# Table of Contents

- Manual revision history ........................................5
- Chapter 1  General information and warnings ..........................6
  - About this manual ........................................6
  - Installation ........................................7
  - Safe handling of equipment with batteries ..............7
  - Routine maintenance ....................................7
  - Cleaning the machine ................................8
  - Training ................................................8
  - Sharp objects ...........................................8
  - FCC and EMC declarations of compliance ............9
- Chapter 2  Introduction ........................................10
  - About this manual ........................................6
  - Front Panel ............................................10
  - Key Descriptions .......................................11
  - Annunciators ...........................................12
  - Display Messages ......................................12
- Chapter 3  Setup Menu ........................................13
  - Accessing the Setup Menu ................................13
  - Setup Menu Summary ..................................14
  - CONFIG Menu .........................................15
  - CUSTOM Menu .........................................16
  - O-CAP Menu ...........................................20
  - SPAN Menu ............................................21
  - CLOCK Menu ...........................................22
  - AUT.LOC Menu .........................................22
  - INPUT Menu ............................................24
  - UPDATE Menu .........................................26
  - AVERAGE Menu .........................................27
  - AZT Menu ................................................30
  - STABLE Menu ..........................................31
  - RS232 Menu .............................................32
    - Configuring for RF Operation ......................35
  - M640 Serial Command Set ..............................37
  - MAINT Menu ...........................................38
  - INFO Menu ............................................40
- Chapter 4  Test Menu ........................................42
  - Test Menu Summary ....................................42
  - Access the Test Menu ..................................43
  - Test Menu Items ........................................43
  - VOLTS (Input voltage) ..................................43
  - LCD (LCD Display test) .................................44
  - KEYPAD (Keypad test) ..................................44
  - A/D (View /Test A to D counts) .......................45
  - SERIAL (Testing Serial Ports) ..........................46
  - INPUT (Testing the Input) .............................46
  - SOFT (Software PN, version and revision) ............47
- Chapter 5  Factory Level Servicing ...................................48
  - Resetting Factory Defaults .............................48
## Manual revision history

<table>
<thead>
<tr>
<th>Current Issue</th>
<th>Date Created</th>
<th>Details of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE</td>
<td>January 2013</td>
<td>Changes made to page 58 illustration and parts list. Changed to current AG logo.</td>
</tr>
</tbody>
</table>
1 General information and warnings

1.1 About this manual

This manual is divided into chapters by the chapter number and the large text at the top of a page. Subsections are labeled as shown by the 1 and 1.1 headings shown above. The names of the chapter and the next subsection level appear at the top of alternating pages of the manual to remind you of where you are in the manual. The manual name and page numbers appear at the bottom of the pages.

Text conventions

Key names are shown in bold and reflect the case of the key being described. This applies to hard keys and onscreen or soft keys.

Displayed messages appear in bold italic type and reflect the case of the displayed message.

Special messages

There are five types of special text messages, NOTE, CAUTION, WARNING, DANGER, and ELECTRICAL HAZARD. Each will appear as illustrated below:

NOTE: This contains extra information on a concept or process.

CAUTION: This may cause damage to the product or data loss.

WARNING: This could result in injury or death

DANGER: THIS WILL RESULT IN INJURY OR DEATH

ELECTRICAL DANGER: THIS WILL RESULT IN INJURY OR DEATH.
1.2 Installation

1.2.1 Safe handling of equipment with batteries

**DANGER:** RISK OF ELECTRICAL SHOCK. NO USER SERVICEABLE PARTS. REFER TO QUALIFIED SERVICE PERSONNEL FOR SERVICE.

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer’s instructions.

**ATTENTION:** Il y a danger d’explosion s’il y a remplacement incorrect de la batterie, remplacer uniquement avec une batterie du même type ou d’un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

1.3 Routine maintenance

**IMPORTANT:** This equipment must be routinely checked for proper operation and calibration. Application and usage will determine the frequency of calibration required for safe operation.

Always turn off the machine and isolate from the power supply before starting any routine maintenance to avoid the possibility of electric shock.

Make sure that it is placed securely on a flat and level surface.
1 General information and warnings

1.4 Cleaning the machine

Do not attempt to operate or complete any procedure on a machine unless you have received the appropriate training or read the instruction books.

To avoid the risk of RSI (Repetitive Strain Injury), place the machine on a surface which is ergonomically satisfactory to the user. Take frequent breaks during prolonged usage.

Table 1.1 Cleaning DOs and DON'Ts

<table>
<thead>
<tr>
<th>DO</th>
<th>DO NOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wipe down the outside of standard products with a clean cloth, moistened with water and a small amount of mild detergent</td>
<td>Attempt to clean the inside of the machine</td>
</tr>
<tr>
<td>Spray the cloth when using a proprietary cleaning fluid</td>
<td>Use harsh abrasives, solvents, scouring cleaners or alkaline cleaning solutions</td>
</tr>
<tr>
<td>Spraying the cloth when using a proprietary cleaning fluid</td>
<td>Spray any liquid directly on to the display windows</td>
</tr>
</tbody>
</table>

1.6 Sharp objects

Do not use sharp objects such as screwdrivers or long fingernails to operate the keys.
1.7 FCC and EMC declarations of compliance

United States

Table 1.2

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

Canada

Table 1.3

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Countries

Table 1.4

WARNING: This is a Class A product. In a domestic environment, this product may cause radio interference in which the user may be required to take adequate measures.
2 Introduction

This manual covers the setup and servicing of your Avery Weigh-Tronix Model 640 / 640M / 640XL indicator series.

The first part of the manual covers the basics of the indicator and the configuring of the indicator using menus you access through the front panel keys.

- Setup Menu (640 password)
- Test Menu (111 password)
- Calibration Menu (01010101 password)

The last part of the manual covers the parts and assemblies of the indicator.

2.1 Front Panel

The Model 640 indicator face is shown in Figure 2.1.

![Figure 2.1 Front panel](image-url)
2.1.1 Key Descriptions

Key names will appear as bold, upper case words in this manual. Examples: TARE, G/N, etc.

Annunciators will appear as italic words. Examples: G/N, Lb, etc.

Displayed messages will appear as bold, italic words. Examples: HELLO, LO-BAT, etc.

There are a total of 8 keys. All keys except the ON/OFF will have audible feedback with low, medium, or high volume settings.

ON/OFF
Press to turn the unit On/Off

TARE
Press to tare the weight on the scale

ZERO/CLEAR
Press to zero G/N weight. It also is used to clear memory channels.

G/N
Press to toggle between gross and net weight

HOLD/MENU
Press this key to hold a displayed weight. Press again to release the hold mode. The weight is retained in memory in case the unit is turned off. When powered up again the weight reading will still be displayed. This key is also used to move around in the MENU structure. This will be explained in the Menu section of the manual.

PRINT/SELECT
Press this key to send data to an attached printer. This key is also used to move down in the menu structure.

RM
Press this key to access a memory channel, so the indicator is ready for accumulations into that channel.

M+
Press this key to accumulate weights

SERVICE
Press this key if you need contact information for your scale dealer. A key sticker will be placed in the location shown in Figure 2.1 if contact information was programmed by the dealer.
2.1.2 Annunciators

The Model 640 uses six triangle annunciators for Lb, kg, G/N, Net, Auto, and Motion.

**G/N**  Indicates the unit is in the gross/net weighing mode.

**NET**  Indicates the unit is in the net weighing mode.

**MOTION**  Displayed when there is scale motion. This is based off the stability window parameters. See *STABLE Menu on page 31*.

**Lb**  Indicates the unit is weighing in pounds.

**AUTO**  Displayed if the unit is programmed for AUTO-LOC. Auto-loc is used in animal weighing applications.

**Kg**  Indicates the unit is weighing in kilograms.

**CAN’T**  Displayed when attempting to access too large of a numeric entry OR memory channel number greater than 100 OR if trying to zero in net mode.

**MAINT**  Maintenance required. A timer was set by the dealer as a reminder to perform maintenance.

2.2 Display Messages

Following are the messages that may appear on the display and what they mean:

<table>
<thead>
<tr>
<th>Message</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HELLO</strong></td>
<td>Message displayed on power-up sequence for 3 seconds</td>
</tr>
<tr>
<td>- - - - - -</td>
<td>UPPER DASHES, Indicator is in a state of overcapacity, or analog input is too high.</td>
</tr>
<tr>
<td>- - - - - -</td>
<td>LOWER DASHES, Indicator is in a state of undercapacity, or analog input is too low.</td>
</tr>
<tr>
<td>- - - - - -</td>
<td>MIDDLE DASHES, This means the 640 is setup in Remote Mode. Call support to change setup to perform as a scale.</td>
</tr>
<tr>
<td><strong>PRINT</strong></td>
<td>Indicator is transmitting data. Appears after pressing the print key for a second.</td>
</tr>
<tr>
<td><strong>LO-BAT</strong></td>
<td>Alternates on the display between current mode and LO-BAT when input voltage is between 9-10 volts.</td>
</tr>
<tr>
<td><strong>HOLD</strong></td>
<td>Used when moving a portable system.</td>
</tr>
<tr>
<td><strong>CAN’T</strong></td>
<td>Usually displayed when trying to accumulate when motion is present on the scale.</td>
</tr>
<tr>
<td><strong>CLR.ACC</strong></td>
<td>Memory accumulators have been cleared through a Serial port command or through the user menu</td>
</tr>
<tr>
<td><strong>SHTDWN</strong></td>
<td>Is shown on the display prior to shutting the indicator off after the sleep timer has expired. (10 seconds before this the alarm beeps several times).</td>
</tr>
</tbody>
</table>
3 Setup Menu

3.1 Accessing the Setup Menu

Follow these steps to access the setup menu:

1. From the G/N mode, press and hold the HOLD/MENU key for three beeps (3 seconds), then release…

   \textit{SET.PAS} is displayed.

