TA90-7500 Series

TA90-7500 Series

UP TO 1939 KW (2600 HP)

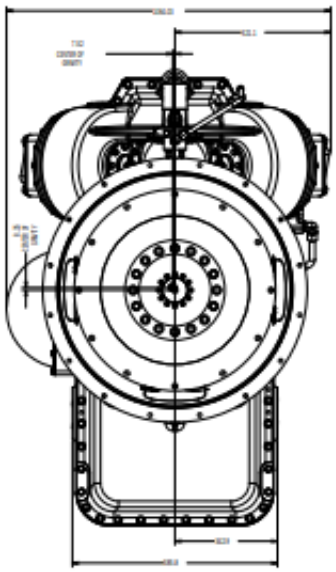
The 7500 Series transmission system consists of a 9-speed coaxia power-shift transmission and an advanced electronic control system.

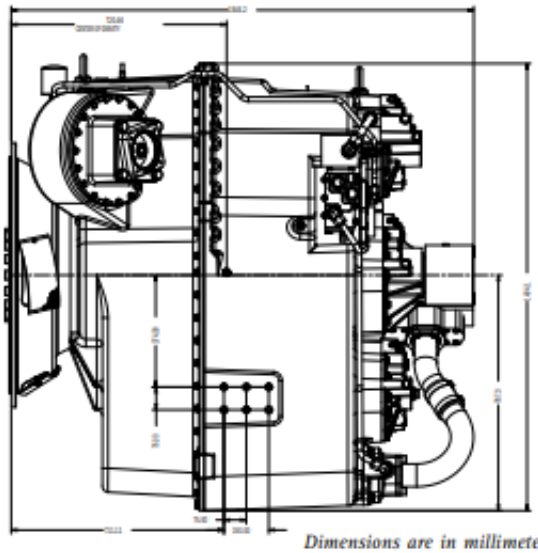
Features and Benefits

- Lightweight yet durable aluminum housings reduce overall vehicle weight
- Does not require a torque converter, further contributing to overall weight savings
- Compact in size and able to fit between a mobile equipment's frame rails
- Overall length of 1546 mm (61 in) provides narrow footprint
- Smaller gear ratio steps provide delivery of higher average power
- Less complicated plumbing makes it easier to fit into the cramped quarters of a fraC rig
- Offers two live 149 kw PTOs
- Includes a torsional coupling
- Automatic electronic oil level system available
- In most cases, standard engine oil may be used, simplifying servicing requirements
- Designed to match engine life
- Made in America, the TA90-7500 transmission features the same reliability and robust design on which Twin Disc built its reputation

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Coverage
Ratios	2.95	2.55	2.17	1.82	1.57	1.33	1.16	1.00	0.85	3.47
Step	1.16	1.18	1.19	1.16	1.18	1.15	1.16	1.18		

TA90-7500





Dimensions are in millimeters

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TRANSMISSIONS • CLUTCHES • PTOS
PUMP DRIVES • TORQUE CONVERTERS
GEARBOXES • HYDRAULIC PTO PRODUCTS

Specifications

TA90-7500	9 forward speeds, no reverse
Maximum gross input power	1939 kW (2600 hp) at 1900 rpm
Maximum gross input torque	10460 Nm (7715 lb-ft)
Maximum input speed	1900 rpm
Dry weight – estimated, without PTO	2041 kg (4500 lbs)
Center of gravity location, horizontally from engine flywheel housing on input-output centerline	720 mm (28 in)
Available live PTO drives	0, 1, or 2
Power each:	149 kW (200 hp)
PTO designation, per SAE J744	127-2, 22-4 (SAE B 2-bolt) 127-4, 22-4 (SAE B 4-bolt) 152-4, 32-4 (SAE C 4-bolt) 165-4, 44-4 (SAE D 4-bolt)
PTO ratios (@ engine speed, rpm)	1.087 (2066 rpm) 1.579 (3000 rpm)
Oil volume	83 liters (22 USG)
Oil flow	400 LPM (106 GPM)
Mounting	SAE 00 dry flywheel housing
Output flange	T200

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds.

