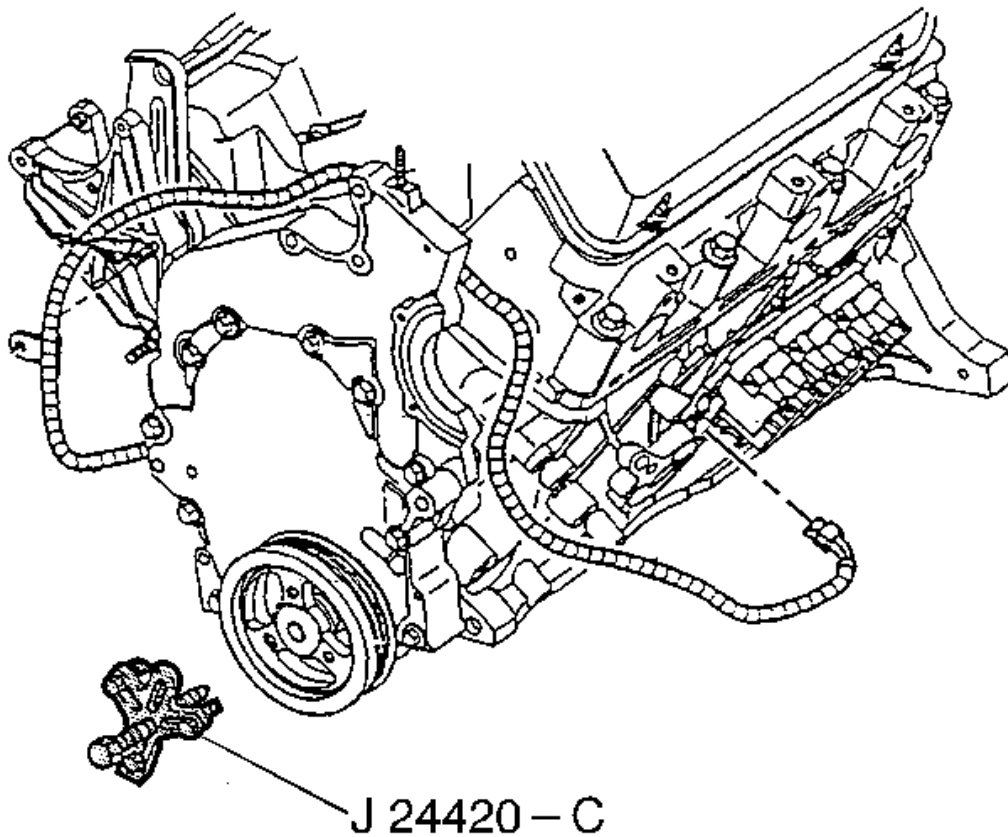


**Fig. 151: Installing Crankshaft Washer & Bolt**

Courtesy of GENERAL MOTORS CORP.

**NOTE:** The inertial weight section of the crankshaft balancer is assembled to the hub with a rubber type material. The correct installation procedures (with the proper tool) must be followed or movement of the inertial weight section of the hub will destroy the tuning of the crankshaft balancer.

