GT460
Operators Manual

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GT 460 FEATURES

One Button Operation

The GT 460 indicator has many features but it also boasts simple operation using 〔START STOP〕 before unloading and again after unloading. Weight, date, time and additional notes are all stored automatically using only 〔START STOP〕

USB Port

USB flash drive has capacity to hold thousands of data records and allows easy data transfer to your office PC. Records can be stored for an entire season in the indicator memory and on one 256 Megabyte USB Flash drive

Grain Tracker^{TM}

Grain Tracker^{TM} software provided with GT 460 indicator allows generation of a variety of reports on your PC. Reports can be read by programs such as Microsoft Excel^{TM}, Adobe Acrobat^{TM} and Microsoft Internet Explorer^{TM}.

Memory Capacity – 13,000 loads.

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CHARGING BATTERY OR WELDING

Scale Indicator

Disconnect all cords
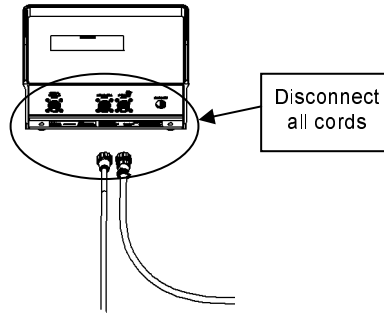
Important: Disconnect all indicator leads before charging battery or welding. Damage may occur to indicator and load cells.

INDICATOR OVERVIEW

① (FIELD) – Enter and exit Field screen (Page 11).

② (START STOP) – Start or stop unloading operation.

③ (►0◄ ZERO) – Press and hold to zero balance the scale.
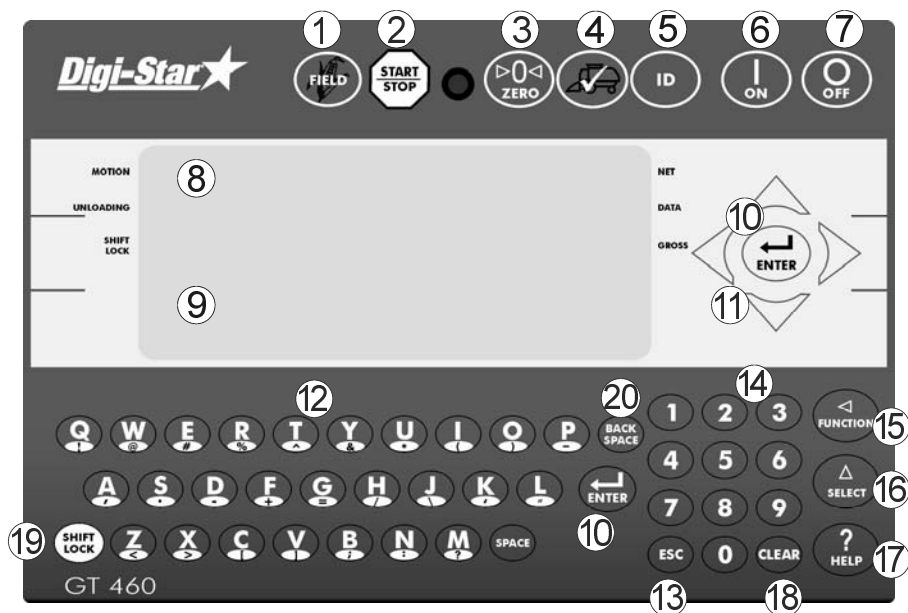
④ – Check combine yield monitor (Page 17).

⑤ (ID) – Enter and exit ID screen.

⑥ (| ON) – Turn indicator on.

⑦ (O OFF) – Turn indicator off.

⑧ Upper Display Window – Displays current actions or weight – 6 characters.

⑨ Lower Display – Displays recorded data – 26 characters x 3 rows.

⑩ (ENTER) – Accept change or proceed to next item.

