

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-R3

**cascade[®]
corporation**

Cascade is a Registered Trademark of Cascade Corporation

CONTENTS

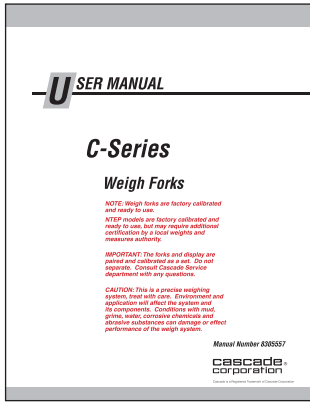
	Page
OVERVIEW	1
SPECIAL DEFINITIONS & TERMINOLOGY	
Special Definitions	2
Terminology	2
WARNINGS & SAFETY MEASURES	3
INSTALLATION	5
USING THE DISPLAY INDICATOR	
Display Indicator Screen Legend	9
Display Indicator Button Functions	10
Display Indicator Error Messages	11
USING THE SYSTEM	
Prior To Weighing	12
Handling Loads	13
To Weigh A Load (Normal Weighing Mode)	14
Obtaining Net/Tare/Gross Weight	15
AUTO SHUT-OFF & BACKLIGHT	
Powering Off Forks	19
ADVANCED WEIGHING OPERATIONS	
Totaling (Accumulation)	20
Piece Count (Sampling Method)	22
BATTERIES	
Fork LED Status Indication	26
Charging Fork Battery Packs	27
Indicator Batteries (if equipped)	28
PRINTER EQUIPPED	
Print Weight (Normal Weighing Mode)	29
PERIODIC MAINTENANCE	
Daily Inspection	30
1000-Hour Maintenance	30
2000-Hour Maintenance	31

OVERVIEW

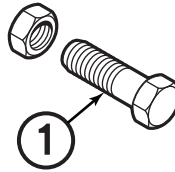
This manual describes the installation, operation and periodic maintenance of the weigh system. Read this manual prior to installation and operation. Be sure to know and understand all installation processes, operating procedures and safety operations. Perform installation and operation in the order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

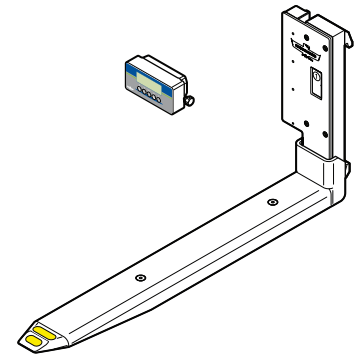
NOTE: For troubleshooting, refer to C-Series Weigh Forks Service Manual, part no. 6910417.



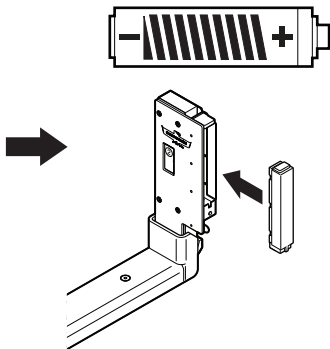
Read through this manual



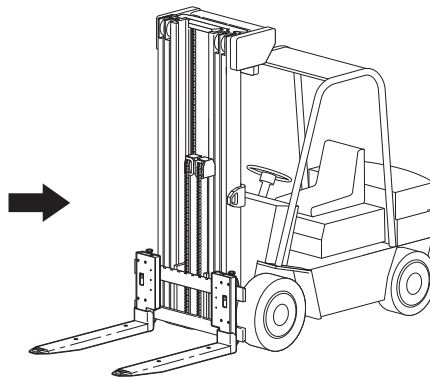
Review parts



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

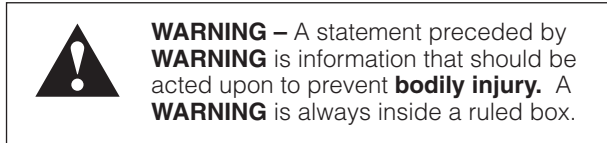


Perform Periodic Maintenance

SPECIAL DEFINITIONS & TERMINOLOGY

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.



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 or **Legal for Commerce** or **Trade Approved scales** are intended for commercial applications where product is sold by weight and meets legal requirements in the region of sale for design, accuracy, manufacturing quality and labeling. They are certified and secured by local metrology agencies or an approved qualifier. Examples include NTEP, OIML, MC, etc.

"Scale Resolution" is the tolerance range that the weigh system is calibrated. On the display indicator, it is smallest increment that can be shown of the load being weighed.

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 Forks 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



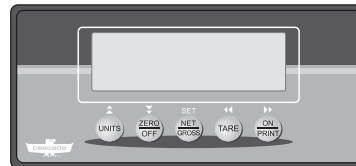
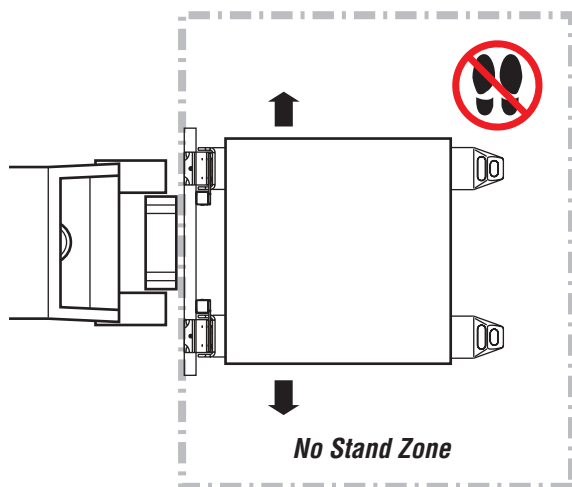
No reaching through mast



No standing under load



FK0540.ai



Display indicator rated to IP 65.

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



WARNING: Display Indicator use – Not designed for use while driving the truck. Operators must, at all times, be aware of risk to pedestrians, bystanders and themselves. It is the operator's responsibility to avoid distracted or impeded operation of the equipment while using any display indicator or indicator. Failure to do so may result in severe personal injury or death.

WARNINGS & SAFETY MEASURES



WARNING: Do not operate Weigh Forks unless trained and an authorized lift truck driver.

IMPORTANT: Tampering or removing weigh forks Legal for Trade Certified security wire or label will void certification.

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 Weigh Forks.

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

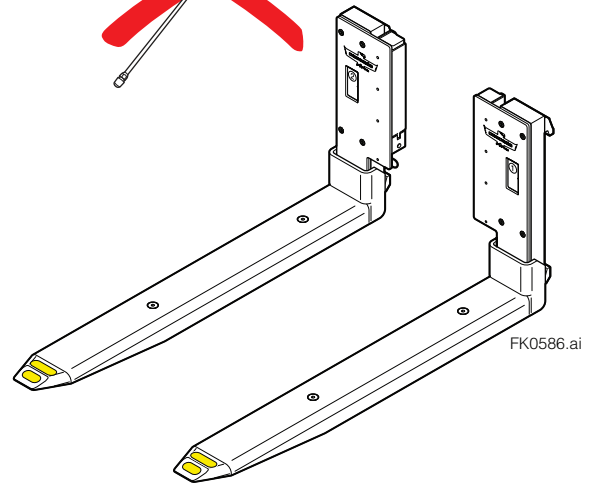
IMPORTANT: If indicator and/or forks batteries are low, weighing accuracy and communication to the indicator can be affected.

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.

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



No Pressure Wash/Steam



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

If equipped with display indicator heater:
-40° F (-40° C) minimum

INSTALLATION

CAUTION: To prevent electrostatic buildup and electrostatic damage to the weigh system, install 4 (four) electrostatic discharge straps to the truck. All weigh forks components must be grounded on the truck chassis or by a designated grounding point. Always verify and utilize recommended grounding location (or locations) by the truck OEM.

1 Install forks

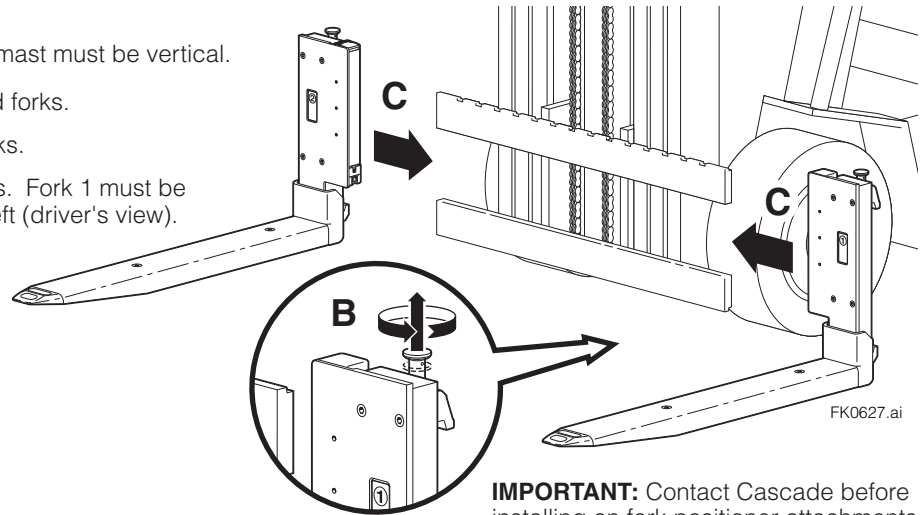
STANDARD FORKS

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).



ROTATOR FORKS (with third hook)

IMPORTANT: Truck mast must be vertical.



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.

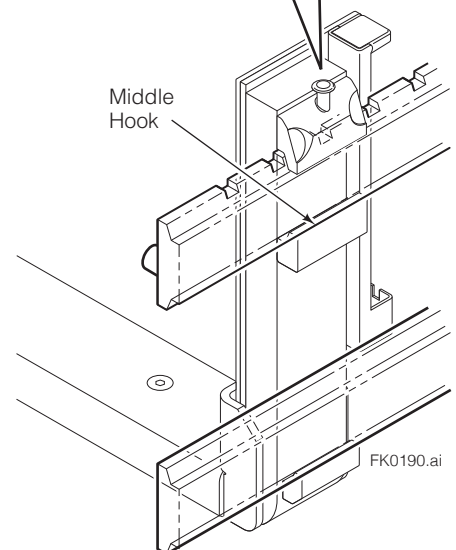
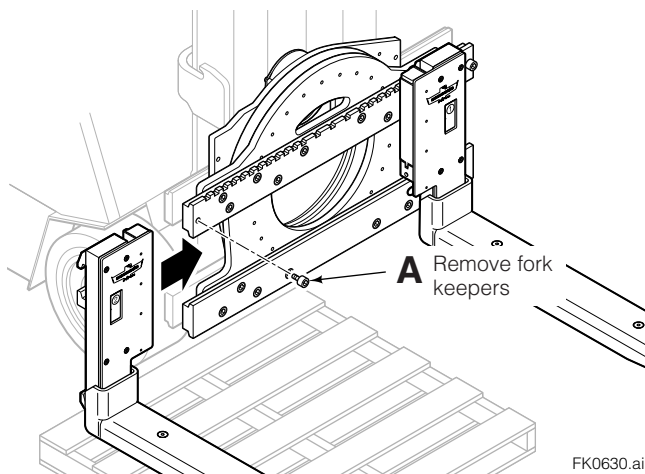
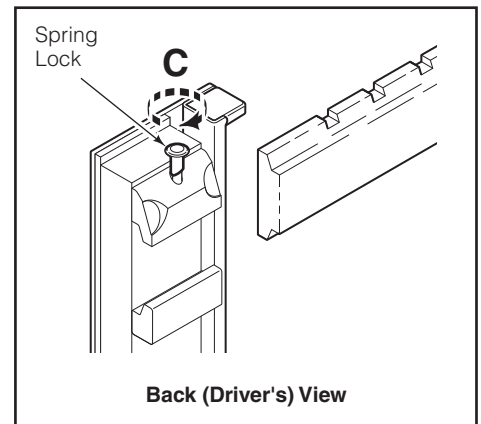
A Rotate the carriage to the horizontal position. Remove the fork keepers from the upper fork carriage bar.

