SUMITOMO

SH450HD-3B
SH450LHD-3B

- Engine Rated Power (Net) : 270 kW •367 PS
- Operating weight :
  - SH450HD-3B ····· 45,700~46,400 kg
  - SH450LHD-3B ····· 46,500~47,200 kg
- Bucket : ISO/SAE/PCSA Heaped : 1.8~2.0 m³

- The new engine complies with the Emission Regulations U.S. EPA Tier Ⅲ, and EU Stage ⅢA.
- The advanced low noise design complies with the upcoming EU noise regulation 2000/14/EC, STAGE Ⅱ.

MADE IN JAPAN

The world knows that Japanese design and manufacturing is the best especially for industrial products. The hydraulic excavator is not the exception when a total integration concept is required in design work involving key components, manufacturing engineering and product quality assurance in the factory.
All SUMITOMO hydraulic excavators are engineered and assembled in SUMITOMO's its one and only factory located in Chiba City, Japan, and distributed to each country in the world. This distinctive feature is unique to SUMITOMO, giving the SUMITOMO machine users total comfort and reliance on product quality.

(Note: Some of the items manufactured and sourced in other countries may be assembled in Japan.)

Engine and Hydraulics

Highest-in-class engine output 235 kW ▶ **270 kW**

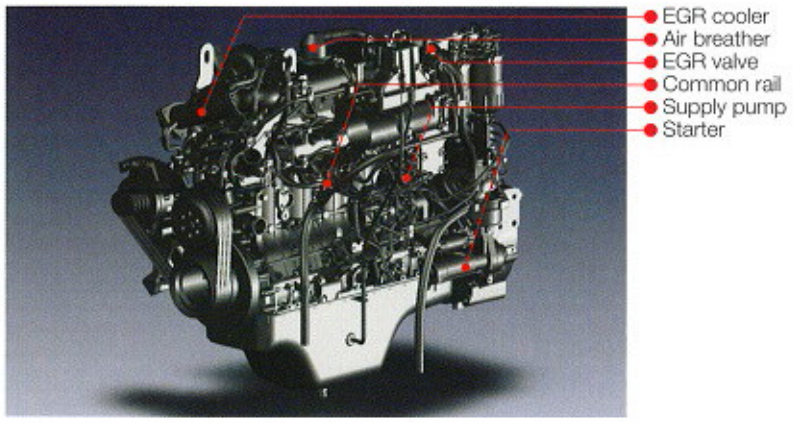
Increased digging force

- **Bucket digging force: 270 kN(27,500 kgf)**
- **Arm digging force: 281 kN(28,700 kgf)** **with 2.53m short arm/auto power up**

SPACE5 SUMITOMO Powerful And Clean Engine System

❶Powerful ❷Economy ❸Clean ❹Silent ❺Strong

"SPACE5" is a new engine system consisting of five (5) special features.



Engine

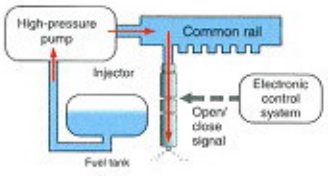
A newly developed ISUZU engine 6UZ1X complies with Emission Regulations U.S. EPA Tier Ⅲ and EU Stage ⅢA. This produces bigger output and torque, and far better fuel consumption than the previous model.
3% reduction in fuel consumption by new engine system "SPACE5"
(As compared with SH450-3)

Comparison of engines

		SH450HD(LHD)-3	SH450HD(LHD)-3B	Merit
Name of engine		ISUZU AA-6SD1XQB	ISUZU AH-6UZ1XYSS	
Type		12-valve OHC	24-valve OHC	
Displacement	cc	9,840	9,840	
Number of cylinders - Dia. x Stroke	mm	6-120 x 145	6-120 x 145	
Rated output	kW/min^{-1}	235/1,950	270/1,950	Higher output (+15%)
Max. torque	Nm/min^{-1}	1,275/1,600	1,435/1,500	Higher torque (+13%)
Size (Length-Width-Height)	mm	1379x859x1158 with Fan	1235x953x1272 without Fan	
Cylinder block		Ladder frame	Ladder frame	High rigidity/low noise
Fan belt		V-Belt	V-Belt	

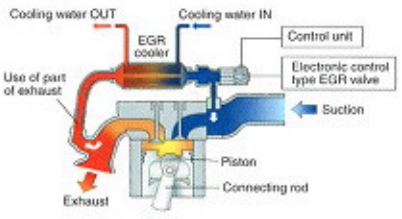
Common Rail Type High-Pressure Fuel Injection System

The system is equipped with a common rail type high-compression fuel injection system, which permits high-precision injection from multiple injection under ultra high-pressure of more than 1600 atm. Precise control of injection time and injection quality at that rate of 1/1000 second optimizes combustion, improves combustion efficiency, and reduces PM (particulate matter) substantially.



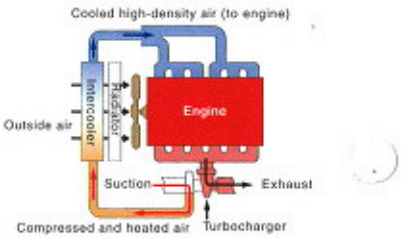
Cooled EGR System

The EGR (Exhaust Gas Recirculation) mixes the gas, which is once exhausted, with the air that is taken in so as to lower the combustion temperature, thereby reducing NOx (nitrogen oxide). Adoption of the cooled EGR system, in which a water-cooling cooler is installed in the middle of the re-circulation pipe, permits further decrease in the suction temperature, ensuring a better NOx reduction effect than the ordinary EGR.

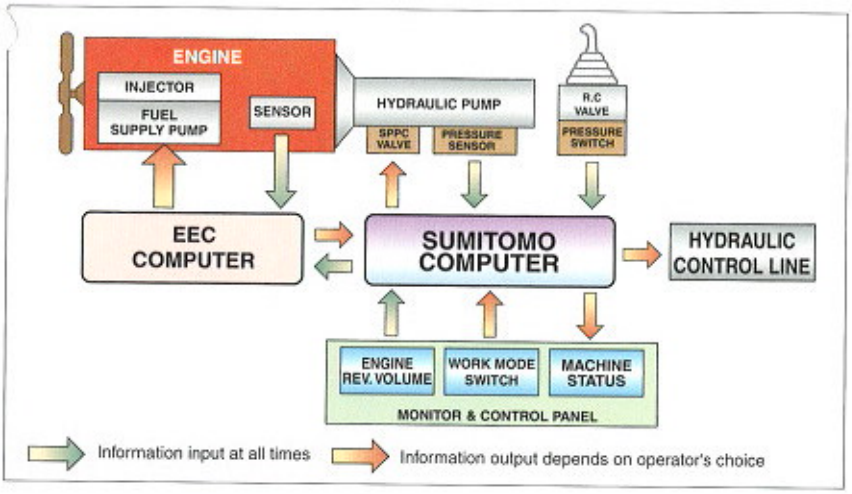


24 valve OHC Turbo Engine with Inter-Cooler

When the inter-cooler cools the intake air, which is compressed by a turbocharger and has reached a high temperature, the density of the air increases and the suction efficiency increases. Therefore, NOx and PM can be reduced substantially, permitting high output and improvement of fuel efficiency simultaneously.

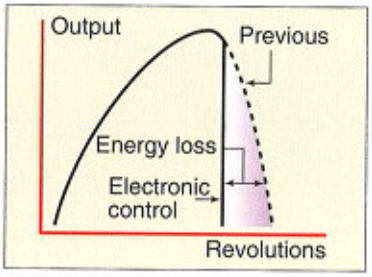


Advanced Hydraulic System



Advantages of EEC

Maintaining engine revolution at a fixed rate regardless of the load prevents the energy loss that occurs when shifting cycle times to accommodate higher or lower loads.



Automatic Power Boost

SUMITOMO unique design

The 3B series can quickly respond to changes in operating conditions, automatically supplying a power increase, without operator interaction and regardless of the work mode. Hydraulic pressure sensors detect resistance, and pressure is increased by 9% for 8 seconds. Auto Power Boost stays on 100% of the time in the L mode.

Auto/one-touch idling

SUMITOMO unique design

When user-preset time has elapsed after leaving the control handles in the neutral position, auto-idling automatically drops the engine to idle speed.
Or, you can choose to use the one-touch idling switch, located at the top of the right controller so that you are always in control.

