

RL-HPJ

Hand Pallet Jack Scale

Technical Manual



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1.0 Introduction

The *Hand Pallet Jack Scale* is ideal for handling and weighing pallets or standardized containers directly where they are located, saving time and money.

The durable and precise *Pallet Jack Scale* is equipped with high performance weighing electronics and features a multi-functional program that helps perform daily tasks.



Manuals are available for viewing and/or downloading from the Rice Lake Weighing Systems website at www.ricelake.com/manuals

Warranty information can be found on the website at www.ricelake.com/warranties

1.1 Safety

Safety Signal Definitions:



DANGER Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



WARNING Indicates a potentially hazardous situation that, if not avoided could result in serious injury or death. Includes hazards that are exposed when guards are removed.



CAUTION Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



IMPORTANT Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety



Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



Failure to heed could result in serious injury or death.

This pallet jack scale is designed to weigh exclusively on standardized pallets.

Never load the scale beyond the maximum capacity stated on the plate of the weight readout instrument.

Do not use the scale in environments where there is the danger of fire or explosion.

Do not load the forks when they are raised, not even partially.

Before using the pallet jack, ensure it is in working order.

To achieve a correct weight, the forks need to be raised at least 2-4 inches to avoid the frame from rubbing against anything.

Do not expose the pallet jack scale to atmospheric agents (sun, rain, etc.).

Use the pallet jack scale in non-condensing environments with moderate temperature and humidity levels

Use the pallet jack scale where there are no vibrations.

Do not use of solvents or aggressive substances to clean the pallet jack scale.

Do not to make any modifications to the pallet jack scale.

Do not use the pallet jack scale when it no longer fulfills the safety criteria.

Do not use flammable products to clean the pallet jack scale or the pallets.

Do not subject the indicator to moisture.

Anything not specifically described in this manual is considered improper use of the equipment.

1.2 Features

- Heavy-gauge steel with a durable powder coat finish
- Large 1" tall, high contrast digits, which are clearly visible even in poor lighting conditions on a clear LCD display
- Waterproof membrane keyboard with 17 functional keys
- Configuration, calibration and diagnostics all from the indicator keyboard
- Standard 45.25" (1150 mm) fork length
- Standard 26.75" (680 mm) fork width
- Maximum lifting height of the forks: 7.75" (200 mm) from the ground
- Height of completely lowered forks: 3.375" (85 mm) from the ground
- Polyurethane steering wheels and double loading rollers offer greater stability
- Four stainless steel IP68 load cells
- Handlebar with height control lever.
- Weight indicator in IP65 stainless steel water-resistant enclosure, which is easy to clean and resistant to harsh and corrosive environments
- Removable rechargeable battery and set-up for 24/7 continuous use kit or battery operation
- Rechargeable battery is removable and mounted on the pallet jack
- One month of operating time with typical non continuous use due to its programmable automatic power saving function (80 hours of operating time with continuous use)

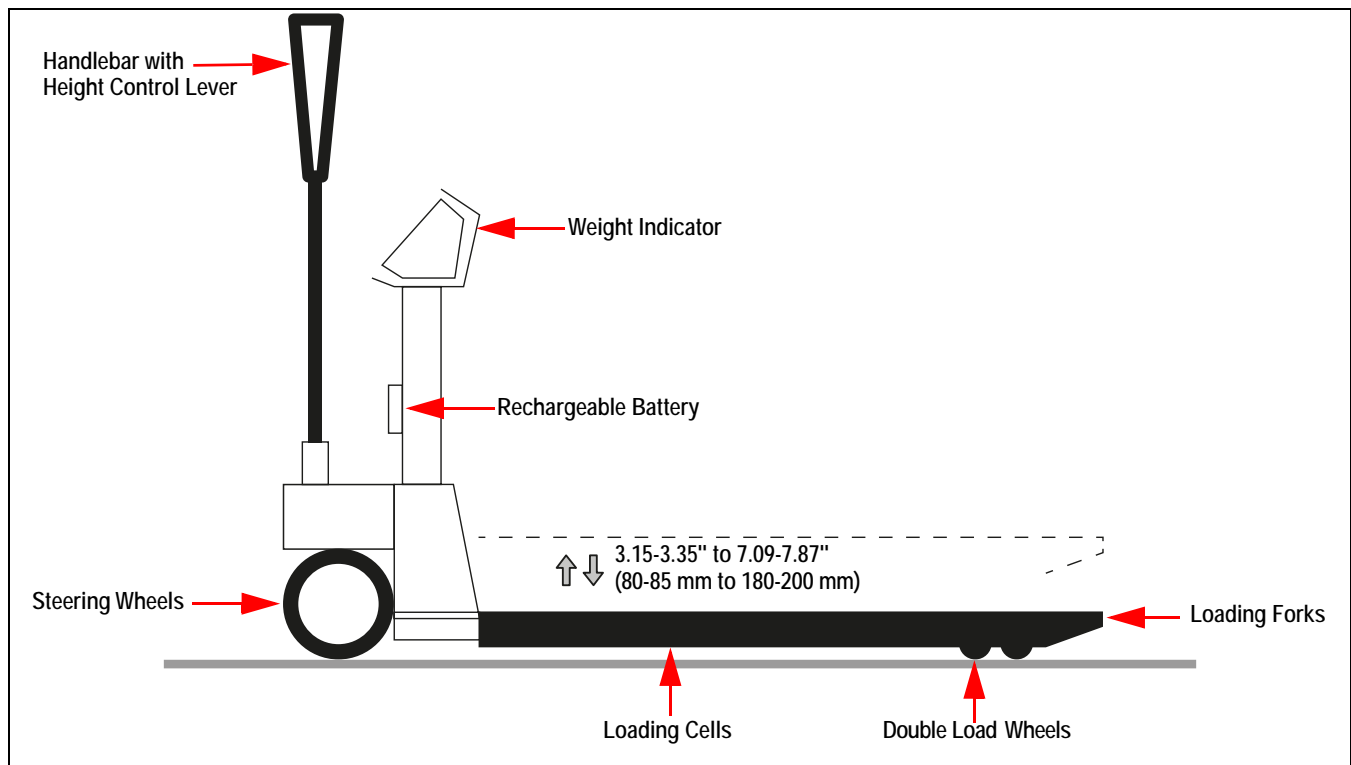


Figure 1-1. Pallet Jack Scale

2.0 Installation

This section describes procedures for unpacking and assembly of the *Pallet Jack Scale*.

2.1 Unpacking

Immediately after unpacking, visually inspect the *Pallet Jack Scale* to ensure all components are included and undamaged. The shipping carton should include the following:

- Fork Assembly
- Handlebar
- Indicator Stand
- Battery
- Charger
- Pivot Pin
- Cotter Pins (2)
- M10 x 15mm Screws (4)
- M10 Washers (4)

If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

2.2 Indicator Stand Assembly

Refer to [Figure 2-1](#) and the steps within this section to assemble the indicator stand to the main fork assembly.



Note *The load cells of the pallet jack come wired to the indicator.*

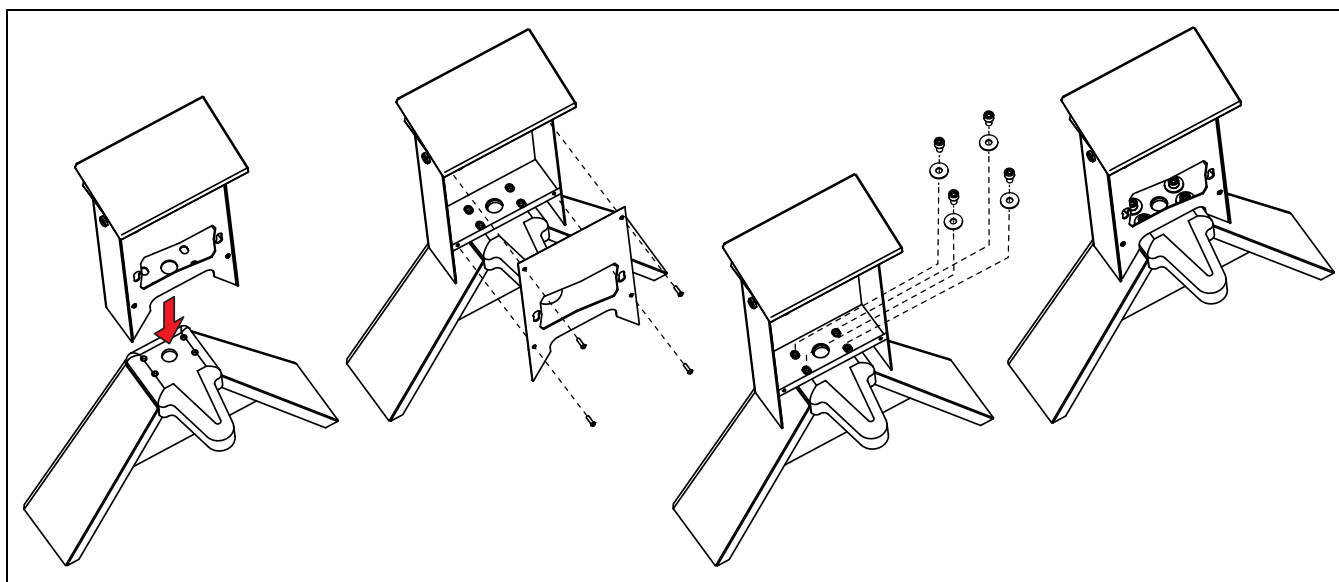


Figure 2-1. Indicator Stand Assembly

1. Cut the red zip tie holding the wire sleeve to the pallet jack chassis.
2. Place the indicator stand on the fork assembly, being careful not to pull or pinch the load cell wires.
3. Make sure the stand is properly supported and seated correctly.
4. Feed excess wire sleeve up into the indicator stand.
5. Remove the four screws that secure the front plate to the indicator stand using a 2.5 mm hex key.
6. Secure the indicator stand with four included M10 x 15mm screws and M10 washers using an 8 mm hex key.
7. Reattach the front plate to the indicator stand, using the four previously removed screws.

2.3 Handlebar Assembly

Follow the steps within this section to assemble the handlebar to the main fork assembly.

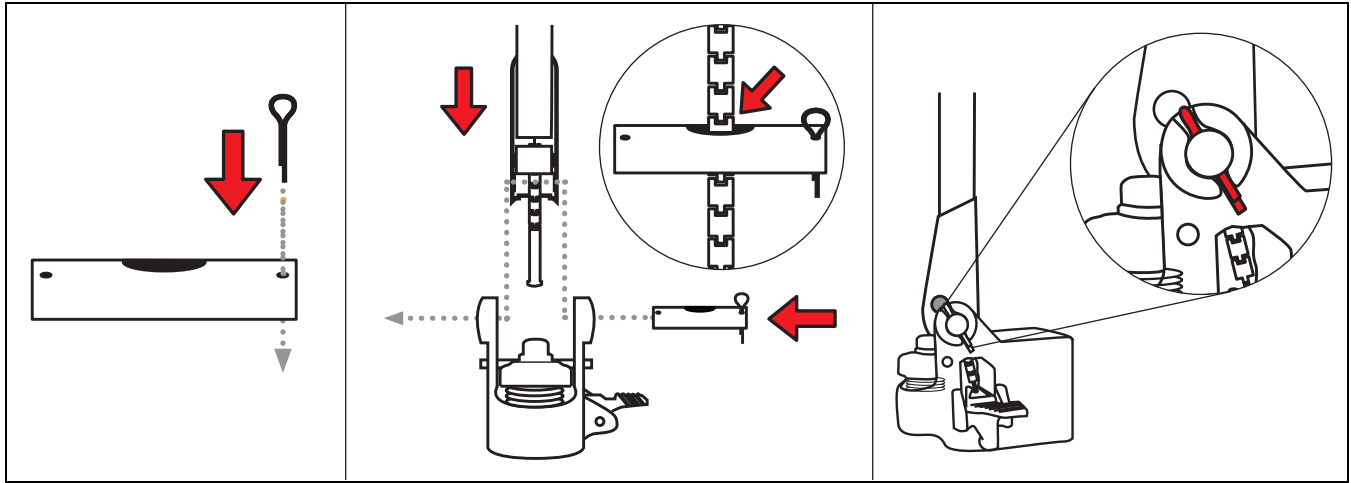


Figure 2-2. Handlebar Attachment

1. Insert a cotter pin into the hole on one end of the pivot pin.
2. Lower the base of the handlebar into the steering column of the fork assembly.
3. Slide the pivot pin through the mounting holes of the steering column and the mounting holes of the handlebar. The pivot pin must be inserted such that the cotter pin slides into the groove of the steering column mounting hole.
4. Direct the handlebar chain into the handlebar and through the center hole in the pivot pin.
5. Insert the second cotter pin into the hole on the opposite end of the pivot pin.

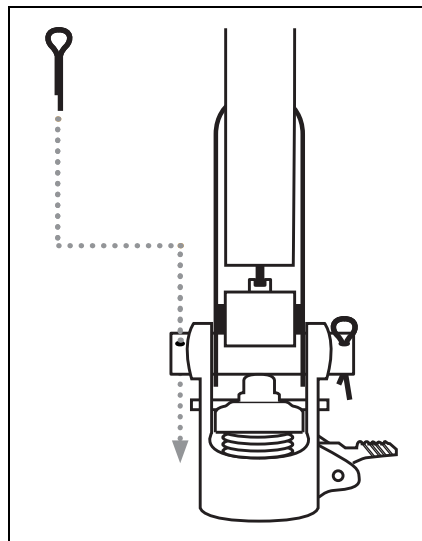


Figure 2-3. Securing the Handlebar

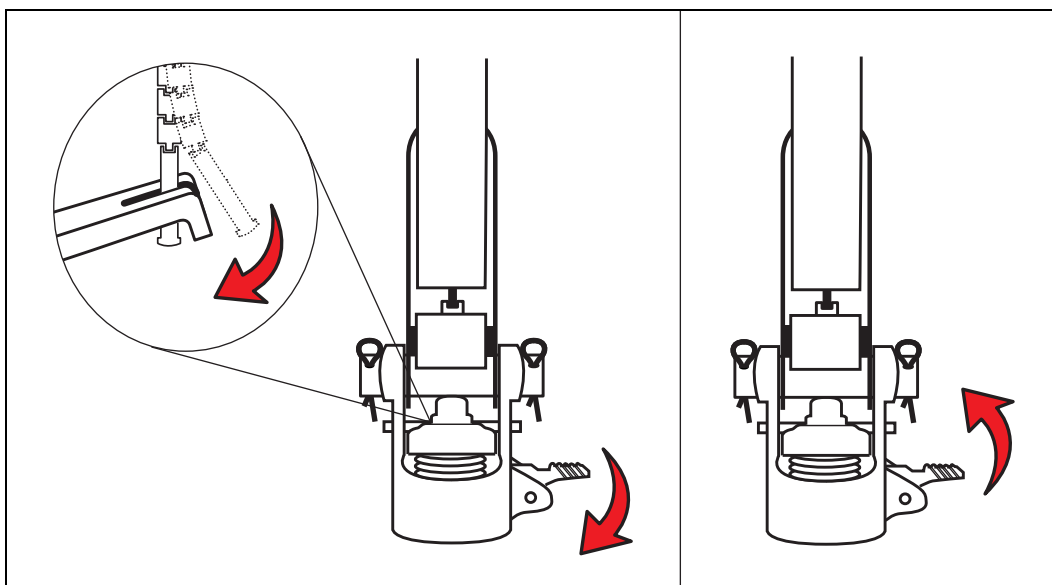


Figure 2-4. Connecting the Handlebar Chain

6. Push down on the steering column lever and hold down to assist in joining the handlebar chain with the lifting connection lever. Navigate the end of the chain into the groove in the lifting connection lever. Make sure the bottom catch of the chain is below the lever and seated completely into the groove for a good connection.
7. Release the steering column lever, further engaging the handlebar chain with the connection lever.

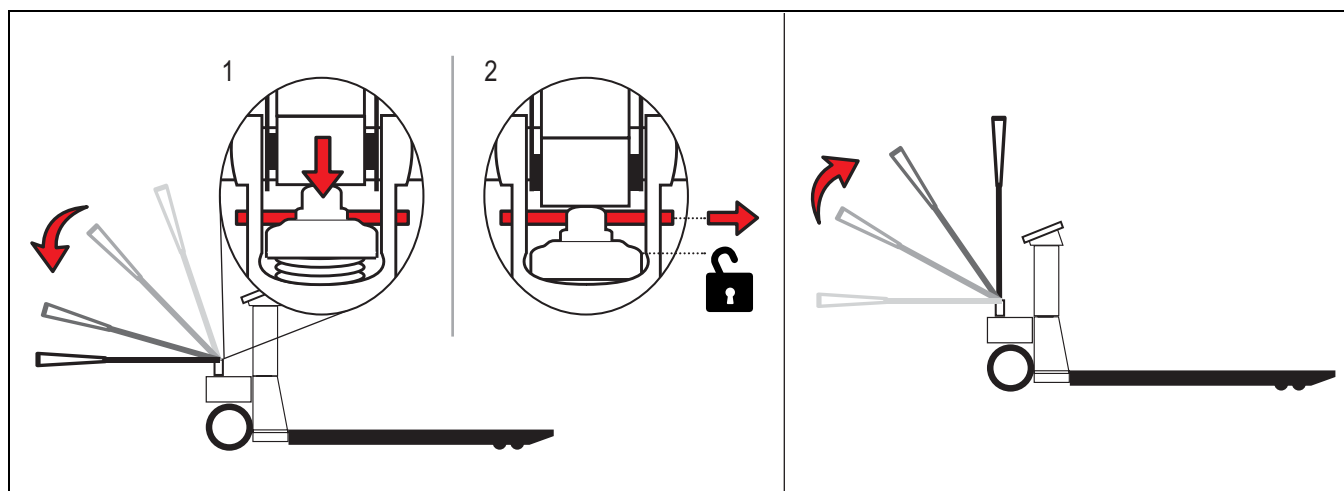


Figure 2-5. Unlocking the Lift Pump

8. Lower the handlebar and hold down to maintain pressure on the lift pump.
9. Remove retainer pin locking down the lift pump from the steering column.
10. Return the handlebar back to the upright position.

2.4 Battery Installation

Refer to [Figure 2-6](#) and the steps within this section to install the battery into the indicator stand.

