

# **Component Procedures: Fuel Delivery and Air Induction**

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# Component Procedures: Fuel Delivery and Air Induction

## Parts and Labor (itype\_189)

### Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Service or Charge	System, Service	B	2.0	0.0

## Fuel Requirements (Article 2086611)

### FUEL REQUIREMENTS

#### OPERATION

Your engine is designed to meet all emissions regulations and provide excellent fuel economy and performance when using high quality unleaded gasoline having an octane rating of 87. The use of premium gasoline is not recommended. The use of premium gasoline will provide no benefit over high quality regular gasoline, and in some circumstances may result in poorer performance.

Light spark knock at low engine speeds is not harmful to your engine. However, continued heavy spark knock at high speeds

can

cause damage and immediate service is required. Engine damage resulting from operation with a heavy spark knock may not be covered by the new vehicle warranty.

Poor quality gasoline can cause problems such as hard starting, stalling and hesitations. If you experience these symptoms, try another brand of gasoline before considering service for the vehicle.

The American Automobile Manufacturers Association, AAMA, has issued gasoline specifications to define the minimum fuel properties necessary to deliver enhanced performance and durability for your vehicle. Chrysler recommends the use of gasoline that meet the AAMA specifications if they are available.

#### Reformulated Gasoline

Many areas of the country require the use of cleaner burning gasoline referred to as "Reformulated" gasoline.

Reformulated gasoline contain oxygenates, and are specifically blended to reduce vehicle emissions and improve air quality.

Chrysler strongly supports the use of reformulated gasoline. Properly blended reformulated gasoline will provide excellent performance and durability for the engine and

fuel system

components.

#### Gasoline/Oxygenate Blends

Some fuel suppliers blend unleaded gasoline with oxygenates such as 10% ethanol, MTBE, and ETBE. Oxygenates are required in some areas of the country during the winter months to reduce carbon monoxide emissions. Fuels blended with these oxygenates may be used in your vehicle.

#### CAUTION

: DO NOT use gasoline containing METHANOL. Gasoline containing methanol may damage critical fuel system components.

#### MMT

MMT is a manganese-containing metallic additive that is blended into some gasoline to increase octane.

Gasoline blended with MMT provide no performance advantage beyond gasoline of the same octane number without MMT. Gasoline blended with MMT reduce

spark plug

life and reduce

emission system

performance in some vehicles. Chrysler recommends that gasoline without MMT be used in your vehicle. The MMT

content of gasoline may not be indicated on the gasoline pump; therefore, you should ask your gasoline

retailer whether or not his/her gasoline contains MMT.

It is even more important to look for gasoline with- out MMT in Canada because MMT can be used at levels higher than allowed in the United States. MMT is prohibited in Federal and California reformulated gasoline.

#### Sulfur In Gasoline

If you live in the northeast United States, your vehicle may have been designed to meet California low emission standards with clean-burning, low-sulfur, California gasoline. Gasoline sold outside of California is

permitted to have higher sulfur levels which may affect the performance of the vehicle's

catalytic converter

. This may cause the Check Engine or

Service Engine Soon

light to illuminate.

Illumination of either light while operating on high sulfur gasoline does not necessarily mean your emission control

system is malfunctioning. Chrysler recommends that you try a different brand of unleaded gasoline having lower sulfur to determine if the problem is fuel related prior to returning your vehicle to an authorized dealer for service.

: If the Check Engine or Service Engine Soon light is flashing, immediate service is required; see on-board diagnostics system.

Materials Added To Fuel

All gasoline sold in the United States and Canada are required to contain effective detergent additives. Use of additional detergents or other additives is not needed under normal conditions.

