

# PRODUCT SPECIFICATIONS FOR D9

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## ENGINE - U.S. EPA TIER 2/3 EQUIVALENT

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<b>Engine Model</b>	Cat® C18
<b>Engine Power - Net SAE J1349/ISO 9249</b>	337 kW
<b>Bore</b>	145 mm
<b>Stroke</b>	183 mm
<b>Displacement</b>	18.1 l
<b>Engine Power - Gross SAE J1995</b>	363 kW
<b>Engine Power - ISO 14396</b>	357 kW
<b>Emissions</b>	U.S. EPA Tier 2 or Tier 3 equivalent
<b>Note (1)</b>	All engine ratings apply at 1,750 rpm.
<b>Note (2)</b>	No derating required up to 4570 m (15,000 ft) altitude.

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## ENGINE - U.S. EPA TIER 4 FINAL/EU STAGE V

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<b>Engine Model</b>	Cat® C18
<b>Bore</b>	145 mm
<b>Stroke</b>	183 mm
<b>Displacement</b>	18.1 l
<b>Engine Power - Gross SAE J1995</b>	356 kW
<b>Engine Power - ISO 14396</b>	349 kW
<b>Engine Power - Net SAE J1349/ISO 9249</b>	328 kW
<b>Emissions</b>	U.S. EPA Tier 4 / EU Stage V
<b>Note (1)</b>	All Engine ratings apply at 1,750 rpm.
<b>Note (2)</b>	No derating required up to 3658 m (12,000 ft) altitude.

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## FLUID CAPACITIES

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Fuel Tank (Splash Fill)	963 l
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DEF Tank (Tier 4 only)	36 l
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Fuel Tank (Fast Fill)	939 l
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Cooling System	81.3 l
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Engine Crankcase*	36 l
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Powertrain	150 l
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Final Drives (each)	15 l
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Roller Frames (each)	45 l
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Pivot Shaft Oil	30 l
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Hydraulic System Tank	89 l
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Note	*With oil filters.
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Note 2	Biodiesel blends up to B20 (20% blend by volume) are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD. B20 should meet ASTM D7467 specification (biodiesel blend stock should meet Cat biodiesel spec, ASTM D6751 or EN 14214). Cat DEO-ULSTM or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required. Consult your OMM for further machine specific fuel recommendations.
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Note 3	All non-road Tier 4 Final diesel engines are required to use only ultra-low sulfur diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less.
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Note 4	Diesel Exhaust Fluid (DEF) used in Cat Selective Catalytic Reduction (SCR) systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241.
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## WEIGHTS

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**Operating Weight**

19988 kg

<b>Operating Weight</b>	40000 kg
<b>Shipping Weight</b>	38271 kg
<b>Note (1)</b>	D9 Operation Weight includes hydraulic controls, blade tilt cylinder, coolant, lubricants, full fuel tank, ROPS, FOPS cab, SU Blade, Single-Shank Ripper, 610 mm (24 in) ES shoes and operator.
<b>Note (2)</b>	D9 Operation Weight includes base machine chassis with cab, pivot shaft, roller frames, track and ROPS.

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## HYDRAULIC CONTROLS

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<b>Pump Type</b>	Piston-type geared to flywheel
<b>Pump Output - Steering</b>	363 l/min
<b>Fan Pump</b>	80 l/min
<b>Tilt Cylinder Flow - Rod End Flow</b>	200 l/min
<b>Tilt Cylinder Flow - Head End Flow</b>	200 l/min
<b>Lift Cylinder Relief Valve Setting</b>	26200 kPa
<b>Tilt Cylinder Relief Valve Setting</b>	19300 kPa
<b>Ripper - Lift - Relief Valve Setting</b>	26200 kPa
<b>Ripper - Pitch - Relief Valve Setting</b>	26200 kPa
<b>Steering System - Pressure</b>	40500 kPa
<b>Tank Capacity</b>	89 l
<b>Note (1)</b>	Steering pump output measured at 1,750 engine rpm and 30 000 kPa (4,350 psi).
<b>Note (2)</b>	Implement pump output measured at 1,750 engine rpm and 20 000 kPa (2,900 psi).
<b>Note (3)</b>	Fan pump output measured at 1,750 engine rpm and 17 000 kPa (2,470 psi)

