USER MANUAL

iForks
PRO

IMPORTANT: iForks system (forks and display) are paired and calibrated as a set. Do not separate. Consult Cascade Service department with any questions.

CAUTION: This is a precise weighing system, treat 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 effect performance of the iForks.

Manual Number 6182774-R1

cascade ™ | RAVAS

Cascade is a Registered Trademark of Cascade Corporation

CONTENTS

OVERVIEW

This manual describes the installation and use of the iForks. Read this manual thoroughly 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 shown in this manual.

This manual should be kept 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.
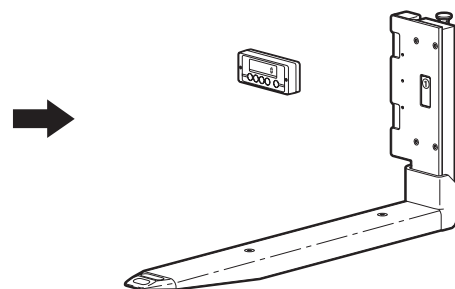
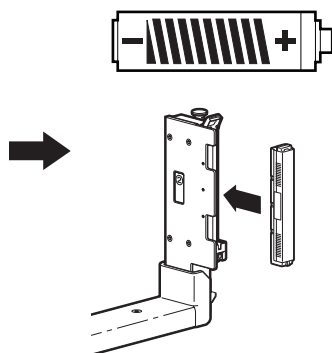**NOTE:** For troubleshooting, refer to iForks Service manual.
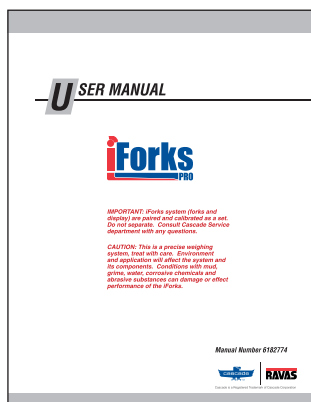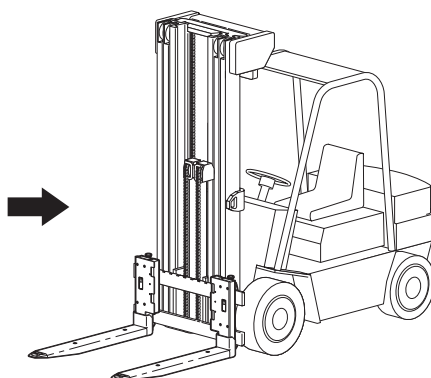

Read through this manual
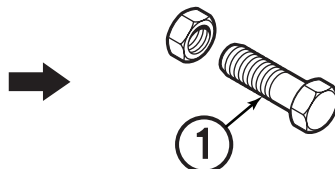
Review parts

Install iForks system on truck

Install battery packs

Use system

NOTE: The iForks are calibrated and ready for use at the factory (non-NTEP only).

Recharge or change battery packs

Perform Periodic Maintenance

FK0188.eps

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

IMPORTANT: Field alterations may impair performance or capability and could result in loss of warranty. Consult Cascade for any required modifications.
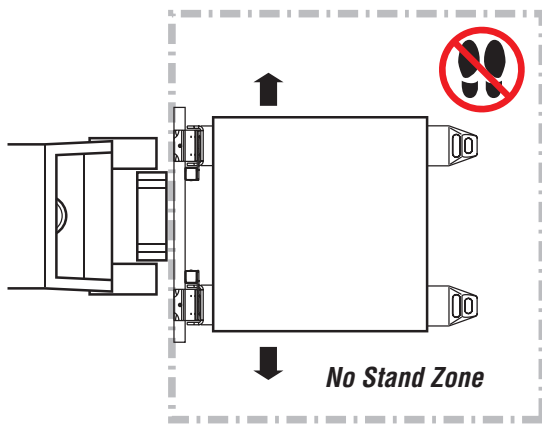
No riders

No reaching through mast

No standing under load

FK0285.eps

No Stand Zone

CAUTION: Do not use iForks display 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 display in the truck cabin.

WARNING: Do not operate iForks unless you are a trained and authorized lift truck driver.

IMPORTANT: Tampering or removing iForks NTEP Security wire or label will void NTEP Certification.

IMPORTANT: Cascade is not responsible for errors that occur due to incorrect weighing or inaccurate scales. It is the responsibility of the purchaser to train their employees and to properly maintain iForks.

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 display and/or iForks are indicating low battery, iForks weighing accuracy and communication to the display can be affected.

CAUTION: High humidity and liquid applications will damage iForks. Conditions with mud, grime, water, corrosive chemicals and abrasive substances can damage or effect performance of the iForks. Verify iForks are pretreated with a coating to help prevent rust and corrosion.

CAUTION: Environment and application can affect the iForks and how the system weighs. Verify that iForks suit proper conditions.
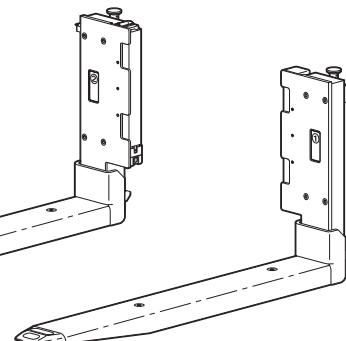
No Pressure Wash/Steam

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

FK0258.eps

6182774-R1

CAUTION: Install an electrostatic discharge strap to the truck chassis to prevent electrostatic discharge damage to the iForks system.

1 Install iForks

STANDARD iFORKS

IMPORTANT: Truck mast must be vertical.

A Remove standard forks.
B Unlock iForks.
C Install iForks.

C

B

C

C

FK0286.eps

IMPORTANT: If installing on fork positioner, contact Cascade.
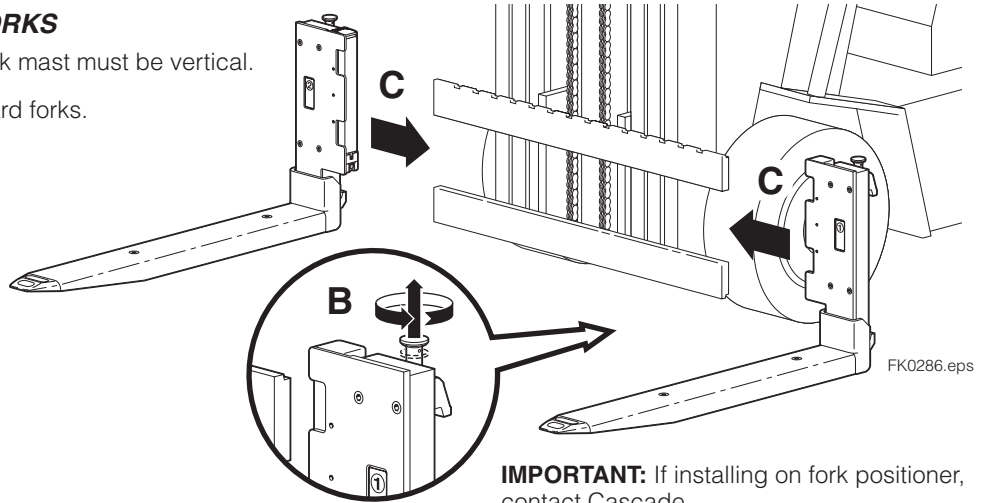
ROTATOR iFORKS (with third hook)

Make sure forks are rated for the loads being handled.

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

⚠️ **WARNING**: Fork must have three hooks. Cascade-RAVAS iForks 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: If the fork middle hook fit up is too tight, sand or grind the hook tip.

Spring Lock

C

Back (Driver's) View

Middle Hook

A Remove fork keepers

D

FK0191.eps

FK0190.eps
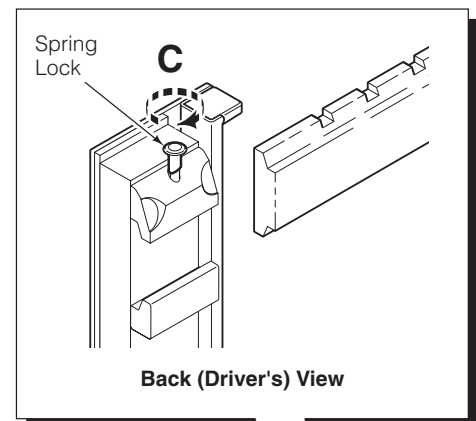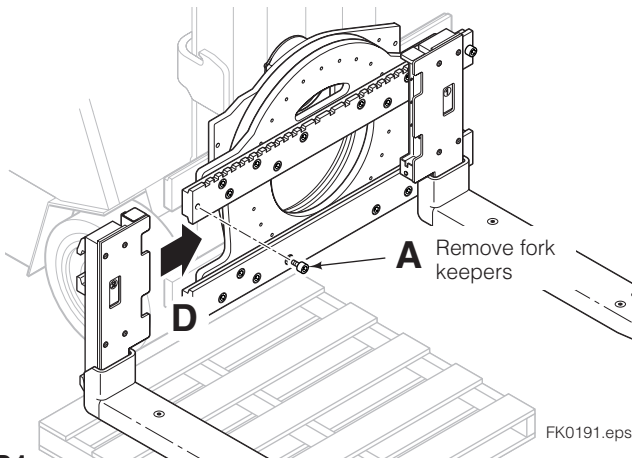
2 Lock iForks

NOTE: If installing iForks on a rotator, shake forks to make sure the pin is fully engaged in the fork bar notch.

CAUTION: Pin must engage notch.

FK0287.eps
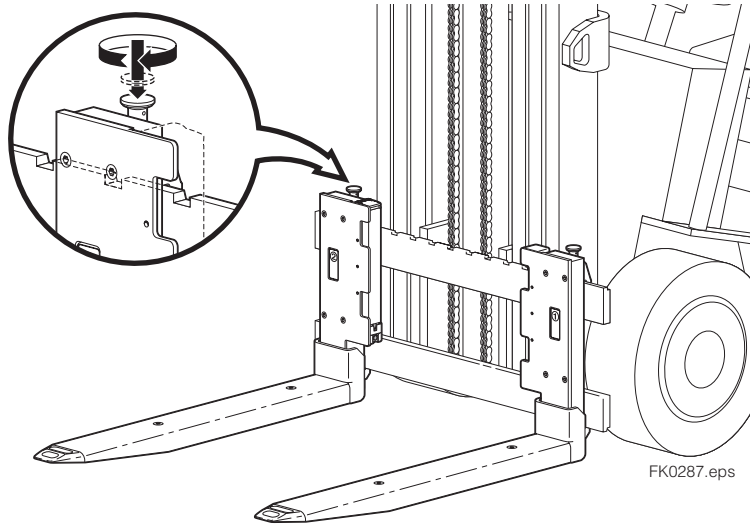
3 If equipped, reinstall fork bar keepers

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

Keepers

FK0193.eps
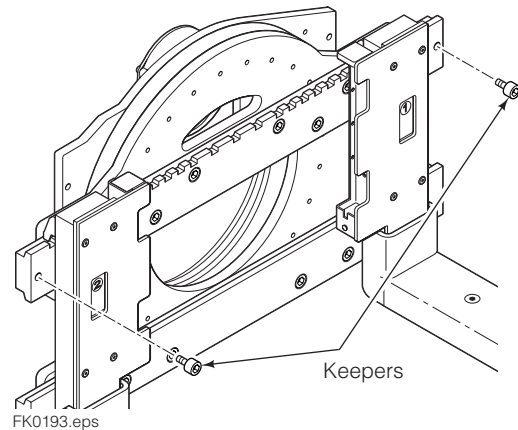
4 Install battery packs to the iForks

A Lift up battery holder locking clip.

B Position battery pack.

C Click into the battery holders.

D Secure the locking clips down.

