USER MANUAL

hWeigh™

Manual 6163701-R2

cascade™

RAVAS

CONTENTS

INTRODUCTION

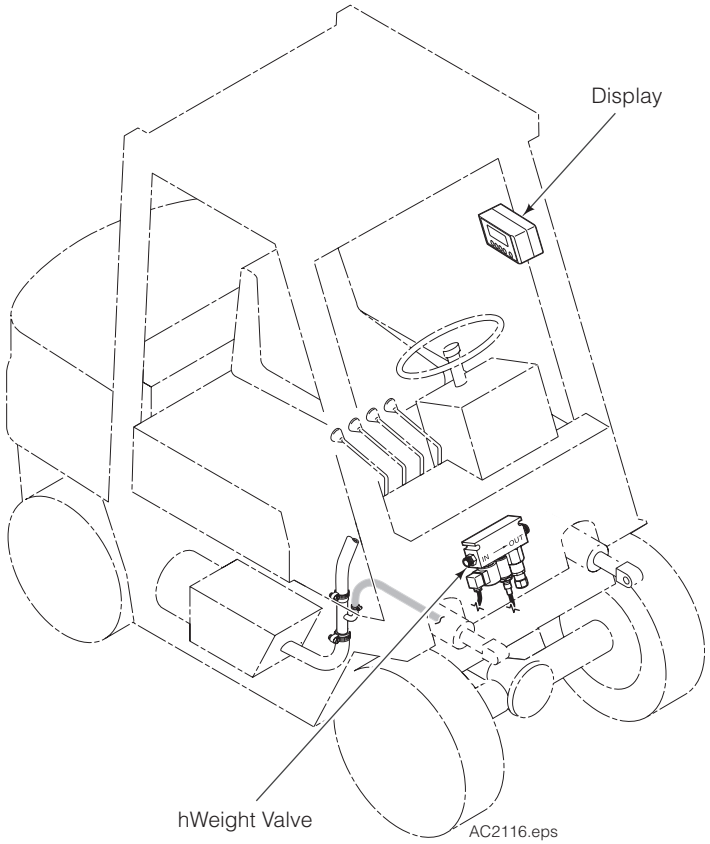
This manual describes the assembly of the hWeigh system. Read this manual carefully. The installer must be informed of the contents of this manual. Follow the contents of the manual precisely. Always do things in the correct order. This manual should be kept in a dry and safe place. In case of damage or loss, the user may request a new copy of the manual from Cascade RAVAS.

The hWeigh weighing system consists of two main components:

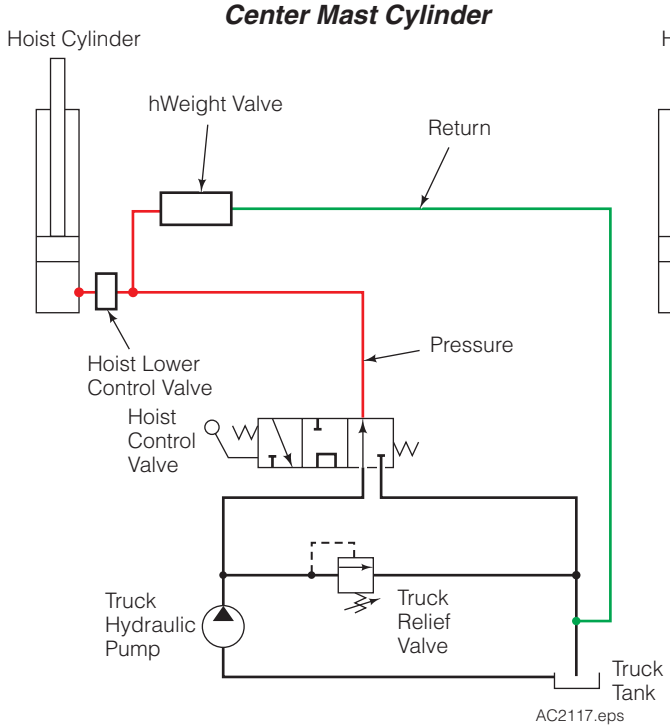
1. Display
2. hWeigh Valve

The hWeigh valve is installed in the truck hoist hydraulic system. The display, the control panel of the system for the driver, operates on 12 Volt DC or 24V-80V DC supply connected to the battery of the truck. The illustration below shows the components in the circuit.

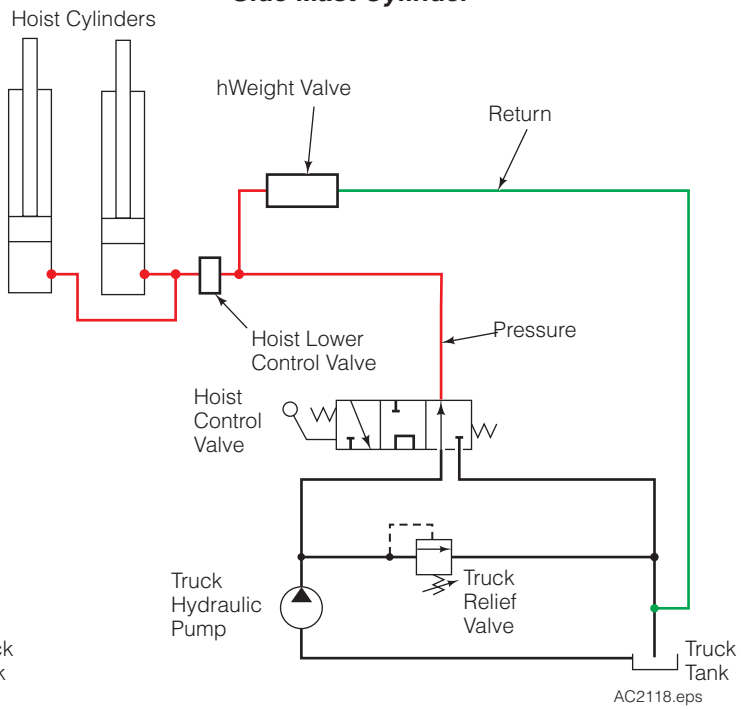
It is advised that the installation of the hWeigh valve by a local lift truck dealer.



Trucks with One Center Mast Cylinder



Trucks with Two Side Mast Cylinder



WARNINGS & SAFETY MEASURES

When installing the hWeigh system, carefully read the instructions and guidelines contained in this manual. Follow the steps shown to install the hWeigh system on the truck. If any of the instructions are not clear, please contact Cascade RAVAS.

The installation of the hWeigh system should only be performed by skilled personnel. Report equipment failures. The equipment should be checked annually by skilled personnel. Always follow the safety measures concerning the lift truck accurately.

No riders

No reaching through mast

No standing under load

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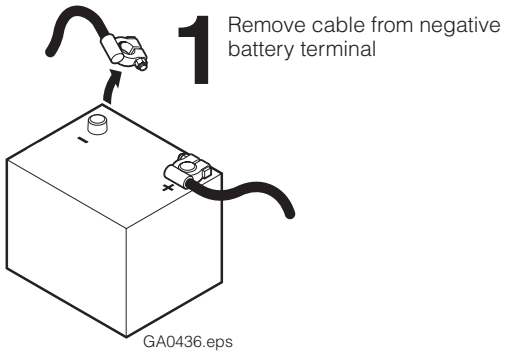
IMPORTANT: Use good hoses for installation. Quality of hoses can affect how the hWeigh system weighs loads.

Prior to installation, verify the following conditions are met:

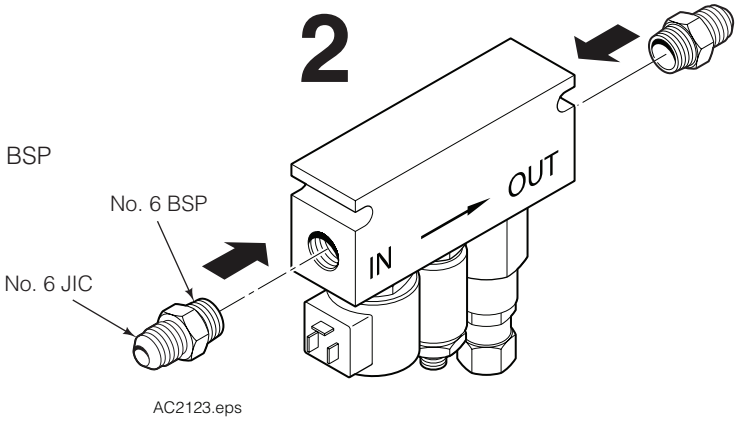
- Truck is less then the rated capacity of 20,000 lbs (9,070 kg).
- Truck has a maximum pressure up to 3,500 psi (240 bar).
- Trucks with a battery voltage of 24 Vdc or higher, verify display is labeled with "CONVERTER INSIDE".

> **WARNING**: Before removing hydraulic lines or components, relieve pressure in the hydraulic system. Turn truck off and open the truck auxiliary control valve(s) several times in both directions.

1 Disconnect the cable from the negative battery terminal or as directed by OEM truck manual.

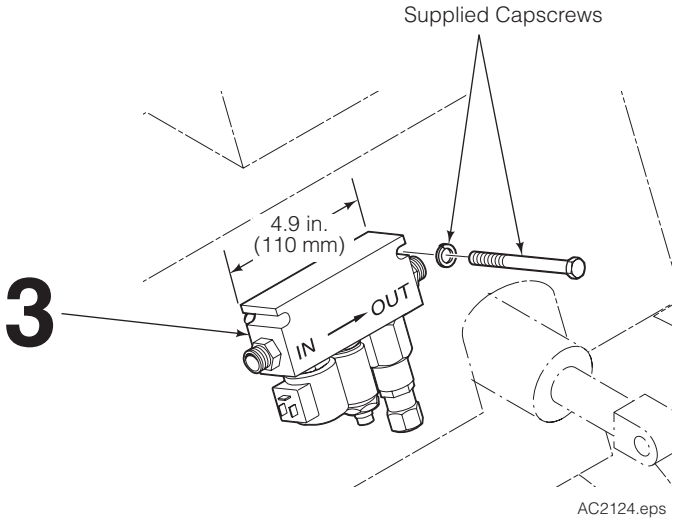


2 Install the fittings to the valve. Kit fittings are No. 6 BSP to No. 6 JIC.

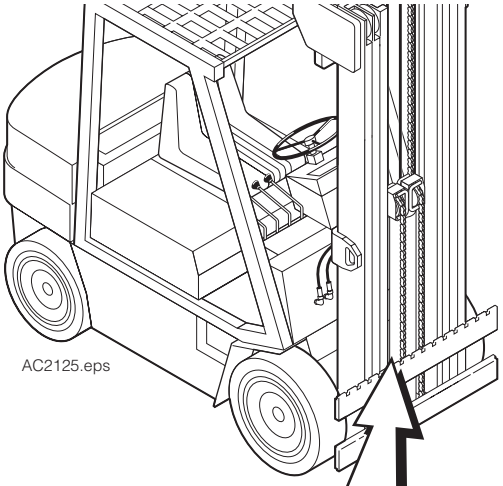


3 Locate and install the valve on the truck cowl using the supplied capscrews and washers. Holes should be spaced 4.9 in. (110 mm).

IMPORTANT: Install valve with cartridges facing downward. This prevents errors from occurring.



4 Install a tee fitting in the mast cylinder supply line, before the lowering control valve.

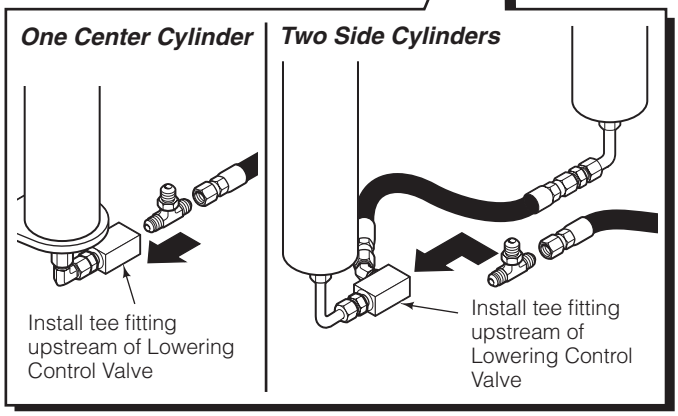


5 Determine length of hose and install between tee fitting and valve "IN" port.

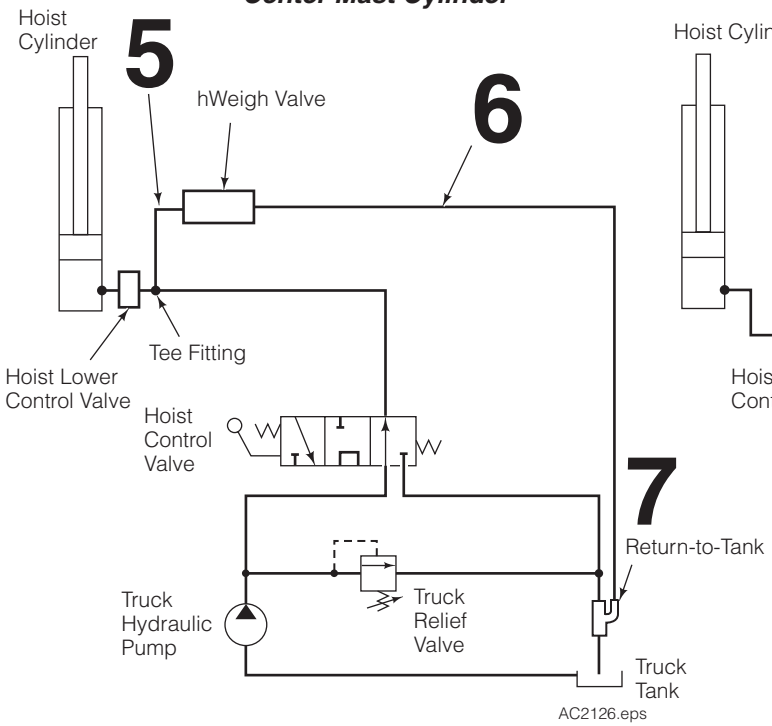
6 Determine length of hose and install between valve "OUT" port and trucks return tank line.

CAUTION: Do not place an oil filter in the return line of the hWeigh valve.

