

### Technical Bulletin # 1244

Transmission: 4L60E/4L80E
Subject: Limp Mode, Instrument Cluster Inop, or Solenoid codes
Application: GM, Chevrolet, Hummer, SAAB
Issue Date: March, 2009

## 4L60E/4L80E

### **Transmission in Limp Mode, Instrument Cluster Inoperative, or Solenoid Electrical Codes**

The most likely cause of the above condition is a loss of voltage to the transmission solenoid power supply circuit. This power supply starts at the battery, goes through the ignition switch, through a fuse, and finally down to the transmission harness at terminal E.

It is common for the ignition switch to fail in a way that will add resistance to the circuit or cut power off all together. The ignition switch also supplies voltage to the instrument cluster so a bad switch MAY OR MAY NOT cause issues with the instrument cluster. Sometimes the switch can fail in a way that reduces the amount of voltage going to the transmission enough to produce solenoid codes but not enough to affect anything else so do not assume that if the dash is working, the switch is good.

Use the following procedures and figures to diagnose the problem.

1. Check the transmission fuse located in the fuse box

2. If the fuse is OK, check for power at the fuse using a DVOM. The voltage must match battery voltage exactly. In other words, KOEO if battery voltage measures 12.5 at the battery, then at the fuse it must read 12.5. If the voltage is missing .5 volts or more, the key switch could be faulty. Keep in mind that 1999 and up applications have an Underhood Bussed Electrical Center (UBEC) that can interrupt voltage going to the switch so check your applications wiring and look in the 2001 seminar manual for more information on the UBEC. If the voltage at the ignition switch matches battery, replace the switch.

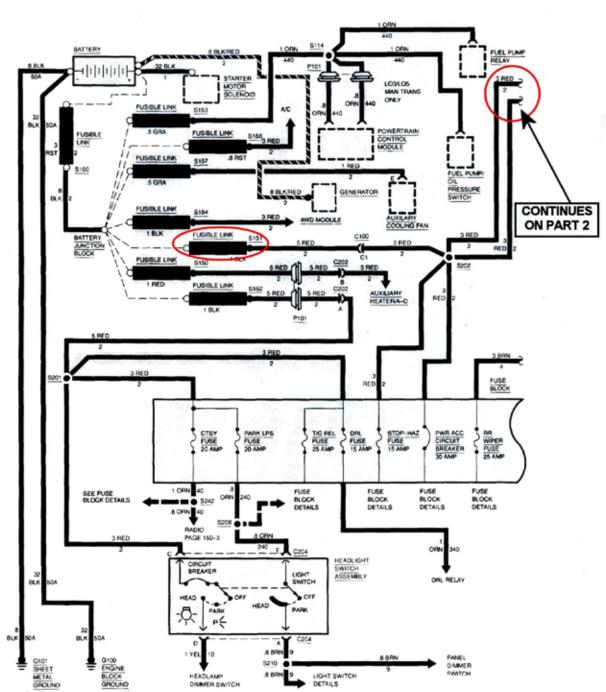
#### Chevrolet/GMC codes

- 1. P0740-TCC enable solenoid circuit
- 2. P1860-TCC PWM solenoid circuit
- 3. P0753-1-2/Shift Solenoid A circuit
- 4. P0758-2-3/Shift Solenoid B circuit
- 5. P0785-3-2 KD Solenoid circuit