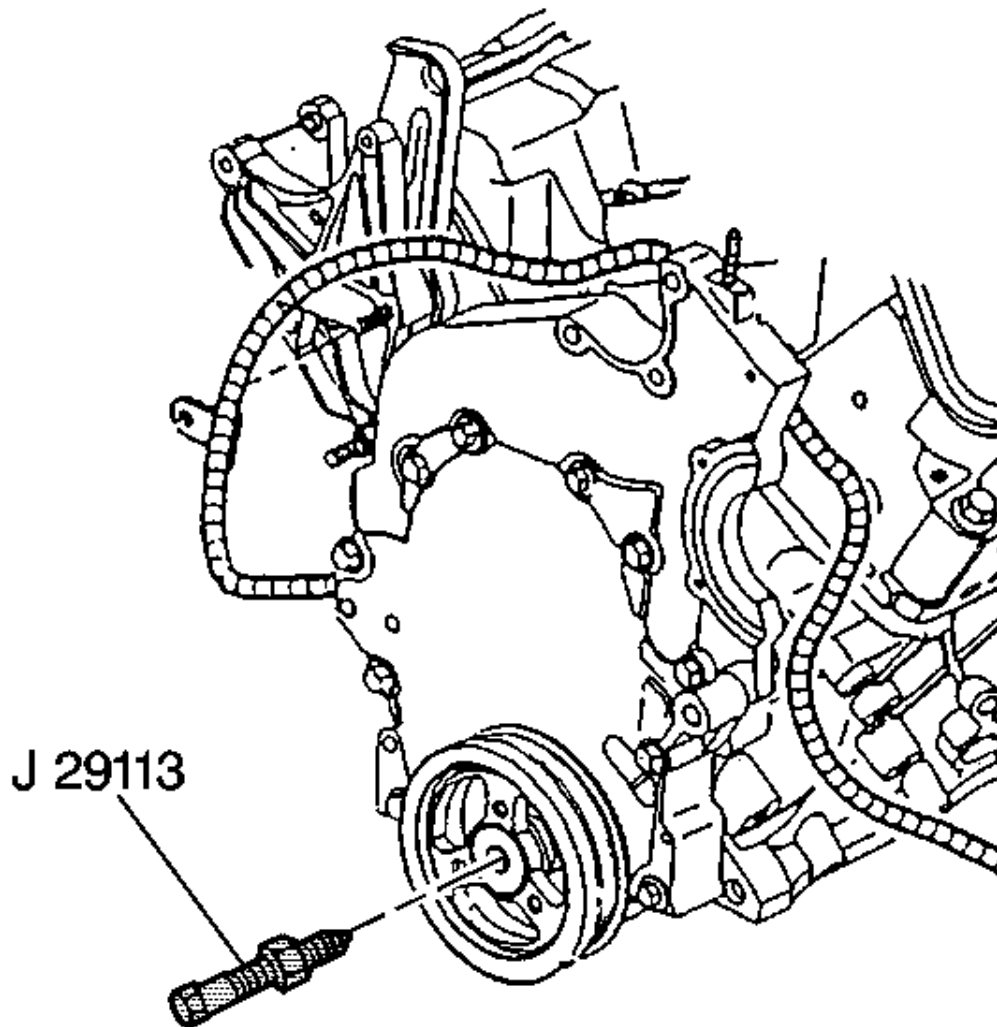
8. Remove the crankshaft balancer retaining bolt and washer.



**Fig. 152: Identifying J 24420-C**  
Courtesy of GENERAL MOTORS CORP.

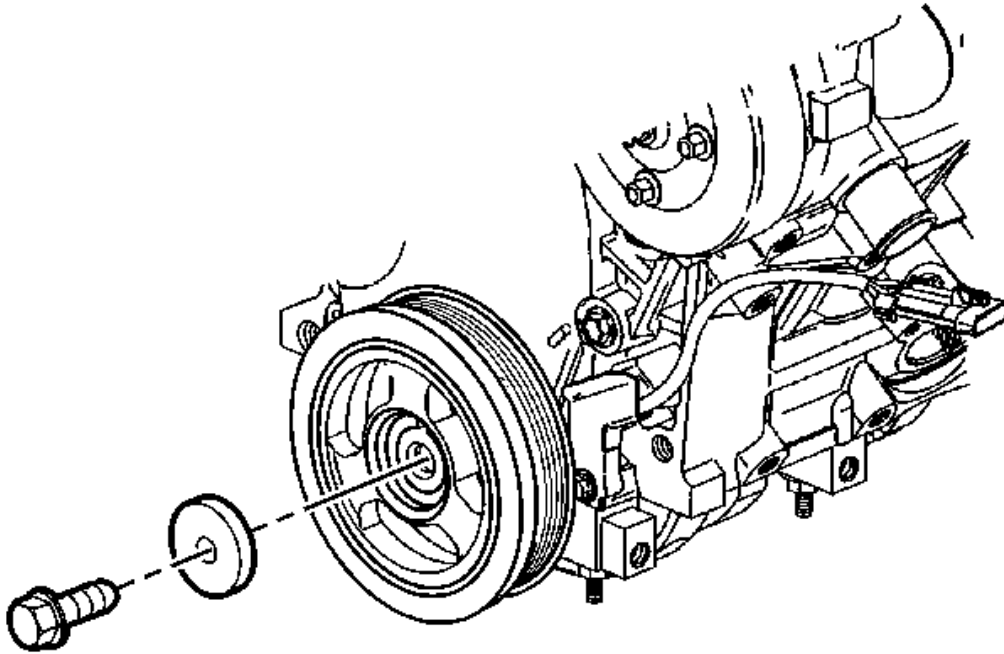
9. Remove the crankshaft balancer using the **J 24420-C** . See **Special Tools**.