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.

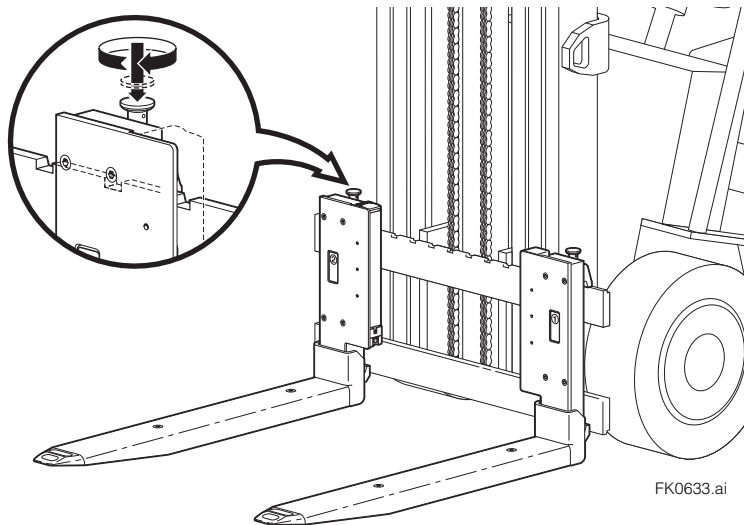
NOTE: Sand or grind the hook tip, when the fork middle hook fit is too tight.



2 Lock Forks

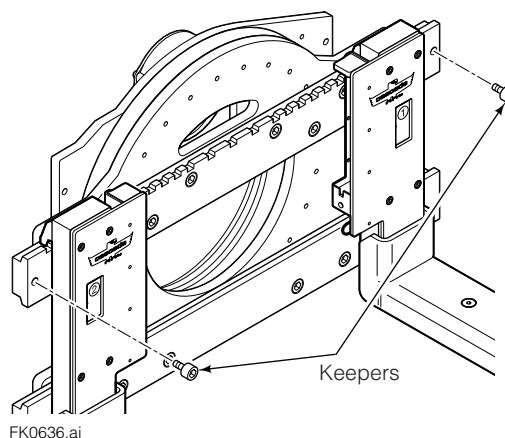
NOTE: For rotators, shake forks to verify the pin is fully engaged in the fork bar notch.

CAUTION: Pin must engage notch.



3 If equipped, reinstall fork bar keepers

Refer to the attachment's installation instructions for torque values.



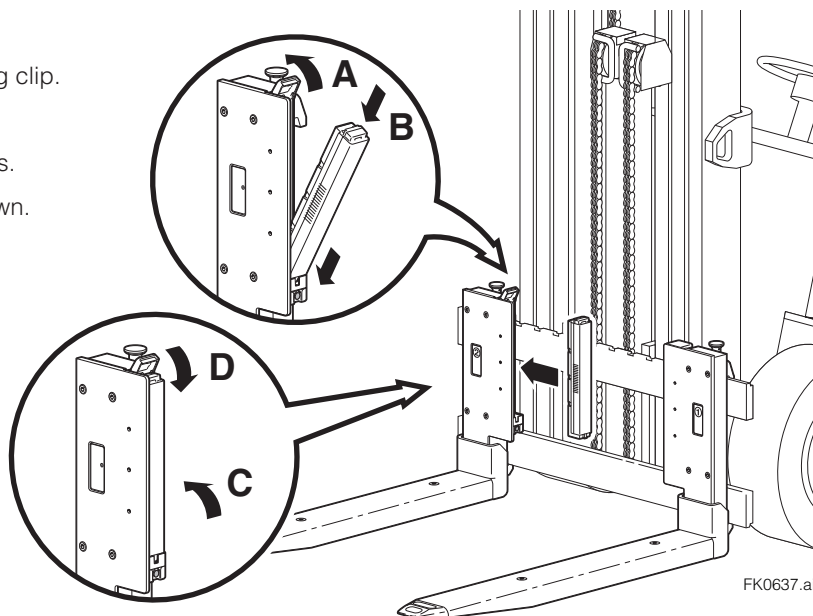
4 Install battery packs

A Lift up battery holder locking clip.

B Position battery pack.

C Click into the battery holders.

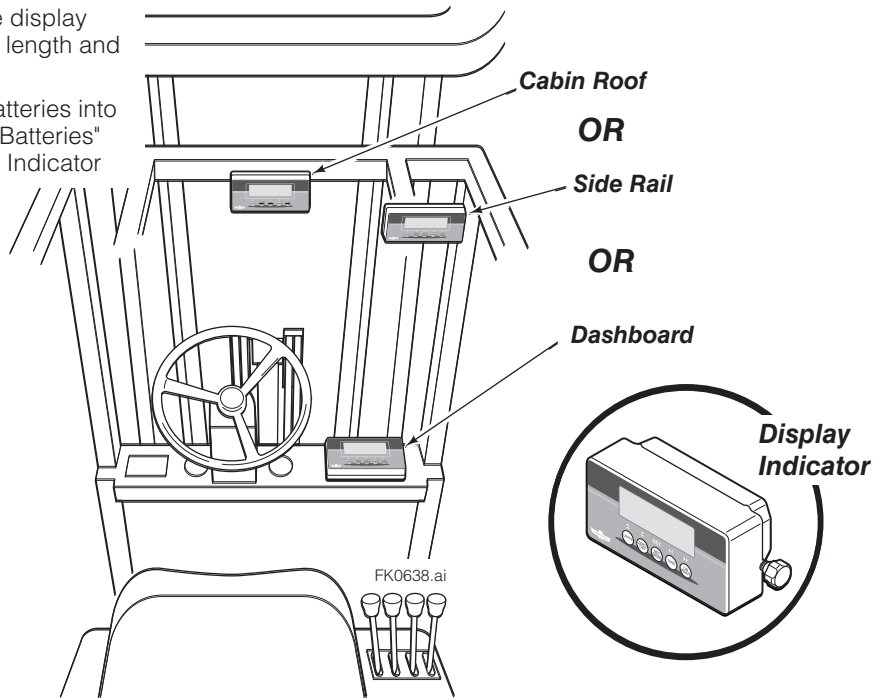
D Secure the locking clips down.



5 Locate and mount the display indicator

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

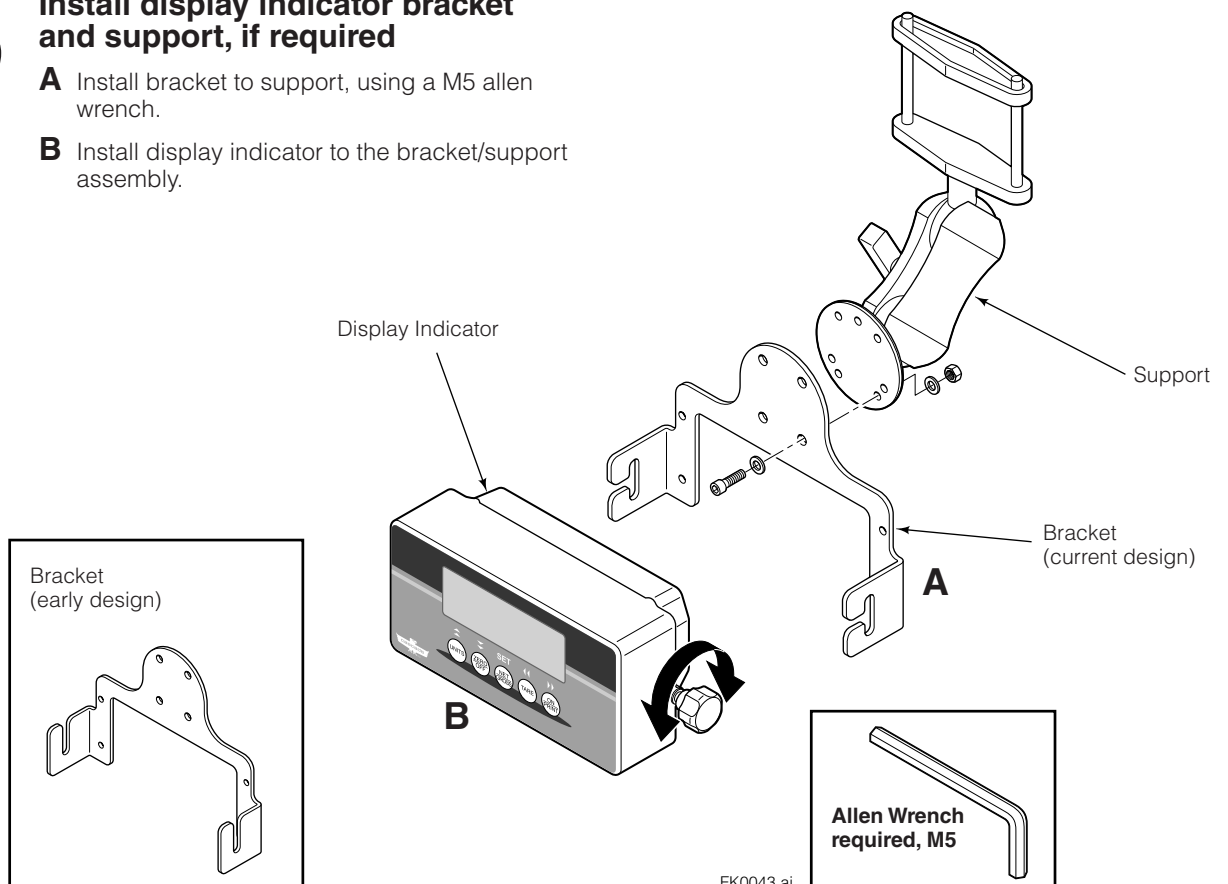
NOTE: If required, install batteries into display indicator. Refer to "Batteries" section, "Replacing Display Indicator Batteries", page 28.



6 Install display indicator bracket and support, if required

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

B Install display indicator to the bracket/support assembly.



INSTALLATION

7 If equipped with a truck power option, connect display indicator to truck power.

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

B Connect the grounding post to the truck chassis. chassis. Prepare the wire harness as follows:

Determine the length required for the wire harness, from the grounding post to the truck chassis. Cut the free end to length and crimp the loose eyelet in place. **IMPORTANT: Do not cut the end with the diode.** Connect the end eyelet end to the truck chassis. Connect the shrink-wrapped end (with diode) of the wire harness to the display indicator grounding post.

