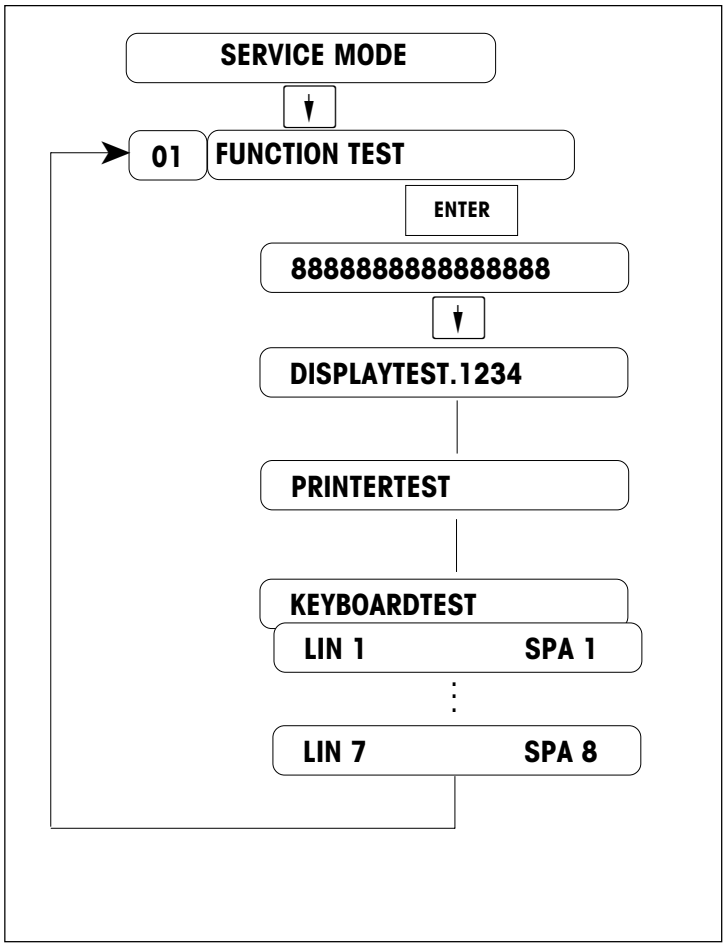
Continued from the last page



Select desired menu with ↓ or ↑ enter preset code and activate with ENTER key.

Function Test

This function is used to diagnose display, printer and keyboard.



Enter the preset code 01

Turn on all display segments

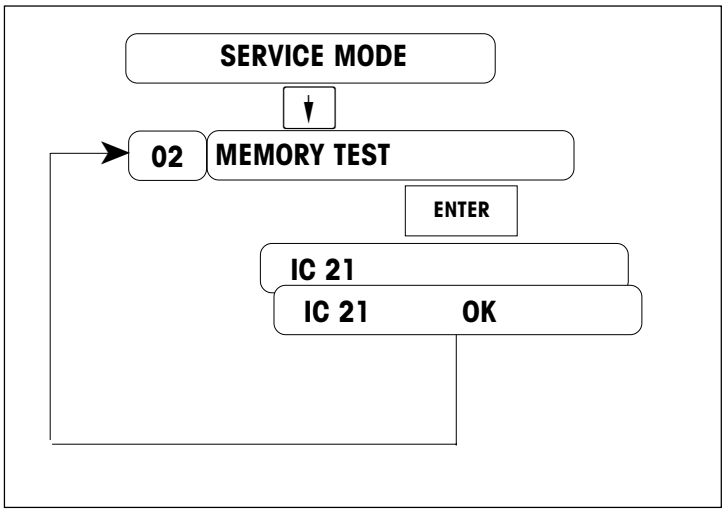
Turn on individual segments one by one

Print out test ticket

Press each key left to right and up down...

Memory Test

This function is used to test RAM chip U21.

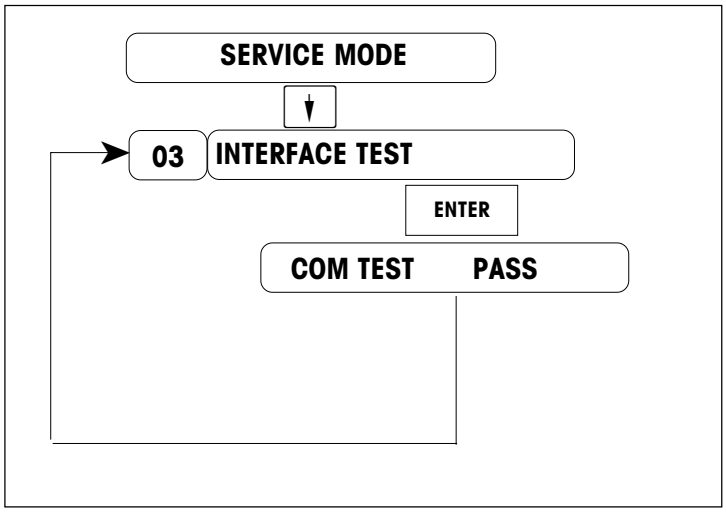


Enter the preset code 02

The test result will be displayed and printed.

Interface Test

This function is used to test the RS232 Serial Port

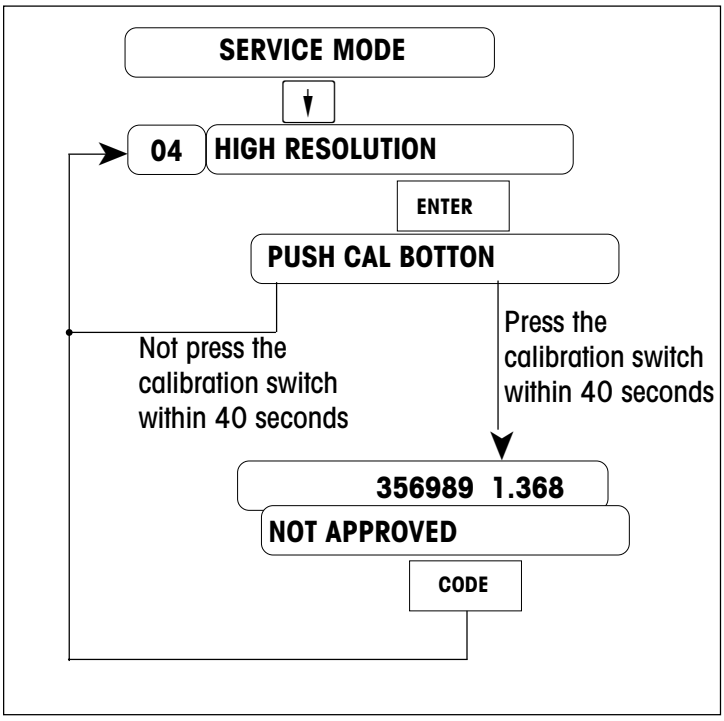


Enter the preset code 03

Install the interface test kit .

The test result will be displayed .

Expand display



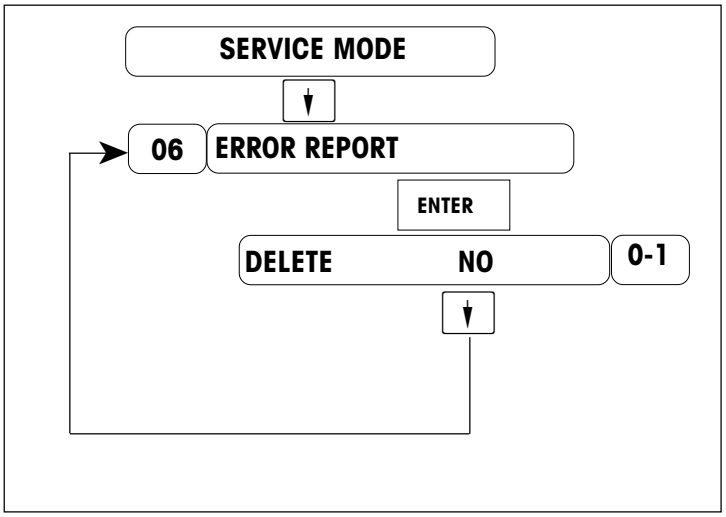
Enter the preset code 04

Press the calibration switch within 40 seconds, otherwise the scale will exit SERVICE CELL menu automatically.

The accuracy of the weight is expanded 10 times on the TOTAL PRICE display area, this read is only used for service purpose only.
The internal A/D counts is displayed on the UNIT PRICE display area.
Press CODE key to exit Expand Display mode

Error Report

This function is used to record hardware errors



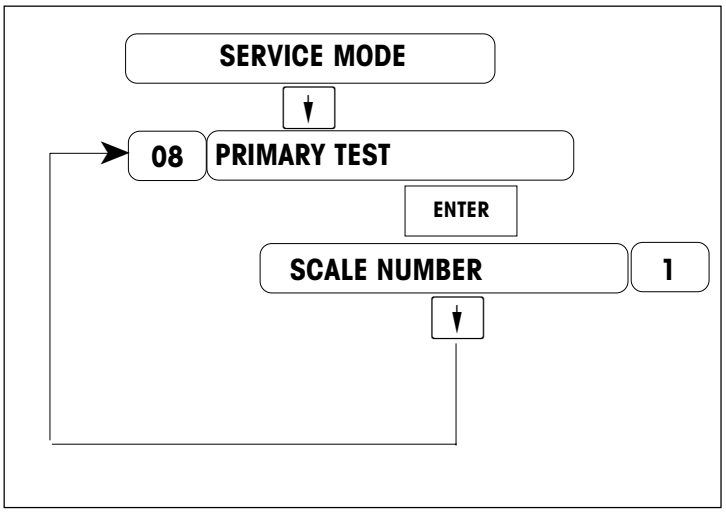
Enter the preset code 06

The Error report is printed out.

Delete error report
0= Do not delete; 1=delete

Primary Configure

This function is used to set up scale number.

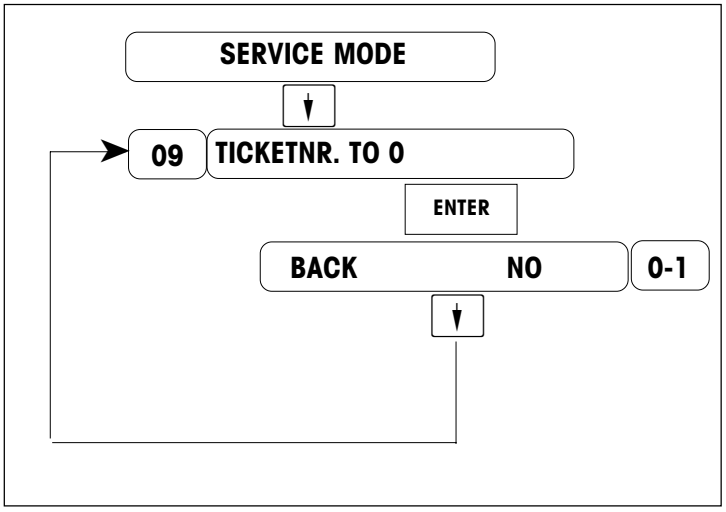


Enter the preset code 08

Enter the scale number (1-64)

Reset Ticket Number

This function is used to reset ticket number.