**Installation Procedure**



**Fig. 153: Installing Crankshaft Balancer Using J 29113**  
Courtesy of GENERAL MOTORS CORP.

1. Apply sealer GM P/N 12345739 or the equivalent to the keyway of the crankshaft balancer.
2. Place the crankshaft balancer into position over the key in the crankshaft.
3. Install the **J 29113** onto the crankshaft. See **Special Tools**.
4. Pull the crankshaft balancer into position.
5. Remove the **J 29113** from the crankshaft balancer. See **Special Tools**.



**Fig. 154: Installing Crankshaft Washer & Bolt**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

6. Install the crankshaft balancer washer and bolt.

**Tighten:** Tighten the crankshaft balancer bolt to 103 N.m (76 lb ft).

7. Use the utility stand in order to raise the frame/powertrain.
8. Install NEW frame right side bolts.
9. Install the right engine splash shield. Refer to **Splash Shield Replacement - Engine** in Body Front End.
10. Install the right front tire and wheel. Refer to **Tire and Wheel Removal and Installation**.
11. Lower the vehicle.
12. Install the drive belt. Refer to **Drive Belt Replacement**.

#### Oil Pan Replacement

#### Tools Required

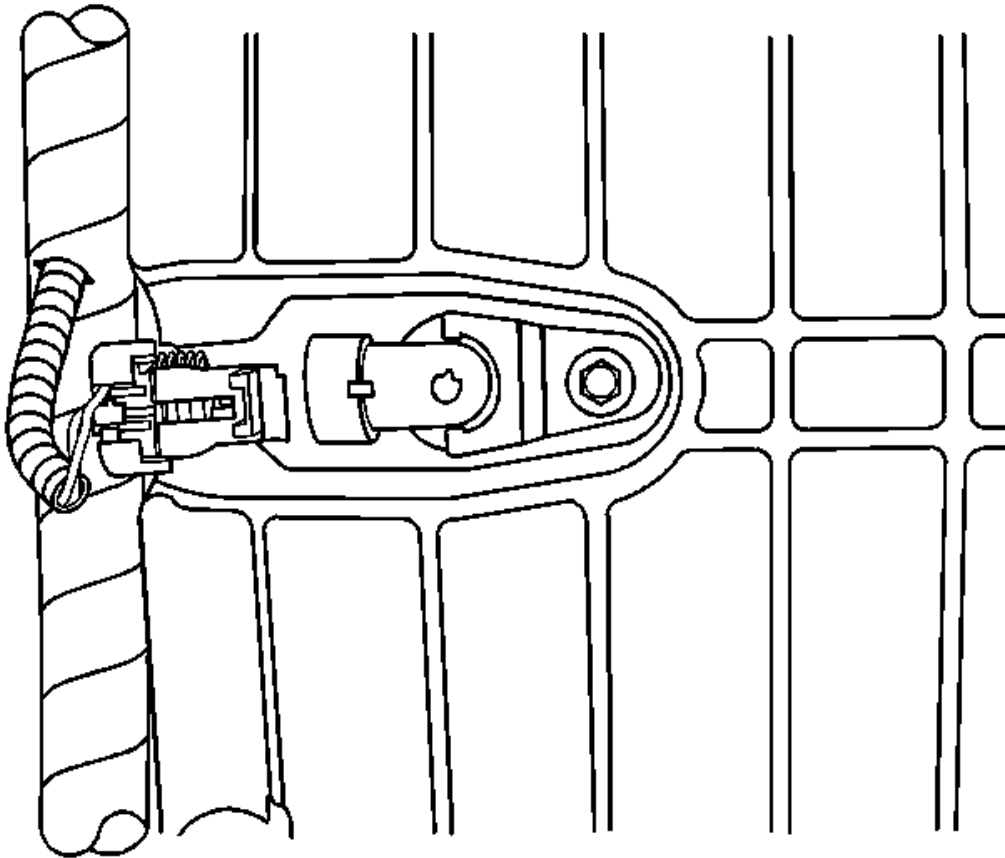
## 2005 Chevrolet Venture LT

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- **J 39505** Torque Wrench Adapter. See **Special Tools**.
- **J 45057-2** Lower Support Bar. See **Special Tools**.

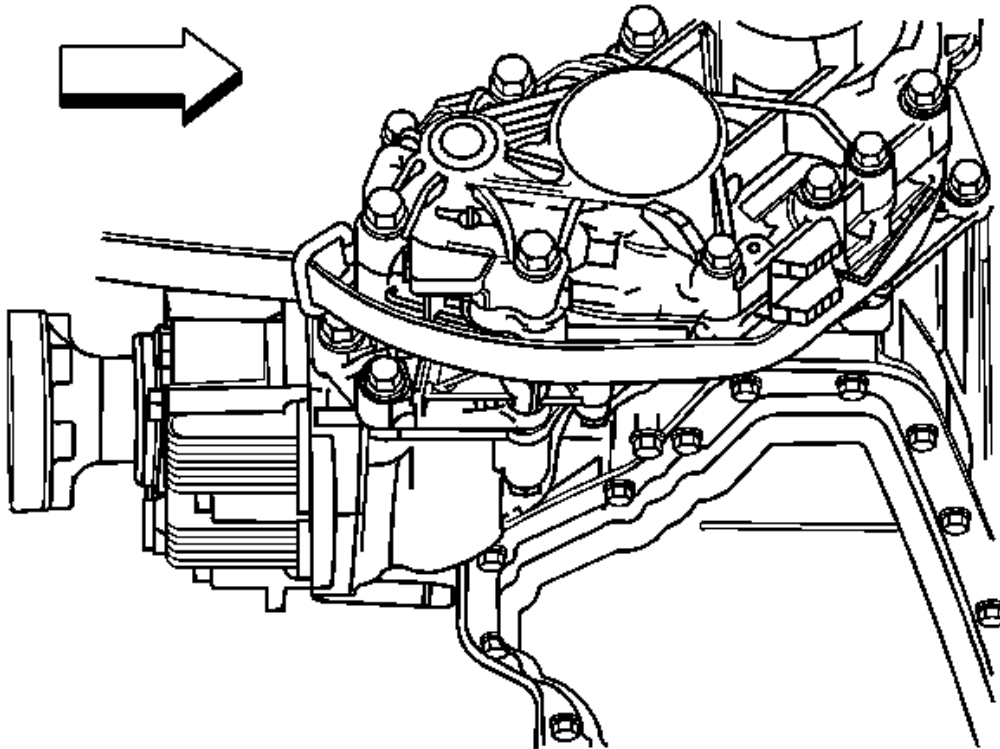
### Removal Procedure

1. Disconnect the battery negative cable. Refer to **Battery Negative Cable Disconnect/Connect Procedure** in Engine Electrical.
2. Remove the right engine mount strut from the engine. Refer to **Engine Mount Strut Replacement - Right**.
3. Install the engine support fixture. Refer to **Engine Support Fixture**.
4. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
5. Remove the A/C compressor bolts and reposition the compressor in order to gain access to the oil pan. Refer to **Compressor Replacement** in HVAC Systems - Manual.
6. Disconnect the catalytic converter from the exhaust manifold. Refer to **Catalytic Converter Replacement** in Engine Exhaust.
7. Remove the frame. Refer to **Frame Replacement - Front** in Frame and Underbody.
8. Drain the engine oil. Refer to **Engine Oil and Oil Filter Replacement**.



