

## **Shift Professionally**

The truck is a constant. The engine to the drive tires are designed to carry loads from stop to highway speed and back to a stop through specific gearing.

A 10 speed transmission is very common with gearing that will keep the engine in a high torque rpm range. The driver must learn the “rhythm of the shift” both up shifting and down shifting to take command of the power. The gear the driver selects has to match the speed and power requirements of the situation. The fact I am stressing is that the truck is fixed in its configuration. The driver has to learn to operate the truck within its fixed parameters.

When power range is mentioned it is usually referring to the high side gearing from 6th to 10th gear. When speed is referred to for these gears the simple thought should be 15, 25, 35, 45, & 55 mph. Depending on the truck one operates, these speeds may vary 3-5mph. Along with the speed of the truck in each gear the power range referred to earlier is engine revolutions per minute of 1100 to 1500 rpm. Again, variation from this may be 100 - 200 rpm depending on truck.

Your mission, if you accept this career, is to know these fixed parameters and to know the “rhythm of the shift” which includes double clutch.

Accept the challenge and perfect the process for your confidence. The safety of truck operation demands your confidence and the safety of those around your truck demand that you command the power of a large vehicle.

## **Driveshaft/u-joint**

The driveshaft typically consists of two U-joint assemblies linked by a thin steel tube. The joint at one end has a sliding, splined section called a slip-yoke, so the shaft's length can change when the truck goes over bumps. If the shaft is long enough, there is also a center bearing that helps support it. This is typical of the shaft connecting the rear of the transmission to the forward drive axle.

The tube between the U-joints actually proves to be the weak point in the drivetrain under many circumstances, bending severely and saving the U-joints, transmission and axle parts in the process, when severe overstrain occurs. A typical example of conditions that produce overstrain is a very heavy vehicle crawling out of a muddy spot and developing a hop.

Popping the clutch or releasing the clutch rapidly with too much engine rpm are also common causes of driveshaft failure. Still another is spinning on ice and having the tires catch on a dry spot.