USER MANUAL

C-Series

Weigh Forks

NOTE: Weigh forks are factory calibrated and ready to use.

Legal for trade models are factory calibrated and ready to use. Additional certification is required by a local weights and measures authority.

IMPORTANT: The forks and indicator are paired and calibrated as a set. Do not separate. Consult Cascade Service department with questions.

CAUTION: Treat this precise weighing system with care. Environment and application will affect the system and its components. Conditions with mud, grime, water, corrosive chemicals and abrasive substances can damage or affect performance of the weigh system.

Manual Number 8305557-R2

cascade ® corporation

CONTENTS

OVERVIEW

This manual describes the installation, operation and periodic maintenance of the weigh system. Read this manual prior to installation and operation. Be sure to know and understand all installation processes, operating procedures and safety operations. Perform installation and operation in the order described in this manual.

Keep this manual in a safe and dry place. In case of damage or loss, request a new copy of the manual from Cascade. Manuals are available at www.cascorp.com under the support tab, "Technical Support Manual" link.

NOTE: For troubleshooting, refer to C-Series Weigh Forks Service Manual, part no. 6910417.
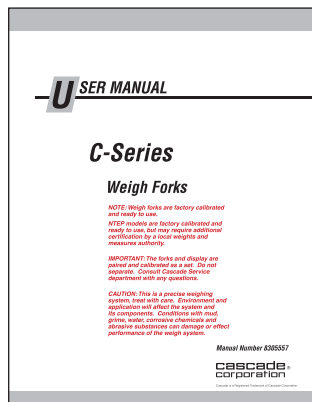
Read through this manual
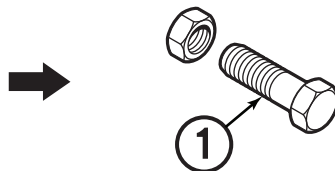
Review parts
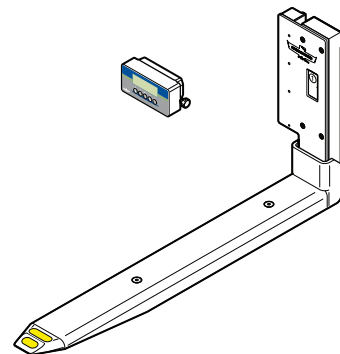
Install weigh forks system on truck
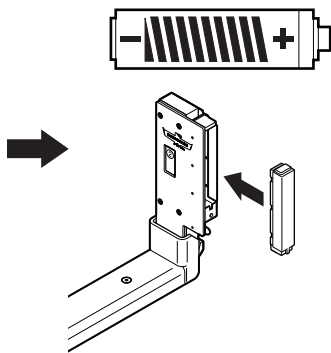
Install battery packs
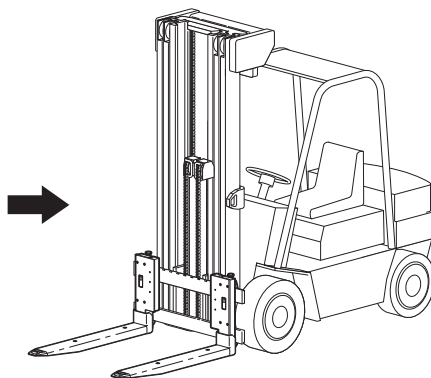
Use system

NOTE: Weigh forks are factory calibrated and ready for use.

Legal for Trade models are factory calibrated and ready to use. Additional certification is required by a local weights and measures authority.

Recharge or change battery packs

Perform Periodic Maintenance

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Special Definitions

The statements shown appear throughout this manual where special emphasis is required. Read all WARNINGS and CAUTIONS before proceeding with any work. Statements labeled IMPORTANT and NOTE are provided as additional information of special significance or to make your job easier.

> ⚠ **WARNING –** A statement preceded by WARNING is information that should be acted upon to prevent **bodily injury.** A **WARNING** is always inside a ruled box.

CAUTION – A statement preceded by CAUTION is information that should be acted upon to prevent machine damage.

IMPORTANT – A statement preceded by IMPORTANT is information that possesses special significance.

NOTE – A statement preceded by NOTE is information that is handy to know and may make your job easier.

Terminology

"Legal for Trade Certified" or "Legal for Trade", is the certification by a local metrology agency or municipal for weights and scales, for example, NTEP or OIML.

WARNINGS & SAFETY MEASURES

Carefully read the instructions and guidelines in this manual. Follow the steps shown to install the weigh system onto the truck. If any instructions are not clear, contact Cascade.

IMPORTANT: Field alterations may impair performance or capability and could result in loss of warranty. Consult Cascade for any required modifications.

WARNING: Operators (Drivers) must read and understand this manual before being allowed to operate this equipment. If the operator does not understand any part of the User Manual a supervisor should be asked for an explanation. If it is still not understood, this equipment should not be used.

WARNING: The C-Series Weigh Forks are to be operated by a qualified operator only. Overloading, load positioning, load stability, load security and unqualified operators can result in a hazardous situation.

WARNING: The C-Series Weigh Fork can present a hazard when serviced. This equipment must be serviced by qualified personnel only.

WARNING: Residual risk exists to pedestrians, bystanders and service technicians in the work area. Operate lift trucks and accessory equipment in a safe working area and in compliance with facility, local and national standards and rules.

WARNING: Before operating, perform the Daily Inspection as described in this manual
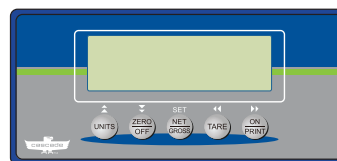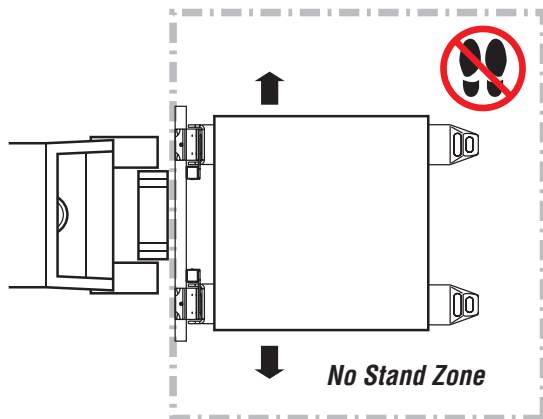
No riders

No reaching through mast

No standing under load

FK0540.eps

No Stand Zone

Indicator rated to IP 65.

CAUTION: Do not use the indicator in a moist environment for an extensive period.

WARNING: Cascade is not responsible for any physical harm done to the operator due to the presence of the indicator in the truck cabin.

WARNINGS & SAFETY MEASURES

⚠	**WARNING**: Do not operate the weigh system unless trained and a authorized lift truck driver.

CAUTION: High humidity and liquid applications will damage the forks. Conditions with mud, grime, water, corrosive chemicals and abrasive substances can damage or affect performance of the forks. Verify the forks are pretreated with a coating to help prevent rust and corrosion.
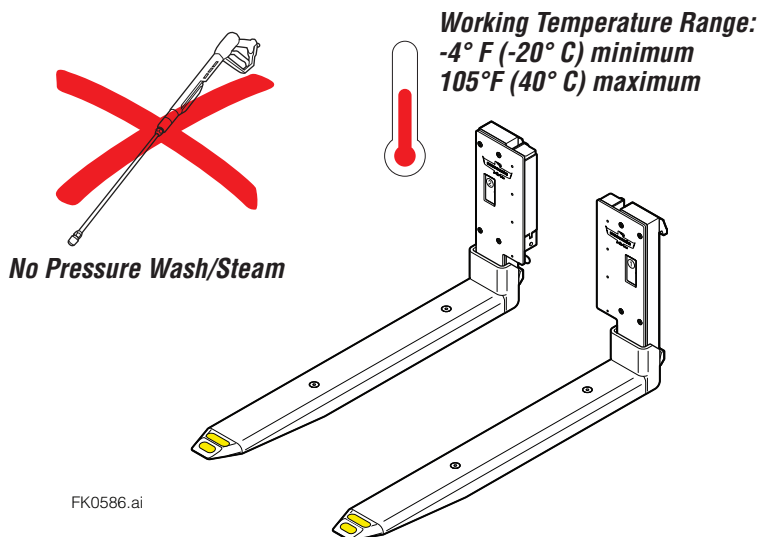
IMPORTANT: Tampering or removing weigh forks Legal for Trade Certified security wire or label will void certification.

CAUTION: Environment and application can affect the forks and how the system weighs. Verify that the forks suit proper conditions.

IMPORTANT: Cascade is not responsible for errors that occur due to incorrect weighing or inaccurate scales. The purchaser is responsible to train employees and maintain the weigh system.

IMPORTANT: All safety regulations that apply to the truck remain valid and unchanged. Always follow the operating, maintenance and repair instructions for the truck.

IMPORTANT: If indicator and/or forks batteries are low, weighing accuracy and communication to the indicator can be affected.

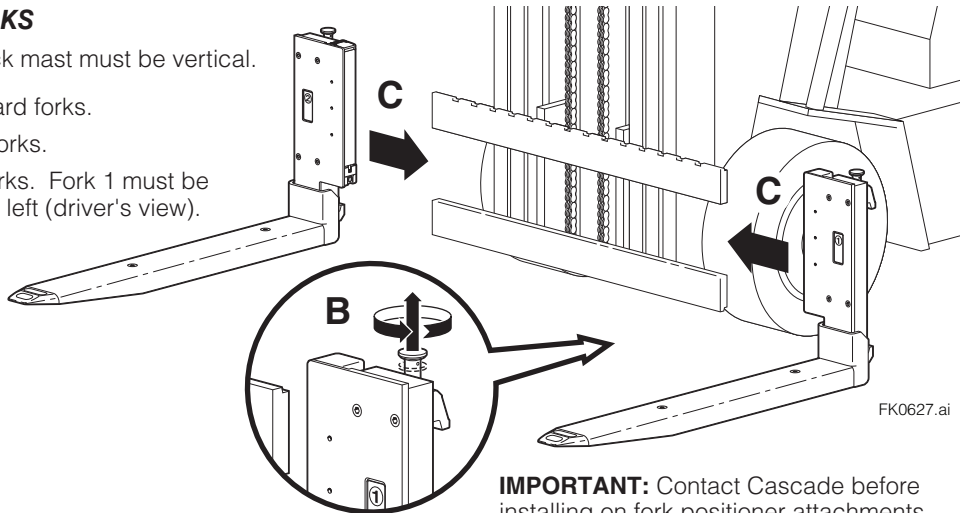*Working Temperature Range:*
-4° F (-20° C) minimum
105°F (40° C) maximum

No Pressure Wash/Steam

FK0586.ai

INSTALLATION

1 Install forks

STANDARD FORKS

IMPORTANT: Truck mast must be vertical.

A Remove standard forks.

B Unlock weigh forks.

C Install weigh forks. Fork 1 must be installed on the left (driver's view).

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IMPORTANT: Contact Cascade before installing on fork positioner attachments.

ROTATOR FORKS (with third hook)

Verify forks are rated for the loads being handled.

WARNING: Handle forks with care to avoid pinching fingers or dropping on feet.

WARNING: Forks require three hooks on rotators. Weigh forks for rotators are shipped with the middle hook installed.

A Rotate the carriage to the horizontal position. Remove the fork keepers from the upper fork carriage bar.

B Remove the standard rotator forks (if equipped).

C Release the spring locks on top of the forks.

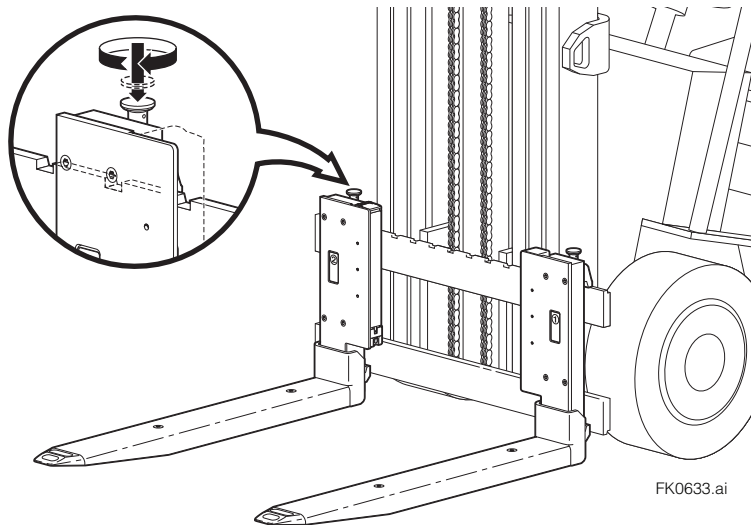**D** Slide the forks into position on the fork carriage bars.

