

CASE

Hydraulic Excavator

Operating weight: 47 tons
Isuzu engine: 250 kW (335 hp)
Backhoe buckets: 1120 to 2580 L

CX460



C O M M I T T E D T O Y O U R N E E D S



ENGINE

Latest generation engine, meeting future European standards (Tier II “low smoke emission” regulations applicable as of January 2003).

Make	ISUZU
Type	AA-6 SD1 XQB
Turbo	Yes
Injection	electronically controlled
No. of cylinders.....	6
Bore - Stroke.....	120 x 145 mm
Cubic capacity.....	9839 cm ³
EEC 80/1269 horsepower.....	250 kW - 335 hp
Engine speed.....	1950 rpm

Automatic engine pre-heating provides for optimum and immediate operation as soon as the working temperature is reached, a guarantee of longer life for the engine and the hydraulic components.

The injection pump is directly, electronically controlled by a special calculator which takes the hydraulic system load parameters into account. Regulation is quicker and more efficient than on conventional systems, reducing smoke and noise emissions and also significantly reducing fuel consumption.



HYDRAULIC SYSTEM

Linked to the electronic engine power management system, a second electronic system manages all the hydraulic parameters so as to obtain the highest possible available hydraulic power, under optimum conditions of efficiency and economy.

The system consists of two axial piston, variable flow pumps.

Max output	2 x 360 l/min
Max safety valve pressure	
Attachment / Power Boost	314/ 343 bar
Upperstructure swing	294 bar
Travel.....	343 bar

CONTROL VALVES

4 sections for: LH travel, boom, bucket, and dipper acceleration

5 sections for: RH travel, swing, dipper, auxiliary circuit and boom acceleration.

SWING

Axial piston, fixed flow motor

Max upperstructure swing speed 9 rpm

Hydraulic system gives priority to the swing when operated simultaneously with the dipper.

Hydrostatic swing brake backed up by a mechanical brake during swing stopping and when machine is being transported. Hydrostatic upperstructure braking during working phases, with an “anti-bounce” valve stopping neatly and accurately over a truck body or trench.

Backhoe clamshell circuit operated by means of a manual control on the dipper.

Auxiliary circuit

Using the auxiliary section available as standard, a maximum number of different tools and assemblies can be used, to suit customer requirements (See options).

FILTRATION

Exceptionally fine protection of all hydraulic system components by means of the “**ULTRA CLEAN**” system (a special filter which removes all particles over 1 micron in size, as well as all traces of water condensation).

The use of this system means the hydraulic fluid attains all its qualities for **5000 hours**, thus reducing servicing intervals and maintenance costs. The hydraulic system is also equipped with an inlet filter, a return filter and a filter on the pilot circuit.



COOLING

Servicing of the cooling systems (engine and hydraulics) is considerably simplified due to total accessibility (hydraulic oil cooler radiator pivots).



TRAVEL

The travel circuit is equipped with two axial piston, variable flow motors.

Planetary reduction gear, automatic multi-disc brake.

Max travel speed..... 5.3 kph

Low travel speed..... 5.1 kph

Speed change is controlled from the instrument panel.

Gradeability 70 % (35°)



ELECTRICAL SYSTEM

Circuit..... 24 volts

Batteries 2 x 12 v -140 A/h

Circuit equipped with water-proof connectors

Alternator 24 v - 50 A/h



UNDERCARRIAGE

“X”-type design, strongly built undercarriage provides for quick travel over all types of work-site and better stability when working or travelling under load.

The **variable track** width facilitates transportation by reducing the width to 2.99 m (with 600 mm pads).

Perfectly protected motors and piping, a guard underneath the hydraulic swivel, high ground clearance - for easy access to the most difficult work-sites.

Spring-type track tensioning, adjustable by an easily accessible grease cylinder.

