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REAL Torque

August 2025

Understanding AMT vs Automatic Transmissions

One key part of how modern trucks drive, feel, and get power from the engine to the wheels is the transmission. There are different types of transmissions available, but two of the most common are the Automated Manual Transmission (AMT) and the Automatic transmission. While both are designed to shift gears without the driver's input, they are constructed and work in different ways.

What's an Automated Manual Transmission (AMT)?

An Automated Manual Transmission (AMT) eliminates the need for the driver to manually change gears, taking all the hard work out of driving. This type of transmission uses an electronic system to manage clutch and gear shifts. In most cases, there is no clutch pedal, but internally, there is a manual gearbox with a mechanical clutch.

What's an Automatic Transmission?

An automatic transmission is a fully automatic system with no manual components and provides smooth, effortless driving.

This transmission utilises a torque converter – a fluid coupling system that enables smooth gear changes without the need for a clutch and they're a lot more complex mechanically.

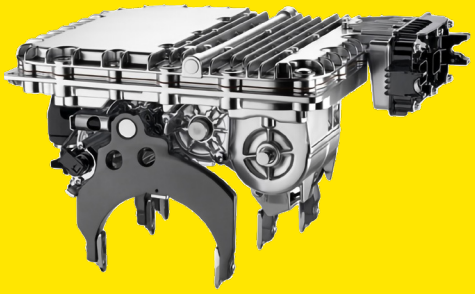
Driving Feel and Experience

It feels like a manual truck, but without the need to change gears. Due to this, there is often less driver fatigue than with traditional manuals, and they can sometimes feel a little jerky during gear changes.

Driving Feel and Experience

Very smooth, especially in stop/start operations and requires minimal driver input.

AMT Transmission Shifter

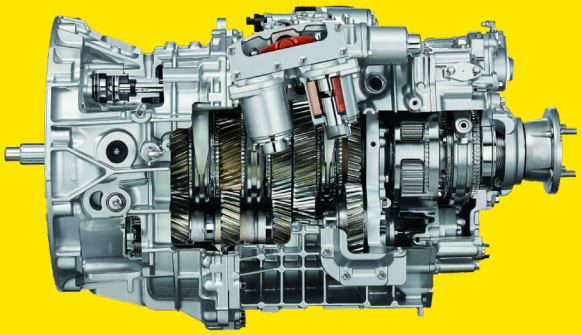


AMT Electronic Gear Shift Unit

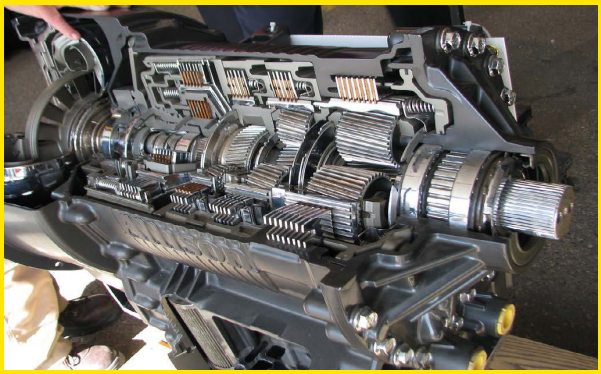
Automatic Transmission Shifter

Why they are used in different situations?

- AMTs are more commonly used in linehaul and regional applications where driving conditions are more consistent and predictable. They're ideal for constant speed driving that requires fewer gear changes.
- On the other hand, fully automatic transmissions are more often used in applications such as rubbish trucks or concrete mixers and are ideal where frequent gear changes, tight manoeuvring, and constant stopping and starting are part of the job. Their smooth operation and ease of use make them ideal for high-demand, repetitive driving tasks.



Cut-out of an AMT Transmission



Cut-out of an Automatic Transmission

Fun Facts

AMT

- Some AMTs are so smart, they can use GPS data and mapping to "see the road ahead" and adjust gear shifts based on upcoming hills for maximum efficiency.

AUTOMATIC

- Automatic transmissions with torque converters can actually multiply engine torque – sometimes up to 2x during acceleration. This gives trucks extra power when pulling away from a stop or climbing steep hills.
- Modern AMT and automatic transmissions have the ability to shift gears faster than the blink of an eye.

TR Tips

- Ensure AMT's are in neutral when shutting down, as leaving them in gear can cause them to become stuck if air pressure is lost, leading to a breakdown and unnecessary downtime.
- Rapidly shifting between drive and reverse can cause extra strain on the gears, and waiting for the system to fully engage gear will help prevent premature wear.
- Clutch and gear calibrations are becoming a standard part of service schedules, taking vehicles to the correct OEM supplier will ensure these are completed.
- When trucks are serviced by the OEM, key transmission filters and lubricators are inspected and maintained as part of regular service, with product knowledge playing a crucial role in this process.

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