

OWNER'S MANUAL

C-Series

Sensor Forks

Includes:

- ***Camera Forks***
- ***Optional Auxiliary Camera***

Original Instructions

Number 9015676 EN



**cascade[®]
corporation**

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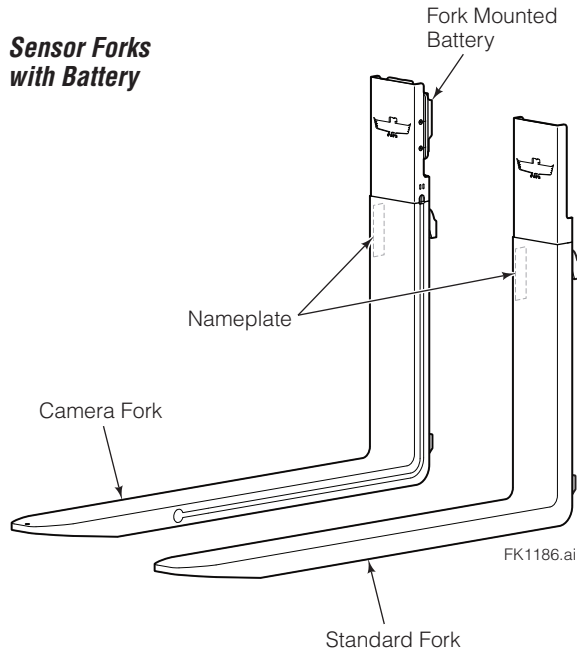
INTRODUCTION

About This Manual

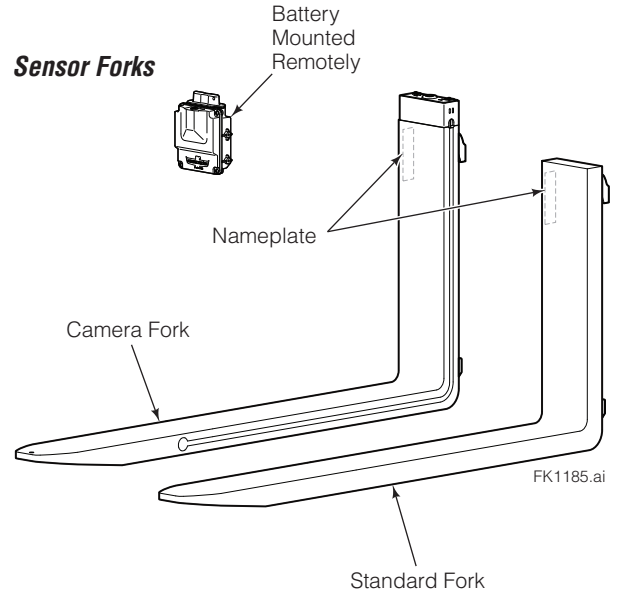
This user manual is for Cascade C-Series Sensor Forks. It contains Installation Instructions, Using the Display, Using the System, Battery, User Settings and Periodic Maintenance.

In any communication about the forks, refer to the product catalog and serial numbers stamped on the nameplate. If the numbers are found missing, the numbers are stamped on the right (below the nameplates) shank of each fork.

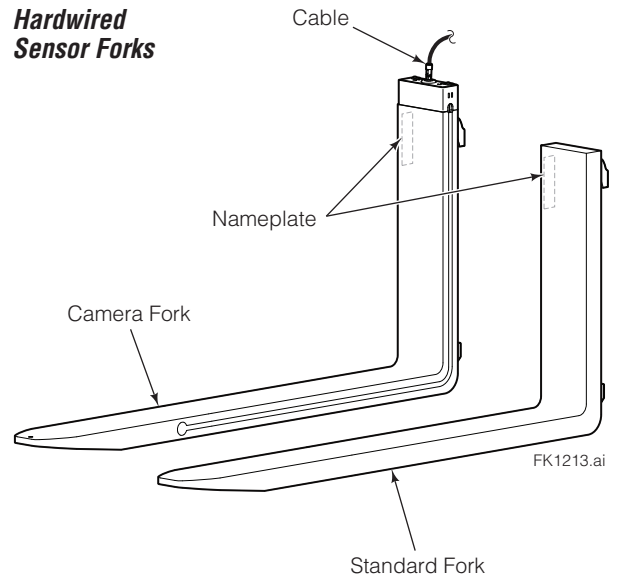
Sensor Forks with Battery



Sensor Forks



Hardwired Sensor Forks



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 the job easier.



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

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

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

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

IMPORTANT INFORMATION

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

CAUTION: The Camera Forks and Sensor Forks camera is not an navigational device. It is intended to aid operators for load position visibility purposes.

Weighted Emission Sound Pressure Level - Weighted emission sound pressure level (LpA) does not exceed 70 dB(A).

Measured Value of Whole Body Vibration - Measured value of whole body vibration (m/s²) does not exceed 0,5 m/s².

Measured Value of Hand-Arm Vibration - Measured value of hand-arm vibration (m/s²) does not exceed 2,5 m/s².

Warnings



WARNING: Display use – Not designed for use while driving the truck. Operators must, at all times:

- Be aware of risk to pedestrians, bystanders and themselves.
- **Always look in the direction of and keep a clear view in the path of travel, in any direction the truck is traveling.**

It is the operator's responsibility to avoid distracted or impeded operation of the equipment while using any display. Failure to do so may result in severe personal injury or death.



WARNING: The Sensor Forks System (including auxiliary camera option) is not a safety device. It is intended to reduce pallet/bin damage and aid operators.



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



WARNING: On both of the sensor forks is a designation stamping or nameplate for capacity. The maximum capacity is for the **fork pair** and load center is stamped.



WARNING: Residual risk exists to pedestrians and to bystanders in the work area. Operate lift truck and Sensor Forks System in a safe work area and in compliance with facility, local and national standards and rules.



WARNING: This product contains a Class 1 laser. Do not look into the sensor's laser beam. Looking directly into the beam may result in eye injury. **EN/IEC 60825-1:2014**
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice No. 50, dated June 24, 2017.



WARNING: Wear appropriate protective gear, goggles, steel toe boots and gloves during installation and periodic maintenance procedures.

Battery (Backpack Equipped)

Operating Temperature Range:

-20° C to 60° C

Charging Temperature Range:

0° C to 45° C

IMPORTANT: Keep battery clean and dry. Store battery with a charged state between 40-60% and in an environment below 20°C, low humidity, without dust and corrosive gas.

NOTE: Refer to Appendix for complete battery data.

Sensor Forks

Storage Temperature Range:

-20° C to 60° C

Operating Temperature Range:

0° C to 40° C

NOTE: For every 304,8 m of elevation, the operating temperature is derated 0,5°C.

Maximum Operating Temperature Rate of Change:

10° C per hour

IMPORTANT: Keep sensor forks clean and dry. Store battery with a charged state between 40-60% and in an environment below 50° C, low humidity, without dust and corrosive gas.

OPERATION

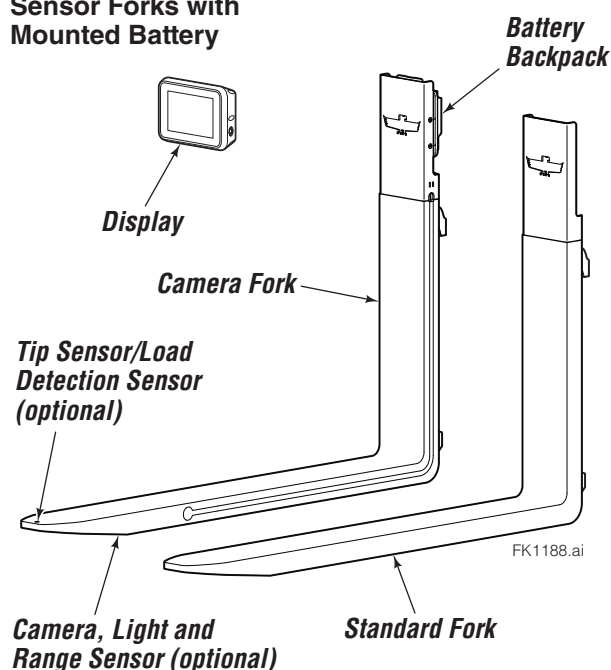
About Operation

This section contains operating instructions for Cascade Sensor Forks system. It will help you avoid common errors which often cause damage to the equipment or product being handled.

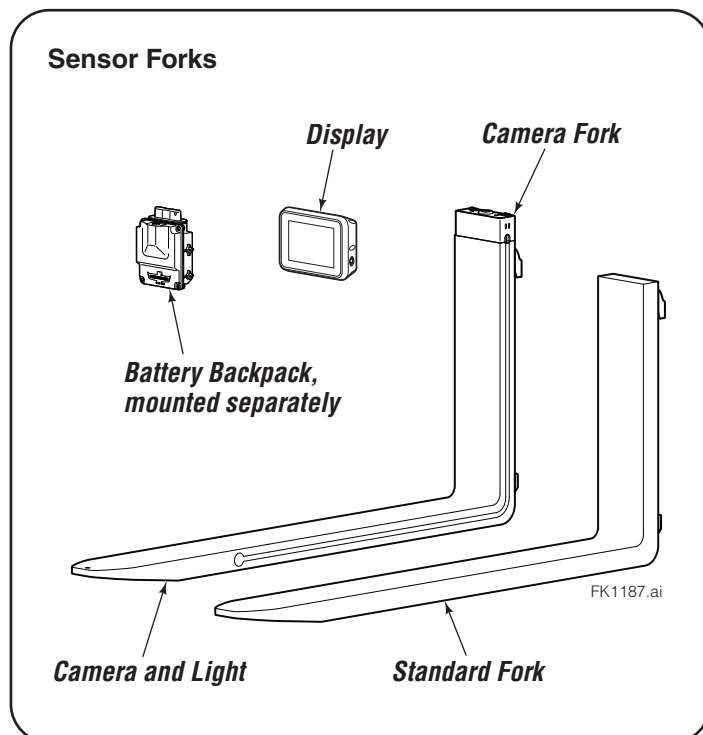
This information is intended to simplify operator understanding about effective and safe Sensor Forks system use and operation. Read this information thoroughly before operating the system. Be sure you know and understand all operating procedures and safety precautions. If you have any questions or don't understand a procedure, ask your supervisor.

Emphasize Safety! Most accidents are caused by operator carelessness or misjudgment. You must watch for poorly maintained equipment and hazardous situations and correct them.

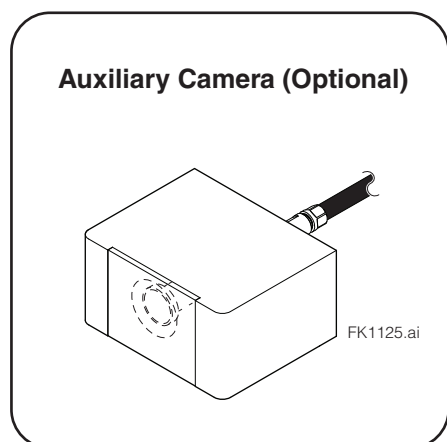
Sensor Forks with Mounted Battery



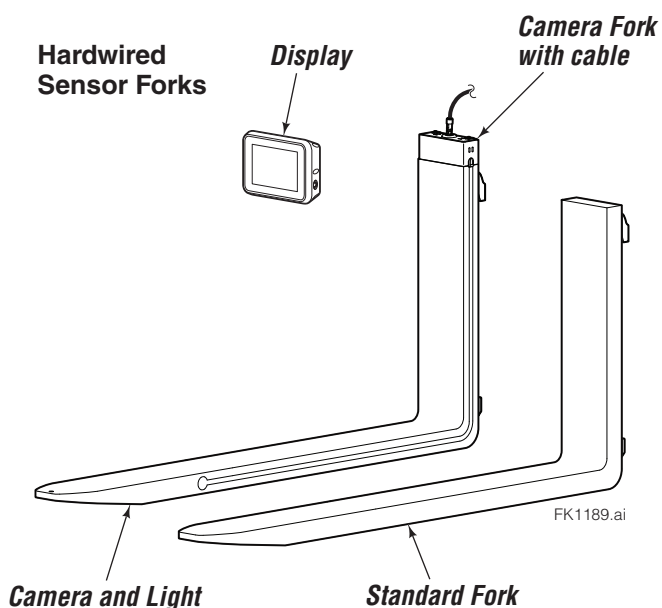
Sensor Forks



Auxiliary Camera (Optional)



Hardwired Sensor Forks



OPERATION

Safety Rules – Industrial Lift Trucks

No riders



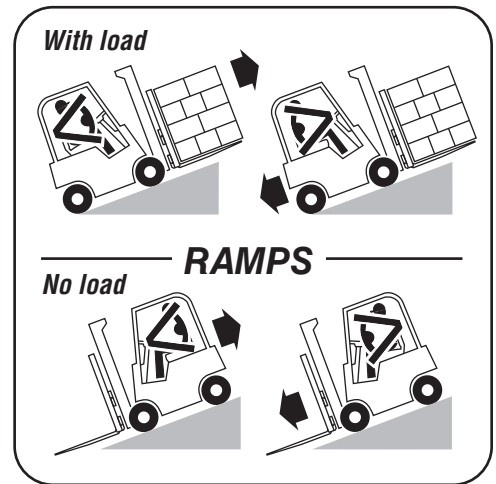
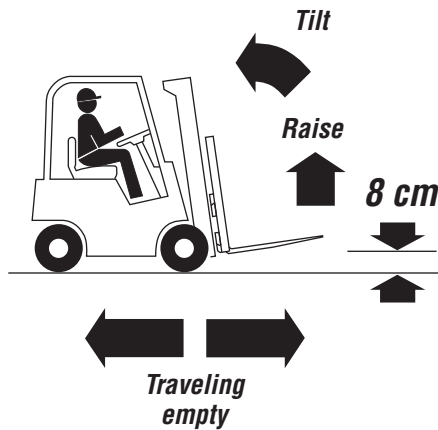
No reaching through mast



No standing under load

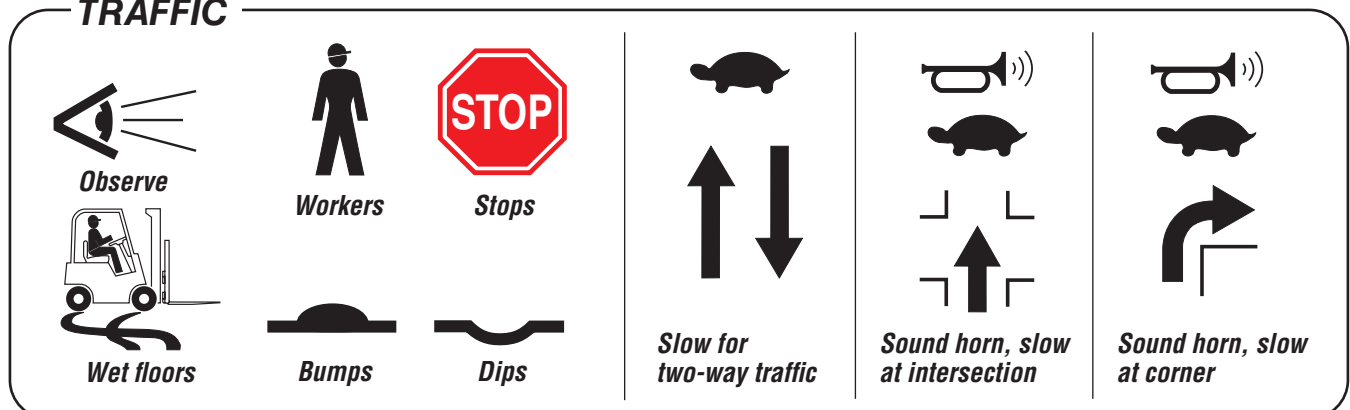


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TRAFFIC

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OPERATION

Using the Display

Screen Buttons



Return – Returns to Previous Screen.



Home – Returns to the Home Screen.



Check – Accept the changes and save.



Settings – Go to Settings Menu

NOTE: Button is accessed by touching the top area of the screen.



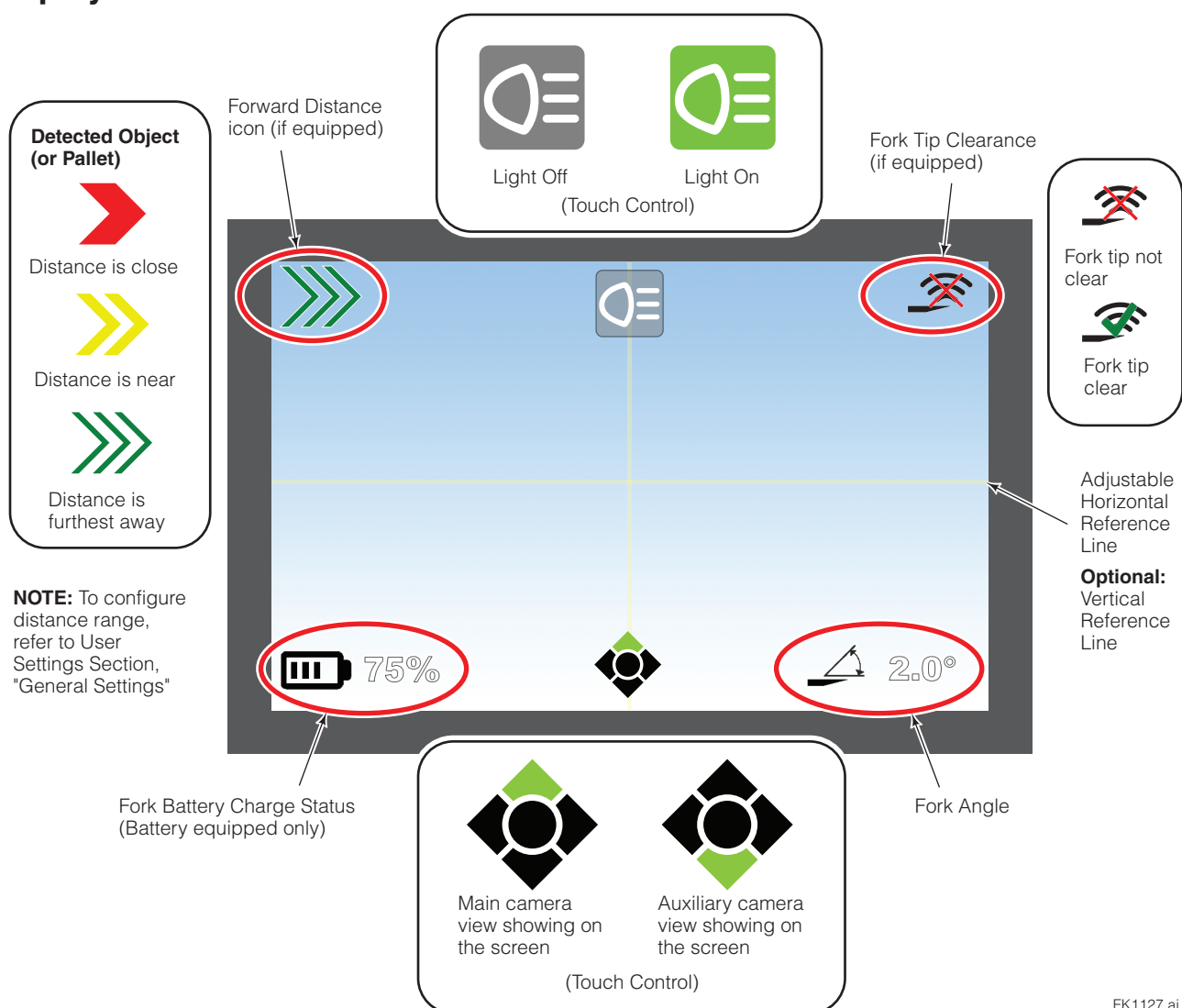
Light (touch control) – Toggle light On/Off



Camera (touch control) – Toggle between main and auxiliary

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Display Home Screen



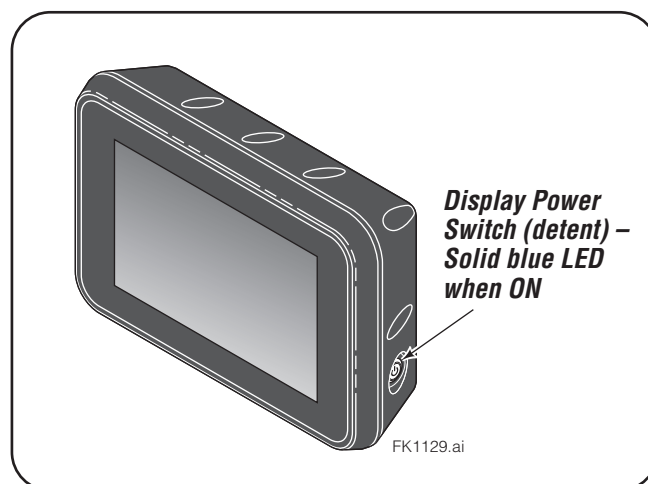
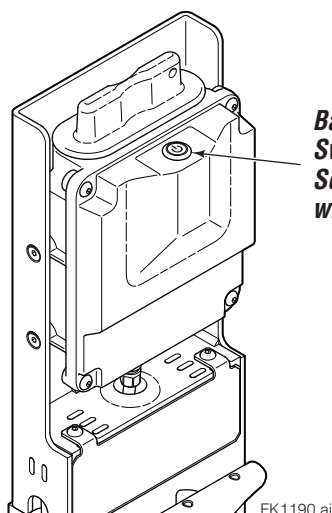
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OPERATION

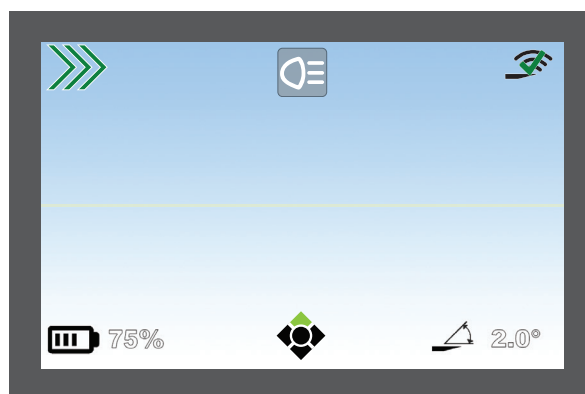
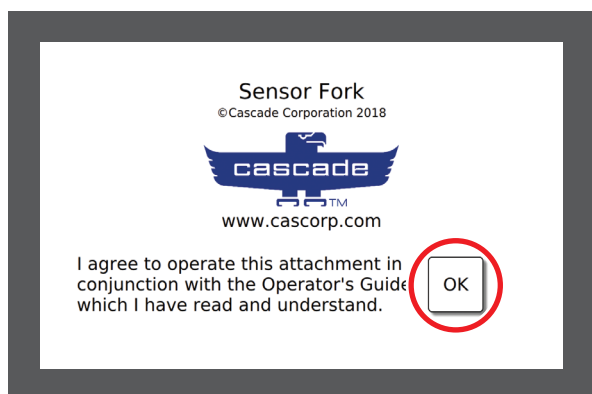
Using the Display

