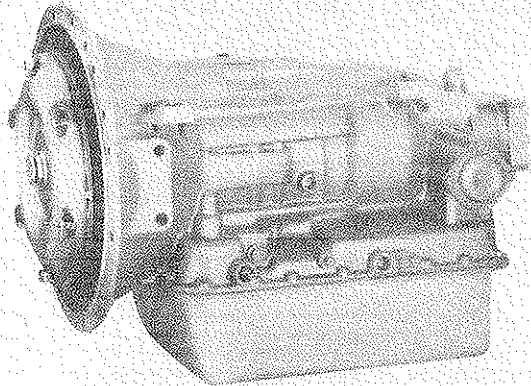


Allison Transmissions



AT 545

Automatic Model
AT 545
up to 235 nhp (175 kW)

Specifications

AT 545

General rating*
 Net input power (max) 235 nhp (175 kW)
 Input speed range 2400-3200 rpm (diesel); 3200-4000 rpm (gasoline)
 Net input torque (max) 445 lb ft (603 N·m)
 Vehicle weight (GVW or GCW) 10,000 to 30,000 lbs (4,500 to 13,600 kg)

Mounting
 Engine SAE 3 automotive flywheel housing with flex plate drive
 Vehicle One vertical mounting pad each side

Torque converter
 Type Single-stage, 3-element, multiphase
 Stall torque ratio TC 230-2.60 (diesel); TC 270-1.96 (gasoline); TC 275-1.96 (diesel); TC 290-1.72 (diesel)

Gearing
 Type Constant mesh, spur type, planetary

Range	Ratios*
First	3.45:1
Second	2.25:1
Third	1.41:1
Fourth	1.00:1
Reverse	5.02:1

* Gear ratio does not include torque converter ratio.

Power takeoff provision

Converter driven (SAE 6-bolt Regular Duty PTO)
 Location Right side (viewed from rear)
 Drive gear ratio All ranges--1.00 x turbine speed
 Drive gear rating 200 lb ft (270 N.m) continuous; 250 lb ft (340 N·m) intermittent

Oil system

Oil Type Dexron II[®], C 4
 Capacity (excluding external circuit) 20 U.S. qts (18.9 liters) (w/std. oil pan)
 Filter Full flow, replaceable element, remote mounted
 Cooler Remote mounted
 (Filter and cooler not furnished on transmission assembly but are supplied by vehicle manufacturer.)

Size

Length 27.2 in (691 mm)
 Width 20.7 in (526 mm)
 Height 18.9 in (480 mm)
 Weight (dry) 289 lbs (131 kg)

+ Vocational ratings may vary by vocation. Consult Allison Transmission Sales Engineering for further information.

GENERAL INFORMATION

Table 1-1. SPECIFICATIONS AND DATA (cont)

Mounting:						
engine	SAE 3 automotive housing					
vehicle	Overhung or two side mounting pads					
Drive.	Flexplate drive, customer furnished					
Rotation (viewed from input):						
input	clockwise					
output (in forward ranges).	clockwise					
Output location.	In line with input					
Dry weight (basic configuration)	275 lb (125 kg)--AT 540, AT 545 280 lb (127 kg)--AT 543					
Parking brake provision.	Mounting provided at rear of transmission case					
Output flange.	Supplied by OEM					
Oil capacity (less external circuits)	<u>Approximate Fill</u> <u>From Factory</u>		<u>Initial Fill</u> <u>After Rebuild</u>		<u>Refill</u> <u>After Servicing</u>	
	<u>U.S. qts</u>	<u>liters</u>	<u>U.S. qts</u>	<u>liters</u>	<u>U.S. qts</u>	<u>liters</u>
Shallow oil pan - 4.0-inch (101.6 mm)	13	12.3	15	14	9	8.5
Deep oil pan - 5.3-inch (134.6 mm)	20	18.9	22	20.8	16	15
Temperatures*:						
Sump.	Max 250°F (121°C) Min 150°F (66°C)					
To cooler--converter-out.	Max 300°F (150°C)					
Normal operation.	160-220°F (71-104°C)					
Clutches	Hydraulic-actuated, spring-released, self-compensating for wear					
Gearing.	Planetary, straight-cut spur, constant mesh					
Power takeoff (converter driven):						
mounting.	SAE 6-bolt regular duty					
drive gear.	6 pitch, 55 teeth, 20° pressure angle					
location.	right side, viewed from rear					
rotation.	same as engine					
rating: (continuous)	200 lb ft (270 N·m)					
(intermittent)	250 lb ft (340 N·m)					

*Temperature gage kit available in parts catalog.

AT 540, 543, 545 AUTOMATIC TRANSMISSIONS
Table 1-1. SPECIFICATIONS AND DATA (cont)

Oil filter	Integral (in sump), AC #PF168 (P/N 6437741), change filter when oil is changed every 25,000 miles (40 000 km) or 12 months
Oil pump	Positive displacement
Oil type	Refer to paragraph 3-5
Oil pressure	Refer to paragraph 3-21
Converter:	
number of stages.	1
number of elements.	3
stall-torque multiplication:	
AT 540, 545	TC 270--1.96:1; TC 275--1.96:1; TC 290--1.72:1
AT 543.	TC 350--3.09:1; TC 370--2.51:1; TC 375--2.13:1; TC 380--1.86:1
Drive range and sequences.	Reverse, N, 1-2-3-4, 1-2-3, 1-2, 1 Reverse, N, 2-3-4, 2-3, 2, 1
Shift control:	
(external).	Mechanical
(internal).	Hydraulic
Shift modulation	Vacuum or Mechanical
Neutral start and reverse signal switches.	Supplied by OEM
Speedometer drive:	
type and size	13/16-20 UNEF thread for SAE regular duty -- thread type
drive gears	5 or 8 teeth
driven gear	Supplied by customer

TRANSMISSION RATIOS (mechanical*)

<u>Range</u>	<u>Clutch(es) Engaged</u>	<u>Ratio</u>
Neutral	First	0
First	Forward and first	3.45:1
Second	Forward and second	2.25:1
Third	Forward and third	1.41:1
Fourth	Forward and fourth	1.00:1
Reverse	Fourth and first	5.02:1

*Overall torque multiplication ratio of transmission (output stalled) is the product of the converter torque multiplication ratio (see Converter) and the mechanical (gear) ratio.