

# VOCATIONAL MODEL GUIDE

5TH GEN

## ALLISON TRANSMISSION VOCATIONAL MODEL GUIDE

Allison Vocational Models offer tailored vocational features, advantages and benefits to better meet the individual needs of our customers.

### HIGHWAY SERIES

Allison Highway Series automatic transmissions are designed to meet all the horsepower needs of strictly on-highway vehicles that do not require PTO operation.

ENGINE hp (kW)	TORQUE lb-ft (N•m)
165-565 (123-421)	420-1850 (569-2508)
GVW lbs (kg)	
14,000-unlimited (6,350-unlimited)	

### MOTORHOME SERIES

Allison Motorhome Series automatic transmissions are designed to provide enhanced performance and exceptional value to the motorhome market.

ENGINE hp (kW)	TORQUE lb-ft (N•m)
165-650 (123-485)	420-1950 (569-2644)
GVW lbs (kg)	
14,000-unlimited (6,350-unlimited)	

### BUS SERIES

Allison Bus Series automatic transmissions are ideally suited for Federal Transit Authority (FTA) funded transit properties, FTA-like transit properties and tour coaches exceeding 33,000 lbs GVW.

ENGINE hp (kW)	TORQUE lb-ft (N•m)
165-550 (123-410)	420-1700 (569-2305)
GVW lbs (kg)	
14,000-unlimited (6,350-unlimited)	

### RUGGED DUTY SERIES

Allison Rugged Duty Series automatic transmissions are suited for any vehicle that operates on/off highway and/or requires PTO operation.

ENGINE hp (kW)	TORQUE lb-ft (N•m)
165-600 (123-447)	420-1850 (569-2508)
GVW lbs (kg)	
14,000-unlimited (6,350-unlimited)	

### EMERGENCY VEHICLE SERIES

Allison Emergency Vehicle Series offers a complete family of automatic transmissions to meet the special needs of fire and emergency vehicles.

ENGINE hp (kW)	TORQUE lb-ft (N•m)
165-700 (123-522)	420-1950 (569-2644)
GVW lbs (kg)	
14,000-unlimited (6,350-unlimited)	

## PUPIL TRANSPORT/SHUTTLE SERIES

Allison Pupil Transport/Shuttle Series automatic transmissions are ideally suited for school bus, shuttle bus and other select non-school applications.

## TRUCK RV SERIES

Allison Truck RV Series automatic transmissions are specifically designed to provide more power and more performance for truck recreational vehicles.

## SPECIALTY SERIES

Allison Specialty Series automatic transmissions provide extended torque range, higher GVW capacity and advanced electronic controls to get the most performance out of higher horsepower engines, suited for military, tactical, combat and support vehicles.

## OIL FIELD SERIES

Allison Oil Field Series automatic transmissions are the only Allison transmissions certified for well servicing rig propulsion and auxiliary power applications such as high pressure pumping and hoisting.

## OFF ROAD SERIES

Allison Off Road Series provides technologically advanced, smaller, lighter, yet very robust automatic transmissions for articulated dumps, rigid dumps and other off-road applications.

ENGINE	hp (kW)	TORQUE	lb-ft (N•m)
165-340 <sup>1</sup>	(123-254 <sup>1</sup> )	420-950	(569-1288)

GVW	lbs (kg)
14,000-unlimited	(6,350-unlimited)

ENGINE	hp (kW)	TORQUE	lb-ft (N•m)
200-600	(149-447)	520-1850	(705-2508)

GVW	lbs (kg)
20,000-unlimited	(9,072-unlimited)

ENGINE	hp (kW)	TORQUE	lb-ft (N•m)
165-800	(123-597)	420-1950	(569-2644)

GVW	lbs (kg)
14,000-unlimited	(6,350-unlimited)

ENGINE	hp (kW)	TORQUE	lb-ft (N•m)
300-665	(224-496)	950-1950	(1288-2644)

GVW	lbs (kg)
30,000-unlimited	(13,608-unlimited)

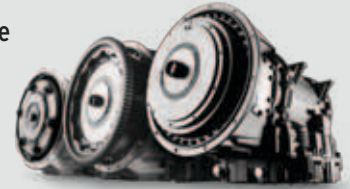
ENGINE	hp (kW)	TORQUE	lb-ft (N•m)
200-480	(149-358)	520-1700	(705-2305)

GVW	lbs (kg)
30,000-unlimited	(13,608-unlimited)

<sup>1</sup> Only available with SEM/LRTP - gasoline powered engine applications.

## FEATURES & BENEFITS

Specifying a vehicle is an important business proposition. And specifying the right transmission for the vehicle is one of the most critical decisions that will impact the performance of that vehicle and a company's bottom line. The right combination of drivetrain components will not only improve vehicle performance, it can improve the operating cost of the vehicle over its lifetime.



**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 medium- and heavy-duty commercial vehicles. They are engineered to meet the demands of your particular business while providing outstanding value.

**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. Our extensive network of over 1,500 authorized Allison Distributors and Dealers worldwide means convenient, factory-quality Allison Transmission service is always close at hand.

**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.

**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.

**SHIFT ENERGY MANAGEMENT (SEM)** Allison's SEM system 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.

**PROGNOSTICS** Most Allison Vocational Models are now available with Allison prognostics at no additional charge. 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.

**LOAD-BASED SHIFT SCHEDULING (LBSS)** To further optimize fuel economy and maintain superior Allison Automatic performance, several Allison Vocational Models feature LBSS. This feature automatically selects between Performance, Economy and Super Economy shift schedules based on the vehicle's actual payload and the grade on which it is operating. While results may vary depending on operating conditions, LBSS has proven to increase fuel economy by up to 5%.

**REDUCED ENGINE LOAD AT STOP (RELS)** RELS helps improve fuel economy for high density, stop-and-go duty cycles like pick-up and delivery applications. With RELS, the transmission automatically reduces the load on the engine when the vehicle is at a full stop. This not only saves fuel, it reduces overall vehicle emissions.

**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.

**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. 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.

**CHECK THE RPMS** A driver's performance correlates to the equipment they are driving. It's physically impossible for a driver in a manual- or automated manual-equipped vehicle to shift at optimum points and behave in such a way to optimize productivity. An Allison Automatic makes the decision for the driver and makes the right shift at the right time.

**2ND REVERSE** Allison 2nd Reverse offers a second "deep reverse" in addition to the standard reverse to provide greater control and engine braking during operation on steep grades. It also enables more maneuverability when operating in confined spaces. When a vehicle is in 2nd Reverse, it will have a slow creep capability with high engine speeds. With a mechanical ratio of -17.12:1, it will have an effective torque converter multiplied ratio up to 32.5:1. 2nd Reverse provides overall better performance and enhanced applicability for a variety of applications. Available on 4700 and 4800 vocational models.

**VEHICLE ACCELERATION CONTROL (VAC)** VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

**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 to operate than a comparable competitively equipped vehicle.

**ENHANCED CONVERTER LOAD RELEASE (ECLR)** Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

**FIFTH GENERATION ELECTRONIC CONTROLS** Available on all Allison Vocational Models, this next generation of Allison electronic controls offers an enhanced array of features designed to increase fuel efficiency and fuel economy for the specific needs of any application. It also maximizes transmission protection with advanced prognostics.



## Vocational Model Product Review

HIGHWAY SERIES	MOTORHOME SERIES	RUGGED DUTY SERIES	BUS SERIES	EMERGENCY VEHICLE SERIES
1000 HS	1000 MH	1000 RDS	B 210	1000 EVS
1350 HS	1350 MH	1350 RDS	B 220	1350 EVS
2100 HS	2100 MH	2100 RDS	B 300	2100 EVS
2200 HS	2200 MH	2200 RDS	B 400	2200 EVS
2300 HS	2350 MH	2300 RDS	B 500	2350 EVS
2350 HS	2500 MH	2350 RDS		2500 EVS
2500 HS	2550 MH	2500 RDS		2550 EVS
2550 HS	3000 MH	2550 RDS		3000 EVS
3000 HS	4000 MH	3000 RDS		3500 EVS
4000 HS		3500 RDS		4000 EVS
4500 HS		4000 RDS		4500 EVS
		4500 RDS		4700 EVS
		4700 RDS		4800 EVS

TRUCK RV SERIES	PUPIL TRANSPORT/SHUTTLE SERIES	SPECIALTY SERIES	OIL FIELD SERIES	OFF ROAD SERIES
3000 TRV	1000 PTS	1000 SP	3500 OFS	3000 ORS
3200 TRV	1350 PTS	1350 SP	4500 OFS	3200 ORS
4000 TRV	2100 PTS	2100 SP	4700 OFS	3500 ORS
	2200 PTS	2200 SP	4750 OFS	4000 ORS
	2300 PTS	2350 SP		4200 ORS
	2350 PTS	2500 SP		4430 ORS
	2500 PTS	2550 SP		4500 ORS
	2550 PTS	3000 SP		4600 ORS
	3000 PTS	3200 SP		
		3500 SP		
		3700 SP		
		4000 SP		
		4430 SP		
		4500 SP		
		4700 SP		
		4800 SP		

Allison Highway Series transmissions get the most out of higher horsepower engines, while putting more control to the wheels. The result is smooth shifts at any speed and faster route times throughout the day.



# ALLISON TRANSMISSION HIGHWAY SERIES

RATINGS						
MODEL	SERIAL NUMBER	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup> hp (kW)	MAX INPUT TORQUE <sup>1</sup> lb-ft (N·m)	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING <sup>1,2</sup> lb-ft (N·m)
1000 HS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
1350 HS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2100 HS	6310	Close Ratio	No	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2200 HS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2300 HS <sup>5</sup>	6310	Close Ratio	No	325 (242)	n/a	450 (610)
2350 HS <sup>7</sup>	6310	Close Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	660 <sup>4</sup> (895) <sup>4</sup>
2500 HS	6310	Wide Ratio	No	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2550 HS <sup>7</sup>	6310	Wide Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	660 <sup>4</sup> (895) <sup>4</sup>
3000 HS	6510	Close Ratio	n/a	370 (276)	1100 (1491)	1250 <sup>6</sup> (1695) <sup>6</sup>
4000 HS	6610	Close Ratio	n/a	565 (421)	1770 (2400)	1850 <sup>8</sup> (2508) <sup>8</sup>
4500 HS	6610	Wide Ratio	n/a	565 (421)	1650 (2237)	1850 <sup>8</sup> (2508) <sup>8</sup>

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 Available in gears three through six.

## HIGHWAY SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) torque limiting

Ratings up to 340 hp/660 lb-ft on 1000, 1350, 2100, 2200, 2350, 2500 and 2550 HS.

Ratings up to 325 hp/450 lb-ft on 2300 HS.

Ratings up to 370 hp/1250 lb-ft on 3000 HS.

Ratings up to 565 hp/1850 lb-ft on 4000 and 4500 HS.

### High density start/stop calibrations

Improves shift operation, especially in congested traffic environments.

Available on 1000, 2100, 2200 and 2300 HS.

### Reduced Engine Load at Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Oil Level Sensor (OLS)

At the push of a button, oil levels are displayed on shift selectors for easy identification.

Standard on 3000, 4000 and 4500 HS.

### Additional speeds

Five forward speeds standard on 3000 HS.

### Deep oil pan/sump standard

Optional shallow oil pan available on 1000 HS.

### Load-Based Shift Scheduling (LBSS)

This feature automatically selects between Performance, Economy and Super Economy shift schedules based on the vehicle's actual payload and the grade on which it is operating. This helps to optimize fuel economy and maintain productivity.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.



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

3000 HS

4000 HS, 4500 HS



## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Highway Series Individual Brochure SA3741EN (English)
- Highway Series Individual Brochure SA3741ES (Spanish)
- Highway Series Individual Brochure SA3741FR (French)

### GENERAL BROCHURES

- Saddle Creek Customer Profile SA7274EN
- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Residual Value Brochure SA3737EN
- Startability Flyer SA5889EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Torque Converter Brochure SA7172EN
- Blue Bell Creameries Testimonial Flyer SA5414EN
- Kramer Testimonial Flyer SA5417EN
- Perry Testimonial Flyer SA5418EN
- Ukrops Testimonial Flyer SA5699EN
- Tractor Brochure SA5999EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- Ukrops Testimonial DV5687EN
- Four Truckers Testimonial DV5566EN
- Kramer Beverage Company Testimonial DV5362EN
- Perry Distributors Testimonial DV5368EN
- Blue Bell Creameries Testimonial DV5360EN
- Eddie Nichols: One Million Miles and Counting Testimonial DV5358EN
- Saddle Creek Customer Profile DV7274EN

MAX TURBINE TORQUE <sup>3</sup> lb-ft (N·m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	26,000 (11,800)
950 <sup>5</sup> (1288) <sup>5</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
1600 (2169)	80,000 (36,288)	80,000 (36,288)
2600 (3525)	-	-
2600 (3525)	-	-

## TYPICAL VEHICLE APPLICATIONS

Any vehicle that operates on highway and does not need a PTO requires an Allison Highway Series transmission

Armored Car	Line Haul
Automobile Transporter	Livestock Hauler
Beverage Delivery	Manufacturing
Distribution	Moving/Storage
Dry Bulk	One-way Rental Truck
Equipment Hauler (no permit/escort)	Recycling
Flatbed	Shorthaul/LTL
Food Distribution	Stake Truck
General Freight	Van
	Walk-in Van

**HIGHWAY SERIES**

™

VOCATION PACKAGE NUMBER			1000/2000 PRODUCT FAMILIES			3000/4000 PRODUCT FAMILIES					
			REPLACEMENT PACKAGES*			On-Highway Vehicles					
INPUT FUNCTIONS			Normally Activated?	354 Replaces 350	374 New for 5th Gen	380 New for 5th Gen	223 Replaces 200	226 Replaces 200	235 Replaces 201	247 Replaces 201	263 New for 5th Gen
A	Secondary Mode Input	Yes	142	142	142	M	M	142	142	M	
C1**	PTO Drive Interface Input 1	Yes	143	162	143	143		M	143	143	
C2**	PTO Drive Interface Input 2	No			102					102	
D	Shift Selector Transition Input	No									
E	Auxiliary Function Range Inhibit - Single Input	No	101	101	101	101	101	101	101	101	
F	Auxiliary Function Range Inhibit - Dual Input	Yes									
G	Auxiliary Hold Input	Yes				142	142		M	142	
H	Engine Brake Interface Input (Standard)	No	102	102		102/157	102/157	102/157	102/157		
I	Engine Brake Interface Input (Special)	No									
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No									
K	Quick-to-Neutral Input	No									
L	Automatic Neutral - Single Input	No	123	123	123	117	117	117	117	117	
Q	Two Speed Axle Interface Input	Yes									
R	Manual Lockup Control Input	No									
V	Reverse Enable Input	No									
W	Direction Change Enable Input	No				122	122	143		122	
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121	
Z	Retarder Interface Input	Yes				161	161	161	161	161	
AA	Service Brake Status Input	Yes	162		162	162	162	162	162	162	
AF	Differential Clutch Interface Input (3700 Only)	Yes									
AG	Automatic Neutral - Dual Input	Yes									
AH	Accelerator Pedal Kickdown Input	Yes						122	122		
AI	Auxiliary Function Range Inhibit - Single Input (Specialty Vehicle)	No									
AJ	Pump Mode Input (4th Lockup)	No									
AK	Automatic Neutral - Dual Input with Service Brake Status	Yes									
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes									
AM	Reverse Inhibit with Preselect Request Interface Input	No									
AQ	Shift Selector Display Blanking Input	Yes									
AR	Overdrive Disable Interface Input	Yes	161	161	161						
AS	Reduced Engine Load at Stop (RELS) Input	No		143		123	123	123	123	123	
AW	2nd Reverse Input	No				179				179	
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes									
BQ	Pump Mode Input (3rd Lockup)	No									
BY	Aux. Box Transition Input	Yes									
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes									
CA	Automatic Neutral - Brake-Based (BBAN) Input for PTO	No									
CB1	Preselect Request 1 Input	Yes	122	122	122						
CB2	Preselect Request 2 Input	Yes									
CC	High N/V Ratio Input	No									
CD	Automatic Neutral - Single Input with Selector Override	Yes									
CE	Direct Hold Input	No									
CF	Automatic Neutral - Idle Start/Stop Input	Yes									
CH	Automatic Neutral - Single Input, Inverted	No									
CN	Automatic Neutral - Dual Input with Automatic Return-to-Range	No									
OUTPUT FUNCTIONS											
A	Engine Brake Interface Indicator	No	104	104		104	104	104	104		
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164	
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145	145	145	145	145	145	
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105	
G1**	PTO Drive Interface 1 Indicator	Yes	150	150	150	130		130	130	130	
G2**	PTO Drive Interface 2 Indicator	No			104					104	
I	Engine Overspeed Indicator	Yes					130				
J	Two Speed Axle Interface Indicator	Yes									
K	Lockup Indicator	Yes									
N	Secondary Mode Indicator	Yes				113	113	113		113	
O	Transmission Service Indicator	Yes	113	113	113						
Q	Retarder Interface Indicator	Yes				124	124	124	124	124	
R	Differential Clutch Interface Indicator (3700 Only)	Yes									
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes									
AD	Range Inhibited Indicator	Yes	124	124	124						
AJ	Output Speed Indicator A, Inverted	Yes									

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* PTOs are not available with HS Series hardware even though the wire option is shown in the package.

The Allison Motorhome Series automatic transmissions make motorhomes of any size perform better and handle easier under any road or load condition. Allison Automatics deliver the power, control and traction to help you handle any situation.



# ALLISON TRANSMISSION MOTORHOME SERIES

RATINGS						
MODEL	SERIAL NUMBER	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup>	MAX INPUT TORQUE <sup>1</sup>	MAX INPUT w/SEM OR TORQUE LIMITING <sup>1,2</sup>
				hp (kW)	lb-ft (N·m)	lb-ft (N·m)
1000 MH	6310 MH	Close Ratio	Yes	340 <sup>4,5</sup> (254) <sup>4,5</sup>	575 (780)	660 <sup>5</sup> (895) <sup>5</sup>
1350 MH	6310 MH	Close Ratio	Yes	340 <sup>4,5</sup> (254) <sup>4,5</sup>	575 (780)	660 <sup>5</sup> (895) <sup>5</sup>
2100 MH	6310 MH	Close Ratio	No	340 <sup>4,5</sup> (254) <sup>4,5</sup>	575 (780)	700 <sup>7</sup> (950) <sup>7</sup>
2200 MH	6310 MH	Close Ratio	Yes	340 <sup>4,5</sup> (254) <sup>4,5</sup>	575 (780)	700 <sup>7</sup> (950) <sup>7</sup>
2350 MH	6310 MH	Close Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	700 <sup>7</sup> (950) <sup>7</sup>
2500 MH	6310 MH	Wide Ratio	No	340 <sup>4,5</sup> (254) <sup>4,5</sup>	575 (780)	700 <sup>5,6</sup> (950) <sup>5,6</sup>
2550 MH	6310 MH	Wide Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	700 <sup>7</sup> (950) <sup>7</sup>
3000 MH	6510 MH	Close Ratio	n/a	450 (336)	1250 (1695)	n/a
4000 MH	6610 MH	Close Ratio	n/a	650 (485)	1950 (2644)	n/a

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 iSCAN standard deductions. 4 SEM and torque limiting are required to obtain this rating. 5 Check with your OEM to ensure offerings. 6 Available in gears three through five. 7 With 5th Gen controls. In ranges 3-5.

