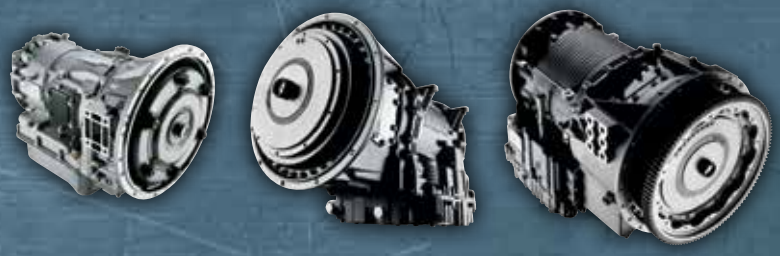


Ask for Allison. See your dealer for a complete listing of vehicles featuring Allison fully automatic transmissions, or contact your Allison representative. For the representative close to you, visit **www.allisontransmission.com.**

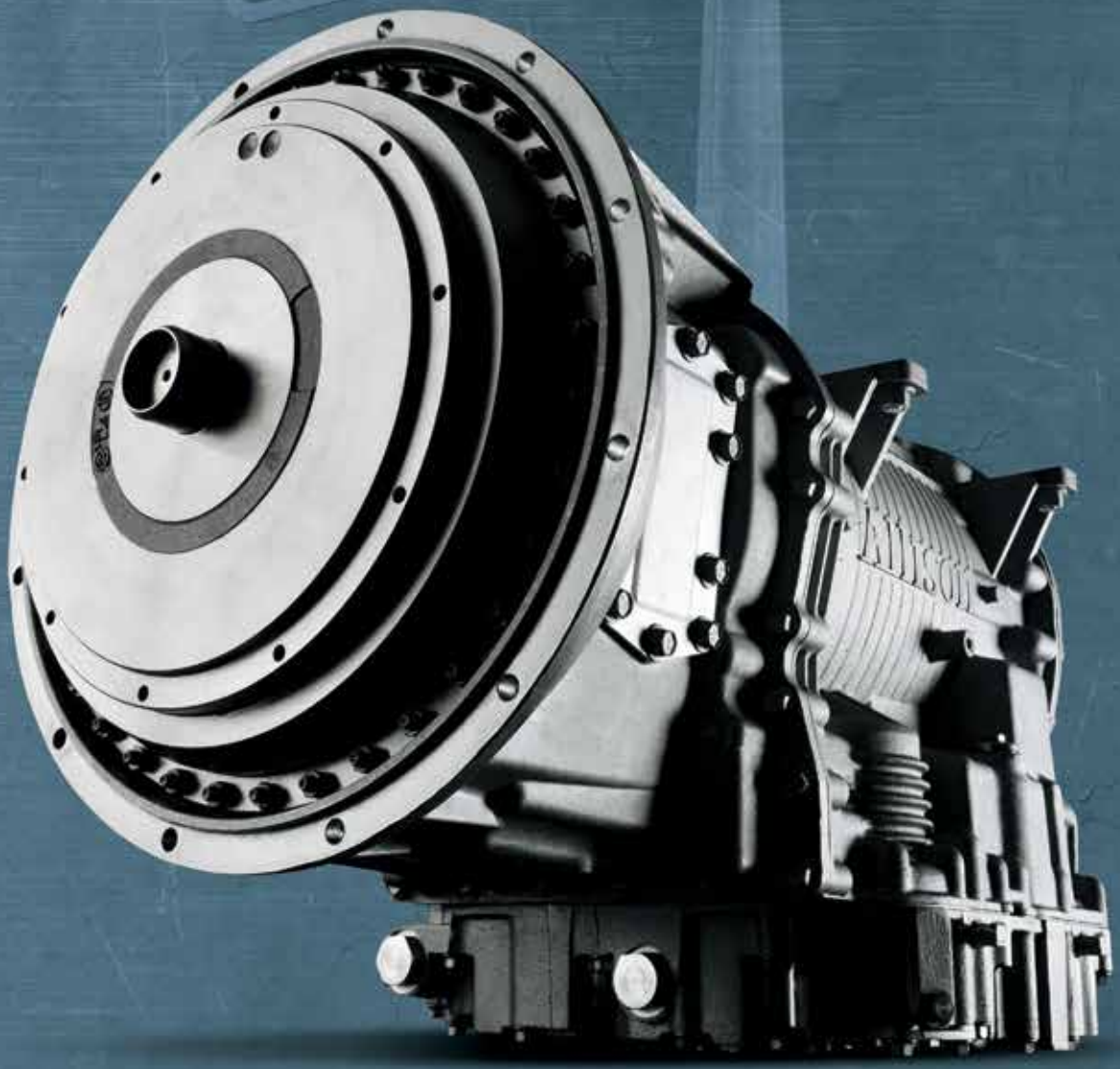
P.O. Box 894, Speed Code PF3
Indianapolis, Indiana 46206-0894