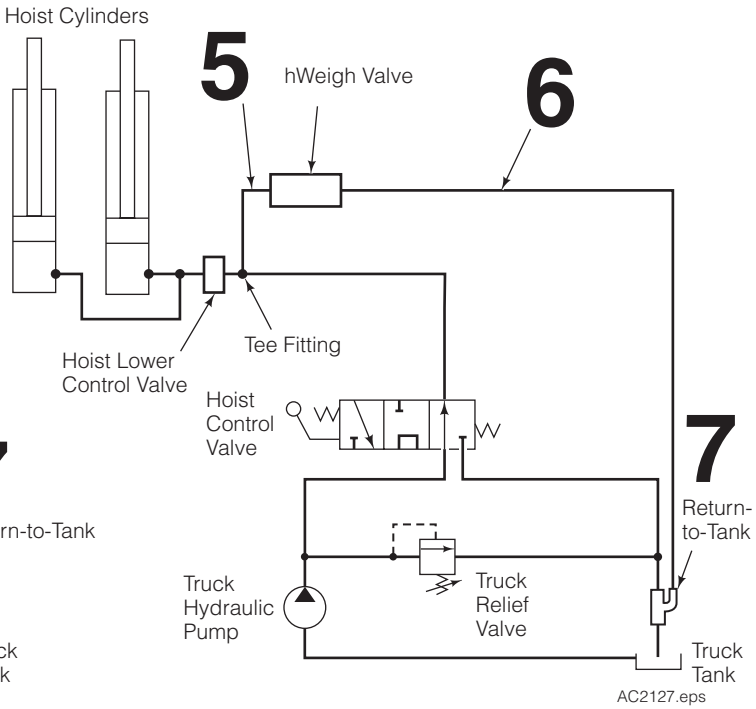
7 Install a return-to-tank fitting in the tank line. Lube hose ends and fitting for easy assembly. For complete installation procedure, refer to Installation Instructions 6808126.



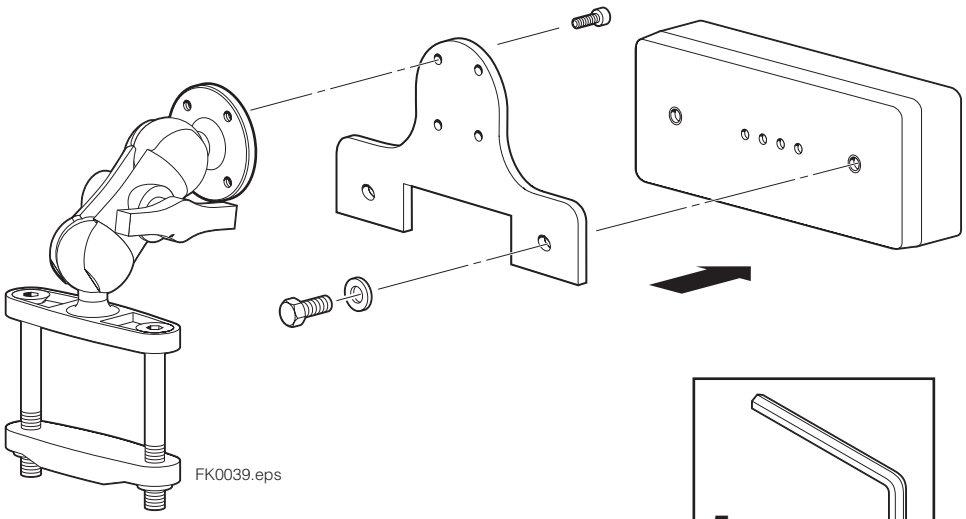
Trucks with One Center Mast Cylinder



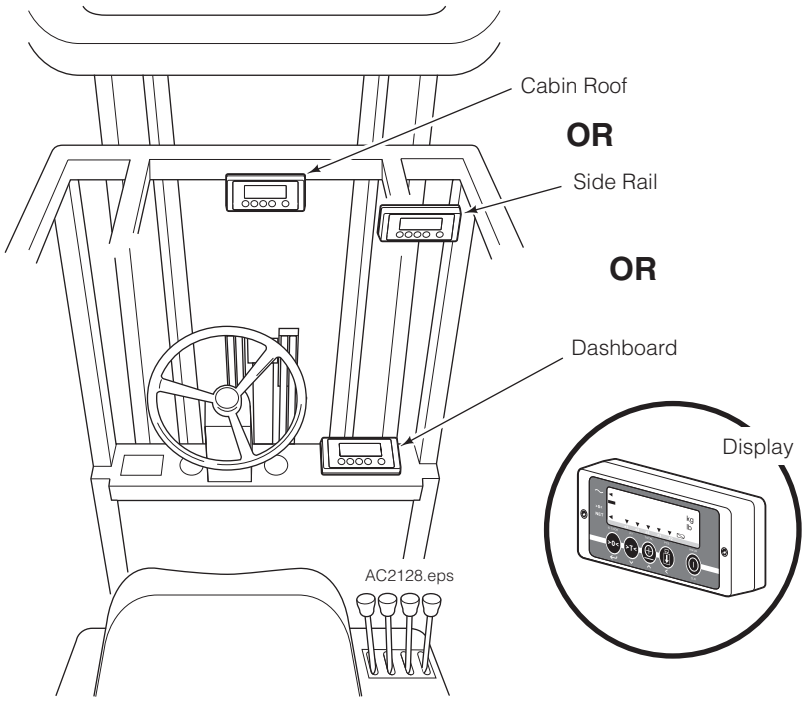
Trucks with Two Side Mast Cylinder



8 If required, install the bracket to the display. Install the bracket/display assembly to the support.



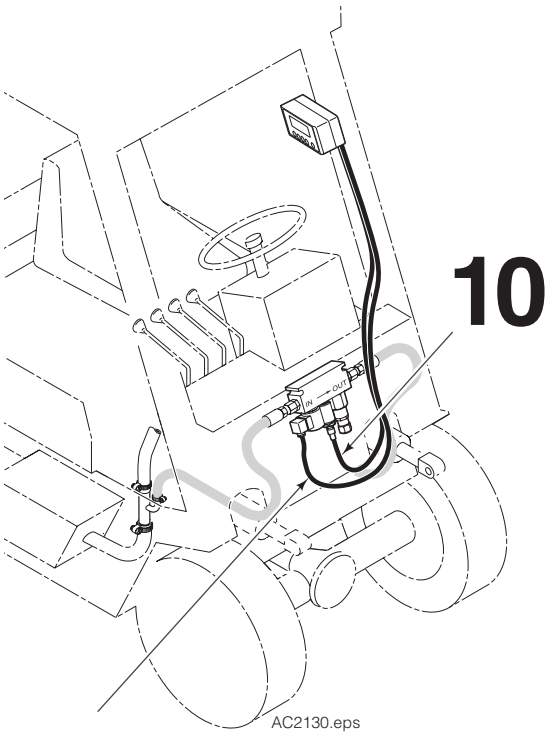
9 Locate and mount the display. Find a suitable location for readout and easy access to display.



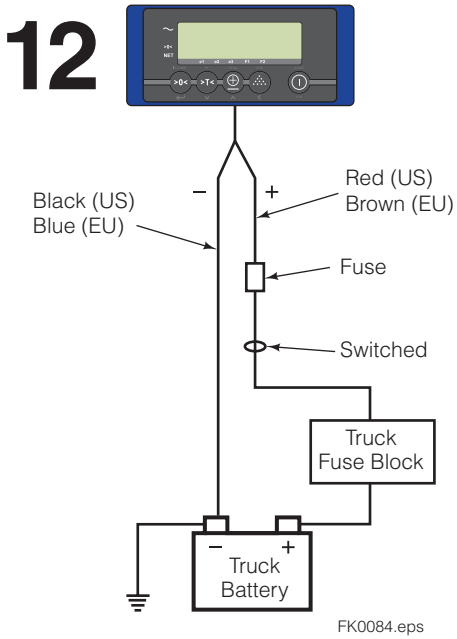
CAUTION: Consult the Lift Truck OEM for proper + power source connection.

10 Route the sensor cable from the display to the hWeigh valve. Connect the sensor cable to the valve sensor.

11 Route the solenoid cable from the display to the hWeigh valve. Connect solenoid cable to solenoid.



12 Connect power cable to truck power source and route to display.



13 Check all hoses and cable routing for pinch points.

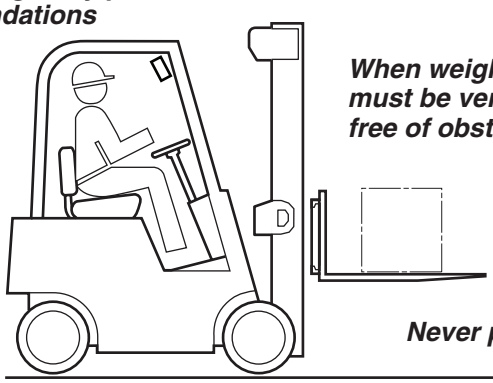
14 Connect battery cable(s) to their proper terminal(s).

After Component Installation

It's important that the truck be properly maintained to keep the accuracy of the weighing. Check components are in good condition:

- No wear in mast
- Mast and chains are lubricated
- Whistling and cracking sounds do not occur when the lifting and lowering the forks

Maintain truck regularly per OEM recommendations



When weighing load, mast must be vertical and load is free of obstacles

Temperature Range:
15° F (-10° C) minimum
105° F (40° C) maximum

NOTE: A tilt indicator can be installed to aid the driver in aligning the mast at vertical.

Never pressure wash

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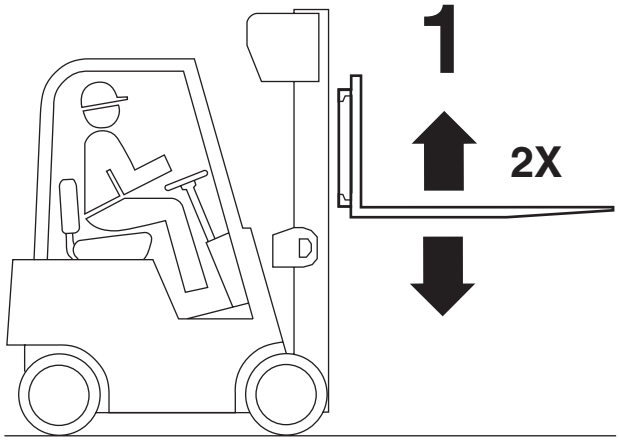
Cartridge Adjustment

1 Lift and lower the forks or attachment to maximum height two times to remove air from the hydraulic system.

NOTE: Use a 19 mm wrench for cartridge cap removal and adjustment.

2 Remove the protection cap of the flow adjustment valve.

3 Unlock the nut of the flow adjustment valve. Turn clockwise to adjust flow speed when weighing a load.



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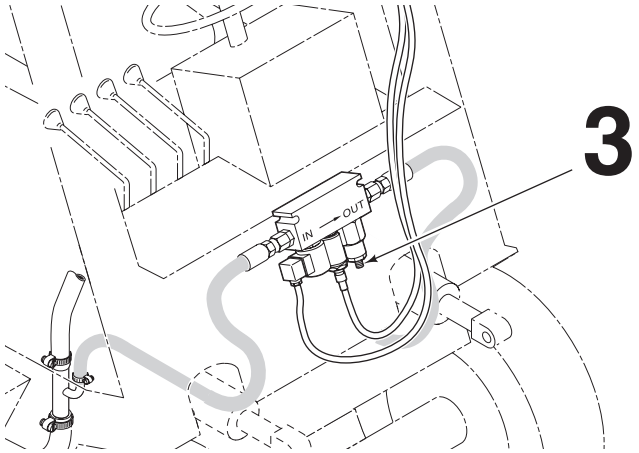

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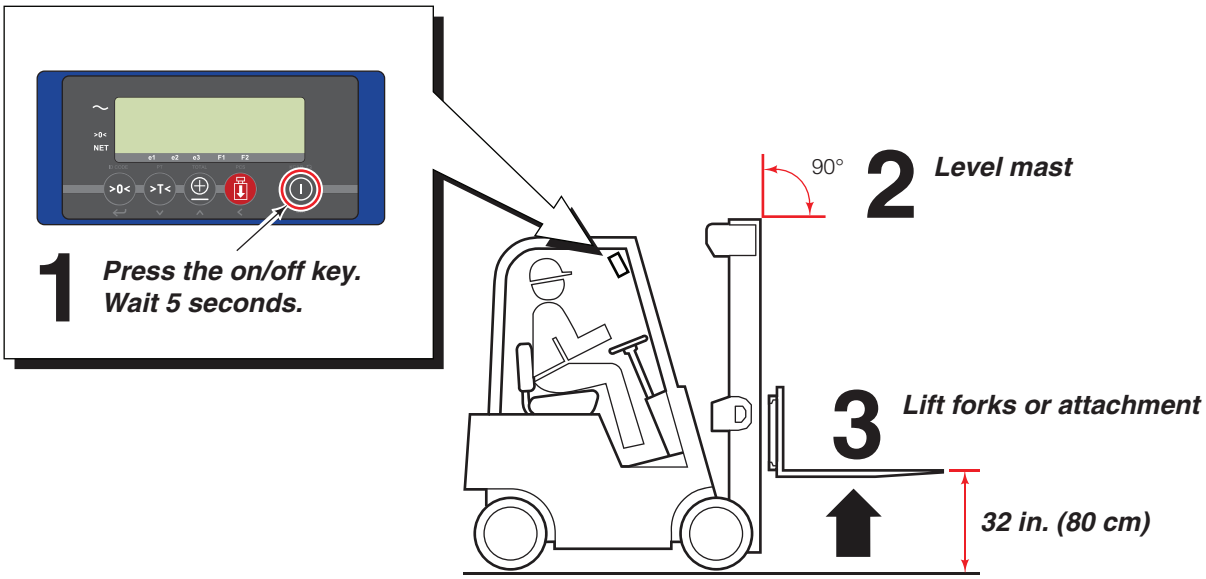

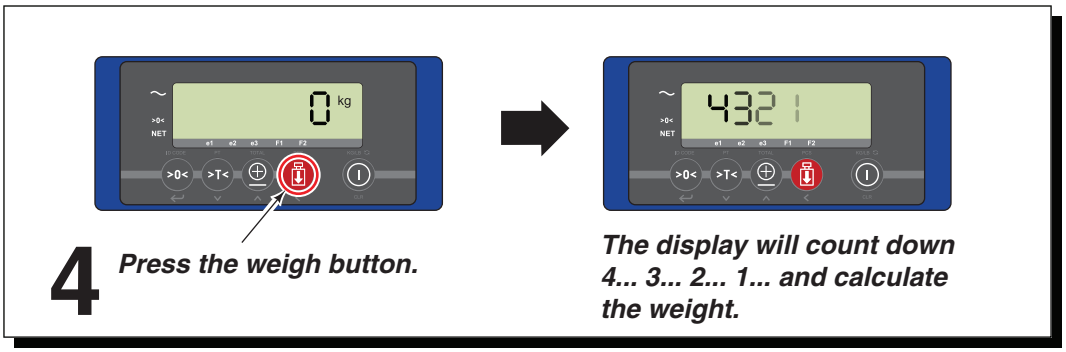

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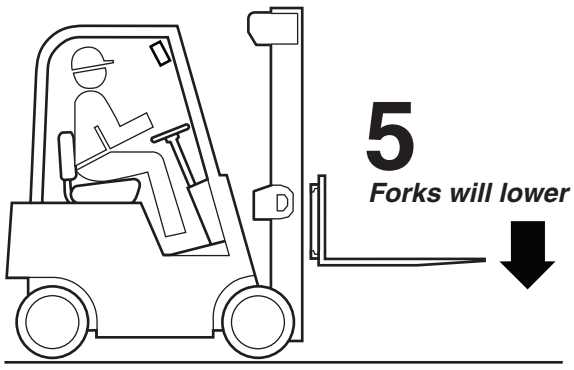

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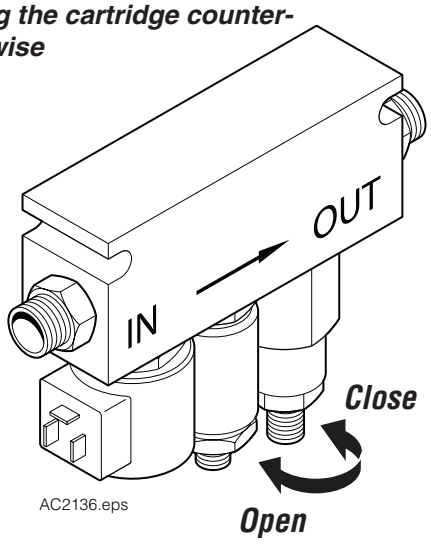
If forks do not lower, adjust by turning the cartridge counter-clockwise



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NOTE: Install protection cap after adjustments are made.

