

# TD-20R Extra

## CRAWLER DOZERS

EPA Tier 4f / EU Stage IV  
STANDARD, LT, LGP\*

### ENGINE

	TD-20R Extra
Make and model	Cummins QSL9
Emissions standard	EPA Tier 4f/EU Stage IV
Displacement	8.9 L (543 in <sup>3</sup> )
Bore and stroke	114 x 144.5 mm (4.49 x 5.69 in)
Gross horsepower, SAE J1995	205 kW (275 Hp)
Net horsepower, SAE J1349/ ISO 9249	195 kW (261 Hp)
Rated rpm	2200
Max. torque	1213 Nm (895 lb-ft) @ 1500 rpm
Air cleaner	Cummins Filtration Direct Flow™, dry type, with dash-mounted electronic service indicator
Cold-starting aid	Intake-mounted air-inlet grid heater
Slope operation, max. angle	45 deg

### HYDRAULICS

	TD-20R Extra
Type	Open-center hydraulic system with fixed-displacement multiple-pumps, vane type.
Pump displacement	177.2 L/min (46.8 gpm)
System relief pressure	Blade lift and ripper 16.9 MPa (2500 psi); blade tilt 17.9 MPa (2600 psi)
Control	Single joystick lever
Cylinders, bore and stroke	
lift	110 x 1300 mm (4.33" x 51.18")
tilt	180 x 146.5 mm (7.09" x 5.73")
tilt/pitch	180/165.1 x 146.5 mm (7.09"/6.5" x 5.73")

### COOLING

	TD-20R Extra
Type	Suction-type variable-speed fan, hydraulically driven with perforated engine side sheets and heavy duty louvered front grill
Engine cooling rating	-37 deg C (-34 deg F)

### OPERATOR STATION

	TD-20R Extra
ROPS	ROPS (ISO 3471 - 2008)
FOPS	FOPS (ISO 3449 - 2005)