FK0288.eps
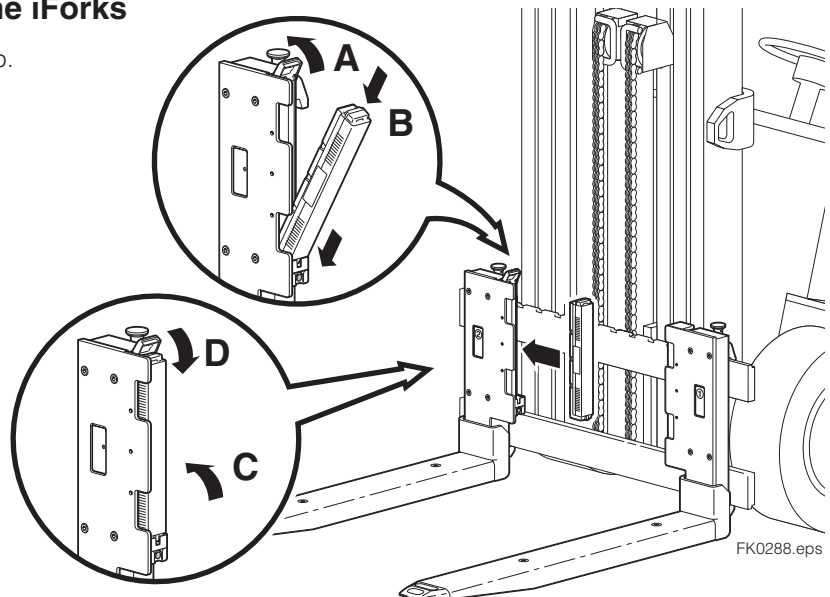
5 Locate and mount the display

Find a suitable location for readout and easy access to display.

NOTE: If required, install batteries into display. Refer to Batteries Section, "Replacing Display Batteries", page 25.

Cabin Roof

OR

Side Rail

OR

Dashboard

Display

FK0194.eps
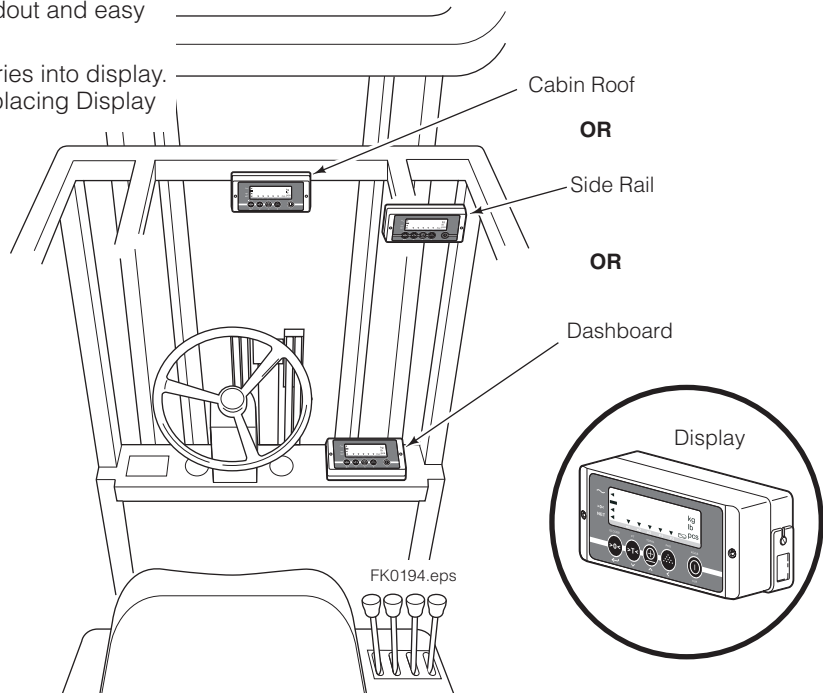
6 Install display bracket and support, if required

A Install bracket to display, using a M5 Allen wrench.

B Install bracket/display to the support, using a M13 crescent wrench.

B

Support

A

Bracket

Display

FK0195.eps

Tools Required:

M5

M13
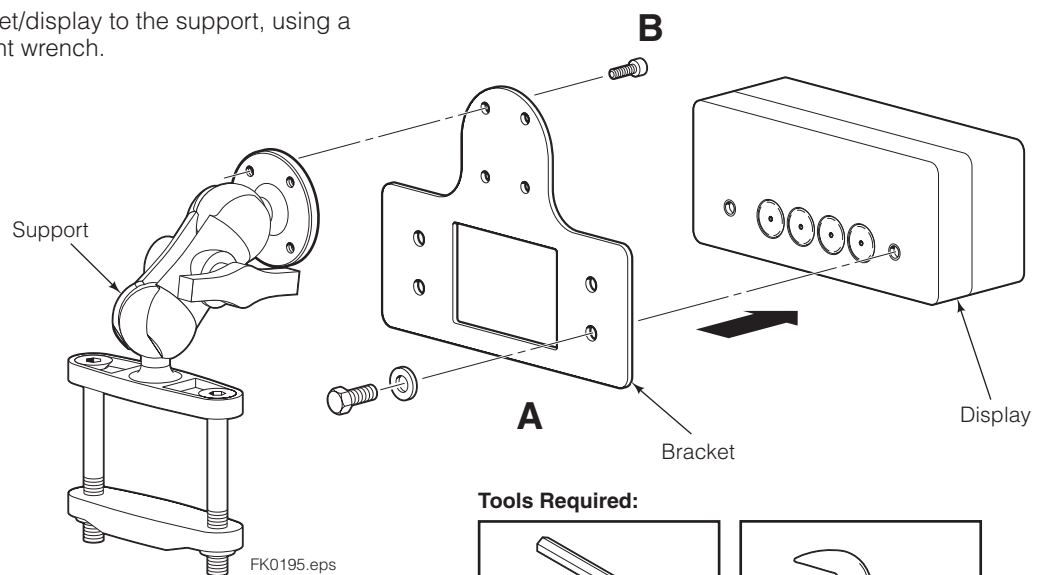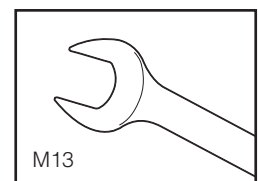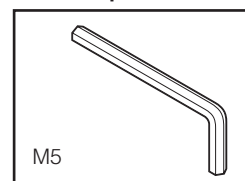
7 **If equipped with a truck power option display, connect display to truck power.**

A Cut the provided fuse wire.

B Connect the fuse to the display positive wire (red - US, brown - EU).

C Connect the display negative wire (black - US, blue - EU) to the negative battery terminal.

D Connect the display fused positive wire (red - US, brown - EU) to a switched positive power source.

A
Cut fuse

FK0197.eps

Red (US)
Brown (EU)

Black (US)
Blue (EU)

B

Fuse, 3.15A, Cascade
Part No. 6167147

D

Switched

C

Truck
Fuse Block

Truck
Battery

Ground

FK0196.eps
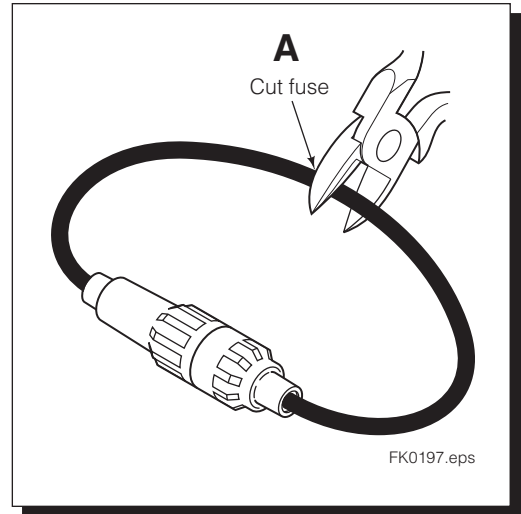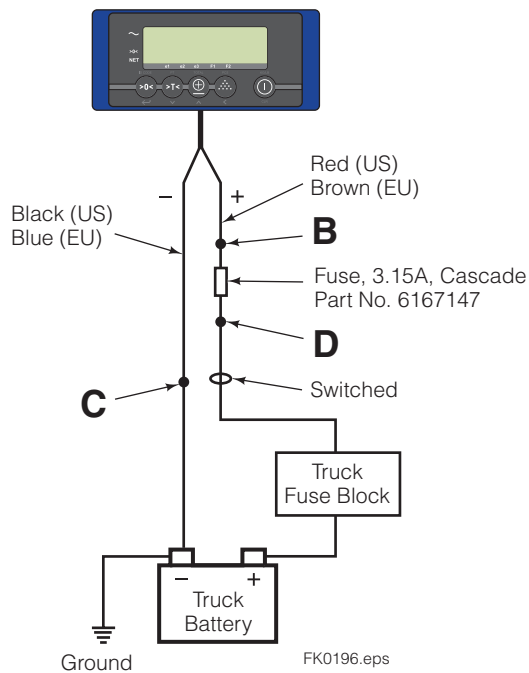
Functions

Left of Display

When ◄ appears:

∼ The weighing system (including load) is stable

>0< The weight shown is within the zero range

NET The display is showing the net weight

When ▬ appears, the weight shown is negative

Middle of Display

When ▼ appears:

e1 Weight shown is in .44 lb (.2 kg) steps; only for weight that ranges 0-441 lb (0-200 kg).

e2 Weight shown is in 1.1 lb (.5 kg) steps; only for weight that ranges 441-1102 lb (200-500 kg).

e3 Weight shown is in 2.2 lb (1 kg) steps; only for weight that ranges 1102-4850 lb (500-2200 kg).

F1 Fork 1 relay setpoint 1 is activated.

F2 Fork 2 relay setpoint 2 is activated.

NOTE: Smaller loads are weighed with higher accuracy. Example: If an original load with **e2** range selected is removed, and a smaller load qualified for **e1** range, the **e2** range will remain selected until the forks are zeroed.

Right of Display

When the following appears:

kg Weight shown is in kilograms

lb Weight shown is in pounds

pcs Quantity displayed is the number of items on the scale

🔋 Display low battery – Used for battery equipped displays only

FK0230.eps

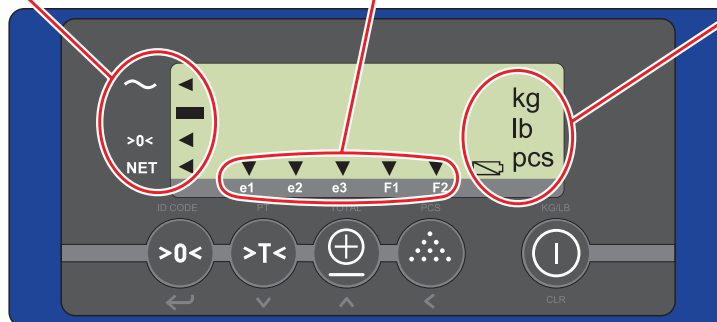| Display Button	Button Names	Short Button Press		3 Second Button Press		Entry Mode
ID CODE ⟫0⟪ ↵	"Zero"	⟫0⟪	Zero Setting - Manually zeros the display.	ID CODE	Code Entry - A 5-digit code useful for a weighing system connected to peripheral equipment for later processing.	↵ Enter (accept value)
PT ⟫T⟪ ∨	"Tare"	⟫T⟪	Automatic Tare - Allows the tare weights to be reset to zero automatically. Added and subtracted weights can be determined.	PT	Manual Tare - An entered tare weight at any moment.	∨ Decrease the value of the digit flashing
TOTAL ⊕ ∧	"Total"	⊕	Add To Total – Weighed load is added to total weight. If printer is installed, a printout is made.	TOTAL	Check subtotal and print total.	∧ Increase the value of the digit flashing
PCS ∴ <	"Sampling"	∴	Sampling item weight(s) - Determine an unknown item weight by sampling a set quantity of the same kind of items. Standard sampling amount is 10 items.	PCS	Sampling - Determine a quantity of the same items sampled with an known item weight.	< Shift to the next digit on the left
KG/LB ⊕ CLR	"On/Off"	KG/LB ⊕	On - Turn the display on. **OR** Toggle Units - Change the units on the display between kg and lb.	⊕	Off - Turn the display off.	CLR Clear entry

Other Features

Display Menus

The following menu options are available:

Weigh Mode

Options:
Manual zero
Net/Tare/Gross (Auto/Manual Tare)
Add and total a group of load weights
Sampling weight
On/off (or Toggle units)
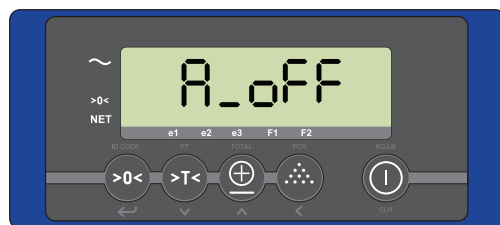
FK0041.eps

User Settings ◆

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

◆ Refer to "Display Options – User Settings" section, page 26.