Auto Power-Swing

This patent-pending design incorporates a selector valve that helps maintain attachment and hydraulic flow to achieve excellent swing and digging forces in side wall-cut operations. In normal digging when side pressure is not needed, SUMITOMO Computer sends all the flow to the attachment always insuring the best performance for either operation.

Swing ABS (Anti-pendulum Braking System)

This built-in special cushion valve greatly reduces the shock and vibration at the end of each swing cycle.

Regeneration System

By re-using the returning oil from the arm and the boom, ground excavating operation speed is increased.

Operating Modes

The 3B series enables the operator to have a choice on how the machine is operated. Simply choose the work mode that matches the machine output to the job application. Four operating modes are available.

A: Auto Mode

The most revolutionary approach to maximizing power and fuel efficiency available today. Just select the Auto Mode with the switch panel. Using actual working pressure readings, SUMITOMO Computer instantly changes modes assuring the best combination of speed and power while you can stay focused on the work at hand.

H: Super Heavy Mode

For heavy excavation or whenever you need extra power.

S: Standard Mode

For standard digging and loading operations reducing fuel consumption.

L: Light Mode

For lifting and other operations that need fingertip accuracy.

Electric Engine Control (EEC)

SUMITOMO Computer maintains engine rpm when load demands change. Engines equipped with mechanical governors spike rpm up-and-down when operating loads increase and decrease. This causes engine to consume extra fuel and make more noise.

Low Fuel Consumption

EEC responds to changes in operating loads quicker than a mechanical governor. As a result, EEC regulates the amount of fuel injection accurately and quickly.

Lower, Cleaner Emissions

Low fuel consumption results in high ignition efficiency (cleaner emission) and low emissions.

Low Sound Levels

At high idle, EEC can control engine speed rpm at rated horsepower. This means the engine does not overrun, resulting in lower sound levels.

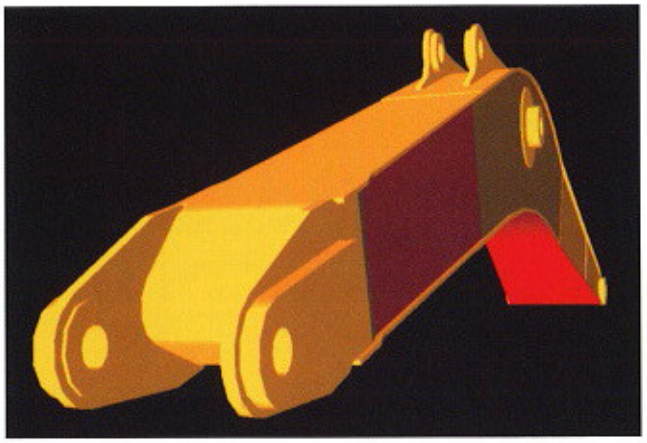
Low Vibration

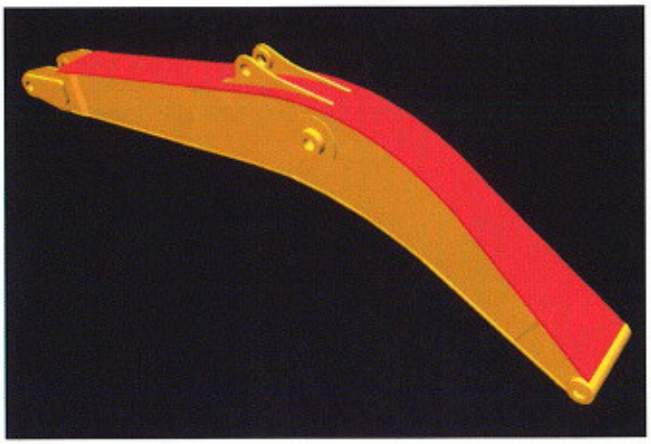
EEC causes engine rpm to be stable, resulting in low vibration.

Durability

Stronger boom and arm

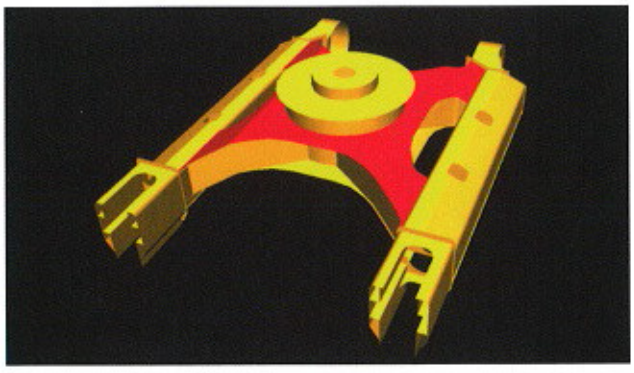
The strength of all joints has been increased to ensure durability, permitting operation at any site with severe working conditions and a large workload.





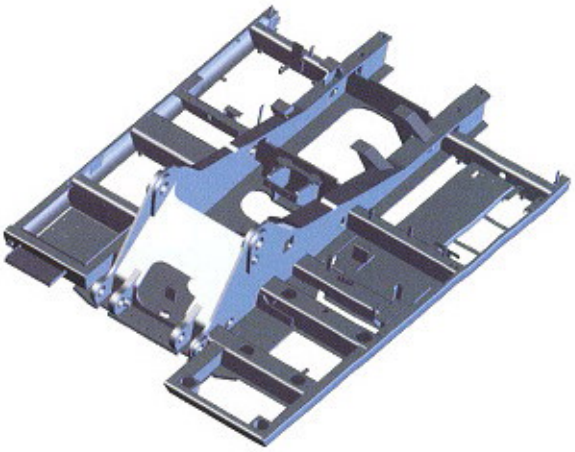
X Style Carbody

The modified X style carbody is integrally welded for maximum strength and durability. The thickness of the frame top plate and cross member plate have been increased.



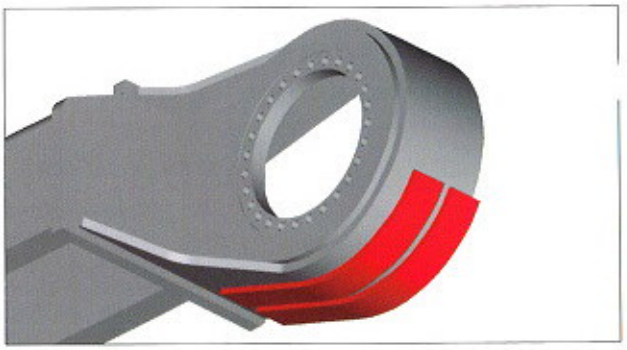
Swing frame

The rigidity and durability of the frame of the upper revolving unit, which has to withstand rough handling during every operation, has been increased.



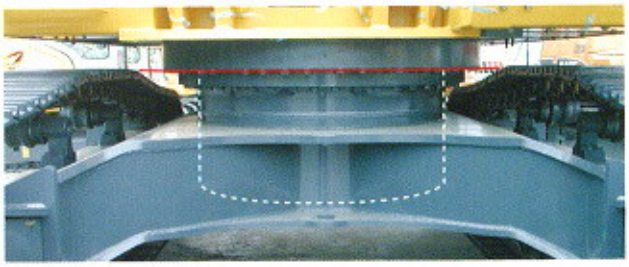
Motor case guard

The motor case has been reinforced in order to prevent wearing by catching rocks or sand.



Large turntable bearing and its tub

Built into the X style carbody is a turntable bearing tub which extends down through the top plate and is welded to the bottom of the carbody as well as to the top for increased strength and durability.



Track-link M type seal + Increased pin hardness

The M type seal that excels in sealing performance maintains grease for a long time. The increased hardness reduces abrasion of the pin, ensuring both long life of the pin and noise reduction.

Heavy duty applications

High-durability bucket

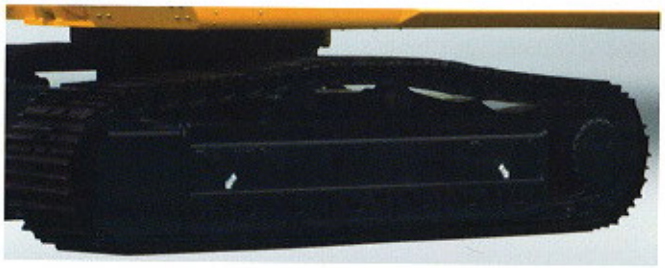
The adaptation of a high wear resistant 'super v' has been adopted for high durability.

