

Installation Detail – Old Dominion

This addendum serves as a supplement to the instructions in the CLS-420 Technical Manual (PN 96483) and addresses the following installation procedures:

1. Mounting location for the CLS-420 Indicator.
2. Attaching the CLS-420 Indicator to the Low Voltage Disconnect (LVD).
3. Specific route and securing points for the coiled cable.



Manuals and additional resources are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information can be found on the website at www.ricelake.com/warranties

Approved Indicator Mounting Location

The CLS-420 Indicator should be installed in a location that allows for free visibility. The universal mounting bracket (included) allows the CLS-420 Indicator to be mounted on the frame of forklift using the supplied hardware.

The CLS-420 Indicator can be set to the best viewing angle for the operator by adjusting the tilt position using a wrench.

Isolation bumpers protect the CLS-420 Indicator from vibration and are included with the mounting bracket hardware.



Figure 1. Universal Mounting Bracket

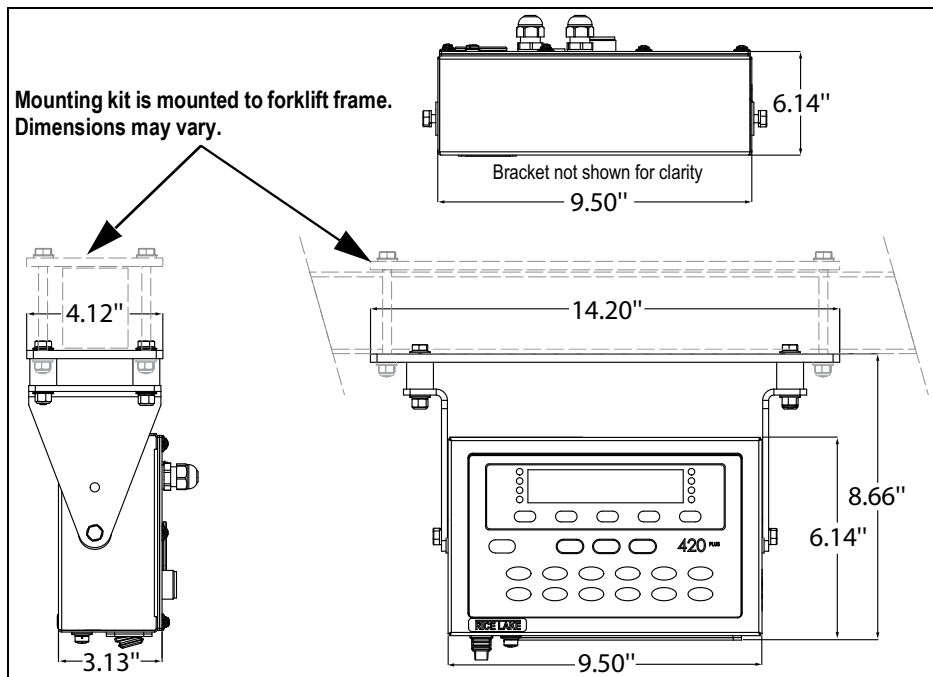


Figure 2. CLS-420 Indicator Dimensions with Universal Mounting Kit

