

3500 Series

International Series 3500

RATINGS

		Gross Input Torque ⁽²⁾ N•m	Gross Input Power ⁽²⁾ kW (hp)	Gross Input Torque ⁽²⁾⁽³⁾ N•m	Gross Input Power ⁽²⁾⁽³⁾ kW (hp)	GVW kg	GCW kg
3500	General	1166	246 (330)	n/a	n/a	n/a	n/a
	Refuse, Concrete Mixer	1166	246 (330)	n/a	n/a	27,216	n/a
	Fire Truck, Emergency	1335	246 (330)	n/a	n/a	n/a	n/a
	Dock Spotter, Tow Tractor	1166	246 (330)	n/a	n/a	n/a	36,288
	Ag Spreader, Sprayer, Blower, Feedlot Truck	1288	246 (330)	n/a	n/a	n/a	n/a
3500 ORS	Articulated Dump	1100	246 (330)	n/a	n/a	44,500	n/a
	Rigid Dump	1100	246 (330)	n/a	n/a	44,500	n/a
3500 SP	Specialty / Military	1335	246 (330)	n/a	n/a	n/a	n/a

(1). Models including vocational designations (ie: ORS, OFS, SP, MH) are for global markets. All other models within this document are targeted for outside North American markets only.
 (2). Gross Power rating as defined by ISO 1585 or SAE J1995. (3). Shift Energy Management (SEM) engine controls and torque limiting are required to obtain this rating.

DRIVETRAIN INTERFACES

Acceptable full-load engine governed speed	2000 – 2800 rpm
Acceptable engine idle speed range (with transmission in Drive)	500 – 800 rpm
Maximum output shaft speed at 105 km/hr (65 mi/hr) – retarder-equipped models only	3600 rpm

MOUNTING

To Engine	SAE No.2
In Chassis	Rear support available (required for some installations)

TORQUE CONVERTER

Type	One stage, three element, polyphase. Includes standard integral damper which is operational in lockup.	
Model	Stall Torque Ratio	
TC-411	2.71	
TC-413	2.44	
TC-415	2.35	
TC-417	2.20	
TC-418	1.98	
TC-419	2.02	
TC-421	1.77	

MECHANICAL RATIOS (Gear ratios do not include torque converter multiplication)

Range		
First	4.59 : 1	
Second	2.25 : 1	
Third	1.54 : 1	
Fourth	1.00 : 1	
Fifth	0.75 : 1	
Sixth	0.65 : 1	
Reverse	-5.00 : 1	

CONTROL SYSTEM

Description	Allison 5th Generation Electronic Controls with closed loop adaptive shifts
Shift Sequences	[C = Converter mode (lockup clutch disengaged); L = Lockup mode (lockup clutch engaged)] Option 1: 1C-[1L]-2C-2L-3L-4L Option 2: 1C-[1L]-2C-2L-3L-4L-5L Option 3: 1C-[1L]-2C-2L-3L-4L-5L-6L
TCM must be calibrated for "1L" option. Second-gear-start calibrations are not available for all vehicle applications.	
Driver-to-Transmission Interface	Cab-mounted shift selector, pushbutton or lever with two-digit display (range selected and range attained)
Communication Protocol - Engine/Vehicle Systems Interface	SAE J1939, IESCAN, PT-CAN

PHYSICAL DESCRIPTION

	Length*	Dry Weight	Depth below transmission centerline	
			With Shallow Oil Sump	With Deep Oil Sump
Basic Model	740 mm	243 kg	283 mm	328 mm
With PTO Drive Provision	846 mm	261 kg	283 mm	328 mm
With Retarder	740 mm	289 kg	283 mm	328 mm
With PTO Drive Provision and Retarder	846 mm	297 kg	283 mm	328 mm

*Approximate length from engine housing to output flange (depending on output flange type)

ENGINE-DRIVEN POWER TAKE-OFF PROVISION

Mounting pad positions viewed from rear	Drive gear rating with one PTO N•m	Drive gear rating with two PTOs N•m	PTO Drive Gear	Drive
4 o'clock and 8 o'clock (Standard)	660	930	68 tooth	Engine
1 o'clock and 8 o'clock (Optional)	660	930	83 tooth	Engine
Fire and Emergency	910	930 ⁽¹⁾		

(1). Intermittent rating to 1068 N•m

OUTPUT RETARDER PROVISION (OPTION)

Type	Capacity		
	Torque	Power	
Low	1490 N•m	298 kW (400 hp)	
Medium	1763 N•m	373 kW (500 hp)	
High	2170 N•m	447 kW (600 hp)	

Integral, hydraulic

OIL SYSTEM

Allison approved fluids: TES 295 and TES 389

Capacity including PTO, excluding external circuits	
With Deep Oil Sump	28 litres
With Shallow Oil Sump	25 litres

Main circuit oil filter	Replaceable element, integral
Cooler circuit oil filter	Replaceable element, integral
Electronic oil level sensor (OLS)	Standard

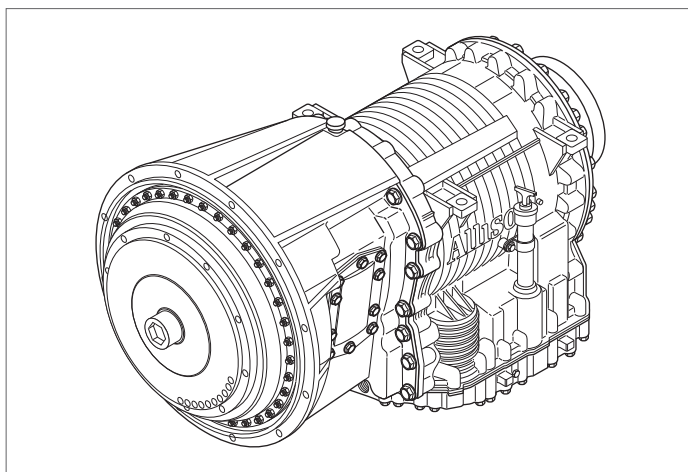
SPEEDOMETER PROVISION

Description	Non-zero-crossing square wave
	8, 16 or 40 pulses per revolution of transmission output shaft
Location	Electronic output from TCM

TACHOGRAPH PROVISION

Tone wheel	4 or 6-tooth
Mounting	M18 x 1.5 metric thread
Location	Transmission rear cover or retarder housing

3500 Series
With PTO and Shallow Oil Sump



3500 Series
With Retarder, PTO and Deep Oil Sump