■ Plating(Reinforcing)

■ Reinforced undercover

Full track guard (option)

A track guard prevents derailment of the shoe and protects the roller.



■ Side guard (option)

Maintenance

EMS permits fuss-free maintenance

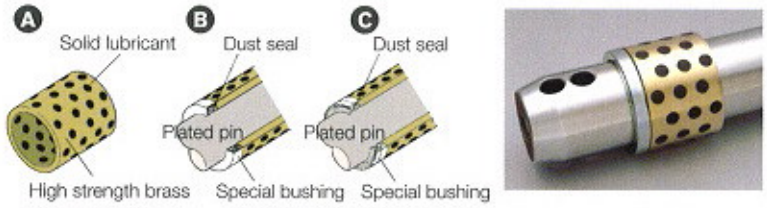
EMS permits greasing of the front attachments at intervals of 1,000 hours and substantially reduces the greasing trouble and time, as well as the maintenance cost, eliminating rattling sound and a noise.

•Greasing interval: **1,000** hours

* The greasing interval differs according to the operating condition.

EMS
Easy Maintenance System

■ EMS bushing



Ⓐ A solid lubricant embedded in high strength brass forms a layer on the bush surface to prevent contact between metals, maintaining an excellent lubricated state to reduce abrasion of joints.

Ⓑ The surface of the pin is plated to increase the surface hardness and improve the wear resistance accordingly.

Ⓒ The dust seal has a double structure to prevent entry of abrasive materials and eliminating wear.

Precautionary use of EMS

① Grease impregnated. Greasing is still necessary at every 1,000 hours or six months, whichever comes earlier.
② Greasing is necessary after underwater digging operation, because the internal grease can be forced out due to being submerged.
③ When a breaker, crusher, or some other special attachment is installed, greasing is necessary every day, because the pins and bushes are different according to the attachment manufacturer.
④ Bucket pins should be cleaned thoroughly when removing or attaching new buckets.

Clean Nephron filter permits operation for 5,000 hours without fluid oil change

Clean nephron

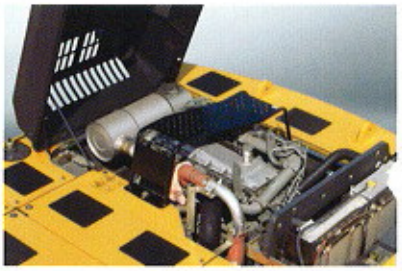
The fluid oil change interval has been extended to 5,000 hours. The filter removes impurities and a trace quantity of water, and it makes new oil cleaner. It also reduces abrasion of the hydraulic equipment, saving downtime and repair cost due to the failure of the hydraulic system.

•Hydraulic fluid change interval: **5,000** hours

* The greasing interval differs according to the operating condition.

Engine maintenance steps

The engine room is designed to permit safe maintenance.

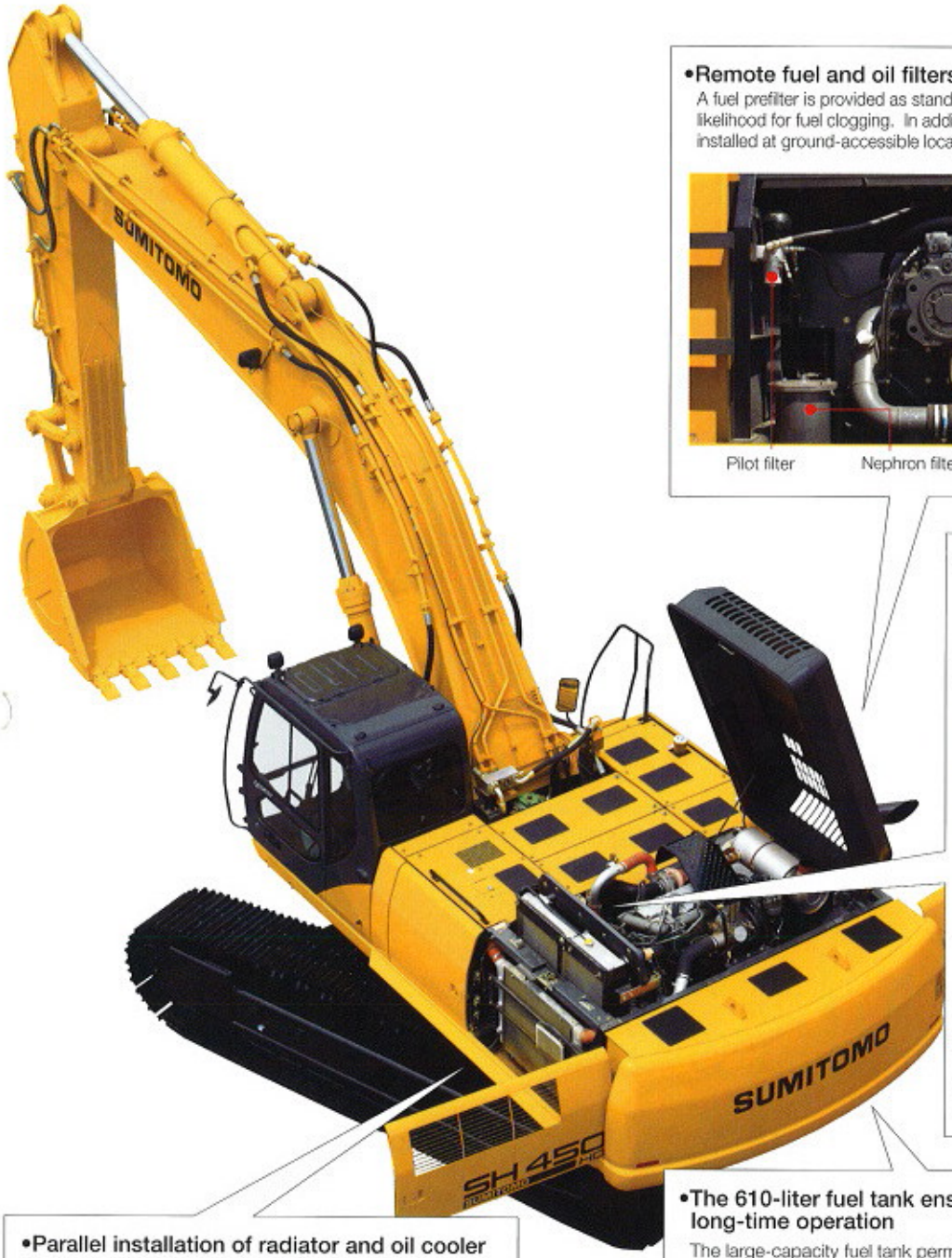


Large toolbox

A large toolbox is provided to completely store a large quantity of tools.

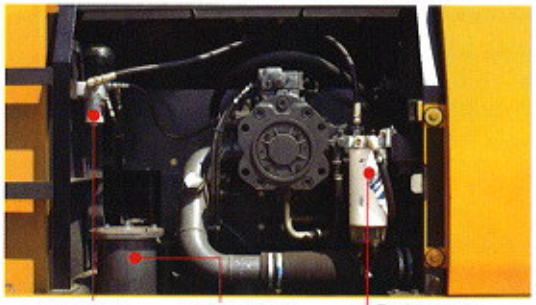
Ground level access for easy cleaning and replacement

Parts cleaning and maintenance is possible from the ground without climbing onto the upper part of the excavator body, eliminating labour for maintenance.



•Remote fuel and oil filters

A fuel prefilter is provided as standard equipment to reduce the likelihood for fuel clogging. In addition, the fuel and oil filters are installed at ground-accessible location to facilitate replacement.



•Hydraulic drive cooling fan system

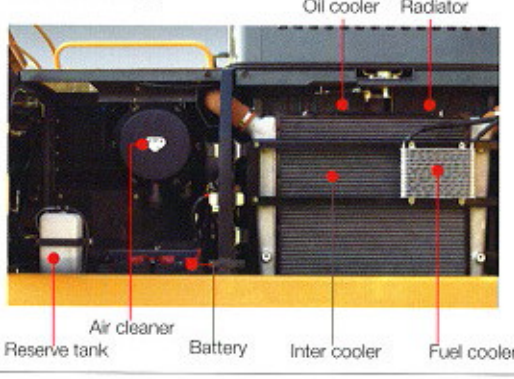
Ideal cooling control and low-noise operation according to the working environment.

