

ENGINE

Model	Case Family IV 445TA/E3 diesel, Tier III certified	
Type	4-stroke, turbocharged	
Cylinders	4	
Bore/Stroke	4.09 in x 5.19 in (104 x 132 mm)	
Displacement	274 in ³ (4.5 L)	
Fuel injection	Direct high pressure common rail	
Fuel	Diesel	
Primary fuel filter	5 micron	
Secondary fuel filter	30 micron w/water trap and indicating lamp	
Air intake	Cross-flow	
Cooling	Liquid	
Engine speeds* (rpm)		
Rated speed, full load	2200	
Low idle	900 - 1000	
High idle, no load	2330 - 2430	
Horsepower		
Gross	110 (82 kW) @ 2200 rpm	
Net	108 (81 kW) @ 2200 rpm	
Maximum torque @ 1400 rpm		
Gross	381 lb-ft (516 N-m)	
Net	372 lb-ft (505 N-m)	
Torque rise at rated speed	45%	

NOTE: *Engine speeds with standard transmission.
Meets federal emission regulations.

ENGINE COOLING

Radiator		
Core type	Square wave	
Core size area	487 in ² (.315 m ²)	
Rows of tubes	5	
Fan		
Style	Viscous 9 blade suction	
Diameter	19.2 in (488 mm)	
Ratio	1.4:1	
Water pump		
Style	Integral	
Engine oil Pump	Deep sump plate cooler with pressurized under-piston nozzles	
Pump operating angle ratings		
Side-to-side	Rated 35°	
Fore and aft	Rated 35°	
Oil filtration	Replaceable, full-flow cartridge	

TIRES

Front	2WD - 14.5/75 x 16.1, 10-ply	
	4WD - 14 x 17.5, 10-ply	
Rear	2/4WD - 21L x 24, 10-ply	

POWERTRAIN

Transmission	4-speed synchromesh with hydraulically actuated clutches and electric F/R shuttle control, clutch disconnect buttons on the transmission shifter and loader control lever		
Gear ratios	Forward	Reverse	
1st	5.603	4.643	
2nd	3.481	2.884	
3rd	1.584	1.313	
4th	0.793	0.657	
Torque converter			
Ratio	2.64		
Differential lock	On-the-go push-button activation		
Front 4WD axle			
Differential ratio	2.130		
Planetary hub ratio	6.0		
Total reduction ratio	12.78		
Rear axle			
Differential ratio	2.5		
Planetary hub ratio	6.4		
Total reduction ratio	16.0		

Service brakes
Individually applied, power assisted, hydraulically actuated, maintenance-free, self-adjusting, inboard mounted, wet disc, 2 per side

Disc area	384 in ² (.25 m ²)
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Parking brakes
Spring applied hydraulic release

Travel speeds - mph (km/h)				
	1st	2nd	3rd	4th
Forward	4.0 (6.4)	6.3 (10.1)	13.6 (21.8)	25.6 (41.1)
Reverse	4.7 (7.6)	7.5 (12.1)	16.3 (26.2)	30.7 (49.4)

NOTE: Travel speeds at 2320 engine rpm.

ELECTRICAL

Voltage	12 volts, negative ground
Alternator	90 amp
Cold weather heater w/dual 12-volt 850 CCA batteries	
Power plugs	(2) 30 amps ea.

HYDRAULICS

Pump	Variable displacement axial piston pump, transmission mounted	
Main relief pressure	3100 + 0 - 100 psi @ 43 gpm (214 + 0 - 6 bar @ 161 L/min)	
Filtration	7-micron, full flow replaceable cartridge on return line, condition indicator light for filter	
Oil cooler	Heavy-duty	
Loader flow @ rated engine rpm	Combined functions 43.0 gpm @ 3100 psi (161 L/min @ 214 bar)	
	Individual functions 31.5 gpm @ 3100 psi (119 L/min @ 214 bar)	
Loader control valve	Pressure compensated loader hydraulics for simultaneous lift and bucket operation	
	Hydraulics for simultaneous multifunction operation	
	Sectional valve single lever control for lift, tilt and auxiliary hydraulics, positive hold float and return-to-dig	
Loader auxiliary hydraulics with proportional thumb switch w/detent on loader control handle	0 to 31.5 gpm (0 to 119 L/min)	
Backhoe flow @ rated engine rpm	43.0 gpm @ 3100 psi (161 L/min @ 214 bar)	
Pilot Backhoe Controls		
Backhoe Control Valve	Pressure compensated backhoe Top 8-spool sectional closed-center with flushing inlet and circuits in parallel	
Backhoe auxiliary hydraulics		
Uni-directional flow, variable flow from 0 to 36 gpm (136 L/min)	Control operation Pilot Button on left joystick	
Bi-Directional flow, variable flow from 0 to 38 gpm (144 L/min) @ rated engine rpm	Control operation Dual proportional thumb control on left joystick	