Fuel System Cautions

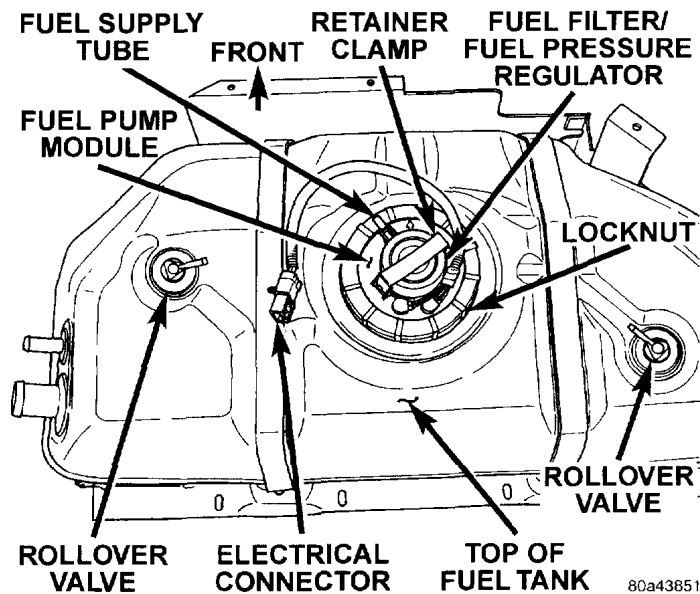
: Follow these guidelines to maintain your vehicle's performance:

- The use of leaded gas is prohibited by Federal law. Using leaded gasoline can impair engine performance, damage the emission control system, and could result in loss of warranty coverage.
- An out-of-tune engine, or certain fuel or ignition malfunctions, can cause the catalytic converter to overheat. If you notice a pungent burning odor or some light smoke, your engine may be out of tune or malfunctioning and may require immediate service. Contact your dealer for service assistance.
- when pulling a heavy load or driving a fully loaded vehicle when the humidity is low and the temperature is high, use a premium unleaded fuel to help prevent spark knock. If spark knock persists, lighten the load, or engine piston damage may result.
- The use of fuel additives which are now being sold as octane enhancers is not recommended. Most of these products contain high concentrations of methanol. Fuel system damage or vehicle performance problems resulting from the use of such fuels or additives is not the responsibility of Chrysler Corporation and may not be covered under the new vehicle warranty.