•Easier cleaning by reversed fan rotation

The switch in the cab permits the cooling fan to rotate in reverse to remove dust from the radiator, oil cooler, inter cooler, and fuel cooler to prevent clogging.

•Parallel installation of radiator and oil cooler

The radiator and oil cooler are installed in parallel, and a space is provided at the front of the inter cooler to facilitate cleaning.



•The 610-liter fuel tank ensures long-time operation

The large-capacity fuel tank permits long-time operation.

•Maintenance hole for fuel cleaning.

A maintenance hole is provided to facilitate periodical cleaning.

•Engine oil drain coupler prevents oil spattering

The engine oil pan is provided with a drain coupler. The provided drain hose prevents oil spattering to facilitate draining work.

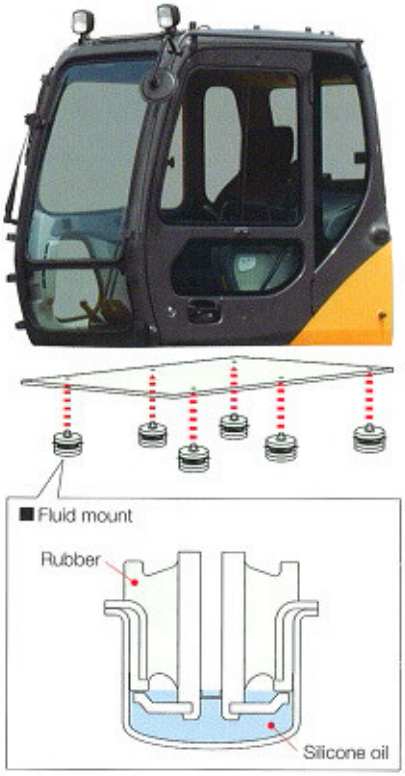
Operator Comfort

The wide view increases the safety of work

In addition to the large windshield, slim side pillars ensure a wider field of front view. Furthermore, an under window has been adopted and the field of upper view has been widened to enhance the safety of work.

The 6-point viscous mount reduces fatigue

Impact and vibration transmitted to the cab are absorbed effectively not only to improve the ride quality but also to reduce fatigue.



KAB seat suitable for work

KAB's deluxe suspension seat has been adopted. The sliding cockpit with a double-sliding mechanism permits operation in a position suitable for the operator's physique.

Adoption of large cab

The wide cab has a wider foot space to provide a comfortable ride-in space.

Adoption of short lever

The operating force has been reduced by 30% as compared with the conventional operation lever. The operator's fatigue will be reduced even during long-time work.

Operation lever tilting and console sliding mechanisms

The operation lever that permits easy tilt adjustment, integrated sliding of the console and seat, and independent seat sliding permit selection of an optimum operation position. The door-side console is equipped with a flip-up type hydraulic pressure shutoff mechanism.

Automatic air conditioner for higher comfort (Condenser with electric fan)

A large capacity automatic air conditioner has been adopted. The face-side air outlets and the defroster function ensure a comfortable operation environment.

Vision-friendly large monitor and switch panel

The full-dot monitor ensures clearer display, and the switch panel is easier to operate. The machine condition, operation history, fault diagnosis, and maintenance time, are shown on the monitor.

Warning message

1. OVER HEAT
2. ALTERNATOR
3. LOW FUEL
4. LOW OIL PRESSURE
5. LOW COOLANT
6. ELEC.PROBLEM
7. AIR FILTER

Active condition message

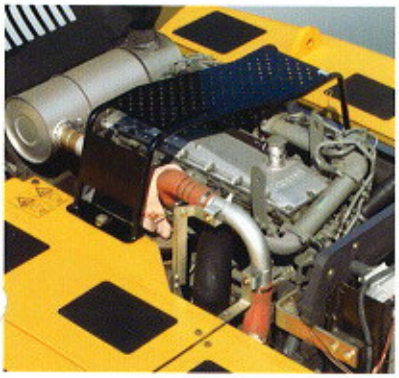
1. ENG.PRE HEAT
2. AUTO WARM UP
3. ENG.IDLING
4. POWER UP
5. SERVICE DUE

Language menu

Japanese	Portuguese
English	Dutch
Thai	Danish
Chinese	Norwegian
German	Swedish
French	Finnish
Italian	(Pictograph)
Spanish	

Low-noise design for protection of ambient environment

In addition to the low-noise engine and low-noise muffler, the acoustic material has been adopted to lower the noise level far below the standard noise level.



Comfortable equipment and storage

2-way speaker AM/FM radio

Large hot & cool box

Safety

Adoption of gate type lock lever

A gate type lock lever has been adopted to prevent sudden acceleration of the machine.

Emergency Engine Shutdown

In emergency situations, the engine can be shut down with the push of a switch located on the control panel in the cab. This switch must be re-engaged prior to restarting the engine.

Large ISO-compliant handrail

A large ISO-compliant handrail has been adopted to enhance safety when the operator gets on and off.

Larger cab stay

The cab mounting stay has been made larger to ensure safety during access from the cab to the back of the machine.

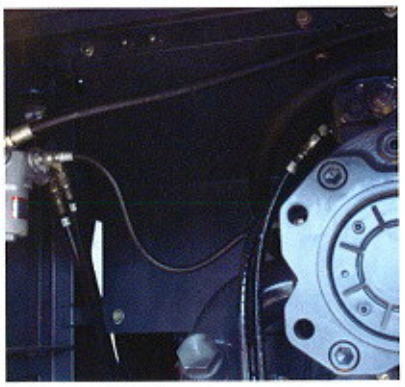
Emergency Escape window

Allows operator to escape from the rear window in case of emergency.

Equipment that enhances safety

Seat belt

Rearview mirror



Engine room fire wall

Anti-theft Alarm System

SUMITOMO's unique anti-theft system can be activated by your SUMITOMO distributors at the time of purchase.

Customer and Product Support

SUMITOMO's total commitment to product and customer support has enabled it grow into a world renowned manufacturer of hydraulic excavators. Supported by a global sales and service network of over four hundred distributors representing hydraulic excavators manufactured by SUMITOMO, the company supply 70% of total production from Japan to all five continents.

A spread of over one thousand outlets offering excellent parts and service support has global coverage ensuring SUMITOMO hydraulic excavator users have at their disposal Regional Spare Parts Centers, technical repair shops and service vehicles carrying all the necessary equipment to service and repair any hydraulic excavator manufactured by SUMITOMO.

SUMITOMO aims to produce the right products to meet all work applications and at the same time provide the highest level of more training and education to ensure complete product support quality throughout the service network in the world.

Specifications

SH450HD(LHD)-3B Technical Data

Engine

Two variable displacement axial piston pumps, one gear pump for pilot controls and electronic-control engine of SPACE5 includes: four working modes(H,S,L,Auto) one-touch/automatic idling system, automatic power-boost, power swing system.

	SH450HD-3B SH450LHD-3B
Model	ISUZU AH-6UZ1XYSS
Type	Water-cooled, 4-cycle,diesel, 6-cylinder in line, direct injection (electric control), turbochanger with air cooled intercooler.
Rated output	270 kW 〈367 PS〉/1,950 min^{-1}
Maximum torque	1,435 N-m at 1,500 min^{-1}
Piston displacement	9,840 cc
Bore and stroke	120 mm x 145 mm
Starting system	24 V electric motor starting
Alternator	24 V, 50 A
Fuel tank	610 liters
Air filter	Double element

Hydraulic pumps

Two variable displacement axial piston pumps provide power for attachment, swing and travel.

	SH450HD-3B SH450LHD-3B
Maximum oil flow	2 x 360 liters/min
Pilot pump max.oil flow	30 liters/min

Hydraulic motors

For travel:Two variable displacement axial piston motors.
For swing:One fixed displacement axial piston motor.

Relief valve settings

Boom/arm/bucket ····24.5 Mpa(250 kgf/cm^2)<Holding pressure(Boom down)>
36.3 Mpa(370 kgf/cm^2)<Holding pressure(Others)>
Boom/arm/bucket ····31.4 Mpa(320 kgf/cm^2)
Boom/arm/bucket ····34.3 Mpa(350 kgf/cm^2)with Power-up<Working pressure>
Swing circuit ·····29.4 Mpa(300 kgf/cm^2)
Travel circuit ·····34.3 Mpa(350 kgf/cm^2)

Control valve

One 4-spool valve and one 5-spool valve with auxiliary spool.

