

## ENGINE

Model .....	Isuzu AA-4BG1TC
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharged, intercooled
No. of cylinders .....	4
Rated power	
DIN 6271, net .....	H/P mode : 82.2 kW (111 PS) at 2 150 min <sup>-1</sup> (rpm)
P mode : 78.0 kW (106 PS) at 1 950 min <sup>-1</sup> (rpm)	
SAE J1349, net ... ..	H/P mode : 82.2 kW (110 hp) at 2 150 min <sup>-1</sup> (rpm)
P mode : 78.0 kW (105 hp) at 1 950 min <sup>-1</sup> (rpm)	
Maximum torque .....	400 N·m (40.8 kgf·m, 295 lbf·ft)
at 1 800 min <sup>-1</sup> (rpm)	
Piston Displacement .....	4.329 L (264 in <sup>3</sup> )
Bore and stroke .....	105 mm × 125 mm (4.13" × 4.92")
Batteries .....	2 × 12 V / 97 AH
Governor .....	Mechanical speed control with stepping motor

## HYDRAULIC SYSTEM

- Work mode selector  
Digging mode / Attachment mode
- Engine speed sensing system

Main pumps .....	2 variable displacement axial piston pumps
Maximum oil flow .....	2 × 138 L/min (36.5 US gpm, 30.4 Imp gpm)
Pilot pump .....	1 gear pump
Max. oil flow .....	24.2 L/min (6.4 US gpm, 5.3 Imp gpm)

### Hydraulic Motors

Travel .....	2 variable displacement axial piston motors
Swing .....	1 axial piston motor

### Relief Valve Settings

Implement circuit .....	34.3 MPa (350 kgf/cm <sup>2</sup> , 4 980 psi)
Swing circuit .....	30.4 MPa (310 kgf/cm <sup>2</sup> , 4 410 psi)
Travel circuit .....	34.3 MPa (350 kgf/cm <sup>2</sup> , 4 980 psi)
Pilot circuit .....	3.9 MPa (40 kgf/cm <sup>2</sup> , 570 psi)

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Dimensions

	Qty.	Bore	Rod diameter
Boom	2	110 mm (4.33")	80 mm (3.15")
Arm	1	120 mm (4.72")	90 mm (3.54")
Bucket	1	105 mm (4.13")	70 mm (2.76")

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

## CONTROLS

Pilot controls. Hitachi's original shockless valve and quick warm-up system built in the pilot circuit. Hydraulic warm-up control system for engine and hydraulic oil.

Implement levers .....	2
Travel levers with pedals .....	2

## UPPERSTRUCTURE

### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. Reinforce frame for resistance to deformation.

### Swing Mechanism

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed ..... 13.6 min<sup>-1</sup> (rpm)

### Operator's Cab

Independent roomy cab, 1 005 mm (40") wide by 1 675 mm (66") high, conforming to ISO\* Standards. Reinforced glass windows on 4 sides for visibility. Openable front windows (upper and lower). Adjustable, reclining seat with armrests; movable with or without control levers.

\* International Standardization Organization

## UNDERCARRIAGE

### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame welded to track frame. Lubricated track rollers, idlers, and sprockets with floating seals.

Track shoes with triple grousers made of induction-hardened rolled alloy. Flat and triangular shoes are also available. Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

### Numbers of Rollers and Shoes on Each Side

Upper rollers .....	2
Lower rollers .....	7
Track shoes .....	43
Track guard .....	1

### Traction Device

Each track driven by 2-speed axial piston motor through planetary reduction gear for counterrotation of the tracks. Sprockets are replaceable.

Parking brake is spring-set/hydraulic-released disc type. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel.

Automatic transmission system: High-Low.

Travel speeds ..... High: 0 to 5.3 km/h (3.3 mph)  
Low: 0 to 3.1 km/h (1.9 mph)

Maximum traction force ..... 142 kN (14 480 kgf, 31 900 lbf)

Gradeability ..... 35° (70%) continuous



## WEIGHTS AND GROUND PRESSURE

Equipped with 5.10 m (16'9") boom, 2.58 m (8'6") arm and 0.60 m<sup>3</sup> (0.79 yd<sup>3</sup>: SAE, PCSA heaped) bucket.

