

## VOLKSWAGEN / AUDI UNCONTROLLABLE HARSH 1-2 UPSHIFT

**COMPLAINT:** Before or after overhaul, vehicles equipped with 01M, 01N and 01P transaxles, may exhibit a harsh 1-2 upshift along with firmer than normal engagements as well as firm upshifts to 3rd and 4th.

**CAUSE:** The cause may be,

1. Erratic or high line pressure.
2. An electrical malfunction in the EV5 solenoid electrical circuit.
3. A Hydraulic malfunction with EV5 solenoid.

*(NOTE: The EV5 solenoid is grounded on each engagement and each upshift and downshift which helps control Clutch apply Pressure for smooth engagements as shown in Figures 3 and 4.)*

**CORRECTION:** To correct this condition:

1. Connect a pressure gage to the line pressure port as shown in Figure 1. Line pressure should indicate 60 psi. in the Drive position at idle and should increase to 120-150 psi. at stall. Line pressure should cut back to between 65-75 psi. on each shift. If Line pressure does not cut back on each shift, or is at 120-150 psi. at all times, or is erratic on the gage, replace the EV6 solenoid and check the Boost Regulator and Main Regulator valve to ensure they are not stuck. Refer to Figure 2 for a description of how EV6 Solenoid operates.
2. Refer to Figure 5 and locate terminal 7 at harness connector. Back probe that terminal to verify that the computer is grounding EV5 during the 1-2 upshift. If the computer is not grounding that terminal, go to STEP A. If the Computer is grounding that terminal go to STEP B.

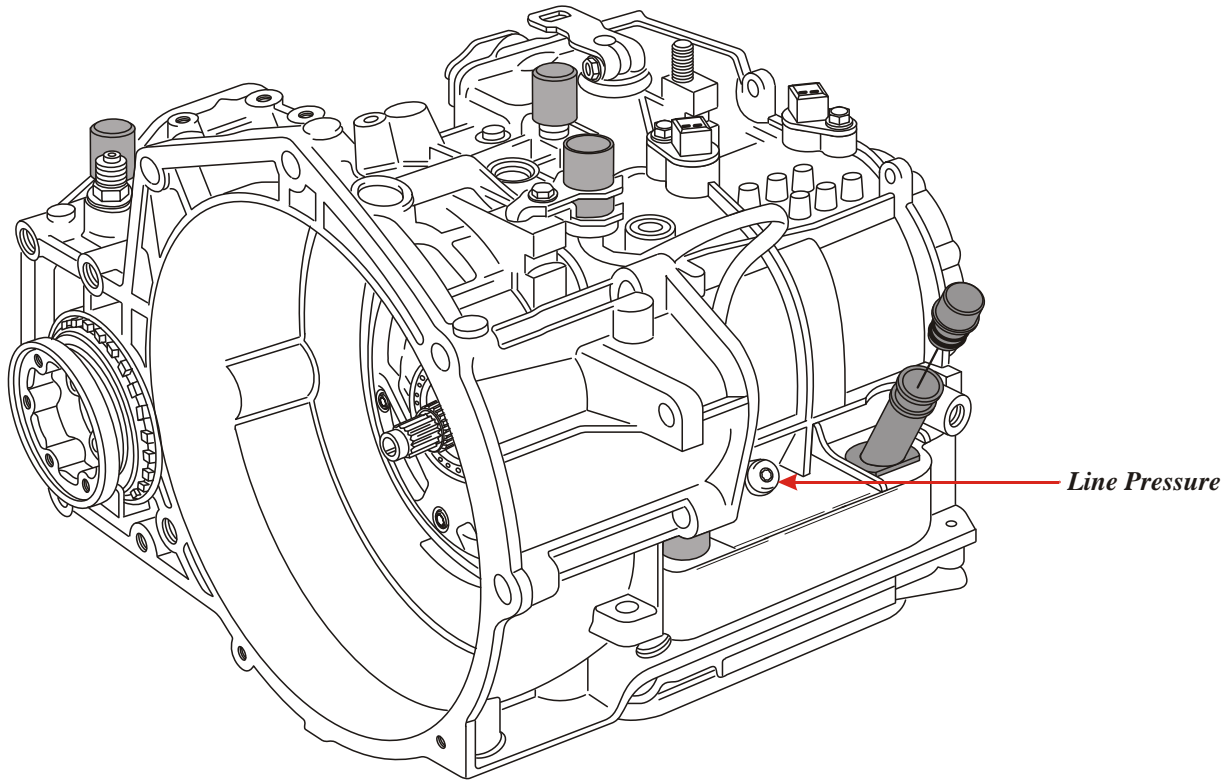
STEP A. Connect a scan tool to the diagnostic connector and check to see if the TCM has set a trouble code 00266 (VAG) or a P0773 which are EV5 solenoid circuit faults. Repair the EV5 Solenoid circuit as needed. If the TCM has no trouble codes set and does not ground EV5 Solenoid during the 1-2 shift, the TCM may be faulty.