The responsibility for ensuring that the torsional compatibility of the system is satisfactory rests with the assembler of the drive and driven equipment.

Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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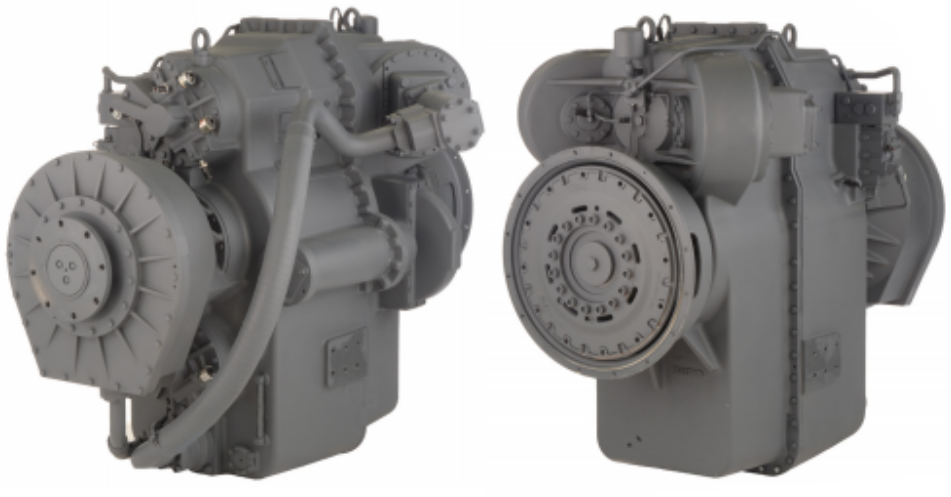
TD-Bulletin-TA90-7500

TA90-7601

TA90-7601

UP TO 1939 KW (2600 HP)



The 7601 Series transmission system consists of a 9 speed coaxial power-shift transmission and the advanced TDEC-500 electronic control system.