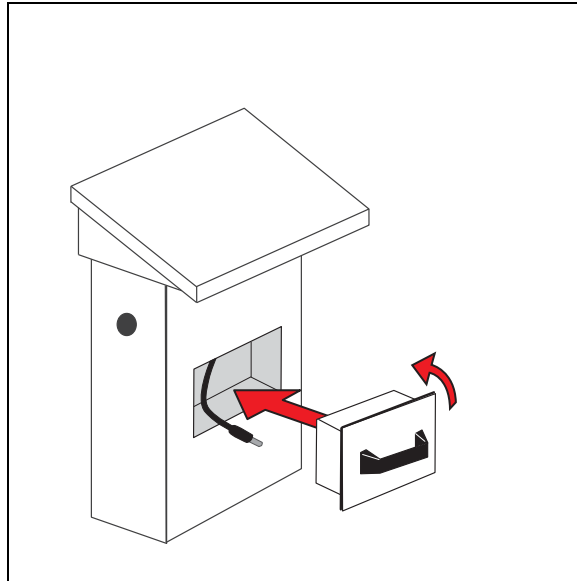


Figure 2-6. Battery Installation

1. Connect the wire connector inside the column to the battery.
2. Slide the battery into the indicator stand at a slight angle and turn counterclockwise to lock it in place.

IMPORTANT

It is recommended that the battery be disconnected if the unit will not be used for 30 days or longer.

3.0 Operation

The *Pallet Jack Scale* is an electronic weighing system directly installed on a pallet jack. Read and understand the following operation instruction before use.

3.1 Pallet Jack Controls

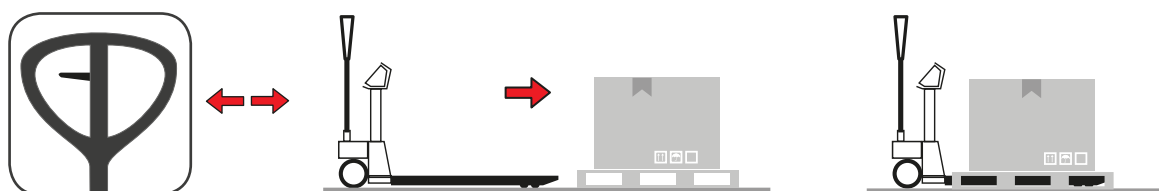
The raised load is moved forward or backward by the handlebar, which controls the steering wheels.

3.1.1 Height Control Lever Positions

The height control lever has three available positions inside the upper handle: center, down or up.

Center - Transport Position

The handlebar is completely free for transport maneuvers. Allowing the pallet jack to be moved in any direction.

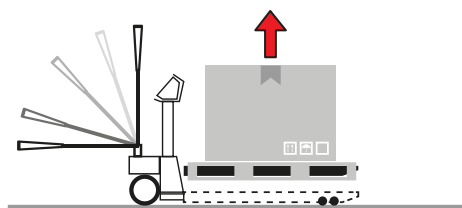
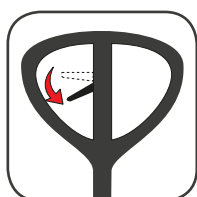


Down - Lift Position

Push the height control lever to the down position. Move the handlebar down and up to lift up the forks of the pallet jack. Continue this movement until the forks are raised at least two inches off the ground to move the *Pallet Jack Scale*.

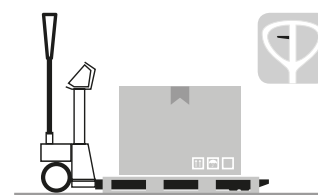
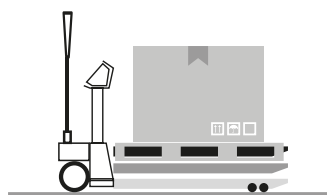
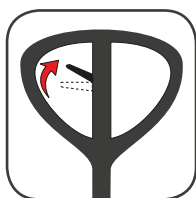


A return spring pushes handlebar back to its upright position. Do not let go of handlebar until it is upright.



Up - Lower Position

Pull the height control lever to the up position to lower the load. The descent speed is controlled by a valve that opens when the lever is firmly pulled to the end of its stroke.



Raise or lower the pallet jack only when stationary.

3.2 General Use Guidelines

The *Pallet Jack Scale* must only be used on solid level surfaces and maneuvered when in the normal position. Review and adhere to the following figures that illustrate correct and incorrect use techniques of the *Pallet Jack Scale*.

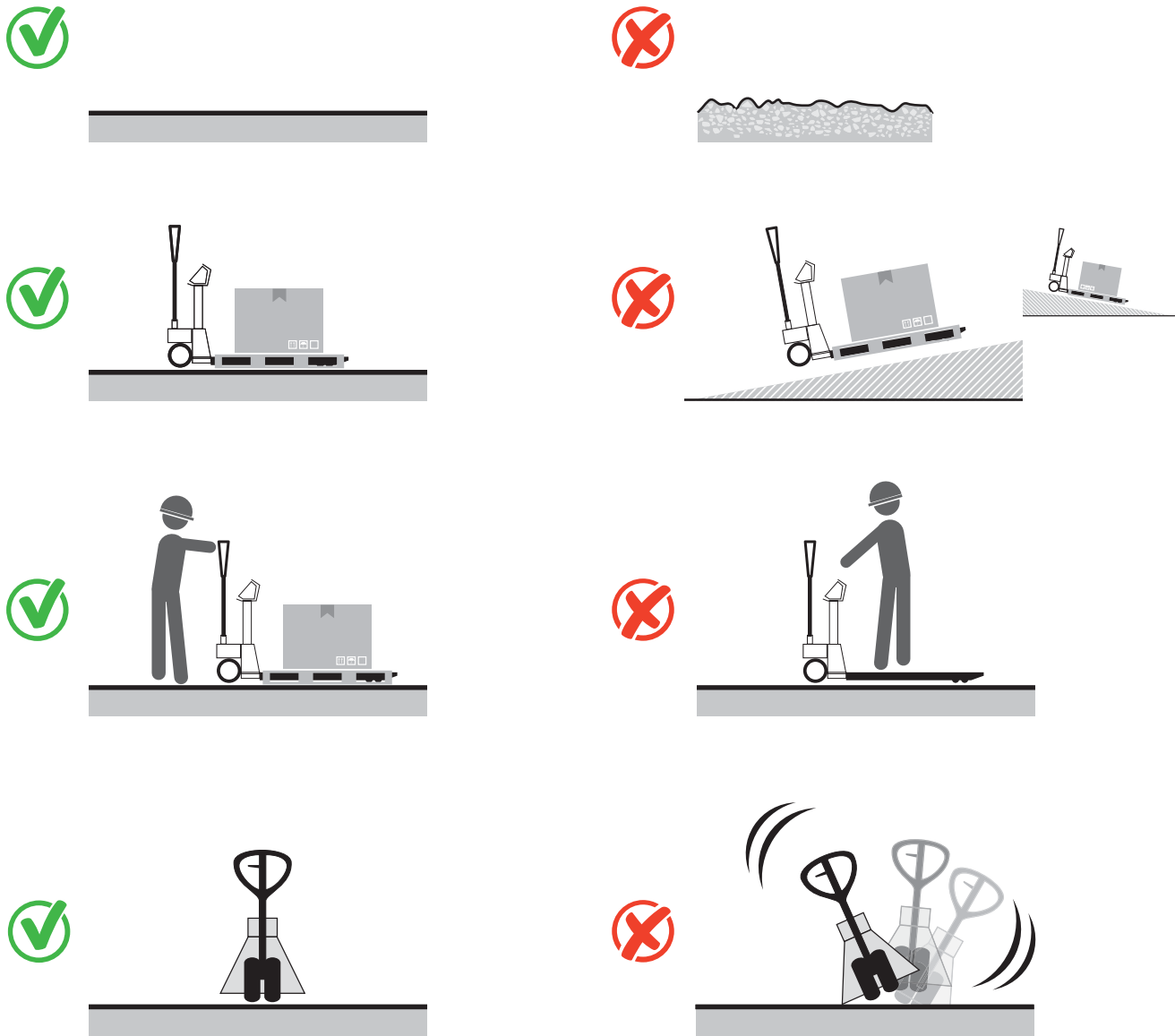


Figure 3-1. General Use Guidelines

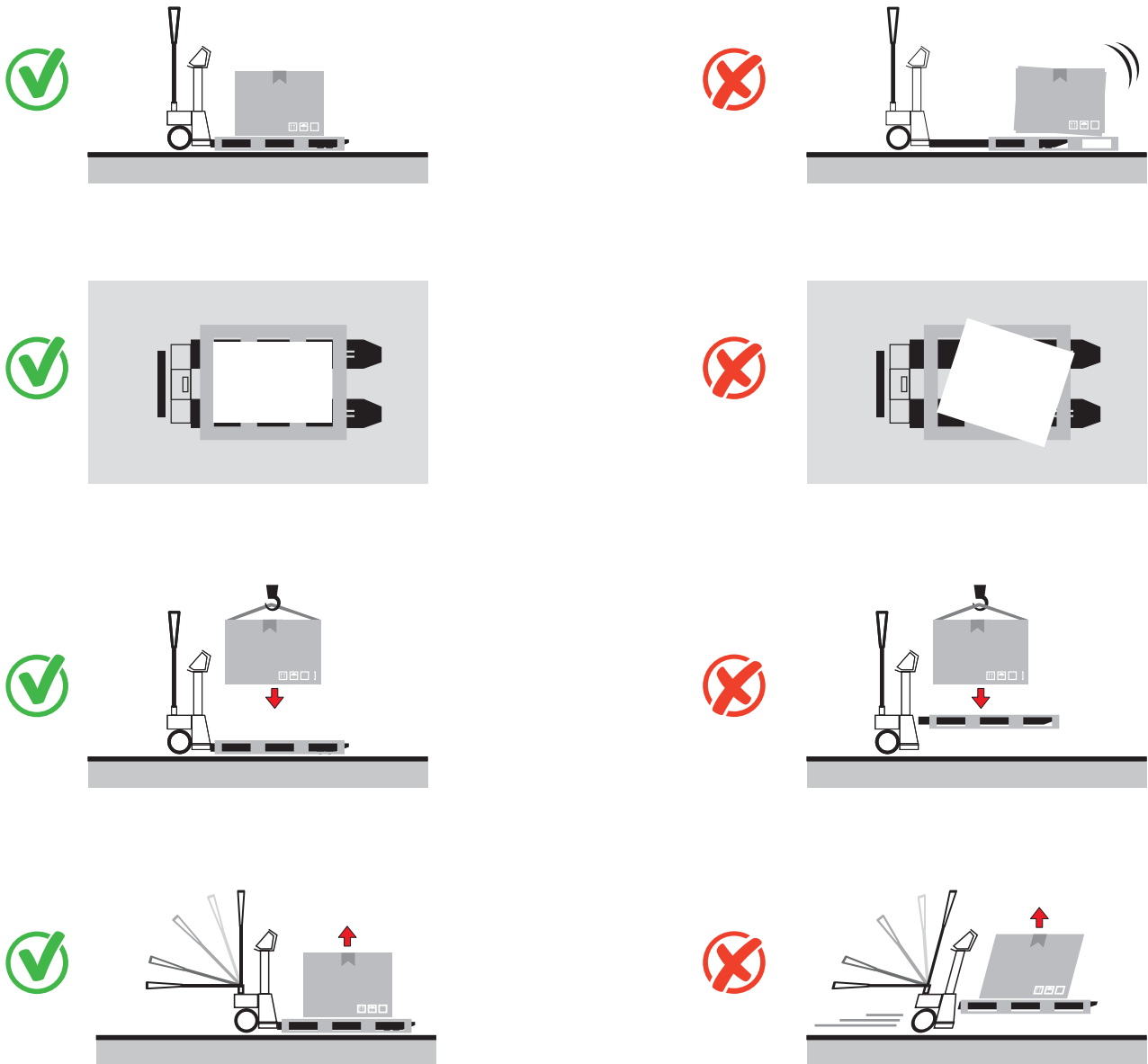


Figure 3-2. General Use Guidelines (Continued)

3.3 The Indicator Display and Keys

The LED numeric display consists of six 7-segment digits. If a negative number is displayed, the first digit is used to display -, reducing the number of available digits to five.

The keys are used to navigate through menus, select digits within numeric values, and increment/decrement values.

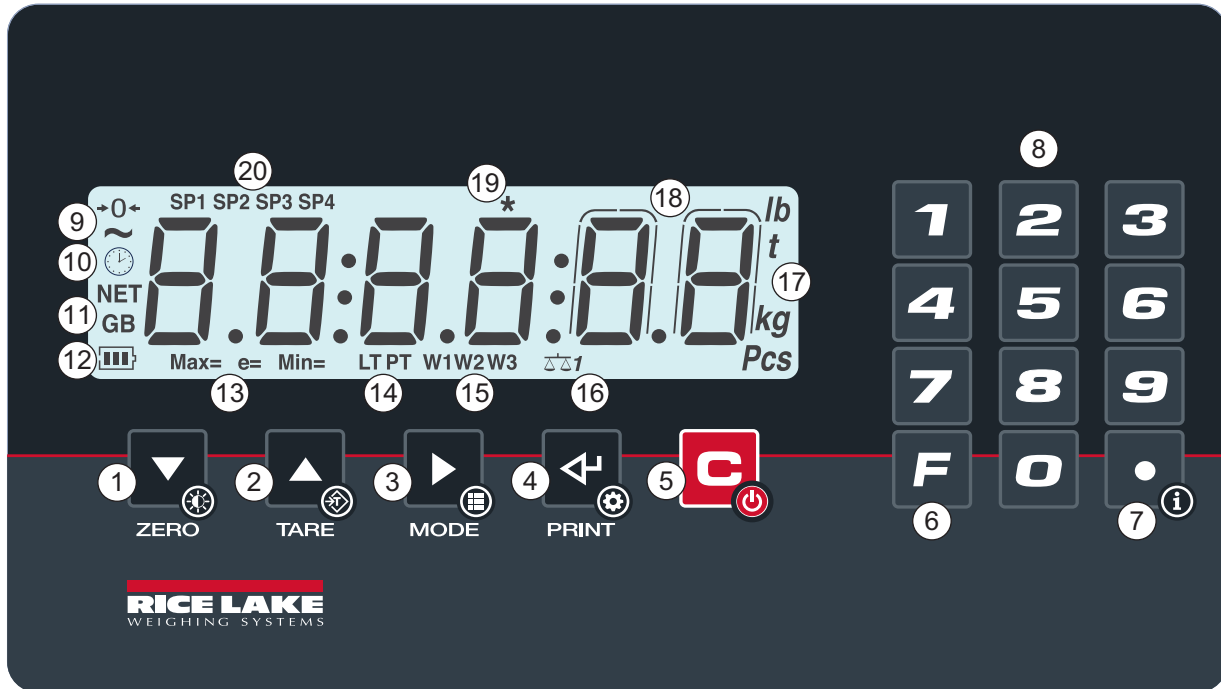






Figure 3-3. Indicator Display and Keys

Number	Description
1	Sets the current gross weight to zero; also used as the down key to navigate menus or to edit a value
2	Performs one of several predetermined Tare functions; also used as the up key to navigate menus or to edit a value
3	Performs one of several predetermined Mode functions; also used as the right key to edit a value
4	Accepts menu, parameter settings or numeric value; sends print data to a communication port when in weigh mode
5	Turns the scale on and off; also used as a back key in navigation or cancel an entry
6	Puts the indicator into the function menu
7	Decimal key; also calls up information if available
8	Numeric keys
9	The scale is unloaded and at zero (gross) The weight is unstable
10	The time is being shown on the display
11	The weight displayed is a net weight; There is a saved tare The weight displayed is a gross weight
12	Battery level
13	Metrics are being displayed
14	A locked tare is active A manual tare is active
15	Indicate the range of active weighing
16	Indicates the number of the scale (1 is always shown)
17	Units of measurement - Pounds (lb), tons (t), kilograms (kg), grams (g), number of pieces (Pcs)
18	The weight is being displayed in high resolution
19	This means a key is pressed; In some operating modes, it means that a specific function is active
20	These indicate the active relay ports (only with the optional board)

Table 3-1. Annunciator and Key Descriptions






3.4 General Navigation

Use the following scheme for navigation within the menus and parameters.

-  and  move down and up (vertically) to different menu options and to scroll through parameters
-  serves as an enter key for selecting menu options, parameters and parameter values
-  serves as a back key and when pushed multiple times returns the unit to the weigh mode

3.5 Editing Numeric Values

Use the following scheme for numeric entry when using the five main buttons. The numeric keypad can also be used for numeric value entry.

-  to scroll right (horizontally) to each digit
-  and  to scroll through the numeric options at each digit location
-  serves as an enter key for confirming the numeric value entry
-  serves as a back key to cancel the numeric value entry

3.6 Weighing Procedure

3.6.1 Turn on the Indicator



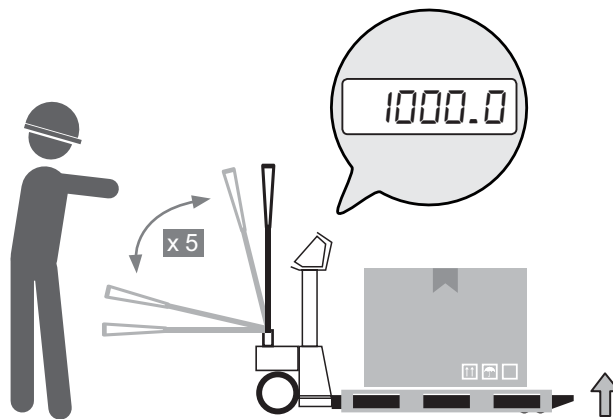
Note *Unload the pallet jack scale before turning on.*




3.6.2 Put the Pallet Jack in Position




3.6.3 Lift the Load and Read the Weight



3.7 On

Press  to turn the *Pallet Jack Scale* on.




3.8 Off


Press and hold  to turn the *Pallet Jack Scale* off.