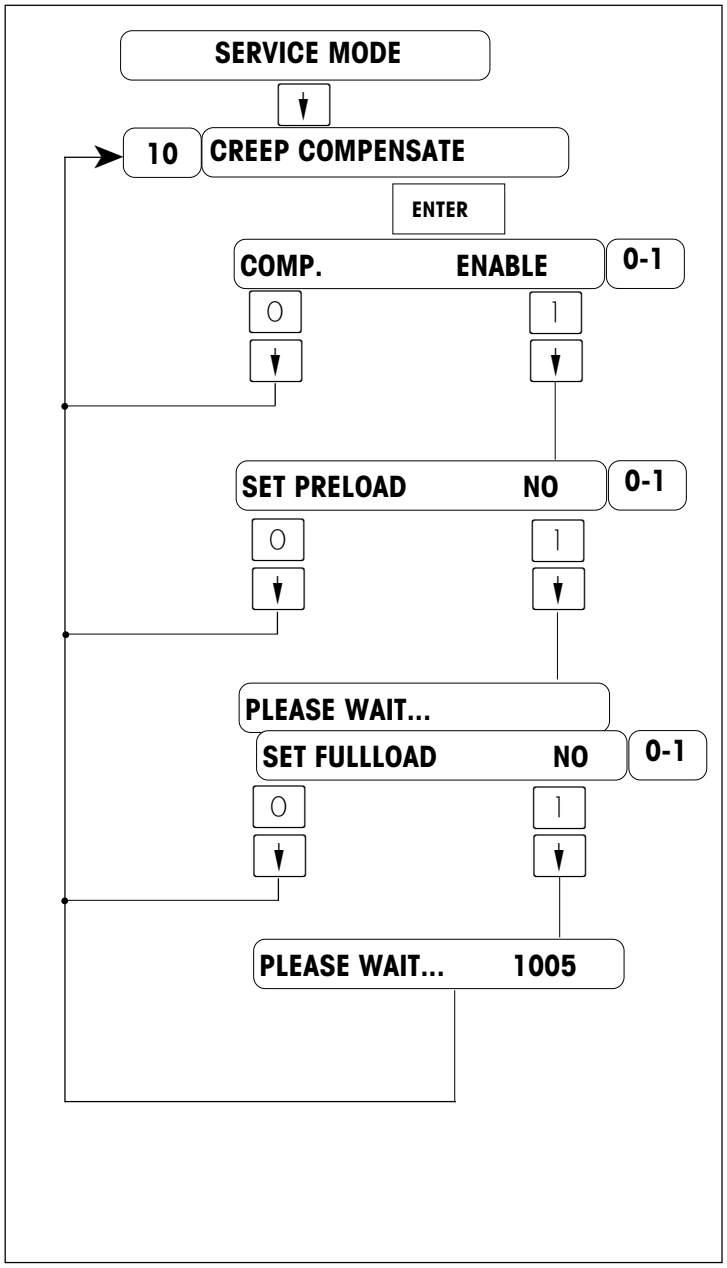


Enter the preset code 09

Reset ticket number
0=Do not reset; 1= Reset

Creep Compensate

This function is used to compensate the creep performance of the scale.



Enter the preset code 10

0=Disable; 1=Enable

0=Not read zero data;
1= Read zero data

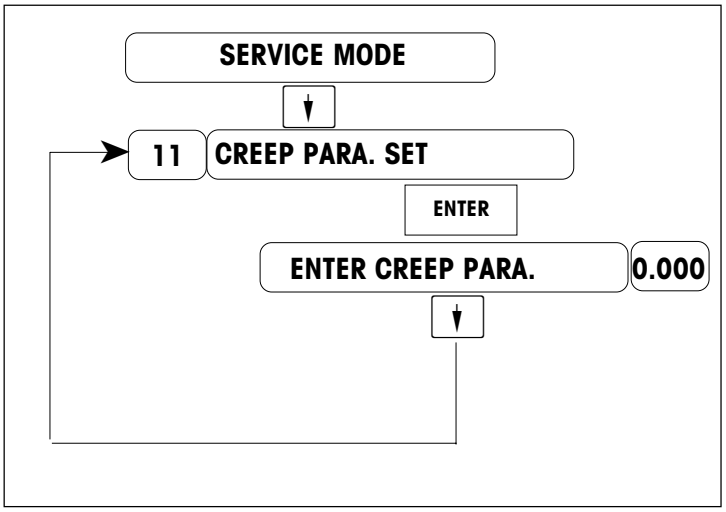
the scale will read the zero data. Please keep the weight stable and wait for 5 seconds...

0=Not read full capacity data;
1=Read full capacity data

the scale will read the full capacity data. Please keep the weight stable and wait for 30 minutes...

Set Creep Parameter

This function is used to set up creep parameter manually.



Enter the preset code 11

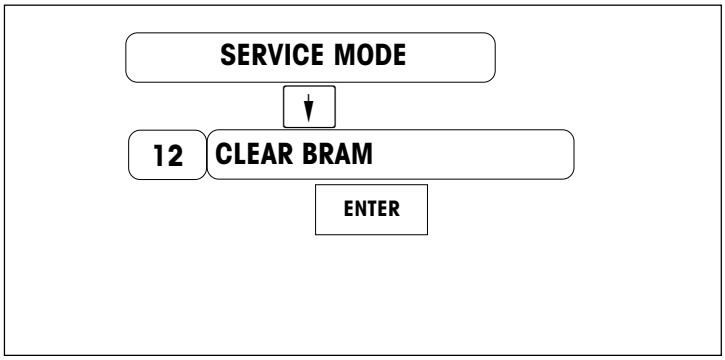
Enter the creep parameter on the L/C label.

Clear Battery Backup RAM

This function is used to clear battery backup RAM.

CAUTION

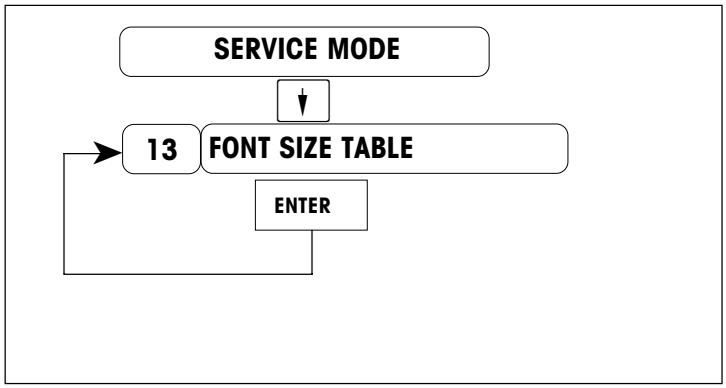
THIS OPERATION WILL ERASE ALL THE PLU RECORDS , EXTRA TEXT AND OTHER PROGRAMMED DATA. THE SCALE MUST BE INITIALIZED AFTER THIS OPERATION.



Enter the preset code 12

The scale will be reset after this operation. A error message "ERROR 200 DATABA" will be shown after reset. You have to initialize the scale at this time(See Reset RAM of chapter 2).

Print Font Size Table



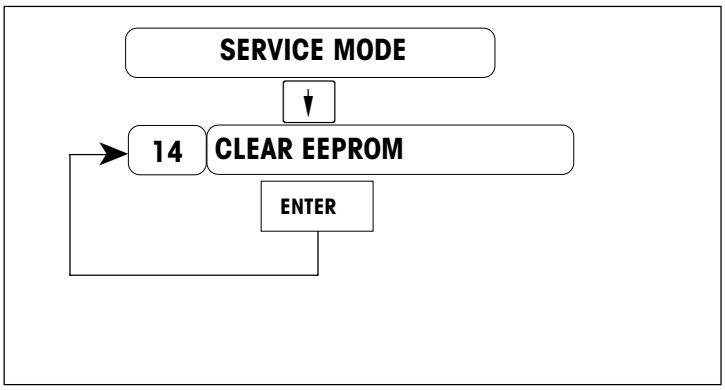
Enter the preset code 13

A sample of different size fonts is printed out.

Clear EEPROM

CAUTION

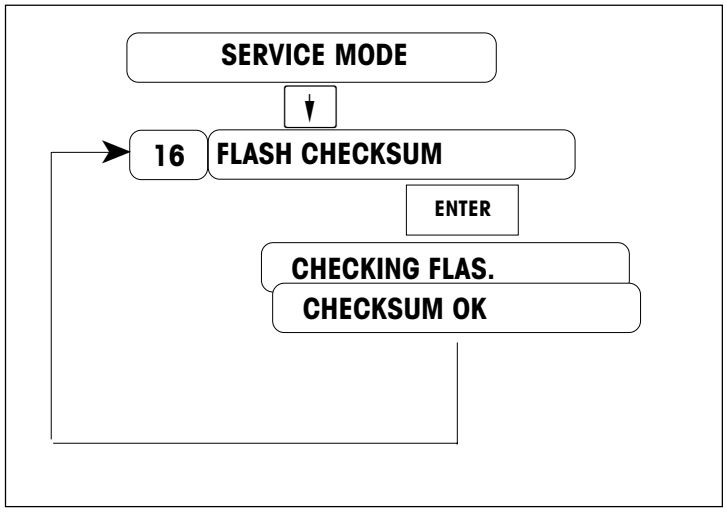
THIS OPERATION WILL ERASE ALL THE CALIBRATION DATA, ERROR REPORT AND PRINTER PARAMETERS. YOU HAVE TO CALIBRATE THE SCALE AGAIN AND RUN TICKET PRINTER TEST AND LABEL PRINTER TEST AFTER THIS OPERATION.



Enter the preset code 14

Flash Checksum

This function is used to verify if the scale code is correct.



Enter the preset code 16

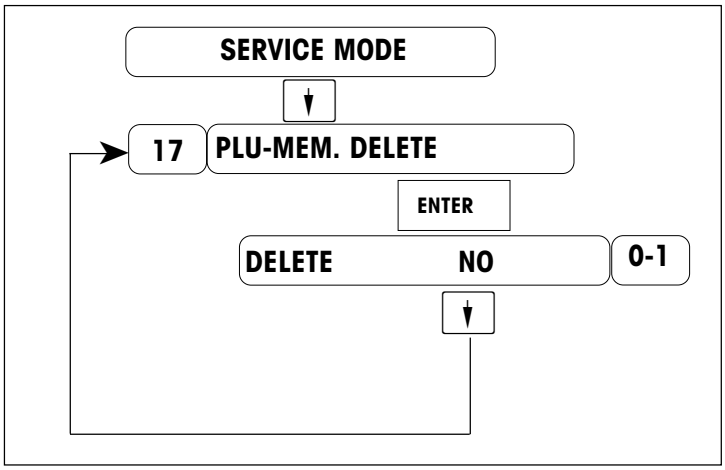
The test result will be shown.

Delete PLU Memory

This function is used to clear PLU memory.

CAUTION

THIS OPERATION WILL ERASE ALL THE PLU RECORDS AND PLU TOTAL.



Enter the preset code 17

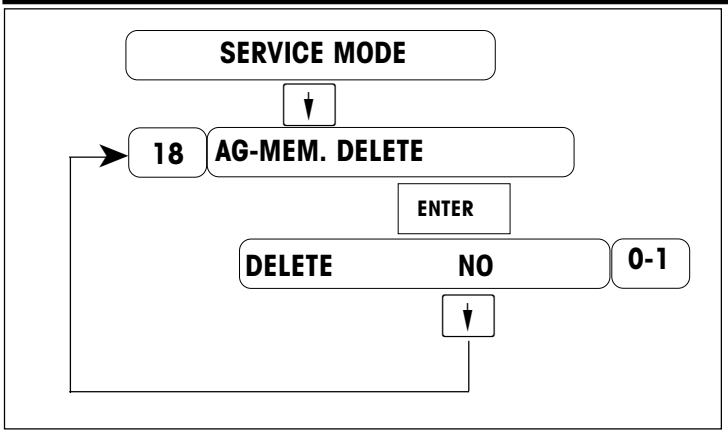
Delete PLU memory
0= Do not delete; 1=delete

Delete Group Memory

This function is used to clear Group memory.