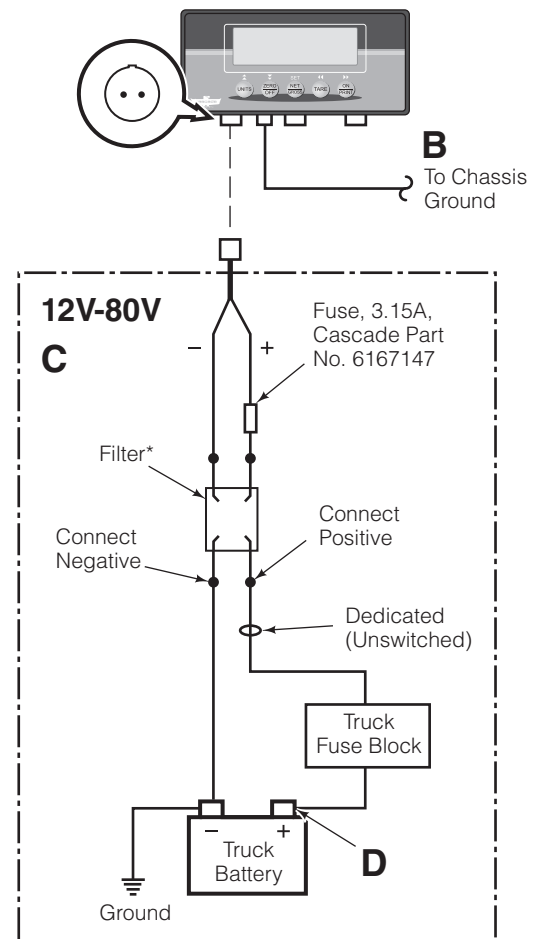
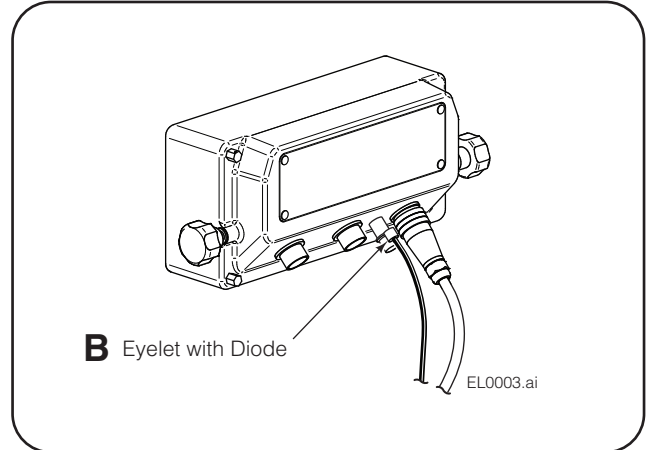
C Connect the power cable to the display indicator. Mount the filter to truck. Connect the fused positive wire from the filter to a 12V-80V unswitched power source.

Connect the ground wire. Check the cable routing for pinch points and clearance. Use wire ties as needed.

D Connect the battery cable (or cables) to their proper terminals.



WARNING: Failure to ground display indicator may result in permanent damage to the display indicator and will void warranty.

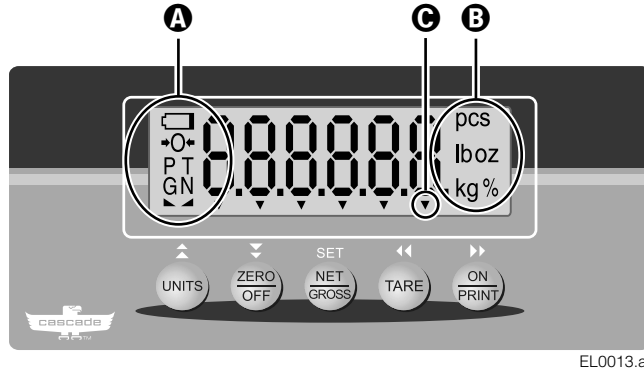


* Wire harness with filter, Part no. 8303268, replacement filter, Part no. 8306215

USING THE DISPLAY INDICATOR

Display Indicator Screen Legend

NOTE: Some of these screen icons are unavailable for Legal for Trade models. The features the icons represent are not allowed under the rules for certification.



EL0013.ai

A

- Low battery (display indicator and/or fork batteries)
- The scale is zeroed
- P** The display indicator is in PEAK HOLD mode
- T** The display indicator is showing tare weight
- G** The display indicator is showing gross weight
- N** The display indicator is showing net weight
- The scale is at rest and is stable to read weight

FK0986.ai

B

- pcs** Quantity shown 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

FK0987.ai

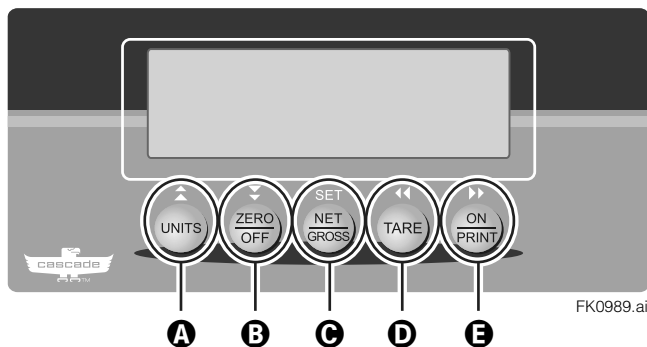
C

- Configuration Mode** – When calibrating, this arrow (any of the six shown) indicates the load cell position or fork

FK0988.ai

USING THE DISPLAY INDICATOR

Display Indicator Button Functions



Display Indicator Button



FK0990.ai

Weighing Mode Button Functions

UNITS

Toggle units

ZERO
OFF

ZERO – Manually zeroes the display indicator (conditions apply)
OFF – To turn off the display indicator, hold button for 5 seconds

NET
GROSS

Toggle between gross weight and net weight.

TARE

Establishes tare weight (conditions apply) and also cancels the current tare weight

ON
PRINT

ON – To power on the display indicator, hold button for 2 seconds.
NOTE: Some units are configured to automatically turn "ON".
PRINT – Print weight information (conditions apply)

Configuration Mode Button Functions

Returns to Parameters, Configuration menu or exits configuration mode

OR
Increase the value of the flashing digit

Enters Parameters or Parameter Settings
OR
Decrease the value of the flashing digit







SET Select value **OR** save value

Show next menu/parameter/setting
OR
Shift to the next digit on the left

Show previous menu/parameter/setting
OR
Shift to the next digit on the right

USING THE DISPLAY INDICATOR

Display Indicator Error Messages

Error Message	Meaning	To Exit Error Mode
	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.
	The weighing system's out-of-level conditions exceed 3° (5%), side to side or front to back	Put the unit in level position.
	Forks not detected.	Verify weigh system is powered ON and forks are in range of the display indicator. Restart display indicator. Restart forks and display indicator.
	Problem with Fork 1, no communication	Verify weigh system is powered ON and forks are in range of the display indicator. Restart display indicator. Restart forks and display indicator. Do not use truck until error has been resolved. Contact Cascade Service department.
	Problem with Fork 2, no communication	Verify weigh system is powered ON and forks are in range of the display indicator. Restart display indicator. Restart forks and display indicator. Do not use truck until error has been resolved. Contact Cascade Service department.

EL0044.ai

USING THE 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.

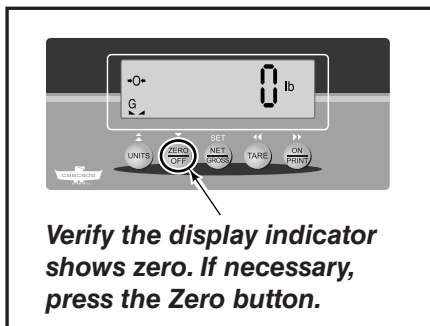
WARNING: Residual risk exists to pedestrians, bystanders and service technicians in the work area. Operate lift trucks and accessory equipment in a safe working area and in compliance with facility, local and national standards and rules.

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

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

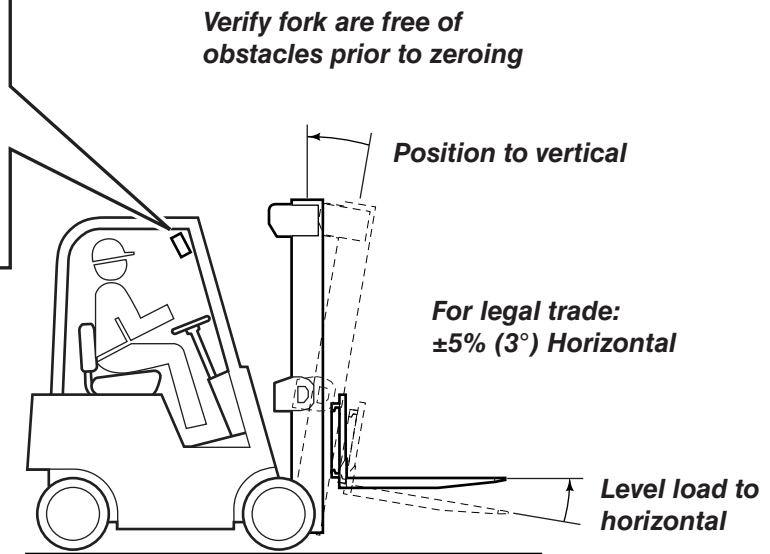
Legal for Trade models are factory calibrated and ready to use. Additional certification is required by a local weights and measures authority.

Prior To Weighing



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

If equipped with display indicator heater:
-40° F (-40° C) minimum

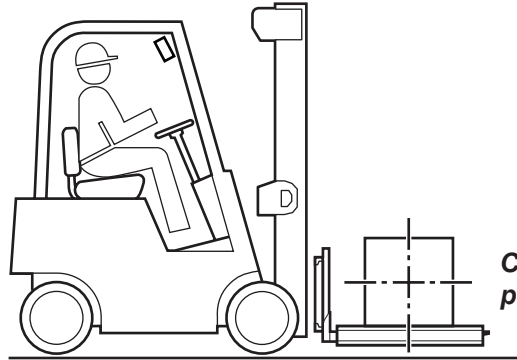


FK0550.ai

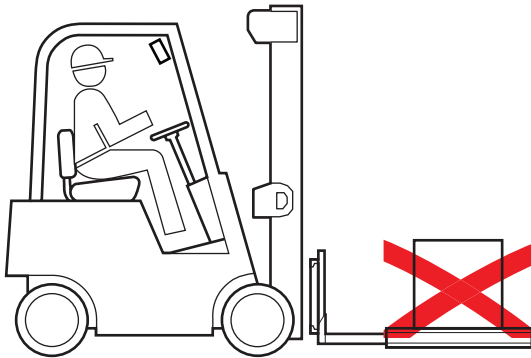
USING THE SYSTEM

Handling Loads

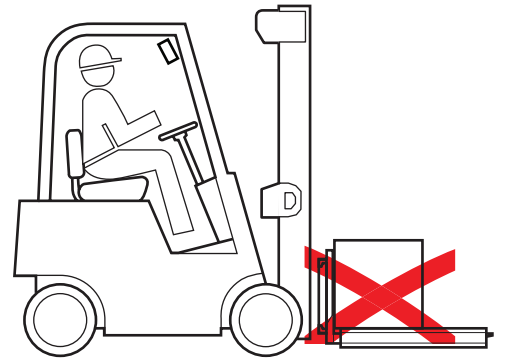
IMPORTANT: For handling loads with rotators, refer to the attachment's operator guide.



