

# 650K

**LT/WT/LGP  
SERIES 3 CRAWLER DOZER  
TIER II CERTIFIED**

## ENGINE

Model	
Case Family III 445T/M2 diesel, Tier II certified	
Cylinders	4
Bore/Stroke	4.1 in x 5.2 in (104 x 132 mm)
Displacement	274 in <sup>3</sup> (4.5 L)
Fuel injection	Direct
Fuel	#2 Diesel
Fuel filter	Spin-on with in-line strainer
Air intake	Cross-flow
Cooling	Liquid
Engine speeds (rpm)	
High idle - no load	2220±50
Rated - full load	2000
Low idle	800-1050
Horsepower per SAE J1349	
Net	74.8 (55.8 kW) @ 2000 rpm
Gross	80 (59.7 kW) @ 2000 rpm
Peak torque @ 1400 rpm	
Net	262 lb-ft (355 N·m)
Gross	265 lb-ft (360 N·m)
Engine lubrication –	
Pump	Deep sump plate cooler with pressurized under-piston nozzles
Pump operating angle ratings –	
Side-to-side	45°
Fore and aft	45°
Oil filtration	Replaceable, spin-on full-flow cartridge

## ENGINE COOLING

Radiator –	
Core size area	486 in <sup>2</sup> (0.31 m <sup>2</sup> )
Rows of tubes	6
Fan –	
Diameter	21.6 in (550 mm)
Ratio	0.875:1

## ELECTRICAL SYSTEM

Alternator	65 amp 95 amp w/A/C
Battery	
12-volt low-maintenance 650 cold-cranking amps @ 0° F (-18 C)	

## POWERTRAIN

Dual path hydrostatic	
Pump – variable axial piston	
Motor – variable bent axis piston	
Maximum drawbar pull*	42,000 lb (186.8 kN)
Transmission	Single lever control – electronic straight tracking
Oil filter	2 micron, spin-on replaceable
Travel speeds* –	
Forward	0-6 mph (0-9.7 km/h)
Reverse	0-6 mph (0-9.7 km/h)
*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% with the optional CELT track chain.	
Parking brakes	Heavy-duty, spring-applied, hydraulic pressure release
Steering brakes	Hydrostatic
Final drive	2 helical gear reduction to planetary output
Ratio	62:1

## TRANSMISSION COOLING

Type	Oil to water
Core size	185.5 in <sup>2</sup> (1197 cm <sup>2</sup> )

## HYDRAULIC SYSTEM

Standard equipment pump	
Pump flow @ 2000 rpm	20.8 gpm (78.7 L/min)
@ 3000 psi (209 kPA)	
Max. system pressure	3025±75 psi (20 855±515 kPA)

## CYLINDERS

Lift cylinder (2)	
Bore diameter	3.50 in (89 mm)
Rod diameter	1.75 in (44.5 mm)
Stroke	15.5 in (394 mm)
Angle cylinder (2)	
Bore diameter	3.50 in (89 mm)
Rod diameter	1.75 in (44.5 mm)
Stroke	15.5 in (394 mm)
Tilt cylinder (1)	
Bore diameter	3.50 in (89 mm)
Rod diameter	1.75 in (44.5 mm)
Stroke	5.80 in (144 mm)

## UNDERCARRIAGE

Track adjustment	Hydraulic
Frame	Rigid suspension
Length of track on ground (CLT)	88 in (2230 mm)
Track link pitch	6.73 in (171 mm)
Track shoe height	2.06 in (52 mm)
Pin diameter	1.32 in (33 mm)
Bushing diameter –	
CLT track	2.24 in (57 mm)
CELT track	3.0 in (76 mm)
Bolt diameter	0.625 in (16 mm)
Track shoes per side	38
Track rollers per side	6
Carrier rollers per side	1
Track roller rail dia.	6.1 in (155 mm)

## TRACK ON GROUND

Shoe	Area – in <sup>2</sup> (cm <sup>2</sup> )
16 in (406 mm)	2810 (18 129)
20 in (508 mm)	3864 (24 929)
25 in (635 mm)	4390 (28 323)