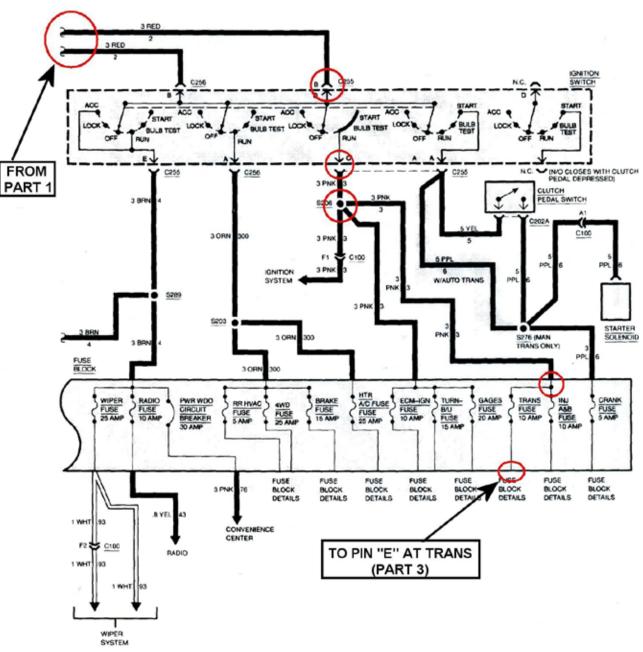
Hummer/Saab codes

- 1. P2769- TCC enable solenoid circuit
- 2. P2764 or P2761-TCC PWM solenoid circuit
- 3. P0973-1-2/Shift Solenoid A circuit
- 4. P0976-2-3/Shift Solenoid B circuit
- 5. P0787-3-2 KD Solenoid circuit

The following figures show all of the wiring diagrams for 93-06 GM rear Wheel Drive Applications.