Oil filteration

Return filter ····· 10 microns
Return bypass filter···· 1 microns
Pilot filter ····· 10 microns
Suction filter ····· 105 microns

Hydraulic cylinders

		SH450HD-3B SH450LHD-3B
Cylinder	Q'ty	Bore x Rod Diameter x Stroke
Boom	2	170 mm x 115 mm x 1,550 mm
Arm	1	200 mm x 140 mm x 1,820 mm
Bucket	1	165 mm x 115 mm x 1,285 mm

Double-acting, bolt-up type cylinder tube-end;hardened steel bushings Installed in cylinder tube and rods ends.

Cab & Controls

Cab mounted on 6 fluid mountings. Features include safety glass front, rear and side windows, reclining/sliding cloth - upholstered suspension seat with headrest and armrest, cigarette lighter,pop-up skylight window,and intermittent wiper with washer. Front window slides upward for storage and the lower front window is removable. Control levers are located in 3 positions tilting control consoles. Reliable soft-touch switches. Easy-to-read Full-dot LCD monitor keeps operation in touch with critical machine functions.

Swing

Planetary reduction powered by axial piston motor. Internal ring gear with grease cavity for pinion. Swing bearing is single-row shear type ba bearing. Dual stage relief valves for smooth swing deceleration and stops. Mechanical disc swing brake.

	SH450HD-3B SH450LHD-3B
Swing speed	0~9.0 rpm
Tail swing radius	3,620 mm
Swing torque	150 kN·m(15,300 kgf·m)

Undercarriage

X-style carbody is integrally welded for strength and durability. Grease cylinder track adjusters with shock absorbing springs. Undercarriage with lubricated rollers and idlers.

Type of shoe:sealed link shoe

Upper rollers -
Heat treated, mounted on steel bushings
with fluorine resin, sealed for lifetime lubrication.

Lower rollers -
Heat treated, mounted on steel bushings
with leaded tin bronze casting, sealed for lifetime lubrication.

Track adjustment -
Idler axles adjusted with grease cylinder integral with each side frame;adjustment yoke mechanism fitted with heavy duty recoil spring.

Number of rollers and shoes on each side

	SH450HD-3B	SH450LHD-3B(Retractable)
Upper rollers	2	2(3)
Lower rollers	8	9
Track shoes	47	50

Travel system

Two-speed independent hydrostatic system with compact axial motors for Increased performance. Hydraulic motor powerd output shaft coupled to a planetary reduction unit and track sprocket. All hydraulic components mounted within the width of side frame.
Travel speed can be selected by switch panel.
Hydraulically released disc parking brake is built each motor.

		SH450HD-3B SH450LHD-3B
Travel speed	High	5.3 km/h
	Low	3.1 km/h
Maximum traction force		341 kN(34,800 kgf)

Lubricant & Coolant capacity

	SH450HD-3B SH450LHD-3B
Hydraulic system	460 liters
Hydraulic oil tank	230 liters
Fuel tank	611 liters
Cooling system	38 liters
Final drive case(per side)	15 liters
Swing drive case	10.5 liters
Engine crank case (with remote oil filter)	36 liters

Auxiliary hydraulic system

	SH450HD-3B	SH450LHD-3B
Auxiliary piping type (option)	For Breaker	For Double (breaker & crusher) acting
Arm type	STD	HD with Reinforcement plat
Bucket linkage type	HD	
Maximum Auxiliary line flow	max.320 liters/min	max.700 liters/min

Weight & Ground Pressure

Model	SH450HD(LHD)-3B			SH450LHD-3B(Retractable)		
Shoe type	Shoe width	Operating weight	Ground pressure	Shoe width	Operating weight	Ground pressure
Triple grouser shoe	600 mm	45 700 kg (46 500 kg)	85 kPa (80 kPa)	600 mm	48 000 kg	82 kPa
	750 mm	46 400 kg (47 200 kg)	69 kPa (65 kPa)	750 mm	48 700 kg	67 kPa

Digging Force

Model		SH450HD(LHD)-3B	
Arm length		2.53 m	3.38 m
Bucket digging force <with auto power up>	ISO 6015	247 kN <270 kN>	
	SAE: PCSA	220 kN <240 kN>	
Arm digging force <with auto power up>	ISO 6015	257 kN <281 kN>	209 kN <229 kN>
	SAE: PCSA	248 kN <272 kN>	203 kN <222 kN>

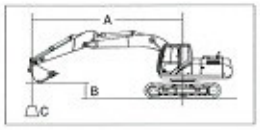
Principle Specifications

		SH450HD-3B	SH450LHD-3B
		STD Specifications	
Base	Boom length	6.98 m (HD type)	
	Arm length	3.38 m (HD type)	
	Bucket capacity (ISO heaped)	1.8 m³ (HD type)	
	Std. operating weight	45 700 kg	46 500 kg/48 000 kg*
Engine	Make & model	ISUZU AH-6UZ1XYSS	
	Rated output	270 kW/1 950 min⁻¹	
	Displacement	9 839 ml(cc)	
Hydraulic System	Main pump	2 variable displacement axial piston pumps with regulating system	
	Max pressure	31.4 Mpa	
	/with auto power boost	34.3 Mpa	
	Travel motor	Variable displacement axial piston motor	
	Parking brake type	Mechanical disc brake	
	Swing motor	Fixed displacement axial piston motor	
Performance	Travel speed	5.3/3.1 km/h	
	Traction force	341 kN	
	Grade ability	70% <35°>	
	Ground pressure	85 kPa	80 kPa
	Swing speed	9.0 min⁻¹	
	Bucket	247 kN	
	/with power boost	270 kN	
	Arm	209 kN	
	/with power boost	229 kN	
Others	Fuel tank	611 liters	
	Hydraulic fluid tank	230 liters	

*Retractable

Lifting Capacity

Notes: 1. Ratings are based on SAE J/ISO 10567.
2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. *Indicates load limited by hydraulic capacity.
5. 0m = Ground.



A: Radius of load
B: Bucket hook height
C: Lifting capacity

Load Radius Over Front Load Radius Over Side Unit : kg

SH450HD-3B

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 1.8 (m³)
ARM LENGTH = 3.38 (m)
MAXIMUM REACH = 10.28 (m)
BOOM : 6.98 (m)

Bucket Hook Height	Radius of Load: Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
7 m	8 324*	8.76	6 684	8.76					9 050*	8 040											9 194*	7.60	8 875	7.60
6 m	6 370*	9.58	5 436	9.58			8 931*	6 219	9 380*	7 846											9 932*	7.11	9 743	7.11
5 m	6 491*	9.91	4 950	9.91			9 203*	6 059	9 860*	7 585	10 769*	9 635									11 860*	6.12	11 860*	6.12
4 m	6 706*	10.14	4 609	10.14	7 507	4 747	9 106	5 864	10 429*	7 285	11 635*	9 184	13 369*	11 869	16 040*	15 969	20 654*	20 654*			22 666*	3.16	22 666*	3.16
3 m	7 023*	10.26	4 383	10.26	7 369	4 618	8 881	5 655	10 861	6 975	12 516*	8 726	14 694*	11 172	18 116*	14 834	24 195*	20 917			13 676*	3.54	13 676*	3.54
2 m	6 891	10.28	4 256	10.28	7 231	4 489	8 664	5 453	10 541	6 682	13 117	8 305	15 837*	10 556	19 764*	13 906	17 721*	17 721*			10 443*	3.60	10 443*	3.60
1 m	6 879	10.20	4 221	10.20	7 112	4 377	8 475	5 277	10 267	6 430	12 729	7 955	16 340	10 077	20 761*	13 271	16 759*	16 759*			9 038*	3.36	9 038*	3.36
0 m	7 006	10.02	4 284	10.02	7 027	4 298	8 328	5 141	10 055	6 236	12 441	7 696	15 967	9 748	21 105*	12 901	18 866*	18 556			12 835*	3.14	12 835*	3.14
-1 m	7 293	9.73	4 457	9.73			8 238	5 058	9 917	6 109	12 258	7 531	15 752	9 559	20 890*	12 730	22 457*	18 507	14 840*	14 840*	15 403*	2.81	15 403*	2.81
-2 m	7 788	9.33	4 772	9.33			8 218	5 039	9 859	6 056	12 178	7 458	15 672	9 489	20 182*	12 703	24 799*	18 594	19 448*	19 448*	17 908*	2.30	17 908*	2.30
-3 m	8 586	8.79	5 288	8.79					9 891	6 086	12 200	7 478	15 713	9 525	18 979*	12 794	23 006*	18 796	24 519*	24 519*	20 303*	2.03	20 346*	1.55
-4 m	9 757*	8.09	6 128	8.09					9 959*	6 226	12 116*	7 599	14 443*	9 668	17 202*	12 998	20 599*	19 119	24 926*	24 926*	25 206*	2.03	24 053*	1.69
-5 m	9 550*	7.18	7 575	7.18							9 990*	7 862	12 273*	9 938	14 660*	13 332	17 369*	17 369*	20 594*	20 594*	23 372*	2.30	23 372*	2.30
-6 m	8 791*	5.97	8 791*	5.97											10 920*	10 920*	12 915*	12 915*			13 614*	3.64	13 614*	3.64