   **NOTE:** Sand or grind the hook tip, when the fork middle hook fit is too tight.

Spring Lock

C

Back (Driver's View)

Middle Hook

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A Remove fork keepers

D

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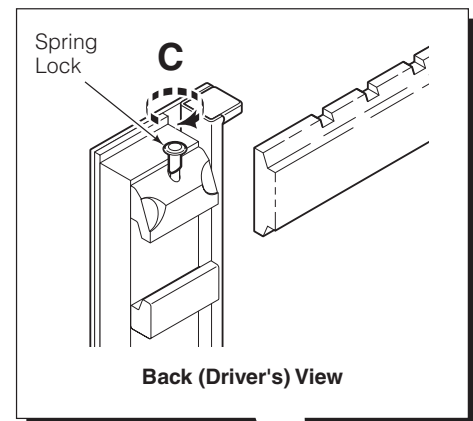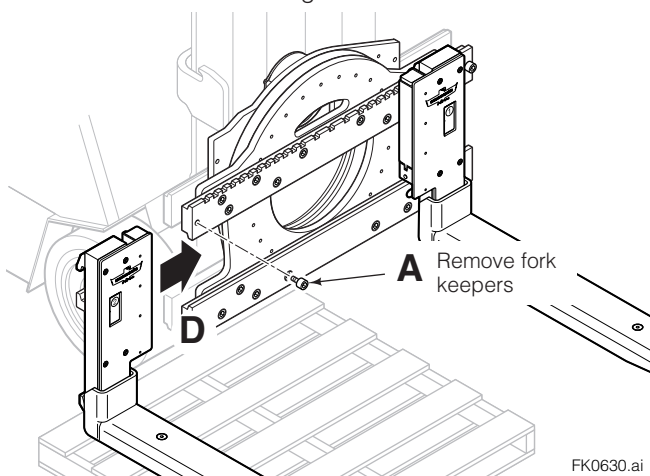
2 **Lock Forks**

NOTE: For rotators, shake forks to verify the pin is fully engaged in the fork bar notch.

CAUTION: Pin must engage notch.

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3 **If equipped, reinstall fork bar keepers**
Refer to the attachment's installation instructions for torque values.

Keepers

FK0636.ai
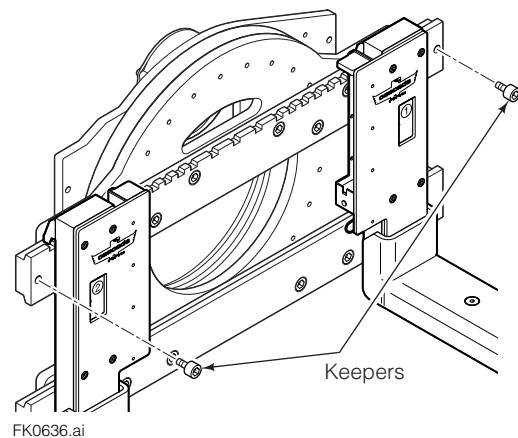
4 **Install battery packs**
A Lift up battery holder locking clip.
B Position battery pack.
C Click into the battery holders.
D Secure the locking clips down.

A

B

D

C

FK0637.ai
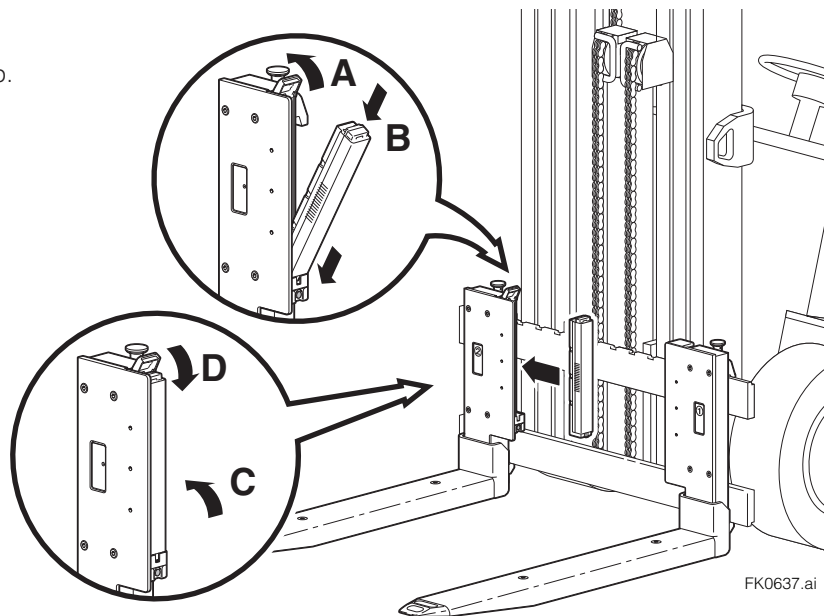
INSTALLATION

5 Locate and mount the indicator

Determine a location for the indicator that is within arms length and screen readout is visible.

NOTE: If required, install batteries into indicator. Refer to "Batteries" section, "Replacing Indicator Batteries", page 22.

Cabin Roof

OR

Side Rail

OR

Dashboard

Indicator

FK0638.ai
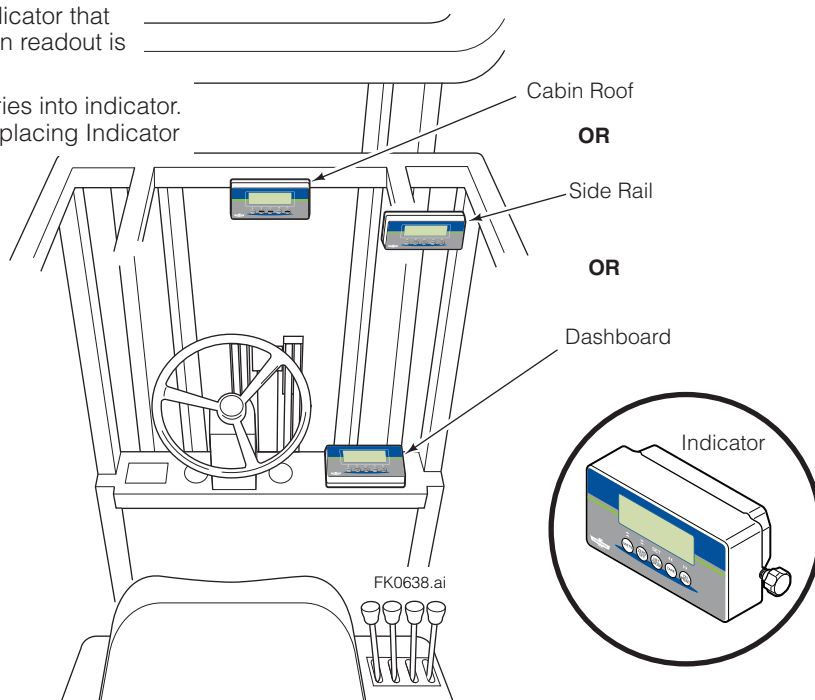
6 Install indicator bracket and support, if required

A Install bracket to the support, using a M5 allen wrench.

B Install the indicator to the bracket/support assembly.

Indicator

Support

Bracket

A

B

Allen Wrench Required:

M5

FK0648.ai
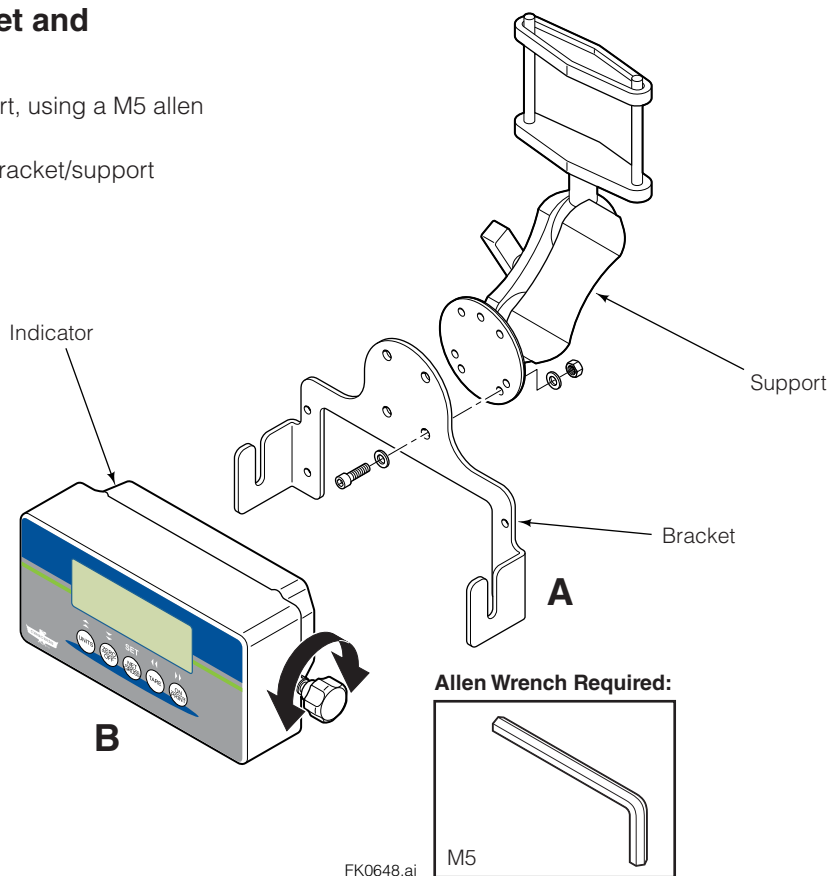
7 **If equipped with a truck power option indicator, connect indicator to truck power.**

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

**B** Connect cable ends to the components, as shown.

12V Systems – Connect the fused positive wire to a 12V switched power source. Connect the ground wire.

24V-80V Systems – Mount the voltage converter to truck. Connect the fused positive wire from the converter to a 24V-80V switched power source. Connect the ground wire. Check the cable routing for pinch points and clearance.

Use wire ties as needed.

C Connect the power cable to the indicator.

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


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USING INDICATOR
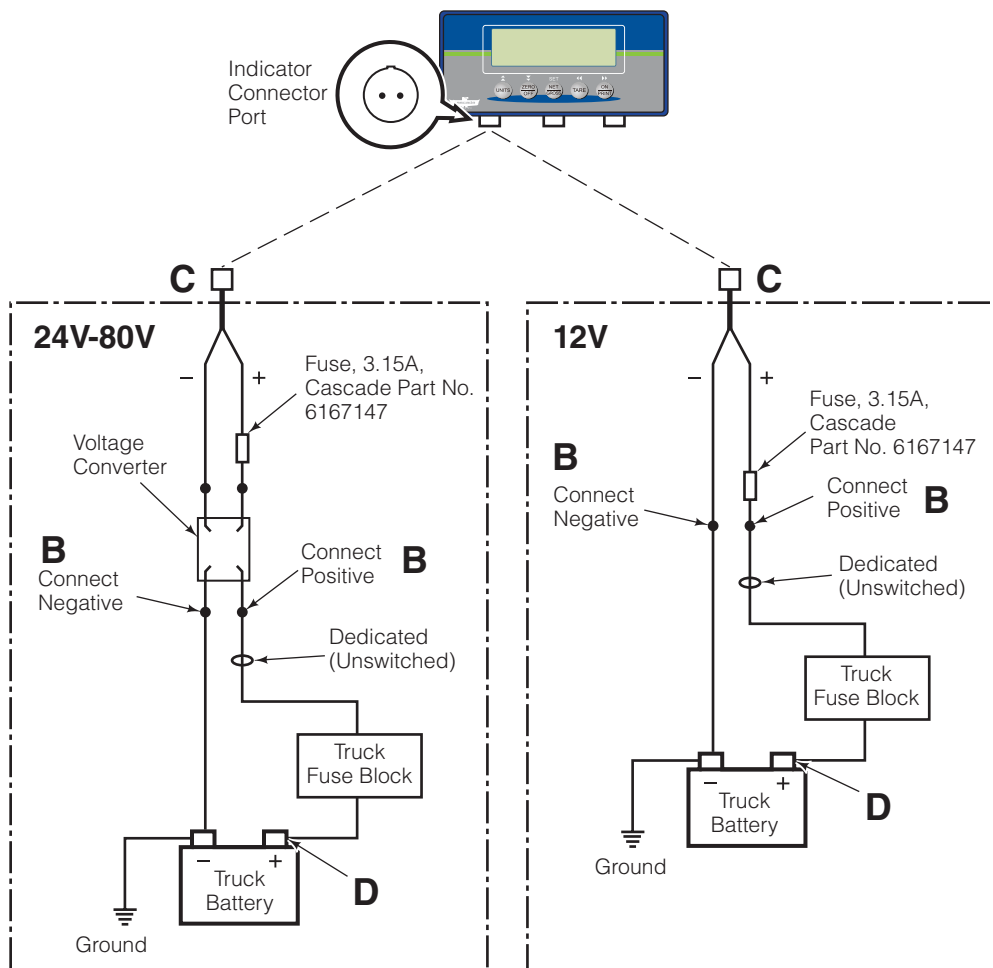
Functions

Left of Indicator Icons

When the following appears:

▭	Low Battery (indicator and fork batteries)
⭢O⭠	The scale is zeroed
P	The indicator is in PEAK HOLD mode
T	The indicator is showing tare weight
G	The indicator is showing gross weight
N	The indicator is showing net weight
◣◢	The scale is at rest and is stable to read weight