## MOTORHOME SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) with torque limiting

Ratings up to 340 hp/660 lb-ft on 1000, 1350, 2100, 2200, 2350, and 2550 MH.

Ratings up to 340 hp/700 lb-ft on 2500 MH.

### PTO option available

All Motorhome Series models.

### Deep oil sump/pan standard

Shallow pan option available on 1000 MH.

### Oil Level Sensor (OLS)

At the push of a button, oil levels are displayed on shift selectors for easy identification.

Standard on 3000 and 4000 MH.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### Reduced Engine Load At Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

## TYPICAL VEHICLE APPLICATIONS

**Type A and Bus Conversion  
Motorhomes Class 5-8**

**Type C Motorhomes Class 4-5**

**Motorhome**

**Entertainer Travel Coach**

Class 6-8 Type C Motorhomes require Truck RV Series

**MOTORHOME SERIES**

TM

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Motorhome Series Individual Brochure SA3362EN

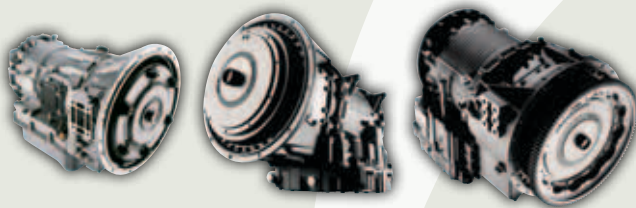
### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Residual Value Brochure SA3737EN
- Startability Flyer SA5889EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Motorhome Tips SA2742EN
- Torque Converter Brochure SA7172EN
- Retarder Brochure SA2953EN
- FMCA Testimonial Flyer SA5514EN
- Dreyer and Reinbold Racing Testimonial Flyer SA5419EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- FMCA Testimonial DV5370EN
- Dreyer and Reinbold Racing Testimonial DV5364EN

MAX TURBINE TORQUE <sup>3</sup>	MAX GVW	MAX GCW
lb-ft (N·m)	lbs (kg)	lbs (kg)
950 <sup>4</sup> (1288) <sup>4</sup>	22,000 (10,000)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	22,000 (10,000)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
1700 (2305)	-	-
2800 (3795)	-	-



1000 MH, 1350 MH,  
2100 MH, 2200 MH,  
2350 MH, 2500 MH,  
2550 MH

3000 MH

4000 MH

FOR THOSE WHO LOVE  
TO DRIVE, IT DOESN'T GET  
ANY BETTER THAN THIS.



**MOTORHOME SERIES**

I/O Packages

VOCATION PACKAGE NUMBER

Allison Transmission Fifth Generation Electronic Controls

			1000/2000 PRODUCT FAMILIES					3000/4000 PRODUCT FAMILIES				
			Motorhome					Motorhome				
REPLACEMENT PACKAGES*			354	369	374	379	380	223	226	263		
			Replaces 351	Same as 4th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen	Replaces 113	Replaces 116	New for 5th Gen		
INPUT FUNCTIONS			Normally Activated?									
A	Secondary Mode Input	Yes	142	142	142	142	142	M	M	M		
C1	PTO Drive Interface Input 1	Yes	143	143	162	162	143	143		143		
C2	PTO Drive Interface Input 2	No					102			102		
D	Shift Selector Transition Input	No										
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101	101	101		
F	Auxiliary Function Range Inhibit – Dual Input	Yes										
G	Auxiliary Hold Input	Yes						142	142	142		
H	Engine Brake Interface Input (Standard)	No	102	102	102	102		102/157	102/157			
I	Engine Brake Interface Input (Special)	No										
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No										
K	Quick-to-Neutral Input	No										
L	Automatic Neutral – Single Input	No	123	123	123	123	123	117	117	117		
Q	Two Speed Axle Interface Input	Yes										
R	Manual Lockup Control Input	No										
V	Reverse Enable Input	No										
W	Direction Change Enable Input	No						122	122	122		
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121		
Z	Retarder Interface Input	Yes						161	161	161		
AA	Service Brake Status Input	Yes	162	162			162	162	162	162		
AF	Differential Clutch Interface Input (3700 Only)	Yes										
AG	Automatic Neutral – Dual Input	Yes										
AH	Accelerator Pedal Kickdown Input	Yes										
AI	Aux. Function Range Inhibit – Single Input (Specialty Vehicle)	No										
AJ	Pump Mode Input (4th Lockup)	No										
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes										
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes										
AM	Reverse Inhibit with Preselect Request Interface Input	No										
AQ	Shift Selector Display Blanking Input	Yes										
AR	Overdrive Disable Interface Input	Yes	161	161	161	161	161					
AS	Reduced Engine Load at Stop (RELS) Input	No			143	143		123	123	123		
AW	2nd Reverse Input	No						179		179		
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes										
BQ	Pump Mode Input (3rd Lockup)	No										
BY	Aux. Box Transition Input	Yes										
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes										
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No		122		122						
CB1	Preselect Request 1 Input	Yes	122		122		122					
CB2	Preselect Request 2 Input	Yes										
CC	High N/V Ratio Input	No										
CD	Automatic Neutral – Single Input with Selector Override	Yes										
CE	Direct Hold Input	No										
CF	Automatic Neutral – Idle Start/Stop Input	Yes										
CH	Automatic Neutral – Single Input, Inverted	No										
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No										
OUTPUT FUNCTIONS												
A	Engine Brake Interface Indicator	No	104	104	104	104		104	104			
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164		
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	145	145	145	145		
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105		
G1	PTO Drive Interface 1 Indicator	Yes	150	150	150	150	150	130		130		
G2	PTO Drive Interface 2 Indicator	No					104			104		
I	Engine Overspeed Indicator	Yes							130			
J	Two Speed Axle Interface Indicator	Yes										
K	Lockup Indicator	Yes										
N	Secondary Mode Indicator	Yes						113	113	113		
O	Transmission Service Indicator	Yes	113	113	113	113	113					
Q	Retarder Interface Indicator	Yes						124	124	124		
R	Differential Clutch Interface Indicator (3700 Only)	Yes										
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes										
AD	Range Inhibited Indicator	Yes	124	124	124	124	124					
AJ	Output Speed Indicator A, Inverted	Yes										

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

Allison's Bus Series automatics help put your vehicles and your business on schedule for superior operating economies, improved vehicle performance and better passenger comfort.



# ALLISON TRANSMISSION BUS SERIES

				RATINGS			
MODEL	SERIAL NUMBER	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup> w/o SEM hp (kW)	MAX INPUT POWER w/SEM OR TORQUE LIMITING <sup>1,2</sup> hp (kW)	MAX INPUT TORQUE <sup>1</sup> w/o SEM lb-ft (N·m)	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING <sup>1,2</sup> lb-ft (N·m)
<b>B 210</b>	<b>6310</b>						
- Transit		Close Ratio	No	230 (172)	270 (201)	520 (705)	575 (780)
<b>B 220</b>	<b>6310</b>						
- Transit		Close Ratio	Yes	230 (172)	270 (201)	520 (705)	575 (780)
<b>B 300</b>	<b>6510</b>						
- Transit		Close Ratio	n/a	280 (209)	n/a	735 (997)	n/a
<b>B 400</b>	<b>6510</b>						
- Transit		Close Ratio	n/a	300 (224)	n/a	925 (1254)	n/a
- Tour Coach		Close Ratio	n/a	330 (246)	n/a	1000 (1356)	n/a
<b>B 500</b>	<b>6610</b>						
- Transit		Close Ratio	n/a	420 (313)	n/a	1300 (1763)	n/a
- Intercity Coach		Close Ratio	n/a	550 (410)	n/a	1700 (2305)	n/a

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.

## BUS SERIES FEATURES AND ADVANTAGES

**Shift Energy Management (SEM) torque limiting**  
Ratings up to 270 hp/575 lb-ft on B 210 and B 220.

**High-density start/stop calibrations**  
Improves shift operations especially in congested traffic environments.  
Available on B 210 and B 220.

**Reduced Engine Load at Stop (RELS)**  
Enhances fuel economy and helps reduce emissions.

**Load-Based Shift Scheduling (LBSS)**  
This feature automatically selects between Performance, Economy and Super Economy shift schedules based on the vehicle's actual payload and the grade on which it is operating. This helps to optimize fuel economy and maintain productivity.

**Prognostics**  
Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

**Vehicle Acceleration Control (VAC)**  
VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load. Available on select Bus Series vocational models.

**Enhanced Converter Load Release (ECLR)**  
Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.





MAX TURBINE TORQUE <sup>3</sup>	MAX GVW	MAX GCW
lb-ft (N·m)	lbs (kg)	lbs (kg)
850 (1152)	29,000 (13,150)	29,000 (13,150)
850 (1152)	29,000 (13,150)	29,000 (13,150)
1370 (1857)	38,000 (17,236)	38,000 (17,236)
1370 (1857)	45,000 (20,412)	45,000 (20,412)
1600 (2170)	45,000 (20,412)	45,000 (20,412)
2450 (3322)	-	-
2450 (3322)	-	-

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Bus Series Individual Brochure SA3740EN (English)
- Bus Series Individual Brochure SA3740ES (Spanish)

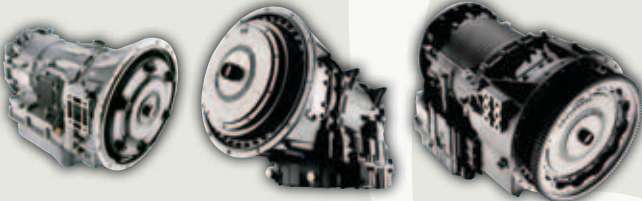
### GENERAL BROCHURES

- Optimization Case Study - Greyhound SA5841EN
- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Load-Based Shift Scheduling Flyer SA5658EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Torque Converter Brochure SA7172EN
- Retarder Brochure SA2953EN
- PSTA Customer Profile SA7238EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- Greyhound Testimonial DV5908EN
- PSTA Customer Profile DV7237EN

MOVE PEOPLE MORE ECONOMICALLY,  
MORE COMFORTABLY.



B 210, B 220

B 300, B 400

B 500

## TYPICAL VEHICLE APPLICATIONS

Revenue-Generating/  
FTA Transit Bus Applications

Transit Bus

Intercity Bus less than 53,000 lbs GVW

Tour Coach

Shuttle Bus over 33,000 lbs GVW

**BUS SERIES D Packages**

VOCATION PACKAGE NUMBER

1000/2000 PRODUCT FAMILIES

REPLACEMENT PACKAGES*			Bus Models						
			353	354	369	373	374	379	380
INPUT FUNCTIONS			Same as 4th Gen	Replaces 351	Same as 4th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen
		Normally Activated?							
A	Secondary Mode Input	Yes	142	142	142	142	142	142	142
C1	PTO Drive Interface Input 1	Yes		143	143		162	162	143
C2	PTO Drive Interface Input 2	No							102
D	Shift Selector Transition Input	No							
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes							
G	Auxiliary Hold Input	Yes							
H	Engine Brake Interface Input (Standard)	No		102	102		102	102	
I	Engine Brake Interface Input (Special)	No	102			102			
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No							
K	Quick-to-Neutral Input	No							
L	Automatic Neutral – Single Input	No	123	123	123	123	123	123	123
Q	Two Speed Axle Interface Input	Yes							
R	Manual Lockup Control Input	No							
V	Reverse Enable Input	No	143			162			
W	Direction Change Enable Input	No							
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes							
AA	Service Brake Status Input	Yes	162	162	162				162
AF	Differential Clutch Interface Input (3700 Only)	Yes							
AG	Automatic Neutral – Dual Input	Yes							
AH	Accelerator Pedal Kickdown Input	Yes	122			122			
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No							
AJ	Pump Mode Input (4th Lockup)	No							
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes							
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes							
AM	Reverse Inhibit with Preselect Request Interface Input	No							
AQ	Shift Selector Display Blanking Input	Yes							
AR	Overdrive Disable Interface Input	Yes	161	161	161	161	161	161	161
AS	Reduced Engine Load at Stop (RELS) Input	No				143	143	143	
AW	2nd Reverse Input	No							
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes							
BQ	Pump Mode Input (3rd Lockup)	No							
BY	Aux. Box Transition Input	Yes							
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes							
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No			122			122	
CB1	Preselect Request 1 Input	Yes		122			122		122
CB2	Preselect Request 2 Input	Yes							
CC	High N/V Ratio Input	No							
CD	Automatic Neutral – Single Input with Selector Override	Yes							
CE	Direct Hold Input	No							
CF	Automatic Neutral – Idle Start/Stop Input	Yes							
CH	Automatic Neutral – Single Input, Inverted	No							
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No							
OUTPUT FUNCTIONS									
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes		150	150		150	150	150
G2	PTO Drive Interface 2 Indicator	No							104
I	Engine Overspeed Indicator	Yes							
J	Two Speed Axle Interface Indicator	Yes							
K	Lockup Indicator	Yes							
N	Secondary Mode Indicator	Yes							
O	Transmission Service Indicator	Yes	113	113	113	113	113	113	113
Q	Retarder Interface Indicator	Yes							
R	Differential Clutch Interface Indicator (3700 Only)	Yes							
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes							
AD	Range Inhibited Indicator	Yes	124	124	124	124	124	124	124
AJ	Output Speed Indicator A, Inverted	Yes							

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

VOCATION PACKAGE NUMBER

3000/4000 PRODUCT FAMILIES

Transit Bus and Intercity Coach (Maximum Economy Calibration)

REPLACEMENT PACKAGES*			129	130	148	159	210	235
			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Replaces 147
INPUT FUNCTIONS		Normally Activated?						
A	Secondary Mode Input	Yes	M	142	M	M	M	142
C1	PTO Drive Interface Input 1	Yes			143		143	M
C2	PTO Drive Interface Input 2	No						
D	Shift Selector Transition Input	No						
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101		101
F	Auxiliary Function Range Inhibit – Dual Input	Yes						
G	Auxiliary Hold Input	Yes			142	142		
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157		102/157
I	Engine Brake Interface Input (Special)	No						
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No						
K	Quick-to-Neutral Input	No						
L	Automatic Neutral – Single Input	No			117	117		117
Q	Two Speed Axle Interface Input	Yes						
R	Manual Lockup Control Input	No						
V	Reverse Enable Input	No	117	117				
W	Direction Change Enable Input	No		143		143	142	143
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes						
AG	Automatic Neutral – Dual Input	Yes					101/117	
AH	Accelerator Pedal Kickdown Input	Yes	122	122	122	122	122	122
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No						
AJ	Pump Mode Input (4th Lockup)	No						
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes						
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes						
AM	Reverse Inhibit with Preselect Request Interface Input	No					123	
AQ	Shift Selector Display Blanking Input	Yes						
AR	Overdrive Disable Interface Input	Yes						
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123	123	123	102	123
AW	2nd Reverse Input	No						
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes						
BQ	Pump Mode Input (3rd Lockup)	No						
BY	Aux. Box Transition Input	Yes						
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes						
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No						
CB1	Preselect Request 1 Input	Yes						
CB2	Preselect Request 2 Input	Yes						
CC	High N/V Ratio Input	No						
CD	Automatic Neutral – Single Input with Selector Override	Yes						
CE	Direct Hold Input	No						
CF	Automatic Neutral – Idle Start/Stop Input	Yes						
CH	Automatic Neutral – Single Input, Inverted	No						
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No						
OUTPUT FUNCTIONS								
A	Engine Brake Interface Indicator	No	104	104	104	104		104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	113	145
D	Output Speed Indicator A	Yes	130	130	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes			130		130	130
G2	PTO Drive Interface 2 Indicator	No						
I	Engine Overspeed Indicator	Yes				113		
J	Two Speed Axle Interface Indicator	Yes						
K	Lockup Indicator	Yes						
N	Secondary Mode Indicator	Yes				130		113
O	Transmission Service Indicator	Yes						
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes						
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes					145	
AD	Range Inhibited Indicator	Yes						
AJ	Output Speed Indicator A, Inverted	Yes						

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

VOCATION PACKAGE NUMBER			3000/4000 PRODUCT FAMILIES					
			Transit Bus and Intercity Coach (Maximum Economy Calibration)		Transit Bus and Intercity Coach			
REPLACEMENT PACKAGES*			247	262	139	211	212	215
			Replaces 141, 201	New for 5th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen
INPUT FUNCTIONS		Normally Activated?						
A	Secondary Mode Input	Yes	142	M	M	M	122	M
C1	PTO Drive Interface Input 1	Yes	143		143	143	143	143
C2	PTO Drive Interface Input 2	No						
D	Shift Selector Transition Input	No						
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes						
G	Auxiliary Hold Input	Yes	M	142		123	123	
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157	102/157
I	Engine Brake Interface Input (Special)	No						
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No						
K	Quick-to-Neutral Input	No						
L	Automatic Neutral – Single Input	No	117					
Q	Two Speed Axle Interface Input	Yes						
R	Manual Lockup Control Input	No						
V	Reverse Enable Input	No						
W	Direction Change Enable Input	No		143				
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes						
AG	Automatic Neutral – Dual Input	Yes			117/142			
AH	Accelerator Pedal Kickdown Input	Yes	122	122				
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No						
AJ	Pump Mode Input (4th Lockup)	No						
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes						
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes						
AM	Reverse Inhibit with Preselect Request Interface Input	No						
AQ	Shift Selector Display Blanking Input	Yes						
AR	Overdrive Disable Interface Input	Yes						
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123				123
AW	2nd Reverse Input	No						
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes						
BQ	Pump Mode Input (3rd Lockup)	No						
BY	Aux. Box Transition Input	Yes						
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes						
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No						
CB1	Preselect Request 1 Input	Yes						
CB2	Preselect Request 2 Input	Yes						
CC	High N/V Ratio Input	No						
CD	Automatic Neutral – Single Input with Selector Override	Yes						
CE	Direct Hold Input	No						
CF	Automatic Neutral – Idle Start/Stop Input	Yes				117/142	117/142	117/142
CH	Automatic Neutral – Single Input, Inverted	No						
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No		117				
OUTPUT FUNCTIONS								
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145		145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130		130	130	130	130
G2	PTO Drive Interface 2 Indicator	No						
I	Engine Overspeed Indicator	Yes		113				
J	Two Speed Axle Interface Indicator	Yes						
K	Lockup Indicator	Yes						
N	Secondary Mode Indicator	Yes		130		113	113	113
O	Transmission Service Indicator	Yes						
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes						
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes			145			
AD	Range Inhibited Indicator	Yes						
AJ	Output Speed Indicator A, Inverted	Yes						

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

VOCATION PACKAGE NUMBER

REPLACEMENT PACKAGES\*

3000/4000 PRODUCT FAMILIES

Transit Bus and Intercity Coach

		217	223	226	234	236	263	
		Same as 4th Gen	Replaces 113, 140	Replaces 116	Replaces 138	Replaces 137, 155	New for 5th Gen	
INPUT FUNCTIONS		Normally Activated?						
A	Secondary Mode Input	Yes	M	M	M	142	M	M
C1	PTO Drive Interface Input 1	Yes	143	143		M	143	143
C2	PTO Drive Interface Input 2	No					102	102
D	Shift Selector Transition Input	No						
E	Auxiliary Function Range Inhibit – Single Input	No		101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes						
G	Auxiliary Hold Input	Yes		142	142		142	142
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157		
I	Engine Brake Interface Input (Special)	No						
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No						
K	Quick-to-Neutral Input	No						
L	Automatic Neutral – Single Input	No		117	117	117	117	117
Q	Two Speed Axle Interface Input	Yes						
R	Manual Lockup Control Input	No						
V	Reverse Enable Input	No						
W	Direction Change Enable Input	No		122	122		122	122
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes						
AG	Automatic Neutral – Dual Input	Yes						
AH	Accelerator Pedal Kickdown Input	Yes						
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No						
AJ	Pump Mode Input (4th Lockup)	No						
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes	101/117					
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes						
AM	Reverse Inhibit with Preselect Request Interface Input	No						
AQ	Shift Selector Display Blanking Input	Yes						
AR	Overdrive Disable Interface Input	Yes						
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123	123		123	123
AW	2nd Reverse Input	No		179			179	179
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes						
BQ	Pump Mode Input (3rd Lockup)	No						
BY	Aux. Box Transition Input	Yes						
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes						
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No						
CB1	Preselect Request 1 Input	Yes			123			
CB2	Preselect Request 2 Input	Yes						
CC	High N/V Ratio Input	No						
CD	Automatic Neutral – Single Input with Selector Override	Yes						
CE	Direct Hold Input	No						
CF	Automatic Neutral – Idle Start/Stop Input	Yes						
CH	Automatic Neutral – Single Input, Inverted	No						
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No						
OUTPUT FUNCTIONS								
A	Engine Brake Interface Indicator	No	104	104	104	104		
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130	130		130	130	130
G2	PTO Drive Interface 2 Indicator	No					104	104
I	Engine Overspeed Indicator	Yes			130			
J	Two Speed Axle Interface Indicator	Yes						
K	Lockup Indicator	Yes						
N	Secondary Mode Indicator	Yes		113	113	113	113	113
O	Transmission Service Indicator	Yes						
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes						
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes	113					
AD	Range Inhibited Indicator	Yes						
AJ	Output Speed Indicator A, Inverted	Yes						

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

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Your trucks and drivers don't lead a pampered life. They travel bad roads, back roads and to places that have no roads. Their performance and productivity rise to a whole new level when you spec Allison Rugged Duty Series transmissions.





## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Rugged Duty Series Individual Brochure SA3743EN (English)
- Rugged Duty Series Individual Brochure SA3743ES (Spanish)
- Rugged Duty Series Individual Brochure SA3743FR (French)

### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Construction Brochure SA5895EN
- Residual Value Brochure SA3737EN
- 2nd Reverse Flyer SA5865EN
- Startability Flyer SA5889EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Retarder Brochure SA2953EN
- Torque Converter Brochure SA7172EN
- TranSynd™ Maximum Protection Flyer SA3239EN
- Tractor Brochure SA5999EN
- Northern Energy Testimonial Flyer SA5530EN
- U.S. Concrete Testimonial Flyer SA5531EN
- Van Dyke Testimonial Flyer SA6027EN
- RMC Testimonial Flyer SA7123EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- Pea Gravel Demo CD5451EN
- Backing Down Grades CD5461EN
- Construction CD5460EN
- Northern Energy Testimonial DV5527EN
- U.S. Concrete Testimonial DV5524EN
- Dunning Sand & Gravel Testimonial DV5366EN
- Canadian Logging Testimonial DV5356EN
- Van Dyke Testimonial DV6028EN
- RMC Testimonial DV7124EN

## TYPICAL VEHICLE APPLICATIONS

Airport Support  
Baggage Transport Vehicle  
Concrete Mixer  
Concrete Pumper  
Dump Truck  
Equipment Hauler  
Farm/Agriculture  
Refuse Front Loader - Landfill  
Refuse Front Loader - No Landfill  
Heavy Equipment Transport (HET)  
Liquid Waste Hauler  
Materials Hauler  
Municipal Services Maintenance Vehicle  
Packing Recycling Truck  
Public Utility Vehicle  
Rear Loader - Landfill  
Rear Loader - No Landfill  
Roll On/Roll Off - Landfill  
Roll On/Roll Off - No Landfill  
Sewer/Septic Vacuum - Landfill  
Sewer/Septic Vacuum - No Landfill  
Refuse Side Loader - Landfill  
Refuse Side Loader - No Landfill  
Special Snow Removal Vehicle  
Street Cleaning Vehicle  
Transfer/Relocation Vehicle  
Wood Chip Hauler  
Wrecker  
Yard Tractor/Spotter

**RUGGED DUTY SERIES**™

# ALLISON TRANSMISSION RUGGED DUTY SERIES

RATINGS						
MODEL	SERIAL NUMBER	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup>	MAX INPUT TORQUE <sup>1</sup>	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING <sup>1,2</sup>
				hp (kW)	lb-ft (N·m)	lb-ft (N·m)
1000 RDS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
1350 RDS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2100 RDS	6310	Close Ratio	No	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2200 RDS	6310	Close Ratio	Yes	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
2300 RDS	6310	Close Ratio	No	325 (242)	n/a	450 (610)
2350 RDS	6310	Close Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	660 <sup>4</sup> (895) <sup>4</sup>
2500 RDS	6310					
- On-/Off-Highway		Wide Ratio	No	340 <sup>4,7</sup> (254) <sup>4,7</sup>	575 (780)	660 <sup>4,7</sup> (895) <sup>4,7</sup>
- Refuse <sup>12</sup>		Wide Ratio	No	300 (224)	550 (746)	565 (766)
2550 RDS <sup>7</sup>	6310	Wide Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	660 <sup>4</sup> (895) <sup>4</sup>
3000 RDS	6510					
- On-/Off-Highway		Close Ratio	n/a	370 (276)	1100 (1491)	1250 <sup>6,7</sup> (1695) <sup>6,7</sup>
- Mixer		Close Ratio	n/a	370 (276)	1100 (1491)	1250 <sup>6,7</sup> (1695) <sup>6,7</sup>
- Refuse		Close Ratio	n/a	370 (276)	1100 (1491)	1250 <sup>6,7</sup> (1695) <sup>6,7</sup>
- Specialty PTO/HET		Close Ratio	n/a	370 (276)	1250 <sup>7</sup> (1695) <sup>7</sup>	n/a
3500 RDS	6510					
- On-/Off-Highway		Wide Ratio	n/a	330 (246)	860 (1166)	1050 <sup>8</sup> (1424) <sup>8</sup>
- Mixer/Refuse		Wide Ratio	n/a	330 (246)	860 (1166)	n/a
- Specialty PTO		Wide Ratio	n/a	330 (246)	950 (1288)	1050 <sup>8</sup> (1424) <sup>8</sup>
- HET		Wide Ratio	n/a	330 (246)	985 (1335)	1050 <sup>8</sup> (1424) <sup>8</sup>
4000 RDS	6610					
- On-/Off-Highway		Close Ratio	n/a	565 <sup>11</sup> (421) <sup>11</sup>	1770 (2400)	1850 <sup>10</sup> (2508) <sup>10</sup>
- Refuse		Close Ratio	n/a	500 (373)	1550 (2102)	n/a
- Specialty PTO		Close Ratio	n/a	565 (421)	1770 (2400)	n/a
- HET		Close Ratio	n/a	600 (447)	1850 (2508)	n/a
4500 RDS	6610					
- On-/Off-Highway		Wide Ratio	n/a	565 <sup>11</sup> (421) <sup>11</sup>	1650 (2237)	1850 <sup>10</sup> (2508) <sup>10</sup>
- Refuse		Wide Ratio	n/a	500 (373)	1550 (2102)	n/a
- Specialty PTO		Wide Ratio	n/a	565 <sup>11</sup> (421) <sup>11</sup>	1650 (2237)	1770 <sup>8</sup> (2400) <sup>8</sup>
- HET		Wide Ratio	n/a	600 <sup>11</sup> (447) <sup>11</sup>	1650 (2237)	1850 <sup>8</sup> (2508) <sup>8</sup>
4700 RDS	6610					
- On-/Off-Highway		Widest Ratio	n/a	565 <sup>11</sup> (421) <sup>11</sup>	1770 (2400)	1850 <sup>9</sup> (2508) <sup>9</sup>
- Refuse		Widest Ratio	n/a	500 (373)	1550 (2102)	n/a
- HET		Widest Ratio	n/a	600 (447)	1850 (2508)	n/a

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 for 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 Available in gears two through six. 9 Only available in gears four through seven. 10 Only available in gears three through six. 11 With and without torque limiting. 12 Not approved for landfill use.



MAX TURBINE TORQUE <sup>5</sup>	MAX GVW	MAX GCW
lb-ft (N·m)	lbs (kg)	lbs (kg)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	26,000 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	24,200 (11,000)	24,200 (11,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
1600 (2169)	80,000 (36,288)	80,000 (36,288)
1600 (2169)	62,000 (28,123)	-
1600 (2169)	62,000 (28,123)	-
1700 (2305)	-	-
1450 <sup>4</sup> (1966) <sup>4</sup>	80,000 (36,288)	80,000 (36,288)
1420 (1925)	60,000 (27,216)	-
1450 (1966)	-	-
1450 (1966)	-	-
2600 (3525)	-	-
2450 (3322)	-	-
2600 (3525)	-	-
2600 (3525)	-	-
2450 (3322)	-	-
2450 (3322)	-	-
2600 (3525)	-	-
2600 (3525)	-	-
2600 (3525)	-	-
2450 (3322)	-	-
2600 (3525)	-	-

## RUGGED DUTY SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) with torque limiting

Ratings up to 340 hp/660 lb-ft on 1000, 1350, 2100, 2200, 2350 and 2550 RDS. Ratings up to 325 hp/450 lb-ft on 2300 RDS for On-/Off-Highway applications. Ratings up to 300 hp/565 lb-ft on 2500 RDS for Refuse applications. Ratings up to 370 hp/1250 lb-ft on 3000 RDS for On-/Off-Highway, Mixer, and Refuse applications.<sup>7</sup> Ratings up to 565 hp/1850 lb-ft on 4500 RDS for On-/Off-Highway and Specialty PTO applications. Ratings up to 600 hp/1850 lb-ft on 4500 RDS for HET applications.

### Oil Level Sensor (OLS)

At the push of a button, oil levels are displayed on shift selectors for easy identification. Standard 3000, 3500, 4000, 4500 and 4700 RDS.\*

### PTO delete option

Available on 3000, 3500, 4000 and 4500 RDS.

### Deep oil pan/sump

Standard for all Rugged Duty Series models.

### Load-Based Shift Scheduling (LBSS)

This feature automatically selects between Performance, Economy and Super Economy shift schedules based on the vehicle's actual payload and the grade on which it is operating. This helps to optimize fuel economy and maintain productivity.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### 2nd Reverse

Allison 2nd Reverse offers a second "deep reverse" in addition to the standard reverse to provide greater control and engine braking during operation on steep grades. It also enables more maneuverability when operating in confined spaces.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

### Reduced Engine Load At Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

\*OLS is not available for 4700 RDS with retarder



1000 RDS, 1350 RDS, 2100 RDS, 2200 RDS, 2300 RDS, 2350 RDS, 2500 RDS, 2550 RDS	3000 RDS, 3500 RDS	4000 RDS, 4500 RDS 4700 RDS
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**RUGGED DUTY SERIES**

**I/O Packages**

VOCATION PACKAGE NUMBER

1000/2000 PRODUCT FAMILIES

RDS Models

REPLACEMENT PACKAGES*			354	360	365	369	374	376	379	380
			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Replaces 370	New for 5th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?								
A	Secondary Mode Input	Yes	142	142	142	142	142	142	142	142
C1	PTO Drive Interface Input 1	Yes	143	143	143	143	162	101	162	143
C2	PTO Drive Interface Input 2	No								102
D	Shift Selector Transition Input	No								
E	Auxiliary Function Range Inhibit – Single Input	No	101		101	101	101		101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes								
G	Auxiliary Hold Input	Yes								
H	Engine Brake Interface Input (Standard)	No	102	102		102	102	102	102	
I	Engine Brake Interface Input (Special)	No								
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No								
K	Quick-to-Neutral Input	No								
L	Automatic Neutral – Single Input	No	123		123	123	123		123	123
Q	Two Speed Axle Interface Input	Yes								
R	Manual Lockup Control Input	No								
V	Reverse Enable Input	No								
W	Direction Change Enable Input	No								
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes								
AA	Service Brake Status Input	Yes	162	162	162	162		162		162
AF	Differential Clutch Interface Input (3700 Only)	Yes								
AG	Automatic Neutral – Dual Input	Yes								
AH	Accelerator Pedal Kickdown Input	Yes								
AI	Aux. Function Range Inhibit – Single Input (Specialty Vehicle)	No								
AJ	Pump Mode Input (4th Lockup)	No								
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes								
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes								
AM	Reverse Inhibit with Preselect Request Interface Input	No								
AQ	Shift Selector Display Blanking Input	Yes								
AR	Overdrive Disable Interface Input	Yes	161	161	161	161	161	161	161	161
AS	Reduced Engine Load at Stop (RELS) Input	No					143	143	143	
AW	2nd Reverse Input	No								
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes								
BQ	Pump Mode Input (3rd Lockup)	No		122/123				122/123		
BY	Aux. Box Transition Input	Yes								
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes								
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No				122			122	
CB1	Preselect Request 1 Input	Yes	122				122			122
CB2	Preselect Request 2 Input	Yes								
CC	High N/V Ratio Input	No			102/122					
CD	Automatic Neutral – Single Input with Selector Override	Yes								
CE	Direct Hold Input	No								
CF	Automatic Neutral – Idle Start/Stop Input	Yes								
CH	Automatic Neutral – Single Input, Inverted	No								
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No								
OUTPUT FUNCTIONS										
A	Engine Brake Interface Indicator	No	104	104		104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	150	150	150	150	150	150	150	150
G2	PTO Drive Interface 2 Indicator	No								104
I	Engine Overspeed Indicator	Yes								
J	Two Speed Axle Interface Indicator	Yes								
K	Lockup Indicator	Yes								
N	Secondary Mode Indicator	Yes								
O	Transmission Service Indicator	Yes	113	113	113	113	113	113	113	113
Q	Retarder Interface Indicator	Yes								
R	Differential Clutch Interface Indicator (3700 Only)	Yes								
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes								
AD	Range Inhibited Indicator	Yes	124	124	124	124	124	124	124	124
AJ	Output Speed Indicator A, Inverted	Yes								

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

VOCATION PACKAGE NUMBER

3000/4000 PRODUCT FAMILIES

			On/Off-Highway (2nd Reverse Capable)						Construction		Street Sweeper		Basic Refuse		
			223	224	235	236	247	263	146	175	167	169	180	225	
REPLACEMENT PACKAGES*			Replaces 113, 113, 2113, 4113	Replaces 3113, 6113	Replaces 114, 114	Replaces 155	Replaces 141	New for 5th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Replaces 144	Replaces 115	
INPUT FUNCTIONS			Normally Activated?												
A	Secondary Mode Input	Yes	M	M	142	M	142	M	M	122	142	M	M	M	
C1	PTO Drive Interface Input 1	Yes	143	143	M	143	143	143	143	143	M	142	143	143	
C2	PTO Drive Interface Input 2	No						102							
D	Shift Selector Transition Input	No											101		
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101	101				122	101	
F	Auxiliary Function Range Inhibit – Dual Input	Yes													
G	Auxiliary Hold Input	Yes	142	142		142	M	142		117			142	142	
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157		102/157	102/157	102/157	102/157	102/157	102/157	
I	Engine Brake Interface Input (Special)	No													
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No													
K	Quick-to-Neutral Input	No													
L	Automatic Neutral – Single Input	No	117		117	117	117	117			117	117	117		
Q	Two Speed Axle Interface Input	Yes							142		101	101			
R	Manual Lockup Control Input	No													
V	Reverse Enable Input	No									143				
W	Direction Change Enable Input	No	122	122	143	122		122				122			
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121	121	121	121	121	
Z	Retarder Interface Input	Yes	161	161	161	161	161	161	161	161	161	161	161	161	
AA	Service Brake Status Input	Yes	162	162	162	162	162	162	162	162	162	162	162	162	
AF	Differential Clutch Interface Input (3700 Only)	Yes													
AG	Automatic Neutral – Dual Input	Yes								101/142					
AH	Accelerator Pedal Kickdown Input	Yes			122			122	122						
AI	Aux. Function Range Inhibit – Single Input (Specialty Vehicle)	No													
AJ	Pump Mode Input (4th Lockup)	No													
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes													
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes													
AM	Reverse Inhibit with Preselect Request Interface Input	No								123					
AQ	Shift Selector Display Blanking Input	Yes							123						
AR	Overdrive Disable Interface Input	Yes													
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123	123		123	123					123		
AW	2nd Reverse Input	No	179	179				179							
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes													
BQ	Pump Mode Input (3rd Lockup)	No													
BY	Aux. Box Transition Input	Yes													
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes													
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No													
CB1	Preselect Request 1 Input	Yes				123									
CB2	Preselect Request 2 Input	Yes													
CC	High N/V Ratio Input	No													
CD	Automatic Neutral – Single Input with Selector Override	Yes		117											
CE	Direct Hold Input	No													
CF	Automatic Neutral – Idle Start/Stop Input	Yes													
CH	Automatic Neutral – Single Input, Inverted	No													
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No													
OUTPUT FUNCTIONS															
A	Engine Brake Interface Indicator	No	104	104	104	104	104		104	104	104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164	164	164	164	164	
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	145	145			113	113	113		
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105	105	105	105	105	
G1	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130	130	130	130	130	130	130	130	
G2	PTO Drive Interface 2 Indicator	No						104							
I	Engine Overspeed Indicator	Yes													
J	Two Speed Axle Interface Indicator	Yes							145		145	145			
K	Lockup Indicator	Yes													
N	Secondary Mode Indicator	Yes	113	113	113	113		113		113				113	
O	Transmission Service Indicator	Yes													
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124	124	124	124	124	124	124	
R	Differential Clutch Interface Indicator (3700 Only)	Yes													
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes								145			145	145	
AD	Range Inhibited Indicator	Yes													
AJ	Output Speed Indicator A, Inverted	Yes													