Basic Operation

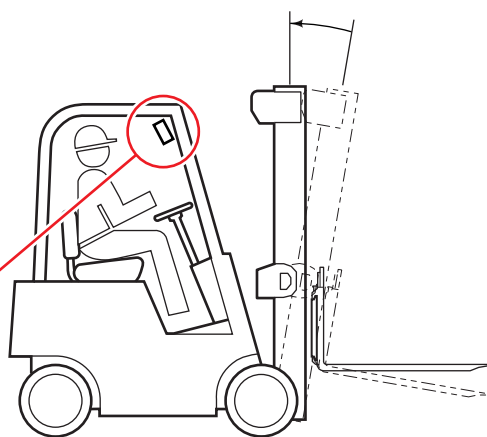
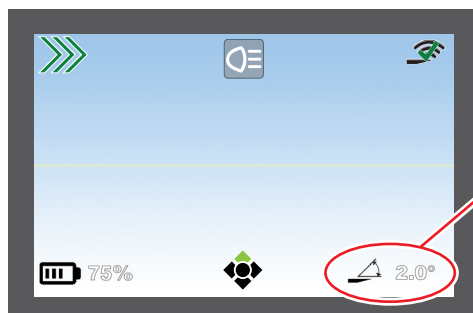
- 1 *If required, power "On" the backpack (if equipped) and then the display.*



- 2 *Read Acknowledgement statement and press the "OK?" button to continue.*



- 3 *Tilt mast to position forks parallel to floor. The screen will show the angle.*



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OPERATION

Using the Display

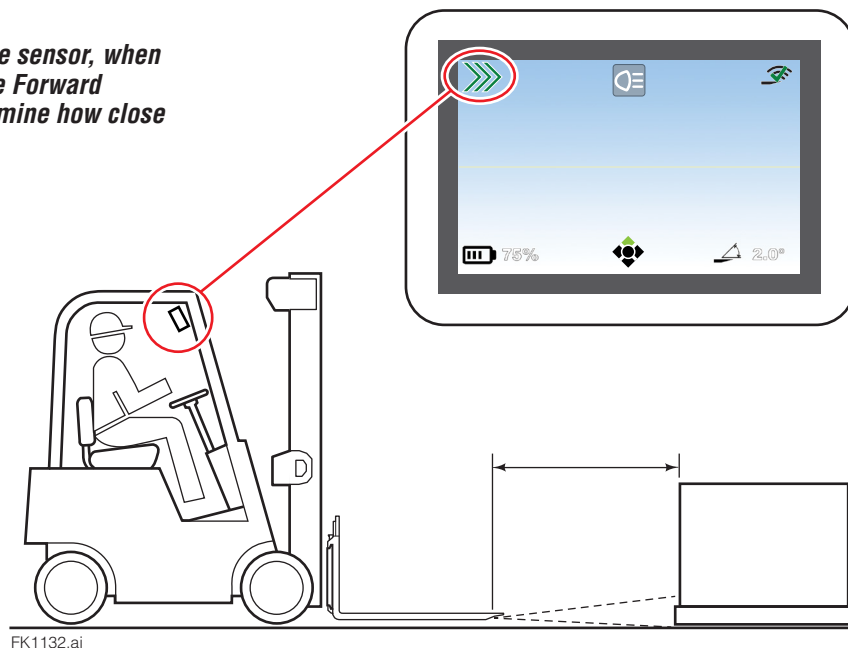
Basic Operation (continued)

4

Approach a load.

If equipped with Forward Distance sensor, when two meters from the load, use the Forward Distance icon as a guide to determine how close to the load the forks are.

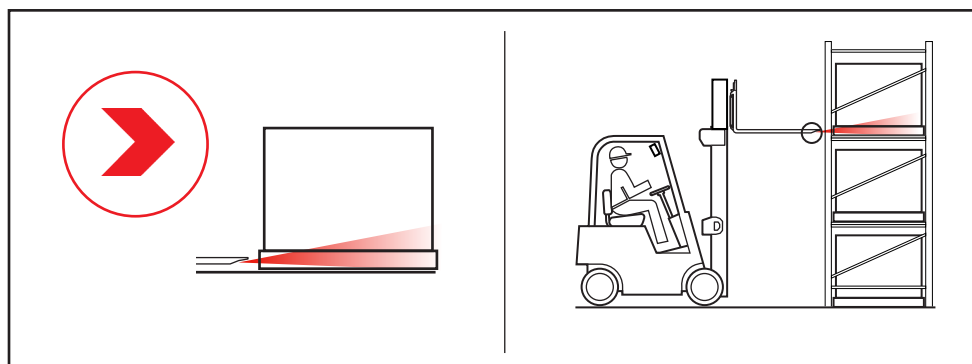
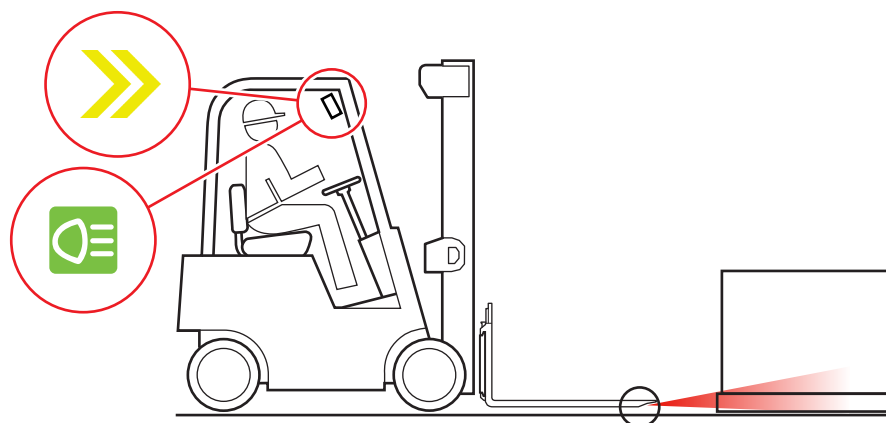
CAUTION: The Camera Forks and Sensor Forks camera is not an navigational device. It is intended to aid operators for load position visibility purposes.



5

Use the light and camera to aid with positioning the forks with the load.

If equipped with Forward Distance sensor, note that the Forward Distance icon changes as the forks progress closer to the load.



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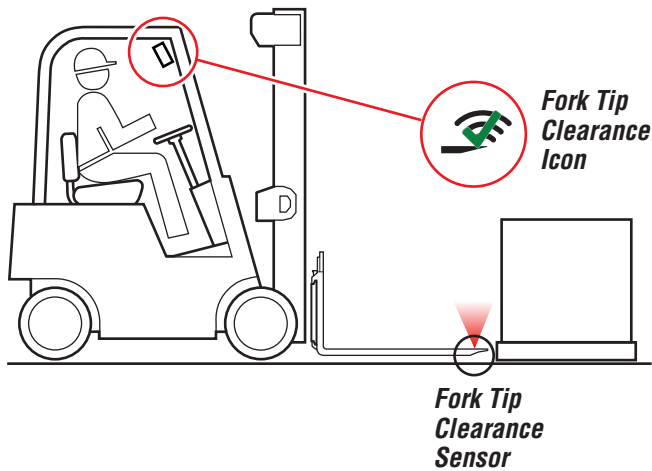
OPERATION

Using the Display

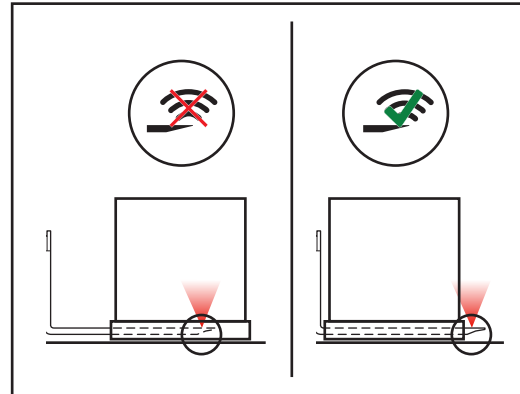
Basic Operation (continued)

- 6** As the forks pass through the pallet (or under load), continue to use the camera and light.

NOTE: While forks move through the pallet (or under the load), the Forward Distance sensor (if equipped) will be unreliable. Once the fork tips are beyond the pallet (or load), the sensor will detect the object (wall, pallet, etc.).



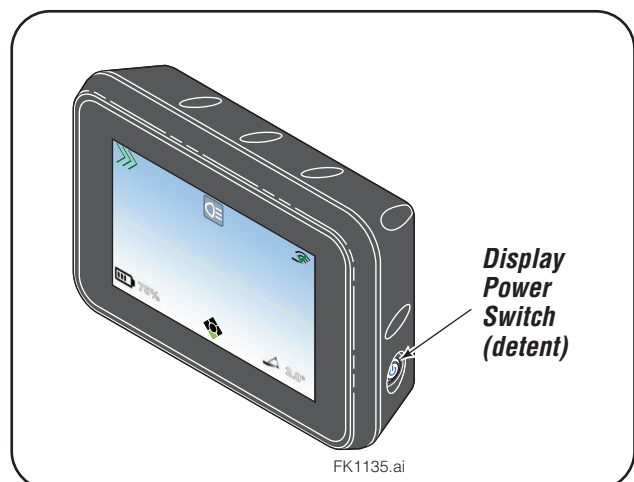
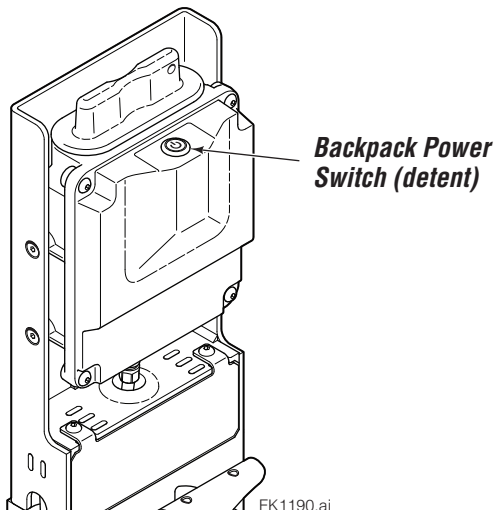
If equipped with Fork Tip Clearance sensor, the sensor's icon will show an "X" on the arcs.



Once the fork tips are beyond the pallet (or load), the screen will show a check mark on the Fork Tip Clearance icon.

- 7** Once the load is on the forks, operate the truck and attachment per operator guides.

Turn Power 'Off'



SAFE OPERATION AND MAINTENANCE

Industrial Trucks and Attachments



WARNING: When operating and maintaining industrial trucks equipped with attachments, you should pay particular attention to the following information. You should be familiar with this information for truck and attachment operation. **Ask your employer for complete operation information.**

General Requirement

Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturers prior written approval. Capacity, operation and maintenance instruction plates, tags or decals shall be changed accordingly.

If the truck is equipped with front-end attachments other than factory installed attachments, the user shall request that the truck be marked to identify the attachments and show the appropriate weight of the truck and attachment combination at maximum elevation with load laterally centered.

The user shall see that all nameplates and markings are in place and maintained in a legible condition.

Safety Guards

If the type of load presents a hazard, the user shall equip fork trucks with a vertical load backrest extension in accordance with the following.

All new powered industrial trucks acquired and used by an employer after February 15, 1972 shall meet the design and construction requirements for powered industrial trucks established in the "American National Standard for Powered Industrial Trucks, Part II, ANSI B56.1" and EN ISO 3691-1, except for vehicles intended primarily for earth moving or over-the-road hauling.

Operator Training

Only trained and authorized operators shall be permitted to operate a powered industrial truck. Methods shall be devised to train operators in the safe operation of powered industrial trucks.

Truck Operations

Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.

No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside the running lines of the truck.

When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off and brakes set. Wheels shall be blocked if the truck is parked on an incline.

A powered industrial truck is unattended when the operator is 7 meter or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.

When the operator of an industrial truck is dismounted and within 7 meter of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized and the brakes set to prevent movement.

A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock or platform or freight car. Trucks shall not be used for opening or closing freight doors.

A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

Traveling

The driver shall be required to slow down and sound the horn at cross isles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.

On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

Loading

Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.

Only loads within the rated capacity of the truck shall be handled.

The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.

Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.

Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

Operation of the Truck

If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

Maintenance of Industrial Trucks

Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.

All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.

Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.

Industrial trucks shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examinations shall be made at least daily. When industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

INSTALLATION

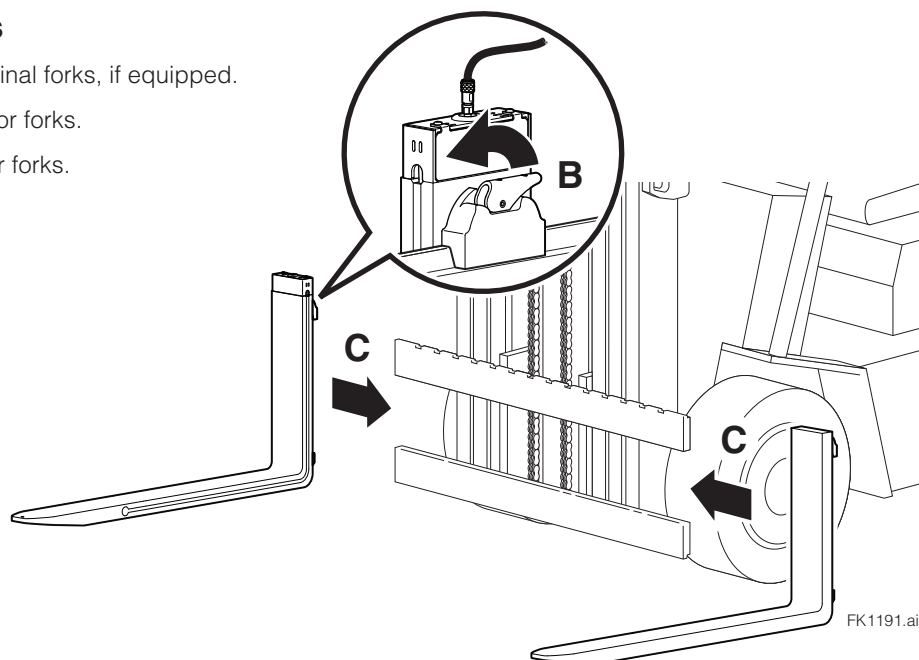
Fork Installation

Standard Sensor Forks

1 Remove backrest, if required

2 Install forks

- A** Remove original forks, if equipped.
- B** Unlock sensor forks.
- C** Install sensor forks.



3 Install backrest

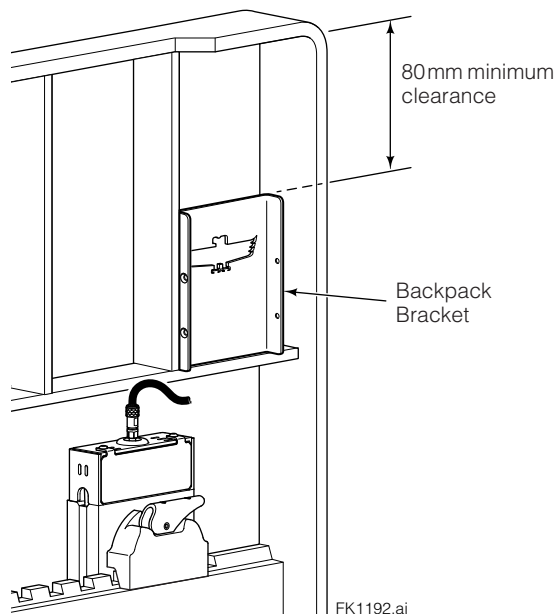
For reassembly, tighten Cascade backrests to 195 Nm. For other backrests, refer to OEM recommendations.

4 Install backpack bracket

Find a suitable location on the attachment's backrest to install the backpack bracket with the following guidelines:

- The bracket should be clear of load and mast interference.
- Allow for easy access to install the backpack mounting screws, battery and cable connections.
- Allow 80 mm minimum clearance above the bracket.

Tack weld the bracket as necessary.



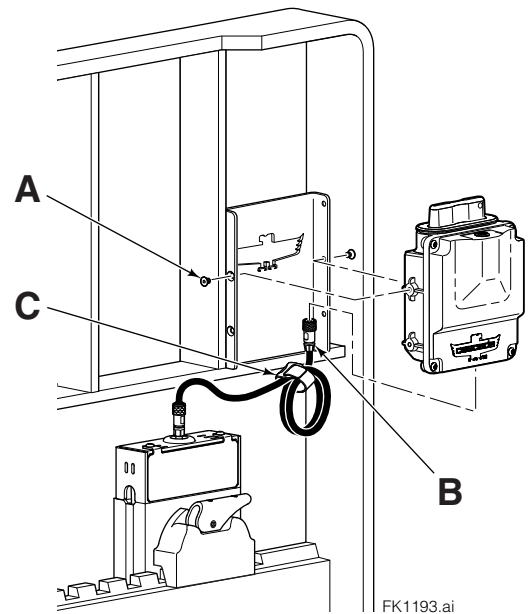
INSTALLATION

Fork Installation

Standard Sensor Forks (continued)

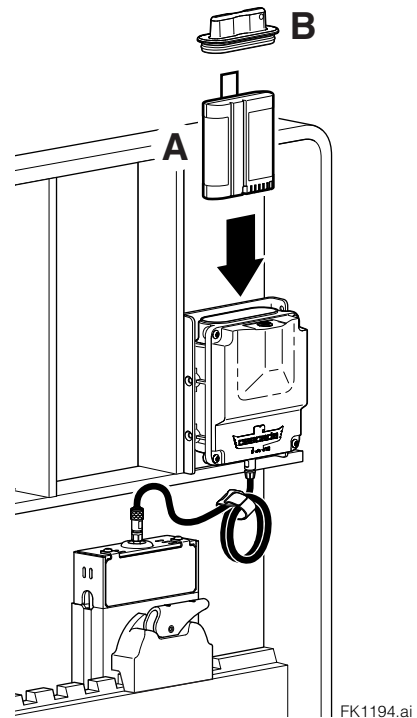
5 Install backpack

- A** Install backpack and tighten capscrew to 3 Nm.
 - B** Connect cable to backpack.
 - C** Coil cable and wrap in reusable Velcro tie. Verify the cable is clear of moving parts.
- NOTE:** If needed, extension cables are available.



6 Install battery into backpack

- A** Use the battery tab to position the battery in the Backpack.
- B** Secure Battery Backpack cap with wire provided and install into backpack.



7 Display Installation

For mounting and connecting the display, refer to Display Installation, page 17.

INSTALLATION

Fork Installation

NOTE: For Sensor Forks with Remote Backpack Installation, refer to page 10. For Hard Wired Sensor Forks Installation, refer to page 13.

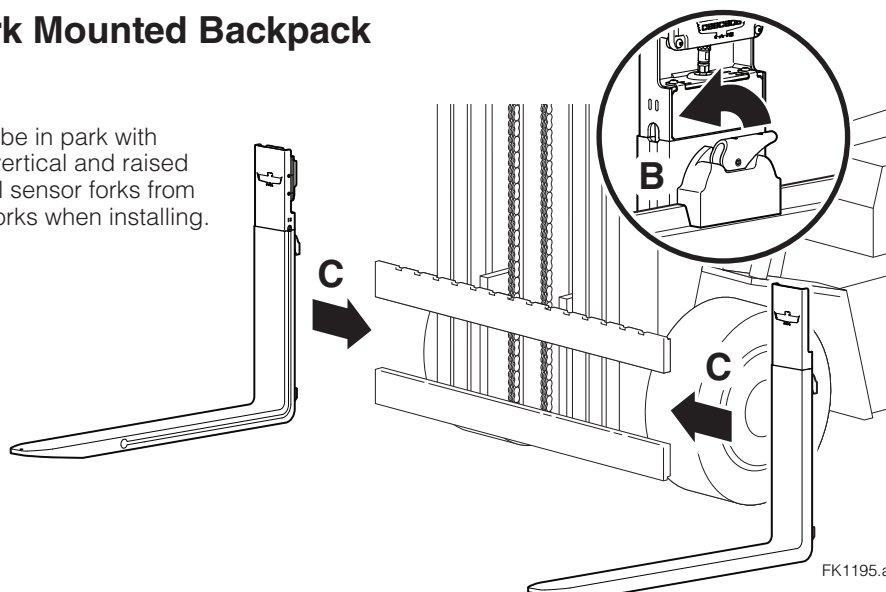
Sensor Forks with Fork Mounted Backpack

1

Install forks

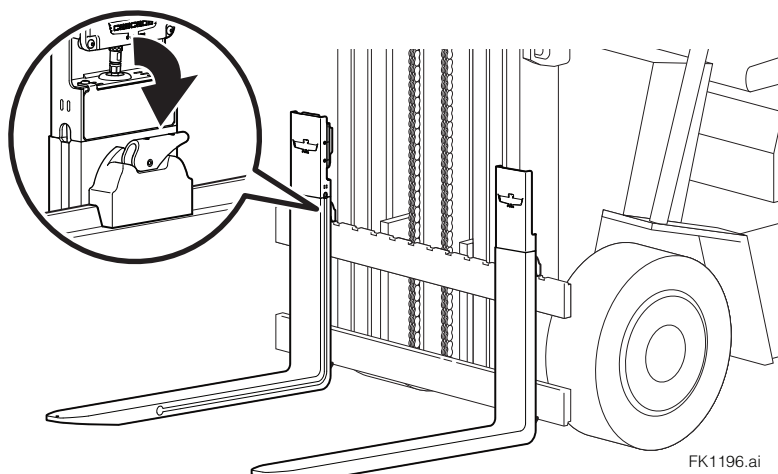
IMPORTANT: Truck must be in park with motor off. Mast must be vertical and raised only high enough to install sensor forks from side. Keep feet clear of forks when installing.

- A** Remove original forks.
- B** Unlock sensor forks.
- C** Install sensor forks.



