WEIGH-TRONIX

Model 3275 Checkweigher
Service Manual

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Table of Contents

Pages are numbered consecutively beginning with the cover page.

Specifications*

Dimensions

Overall

6 lb and 12 lb scales	8.85W x 13.25D x 17.21H
30 lb, 60 lb, and 100 lb scales	13.69W x 16.50D x 17.21H
100 lb scale	20W x 26.56D x 35H
200 lb scale	24W x 30.56D x 35H

Scale Platter

6 lb and 12 lb scales	8 x 8
30 lb, 60 lb, and 100 lb scales	12 x 14
100 lb scale	20 x 20
200 lb scale	24 x 24

Construction

All stainless steel sheet and hardware.

Power Requirements

117 VAC (+10%, -15), 50/60Hz (±3 Hz), .25 Amp. Max.

Display and Annunciators

Fluorescent four-color display, with annunciators for unit of measure (lb, kg, oz, and g), over, under, accept, center of zero, and net mode, as well as a 6 digit weight display with 1/2 inch high numerals.

Control Keys

10 membrane keys.

Environmental Limits

Temperature: -10C to +40C (14F to 104F)
Humidity: 10% to 95% relative, non-condensing

Options

Remote Keypad
RS-232 and RS-485 Communications I/O
234 VAC, 50/60 Hz Power

CAPACITY & RESOLUTION

Pounds	Ounces	Kilograms	Resolution
6 lb x .001	100 oz x .02	3 kg x .0005	6000/5000/6000d
6 lb x .002	100 oz x .05	3 kg x .001	3000/2000/3000d
12 lb x .002	200 oz x .05	6 kg x .001	6000/4000/6000d
12 lb x .005	200 oz x .1	6 kg x .002	2400/2000/3000d
30 lb x .005	480 oz x .1	15 kg x .002	6000/4800/7500d
30 lb x .01	480 oz x .2	15 kg x .005	3000/2400/3000d
60 lb x .01	960 oz x .2	30 kg x .005	6000/4800/6000d
60 lb x .02	960 oz x .5	30 kg x .01	3000/1920/3000d
100 lb x .02	1600 oz x .5	45 kg x .01	5000/3200/4500d
100 lb x .05	1600 oz x 1	45 kg x .02	2000/1600/2250d
200 lb x .05	3200 oz x 1	90 kg x .02	4000/3200/4500d
200 lb x .1	3200 oz x 2	90 kg x .05	2000/1600/1800d

***WEIGH-TRONIX reserves the right to change specifications and features without notice and without incurring obligation.**

Introduction

*In this manual you will see key names in bold, all caps letters (**OVER**, **UNDER**, etc). Indicator displays will be bold, italicized letters matching the case of each letter on the display (**CALSEt**, **SEtuP**, etc.)*

This is the service manual for the 3275 Checkweigher. This manual is divided into the following sections:

- Introduction
- Menu Structure
- Diagnostics
- Calibration
- Setup
- Troubleshooting
- Disassembly / Reassembly
- Technical Drawings

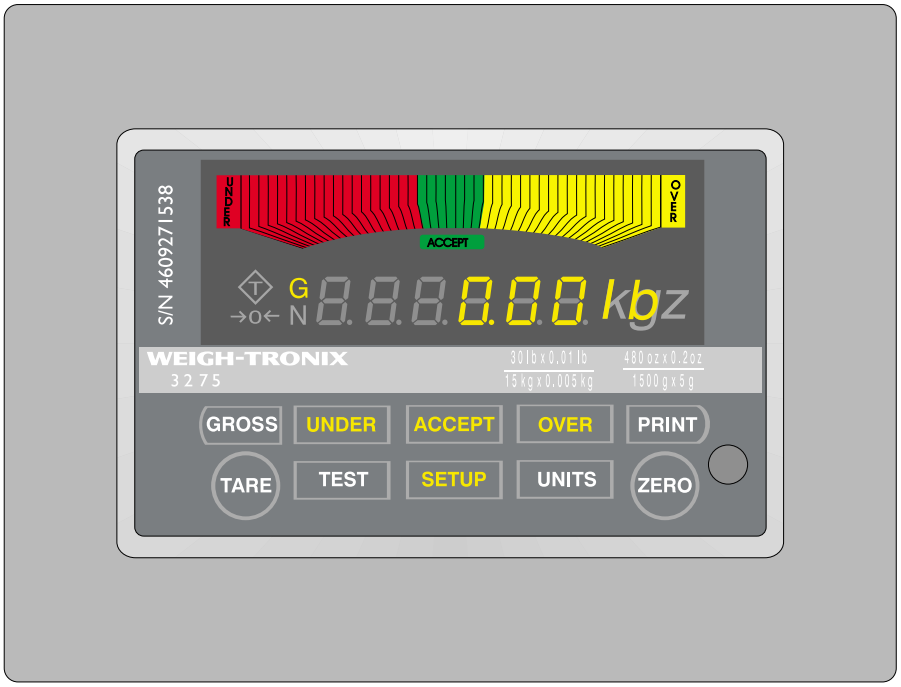


Figure 1
3275 Checkweigher indicator

Menu Structure

There is one menu structure in the 3275 made up of three submenus. Use these submenus to calibrate, diagnose, and setup your checkweigher. These submenus are:

- Calibration (***CALSEt***)
- Diagnostics (***diAg***)
- Setup (***SEtuP***)

You can access the menu in two ways:

- Using momentary switch SW-1
- Using a keypad key sequence.

You can also access the Setup submenu using the optional remote keypad. Following are the steps you need to perform to access the menu and the rules for moving around in the menu once you are there.

Access using SW-1

You can always access the menu structure by pressing the momentary switch, SW-1, under the nylon plug located on the back of the indicator housing.

Remove the nylon plug on the back of the indicator housing. Press switch SW-1. . .

"***CALSEt***" is displayed, telling you that you are now in the 3275 menu.

Front Panel Access to the Menu

The other way you access the menu is by using a front panel key sequence if this option has been enabled in the calibration submenu.

Press **OVER**, **UNDER**, **OVER**, **UNDER** within a two second time period. . .

"***CALSEt***" is displayed, telling you that you are now in the 3275 menu.

Menu Instructions

Whichever method you used to get to the 3275 menu, use the following rules to navigate around the menu and make your calibration, diagnostic and setup selections.

With "***CALSEt***" displayed press the **OVER** or **UNDER** key to move horizontally through the menu choices. Press **OVER** to move to the right and press **UNDER** to move to the left.

*Press the **ZERO** key to exit the 3275 menu and return to normal operation.*

Once the parameter you wish to view or change is displayed, press the **ACCEPT** key to move down in the menu structure. The current value of the chosen parameter will be displayed. Use the **OVER** and **UNDER** keys to toggle among the choices for that parameter. When the value you want is displayed press the **ACCEPT** key to accept the value and return to the parameter display.

Press the **SETUP** key to exit a parameter value display without changing the previously stored value. Also, press the **SETUP** key to move one level higher in the menu structure.

Using the Remote Keypad for Menu Access and Setup

If you have the optional remote keypad you may use it to access the setup submenu. Below are the steps used to access the menu and the procedure for viewing and changing setup parameters:

1. Press **ALT**, then **0**. . . — The display will show "***SurE?***"
2. Press **ACPT** to enter the menu. . . — "***PAdSEt***" will be displayed
   OR
   press **ZERO** on the remote. . . — The indicator returns to normal operation.
3. With "***PAdSEt***" displayed, press the **ACPT** key. . . — "***CodE*** _ _" is displayed prompting you to key in a two digit code from the list below.

REMOTE KEYPAD CONFIGURATION MENU			
MODE	**DISPLAY**	**FUNCTION TOGGLE**	**CODE #**
Display	dSPSEt	dSPdEU/dSPnEt	01
Weight Display enable	digitL	dig on/dig oFF	02
Display Update Rate	UPdAtE	FASt/SLo/nor	04
Scale Filtering	FiLtEr	FASt/nor	10
Units-lbs.	LbS	on/oFF	20
Units-Kg	1000g	on/oFF	21
Units-oz.	ounCES	on/oFF	22
Units-gm.	1g	on/off	23
Enable all units	ALL	ondonE	24
Auto-Print	AUToPt	Autoon/AutooF	30
Line Frequency	Lin Fr	LF60H/LF50H	40
Printer Set-up	bAud	1200/2400/4800/9600	50
Parity Set-up	PAritY	odd/EVEn	51
Data Bits	dAtA	8dAtA/7dAtA	52
Printer Format	Std	Std/oPt	53

4. Key in the code number. . . — The appropriate parameter's current setting is displayed.

5. Press **ACPT** to accept this setting — The display shows "***CodE*** _ _"
   OR
   Press the **OVER** or **UNDR** keys to toggle between the possible parameter settings using. Press **ACPT** when the parameter value you want is displayed. . . — The display shows "***CodE*** _ _"

6. Repeat the process for the other parameters you want to view or change, then press **ZERO** on the front panel to return to normal operation

Diagnostics

Use the diagnostic submenu for performing a variety of tests on your indicator. Access the menu structure using one of the methods described on pages 1 and 2 of this manual.

1. With "***diAg***" displayed, press the **ACCEPT** key. . . — The display will show a continuous test for use at the factory.

2. Exit this test and advance to the next menu parameter by waiting until the fan graph test is over then press the **OVER** key. . . — "***diViSn***" is displayed.

*Press the **ZERO** key at any-time to exit the 3275 menu and return to normal operation.*

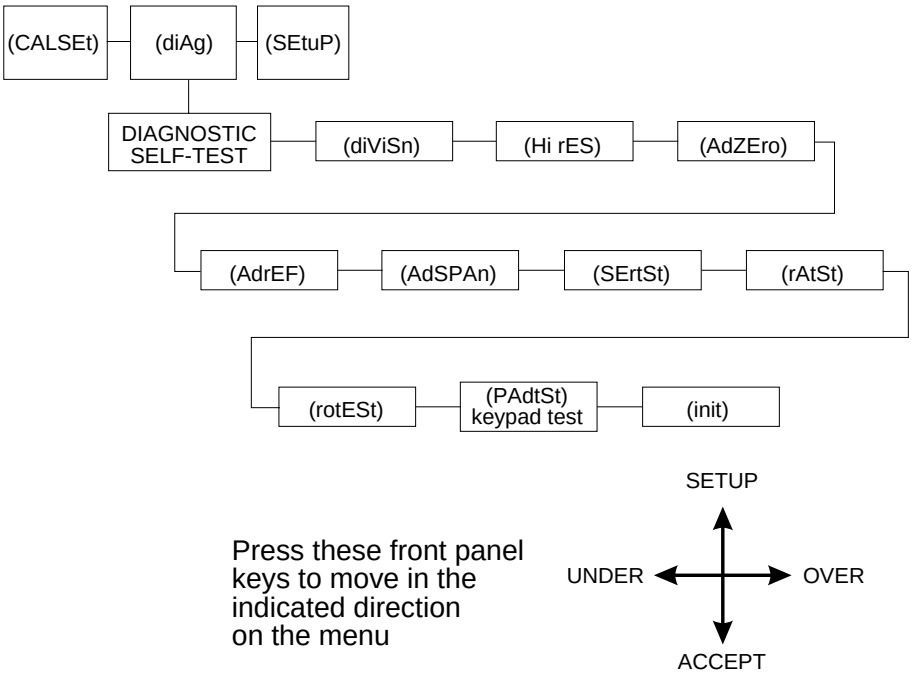


Figure 2
Diagnostic submenu

diViSn — *Division test*
Displays load cell output as 1 part in 100,000. The **UNITS** key toggles AZT off and on. The **TEST** key zeroes the displayed value.

HirES — *High Resolution test*
Increases scale resolution by a factor of 10. For example, if your scale counts by .002 in normal weigh mode it will count by .0002 during this test. The **UNITS** key toggles AZT off and on. The **TEST** key zeroes the displayed value.

AdZEro — *Displayed Reference Zero value*
Displays the stored reference zero value in raw counts.

Ad rEF	*Displayed High Span value* Displays the stored high span value in raw counts.
AdSPAn	*Active Span value* The current loadcell output is displayed as raw counts. The value increases as you apply more weight.
SErtSt	*Serial test* Checks the serial I/O circuitry for proper operation. Transmit and receive must be jumpered together and DTR and DSR must be jumpered together for this test. This is a pass/fail test.
rAtESt	*RAM test* Performs a test of the (Random Access Memory) RAM chip. This is a pass/fail test.
rotESt	*ROM test* Performs a test of the (Read Only Memory) ROM chip. This is a pass/fail test.
PAdtSt	*Keypad test* Causes the display to echo the key name you press. Used to check key function. Press **ZERO** key to exit to normal operation mode.
init	*Initialization* Clears all stored calibration and setup values from RAM. If you press the **ACCEPT** key while this parameter is displayed, recalibration of the scale is necessary. "***no CAL***" will be displayed if the calibration values are cleared.