CAUTION

THIS OPERATION WILL ERASE ALL THE GROUP RECORDS AND GROUP TOTAL.



Enter the preset code 18

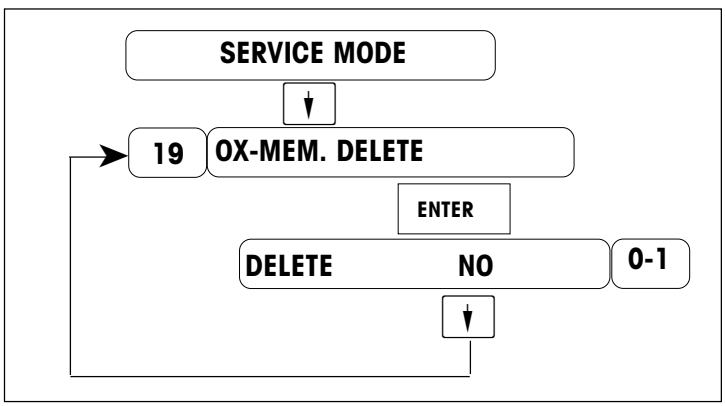
Delete Group memory
0= Do not delete; 1=delete

Delete Operator Memory

This function is used to clear Operator memory.

CAUTION

THIS OPERATION WILL ERASE ALL THE OPERATOR RECORDS AND OPERATOR TOTAL.

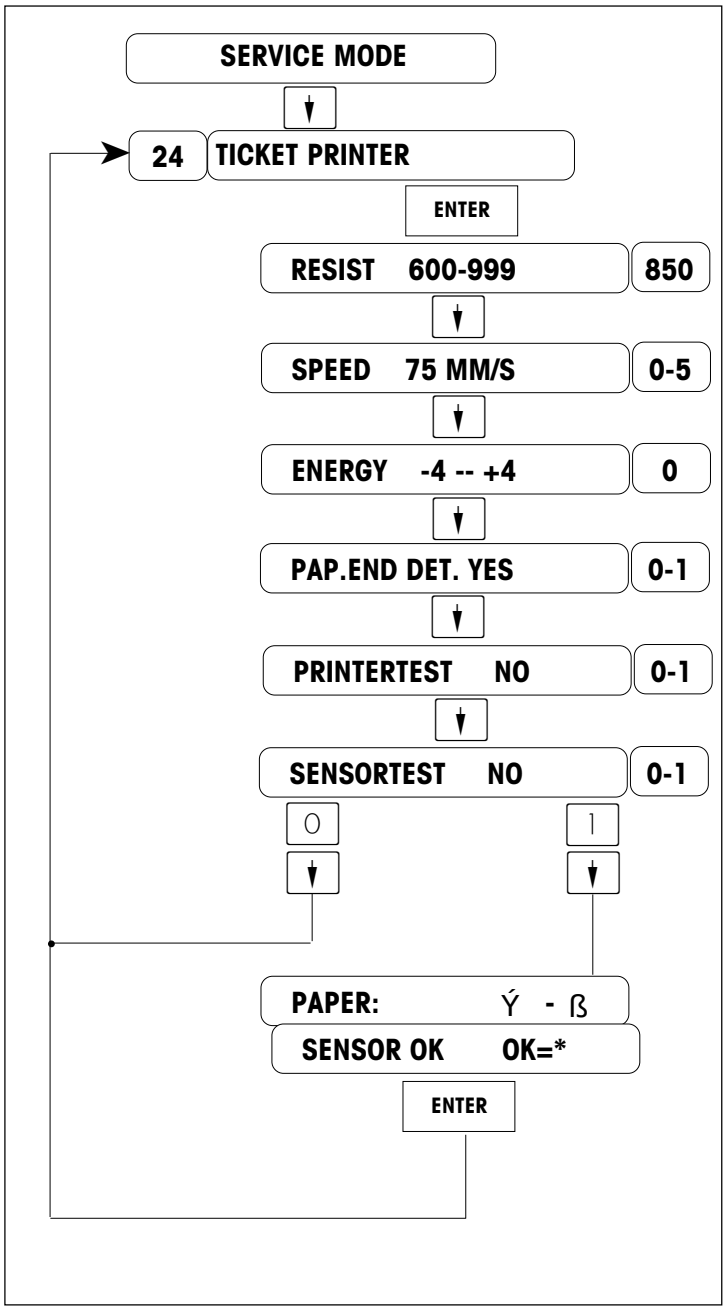


Enter the preset code 19

Delete Operator memory
0= Do not delete; 1=delete

Ticket Printer Test

This function is used to test ticket printer hardware and adjust printer parameters.



Enter the preset code 24

Select the Ohms Rating marked on the Print Head.

Select the printer speed:
0=75mm/s; 1=70mm/s; 2=65mm/s;
3=60mm/s; 4=55mm/s; 5=50mm/s

Enter print density (use CNT/WT CHANGE key to input negative value)

Enable paper end detecting (i.e. enable the take label sensor)
0= disable; 1=enable

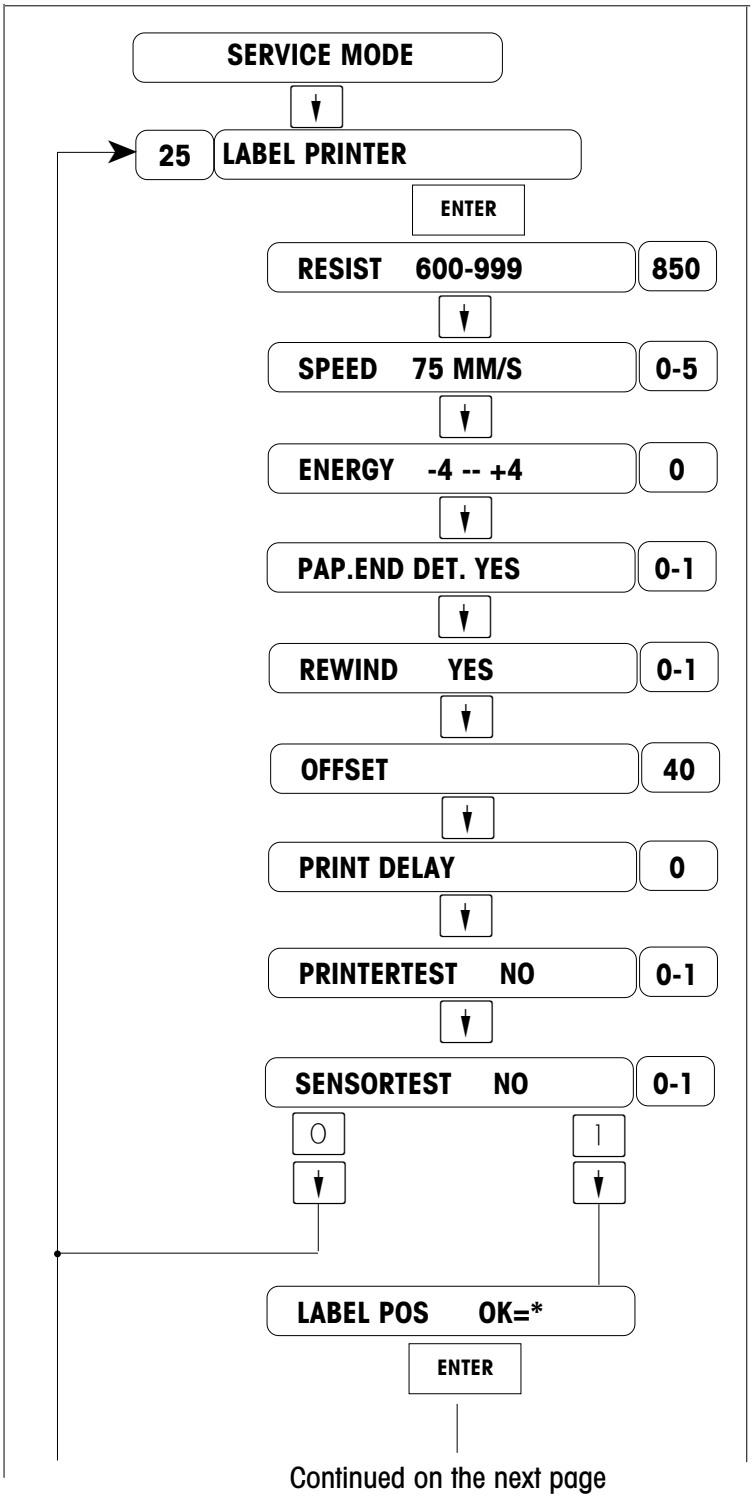
Conduct printer test (To print out test ticket)
0= No; 1=Yes

Conduct gap sensor test
0= No; 1=Yes

Slowly remove the ticket and insert the ticket again in 10 seconds. The test result will be shown.

Label Printer Test

This function is used to test label printer hardware and adjust printer parameters.



Enter the preset code 25

Select the Ohms Rating marked on the Print Head.

Select the printer speed:
0=75mm/s; 1=70mm/s; 2=65mm/s;
3=60mm/s; 4=55mm/s; 5=50mm/s

Enter print density (use CNT/WT CHANGE key to input negative value)

Enable paper end detecting (i.e. enable the take label sensor)
0= disable; 1=enable

Enable rewind feature
0= disable; 1=enable

Enter offset length in mm (Eject distance)

Enter dwell time in 10th of seconds, used on packing machines

Conduct printer test (To print out test ticket)
0= No; 1=Yes

Conduct gap sensor and take label sensor test
0= No; 1=Yes

Lead the label to the start position manually. The scale will test gap sensor.

Continued on the next page

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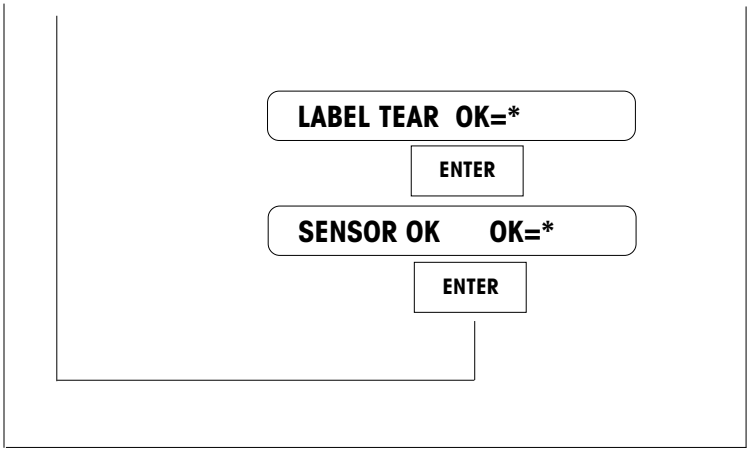


The scale will test take label sensor

The scale will issue two or three labels and show the test results.

4 Troubleshooting

Troubleshooting Guide

Following is a list of symptoms that could occur, and the recommended action to correct the problem.

SCALE INOPERATIVE/BLANK DISPLAYS

1. Check AC power at outlet.
2. Check Voltage on Main Logic PCB. If voltages are zero, check Power Supply.
3. If test point voltage is good replace Main Logic PCB.
4. Check Display Cable on Main Logic PCB and Operator Display PCB. Check Display PCB.

KEYBOARD INOPERATIVE

1. Check keyboard connection on Main Logic.
2. Replace Keyboard.

SCALE WON'T ZERO (DISPLAY "PUT PLATTER ON" or "ZERO NOT CAPTURE")

1. Check platter and spider for obstructions. Turn power off, then back on.
2. Recalibrate.
3. Check Load Cell supply voltage.
5. Replace Load Cell.

