Avery Weigh-Tronix

SCALES FOR AGRIBUSINESS

Model 2040/2040XL Indicator User's Manual

11/07/05 2040_U.P65 PN 43064-0011B e1 Printed in USA

Table of Contents

Specifications

Power Input:	10 to 18 volts, DC negative ground
	700ma at 8 350 weigh-bar load
Display:	2.0 inch LCD (Model 2040XL), 6 Digits, 14 segment alphanumeric, fiber optic backlight
Display Rate:	1, 2, or 5 times per second
Enclosure:	Water/dust resistant, structural polycarbonate, 8.50" high x 10.5" wide x 6.0" deep IP65 Water resistant
Capacity Range:	Up to 200,000 lb/kg
Increment sizes:	.01,.02,.05,.1,.2,.5,1,2,5,10,20,50,100,200 lb/kg
Accuracy:	+/- 0.1 % of applied load +/- 1 division
Internal A/D resolution:	1,000,000 counts
Operational keys:	0-9 with alpha capabilities, Load/Unload, Gross, Recipe, Pen, Clean Up, Usage, Hold, Menu, Print, Id, Select, Timer, Zero Clear, and Auto/Feed (Not implemented in Rev A).
Annunciators;	Auto, Pen, Load, Gross, Recipe, Ingredient, Alarm, Usage, Clean Up, Hand-Add, Lb, and Kg. (12 annunciators)
Audio Output:	Audio tone feedback for key contact assurance
Weigh-bar Drive:	10 350 ohm weigh-bars
Serial Ports:	2 RS-232 serial ports programmable for different selectable output formats
	RS232.1-(Std, FSUPER, Broadcast, Off). RS232.2-(Std, Broadcast, Off)
Lower Assembly:*	Connectors for the following: Power, Com1, Com 2, Weigh-bars, Alarm Output, RD64
	Optional Connectors: Speed Sensor Input
	There will be seven standard different lower base assemblies: 1. W/T standard 7 pin (pwr/alm/RD64/Com1/j-box) — 5 conn 2. W/T std 7 pin w/options (pwr/alm/speed/RD64/Com1/Com2/j-box) — 7 conn 3. Single conn (AMP) (pwr/alm/RD64/Com1/j-box) — 5 conn 4. Single conn (AMP w/options) (pwr/alm/speed/RD64/Com1/Com2/j-box) — 7 conn 5. *W/T 4 x 5pin w/ Com 1 and RD64 output (pwr/alm/RD64/Com1/4-5 pin conn) — 8 con 6. *W/T 3 x 5pin w/dual RS-232 and RD64 output (pwr/alm/RD64/Com1/3-5 pin conn) — 7 conn 7. *W/T 4 x 4pin w/dual RS-232 and RD64 output (pwr/alm/RD64/Com1/4-4pin conn) — 8 conn *NOTE: These versions do not offer Speed Sensor input or com 2.
Two TTL Inputs:	Two programmable inputs (Std, Zero/Clear, Menu, Hold, Print)

Options:	Feed Supervisor Software with wired, TDM module, or wireless data transfer. RD64 Remote Display RD64XL Remote Display RD125RF Remote Display XM64 Transmitter/receiver set Speed Sensor switch assembly
Operating Temperature:	-40° to 140° F (-40° to 60° C)
Weight:	10 lb/ 4.5 kg
Agencies:	FCC Class A CE (European Approval)
Warranty:	Three Year

Introduction

About This Manual

This manual covers the information you need to operate your Weigh-Tronix batching Model 2040 indicator.

Major sections of this manual are headed by titles in a black bar like *Introduction* above. Subheadings appear in the left column. Instructions and text appear on the right side of the page. Occasionally notes, tips, and special instructions appear in the left column.

The 2040 Indicator

The 2040 indicator face is shown in Figure 1.

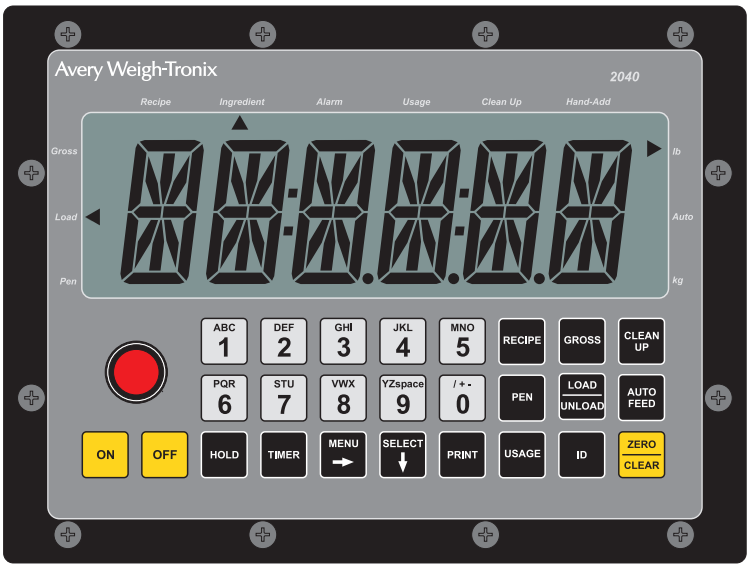


Figure 1
2040 Indicator face

Key Descriptions

There are 26 keys. All keys except the **ON** and **OFF** have audible feedback with volume settable at low, medium, high in the User menu, discussed later in the manual.

Key	Description
ON	Press to turn the unit on.
OFF	Press to turn the unit off.
1-9, A-Z	Press to enter numeric data. In specific modes use this to enter ingredient, recipe or pen alphanumeric names.
ZERO/CLEAR	Press to zero the indicator, clear the data entry display, delete recipes, ingredient names and pen names.
RECIPE	Press to access recipe programming mode, and/or use to batch a recipe.
PEN	Press to access pen programming mode, and pens.
GROSS	Press to access the gross live weight mode and backup one step when in a menu.
LOAD/UNLOAD	Press to initiate a loading or unloading process.
CLEAN UP	Press this key to initiate a Pen cleanup procedure.
USAGE	Press to access the ingredient, recipe, and pen batch accumulators.
ID	Press to enter in a user ID number.
HOLD	Press to enter the HOLD mode. This mode allows the weight to be held the same until released from this mode.
TIMER	Press to access the timer mode. Either time or rotations timer.
MENU	Press to move to the right in a menu or advance to the next step in the batching procedure.
AUTO FEED	Press to use the scheduled feeding operation. (Not available in Rev A.)
SELECT	Press to move down in a menu, use also to select the quick print or use to accept a entered value.
PRINT .	Press to send the selected print format to a printer or a computer using the serial port . Or, use to enter decimal point in data entry mode.

Annunciators

The Model 2040 has 12 triangle annunciators along the edge of the display.

PEN	To indicate unit is in the pen unloading mode, pen programming/editing, or viewing the pen accumulators.
LOAD	To indicate unit is in the loading/unloading mode when using the **LOAD/UNLOAD** key, or the recipe loading mode.
GROSS	To indicate unit is in the gross weighing mode.

RECIPE	To indicate the unit is in the recipe mode, either batching or programming. Or, you are viewing recipe accumulators.
INGREDIENT	To indicate the unit is in the recipe entry mode, or ingredient entry mode, or viewing the ingredient accumulators.
ALARM****	This is on when the user has activated the load/unload or recipe modes that have made the alarm setpoint active and ready to activate the alarm light when the proper weight is reached.
USAGE	To indicate that the usage mode is activated, whether ingredient, recipe, or pens, then those annunciators will be activated as appropriate.
CLEAN UP	This is on when the unit is in the pen Clean Up mode.
HAND-ADD	Appears when editing ingredients and enabling the ingredient as a hand-add. Then, later when the recipe is recalled, the appropriate ingredient again will turn on if it is a hand-add.
Lb	Turns on if the indicator is programmed for weighing in lbs.
AUTO	Turns on if the unit is programmed for AUTO ingredient advance. (or anytime a tolerance and advance delay have been entered).
Kg	Turns on if the indicator is programmed for weighing in kgs.

Display Messages

M2040	Message displayed on power up initialization sequence.
HELLO	Message displayed on power-up sequence for 3 seconds
WT.AMT	Indicator target weight amount will be shown.
(- - - - - -)	Upper dashes show the indicator is in a state of overcapacity, or analog input is too high.
(- - - - - -)	Lower dashes show the indicator is in a state of undercapacity, or analog input is too low.
PRINT	Indicator is transmitting data. Appears after you press the **PRINT** key for a second.
PR-X	Indicator is showing appropriate quick print, (PR-1 to PR-9) Shows on the display when the proper quick print has been selected.
PRINT.X	Shows on the display when the Print key was pressed after a quick print was selected for printing.
LOW.BAT	Alternates on the display between current mode and ***LOW.BAT*** when input voltage is between 8-10 volts.

HOLD	Displayed when hold mode is activated.
CAN'T	Usually displayed when trying to enter an invalid data. (EX: entering in 9999 for a time)
NOPRGM	Indicates accessed recipe is not programmed.
NON.ASN	Indicates there are no pens assigned to the selected recipe.
bAdKEY	This indicates that one of the 24 active keys is on, or one of the two inputs is stuck in the active state. Helpful in debugging a bad keypad or faulty input (transmitter). This remains displayed until the keypad condition is fixed.
SHT.DWN	Is shown on the display prior to shutting the indicator off after the sleep timer has expired, or if voltage exceeds 17 or if voltage is less than 9 for more than 10 seconds. (10 seconds before this the alarm beeps several times).
HI VOLT	Indicates input voltage to Model 2040 has exceeded 17 volts.
OVR.TOL	Displayed when in the load/unload mode or recipe batching mode when a target is over tolerance. If after over-tolerance meets the delay time and motion ceases it will auto advance. Otherwise user will need to advance forward by using the **MENU** key.
DONE.	Displayed when the last pen selected in automatic batching has been fed.

Entering Alphanumeric Characters

If two consecutive alpha characters are on the same key, you must wait a second or two after the first character is entered before you can enter the second.

There are times you will want to enter alphanumeric characters into the 2040. For example: Recipe, ingredient or pen names.

You can enter these characters through the front panel keys. Below is an example to illustrate how it is done.

To key in the word CORN:

1. When the display will accept characters press the **1(ABC)** key repeatedly until the *C* is displayed.
2. Repeatedly press the **5(MNO)** key until **O** appears.
3. Repeatedly press the **6(PQR)** key until **R** appears.
4. Repeatedly press the **5(MNO)** key until **N** appears.
5. Press the **SELECT** key to accept the ingredient name or press the **ZERO/CLEAR** key to clear the name and try steps 1-4 again.

Before using your new Model 2040 indicator:

- Verify that everything has been properly connected. See Figures 2-5
- If you are mounting the indicator, see the next section: *Mounting the Model 2040*.
- Check the scale system to ensure proper units are set (lb, kg)
- Verify the system is weighing properly.

Mounting the Model 2040

The Model 2040 mounts on a quick-detach bracket. Weld or bolt the quick-detach bracket into place, as follows:

1. Choose a mounting location that is
   - convenient for operation of the indicator, and
   - protected from moving parts or from other moving machinery.
2. Hold the indicator at the proposed mounting location, and verify that the display is legible and the controls accessible.
3. Position the quick-detach bracket with the wider end at the top and mark the desired mounting location. If bolting, use the quick-detach bracket as a template and mark and drill holes.
4. Weld or bolt the quick-detach bracket at the appropriate location. If bolting, use double nuts or self-locking nuts to protect both indicator and machinery.
5. Insert the indicator bracket into the quick-detach bracket and push it down into place.
6. For mobile applications, wrap and twist a strong wire or zip-tie through the holes in the side of the brackets to stabilize the mounting.

Cable Connections and Power Requirements

Make sure all cables are connected as shown in Figures 2-5.

Voltage to the Model 2040 must be 10-17 volts DC, negative ground only. If voltage is between 9-10 volts, *LOW.BAT* is displayed on the indicator. Dropping below nine volts will cause the Model 2040 to automatically shut itself off, protecting the battery from being completely drained.

If voltage is above 17 volts, *HI VOLT* flashes on the display. After ten seconds the unit displays *SHT.DWN* and turns off.

If voltage is below nine volts, *LOW.BAT* flashes on the display. After ten seconds the unit displays *SHT.DWN* and turns off.