Universal Mounting Kit and CLS-420 Indicator Installation

1. Install side brackets to the mount plate, using the isolation bumpers and hardware provided (Figure 3).

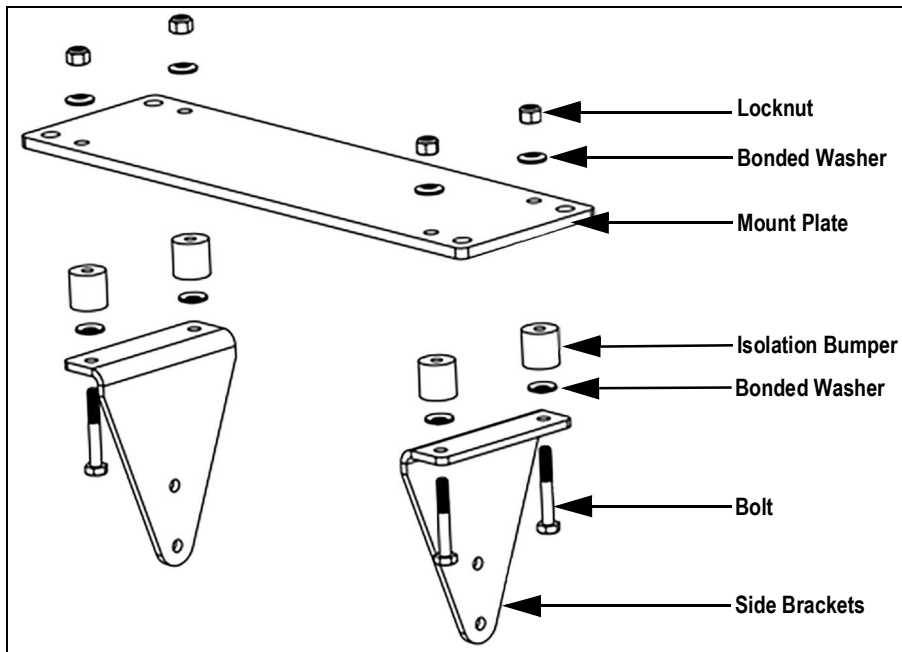


Figure 3. Universal Mounting Kit (PN 131630)



Note Bolts must be inserted upward into assembly from the bottom. Cut off top of bolt after side brackets are mounted. To permanently lock the CLS-420 Indicator mounting bolts, Rice Lake Weighing Systems recommends Loctite® 262.

2. Attach mount assembly lengthwise to the front primary structural member of forklift frame (Figure 4 and Figure 5).

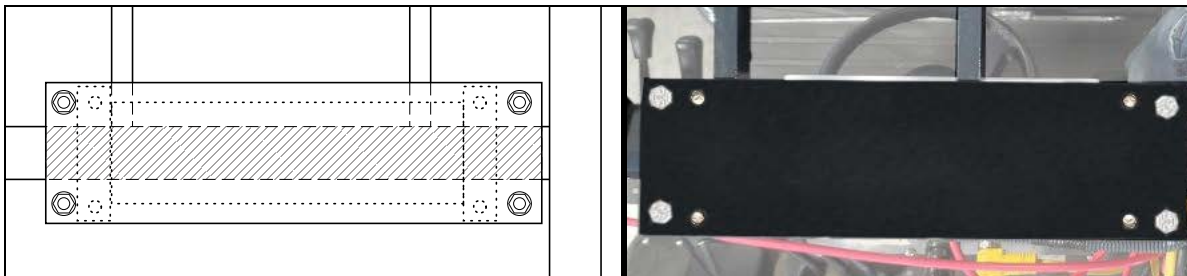


Figure 4. Top View of Mounting Location

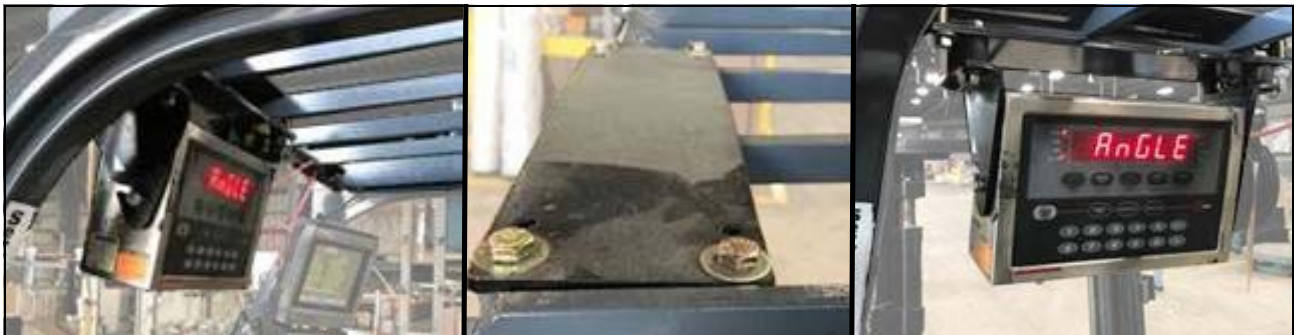


Figure 5. Mounting Location Examples

3. Cut off the top of the bolts once the universal mount is installed onto the frame of the forklift.
4. Align the holes in the side of the CLS-420 Indicator with the holes in the mount bracket then place the large flat washer between the indicator and the side brackets.
5. Secure the mount bracket to the CLS-420 Indicator with lock washers and bolts (Figure 6).