LOSING PROGRAMMED DATA

1. Check Error Report of Service Mode.
2. Check Main Logic voltage at test points.
3. Replace Main Logic PCB.

PRINTER WON'T DELIVER LABEL

1. Check printer for obstructions.
2. Check if there is a label which has not been removed.
3. Check Take Label sensor obstructions.
4. Clean Take Label sensor.
5. Test Take label sensor with SENSOR TEST in Service Mode.
6. Check harness from Printer to Main PCB.
7. Check label stepper motor.
8. Replace Main Logic PCB.

INCORRECTLY INDEXES LABELS

1. Check label installation.
2. Check label format and label size.
3. Clean Gap Sensor Lens.
4. Check and clean platen roller, stripper bar, and delivery path using MT cleaning pen.
5. Adjust label Gap Sensor through SENSOR TEST in Service Mode.
6. Replace Gap Sensor Assembly.
7. Replace Main Logic PCB.

LABELS DARK

1. If labels are printed correctly, but are excessively dark, check the ENERGY setting in Service Mode.
2. Check printhead harnesses for loose wires.

LABELS MISSING DOTS

1. If the labels are streaked by lines from top to bottom, replace the Printhead.
2. If characters are cut off, check label format programming. If OK, replace printhead.

LABELS ARE EXCESSIVELY LIGHT/DARK

1. Check Print SPEED and ENERGY setting in Service Mode.
2. Check with other known good label stock.
3. If light print, check and clean printhead resistor line and platen roller.
4. Check printhead harness for loose wires.
5. Check Main Logic PCB voltages. If OK, replace Printhead.

LABEL PRINT IS MOTTLED WITH LIGHT SPOTS

1. Check with other known good label stock.
2. Check and clean printhead resistor line and platen.
3. Replace printhead.

LABELS NOT STRIPPING CORRECTLY

1. Check with other known good label stock, e.g. Nashua.
2. Check label format programming.
3. Check rewind spool for wear.
4. Check Gap Sensor and Take Label Sensor with SENSOR TEST in Service Mode.

LABELS PRINTED EVEN IF ONE IS NOT YET TAKEN

1. Check PAP. END DET. option in Service Mode (Paper End Detection)
2. Check Take Label Sensor.
3. Check Main Logic PCB.

OUT OF LABELS ERROR

1. Make sure labels are threaded through the Gap Sensor.
2. Clean/Check Gap Sensor.
3. Check Gap Sensor through SENSOR TEST in Service mode.
4. Replace Gap Sensor.
5. Replace Main Logic PCB.

CAN'T COMMUNICATE WITH PC

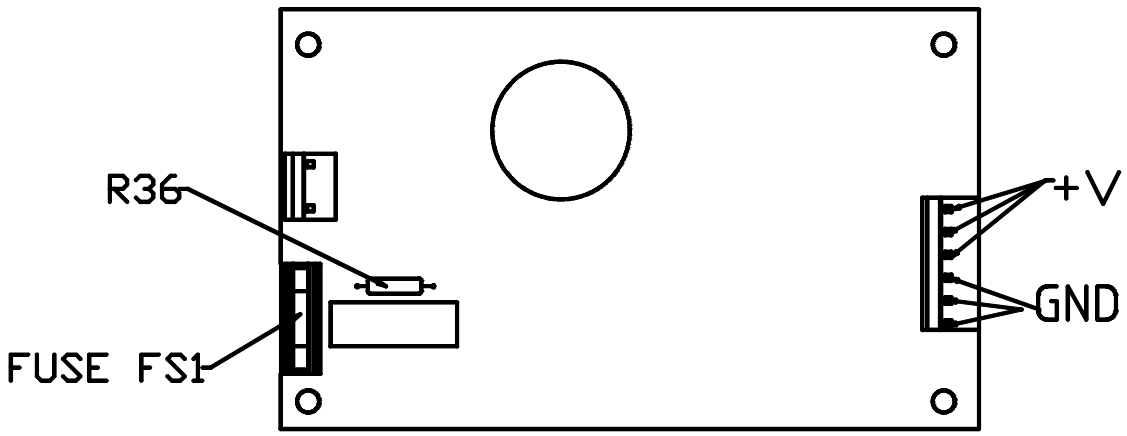
1. Test scale serial port through INTERFACE TEST in Service Mode.
2. Check the connection cable.
3. Check which serial port is used at PC.
4. If using SPCT, check the COM PORT SETUP and set to the following parameters:

Bit per second: 9600
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None

POWER SUPPLY

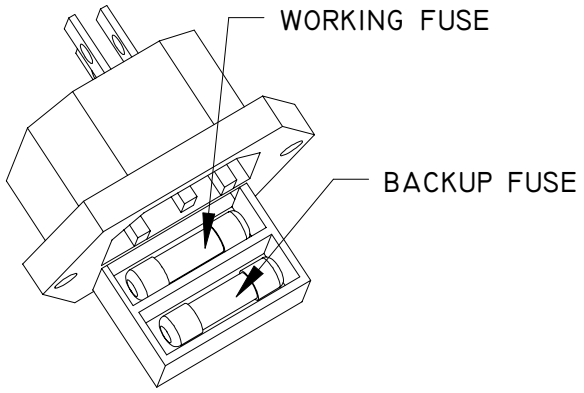
Place the Power Switch to the OFF position. Remove the platter, spider, and top cover (Refer to Chapter 6). Disconnect the operator display harness and keyboard harnesses. Remove the DC power harness. Place the power switch to ON, then check the +24VDC output voltage from the Power Supply terminal between the terminals marked +V and GND, as shown in following Figure. The acceptable output range is +24VDC +/-0.50 VDC.

If the voltage is normal, the Power Supply should be good, and the problem should be suspected as being in the Main Logic PCB or a component that connects to the Main Logic PCB.



If the output voltage is zero, check the 120 VAC input voltage. Place your positive meter lead on the lower pin of fuse FS1 and your negative meter lead on the right pin of R36. If the correct AC input voltage is present, but there is no +24 VDC output, replace the Power Supply.

If no voltage is present, check the fuse (240VAC 4A) on the power supply. If the fuse is OK, check AC input at the Line Cord Jack between the Red wire and Black wire. If the 120VAC is present, suspect a defective power switch. If 120 VAC is not present at the jack, check the fuse (240VAC 3A) installed in the Line Cord Jack, as shown in the following Figure. If the fuse is OK, verify voltage is present at the AC wall outlet.



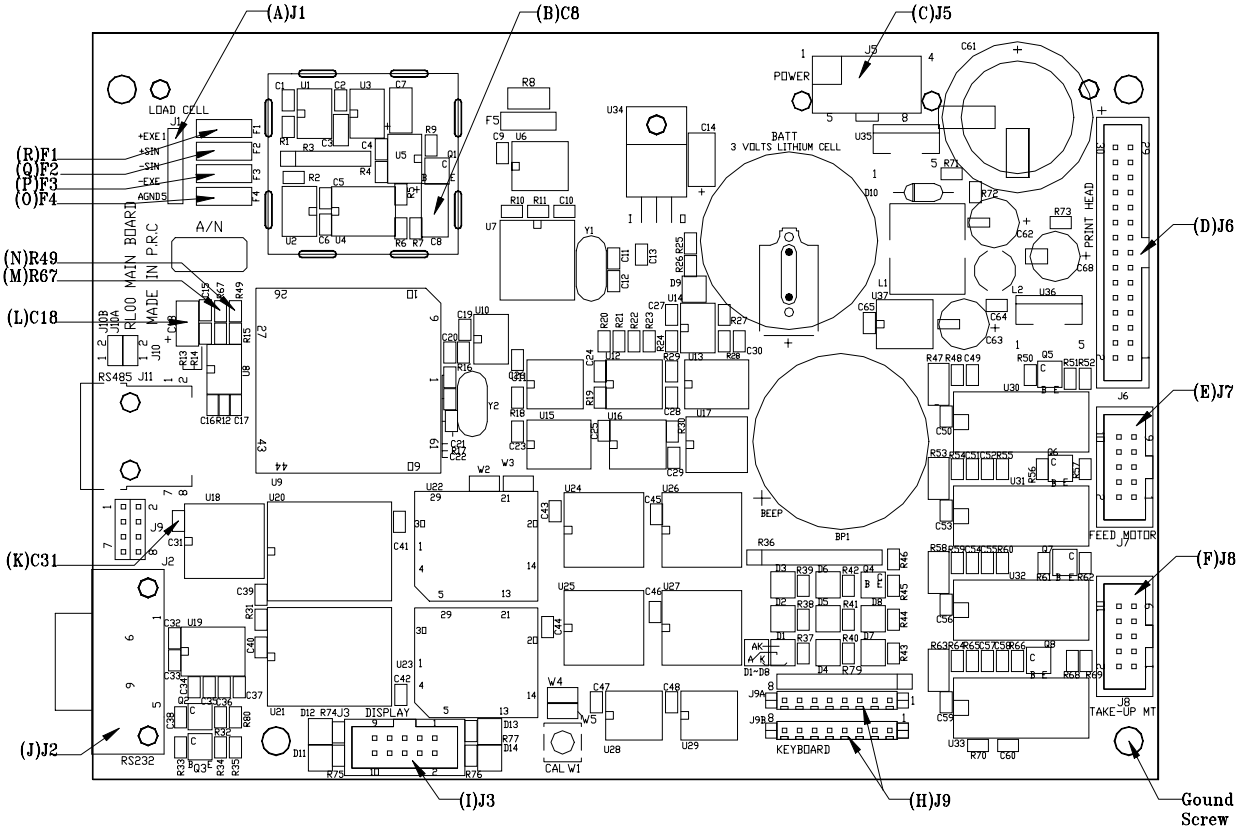
Main Logic PCB

The Main Logic PCB receives +24VDC from the Power Supply and uses this to supply +10VDC and +5VDC to other components. The Main Logic PCB controls all functions in the unit including the thermal printer. Inputs and Outputs to the Main Logic include the Label Taken Sensor, Gap Sensor, Printhead, Stepper Motor, Rewind Motor, Load Cell and etc. The following Figure shows the locations of the various components and connectors on the Main Logic PCB.

Check the voltage between the left pin of F1 and the left pin of F4, the correct range is +10VDC +/- 0.25VDC
Check the voltage between two terminal of C18, the correct range is +2.8VDC-3.1VDC
Check the voltage between two terminal of C31, the correct range is +5VDC +/- 0.25VDC

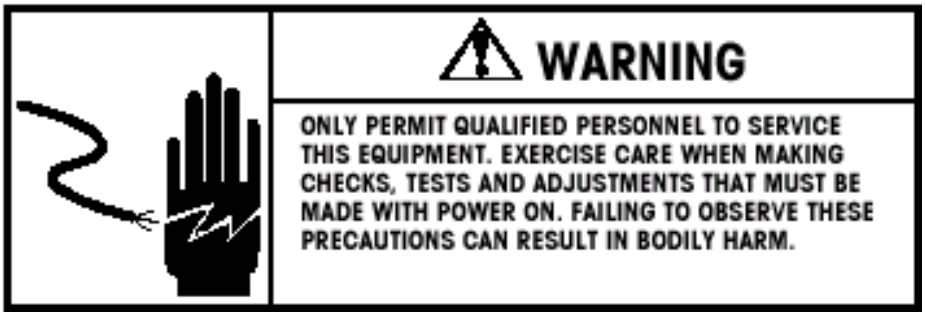
If the volages are not within the range specified, and the Power Supply voltage is correct, replace the Main Logic PCB.

NOTE: WHEN REPLACING THE MAIN LOGIC PCB, THE UNIT MUST BE REFLASHED.



