

4017 Counter skips under load

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2007-07/msg00177.html>

- *From:* jcargile2001@xxxxxxxxxx
 - *Date:* Mon, 02 Jul 2007 14:11:56 -0700
-

I have a fairly simple circuit that consists of a 4017 decade counter and nine relay/LED combinations. The relays are very small and the circuit operates just fine with no load, or when I connect an LED to the relay output. But when I try to operate the circuit under load (it is being used to fire nichrome ignitors), then the counter simply skips the loaded relay and moves right to the next output. So if I send the counter a series of 5 clock pulses, and put a load on the relay attached to output 3, then the count goes 1,2,4,5,6. The final count ends up being one off, so it's almost like the output in question doesn't exist. What I don't understand is why this is happening, since the relay is what bears the load, not the 4017. Shouldn't the output requirement on the counter be the same regardless of what the relay is switching?

.