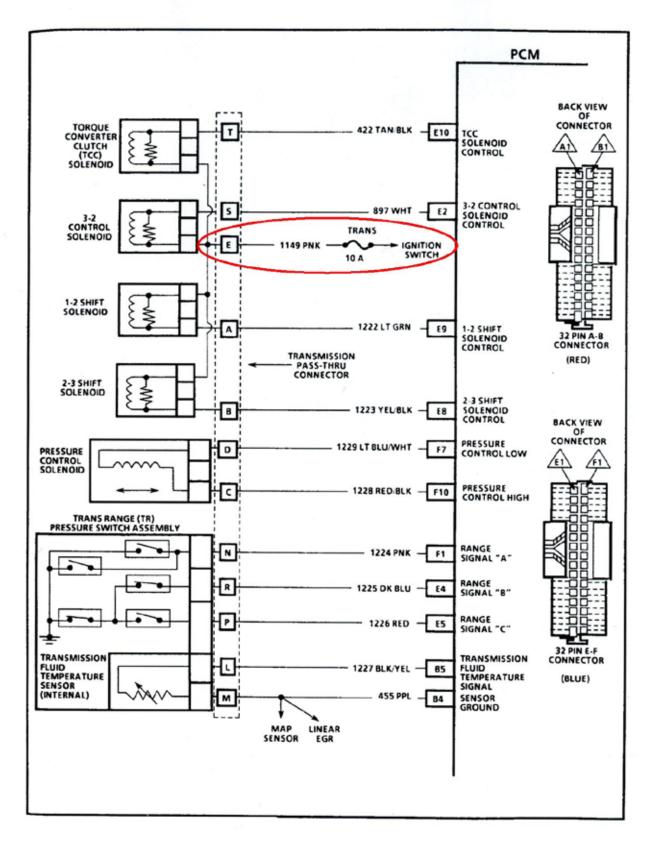






93-94 PART 2

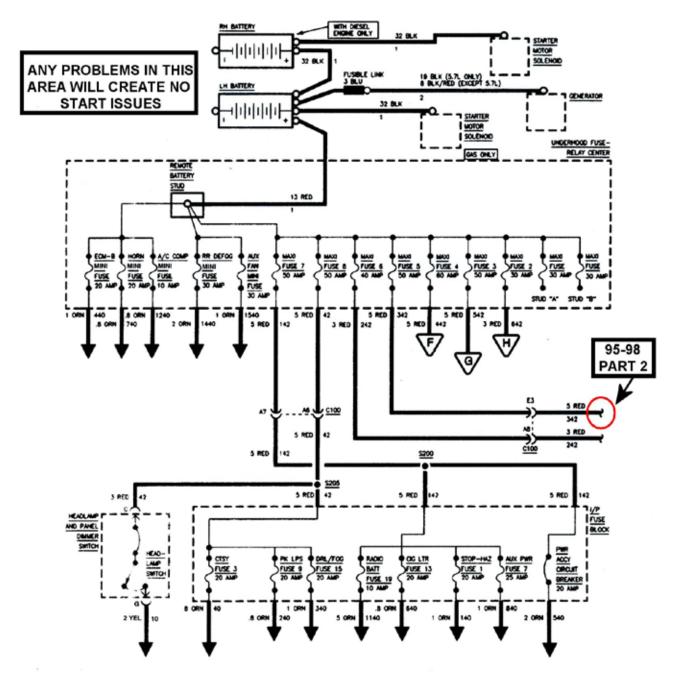
93-94 PART 3

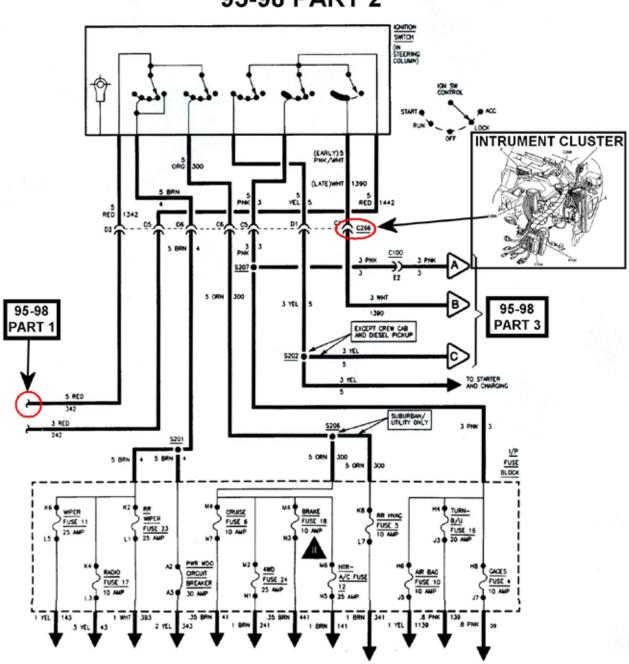


# 93-95 Column Exploded View

	1. Steering Wheel Nut 2. Shaft Lock Cover		2 1
	3. Lock Plate Retaining Ring 4. Lock Plate		4 i bb
	5. Turn Signal Cancelling Cam		
	6. Upper Bearing Spring	7 6	1 2 8480)
	7. Turn Signal Switch Screws 8. Switch Actuator Arm Screw	e i \	Contraction of the second
	9. Switch Actuator Arm	9 1	Sec.
	10. Turn Signal Switch	10 \ 1	0.00
	11. Steering Column Housing Screws		
	12. Thrust Washer	11 1015	>7
	13. Buzzer Switch		
