

METROPOLITAN NY CHAPTER Refrigeration Service Engineers Society

Continued Education for the HVAC/R Industry
"Better Service Through Knowledge"

December 2009

WWW.METRONYRSES.ORG



GFCIs

A ground fault circuit interrupter (GFCI) is a device designed to protect against the possibility of an electrical shock. It is designed to open an electrical circuit if a current imbalance of more than 5 mA is detected between the hot conductor and its neutral conductor. Typically a GFCI will open its circuit within 1/40 of a second.

There are several different styles of GFCI devices; below are some types available:

A direct-wired GFCI receptacles provide ground protection at the point of installation. They may also be connected to provide protection for all other receptacles downstream of the GFCI receptacle.

GFCI circuit breakers provide GFCI protection as well as the conventional over-current protection for all branch circuit components connected to the circuit breaker.

Plug-in GFCIs provide ground fault protection for the devices plugged directly into them.

Pick and Hold Coils

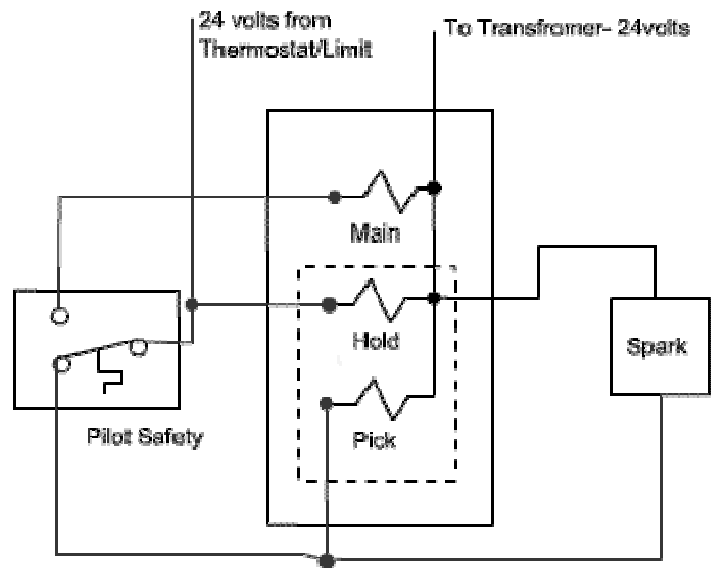
Heating appliances use a variety of gas valves and ignition systems. One type used is a redundant gas valve with a pick and hold circuit in conjunction with an intermittent spark ignition.

This type of gas valve has two fully automated solenoid valves in series within its body. Both valves must be open in order for gas to flow to the outlet of the gas valve and on to the main burners.

The first solenoid valve, sometimes referred to as the "redundant" valve solenoid, actually consists of two separate solenoid coils within a single body. One coil is referred to as the "pick" coil and the other as the "hold" coil. On a call for ignition both the pick and hold coils are initially energized. This causes the redundant valve to lift off its seat and allows gas to flow to the pilot assembly and onto the second valve. At the same time a spark is generated at the pilot assembly causing the pilot to be lit.

Once the pilot flame is lit, the pilot safety device (usually single-pole, double throw temperature activate switch) will sense the pilot flame and switch its contacts, causing the pick coil and the spark generation to be de-energized and the coil of the second valve, normally referred to as the "main" solenoid valve, to be energized allowing gas to flow to the burners and be ignited by the pilot flame.

The redundant valve will remain open with only the hold coil being energized. This is possibly because it requires less energy to hold a valve off its seat than what is required to open a valve off its seat.



Annual Holiday Dinner (December Meeting)

Starting at 6:30pm

Join us for our Holiday Buffet. Bring nothing but yourselves and your appetites. Riccardo's puts out a great table for us to enjoy. Did I say "bring nothing but"? You can certainly bring a friend or colleague. They can enjoy a fine meal with us, and then partake of the educational opportunities which we have to offer, as well as our friendship and camaraderie. Who knows? They may even want to become a part of this great organization of ours.