SA7494EN (2014/05)
ISO/QS 9000 and ISO 14001 Certified

Allison Transmission®

Allison Transmission®

SPECIALTY SERIES



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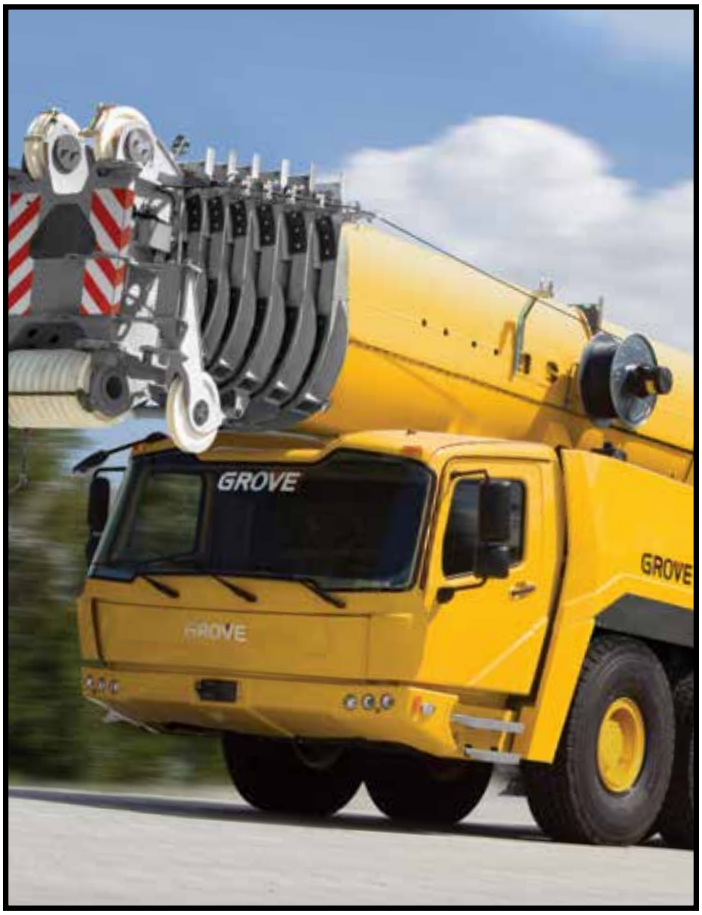
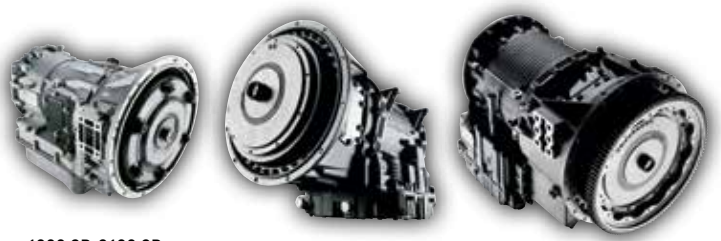


Tough transmissions for demanding situations.

Allison Specialty Series transmissions provide extended torque range, higher GVW capacity and advanced electronic controls to get the most performance out of higher horsepower engines, while putting more control to the wheels. So whether it's hauling heavy equipment or carrying cargo, Allison Specialty Series automatic transmissions are up to the task.



1000 SP, 2100 SP, 2200 SP, 2350 SP, 2500 SP, 2550 SP

3000 SP, 3200 SP, 3500 SP, 3700 SP

4000 SP, 4430 SP, 4500 SP, 4700 SP, 4800 SP

Proven reliability and durability.

Allison Transmission has built a reputation on our ability to build transmissions that last just about forever. That is why Allison Automatics are the preferred choice for many specialty applications.

Making the grade.

Allison Specialty Series models are far superior when it comes to gradeability and startability on hills, grades or soft ground. Allison's heavy-duty torque converter allows extremely high torque to be transmitted gradually to the wheels where it enables the truck to "break away" smoothly and steadily. No jerks, spins, bounces or stalls. No lugging. No rollback.

