8138

Technical Manual
and
Parts Catalog

INTRODUCTION

This publication is provided solely as a guide for individuals who have received METTLER TOLEDO Technical Training in servicing the METTLER TOLEDO product.

Information regarding METTLER TOLEDO Technical Training may be obtained by writing to:

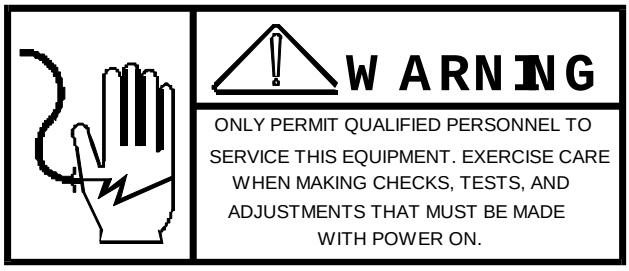
METTLER TOLEDO
Training Center
P.O. Box 1705
Columbus, Ohio 43216
(614) 438-4400

PRECAUTIONS

- **READ** this manual before operating or servicing this equipment.

- **ALWAYS REMOVE POWER** and wait at least 30 seconds **BEFORE** connecting or disconnecting any internal harnesses. Failure to observe these precautions may result in damage to, or destruction of the equipment.

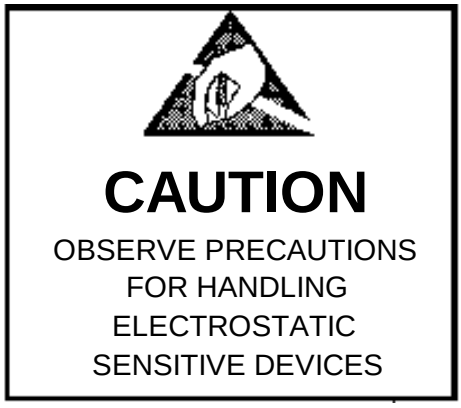
- **ALWAYS** take proper precautions when handling static sensitive devices.



- **DO NOT** connect or disconnect a load cell scale base to the equipment with power connected or damage will result.

- **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 servicing.

- **CALL** METTLER TOLEDO for parts, information, and service.

CONTENTS

INTRODUCTION

This publication is provided solely as a guide for individuals that have received Toledo Technical Training in Servicing the described Toledo Product.

Information regarding Toledo Technical training may be obtained by writing:

Toledo Scale
Industrial Training
P.O. Box 1705
Columbus, Ohio 43216

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operating in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to take whatever measures may be required to correct the interference.

WARNING: Before gaining access to any internal parts of the scale, always remove power form the unit by unplugging the AC line cord. Before performing any service on this equipment, this manual must be reviewed and understood.

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

1. GENERAL DESCRIPTION

The Toledo SPEEDWEIGH series combines fast, accurate checkweighing performance with reliable industrial construction. Available in wide range of capacities, the SPEED WEIGH series features an LED analog display for basic over/under indication, along with a highly readable six-digit weight display.

The SPEEDWEIGH series can be configured as three zones for simple over/under applications or as five zones to designate high and low acceptance. Independent zone tolerances are programmed through the keyboard providing maximum flexibility in establishing acceptable target weights.

Standard features include selectable units of measure (e.g. pounds & ounces, grams, and percent of target), independent zone tolerances, and RS232 data output for Toledo printers or computer interface. The SPEEDWEIGH series can be used with the following Toledo Industrial printers: 8804, 8806, 8855 (RS-232 version only), and 8860 printers.

2. MODEL NUMBERS

The SPEEDWEIGH series has four model numbers. They are 3025, 3035, 3045, and 3055. The 3025 includes a scale base using a digital load cell. the scale base has a 9 X 9 platter. The 3035, 3045, and 3055 all include Toledo Scale bases with analog load cells.

MODEL	MAXIMUM CAPACITY	SCALE BASE
3025	20 lb/ 6 kg	Base w/Digital Load Cell
3035	150 lb/60 kg	Model 2300, 12" X 12" Platform
3035	300 lb/150 kg	Model 2300, 18" X 18" Platform
3035	600 lb/300 kg	Model 2300, 24" X 24" Platform
3045	100 lb/50 kg	Model 1985
3055	400 lb/200 kg	Model 2095

3. SYSTEM DESCRIPTION

The SPEEDWEIGH series has three major blocks, they are:

1. **Display Board** - receives weight data or error codes from the load cell, displays the weight and classification (or error code), transmits weight information for an optional printer to the Power Supply Board, interprets and reacts to keyboard entries.

2. **Power Supply Board -** furnishes the display board with the following:

   a) + 10 VDC for the regulated +5VDC supply on the display board.

   b) AC filament voltage for the vacuum fluorescent display.

   c) -30 VDC supply for the vacuum fluorescent display.

   The Power Supply Board also converts serial TTL Data from the Display Board to RS-232 for an optional printer, and supplies the required DC voltage for an Analog or Digital load cell.

NOTE: The Model 3025 uses a different Power Supply Board as compared to the 3035, 3045, and 3055 Models.

3. Load Cell

a) The Digital Load cell (3025 only) transmits weight or Error Codes to the Display board. The weight is transmitted approximately ten times a second.

b) An analog load cell (3035, 3045, 3055) takes the excitation voltage from the Power Supply Board and sends back a millivolt signal that varies with weight changes.

4. SPECIFICATIONS

4.1 Electrical and Physical specifications

4.1.1 Environment

The SPEEDWEIGH series will operate over a temperature range form 0 degrees C (32 degrees F) to 45 degrees C (113 degrees F) at 10 to 95% relative humidity, non-condensing.

Storage temperature is from -40 degrees C (-40 degrees F) to 70 degrees C (158 degrees F) at 10 to 95% relative humidity, noncondensing.

4.1.2 Power Requirements

The SPEEDWEIGH series requires approximately 10 watts of power. The SPEED WEIGH series including the 3025-001, requires between 102VAC and 130VAC at 59 to 61 hertz. The 3025-002 requires between 205 and 240VAC at 49 to 51 hertz.

IMPORTANT NOTE: The Plug on the AC Power Cord MUST NOT BE REMOVED. This plug contains AC noise filtering components required in industrial environments.

4.1.3 Standards Compliance

a) U..L. Conformance

The SPEEDWEIGH series conforms to U.L. specifications 114, Office Appliances and Equipment and 746, Polymeric Materials.

b) CSA Conformance

The SPEEDWEIGH Series conforms to CSA standard C22.2 NO. 143-1975, Office Machines.

c) USDA Accepted

4.1.4 RFI Radiation and Conduction

The Model 3025 meets FCC Docket 80-284 for radiated and conducted emissions.

4.1.5 Dimensions and Construction

The 3025 base is 9" W x 9" L x 4" H. The display column stands approximately 17" high (height varies 1" with adjustable feet). The 3025 is fabricated of 304 stainless steel. The Weight can tilt backward 20 degrees maximum.

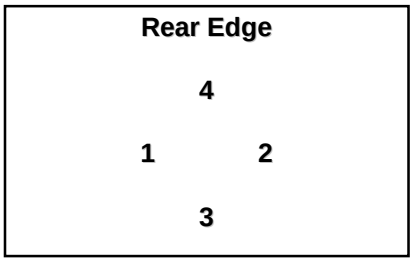
The Weight Display Enclosure for all models is 7" wide, 6" high (not including bottom bracket and connectors), 2.88" deep.

4.1.6 Water Penetration

The SPEEDWEIGH series wight display meets hosedown requirements.

4.1.7 Shift Specification for 3025

A load of 1/2 scale capacity applied 1/2 the distance form center to edge (applied in the sequence of 1, 2, 3, 4) cannot cause a display reading that differs more than 2 displayed increments form the other three readings.



4.2 Display format

The Display is a vacuum fluorescent, green, 7 segment display. Cursors point out selections of pct (percentage of target weight), net, lb, kg, g (grams), or oz (ounces). Five LED's on the right of the display point out classifications of ACCEPT (green LED) ACCEPT HEAVY or ACCEPT LIGHT (amber LED's), and OVER or UNDER (red LED's).