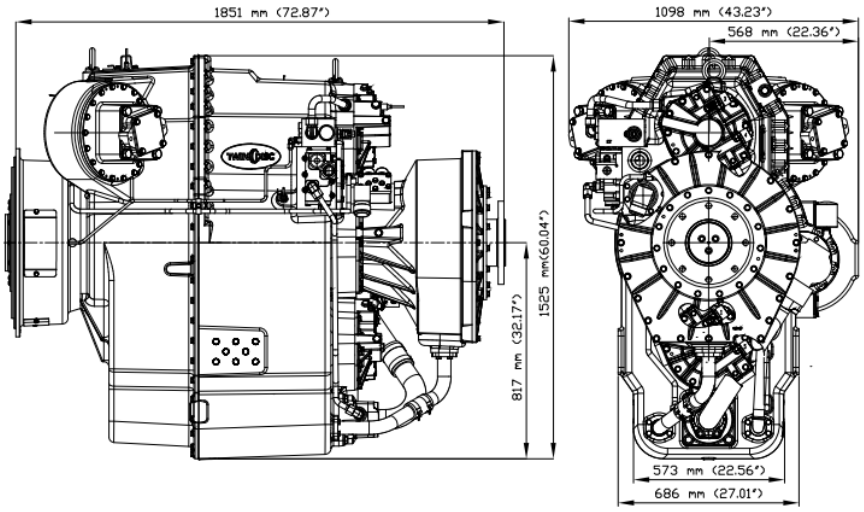
Features and Benefits

- Designed to match the engine life on pressure pumping rigs for oil and gas well stimulation. The robust, simplicity of the counter shaft design provides for an expected L10 life of 10,000 hours.
- Designed specifically for the pressure pumping market, the transmission does not require throttle dipping for any of the range to range shifts. It is designed to be power shifted under all loaded or unloaded situations.
- Lightweight yet durable aluminum housings to reduce overall vehicle weight.
- Automated line test/hydraulic pressure test for pressure pumping applications.
- Does not require a torque converter, further contributing to overall weight savings.
- Compact in size and able to fit between the frame rails of mobile equipment.
- Small and evenly spaced gear ratio steps ensure that well pressure does not drop during gear shifts.
- Simple plumbing to ease installation in the cramped quarters of a pressure pumping rig.
- In most cases uses the same oil as the engine, simplifying onsite fluids logistics and servicing requirements.
- Includes a highly flexible coupling to reduce the damaging effects of the torsional excitations by the engine and piston pump.
- Internal brake capability to hold the output shaft when not pumping.
- Oil fill port and sight glass are co-located, making oil fills a one person operation.

TDEC-500
ELECTRONIC CONTROL SYSTEM

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Overall
Ratios	4.45	3.84	3.26	2.74	2.36	2.01	1.75	1.51	1.28	3.47
Step	1.16	1.18	1.19	1.16	1.18	1.15	1.16	1.18	N/A	N/A

TA90-7601 AUTOMATIC TRANSMISSION SYSTEM



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TRANSMISSIONS • CLUTCHES • PTOS
PUMP DRIVES • TORQUE CONVERTERS
GEARBOXES • HYDRAULIC PTO PRODUCTS

Specifications

TA90-7601	9 forward speeds, no reverse
Maximum gross input power	1939 kW (2600 hp) at 1900 RPM
Maximum gross input torque	7617 Nm (5618 lb-ft) in 1st 8826 Nm (6510 lb-ft) in 2nd 10396 Nm (7668 lb-ft) in 3rd 10460 Nm (7715 lb-ft) all other ranges
Maximum gross output torque	33895 Nm (25000 lb-ft)
Maximum input speed	1900 RPM
Dry Weight - estimated, without PTO	2637 kg (5814 lbs)
Available live PTO drives	0, 1 or 2
Power Each	149 kW (200 hp)
PTO designation, per SAE J744	127-2, 22-4 (SAE B 2-bolt) 127-4, 22-4 (SAE B 4-bolt) 152-4, 32-4 (SAE C 4-bolt) 165-4, 44-4 (SAE D 4-bolt)
PTO sizes (@ engine speed, rpm)	1.087 (2066 rpm) 1.579 (3000 rpm)
Oil volume	83 liters (22 USG)
Oil flow	409 LPM (108 GPM)
Mounting	SAE #0 or SAE #00 dry flywheel housing

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds
.
The responsibility for ensuring that the torsional compatibility of the system is satisfactory rests with the assembler of the drive and driven equipment.

Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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TD-Bulletin-TA90-7601

Printed in the USA - 4/2016

TA91-8501 Series

TA90-8501
TA91-8501

UP TO 3000 HP (2300 KW)

The 8501 Series transmission system consists of an engine mounted 21 or 23 inch type 8 torque converter, a 9 speed coaxial powershift transmission and an advanced electronic control system.

Features and Benefits

• Increased performance: efficient gear train combined with electronic controls tailored to the needs of the specific to optimize machine performance.
• Ease of operation: available automatic shifting or manual power shift combined with shift inhibits and interlocks simplify the operator's job and allows for concentration on the job rather than the powertrain.
• Reduced downtime: durable heavy-duty components combined with electronic controls which prevent overspeed, shift shocks and reduce the effects of operator's error, result in increased machine availability and less wear and tear on other machine components.
• Safety: the control system looks after the transmission so the operator can focus on the operation of the machine. Speeds and interlocks can be programmed to meet the needs of the specific machine.