**The Officers of The Metropolitan NY Chapter, RSES wish all our members, friends & their families a very
Happy and Healthy Holiday Season**

OFFICIAL NOTICE

The nominating committee appointed by our President is: Stan Hollander, Herbert Meyer & Kurt Eggert. They nominated and thereby propose the following members in good standing for the following positions.

President: Drew Garda

Vice President: Howard Da Costa

Secretary: Nito Mehra

Treasurer: Steven Aiello

Sergeant at Arms: Kurt Eggert

Educational Director: Stan Hollander, CMS

Member of the Board of Directors: John Plaut

Newsletter Co-Editors: Stan Hollander CMS, and Herbert Meyer

The Board of Directors is comprised of the above officers and members.

THINGS YOU DIDN'T NEED TO KNOW

- ◆ The world population of chickens is about equal to the number of people.
- ◆ Every time Beethoven sat down to write music, he poured ice water over his head.
- ◆ In 75% of American households, women manage the money and pay the bills.
- ◆ A monkey was once tried and convicted for smoking a cigarette in South Bend, Indiana.
- ◆ About 70 percent of Americans who go to college do it just to make more money.
- ◆ It's against the law to catch fish with your bare hands in Kansas.
- ◆ Sigmund Freud had a morbid fear of ferns.
- ◆ Millie the White House dog earned more than four times as much as President Bush in 1991.
- ◆ Bird droppings are the chief export of Nauru, an island nation in the Western Pacific.
- ◆ There are more plastic flamingos in America than real ones.
- ◆ Most lipstick contains fish scales.
- ◆ Lee Harvey Oswald's cadaver tag sold at an auction for \$6,600 in 1992.
- ◆ Mosquitoes have teeth.
- ◆ Spotted skunks do handstands before they spray.
- ◆ Hypnotism is banned by public schools in San Diego.
- ◆ The three best-known western names in China: Jesus Christ, Richard Nixon, and Elvis Presley.
- ◆ When snakes are born with two heads, they fight each other for food.
- ◆ Most cows give more milk when they listen to music.
- ◆ In 1980, a Las Vegas hospital suspended workers for betting on when patients would die.
- ◆ Aztec emperor Montezuma had a nephew, Cuitlahac, whose name meant "plenty of excrement."
- ◆ Thomas Edison was afraid of the dark. (*Hence the light bulb?*)

Driver Pulley Diameter Formula

$$Dr = \frac{Dn * Rn}{Rr}$$

Dn =Diameter of driven pulley

Dr= Diameter of drive pulley

Rn=RPM of driven pulley

Rr= RPM of drive pulley

Rr= RPM of drive pulley

You Be the Judge

You are called out to service a walk-in cooler. The customer's complaint is the cooler temperature is higher than normal—it's running at about 45°F to 50°F. Upon arriving at the job you discover that the condensing unit is running and decide to install your refrigerant gauges. The condensing unit is air-cooled and the condenser coil is relatively clean. The evaporator coil is also clean and there is no frost on its coils. The system is using HFC-134a as its refrigerant; and the suction pressure is running at 50 psig with a discharge pressure of 100 psig. You then decide to measure the amperage draw of the compressor. After comparing it to its RLA, you determine it is lower than normal.

What is the likely cause of the problem?



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If you have any suggestions or requests for future programs, please let us know!

SEE US 1st



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METROPOLITAN NEW YORK CHAPTER, RSES

For Information Call: Stan Hollander, CMS (718) 232-6679

COMING MARCH 20th, 2010:

**ALL DAY SEMINAR – 2 SESSIONS (morning & afternoon)
VFD (Variable Frequency Drive) Motors
plus Scroll Compressor Technology**

HOLIDAY BUFFET— 6:30 pm

Wednesday December 9th, 2009

at

RICCARDO'S

21-01 24th Avenue, Astoria NY 11102

Electrical Safety – Arc Flashing & Fusing

By

John Nakahara—Cooper Bussman

PLACE LABEL HERE

EDUCATIONAL PROGRAM
Wednesday December 9th, 2009
at 6:30pm
SEE DETAILS— THIS PAGE