Left Side of Display

When ◄ appears:

~ The weighing system (including load) is stable

NET The display is showing the net weight

When ▬ appears, the weight shown is negative

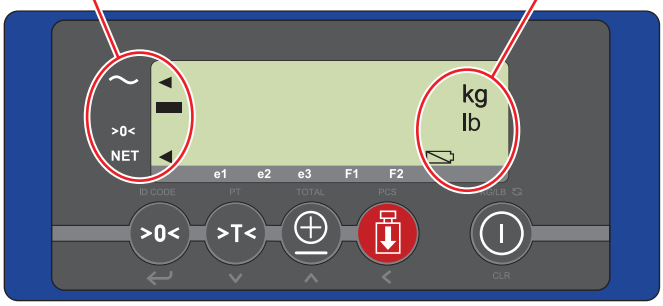
Right Side of Display

When the following appears:

kg Weight shown is in kilograms

lb Weight shown is in pounds

Low battery indicator



Display Button	Short Button Press	3 Second Button Press	Entry Mode
ID CODE >0< ↵	>0< Zero Correction - Manually zeros the display.	ID CODE Code Entry - A 5-digit code useful for a weighing system connected to peripheral equipment for later processing	↵ Confirm Enter Value
PT >T< ∨	>T< Tare Weigh - Allows the tare weights to be reset to zero automatically. Added and subtracted weights can be determined.	PT NA	∨ Decrease the value of the digit flashing
TOTAL ⊕ ∧	⊕ Add/Total - Weighed load is added to total weight. If printer is installed, a printout is made.	TOTAL Check subtotal and print total	∧ Increase the value of the digit flashing
PCS ▬ <	▬ Weigh - Activates and deactivates new weighing mode.	PCS NA	< Shift to the next digit on the left
KG/LB ⏻ CLR	⏻ On/Off - Initially turns the display on. KG/LB ⇄ Also, in weighing mode, allows the units to be changed between kg and lb.	⏻ On/Off switch - Turns the display off	CLR Clear entry

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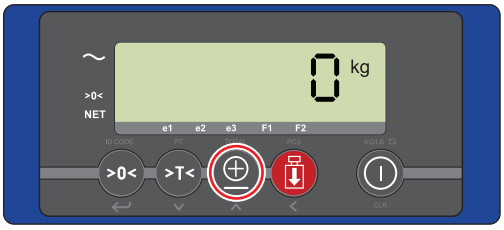
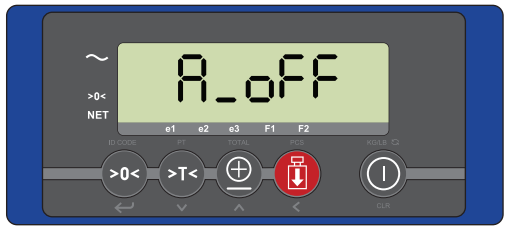
Display Menus



Weigh Mode

Options:
Net Weight (Automatic Tare)
Add weight/Subtotal weight/
Total weight
Toggle units
Manual zero
On/Off Display



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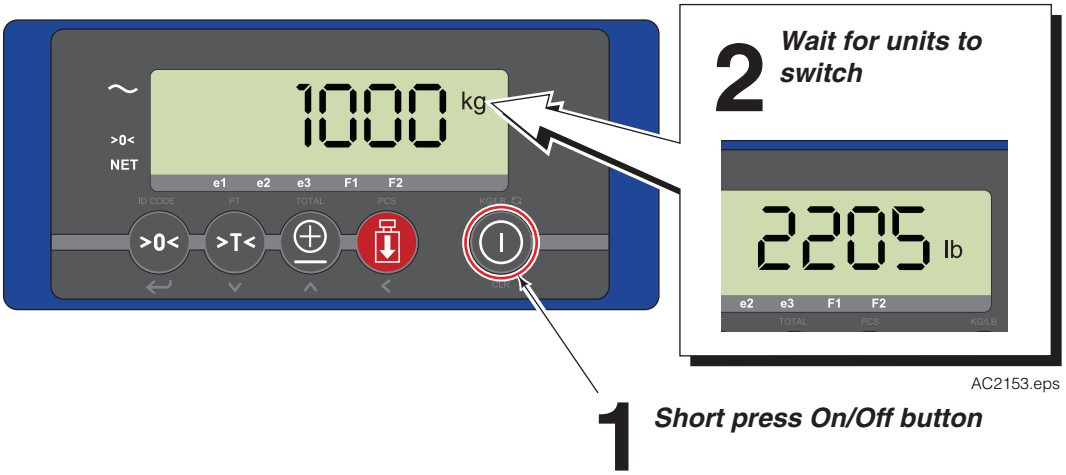
User Settings

Auto shut-off time
Light intensity
Deactivate/Activate Com Port 1
Deactivate/Activate Com Port 2

Select Weight Type



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Error Codes

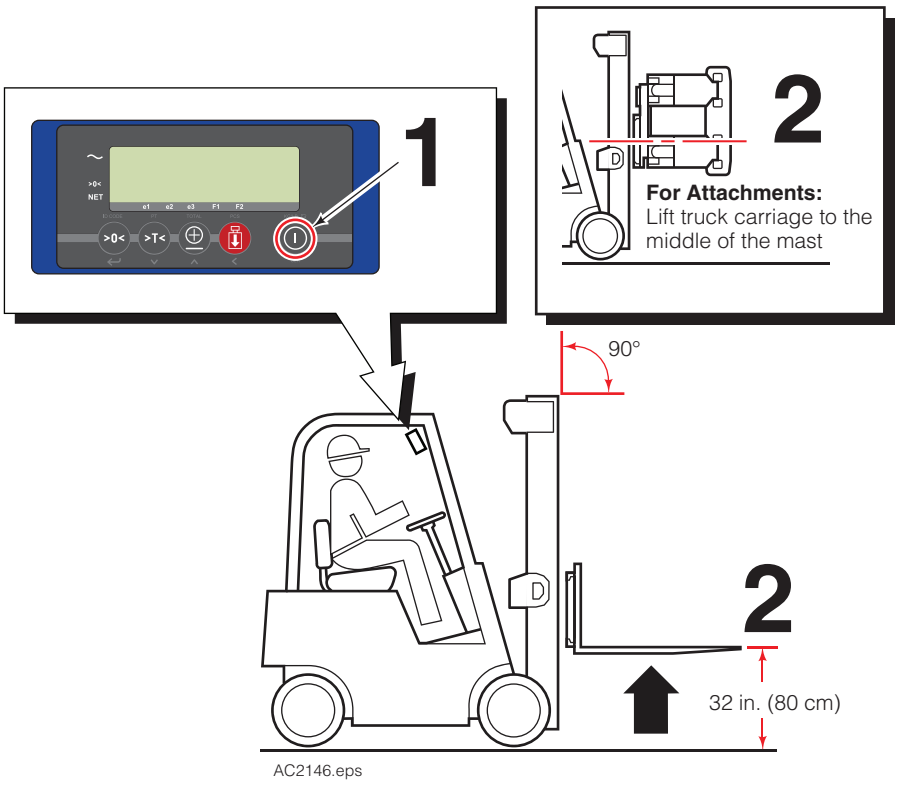
Error on Display	Meaning	Exiting Error Code Mode
Err01	Load cell signal is unstable	Disappears when signal is stable again
Err02	Overload n full weighing system	Disappears when overload is removed
Err04	Out of allowed range for zero correction	Press any key
Err06	Input signal too high	Check weighing system (load cells + cabling)
Err07	Input signal too low	Check weighing system (load cells + cabling)
Err08	Calibration out of range (negative)	Follow correct calibration procedure
Err09	Calibration out of range (signal too low)	Follow correct calibration procedure
Err10	Calibration count 2nd or 3rd point lower than count 1st or 2nd point	Follow correct calibration procedure
Err97	Calibration locked	Contact Cascade
Err98	Calibration point must be higher than previous one	Follow the calibration procedure in order
Err99	Action only allowed in start-up unit (kg/lb)	Short press On/Off button
–––––	Negative weight	Lift forks/attachment from the ground

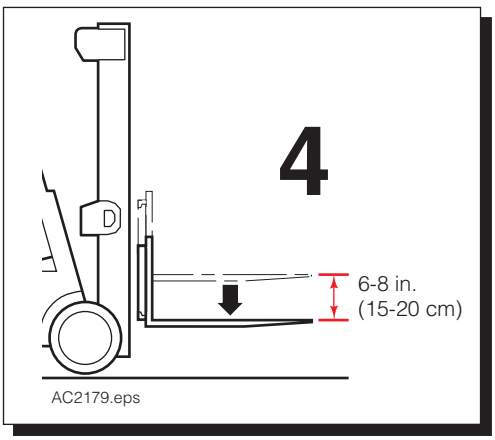
Set Carriage Lowering Speed

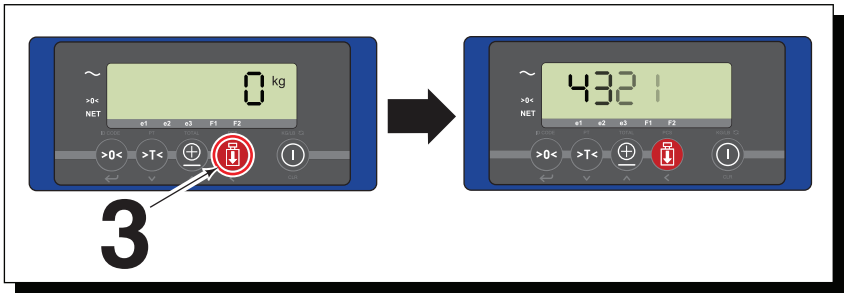
1. Turn on the display by pressing the On/Off button and wait 5 seconds.
2. With the forks or attachment empty, level the truck mast and lift the carriage to the referenced height, shown.

   IMPORTANT: For trucks with attachments, carriage and attachment should be lifted to the middle of the mast.
3. Short press the Weigh button and wait the display to count down.
4. The carriage should go down at a constant speed for 6-8 in. (15-20 cm).
   - If the carriage does not drop, adjust the flow adjustment valve. Refer to Cartridge Adjustment in Installation section, Check System Functions.

     NOTE: If the mast is older, it is recommended the drop is shorter distance. For fine tuning, change parameter setting 53 and 54. Refer to Parameter Section.
5. Repeat Steps 2-4 with the forks or attachment loaded.







Mark Reference Height

1 Level the truck mast.

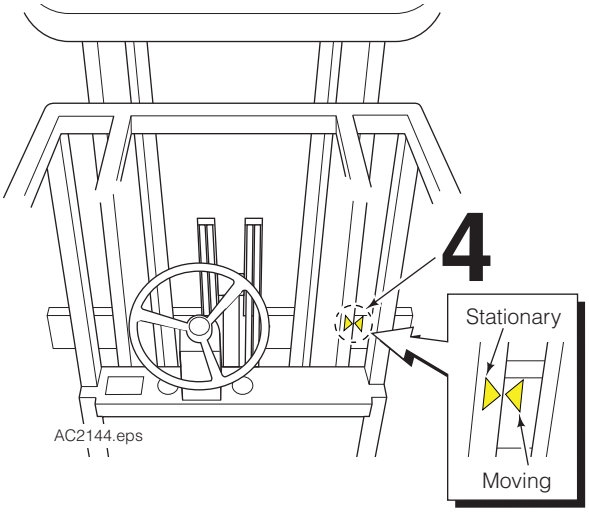
2 Lift the truck carriage so that the forks are 32 in. (80 cm) above ground or the attachment and carriage height is the middle of the mast.

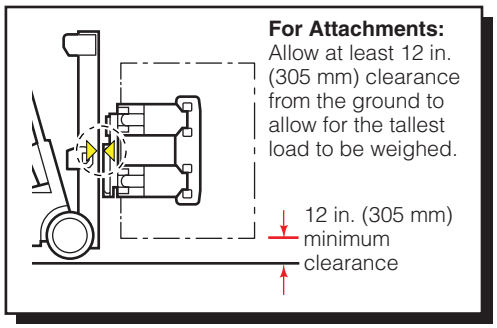
IMPORTANT: When weighing a load, the carriage will drop 8 in. (203 mm). For attachments, verify the reference point allows for weighing drop based on the height of the load.

