

527

Track Skidder



Engine

Engine Model	Cat® 3304 DIT	
Gross Power	124 kW	166 hp

Weights

Operating Weight – Cable	18 696 kg	41,217 lb
Operating Weight – Grapple	21 900 kg	48,281 lb

Features

Power Train

The field proven Cat® 3304 DIT Diesel engine, heavy-duty torque converter and three-speed transmission are matched to deliver high horsepower for more drawbar pull, improved skidding performance and ease of operation.

Application Flexibility

The 527 Skidder provides unsurpassed performance and application flexibility due to superior balance, torque converter power train, several track options, and either cable or swing-boom grapple configurations.

Undercarriage

Use of D6R sized heavy-duty track prolongs the life of the key undercarriage components, including rollers, idlers, pins, bushings and shoes. An extended track roller frame places more track under grapple/winch and enhances balance.

Hydraulics

The load sensing hydraulic system reduces horsepower consumption and system heat. A single lever controls grapple and tong hydraulics, reducing operator efforts for improved productivity. Exclusive Auto-Grab hydraulics maintain constant tong gripping pressures to compensate for shifting loads.

Operator Station

Excellent all-around viewing area, angled seat, and easy-to-reach controls reduce operator fatigue and increase productivity.

Customer Support

Your Cat dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. The dealer will help you choose a plan that can cover everything from machine and attachment selection to replacement, to help you get the best return on your investment.

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The Cat 527 Skidder is designed and built specifically for log skidding applications. The 527's extended track roller frame and weight-forward bias make it well suited for mountainous and soft underfoot logging operations. The skidder's ergonomic and spacious operator's environment allow for increased comfort and production. The 527's standard forestry guarding and undercarriage design ensure the durability required in logging applications. Both Cable and Swing-boom Grapple configurations are provided to suit a wide range of skidding applications.

Power Train

Durable, reliable components deliver smooth, responsive power.

Engine

The Cat 3304 DIT turbocharged diesel engine powers the 527 Skidder. This field-tested engine supplies the 527 with an ample 123 gross kW (166 gross horsepower). A direct-injection fuel system uses adjustment-free fuel injectors for efficient, accurate fuel metering and reduced emissions. The 4-cylinder allows the 527 to consume less fuel in medium or low-load situations.

Cooling System

The 527 is designed for log skidding applications in high ambient temperatures and steep or muddy environments. The 527 features a very large capacity cooling system with a high volume fan providing maximum airflow and modular cores that can be replaced individually, thus reducing maintenance cost. Twin transmission oil coolers help maintain proper operating temperatures while extending the life of key transmission components.

Transmission

The 527CA 3304 DIT engine is coupled to a high capacity skidder-type torque converter and a 3-speed powershift transmission, which transmits more engine torque to the track for higher drawbar capability and fuel efficiency. The torque converter functions to match engine power to skidding and traction load requirements, to minimize track slippage and to maximize drawbar pull in poor underfoot conditions. Ultimately, this reduces operator exertion and improves machine productivity.

Torque Converter

A skidder-type torque converter is an efficient converter designed to transmit more engine torque to the track for higher drawbar capability. In contrast, a bulldozer-type torque converter is designed to absorb some of the engine torque, which allows the tractor to better handle the highly variable loading typical of dozing applications.



Undercarriage

Rugged components for tough skidding conditions.

Machine Balance

The 527 track roller frame and undercarriage system deliver superior balance required of skidding. The track roller frame extension places rear idlers beneath grapple/winch loads, improving skidder balance and performance. Having more track under the load greatly enhances the tractor's balance and ability to handle large loads, and reduces the potential for track spin to lower track wear and increase productivity.

Component Durability

All of the 527 track options consist of D6R-sized heavy-duty components to deliver maximum undercarriage life. The use of D6R undercarriage prolongs the life of key undercarriage components including: rollers, idlers, sprocket segments, pins, bushings, track links, and shoes.

Maneuverability

The Elevated sprocket design provides the 527 with 71.2 cm (28 in) of ground clearance; and clutch-brake steering give the 527 the required agility and ability to maneuver in severe underfoot conditions.

Minimized Ground Disturbance

The extended track roller frame increases the track-to-ground contact area and decreases the ground pressure. This increases the 527's flotation and provides maximum performance and maneuverability in soft underfoot locations. Increased flotation also reduces the environmental impact, enabling the 527 to operate in site-sensitive applications.

