



S6610M

Allison 6600, 6610, 6620 Transmissions For Mobile & Stationary Applications with...

- engines up to 1025 hp (764 kW) net input power and up to 2750 lb-ft (3729 N•m) net input torque

SPECIFICATIONS

RATINGS

	Net Input Torque lb-ft (N•m)	Net Input Power hp (kW)	Turbine Torque lb-ft (N•m)	Vocations
S6600, M6600 <small>(Manual Hydraulic, Manual Electric, Automatic Electric Controls)</small>	2300 (3118)	850 (634)	4000 (5423)	Oil Field Pumps, Frac, Cementing, Drilling, Well Service, Heavy Trucks
S6610, M6610 <small>(Manual Hydraulic, Manual Electric, Automatic Electric Controls)</small>	2300 (3118)	850 (634)	4000 (5423)	Oil Field Pumps, Frac, Cementing, Drilling, Well Service, Heavy Trucks
S6620, M6620 <small>(Manual Hydraulic, Manual Electric, Automatic Electric Controls)</small>	2750 (3729)	900 (671)	4000 (5423)	Oil Field Pumps, Frac, Cementing, Drilling, Well Service, Heavy Trucks

ENGINE INTERFACE

Acceptable full-load engine governed speed 1900 – 2500 rpm

Minimum engine idle speed range (with transmission in Drive) 550 rpm

MOUNTING

Direct : SAE No.1 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 One stage, three element, polyphase.

Model	Stall Torque Ratio	Kp-Factor* at Stall
TC-680 (with retarder)	2.17	53.2 (45.7)
TC-680 (without retarder)	2.08	54.6 (46.9)
TC-682	1.77	43.7 (37.5)
TC-683	1.85	35.1 (30.1)

*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	4.00 : 1
Second	2.68 : 1
Third	2.01 : 1
Fourth	1.35 : 1
Fifth	1.00 : 1
Sixth	0.67 : 1
Reverse 1	- 5.15 : 1
Reverse 2	- 3.44 : 1
Ratio Coverage	In forward range 5.97

CONTROL SYSTEM

Description Automatic Electronic, Manual Electric, Manual Hydraulic

Shift Sequences [C = Converter Mode (lockup clutch disengaged); L = Lockup Mode (lockup clutch engaged)]
1C-1L-2C-2L-3C-3L-4C-4L-5C-5L-6C-6L

Driver-to-Transmission Interface Customer furnished, cab-mounted shift selector

PHYSICAL DESCRIPTION

Length (engine housing to flange face)	Basic:	54.3 in (1380 mm)
	With retarder provision:	57.8 in (1467 mm)
Width	Basic:	25.9 in (658 mm)
	With retarder provision:	29.4 in (747 mm)
Depth (below horizontal center line)		20.1 in (511 mm)
Height (above horizontal centerline)	Basic:	13.7 in (348 mm)
	With direct mount filters:	18.2 in (462 mm)
Dry Weight	Basic:	2200 lb (998 kg)
	Top engine-driven PTO drive gear:	Add 30 lb (14 kg)
	Park Brake (12" x 5"):	Add 60 lb (27 kg)
	Remote Mount Provision:	Add 55 lb (25 kg)
	Retarder Provision:	Add 165 lb (75 kg)

SIDE ENGINE-DRIVEN POWER TAKE-OFF PROVISION

PTO drive	Engine-driven spur gear	
PTO mounting pad	Eight-bolt, 4 o'clock position (as viewed from rear of transmission)	
PTO drive gear ratio	1.00 x engine speed	
PTO drive gear rating	Intermittent:	200 hp (149 kW)
	Continuous:	125 hp (93 kW)

LIGHT DUTY ACCESSORY DRIVE

Accessory drive	Engine-driven, internal spline	
Accessory drive mounting pad	Location:	4 o'clock position (as viewed from rear of transmission)
	Orientation:	Toward rear of transmission
Accessory drive ratio	1.00 x engine speed	
Accessory drive rating	Torque:	25 lb-ft (24 N•m)
	Power:	10 hp (7.5 kW)

TOP ENGINE-DRIVEN POWER TAKE-OFF PROVISION (OPTION)