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## UNDERCARRIAGE

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<b>Shoe Type</b>	Extreme Service
<b>Width - Shoe</b>	610 mm
<b>Shoes/Side</b>	43
<b>Grouser Height</b>	84 mm
<b>Pitch</b>	240 mm
<b>Ground Clearance</b>	459 mm
<b>Track Gauge</b>	2250 mm
<b>Length - Track on Ground</b>	3470 mm
<b>Ground Contact Area</b>	4.23 m <sup>2</sup>
<b>Track Rollers/Side</b>	8
<b>Number of Carrier Rollers</b>	1 per side (optional)

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## STEERING AND BRAKES

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<b>Steering Type</b>	Differential
<b>Brake Type</b>	Spring Applied Wet Disc
<b>Brake Diameter</b>	393.7 mm
<b>Brake Count</b>	8

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## AIR CONDITIONING SYSTEM

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<b>Air Conditioning</b>	The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430) the system contains 2.1 kg of refrigerant which has a CO2 equivalent of 3.003 metric tonnes.
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## STANDARDS

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<b>ROPS</b>	Rollover Protective Structure (ROPS) meets the following criteria ISO 2471:2008
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following criteria ISO 3471:2000.

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**FOPS**

Falling Object Protective Structure (FOPS) meets the following criteria ISO 3449:2005 LEVEL II.

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**Sound**

The average dynamic spectator sound power level when ISO 6395:2008 is used to measure the value for a machine is 116 dB(A). The measurement was conducted at 70% of the maximum engine cooling fan speed. The sound level may vary at different engine cooling fan speeds. NOTE: The dynamic sound power level uncertainty is +/-2 dB(A).

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**Sound (1)**

The average dynamic operator sound pressure level when ISO 6396:2008 is used to measure the value for an enclosed cab is 78 dB(A). The measurement was conducted at 70% of the maximum engine cooling fan speed. The sound level may vary at different engine cooling fan speeds. The cab was properly installed and maintained. The measurement was conducted with the cab doors and the cab windows closed. NOTE: The dynamic operator sound pressure level uncertainty is +/-2 dB(A).

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**Sound (2)**

Hearing protection may be needed when the machine is operated with an open operator station for extended periods, in a noisy environment, or with a cab that is not properly maintained.

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**TRANSMISSION**

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**1.0 Forward**

3.5 km/h

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**2.0 Forward**

6.3 km/h

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**3.0 Forward**

11 km/h

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**1.0 Reverse**

4.4 km/h

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**2.0 Reverse**

7.8 km/h

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**3.0 Reverse**

13.6 km/h

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**Type**

Planetary powershift

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BLADE - SEMI-UNIVERSAL

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<b>Blade Capacity (SAE J1265)</b>	13.6 m <sup>3</sup>
<b>Blade Width (over end bits)</b>	4350 mm
<b>Blade Height</b>	1934 mm
<b>Maximum Digging Depth</b>	606 mm
<b>Ground Clearance at Full Lift</b>	1422 mm
<b>Maximum Tilt</b>	940 mm
<b>Blade Weight</b>	4802 kg
<b>Total Operating Weight* (with blade and single-shank ripper)</b>	49988 kg
<b>Note</b>	* Total Operating Weight includes: single tilt hydraulics, coolant, lubricants, full fuel tank, ROPS, FOPS cab, 610 mm (24 in) ES track shoes and the noted blade and ripper type.

