

## ENGINE

Model	Isuzu AM-4HK1X Cooled EGR
Emissions Certification	Tier 4 Interim
Fuel	Requires ultra low-sulfur fuel B5 biodiesel tolerant
Type	Water-cooled, 4-cycle, high pressure common rail system Turbo-charged w/ air cooled intercooler, DPD system
Cylinders	4-cylinder in-line
Displacement	317 in <sup>3</sup> (5.2 L)
Bore/Stroke	5 x 5 in (115 x 125 mm)
Fuel injection	Direct injection – electronic
Fuel filter	Replaceable, full flow spin-on cartridge
Air filter	Dry type element w/ warning restriction indicator
Oil filter	Replaceable, full flow spin-on cartridge
Engine gradeability:	
Side-to-side	35°
Fore and aft	35°
Net horsepower – SAE J1349 @ 1800 RPM:	160 hp (119.3 kW)
Net max. torque – SAE J1349 @ 1500 RPM:	458 lb-ft (621 N-m)
Cooling operating range:	109° to -13°F (43° to -25°C)
Oil	Requires low-ash oil CJ-4

## DRIVETRAIN

Travel control:	Dual stage relief/ counter balance design
Brakes	Mechanical disc
Service brakes	SAHR disc – each motor
Two speed travel:	
Max. high speed	3.5 mph (5.6 kph)
Max. low speed	1.7 mph (2.8 kph)
Automatic downshift	
Drawbar pull	42,264 lbf (188 kN)
Gradeability	70% – 35° slope

## ELECTRICAL

Voltage	24 Volts
Alternator rating	50 amp
Batteries	2 x 12 Volt
Battery reserve capacity	92 Ah/5 hour
Work lights	24 Volt
1 boom	70 watt
1 upper	70 watt
2 cab	70 watt

## OPERATOR ENVIRONMENT

Air conditioner output	18,100 BTU/hr
Heater output	20,150 BTU/hr
Sound level inside cab – ISO6395	70 dBA
Electrical outlet	12 Volt
Cab interior light	10 watt
Rear view camera	Standard
Seat	Air-suspension

## ATTACHMENT

Boom	18 ft 8 in (5 700 mm)
Arm	96 ft 5 in (29 400 mm)
Bucket digging force	31,923 lbf (142 kN)
w/ Auto Power-Boost	34,171 lbf (152 kN)

## OPERATING WEIGHT

Operating weight	47,437 lb (21 517 kg)
w/ shoes	2 ft 7 in (800 mm)
w/ boom	18 ft 8 in (5 700 mm)
w/ arm	9 ft 8 in (2 940 mm)
w/ bucket	1,448 lb (657 kg)
w/ counterweight	9,370 lb (4 250 kg)
w/ operator/full fuel/standard equipment	

NOTE: w/ operator/full fuel/standard equipment

## GROUND PRESSURE

@ Standard operating weight	4.9 psi (0.34 bar)
w/ 31.5 in (800 mm) triple semi-grouser shoes	

## HYDRAULICS

System design	Open center
Main pumps	Two variable displacement/ axial pistons
Max. rated flow	55.7 gpm (211 L/min)
System pressures:	
Boom, arm & bucket	4,975 psi (343 bar)
w/ Power Boost	5,337 psi (368 bar)
Travel circuits	4,975 psi (343 bar)
Swing circuits	4,264 psi (294 bar)
Pilot pump	1 x gear design
Max. capacity	4.8 gpm (18 L/min)
Controls	w/ boom/arm holding valve
Right track travel, bucket, boom and arm acceleration.	Four-spool section
Left track travel, bucket, boom and arm acceleration.	Five-spool section

## HYDRAULICS (cont.)

Work mode selections	SP: Speed Priority H: Heavy Duty A: Automatic
Swing motor	Fixed displacement axial piston
Swing final drive	Planetary gear reduction
Travel motor	Two-speed independent travel/axial piston

## HYDRAULIC CYLINDERS

Boom cylinders	Two (2)
Cylinder bore	4.7 in (120 mm)
Cylinder rod diameter	3.3 in (85 mm)
Cylinder stroke	49.4 in (1 255 mm)
Arm cylinder	One (1)
Cylinder bore	5.5 in (140 mm)
Cylinder rod diameter	3.9 in (100 mm)
Cylinder stroke	57.5 in (1 460 mm)
Bucket cylinder	One (1)
Cylinder bore	4.7 in (120 mm)
Cylinder rod diameter	3.3 in (85 mm)
Cylinder stroke	39.8 in (1 010 mm)