4.3 Printer Interface

The SPEEDWEIGH series is capable of transmitting RS232C level data, (transmit only). When a print command is received, from the PRINT feature, the SPEEDWEIGH series will output a message according to the print setup and display unit setup. Scale motion will disable the print until motion has ceased. The PRINT pushbutton is disabled in Expand mode. No printer output is allowable under Gross Zero. The baud rate is selectable between 300, 1200, 2400, 4800, and 9600 baud in SET UP mode. Only the transmit and common data lines are provided.

Data is output in an 11-bit ASCII format (1 start bit, 7 data bits, selectable parity bit, 2 stop bits). Five formats are available, selectable in the Set Up mode.

4.4 Weight Capacity and Increment Size Selection

Scale Capacity and Increment Size are selected during set up from the selectiosn shown in the following tables. These tables also show the resulting number of full scale increments. Tables 1 and 2 are applicable for the 3035, 3045, and 3055. Table 3 is for the 3025 only.

TABLE 1 - LB/KG/GRAMS, IN DECIMAL

INCREMENT SIZE	FULL SCALE INCREMENTS 1000	3000	6000	10000
	SCALE CAPACITIES			
0.001	1	3	6	10
0.002	2	6	12	20
0.005	5	15	30	50
0.01	10	30	60	100
0.02	20	60	120	200
0.05	50	150	300	500
.1	100	300	300	
.2	200	600		
.5	500			

TABLE 2 - LB - OUNCES

INCREMENT SIZE	FULL SCALE INCREMENTS 1600	3200	6400	9600
	SCALE CAPACITIES			
0.1	160	320	640	960
0.2	320	640	1280	-
0.5	800	-	-	-

TABLE 3 - 3025 CAPACITY AND INCREMENT SELECTION

MODE	FULL SCALE INCREMENTS	CAPACITIES
lb	1000	5 x .005, 10 x .01, or 20 x .02
kg	1000	5 x .005
g	1000	5000 x 5
lb	3000	6 x .002 or 15 x .005
kg	3000	3 x .001 or 6000 x 2
g	3000	3000 x 1 or 6000 x 2
lb-oz	1600	10 lb x .1 oz or 20 lb x .2 oz
lb-oz	3200	20 lb x .1 oz

5. INSTALLATION INSTRUCTIONS

IMPORTANT NOTE: The Plug in the AC Power Cord **MUST NOT BE REMOVED.**
This plug contains AC noise filtering components required in industrial environments

5.1 Preliminary Inspection

Inspect the shipping containers for loose or damaged parts. If any damage is found, immediately notify the freight carrier.

CAUTION

Observe Precautions For Handling Electro Static Sensitive Devices

CAUTION: NEVER REMOVE PRINTED CIRCUIT BOARD CONNECTIONS WITH AC POWER APPLIED OR DAMAGE TO THE PCB's WILL RESULT.

5.2 Load Cell Connection, Models 3035, 3045, 3055

Included with the weight display will be a load cell interface cable, P/N 12910900A, that includes a 6 pin connector with wires cut to a 3 inch length and tinned. this assembly is to be soldered to the load cell cable coming from the scale base. Shrink tubing is also supplied to be used for insulating the solder connections. Refer to the Installation Instructions supplied with the 3035, 3045, or 3055 for correct load cell to Power Supply PCB connections.

5.3 Set Up and Calibration, All Models

5.3.1 Level the Base

Level the 3025 scale base by removing the scale platter and adjusting the feet until the leveling bubble has 100% of the bubble within the circle. For 3035, 3045, 3055, refer to the Technical Manual supplied with the Scale Base.

NOTE: Adjust the fifth foot under the 3025 Weight Display Column upward to allow leveling the scale with just the four feet under the scale platter. After the scale is leveled, lower the fifth foot to firmly support the Weight Display Column when the keyboard is being pressed.

5.3.2 Setting the 3025 Overload Stops

The 3025 Load Cell overload stops are factory adjusted for a 6 lb capacity. If the 3025 is to be calibrated for a weight greater than 6 lb, the overload stops MUST be re-adjusted as follows:

1) Refer to Figure 1, Item 1 is the corner overload stop which is typical of four corners. The overload stop consists of a bolt threaded into a standoff. The sub-platter should bottom out on this bolt at approximately 110% of rated capacity.

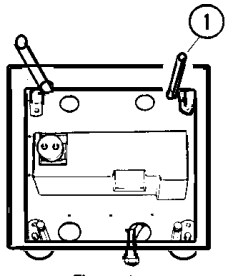


Figure 1

2) Place the 3025 on four stands to elevate the scale expose the Load Cell overload stop. The Load Cell overload stop is shown as Item 1 in Figure 2. Remove the platter. Turn the platter upside down and place it back on the sub-platter. this will allow adjustment of the overload stops with the platter on the scale.

3) Put the 3025 into the EXPAND mode [F10 1] , and the printer baud rate select for 9600 baud [F15.1}. Refer to the following steps, starting at "3. Apply AC power", to accomplish this.

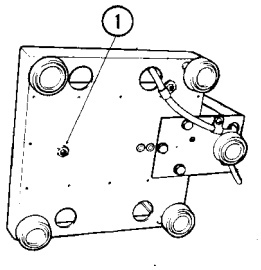


Figure 2

4) Put test weights equaling approximately 110% of the desired scale capacity at one corner of the platter.

5) Adjust the overload stop for that corner downward until the overload stop is no longer making contact with the bottom of the subplatter. Adjust the overload stop back upward until it just makes contact with the bottom of the sub-platter.

6) Repeat steps d) and e) for all four corners.

7) Adjust the Load Cell overload stop (shown as Item 1 in Figure 2) to stop the weight display form increasing in weight at approximately 110% of calibrated scale capacity. This is best done by:

   a. Place approximately 110% of calibrated scale capacity on the front center of the platter.

   b. Loosen the jam nut and adjust the load cell stop downward until the weight reading stops increasing.

   c. Tighten the jam nut only enough to hold the load cell overload stop in place yet allow overload stop adjustment.

   d. CAREFULLY, AND IN SMALL INCREMENTS, adjust the overload stop upward until the weight reading just begins to decrease. Tighten the Jam Nut to secure the adjustment.

      Note: a self-locking overload stop may be used instead of a jam nut.

8) At this point proceed with the Set-up and Calibration Procedure.

CAUTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES

CAUTION: NEVER REMOVE PRINTED CIRCUIT BOARD CONNECTIONS WITH AC POWER APPLIED OR DAMAGE TO THE PCB's WILL RESULT.

5.3.3 Apply AC Power

Note: At the point of turning AC power on, the Display automatically tests the Display Board memory circuits. Any Error codes form this point on should prompt the operator to go to the Troubleshooting section of this manual.

5.3.4 Press then release both the "ZERO" and "PRINT" pushbuttons simultaneously. The Display should now show [F0 0].

Note: If the display does not show [F0 0] remove the rear cover of the display enclosure and confirm that jumper W2 is inserted across the tow gold pins located just to the right of the three larger capacitors on the Power Supply PCB (visible when the rear cover is removed). If the W2 jumper was not inserted across the two gold pins, insert W2 and repeat step 3. If the Display does not respond with the proper [F0 0], refer to the troubleshooting section of this manual.

5.3.5 The display is now in the set up mode. In the set up mode the pushbuttons are redefined as follows:

PUSHBUTTON		**FUNCTION IS SET UP**
Tare/Target	=	Toggle 0/1 (Referred to as "TARE" hereafter)
Zero	=	Back-up to previous function
Print	=	Accept selection
Clear	=	Advance to end of set up/ calibration [CALOFF]

5.3.6 From this point forward [FX X] will show the displayed prompt and the indented paragraphs will explain the set up function ad selections.

[F0 X]

CALIBRATION ADJUST FEATURE - This feature allows fine trimming of the calibration, AFTER calibration has been performed. Enter a 0 for this prompt if calibration has yet to be performed.

Example:
Putting a 5 lb weight on a calibrated scale results in a display of F5.004 lb. Rather than repeat an entire calibration procedure the operator may "adjust" the 5.004 lab reading to the correct 5.000 lb reading via the following procedure:

Zero the scale via the "ZERO" pushbutton, place a known test weight on the scale. The amount of weight used MUST be less than or equal to the weight the scale is calibrated for, and in whole lb, Kg, or grams.

Enter the Set Up mode by pushing then releasing the "ZERO" and "PRINT" pushbuttons simultaneously.

Press the TARE pushbutton for the correct selection for "X" (1 or 0), then press the PRINT pushbutton to enter the selection.