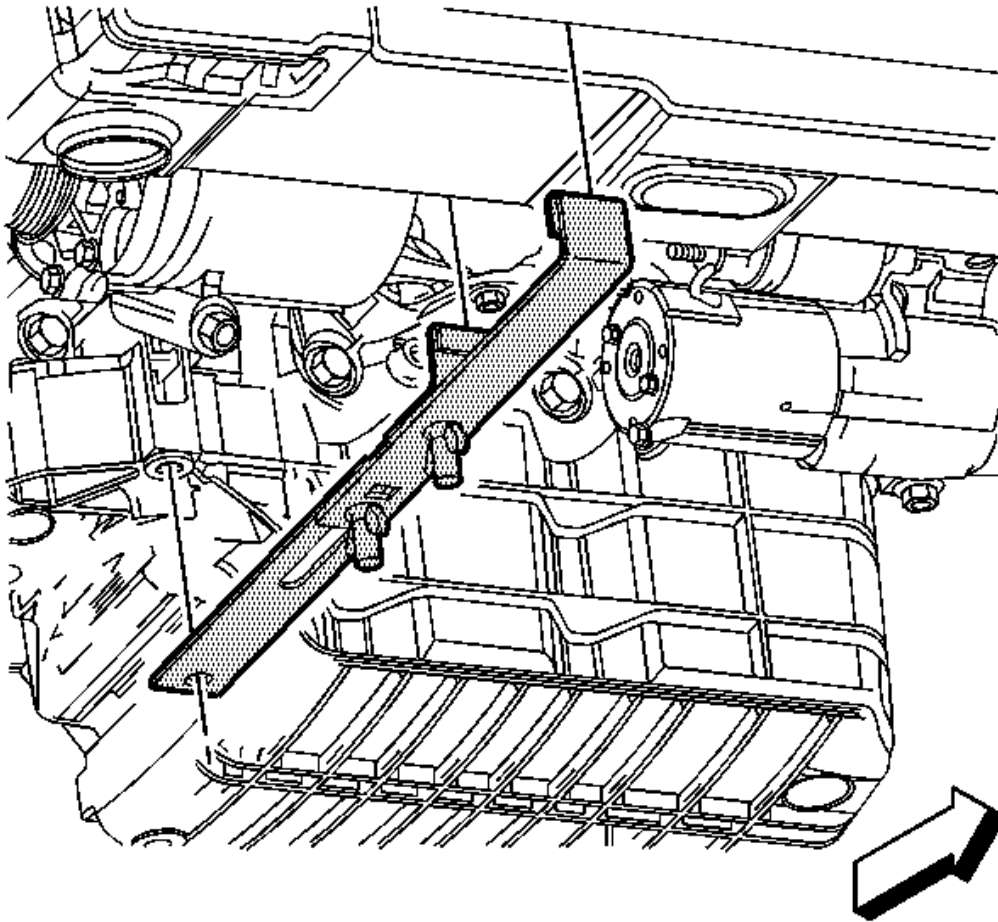
**Fig. 155: View Of Oil Level Sensor Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

9. Disconnect the oil level sensor electrical connector.
10. Remove the starter motor. Refer to **Starter Motor Replacement** in Engine Electrical.
11. If the vehicle is equipped with All-Wheel-Drive (AWD), remove the transfer case brace. Refer to **Support Brace Replacement (LA1)** in Transfer Case - Steyr.
12. Remove the transaxle brace. Refer to **Automatic Transmission Brace Replacement** in Automatic Transaxle - 4T65-E.



**Fig. 156: Securing Transfer Case/Transmission Case Extension Housing**  
Courtesy of GENERAL MOTORS CORP.

13. Install one end of a suitable utility strap to the transmission.
  - If the vehicle is equipped with All-Wheel-Drive (AWD), carefully wrap the utility strap around the transfer case.
  - If the vehicle is equipped with Front-Wheel-Drive (FWD), carefully wrap the utility strap around the transmission case extension housing.
14. Install the opposite end of the utility strap to a suitable underbody structure.
15. Tighten the utility strap in order to prevent movement of the powertrain.



