

## Z: Injection Control Pressure (ICP) Sensor

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### Z1 DIAGNOSTIC TROUBLE CODE (DTC) P1280: ICP CIRCUIT LOW INPUT

- DTC P1280 indicates injector control signal circuit out of range low was detected during KOEO Self Test or during continuous diagnostic monitoring.
- Possible causes:
  - biased ICP sensor/PCM
  - open ICP sensor circuit
  - short to SIG RTN or PWR GND on ICP sensor circuit
  - open in VREF circuit
- Disconnect ICP sensor connector.
- Key on/engine off.
- Measure voltage between VREF Pin B and battery ground.

Is voltage reading  $5v \pm .5$ ?

Yes	No
GO to <a href="#">Z2</a> .	REPAIR open in VREF Circuit 351 (BR/W). CLEAR DTCs and RETEST.

### Z2 SIGNAL RETURN CIRCUIT CHECK

- Measure voltage between VREF Pin B and signal return Pin A.

Is voltage reading  $5v \pm 0.5$ ?

Yes	No
GO to <a href="#">Z3</a> .	REPAIR open in signal return Circuit 359 (GY/R). CLEAR DTCs and RETEST.

### Z3 ICP SIGNAL CIRCUIT CHECK

- Key off.
- Disconnect PCM. Inspect for loose, damaged or pushed-out pins. Repair as necessary.
- Connect breakout box. PCM disconnected.
- Measure resistance between Pin 87 and Pin C at ICP sensor harness connector.

Is resistance less than 5 ohms?

Yes	No
GO to <a href="#">Z4</a> .	REPAIR open in signal Circuit 812 (DB/LG) for F-Series or 535 (LB/R) for Econoline. CLEAR DTCs and RETEST.

**Z4 VREF CIRCUIT CHECK**

- Measure resistance between Test Pin 90 and Pin B at ICP sensor harness connector.

**Is resistance less than 5 ohms?**

Yes	No
GO to <a href="#">Z5</a> .	REPAIR open in VREF Circuit 351 (BR/W). CLEAR codes and RETEST.

**Z5 SIGRTN CIRCUIT CHECK**

- Measure resistance between Test Pin 91 and Pin A at ICP sensor harness connector.

**Is resistance less than 5 ohms?**

Yes	No
GO to <a href="#">Z6</a> .	REPAIR open in SIG RTN Circuit 359 (GY/R). CLEAR codes and RETEST.

**Z6 SENSOR SIGNAL CIRCUIT SHORT TO GROUND**

- Measure resistance between Pin 87 and Pins 25/51/76/77/91/103.

**Is resistance greater than 10,000 ohms?**

Yes	No
GO to <a href="#">Z7</a> .	REPAIR short to ground in signal wire Circuit 812 (DB/LG) for F-Series or 535 (LB/R) for Econoline. CLEAR DTCs and RETEST.

**Z7 CHECK FOR SHORT ON PIN 87**

- Connect breakout box to PCM.
- Measure resistance between Pin 87 and Pins 25/91/51/76/77 and 103.

**Is resistance greater than 10,000 ohms?**

Yes	No
REPLACE ICP sensor. RERUN Scan Tool Diagnostic Test.	REPLACE PCM. REMOVE breakout box. RECONNECT ICP sensor. RERUN Scan Tool Diagnostic Test.