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⑪ <u>Directional Arrows</u> – Left or right arrows move cursor inside data field. Up and down arrows move to previous or next data field. List scrolls faster the longer the Up/Down arrow is held down.

⑫ <u>Qwerty Keyboard</u>

⑬ **(ESC)** – Escape or undo last data change.

⑭ <u>Numbers Keypad</u>

⑮ **(FUNCTION)** – Performs task displayed by select.

⑯ **(SELECT)** – Scroll thru function key operation

⑰ **(? HELP)** – For additional information.

⑱ **(CLEAR)** – Delete one character in data entry field. Press and hold to delete entire data entry field contents.

⑲ **(SHIFT LOCK)** – Press and release. Then press key with desired special character.

⑳ **(BACK SPACE)** - Press to backspace. Press and hold to backspace faster.

BOTTOM PANEL CONNECTIONS
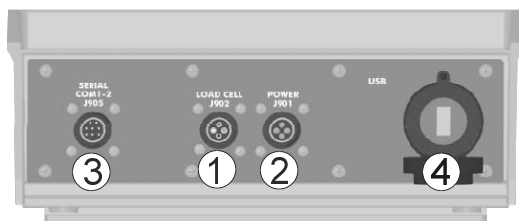
① Load Cell

② Power – 12VDC

③ Serial/Printer – Used to communicate with computer, data downloader (DDL) or printer.

④ USB – Port for USB Flash drive

INDICATOR DISPLAY SCREENS

Four display screens can be shown on the Indicator:

Active Screen

Statistics including ID, Time, Gross Weight, Print Accumulator and Field Name. See page 9.

Data Record Screen

Data records including Field Name, Net Weight, Print Accumulator, ID, Date and Time. See Page 10.

Field Screen

150 field names are available and can be modified using the keypad. See Page 11.

ID Screen

150 ID names are available and can be modified using the keypad. See Page 12.

ACTIVE SCREEN

Indicator needs to be on this screen before loading or unloading.

① Current weight.

② Current ID name.

③ Current gross weight.

④ Current field name.

⑤ Time (3:33 PM shown).

⑥ Print accumulator (PA) for current field.

DATA RECORD SCREEN

The indicator creates "**data records**" containing these data fields each time the operator completes a load.

- Press escape to view last stored record.
- Press ⌃ or ⌄ to scroll through all previously stored records.

① Load Number.

② Field name (26 characters).

③ Weight (weight that was unloaded for this load).

④ ID name (6 characters) (Use for CART ID or TRUCK ID).

⑤ Date (November 24, 2008 shown).

⑥ Time (5:34 PM shown).

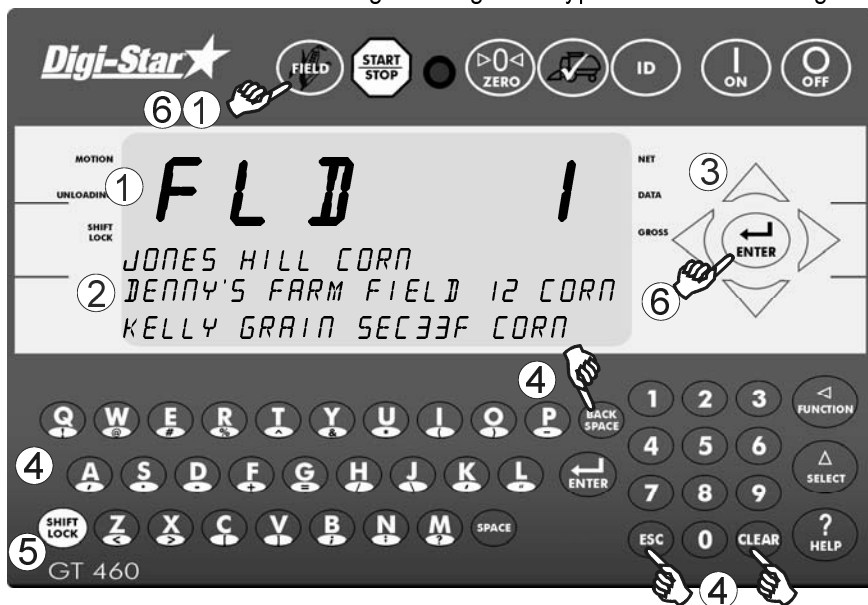⑦ Accumulated weight (total of all loads for selected field).