Calibration

Access the menu structure using one of the methods described on pages 1 and 2 of this manual. Follow the calibration menu in Figure 3 and these procedures to calibrate your system and select proper values for your locale.

1. With "***CALSEt***" displayed, press the **ACCEPT** key. . . — "***CALib***" will be displayed. Figure 3 shows the calibration submenu.
2. Press **ACCEPT**. . — The display shows "***SEALEd***" (sealed) or "***noSEAL***" (unsealed).
3. Press the **OVER** or **UNDER** key to toggle the display to the proper choice and press **ACCEPT**. . . — "***Lbs***" or "***1000g***" will be displayed.
4. Toggle this selection to match the unit of measure marked on your test weights, then press **ACCEPT**. . . — A capacity and increment size are displayed.

Toggle through the selections until the displayed capacity matches your base capacity. See the table below for all selections available for this parameter.

Sealed lb	Sealed kg	Non-sealed lb	Non-sealed kg
		5 x .0005	2 x .0002
6 x .002	3 x .001	6 x .001	3 x .0005
		10 x .001	5 x .0005
12 x .005	6 x .002	12 x .002	6 x .001
		20 x .002	10 x .001
30 x .01	15 x .005	30 x .005	15 x .002
		50 x .005	20 x .002
60 x .02	30 x .01	60 x .01	30 x .005
100 x .05	45 x .02	100 x .02	45 x .01
200 x .1	90 x .05	200 x .05	90 x .02
500 x .2	220 x .1	500 x .1	220 x .05

5. Press **ACCEPT**. . . — "***CAL 0***" is displayed.
6. Remove all weight from the scale and press **ACCEPT**. . . — The display shows "***buSy***" briefly then displays "***CAL xx***" .
7. Place the amount of certified weight indicated by the display on the scale platform. Press **ACCEPT**. . . — The display shows the calibration audit trail number "***CA xx***" and returns to "***Lb***" or "***1000g***"
8. Press **SETUP** twice. . . — "***CALIb***" is displayed.
9. Press the **OVER** key. . . — "***Contry***" is displayed.

*"**oinL" represents** European standards*

10. Press **ACCEPT**. . . — Current country is displayed.

11. Toggle choices using **OVER** key. . . — Choices are "***uSA***", "***CAnAdA***", or "***oinL***". The scale will comply with the standards of the country selected.

12. Press **ACCEPT**. . . — Saves the displayed country and increments the audit trail by one.

13. Press **OVER**. . . — "***CnttSt***" is displayed. This stands for countdown test.

Follow normal procedures for viewing and/or changing "***CnttSt***" and "***FntCAL***". Choose "***on***" for "***CnttSt***" if you want a stability test as part of the countdown routine upon power up. "***FntCAL***" stands for front panel calibration. Choose "***on***" for this parameter if you want access to the menu structure by way of the **OVER**, **UNDER**, **OVER**, **UNDER** key sequence.

*Press the **ZERO** key at anytime to exit the 3275 menu and return to normal operation.*

"***StAtuS***" is the last parameter in this submenu. Press **ACCEPT** to view the current calibration settings. Toggle through the settings by pressing **OVER** or **UNDER**. Press **SETUP** once to return to "***StAtuS***". Press **SETUP** once more to return to "***CALSEt***" and once more to return to normal weighing operation.

Your checkweigher is now calibrated. Continue with setup on the next page.

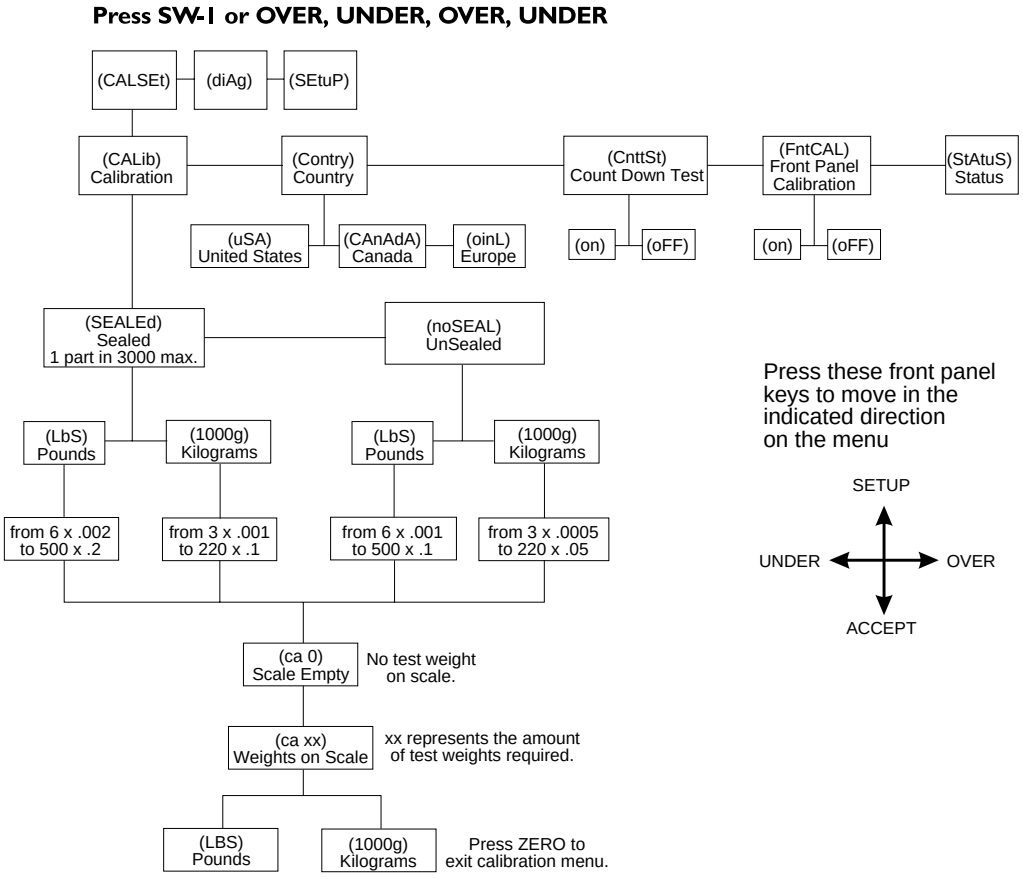


Figure 3
Calibration submenu

Setup

Use the setup submenu to customize your 3275 to your needs. Follow the setup menu shown in Figure 4 and the descriptions/instructions on the following pages to setup your system.

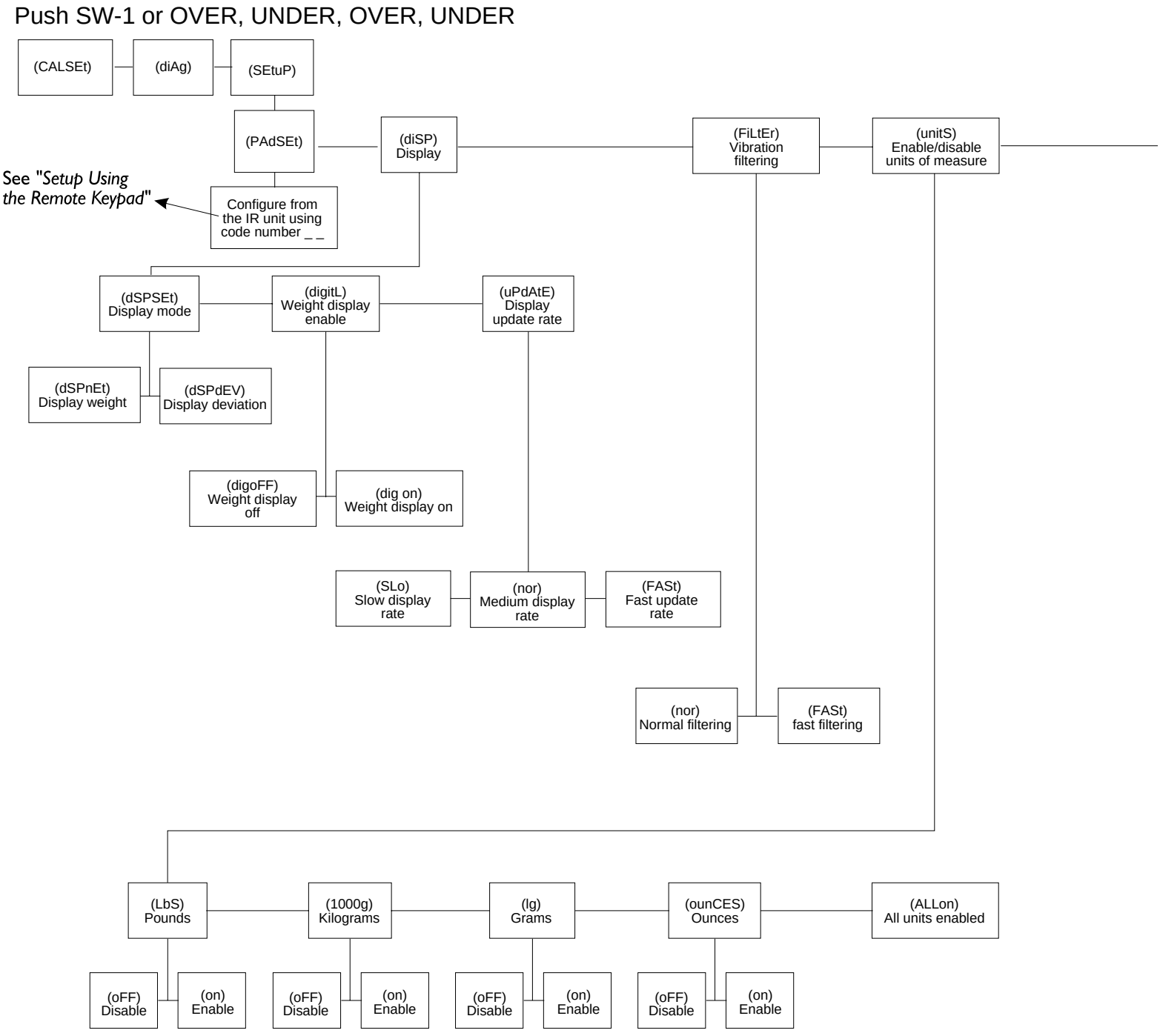
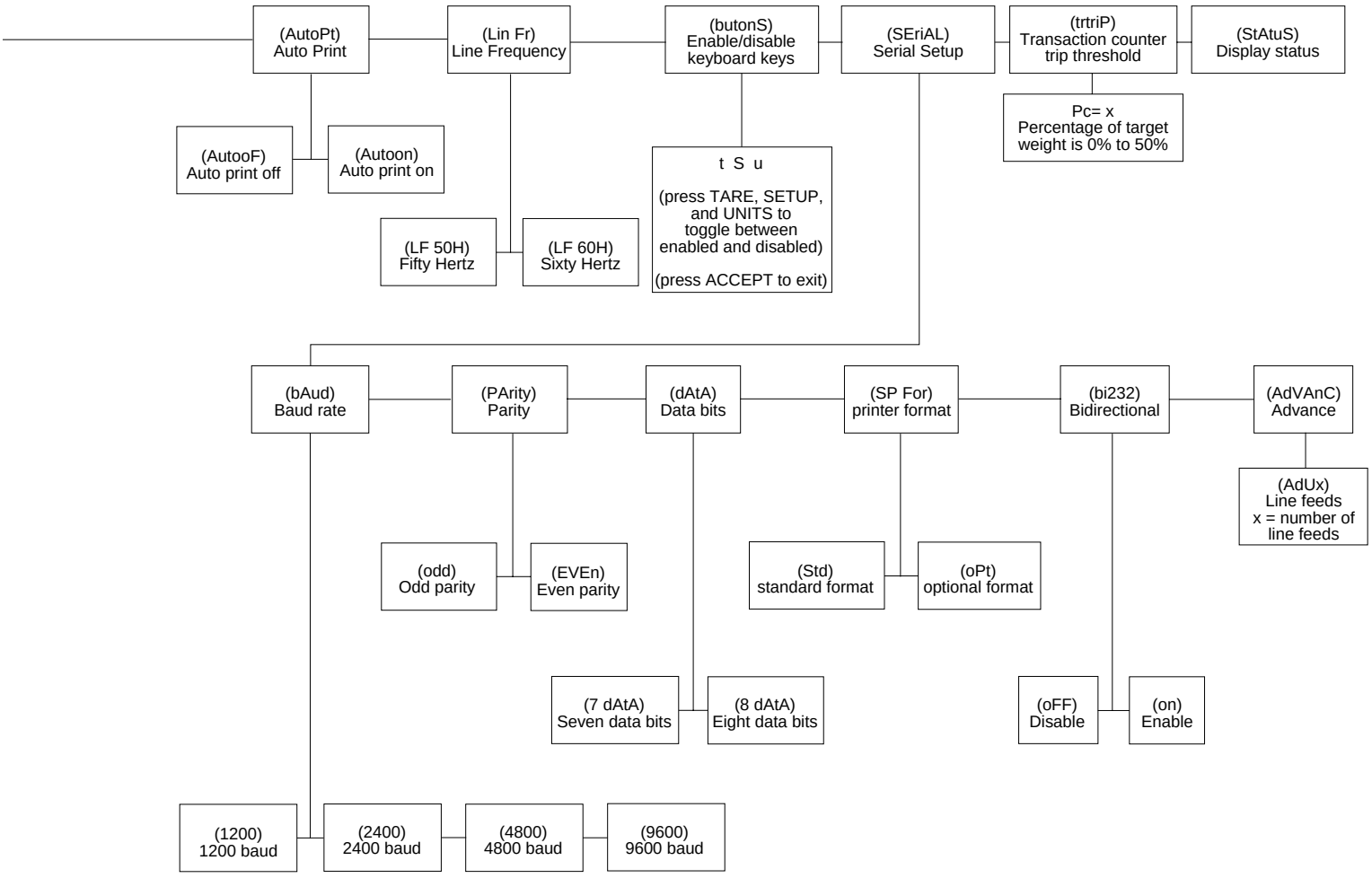
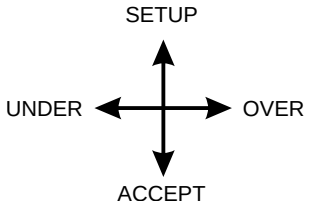


Figure 4
Setup Submenu



Press these front panel keys to move in the indicated direction on the menu.