2

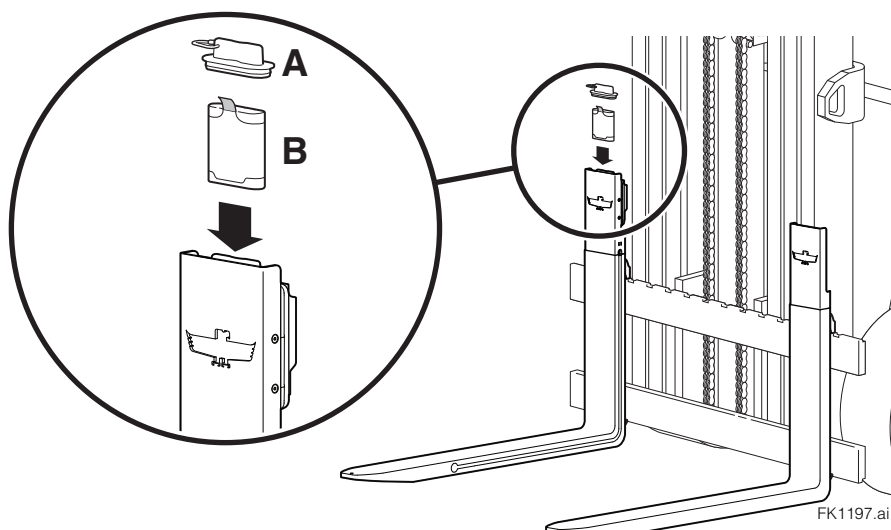
Lock forks



3

Install battery into fork backpack

- A** Remove Battery Backpack cap.
- B** Use the battery tab to position the battery in the Backpack.



INSTALLATION

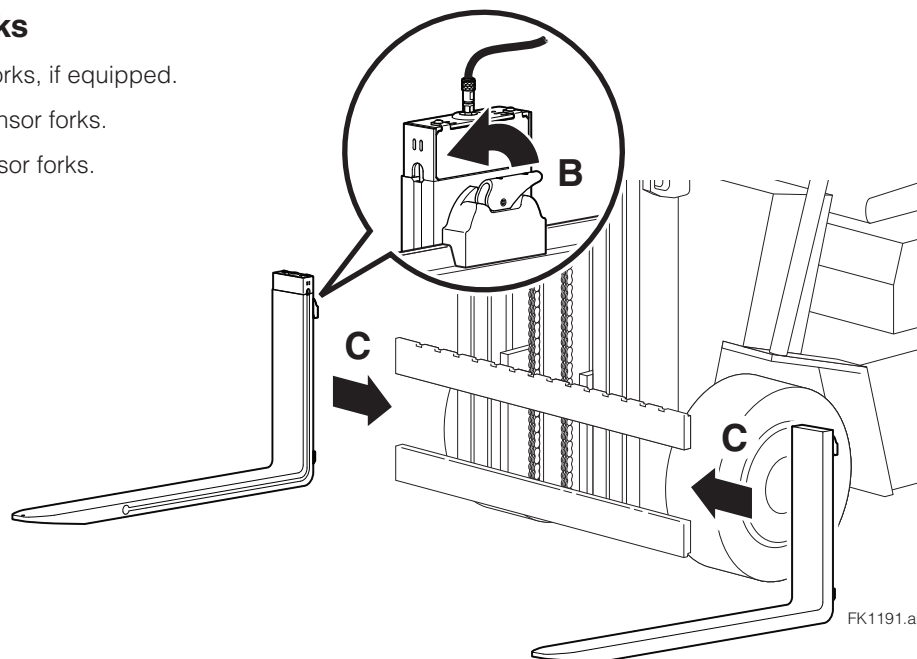
Fork Installation

Hard Wired Sensor Forks

1 Remove backrest, if required

2 Install forks

- A** Remove forks, if equipped.
- B** Unlock sensor forks.
- C** Install sensor forks.



3 Install backrest

Tighten Cascade backrests to 195 Nm. For other backrests, refer to OEM recommendations.

4 Install Internal Reeving Kit, Ethernet Cable Reel or Communications Kit (not included)

Internal Reeving Kits

Follow the instructions provided by OEM. Use CAT6 Ethernet cable with Weipu connectors.

NOTE: Additional jumpers or extensions cables are available for any installation style.

Extension Cables

Length	Part No.
250 mm	6976771
500 mm	6949183
1000 mm	6975092
1800 mm	6975093
2500 mm	6971929

Hard Wired Sensor Forks (continued)

4 Install Internal Reeving Kit, Ethernet Cable Reel or Communications Kit (not included) (continued)

Ethernet Cable Reel Installation
(Part no. 6945857)

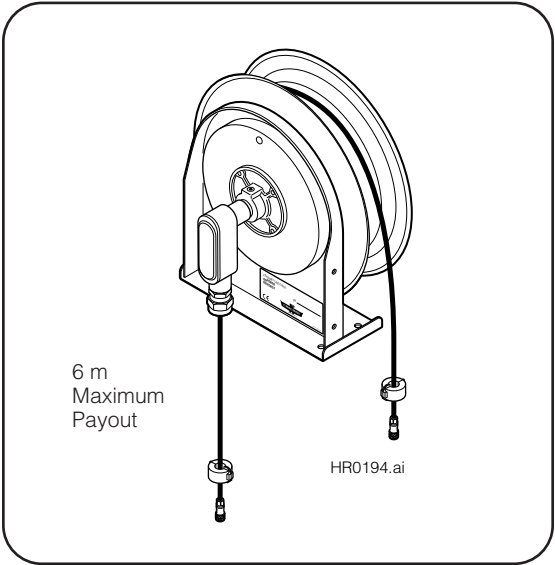
A Install the cable reel (including prewind), junction block and secure the cable to the junction block as described in Ethernet Cable Reel User Manual, part no. 6946057.

IMPORTANT: If required, allow additional cable length for fork positioning and sideshifting movement.

B Install the display. Refer to page 17.

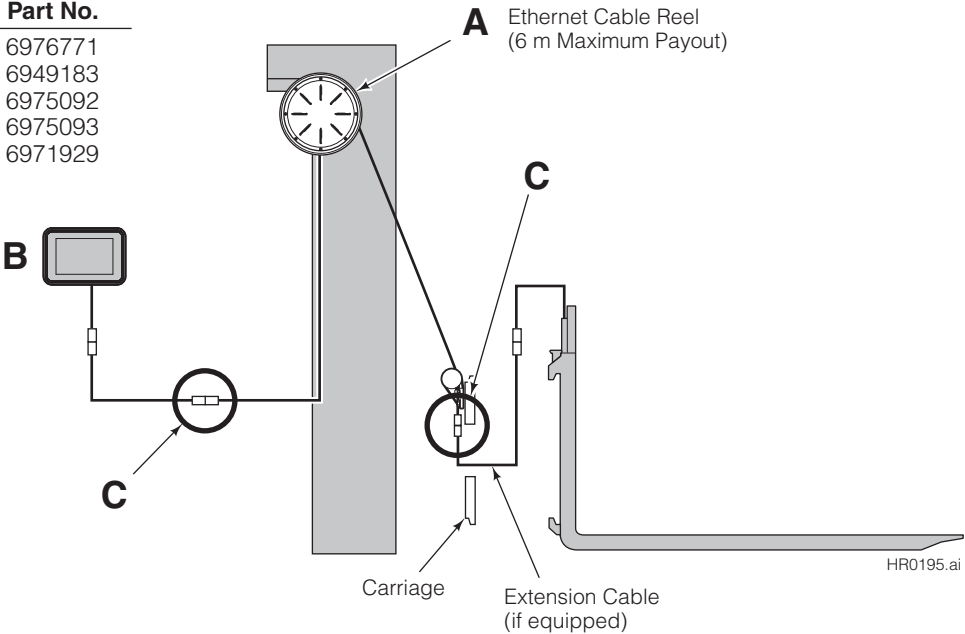
C Connect the cable ends as shown.

NOTE: If needed, extension cables are available. Refer to table below.



Extension Cables

Length	Part No.
250 mm	6976771
500 mm	6949183
1000 mm	6975092
1800 mm	6975093
2500 mm	6971929



D Inspect cables for extreme flexing or straining. Relieve tension to extend cable life.

Hard Wired Sensor Forks (continued)

4 Install Internal Reeving Kit, Ethernet Cable Reel or Communications Kit (not included) (continued)

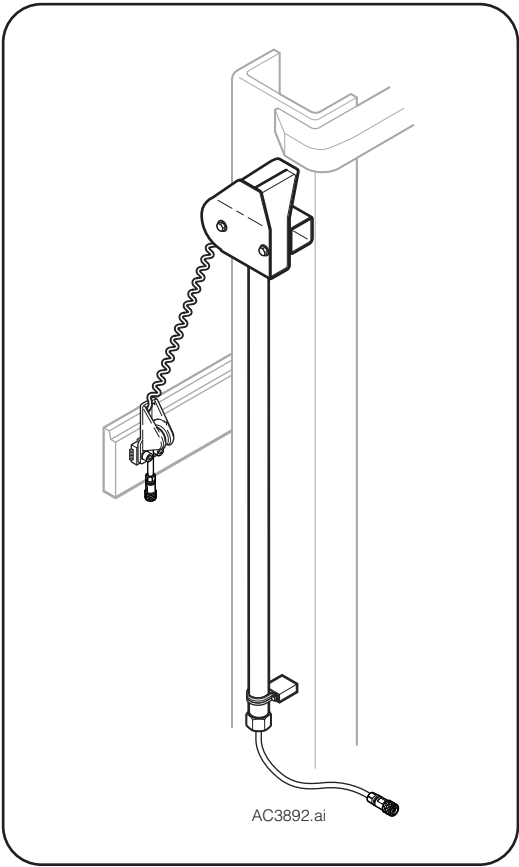
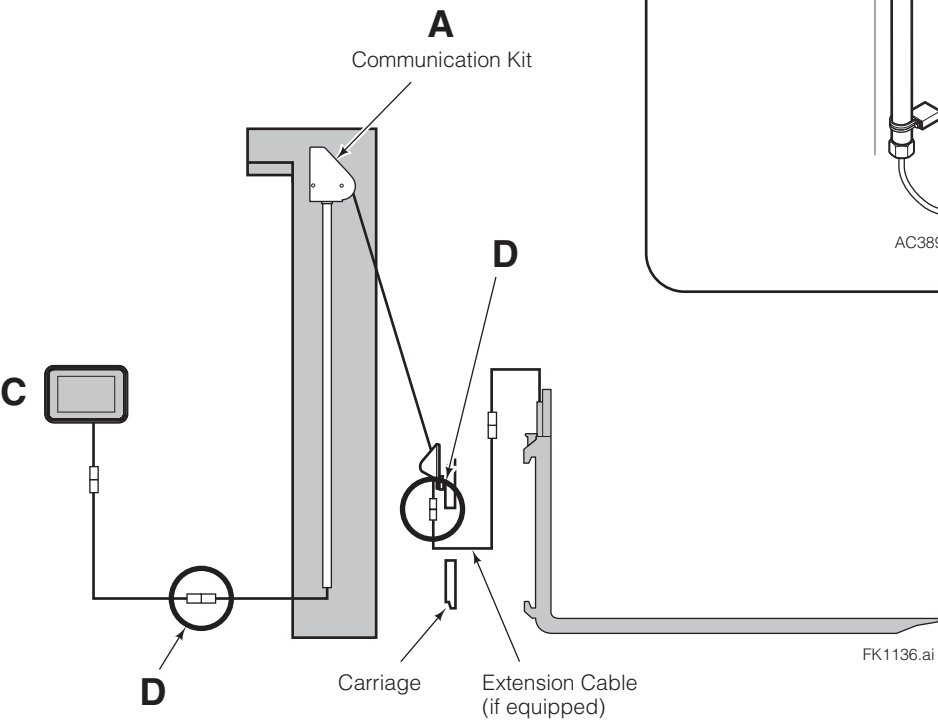
Communication Kit Installation

- A Verify the communication kit is designed for Sensor kit 6976368, 6976369, 6976370, 6976371 or 6976372.
 - B Install communication kit on the same side of the Sensor Fork. For complete installation procedure, refer to installation instructions 6844330, included with the communication kit.
 - C Install the display. Refer to page 17.
 - D Connect the cable ends as shown.
- IMPORTANT:** Supplied ferrites should be located as close to the top of the fork and display.

Extension Cables	
Length	Part No.
250 mm	6976771
500 mm	6949183
1000 mm	6975092
1800 mm	6975093
2500 mm	6971929

- E Inspect cables for extreme flexing or straining. Relieve tension to extend cable life.

Communication Kit Part No.	Overall Lowered (cm, in.)	Maximum Mast Fork Height (cm, in.)
6976368	195,6 (77)	421,6 (166)
6976369	198,1-210,8 (78-83)	480,1 (189)
6976370	213,4-236,2 (84-93)	553,7 (218)
6976371	238,8-256,5 (94-101)	609,6 (240)
6976372	259,1-304,8 (102-120)	812,8 (320)

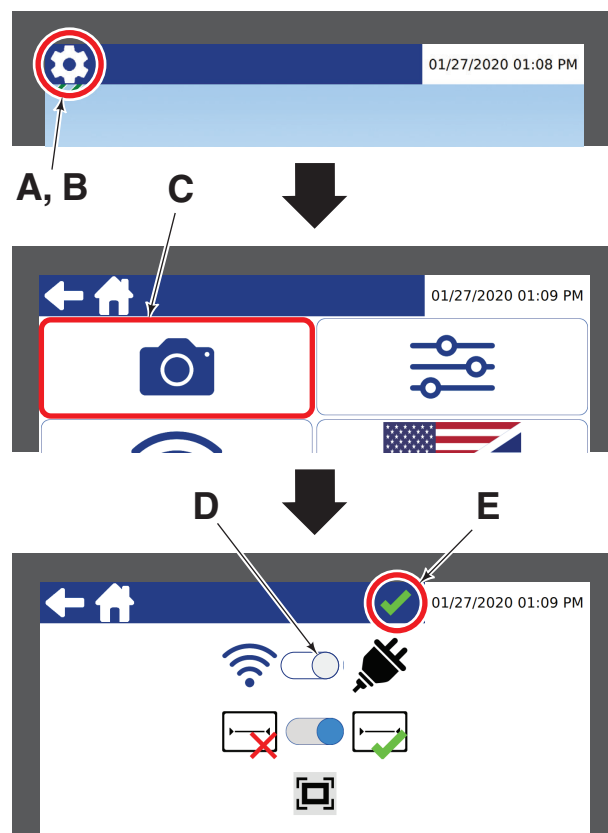


Hard Wired Sensor Forks (continued)

5 Verify Camera Settings

- A** From the main screen, tap anywhere along the top of the screen to access the drop-down Settings Bar.
- B** Tap on the cog icon to access User Settings.
- C** Tap on the camera icon.
- D** Verify that the WiFi/Wired Toggle is set to the plug icon for hard wired applications and WiFi icon for the fork mounted backpack applications.
- E** Tap on the check mark to accept and save the settings.

Note: For Auxiliary Camera (if equipped) Settings refer to User Settings Section, "Change Camera Settings", on page 24.



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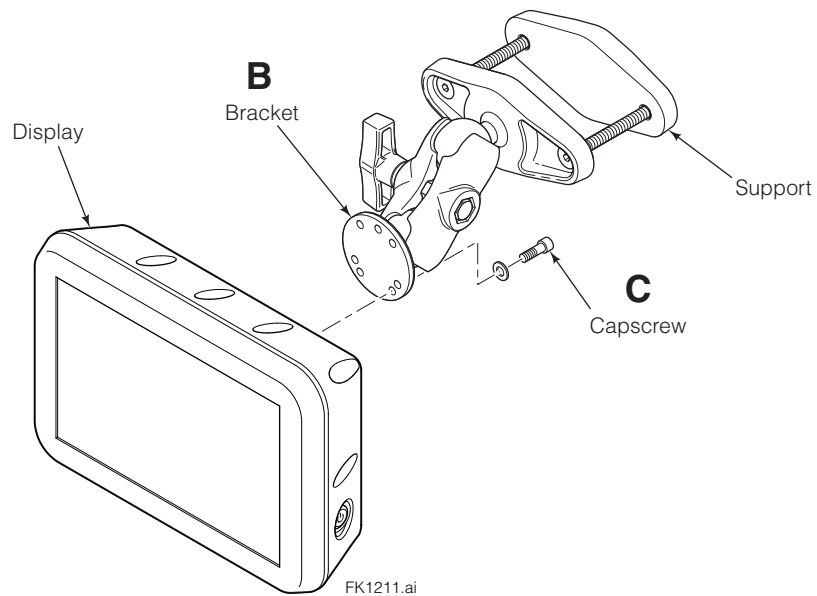
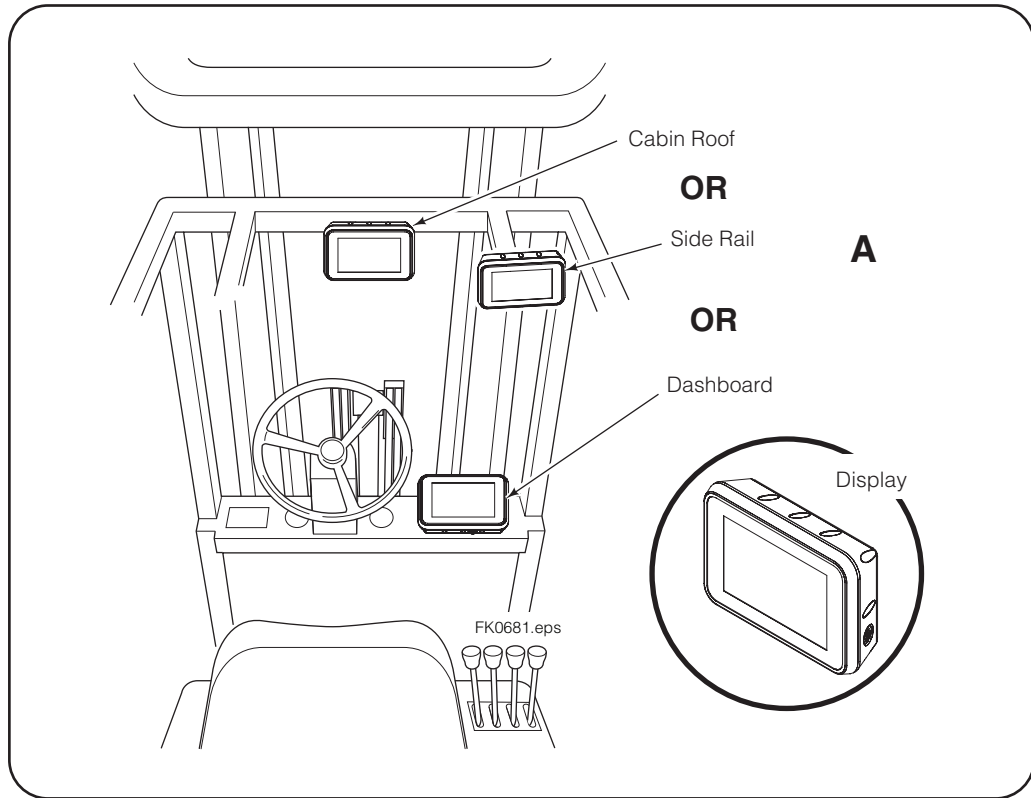
INSTALLATION

Display Installation

1

Locate and mount the display

- A** Find a suitable location for readout and easy access to display.
- B** Install bracket to the support.
- C** Install the display to the bracket/support assembly.



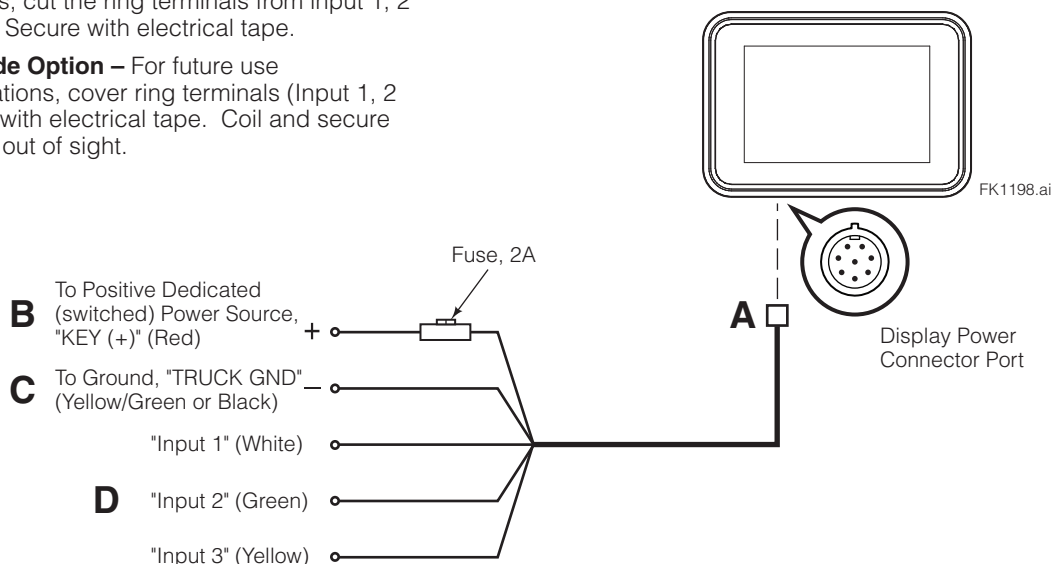
2

Connect display to truck power

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

- A** Connect the power cable to the display.
- B** Connect the power cable terminal, labeled "Key (+)", to a positive power source.
- C** Connect the power cable terminal, labeled "Truck Gnd", to ground.
- D** For systems without dedicated optional features, cut the ring terminals from input 1, 2 and 3. Secure with electrical tape.

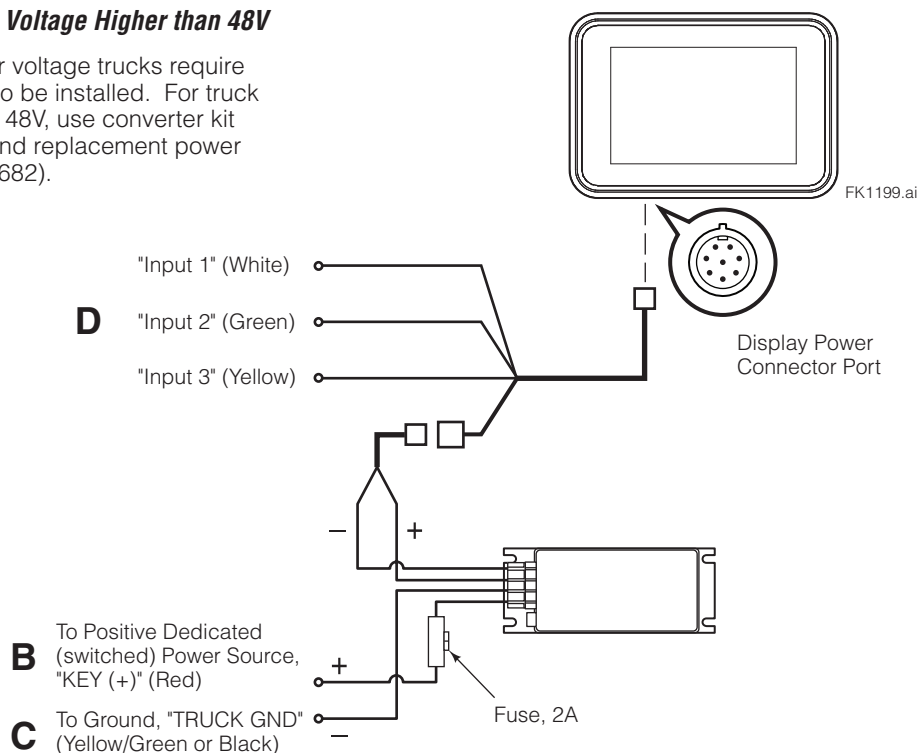
Upgrade Option – For future use applications, cover ring terminals (Input 1, 2 and 3) with electrical tape. Coil and secure cables out of sight.