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

# RUGGED DUTY SERIES

# I/O Packages

## VOCATION PACKAGE NUMBER

## 3000/4000 PRODUCT FAMILIES

		Refuse with Auto-Neutral		Refuse w/Auto-Neutral & Service Brake		Premium Utility with Split-Shaft PTO					Premium Utility with Soft-Start for Split-Shaft PTO					
		142	145	183	168	170	149	150	172	216	266	219	220	221	222	267
REPLACEMENT PACKAGES*		Same as 4th Gen	Same as 4th Gen	Replaces 143, 183	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	New for 5th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	New for 5th Gen	
INPUT FUNCTIONS		Normally Activated?														
A	Secondary Mode Input	Yes	M	122		M	142	M	142	M	142	142	M	142	M	142
C1	PTO Drive Interface Input 1	Yes	143	143	143	143	143	M		M	143	M	M		M	143
C2	PTO Drive Interface Input 2	No										102				102
D	Shift Selector Transition Input	No	101	101		101				101		157			101	157
E	Auxiliary Function Range Inhibit – Single Input	No					101	101		101	101	101	101	101		101
F	Auxiliary Function Range Inhibit – Dual Input	Yes														
G	Auxiliary Hold Input	Yes														
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157	102/157	102/157	102/157		102/157	102/157	102/157	102/157	
I	Engine Brake Interface Input (Special)	No														
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No														
K	Quick-to-Neutral Input	No														
L	Automatic Neutral – Single Input	No														
Q	Two Speed Axle Interface Input	Yes														
R	Manual Lockup Control Input	No														
V	Reverse Enable Input	No								117	117				117	117
W	Direction Change Enable Input	No					117	117		117	179	117	117		117	179
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161	161	161	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162	162	162	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes														
AG	Automatic Neutral - Dual Input	Yes	117/142	117/142	117/142											
AH	Accelerator Pedal Kickdown Input	Yes														
AI	Aux. Function Range Inhibit – Single Input (Specialty Vehicle)	No														
AJ	Pump Mode Input (4th Lockup)	No					122/123	122/123	122/123	122/123	122/123					
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes				117/142	117/142									
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes		101	101											
AM	Reverse Inhibit with Preselect Request Interface Input	No		123												
AQ	Shift Selector Display Blanking Input	Yes														
AR	Overdrive Disable Interface Input	Yes														
AS	Reduced Engine Load at Stop (RELS) Input	No					143	143	143		143	143	143	143		143
AW	2nd Reverse Input	No														
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes														
BQ	Pump Mode Input (3rd Lockup)	No														
BY	Aux. Box Transition Input	Yes										123	123	123	123	123
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes														
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No														
cb1	Preselect Request 1 Input	Yes														
cb2	Preselect Request 2 Input	Yes														
CC	High N/V Ratio Input	No														
CD	Automatic Neutral – Single Input with Selector Override	Yes														
CE	Direct Hold Input	No										122	122	122	122	122
CF	Automatic Neutral – Idle Start/Stop Input	Yes														
CH	Automatic Neutral – Single Input, Inverted	No														
CN	Automatic Neutral – Dual Input with Auto Return-to-Range	No														
OUTPUT FUNCTIONS																
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	104	104		104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes					113	145	145	145	145	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130			130	130	130	130		130	130
G2	PTO Drive Interface 2 Indicator	No										104				104
I	Engine Overspeed Indicator	Yes							130				130			
J	Two Speed Axle Interface Indicator	Yes														
K	Lockup Indicator	Yes														
N	Secondary Mode Indicator	Yes			113	113										
O	Transmission Service Indicator	Yes														
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124	124	124	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes														
S	Neutral Indicator for PTO and PTO Request (NIPTD)	Yes	145	145	145	145	145									
AD	Range Inhibited Indicator	Yes														
AJ	Output Speed Indicator A, Inverted	Yes														

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

The Allison Emergency Vehicle Series automatic transmissions are designed to meet the performance and safety needs of emergency vehicles. Fully automatic shifts provide faster acceleration, which translates to shorter trip times.



# ALLISON TRANSMISSION EMERGENCY VEHICLE SERIES

RATINGS						
MODEL	SERIAL NUMBER	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup>	MAX INPUT TORQUE <sup>1</sup>	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING <sup>1,2</sup>
				hp (kW)	lb-ft (N·m)	lb-ft (N·m)
1000 EVS	6310	Close Ratio	Yes	340 <sup>4,6</sup> (254) <sup>4,6</sup>	575 (780)	660 <sup>4,6</sup> (895) <sup>4,6</sup>
1350 EVS	6310	Close Ratio	Yes	340 <sup>4,6</sup> (254) <sup>4,6</sup>	575 (780)	660 <sup>4,6</sup> (895) <sup>4,6</sup>
2100 EVS	6310	Close Ratio	No	340 <sup>4,6</sup> (254) <sup>4,6</sup>	575 (780)	700 <sup>8</sup> (950) <sup>8</sup>
2200 EVS	6310	Close Ratio	Yes	340 <sup>4,6</sup> (254) <sup>4,6</sup>	575 (780)	700 <sup>8</sup> (950) <sup>8</sup>
2350 EVS <sup>6</sup>	6310	Close Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	700 <sup>8</sup> (950) <sup>8</sup>
2500 EVS	6310	Wide Ratio	No	340 <sup>4,6</sup> (254) <sup>4,6</sup>	575 (780)	700 <sup>8</sup> (950) <sup>8</sup>
2550 EVS <sup>6</sup>	6310	Wide Ratio	Yes	340 <sup>4</sup> (254) <sup>4</sup>	575 (780)	700 <sup>8</sup> (950) <sup>8</sup>
3000 EVS	6510	Close Ratio	n/a	450 (336)	1250 (1695)	n/a
3500 EVS	6510	Wide Ratio	n/a	330 (246)	985 (1335)	n/a
4000 EVS	6610					
- Emergency		Close Ratio	n/a	600 (447)	1850 (2508)	n/a
- ARFF <sup>7</sup>		Close Ratio	n/a	600 (447)	1675 (2271)	n/a
4500 EVS	6610	Wide Ratio		600 (447)	1770 (2400)	1850 <sup>5</sup> (2508) <sup>5</sup>
4700 EVS	6610					
- ARFF <sup>7</sup>		Widest Ratio	n/a	600 (447)	1850 (2508)	n/a
4800 EVS	6610					
- ARFF <sup>7</sup>		Widest Ratio	n/a	700 (522)	1950 (2644)	n/a

<sup>1</sup> Gross ratings as defined by ISO 1585 or SAE J1995.    <sup>2</sup> SEM = engine controls with Shift Energy Management.    <sup>3</sup> Turbine torque limit based on iSCAN standard deductions.  
<sup>4</sup> SEM and torque limiting are required to obtain this rating.    <sup>5</sup> Available in gears two through six.    <sup>6</sup> Check with your OEM to ensure offerings.    <sup>7</sup> Aircraft Rescue and Fire-Fighting Vehicle.  
<sup>8</sup> With 5th Gen controls. In ranges 3-5.

### TYPICAL VEHICLE APPLICATIONS

Any vehicle equipped with emergency signaling such as a siren, light bar, grill signal, porter light, etc. allowing the vehicle to ignore general traffic laws in emergency situations requires an Allison Emergency Vehicle Series transmission.

<p><b>Aerial Ladder Platform</b></p> <p><b>Aircraft Rescue and Fire-Fighting Vehicle</b></p> <p><b>Ambulance</b></p> <p><b>Hazardous Material Vehicle</b></p> <p><b>Mobile Command</b></p>	<p><b>Center</b></p> <p><b>Fire Truck Pumper - With Split-Shaft PTO</b></p> <p><b>Fire Truck Pumper - Without Split-Shaft PTO</b></p> <p><b>Support Vehicle</b></p>
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## EMERGENCY VEHICLE SERIES

### EMERGENCY CALIBRATIONS

Emergency Vehicle Series calibrated with unique shift inhibit tolerances to meet special needs of emergency vehicles.

Low-voltage detection set at two minutes for emergency cal.

General truck cals will not permit shift into range after 10 seconds.

Emergency cals will not permit a shift into range for engine rpms above 1260.

General truck cals will not permit shift into range above 900 rpm.

No shift inhibit detection of high output speed/high throttle position for emergency cal.

General truck cals will not permit a shift into range when output speed is at or above 200 rpm and/or throttle position is beyond 40%.

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Emergency Vehicle Series Individual Brochure SA3564EN

### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Retarder Brochure SA2953EN
- 2nd Reverse Flyer SA5865EN
- Torque Converter Brochure SA7172EN
- Manville Fire Department Testimonial Flyer SA5552EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- Manville Fire Department Testimonial DV5551EN

MAX TURBINE TORQUE <sup>3</sup>	MAX GVW	MAX GCW
lb-ft (N·m)	lbs (kg)	lbs (kg)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	19,500 (8,845)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	26,000 (11,800)	26,000 (11,800)
950 <sup>5</sup> (1288) <sup>5</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
950 <sup>4</sup> (1288) <sup>4</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>4</sup> (1288) <sup>4</sup>	30,000 (13,600)	30,000 (13,600)
1700 (2305)	-	-
1500 (2034)	-	-
2600 (3525)	-	-
2600 (3525)	-	-
2600 (3525)	-	-
2800 (3795)	-	-
2800 (3795)	-	-

## EMERGENCY VEHICLE SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) with torque limiting

Ratings up to 340 hp/700 lb-ft with 5th Gen controls on 1000, 1350, 2100, 2200, 2350, 2500 and 2550 EVS.

Ratings up to 600 hp/1850 lb-ft on 4500 EVS.

### Oil Level Sensor (OLS)

At the push of a button, oil levels are displayed on shift selectors for easy identification.

Standard on 3000, 3500, 4000, 4500 and 4700 EVS.\*

### 2nd Reverse

Allison 2nd Reverse offers a second “deep reverse” in addition to the standard reverse to provide greater control and engine braking during operation on steep grades. It also enables more maneuverability when operating in confined spaces. Available on 4700 and 4800 EVS models.

### Deep oil pan/sump standard on all Emergency Vehicle Series models

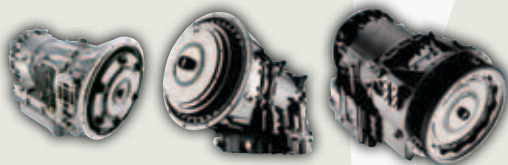
Shallow sump with OLS optional on 3000, 3500, 4000 and 4500 EVS.

Shallow pan optional on 1000 EVS.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

\*OLS is not available for 4700 EVS with retarder



1000 EVS, 1350 EVS,  
2100 EVS, 2200 EVS,  
2350 EVS, 2500 EVS,  
2550 EVS

3000 EVS, 3500 EVS

4000 EVS, 4500 EVS,  
4700 EVS, 4800 EVS

VOCATION PACKAGE NUMBER				1000/2000 PRODUCT FAMILIES								
				EVS Models								
REPLACEMENT PACKAGES*				354	360	364	367	368	374	376	380	
				Replaces 355	Same as 4th Gen	Same as 4th Gen	Replaces 366, 367	Same as 4th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen	
INPUT FUNCTIONS			Normally Activated?									
A	Secondary Mode Input		Yes	142	142	142	142	142	142	142	142	
C1	PTO Drive Interface Input 1		Yes	143	143	143	143	143	162	101	143	
C2	PTO Drive Interface Input 2		No								102	
D	Shift Selector Transition Input		No									
E	Auxiliary Function Range Inhibit – Single Input		No	101					101		101	
F	Auxiliary Function Range Inhibit – Dual Input		Yes									
G	Auxiliary Hold Input		Yes									
H	Engine Brake Interface Input (Standard)		No	102	102		102		102	102		
I	Engine Brake Interface Input (Special)		No									
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)		No									
K	Quick-to-Neutral Input		No									
L	Automatic Neutral – Single Input		No	123					123		123	
Q	Two Speed Axle Interface Input		Yes									
R	Manual Lockup Control Input		No									
V	Reverse Enable Input		No									
W	Direction Change Enable Input		No									
Y	Anti-Lock Brake System (ABS) Input		Yes	121	121	121	121	121	121	121	121	
Z	Retarder Interface Input		Yes									
AA	Service Brake Status Input		Yes	162	162	162				162	162	
AF	Differential Clutch Interface Input (3700 Only)		Yes									
AG	Automatic Neutral – Dual Input		Yes									
AH	Accelerator Pedal Kickdown Input		Yes									
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)		No									
AJ	Pump Mode Input (4th Lockup)		No									
AK	Automatic Neutral – Dual Input with Service Brake Status		Yes									
AL	Shift Selector Transition & Secondary Shift Schedule Input		Yes									
AM	Reverse Inhibit with Preselect Request Interface Input		No									
AQ	Shift Selector Display Blanking Input		Yes									
AR	Overdrive Disable Interface Input		Yes	161	161	161	161	161	161	161	161	
AS	Reduced Engine Load at Stop (RELS) Input		No						143	143		
AW	2nd Reverse Input		No									
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)		Yes									
BQ	Pump Mode Input (3rd Lockup)		No		122/123	122/123	122/123	122/123		122/123		
BY	Aux. Box Transition Input		Yes									
BZ	Shift Selector Transition & Oil Field Pumping Input		Yes									
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO		No									
CB1	Preselect Request 1 Input		Yes	122					122		122	
CB2	Preselect Request 2 Input		Yes									
CC	High N/V Ratio Input		No			101/102		101/102				
CD	Automatic Neutral – Single Input with Selector Override		Yes				162	162				
CE	Direct Hold Input		No									
CF	Automatic Neutral – Idle Start/Stop Input		Yes									
CH	Automatic Neutral – Single Input, Inverted		No									
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range		No									
<b>OUTPUT FUNCTIONS</b>												
A	Engine Brake Interface Indicator		No	104	104		104		104	104		
B	Sump/Retarder Temperature Indicator		Yes	164	164	164	164	164	164	164	164	
C	Range Indicator (5th Gen default is always Neutral/Park)		Yes	145	145	145	145	145	145	145	145	
D	Output Speed Indicator A		Yes	105	105	105	105	105	105	105	105	
G1	PTO Drive Interface 1 Indicator		Yes	150	150	150	150	150	150	150	150	
G2	PTO Drive Interface 2 Indicator		No								104	
I	Engine Overspeed Indicator		Yes									
J	Two Speed Axle Interface Indicator		Yes									
K	Lockup Indicator		Yes									
N	Secondary Mode Indicator		Yes									
O	Transmission Service Indicator		Yes	113	113	113	113	113	113	113	113	
Q	Retarder Interface Indicator		Yes									
R	Differential Clutch Interface Indicator (3700 Only)		Yes									
S	Neutral Indicator for PTO and PTO Request (NIPTO)		Yes									
AD	Range Inhibited Indicator		Yes	124	124	124	124	124	124	124	124	
AJ	Output Speed Indicator A, Inverted		Yes									

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.



3000/4000 PRODUCT FAMILIES

VOCATION PACKAGE NUMBER

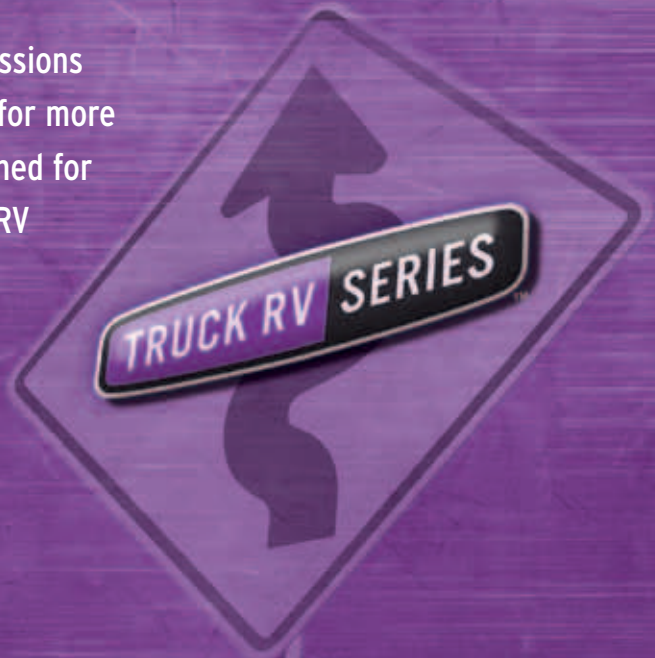
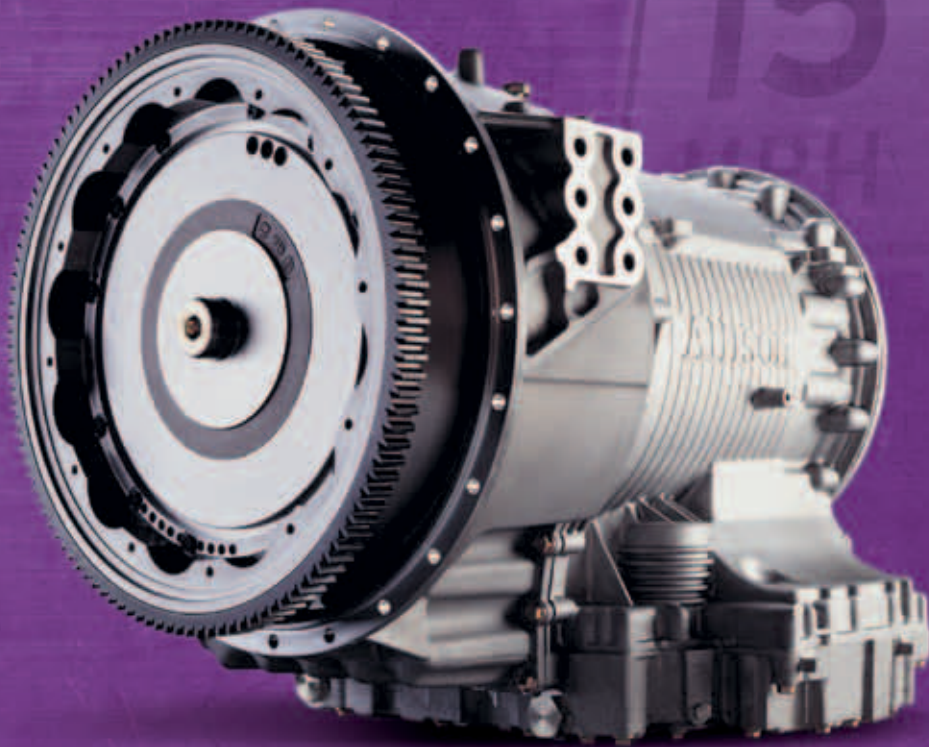
REPLACEMENT PACKAGES\*

			3000/4000 PRODUCT FAMILIES						
			With Split-Shaft PTO				Emergency	No Split-Shaft PTO (2nd Reverse Capable)	
			135	197	198	246	170	227	265
			Same as 4th Gen	Replaces 118, 197	Replaces 120, 198	Replaces 1198	Replaces 174	Replaces 119, 199, 1119, 2119	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?							
A	Secondary Mode Input	Yes	M	142	M	M	M	M	M
C1	PTO Drive Interface Input 1	Yes	143	M	142	143	143	143	143
C2	PTO Drive Interface Input 2	No							102
D	Shift Selector Transition Input	No					101		
E	Auxiliary Function Range Inhibit – Single Input	No	101						
F	Auxiliary Function Range Inhibit – Dual Input	Yes				101/142		101/142	101/142
G	Auxiliary Hold Input	Yes	142						
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157	102/157	
I	Engine Brake Interface Input (Special)	No							
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No	122/123	122/123	122/123	122/123			
K	Quick-to-Neutral Input	No							
L	Automatic Neutral – Single Input	No							
Q	Two Speed Axle Interface Input	Yes							
R	Manual Lockup Control Input	No							
V	Reverse Enable Input	No							
W	Direction Change Enable Input	No							
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes							
AG	Automatic Neutral – Dual Input	Yes							
AH	Accelerator Pedal Kickdown Input	Yes							
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No							
AJ	Pump Mode Input (4th Lockup)	No							
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes					117/142		
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes							
AM	Reverse Inhibit with Preselect Request Interface Input	No							
AQ	Shift Selector Display Blanking Input	Yes							
AR	Overdrive Disable Interface Input	Yes							
AS	Reduced Engine Load at Stop (RELS) Input	No							
AW	2nd Reverse Input	No						179	179
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes							
BQ	Pump Mode Input (3rd Lockup)	No							
BY	Aux. Box Transition Input	Yes							
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes							
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No							
CB1	Preselect Request 1 Input	Yes							
CB2	Preselect Request 2 Input	Yes							
CC	High N/V Ratio Input	No							
CD	Automatic Neutral – Single Input with Selector Override	Yes		117	117	117		117	117
CE	Direct Hold Input	No							
CF	Automatic Neutral – Idle Start/Stop Input	Yes							
CH	Automatic Neutral – Single Input, Inverted	No							
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No							
OUTPUT FUNCTIONS									
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164		
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	113		
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130	130	130
G2	PTO Drive Interface 2 Indicator	No							104
I	Engine Overspeed Indicator	Yes							
J	Two Speed Axle Interface Indicator	Yes							
K	Lockup Indicator	Yes							
N	Secondary Mode Indicator	Yes						113	113
O	Transmission Service Indicator	Yes						164	164
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes							
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes		113	113	113	145	145	145
AD	Range Inhibited Indicator	Yes							
AJ	Output Speed Indicator A, Inverted	Yes							

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

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Allison Truck RV Series automatic transmissions offer more power and more performance for more enjoyment on the road. Specifically designed for truck recreational vehicles, Allison Truck RV Series transmissions provide smooth, full-power automatic shifts.