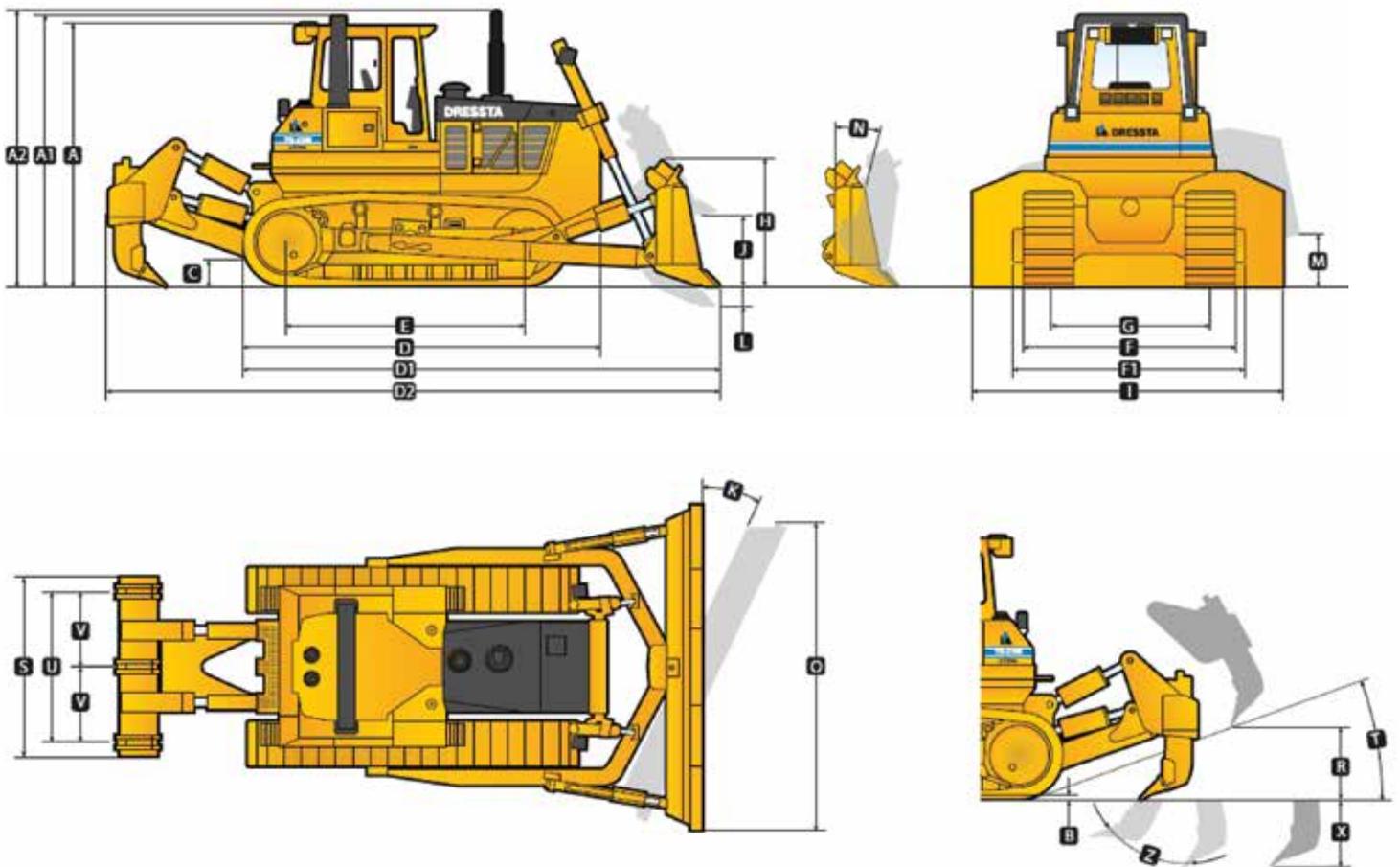
### ELECTRICAL

	TD-20R Extra
Voltage	24 V
Number of batteries	2
Battery capacity	815 CCA
Alternator rating	80 A
Lights	8 total; cab mounted (2F& 2R), 2F lift cylinders and 2R fuel tank mounted.

# MACHINE DIMENSIONS

## TD-20R Extra

<b>A</b> Overall height - FOPS Cab	3480 mm (137 ft)
<b>A1</b> Overall height - ROPS	3570 mm (141 in)
<b>A2</b> Overall height - end of exhaust pipe	3930 mm (12' 11")
<b>B</b> Grouser height	67 mm (2.63 in)
<b>C</b> Ground clearance	460 mm (18.1 in)
<b>D</b> Overall length, base machine	4340 mm (171 in)
<b>D1</b> Length with blade	STD 5690 mm (18' 8"), LT 5910 mm (19' 5")
<b>D2</b> Length with blade and 1-shank / 3-shank ripper	STD 6.89 m / 7.05 m (22' 7"/23' 2") LT 7.11m / 7.27m (23' 4"/23' 10")
<b>E</b> Track length on ground	STD 2860 mm (113 in), LT 3080 mm (121 in)
<b>F</b> Width over track	2540 mm (100 in)
<b>F1</b> Width over trunnions	2890 mm (9' 6")
<b>G</b> Track gauge	1980 mm (78 in)