NOTE: For dedicated optional features "Auxiliary Camera Installation Section", step 3 and User Setting Section "Change General Settings".

Truck Equipped with Voltage Higher than 48V

IMPORTANT: Higher voltage trucks require a voltage converter to be installed. For truck voltages higher than 48V, use converter kit (part no. 6882798) and replacement power cable (part no. 9015682).



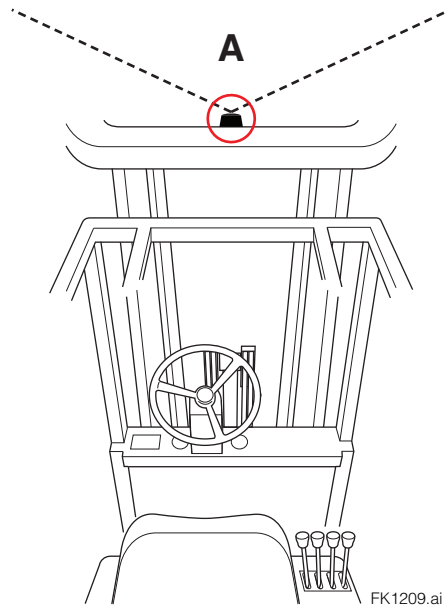
INSTALLATION

Auxiliary Camera Installation (if equipped)

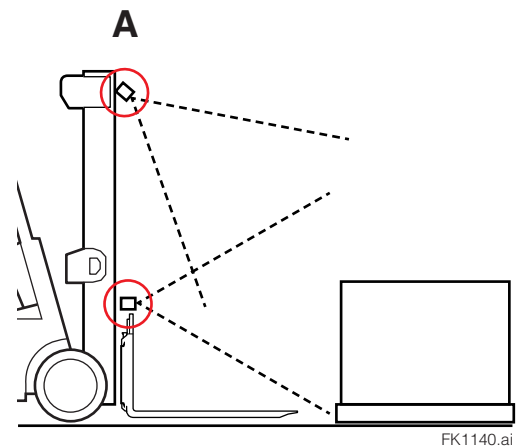
1 Locate and mount auxiliary camera

A Determine a suitable location for auxiliary camera.

NOTE: Choose a location with 130° field of vision.



Horizontal Field of Vision
(Drivers View)



Vertical Field of Vision
(Side View)

B Carriage Mounting – Install kit mounting bracket. Use the bracket to tack weld or drill holes to secure the bracket using hardware.

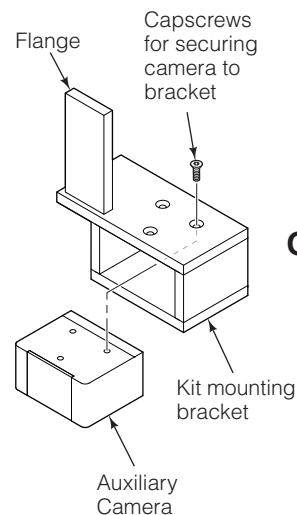
RAM® Mounting – Install mounting assembly to a suitable location, such as a tube.

C Carriage Mounting – Install the auxiliary camera to bracket using the hardware provided.

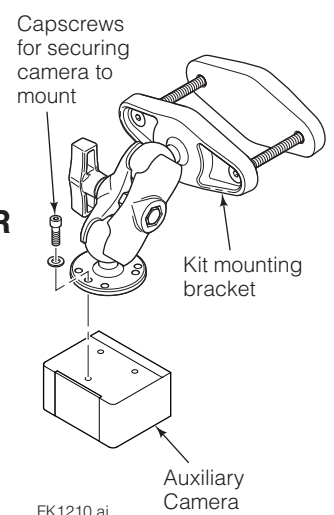
RAM® Mounting – Secure the camera to the ball mount using the hardware provided.

B,C Mounting Options

Carriage Mounting



RAM® Mounting



OR

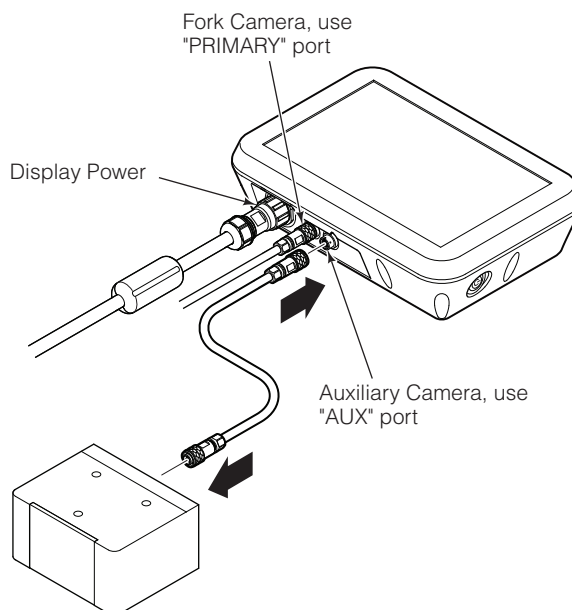
FK1210.ai

INSTALLATION

Auxiliary Camera Installation (if equipped)

2 Connect cable to auxiliary camera and route to display

NOTE: Secure cable using Velcro cable ties.

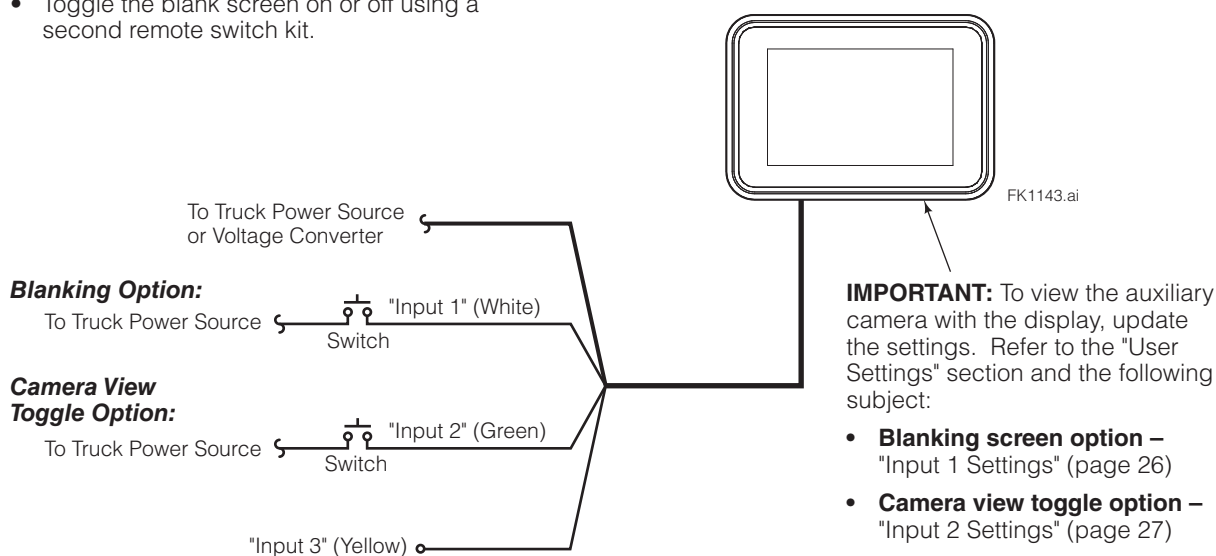


3 Install user-supplied switch to power cable

NOTE: The switch mechanism is customer supplied, provided separately by the truck OEM/ dealer or by agreement with Cascade.

The camera can be configured as follows:

- Toggle between primary and auxiliary camera with a remote switch kit.
- Using the display to toggle between views.
- Toggle the blank screen on or off using a second remote switch kit.



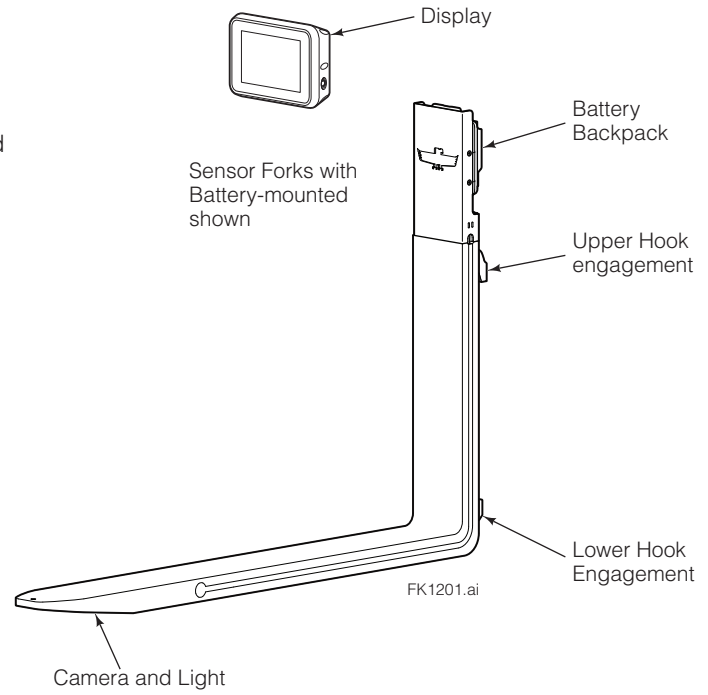
PERIODIC MAINTENANCE

Daily Inspection

IMPORTANT: Truck must be in park with motor off. Keep feet clear of forks when inspecting.

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

- Verify the system is working correctly.
- Check the lens covering the camera and light. As necessary, clean the lens with alcohol free lens wipe and remove any debris near the camera.
- When the battery pack is changed, inspect the battery backpack for damage and debris. Remove any debris found. Verify capscrews are tight.
- For applications with moving forks or sideshift equipped attachments, check that wiring moves freely and undamaged.
- **Fork Mounted Backpack** – Battery should be fully charged and battery cover secured.
- **Backrest Mounted/Remote Backpack** – Check mounting capscrews and enclosure capscrews are secure.



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

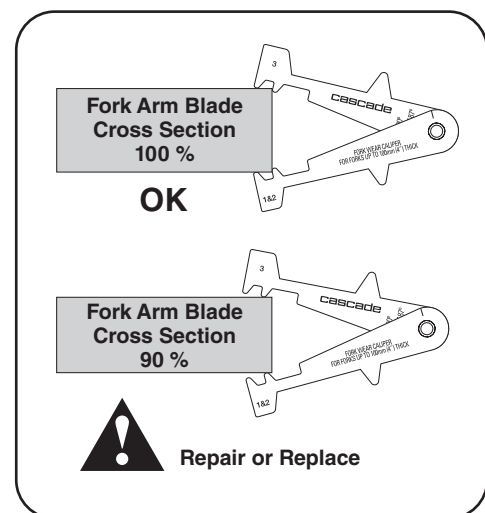
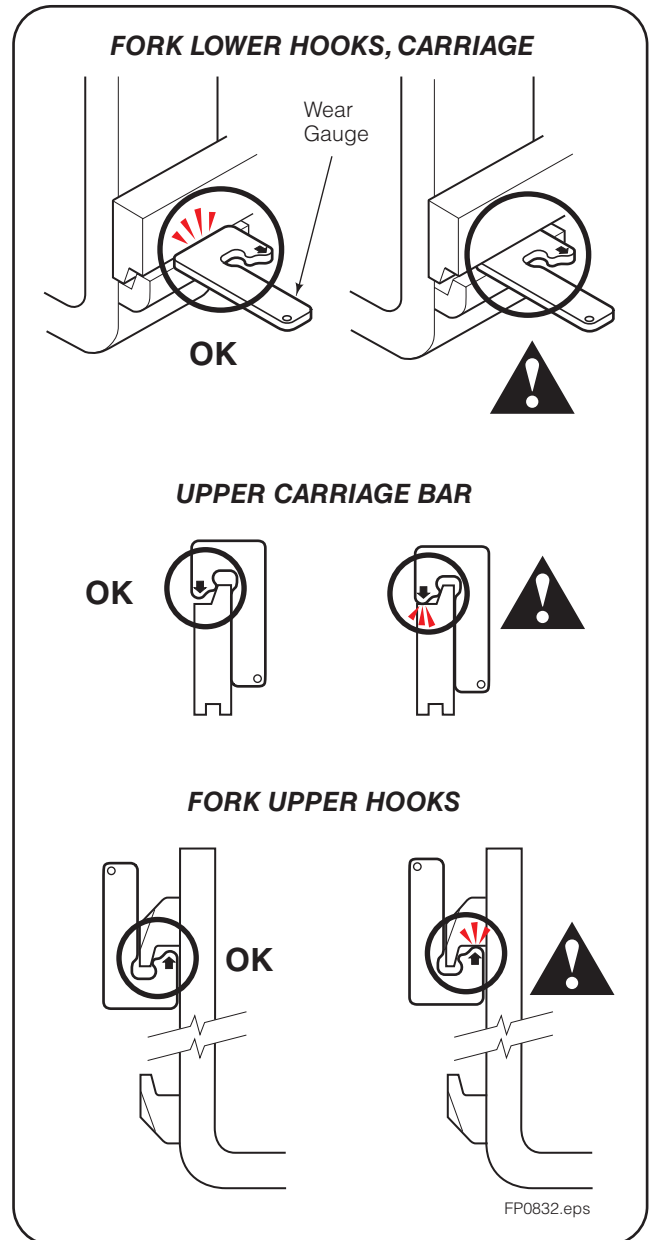
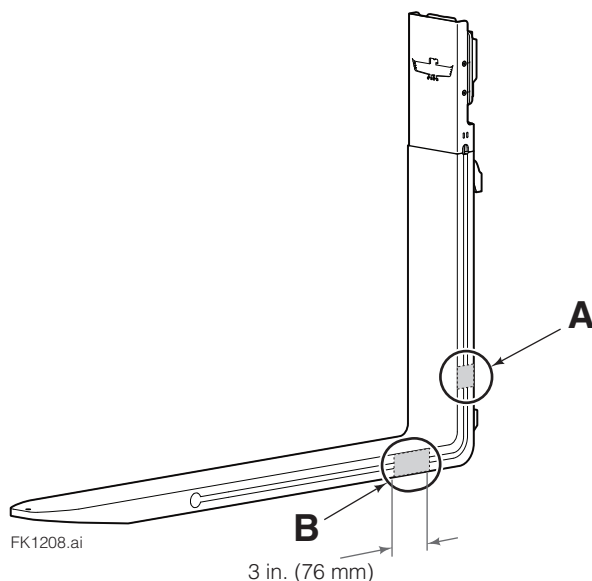
NOTE: Use Go/No-Go Wear Gauge Part No. 209560 (Class II) or 209561 (Class III).

- 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 100 mm thick. Fork calipers indicate a 10% wear factor if the calipers can pass over the blade cross-section.

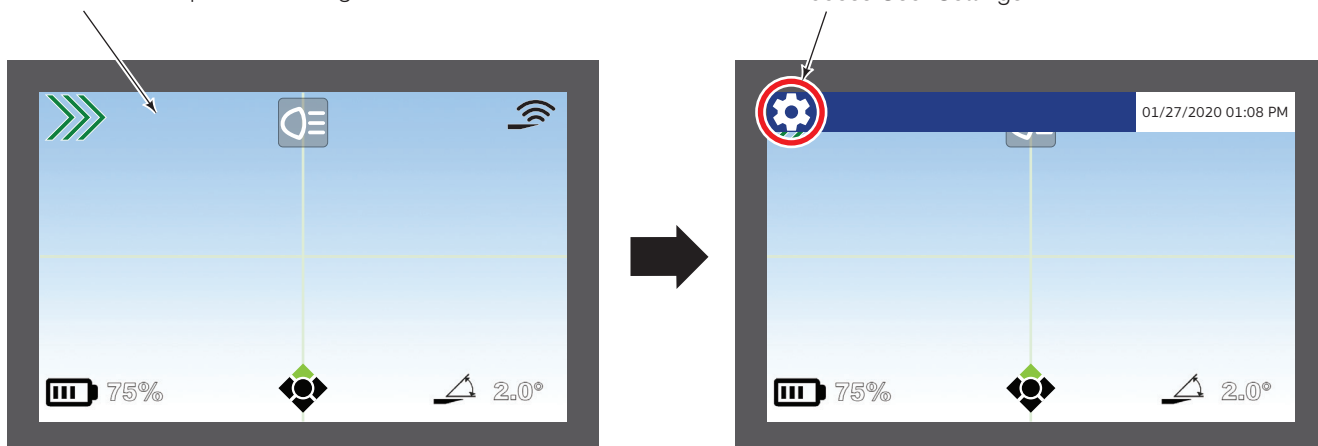
- A** Measure the fork shank thickness with the caliper outer teeth approximately 50 mm above top of blade.
- B** Position the caliper inner teeth on the fork arm blade approximately 76 mm out from the face of the shank.
 - If the inside teeth of the caliper hit the fork, it has less than 10% wear and 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.



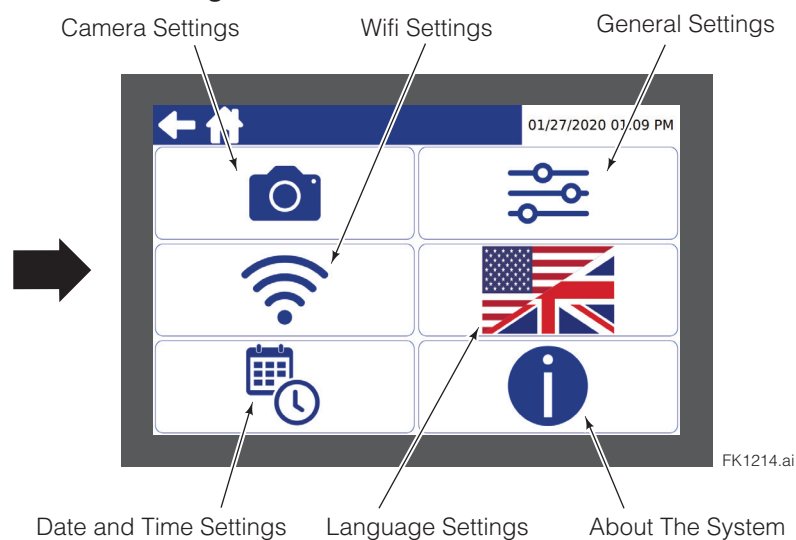
USER SETTINGS

Access User Settings

Tap anywhere near the top of the screen to access the drop-down Settings Bar



Choose a setting:

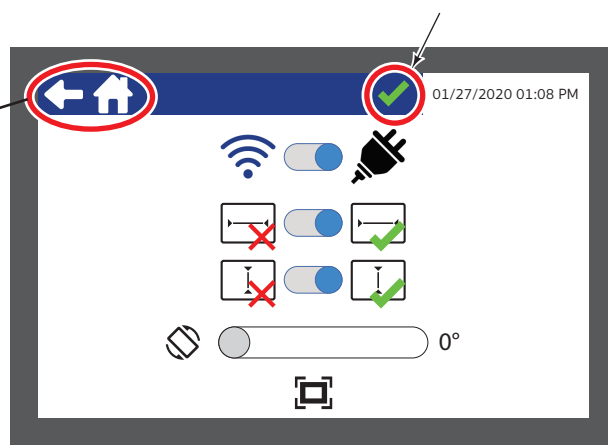


Exit User Settings

To exit without saving, choose the "Back" or "Home" button.