2. Use the numeric entry procedure to enter the password \textit{640}. Press PRINT/SELECT to accept it…

   \textit{640} is shown

3. Press PRINT/SELECT once more…

   \textit{CONFIG} is displayed.
3.2 Setup Menu Summary

The setup menu has the items needed to configure the Model 640 indicator. The complete setup menu is found in the z-fold pages at the back of this manual. The top level of the menu is shown Figure 3.1. Each menu item is explained in the following pages.

Figure 3.1 Top level of the setup menu.

Use the following key legend to navigate the menu structure and perform the various tasks:
3.3 CONFIG Menu

The setup menu items are summarized below and explained fully in the sections that follow.

**CONFIG** Use this item to enter the 4-5 digit configuration number.

**CUSTOM** Use this item to enter a weight value at .4 mV/V.

**O-CAP** Use this item to set the over-capacity value of the scale. When reached, the display shows ------.

**SPAN** Use this item to adjust the span +/- 10%. RM = up, M+ = down, TARE returns to factory calibration.

**CLOCK** Use this item to set the clock to either 12 or 24 hour clock.

**AUT.LOC** Use this item to set AUTO LOC parameters (std.loc/adv.loc min.wt and release tolerance)

**INPUT** Use this item to set input for std, zero, menu, hold, print, G/N Ptare, tare, RM, or RM.

**UPDATE** Use this item to configure the indicator for 1, 2, or 5 display updates/second.

**AVERAGE** Use this item to configure the indicator for the # of A/d conversions (1-60)

**FILTER** Use this item to configure the harmonizer filter and threshold.

**A.Z.T.** Use this item to configure the Automatic Zero Tracking. (off to 10.0 divisions)

**STABLE** Use this item to configure the motion window (off to 10.0 divisions)

**RS232** Use this item to configure the RS232 serial port 1 (baud, parity, data, hand, auto, layout, or enquire)

**MAINT** Use this item to set programmable maintenance timer. (0 = OFF, 1-365 enables)

**INFO** Use this item to set programmable GREETING and SERVICE messages.

Figure 3.2 shows the CONFIG menu item.

![Figure 3.2 CONFIG Menu](image-url)
This section shows you how to find and enter a configuration number that sets up the indicator for the type of weigh-bar, capacity, increment, print format (0-9), units, and auto-loc.

Example:

20,000 x 5 lb, 2 1/8 calibration, print format 3, therefore code= 5133

The Model 640 indicator is precalibrated at Avery Weigh-tronix with appropriate code number specified by the OEM, or leaves with a factory calibration number of 18030.

See Figure 3.1 for information on finding the correct configuration number. Once a number is established enter as follows:

1. From CONFIG, press the PRINT/SELECT key…
   
   Current code number is shown.

2. Use the numeric entry procedure to enter a new number…
   
   New number is shown

3. Press PRINT/SELECT…
   
   CONFIG is shown.

4. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.

The following tables show how to establish a configuration number to configure the Model 640 indicator: The number is entered under the CONFIG menu.

If you attempt to enter an invalid number, the display will show CAN't and return to CONFIG.
## Table 3.1: Configuration Number Tables

<table>
<thead>
<tr>
<th>1st #</th>
<th>CALIBRATION SIZE</th>
<th>CAPACITY x INCREMENT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>S/5</td>
<td>200 x 0.01</td>
</tr>
<tr>
<td>01</td>
<td>1</td>
<td>2K x 0.1</td>
</tr>
<tr>
<td>02</td>
<td>1-1/4</td>
<td>2K x 0.1</td>
</tr>
<tr>
<td>03</td>
<td>1-7/8</td>
<td>20K x 1</td>
</tr>
<tr>
<td>04</td>
<td>2</td>
<td>20K x 1</td>
</tr>
<tr>
<td>05</td>
<td>2-1/8</td>
<td>20K x 1</td>
</tr>
<tr>
<td>06</td>
<td>2-1/4</td>
<td>20K x 1</td>
</tr>
<tr>
<td>07</td>
<td>2-1/4D</td>
<td>20K x 1</td>
</tr>
<tr>
<td>08</td>
<td>2-1/4D-P</td>
<td>200K x 10</td>
</tr>
<tr>
<td>09</td>
<td>2-1/2</td>
<td>20K x 1</td>
</tr>
<tr>
<td>10</td>
<td>3-1/8</td>
<td>200K x 10</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>200K x 10</td>
</tr>
<tr>
<td>12</td>
<td>CC20/CC30</td>
<td>20K x 1</td>
</tr>
<tr>
<td>13</td>
<td>Alley Weigh</td>
<td>2K x 0.1</td>
</tr>
<tr>
<td>14</td>
<td>CC30-3</td>
<td>20K x 1</td>
</tr>
<tr>
<td>15</td>
<td>Chute Weigh</td>
<td>20K x 1</td>
</tr>
<tr>
<td>16</td>
<td>CC-50</td>
<td>200K x 10</td>
</tr>
<tr>
<td>18</td>
<td>SPARE</td>
<td>20K x 1</td>
</tr>
<tr>
<td>20</td>
<td>1-digit</td>
<td>2K x 0.1</td>
</tr>
<tr>
<td>21</td>
<td>1 POLY (DIGI)</td>
<td>20K x 1</td>
</tr>
<tr>
<td>22</td>
<td>1-7/8,2(DIGI)</td>
<td>20K x 1</td>
</tr>
<tr>
<td>23</td>
<td>2-1/8,2-1/2,7/3,3/4 (DIGI)</td>
<td>20K x 1</td>
</tr>
<tr>
<td>97</td>
<td>Custom Setting</td>
<td>200 x 0.01</td>
</tr>
<tr>
<td>98</td>
<td>Custom Setting</td>
<td>200 x 0.01</td>
</tr>
<tr>
<td>99</td>
<td>Custom Setting</td>
<td>200K x 10</td>
</tr>
</tbody>
</table>

| 2nd # | 0 | 1 | 2 | 3 | 4 | 5 |

<table>
<thead>
<tr>
<th>3rd #</th>
<th>Print Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>G</td>
</tr>
<tr>
<td>1</td>
<td>GTN</td>
</tr>
<tr>
<td>2</td>
<td>G w/ TD</td>
</tr>
<tr>
<td>3</td>
<td>GTN w/ TD (STD)</td>
</tr>
<tr>
<td>4</td>
<td>CSV-G</td>
</tr>
<tr>
<td>5</td>
<td>CSV-GTN</td>
</tr>
<tr>
<td>6</td>
<td>CSV-G w/ TD</td>
</tr>
<tr>
<td>7</td>
<td>CSV-GTN w/ TD</td>
</tr>
<tr>
<td>8</td>
<td>Displayed Wt.</td>
</tr>
<tr>
<td>9</td>
<td>Displayed Wt. w/ TD</td>
</tr>
</tbody>
</table>
3.4 CUSTOM Menu

Figure 3.3 shows the CUSTOM menu item.

If a custom weight sensor is being used, the mV/V rating as a system needs to be known (see example below), then calculated so the weight value at 0.4 mV/V can be entered into the Model 640 under the CUSTOM menu item. Reference the CONFIG chart and decide if the code number would start with a 97, 98, or 99 configuration number.

For custom configuration numbers for Avery Weigh-Tronix Weigh Bars, see the table in Appendix A.

A Custom Calibration Number can be calculated by two methods; either get the information from the weigh bars that are being use as shown here:

**Example 1:**

Need to calibrate to 4 weigh bars with the following information:

1 weigh bar: 2.0 mV/V = 5,000 lb
Therefore 4 weigh bars would be 2.0 mV/V = 20,000 lb for the system
CUSTOM calibration number needs to be weight value at .4mV/V or 4,000 lb.

OR

<table>
<thead>
<tr>
<th>4th #</th>
<th>units</th>
<th>Auto-Loc</th>
<th>Auto-Acc</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Lb</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>1</td>
<td>Lb</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>2</td>
<td>Lb</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>3</td>
<td>Kg</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>4</td>
<td>Kg</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>5</td>
<td>Kg</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>6</td>
<td>Kg</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>7</td>
<td>Kg</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>
3.4 CUSTOM Menu

The other method is to first enter in the Configuration Code Number (97XXX through 99XXX) and then place a known weight on the scale. Record that weight and then figure the scale factor difference from the known weight and the displayed weight. Then this factor needs to be multiplied by the current CUSTOM number to calculate the new CUSTOM number.

Example 2:
Current CUSTOM configuration Code = 4000
Known Weight Applied: 15,000
M640 Displayed Weight: 10,000
Known Weight/ Displayed Weight: 1.5000
(New CUSTOM #) = (Current CUSTOM #) x (Calibration Factor)
6000 = 4000 x 1.5

Following is an example of calculated Custom number and how to enter it:

EXAMPLE:
System capacity of 2 mV/V at 20000 lb, or .4 mV/V=4000 lb

The custom number as stated would be the weight value at 0.4 mV/V or as in this example 4000 lb.

1. From the CONFIG display, press HOLD/MENU once…

   CUSTOM is shown

2. Press the PRINT/SELECT key…

   Current weight is shown. Default value of custom = 20000, or 0.4 mV/V
   at 20,000 lb.

3. Use the numeric entry procedure to enter 4000…

   4000 is shown.

4. Press the PRINT/SELECT key…

   CUSTOM is shown.

5. Press the G/N key repeatedly until the indicator returns to the gross weighing
   mode.

---

You cannot access the CUSTOM number until the CCN, starting with 97XXX through 99XXX, has been entered.
3.5 O-CAP Menu

Figure 3.4 shows the O-CAP menu item.

```
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONFIG</td>
</tr>
<tr>
<td></td>
<td>CUSTOM</td>
</tr>
<tr>
<td></td>
<td>O-CAP</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enter O-CAP value</td>
</tr>
</tbody>
</table>
```

Use this to set up the over capacity if the standard default of 200.00, 2000.0, 20000, or 200000 is not acceptable. So if a user selects a 20,000 x 5, but really wants a 25000 x 5, then under this O-CAP menu, they must enter in 25000. If this parameter isn’t used it will always have the default of what was set in the CONFIG parameter.

