SECTION 1 GENERAL

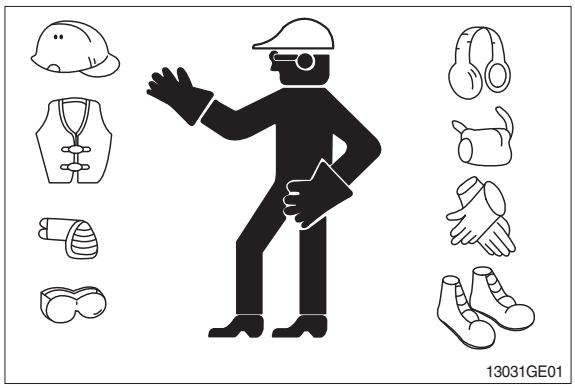
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

Unsafe work practices are dangerous. Understand service procedure before doing work; Do not attempt shortcuts.

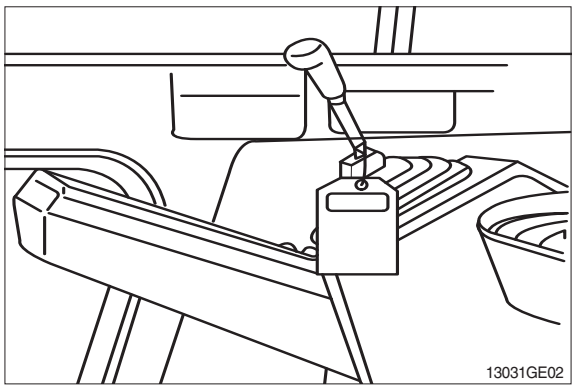
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.



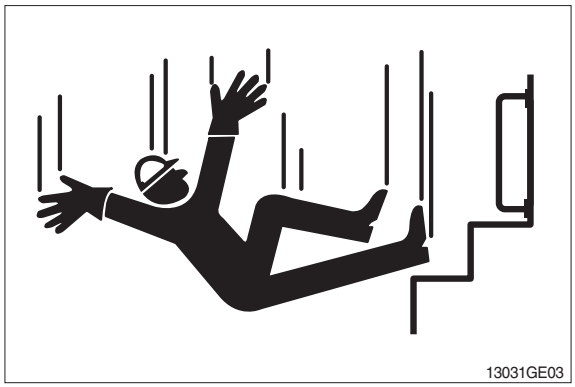
WARN OTHERS OF SERVICE WORK

Unexpected machine movement can cause serious injury.
Before performing any work on the excavator, attach a 「**Do Not Operate**」 tag on the right side control lever.



USE HANDHOLDS AND STEPS

Falling is one of the major causes of personal injury.
When you get on and off the machine, always maintain a three point contact with the steps and handrails and face the machine. Do not use any controls as handholds.
Never jump on or off the machine. Never mount or dismount a moving machine.
Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.

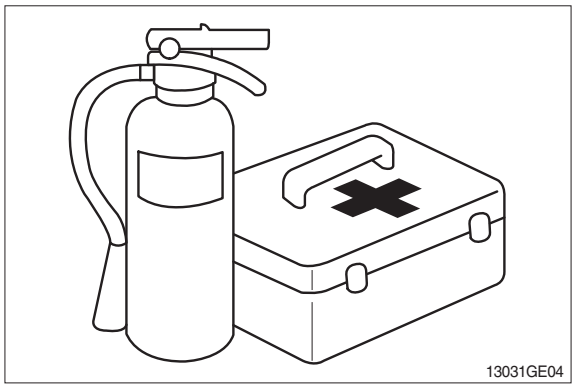


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

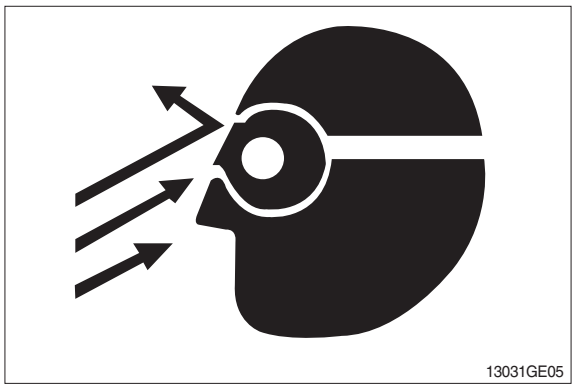
Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



PROTECT AGAINST FLYING DEBRIS

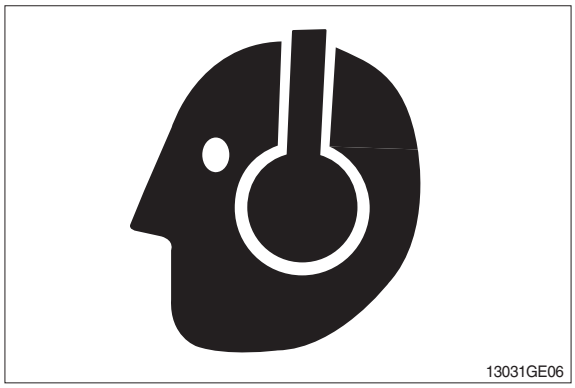
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing.