Track Selection

Proper track selection depends on operating conditions. The 560 mm (22 in) and 610 mm (24 in) tracks are designed for firm underfoot conditions or for situations that do not require maximum flotation. The wider 760 mm (30 in) tri-link track option lowers ground pressure and is suited for soft ground conditions.



Application Flexibility

Steep slopes or soft ground are no match for the 527.

Power

The 124 gross kW (166 gross horsepower) and a torque converter driveline provide a 49 percent torque rise and a drawbar pull of 30 276 kg-force (66,746 lb-force). This pulling power enables the 527 to overcome drag loads created during skidding.

Cable Skidding

The combination of tractor balance, torque converter drive train and high drawbar pull enable the skidder to offset the weight and overcome drag loads created during winching situations. The 527 winch is a durable and productive tool that delivers an impressive 31 388 kg-force (69,200 lb-force) of line pull.

Swing Boom Grapple

The 527's superior balance and extended track roller frame provide a superior platform for grapple skidding. The machine's weight distribution and longer undercarriage combine to offset the weight and pull of grapple loads and to keep the front of the tractor on the ground. The tractor's balance and pulling ability are most evident in uphill skidding applications, poor underfoot conditions, and side-slope skidding. With a swing boom attachment, the 527 needs less maneuvering and positioning to reach downed timber delivering high productivity, and less ground disturbance.

Blades

The 5P Power Angle Tilt (5P-PAT) blade is a highly versatile tool that allows complete blade adjustment from the operator's compartment. The ability for the operator to angle and tilt the dozer while operating is a significant performance and productivity enhancer. The operator can hydraulically adjust angle and tilt on the go, to focus the 527CA weight and horsepower on tough digging spots, effectively increasing the 527 digging forces to that of larger tractor. Further, hydraulic angle and tilt allows precise placement of material for faster doze cycles, and more efficient terracing and pioneering.

With the knowledge of industry expectations gained since the introduction of the 527CA, Caterpillar designed a 527 PAT dozer specifically for Asian market requirements. It combines the control advantages of the 5P-PAT, with the durability and ease of material casting performance of the MA. The new 527 PAT dozer provides machine width coverage when fully angled, but will not compromise the 527's balance and stability in adverse terrain maneuvering. With appropriate dozer width, improved cutting edge angle and moldboard curvature, combined with the performance advantage of hydraulic angle and tilt, the 527 PAT dozing capabilities can be raised to equal the industry standard D6G.

Operator Station

Designed for operator comfort, superior control and high productivity.

Comfort and Visibility

Two cab options are available on the 527. Both cabs are designed for operator comfort and operation ease. The 527 open ROPS canopy includes standard rear, front, and side screens as well as screened doors. The side and rear screens are mounted on the outside of the ROPS structure for increased canopy area.

The enclosed ROPS certified cab is ergonomically designed with a focus on operator comfort and convenience. The ROPS certified cab is isolation mounted to reduce sound and vibration and features standard air conditioning, heater, air pressurizer, and air filter to provide a comfortable operating climate.



Hydraulics

Load Sensing System for efficiency and performance.

Hydraulic System

The 527 features a state-of-the-art closed-center, variable-flow, pressure-compensating hydraulic system for braking, steering, and blade functioning. The variable displacement piston pump draws power from the engine only when steering, dozer, brake, or grapple actuation demands flow and/or pressure.

Auto-grab Grapple Hydraulics

All grapple-equipped 527s feature the Auto-grab hydraulic system, which helps maintain a secure grip on grapple loads and reduces the potential for dropped timber.

Easy-to-use Controls

A single-lever blade control manages all blade functions including height, angle and tilt and a single-lever grapple control allows for simplified operation and reduced operator fatigue.

Customer Support

Cat dealer services help you operate longer with lower costs.



Your Cat® dealer is ready to assist you with your purchasing decision and everything after:

Selection

Cat dealers can help customers compare and choose the right machine for their business.

Financing

Cat dealers offer financing options to meet a variety of needs.

Operation

Improve operating technique for better productivity and profit with the latest Cat dealer training resources.

