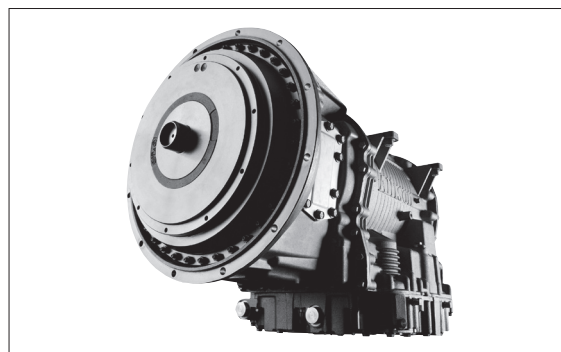




3500 Series



International Series 3500

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) |
|----------------------|---|---|---|--|-----------------|-----------------|
| 3500 | General | 1166 (860) | 224 (300) | 1925 (1420) | n/a | n/a |
| | Refuse, Concrete Mixer | 1166 (860) | 224 (300) | 1925 (1420) | 27,216 (60,000) | n/a |
| | Fire Truck, Emergency | 1335 (985) | 246 (330) | 2034 (1500) | n/a | n/a |
| | Dock Spotter, Tow Tractor | 1166 (860) | 224 (300) | 1925 (1420) | n/a | 36,288 (80,000) |
| | Ag Spreader, Sprayer, Blower, Feedlot Truck | 1288 (950) | 235 (315) | 1966 (1450) | n/a | n/a |
| 3500 ORS | Articulated Dump | 1100 (811) | 224 (300) | 1925 (1420) | 44,500 (98,100) | n/a |
| | Rigid Dump | 1100 (811) | 224 (300) | 1925 (1420) | 44,500 (98,100) | n/a |
| | Off-Road | CONTACT YOUR ALLISON REPRESENTATIVE FOR DETAILS | | | | |
| 3500 SP | Specialty / Military | 1335 (985) | 246 (330) | 2034 (1500) | n/a | 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 | 2000 – 2800 rpm |
| Acceptable engine idle speed range (with transmission in Drive) | 500 – 800 rpm |
| Maximum output shaft speed at 105 km/hr (65 mi/hr) – retarder-equipped models only | 3600 rpm |

MOUNTING

| | |
|------------|--|
| To Engine | SAE No.2 |
| 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-411 | 2.71 |
| TC-413 | 2.44 |
| TC-415 | 2.35 |
| TC-417 | 2.20 |
| TC-418 | 1.98 |
| TC-419 | 2.02 |
| TC-421 | 1.77 |

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

| Range | |
|---------|-----------|
| First | 4.59 : 1 |
| Second | 2.25 : 1 |
| Third | 1.54 : 1 |
| Fourth | 1.00 : 1 |
| Fifth | 0.75 : 1 |
| Sixth | 0.65 : 1 |
| Reverse | -5.00 : 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 | |
|---------------------------------------|------------------|------------------|-------------------------------------|-------------------------------|
| | | | With Shallow Oil Sump (Standard) | With Deep Oil Sump (Optional) |
| Basic Model | 740 mm (29 in) | 243 kg (535 lbs) | 283 mm (11.4 in) | 328 mm (12.9 in) |
| With PTO Drive Provision | 846 mm (33.2 in) | 261 kg (575 lbs) | 283 mm (11.4 in) | 328 mm (12.9 in) |
| With Retarder | 740 mm (29 in) | 289 kg (615 lbs) | 283 mm (11.4 in) | 328 mm (12.9 in) |
| With PTO Drive Provision and Retarder | 846 mm (33.2 in) | 297 kg (655 lbs) | 283 mm (11.4 in) | 328 mm (12.9 in) |

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

ENGINE-DRIVEN POWER TAKE-OFF PROVISION

| Mounting pad positions viewed from rear | Drive gear rating with one PTO N•m (lb-ft) | Drive gear rating with two PTOs N•m (lb-ft) | PTO Drive Gear | Drive |
|---|---|--|----------------|--------|
| 4 o'clock and 8 o'clock (Standard) | 660 (485) | 930 (685) | 68 tooth | Engine |
| 1 o'clock and 8 o'clock (Optional) | 660 (485) | 930 (685) | 83 tooth | Engine |
| Fire and Emergency | 910 (670) | 930 (685) ¹ | | |

¹ Intermittent rating to 1068 N•m

OUTPUT RETARDER PROVISION (OPTION)

| Type | Capacity | |
|--------|-----------------------|-----------------|
| | Torque | Power |
| Low | 1490 N•m (1100 lb-ft) | 298 kW (400 hp) |
| Medium | 1763 N•m (1300 lb-ft) | 373 kW (500 hp) |
| High | 2170 N•m (1600 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 28 litres (30 quarts)

With Shallow Oil Sump 25 litres (27 quarts)

Main circuit oil filter Replaceable element, integral

Cooler circuit oil filter Replaceable element, integral

Electronic oil level sensor (OLS) Standard

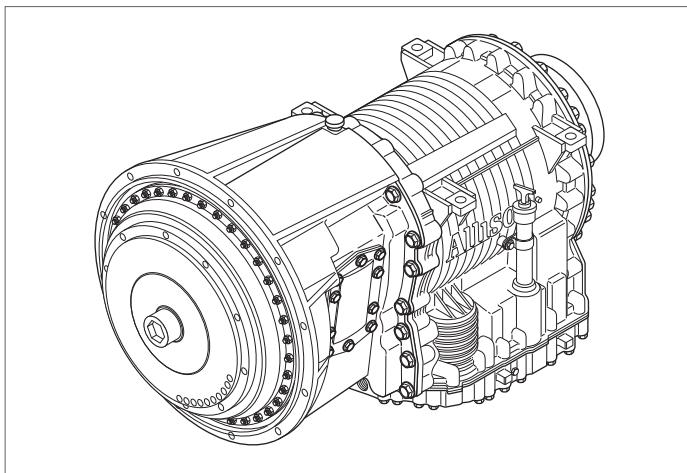
SPEEDOMETER PROVISION

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

3500 Series
With PTO and Shallow Oil Sump



3500 Series
With Retarder, PTO and Deep Oil Sump

