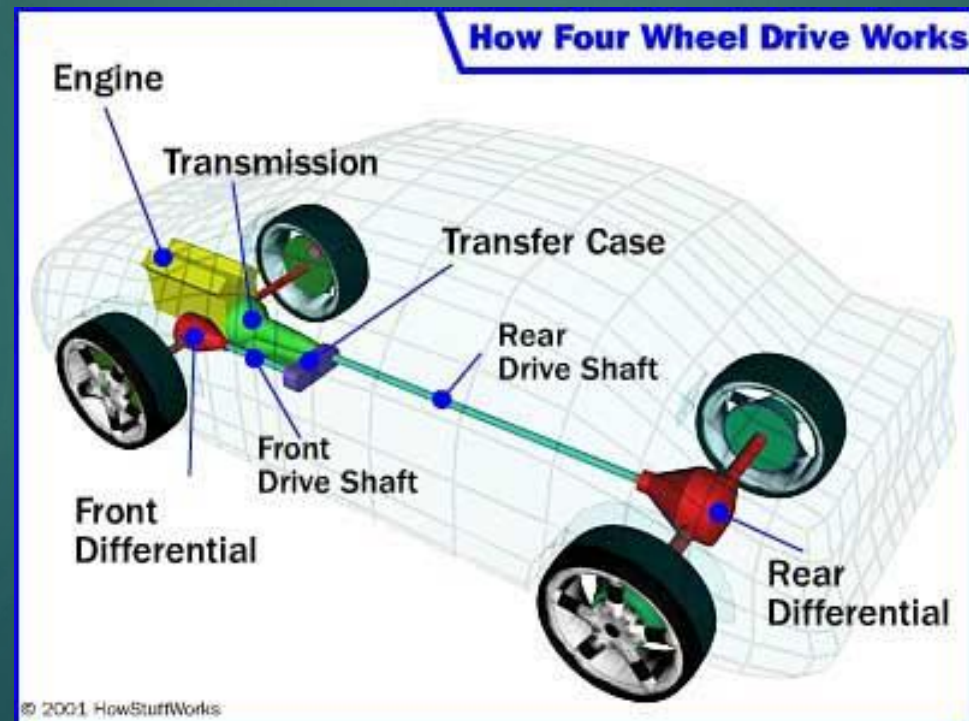




ALL-WHEEL DRIVE

Four-wheel drive, also called 4×4 or 4WD, refers to a two-axled vehicle drivetrain capable of providing torque to all of its wheels simultaneously. It may be full-time or on-demand, and is typically linked via a transfer case providing an additional output drive shaft and, in many instances, additional gear ranges



ADVANTAGES

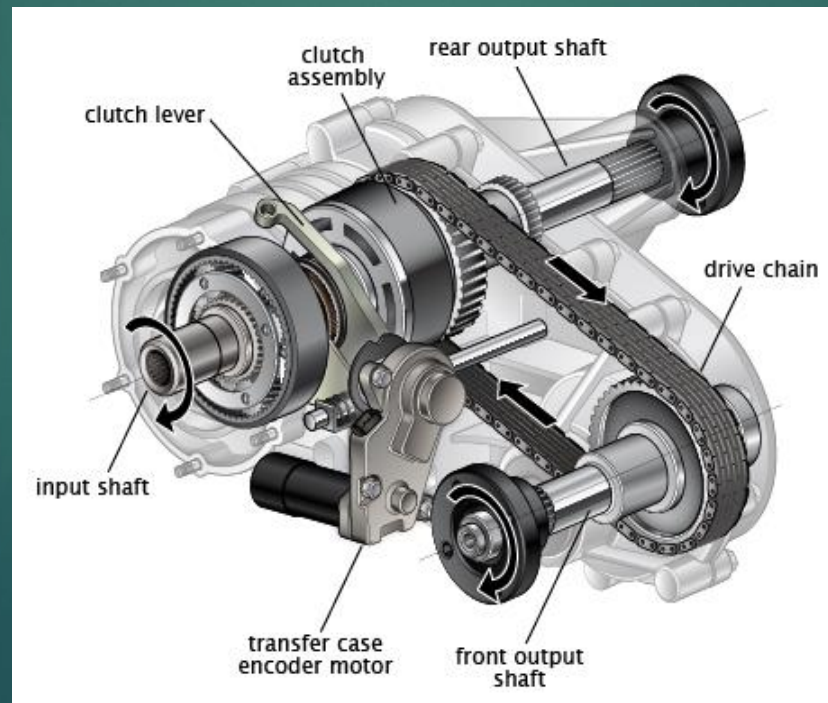
- ▶ Improved traction and handling
- ▶ Able to transmit torque to all four wheels

DISADVANTAGES:

- ▶ Higher initial cost and weight
- ▶ Requires special service and maintenance

TRANSFER CASE

- ▶ A **transfer case** is a part of the drivetrain of four-wheel-drive, all-wheel-drive, and other multiple powered axle vehicles. The transfer case transfers power from the transmission to the front and rear axles by means of drive shafts. It also synchronizes the difference between the rotation of the front and rear wheels, and may contain one or more sets of low range gears for off-road use