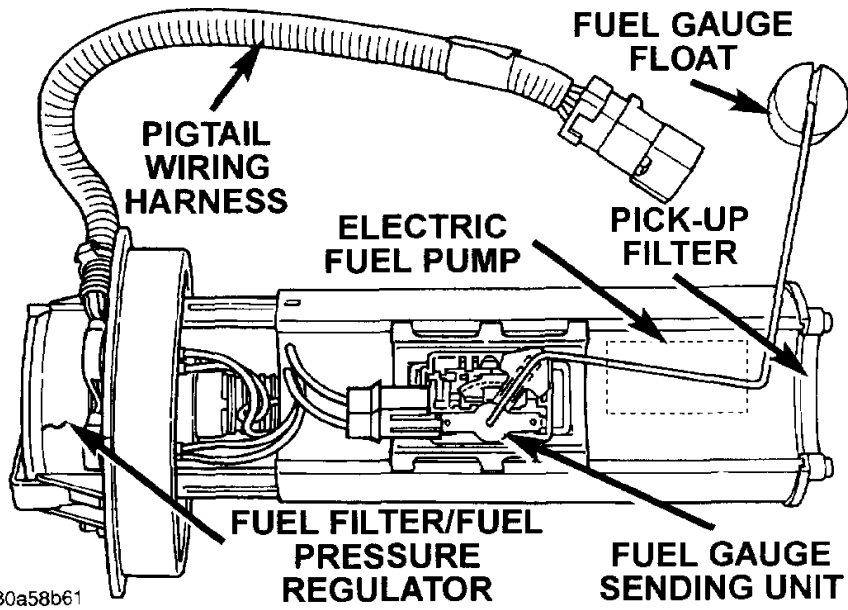
NOTE

: Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

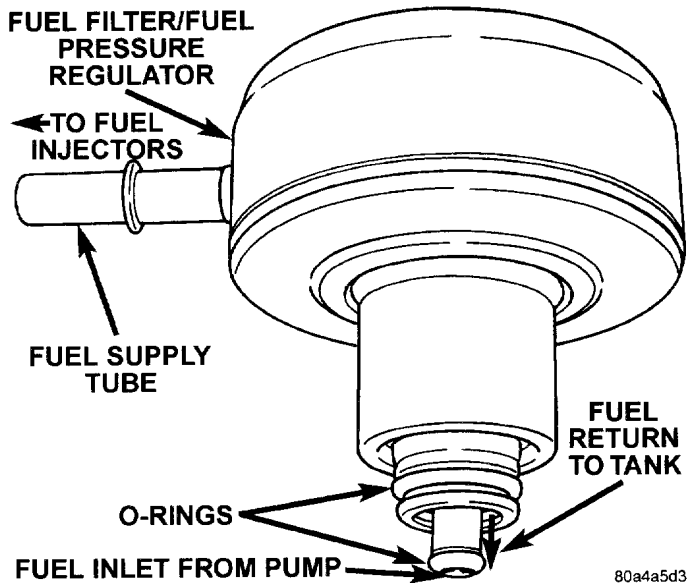
## Fuel Delivery System (Article 2086612)



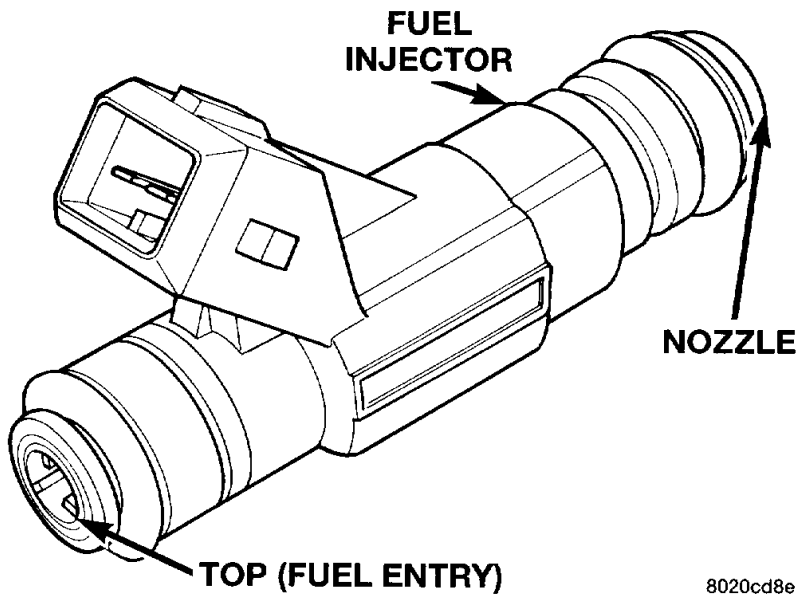
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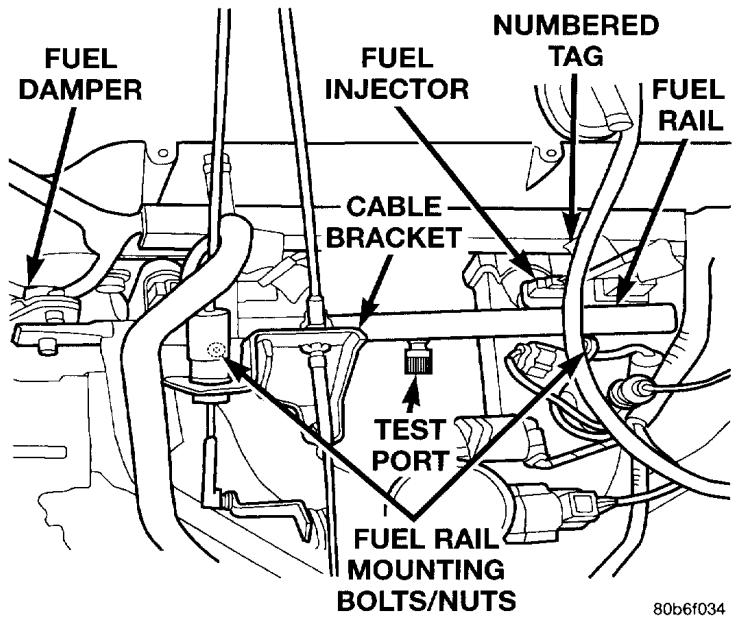
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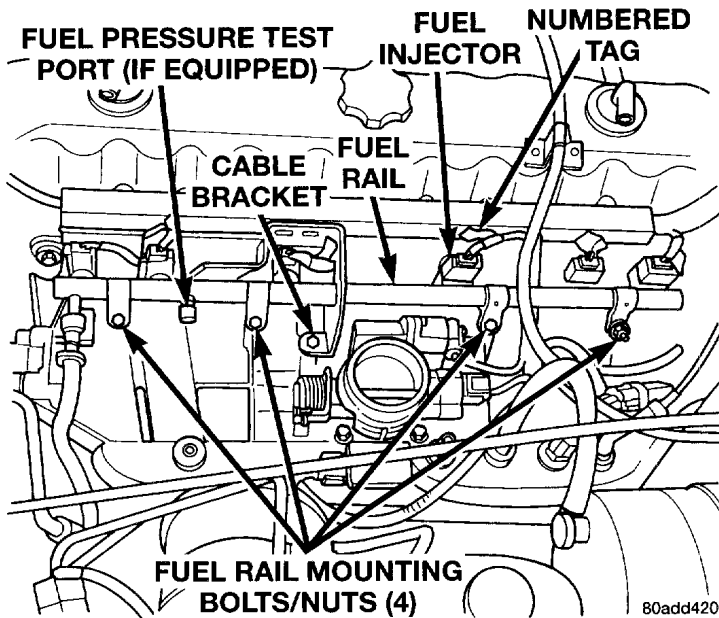
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### Complete System Diagram (Article 2088519)