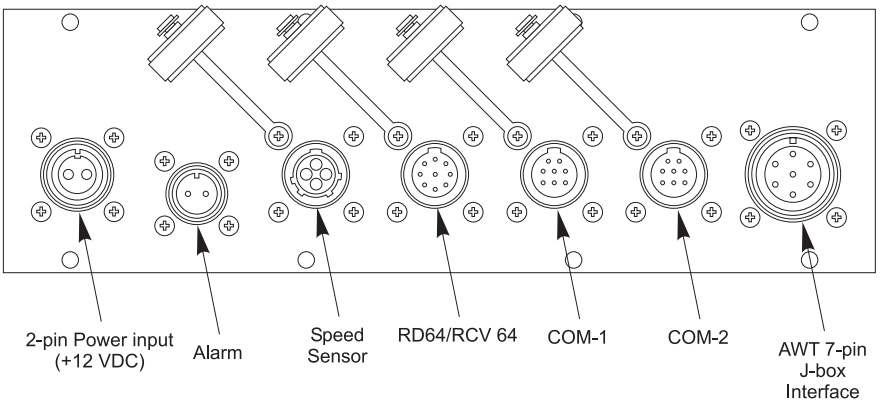


Figure 2
Bottom panel w/power, alarm, speed sensor, remote display, 2 Com ports, and 7-pin J-box connections

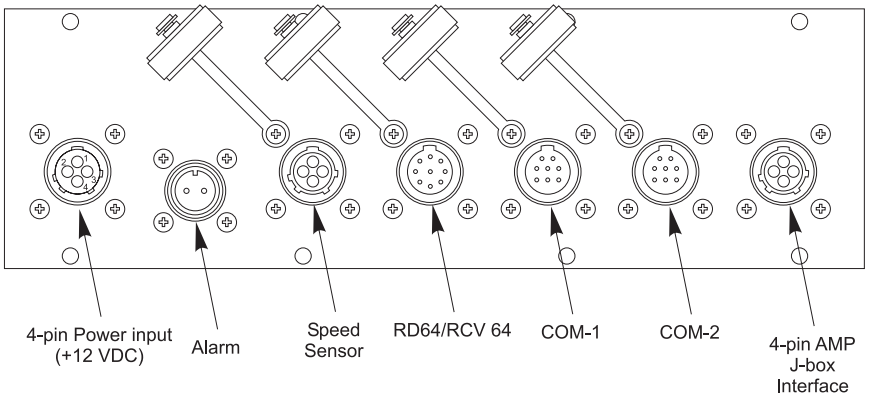


Figure 3
Bottom panel w/power, alarm, speed sensor, remote display, 2 Com ports, and 4-pin J-box connections

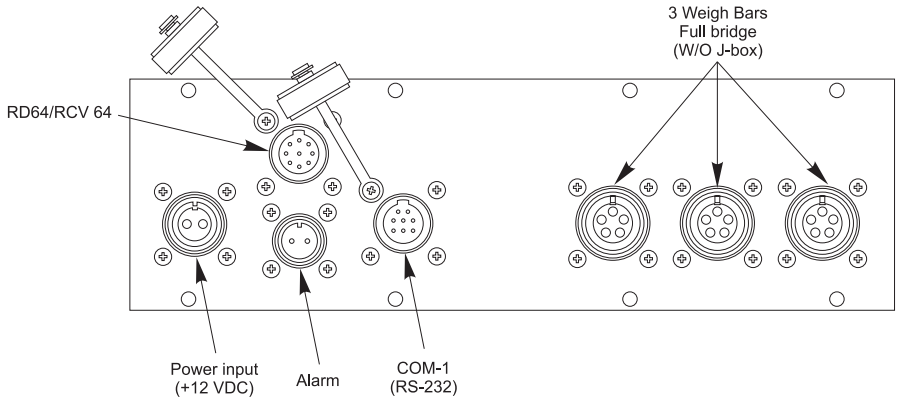


Figure 4
Bottom panel w/power, alarm, remote display, 1 Com port, and 3 Weigh Bar connections

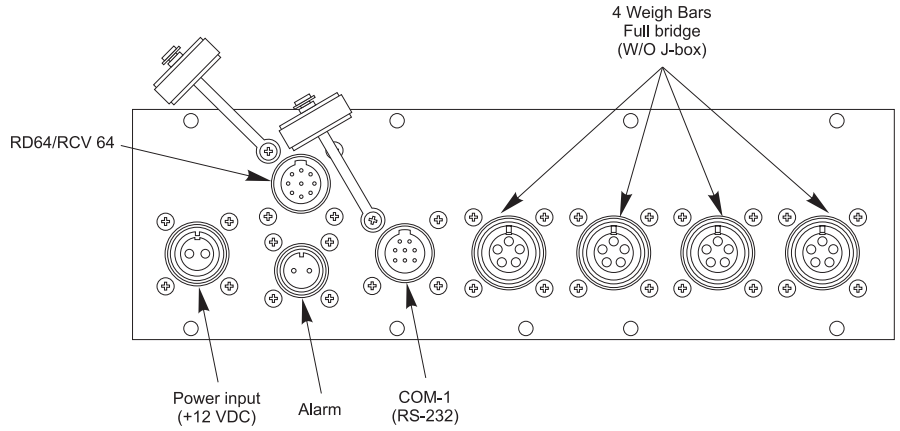
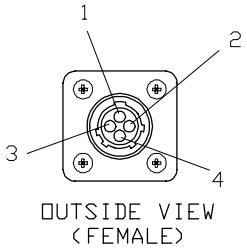


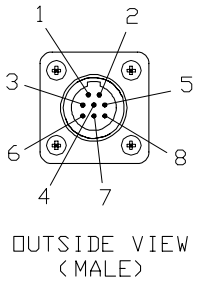
Figure 5
Bottom panel w/power, alarm, remote display, 1 Com port, and 4 Weigh Bar connections

Speed Sensor Input



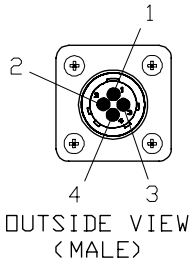
Pin	Description
1	+ 12V
2	GND
3	Input
4	N/C

RS-232 Port



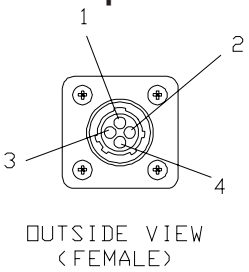
Pin	Description
1	CTS
2	XMT
3	RTS
4	RXD
5	GND
6	GND
7	+5V
8	+12V

4-Pin Power Input



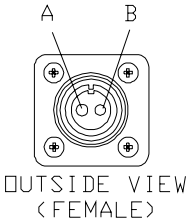
Pin	Description
1	+12V Input
2	GND
3	N/C
4	N/C

4-Pin Amp J-Box Interface



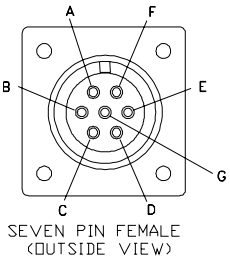
Pin	Description
1	+ Excitation
2	- Bridge
3	+ Bridge
4	-Excitation

2-Pin Power Input



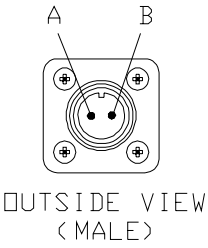
Pin	Description
A	+12V
B	GND

7-Pin J-box Interface



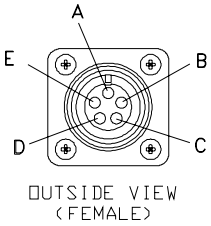
Pin	Description
A	- Bridge
B	+ Excitation
C	+ Bridge
D	- Excitation
E	- Sense
F	+ Sense
G	Shield

2-Pin Alarm Input



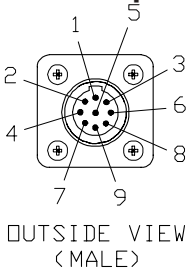
Pin	Description
A	+12V Alarm
B	GND

5-Pin Weigh Bar Input



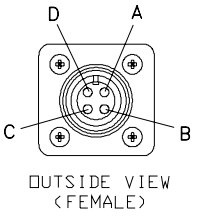
Pin	Description
A	- Bridge
B	+ Excitation
C	+ Bridge
D	- Excitation
E	Shield

RD64/XL/M Input



Pin	Description
1	+12V
2	+5V
3	Pwr Ret
4	GND
5	Seg Test
6	Data In
7	Clock
8	Load
9	Remote

4-Pin Weigh Bar Input



Pin	Description
A	GND
B	NA
C	NA
D	NA

Users Reference Chart

This page can be removed or copied from this manual and used to help the operator remember simple operating procedures. For detailed information on these and other procedures, reference the correct section of this manual.

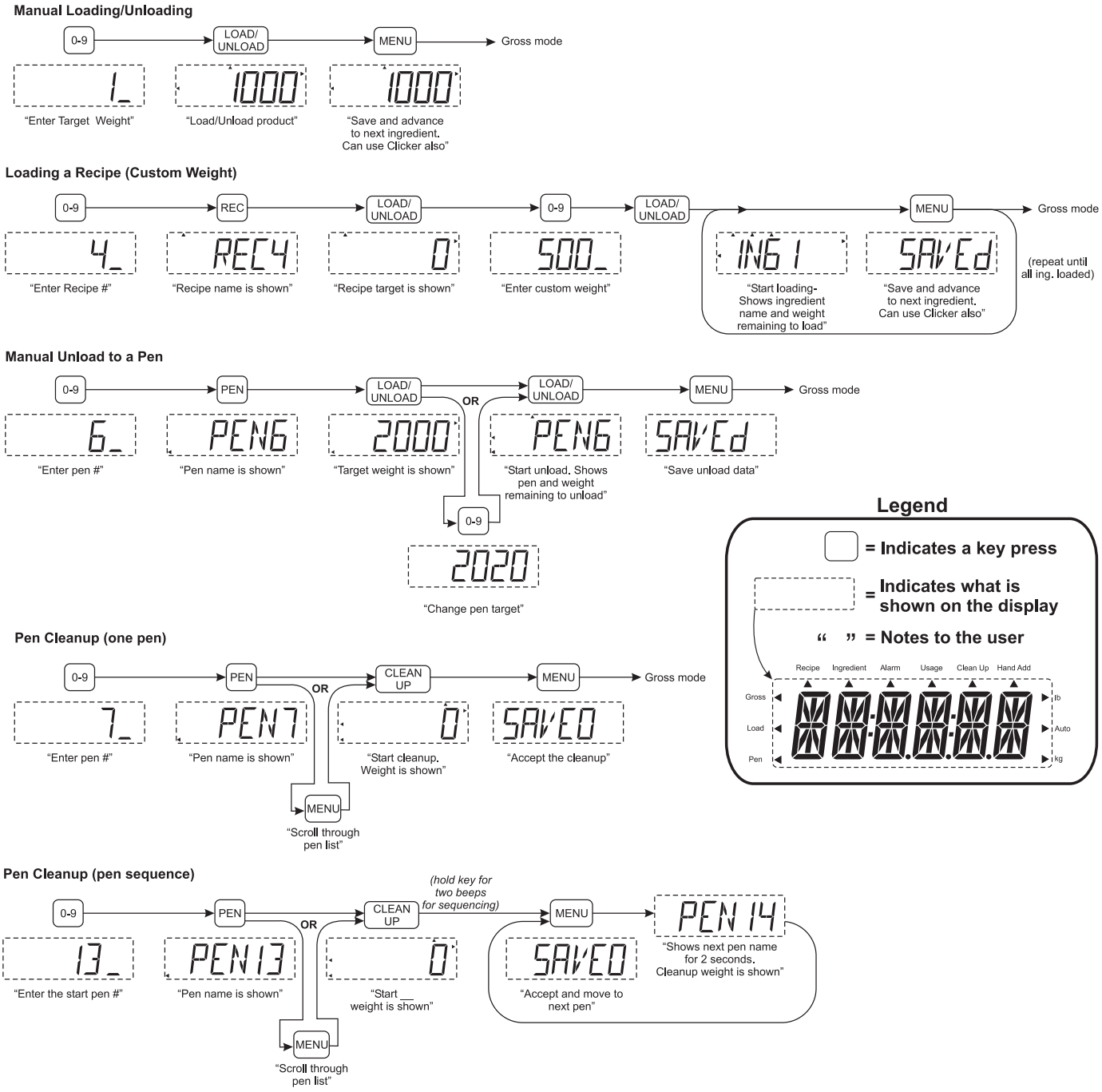
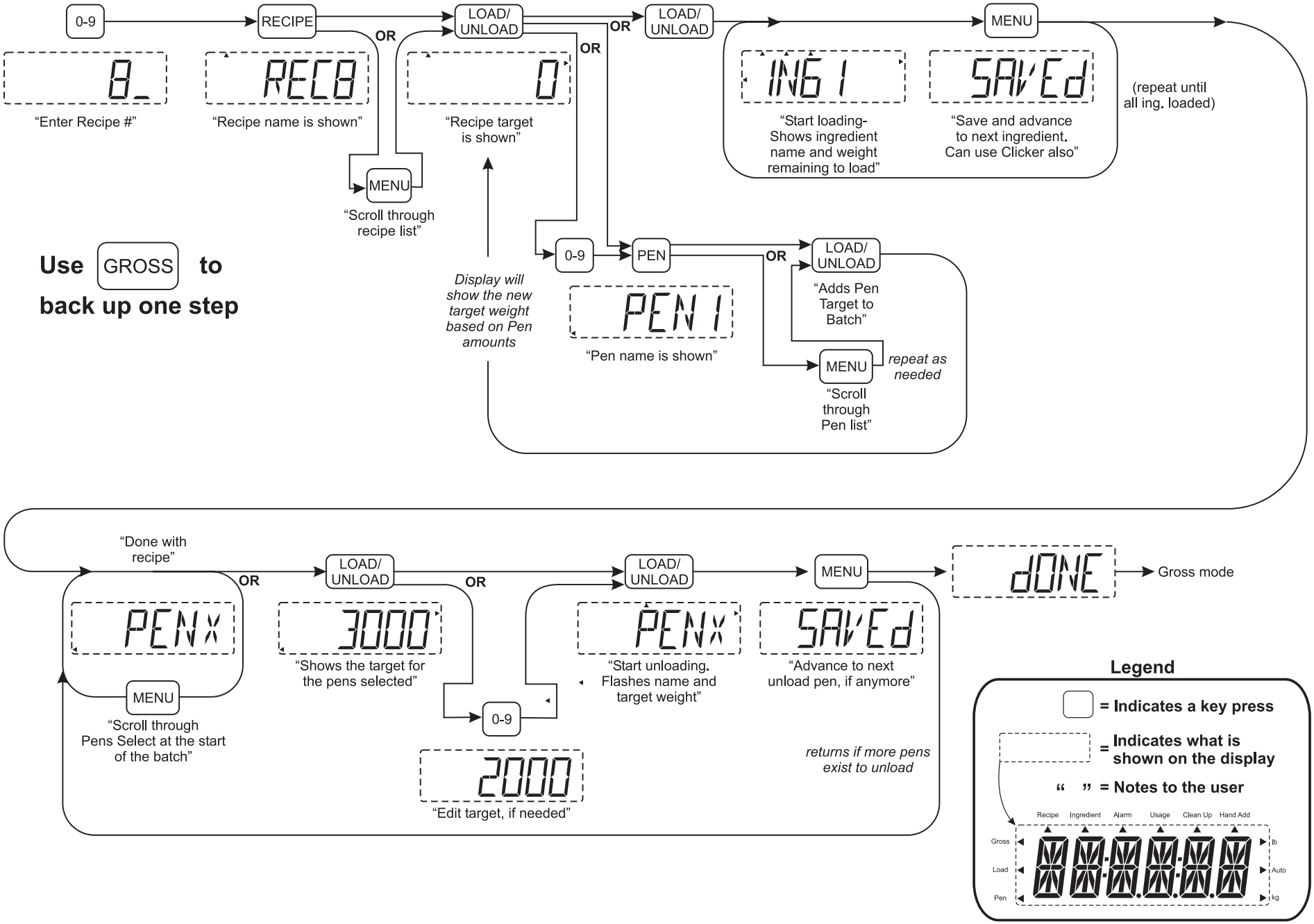