Product Support

Cat dealers are with customers every step of the way with unsurpassed worldwide parts support, trained technicians and customer support agreements.

Serviceability

Easy access and minimal maintenance requirements keep your machine on the job.

Less service time means more working time. Major components are made as modules and most can be removed without disturbing or removing others. Ground level access provides convenient servicing to most filters and lube points. Centrifugal prescreener removes large debris before it reaches the internal air cleaner, significantly increasing engine protection. Spin-on fuel and engine oil filters save changing time. Radial seal air filters are easy to change, reducing air filter maintenance times. 24-volt electrical system delivers increased electrical power for engine cranking, lights and engine diagnostics.



527 Track Skidder Specifications

Engine

Gross Power	124 kW	166 hp
Net Flywheel Power	112 kW	150 hp
Engine Model	Cat® 3304 DIT	
Displacement	7.0 L	425 in ³

Service Refill Capacities

Cooling System	36.9 L	9.7 gal
Fuel Tank	285.0 L	75.3 gal
Engine Crankcase and Oil Filter	22.0 L	5.8 gal
Transmission	148.0 L	39.1 gal
Hydraulic Tank	39.8 L	10.5 gal
Final Drive (each side)	6.5 L	1.7 gal
Recoil Spring Housing (each side)	27.0 L	7.1 gal
Winch Sump (527 Winch)	74.0 L	19.5 gal

Weights

Operating Weight Cable	18 696 kg	41,217 lb
Operating Weight Grapple	21 900 kg	48,281 lb

527CA Winch with Freespool

Weight	1180 kg	2,600 lb
Drum Width	330 mm	13.0 in
Drum Diameter	254 mm	10.0 in
Cable Size		
Recommended	19 mm	0.75 in
Optional	22 mm	0.88 in
Drum Capacity		
Recommended Cable	81 m	267 ft
Optional Cable	55 m	180 ft
Maximum Linepull	31 389 kg	69,200 lb
Maximum Linespeed	44 m/min	143 ft/min

Undercarriage – Cable

Width of Shoe	559 mm	22.01 in
Width of Shoe – optional	610 mm	24.02 in
Shoes/Side	41	
Grouser Height	65 mm	2.56 in
Track Gauge	2160 mm	85.04 in
Track on Ground	2846 mm	112.05 in
Track Rollers/Side	7	

Undercarriage – Grapple

Width of Shoe	760 mm	29.92 in
Shoes/Side	43	
Grouser Height	65 mm	2.56 in
Track Gauge	2160 mm	85.04 in
Track on Ground	3209 mm	126.34 in
Track Rollers/Side	8	

Transmission

Steering	Clutch/Brake	
Torque Converter Type	Skidder	
Travel Speeds		
Fwd. 1st	3.7 km/h	2.3 mph
Fwd. 2nd	6.6 km/h	4.1 mph
Fwd. 3rd	11.5 km/h	7.1 mph
Rev. 1st	4.6 km/h	2.8 mph
Rev. 2nd	8.3 km/h	5.1 mph
Rev. 3rd	14.6 km/h	9 mph

Blades

Blade Types	5P-PAT, 527 PAT	
5P-PAT		
Blade Width	3272 mm	128.82 in
Blade Height	1200 mm	47.24 in
Blade Capacity*	3.77 m ³	4.93 yd ³
527 PAT		
Blade Width	3460 mm	136.22 in
Blade Height	922 mm	36.30 in
Blade Capacity*	2.35 m ³	3.07 yd ³

* Blade Capacity calculated per ISO 9246 Engineering Standard for determination of dozer volume capacity