## SERVICE CAPACITIES

Fuel tank	108 gal (410 L)
Hydraulic system	63 gal (240 L)
Hydraulic tank	39 gal (147 L)
Engine oil w/ filter	6 gal (23.1 L)
Swing drive	5.3 qt (5 L)
Final drive – each side	5.3 qt (5 L)
Cooling system	8 gal (28.7 L)

## OTHER SPECIFICATIONS

Swing speed	0 – 11.5 RPM
Swing torque	47,204 lb-ft (64 000 N-m)
Swing brake	Mechanical disc
Undercarriage:	
Length	14 ft 8 in (4 470 mm)
Track gauge	7 ft 10 in (2 400 mm)
Carrier rollers	2
Track rollers	8
Shoes – Triple grouser	49
Shoe width – std.	2 ft 7 in (800 mm)
Link pitch	7 in (190 mm)
Track:	
Chain	Grease lubricated/strutted
Guides	Single
Adjustment	Hydraulic

# LIFT CAPACITIES

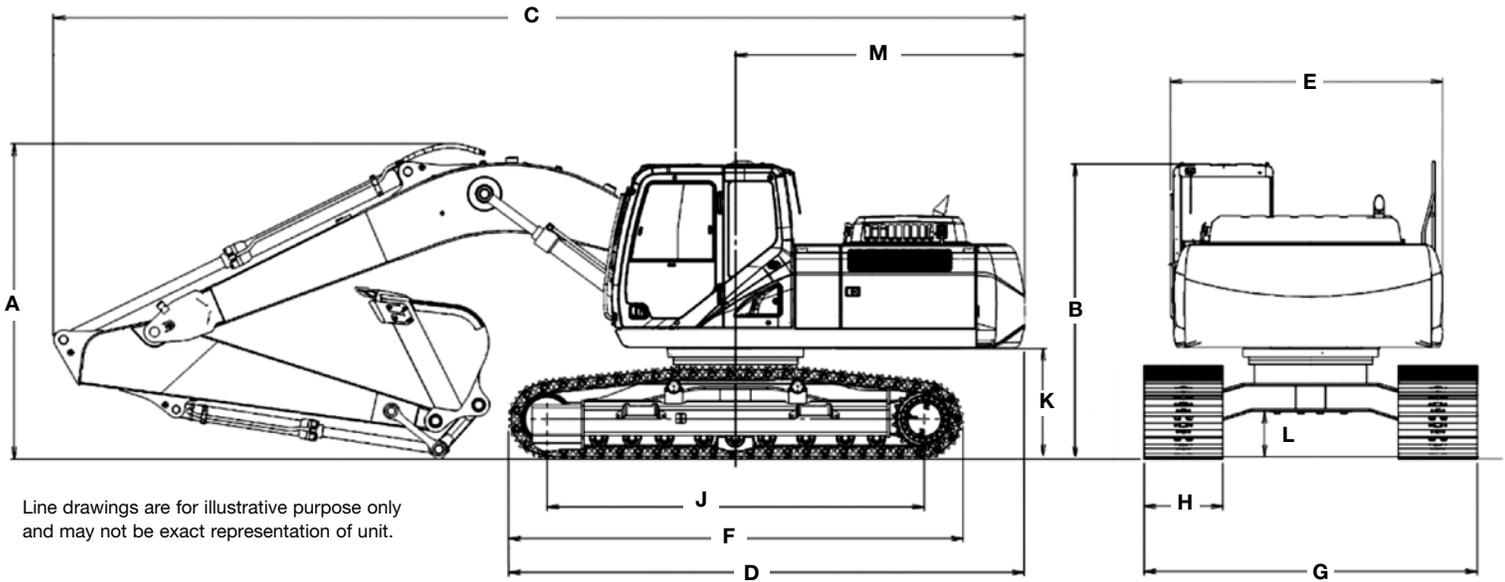
**7 ft 10 in (2.40 m)** Lift capacities using a 1,550 lb (703 kg) bucket, 9,370 lb (4 250 kg) counterweight.