STEP B. Go to Correction number 3.

3. Remove EV5 Solenoid from its bore. Ensure that the B1 Apply valve, which is located below the solenoid, is not sticking in it's bore. Air check EV5 solenoid and ensure it's proper operation as shown in Figure 6. If EV5 Solenoid does not close consistently replace as needed.



### LINE PRESSURE CHECK

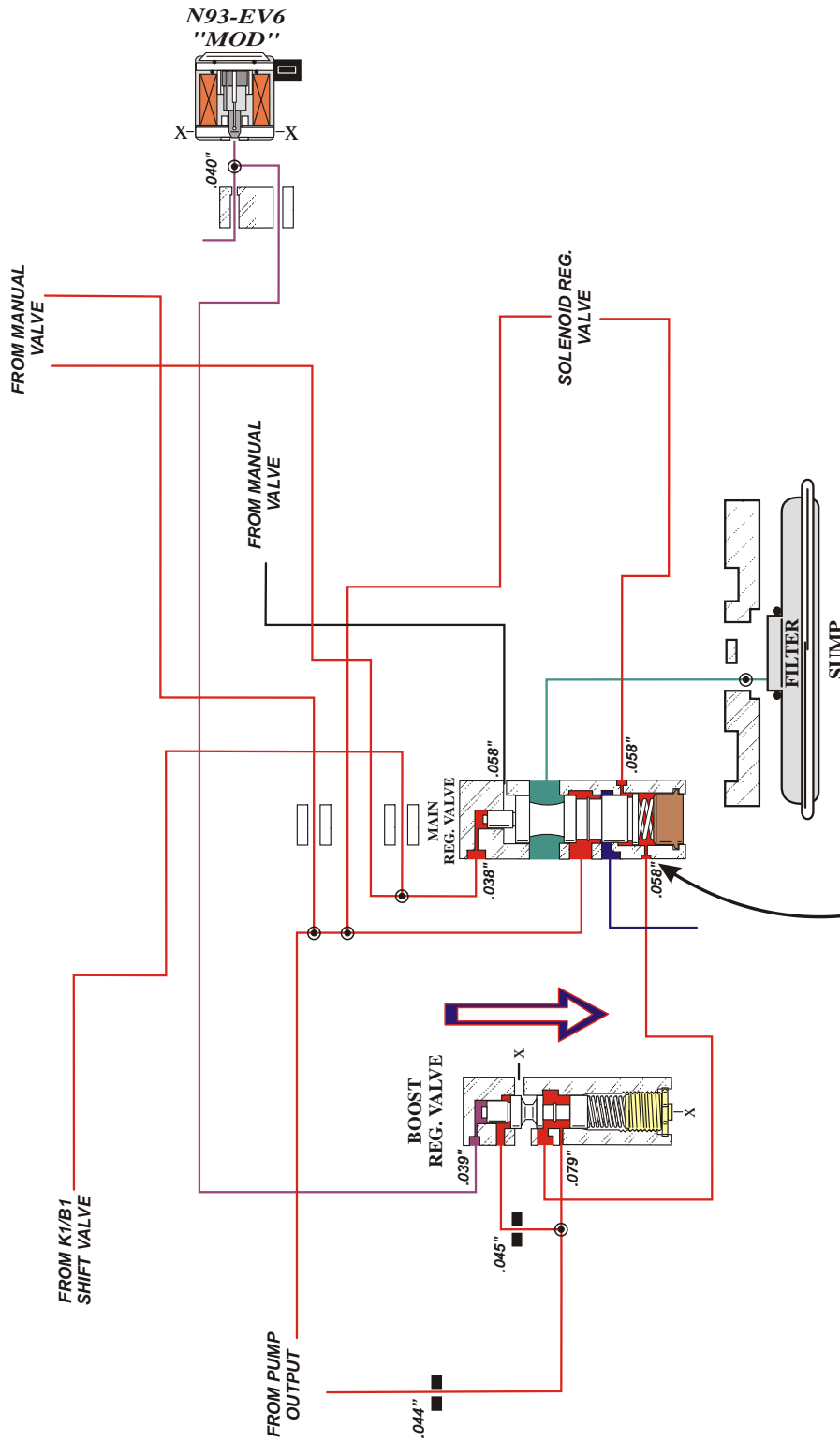


***LINE PRESSURE SHOULD INDICATE 60psi. AT IDLE IN DRIVE  
LINE PRESSURE WILL INCREASE TO BETWEEN 120-150psi. AND  
SHOULD CUT BACK TO 65-75 ON EACH SHIFT***

