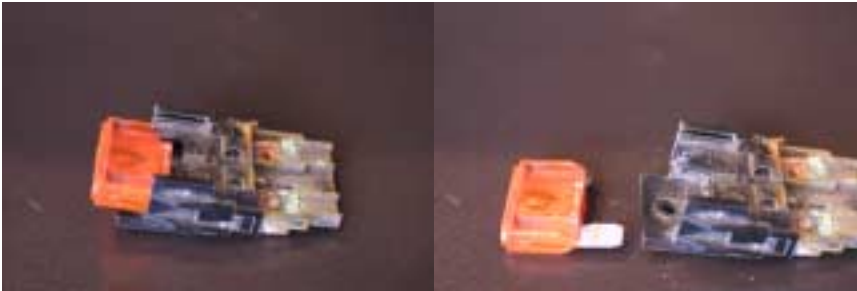


CTIS Electrical Repair
Gil Herman
March 23, 2003

Symptom: No inflate or deflate when properly working just 1-week prior.

How to Diagnose:

1. Run a jumper from battery positive terminal to compressor to rule out failed motor. If OK, then:
2. Examine the 5-amp fuse in the main interior fuse panel. Upper panel, position 1G. If OK, then:
3. Examine 40-amp fuse; be sure to pull it out. If OK, then:
4. Remove relay; jump the lead going to the compressor to the hot lead coming in from the harness. If OK, then: replace the relay. The low voltage circuit is most likely out. You could verify that 12 volts are delivered.
5. If all the above are done, you should have identified your problem by the end
6. Once the compressor works, by jumping and replacing the problem components, hit the switch. If it does not work, probably a bad switch or harness. I would either jump the switch or just replace.
7. Upon getting the compressor to work, try the deflate. In my case when I hit the deflate I immediately blew the 1G mini fuse. In my case, I replaced the mini fuse, disconnected the deflate wire harness and placed a multimeter. I then hit the deflate switch and found 12 volts. I then replaced the solenoid to the deflate valve. This fixed my problem.



Looks Good

No, It Isn't!



The CTIS Relay

How to electrically fix a valve:

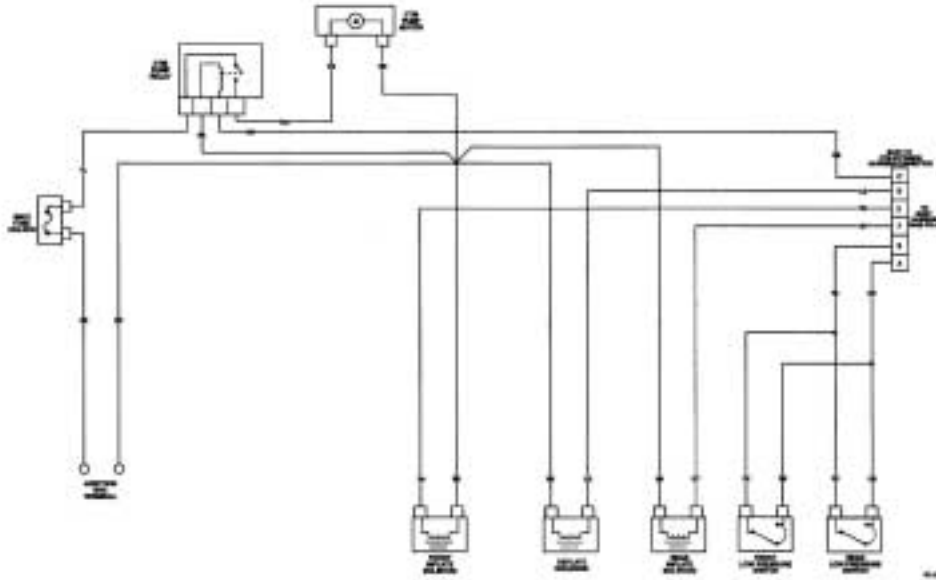
1. The valves have both the electrical component, which energizes the circular coil that resides in the Bakelite solenoid and the air passageway with valve. The electrical component can be removed from the shaft, by removing the retaining nut. In my case, it took a pry bar to pull it up and off. It was frozen to the stem. Once removed the actual valve mechanism can be worked on. I have the early 1996 valve tree so each valve is an individual unit, hooked to each other by connector pipes. With the solenoid removed, you can get a wrench into the tight space and remove the top of the valve housing. Inside there is a bullet shaped plunger with the tapered end seating into the valve housing. It will move up and down the shaft when the electrical coil generates magnetism. By opening the housing, you can clean out debris that mechanically blocks the valve.
2. This is a picture of an old valve, like mine:



3. This is the newer style valve:

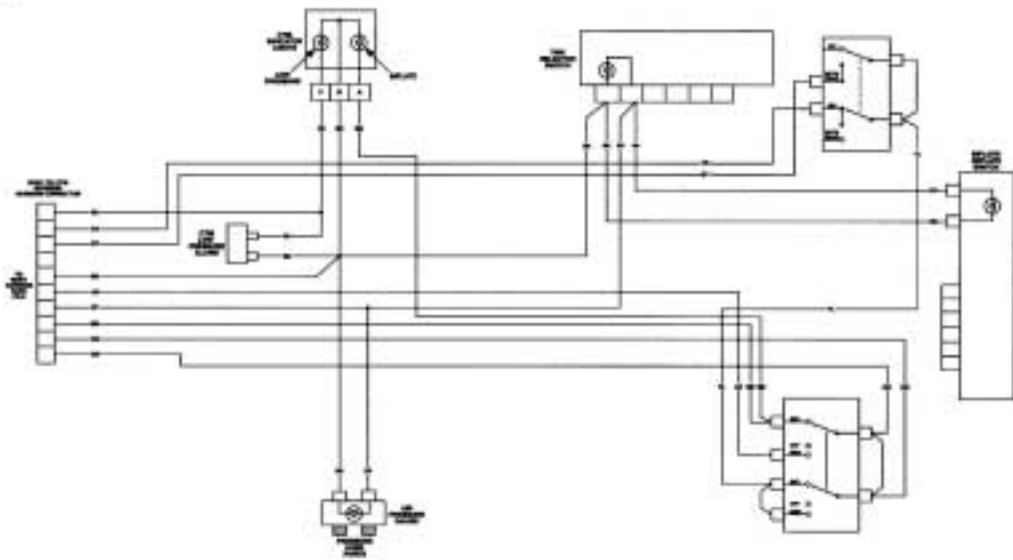


Electrical Schematics for the CTIS System:



4-1-98

FO-23 (2) (Rev. 1/98)



4-1-98

FO-24 (2) (Rev. 1/98)

Well, there you have it. But where do you get the parts? For my 1996, here it is:

1. Relay is from a 1989 Buick Regatta, Filko RL 246
2. 40 amp fuse and holder was replaced with a 40 amp circuit breaker
3. Deflate solenoid was purchased from AMG for \$265.00 but if you can wait 6 to 8 weeks, they come from Switzerland. Call Kunding Controls in Auburn Hills, MI 248-391-6100. The solenoid is made by Lucifer SA part number: 491514C1 at \$32.50. The connector is made by Canfield Connector, Youngstown, OH, part number: MPC Type-1, P5103-3610000, 6-48 VDC, 249500096. This is: \$6.50.