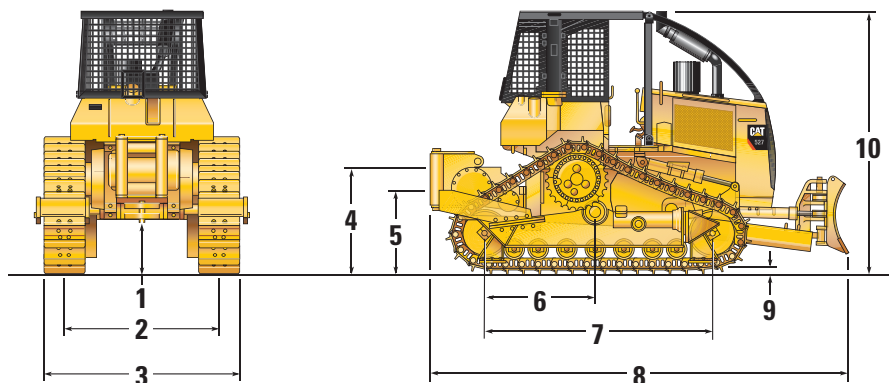
Dimensions

Ground Clearance	712 mm	28.03 in
CA – Overall width without Blade and with 559 mm (22 in) shoes	2720 mm	107.09 in
GR – Overall width without Blade and with 760 mm (30 in) shoes	3020 mm	118.90 in

527 Track Skidder Specifications

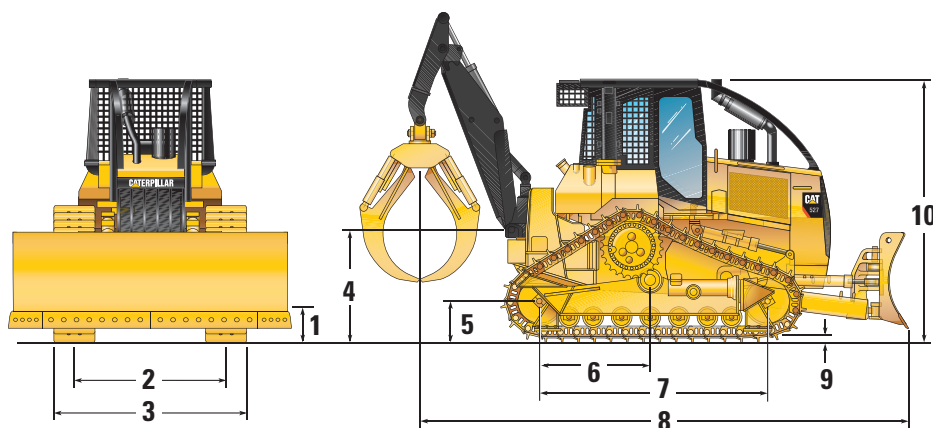
Dimensions

All dimensions are approximate.



Cable

1	Ground clearance	712 mm	28.03 in
2	Track gauge	2160 mm	85.04 in
3	Overall width without blade and with 559 mm (22 in) shoes	2720 mm	107.09 in
	Overall width without blade and with 610 mm (24 in) shoes	2770 mm	109.06 in
4	Height to top of drum	1339 mm	52.72 in
5	Height to center of drum	1048 mm	41.26 in
6	Pivot shaft to rear idler	1380 mm	54.33 in
7	Length of track on ground	2846 mm	112.05 in
8	Overall length – blade to back of winch	5224 mm	205.67 in
9	Grouser height	65 mm	2.56 in
10	Shipping height	3298 mm	129.84 in



Swing Boom

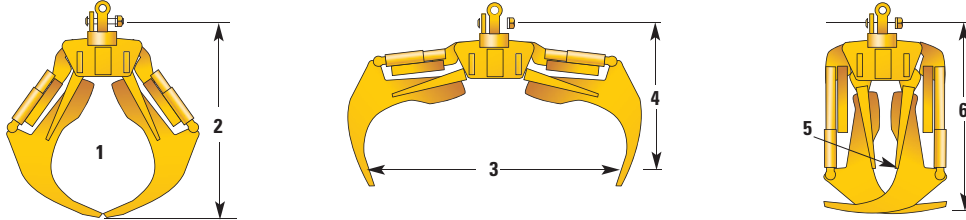
1	Ground clearance	712 mm	28.03 in
2	Track gauge	2160 mm	85.04 in
3	Overall width without blade and with 760 mm (30 in) shoes	3020 mm	118.90 in
4	Height to swing boom pivot pin	1408 mm	55.43 in
5	Height to center of idlers	452 mm	17.80 in
6	Pivot shaft to rear idler	1595 mm	62.79 in
7	Length of track on ground	3061 mm	120.51 in
8	Overall length – blade and boom retracted	6137 mm	241.61 in
	Overall length – blade and boom extended	8166 mm	321.50 in
9	Grouser height	65 mm	2.56 in
10	Shipping height	3298 mm	129.84 in

Grapples

Choose from a variety of grapple configuration to meet your needs.

