



Installation Instructions

Digital Tilt Indicator Kits 6802582 (12V) and 6812299 (24-48V)

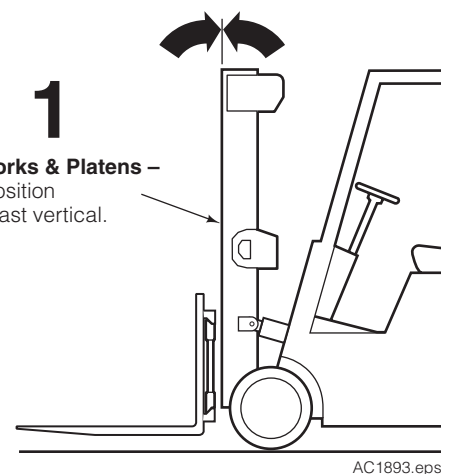
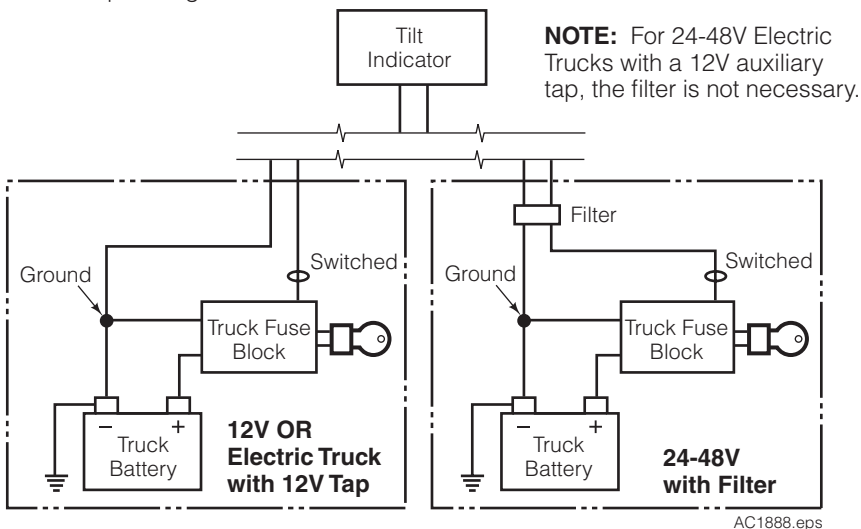
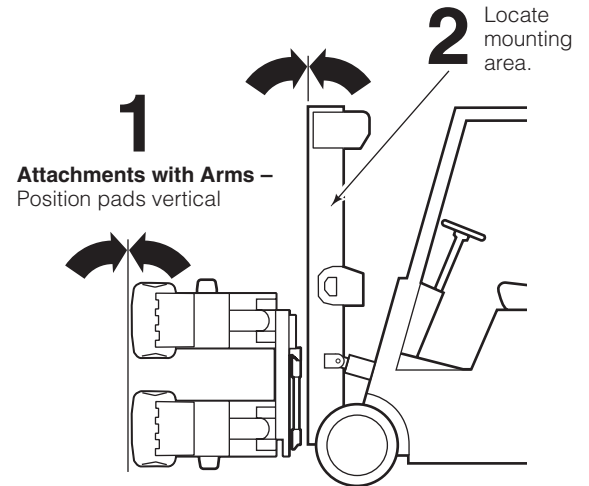
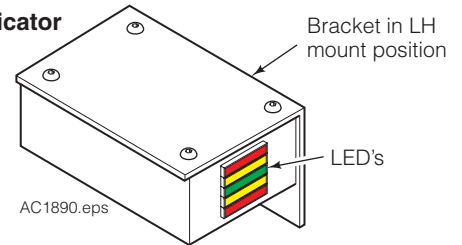
This sheet describes the installation and operation for Cascade's Digital Tilt Indicator. The tilt indicator allows the driver to easily determine if the attachment or forks are properly aligned to the load.

INSTALLATION

IMPORTANT: Read all instructions prior to installation to prevent injury or product damage.