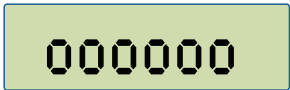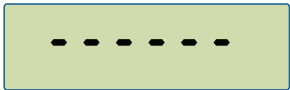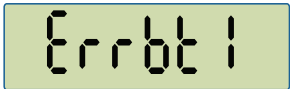**Right of Indicator Icons**
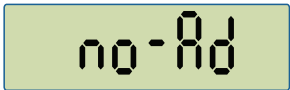
When the following icon appears:

pcs	Quantity displayed is the number of items on the scale
lb	Weight shown is in pounds
oz	Weight shown is in ounces
kg	Weight shown is in kilograms
g	Weight shown is in grams
%	Value shown is a percentage
▼	Indicates load cell position or fork
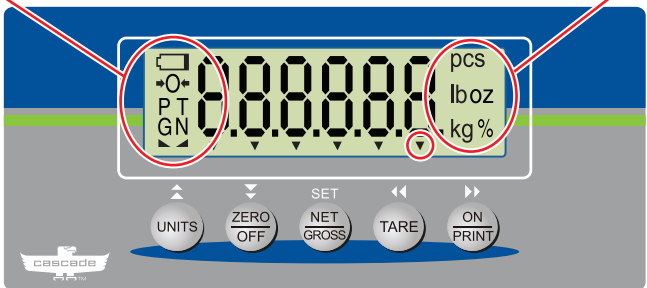
Indicator Button	Weighing Mode Button Functions		Configuration Mode Button Functions
UNITS	UNITS	Toggle units	Returns to Parameters, Configuration menu or exits configuration mode **OR** Increase the value of the flashing digit
ZERO/OFF	ZERO/OFF	**ZERO –** Manually zeroes the indicator (conditions apply) **OFF –** To turn off the indicator, hold button for 5 seconds	Enters Parameters or Parameter Settings **OR** Decrease the value of the flashing digit
SET NET/GROSS	NET/GROSS	Toggle between gross weight and net weight. Refer to the note below.	SET Select value **OR** save value
TARE	TARE	Establishes tare weight (conditions apply) and also cancels the current tare weight	Show next menu/parameter/setting **OR** Shift to the next digit on the left
ON/PRINT	ON/PRINT	**ON –** To power on the indicator, hold button for 2 seconds **PRINT –** Print weight information (conditions apply)	Show previous menu/parameter/setting **OR** Shift to the next digit on the right

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USING INDICATOR

Indicator Messages

Error Message	Meaning	To Exit Error Mode
`000000`	Forks are overloaded	Automatic after removing weight
`------`	Weight on scale is negative or load cell signal is negative	Press the ZERO/OFF key. Lift the forks from the ground.
`Errbt1`	Problem with Fork 1, no communication	Verify weigh system is powered ON and forks are in range of the indicator. Restart indicator. Restart forks and indicator.
`Errbt2`	Problem with Fork 2, no communication	Verify weigh system is powered ON and forks are in range of the indicator. Restart indicator. Restart forks and indicator.
`no-Ad`	Forks not detected	Verify weigh system is powered ON and forks are in range of the indicator. Restart indicator. Restart forks and indicator.

FK0549.eps

USING THE WEIGH SYSTEM

WARNING: Operators (Drivers) must read and understand this manual before being allowed to operate this equipment. If the operator does not understand any part of the User Manual a supervisor should be asked for an explanation. If it is still not understood, this equipment should not be used.

WARNING: The C-Series Weigh Forks are to be operated by a qualified operator only. Overloading, load positioning, load stability, load security and unqualified operators can result in a hazardous situation.

WARNING: Residual risk exists to pedestrians, bystanders and service technicians in the work area. Operate lift trucks and accessory equipment in a safe working area and in compliance with facility, local and national standards and rules.

WARNING: Before operating, perform the Daily Inspection as described in this manual

NOTE: The forks are factory calibrated and ready to use.

Legal for Trade models are factory calibrated and ready to use. Additional certification is required by a local weights and measures authority.
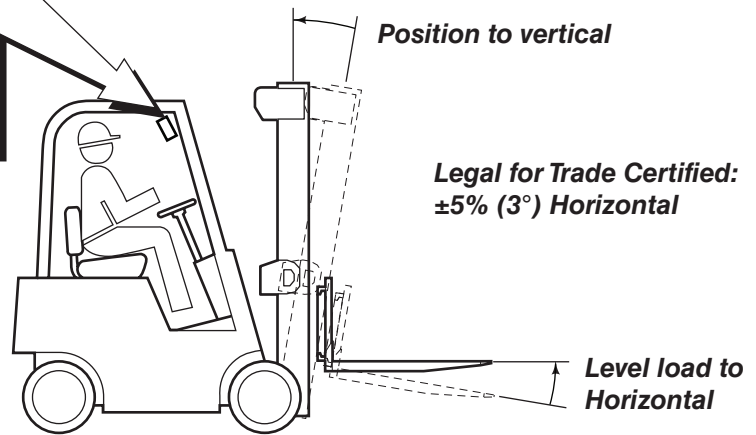
Prior To Weighing
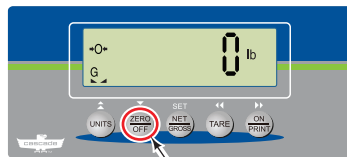
Verify the indicator shows zero. If necessary, press the "Zero" button.

Verify forks are free of obstacles prior to zeroing

Position to vertical

Legal for Trade Certified: ±5% (3°) Horizontal

Working Temperature Range: -4° F (-20° C) minimum 105° F (40° C) maximum

Level load to Horizontal

FK0550.eps

Handling Loads

IMPORTANT: For handling loads with rotators, refer to the attachment's operator guide.

Center load on forks and pallet, load must be flat
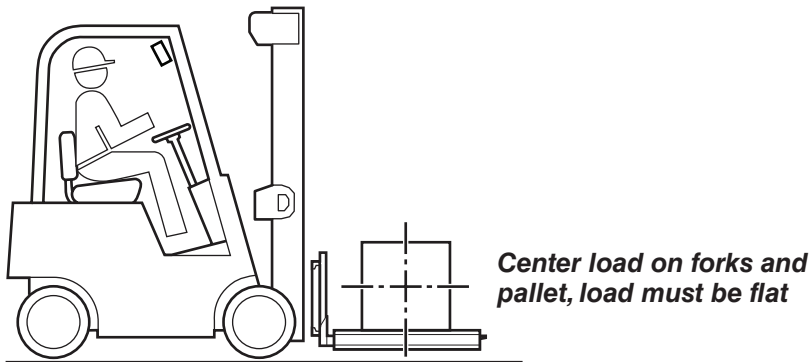
FK0044.eps
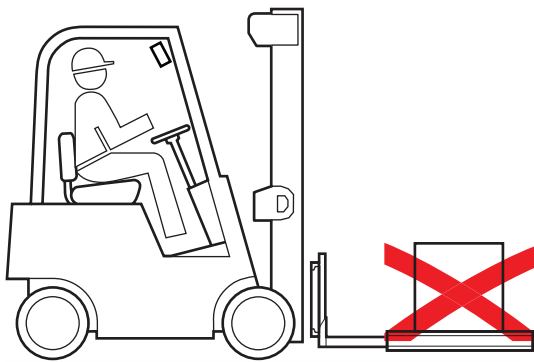
FK0045.eps
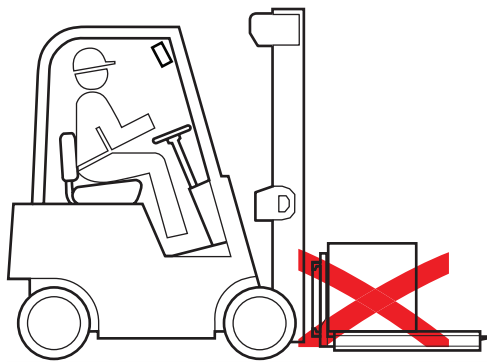
FK0046.eps

To Weigh A Load (Normal Weighing Mode)

IMPORTANT:
- At initial daily start up, allow 3-5 minutes for the forks to warm up before weighing loads.
- The system will not weigh correctly if the front face or bottom of the forks touches the load or pallet.
- Unstable weight readings indicate debris (ie. wood chips) between fork and fork shoe.
- When weighing liquids, more time is needed for indicator to show a steady weight.
- Do not exceed fork length by more than 6 in. (152 mm) with load length.

1 Turn on the forks by pressing the blue button on each battery holder. The button is located at the base of the battery holder, as shown.

2 On the indicator, press the "ON/PRINT" button. Wait five seconds.

3 If necessary, zero the weigh system by pressing the "ZERO/OFF" button, with forks off the ground.

4 Position the load on the forks and raise the forks.

5 The indicator will show the weight of the load. Allow more time, as needed, to show a steady weight. Before the next weighing, verify that the indicator is zeroed.

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If required, press the "ZERO" button to manually zero the indicator.
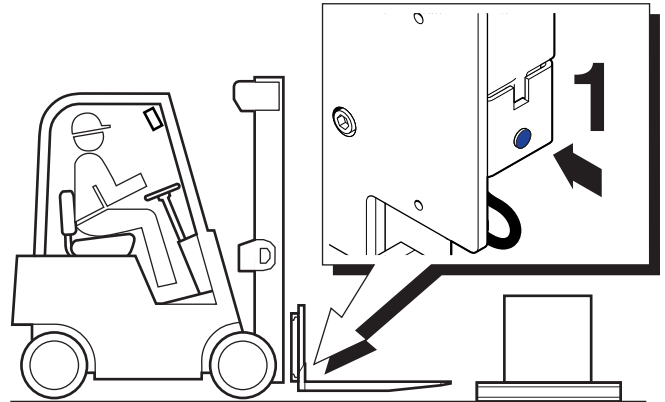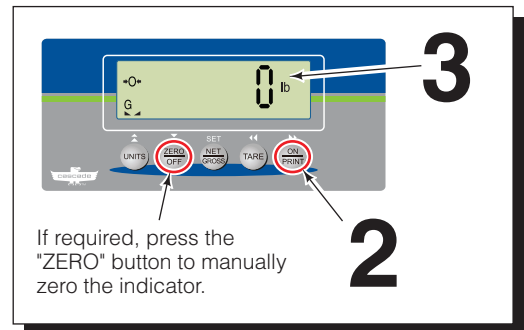
FK0551.eps
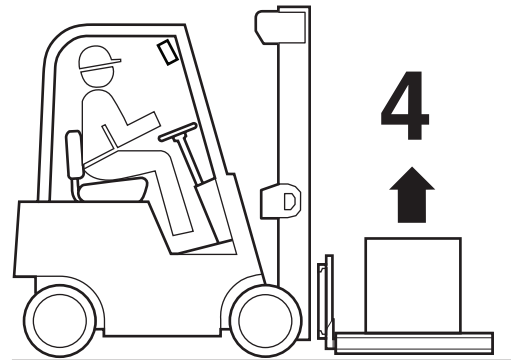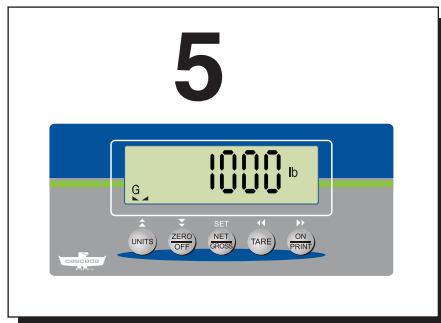
FK0798.eps

**IMPORTANT:** The indicator will show the weight in divisions (increments) as follows:

Model Ⓐ	Load Weight	Indicator Divisions	
		Non-Certified	NTEP Certified
23C	Up to 2500 lb. (1000 kg)	2 lb. (1 kg)	5 lb.
	Up to 5000 lb. (2500 kg) Ⓑ	5 lb. (2 kg)	5 lb.
28C	Up to 2500 lb. (1000 kg)	2 lb. (1 kg)	5 lb.
	Up to 6000 lb. (3000 kg) Ⓑ	5 lb. (2 kg)	5 lb.
50C	Up to 4500 lb. (2000 kg)	5 lb. (2 kg)	5 lb.
	Up to 10000 lb. (5000 kg) Ⓑ	10 lb. (5 kg)	10 lb.

Ⓐ Models with fork length of up to 48 in. (1200 mm)
Ⓑ Fork capacity

Obtaining Net/Tare/Gross Weight

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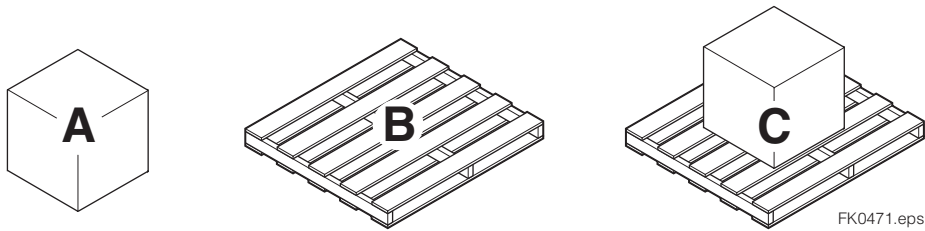
Net (A) + Tare (B) = Gross (C)

Net – The weight of the load.
Tare – The weight of an unladen load that is not included (pallet, bin, etc).
**Gross –** The combined weight of the load and unladen load.

To weigh a load (**Net** weight) but disregard part of the load (**Tare** weight), example being a pallet, perform the following procedure:

NOTE: The indicator must be in normal weighing mode prior to performing the following procedure.
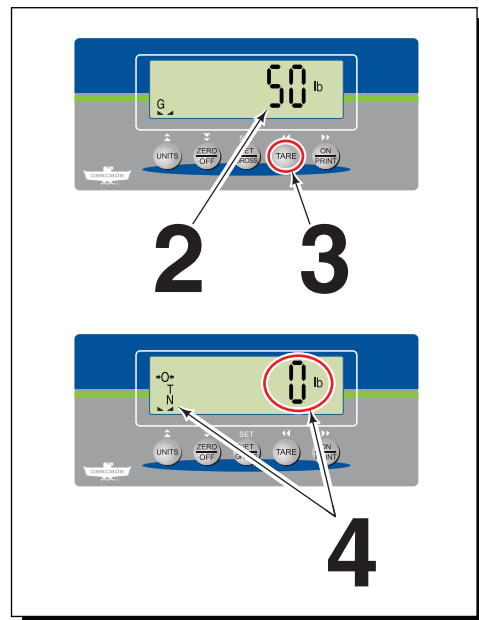
Unknown Tare Weight Method

1 If required, zero the indicator.

2 Position a pallet (or bin) (**Tare** weight) on forks and raise forks. The weight of the pallet (or bin) will show on the indicator.

