DETOUR™ DT12 TRANSMISSION

12 Speeds
FROM 1250-2050 lb-ft Torque Input
TOP GEAR DIRECT or OVER Drive

DETROIT™ DETROIT DEMAND PERFORMANCE™
THE DETROIT™ AUTOMATED MANUAL TRANSMISSION

THE BEST OF

DETROIT IS PROUD TO OFFER THE DT12™ AUTOMATED MANUAL TRANSMISSION. ENGINEERED AND BUILT WITH PRECISION. OPTIMIZED FOR PERFORMANCE AND EFFICIENCY.

WHAT’S AN AUTOMATED MANUAL TRANSMISSION?

An automated manual transmission (AMT) combines a traditional clutch-actuated manual gearbox with a computer-controlled shift actuator and clutch. The best shift patterns are selected electronically to provide optimal power and fuel efficiency. An AMT is a proven technology used around the world. At Detroit, we believe it represents the next generation. With computer-controlled shifting and clutch engagement, only two pedals are needed to operate the truck: brake and accelerator.

WHY CONSIDER AN AMT?

An automated manual transmission is more fuel-efficient, especially when you average fuel consumption over an entire fleet traveling a variety of routes. Automated control of the clutch improves shift quality and leads to longer clutch life. And it’s easier to operate, making it ideal for drivers of all experience levels.

DT12 FUEL ECONOMY IMPROVEMENT

FLEET AVERAGE FUEL ECONOMY

The DT12 will narrow the bell curve of your drivers’ fuel economy. Fleets should see fuel economy improvements for new and lead-footed drivers.

Note: Numbers are for demonstration purposes only. Not based on actual testing.
ULTIMATE EFFICIENCY: IT’S THE RESULT OF KNOWLEDGE AND INGENUITY.

EASE AND ECONOMY GO INTO HIGH GEAR.

At Detroit, we are focused on providing our customers with the most efficient powertrain components possible. The Detroit DT12 provides efficiency in three ways: fuel economy, durability and ease of operation.

We understand how fleets work and how they succeed. Any incremental increase in fuel economy can make a huge impact on profitability. Our engineers have made significant strides to reduce fuel consumption with this new transmission.

A fleet’s bottom line also is affected by the durability and longevity of its vehicles. The operation of our DT12 was designed to limit unnecessary wear and tear. The smoother the action, the more efficient the results.

Driver recruitment, training and performance play crucial roles in fleet efficiency. That’s why we chose to offer an AMT. It’s easy to master, so drivers can reach their optimal performance sooner.

The Detroit DT12 is part of our complete line of powertrain components that also includes our famous engines and our full line of axles. When you spec your truck with the entire package, you can expect an even greater level of efficiency, from operational performance to maintenance and warranty service.

Ultimate efficiency goes beyond managing fuel consumption. It’s the result of knowledge and ingenuity. That’s what makes this transmission different.
THE DETROIT DT12 IS A 12-SPEED, AUTOMATED MANUAL TRANSMISSION WITH SHORTER GEAR STEPS. THE DETROIT DT12 WAS DESIGNED WITH A NUMBER OF INNOVATIVE EFFICIENCY FEATURES TO ACHIEVE OPTIMAL FUEL ECONOMY.

**Optional Direct Drive.** In top gear, the transmission operates as a direct drive, sending engine input directly through the main shaft, eliminating parasitic gear mesh losses of power and increasing fuel efficiency.

**Powertrain Communication.** The transmission communicates in real time with the proprietary powertrain network and motor-control module to optimize efficiency throughout the entire powertrain.

**eCoast.** Helps maximize fuel efficiency by allowing the vehicle to coast down grades. The engine operates at idle speeds while maintaining momentum. Sophisticated transmission electronics ensure safe operation in all driving conditions.

**Total Weight.** The Detroit DT12 provides a weight advantage over traditional designs. The aluminum housing and single countershaft help save weight, allowing for even more payload efficiency.

**Skip Shift.** To increase shifting efficiency, the electronic powertrain controls automatically skip unnecessary gears. This helps increase acceleration to achieve cruising speed quickly and smoothly. This also lets the driver begin the acceleration in the appropriate start gear based on load and grade.

**Active Driveline Protection.** The Transmission Control Module (TCM) calculates the torque wind-up in the driveline and regulates with engine torque control for enhanced driving comfort and less driveline wear. The TCM even limits torque in severe surface conditions, protecting the driveline.

**Oil Pump.** An oil pump, powered by the countershaft, delivers oil directly to the gears. This is more precise and efficient than bathing all of the gears in oil.
VARIABLE-SPEED CRUISE CONTROL

The DT12 incorporates variable-speed cruise control, which allows the engine brake to regulate speed to achieve optimal driving efficiency. With the engine brake set to off, drivers can choose from the three settings on the cruise control limit switch located on the dash:

**LOW** is ideal for steep grades. The engine brake slows the truck at a low threshold, e.g., +3 mph.

**MEDIUM** is ideal for rolling hills. The engine brake slows the truck at a higher threshold, e.g., +6 mph.

**OFF** is ideal for flat terrain or areas with noise restrictions. The engine brake is disabled while in cruise.

Variation level can be changed as a parameter in the TCM. Using these settings helps control downhill speed and takes advantage of uphill momentum. The TCM will determine the right amount of engine braking required, or may be overridden using the engine brake selection on the shift lever.