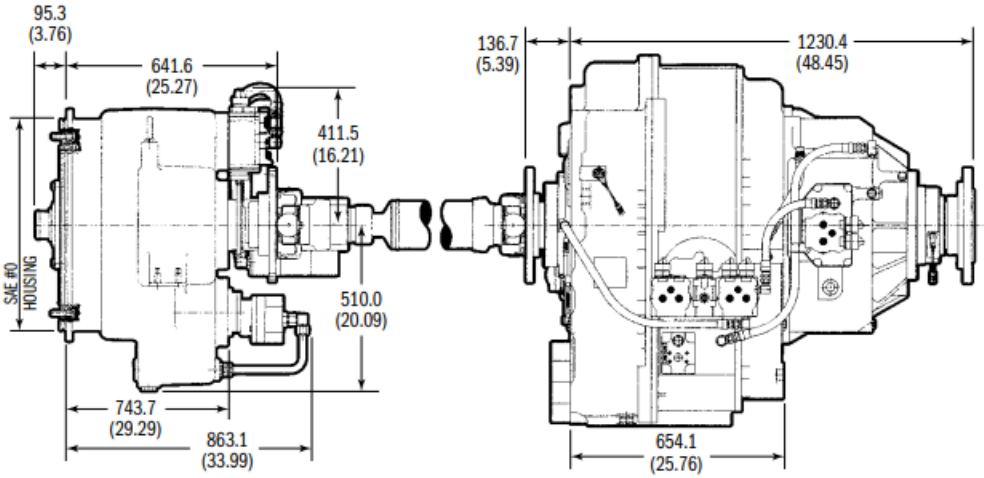
Applications

• Oil Field Fracturing Rigs
• Mine Haul Trucks
• Anchor Hoists
• Large Cranes
• Special Purpose Equipment

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Reverse	Overall
4.47	3.57	2.85	2.41	1.92	1.54	1.25	1.00	0.80	4.12	5.60

TA90-8501

Dimensions are in mm (inches)



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TRANSMISSIONS • CLUTCHES • PTOS
PUMP DRIVES • TORQUE CONVERTERS
GEARBOXES • HYDRAULIC PTO PRODUCTS

Specifications

TA90-8501	9 forward speeds, no reverse
TA91-8501	9 forward speeds and 1 reverse
Maximum gross input power	3000 hp (2300 kW) at 2100 RPM
Maximum gross input torque	9500 lb-ft (12880 Nm)
Maximum input speed	2100 RPM
Weight, dry	5020 lbs. (2288 kg)
Cooling pump capacity	100 GPM@1900 RPM
Maximum oil temperature at converter outlet	250˚ F
Sump capacity	35 USG (132 liters)

Remote mounted using "trunion" style mounts
Cooling required 20 to 30% of GHP depending on application
Consult Twin Disc regarding availability and specifications f
or optional hydraulic retarder

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds.

The responsibility for ensuring that the torsional compatibility of the system is satisfactory rests with the assembler of the drive and driven equipment.

Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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TD-Bulletin-8500Series

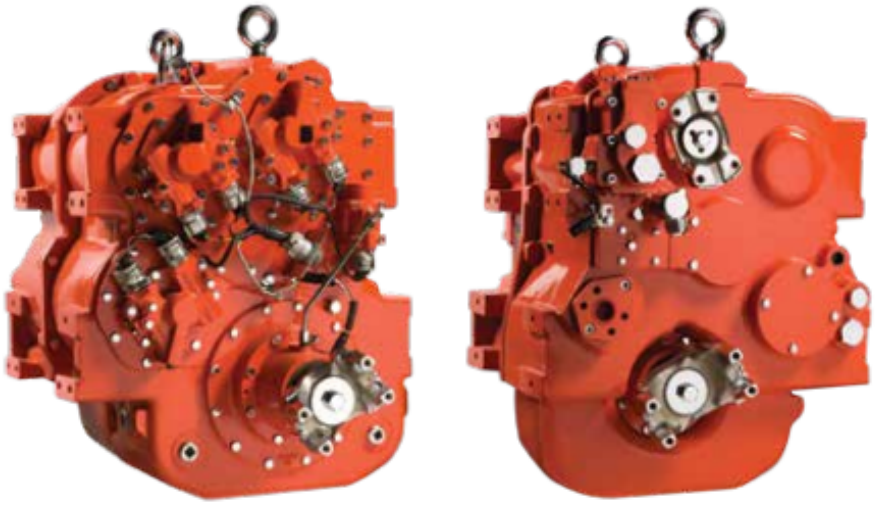
Printed in the USA - 11/2007

TD61-1180

for ARFF vehicles

TD61-1180

UP TO 705 HP (526 KW)



The Twin Disc 1180 series transmission system consists of an engine mounted type 8 torque converter, remote mounted 6 speed automatic transmission and the advanced TDEC-501 electronic control system.

