

OPERATOR'S GUIDE

Portable Digital Clamp Force Indicator

Manual Number 6094544-R1

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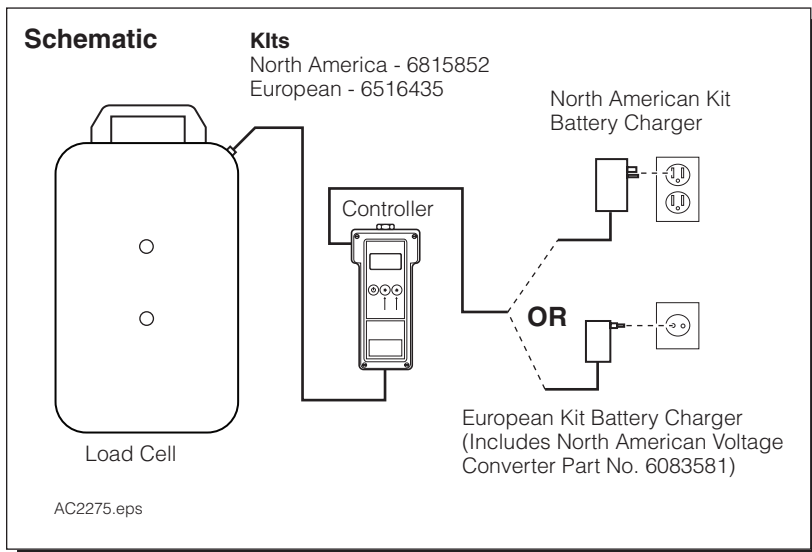
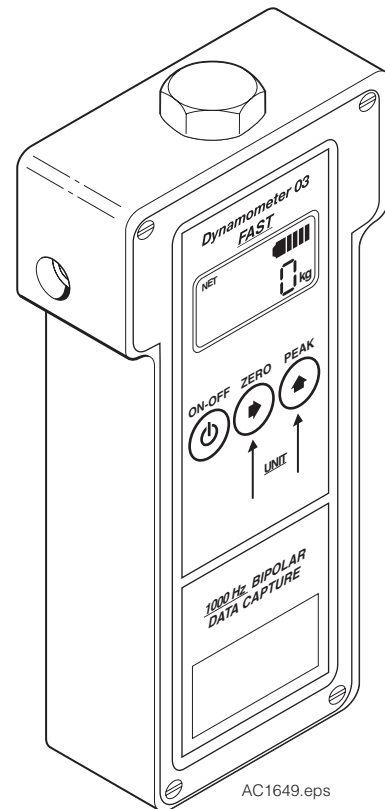
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I NTRODUCTION

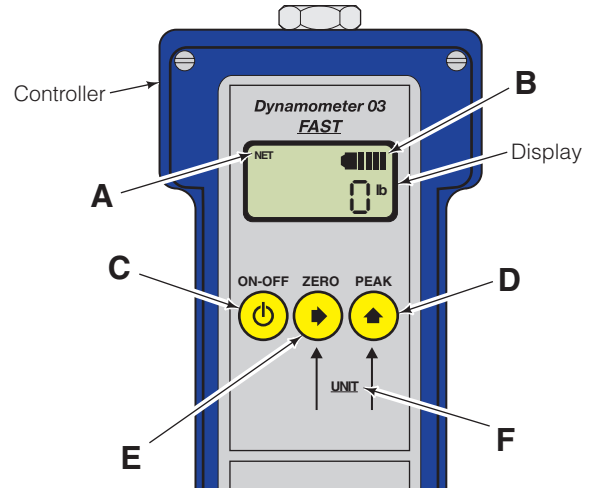
This guide provides installation and operation of Cascade Portable Clamp Force Indicator for measuring Roll Clamp force. This controller is a handheld numeric display control. The battery can be recharged through the battery charger supplied. Clamp force can be measured in various units: kg, lb, N and kN. See the schematic below for controller connections to the load cell and battery charging.

This controller can be used to determine clamp force retention and calibration for roll clamp attachments.



