



# Manual *vs.* Automatic Truck Transmissions

**I**n vocational trucks, automatic transmissions offer numerous benefits and are gaining in market share against manual transmissions. To find out more about how they compare, we talked to Lou Gilbert, manager North American marketing, at Allison Transmission. For a detailed discussion of automatic vs. automated transmissions refer to the June 2004 issue of *Equipment World*.

## FUEL ECONOMY

"Fuel economy," Gilbert says, "starts in the driver's seat and ends at the tires, and everything in between plays a part." With all these variables, he says it's really impossible to say which transmission gets the best mileage. Spec'ing the truck correctly may have as much impact as the choice of transmission.

**Advantage:** Draw

## PRODUCTIVITY

"Every time you shift with a manual you take your foot off the throttle," Gilbert says. "With an automatic you have full power shifts and gain anywhere from four to seven seconds every quarter mile. Spread those small gains out over an eight-hour day and you'll be getting more work done in the same amount of time.

**Advantage:** Automatics

## TRACTION AND WHEEL SPIN

Getting a 60,000-pound load moving from a dead stop without spinning the tires requires the proper horsepower, torque and rear-end gear. An automatic offers a wider spread of gear ratios and a torque converter, and with a torque converter you have an almost infinitely variable gear ratio. "It allows flexibility for maneuverability, traction and gradability in poor terrain," Gilbert says.

**Advantage:** Automatics

## HILLS AND ROLLOVER SAFETY

Stopping a heavily loaded, manual shift truck on a steep grade raises the danger of a rollback. Automatics allow you to keep the truck in place on the hill with just light pressure on the accelerator pedal – putting torque through the torque converter and into the wheels, then move forward uphill with increased accelerator pedal pressure.

**Advantage:** Automatics

## SHOCK LOADING/DRIVETRAIN LIFECYCLE

"The torque converter applies torque smoothly to all the drivetrain components," Gilbert says. "There is never a spike sent down the drive shaft to the rear end and the axles, which would cause the tires to hop." Over time this smooth flow of power results in longer lasting driveline components, he says.

**Advantage:** Automatics

## DRIVER RECRUITING AND RETENTION

Skilled drivers who can finesse a stick shift are rare. With automatics, companies can use drivers with less experience. In addition, by reducing the fatigue caused by constant shifting in stop-and-go driving you increase safety and improve driver retention.

**Advantage:** Automatics

## COST

The reduced complexity of manual transmissions makes them the least costly option. Fully automatic transmissions may run you as much as \$6,000 more than a manual.

**Advantage:** Manuals

## VERDICT:

Prices may still drive a lot of decisions, but consider how small increases in productivity will add up over time and how a better operator environment, safety and reduced driveline wear will affect your bottom line over the life of the truck.

IT'S THE TRANSMISSION THAT MAKES THE TRUCK™

For more information, go to [www.allisontransmission.com](http://www.allisontransmission.com)



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