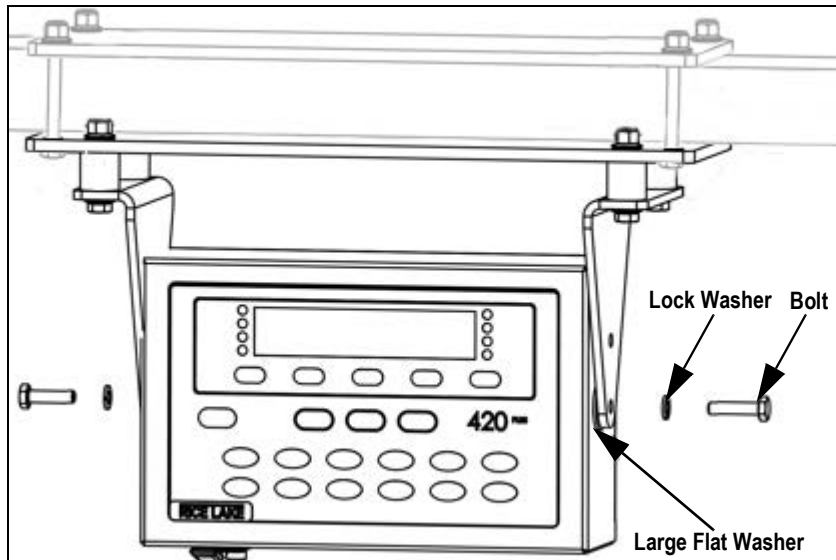


Figure 6. Mount the CLS-420 Indicator

Connect Power Cable to Low Voltage Disconnect (LVD)

1. Locate the LVD or power wire connected to the LVD wire (commonly blue, labeled power).



Note *The LVD should already be installed (Figure). LVD might be out of sight so a power wire should be available (Figure 7). If unable to locate LVD connection, consult with forklift service technician or service manager to verify LVD is installed.*

2. Connect the red wire from the indicator power supply cable to LVD instead of connecting directly to battery connection.
3. Connect the black wire from the indicator power supply cable to the battery ground.
4. Connect the blue wire from the indicator power supply cable to the forklift chassis.

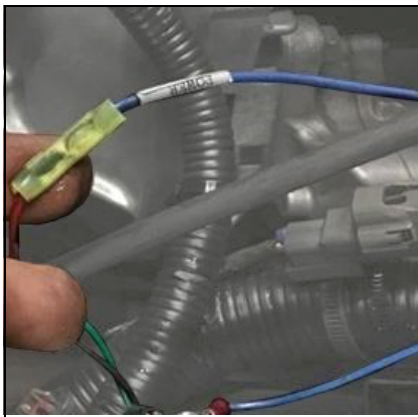
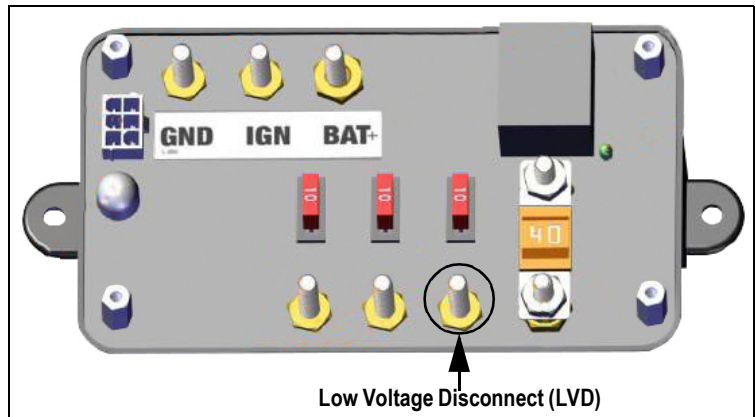


Figure 7. Connect CLS-420 Indicator Wire to the LVD



Purkeys Dual Shield LVD, Supply Power Terminal Location

Wire Color	Signal
Red	Low Voltage Disconnect (LVD)
Black	Negative on battery
Blue	Chassis ground

Table 1. CLS-420 Indicator Power Supply Cable Connections

Specific Route and Securing Points for the Coiled Cable

WARNING If the coiled cable is not properly secured, it can get caught in forklift chain, damaging the wiring.