INTELLIGENT POWERTRAIN MANAGEMENT

Intelligent Powertrain Management knows the route ahead and will accelerate, preselect gears, eCoast and brake the engine to maximize efficiency. Using preloaded terrain maps, IPM will adjust the following to ensure the truck is carrying the most efficient momentum into road conditions ahead.

- DT12 shift strategy
- Engine torque output
- eCoast
- Engine braking level

Since IPM is integrated with cruise control, there are ideal driving situations and terrains where the fuel efficiency benefit is greatest. Also, the more time spent in cruise control, the more effectively IPM will work.

- High top gear and top-1 gear times
- Rolling terrain
- Varying speed limits
- High cruise control times
- Mountainous terrain

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<th>Normal Driving Situation</th>
<th>Driver Decision</th>
<th>Intelligent Powertrain Management</th>
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<td>Approaching a grade</td>
<td>Downshift and accelerate</td>
<td>Hold gear (DT12 can shift while climbing) and minimal acceleration (calculated within CPC)</td>
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<tr>
<td>Creating a hill</td>
<td>Upshift and resume cruise control</td>
<td>eCoast over the summit and engine brake when speed approaches CC-band limit</td>
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<td>Rolling hills</td>
<td>Accelerate uphill and decelerate downhill</td>
<td>Transition from deceleration to acceleration (and vice versa) while still on grade to carry momentum into the next hill</td>
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The DT12 is engineered for enhanced flexibility and drivability.

The term “automated” means a pneumatic clutch and shift actuator actually shift the transmission for you. This allows faster and smoother gear shifts than electronic actuation.

Drivers can choose between shift modes depending on the package spec’d with the DT12:

**ECONOMY PACKAGE** only includes automated economy mode. Shifts happen automatically and keep RPMs to an efficient level.

**STANDARD PACKAGE** includes automated economy and manual shift modes, for when terrain or conditions need manual control.

**PERFORMANCE PACKAGE** includes the standard package plus automated performance mode, with higher RPM shifts to take full advantage of available power and torque. A kickdown accelerator pedal is also included that downshifts or holds a lower gear at full throttle.

An additional performance feature:

**CREEP MODE** modulates the clutch to improve low-speed maneuverability, ideal for backing up to a loading dock or maneuvering through tight city traffic. All the driver has to do is let off the brake pedal.

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*With a dual-plate clutch. Application approval required.

Creep Mode makes backing up to a loading dock safe and easy.

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WARRANTY COVERAGE

Detroit is known for designing and manufacturing products that set industry standards. We are proud of that, and believe that quality is the surest way to maintain long-lasting relationships with our customers. And it lets Detroit offer excellent warranty coverage. Our transmissions come with a five-year/750,000-mile standard warranty. The clutch comes with a three-year/350,000-mile warranty.
VIRTUAL TECHNICIAN™ ONBOARD DIAGNOSTIC SYSTEM
Prevents unsafe driving situations from occurring by alerting the driver to engine or transmission faults that could cause damage.

VIRTUAL TECHNICIAN
Our factory-installed Virtual Technician onboard diagnostic system takes the guesswork out of transmission repair. When a truck’s transmission check light illuminates, information is sent to you and the Detroit Customer Support Center (CSC), where a trained representative can diagnose the issue, recommend service and even contact the nearest authorized locations with parts in stock. The CSC can tell you if you need to pull over, so you don’t cause further damage, or if you can stay on the road. Put simply, it’s like having a technician in every truck.

Virtual Technician’s optional Visibility Package is a fleet management system that offers access to the Ground Traffic Control website. This groundbreaking system captures latitude, longitude, time and odometer readings for your trucks. With pinpoint accuracy, the system records vehicle stops, speeds, routes traveled, mileage by state, excessive idling, fuel consumption and other onboard events. The Visibility Package helps you manage your business more efficiently.

KEEP DRIVERS SAFE AND FLEETS MOVING.

The DT12 includes a variety of innovative safety features that help protect the driver and entire vehicle, as well as enhance the driving experience. Because the transmission is automated, new drivers experience a shorter learning curve. Various driver interfaces have been designed to reduce driver fatigue, including a true two-pedal system along with convenience features like the shift lever and cruise control. Other advanced features include:

HILL START AID
When stopped on grades of 6% or more, the vehicle is prevented from rolling backward on uphill grades or forward on a downhill grade.

AUTO NEUTRAL
When the parking brake is engaged or the vehicle is shut down, the transmission electronically commands neutral gear. The shifter must be moved to N (neutral) before the truck is started again.

VIRTUAL TECHNICIAN™ ONBOARD DIAGNOSTIC SYSTEM
Prevents unsafe driving situations from occurring by alerting the driver to engine or transmission faults that could cause damage.

If the vehicle is stopped on an incline, the Hill Start Aid prevents rollback.

The shift lever includes gear, auto/manual mode and engine brake selection for excellent ergonomics.
Here at Detroit, we’ve built our reputation by building high-quality products that perform beyond expectations. Today, you’ll find our engines in Freightliner and Western Star trucks on roads and at job sites around the globe.

The secret to our success goes beyond the engines we build. Our people and our continuous pursuit of innovation are powerful driving forces. Our engineering and manufacturing expertise are world-class. Our service network is expansive and responsive. That’s why we continue to grow and evolve. It’s also why we now offer a full line of products: engines, axles, transmissions and advanced technologies. That’s right. The company that makes the heart of the truck now gives you the arms, legs and backbone to go with it. So, if you demand it all, demand Detroit.

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