1. From the CONFIG display, press the HOLD/MENU key several times until...
   
   O-CAP is shown.

2. Press the PRINT/SELECT key...
   
   Current over-capacity value is shown

3. Using the numeric entry procedure enter in the overcapacity...
   
   Entered value is shown.

4. Press the PRINT/SELECT key...
   
   O-CAP is displayed.

5. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.6 SPAN Menu

Figure 3.5 shows the SPAN menu item.

1. From the CONFIG display, press the HOLD/MENU key several times until SPAN is displayed.
2. Press the PRINT/SELECT key...
   Current weight is displayed.
3. With either a calibrator or some known weight, put appropriate weight onto the scale system.
   Current weight is displayed.
4. Use the numeric entry procedure to adjust weight accordingly:
   To increase span, press RM
   To decrease span, press M+
   To return to the span factory calibrated value, press TARE
   Each press of a key will decrement/increment one division of the scale.
   Press and hold the key to decrease/increase the value more quickly.
5. Once appropriate weight value is shown, press the PRINT/SELECT key...
   SPAN is shown.
6. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.7 CLOCK Menu

Figure 3.6 shows the CLOCK menu item.

1. Access the setup menu and from the CONFIG display, press the HOLD/MENU key repeatedly until CLOCK is displayed.
2. Press the PRINT/SELECT key to access this item...
   Current time style is displayed; 12 HR or 24 HR.
3. Toggle between the choices by pressing the HOLD/MENU key. When the style you want is displayed, press the PRINT/SELECT key...
   CLOCK is displayed.

3.8 AUT.LOC Menu

AUT.LOC only appears in the menu when Auto Loc is selected in the Code # when XXXX (2 or 3) or XXXX (6 or 7) are entered.

Figure 3.2 shows the AUT.LOC menu item. Below are definitions of the two modes of auto-lock.

**Standard AUT.LOC**

Weight stays locked until the weight on the scale drops by the programmed release tolerance. (Example: weighing a 2000 lb animal with a 25% release tolerance, means the lock will release when weight drops below 1500 lb).

**Advanced AUT.LOC**

The Model 640 will lock on an animals weight and stay locked even after the animal is off the scale. A new AUTO-LOC weight will only be retriggered upon placing the next animal on the scale.
3.8 AUT.LOC Menu

1. From the CLOCK display, press the HOLD/MENU key…
   AUT.LOC is displayed.

2. Press the PRINT/SELECT key to access this item…
   MODE is displayed.
   This menu item is where you choose standard or advanced LOCK, minimum weight (MIN.WT), and release tolerance (REL.TOL) appropriate for the livestock application.

3. Press the PRINT/SELECT key…
   STD.LOC is displayed. This is the standard LOCK. Toggle between this and the ADV.LOC by pressing the HOLD/MENU key.

4. When your choice is displayed, press the PRINT/SELECT key…
   Your choice is selected and MODE is displayed.

5. Press the HOLD/MENU key…
   MIN.WT is displayed. This is where you set the minimum weight that must be on the scale to activate the AUTO-LOC feature. This prevents smaller weights from locking on the display. See the example below.

**EXAMPLE:** If you are weighing 1200 pound cattle, you may set the minimum weight at 800 pounds and a release tolerance of 25%. Anything that goes on the scale that weighs less than 800 pounds (like a person or the neighborhood dog) will not cause the weight to lock. When an animal steps off the scale and the weight drops by at least 300 pounds (25% of 1,200 pounds), the system will reset to lock on the next weight above 800 pounds.
6. To set the minimum weight, press the PRINT/SELECT key…
   Use the numeric entry procedure to enter the minimum weight value.
7. When the value is entered, press the PRINT/SELECT key to accept it and…
   **MIN.WT** is displayed.
8. Press the HOLD/MENU key…
   **REL.TOL** is displayed. This is the release tolerance. This is the tolerance amount set in steps 6 and 7 which must be removed from the scale before the AUTO-LOC resets. See the example on page 23.
9. Press the PRINT/SELECT key…
   Use the numeric entry procedure to enter the release tolerance in percentage of the minimum weight.
10. When the value is entered, press the PRINT/SELECT key to accept it and…
    Your choice is selected and **REL.TOL** is displayed.

You can exit the menu and return to gross weighing mode by repeatedly pressing the **G/N** key.

### 3.9 INPUT Menu

Figure 3.7 shows the INPUT menu.

This parameter allows user to set the function of input, or the XM64 remote. The selections are as follows: STD, ZERO, MENU, HOLD, PRINT, G/N, PRINT/Terra RM, or M+.

The STD selection simply means the following:

- If in the Gross mode, activating the input allows taring of the unit.
- If in the G/T/N mode, activating the input allows return to the GROSS mode if pressing for more than 3 seconds.
3.9 INPUT Menu

All other input selections will act like the keys they are configured for. (ZERO, MENU, HOLD, PRINT, TARE, RM and M+ act exactly like the keys themselves.

P/TARE input: If this input is selected, when the XM64 is pressed, the displayed value will first be printed, then the unit tared. (unit should be set for either “displayed weight settings” in configuration mode.

Example:
1. Start in gross mode at 0 lb
2. Load first ingredient (1000 lb)…
   \[ G \ 1000 \text{ lb} \] is displayed.
3. Press XM64 button and…
   \[ G \ 1000 \text{ lb} \] is printed and then \[ N \ 0 \text{ lb} \] is displayed.
4. Load second ingredient (1000 lb) and press the XM64 button…
   \[ N \ 1000 \text{ lb} \] is printed and then \[ N \ 0 \text{ lb} \] is displayed. Repeat steps 3 and 4 until completed.

Follow these steps to setup INPUT.
1. From the CONFIG display, press the HOLD/MENU key repeatedly until…
   \[ \text{INPUT} \] is displayed.
2. Press the PRINT/SELECT key…
   \[ \text{INPUT} \ 1 \] is displayed.
3. Press the PRINT/SELECT key …
   Current setting is displayed.
4. Use the HOLD/MENU key to scroll through the choices. Press the PRINT/SELECT key when your choice is displayed…
   \[ \text{INPUT} \ 1 \] is displayed.
5. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.10 UPDATE Menu

Figure 3.8 shows the UPDATE menu.

![Diagram of UPDATE menu]

Use this to set the display update rate to 1, 2, or 5 times/second. Follow the steps below.

1. From the CONFIG display, press the HOLD/MENU key repeatedly until UPDATE is displayed.

2. Press the PRINT/SELECT key…

The current selection is displayed.

3. Use the HOLD/MENU key to scroll to your choice, then press the PRINT/SELECT key…

UPDATE is displayed.

4. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.11 AVERAGE Menu

Figure 3.9 shows the AVERAGE menu.

This allows the user to enter into the Model 640 the number of A/D conversion to average. For example, if you enter in 30, the unit will average the weight values from the last 30 A/D conversions and uses that value for displayed data. (User can enter values from 1-60)

1. From the CONFIG display, press the HOLD/MENU key repeatedly until…

   *AVERAGE* is displayed.

2. Press the PRINT/SELECT key…

   The current selection is displayed.

3. Use the numeric entry procedure to enter the number of conversions…

   The entered number is displayed

4. Press the PRINT/SELECT key…

   *AVERAGE* is displayed.

5. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
Figure 3.10 shows the FILTER menu.

1. From the CONFIG display, press the HOLD/MENU key repeatedly until...

   FILTER is displayed.

   There are two parts to filtering, Constant and Window. How to set these is explained in the following steps. How they affect weighing is explained in the Filtering note below.

Filtering:
Default settings: CONST=2, WINDOW=0

If the value for the constant (CONST) = OFF, the filtering is disabled. If a value for CONST is entered, filtering is ON and you must also enter a WINDOW value. Set the CONST number small for small vibration problems and higher for more dampening effect.

The WINDOW threshold parameter defines a weight window that enables the filtering. The recommended value of 0 is the default, which means the filtering is engaged all the time.

Example: A WINDOW setting of 10 means a weight change over 10 pounds occurring during the display update time will disable the filter until the weight change during the sample time remains within 10 lbs.
2. Press the PRINT/SELECT key twice…
   The current CONSTANT value is shown. Press the HOLD/MENU key to
   increase the value. Increasing this value causes the indicator to ignore
   increasing amounts of weight change on the scale. This means small
   changes can be ignored at a relatively small Constant value. To filter
   larger changes out, choose a larger Constant value. (Choices are OFF
   to 10, Default=2)

3. When the value you want to try is displayed, press the PRINT/SELECT key…
   Your choice is selected and CONST is displayed.

4. Press the HOLD/MENU key…
   WINDOW is displayed. This is where you will set the threshold window
   of the filter parameter. You can enter 0 to full capacity.

5. Press the PRINT/SELECT key…
   Current setting for the threshold window is displayed.

6. Use the numeric entry procedure to enter a new value. Press the PRINT/
   SELECT key to accept it…
   WINDOW is displayed.

7. Press the G/N key repeatedly until the indicator returns to the gross weighing
   mode.

Check the function of the indicator. If the weight display does not act in a manner to
your liking, repeat steps 1 through 6 until the indicator functions as desired.
3.13 AZT Menu

Figure 3.11 shows the AZT menu.

Figure 3.11  AZT Menu

Use this menu to set the automatic zero tracking window, with the following choices (off, 0.5, 1.0, 2.0, 3.0, 5.0, 10.0 divisions)

1. From the CONFIG display, press the HOLD/MENU key repeatedly until...
   
   AZT is displayed.