Figure 6
Quick reference charts

Loading a Recipe (batch weight derived from pen targets)



Operational Overview

Menus

The following is an operational overview of the 2040 indicator.

The indicator has the following menus:

- User menu (999)
- Test menu (111)
- Supervisor menu (FSPASS or 276177*)*
- Configuration menu (covered in the *Service Manual)*
- Factory calibration menu (covered in the *Service Manual)*

Gross Mode and Power Failures

The standard mode of operation is the gross mode. The Gross annunciator will be on and gross weight on the scale will be displayed.

After a power failure, when you power up the indicator you are given the opportunity to return to the step in any process you may have been in when the power failure occurred. This is important if you lose power in the middle of a batch and want to return to the ingredient you were loading.

If power is lost during batching of a recipe, the display will show *RETURN* when power is restored. If you want to exit the recipe process, press the **GROSS** key. If you want to return to the recipe process, press the **SELECT** key. The indicator will return to where it was when power was lost. If you were in the middle of loading an ingredient and don't remember what ingredient it was, press the **LOAD/UNLOAD** key to see the ingredient name.

Data Entry

All data entered will become one of the following:

- weight - All weight entered data will be rounded on a standard rounding scheme to the nearest division size. (Example: If you enter 5002, and the indicator is counting by 5's, once the next key is pressed signifying that it is weight, the display will show and record the entry as 5000).
- Time entry
- ID
- Quick print number
- Recipe or Pen number
- Recipe entry (If entering a recipe, all data will be allowed down to 1 lb/ kg. Rounding will be implemented when actually batching or printing recipes.
- Recipe, Pen, and Ingredient names.
- Head Counts

Anytime you enter data by mistake, the **ZERO/CLEAR** key will clear the data entry display and you can re-enter the correct data.

User Menu

Press the **GROSS** *key repeatedly to escape from any spot on the menu and return to the Gross mode.*

Figure 7 shows the User menu. All the user configurable parameters are set through this menu. This section deals with each of the items in the menu. You will be referred back to Figure 7 several times.

To enter the menu, press and hold the **MENU** key until you hear the unit beep three times (3 seconds). Release the key and the display will show *SET.PASS*. Use the keypad to enter 999. Press the **SELECT** key.

Use the **MENU** key to move to the right in the menu. Press **SELECT** to move down in the menu. When you are done configuring one of the menu items, press the **GROSS** key to move back up to the menu item.

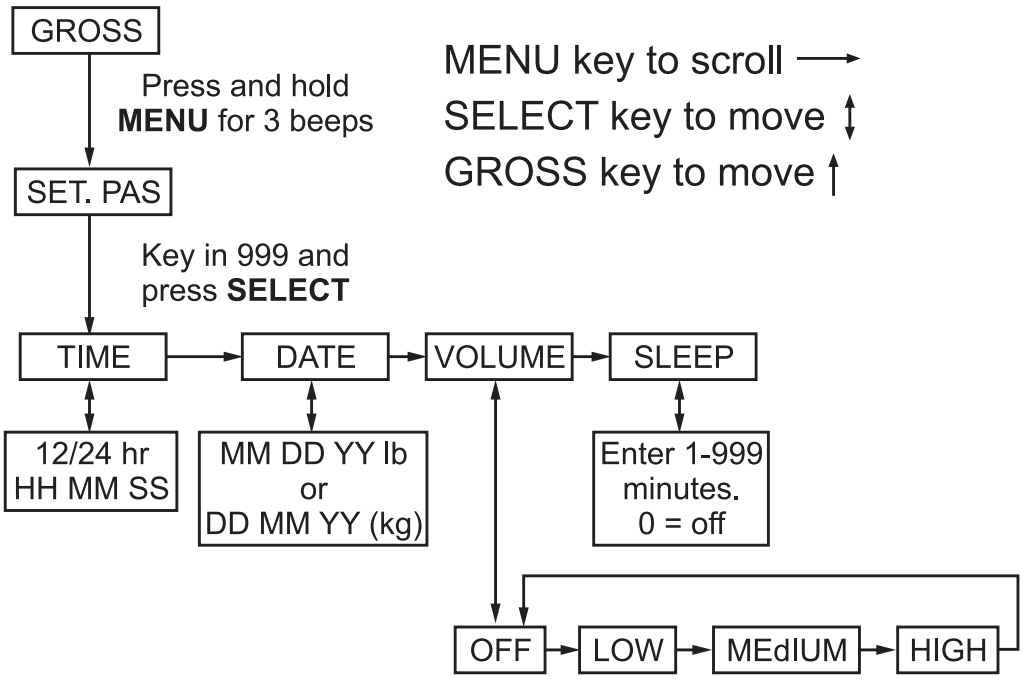


Figure 7
User menu

TIME

The Model 2040 has battery backed time and date features. Printouts can be configured for 24 hour or 12 hour styles but time must always be entered as 24 hr style. Follow these steps:

1. From the Gross mode, press and hold the **MENU** key for three beeps (3 sec), then release. . .

   SET.PAS is displayed.

2. Enter the USER password (999).

   TIME is displayed.

3. Press **SELECT**. . .

   Current time is shown.

4. To change time enter HHMSS and press **SELECT**. . .

   TIME is displayed

   To leave time as it is, press **SELECT**. . .

   TIME is displayed

5. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

DATE

The indicator has battery backed time and date standard. The date can be viewed or entered by following these steps:

1. From the Gross mode, enter the USER menu.
2. Press the **MENU** key repeatedly until *DATE* is displayed.
3. Press **SELECT**. . .

   If pounds is the current unit of measure, *MMddYY* is displayed momentarily, then the current date is displayed in MMddYY format.

   or

   If kg is the current unit of measure, *ddMMYY* is displayed momentarily, the current date in ddMMYY format

4. To change the date, enter MMddYY if in lbs or enter ddMMYY if in kgs and press **SELECT**. . .

   DATE is displayed

   To leave time as it is, press **SELECT**. . .

   DATE is displayed

5. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

VOLUME

(Default = high)

The Model 2040 has audible feedback on key presses that can be configured for OFF, low, medium, and high volume.

1. From the Gross mode, enter the USER menu.
2. Press the **MENU** key repeatedly until *VOLUME* is displayed.
3. Press the **SELECT** key. . .

   Current setting is shown

4. Press **MENU** repeatedly to scroll through choices. When you choice is displayed, press **SELECT**. . .

   VOLUME is displayed

5. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

SLEEP

(Default = 0, for off)

When the unit goes to sleep, the unit will first activate the audible alarm, and user has 10 seconds to press a key to reset the SLEEP timer. If a key hasn't been pressed within these 10 seconds the display shows SHTDWN, and the unit shuts off.

The Model 2040 has a sleep mode that will shut the unit off if no keys are pressed or the weight doesn't change by more than 1% over the number of minutes that you enter for the sleep setting.

1. From the Gross mode, enter the USER menu.
2. Press the **MENU** repeatedly until *SLEEP* is displayed.
3. Press the **SELECT** key. . .

   Current setting is displayed

4. Use the keypad and enter in the sleep shutoff setting from 0-999 minutes. . .

   Entered value is displayed.

5. Press the **SELECT** key. . .

   SLEEP is displayed. If an invalid entry is attempted, *CAN'T* will be displayed, and the user will need to enter a valid entry from 0-999.

6. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

Supervisor Menu

Press the **GROSS** *key repeatedly to escape from any spot on the menu and return to the Gross mode.*

Figure 8 shows the Supervisor menu. All the user configurable parameters are set through this menu. This section deals with each of the items in the menu. You will be referred back to Figure 8 several times.

To enter the menu, press and hold the **MENU** key until you hear the unit beep 3 times (3 seconds). Enter the Supervisor pass word, FSPASS (276177) and press the **SELECT** key. The display will show *EDIT*.

Use the **SELECT** key to move down from a menu item. Use the **MENU** key to move to the right in the menu. When you are done configuring one of the menu items, press the **GROSS** key to move back up to the menu item.

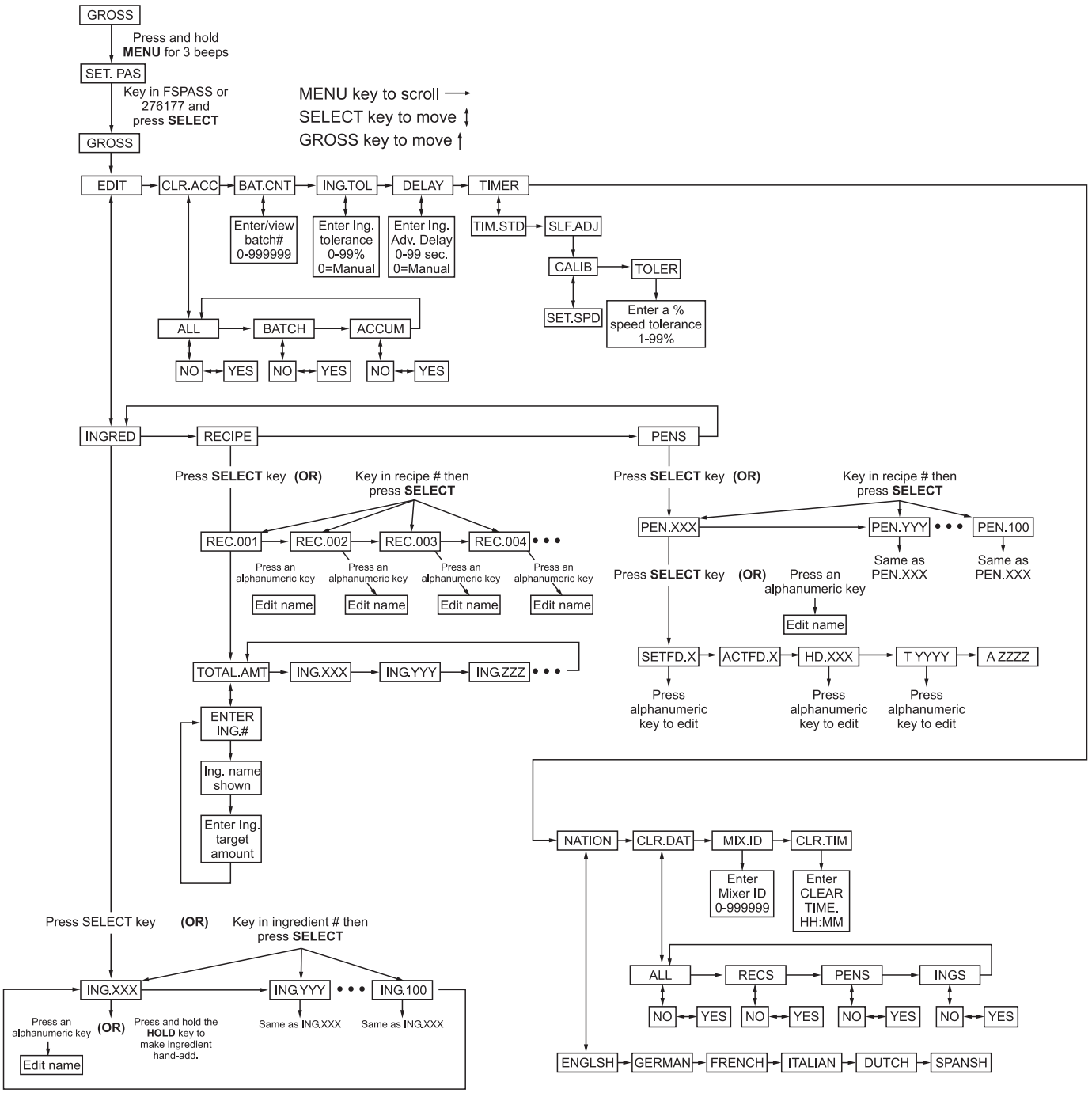


Figure 8
Supervisor menu

EDIT

If the scale is being used in the manual mode, the ingredient, recipe and pen information is not needed.

