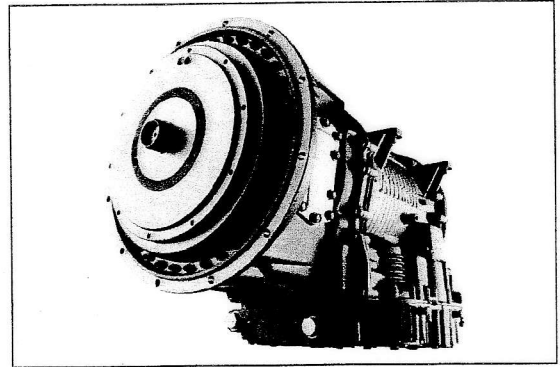


Allison® Torqmatic™

T310 (R) specification

For Applications with engines up to 205 kW (275 hp) gross input power and up to 1100 N•m (813 lb-ft) gross input torque.



T310 (R) specification

RATINGS

| | Input Torque Gross N•m (lb-ft) | Input Power Gross Kw (hp) | Turbine Torque Net N•m (lb-ft) | GVW kg (lbs) | Vocations |
|------------|--------------------------------|---------------------------|--------------------------------|-----------------|------------|
| City Bus | 1100 (813) | 205 (275) | 1857 (1370) | 28,500 (62,830) | City Bus |
| Tour Coach | 1100 (813) | 205 (275) | 1857 (1370) | 26,000 (57,320) | Tour Coach |

1. Gross Power rating as defined by ISO 1585 or SAE J1995. 2. 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 | 3.49 : 1 |
| Second | 1.86 : 1 |
| Third | 1.41 : 1 |
| Fourth | 1.00 : 1 |
| Fifth | 0.75 : 1 |
| Sixth | 0.65 : 1 |
| Reverse | -5.03 : 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)]

| City Bus | Tour Coach |
|-------------------------------------|-------------------------------------|
| Standard: 1C-[1L]-2C-2L-3L-4L-5L | Standard: 1C-[1L]-2C-2L-3L-4L-5L |
| Optional: 1C-[1L]-2C-2L-3L-4L-5L-6L | Optional: 1C-[1L]-2C-2L-3L-4L-5L-6L |
| Optional: 1C-[1L]-2C-2L-3L-4L | Optional: 1C-[1L]-2C-2L-3L-4L |

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

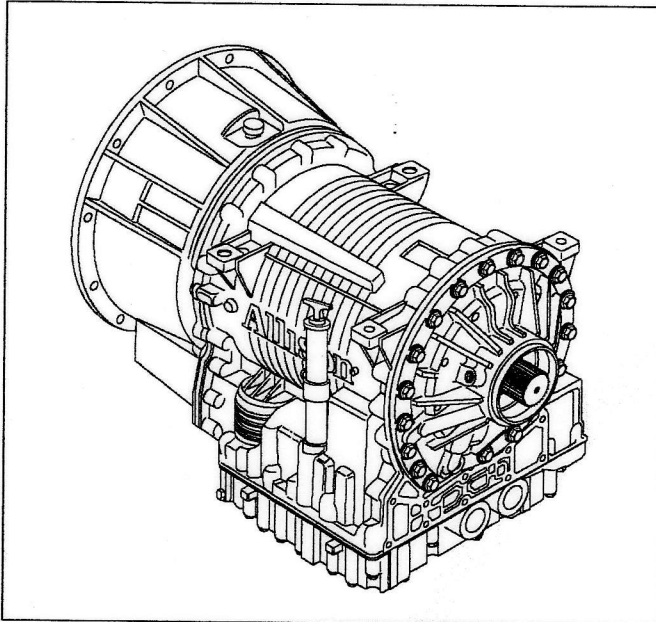
| PHYSICAL DESCRIPTION | Installation length* | Dry weight | Depth below transmission centerline | |
|----------------------|----------------------|------------------|-------------------------------------|-------------------------------|
| | | | With Shallow Oil Sump (Standard) | With Deep Oil Sump (Optional) |
| Basic Model | 740 mm (29.0 in) | 243 kg (535 lbs) | 283 mm (11.5 in) | 328 mm (12.9 in) |
| With Retarder | 740 mm (29.0 in) | 280 kg (615 lbs) | 283 mm (11.5 in) | 328 mm (12.9 in) |

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

| OUTPUT RETARDER PROVISION (OPTION) | | | OIL SYSTEM | |
|------------------------------------|-----------------------|-----------------|---------------------------------------|-------------------------------|
| Type | Integral, hydraulic | | Oil type | Transynd™, DEXRON®-III |
| | Capacity | | Capacity, excluding external circuits | |
| | Torque | Power | With Deep Oil Sump | 27 litres (29 quarts) |
| Level 2 | 1760 N•m (1300 lb-ft) | 373 kW (500 hp) | With Shallow Oil Sump | 25 litres (26 quarts) |
| Level 1 | 1490 N•m (1100 lb-ft) | 298 kW (400 hp) | Main circuit oil filter | Replaceable element, integral |
| | | | Cooler circuit oil filter | Replaceable element, integral |
| | | | Electronic oil level sensor (OLS) | Standard |

| SPEEDOMETER PROVISION | | TACHOGRAPH PROVISION | |
|-----------------------|--|----------------------|---|
| Description | Non-zero-crossing square wave | Tone wheel | 4 or 6-tooth |
| Location | 8, 16 or 40 pulses per revolution of transmission output shaft | Mounting | M18 x 1.5 metric thread |
| | Electronic output from TCM | Location | Transmission rear cover or retarder housing |

T310



T310 (R)