Note: This screen is shown for only 10 seconds before reverting to the Active screen.

FIELD SCREEN

Note: Field names can be uploaded from a PC using a USB flash drive. See pg 13.

Field names can be a maximum of 26 characters long.

Field names can be changed using the keypad before unloading.

① Press (FIELD) to modify or select field. Current field number is shown in upper display.

② Three lines are displayed in Lower Display Window. The top line of the three is current, editable and will be used for next data record.

③ <u>Up/Down Arrows</u> – Press △ or ▽ to scroll through fields (150 maximum). Hold arrow to scroll faster. Use ◁ or ▷ to move cursor within data line.

④ Use keypad to enter or update field names. Press (BACK SPACE) to delete characters to left and (CLEAR) to delete the selected character. Hold (CLEAR) to delete entire line. Pressing (ESC) will reset line to last saved data.

⑤ To use special characters press and release (SHIFT LOCK). Then press key with desired special character. Repeat for each special character required.

⑥ Press (ENTER) or (FIELD) to exit.

ID SCREEN

Note: ID names can be uploaded from a PC using a USB flash drive. See pg 13.

ID names can be a maximum of 6 characters long.

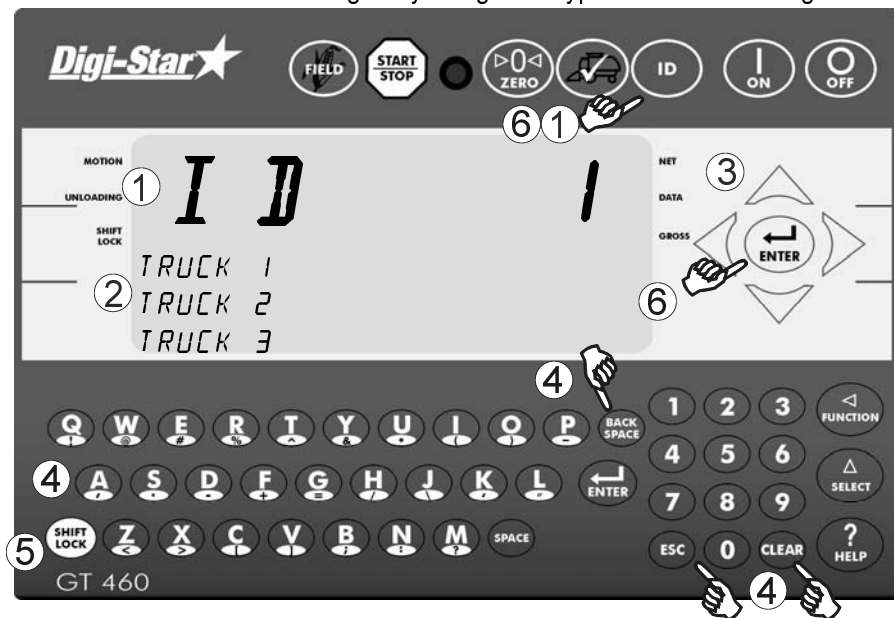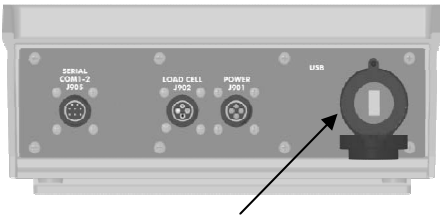ID names can be changed by using the keypad before unloading.

① Press **ID** to modify or select ID name. Current ID number is shown in upper display.

② Three lines are displayed in Lower Display Window. The top line of the three is current, editable and will be used for next data record.