# ALLISON TRANSMISSION TRUCK RV SERIES

## RATINGS

MODEL	SERIAL NUMBER	RATIO	MAX INPUT POWER <sup>1</sup>	MAX INPUT TORQUE <sup>1</sup>	MAX INPUT w/ SEM OR TORQUE LIMITING	MAX TURBINE TORQUE <sup>2</sup>	MAX GVW	MAX GCW
			hp (kW)	lb-ft (N·m)	lb-ft (N·m)	lb-ft (N·m)	lbs (kg)	lbs (kg)
3000 TRV	6510	Close Ratio	310 (231)	950 (1288)	n/a	1700 (2305)	-	40,000 (18,144)
3200 TRV	6510	Close Ratio	450 (336)	1200 (1627)	1250 (1695)	1700 (2305)	-	-
4000 TRV	6510	Close Ratio	600 (447)	1850 (2508)	n/a	2800 (3795)	52,000 (23,587)	72,000 (32,659)

<sup>1</sup> Gross ratings as defined by ISO 1585 or SAE J1995. <sup>2</sup> SEM = engine controls with Shift Energy Management. <sup>3</sup> Turbine torque limit based on iSCAAN standard deductions.

## TYPICAL VEHICLE APPLICATIONS

Truck-Based Recreational Vehicles  
Class 6-8 Type C Motorhomes

## TRUCK RV SERIES FEATURES AND ADVANTAGES

**Shift Energy Management (SEM) torque limiting**  
Ratings up to 450 hp/1250 lb-ft on 3200 TRV.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### Reduced Engine Load at Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

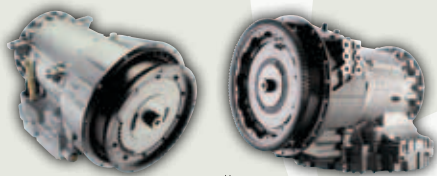
- Truck RV Series Individual Brochure SA3565EN

### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Residual Value Brochure SA3737EN
- Startability Flyer SA5889EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Retarder Brochure SA2953EN
- Torque Converter Brochure SA7172EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- Shift Selector Interactive DV5376EN



3000 TRV, 3200 TRV

4000 TRV

ALL THE MUSCLE YOU NEED  
TO GET UP TO SPEED.

**TRUCK RV SERIES**

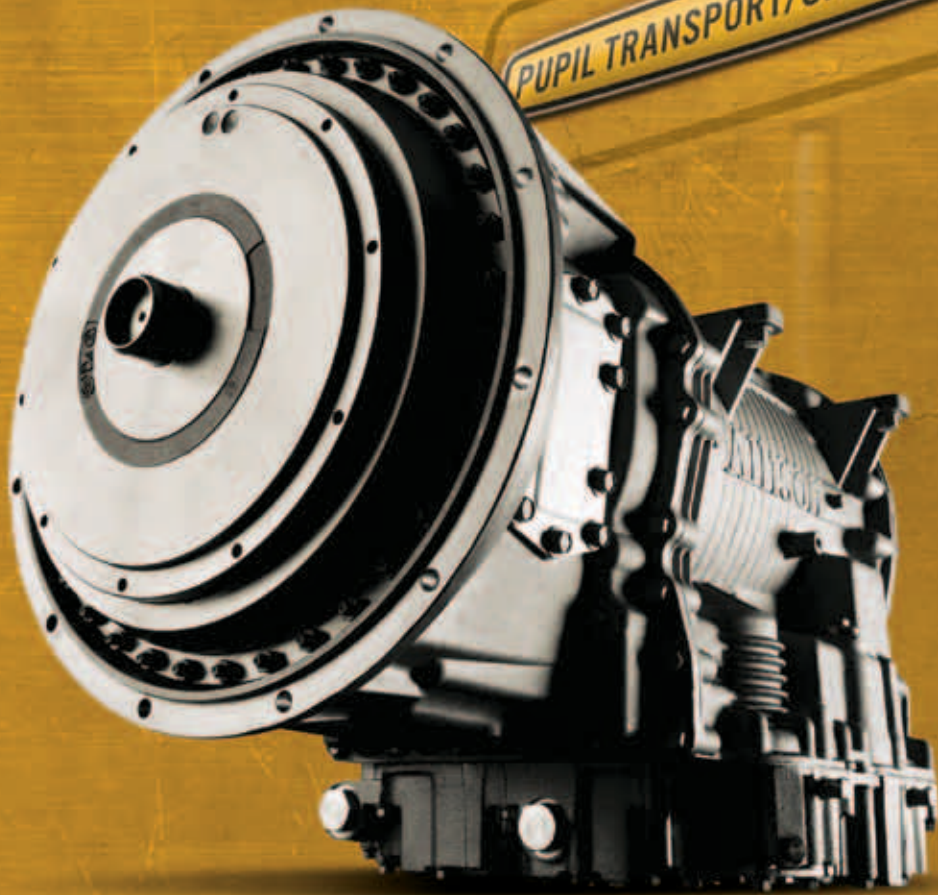
™

## VOCATION PACKAGE NUMBER

			3000/4000 PRODUCT FAMILIES		
			Truck-Based Recreational Vehicle		
			223	226	263
			Replaces 113	Replaces 116	New for 5th Gen
REPLACEMENT PACKAGES*		Normally Activated?			
INPUT FUNCTIONS					
A	Secondary Mode Input	Yes	M	M	M
C1	PTO Drive Interface Input 1	Yes	143		143
C2	PTO Drive Interface Input 2	No			102
D	Shift Selector Transition Input	No			
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes			
G	Auxiliary Hold Input	Yes	142	142	142
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	
I	Engine Brake Interface Input (Special)	No			
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No			
K	Quick-to-Neutral Input	No			
L	Automatic Neutral – Single Input	No	117	117	117
Q	Two Speed Axle Interface Input	Yes			
R	Manual Lockup Control Input	No			
V	Reverse Enable Input	No			
W	Direction Change Enable Input	No	122	122	122
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121
Z	Retarder Interface Input	Yes	161	161	161
AA	Service Brake Status Input	Yes	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes			
AG	Automatic Neutral – Dual Input	Yes			
AH	Accelerator Pedal Kickdown Input	Yes			
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No			
AJ	Pump Mode Input (4th Lockup)	No			
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes			
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes			
AM	Reverse Inhibit with Preselect Request Interface Input	No			
AQ	Shift Selector Display Blanking Input	Yes			
AR	Overdrive Disable Interface Input	Yes			
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123	123
AW	2nd Reverse Input	No	179		179
BD	Auto 2-1 Preselect Input (4000 7-Speed Only)	Yes			
BQ	Pump Mode Input (3rd Lockup)	No			
BY	Aux. Box Transition Input	Yes			
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes			
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No			
CB1	Preselect Request 1 Input	Yes			
CB2	Preselect Request 2 Input	Yes			
CC	High N/V Ratio Input	No			
CD	Automatic Neutral – Single Input with Selector Override	Yes			
CE	Direct Hold Input	No			
CF	Automatic Neutral – Idle Start/Stop Input	Yes			
CH	Automatic Neutral – Single Input, Inverted	No			
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No			
OUTPUT FUNCTIONS					
A	Engine Brake Interface Indicator	No	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145
D	Output Speed Indicator A	Yes	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130		130
G2	PTO Drive Interface 2 Indicator	No			104
I	Engine Overspeed Indicator	Yes		130	
J	Two Speed Axle Interface Indicator	Yes			
K	Lockup Indicator	Yes			
N	Secondary Mode Indicator	Yes	113	113	113
O	Transmission Service Indicator	Yes			
Q	Retarder Interface Indicator	Yes	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes			
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes			
AD	Range Inhibited Indicator	Yes			
AJ	Output Speed Indicator A, Inverted	Yes			

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

The same technology that has made Allison the most trusted name at neighborhood bus stops also provides easy operation, reliable performance and economical maintenance to non-school applications and shuttle bus fleets everywhere.



# ALLISON TRANSMISSION PUPIL TRANSPORT/SHUTTLE SERIES

MODEL	SERIAL NUMBER	RATIO	PARK PAWL	RATINGS		
				MAX INPUT POWER <sup>1</sup> hp (kW)	MAX INPUT TORQUE <sup>1</sup> lb-ft (N·m)	MAX INPUT TORQUE w/SEM OR TORQUE LIMITING <sup>1,2</sup> lb-ft (N·m)
<b>1000 PTS</b>	<b>6310</b>					
- School Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
- Shuttle Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	565 <sup>6,7</sup> (766) <sup>6,7</sup>
<b>1350 PTS</b>	<b>6310</b>					
- School Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
- Shuttle Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
<b>2100 PTS</b>	<b>6310</b>					
- School Bus		Close Ratio	No	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
- Shuttle Bus		Close Ratio	No	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	565 <sup>6,7</sup> (766) <sup>6,7</sup>
<b>2200 PTS</b>	<b>6310</b>					
- School Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
- Shuttle Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	565 <sup>6,7</sup> (766) <sup>6,7</sup>
<b>2300 PTS<sup>5,8</sup></b>	<b>6310</b>					
- School Bus		Close Ratio	No	325 (242)	n/a	450 (610)
<b>2350 PTS<sup>5</sup></b>	<b>6310</b>					
- School Bus		Close Ratio	Yes	300 <sup>4</sup> (224) <sup>4</sup>	550 (746)	660 <sup>7</sup> (895) <sup>7</sup>
<b>2500 PTS<sup>5</sup></b>	<b>6310</b>					
- School Bus		Wide Ratio	No	300 (224)	550 (746)	660 <sup>6,7</sup> (895) <sup>6,7</sup>
<b>2550 PTS<sup>5</sup></b>	<b>6310</b>					
- School Bus		Wide Ratio	Yes	300 (224)	550 (746)	660 <sup>7</sup> (895) <sup>7</sup>
<b>3000 PTS</b>	<b>6510</b>					
- School Bus		Close Ratio	n/a	300 (224)	950 (1288)	n/a
- Shuttle Bus		Close Ratio	n/a	300 (224)	950 (1288)	n/a

<sup>1</sup> Gross ratings as defined by ISO 1585 or SAE J1995. <sup>2</sup> SEM = engine controls with Shift Energy Management. <sup>3</sup> Turbine torque limit based on iSCAAN standard deductions. <sup>4</sup> Gross input power rating is 340 hp/254 kW for VORTEC 8.1L gasoline powered engines. <sup>5</sup> Available for School Bus applications only. <sup>6</sup> Check with your OEM to ensure offerings. <sup>7</sup> SEM and torque limiting are required to obtain this rating. <sup>8</sup> Only available with VORTEC 8.1L gasoline powered engine applications.

## PUPIL TRANSPORT/SHUTTLE SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) with torque limiting

Ratings up to 300 hp/660 lb-ft on 1000, 1350, 2100, 2200, 2350, 2500 and 2550 PTS.

### High-density start/stop calibrations

Improves shift operations especially in congested traffic environments. Available on 1000, 2100, 2200 and 2500 PTS.

### Oil Level Sensor

At the push of a button, oil levels are displayed on shift selectors for easy identification. Standard on 3000 PTS.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

### Reduced Engine Load at Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Deep oil pan/sump standard

Shallow oil pan optional on 1000 PTS.

### Load-Based Shift Scheduling (LBSS)

This feature automatically selects between Performance, Economy and Super Economy shift schedules based on the vehicle's actual payload and the grade on which it is operating. This helps to optimize fuel economy and maintain productivity.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Pupil Transport/Shuttle Series Individual Brochure SA3742EN

### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Retarder Brochure SA2953EN
- Filter and TranSynd™ Flyer SA4031EN
- TranSynd™ Maximum Protection Flyer SA3239EN
- San Diego Unified School District Testimonial Flyer SA5413EN
- Optimum Choice for School Bus Flyer SA6006EN
- Torque Converter Brochure SA7172EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN
- San Diego Unified School District Testimonial DV5370EN

## TYPICAL VEHICLE APPLICATIONS

### CLASS 5-8 SCHOOL BUS

#### School use

School Bus

#### Non-school use

Church Bus

Private Academy Bus

Prison Bus

Work Bus

Poultry Bus

### CLASS 5-7 SHUTTLE BUS (UP TO 33,000 LBS GVW)\*

Airfield Bus

Airport Shuttle

Casino Bus

Dedicated Handicap Shuttle

Hotel Shuttle

Rental Car Shuttle

Retirement Community Shuttle

Scenic Tour Bus

\*Buses requiring PTO must use Bus Series models. All shuttle applications greater than 33,000 lbs GVW require B 300 or B 400 transmissions. Revenue-generating/FTA transit bus applications are excluded from Pupil Transport/Shuttle Series usage.

MAX TURBINE TORQUE <sup>3</sup> lb-ft (N·m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	30,000 (13,600)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	30,000 (13,600)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	19,500 (8,845)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	26,000 (11,800)	26,001 (11,800)
950 <sup>7</sup> (1288) <sup>7</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>7</sup> (1288) <sup>7</sup>	30,000 (13,600)	30,000 (13,600)
950 <sup>7</sup> (1288) <sup>7</sup>	33,000 (15,000)	33,000 (15,000)
950 <sup>7</sup> (1288) <sup>7</sup>	30,000 (13,600)	30,000 (13,600)
1470 (1995)	-	-
1470 (1995)	33,000 (15,000)	33,000 (15,000)

## HEAD OF THE CLASS



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



3000 PTS

**PUPIL TRANSPORT/SHUTTLE SERIES**

**PUPIL TRANSPORT/SHUTTLE SERIES**

Allison Transmission Fifth Generation Electronic Controls

**I/O Packages**

**VOCATION PACKAGE NUMBER**

**1000/2000 PRODUCT FAMILIES**

		REPLACEMENT PACKAGES*	PTS Models						
			353	354	369	373	374	379	380
			Same as 4th Gen	Replaces 350	Same as 4th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen	New for 5th Gen
<b>INPUT FUNCTIONS</b>		<b>Normally Activated?</b>							
A	Secondary Mode Input	Yes	142	142	142	142	142	142	142
C1**	PTO Drive Interface Input 1	Yes		143	143		162	162	143
C2**	PTO Drive Interface Input 2	No							102
D	Shift Selector Transition Input	No							
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes							
G	Auxiliary Hold Input	Yes							
H	Engine Brake Interface Input (Standard)	No		102	102		102	102	
I	Engine Brake Interface Input (Special)	No	102			102			
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No							
K	Quick-to-Neutral Input	No							
L	Automatic Neutral – Single Input	No	123	123	123	123	123	123	123
Q	Two Speed Axle Interface Input	Yes							
R	Manual Lockup Control Input	No							
V	Reverse Enable Input	No	143			162			
W	Direction Change Enable Input	No							
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes							
AA	Service Brake Status Input	Yes	162	162	162				162
AF	Differential Clutch Interface Input (3700 Only)	Yes							
AG	Automatic Neutral – Dual Input	Yes							
AH	Accelerator Pedal Kickdown Input	Yes	122			122			
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No							
AJ	Pump Mode Input (4th Lockup)	No							
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes							
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes							
AM	Reverse Inhibit with Preselect Request Interface Input	No							
AQ	Shift Selector Display Blanking Input	Yes							
AR	Overdrive Disable Interface Input	Yes	161	161	161	161	161	161	161
AS	Reduced Engine Load at Stop (RELS) Input	No				143	143	143	
AW	2nd Reverse Input	No							
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes							
BQ	Pump Mode Input (3rd Lockup)	No							
BY	Aux. Box Transition Input	Yes							
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes							
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No			122			122	
CB1	Preselect Request 1 Input	Yes		122			122		122
CB2	Preselect Request 2 Input	Yes							
CC	High N/V Ratio Input	No							
CD	Automatic Neutral – Single Input with Selector Override	Yes							
CE	Direct Hold Input	No							
CF	Automatic Neutral – Idle Start/Stop Input	Yes							
CH	Automatic Neutral – Single Input, Inverted	No							
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No							
<b>OUTPUT FUNCTIONS</b>									
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105
G1**	PTO Drive Interface 1 Indicator	Yes		150	150		150	150	150
G2**	PTO Drive Interface 2 Indicator	No							104
I	Engine Overspeed Indicator	Yes							
J	Two Speed Axle Interface Indicator	Yes							
K	Lockup Indicator	Yes							
N	Secondary Mode Indicator	Yes							
O	Transmission Service Indicator	Yes	113	113	113	113	113	113	113
Q	Retarder Interface Indicator	Yes							
R	Differential Clutch Interface Indicator (3700 Only)	Yes							
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes							
AD	Range Inhibited Indicator	Yes	124	124	124	124	124	124	124
AJ	Output Speed Indicator A, Inverted	Yes							

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* PTOs are not available with PTS Series hardware even though the wire option is shown in the package.