Specifications (per track set):

Upper rollers fixed track 2
 variable track 3

Lower rollers 9

Number of track pads 50

Type of shoes..... Triple grouser

Standard track pad width 600 mm

Chain guides Front and central (2)



CAB

Combining comfort, safety and ergonomics, the CX460 cab has been designed to provide the best possible working conditions in a pleasant environment, thus enabling the operator to get the very best out of his machine.

Suspended cab (6 mounting points with rubber/fluid shock absorbing mountings).

Access to the operator's compartment is facilitated by a wide door and the fact that the LH control arm can be raised completely out of the way.

Exceptional cab width (1.00 metre) providing a spacious, airy working space.

Air suspension, ergonomic seat, with multiple adjustments as standard equipment.

The windscreen can be raised and locked in the upper or lower position.

The lower portion of the windscreen can be removed and placed in a storage compartment at the rear LH side of the cab.

The windscreen wiper is mounted on the RH cab pillar. The cab floor is flush with the door sill for easy cleaning. Self-regulating air conditioning, ventilation and defrosting of the cab by adjustable outlets (windscreen, operator, rear of cab).

Radio pre-equipment with loud-speaker housings.

Double sliding window on door.

Wide foot-rest on either side of the travel pedals and levers.

Optional pedal location (hammer, offset, etc.)



COMFORT - OPERATION - SAFETY

The safety console and the control panel are located to the right of the operator.

They include:

A large back-lit LCD screen, clearly displaying messages and indicators covering the vital functions of the machine - in a choice of 14 languages.

Touch controls for work mode, travel speed, automatic mode and emergency stop are provided.

There is also a touch control to select the attachment shock absorbing function: a soft or firm mode can be selected by the operator depending on the work being done.

“Clear language text and symbol” messages, plus an audible warning, enable the operator to check that his machine is operating correctly.

ENGINE RETURN TO IDLE

The engine return to idle can be automatic or manual as required by the operator (control on RH control lever).



ANTI-THEFT PROTECTION

An anti-theft system incorporated into the machine's electronic system is standard equipment.

WORK MODES

Hydraulic power is controlled by the electronic system, which provides a continuous link between the hydraulics and the engine.

The operator has a choice of 3“**traditional**” modes, plus one “**automatic**” mode:

H mode (Heavy) uses all the machine's available power for tough jobs, providing optimum efficiency, high working speed and maximum force.

S mode (Standard) is the “traditional” working mode. It gives 90% of H mode performance (power and speed), and greater fuel economy.

L mode (Light) is the mode to be used for finishing work (sloping banks, profiles, etc), where precision is required. It's also the mode used when handling loads and travelling with loads, due to the reduced flow and the continuous availability of **Power Boost** (maximum pressure applied continuously).

For greater efficiency and maximum use of the machine's resources, certain functions have been simplified for the operator. This is the case for the **Automatic Mode**.

The **AUTO mode** on the new CX460 considerably simplifies machine operation, since it enables the

working mode to be changed automatically and continuously (without any action on the part of the operator), depending on the type of work being done. Over all the cycles performed, a real reduction in fuel consumption is found compared with continuous use in one single working mode.

AUTO POWERBOOST

To simplify the operator's work even further, enabling him to get the maximum performance from his machine, CASE uses a totally automatic powerboost. Regardless of the working mode, **AUTO POWERBOOST** on the CX460 cuts in whenever the machine encounters a difficult obstacle.

For a period of **8 seconds** the force at the dipper and bucket is increased by 8 to 10 %, totally automatically.



ATTACHMENT

For quick attachment changing, a hydraulic quick coupler is recommended. **MULTI-FIT** is the CASE hydraulic quick coupler which has a self-locking mechanical safety system (so the operator doesn't have to climb down from his cab).

This coupler can take buckets made by competing manufacturers, without modification, since it can accept varying centre distances (the clearance is automatically taken up).