## BLADE SPECS

TD-20R Extra				
Type	Semi-U	Full-U	Angle	Straight LGP
SAE capacity	7.04 m <sup>3</sup> (9.2 cu yd)	8.45 m <sup>3</sup> (11.1 cu yd)	3.88 m <sup>3</sup> (5.1 cu yd)	6.03 m <sup>3</sup> (7.9 cu yd)
<b>H</b> Blade height	1600 mm (5' 3")	1600 mm (5' 9")	1090 mm (43 in)	1360 mm (54 in)
<b>I</b> Blade width	3500 mm (11' 6")	3860 mm (152 in)	4410 mm (174 in)	4370 mm (172 in)
<b>J</b> Blade lift height	STD 1150 mm (45 in), LT 1220 mm (48 in)	STD 1150 mm (45 in), LT 1220 mm (48 in)	STD 1160 mm (46 in), LT 1230 mm (48.4 in)	1210 mm (47.6 in)
<b>K</b> Blade angle	-	-	25 deg	-
<b>L</b> Blade digging depth	STD 505 mm (19.9 in), LT 532 mm (20.9 in)	STD 505 mm (19.9 in), LT 532 mm (20.9 in)	STD 615 mm (24.2 in), LT 647 mm (25.5 in)	522 mm (20.6 in)
<b>M</b> Maximum tilt	670 mm (26.3 in)	720 mm (28.3 in)	480 mm (19 in)	660 mm (26 in)
<b>N</b> Maximum blade pitch adjustment	25 deg	25 deg	-	-
<b>O</b> Overall width with blade angled	-	-	STD 5770 mm (18' 11"), LT 5990 mm (19' 8")	-

## RIPPER

TD-20R Extra		
Type	Parallelogram ripper with hydraulic pitch adjustment	
	Single-shank (standard)	Multi-shank (3-shank)
<b>R</b> Maximum clearance under tip (raised)	538 mm (21.2 in)	596 mm (23.5 in)
<b>S</b> Overall beam width	1,383 mm (54 in)	2,130 mm (84 in)
<b>T</b> Slope angle (full raise)	25°	25°
<b>U</b> Ripping width	-	1,982 mm (78 in)
<b>V</b> Spacing center to center	-	991 mm (39 in)
<b>X</b> Maximum penetration	834 mm (32.8 in)	700 mm (27.6 in)
<b>Z</b> Maximum pitch adjustment	25°	25°
Penetration force	89.99 kN (20,230 lb)	91.1kN (20,479 lb)
Pryout force	272.3 kN (61,213 lb)	282.2kN (63,439 lb)
Shank positions (vertical)	2	2
Weight of ripper incl. shank(s)	2845 kg (6,272 lb)	3292 kg (6,400 lb)
Weight of shank	197 kg (434 lb)	196 kg (432 lb)

## OPERATING WEIGHTS

	TD-20R Extra (STD & LT)	TD-20R Extra LGP
Base weight with semi-U blade w/tilt, drawbar, standard equipment, Cab ROPS/FOPS, full fuel tank, and 79 kg [175 lb] operator	STD 24250 kg (53462 lb), LT 24810 kg (54700 lb)	25280 kg (55733 lb)
<b>Optional components</b>		
Ripper w/3 shanks	456 kg (1000 lb)	
<b>Track shoes</b>		
610 mm (24 in)	176 kg (388 lb)	
660 mm (26 in)	336 kg (741 lb)	

## SERVICEABILITY

TD-20R Extra	
Refill capacities	
Fuel tank	420 L (115 US gal)
Cooling system	37 L (9.8 US gal)
Engine oil	22.5 L (6 US gal)
Transmission system	173 L (45.8 US gal)
Final drive, each side	38 L (10 US gal)
Hydraulic reservoir	115 L (30.4 US gal)
AdBlue (DEF)	37.5 L (10 US gal)