Ref	Description	Ref	Description
A	Load Cell connector J1	**J**	Serial Port Connector J2
B	C8, not used.	**K**	C31, +5VDC test point
C	J5, +24VDC supply form Power Supply	**L**	C18, +3VDC test point
D	Printhead connector J6	**M**	R49, Gap Sensor test point
E	Stepper motor connector J7	**N**	R67, Take Label Sensor test point
F	Rewind motor connector J8	**O**	F4, -EXC test point
G	Ground	**P**	F3, -SIG test point
H	Keyboard connector J9A/B	**Q**	F2, +SIG test point
I	Display connector J3	**R**	F1, +EXC test point

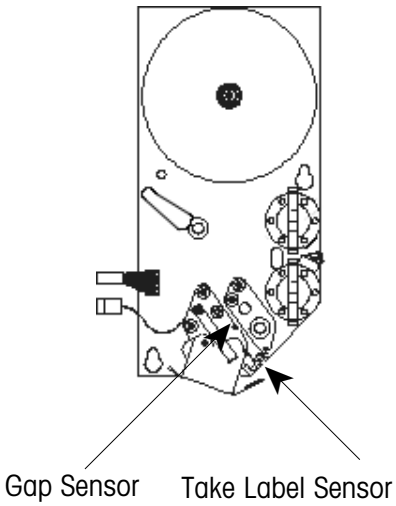
Motor



The Stepper Motor can be tested by disconnecting it from the Main Logic PCB at connector J7. Connect your ohm meter between pin 1 and 2 of Stepper Motor connector. You should read between 9 ohms and 11 ohms. Next, connect your ohm meter between pin 3 and 4 of Stepper Motor connector. You should read between 9 ohms and 11 ohms. If the motor checks good and does not appear to have a mechanical bind, replace the Main Logic PCB.

The Rewind Motor can be tested by disconnecting it from the Main Logic PCB at connector J8. Connect your ohm meter between pin 1 and 2 of Stepper Motor connector. You should read between 9 ohms and 11 ohms. Next, connect your ohm meter between pin 3 and 4 of Stepper Motor connector. You should read between 9 ohms and 11 ohms. If the motor checks good and does not appear to have a mechanical bind, replace the Main Logic PCB.

Sensor



The Take Label Sensor detects the presence of an issued label in the printer to prevent multiple labels issuing in Prepack mode or sale mode when the labels are being stripped. The sensor locations are shown in the following Figure. Before troubleshooting Take Label problems, always make sure the sensor lens are clean. The Take Label Sensor can be tested as follows. Place your positive meter lead on the upper pin of R67 and your negative meter lead on Ground. The reading should be above +2.1VDC when the take label sensor is not blocked and below +0.8VDC when it is blocked. If the Take Label Sensor fail this test, replace it.

Tip: The Take Label Sensor can be disabled via by disabling paper end detecting in Service Mode.

The Gap Sensor is used to detect the gaps between die cut labels and is used as a reference point for indexing the labels. Low stock conditions are aslo detected using the Gap Sensor. The Gap Sensor can be adjusted automatically while running the Sensor Test in Service Mode.
If the automatic adjustment fails to correct an indexing problem, insert a piece of the customer's label liner in the Gap Sensor. Place your meter on volts and turn the Power on. Put the positive meter lead on the upper pin of R49 and the negative on Ground. Note the meter reading. Then install a piece of label liner and label stock in the label gap sensor. This reading should be at least 1 volt higher value. (Example: 1 VDC liner only, and 2 VDC with liner and label blocking sensor). If the Gap Sensor fails this test, replace the sensor.

Load Cell

The Load Cell can be tested for proper analog voltage input and millivolt output by measuring the voltage at connector J1 on the Main Logic PCB. To check the input voltage across +EXC & -EXC, place your meter on volts and put the positive lead on the left pin of F1 and the negative lead on the left pin of F4. You should be reading a steady +10VDC +/- 0.25VDC.

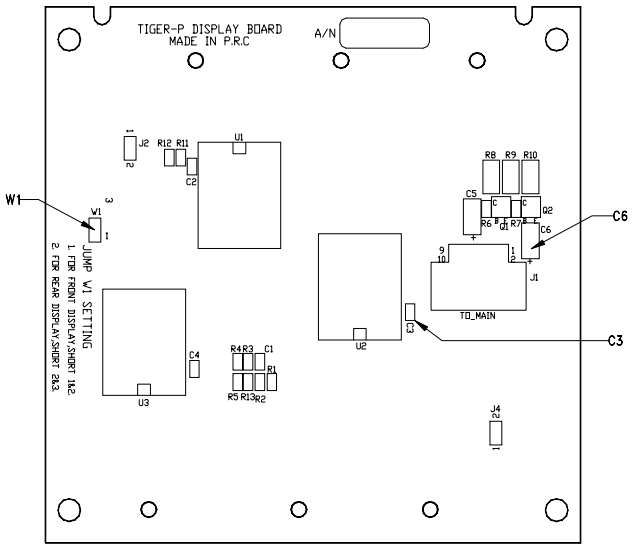
If the Excitation voltage is good, the signal output can be checked across +SIG & -SIG. Set the meter to read in millivolts (mV). Put the positive lead on the left pin of F2 and negative lead on the left pin of F3. With no weight on the platter, you should read zero data. As you add weight to the platter, the voltage should rise and be linear if equal weight is added each time. If the output is linear and correct, but no weight is displayed, replace the Main Logic PCB. If there is no output from the load cell, but correct input voltage, replace the load cell.

Display PCB

The following Figure shows the locations of the various components on the Display PCB.

Check the voltage between two terminal of C3, the correct range is +5VDC +/- 0.25VDC
Check the voltage between two terminal of C6, the correct range is +24VDC +/- 0.5VDC

If the correct voltage is present, but the display is blank, replace the Display PCB.
NOTES: SHORT W1 FOR OPERATOR DISPLAY PCB, OPEN W1 FOR CUSTOMER DISPLAY PCB



Warning Message

INPUT TOO BIG
The input is too big.

INPUT TOO SMALL
The input is too small.

TOO MUCH INPUT
The input is out of limit.

WRONG CODENR.
The code number is invalid.

KEY NO FUNCTION
The key has no function.

KEY BLOCKED
The key is disabled. Check the KEYBOARD CONFIGURE.

PLU NOT FOUND
The entered PLU number does not exist.

AG NOT FOUND
The entered Group number does not exist.

OPER.NOT FOUND
The entered Operator number does not exist.

LABEL NOT FOUND
The entered Label Format does not exist.

PLUNR IS OCCUP
You are trying to duplicate a PLU into an exist PLU number.

LABELNR. OCCUP
You are trying to duplicate a label format into an exist label format number.

AG NOT DELETABLE
This Group contains total data and can not be deleted.

OP NOT DELETABLE
This Operator contains total data and can not be deleted.

MEMORY FULL
Memory is full.

WEIGH AGAIN
You are trying to record one item twice. Remove the item from the platter and put a new item on the platter.

WRONG LABEL
The installed label roll does not match the configured label format.

LABEL MOVED
The stepper motor or the rewind motor is not working properly.

CHANGE PAPERROLL
The label roll is not installed or the label roll is empty.

TAKE LABEL OFF
Take off the current label before printing the next one.

NO FREE OX KEY
All the configured operator keys have been occupied.

PRINT TICKET
Print out the customer ticket before logging out.

OPEN CUST. TICK
You are trying to delete an operator who has total data.

OX NOT LOGGED-IN
The operator has not be assigned to an operator.

PAYMENT TOO LOW
The payment is less than the total amount.

NO FURTHER REG.
No further transaction has been recorded.

DISCOUNT IMPOSS
This PLU does not allow to be discounted. Check the PLU Discount configuration, or this PLU is in special offer.

TARE TOO BIG
The entered tare is too big.

PLU TARE ACTIVE
You are forbidden to override the PLU tare.

NO STABLE WEIGHT
The weight is not stable.

PUT PLATTER ON
The weight is too small and out of power up zero range.

ZERO NOT CAPTURE
The weight is too big and out of power up zero range.

WEIGHT TOO SMALL
The weight is too small to be printed.

ERROR TAKE-SENS
The take label sensor is not working properly.

ERROR POS_SENS
The gap sensor is not working properly.

ERROR INTERFACE
The serial port is not working properly.

Error Message

Listed below are the possible error codes are listed. When an error code appears, the scale should be switched off and on. In many cases the error will disappear.
There are 3 different kinds of error messages:

Error Status 1:
Warning! After the warning the scale can still be used.

Error Status 2:
Press "CODE" key. Change to one of the CODE menu. Back to normal operation mode.

Error Status 3:
Press "CODE" key and enter SERVICE MODE, after returning to normal operation mode the scale will perform RESET.

Error Message	Reason	Status	Action
ERROR 300 PRINTER	Printer driver defect	2	Replace Main Logic PCB
ERROR 301 PRINTER	Printer driver defect	2	1 Reflash the software 2 Replace Main Logic PCB
ERROR 307 PRINTER	Printhead defect	2	1 Replace printhead 2 Replace printhead harness 3 Replace Main Logic PCB
ERROR 308 PRINTER	Printer driver defect	1	Replace Main Logic PCB
ERROR 310 PRINTER	Printer driver defect	2	Replace Main Logic PCB
ERROR 101 AP	Real Time Clock defect	1	Replace Main Logic PCB
ERROR 400 CELL	Load Cell defect	-	1 Replace Main Logic PCB 2 Replace Load Cell
ERROR 401 CELL	Load Cell defect	-	1 Recalibrate 2 Replace Main Logic PCB 3 Replace Load Cell
ERROR 200 DATABASE	Data bank error	3	Reset RAM
ERROR 201 XX DATABASE	XX Data error	2	1 Reset RAM 2 Delete Data XX
ERROR 202 XX DATABASE	XX Data error	2	1 Reset RAM 2 Delete Data XX
ERROR 203 YY DATABASE	YY Data error	2	1 Reset RAM 2 Configure YY
ERROR 205 DATABASE	Data bank error	3	Reset RAM