Toggle Units (lb and kg)

To view the weight in another unit format (kg or lb) perform the following:
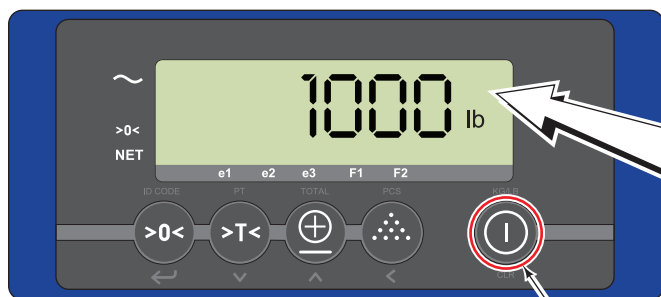
2 The toggled value will appear for five seconds.

3 The original unit format will resume.

FK0042.eps

1 Press the "On/Off" button for three seconds.

Display Messages

FK0085.eps

Error Messages

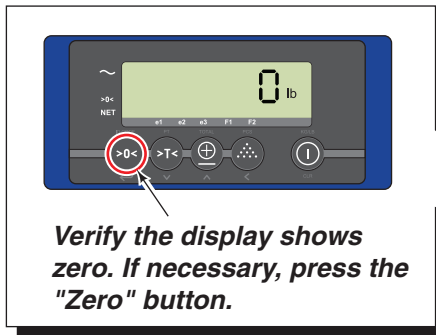| Display Shows:	Meaning:	To Exit Error Mode:
Err01	Load cell signal is unstable.	Automatic
Err02	iForks are overloaded.	Automatic after removing weight
Err03	Gross weight is negative. This action is not allowed.	Automatic
Err04	Out of zero range.	Press any button
Err05	Sampling accuracy too low.	Press any button
Err06	Input signal too high.	Automatic after correcting input
Err08	Calibration out of range (negative).	Automatic
Err09	Calibration out of range (signal too low).	Automatic
Err10	Calibration count 2nd (3rd) point is lower than count 1st (2nd) point.	Automatic
Err14	Calibration setpoint value 2 < setpoint value 1. This is not allowed.	Automatic
Err97	NTEP (OIML) only: Calibration not allowed.	Press "On/Off" button two times. Contact Cascade Service if calibration is required.
Err98	Entered weight used for weight calibration must be higher than previous entered weight.	Automatic
Err99	Button pressed or another action is performed while toggling between units format (lb or kg).	Wait for display to return to original unit format (lb or kg).
ErrF1	Problem with iFork 1 (no communication).	Restart display. Restart iForks & display.
ErrF2	Problem with iFork 2 (no communication).	Restart display. Restart iForks & display.
-----	Load cell signal negative.	Lift up the forks from the ground
L - _	Forks are out of level (only legal for trade version)	Put the forks into horizontal position
ErrCS	Problem with correction sensor	Contact the Cascade Service department

NOTE: For battery icon messages, refer to "Batteries - iForks Display" section, page 21.

Other Display Messages

Display Shows:	Meaning:
BltF1	Successful Bluetooth link with Fork 1
BltF2	Successful Bluetooth link with Fork 2

Prior To Weighing

Verify iForks are free of obstacles prior to zeroing

Verify the display shows zero. If necessary, press the "Zero" button.

Position to vertical

**For legal trade:
NTEP – ±5% (3°) Horizontal
OIML – ±5° Horizontal**

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

Level load to Horizontal
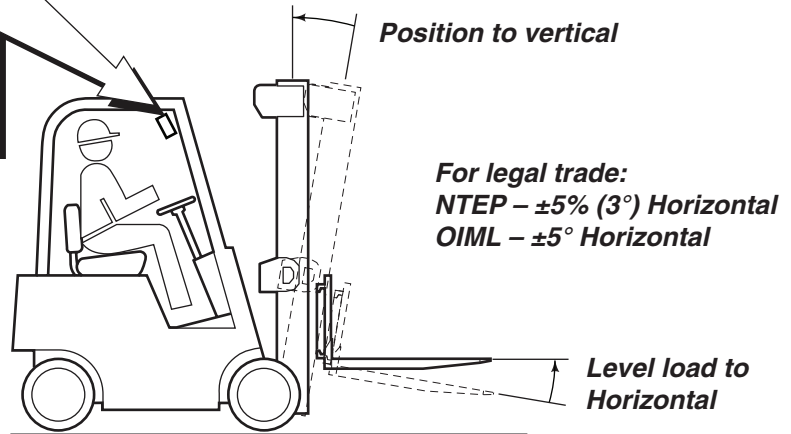
FK0043.eps

Handling Loads

IMPORTANT: If handling loads with rotator attachment, refer to the attachment's operator guide.

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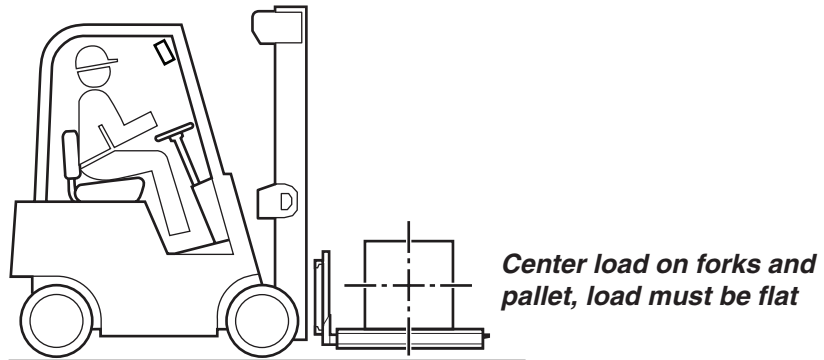
FK0044.eps

FK0045.eps
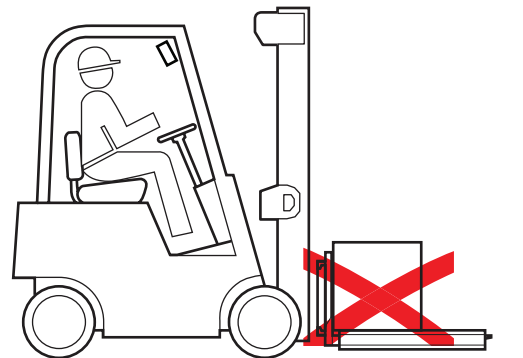
FK0046.eps

To Weigh A Load (Normal Weighing Mode)

IMPORTANT:
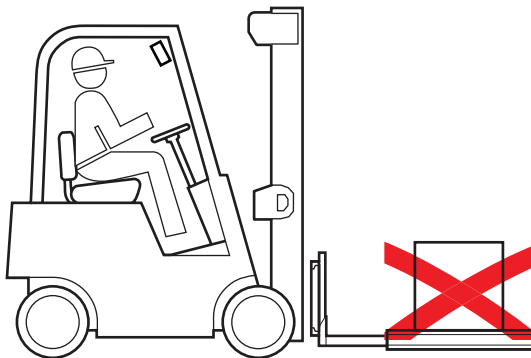- At initial daily start up, allow 3-5 minutes for iForks system to warm up before weighing loads.

- The system will not weigh correctly if the front face or bottom of iForks 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 display to show a steady weight.

- Load length should not exceed the length of the fork by more than 6 in. (152 mm).

1 Turn on the iForks by pressing the blue button on each battery holder (located below each battery pack).


FK0199.eps
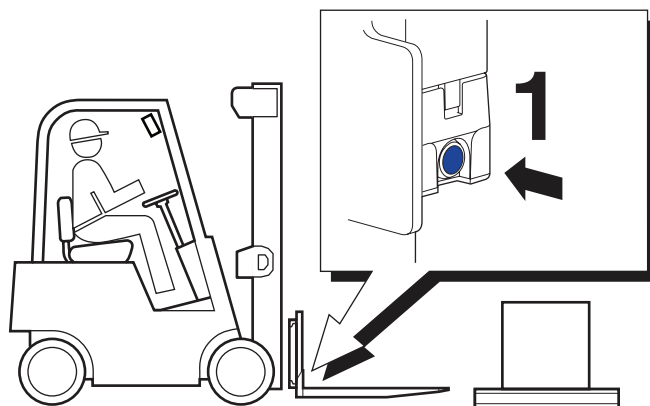
2 On the display, press the "On/Off" button. Wait five seconds.

3 Display will zero. If necessary, zero manually by pressing the "Zero" button.

If required, press the "Zero" button to manually zero the display.
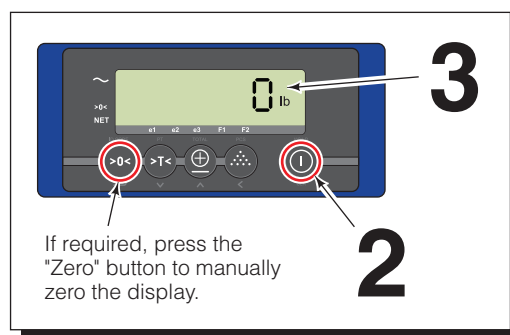
4 Position the load on the iForks and raise the iForks.

5 The display will show the weight of the load. If needed, the display may need more time to show a steady weight. Before next weighing, check that the display is zeroed.
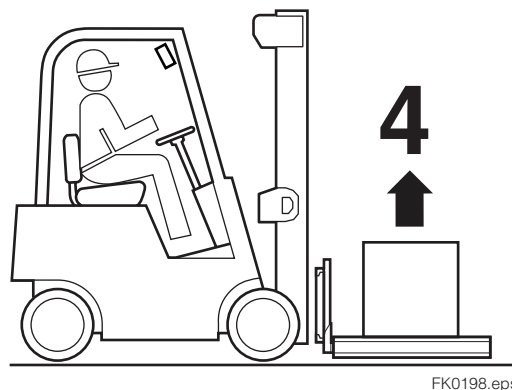
IMPORTANT: The display will show the weight in graduations as follows:

iFork Capacity	Display Graduation (increments)
5000 lb. (2268 kg) – NTEP	5 lb. (kg not available)
5000 lb. (2268 kg) – Non-NTEP	2 lb. (1 kg)
6000 lb. (2722 kg) – Non-NTEP	2 lb. (1 kg)
10,000 lb. (4536 kg) – Non-NTEP Range: 0-1000 lb. (0-543.6 kg) Range: 1000-10,000 lb. (453.6 -4536 kg)	2 lb. (1 kg) 5 lb. (2 kg)

For example, on 5000 lb fork capacity iForks with a 35.5 lb. load, the display will show 36 lb. (Non-NTEP) or 35 lb. (NTEP).

NOTE: Customized iForks may have a different display graduation setting. To determine, with a load, watch the display numbers increment. For example, a display with a 5 lb (2 kg) graduation, the display will show 5 lb (2 kg), 10 lb (5 kg), 15 lb (7 kg), etc. A 28 lb (13 kg) load will show 30 lb (14 kg).

FK0198.eps

Obtaining Net/Tare/Gross Weight

FK0049.eps
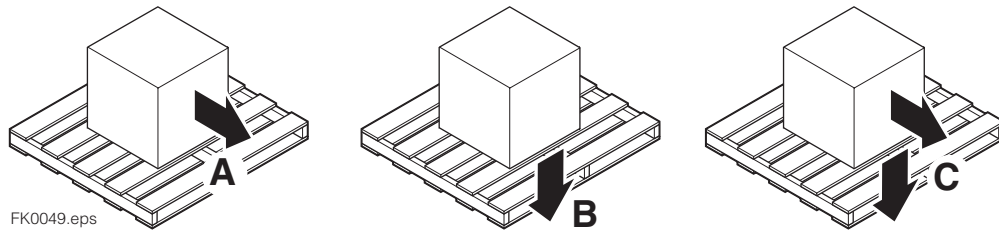
Net (A) + Tare (B) = Gross (C)

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.