PTO drive	Engine-driven spur gear	
PTO mounting pad	Eight-bolt, 12 o'clock position (as viewed from rear of transmission)	
PTO drive gear ratio	1.21 x engine speed	
PTO drive gear rating	Intermittent:	200 hp (298 kW)
	Continuous:	125 hp (224 kW)

INPUT RETARDER PROVISION (OPTION)

Type	Integral, hydraulic. Coupling-type rotor between fixed stators	
Capacity at 2100 rpm	Torque:	1500 lb-ft (2034 N•m)
	Power:	600 hp (447 kW)

OIL SYSTEM

Oil type	C-4	
Capacity, excluding external circuits	18.0 gallons (68 liters)	
Main circuit oil filter	Standard: Optional:	Manifold for full-flow, remote mounted, replaceable element Direct-mount full flow, replaceable elements (2)
Cooler circuit oil filter (optional)	Replaceable element, remote-mounted	

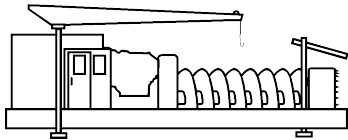
SPEEDOMETER PROVISIONS

Electronic:	Location:	LS-TTL signal, 39 pulses per output shaft revolution Output signal from transmission ECU
Mechanical Drive:	Location:	SAE "Heavy Duty" 5/32-inch; Ratio = 0.50 : 1 Transmission rear cover

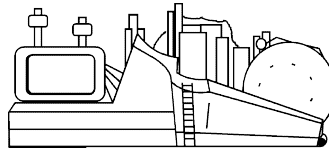
PARK BRAKE PROVISION

Type (customer supplied)	12 x 5-inch drum
Capacity at lever apply force	90,000 lb-in at 517 lbf (10,168 N•m at 2058 N)

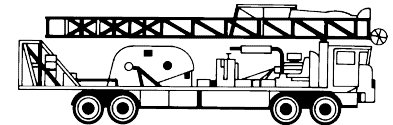
TYPICAL VEHICLE APPLICATIONS



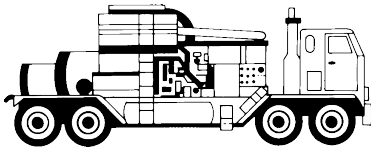
Auger



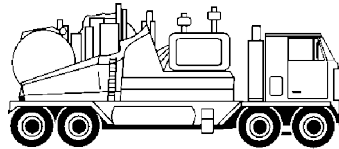
Winch



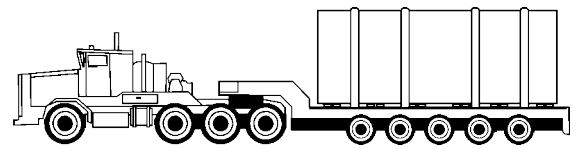
Oil Field Rig



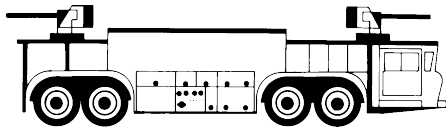
Oil Field Pumping Rig



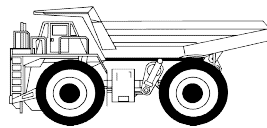
Oil Field Draw Works



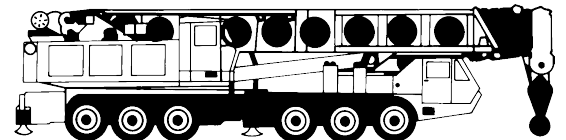
Heavy Equipment Transporter



Crash Truck



Haul Trucks



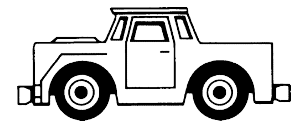
Crane Carrier



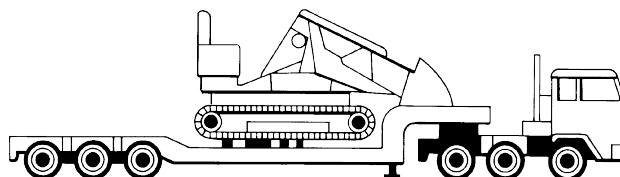
Logging truck



Agricultural Tractor



Aircraft Tow Tractor



Heavy Equipment Hauler