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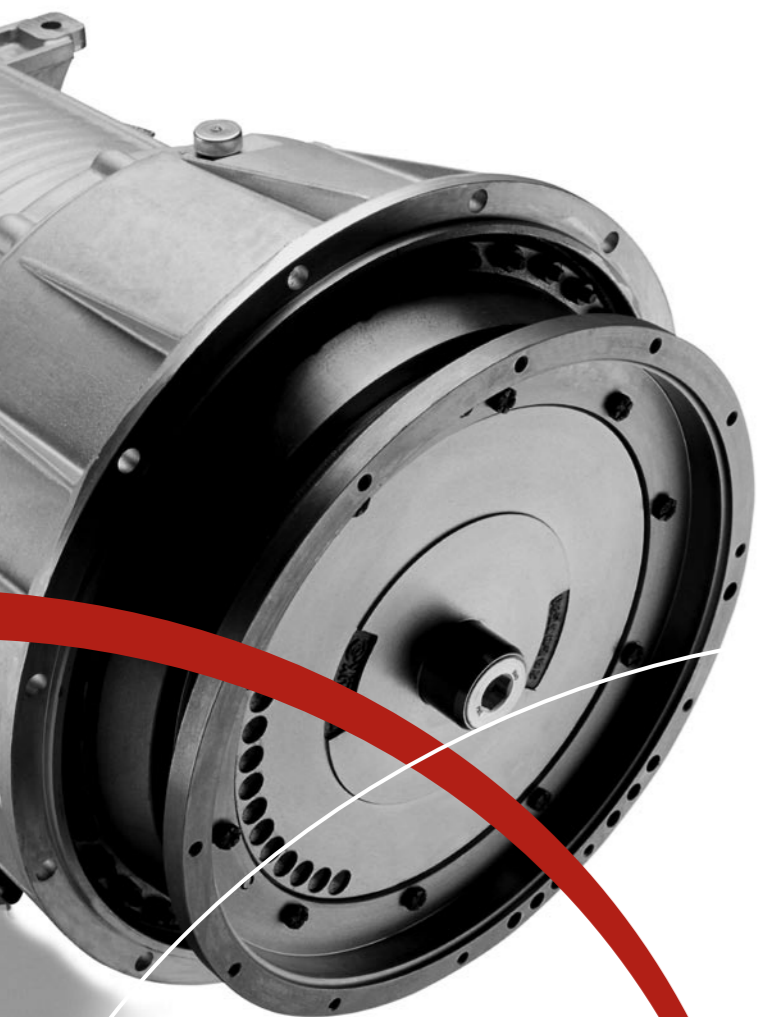
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**Allison Automatic ORS  
Heavy-Duty Transmissions**

# Off-Road Series

The Allison Off-Road Series (ORS) transmission is our new generation of technologically advanced, smaller, lighter, yet more robust transmissions for articulated dumps, rigid dumps and other off-road applications in the 44,500 kg to 81,000 kg GVW range.

# A better way to play in the dirt



## Pulling power

No single component influences a truck's performance as much as its transmission

The efficient and effective transfer of engine horsepower to wheel horsepower determines traction, pulling power and acceleration. Designed specially for articulated dumps, rigid dumps and other off-highway applications, the Allison ORS provides enhanced product ratings and hour-based product warranty coverage, tailored to severe off-road conditions.

Greater horsepower and torque ratings in a compact, dependable transmission offer vehicle manufacturers and their customers more payload and better performance in a smaller vehicle – improving productivity without the need for larger, more expensive trucks.

## Smooth shifting

More efficient transmission design delivers power straight to the drive wheels

With its epicyclic transmission, incorporating our patented torque converter technology and planetary gearing, the ORS is more efficient than a counter-shaft design as power is channelled directly through the transmission to the drive wheels. This smooth shifting transmission gives operators precise drive-wheel control under all load, terrain and ground conditions.

ORS transmissions are available with and without PTO and with and without output retarder. The retarder option allows for descent control when combined with an engine brake as well as safe operation to bring a fully laden truck to complete stop.

## More for less

Greater power in mid-size vehicles results in more productivity at lower acquisition costs

ORS transmissions offer higher horsepower and torque ratings that not only help to increase the number of deliveries per day but also enable trucks to handle larger payloads – GVWs from 44,500 kg to 81,000 kg.

Achieving between 300 to 480 horsepower, with input torque capacities of 1100 up to 2305 N-m, the ORS meets the needs of both OEMs and customers alike – offering a strong, reliable and extremely cost-effective transmission for dump and off-road applications.

Designed and built for high performance and low maintenance, our transmission will help vehicles to achieve faster work cycles and extended service intervals – helping to generate greater value from less investment.

With the use of TES approved fluids (for example, TranSynd™), fluid intervals can be dramatically increased from 500 hours to 3000 hours.

## Dependable design

Allison automatics – moving earth in mines, construction sites, quarries and gravel pits for more than sixty years

Working with 4th generation electronic controls and diagnostics, our automatics are more productive, reliable and easier to maintain than ever before.

For instance, with ORS self-diagnostics, a fault shift and its probable cause can be displayed in codes on the shift selector – reducing unscheduled downtime by pinpointing potential problems. Even fluid levels can be monitored in this way.