FK0044.eps



FK0045.eps



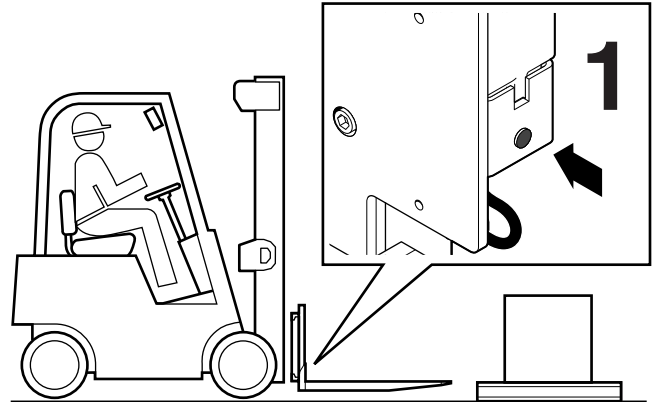
FK0046.eps

USING THE SYSTEM

To Weigh A Load (Normal Weighing Mode)

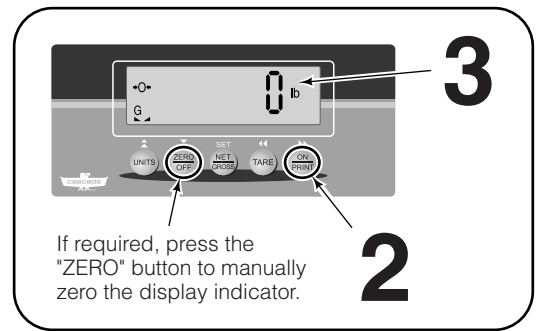
IMPORTANT:

- 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.



FK0646.ai

- 1 Turn on the forks by pressing the power button on each battery holder. The button is located at the base of the battery holder, as shown.
- 2 Press and hold the "ON/PRINT" button (about 5 seconds) on the display indicator until the screen illuminates.
- 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 display indicator will show the weight of the load. Wait for the stable icon (two triangles) to show for a steady weight reading.

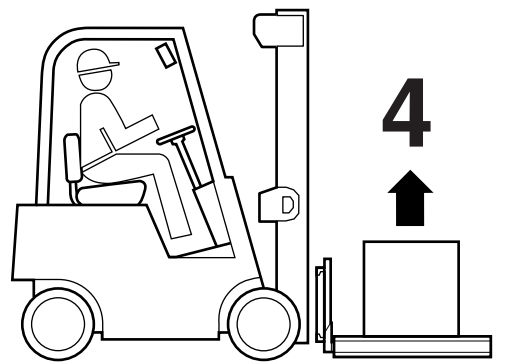


FK0551.ai

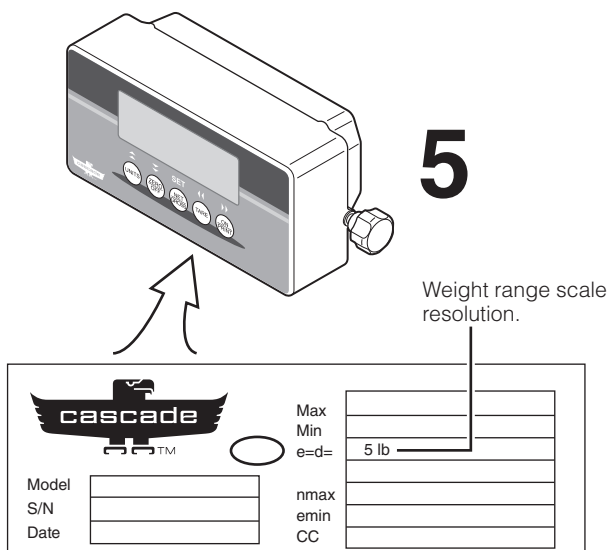
IMPORTANT: The display indicator's scale resolution may vary. Refer to the label (bottom surface), as shown.

NOTE: For systems with two values:

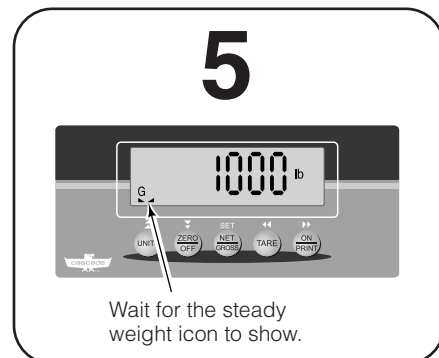
- The first value is the primary weight range (lower range) scale resolution.
 - The second value is the weight range (upper range) scale resolution.
- 6 Remove load. Before the next weighing, verify that the indicator is zeroed.



FK1166.ai

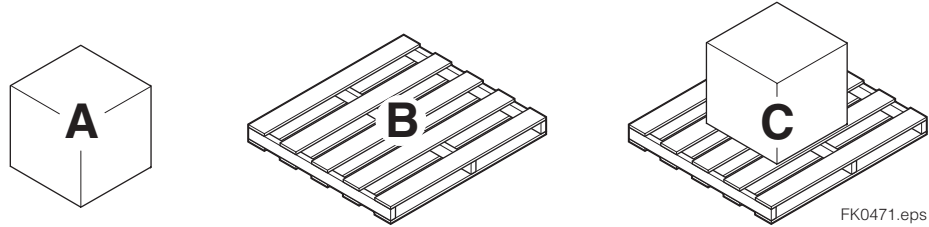


EL0047.ai



USING THE SYSTEM

Obtaining Net/Tare/Gross Weight



$$\text{Net (A) + Tare (B) = Gross (C)}$$

Net – The weight of the load being weighed.

Tare – The weight of an unladen load that is not included (pallet, bin, etc).

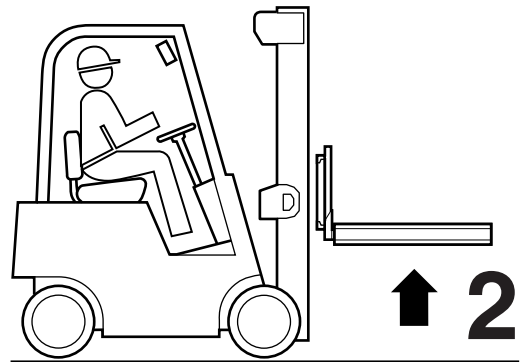
Gross – The combined weight of the load and unladen load.

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

NOTE: The display indicator must be in normal weighing mode prior to performing the following procedure.

Unknown Tare Weight Method

- 1 If required, zero the display 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 display indicator.

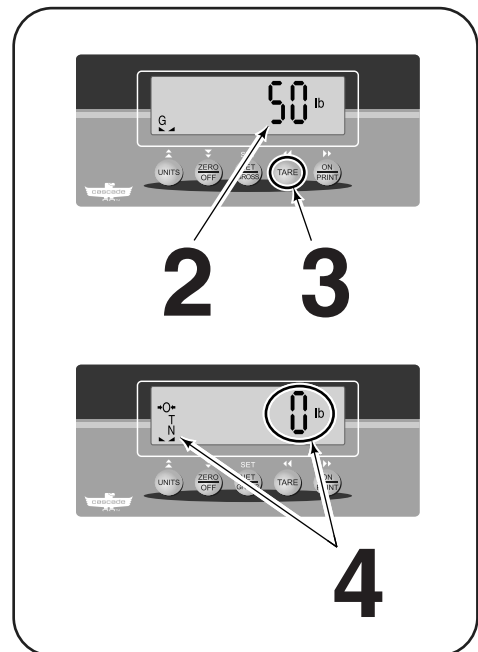


FK0553.ai

- 3 Press the "TARE" button.

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

- 4 The display 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.



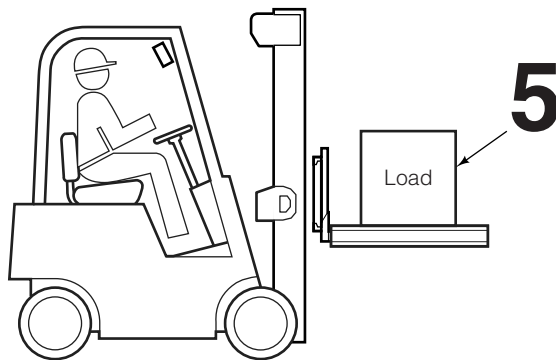
Procedure continued on next page

USING THE SYSTEM

Obtaining Net/Tare/Gross Weight (Continued)

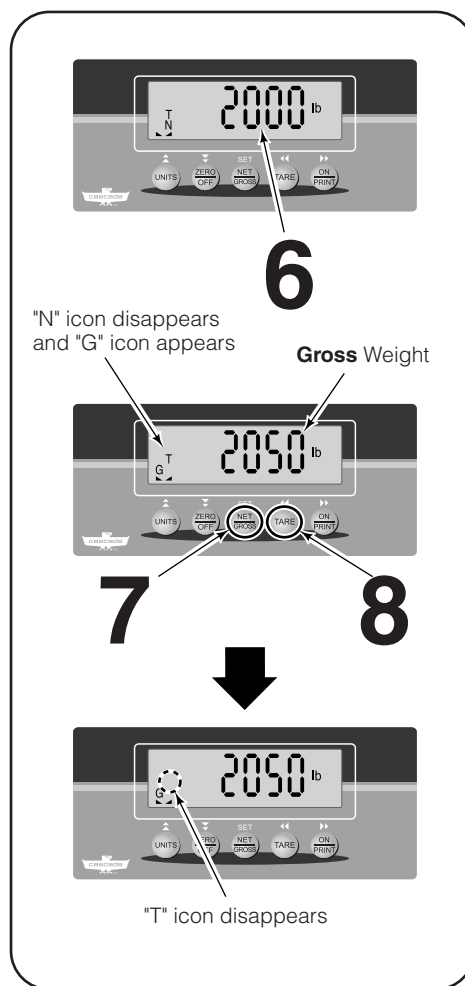
Unknown Tare Weight Method (Continued)

5 Add a load onto the forks.



FK0554.ai

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

"N" icon disappears and "G" icon appears

Gross Weight

7 8

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

"T" icon disappears

USING THE SYSTEM

Obtaining Net/Tare/Gross Weight (Continued)

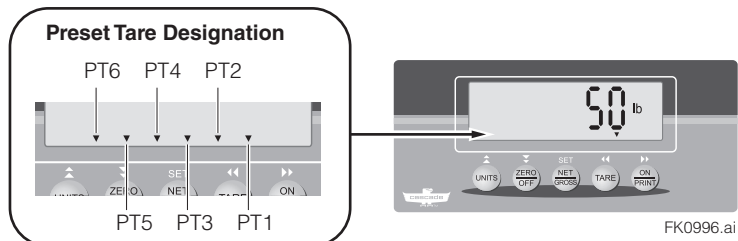
Pre-set Tare Weight Method

IMPORTANT: Tare presets must be preprogrammed to perform the following section.

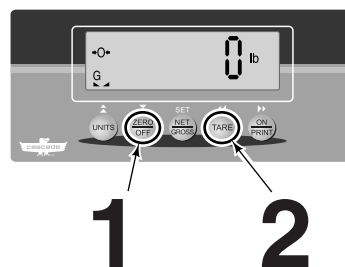
IMPORTANT: Pre-set Tare Weight Method is disabled in Legal for Trade models. This feature is not allowed under the rules for certification.