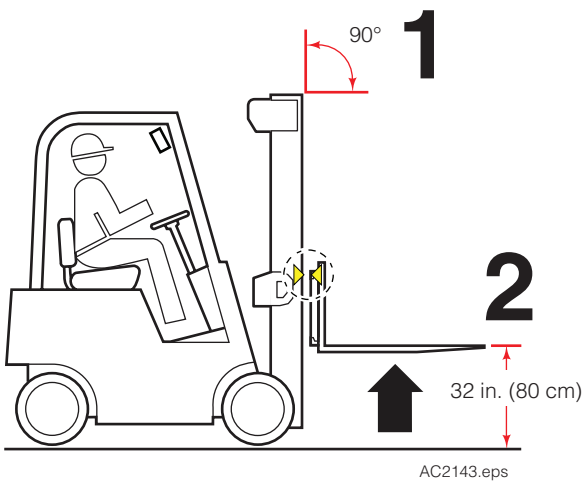
NOTE: If the mast is older, it is recommended the drop is shorter distance. For fine tuning, change parameter setting 53 and 54. Refer to Parameter Section.

3 Clean areas that are visible from the truck cab, such as side of mast and back of carriage.

4 Place lift stickers with points matching on the cleaned surfaces.





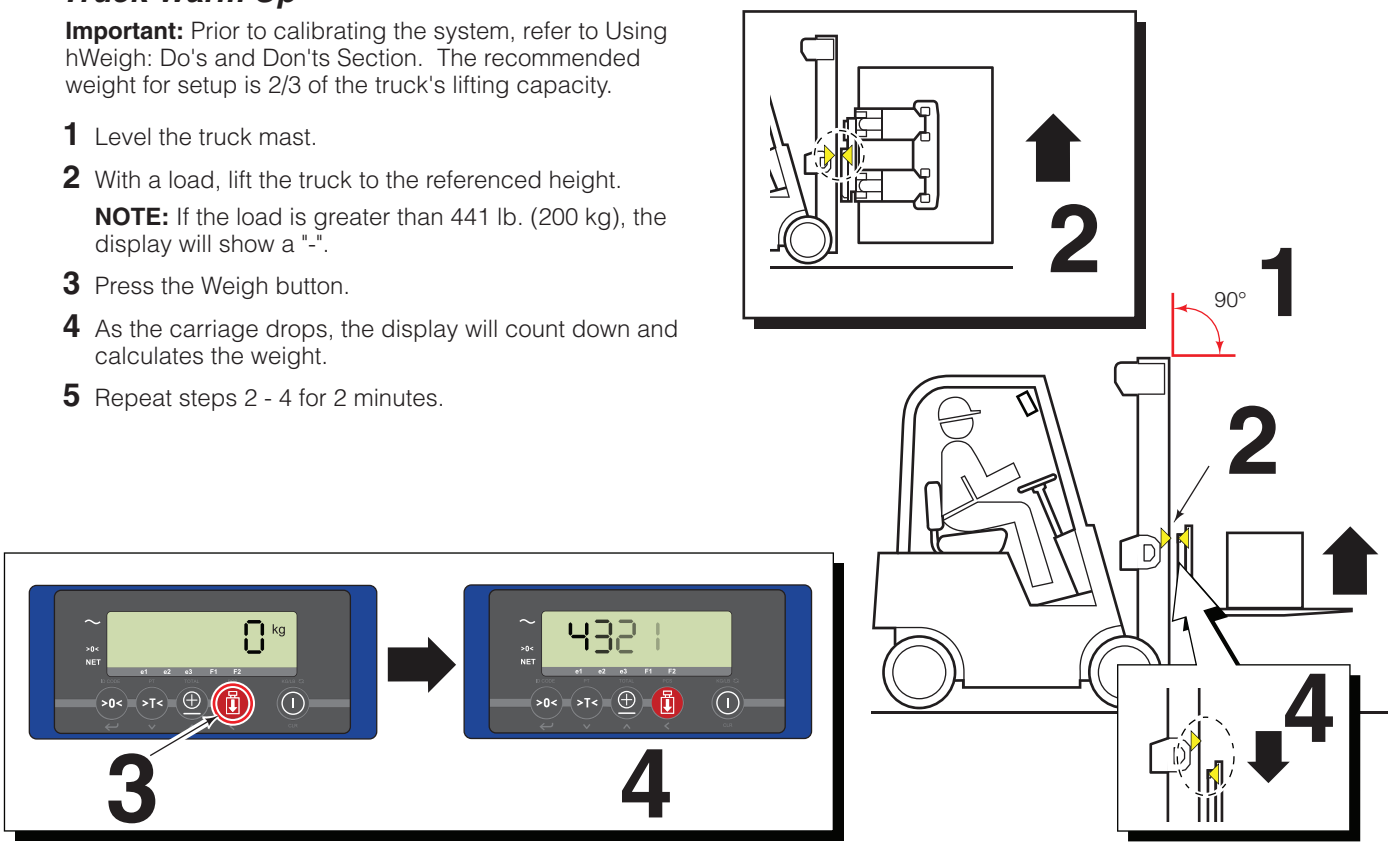


Truck Warm Up

Important: Prior to calibrating the system, refer to Using hWeigh: Do's and Don'ts Section. The recommended weight for setup is 2/3 of the truck's lifting capacity.

1. Level the truck mast.
2. With a load, lift the truck to the referenced height.

   NOTE: If the load is greater than 441 lb. (200 kg), the display will show a "-".
3. Press the Weigh button.
4. As the carriage drops, the display will count down and calculates the weight.
5. Repeat steps 2 - 4 for 2 minutes.



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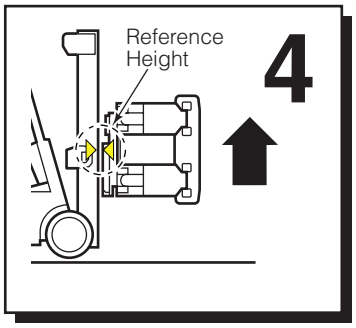
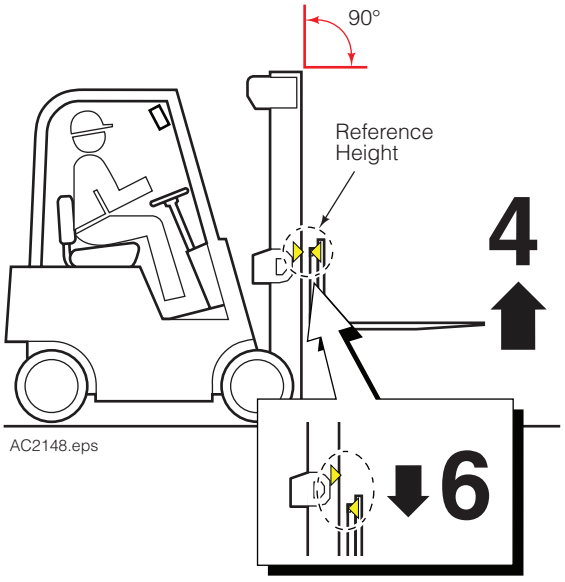
Zeroing hWeigh System

1. Turn on the display by pressing the On/Off button and wait 5 seconds.
2. Press and hold the Zero Correction button for more then 15 seconds.
3. The display will show "0_Adj'
4. Level the mast. With the forks or attachment empty, lift the carriage to references height.
5. Press the Weigh button.
6. As the carriage drops, the display will count down.

   NOTE: The carriage should drop 6-8 in. (15-20 cm).
7. After the display shows "0", the system has been calibrated to zero. The display will automatically turn back to weighing mode.





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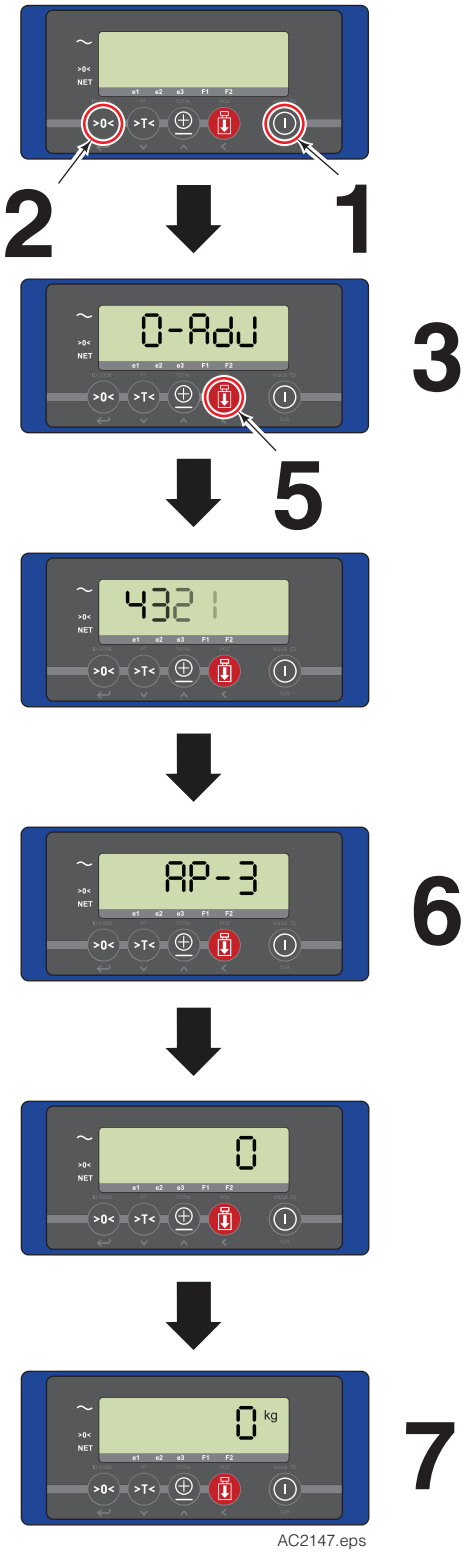

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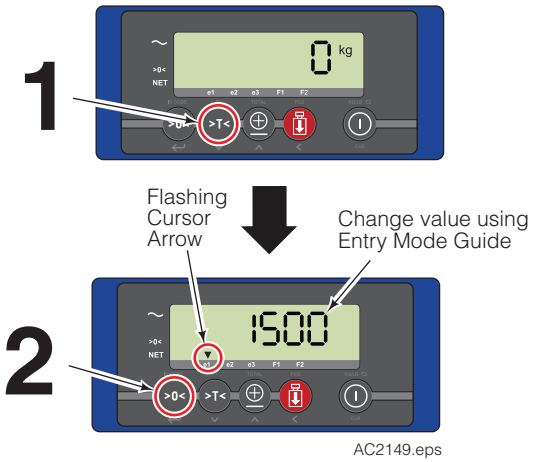
Point Calibration for hWeigh System

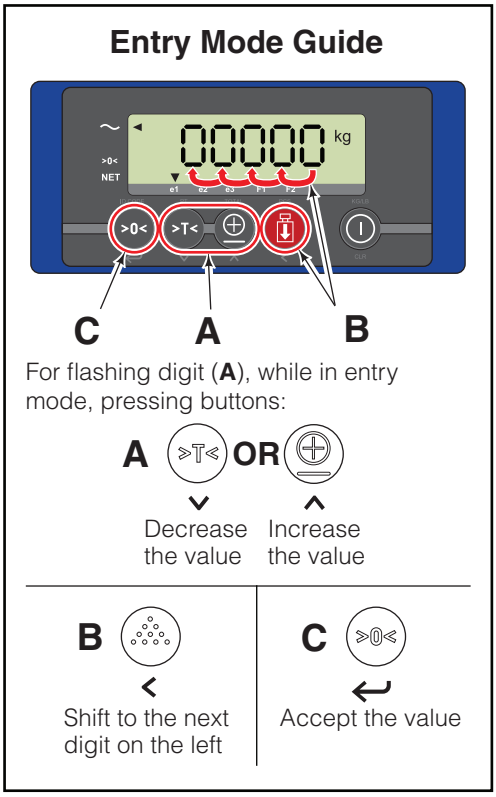
Point calibration should be performed every 6 months. For new trucks, calibrate every 3 months. Some types of product may require calibration more often. For varied loads with great ranges, 3 point calibration may be necessary.

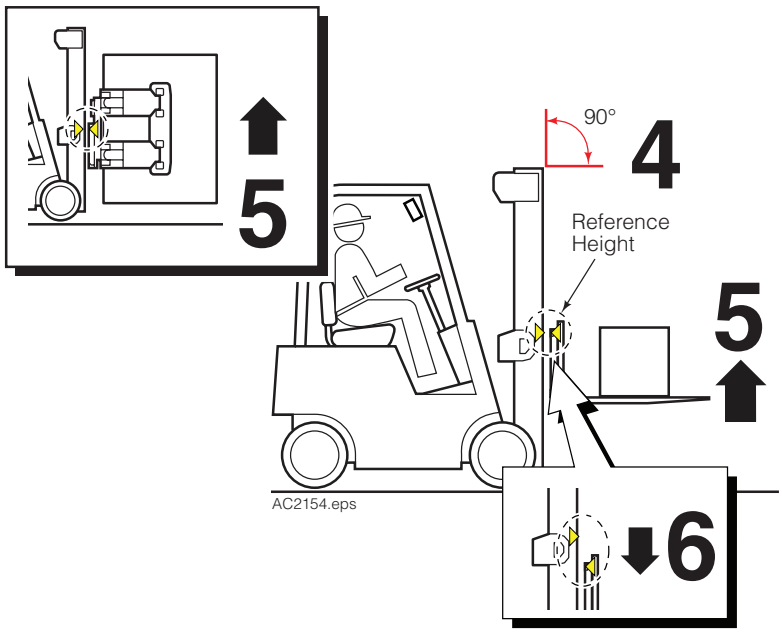
NOTE: Only one known weight is necessary for this step (recommended); however, up to three weights can be used. More points of calibration results in more accuracy (this does not change the .05% accuracy). The load should be on the forks/attachment prior to performing this step.