Figure 1



**"01M" N93-EV6 OPERATION**

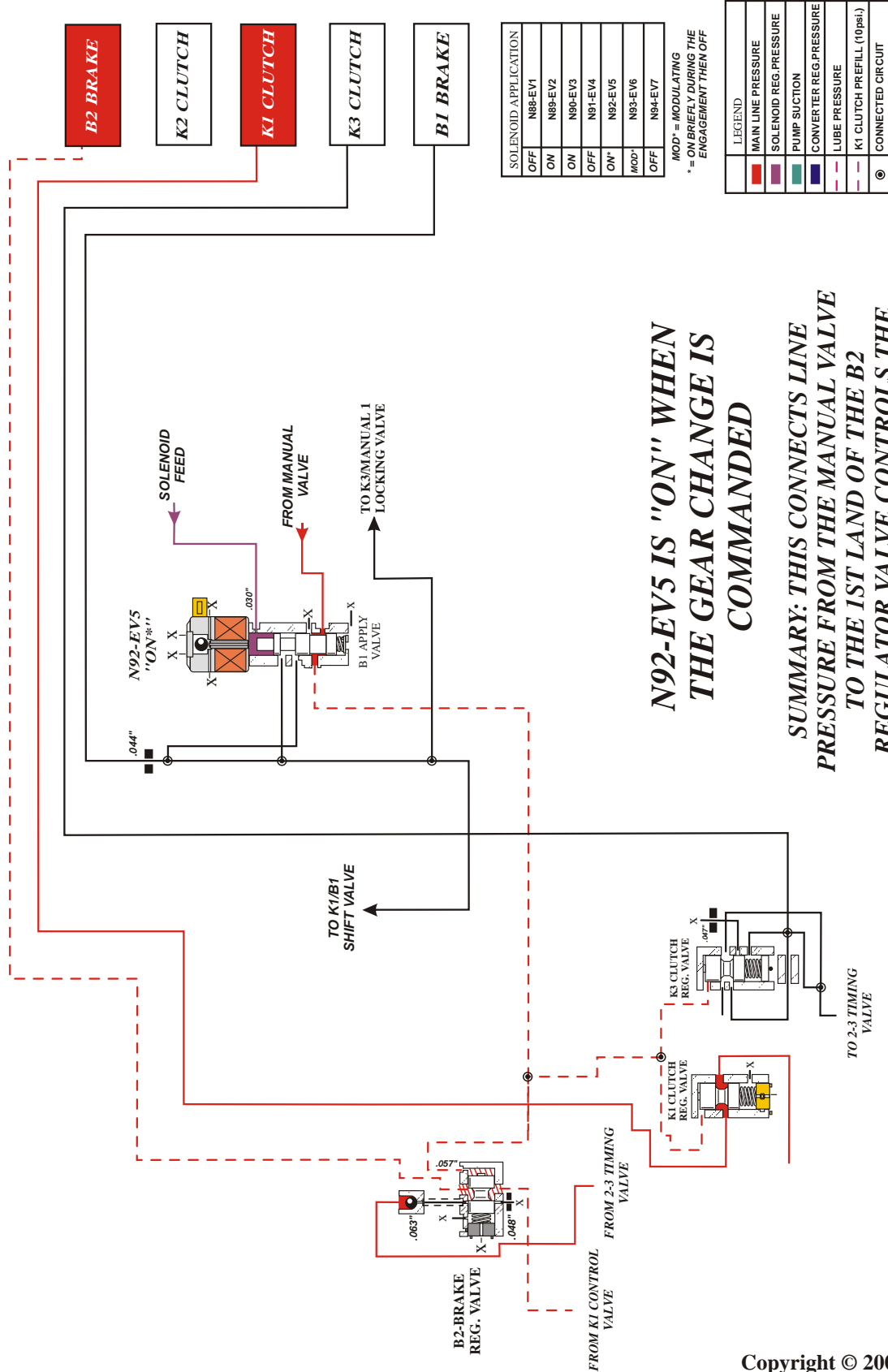


**N93-EV6, WHEN MODULATING, STROKES THE BOOST REGULATOR VALVE AGAINST ITS SPRING, REDUCING THE AMOUNT OF BOOST PRESSURE ON THE SPRING SIDE OF THE MAIN REGULATOR VALVE.**

Figure 2  
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**"01M" OVERDRIVE RANGE 1st to 2nd GEAR TRANSITION**



**N92-EV5 IS "ON" WHEN THE GEAR CHANGE IS COMMANDED**

**SUMMARY: THIS CONNECTS LINE PRESSURE FROM THE MANUAL VALVE TO THE 1ST LAND OF THE B2 REGULATOR VALVE CONTROLS THE APPLY RATE OF THE B2 CLUTCH**

Figure 3  
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**"01M" OVERDRIVE RANGE 2nd GEAR APPLICATION**

