

Factors Affecting Clutch Life

There are three major factors affecting clutch life:

1. Truck specifications, including proper gear ratios for the required load and proper clutch size,
2. Driving technique
3. Clutch system maintenance

The **first factor** is determined at the time of vehicle purchase and cannot be easily changed.

The **second factor**, driving technique, can have a major effect. However, it is seldom an issue with professional truck drivers.

Starting in too high a gear, holding the truck on a hill with the clutch and riding the clutch pedal are common factors which can dramatically shorten the life of a clutch.

The third factor, clutch system maintenance, is a common cause of premature clutch failure. When there is adequate free travel, premature clutch failure seldom occurs. When free travel disappears, clutch failure can occur very rapidly.

Maintenance of proper free travel should be the responsibility of both the driver and the mechanic. The mechanic must know how to check and adjust it properly and he/she should do so at each regular maintenance interval. The driver should know how to check free travel at the pedal and should check it at least once each week. If all trucks were properly maintained, they would never run out of free travel and premature clutch failure would be very rare.

Lack of clutch free travel will cause clutch slippage.

ANY CLUTCH SLIPPAGE SHOULD BE STOPPED AS QUICKLY AS POSSIBLE.

One mile of sustained light slippage can cause more wear than 100,000 miles of normal driving without slippage.

Factors Affecting Clutch Life **(Continued ...)**

Insufficient free travel is the most common cause of premature clutch failure. Consequently, maintenance of proper clutch free travel is the first requirement for obtaining the best possible clutch life for a given vehicle. When there is adequate free travel, premature clutch failure seldom occurs. When free travel disappears, clutch failure can occur within a very few miles. With no free travel and conditions of high load and high torque, it is possible for a clutch to fail within a mile.

A clutch is a friction element similar to brakes. A professional truck driver would never ride the brakes down a long mountain grade and, for similar reasons, should never continue driving a truck with a slipping clutch.

If the clutch begins to slip, either back off the throttle or change to a lower gear to stop the clutch from slipping.

If slipping continues for more than a few seconds under high load conditions, it may “fade” in the same way that hot brakes will fade. In this case, pull off the road for about 1 hour to allow the clutch to cool. Clutches heat up faster and take longer to cool than brakes because they are in an enclosed space with minimum air flow. If possible, adjust the clutch while it is cooling.

If the clutch continues to slip after cooling, downshift one or two gears until the slipping stops. Then drive to the nearest service location to have the clutch adjusted properly. It may take longer to get to your destination, but you will get there. Even a couple of hours delay is cheap when compared to the cost of a new clutch, possibly a new flywheel, labor, down time, and possibly a lost load.