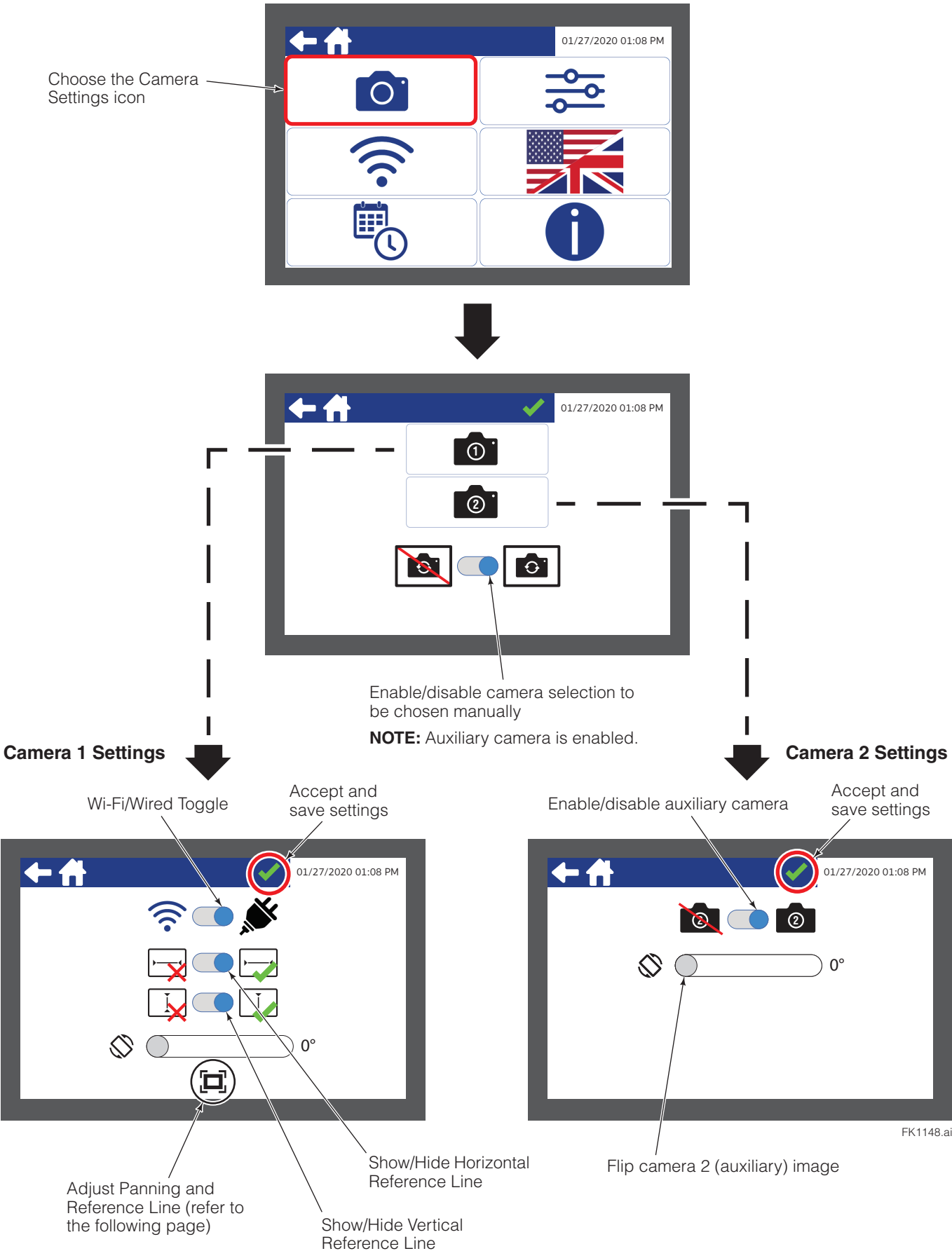
There are unsaved changes, navigating away will discard changes

To exit and save changes, choose the "Check" button



USER SETTINGS

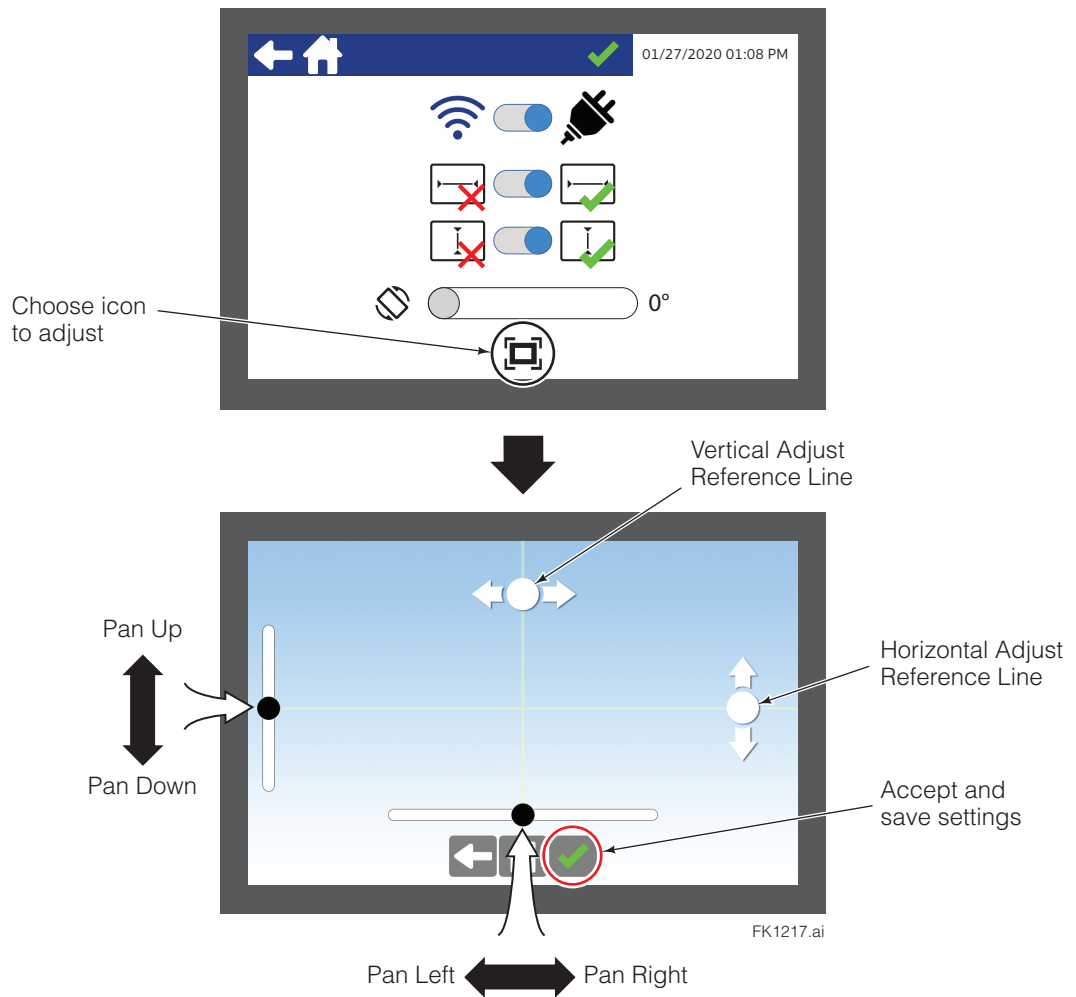
Change Camera Settings



USER SETTINGS

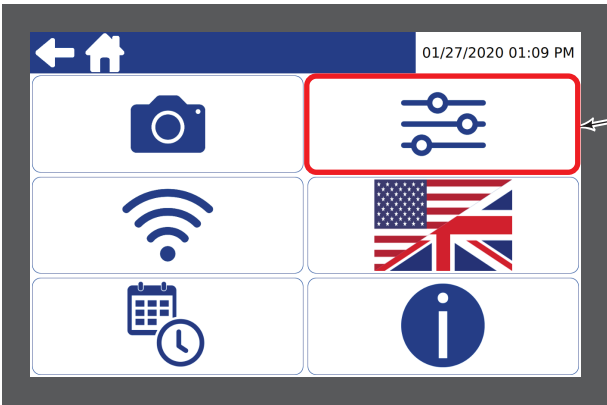
Change Camera Settings

Adjust panning and reference line:

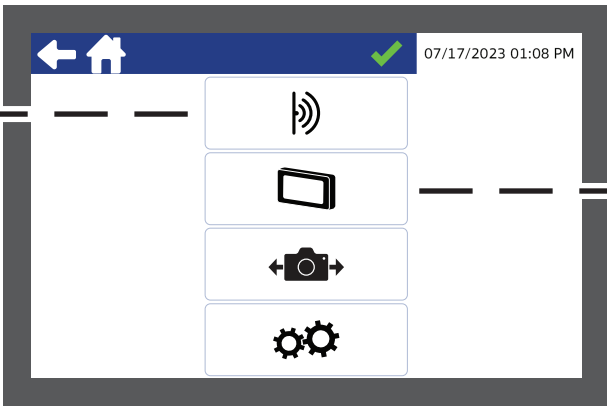


USER SETTINGS

Change General Settings



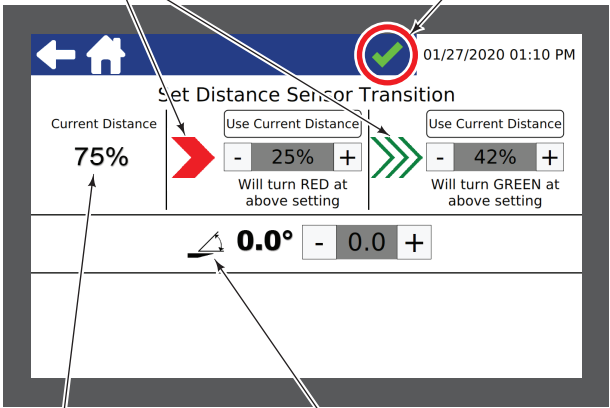
Choose the General Settings icon.



Fork Sensor Settings

Set transition points (red and green) that the object has passed a predetermined percentage to or from the fork.

Accept and save settings



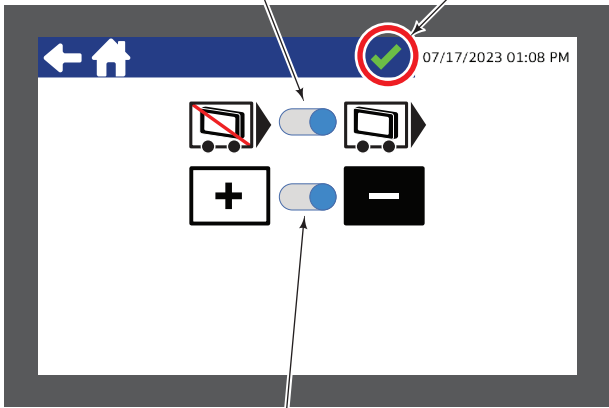
Distance from sensor to object (maximum 6.5 feet, 2 m)

Zero Level Sensor

Input 1 Settings (Blanking option)

Enable/Disable manual blanking. Operator touches anywhere on the screen.

Accept and save settings



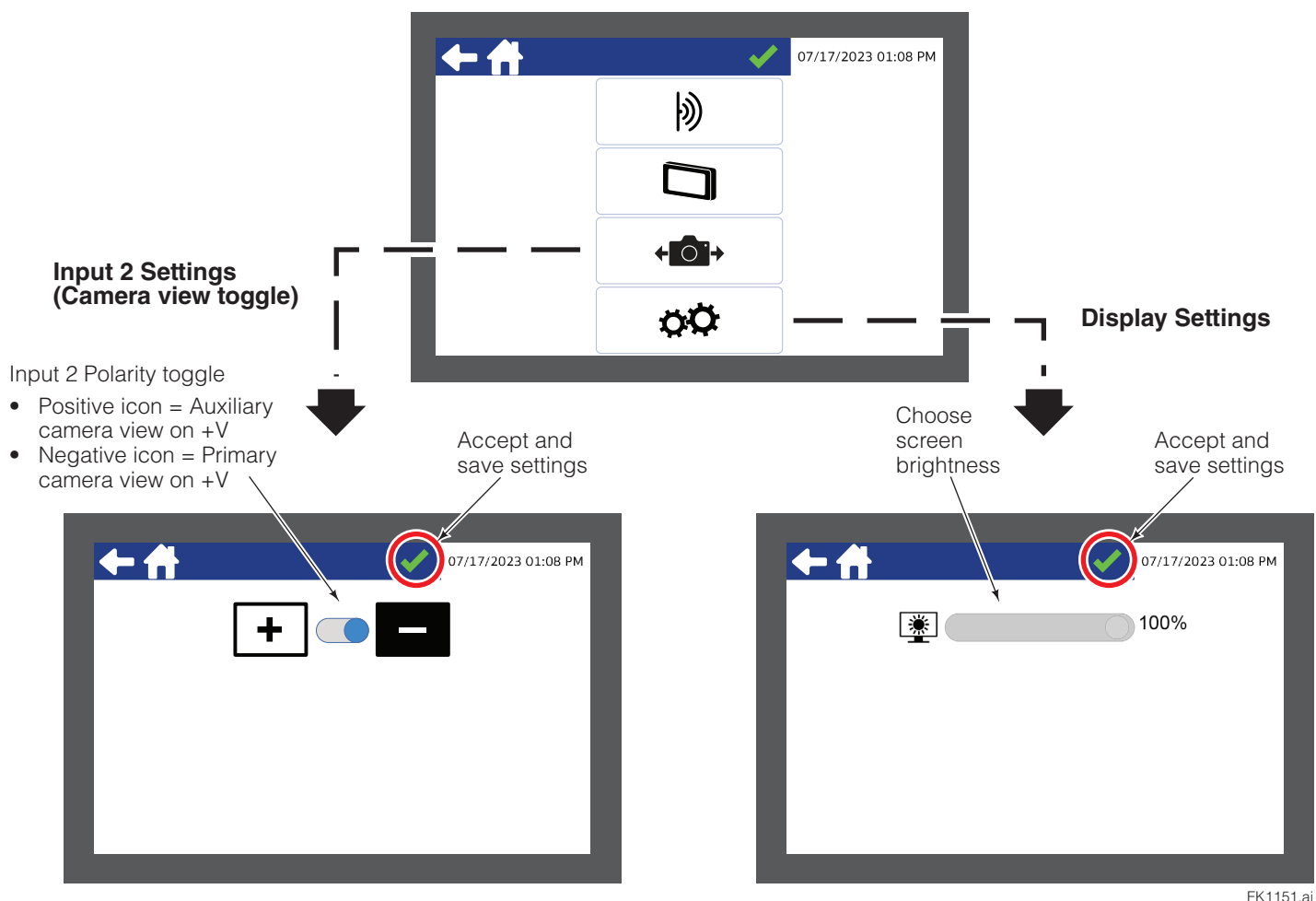
Input 1 Polarity toggle

- Positive icon = Blank screen on +V
- Negative icon = Illuminate screen on +V

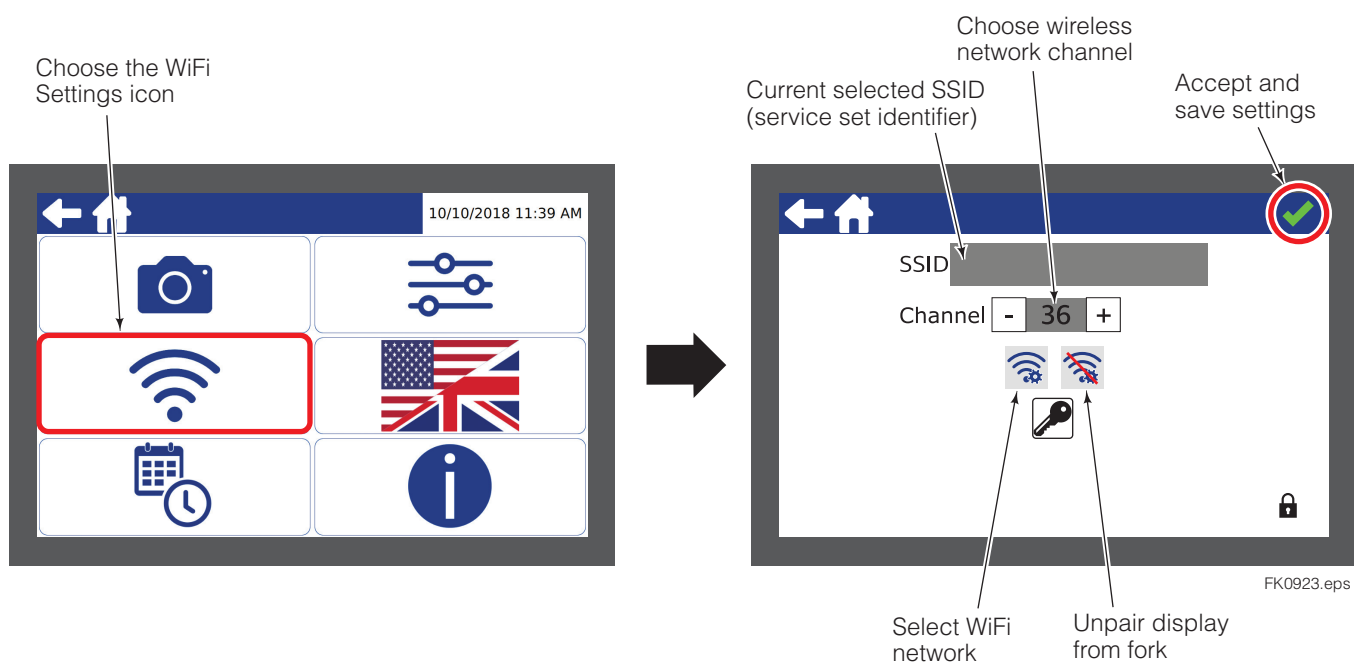
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USER SETTINGS

Change General Settings



Change WiFi Settings

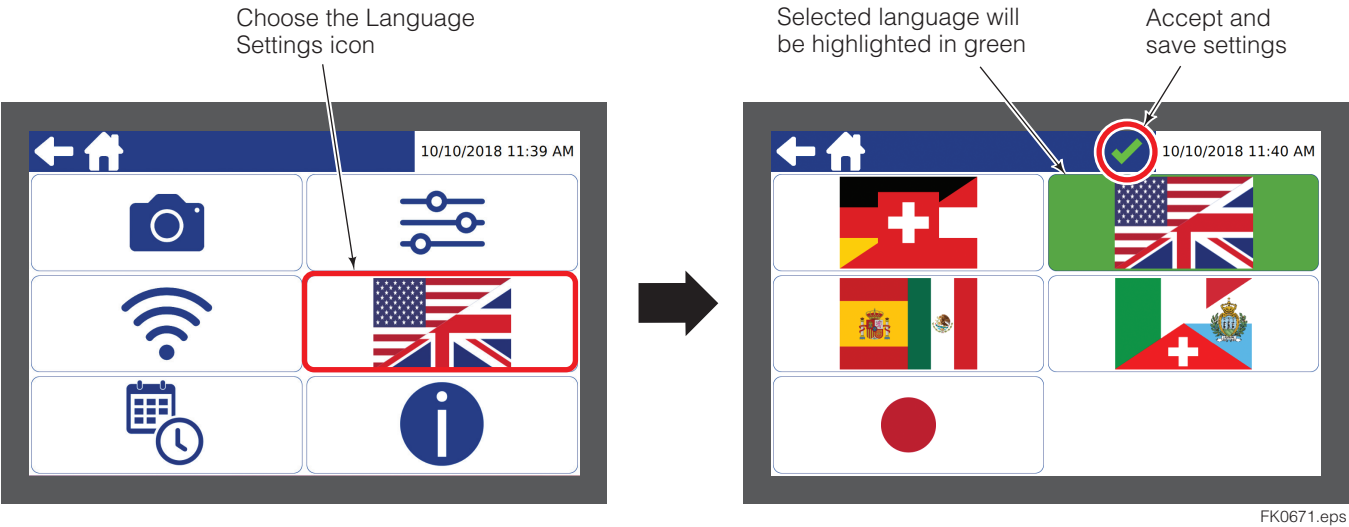


NOTE: After pairing, wait at least two minutes for the battery backpack to reboot.

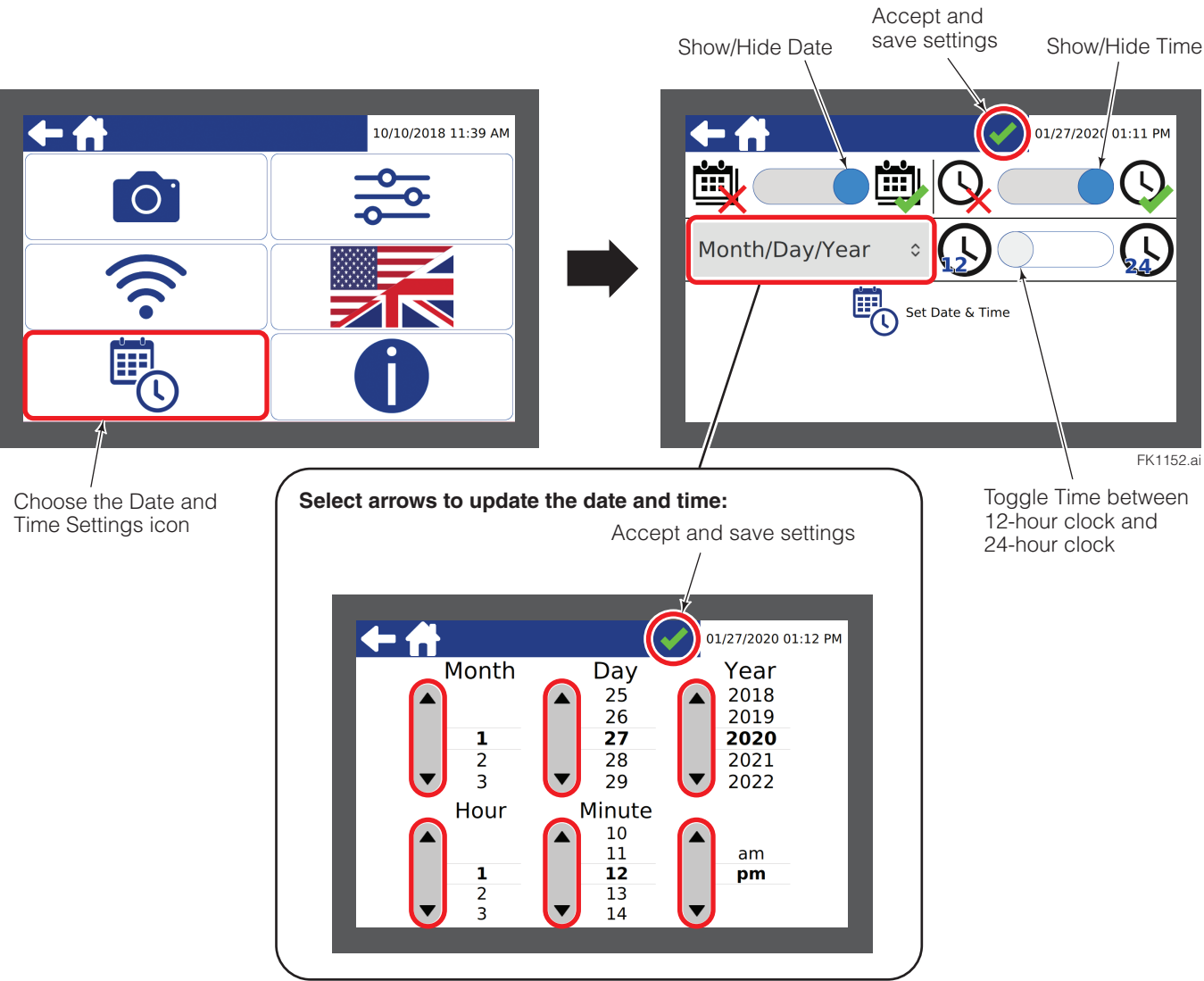
IMPORTANT: Before unpairing the display, the fork must be powered on.