OPERATOR ENVIRONMENT

ROPS/FOPS canopy
Key start
Hydrostatic steering
Vinyl air suspension seat w/180° swivel
Seat turn around idle
Electronic hand and foot throttles
Ergonomic loader control lever w/push-button activation of differential lock and transmission de-clutch
Backhoe pilot controls
(2) Accessory power plugs (30 amp)
Anti-vandalism covers (canopy only)
Cup holder
Coat hook w/tether strap (cab only)
Interior rearview mirror
3 in (76 mm) retractable seat belt
Storage compartment w/lid
Left side storage tray
+900 lb (408 kg) counterweight
Extendahoe
4WD

INSTRUMENTATION

Vehicle Control Module w/menu driven options and onboard diagnostics
Cruise control
Foot throttle sensitivity
Cold weather idle settings
Maintenance settings
Gauges
Engine water temperature
Converter oil temperature
Fuel
Tachometer/hourmeter
Voltmeter
Warning lights
Air cleaner restriction
Alternator
A/C high pressure
Cold start
Engine oil pressure
Hydraulic oil filter bypass
Parking brake
Rear axle fluid temperature sensing system
Low fuel
Audible alarms w/diagnostics
Coolant temperature
Engine oil pressure
Parking brake engagement
Shuttle engagement/seat position
Backup alarm
Horn - dual switched front & rear

TURNING DIAMETER

4WD – engaged
Brakes on 26 ft 5 in (8.04 m)
Brakes off 29 ft 10 in (9.08 m)
4WD – disengaged
Brakes on 24 ft 8 in (7.51 m)
Brakes off 25 ft 6 in (7.78 m)

NOTE: Turning diameter dimensions curb to curb w/general purpose bucket.

OPERATING WEIGHTS

Lightest Configuration

Unit equipped with 4WD, ROPS canopy, vinyl air suspension seat, 93 in (2.36 m) general purpose loader bucket, 24 in (610 mm) Universal backhoe bucket, Extendahoe dipperstick, 21L x 24 rear tires, 14 x 17.5 front tires, single battery, flip over stabilizer pads, no operator 15,268 lb (6926 kg)

Heavy Configuration

Unit equipped with 4WD, cab, cloth air suspension seat, 93 in (2.36 m) 4 IN 1® loader bucket, 24 in (610 mm) Universal backhoe bucket, Extendahoe® dipperstick, dual batteries, flip stabilizer pads, no operator 19,578 lb (8881 kg)

Add-on weights

Cab (over canopy) +454 lb (206 kg)

SERVICE CAPACITIES

Fuel tank 42.0 gal (159 L)
Hydraulic system
Total 32.2 gal (122 L)
Total w/Extendahoe® 33.7 gal (127.6 L)
Reservoir w/filter 12.5 gal (47.1 L)
Reservoir w/o filter 12.0 gal (45.2 L)
Transmission
4WD Total system 20.5 qt (19.4 L)
4WD Front axle
Differential 7.1 qt (6.7 L)
Planetaries (each) .63 qt (.6 L)
Rear axle
Differential and planetaries 19.7 qt (18.6 L)
Engine oil w/filter 14.4 qt (13.6 L)
Cooling system
w/heater 19.0 qt (18.0 L)
w/o heater 18.3 qt (17.3 L)
Window washer reservoir 3.5 qt (3.3 L)

LOADER

Single-lever control for lift and tilt
Positive hold float
Return-to-dig
Automatic self-leveling
In-line, reverse linkage
Dual parallel dump cylinders
Clutch disconnect button on loader control and shift levers
Bucket position indicator