Improperly Secured Cables

The cable illustrated below hangs loosely from the center of the top frame.



Figure 8. Inadequately Secured Coiled Cable



Figure 9. Detail of Damaged Cable

Note The extra movement in the cable allows the cable to be damaged by the moving parts of the forklift.

Properly Secured Cables

Cables should be routed and secured so that there is as little movement as possible.



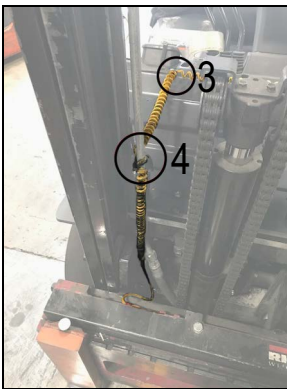

			
1. Secure at frame top.	2. Secure at frame bottom. 3. Secure at dashboard center.	3. Secure at dashboard center. 4. Secure to vertical member, clear of lift chain.	4. Secure at vertical member, clear of lift chain.

Figure 10. Proper Cable Routing and Securing

Low Voltage Disconnect Detail

Pictured below is a Low Voltage Disconnect (LVD) (Figure 11). This turns the power on and off to the SCALE and DYM depending on the battery voltage. When the lift is shut off, this will prevent the SCALE or DYM from draining the battery voltage. When the voltage is low enough, the lift will not start.

- If the battery voltage is higher than 12.3 Volts, the red LED light is on and power is supplied to the DYM and SCALE.
- If the battery voltage drops below 12.3 Volts for more than 60 seconds, the module turns the power off (the module turns the power off and the red LED light turns off).
- For the power to turn back on, the module must see more than 13.2 Volts. (A fully charged battery is 12.6 Volts, therefore the lift must be running with a functional alternator).
- The green LED light has no use, it will flash when the module is first installed.
- All DYM parts will need to be ordered by using a help desk ticket. To replace an LVD module, email the GBO shop.

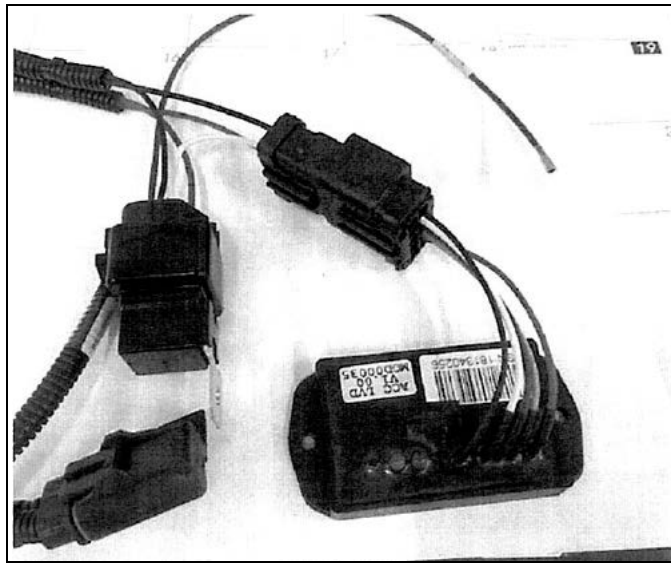


Figure 11. LVD

Some lifts use an additional power box (DC to DC converter) for the DYM, located on the left inside frame. This box (Figure 12) has two green LED lights. If both lights are on, then the power box is working. If only one light is on, then the power box is bad. A help desk ticket must be submitted for a replacement. The newer DYM's do not use these additional power boxes.