3.9 Zero

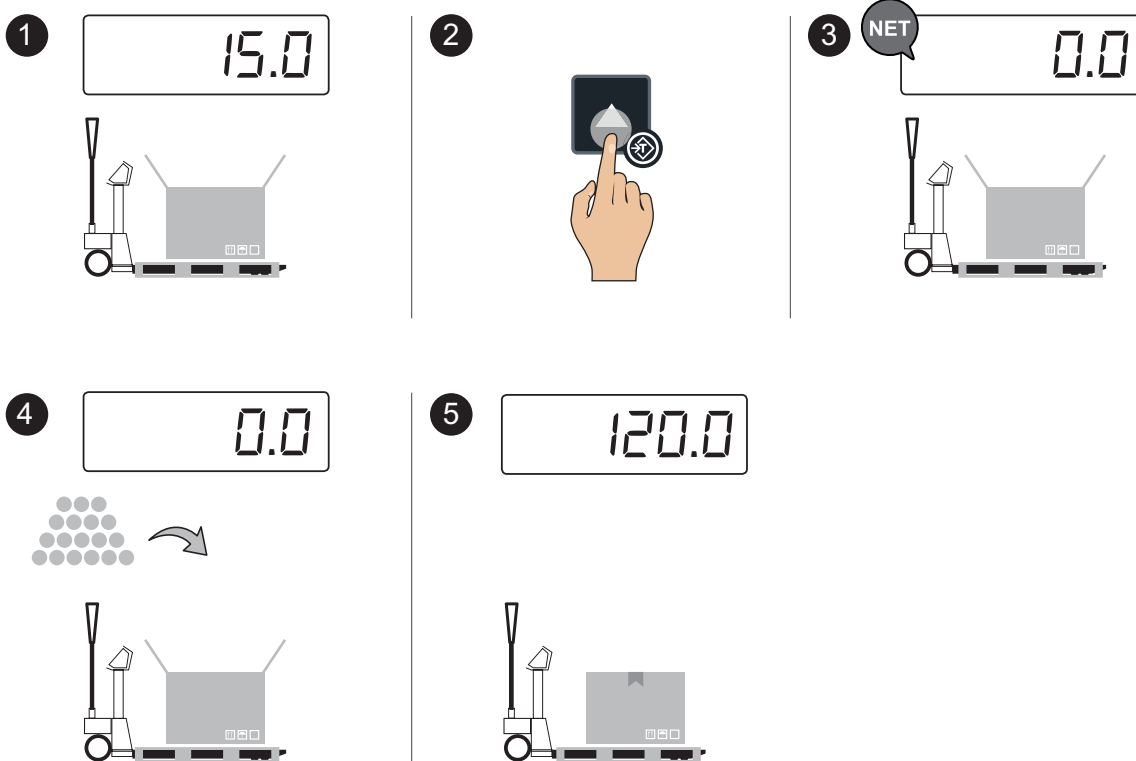
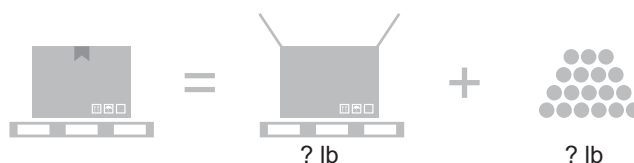
Press  to zero the *Pallet Jack Scale*. →0← displays when scale is zeroed.

3.10 Regulation of the Display Brightness

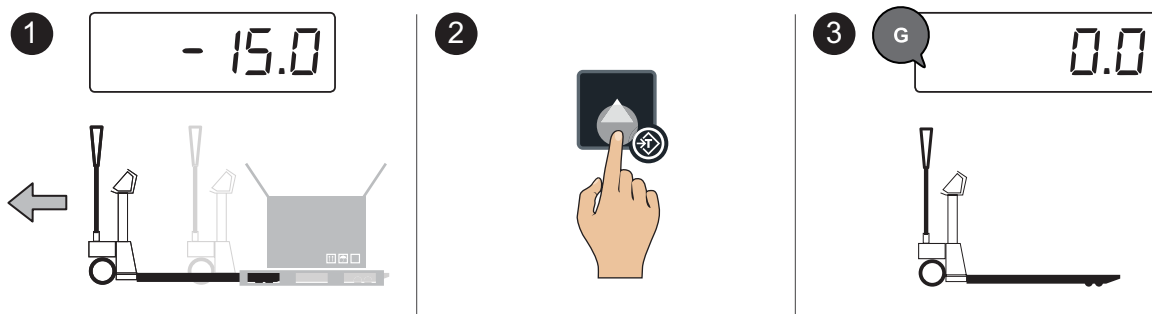
Press and hold  to change the display brightness. Use  and  to scroll between brightness options.

Press  to store the brightness setting or press  to cancel and return to the weigh mode.

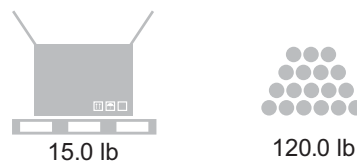
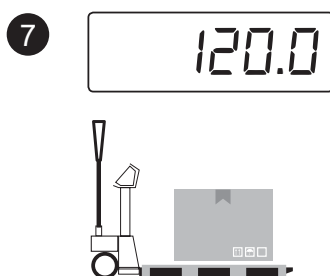
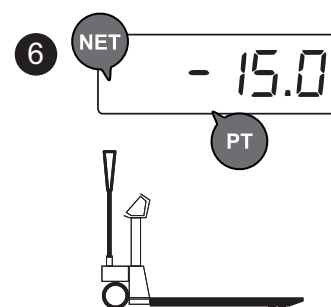
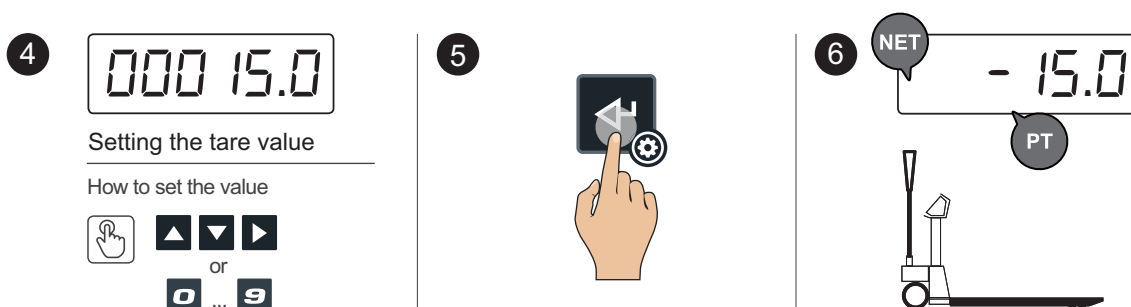
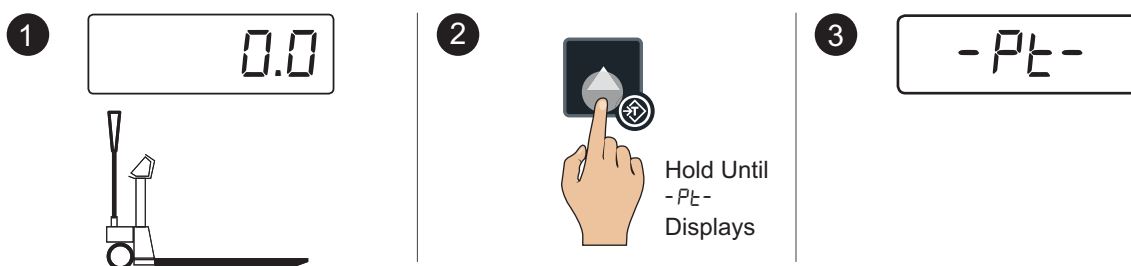
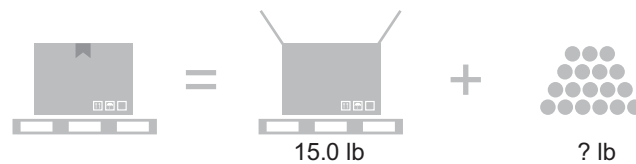
3.11 Automatic Tare



3.12 Tare Deletion

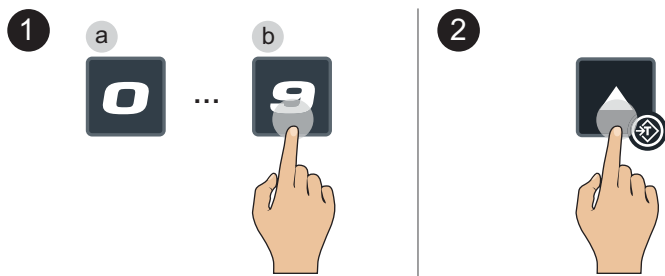


3.13 Preset Tare (Pt)

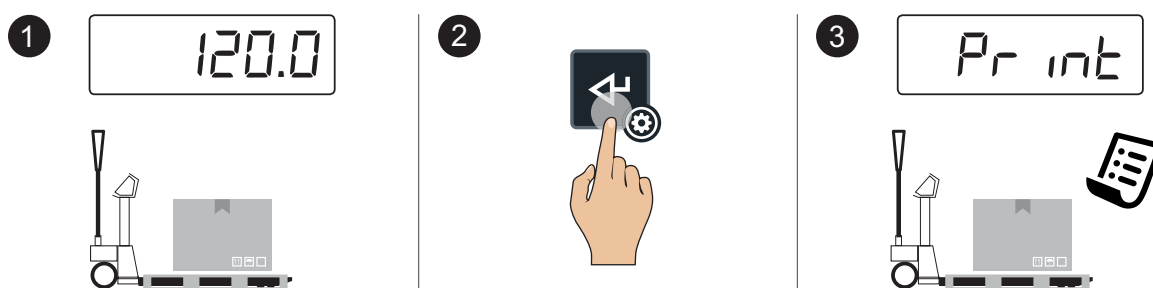


If the pallet jack has a number keypad, it is possible to enter the tare quickly:

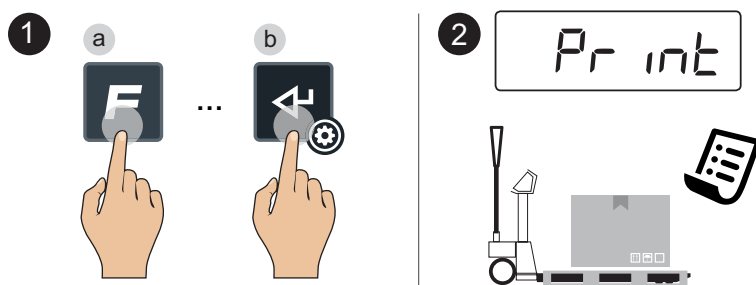
Enter the tare value



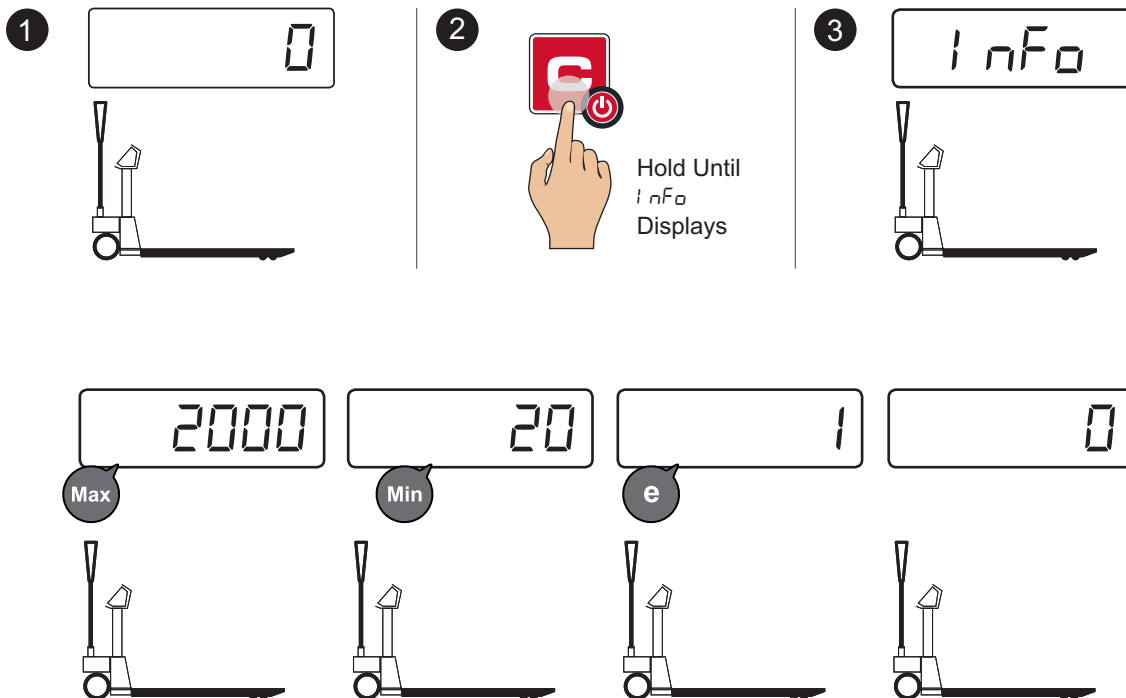
3.14 Print (and reprint of the last ticket)



To Reprint the Last Ticket



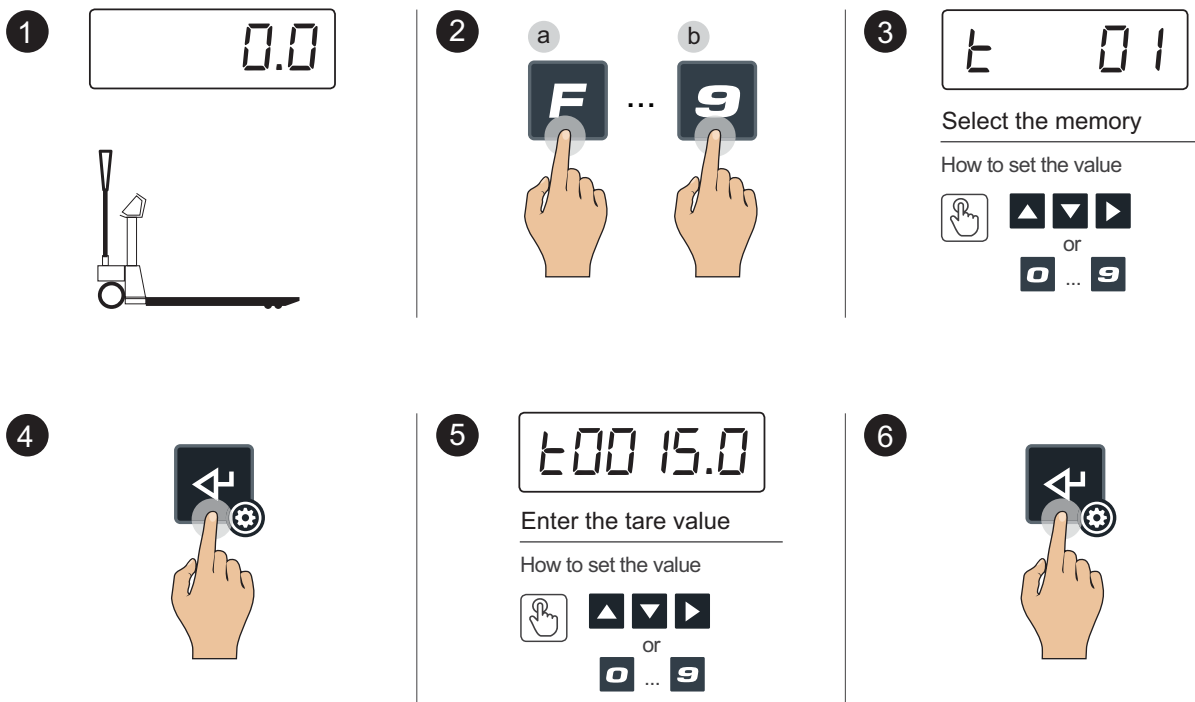
3.15 Information



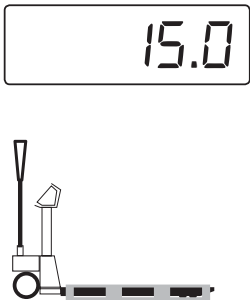
3.16 Tare Log

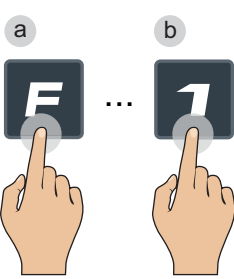
This memorizes the most commonly used tares (up to 30), to simplify retrieval with quick selection.



3.16.1 Store a Tare




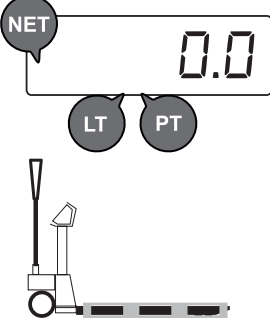
3.16.2 Retrieve a Stored Tare

1 

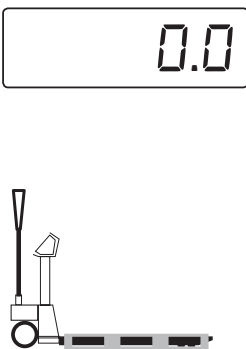
2 

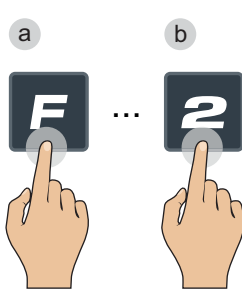
3 
 Select the memory
 How to set the value


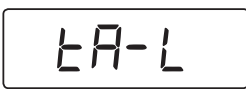
4 

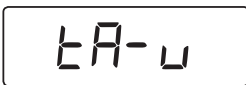
5 

3.17 Automatic Tare Deletion

1 

2 

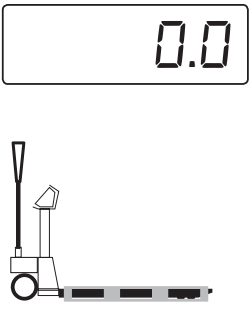
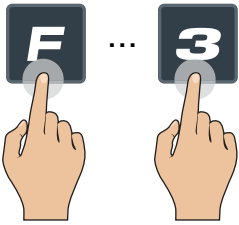






3 
 Automatic deletion disabled


 Automatic deletion enabled:
 the tare is deleted
 automatically when the pallet
 jack is completely unloaded

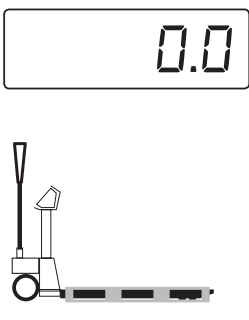
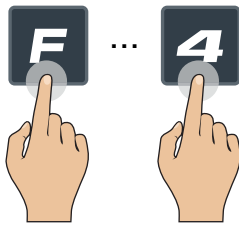
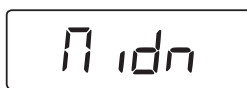




3.18 Number IDs

The instrument is equipped with two sets of memory for temporary registration of numerical codes that can be used to identify the product, operator, lot, etc... The entered codes are printed on the ticket.