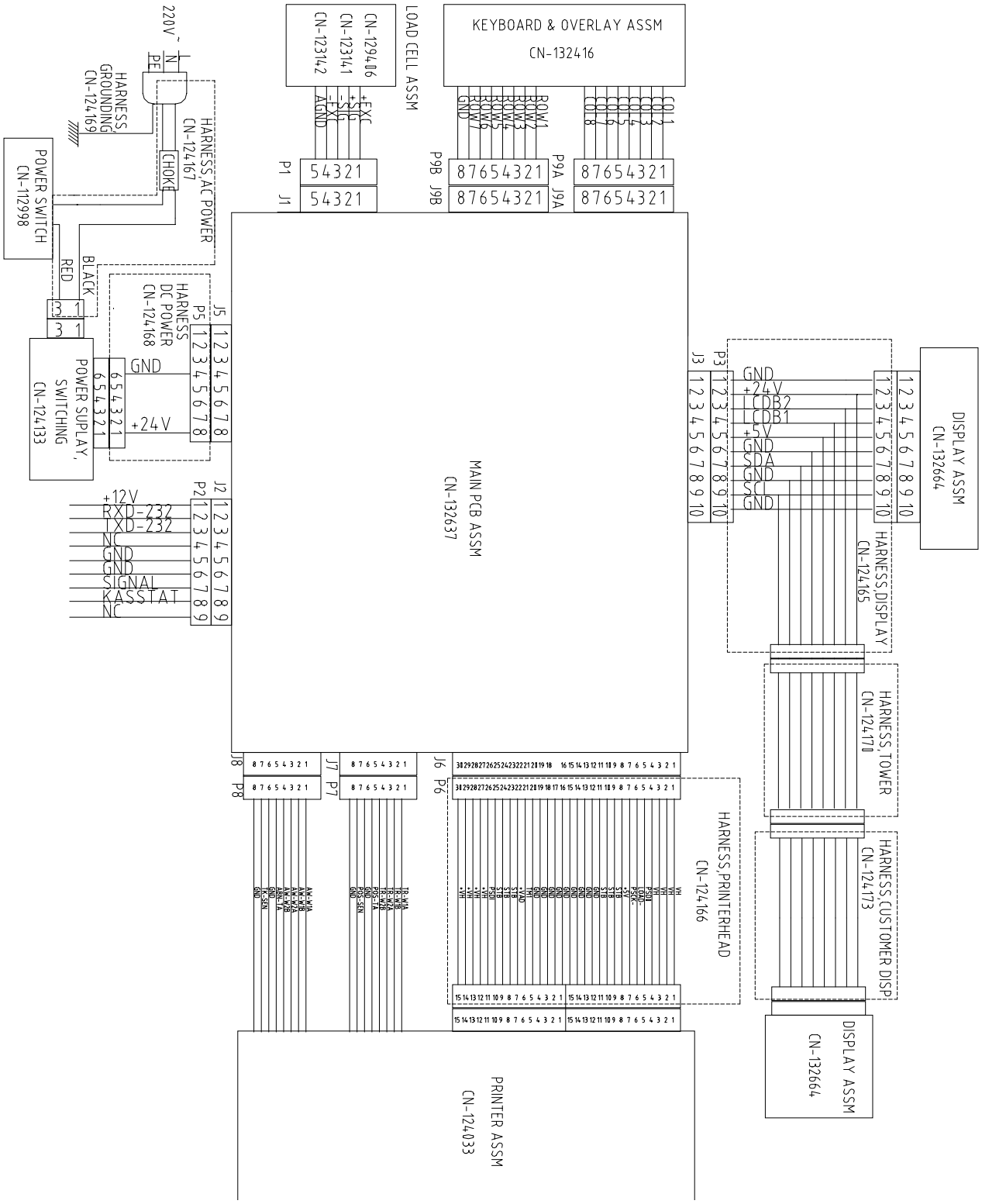
Meaning of XX

01 Operator
02 Ticket data
03 Time total data
04 Text data
05 Barcode data
06 Tare data
07 Group data
13 Label data
15 Date text data
21 PLU label data
23 Store adress
24 PLU data

Meaning of YY

01 Operator Configure
03 Keyboard Configure
04 Password Configure

Interconnecting Diagram



5 Parts Replacement

Cover Removal

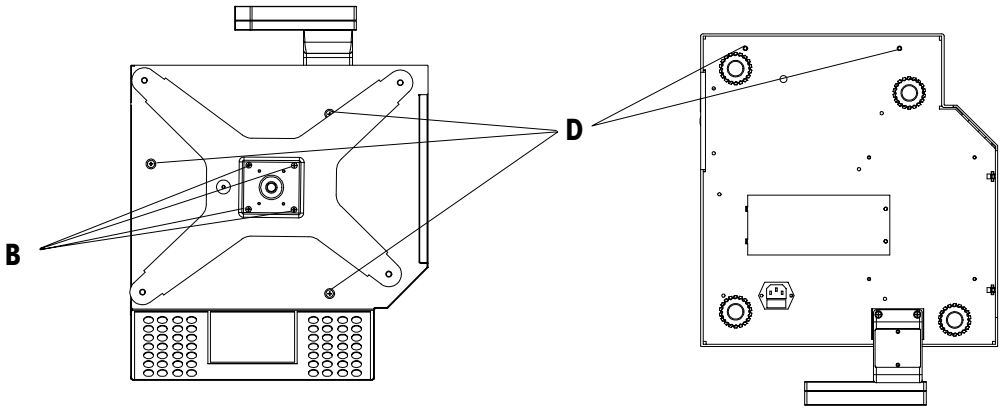
A Turn the scale power off by placing the power switch to the OFF position(Press the "0" on the power switch). Disconnect power cord from outlet. Then remove the platter.

B Remove the 4 Phillips Head screws, then remove the upper spider.

C Open the printer door.

D Remove the 3 top Philips Head screws, then remove the 2 screws underneath the scale base.

E When removing the top cover, slightly lift the cover and disconnect the keyboard harnesses on the Main Logic PCB and disconnect the display harness on the front display PCB before lifting the cover off the base.



Load Cell Replacement

A Turn the scale power off and disconnect power cord from outlet and remove the platter, upper spider and top cover.

B Disconnecting the Load Cell harness, then remove the two socket head Allen screws on the lower spider with a 6mm Hex Wrench.

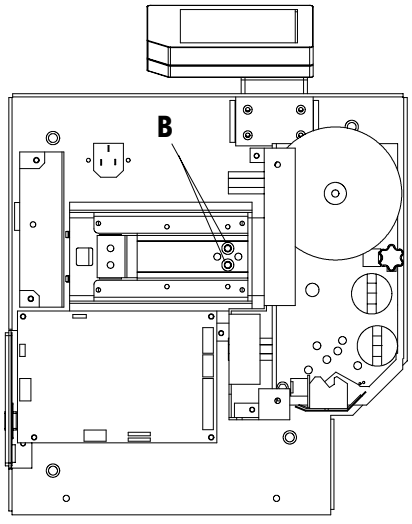
C Remove the lower spider and the upper load cell spacer .

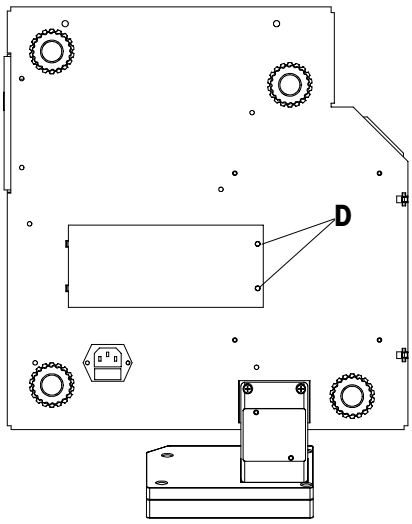
D Remove the two Phillips head screws underneath the scale base, then remove the battery cover.

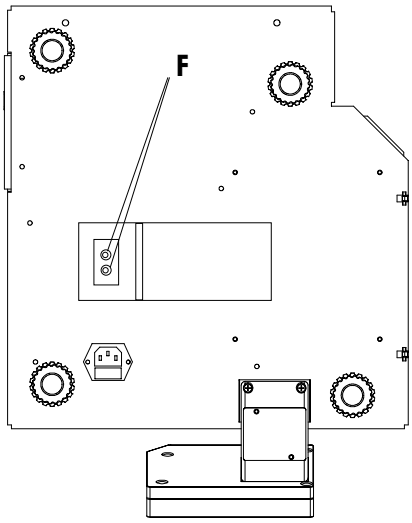
E Remove the two socket head Allen screws inside the battery box.

F If the load cell is removed or replaced, the load cell and the lower spider must be installed square to the base. The capscrews should be tightened to 8Nm (metric Newton-Meters or 70 in-lb or 6 ft-lb) with a torque wrench.

NOTE: IF THE LOAD CELL IS REPLACED, THE OVERLOAD STOPS MUST BE CHECKED AND ADJUSTED TO FACTORY SPECIFICATIONS AS DESCRIBED IN THE NEXT SECTION.

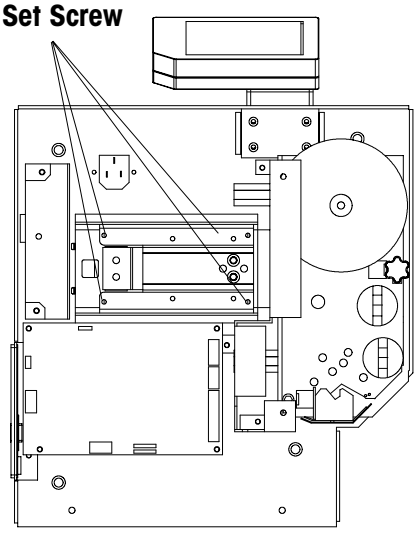






Overload Stops

Overload Stop Set Screw

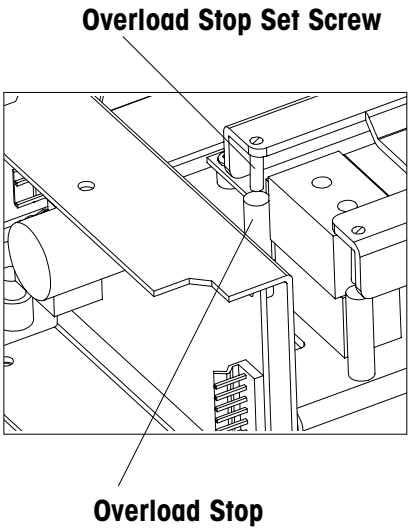


If the Load Cell, or lower Spider is replaced, the overload stop gaps must be checked and adjusted per factory specifications. The overload protection is by set screws in the lower spider which are designed to contact stops on the scale base in the event of an overload condition.

NOTES: FAILURE TO PROPERLY CHECK AND SET THE OVERLOAD GAPS MAY RESULT IN SEVERE DAMAGE TO THE LOAD CELL IN THE EVENT OF AN OVERLOAD CONDITION.

To check the spider overload stop gaps, insert the proper size feeler gauge in between the overload stop set screw and the overload stop on the scale base, as shown in the following Figure. Gauges can be made using the appropriate size of music wire. The music wire should be bent into a hook shape to check the gaps. If the gap is set properly a slight snap and drag will be felt when pulling the hooked end through the gap. If a slight snap is not felt, the gap is too wide, or if the drag is excessive, the gap is to narrow. To adjust the gap, turn the overload set screw in or out with a 5mm Hex Wrench until a the slight snap (drag) is felt when pulling the gauge through. Refer to the following Figure for overload stop positions and gap specifications.

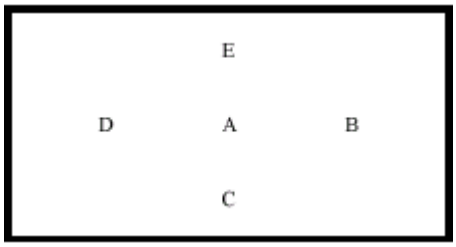
If any of the overload stops are adjusted, remove the screws, clean off residue from threads, then apply Loctite to the threads to prevent vibration from turning the set screws. Re-adjustment is not required if the top cover or upper spider is removed and reinstalled.



Gap Position	Capacity = 6kg	Capacity = 15kg or 30lb
A (mm/inch)	0.9/0.035	1.2/0.047
B (mm/inch)	0.75/0.030	0.9/0.035

Shift Test

The shift test should be performed after calibration. Place 25 lb of test weight on the scale platter at point A, as shown in the follwoing Figure. Proceed with the test at points B through E. Points B through E are midway between the center of the platter and the edge of the platter. The NIST H-44 acceptance tolerance is +/-0.015 lb of any of the points B through E compared to A.



If the scale fails the meet the specified tolerance at one or more test points, check the load cell overload stop screws for proper adjustment, check top scale cover for proper seating and possible interference with sub-platter. The Spider and load cell spacer must be properly centered to avoid interference with top cover. If none of the above conditions exist, replace the load cell, recalibrate the scale, and recheck the shift.

Printhead Replacement

A Turn the scale power off. Disconnect power cord from outlet. Then remove the platter, upper spider and top cover.

B Disconnector the Printhead harness, Stepper motor harness and Rewind motor harness on Main Logic PCB.

C Remove the socket head Allen screw and the printer holder. Take out of the printer from scale base.

D Open printhead by pressing green button on the printhead.