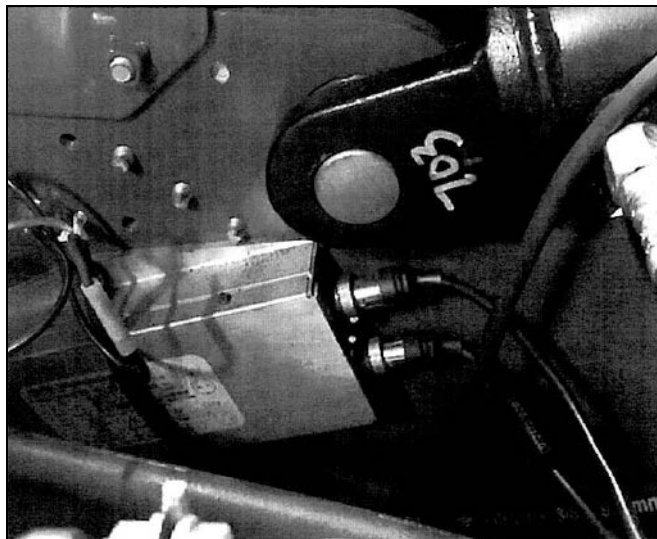


Figure 12. Additional Power Box

Battery Module Low Voltage Disconnect

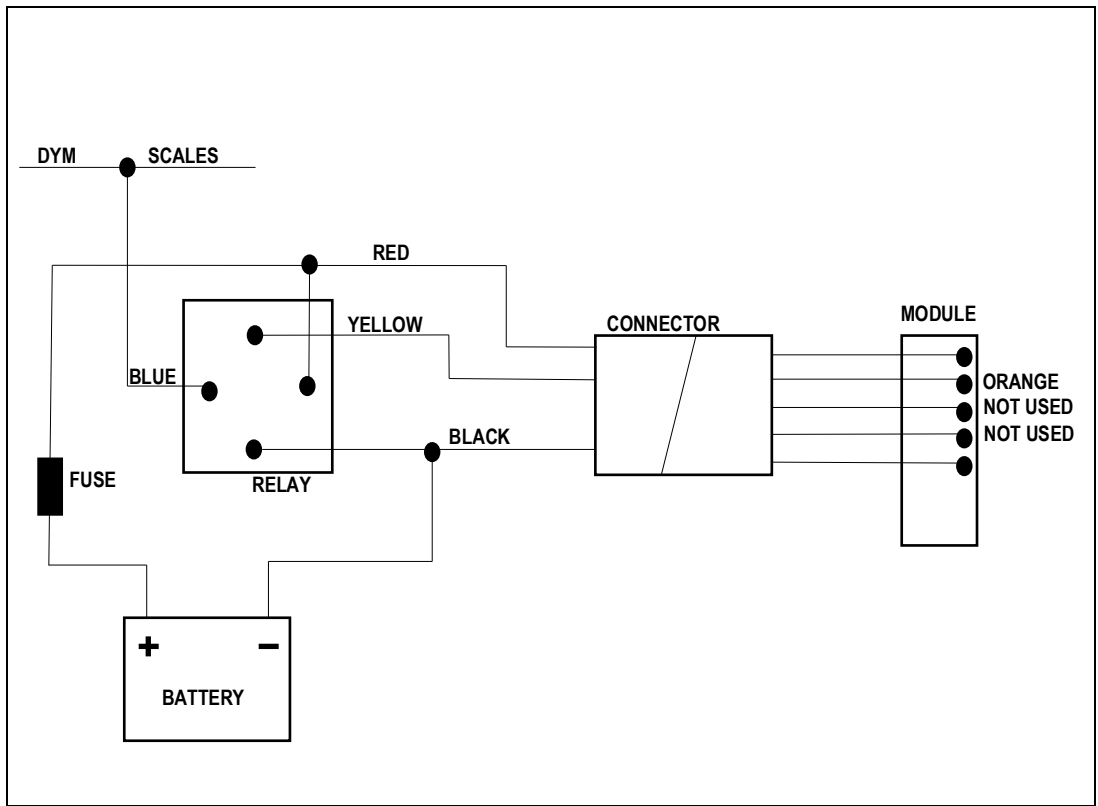


Figure 13. Battery Module Diagram



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