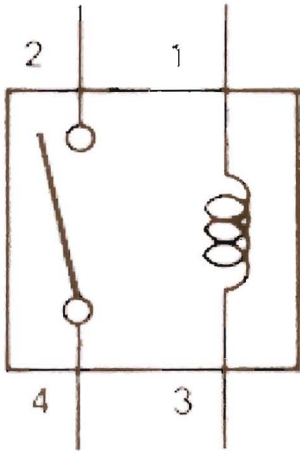


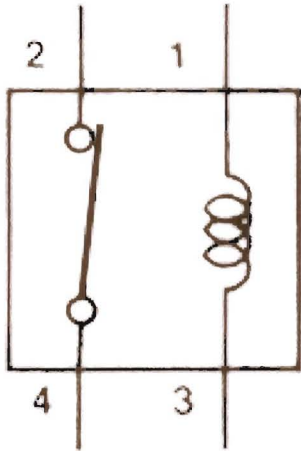
UNDERSTANDING RELAYS

RELAY DESIGN ID

Relays are either Normally Open or Normally Closed. Notice the position of the switches in the two relays shown below. Normally open relays have a switch that remains open until energized (ON) while normally closed relays are closed until energized. Relays are always shown in the de-energized position (no current flowing through the control circuit - OFF). Normally open relays are the most common in vehicles; however either can be use in automotive applications.



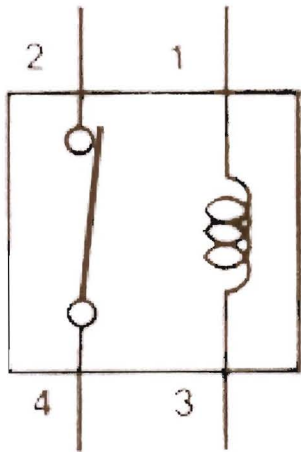
Normally Open (NO)



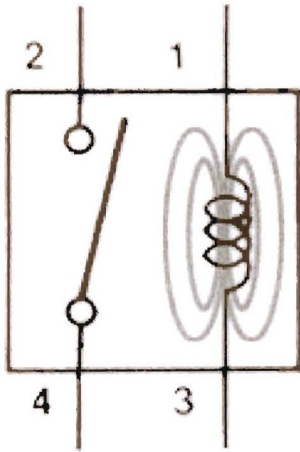
Normally Closed (NC)

NORMALLY CLOSED RELAYS

The operation of a Normally Closed relay is the same to that of a Normally Open relay, except backwards. In other words, when the relay control coil is NOT energized, the relay switch contacts are closed, completing the circuit through pins 2 and 4. When the control coil is energized, the relay switch contacts opens, which breaks the circuit open and no continuity exists between pins 2 and 4.



DE - ENERGIZED (OFF)



ENERGIZED (ON)