2. Press the PRINT/SELECT key and...
   
   Current selection is shown

3. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT...
   
   AZT is shown

4. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.14 STABLE Menu

Figure 3.12 shows the STABLE menu.

DIV is the number of increments that the weight must remain between to be stable

DELAY is the time required to be stable before performing any automatic scale functions.

Use this menu to set the stability window (off, 0.5, 1.0, 2.0, 3.0, 5.0, 10.0 divisions) and
to set stability delay (off, 0.5, 1.0, 2.0, 3.0, 4.0, 5.0, 10.0 seconds)

1. From the CONFIG display, press the HOLD/MENU key repeatedly until...
   STABLE is displayed.

2. Press the PRINT/SELECT key...
   DIV is shown

3a. Press the PRINT/SELECT key to edit DIV...

3b. Press the MENU key to move to DELAY and then press the PRINT/SELECT key to edit DELAY.

4. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT...
   DIV or DELAY is shown, depending on which item you were setting.

5. Press the G/N key repeatedly until the indicator returns to the gross weighing mode.
3.15 RS232 Menu

Figure 3.13 shows the RS232 Menu

Use this menu to set the communication parameters.

1. From the CONFIG menu, press the HOLD/MENU key repeatedly until...
   
   RS232 is shown

2. Press the PRINT/SELECT key...
   
   PORT 1 is displayed. You can select to configure PORT 1 or PORT 2 or configure port 2 for radio communication with remote peripherals, CONF.RF.

3. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT...

4. The parameters you can set are identical for the PORT 1 or 2 choice. If you choose CONF.RF see Configuring for RF Operation on page 35

BAUD is displayed.
5. Press the PRINT/SELECT key…
   Current baud rate is shown. Choices are 1200 to 115200 baud.

6. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT…
   **BAUD** is displayed.

7. Press the HOLD/MENU key…
   **PARITY** is shown

8. Press the PRINT/SELECT key…
   Current selection is shown.

9. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT…
   **PARITY** is shown.

10. Press the HOLD/MENU key…
    **DATA** is shown.

11. Press the PRINT/SELECT key…
    Current selection is shown.

12. Press the HOLD/MENU key to scroll through the choices. When your choice is displayed, press PRINT/SELECT…
    **DATA** is shown.

13. Press the HOLD/MENU key …
    **HAND** is shown.

14. Press the PRINT/SELECT key…
    Current selection is shown.

15. Press the HOLD/MENU key to toggle between the choices. When your choice is displayed, press PRINT/SELECT…
    **HAND** is shown.

16. Press the HOLD/MENU key …
    **LAYOUT** is shown.

17. Press the PRINT/SELECT key…
    Current selection is shown. Choices are explained below.

    | **STD** | All printouts will be printed as standard. |
    | **BRDCST** | Broadcast continuous serial RS-232 data so this can be hooked up to any device that needs to look at continuous serial output. You must set the proper format in the configuration code #. |
    | **REMOTE** | When using another 640 as a wired remote, this selection must be chosen. |
18. Press the HOLD/MENU key to toggle between the choices. When your choice is displayed, press PRINT/SELECT...

   LAYOUT is shown

19. Press the HOLD/MENU key ...

   PRINT is shown

20. Press the PRINT/SELECT key...

   Current selection is shown. Choices are AUTO, ACC.PRN or CHNAME.

21. Press the HOLD/MENU key to toggle between the choices. When your choice is displayed, press the PRINT/SELECT key...

   Current selection is shown. Choices are ON or OFF

22. Press the HOLD/MENU key to toggle between the choices. When your choice is displayed, press PRINT/SELECT...

   Your last selection is shown.

23. Press the G/N key...

   PRINT is shown.

24. Press the HOLD/MENU key ...

   ENQUIRE is displayed. Use this to set an enquire code character.

25. Press the PRINT/SELECT key...

   Current selection is shown.

26. Use the numeric entry procedure to enter an enquire code number and press PRINT/SELECT...

   Your choice is entered and the display returns to ENQUIRE.

27. Press the G/N key repeatedly to return to the gross weighing mode.
3.15.1 Configuring for RF Operation

The indicator can be setup for four different wireless scenarios. See the RS232 Menu on page 32. These are briefly summarized below and explained fully following that:

- **PT - PT**
  One 640 indicator communicating to one RD40RF. See PT-PT Communication on page 35.

- **SPT - PT**
  Multiple 640 indicators communicating to one RD40RF. See SPT-PT Communication on page 35.

- **PT - MPT**
  Multiple 640 indicators communicating to multiple RD40RFs. See PT-MPT Communication on page 36.

- **BRD - MPT**
  One 640 indicator communicating to multiple RD40RFs. See BRD-MPT Communication on page 36.

### PT-PT Communication

1. From the display **CONF.RF**, press the **PRINT/SELECT** key...

   **PT-PT** is displayed. This stands for point to point communication. This is the most common RF setup. Use it when one Model 640 indicator is communicating to one RD40RF remote display. For proper PT-PT operation, both devices need to be configured to matching network ID numbers. Choices are 1 through 10.

2. To select the ID number for the device, with **PT-PT** displayed, press the **PRINT/SELECT** key...

   Current setting for the ID number is displayed.

3. Press the **HOLD/MENU** key to scroll through the choices (1 thru 10). When your choice is displayed, press the **PRINT/SELECT** key to select it...

   **PT-PT** is displayed.

### SPT-PT Communication

1. From the display **CONF.RF**, press the **PRINT/SELECT** key...

   **PT-PT** is displayed.

2. Press the **HOLD/MENU** key...

   **SPT-PT** is displayed. This stands for selectable point to point communication. Use this when you have up to ten 640 indicators and one RD40RF remote display. With each 640 having its own ID number, you can select, from the RD40RF, which Model 640 you want to communicate with.

   For proper SPT-PT operation two communicating devices must have the same ID number. Choices are 1 through 10.

3. To select the ID number for the 640 indicator, with **SPT-PT** displayed, press the **PRINT/SELECT** key...

   Current setting for the ID number is displayed.
Setup Menu

4. Press the HOLD/MENU key to scroll through the choices (1 thru 10). When your choice is displayed, press the PRINT/SELECT key to select it…

**SPT-PT** is displayed.

**PT-MPT Communication**

1. From the display **CONF.RF**, press the PRINT/SELECT key…

**PT-PT** is displayed.

2. Press the HOLD/MENU key twice…

**PT-MPT** is displayed. This stands for point to multi-point. This is for the situation of having multiple RD40RF units and selecting which of multiple 640s you want to communicate with. For example: Two front end loaders wanting to be able to communicate with any of 16 different trucks, by selecting scale address RF-01 through RF-16 from the RD40RF. The RF scale addresses would correspond to each truck (truck 1 = RF-01, truck 2 = RF-02, etc.)

For proper PT-MPT operation the Model 640 indicator and the RD40RFs need to be configured to matching network ID numbers (choices are 1 through 10) and matching scale addresses (choices are 1.1 through 1.16).

3. To select the ID number for the 640 indicator, with **PT-MPT** displayed, press the PRINT/SELECT key…

Current setting for the ID number is displayed.

4. Press the HOLD/MENU key to scroll through the choices (1 thru 10). When your choice is displayed, press the PRINT/SELECT key to select it…

Current setting for the scale address is displayed.

5. Press the HOLD/MENU key to scroll through the choices (1.1 through 1.16). When your choice is displayed, press the PRINT/SELECT key to select it…

**PT-MPT** is displayed.

**BRD-MPT Communication**

1. From the display **CONF.RF**, press the PRINT/SELECT key…

**PT-PT** is displayed.

2. Press the HOLD/MENU key three times…

**BRD-MPT** is displayed. Use this setup when having multiple remotes (ex: RD40RF in both the feedroom and in the front end loader, communicating back to the indicator on the mixer). All the RD40RF’s have full access of the functional features of the Model 640.

For proper operation the Model 640 indicator and the RD40RF need to be configured to matching network ID numbers (choices are 1 through 10) and matching scale addresses (choices are 1.1 through 1.16).

3. To select the ID number for the 640 indicator, with **BRD-MPT** displayed, press the PRINT/SELECT key…

Current setting for the ID number is displayed.
3.15    RS232 Menu

4. Press the HOLD/MENU key to scroll through the choices (1 thru 10). When your choice is displayed, press the PRINT/SELECT key to select it...

   Current setting for the scale address is displayed.

5. Press the HOLD/MENU key to scroll through the choices (1.1 through 1.16). When your choice is displayed, press the PRINT/SELECT key to select it...

   BRD-MPT is displayed.

6. Press the G/N key repeatedly until the indicator returns to the G/N weighing mode.

3.15.2 M640 Serial Command Set

The M640 family of indicators can be controlled using an RS232 connection. This serial interface will have the ability to trigger the functions associated with the front panel keys. This includes commands for the RM, M+, TARE, G/N, HOLD/MENU, PRINT/SELECT and ZERO/CLEAR keys. The ON/OFF key cannot be controlled.

The RS232 port setting, LAYOUT, must be set for STD or BRDCST. Make sure that the BAUD, DATA, PARITY and HAND also match the communication settings of the device the M640 will be connected to.

Command Set - all characters are case sensitive.

r → RM key – Single press function
R → RM key – Press and hold function (Not used in current version)
m → M+ key – Single press function
M → M+ key – Press and hold function (Clear last accumulate)
t → TARE key – Single press function
T → TARE key – Press and hold function (Not used in current version)
g → G/N key – Single press function
G → G/N key – Press and hold function (Not used in current version)
n → G/N key – Single press function
N → G/N key – Press and hold function (Not used in current version)
h → HOLD/MENU key – Singe press function
H → HOLD/MENU key – Press and hold function (Enter the A-List Menu)
p → PRINT/SELECT key – Single press function
P → PRINT/SELECT key – Press and hold function (Not used in current version)
z → ZERO/CLEAR key – Single press Function
Z → ZERO/CLEAR key – (Clear active memory channel value)
3.16 MAINT Menu

Setup Menu

This menu, shown in Figure 3.14, allows dealers to setup a maintenance timer for the equipment the M640 is used on. The timer is a day timer. Enter in the number of days of the maintenance interval and a warning message will appear on the display at midnight on that day and remain there until reset.

