



# MACK

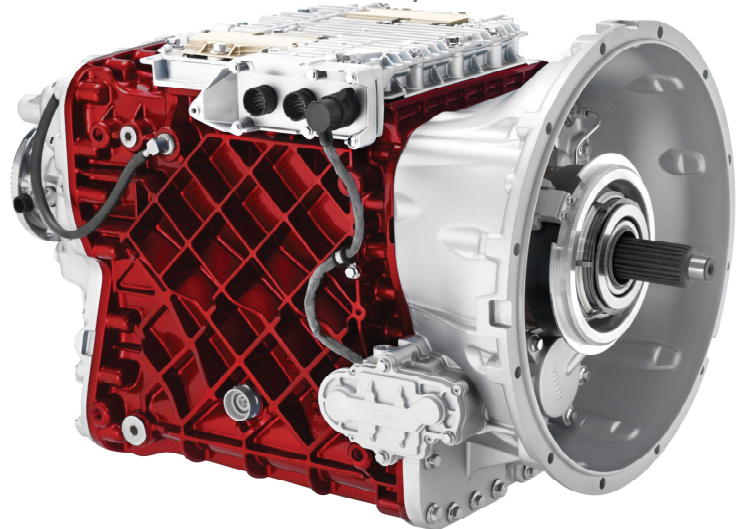
## 12 SPEED TRANSMISSIONS

The all-new Mack *mDRIVE* transmission was built exclusively for Pinnacle tractors. This 12-speed, two-pedal transmission maximizes driver comfort, payload and fuel economy. The *mDRIVE* includes an impressive base torque input capacity of 1,920 lb.-ft. and is offered with Direct Drive or Overdrive.

The *mDRIVE* is designed to integrate seamlessly with the Mack MP7 and MP8 engines in the Econodyne® and MaxiCruise® families. There's no clutch pedal, and the gearshift is operated by intelligent electronics. Any Pinnacle packaged with an *mDRIVE* automated manual transmission not only delivers smooth shifts every time, but it opens you up to a larger pool of drivers.

Featuring advanced technology, *mDRIVE* continuously monitors changes in grade, vehicle speed, acceleration, torque demand and weight. With the engine and transmission in constant communication, there's no compromising. *mDRIVE* automatically selects the best gear for the engine. This puts less stress on the driveline, for longer life and less wear. The *mDRIVE* is based on proven technology that requires minimal service and significantly reduced maintenance. The *mDRIVE* transmission features Mack's 2-speed reverse functionality that better controls speed and engine RPMs. The *mDRIVE* is also available with several single and dual drive rear mounted PTO and PTO pump arrangements.

**mDRIVE**  
**TmD12AD**  
w/DIRECT DRIVE



- **Dual Rear Transmission PTO Mounting Options**
- **Torque Rating of 1920 Lb. Ft.**
- **Automated Manual Transmission**
- **Exclusively for Pinnacle Tractors**
- **Two Speed Reverse Functionality**

## **mDRIVE COST-SAVING ADVANTAGES**

*Available in Fleet and Premium packages, the mDRIVE can be customized with the following:*

**Auto Neutral:** The transmission shifts to neutral if the engine is turned off while still in gear, or when the parking brake is applied. This is designed to prevent engine stalling and reduce the load on the drivetrain.

**Grade Gripper:** The brake system maintains pressure in the brake chambers for a maximum of 3 seconds after the service brake pedal is released. If the throttle pedal is depressed prior to 3 seconds the Grade Gripper feature will deactivate. A dash switch can be used to disable Grade Gripper, whenever needed.

**Gear Selection Adjustment:** Starting gear when stationary and driving gear while moving can be manually selected within limits by using the + (plus) /- (minus) buttons on the premium shift pad only.

**Low Speed Modulation Control:** Provides smooth low speed control without the need to continually brake and accelerate.