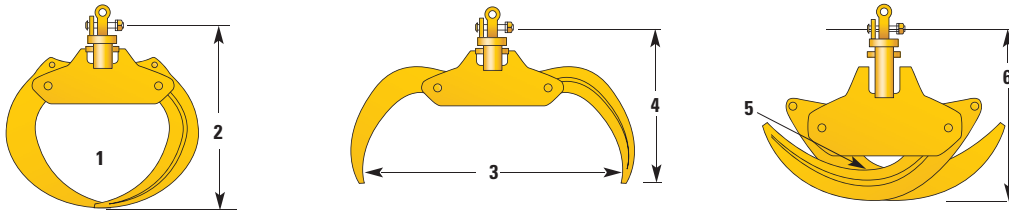
Sorting Grapple

- Used for 305 mm (12 in) or larger diameter trees
- Designed to pick-up individual or several stems for quick cycles



Bunching Grapple

- Used for 305 mm (12 in) or smaller diameter trees
- Designed to gather bundle of stems and maximize grapple loads

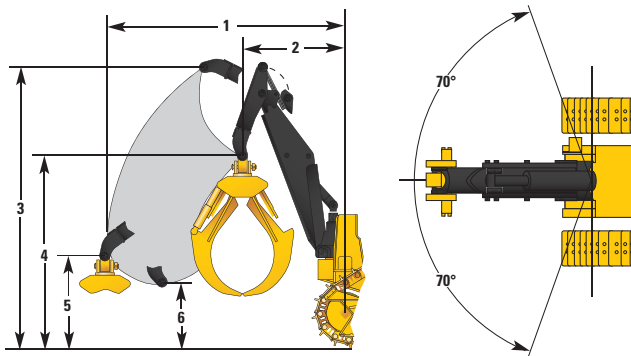


Grapple for 527

	Sorting 2.54 m (100 in)	Bunching 2.79 m (110 in)
1 Grapple capacity	0.84 m ² (9 ft ²)	0.93 m ² (10 ft ²)
2 Tip to tip height	2040 mm (80.5 in)	2020 mm (79.5 in)
3 Tong opening	2540 mm (100 in)	2794 mm (110 in)
4 Full open height	1560 mm (61.5 in)	1780 mm (70 in)
5 Minimum stem diameter	76 mm (3 in)	76 mm (3 in)
6 Fully closed height	1830 mm (72 in)	1360 mm (53.5 in)

Arch Configurations

With a swing boom attachment, the 527 needs less maneuvering and positioning to reach downed timber delivering high productivity, and less ground disturbance.



527	1		2		3		4		5		6	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Swing Boom Arch	3329	131.1	1301	51.2	4084	160.8	2792	109.9	1358	53.5	933.5	36.8

527 Track Skidder Specifications

Minimized Ground Disturbance

The extended track roller frame increases the track-to-ground contact area and decreases the ground pressure thereby increasing the 527's flotation and providing maximum performance and maneuverability in soft underfoot locations. Increased flotation also reduces the environmental impact, enabling the 527 to operate in site-sensitive applications.

Ground Pressures

Model	Weight*		Shoe Width		Contact Area		Ground Pressure	
	kg	lb	mm	in	m ²	in ²	kPa	psi
527CA	18 695	41,217	560	22	3.2	4932	57.6	8.36
527CA	18 763	41,365	610	24	3.5	5382	53.0	7.69
527GR	21 900	48,281	760	30	4.9	7560	44.0	6.39