Your vehicles are specially built to work hard in tough conditions, day in, day out. They travel long roads, back roads and to places that have no roads. Their performance rises to a whole new level when you spec Allison Specialty Series fully automatic transmissions.

Smart controls. Allison Specialty Series automatic transmissions have brains in addition to brawn. Electronic control packages provide precisely the performance features you need to get the job done — whatever it may be.

Prognostics
Calibrated to the vehicle's particular operating requirements, Allison prognostics monitor various operating parameters — oil level, oil life, filter life and transmission health — to determine and alert when service is due. This eliminates unnecessary oil and filter changes and provides maximum transmission protection.

Shift Energy Management (SEM)
Provides better engine/transmission integration to optimize the entire driveline system. The result is faster, smoother, more consistent shift quality, increased powertrain durability, improved performance and an overall more efficient vehicle operation leading to greater fuel economy.

PTO Enable
Commands how and when the PTO engages and monitors operating conditions to minimize potential damage and hazards.

Range Indicator
Provides a useable electric signal when the transmission shifts to a chosen range.

Manual Gear Select
Manually control upshifts and downshifts, if you prefer, when driving in mountains or other kinds of rough terrain. The transmission will not allow you to select a range that will over-speed the engine.

Secondary Shift Schedule
Allows drivers to select between two pre-programmed shift patterns — quickly and easily. Shift characteristics are matched to driving conditions with the simple push of a button.

Fourth Lockup Pump Mode
Provides safe, easy split-shaft PTO operation. Step-by-step operator inputs control split-shaft operation and automatically shift the transmission into fourth lockup for direct 1:1 drive from the engine.

Retarder Enable
Get the best braking possible through total transmission retarder/vehicle integration. Electronic controls precisely blend the transmission, retarder and service brakes for peak efficiency.

Auxiliary Function Range Inhibit
It's like having an extra set of eyes so the driver always knows it's safe to shift out of Neutral and into Drive or Reverse. The vehicle simply will not shift into a moving range unless the service brakes are applied. It's that simple and safe.

Engine Brake Enable
Flip the dash switch and let the transmission controls handle the rest. Smart electronics recognize the most efficient times for engine brake application.

Additional electronic control packages are available. See your local Allison representative for the ones that fit your particular application.

Improved operating safety. Rollback is a concern for drivers of vehicles equipped with manuals and automated manuals because it can cause accidents and product/load damage. Since there is very little rollback on vehicles equipped with Allison Automatics, drivers don't have that concern.

Startability. Startability is a vehicle's capability to launch and pull a load. Simply put, it's the 'grunt' or 'get-up-and-go' of a truck. Often only the 1st gear ratio is used to judge a vehicle's startability. The truth is, one has to consider the engine torque at the required launch rpm and torque multiplication of the Allison torque converter. Manual and automated manual transmissions have to launch at very low engine rpm in order to prevent damage to the clutch. This means less torque, which is why they have very deep 1st gear ratios to help them overcome their clutch limitations. An Allison Automatic uses the full torque from the engine and multiplies it with the torque converter. Then, when the 1st gear ratio and rear axle ratio are factored in, the Allison provides greater startability.

Life cycle value. When you factor in all life cycle costs—vehicle purchase price, insurance, fuel, tires, preventive maintenance, component repair, driver wages, taxes, license, permits and retail resale value—along with the increased productivity, an Allison Automatic-equipped vehicle costs less per yard mile* to operate than a comparable competitively equipped vehicle.

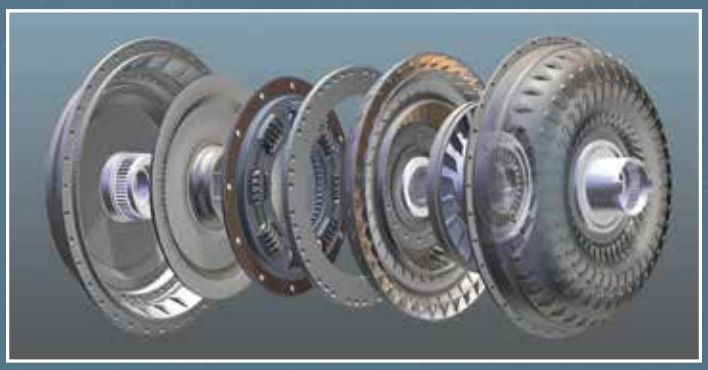
*Results may vary depending on your operating conditions. See your local Allison representative to find the potential productivity gains for your particular business.