Display

These parameters determine how the digital display will respond in the normal weighing mode.

1. With "***PAdSEt***" displayed, press the **OVER** or **UNDER** keys until "***diSP***" is displayed.	
"***diSP***"	
2. Press **ACCEPT**. . .	"***dSPSEt***" is displayed. This parameter allows the selection of whether the scale displays actual weight or weight deviation in normal weighing.
"***dSPSEt***"	
3. If no change is to be made to the Display Mode use the **OVER** key to advance to the next parameter. If you wish to change this parameter press **ACCEPT**. . .	"***dSPnET***" (display net weight) or . "***dSPdEu***" (display deviation) is displayed. (The default selection is "***dSPnET***".)
"***dSPnET***"	
"***dSPdEu***"	
Deviation is the difference between the weight on the scale and the target weight.	
4. Use the **OVER** key to toggle to the selection you want and press **ACCEPT** to accept that setting. . .	"***dSPSEt***" is displayed.
5. Press the **OVER** key to advance to the "***digitL***" display. Access this parameter by pressing the **ACCEPT** key or move to the next parameter by pressing the **OVER** key. If you press **ACCEPT**. . .	"***dig on***" or "***digoFF***" is displayed. (The default selection is "***dig on***".) Select ON if you want the weight display enabled and OFF if you want it disabled.
"***digitL***"	
"***dig on***"	
"***digoFF***"	
6. Press **ACCEPT** to accept the displayed setting. . .	"***digitL***" is displayed.
7. Press the **OVER** key to advance to the "***uPdAtE***" display. Press the **ACCEPT** key. . .	"***SLo***", "***nor***", or "***FASt***" is displayed. This parameter allows you to change the display update rate. (The default selection is "***nor***".)
"***uPdAtE***"	
"***SLo***"	
"***nor***"	
"***FASt***"	
8. Toggle the choices by pressing the **OVER** key. Press **ACCEPT** to accept the displayed choice. . .	"***UPdAtE***" is displayed.
9. Press the **SETUP** key to move one level up in the menu structure. . .	"***diSP***" is displayed.
10. Move to the next parameter by pressing the OVER key.	

You should now understand how to move around the menu and make the choices you want. The rest of this section will be short explanations for each parameter and the choices available.

Filter

"***FiLtEr***"

"***nor***"

"***FASt***"

Use this parameter to set vibration filtering. Your choices are "***nor***" and "***FASt***". (The default selection is "***nor***".) For environments with minimal vibration or movement (wind, etc.), choose the fast setting.

Units

"***unitS***"

"***LbS***"

"***1000g***"

"***1g***"

"***ounCES***"

"***ALLon***"

Use this parameter to enable or disable the unit of measure choices which are:

"***LbS***", "***1000g***", "***1g***", "***ounCES***", or "***ALLon***". If you choose "***ALLon***" all the units of measure will be enabled. Disable individual units by choosing "***oFF***" for that unit of measure.

Description	**Displayed Message**
Pounds	"***LbS***"
Kilograms	"***1000g***"
Grams	"***1g***"
Ounces	"***ounCES***"
All units on	"***ALLon***"

Auto Print

"***AutoPt***"

"***Autoon***"

"***AutooF***"

Use this parameter to enable or disable the automatic printing of weight information after every weighment with a weight change of 20 graduations or more. Your choices are "***Autoon***" or "***AutooF***". (The default selection is "***AutooF***".)

Line Frequency

"***Lin Fr***"

"***LF 50H***"

"***LF 60H***"

Use this parameter to set the electrical line frequency. Your choices are "***LF 50H***" for 50H line frequency or "***LF 60H***" for 60H line frequency. (The default selection is "***LF 60H***".)

Buttons

"***butonS***"

"***t S u***"

Use this parameter to enable and disable the **TARE**, **SETUP** and **UNITS** keys on the front panel. This menu item follows a different method of enabling and disabling than the previous items. To enable or disable one of these three keys, press it. Some combination of this display will appear "***t S u***". "***t***" stands for **TARE** key, the "***S***" for the **SETUP** key and "***u***" for the **UNITS** key. If the letter appears, it is enabled. Press the particular key to toggle it on or off. If the letter does not appear, that key will not be enabled during normal weighing operations. Press **ACCEPT** when the initial of the key you want enabled is displayed.

Serial

"***SEriAL***"

Below this menu item are all the communication parameters. Each is discussed below.

"***bAud***"

Choose baud rate from "***1200***", "***2400***", "***4800***", or "***9600***" baud. (The default baud rate is "1200".)

"***PAritY***"

Choose parity from "***odd***", or "***EVEn***" (even). (The default parity is "***EVEn***".)

"***dAtA***"

Choose data bits from "***7 dAtA***" for 7 data bits, or "***8 dAtA***" for 8 data bits. (The default number is "***7 dAtA***".)

"***SP For***"

Choose the printer format from "***Std***" for standard, or "***oPt***" for optional. (The default format is "***Std***".) A standard printout contains Weight and Condition. The optional printout contains Weight, Condition, and Deviation. Condition is over, under or accept.

"***bi232***"

Choose "***oFF***" to disable or "***on***" to enable the bidirectional RS-232 communication function. See *RS-232 Bidirectional Protocol*.

"***AdVAnC***"

Use this parameter to choose the number of line feeds the printer should perform at the end of each print. When **ACCEPT** is pressed, "***AdU x***" is displayed with ***x*** being the number of line feeds. Nine is the maximum number you can set.

Transaction Trip Threshold

"***trtriP***"

"***Pc= x***"

The transaction trip parameter lets you set the trip threshold as a percentage of target weight. When a weight in excess of this threshold weight is placed on the scale, the transaction counter will increment by one. "***Pc= x***" shows the weight percentage. 0 to 50% may be chosen.

Status

"***StAtuS***"

This parameter lets you view the status of all settings currently in effect in this menu. Press the **ACCEPT** key to see the first one. Some setting descriptions are too large to fit on the screen all at once so these scroll across the display. Just press **ACCEPT** to go to the next one.

*Press the **ZERO** key at anytime to exit the 3275 menu and return to normal operation.*

That is the end of the setup for the 3275 Checkweigher.

Optional Communications

RS-232

RS-232 is programmable to communicate with a printer or a computer.

RS-232 INTERFACE CONNECTIONS	
TB1 PIN NUMBER	**SIGNAL DESCRIPTION**
1 TXD	Transmit Data
2 RXD	Receive Data
3 GND	Signal Ground
4 DTR	Data Terminal Ready
5 DSR	Data Set Ready

For RS-232 board #7405-11888 to work properly set JMP1 on pins 2 & 3 and JMP2 on pins 1 & 2. See page ? in this manual

Output Format Without Target Values Entered

ddddddd ouuotttooooo (CR)

Output Format With Target Values Entered (Display Net)

ddddddd ouuotttosssso (CR)

Output Format With Target Values Entered (Display Deviation)

ddddddd ouuotttossssotttoddddddddo (CR)

d = weight data with polarity and decimal point
o = space
u = unit of measure, (lb, oz, kg, gm)
t = weight type (Net = net weight, Spaces = gross weight, DEV = deviation)
s = check weigh status (Over, Undr, Acpt)
(CR)= carriage return

RS-485

RS-485 option requires appropriate software and hardware in a dedicated IBM PC/AT®.

RS-485 INTERFACE CONNECTIONS	
TB1 PIN NUMBER	**SIGNAL DESCRIPTION**
1 TXD+	Transmit Data
2 TXD-	Transmit Data (Common)
3 RXD+	Receive Data
4 RXD-	Receive Data (Common)
5 GND	Signal Ground
6 CHASSIS	Chassis Ground

See the output formats and definitions at the top of this page.

Bidirectional RS-232 ("bi232")

When **"bi232"** is selected from the RS-232 setup parameter, a computer command will result in an indicator response.

RS-232 BIDIRECTIONAL PROTOCOL

Computer Command	Request	Scale Transmission
W (CR)	Send Weight And Scale Status Data	(LF)XXX.XLB(CR) (LF)hh(STATUS)(ETX)
S(CR)	Send Scale Status In Two ASCII Digits	(LF)hh(STATUS)(CR)
Z(CR)	Zeros Scale	
All Else	Unknown	(LF)?(CR)

(CR)= ASCII carriage return

(LF) = ASCII line feed

Scale Status Definition

The high order nibble of each byte is a HEX 3. The low order nibble of the first and second bytes are:

First Byte

- Bit 0 - High = motion detected
  - Low = weight stable
- Bit 1 - High = indicator zeroed
  - Low = indicator not zeroed
- Bit 2 - Not used
- Bit 3 - Not used

Second Byte

- Bit 0 - High = weight too low
  - Low = valid weight
- Bit 1 - High = over capacity
  - Low = not over capacity
- Bit 2 - Not used
- Bit 3 - High = faulty calibration data
  - Low = valid calibration data

Installing Software Options

The software options available for the 3275 require replacement of existing integrated circuit (IC) chips and in some cases the addition of RAM (random access memory) and a 'smart socket'. Below are the requirements for each option and a diagram showing where these hardware pieces belong on the Main board.

Multiple Setup
- EPROM
- 32k RAM
- Smart Socket

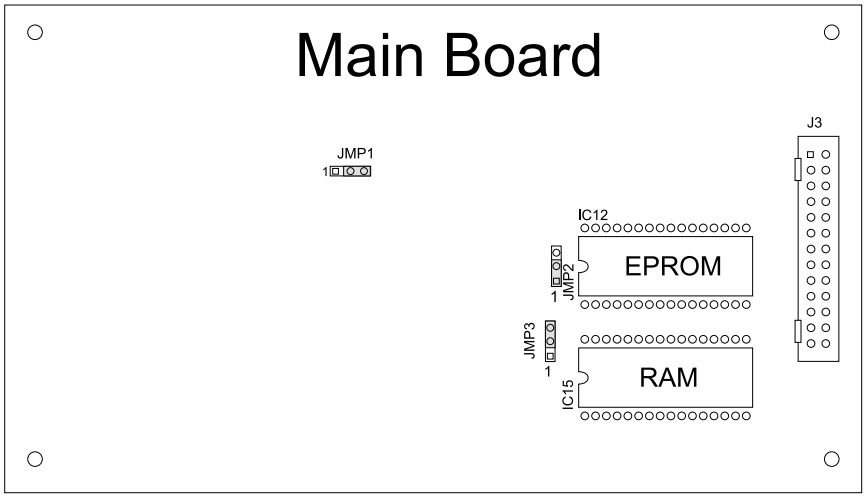
Multiple Setup with Manual Recall
- EPROM
- 32k RAM
- Smart Socket

Standard Deviation
- EPROM
- RS-232 Option kit

X-Bar R
- EPROM
- RS-232 Option kit

LB-OZ
- EPROM

Percent
- EPROM



Place the EPROM chip for your software option in the IC12 position. If a smart socket is required, place it in the IC15 position, then place the 32k RAM chip on top of the smart socket.

JMP1 With a 1 mV/V load cell, insert jumper on pins 2 & 3 for a gain of 200
With a 2 mV/V load cell, insert jumper on pins 1 & 2 for a gain of 100

JMP2 With a 7.37 MHz crystal installed, insert jumper on pins 2 & 3.
With a 9.8 MHz crystal installed, insert jumper on pins 1 & 2.