Obtain Net Weight Using Automatic Tare

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

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

1 If required, zero the display.

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.
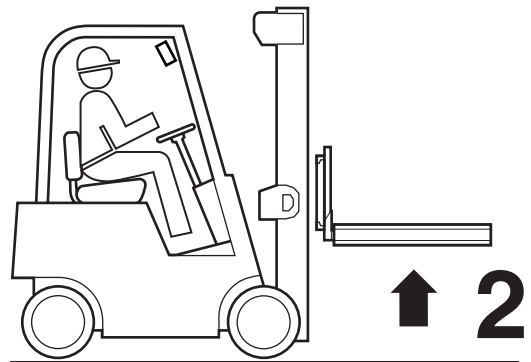
FK0215.eps

3 Press the "Tare" button.
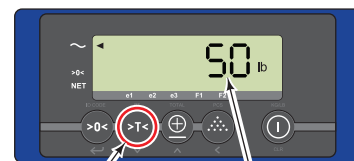
4 The display will be set to zero and the **Net arrow** will appear. The arrow indicates only **Net** weight values will show on the display.

NET Arrow
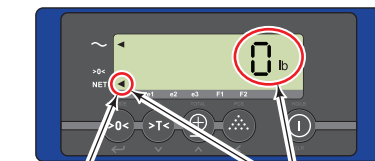
Procedure continued on next page

Obtaining Net/Tare/Gross Weight (Continued)

Obtain Net Weight Using Automatic Tare (Continued)

5 Add a load to weigh onto the iForks.
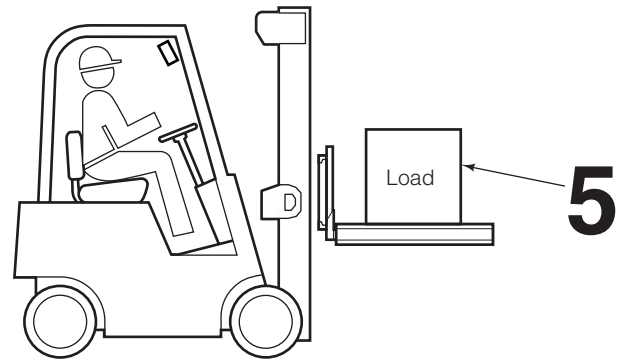
FK0216.eps

6 The display will show the **Net** weight (only the load's weight).
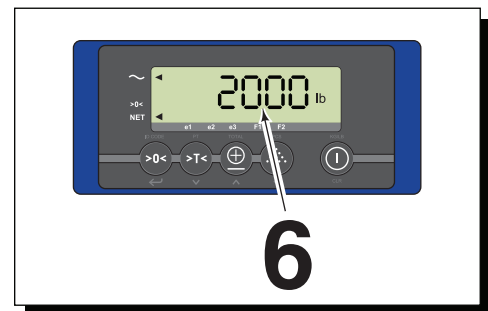
View *Gross* weight (*Tare* weight + *Net* weight):

Press the "Tare" button to view the **Gross** weight.

Gross Weight
Example: Pallet weight + Load weight

FK0217.eps

Net Arrow will disappear

"Tare" button

Obtaining Net/Tare/Gross Weight (Continued)

Obtain Net Weight Using Manual Tare

To weigh a load but disregard part of the load with a **known** weight (example: pallet):

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

1 Position a pallet or bin (**Tare** weight) and load (**Net** weight) on forks and raise forks.

Load – **Net** Weight
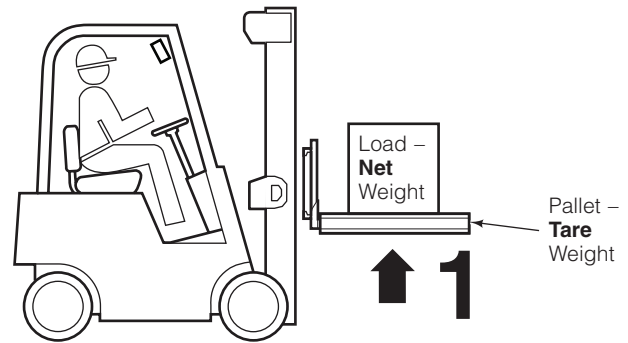
Pallet – **Tare** Weight

FK0218.eps

2 The **Gross** weight will show on the display.

2050 lb

3 Press and hold the "Tare" button for three seconds.

3   **2**
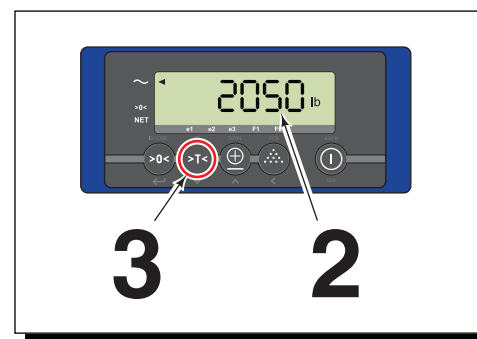
4 Enter the known **Tare** weight value of the pallet or bin. Use the *Entry Mode Guide* (below) as an aide to enter the value.

Entry Mode Guide

Current digit to change will flash

00000 lb

B

C   **A**

Use the following buttons to enter the value. The current digit to change will flash.

A OR
Decrease the value   Increase the value

B ‹ Shift to the next digit on the left

C ↵ Accept the value

5 The display will show the **Net** weight and the **Net arrow** will appear. The arrow indicates only **Net** values will show.
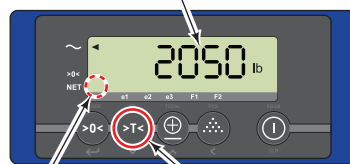
- If the load is removed from the pallet (or bin), the display will show zero.
- If the pallet (or bin) and load are removed, a negative weight (**Tare** weight) will show.

NOTE: Pressing the "Tare" button will show the **Gross** weight.

Net Arrow will appear   **5**   Net Weight

2000 lb

FK0231.eps

Adding And Totaling A Group Of Load Weights

1 If required, position a pallet or bin on forks. Raise iForks (and pallet or bin).
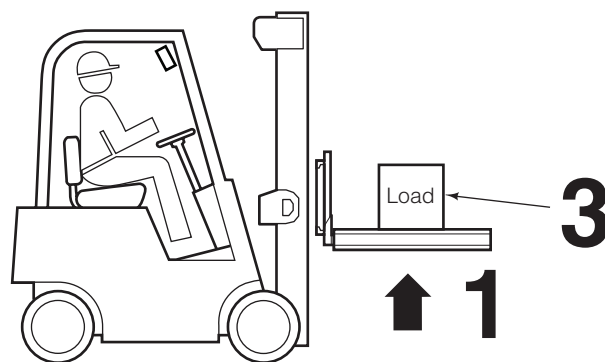
2 Zero the display.

3 Add a load to weigh to the forks.

4 Press the "Total" button. This will begin an adding sequence of the group to be weighed.

5 The display will show "Added" and return to normal weighing mode.
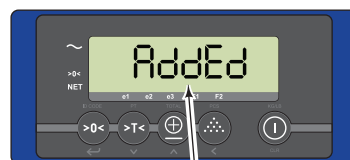
6 Add the next load to the pallet with previous load(s).
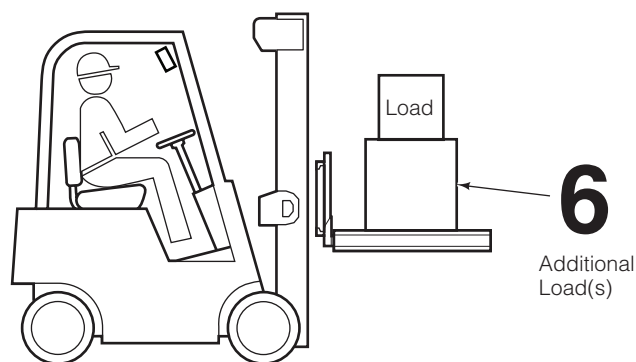
7 Press the "Total" button to add the weighed load to the total.

NOTE: If a printer is installed, the **Gross**, **Net** and **Tare** weights will be printed.

8 The display will show "Added" and return to weighing mode.

9 Repeat Steps 6-8 until all loads to be weighed are on the pallet and added to the total.

Procedure continued on next page

FK0220.eps

FK0221.eps

Load

3

1

4,7

AddEd

5,8

Load

6

Additional Load(s)

NOTE: At any time during weighing and adding, the subtotal can be viewed by pressing and holding the "Tare" button for three seconds. The counter (number of loads weighed) and subtotal will flash for three seconds.

Adding And Totaling A Group Of Load Weights (Continued)

10 When all loads are weighed, remove the loads from the iForks and pallet or bin.

11 Press and hold the "Total" button for three seconds to view the total weight.

2500 lb

11

12

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

--02-

Counter

2500 lb
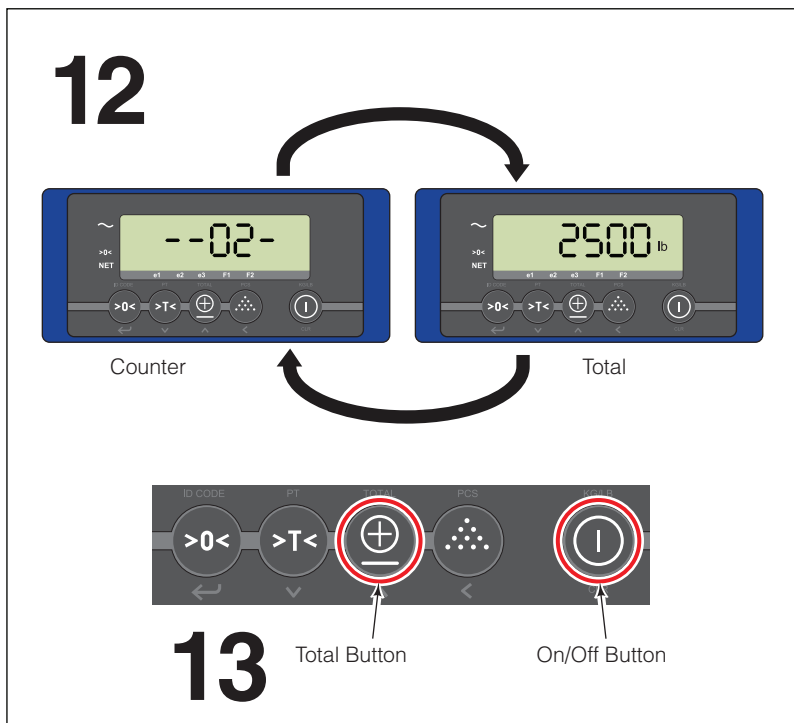
Total

13 While the display screen flashes, the following can be performed:

- Press the "Total" button to print the total and reset the total weight to zero and the counter to zero.

- Press the "On/Off" button to reset the total weight to zero and the counter to zero.

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

13 Total Button   On/Off Button

FK0222.eps

Sampling Weight

Perform the following procedure to determine an **unknown** item weight by sampling the weight of the number of the same kind of items. The number of items placed on the iForks determines the accuracy of the sampling. The greater the weight difference, the greater a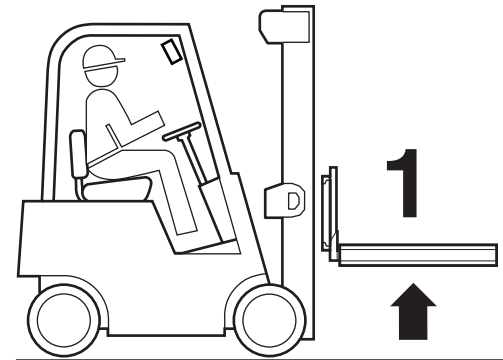ccuracy. The standard sampling amount is 10 items (95 items maximum). A display equipped with a printer is recommended for this section.

NOTE: The total weight of items must be greater than 22 lb (10 kg).

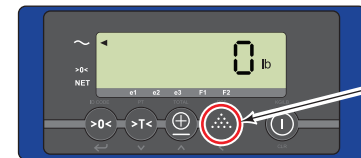**NOTE:** Sampling is not NTEP approved.

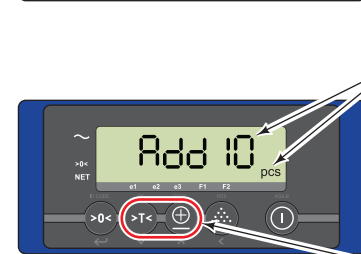**1** Position a pallet or bin on forks. Raise the iForks and pallet (or bin).

