



## CX31-P600 Transmission with Optional Integral Drop Box & Pump Drives

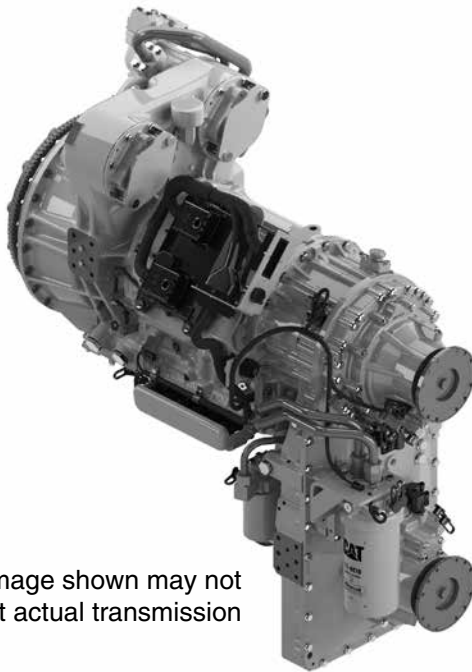


Image shown may not  
reflect actual transmission

### Petroleum

#### SPECIFICATIONS

Gross Input Power ..... 600 bhp (447 kW)  
Gross Peak Input Torque ..... 2025 lb-ft (2746 N•m)  
Drop Box Output Torque Limit  
    Top Output ..... 13,645 lb-ft (18,500 N•m)  
    Bottom Output ..... 8,482 lb-ft (11,500 N•m)  
Maximum Turbine Torque ..... 2600 lb-ft (3525 N•m)  
Rated Input Speed ..... 2100 rpm  
Maximum Input Speed ..... 2500 rpm  
Minimum Input Speed ..... 600 rpm  
Retarder Rating (at 2400 rpm) ..... 535 hp (399 kW)  
Electrical System ..... 12V or 24V

Gears  
    Type ..... Planetary Spur  
    Forward/Reverse ..... 6F/1R

#### Transmission Speed Ratios

Gear	Ratio
1st	4.40
2nd	2.33
3rd	1.53
4th	1.00
5th	0.72
6th	0.61
1R	-3.97
Overall	7.21

#### FEATURES

- CX31-P600 is the most advanced Cat® well service transmission and is designed specifically to meet the demands of this market.
- Lightweight with superior power-to-weight ratio
- Diagnostics via Cat Electronic Technician
- Integral drop box available
  - Same electronic controls as transmission
- Integral pump drives available
  - Allows for two SAE B pads and two SAE C pads to direct mount on transmission
  - Additional option for rear PTO
- Optional hydraulic retarder
- Advanced software specifically designed for the well service market

#### BENEFITS

- Integral options streamline service:
  - Same warranty for dropbox, integral pump drives and rear PTO
  - One source supplier – one source service
- Rear PTO option increases application flexibility
- Hydraulic retarder offers the option for the additional braking needed in some applications.
- With more than 40 new well service software features, CX31-P600 is the most advanced transmission available. Features include multiple modes of operation:
  - Auto pumper
  - Manual pumper
  - Workover/drawworks
  - Road
- Unmatched product support offered through worldwide Cat dealer network
  - More than 2,200 dealer outlets
  - Caterpillar factory-trained dealer technicians service every aspect of your petroleum engine-transmission package
  - Caterpillar parts and labor warranty
  - Preventive maintenance agreements available for repair-before-failure options
- Web site — for all your petroleum power requirements, visit [www.catoilandgasinfo.com](http://www.catoilandgasinfo.com).

**CAT® ENGINE FOR OPTIMIZED POWERTRAIN**

C9 ACERT™, C11 ACERT, C13 ACERT,  
C15 ACERT, C18 ACERT (A & B ratings)

**Note:** See Petroleum Transmissions Approved Applications Guide REHS4553 for more information.

**TRANSMISSION ROTATION**

Input rotation — counterclockwise  
Output rotation — counterclockwise  
(as viewed from rear)

**TORQUE CONVERTER**

Lock-up clutch, torque converter drive in all gears  
Integral to transmission  
Stall torque ratio  
2.669 (< 400 bhp engine)  
2.324 (> 400 bhp engine)

**CLUTCHES**

Clutches — electro-hydraulic fully modulated,  
oil cooled, multidisc  
Clutch modulation control — Cat Electronic Clutch  
Pressure Control (ECPC)

**INSTALLATION CONNECTIONS**

2 oil cooler lines  
1 electrical connector

**OIL SYSTEM**

Cat Transmission/Drive Train Oil-4 (TDTO)  
Sump oil temperatures  
Continuous — 194°F (90°C)  
Maximum Intermittent — 210°F (99°C)  
Maximum converter outlet oil temperature —  
250°F (121°C)  
Hydraulic fill capacity — 6.5 gal (25 L)  
subject to cooler size, lines, and installation —  
initial fill may be greater  
Filter type  
Direct mount — standard  
Remote mount — optional