3.18.1 Enter the ID

<p>1</p> 	<p>2</p> <p>a b</p> 	<p>3</p>  <p>Select the memory</p> <hr/> <p>How to set the value</p> 
<p>4</p> 	<p>5</p>  <p>Enter the required ID (up to 10 digits)</p> <p>How to set the value</p> 	<p>6</p> 

3.18.2 Enable Automatic ID Deletion

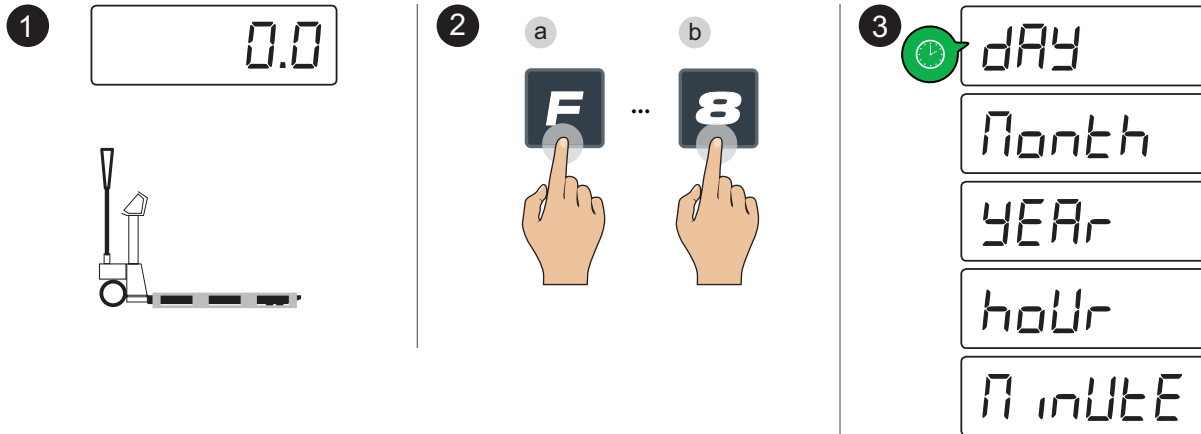
<p>1</p> 	<p>2</p> <p>a b</p> 	<p>3</p>  <p>Select the memory</p> <hr/> <p>How to set the value</p> 
<p>4</p> 	<p>5</p>  	<p>Automatic deletion disabled</p> <p>Automatic deletion enabled: the entered ID is deleted automatically when the pallet jack is completely unloaded</p>



Note The numerical IDs zero automatically when turning off the scale.

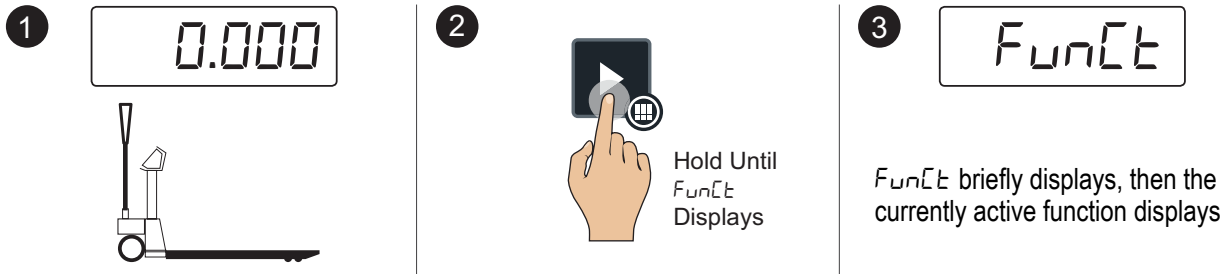


3.19 Date and Time (optional)

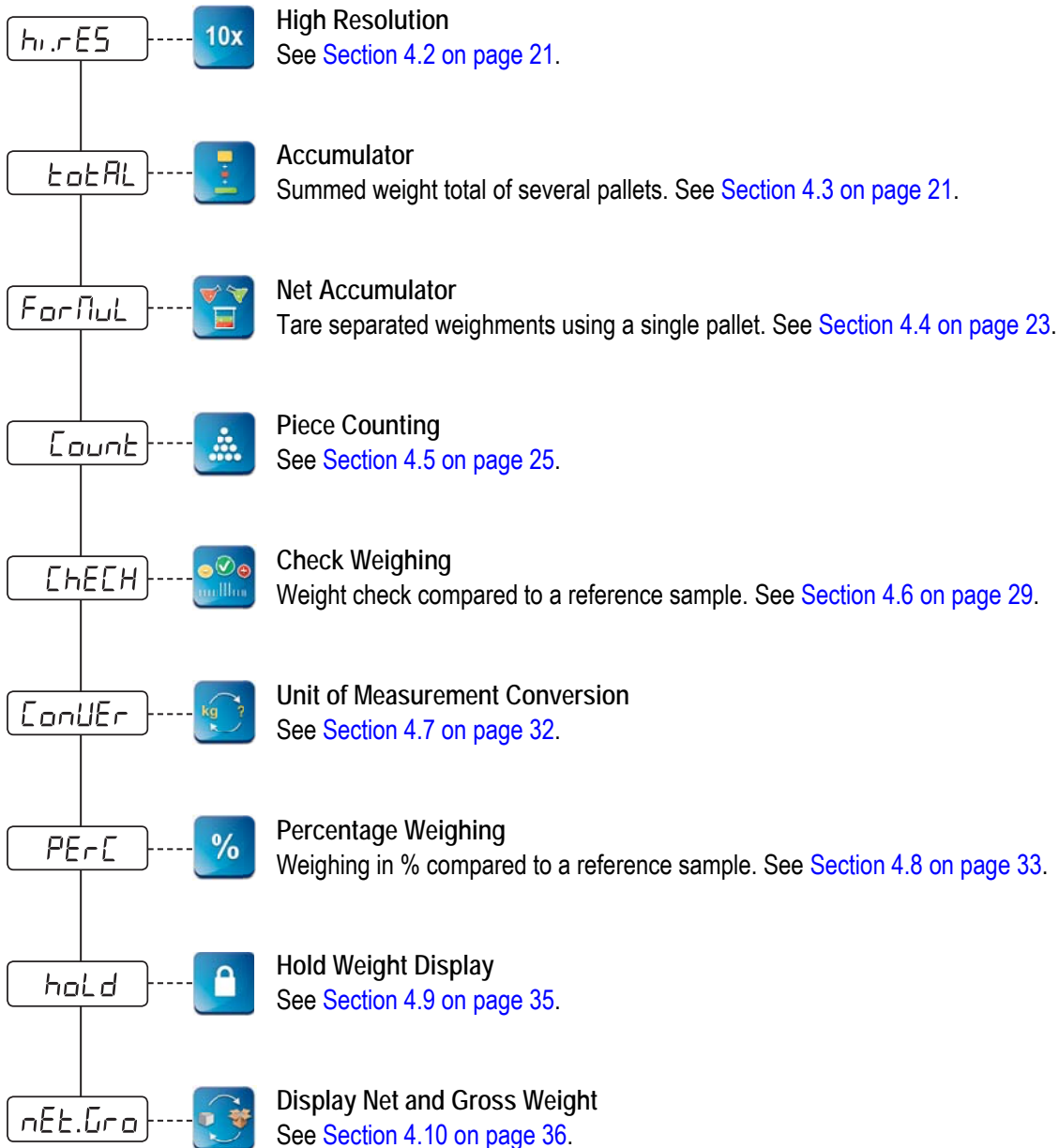


4.0 Functions

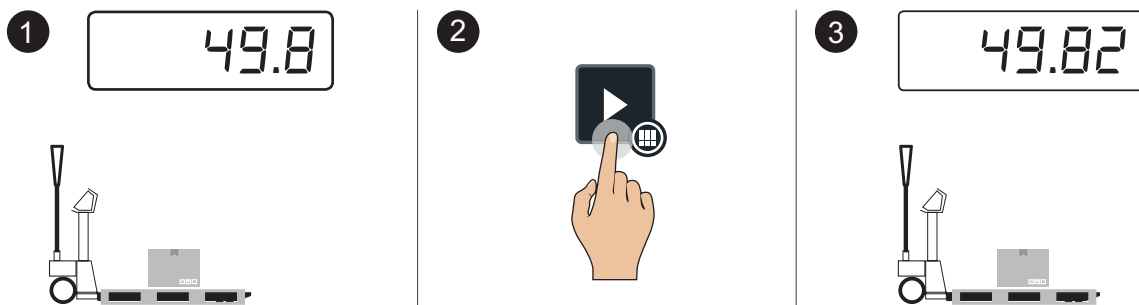
4.1 Access the Function Menu



4 Select Function

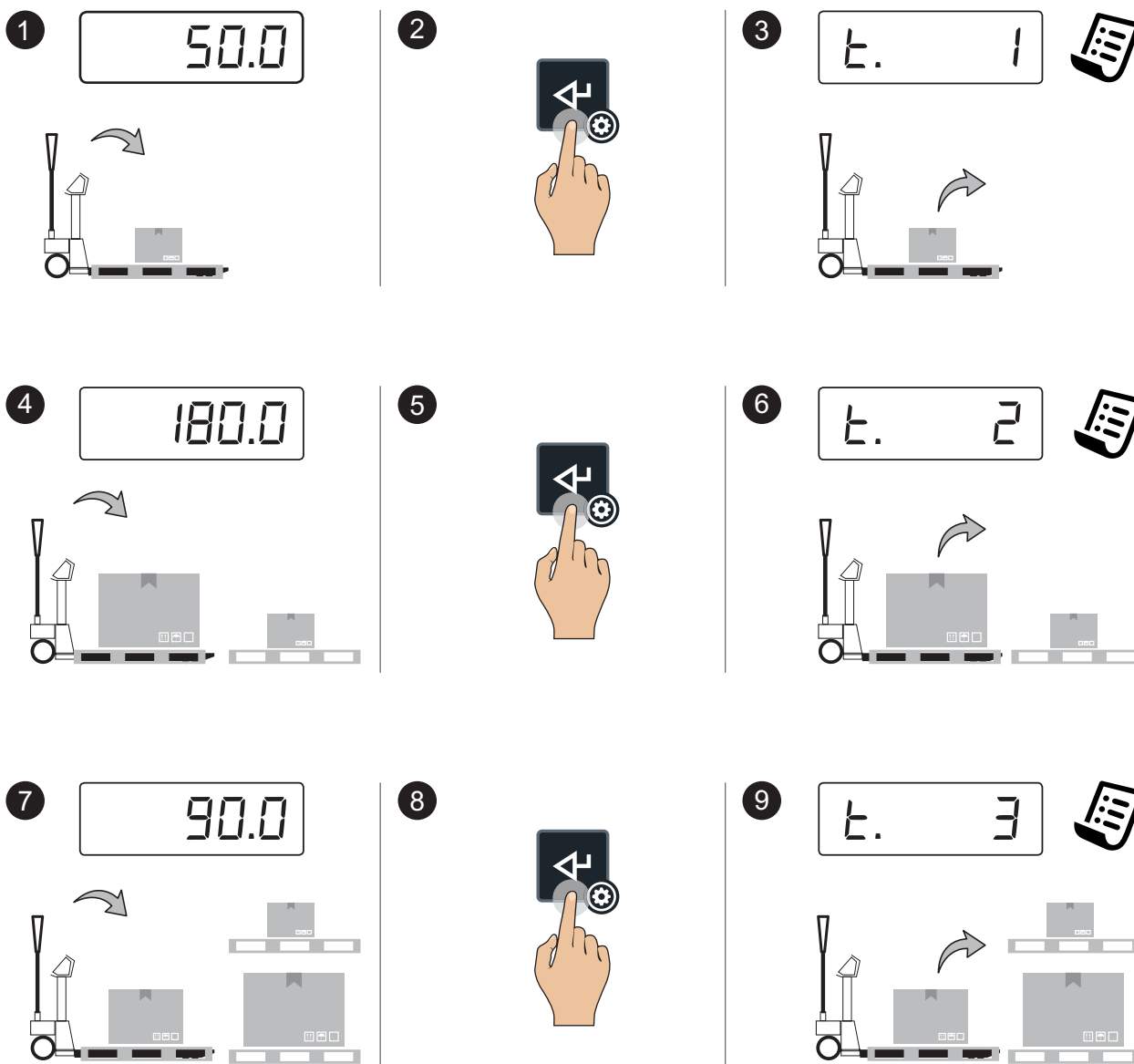


4.2 High Resolution

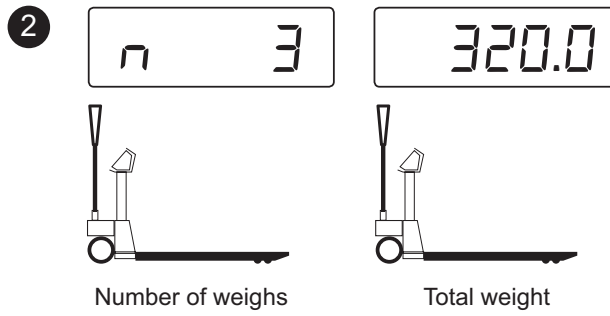
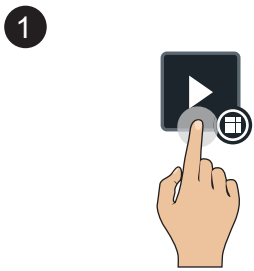



Note Push  to expand the weight resolution by one decimal point, up to three decimal positions.

4.3 Accumulator

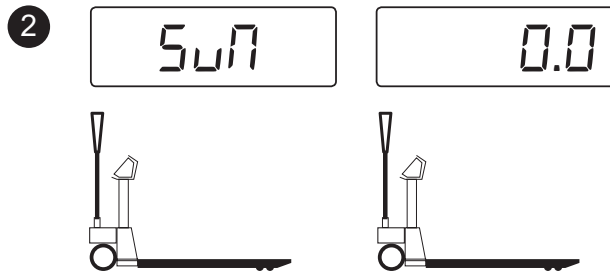
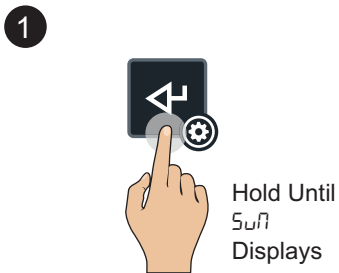


4.3.1 Display Accumulator



 **Note** *F + 7 also displays the current total without resetting it.*

4.3.2 Reset Accumulator

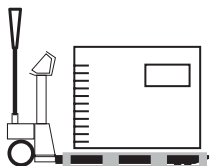


4.4 Net Accumulator

4.4.1 Accumulate the Net Weights

1

30.0

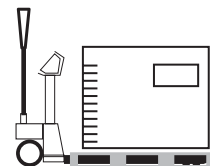


2



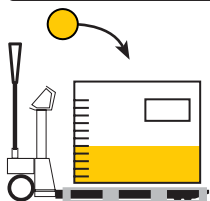
3

NET 0



4

250.0



5



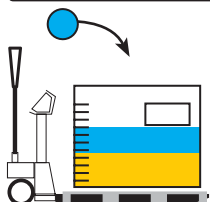
6

t. 1



7

100.0

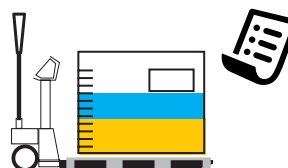


8



9

t. 2



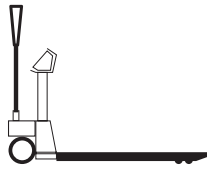
4.4.2 Briefly Display Total

1



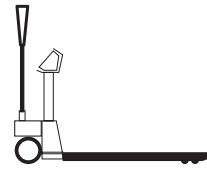
2

n 2

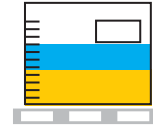


Number of weighs

320.0



Total weight



Note *F + 7 also displays the current total without resetting it.*

4.4.3 End and Reset Total

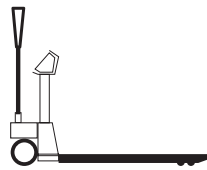
1



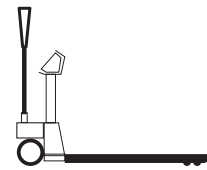
Hold Until
SuT
Displays

2

SuT

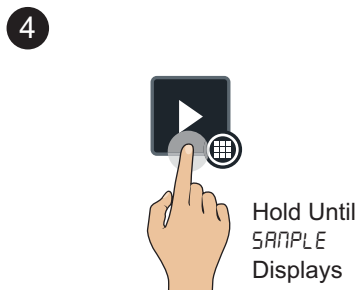
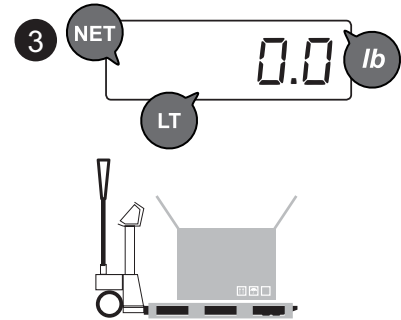
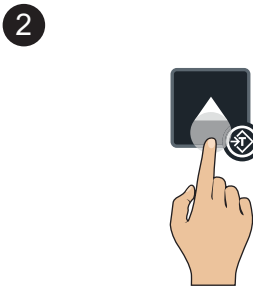
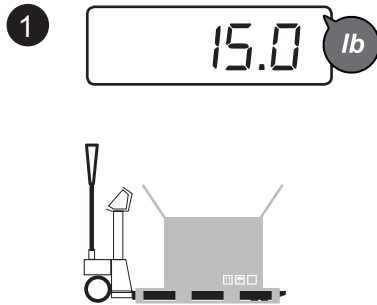



0.0



4.5 Piece Counting

4.5.1 Sample and Count



*If the pallet jack scale is already in counting mode (active sampling), in order to sample again press the  key for 2 seconds

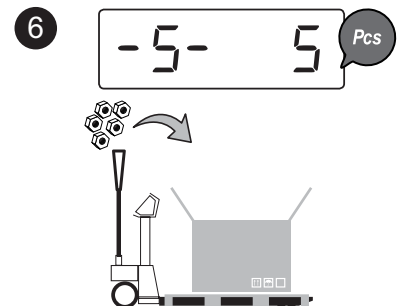


Choose the loaded reference amounts (5, 10, 20, ... 200 pieces)

How to set the value

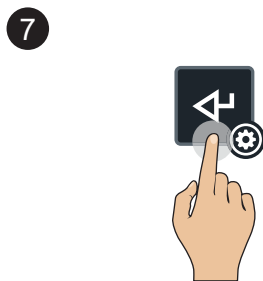


With the numerical keyboard, the combination of the **F** + **5** keys allows for typing the desired quantity (in any amount)



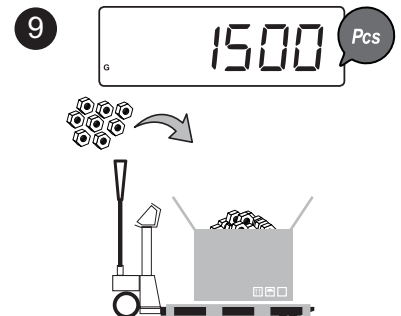
Load the desired reference quantity (e.g. 5 pieces)

For a correct sampling, the reference quantity must have a weight of at least 0.1% of the maximum scale capacity

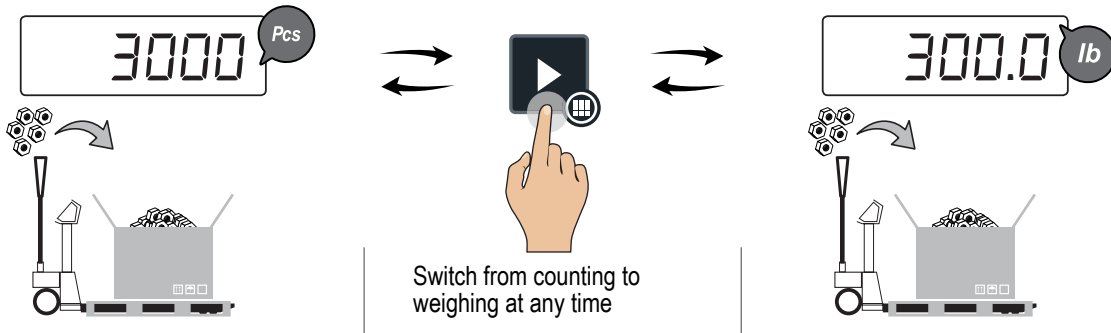


Sampling, please wait...