To setup this option, perform the following steps:

1. From the CONFIG menu, press the HOLD/MENU key repeatedly until MAINT is displayed.

2. Press the PRINT/SELECT key…

   The current setting is shown. (Default is 0 or OFF)

3. Using the numeric entry procedure, enter the new maintenance delay in days. You can enter between 0 and 365 days.

4. Press the PRINT/SELECT key to store the value.
Clearing or Resetting the MAINT Timer

The value you enter will reference today as the start day. Example: If 10 days was entered today, and today is August 3rd, the maintenance alarm will go off at 12:01:00 AM on the 13th of August.

When the maintenance alarm goes off the display will alternately show MAINT then your preprogrammed service message until you reset the timer or set it to ‘snooze’.

To reset the timer:

1. Press the ZERO/CLEAR key…

   RESET? is displayed.

2. Press PRINT/SELECT key to restart the Maintenance clock.

   OR

3. Press G/N to cause the alarm to ‘snooze’ until the next day. The Maintenance timer will go off at midnight the next day.
3.17 INFO Menu

Manufacturers and/or dealers can use the INFO menu, shown in Figure 3.15, to give a unique greeting during powerup and to show the user service contact information for the system. Both messages (GREET or SERVCE) can be up to 32 characters long. A space is used to separate words in the message. The whole word is shown if less than six characters in length. If longer than six character, the word will scroll across the display.

This option can be programmed using the M640 keypad or through the M640 RS232 port connected to a computer.

To setup this option, perform the steps below for your method of entry:

**Keyboard Entry**

1. From the **CONFIG** menu, press the **HOLD/MENU** key repeatedly until...

   *INFO* is displayed.

2. Press the **PRINT/SELECT** key…

   *GREET* is shown. Use the **HOLD/MENU** key to scroll to *SERVCE* if that is the message you want to create.

3. With the message you want to create displayed, press the **PRINT/SELECT** key...

   The current message is displayed.

4. Use the numeric entry procedure to enter the new message. When finished, press the **PRINT/SELECT** key to store the value.

5. Repeat steps 2 - 4 for the other message.
3.17 INFO Menu

Serial Port Entry
To program these messages through the serial port, connect a serial interface cable to your PC and send the following commands to setup the messages.

**GREET** Message:

Send…

`<BEL>`message`<CR>`<LF>

**SERVCE** Message:

Send…

`<HT>`message`<CR>`<LF>

where:

- `<BEL>` is ASCII character decimal 7
- `<CR>` is the carriage return ASCII character decimal 13
- `<LF>` is the linefeed ASCII character decimal 10
- `<HT>` is ASCII character decimal 9

Message can be 32 characters in length.
4 Test Menu

4.1 Test Menu Summary

The test menu, shown in Figure 4.1, allows you to test the functions of the indicator shown below.

- **VOLTS**: Monitor the input voltage of the indicator.
- **LCD**: Do a LCD display test.
- **KEYPAD**: Do a keypad test.
- **A / D**: Do an Analog to Digital Test (A/D).
- **SERIAL**: Check the serial ports (Port 1 and 2).
- **INPUTS**: Check the inputs.
- **SOFT**: Verify the software version of the indicator.

![Figure 4.1 Test menu](image-url)
4.2 Access the Test Menu

To access the Test menu, follow these steps:

1. From the G/N mode, press and hold the HOLD/MENU key for three beeps (3 seconds), then release…
   
   SET.PAS is displayed.

2. Use the numeric entry procedure and enter the password 111…
   
   111 is displayed.

3. Press the PRINT/SELECT key…
   
   VOLTS, the first menu item, is displayed.

4.3 Test Menu Items

4.3.1 VOLTS (Input voltage)

This allows a user to check the voltage coming into the indicator.

1. Access the test menu…

   VOLTS is displayed.

2. Press the PRINT/SELECT key, and…

   Current voltage is displayed.

3. Press the G/N key repeatedly to return to the G/N weighing mode.
4.4 LCD (LCD Display test)

Use this to perform a self test on the LCD, either a complete display test or a segment test.

1. From VOLTS press menu…
   *LCD* is displayed.

2. Press the PRINT/SELECT key…
   *TEST* is shown.

3. Press the PRINT/SELECT key…
   Display performs a test (15 sec).

4. When test is completed…
   *TEST* is shown.

5. Press HOLD/MENU…
   *SEGMENTS* is displayed.

6. Press the PRINT/SELECT key…
   Display performs a segment test.

7. When test is completed…
   *SEGMENTS* is displayed.

8. Press G/N key to…
   Return to *LCD* display.

9. Press G/N key to return to the G/N weighing mode.

4.4.1 KEYPAD (Keypad test)

This test allows testing of all active keys…

1. From VOLTS, press menu…
   *LCD* is displayed.

2. Press the HOLD/MENU key repeatedly until…
   *KEYPAD* is shown.

3. Press the PRINT/SELECT key…
   *HIT* key is displayed briefly, then *NO KEY* is shown if a key isn’t being pressed. Test the key by pressing it. If it is working the corresponding key name will be displayed. See table below:

   - Press the G/N key *G/N* is displayed.
   - Press the ZERO/CLEAR key *ZERO* is displayed.
   - Press the PRINT/SELECT key *PRINT* is displayed.
   - Press the RM key *RM* is displayed.
   - Press the M+ key *M+* is displayed.

4. Press and hold the HOLD/MENU key to return to *KEYPAD*.


4.4 LCD (LCD Display test)

4.4.2 A/D (View / Test A to D counts)

1. From VOLTS, press menu…
   
   LCD is displayed.

2. Press HOLD/MENU repeatedly until…
   
   A/D is shown.

3. Press the PRINT/SELECT key…
   
   CNTS is shown.

4. Press the PRINT/SELECT key…
   
   A/D raw counts are shown.

5. Press the PRINT/SELECT key…
   
   CNTS is shown.

6. Press the HOLD/MENU key…
   
   mV/V is shown.

7. Press PRINT/SELECT key…
   
   The mV/V value is shown.

8. Press PRINT/SELECT key…

   mV/V is shown.

9. Press HOLD/MENU key…

   A/D.TST is shown.

10. Press PRINT/SELECT key…

    Counts PASS or FAIL is shown.

11. Press PRINT/SELECT key…

    A/D.TST is shown.

12. Press the G/N key two times…

    Returns to the G/N weighing mode.
4.4.3 SERIAL (Testing Serial Ports)

1. From VOLTS, press HOLD/MENU repeatedly until...

   SERIAL is shown.

2. Press the PRINT/SELECT key and …

   PORT 1 is displayed.

3. Press the HOLD/MENU key to toggle between your choices: PORT 1 and PORT 2. Press the PRINT/SELECT key when your choice is displayed…

4. Short the XMT to RXD. See illustration below…

   LOOP will be displayed if communication is working properly. NO LOOP will be displayed if there is a problem.

5. Press PRINT/SELECT and…

   SERIAL is displayed.

6. Press the G/N key…

   Returns to the G/N weighing mode.

4.4.4 INPUT (Testing the Input)

1. From VOLTS, press menu…

   LCD is displayed.

2. Press HOLD/MENU repeatedly until…

   INPUTS is shown.

3. Press the PRINT/SELECT key and …

   INPUT1 is displayed.

4. Press the PRINT/SELECT key and…

   OPEN or CLOSED is displayed.

5. Press the PRINT/SELECT key…

   INPUT1 is displayed

6. Press HOLD/MENU key…

   INPUT2 is displayed
7. Press the PRINT/SELECT key...

OPEN or CLOSED is displayed.

8. Press the PRINT/SELECT key...

INPUT2 is displayed

9. Press the G/N key repeatedly to return to the gross weighing mode.

4.4.5 SOFT (Software PN, version and revision)

1. From VOLTS, press menu...

LCD is displayed.

2. Press HOLD/MENU repeatedly until...

SOFT is shown.

3. Press PRINT/SELECT and...

PART is displayed. This stands for the part number for the software.

4. Press PRINT/SELECT and...

60259 is displayed. This is the software part number.

5. Press the GN or PRINT/SELECT key...

PART is displayed.

6. Press HOLD/MENU and...

DASH is displayed.

7. Press PRINT/SELECT and...

-0010 is displayed. This is the software dash number.

8. Press the GN or PRINT/SELECT key...

DASH is displayed.

9. Press HOLD/MENU and...

REV is displayed. This is the software revision number.

10. Press PRINT/SELECT and...

Rev A is displayed, for example. This is the software revision level.

11. Press the GN or PRINT/SELECT key...

REV is displayed.

12. Press GN key twice to return to the G/N weighing mode.
5 Factory Level Servicing

Using the menus in this section you can do the following:

- Reset the indicator to factory defaults
- Download new software to the indicator
- Perform a factory calibration

5.1 Resetting Factory Defaults

Figure 5.1 shows the Factory Default Menu. Use this to reset the system to factory defaults and also to download firmware to the indicator.

![Diagram of the Factory Default Menu]

Figure 5.1 Factory Default menu

Accessing this menu will set all parameters to factory defaults.

**CAUTION:** It is very important that you do this only if you are sure. All entered information is lost and there is no way to retrieve it.

1. From the gross mode, press and hold on the HOLD/MENU key for three beeps (3 seconds), then release…

   *222174* is displayed.

