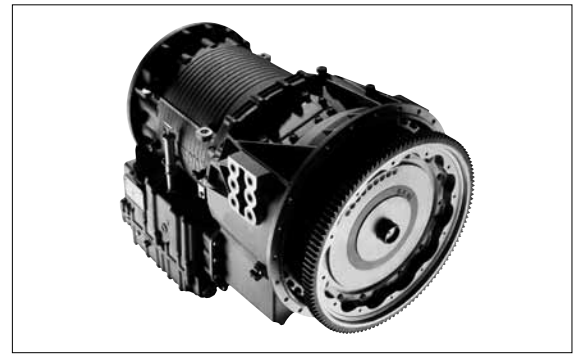




## 4430/4440/4500/4600 Series



International Series 4430/4440/4500/4600

### RATINGS

Model <sup>(1)</sup>	Input Torque Gross N•m (lb-ft)	Input Power Gross <sup>(2)</sup> Kw (hp)	Turbine Torque Net <sup>(3)</sup> 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 Off-Road	1600 (1180)	283 (380)	3322 (2450)	68,500 (151,017)
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 <sup>(4)</sup>	<sup>1st GEAR</sup> 2237 (1650) <sup>2nd GEAR</sup> 2400 (1770) <sup>GEARS 3-6</sup> 2508 (1850)	421 (565)	3322 (2450)	n/a
Highway <sup>(4)</sup>	2237 (1650)    2400 (1770)    2508 (1850)	421 (565)	3525 (2600)	n/a
Fire Truck, Emergency, Airport Rescue and Fire-Fighting Vehicle <sup>(4)</sup>	2400 (1770)    2508 (1850)    2508 (1850)	447 (600)	3525 (2600)	n/a
Heavy Equipment Transport <sup>(4)</sup>	2237 (1650)    2508 (1850)    2508 (1850)	447 (600)	3525 (2600)	n/a
Refuse Vehicles	2102 (1550)    2102 (1550)    2102 (1550)	373 (500)	3322 (2450)	n/a
Ag Spreader, Sprayer, Blower, Feedlot Truck <sup>(4)</sup>	2237 (1650)    2400 (1770)    2400 (1770)	421 (565)	3525 (2600)	n/a
4500 ORS Articulated Dump <sup>(4)</sup>	<sup>GEARS 1-2</sup> 2102 (1550) <sup>GEARS 3-6</sup> 2203 (1625)	358 (480)	3322 (2450)	68,500 (151,017)
Rigid Rear Dump	2102 (1550)	358 (480)	3322 (2450)	68,500 (151,017)
Off-Road	CONTACT YOUR ALLISON REPRESENTATIVE FOR DETAILS			
4500 OFS Oil Field Series	2237 (1650)	421 (565)	3525 (2600)	n/a
4500 SP Specialty / Military <sup>(4)</sup>	<sup>1st GEAR</sup> 2400 (1770) <sup>GEARS 2-6</sup> 2508 (1850)	447 (600)	3525 (2600)	n/a
4600 ORS Articulated Dump <sup>(4)</sup>	<sup>GEARS 1-2</sup> 2102 (1550) <sup>GEARS 3-6</sup> 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. (4). With torque limiting.

### 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**

<b>Description</b>	Allison 4th Generation Electronic Controls with closed loop adaptive shifts
<b>Shift Sequences</b>	[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.	
<b>Driver-to-Transmission Interface</b>	Cab-mounted shift selector, pushbutton or lever with two-digit display (range selected and range attained)
<b>Communication Protocol - Engine/Vehicle Systems Interface</b>	SAE J1939, SAE J1587, ISO 9141, IESCAN

**PHYSICAL DESCRIPTION**

	<b>Length*</b>	<b>Dry Weight</b>	<b>Depth</b> below transmission centerline
Basic Model	793 mm (31.2 in)	377 kg (831 lbs)	375 mm (14.8 in)
With PTO Drive Provision	866 mm (34 in)	405 kg (893 lbs)	375 mm (14.8 in)
With Retarder	793 mm (31.2 in)	411 kg (906 lbs)	375 mm (14.8 in)
With PTO Drive Provision and Retarder	866 mm (34 in)	439 kg (968 lbs)	375 mm (14.8 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:	930 N•m (685 lb-ft)
	Total using two PTO's:	1595 N•m (1175 lb-ft)
PTO Drive Gear	97 tooth	

**OUTPUT RETARDER PROVISION (OPTION)**

<b>Type</b>	Integral, hydraulic	
	<b>Capacity</b>	<b>Power</b>
	<b>Torque</b>	
Low	1763 N•m (1300 lb-ft)	373 kW (500 hp)
Medium	2170 N•m (1600 lb-ft)	447 kW (600 hp)
High	2710 N•m (2000 lb-ft)	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 (48 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**

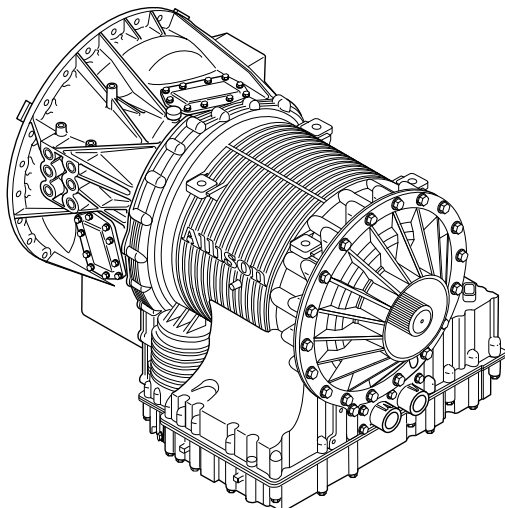
<b>Description</b>	Non-zero-crossing square wave
	8, 16 or 40 pulses per revolution of transmission output shaft
<b>Location</b>	Electronic output from TCM

**TACHOGRAPH PROVISION**

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

**4430/4440/4500/4600 Series**

With PTO and Shallow Oil Sump



**4430/4440/4500/4600 Series**

With PTO and Retarder