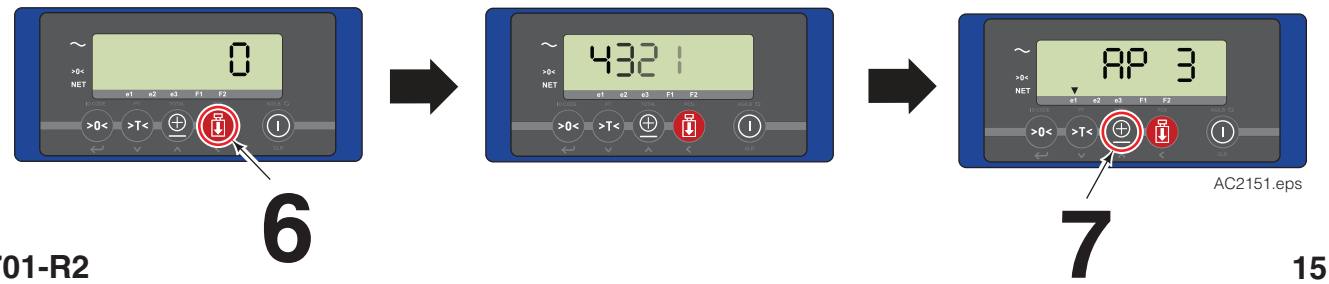
1. With display on and showing zero, press the Tare Weigh button (about 30 seconds) until the cursor arrow flashes over the "E1" and an initial weight value shows for the load.
2. Short press Enter (Zero Correction button) and enter the value of the known weight for this calibration. Refer to Entry Mode Guide.
3. By accepting the value, E1 will flash again.
4. Level the truck mast.
5. With a load, lift the carriage to the referenced height.
6. Press the Weigh button. As the carriage drops, the display will count down and store the weight.
7. **One Point Calibration -** Short press the totalling button two times until "AP_X" shows (X being a number value).

   Two or Three Point Calibration - If more then one known weight is being used for calibration, repeat steps 2 through 7 for the additional weight(s) by pressing the totalling button once. The arrow above E2 or E3 should be flashing.





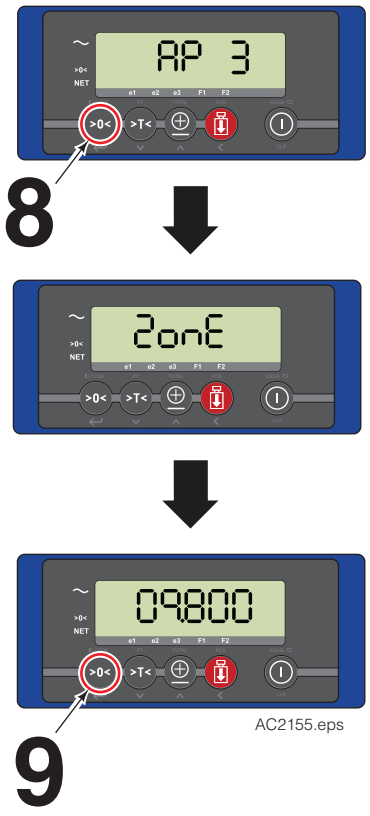




9 Press the enter button. "Zone" will appear on the display and a gravitational value will show.

10 Leave the value as is and press the Enter button.

11 Unload the truck and raise the carriage. The display should show zero after 5 seconds. If a weight shows, short press the zero button to correct the display reading.



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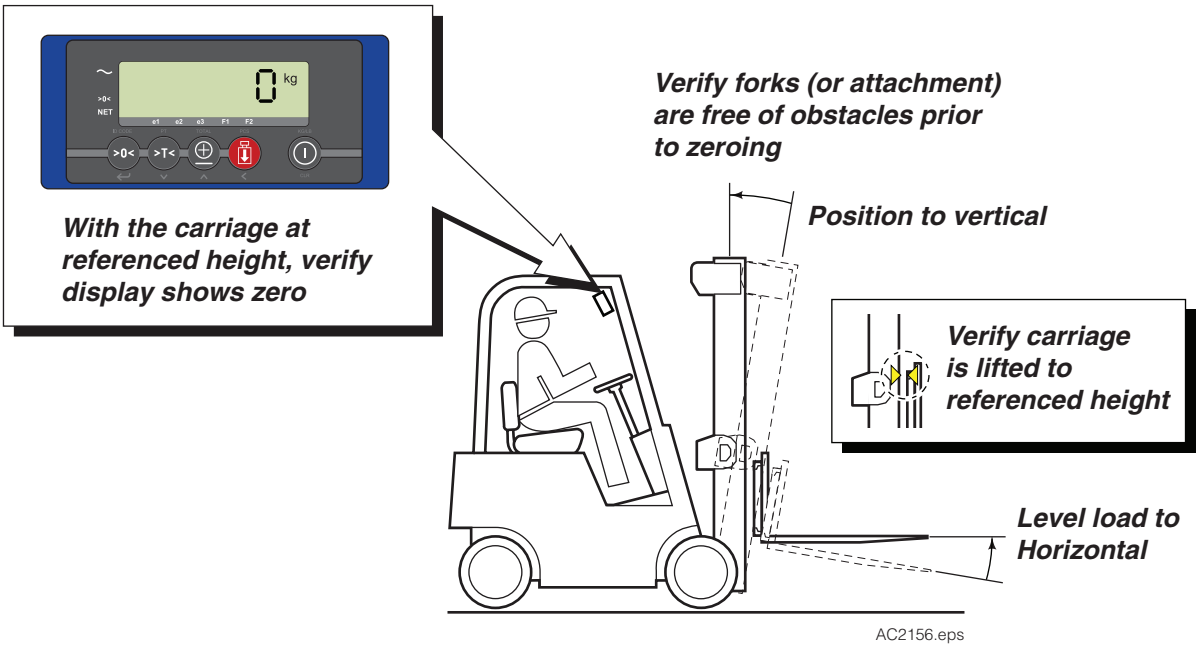
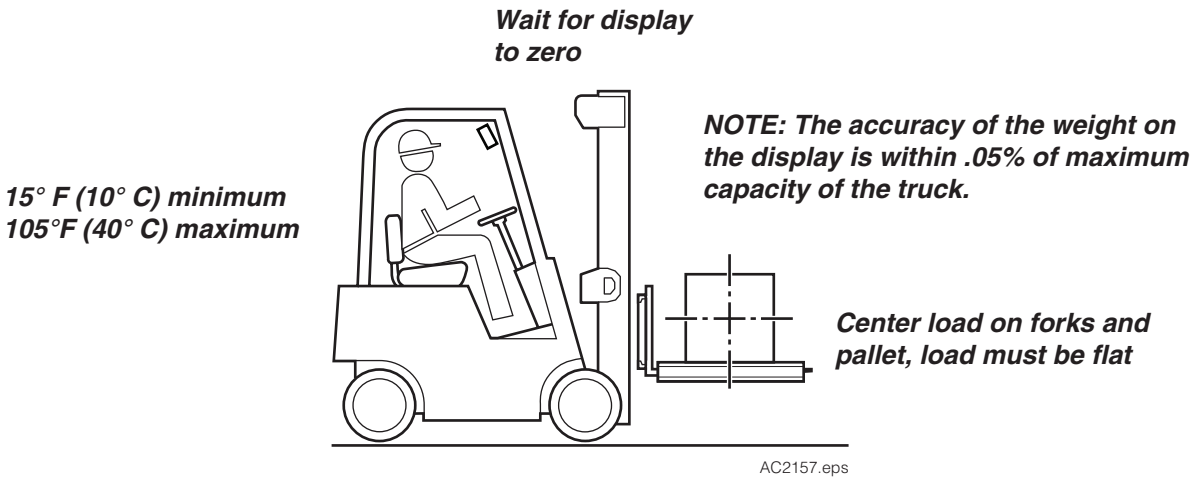
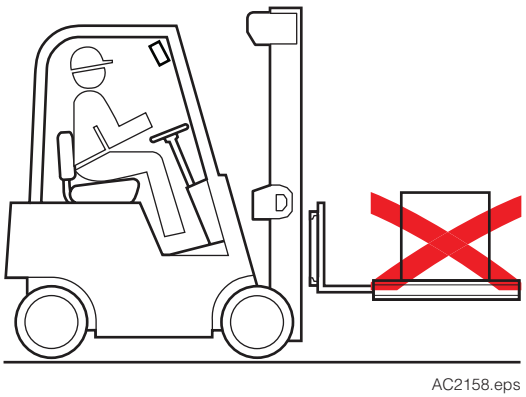
PRIOR TO WEIGHING



WEIGHING





Weighing a Load

IMPORTANT: Always lift the carriage to the referenced height. Zeroing the display will not zero the hWeigh system. The hWeigh system is calibrated by hydraulic pressure.

1. Pick up a load and level the truck mast.

   IMPORTANT: The load should be centered with the truck mast and fork/attachment center of gravity.

2. Lift carriage to referenced height.

3. Short press the Weigh button.

   NOTE: Bouncing of the carriage will affect the weighing.

4. The truck carriage will lower and the display will count down.

5. The display will show the weight.

   NOTE: For loads weighing less than 441 lb. (200 kg), the display will show a fixed value for 5 seconds. After 5 seconds, the display will switch to dynamic weighing mode.

Dynamic Weighing Mode

When the forks/attachment are being unloaded, the display switches to dynamic mode. The display shows the actual oil pressure, not calculated weight. If the load weight is greater than 441 lb. (200 kg), the display show "-".

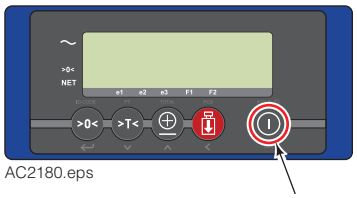
To get out of dynamic mode, weigh a new load.

Zeroing

To check system is zeroed, lift forks or attachment, without a load, to the reference height. Once the forks stop, wait 5 seconds:

- If the display shows greater then 22 lb. (10 kg), short press the Zero Correction button. The display should show zero.
- If the display shows "Err04", the system will need to be calibrated. Press the Zero Correction buton ro exit the error code.

To Activate Weighing System:

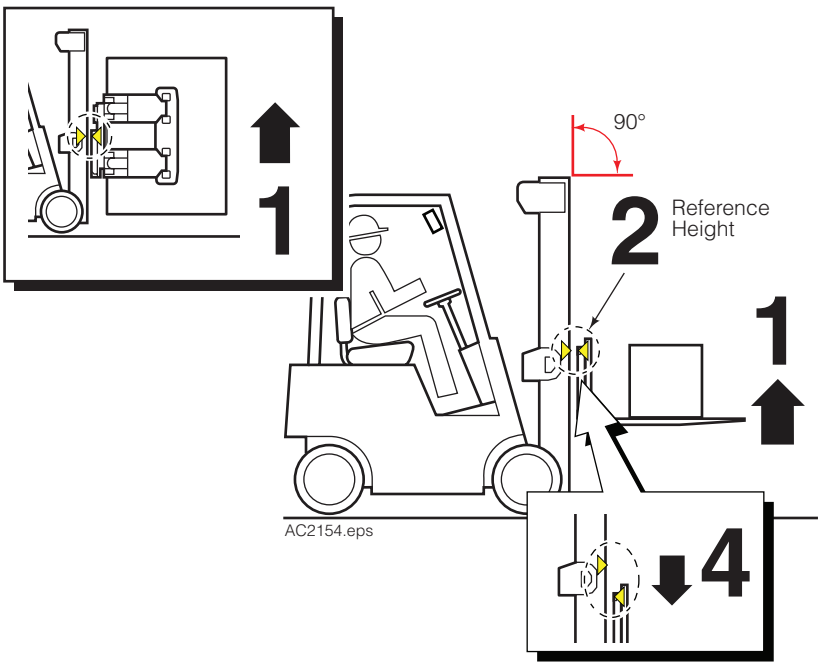


AC2180.eps

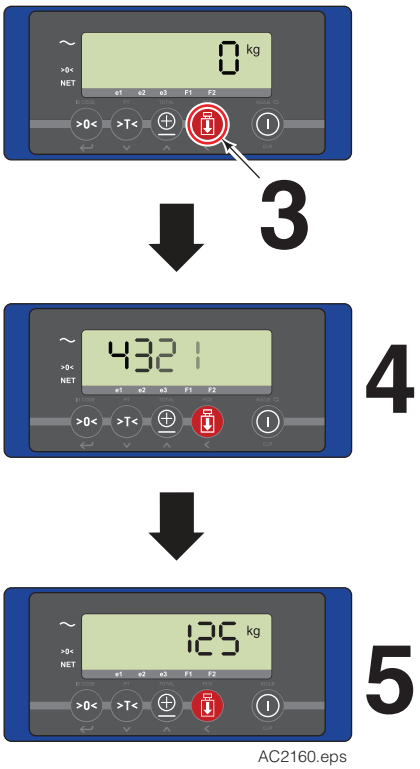
Press the On/Off key

NOTE: To turn off the display, hold the On/Off Button for 3 seconds.

CAUTION: Always switch off the display before turning off the truck.



AC2154.eps

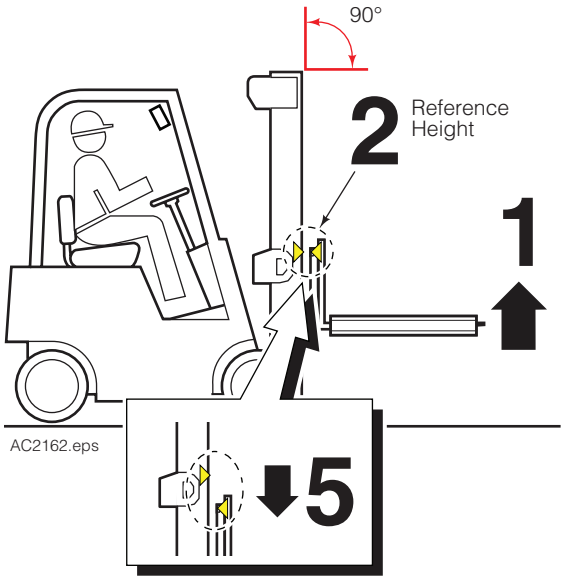


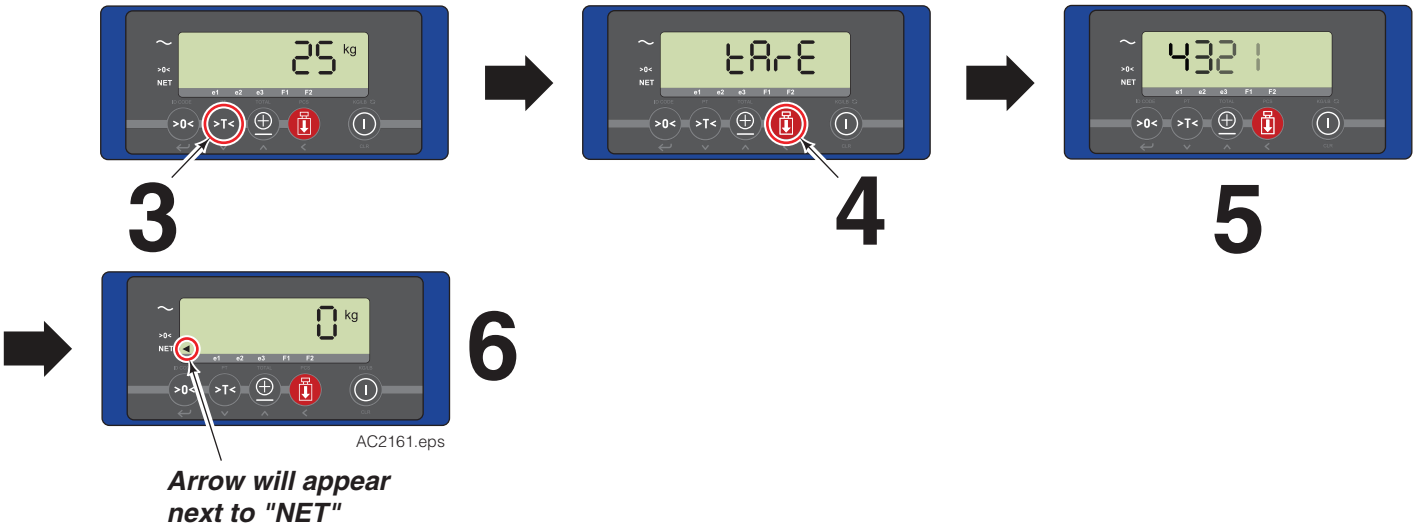
AC2160.eps

Net Weighing: Automatic Tare

To weigh a load but disregard part of the total load's weight (pallet, bin, etc):

1. Pick up the load to be disregarded. Example: a pallet or bin without a load. Level the mast.
2. Lift carriage to referenced height.
3. Short press the Tare Weigh button.
4. Short press the Weigh button.
5. The truck carriage will lower and the display will count down.
6. The display will show the "0" and an arrow will appear next to the "NET" sign on the display.