VOCATION PACKAGE NUMBER			3000/4000 PRODUCT FAMILIES				
			School & Shuttle Bus				
REPLACEMENT PACKAGES*			139	211	212	215	217
			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen
INPUT FUNCTIONS		Normally Activated?					
A	Secondary Mode Input	Yes	M	M	122	M	M
C1**	PTO Drive Interface Input 1	Yes	143	143	143	143	143
C2**	PTO Drive Interface Input 2	No					
D	Shift Selector Transition Input	No					
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	
F	Auxiliary Function Range Inhibit – Dual Input	Yes					
G	Auxiliary Hold Input	Yes		123	123		
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157
I	Engine Brake Interface Input (Special)	No					
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No					
K	Quick-to-Neutral Input	No					
L	Automatic Neutral – Single Input	No					
Q	Two Speed Axle Interface Input	Yes					
R	Manual Lockup Control Input	No					
V	Reverse Enable Input	No					
W	Direction Change Enable Input	No					
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes					
AG	Automatic Neutral – Dual Input	Yes	117/142				
AH	Accelerator Pedal Kickdown Input	Yes					
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No					
AJ	Pump Mode Input (4th Lockup)	No					
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes					101/117
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes					
AM	Reverse Inhibit with Preselect Request Interface Input	No					
AQ	Shift Selector Display Blanking Input	Yes					
AR	Overdrive Disable Interface Input	Yes					
AS	Reduced Engine Load at Stop (RELS) Input	No				123	123
AW	2nd Reverse Input	No					
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes					
BQ	Pump Mode Input (3rd Lockup)	No					
BY	Aux. Box Transition Input	Yes					
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes					
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No					
CB1	Preselect Request 1 Input	Yes					
CB2	Preselect Request 2 Input	Yes					
CC	High N/V Ratio Input	No					
CD	Automatic Neutral – Single Input with Selector Override	Yes					
CE	Direct Hold Input	No					
CF	Automatic Neutral – Idle Start/Stop Input	Yes		117/142	117/142	117/142	
CH	Automatic Neutral – Single Input, Inverted	No					
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No					
OUTPUT FUNCTIONS							
A	Engine Brake Interface Indicator	No	104	104	104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes		145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105
G1**	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130
G2**	PTO Drive Interface 2 Indicator	No					
I	Engine Overspeed Indicator	Yes					
J	Two Speed Axle Interface Indicator	Yes					
K	Lockup Indicator	Yes					
N	Secondary Mode Indicator	Yes		113	113	113	
O	Transmission Service Indicator	Yes					
Q	Retarder Interface Indicator	Yes	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes					
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes	145				113
AD	Range Inhibited Indicator	Yes					
AJ	Output Speed Indicator A, Inverted	Yes					

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* PTOs are not available with PTS Series hardware even though the wire option is shown in the package.

**PUPIL TRANSPORT/SHUTTLE SERIES™****I/O Packages****VOCATION PACKAGE NUMBER****3000/4000 PRODUCT FAMILIES****School & Shuttle Bus**

		REPLACEMENT PACKAGES*	3000/4000 PRODUCT FAMILIES				
			223	226	234	236	263
			Replaces 113, 140	Replaces 116	Replaces 138	Replaces 137, 155	New for 5th Gen
<b>INPUT FUNCTIONS</b>		<b>Normally Activated?</b>					
A	Secondary Mode Input	Yes	M	M	142	M	M
C1**	PTO Drive Interface Input 1	Yes	143		M	143	143
C2**	PTO Drive Interface Input 2	No					102
D	Shift Selector Transition Input	No					
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes					
G	Auxiliary Hold Input	Yes	142	142		142	142
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	
I	Engine Brake Interface Input (Special)	No					
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No					
K	Quick-to-Neutral Input	No					
L	Automatic Neutral – Single Input	No	117	117	117	117	117
Q	Two Speed Axle Interface Input	Yes					
R	Manual Lockup Control Input	No					
V	Reverse Enable Input	No					
W	Direction Change Enable Input	No	122	122		122	122
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes					
AG	Automatic Neutral – Dual Input	Yes					
AH	Accelerator Pedal Kickdown Input	Yes					
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No					
AJ	Pump Mode Input (4th Lockup)	No					
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes					
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes					
AM	Reverse Inhibit with Preselect Request Interface Input	No					
AQ	Shift Selector Display Blanking Input	Yes					
AR	Overdrive Disable Interface Input	Yes					
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123			123
AW	2nd Reverse Input	No	179				179
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes					
BQ	Pump Mode Input (3rd Lockup)	No					
BY	Aux. Box Transition Input	Yes					
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes					
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No					
CB1	Preselect Request 1 Input	Yes			123	123	
CB2	Preselect Request 2 Input	Yes					
CC	High N/V Ratio Input	No					
CD	Automatic Neutral – Single Input with Selector Override	Yes					
CE	Direct Hold Input	No					
CF	Automatic Neutral – Idle Start/Stop Input	Yes					
CH	Automatic Neutral – Single Input, Inverted	No					
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No					
<b>OUTPUT FUNCTIONS</b>							
A	Engine Brake Interface Indicator	No	104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145	145	145
D	Output Speed Indicator A	Yes	105	105	105	105	105
G1**	PTO Drive Interface 1 Indicator	Yes	130		130	130	130
G2**	PTO Drive Interface 2 Indicator	No					104
I	Engine Overspeed Indicator	Yes		130			
J	Two Speed Axle Interface Indicator	Yes					
K	Lockup Indicator	Yes					
N	Secondary Mode Indicator	Yes	113	113	113	113	113
O	Transmission Service Indicator	Yes					
Q	Retarder Interface Indicator	Yes	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes					
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes					
AD	Range Inhibited Indicator	Yes					
AJ	Output Speed Indicator A, Inverted	Yes					

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* PTOs are not available with PTS Series hardware even though the wire option is shown in the package.

VOCATION PACKAGE NUMBER

REPLACEMENT PACKAGES\*

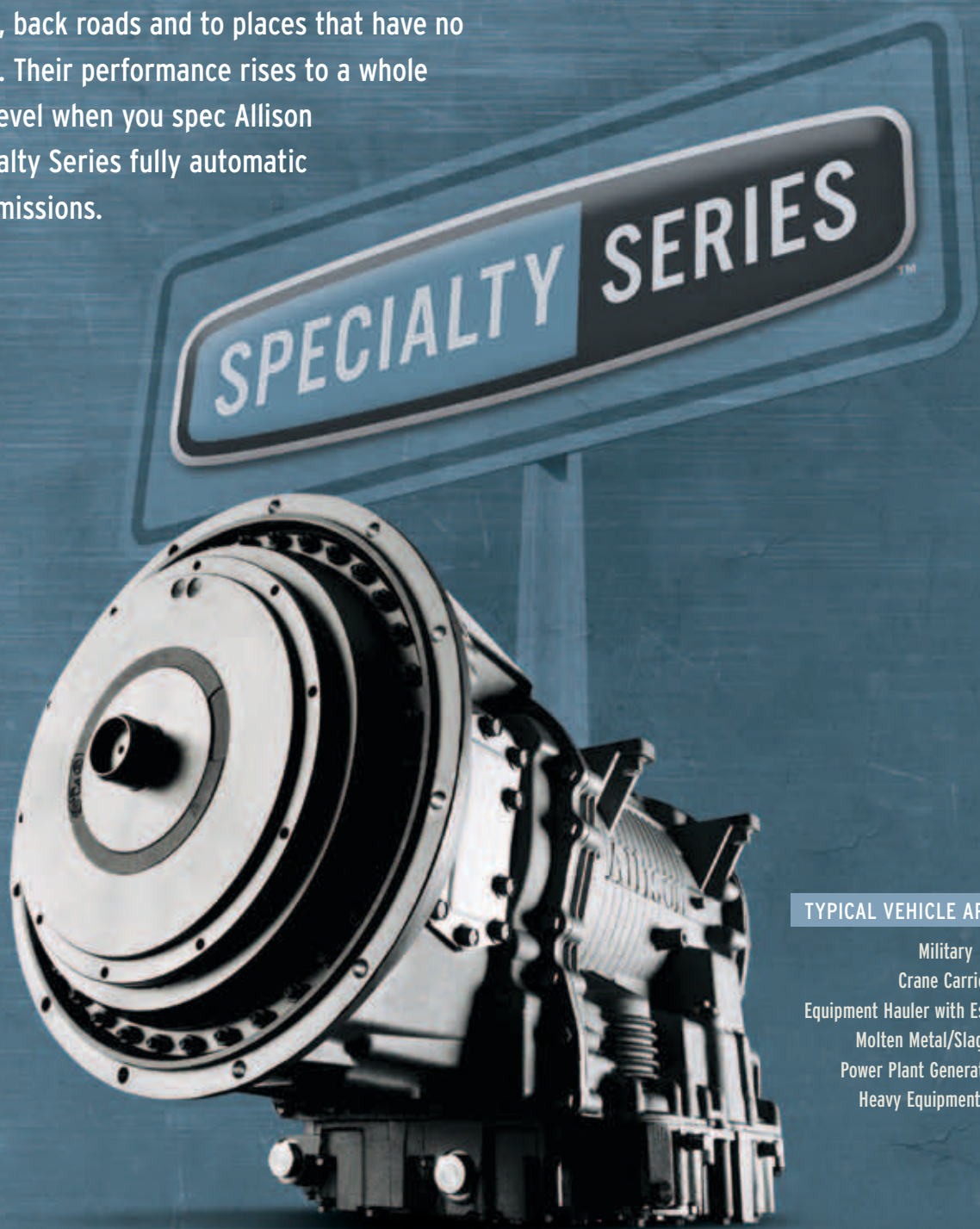
3000/4000 PRODUCT FAMILIES

School & Shuttle Bus (Maximum Economy Calibration)

		129	130	148	159	210	235	247	262	
		Same as 4th Gen	Same as 4th Gen	Replaces 203	Replaces 203	Same as 4th Gen	Replaces 202	Replaces 141, 201	New for 5th Gen	
INPUT FUNCTIONS	Normally Activated?									
A	Secondary Mode Input	Yes	M	142	M	M	M	142	142	M
C1**	PTO Drive Interface Input 1	Yes					143	M	143	
C2**	PTO Drive Interface Input 2	No								
D	Shift Selector Transition Input	No								
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101		101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes								
G	Auxiliary Hold Input	Yes			142	142			M	142
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157		102/157	102/157	102/157
I	Engine Brake Interface Input (Special)	No								
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No								
K	Quick-to-Neutral Input	No								
L	Automatic Neutral – Single Input	No			117	117		117	117	
Q	Two Speed Axle Interface Input	Yes								
R	Manual Lockup Control Input	No								
V	Reverse Enable Input	No	117	117						
W	Direction Change Enable Input	No		143		143	142	143		143
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes								
AG	Automatic Neutral – Dual Input	Yes					101/117			
AH	Accelerator Pedal Kickdown Input	Yes	122	122	122	122	122	122	122	122
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No								
AJ	Pump Mode Input (4th Lockup)	No								
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes								
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes								
AM	Reverse Inhibit with Preselect Request Interface Input	No					123			
AQ	Shift Selector Display Blanking Input	Yes								
AR	Overdrive Disable Interface Input	Yes								
AS	Reduced Engine Load at Stop (RELS) Input	No	123	123	123	123	102	123	123	123
AW	2nd Reverse Input	No								
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes								
BQ	Pump Mode Input (3rd Lockup)	No								
BY	Aux. Box Transition Input	Yes								
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes								
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No								
CB1	Preselect Request 1 Input	Yes								
CB2	Preselect Request 2 Input	Yes								
CC	High N/V Ratio Input	No								
CD	Automatic Neutral – Single Input with Selector Override	Yes								
CE	Direct Hold Input	No								
CF	Automatic Neutral – Idle Start/Stop Input	Yes								
CH	Automatic Neutral – Single Input, Inverted	No								
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No								117
OUTPUT FUNCTIONS										
A	Engine Brake Interface Indicator	No	104	104	104	104		104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145	145	113	145	145	145
D	Output Speed Indicator A	Yes	130	130	105	105	105	105	105	105
G1**	PTO Drive Interface 1 Indicator	Yes			130		130	130	130	
G2**	PTO Drive Interface 2 Indicator	No								
I	Engine Overspeed Indicator	Yes				113				113
J	Two Speed Axle Interface Indicator	Yes								
K	Lockup Indicator	Yes								
N	Secondary Mode Indicator	Yes				130		113		130
O	Transmission Service Indicator	Yes								
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes								
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes					145			
AD	Range Inhibited Indicator	Yes								
AJ	Output Speed Indicator A, Inverted	Yes								

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* PTOs are not available with PTS Series hardware even though the wire option is shown in the package.

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.



#### TYPICAL VEHICLE APPLICATIONS

- Military
- Crane Carrier
- Equipment Hauler with Escort or Permit
- Molten Metal/Slag Hauler
- Power Plant Generator Hauler
- Heavy Equipment Hauler

# ALLISON TRANSMISSION SPECIALTY SERIES

## RATINGS

MODEL	RATIO	PARK PAWL	MAX INPUT POWER <sup>1</sup> hp (kW)	MAX INPUT TORQUE <sup>1</sup> lb-ft (N·m)	MAX INPUT w/SEM OR TORQUE LIMITING lb-ft (N·m)	MAX TURBINE TORQUE <sup>2</sup> lb-ft (N·m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
1000 SP	Close Ratio	Yes	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	660 <sup>3</sup> (895) <sup>3</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	22,000 (10,000)	26,001 (11,800)
1350 SP	Close Ratio	Yes	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	660 <sup>3</sup> (895) <sup>3</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	22,000 (10,000)	30,000 (13,600)
2100 SP	Close Ratio	-	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	700 <sup>3,4</sup> (950) <sup>3,4</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	26,500 (12,000)	26,500 (12,000)
2200 SP	Close Ratio	Yes	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	700 <sup>3,4</sup> (950) <sup>3,4</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	26,000 (11,800)	26,001 (11,800)
2350 SP	Close Ratio	Yes	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	700 <sup>3,4</sup> (950) <sup>3,4</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	30,000 (13,600)	30,000 (13,600)
2500 SP	Wide Ratio	-	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	700 <sup>3,4</sup> (950) <sup>3,4</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	33,000 (15,000)	33,000 (15,000)
2550 SP	Wide Ratio	Yes	340 <sup>3,5</sup> (254) <sup>3,5</sup>	575 (780)	700 <sup>3,4</sup> (950) <sup>3,4</sup>	950 <sup>5</sup> (1288) <sup>5</sup>	30,000 (13,600)	30,000 (13,600)
<b>3000 SP</b>								
- Specialty/Military	Close Ratio	-	350 (261)	1050 (1424)	n/a	1700 (2305)	-	-
<b>3200 SP</b>								
- Specialty/Military	Close Ratio	-	450 (336)	1250 (1695)	n/a	1700 (2305)	-	-
<b>3500 SP</b>								
- Specialty/Military	Wide Ratio	-	330 (246)	985 (1335)	n/a	1500 (2034)	-	-
<b>3700 SP</b>								
- Specialty/Military	Widest Ratio	-	330 (246)	875 (1186)	n/a	1450 (1966)	-	-
<b>4000 SP</b>								
- Specialty/Military	Close Ratio	-	650 (485)	1950 (2644)	n/a	2800 (3795)	-	-
<b>4430 SP</b>								
- Specialty/Military	Wide Ratio	-	380 (283)	1180 (1600)	n/a	2600 (3525)	-	-
<b>4500 SP</b>								
- Specialty/Military	Wide Ratio	-	600 (447)	1770 (2400)	1850 <sup>2</sup> (2508) <sup>2</sup>	2600 (3525)	-	-
<b>4700 SP</b>								
- Specialty/Military	Widest Ratio	-	600 (447)	1850 (2508)	n/a	3000 (4067)	-	-
<b>4800 SP</b>								
- Specialty/Military	Widest Ratio	-	800 (597)	1950 (2644)	n/a	3000 (4067)	-	-

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

## MARKETING PUBLICATIONS AND VIDEOS

### SERIES BROCHURE

- Specialty Series Individual Brochure SA4047EN

### GENERAL BROCHURES

- Superior Fuel Efficiency. Optimum Fuel Economy. SA5704EN
- Prognostics Brochure SA5657EN
- Shift Selector Operation and Code Manual SA3360EN
- Fluid and Filter Change Recommendations SA5429EN
- Retarder Brochure SA2953EN
- Torque Converter Brochure SA7172EN

### VIDEOS

- Allison At Work DV3719EN
- How an Allison Automatic Performs DV5377EN

## SPECIALTY SERIES FEATURES AND ADVANTAGES

### Shift Energy Management (SEM) torque limiting

Ratings up to 340 hp/700 lb-ft on 2100, 2200, 2350, 2500 and 2550 SP.  
Ratings up to 600 hp/1850 lb-ft on 4500 SP.

### Prognostics

Eliminates unnecessary oil and filter changes by monitoring various operating parameters to determine and alert when a specific maintenance function is required.

### Reduced Engine Load At Stop (RELS)

Enhances fuel economy and helps reduce emissions.

### Vehicle Acceleration Control (VAC)

VAC controls aggressive driving practices to improve overall fuel economy. It limits acceleration by controlling the amount of engine torque based on vehicle load.

### Enhanced Converter Load Release (ECLR)

Improves fuel economy by reducing load on engine when the vehicle comes to a stop. With ECLR, the transmission automatically goes to neutral at a full stop and it locks the output to protect against vehicle rollback for an added measure of safety.

**SPECIALTY SERIES**

**I/O Packages**

Allison Transmission Fifth Generation Electronic Controls

**VOCATION PACKAGE NUMBER**

**REPLACEMENT PACKAGES\***

**1000/2000 PRODUCT FAMILIES\*\***

**SPS Models**

			352	354	360	362	365	372	377
			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	New for 5th Gen	New for 5th Gen
<b>INPUT FUNCTIONS</b>									
		Normally Activated?							
A	Secondary Mode Input	Yes	142	142	142	142	142	142	142
C1	PTO Drive Interface Input 1	Yes	143	143	143	143	143	143	162
C2	PTO Drive Interface Input 2	No							
D	Shift Selector Transition Input	No							
E	Auxiliary Function Range Inhibit – Single Input	No	101	101			101	101	
F	Auxiliary Function Range Inhibit – Dual Input	Yes							
G	Auxiliary Hold Input	Yes							
H	Engine Brake Interface Input (Standard)	No		102	102				
I	Engine Brake Interface Input (Special)	No	102			102		102	102
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No							
K	Quick-to-Neutral Input	No							
L	Automatic Neutral – Single Input	No	123	123			123	123	
Q	Two Speed Axle Interface Input	Yes							
R	Manual Lockup Control Input	No							
V	Reverse Enable Input	No							
W	Direction Change Enable Input	No							
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes							
AA	Service Brake Status Input	Yes	162	162	162	162	162		
AF	Differential Clutch Interface Input (3700 Only)	Yes							
AG	Automatic Neutral – Dual Input	Yes							
AH	Accelerator Pedal Kickdown Input	Yes	122			122		122	122
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No							
AJ	Pump Mode Input (4th Lockup)	No							
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes							
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes							
AM	Reverse Inhibit with Preselect Request Interface Input	No				123			123
AQ	Shift Selector Display Blanking Input	Yes							
AR	Overdrive Disable Interface Input	Yes	161	161	161	161	161	161	161
AS	Reduced Engine Load at Stop (RELS) Input	No						143	143
AW	2nd Reverse Input	No							
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes							
BQ	Pump Mode Input (3rd Lockup)	No			122/123				
BY	Aux. Box Transition Input	Yes							
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes							
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No				101			101
CB1	Preselect Request 1 Input	Yes		122					
CB2	Preselect Request 2 Input	Yes							
CC	High N/V Ratio Input	No					102/122		
CD	Automatic Neutral – Single Input with Selector Override	Yes							
CE	Direct Hold Input	No							
CF	Automatic Neutral – Idle Start/Stop Input	Yes							
CH	Automatic Neutral – Single Input, Inverted	No							
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No							
<b>OUTPUT FUNCTIONS</b>									
A	Engine Brake Interface Indicator	No	104	104	104	104		104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral/Park)	Yes	145	145	145		145	145	
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	150	150	150	150	150	150	150
G2	PTO Drive Interface 2 Indicator	No							
I	Engine Overspeed Indicator	Yes							
J	Two Speed Axle Interface Indicator	Yes							
K	Lockup Indicator	Yes							
N	Secondary Mode Indicator	Yes							
O	Transmission Service Indicator	Yes	113	113	113	113	113	113	113
Q	Retarder Interface Indicator	Yes							
R	Differential Clutch Interface Indicator (3700 Only)	Yes							
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes				145			145
AD	Range Inhibited Indicator	Yes	124	124	124	124	124	124	124
AJ	Output Speed Indicator A, Inverted	Yes							

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

\*\* Additional packages available. See Tech Data I/O Package Guides – 5th Gen Controls. Reference packages 369, 374, 376, 379 and 380 in Rugged Duty Series section.