If 0 is selected, the display will go to F1, and the Calibration Adjust will be bypassed.

[000000]

If 1 is selected, the display will show all 0's with the left most 0 flashing. At this point the operator must tell the display the amount of test weight (in whole pounds, kilograms, or grams) that is on the scale. The weight display will adjust calibration and display this weight correctly.

Press the "ZERO" if it is desired to increment the blinking digit by one.
Press the "TARE" to move to the next least significant digit.

Press the "PRINT" to accept entry and go to [CALOFF] once the correct test weight value is entered.

Press the "CLEAR" if it is necessary to zero the display and start over.

> **NOTE**: The Calibration Adjust feature is not available when using the lb - ounces display format [F2 2].

[F1 X]

SELECT INDICATOR OR OVER/UNDER MODE

Press the TARE to display next code.

Press PRINT to accept displayed mode code.

Codes are defined as follows:

1 = Indicator mode
2 = 3035, 3045, and 3055 Over/Under mode

Both are looking for analog scales will give E - 36 if no analog scale is installed.

3 = 3025 Over/Under mode

> **NOTE:**
> Indicator Mode selection [F 1] is available for simple weighing applications that do not require over/under functions, and use analog Load cells.

[F2 X]

CALIBRATION UNITS

Select the proper test weight units being used to calibrate the scale.

Press "TARE" to display next code.

Press "PRINT" to accept the displayed code.

Codes are defined as follows:

1 = lb
2 = lb - oz
3 = g (grams)

> **NOTE:**
> If F2 is changed after a calibration is done, the unit MUST be re-calibrated or the scale will default back to the previous selection.

> **NOTE:**
> Selecting lb - oz disables the calibration adjust feature F0.

> **NOTE:**
> Steps F3 and F4 are skipped when the indictor Mode is selected.

[F3 X]

DISPLAY ENABLE/DISABLE

X = 0 Weight display will be blank, only the 5 LED's for zone classification will be functional.

X =1 Weight display and LED's are fully functional.

> **NOTE:** If X = 0, then step F4 is skipped.

[F4 X]

DISPLAY UNITS

X = 0 Display weight in units calibrated.
X = 1 Display weight in percent of target weight (0% to 110% of selected target).

[F5 X]

AUTO ZERO MAINTENANCE

X = 0 No AZM.
X = 1 AZM active.

The automatic zero maintenance (when selected) maintains the displayed zero in the center of the increment. This feature operates by subdividing the zero increment into ten minor increments and determines whether the zero signal is within the center minor increments. If it is not, but is within the major zero increment, a minor increment is added to or subtracted from the signal to cause the displayed zero to be neared to the center minor increment.

> **NOTE:** The terms MAJOR Increment and DISPLAYED Increment both refer to the smallest visible increment change of the Weight Display when not in the Expanded Display Mode ([F10 0]). If a 3025 where calibrated for 6 by .002 lb, one major or displayed increment would be .002 lb. If the 3025 were then put into the Expanded Display Mode ([F10 1]), the weight displayed would show [000000] with 0 lb on the scale and [300000] with 6 lb. The Weight Display always weights in minor increments then converts to major increments for visual display. Expanded Display Mode is intended to show the error increment reading for fine calibration checks and should not be considered useful for classification or weighing of product.

The range of zero maintenance is limited to 4% (±2%) of scale capacity with the center of the range determined during the calibration. Weight variations which occur at a rate of 0.2 displayed increments per second or slower will be compensated.

[F6 X]

EXPANDED ZERO CAPTURE ENABLE

X = 0 No expanded zero capture.
X = 1 Expanded zero capture.

With a 1 selected Zero will be captured at 3 display increments or less upon returning from an upscale reading of at least 5 increments. If the display weight change is less than 5 increments, zero will be captured at 0.5 increments or less. Recommended setting is [F6 1].

[F7 X]

PUSHBUTTON ZERO ENABLE

X = 0 No pushbutton zero permitted.
X = 1 Enable pushbutton zero.

A front panel pushbutton provides rezeroing of the scale over a range of +/- 2% of scale capacity. The Zero pushbutton must be depressed while there is "no motion", with the scale in the Gross Weighing mode, to be effective. Pushbutton zero operates by determining the difference between eh actual weight and zero, to the nearest minor increment, and adding or subtracting this value to the displayed weight to provide a weight display of zero.

[F8 X]

MOTION SENSITIVITY SELECTION*

(+/- 0.5 or 2.0 majors)

X = 0 0.5 increments for motion sensitivity
X = 1 2.0 increments for motion sensitivity

The "Weight in Motion" detector requires 3 successive weight readings within +/- 0.5 or +/-2.0 major weight increments for a "notion" signal. There are approximately 10 weight readings per second.

When motion is detected the SPEEDWEIGH Scale inhibits pushbuttons ZERO, TARE, and PRINT. The "pct", "lb", "kg", "g", and "oz" descriptors are blanked during motion.

* This MUST be set for [F8 1] unless a printer is being used.

[F9 X]

FILTER SENSITIVITY SELECTION

X = 0 No filtering
X = 1 Light filtering
X = 2 Medium filtering
X = 3 Heavy filtering

This selection is made available to filter out vibration inherent to the area the scale is installed in. The ideal result being a stable (non-fluctuating) display. The more or heavier filtering used. the slower the Weight Display will update.

[F10 X]

EXPANDED DISPLAY

X = 0 Normal display mode
X = 1 Weight displayed in minor increments.

[XXXXXX]

With a 1 selected the Weight Display will show between 0 and 30,000 depending on the capacity of the scale and the amount of weight on he scale. This display will not occur until set up is exited. The Expand Mode is only intended to check for calibration accuracy and is NOT intended to check for calibration accuracy and is NOT intended for actual weighing.

NOTE: With the setting [F10 11], the display will update slowly if [F15.1] is set to a slower baud rate (300 Baud especially). This only occurs in the Expanded Display Mode.

NOTE: F11 and F12 will be skipped if in the Indictor mode.

[F11 X]

NET WEIGHT DISPLAY

X = 0 Gross weight will be displayed
X = 1 Weight difference from target weight will be displayed.

[F12]

ZONE INCREMENT SIZE

Press the "Tare" pushbutton to step over F12.

This selection allows the customer to select which zones will be used and what each zone width will be in increments. Refer to Figure 3.

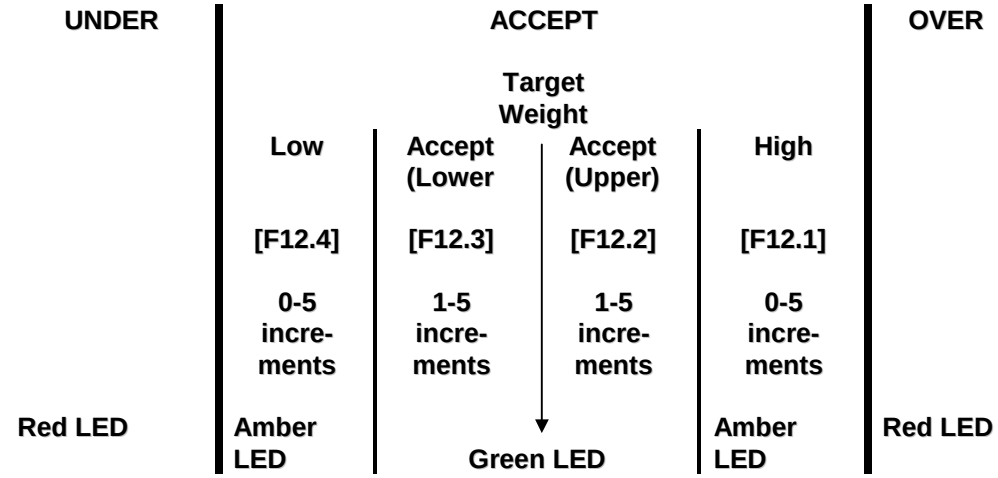


Figure 3

1 thru 5 major increments can be selected for the zone widths. a zero can be selected for the High Accept or Low Accept zones effectively eliminating a zone. If the High Accept or Low Accept zones have a zero entered, the SPEEDWEIGH series will eliminate usage of the appropriate Amber LED.

Press the "PRINT" pushbutton to proceed to the next step.

[F12.1 X]

Display shows the current number of increments for the High zone.

Press TARE to display the next High zone width (0 to 5).