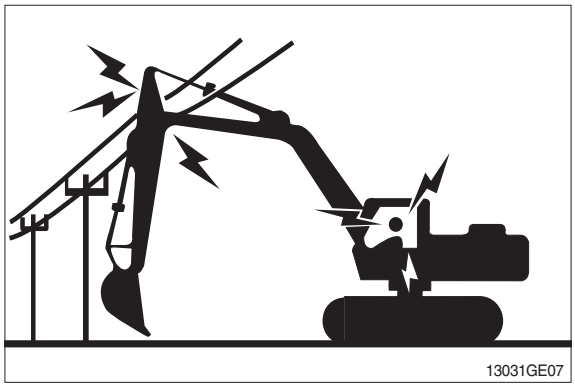
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

Serious injury or death can result from contact with electric lines.

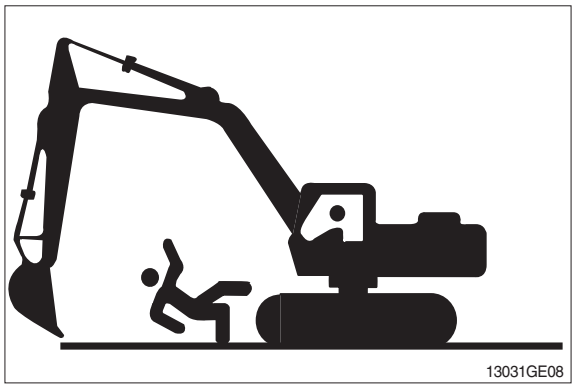
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



KEEP RIDERS OFF EXCAVATOR

Only allow the operator on the excavator. Keep riders off.

Riders on excavator are subject to injury such as being struck by foreign objects and being thrown off the excavator. Riders also obstruct the operator's view resulting in the excavator being operated in an unsafe manner.

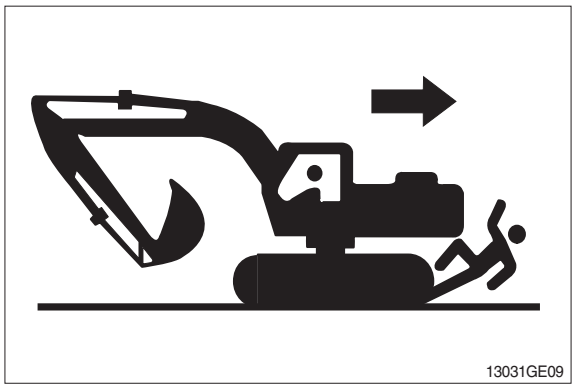


MOVE AND OPERATE MACHINE SAFELY

Bystanders can be run over. Know the location of bystanders before moving, swinging, or operating the machine.

Always keep the travel alarm in working condition. It warns people when the excavator starts to move.

Use a signal person when moving, swinging, or operating the machine in congested areas. Coordinate hand signals before starting the excavator.



OPERATE ONLY FORM OPERATOR'S SEAT

Avoid possible injury machine damage. Do not start engine by shorting across starter terminals.

NEVER start engine while standing on ground. Start engine only from operator's seat.

PARK MACHINE SAFELY

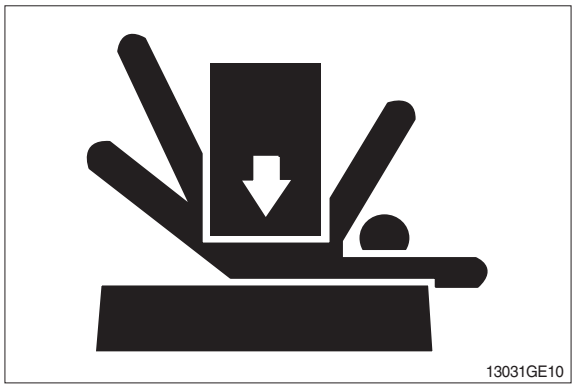
Before working on the machine:

- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load.
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands.

HANDLE FLUIDS SAFELY-AVOID FIRES

Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine.
Fill fuel tank outdoors.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

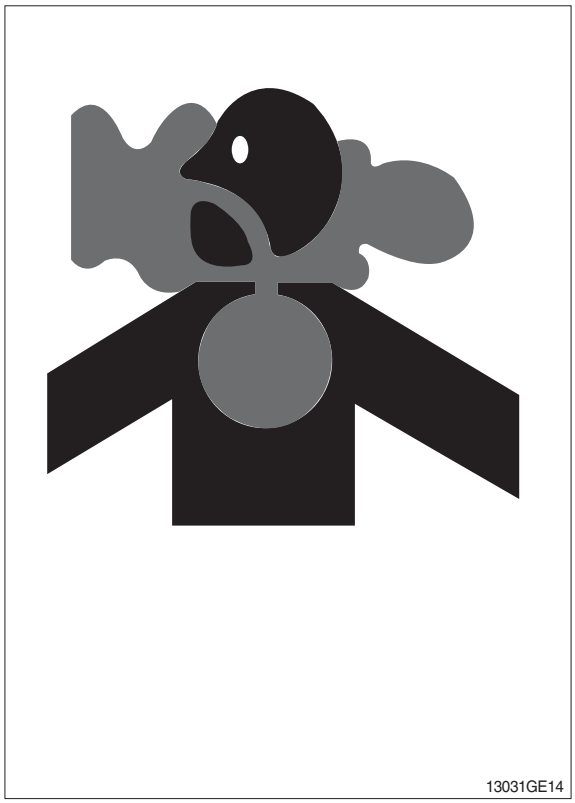
Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; They can ignite and burn spontaneously.