Load (Lift Point Height)	5 ft (1.5 m)		10 ft (3 m)		15 ft (4.5 m)		20 ft (6 m)		25 ft (7.5 m)		MAXIMUM REACH		
	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	@	END	SIDE
+25 ft (7.5 m)							8,500 lb* (3 856 kg)*	8,500 lb* (3 856 kg)*			22 ft 11 in (6.99 m)	7,300 lb* (3 311 kg)*	7,300 lb* (3 311 kg)*
+20 ft (6 m)							10,200 lb* (4 627 kg)*	10,200 lb* (4 627 kg)*	9,300 lb* (4 218 kg)*	7,550 lb (3 425 kg)	26 ft 7 in (8.10 m)	6,900 lb* (3 130 kg)*	6,700 lb (3 039 kg)
+15 ft (4.5 m)					13,500 lb* (6 123 kg)*	13,500 lb* (6 123 kg)*	11,200 lb* (5 080 kg)*	10,750 lb (4 876 kg)	10,350 lb* (4 695 kg)*	7,400 lb (3 357 kg)	28 ft 8 in (8.74 m)	6,850 lb* (3 107 kg)*	5,700 lb (2 585 kg)
+10 ft (3 m)			25,800 lb* (11 703 kg)*	25,800 lb* (11 703 kg)*	17,750 lb* (8 051 kg)*	16,100 lb* (7 303 kg)*	13,400 lb* (6 078 kg)*	10,250 lb (4 649 kg)	10,950 lb* (4 967 kg)*	7,100 lb (3 221 kg)	29 ft 8 in (9.04 m)	7,050 lb* (3 198 kg)*	5,200 lb (2 359 kg)
+5 ft (1.5 m)					21,150 lb* (9 593 kg)*	15,000 lb (6 804 kg)	15,150 lb (6 872 kg)	9,700 lb (4 400 kg)	10,650 lb (4 831 kg)	6,800 lb (3 084 kg)	29 ft 8 in (9.04 m)	7,450 lb* (3 379 kg)*	5,100 lb (2 313 kg)
Groundline			16,800 lb* (7 620 kg)*	16,800 lb* (7 620 kg)*	22,900 lb* (10 387 kg)*	14,350 lb (6 509 kg)	14,850 lb (6 736 kg)	9,300 lb (4 218 kg)	10,450 lb (4 740 kg)	6,600 lb (2 994 kg)	28 ft 10 in (8.79 m)	8,250 lb* (3 742 kg)*	5,300 lb (2 404 kg)
-5 ft (-1.5 m)	18,100 lb* (8 210 kg)*	18,100 lb* (8 210 kg)*	24,850 lb* (11 272 kg)*	24,850 lb* (11 272 kg)*	22,850 lb* (10 365 kg)*	14,250 lb (6 464 kg)	14,650 lb (6 645 kg)	9,200 lb (4 173 kg)	10,400 lb (4 717 kg)	6,600 lb (2 994 kg)	27 ft 0 in (8.23 m)	9,250 lb (4 196 kg)	5,900 lb (2 676 kg)
-10 ft (-3 m)	24,850 lb* (11 272 kg)*	24,850 lb* (11 272 kg)*	31,550 lb* (14 311 kg)*	28,800 lb* (13 063 kg)*	21,650 lb* (9 820 kg)*	14,500 lb (6 577 kg)	14,850 lb (6 736 kg)	9,350 lb (4 241 kg)			23 ft 11 in (7.29 m)	11,250 lb (5 103 kg)	7,150 lb (3 243 kg)
-15 ft (-4.5 m)			25,700 lb* (11 657 kg)*	25,700 lb* (11 657 kg)*	17,950 lb* (8 142 kg)*	15,000 lb (6 804 kg)					19 ft 4 in (5.89 m)	12,050 lb* (5 466 kg)*	10,150 lb (4 604 kg)