*With the numerical keyboard, the combination of the **F** + **Z** keys allows for modification of the sampling time; The more time, the more the sampling precision

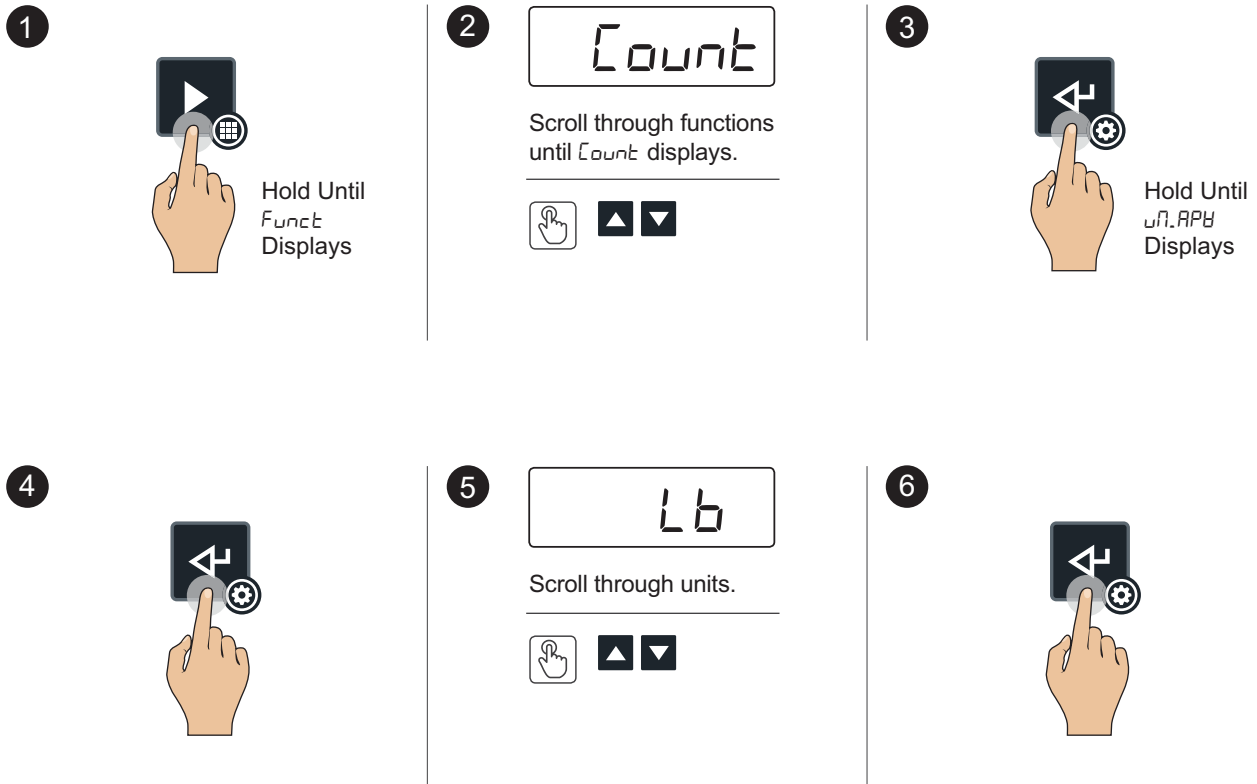


4.5.2 Switch Between Piece and Weight



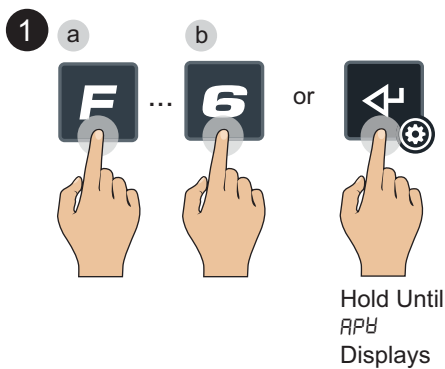
4.5.3 Average Piece Weight Units

Grams is the default unit for the average piece weight. Refer to the steps below to change the unit of measurement for the average piece weight. Options include grams, kilograms, tons and pounds.



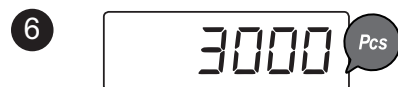
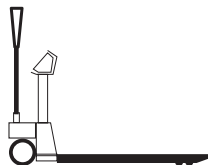
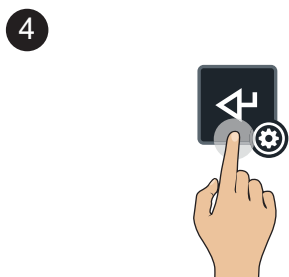
Note *The units will default back to grams upon exiting the counting function.*

4.5.4 Enter the Average Piece Weight



Enter average piece weight
e.g. = = 0000.10 lb

How to set the value



For correct counting, set the known tare value or tare the empty container and fill it with the pieces to count



Note The average piece weight unit defaults to grams. If necessary, see [Section 4.5.3 on page 26](#) to change between units.

4.5.5 Total Load Count

1

2 Manually set the tare value (pallet + container).

a ... b

Hold Until
-PE-
Displays

How to set the value

or

3

4

Hold Until
SAMPLE
Displays

5

Select the desired reference quantity (5, 10, 20, ... 200 pieces)

How to set the value

Using the numerical keyboard, press **F + 5** to type in any amount.

6 Pick up the sampling pieces (5, 10, 20, 30, 40, 50, 60, 75, 100, 200 pieces).

7

8

Sampling, please wait...

*With the numerical keyboard, the combination of the **F + 7** keys allows for modification of the sampling time. The more the time, the more the sampling precision.

9

4.6 Check Weighing

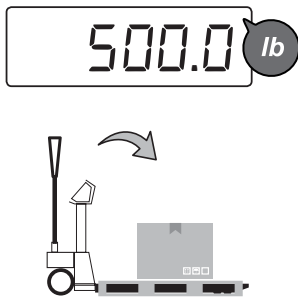









Section 4.6.1 only works for the initial setup of a known target value. Refer to Section 4.6.4 on page 30 and Section 4.6.6 on page 31 to update the target, min and max weights after initial setup.

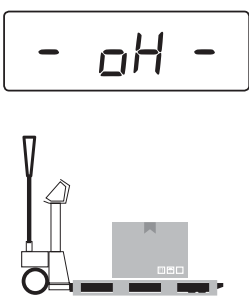
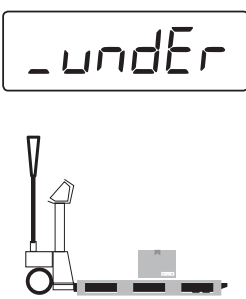
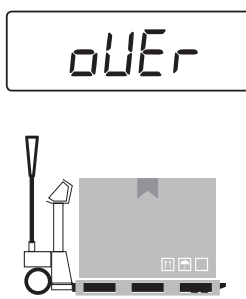
4.6.1 Check Weighing with a Known Target Value

<p>1</p>	<p>2</p> <p>Hold Until tARGET Displays</p>	<p>3</p>
<p>4</p> <p>How to set the value</p>	<p>5</p>	<p>6</p>
<p>7</p> <p>Enter the lower tolerance</p> <p>How to set the value</p>	<p>8</p>	<p>9</p>
<p>10</p> <p>Enter the higher tolerance</p> <p>How to set the value</p>	<p>11</p>	<p>Example</p> <hr/> <p>To check a weight of 500 lb with + 10 lb / - 20 lb tolerance (that is, between 480 lb and 510 lb), set:</p> <pre>t00500 L00020 h00010</pre>

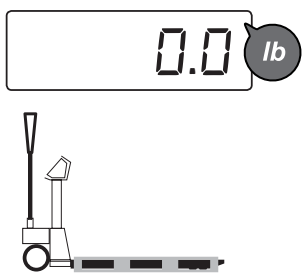

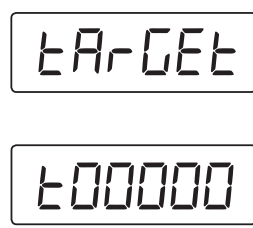
4.6.2 Check Weighing with an Acquired Value

<p>1</p> 	<p>2</p>  <p>Hold Until 7 in. PAH Displays</p>	<p>3</p>  <p>Enter the lower tolerance</p> <p>How to set the value</p> 
<p>4</p> 	<p>5</p>  <p>Enter the higher tolerance</p> <p>How to set the value</p> 	<p>6</p> 

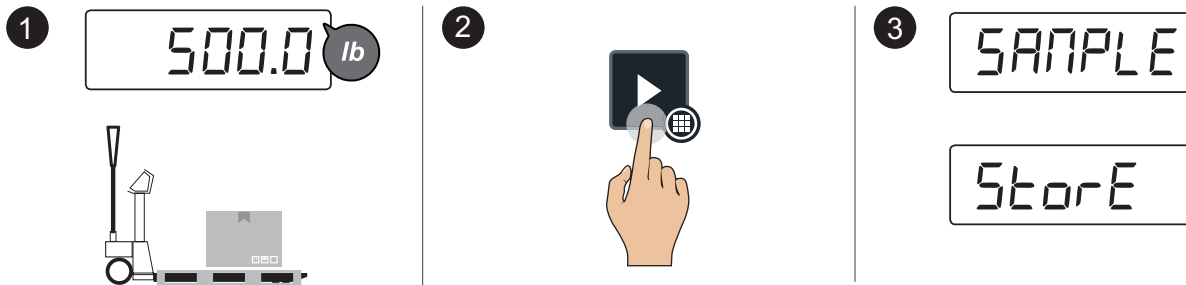
4.6.3 Check Weighing Display Messages

<p>1</p> 	<p>2</p> 	<p>3</p> 
--	--	--

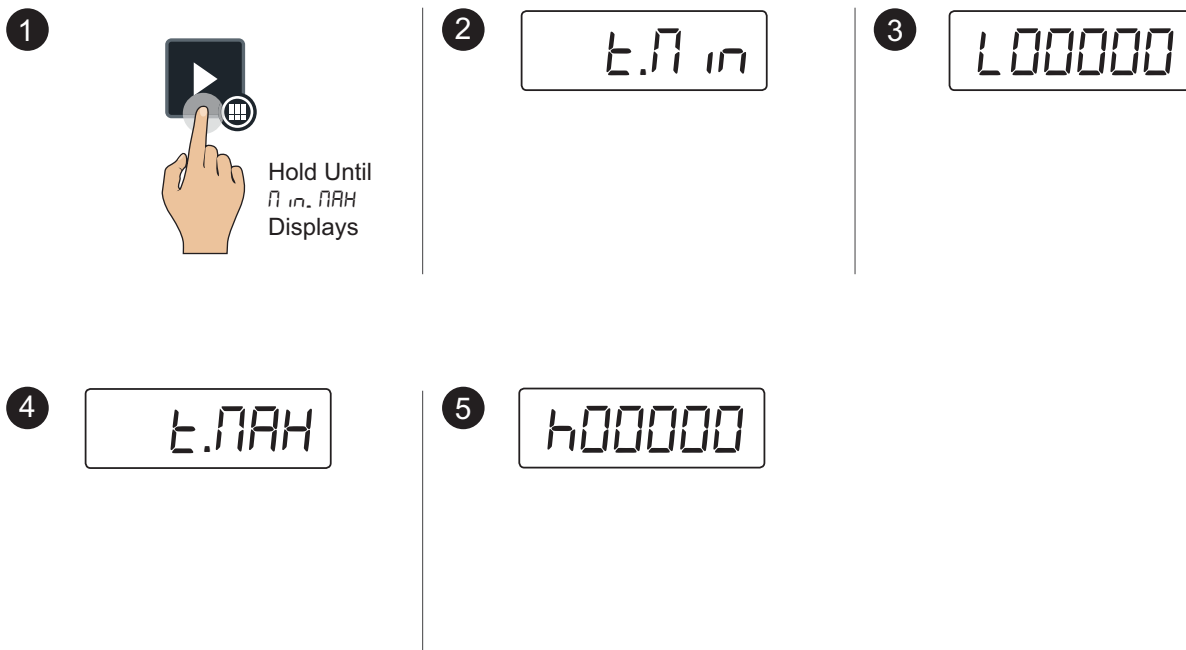
4.6.4 Updating the Known Target Value

<p>1</p> 	<p>2</p> 	<p>3</p> 
--	--	--

4.6.5 Updating the Acquired Value

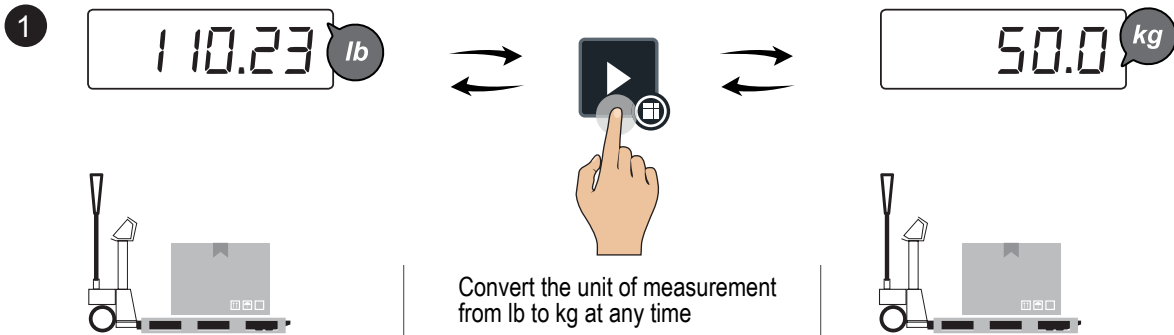


4.6.6 Edit the Min and Max Values

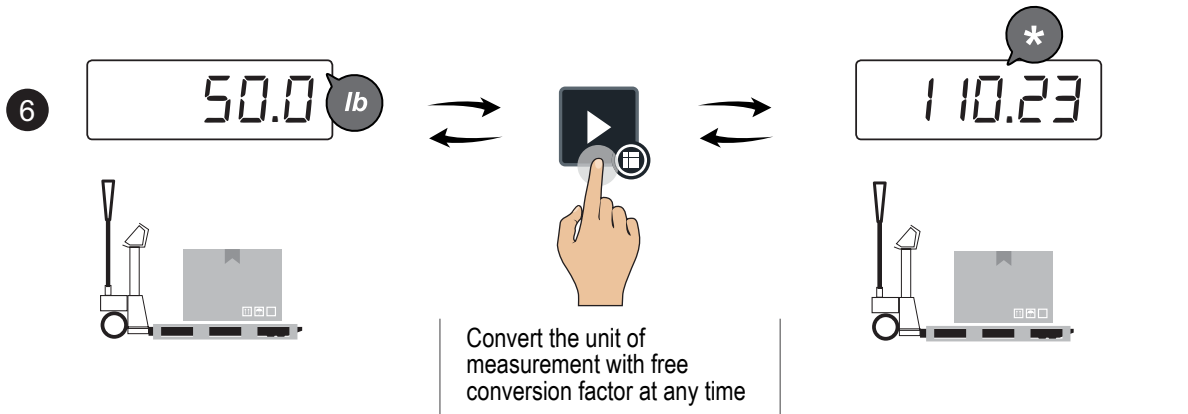
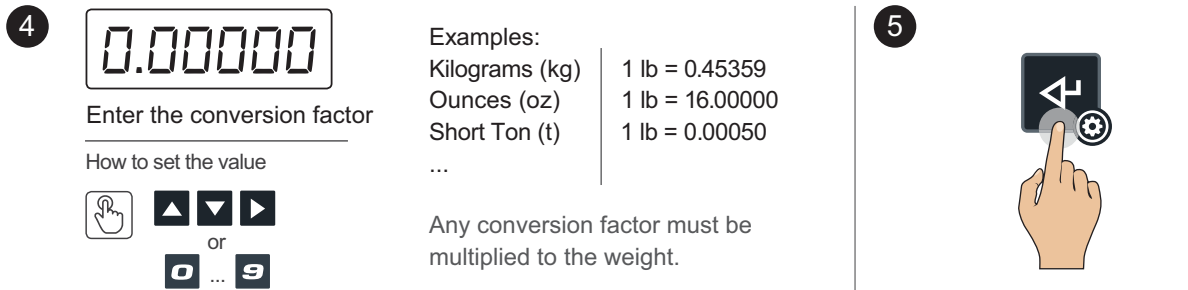



4.7 Unit of Measurement Conversion

4.7.1 Standard Conversion



4.7.2 Conversion Factor



Note To remove the user set conversion factor, follow steps 1-3 and then press  once the factor value displays.


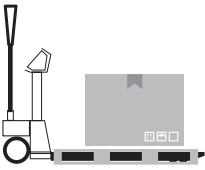


4.8 Percentage Weighing


4.8.1 Percentage Check

Acquire the Reference

1





2




Hold Until
SAMPLE
Displays


3




How to set the value



4




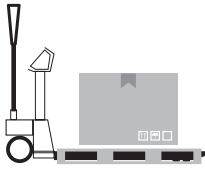
5



Sampling in progress,
please wait...


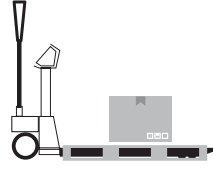
*With the numerical keyboard,
the combination of the **F** + **Z**
keys allows for modification of
the sampling time.
The more the time, the more
the sampling precision.