## TRACK

Long Track	
16 in (406 mm) closed grousers and CLT	
16 in (406 mm) open grousers and CELT	
Wide Track	
16 in (406 mm) closed grousers and CLT	
16 in (406 mm) open grousers and CELT	
20 in (508 mm) closed grousers and CLT	
20 in (508mm) open grousers and CELT	
LGP	
25 in (635 mm) closed grousers and CLT	
25 in (635 mm) open grousers and CELT	

## OPERATOR ENVIRONMENT

ROPS canopy
Single lever control for speed, steering and direction
Forward/reverse speed ration selector
Adjustable armrests
Foot rests
Retractable seat belt, 2 in (51 mm)
Vinyl suspension seat w/back adjustment
Rear view mirror

## INSTRUMENTATION

Warning lights:
Air filter
Alternator
Engine oil pressure
Hi range
Hydraulic filter
Transmission filter
Transmission pressure
Gauges:
Battery voltage
Fuel level
Hourmeter
Tachometer
Transmission oil temperature
Water temperature
Audible warnings:
Engine oil pressure
Transmission pressure

## BLADE

Variable blade pitch	52° forward 60° rearward
Lift speed (per second)	18 in (457 mm)
Cutting edge	Reversible and replaceable
Width	8.0 in (203 mm)
Thickness	0.75 in (19 mm)

## RIPPER

Max. penetration	14 in (356 mm)
Width	72.4 in (1839 mm)
Cut width	70.1 in (1780 mm)
Max. ground clearance	17.3 in (439 mm)
Points	Replaceable
Max. number of shanks	5
Tooth spacing –	
with 5 teeth	17.8 in (452 mm)
with 3 teeth	34 in (864 mm)
Hydraulic cylinder (double-acting)	
Diameter	3.25 in (82.6 mm)
Stroke	8.4 in (213 mm)
Rod	1.75 in (44.5 mm)

## SERVICE CAPACITIES

Fuel tank	50 gal (189.3 L)
Engine oil w/filter	14.4 qt (13.6 L)
Engine oil w/o filter	13.5 qt (12.8 L)
Engine cooling system	20 qt (18.9 L)
Hydraulic reservoir	20 gal (75.7 L)
Final drive (per side)	15 qt (14.2 L)
Track rollers (ea.)	0.19 qt (0.18 L)
Front idlers (ea.)	0.42 qt (0.40 L)
Carrier rollers (ea.)	0.25 qt (0.24 L)

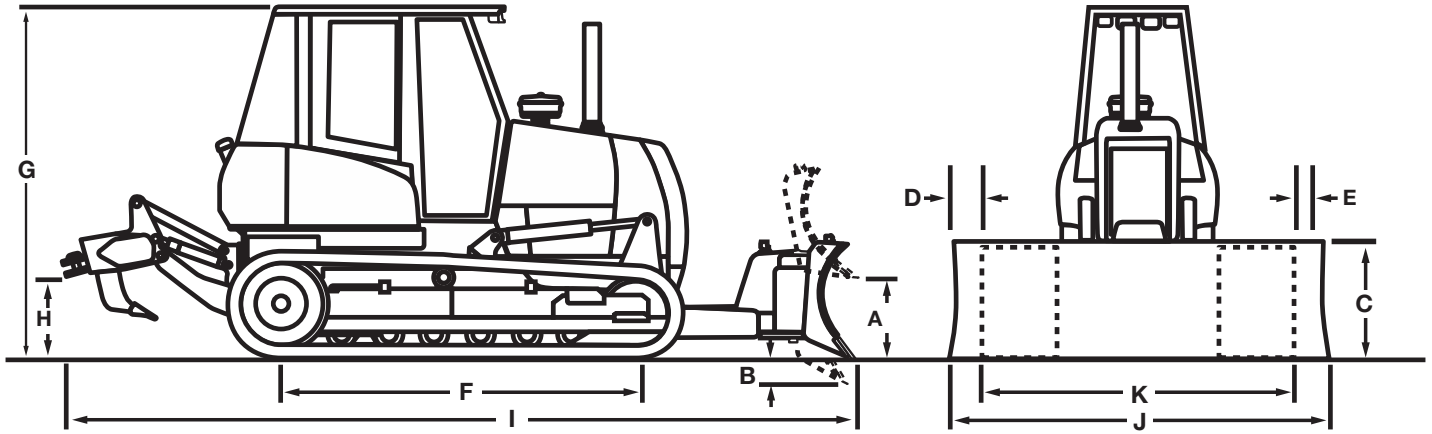
## OPERATING WEIGHTS

Unit equipped with ROPS, full fuel tank, 170 lb (77 kg) operator, drawbar, side shield, track guides, backup alarm, horn and lights.