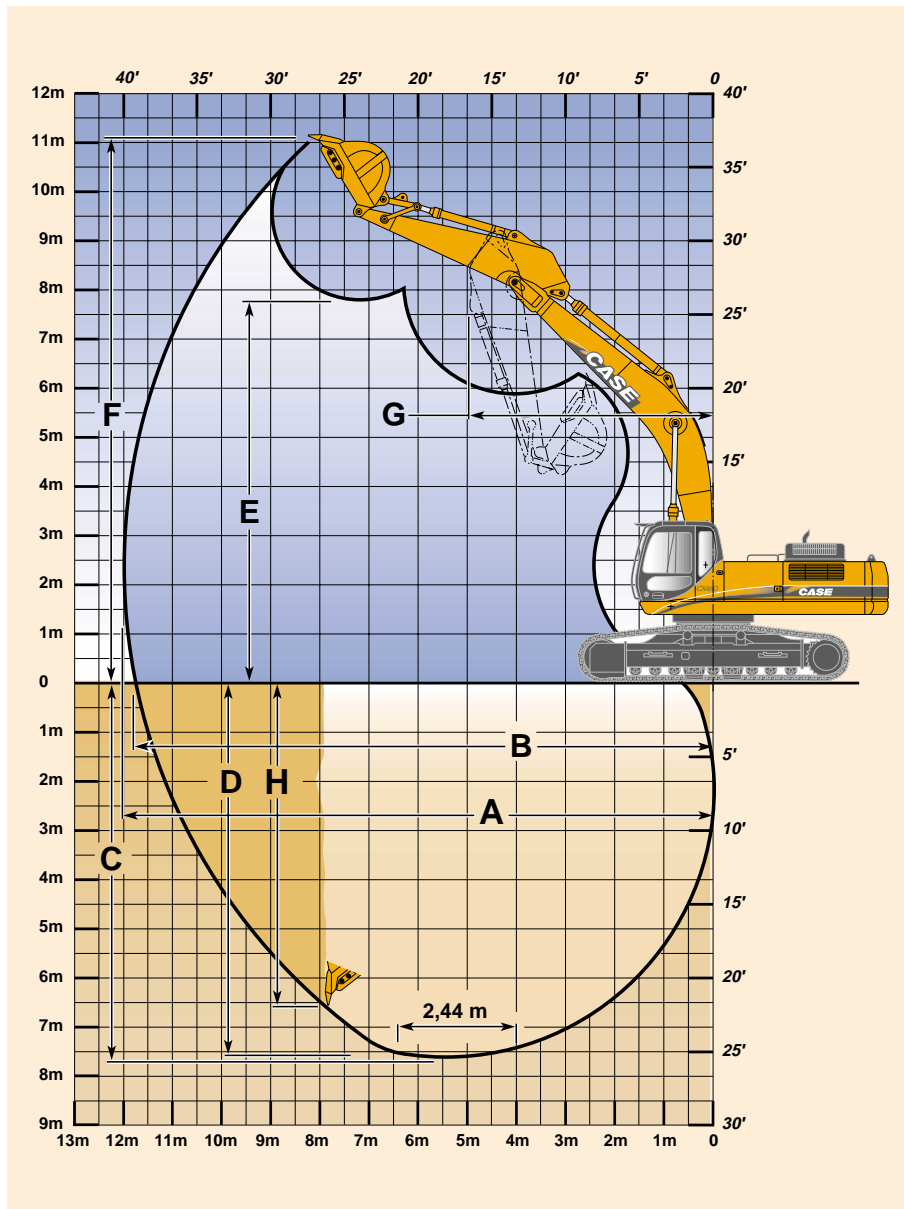



CIRCUIT AND COMPONENT CAPACITIES

Hydraulic reservoir	220 l
Hydraulic system	450 l
Travel reduction gear (per side).....	15 l
Swing reduction gear.....	10.5 l
Engine (including filter change).....	33 l
Fuel tank	611 l
Engine cooling system.....	45.5 l



