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# King Controls KC 2600 Throttle

KC 2600 uses a 'fly by wire' throttle where the throttle rotates a resistance control that tells the throttle controller located in the back corner of the engine compartment on the curb side what the throttle position is. This control was used for ~4years, before the advent of a computerized throttle control.

- King Controls KC 2600 Throttle System Diagnostic Chart
  - King Controls KC 2600 Foot Throttle Wiring

## **Trouble Shooting**

The King Control/Cruise Control (KC/CC) will interrupt CC when it senses 12Vdc in your Brake light circuit.

The 12Vdc is/should be sensed downstream of the two pressure switches mounted up high on your street-side, forward-most compartment, front panel.

Those pressure switches monitor your front and rear air brake system pressures. As your brake treadle is depressed, these switches actuate, at their set points, allowing 12Vdc to pass to the brake light filament wires. The KC/CC also has a sensing wire that lands on one or both of these switches, that provides the ground path through the brake light filaments, that the KC/CC must have in order to allow throttle responses > 1500RPM.

These sealed pressure switches are pretty reliable, but it is possible that one or both have shifted in set point or may be otherwise unreliable (contacts may be arced and unreliable). The switches are not adjustable and can't be disassembled.

Because these switches are located in an open, "wet" compartment, the switch terminals can become corroded or become loose and one or more unreliable circuits for the KC/CC (FT also commomed up several sets of wires on some of these terminals, which leads to reliability issues in unprotected environments).

Then I would take the wires off, one terminal at a time, clean, lube and re-land them and see if/where it makes your problem go away. Then you may have found it. Soldering any common wire sets together, for each terminal, is one way to reduce future aggravations. If that doesn't do it, but you can see with a voltmeter that it takes too much treadle pressure to actuate one or both of the two pressure switches, then you have pressure switches to replace.

#### by Neal Pillsbury

## Fly by Wire Throttle

Our 1997 U270 uses a 'fly by wire' throttle where the throttle rotates a resistance control that tells the throttle controller located in the back corner of the engine compartment on the curb side what the throttle position is. This controller was developed by King Control, the same guy later developed the King Dome satellite antenna.

The King throttle control was obsoleted by electronic engines and one of the lead King Control employees bought the throttle / cruise control business and runs it under a different business name. He is very helpful and knowledgeable and is located in Minneapolis MN area. He has worked on our controller and I recommend anyone who has a King Control and is in the area to stop at the plant.

Prior to the use of the King Control, throttles were controlled by an air cylinder. Motorhome manufactures about 1995 asked King who was supplying the cruise control if they could create a electric throttle for the Cummins

engine. This included Foretravel, Monoco, Country Coach, etc.

But within about 4 years, Cummins came out with electronic computerized engines that included throttle and cruise controls and King was no longer needed for new coaches. But there was and still is a need for cruise controls to be added to older big trucks, so King still has a potential market. And is also servicing their short lived motorhome OEM installations.

King Control must 'see' working rear brake light bulbs to allow normal RPMs, otherwise King will keep throttle from retracting very much. This safety circuit is in place to be sure that an activated brake lamp circuit will be able to turn King Cruise Control off.

There are two air pressure switches mounted in the left forward compartment on the forward top metal wall. The air pressure switches close a 12 volt switch to turn on brake lamps. The two switches monitor front and rear air brake activation.

Also our King Control wiring has been modified by running a ground wire directly to start battery to insure a secure ground connection.

The cruise control relies on the brake light circuit to know when coach brakes are applied, so it can safely turn off the cruise control when brakes are applied. To be sure the brake light circuit can be 'seen' by the cruise / throttle control (which is the same circuit board) the controller must see a resistance through the brake light bulb to ground. If the brakes lights appear to be burned out or otherwise malfunctioning the King Control will only allow about 5 to 10 MPH of throttle control.

#### **Further Details by Barry and Cindy**

## King Controls KC 2500 Cruise Control Trouble Shooting

- Blinker Arm
- Dial Control Panel
  - Horn Pad
- Momentary Switch

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