Arrow will appear next to "NET"

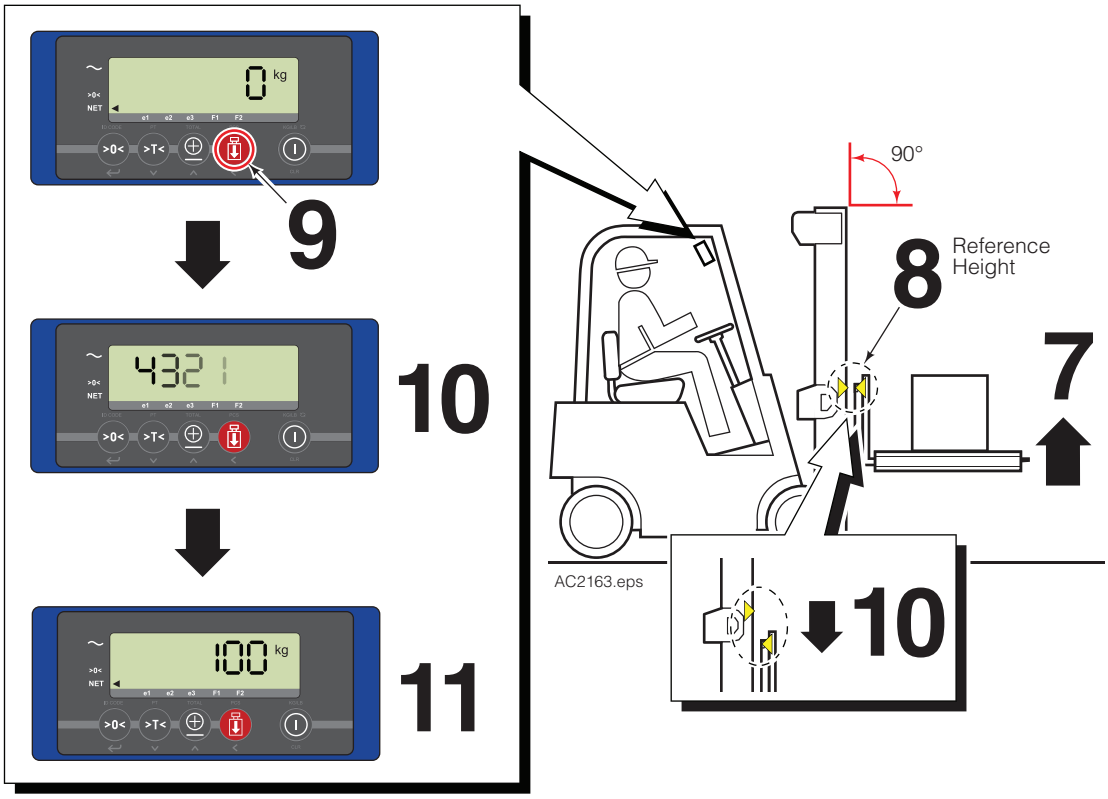
7 Pick up a load to be weighed (including the load to be disregarded). Level the mast.

8 Lift carriage to referenced height.

9 Short press the Weigh button.

10 The truck carriage will lower and the display will count down.

11 The display will show the weight.



Deactivate Automatic Tare

To deactivate Automatic Tare:

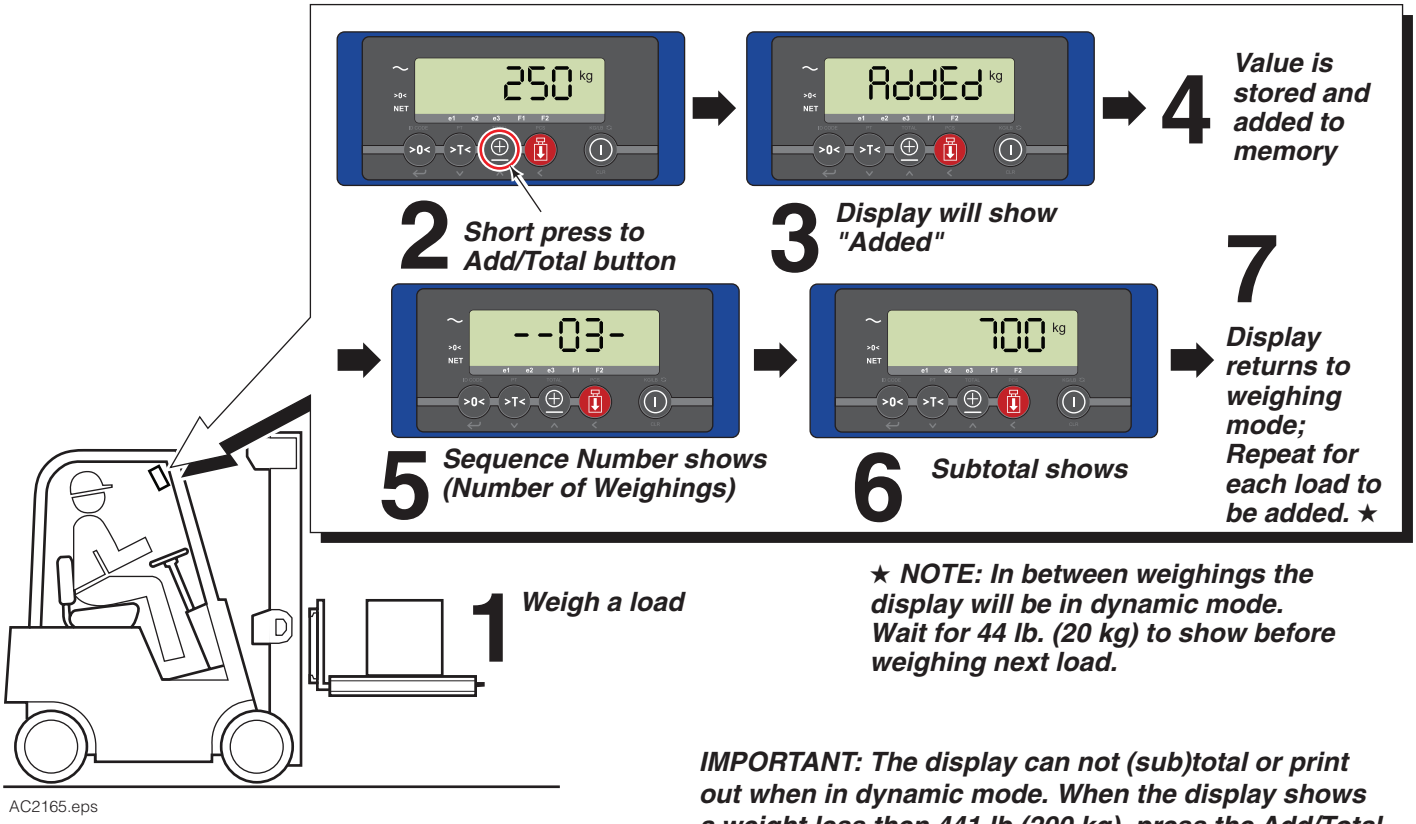
1 Short press the Tare button.

2 Short press the Weighing button.

3 The arrow next to "NET" will disappear and the display will resume to basic weighing mode.

Weighing a Load - Add to the Total & Reset

Adding a Weight:

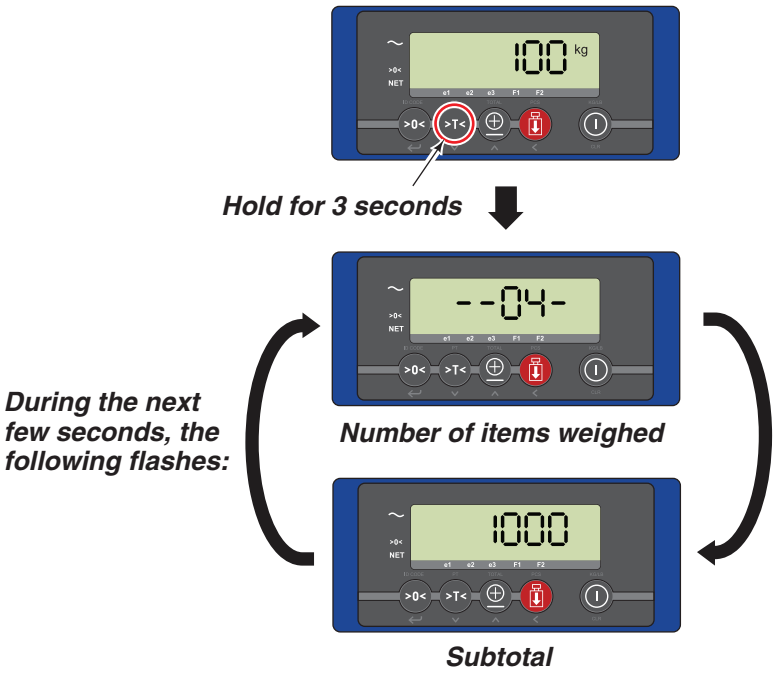


AC2165.eps

★ NOTE: In between weighings the display will be in dynamic mode. Wait for 44 lb. (20 kg) to show before weighing next load.

IMPORTANT: The display can not (sub)total or print out when in dynamic mode. When the display shows a weight less then 441 lb (200 kg), press the Add/Total button within 5 seconds of weight calculation.

Subtotal and Totalling:



If one of the buttons is pressed during flashing:

TOTAL — For printer option, total is printed and total is reset

KG/LB — Total is reset

CLR

NOTE: If no button is pressed during the flashing, the subtotal stays in memory, and the system returns to the weighing mode.

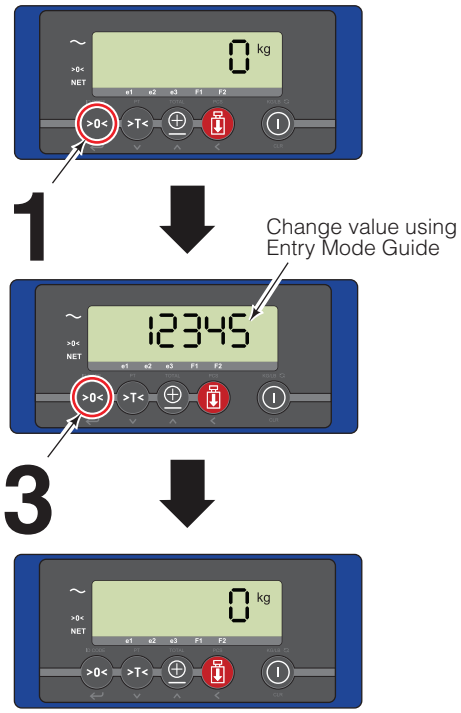
AC2166.eps

Code Entry

Entry of codes are useful for a weighing system that is connected to a printer or other peripheral equipment. This aids with identifying various weighings for later processing.

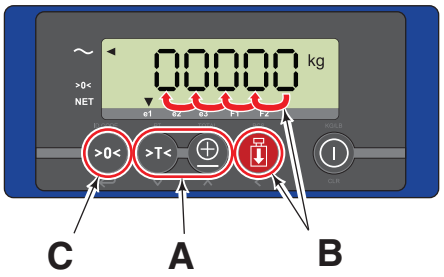
1. Press and hold the ID CODE (Zero Correction button) for 3 seconds.
2. The display will show the last used code. The right digit will flash.
3. To accept the current value, short press Enter (Zero Correction button) or hold Enter for 3 seconds. Use Entry Mode Guide to change the value.

   NOTE: To not have a code printed out, change the value to "00000".
4. When the same or new value is accepted, the display will return to Basic Weigh mode.