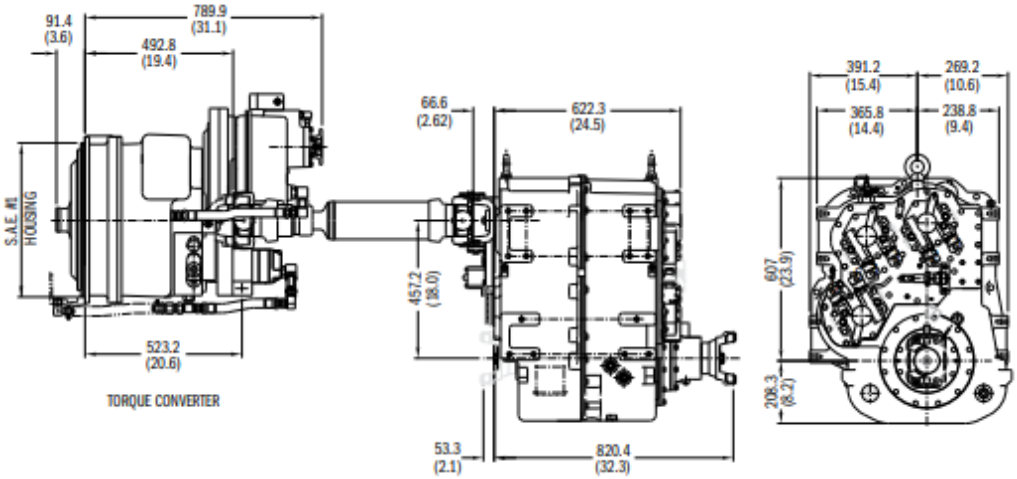
Features and Benefits

- Robust automatic transmission system equipped with oversized internal clutch assemblies allows full power shift capability without the need for throttle dipping.
- Only commercially available drive system to offer continuous pumpand-roll functionality at rated engine power levels.
- Our advanced TDEC-501 electronic control systems are specifically tailored for each ARFF application and enable rapid acceleration, faster shifts and precise speed control to handle varying ground conditions, all while seamlessly integrating control of regular drive and pump-and-roll (work) modes.
- Durable ARFF transmission system utilizes the same components used in heavy-duty off-highway vehicles, ensuring long life and reliable performance in ARFF vehicle applications.
- Full time, all-wheel drive, remote mounted, countershaft transmission with options for 30/70, 50/50 and 70/30 biasing differentials for superior performance in off-road conditions.

TDEC-501
ELECTRONIC CONTROL SYSTEM

Range	1st	2nd	3rd	4th	5th	6th	Reverse	Overall
Ratio	6.70	4.39	2.90	1.89	1.24	0.82	7.44	8.17
Step	1.53	1.51	1.53	1.52	1.51	-	-	-

TD61-1180 ARFF SPECIFICATIONS



Since 1918, we've been putting horsepower to work by designing, engineering and manufacturing rugged-duty industrial products. Our products and our reputation are bolted to the most renowned engine manufacturers and equipment OEMs in the world. Our mission is to make boats, machines and off-highway vehicles more productive, more durable, more operator-friendly, and more cost-effective. From design and installation consultation through after-sale support, Twin Disc and its distributors are committed to your business. No one knows more about managing horsepower in more ways than Twin Disc.

