



Technical Service Information

SATURN NEW DESIGN SOLENOIDS

COMPLAINT: After the replacement of new actuators (solenoids) on the valve body, the vehicle displays a very erratic shift pattern. Codes for the solenoids may or may not be set.

CAUSE: The cause may be, the wrong design level of actuators installed during rebuild. All 1991 and 1992 design level solenoids measure approximately 2.5 - 4.5 ohms resistance, while 1993 and Up solenoids measure approximately 4.0 - 6.0 ohms resistance. ***These actuators (solenoids) will not interchange.*** (See Figure 3)

CORRECTION: Install the correct design level solenoids. You can verify the solenoid resistance through the transmission connector located in the top pan, using a DVOM set to ohms. Refer to Figure 1 for a view of the actuator connector with each terminal identified. Each actuator has it's own positive and negative terminal as shown in Figure 1. As you are checking each actuator, refer to the chart in Figure 2 for resistance values.

Note: The chart in Figure 2 provides the acceptable resistance values based on temperature and the year of the vehicle. All actuators should be within 1 ohm of each other. Also Saturn color coded the actuators as well, to assist in preventing the wrong design level actuators being installed. BLACK or BLUE ends on the Actuators are 1991 and 1992 design level for 91-92 vehicles only. The 1993-Up design level Actuators have a RED end and are for 93-Up vehicles only, as shown in Figure 3.

SERVICE INFORMATION:

Actuator (Solenoid) 1st Design (Black or Blue).....	21002248
Actuator (Solenoid) 2nd Design (Red).....	21002509

Figure 1

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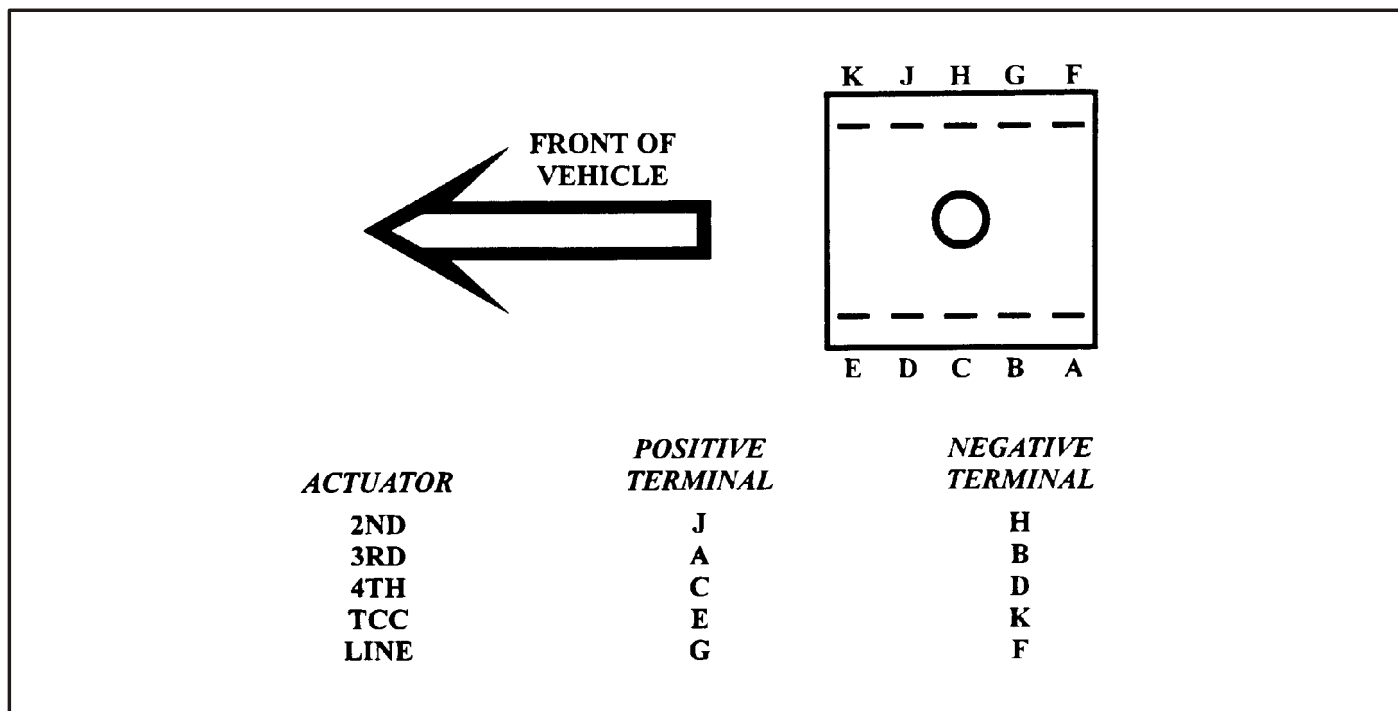
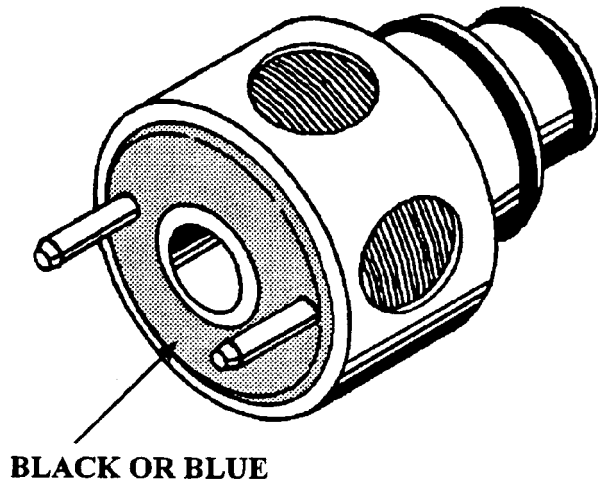