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	500 mm (20")	15 600 kg (34 400 lb)	45 kPa (0.46 kgf/cm <sup>2</sup> , 6.54 psi)
	600 mm (24")	15 900 kg (35 100 lb)	38 kPa (0.39 kgf/cm <sup>2</sup> , 5.55 psi)
	700 mm (28")	16 100 kg (35 500 lb)	33 kPa (0.34 kgf/cm <sup>2</sup> , 4.83 psi)
Flat	600 mm (24")	16 600 kg (36 600 lb)	40 kPa (0.41 kgf/cm <sup>2</sup> , 5.83 psi)

Weights of the basic machine [including 3 000 kg (6 610 lb) counterweight and triple grouser shoes, excluding front-end attachment, fuel, hydraulic oil, engine oil and coolant etc.] are:

ZAXIS160LC..... 12 100 kg (26 700 lb) with 500 mm (20") shoes

## Buckets

Capacity		Width		No. of teeth	Weight	Recommendation		
SAE, PCSA heaped	CECE heaped	Without side cutters	With side cutters			ZAXIS160LC		
						2.01 m (6'7") arm	2.58 m (8'6") arm	3.10 m (10'2") arm
0.52 m <sup>3</sup> (0.68 yd <sup>3</sup> )	0.45 m <sup>3</sup>	790 mm (27")	910 mm (3'0")	4	480 kg (1060 lb)	○	○	○
0.60 m <sup>3</sup> (0.79 yd <sup>3</sup> )	0.55 m <sup>3</sup>	925 mm (3'0")	1 045 mm (3'5")	5	530 kg (1170 lb)	○	◎ STD	*2 ◎
0.70 m <sup>3</sup> (0.92 yd <sup>3</sup> )	0.60 m <sup>3</sup>	1 005 mm (3'4")	1 125 mm (3'8")	5	550 kg (1210 lb)	○	○	*2 □
0.82 m <sup>3</sup> (1.07 yd <sup>3</sup> )	0.70 m <sup>3</sup>	1 140 mm (3'9")	1 260 mm (4'2")	5	590 kg (1300 lb)	○	□	—
*1 0.60 m <sup>3</sup> (0.79 yd <sup>3</sup> )	0.55 m <sup>3</sup>	925 mm (3'0")	1 045 mm (3'5")	5	610 kg (1340 lb)	○	○	*2 ○
*1 0.70 m <sup>3</sup> (0.92 yd <sup>3</sup> )	0.60 m <sup>3</sup>	1 000 mm (3'3")	1 120 mm (3'8")	5	635 kg (1400 lb)	○	○	*2 □
One-point ripper bucket				1		●	—	—
Slope finishing blade: Width 1 000 mm (3'3"), Length 1 700 mm (5'7")				—		◇	◇	◇
V-type bucket				3		○	◎	◎
Clamshell bucket: 0.4 m <sup>3</sup> (0.52 yd <sup>3</sup> : CECE heaped), Width 700 mm (2'4")				—	810 kg (1790 lb)	○	◎	—

\*1 Reinforced bucket

\*2 With 700 mm (28") shoe only

- Suitable for materials with density of 1 800 kg/m<sup>3</sup> (3 030 lb/yd<sup>3</sup>) or less
- Suitable for materials with density of 1 600 kg/m<sup>3</sup> (2 700 lb/yd<sup>3</sup>) or less
- Suitable for materials with density of 1 100 kg/m<sup>3</sup> (1 850 lb/yd<sup>3</sup>) or less
- Heavy-duty service
- ◇ Slope-finishing service
- Not applicable