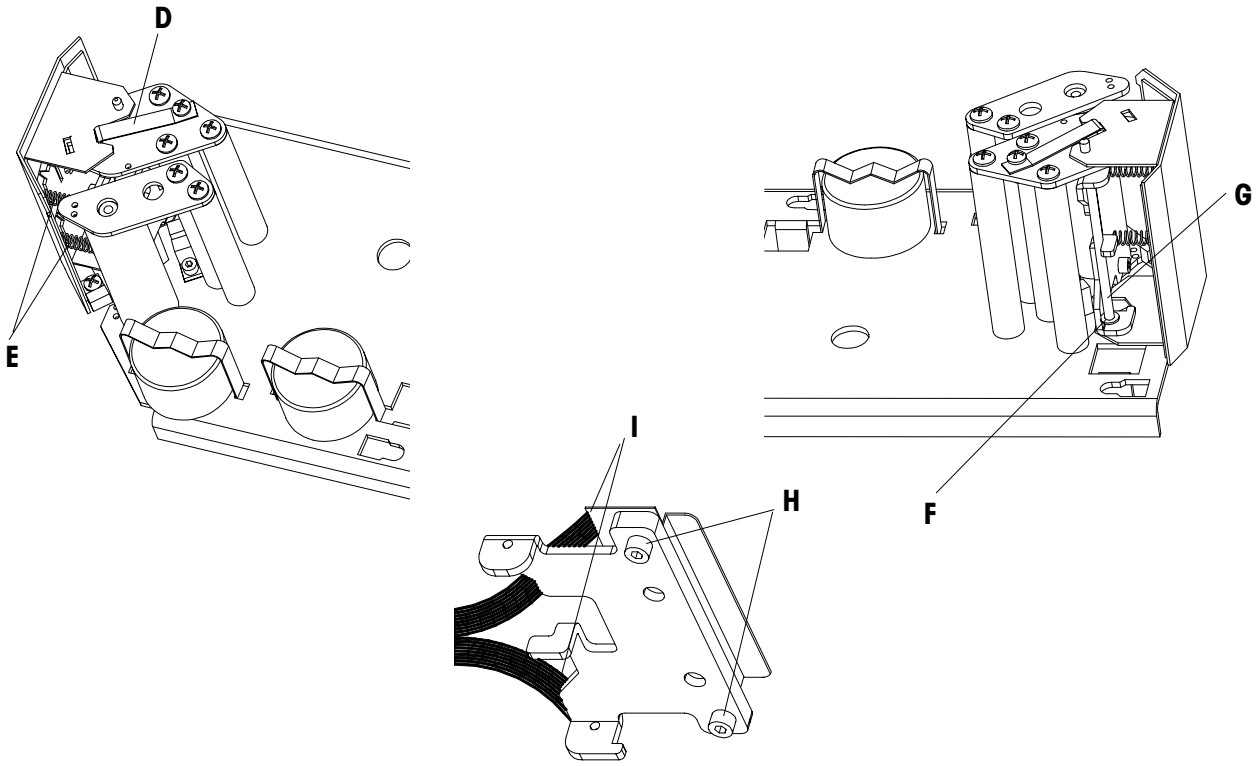
E Then remove the two springs with needle nose pliers

F Remove the wash with a pliers.

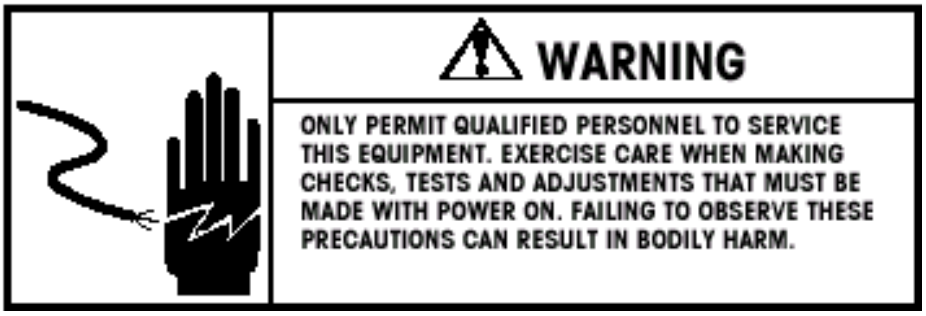
G Then remove the shaft downside.

H Remove the two socket head Allen screws with a 2.5mm Hex Wrench.

I Disconnect Printhead harness from printhead, then replace the printhead.



Gap Sensor or Stepper Motor Replacement



A Turn the scale power off. Disconnect power cord from outlet. Then remove the platter, upper spider and top cover.

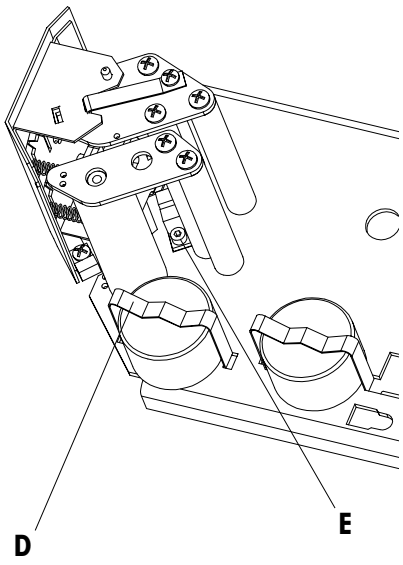
B Disconnector the Printhead harness, Stepper motor harness and Rewind motor harness on Main Logic PCB.

C Remove the socket head Allen screw and the printer holder. Then take out of the printer from scale base.

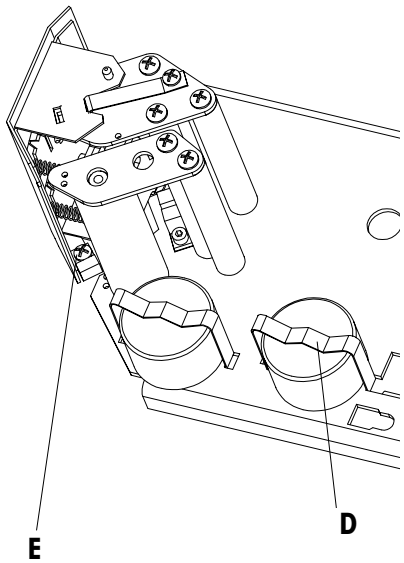
D Remove the Stepper motor clip with pliers. Then take off the Stepper motor.

E Remove the socket head Allen screw with a 2.5mm Hex Wrench. Then take off the Gap sensor.

F Open the harness clip underneath the printer, and replace the Stepper motor and Gap sensor harness.



Take Label Sensor or Rewind Motor Replacement



A Turn the scale power off. Disconnect power cord from outlet, then remove the platter, upper spider and top cover.

B Disconnect the Printhead harness, Stepper motor harness and rewind motor harness on Main Logic PCB.

C Remove the socket head Allen screw and the printer holder. Then take out of the printer from scale base.

D Remove the Rewind motor clip with pliers. Then take off the Rewind motor.

E Remove the Philip Head screw and take off the Take Label sensor.

F Open the harness clip underneath the printer, and replace the Rewind motor and Take Label sensor harness.

6 Maintenance

External Cleaning

⚠ WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

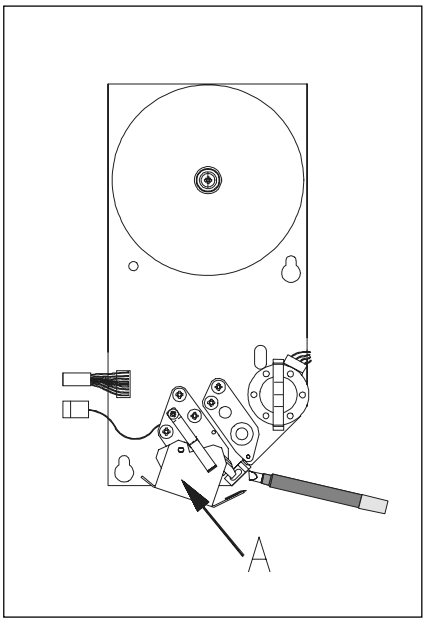
Turn the scale power off by placing the power switch to the OFF position(Press the "0" on the power switch). Disconnect power cord from outlet.

Use a soft clean cloth dampened with a mild detergent and water (or a mild cleaner) to wipe the exterior surfaces. Do not spray liquid directly on the unit. A mild spray cleaner can be used by spraying the cleaning cloth.

Cleaning Printhead

⚠ CAUTION

CLEAN PRINTHEAD USING METTLER TOLEDO LIQUID CLEANER OR EQUIVALENT OR THE METTLER TOLEDO CLEAN PEN.
DO NOT SCRAPE THE PRINTHEAD WITH ANY OBJECT TO REMOVE GLUE OR LABEL DEBRIS OR SEVERE DAMAGE MAY RESULT.



Turn the scale off by placing the power switch to the OFF position. Discount power cord from outlet.

Open the plastic door on the right side of the scale.

Slide out the printer .

Press the trigger to open the printhead.

Clean the printhead with a soft clean cloth soaked in isopropyl alcohol, METTLER TOLEDO liquid cleaner or equivalent, or the METTLER TOLEDO Cleaning Pen.

Push back the printhead until it clicks.

Slide the printer in.

Close the plastic door.

Rezeroing

This scale is equipped with an automatic zeroing device, which compensates for small weight change. This device is not activated when a package tare is compensated. After cleaning the dirt from the platter with the scale on, the display can read :

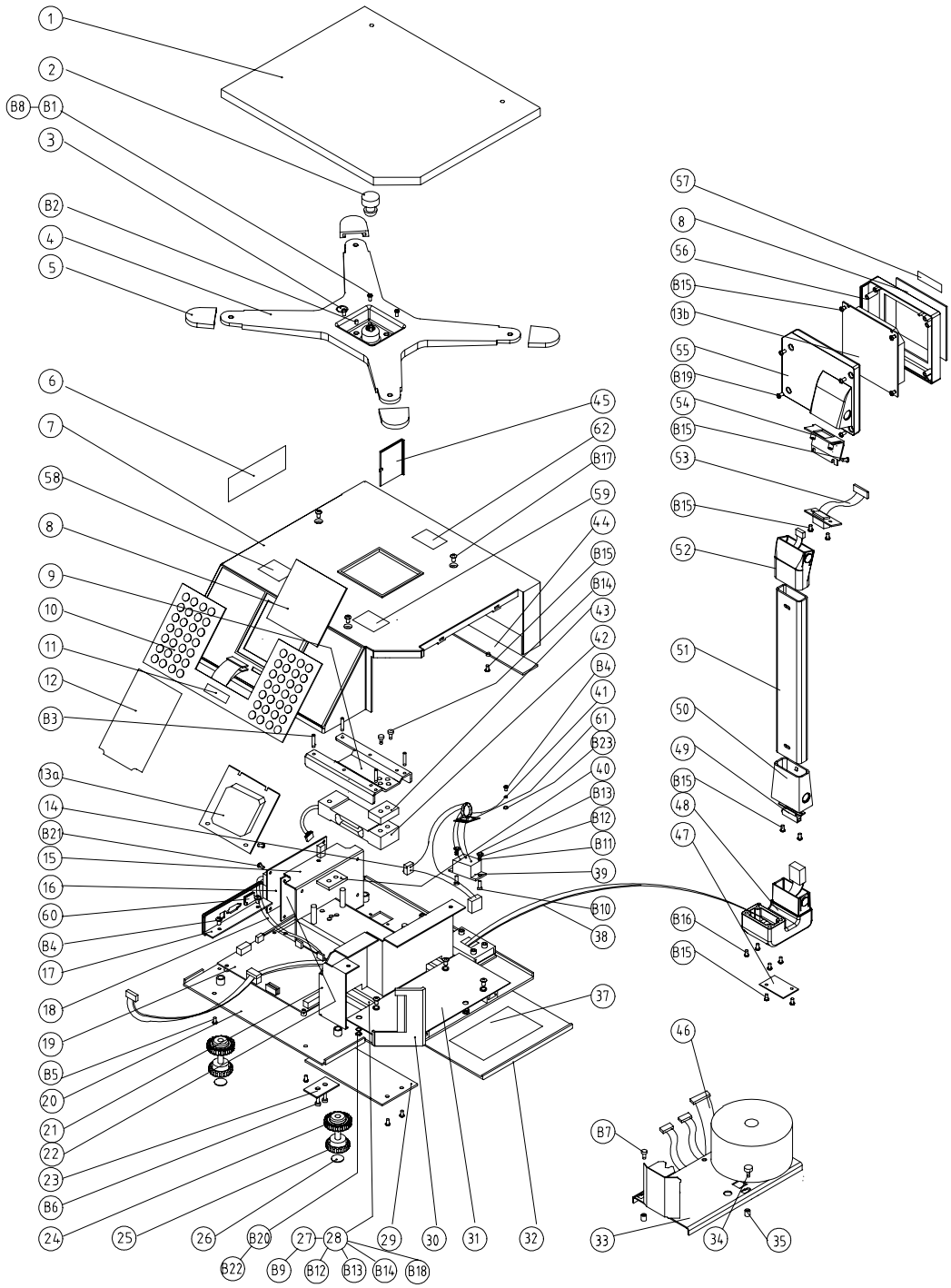
- a negative value
- or "_ _ _ _ _" segments can be lit.