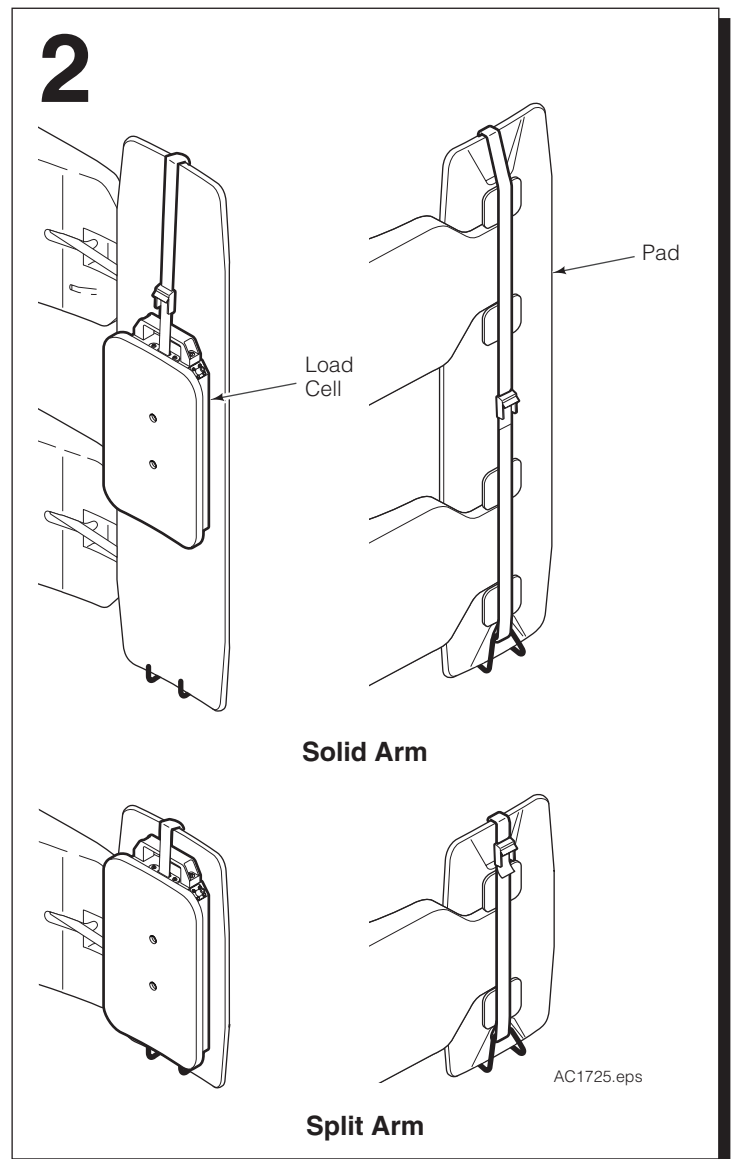
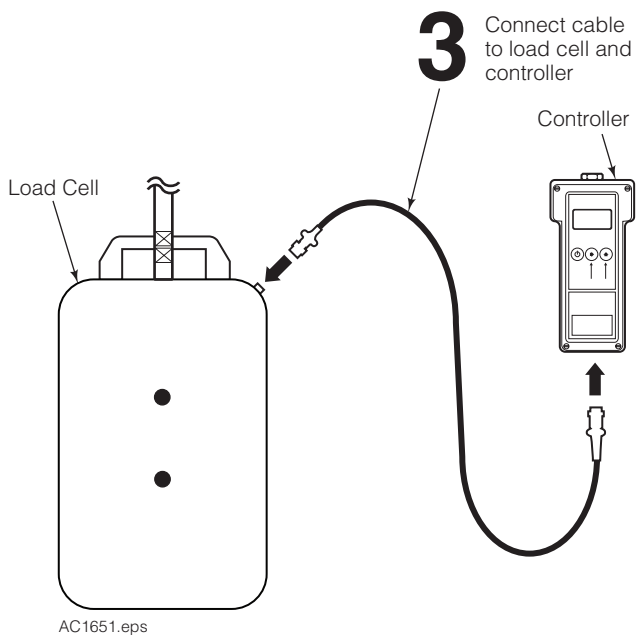
KEY FUNCTIONS & DISPLAY BASICS

- A NET (icon)** - Net value will show on the display.
- B BATTERY (Icon)** - Indicates the battery power level.
- C ON-OFF (Button)** - Turns controller on or off. Hold for three (3) seconds.
- D PEAK (Button)** - Gives the highest value reached.
- E ZERO (Button)** - Zeros the cell.
- F UNIT (icon)** - Indicates to press ZERO and PEAK Buttons to choose weight or force: kg, lb, N and kN.