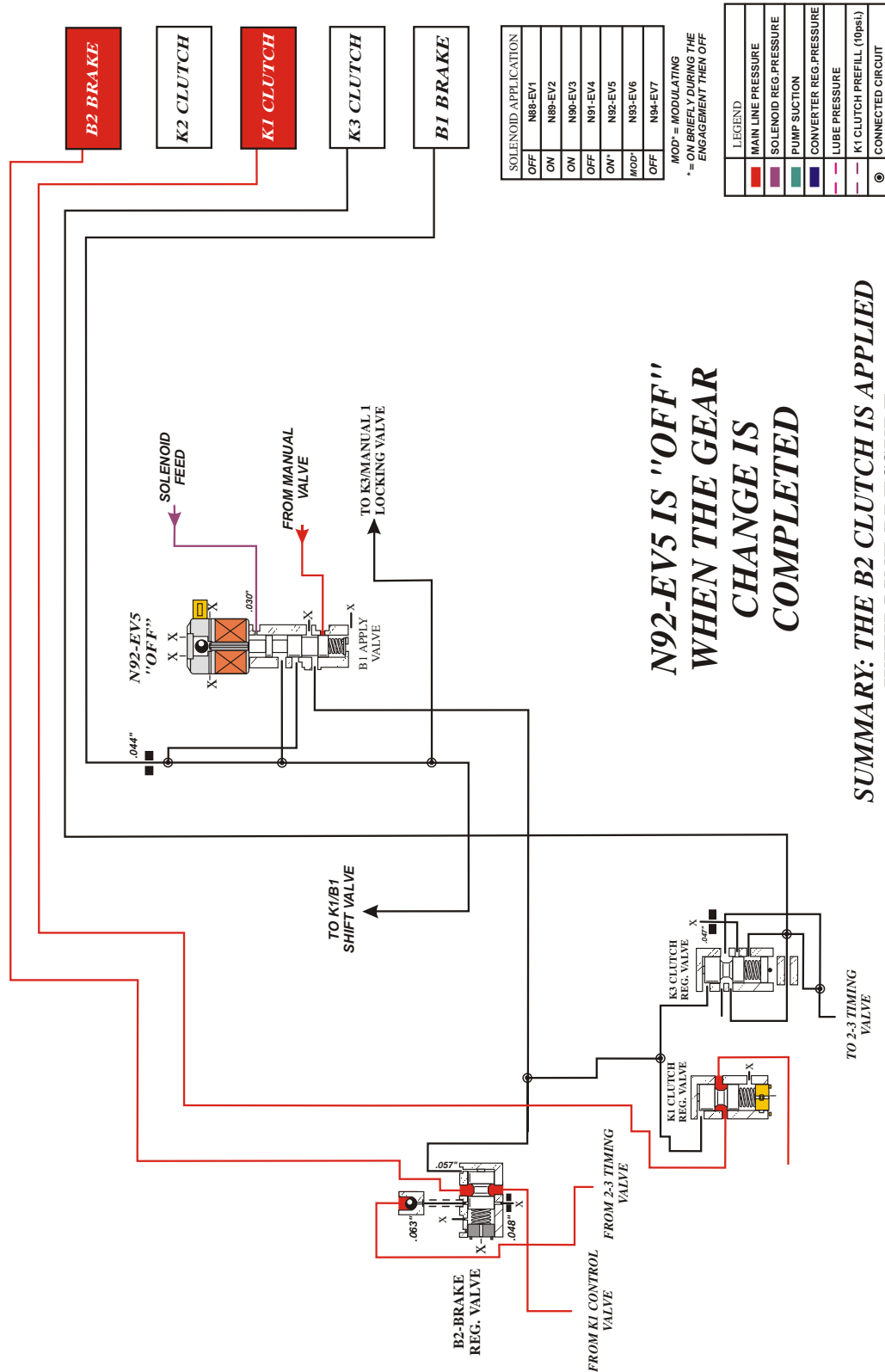