BEWARE OF EXHAUST FUMES

Prevent asphyxiation. Engine exhaust fumes can cause sickness or death.

If you must operate in a building, be positive there is adequate ventilation. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.


13031GE14

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

ILLUMINATE WORK AREA SAFELY

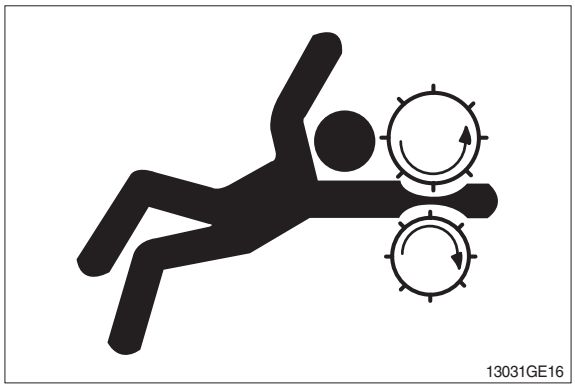
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.


13031GE15

SERVICE MACHINE SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

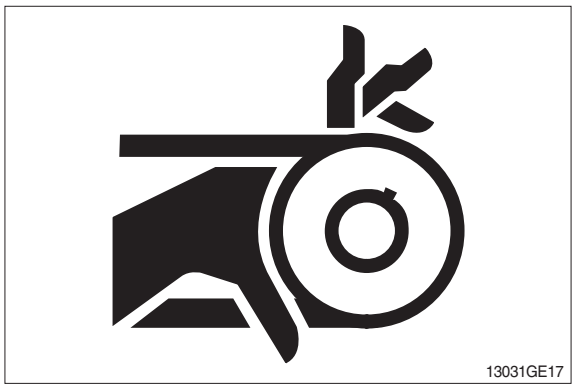
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

To prevent accidents, use care when working around rotating parts.



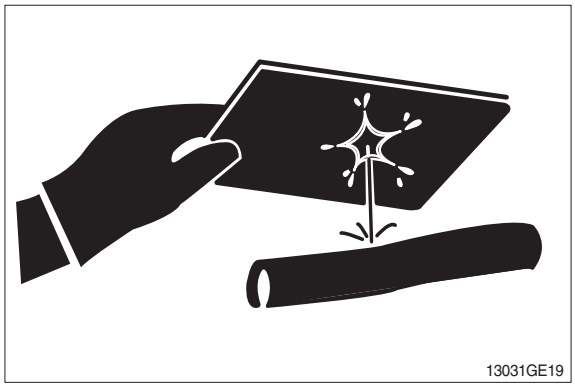
AVOID HIGH PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials.

Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area. Install fire resisting guards to protect hoses or other materials.

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; It may explode. Warm battery to 16°C (60°F).

PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

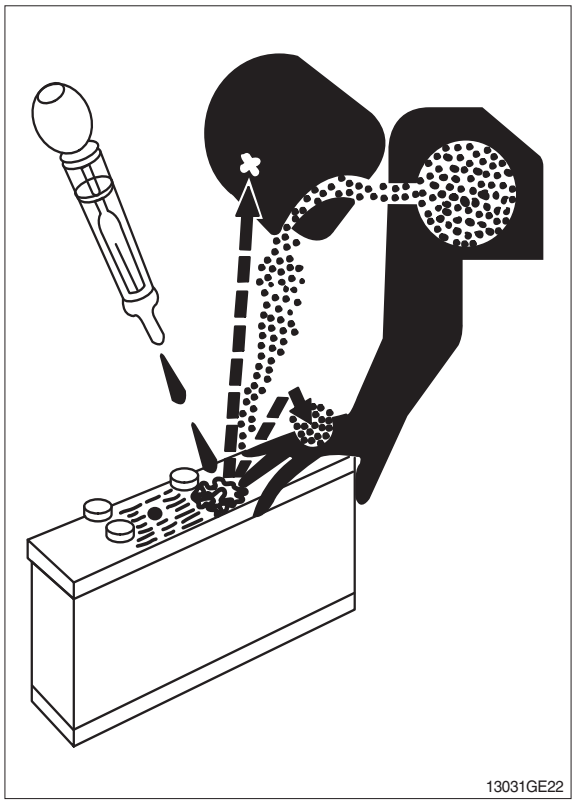
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling of dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10-15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