Press PRINT to accept displayed value.

[F12.2 X]

Display shows the current number of increments for the ACCEPT (Upper) zone.
Press TARE to display the next ACCEPT (Upper) zone width (1 to 5).

Press PRINT to accept displayed value.

[F12.3 X]

Display shows the current number of increments for the Accept (Lower) zone.

Press TARE to display next the Accept (Lower) zone width (1 to 5).

Press PRINT to accept displayed value.

[F12.4 X]

Display shows the current number of increments for the Low zone.

Press TARE to display the next Low zone width (0 to 5).
Press PRINT to accept displayed value.

> **NOTE:** If in either Over/Under mode, "F13" and "F14" will be skipped.

[F13 X]

TARE ACTIVE

X = 0 Tare key inactive
X = 1 Tare key active

[F14 X]

AUTO TARE CLEAR

X = 0 No automatic clear of tare
X = 1 Tare clears at gross zero automatically if the weight settled to a no motion condition at a weight greater than 10 increments and then returned to zero Gross Weight.

[F15]

SETUP OF PRINTER INTERFACE

Press the "Tare" pushbutton to step over F15 to CAL.

[F15.1]

BAUD RATE

[XXXX]

Press TARE to display the next baud rate.

[F15.2 X]

PARITY

Press TARE to display the next parity code.

Press PRINT to accept the parity code displayed.

Parity codes:

X = 0 No parity (parity bit is always a "0")
X = 1 Odd parity
X = 2 Even parity

[F15.3 X]

CHECKSUM

X = 0 No checksum or STX will be transmitted.
X = 1 Checksum enabled, checksum and STX are transmitted.

Checksum is used to check the transmission received at the printer for any errors due to information lost during the transmission.

[F15.4 X]

DATA FORMAT

Press TARE to display the next data format.

Press PRINT to accept the format code displayed.

Format Codes:

X = 0 Single line, displayed weight only.
X = 1 Single line, gross, tare and net.
X = 2 Multiple line, gross, tare and net.

NOTE 1: If net Weight Display is disabled, Format Code 0 will be assumed.

NOTE 2: See Section 7.2 for Data Format details.

[F15.5 X]

EXPANDED PRINT

X = 0 Normal print.
X = 1 Expanded print.

If "1 " is selected "SO" and "SI" characters are inserted in the transmission to produce double width printouts.

[F15.6 X]

AUTO PRINT

X = 0 Demand print only.
X = 1 Auto print on weight above 5 increments after coming from zero. A print will not occur until "no motion" condition is determined.

[CAL]

Press TARE/TARGET to skip calibration and display [CAL OFF]. Press PRINT to display [C1].

CONFIGURE SCALE

[C1]

SCALE CAPACITY

The selection of scale capacities is listed in Section 4.4. Press PRINT to continue.

[XXXXXX]

The display shows the stored value.

The operator selections at this point are as follows:

1. Press the PRINT to accept the value displayed. Pressing PRINT will advance the display to [E SCL].

2. Press ZERO to zero the display and start the least significant zero flashing. At this point the display is ready to receive the weight capacity value.

   a) Press ZERO to increment the flashing digit.

   b) Press TARE to go to the next most significant digit.

   c). Press CLEAR to start over.

   d) Press PRINT to accept the value displayed.

The value of which a digit is incremented is limited to allowable scale capacities as shown in Section 4. 4. For example, the units digit will increment through 0, 1, 2, 3. 5, and 6, then back to 0 (3025 selection is 0, 5, 6). The tens digit will only increment throughout those digits which are allowable based on the units digit entry, 0 and 1 for the 3025 for example.

Step C2 is skipped if in the 3025 Over/Under mode (unless 20 lb capacity is selected in the lb/oz Mode) or if the scale capacity has only one allowable increment size value. The increment size, in that situation, is automatically stored.

[C2 XXX]

INCREMENT SIZE

The selection of increment sizes is listed in Section 4.4.

The stored Increment size is displayed.

Press TARE to display the next allowable value.

Press PRINT to accept the displayed value.

For example, if a scale capacity of 30 lbs. is chosen in step C1, then valid increment sizes of .005 or .01 will be displayed.

[E SCL]

Empty the scale platform.

Press the PRINT button to continue.

[15 CAL]

Delay while zero is automatically set (display counts down).

[Add Ld]

Place the selected test weight on the scale platform.

Press the PRINT button to continue with scale calibration.

[00000]

Select test weight value be entering digits left to right.

The blinking digit is entered first.

Press ZERO to increment the display by one unit.

Press TARE to shift and blink the next digit display.

Press PRINT when the correct test weight value is displayed.

Maximum test weight is 100% of full scale capacity.

Only values in whole pounds , kilograms, or grams may be entered.

[15 CAL]

Delay while span is automatically set (display counts down).

> **NOTE:** The 3025 calibration now steps to [CALOFF].

[E SCL]

Empty the scale platform to reset the zero.

Press the PRINT button to continue with scale calibration.

[15 CAL]

Press ZERO and PRINT simultaneously to exit setup.

> **NOTE:** At this point jumper W2 should be removed if the setup parameters are to be made NON-ACCESSIBLE form the keyboard. Replace the back cover and gasket of the display enclosure being sure that all 12 grommet screws are firmly in place to ensure a proper seal.

6. KEYBOARD FUNCTIONS/ OPERATING INSTRUCTIONS

6.1 Zero Pushbutton

The Zero pushbutton provides rezeroing of the scale over a range of +/- 2% of scale capacity. the Zero pushbutton must be depressed while there is "no motion", with the scale in the Gross Weighing mode, to be effective. Pushbutton zero operates by determining the difference between the actual weight and zero, to the nearest minor increment, and adding or subtracting this value to the actual weight to provide a weight display of zero.

6.2 Tare/Target Pushbutton

6.2.1 TARE

If configured as an indicator (Indicator Mode selected [F1 1]), the Tare/Target pushbutton functions as a Tare button. When a weight, i.e, a container, is placed upon the scale, and the tare button is pressed while there is no weight motion present, the Tare weight is stored in a storage register, then subtracted from the Gross Weight value to provide a net weight display of zero, and the NET cursor is turned on. Pressing TARE at 0 gross weight has no effect and is ignored. If net weight will be displayed as a negative weight, unless the Auto Tare Clear is selected ([F14 1]), which will cause the scale to clear the Tare Weight upon reaching gross zero.

6.2.2 TARGET

If configured to either OVER/UNDER mode ([F1 2 or 3]) , the TARE/TARGET button serves to setup the target weight. Pressing the TARE/TARGET pushbutton with the Target weight on the scale will store the weight and the ACCEPT LED (green) will be turned on. When removing the item, the UNDER LED will then come on. The scale will light the proper LED indicating the classification of the current weight as compared to the stored target weight. Pressing the CLEAR button will clear the target weight, disabling the LED's, to indicated that no target is presently stored. If NET WEIGHT DISPLAY is selected [F11 1] and a Target Weight is entered, the weight difference with respect to target is displayed, and LED's are active as in the Gross Display Weight selection.

> **NOTE:** When using % of Target display, display will show 0% to 110% then blank out.

> **NOTE:** When using lb-oz and selecting Net Weight Display ([F11 1]), the display will blank under zero for any negative Net Weight of 10 pounds or greater.

6.3 CLEAR PUSHBUTTON - Discussed previously in TARE/TARGET.

6.4 PRINT PUSHBUTTON

The PRINT pushbutton will initiate a data transmission of the selected format and baud rate (F15 in the Setup Mode) UNLESS one of the following conditions is present:

1. Scale is under 0.
2. Scale is in the Expand Mode ([F10 1]).
3. Motion is detected on the scale.

> **NOTE:** If items 1 or 3 are cause for not transmitting data, the display will "remember" the Print request and transmit when conditions are correct.

7. PRINTER OUTPUT FORMAT

7.1 Bit Pattern and Baud Rates

7.1.1 The printer output bit pattern is:

1 Start Bit
7 ASCII Bits
1 Parity Bit [Selectable Even, Odd, NONE (bit is always 0)]
2 Stop Bits

7.1.2 Selectable baud rates are 300, 1200, 2400, 4800, 9600.

7.1.3 Transmission is in RS- 232C and occurs per Auto Print (selected via [F15.61]) or when Print button is pushed.

7.2 Character Formats

The following must be understood to fully comprehend the formats:

-Symbol Identification

STX	=	ASCII START OF TEST Character
CR	=	ASCII CARRIAGE RETURN Character
LF	=	ASCII LINE FEED Character
\	=	ASCII SPACE Character
*	=	Digit (0 thru 9)
CKSM	=	Checksum Character
SO	=	ASCII SHIFT OUT Character
SI	=	ASCII SHIFT IN Character

- All leading zeros are transmitted as spaces.

