Vibration Diagnostics

This document is intended to assist with drivetrain vibration diagnosis. It does not guarantee an immediate solution nor does it guarantee warranty responsibility or reimbursement. Refer to Roadranger.com for Product Warranty Statements, Warranty Manual, and Warranty Guidelines.

**Important:** Use factory service manuals and procedures and refer to all applicable safety precautions when servicing vehicles.

[Flowchart Diagram]

1. **Gather Info**
   - When did vibration start?
   - Where is vibration felt?
   - What road conditions?
   - Under load or high torque conditions?
   - During acceleration/deceleration?
   - Speed dependent?
   - RPM dependent?
   - Noise?
   - Suspension modified recently?
   - Lube clean and at proper level?

2. **Road Test**
   - Have vehicle driver recreate complaint condition, if possible
   - Leave trailer attached
   - Run up to suspected RPM and put transmission in neutral

3. **Simulate Conditions**
   - Speed
   - RPM
   - Gear Position
   - Coast
   - Under power
   - Loaded / Unloaded

4. **Record Findings**
   - Speed
   - RPM
   - Gear position
   - Coast
   - Under power
   - Loaded / Unloaded

5. **Stationary Inspection**
   - Tires
   - Rims
   - Dented driveshaft tubing
   - Engine supports
   - Transmission supports
   - Driveshaft center bearing

6. **Vibrations While Stationary**
   - Speed Related?
   - Does ride height meet OEM specs?
   - Previous work on clutch or engine?

   **If clutch work recently done, problem could be related to the clutch. Verify proper clutch was installed.**
   - Previous work on clutch or engine?

   **If engine work recently done, problem could be related to the engine. Contact your engine distributor.**

   - In the road test in Step 2, the vehicle was run up to the suspected RPM and the transmission shift lever was placed in neutral.

   **Did the vibration occur during this test?**
   - Problem is related to the clutch.
     - Remove clutch and check for: Broken springs, disc, or other damage.
   - Problem is related to the wheel end. Take known good wheel assembly and test replacement from wheel to wheel to isolate problem.

   - In the road test in Step 2, the vehicle was run up to the suspected RPM and the transmission shift lever was placed in neutral.

   **Was suspect shaft isolated?**
   - No
     - Problem is related to the inter-axle shaft.
       - Remove inter-axle shaft and lock power divider.
       - Run truck in same condition as when complaint occurred.

   - Yes
     - Contact driveline manufacturer.

   - Problem is related to the engine. Contact your engine distributor.

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