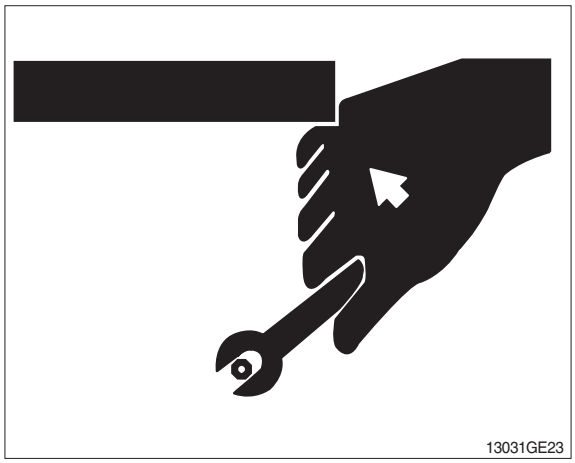
USE TOOLS PROPERLY

Use tools appropriate to the work. Makeshift tools, parts, and procedures can create safety hazards.

Use power tools only to loosen threaded tools and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only recommended replacement parts. (See Parts catalogue.)

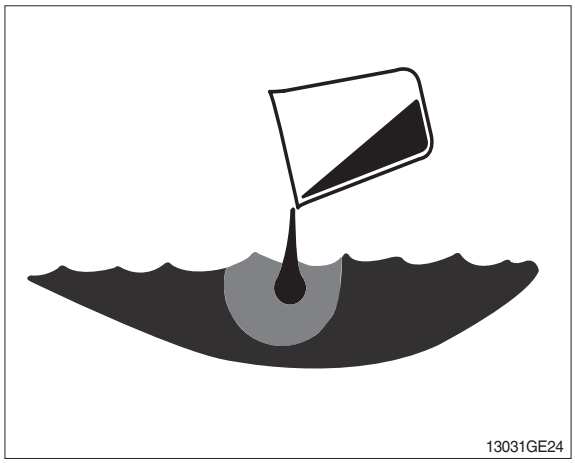


DISPOSE OF FLUIDS PROPERLY

Improperly disposing of fluids can harm the environment and ecology. Before draining any fluids, find out the proper way to dispose of waste from your local environmental agency.

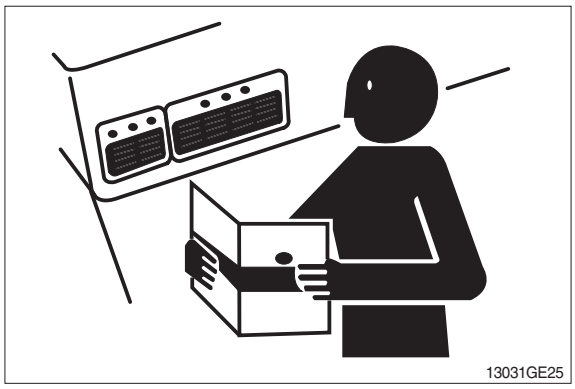
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

DO NOT pour oil into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, and other harmful waste.