③ <u>Up/Down Arrows</u> – Press △ or ▽ to scroll through ID names (150 maximum). Hold arrow to scroll faster. Use ◁ or ▷ to move cursor within data line.

④ Use keypad to enter or update ID names. Press **BACK SPACE** to delete characters to left and **CLEAR** to delete the selected character. Hold **CLEAR** to delete entire line. Pressing **ESC** will reset line to last saved name.

⑤ To use special characters press and release **SHIFT LOCK**. Then press key with desired special character. Repeat for each special character required.

⑥ Press **ENTER** or **ID** to exit.

TRANSFER DATA

The indicator is equipped with a USB Flash drive port. The USB flash drive used with the indicator holds thousands of data records and allows for easy transfer to PC.

Insert USB Memory Stick here to download data records

1. Insert USB flash drive. Indicator will automatically detect the USB flash drive

Transfer Field & ID Data From USB to Indicator

2. Press 9 to transfer field names and ID names from USB flash drive to indicator.

3. Press ESC to exit. Remove USB flash drive from socket. Display returns to active screen.

⚠️ **Important:** This action will overwrite Field names, ID names and Accumulator in the indicator.

Transfer Records from Indicator to USB Flash Drive

1. Press ENTER to save records to USB.

Note: This action appends values already on the UBS flash drive. No data is lost.

OPERATION

Turn On Indicator

1. Press ![ON button]
2. Press and hold ![ZERO button] to zero balance scale if the bin is empty.

Record Data

1. Press FIELD to select required field name. See page 11.

2. Press ID to select required ID. See page 12.

Note: Make sure Indicator has returned to the active screen.

3. Press START STOP before unloading grain from cart. Scale will read Zero and enter the net mode.

4. Unload grain from grain cart. The Upper Display shows the amount unloaded. Gross value (total amount left on cart) is displayed on second line of Lower Display.

5. Press START STOP once the unloading process is complete.

When the unloading process is complete:

- The data record is stored in memory.

- The data record is printed.

- The data record screen will display the last data record for 10 seconds.

- The indicator will return to active screen.

Recorded Data Preview

1. Press [ESC] to see last data record.

2. Press ▽ or △ to scroll record data.

3. Press [ESC] to immediately return to the active screen. After 10 seconds of no keypad activity, the Indicator will return to the active screen.

Check Combine Yield Monitor

For best accuracy, park on a level surface when pressing [START STOP].

1. Press [icon]

2. Bottom line displays *WEIGH COMBINE GRAIN*.

3. Select ID Name. See page 12.

4. Press [START STOP] and unload grain from combine into cart. Press again when unloading is complete to record data.

RE-CALIBRATING YOUR SCALE

To re-calibrate your scale and make it even more accurate, document at least 3 to 6 loads of varying sizes and measure the actual weight of all loads on a certified scale.

- It must be assured that each truck is not losing grain in transit to a certified scale.
- Weigh the truck immediately before unloading and immediately after unloading to minimize errors due to changes in fuel etc.

In this example, we are unloading six carts of grain onto four semi-trucks.

Example:

Cart Load A	51560
Cart Load B	33240
Cart Load C	17620
Cart Load D	50420
Cart Load E	38200
Cart Load F	12360
Total Indicator Weight	**203400**
Truckload #1	51920
Truckload #2	51320
Truckload #3	50720
Truckload #4	51070
Total Certified Weight	**205030**

Reading Too High

If the Indicator is reading higher than the certified scale, then the calibration number is high and should be decreased proportionally. See page 19.

Reading Too Low

If the Indicator is reading lower than the certified scale, then the calibration number is low and should be increased proportionally. See page 19.