See

Powertrain Management

/Diagrams/Electrical.

See: Powertrain Management > Electrical

### Customer Safety Information (itype\_14)

#### CAUTION

: Follow these guidelines to maintain your vehicle's performance:

- The use of leaded gas is prohibited by Federal law. Using leaded gasoline can

impair engine performance, damage the

emission control

system, and could result in loss of warranty coverage.

- An out-of-tune engine, or certain fuel or ignition malfunctions, can cause the catalytic converter

to overheat. If you notice a pungent burning odor or some light smoke, your engine may be out of tune or malfunctioning and may require immediate service. Contact your dealer for service assistance.

- when pulling a heavy load or driving a fully loaded vehicle when the humidity is low and the temperature is high, use a premium unleaded fuel to help prevent spark knock. If spark knock persists, lighten the load, or engine piston damage may result.

- The use of fuel additives which are now being sold as octane enhancers is not recommended. Most of these products contain high concentrations of methanol.

Fuel system

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NOTE

: Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

NOTE

### Technician Safety Information (itype\_15)

#### CAUTION

: The interior components (O-rings, spacers) of quick-connect fitting are not serviced separately, but new pull tabs are available for some types. Do not attempt to repair damaged fittings or fuel lines/tubes. If repair is necessary, replace the complete

fuel tube

assembly.