**9 ft 8 in (2.94 m)** Lift capacities using a 1,450 lb (658 kg) bucket, 9,370 lb (4 250 kg) counterweight.

Load (Lift Point Height)	5 ft (1.5 m)		10 ft (3 m)		15 ft (4.5 m)		20 ft (6 m)		25 ft (7.5 m)		30 ft (9 m)		MAXIMUM REACH		
	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	@	END	SIDE
+25 ft (7.5 m)									5,050 lb* (2 291 kg)*	5,050 lb* (2 291 kg)*			25 ft 0 in (7.62 m)	4,950 lb* (2 245 kg)*	4,950 lb* (2 245 kg)*
+20 ft (6 m)									8,450 lb* (3 833 kg)*	7,800 lb (3 538 kg)			28 ft 4 in (8.64 m)	4,700 lb* (2 132 kg)*	4,700 lb* (2 132 kg)*
+15 ft (4.5 m)							10,250 lb* (4 649 kg)*	10,250 lb* (4 649 kg)*	9,700 lb* (4 400 kg)*	7,600 lb (3 447 kg)	5,650 lb* (2 563 kg)*	5,400 lb (2 449 kg)	30 ft 4 in (9.25 m)	4,650 lb* (2 109 kg)*	4,650 lb* (2 109 kg)*
+10 ft (3 m)			22,350 lb* (10 138 kg)*	22,350 lb* (10 138 kg)*	16,350 lb* (7 416 kg)*	16,200 lb (7 348 kg)	12,600 lb* (5 715 kg)*	10,500 lb* (4 763 kg)*	10,650 lb* (4 831 kg)*	7,300 lb (3 311 kg)	8,150 lb (3 697 kg)	5,250 lb (2 381 kg)	31 ft 4 in (9.55 m)	4,800 lb* (2,177 kg)*	4,800 lb* (2,177 kg)*
+5 ft (1.5 m)			20,000 lb* (9 072 kg)*	20,000 lb* (9 072 kg)*	20,400 lb* (9 253 kg)*	15,400 lb (6 985 kg)	14,750 lb* (6 690 kg)*	9,900 lb* (4 491 kg)*	10,800 lb (4 899 kg)	6,950 lb (3 152 kg)	8,050 lb (3 651 kg)	5,100 lb (2 313 kg)	31 ft 4 in (9.55 m)	5,150 lb* (2 336 kg)*	4,750 lb (2 155 kg)
Groundline			18,700 lb* (8 482 kg)*	18,700 lb* (8 482 kg)*	22,600 lb* (10 251 kg)*	14,550 lb (6 600 kg)	15,000 lb (6 804 kg)	9,450 lb (4 286 kg)	10,550 lb (4 785 kg)	6,700 lb (3 039 kg)	7,550 lb* (3 425 kg)*	5,000 lb (2 268 kg)	30 ft 6 in (9.30 m)	5,650 lb* (2 563 kg)*	4,900 lb (2 223 kg)
-5 ft (-1.5 m)	16,200 lb* (7 348 kg)*	16,200 lb* (7 348 kg)*	24,050 lb* (10 909 kg)*	24,050 lb* (10 909 kg)*	23,000 lb* (10 433 kg)*	14,300 lb (6 486 kg)	14,750 lb (6 690 kg)	9,250 lb (4 196 kg)	10,400 lb (4 717 kg)	6,600 lb (2 994 kg)			28 ft 8 in (8.74 m)	6,600 lb* (2 994 kg)*	5,350 lb (2 427 kg)
-10 ft (-3 m)	22,000 lb* (9 979 kg)*	22,000 lb* (9 979 kg)*	33,100 lb* (15 014 kg)*	28,600 lb (12 973 kg)	22,350 lb* (10 138 kg)*	14,450 lb (6 554 kg)	14,800 lb (6 713 kg)	9,300 lb (4 218 kg)	10,550 lb (4 785 kg)	6,750 lb (3 062 kg)			25 ft 11 in (7.90 m)	8,350 lb* (3 787 kg)*	6,350 lb (2 880 kg)
-15 ft (-4.5 m)	31,100 lb* (14 107 kg)*	31,100 lb* (14 107 kg)*	28,700 lb (13 018 kg)	28,600 lb (12 973 kg)	19,750 lb* (8 958 kg)*	14,850 lb (6 736 kg)	14,000 lb* (6 350 kg)*	9,800 lb* (4 445 kg)*					21 ft 7 in (6.58 m)	11,700 lb* (5 307 kg)*	8,500 lb (3 856 kg)