**MOUNTINGS**

Input (flywheel) — SAE #1 dry flywheel housing  
Side supports — two SAE #2 pads  
Output — 1710 yoke, 1810 yoke, 1810 companion  
flange, ISO 8667-T180 flange  
Remote-mount ECU option  
Remote-mount filter option

**POWER TAKE-OFF (Pump Auxiliary Drive)**

	<b>PTO Drives (Basic)</b>	<b>Integral PTOs (Optional)</b>	<b>Rear PTO (Optional)</b>
<b>Location</b>	1 o'clock and 8 o'clock; as viewed from rear	1 o'clock and 11 o'clock; as viewed from rear	5 o'clock as viewed from rear
<b>Mounting Type</b>	10 bolt	Front: 2 SAE B Rear: 2 SAE C	8 bolt*
<b>Rated Torque</b>	Single: 700 lb-ft (950 N•m) Total: 1200 lb-ft (1630 N•m)	Single: 500 lb-ft (678 N•m) Total: 688 lb-ft (933 N•m)	1000 lb-ft (1360 N•m)
<b>Rotation</b>	Same as engine	Same as engine as viewed from rear	Opposite of engine
<b>Ratio</b>	1:1	1.09:1	1.25:1

\*SAE pump adapters and drive flanges available from third party suppliers.



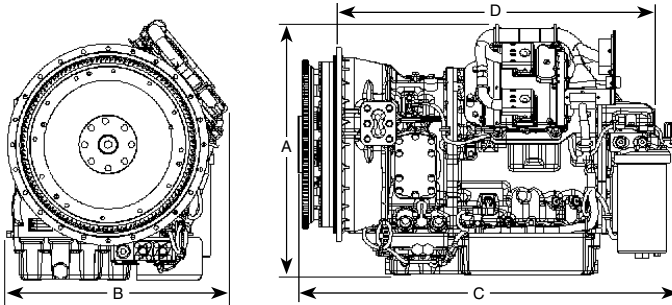
## CX31-P600

## TRANSMISSION

600 bhp (447 bkW)

### DIMENSIONS

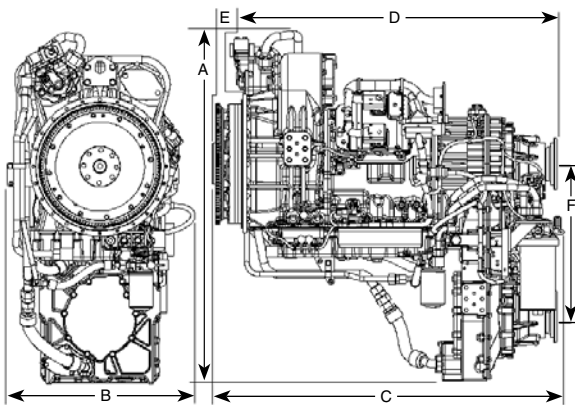
#### Transmission with Side PTO



Weight (approx.)	1006 lbs (456 kg)
Overall Height (A)	28.3 in (719 mm)
Overall Width (B)	24 in (613 mm)
Overall Length (C)	43.2 in (1098 mm)
Length of Drive Train (D)*	36.2 in (920 mm)
Overall Length with Retarder Option	47 in (1203 mm)
Overall Weight with Retarder Option	1094 lbs (496 kg)

\*The length that is shown is with a standard 1810 companion flange.

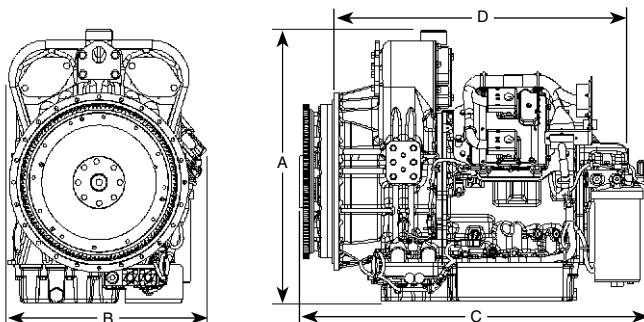
#### Transmission with Integral Drop Box



2WD Drop Box Weight (approx.)	2005 lbs (909 kg)
4WD Drop Box Weight (approx.)	2080 lbs (943 kg)
Overall Height (A)	55 in (1398 mm)
Overall Width (B)	29.7 in (755 mm)
Overall Length (C)	53.7 in (1366 mm)
Length of Drive Train (D)*	49.4 in (1256 mm)
Length between Drive Lines (E)	24 in (611 mm)

\*The length that is shown is with a standard 1810 companion flange.

#### Transmission with Integral Pump Drives



Weight (approx.)	1320 lbs (598 kg)
Overall Height (A)	33.4 in (848 mm)
Overall Width (B)	24 in (613.4 mm)
Overall Length (C)	43.3 in (1100 mm)
Length of Drive Train (D)*	36.3 in (921 mm)
Overall Length with Retarder Option	47.4 in (1203 mm)
Overall Weight with Retarder Option	1405 lbs (637 kg)

\*The length that is shown is with a standard 1810 companion flange.

**CX31-P600**  
Standard Configuration



**CX31-P600**  
with Integral Pump Drives



**CX31-P600**  
with Integral Drop Box



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