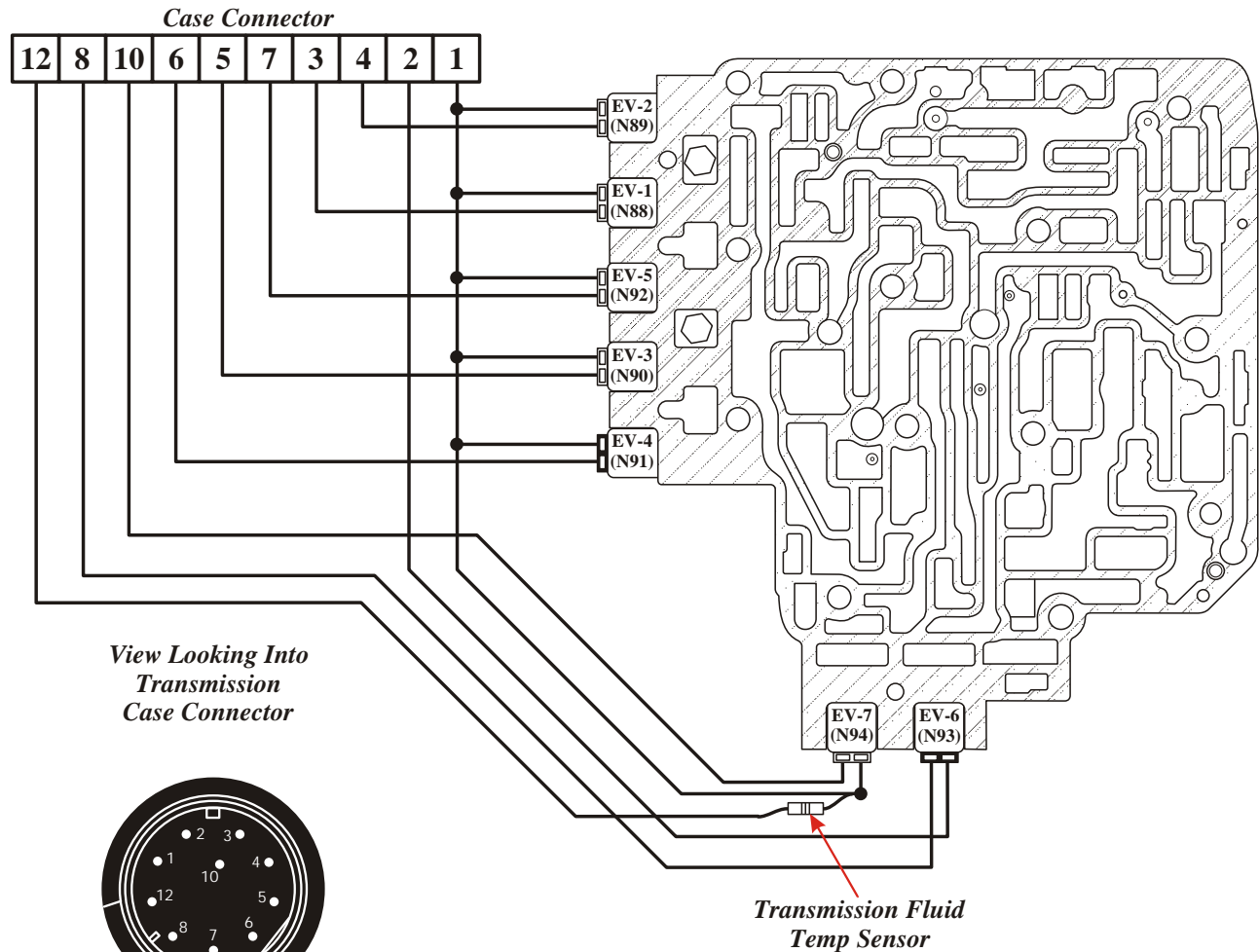


