

# Allison Transmissions



**Automatic Models**  
**MT 643**  
**up to 250 nhp**  
**(186 kW)**

## SPECIFICATIONS

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### General rating+

Net input power (max).....	250 hp (186 kW)
Input speed range.....	2000 - 4000 rpm
Net input torque (max).....	640 lb ft (868 N•m)
Vehicle weight (GVW or GCW).....	Up to 73,280 lbs (33,239 kg)

### Mounting

Direct..... SAE 2 flywheel housing with flex plate drive

### Torque converter

Type.....	Single-stage, 3-element, multiphase
Stall torque ratio.....	TC 350-3.04; TC 360-2.86; TC 370-2.40; TC 378-2.27; TC 380-1.82
Lockup Clutch.....	Effective in 3rd & 4th

### Gearing

Type.....Constant mesh, spur type planetary

Range	Ratios*:
First.....	3.58:1
Second.....	2.09:1
Third.....	1.39:1
Fourth.....	1.00:1
Reverse.....	5.67:1

\* Gear ratio does not include torque converter ratio.

## Power takeoff provision

Converter driven (SAE 6-bolt)

Location.....Right side (viewed from rear)

Drive gear ratio.....All ranges--1.00 x turbine speed

Drive gear rating.....300 lb ft (407 N·m)

## Oil system

Oil type.....Dexron• III, C 4

Capacity (excluding external circuit).....18 U.S. qts (17 liters)  
(w/std. oil pan)

Filter.....Full flow, replaceable element, remote mounted

Cooler.....Remote mounted

*(Filter and Cooler not furnished on transmission assembly but is supplied by vehicle manufacturer.)*

## Size

Length.....30.4 in (773 mm)

Width.....19.3 in (489 mm)

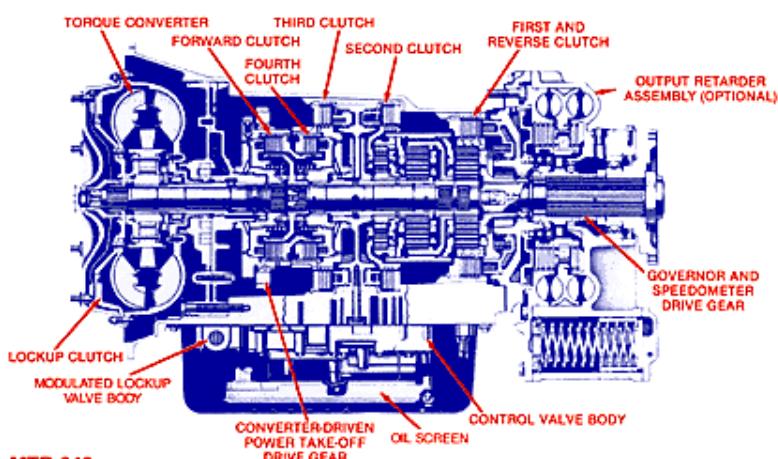
Height (with 5.1" pan).....22.4 in (568 mm)

Weight (dry).....510 lbs (231 kg)

Weight (dry) w/output retarder.....638 lbs (289 kg)

+NOTE: Vocational ratings may vary by vocation.

## Transmission Cross-section [\(go to top\)](#)



## Design Features & Benefits [\(go to top\)](#)

- Designed for use with large bore gasoline and mid-range diesel engines up to 250 nhp (186 kW). Four forward ranges and one reverse. This transmission model is best suited for school bus, P&D, emergency vehicles and motorhomes.
- Clutches are multidisc design, oil-cooled, hydraulically-operated, and self-compensating for normal wear. Spur-type planetary gears are designed for strength, quietness, and long life.
- Automatic lockup clutch, throttle-modulated for maximized fuel economy and enhanced engine braking. Automatic upshifting and downshifting within each drive range. Built-in inhibitors prevent downshifts or shifts into reverse unless vehicle speed is within an acceptable range.
- The Allison three-element torque converter provides smooth, shock-free operation. A choice of converters permits matching the MT 643 to a wide variety of engines.
- Converter-driven power take-off drive on right side of transmission (as viewed from rear) is standard. Design is SAE 6-bolt.
- Provisions for neutral start switch, reverse signal switch, SAE regular -duty thread-type speedometer drive, and parking brake.
- 5.1 inch oil pan is standard. Optional 4.3 and 7.1 inch pans are available when ground clearance or heavy duty operation dictates their use.

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## Typical Applications [\(go to top\)](#)

- Shorthaul Tractor
- P&D Truck
- Fire Truck
- Utility Truck
- Stake Truck
- Dump Truck
- Flat Bed Truck
- Motorhome
- Beverage Truck
- School Bus
- Refrigerated Van
- Refuse Truck
- Tanker Truck
- Wrecker
- Other applications are available.

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