JMP3 With an 8k RAM chip installed, insert jumper on pins 2 & 3.
With a 32k RAM chip installed, insert jumper on pins 1 & 2.

Troubleshooting Procedures

Important Note: *Scale is within 1/4 division of zero when the center-of-zero annunciator is illuminated.*

EQUIPMENT REQUIRED

Load Cell Simulator
Standard test weights
Digital Voltmeter

SYMPTOMS AND CHECK PROCEDURES	
SYMPTOM	**CHECK PROCEDURE**
Errors in displayed weight.	1. Check platter and load bridge for interference. 2. Recalibrate the scale. 3. Check scale status for proper mode. 4. Replace the load cell. 5. Replace the Main board. 6. Replace Display board.
Scale will not calibrate.	1. Check platter and load bridge for interference. 2. Replace load cell. 3. Replace the Main board.
Display does not return to Zero when weight is removed	1. Check platter and load bridge for interference. 2. Recalibrate scale. 3. Replace load cell.
Display does not zero when **ZERO** key is pressed.	1. Is a tare value entered? 2. Remove all weight from platter. 3. Check platter and load bridge for interference. 4. Check scale status for Deviation mode. 5. Recalibrate the scale. 6. Replace the Main board. 7. Replace Display board. 8. Replace load cell.
Unstable weight display.	1. Check for air currents around the scale. 2. Check for mechanical vibration of counter or scale. 3. Check for proper grounding of power cord and supply circuit. 4. Check platter and load bridge for interference. 5. Recalibrate scale. 6. Replace load cell. 7. Replace the Main board. 8. Replace the Display board.

SYMPTOMS AND CHECK PROCEDURES	
SYMPTOM	**CHECK PROCEDURE**
Display does not light, segments missing, or are intermittent.	1. Check Power Supply 2. Replace the Display board. 3. Replace Main board.
Keyboard entries missing or are intermittent.	1. Check physical alignment. 2. Replace Main board. 3. Replace the Display/Keyboard. 4. Replace key pad.
Total failure of unit.	1. Check for power at outlet. 2. Check fuse. 3. Check Power Supply voltages. 4. Replace the Power Supply board. 5. Replace Main board. 6. Replace Display board.

Keyboard Sensitivity Adjustment

Adjustments done using these steps affect the entire keypad, not just one key. If there is a problem with a single key, check all possible mechanical reasons for the problem before attempting this procedure.

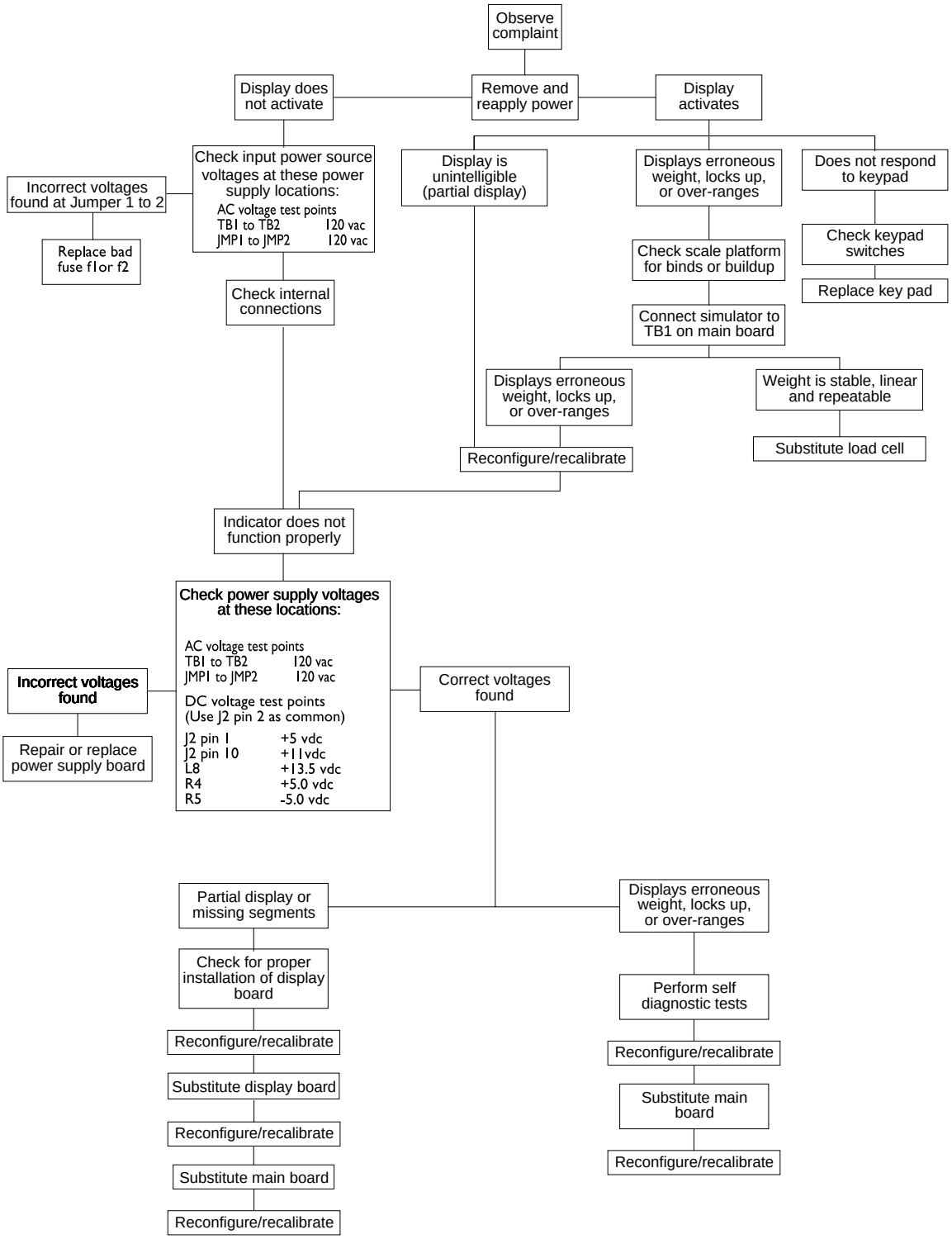
3275s received for repair due to setting the sensitivity to either extreme will be treated as a non-warranty repair.

Model 3275 checkweighers made before August 1995 uses a keypad with a sensitivity adjustment available through the menus. If this adjustment is done improperly, the keypad can become insensitive to **any** finger pressure and the unit will become unstable. Disassembly of the 3275 will be necessary to restore operation if this happens.

To make the sensitivity adjustment follow these steps:

1. From normal operating mode, press these keys in the following order: **UNDER, OVER, OVER, TARE**. . .
   the display shows ***PdSEnS***, for pad sensitivity.
2. Press the **ACCEPT** key. . .
   LS-XX is displayed. This stands for **level set** and ***XX*** is the numeric value of the current setting. The lower this number is, the more pressure is required to activate a key and vice versa.
3. Press the **OVER** key to increase the number or press the **UNDER** key to decrease the number. . .
   The factory default setting is 80. Use extreme caution not to exceed a value of 130 or go below a value of 40.
4. Press the **ACCEPT** key when the desired number is reached, then press the **ZERO** key to return to weigh mode.

3275 Troubleshooting Sequence



Disassembly Procedures

Display Enclosure

1. Remove power from scale.
2. Remove display enclosure from tower by removing the two 10-32 capscrews securing the enclosure to the tower.
3. Remove the eight capscrews securing enclosure halves and carefully pull enclosure halves apart. (To gain access for troubleshooting, loosen the collar on the watertight hub on the bottom of the enclosure for the weight sensor cable. Slide the strain relief down the cable and pull this cable through the enclosure as you pull the halves apart. With this extra length you can set both halves down on the work area and still have both halves connected.)
4. Disconnect cable from J1 on Power Supply board.
5. Remove two 6-32 screws attaching load cell ground (grn/yel wire) and AC ground (grn wire) to power supply ESD plate.
7. Disconnect load cell cable from TB1 on the Main board and set front half of enclosure aside.

Main Board

1. Remove and disassemble display enclosure.
2. Remove the four 6-32 screws securing the Main board and disconnect cable between the Main board and display board.

Display Board

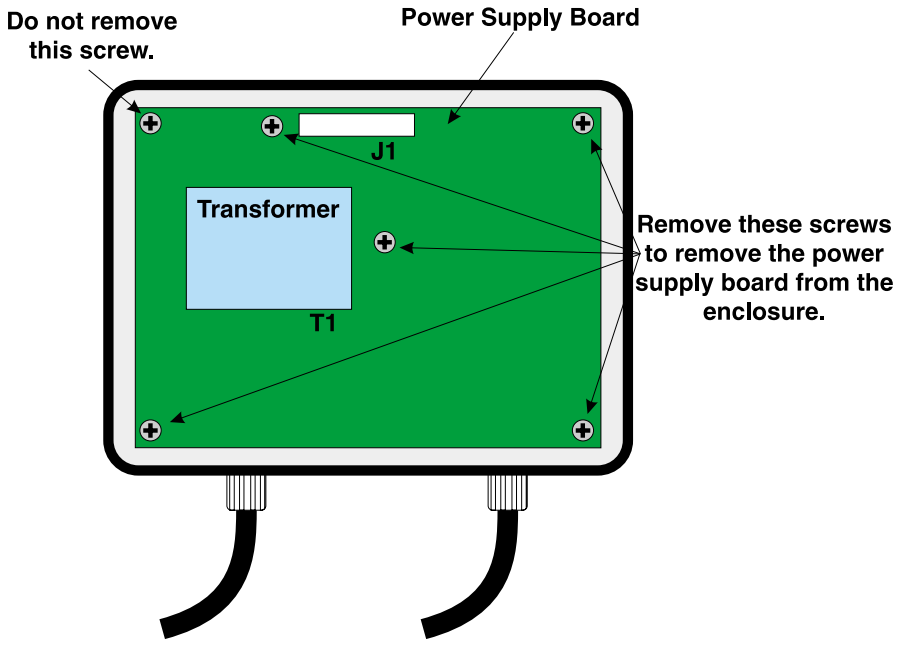
1. Remove and disassemble display enclosure.
2. Remove Main board.
3. Remove four 6-32 standoffs from display board.
4. Disconnect front panel cable from J2 and remove display board from enclosure.

Front Panel / Key Pad Assembly

1. Remove and disassemble display enclosure.
2. Remove Main board
3. Remove Display board.
4. Remove the four 10-32 screws and hardware securing the mounting plate to the front half of the display enclosure.
5. Lift front panel / key pad assembly out of enclosure.

Power Supply

1. Remove and disassemble display enclosure.
2. Disconnect AC power cord from TB1 (black), and TB2 (white) on the power supply board.
3. Remove only the five 6-32 screws securing the power supply board to the back half of the display enclosure. See diagram.
4. Lift Power Supply board out of enclosure.



Display Column

1. Remove display enclosure.
2. Remove shroud and support plate.
3. Remove two 1/4-20 nuts and two 1/4-20 capscrews attaching column to Base.
4. Separate base and column by sliding column backwards away from base.

Load Cell

1. Remove display enclosure.
2. Remove shroud and support plate.
3. Remove two 1/4-20 capscrews securing loadbridge to load cell, and lift off loadbridge.
4. Invert base and remove two 1/4-20 capscrews securing load cell to base while supporting load cell.
5. Return base upright and lift load cell out of base while guiding cable through base wall.

Reassembly

To reassemble, reverse the procedures described in the appropriate disassembly section above.

Setpoint Software Option

The 3275 setpoint software permits the user to select the type of operation from a list that covers most any requirement for a checkweigher. This feature includes the RS232/Setpoint option board and provides connections to open collector transistor outputs. The outputs are designed to drive solid state relays (SSR) or low current audio alarm.

Selecting the Setpoint Operation

To select the type of setpt operation needed follow these steps. See Figure 5 for a flowchart representation of this procedure. This is an extension of the flowchart in Figure 4.

1. Access the 3275 “SETUP” menu (refer to operators manual) by pressing ‘SW-1’ switch under the nylon plug on the rear enclosure or via front panel access.	The display will prompt “CALSEt”.
2. Press the **UNDER** key. . .	the display will prompt ***SEtuP***.
3. Press the **ACCEPT** key. . .	the display will prompt ***PAdSEt***.
4. Press the **UNDER** key. . .	the display will prompt **SEtPt**.
5. Press the **ACCEPT** key. . .	the display will prompt ***OPt xx***.
6. Using the setpt option list provided below, press the **UNDER** and **OVER** keys to increment or decrement the option number. Press the **ACCEPT** key to store the selection. Pressing the **ZERO** key will return the 3275 to its normal operation.	