Loader Bucket Sizes

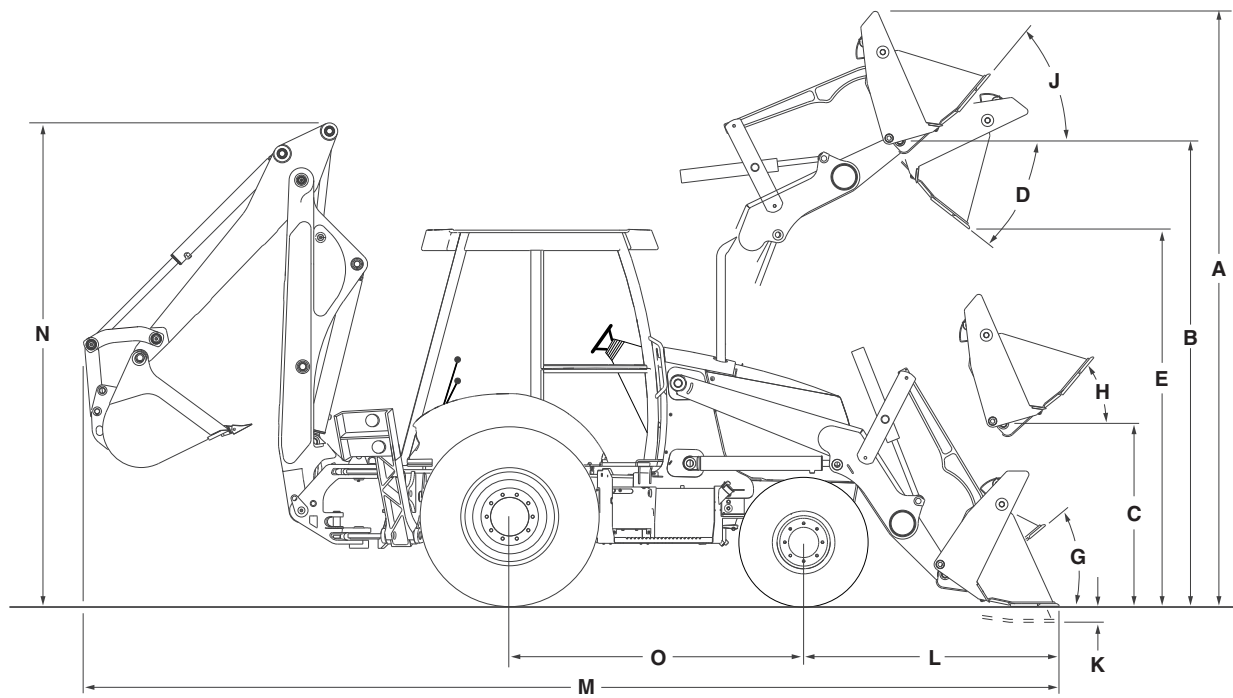
Width	Weight	Struck		Heaped	
		General Purpose Bucket (w/ lift points and bolt-on cutting edge)			
Width	Weight	Struck	Heaped	Width	Weight
93 in (2.36 m)	1,123 lb (509 kg)	1.1 yd ³ (0.84 m ³)	1.3 yd ³ (1.0 m ³)	96 in (2.44 m)	1,324 lb (601 kg)
		1.27 yd ³ (0.97 m ³)	1.5 yd ³ (1.15 m ³)		
4 IN 1® Bucket					
93 in (2.36 m)	1,628 lb (738 kg)	1.0 yd ³ (0.76 m ³)	1.2 yd ³ (0.92 m ³)		

BACKHOE

Over-center design
Cast, ductile iron boom, and swing tower
Closed-center hydraulics - Pro Control System
17, 940 lb-ft (24 370 N-m) swing torque
Case attachment coupler
Pilot Controls
Wing stabilizers w/flip over dirt pad

Backhoe Bucket Sizes

Width	Weight	Struck		Heaped	
		Universal Buckets			
Width	Weight	Struck	Heaped	Width	Weight
12 in (305 mm)	290 lb (132 kg)	3.40 ft ³ (0.10 m ³)	3.60 ft ³ (0.10 m ³)	16 in (406 mm)	346 lb (157 kg)
18 in (457 mm)	350 lb (159 kg)	5.30 ft ³ (0.15 m ³)	7.70 ft ³ (0.22 m ³)	24 in (610 mm)	413 lb (187 kg)
30 in (762 mm)	475 lb (215 kg)	10.20 ft ³ (0.29 m ³)	12.70 ft ³ (0.36 m ³)	36 in (914 mm)	535 lb (243 kg)
High Capacity Buckets					
24 in (610 mm)	450 lb (204 kg)	8.50 ft ³ (0.24 m ³)	10.60 ft ³ (0.30 m ³)	30 in (762 mm)	517 lb (235 kg)