	14. Lock Cylinder Screw		
	15. Steering Column Housing 16. Ignition Switch Actuator Sector	SX 16 1	
	17. Lock Cylinder	19 15 2 57	
	18. Shift Lever Gate	20 32	
	19. Rack Preload Spring	Val 1º Xal II Al	33
	20. Ignition Switch Actuator Rod	27 5 5	
	21. Spring Thrust Washer		h
	22. Spring & Bolt Assembly	21 22	
	23. Bearing Retaining Bushing 24. Upper Bearing Retainer	23	
	25. Horn Circuit Contact	24 34 34	>
	26. Bearing Assembly	AD 27	
	27. Shift Lever Gate Screws		
	28. Washer/Wiper Switch Actuator Pivot Pin	20 35	-
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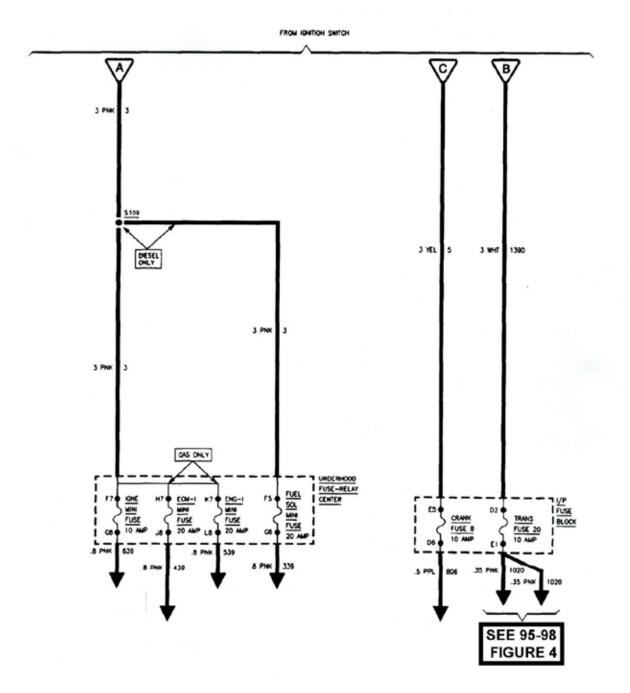
95-98 PART 1