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#### BLADE - UNIVERSAL

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<b>Blade Capacity (SAE J1265)</b>	16.6 m <sup>3</sup>
<b>Blade Width (over end bits)</b>	4680 mm
<b>Blade Height</b>	1934 mm
<b>Maximum Digging Depth</b>	606 mm
<b>Ground Clearance at Full Lift</b>	1422 mm
<b>Maximum Tilt</b>	1014 mm
<b>Blade Weight</b>	5450 kg
<b>Total Operating Weight* (with blade and single-shank ripper)</b>	50513 kg
<b>Note</b>	*Total Operating Weight includes: single tilt hydraulics, coolant, lubricants, full fuel tank, ROPS, FOPS cab, 610 mm (24 in) ES track shoes and the noted blade and ripper type.

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#### RIPPER - SINGLE SHANK

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<b>Maximum penetration force * (shank vertical)</b>	158 kN
<b>Maximum penetration depth (standard tip)</b>	1231 mm
<b>Pryout Force</b>	332 kN
<b>Maximum Clearance Raised - Under Tip, Pinned in Bottom Hole</b>	882 mm
<b>Number of Pockets</b>	1
<b>Weight</b>	4854 kg
<b>Total Operating Weight* (with SU Blade and noted ripper)</b>	49988 kg
<b>Note</b>	*Total Operating Weight includes: single tilt hydraulics, coolant, lubricants, full fuel tank, ROPS, FOPS cab, 610 mm (24 in) ES track shoes and the noted blade and ripper type.

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#### RIPPER - SINGLE SHANK, DEEP RIPPING

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<b>Maximum penetration force * (shank vertical)</b>	172 kN
<b>Maximum penetration depth (standard tip)</b>	1727 mm
<b>Pryout Force</b>	331 kN
<b>Maximum Clearance Raised - Under Tip, Pinned in Bottom Hole</b>	817 mm
<b>Number of Pockets</b>	1
<b>Weight</b>	4981 kg
<b>Total Operating Weight* (with SU Blade and noted ripper)</b>	50115 kg
<b>Note</b>	*Total Operating Weight includes: single tilt hydraulics, coolant, lubricants, full fuel tank, ROPS, FOPS cab, 610 mm (24 in) ES track shoes and the noted blade and ripper type.

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#### RIPPER - MULTI-SHANK, ADJUSTABLE PARALLELOGRAM

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<b>Maximum Penetration Force - Shank Vertical</b>	154 kN
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<b>Maximum Penetration Force - Shank Vertical</b>	134 kN
<b>Maximum Penetration - Standard Tip</b>	798 mm
<b>Pry-Out Force - Multi-Shank Ripper with One Tooth</b>	361 kN
<b>Maximum Clearance Raised - Under Tip, Pinned in Bottom Hole</b>	879 mm
<b>Number of Pockets</b>	3
<b>Weight</b>	5550 kg
<b>Total Operating Weight* - With SU-Blade and Ripper</b>	50684 kg
<b>Note</b>	* Total Operating Weight includes: single tilt hydraulics, coolant, lubricants, full fuel tank, ROPS, FOPS cab, 610 mm (24 in) ES track shoes and the noted blade and ripper type.

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## WINCHES

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<b>Winch Model</b>	PA 140VS
<b>Weight*</b>	1790 kg
<b>Oil Capacity</b>	15 l
<b>Drum Width</b>	320 mm
<b>Wire Cable Diameter - Recommended</b>	28 mm
<b>Wire Cable Diameter - Optional</b>	32 mm
<b>Maximum Drum Capacity - Recommended Cable Length</b>	78 m
<b>Maximum Drum Capacity - Optional Cable Length</b>	62 m
<b>Wire Cable Ferrule Size - Outside Diameter</b>	60 mm
<b>Wire Cable Ferrule Size - Length</b>	70 mm
<b>Note</b>	*Weight shown is base winch only. Does not include mounting arrangement, control arrangement, oil, or wire rope. With counterweight: 3700 kg (8,150 lb).
<b>Note (2)</b>	Variable speed, hydraulically driven, dual braking system, three-roller fairlead.