Get your Calibration Number

1. Enter **872** and press (SELECT). The calibration (**CAL**) number will display. Example **CAL = 24280.**

$$\frac{\text{TOTAL CERTIFIED WEIGHT}}{\text{TOTAL INDICATOR WEIGHT}} \text{ X CURRENT CAL NUMBER=NEW CAL NUMBER}$$

Using the previous example your results would be:

$$\frac{\textbf{205030}}{\textbf{203400}} \text{ X 24280 = 24475}$$

Enter New Calibration Number

1. Enter **872** and press (SELECT). Existing calibration number will display.

2. Use number pad to type new number and press (ENTER)

For best results, unload on level ground. Make sure no grain is lost in trucking the grain to a certified scale.

DAILY DATA COLLECTION

Insuring your data is secure from theft, fire or equipment failure requires a small effort each day to store your data on a USB flash drive.

Mid-Season Name Changes

During the season, you may wish to delete and add field names or ID names to your scale indicator memory. This may be done in one of two ways.

Front Panel

For a small amount of changes, edit field names and ID names using the keypad on the front panel. See page 11 and 12 to edit field names and ID names. See page 22 to erase accumulator memory.

Upload New Field Names, ID Names and Accumulator Using USB Flash Drive

For a large number of changes, perform the changes on your PC using Grain Tracker^{TM} software and then transfer the new information to the indicator using a USB flash drive.

Before doing this, transfer your existing field accumulator data from the indicator to the USB flash drive and onto your PC. This keeps the proper accumulator values on partially finished fields.

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To Store Data Records on a USB Flash Drive
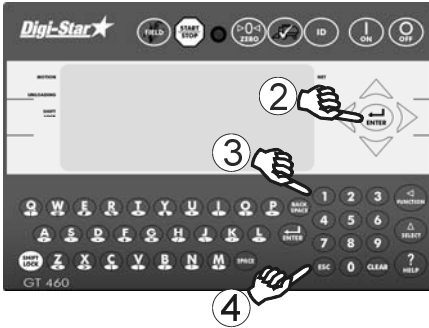
1. Insert a good working USB flash drive into the USB port on the bottom of the indicator. Wait for the indicator to acknowledge the USB flash drive.

2. Press [ENTER] to transfer the data record onto the USB flash drive. Wait for data transfer to be completed.

3. Press [1] to transfer the field and ID names onto the USB flash drive. Wait for data transfer to be completed.

4. Press [ESC].

5. Remove the USB flash drive from the USB port.

Modify Field Names and ID

Using Grain Tracker^{TM} software:

- Upload data records from USB flash drive to the PC.

- Delete field names that are already finished and clear their accumulators.

- Add new field names as needed.

- Transfer the new field names, accumulators and ID names onto the USB flash drive.

Note: To upload data to indicator, you must first create data files with field names, ID names and accumulator values using Grain Tracker^{TM} software.

Clearing the Indicator Memory Before Starting a Season

Before starting the harvest each year you will want to clear out the last year's data records and accumulators to start over with a clean slate. You may have some new field names and ID names to store into the indicator as well.

⚠ **Important:** Before erasing the data records, be sure that the data records have been safely stored.

Erase Grain Tracker™ Data Records

⚠ **Important:** This action will erase all data records.

1. Press ◯ OFF .

2. Hold (CLEAR) and press ❘ ON . Continue to hold (CLEAR) until *PRINT BUFFER* displays.

3. Release (CLEAR)

4. Displays scrolls *ENTER = ERASE ESC = EXIT.*

5. Press (ENTER) erases all records.

6. Press (ESC) to return to active screen without erasing records.

Zero Accumulator Memory

1. Select field name of accumulator to be erased. See page 11. Return to the active screen.

2. Press (SELECT) repeatedly until *ACCUM* is displayed.

3. Press (FUNCTION)

4. Press (ZERO) to delete current field accumulated value, press (FIELD) to erase all 150 accumulated records or press (ESC) to exit

Note: This operation only erases the accumulator data, field names, ID names and data records are not affected.