AC2181.eps

Entry Mode Guide



For flashing digit (**A**), while in entry mode, pressing buttons:

A >T< **OR** ⊕

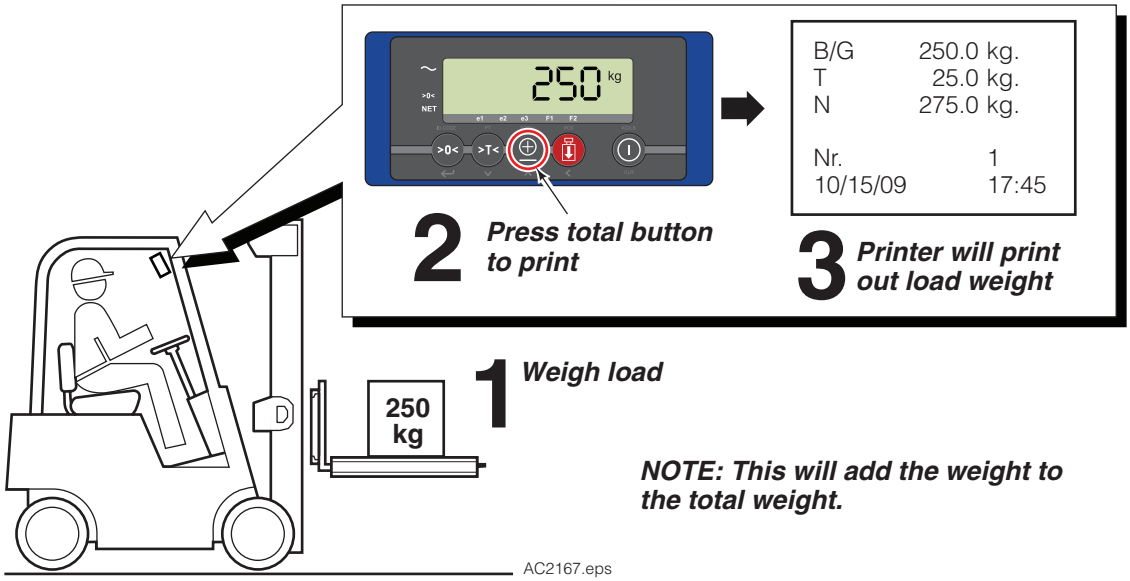
Decrease the value | Increase the value

B Shift to the next digit on the left

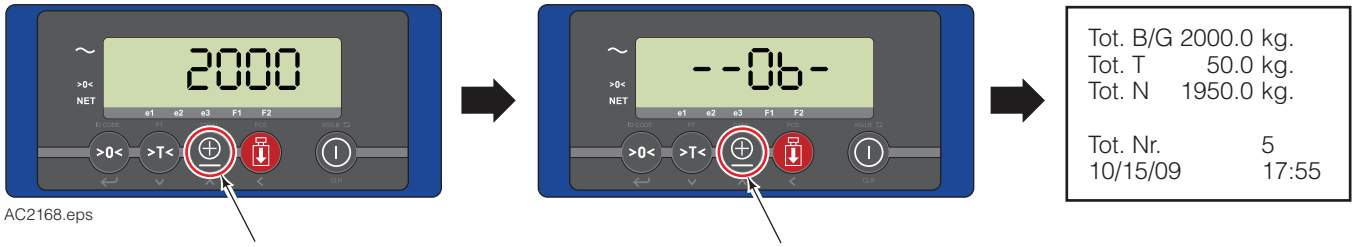
C Accept the value

AC2150.eps

Print Weight



Print Total Weight



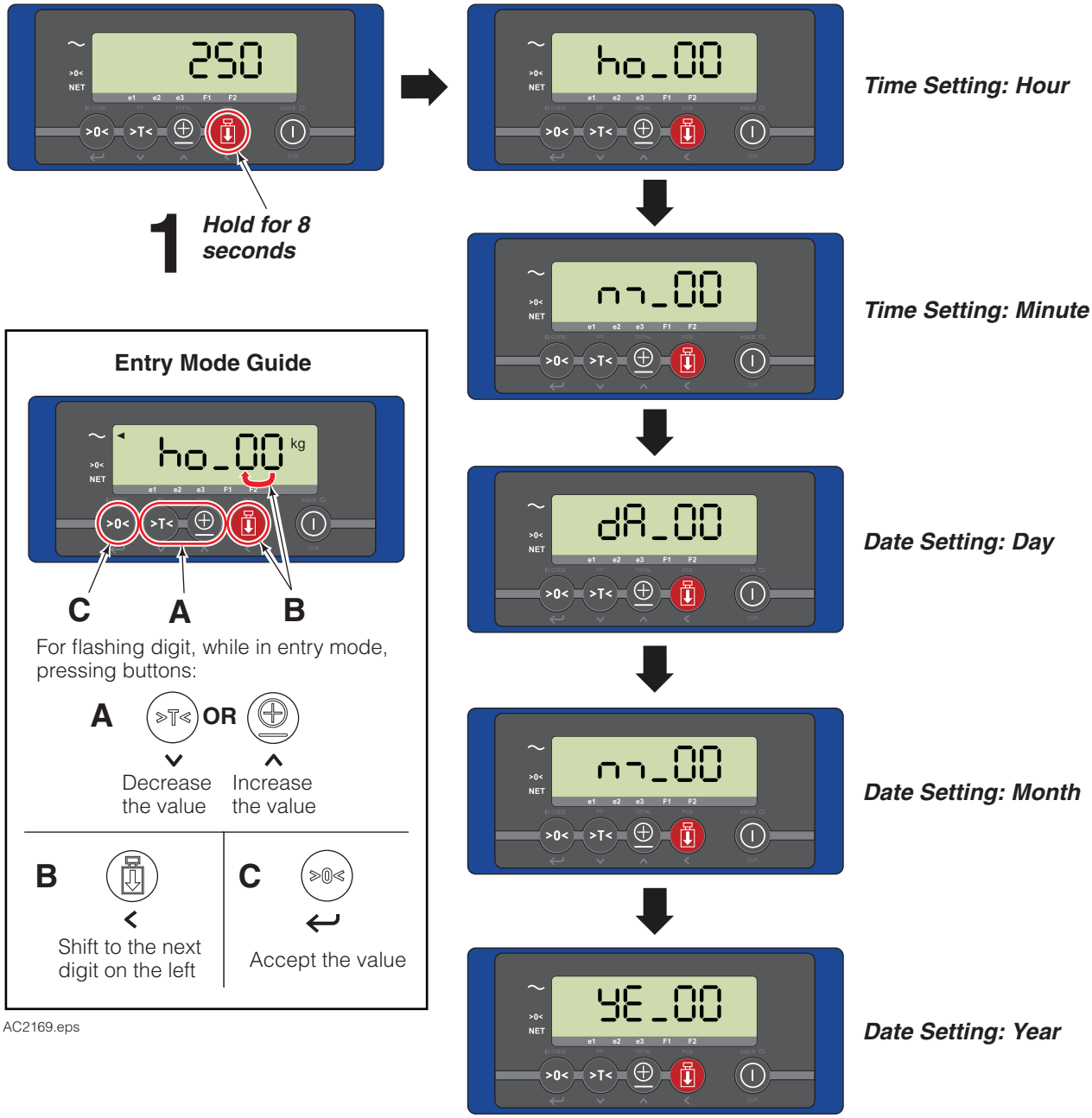
1 *Hold Total button for 3 seconds*

2 *As the display switched between sequence number and subtotal/ total, short press to print*

3 *Printer will print out load weight and the display memory will be set to zero for both sequence number and weight total.*

Change Time & Date Printout

2 *Change current settings (shown in entry mode guide). To accept current settings, press the enter button.*



AC2169.eps

Change Units Printout

AC2170.eps

Short press CLR button

Current weight in new units will show for 5 seconds.

The display will change back to the start up units

User Settings

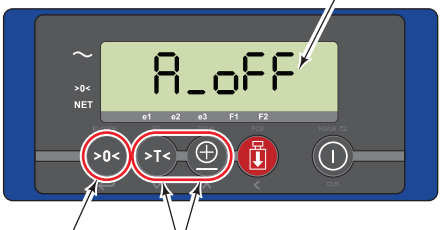
1 Enter user settings

AC2171.eps

Multiple screens will flash

Hold for 10 seconds

2 Choose a menu option



User Settings Menu Mode

Select menu option

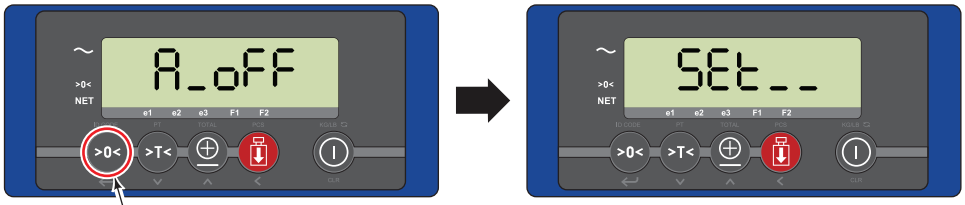
Scroll through menu options:

Auto Shut-Off Time (Display)
Light Intensity
Deactivate/Activate Com Port 1 (Bluetooth board)
Deactivate/Activate Com Port 2 (Printer board)

3 Continue to desired submenu (see next page)

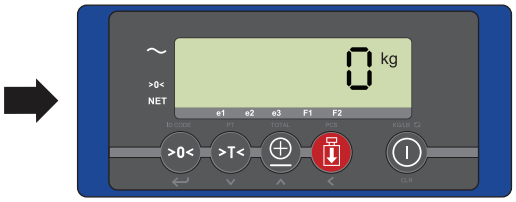
4 Exit menu

Exit & Save:



Hold for 3 seconds

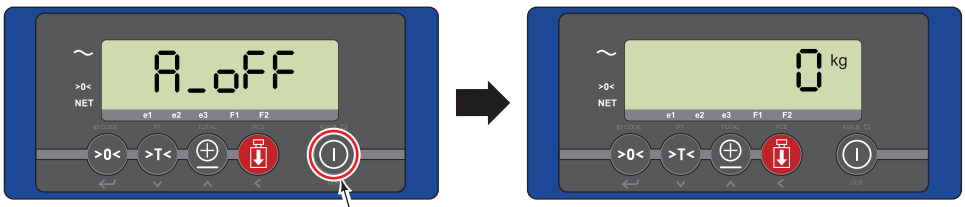
Changes are being saved



Weigh Mode

OR

Exit without Saving:



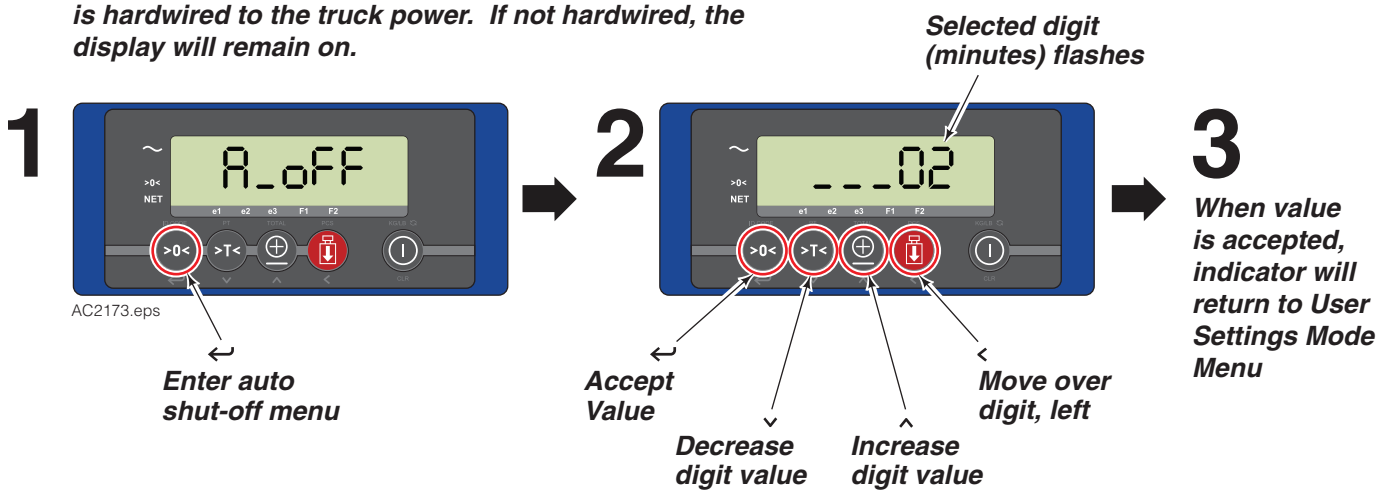
AC2172.eps

Weigh Mode

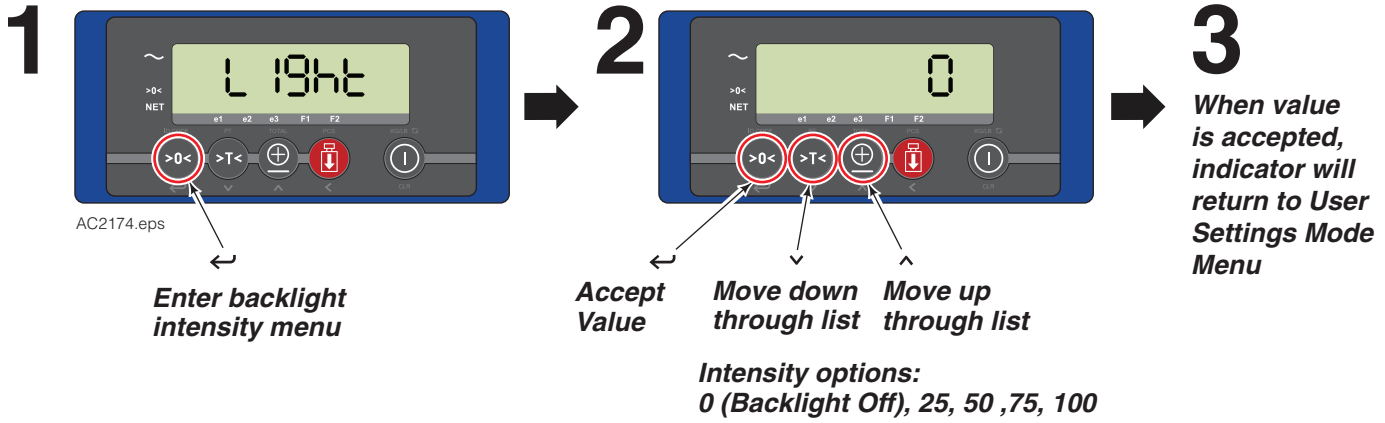
Press CLR button

Auto Shut-Off Menu (Display)

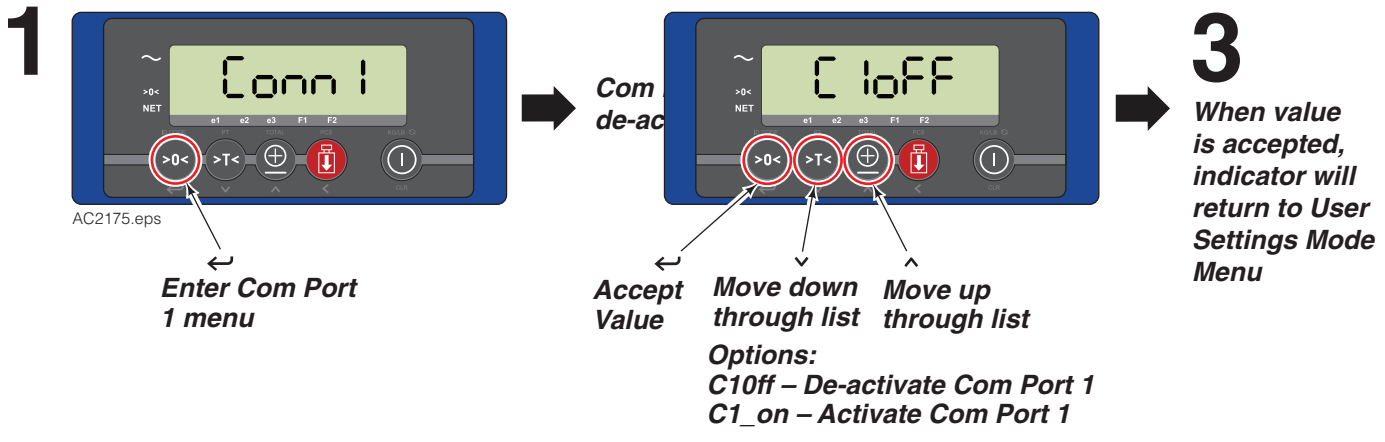
NOTE: Auto shut-off can be set to 0 only when the display is hardwired to the truck power. If not hardwired, the display will remain on.