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## DIMENSIONS (APPROXIMATE)

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<b>Ground Clearance*</b>	459 mm
<b>Track Gauge</b>	2250 mm
<b>Width - Without Trunnions - Standard Shoe</b>	2870 mm
<b>Width - Over Trunnions</b>	3310 mm
<b>Height - FOPS Cab*</b>	3820 mm
<b>Height - Top of Stack*</b>	3876 mm
<b>Height - ROPS/Canopy*</b>	4000 mm

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## D9 STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

ROPS/FOPS, Sound-Suppressed Cab

High-Definition Primary Touchscreen Display

Visibility – Rearview Mirrors

Air Conditioner and Heater with Automatic Climate Control

Seatbelt, 76 mm (3 in) Retractable with Switch

Seat — Cloth with Air Suspension

Window Wipers with Wash — Low, High, Intermittent

Differential Steering — Power Turn

Entertainment Radio Ready (12V Power, Harness, Speakers)

Cab Glass — Single-Pane Tinted Safety

Cab Door — Right-Hand Swing

Access/Egress Lighting with Shutdown Timer

"Operator Not Present" Detection

Armrest — Adjustable

Interior LED Courtesy Lights

Interior Backlighting — Dimmable

Air Conditioning Condenser — Cab Mounted (Standard only on Tier 4 engine arrangements. Optional on Tier 2/3 versions. Tier 2/3 versions have underhood A/C condenser standard.)

Decelerator Pedal

Controls — Blade — Electronic

Controls — Ripper — Electronic

Park Brake — Electronic

Engine Speed Control Dial

Cab Access — Blade Pusharm Steps and Grab Handle

Fender Platform Guardrails

Site Communication Radio Mount

Four Fluids (Engine Oil, Coolant, Power Train, Fuel)

Continuous Fluid Level Monitoring — Four Fluids (Engine Oil, Power Train, Coolant, Fuel)

Slope and Side Slope Monitor

## TECHNOLOGY

VIMS™

Automated Blade Assist (ABA) — When Equipped with Dual Tilt

Cat Product Link Elite (Cellular) (Where Allowed by Local Regulations)

## POWER TRAIN

Aftercooler, air-to-air

Air filter, with precleaner

Aluminum bar plate radiator, 6 fpi

C18 Tier 4 Final and Stage IV: – 24-volt electric start – Clean Emissions Module

Coolant, extended life

Shift management: - Advanced Productivity Electronic Control System (APECS) - Enhanced AutoShift (EAS)

Engine idle shutdown timer

Ether starting aid, automatic

Fast fuel system

Fuel priming pump, key-on, electric

High speed oil change system, engine and power train

Muffler

Parking brake, electronic

Prescreener

Separator, water/fuel

Three planet, double-reduction planetary final drives

Torque converter

Transmission, electronic control (ECPC), (3F/3R speeds)

## FLUIDS

Coolant — Extended Life, Standard (— 37° C / — 25° F)

## UNDERCARRIAGE

Suspension-Type Undercarriage

Track Guide

Two-Piece Master Link

Lifetime Lubricated Rollers and Idlers

Lifetime-Lubricated Rollers and Idlers

Hydraulic Track Adjusters

Equalizer Bar — Greased End Pin Bearings

## HYDRAULICS

Electronically Controlled, Load-Sensing Dozer Lift and Tilt

Electronically Controlled, Load-Sensing Ripper Lift and Pitch

Electronically Enabled Blade, Quick Drop

## ELECTRICAL

Alternator — 150-Amp

Batteries — 2 x 4, 200-Amp Hour, 12V

12V, 15-Amp Converter

Battery Isolation

Backup Alarm

Lights, Engine Compartment

Lights — Halogen — 8 Positions

## SERVICE AND MAINTENANCE

Ecology Fluid Drains — All Compartments

Hinged Bottom Guards

High-Speed Oil Change — Engine and Transmission

S•O•S<sup>SM</sup> Fluid Sampling Ports

Diagnostic Connector

CapSure<sup>TM</sup> Hammerless Ripper Tip and Shank Protectors

Anchorage Points (10)