POWER-SHIFT TRANSMISSIONS
TORQUE CONVERTERS
ELECTRONIC CONTROL SYSTEMS
POWER TAKE-OFFS
PUMP DRIVES
CLUTCHES
GEARBOXES
UNIVERSAL CONTROL DRIVES

Specifications

Range	6 forward, 1 reverse
Maximum gross input power	705 hp (526 kW)
Maximum input speed	2300 RPM
Weight, dry (transmission only)	1700 lbs (770 kg)
Maximum oil temperature at converter outlet	250°F (121°C)
Sump capacity	7 USG (26.5 L)
Cooling required	~25% of GHP
Cooling pump capacity	~44 GPM @ 2100 RPM
Mounting	Torque Converter – SAE #1, Transmission – remote trunnion style
Differential	30/70, 50/50, 70/30 with differential lock
Additional	Configurable input and output flanges, PTO options and other accessories. Consult factory

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds.

The responsibility for ensuring that the torsional compatibility of the system is satisfactory rests with the assembler of the drive and driven equipment.

Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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2002-Bulletin-TD61-1180-ARFF

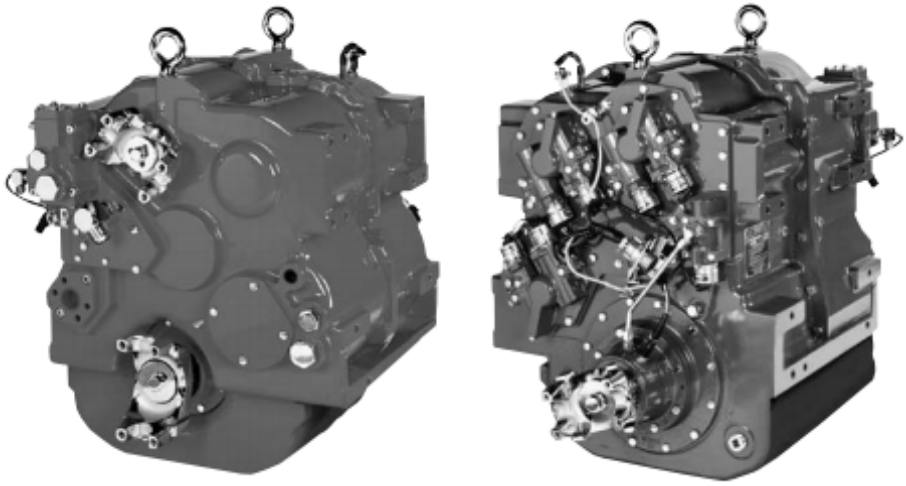
TD61-1180 Series

For ALL-WHeel Drive Vehicles

TD61-1179

TD61-1180

UP TO 540 HP (402 KW)



The 1180 Series transmission system consists of an engine mounted 17.5 or 18.5 inch type 8 torque converter, a 6 speed power-shift transmission and an advanced electronic control system.

Features and Benefits

- Full time all-wheel drive with 30-70 and 50-50 biasing differentials available for 4x4, 6x6 and 8x8 vehicles. Optional part time AWD system available. differential lock provides high performance in off-road conditions.
- Advanced electronic controls provide ease of operation and maximum flexibility in tailoring the transmission system performance to the specific application.
- Reduced downtime: Durable heavy-duty components, combined with electronic controls which prevent overspeed, shift shocks and reduce the effects of operator's error, result in increased machine availability and less wear and tear on other machine components.
- Integrated system components: Torque converter with drop box-type transmission and advanced electronic controls designed to work together as a system rather than a collection of parts.