Optional Settings

Backlight Dimmer

1. Press ⟨SELECT⟩ until dimmer is displayed.

2. Press ⟨FUNCTION⟩ reduces backlight intensity by 60%. Press ⟨FUNCTION⟩ again for full intensity.

Unload Alarm

The unload alarm beeper can be set to:
  Off – no beep
  1 – short beep
  2 – medium beep
  3 – medium long beep
  4 – longest beep
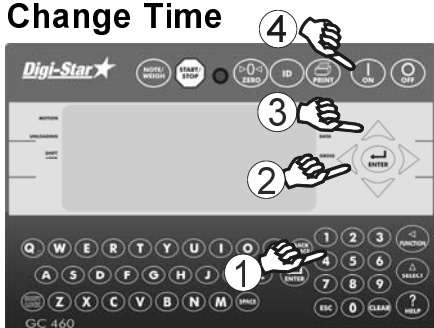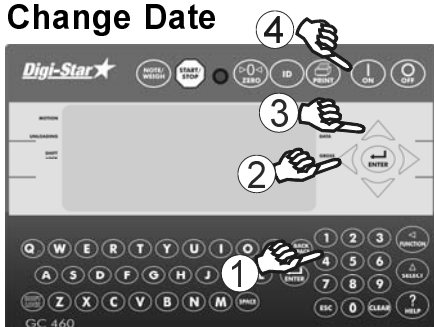

To change unload alarm:

In the active screen:

1. Enter **407** and press ⟨SELECT⟩

2. Press ⟨SELECT⟩ until desired setting is shown.

3. Press ⟨ENTER⟩ to save setting and return to active screen.

Change Time

1. Enter **202** and press ▲SELECT.

2. Press ◁ arrow to move cursor.

3. Press △ to set time.

4. Press | ON.

Change Date

1. Enter **204** and press ▲SELECT.

2. Press ◁ arrow to move cursor. Format ddmmyy.

3. Press △ arrow to set date.

4. Press | ON.

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SETTING OPTIONS

To modify options in following chart, while on the active screen:

1. Enter D.A.N. (Direct Access Number) and press (SELECT) to enter selected option.

2. Press (SELECT) repeatedly until desired selection is shown.

3. Press (ENTER) to set.

Setting/ Display	D.A.N	Options (**Bold** = Default)	Description
MENU 1			
Language *LANGAG*	101	*ENGLSH* *NEDERL* *FRANCS* *DEUTSH* *ITAL* *PORT* *ESPAN* *DANSK* *MAGYAR* *VESTA*	Select from list English Dutch French German Italian Portuguese Spanish Danish Hungarian Spanish
Display Update Rate (*D-RATE*)	102	1,**2**,3,4	Update display times per seconds.
Motion Arrow (*MOTION*)	103	ON/**OFF**	Arrow flashes for unstable weight.
Zero Tracking (*ZTRACK*)	104	ON/**OFF**	Set to OFF.
Weigh Method (*W MTHD*)	105	**1=General,** 2=Fast, 3=Slow, 4=Lock-On	Use general.
Scroll (*SCROLL*)	118	0,1,2,3,**4**,5,6,7,8,9	Sets scroll rate of Display.

Setting/ Display	D.A.N	Options (**Bold** = Default)	Description
MENU 2			

Setting/ Display	D.A.N	Options (**Bold** = Default)	Description
Time Format (*TIME F*)	201	24 HR **AM/PM**	24-hour time format.
Set Time (*TIME*)	202	**XX:XX:XX**	Use (SELECT) increments each digit and use "ARROW" keys advances cursor to set date "mmddyy" field.
Date Format (*DATE F*)	203	1,**2**,3,4,5,6,7,8	Select date format. 1 = mm – dd 2 = mm/dd/yy 3 = mm/dd/yyyy 4 = dd/mm 5 = dd/mm/yy 6 = dd/mm/yyyy 7 = dd/mm/yy 8 = dd/mm/yyyy
Set Date (*DATE*)	204	**Enter XXXXXX**	(SELECT) changes date, "ARROWS" advance cursor to set date.
One Line Print (*IL PRT*)	212	ON/**OFF**	Formats printer output to one line.
Computer in Mode (*COM IN*)	215	**DOWNLD**, EZ CMD, EZ2CMD	DOWNLD = Data Down Loader, EZ CMD = Original EZ Commands, EZ2CMD = EZII Escape Commands.
Print Format (*PRTFMT*)	216	**PRTAC5**	Use PRTAC5.
Media Type (*MEDIA*)	217	**DDL**, Dataky, Ser PC	Use DDL.
Com 1 Delay (*C 1 DLY*)	221	OFF,.**10**,.25,.50, .75,1-5	Printer delay. Set to higher number for slow printing.
Print Accum. (*ACCUM*)	223	**0**	Shows a running total of weights printed.