# POWERTRAIN

## TD-20R Extra

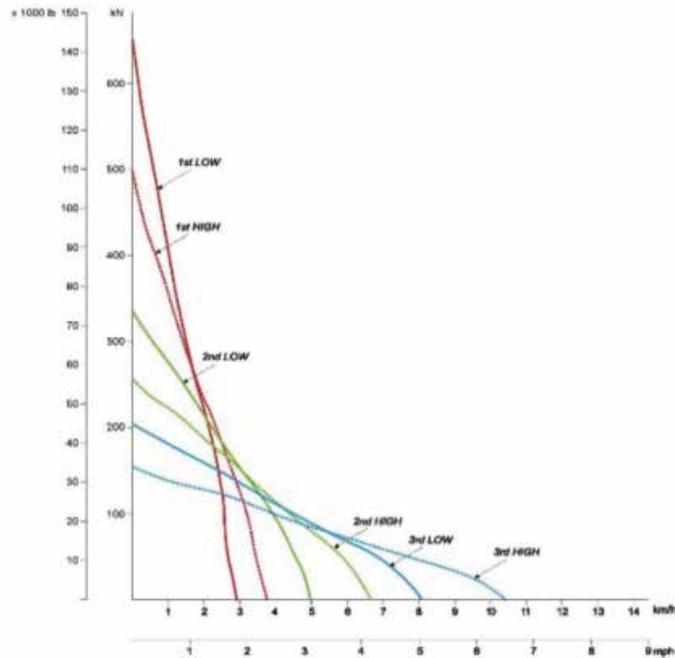
Transmission	Single stage 370 mm (14.6 in) torque converter with a 2:3:1 stall ratio drives to transmission through a double universal joint. Modular, countershaft type power shift transmission, electro-hydraulic control. Preset travel speed and auto-downshift.
Steering	Exclusive 2-speed geared steering module provides gradual turns while maintaining full power to both tracks plus conventional clutch-brake performance for tight or pivot turns. Coupled to 3-speed transmission, the 2-speed steering provides 6 speeds forward and 6 reverse. The left hand joystick controls transmission and steering drive for up and down shifting, steering, high/low selection and LH/RH gradual turn.
Final drives	Double-reduction planetary type final drives mounted independently of track frames and dozer push arms for isolation from shock loads.
Total ratio	17.56 to 1

Travel speeds			
Gear	Range	Forward	Reverse
		km/h (mph)	km/h (mph)
1st	Low	2.9 (1.8)	3.4 (2.1)
	High	3.7 (2.3)	4.4 (2.7)
2nd	Low	5.2 (3.2)	6.1 (3.8)
	High	6.7 (4.2)	7.9 (4.9)
3rd	Low	8.2 (5.1)	9.6 (6.0)
	High	10.5 (6.5)	12.2 (7.6)
Maximum drawbar pull		640 kN (143,878 lb)	

### Brakes

Service	Spring applied hydraulically released multi-disc wet brakes. Foot pedal-piloted control.
Parking	The steering brakes also act as service and parking brakes. Service brakes are locked automatically when the transmission safety lever is actuated or when the engine is cut off.

### Maximum drawbar pull 640 kN (143,878 lb)



# UNDERCARRIAGE

	<b>TD-20R Extra (STD &amp; LT)</b>	<b>TD-20R Extra LGP</b>
Suspension	Oscillation-type with equalizer bar and forward mounted pivot shafts.	Oscillation-type with equalizer bar and forward mounted pivot shafts.
Tracks	Large, deep-heat-treated, sealed, and lubricated track links and through-hardened, sealed, and lubricated rollers for maximum wear resistance.	Large deep-heat-treated, sealed, and lubricated track links and through-hardened, sealed, and lubricated rollers for maximum wear resistance.
Track gauge	1980 mm (78 in)	2180 mm (86 in)
Track shoe width	560 mm (22 in)	864 mm (34 in)
Chain	Sealed and lubricated	Sealed and lubricated
Shoes, each side	STD 40 LT 42	42
Track rollers, each side	7	7
Track length on ground	STD 2860 mm (113in), LT 3080 mm (121 in)	3080 mm (121 in)
Ground contact area	STD 32000 cm <sup>2</sup> (4972 sq in), LT 34 000cm <sup>2</sup> (5324 sq in)	53000 cm <sup>2</sup> (8228 sq in)
Ground pressure	STD 72.4 kPa LT 68.8 kPa	52 kPa
Track pitch	215.9 mm (8.5 in)	215.9 mm (8.5 in)
Sprocket sements, each side	1	1

# STANDARD EQUIPMENT TD-20R Extra

## ENGINE

Engine, Cummins QSL9, Tier 4 Final, emission certified, turbocharged, with High Pressure Injection (HPI), Selective Catalytic Reduction (SCR), Electronic Controls (ECM), 185 kW (248 fwhp)

