



KUBOTA UNIVERSITY

Detailed Specifications

BX80 Series

BX23S





BX23S DETAILED SPECIFICATIONS

ENGINE			
Make and Model	Kubota D902		
Type	Liquid cooled, 4-cycle diesel		
Number of Cylinders	3		
Bore and Stroke	2.83 x 2.90 in. (72 x 73.6 mm)		
Total Displacement	54.8 cu.in. (898 cm ³)		
Engine hp, gross* ¹	21.6 HP @ 3200 RPM		
PTO hp	17.7 hp @ 3200 rpm		
Maximum torque	41.4 lbf-ft (56.1 Nm)		
Low idling revolution	1350 to 1550 rpm		
Battery	12 V, CCA: 560 A, RC: 86 min.		
Fuel	Diesel fuel No. 1 [below 14° F] Diesel fuel No. 2 [above 14° F]		
Governor	Mechanical control		
Injection pump	Direct injection		
Fuel filter system	1-Spin on type fuel filter with water separator with manual drain cock		
Oil filter	Sheet net and replaceable treated paper element, spin on oil filter		
Exhaust	Underhood exhaust system, forward exhaust		
Engine Compartment	Fully enclosed and screened engine compartment with easy access hood		
Fuel Shutoff	Electric activated engine stop mechanism		
Throttle	Hand operated throttle		
COOLING SYSTEM			
Radiator	Water with pressurized radiator, reverse air-flow design		
Water pump	Centrifugal		
CAPACITIES			
Fuel Tank	6.6 U.S. gals.		
Engine crankcase (with filter)	3.4 U.S. qts.		
Engine Coolant	3.3 U.S. qts.		
Recovery Tank	0.4 U.S. qts.		
Transmission case	2.98 U.S. gals.		
PTO			
Rear PTO	Shaft	SAE 1-3/8, 6 splines	
	Revolution	STD 540 rpm	
Mid PTO		USA No. 5 (Kubota 10-tooth) involute spline	
	Revolution	STD 2500 rpm	
DRIVE TRAIN			
Front Axle		4WD: Bevel gear front axle, non-adjustable tread spacing	
	4WD Drive Shaft	Fully Enclosed, Spline Shaft Power Transfer	
Clutch	Dry type single plate - Main clutch 9.45"		
HST		Hydrostatic transmission	
	Speeds	2 Range (Low-High)	
	Control Type	Mechanical control	
	Foot Control	Single pedal, Toe/Heel or Toe/Toe forward/reverse operaton	
	Throttle	Hand operated throttle	
Creep Speed	N/A		
Cruise Control	Mechanical lever, infinite speed control (optional for BX1880)		
Steering	Integral power steering		
Differential Lock	Rear differential lock standard		
Brakes	Mechanical, wet disc type		
HYDRAULIC SYSTEM			
Type	Open center tandem pump gear type		
Hydraulic pump output	5.2 gpm		
Power steering pump output	1.0 gpm		
Total hydraulic flow	6.2 gpm		
Remote control valve coupler (rear: Optional)	System	2 valves	
	Coupler	ISO 7241-1 series A	
Remote control valve coupler (front: Optional)	System	2 valves	
	Coupler	ISO 7241-1 series B	