- Comma's shown in the formats are to visually separate character in this manual and are not transmitted.

- Checksum is defined as the 2's complement of the 7 low order bits of the binary sum of the 7 low order bits of all characters preceding the checksum including STX and XR. Bit 8 of Checksum is parity of the 7 low order bits of Checksum.

7.2.1 Single line, displayed weight only [F15.4 0]

For pounds and decimal pounds or kilograms and decimal kilograms (replacing lb with kg). [F2 1 or 3]

Gross Weight [F11 0]
* 13.495\LB, CR, LF

OR

Net Weight [F11 1]0
*11.495\LB\ NET, CR, LF

OR

Gross-Checksum Enabled [F15.3 1]
STX, *13.495\LB, CR, CKSM, LF

OR

Net-Checksum Enabled [F15.3 1]
STX, *13.495\LB\NET, CR, CKSM, LF

For pounds, ounces, and decimal ounces: [F2 2]

Gross
*13 \LB\ 11.5\ OZ, CR, LG

OR

Net
11\LB 5.2\OZ\NET, CR, LF

For pounds, ounces, and decimal ounces: [F2 2]

Gross
*13\LAB\11.5\OZ, CR, LF

OR

Net
*11\LB*5.2\OZ\NET,CR,LF

OR

Gross - Checksum Enabled
STX *13\LB\11.5\OZ, CR, CKSM, LF

OR

Net - Checksum Enabled
STX *11\LB*5.2\OZ\NET, CR, CKSM, LF

For grams: [F2 4]

Gross
*** 5623\g, CR, LF

OR

Net
***5313\g\NET, CR, LG

Gross - Checksum Enabled
STX *** 5313\g\NET, CR, CKSM, LF

Whole percent (over/under mode only): [F4 1]

Checksum Enabled

*95.2\%, CR, CKSM, LF

> **NOTE:** If expanded print is selected [F15.5 1], the "SO" character is transmitted after the "STX" or sent as the first character if checksum is disabled, and the "SI" character is transmitted just before the "CR" character.

7.2.2 Single line printing of gross, tare and net [F15.4 1] (indicator mode only [F1 0]).

Gross weight only is output if no tare is in use. Lb-oz and decimal ounces display mode requires multiple line printing.

Format is:

For pounds and decimal pounds or kilograms and decimal kilograms (replacing LB with kg):

*13.495\LB**2.000\LB\TR*11.495\LB\NET,CR,CKSM,LF

OR

CKSM Enabled

STX*13.495\LB**2.000\LB\TR]*11.495\LB\NET,CR,CKSM,LF

For grams:

Gross CKSM

11409\g**400\G\TR**11009\g\NET,CR,LF

OR

11409\g**400\g\TR**11009\g\NET,CR,CKSM,LF

NOTE: If expanded Print is selected [F15.5 1], the "SO" character is transmitted after the "STX" or sent as the first character if checksum is disabled, and the "SI" character is transmitted just before the "CR" character.

7.2.3 Three line single width printing of gross, tare, and net. (Indicator mode only [F15.4 1])

Gross, tare, net data is output in sequence when "print" is pressed and the display shows net weight. Gross weight only is output if no tare is in use.

Format is:

For pounds and decimal pounds or kilograms and decimal kilograms (replacing LB with kg):

*13,495\LB, CR,LF
**2.000\LB\TR,CR,LF
*11.495\LB\NET,CR,LF

OR

Checksum Enabled

STX, *13.495\LB,CR,CKSM,LF
**2.000\LB\TR,CR,CKSM,LF
*11.495\LB\NET,CR,CKSM,LF

For pounds and ounces:

*13\LB\10.5\OZ,CR,CKSM,LF
**1\LB*5.4\OZ\TR,CR,CKSM,LF
*12\LB*5.1\OZ\NET,CR,LF

OR

Checksum Enabled

STX,*13\LB\10.5\OZ,CR,CKSM,LF
**1\LB*5.4\OZ\TR.CR,CKSM,LF
*12\LB*5.1\OZ\NET,CR,CKSM,LF

For grams:

**11409\g,CR,LF
****400\g\TR,CR,LF
**11009\g\NET,CR,LF

OR

Checksum Enabled

STX,**11409\g,CR,CKSM,LF
****400\g\TR,CR,CKSM,LF
**11009\g\NET,CR,CKSM,LF

7.3 PRINTER CABLE INSTALLATION

Optional KOP's (Kit of Parts) 20' Cable 129052 00A.

These optional KOP's interface to the following Toledo Scale printers:

8804,8806,8860,8855 (RS-232 Version Only)

7.3.1 Disconnect AC power from the unit.

7.3.2 Remove the 12 screws from the rear cover of the indicator housing.

7.3.3 Remove the existing cable grip bushing assembly on the far left side of the Display enclosure when faced form the back. This is done by simply removing the grip busing nut located inside the display enclosure that retains the bushing assembly. Discard the bushing.

7.3.4 Remove the grip bushing nut (See Note 1) form the end of the printer cable assembly and insert the 3 position connector end of the printer cable into the hole which contained the grip bushing in step 3, effectively replacing the grip bushing assembly just discarded.

7.3.5 Thread the 3 position connector end of the printer cable through the grip bushing nut and screw the nut onto the grip bushing. Tighten the nut securely.

7.3.6 Place the printer cable ground ring terminal on the ground stud containing the orange wire and secure into place with the existing #8 nut. Tighten the nut securely.

7.3.7 Plug the 3 position connector end of the printer cable into "J3" on the Power Supply Board.

7.3.8 Re-attach the indicator cover with the 12 screws and tighten screws to 9.6 inch-lbs.

7.3.9 Attach other end of printer cable to the printer.

7.3.10 Re-apply power.

NOTE 1: This nut must fit over the ferrite core used in this assembly. The tolerance is very tight removing the nut. Be careful not to strip off or break the insulation on the wires in the printer cable when removing this nut. Save the nut for step 4 completion.

NOTE 2: When interfacing to an 8860 or 8804 printer, do not use the printer adapter plugs [12801900A (9960) or 12735800A (8804)] supplied with the printers. The 129052 00A cable assembly is designed to plug directly into the 8860 and 8804 printers.

8. TROUBLESHOOTING

CAUTION: 1. NEVER remover cable assemblies from a printed circuit board without first REMOVING AC POWER TO THE UNIT the board is installed in.

2. NEVER unplug the cable assembly between the Power Supply PCB and the Digital Load Cell in a 3025 without waiting at least 20 seconds AFTER removing AC power to the 3025.

8.1 Error Codes

The following is a complete list of Error Codes possible with the SPEEDWEIGH series. If an error code occurs during operation, and turning AC power off then on does not clear the error, follow the suggestions on the list as an attempt to correct the error condition. If more than one suggestion per error code is made, the suggestions should be considered, listed in order of priority.

ERROR CODE MESSAGES

E1 Confirm DC supplies, replace Display PCB

E2 Confirm DC supplies, replace Display PCB

E3 Confirm DC supplies, replace Display PCB
NOTE: E1, E2, and E3 are all memory errors on the Display Board.

***E4** no load cell connected or excitation supply is bad.
Confirm DC supplies, replace the Power Supply PCB first, it the problem persists replace the Analog Load Cell.

E6 (3025 only) Display Board Communication Error. digital Load Cell has communicated with the Display PCB, but the Display PCB cannot send back.

Confirm DC supplies. Ohm out cable between Display PCB and Digital Load Cell**. Replace Display PCB.

**** WAIT AT LEAST 20 SECONDS BEFORE UNPLUGGING THE CABLE ASSEMBLY BETWEEN THE POWER SUPPLY AND THE DIGITAL LOAD CELL.**

E8 (3025 Only)

Confirm DC supplies, ohm out harness between display PCB and Digital Load Cell, replace the Digital Load Cell first **, if the problem persists replace the Display PCB.