Use the EDIT menu to modify the ingredients, recipes and pens.

Follow these steps:

1. From the Gross mode, enter the Supervisor menu.
   EDIT is displayed.
2. Press the **SELECT** key once. . .
   ING.LST is displayed
3. Press the **SELECT** key to start editing the ingredient list or us **MENU** to scroll to recipes or pens, then press **SELECT**.
4. Press the **GROSS** key to return to the gross weighing mode.

See Automatic Batching section for more details on editing ingredients, recipes and pens.

CLR.ACC

The next menu item is CLR.ACC. Under this item you can choose to clear:

- ALL accumulators (the last 100 batch printouts/data and all ingredient, recipe and pen accumulators)
- BATCH accumulator ((the last 100 batch printouts/data)
- ACCUM (the ingredient, recipe and pen accumulators).

Follow these steps:

1. From the Gross mode, enter the Supervisor menu.
   EDIT is displayed.
2. Press the **MENU** key once. . .
   CLR.ACC is displayed
3. Press the **SELECT** key. . .
   ALL is displayed.
4. Use the **MENU** key to move through the choices. Display the one you want to clear and press **SELECT** key. . .
   NO is displayed.
5. Press **MENU** and *YES* is shown. Press **SELECT** key. . .
   WAIT is displayed while clearing, then *ALL*, *BATCH*, or *ACCUM* is displayed.
6. Press **GROSS** key. . .
   Unit returns to *CLR.ACC*.
7. Press the **GROSS** key to return to the gross weighing mode, or press the **MENU** key to move to the next menu item.

BAT.CNT

The next menu item is *BAT.CNT*. This stands for Batch Counter. The counter starts at 0 and increments each time a recipe is batched. This value is cleared each time the batched data is cleared under CLR.ACC. This counter goes up to 999999.

Follow these steps:

1. From the Gross mode, enter the Supervisor menu.
   EDIT is displayed.
2. Press the **MENU** key repeatedly until. . .
   bAT.CNT is displayed.
3. Press the **SELECT** key. . .
   Current batch counter is shown.
4. Press the **SELECT** key. . .
   bAT.CNT is shown
5. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

ING.TOL & DELAY

ING.TOL stands for Ingredient Tolerance. *DELAY* stands for ingredient advance Delay. These two parameters work together to make the Auto-advance feature work. Set ingredient tolerance as a percentage (1-99) and delay in seconds. See example below to help understand these items.

Example: Delay parameter is set to 20 seconds
Tolerance is set to 5%

When the ingredient weight being loaded falls within the tolerance and stays within the tolerance for the time set in the delay parameter, the indicator will auto-advance to the next ingredient.

If you undershoot the ingredient tolerance, you can advance the ingredient manually by pressing the **MENU** key on the 2040. If you overshoot, the display will alternate between *OVR.TOL* and the amount overloaded until the indicator doesn't sense motion, then it will advance to the next ingredient.

Follow these steps to set or view the *ING.TOL* parameter:

1. From the Gross mode, enter the Supervisor menu.
   EDIT is displayed.
2. Press the **MENU** key repeatedly until. . .
   ING.TOL is displayed
3. Press the **SELECT** key. . .
   Current tolerance setting is displayed.
4. Use the keypad to enter in the new tolerance. . .
   Entered tolerance value is displayed

*Auto-advance will take place **only** if an ingredient tolerance and an advanced delay parameter have values set at other than 0. If either parameter is set to 0, there will be no auto-advance.*

*The default setting is 0 for both parameters. This means auto-advance is **disabled**.*

*If an XM64 transmitter/receiver is installed into the 2040, press the XM64 button to advance to the next ingredient. **Do not use auto-advance if the 2040 system has the XM64 option.***

5. Press the **SELECT** key. . .
   ING.TOL is displayed
6. Press the **MENU** key to move to the *DELAY* menu item.

To set or view the *DELAY* parameter:

1. From the Gross mode, press and hold the **MENU** key for two beeps (2 sec), then release. . .
   LIST is displayed.
2. Press the **MENU** key repeatedly until. . .
   dELAY is shown
3. Press the **SELECT** key. . .
   Current delay parameter is shown
4. Use the keypad to enter in the new setting. . .
   Entered value is displayed.
5. Press the **SELECT** key and. . .
   dELAY is shown
6. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

TIMER

(Default setting = TIM.STD)

This parameter sets the timer mode for standard time or self-adjusting time. The self-adjust feature requires the mixer to be fitted with a proximity sensor to sense the speed of the mixer. Consult nearest distributor.

To set the timer mode:

1. From the Gross mode, enter the Supervisor menu.
   EDIT is displayed.
2. Press the **MENU** key repeatedly until *TIMER* is shown
3. Press the **SELECT** key . . .
   TIM.STD or *SLF.ADJ* is shown
4. Press the **MENU** key toggle between the choices.

5. Press **SELECT** when your choice is displayed. . .

   If you select *TIM.STD*, *TIMER* is displayed.
   If you select *SLF.ADJ*, *CALIB* is displayed. Use this to calibrate the desired mixing speed. Press **SELECT** to enter calibration mode.

   SET.SPD is shown. Make sure the mixer is at the target speed and press **SELECT**. The display will show *SPD.CAL* until there is enough data to calibrate. The display will show *CALIB* when done.

   Press the **MENU** key. . .
   TOLER is displayed. Use this to set up the speed tolerance.

   Press **SELECT**. . .
   Enter the tolerance (1-99%)

   Press **SELECT**. . .
   Display shows *TOLER.*

6. Press the **GROSS** key repeatedly to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

CLR.DAT

Used to clear all recipes programmed, all pens programmed, and all ingredient names.

1. From the Gross mode, enter the Supervisor menu.

   EDIT is displayed.

2. Press the **MENU** repeatedly until *CLR.DAT* is displayed.
3. Press the **SELECT** key. . .

   ALL is displayed.

4. Use the **MENU** key to scroll through the choices of data you want to permanently clear from memory. Choices are:

ALL	All data is cleared.
RECS	All recipes are cleared.
PENS	All pen data is cleared.
INGS	All ingredients are cleared.

5. Press the **SELECT** key when your choice is displayed. . .

   NO is displayed.

6. Press **MENU** and *YES* is shown. Press **SELECT** key. . .

   WAIT is displayed while clearing, then display shows *ALL*, *RECS*, *PENS* or *INGS*.

7. Press the **GROSS** key to return to *CLR.DAT*.
8. Press the **GROSS** key to return to the Gross weighing mode or press the **MENU** key to move to the next menu item.

This completes the Supervisor menu description.

MIX.ID

This is not needed if the Feed Supervisor® software is not being used.

The mixer id must be entered here so that the Feed Supervisor® software can identify the system that it is getting information from. Numeric numbers from 1-999999 can be used.

CLR.TIM

The Model 2040, when used in automatic batching mode, resets the pen information every day so the user knows what to feed. This clear time can be changes in this menu. Simply enter the clear time in HH:MM format.

Indicator Operation Methods

The M2040/XL has three different methods of use;

* Manual Loading/Unloading of ingredients.
* Automatic Loading/Unloading
* Automatic Loading/Unloading using the Feed Supervisor software.

Manual Load/Unload

When manual loading and unloading is used. The operator will make all the decisions about what is loaded. The M2040/XL indicator does not have ingredient, recipe and pen information loaded into it.

To view more details on Manual Operations, reference the *Manual Weighing Procedures* section.

Automatic Load/Unload

Automatic batching of recipes and unloading to pens is part of Automatic Loading/Unloading. As the operator makes recipes and unloads feed to groups of animals, all the data of the batch is stored in the M2040/XL indicator. This information can then be printed or viewed on the indicator. Before mixing is started, Ingredient, Recipe and Pen information must be entered into the M2040/XL.

To follow detailed steps on how to enter the required values into the M2040/XL, reference the *Configuring for Automatic Batching Procedure* section.

After entering all ingredient, recipe and pen data, follow the steps in the *Automatic Batching Procedure* section to male a batch.

Automatic Load/Unload using Feed Supervisor®

Automatic batching of recipes using the Feed Supervisor® (FS) software does not require entering the Ingredient, Recipe and Pen information. All of this information comes from the computer running FS. There is some special functions that the M2040/XL indicator can do when connecting to FS. They are:

* Quick transfer of data to and from the M2040/XL form FS.
* Recipe, Ingredient and Pen data does not need to be entered into the M2040 indicator. All data comes from FS.
* Recipes can be assigned to specific pens so misfeeding can be prevented.
* Multiple feeding per day can be specified in 1% increments. Example. 1st - 30% 2nd - 22% 3rd - 58%

After the Feed Supervisor data is transferred to the M2040, reference the section *Automatic Batching Procedure.*

Manual Weighing Procedures

Simple Weighing

1. Press the **ON** key. . .

   Display shows ***M 2040*** then ***HELLO***, then weight value is displayed in the Gross mode. If it shows ***RETURN***, the power must have been lost during a batching process and the indicator is asking whether to return to back. Press **SELECT** to resume batching process, otherwise **GROSS** to return to Gross mode.

2. Press the **GROSS** key. . .

   Live scale weight is displayed in the gross weighing mode.

3. Press the **ZERO/CLEAR** key. . .

   The weight on the display is zeroed.

Press **PRINT** to print the displayed weight value. Below is an example of a printout:

```
10000  lb
```

Loading/Unloading Ingredients Into A Mixer (Manual Operation)

*If you miskey, simply press **ZERO/CLEAR** and re-enter the proper amount.*

1. Zero the indicator before loading first Ingredient.
2. Key in the target weight of the first ingredient. . .

   Quantity to load/unload is displayed.

3. Press the **LOAD/UNLOAD** key. . .

   Target weight remains displayed, and the load and alarm annunciator turns on. (this sequence now has the alarm setpoint engaged)

4. Start loading/unloading the first ingredient. . .

   Display shows the net amount of what needs to be loaded/unloaded, decreasing from target amount towards zero. (It doesn't matter if you are loading or unloading)

   When displayed weight approaches within 50 lb/kg (default) of your selected target weight, the alarm light starts flashing once/sec. When your target is reached the alarm light stays on solid.

5. Stop loading/unloading when target weight is reached.
6. Press the ***MENU*** key to shut off the alarm and the display will return to the gross mode. Press ***ZERO/CLEAR*** to shut off alarm and remain in the Load/Unload mode with the previous target amount active. This is very handy for loading/unloading a series of equal amounts.
7. If *AUTO-HOLD* is enabled. . .

   The alarm shuts off and the indicator goes into Auto-Hold mode, displaying ***HOLD***)

   If *AUTO-HOLD* is off. . .

   The alarm shuts off, and the unit returns to the gross mode.

8. Move mixer to its next ingredient loading/unloading location. . .

   Display shows *HOLD*. Because the unit is in HOLD mode it will not allow the display weight to change because of the terrain. This will prevent a scale zero shift. Press **MENU** (or XM64) or **GROSS** key to return to Gross mode.

Loading Or Unloading Ingredients By Using the XM64 (Manual Operation)

The alarm light is nonfunctional in this loading/unloading sequence.

You can load or unload a series of ingredients or batched feed by using the XM64 transmitter/receiver. You must know the net amount to be loaded or unloaded. The XM64 gives you the ability to tare or zero each ingredient and view the net amount as you load or unload. The remote can also be used to indicate the gross amount between ingredients and can return the indicator to the gross mode when done loading by simply holding down on the XM64 for three or more seconds.