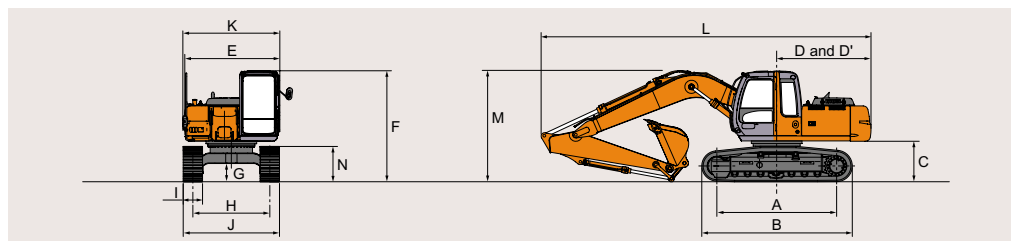
## SERVICE REFILL CAPACITIES

	liters	US gal	Imp gal
Fuel tank .....	280.0	74.0	61.6
Engine coolant .....	19.2	5.1	4.2
Engine oil .....	15.8	4.2	3.5
Swing mechanism .....	6.2	1.6	1.4
Travel final device .....	3.5	0.9	0.8
(each side)			
Hydraulic system .....	170.0	44.9	37.4
Hydraulic tank .....	100.0	26.4	22.0

## BACKHOE ATTACHMENTS

Boom and arms are of welded, box-section design. 5.10 m (16'9") boom, and 2.01 m (6'7"), 2.58 m (8'6") and 3.10 m (10'2") arms are available. Bucket is of welded steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.

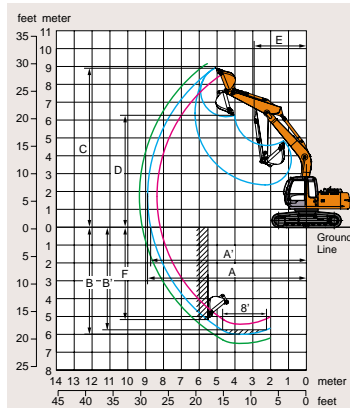
## DIMENSIONS



	ZAXIS160LC	Unit: mm (ft.in)
A Distance between tumblers	3 100 (10'2")	
B Undercarriage length	3 920 (12'10")	
*C Counterweight clearance	1 000 (3'3")	
D Rear-end swing radius	2 440 (8'0")	
D' Rear-end length	2 440 (8'0")	
E Overall width of upperstructure	2 460 (8'1")	
F Overall height of cab	2 880 (9'5")	
*G Min. ground clearance	470 (1'7")	
H Track gauge	1 990 (6'6")	
I Track shoe width	G 500 (20")	
J Undercarriage width	2 490 (8'2")	
K Overall width	2 500 (8'2")	
L Overall length		
With 2.01 m (6'7") arm	8 630 (28'4")	
With 2.58 m (8'6") arm	8 530 (28'0")	
With 3.10 m (10'2") arm	8 560 (28'1")	
M Overall height of boom		
With 2.01 m (6'7") arm	3 120 (10'3")	
With 2.58 m (8'6") arm	2 870 (9'5")	
With 3.10 m (10'2") arm	3 110 (10'2")	
N Track height	910 (3'0")	
With triple grouser shoes		

\* Excluding track shoe lug. G: Triple grouser shoe

## WORKING RANGES



	ZAXIS160LC			Unit: mm (ft.in)
Arm length	2.01 m (6'7")	2.58 m (8'6")	3.10 m (10'2")	
A Max. digging reach	8 340 (27'4")	8 870 (29'1")	9 330 (30'7")	
A' Max. digging reach (on ground)	8 160 (26'9")	8 700 (28'7")	9 160 (30'1")	
B Max. digging depth	5 410 (17'9")	5 980 (19'7")	6 490 (21'4")	
B' Max. digging depth (8' level)	5 120 (16'10")	5 740 (18'10")	6 270 (20'7")	
C Max. cutting height	8 540 (28'0")	8 880 (29'2")	9 120 (29'11")	
D Max. dumping height	5 870 (19'3")	6 170 (20'3")	6 400 (21'0")	
E Min. swing radius	3 250 (10'8")	2 910 (9'7")	2 920 (9'7")	
F Max. vertical wall	4 270 (14'0")	5 160 (16'11")	5 690 (18'8")	
Bucket digging force	102 kN (10 400 kgf, 22 930 lbf)			
	90 kN (9 180 kgf, 20 230 lbf)			
Arm crowd force	110 kN (11 300 kgf, 24 900 lbf)	82 kN (8 360 kgf, 18 430 lbf)	74 kN (7 550 kgf, 16 640 lbf)	
	106 kN (10 810 kgf, 23 800 lbf)	79 kN (8 060 kgf, 17 760 lbf)	72 kN (7 340 kgf, 16 190 lbf)	