SH450HD-3B

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 2.0 (m³)
ARM LENGTH = 2.53 (m)
MAXIMUM REACH = 9.48 (m)
BOOM : 6.98 (m)

Bucket Hook Height	Radius of Load: Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
7 m	10 221*	7.89	7 990	7.89							10 704*	10 035									10 923*	6.69	10 892	6.6
6 m	9 733*	8.71	6 453	8.71					10 390*	7 633	11 193*	9 740									12 357*	6.00	12 357*	6.00
5 m	9 015	9.08	5 818	9.08			9 159	5 918	10 776*	7 401	11 870*	9 353	13 468*	12 103	15 938*	15 938*	20 243*	20 243*			25 133*	3.39	25 133*	3.39
4 m	8 446	9.32	5 387	9.32			8 992	5 763	11 021	7 129	12 636*	8 923	14 685*	11 415	17 970*	15 113					23 482*	4.01	20 875	4.01
3 m	8 096	9.45	5 111	9.45			8 806	5 591	10 718	6 851	13 324	8 500	15 822*	10 765	19 746*	14 057					17 656*	4.31	17 262	4.31
2 m	7 931	9.47	4 965	9.47			8 631	5 428	10 444	6 599	12 917	8 133	16 511	10 237	20 846*	13 327					14 896*	4.36	14 896*	4.36
1 m	7 941	9.39	4 942	9.39			8 489	5 297	10 223	6 397	12 604	7 851	16 095	9 871	21 178*	12 933					13 547*	4.17	13 547*	4.17
0 m	8 136	9.19	5 048	9.19			8 401	5 215	10 073	6 259	12 399	7 666	15 855	9 660	20 910*	12 773	17 165*	17 165*			18 645*	3.90	18 645*	3.90
-1 m	8 558	8.88	5 307	8.88					10 005	6 197	12 303	7 579	15 763	9 579	20 184*	12 760	23 938*	18 727			21 935*	3.54	21 935*	3.54
-2 m	9 290	8.43	5 773	8.43					10 032	6 222	12 314	7 589	15 797	9 609	19 026*	12 857	22 355*	18 917	23 001*	23 001*	24 856*	2.98	24 856*	2.98
-3 m	10 510	7.83	6 556	7.83							12 441	7 703	14 771*	9 745	17 366*	13 059	20 215*	19 216	22 836*	22 836*	23 791*	2.28	23 791*	2.28
-4 m	10 402*	7.03	7 912	7.03							10 483*	7 963	12 774*	10 007	15 032*	13 383	17 332*	17 332*	19 413*	19 413*	19 985*	2.64	19 985*	2.64
-5 m	9 602*	5.96	9 602*	5.96											11 639*	11 639*	13 360*	13 360*			13 938*	3.58	13 938*	3.58
-6 m																								

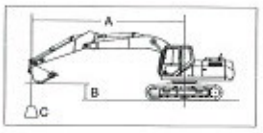
SH450LHD-3B (Retractable)

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 1.8 (m³)
ARM LENGTH = 3.38 (m)
MAXIMUM REACH = 10.28 (m)
BOOM : 6.98 (m)

Bucket Hook Height	Radius of Load: Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
7 m	7 971*	8.92	7 158	8.92					9 088*	8 871											9 266*	7.55	9 266*	7.55
6 m	6 382*	9.64	6 011	9.64			8 965*	6 922	9 444*	8 663											10 113*	7.01	10 113*	7.01
5 m	6 517*	9.96	5 521	9.96			9 252*	6 753	9 942*	8 392	10 895*	10 602	12 237*	12 237*							12 421*	5.89	12 421*	5.89
4 m	6 747*	10.16	5 181	10.16	8 100*	5 354	9 613*	6 552	10 518*	8 085	11 796*	10 141	13 574*	13 061	16 366*	16 366*	21 231*	21 231*			20 445*	3.24	20 445*	3.24
3 m	7 080*	10.27	4 961	10.27	8 757	5 222	9 991*	6 342	11 105*	7 773	12 643*	9 680	14 883*	12 360	18 401*	16 413	24 637*	23 266			12 994*	3.56	12 994*	3.56
2 m	7 539*	10.27	4 847	10.27	8 618	5 094	10 283	6 141	11 632*	7 482	13 412*	9 263	15 984*	11 753	19 959*	15 508	17 240*	17 240*			10 145*	3.58	10 145*	3.58
1 m	8 159*	10.18	4 833	10.18	8 500	4 985	10 094	5 969	12 034*	7 235	13 986*	8 921	16 747*	11 289	20 853*	14 905	16 942*	16 942*			10 601*	3.29	10 601*	3.29
0 m	8 443	9.98	4 926	9.98			9 952	5 839	12 005	7 049	14 302*	8 673	17 112*	10 979	21 106*	14 563	19 331*	19 331*			13 227*	3.1	13 227*	3.1
-1 m	8 822	9.68	5 143	9.68			9 869	5 763	11 875	6 931	14 312*	8 520	17 065*	10 806	20 814*	14 413	23 095*	21 067	15 518	15 518	15 785*	2.74	15 785*	2.74
-2 m	9 458	9.26	5 522	9.26			9 861	5 756	11 828	6 889	13 972*	8 461	16 599*	10 751	20 033*	14 405	24 562*	21 175	20 177	20 177	16 945*	2.2	16 280*	2.2
-3 m	9 757*	8.69	6 137	8.69					11 134*	6 934	13 206*	8 495	15 671*	10 804	18 751*	14 515	22 685*	21 401	25 345	25 345	21 580*	2.2	19 836*	1.9
-4 m	9 744*	7.97	7 138	7.97							11 865*	8 636	14 173*	10 966	16 874*	14 742	20 171*	20 171*	24 346	24 346	26 740*	2.2	25 015*	1.75
-5 m	9 485*	7.02	8 891	7.02							9 540*	8 932	11 851*	11 265	14 188*	14 188*	16 789*	16 789*	19 828	19 828	21 845*	2.44	21 845*	2.44
-6 m	8 576*	5.75	8 576*	5.75											10 193*	10 193*					12 043*	4.03	12 043*	4.03

Lifting Capacity

Notes: 1. Ratings are based on SAE J/ISO 10567.
2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. *Indicates load limited by hydraulic capacity.
5. 0m = Ground.