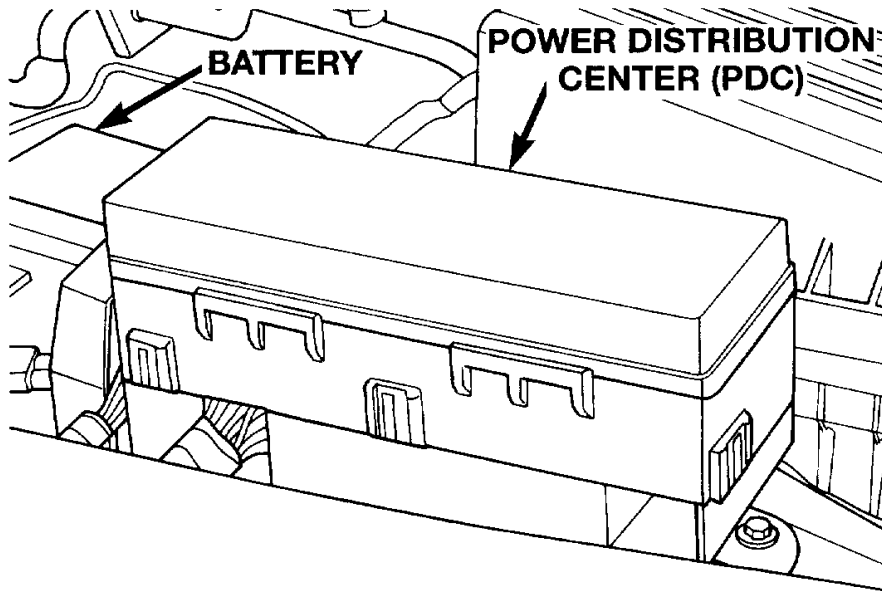
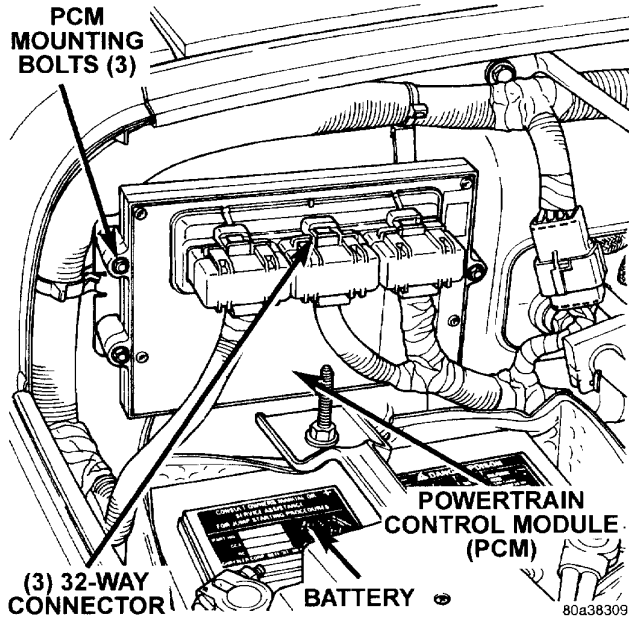
assembly.

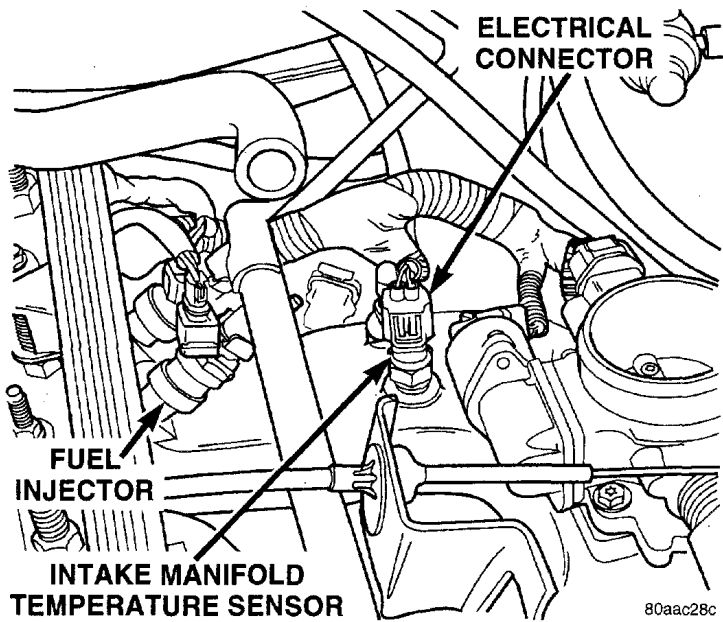
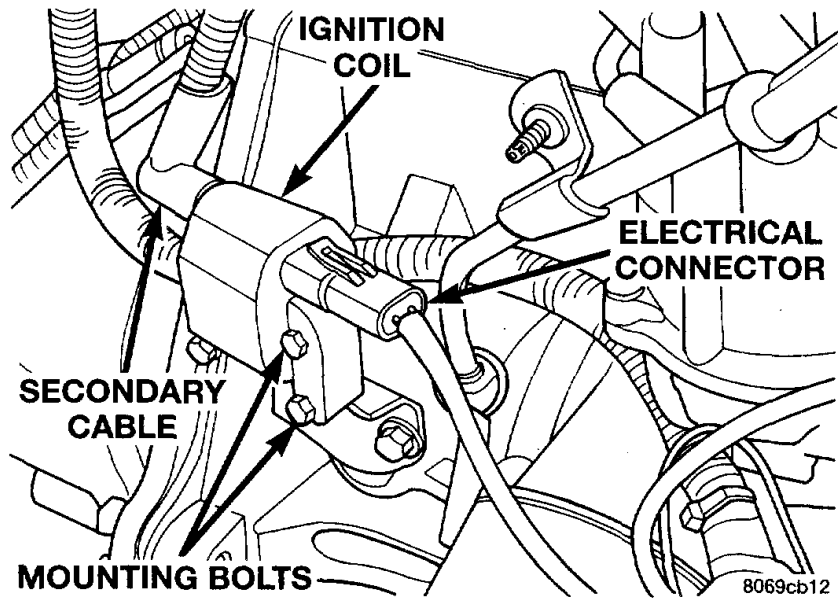
## No Start Tests (Article 2086878)

