

Technology Forecast

New Shifts for Automatic Transmissions

Automatic transmissions are “learning” to do more than just shift from one gear to another. Using advanced electronic controls, they will soon also be able to protect themselves from possible damage. They could even continue to run like new—even though they might be years old.

A common situation that automakers may address is the vehicle stuck in snow or mud. The technique most often used to free such a vehicle involves rocking it by shifting quickly between drive and reverse. This technique can damage the transmission. In this situation the computer could disable first gear to lessen the torque load on the transmission.

Drivers’ behavior in backing up also presents a problem. Many drivers don’t fully stop the vehicle before shifting from reverse to drive. Again, the computer could be programmed to delay the shift or apply it gradually to prevent damage.

Still other drivers rev the engine in neutral before dropping the transmission into drive. The getaway may be quick, but the damage may be permanent and expensive. The action of a computer could prevent such damage.

These advanced control systems can be helpful as the parts in the transmission begin to wear. When the computer senses that gear changes take longer, it can take corrective action and overcome the problem. Such computerized control systems may actually extend the service life of an automatic transmission.

Action Activity

Use the Internet and other sources to find out about electronic controls for automatic transmissions. How will this technology affect fuel mileage and vehicle performance? What are the advantages of controlling the shifting action of a transmission? Present your research to the class.