FK0553.eps
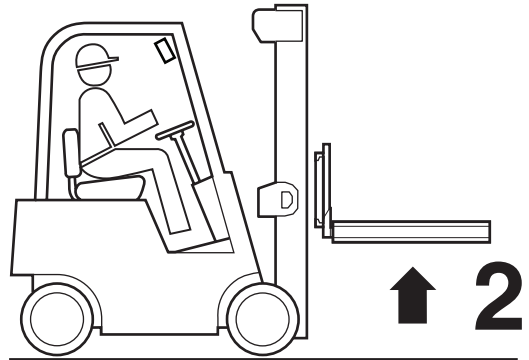
3 Press the "TARE" button.

   NOTE: If piece count is enabled, press the "TARE" button two times.

4 The indicator will be set to zero and the **N** and **T** icons will appear. **N** indicates only **Net** weight value and **T** indicates Tare mode.
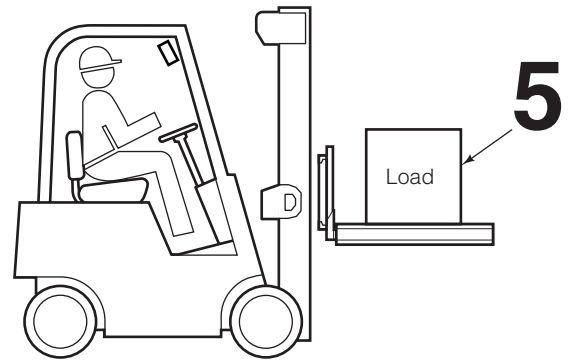
Obtaining Net/Tare/Gross Weight

Unknown Tare Weight Method (Continued)

5 Add a load onto the forks.

Load

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6 The indicator will show the load's weight (**Net** weight).

6

"N" icon disappears and "G" icon appears

Gross Weight

7 To view the **Gross** weight (**Tare** weight + **Net** weight), press the "NET/GROSS" button.

NOTE: If piece count is enabled, the "NET/GROSS" button is not available.

8 To clear the current **Tare** weight value, press the "TARE" button. The indicator will return to **Gross** weighing mode.

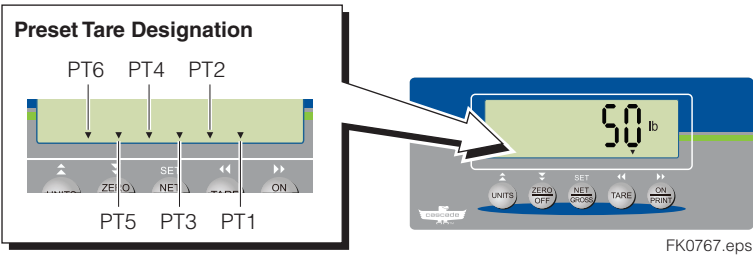**7**   **8**

"T" icon disappears

Obtaining Net/Tare/Gross Weight

NOTE: To program tare presets (up to six), refer to the Appendix section, "Programming Preset Tare Values".
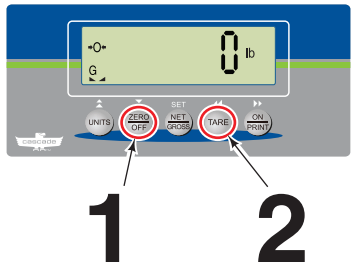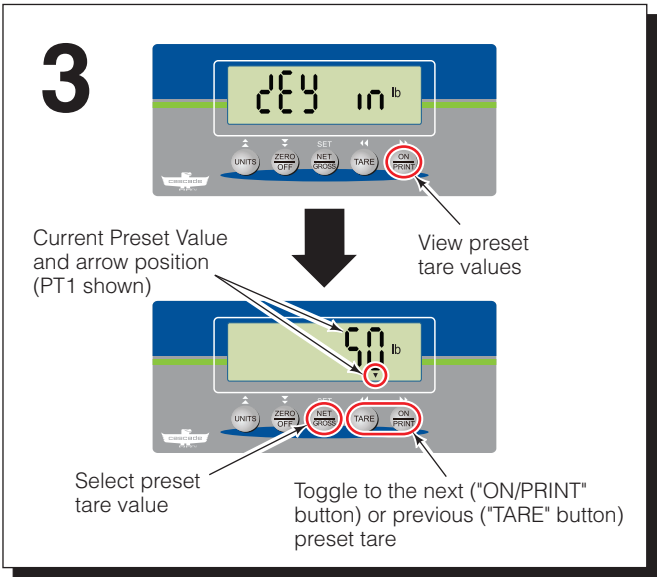
Pre-set Tare Weight Method

PT values:

PT1	
PT2	
PT3	
PT4	
PT5	
PT6	

Preset Tare Designation

PT6   PT4   PT2

PT5   PT3   PT1

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**1** If required, zero the indicator.

2 Press and hold the "TARE" button for 5 seconds.

1   **2**

3 The indicator will show "key in". Press the "ON/PRINT" button to continue and view each preset tare value (up to 6 preset values). An arrow at the bottom of the screen and its position, shows which preset tare value. Use the "ON/PRINT" (next) and "TARE" (previous) buttons to view each preset tare. To select a preset tare value, press the "NET/GROSS" button.

3

Current Preset Value and arrow position (PT1 shown)

View preset tare values

Select preset tare value

Toggle to the next ("ON/PRINT" button) or previous ("TARE" button) preset tare

4 The indicator will show the preset tare value as a negative value and the **N** and **T** icons will appear. **N** indicates only net weight is shown and **T** indicates Tare Mode.
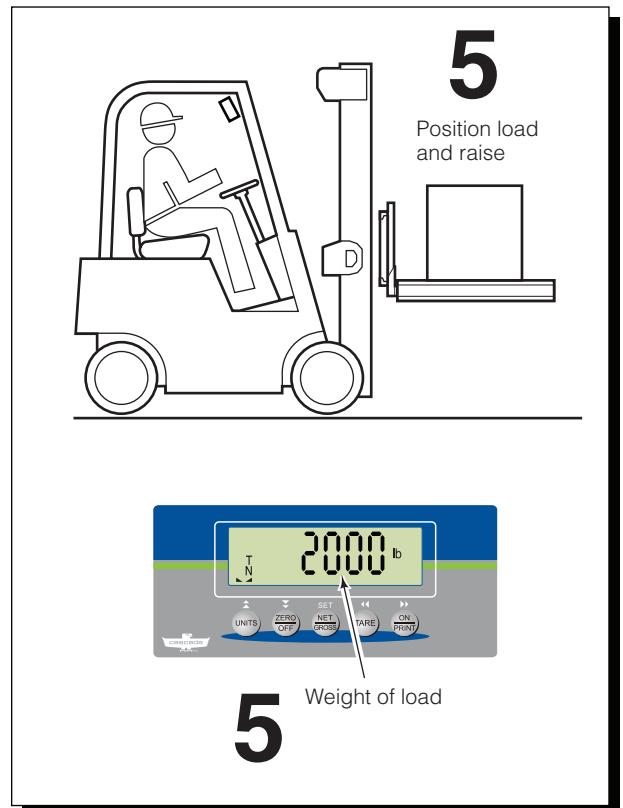
"T" icon and "N" icon appears

4

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Preset tare value
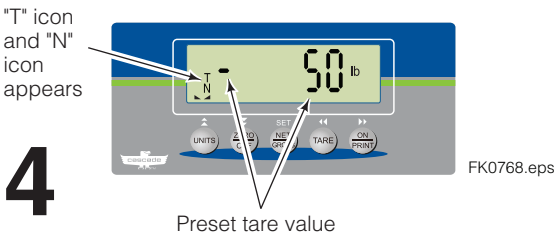
Procedure continued on next page

Obtaining Net/Tare/Gross Weight

Pre-set Tare Weight Method *(continued)*

5 Position a pallet (or bin) (**Tare** weight) with load (**Net** weight) on forks and raise forks. The weight of the load will only show on the indicator.


Position load and raise

5

Weight of load

5

6 To view the **Gross** weight (**Tare** weight + **Net** weight), press the "NET/GROSS" button.

NOTE: If piece count is enabled, the "NET/GROSS" button is not available.

7 To clear the current **Tare** weight value, press the "TARE" button. The indicator will exit Tare Mode and return to **Gross** weighing mode.

"N" icon disappears and "G" icon appears

**Gross** Weight

6 **7**
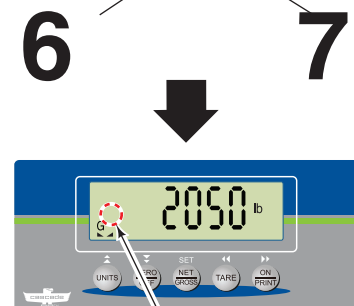
"T" icon disappears

FK0769.eps

USING THE WEIGH SYSTEM

Powering Off Forks

Press and hold the blue button on each battery holder for ten seconds or until the blinking blue light turns solid (front face of forks). Release hold on blue button.

NOTE: After 2 hours (default) of no weighing, the forks will turn off. To change the default time, refer to Service Manual, part no. 6910417 Parameter "B 8".

FK0647.eps
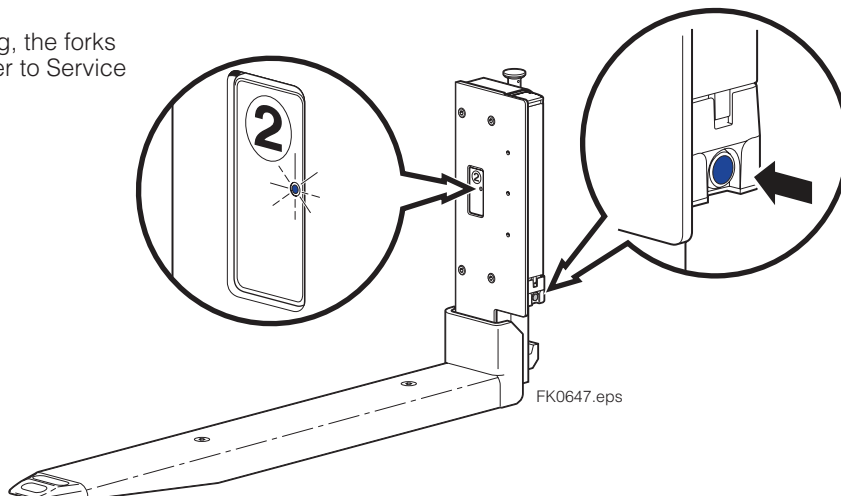
AUTO SHUT-OFF & BACKLIGHT

After 5 minutes (default) of no action:

NOTE: To change the default time, refer to Service Manual, part no. 6910417, Parameter "A 10".

NOTE: To change the time for the backlight to remain on (default 1 minute), refer to Service Manual, part no. 6910417, Parameter "A 14".
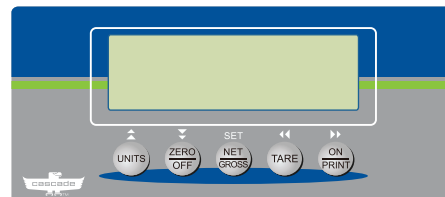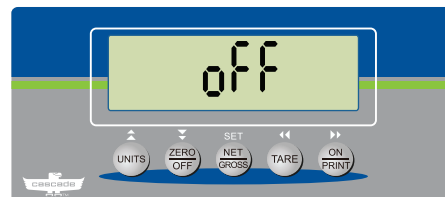
1 On the indicator, a countdown screen shows. Press any button to cancel auto shut-off and return to normal weighing mode.
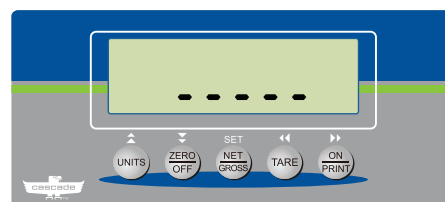
2 After 20 seconds of no further action, "off" will appear on the screen. The indicator will turn off.

FK0555.eps

ADVANCED WEIGHING OPERATIONS

Totaling (Accumulation)

This mode adds and totals a group of weights.

Verify that the "F 30" parameter setting is "1". Refer to the Appendix section, "Advanced Weighing Options".

1 If required, change parameter setting "F 30" to "1". Refer to the Appendix section.

2 If required, position a pallet (or bin) on forks. Raise forks (and pallet or bin).

3 Press the "TARE" button (tares a pallet or bin; the value will show up on print out) or "ZERO/OFF" button (zeros the pallet or bin).