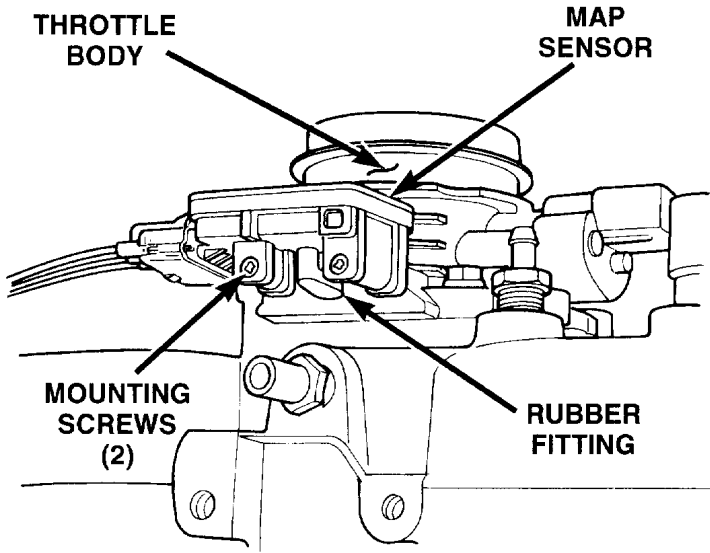
For No Start Testing/Diagnosis, please refer to  
Computers and Control Systems  
Testing.

See: Computers and Control Systems > Testing and Inspection

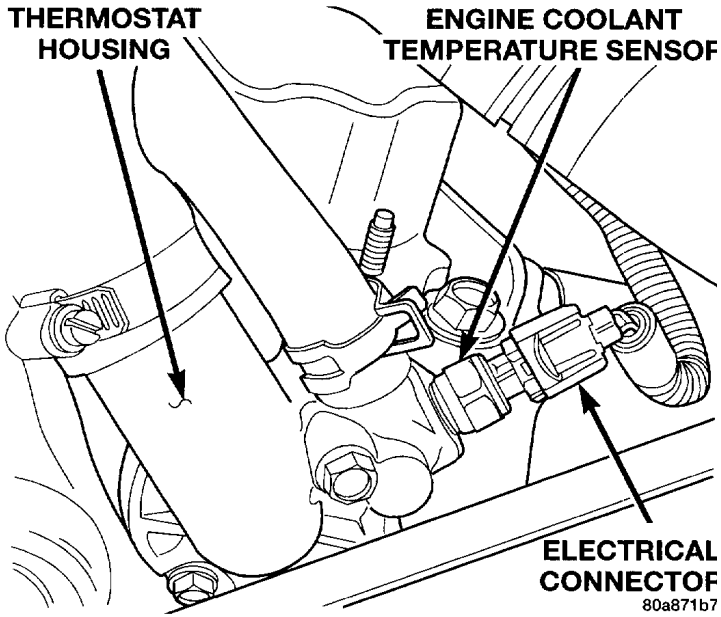
## Visual Inspection (Article 2086529)