SETUP

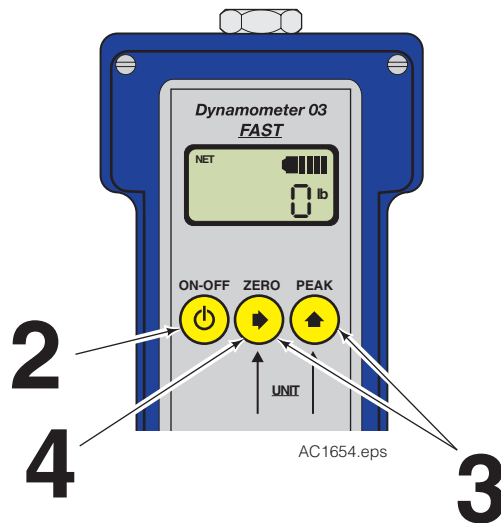
- 1 Position attachment arms to vertical roll handling position.
- 2 To install load cell, adjust strap so that the hook remains fixed at the bottom of the arm and the load cell is centered on the pad.
- 3 Connect cable to cell and controller.



M MEASURE CLAMP FORCE

- 1 Make sure the load cell is aligned with the arm contact pad.
- 2 Press ON-OFF button on controller.
- 3 Press ZERO and PEAK buttons at the same time to select desired force/weight unit: kg, lb, N, kN.
- 4 Press ZERO to zero out any residual weight.
- 5 Slowly clamp the load. Clamp fully at 2/3rd throttle, holding the CLAMP lever several seconds.
- 6 Take note of the clamp force on the display and record the value. Release the clamp. **Determine if the clamp force value is correct and does not exceed recommended clamp force for rolls being handled.**

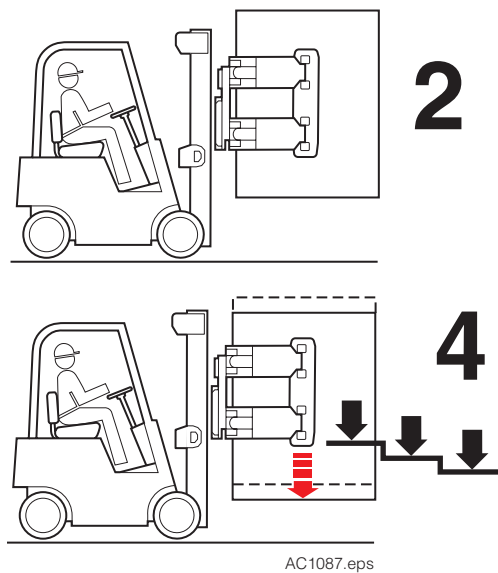
NOTE: Clamp force required to prevent crushing is commonly marked on the roll. Refer to the section "Adjust Clamp Force".



A ADJUST CLAMP FORCE

NOTE: For an expanded recommended procedure for setting clamp force, see Cascade Technical Bulletin TB 284 (Part Number 6053675).

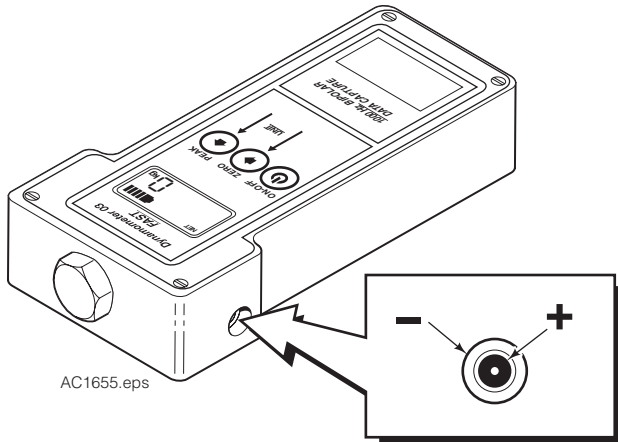
- 1 Install a 5000 psi (345 bar) pressure gauge at the truck CLAMP supply terminal.
- 2 Clamp on a typical roll in the vertical roll handling position and slowly lift roll. If slippage occurs, increase truck system pressure in 100 psi (7 bar) increments until roll does not slip.
- 3 Lift roll 3 ft. (1 meter) and quickly lower roll, alternately stopping and starting the carriage to determine one of the following:
 - If roll **does** slip, increase truck system pressure in 100 psi (7 bar) increments until roll stops slipping.
 - If the roll does not slip, the pressure may be set accurately. Go to Step 4.
- 4 Check rolls for damage to determine if there is excessive clamp force. If rolls are damaged, decrease truck system relief pressure in 100 psi (7 bar) increments until roll slips.
- 5 Test Roll Clamp in a variety of operating conditions representing normal day to day operation. If roll slippage is reported by the driver, increase system pressure 100 psi (7) bar. Test again for secure clamping.
- 6 Keep a log of any roll slippage, pressure adjustments, and hydraulic system maintenance.



Connections

Battery Charger - The controller uses a NiMH battery pack that is 4.8 V and 1600 mAh in rating.

CAUTION: Overcharging the battery can damage the battery.



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