# D9 OPTIONAL EQUIPMENT

## OPERATOR ENVIRONMENT

Visibility – Camera – Ripper Tip View

Visibility — Dual Camera

Visibility — Four Cameras — 360-Degree View

Seat — Heated, Cooled, Adjustable Lumbar and Bolsters

Entertainment Radio — AM/FM, Aux Input and Bluetooth®

Cab Glass — Dual-Pane Laminated Impact Safety

Cab Glass — High-Pressure Safety (40 psi/275 kPa)

Window Sunscreen

Small Operator 5th Percentile Mounting Group

Cab Door — Left-Hand Swing

Cab Access — Powered Ladder

Cab Filter Powered Precleaner

## TECHNOLOGY

AutoCarry™

Auto Ripper Control

Cat Product Link Elite Dual Mode (Cellular + Satellite)

Cat GRADE with 3D

## POWER TRAIN

Coolant, arctic

Engine prelube

Exhaust, wrapped: – Insolated Clean Emissions Module

Final drives: – Cold weather – Guarded – Waste handling

Ground level DEF fill

Reversible cooling fan

## FLUIDS

Coolant — Extended Life, Arctic (— 51° C / — 60° F)

High Ambient Lubrication Package

Arctic Lubrication Package

## UNDERCARRIAGE

Undercarriage Arrangement — Abrasion

Undercarriage Arrangement — Waste Handling

Undercarriage Arrangement — Cold Weather

Front Striker Bars

Rubber Idler Guards

Track Links — Heavy Duty XL — DuraLink

Track Shoe — Anti-Packing Round Hole Carrier Roller

Carrier Roller

Carrier Roller — Cold Weather

## HYDRAULICS

Dozer Blade Dual Tilt

Ripper Pin Puller

Guarded Tilt Cylinder Lines

## ELECTRICAL

24V Electric Start, Dual Starters

Batteries — 4 x 200, 200-Amp Hour, 12V

Lights — Halogen — 12 Positions

Lights — LED — 14 Positions

Lights — High-Output LED — 14 Positions

Light — Warning Strobe

## SERVICE AND MAINTENANCE

Sound-Reduction Sealed Bottom Guards

Ground-Level Fast Fuel Fill (Standard on Tier 4)

Sound Enclosure

Cat Autolube Grease System with Ground-Level Fill and Auto Shutoff

Hinged Quick-Access Door on Radiator Guard

## REAR ATTACHMENTS

Ripper Ready

Winch Ready

Ripper — Single Shank

Ripper — Single-Shank Deep

Ripper — Multi Shank (three shank)

Counterweight

Striker Box (Waste)

Winch

Drawbar

## BLADES

Semi-Universal (13.6 m<sup>3</sup>/17.8 yd<sup>3</sup>)

Semi-Universal Abrasion (13.6 m<sup>3</sup>/17.8 yd<sup>3</sup>)

Universal (16.6 m<sup>3</sup>/21.7 yd<sup>3</sup>)

Universal Abrasion (16.6 m<sup>3</sup>/21.7 yd<sup>3</sup>)

Semi-Universal Push Plate (13.6 m<sup>3</sup>/17.8 yd<sup>3</sup>)

SU Landfill (28.2 m<sup>3</sup>/36.8 yd<sup>3</sup>)

Universal Landfill (38.8 m<sup>3</sup>/50.8 yd<sup>3</sup>)

Woodchip (46.1 m<sup>3</sup>/60.3 yd<sup>3</sup>)

Coal (36.8 m<sup>3</sup>/48.2 yd<sup>3</sup>)

— Some blades only available through Cat Work Tools.

— SU Abrasion and U Abrasion are available with black paint on back side.

## OTHER

Fire Suppression Ready

## SPECIAL ARRANGEMENTS

High Debris

Stockpile

Waste Handling

Sound

Arctic