Shifting performance. Not even the most expert driver can shift at the precise shift points to optimize vehicle performance under all road and load conditions. An Allison Automatic automatically makes the right shift at the right time to maximize vehicle performance and protect the driveline.

On a vehicle with a manual or automated manual transmission, there are seven to eight shifts per mile in an average cycle. The power interrupts that occur during these shift changes result in lower average wheel horsepower and a loss of 14-16 seconds every mile.

There are no power interrupts with Allison Automatics, just smooth, seamless full-power shifts. By making full use of the engine's horsepower, an Allison Automatic may allow you to specify a smaller engine, saving you money in the long run.

Torque converter. Increased shifting performance, faster acceleration, greater operating flexibility and minimal rollback are all advantages attributed to the patented heavy-duty Allison torque converter. The torque converter's cushion effect reduces shock and strain on all driveline components.



Maintenance made easy. Routine oil and filter changes are the only regular preventive maintenance required with an Allison Automatic. Easily accessible integral and spin-on oil filters reduce labor costs and valuable downtime. TranSynd® TES 295 transmission fluid greatly extends oil change intervals for most applications.

Comprehensive coverage. All Allison automatic transmission Specialty Series models offer two-year comprehensive coverage with 100% parts and labor with three-year extended coverage available. Coverage may vary by model and by application. Contact your Allison representative for details.

Our extensive network of over 1500 authorized Allison Distributors and Dealers worldwide, means convenient, factory-quality Allison service is always close at hand.

Information Highway

Visit **www.allisontransmission.com** for a comprehensive library of informational brochures, including Mechanic's Tips, Operator's Manuals, Parts Catalogs, Troubleshooting Flyers and Service Manuals.

Specify Allison Specialty Series transmissions for military tactical, combat or support vehicles and for unique vehicles that operate on/off highway, and/or require a PTO.

Crane carrier

Designed specifically to haul cranes to and from job sites, this category is divided into two classifications. The Light class is for vehicles up to 110,225 lb (50,000 kg) gross vehicle weight (GVW), with crane power provided by either the vehicle's powertrain or by its own powertrain. The Heavy class covers vehicles above 110,225 lb (50,000 kg) GVW, with crane power supplied by the crane's own system.

Equipment hauler with escort or permit

Built to carry heavy equipment, these tractor/trailer vehicles are designed for operation on concrete, asphalt and maintained gravel road surfaces. They feature high-power engines, auxiliary gearing and are usually equipped with retarding devices.

Molten metal/slag hauler

This classification includes both articulated and rigid frame vehicles designed and built to operate on paved and gravel roads. They also feature high-power engines, auxiliary gearing and may be equipped with retarding devices.

Power plant generator hauler

Like the other Heavy Haul classifications, these tractor/trailer vehicles operate primarily on highway and feature high-power engines, auxiliary gearing and retarding devices.

Ratings and Specifications

RATINGS

MODEL	RATIO	PARK PAWL	MAX INPUT POWER[1] hp (kW)	MAX INPUT TORQUE[1] lb-ft (N • m)	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING lb-ft (N • m)	MAX TURBINE TORQUE[2] lb-ft (N • m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
1000 SP	Close Ratio	Yes	340[3,5] (254)[3,5]	575 (780)	660[3] (895)[3]	950[5] (1288)[5]	22,000 (10,000)	26,001 (11,800)
2100 SP	Close Ratio	–	340[3,5] (254)[3,5]	575 (780)	700[3,4] (950)[3,4]	950[5] (1288)[5]	26,500 (12,000)	26,500 (12,000)
2200 SP	Close Ratio	Yes	340[3,5] (254)[3,5]	575 (780)	700[3,4] (950)[3,4]	950[5] (1288)[5]	26,000 (11,800)	26,001 (11,800)
2350 SP	Close Ratio	Yes	340[5] (254)[5]	575 (780)	700[4] (950)[4]	950[5] (1288)[5]	30,000 (13,600)	30,000 (13,600)
2500 SP	Wide Ratio	–	340[3,5] (254)[3,5]	575 (780)	700[3,4] (950)[3,4]	950[5] (1288)[5]	33,000 (15,000)	33,000 (15,000)
2550 SP	Wide Ratio	Yes	340[5] (254)[5]	575 (780)	700[4] (950)[4]	950[5] (1288)[5]	30,000 (13,600)	30,000 (13,600)
3000 SP								
– Specialty/Military	Close Ratio	–	350 (261)	1050 (1424)	n/a	1700 (2305)	–	–
3200 SP								
– Specialty/Military	Close Ratio	–	450 (336)	1250 (1695)	n/a	1700 (2305)	–	–
3500 SP								
– Specialty/Military	Wide Ratio	–	330 (246)	985 (1335)	n/a	1500 (2034)	–	–
3700 SP								
– Specialty/Military	Widest Ratio	–	330 (246)	875 (1186)	n/a	1450 (1966)	–	–
4000 SP								
– Specialty/Military	Close Ratio	–	650 (485)	1950 (2644)	n/a	2800 (3795)	–	–
4430 SP								
– Specialty	Wide Ratio	–	380 (283)	1180 (1600)	n/a	2600 (3525)	–	–
4500 SP								
– Specialty/Military	Wide Ratio	–	600 (447)	1770 (2400)	1850[2] (2508)[2]	2600 (3525)	–	–
4700 SP								
– Specialty/Military	Widest Ratio	–	600 (447)	1850 (2508)	n/a	3000 (4067)	–	–
4800 SP								
– Specialty/Military	Widest Ratio	–	800 (597)	1950 (2644)	n/a	3000 (4067)	–	–