LOADER DIMENSIONS

	General Purpose Bucket*	4 IN 1® Bucket
A. Overall operating height – fully raised	14 ft 2 in (4.32 m)	14 ft 6 in (4.43 m)
Height to –		
B. Bucket hinge pin fully raised	11 ft 5 in (3.47 m)	11 ft 5 in (3.47 m)
C. Bucket hinge pin @ SAE carry	13.7 in (349 mm)	14.9 in (379 mm)
D. Dump angle @ full height	45°	45°
E. Dump clearance @ full height, 45° dump –		
Bucket	9 ft 0 in (2.75 m)	9 ft 2 in (2.78 m)
Clam open	NA	9 ft 10 in (3.0 m)
F. Dump reach @ full height, 45° dump –		
Bucket	27.5 in (699 mm)	25.9 in (659 mm)
Clam open	NA	11.5 in (293 mm)
Bucket rollback –		
G. @ groundline	40°	40°
H. @ SAE carry	45°	45°
J. @ full height	Adjustable	Adjustable
K. Digging depth below grade –		
Bucket flat	3.8 in (96 mm)	4.3 in (109 mm)
Clam open (dozing)	NA	1.7 in (42 mm)
L. Reach from front axle centerline – bucket on ground	77.6 in (1.97 m)	75.2 in (1.91 m)
Lift capacity to full height	7,327 lb (3323 kg)	7,437 lb (3373 kg)
Breakout force –		
Lift cylinders	10,729 lbf (47 725 N)	10,294 lbf (45 790 N)
Dump cylinders	10,980 lbf (48 841 N)	12,004 lbf (53 396 N)
Bucket cutting edge width	93 in (2.36 m)	93 in (2.36 m)
Maximum grading angle	116°	116°
Maximum clam opening	NA	38.3 in (972 mm)
Moldboard height	NA	36.8 in (934 mm)
Raising time to full height	4.7 sec	4.7 sec
Bucket dumping time	1.2 sec	1.2 sec
Lowering time –		
Power down	2.8 sec	2.8 sec
Return-to-dig	3.1 sec	3.1 sec
Clam –		
Open time	NA	2.3 sec
Close time	NA	2.3 sec

NOTE: Loader dimensions taken with 4WD.

DIMENSIONS

	Extendahoe®	
	Retracted	Extended
M. Overall transport length –		
General purpose bucket	23 ft 7 in (7.19 m)	NA
4 IN 1® bucket	22 ft 8 in (6.91 m)	NA
Overall transport width	7 ft 9 in (2.36 m)	NA
Height –		
To top of canopy	8 ft 11 in (2.73 m)	8 ft 11 in (2.73 m)
To top of cab	8 ft 10 in (2.69 m)	8 ft 10 in (2.69 m)
To top of exhaust stack	8 ft 7 in (2.62 m)	8 ft 7 in (2.62 m)
N. Transport	11 ft 7 in (3.54 m)	NA
Ground clearance at backhoe frame	14.8 in (375 mm)	14.8 in (375 mm)
Angle of departure	23°	23°
Front wheel tread –		
4WD	73.4 in (1.86 m)	NA
Rear wheel tread	69.9 in (1.78 m)	NA
O. Wheelbase –		
4WD	84.5 in (2.15 m)	NA

NOTE: Dimensions taken with 21L x 24 rear tires and 14.5/75L x 16.1 front tires except that data marked 4WD is taken with 14 x 17.5 front tires.

CYLINDERS

	Bore Diameter	Rod Diameter	Stroke
Loader			
Lift (2)	3.5 in (89 mm)	1.75 in (44.5 mm)	30.2 in (766 mm)
Bucket (2)	3.25 in (83 mm)	1.75 in (44.5 mm)	20.6 in (522 mm)
4 IN 1® clam (2)	3.0 in (76 mm)	1.75 in (44.5 mm)	9.1 in (231 mm)
Backhoe			
Boom	5.5 in (139.7 mm)	2.5 in (63 mm)	38.4 in (976 mm)
Dipperstick	5.5 in (139.7 mm)	2.75 in (69.9 mm)	22.2 in (564.2 mm)
Bucket	3.75 in (95 mm)	2.75 in (69.9 mm)	34.3 in (872 mm)
Extendahoe®	3.0 in (76 mm)	1.75 in (44.5 mm)	48.0 in (1.22 m)
Swing (2)	4.0 in (101.6 mm)	2.0 in (50.8 mm)	11.5 in (292 mm)
Stabilizer (2)	5.0 in (127 mm)	2.25 in (57.2 mm)	20.4 in (519.4 mm)
Steering			
4WD	2.48 in (63 mm)	1.5 in (38.1 mm)	9.53 in (242 mm)

BACKHOE LIFT CAPACITIES

Boom and Dipper Lift Capacities are rated per SAE J31 and are 87% of the maximum hydraulic lift force available with the specified options.