Solution :
Press the ZERO key

If the message appears again :
Turn the scale off and back on again with the main power switch.

7 Replacement Parts

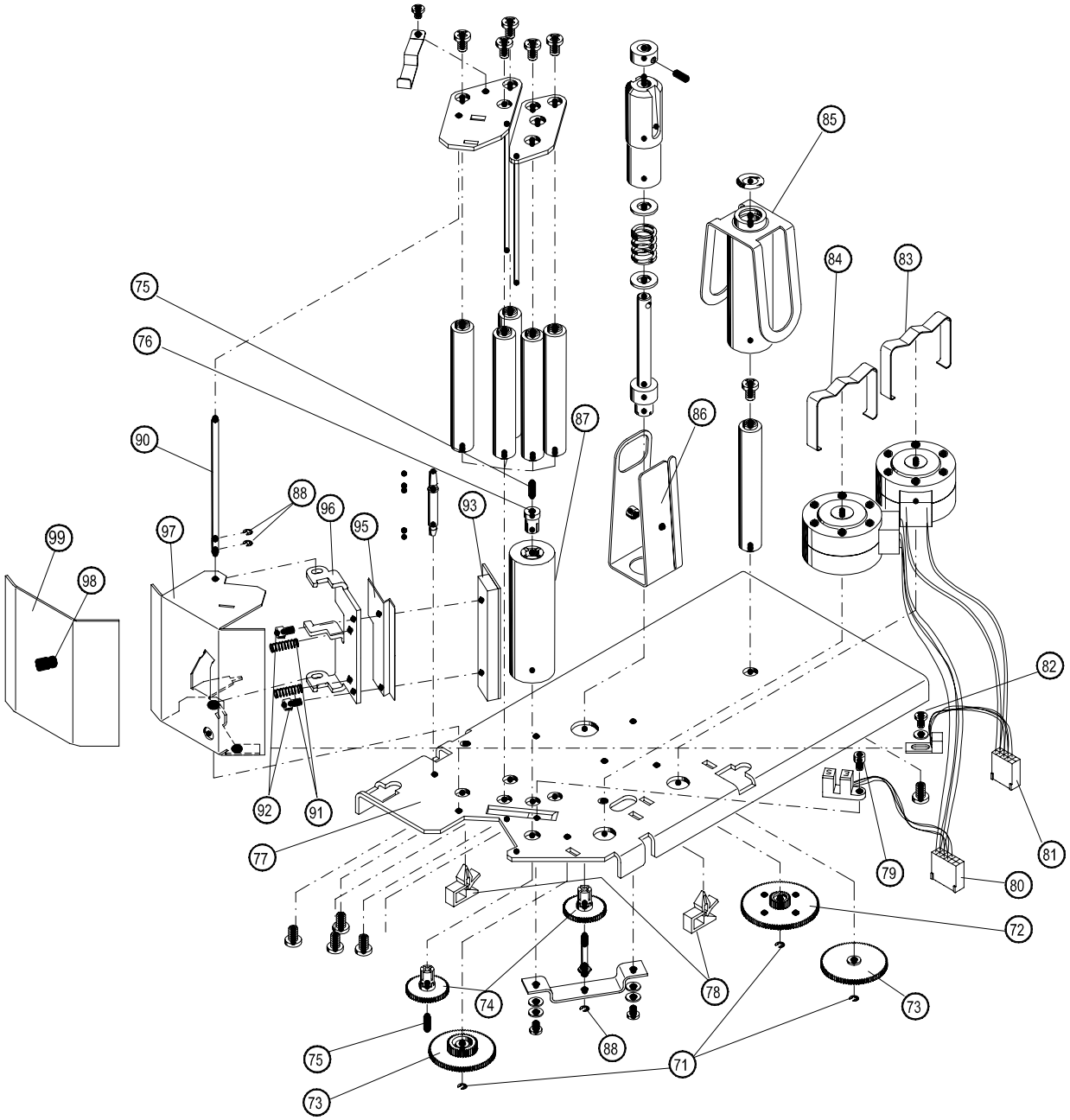
8442 Base



8442 Base Parts List

No	P/N	DESCRIPTION	QTY	REMARK
1	124009OTC	Platter	1	
2	124041OTC	Spacer, center rubber	1	
3	102326OTC	Bubble lever	1	
4	124020OTC	Spider, upper	1	
5	124022OTC	Spacer, corner rubber	4	
6	120291OTC	Data plate	1	
7	124001OTC	Cover, top	1	
8	124018OTC	Lens, display, U.S. version	2	8442-XXXX-000
	132414OTC	Lens, display, Canada version	2	8442-XXXX-089
	133442OTC	Lens, display, French, Can version	2	8442-XXXX-020
9	124019OTC	Spider, lower	1	
10	132416OTC	Keyboard & overlay Assm.	1	
	133443OTC	Keyboard & overlay Assm. French	1	8442-XXXX-020
11	132418OTC	Sticker, capacity, 6x0.002kg, Canada	1	8442-1XXX-089
	132419OTC	Sticker, capacity, 15x0.005kg, Canada	1	8442-2XXX-089
	132417OTC	Sticker, capacity, 6/15kg , Canada	1	8442-3XXX-089
12	124066OTC	Insert, Preset key	1	
13	132664OTC	Display Assm	2	
14	112998OTC	Power switch	1	
15	124031OTC	Frame, power supply	1	
16	124133OTC	Power supply, switching	1	
17	124037OTC	Cover, interface	1	
18	124168OTC	Harness, DC power	1	
19	132637OTC	Main PCB Assm.	1	
20	124002OTC	Base	1	
21	124032OTC	Bracket, printer	1	
22	124082OTC	Insulating paper	1	
23	124069OTC	Spacer, load cell	1	
24	124011OTC	Foot, lock	4	
25	124010OTC	Foot	4	
26	124043OTC	Spacer, foot, rubber	4	
27	132666OTC	Slider, printer	2	
28	132665OTC	Slider, holder	2	
29	124027OTC	Cover, battery	1	
30	124013OTC	Cover, front	1	
31	124015OTC	Holder, printer	1	
32	124024OTC	Door, printer	1	
33	124033OTC	Printer Assm.	1	
34	133264OTC	Printer hold	1	
35	132667OTC	Pole	2	
37	124068OTC	Label, change label	1	
38	124165OTC	Harness, display	1	
39	124167OTC	Harness, AC power	1	
40	124016OTC	Spacer, lower	1	
41	124169OTC	Harness,grounding	1	
42	129406OTC	Load cell Assm.	1	8442-3XXX-XXX
	123141OTC	Load cell Assm.	1	8442-2XXX-XXX
	123141OTC	Load cell Assm.	1	8442-4XXX-XXX
	123142OTC	Load cell Assm.	1	8442-1XXX-XXX
43	124016OTC	Spacer, upper	1	
44	124030OTC	Cover, inside, cover	1	
45	124023OTC	Door, tower	1	
46	124166OTC	Harness, printhead	1	
47	124039OTC	Cover, tower, bracket	1	
48	124003OTC	Tower bracket	1	
49	124170OTC	Harness, tower	1	
50	124004OTC	Connector, lower, tower	1	
51	124005OTC	Tower	1	
52	124006OTC	Connector, upper, tower	1	
53	124173OTC	Harness, customer display	1	
54	124042OTC	Cover, insert, customer display	1	
55	124008OTC	Cover, back, customer display	1	
56	124007OTC	Cover, front, customer display	1	
57	132490OTC	Sticker, capacity, 30x0.01lb, U.S.	1	8442-4XXX-000
	132418OTC	Sticker, capacity, 6x0.002kg, Canada	1	8442-1XXX-089
	132419OTC	Sticker, capacity,15x0.005kg, Canada	1	8442-2XXX-089
	132417OTC	Sticker, capacity, 6/15kg, Canada	1	8442-3XXX-089
58	133024OTC	Label, ESD warning	1	
59	133023OTC	Label, Power warning	1	
60	133411OTC	Clip, wire	4	
61	133412OTC	Clip	2	
62	120154OTC	Label, FCC, English	1	
	132457OTC	Label, EMC, French	1	8442-XXXX-020

Printer Engine



Printer Engine Parts List

No	P/N	DESCRIPTION	QTY	REMARK
71	131743OTC	Wash, #2	3	
72	133437OTC	Gear, big	1	
73	133438OTC	Gear, medium	2	
74	133439OTC	Gear, small	2	
75	133441OTC	Screw, set, hex (headless), M3X12	2	
76	133440OTC	Plug, platen	1	
77	124034OTC	Base, printer	1	
78		Clip	2	
79		Screw, Allen, socket Head, M3x5	1	
80	124183OTC	Stepper motor & Gap sensor Assm.	1	
81	124184OTC	Rewind motor & Take label sensor Assm.	1	
82		Screw, Philips head, M3x4	1	
83		Clip, motor	1	
84		Clip, motor	1	
85		Wing, label roll	1	
86		Wing, rewind	1	
87	133444OTC	Platen	1	
88	131742OTC	Wash, #2.5	3	
90		Shaft, printhead	1	
91	131717OTC	Spring, printhead	2	
92		Screw, Allen, Socket head, M3x5	2	
93	129534OTC	Thermal printhead	1	
95		Frame, printhead	1	
96		Adapter, printhead	1	
97	124034OTC	Bracket, printhead	1	
98		Nut, M3	1	
99	124035OTC	Cover, front, Printer	1	

Appendix A

Instructions to replace main PCB Assembly

1 Replace the main PCB assembly

2. Flash the application code

- Connect the data cable.

- Type in the command " Flash *filename.dat* 1 (or 2) " at DOS prompt

- Turn on the scale power.

3. Flash the new boot code

- Type in the command "Flash *boot0200.dat* 1 (or 2) " at DOS prompt

- Turn on the scale power.

4. Run step 15 of the service mode, to initialize the memory.

5. Run step 24 and 25 of the service mode, to set up the printer parameters.

6. Run step 5 of the service mode, to calibration the scale.

7. Run other setup and program the customer data (Refer to Chapter 2 of the Technical Manual)

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P/N: 132523OTC

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