FK0226.eps

2 If required, zero the display.

3 Press "Sampling" button on the display.

4 The display will show "Add 10" and "pcs".

5 Choose a quantity of items to weigh. "Add 10" is the standard. To change the number to another quantity, use the "Tare" (up) and "Total" (down) buttons to scroll through the list. The following quantity options are available: 10, 20, 50, 95, 1, 2, and 5.

6 Add the number of items, based on the quantity entered into the display, onto the pallet (or into the bin).
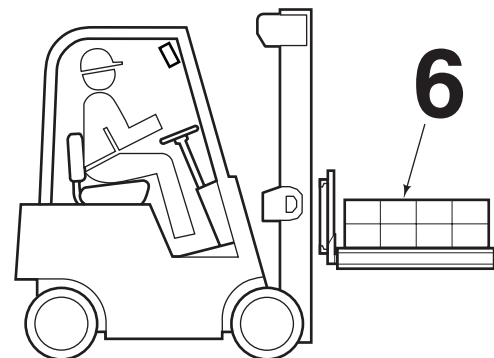
7 Press and hold the "Zero" button for two seconds.

NOTE: If the error message "Err05" appears, the total sampling weight is too low. Press any key to return normal weighing mode. Remove the items being weighed. Repeat Steps 3-7. Adjust the quantity in Step 4 to a higher quantity.

FK0227.eps

8 Sampling is complete. The display will show the total number (quantity) of pieces on the forks. Press the "On/Off" button return to normal weighing mode.

NOTE: If a printer is installed, item weight (print label: "PcWt") sampled and quantity (print label: "Qty") will be printed. Refer to "Printer Equipped" section, page 23.

Sampling Quantity

Perform the following procedure to determine the quantity of the same items in a sampling using a **known** weight of one item. The items are placed on the iForks and weighed prior to entering the known weight.

NOTE: Sampling is not NTEP approved.

1 Position a pallet or bin on forks. Raise the iForks and pallet (or bin).

2 If required, zero the display.

3 Place the items onto the pallet (or into the bin).
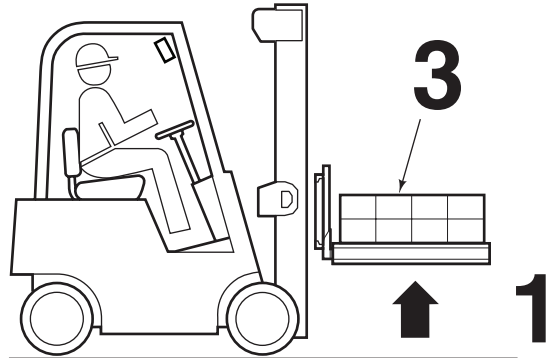
FK0228.eps

4 After the weight shows on the display, press and hold "Sampling" button for three seconds.

5 A previous item weight will show on the display. Press the "Zero" button to accept the value or change the value using the *Entry Mode Guide* (below) as an aide to enter the weight value.
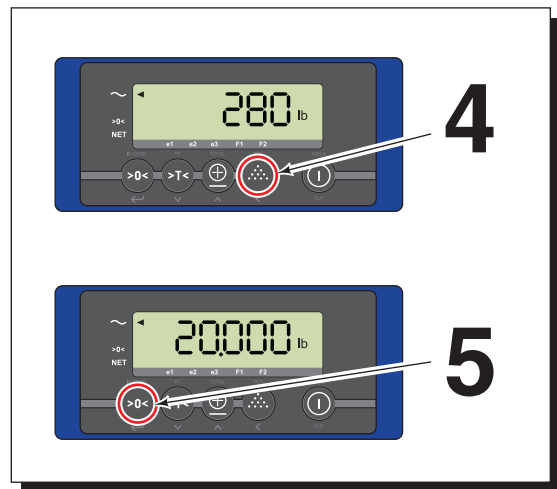
Entry Mode Guide
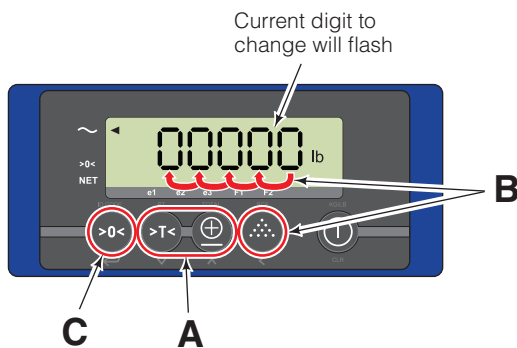
Current digit to change will flash

Use the following buttons to enter the value. The current digit to change will flash.

A ⚊ OR ⚊
Decrease the value — Increase the value

B Shift to the next digit on the left

C Accept the value

Sampling Quantity (Continued)

6 Press and hold the "Zero" button for two seconds.

6

7 The display will show the quantity of items currently being weighed. Press the "On/Off" button to return to normal weighing mode.

NOTE: If a printer is installed, item weight (print label: "PcWt") sampled and quantity (print label: "Qty") will be printed. Refer to "Printer Equipped" section, page 23.

7
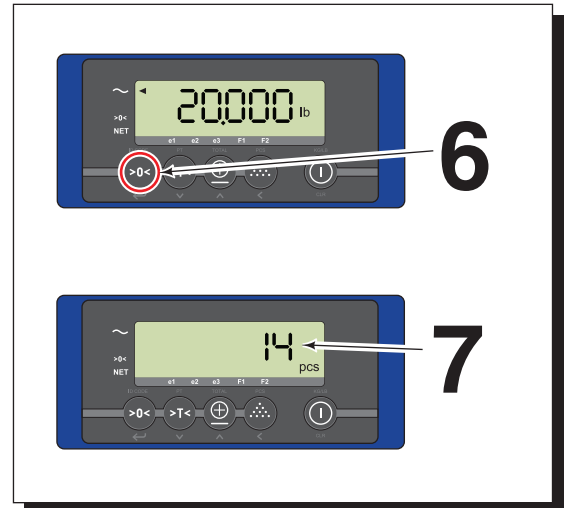
FK0229.eps

Powering Off iForks

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

FK0289.eps

AUTO SHUT-OFF

After 2 minutes of no action:

1 On the display, a countdown screen shows. Press any button to cancel auto shut-off and return to normal weighing mode.
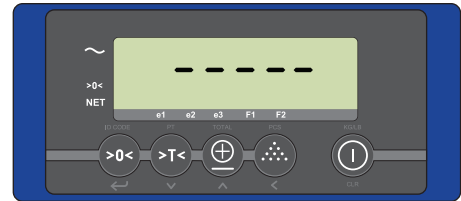
2 After 20 seconds of no further action, "- - off" will appear on the screen. The display will turn off.
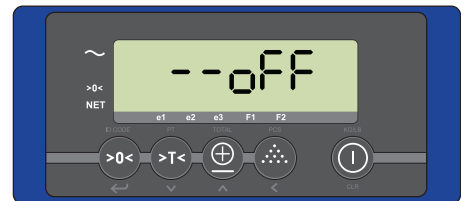
3 After 2 hours of no weighing, the iForks will turn off.

   NOTE: To turn on, refer to "To Weigh A Load" section, page 11.

FK0232.eps

AUTO RECONNECT

When the connection between the display and one iFork is lost, the display will perform the following to re-establish a connection automatically, as follows:
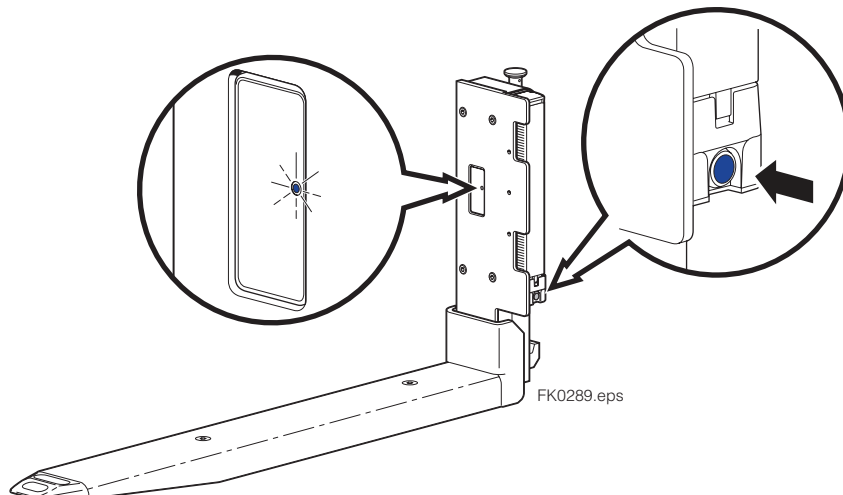
1 The display's screen will flash the following when a connection is lost:

   " -- " and "ErrF1"
   OR
   " -- " and "ErrF2"

2 While the screen flashes, the display will try to reconnect to the iFork. This will take a maximum of 20 seconds.

3 Once a connection re-established, the screen prior the lost connection will show.

NOTE: If after 20 seconds the display does not reconnect with the iFork, verify that both iForks are 'On'. If the iForks are 'On', cycle the display power.

FK0200.eps

iForks LED Status Indication

iFORK 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: If display and/or iForks are indicating low battery, iForks weighing accuracy and communication to the display can be affected.

The display will show when there is a low battery on the iForks:

Arrows for fork will blink:
F1 = Fork 1
F2 = Fork 2
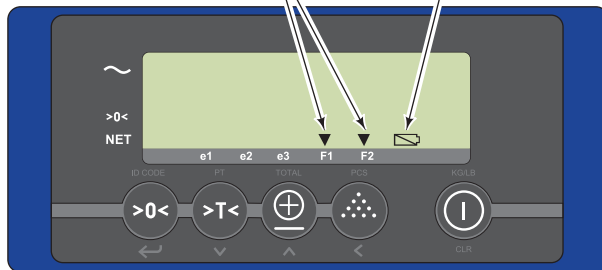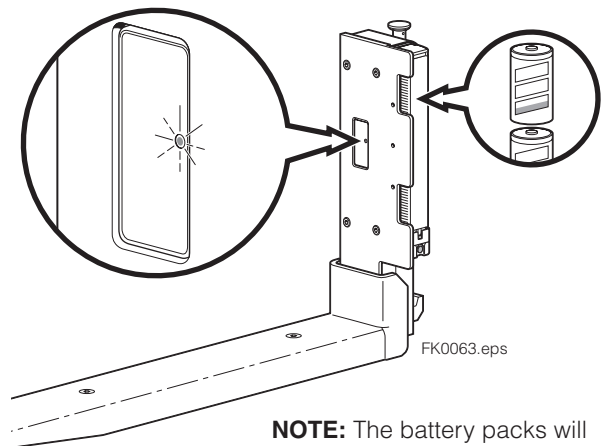F1 & F2 = Fork 1 & Fork 2

Low Battery

>0<
NET

e1   e2   e3   F1   F2

ID CODE   PT   TOTAL   PCS   KG/LB

>0<   >T<   ⊕   ⁙   (|)

CLR

FK0062.eps

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

FK0063.eps

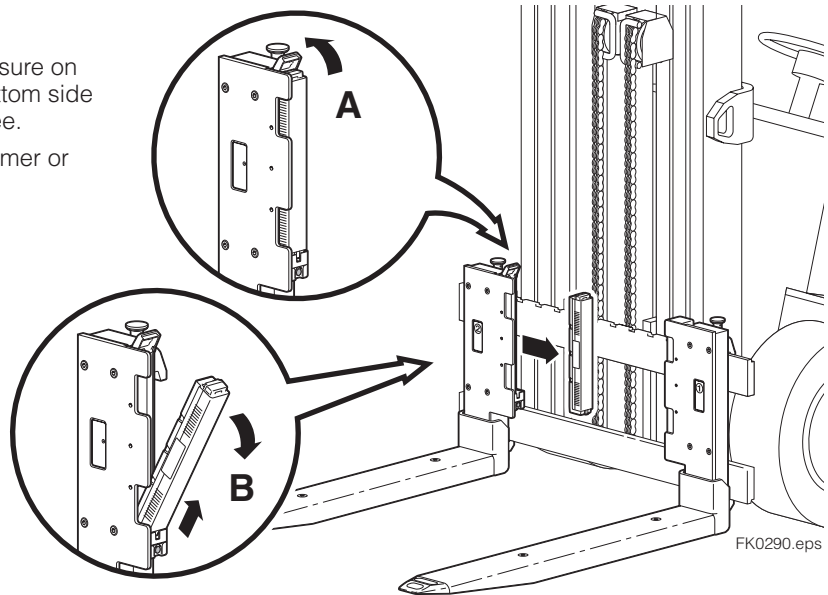**NOTE:** The battery packs will switch off automatically after 10 minutes of low battery.

