

4430 / 4440 / 4500 / 4600 Series

RATINGS

Model ⁽¹⁾	Input Torque Gross N•m (lb-ft)	Input Power Gross ⁽²⁾ Kw (hp)	Turbine Torque Net ⁽³⁾ N•m (lb-ft)	GCW/GVW kg (lbs)
4430 General	1560 (1150)	283 (380)	3322 (2450)	n/a
Highway, Fire Truck, Emergency, Airport Rescue and Fire-Fighting Vehicle, Heavy Equipment Transport	1560 (1150)	283 (380)	3525 (2600)	n/a
Refuse Vehicles	1560 (1150)	283 (380)	3322 (2450)	n/a
Ag Spreader, Sprayer, Blower, Feedlot Truck	1560 (1150)	283 (380)	3525 (2600)	n/a
4430 ORS Articulated Dump, Rigid Rear Dump	1600 (1180)	283 (380)	3322 (2450)	58,000 (127,868)
Off-Road	CONTACT YOUR ALLISON REPRESENTATIVE FOR DETAILS			
4440 General	1776 (1310)	317 (425)	3322 (2450)	n/a
Highway, Fire Truck, Emergency, Airport Rescue and Fire-Fighting Vehicle, Heavy Equipment Transport	1776 (1310)	317 (425)	3525 (2600)	n/a
Refuse Vehicles	1776 (1310)	317 (425)	3322 (2450)	n/a
Ag Spreader, Sprayer, Blower, Feedlot Truck	1776 (1310)	317 (425)	3525 (2600)	n/a
4500 General	^{1st gear} 2237 (1650) ^{Gears 2 - 6} 2400 (1770)	410 (550)	3322 (2450)	n/a
Highway	2237 (1650) 2400 (1770)	410 (550)	3525 (2600)	n/a
Fire Truck, Emergency, Airport Rescue and Fire-Fighting Vehicle	2400 (1770) 2508 (1850)	447 (600)	3525 (2600)	n/a
Heavy Equipment Transport	2237 (1650) 2508 (1850)	447 (600)	3525 (2600)	n/a
Refuse Vehicles	2102 (1550)	373 (500)	3322 (2450)	n/a
Ag Spreader, Sprayer, Blower, Feedlot Truck	2237 (1650) 2400 (1770)	410 (550)	3525 (2600)	n/a
4500 ORS Articulated Dump	^{Gears 1 - 2} 2102 (1550) ^{Gears 3 - 6} 2203 (1625)	358 (480)	3322 (2450)	68,500 (151,017)
Rigid Rear Dump	2102 (1550)	358 (480)	3322 (2450)	57,000 (125,663)
Off-Road	CONTACT YOUR ALLISON REPRESENTATIVE FOR DETAILS			
4500 OFS Oil Field Series	2237 (1650)	410 (550)	3525 (2600)	n/a
4500 SP Specialty / Military	^{1st gear} 2400 (1770) ^{Gears 2 - 6} 2508 (1850)	447 (600)	3525 (2600)	n/a
4600 ORS Articulated Dump	^{Gears 1 - 2} 2102 (1550) ^{Gears 3 - 6} 2305 (1700)	358 (480)	3322 (2450)	81,000 (178,574)

(1). Models including vocational designations (ie: ORS, OFS, SP, MH) are for global markets. All other models within this document are targeted for non North American markets only.
 (2). Gross Power rating as defined by ISO 1585 or SAE J1995. (3). Turbine Torque limit based on iSCAAN standard deductions.

DRIVETRAIN INTERFACES

Acceptable full-load engine governed speed	1700 – 2300 rpm
Acceptable engine idle speed range (with transmission in Drive)	500 – 800 rpm

MOUNTING

To Engine	SAE No.1
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-521	2.42
TC-531	2.34
TC-541	1.90
TC-551	1.79
TC-561	1.58

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

Range	First	4.70 : 1
	Second	2.21 : 1
	Third	1.53 : 1
	Fourth	1.00 : 1
	Fifth	0.76 : 1
	Sixth	0.67 : 1
	Reverse	-5.55 : 1

CONTROL SYSTEM

Description	Allison 4th 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, SAE J1587, ISO 9141, IESCAN

PHYSICAL DESCRIPTION

	Length*	Dry weight	Depth below transmission centerline
Basic Model	793 mm (31.2 in)	377 kg (831 lbs)	335 mm (13.2 in)
With PTO Drive Provision	866 mm (34 in)	405 kg (893 lbs)	335 mm (13.2 in)
With Retarder	793 mm (31.2 in)	411 kg (906 lbs)	335 mm (13.2 in)
With PTO Drive Provision and Retarder	866 mm (34 in)	439 kg (968 lbs)	335 mm (13.2 in)

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

ENGINE-DRIVEN POWER TAKE-OFF PROVISION

PTO drive	Engine-driven helical gear		
PTO mounting pads	Ten-bolt, 1 o'clock and 8 o'clock positions (as viewed from rear)		
PTO drive gear ratio	1 o'clock position	1.00 x engine speed	
	8 o'clock position	1.00 x engine speed	
PTO drive gear rating (continuous operation)	Using one PTO:	928 N•m (685 lb-ft)	
	Total using two PTO's:	1593 N•m (1175 lb-ft)	
PTO Drive Gear	97 tooth		

OUTPUT RETARDER PROVISION (OPTION)

Type	Integral, hydraulic		
	Capacity		
	Torque	Power	
Level 3	2710 N•m (2000 lb-ft)	447 kW (600 hp)	
Level 2	2170 N•m (1600 lb-ft)	447 kW (600 hp)	
Level 1	1760 N•m (1300 lb-ft)	373 kW (500 hp)	

OIL SYSTEM

Allison approved fluids: TES 295, TES 389 and DEXRON®-VI	
Capacity, excluding external circuits	
w/PTO with Shallow Oil Sump	41 litres (43 quarts)
w/o PTO with Shallow Oil Sump	38 litres (40 quarts)
Main circuit oil filter	Replaceable element, integral
Cooler circuit oil filter	Replaceable element, integral
Electronic oil level sensor (OLS)	Standard

SPEEDOMETER PROVISION

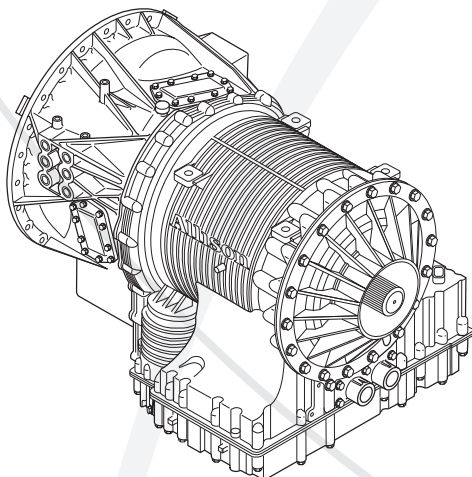
Description	Non-zero-crossing square wave
	8, 16 or 40 pulses per revolution of transmission output shaft
Location	Electronic output from TCM

TACHOGRAPH PROVISION

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

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With PTO and Shallow Oil Sump



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With PTO and Retarder