USER SETTINGS

Change Language Settings



Change Date And Time Settings

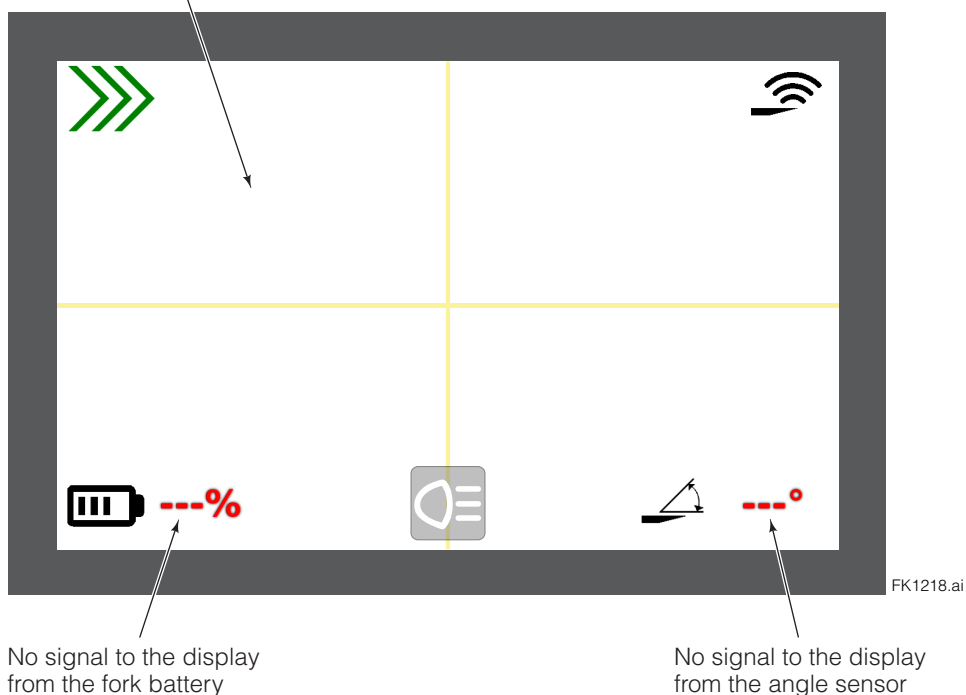


TROUBLESHOOTING

Display Errors

Blank or Frozen Image –

No signal to the display from the camera



To correct these errors:

Backpack Equipped Systems –

- Verify fork battery is charged and seated properly in the housing.
- Verify the power is on.
- Verify Wi-Fi connection. Look for an SSID number and check that it matches the number on the side of the display.
 - If pairing is required, refer to Service Section, "Pairing the Display with Backpack", page 26.

NOTE: After pairing, wait at least two minutes for the battery backpack to reboot.

Hard Wired Systems –

- Verify all cable connections are secure. Unplug and reconnect cables (align red dots) firmly at the display. Continue to follow the cable, checking the connections, to the camera as necessary.

CAUTION: Avoid forcing the connectors, the pins may be damaged.

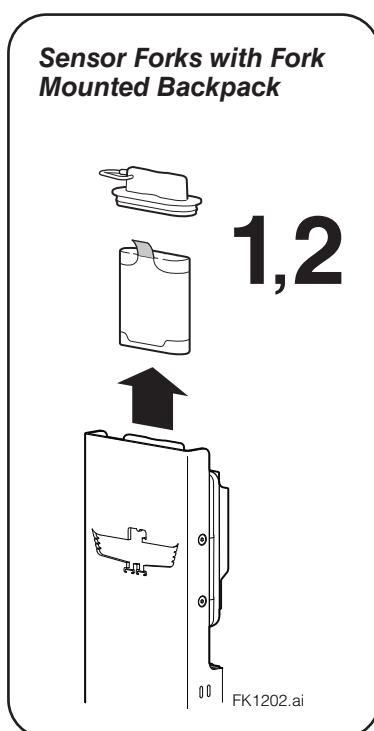
- Power off the display and wait for 10 seconds. Power on the display.

If the problem does not resolve, contact Cascade Service Department. Take a photo of the screen to assist with further troubleshooting.

Battery

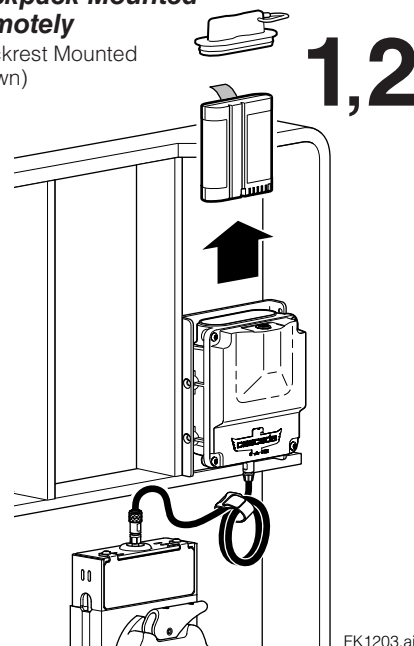
Charging Fork Battery

- 1 Remove Battery Backpack cap.
- 2 Use the battery tab to lift the battery out of the Backpack.



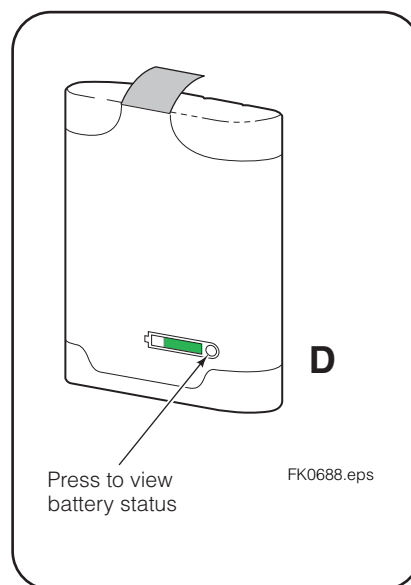
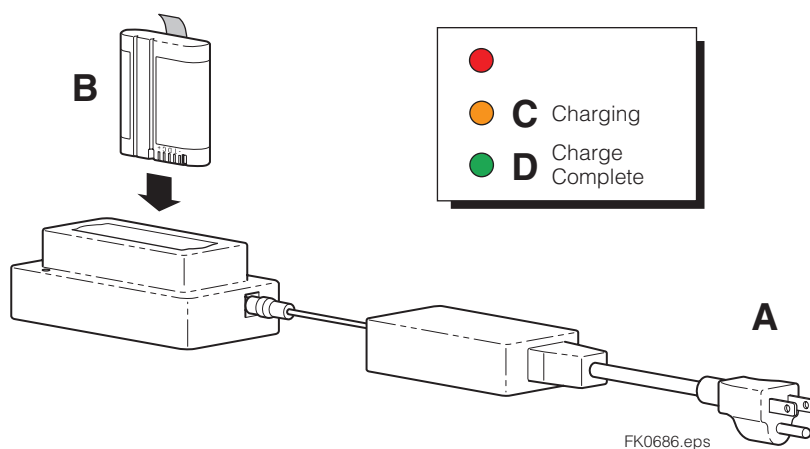
Backpack Mounted Remotely

(Backrest Mounted Shown)



- 3 Charge the battery as follows:

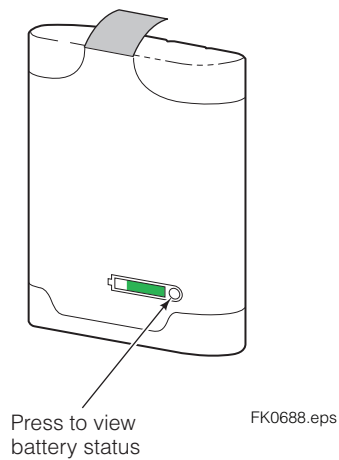
- A** Plug the power adapter into 110V source.
- B** Seat the battery into the charger. The green and red LEDs will blink.
- C** The power adapter LED will show amber and is charging.
- D** Once the battery is completely charged, the power adapter LED will show green and is no longer charging. The battery will also show a full status on battery status (press button).

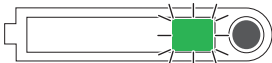


- 4 Return battery in backpack, securing cap.

Battery

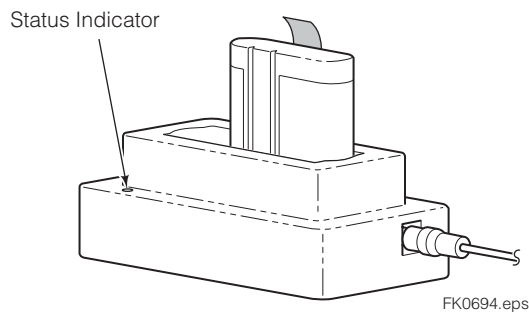
Battery LED Status Indication



LED	Battery Percentage
	Less than 10%
	10 to 25%
	26 to 50%
	51 to 75%
	76 to 100%

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Charger LED Status Indication



LED	LED Behavior	Meaning
	One time blink	Charger is ready to use
	Blinks for a period of time	Initializing
	Solid	Battery is charging
	Solid	Battery is charged and ready to use
	Continuous Blinking	Battery is too hot or cold. Cold Battery – Battery will charge once sufficiently warm. Hot Battery – Remove battery and cool down.
	Solid	Battery is damaged or is not the correct battery.

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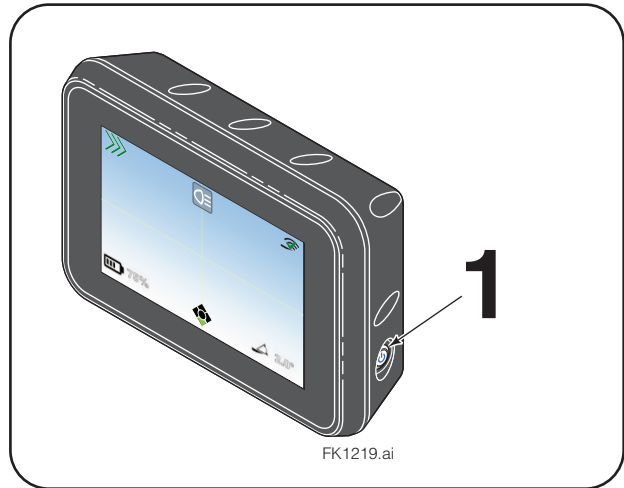
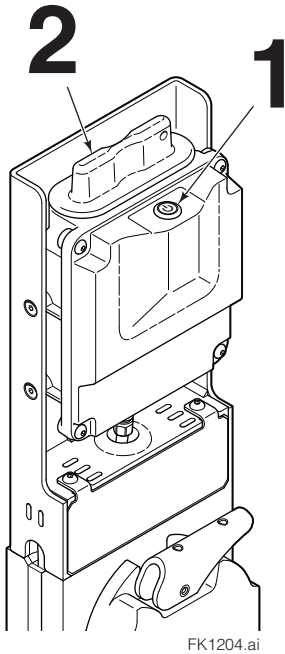
Pairing

Pairing the Display with Backpack

NOTE: Verify Camera 1 is set to WiFi.

In situations where the display and backpack are not communicating, perform the following procedure:

- 1 Verify that the display and sensor fork are both powered "On". The detent switches will show blue.
- 2 On the Sensor Fork, remove Battery Cap from the backpack.

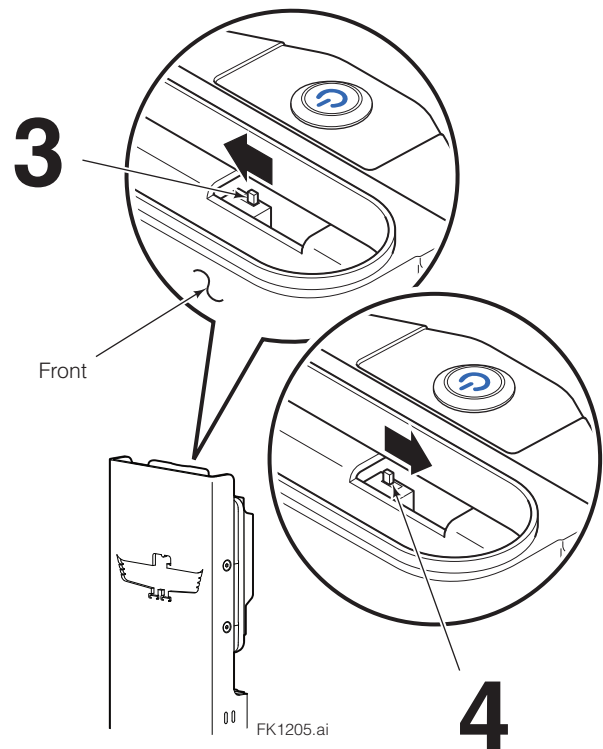


- 3 Locate the tan switch in the backpack, as shown. Use a small tool to move the switch outward (right direction, from driver's view).

NOTE: If necessary, loosen the backpack from the mounting to gain access to the switch.

- 4 Wait 10 seconds. Move the switch inward (left direction, from driver's view), to the original position. Note that the backpack power light will flash momentarily.

- 5 The system will reboot. Wait approximately 2 minutes.



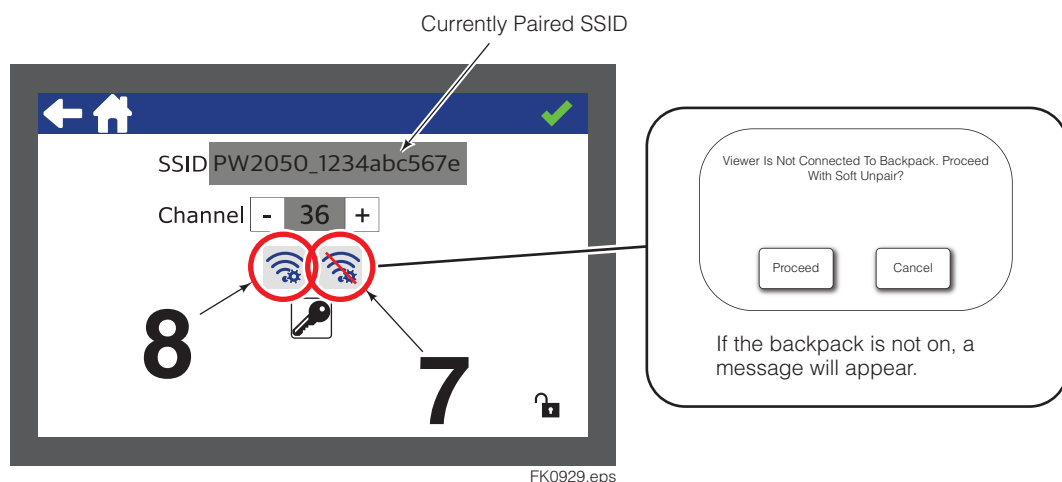
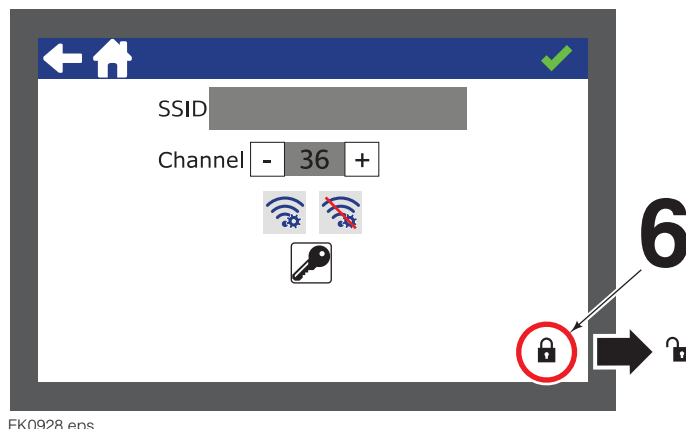
Pairing the Display with Backpack (continued)

6 On the display, touch and hold the "Locked Lock" icon for 10 seconds. The icon will change to an "Unlock Lock" icon.

7 Verify that the SSID shown on the screen matches the SSID on the backpack label. The SSID will begin with "PW2050".

- If the SSID box is blank, continue to Step 7.
- If the ID is different, the display is paired to a different sensor fork. Touch "Unpair Indicator" icon. The SSID box will be blank after the display and fork are unpaired. Continue to Step 7.

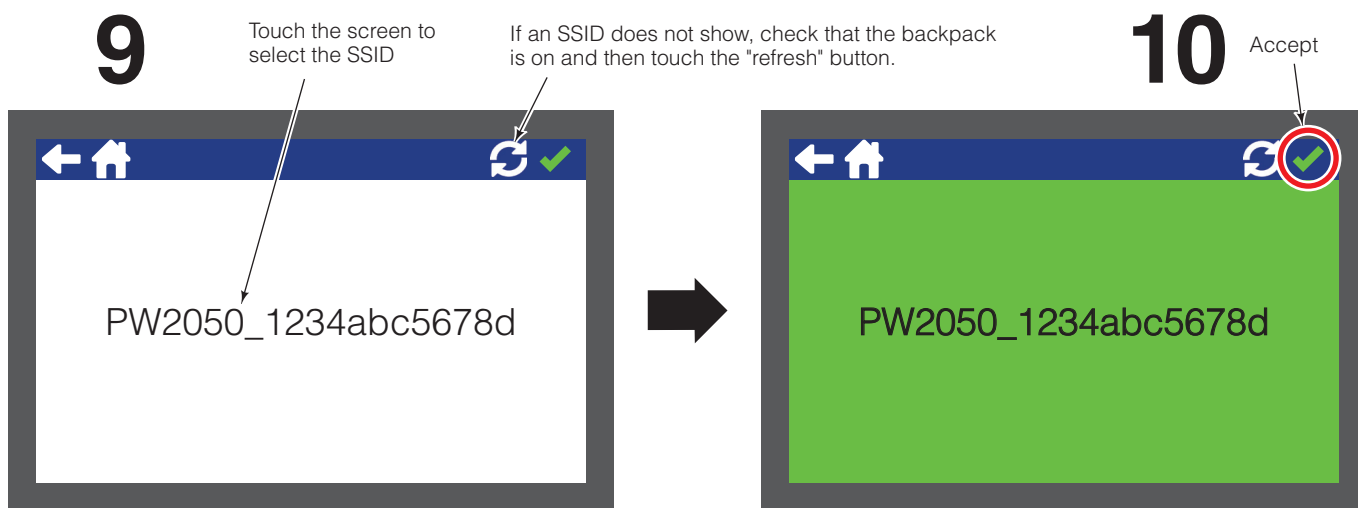
8 Touch "Select WiFi Network" icon.



9 A wheel of dots will appear and spin. This may take several minutes to discover the backpack address (SSID). When the address appears, verify the SSID marked on the side of backpack. Touch the screen and the background will then turn green.

10 To accept the selection, touch the green check mark.

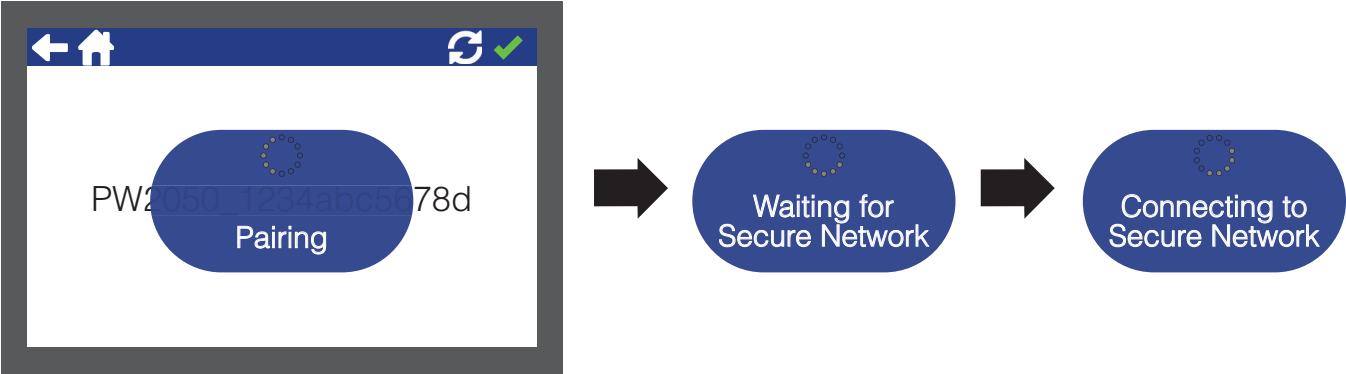
IMPORTANT: The background must be green before touching the green check mark.



Pairing

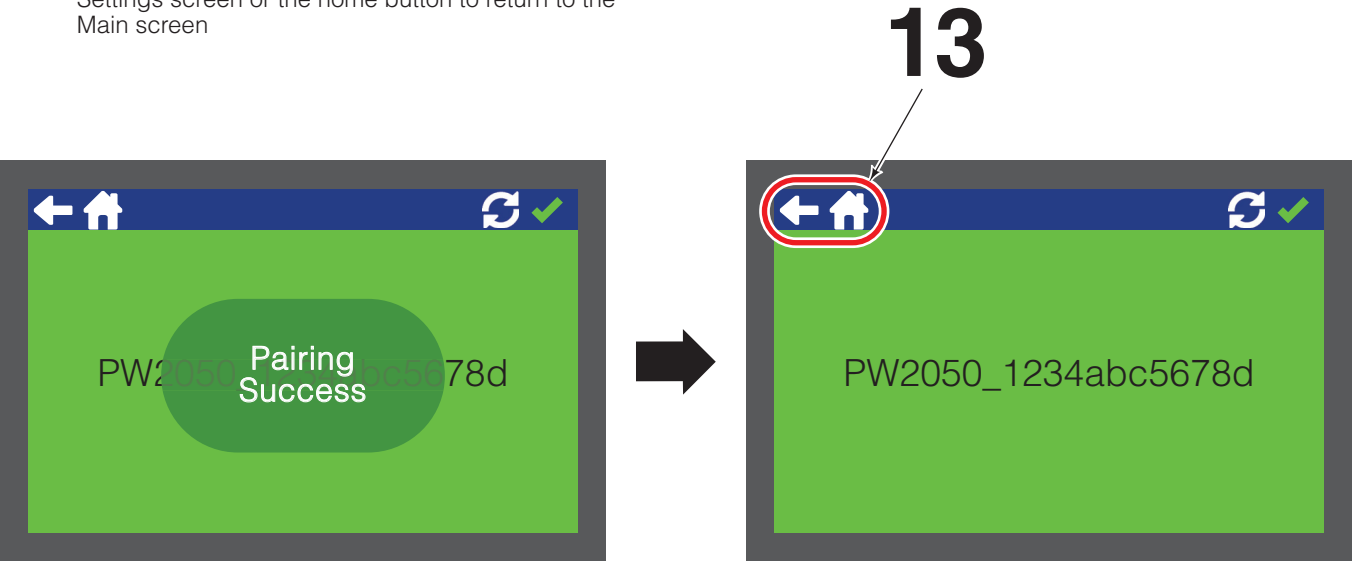
Pairing the Display with Backpack (continued)

- 11 A blue oval will appear with "Pairing", then "Waiting To Secure Network" and lastly, "Connecting to Secure Network". This will take approximately 2 to 5 minutes.



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- 12 After "Pairing Success" appears, the screen will fade to a green screen and address beginning with "PW2050".
- 13 Touch the upper left return arrow to return to the WiFi Settings screen or the home button to return to the Main screen



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IMPORTANT: If this procedure **does not** pair the display to the fork hardware, power off the backpack battery and display. Wait 10 minutes and perform this procedure again.