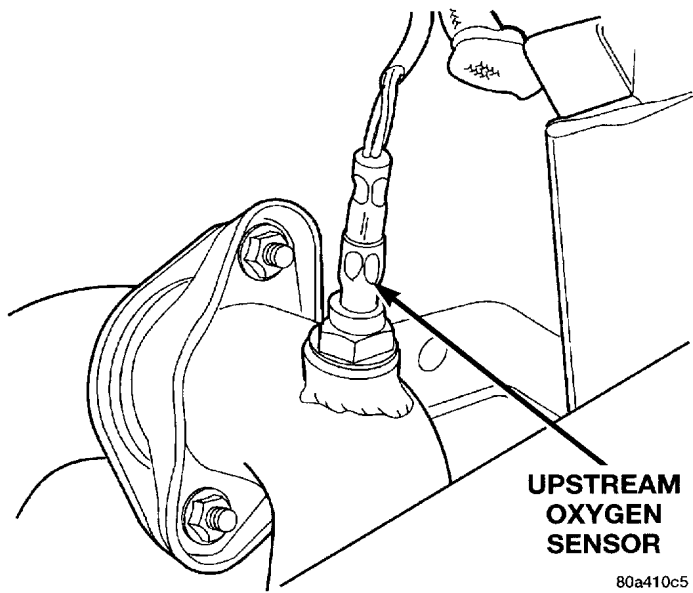




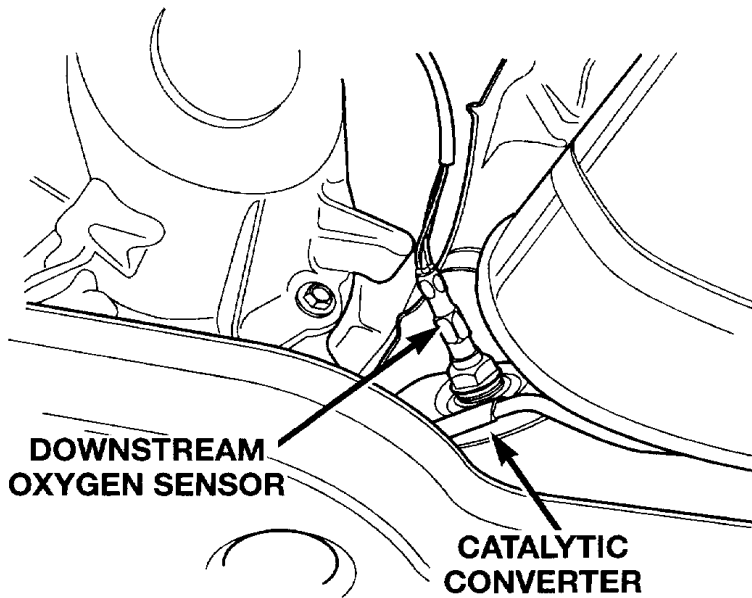


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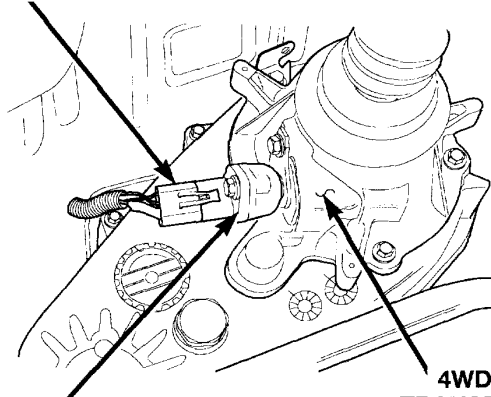


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**SENSOR  
ELECTRICAL  
CONNECTOR**



**VEHICLE  
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SENSOR**

**4WD  
TRANSFER  
CASE  
EXTENSION**

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**Electrical / Mechanical Repair (itype\_413)**

