



Nextelligence Newsletter



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Environmental
Solutions Group
a DOVER company



Welcome to the Nextelligence Newsletter!

Welcome to the eleventh edition of the Nextelligence Newsletter. We look forward to continuing to provide the latest news in the Nextelligence training community.



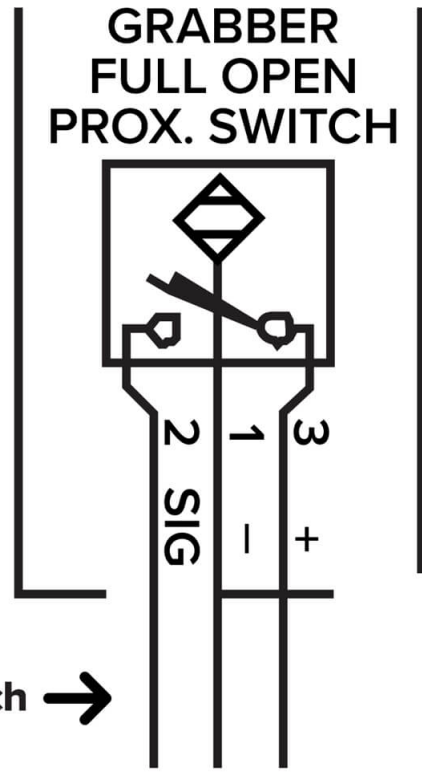
TIDMORE'S

Nextelligence Tech Tips
From Master Trainer Donald Tidmore

Are You In Proximity?

Troubleshooting and testing proximity switches

In this month's Nextelligence Newsletter, we will discuss proximity switches, how they work, how to troubleshoot them, and how to test them. A proximity switch is an electrical device that determines the proximity or closeness of an object. There are many types of proximity



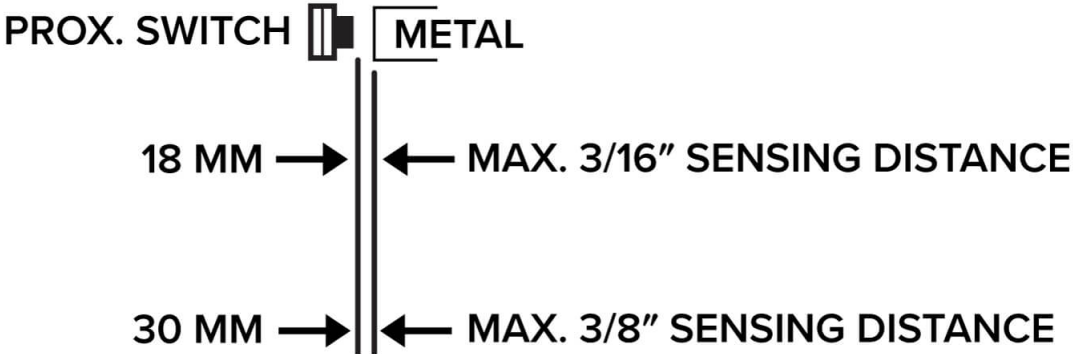
Schematic Symbol for a proximity switch →

This type of proximity switch, sometimes called a “prox” switch for short, sends a 12-volt signal called an input to the Cortex controller on the Heil garbage truck. If you are not familiar with inputs and outputs and how these signals work, you can reference the December 2022 Nextelligence Newsletter for a full explanation of inputs and outputs.



This input signal is sent when there is a metal object placed in front of the prox switch, as in the photo of the side door handle that is activating the side door prox.

