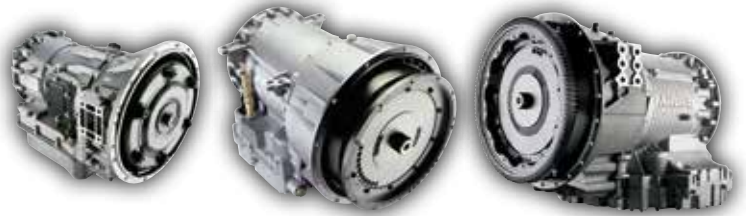






Allison Automatics provide smooth, seamless full-power shifts to put engine power to the ground in the most efficient way. The result is faster acceleration and higher average road speed, which equate to quicker route times throughout the day. That means greater productivity and increased profits for your business.



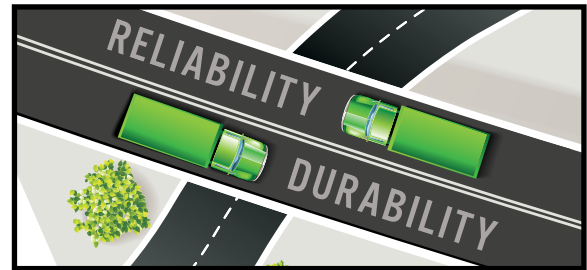
1000 HS, 1350 HS,
2100 HS, 2200 HS,
2300 HS, 2350 HS,
2500 HS, 2550 HS

3000 HS

4000 HS, 4500 HS

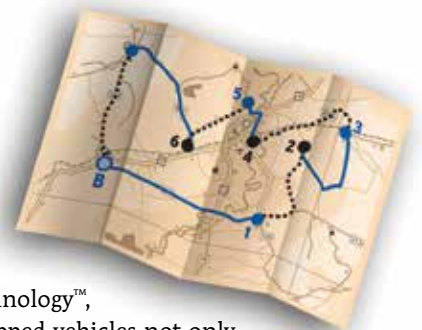
Proven reliability and durability >

Allison Transmission has built a reputation on our ability to build transmissions that last. That is why Allison Automatics are the preferred choice for all types of on-highway vehicles. They are engineered to meet the demands of your particular application while providing outstanding value.



Fuel-efficient productivity >

When it comes to fuel consumption, distance and time are part of the equation when calculating a vehicle's fuel efficiency. With Continuous Power Technology™, Allison Automatic-equipped vehicles not only accelerate faster, they get up to and work within the best duty-cycle speeds faster and more efficiently. That saves time on routes, which leads to greater productivity.



This next generation of Allison electronic controls offers a variety of features to further improve fuel economy and maximize transmission protection with advanced prognostics.



5th Generation

ELECTRONIC CONTROLS



FUELSense

FuelSense® is the next generation in fuel-savings technology from Allison Transmission. FuelSense is a unique package of software and electronic controls now available on a variety of Allison fully automatic transmissions that improves fuel economy. With features like EcoCal, Dynamic Shift Sensing, Neutral at Stop and Acceleration Rate Management, you'll realize fuel savings and still get the ease of operation and the dependability you expect from an Allison.

Prognostics

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



Oil Life Monitor

Based on the vehicle's duty cycle, this feature determines fluid life and alerts you when a fluid change is required. Not only does it help you get maximum oil life while providing the maximum protection for the transmission, the Oil Life Monitor also saves you money by preventing unnecessary fluid changes.



Filter Life Monitor

This provides an alert when the transmission's fluid filter(s) need to be replaced. It helps extend filter change intervals to reduce routine maintenance downtime and saves you money in the long run, all the while providing maximum protection for the transmission.



Transmission Health Monitor

This prognostic feature determines the condition of the transmission's clutches and alerts you when clutch maintenance is required. It helps avoid costly repairs and downtime by taking the guesswork out of scheduling routine transmission maintenance. And, it ensures your transmission is operating at its maximum performance level.

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



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.

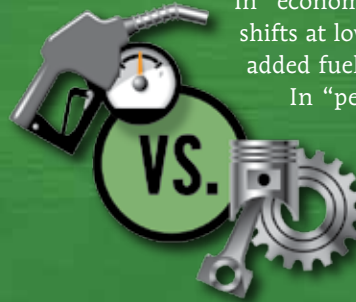
Shifting performance > Not even the most expert driver can shift at the precise shift points to optimize vehicle performance under all road and load conditions. An Allison Automatic automatically makes the right shift at the right time to maximize vehicle performance and protect the driveline. On a vehicle 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. Plus, faster trips add up to more deliveries per day, which means increased incremental revenue from your vehicle.