1 Gross ratings as defined by ISO 1585 or SAE J1995. 2 Available in gears two through six. 3 Check with your OEM to ensure offerings.
4 Only available in gears three through five. 5 SEM and torque limiting are required to obtain this rating.

GEAR RATIOS – TORQUE CONVERTER MULTIPLICATION NOT INCLUDED

MODEL	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	SEVENTH	REVERSE
1000/2100/2200/2350 SP	3.10:1	1.81:1	1.41:1	1.00:1	0.71:1	0.61:1[1]	–	-4.49:1
2500/2550 SP	3.51:1	1.90:1	1.44:1	1.00:1	0.74:1	0.64:1[1]	–	-5.09:1
3000/3200 SP	3.49:1	1.86:1	1.41:1	1.00:1	0.75:1	0.65:1	–	-5.03:1
3500 SP	4.59:1	2.25:1	1.54:1	1.00:1	0.75:1	0.65:1	–	-5.00:1
3700 SP	6.93:1	4.18:1	2.24:1	1.69:1	1.20:1	0.90:1	0.78:1	-6.03:1
4000 SP	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	–	-4.80:1
4430/4500 SP	4.70:1	2.21:1	1.53:1	1.00:1	0.76:1	0.67:1	–	-5.55:1
4700/4800 SP	7.63:1*	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	-4.80:1

* Manually selected first gear. 1 Check with your OEM to ensure offerings.

ENGINE SPEEDS

BASE MODEL	FULL LOAD GOVERNED SPEED Min-Max (rpm)	IDLE SPEED IN DRIVE Min-Max (rpm)	OUTPUT SHAFT SPEED rpm
1000 SP	2200-4600[1]	500-820	5000
2100/2200/2350 SP	2200-4600[1]	500-820	5000
2500/2550 SP	2200-3200	500-820	4500
3000/3200/3500/3700 SP	2000-2800	500-800	3600[2]
4000/4430/4500/4700/4800 SP	1700-2300	500-800	–

1 Engines with full load governed speed greater than 3800 rpm require Application Engineering review. 2 Retarder-equipped models only.

OPTIONAL RETARDER PROVISION
INTEGRAL, HYDRAULIC TYPE

BASE MODEL	TORQUE CAPACITY lb-ft (N • m)	POWER CAPACITY hp (kW)
3000[1] SP		
– High	1600 (2170)	600 (447)
– Medium	1300 (1760)	500 (373)
– Low	1100 (1490)	400 (298)
4000[2] SP		
– High	2000 (2710)	600 (447)
– Medium	1600 (2170)	600 (447)
– Low	1300 (1760)	500 (373)

1 Excluding 3700 SP.
2 Only medium-capacity available on 4700 SP.

TORQUE CONVERTER SPECIFICATIONS

BASE MODEL	TORQUE CONVERTER	NOMINAL STALL TORQUE
1000 SP	TC-210	2.05
	TC-211	1.91
	TC-221	1.73
	TC-222	1.58
2000 SP	TC-210	2.05
	TC-211	1.91
	TC-221	1.73
	TC-222	1.58
3000 SP	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
4000 SP	TC-521	2.42
	TC-531	2.34
	TC-541	1.90
	TC-551	1.79
	TC-561	1.58