Air cleaner, Cummins Filtration Direct Flow™, dry type with precleaner, exhaust aspiration and electronic service indicator

Antifreeze, -37°C (-34°F)

Cooling module; includes radiator, transmission oil, cooler, hydraulic oil/fan drive oil cooler, charge air cooler (CAC); isolation mounted

Coolant filter conditioner

Diesel particulate filter with catalyst (DPF)

Exhaust pipe extension with elbow

Fan, hydraulically driven, suction type, variable speed

Filters, engine oil, full flow and bypass with replaceable “spin-on” elements

Water separator, fuel system

## DRIVETRAIN

Torque converter, single stage

Transmission: power shift, 3 speeds forward, 3 reverse, combined with 2 speed steering provides 6 speeds forward, 6 reverse, preset travel speed selection and auto-downshift

Steering: planetary type, 2 speed, left hand single lever control (joystick)

Filters, power train, equipment hydraulics, “spin-on” micro glass type

Brakes, foot, spring applied, hydraulically released

Decelerator - right foot pedal; brake - center foot pedal

Final drive, 2-stage, planetary

## OPERATOR'S ENVIRONMENT

Air conditioner/heater/pressurizer/defroster, mounted underseat; A/C condenser behind roof

AM/FM radio

Cab with 2 post ROPS, with sound suppression, 4 wipers w/ washers, inside mirror, dome light, tinted safety glass and air recirculation system (approved according to ROPS - SAE J1040 and FOPS - SAE J231)

Seat, air suspension type, fabric cover, adjustable with arm rests, swivel 14° to right

Seat belt (SAE J386) - 3" wide, retractable

Sun visor for front cab window

Tools compartment

## INSTRUMENTATION

Electronic monitoring system with LCD display: normal and diagnostic operating modes for engine and drive train, hourmeter, gear and range

Gauges: voltmeter (battery charge), drive train oil temperature, fuel level, coolant temperature, tachometer (engine rpm), AdBlue® tank level

Engine and drive train diagnostics program indicator lights

Warning lights: engine ECM status, high drive train oil temperature, low coolant level, low engine oil pressure, high coolant temperature, low fuel level, high exhaust system temperature, AdBlue® tank low level, battery charge level, low transmission/clutch oil pressure

Warning lights - filters: air cleaner filter, exhaust system (SCR) filter, fan drive system filter, hydraulic oil filters, drive train pressure filter

Audible alarm for low coolant level, low engine oil pressure and high coolant temperature

## ELECTRICAL

Alarm, back-up

Alternator 110 A

Dual batteries 12 V, 960 CCA, cold start, maintenance free

Horn, electric

Cab lights: 2 front, 2 rear

Lights with guards: 2 front lift-mounted cylinders, 2 rear fuel tank mounted

Receptacle, starting/charging plug

Starting, 24 V

Starting aid - air grid heater

## UNDERCARRIAGE (STD)

Track adjusters, hydraulic

Track chain, sealed and lubricated (LTS) with split master link, 40 links

Track chain end guides, integral

Track frame: 6 roller, 1981 mm (78") gauge, oscillating type, lifespan lubricated rollers and idlers

Track shoes: 560 mm (22"), grouser type

## UNDERCARRIAGE (LT)

Track adjusters, hydraulic

Track chain: sealed and lubricated (LTS) with split master link, 42 links

Track chain center guides

Track chain end guides, integral

Track shoes: 560 mm (22"), grouser type

Track frame: 6 roller, 1981 mm (78") gauge, oscillating type, lifespan lubricated rollers and idlers

## UNDERCARRIAGE (LGP)

Track adjusters, hydraulic

Track chain, sealed and lubricated (LTS) with split master link, 42 links

Track chain center guides

Track chain end guides, integral

Track frame: 7 roller, 2180 mm (86") gauge oscillating type, lifespan lubricated rollers and idlers