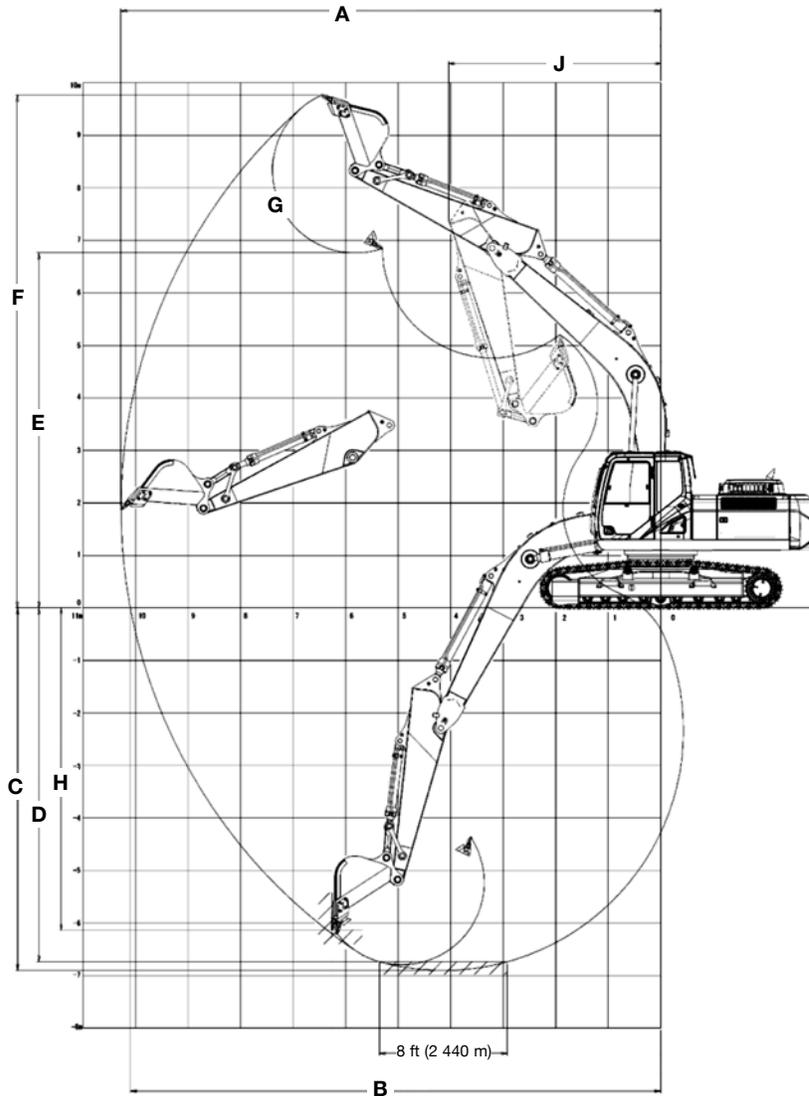
NOTE: \*Lift capacities do not exceed 75% of the minimum tipping load or 87% of the hydraulic lift capacity.  
Capacities that are marked with an asterisk are hydraulic limited.



## DIMENSIONS

	9 ft 8 in (2.94 m) Arm	7 ft 10 in (2.40 m) Arm
<b>A.</b> Overall height – with attachment	9 ft 10 in (3 000 mm)	10 ft 6 in (3 200 mm)
<b>B.</b> Cab height	9 ft 10 in (2 990 mm)	9 ft 10 in (2 990 mm)
<b>C.</b> Overall length – with attachment	30 ft 9 in (9 380 mm)	31 ft 0 in (9 460 mm)
<b>D.</b> Overall length – without attachment	16 ft 3 in (4 960 mm)	16 ft 3 in (4 960 mm)
<b>E.</b> Width of upper structure	9 ft 1 in (2 770 mm)	9 ft 1 in (2 770 mm)
<b>F.</b> Track overall length	14 ft 8 in (4 470 mm)	14 ft 8 in (4 470 mm)
<b>G.</b> Track overall width with 23.6 in (600 mm) shoes	10 ft 6 in (3 190 mm)	10 ft 6 in (3 190 mm)
<b>H.</b> Track shoe width	2 ft 7 in (800 mm)	2 ft 7 in (800 mm)
<b>J.</b> Center to center – idler to sprocket	12 ft 0 in (3 660 mm)	12 ft 0 in (3 660 mm)
<b>K.</b> Upper structure ground clearance	3 ft 5 in (1 040 mm)	3 ft 5 in (1 040 mm)
<b>L.</b> Minimum ground clearance	1 ft 5 in (440 mm)	1 ft 5 in (440 mm)
<b>M.</b> Rear tail swing radius	9 ft 0 in (2 750 mm)	9 ft 0 in (2 750 mm)
Operating weight*	47,437 lb (21 517 kg)	47,377 lb (21 490 kg)
Ground pressure	4.9 psi (0.34 bar)	4.9 psi (0.34 bar)