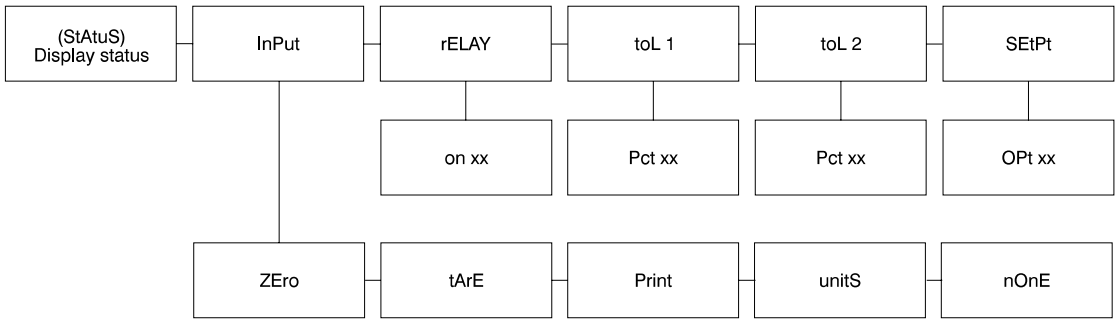


Figure 5
Setpoint option flowchart

Remote Switch Input Selection

This software allows for a remote switch input for the zero, tare, print or units function. A momentary contact closure between TB1-3 (gnd) and TB1-7 (input) will perform the same function as if the front panel key was pressed.

Access the ***PAdSEt*** menu and press the **UNDER** key until the ***InPut*** prompt is displayed. Refer to Figure 5. Press **ACCEPT** to show the active key for the remote input. Press **UNDER** or **OVER** to scroll to the desired selection from this list:

zero tare print units none

Press **ACCEPT** to store the selection.

Setpoint Option List

Opt #0 Both outputs off at all times. (default value)

Opt #1 Setpoint 1 output any time in ACCEPT zone.

Opt #2 Setpoint 1 output at ACCEPT when weight stable.

Opt #3 Setpoint 1 output at UNDER when weight stable & display greater than 10 grads above gross zero.

Opt #4 Setpoint 1 output any time in OVER zone.

Opt #5 Setpoint 1 output at OVER with weight stable.

Opt #6 Setpoint 1 output at “out of tolerance” (not in ACCEPT) when weight stable & display greater than 10 grads above gross zero.

Opt #7 Setpoint 1 output at UNDER with weight stable & display greater than 10 grads above gross zero. Setpoint 2 output at OVER with weight stable.

Opt #8 Setpoint 1 output until target weight obtained. Setpoint 2 output until percentage of target weight obtained. See *Option Notes* for more information.

Opt #9 Setpoint 1 output between two percentage values of target weight. See *Option Notes* for more information.

Opt #10 Setpoint 1 output until target. Reenergized at under. See *Option Notes* for more information.

Opt #11 Setpoint 1 output at “out of tol” when weight stable and greater than 10 grads above gross zero. Setpoint 2 output at ACCEPT zone when weight stable. Output is energized for preset amount of time. See *Option Notes* for more information.

Opt #12 Setpoint 1 output until target weight obtained. Setpoint 2 output until percentage of target weight obtained. **TARE** key used to start cycle after tare is obtained. See *Option Notes* for more information.

Opt #13 Setpoint 1 output at “out of tol” when weight stable and greater than 10 grads above gross zero. Setpoint 2 output at “accept” zone when weight stable.

Opt #14 Setpoint 1 output at “accept” zone when weight stable. Output is energized until weight is less than 10 grads from gross zero, then remain energized for preset amount of time.

Opt #15 Provides 3 outputs for “OVER”, “ACCEPT” & “UNDER”. See *Option Notes* for more information.

Opt #16 Setpoint 1 output until target weight obtained. Setpoint 2 output until percentage of target weight obtained. **TARE** key used to start cycle after tare is obtained. Allows multi tares without return to zero. See *Option Notes* for more information.

Opt #17 Setpoint 1 output if weight stabilizes under the ACCEPT weight and returns with 20 graduations of zero. The alarm will remain on for a preset amount of time.

Opt #20 Both outputs “on” at all times. Can be used to test connections and external circuitry.

Option Notes

Option #8 **Fast/Slow Fill**

Allows user to select a percentage of target value to turn off the setpoint 2 output. This can be used for dual speed filling (fast/slow fill). Access the ***PAdSEt*** menu and press the **UNDER** key until the display prompts ***toL 1***. Press ACCEPT and the display will prompt ***Pct xx***. Using the OVER or UNDER key select the percentage of target weight to de-energize the setpoint 2 output (fast fill). Press the ACCEPT key to store this value in memory.

Option #9 **Near Target Alarm**

Allows user to enter two percentage values to activate an alarm when weight is approaching the target weight. The first percentage value (***tol 1***) is the percentage of target weight that will energize the output and the second percentage value (***tol 2***) is the percent of target weight that will de-energize the output. The ***tol 2*** entry routine is located next to ***tol 1*** in the setup menu. The ***tol 2*** percentage must always be set higher than ***tol 1***.

Option #10 **Tank Fill**

This option will energize the setpoint 1 output whenever the fan graph is in the UNDER condition. It will de-energize when the weight on the base equals or exceeds the target value. It will reenergize when the fan graph falls back into the UNDER zone.

Option #11 **Accept/Reject**

This option will energize the proper output to either accept or reject a package being weighed. It can be used to operate multi-directional conveyors or separate push arms to move an acceptable box in one direction or a reject box in another direction. The output is activated for a preset time period. Enter the setup menu and press the **UNDER** key until ***rELAY*** is displayed. Press ACCEPT and the display prompts ***on xx***. Use the **OVER** or **UNDER** keys to change the “setpoint on time” value. The entry will be in 1/10 seconds. Press the ACCEPT key to store value. An entry value of 25 will activate the output for 2.5 seconds. The weight display must fall below 10 counts of zero to rearm the setpoints.

Option #12 **Fast/Slow Fill w/ Tare Interlock**

Same as option #8 except to start the fill sequence and activate the outputs the **TARE** key must be pressed. The scale will perform a tare of the displayed weight prior to turning the outputs on. If the **TARE** key is pressed during the fill the outputs will de-active and the cycle will be paused. To rearm the cycle the scale must return to below 10 counts of gross zero.

Option #14 **Accept/ w/Timer after return to zero**

This option will energize the setpoint 1 output after the weight has stabilized in the ACCEPT zone. The output will remain energized until the display falls below 10 counts of gross zero. At this point the 3275 will keep the output energized until a predetermined time out is complete. To enter the time period, enter the ***SEtuP*** menu and press the **UNDER** key until ***rELAY*** is displayed. Press **ACCEPT** and the display prompts ***on xx***. Use the **OVER** or **UNDER** keys to change the "setpoint on time" value. The entry will be in 1/ 10 seconds. Press the
ACCEPT key to store value. An entry value of 25 will activate the output for 2.5 seconds. The weight display must fall below 10 counts of zero to rearm the setpoint.

Option #15 **Setpoint output for "OVER", "ACCEPT" & "UNDER"**

This option requires a special RS-232 PC board (PN 48935-0017) to provide the three outputs. These outputs are on whenever the weight is in the appropriate section of the fan graph and stable.

The outputs of the RS-232 PC board are as follows:

TB1-6 (SP1) = ACCEPT
TB1-9 (SP2) = OVER
TB1-10 (SP3) = UNDER
TB1-8 (+5V)= +5 volts (wire to + DC input of SSR)

Jumper P2 should have pins 2 and 3 jumpered.

Option #16 **Fast/Slow Fill w/ Tare Interlock**

Same as option #12 except that you do not need to return to less than 10 counts to start a new fill sequence and activate the outputs.

When the **TARE** key is pressed, the scale will perform a tare of the displayed weight prior to turning the outputs on. If the **TARE** key is pressed during the fill, the outputs will de-active and the cycle will be paused. Pressing the **TARE** key again will continue the fill cycle. After the first fill is complete, Begin the 2nd cycle by pressing the **TARE** key and permit the scale to tare and begin a new fill cycle.

Option #17 Alarm under Accept after return to zero

This option will energize the setpoint 1 output if the last stable weight above 20 grads was within the UNDER zone when the weight returns to within 20 grads of zero. At this point the 3275 will keep the output energized until a predetermined time out is complete. The time is entered the same as it would be for option #14.

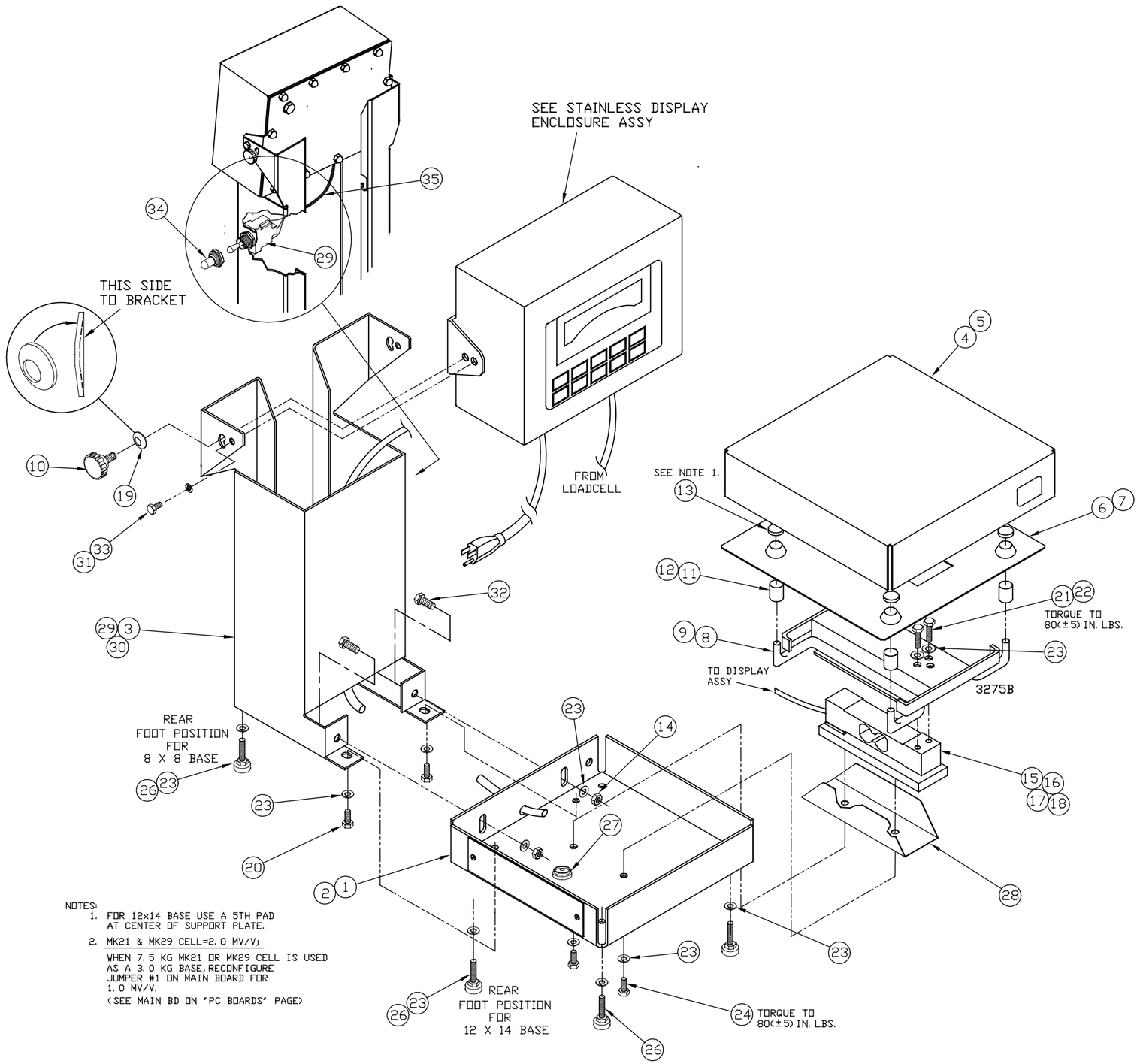
Setpoint Wiring Connections

For Board PN 7405-11888	
TB1 PIN NUMBER	**SIGNAL DESCRIPTION**
1 TXD	Transmit Data
2 RXD	Receive Data
3 GND	Signal Ground
4 DTR/Setpt 2	Data Terminal Ready / Setpoint 2 Output
5 DSR	Data Set Ready
6 Setpt 1	Setpoint 1 Output
7 SPRINB	Remote switch input
8 +5V	+5 volts DC
For Setpoint 2 output jumper J1 should have pins 1 and 2 jumpered. Setpoint 1 and 2 (pins 4 & 6) will go low (0 volts) to energize SSR.	