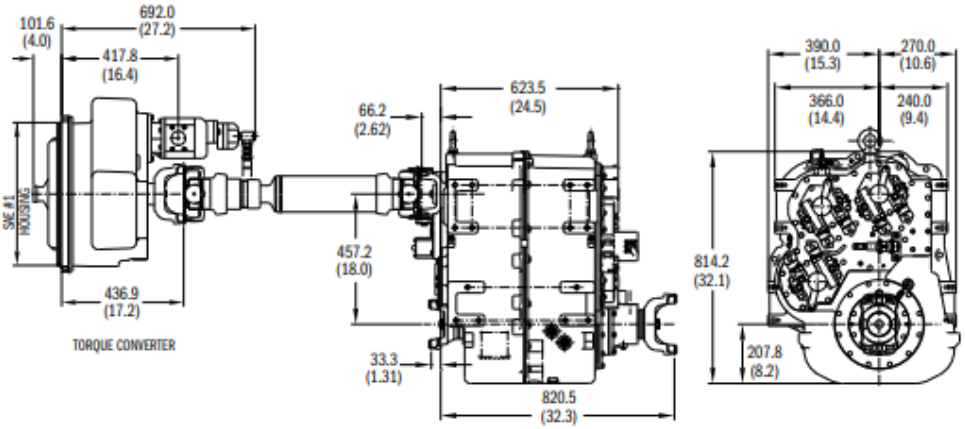
Applications

- Military vehicles
- Haul trucks
- ADT's
- Oil field rigs
- Heavy-duty off-road vehicles

	1st	2nd	3rd	4th	5th	6th	Reverse	Overall
TD61-1179	6.03	3.95	2.61	1.70	1.12	0.74	6.70	8.18
TD61-1180	6.70	4.39	2.90	1.89	1.24	0.82	7.44	8.18

TD61-1180 FOR ALL-WHEEL DRIVE VEHICLES

Dimensions are in mm (inches)



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TRANSMISSIONS • CLUTCHES • PTOS
PUMP DRIVES • TORQUE CONVERTERS
GEARBOXES • HYDRAULIC PTO PRODUCTS

Specifications

Maximum gross input power - TD61-1179	540 hp (402 kW) at 2100 RPM
Maximum gross input power - TD61-1180	370 hp (275 kW) at 2100 RPM
Maximum gross input torque	1950 lb-ft (2644 Nm)
Maximum input speed	2300 RPM
Weight	1700 lbs. (770 kg)
Maximum oil temperature at converter outlet	250˚ F
Sump capacity	7 USG (26.5 liters)
Cooling required	25% of GHP
Cooling pump capacity	46.5 GPM @ 2100 RPM

Remote mounted
30-70, 50-50, 70-30 with differential lock
TD61-1179 output rotation same as engine for forward
TD61-1180 output rotation opposite engine for forward
Consult Twin Disc regarding availability and specifications for optional outputs, PTOs and accessories

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds.

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Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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TD-Bulletin-TD61-1180AWD

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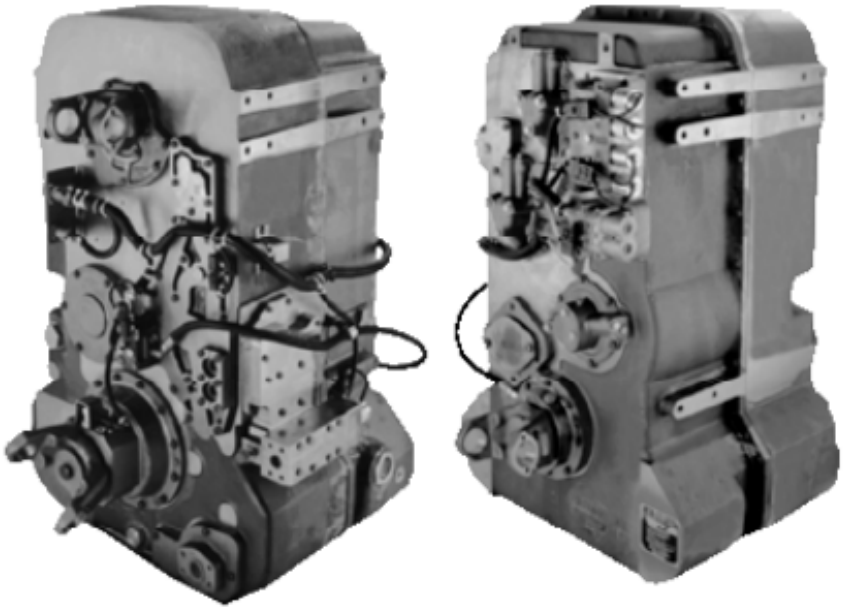
TD61-2619 Series

FOR ARFF VEHICLES ONLY

TD61-2619

UP TO 1000 HP (746 KW)



The 2619 Series transmission system consists of an engine mounted 18.5 inch type 8 torque converter, a 6 speed powershift transmission and an advanced electronic control system.