Charging iForks Battery Packs (Rechargable Battery Packs only)

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.

FK0290.eps

2 Charge *both* battery packs

NOTE: Rechargeable batteries are NiMH with a charge capacity of 10,000 mAh.

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

A Position the battery packs into charger.

B Click batteries into charger.

C Plug the charger into 110V source. The red LED on charger will light up, indicating the batteries are charging. When charging is complete, the red LED will turn off and the green LED will light up.

Key Notches

FK0233.eps

Bottom View

IMPORTANT: Rechargeable battery packs have keyed notches at the bottom. If the notches are missing, the battery packs are not rechargeable.

Status LEDs

FULL
CHARGING
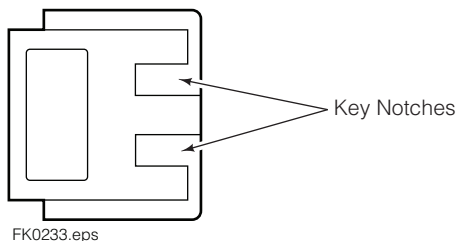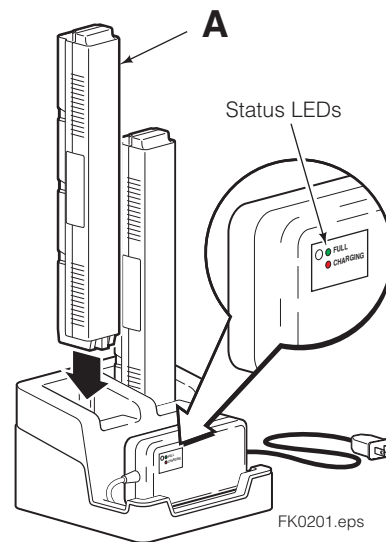
FK0201.eps

3 Re-Install battery packs in iForks

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.

FK0202.eps

6182774-R1
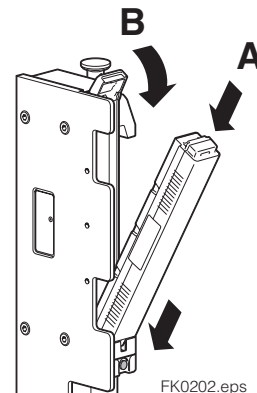
Replacing iForks Battery Packs (Non-Rechargable Battery Packs only)

⚠ **WARNING**: Alkaline batteries are not rechargeable. Alkaline battery packs are not compatible with the charger. Tampering with Alkaline battery packs can cause damage to the charger and 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.

FK0290.eps
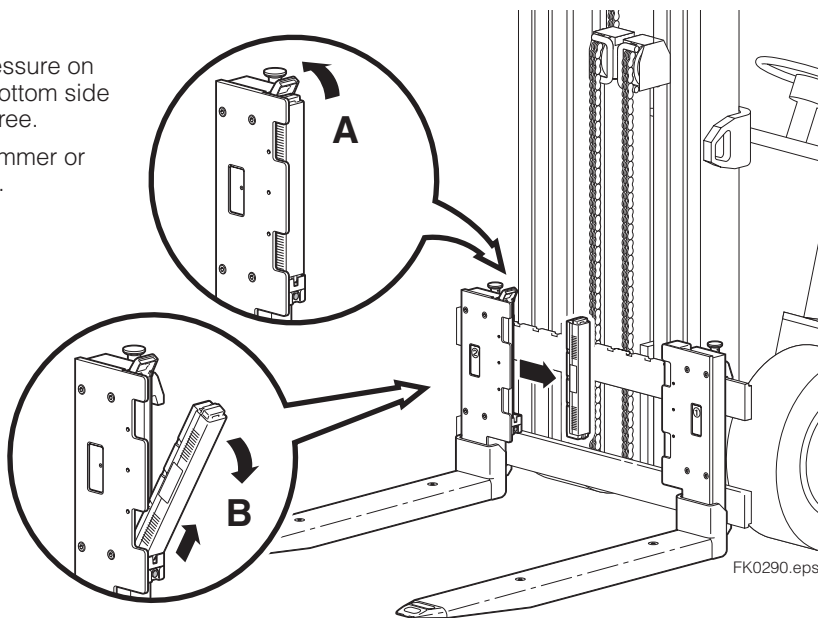
2 **Remove D-Cells from battery packs**

A Remove the capscrews.
B Remove top housing of battery pack.
C Remove batteries.

FK0291.eps
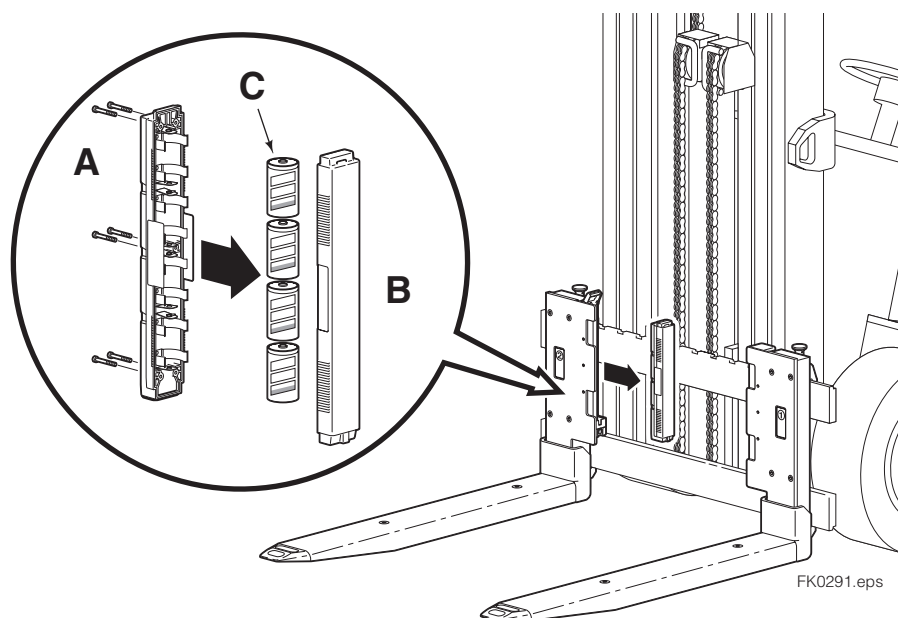
Procedure continued on next page

3 Install battery packs in iForks

A Install four batteries in each battery pack.

B Replace the top housing of the battery pack.

C Install capscrews finger tight.

FK0292.eps
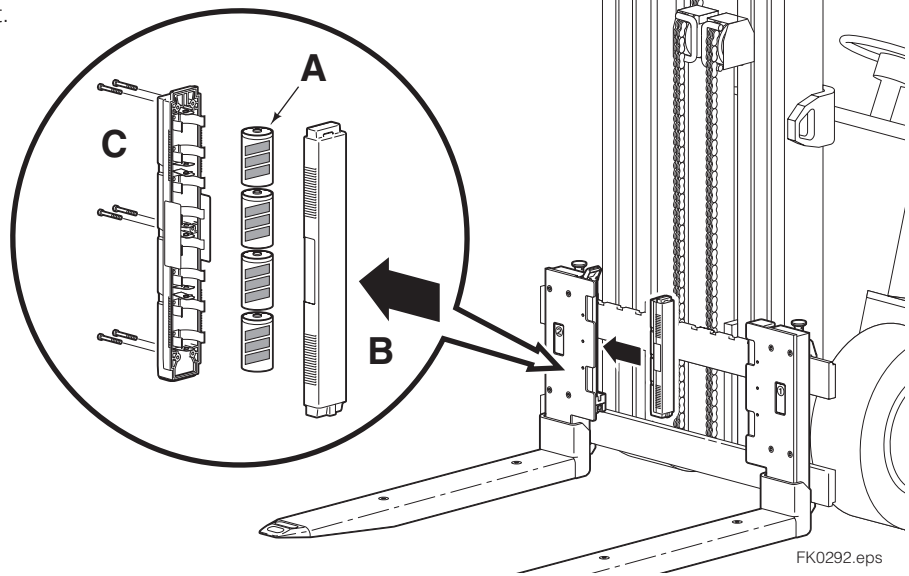
4 Re-Install battery packs in iForks

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.

FK0202.eps
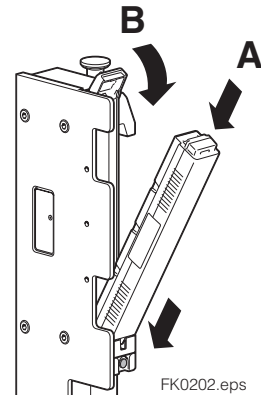
BATTERIES

Display Batteries (if equipped)

FK0068.eps
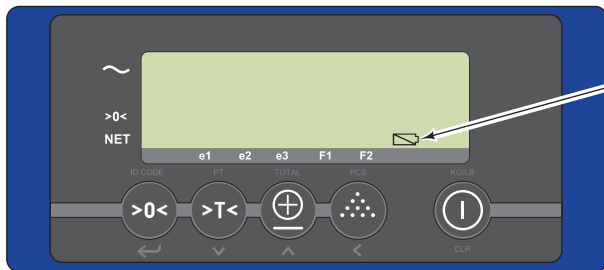
Display Low battery
will flash

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

The display is equipped with four AA batteries.

1 **Loosen capscrew on the side and slide battery lid downward**

FK0203.eps

Turn
counterclockwise
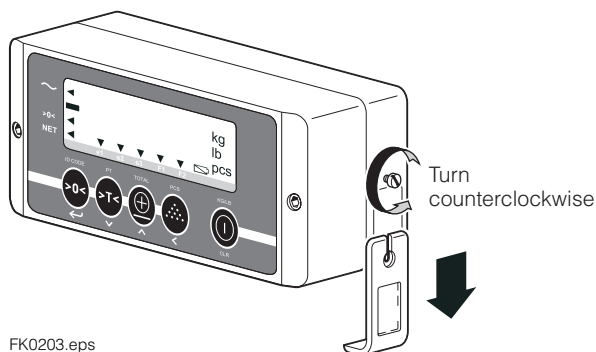
2 **Remove battery sleeve**

FK0204.eps
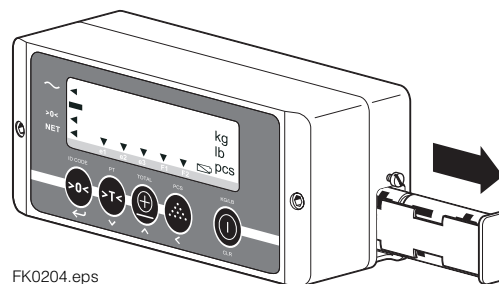
NOTE: Take note of the position and polarity of
battery sleeve.

3 **Remove batteries**
NOTE: Take note of the position and polarity of
batteries.

FK0205.eps
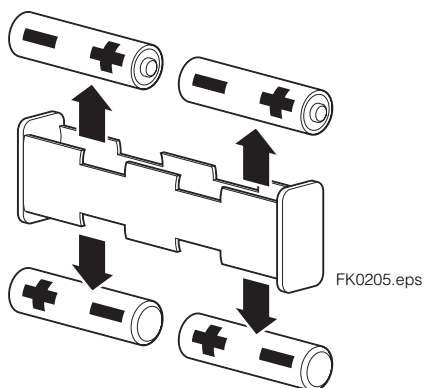
4 **Replace alkaline batteries or charge rechargeable batteries**
NOTE: Rechargeable batteries are NiMH with a charge capacity of 2,400 mAh.

For replaceable batteries, perform the following to
charge:

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

B Plug the charger into a 110V source.

FK0206.eps
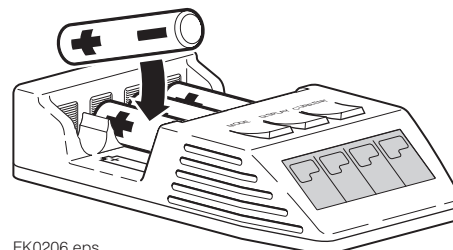
WARNING: Alkaline batteries are **not**
rechargeable and can cause damage to
the charger.