13031GE24

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.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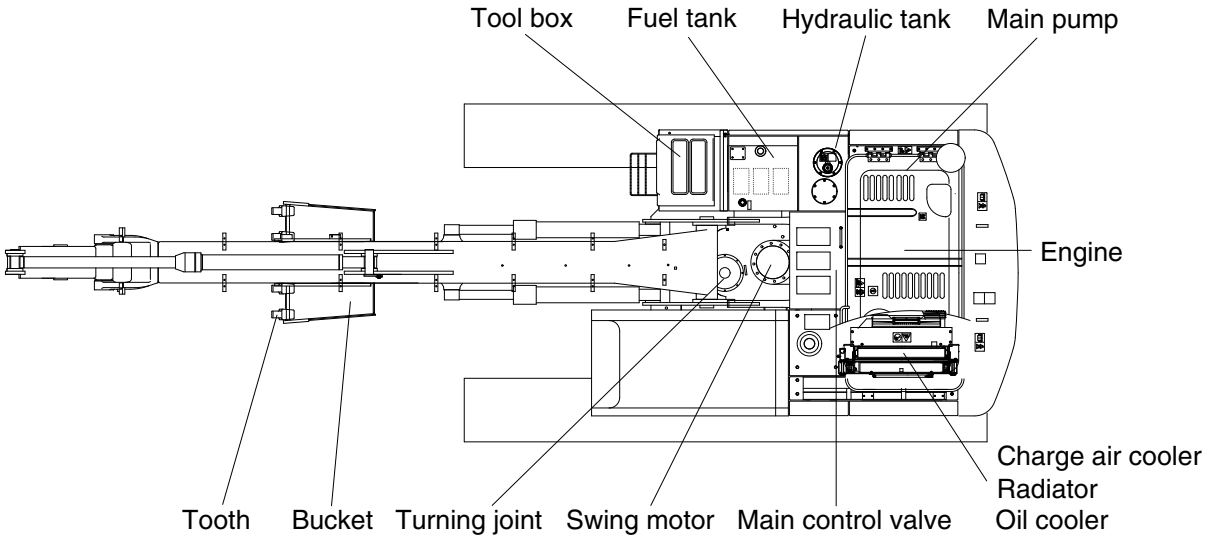
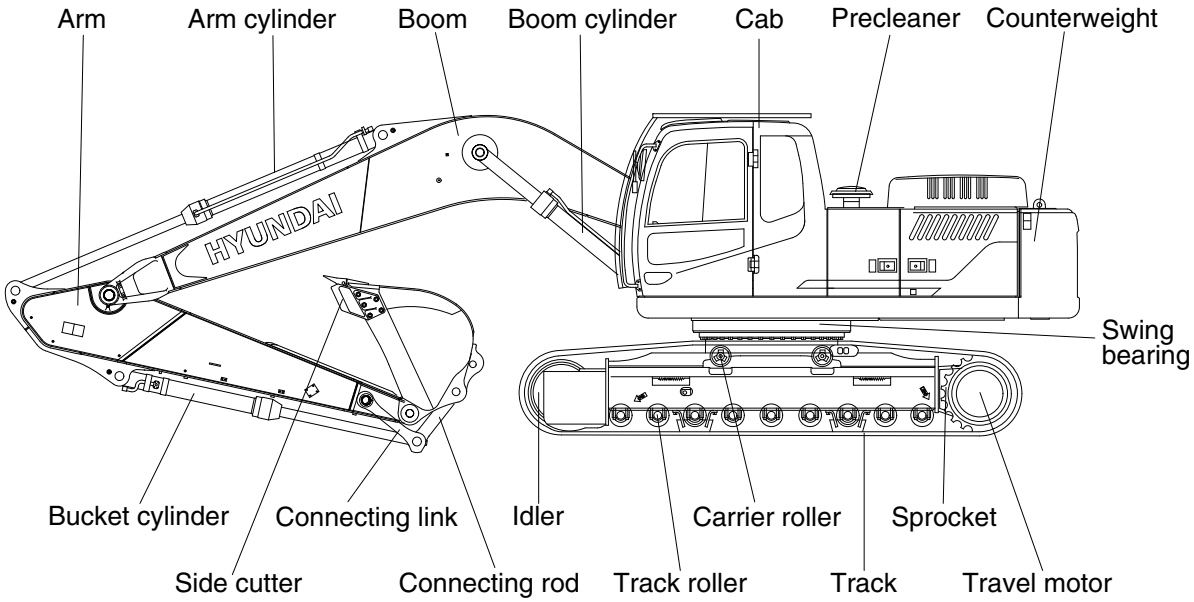
LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.

GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT

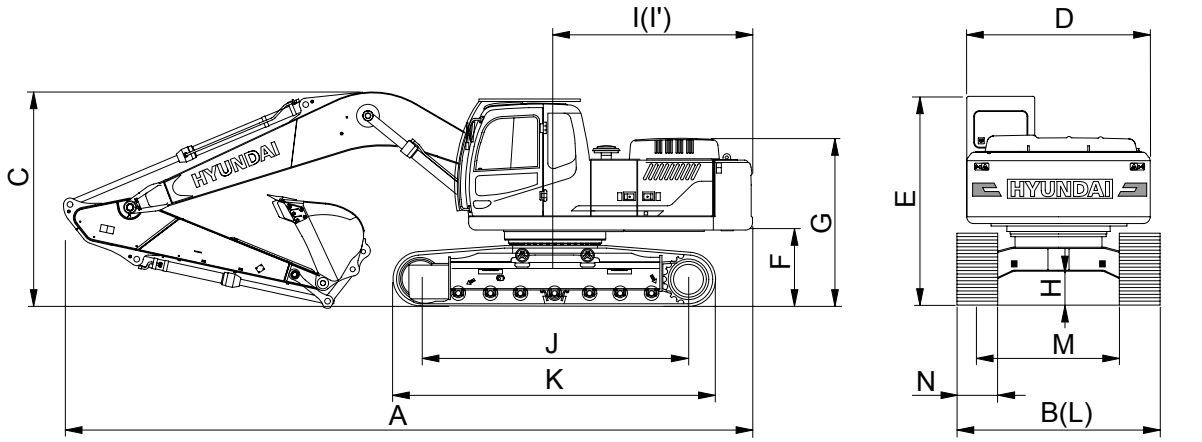




210S2SP01A

2. SPECIFICATIONS

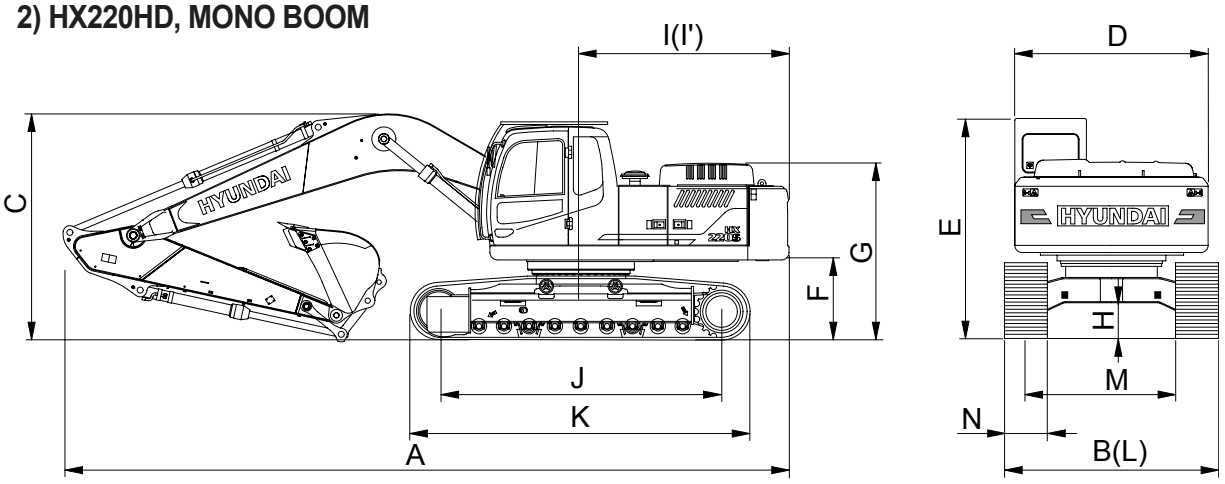
1) HX210HD MONO BOOM



210S2SP02A

Description		Unit		Specification		
		m (ft-in)	Boom	5.68 (18' 8")		
			Arm	2.92 (9' 7")	2.00 (6' 7")	2.40 (7' 10")
		mm (in)	Shoe	600 (24)		
Operating weight		kg (lb)		20990 (46270)	20790 (45830)	20860 (45990)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.20)	0.92 (1.20)	0.92 (1.20)
Overall length	A	mm (ft-in)		9530 (31' 3")	9650 (31' 8")	9570 (31' 5")
Overall width	B			2800 (9' 2")	2800 (9' 2")	2800 (9' 2")
Overall height of boom	C			3030 (9' 11")	3200 (10' 6")	3110 (10' 2")
Superstructure width	D			2700 (8' 10")	2700 (8' 10")	2700 (8' 10")
Overall height of cab	E			3000 (9' 10")	3000 (9' 10")	3000 (9' 10")
Ground clearance of counterweight	F			1060 (3' 6")	1060 (3' 6")	1060 (3' 6")
Overall height of engine hood	G			2380 (7' 10")	2380 (7' 10")	2380 (7' 10")
Overall height of handrail	G'			2970 (9' 9")	2970 (9' 9")	2970 (9' 9")
Minimum ground clearance	H			470 (1' 7")	470 (1' 7")	470 (1' 7")
Rear-end distance	I			2770 (9' 1")	2770 (9' 1")	2770 (9' 1")
Rear-end swing radius	I'			2845 (9' 4")	2845 (9' 4")	2845 (9' 4")
Distance between tumblers	J			3360 (11' 0")	3360 (11' 0")	3360 (11' 0")
Undercarriage length	K			4170 (13' 8")	4170 (13' 8")	4170 (13' 8")
Undercarriage width	L			2800 (9' 2")	2800 (9' 2")	2800 (9' 2")
Track gauge	M			2200 (7' 3")	2200 (7' 3")	2200 (7' 3")
Track shoe width, standard	N			600 (2' 0")	600 (2' 0")	600 (2' 0")
Travel speed (low/high)		km/hr (mph)		3.5/5.7	3.5/5.7	3.5/5.7
Swing speed		rpm		12.2	12.2	12.2
Gradeability		Degree (%)		35 (70)	35 (70)	35 (70)
Ground pressure		kgf/cm^2 (psi)		0.48 (6.86)	0.48 (6.80)	0.48 (6.82)
Max traction force		kg (lb)		21100 (46517)	21100 (46517)	21100 (46517)