For Board PN 48935-0017	
TB1 PIN NUMBER	**SIGNAL DESCRIPTION**
1 TXD	Transmit Data
2 RXD	Receive Data
3 GND	Signal Ground
4 DTR	Data Terminal Ready
5 DSR	Data Set Ready
6 Setpt 1	Setpoint 1 Output
7 SPRINB	Remote switch input
8 +5V	+5 volts DC
9 Setpt 2	Setpoint 2 Output
10 Setpt 3	Setpoint 3 Output
For Setpoint 3 output jumper P2 should have pins 2 and 3 jumpered. Setpoint 1, 2 and 3 (pins 6, 9, & 10) will go low (0 volts) to energize SSR.	

MODEL 3275 CHECKWEIGHER *(STAINLESS)*

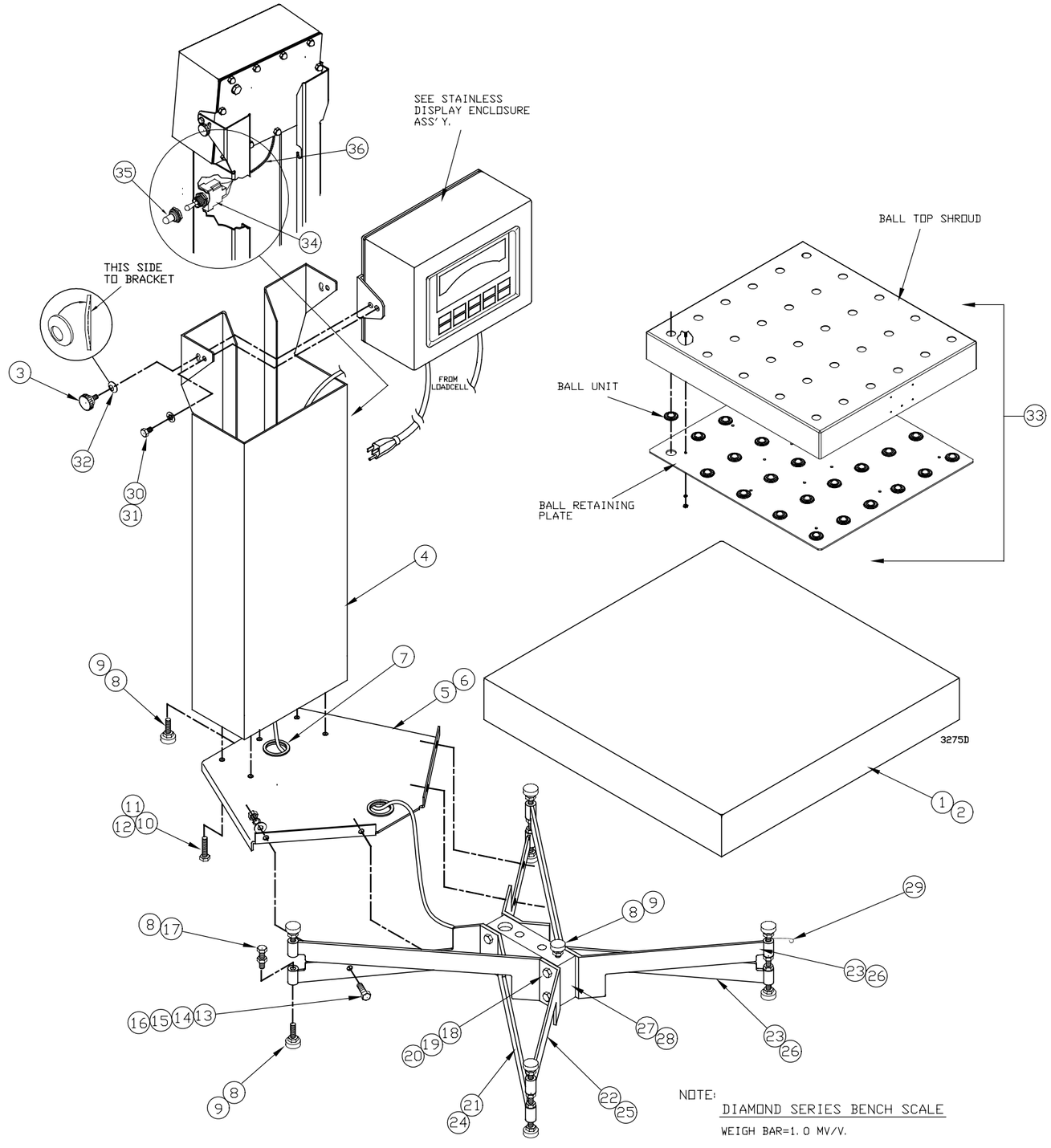
LOW CAPACITY: 6 lb.,12 lb. W/ 9” x 9” BASE
30 lb.,60 lb.,100 lb. W/ 12” x 14” BASE
PARTS *AND* ASSEMBLY



ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	Base, 8" x 8"	1071-08063	1
2	Base, 12" x 14"	1071-08356	1
3	Display Column, 14” (w/o toggle switch hole)	52316-0018	1
	Display Column, 14” (w/ toggle switch hole)	52316-0026	1
	Display Column, 20” (w/o toggle switch hole)	52316-0034	1
	Display Column, 20” (w/ toggle switch hole)	52316-0042	1
4	Shroud, 8" x 8"	1076-09428	1
5	Shroud, 12" x 14"	1076-08357	1
6	Support Plate (8" x 8" BASE)	1069-08070	1
7	Support Plate (12" x 14" BASE)	1069-01899	1
8	Load Bridge Assy (8" x 8" BASE)	7066-08064	1
9	Load Bridge Assy (12" x 14" BASE)	7066-08353	1
10	Knob	1091-14144	2
11	Bumper Support (8" x 8" BASE)	1075-00243	4
12	Bumper Support (12" x 14" BASE)	7075-00027	4
13	Pad	1075-00262	5
14	Nut, .25" x 20	14497-0209	2
15	MK29 Load Cell Assy, 71/2 & 15 lb (7 kg) CAP	53239-0010	1
16	MK29 Load Cell Assy, 30 lb (15 kg) CAP	53239-0028	1
17	MK29 Load Cell Assy, 60 lb (30 kg) CAP	53239-0036	1
18	MK29 Load Cell Assy, 100 lb (60 kg) CAP	53239-0044	1
19	Belleville Springwasher	1033-13294	2
20	Capscrew, .25"-20 x .50" L	14527-0013	2
21	Capscrew, .25"-20 x .75" L	14527-0039	2
22	Capscrew, .25"-20 x 1.00" L	14527-0054	2
23	Lockwasher, .25"	14474-0198	12
24	Capscrew, .25"-28 x .50" L	1007-02668	2
26	Foot Assy W/ Jamnut	7029-00150	4
27	Level Bubble	1083-00095	1
28	Splash Guard (MK29)	53238-0011	1
29	Toggle Switch	16396-0024	1
30	Display Column (SHORT)	1058-09740	1
31	Capscrew, #10-32 x .25” L	14505-0019	2
32	Capscrew, .25"-20 x .62" L	14527-0021	2
33	Tooth Washer, #10	15698-0054	2
34	Toggle Switch Sealing Boot	15262-0019	1
35	Toggle Switch Cable Assy	52312-0020	1

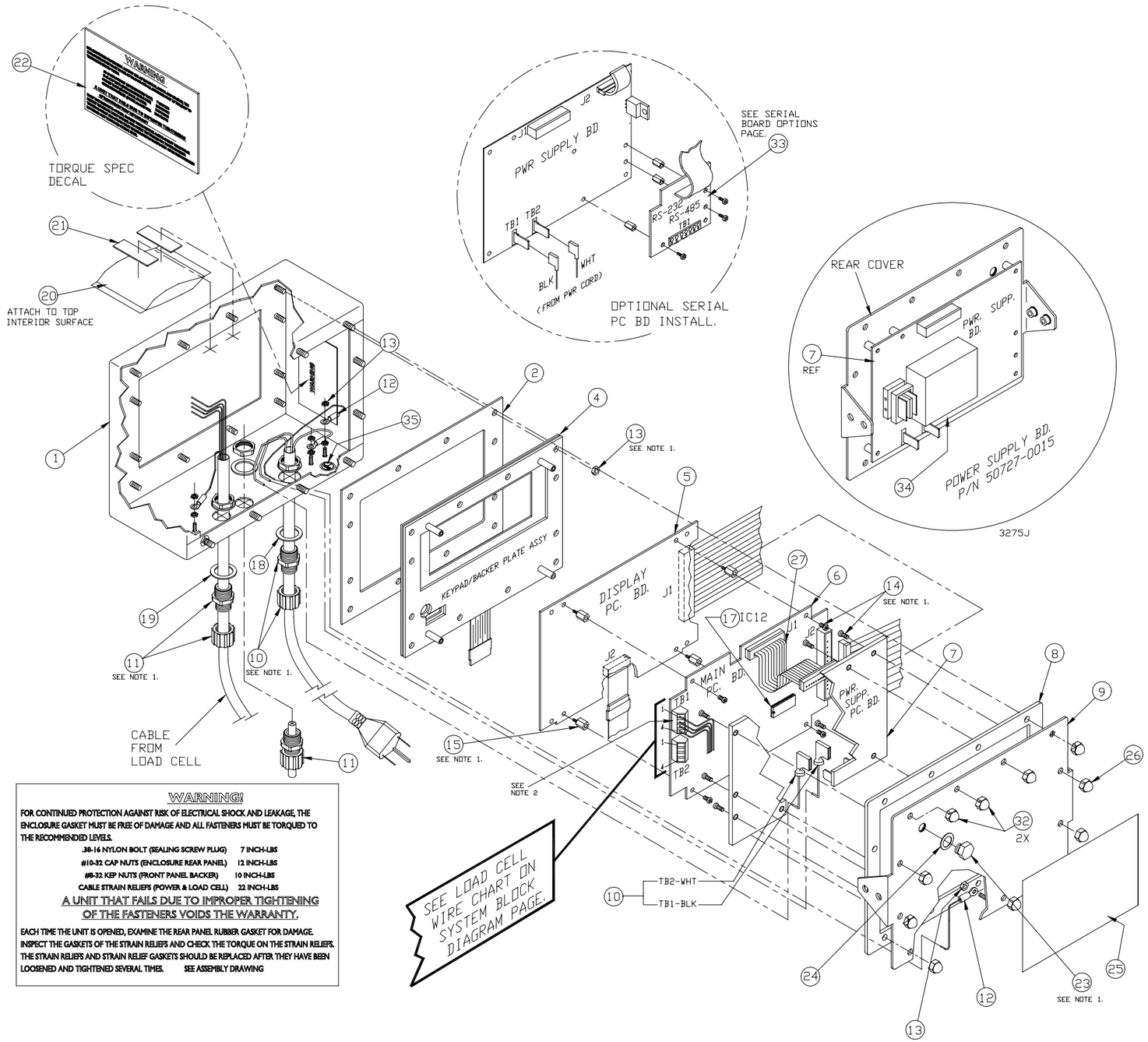
MODEL 3275 CHECKWEIGHER *(STAINLESS)*

MEDIUM CAPACITY:100 lb. W/ 20” x 20” DECK ,
200 lb. W/ 24” x 24” DECK
PARTS *AND* ASSEMBLY



ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	Deck, 20" x 20"	21325-0038	1
2	Deck, 24" x 24"	21325-0046	1
3	Knob	1091-14144	2
4	Display Column (31” high)	27568-0015	1
5	Column Mtg Bracket (20x20 deck)	24308-0017	1
6	Column Mtg Bracket (24x24 deck)	24307-0018	1
7	Grommet	15347-0034	.66" (2)
8	Jam Nut, .31" - 18	14497-0217	14
9	Foot	17796-0028	10
10	Nut, .25" - 20	14471-0209	4
11	Lock Washer, .31"	14474-0198	4
12	Bolt, .25" x .62" L	14527-0021	4
13	Nut, .31" - 18	14471-0076	4
14	Lock Washer, .25"	14474-0073	4
15	Flat Washer, .31"	14475-0205	4
16	Bolt, .31" x1.25" L	14527-0195	4
17	Bolt, .31" x 1.00" L	14527-0187	4
18	Bolt, .44" x 2.75" L	17889-0448	4
19	Lock Washer, .44"	14474-0222	4
20	Nut, .44"	14471-0233	4
21	Spider, Left (20” x 20” deck)	21332-0039	1
22	Spider, Left (20” x 20” deck)	21332-0013	1
23	Spider Right (20” x 20” deck)	21332-0021	2
24	Spider, Left (24” x 24” deck)	21333-0038	1
25	Spider, Left (24” x 24” deck)	21333-0012	1
26	Spider Right (24” x 24” deck)	21333-0020	2
27	Weigh Bar Assy, 100 Lb (20” X 20” deck)	21330-0072	1
28	Weigh Bar Assy, 200 Lb (24” X 24” deck)	21330-0080	1
29	Ground Spring	20850-0025	2
30	Capscrew, #10-32 x .25” L	14505-0019	2
31	Tooth Washer, #10	15698-0054	2
32	Belleville Washer	1033-13294	2
33	Ball Top Shroud Assy (optional), 20” x 20” (carbon steel)	50695-0054	1
	Ball Top Shroud Assy (optional), 20” x 20” (stainless)	50695-0062	1
	Ball Top Shroud Assy (optional), 24” x 24” (carbon steel)	50695-0070	1
	Ball Top Shroud Assy (optional), 24” x 24” (stainless)	50695-0088	1
34	Toggle Switch	52312-0020	1
35	Toggle Switch Boot	15262-0019	1
36	Toggle Switch Cable Assy	52312-0020	1

MODEL 3275 CHECKWEIGHER *(STAINLESS)*
DISPLAY ENCLOSURE
PARTS *AND* ASSEMBLY



WARNING!

