PROPELLER SHAFT

VIBRATION

DRIVELINE VIBRATION

Drive Condition	Possible Cause	Correction
Propeller Shaft Noise	1) Undercoating or other foreign material on shaft.	1) Clean exterior of shaft and wash with solvent.
	2) Loose or bent U-joint yoke or excessive runout.	2) Install new yoke.
	3) Incorrect driveline angle.	3) Measure and correct driveline angles.
	4) Worn CV/U-joint.	4) Install new propeller shaft.
	5) Propeller shaft damaged or out of balance.	5) Install new propeller shaft.
	6) Broken rear spring.	6) Install new rear spring.
	7) Excessive runout or unbalanced condition.	7) Re-index propeller shaft, test, and evaluate.
	8) Excessive drive pinion gear shaft runout.	8) Re-index propeller shaft and evaluate.
Joint Noise	1) Loose CV/U-joint flange screws.	1) Install new screws and tighten to proper torque.
	2) Lack of lubrication.	2) Install new propeller shaft/repair joint.

Tires that are out-of-round, or wheels that are not balanced, will cause a low frequency vibration.

Brake rotors that are unbalanced will cause a harsh, low frequency vibration.

Driveline vibration can also result from loose or damaged engine mounts.

Propeller shaft vibration increases as the vehicle speed is increased. A vibration that occurs within a specific speed range is not usually caused by a propeller shaft being unbalanced. Defective universal joints, or an incorrect propeller shaft angle, are usually the cause of such a vibration.

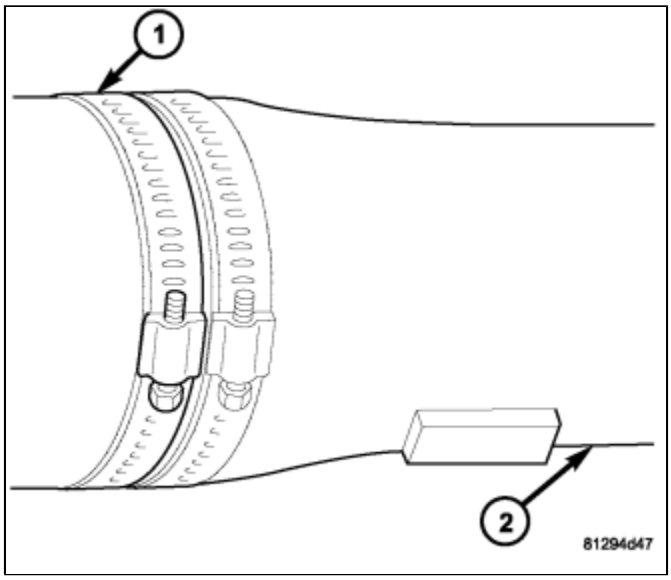
BALANCE

NOTE: Removing and re-indexing the propeller shaft 90° rear axle 45° trans case or front axle relative to the yoke may eliminate some vibrations.

If propeller shaft is suspected of being unbalanced, it can be verified with the following procedure:

1. Raise the vehicle.
2. Clean all the foreign material from the propeller shaft and the universal joints.
3. Inspect the propeller shaft for missing balance weights, broken welds, and bent areas.
4. Inspect the universal joints to ensure that they are not worn, are properly installed, and are correctly aligned with the shaft.
5. Check the universal joint flange screws torque.
6. Remove the wheels and tires. Install the wheel lug nuts to retain the brake drums or rotors.
7. Mark and number the shaft six inches from the yoke end at four positions 90° or 45° apart depending on flange.
8. Run and accelerate the vehicle until vibration occurs. Note the intensity and speed the vibration occurred. Stop the engine.
9. Install a screw clamp (1) at position 1.

10. Start the engine and re-check for vibration. If there is little or no change in vibration, move the clamp to one of the other three positions. Repeat the vibration test.
11. If there is no difference in vibration at the other positions, the source of the vibration may not be propeller shaft.
12. If the vibration decreased, install a second clamp (1) on the shaft (2) and repeat the test.



13. If the additional clamp causes an additional vibration, separate the first clamp (1) and second clamp (2) (1/4 inch above and below the mark). Repeat the vibration test.
14. Increase distance between the clamp screws and repeat the test until the amount of vibration is at the lowest level. Bend the slack end of the clamps so the screws will not loosen.
15. If the vibration remains unacceptable, apply the same steps to the front end of the propeller shaft.
16. Install the wheel and tires. Lower the vehicle.