E9 (3025 Only)
Confirm DC supplies, replace the Digital Load Cell first **, if the problem persists replace the Display PCB.

> **NOTE:** E8 and E9 are Load Cell communications errors.

*Only used for Indicator Mode or 3035, 3045, and 3055 Over/Under Modes.

E10 (3025 Only) Load Cell memory verification error.
Confirm DC supplies, replace Digital Load Cell**.

E32 Insufficient test weight used.
Confirm DC supplies, increase test weight used, if problem persists test Analog Load Cell output signa. If the Error Code is still present replace the Power Supply Board.

E34 Test weight too large
Number entered for test weight is greater than scale capacity, number entered must be less than or equal to scale capacity.

E36 Scale out of range
Confirm DC supplies, replace Digital Load Cell, ** or check millivolt output of the Analog Cell in modes other than 3025.

*Only used for Indicator Mode or 3035, 3045, and 3055 OVER/UNDER Modes.

E37 Span calibration error.
Reenter test weight amount confirming number is entered is same as amount of test weight being used. Confirm DC supplies. Replace digital cell**, or measure the net change of millivolt output form the analog cell (in modes other than 3025) checking for a correct percentage of millivolt change.

> **WAIT at least 20 seconds before unplugging the cable assembly between the Power Supply and the Digital Load Cell.

8.2 Confirming DC Supplies

> **WARNING:** Before gaining access to any internal parts for the scale, always remove power form the unit by unplugging eh AC line cord. Before performing any service on this equipment, this manual must be reviewed and understood.

CAUTION: AT THIS POINT PROPER STATIC PRECAUTIONS MUST BE TAKEN OR PCB DAMAGE COULD RESULT.

8.2.1 3025

The 3025 uses a different Power Supply Board as compared to the 3035, 3045, and 3055. The 3025 Power Supplies should be measured as shown in Table 4:

NOTE: Readings were taken with a Beckman 310 DVM in Tables 4 and 5.

USAGE	RESPONSIBLE PCB	ACCEPTABLE DC VOLTAGE RANGE	MAXIMUM ACCEPTABLE RIPPLE	*TEST POINT (See Note 2) +Lead	-Lead
+20VDC for Digital L/C	Power Supply Board	+17.2 to +23.6 VDC	.1VAC	J2-2	Chassis
+5V for Display Logic	Display PCB	+4.9 to +5.2VDC	.05VAC	J1-10	Chassis
AC Filament Voltage for Display Tube	Power Supply Board	+2.6 to +3.4VAC	--	J1-1	J1-2
-30VDC for Display Tube	Power Supply Board	-25.4 to -30.6VDC	1 VAC	*J1-3	*Chassis
+10VDC for regulating +5V on Display PCB	Power Supply Board	+7.6 to +10.4VDC	.125 VAC	J1-5	Chassis

TABLE 4

*Leads as shown will give a minus voltage indication.

NOTE 1: The RESPONSIBLE PCB is the PCB the voltage is generated on.

NOTE 2: All test points in the table are on the Power Supply Board.

USAGE	RESPONSIBLE PCB	ACCEPTABLE DC VOLTAGE RANGE	MAXIMUM ACCEPTABLE RIPPLE	TEST POINT (See Note 2) +Lead	-Lead
+12.5VDC Analog L/C Excitation	Power Supply Board	12.35 to 12.65 VDC	.02VAC	J4-5	Chassis
Output Signal from L/C	Analog Load Cell	*	--	J4-6	J4-1
+15VCD for Analog on the Power Supply Board	Power Supply Board	+14.8 to +15.15VDC	.02VAC	Q3 Pin 3	Chassis (See Figure 4)

TABLE 5

*Signal output will be 25mV at full scale capacity.

Signal Output = Scale Initial Weight + Test Wt. X 25 MV
Load Cell Capacity

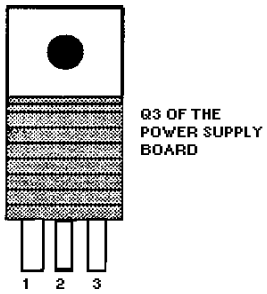


FIGURE 4

8.3 3025 PARTS REPLACEMENT

8.3.1 Digital Load Cell Replacement

a) Remove AC power from the 3025.

b) Lift the platter off of the Base Assembly.

c) Remove the sub-platter assembly by carefully removing the two alien screws that hold the sub-platter assembly to the Digital load cell. Lift off the sub-platter assembly.

> **NOTE:** If the following step is performed, a NEW load cell enclosure gasket MUST be installed to ensure a proper seal.

d) Remove the 12 common head screws that hold the load cell enclosure to the base weldment. Remove the load cell enclosure, being careful not to damage the rubber boot mounted on top of the load cell enclosure. Loosen the jam nut on the set screw (see item 1 in Figure 2) located on the bottom of the base weldment. Remove the set screw.

CAUTION: At this time proper static precautions MUST be observed or PERMANENT damage to the digital load cell could result.

e) Unplug the load cell from the load cell cable assembly.

f) Carefully remove the two allen screws (see item 11 on page 23) from the bottom of the base weldment being careful to support the digital load cell so that it will not fall once both allen screws are removed.

g) Remove any debris from inside the base weldment, including any residue from the load cell enclosure gasket. Replace the load cell gasket with a new one.

h) Install the replacement digital load cell being careful to position the cell with eh orange "static warning label" readable, i.e. the label should not be positioned upside down.

Refer to the following for proper torque on hardware:

R0372800A Allen Screw, 75-85 inch-pounds, DLC bottom screws
R0372900A Allen Screw, 75-85 inch-pounds, DLC top screws
R0372400A PHD Screw, 9.6 inch-pounds, DLC enclosure

i) When replacing the load cell enclosure be sure to replace the old gasket carefully cleaning off any residue from the old gasket on the load cell enclosure and base weldment.

> **NOTE:** For ease in reinstalling the load cell enclosure, the two common screws shown in Figure 5 must be inserted before replacing the load cell enclosure into the base weldment.

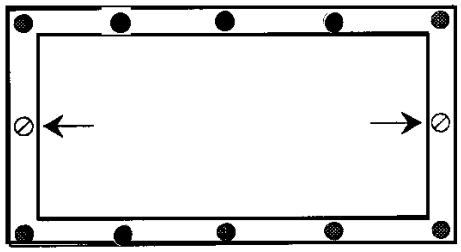


FIGURE 5

j) Once reassembly is complete, (with exception of the load cell overloud stop and jam nut) elevate the 3025 base on four columns to expose the area under the base that the load cell overload stop will be reinstalled into. 5 lb test weights work nicely.

k) Reinstall the overload stop and jam nut. Tighten the jam nut to hold the position of the overload stop yet allow adjustment of the overload stop.

l) Go into the Set-up Mode and select the Expanded Display Mode [F10 1]. Select 9600 baud rate for [F15.1] (this allows maximum display updates per second in Expanded Display Mode).

m) Place test weights equaling approximately 110% of calibrated scale capacity on the front center of the platter. Carefully adjust the overload stop to the point just prior of the weight beginning to decrease due to the overload stop pushing upward on the load cell. Tighten the jam nut. Note: A self -locking over load stop may be used instead of a jam nut.

n) At this point weight placed at the front of the platter weighing approximately 115% of capacity and greater should not cause the weight display to increase. If the weight does increase repeat step 1.

o) Go into Set-up, recelebrate the 3025 for the desired capacity, and return the 3025 to a normal display [F10 0].

9. SPARE PARTS LISTING

	3025	3035, 3045, 3055
Power Supply Board (See note 1)	*129058 00A	*128981 00A
Display Board	*128983 00A	*128983 00A
Keyboard Switch Assembly	*129054 00A	*129054 00A
Fuse,, .25A S.B. (See Note 2)	*095920 00A	*095920 00A
Load Cell	*129854 00A	See Note 3

* Could be proceeded by an alpha letter prefix.

NOTE 1: Use *129059 00A for General Export.