DISPLAY OPTIONS

User Settings

Enter User Setting Menu

User Settings Menu
Option Name

1 To enter user settings, hold the "Total" button for ten seconds.

NOTE: Multiple screens will flash while button is held.

FK0223.eps

2 Choose a user setting menu option by scrolling through the list. Options available are as follows:

"A_off "– Auto Shut-Off Time (Display)
"Light" – Light Intensity
"Conn1" – Deactivate/Activate Com Port 1 (Bluetooth board) ①
"Conn2" – Deactivate/Activate Com Port 2 (Printer board)
"Alibi" – Alibi Memory

3 Press the "Zero" button to confirm the selected user setting menu option and enter the menu option's submenu.

① **NOTE:** Communication Port 1 can not be deactivated.

4 Continue to selected submenu (go to next page)

Exit User Settings

To Save and Exit:

1 Press and hold the "Zero" button for three seconds

2 A screen will show as changes are saved.

3 The display will return to normal weighing mode

FK0224.eps

To Exit without Saving:

1 Press "On/Off" button

2 The display will return to normal weighing mode
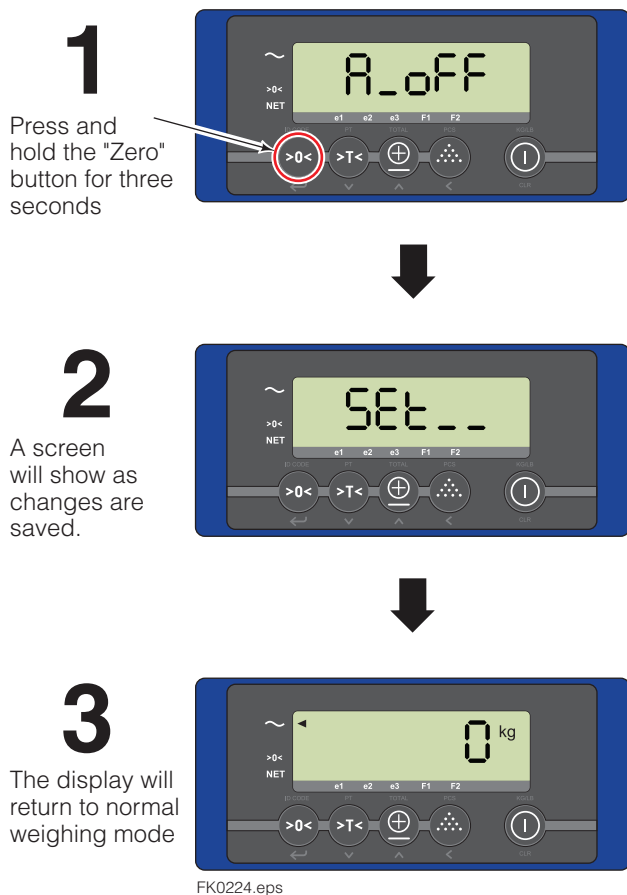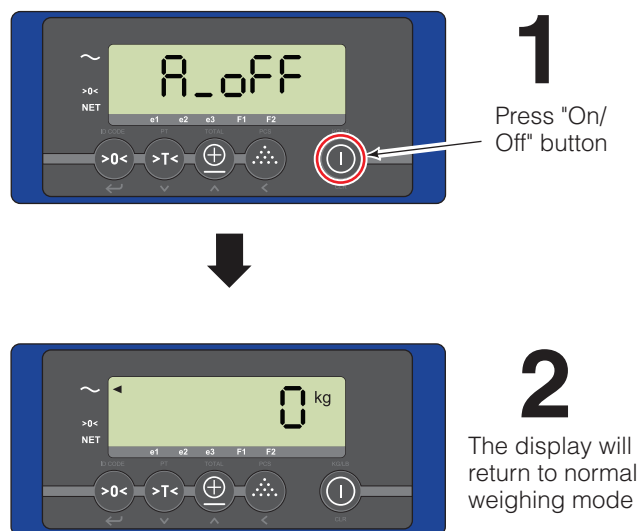
User Settings (Continued)

Change Submenu Settings

NOTE: To access User Setting Submenus, refer to the previous page, "Enter User Settings Menu" to select the appropriate submenu.

Auto Shut-Off Menu (Display)

NOTE: Auto shut-off is set to zero only when the display is hardwired to the truck power.

1 Change time and accept the value by pressing the "Zero" button.

Selected digit (minutes) flashes

A_oFF

FK0075.eps

As performed on the previous section, the "Zero" button is pressed to enter the submenu.

---02

Accept Value

Decrease digit value

Increase digit value

Move left to next digit

2 When value is accepted, the display will return to the *User Settings Menu* (previous page)

Backlight Intensity Menu

1 Scroll through the list of intensity options and accept the value by pressing the "Zero" button.

L 19ht

FK0076.eps

As performed on the previous section, the "Zero" button is pressed to enter the submenu.

0

Accept Value

Move down through list

Move up through list

Intensity options (percentage):
0 (Backlight Off), 25, 50 ,75, 100

2 When value is accepted, the display will return to the *User Settings Menu* (previous page)

Com Port 2 Menu (Printer Board)

1 Scroll through the list of options and accept the value by pressing the "Zero" button.

Conn2

FK0078.eps

As performed on the previous section, the "Zero" button is pressed to enter the submenu.

C2oFF

Accept Value

Move down through list

Move up through list

Options:
C2off – De-activate Com Port 2
C2_on – Activate Com Port 2

2 When value is accepted, the display will return to the *User Settings Menu* (previous page)

User Settings (Continued)

Change Submenu Settings (Continued)

Alibi Memory

IMPORTANT: This option is only active for forks that require NTEP or OIML certification. The memory (1 Mb capacity) stores every weight, date, time and an Alibi reference number. This data can be used for dispute. Once memory is full, the oldest data will be overwritten first.

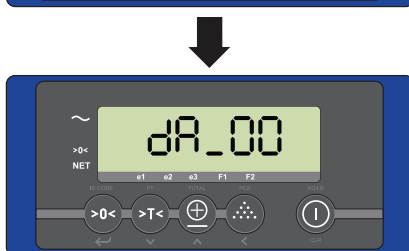Refer to printout or PC data for performing Steps 1-6.

NOTE: Refer to the *Entry Mode Guide* to enter alibi information.

As performed in the previous section, the "Zero" button is pressed to enter the submenu.

Entry Mode Guide

C **A** **B**

Use the following buttons to change the value. The current digit to change will flash.

A (⊤) **OR** (⊕)

∨ Decrease the Value

∧ Increase the Value

B (∴) ‹ Shift to the next digit on the left

C (⊙) ↵ Accept the value

FK0079.eps

1 Enter the alibi number

2 Enter the day
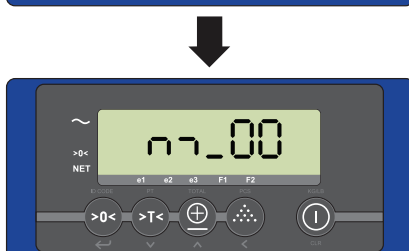
3 Enter the month

4 Enter the year

5 Enter the hour

6 Enter the minute

Procedure continued on next page

User Settings (Continued)

Change Submenu Settings (Continued)
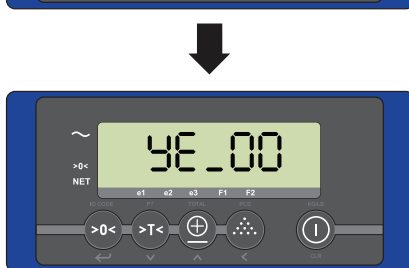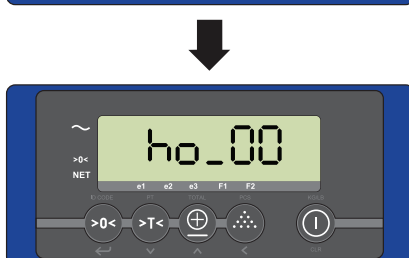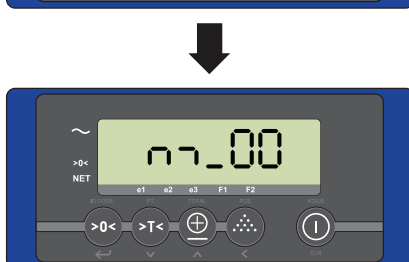
Alibi Memory (Continued)

7 "Gross" shows for five seconds.

8 Gross weight will show. Press "Zero" button to move onto next screen.
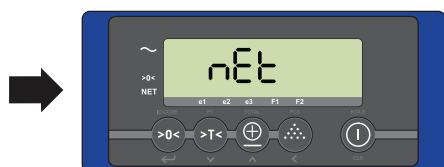
9 "Net" shows for five seconds.

Net: Weight is measured
Net_C: Weight is calculated

OR

"Net_C" shows for five seconds.
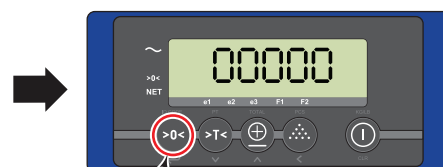
10 Net weight will show. Press "Zero" button to move onto next screen.

11 "Tare" shows for five seconds.

Tare: Weight is measured
Ptare: Weight is keyed in

OR

"Ptare" shows for five seconds
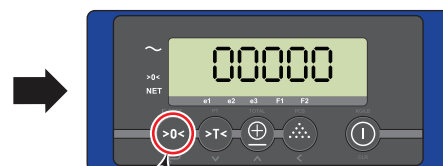
12 Tare weight will show. Press "Zero" button to move onto next screen.
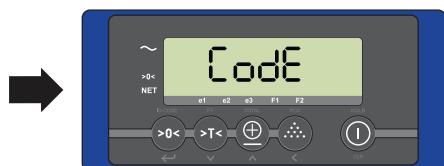
13 "Code" shows for five seconds.
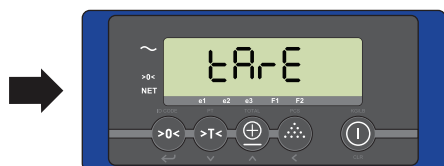
FK0080.eps

14 Code will show. If no code was used "0" will show. Press the "Zero" button.
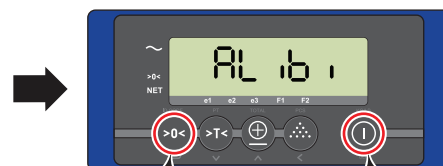
15 Press the "Zero" button to search for another weighing

OR

Press the "On/Off" button to return to the normal weighing mode

Print Weight

1 If required, zero the display.

2 Position load on forks and raise forks.

3 Weigh the load.

Load

2
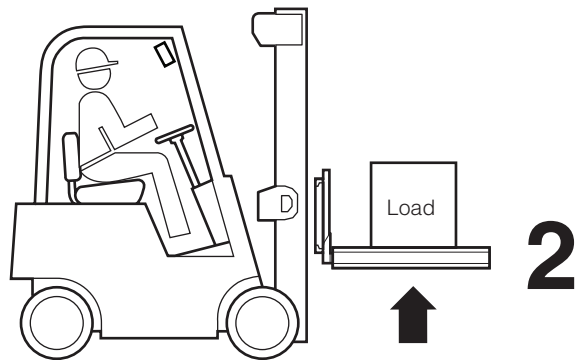
FK0225.eps

4 Press the "Total" button to print.

5 Printer will print out load weight.
NOTE: This will add the weight to the total weight.

```
B/G        250.0 lb.
T           25.0 lb.
N          275.0 lb.

Nr.              1
10/15/09     17:45
```

4

5
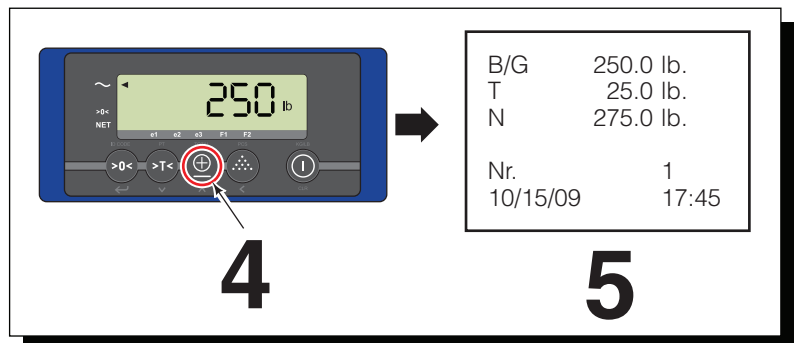
Print Total Weight

NOTE: For full procedure, refer to section "Adding And Totaling A Group Of Load Weights", pages 15-16.