NOTE: \*With 31.5 in (800 mm) track shoe, 1,450 lb (657 kg) bucket, 165 lb (75 kg) operator, full fuel and standard equipment.



## PERFORMANCE SPECS

	9 ft 8 in (2.94 m) Arm	7 ft 10 in (2.40 m) Arm
<b>A.</b> Maximum dig radius	32 ft 6 in (9 900 mm)	30 ft 11 in (9 420 mm)
<b>B.</b> Dig radius at groundline	31 ft 11 in (9 730 mm)	30 ft 4 in (9 240 mm)
<b>C.</b> Maximum dig depth	21 ft 10 in (6 650 mm)	20 ft 1 in (6 110 mm)
<b>D.</b> Dig depth – 8 ft 0 in (2.44 m) level bottom	21 ft 3 in (6 470 mm)	19 ft 4 in (5 900 mm)
<b>E.</b> Dump height	22 ft 4 in (6 810 mm)	21 ft 7 in (6 590 mm)
<b>F.</b> Maximum reach height	31 ft 6 in (9 610 mm)	30 ft 10 in (9 390 mm)
<b>G.</b> Bucket rotation	177°	177°
<b>H.</b> Maximum vertical wall dig depth	19 ft 7 in (5 960 mm)	18 ft 0 in (5 480 mm)
<b>J.</b> Minimum swing radius	12 ft 6 in (3 800 mm)	11 ft 10 in (3 600 mm)
Arm digging force:		
Standard	23,155 lb (103 kN)	27,652 lb (123 kN)
Power Boost	24,729 lb (110 kN)	29,675 lb (132 kN)
Bucket digging force:		
Standard	31,923 lb (142 kN)	31,923 lb (142 kN)
Power Boost	34,171 lb (152 kN)	34,171 lb (152 kN)

## STANDARD EQUIPMENT

### ENGINE

Isuzu four-cylinder turbo-charged diesel  
Tier 4 Interim Certified (CEGR)  
Electronic fuel injection  
High pressure common rail system  
Diesel Particulate Defuser system (DPD)  
Neutral safety start  
Auto-engine warm up  
Glow-plug pre-heat  
EPF (Engine Protection Feature)  
Dual-stage fuel filtration  
Dual element air filter  
Remote oil filter  
Green plug oil drain  
500-hour engine oil change interval  
24-volt system  
Requires CJ-4 engine oil  
Requires ultra low-sulfur fuel

### FUEL ECONOMY SYSTEMS

Engine Idle/Fuel Economy System:  
Auto-idle  
One-touch idle  
Idle shut-down  
BEC—Boom Economy Control  
AEC—Auto Economy Control  
SWC—Swing Relief Control  
SSC—Spool Stroke Control

### HYDRAULICS

Auto power boost  
Auto swing priority  
Auto travel speed change  
Selectable work modes  
ISO pattern controls

### HYDRAULICS (CONTINUED)

Pre-set auxiliary pump settings  
Auxiliary valve  
5,000-hour hydraulic oil change interval  
1,000-hour hydraulic filter change interval  
SAHR brake

### UPPER STRUCTURE

Right and left side mirrors  
Isolation mounted cab (fluid and spring)  
Common key vandal locks  
Upper mounted work light (70 W)  
Swivel guard belly pan

### ATTACHMENTS

Boom—18 ft 8 in (5.7 m)  
Arm—9 ft 8 in (2.94 m)  
Heavy-duty bucket linkage  
Boom mounted work light (70 W)  
Auxiliary pipe brackets  
Centralized grease fittings  
Attachment cushion valve  
Arm and boom regeneration