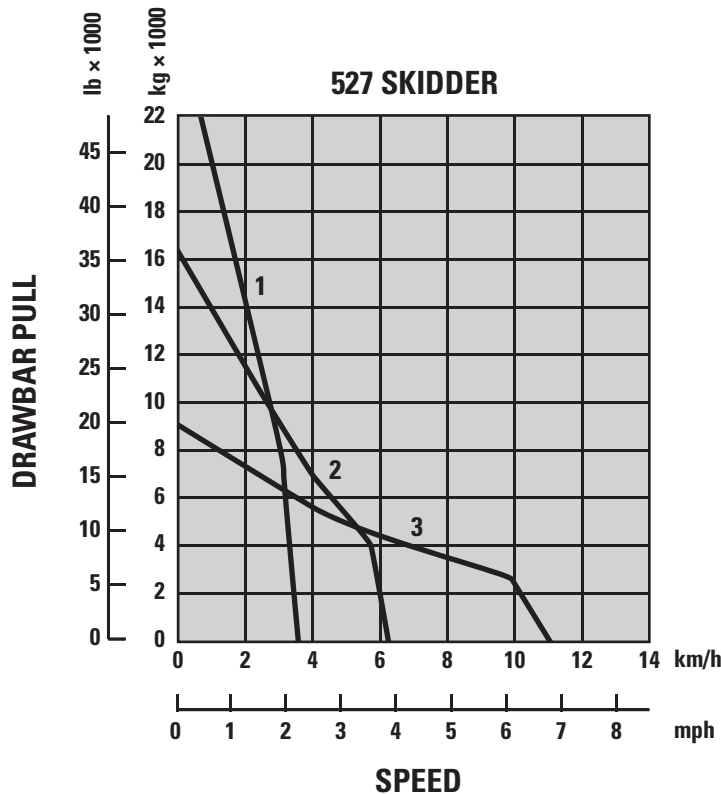
* Note – Actual weights are approximate and will vary depending on machine configuration.

527CA – Includes Frame, 7-Roller; Canopy, ROPS; 527-PAT Blade; Winch with Fairlead; Guard, Track; and Shoe Width specified

527GR – Includes Frame, 8-Roller; Cab, Enclosed ROPS; 5P-PAT Blade; Swing Boom; 2794 mm (110 inch) Bunching Grapple; Guard, Track; and 760 mm (30 inch) Shoe Width

Power – Drawbar Pull

The 124 gross kW (166 gross horsepower) and a torque converter driveline provide a 49 percent torque rise and a drawbar pull of 30 275 kg-force (66,746 lb-force). This pulling power enables the 527 to overcome drag loads created during skidding.



- 1 – 1st Gear
- 2 – 2nd Gear
- 3 – 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

527 Standard Equipment

Standard equipment may vary. Consult your Cat dealer for details.

ANTIFREEZE

50% concentration of extended life coolant, freeze protection to -37°C (-34°F), anti-boil protection to 108°C (226°F)

ELECTRICAL

Hour meter
Work lamps, Halogen, 3-front and 2-rear
Back-up alarm
Warning horn

HYDRAULICS

Load sensing hydraulics
Single lever blade control

GUARDS

Engine enclosures, heavy-duty
Fenders, heavy-duty
Extreme-service crankcase
Fuel tank, heavy-duty
Radiator, heavy-duty punched hole
Front brush sweeps
Precleaner guard

OPERATOR ENVIRONMENT

Decelerator
Electronic Monitoring System
Gauges:
Engine Coolant temperature
Fuel
Transmission oil temperature
Seat, Angled suspension
Seat belt

POWER TRAIN

3304 DIT engine
24-volt direct electric start torque converter
3-speed Powershift transmission
Precleaner with prescreener
Muffler
Fuel priming pump

UNDERCARRIAGE

End guiding guards
Hydraulic track adjusters
Segmented Sprocket

527 Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

BULLDOZER

5P PAT Blade (Power Angle Tilt)
527 Power Angle Tilt (527CA only)

ELECTRICAL

Alternator, 50-amp 24-volt (527CA)
Alternator, 75-amp 24-volt (527GR)

GRAPPLE – (527GR)

Swing Boom
Grapple Bunching, 0.93 m^2 (10 ft^2)
Grapple Sorting, 0.83 m^2 (9 ft^2)

GUARDS

Vandalism Protection, Canopy
Vandalism Protection, Cab
Track Guard, 7 Roller
Track Guard, 8 Roller
Track Guard, Rear
Sweep Screen

OPERATOR ENVIRONMENT

Canopy, Open ROPS
Cab, Enclosed ROPS/FOPS

UNDERCARRIAGE

7-Roller track frames
Track, 560 mm (22 in)
Track, 610 mm (24 in)
8-Roller track frames
Track, 760 mm (30 in) Tri Link

WINCH – (527CA)

31 388 kg-force (69,200 lb-force) Line pull
Winch w/Freespool and 4 Roller Fairlead
Winch w/Freespool and Raised 4 Roller Fairlead
Winch Omission

527 Track Skidder

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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