IMPORTANT: If this procedure fails after a second attempt, contact Cascade. Be sure to take a video of the display screen, the setting on the WiFi screen, and the backpack Wifi SSID address label.

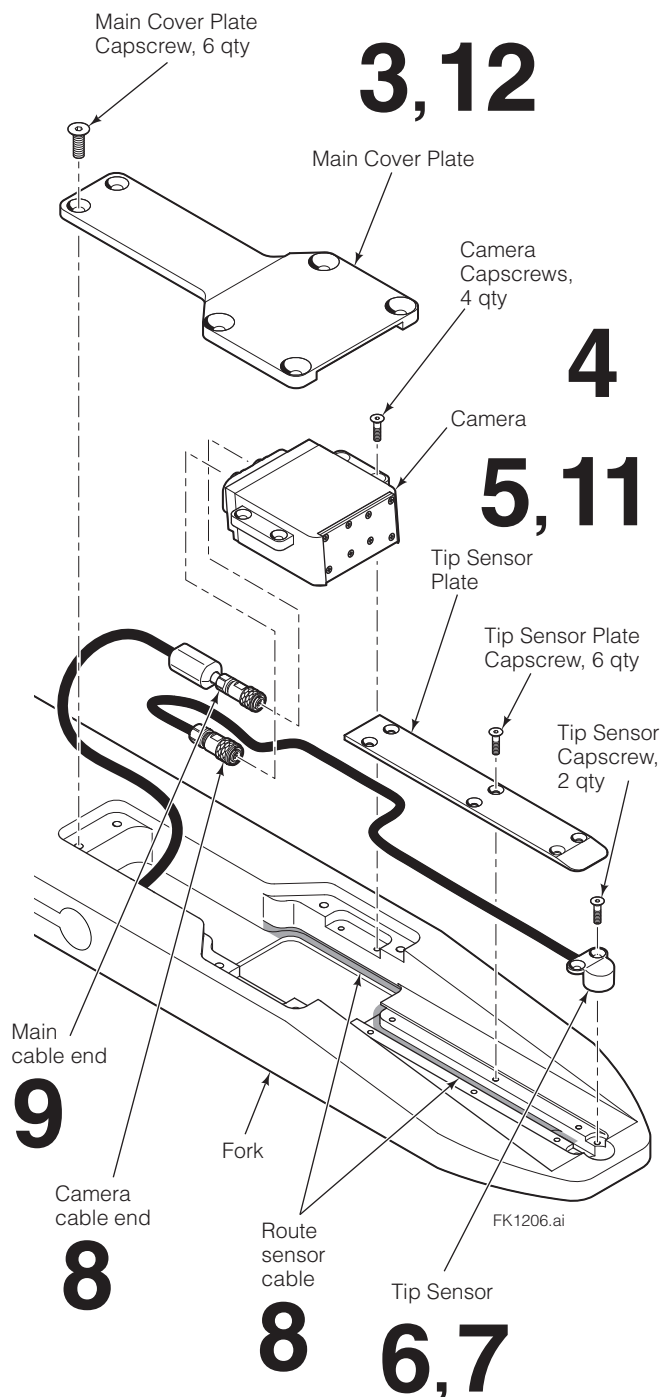
Tip Sensor Replacement

NOTE: This procedure can be performed with the fork remaining on the truck carriage or attachment.

- 1 Power off the sensor fork and remove the battery. Refer to "Charging Fork Battery", Step 1.
- 2 Perform **one** of the following:
 - For servicing the fork remaining on the carriage or attachment, lift the fork to a convenient working height to access the cover plates located the underside of the fork.
 - For servicing the fork on a work bench, unlock and remove the fork using site-specific procedures or local safety guidelines. Place the fork on a work bench with the shank down.
- 3 Remove the main cover plate and capscrews, using a 4 mm allen wrench. Set plate and capscrews aside.
- 4 Remove the capscrews and camera from the fork, using a 2,5 mm allen wrench. Note the cable routing and disconnect the cables from the camera by pulling the connector jacket straight back. Set camera and capscrews aside.
- 5 Remove the tip sensor plate (covering the cable channel) and capscrews, using a 2,5 mm allen wrench. Set plate and capscrews aside.
- 6 Remove the tip sensor and capscrew, using a 2,5 mm allen wrench. To remove from the fork cavity, push the sensor from top surface of the fork tip.
- IMPORTANT:** Contact Cascade for instructions on returning tip sensor.
- 7 Install new tip sensor in fork cavity and capscrews. Tighten capscrews to 3,1 Nm.
- 8 Guide the cable to the camera mounting, seating the cable in the sidewall groove and place the camera unit into the pocket. Tighten capscrews to 3,1 Nm.

IMPORTANT: Be careful to not pinch the sensor cable. Use a small flathead screwdriver to carefully hold the cable in the sidewall pocket when installing the camera unit.
- 9 Reconnect the main cable (8 pins) going into the fork.
- NOTE:** Align the red dots on the connectors and push forward until clicking into place.
- 10 Refer to routing (Step 4) and loop the sensor cable to the back of the camera unit.
- NOTE:** Align the red dots on the connectors and push forward until clicking into place
- 11 Install the tip sensor plate and tighten capscrews to 3,1 Nm.

NOTE: The cover's taper should be oriented to the fork's front and match the taper of the fork.
- 12 Install the main cover and tighten capscrews to 10,8 Nm.



Safety:

- Do not open or dismantle batteries.
- Do not expose batteries to heat or fire. Avoid storage in direct sunlight.
- Do not short-circuit a battery.
- Do not store batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
- Do not remove a battery from its original packaging until required for use.
- Do not subject batteries to mechanical shock.
- In the event of a battery leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- Do not use any charger other than that specifically provided for use with the equipment. See also chapter "Charging".
- Observe the plus (+) and minus (–) marks on battery and equipment and ensure correct use.
- Do not mix batteries of different manufacture, capacity, size or type within a device.
- Keep batteries out of the reach of children.
- Keep batteries clean and dry.
- Secondary batteries need to be charged before use.
- Use only the battery in the application for which it was intended.
- When possible, remove the battery from the equipment when not in use.
- Do not store batteries longer than 1 month in discharged state.
- Do not store batteries longer than 1 year without recharge.
- The battery must be recycled or disposed of properly.

Operating Temperature:

For charge: 0°C to +45°C
For discharge: -20°C to +60°C

Storage Temperature:

< 1 year: -20°C to +20°C
< 3 month: -20°C to +45°C
< 1 month: -20°C to +60°C

Recommendation: Store the battery at below 20°C, low humidity, no dust and no corrosive gas atmosphere. Store the battery with a state of charge between 40-60%.

Charging: Charge only with a SMBUS compliant charger, e.g. RRC-SMB-MBC. Refer also to the manufacturer's instructions or equipment manual for proper charging instructions.

Specifications:

Type	RRC2054
Voltage	15.00V
Capacity	3.20Ah
Max. charge current	2.17A
Max. charge voltage	17.40V
Max. discharge current	4.25A
Dimensions (L x W x H)	85.35mm x 77.65mm x 23.0mm (max.)
Weight	240g

Recycling: Recycle batteries according to national and local regulations. Contact your local representative for assistance. The batteries must be disposed only in a discharged state at the collection center. In case of not fully discharged batteries, provide for a risk against short circuits. Short circuits can be prevented by isolating the terminals with tape.

Declaration of conformity:

CE: The battery complies with the current regulations of the EU guidelines.

FCC: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Symbols: Explanation of symbols which are on the battery and/or in this manual.

	Caution, consult accompanying documents		UN Transportation Test
	Operator's manual; operating instructions		Recycling Symbol
	Mark of conformity to applicable European Directives		Dispose of this product according to local regulations.
	Regulatory Compliance Mark of Australia and New Zealand.		For Canada & USA: Please call 1-800-822-8837 for information on how to recycle this battery
	UL Recognized for Canadian and US market		China RoHS
	Recycling Symbol Taiwan		Regulatory Compliance Mark of Japan
	KC		EAC/Gost
	China CQC		India BIS

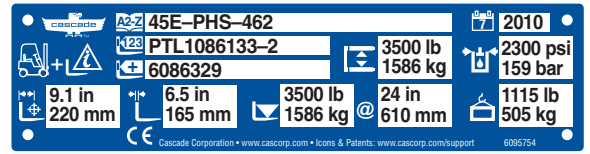
APPENDIX

Nameplate Icons

(EN) NAMEPLATE ICONS
(BG) ТАБЕЛКА С ИМЕ ИКОНИ
(CS) JMENOVKA IKONY
(DA) NAVNESKILT IKONER
(DE) TYPENSCHILD SYMBOLS
(EL) ΟΝΟΜΑΣΤΙΚΗΣ ΕΙΚΟΝΙΔΙΑ
(ES) PLACA DE ICONOS
(ET) NIMEPLAADILE IKOONID
(FI) NIMIPLYTTI KUVAKKEET
(FR) PLAQUE ICÔNES

(GA) IDENTIFICACIÓN ICONAS
(HU) NÉVTÁBLÁN IKONOK
(IS) NAFNASKILTATÁKN
(IT) ICONE DELLA TARGA
(JA) 銘板アイコン
(KO) 명판 아이콘
(LT) NOMINALUS PIKTOGRAMOS
(LV) AR NOSAUKUMU, IKONAS
(MT) NAMEPLATE ICOANE
(NL) NAAMBORD ICONEN

(NO) NAVNEPLATE-IKONER
(PL) NAMEPLATE ICOANE
(PT) IDENTIFICAÇÃO ÍCONES
(RO) ICONOS DE PLACA
(RU) ТАБЛИЧКУ ЗНАЧКОВ
(SK) MENOVKA ICONS
(SL) TABLICA IKONE
(SV) NAMNSKYLTEN IKONER
(TR) BİLGİ ETİKETİ SİMGELERİ
(ZH) 铭牌图标



(EN) MODEL
(BG) МОДЕЛ
(CS) MODEL
(DA) MODEL
(DE) MODELL
(EL) ΜΟΝΤΕΛΟ

(ES) MODELO
(ET) MUDEL
(FI) MALLI
(FR) MODÈLE
(GA) DEANAMH AGUS AINM
(HU) MODELL

(IS) MÓDEL
(IT) MODELLO
(JA) モデル
(KO) 모델
(LT) MODELIS
(LV) MODELIS

(MT) MUDELL
(NL) MODEL
(NO) MODEL
(PL) MODEL
(PT) MODELO
(RO) MODEL

(RU) МОДЕЛЬ
(SK) MODEL
(SL) MODEL
(SV) MODELL
(TR) MODEL
(ZH) 型号



(EN) SERIAL NUMBER
(BG) СЕРИЕН НОМЕР
(CS) SÉRIOVÉ ČÍSLO
(DA) SERIENUMMER
(DE) SERIENNUMMER
(EL) ΣΕΙΡΙΑΚΟΣ ΑΡΙΘΜΟΣ

(ES) NÚMERO DE SERIE
(ET) SEERIANUMBER
(FI) SARJANUMERO
(FR) NUMERO DE SERIE
(GA) SRAITHUMHIR
(HU) GYÁRI SZÁM

(IS) RAÐNÚMER
(IT) NUMERO DI SERIE
(JA) シリアル番号
(KO) 일련 번호
(LT) SERIJINIS NUMERIS
(LV) SĒRIJAS NUMURS

(MT) NUMRU TAS-SERJE
(NL) SERIENUMMER
(NO) SERIENUMMER
(PL) NUMER SERYJNY
(PT) NÚMERO DE SÉRIE
(RO) NUMĂR DE SERIE

(RU) СЕРИЙНЫЙ НОМЕР
(SK) SÉRIOVÉ ČÍSLO
(SL) SERIJSKA ŠTEVILKA
(SV) SERIENUMMER
(TR) SERI NUMARASI
(ZH) 序列号



(EN) ADDITIONAL INFORMATION
(BG) ДОПЪЛНИТЕЛНА ИНФОРМАЦИЯ
(CS) DOPLŇKOVÉ INFORMACE
(DA) YDERLIGERE OPLYSNINGER
(DE) ZUSÄTZLICHE INFORMATIONEN
(EL) ΠΡΟΣΘΕΤΕΣ ΠΛΗΡΟΦΟΡΙΕΣ

(ES) INFORMACIÓN ADICIONAL
(ET) LISAINFO
(FI) LISÄTIETOJA
(FR) INFORMATIONS SUPPLÉMENTAIRES
(GA) TUILLEADH FAISNÉISE
(HU) KIEGÉSZÍTŐ INFORMÁCIÓ

(IS) VÍÐBÓTARTÆKI
(IT) INFORMAZIONI AGGIUNTIVE
(JA) 追加情報
(KO) 추가 정보
(LT) PAPILDOMA INFORMACIJA
(LV) PAPILDU INFORMĀCIJA

(MT) INFORMAZZJONI ADDIZZJONALI
(NL) AANVULLENDE INFORMATIE
(NO) TILLEGGSUTSTYR
(PL) INFORMACJE DODATKOWE
(PT) INFORMAÇÕES ADICIONAIS
(RO) INFORMAȚII SUPLEMENTARE

(RU) ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ
(SK) ĎALŠIE INFORMÁCIE
(SL) DODATNE INFORMACIJE
(SV) YTTERLIGARE INFORMATION
(TR) EKİPMAN
(ZH) 其它信息



(EN) MAXIMUM CAPACITY
(BG) МАКСИМАЛЕН КАПАЦИТЕТ
(CS) MAXIMÁLNÍ NOSNOST
(DA) MAKS. KAPACITET
(DE) MAXIMALKAPAZITÄT
(EL) ΜΕΓΙΣΤΗ ΧΩΡΗΤΙΚΟΤΗΤΑ

(ES) CAPACIDAD MÁXIMA
(ET) MAKSIMAALNE JÕUDLUS
(FI) MAKSIMIKAPASITEETTI
(FR) CAPACITE MAXIMUM
(GA) UASCHUMAS
(HU) MAXIMALIS KAPACITÁS

(IS) HÁMARKS GETA
(IT) PORTATA MASSIMA
(JA) 最大容量
(KO) 최대 용량
(LT) MAKSIMALI GALIA
(LV) MAKSIMĀLĀ CELTSPĒJA

(MT) KAPACITÀ MASSIMA
(NL) MAXIMAAL LAADVERMOGEN
(NO) MAKSIMAL KAPASITET
(PL) UDŹWIG MAKSYMALNY
(PT) CAPACIDADE MÁXIMA
(RO) CAPACITATE MAXIMĂ

(RU) МАКСИМАЛЬНАЯ ГРУЗОПОДЪЕМНОСТЬ
(SK) MAXIMÁLNA NOSNOST
(SL) NAJVEČJA ZMOGLJIVOST
(SV) MAXIMAL KAPACITET
(TR) MAKSIMUM KAPASITE
(ZH) 最大承载力



(EN) MAXIMUM CAPACITY BETWEEN FORKS
(BG) МАКСИМАЛНА ТОВАРОПОДЪЕМНОСТ МЕЖДУ ВИЛИЦИТЕ
(CS) MAXIMÁLNÍ NOSNOST MEZI VILICEMI
(DA) MAKSIMAL KAPACITET MELLER GAFLERNE
(DE) MAXIMALE TRAGFÄHIGKEIT ZWISCHEN DEN GABELN
(EL) ΜΕΓΙΣΤΗ ΙΚΑΝΟΤΗΤΑ ΑΝΑΜΕΣΑ ΣΤΙΣ ΠΕΡΟΝΕΣ
(ES) CAPACIDAD MÁXIMA ENTRE HORQUILLAS
(ET) KAHVLITE VAHELINE MAX. TÕSTEVOIME

(FI) MAKSIMINOSTOKYKY HAARUKOIDEN VÄLISSÄ
(FR) CAPACITÉ MAXIMALE ENTRE LES FOURCHES
(GA) UASCHUMAS IDIR NA GABHAIL
(HU) MAXIMUM TEHERBÍRÁS VILLÁK KÖZÖTT
(IS) HÁMARKS GETA MILLI GAFLA
(IT) PORTATA MASSIMA TRA LE FORCHE
(JA) フォーク間の最大容量
(KO) 포크 간 최대 용량

(LT) MAKSIMALI GALIA TARP ŠAKIŲ
(LV) MAKSIMĀLĀ CELTSPĒJA STARP DAKŠĀM
(MT) KAPACITÀ MASSIMA BEJN IL-FRIKET
(NL) MAXIMUMCAPACITEIT TUSSEN VORKEN
(NO) MAKSIMAL KAPASITET MELLOM GAFLENE
(PL) MAKSYMALNY UDŹWIG POMIEDZY WIDLAMI
(PT) CAPACIDADE MÁXIMA ENTRE GARFOS
(RO) CAPACITATEA MAXIMĂ ÎNTRE FURCI

(RU) МАКСИМАЛЬНАЯ ГРУЗОПОДЪЕМНОСТЬ МЕЖДУ ВИЛАМИ
(SK) MAXIMÁLNA NOSNOST MEDZI VILICAMI
(SL) NAJVEČJA ZMOGLJIVOST MED VILICAMI
(SV) MAXIMAL KAPACITET MELLAN GAFFLAR
(TR) CATALAR ARASI YÜK MERKEZİNDEKİ
(ZH) 最大承载力



(EN) @ LOAD CENTER
(BG) В ЦЕНТЪРА НА НАТОВАРВАНЕ
(CS) @ STŘED NÁKLADU
(DA) VED LASTCENTRUM
(DE) @ LASTSCHWERPUNKT
(EL) ΣΤΟ ΚΕΝΤΡΟ ΒΑΡΟΥΣ

(ES) @ CENTRO DE CARGA
(ET) @ KOORMUSE RASKUSKESE
(FI) @PAINOPISTEESÄ
(FR) @AU CENTRE DE CHARGE
(GA) @ LÓDHPOINTE
(HU) @ TEHER KÖZEPÉ

(IS) @ HLEDSLUMIDJA
(IT) @ BARICENTRO DEL CARICO
(JA) @ 負荷の中心
(KO) @ 하중 중심
(LT) @ TIES KROVINIO CENTRU
(LV) @ KRĀVAS CENTRĀ

(MT) @ ĊENTRU TAT-TAGHBJA
(NL) @ BIJ LASTZWAARTEPUNT
(NO) @ VED LASTEPUNKT
(PL) @ ŚRODEK CIĘŻKOŚCI ŁADUNKU
(PT) @ CENTRO DE CARGA
(RO) @ LA CENTRUL DE GREUTATE

(RU) В ЦЕНТРЕ НАГРУЗКИ
(SK) @ V ŤAŽISKU NÁKLADU
(SL) @ SREDIŠČE OBREMNITVE
(SV) @ VID LASTENS MITTPUNKT
(TR) @ MAKSIMUM KAPASITE
(ZH) 载荷中心



(EN) MAXIMUM OPERATING PRESSURE
(BG) МАКСИМАЛНО РАБОТНО НАЛЯГАНЕ
(CS) MAXIMÁLNÍ PROVOZNÍ TLAK
(DA) MAKSIMALT DRIFTSTRYK
(DE) MAXIMALER BETRIEBSDRUCK
(EL) ΜΕΓΙΣΤΗ ΠΙΕΣΗ ΛΕΙΤΟΥΡΓΙΑΣ
(ES) PRESIÓN DE FUNCIONAMIENTO MÁXIMA
(ET) MAKSIMAALNE TÕÖRÕHK

(FI) MAKSIMITOIMINTAPAINE
(FR) PRESSION DE SERVICE MAXIMALE
(GA) UASBHRRÚ OIBRIÚCHÁIN
(HU) MAXIMALIS ÜZEMI NYOMÁS
(IS) HÁMARKS VINNUÞRÝSTINGUR
(IT) PRESSIONE MASSIMA DI ESERCIZIO
(JA) 最大運転圧力
(KO) 최대 작동 압력

(LT) MAKSIMALUS EKSPLOATACINIS SLĖGIS
(LV) MAKSIMĀLAIS DARBA SPIEDIENS
(MT) PRESSJONI MASSIMA TAL-OPERAT
(NL) MAXIMUM WERKDRUK
(NO) MAKSIMALT DRIFTSTRYKK
(PL) MAKSYMALNE CIŚNIENIE ROBOCZE
(PT) PRESSÃO MÁXIMA DE FUNCIONAMENTO
(RO) PRESIUNEA DE LUCRU MAXIMĂ

(RU) МАКСИМАЛЬНОЕ РАБОЧЕЕ ДАВЛЕНИЕ
(SK) MAXIMÁLNY PREVÁDZKOVÝ TLAK
(SL) NAJVEČJI DELOVNI TLAK
(SV) MAXIMALT ARBETSTRYCK
(TR) MAKSIMUM İŞLETME BASINCI
(ZH) 最大工作压力



(EN) MASS OF ATTACHMENT
(BG) МАСА НА ПРИСТАВКА
(CS) HMOTNOST PŘÍDAVNÉHO ZAŘÍZENÍ
(DA) UDS TYRS VÆGT
(DE) ANBAUGERÄTGEWICHT
(EL) ΜΑΖΑ ΣΥΝΔΕΔΕΜΕΝΟΥ ΕΞΟΠΛΙΣΜΟΥ

(ES) PESO DEL ACCESORIO
(ET) TÕOSEADME MASS
(FI) LISÄLAITTEEN PAINO
(FR) MASSE DE L'ACCESSOIRE
(GA) MAIS AN FHEISTIS
(HU) A SZERELÉK TÖMEGE

(IS) FJÓLDI TENINGA
(IT) MASSA DELL'ATTREZZATURA
(JA) 装備総量
(KO) 부각 크기
(LT) PRIEDO MASĖ
(LV) UZKARES IEKĀRTAS MASA

(MT) PIŻ TAL-ATTACHMENT
(NL) MASSA VAN VOORZETAPPARAAT
(NO) MASSE FOR TILLEGGSUTSTYR
(PL) MASA OSPRZETU
(PT) PESO DO ACESSÓRIO
(RO) MASA ECHIPAMENTULUI ATAŞAT

(RU) МАССА НАВЕЩЕГОГО ОБОРУДОВАНИЯ
(SK) HMOTNOST PŘÍDAVNÉHO ZARIADENIA
(SL) MASA PRIKLJUČKA
(SV) AGGREGATETS VIKT
(TR) EK DONANIM AĞIRLIĞI
(ZH) 属具质量