Follow these steps:

1. Be sure the mixer or scale system is empty and zero the indicator. . .
2. Press the **LOAD/UNLOAD** key. . .

   Zero value is shown, and the load and lb/kg annunciators turn on. This means the net weighing mode is on.

3. Load or unload material as needed. . .

   Net weight value increases. This is an absolute weight value. If you are loading or unloading it shows the amount loaded or unloaded so far.

4. When you reach the proper amount, stop loading or unloading material.
5. Press the **ZERO/CLEAR** button or the XM64 button. . .

   The net value shown is reset or tared back to zero, ready for the next amount.

   You may view the gross weight by pressing and holding the XM64 button. If you release the button within three seconds, the unit returns to the net mode showing zero.

   If you are done loading and now want to return to the gross mode for unloading, press and hold the XM64 button for more than three seconds.

   To return to the net mode, press **LOAD/UNLOAD**.

6. Load or unload additional quantities by repeating steps 3-5 as needed, otherwise, if done loading, press the **GROSS** key to return to gross weighing mode.

Using ID

The Model 2040 has a generic six digit ID that can be used as an operator ID number. This needs to be entered before doing any batching operations so the user is identified. This ID will be printed on the reports or transferred to the TDM-40.

Entering an ID

This ID is active on all printouts until it is changed or cleared from the indicator

To enter an ID number follow these steps:

1. From the Gross mode, enter the ID #, then press the **ID** key. . .

   ID number is displayed for two seconds, then the display returns to the Gross mode.

Viewing Current ID

1. From the Gross mode press the **ID** key. . .

   Current ID is displayed

2. Press the **GROSS** key to return to the Gross mode.

Clearing Current ID

1. Press the **ID** key. . .

   Current ID is displayed. If no ID exists, display shows *NO ID*, for two seconds and returns to Gross mode)

2. Press the **ZERO/CLEAR** key while the ID Is displayed. . .

   NO ID is displayed, and returns to the Gross mode.

Configuring for Automatic Batching Procedure

The Automatic Batching mode lets the user enter an ingredient list, build rations with those ingredients, and unload the batched feed to a group of animals or a pen. All of the Ingredient, Recipe, and Pen information must be entered into the M2040 before using the automatic weighing procedures.

All of the names are limited to a six character description. By using the automatic weighing mode, all batch details are saved in the 2040's memory. This information can be recalled in the future or printed out the serial port to a printer or a computer (See the Printing section). The 2040 will store 100 batches and 400 unloads. There are also accumulators that keep track of ingredient, recipe, pen and cleanup usage(See the USAGE section).

Ingredient List

To Set Ingredient Description Back to Default Setting
If you want to change back to the default description, access the proper ingredient and press and hold the **ZERO/CLEAR** *key for 2 beeps and release.* ***ING.CLR*** *will be briefly displayed and then returns to* ***EDIT****.*

To Setup Ingredient as an Hand-add
While ingredient name is displayed, press the **HOLD** *key and the Hand-add annunciator will illuminate. The ingredient will then always be treated as a hand-add ingredient. Press the* **HOLD** *key again to disable the tagging of an ingredient as a hand-add ingredient.*

1. Enter the Supervisor Menu by pressing and holding the MENU key fro 3 beeps. You must then enter a the supervisor password and press **SELECT**.

   EDIT is shown on the display.

2. Press **SELECT** to enter the Ingredient editing procedure.
   The first ingredient name is shown.
3. By pressing **SELECT** again, the first ingredient name is shown. All of the names are defaulted to ING.001, ING.002 ... ING.100.
4. Move to the location of the ingredient that will be changed and start entering the new ingredient name. Press **SELECT** when the name is complete. The new name is then shown.
5. Use the menu key to advance to the next ingredient location to edit and repeat this procedure until all of the ingredient names are entered.

If you need to jump directly to an ingredient instead of scrolling, when ING.LST is displayed, type the ingred number and press **SELECT**.

The 2040 can be programmed with 100 batching recipes. It can also track the unloading of a batched load into 150 pens. Recipes and pens can be custom named for ease of record keeping. This section covers the things you need to know about recipes and using the pen features.

Recipe Features

Each recipe can draw from a list of 100 ingredients. All ingredients and recipes can be labeled with up to six (6) alphanumeric character.

Recipes have the following features:

1. All recipes are based on weight (net or percentage). See the next section for details.
2. All recipes use the programmable pre-alarm warning light. This is configured in the CONFIG menu. 50 lb/kg is the default value.
3. All recipes can use auto-hold capabilities if enabled in the configuration menu.
4. One recipe can use a maximum of 32 ingredients.
5. Ingredients can be programmed to be hand-adds. This means they are small preweighed items that once loaded into the mixer are recorded as the programmed amounts in the recipe.
6. Recipes can use the auto-mix timer count down feature after the last ingredient has been loaded. This must be enabled in the configuration menu.

Creating a Recipe

100 ingredients standard. ING.001 to ING.100.

Figure 8 shows the Recipe menu. You can refer to this menu as you go through the process of creating recipes. The Model 2040 allows you to enter 100 recipes. You choose the ingredients for a recipe from the list of ingredients entered in EDIT in the Supervisor menu. Once programmed, any recipe can be quickly recalled for batching operations.

Following are the steps to creating a recipe:

1. From the Gross mode, enter the supervisor menu.

   EDIT is displayed.

   Enter the edit procedure by pressing SELECT.

   INGRED is displayed..

   Press MENU several times to get to recipe edit mode.

   RECIPE is displayed.

   Press SELECT to enter the recipe edit mode.

   The name of the first recipe is displayed. *REC.XXX* is the default name for each recipe that has not been changed.

2. You can change the name of the recipe by using the keypad (See the directions for entering alphanumeric characters found in *Entering Alphanumeric Characters*.) Once completed go to step 3.

3. If you are entering a new recipe *T 0* will be displayed. This is where the total weight of ingredients is shown for a recipe.
4. Press the **SELECT** key. . .

   ING is displayed.

5. Use the keypad to enter an ingredient number (X) from the INGRED (1-100). . .

   X is displayed.

6. Now press **SELECT**. . .

   The ingredient name is shown momentarily. (ex: CORN-1) and then. . .

   AMOUNT is shown

7. Enter in amount of that ingredient. . .

   Amount entered is shown

8. Now press **SELECT**. . .

   ING is displayed

9. Repeat steps 5-7 until all ingredients are entered, then press **SELECT**. . .

   TXXXXX is displayed. *XXXXX* is the total amount of ingredients.

10. Press **SELECT**. . .

    REC.001 (or your custom name) is displayed

11. Press **MENU** to move to the next recipe.

    REC.002 is displayed (or your custom name)

12. Repeat above steps until all recipes are programmed. Press **GROSS** to exit from recipe programming mode.

Recipe Editing Operations

Following are instructions for several editing operations you may need to do while maintaining your recipes and ingredient lists.

Deleting A Recipe

1. From Gross mode, enter the recipe #, then press and hold the **RECIPE** key until the recipe name is shown.
2. Press and hold **ZERO/CLEAR** key for 2 beeps (2 sec). . .

   REC.CLR is shown and then the recipe name is shown.

3. Press the **GROSS** key to return to the Gross weighing mode.

Changing Ingredient Quantities

1. Access the recipe you want to edit, see Figure 8, and use the **SELECT** and **MENU** key to view the ingredient you want changed.
   Press **SELECT**. . .

   Ingredient amount is displayed.

2. Use the keypad to enter in a new amount then press **SELECT**. . .

   Ingredient is displayed

3. Press the **GROSS** key to return to the Gross weighing mode.

Deleting Ingredients

Access the recipe you want to edit, see Figure 8, and use the **MENU** and **SELECT** keys to display the ingredient name you want deleted. Press and hold **ZERO/CLEAR** for two beeps (2 sec) and release the key.
Ingredient is deleted and next ingredient is shown.

Inserting Ingredients

Doing an insert will insert the new ingredient in front of the displayed ingredient.

1. Access the recipe you want to edit, see Figure 8, and use the **MENU** and **SELECT** keys to display the ingredient name where you want to insert the new ingredient.
2. Press and hold **SELECT** until *ING* is displayed.
3. Use the keypad to enter in the ingredient number (X) of a valid ingredient from the LIST (1-100). . .

   X is displayed.

4. Press **SELECT**. . .

   Ingredient name is shown momentarily (ex: CORN-1) and then *AMOUNT* is shown.

5. Enter in amount of that ingredient. . .

   Amount entered is shown.

6. Press **SELECT**. . .

   Next ingredient in the recipe is shown.

7. Press **GROSS** to return to the gross weighing mode.

Pen Editing

Pens are used to track the unloading of finished batched recipes. You can store unloading data for up to 150 pens. This data is saved and can be printed. Data saved and printed includes the date, time, pen number, pen description, weight unloaded and total unloaded.

Also, there is setup information for each pen.

- Feedings/Day is the number of time a day that the pen should be fed.

- Head Count is used to track how many animals are in the pen.

- Target is the total amount of feed that the pen should be fed for the day.

For more information on this data, see the Pen Details section.

Editing Pen Descriptions

The default names for pens are PEN.001, PEN.002, etc. Follow these steps if you want to customize the name to a six (6) character description.

1. Enter the Supervisor menu and got to PEN.LST which is in EDIT.

   The first pen is shown. Use MENU key to scroll to the pen to edit.

2. Use the keypad to enter in the description (example: COW-01). Press SELECT when complete.

3. Press **MENU**. . .

   PEN.057, the next pen, is displayed, in this example.

   or **SELECT**. . .

   PIG-01 is displayed, then press **MENU** and PEN.057, the next pen, is displayed.

4. Repeat steps 2-5 until all pen names have been properly edited and press **MENU** to scroll through and view all pen descriptions.

   To edit the Pen description, display the desired pen and use the keypad to change the description. If you want to change back to the default description simply access the desired pen name and press and hold the **ZERO/CLEAR** key for 2 beeps (2 sec) *PEN.CLR* is displayed and then the next Pen description is shown.

5. Press **GROSS** to return to Gross weighing mode.

If you enter a number higher than 150, CAN't will be displayed and the display will return to the previous display.

If you need to jump directly to an pen instead of scrolling, when PEN.LST is displayed, type the pen number and press SELECT.

Pen Details

Editing Pen Details

To help in planning the feedings for the day, each pen has feeding information that the feeder can enter to help keep track what is already fed and what is remaining.

1. To enter details for a pen, press **SELECT** when the pen name is shown.

   SETFD.1 is shown.

   This indicates that the pen will need to be fed one time a day. If the pen needs to be fed more times a day, enter the new value and press SELECT. (Use values from 1 to 9).

   SETFD.X is shown. X is the new number of feeding you entered.

2. Press **MENU** to move to the next pen detail.

   ACTFD.0 is shown.

   This is how many time the pen has already been fed for the day. Editing this value is not allowed.

If you enter a number higher than 150, CAN't will be displayed and the display will return to the previous display.

3. **MENU** will move to the next detail.

   HD . 0 is displayed.

   This is the head count for the pen. The head count is the number of animals in the pen. Enter a new value and press SELECT.

   When the head count is changed, the target amount for the pen is changed in the same proportion.

   Example: If the pen target is 5000 and the head count is 100, then the head count is changed to 50, the resulting target weight is 2500.

If you need to jump directly to an pen instead of scrolling, when PEN.LST is displayed, type the pen number and press SELECT.

4. Press **MENU** to move on.

   T 0 is displayed.

   This is the pen target weight for the day. Enter the correct value and press **SELECT**. Valid amounts are between 0 and 99999.

5. Press **MENU** again to move to view the actual amount fed for the day.

   A 0 is shown.

   This is the amount of feed that the pen has been fed for the day. This value can not be changed.

When **MENU** is pressed again, we will return back to step 1 of the pen details.

Automatic Batching Procedure

Basic Batching Steps

These sets are used when using Feed Supervisor® or standard automatic weighing.

The batching procedure can be split into five tasks:

-Selecting a recipe to make.
-Entering a target weight or deriving a target weight from pen targets.
-Loading the ingredients that are in the recipe.
-Mixing the ingredient for a set time.
-Unloading to groups of animals, or pens.

These are the steps to follow for basic feed batching:

Selecting a Recipe
(1-100 are valid recipes)

1. Enter a recipe number and press the **RECIPE** key.

   The corresponding recipe name is shown. Use the **MENU** key to scroll to the desired recipe.

2. Press **LOAD/UNLOAD** to enter a target weight.

   The target weight is shown.

3. For a custom weight, enter the weight and press **SELECT**. Go to step 4 to continue.

   or....

   To derive the batch size from the target weights of valid pens, press the **PEN** key.

   The first pen name is shown...

   Use the **MENU** key to scroll through the pen list. When the desired pen is found, press the **LOAD/UNLOAD** key to add the pens target weight to the batch target.