### OPERATOR ENVIRONMENT

ROPS protection  
FOPS cab top guard (Level 1)  
Pressurized cab  
One-touch lock front window  
AC/heat/defrost w/ auto climate control  
Color monitor—7 in (180 mm)  
Interior dome light  
Air-suspension seat (cloth)  
Seat belt—3 in (76 mm)  
Adjustable armrests

### OPERATOR ENVIRONMENT (CONTINUED)

Tilting consoles—4-position  
Low-effort joystick controls  
Sliding cockpit—7 in (180 mm)  
Controls pre-wired for auxiliary  
Straight travel  
AM/FM radio w/ antenna and 2 speakers  
Aux-in port for personal electronics  
Rear-view camera  
Anti-theft system (start code system)  
Rubber floor mat  
12-volt electric outlet  
24-volt cigarette lighter  
External rearview mirrors  
Cab mounted work lights (2 x 70 W)  
Windshield wiper/washer  
Clear (polycarbonate) roof window w/ sunshade  
Cup holder  
Storage compartments  
Warm/cool storage compartment  
On-board diagnostic system  
Travel alarm with cancel switch  
One key start and lock-up

### UNDERCARRIAGE

31.5 in (800 mm) steel shoes, triple semi-grouser  
Full overlap turntable bearing tub  
Single track chain guides  
Hydraulic track adjustment  
X-pattern carbody

### TELEMATICS

CASE SiteWatch™ Telematics – includes hardware and a 3-yr Advanced data subscription

## OPTIONAL EQUIPMENT

### HYDRAULICS

Auxiliary hydraulics:  
Single acting/joystick activated  
Double acting/joystick activated  
Multi-function/joystick activated  
Secondary low-flow/joystick activated

### ATTACHMENTS

Arm—7 ft 10 in (2.4 m)  
Coupler/Case multi-pin grabber  
Buckets: Heavy-duty/Extreme-duty/Ditching  
Load holding control  
Free swing (order kit through Service Parts)  
Hose Burst Check Valve (HBCV)

### OPERATOR ENVIRONMENT

Control pattern selector  
FOPS cab top guard (Level 2)  
Front grill guard—2 x 2 screen mesh  
Front rock guard—vertical bars (two piece)/OPG 1  
Front rock guard—vertical bars (fixed/one piece)/OPG 2  
Vandal guard  
Rain deflector  
Sun visor  
Side-view camera

### UPPER STRUCTURE

Refueling pump  
Rubber bumper guard  
(Order through Service Parts)  
High ambient temperature cooling package

### UNDERCARRIAGE

27.6 in (700 mm) steel shoes, triple semi-grouser  
23.6 in (600 mm) steel shoes, triple semi-grouser  
23.6 in (600 mm) rubber shoes  
Track chain guides—triple

## BUCKETS

Application	Width	SAE Heaped Capacity
General Purpose	24 in to 48 in (0.61 m to 1.22 m)	0.65 yd <sup>3</sup> to 1.53 yd <sup>3</sup> (0.50 m <sup>3</sup> to 1.17 m <sup>3</sup> )
Heavy-duty	24 in to 48 in (0.61 m to 1.22 m)	0.64 yd <sup>3</sup> to 1.51 yd <sup>3</sup> (0.49 m <sup>3</sup> to 1.15 m <sup>3</sup> )
Extreme-duty	24 in to 42 in (0.61 m to 1.07 m)	0.58 yd <sup>3</sup> to 1.19 yd <sup>3</sup> (0.44 m <sup>3</sup> to 0.91 m <sup>3</sup> )
Heavy-duty Coupler	24 in to 39 in (0.61 m to 0.99 m)	0.55 yd <sup>3</sup> to 1.03 yd <sup>3</sup> (0.42 m <sup>3</sup> to 0.79 m <sup>3</sup> )
Ditching	60 in to 66 in (1.52 m to 1.68 m)	1.08 yd <sup>3</sup> to 1.20 yd <sup>3</sup> (0.83 m <sup>3</sup> to 0.92 m <sup>3</sup> )

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

NOTE: All engines meet current EPA emissions requirements.

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