FOR CONTINUED PROTECTION AGAINST RISK OF ELECTRICAL SHOCK AND LEAKAGE, THE ENCLOSURE GASKET MUST BE FREE OF DAMAGE AND ALL FASTENERS MUST BE TORQUED TO THE RECOMMENDED LEVELS.

.38-16 NYLON BOLT (SEALING SCREW PLUG)	7 INCH-LBS
#10-32 CAP NUTS (ENCLOSURE REAR PANEL)	12 INCH-LBS
#8-32 KEP NUTS (FRONT PANEL BACKER)	10 INCH-LBS
CABLE STRAIN RELIEFS (POWER & LOAD CELL)	22 INCH-LBS

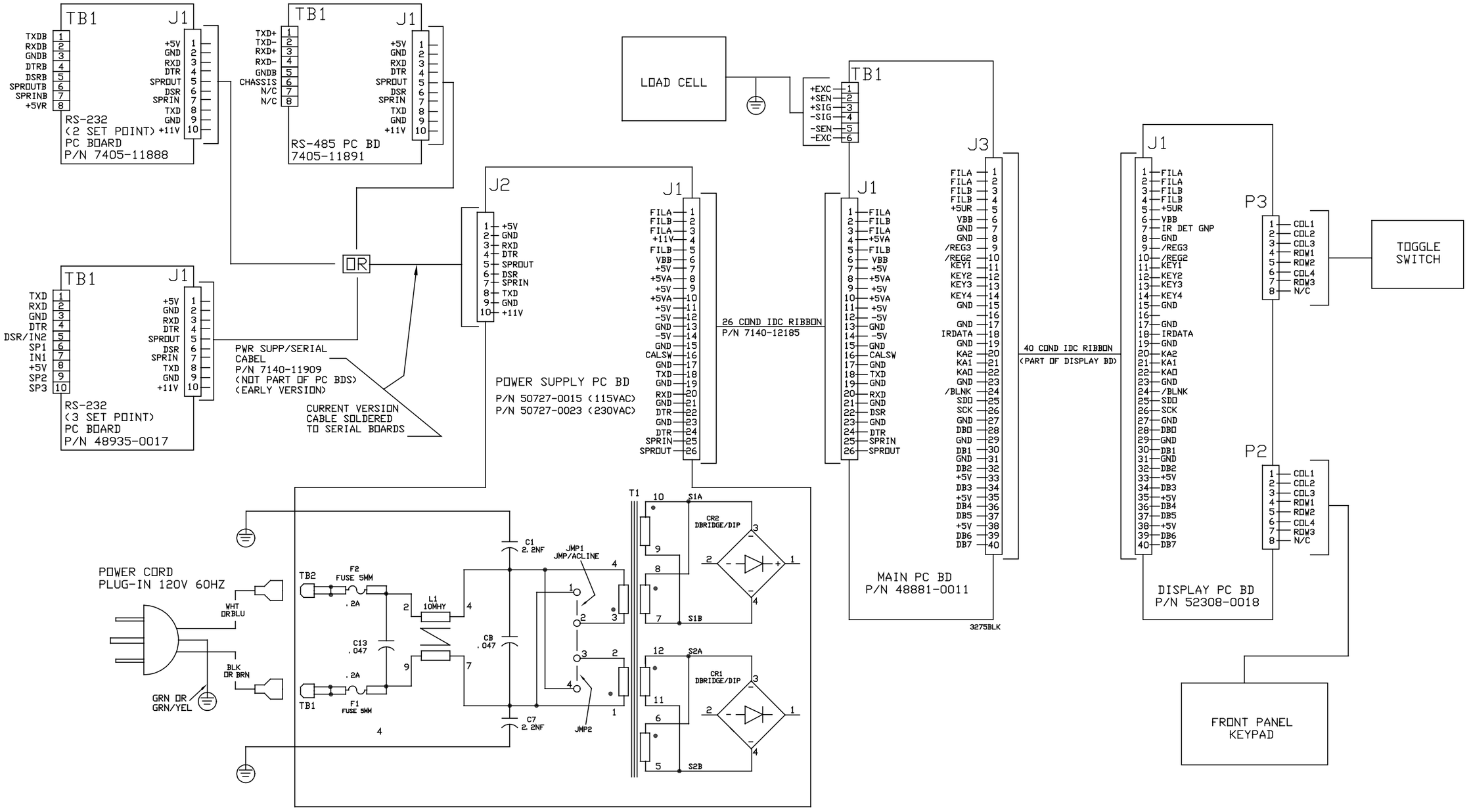
A UNIT THAT FAILS DUE TO IMPROPER TIGHTENING OF THE FASTENERS VOIDS THE WARRANTY.

EACH TIME THE UNIT IS OPENED, EXAMINE THE REAR PANEL RUBBER GASKET FOR DAMAGE. INSPECT THE GASKETS OF THE STRAIN RELIEFS AND CHECK THE TORQUE ON THE STRAIN RELIEFS. THE STRAIN RELIEFS AND STRAIN RELIEF GASKETS SHOULD BE REPLACED AFTER THEY HAVE BEEN LOOSENED AND TIGHTENED SEVERAL TIMES. SEE ASSEMBLY DRAWING

ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	ENCLOSURE, 3-PORT	48185-0014	1
	ENCLOSURE, 4-PORT (not shown)	48185-0022	1
2	BEZEL GASKET	1055-13599	1
4	KEYPAD / BACKER PLATE ASSEMBLY	48877-0017	1
5	DISPLAY BD. ASSY	7405-11879	1
6	MAIN PC BOARD	7405-11882	1
7	POWER SUPPLY PC BOARD (new version)	7405-13348	1
	POWER SUPPLY PC BOARD (old version)	7405-11885	1
8	REAR COVER GASKET	48187-0012	1
9	REAR COVER	48186-0021	1
10	PWR CORD ASSY	7140-13976	1
11	STRAIN RELIEF (.187"-.312") WATER TIGHT	15257-0032	2
12	GND CABLE ASSY	7140-13975	2
13	NUT, #8-32 x .34"	1025-00125	19
14	SCREW, #6-32 x .25" L	1006-02600	12
15	STANDOFF, #6-32 x .25" L (aluminum)	1044-00233	4
17	PROGRAMMED E-PROM (standard)	1150-11912	1
18	FLAT WASHER, NEOPRENE (.64" I.D.)	26357-0038	1
19	FLAT WASHER, NEOPRENE (.51" I.D.)	26357-0046	2
20	DESSICANT BAG	1088-12126	1
21	FOAM ADHESIVE STRIP	1045-05982	2
22	DECAL (torque specs)	48933-0019	1
23	PLUG (nylon capscrew) .38"-16 x .31" L	1019-11926	1
24	FLAT WASHER	1030-12680	1
25	COMPLIANCE LABEL	1070-12158	1
26	CAP NUT#10-32 (stainless)	15786-0016	10
27	CABLE ASSY (PWR SUPP-TO-MAIN BD)	7140-12185	1
28	SCREW. #4-40 x .25" L	14473-0108	1
29	SHOULDER WASHER, NYLON	1030-12533	1
30	INSULATOR	1138-12532	1
31	HEAT SINK	1069-13588	1
32	CAP NUT, SPECIAL #10-32 (stainless)	26513-0013	2
33	RS-232 PC BOARD (OPTIONAL)	7405-11888	1
	RS-485 PC BOARD (OPTIONAL)	7405-11891	1
	RS-232 SET POINT PC BOARD (OPTIONAL)	48935-0017	1
34	FUSE, 120VAC (0.2 AMP)	1134-13962	2
	FUSE, 230VAC (0.1 AMP)	1134-13963	2
35	GROUND LABEL	1070-10872	1
36	INSULATOR PAPER	1157-14250	1

MODEL 3275 CHECKWEIGHER *(STAINLESS)*

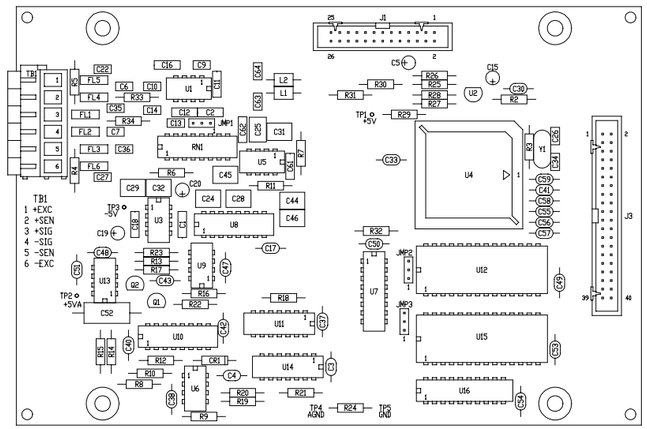
SYSTEM BLOCK DIAGRAM



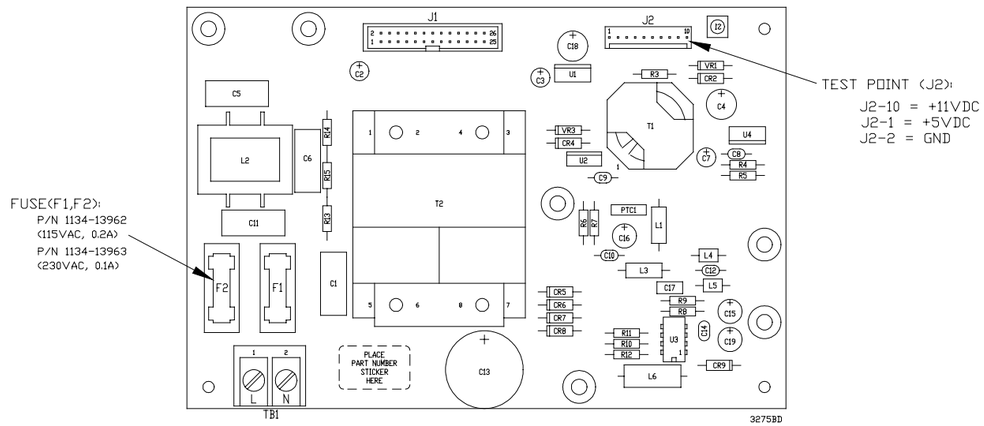
MODEL 3275 CHECKWEIGHER

PC BOARDS: POWER SUPPLY, MAIN, DISPLAY

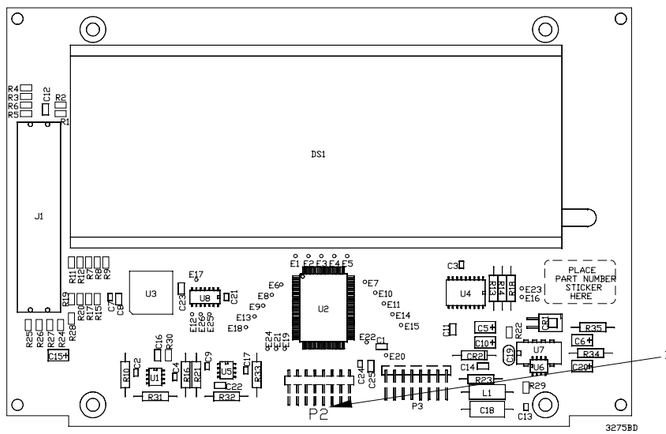
MAIN BOARD P/N 48881-0011



JUMPER DATA CHART for MAIN BD P/N 48881-0011		
JUMPER NO.	PIN 1 - 2	PIN 2 - 3
1	2 MV/V	1 MV/V
2	9.8 MHZ	7.37 MHZ
3	32K RAM	8K RAM