   Repeat these steps to add more pen targets to the batch target.

4. After the target weight for the batch is decided, press the **LOAD/UNLOAD** key to start the batching process.

   The first ingredients name and target weight will flash at one second intervals.

Loading Ingredients

5. Start loading the ingredient.

   As you load, the target weight will decrease. When the weight drops by 25%, the name of the ingredient will not be displayed, only the weight.

6. Depending on the system configuration. . .

   A. Auto advance- User can enter tolerance and ad-delay parameters under the user menu.

   If target stays within the tolerance (ING.TOL) setting, and within advance-delay (dELAY) parameter, the system will automatically advance to the next ingredient. If target goes over or under user must use the MENU key to advance forward on the indicator. (AUTO-HOLD DOESN'T FUNCTION IN THIS MODE).

   B. Manual Advance Method- When amount loaded is close as possible, either press the **MENU** key on the model 2040, (or the

XM64 transmitter /receiver if installed), from the front end loader to advance to the next ingredient. If AUTO-HOLD is turned on user will press the key once to get into the hold mode. Now the system can be moved and not affect the target value because of zero shift from moving the mixer. Display will show *HOLD*. Pressing the key again once the system has been moved, will now move to the next ingredient. If this is the last ingredient, the unit will return to Gross weighing mode.

Please remember a hand-add ingredient is a small ingredient that when added will be recorded always as target amount instead of actual amounts.

SAVED will be shown on the display for a short time.

Repeat steps 5 and 6 until all the ingredients are loaded.

7. If a custom weight was used for the batch target, the M2040 will return to the gross weighing mode. (Skip to step 8 if the pen targets were used to derive the batch target.)

Unloading to Pens

The pens must be manually selected to unload for all custom ration weights. (View the Manual Pen Unloading section.)

8. If the batch target weight was derived from the pen targets, the first pen name that was selected will be shown.

PEN.XXX is shown.

Manual Unloading

9. If this is the first pen that you want to feed, press the **LOAD/UNLOAD** key.

or

Press the **MENU** key repeatedly to select the correct pen then press **LOAD/UNLOAD**.

The Pen target weight is shown.

Auto Pen Unloading (Derived batch weight only.)

10. Either press the **LOAD/UNLOAD** key to accept the weight and move on the unloading...

or

Enter a new unload weight and press the LOAD/UNLOAD key.

11. Press the **MENU** key or the XM64 to save the pen data.

The next pen in the list will then be shown. Repeat steps 8-10 until there are no more pens to be fed for that recipe.

"DONE." is shown on the display when the pens are fed.

If Feed Supervisor is being used, all printing is disabled.

12. Also, if unit is setup for AUTO-PRINT, the following printout will be printed if a printer is installed:

```
10/08/01        Batch 1
Id Number:      123456
Recipe 1:       FR-COW
Load Amount:    10000 lb
Time     Description  Target     Actual
12:01 PM CORN          4000 lb    3900 lb
12:10 PM HAY-1         3000 lb    3030 lb
12:20 PM COTTON        3000 lb    2980 lb
         TOTAL        10000 lb    9910 lb

Time     Pen Name     Target     Actual
12:40 PM PEN-1         5000 lb    5050 lb
12:50 PM PEN-2         5000 lb    4900 lb
```

End of Automatic Batching Section

Other Operations

This section covers the variety of other operations available with the Model 2040.

Manual Hold Mode

Auto holding within the recipe mode was discussed in an *Loading/Unloading Ingredients Into A Mixer*. There is also a manual hold using the **HOLD** key to prevent a zero shift from occurring while moving a portable TMR mixer system over rough farm terrain.

Follow these steps:

1. In the Gross mode ,before moving the mixer system press **HOLD**. . .

   HOLD will be displayed

2. Now move the system and when reaching the new loading or unloading point, press either the **HOLD** or **GROSS** key. . .

   Gross weight will be displayed.

When using the hold mode, you must be sure to deactivate hold mode when loading or unloading the mixer.

Feed Supervisor® Data Transfer

When using the Feed Supervisor® software, all of the data needed to make feed needs to be transferred to the M2040 indicator from FS. Make sure that there is a connection between the M2040 indicator and FS.

To transfer from the M2040 indicator:

Press and hold the **MENU** key for 2 beeps (2 seconds)...

TRNFSR is displayed for a short time, then *YES* is shown.

Press the **SELECT** key to start the transfer.

When the transfer is complete, the indicator will return to the *Gross* weighing mode.

Connection options:
** Direct cable connection.*
** TDM transfer module.*
** Wireless RF connection.*

Mix Timer Operation

The Model 2040 has a mix timer feature that can be configured for one of two methods; Time mix or Self Adjust Time.

Time Mix

After a batch is loaded, you can activate a timer, or the Model 2040 can be configured to activate the timer automatically.

Configure this under user's menu-TIMER/TIME. MAX time = 5959, or 59 minutes and 59 seconds. Invalid data entry will be displayed as *CAN'T*. You need to clear the data and re-enter it as a valid time.

1. From the gross mode, enter in timer in minutes/seconds. . .

   MMSS is displayed

2. Press the **TIMER** key. . .

   TC MM:SS is displayed for three seconds, and then starts counting down. When the end of the timer cycle is reached the red alarm light is lit.

3. Press the **GROSS** key to disable and return to the Gross mode.

To view the current timer setting:

1. From Gross mode, press **TIMER**. . .

   TC MM:SS is displayed (*MM:SS* is the last entered value) for three seconds, then timer starts to count down.

2. Press **GROSS** to return to the gross mode.

Self Adjust Time

This option requires that a magnetic proximity sensor be installed onto the mixer to provide speed inputs to the Model 2040 every time a full rotation is detected. Overall operation is the same as standard time, but will adjust depending on speed.

The target speed must have been calibrated prior to correct operation.

1. Press the **TIMER** key. . .

   SPD.CAL is shown while the speed of the mixer is calculated. Then, the new adjusted time is shown; ST:MM:SS and the timer will count down.

The operation from this point is the same as standard Time Mix.

Viewing the Accumulators

The Model 2040 automatically records ingredient, recipe and pen usage when using recipes and pen unload features. The following describes how to view the accumulators on the indicator. Refer to Figure 9.

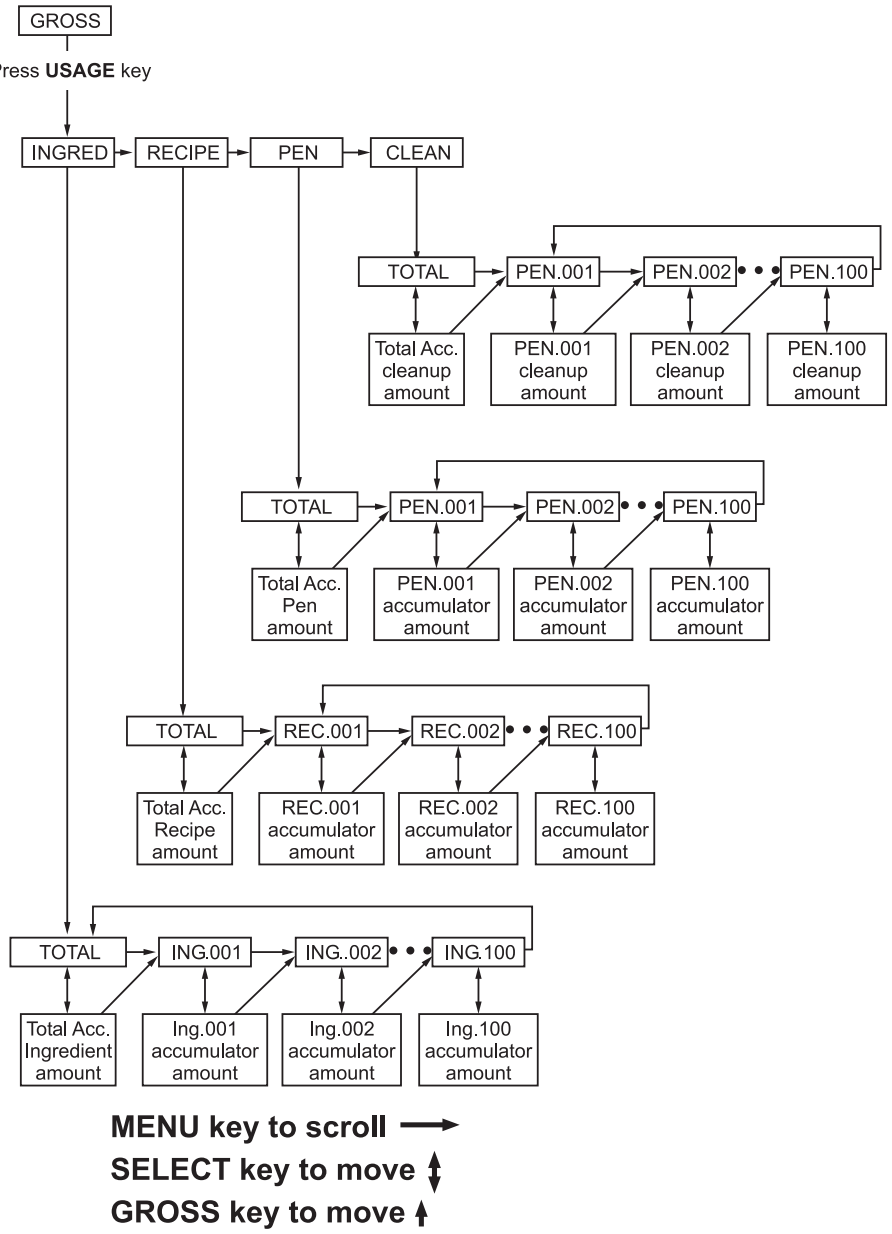


Figure 9
Usage Accumulator

Viewing the Ingredient Usage Accumulators

To quickly go to specific ingredient accumulator, from TOTAL, enter ingredient number and press **SELECT**. *The ingredient description is displayed.*

1. From the Gross mode, press the **USAGE** key. . .
   INGRED is displayed. Refer to Figure 9.
2. Press the **SELECT** key. . .
   TOTAL is displayed.
3. Press the **SELECT** key. . .
   The total of all the ingredients is displayed.
4. Press the **SELECT** key . . .
   TOTAL is displayed

   OR press the **MENU** key. . .
   ING.XXX is displayed
5. Press the **MENU** key several times until the ingredient to view is displayed. . .
   ING.XXX is displayed.
6. Press the **SELECT** key . . .
   ING XXX accumulator is displayed.
7. Press the **SELECT** key . . .
   ING.XXX is displayed

   OR press **MENU** key. . .
   ING.YYY is displayed
8. Repeat steps 6-7 until done viewing accumulators.
9. Press **GROSS**. . .
   INGRED is displayed.
10. Press **GROSS** to return to the gross weighing mode.

Viewing the Recipe Usage Accumulators

To quickly go to specific recipe accumulator, from TOTAL, enter recipe number and press **SELECT**. *The recipe description is displayed.*

1. From the Gross mode, press the **USAGE** key. . .
   INGRED is displayed. Refer to Figure 9.

   then press the **MENU** key. . .
   RECIPE is displayed.
2. Press the **SELECT** key. . .
   TOTAL is displayed.
3. Press the **SELECT** key. . .
   The total of all the recipes is displayed.
4. Press the **SELECT** key . . .
   TOTAL is displayed

   OR press the **MENU** key. . .
   REC.XXX is displayed.

5. Press the **MENU** key several times until the recipe to view is displayed. . .
   REC.XXX is displayed.

6. Press the **SELECT** key . . .
   REC XXX accumulator is displayed.

7. Press the **SELECT** key . . .
   REC.XXX is displayed

   OR press **MENU** key. . .
   REC.YYY is displayed

8. Repeat steps 6-7 until done viewing accumulators.
9. Press **GROSS**. . .
   RECIPE is displayed.

10. Press **GROSS** to return to the gross weighing mode.

Viewing the Pen Accumulators

To quickly go to specific pen accumulator, from TOTAL, enter the pen number and press **SELECT**. *The pen description is displayed.*

1. From the Gross mode, press the **USAGE** key. . .
   INGRED is displayed. Refer to Figure 9.

   then press the **MENU** key twice. . .
   PENS is displayed.

2. Press the **SELECT** key. . .
   TOTAL is displayed.

3. Press the **SELECT** key. . .
   The total of all the pens is displayed.

4. Press the **SELECT** key . . .
   TOTAL is displayed

   OR press the **MENU** key. . .
   PEN.XXX is displayed

5. Press the **MENU** key several times until the pen to view is displayed. . .
   PEN.XXX is displayed.

6. Press the **SELECT** key . . .
   PEN.XXX accumulator is displayed.

7. Press the **SELECT** key . . .
   PEN.XXX is displayed

   OR press **MENU** key. . .
   PEN.YYY is displayed

8. Repeat steps 6-7 until done viewing accumulators.
9. Press **GROSS**. . .
   PENS is displayed.

10. Press **GROSS** to return to the gross weighing mode.

Viewing the CleanUp Accumulators

To quickly go to specific pen cleanup accumulator, from TOTAL, enter the pen number and press **SELECT**. *The pen description is displayed.*

1. From the Gross mode, press the **USAGE** key. . .
   INGRED is displayed. Refer to Figure 9.

   then press the **MENU** key until. . .
   CLEAN is displayed.