2. Use the numeric entry procedure and enter **222174**…

   *DFAULT* is displayed.

3. Then press the PRINT/SELECT key…

   *SURE?* is displayed.

4. Press the PRINT/SELECT key again…

   *SURE?* is displayed.

5. Press G/N key to return to **DFAULT** without resetting to the defaults, OR, If you are sure that you want to proceed, press the PRINT/SELECT key and the factory defaults will be loaded…

   *DFAULT* is displayed.

6. Repeatedly press the G/N key to return to gross weighing mode.
5.2 Downloading New Software to the Model 640

If you are a certified service center and have the Model 640 Firmware Downloader Program, access the download mode on the indicator by following these steps:

1. From the gross mode, press and hold on the HOLD/MENU key for three beeps (3 seconds), then release…

2. Use the numeric entry procedure and enter 222174…

   222174 is displayed.

3. Then press the PRINT/SELECT key…

   DEFAULT is displayed.

4. Press the HOLD/MENU key…

   DOWNLD is displayed.

5. Press the PRINT/SELECT key…

   SURE? is displayed.

6. If you are sure that you want to proceed, press the PRINT/SELECT key again…

   READY is displayed.

   The unit is now ready to download the updated firmware or software to the indicator. Connect the RS-232 serial cable assembly into the computer and into the RS-232 port on the Model 640. If the 640 does not have serial port, hook into the serial connector, P12, on the inside of the indicator on the main PC board.

7. Press the DOWNLOAD key on the PC software package…

   The computer will give you the status during the download process. The indicator backlight will go off and the indicator will say BUSY. When complete, the indicator backlight will come back on and the display will show HELLO briefly, then return to the gross weighing mode.

Once the indicator software is updated and the indicator is powered on, we recommend setting the factory defaults as shown in section 5.1 Resetting Factory Defaults and doing a factory calibration as shown in section 5.3 Accessing Factory Calibration Mode before using.
### 5.3 Accessing Factory Calibration Mode

Accessing this menu gives production or service access to calibrating factory calibration as follows: (1 mV/V = 10000 lb)

1. From the gross mode, press and hold the **HOLD/MENU** key for three beeps (3 seconds), then release…
   - **SET.PAS** is displayed.

2. Use the numeric entry procedure and enter **010101**…
   - **010101** is displayed

3. Then press the **PRINT/SELECT** key…
   - **ZERO** is displayed

### 5.4 Setting Zero Calibration

1. From **ZERO**, press **PRINT/SELECT**…
   - **SET.0MV** is displayed.

2. Dial calibrator to 0 mV/V and press **PRINT/SELECT**…
   - **DET.ZER** then **DONE** is displayed.

3. Indicator returns to the **ZERO** display

4. Press the **G/N** key to return to the gross weighing mode.
5.5 Setting the Span Calibration

1. From **ZERO**, press **HOLD/MENU**…
   
   **SPAN** is displayed.

2. Press **PRINT/SELECT** and…

   **SET.1MV** is displayed.

3. Dial calibrator to 1 mV/V, press **PRINT/SELECT**…

   **DET.SPAN** then **DONE** is displayed

4. Indicator returns to the **SPAN** display.

5. Press the **G/N** key to return to the gross weighing mode.

5.6 Viewing Current Calibration

1. From **ZERO**, press **HOLD/MENU** repeatedly until…

   **DISP** is displayed.

2. Press **PRINT/SELECT** and…

   Current weight calibration is displayed. (1.0mV/V = 10,000, 0.5mV/V = 5000)

3. Press **PRINT/SELECT**…

   **DISP** is displayed.

4. Press the **G/N** key to return to the gross weighing mode.

5.7 Viewing Factory Span Factor

1. From **ZERO**, press **HOLD/MENU** repeatedly until…

   **VIEW** is displayed.

2. Press **PRINT/SELECT** and…

   Current span factor is displayed. 1 mV/V = 100000 if electronics are all exact. For example if off 0.01%, could read 99990

3. Press **PRINT/SELECT**…

   **VIEW** is displayed

4. Press **G/N** key to return to the gross weighing mode.
5.8 Re-setting Factory Span Without Calibrating with a Simulator

Use this to return the unit to its factory calibration. You need to first retrieve the factory span value from the indicator, clear memory and re-enter the value at this point.

1. From ZERO, press HOLD/MENU repeatedly until... 
   
   SET is displayed.

2. Press PRINT/SELECT and...
   
   FAC.SPN is displayed.

3. Enter factory span value...
   
   Entered value is displayed.

4. Press PRINT/SELECT and...
   
   SET is displayed

5. Press the G/N key to return to the gross weighing mode.
## Appendix A: Custom Configuration Num. Table

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<th>Cal. size</th>
<th>No. of bars</th>
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<th>Reading (kg) @ .4mV/V</th>
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## Appendix A: Custom Configuration Num. Table

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7 Technical Illustrations

7.1 Complete Service Menu

Menu Navigation
- Move right in the Menu Direction.
- Move up in the Menu Direction.
- Move down in the Menu Direction.

Model 640 Indicator Series Service Instructions 57
## 7.2 MODEL 640-Std / 640-XL Indicator (parts and assembly)

**Press either button on Transmitter to program**

**Display PC Board**

Connects to P20

### Item No. Description W-T P/N QTY

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<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>W-T PIN</th>
<th>QTY</th>
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<tbody>
<tr>
<td>1</td>
<td>Keypad/Backer Plate Assy, (Std.) (includes gasket)</td>
<td>57755-0015</td>
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<td></td>
<td>Keypad/Backer Plate Assy, (XL) (includes gasket)</td>
<td>57755-0023</td>
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<td>2</td>
<td>Screw, #10-32 x .38&quot;L</td>
<td>14603-8030</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Replacement Gasket, sticky one side, (for Item 1)</td>
<td>47694-0010</td>
<td>1</td>
</tr>
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<td>4</td>
<td>Lock Washer, #6</td>
<td>14474-0032</td>
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<td>Lock Washer, #4</td>
<td>14474-0024</td>
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<tr>
<td>6</td>
<td>Screw, #8-32 x .26&quot;L</td>
<td>14473-0223</td>
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<tr>
<td>6A</td>
<td>Screw, #4-40 x .26&quot;L</td>
<td>14473-0108</td>
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<td>7</td>
<td>Main Pc Bd Assy</td>
<td>AWT25-500042</td>
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<td>Main Pc Bd Assy (w/ RF, optional)</td>
<td>AWT25-500043</td>
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<td>8</td>
<td>Standoff, 4-40 x .44&quot;F/F ALUM</td>
<td>14510-0369</td>
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<td>Endoscope</td>
<td>47017-0010</td>
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<td>Rubber Vibration Mount (incl. w/ Indicator)</td>
<td>17637-0108</td>
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<td>Lock Washer, #6 (incl. w/ Indicator)</td>
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<td>Hex Nut, 2-56 x .10&quot; (incl. w/ Indicator)</td>
<td>14471-0369</td>
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<td>13</td>
<td>Mfg. Bracket (optional)</td>
<td>12339-0105</td>
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<td>Mfg. Bracket (included w/ Indicator)</td>
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<td>Screw, #8-32 x .37&quot;L</td>
<td>14473-0348</td>
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<td>Replacement Gasket, sticky one side (for item 20)</td>
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<td>Standoff, hex, #8-32 x .44&quot;L MF</td>
<td>15437-5018</td>
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<td>18</td>
<td>Display/Interface Board Assy (large display)</td>
<td>57133-0026</td>
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<td>Display/Interface Board Assy (std. display)</td>
<td>57133-0034</td>
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<td>XM64 Receiver, std. version-315MHz (optional)</td>
<td>55096-0017</td>
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<td>XM64 Receiver, Euro. version-433MHz (optional)</td>
<td>55096-0035</td>
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<td>20</td>
<td>XM64 Transmitter, std. version-315MHz (optional)</td>
<td>55096-0017</td>
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</tr>
<tr>
<td></td>
<td>XM64 Transmitter, Euro. version-433MHz (optional)</td>
<td>55096-0025</td>
<td>1</td>
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<tr>
<td>21</td>
<td>Cap, Red, 5/8&quot; DIA for 5-pin Weigh Bar connectors</td>
<td>11899-0043</td>
<td>4</td>
</tr>
</tbody>
</table>

Lower Panel Assembly options:

(for complete description and p/n's, refer to "lower panel option pages" in this manual)
7.3 MODEL 640-Std / 640-XL Indicator (Remote XMTR / RCVR (optional) Programming Instructions)

The following are instructions for the transmitter receiver kits used in the Model 640/XL products. Please read through the following when debugging the XM-64 operation.

Checking Memory:
1. Press the program button on the receiver and hold for about two seconds until the Red LED illuminates, the release.
2. Count the number of times the Red LED blinks, this is the total number of transmitters programmed into the receiver.

Erasing Memory:
1. Press the program button on the receiver and continue to hold it through the count of the transmitters.
2. Continue to hold the button after the count until the indicator blinks one more time (about five seconds after the count).
3. All transmitters programmed into the memory will be erased.

Programming Memory:
1. Press and release program button on the receiver.
2. Program indicator will light if there is room in memory for another transmitter. (32 transmitters max)
3. Press the button on the transmitter (XM64), indicator on receiver will flicker as signal is received.
4. Repeat the above three steps for each additional transmitter.