VOCATION PACKAGE NUMBER

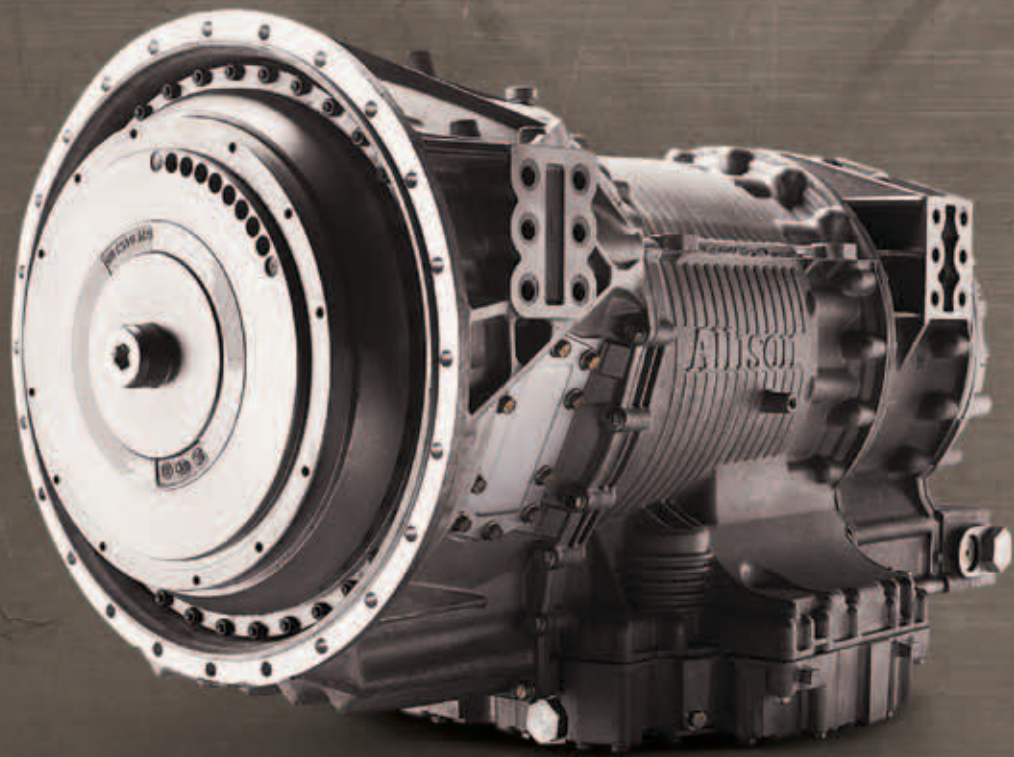
REPLACEMENT PACKAGES\*

		3000/4000 PRODUCT FAMILIES**										
		Specialty Vehicles				Specialty Vehicles & Dock Spotter	Specialty Vehicles (2nd Reverse Capable)					
		153	166	182	213	237	238	239	240	241	249	250
		Same as 4th Gen	Same as 4th Gen	Replaces 164, 182	Same as 4th Gen	Replaces 163, 1163	Replaces 165	Replaces 165	Replaces 171	Replaces 171	New for 5th Gen	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?										
A	Secondary Mode Input	Yes	M	M	142	142	M	142	142	142	142	142
C1	PTO Drive Interface Input 1	Yes	143	143	M	117	143			143	143	117
C2	PTO Drive Interface Input 2	No										
D	Shift Selector Transition Input	No										
E	Auxiliary Function Range Inhibit – Single Input	No										
F	Auxiliary Function Range Inhibit – Dual Input	Yes										
G	Auxiliary Hold Input	Yes					142					
H	Engine Brake Interface Input (Standard)	No	102/157	102/157	102/157	102/157	102/157	102/157	102/157	102/157	102/157	102/157
I	Engine Brake Interface Input (Special)	No										
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No										
K	Quick-to-Neutral Input	No										
L	Automatic Neutral – Single Input	No						117		117		161
Q	Two Speed Axle Interface Input	Yes		142								
R	Manual Lockup Control Input	No										
V	Reverse Enable Input	No										
W	Direction Change Enable Input	No					122					
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes		161	161	161	161	161	161	161	161	
AA	Service Brake Status Input	Yes		162	162	162	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes	161				117					
AG	Automatic Neutral – Dual Input	Yes										
AH	Accelerator Pedal Kickdown Input	Yes										
AI	Aux. Function Range Inhibit – Single Input (Specialty Vehicle)	No	142	101	101	101	101	101	101	101	101	101
AJ	Pump Mode Input (4th Lockup)	No			122/143	122/143					122/143	122/143
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes										
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes										
AM	Reverse Inhibit with Preselect Request Interface Input	No										
AQ	Shift Selector Display Blanking Input	Yes	123	123	123	123	123	123	123	123	123	123
AR	Overdrive Disable Interface Input	Yes										
AS	Reduced Engine Load at Stop (RELS) Input	No										
AW	2nd Reverse Input	No						179	179	179	179	179
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes				M		M	M	M	M	M
BQ	Pump Mode Input (3rd Lockup)	No										
BY	Aux. Box Transition Input	Yes										
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes										
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No										
CB1	Preselect Request 1 Input	Yes										
CB2	Preselect Request 2 Input	Yes										
CC	High N/V Ratio Input	No										
CD	Automatic Neutral – Single Input with Selector Override	Yes						117		117		161
CE	Direct Hold Input	No										
CF	Automatic Neutral – Idle Start/Stop Input	Yes										
CH	Automatic Neutral – Single Input, Inverted	No										
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No										
OUTPUT FUNCTIONS												
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	104	104	104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145		145	145	145	145	145	145	145	145
D	Output Speed Indicator A	Yes		105	105	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130			130	130	130
G2	PTO Drive Interface 2 Indicator	No										
I	Engine Overspeed Indicator	Yes						130	130			
J	Two Speed Axle Interface Indicator	Yes		145								
K	Lockup Indicator	Yes										
N	Secondary Mode Indicator	Yes	113	113				113	113	113	113	113
O	Transmission Service Indicator	Yes										
Q	Retarder Interface Indicator	Yes		124	124	124	124	124	124	124	124	
R	Differential Clutch Interface Indicator (3700 Only)	Yes	124				113					
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes										
AD	Range Inhibited Indicator	Yes										
AJ	Output Speed Indicator A, Inverted	Yes										

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\*Additional packages available. See Tech Data I/O Package Guides – 5th Gen Controls.

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Allison Oil Field Series fully automatic transmissions are designed and engineered specifically for the rigors of oil field operations. They work harder, faster and more reliably, allowing you to stay in production longer.





# ALLISON TRANSMISSION OIL FIELD SERIES

RATINGS								
MODEL	RATIO	PARK PAWL	MAX INPUT POWER	MAX INPUT TORQUE	MAX INPUT w/ SEM OR TORQUE LIMITING	MAX TURBINE TORQUE	MAX GWW	MAX GCW
			hp (kW)	lb-ft (N·m)	lb-ft (N·m)	lb-ft (N·m)	lbs (kg)	lbs (kg)
3500 OFS	Wide Ratio	n/a	330 (246)	860 (1166)	985 <sup>1</sup> (1335) <sup>1</sup>	1450 (1966)	–	–
4500 OFS	Wide Ratio	n/a	565 (421)	1650 (2237)	n/a	2600 (3525)	–	–
4700 OFS	Widest Ratio	n/a	600 (447)	1850 (2508)	n/a	2600 (3525)	–	–
4750 OFS	Widest Ratio	n/a	665 (496)	1950 (2644)	n/a	3000 (4067)	–	–

<sup>1</sup> In gears three through six.

## MARKETING PUBLICATIONS AND VIDEOS

- SERIES BROCHURE**
- Oil Field Series Individual Brochure SA3933EN
- GENERAL BROCHURES**
- Prognostics Brochure SA5657EN
  - Shift Selector Operation and Code Manual SA3360EN

## TYPICAL VEHICLE APPLICATIONS

Drilling  
Cementing  
Fracturing  
Hoisting  
Pumping



4500 OFS w/o PTO



4700 OFS w/PTO

			Skid-Mounted Pump		Dual Mode	
			192	209	193	258
REPLACEMENT PACKAGES*			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?				
A	Secondary Mode Input	Yes	**	**		
C1	PTO Drive Interface Input 1	Yes				
C2	PTO Drive Interface Input 2	No				
D	Shift Selector Transition Input	No	142	142		
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes				
G	Auxiliary Hold Input	Yes				
H	Engine Brake Interface Input (Standard)	No			102/157	102/157
I	Engine Brake Interface Input (Special)	No				
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No				
K	Quick-to-Neutral Input	No	143	143	143	143
L	Automatic Neutral – Single Input	No				
Q	Two Speed Axle Interface Input	Yes				
R	Manual Lockup Control Input	No	161/179	161/179	123/179	123/179
V	Reverse Enable Input	No	122	122	122	
W	Direction Change Enable Input	No				
Y	Anti-Lock Brake System (ABS) Input	Yes			121	121
Z	Retarder Interface Input	Yes			161	161
AA	Service Brake Status Input	Yes			162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes				
AG	Automatic Neutral – Dual Input	Yes				
AH	Accelerator Pedal Kickdown Input	Yes				
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No				
AJ	Pump Mode Input (4th Lockup)	No				
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes				
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes				
AM	Reverse Inhibit with Preselect Request Interface Input	No				
AQ	Shift Selector Display Blanking Input	Yes	102			
AR	Overdrive Disable Interface Input	Yes				
AS	Reduced Engine Load at Stop (RELS) Input	No				
AW	2nd Reverse Input	No				
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes	M		M	
BQ	Pump Mode Input (3rd Lockup)	No				
BY	Aux. Box Transition Input	Yes	117	117	117	117
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes			142	142
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No				
CB1	Preselect Request 1 Input	Yes				M
CB2	Preselect Request 2 Input	Yes				122
CC	High N/V Ratio Input	No				
CD	Automatic Neutral – Single Input with Selector Override	Yes				
CE	Direct Hold Input	No		M		
CF	Automatic Neutral – Idle Start/Stop Input	Yes				
CH	Automatic Neutral – Single Input, Inverted	No				
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No				
OUTPUT FUNCTIONS						
A	Engine Brake Interface Indicator	No			104	104
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145
D	Output Speed Indicator A	Yes	124	124		
G1	PTO Drive Interface 1 Indicator	Yes				
G2	PTO Drive Interface 2 Indicator	No				
I	Engine Overspeed Indicator	Yes				
J	Two Speed Axle Interface Indicator	Yes				
K	Lockup Indicator	Yes	105	105	105	105
N	Secondary Mode Indicator	Yes	113	113	113	113
O	Transmission Service Indicator	Yes				
Q	Retarder Interface Indicator	Yes			124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes				
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes				
AD	Range Inhibited Indicator	Yes				
AJ	Output Speed Indicator A, Inverted	Yes				

\* Replacement packages have same functions and wire number assignments, but may contain additional functions. \*\* No primary mode. Calibration forces skid-mounted pump to secondary mode.

VOCATION PACKAGE NUMBER			Dual Mode (2nd Reverse Capable)					
			243	248	251	259	260	261
REPLACEMENT PACKAGES <sup>§</sup>			Replaces 194, 1194	Replaces 208, 1208	Replaces 218, 1218	New for 5th Gen	New for 5th Gen	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?						
A	Secondary Mode Input	Yes						
C1	PTO Drive Interface Input 1	Yes	143	102		143	102	
C2	PTO Drive Interface Input 2	No						
D	Shift Selector Transition Input	No						
E	Auxiliary Function Range Inhibit – Single Input	No	101	101	101	101	101	101
F	Auxiliary Function Range Inhibit – Dual Input	Yes						
G	Auxiliary Hold Input	Yes						
H	Engine Brake Interface Input (Standard)	No						
I	Engine Brake Interface Input (Special)	No						
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No						
K	Quick-to-Neutral Input	No	102	143	143	102	143	143
L	Automatic Neutral – Single Input	No						
Q	Two Speed Axle Interface Input	Yes						
R	Manual Lockup Control Input	No	123/179	123/179	123/179	123/179	123/179	123/179
V	Reverse Enable Input	No	122	122	122			
W	Direction Change Enable Input	No						
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes						
AG	Automatic Neutral – Dual Input	Yes						
AH	Accelerator Pedal Kickdown Input	Yes						
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No						
AJ	Pump Mode Input (4th Lockup)	No						
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes						
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes						
AM	Reverse Inhibit with Preselect Request Interface Input	No						
AQ	Shift Selector Display Blanking Input	Yes			102			102
AR	Overdrive Disable Interface Input	Yes						
AS	Reduced Engine Load at Stop (RELS) Input	No						
AW	2nd Reverse Input	No						
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes	M	M	M			
BQ	Pump Mode Input (3rd Lockup)	No						
BY	Aux. Box Transition Input	Yes	117	117	117	117	117	117
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes	142	142	142	142	142	142
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No						
CB1	Preselect Request 1 Input	Yes				M	M	M
CB2	Preselect Request 2 Input	Yes				122	122	122
CC	High N/V Ratio Input	No						
CD	Automatic Neutral – Single Input with Selector Override	Yes	157	157	157	157	157	157
CE	Direct Hold Input	No						
CF	Automatic Neutral – Idle Start/Stop Input	Yes						
CH	Automatic Neutral – Single Input, Inverted	No						
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No						
OUTPUT FUNCTIONS								
A	Engine Brake Interface Indicator	No						
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	145	145	145	145	145	145
D	Output Speed Indicator A	Yes						
G1	PTO Drive Interface 1 Indicator	Yes	130	130		130	130	
G2	PTO Drive Interface 2 Indicator	No						
I	Engine Overspeed Indicator	Yes						
J	Two Speed Axle Interface Indicator	Yes						
K	Lockup Indicator	Yes	105	105	105	105	105	105
N	Secondary Mode Indicator	Yes	113	113	113	113	113	113
O	Transmission Service Indicator	Yes						
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes						
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes						
AD	Range Inhibited Indicator	Yes						
AJ	Output Speed Indicator A, Inverted	Yes						

<sup>§</sup> Replacement packages have same functions and wire number assignments, but may contain additional functions.

Allison Off Road Series fully automatic transmissions are a better way to work in the dirt. They offer higher horsepower and torque ratings that not only help increase the number of deliveries daily, they allow larger payloads.

RESTRICTED  
AREA  
NO ENTRY  
NO PARKING  
NO LOADING  
NO UNLOADING  
NO TRUCKS  
NO TRAILERS  
NO TRACTORS  
NO EQUIPMENT  
NO TOYS  
NO BICYCLES  
NO SKATEBOARDS  
NO SCOOTERS  
NO STROLLER  
NO WHEELCHAIR  
NO CARRIAGES  
NO BICYCLES  
NO SKATEBOARDS  
NO SCOOTERS  
NO STROLLER  
NO WHEELCHAIR  
NO CARRIAGES

## ALLISON TRANSMISSION OFF ROAD SERIES

RATINGS								
MODEL	RATIO	PARK PAWL	MAX INPUT POWER hp (kW)	MAX INPUT TORQUE lb-ft (N·m)	MAX INPUT w/SEM OR TORQUE LIMITING lb-ft (N·m)	MAX TURBINE TORQUE lb-ft (N·m)	MAX GVW lbs (kg)	MAX GCW lbs (kg)
<b>3000 ORS</b>	Close Ratio	No						
- Articulated Dump			250 (186)	664 (900)	-	1575 (2135)	98,106 (44,500)	n/a
- Rigid Dump			250 (186)	664 (900)	-	1575 (2135)	98,106 (44,500)	n/a
<b>3200 ORS</b>	Close Ratio	No						
- Articulated Dump			300 (224)	811 (1100)	-	1575 (2135)	98,106 (44,500)	n/a
- Rigid Dump			300 (224)	811 (1100)	-	1575 (2135)	98,106 (44,500)	n/a
- Other	Contact your Allison representative for details							
<b>3500 ORS</b>	Wide Ratio	No						
- Articulated Dump			330 (246)	811 (1100)	-	1420 (1925)	98,106 (44,500)	n/a
- Rigid Dump			330 (246)	811 (1100)	-	1420 (1925)	98,106 (44,500)	n/a
- Other	Contact your Allison representative for details							
<b>4000 ORS</b>	Close Ratio	No						
- Articulated Dump			480 (358)	1625 (2203)	-	2450 (3322)	151,017 (68,500)	n/a
- Rigid Dump			480 (358)	1550 (2100)	-	2450 (3322)	125,660 (57,000)	n/a
- Other	Contact your Allison representative for details							
<b>4200 ORS</b>	Close Ratio	No						
- Articulated Dump			480 (358)	1700 (2305)	-	2450 (3322)	178,574 (81,000)	n/a
<b>4430 ORS</b>	Wide Ratio	No						
- Articulated Dump			380 (283)	1235 (1675)	-	2450 (3322)	151,017 (68,500)	n/a
- Rigid Dump			380 (283)	1235 (1675)	-	2450 (3322)	151,017 (68,500)	n/a
- Other	Contact your Allison representative for details							
<b>4500 ORS</b>	Wide Ratio	No						
- Articulated Dump			480 (358)	1550 (2100)	1625* (2203)*	2450 (3322)	151,017 (68,500)	n/a
- Rigid Dump			480 (358)	1550 (2100)	1625* (2203)*	2450 (3322)	151,017 (68,500)	n/a
- Other	Contact your Allison representative for details							
<b>4600 ORS</b>	Wide Ratio	No						
- Articulated Dump			480 (358)	1550 (2100)	1700* (2305)*	2450 (3322)	178,574 (81,000)	n/a
- Rigid Rear Dump			480 (358)	1550 (2100)	1700* (2305)*	2450 (3322)	178,574 (81,000)	n/a

\* Available in gears three through six with torque limiting.