*1 SAE J1995



Detailed Specifications

THREE-POINT HITCH			
Category	SAE Category 1		
Control Method	Quarter-inching valve		
Draft Control	N/A		
Lift Arms	Rigid lower link ends		
Right link adjustment	Turn Buckle		
Lift Capacity @ Lift Points	1,213 lbs.		
24" Behind Lift Points	680 lbs.		
DRAWBAR			
Tongue weight	Maximum tongue weight 550 lb.		
Type	Fixed		
ELECTRICAL			
System	Deluxe dash with analog tachometer, temperature gauge, fuel gauge and LCD hour and error message display		
Battery	12 volt battery 560 CCA		
Alternator	40 Amps.		
Engine Shutoff	Electric key shutoff		
Cold temperature starting aid	Glow plugs (Block heater - optional)		
Lights	Fender mounted 4-way flashers for hazard and turn signal		
	Two headlights		
	Two tail lights		
SAFETY EQUIPMENT			
ROPS	Factory certified two post foldable ROPS with retractable seat belt		
Cab	N/A		
Safety start switches	PTO / HST Range (HST) Neutral Switches		
OPC	Operator presence control system, engine shutoff type		
Parking brakes	Single brake pedal, and depress pedal and latch with the parking brake lock pedal		
SMV sign	Slow moving vehicle sign		
Paint	High visibility paint		
DIMENSIONS			
Height to top of ROPS	86.2 in.		
Overall Length	87.0 in. w/o 3-Pt., w/ Front guard		
	99.0 in. w/3-Pt., w/ Front guard		
Overall width (min. tread)	45.1 in.		
Wheelbase	55.1 in.		
Ground Clearance	5.83 in.		
Tread Width	Front	36.6 in.	
	Rear	32.2 in.	
Turning Radius	7.5 feet		
Base Weight	1,455 lbs.		
TOW RATING			
Maximum	1,765 lbs.		
Max. drawbar load @ hitch	550 lbs.		
WHEELS AND TIRES			
Front Turf/Bar/Industrial	18x8.50-10		
Rear Turf/Bar/Industrial	26x12.00-12		
TRAVEL SPEEDS			
HST Model	FORWARD		REVERSE
	Low	Standard	Standard
		0 mph to 4.0 mph	0 mph to 3.1 mph
High	0 mph to 8.4 mph	0 mph to 6.5 mph	
OTHER			
Instruction Identification	Permanently installed English instructions, diagrams, and warning decals, where required by law, to ensure operaton and servicing with maximum safety.		
Product Suppoer	Parts and Service Manuals Available		
Warranty	General: 24 Months or 1500 Hours		