- Forks and Platens** – Position the mast at vertical using a level.
Attachments with Arms – Position front edge of pads at vertical.
- Locate a place on the mast to mount the tilt indicator that is convenient for the operator to see the tilt indicator's LED's. Mark the area. This location may be on the LH side if the driver normally sights down the LH side for positioning.
 - The unit is supplied with the bracket setup for LH mounting. Switch to RH mounting by removing the top screws and turning the bracket 180° (keep the bottom label with red dot facing down).
- Clean the marked area of grease, dirt and contaminants.
- The unit is not polarity sensitive. Connect the wires to a switched power source. See schematics below. Use 18-22 AWG wire as needed. Allow wire length for the mast to fully tilt forward and backward. Route and anchor the wires to avoid pinching.

Digital Tilt Indicator



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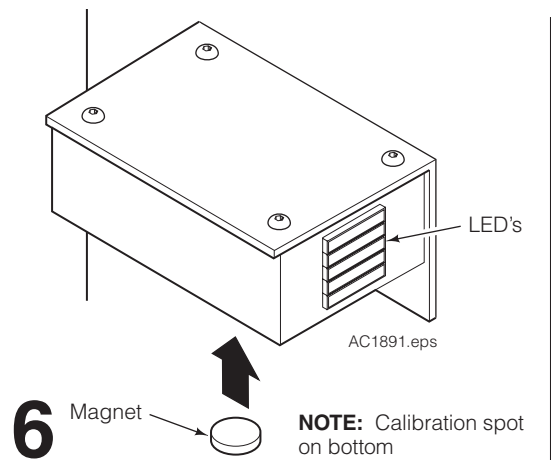
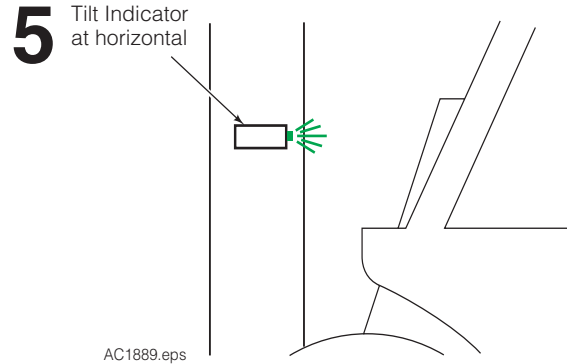
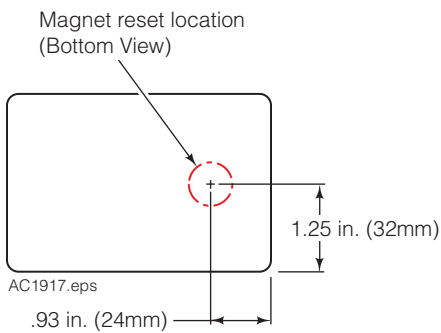
5 The unit is calibrated at the factory to level. With the mast or attachment aligned at vertical (see step 1), determine the mount location. With the unit powered and the Green LED on, mark the mount location. Mix and apply a small amount of adhesive (user supplied) between the strips of mounting tape. Remove the mounting tape protective film and place the unit on the mast with the Green LED on. The unit can be recalibrated in step 6. Adhesives approved for this installation:

- Loctite 332 with Activator 7380
- Devcon S-220 two part epoxy
- Devcon Plastic Welder 14320
- JB Weld 8265-S

Apply adhesive per manufacturer's instructions.

6 To recalibrate the unit, confirm that the mast or attachment is vertical. Place and hold the magnet on the red dot located underneath the tilt indicator.

- When the magnet is over the red dot, both red LED's will illuminate.
- Other LED's may also be on at this time.



7 Power the unit. The red, green and red LED's will be ON for 1 sec. Power the unit OFF and remove the magnet. The tilt indicator will zero. If the tilt indicator is outside of it's 35 degree range, the top and bottom red LED's will flash.

8 Tilt the mast fully forward and backward to check for pinch points with the wires.

TILT INDICATOR OPERATION

The tilt direction LED's can be set in two different modes:

Mode A – Red on bottom for forward tilt

Mode B – Red on top for forward tilt






Switching Modes – Power the unit, then place and hold the magnet on the red dot located underneath the tilt indicator until red LED's come on. Wait 10 seconds until all LED's are ON for 1 sec. Remove the magnet and power cycle the unit.

Indicators manufactured before 9/15/2010 do not allow a mode change.

