

# The Three Diagnostic Methods

There is no omniscient diagnostic machine that you connect and instructs you on exactly what to repair. The closest thing to that is the technician himself. Using a scientific method approach, they decide what type of testing is needed, review the results and make a logical conclusion based on research and test results.

The method used to gather this data is what leads to the customer cost and overall satisfaction after repairs have been completed. Below are the three commonly used methods

## 1. “Best Guess” method

The best guess method consists of hooking up a code reader, and reading the codes. Then the technician suggests a repair based on his previous experience. This type of service is usually free but has no guaranteed results.

## 2. “Shotgun” method

The shotgun method is similar to the best guess method. The shotgun method differs in that the technician usually recommends replacement of a numerous amount of parts related to the fault code. This type of service is usually free but has no guaranteed results.

## 3. “Pinpoint” method

Using the pinpoint method our goal is to determine a single repair or single part replacement to solve your problem. When we find the problem, we can price your repair down to the penny.

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Innovative Autocare uses the “Pinpoint” approach to guarantee results, reduce overall costs, and maximize customer satisfaction.

The pinpoint method requires that we follow a specific routine:

- a) Discuss in detail the symptoms, and under what conditions they occur.
- b) Connect scan and data computer and record codes (there are about 3500 P type codes not to mention B, C and U codes).
- c) Test drive, verify symptoms and record data.
- d) Check Alldata, IATN and bound texts for tech bulletins and repairs related to codes and symptoms.
- e) Test as necessary duplicating specific conditions such as speed, road condition, weather or temperature while following manufacturer’s trouble tree steps. This may involve:
  1. Pressure and volume testing of fluids and gases.
  2. Measuring, plotting and recording electrical data.
  3. Measuring temperatures.

4. Removal, inspection and measuring dimensions.
  5. Bench testing and actuator testing.
  6. Replacement with known good parts.
- f) Price repairs accurately.
  - g) Perform repairs.
  - h) Test drive and confirm elimination of symptoms.

The diagnostic steps may take about an hour or may take 4 or more hours before any repairs are performed.

Required for pinpoint diagnostics:

- a) Code and data scanners: \$5000.00 per unit (we have 3)
- b) Office personal computer, laptop: \$1500.00
- c) Repair information, internet (Alldata, IATN): \$210.00, \$15.00 a month, and \$50.00 a month.
- d) Digital volt ohm meter: \$250.00
- e) Electrical load simulator: \$350.00
- f) Oscilloscope: \$1000.00
- g) Fuel pressure and vacuum gauges: \$350.00
- h) Electrical test leads, connectors and lights: \$500.00
- i) Battery and charging system load tester: \$250.00
- j) Timing light: \$150.00
- k) Boroscope: \$425.00
- l) Vehicle hoist: \$5000.00
- m) Plus hand tools, rent, insurance, utilities, and employee pay (\$don't ask)!

We offer this service for \$79.00 with guaranteed results.

Ninety five percent of technicians use best guess or shotgun methods while the knowledgeable, elite technician uses the pinpoint method. Our experience has taught us that if you shortcut diagnostics, your conclusions are usually incorrect.

Let's look at this example:

An Autozone shotgun diagnostic of a P410 air pump code on a 2002 Cadillac. They connected a \$100.00 code reader and recommended replacing the air pump and relay at a cost of about \$400.00. After the repairs, the check engine light came back on with the same code.

We performed a pinpoint diagnostic for \$79.00, and found the real problem to be a cut vacuum line (about \$30), for a total of about \$110.