Nameplate Icons



(EN) LOST LOAD CENTER DISTANCE
(BG) РАЗСТОЯНИЕ ОТ ЦЕНТРА НА ЗАГУБА НА ХАТОВАРБАВЕ
(CS) VZDÁLENOST POSUNUTÉHO STŘEDU NÁKLADU
(DA) REDUCERET LASTCENTERAFSTAND
(DE) VERLORENER ABSTAND ZUM LASTMITTELPUNKT
(EL) ΑΠΟΣΤΑΣΗ ΑΠΟΛΕΣΘΕΝΤΟΣ ΚΕΝΤΡΟΥ ΒΑΡΟΥΣ
(ES) DISTANCIA A CENTRO DE CARGA PERDIDA
(ET) KOORMUSE RASKUSKESKME MUUTUS
(FI) KAPASITEETIHUKAN KESKIPESTEEN ETÄISYYS
(FR) DISTANCE CENTRE DE CHARGE PERDUE

(GA) FAD LÓDPHOINTE CAILLTE
(HU) ELVESZETT TEHERKÖZEPPOINT-TÁVOLSÁG
(IS) FJARLEGD GLATADS HLEDSLUMIDJU
(IT) SPESSORE EFFETTIVO
(JA) 荷重中心消失
(KO) 손실 하중 중심 거리
(LT) ATITOLUSIO APKROVOS CENTRO ATSTUMAS
(LV) ZAUDĒTS ATTĀLUMS LĪDZ SLĒDZES CENTRAM
(MT) DISTANZA MIĊ-CENTRU TAT-TAGHBIA MITLUFA
(NL) VERLOREN AFSTAND TOT LASTZWAARTEPUNT

(NO) TAPT LASTEPUNKTAVSTAND
(PL) WIELKOŚĆ PRZESUNIĘCIA ŚRODKA CIĘŻKOŚCI ŁADUNKU
(PT) DISTÂNCIA DO CENTRO DE CARGA PERDIDA
(RO) DISTANȚA LA CENTRUL DE GREUTATE AL SARCINII
(RU) ПОТЕРЯННОЕ РАССТОЯНИЕ ДО ЦЕНТРА НАГРУЗКИ
(SK) ÚBYTOK VYLOŽENIA ŤAŽISKA S PRÍDAVNÝM ZARIADENÍM
(SL) RAZDALJA DO PREMAKNJENEGA SREDIŠČA OBREMNITVE
(SV) FÖRLORAT LASTMITTPUNKTAVSTÅND
(TR) KAYIP YÜK MERKEZİ MESAFESİ
(ZH) 荷載損耗中心距離



(EN) CENTER OF GRAVITY TO MOUNT FACE DISTANCE
(BG) ЦЕНТЪР НА ТЕЖЕСТА СТЪРМО РАЗСТОЯНИЕТО ОТ МОНТАЖНАТА ЧЕЛНА ПОВЪРХИНА
(CS) VZDÁLENOST STŘEDU NÁKLADU K ČELU RAMU
(DA) AFSTANDEN MELLEM TYNGDEPUNKT OG MONTERINGSFLADEN
(DE) ABSTAND ZWISCHEN SCHWERPUNKT UND MONTAGEFLÄCHE
(EL) ΑΠΟΣΤΑΣΗ ΚΕΝΤΡΟΥ ΒΑΡΟΥΣ ΑΠΟ ΤΗΝ ΠΡΟΣΩΠΗ ΒΑΣΗΣ
(ES) DISTANCIA DE CENTRO DE GRAVEDAD A CARA DE MONTAJE
(ET) RASKUSKESKME KAUGUS EESMISEST KINNITUSPINNAST
(FI) PAINOPISTEEN ETÄISYYS KINNITYSPINNASTA
(FR) DISTANCE CENTRE DE GRAVITÉ-FACE DE MONTAGE

(GA) FAD IDIR AN MEÁCHANLÁR AGUS AN ÉADAN FEISTE
(HU) SÚLYPONT - SZERELŐFELÜLET TÁVOLSÁG
(IS) MIÐJA ÞYNGDARAFLS TIL AÐ HLAÐA ÚR LÍKAMSFJARLEGG
(IT) CENTRO DI GRAVITA' DAL PIANO DI AGGANCIO
(JA) マウント面への重心
(KO) 장착 면 거리에 대한 중력 중심
(LT) ATSTUMAS NUO SUNKIO JĖGOS CENTRO KI PAGRINDO PRIEKINĖS PUSĖS
(LV) ATTĀLUMS NO SMAGUMA CENTRA LĪDZ UZSTĀDĪŠANAS VIRSMĀI
(MT) CENTRU TA' GRAVITÀ SAD-DISTANZA MOUNT FACE
(NL) AFSTAND TUSSEN ZWAARTEPUNT EN MONTAGEVLAK

(NO) AVSTAND TYNGDEPUNKT TIL MONTERINGSFLATE
(PL) ODLEGŁOŚĆ OD ŚRODKA CIĘŻKOŚCI DO CZOŁA ZAWIESZENIA
(PT) DISTÂNCIA DO CENTRO DE GRAVIDADE À SUPERFÍCIE DE MONTAGEM
(RO) DISTANȚA DE LA CENTRUL DE GREUTATE LA SUPRAFAȚA DE MONTARE
(RU) РАССТОЯНИЕ ОТ ЦЕНТРА ТЯЖЕСТИ ДО УСТАНОВОЧНОЙ ПОВЕРХНОСТИ
(SK) VZDIALENOSŤ ŤAŽISKA OD ČELNEJ STRANY UCHYTENIA
(SL) RAZDALJA TEŽIŠČA OD SPREDNJE MONTAŽNE STRANI
(SV) AVSTÅND TYNGDPUNKT TILL MONTERINGSYTA
(TR) AĞIRLIK MERKEZİ İLE FORK YÜZÜ ARASI MESAFE
(ZH) 重心到安装面的距离



(EN) YEAR OF MANUFACTURE
(BG) ГОДИНА НА ПРОИЗВОДСТВО
(CS) ROK VÝROBY
(DA) PRODUKTIONSÅR
(DE) JAHR DER HERSTELLUNG
(EL) ΕΤΟΣ ΚΑΤΑΣΚΕΥΗΣ

(ES) AÑO DE FABRICACIÓN
(ET) VALMISTAMISAASTA
(FI) VALMISTUSVUOSI
(FR) ANNÉE DE FABRICATION
(GA) BLIAIN DEÁNTUSÁIOCHTA
(HU) A GYÁRTÁS ÉVE

(IS) FRAMLEIÐSLUÁR
(IT) ANNO DI FABBRICAZIONE
(JA) 製造年度
(KO) 제조년
(LT) PAGAMINIMO METAI
(LV) RAŽOŠANAS GADS

(MT) SENA TA' MANIFATTURA
(NL) BOUWJAAR
(NO) PRODUKSJONSÅR
(PL) ROK PRODUKCJI
(PT) ANO DE FABRICO
(RO) ANUL DE FABRICAȚIE

(RU) ГОД ИЗГОТОВЛЕНИЯ
(SK) ROK VÝROBY
(SL) LETO IZDELAVE
(SV) TILLVERKNINGSÅR
(TR) ÜRETİM YILI
(ZH) 制造年份



(EN) CAPACITY OF TRUCK AND ATTACHMENT COMBINATION MAY BE LESS THAN ATTACHMENT CAPACITY SHOWN. CONSULT TRUCK NAMEPLATE. THE CAPACITY OF THE TRUCK AND ATTACHMENT COMBINATION SHALL BE COMPLIED WITH.

(BG) КАПАЦИТЕТЪТ НА СЪЕДИНЕНИЕТЕ ПОВДИГАЧ И ПРИСТАВКА МОЖЕ ДА БЪДЕ ПО-МАЛЪК ОТ ДАДЕНИЯ КАПАЦИТЕТ НА ПРИСТАВКАТА. ВИЖТЕ ТАБЕЛКАТА НА ПОВДИГАЧА. ТОВАРОПОДЕМНОСТТА НА КАРА И КОМБИНАЦИЯТА ОТ ПРИСТАВКИ ТРЯБВА ДА СЪОТВЕТСТВАТ.

(CS) NOSNOST KOMBINACE VOZÍKU S PŘÍDAVNÝM ZAŘÍZENÍM MUŽE BYT MENŠÍ NEŽ UVEDENÁ NOSNOST PŘÍDAVNÉHO ZAŘÍZENÍ. PROHLÉDNĚTE SI ŠTÍTEK VOZÍKU. NOSNOST KOMBINACE VOZÍKU A PŘÍDAVNÉHO ZAŘÍZENÍ NESMÍ BYT PŘEKROČENA.

(DA) DEN SAMLEDE KAPACITET FOR TRUCKEN OG DET PÅMONTEREDE TILBEHØR KAN VÆRE MINDRE END DEN VISTE KAPACITET FOR TILBEHØRET. SE TRUCKENS NAVNEPLADE. KOMBINATIONEN AF TRUCKENS KAPACITET OG TILBEHØRET SKAL OVERHOLDES.

(DE) DIE TRAGKRAFT DER KOMBINATION AUS STAPLER UND ANBAUGERÄT KANN GERINGER SEIN ALS DIE ANGEGEBENE NENNTRAGFÄHIGKEIT. SIEHE TYPENSCHILD. DIE TRAGFÄHIGKEIT DER STAPLER-ANBAUGERÄT-KOMBINATION MUSS DAMIT ÜBEREINSTIMMEN.

(EL) Η ΧΩΡΙΚΟΤΗΤΑ ΤΟΥ ΟΧΗΜΑΤΟΣ ΚΑΙ ΣΥΝΔΥΑΣΜΟΥ ΕΞΑΡΤΗΜΑΤΩΝ ΕΝΔΕΧΕΤΑΙ ΝΑ ΕΙΝΑΙ ΧΑΜΗΛΟΤΕΡΗ ΑΠΟ ΤΗ ΧΩΡΙΚΟΤΗΤΑ ΤΟΥ ΕΞΑΡΤΗΜΑΤΟΣ ΣΤΟ ΠΑΡΑΔΕΙΓΜΑ. ΣΥΜΒΟΥΛΕΥΕΤΕ ΤΗΝ ΕΤΙΚΕΤΑ ΟΧΗΜΑΤΟΣ. Η ΙΚΑΝΟΤΗΤΑ ΤΟΥ ΟΧΗΜΑΤΟΣ ΚΑΙ ΤΟΥ ΣΥΝΔΕΔΕΜΕΝΟΥ ΕΞΟΠΛΙΣΜΟΥ ΠΡΕΠΕΙ ΝΑ ΕΙΝΑΙ ΣΥΜΒΑΤΕΣ.

(ES) LA CAPACIDAD COMBINADA DE CARRETILLA Y ACCESORIO PUEDE SER MENOR QUE LA CAPACIDAD DEL ACCESORIO INDICADA. CONSULTE LA PLACA DE CARACTERÍSTICAS DE LA CARRETILLA. DEBE CUMPLIRSE LA CAPACIDAD COMBINADA DE CARRETILLA Y ACCESORIO.

(ET) LAADURI JA TÕOSEADME KOMBINATSIOONI JÕUDLUS VÕIB OLLA VÄIKSEM KUI TÕOSEADME NÄIDATUD JÕUDLUS. VAADAKE LAADURI ANDMEPLAATI. LAADUR JA TÕOSEADE PEAVAD OLEMA ÜKTEISEGA VASTAVUSES.

(FI) TRUKKI- JA LISÄLAITEYHDISTELMÄN KAPASITEETTI VOI OLLA PIENEMPI KUIN LISÄLAITTEEN ILMOITETTU KAPASITEETTI. KS. TRUKIN ARVOKILPI. TRUKIN JA LISÄLAITTEEN YHDISTELMÄN NOSTOKYKYÄ ON NOUDATETTAVA.

(FR) LA CAPACITE DE LA COMBINAISON CHARIOT/ACCESSOIRE PEUT S'AVERER INFÉRIEURE À CELLE INDICUÉE POUR L'ACCESSOIRE. SE REPORTER À LA PLAQUE SIGNALÉTIQUE DU CHARIOT. RESPECTER LA CAPACITÉ DU CHARIOT ET DE L'ACCESSOIRE COMBINÉS.

(GA) D'FHÉADFADH NÍOS LÚ CUMAIS A BHEITH AG AN TRUCAIL AGUS FEISTEAS NÁ AN CUMAS FEISTIS A THAISPEÁNTAR. FÉACH AR ANIMCHLÁR NA TRUCAILE. CLOÍFEAR LE CUMAS NA TRUCAILE AGUS AN CHOMHCHEANGAL FEISTIS.

(HU) A TARGONCA ÉS A TARTOZÉK KOMBINÁCIÓ KAPACITÁSA LEHET, HOGY KEVESEBB, MINT AZ ÁBRÁZOLT TARTOZÉK KAPACITÁSA. LÁSD A TARGONCA ADATTÁBLÁNT. A TARGONCA ÉS SZERELÉK KOMBINÁCIÓ TEHERBÍRÁSÁNAK ELEGET KELL TENNIE ENNEK.

(IS) GETA VÖRUBÍLS OG VIÐHENGISVIÐBÓTAR GETUR VERIÐ MINNI EN GETA VIÐHENGIS ER SÝND. RÁÐFÆRÐ YKKUR VIÐ NAFNASKILTÍ VÖRUBÍLSINS. ÞAÐ Á AÐ FYLGJA GETU VÖRUBÍLSINS OG VIÐHENGISVIÐBÓTINNÍ.

(IT) LA PORTATA DELLA COMBINAZIONE CARRELLO/ATTREZZATURE PUÒ ESSERE INFERIORE RISPETTO ALLA PORTATA DELLE ATTREZZATURE DICHIARATA. CONSULTARE LA TARGHETTA DEL CARRELLO. DEVE ESSERE RISPETTATA LA PORTATA DELLA COMBINAZIONE CARRELLO ELEVATORE/ATTREZZATURA.

(JA) フォークリフトの能力と装備の組み合わせは示されている装備の能力より低い場合があります。 フォークリフトのネームプレートを相談。トラックの容量と装備の組み合わせとは実施済み。.

(KO) 트럭 및 부착 결합물의 용량은 표시된 부착물 용량보다 적을 수 있습니다. 트럭 명판을 참조하십시오. 트럭 및 부착물 결합의 용량을 준수해야 합니다.

(LT) KRAUTUVO IR PRIEDO DERINIO GALINGUMAS GALI BŪTI MAŽESNIS NEGU NURODYTAS PRIEDO GALINGUMAS. SKAIYKITE INFORMACIJĄ KRAUTUVO INFORMACINĖJE PLOKŠTELĖJE. BŪTINA NEVIRŠYTI KRAUTUVO IR PRIEDO DERINIO GALIOS.

(LV) AUTOIEKRĀVĒJA UN PIEDERUMA KOPĒJĀ CELTSPĒJA VAR BŪT MAŽĀKA PAR NORĀDĪTO PIEDERUMA CELTSPĒJU. SKATĪT AUTOIEKRĀVĒJA TEHNISKO DATU PLĀKSŅĪTI. IR JĀIEVĒRO AUTOIEKRĀVĒJA UN UZKARES IEKĀRTAS KOPĒJĀ CELTSPĒJA.

(MT) IL-KAPACITÀ TAT-TRAKK U TAT-TAGHMIR IMQABBAD MIEGHU TISTA' TKUN INQAS MILL-KAPACITÀ MURJA TAT-TAGHMIR IMQABBAD MIEGHU. IČĊEKKJA L-PJANĊA TAL-ISEM TAT-TRAKK. IL-KAPACITÀ TAT-TRAKK FLIMKIEN MA' DIK TAT-TAGHMIR IMQABBAD MIEGHU TRID TIĠI SSODISFATA.

(NL) HET DRAAGVERMOGEN VAN DE COMINATIE VAN HEFTRUCK EN VOORZETAPPARAAT KAN LAGER ZIJN DAN HET VERMELDE DRAAGVERMOGEN VAN HET VOORZETAPPARAAT. KIJK OP HET TYPEP. LAATJE VAN DE HEFTRUCK. MET DE CAPACITEIT VAN DE COMBINATIE VAN TRUCK EN VOORZETAPPARAAT WORDT REKENING GEHOUDEN.

(NO) TOTAL KOMBINERT KAPASITET FOR GAFFELTRUCK OG TILBEHØR KAN VÆRE MINDRE ENN ANGITT KAPASITET FOR TILBEHØRET. SE GAFFELTRUCKENS NAVNEPLATE. DEN TOTALE KAPASITETEN FOR GAFFELTRUCK OG TILLEGGSUTSTYR KOMBINERT MÅ OVERHOLDLES.

(PL) UDŹWIG ZESPOŁU WÓZKA I OSPRZĘTU MOŻE BYĆ MNIEJSZY NIŻ POKAZANY UDŹWIG OSPRZĘTU. PATRZ TABLICZKA ZNAMIONOWA WÓZKA. NALEŻY PRZESTRZEGAĆ DOPUSZCZALNEGO UDŹWIGU ZESPOŁU WÓZKA I OSPRZĘTU.

(PT) A CAPACIDADE DA COMBINAÇÃO DO EMPILHADOR E DO ACESSÓRIO PODE SER INFERIOR À CAPACIDADE DO ACESSÓRIO APRESENTADA. CONSULTE A CHAPA DE ESPECIFICAÇÕES DO EMPILHADOR. CAPACIDADE DO CAMINHÃO E COMBINAÇÃO DE PENHORA DEVE SER RESPEITADO.

(RO) CAPACITATEA VEHICULULUI ȘI A COMBINAȚIEI DISPOZITIVELOR DE PRINDERE POATE FI MAI MICĂ DECÂT CAPACITATEA DISPOZITIVELOR DE PRINDERE INDICATĂ. CONSULTAȚI PLACUȚA CU CARACTERISTICILE TEHNICE ALE STIVUITORULUI. CAPACITATEA COMBINAȚIEI STIVUITOR - ECHIPAMENTE ATAȘATE TREBUIE RESPECTATĂ.

(RU) СОВМЕСТНАЯ ГРУЗОПОДЪЕМНОСТЬ АВТОПОГРУЗЧИКА И НАВЕСНОГО УСТРОЙСТВА МОЖЕТ БЫТЬ НИЖЕ УКАЗАННОЙ ГРУЗОПОДЪЕМНОСТИ НАВЕСНОГО УСТРОЙСТВА. СМ. ТАБЛИЧКУ ТЕХНИЧЕСКИХ ДАННЫХ. НЕОБХОДИМО СОБЛЮДАТЬ КОМБИНИРОВАННУЮ ГРУЗОПОДЪЕМНОСТЬ АВТОПОГРУЗЧИКА И НАВЕСНОГО ОБОРУДОВАНИЯ.

(SK) NOSNOSŤ VOZÍKA A PŘÍDAVNÉHO ZARIADENIA MÔŽE BYŤ MENŠIA AKO UVEDENÁ NOSNOSŤ PŘÍDAVNÉHO ZARIADENIA. BLÍŽŠIE INFORMÁCIE UVEDENÉ NA TYPOVOM ŠTÍTKU VOZÍKA. NOSNOSŤ VOZÍKA S PŘÍDAVNÝM ZARIADENÍM BUDE DODRŽANÁ.

(SL) ZMOGLJIVOST KOMBINACIJE VILICARJA IN OPREME JE LAHKO MANJŠA OD PRIKAZANE ZMOGLJIVOSTI OPREME. UPOŠTEVAJTE NAPISNO PLOŠČICO VILICARJA. UPOŠTEVATI JE POTREBNO ZMOGLJIVOST KOMBINACIJE VILICARJA IN OPREME.

(SV) KAPACITETEN FÖR KOMBINATIONEN GAFFELTRUCK OCH AGGREGAT KAN VARA MINDRE ÄN ANGIVEN KAPACITET. LÄS GAFFELTRUCKENS TYP SKYL. KAPACITETEN FÖR KOMBINATIONEN GAFFELTRUCK OCH AGGREGAT SKA FÖLJAS.

(TR) ARAÇ KAPASİTESİ VE DONANIM KOMBİNASYONU, GÖSTERİLEN DONANIM KAPASİTESİNDEN DÜŞÜK OLABİLİR. ARAÇ BİLGİ ETİKETİNE BAŞVURUN. ARAÇ KAPASİTESİ VE DONANIM KOMBİNASYONU UYUMLU OLMALIDIR.

(ZH) 叉车与叉车属具的综合承载能力可能小于显示的叉车属具承载能力。请参考叉车铭牌。应符合叉车与叉车属具的综合承载能力。

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- (EN)** **Do you have questions you need answered right now?**
Call your nearest Cascade Service Department.
Visit us online at www.cascorp.com
- (NL)** **Zijn er vragen waarop u direct een antwoord nodig hebt?**
Neem dan contact op met uw dichtstbijzijnde serviceafdeling van Cascade. Of ga naar www.cascorp.com
- (DE)** **Haben Sie Fragen, für die Sie sofort eine Antwort benötigen?**
Wenden Sie sich an Ihren nächsten Cascade-Kundendienst.
Besuchen Sie uns online: www.cascorp.com
- (FR)** **En cas de questions urgentes,**
contacter le service d'entretien Cascade le plus proche.
Visiter le site Web www.cascorp.com.
- (IT)** **Per domande urgenti contattare**
l'Ufficio Assistenza Cascade più vicino.
Visitate il nostro sito all'indirizzo www.cascorp.com
- (ES)** **¿Tiene alguna consulta que deba ser respondida de inmediato?** Llame por teléfono al servicio técnico de Cascade más cercano. Visítenos en www.cascorp.com
- (CS)** **Máte nějaké dotazy, na které nyní potřebujete odpověď?**
Zavolejte na nejbližší servisní oddělení Cascade. Navštivte naši webovou stránku www.cascorp.com
- (FI)** **Tarvitsetko heti vastauksen kysymykseesi?**
Ota yhteys lähimpään Cascade-huoltoon.
Käy Internet-sivustollamme www.cascorp.com
- (HU)** **Van olyan kérdése, amelyre most azonnal választ vár?**
Hívja fel a legközelebbi Cascade Szervizrészeletet. Keresse fel honlapunkat a www.cascorp.com címen
- (NO)** **Har du spørsmål du trenger svar på akkurat nå?** Kontakt den nærmeste Cascade-serviceavdelingen. Besøk oss på Internett under www.cascorp.com
- (PL)** **Czy potrzebne są teraz odpowiedzi na jakieś pytania?**
Prosimy skontaktować się telefonicznie z najbliższym Działem Serwisowym Cascade. Zapraszamy do naszej witryny internetowej pod adresem www.cascorp.com
- (SK)** **Máte nejaké otázky a potrebujete odpoveď ihneď?**
Zavolajte najbližšie servisné stredisko spoločnosti Cascade. Pozrite si naše internetové stránky www.cascorp.com

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