**Fig. 157: Locating J 45057-2**  
Courtesy of GENERAL MOTORS CORP.

16. Remove the **J 45057-2** lower support bar. See **Special Tools**.
17. Remove the engine mount with the engine mount bracket from the oil pan. Refer to **Engine Mount Bracket Replacement**.

**IMPORTANT: Use the J 39505 in order to remove the engine right side oil pan side bolts. See Special Tools.**

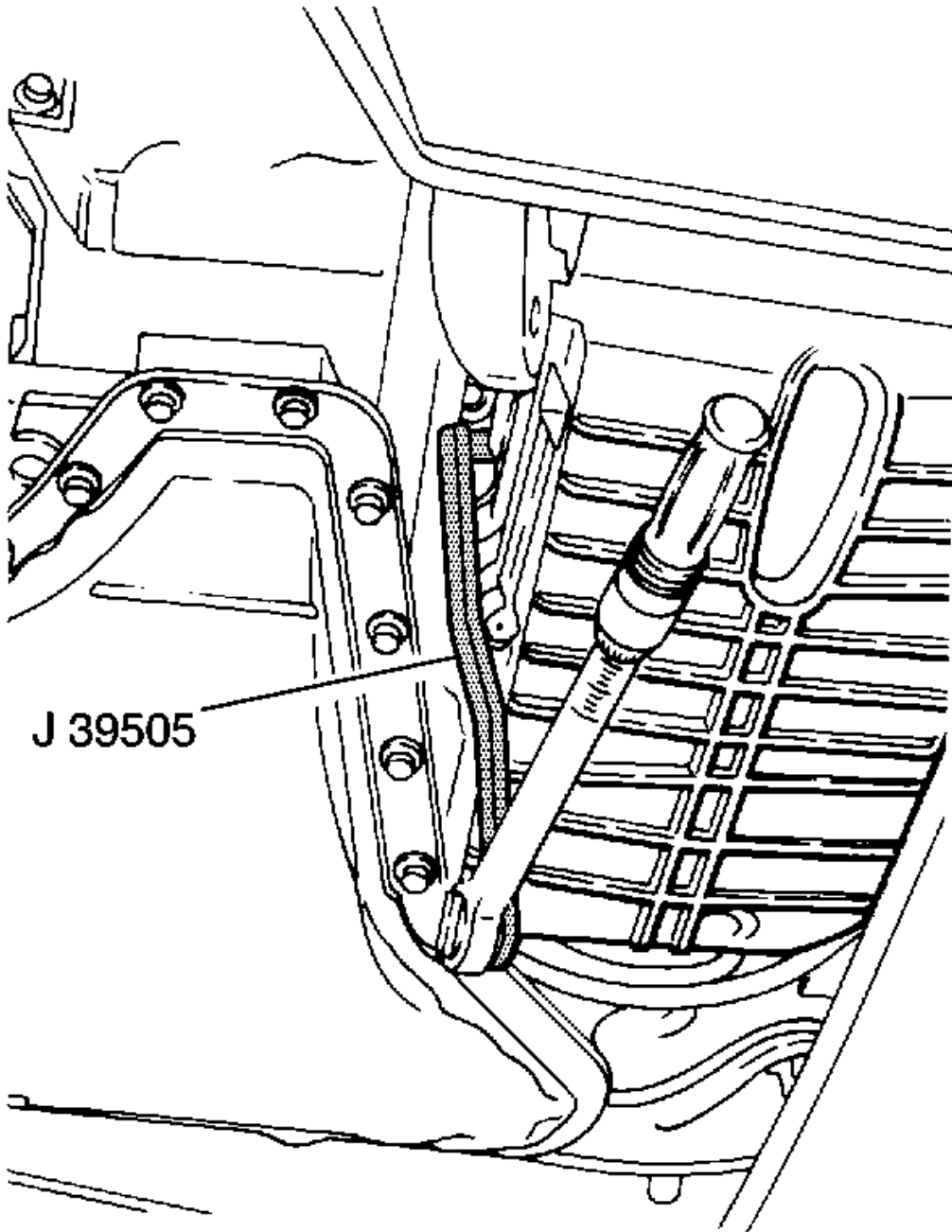
18. Remove the oil pan and the oil pan gasket. Refer to **Oil Pan Removal**.
19. Clean the oil pan and the engine block gasket surface. Refer to **Oil Pan Cleaning and Inspection**.