6


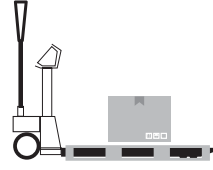
Check the Weight

7

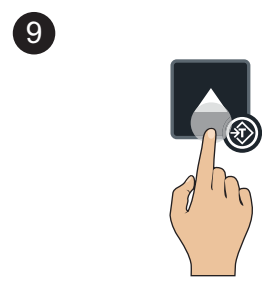
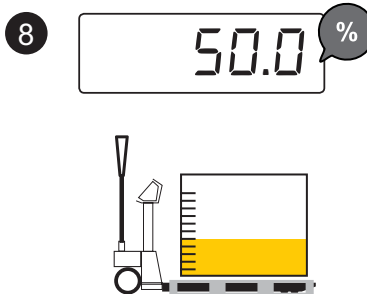
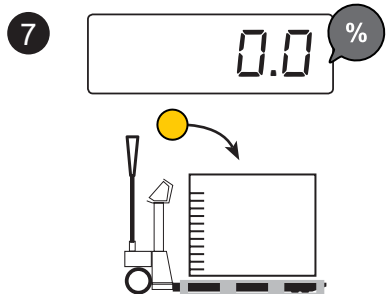
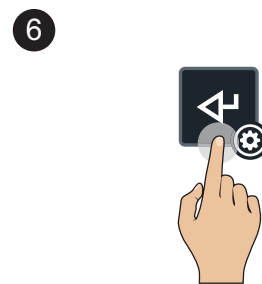
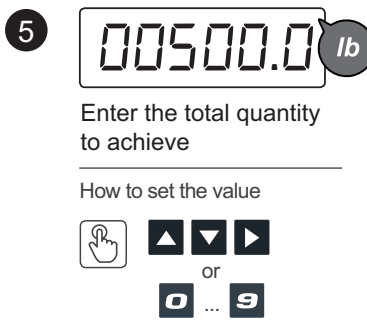
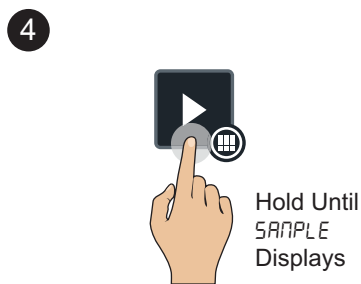
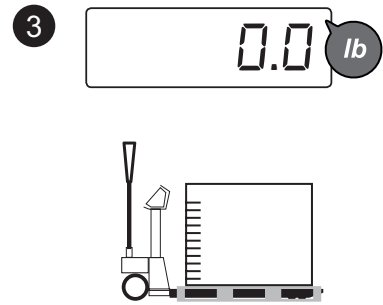
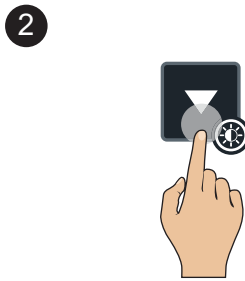
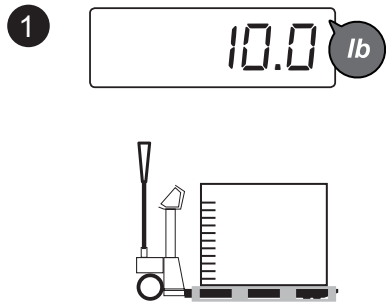



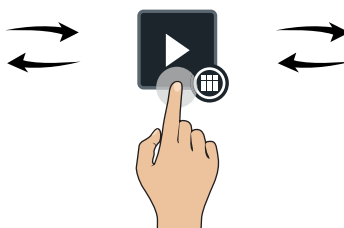
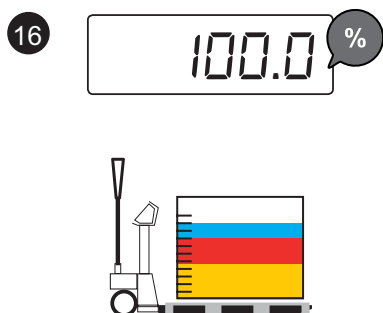
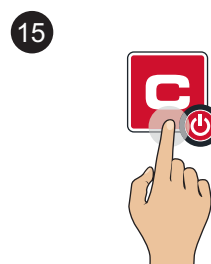
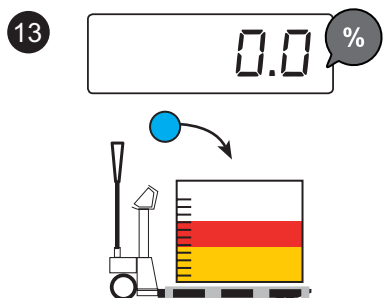
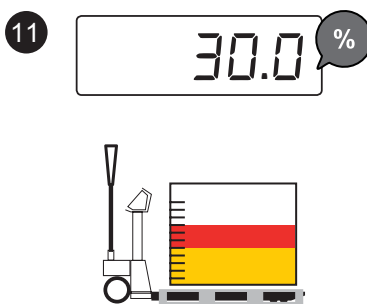
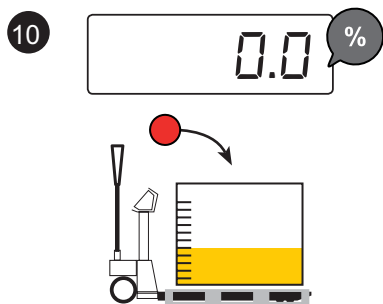


Switch from weight in % to
weight in lb at any time

4.8.2 Percentage Metering

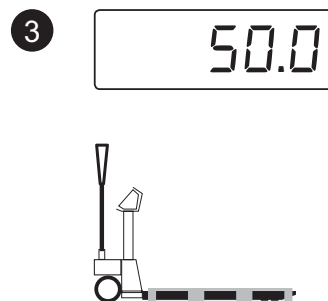
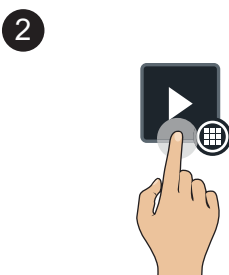
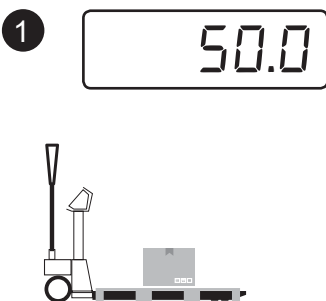




Switch from weight in % to weight in lb at any time

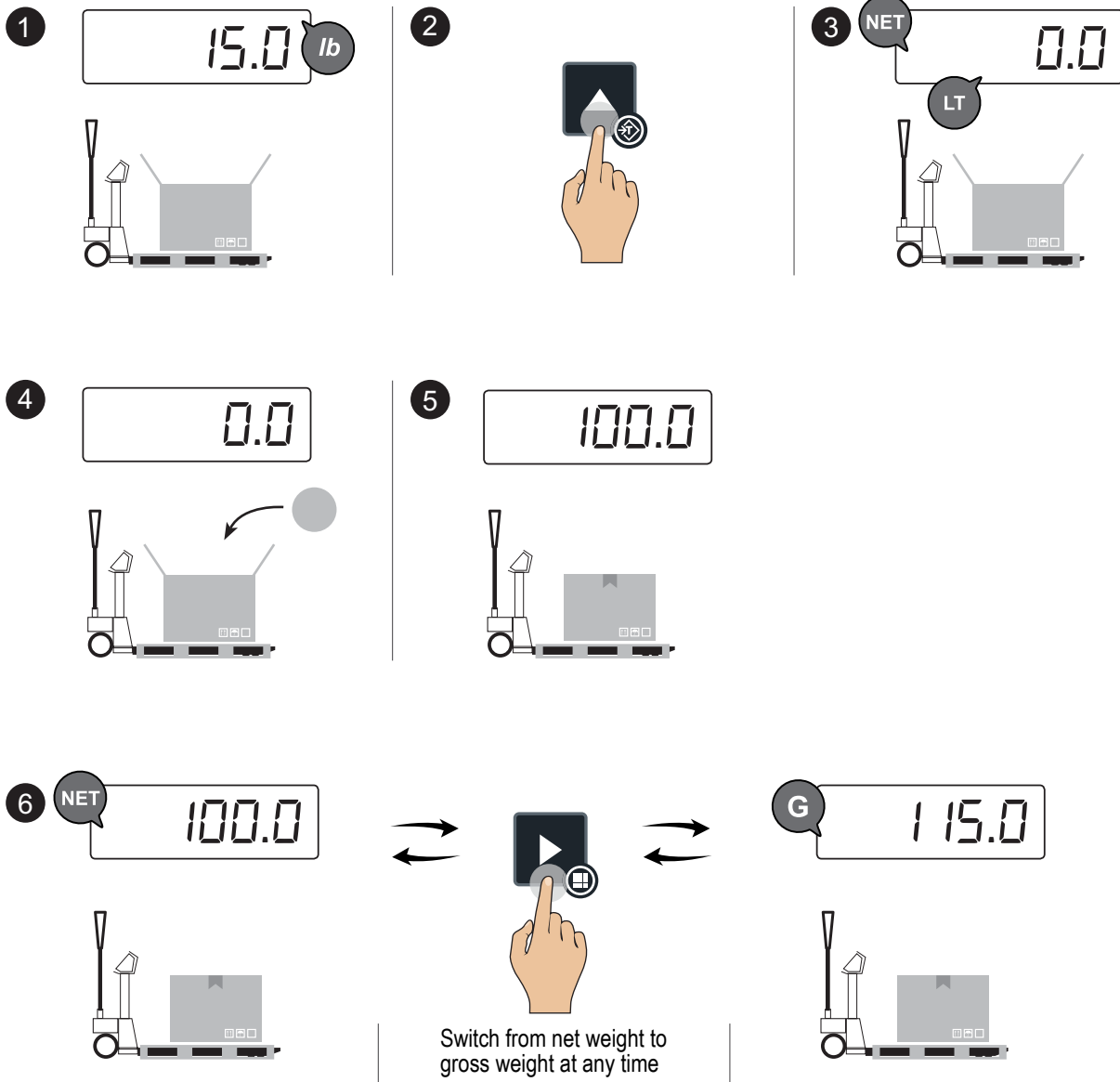


4.9 Hold Weight Display



Note Push  a second time to clear hold.

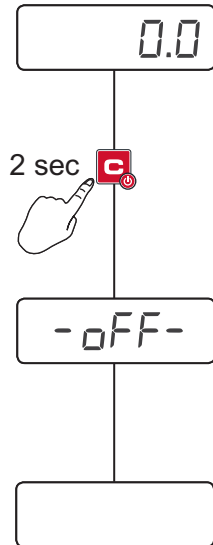
4.10 Display Net Weight and Gross Weight



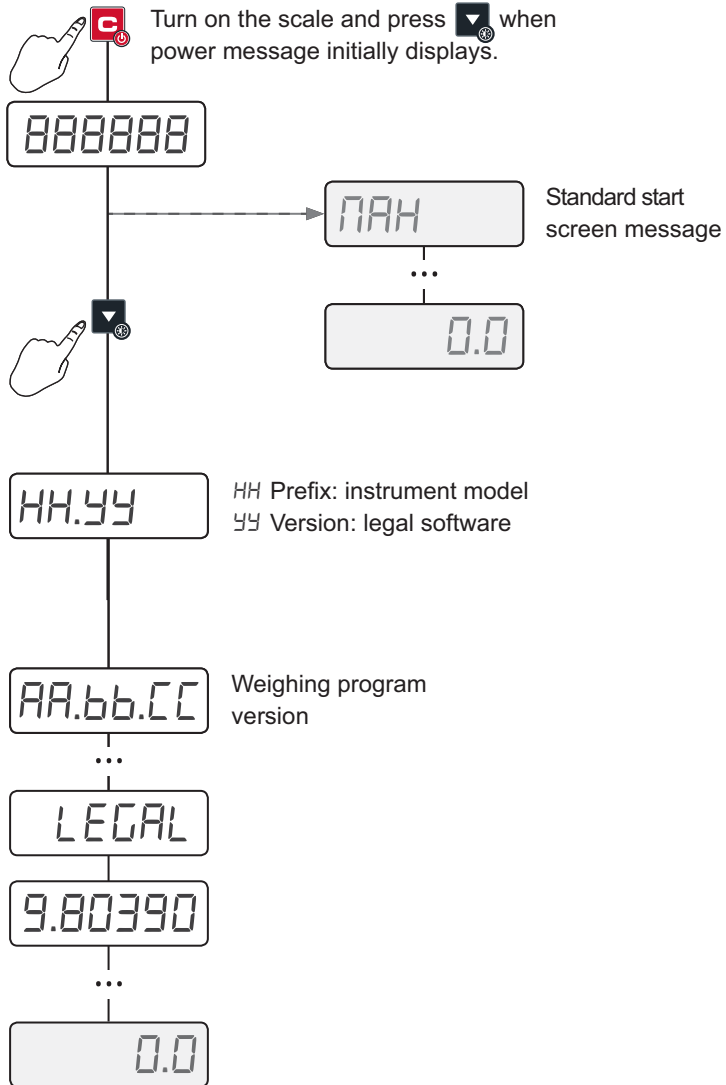
4.11 Metrological Information of the Scale

Identification of the Metrological Software

1 Turn off the scale:



2 Follow the procedure:






5.0 Configuration

5.1 Access the Configuration Menu

1. Press  to turn the *Pallet Jack Scale* off.
2. Turn indicator on by pressing  and press  during startup. *CR*L displays.

5.2 Save and Exit the Configuration Menu

1. Press  multiple times to back out of the menu structure until *SCALEP* displays.
2. Press  to save or press  to exit without saving.

5.3 Available Configuration Parameters

Refer to [Table 5-1](#) for available parameters within the configuration menu.

Parameters	Descriptions
<i>CR</i> L	Calibration; see Section 6.0 on page 46
<i>D.CR</i> L	Zero Calibration – acquisition of the zero point
<i>GR</i> AV	Gravity – set the location of use (if different from that of calibration)
<i>SER</i> . <i>CR</i> L	Configuration of the serial ports; see Section 5.4 on page 39
<i>LA</i> Yout	Print layout customization; see Section 5.5 on page 40
<i>F</i> . <i>IL</i> tEr	Weighing filter; see Section 5.6 on page 43
<i>SCR</i> EEr	Adjusting the screen display; see Section 5.7 on page 43
<i>b</i> Att	Using the battery; see Section 5.8 on page 43
<i>EC</i> o. <i>b</i> Att	Energy saving; see Section 5.9 on page 43
<i>Auto</i> FF	Auto off – set to be on (<i>YES</i>) or off (<i>no</i>)
<i>r</i> EmoTE	Using the remote control; see Section 5.10 on page 44
<i>r</i> ESEt	Factory configuration reset; see Section 5.11 on page 44
<i>d</i> . <i>AG</i>	Diagnostics; see Section 5.12 on page 45
<i>Ad</i> VArC	Advanced; see Section 5.13 on page 45

Table 5-1. Available Configuration Parameters

5.4 Serial Menu (SERIAL)

Configuration of the serial ports.

Menu Items	Parameters	Descriptions
COM.PC	MODE	Communication with PC: <i>ondE</i> – on request <i>485</i> – on request with code 485 (0 - 99) <i>Cont in</i> – continuous transmission (8 tx/sec) <i>StAbLE</i> – automatic stability transmission <i>Print.h</i> – transmission when pressing print button <i>rEPE.6</i> – repeater <i>r.AdC</i> – factory use only
	COM.SEL	Selecting the COM port for connection with PC/PLC: <i>COM 1</i> , <i>COM2</i>
	baud	Baud rate: <i>1200</i> , <i>2400</i> , <i>4800</i> , <i>9600</i> , <i>19200</i> , <i>38400</i> , <i>57600</i> , <i>115200</i>
	bit	Configuration of serial protocol: <i>n.8. 1</i> , <i>n.8.2</i> , <i>n.7.2</i> , <i>E.7. 1</i> , <i>E.7.2</i>
COM.Prn	MODE	Communication with Printer: <i>t.hEt</i> – thermal printer <i>LAbEL</i> – labeling machine <i>Cont in</i> – continuous transmission (8 tx/sec) <i>StAbLE</i> – automatic stability transmission <i>toPC</i> – manual transmission of string for PC when pressing print button <i>rEPE.6</i> – repeater <i>r.AdC</i> – factory use only
	baud	Baud rate: <i>1200</i> , <i>2400</i> , <i>4800</i> , <i>9600</i> , <i>19200</i> , <i>38400</i> , <i>57600</i> , <i>115200</i>
	bit	Configuration of serial protocol: <i>n.8. 1</i> , <i>n.8.2</i> , <i>n.7.2</i> , <i>E.7. 1</i> , <i>E.7.2</i>
	CTS	Printer control signal: <i>no</i> , <i>Lo!</i> , <i>h Gh</i> , <i>ENUL</i> Sub-Settings: <i>nChAr 0-999</i> (characters sent) <i>t iNE 0-9999</i> (sending time out)
	Power.P	Printer power supply / radio frequency module: <i>no</i> <i>EHt.off</i> – factory use only <i>Pr.inE</i> – printer power supply from indicator via Vaux connector (optional).
AdURnC	PratoC	Communication protocol: <i>EHtEnd</i> , <i>Short</i>
	rAd io	Connection port of radio-frequency module (factory use only): <i>oFF</i> <i>COM 1</i> – setting of the radio channel (0 - 7) <i>COM2</i> – setting of the radio channel (0 - 7)
	tL.t iL	TTL port / inclinometer activation (factory use only): <i>no</i> , <i>YES</i>
	tErn	Closing character of each print line: <i>Cr</i> , <i>CrLF</i>

Table 5-2. Serial Menu Parameters

5.5 Layout Menu (LAYOUT)

Parameters for configuring the receipt/label mode.

