



Overview

Allison Transmission is introducing the new AXE Series, a line of fully-integrated electric axles designed to fit Between The Wheels™ of heavy-duty trucks and buses, replacing the vehicle's traditional powertrain system. Unlike many other electric powertrain systems today, the AXE Series is a bolt-in solution compatible with the current vehicle frame, suspension, wheel-ends and OEM vehicle assembly process. The AXE Series features fully-integrated electric motors, a multi-speed gearbox, oil cooler and pump, providing the highest performance and efficiency in the industry. Our system is compatible with full battery electric vehicles (BEV), fuel cell range extender electric vehicles (FCEV), internal combustion engine (ICE) or turbine generator range extenders (REV).

Features + Benefits

Fully integrated system

The fully integrated design allows more space for battery packs and other critical electric vehicle components

Superior performance*

Our powertrain system provides more power and torque than any other e-powertrain system and has up to a 1,000,000 mile service life

Easier installation

No modifications to the existing truck frame or suspension are required to install or retrofit the AXE Series electric powertrain

Internal gearbox

No wheel-end reduction provides increased efficiency, reduced weight, reduced cost and allows the use of standard wheel ends and brakes

Proprietary cooling

Proprietary oil cooling allows for industry-best continuous motor power and for users to run closer to peak power for longer durations

Regenerative braking

System designed to handle 100% of motor torque in regenerative braking

Increased efficiency

Elimination of bevel gearing, minimal gear meshes and forced lubrication for increased efficiency and extended ranges

NOTE: Service life of axle varies by application type

Technical Specifications

 4x2/6x2	AXE090S	AXE100D	AXE130D
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GAWR	20,000 lb (9,072 kg)	23,000 lb (10,433 kg)	28,660 lb (13,000 kg)
Max. torque to wheels	18,439 lb-ft (25,000 Nm)	29,502 lb-ft (40,000 Nm)	29,502 lb-ft (40,000 Nm)
Motor continuous power	268 hp (200 kW)	536 hp (400 kW)	536 hp (400 kW)
Motor peak power	369 hp (275 kW)	738 hp (550 kW)	738 hp (550 kW)

 6x4 Tandem			
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GAWR	40,000 lb (18,144 kg)	46,000 lb (20,866 kg)	57,320 lb (26,000 kg)
Max. torque to wheels	36,878 lb-ft (50,000 Nm)	59,005 lb-ft (80,000 Nm)	59,005 lb-ft (80,000 Nm)
Motor continuous power	536 hp (400 kW)	1,073 hp (800 kW)	1,073 hp (800 kW)
Motor peak power	738 hp (550 kW)	1,475 hp (1,100 kW)	1,475 hp (1,100 kW)

Voltage*	550 V - 750 V		
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Brakes	Air disc brakes or drum brakes optional		
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Suspensions & tire sizes	Compatible for most on-highway variations		
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Chassis configurations	Standard frame rails		
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Applications	<ul style="list-style-type: none"> • Class 6 & 7 trucks • School buses • Class 8 6x4 (80k lb paved rating, 120k lb turnpike rating) • Linehaul or regional haul 	<ul style="list-style-type: none"> • Class 7 & 8 4x2, 6x4 or 6x2 linehaul or regional haul (80k lb paved rating, 120k lb turnpike rating) 	<ul style="list-style-type: none"> • Class 8 6x4 refuse trucks • European truck 4x2 • 12-meter and 18-meter non-low floor transit buses
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NOTE: All applications are subject to Allison Engineering approval. Features subject to change.
 *Performance numbers at 650 V. Higher voltage power of 750 V available upon request.