A: Radius of load
B: Bucket hook height
C: Lifting capacity

Load Radius Over Front
Load Radius Over Side

Unit : kg

SH450LHD-3B

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 1.8 (m³)
ARM LENGTH = 3.38 (m)
MAXIMUM REACH = 10.28 (m)
BOOM : 6.98 (m)

Bucket Hook Height	Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
	Radius of Load																							
7 m	8 324*	8.76	6 798	8.76					9 050*	8 167											9 194*	7.60	9 010	7.60
6 m	6 370*	9.58	5 539	9.58			8 931*	6 329	9 380*	7 973											9 932*	7.11	9 891	7.11
5 m	6 491*	9.91	5 048	9.91			9 203*	6 170	9 860*	7 712	10 769*	9 785									11 860*	6.12	11 860*	6.12
4 m	6 706*	10.14	4 705	10.14	7 849*	4 844	9 556*	5 974	10 429*	7 412	11 635*	9 335	13 369*	12 053	16 040*	16 040*	20 654*	20 654*			22 666*	3.16	22 666*	3.16
3 m	7 023*	10.26	4 478	10.26	8 460	4 715	9 935*	5 765	11 018*	7 102	12 516*	8 877	14 694*	11 355	18 116*	15 070	24 195*	21 247			13 676*	3.54	13 676*	3.54
2 m	7 461*	10.28	4 350	10.28	8 320	4 586	9 949	5 564	11 559*	6 809	13 307*	8 455	15 837*	10 739	19 764*	14 141	17 721*	17 721*			10 443*	3.60	10 443*	3.60
1 m	7 933	10.20	4 316	10.20	8 198	4 474	9 755	5 388	11 822	6 558	13 915*	8 106	16 657*	10 260	20 761*	13 506	16 759*	16 759*			9 038*	3.36	9 038*	3.36
0 m	8 086	10.02	4 381	10.02	8 111	4 395	9 605	5 252	11 604	6 363	14 273*	7 846	17 083*	9 932	21 105*	13 137	18 866*	18 866*			12 835*	3.14	12 835*	3.14
-1 m	8 421	9.73	4 557	9.73			9 512	5 168	11 461	6 236	14 210	7 681	17 099*	9 743	20 890*	12 966	22 457*	18 837	14 840*	14 840*	15 403*	2.81	15 403*	2.81
-2 m	8 993	9.33	4 878	9.33			9 492	5 150	11 401	6 183	14 048*	7 609	16 697*	9 672	20 182*	12 939	24 799*	18 923	19 448*	19 448*	17 908*	2.30	17 908*	2.30
-3 m	9 748*	8.79	5 402	8.79					11 284*	6 213	13 355*	7 628	15 844*	9 709	18 979*	13 030	23 036*	19 125	24 519*	24 519*	20 854*	2.20	20 346*	1.55
-4 m	9 757*	8.09	6 254	8.09					9 959*	6 353	12 116*	7 750	14 443*	9 851	17 202*	13 234	20 599*	19 448	24 926*	24 926*	25 914*	2.20	24 053*	1.69
-5 m	9 550*	7.18	7 721	7.18							9 990*	8 012	12 273*	10 122	14 660*	13 568	17 369*	17 369*	20 594*	20 594*	23 372*	2.30	23 372*	2.30
-6 m	8 791*	5.97	8 791*	5.97											10 920*	10 920*	12 915*	12 915*			13 614*	3.64	13 614*	3.64

SH450LHD-3B

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 2.0 (m³)
ARM LENGTH = 2.53 (m)
MAXIMUM REACH = 9.48 (m)
BOOM : 6.98 (m)

Bucket Hook Height	Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
	Radius of Load																							
7 m	10 221*	7.89	8 120	7.89							10 704*	10 186									10 923*	6.69	10 923*	6.69
6 m	9 733*	8.71	6 568	8.71					10 390*	7 760	11 193*	9 891									12 357*	6.00	12 357*	6.00
5 m	9 986*	9.08	5 927	9.08			10 030*	6 029	10 776*	7 528	11 870*	9 504	13 468*	12 286	15 938*	15 938*	20 243*	20 243*			25 133*	3.39	25 133*	3.39
4 m	9 666	9.32	5 493	9.32			10 267*	5 873	11 247*	7 256	12 636*	9 073	14 685*	11 598	17 970*	15 349					23 482*	4.01	21 203	4.01
3 m	9 286	9.45	5 215	9.45			10 093	5 701	11 720*	6 978	13 378*	8 651	15 822*	10 948	19 746*	14 293					17 656*	4.31	17 556	4.31
2 m	9 113	9.47	5 069	9.47			9 913	5 539	12 002	6 726	13 996*	8 283	16 686*	10 421	20 846*	13 562					14 896*	4.36	14 896*	4.36
1 m	9 137	9.39	5 047	9.39			9 768	5 407	11 774	6 524	14 371*	8 001	17 161*	10 055	21 178*	13 169					13 547*	4.17	13 547*	4.17
0 m	9 371	9.19	5 155	9.19			9 677	5 325	11 620	6 387	14 354	7 816	17 216*	9 843	20 910*	13 009	17 165*	17 165*			18 645*	3.90	18 645*	3.90
-1 m	9 862	8.88	5 419	8.88					11 550	6 324	14 240*	7 730	16 856*	9 762	20 184*	12 996	23 938*	19 057			21 935*	3.54	21 935*	3.54
-2 m	10 666*	8.43	5 892	8.43					11 533*	6 349	13 617*	7 739	16 066*	9 792	19 026*	13 093	22 355*	19 246	23 001*	23 001*	24 856*	2.98	24 856*	2.98
-3 m	10 647*	7.83	6 687	7.83							12 476*	7 854	14 771*	9 929	17 366*	13 295	20 215*	19 546	22 836*	22 836*	23 791*	2.28	23 791*	2.28
-4 m	10 402*	7.03	8 061	7.03							10 483*	8 114	12 774*	10 191	15 032*	13 619	17 332*	17 332*	19 413*	19 413*	19 985*	2.64	19 985*	2.64
-5 m	9 602*	5.96	9 602*	5.96											11 639*	11 639*	13 360*	13 360*			13 938*	3.58	13 938*	3.58
-6 m																								

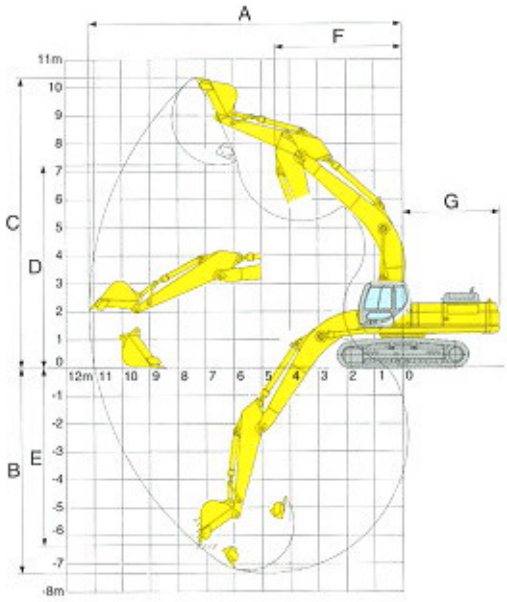
SH450LHD-3B (Retractable)

SHOE : 600 (mm)G
BUCKET : SAE/PCSA 2.0 (m³)
ARM LENGTH = 2.53 (m)
MAXIMUM REACH = 9.48 (m)
BOOM : 6.98 (m)

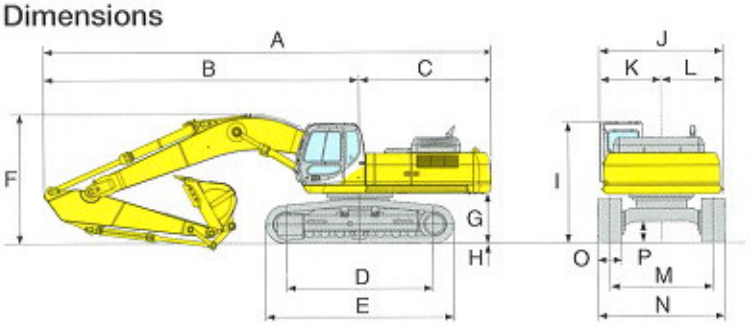
Bucket Hook Height	Max. Radius				10 m		9 m		8 m		7 m		6 m		5 m		4 m		3 m		Min. Radius			
	Radius of Load																							
7 m	10 175*	8.05	8 514	8.05					10 195*	8 617	10 762*	10 762*									11 050*	6.62	11 050*	6.62
6 m	9 762*	8.77	7 088	8.77					10 439*	8 452	11 286*	10 720	12 516*	12 516*							12 770*	5.83	12 770*	5.83
5 m	9 989*	9.12	6 448	9.12			10 061*	6 617	10 844*	8 209	11 983*	10 318	13 649*	13 302	16 242*	16 242*	20 833*	20 833*			24 881*	3.51	24 881*	3.51
4 m	9 941	9.35	6 019	9.35			10 307*	6 456	11 320*	7 931	12 752*	9 880	14 867*	12 603	18 267*	16 679					22 250*	4.07	22 250*	4.07
3 m	9 589	9.46	5 752	9.46			10 429	6 282	11 787*	7 652	13 481*	9 457	15 974*	11 956	19 963*	15 642					17 109*	4.33	17 109*	4.33
2 m	9 446	9.47	5 623	9.47			10 253	6 121	12 167*	7 404	14 060*	9 097	16 784*	11 444	20 942*	14 953					14 620*	4.35	14 620*	4.35
1 m	9 505	9.36	5 627	9.36			10 115	5 995	12 174	7 208	14 405*	8 825	17 196*	11 097	21 171*	14 595					13 433*	4.11	13 433*	4.11
0 m	9 784	9.15	5 774	9.15			10 034	5 921	12 032	7 080	14 459*	8 654	17 188*	10 905	20 828*	14 458	18 177*	18 177*			19 147*	3.86	19 147*	3.86
-1 m	10 339	8.82	6 095	8.82					11 975	7 030	14 173*	8 581	16 765*	10 840	20 038*	14 463	23 730*	21 309			22 424*	3.47	22 424*	3.47
-2 m	10 671*	8.35	6 655	8.35					11 391*	7 070	13 482*	8 605	15 906*	10 887	18 810*	14 578	22 071*	21 520	24 092*	24 092*	24 766*	2.87	24 766*	2.87
-3 m	10 629*	7.72	7 593	7.72							12 243*	8 739	14 522*	11 043	17 063*	14 801	19 833*	19 833*	22 403*	22 403*	23 423*	2.31	23 423*	2.31
-4 m	10 330*	6.89	9 233	6.89									12 387*	11 332	14 602*	14 602*	16 814*	16 814*	18 777*	18 777*	19 183*	2.73	19 183*	2.73
-5 m	9 385*	5.77	9 385*	5.77											10 985*	10 985*	12 626*	12 626*			12 838*	3.84	12 838*	3.84
-6 m																								