2) HX220HD, MONO BOOM

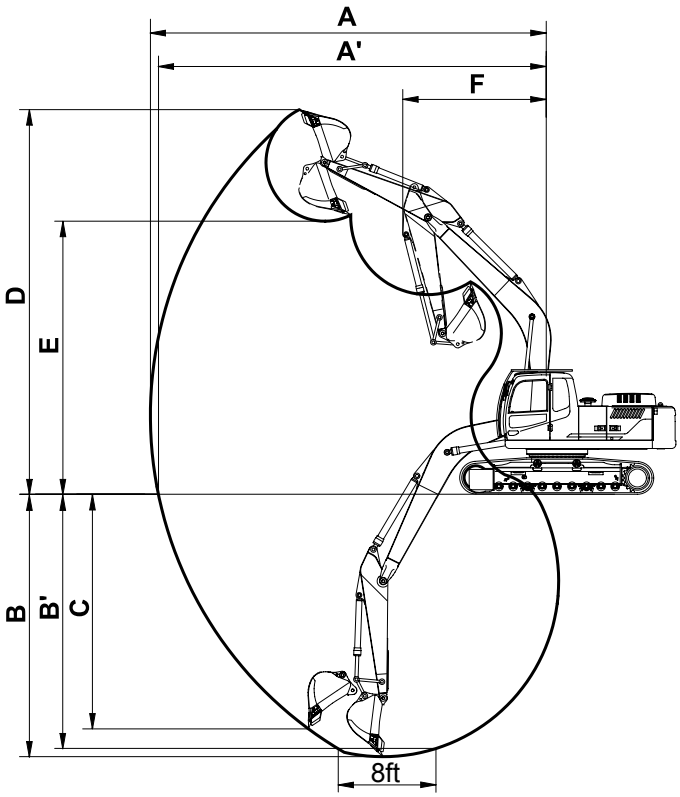


Description		Unit		Specification		
		m (ft-in)	Boom	5.68 (20' 6")		
			Arm	2.92 (9' 7")	2.00 (6' 7")	2.40 (7' 10")
		mm (in)	Shoe	600 (24)		
Operating weight		kg (lb)		21420(47220)	21220 (46780)	21280 (46910)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.20)	0.92 (1.20)	0.92 (1.20)
Overall length	A	mm (ft-in)		9530 (31' 3")	9650 (31' 8")	9570 (31' 5")
Overall width	B			2990 (9' 10")	2990 (9' 10")	2990 (9' 10")
Overall height of boom	C			3030 (9' 11")	3200 (10' 6")	3110 (10' 2")
Superstructure width	D			2700 (8' 10")	2700 (8' 10")	2700 (8' 10")
Overall height of cab	E			3000 (9' 10")	3000 (9' 10")	3000 (9' 10")
Ground clearance of counterweight	F			1060 (3' 6")	1060 (3' 6")	1060 (3' 6")
Overall height of engine hood	G			2380 (7' 10")	2380 (7' 10")	2380 (7' 10")
Overall height of handrail	G'			2970 (9' 9")	2970 (9' 9")	2970 (9' 9")
Minimum ground clearance	H			470 (1' 7")	470 (1' 7")	470 (1' 7")
Rear-end distance	I			2770 (9' 1")	2770 (9' 1")	2770 (9' 1")
Rear-end swing radius	I'			2845 (9' 4")	2845 (9' 4")	2845 (9' 4")
Distance between tumblers	J			3650 (12' 0")	3650 (12' 0")	3650 (12' 0")
Undercarriage length	K			4440 (14' 7")	4440 (14' 7")	4440 (14' 7")
Undercarriage width	L			2990 (9' 10")	2990 (9' 10")	2990 (9' 10")
Track gauge	M			2390 (7' 10")	2390 (7' 10")	2390 (7' 10")
Track shoe width, standard	N			600 (2' 0")	600 (2' 0")	600 (2' 0")
Travel speed (low/high)		km/hr (mph)		3.5/5.7	3.5/5.7	3.5/5.7
Swing speed		rpm		12.2	12.2	12.2
Gradeability		Degree (%)		35 (70)	35 (70)	35 (70)
Ground pressure		kgf/cm^2 (psi)		0.45 (6.50)	0.45 (6.45)	0.45 (6.46)
Max traction force		kg (lb)		21100 (46517)	21100 (46517)	21100 (46517)

3. WORKING RANGE AND DIGGING FORCE

1) HX210HD, MONO BOOM

HX220HD,MONO BOOM



210S2SP04A

Description	m (ft-in)	Boom	5.68 (18' 8")		
		Arm	2.92 (9' 7")	2.00 (6' 7")	2.40 (7' 10")
Max digging reach	mm (ft-in)	A	9,980 (32' 9")	9,140 (30' 0")	9,500 (31' 2")
Max digging reach on ground		A'	9,820 (32' 3")	8,960 (29' 5")	9,330 (30' 7")
Max digging depth		B	6,730 (22' 1")	5,820 (19' 1")	6,220 (20' 5")
Max digging depth (8 ft level)		B'	6,560 (21' 6")	5,580 (18' 4")	6,010 (19' 9")
Max vertical wall digging depth		C	6,280 (20' 7")	5,280 (17' 4")	5,720 (18' 9")
Max digging height		D	9,600 (31' 6")	9,140 (30' 0")	9,340 (30' 8")
Max dumping height		E	6,780 (22' 3")	6,330 (20' 9")	6,520 (21' 5")
Min swing radius		F	3,670 (12' 0")	3,750 (12' 4")	3,740 (12' 3")
Bucket digging force	kN	SAE	133.4	133.4	133.4
	kgf		13600	13600	13600
	lbf		29980	29980	29980
	kN	ISO	152.0	152.0	152.0
	kgf		15500	15500	15500
	lbf		34170	34170	34170
Arm digging force	kN	SAE	102.0	144.2	119.6
	kgf		10400	14700	12200
	lbf		22930	32410	26900
	kN	ISO	106.9	151.0	125.5
	kgf		10900	15400	12800
	lbf		24030	33950	28220

