



Allison Transmission Spec Sheet 8600 Series

Off-highway 8600 Series

RATINGS

Model	Application	Input Power gross	hp (kW) net	Input Torque gross	lb-ft (N•m) net	Turbine Torque lb-ft (N•m) net
8610 ORS	Hauling Applications	1050 (783)	975 (727)	3600 (4881)	3300 (4474)	5650 (7660)
8610 SP	General	1050 (783)	975 (727)	3600 (4881)	3300 (4474)	5650 (7660)
	Agricultural Tractor	850 (634)	775 (578)	3200 (4339)	2960 (4013)	5300 (7186)
8610 OFS	Oil Field	1200 (895)	1104 (823)	3600 (4881)	3300 (4474)	5966 (8089)

ENGINE INTERFACE

Acceptable full-load engine governed speed	1800 – 2300 rpm
Minimum engine idle speed range (with transmission in Drive)	550 rpm

MOUNTING

Direct	SAE No. 0 automatic flywheel housing with flexplate drive. Cradle mount using engine flywheel housing mounting pads and transmission rear cover mounting pads with 0.625-11 inch series bolts
Remote	Side pads on transmission rear cover plus front trunnion mount

TORQUE CONVERTER

Type Single stage, three element, polyphase.

Model	Stall Torque Ratio	Kp-Factor* at Stall
TC-860	2.32	40.7 (35.0)
TC-880	2.20	36.9 (31.7)
TC-890	1.86	32.6 (28.0)
TC-1060	1.86	39.1 (33.6)
TC-1070	1.78	30.5 (26.2)
TC-1078	1.84	28.6 (24.6)

* Kp-Factor defines torque converter capacity. Kp = the ratio of converter pump speed [rpm] divided by the square root of the pump torque [lb-ft (N•m)]

MECHANICAL RATIOS (Gear ratios do not include torque converter multiplication)

Range

First	4.24 : 1
Second	2.32 : 1
Third	1.69 : 1
Fourth	1.31 : 1
Fifth	1.00 : 1
Sixth	0.73 : 1
Reverse 1	-5.75 : 1

Ratio Coverage

Forward	5.97
---------	------

CONTROL SYSTEM DESCRIPTION

Electronic	8610 ORS
Manual Electric or Electronic	8610 SP and 8610 OFS



OPTIONAL ENGINE-DRIVEN POWER TAKE-OFF PROVISION¹

Side mount

Location	5 o'clock position, as viewed from rear	
PTO drive gear rating	Intermittent	59 tooth drive gear, 400 hp (298 kW)
	Continuous	59 tooth drive gear, 300 hp (224 kW)

Top Mount

Location	12 o'clock position, as viewed from rear	
PTO drive gear rating	Intermittent	59 tooth drive gear, 400 hp (298 kW)
	Continuous	59 tooth drive gear, 300 hp (224 kW)

ELECTRONIC SPEEDOMETER PROVISION

Description	LS-TTL signal, 41 pulses per output shaft revolution
Location	Output signal from transmission TCM

OUTPUT RETARDER PROVISION (OPTION)

Type	Integral, hydraulic	
Capacity	Torque	Power
	3451 lb-ft (4679 N•m)	1380 hp (1029 kW)

SIZE

Depth (below horizontal centerline)	20.9 in (530 mm)	
Length (direct mount) ^{2,3}	55.5 in (1411 mm)	
Width	35.1 in (892 mm)	
	Height	Dry Weight
Basic model	35.3 in (898 mm)	3700 lb (1678 kg)
With direct mount filters	39.8 in (1011 mm)	3700 lb (1678 kg)
With top engine-driven PTO drive gear		3730 lb (1692 kg)
With remote mount		3780 lb (1714 kg)

OIL SYSTEM

Oil type	TES 353 & TES 439, (See "www.allisontransmission.com" for approved list)	
Capacity excluding external circuits	21.0 gallons (79 litres)	
Main circuit oil filter		
Standard	Manifold for full-flow, remote mounted, Replaceable element	
Optional	Direct-mount full flow, replaceable elements (2)	
Cooler circuit oil filter (optional)	Replaceable element, remote-mounted	

1. PTO ratings apply to both top and side. Combined totals cannot exceed individual ratings.
2. For remote mounting, add 11 in (279 mm).
3. Length is approximate from engine/converter mounting surface to face of typical output flange.

