

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 | Power |
| | 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 |

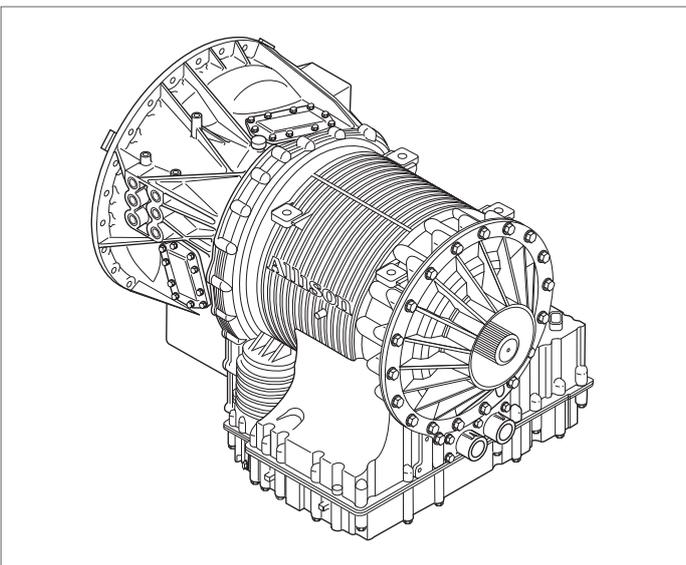
SPEEDOMETER PROVISION

| | |
|--------------------|--|
| 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 |

4430/4440/4500/4600 Series
With PTO and Shallow Oil Sump



4430/4440/4500/4600 Series
With PTO and Retarder