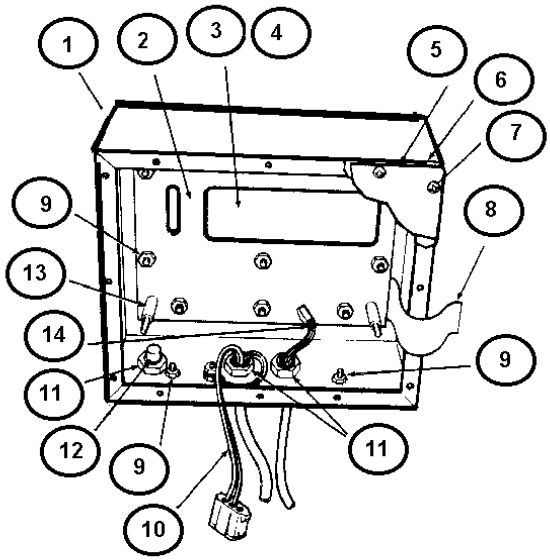
NOTE 2: Use fuse P/N 095919 00A, 1/8A 250V S.B., for General Export and 220 to 240 VAC applications.

NOTE 3: Refer to the Parts Catalog supplied with the Scale Base.

10. PARTS CATALOG

DIGITAL DISPLAY ALL OVER/UNDER MODELS

DIGITAL DISPLAY - ALL OVER/UNDER MODELS



ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	129020 00A	Indicator Enclosure
2	1	129023 00A	Clamp Plate, Lens/Keyboard
3	1	129025 00A	Lens, Display (See Note 1)
4	1	129024 00A	Gasket, Lens/Keyboard
5	1	129021 00A	Cover, Indicator Enclosure
6	1	129022 00A	Gasket, Indicator Cover
7	12	R03777 00A	Screw, #6 -32 X 1/4" Seal Hd.
8	1	129054 00A	Keyboard Assembly, N.S. (See Note 2)
9	13	R03298 00A	Nut, #8-32 w/Lockwasher
10	1	128989 00A	Line Cord Ass'y. (See Note 3)
11	3	129018 00A	Grip Bushing, .285 I.D.
12	1	129038 00A	Plug
13	4	129031 00A	Spacer, #8 x .44 Long
14	1	129060 00A	Load Cell Cable Ass'y,. 3025 ONLY (See Note 4) (See Note 5)
15	1	129052 00A	Printer Cable Assembly, 20 ft. N.S.

N.S. - Not Shown

NOTE 1: The lens/keyboard gasket MUST be replaced if the Display lens is replaced.

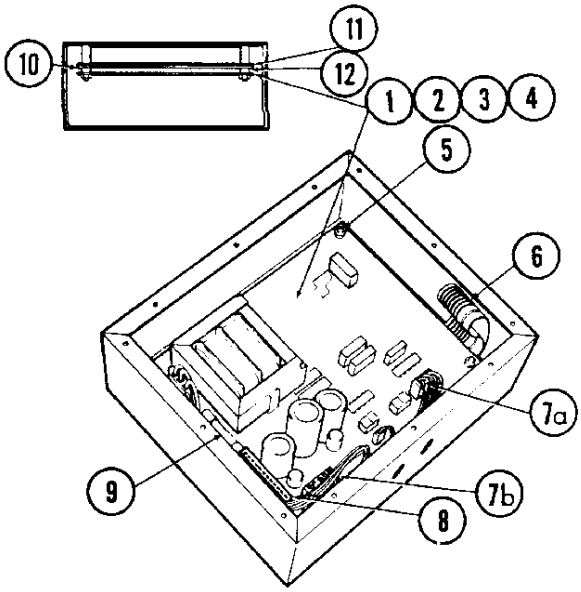
NOTE 2: Includes lens/keyboard gasket, color overlay, and switch membrane.

NOTE 3: The assembly does net include the 3 pin female plug (P5): order P.N 097518 00A if this plug is required.

NOTE 4: This assembly does not include plugs P1 (terminating at J1 of the Load Cell) and P2 (terminating at J2 of the Power Supply PCB). If these plugs are required order P/N 129068 00A for P1 and 129069 00A for P2.

NOTE 5: All models other than the 3025 will use a load cell cable adapter, part number 129019 00A for interface between the Power Supply PCB and scale bases.

DIGITAL DISPLAY - ALL OVER/ UNDER MODELS



ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	*128981 00A	PCB Ass'y,. Power Supply, U.S. (3035, 3045, 3055 ONLY)
2	1	*128991 00A	PCB Ass'y., Power Supply, Export (3035, 3045, 3055 ONLY)
3	1	*129058 00A	PCB Ass'y,. Power Supply, Export (3025 ONLY)
4	1	*129059 00A	PCB Ass'y,. Power Supply, Export (3025 ONLY)
5	4	R01611 050	Nut, Hex #8-32
6	1	129054 00A	Keyboard Ass'y,. (See Note 1)
7a	1	129109 00A	Load Cell cable Ass'y (3035, 3045, and 3055 ONLY)
7b	1	129060 00A	Load Cell Cable Termination Ass'y. (3025 ONLY)
8	1	128986 00A	Harness, Interconnect
9	1	095920 00A	Fuse, .25A, S.B. (See Note 4)
9a	1	118589 00A	Fuse Cover N.S.
10	1	129047 00A	Insulator Sheet (See Note 2)
11	1	*128983 00A	Display/Logic PCB Ass'y.
12	4	108750 00A	Spacer #8 x 3/16" (See Note 3)

N.S. - Not Shown

* May have letter prefix.

NOTE 1: Includes gasket, color overlay and switch membrane.

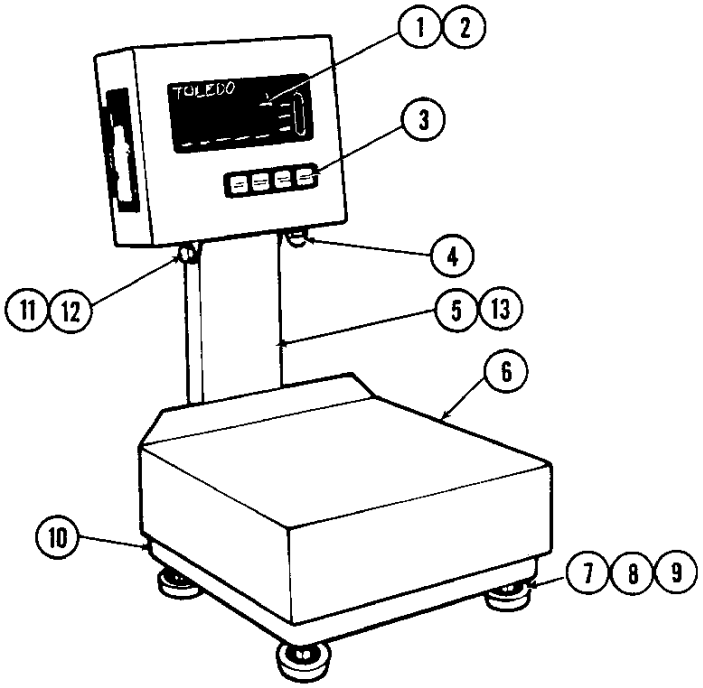
NOTE 2: The Insulator Sheet is positioned on the back of the Display/Logic PCB.

NOTE 3: Positioned between Insulator Sheet and Power Supply PCB.

NOTE 4: For General Export, 220 and 240 VAC units, use Fuse P/N 095919 00A (1/8 250V S.B.).

3025 ASSEMBLY

3025 ASSEMBLY



ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	129025 00A	Lens, Display (All Models) (See Note 1)
2	1	129024 00A	Gasket, Lens/Keyboard (All Models) (See Note 1)
3	1	129054 00A	Keyboard Assembly (See Note 2)
4	3	129018 00A	Rip Bushing
5	1	129019 00A	Tower Weldment
6	1	129012 00A	Platter
7	5	120138 00A	Foot Pad
8	5	120142 00A	Foot
9	5	R03656 00A	Nut, #5/16-18 Hex Jam
10	1	129005 00A	Base Weldment
11	2	R02072 020	Screw, #1/4-20 x .375"
12	2	R03727 00A	Lockwasher, #1/4 IT SS
13	1	R03779 00A	Screw, #8-32 x 1/4" PHD SS - N.S.*

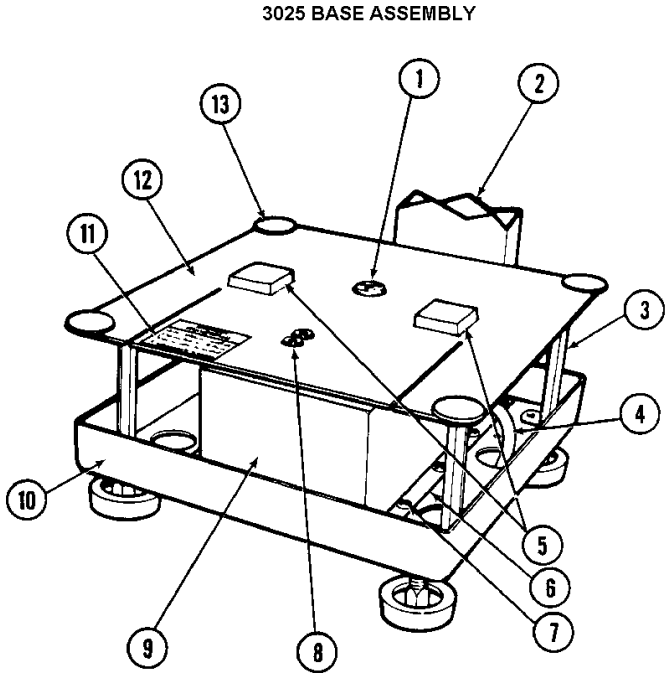
N.S. - Not Shown

NOTE 1: The lens/keyboard gasket MUST be replaced if replacing the Display Lens.