IMPLEMENTS AND ATTACHMENTS**Front Loader****LA340S**

Standard with 2-Lever Quick Coupler and 48" bucket

Grille Guard

No tools required to attach and detach loader

Loader valve

LA340

Grille Guard

No tools required to attach and detach loader

Loader valve

48" Pin-on Bucket

Loader Options

BX2414 Bolt On Cutting Edge

BX2412 3rd Function Valve

BX2415 2-Lever Quick Coupler Pallet Fork Frame

B2672 60" Quick Attach Straight Blade w/Manual Angulation

K9184 32" Pallet Forks

BX2411 Bucket Rod Indicator

Backhoe**BT603****Optional Attachments**

BT2930A 8" Bucket

BT2931A 12" Bucket

BT2416 16" Bucket

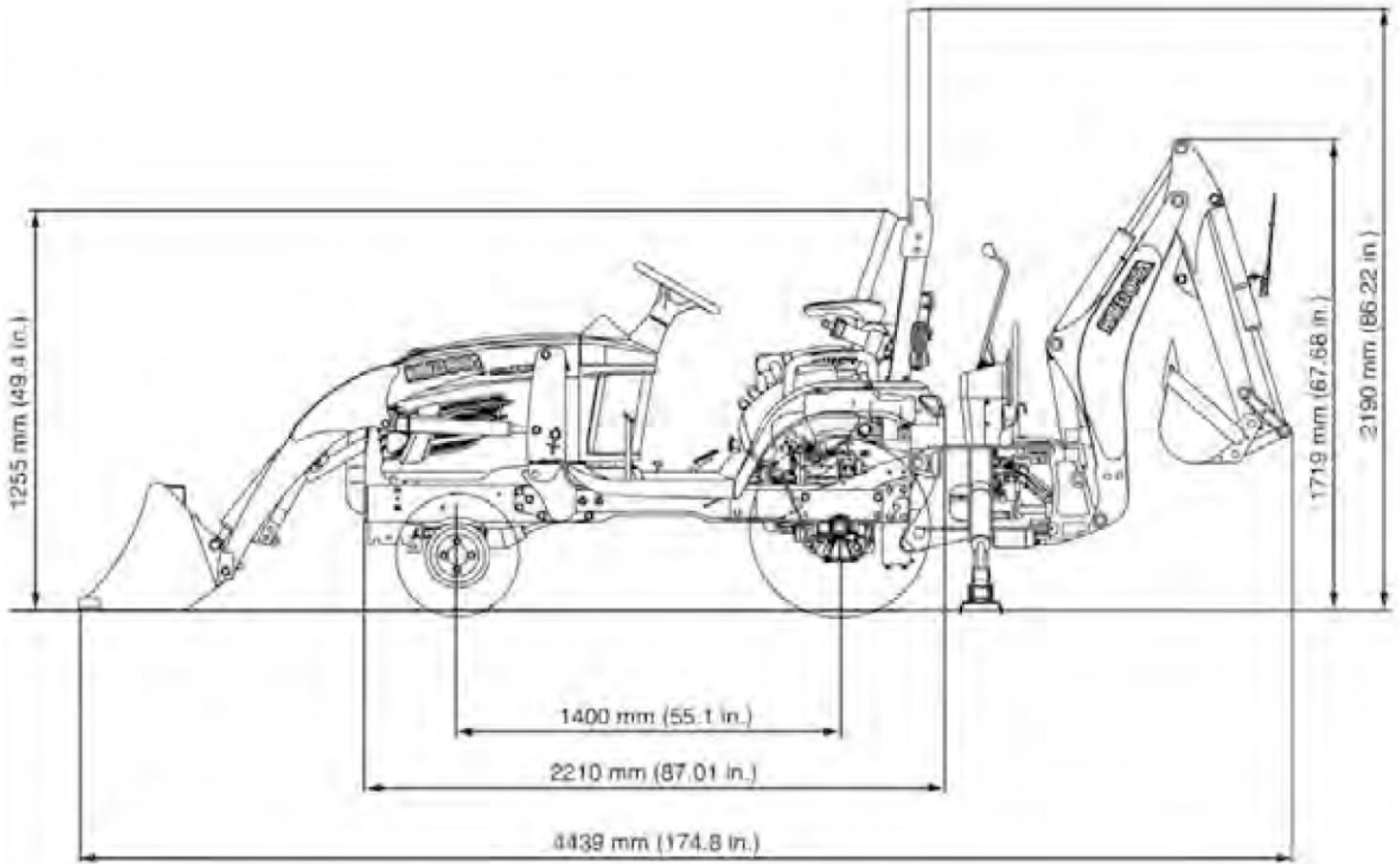
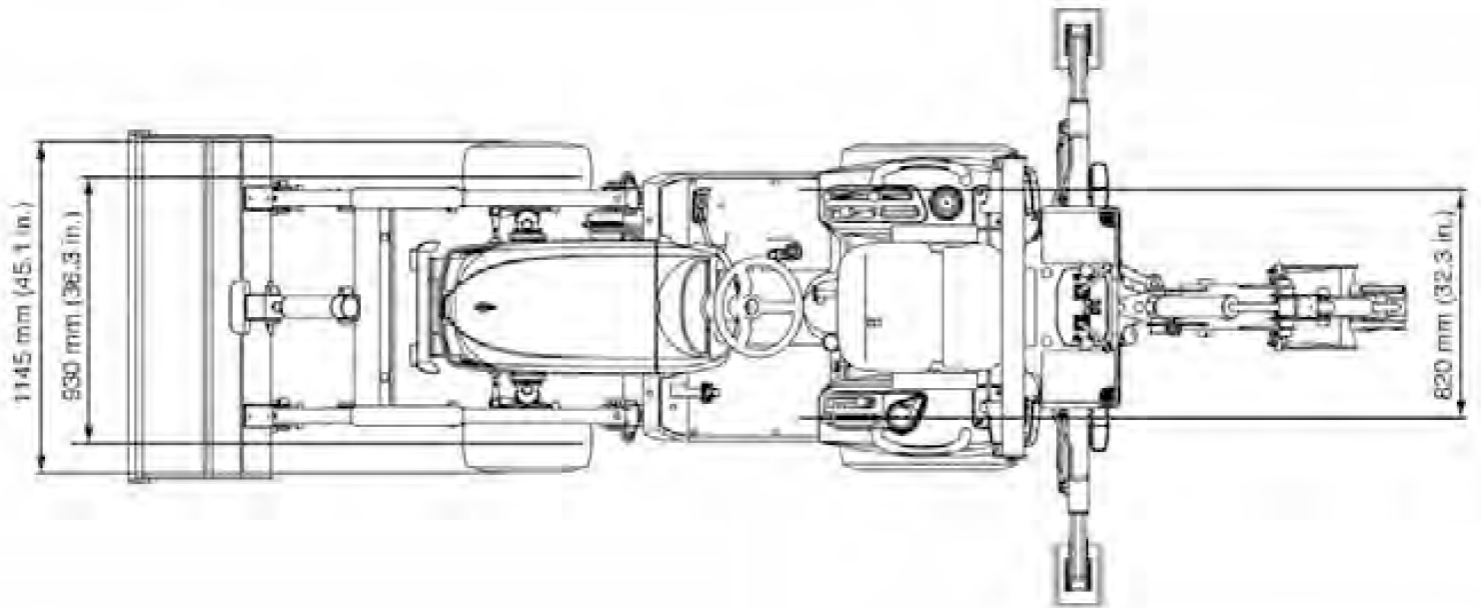
BX9468 Rubber Flip Pads & Street Shoes