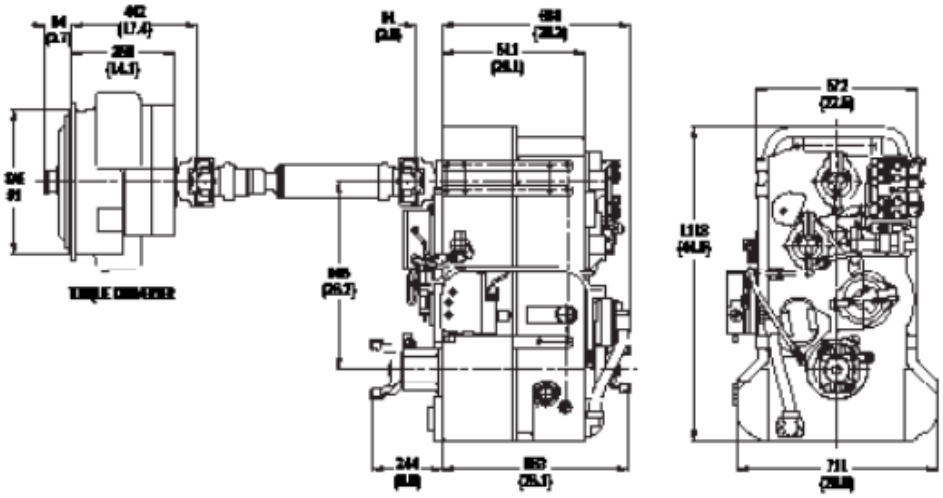
Features and Benefits

- Full time all-wheel drive with shift on the fly differential lock provides high performance in off-road conditions.
- Advanced electronic controls provide ease of operation and maximum flexibility in tailoring the transmission system performance to the specific application.
- Reduced downtime: durable heavy-duty components combined with electronic controls which prevent overspeed, shift shocks and reduce the effects of operator's error, result in increased machine availability and less wear and tear on other machine components.

1st	2nd	3rd	4th	5th	6th	Reverse	Overall
5.44	3.48	2.18	1.70	1.08	0.68	4.33	8.00

TD61-2619

Dimensions are in mm (inches)



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TRANSMISSIONS • CLUTCHES • PTOS
PUMP DRIVES • TORQUE CONVERTERS
GEARBOXES • HYDRAULIC PTO PRODUCTS

Specifications

Maximum gross input power - ARFF Vehicle Rating	1000 hp (746 kW) at 2300 RPM
Maximum gross input power - Standard Rating	750 hp (559 kW) at 2100 RPM
Maximum input speed	2300 RPM
Weight	2170 lbs. (984 kg)
Maximum oil temperature at converter outlet	250˚ F
Sump capacity	14 USG (53 liters)
Cooling required	25% of GHP

Remote mounted
30-70, 70-30 biasing differentials with differential lock
Consult Twin Disc regarding availability and specifications for optional hydraulic retarder

Important Notice: Torsional Vibration
Disregarding system torsional compatibility could cause damage to components in the drive-train resulting in loss of mobility. At minimum, system incompatibility could result in gear clatter at low speeds.

The responsibility for ensuring that the torsional compatibility of the system is satisfactory rests with the assembler of the drive and driven equipment.

Torsional vibration analysis can be made by the engine builder, marine survey societies, independent consultants and others. Twin Disc is prepared to assist in finding solutions to potential torsional problems that relate to the transmission.

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TD-Bulletin-TD61-2619

Printed in the USA - 06/2008