Long Track	18,200 lb (8244 kg)
Wide Track	18,900 lb (8591 kg)
LGP	19,400 lb (8813 kg)

### Add-on weights –

Drawbar	85 lb (38 kg)
Ripper (3 shank)	1,400 lb (646 kg)
Winch	1,200 lb (545 kg)
Front counterweight	880 lb (399 kg)
Cab	930 lb (422 kg)
ROPS heater	70 lb (32 kg)
CELT chain	115 lb (52 kg)
Center rockguard	160 lb (72 kg)
Sweeps	100 lb (47 kg)
Dual batteries	60 lb (29 kg)



## DIMENSIONS

	Long Track (LT)	Wide Track (WT)	Low Ground Pressure (LGP)	
<b>BLADES</b>				
Blade width	98 in (2489 mm)	110 in (2794 mm)	120 in (3048 mm)	124 in (3150 mm)
SAE blade capacity	2.0 yd <sup>3</sup> (1.53 m <sup>3</sup> )	2.32 yd <sup>3</sup> (1.77 m <sup>3</sup> )	2.52 yd <sup>3</sup> (1.93 m <sup>3</sup> )	2.60 yd <sup>3</sup> (1.99 m <sup>3</sup> )
<b>A.</b> Blade lift above ground	34.4 in (874 mm)	34.4 in (874 mm)	34.4 in (874 mm)	34.4 in (874 mm)
<b>B.</b> Blade depth below ground	19 in (483 mm)	19 in (483 mm)	19 in (483 mm)	19 in (483 mm)
Blade angle both directions	25°	25°	25°	25°
Blade tilt, each end (up to 8.3°)	14.2 in (361 mm)	15.9 in (404 mm)	17.3 in (439 mm)	17.9 in (455 mm)
<b>C.</b> Blade height	36 in (914 mm)	36 in (914 mm)	36 in (914 mm)	36 in (914 mm)
<b>D.</b> Cast reach	14.5 in (368 mm)	12.9 in (328 mm)	17.4 in (442 mm)	16.8 in (427 mm)
<b>E.</b> Cut reach	1.4 in (36 mm)	0.0 in (0 mm)	6.3 in (152 mm)	3.8 in (97 mm)
<b>TRACKS</b>				
Track gauge	57 in (1.45 m)	67 in (1.70 m)	67 in (1.70 m)	67 in (1.70 m)
Shoe width	16 in (406 mm)	20 in (508 mm)	20 in (508 mm)	25 in (635 mm)
<b>F.</b> Track on ground (CELT)	89 in (2.26 m)	89 in (2.26 m)	89 in (2.26 m)	89 in (2.26 m)
Area of track on ground	2810 in <sup>2</sup> (1.81 m <sup>2</sup> )	3560 in <sup>2</sup> (2.25 m <sup>2</sup> )	3560 in <sup>2</sup> (2.25 m <sup>2</sup> )	4390 in <sup>2</sup> (2.83 m <sup>2</sup> )
Ground pressure	6.5 psi (44.6 kPa)	5.3 psi (36.7 kPa)	5.3 psi (36.7 kPa)	4.4 psi (30.5 kPa)
<b>DIMENSIONS</b>				
<b>G.</b> Height to top of ROPS	109.2 in (2773 mm)	109.2 in (2773 mm)	109.2 in (2773 mm)	109.2 in (2773 mm)
Height to top of cab	109.2 in (2773 mm)	109.2 in (2773 mm)	109.2 in (2773 mm)	109.2 in (2773 mm)
with air conditioning	109.8 in (2788 mm)	109.8 in (2788 mm)	109.8 in (2788 mm)	109.8 in (2788 mm)
<b>H.</b> Ground clearance w/drawbar	15.1 in (383 mm)	15.1 in (383 mm)	15.1 in (383 mm)	15.1 in (383 mm)
<b>I.</b> Length –				
Blade straight with drawbar	168 in (4276 mm)	168 in (4276 mm)	168 in (4276 mm)	168 in (4276 mm)
Blade straight with ripper	201 in (5101 mm)	201 in (5101 mm)	201 in (5101 mm)	201 in (5101 mm)
<b>J.</b> Width –				
Blade straight	110 in (2794 mm)	110 in (2794 mm)	120 in (3048 mm)	124 in (3150 mm)
Blade angled	91 in (2308 mm)	102 in (2585 mm)	111 in (2815 mm)	114 in (2907 mm)
<b>K.</b> Over track	73 in (1854 mm)	89 in (2261 mm)	89 in (2261 mm)	92 in (2337 mm)