**PowerLeash™ Plus:** PowerLeash™ Plus features the traditional Mack LATCH mode, whereby the engine brake activates fully whenever the throttle is released. Additionally, a new AUTO mode allows the driver to set a target downhill speed. PowerLeash™ Plus will then automatically and progressively activate to maintain that target MPH.

**EasyShift:** Provides smooth, precise and less aggressive shifting. It is recommended for cattle haul, liquid bulk haul, and similar applications where load shifting must be minimized.

**Cruise 'n Brake:** The Mack Cruise 'n Brake function limits engine brake operation while in cruise control until a target speed has been reached.

**MackCellerator:** Allows the driver to raise the engine RPM while automatically shifting to a lower gear, affording higher RPM and increased HP to assist with a safe and quick pass all without taking the driver's hands off the steering wheel or eyes off the road.

### Shift Pattern and Shifter



Fleet Shifter

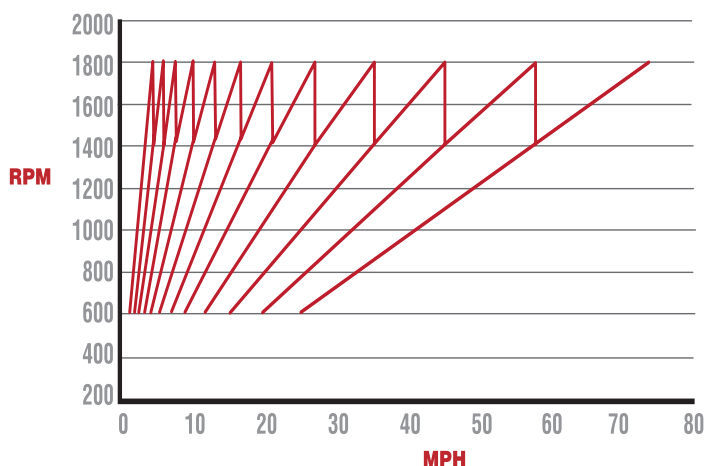


Premium Shifter

### Shifter Features

FEATURES	FLEET SHIFTER	PREMIUM SHIFTER
Auto Neutral	Standard	Standard
Grade Gripper	Optional	Standard
Gear Selection Adjustment	Not Available	Standard
PowerLeash Engine Brake	Standard	Standard
EasyShift	Optional	Standard
Cruise 'n Brake	Standard	Standard
Low Speed Modulation Control	Standard	Standard
MackCellerator	Optional	Standard

### Transmission Shift Chart



### Specifications

TYPE	12 SPEED AUTOMATIC MANUAL TRANSMISSION
LENGTH	35.1" [891 mm]
WEIGHT (DRY)	597 LB [271 kg]
OIL CAPACITY	16.9 QUARTS [16 L]
TORQUE RATING	1920 LB. FT. [2 600 N•m]
NUMBER OF SPEEDS	
FORWARD	TWELVE
REVERSE	TWO
CASE, BELL HOUSING	
MATERIAL	ONE-PIECE HEAT-TREATED ALUMINUM
BELL HOUSING TYPE	SAE#1
TYPE OF GEARS	HELICAL
CONTROL	D PANEL DASH MOUNTED SHIFTER
SHIFTER INDICATORS	R-REVERSE / N-NEUTRAL / D-DRIVE / M-MANUAL
LUBRICATION	SPLASH & PRESSURE

For information concerning Power Take-Offs consult Power Take-Off sheets

### Gear Ratios

FORWARD GEAR	RATIO	% STEP
1st	14.94	
2nd	11.73	27
3rd	9.04	30
4th	7.09	28
5th	5.54	28
6th	4.35	27
7th	3.44	26
8th	2.70	27
9th	2.08	30
10th	1.63	28
11th	1.27	28
12th	1.00*	27
REVERSE GEAR	RATIO	
1st	17.48	-
2nd	13.73	-

\* When choosing a rear axle ratio with your mDRIVE direct drive transmission, be sure to choose one that puts your sweet spot at around 1400 rpm in 12th gear.