Menu Items	Parameters	Descriptions
LANG	-	Setting of the print language: ENGL, DEUT, FRFR, ESPA, CHINE, ITAL
CHAR	CHAR 1	Character dimension label mode: Font. 1, Font. 1d, Font. 2, Font. 2d, Font. 3, Font. 3d, Font. 4, Font. 4d, Font. 5, Font. 5d Character dimension receipt mode: normal, double
	CHAR 2	
HEADER	ENABLE	Enable header printing: no YES – only 1st totalization TOTAL – only upon each totalization ALWAYS – also in total
	LINE 1-4	Contents of the header lines: no (visible only in Line 2-4) CHAR 1-2 – refer to Figure 5-3 on page 42 and enter character values for intended content; 24 characters per line; Example (HELLO): <p>01 032 032 enter character value: 012 </p> <p>02 032 032 enter character value: 069 </p> <p>03 032 032 enter character value: 076 </p> <p>04 032 032 enter character value: 076 </p> <p>05 032 032 enter character value: 079 </p> Print/Delete the row being programmed: Press within Line 1-4; Press to scroll to DELETE or PRINT and press
DATA	GROSS	Gross weight data: YES, no
	TARE	Tare weight data: YES, no
	NET	Net weight data: YES, no
WEIGH	-	Progressive weighed: no YES – on each weigh ticket only SUM – on total ticket only ALWAYS – both tickets
TICKET	-	Receipt/label progressive: no YES – on each weigh ticket only SUM – on total ticket only ALWAYS – both tickets
CLOCK	-	Date and time: no YES – on each weigh ticket only SUM – on total ticket only ALWAYS – both tickets
BARC.39	-	Bar code 39: no YES – on each weigh ticket only SUM – on total ticket only ALWAYS – both tickets
BARC.TOP	-	Bar code top margin (mm); Visible only is BARC.39 is active: If MODE = TICKET (0-9), if MODE = LABEL (0-999)
BARC.L	-	Bar code left margin (mm); Visible only is BARC.39 is active: If MODE = TICKET (1-99), if MODE = LABEL (0-99)
BARC.H	-	Bar code height (mm); Visible only is BARC.39 is active: If MODE = TICKET (1-99), if MODE = LABEL (0-255)

Table 5-3. Layout Menu Parameters



Menu Items	Parameters	Descriptions
bARCLdt	Gross	Setting of the weight data; Visible only when bARCL39 is active
	net	Setting of the weight data; Visible only when bARCL39 is active
	tARE	Setting of the weight data; Visible only when bARCL39 is active
CoPIES	-	Multi-copy prints: n 1-3
EndtLC	-	Paper outlet for end of label/receipt: no YES – on each weigh ticket only Sum – on total ticket only RL'ARYS – both tickets
bL nE	-	White pre-heating line of the print head (for thermal printer only): no, YES
LABEL	Width	Width dimension: 0-999 (063)
	Height	Height dimension: 0-999 (080)
	uP. MARG	Top margin: 0-999 (010)
	L. MARG	Left margin: 0-99 (06)
	PEEL	Peeler: YES, no
	GAP	Gap between labels (mm): 0-7 (3)
Lb.SAVE	-	Saving of labels in the printer memory; Visible only if ModE = LABEL
tEST	-	Saving of labels in the printer memory (for label model only) and test print of all formats

Table 5-3. Layout Menu Parameters (Continued)

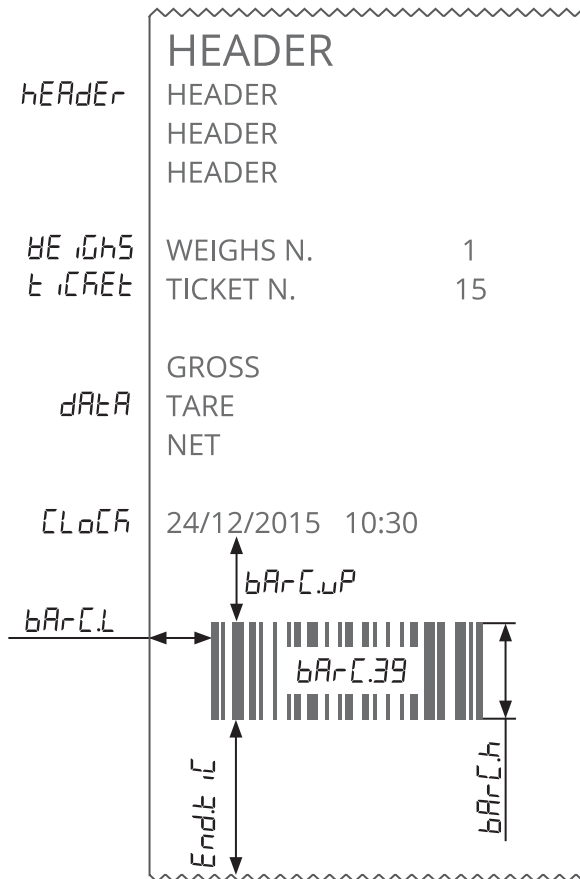


Figure 5-1. Receipt/Label Parameters

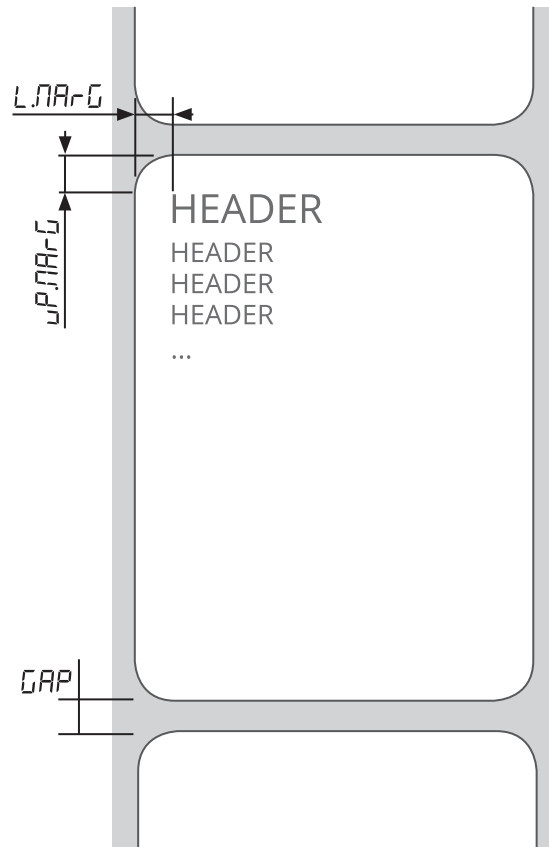


Figure 5-2. Additional Label Parameters

32		47	/	62	>	77	M	92	\	107	k	122	z
33	!	48	0	63	?	78	N	93	]	108	l	123	{
34	"	49	1	64	@	79	O	94	^	109	m	124	|
35	#	50	2	65	A	80	P	95	_	110	n	125	}
36	\$	51	3	66	B	81	Q	96	'	111	o	126	~
37	%	52	4	67	C	82	R	97	a	112	p		
38	&	53	5	68	D	83	S	98	b	113	q		
39	'	54	6	69	E	84	T	99	c	114	r		
40	(	55	7	70	F	85	U	100	d	115	s		
41	)	56	8	71	G	86	V	101	e	116	t		
42	*	57	9	72	H	87	W	102	f	117	u		
43	+	58	:	73	I	88	X	103	g	118	v		
44	,	59	;	74	J	89	Y	104	h	119	w		
45	-	60	<	75	K	90	Z	105	i	120	x		
46	.	61	=	76	L	91	[	106	j	121	y		

Figure 5-3. List of Characters



5.6 Filter Menu (F ILLEF)

Edits scale reactivity. Useful to adjust the scale to specific needs.

The “0” represents minor filtering and makes the weight more reactive. As the filtering is increased the stability of the weight is also increased. It is recommended to obtain a weight several times, adjusting the filtering until the appropriate compromise between reactivity and stability is achieved.

Settings	Descriptions
StAnd.0 – StAnd.3	Table and floor scales and piece counters
h .rES.0 – h .rES.7	High precision scales
dYn.0 – dYn.3	Suspended and oscillating load weighing
SLoL.0 – SLoL.3	Liquid weighing, weigh bridges and weighing with vibrations
doSD – doS3	Metering, filling, level check and overloads
r . RdC 0 – r . RbC 5	Filter for specific applications for factory use only

Table 5-4. Filter Menu Settings

5.7 Screen Menu (SEEEF)

Parameters for adjusting the display.

Parameters	Descriptions
bRH.L it	Back lighting: no, YES, Auto
br iGht	Brightness: brGt 1, brGt2, brGt3, brGt4
LoCH	Display lock (factory use only): no, YES

Table 5-5. Screen Menu Parameters

5.8 Battery Menu (bAte)

Settings for the battery power supply.

Settings	Descriptions
no	--
AA	4 AA batteries (NA)
Pb	Lead rechargeable battery
niMh	niMh rechargeable battery (NA)

Table 5-6. Battery Settings

5.9 Eco Battery Menu (EEo.bAte)

Energy consumption settings for battery operation.

Settings	Descriptions
EEo.no	Maximum consumption; maximum reactivity
EEo.M in	Minimum amount of reduced consumption; reduced reactivity
EEo.MEd	Medium amount of educed consumption; reduced reactivity
EEo.PAH	Minimum amount of consumption; scale in standby, power at the touch of a button, automatic switch-off at the end of weighing

Table 5-7. Eco Battery Settings

5.10 Remote Menu (ⓇⓔⓂⓔ)

Settings for the remote control.

Settings	Descriptions
Ⓡⓔ	--
Ⓡ 1	Infrared remote control (4, 18, 19 keys); all keys perform the tare
Ⓡ 4	4-key infrared remote control; multi-function mode
Ⓡ 18	18-key infrared remote control; multi-function mode
Ⓡ 19	19-key infrared remote control; multi-function mode
Ⓡⓕ 1	6-key radio-frequency remote control; all keys perform the tare
Ⓡⓕ 6	6-key radio-frequency remote control; multi-function mode
Ⓡⓕ.br 1	6-key radio-frequency remote control in broadcast mode; all keys perform the tare
Ⓡⓕ.br 6	6-key radio-frequency remote control in broadcast mode; multi-function mode







Table 5-8. Remote Control Settings



Note The broadcast mode allows sending the control to multiple scales simultaneously.

5.11 Factory Configuration Reset (Ⓡⓔⓔⓔ)

Used to reset the indicator to factory configuration settings. The indicator maintains the current calibration memory.

1. Navigate to the configuration menu. See [Section 5.1 on page 38](#).
2. Press  to scroll to Ⓡⓔⓔⓔ.
3. Press . ⓈⓇⓔⓔ displays.
4. Press . Ⓡⓔⓔ displays.
5. Press  to leave the configuration menu and return to the weigh mode. ⓈⓇⓔⓔ displays.
6. Press  to continue with the reset or press  to exit without resetting.



5.12 Diagnostics Menu (d iAG)

Read only diagnostic parameters.

Parameters	Descriptions
AdC.uU	Displays input signal in μV ; scroll up or down to examine all the channels
d iSPLA	Display integrity check of all segments and icons
HEyb	Press any key to verify correct operation with beep and code displays
CtS	Check of status of the control signal from the printer
outPute	Optional digital outputs; check the activation and deactivation of each contact
inPuteS	Optional digital inputs; check the activation and deactivation of each input <i>Example: i.b 1-0 (input not active); i.b 1-1 (input active)</i>
SER.nUN	Serial number of the scale
PrG.UEr	Hardware revision (e.g. rEU5) followed by software version (e.g. 04. 00. 00)
d iU. int	Factory use only
AdC.Pnt	Factory use only
bE.AdC	Factory use only
SER.iAL	Factory use only

Table 5-9. Remote Control Parameters

5.13 Advanced Menu (AdUARnC)

Configuration of the advanced parameters.

Menu Items	Parameters	Descriptions
CAL.PAr	dEC.iN	Configuration of the decimal point: 0, 0.0, 0.00, 0.000
	d iU	Reading division: 1, 2, 5, 10, 20, 50, 100, 200
	u.N.	Unit of measure: Lb, G, HG, t
	rRnGE 1-3	Enter max scale capacity for a single-range scale or enter range values for multi-range scales; See Section 6.1 on page 46
	EQuAL	Equalization function: no, YES
	n.CHAn	Equalized analog channels: Ch2, Ch3, Ch4 <i>Note: Visible only if EQuAL = YES</i>
EQuAL.P	EQ.0-4	Equalization of the empty scale and each individual load cell; See Section 6.2 on page 46 <i>Note: Visible only if EQuAL = YES</i>
CAL.AdU	ZEro	Run the calibration procedure; See Section 6.2 on page 46
NEtroL	0. PERC	Reset percentage via key; with approved scale (0-3) and with non-approved scale (0-50)
	d iU. Stb	Sensitivity of the weight stability control (0-20); e.g. n02
	0. trH	Zero hold function: tr no, tr 1r4, tr 1r2, tr 1, tr 2, tr 4, tr 6, tr 8, tr 10
	on. ZEro	Reset zero when powered on: no, YES (if YES select reset percentage)
	CAL. AdU	Re-acquisition/adjust calibration points in memory
	CAL. PARn	Factory use only
	d. SARLE	Factory use only
HEyb	--	Type of keyboard: no-n, Eht
t iL	--	Inclinometer (factory use only): n.o. (normally open), n.c. (normally closed)
rERCE	--	Reactivation of the totalization or print function: ZEro – after unloading the plate inSt – when weight is unstable AL!AYS – function always active
LocH.Hb	--	Permanent keyboard lock (excluding the C/power key): no, YES
AL ib i.r	--	Reset of fiscal memory (optional); Visible only if the alibi memory option is present; Reset is not possible if the instrument is approved
P in.tEC	--	Access PIN to configuration menu: no, YES (if yes, enter six digit PIN)
P in.uSE	--	Access PIN to user menus: no, YES (if yes, enter six digit PIN)
dFLE.t	--	Total reset of memory and of calibration to the factory settings

Table 5-10. Advanced Menu Parameters

6.0 Calibration

This section describes procedures for setting calibration parameters and the calibration of the *Pallet Jack Scale*.

6.1 Calibration Parameters

Set the following parameters before calibrating the *Pallet Jack Scale*:















- Decimal Point (*dEE* *11*)
- Reading Division (*d* *11*)
- Unit of Measure (*u* *11*.)
- Range 1, Range 2, Range 3 (*rRnGE* *1-3*)
- Equalization (*EQUAL*)
- Equalized Analog Channels (*n* *CHAn*)

6.2 Complete Calibration Procedure

Follow these steps to set the calibration parameters and complete a calibration:



Note Press  at any time to back out one level or multiple times to return to the weigh mode.

1. Turn indicator on by pressing  and press  during startup. *CAL* displays.
2. Press . *CAL.PPr* displays.
3. Press . *dEE 11* displays. See [Section 5.13 on page 45](#).
4. Press . The current decimal setting displays.
5. Press  to scroll through decimal settings and press  to save selection. *d 11* displays.
6. Press . The current division setting displays. See [Section 5.13 on page 45](#).
7. Press  to scroll through division settings and press  to save selection. *u.11.* displays.
8. Press . The current unit setting displays.
9. Press  to scroll through unit settings and press  to save selection. *rRnGE 1* displays.
10. Press . Range 1 value displays. Use the keypad or the numeric entry procedure to set value.



Note For single-range scales, Range 1 is set as the max scale capacity.








11. Press . *rRnGE2* displays.








Note Range 2 and Range 3 should only be set for multi-range scales.


For single-range scales press  to scroll to *EQUAL* and skip to [Step 17 on page 47](#).







12. Press . Range 2 value displays. Use the keypad or the numeric entry procedure to set value.
13. Press . *rRnGE3* displays.
14. Press . Range 3 value displays. Use the keypad or the numeric entry procedure to set value.
15. Press . *E9uRL* displays.
16. Press . Current equalization setting displays (*YES* or *n0*).
17. Press  to scroll through settings and press  to save selection. *n.ChRn* displays.

 **Note** *n.ChRn* is only visible if *E9uRL* is set to *YES*.

18. Press . The current channel setting displays. For the pallet jack scale to work properly, *Ch 4* must be the set.
19. Press  to scroll through settings and press  to save selection. *dEE n* displays.
20. Press . *E9uRL.P* displays.

 **Note** *E9uRL.P* is only visible if the function *E9uRL* is activated in the *CL.PAR* menu (see [Section 6.1 on page 46](#)).

21. Press . *E9 0* displays. (If *rESELP* displays press  to continue or press  to cancel)
22. Make sure *Pallet Jack Scale* is unloaded and press . *-oH-* briefly displays once the equalization procedure is complete and then *E9 1* displays.
23. Place a test weight about 1/8 of the maximum capacity on the location of load cell 1 (see [Figure 6-1](#)).

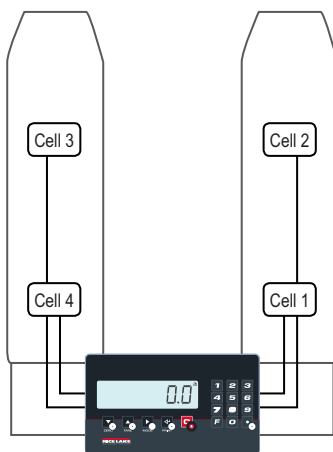














Figure 6-1. Load Cell Locations

24. Press . - $\square H$ - briefly displays once the equalization procedure is complete and then $E^9 2$ displays.
25. Move test weight to the location of load cell 2 (see [Figure 6-1](#)).
26. Press . - $\square H$ - briefly displays once the equalization procedure is complete and then $E^9 3$ displays.
27. Move test weight to the location of load cell 3 (see [Figure 6-1](#)).
28. Press . - $\square H$ - briefly displays once the equalization procedure is complete and then $E^9 4$ displays.
29. Move test weight to the location of load cell 4 (see [Figure 6-1](#)).
30. Press . $E^9 \square H$ briefly displays once the equalization procedure is complete and then $\square RL . RdU$ displays.
31. Press . $\square ER \square$ displays. Make sure *Pallet Jack Scale* is unloaded.
32. Press . - $\square H$ - briefly displays once the calibration procedure is complete and then $\square RL . Pnt$ displays.
33. Press . The current setting for the number of calibration points displays.
34. Press  to scroll through settings (1-3) and press  to save selection. Calibration point 1 value displays.
35. Use the keypad or the numeric entry procedure to set the calibration weight value and press . $\square RL d$ displays.
36. Load the weight specified for calibration point 1. - $\square H$ - briefly displays once the calibration procedure is complete and then calibration point 2 value displays.
37. Repeat [Steps 35-36](#) for calibration point 2 and 3 if needed.
38. Once the calibration procedure is complete for the final calibration point, $\square RL d$ displays.
39. Unload the *Pallet Jack Scale*. $\square RL . \square H$ briefly displays and then $\square RL . Pnt$ displays.
40. Press  four times to back out of the menu. $\square RL d$ displays.
41. Press . $\square St \square E$ briefly displays and then unit returns to weigh mode.

7.0 Maintenance

7.1 Maintenance Warnings

- During maintenance operations do not release work residues into the environment
- Only perform the maintenance operations described in this manual; Any unspecified procedures can pose a serious risk to untrained operators and may render the pallet jack unsafe
- Only use original spare parts
- Do not modify the *Pallet Jack Scale*
- During operation or maintenance, plates and stickers must NOT be removed, hidden, or made illegible
- More complex maintenance and/or repairs must be carried out by authorized personnel only

7.2 Scheduled Maintenance

Scheduled maintenance must be performed by qualified personnel.