## STANDARD EQUIPMENT

### OPERATOR'S COMPARTMENT

Isolation mounted ROPS/FOPS canopy with headliner and floormat  
Vinyl suspension seat w/back adjustment & adjustable armrests  
Retractable seat belt, 2 in (51 mm)  
Foot rests

### ENGINE

Case 445T/M2 diesel  
Automatic fan belt tensioner  
Integral engine oil cooling  
Fuel filter  
Dual element radial seal air cleaner  
65 amp alternator  
650 CCA 12-volt battery  
Anti-sandblast radiator  
Engine side panels  
Anti-freeze to -34°F  
Pusher fan

### POWERTRAIN

Dual path infinitely variable, single-lever controlled hydrostatic drive with electronic straight tracking & counter-rotation, 4-position forward/reverse ratio control  
Final drive – Triple reduction – helical gear/planetary, decelerator with hydrostatic drive retardation  
Automatic spring applied parking brake

### BLADE

52° - 60° variable pitch with integral adjustment tool  
Single lever control for blade lift, angle and tilt

### UNDERCARRIAGE

Easy clean track covers  
Hydraulic track adjusters  
Case Lubricated Track Chain  
Permanently lubricated track and carrier rollers  
Track adjuster guard  
Track guides (front and rear)

### OTHER

Backup alarm  
Horn  
Anti-vandalism package  
Mirror  
Pre-cleaner  
Operator's manual enclosure  
Master disconnect switch  
Front pull hook  
Hand throttle  
Decelerator  
Final drive seal guard  
O-ring face seal hydraulic fittings  
Vertical spin-on hydraulic & filters

## OPTIONAL EQUIPMENT

### OPERATOR'S COMPARTMENT

Cab (w/heater, 25,598 BTU (7.5 kW)/hr air conditioner, defroster, front windshield washer and 2F-1R lights)  
3 in (76 mm) seat belt  
Deluxe air suspension seat

### HYDRAULICS

4 spool hydraulic valve for field-installed ripper

### REAR MOUNTED EQUIPMENT

Ripper, parallelogram 5 slot with 3 shanks

### BLADES

98 in (2.5 m) or 104 in (2.6 m) LT w/16 in (406 mm) shoes  
110 in (2.8 m) WT w/20 in (508 mm) shoes  
120 in (3.05 m) WT w/20 in (508 mm) shoes  
124 in (3.2 m) LGP w/25 in (635 mm) shoes

### GUARDS

Sweeps  
Center rockguard

### SCREENS

Rear ROPS and cab  
Side ROPS  
Radiator brush

### OTHER

Lights – halogen, 4 front, 2 rear for cab or ROPS  
Counterweight, front  
Retrieval hitch  
Drawbar  
Sprocket, relieved (LT w/CLT only)  
Special paint  
Dual 12V battery  
Fan, reversible  
Case Extended Life Track  
Cold start aid  
Turbo precleaner  
Winch drive  
Tool box for ROPS

NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

IMPORTANT: CNH America LLC reserves the right to change these specifications without notice and without incurring any obligation relating to such change. CNH America LLC does not warrant the safety or reliability of attachments from other manufacturers.

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