2. Press the **SELECT** key. . .
   TOTAL is displayed.

3. Press the **SELECT** key. . .
   The total of all the pens is displayed.

4. Press the **SELECT** key . . .
   TOTAL is displayed

   OR press the **MENU** key. . .
   PEN.XXX is displayed

5. Press the **MENU** key several times until the pen to view is displayed. . .
   PEN.XXX is displayed.

6. Press the **SELECT** key . . .
   PEN.XXX cleanup accumulator is displayed.

7. Press the **SELECT** key . . .
   PEN.XXX is displayed

   OR press **MENU** key. . .
   PEN.YYY is displayed

8. Repeat steps 6-7 until done viewing cleanup accumulators.
9. Press **GROSS**. . .
   PENS is displayed.

10. Press **GROSS** to return to the gross weighing mode.

The XM64 Transmitter/Receiver

The XM64 transmitter serves a variety of functions depending on the mode the indicator is setup for. The STD configuration parameter sets the transmitter so it acts as follows:

1. If you are doing mixer loading (Load/Unload mode):

   If you press and release the clicker, the indicator tares to 0.

   If you hold the clicker down for more than a second, gross weight is displayed as long as the clicker button is depressed.

   If you hold the clicker button for more than three seconds, the unit remains in the GROSS mode.

2. If the indicator is in recipe or pen mode:

   Press the clicker to advance to the next ingredient. If the last ingredient or pen is being displayed, it advances to the Gross mode.

   If unit is set for AUTO-HOLD the XM64 needs to be pressed twice. If not the XM64 only needs to be pressed once.

Printing

Press the **PRINT** key from Gross Load/Unload mode to print the displayed weight.

```
      10000  lb
```

There are nine Quick Prints. These are nine preset print formats. Each is explained below.

To perform a Quick Print key in the desired number (1-9), then press **SELECT**, then **PRINT**.

Printouts fit on a 40 character WP-233 printer.

Using the Quick Prints, you can transfer appropriate data to WP-233 printer, TDM-40 (Transfer Data Module) or a computer.

QUICK PRINT 1 (Prints active ingredient listing)

Any ingredient tagged with an (*) means it is a pre-weighed hand-add ingredient. When used in a recipe, it will be saved in the accumulators as the target value not the actual.

```
03-18-03     10:03 AM
Ingred.#     Description
1            CORN
2            HAY-1
3            COTTON
4            BARLEY
5            MOLASS
6            SILAGE
7            CORN-2
8            S-BEET
9            FHAY
10           HAY-2
```

QUICK PRINT 2
(Prints active unload pen listing, ones that have a target value.)

```
10-18-01        11:50 AM
Pen#            Description
1.              PEN-1
2.              PEN-2
3.              PEN-3
4.              PEN-4
5.              SMITH
6.              CUST-1
7.              CUST-2
```

QUICK PRINT 3:
(Prints all Recipes)

*If recipe was created with Head Count as the entry method, **Load Amount** will be replaced by **Head Count** in the sample at right.*

```
10-18-01        3:00 PM
Recipe 1:       FR-COW
Load Amount:    10000 lb
Ingred.  Description  Target
1        CORN         4000 lb
2        HAY-1        3000 lb
3        COTTON       3000 lb
         Total        10000 lb
```

QUICK PRINT 4:
(Prints last 100 batches)

*If recipe was created with Head Count as the entry method, **Load Amount** will be replaced by **Head Count** in the sample at right.*

```
10/08/01        Batch 1
Id Number:      123456
Recipe 1:       FR-COW
Load Amount:    10000 lb
Time      Description  Target      Actual
12:01 PM  CORN         4000 lb     3900 lb
12:10 PM  HAY-1        3000 lb     3030 lb
12:20 PM  COTTON       3000 lb     2980 lb
          TOTAL       10000 lb     9910 lb

Time      Pen Name     Target      Actual
12:40 PM  PEN-1        5000 lb     5050 lb
12:50 PM  PEN-2        5000 lb     4900 lb
```

QUICK PRINT 5
(Prints a listing of all active ingredient accumulators with usage)

10-17-02 6:00 AM

Ingred.	Description	Usage
1	CORN	17000 lb
2	HAY-1	6000 lb
3	COTTON	5000 lb
4	BARLEY	4000 lb
5	MOLASS	4000 lb
6	SILAGE	1000 lb
7	CORN-2	20000 lb
8	S-BEET	30000 lb
9	FHAY	40000 lb
10	HAY-2	50000 lb
	Total	177000 lb

QUICK PRINT 6
(Prints a listing of Recipe Accumulators with usage)

10-17-02 6:20 AM

Recipe	Description	Usage
1	FR-COW	20000 lb
2	H-COW	22000 lb
	Total	42000 lb

QUICK PRINT 7
(Prints a listing of Pen Unloading Accumulators with usage)

10-18-02 11:00 AM

Pen #	Description	Usage
1	PEN1	20000 lb
2	PEN2	22000 lb
	Total	42000 lb

QUICK PRINT 8
(Prints the Recipe/Ingredient Accumulators)

```
12-07-02   08:07 AM
Recipe 1:  REC.001
Ingred.    Description  Usage

30         ING.030      10000 lb
40         ING.040      10000 lb
50         ING.050      10000 lb
60         ING.060      10000 lb
           Total        40000 lb

Recipe 2:  REC.002
Ingred.    Description  Usage

15         ING.030      10000 lb
20         ING.020      25000 lb
40         ING.040      30000 lb
50         ING.050      15000 lb
           Total        80000 lb
```

QUICK PRINT 9
(Prints the Pen Cleanup Accumulators)

```
12-07-02   08:07 AM

Pen.       Description  Cleanup

1          PEN.001        400lb
4          PEN.004        129lb
6          PEN.006        200lb
22         PEN.0022       300 lb
           Total         1029lb
```

QUICK PRINT 10
(Parameter Printout)

```
Ready...

System Configuration Settings
03-18-03   01:04 PM

User's Menu

Batch  Cntr:     0
Tolerance:       0
Delay:           0
Timer:           TIME
  Time:          05:00
Entry:           WEIGHT
  Mode:          NORMAL
Time:            01:04 PM
Date:            03-19-03
Volume:          HIGH
Sleep:           0
Nation:          ENGLSH

2040  Menu

Firmware  Rev:   55422-0012A
Basic  App  Rev: 155799  0A
Config  Number:  10000
Custom:          0
O-cap:           2000
Clock:           12 Hr Format
Alarm:           50
Name  Flash:     ON
Input:           STD Mode
Input2:          STD Mode
Update:          2
Average:         30
FILTER
  Const:         4
  Window         0
AZT:             0
Stable:          0
RS232.1
  Baud:          9600
  Parity:        NONE
  Data:          8 bits
  Handshake:     NONE
  Layout:        STD
  Auto:          OFF
RS323.2
  Baud:          9600
  Parity:        NONE
  Data:          8 bits
  Handshake:     NONE
  Layout:        OFF
  Auto:          OFF
```

Indicator Diagnostics

The test mode is used to test various functions of the 2040 Indicator. The test menu is shown in Figure 10. Instructions for using the test menu are found below.

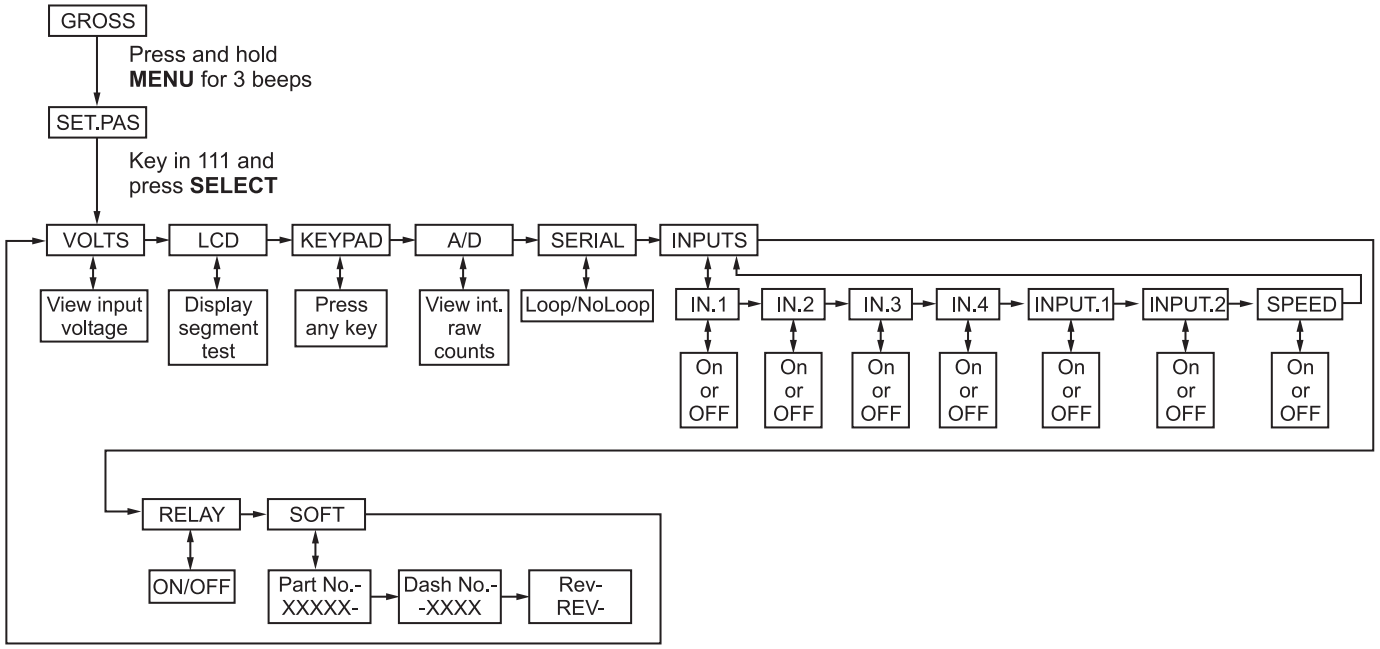


Figure 10
Test Menu (password 111)

You can test the following functions of the indicator with this menu:

VOLTS	Monitor the input voltage of the indicator
LCD	Perform a test of the LCD display
KEYPAD	Perform a key test
A/D	Test the Analog to Digital function
SERIAL	Check serial ports 1 and 2
INPUTS	Check the 7 TTL inputs (INPUT.1 is XM64, SPEED is for Self Adjusting Time mode.
RELAY	Check the alarm relay
SOFT	Verify the software version of the indicator

Use the **MENU** and **SELECT** keys to navigate the menu shown in Figure ? Step by step instructions appear below.

Access the Test Menu

1. Press and hold the **MENU** key for 3 beeps (about 3 seconds). Release the key. . .

   SET.PAS is displayed.

2. Key in the password, 111, and press the **SELECT** key. . .

   VOLTS is displayed.

Volts test

3. This allows you to check the 12 VDC input voltage the Model 2040 is receiving. With *VOLTS* displayed, press the **SELECT** key. . .

   Current voltage is displayed.

   Press the **GROSS** key twice to return to gross weighing mode
   or
   Press **SELECT** to return to the *VOLTS* display.

LCD test

4. From *VOLTS* display, press the **MENU** key. . .

   LCD is displayed. Use this to perform a self-test of the LCD display, complete display test or segment test.

5. Press the **SELECT** key. . .

   TEST is displayed.

6. Press the **SELECT** key. . .

   Display performs a display test for 15 seconds then *TEST* is displayed.

7. Press the **MENU** key. . .

   SEGMNT is displayed.

8. Press the **SELECT** key. . .

   Display performs a segment test for 70 seconds then *SEGMNT* is displayed.

9. Press the **GROSS** key to return to the *LCD* display. From here you can
   Press the **GROSS** key again to return to gross weighing mode
   or
   Press **MENU** to advance to next menu item. . .

   KEYPAD is displayed.

Keypad test

10. This allows you to test all the active keys. With *KEYPAD* displayed, press the **SELECT** key. . .

    HIT.KEY is displayed momentarily then *NO KEY* is displayed. This remains on the screen until a key is pressed. Press any key to see an echo of its name on the display. CAUTION: If you press the **MENU** key you will exit the test.

11. Press the **MENU** key to stop the test. . .

    KEYPAD is displayed.

12. Press the **GROSS** key to return to gross weighing mode
    or
    Press **MENU** to advance to next menu item. . .

    A/D is displayed.

A/D test

13. Use this to see the actual A/D raw counts value on the display. From *A/D* display, press the **SELECT** key. . .

    CNTS is shown momentarily then the actual A/D raw counts.