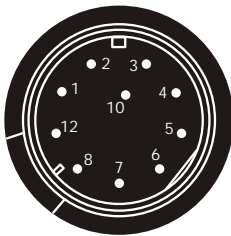
Figure 4  
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**CASE CONNECTOR PIN FUNCTIONS**



*View Looking Into  
Transmission  
Case Connector*



*Transmission Fluid  
Temp Sensor*

<i>Pin No.</i>	<i>Pin Function</i>
<b>1</b>	<b><i>Voltage supply to Solenoids EV-1, 2, 3, 4, 5, 7 and ATF Sensor.</i></b>
<b>2</b>	<b><i>Voltage supply to Solenoid EV-6.</i></b>
<b>3</b>	<b><i>Ground signal to Solenoid EV-1.</i></b>
<b>4</b>	<b><i>Ground signal to Solenoid EV-2.</i></b>
<b>5</b>	<b><i>Ground signal to Solenoid EV-3.</i></b>
<b>6</b>	<b><i>Ground signal to Solenoid EV-4.</i></b>
<b>7</b>	<b><i>Ground signal to Solenoid EV-5.</i></b>
<b>8</b>	<b><i>Ground signal to Solenoid EV-6.</i></b>
<b>10</b>	<b><i>Ground signal to Solenoid EV-7.</i></b>
<b>12</b>	<b><i>Fluid Temp Sensor signal return (Resistor In Ribbon).</i></b>