PT values:

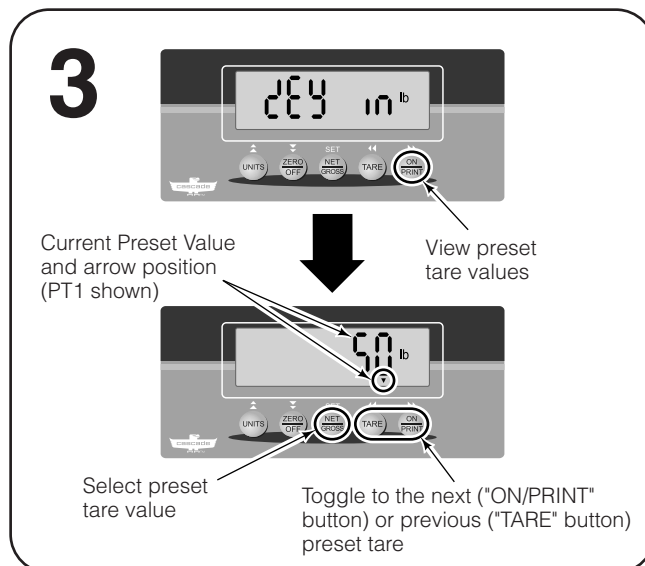
PT1	
PT2	
PT3	
PT4	
PT5	
PT6	



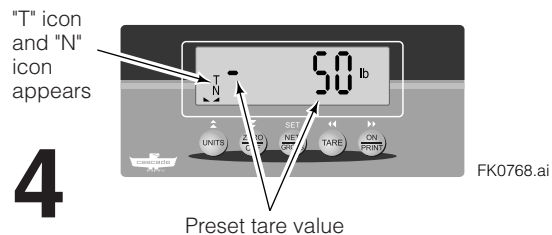
- 1 If required, zero the display indicator.
- 2 Press and hold the "TARE" button for 5 seconds.



- 3 The display 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.



- 4 The display 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.



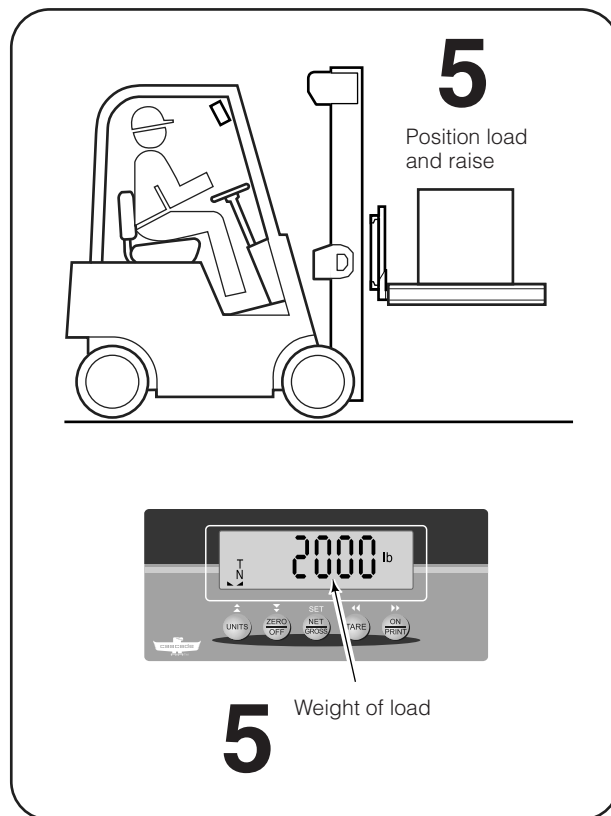
Procedure continued on next page

USING THE SYSTEM

Obtaining Net/Tare/Gross Weight (Continued)

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 display indicator.



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

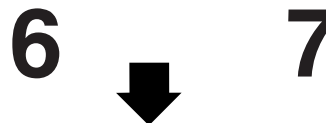
NOTE: If piece count is enabled, the "NET/GROSS" button is not available.

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

"N" icon disappears and "G" icon appears



Gross Weight



FK0769.ai

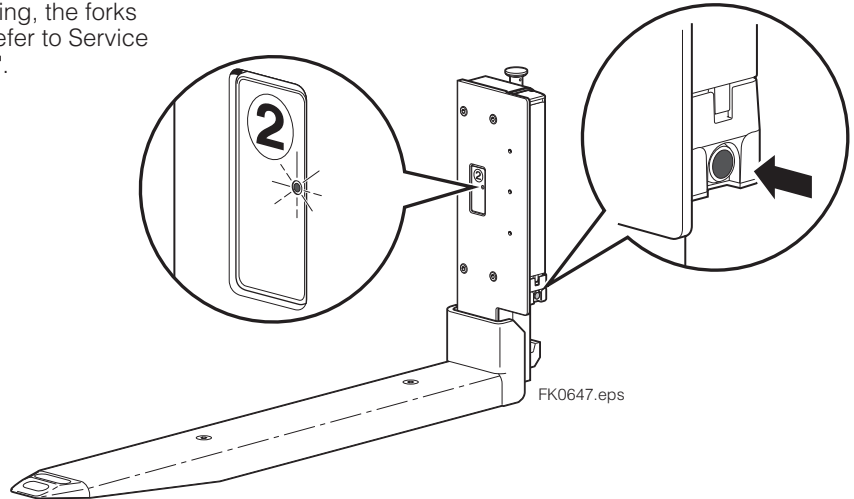
"T" icon disappears

USING THE SYSTEM

Powering Off Forks

Press and hold the power button (about 10 seconds) on each battery holder 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".



AUTO SHUT-OFF & BACKLIGHT

After 5 minutes (default) of no action:

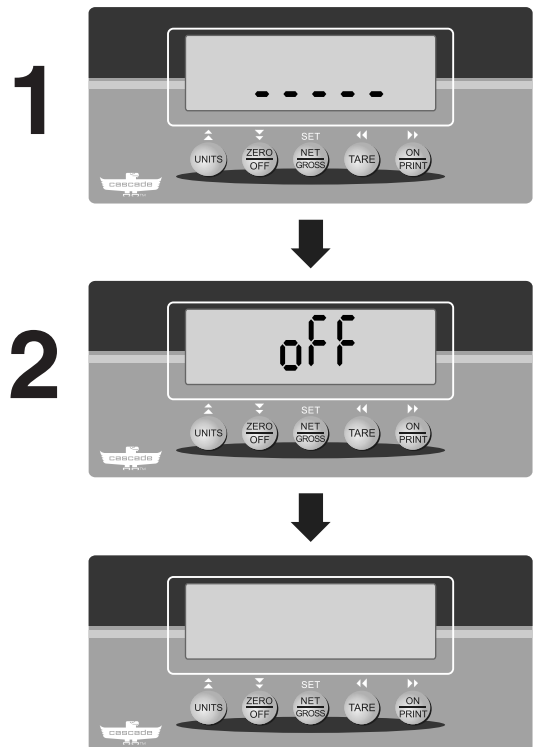
NOTE: Refer to Service Manual, part no. 6910417, to change the following settings:

- Auto Shut-off Default time – Parameter "A 10"
- Backlight time to remain on (default 1 minute) – Parameter "A 14"

Auto Shut-off:

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.ai

ADVANCED WEIGHING OPERATIONS

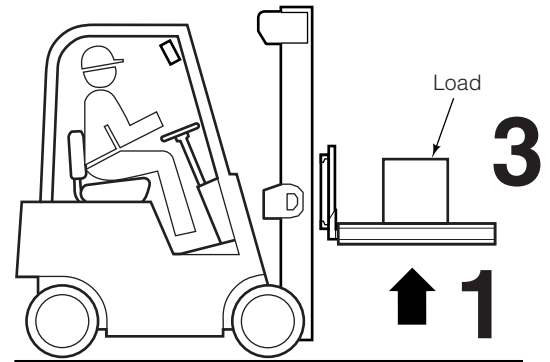
Totaling (Accumulation)

This mode adds and totals a group of weights.

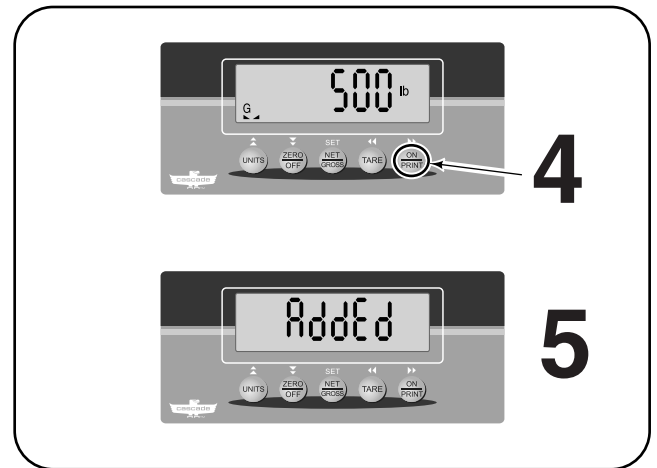
IMPORTANT: This advanced feature can only be enabled by qualified personnel. This feature is disabled for Legal for Trade models and is not allowed under the rules for certification.

- 1 If required, position a pallet or bin on forks. Raise forks (and pallet or bin).
- 2 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).
- 3 Place a load on the pallet. Wait for the display indicator to read the load weight.
- 4 Press the "ON/PRINT" button. This begins the adding sequence of totaling.
- 5 The display indicator will show "AddEd".

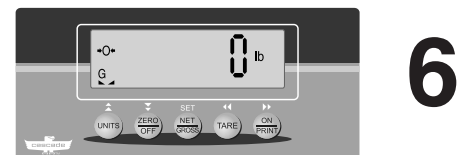
NOTE: If a printer is installed, the print out will show the **Gross**, **Net** and **Tare** weights.



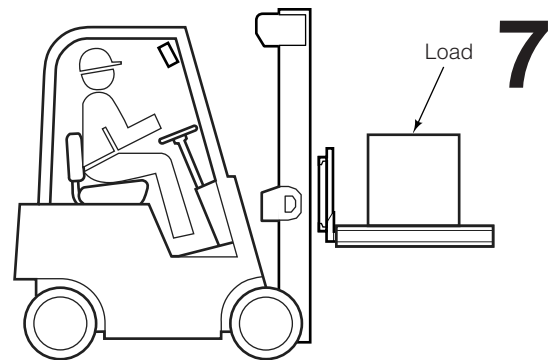
FK0563.ai



- 6 Remove the load. Wait for the display indicator to return to normal weighing mode and zero.



- 7 Place a new load on the pallet. Wait for the display indicator to read the load weight.