NOTE 2: Assembly includes switch membrane, lens/keyboard gasket and color overlay.

*May not be present on newer units.

3025 BASE ASSEMBLY

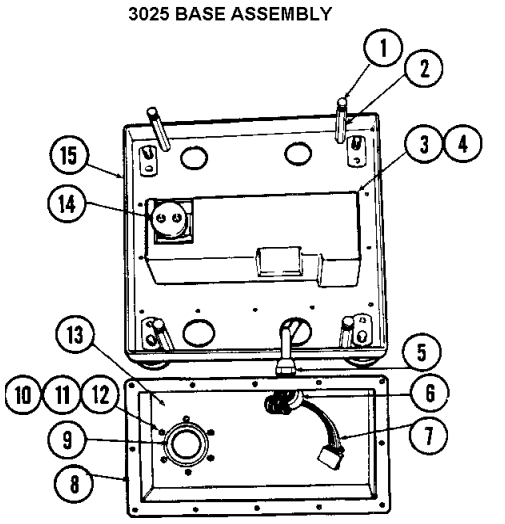


ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	102689 00A	Level
2	1	129019 00A	Tower Weldment
3	4	129014 00A	Standoff, #10-32
4	1	129060 00A	Load Cell Cable Assembly (See Note 1)
5	2	129003 00A	Pad, Damper
6	1	129017 00A	Gasket, Load Cell Enclosure (See Note 2)
7	12	R03724 00A	Screw, #6-32 X .25" PHD SS
8	2	R03729 00A	Screw, #1/4-28 x 1.25" HSH
9	1	129016 00A	Load Cell Enclosure
10	1	129005 00A	Base Weldment
11	1	119859 00A	Label, L.C Ass'y. Spec.
12	1	129007 00A	Subplatter Ass'y.
13	4	129015 00A	Platter Bumper

NOTE 1: This assembly does not include plugs P1 (terminating at J1 of the Load Cell) and P2 (terminating at J2 of the Power Supply PCB). If these plugs are required order P/N 129068 00A for P1 and 129069 00A for P2.

NOTE 2: This gasket MUST be replaced after opening the Load Cell Enclosure.

3025 BASE ASSEMBLY



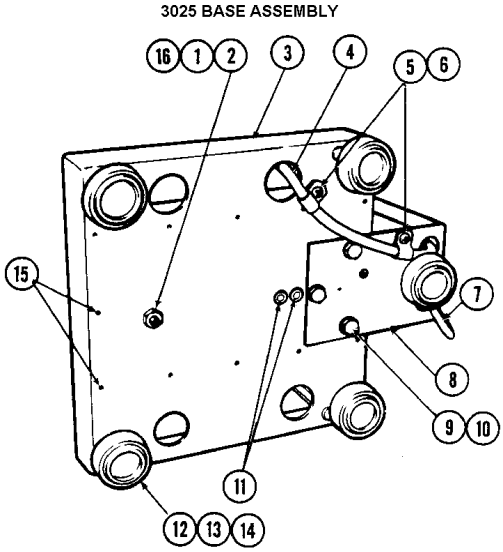
ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	4	R03778 00A	Screw, #10-32 x 5/8" HS SS
2	4	129014 00A	Standoff, #10-32
3	1	129055 00A	L/C Ass'y,. 15 kg (See Note 1)
4	2	R03728 00A	Screw, #1/4-28 x .75" HSH
5	1	129018 00A	Grip Bushing .385 I.D.
6	1	126357 00A	Core, Ferrite
7	1	129060 00A	Load Cell Cable Assembly (See Note 2)
8	1	129017 00A	Gasket, L/C Enclosure (See Note 1)
9	1	129010 00A	Boot, Load Cell
10	6	R01678 050	Nut, #4-40 Hex
11	6	R03776 00A	Screw, #4-40 x 1/4" Seal HD. - N.S.
12	1	1290011 00A	Clamp Ring, Boot - N.S.
13	1	129016 00A	Load Cell Enclosure
14	1	129009 00A	Boot Adaptor Block
15	1	129005 00A	Base Weldment

N.S. - Not shown

NOTE 1: Load Cell Enclosure Gasket MUST be replaced after opening the Load Cell enclosure. Load Cell P/N 129055 00A includes this gasket.

NOTE 2: This assembly does not include plugs P1 (terminating at J1 of the Load Cell) and P2 (terminating at J2 of the Power Supply PCB). If these plugs are required order P/N 129068 00A for P1 and 129069 00A for P2.

3025 BASE ASSEMBLY



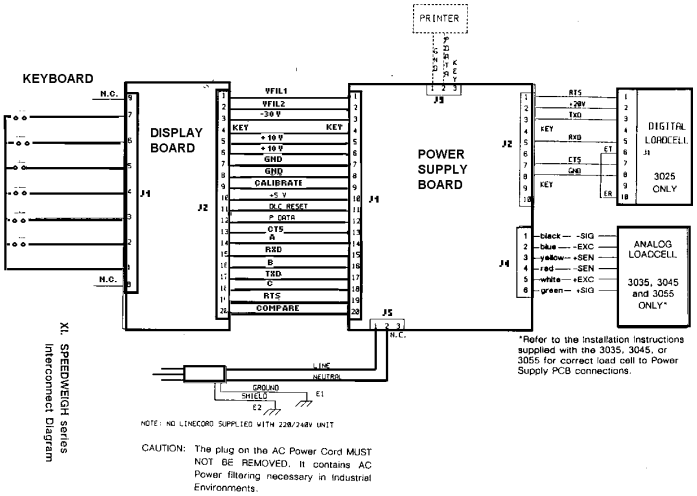
ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	R02340 00A	Nut, #1/4-28 Hex Jam
2	1	R03736 00A	Set Screw, #1/4-28 x .75"
3	1	129005 00A	Base Weldment
4	1	129060 00A	Load Cell Cable Ass'y (See Note 1)
5	2	124764 00A	Cable Clamp, 1/4"
6	2	R03779 00A	Screw, #8-32 x 1/4" PHAD SS
7	1	128989 00A	Line Cord Ass'y. (110 VAC only) (See Note 2)
8	1	129019 00A	Tower weldment
9	3	R02072 020	Screw, 1/4-20 x .375"
10	3	R03727 00A	Lockwasher, #1/4 IT SS
11	2	R03938 00A	Screw, #1/4 - 28 x .75"
12	5	120138 00A	Goot Pad
13	5	129004 00A	Foot
14	5	R03656 00A	Nut, #5/16-18 Hex Jam
15	12	R03724 00A	Screw, #6 -32 x .25" PHD SS
16	1	R03045 00A	Set Screw, #1/4-28 x .75" self-locking.

NOTE 1: This assembly does not include plugs P1 (terminating at J1 of the Load Cell) and P2 (terminating at J2 of the Power Supply PCB). If these plugs are required order P/N 129068 00A for P1 and 129069 00A for P2.

NOTE 2: The assembly does not include the 3 pin female plug (P5) that plugs into J5 of the Power supply PCB. If P5 plug is reburied order P/N 09751800A.

*This item replaces items 1 and 2 on newer units

11. SPEEDWEIGH series Interconnect Diagram



XI. SPEEDWEIGH series Interconnect Diagram