4 Place a load on the pallet. Wait for the indicator to read the load weight.

5 Press the "ON/PRINT" button. This begins the adding sequence of totaling.

6 The indicator will show "AddEd".
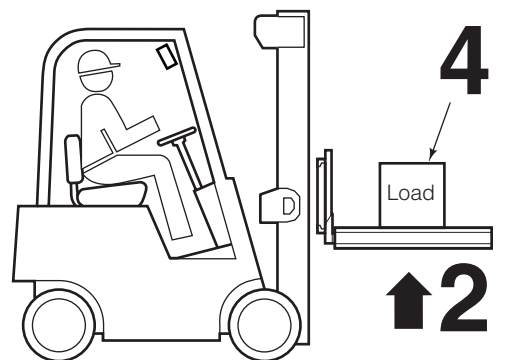
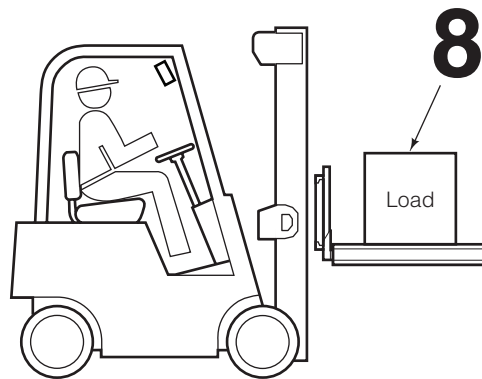**NOTE:** If a printer is installed, the print out will show the **Gross**, **Net** and **Tare** weights.
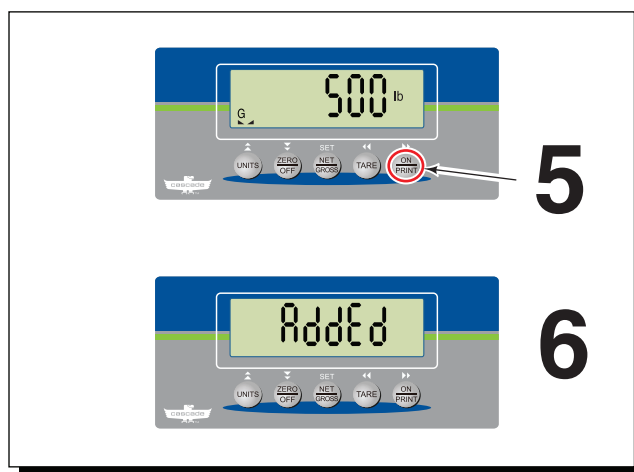
7 Remove the load. Wait for the indicator to return to normal weighing mode and zero.
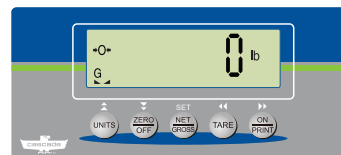
8 Place a new load on the pallet. Wait for the indicator to read the load's weight.

Procedure continued on next page

FK0563.eps

FK0611.eps

Totaling (Accumulation) (Continued)

9 Press the "ON/PRINT" button to add load weight to the total.

850 lb

9

10 The indicator will show "AddEd".

NOTE: If a printer is installed, the print out will show the **Gross**, **Net** and **Tare** weights.

AddEd

10

11 Repeat Steps 7-10 until all loads are weighed.

NOTE: The subtotal can be viewed by pressing and holding the "ON/PRINT" button for three seconds. The counter (number of loads weighed) and subtotal will flash for three seconds.

12 Remove the load.

0 lb

13 Press and hold the "ON/PRINT" button for approximately three seconds to view the total weight and number of loads weighed.

13

14 The counter (number of loads weighed) and total weight will flash for three seconds.

14

0004
Counter

2500 lb
Total

15 While the indicator screen flashes, the following can be performed:

- Press the "ON/PRINT" button to print the total and reset the total weight to zero and the counter to zero.
- Press and hold the "ON/PRINT" button for approximately five seconds to set the total weight to zero and the counter to zero. The total will not print.

NOTE: If no button is pressed while the indicator screen flashes, the total weight and counter value stays in the indicator's memory. The system will return to normal weighing mode after 60 seconds.

Press to print total and reset the total weight and counter to zero

15

UNITS | ZERO/OFF | NET/GROSS | TARE | ON/PRINT

Press and hold for five seconds to reset the total weight and counter to zero
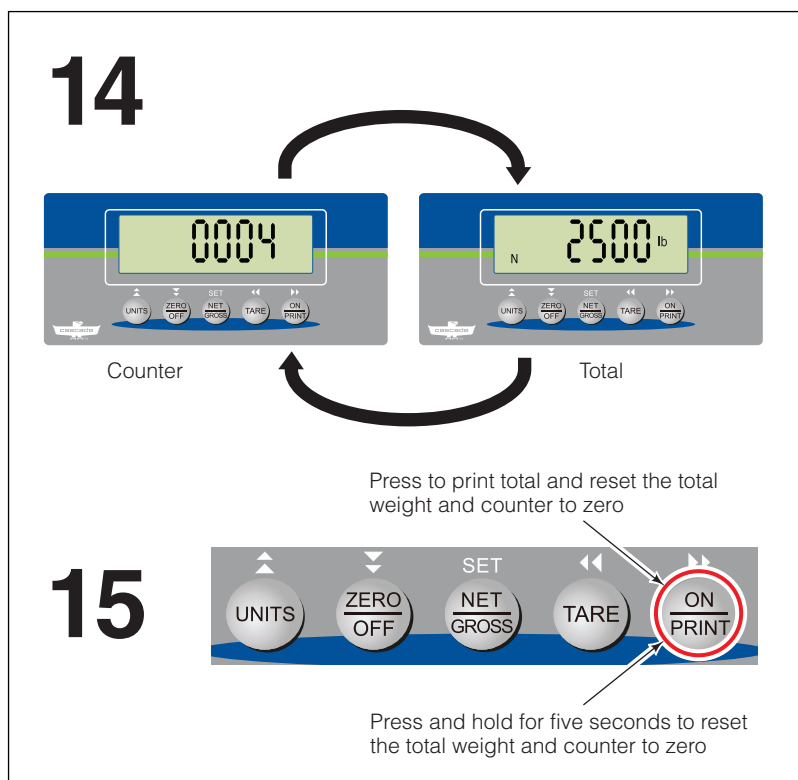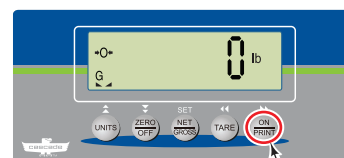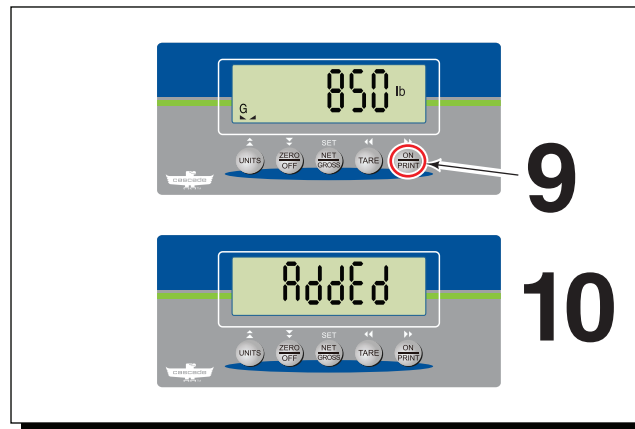
FK0564.eps

Piece Count (Sampling Method)

This mode uses the sampling method to determine the average piece weight (APW) of a load that requires counting. First, a sample weight is taken and then the load is measured.

Verify that the "F 30" parameter setting is "3". Refer to the Appendix section to verify and/or change the parameter setting.

NOTE: Piece counting (sampling) is not approved for legal for trade models.

NOTE: To program APW presets (up to six), refer to the Appendix section, "Programming Preset Average Piece Weight (APW) Values".

1 If required, change parameter setting "F 30" to "3". Refer to the Appendix section, "Advanced Weighing Options".

2 Determine the number of pieces to be sampled.

   NOTE: The default setting is set to 5 pieces.

3 Position an empty pallet (or bin) on the forks. Raise the forks and pallet (or bin).
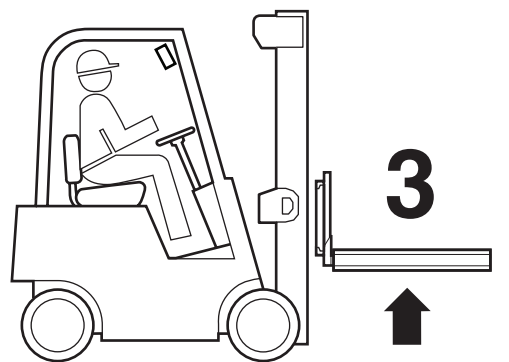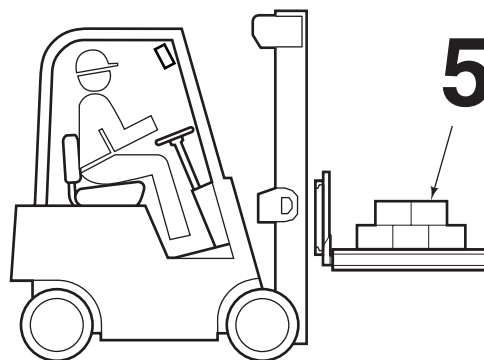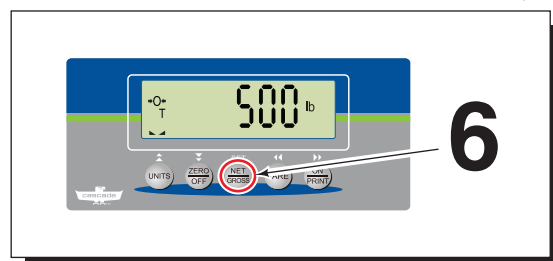

4 Press the "TARE" button.
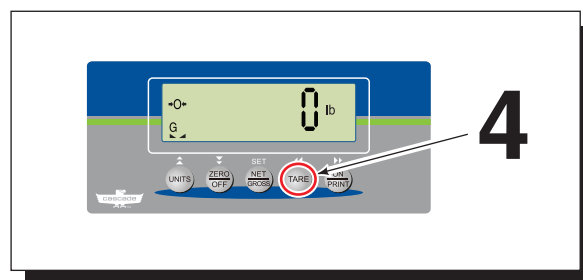
FK0791.eps

5 Add the sample pieces onto the pallet (or into bin).

FK0771.eps

6 Press "NET/GROSS" button.

Piece Count (Sampling Method) (continued)

7 The screen will show "AddPCS". Press "NET/GROSS" button.
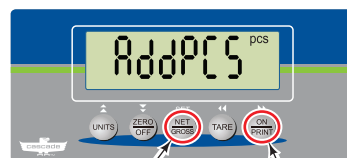
NOTE: If "AddPCS" does not show, press the "ON/PRINT" button until "AddPCS" shows.

8 The indicator will show "5" (default value). To sample with a different quantity, refer to the "Configuration Mode Button Functions" (below) to change the quantity. To accept the default or entered value, press "NET/GROSS" button.

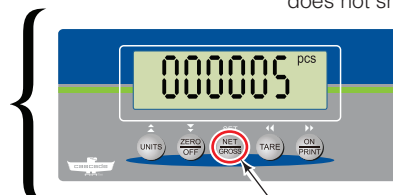
Configuration Mode Button Functions

To change quantity:

⌃ UNITS	⌄ ZERO OFF	**SET** NET GROSS	◁◁ TARE	▷▷ ON PRINT
Increase Value	Decrease Value	Accept Value	Shift to the next digit, left	Shift to the next digit, right

---

9 The indicator will show the sample load quantity, as entered, and "pcs" icon.

NOTE: The indicator will show "–Lo_" briefly when APW is too light and can not be sampled.

10 Remove the sample load and add a load to count on the pallet (or into bin).

11 The indicator will show the quantity of the load.

12 Continue to acquire load quantities with the same sample APW. To exit this mode, press the "UNITS" button.

NOTE: The indicator does not retain APW after exiting this mode or being turned off.

7

Press to continue   Press only if "AddPCS" does not show.

8

Press to accept default quantity

9

Quantity (default or entered)

10

11

12 To exit Piece Count Mode
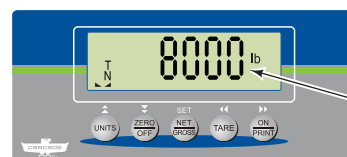
Load's weight shows after exiting

FK0773.eps

Piece Count (Sampling Method) (continued)

Piece Count With Known Weight (Pre-set APWs) Method

Record APW values:

APW1	
APW2	
APW3	
APW4	
APW5	
APW6	

Preset APWs Designation

APW6   APW4   APW2

APW5   APW3   APW1
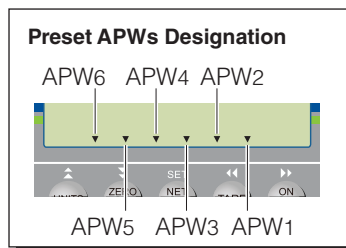
FK0767.eps

1 If required, zero the indicator.

2 Position an empty pallet (or bin) on the forks. Raise the forks and pallet (or bin).

2

3 Press the "TARE" button.

3
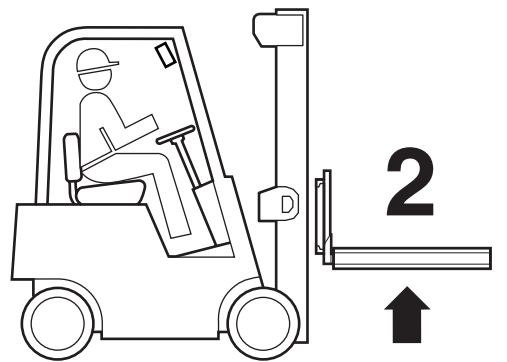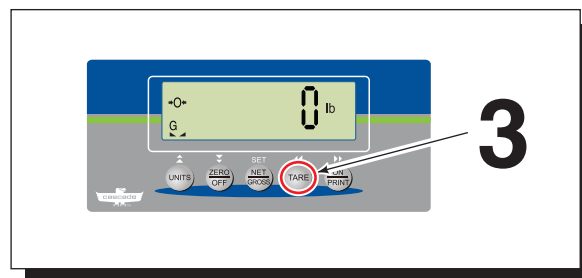
4 Place the pieces to be counted on the pallet (or into the bin).