### TYPICAL VEHICLE APPLICATIONS

Articulated Dump  
Rigid Dump

Contact your Allison representative for other applications



4500 ORS w/o PTO



**VOCATION PACKAGE NUMBER**

**REPLACEMENT PACKAGES\***

			Euro Refuse Truck	Premium Off-Highway								
			127	175	190	191	195	196	235	244	245	264
			Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Same as 4th Gen	Replaces 147	New for 5th Gen	New for 5th Gen	New for 5th Gen
INPUT FUNCTIONS		Normally Activated?										
A	Secondary Mode Input	Yes	M	122	M	M	M	M	142	M	M	M
C1	PTO Drive Interface Input 1	Yes	143	143	143	143	143	143	M	143	143	143
C2	PTO Drive Interface Input 2	No										102
D	Shift Selector Transition Input	No										
E	Auxiliary Function Range Inhibit – Single Input	No	101		101	101		101	101			101
F	Auxiliary Function Range Inhibit – Dual Input	Yes										
G	Auxiliary Hold Input	Yes		117	142	142	117	142		117	117	142
H	Engine Brake Interface Input (Standard)	No		102/157	102/157	102/157	102/157	102/157	102/157	102/157	102/157	
I	Engine Brake Interface Input (Special)	No	102/157									
J	Pump Mode Input (Fire Truck Pump Mode 4th Lockup)	No										
K	Quick-to-Neutral Input	No										
L	Automatic Neutral – Single Input	No	117		117	117		117	117	122		117
Q	Two Speed Axle Interface Input	Yes										
R	Manual Lockup Control Input	No										
V	Reverse Enable Input	No										
W	Direction Change Enable Input	No							143			
Y	Anti-Lock Brake System (ABS) Input	Yes	121	121	121	121	121	121	121	121	121	121
Z	Retarder Interface Input	Yes	161	161	161	161	161	161	161	161	161	161
AA	Service Brake Status Input	Yes	162	162	162	162	162	162	162	162	162	162
AF	Differential Clutch Interface Input (3700 Only)	Yes										
AG	Automatic Neutral – Dual Input	Yes		101/142			101/142					
AH	Accelerator Pedal Kickdown Input	Yes	122						122			
AI	Auxiliary Function Range Inhibit – Single Input (Specialty Vehicle)	No										
AJ	Pump Mode Input (4th Lockup)	No										
AK	Automatic Neutral – Dual Input with Service Brake Status	Yes										
AL	Shift Selector Transition & Secondary Shift Schedule Input	Yes										
AM	Reverse Inhibit with Preselect Request Interface Input	No	123	123		123	123			123	123	123
AQ	Shift Selector Display Blanking Input	Yes										
AR	Overdrive Disable Interface Input	Yes										
AS	Reduced Engine Load at Stop (RELS) Input	No							123			
AW	2nd Reverse Input	No								179	179	
BD	Automatic 2-1 Preselect Input (4000 7-Speed Only)	Yes										
BQ	Pump Mode Input (3rd Lockup)	No										
BY	Aux. Box Transition Input	Yes										
BZ	Shift Selector Transition & Oil Field Pumping Input	Yes										
CA	Automatic Neutral – Brake-Based (BBAN) Input for PTO	No										
CB1	Preselect Request 1 Input	Yes										
CB2	Preselect Request 2 Input	Yes										
CC	High N/V Ratio Input	No										
CD	Automatic Neutral – Single Input with Selector Override	Yes									122	
CE	Direct Hold Input	No										
CF	Automatic Neutral – Idle Start/Stop Input	Yes										
CH	Automatic Neutral – Single Input, Inverted	No										
CN	Automatic Neutral – Dual Input with Automatic Return-to-Range	No										
OUTPUT FUNCTIONS												
A	Engine Brake Interface Indicator	No	104	104	104	104	104	104	104	104	104	
B	Sump/Retarder Temperature Indicator	Yes	164	164	164	164	164	164	164	164	164	164
C	Range Indicator (5th Gen default is always Neutral)	Yes	113		113	113			145			113
D	Output Speed Indicator A	Yes	105	105	105	105	105	105	105	105	105	105
G1	PTO Drive Interface 1 Indicator	Yes	130	130	130	130	130	130	130	130	130	130
G2	PTO Drive Interface 2 Indicator	No										104
I	Engine Overspeed Indicator	Yes			145			145				
J	Two Speed Axle Interface Indicator	Yes										
K	Lockup Indicator	Yes						113				
N	Secondary Mode Indicator	Yes		113			113		113	113	113	
O	Transmission Service Indicator	Yes										
Q	Retarder Interface Indicator	Yes	124	124	124	124	124	124	124	124	124	124
R	Differential Clutch Interface Indicator (3700 Only)	Yes										
S	Neutral Indicator for PTO and PTO Request (NIPTO)	Yes	145	145		145	145			145	145	145
AD	Range Inhibited Indicator	Yes										
AJ	Output Speed Indicator A, Inverted	Yes										

\* Replacement packages have same functions and wire number assignments, but may contain additional functions.

# SPECIFICATIONS

GEAR RATIOS - TORQUE CONVERTER MULTIPLICATION NOT INCLUDED										
MODEL	VOCATION	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	SEVENTH	REVERSE	2ND REVERSE
1000/1350/2100/ 2200/2350/B 210/B 220	HS, PTS, RDS, BUS, EVS, MH, SP	3.10:1	1.81:1	1.41:1	1.00:1	0.71:1	0.61:1 <sup>1</sup>	-	-4.49:1	-
2300	HS, PTS, RDS	3.10:1	1.81:1	1.41:1	1.00:1	0.71:1	0.61:1 <sup>1</sup>	-	-4.49:1	-
2500/2550	HS, PTS, RDS, EVS, MH, SP	3.51:1	1.90:1	1.44:1	1.00:1	0.74:1	0.64:1 <sup>1</sup>	-	-5.09:1	-
3000/B 300/B 400	HS, PTS, RDS, BUS, EVS, MH, TRV, SP, ORS	3.49:1	1.86:1	1.41:1	1.00:1	0.75:1	0.65:1	-	-5.03:1	-
3200	TRV, SP, ORS	3.49:1	1.86:1	1.41:1	1.00:1	0.75:1	0.65:1	-	-5.03:1	-
3500	RDS, EVS, SP, OFS, ORS	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	-
4000/4200 ORS/B 500	HS, RDS, BUS, EVS, MH, TRV, SP, ORS	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	-	-4.80:1	-
4430 SP/4500/4600 ORS	HS, RDS, EVS, SP, OFS, ORS	4.70:1	2.21:1	1.53:1	1.00:1	0.76:1	0.67:1	-	-5.55:1	-
4700/4750 OFS	RDS, EVS, SP <sup>2</sup> , OFS	7.63:1 <sup>3</sup>	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	-4.80:1	-17.12:1 <sup>4</sup>
4800	EVS, SP <sup>2</sup>	7.63:1 <sup>3</sup>	3.51:1	1.91:1	1.43:1	1.00:1	0.74:1	0.64:1	-4.80:1	-17.12:1 <sup>4</sup>

<sup>1</sup> Check with your OEM to ensure offerings. <sup>2</sup> Second reverse not available. <sup>3</sup> Manually selected first gear. <sup>4</sup> SEM/LRTP or LRTP only is required.

STANDARD POWER TAKEOFF - CONTINUOUS OPERATION					
BASE MODEL	VOCATION	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
SIDE/SIDE - 1000/1350/2000/B 210/B 220	RDS, BUS <sup>1</sup> , EVS, MH <sup>1</sup> , SP	3 and 9 o'clock	250 (339)	200 <sup>2</sup> (271) <sup>2</sup>	Turbine
SIDE/SIDE - 3000 <sup>1</sup> /B 300 <sup>1</sup> /B 400 <sup>1</sup>	RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	4 and 8 o'clock	485 (660)	685 <sup>3,4</sup> (930) <sup>3,4</sup>	Engine
TOP/SIDE - 3000	RDS, SP, OFS, ORS	1 and 8 o'clock	485 (660)	685 <sup>3,4</sup> (930) <sup>3,4</sup>	Engine
	EVS	1 and 8 o'clock	670 (910)	685 <sup>3,4</sup> (930) <sup>3,4</sup>	Engine
3700	SP	8 o'clock	485 (660)	-	Engine
4000 <sup>1</sup> /B 500 <sup>1</sup>	RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	1 and 8 o'clock	685 (930)	1175 <sup>3,4</sup> (1595) <sup>3,4</sup>	Engine

<sup>1</sup> PTO-delete option available. <sup>2</sup> Rating per PTO. <sup>3</sup> Total on the drive gear. <sup>4</sup> Minimum 600 rpm idle speed required when dual PTOs are used simultaneously.

ENGINE SPEEDS				
MODEL	VOCATION	FULL LOAD GOVERNED SPEED Min-Max (rpm)	IDLE SPEED IN DRIVE Min-Max (rpm)	OUTPUT SHAFT SPEED (rpm)
1000/1350/2100/2200/ 2350/B 210/B 220	HS, PTS, RDS, BUS, EVS, MH, SP	2200-4600 <sup>1</sup>	500-820	5000
2300	HS, PTS, RDS	2200-4600 <sup>1</sup>	500-820	5000
2500/2550/B 210/B 220	HS, PTS, RDS, BUS, EVS, MH, SP	2200-3200	500-820	4500
3000/B 300/B 400	HS, PTS, RDS, BUS, EVS, MH, TRV, SP, ORS	1950-2800	500-800	3600 <sup>2</sup>
3200	TRV, SP, ORS	1950-2800	500-800	3600 <sup>2</sup>
3500	RDS, EVS, SP, OFS, ORS	1950-2800	500-800	3600 <sup>2</sup>
3700	SP	1950-2800	500-800	3600 <sup>2</sup>
4000/B 500	HS, RDS, BUS, EVS, MH, TRV, SP, ORS	1700-2300	500-800	
4430 ORS/4430 SP/4500	HS, RDS, EVS, SP, OFS, ORS	1700-2300	500-800	
4600 ORS/4700/4750 OFS	RDS, EVS, SP, OFS, ORS	1700-2300	500-800	
4800	EVS, SP <sup>3</sup>	1700-2300 <sup>3</sup>	500-800	

<sup>1</sup> Engines with full-load governed speed greater than 3800 rpm require Application Engineering review.

<sup>2</sup> Retarder equipped models only. <sup>3</sup> 2400 rpm for Military Combat vehicle applications.

TORQUE CONVERTER SPECIFICATIONS			
BASE MODEL	VOCATION	TORQUE CONVERTER	NOMINAL STALL TORQUE
1000/2000/ B 210/B 220	HS, PTS, RDS, BUS, EVS, MH, SP	TC-210	2.05
		TC-211	1.91
		TC-221	1.73
		TC-222	1.58
3000/B 300/ B 400	HS, PTS, RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	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/B 500	HS, RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	TC-521	2.42
		TC-531	2.34
		TC-541	1.90
		TC-551	1.79
		TC-561	1.58

PHYSICAL DESCRIPTION					
BASE MODEL	VOCATION	LENGTH <sup>1</sup> in (mm)	DEPTH <sup>2</sup> w/DEEP OIL PAN/SUMP in (mm)	DEPTH <sup>2</sup> w/Shallow OIL PAN/SUMP in (mm)	DRY WEIGHT lbs (kg)
<b>1000/2000<sup>3</sup>/B 210/B 220</b>					
- SAE No. 3 mounting	HS, PTS, RDS, BUS, EVS, MH, SP	28.01 (711.4)	11.22 (284.9)	10.71 (272.0)	330 (150)
- SAE No. 2 mounting	HS, PTS, RDS, BUS, EVS, MH, SP	28.39 (721.1)	11.22 (284.9)	10.71 (272.0)	330 (150)
<b>3000/ B 300/B 400</b>					
- Basic model	HS <sup>4</sup> , RDS <sup>4</sup> , PTS <sup>4</sup> , BUS, EVS, MH, TRV, SP, OFS, ORS	28.29 (718.6)	12.90 (327.8)	11.14 (283.1)	535 (243)
- With PTO only	RDS <sup>4</sup> , BUS, EVS, MH, TRV, SP, OFS, ORS	32.49 (825.4)	12.90 (327.8)	11.14 (283.1)	575 (261)
- With retarder only	HS <sup>4</sup> , RDS <sup>4</sup> , PTS <sup>4</sup> , BUS, EVS, MH, TRV, SP, OFS, ORS	28.29 (718.6)	12.90 (327.8)	11.14 (283.1)	615 (279)
- With PTO & retarder	RDS <sup>4</sup> , BUS, EVS, MH, TRV, SP, OFS, ORS	32.49 (825.4)	12.90 (327.8)	11.14 (283.1)	655 (298)
<b>3700</b>					
- Basic model	SP	51.00 (1295.0)	21.90 (555.0)	-	1170 (530)
<b>4000/4430<sup>6</sup>/4500/B 500</b>					
- Basic model	HS <sup>5</sup> , RDS <sup>5</sup> , BUS, EVS, MH, TRV, SP <sup>5</sup> , ORS	30.54 (775.8)	14.75 (374.7)	13.17 (334.6)	831 (377)
- With PTO only	RDS <sup>5</sup> , BUS, EVS, MH, TRV, SP <sup>5</sup> , ORS	33.42 (848.8)	14.75 (374.7)	13.17 (334.6)	893 (405)
- With retarder only	HS <sup>5</sup> , RDS <sup>5</sup> , BUS, EVS, MH, TRV, SP <sup>5</sup> , ORS	30.54 (775.8)	14.75 (374.7)	13.17 (334.6)	906 (411)
- With PTO & retarder	RDS <sup>5</sup> , BUS, EVS, MH, TRV, SP <sup>5</sup> , OFS, ORS	33.42 (848.8)	14.75 (374.7)	13.17 (334.6)	968 (439)
<b>4700/4750 OFS/4800</b>					
- Basic model	RDS, EVS, SP	40.61 (1031.6)	14.88 (378.2)	-	1087 (493)
- With PTO only	RDS, EVS, SP	43.48 (1104.6)	14.88 (378.2)	-	1149 (521)
- With retarder only	RDS, EVS, SP	40.61 (1031.6)	14.88 (378.2)	-	1162 (527)
- With PTO & retarder	RDS, EVS, SP, OFS	43.48 (1104.6)	14.88 (378.2)	-	1224 (555)

<sup>1</sup> Length measured from flywheel housing to end of output shaft. <sup>2</sup> Depth measured below transmission centerline. 3 2000 SP - only 2000 model available with shallow oil pan.  
<sup>4</sup> 3000 HS, RDS, PTS - Available with deep oil pan only. <sup>5</sup> 4000 HS, RDS, SP - Available with deep oil pan only. <sup>6</sup> 4430 is an SP model only - available only with deep oil pan.

OIL SYSTEM		
BASE MODEL	VOCATION	CAPACITY <sup>1</sup> QUARTS (LITERS)
<b>1000/2000<sup>3</sup>/B 210/B 220 (main circuit filter - spin-on canister)</b>		
- Standard Oil Sump	HS, PTS, RDS, BUS, EVS, MH, SP	14.8 <sup>4</sup> (14) <sup>4</sup>
- Shallow Oil Sump	HS, PTS, RDS, BUS, EVS, MH, SP	12.7 <sup>4</sup> (12) <sup>4</sup>
<b>3000<sup>3</sup>/B 300<sup>3</sup>/B 400<sup>3</sup></b>		
- Deep Oil Sump w/PTO	RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	29.75 <sup>4</sup> (28.1) <sup>4</sup>
- Deep Oil Sump w/o PTO	HS, PTS, RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	29 <sup>4</sup> (27.4) <sup>4</sup>
- Shallow Oil Sump w/PTO	BUS, EVS, MH, TRV, SP	26.75 <sup>4</sup> (25.3) <sup>4</sup>
- Shallow Oil Sump w/o PTO	BUS, EVS, MH, TRV, SP	26 <sup>4</sup> (24.6) <sup>4</sup>
<b>3700<sup>3</sup></b>		
- Deep Oil Sump w/PTO	SP	39 <sup>4</sup> (37) <sup>4</sup>
<b>4000<sup>3</sup>/4430<sup>3</sup>,<sup>5</sup>/4500<sup>3</sup>/B 500<sup>3</sup></b>		
- Deep Oil Sump w/PTO	RDS, BUS, EVS, MH, TRV, SP, OFS, ORS	51 <sup>4</sup> (48) <sup>4</sup>
- Deep Oil Sump w/o PTO	HS, RDS, BUS, EVS, TRV, SP, MH, OFS, ORS	48 <sup>4</sup> (45) <sup>4</sup>
- Shallow Oil Sump w/PTO	EVS, MH, TRV, SP	43 <sup>4</sup> (41) <sup>4</sup>
- Shallow Oil Sump w/o PTO	EVS, MH, SP, BUS, TRV	40 <sup>4</sup> (38) <sup>4</sup>
<b>4700<sup>3</sup>/4750 OFS<sup>3</sup>/4800 w/SEVEN SPEEDS<sup>3</sup>,<sup>6</sup></b>		
- Deep Oil Sump and PTO	RDS, EVS, SP, OFS	54 <sup>4</sup> (51) <sup>4</sup>
- Deep Oil Sump w/o PTO	RDS, EVS, SP, OFS	51 <sup>4</sup> (48) <sup>4</sup>

Recommended oil types for all models are TranSynd™/TES 295 approved.

<sup>1</sup> Transmission only. Does not include cooler, hoses or fittings. <sup>2</sup> 2000 SP - Only 2000 model available with shallow oil pan.

<sup>3</sup> Main and lube circuit filter are integral; electronic oil sensors are standard. <sup>4</sup> Amount of oil necessary to fill a dry transmission.

<sup>5</sup> 4430 is an SP model only - available only with deep oil pan. <sup>6</sup> Retarder models must use 4-inch sump without OLS.

OPTIONAL RETARDER PROVISION - INTEGRAL, HYDRAULIC TYPE			
BASE MODEL	VOCATION	TORQUE CAPACITY lb-ft (N-m)	POWER CAPACITY hp (Kw)
<b>3000<sup>2</sup>/B 300/ B 400</b>	HS, PTS, RDS, BUS, EVS, MH, TRV, SP, OFS, ORS		
		- High	1600 (2170) 600 (447)
		- Medium	1300 (1760) 500 (373)
	- Low	1100 (1490) 400 (298)	
<b>4000<sup>1</sup>/B 500</b>	HS, RDS, BUS, EVS, MH, TRV, SP, OFS, ORS		
		- High	2000 (2710) 600 (447)
		- Medium	1600 (2170) 600 (447)
	- Low	1300 (1760) 500 (373)	

<sup>1</sup> Only medium-capacity available on 4700 EVS, RDS, SP and 4800 EVS.

<sup>2</sup> Excluding 3700 SP.

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### ALLISON BRAND PROMISE

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