Setting/ Display	D.A.N	Options (**Bold** = Default)	Description
BUFFER (*BUFFER*)	238	**ON**	Set to ON
PBLine *[PBLINE]*	239	1,2,**3**	Use 3
MENU 3			
Display Count (*COUNT*)	301	.01,.02,.05,.1,.2,.5, 1,2,5,**10**,20, 50,100	Minimum weight change that is displayed. Note: If this is too small, scale will be unstable.
Display Unit (*LB-KG*)	303	**LB**/KG	Unit of measure. Note: If this changes, calibration and set-up must change.
Capacity (*CAP*)	304	**85,000**	Maximum capacity of scale.
MENU 4			
U-Alarm *[UALARM]*	407	**1**,2,3,4	Adjust unload alarm setting
CALIBRATION			
Setup Number (*SETUP*)	871		Quick entry method selects weigh method 1-4lbs, 5-8kg, gain 1-9, display counts 1-9 and capacity *1000.
Calibration Number (*CAL*)	872		Weight displayed at .4mV/V for these load cells.

WEIGHING ERRORS

OVRCAP

Capacity Limit:

Weight on scale system exceeds capacity limit.

+RANGE

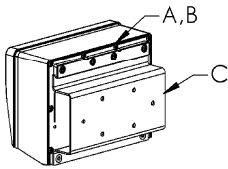Over Range:
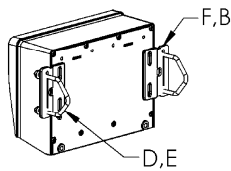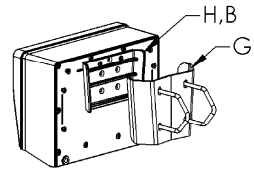
Weight on scale system exceeds maximum weight.
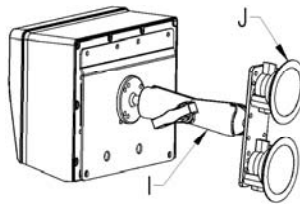
-RANGE

Under Range:

Weight on scale system less than minimum weight.

INSTALLATION

INDICATOR MOUNTING

**RAIL MOUNT**   **WING MOUNT**   **WEDGE MOUNT**

KEY	PART NUMBER	DESCRIPTION
A	404353	BRACKET-EZ3 PLASTIC RAIL *
B	403780	SCR-#10 X 5/8 FHSTS BLACK ZP
C	840459	SUPPORT-HAT BRACKET
D	405069	U-BOLT 1/4-20 X 3.25 ZP
E	405084	NUT-1/4-20 TOP LOCKING FLANGE
F	403770	BRACKET- WING MOUNT *
G	405124	PACK-WEDGE MOUNT BRACKET WITH U-BOLTS & FLANGE NUTS
H	405244	EZ3 WEDGE MOUNT

RAM MOUNT

KEY	PART NUMBER	DESCRIPTION
I	404799	RAM MOUNT FOR EZ III INDICATOR WITH HARDWARE
J	404230	RAM SUCTION CUP W/TWIST LOCK

* Included with indicator.