Operation – Mode A (Red on bottom for forward tilt)

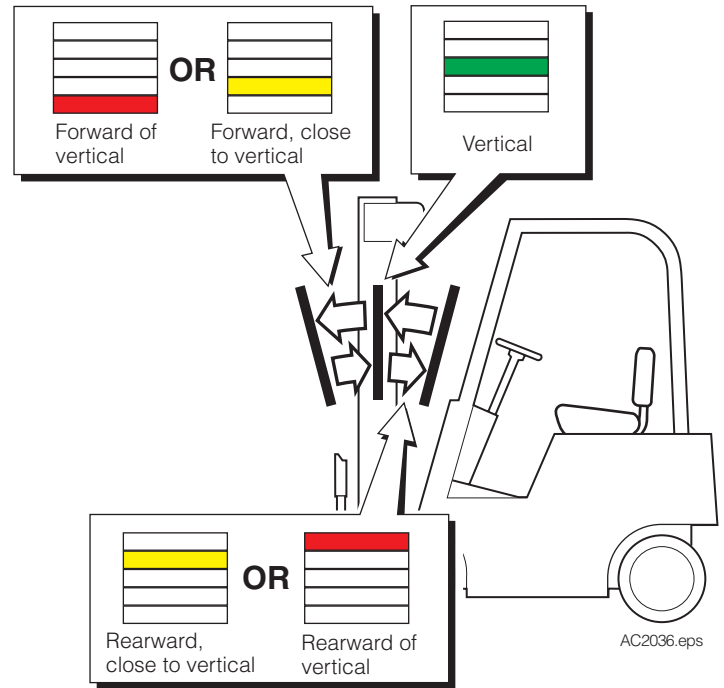
NOTE: Test the installation prior to putting the truck in service.

To move to the vertical position, use the LED's to determine tilt position.

	Top Red – Rearward of vertical > 4°
	Top Yellow – Rearward, close to vertical, 1.5°-4°
	Green – Vertical, ±1.5°
	Bottom Yellow – Forward, close to vertical, 1.5°-4°
	Bottom Red – Forward of vertical > 4°

NOTE: Sudden acceleration or stopping will cause the indicator LED's to show red.






You can use a level to confirm basic operation of the unit. Yellow will change to red at 4°.



Operation – Mode B (Red on top for forward tilt)

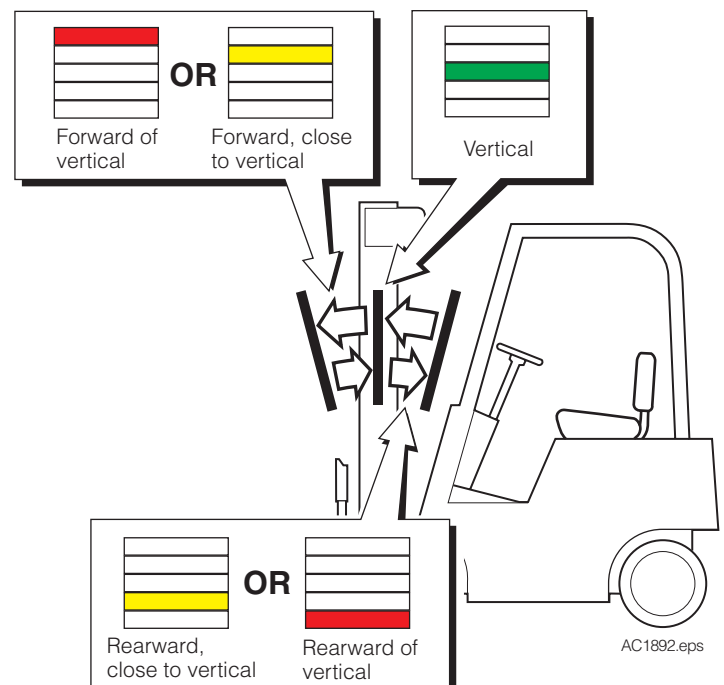
NOTE: Test the installation prior to putting the truck in service.

To move to the vertical position, use the LED's to determine tilt position.

	Top Red – Forward of vertical > 4°
	Top Yellow – Forward, close to vertical, 1.5°-4°
	Green – Vertical, ±1.5°
	Bottom Yellow – Rearward, close to vertical, 1.5°-4°
	Bottom Red – Rearward of vertical > 4°

NOTE: Sudden acceleration or stopping will cause the indicator LED's to show red.

You can use a level to confirm basic operation of the unit. Yellow will change to red at 4°.



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