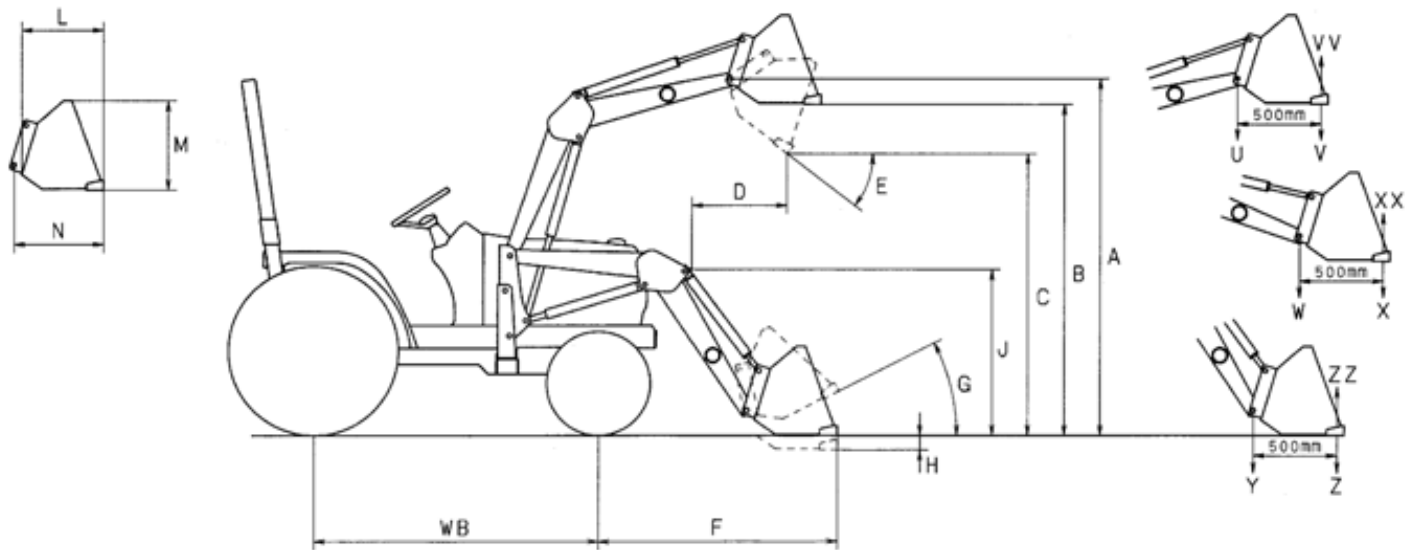
BH6316 Mechanical Thumb

Rear Mounted Implements

BL2789 51" 3-Point Rear Snowblower

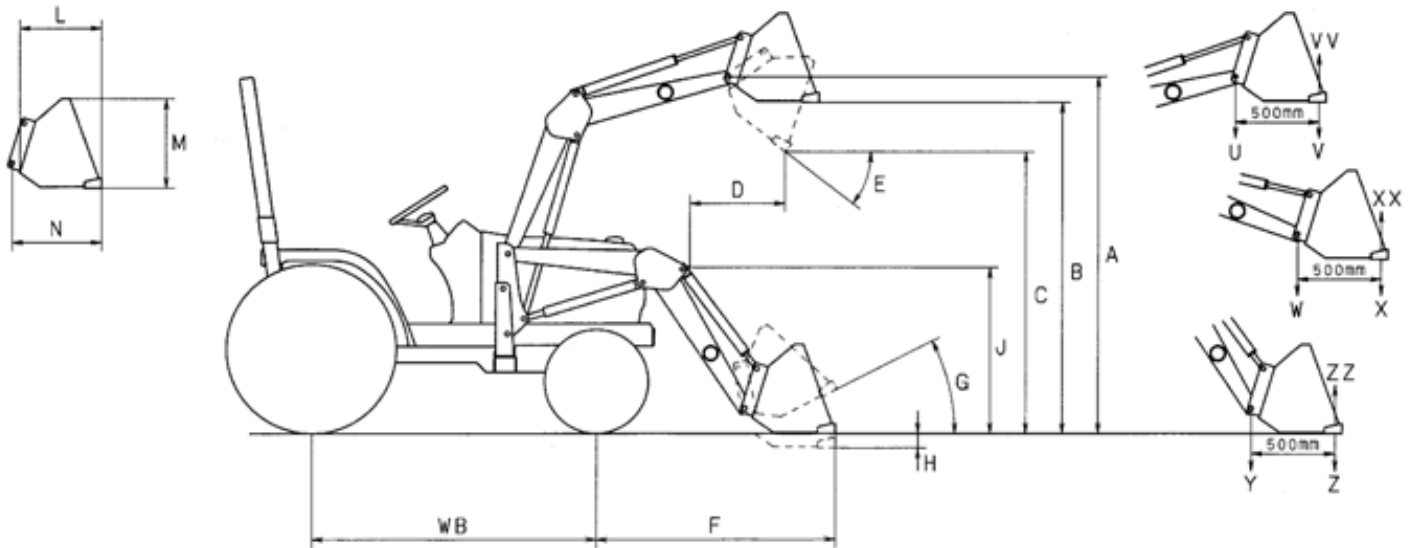
B8160 Ballast Box





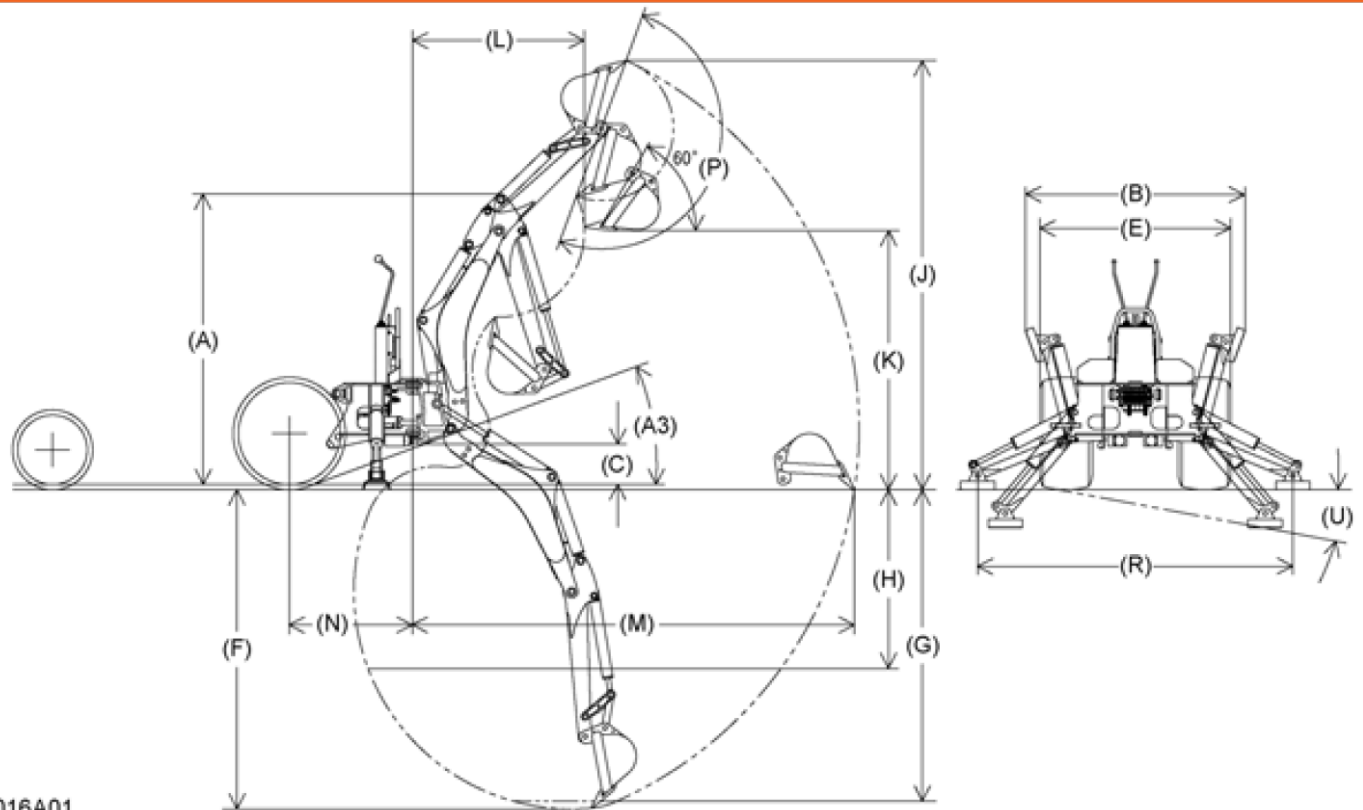
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Loader model		LA340	LA340S
Tractor model		BX23S	
A	Max. lift height (to bucket pivot pin)	1804 mm (71.02 in.)	
B	Max. lift height under level bucket	1662 mm (65.43 in.)	1664 mm (65.51 in.)
C	Clearance with bucket dumped	1323 mm (52.09 in.)	1288 mm (50.71 in.)
D	Reach at max. lift height (Dumping reach)	646 mm (25.4 in.)	677 mm (26.7 in.)
E	Max. dump angle	0.785 rad (45°)	
F	Reach with bucket on ground	1392 mm (54.80 in.)	1438 mm (56.61 in.)
G	Bucket roll-back angle	0.51 rad (29°)	
H	Digging depth	125 mm (4.92 in.)	122 mm (4.80 in.)
J	Overall height in carrying position	990 mm (39.0 in.)	



