Refrigerant Recovery 80% Shut Off Switches

In the early 1990’s, the EPA declined to require 80% shut off sensors in the final rule governing commercial refrigerant recovery due to inherent problems with them, including the safety hazards they pose.

On most machines, these switches simply turn off the recovery machine without stopping the flow of refrigerant. This can result in an overfilled tank, becoming extremely dangerous to the technician. This is a known hazard in these common situations:

1. During push-pull procedures, once a siphon is started, merely powering off the machine does not prevent the tank from overfilling.

2. When using a tank with a large amount of cold refrigerant and recovering from a system at a higher temperature, turning the machine off will not stop the refrigerant from migrating to the coldest point (in this case, the recovery tank) eventually overfilling the tank even with the machine off.

The float sensor can also collapse from over-pressure due to non-condensables in the cylinder or from overfilling. A collapsed float would render the shut off switch useless and the technician would not know it as the float sensor is concealed in the tank.

Warning: An 80% shut off switch does not always prevent overfilling. Any technician using an 80% shut off switch must be aware of the liability and safety risks that come along with their use.

Also, tanks that are more than 80% full (DOT violation) may expose the technician to high concentrations of vented refrigerant, and severely overfilled tanks can possibly explode.

Reminder: 80% shut off switches are not “walk-away” features. As a general safety precaution, no process involving temporary connections and systems under pressure should ever be left unattended.