

# Auto Service Summary

**Shop:** Moroutfitters

**Date:** March 10, 2025

## Reason For Visit

The vehicle was brought in because the check engine light and the VSC (Vehicle Stability Control) light were both illuminated. Additionally, the customer reported that the car was running roughly, which generally indicates that the engine is not operating as smoothly as it should.

## Repair Summary

The mechanics began by diagnosing the issue with the engine by scanning the vehicle's systems. They discovered a misfire in cylinder #4, which means that this part of the engine was not working properly. The inspection revealed damage caused by rodents chewing on the wiring of the fuel injectors connected to cylinders #2 and #4. To address the issue, they replaced the damaged injector wiring, soldered and secured the connections, and then reassembled everything. Since the intake plenum, which is a crucial component in the engine's air intake system, was already removed during the repairs, they proactively replaced the ignition coils for cylinders #2 and #6 and all the spark plugs on the driver's side. After completing these repairs, they cleared the error codes from the vehicle's computer system and conducted a test drive to ensure everything was functioning correctly.

## Major

### **Fuel Injector Wiring Repair:**

This repair was crucial because damaged wiring can prevent the engine from getting the right amount of fuel, leading to poor performance or engine failure. Ignoring such issues could eventually result in severe engine damage or total failure.

### **Ignition Coil Replacement (#2 and #6):**

Reliable ignition coils are vital for starting the engine and keeping it running. Faulty coils could lead to misfires and inefficient fuel consumption. Not replacing them could cause the engine to stall or fail to start.

## Moderate

### **Spark Plug Replacement (Driver's Side):**

Spark plugs ignite the air/fuel mixture in the engine. Faulty spark plugs can lead to inefficient engine operation, reduced fuel economy, and higher emissions. Regular replacement ensures optimal engine performance.

## Minor

### **Intake Plenum Gasket Replacement:**

This gasket ensures airtight seals within the intake system. A failure here could lead to poor engine performance and air leaks, affecting fuel efficiency and emissions.

## Cost Breakdown

1. Labor:	<b>\$450.00</b>
2. Fuel Injector Connector (2):	<b>\$64.20</b>
3. Intake Plenum Gasket:	<b>\$30.32</b>
4. Ignition Coils (2):	<b>\$251.80</b>
5. Spark Plugs (3):	<b>\$49.86</b>
6. Subtotal:	<b>\$846.18</b>
7. Sales Tax:	<b>\$38.63</b>
8. Total Due:	<b>\$884.81</b>

## What Does This Actually Mean?

### Fuel Injector Connector:

This is a small but critical part that allows electrical signals to trigger the injector, which sprays fuel into the engine. Chewed connectors mean the engine isn't getting the right amount of fuel or at the right time, leading to misfires.

### Intake Plenum:

This part helps distribute air to each cylinder of the engine. A damaged plenum can lead to uneven air distribution, affecting the engine's performance and efficiency.

### Ignition Coil:

Converts the battery's voltage to a much higher voltage to ignite the fuel. Without a functioning coil, the spark plugs won't fire correctly, causing rough running or a failure to start.

### Spark Plug:

A vital component in getting the fuel to burn inside the engine. If these don't work correctly, the engine can't perform at its best, potentially causing reduced fuel mileage or engine power.

## Other Notes

No additional notes.

## Recommendations

Consider periodically checking for signs of rodent activity in your engine bay, especially if you park outside or near wooded areas, as this can prevent similar issues in the future.

Regularly schedule maintenance checks to catch minor issues before they become major problems.

Keep a note of when parts are replaced; this helps maintain a service schedule for components like spark plugs and ignition coils.