FK0611.ai

Procedure continued on next page

ADVANCED WEIGHING OPERATIONS

Totaling (Accumulation) (Continued)

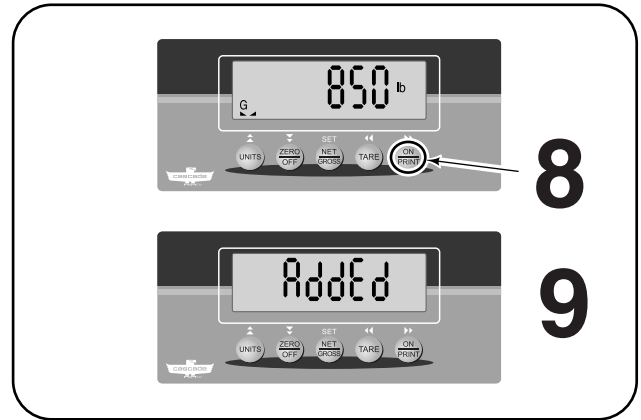
8 Press the "ON/PRINT" button to add load weight to the total.

9 The display indicator will show "AddEd".

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

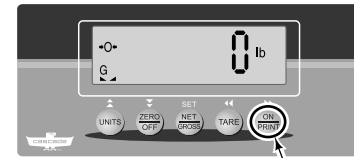
10 Repeat Steps 7-10 until all loads are weighed.

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.



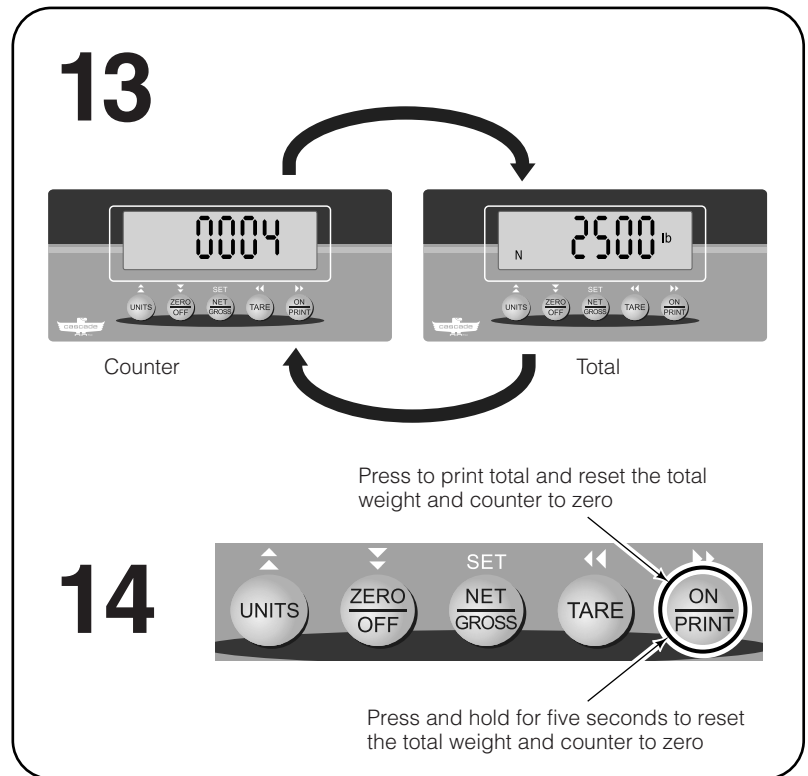
11 Remove the load.

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



12

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



14 While the display 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 reset the total weight to zero and the counter to zero. The total will not print.

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

FK1000.ai

ADVANCED WEIGHING OPERATIONS

Piece Count (Sampling Method)

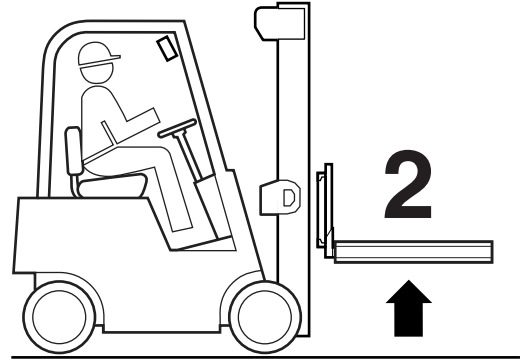
This mode uses the sampling method to determine the average piece weight (APW) of a load that requires counting. First, a sample is taken and then the load is measured.

IMPORTANT: This advanced feature can only be enabled by qualified personnel. This feature is disabled for Legal for Trade models and is not allowed under the rules for certification.

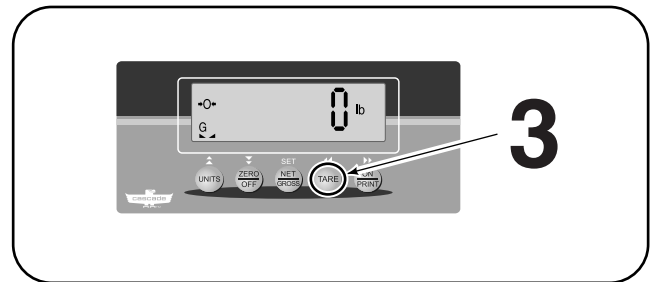
- 1 Determine the number of pieces to be sampled.

NOTE: The default setting is set to 5 pieces.

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

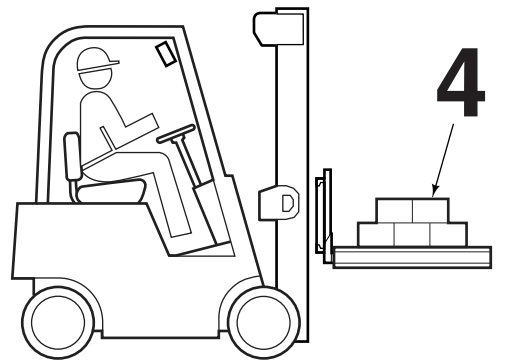


- 3 Press the "TARE" button.

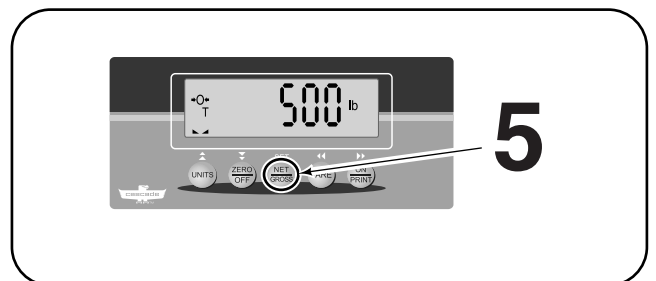


FK0791.ai

- 4 Add the sample pieces onto the pallet (or the bin).



- 5 Press "NET/GROSS" button.



FK0771.ai

Procedure continued on next page

ADVANCED WEIGHING OPERATIONS

Piece Count (Sampling Method) (Continued)






6 The screen will show "AddPCS". Press "NET/GROSS" button.

NOTE: If "AddPCS" does not show, press the "ON/PRINT" button until "AddPCS" shows.

7 The display 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 enter value, press "NET/GROSS" button.

Configuration Mode Button Functions

To change quantity:

				
Increase Value	Decrease Value	Accept Value	Shift to the next digit, left	Shift to the next digit, right



6

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

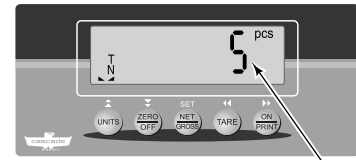


7

Press to accept default quantity

8 The display 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.

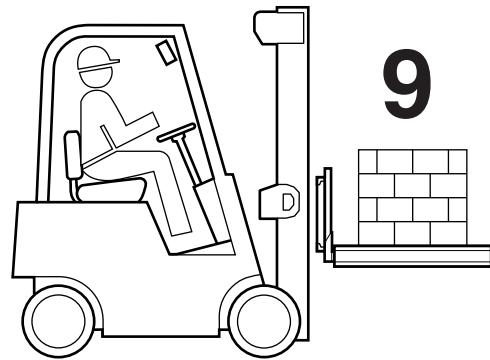


8

FK1003.ai

Quantity (default or entered)

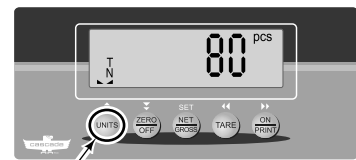
9 Remove the sample load and add a load to count on the pallet (or into bin).



9

FK1167.ai

10 The display indicator will show the quantity of the load.



10

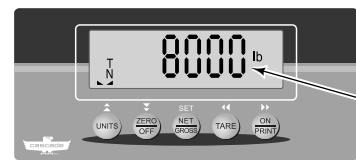
11

To exit Piece Count Mode



11 Continue to acquire quantities of loads with the same sample APW. To exit this mode, press the "UNITS" button.

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



Load's weight shows after exiting

FK1005.ai

ADVANCED WEIGHING OPERATIONS

Piece Count (Sampling Method) (Continued)

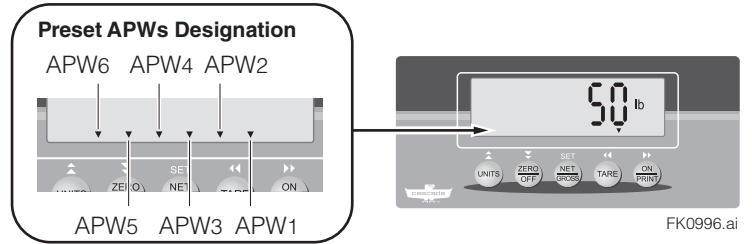
Piece Count With Known Weight (Pre-set APWs) Method

IMPORTANT: APW presets must be pre programmed to perform the following section.

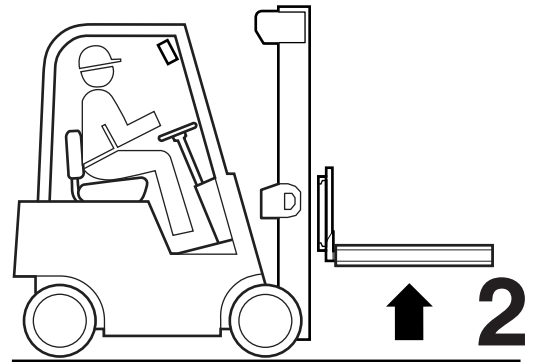
IMPORTANT: APW presets are disabled in Legal for Trade models. This feature is not allowed under the rules for certification.

Record APW values:

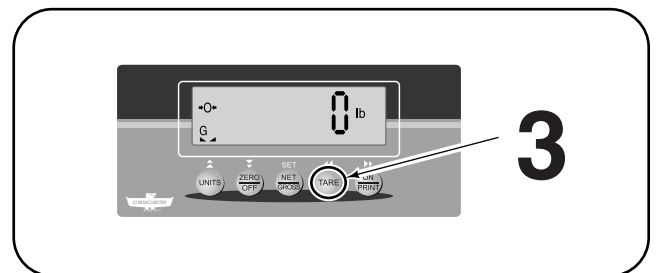
APW1	
APW2	
APW3	
APW4	
APW5	
APW6	



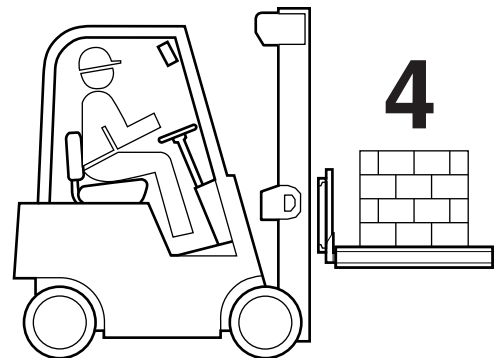
- 1 If required, zero the display indicator.
- 2 Position an empty pallet (or bin) on the forks. Raise the forks and pallet (or bin).