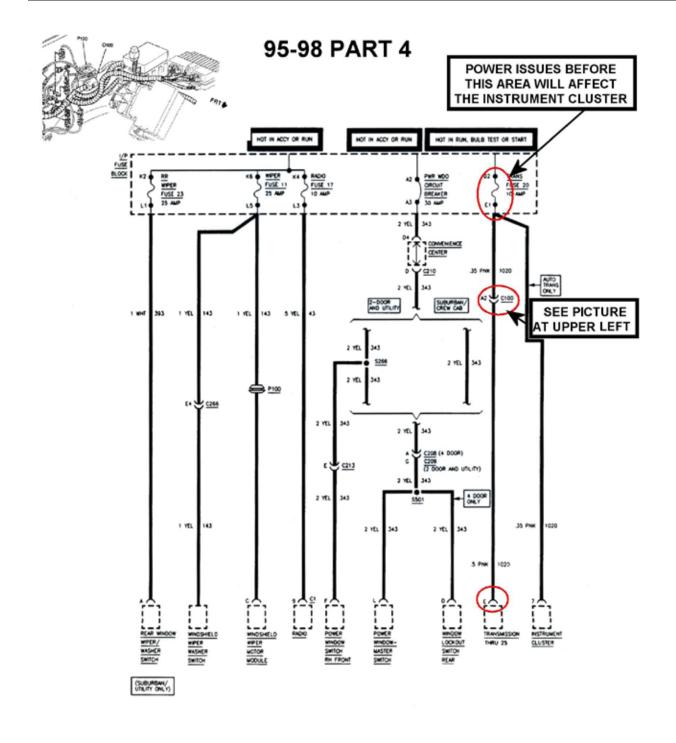




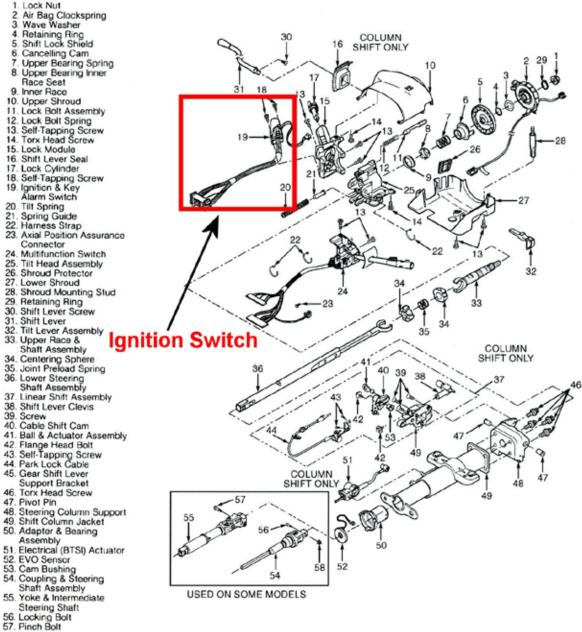
95-98 PART 2

### 95-98 PART 3



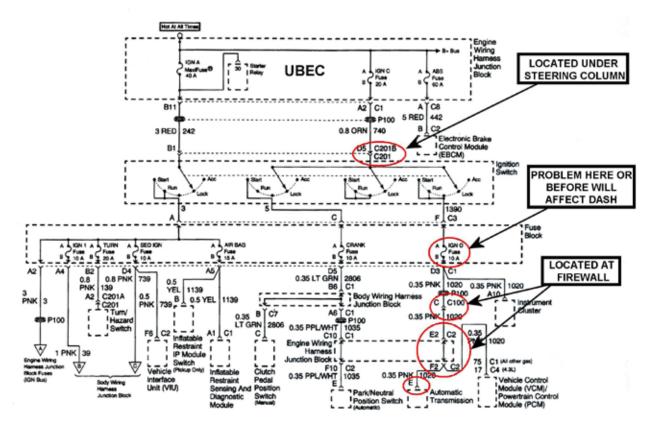


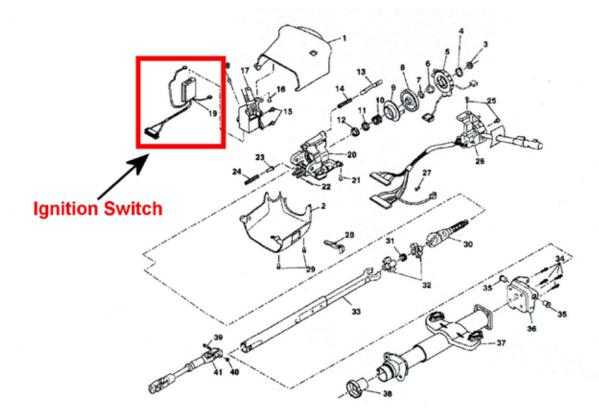
# 96-01 Column Exploded View



- 58. Hex Nut

#### 99-02 FULL DIAGRAM





## 02-06 Column Exploded View

- (1) Upper Trim Cover
- (2) Lower Trim Cover
- (3) Flanged Prevailing Torque Nut
- (4) Retaining Ring
- (5) Inflatable Restraint Steering Wheel Module Coil
- (6) Wave Washer
- (7) Bearing Retainer
- (8) Shaft Lock Shield Assembly
- (9) Turn Signal Cancel Cam Assembly
- (10) Upper Bearing Spring
- (11) Upper Bearing Inner Race Seat
- (12) Inner Race
- (13) Lock Bolt
- (14) Lock Bolt Spring
- (15) Pan Head Tapping Screw
- (16) TORX® Head Screw
- (17) Ignition Lock Cylinder Case Assembly
- (18) Pan Head Tapping Screw
- (19) Ignition and Key Alarm Switch Assembly
- (20) Steering Column Tilt Head Assembly

- (21) TORX® Head Screw
- (22) Release Lever Pin
- (23) Spring Guide
- (24) Tilt Spring
- (25) Pan Head Tapping Screw
- (26) Turn Signal and Multifunction Switch Assembly
- (27) Axial Position Assurance Connector
- (28) Tilt Lever Assembly
- (29) Pan Head Tapping Screw
- (30) Race and Upper Shaft Assembly
- (31) Joint Preload Spring
- (32) Centering Sphere
- (33) Lower Steering Shaft Assembly
- (34) TORX® Head Screw
- (35) Pivot Pin
- (36) Steering Column Support Assembly
- (37) Steering Column Jacket Assembly
- (38) Adapter and Bearing Assembly
- (39) Bolt and Retainer Assembly
- (40) Hexagon Head Nut
- (41) Intermediate Shaft Assembly

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