PHYSICAL DESCRIPTION				
International Model	3200 ORS & 3500 ORS		4000 ORS, 4200 ORS, 4430 ORS, 4500 ORS & 4600 ORS	
Length	28.16 in.	715.3mm	30.75 in.	781.1 mm
w/PTO	32.36 in.	822.0 mm	33.62 in.	854.0 mm
Dry weight	535 lbs.	243 kg	831 lbs.	377 kg
w/PTO only	575 lbs.	261 kg	893 lbs.	405 kg
w/retarder only	615 lbs.	279 kg	906 lbs.	411 kg
w/PTO & retarder	655 lbs.	298 kg	968 lbs.	439 kg
Depth				
w/deep oil sump	12.90 in.	327.7 mm	14.75 in.	374.7 mm
w/shallow oil sump	11.13 in.	282.7 mm	13.17 in.	334.6 mm

## 4th Generation Controls

As the world leader in electronically controlled commercial and heavy-duty transmissions, we know what works – and what lasts.

ORS transmissions are electronically actuated by either push button or lever CAN-based shift selectors, and can be seamlessly integrated with OEM J1939 CAN architecture to achieve even greater functionality. Our proprietary electronic controls offer ergonomic design, bright legible displays, simplified mounting and responsive reliable “shift by wire” control – all contributing to easier, more precise, more productive operation.

These adaptive electronic controls can be programmed for specific situations and include self-diagnostic capability for easier maintenance; programmable settings to customize the transmission for individual operating requirements; and a secondary shift schedule for even more precise control.

## Remote-mounted filter kit

For ease of service

With ORS transmissions, Allison offers an optional remote-mounted filter kit for customer installation. This kit remotely locates the transmission fluid filters for ease of service in installations where standard internal filters would not be accessible.



GEAR RATIOS				
Range	3200 ORS	3500 ORS	4000 ORS & 4200 ORS	4430 ORS, 4500 ORS & 4600 ORS
First	3.49 : 1	4.59 : 1	3.51 : 1	4.70 : 1
Second	1.86 : 1	2.25 : 1	1.91 : 1	2.21 : 1
Third	1.41 : 1	1.54 : 1	1.43 : 1	1.53 : 1
Fourth	1.00 : 1	1.00 : 1	1.00 : 1	1.00 : 1
Fifth	0.75 : 1	0.74 : 1	0.74 : 1	0.76 : 1
Sixth	0.65 : 1	0.65 : 1	0.64 : 1	0.67 : 1
Seventh	N/A	N/A	N/A	N/A
Reverse	-5.03 : 1	-5.00 : 1	-4.80 : 1	-5.55 : 1

RATING BY VOCATION									
International model	Vocation	Input Power Gross		Input Torque Gross		Turbine Torque Net		GVW	
		Hp	kW	lb.-ft.	N-m	lb.-ft.	N-m	lbs.	kg
3200 ORS	Articulated dump	300	224	811	1100	1575	2135	98106	44500
	Rigid dump	300	224	811	1100	1575	2135	98106	44500
	Other	Contact your Allison representative for details.							
3500 ORS	Articulated dump	300	224	811	1100	1420	1925	98106	44500
	Rigid dump	300	224	811	1100	1420	1925	98106	44500
	Other	Contact your Allison representative for details.							
4000 ORS	Articulated dump	480	358	1625	2203	2450	3322	151017	68500
	Rigid dump	480	358	1550	2100	2450	3322	125660	57000
	Other	Contact your Allison representative for details.							
4200 ORS	Articulated dump	480	358	1700	2305	2450	3322	178574	81000
4430 ORS	Articulated dump	380	283	1150	1560	2450	3322	n/a	n/a
	Rigid Dump	380	283	1150	1560	2450	3322	n/a	n/a
	Off road	Contact your Allison representative for details.							
4500 ORS	Articulated dump	480	358	1550/1625	2100/2203	2450	3322	151017	68500
	Rigid dump	480	358	1550	2100	2450	3322	125663	57000
	Other	Contact your Allison representative for details.							
4600 ORS	Articulated dump	480	358	1550/1700	2100/2305	2450	3322	178574	81000

Electronic Dipstick comes as standard on all models. GVC not available at this time.

# The value of productivity

Allison's ORS transmissions have the technology and ratings to offer OEMs and end users a strong, reliable and extremely cost-effective transmission for dump and off-road applications

Designed and built for high performance and low maintenance, this transmission will help your vehicles attain faster work cycles and extended service intervals.

## Employment opportunity

The best equipment attracts the best workforce

More drivers and operators prefer Allison automatics. Because we help people to be more productive and profitable at their jobs, it is much easier to recruit and retain the best people.



## Self-diagnostics

Routine performance monitoring keeps this valuable component in prime condition

To ensure that Allison automatics keep running at peak performance, ORS offers both preventative and trouble-shooting self-diagnostics. Allison's DOCTM (Diagnostic Optimized Connection) system is a sophisticated, easy to use, diagnostic solution that is available as a PC-based "smart" diagnostic tool.

The PC-based operating system offers immediate data acquisition with automated data interpretation and testing. Technicians can either trouble shoot problems or transmit data via e-mail to local Allison service centres for interpretation and recommendations.

## Where in the world

Our network delivers hands-on support to our customers – wherever they might be

Allison's dedicated worldwide customer support network has over 1500 authorised distributor and service locations, providing support and technical assistance, stocking genuine Allison parts and delivering factory quality maintenance and service.

## The Allison Brand Promise

Buying an Allison automatic means investing in a combination of resources that no other transmission manufacturer can offer. We offer unrivalled quality, reliability, product innovation, vocational value and customer service and we are the worldwide industry leader in commercial duty automatic transmissions.

## The right transmission fluid for the best performance and reliability

ORS transmissions require either Schedule One TES389 or TES295 transmission fluid. Allison recommends the use of TranSynd™ formulated from pure synthetic lubricants with inherent thermal and viscosity advantages. TranSynd™ extended drain intervals help lower maintenance and downtime costs by reducing the costs of transmission fluid, replacement filters and the disposal of used fluid.\*

\* TranSynd RD is not a TES295 fluid and, therefore, is not acceptable in ORS transmissions.