The receiver can memorize each transmitter more than once. To prevent duplicate entries, program each transmitter into receiver only once.
7.4 MODEL 640-Std / 640-XL Indicator (Dimensional Outline Drawing)
7.5 MODEL 640-Std / 640-XL Indicator (External System Diagram)

Three - or - Four Weigh Bars®

Tractor Battery

RD40XL

Model 640/XL

TDM-40
7.6 MODEL 640-Std / 640-XL Indicator (Internal System Block Diagram)
7.7  MODEL 640-Std / 640-XL Indicator (Keypad/Backer Plate Assy)

P/N 55085-0135 (XL keypad)
P/N 55085-0127 (std. keypad)

MENU  HOLD  SELECT  PRINT

Motion

P/N 55085-0135 (XL keypad)
P/N 55085-0127 (std. keypad)
7.8 MODEL 640-Std / 640-XL Indicator (Display and Keypad Interface PC Board)

BACKLIGHT (BL1) REPLACEMENT:
P/N 60167-0029

DISPLAY (DS1) REPLACEMENT:
P/N 60210-0042

COMPONENT SIDE (BOTH VERSIONS)

BACKLIGHT (BL1) REPLACEMENT:
P/N 60167-0011

DISPLAY (DS1) REPLACEMENT:
P/N 60210-0034

P/N 57133-0026 (XL display)
P/N 57133-0034 (std. display)

DISPLAY SIDE, "STANDARD DISPLAY"

DISPLAY SIDE, "XL DISPLAY"
7.9 MODEL 640-Std / 640-XL Indicator (Main PC Board Assy)

P/N AWT25-500042 (std. and XL)
P/N AWT25-500043 (RF Module option) (std. and XL)

---

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.

THE MANUFACTURER'S INSTRUCTIONS.

DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

---

CAUTION!

REPLACE BATTERY (B1) ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER.

---

POWER INPUT (12VDC)

COMM 1 (RS-232)

WEIGH BAR J-BOX CONNECTION

RD40 / RD40XL INPUT

DISPLAY BOARD CONNECTION WITH P/N AWT25-500042 (std. and XL) P/N AWT25-500043 (RF Module option) (std. and XL)

WiPort Radio Module (optional) (57114-0029 only)

B1 BATTERY (P/N 60207-0013)

CONNECTION WITH DISPLAY BOARD

(BACK SIDE)
7.10 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems Using J-box)

Complete Panel Assembly as shown:
Single 5-pin w/ RS232, p/n 57746-2013

(Also Ref. “Pin-Out” Pages in this manual)

Complete Panel Assembly as shown:
Single 5-pin w/ Remote Display, p/n 57746-2021

(Also Ref. “Pin-Out” Pages in this manual)

---

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>WT PIN</th>
<th>QTY</th>
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<tbody>
<tr>
<td>1</td>
<td>Bottom Plate (stainless)</td>
<td>57735-0051</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Cable/Connector Assy, (2-pin input power)</td>
<td>57737-0018</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Plastic Cap Assy</td>
<td>48844-0010</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Pan Head Screw, #4 x .38” L (stainless)</td>
<td>14473-0124</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14494-0026</td>
<td>8</td>
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<tr>
<td>6</td>
<td>Cable/Connector Assy (weigh bar 5-pin)</td>
<td>21429-0140</td>
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<td>7</td>
<td>Cable/Connector Assy (COM-1)</td>
<td>51030-0015</td>
<td>1</td>
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<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
<td>55098-0015</td>
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</tbody>
</table>
7.11 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems Using J-box)

**Complete Panel Assembly as shown:**
Single 5-pin w/ RS232 & Remote Display, p/n 57746-2039

(Also Ref. “Pin-Out” Pages in this manual)

<table>
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<tr>
<th>ITEM NO.</th>
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<td>Plastic Cap Assy</td>
<td>48684-0010</td>
<td>2</td>
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<tr>
<td>4</td>
<td>Pan Head Screw, #4 x .38&quot; L (stainless)</td>
<td>14473-0124</td>
<td>6</td>
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<tr>
<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14464-0026</td>
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<tr>
<td>6</td>
<td>Cable/Connector Assy (weigh bar 5-pin)</td>
<td>21429-0140</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Cable/Connector Assy (COM-1)</td>
<td>51030-0015</td>
<td>1</td>
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<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
<td>56058-0015</td>
<td>1 or 2</td>
</tr>
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</table>

**Complete Panel Assembly as shown:**
Single 5-pin w/ 2 Remote Displays, p/n 57746-2047

(Also Ref. “Pin-Out” Pages in this manual)
7.12 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems Using J-box)

Complete Panel Assembly as shown:
Single AMP w/ RS232, p/n 57747-2012

(Also Ref. “Pin-Out” Pages in this manual)

<table>
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<th>QTY</th>
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<td>2</td>
<td>Cable/Connector Assy, (4-pin input power)</td>
<td>57737-0026</td>
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<td>3</td>
<td>Plastic Cap Assy</td>
<td>48944-0010</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Pan Head Screw, #4 x .38” L (stainless)</td>
<td>14473-0124</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14464-0026</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Plastic Cap Assy</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>7</td>
<td>Cable/Connector Assy (COM-1)</td>
<td>51030-0015</td>
<td>1</td>
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<tr>
<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
<td>55098-0015</td>
<td>1</td>
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<td>9</td>
<td>Cable/Connector Assy (weigh bar 4-pin)</td>
<td>50044-0037</td>
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Complete Panel Assembly as shown:
Single AMP w/ Remote Display, p/n 57747-2020

(Also Ref. “Pin-Out” Pages in this manual)
7.13 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems Using J-box)

Complete Panel Assembly as shown:
Single AMP w/ RS232 & Remote Display, p/n 57747-2038

(Also Ref. “Pin-Out” Pages in this manual)

Complete Panel Assembly as shown:
Single AMP w/ 2 Remote Displays, p/n 57747-2046

(Also Ref. “Pin-Out” Pages in this manual)
7.14 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems w/o J-box)

Complete Panel Assembly as shown:
3 Weigh Bars 5-pin w/ RS232, p/n 57745-2014

(Also Ref. “Pin-Out” Pages in this manual)

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>W-T PIN</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bottom Plate (stainless)</td>
<td>57735-0036</td>
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<td>2</td>
<td>Cable/Connector Assy (4-pin input power)</td>
<td>57737-0015</td>
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<td>3</td>
<td>Plastic Cap Assy</td>
<td>48684-0010</td>
<td>1</td>
</tr>
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<td>4</td>
<td>Pan-Head Screw, #4 x .38&quot; L (stainless)</td>
<td>14473-0124</td>
<td>10</td>
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<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14464-0026</td>
<td>10</td>
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<td>Cable/Connector Assy (weigh bar 5-pin)</td>
<td>21429-0132</td>
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<td>Cable/Connector Assy (COM-1)</td>
<td>51030-0015</td>
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<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
<td>55098-0015</td>
<td>1 or 2</td>
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Complete Panel Assembly as shown:
3 Weigh Bars 5-pin w/ Remote Display, p/n 57745-2022

(Also Ref. “Pin-Out” Pages in this manual)
7.15 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems w/o J-box)

Complete Panel Assembly as shown:
3 Weigh Bars 5-pin w/ RS232 & Remote Display, p/n 57745-2030

(Also Ref. “Pin-Out” Pages in this manual)

Complete Panel Assembly as shown:
3 Weigh Bars 5-pin w/ 2 Remote Displays, p/n 57745-2048

(Also Ref. “Pin-Out” Pages in this manual)

<table>
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<th>ITEM NO.</th>
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<td>Bottom Plate (stainless)</td>
<td>57735-0044</td>
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<td>Cable/Connector Assy, (2-pin input power)</td>
<td>57737-0018</td>
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<td>3</td>
<td>Plastic Cap Assy</td>
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<td>Pan Head Screw, #4 x .38” L (stainless)</td>
<td>14473-0124</td>
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<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14464-0026</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Cable/Connector Assy (weigh bar 5-pin)</td>
<td>21429-0132</td>
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</tr>
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<td>7</td>
<td>Cable/Connector Assy (COM-1)</td>
<td>51030-0015</td>
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</tr>
<tr>
<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
<td>55098-0015</td>
<td>1 or 2</td>
</tr>
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</table>
7.16 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems w/o J-box)

Complete Panel Assembly as shown:
4 Weigh Bars 5-pin w/ RS232, p/n 57744-2015

(Also Ref. “Pin-Out” Pages in this manual)

Complete Panel Assembly as shown:
4 Weigh Bars 5-pin w/ Remote Display, p/n 57744-2023

(Also Ref. “Pin-Out” Pages in this manual)

<table>
<thead>
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<th>ITEM NO.</th>
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<td>2</td>
<td>Cable/Connector Assy, (2-pin input power)</td>
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<td>3</td>
<td>Plastic Cap Assy</td>
<td>49364-0010</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Pan Head Screw, #4 x .38” L (stainless)</td>
<td>14473-0124</td>
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</tr>
<tr>
<td>5</td>
<td>Lock Nut, #4 (stainless)</td>
<td>14464-0026</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Cable/Connector Assy (weigh bar 5-pin)</td>
<td>21429-0124</td>
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</tr>
<tr>
<td>7</td>
<td>Cable/Connector Assy  (COM-1)</td>
<td>51030-0015</td>
<td>1</td>
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<td>8</td>
<td>RD40/XL Connector Cable Assy</td>
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7.17 MODEL 640-Std / 640-XL Indicator (Lower Panel Options For Systems w/o J-box)

Complete Panel Assembly as shown:
4 Weigh Bars 5-pin w/ RS232 & Remote Display, p/n 57744-2031

(Also Ref. “Pin-Out” Pages in this manual)

Complete Panel Assembly as shown:
4 Weigh Bars 5-pin w/ 2 Remote Displays, p/n 57744-2049

(Also Ref. “Pin-Out” Pages in this manual)
7.18 MODEL 640-Std / 640-XL Indicator ("Lower Panel" Connector/Cable Assy Pin-outs)

