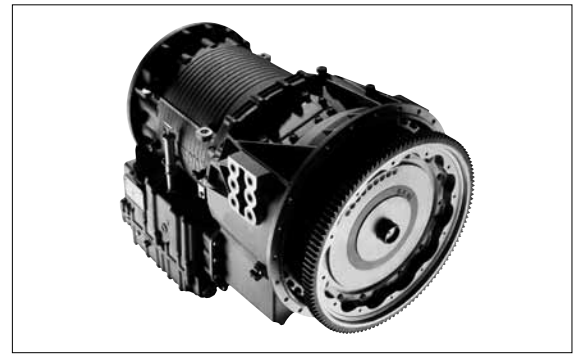




4000/4200 Series



International Series 4000/4200

RATINGS

| Model ⁽¹⁾ | | Input Torque Gross N•m (lb-ft) | Input Power Gross ⁽²⁾ Kw (hp) | Turbine Torque Net ⁽³⁾ N•m (lb-ft) | GVW kg (lbs) | GCW kg (lbs) |
|----------------------|---|---|---|--|------------------|--------------|
| 4000 | General | 2400 (1770) | 421 (565) | 3525 (2600) | n/a | n/a |
| | Fire Truck, Emergency | 2508 (1850) | 447 (600) | 3525 (2600) | n/a | n/a |
| | Aircraft Rescue and Fire-Fighting Vehicle | 2508 (1850) | 447 (600) | 3525 (2600) | n/a | n/a |
| | Heavy Equipment Transport | 2508 (1850) | 447 (600) | 3525 (2600) | n/a | n/a |
| | Refuse Vehicles | 2102 (1550) | 373 (500) | 3322 (2450) | n/a | n/a |
| | Ag Spreader, Sprayer, Blower, Feedlot Truck | 2400 (1770) | 421 (565) | 3525 (2600) | n/a | n/a |
| 4000 | MH Motorhome | 2644 (1950) | 485 (650) | 3795 (2800) | n/a | n/a |
| 4000 | ORS Articulated Dump | 2203 (1625) | 358 (480) | 3322 (2450) | 68,500 (151,017) | n/a |
| | Rigid Rear Dump | 2102 (1550) | 358 (480) | 3322 (2450) | 57,000 (125,660) | n/a |
| | Off-Road | CONTACT YOUR ALLISON REPRESENTATIVE FOR DETAILS | | | | |
| 4000 SP | Specialty / Military | 2644 (1950) | 485 (650) | 3795 (2800) | n/a | n/a |
| 4200 ORS | Articulated Dump | 2305 (1700) | 358 (480) | 3322 (2450) | 81,000 (178,574) | 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 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 | 3.51 : 1 |
| Second | 1.91 : 1 |
| Third | 1.43 : 1 |
| Fourth | 1.00 : 1 |
| Fifth | 0.74 : 1 |
| Sixth | 0.64 : 1 |
| Reverse | -4.80 : 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) | 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)

| Type | Capacity | | Power |
|--------|-----------------------|--|-----------------|
| | Torque | | |
| 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) |

Integral, hydraulic

OIL SYSTEM

| | |
|---|-------------------------------|
| Allison approved fluids: TES 295 and TES 389 | |
| Capacity including PTO, excluding external circuits | |
| With Deep Oil Sump | 45 litres (48 quarts) |
| 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 |

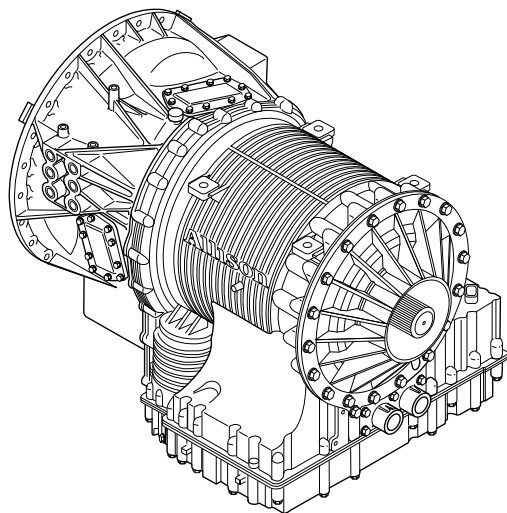
SPEEDOMETER PROVISION

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

4000/4200 Series
With PTO and Shallow Oil Sump



4000/4200 Series
With PTO and Retarder