4
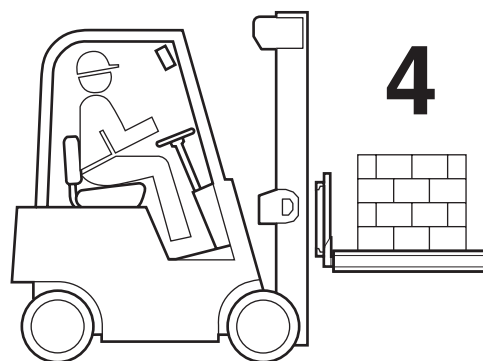
FK0770.eps

Piece Count (Sampling Method) (continued)

5 Press "NET/GROSS" button to enter Piece Count Mode.
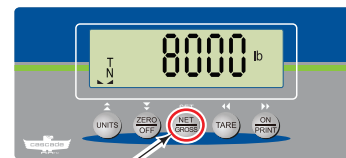
5 Piece Count Mode

6 Use the "TARE" and "ON/PRINT" buttons to navigate to a list of the average piece weights. Choose from the listed APW of products being weighed. For example, count the products with the average piece weight of 50 lbs. The indicator will show "50.000" and "pcs". Press "NET/GROSS" to select the APW pre-set.
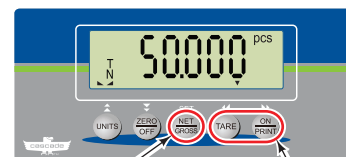
6

Accept the APW shown

Toggle to the next ("ON/PRINT" button) or previous ("TARE" button) preset tare

**7** The indicator will show the number of pieces on the pallet (or bin).

7

FK0772.eps

8 Continue to acquire load quantities with the same sample APW. To exit this mode, press the "UNITS" button.

NOTE: The indicator does not retain APW after exiting this mode or being turned off.

8 To exit Piece Count Mode

BATTERIES

Fork LED Status Indication

FORK BLUE LED FUNCTION:

- **POWERING "ON" –** Continuously ON for 5 seconds.

- **FULL BATTERY**
  Working Mode – Blinks **once** every 1.5 seconds.
  Sleep Mode – Blinks **once** every 4 seconds.

- **LOW BATTERY**
  Working Mode – Blinks **twice** every 10 seconds.
  Sleep Mode – Blinks **twice** every 10 seconds.

IMPORTANT: For three shift applications, change batteries every morning.

NOTE: Battery life will last up to 80 hours if the system is set at factory settings.

IMPORTANT: When indicator or fork batteries are low, weighing accuracy and communication to the indicator can be affected.

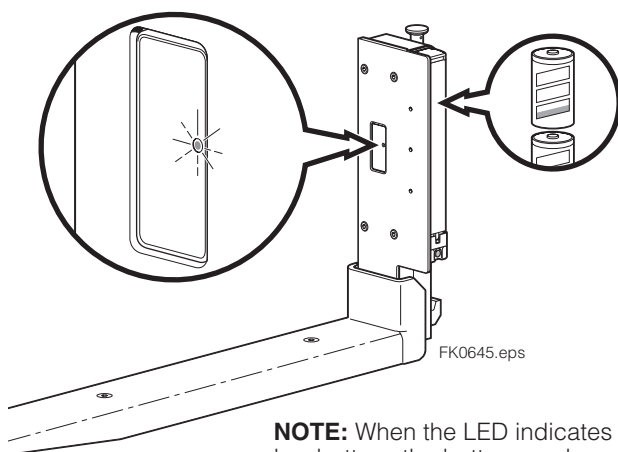Fork Low Battery:
The blue LED on the related fork will start blinking (2 times every 10 seconds)

FK0645.eps

NOTE: When the LED indicates low battery, the battery packs will switch off automatically after 9 minutes (default). To change the default time, refer to Service Manual, part no. 6910417, Parameter "B 9".

FK0765.eps

Blinking icon – Fork 1 battery pack is low

Blinking icon – Fork 2 battery pack is low

Blinking low battery icon – Indicator batteries are low.

Blinking icons – Fork 1 and Fork 2 battery packs are low

When any low battery icon blinks, replace or recharge batteries.

NOTE: When batteries are low, the indicator will switch off automatically after 2 minutes (default). To change the default time, refer to Service Manual, part no. 6910417, Parameter "A 22".
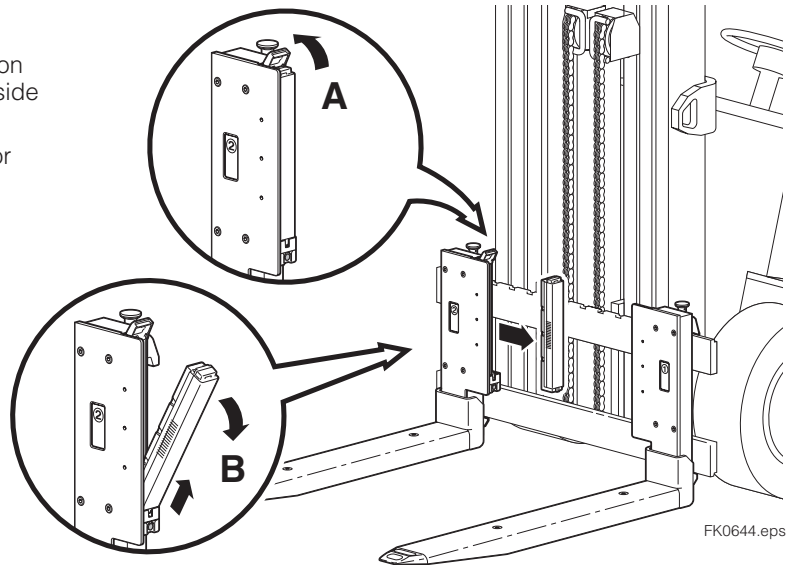
BATTERIES

Charging Fork Battery Packs

1 **Remove batteries**

A Unlock batteries. Apply pressure on the latch, by hand, on the bottom side of the cap until the latch is free.

CAUTION: Do not use a hammer or pry open with a screwdriver.

B Remove battery packs.

FK0644.eps

2 **Charge *both* battery packs**

NOTE: Rechargeable batteries are lithium-ion with a charge capacity of 10.4 Ah.

IMPORTANT: Battery packs are sealed. The warranty will be void if the seal is broken.

A Lift up locking clips of charger module.

B Position each battery pack into charger.

C Click each battery pack into charger.

D Push locking caps down.

E Plug the power adapter into 110V source. The power adapter LED will show red and is charging.

F Once the batteries are completely charged, the power adapter LED will show green and is no longer charging.

E 🔴	**F** 🟢
Charging	Charge Complete
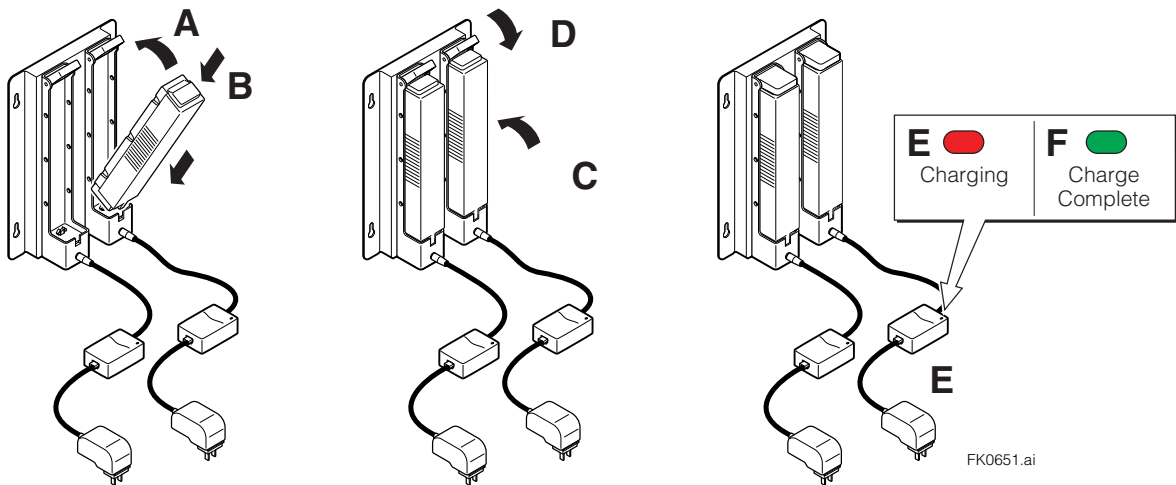
FK0651.ai

3 **Re-Install battery packs in forks**

CAUTION: When installing battery packs, place batteries into battery holders. Shoving or hitting battery packs into the holder will cause damage to the battery holder or battery pack casing.

IMPORTANT: Every time the battery pack is removed and replaced, inspect battery pack and holder connections for debris. Check that the contact points are not loose. If equipped, tighten the contact point capscrews as required. Do not leave the battery holders exposed.

FK0641.eps

8305557-R2
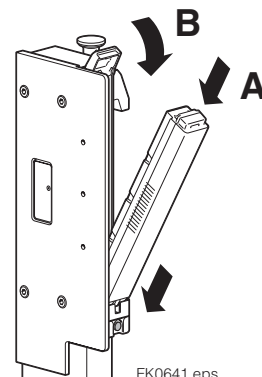
BATTERIES

Indicator Batteries (if equipped)

NOTE: Based on usage, indicator battery life is variable.

The indicator is equipped with four AA batteries.

1 Remove depleted batteries

A Loosen back cover thumbscrews.

B Remove back cover.

C Remove depleted batteries.

> **NOTE:** Take note of the position and polarity of batteries.
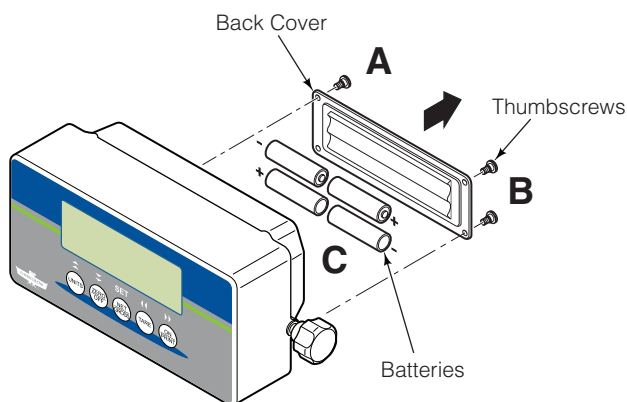
FK0649.eps

2 Replace alkaline batteries or charge rechargeable batteries

NOTE: Rechargeable batteries are NiMH with a charge capacity of 2,000 mAh.

To recharge batteries:

A Place the batteries on the charger noting the position and polarity.

B Plug the charger into a 110V source.
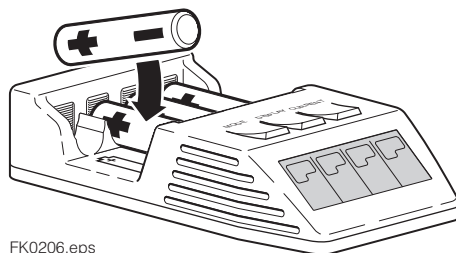
FK0206.eps

⚠ **WARNING**: Alkaline batteries are **not** rechargeable and can cause damage to the charger.
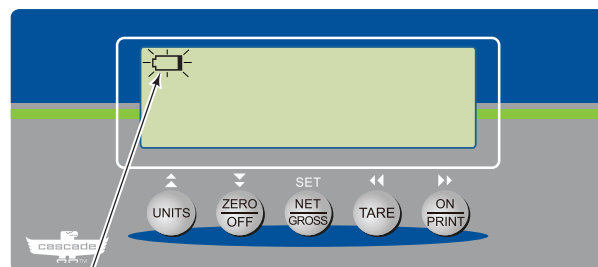
FK0557.eps

Indicator's low battery icon will flash
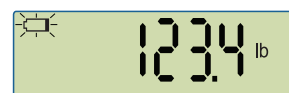
Indicator's batteries are low
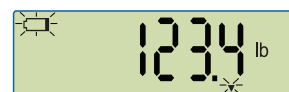
Indicator's batteries and Fork 1 battery pack are low
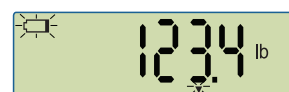
Indicator's batteries and Fork 2 battery pack are low
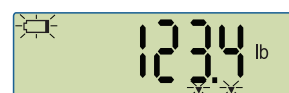
Indicator's batteries and Fork 1 and 2 battery packs are low

When any low battery icon blinks, replace or recharge batteries.