Cable Connection
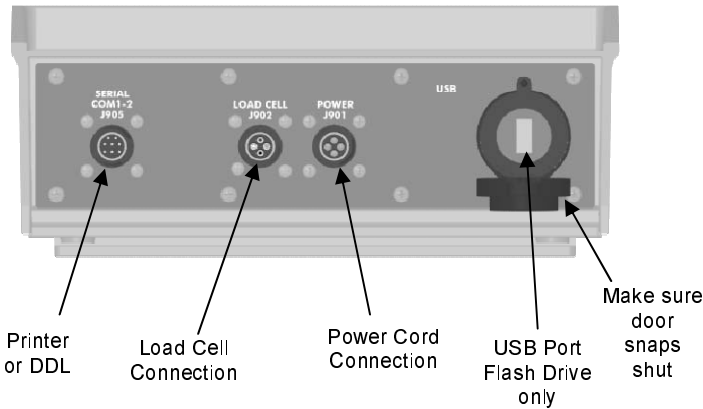
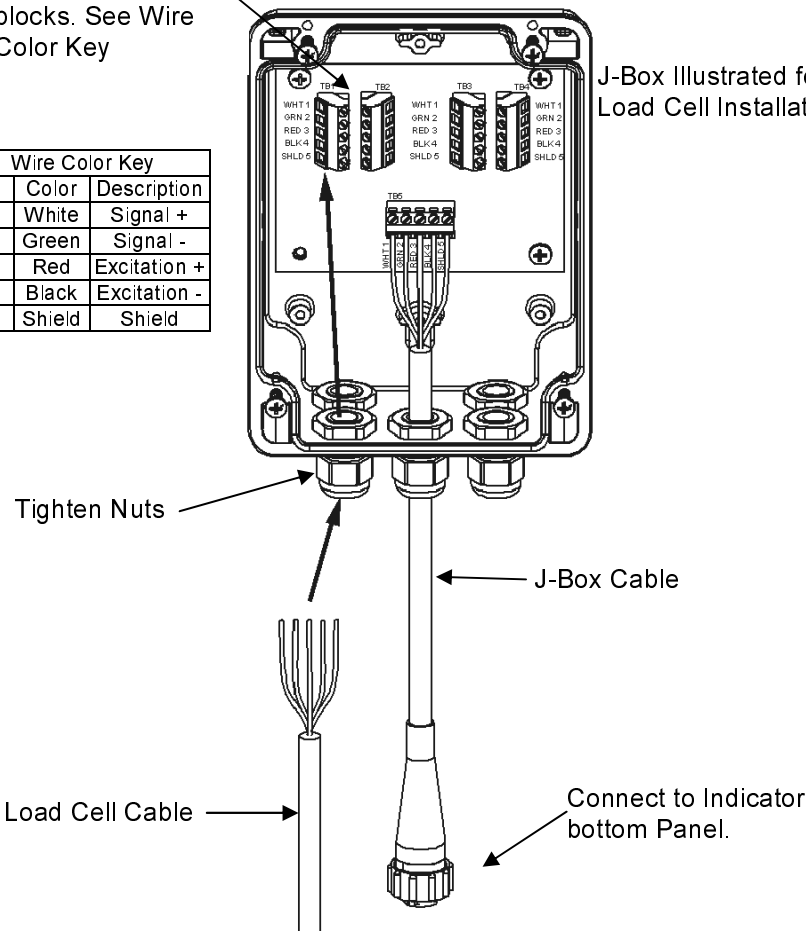| Pin		To 12VDC Power Supply
1	Red	+Terminal
2	Black	-Terminal
3	Orange	Alarm Out
4	Blue	Remote Input

Bottom Panel Cable Connections

Connect Load Cells to J-Box

Connect load cell
wires to terminal
blocks. See Wire
Color Key

J-Box Illustrated for 4
Load Cell Installation

Wire Color Key		
	Color	Description
1	White	Signal +
2	Green	Signal -
3	Red	Excitation +
4	Black	Excitation -
5	Shield	Shield

Tighten Nuts

J-Box Cable

Load Cell Cable

Connect to Indicator
bottom Panel.

J-Box Connections