### 9-PIN RD40 CABLE ASSEMBLY P/N 55098-0015

<table>
<thead>
<tr>
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<th>Color</th>
<th>Origin</th>
<th>Destination</th>
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<tr>
<td>1</td>
<td>BLK</td>
<td>+12V</td>
<td>REMOTE-1</td>
</tr>
<tr>
<td>2</td>
<td>YEL</td>
<td>GND</td>
<td>REMOTE-2</td>
</tr>
<tr>
<td>3</td>
<td>ORN</td>
<td>N/C</td>
<td>DATA IN</td>
</tr>
<tr>
<td>4</td>
<td>ORN</td>
<td>N/C</td>
<td>CLOCK</td>
</tr>
<tr>
<td>5</td>
<td>ORN</td>
<td>N/C</td>
<td>P12-1</td>
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<tr>
<td>6</td>
<td>ORN</td>
<td>N/C</td>
<td>P12-2</td>
</tr>
<tr>
<td>7</td>
<td>ORN</td>
<td>N/C</td>
<td>P12-3</td>
</tr>
<tr>
<td>8</td>
<td>ORN</td>
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<tr>
<td>9</td>
<td>ORN</td>
<td>N/C</td>
<td>P12-5</td>
</tr>
</tbody>
</table>

### 5-PIN J-10J INTERFACE CABLE ASSY P/N 50644-0937

<table>
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<th>Color</th>
<th>Origin</th>
<th>Destination</th>
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</thead>
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<tr>
<td>1</td>
<td>VIO</td>
<td>N/C</td>
<td>+12V</td>
</tr>
<tr>
<td>2</td>
<td>VIO</td>
<td>N/C</td>
<td>+5V</td>
</tr>
<tr>
<td>3</td>
<td>VIO</td>
<td>N/C</td>
<td>DATA IN</td>
</tr>
<tr>
<td>4</td>
<td>VIO</td>
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</tr>
<tr>
<td>5</td>
<td>VIO</td>
<td>N/C</td>
<td>REMOTE-1</td>
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</tbody>
</table>

### OUTSIDE VIEW (FEMALE)

- **Remote-1**: Pin 6, Pin 7, Pin 8
- **Remote-2**: Pin 3, Pin 4, Pin 5
- **Data In**: Pin 2
- **Clock**: Pin 1
- **Remote**: Pin 6
- **N/C**: Pin 7, Pin 8
- **Power (+12V)**: Pin 3, Pin 4
- **Power (+5V)**: Pin 2
- **Ground**: Pin 5

### OUTSIDE VIEW (MALE)

- **Remote-1**: Pin 6, Pin 7, Pin 8
- **Remote-2**: Pin 3, Pin 4, Pin 5
- **Data In**: Pin 2
- **Clock**: Pin 1
- **Remote**: Pin 6
- **N/C**: Pin 7, Pin 8
- **Power (+12V)**: Pin 3, Pin 4
- **Power (+5V)**: Pin 2
- **Ground**: Pin 5

---

**Diagram**

- Connector Assy P/N 21429-0124
- Connector Assy P/N 21429-0124 (outlet view)
- 9-Pin RD40 Cable Assembly P/N 55098-0015
- 9-Pin RD40 Cable Assembly P/N 57737-4936

---

Model 640 Indicator Series Service Instructions
### MODEL 640M Indicator (Parts and Assembly)

#### ITEM NO. | DESCRIPTION | WT PIN | QTY
---|---|---|---
1 | Enclosure, 2-connector | 57161-0013 | 1
2 | Enclosure, 3-connector | 57161-0021 | 1
3 | Enclosure, 4-connector | 57163-0011 | 1
4 | Display/Interface Board Assy | 57127-0024 | 1
5 | Main PC Board | AWT25-500042 | 1
6 | Main PC Board (w/ RF, optional) | AWT25-500043 | 1
7 | Back Plate Assy w/ "V-Mount" Bracket (also incl. gasket, item 13) | 17807-0108 | 1
8 | Back Plate Assy w/ Ram "Wall Mount" Bracket Assy (incl. gasket, item 13) | 57734-1035 | 1
9 | Backplate Replacement Gasket, sticky one side | 57298-0019 | 1
10 | Front Panel Overlay | 57162-0012 | 1
11 | Screw, #6-32 x .25"L | 14473-0223 | 4
12 | Screw, #4-40 x .38"L | 14473-0124 | 8
13 | Lock Nut, #4 | 14464-0026 | 8
14 | External RF Antenna Assy (optional) | 60147-0016 | 1
15 | Screw, #10-32 x .38"L | 14603-0037 | 6
16 | Cover Plate (w/ center hole) | 57736-0027 | 1

**Lower Panel Assembly options:**
(for complete description and p/n's, refer to "Lower panel option page" in this manual)
## 7.20 MODEL 640M Indicator (Lower Panel Options Using J-box and Lower Panel Parts List)

### Single 5-Pin, W-T Power, w/R5232 & RD40RF
- 1. Cable/Connector Assy, (2-pin input power)
- 2. Cable/Connector Assy (j-box 5-pin)
- 3. Cable/Connector Assy (RS-232)
- 4. Plastic Cap Assy

### Single AMP, AMP Power, w/R5232 & RD40 or RD40XL
- 1. Cable/Connector Assy, (4-pin input power)
- 2. AMP Cable/Conn. Assy (4-pin j-box)
- 3. RD40/XL, RD40, Connector Cable Assy
- 4. 2-W/B Cable/Conn. Assy (d ual 5-pin J-Box)
- 5. External RF Antenna Assy (w/ female conn.)

### Single 5-Pin & W/T Power
- 1. Cable/Connector Assy, (2-pin input power)
- 2. Cable/Connector Assy (j-box 5-pin)
- 3. Cable/Connector Assy (RS-232)
- 4. Plastic Cap Assy

### Single AMP, AMP Power, RS232
- 1. Cable/Connector Assy, (4-pin input power)
- 2. AMP Cable/Conn. Assy (4-pin j-box)
- 3. RD40/XL, RD40, Connector Cable Assy
- 4. 2-W/B Cable/Conn. Assy (d ual 5-pin J-Box)
- 5. External RF Antenna Assy (w/ female conn.)

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>WT PIN</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cable/Connector Assy, (2-pin input power)</td>
<td>57737-0018</td>
<td>A / R</td>
</tr>
<tr>
<td>2</td>
<td>Cable/Connector Assy (j-box 5-pin)</td>
<td>21429-0090</td>
<td>A / R</td>
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<td>3</td>
<td>Cable/Connector Assy (RS-232)</td>
<td>51030-0015</td>
<td>A / R</td>
</tr>
<tr>
<td>4</td>
<td>Plastic Cap Assy</td>
<td>48994-0010</td>
<td>A / R</td>
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<td>5</td>
<td>AMP Cable/Conn. Assy, (4-pin input power)</td>
<td>57737-0018</td>
<td>A / R</td>
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<td>6</td>
<td>AMP Cable/Conn. Assy (4-pin j-box)</td>
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<td>A / R</td>
</tr>
<tr>
<td>7</td>
<td>RD40/XL, RD40, Connector Cable Assy</td>
<td>55098-0015</td>
<td>A / R</td>
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<tr>
<td>8</td>
<td>2-W/B Cable/Conn. Assy (dual 5-pin J-Box)</td>
<td>48204-0029</td>
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<td>9</td>
<td>External RF Antenna Assy (w/ female conn.)</td>
<td>60147-0076</td>
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7.21 MODEL 640M Indicator (Dimensional Outline Drawing)
7.22 MODEL 640M Indicator (External System Diagram)

Model 640M Indicator
(2-pin W-T Power, Single 5-Pin WEIGH Bar, w/RS232 & RD40 or RD40XL Shown)

Tractor Battery

RD40XL Remote Display

J-Box w/ 4-Weigh Bar® Connectors

Three - to -
Eight
Weigh Bars® w/ J-Box
(4-W/B system shown)
7.23 MODEL 640M Indicator (Internal System Block Diagram)
7.24  MODEL 640M Indicator (Keypad Assy - P/N 57162-0012)

(FRONT VIEW)  (USING “SCHEMATIC REFERENCED” KEYPAD LETTERS)

(FRONT VIEW)  (USING “ACTUAL” KEYPAD WORDS/SYMBOLS)

SCHEMATIC DIAGRAM
7.25 MODEL 640M Indicator Display (and Keypad Interface) PC Board P/N 57127-0024 (std. display)

DISPLAY (DS1) REPLACEMENT:
P/N 60210-0034

BACKLIGHT (BL1) REPLACEMENT:
P/N 60167-0011

MAIN BOARD CONNECTION

FRONT PANEL KEYPAD CONNECTION
CAUTION!

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.

REPLACE BATTERY (B1) ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER.

DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER’S INSTRUCTIONS.
### 7.27 MODEL 640M Indicator (“Lower Panel” Connector/Cable Assy Pin-outs)

#### 9-PIN RD40 CABLE ASSEMBLY P/N 55098-0015

<table>
<thead>
<tr>
<th>Color</th>
<th>Wire</th>
<th>Function</th>
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<tr>
<td>VIO</td>
<td>J3-10</td>
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<td>J3-9</td>
<td>GRN</td>
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<td>BLU</td>
<td>J3-8</td>
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<tr>
<td>ORN</td>
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#### 5-PIN 5000 MBAR CABLE/CONNECTOR ASSY P/N 21429-0036

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<tr>
<td>RED</td>
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#### 5-PIN RD40 CABLE ASSEMBLY P/N 55098-0015

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7.28 TDM-40 Transfer Data Module (Optional, For 640-Series Indicators) P/N 55370-0014 & Cable Pin-outs

Down Loading Indicator to "TDM-40"

Down Loading "TDM-40" to Computer

THE "TDM-40" MAY BE PLUGGED INTO BOTTOM OF THE 640 SERIES.
7.29 MODEL 640-Std / 640-XL Indicator (Options / Accessories)

MODEL 640-Std / 640-XL Indicator (Options / Accessories)