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**Installation Procedure**



**Fig. 158: View Of J 39505**  
Courtesy of GENERAL MOTORS CORP.

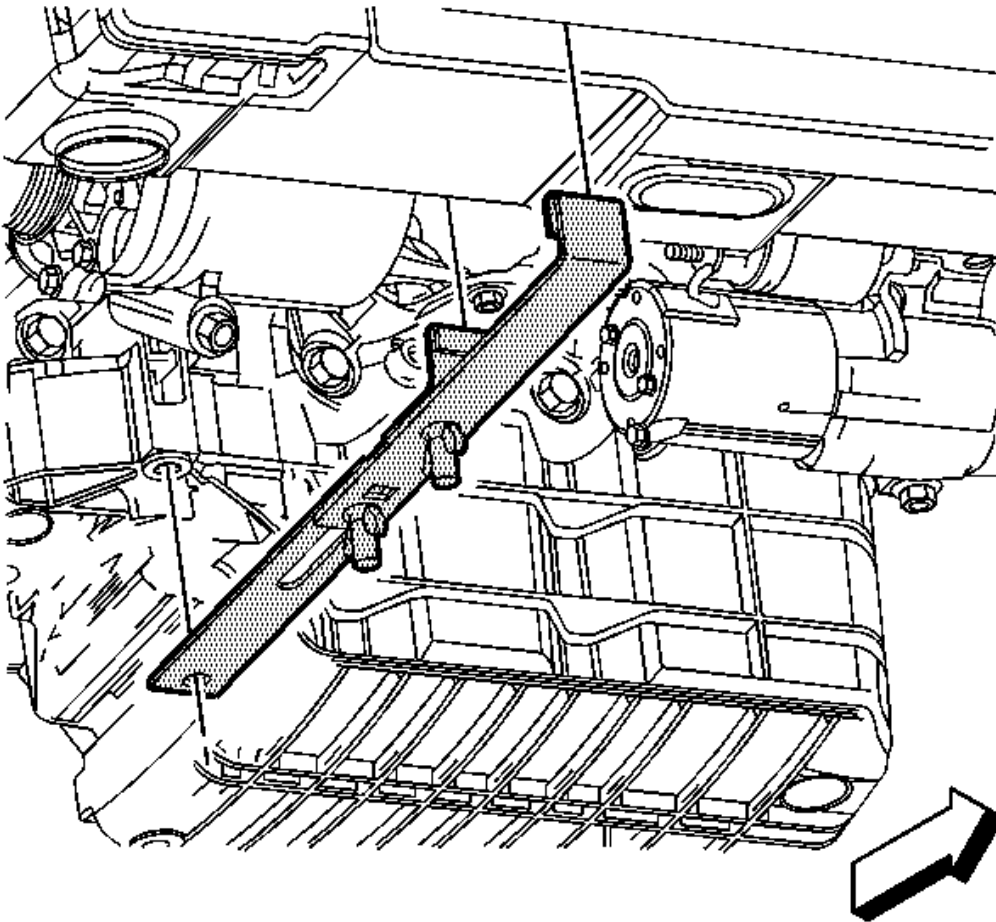
## 2005 Chevrolet Venture LT

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### IMPORTANT:

- Ensure that the transaxle brace is in position prior to installing the oil pan.
- Use the J 39505 in order to install the engine right side oil pan side bolts. See Special Tools.

1. Install the oil pan gasket and the oil pan. Refer to Oil Pan Installation.
2. Install the transaxle brace. Refer to Automatic Transmission Brace Replacement in Automatic Transaxle - 4T65-E.
3. Install the engine mount with the engine mount bracket to the oil pan. Refer to Engine Mount Bracket Replacement.



**Fig. 159: Locating J 45057-2**