

4430/4440/4500/4600 Series

International Series 4430/4440/4500/4600

RATINGS

Model ⁽¹⁾		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
4430	General	1560	283 (380)	n/a	n/a	n/a	n/a
	Highway, Fire Truck, Emergency, ARFF, Heavy Equipment Transport	1560	283 (380)	n/a	n/a	n/a	n/a
	Refuse Vehicles	1560	283 (380)	n/a	n/a	n/a	n/a
	Ag Spreader, Sprayer, Blower, Feedlot Truck	1560	283 (380)	n/a	n/a	n/a	n/a
4430 OFS	Oil Field Service	1650	317 (425)	n/a	n/a	68,500	n/a
4430 ORS	Articulated Dump	1675	283 (380)	n/a	n/a	68,500	n/a
	Rigid Dump	1675	283 (380)	n/a	n/a	n/a	n/a
4430 SP	Specialty	1600	283 (380)	n/a	n/a	n/a	n/a
4440	General	1776	317 (425)	n/a	n/a	n/a	n/a
	Highway, Fire Truck, Emergency, ARFF, Heavy Equipment Transporter	1776	317 (425)	n/a	n/a	n/a	n/a
	Refuse Vehicles	1776	317 (425)	n/a	n/a	n/a	n/a
	Ag Spreader, Sprayer, Blower, Feedlot Truck	1776	317 (425)	n/a	n/a	n/a	n/a
4500	General	2237	421 (565)	2508 ⁽⁴⁾	421 (565)	n/a	n/a
	Highway	2237	421 (565)	2508 ⁽⁴⁾	421 (565)	n/a	n/a
	Fire Truck, Emergency, ARFF	2400	447 (600)	2508 ⁽⁴⁾	447 (600)	n/a	n/a
	Heavy Equipment Transport	2237	447 (600)	2508 ⁽⁴⁾	447 (600)	n/a	n/a
	Refuse Vehicles	2102	373(500)	n/a	n/a	n/a	n/a
	Ag Spreader, Sprayer, Blower, Feedlot Truck	2237	421 (565)	2400 ⁽⁴⁾	421 (565)	n/a	n/a
4500 OFS	Oil Field Series	2237	421 (565)	n/a	n/a	n/a	n/a
4500 ORS	Articulated Dump	2102	358 (480)	2203 ⁽⁴⁾	358 (480)	68,500	n/a
	Rigid Dump	2102	358 (480)	2203 ⁽⁴⁾	358 (480)	68,500	n/a
4500 SP	Specialty / Military	2400	447 (600)	2508 ⁽⁵⁾	447 (600)	n/a	n/a
4600 ORS	Articulated Dump	2102	358 (480)	2305 ⁽⁴⁾	358 (480)	81,000	n/a
	Rigid Dump	2102	358 (480)	2305 ⁽⁴⁾	358 (480)	81,000	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. (4) Only available in gears three through six. (5) Only available in gears two through six.

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 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
Basic Model	793 mm	377 kg	375 mm
With PTO Drive Provision	866 mm	405 kg	375 mm
With Retarder	793 mm	411 kg	375 mm
With PTO Drive Provision and Retarder	866 mm	439 kg	375 mm

*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:	930 N•m
	Total using two PTO's:	1595 N•m
PTO Drive Gear	97 tooth	

OUTPUT RETARDER PROVISION (OPTION)

Type	Integral, hydraulic	
	Capacity	
	Torque	Power
Low	1763 N•m	373 kW (500 hp)
Medium	2170 N•m	447 kW (600 hp)
High	2710 N•m	447 kW (600 hp)

OIL SYSTEM

Allison approved fluids: TES 295 and TES 389	
Capacity excluding external circuits	
w/PTO with Shallow Oil Sump	45 litres
w/o PTO with Shallow Oil Sump	38 litres
Main circuit oil filter	Replaceable element, integral
Cooler circuit oil filter	Replaceable element, integral
Electronic oil level sensor (OLS)	Standard

SPEEDOMETER PROVISION

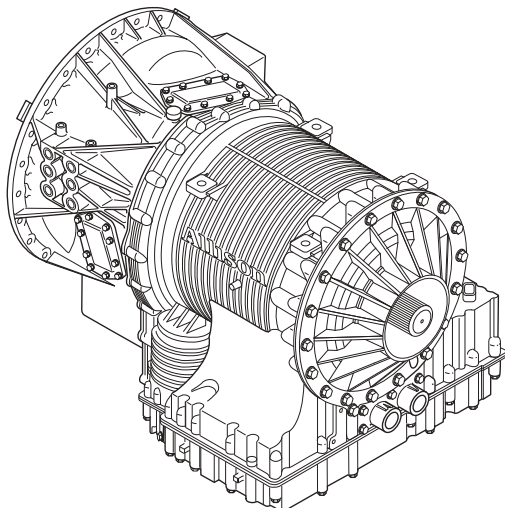
Description	Non-zero-crossing square wave
Location	8, 16 or 40 pulses per revolution of transmission output shaft Electronic output from TCM

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