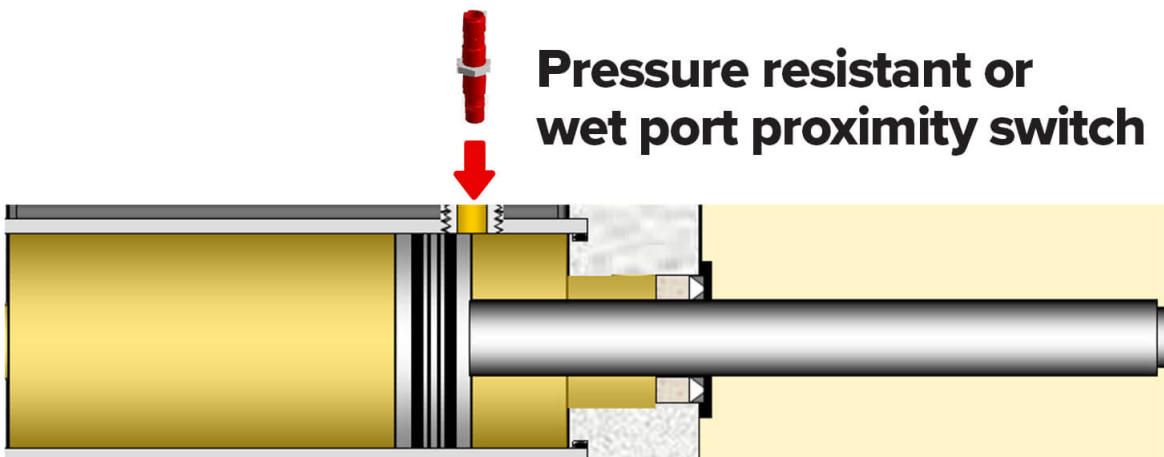
Adjust proximity switches to sense metal as follows:



There are specific sensing ranges for different prox switches, so pay close attention to the sensing distance range specified by the manufacturer when testing or adjusting a prox switch.



The input signal we previously mentioned allows the truck to perform certain functions, such as letting the operator know when the tailgate is raised, or in the case of an automated side loader, it can tell the controller and the operator when the grabbers are closed.



Here at Heil, we use pressure-resistant and non-pressure-resistant prox switches. In short, that means some proxes can be installed in a hydraulic circuit to detect hydraulic cylinder movement like the proxes seen on the tailgate raise, tailgate lock, and top door functions of the Heil front loader with Odyssey controls. Other proxes, such as a side door prox, packer extend, or packer retract prox, are non-pressure resistant and do not see any hydraulic pressure from the hydraulic system. Be sure to Lock Out/Tag Out the unit and release any stored hydraulic or electrical energy before changing or adjusting a proximity switch.

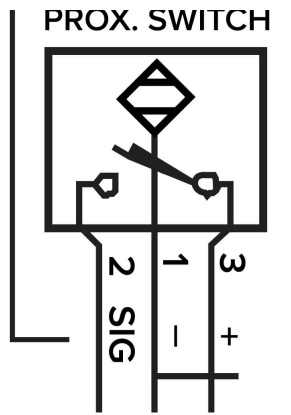


How do we test a proximity switch?

Proximity switches have an LED indicator light on the backside near the connector wire as a quick identifier to inform the technician when the proximity switch is activated. As a technician, I have learned to NEVER TRUST THE LED indicator light on the back of the proximity switch. Always use the InSight display to verify that the proximity switch signal is getting to the controller.

Proximity switches have three wires that allow them to function. Always refer to the electrical schematic for your unit to verify the corresponding wire function and colors.

1. Supply voltage or sometimes referred to as ignition power.
2. Ground is the negative connection.
3. Signal wire – this wire provides the 12volts back to the controller to let the controller know that the prox is active.



When the metal object is placed in front of the proximity switch, the prox closes an internal set of contacts and sends the 12-volt signal back to the controller letting the controller know the prox is active.

If the 12-volt signal is not getting back to the InSight display via the Cortex controller, the proximity switch could be faulty, or the wires could be broken. If you do not get a signal, the proper process would be to check the wires for damage and the proper voltage on the 12-volt supply and the 12-volt signal wire when the prox should be active. Always remember that the ground is just as important as the power wire, so do not forget to check your ground wires. If you have good power, ground, and signal wires with the proper voltage readings, you may have a faulty proximity switch.

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