Track shoes, 864 mm (34"), extreme clipped corner grouser type

## GUARDS

Crankcase, hinged, with front pull hook, transmission, fan, radiator, sprocket rock and dirt deflector

Engine hood, solid, sloped

Engine side doors, hinged, perforated type

Final drive seal guard

Radiator guard door, two-piece, louvered, hinged

## HYDRAULIC CONTROLS

3-spool valve, 1 lever with pilot operated blade control (lift/tilt), ready for ripper

## OTHER STANDARD EQUIPMENT

Diagnostic centers for power train and equipment hydraulic pressures

Drawbar, rigid

Ecological drains for engine oil, radiator coolant and hydraulic oil

Parts manual and operator's manual

Rear access platform

Strainers, fuel and hydraulic tanks

# OPTIONAL EQUIPMENT TD-20R Extra

## BLADE EQUIPMENT (STD & LT)

**Semi-U**, 7.04 m<sup>3</sup> (9.2 yd<sup>3</sup>), complete with all blade components, includes hydraulic tilt and manual pitch or hydraulic pitch

**Full-U**, 8.45 m<sup>3</sup> (11.1 yd<sup>3</sup>), complete with all blade components, includes hydraulic tilt and manual pitch or hydraulic pitch

**Angle (manual angle)**, 3.88 m<sup>3</sup> (5.1 yd<sup>3</sup>), complete with all blade components, with or without hydraulic tilt

## BLADE EQUIPMENT (LGP)

**Straight**, 6.03 m<sup>3</sup> (7.9 yd<sup>3</sup>), complete with all blade components, includes hydraulic tilt and manual pitch or hydraulic pitch

## REAR MOUNTED EQUIPMENT (STD & LT)

Drawbar, heavy-duty, counterweight

Ripper with hydraulic pitch, multi-shank beam, with three shanks, partially mounted

Ripper with hydraulic pitch, single-shank beam, with shank, with hydraulic pin puller, partially mounted

## REAR MOUNTED EQUIPMENT (LGP)

Drawbar, fixed

## TRACK SHOES

610 mm (24") shoes clipped corner

660 mm (26") shoes, clipped corner

## OPERATOR'S ENVIRONMENT

Heater/pressurizer/defroster, cab without air conditioner (A/C)

### For use with cab:

- Air recirculation system with MSHA filters, severe service
- AM/FM radio and CD player
- Exterior mirrors (2)
- Lights, 2 additional, ROPS mounted

### Canopy ROPS/FOPS

Vinyl seat, operator platform covers and instrument panel guard (2 front and 2 rear lights available with option).

## SCREENS

Sweeps for forestry application, front and rear. Include exhaust pipe extension with guard and guard for fuel tank and hydraulic reservoir

Screen, rear (required for winch application), for use with forestry sweeps

Screens for cab windows (front, rear, side, doors) bolted, painted black

Screens for cab lights (2 front, 2 rear), painted black

Screens for tractor lights (2 front, 2 rear)

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## GUARDS

Track roller guards, full length

Transmission and engine crankcase guards, heavy duty, crankcase guard with front pool hook

Engine hood, perforated

Tank guard, bolted (0.5" plate protects fuel tank and hydraulic reservoir)

## ADDITIONAL OPTIONS

Inspection lamp, 24 V, portable, with 6 m (20') cable

Starting/charging receptacle plug assembly

Vandalism protection for use with cab, with engine enclosures.

Vandalism protection for use with canopy ROPS/FOPS, with engine enclosures.

Maintenance tool kit, 17 items in a metal box

1000 h maintenance package (filters)

1500 h maintenance package (filters)

2000 h maintenance package (filters)

## EXPORT PACKING

Export packing, drive-on/drive-off, machine on the railway wagon

Export packing, drive-on/drive-off, machine on the trailer

## SFRs

Trimble ready option, factory preinstalled hydraulics, harness and brackets for the Trimble grade control system components

Centralized Lubricating System, for machine with or without ripper

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