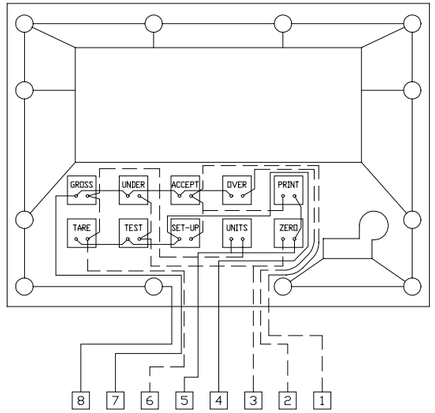


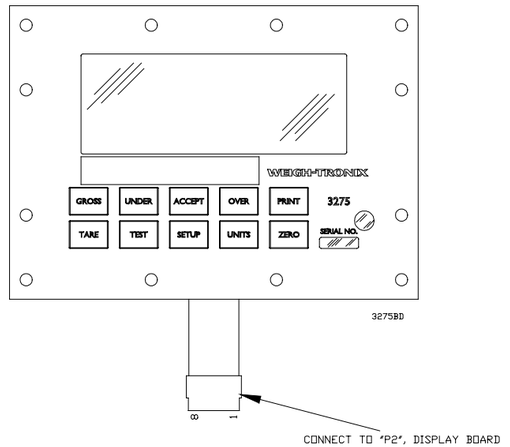
POWER SUPPLY BOARD P/N 50727-0015 (115VAC)
POWER SUPPLY BOARD P/N 50727-0023 (230VAC)



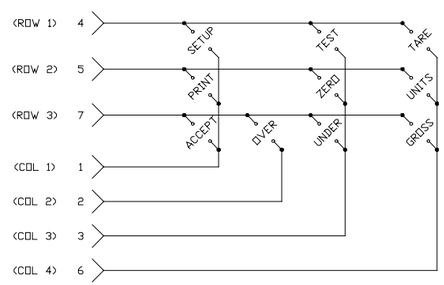
DISPLAY BOARD P/N 52308-0018

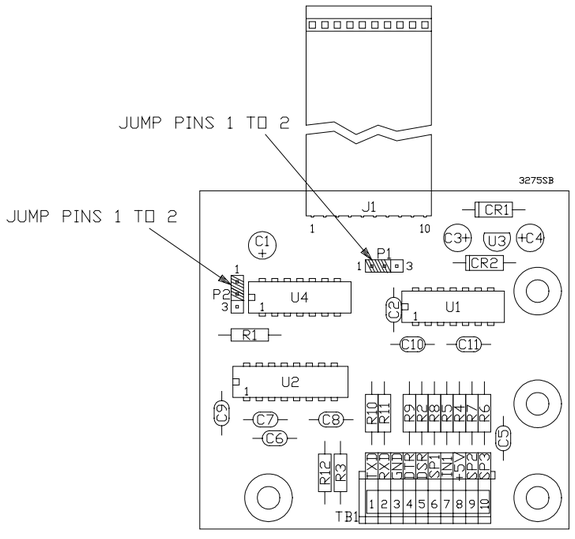
KEYPAD, FRONT VIEW



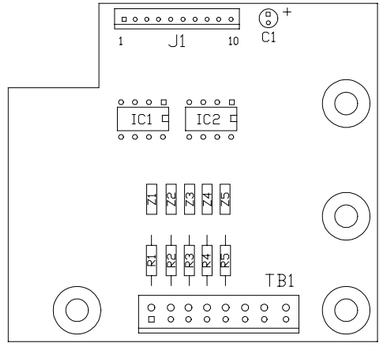


KEYPAD MATRIX DIAGRAM

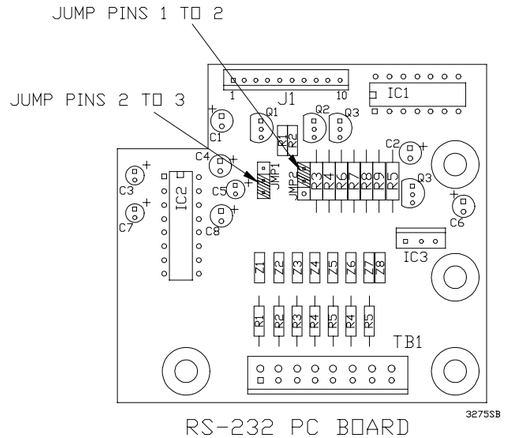




RS-232(3 SET POINT)PC BOARD
P/N 48935-0017
(SET POINTS REQUIRE OPTIONAL PROGRAM)

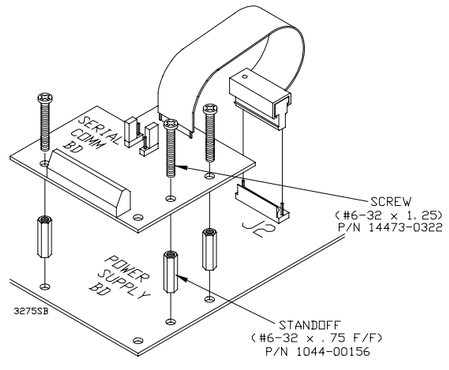


RS-485 PC BOARD
P/N 7405-11891
(REQUIRES OPTIONAL RS485 PROGRAM
AND 4-HOLE ENCLOSURE)



RS-232 PC BOARD
P/N 7405-11888
(SET POINTS REQUIRE OPTIONAL PROGRAM)

PRE
AUG' 95



POST
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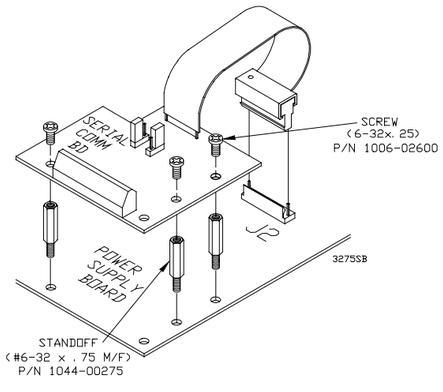
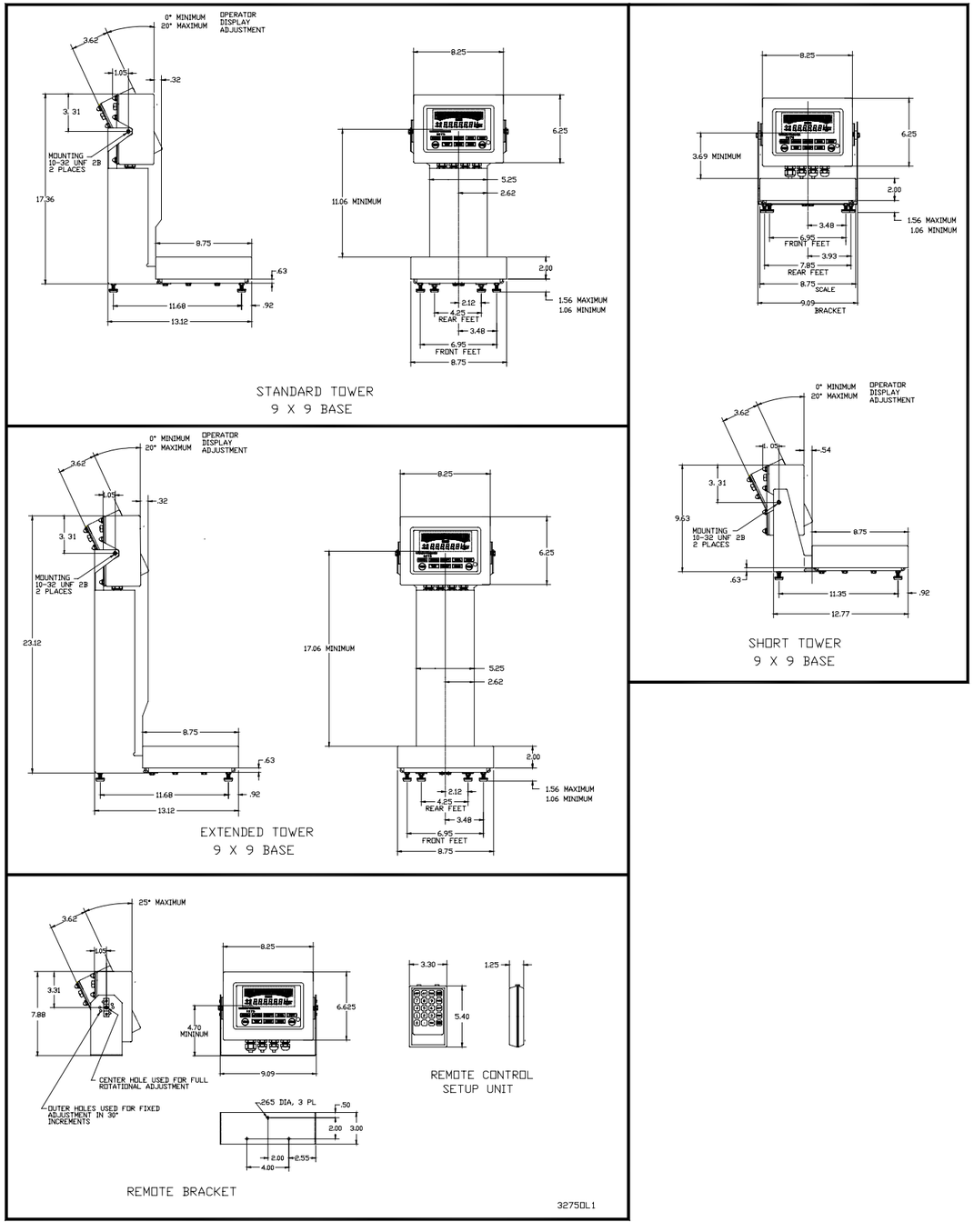
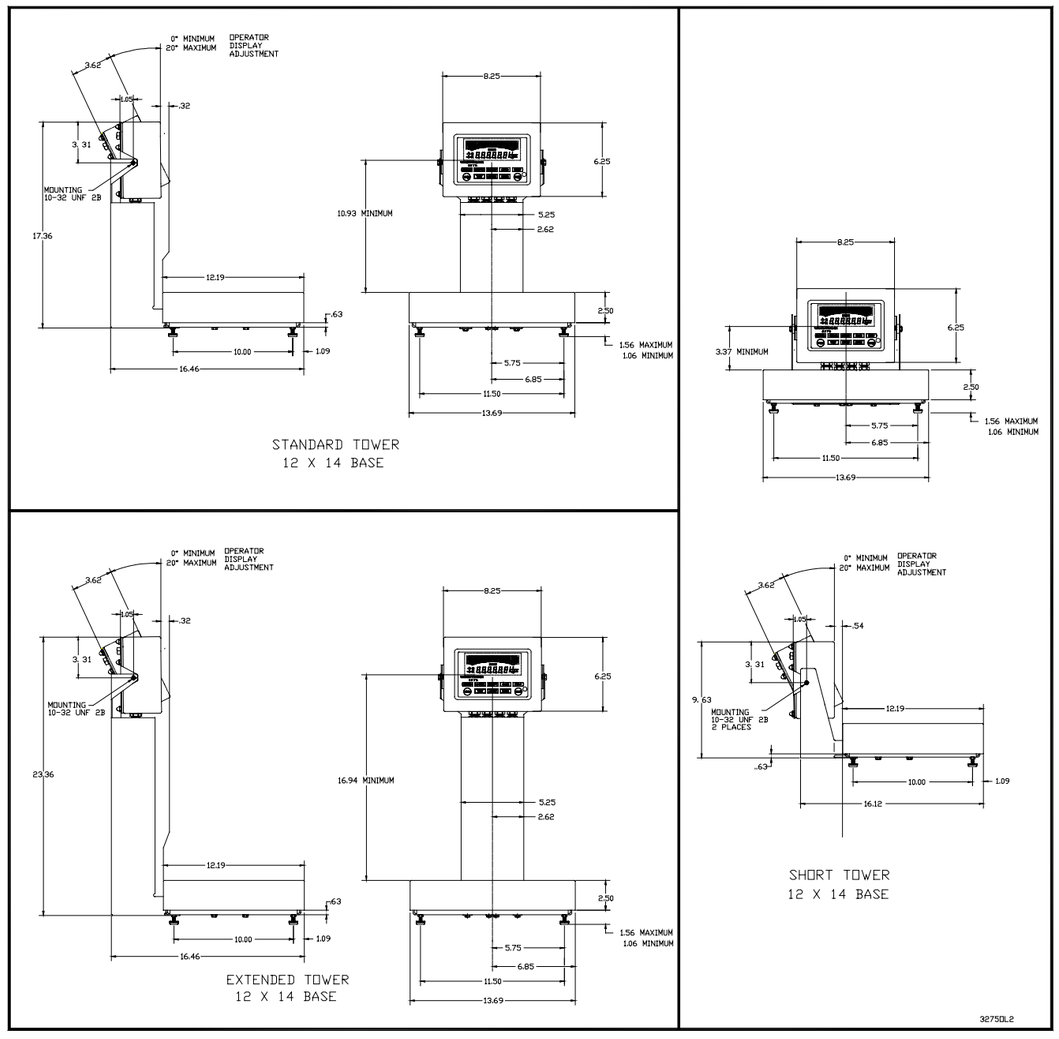


MODEL 3275 CHECKWEIGHER *(STAINLESS)*
OUTLINE DRAWINGS





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