PERFORMANCE DATA



With 7.00 m monobloc boom

	Dipper :	With fixed track		With variable track	
		2.55 m	3.40 m	2.55 m	3.40 m
A Maximum digging reach	m	11.25	12.00	11.25	12.00
B Maximum digging reach at ground level	m	11.00	11.75	10.95	11.75
C Maximum digging depth	m	66.85	7.70	6.70	7.55
D Digging depth - 2.44 m (8') level bottom	m	6.70	7.60	6.55	7.45
E Maxi dump height	m	7.40	7.75	7.55	7.90
F Overall reach height	m	10.80	11.15	10.95	11.30
G Minimum swing radius	m	5.15	5.00	5.15	5.00
H Vertical straight wall dig depth	m	5.65	6.55	5.50	6.40
Digging force	daN	28100	22900	28100	22900
Breakout force	daN	27000	27000	27000	27000



LIFTING CAPACITY

CX460 fixed track

With 7.00 m boom - 600 mm shoes - 2.55 m dipper and 1.8 m³ bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		9 m		maxi		Maxi reach m
	front	360°	front	360°	front	front	front	360°	front	360°	front	360°	
7.5 m													
6 m											10850*	9750	7.0
4.5 m			18400*		13700*	11800	11350*	8100			10350*	6500	8.5
3 m			22200*	16500	15550*	10800	12300*	7550	9800	5500	9250	5200	9.3
1.5 m			18300*	15250	16850*	10000	12850	7100	9550	5250	8400	4600	9.7
0			22050*	14900	17300*	9550	12500	6800	9350	5100	8350	4550	9.6
-1.5 m	16200*		22100*	14950	16800*	9400	12350	6700	9300	5050	9050	4950	9.2
-3 m	24850*		19650*	15250	15250*	9550	11800*	6750			9990*	5800	8.4
-4.5 m	19300*		15700*		12250*	990					9450*	7600	7.2
-6 m													

With 7.00 m boom - 600 mm shoes - 3.40 m dipper and 1.8 m³ bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		9 m		maxi		Maxi reach m
	front	360°	front	360°	front	front	front	360°	front	360°	front	360°	
7.5 m											8850*	7550	8.2
6 m							9600*	8600	8850*	6000	6300*	5250	9.6
4.5 m					12600*	11900	10550*	8100	9300*	5750	6550*	4550	10.0
3 m			20500*	16950	14550*	10850	11600*	7550	9750	5450	6950*	4200	10.3
1.5 m			23050*	15400	16150*	9950	12500*	7000	9400	5150	7550	4050	10.2
0			23600*	14750	16950*	9400	12300	6650	9150	4900	7700	4100	10.0
-1.5 m	17050*		22700*	14600	16800*	9150	12100	6450	9050	4800	8250	4400	9.5
-3 m	24500*		20700*	14750	15700*	9150	12100	6450			9450	5050	8.8
-4.5 m	22700*		17350*	15200	13350*	9450	9950*	6700			9600*	6500	7.7
-6 m			11800*								8650*		6.0

CX460 variable track

With 7.00 m boom - 600 mm shoes - 2.55 m dipper and 1.8 m³ bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		9 m		maxi		Maxi reach m
	front	360°	front	360°	front	front	front	360°	front	360°	front	360°	
7.5 m													
6 m											10800*	10050	7.2
4.5 m			18850*		13900*	12800	11400*	8800			10300*	6950	8.6
3 m			22500*	18050	15750*	11750	12400*	8300	10150	6100	9500*	5650	9.4
1.5 m			18350*	16900	16950*	11000	13150*	7850	9900	5850	8700	5100	9.7
0			22750*	16600	17300*	10600	12950	7550	9700	5700	8750	5100	9.6
-1.5 m	17150*		21900*	16700	16700*	10500	12850	7450	9700	5650	9550	5600	9.1
-3 m	24400*		19300*	17050	15050*	10600	11600*	7550			9900*	6600	8.3
-4.5 m	18600*		15200*		11850*	11050					9350*	8750	7.0
-6 m													