3 Install cover and tighten thumbscrews
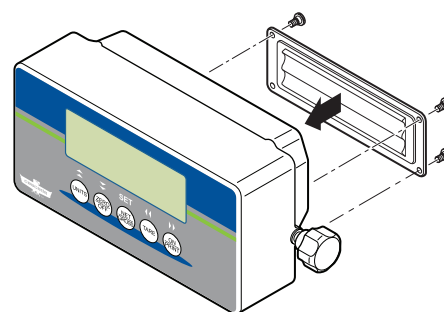
FK0650.eps

PRINTER EQUIPPED

Print Weight (Normal Weighing Mode)

1 If required, zero the indicator.

2 Position load on forks and raise forks.

3 Weigh the load.
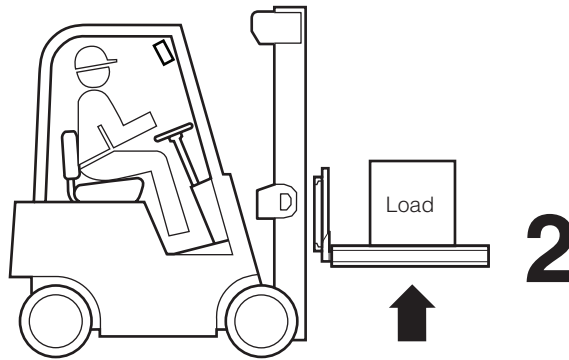
4 Press the "ON/PRINT" button to print.

5 Printer will print out load weight.

FK0558.eps

ID. No.	123456
GROSS	255.0 lb.
TARE	50 lb.
NET	205.0 lb.
DATE	09/15/2018

- TARE and NET fields will not print unless established.
- ID number and/or date will not print, it's disabled. To enable, refer to Service Manual, part no. 6910417.

IMPORTANT: Only trained and authorized personnel are allowed to service forks Other maintenance procedures are the sole responsibility of the purchaser.

IMPORTANT: To prevent weighing inaccuracies, the end user is responsible to check accuracy on a regular basis at intervals that best fit their application and requirements. Development of a periodic schedule will prevent faulty readings. Cascade recommends a **minimum** interval of every 12 months or 2000 hours, whichever comes first.

Daily Inspection

Prior to each shift of truck operation, complete the following procedures:

- Inspect the bottom of the forks for debris wedged between the fork and the fork shoe. Remove any debris found.

- Check for pinched wires at bottom of battery holders.

- When the battery packs are changed, inspect the battery holders for damage and debris. Remove any debris found. Verify that the capscrews are tight and contact tabs are not damaged or bent. If required, tighten contact point capscrews.

1000-Hour Maintenance

Every time the lift truck is serviced or every 1000 hours of truck operation, whichever comes first, complete the following maintenance procedures:

- Tighten fork shoe nut to a torque of 82 ft.-lbs. (111 Nm). If necessary, replace the cover spool, fork shoe capscrews and nuts.

Battery Holders – Check capscrews, contact tabs and contact point capscrews

Fork Shoe Capscrews

FK0640.eps
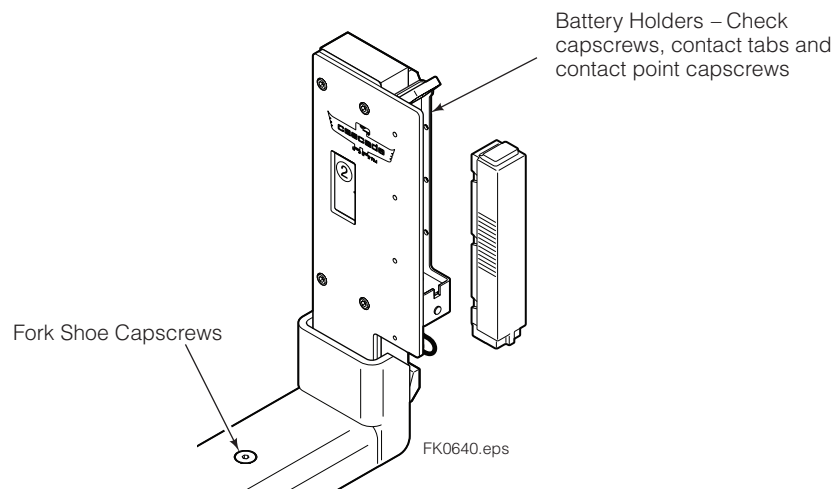
Cleaning forks

As required, use a mild cleanser and wipe down the forks with a towel. Rinse the fork with a non-pressurized stream of water.

2000-Hour Maintenance

After 2000 hours of truck operation, forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Severe applications will require more frequent inspection.

Inspect fork hooks and carriage bar clearance

NOTE: Use Go/No-Go Wear Gauge Part No. 209560 (Class II) or 209561 (Class III).

A   Inspect the fork lower hooks and carriage bar. If the gauge fits between the carriage bar and lower hook, repair or replacement is needed.

B   Inspect the upper carriage bar. If the gauge arrow touches the carriage bar, repair or replacement is needed.
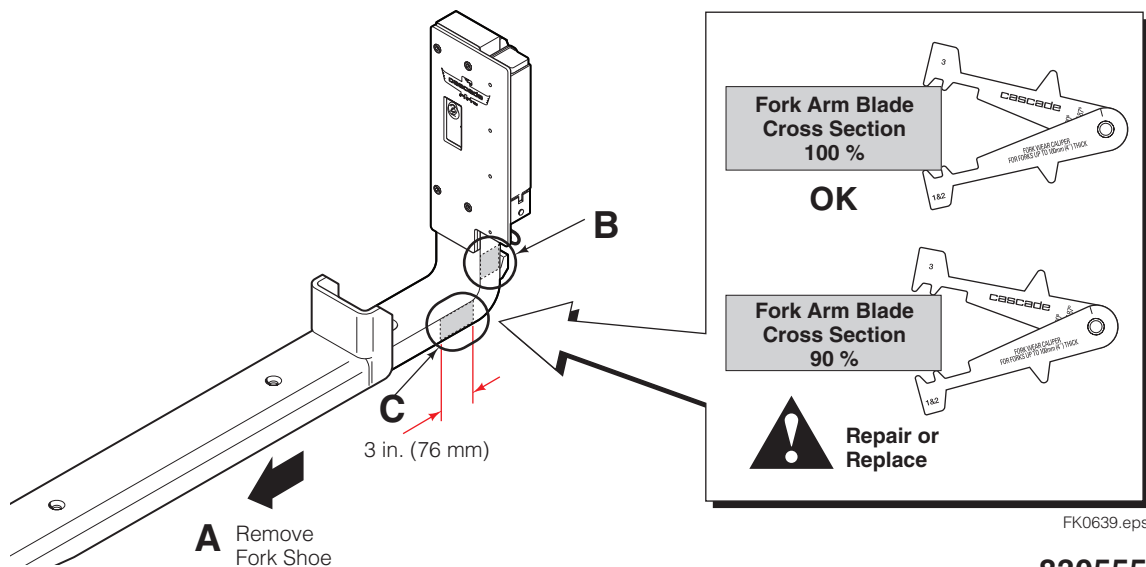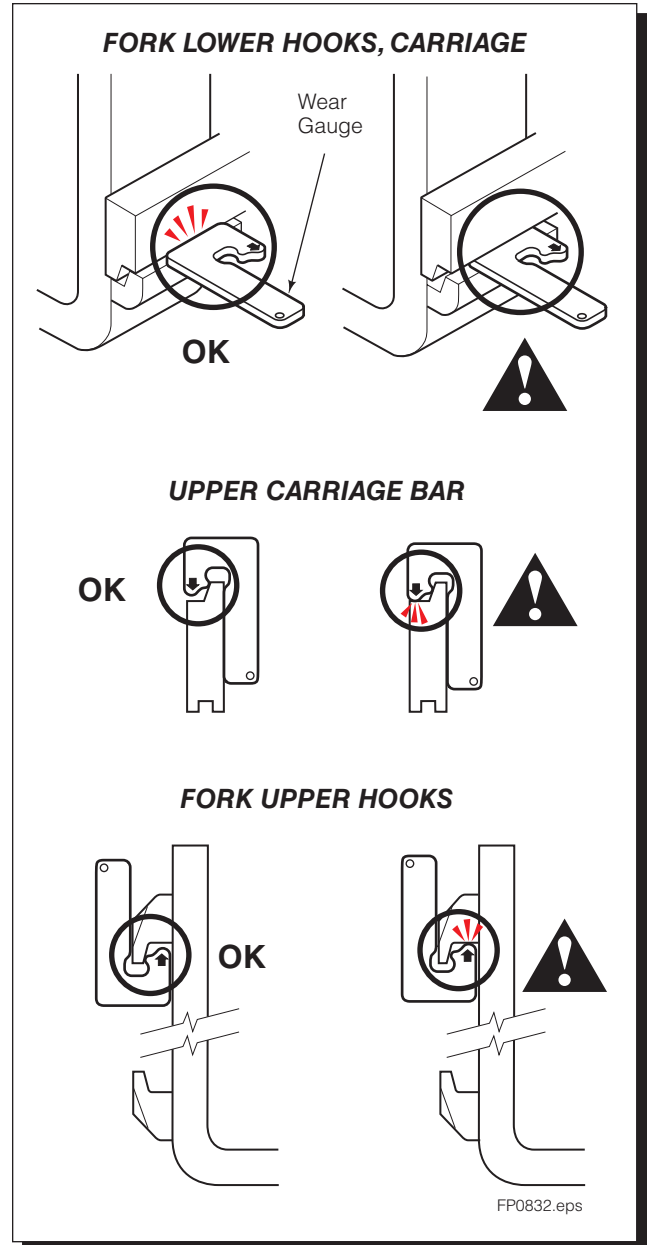
C   Inspect the fork upper hooks. If the gauge arrow touches the hook, repair or replacement is needed.

Inspect forks

NOTE: Use fork calipers on forks up to and including 4 in. (100 mm) thick. Fork calipers indicate a 10% wear factor if the calipers can pass over the blade cross-section.

A   Remove fork shoe hardware from forks. For reassembly, tighten fork shoe nut to a torque of 82 ft.-lbs. (111 Nm).

B   Measure the fork shank thickness with the caliper outer teeth approximately 2 in. (50 mm) above top of blade. Hold this setting for step C.

C   Position the caliper inner teeth on the fork arm blade approximately 3 in. (76 mm) out from the face of the shank.

 • If the inside teeth of the caliper hit the fork, it has less than 10% wear and requires no replacement.

 • If the inside teeth of the caliper pass over the fork freely, the fork must be taken out of service. The fork has 10% wear and 20% reduction in capacity.

FORK LOWER HOOKS, CARRIAGE

Wear Gauge

OK

UPPER CARRIAGE BAR

OK

FORK UPPER HOOKS

OK

FP0832.eps

B

C

3 in. (76 mm)

A   Remove Fork Shoe

Fork Arm Blade Cross Section 100 %

OK

Fork Arm Blade Cross Section 90 %

Repair or Replace

FK0639.eps

8305557-R2

Advanced Weighing Options

Advanced weighing options are special application features. To view, enable, change or disable an advanced weighing options (Parameter "F 30") perform the following procedure:

1 With the indicator powered off, press and hold the "ON/PRINT" button for approximately 20 seconds.
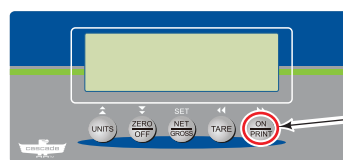
1

20 Seconds

2 The indicator will show "-F-". Press the "ZERO/OFF" button.

2
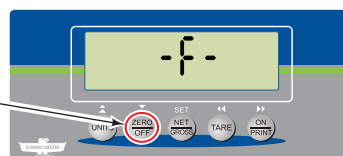
3 The indicator will show "F 1". Repeatedly press the "ON/PRINT" button until "F 30" shows.
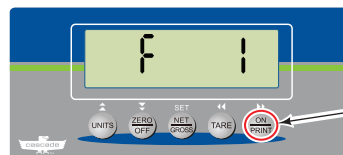
3

4 Press the "ZERO/OFF" button.

5 Press the "ON/PRINT" button to view each available parameter setting. The "TARE" button will show the previous parameter setting. The following options are available:

    0 – None (Default)
    1 – Totalling (Accumulation)
    3 – Sampling Weight (Piece Count)
    5 – Hold
    6 – Set Point

6 To select displayed parameter setting, press the "NET/GROSS" button.

4

6
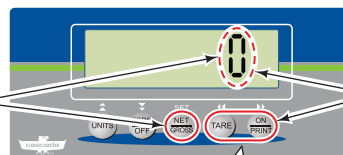
5

Press the "NET/GROSS" button to select displayed parameter setting.

Each Parameter Setting will show on the indicator.

Show the Previous Parameter Setting	◁◁ TARE	▷▷ ON PRINT	Show the Next Parameter Setting

FK0609.eps

7 The indicator will show "F 30". Press the "UNITS" button **twice**.

8 The indicator will show "Set", "off" and then power off. The indicator is now ready to perform in normal mode or advanced weighing mode.

IMPORTANT: If the indicator does not show "Set", the changed parameter setting was not saved. Repeat this procedure.