- 3 Press the "TARE" button.



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

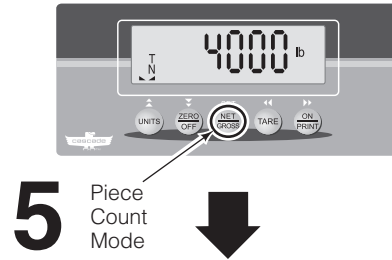


ADVANCED WEIGHING OPERATIONS

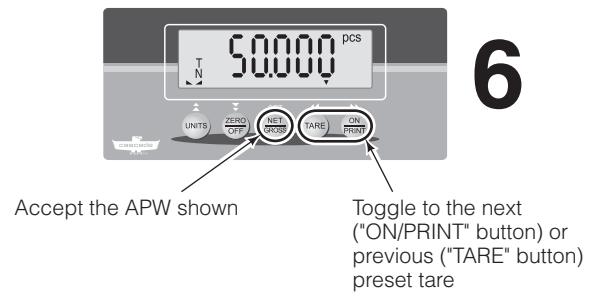
Piece Count (Sampling Method) (Continued)

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

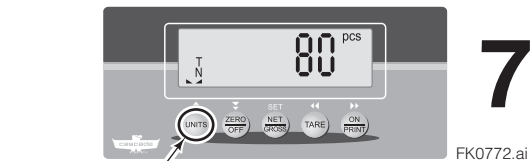
5 Press "NET/GROSS" button to enter Piece Count Mode.



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 display indicator will show "50.000" and "pcs". Press "NET/GROSS" to select the APW pre-set.



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



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

NOTE: The display 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.

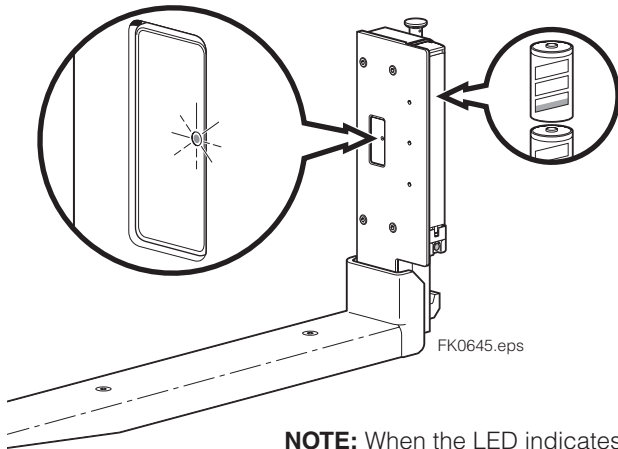
IMPORTANT: For three shift applications, change batteries every morning.

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

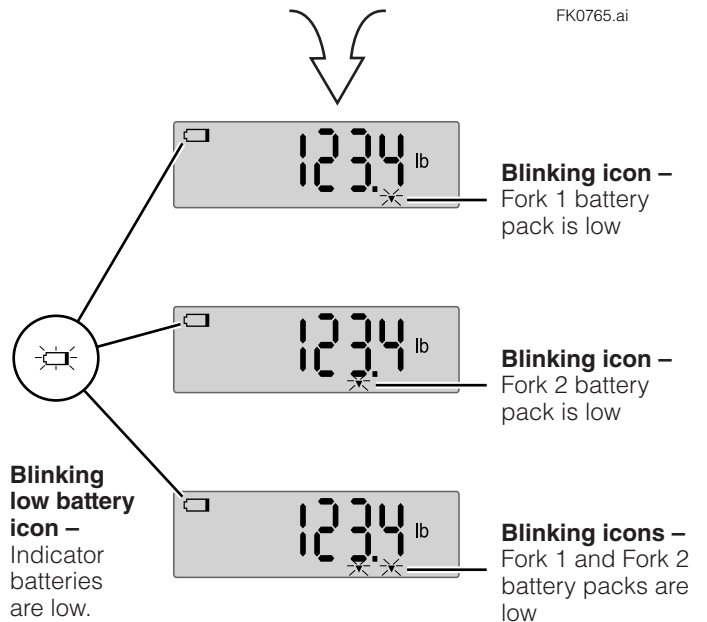
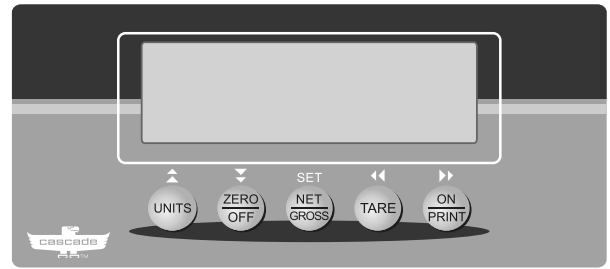
NOTE: Battery life will last up to 80 hours if the system is set at factory settings.

Fork Low Battery:

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



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".



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

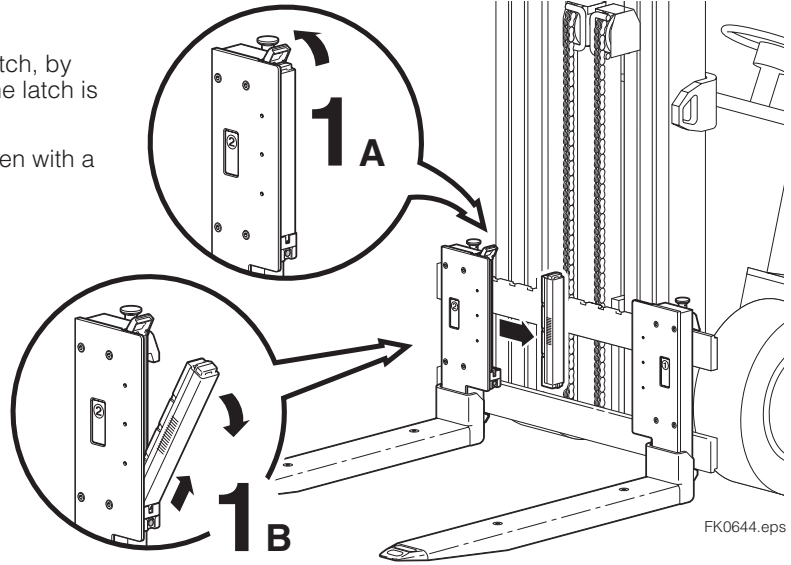
1 Remove batteries

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.

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.



FK0644.eps

2 Charge both battery packs

NOTE: Rechargeable batteries are lithium-ion with a charge capacity of 10 Ah.

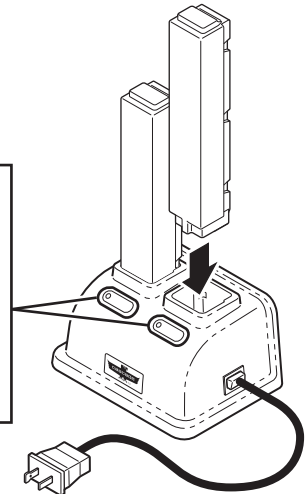
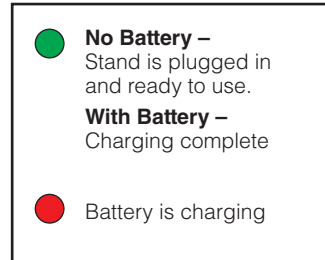
IMPORTANT: Battery packs are sealed. The warranty will be void if the seal is broken.

Cradle-style charging stand (current design)

A Plug the charger into 110V source. The LED for each charging seat should light up green.

B Set the battery pack into charging stand. The fit should be snug. If necessary, slightly move the battery back and forth and/or side to side until the LED turns red.

C When charging is complete, the red LED will turn to green.



EL0046.ai

Latching charging stand (earlier design)

A Lift up locking clips of charger module.

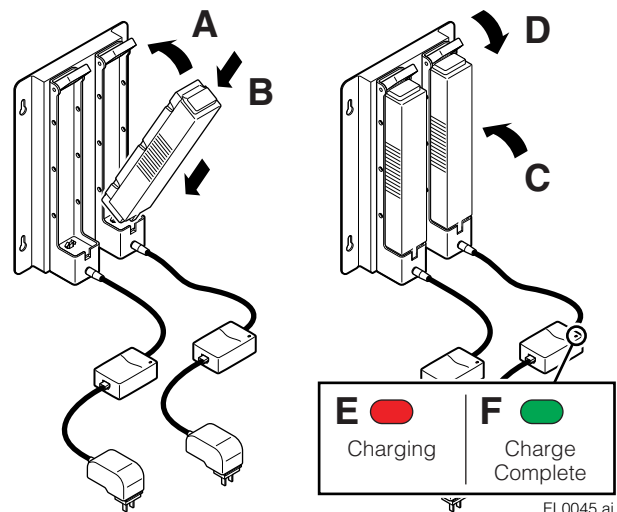
B Position each battery pack into charger.

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.



EL0045.ai

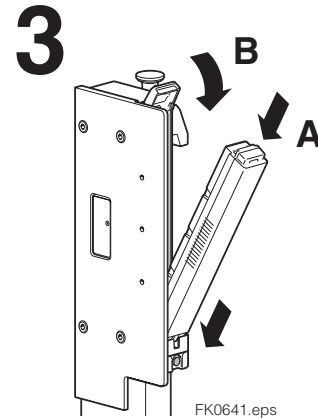
BATTERIES

Charging Fork Battery Packs (continued)

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.

- A** Insert battery packs.
- B** Lock batteries.



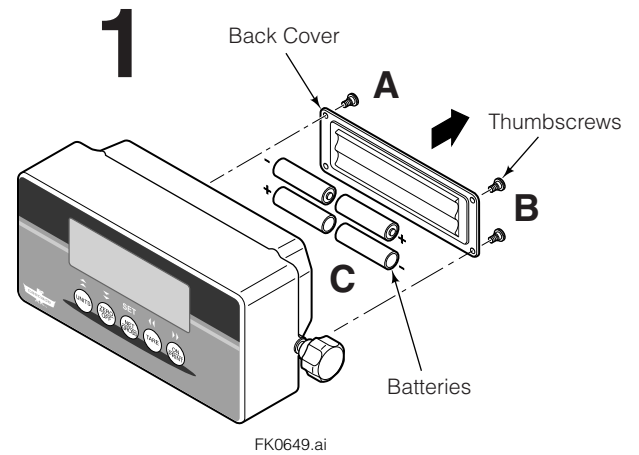
Indicator Batteries (if equipped)

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.

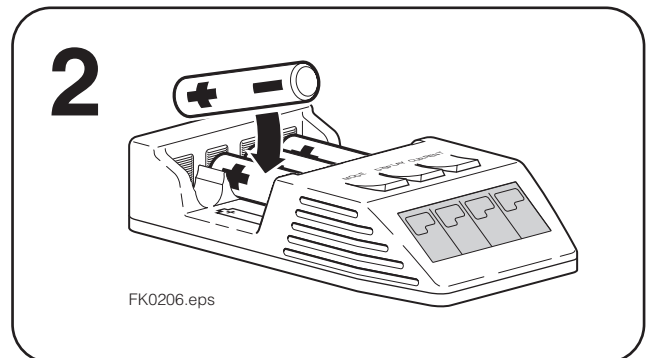



2 Replace alkaline batteries or charge rechargeable batteries

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

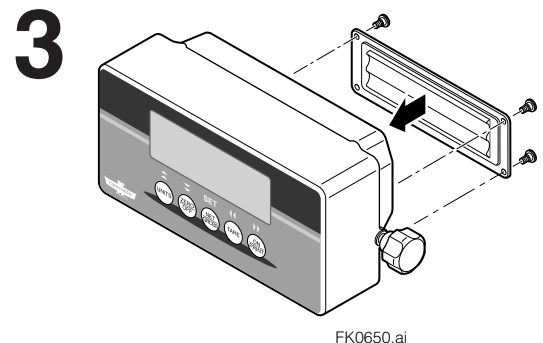
To recharge batteries:

- A** Place the batteries on the charger noting the position and polarity.
- B** Plug the charger into a 110V source.