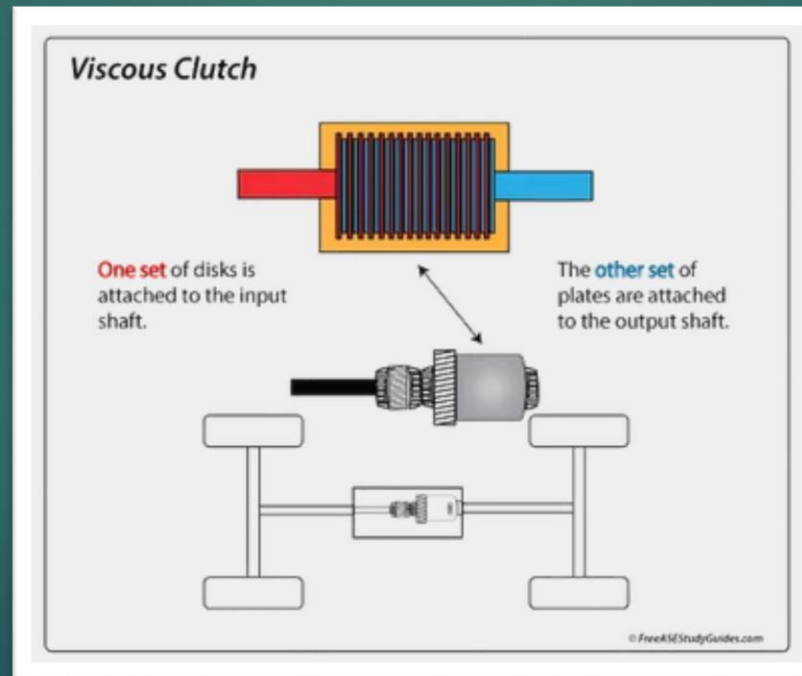


INTER AXLE DIFFERENTIAL

- ▶ The inter-axle differential **provides for necessary differential action between the axles of a tandem drive unit**. This allows the wheels of either axle to revolve faster or slower than the wheels of the other axle in order to compensate for cornering, uneven road surfaces, and slightly different tire sizes.

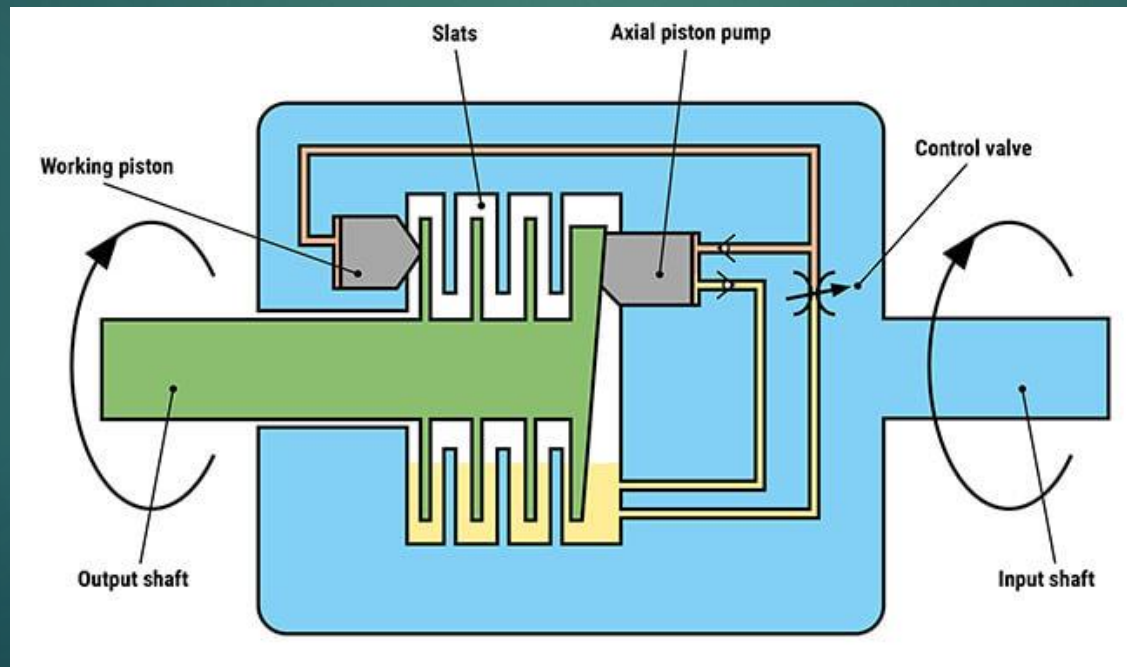
VISCOUS CLUTCH

- Viscous drives **control how fast an engine fan spins with remarkable accuracy**. Oil is released from a reservoir into grooves that allow for increased or decreased friction depending how much cooling is needed



HALDEX CLUTCH

- ▶ As we have already noticed, the Haldex clutch is a component of the drive system with a second axle (front or rear) that can be connected, which makes the machine four-wheel drive. This component ensures smooth connection of the axle when the main drive wheels slip. The amount of torque directly depends on how tightly the clutch is clamped (discs in the structure of the mechanism).





THANK YOU