Economy and performance modes >

Only Allison Transmission offers you a choice of operating modes to best suit your driving conditions and business needs. Allison Automatics offer primary and secondary shift schedules to enhance fuel savings or add more power.



In "economy" mode, the transmission shifts at lower engine speed to provide added fuel savings during operation.

In "performance" mode, the transmission upshifts at higher engine speed for quicker acceleration.

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 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.

Spec for the job > While most vehicles are purchased for specific vocational use, they are not always spec'd to fit their particular operating conditions. The majority of on-highway trucks are spec'd for highway driving, yet fleet studies show these trucks spend the majority of their time in urban traffic — under 45 mph. The result is often too much horsepower purchased for the operating ranges that trucks are in 90% of the time. Not only will Allison Automatics increase vehicle productivity, with their extended torque ranges and higher GVW capacities, they allow you to spec a wider array of engine options.



Road 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.



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.

More vehicle control under all conditions, far less fatigue for drivers since they're not shifting hundreds of times a day and so much simpler operation than a manual or automated manual transmission means there simply aren't as many distractions for the driver of an Allison Automatic-equipped vehicle.

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.



TranSynd is a registered trademark of BP Lubricants Americas, Inc., used under license.

Comprehensive coverage > All Allison automatic transmission models offer comprehensive coverage with 100% parts and labor. Coverage may vary by model and by application. Contact your Allison representative for details.



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 ^{1,2} lb-ft (N•m)	MAX TURBINE TORQUE ³ lb-ft (N•m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
1000 HS	Close Ratio	Yes	340 ^{4,7} (254) ^{4,7}	575 (780)	660 ^{4,7} (895) ^{4,7}	950 ⁴ (1288) ⁴	19,500 (8,845)	26,001 (11,800)
1350 HS	Close Ratio	Yes	340 ^{4,7} (254) ^{4,7}	575 (780)	660 ^{4,7} (895) ^{4,7}	950 ⁴ (1288) ⁴	19,500 (8,845)	30,000 (13,600)
2100 HS	Close Ratio	No	340 ^{4,7} (254) ^{4,7}	575 (780)	660 ^{4,7} (895) ^{4,7}	950 ⁴ (1288) ⁴	26,000 (11,800)	26,000 (11,800)
2200 HS	Close Ratio	Yes	340 ^{4,7} (254) ^{4,7}	575 (780)	660 ^{4,7} (895) ^{4,7}	950 ⁴ (1288) ⁴	26,000 (11,800)	26,001 (11,800)
2300 HS ⁵	Close Ratio	No	365 (272)	n/a	510 (691)	950 ⁴ (1288) ⁴	33,000 (15,000)	33,000 (15,000)
2350 HS ⁷	Close Ratio	Yes	340 ⁴ (254) ⁴	575 (780)	660 ⁴ (895) ⁴	950 ⁴ (1288) ⁴	30,000 (13,600)	30,000 (13,600)
2500 HS	Wide Ratio	No	340 ^{4,7} (254) ^{4,7}	575 (780)	660 ^{4,7} (895) ^{4,7}	950 ⁴ (1288) ⁴	33,000 (15,000)	33,000 (15,000)
2550 HS ⁷	Wide Ratio	Yes	340 ⁴ (254) ⁴	575 (780)	660 ⁴ (895) ⁴	950 ⁴ (1288) ⁴	30,000 (13,600)	30,000 (13,600)
3000 HS	Close Ratio	n/a	370 (276)	1100 (1491)	1250 ⁶ (1695) ⁶	1600 (2169)	80,000 (36,288)	80,000 (36,288)
4000 HS	Close Ratio	n/a	565 (421)	1770 (2400)	1850 ⁸ (2508) ⁸	2600 (3525)	–	–
4500 HS	Wide Ratio	n/a	565 (421)	1650 (2237)	1850 ⁸ (2508) ⁸	2600 (3525)	–	–

¹ Gross ratings as defined by ISO 1585 or SAE J1995. ² SEM = engine controls with Shift Energy Management. ³ Turbine torque limit based on ISCAAN standard deductions.
⁴ SEM and torque limiting are required to obtain this rating. ⁵ Only available with VORTEC 8.1L gasoline powered engine applications.
⁶ Requires Allison Transmission engine-transmission combination approval. Only available in gears three through six. ⁷ Check with your OEM to ensure offerings.
⁸ Only available in gears three through six.