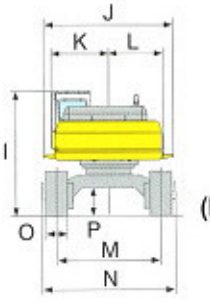
Working Range

	SH450HD(LHD)-3B		SH450LHD-3B	Retractable
Arm length	2.53 m	3.38 m	2.53 m	3.38 m
Boom length	6.98 m			
A Max digging radius	11 230 mm	12 000 mm	11 230 mm	12 000 mm
B Max digging depth	6 870 mm	7 720 mm	6 720 mm	7 570 mm
C Max digging height	10 820 mm	11 140 mm	10 970 mm	11 290 mm
D Max dumping height	7 420 mm	7 740 mm	7 570 mm	7 890 mm
E Max vertical wall cut depth	5 670 mm	6 570 mm	5 520 mm	6 420 mm
F Min. front swing radius	5 140 mm	4 990 mm	5 140 mm	4 990 mm
G Rear end swing radius	3 620 mm			



Dimensions

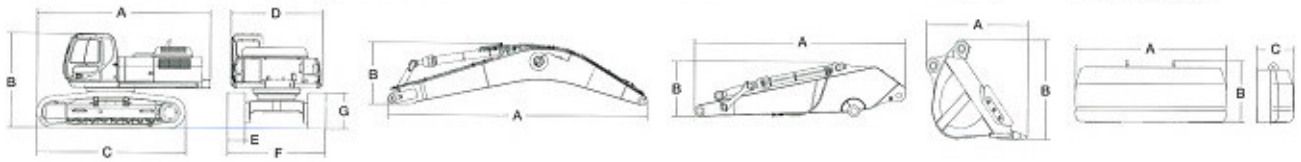




(Retractable)

Model	SH450HD-3B		SH450LHD-3B		SH450LHD-3B Retractable	
Arm length	2.53 m	3.38 m	2.53 m	3.38 m	2.53 m	3.38 m
A Overall length	11 990 mm	11 940 mm	11 990 mm	11 940 mm	11 970 mm	11 910 mm
B Length from center of machine (to arm top)	8 390 mm	8 340 mm	8 390 mm	8 340 mm	8 370 mm	8 310 mm
C Upper structure rear end radius	3 620 mm					
D Center to center of wheels	4 050 mm		4 400 mm			
E Overall track length	5 100 mm		5 450 mm			
F Overall height	3 640 mm	3 600 mm	3 640 mm	3 600 mm	3 710 mm	3 660 mm
G Clearance height under upper structure	1 330 mm				1 480 mm	
H Shoe lug height	36 mm					
I Cab height	3 270 mm				3 420 mm	
J Upper structure overall width	3 140 mm				3 580 mm	
K Width from center of machine (left side)	1 585 mm				1 590 mm	
L Width from center of machine (right side)	1 555 mm				1 490 mm	
M Track gauge (Retract)	2 750 mm		2 600 mm		2 890 mm (2 390 mm)	
N Overall width (Retract)	3 350 mm				3 700 mm (3 200 mm)	
O Std. Shoe width	600 mm					
P Minimum ground clearance	540 mm				740 mm	

● Basic Machine (without counter weight) ● Boom ● Arm ● Bucket ● Counter weight



Basic Machine (without counter weight)

Model	SH450HD-3B	SH450LHD-3B(Retractable)
Weight	26 400 kg	27 200 kg(28 700 kg)
A	5 960 mm	6 140 mm
B	3 270 mm	3 270 mm(3 420 mm)
C	5 100 mm	5 450 mm
D	3 140 mm	3 140 mm
E	600 mm	600 mm
F	3 350 mm	3 350(2 990*)
G	1 240 mm	1 240 mm(1 220 mm)

*without lower step

Boom

Model	SH450HD(LHD)-3B
A	7.26 m
B	1 740 mm
Width	870 mm
Weight	4 500 kg

Arm

Model	SH450HD(LHD)-3B	
Type	2.53 m Arm	3.38 m Arm
A	3 820 mm	4 630 mm(3.38m Arm)
B	1 300 mm(2.53m Arm)	1 220 mm(3.38m Arm)
Width	610 mm	
Weight	2 400 kg(2.53m Arm)	2 600 kg(3.38m Arm)

Bucket

Model		SH450HD(LHD)-3B	
Bucket capacity (ISO/SAE/PCSA heaped) unit:mm		1.8 m³	2.0 m³
Bucket capacity (CECE heaped) unit:mm		1.6 m³	1.8 m³
Bucket type		HD	
Number of teeth		5	
A		1 870	
B		1 530	
Width unit:mm	With side cutter	1 508	1 638
	Without side cutter	1 400	1 530
Weight unit:kg		1 830	1 930
Combination	2.53 m arm	◎	●
	3.38 m arm	●	○

Counter Weight

Model	SH450HD(LHD)-3B
A	2 990 mm
B	1 230 mm
C	740 mm
Weight	9 200 kg

● Standard bucket (Suitable for materials with density up to 1,800 kg/m³ or less)
◎ Suitable for materials with density up to 2,000 kg/m³ or less
○ Suitable for materials with density up to 1,600 kg/m³ or less
△ Suitable for materials with density up to 1,200 kg/m³ or less

Standard equipment

[Hydraulic system]
- Selectable operation mode (H mode, S mode, and L mode)
- Automatic operation mode
- Auto/one-touch idling
- Automatic 2-speed travel
- Automatic power boost
- Arm/boom natural lowering prevention valve
- Arm/boom/bucket reactivation circuit
- Swing brake system
- Swing ABS
- Auxiliary valve
- Hydraulic drive cooling fan

[Safety equipment]
- Head guard cab(FOPS level1)
- Rearview mirror (left/right)
- Rear escape
- Seat belt
- Gate lock lever
- Traveling alarm
- Anti-theft alarm system
- Engine room fire wall
- Fan guard
- Engine emergency stop switch
- Megavolume horn

[Cab/interior equipment]
- Tilting console mechanism
- Automatic air conditioner
- Defroster
- Large hot & cool box
- KAB operator's seat
- Seat suspension
- Rise-up wiper (with intermittent operation function)
- AM/FM radio
- Accessory case
- Floor mat
- Armrest & headrest
- Ashtray & cigar lighter
- Room light
- Coat hook
- Short lever

[Others]
- EMS
- Track guard
  - Double track guard
- Clean nephron
- Five lights (on the main unit, atop the cab, and at right/left of arm)
- Two fuel filters (with water separator)
- Fuel prefilter (with water separator)
- Double-element air cleaner

Accessories (option)

- **Front guard**
- **Head guard (FOPS level 2)**
- **Lower window guard**
- **12V power (DC-DC converter)**
- **Full track guard**
- **Re fuel Pump**
- **Pre-cleaner**
- **Hose burst check valve (for arm/boom cylinder)**

SH450HD-3B/SH450LHD-3B Hydraulic Excavator

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