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

3 Install cover and tighten thumbscrews.

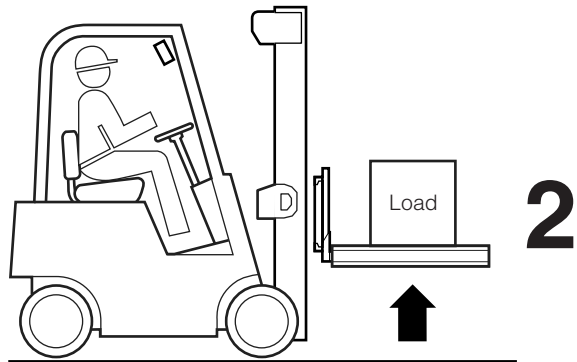


PRINTER EQUIPPED

Print Weight (Normal Weighing Mode)


IMPORTANT: For Legal for Trade units, some print features are disabled, depending on region. Features might include: negative weight and duplicate print.

- 1 If required, zero the display 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.ai

5

→

ID. No. 123456
GROSS 250.0 lb.
TARE 50.0 lb.
NET 200.0 lb.

DATE 04/05/2024

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.

PERIODIC MAINTENANCE

IMPORTANT: Only trained and authorized personnel are allowed to service the 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

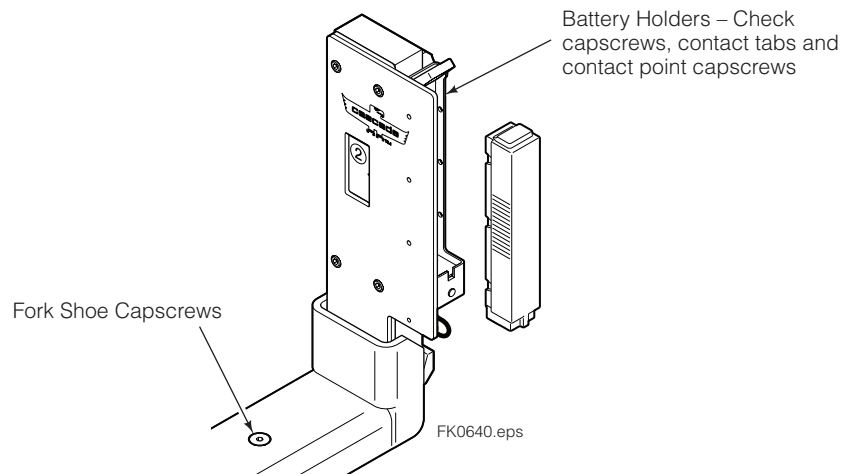
Check the following items below each day:

- Inspect the bottom of the forks for debris that might be wedged between the fork and the fork shoe. Remove any debris found.
- Check for pinched wires at the bottom of the 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). As necessary, replace the cover spool, fork shoe capscrews and nuts.



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.

PERIODIC MAINTENANCE

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).

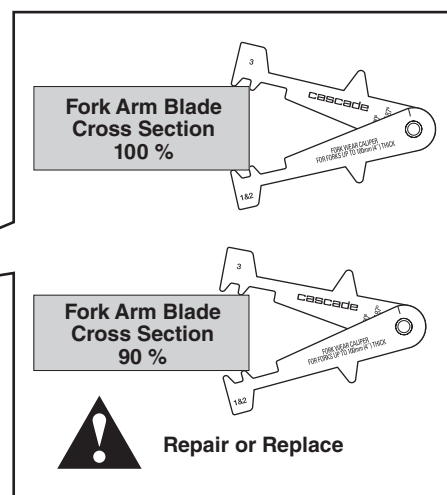
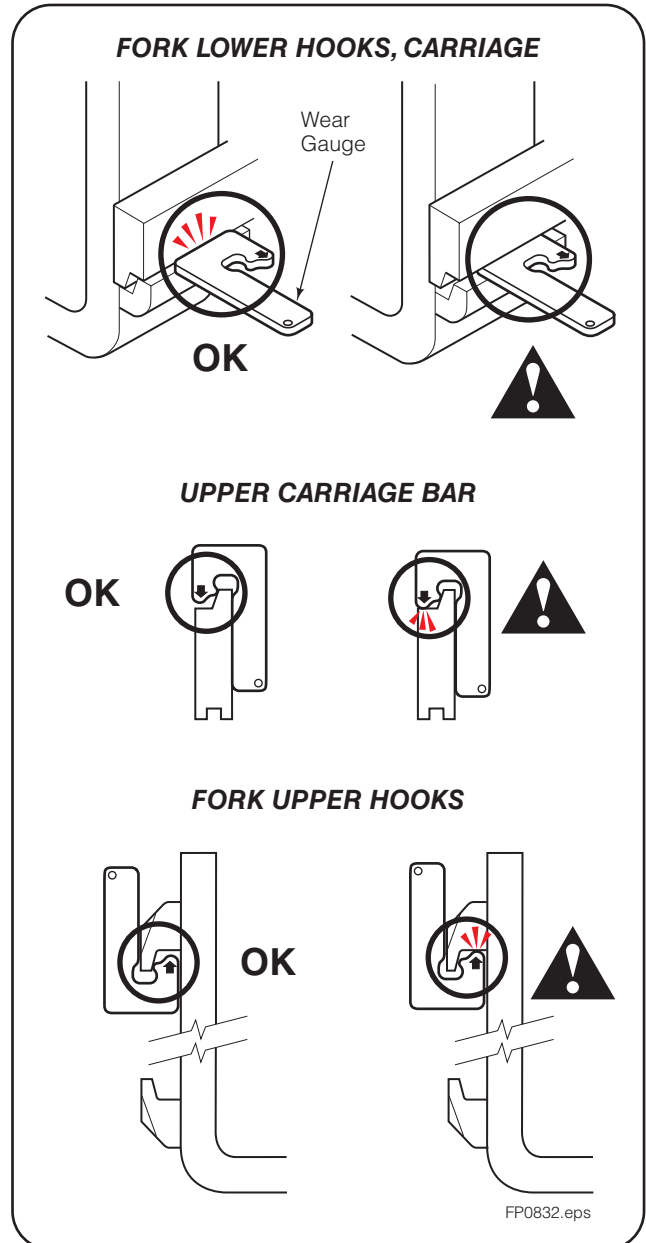
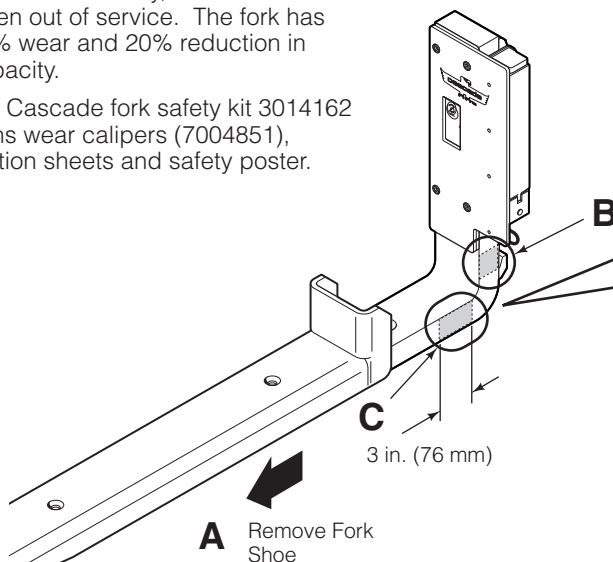
- A** Inspect the fork lower hooks and carriage bar. If the gauge fits between the carriage bar and lower hook, repair or replacement is needed.
- B** Inspect the upper carriage bar. If the gauge arrow touches the carriage bar, repair or replacement is needed.
- C** Inspect the fork upper hooks. If the 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.

NOTE: Cascade fork safety kit 3014162 contains wear calipers (7004851), inspection sheets and safety poster.



BLANK

Do you have questions you need answered right now?

Call your nearest Cascade Service Department.

Visit us online at www.cascorp.com

AMERICAS

Cascade Corporation

U.S. Headquarters

2201 NE 201st
Fairview, OR 97024-9718
Tel: 800-CASCADE (227-2233)
Fax: 800-693-3768

Cascade Canada Inc.

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

Cascade México

Almacén Dicex PDN
Libramiento Noroeste
4001 Km 27.5
Parque Industrial Puerta del Norte
Escobedo N.L 66050
México
Tel: 800-CASCADE (227-2233)

Cascade Brasil

Av. Casa Grande, 850
Casa Grande, Diadema SP,
09961-350
Tel: +55 11 4930-9800

Anval – Cascade Distributor

Av. El Ventisquero 1225,
Bodega 99,
Renca – Santiago, Chile
8661516
Tel: +56 2 29516907

EUROPE-AFRICA

Cascade Italia S.R.L.

European Headquarters

Via Dell'Artigianato 1
37030 Vago di Lavagno (VR)
Italy
Tel: 39-045-8989111
Fax: 39-045-8989160

Cascade (Africa) Pty. Ltd.

PO Box 625, Isando 1600
60A Steel Road
Sparton, Kempton Park
South Africa
Tel: 27-11-975-9240
Fax: 27-11-394-1147

ASIA-PACIFIC

Cascade Japan Ltd.

2-23, 2-Chome,
Kukuchi Nishimachi
Amagasaki, Hyogo
Japan, 661-0978
Tel: 81-6-6420-9771
Fax: 81-6-6420-9777

Cascade Korea

121B 9L Namdong Ind.
Complex, 691-8 Gojan-Dong
Namdong-Ku
Inchon, Korea
Tel: +82-32-821-2051
Fax: +82-32-821-2055

Cascade-Xiamen

No. 668 Yangguang Rd.
Xinyang Industrial Zone
Haicang, Xiamen City
Fujian Province
P.R. China 361026
Tel: 86-592-651-2500
Fax: 86-592-651-2571

**Cascade India Material
Handling Pvt Ltd**

Gat. No. 319/1 & 319/2, Village Kuruli,
Taluka Khed, Pune 410 501
Maharashtra, India
Tel: +91 77200 25745

Cascade Australia Pty. Ltd.

36 Kiln Street
Darra QLD 4076
Australia
Tel: 1-800-227-223
Fax: +61 7 3373-7333

Cascade New Zealand

9 Blackburn Rd
East Tamaki, Auckland
New Zealand
Tel: +64-9-273-9136

Sunstream Industries Pte. Ltd. –

Cascade Distributor
18 Tuas South Street 5
Singapore 637796
Tel: +65-6795-7555
Fax: +65-6863-1368