Note *Before starting maintenance operations, place the pallet jack on a solid, level surface.*

- Ensure that the pallet jack rollers are not obstructed by dirt
- Periodically grease the bearings of the rollers and wheels
- Grease the height control lever guide
- Check the oil level every six months and top off with hydraulic oil IP46 if necessary; See [Section 7.5 on page 51](#)
Oil must be disposed of in accordance with local and state laws and regulations
- Replace wheels and rollers when they are worn
- For additional minor repairs and solutions, contact an authorized dealer

7.3 Daily Maintenance

Check the following every day to keep the pallet jack scale in good operating condition.

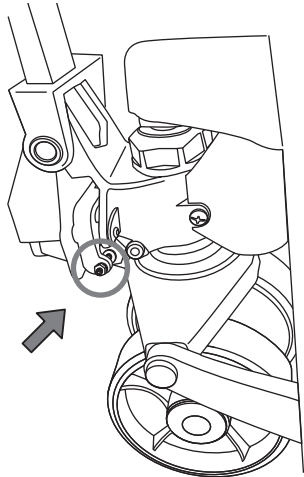


Note *Daily pallet jack scale maintenance is the responsibility of the user.*

Below are the daily checks to be carried out to ensure optimal weighing and handling performance:

- Roller and wheel integrity check
- Visual check of the state of the pallet jack frame
- Weight indicator operation check
- Pump operation check

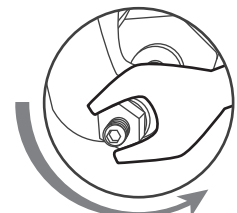
7.4 Regulation of the Forks Lowering



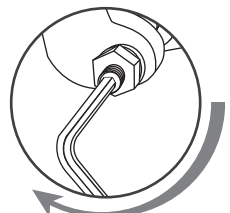
1 Place the forks at the maximum height.

2 Place the height control lever in center position.

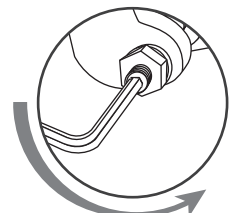
3 Make sure the handlebar is in the upright position.



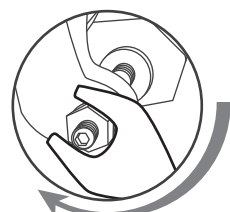
4 Unscrew the locknut to unlock the adjustment screw.



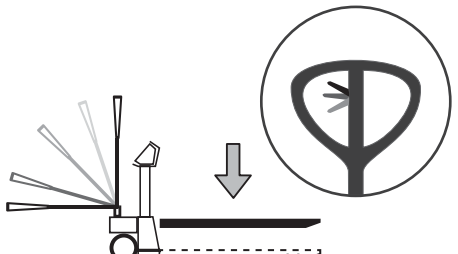
5 Slowly turn the adjustment screw clockwise until the forks start moving downward.



6 As soon as the forks start lowering, turn the adjustment screw one and a half turns counterclockwise.



7 Tighten the locknut, to lock the adjustment screw.



8 Using the height control lever, the downward movement can be initiated from any handlebar position.

Figure 7-1. Adjusting Fork Lowering Regulation

IMPORTANT

Make sure it is not possible to raise the forks with the height control lever in the center (transport) position.

Otherwise follow these steps:

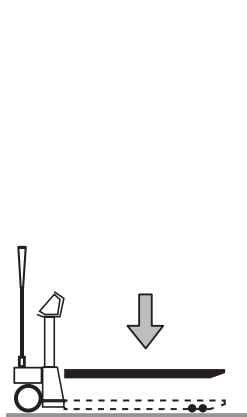
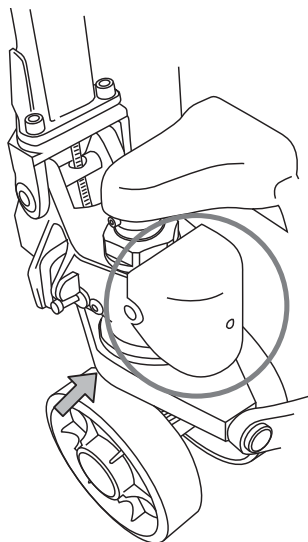
1. Unlock the locknut
2. Turn adjustment screw half a turn clockwise
3. Retighten the locknut
4. Repeat steps as needed



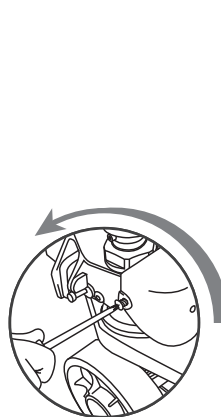
7.5 Oil Level



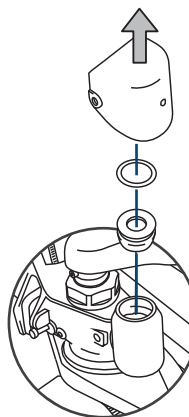
Note Check the oil level EVERY 6 MONTHS.
Only use hydraulic oil, not motor or brake oil.



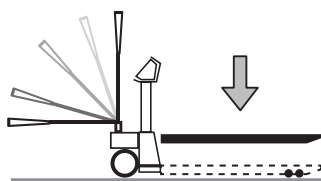
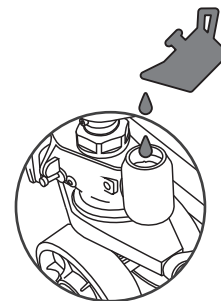
1 Lower the forks all the way.



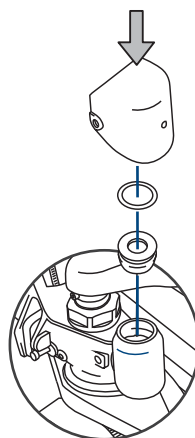
2 Remove the protective casing, the seal and the cap.



3 Add oil as needed. Only fill to 1 inch from the top edge of the tank.



4 Operate the pump several times to release any air from the hydraulic circuit. Then, lower the forks completely.



5 Put the cap, the seal and the protective casing back on.

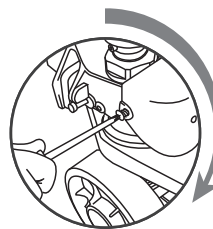


Figure 7-2. Checking the Oil Level



Oil Viscosity
30 CST A 40°C
Total Volume
0.3 LT



7.6 FAQ - Frequently Asked Questions

7.6.1 Tare

The Scale Does Not Tare

- The weight is unstable (UnStAb)
- The gross weight is negative (LoW)
- The weight is insufficient
- The weight exceeds the maximum capacity
- The tare function has been deactivated
- In the event of manual tare, the value exceeds the maximum capacity

7.6.2 Weighing

The Scale Does Not Switch On

- Make sure the power cable is connected properly
- Connect the battery charger and try again; If the instrument continues to malfunction, contact the dealer

The Scale Switches Off Suddenly

- Automatic switching off active
- Low battery
- Battery failure
- Power supply line failure

The Scale is Not Reactive

- One of the available energy saving modes has been activated
- An unsuitable weighing filter has been selected

The Scale Display Switches Off and Displays a Dot

- Stand-by mode is active: press a key to reactivate weighing
- Energy saving mode is active: contact the dealer for further details

The Scale Displays a Permanent "Zero" Message

- The scale is unable to automatically reset the weight because it exceeds the maximum resettable weight at switch-on
- Unload the scale and try again; If the scale continues to have the same problem even when there is nothing on it, contact the dealer

The Weight is Unstable

- Check whether the weighing filter is active
- If the support surface is subjected to vibrations from machinery or moving vehicles, move the scale onto another surface and try again

7.6.3 Pieces Counting

The Scale Does Not Carry Out Sampling

The weight is unstable (Err. nbt)

The weight is insufficient, add more pieces and try again (Error)



7.7 Weighing Error Messages

Message	Description	Solution
bu59	Another printout is already in progress	Wait for the printout in progress to be finished and try again
un5tAb	The weight is unstable	Check weighing filter; If support surface is subjected to vibrations from machinery or moving vehicles, move scale onto another surface and try again
LoU	The net or gross weight is negative or insufficient for printing	Add weight and try again
un. oUEr	Underload or overload (----- or -----)	Completely unload the scale, making sure Δ lights up; reload the weight and try again
no. 0. un5	The scale was not unloaded after the last printing	Completely unload the scale, making sure $\rightarrow 0 \leftarrow$ lights up; reload the weight and try again
Err. NoE	The weight is unstable	Wait for stability (the \sim light) and try again
Error	In pieces counting mode, the weight is insufficient for proper sampling	Add more pieces and try again
t iLt	Angle error	Move the pallet jack to a flat surface and try again

Table 7-1. Weighing Error Messages

7.8 Configuration Error Messages

Message	Description	Solution
AL.Err	Alibi memory board (optional) not detected	Check for the presence of the board inside the indicator; If present, check that it is not damaged and is installed correctly
Er. i.b.H	Inputs/outputs board (optional) not detected	Check for the presence of the board inside the indicator; If absent, deactivate any inputs or outputs (parameter inPUt5 or ouTpuT). If present, check that it is not damaged and is installed correctly
Er.r.b.H		
E9.Err	Unable to perform equalization	Check that the cells are connected properly; Check the signal of each cell in the diagnostic menu (menu d iRE, parameter AdC.uU)
PrEE.	Calibration error	First calibrate the zero point, then proceed with the next points
Err.Pnt	Calibration error	Check the connection of the load cell; Check that the cell signal is stable, valid and greater than that of the previously acquired point
Er 11	Calibration error	Increase the calibration weight
Er 12	Calibration error	Check that the signal coming from the cell increases as the weight loaded on the scale increases; When acquiring the calibration points, use increasing calibration weights
Er 37	Calibration error	Repeat the calibration, checking that the capacity and division have been correctly set
Er 39	Instrument not configured	Reset the factory configurations (menu AdURnC, parameter dFLt.t)
Er 85	Instrument configured but not calibrated	Perform calibration
C.Er.36	Calibration error	Check that the signal coming from the load cell is not negative
Err.NoE	Weight unstable	Check in menu d iRE, parameter AdC.uU that the signal is stable and retry; If the connection of the cells is with 4 wires, check that the sense jumpers are inserted

Table 7-2. Configuration Error Messages

7.9 Wiring Diagram

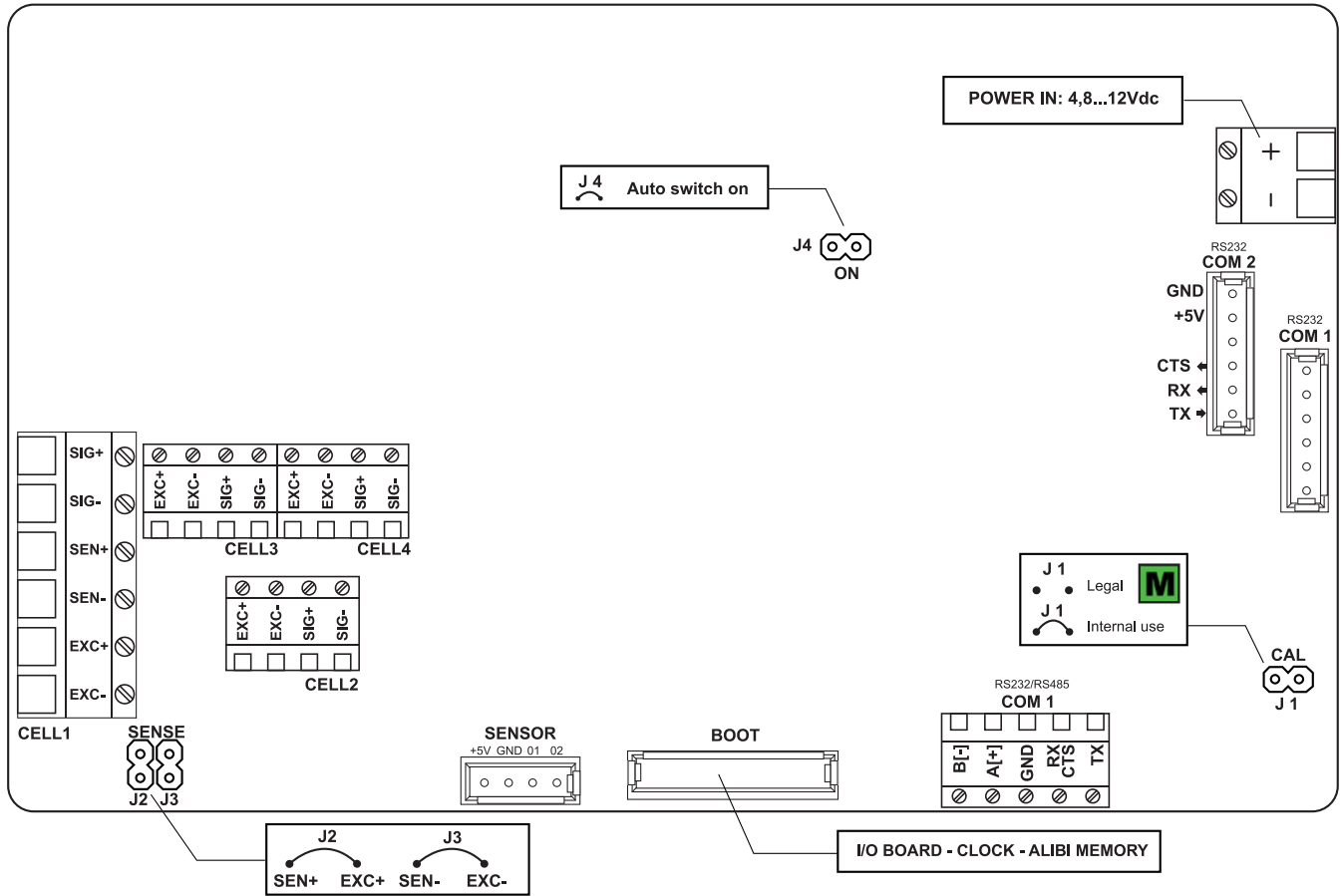
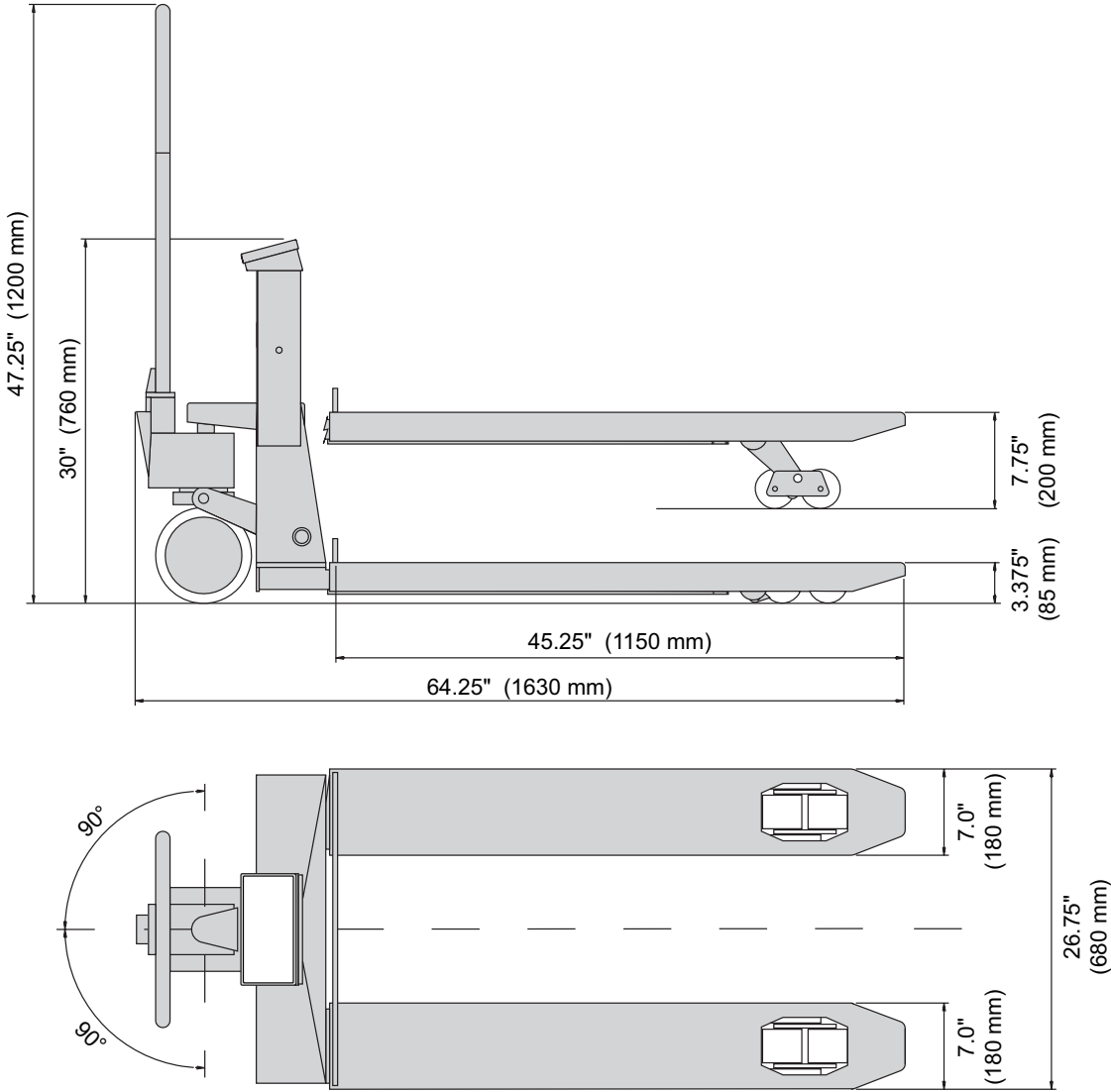


Figure 7-3. Indicator Wiring Diagram

8.0 Specifications

8.1 Dimensions



8.2 Technical Specifications

Power Supply	Rechargeable battery (6 V - 4,5 Ah)
Battery Charger	110-230 VAC
Operating Temperature	14 to 104 °F (-10 to +40 °C)
Displayed Divisions	10000e, 3X3000e expandable to 800,000 for internal use (with minimum signal coming from the 1.6 mV/V cell)
Minimum Voltage per Division	0.3 μ V
Load Cells	4 - 2.5K kg, 1000 Ω , 3 mV/V, shear beams
Internal Resolution	1,500,000 counts
Keyboard	Water resistant polycarbonate membrane keys with tactile and audible feedback
Tare Function	Available on entire range
Auto Power Off	Programmable from 1 to 255 minutes
Low Battery Warning	LOW BATT displays
Battery Recharge Time	12 hours
Excitation	5 VDC \pm 5%, 120 mA; 4 cells
Serial Outputs	2 RS232 ports
Capacity	Maximum lifting capacity 5,000 lb (2,268 kg)
Weight Accuracy	\pm 0.1% of the maximum capacity in internal resolution
Unit Weight	Approximately 295 lb (134 kg)

Table 8-1. Technical Specifications





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