1JDJD00009A01

Loader model		LA340	LA340S
Tractor model		BX23S	
U	Lift capacity (Bucket pivot pin, max. height)	335 kg (739 lbs)	278 kg (613 lbs)
V	Lift capacity (500 mm forward, max. height)	231 kg (509 lbs)	192 kg (423 lbs)
W	Lift capacity (Bucket pivot pin, 1500 mm height)	372 kg (820 lbs)	317 kg (699 lbs)
X	Lift capacity (500 mm forward, 1500 mm height)	268 kg (591 lbs)	229 kg (505 lbs)
Y	Breakout force (Bucket pivot pin)	6258 N (1407 lbs)	5719 N (1286 lbs)
Z	Breakout force (500 mm forward)	4389 N (986.7 lbs)	4008 N (901.0 lbs)
VV	Bucket roll-back force at max. height	4731 N (1064 lbs)	4431 N (996.1 lbs)
XX	Bucket roll-back force at 1500 mm height	5557 N (1249 lbs)	5264 N (1183 lbs)
ZZ	Bucket roll-back force at ground level	5456 N (1227 lbs)	5195 N (1168 lbs)
Raising time		3.3 s	
Lowering time		2.5 s	
Bucket dumping time		2.7 s	
Bucket rollback time		2.3 s	



1PSQW00016A01

Model		BT603
(A)	Transport height	1719 mm (67.68 in.)
(B)	Stabilizer spread-transport	1296 mm (51.02 in.)
(C)	Ground clearance	240 mm (9.45 in.)
(E)	Overall width	1128 mm (44.41 in.)
(F)	Maximum digging depth	1889 mm (74.37 in.)
(G)	Digging depth, 2 ft. flat bottom	1842 mm (72.52 in.)
(H)	Digging depth, 8 ft. flat bottom	1059 mm (41.69 in.)
(J)	Operating height, fully raised	2539 mm (99.96 in.)
(K)	Loading height	1533 mm (60.35 in.)
(L)	Loading reach	1016 mm (40.00 in.)
(M)	Reach from swing pivot	2612 mm (102.8 in.)
(N)	Swing pivot to rear axle center line	726 mm (28.6 in.)
(P)	Bucket rotation	3.14 rad (180°)
(R)	Stabilizer spread-operating	1862 mm (73.31 in.)
(A3)	Angle of departure per SAE J1234	0.351 rad (20.1°)
(U)	Leveling angle	0.19 rad (11°)
Swing arc		2.44 rad (140°)

NOTE

- The specifications are taken with KUBOTA BX23S tractor. (Tire size: Front 18×8.5-10, Rear 26×12.00-12)



Digging force (Per SAE J49)

With bucket cylinder	8610 N (1936 lbs)
With dipperstick cylinder	5209 N (1171 lbs)

Cycle time (Seconds)

Boom cylinder, extend	4.5 s
Boom cylinder, retract	3.7 s
Swing cylinder, from 90 degrees to center	1.5 s
Dipperstick cylinder, extend	4.1 s
Dipperstick cylinder, retract	3.4 s
Bucket cylinder, extend	3.1 s
Bucket cylinder, retract	2.4 s
Stabilizer cylinder, max. height to ground	2.9 s
Stabilizer cylinder, ground to max. height	2.3 s

Hydraulic cylinders

	Boom	Dipperstick	Bucket	Stabilizer	Swing
Rod diameter	3.0 cm (1.2 in.)	2.5 cm (0.98 in.)	2.5 cm (0.98 in.)	2.5 cm (0.98 in.)	3.0 cm (1.2 in.)
Cylinder bore	6.5 cm (2.6 in.)	6.0 cm (2.4 in.)	5.0 cm (2.0 in.)	6.0 cm (2.4 in.)	6.0 cm (2.4 in.)

Bucket sizes

	Width	SAE truck capacity	SAE heaped capacity	Number of teeth	Weight
Trenching 8 in.	20.3 cm (7.99 in.)	0.009 m ³ (0.317 cu.ft.)	0.011 m ³ (0.388 cu.ft.)	2	10 kg (22 lbs)
Trenching 12 in.	30.5 cm (12.0 in.)	0.014 m ³ (0.494 cu.ft.)	0.020 m ³ (0.706 cu.ft.)	3	13 kg (29 lbs)
Trenching 16 in.	40.6 cm (16.0 in.)	0.020 m ³ (0.706 cu.ft.)	0.029 m ³ (1.024 cu.ft.)	3	16 kg (35 lbs)

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