1 Press and hold the "Total" button for three seconds.

2 While the display flashes (the counter and total weight), press the "Total" button to print.

IMPORTANT: The load must be removed from the iForks before pressing the "Total" button.

3 Printer will print out the total load weight.

NOTE: The total weight will reset to zero.

FK0082.eps

```
Tot. B/G 2000.0 lb.
Tot. T      50.0 lb.
Tot. N    1950.0 lb.

Tot. Nr.          5
10/15/09      17:55
```

1   **2**   **3**
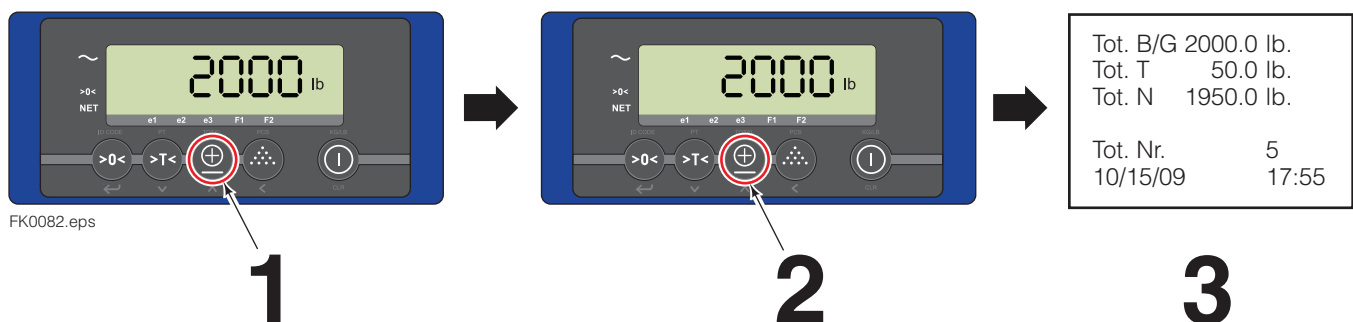
Change Time & Date Printout

NOTE: For Steps 2-6, refer to the *Entry Mode Guide* (below) to change the time and date values.

1 Press and hold the "Sampling" button for 8 seconds

2 Enter the hour

3 Enter the minute
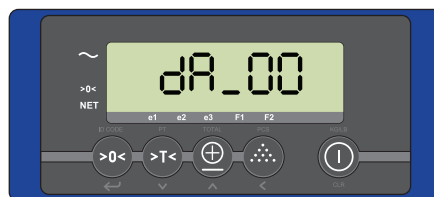
4 Enter the day

5 Enter the month

6 Enter the year

Entry Mode Guide

C   A   B

Use the following buttons to change the value. The current digit to change will flash.

A ⊕T⊕ **OR** ⊕

Decrease the value   Increase the value

B ⊙ <
Shift to the next digit on the left

C ⊙ ↵
Accept the value

FK0083.eps
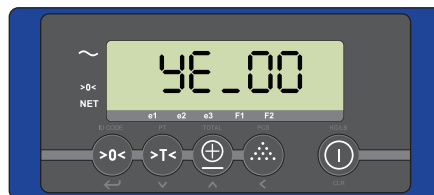
7 The display will return to normal weighing mode.
NOTE: If a printer is installed, the date and time will print with weight information.

D AILY INSPECTION

Check the following items below each day. Refer to Service Manual 6823346 for troubleshooting, maintenance and repair procedures.

Check upper hook engagement

Inspect battery packs before battery holders. Make sure that the contact points are not loose. Tighten screws, as required.

IMPORTANT: If display and/or iForks are indicating low battery, iForks weighing accuracy and communication to the display can be affected.

Inspect battery holders for debris or bent tabs. Remove any debris found. Check that the tabs are not bent. if required, straighten tabs.

IMPORTANT: The battery holder should not be left exposed.

FK0259.eps

Check lower hook engagement

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

IMPORTANT: Only trained and authorized personnel are allowed to service iForks 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.
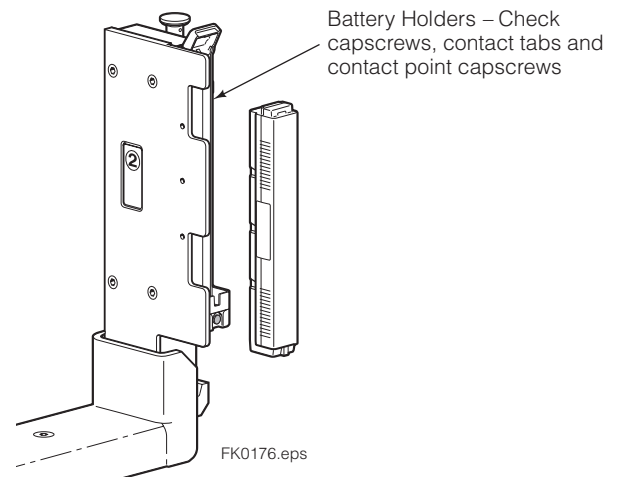
100-Hour

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

- Check for debris between fork and fork shoe (ie. wood chips).

- 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 bottom of batteries.

- Tighten fork shoe capscrews after initial 100 hours of service. Tighten to a torque of 80 ft.-lbs. (108 Nm). As necessary, replace the cover spool, fork shoe capscrews and nuts.

- Every 100 hours or when the battery packs are changed, inspect the battery holders for damage and debris. Remove any debris found and check to make sure that the capscrews are tight and contact tabs are not damaged or bent. If required, tighten the contact point capscrews.

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

FK0176.eps

Cleaning iForks

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

CAUTION: Do not rinse display.

2000-Hour

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.
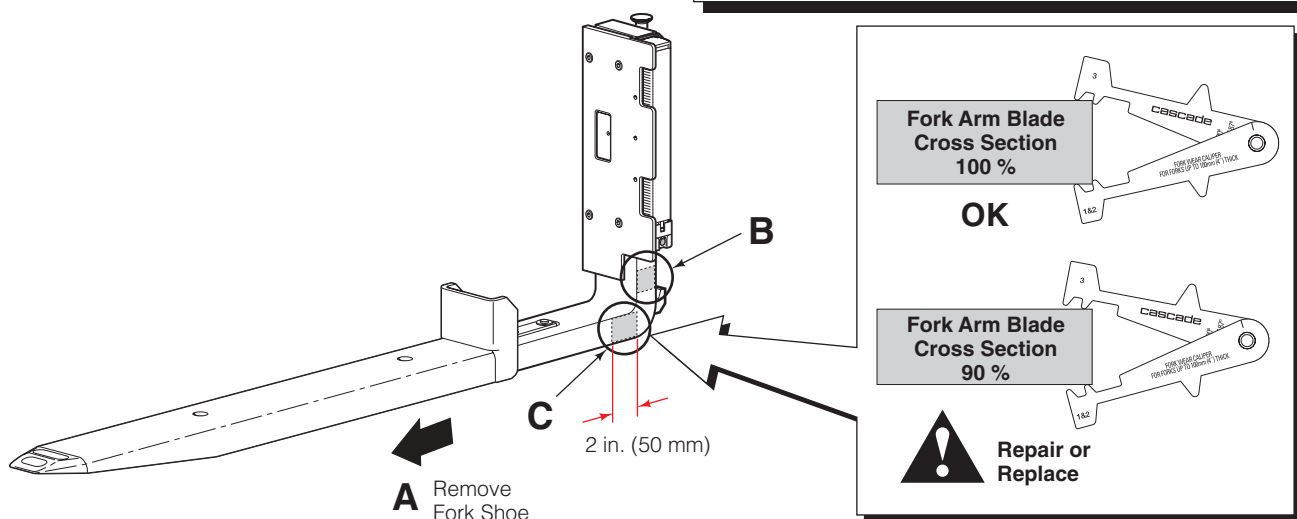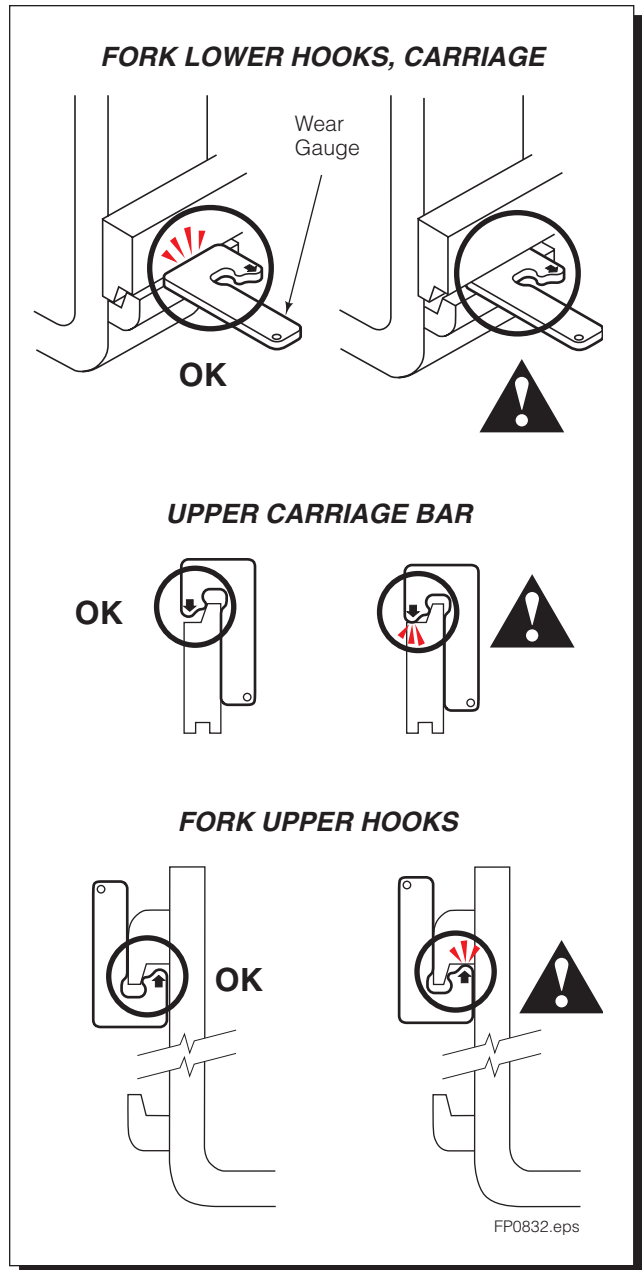
Inspect fork hooks and carriage bar clearance

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 from forks. For reassembly, tighten capscrews to a torque of 80 ft.-lbs. (108 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 2 in. (50 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

2 in. (50 mm)

A Remove Fork Shoe

Fork Arm Blade Cross Section 100 %

OK

Fork Arm Blade Cross Section 90 %

Repair or Replace

FK0293.eps

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: 888-329-8207

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

Cascade do Brasil
Praça Salvador Rosa,
131/141-Jordanópolis,
São Bernardo do Campo - SP
CEP 09891-430
Tel: 55-13-2105-8800
Fax: 55-13-2105-8899

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 Private Limited
No 34, Global Trade Centre
1/1 Rambaugh Colony
Lal Bahadur Shastri Road,
Navi Peth, Pune 411 030
(Maharashtra) India
Phone: +91 020 2432 5490
Fax: +91 020 2433 0881

Cascade Australia Pty. Ltd.
1445 Ipswich Road
Rocklea, QLD 4107
Australia
Tel: 1-800-227-223
Fax: +61 7 3373-7333

Cascade New Zealand
15 Ra Ora Drive
East Tamaki, Auckland
New Zealand
Tel: +64-9-273-9136
Fax: +64-9-273-9137

Sunstream Industries
Pte. Ltd.
18 Tuas South Street 5
Singapore 637796
Tel: +65-6795-7555
Fax: +65-6863-1368