STANDARD POWER TAKEOFF PROVISION – CONTINUOUS OPERATION

BASE MODEL	MOUNTING PAD POSITIONS VIEWED FROM REAR	DRIVE GEAR RATING WITH ONE PTO lb-ft (N • m)	DRIVE GEAR RATING WITH TWO PTOS lb-ft (N • m)	DRIVE
1000 SP	3 and 9 o'clock	250 (339)	200 (271)	Turbine
2000 SP	3 and 9 o'clock	250 (339)	200 (271)	Turbine
3000[1] SP	side/side 4 and 8 o'clock	485 (660)	685[2] (930)[2]	Engine
	top/side 1 and 8 o'clock	485 (660)	685[2] (930)[2]	Engine
3700 SP	8 o'clock	485 (660)	–	Engine
4000[1] SP	1 and 8 o'clock	685 (930)	1175[2] (1595)[2]	Engine

1 PTO-delete option available. 2 Minimum 600 rpm idle speed required when dual PTOs are used simultaneously.

PHYSICAL DESCRIPTION

BASE MODEL		LENGTH[1] in (mm)	DEPTH[2] w/DEEP OIL PAN/SUMP in (mm)	DEPTH[2] w/SHALLOW OIL PAN/SUMP in (mm)	DRY WEIGHT lbs (kg)
1000 SP	– SAE No. 3 mounting	28.01 (711.4)	11.22 (284.9)	10.71 (272.0)	330 (150)
	– SAE No. 2 mounting	28.39 (721.1)	11.22 (284.9)	10.71 (272.0)	330 (150)
2000 SP	– SAE No. 3 mounting	28.01 (711.4)	11.22 (284.9)	10.71 (272.0)	330 (150)
	– SAE No. 2 mounting	28.39 (721.1)	11.22 (284.9)	10.71 (272.0)	330 (150)
3000 SP	– Basic model	28.16 (715.3)	12.90 (327.8)	11.14 (283.1)	535 (243)
	– With PTO only	32.36 (822.0)	12.90 (327.8)	11.14 (283.1)	575 (261)
	– With retarder only	28.16 (715.3)	12.90 (327.8)	11.14 (283.1)	615 (279)
	– With PTO & retarder	32.36 (822.0)	12.90 (327.8)	11.14 (283.1)	655 (297)
3700 SP	– Basic model	51.00 (1295.0)	21.90 (555.0)	–	1170 (530)
4000 SP 4430[3] SP 4500 SP	– Basic model	30.75 (781.1)	14.75 (374.7)	13.17 (334.6)	831 (377)
	– With PTO only	33.62 (854.0)	14.75 (374.7)	13.17 (334.6)	893 (405)
	– With retarder only	30.75 (781.1)	14.75 (374.7)	13.17 (334.6)	906 (411)
	– With PTO & retarder	33.62 (854.0)	14.75 (374.7)	13.17 (334.6)	968 (439)
4700 SP 4800 SP	– Basic model	38.04 (966.3)	14.89 (378.2)	–	1087 (493)
	– With PTO only	40.91 (1039.2)	14.89 (378.2)	–	1149 (521)
	– With retarder only	38.04 (966.3)	14.89 (378.2)	–	1162 (527)
	– With PTO & retarder	40.91 (1039.2)	14.89 (378.2)	–	1224 (555)

1 Length measured from flywheel housing to end of output shaft. 2 Depth measured below transmission centerline. 3 Shallow pan not available.

OIL SYSTEM

BASE MODEL	CAPACITY[1] quarts (liters)	MAIN CIRCUIT FILTER	LUBE CIRCUIT FILTER	ELECTRONIC OIL LEVEL SENSOR (OLS)
1000 SP		Spin-On Canister	–	–
– Deep Oil Pan	14.8[4] (14.0)[4]			
2000 SP		Spin-On Canister	–	–
– Deep Oil Pan	14.8[4] (14.0)[4]			
3000[2] SP		Integral	Integral	Standard
– Deep Oil Sump w/o PTO	29[4] (27.4)[4]			
3700 SP		Integral	Integral	Standard
– Deep Oil Sump	39[4] (37)[4]			
4000 SP		Integral	Integral	Standard[3]
– Deep Oil Sump and PTO	51[4] (48)[4]			
– Deep Oil Sump	48[4] (45)[4]			

Recommended oil types for all models is Allison Approved TES 295 transmission fluid.

1 Transmission only. Does not include cooler, hoses or fittings. 2 Excluding 3700 SP. 3 4700 SP retarder model must use 4-inch sump without OLS.
4 Amount of oil necessary to fill a dry transmission.