

Operation of a **Standard** Transmission

A standard (or manual) transmission requires the operator to manually select gears by using a gear shifter and clutch pedal to upshift and downshift accordingly. Proper shifting of gears is important to maintain control of the vehicle while in operation. The basic method for shifting is called double-clutching:

- Engage the clutch and shift to neutral at the same time
- Release the clutch
- Allow the engine and gears to slow down to the correct RPM
- Push in the clutch and shift to a higher gear
- Release the clutch and accelerate at the same time

There are two ways of knowing when to shift: using the vehicle RPM range or using the speedometer. Both methods require practice.

Special conditions that require you to downshift are **before** starting down a hill or **before** entering a curve:

- When approaching a downgrade, downshift to a speed you can control without riding on the brakes which may cause them to overheat and fail
- When approaching a curve, downshift to a gear that allows the use of power through the curve to keep the vehicle more stable; safely speed up as soon as the vehicle is out of the curve



No **Manual Transmission** Restriction (DHSMV)

- Most school buses are equipped with automatic transmissions
- When a new bus operator takes the skills test in a vehicle with an automatic transmission, the operator receives a “No Manual Transmission” restriction on his/her CDL operating license
- This restriction can be removed if further testing is performed in a commercial vehicle with a standard transmission

Fuel Conservation Tips



When filling the fuel tank, allow for expansion. Fuel is often stored underground where it is cold. When the cold fuel hits the warm air, it expands. If a vehicle's fuel tank is filled to the top on a hot day, the expanding fuel runs out the overflow pipe onto the ground and is wasted.

Operators should immediately report any bulging or sagging tires to the garage personnel for service. Low air pressure in tires causes resistance, and it takes more power and fuel to overcome this resistance. For fuel efficiency, tires should always be kept at the proper pressure within the manufacturer's specifications.

A school bus operator should maintain smooth and steady driving and try to maintain a constant speed. It does not take much fuel to maintain speed, but it takes a lot to increase the speed. The most fuel-efficient way to drive is at a steady speed, avoiding changes in acceleration or braking.



NO IDLING

Engine Idling

School bus operators should reduce engine idling as much as possible. It is a myth that diesel engines last longer when they are kept running while parked. Reducing idling to a minimum without endangering students who may require air conditioning for medical reasons improves air quality, reduces fuel usage, and supports students' health.