14. Press the **SELECT** key. . .

    MV/V is shown momentarily then the actual mV/V reading is shown.

15. Press the **SELECT** key. . .
    A/D is shown.

16. Press the **GROSS** key to return to gross weighing mode
    or
    Press **MENU** to advance to next menu item. . .
    SERIAL is displayed.

Serial test

17. Use this to test the serial ports. From *SERIAL* display, press the **SELECT** key. . .
    PORT 1 is displayed.

18. Press the **SELECT** key. . .
    NOLOOP is displayed.

19. Short the XMT to RCV lines. . .
    LOOP should be displayed.

20. Press **SELECT**. . .
    PORT 1 is displayed.

21. Press the **MENU** key. . .
    PORT 2 is displayed.

22. Repeat steps 18-20. . .
    PORT 2 is displayed.

23. Press the **GROSS** key to return to gross weighing mode
    or
    Press **MENU** to advance to next menu item. . .
    INPUTS is displayed.

Inputs test

24. Use this to test the inputs in the 2040. From the *INPUTS* display, press the **SELECT** key. . .
    IN.1 is displayed.

25. Press the **SELECT** key. . .
    OPEN or *CLOSED* is displayed.

26. Press the **SELECT** key. . .
    IN.1 is displayed.

27. Press the **MENU** key. . .
    IN.2 is displayed.

28. Press the **SELECT** key. . .
    OPEN or *CLOSED* is displayed.

29. Press the **SELECT** key. . .
    IN.2 is displayed.

30. Repeat steps 27-29 until all inputs are checked.
31. Press the **GROSS** key to return to *INPUTS* and then press **MENU** to advance to next menu item. . .

    RELAY is displayed

    or

    Press the **GROSS** key to return to gross weighing mode.

Relay test

32. Use this to test the alarm light relay. From *RELAY* display, press the **SELECT** key. . .

    ON/OFF is displayed. While this is displayed the alarm light should flash two times per second.

33. Press the **SELECT** key. . .

    RELAY is displayed.

34. Press the **GROSS** key to return to gross weighing mode
    or
    Press **MENU** to advance to next menu item. . .

    SOFT is displayed.

Soft test

35. Use this to view software version information for the 2040. From the *SOFT* is display, press the **SELECT** key. . .

    PART is displayed.

36. Repeatedly press the **MENU** key to view all the information available. When you have gone through all the displayed information, *SOFT* is displayed.
37. Press the **GROSS** key to return to gross weighing mode
    or
    Press **MENU** to advance to return to the first menu item. . .

    VOLTS is displayed.

RD64/XL/M Remote Displays and XM64 Remote Transmitter

Remote Displays

The RD64XL/M are remote displays that are compatible with the Model 2040. See Figure 12. (An RD64 output option is required on the Model 2040 for interfacing.) The interface cable plugs directly into the bottom of the Model 2040. Any data displayed on the Model 2040 is also displayed on the RD64.

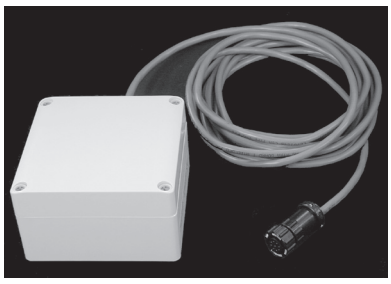
RD64XL remote display
(XM64 optional)

RD64M remote display
(Mirror mount)

Figure 12
Remote Displays

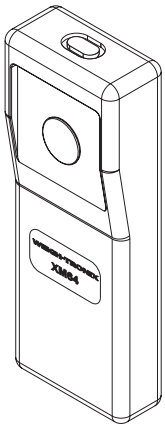
XM64 Remote Transmitter/Receiver

An optional radio remote transmitter and receiver (XM64) can be installed in either the RCV-64 or the RD64XL.



This option lets the user manually advance to the next ingredient from a remote location, usually a front-end loader.

<RCV-64 XM64>



Troubleshooting

If you experience problems in the operation of your system, read through these troubleshooting steps and perform those which are appropriate. This information may help you to correct the following operational difficulties without calling your supplier or sending your equipment in for repair:

- Power-on
- Indicator Over or Under Capacity
- Inaccurate Weight Readings
- Measuring the Supply Battery Voltage

Instructions for sending an indicator in for repair are provided in the last section under *Service Repairs*.

Power-On

If your indicator does not power-on, check the following possible problem sources in the order given. Attempt to power-on after trying each of these four troubleshooting steps:

1. **Check Battery Voltage.** Required voltage is 10-17 volts DC negative ground. If the voltage is between 9-10 volts, the indicator will display *LOW.BAT.* The indicator will automatically turn off if the incoming voltage drops below nine volts or rises above 17 volts.
2. **Disconnect and Check Power Cable Connector** at the vehicle or AC to DC converter, clean if necessary, and reconnect.
3. **Replace Fuse.** Sometimes, a bad fuse can be recognized by an obvious break in the wire filament. However, such a break is not always observable, and getting a successful power-on after changing a fuse is often the only way of knowing that the fuse was indeed defective.

   Make sure the new fuse is the proper size and has a current rating of five amperes. Using a fuse with too high a current rating can cause costly damage to the indicator and will void your warranty. The same is true for substituting wire, a nail, or any other object in place of a fuse.

   Place nothing in the fuse connector except a proper fuse.

   Try to power-on after changing the fuse (see instructions below for replacing the fuse).

   To replace the fuse, remove the 12 front panel screws.

   1. Flip front panel out.
   2. Locate fuse in lower corner of main PC board.
   3. Pull blown fuse out and replace.
   4. Re-install and tighten the 12 front panel screws.

4. **Test Indicator and Cables** to isolate the source of the problem.

   a. Disconnect all cables on bottom panel of Indicator except for power cable. Do disconnect Weigh Bar® cables, and, if present, alarm cable remote display cable, etc.

   b. Now try powering-on. If this is not successful, your problem is in the indicator and you should contact your supplier.

   c. If you are able to power-on with only the power cable connected, your problem is probably not in the indicator; continue troubleshooting.

d. With power still on, plug in cables, one at a time — Weigh Bar® cables first, then alarm cable, then printer/remote display cable, etc. — until plugging in one of the cables causes the indicator to shut off. That cable is the bad one and needs to be repaired or replaced.

Indicator Over/Under Capacity

An over-ranged indicator is represented by upper dashes or lower dashes.

1. **Test the Weigh Bar® cables** to isolate the source of the over-range problem, as follows:

   a. Disconnect all Weigh Bars®.

   b. Try to zero the indicator by pressing **GROSS** and **CLEAR**.

   - If you are **unable** to zero the indicator with the Weigh Bars® disconnected, the problem is in the indicator and you should contact your supplier.
   - If you are **able** to zero your indicator with the Weigh Bars® disconnected, then the problem is probably in the Weigh Bars® and you should continue troubleshooting.

2. Reconnect all Weigh Bars®. You will see upper or lower dashes displayed again.

3. If your Weigh Bar® connectors have the four-pin configuration, disconnect one Weigh Bar® and connect an adapter plug in its place.

   If your Weigh Bar® connectors have the five-pin configuration, disconnect one Weigh Bar®. No adapter plug is necessary.

4. Try to zero the indicator.

   Repeat Steps 4 and 5 with each Weigh Bar® cable, making sure each time that all cables are connected except the one you removed (for five-pin connector) or replaced with an adapter plug (for four-pin connector).

   A defective Weigh Bar® may be easily recognized with this method — **when a defective bar is replaced with an adapter plug** (for four-pin connector), **or removed** (for five-pin connector), **the indicator will zero properly.**

Inaccurate Weight Readings

First: Visually Inspect The Scale System for apparent problems and improper installation:

1. Check each cable, from source to indicator, for stress, cuts, breaks, or abrasions.
2. Unplug and reconnect each connector at the indicator to verify that it is tight and making good contact.
3. Check the hitch Weigh Bar® and verify that mounting bolts are tight and the hitch is not binding.
4. Check between the wheels and frame of the implement for mud and debris that might restrict Weigh Bar® movement.
5. Check between supporting structure and weighing structure for debris that might restrict Weigh Bar® movement.
6. Make sure the supporting structure and weighing structure do not touch each other at any point except at the Weigh Bars®.

Next: Compare Weight Readings for All Weigh Bars®:
Position a person or heavy object on the platform above each Weigh Bar®, one bar at a time, and compare weight readings for the same person or same object.

For each weighing, the weight itself will be off-center, favoring a single Weigh Bar®; therefore, none of the readings will be accurate.

However, your readings obtained by weighing the same person or object above each Weigh Bar® should be nearly identical to each other. A single Weigh Bar® reading that is significantly different from the others is probably defective.

Measuring Supply Battery Voltage

To check battery voltage:

1. Press and hold **MENU** for three beeps.
   SET.PAS is displayed.
2. Enter 111. Press **SELECT**. . .
   VOLTS is displayed.
3. Press **SELECT** to display incoming battery voltage.
4. Press **SELECT** to return to *VOLTS* .
5. Press **GROSS** to return to gross weighing mode.

Service Repairs

If you find the indicator or one or more of the Weigh Bars® to be defective, contact your supplier, or send your equipment back to the factory for repair, postage prepaid.

Include the following information:

1. Your name and address
2. Supplier name and address
3. Date of purchase
4. **Important:** An informal note describing symptoms of the problem.
5. If possible, the make and model number of equipment the Model 2040 is used on.

If you need contact or additional information, please access www.agscales.com. If you would like to purchase a service manual, the PN is 29812-0015.

Windows® Setup

You must have Microsoft Windows® 98 or XP.

Use **HYPERTERMINAL**, the communications package in Microsoft Windows 95® to download information from the Model 2040 to the computer. This can be used to capture all the print formats when not using the Feed Supervisor® software package.

Setting up the HYPERTERMINAL icon:

1. Click on the Windows START ICON.
2. Go to Programs, then Accessories, and the click on HyperTerminal
3. Double click on the Hyperterminal ICON, and Execute Hypertrm.exe
4. Enter a name for the connection description EXAMPLE: M2040

   and click on the ICON you choose to use for this application.
5. Click on OK and it will ask for Phone Number: On the “connect using” scroll to “Direct to

   Com 1” and click on OK.
6. Now comes up with COM1 properties, select the following settings:

Bits per second:	9600 (std default baud rate for the Model 2040 or any other baud rate as long as it matches the Model 2040)
Data bits:	8
Parity:	None
Stop bits:	1
Flow control:	Xon/Xoff
7. Click on OK and then select File, and Save.
8. Return to Hyperterminal window

Setting up Model 2040 Shortcut to COM1:

1. In the Hyperterminal window. right click on the M2040.ht ICON created above.
2. Right click on Shortcut, which will immediately create a shortcut to M2040.ht with the same ICON as before, only with an additional arrow in the ICON.
3. Right click on the new ICON, and then right click on properties.
4. Click on Shortcut, and change “start in” to example c:\winword\dwnld, making sure you have already created this directory in your file manager. Change to where ever you want the shortcut path to store all your M2040.ht shortcut data transfers in that directory to recall the data files later. Then click on OK.

Creating a download directory (REFERENCE)

1. Double click on Explorer Icon.
2. Assuming we want to create c:\winword\dwnld directory, click on C;\WINWORD
3. Click on FILE, NEW, FOLDER.
4. In the name field, type in dwnld, and then click on OK. The directory c:\winword\dwnld has now been created for storing all the download files.

To Download

1. Take the supplied computer interface cable and plug into COM port (9 pin) on the computer, and the serial port (8 Pin) on the bottom of the Model 2040 indicator. See illustration at left.
2. Within the HyperTerminal window, double click on the new M2040.ht ICON
3. Click on transfer, and then Capture Text and type in the file you want to save the data transfer in (Example May 21.doc), notice the Capture text screen will come up with the Folder name that you specified above when creating the shortcut. In this example the Folder:C:\winword\dwnld will appear.
4. Then click on Start...
5. Using the Model 2040 transfer the appropriate data from the indicator by pressing **PRINT**, or enter 1-9, then press **SELECT**, then **PRINT** to transfer accumulators or batch information to your computer. See earlier sections of this manual on how to transfer appropriate data.
6. Click on File-Save. as your current data transfer will be saved.
7. Click on Call-disconnect, and then return to HyperTerminal Windows.
8. Once completed, return to Explorer, and retrieve the saved files, to edit, print, etc.

Transfer Data Module (TDM-40)

Weigh-Tronix has an optional Transfer Data Module (TDM-40) that has two PC packages available:

A. TDM-40/TDS-40	Simple collection of batched data.
B. TDM-40/TDS-2040	Bidirectional interface. Create recipes on computer and input into 2040. Collect batched data on all batches performed.

Please consult your OEM or Weigh-Tronix distributor for more details on these options.

Standard Scale & Supply Company
25421 Glendale Avenue
Redford, MI 48239
313-255-6700
www.standardscale.com

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