With 7.00 m boom - 600 mm shoes - 3.40 m dipper and 1.8 m³ bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		9 m		maxi		Maxi reach m
	front	360°	front	360°	front	front	front	360°	front	360°	front	360°	
7.5 m											8800*	7850	8.4
6 m							9650*	9350	8900*	6600	6350*	5700	9.6
4.5 m	27550*		16900*		12800*		10650*	8850	9350*	6350	6550*	5050	10.1
3 m			20850*	18550	14750*	11850	11700*	8250	9900*	6000	7050*	4650	10.3
1.5 m			23200*	17050	16300*	10950	12600*	7750	9750	5700	7750*	4550	10.2
0			23550*	16450	16950*	10400	12750	7350	9500	5500	8050	4600	10.0
-1.5 m	17750*		22550*	16350	16750*	10200	12550	7200	9400	5400	8700	5000	9.5
-3 m	25300*		20400*	16550	15550*	10250	12000*	7200			9650*	5800	8.7
-4.5 m	22050*		16900*		13000*	10550	9600*	7500			9550*	7450	7.5
-6 m			11000*								8450*		5.8

- Machine in «LIGHT» mode - Lift capacities are taken in accordance with SAE J 1097 / ISO 10567 / DIN 15019-2. - Lift capacities shown in kg do not exceed 75% of the tipping load or 87% of the hydraulic lift capacity. - Capacities that are marked with an asterisk are hydraulic limit. - If the machine is equipped with a quick coupler, subtract the weight of the quick coupler from the load shown in the tables to calculate the real lifting capacity.

STANDARD EQUIPMENT

Hydraulic control

- 4 working modes (3 manual + 1 auto)
- 2 travel speeds with automatic speed change
- Swing brake control
- Load-holding valves on boom and dipper
- Power control - automatic powerboost
- Hydraulic control lever locking, lever position adjustment
- Auxiliary circuit control valve section
- High performance "Ultra Clean" filtration system (1 µ)

Engine control

- Engine to Tier II standard
- Calculator on injection pump
- Automatic / manual engine return to idle
- Fuel level check
- Emergency stop
- Automatic engine pre-heating

System Monitor, with 14 language display

- Messages (Function, safety, etc.)
- Working modes (H-S-L and auto)
- Operating modes (Travel mode, swing locking, etc.)
- Audible warning device
- Digital clock
- Water temperature
- Hydraulic oil temperature
- Diagnostic system

Electrical system

- Leak-proof connectors
- Double horn

Lighting

- 1 working light on the fuel tank
- 1 working light on the boom
- 1 working light on the cab

Operator environment

- Modern cab, 1 metre wide
- Safety glass
- Suspended cab (6 mounting points with rubber/fluid shock absorbing mountings)
- Windscreen with lockable opening
- "LCD" display
- Water and dust-proof membrane type touch controls
- Windscreen washer and wiper
- Adjustable heater
- Floor mat
- Sun-visor
- Rear-view mirror and safety mirrors
- Self-adjusting air conditioning
- Anti-theft device

Operator seat

- Air suspension
- Height and tilt adjustment
- Adjustable head-rest
- Adjustable seat-back angle
- Adjustable arm-rests
- Reel-type safety belt

OPTIONS

- Auxiliary hydraulic circuit
Possible options and combinations:
 - Hammer circuit with pedal control
 - 2nd auxiliary circuit for clamshell rotation, etc.
 - Dual-acting circuit (Shears type)
 - Multi-purpose circuit (Hammer or shears)
 - Multi-purpose circuit + 2nd circuit
- MULTI-FIT quick coupler

Standard and optional equipment can vary from country to country

Conforms to directive 98/37/CE



NOTE: Standard and optional attachments and equipment may vary according to requirements and regulations from country to country. The photos given may show non standard or unmentioned items. Furthermore CASE reserves its right to modify specifications of its machines without prior warning, without incurring any obligation whatsoever that might result from such modifications.



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