Boom Lift	Extendahoe®			
	Retracted		Extended	
	Distance from swing pivot (m)	Backhoe lift capacity – lb (kg)	Distance from swing pivot (m)	Backhoe lift capacity – lb (kg)
+18 ft (5.48 m)				1,940 (880)
+16 ft (4.87 m)			13 ft 6 in (4.11)	2,200 (998)
+14 ft (4.27 m)	10 ft 8 in (3.25)	3,310 (1501)	15 ft 5 in (4.70)	2,300 (1043)
+12 ft (3.66 m)	12 ft 9 in (3.89)	3,280 (1488)	16 ft 10 in (5.13)	2,420 (1098)
+10 ft (3.05 m)	14 ft 2 in (4.32)	3,410 (1547)	17 ft 11 in (5.46)	2,370 (1075)
+8 ft (2.44 m)	15 ft 2 in (4.62)	3,330 (1510)	18 ft 9 in (5.72)	2,420 (1098)
+6 ft (1.83 m)	15 ft 11 in (4.85)	3,390 (1538)	19 ft 3 in (5.87)	2,420 (1098)
+4 ft (1.22 m)	16 ft 3 in (4.96)	3,280 (1488)	19 ft 7 in (5.97)	2,310 (1048)
+2 ft (0.61 m)	16 ft 4 in (4.98)	3,210 (1456)	19 ft 8 in (5.99)	2,290 (1039)
Ground Level	16 ft 1 in (4.91)	3,120 (1415)	19 ft 6 in (5.94)	2,260 (1025)
-2 ft (0.61 m)	15 ft 8 in (4.77)	3,010 (1365)	19 ft 2 in (5.84)	2,230 (1012)
-4 ft (1.22 m)	14 ft 11 in (4.55)	2,950 (1338)	18 ft 6 in (5.64)	2,220 (1007)
-6 ft (1.83 m)	13 ft 9 in (4.19)	2,850 (1293)	17 ft 8 in (5.38)	2,140 (971)
-8 ft (2.44 m)	12 ft 2 in (3.71)	2,840 (1288)	16 ft 6 in (5.03)	2,110 (957)
-10 ft (3.05 m)	9 ft 10 in (2.99)	2,810 (1275)	14 ft 10 in (4.52)	2,090 (948)
-12 ft (3.66 m)	5 ft 8 in (1.72)	2,880 (1306)	12 ft 9 in (3.89)	2,180 (989)
-14 ft (4.27 m)			9 ft 9 in (2.97)	2,240 (1016)
-15 ft (4.57 m)			6 ft 0 in (1.83)	2,490 (1129)
Dipper Lift				
+16 ft (4.87 m)			12 ft 10 in (3.91)	2,810 (1275)
+14 ft (4.27 m)	10 ft 2 in (3.10)	4,850 (2200)	14 ft 0 in (4.27)	2,940 (1334)
+12 ft (3.66 m)	11 ft 2 in (3.40)	5,310 (2409)	14 ft 7 in (4.45)	3,080 (1397)
+10 ft (3.05 m)	11 ft 6 in (3.50)	5,510 (2500)	14 ft 9 in (4.50)	3,100 (1406)
+8 ft (2.44 m)	11 ft 2 in (3.40)	5,720 (2595)	14 ft 8 in (4.47)	3,150 (1429)
+6 ft (1.83 m)	10 ft 1 in (3.08)	5,740 (2604)	14 ft 0 in (4.27)	3,190 (1447)
+4 ft (1.22 m)	7 ft 4 in (2.23)	6,590 (2989)	12 ft 9 in (3.89)	3,290 (1492)