GEAR RATIOS - TORQUE CONVERTER MULTIPLICATION NOT INCLUDED

MODEL	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	REVERSE
1000 HS, 1350 HS, 2100 HS, 2200 HS, 2300 HS	3.10:1	1.81:1	1.41:1	1.00:1	0.71:1	0.61:1 ²	-4.49:1
2350 HS	3.10:1	1.81:1	1.41:1	1.00:1	0.71:1	0.61:1 ²	-4.49:1
2500 HS, 2550 HS	3.51:1	1.90:1	1.44:1	1.00:1	0.74:1	0.64:1 ²	-5.09:1
3000 HS	3.49:1	1.86:1	1.41:1	1.00:1	0.75:1	0.65:1 ¹	-5.03:1
4000 HS	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	-4.80:1
4500 HS	4.70:1	2.21:1	1.53:1	1.00:1	0.76:1	0.67:1	-5.55:1

¹ Six-speed applications are restricted for engine speeds which exceed 2200 rpm. The maximum engine speed in sixth range at 105 km/hr (65 mph) must be less than or equal to 88% of the engine full-load governed rpm. Note: This is not the same as no-load governed speed or high-idle governed speed.
² Check with your OEM to ensure offerings.

ENGINE SPEEDS

MODEL	FULL LOAD GOVERNED SPEED Min-Max (rpm)	IDLE SPEED IN DRIVE Min-Max (rpm)	OUTPUT SHAFT SPEED rpm
1000, 1350, 2100/2200/2300, 2350 HS	2200-4600 ¹	500-820	5000
2500, 2550 HS	2200-3200	500-820	4500
3000 HS	1950-2800	500-800	3600 ²
4000/4500 HS	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	POWER CAPACITY
	lb-ft (N•m)	hp (kW)
3000 HS		
- High	1600 (2170)	600 (447)
- Medium	1300 (1760)	500 (373)
- Low	1100 (1490)	400 (298)
4000 HS		
- High	2000 (2710)	600 (447)
- Medium	1600 (2170)	600 (447)
- Low	1300 (1760)	500 (373)

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

PHYSICAL DESCRIPTION				
BASE MODEL	LENGTH ¹	DEPTH ² W/DEEP OIL PAN/SUMP	DEPTH ² W/SHALLOW OIL PAN/SUMP	DRY WEIGHT
	in (mm)	in (mm)	in (mm)	lbs (kg)
1000 HS				
- 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 HS				
- SAE No. 3 mounting	28.01 (711.4)	11.22 (284.9)	-	330 (150)
- SAE No. 2 mounting	28.39 (721.1)	11.22 (284.9)	-	330 (150)
3000 HS				
- Basic model	28.29 (718.6)	12.90 (327.8)	-	535 (243)
- With retarder	28.29 (718.6)	12.90 (327.8)	-	615 (279)
4000 HS				
- Basic model	30.54 (775.8)	14.75 (374.7)	-	831 (377)
- With retarder	30.54 (775.8)	14.75 (374.7)	-	906 (411)

1 Length measured from flywheel housing to end of output shaft. 2 Depth measured below transmission centerline.

OIL SYSTEM				
BASE MODEL	CAPACITY ¹	MAIN CIRCUIT FILTER	LUBE CIRCUIT FILTER	ELECTRONIC OIL LEVEL SENSOR (OLS)
	quarts (liters)			
1000 HS		Spin-On Canister	-	-
- Deep Oil Pan	14.8 ² (14.0) ²			
- Shallow Oil Pan	12.7 ² (12.0) ²			
2000 HS		Spin-On Canister	-	-
- Deep Oil Pan	14.8 ² (14.0) ²			
3000 HS		Integral	Integral	Standard
- Deep Oil Sump	29 ² (27.4) ²			
4000 HS		Integral	Integral	Standard
- Deep Oil Sump	48 ² (45) ²			

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

1 Transmission only. Does not include cooler, hoses or fittings. 2 Amount of oil necessary to fill a dry transmission.

POWER TAKEOFF PROVISION
Not Available on Highway Series

Allison Has You Covered

Our extensive network of over 1,200 authorized Allison Distributors and Dealers in North America, along with approximately 1,400 worldwide, means convenient, factory-quality Allison Transmission service is always close at hand.



ALLISON BRAND PROMISE

The Allison Brand Promise is the automatic experience with an unrivaled combination of Quality, Reliability, Durability, Vocational Value, and Customer Service.

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