Backlight Intensity Menu



Com Port 1 Menu



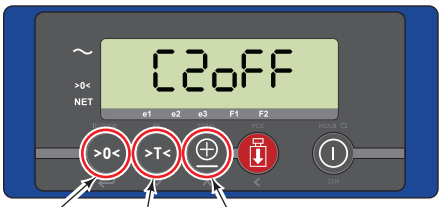
Com Port 2 Menu

1

AC2176.eps

↵ *Enter Com Port 2 menu*

2



↵ *Accept Value*

Move down through list

Move up through list

Options:
C20ff – De-activate Com Port 2
C2_on – Activate Com Port 2

3

When value is accepted, indicator will return to User Settings Mode Menu

PARAMETERS

To enter the parameter menu: With the display on, hold the ON/OFF key until "P__00" shows in the display (about 30 seconds).

To leave the parameter menu and store all entries: Press the ON/OFF key TWO times shortly. Switch off and restart the display to activate new settings.

Parameter	Function	Default Settings		Available Setting Options
		EU	US	
01	Weight unit (Calibration, Start-Up, Print)	1	2	1 = kg, 2 = lb
02	Smallest graduation step for multirange	2	5	0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50
03	Biggest graduation step for multirange	2	5	0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50
04	Number of divisions for every range	1000	1000	0000–9999 divisions
05	Weighing capacity system (full scale)	2500	5000	0–99999
09	Zero range positive (+)	10	10	0–100 % of span
10	Zero range negative (-)	10	10	0–100 % of span
11	Test function (display service mode)	basic	basic	basic, count, res10
12	Power on – automatic zero	no	no	yes, no
13	Approved/Non-approved version	no	no	no, ntep, oiml
14		no	no	not active
15	Units switch mode active	yes	yes	no, yes
16		0	0	not active
17	Number of wires per loadcell (sense active)	4	4	4, 6
18	Gravity value working area	9.812	9.797	9.750–9.850
19	Print format date/time	EU	US	EU (dd/mm/yy), US (mm/dd/yy)
20	Baudrate com1	9600	9600	600, 1200, 2400, 4800, 9600, 19200
21	Setting com1	8_n_1	8_n_1	8_n_1, 8_n_2, 7_n_1, 7_n_2
24	End character com1	cr	cr	cr, lf, crlf
25	Protocol com1	5	5	0 (PC bi-directional NU), 1 (PC Excel format on print command), 2 (remote display), 3 (printer protocol with power control), 4 (printer protocol without power control), 5 (not active), 6 (PC Excel format with ack/nack)
26	Number of linefeeds com1	4	4	0–9
27	Handshake com1	soft	soft	soft (Xon/Xoff), hard (CTS)
28	Printout format for com1 and com2	stnd	stnd	stnd, total, confi
29	Header lines added	0	0	0–3
30	Baudrate com2	9600	9600	600, 1200, 2400, 4800, 9600, 19200
31	Setting com2	8_n_1	8_n_1	8_n_1, 8_n_2, 7_n_1, 7_n_2
34	End character com2	cr	cr	cr, lf, crlf
35	Protocol com2	0	0	0 (PC bi-directional NU), 1 (PC Excel format on print command), 2 (remote display), 3 (printer protocol with power control), 4 (printer protocol without power control), 5 (not active) 6(PC Excel format with ack/nack)

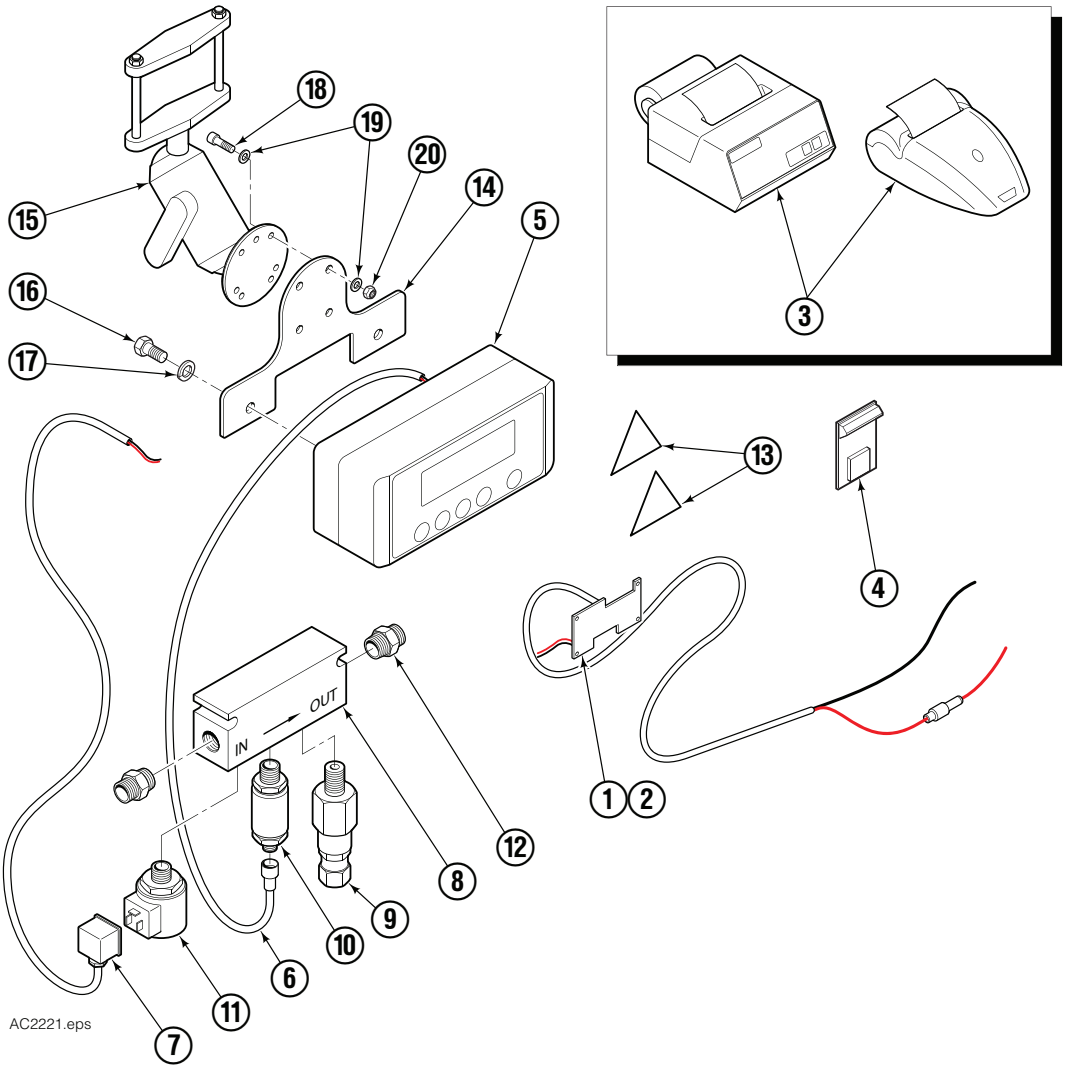
Parameter	Function	Default Settings		Available Setting Options
		EU	US	
36	Number of linefeeds com2	4	4	0–9
37	Handshake com2	soft	soft	soft (Xon/Xoff), hard (CTS)
40	Level sensor	no	no	no/ls nc/ls no/cs fa/cs ra
41	Delay trigger time level sensor	3	3	0-10 sec
49	Underload % of FS	20	20	0 to 100 % of span
53	Time interval weighing hWeigh	1.5	1.5	1.0-2.5 sec
54	Delay time weighing hWeigh	2.5	2.5	1.5-3.0 sec
55	Threshold value hWeigh	200	200	20/50/100/200/500/1000/2000/5000/10000
59	Measuring frequency	80	80	10 or 80 Hz
60	Battery used	12	12	6V, 12V
61	Low Bat switch-off time	2	2	0 (never off), 1-99 min
62	Auto shut-off time indicator	30	30	0 (never off), 1-99 min
65	Auto shut-off time backlight	20	20	off, 20, 40, 80, 160, 320 sec
66	Backlight brightness	100	100	100, 75, 50, 25, 0% (off)
68	Buzzer function active	off	off	off, on (direct), on (2 sec delay)
90	Default settings without changing calibration			
91	Default settings with erasing calibration			
93	Read out last 10 error messages			
96	Printout parameter setup	Pr-C1	Pr-C1	Pr-C1, Pr-C2
97	Key Test Function (buzzer and nr)			
98	Scale ID number	0	0	0-999
99	Software version			

For older masts:

To fine tune an older mast, parameters 53 and 54 can be adjusted.

Parameter 53 – The time that the system uses to weigh the load. For example, in situations where the mast lowers a shorter distance, the time should be set to a shorter time than the default.

Parameter 54 – The time before the system begins to weigh the load. For example, in situations where the mast lowers a shorter distance, the time should be set to a shorter time than the default.



OPTIONS ▲	12V		24V-80V		PRINTER PART NO. ③	OTHER ON-BOARD PART NO. ④
	REGULATOR PART NO. ①	TOP LEVEL PART NO.	CONVERTER PART NO. ②	TOP LEVEL PART NO.		
Standard	■	6163708	■	6163714	—	—
Thermal Printer	■	6163709	■	6163715	6161995 ◆	—
Dot Matrix Printer	■	6163710	■	6163716	6156462 ◆	—
RS232 Data Output	■	6163711	■	6163717	—	■
Bluetooth Data Output	■	6163712	■	6163718	—	■
Wi-Fi Data Output	■	6163713	■	6163719	—	■

▲ When ordering a new display, use the top level part number along with the following part numbers: Regulator (item 1) or Converter (item 2), Printer (item 3) or On-Board (item 4), Indicator (item 5) and cables (items 6 & 7).

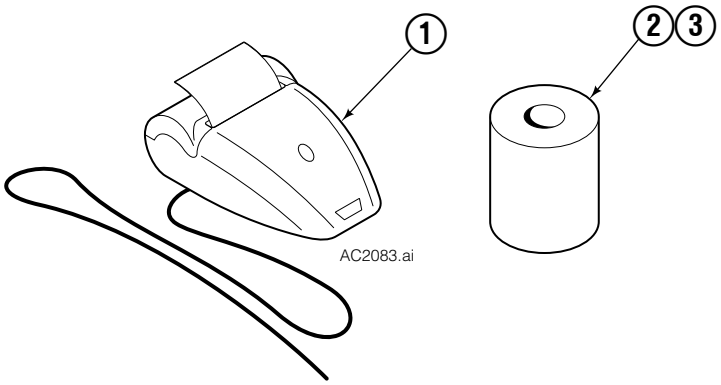
◆ See Printer page for parts breakdown.

■ Contact Cascade Service Department.

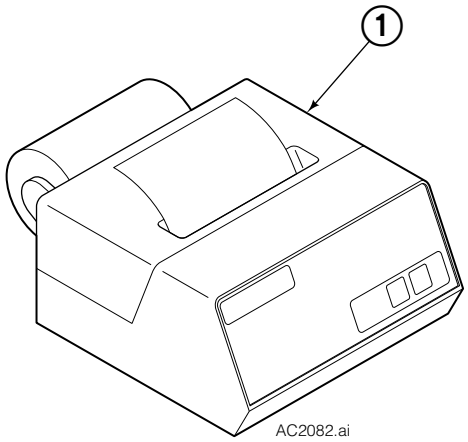
Common Parts

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
5	1	6155856	Display	13	1	6163598	Lift Sticker, pair
6	1	6163591	Cable, Pressure Transducer	14	1	6155854	Mounting Bracket
7	1	6163588	Cable & Plug, Solenoid	15	1	6155861	Mounting Bracket
8	1	6163571	Valve Block	16	2	767961	Capscrew, M8 x 16
9	1	6163574	Flow Adjustment Valve	17	2	787384	Lockwasher, M8
10	1	6163575	Pressure Transducer	18	4	768781	Capscrew, M5 x 16 ●
11	1	6163582	Solenoid Valve	19	8	6156029	Washer, M5 ●
12	2	6163596	Adapter Fitting	20	4	212273	Nut, M5 ●

● Includes in hWeigh Common Parts 6163704.



Thermal Printer, 12V			
REF	QTY	PART NO.	DESCRIPTION
1	1	6161995	Thermal Printer, 12V
2	1	6161762	Printer Paper, 5 Roll Pack
3	1	6161763	Stick On Printer Paper, 2 Roll Pack



Dot Matrix Printer			
REF	QTY	PART NO.	DESCRIPTION
1	1	6156462	Dot Matrix Printer

PERIODIC MAINTENANCE

Maintenance of the mast, mast cylinder, chains, etc., makes a difference in how hWeigh performs. Accuracy of hWeigh is dependant on the quality of the truck.

IMPORTANT: The mast must be working at optimal levels.

In addition to the truck OEM maintenance schedule perform the following:

100-Hour Maintenance

Every time the lift truck is service or every 100 hours of the truck operation, whichever comes first, complete the following maintenance procedures:

- Check for pinched wires and hoses.

1000-Hour Maintenance

After each 1000 hours of truck operation or intervals of 6 months (whichever comes first), in addition to the 100-hour maintenance, complete the following maintenance procedures:

- Check calibration for accuracy. Recalibrate, if necessary.

Do you have questions you need answered right now?
Call your nearest Cascade RAVAS Service Department.
Visit us online at www.cascorp.com

AMERICAS

Cascade Corporation
Parts Sales
2501 Sheridan Ave.
Springfield, OH 45505
Tel: 888-CASCADE (227-2233)
Fax: 888-329-0234

Cascade Canada Inc.
5570 Timberlea Blvd.
Mississauga, Ontario
Canada L4W-4M6
Tel: 905-629-7777
Fax: 905-629-7785

10-2011
Part Number 6163701-R2