BACKHOE OPERATIONAL DATA

	Extendahoe®	
	Retracted	Extended
Digging depth –		
Maximum	15 ft 11 in (4.85 m)	19 ft 11 in (6.07 m)
Maximum w/hi-capacity bucket	16 ft 4 in (4.98 m)	20 ft 4 in (6.20 m)
2 ft (610 mm) flat bottom	15 ft 10 in (4.83 m)	19 ft 10 in (6.05 m)
8 ft (2.44 m) flat bottom	14 ft 11 in (4.55 m)	19 ft 2 in (5.84 m)
Overall reach from –		
Rear axle centerline	23 ft 3 in (7.09 m)	27 ft 2 in (8.28 m)
Swing pivot	19 ft 8 in (5.99 m)	23 ft 7 in (7.19 m)
Loading height	11 ft 5 in (3.48 m)	13 ft 9 in (4.19 m)
Loading reach – dipper retracted	9 ft 6 in (2.90 m)	12 ft 9 in (3.89 m)
Swing arc 1	180°	180°
Bucket rotation –		
#1 position	164°	164°
#2 position	190°	190°
Stabilizer spread – operating	11 ft 1 in (3.38 m)	11 ft 1 in (3.38 m)
Digging force –		
Bucket cylinder	14,718 lbf (65 469 N)	14,718 lbf (65 469 N)
Dipper cylinder	8,449 lbf (37 583 N) w/bucket @ 50°	5,999 lbf (26 685 N) w/bucket @ 51°
Leveling angle		
maximum slope that backhoe will make vertical cut	12°	12°

NOTE: Lift capacities apply straight to the rear of prime mover. Equipped with 24 in (610 mm) Universal H.D. trenching bucket and Case coupler except as noted.

STANDARD EQUIPMENT

OPERATOR'S COMPARTMENT

See page 2

ENGINE

Case Family IV 445TA/E3 non EGR turbocharged diesel
Tier III certified
Integral crank driven balancer
Automatic fan belt tensioner
Integral engine oil cooling
Primary 5 micron fuel filter
Secondary 30 micron fuel filter w/water trap
Dual element air cleaner with integral pre-cleaner
90 amp alternator
(2) 850 CCA 12-volt batteries
Grid heater
Heavy-duty radiator w/deaeration bottle
Non-spark-arresting muffler
Aspirated air cleaner
Swing out fuel cooler
Cruise control

OPTIONAL EQUIPMENT

OPERATOR'S COMPARTMENT

2 door cab with –

Air-conditioning, 100% filtered air, in-cab filter access, 8 adjustable roof vents, 2 floor vents, w/heater
Defroster
Dome light - door activated
Wipers, front and rear
Tinted glass
Floor mat
Cloth air suspension seat
Tilt wheel
Radio-ready kit w/antenna and speakers
Side window partial hold open
Inside release for side windows
Cab Convenience Package
Windshield washer w/adjustable nozzles (front & rear)
Reduced sound level to 72 dB(A)
Sun visor
Vinyl-covered interior

LOADER

See page 2

BACKHOE

See page 2

POWERTRAIN

4F/4R Power shuttle synchromesh transmission
Torque converter
Transmission de-clutch
Electro-hydraulic differential lock
Hydrostatic steering
Outboard wet disc brakes
Remote lube front axle pivot

Cab, right door

Canopy Convenience Package

Front windshield w/wiper & washer
85 dB(A) sound
Floor mat
Sun visor

LOADER

Hydraulic attachment coupler
Attachment auxiliary hydraulics
3-spool valve hydraulics w/ thumb controlled electro hydraulic switch w/detent
Buckets (see page 2)

BACKHOE

Case integrated hydraulic coupler
Buckets (see page 2)

HYDRAULICS

2-spool loader control valve
7-spool backhoe control valve
Heavy-duty oil cooler

OTHER

Forward tilt engine hood
Replaceable, molded front bumpers
Front/rear tie downs
Reflective logos
Lights - Cab and Canopy
(2) Rear tail/stop
(2) Front flashers/turn
(2) Rear flashers/turn
(2) Front & 4 rear adjustable halogen lights (55 w)
Tool box
900 lb (408 kg) counterweight
3 in (76 mm) retractable seat belt
Ride control
Flip over stabilizer pads

ENGINE

Spark arresting muffler

POWERTRAIN

Powershift transmission with Autoshift
Comfort Steer

HYDRAULICS

Auxiliary backhoe uni-directional hydraulics
Auxiliary backhoe bi-directional hydraulics
Button operated for pilot controls

OTHER

Special paint

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

NOTE: All engines meet current EPA emissions requirements.

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

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