7

Press **twice** (2x)

8

F 30 → SEt → oFF

FK0610.eps

APPENDIX
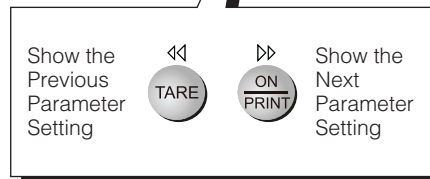
Programming Preset Tare Values

To add (or update or view) preset tares (Parameter "F 36"), perform the following procedure:

**1** With the indicator powered off, press and hold the "ON/PRINT" button for approximately 20 seconds.

20 Seconds

2 The indicator will show "-F-". Press the "ZERO/OFF" button.

3 The indicator will show "F 1". Repeatedly press the "ON/PRINT" button until "F 36" shows.
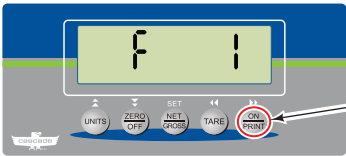
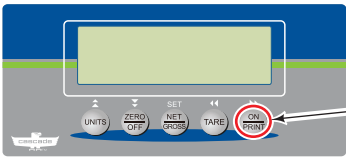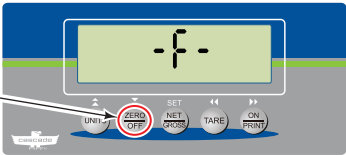**4** To enter parameter "F 36", press the "ZERO/OFF" button.
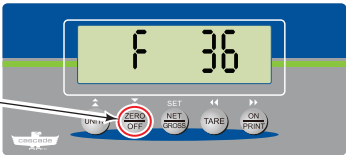
5 Use the "ON/PRINT" (next) and "TARE" (previous) buttons to view each preset tare (default values are "-1" lb). An arrow at the bottom of the screen and its position, shows which preset tare value is shown. Press the "ZERO/OFF" button to add (or update) a preset tare value. If only viewing tare values, continue to Step 9.

Record PT values:

PT1	
PT2	
PT3	
PT4	
PT5	
PT6	
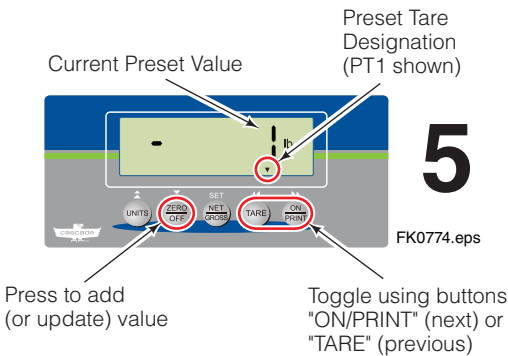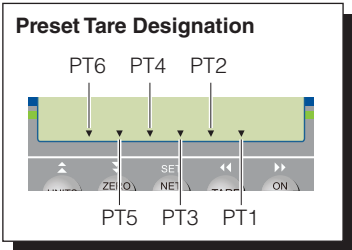
NOTE: This table is also available on page 16 and in the Service Manual, part no. 6910417.

Preset Tare Designation

PT6   PT4   PT2

PT5   PT3   PT1

Preset Tare Designation (PT1 shown)

Current Preset Value

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Press to add (or update) value

Toggle using buttons "ON/PRINT" (next) or "TARE" (previous)

Programming Preset Tare Values (continued)

6 The right most digit will blink. Refer to "Configuration Mode Button Functions" for adding (or updating) the value.

NOTE: The weight's units must match the units of the indicator. Refer to Service Manual, part no. 6910417, for Parameter F8 units.

7 After the value is added (or updated), press the "NET/ GROSS" button to accept.

Configuration Mode Button Functions

UNITS	ZERO/OFF	NET GROSS	TARE	ON PRINT
Increase Value	Decrease Value	Accept Value	Shift to the next digit, left	Shift to the next digit, right

Selected digit blinks

6,7
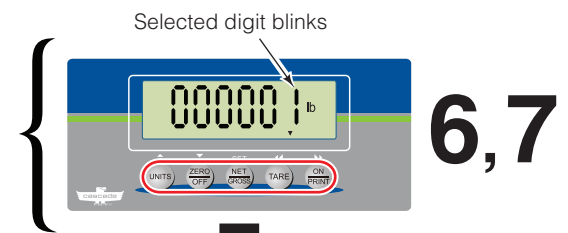
8 Continue to the next tare value, by repeating Steps 5 through 7.

8

Toggle using buttons "ON/PRINT" (next) or "TARE" (previous)

Repeat Steps 5-7 for each preset tare
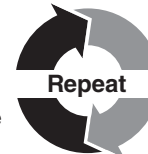
Repeat

Finished

9 When all values are added (or updated or viewed), press the "UNITS" button **three times**.

9 3X

10 The indicator will show "oFF" and then power off. The indicator is now ready to use.

10

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Programming Preset Average Piece Weight (APW) Values

To add (or update or view) preset APW values, (Parameter "F 37") perform the following procedure:

1 With the indicator powered off, press and hold the "ON/PRINT" button for approximately 20 seconds.


20 Seconds

**2** The indicator will show "-F-". Press the "ZERO/OFF" button.

3 The indicator will show "F 1". Repeatedly press the "ON/PRINT" button until "F 37" shows.

4 To enter parameter "F 37", press the "ZERO/OFF" button.

5 Use the "ON/PRINT" (next) and "TARE" (previous) buttons to view each preset APW (49.672 lb. is the default value). An arrow at the bottom of the screen and its position, shows which preset APW value is shown. Press the "ZERO/OFF" button to add (or update) the value. If only viewing APW values, continue to Step 7.

Record APW values:

APW1	
APW2	
APW3	
APW4	
APW5	
APW6	

Preset APWs Designation

APW6   APW4   APW2

APW5   APW3   APW1

Current Preset Value

Preset APW Designation (APW1 shown)

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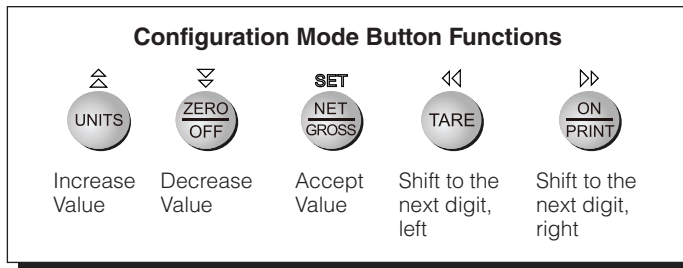Press to add (or update) value

Toggle using buttons "ON/PRINT" (next) or "TARE" (previous)
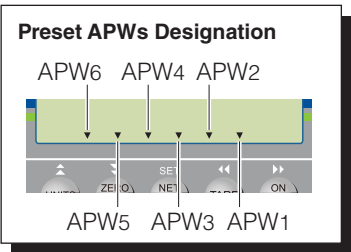
NOTE: This table is also available on page 23 and in the Service Manual, part no. 6910417.

Programming Preset Average Piece Weight (APW) Values (continued)
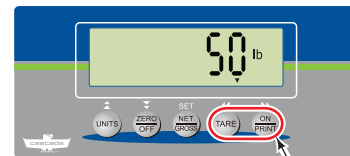
6 The screen will show "APW" momentarily and then show the value with the far right digit blinking. Refer to "Configuration Mode Button Functions" for adding a preset APW value.

NOTE: The weight's units must match the units of the indicator. Refer to Service Manual, part no. 6910417, for Parameter F8 units.

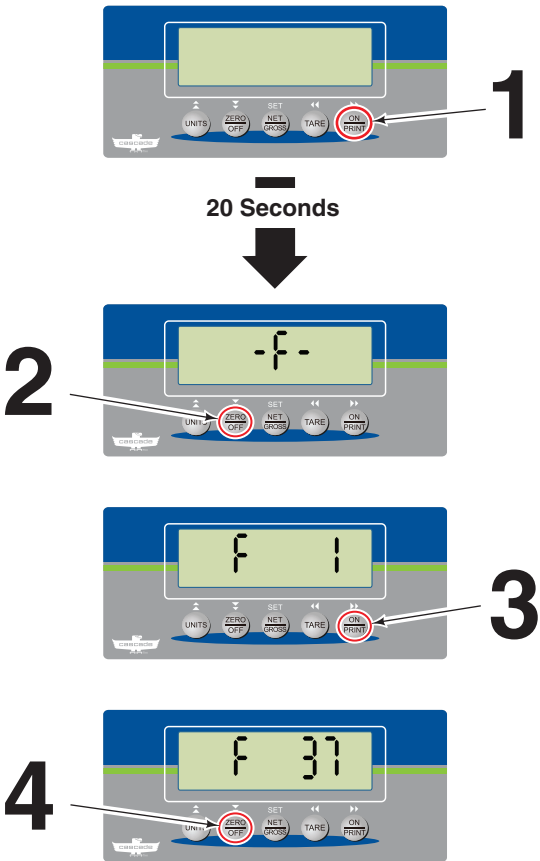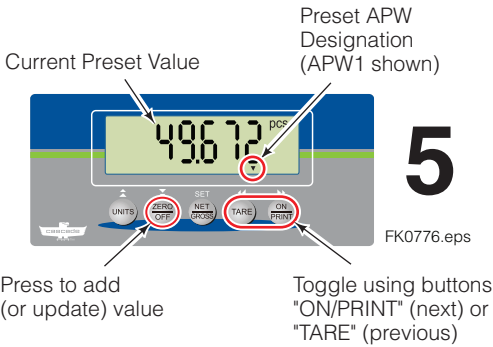**7** After a value is added (or updated), press the "NET/ GROSS" button to accept.

6,7

Selected digit blinks

Configuration Mode Button Functions

⌃ (UNITS)	⌄ (ZERO OFF)	SET (NET GROSS)	◁◁ (TARE)	▷▷ (ON PRINT)
Increase Value	Decrease Value	Accept Value	Shift to the next digit, left	Shift to the next digit, right

---

8 Continue to the next APW value, by repeating Steps 5 through 7.

8

Toggle using buttons "ON/PRINT" (next) or "TARE" (previous)

Repeat Steps 5-7 for each preset APW

Repeat

Finished

9 When all values are added (or updated or viewed), press the "UNITS" button **three times**.

9 3X

10 The indicator will show "oFF" and then power off. The indicator is now ready to use.
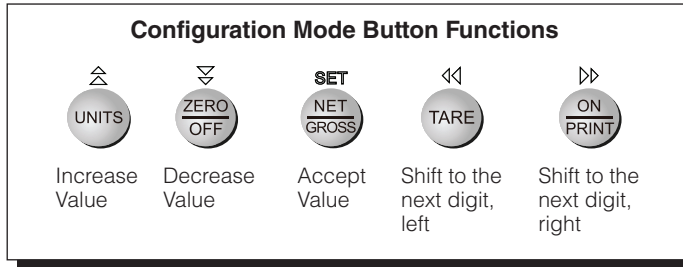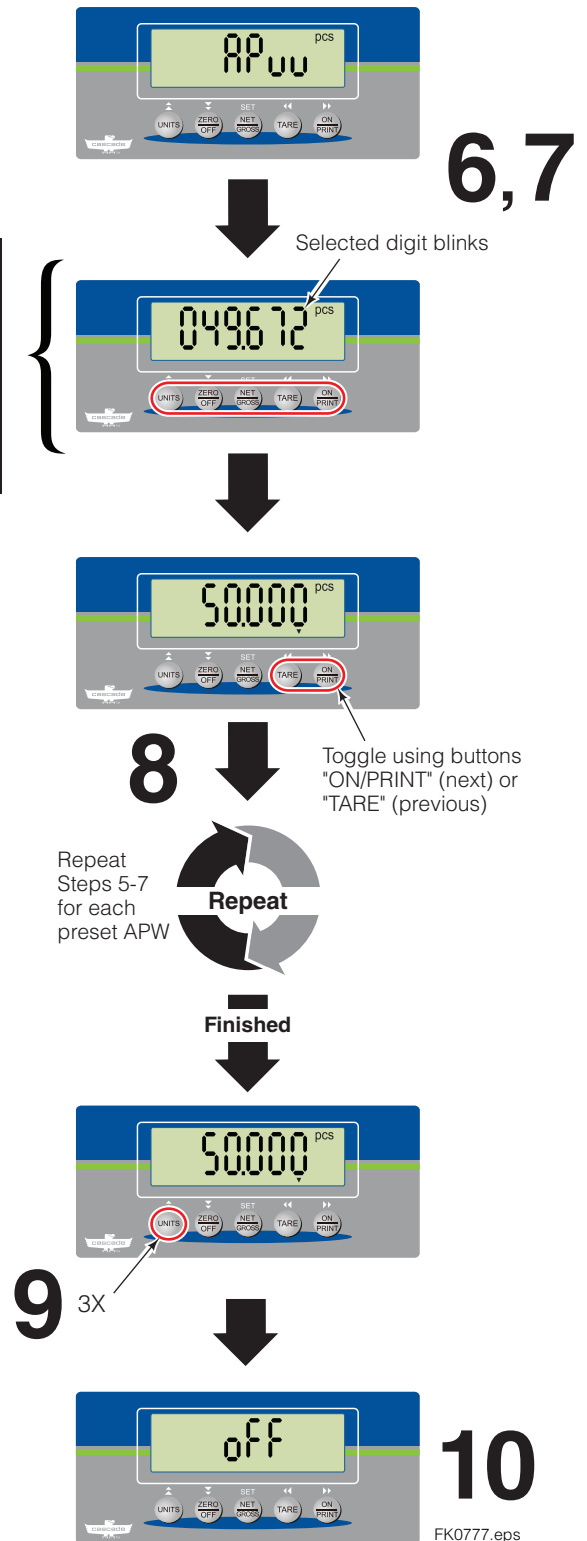
10

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