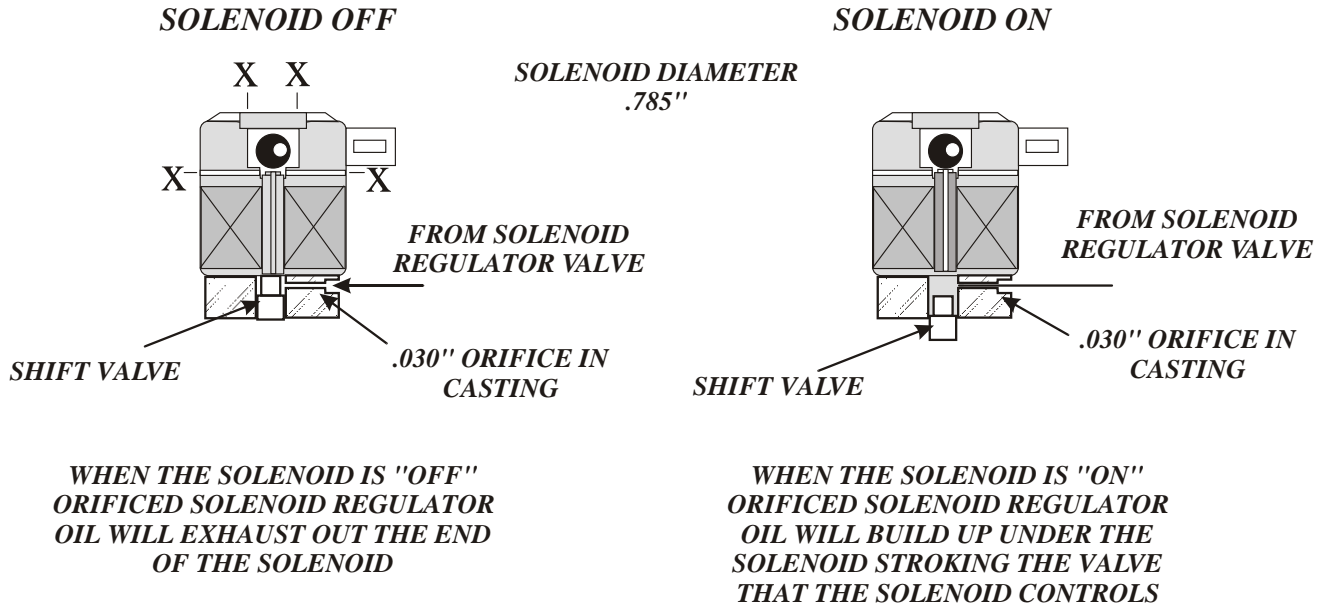
***BACK PROBE  
THIS TERMINAL***



Figure 5  
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**EV1 (N88), EV2 (N89), EV3 (N90), EV5 (N92) AND EV7 (N94)  
SOLENOID CHECK AND OPERATION**



**EV4 (N91) AND EV6 (N93)  
SOLENOID CHECK AND OPERATION**

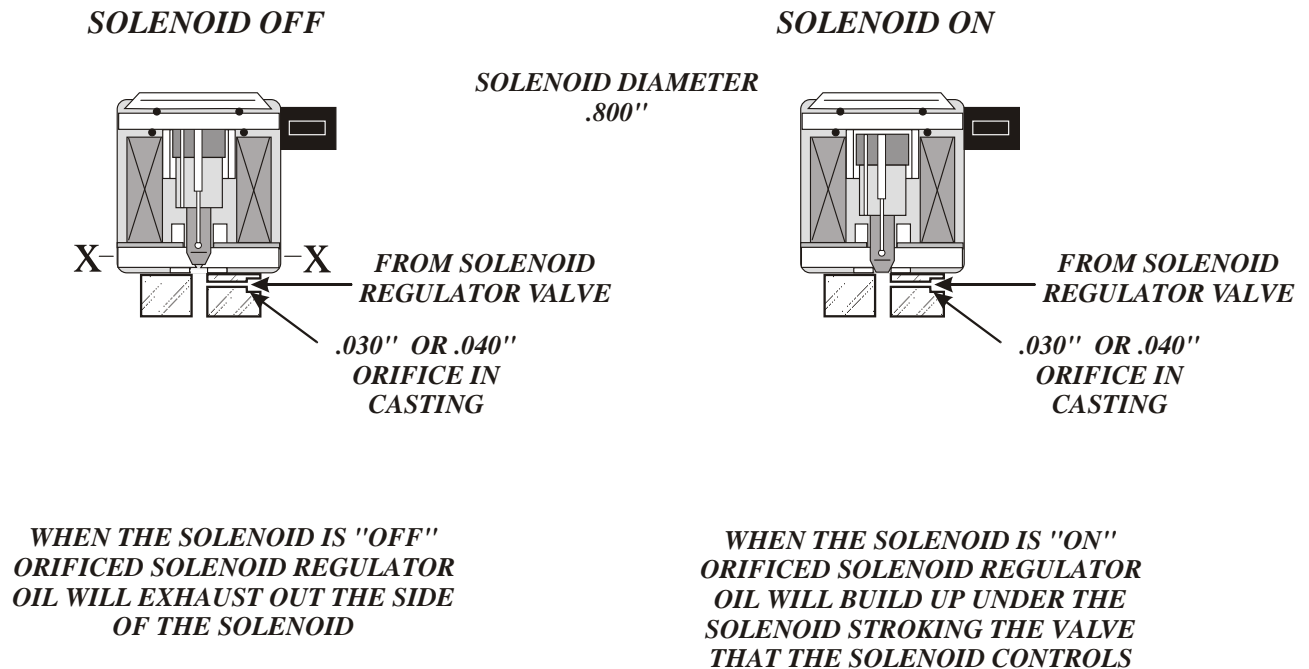


Figure 6