Figure 1

<i>Temperature</i>		<i>(Ohms) Resistance</i>	
Degrees F	Degrees C	1991-1992 Models	1993-Up Models
-40	-40	2.2	3.4
68	20	3.0	4.5
122	50	3.5	5.0
176	80	4.0	5.5
230	110	4.5	6.0

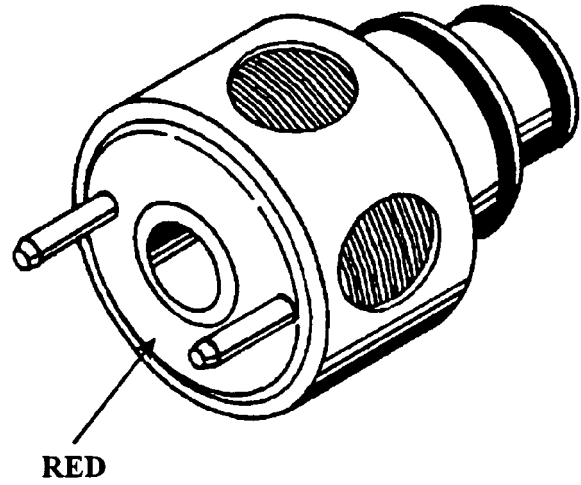
Figure 2

**1ST DESIGN LEVEL
BLACK OR BLUE ENDS**



**PART NUMBER
21002248**

**2ND DESIGN LEVEL
RED ENDS**



**PART NUMBER
21002509**

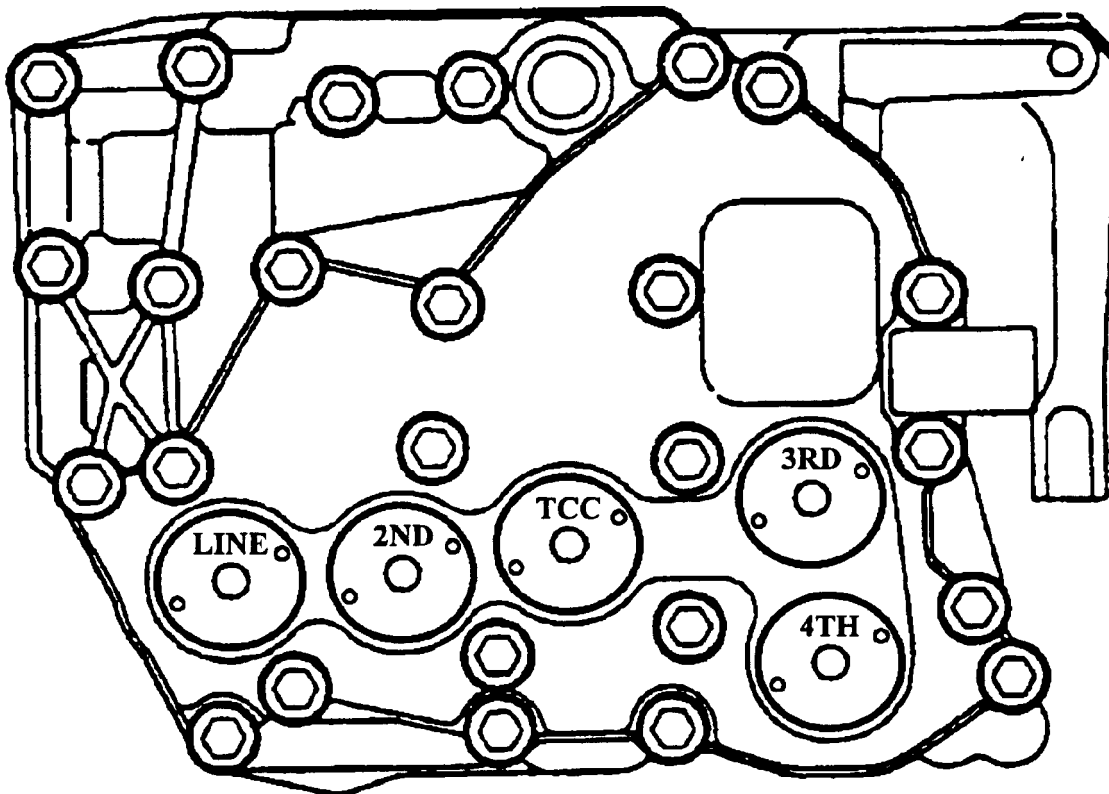


Figure 3