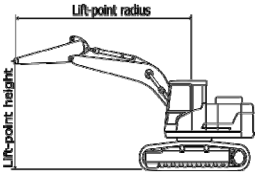
4. WEIGHT

Item	HX210HD		HX220HD	
	kg	lb	kg	lb
Upperstructure assembly	8950	19730	←	
Main frame weld assembly	2600	5730	←	
Engine assembly	437	963	←	
Main pump assembly	120	265	←	
Main control valve assembly	200	440	←	
Swing motor assembly	190	420	←	
Hydraulic oil tank assembly	240	530	←	
Fuel tank assembly	195	430	←	
Counterweight	3600	7940	←	
Cab assembly	310	680	←	
Lower chassis assembly	8060	17770	8700	19180
Track frame weld assembly	2545	5611	2720	6000
Swing bearing	290	639	←	
Travel motor assembly	305	670	←	
Turning joint	55	120	←	
Track recoil spring	140	309	←	
Idler	151	333	←	
Carrier roller	21	46	←	
Track roller	48	106	←	
Track-chain assembly (600 mm standard triple grouser shoe)	1353	2983	1356	2989
Front attachment assembly (5.68 m boom, 2.92 m arm, 0.87 m^3 SAE heaped bucket)	4030	8880	←	
5.68 m boom assembly	1640	3620	←	
2.92 m arm assembly	750	1650	←	
0.92 m^3 SAE heaped bucket	765	1690	←	
Boom cylinder assembly	180	400	←	
Arm cylinder assembly	290	640	←	
Bucket cylinder assembly	175	390	←	
Bucket control link assembly	170	370	←	

5. LIFTING CAPACITIES

Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa. [㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger [R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2000	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

∉ : Rating over-front ∉ : Rating over- side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m 24.6ft	kg lb									*5700 *12570	*5700 *12570	5.00 (16.4)
6.0m 19.7ft	kg lb					*5440 *11990	4320 9520			*5500 *12130	3910 8620	6.35 (20.8)
4.5m 14.8ft	kg lb			*6870 *15150	6500 14330	*5780 *12740	4190 9240			4890 10780	3160 6970	7.14 (23.4)
3.0m 9.8ft	kg lb			*8650 *19070	5950 13120	6250 13780	3970 8750	4430 9770	2840 6260	4390 9680	2810 6190	7.55 (24.8)
1.5m 4.9ft	kg lb					6020 13270	3770 8310	4350 9590	2760 6080	4230 9330	2690 5930	7.64 (25.1)
0.0m 0.0ft	kg lb			9160 20190	5420 11950	5890 12990	3650 8050			4360 9610	2760 6080	7.43 (24.4)
-1.5m -4.9ft	kg lb			9180 20240	5430 11970	5880 12960	3640 8020			4870 10740	3060 6750	6.88 (22.6)
-3.0m -9.8ft	kg lb	*12330 *27180	10710 23610	*9100 *20060	5570 12280					6170 13600	3860 8510	5.90 (19.4)
-4.5m -14.8ft	kg lb											

Note 1. Lifting capacity are based on ISO 10567.
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3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
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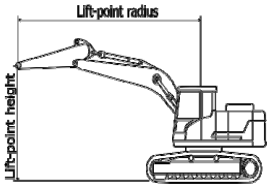
⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa. [㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger [R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2000	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5700	*5700	5.00
24.6ft	lb									*12570	*12570	(16.4)
6.0m	kg					*5440	4810			*5500	4360	6.35
19.7ft	lb					*11990	10600			*12130	9610	(20.8)
4.5m	kg			*6870	*6870	*5780	4680			5510	3540	7.14
14.8ft	lb			*15150	*15150	*12740	10320			12150	7800	(23.4)
3.0m	kg			*8650	6710	*6510	4450	5000	3190	4950	3160	7.55
9.8ft	lb			*19070	14790	*14350	9810	11020	7030	10910	6970	(24.8)
1.5m	kg					6850	4250	4920	3110	4780	3030	7.64
4.9ft	lb					15100	9370	10850	6860	10540	6680	(25.1)
0.0m	kg			*10480	6160	6710	4130			4940	3110	7.43
0.0ft	lb			*23100	13580	14790	9110			10890	6860	(24.4)
-1.5m	kg			*10180	6180	6700	4120			5520	3450	6.88
-4.9ft	lb			*22440	13620	14770	9080			12170	7610	(22.6)
-3.0m	kg	*12330	*12330	*9100	6320					*6650	4340	5.91
-9.8ft	lb	*27180	*27180	*20060	13930					*14660	9570	(19.4)
-4.5m	kg											
-14.8ft	lb											

Note 1. Lifting capacity are based on ISO 10567.
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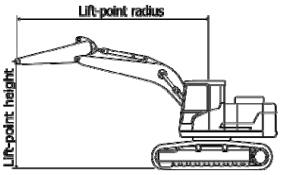
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger [R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2000	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

- : Rating over-front
- : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5700	*5700	5.00
24.6ft	lb									*12570	*12570	(16.4)
6.0m	kg					*5440	4660			*5500	4220	6.35
19.7ft	lb					*11990	10270			*12130	9300	(20.8)
4.5m	kg			*6870	*6870	*5780	4530			5220	3430	7.14
14.8ft	lb			*15150	*15150	*12740	9990			11510	7560	(23.4)
3.0m	kg			*8650	6430	*6510	4310	4750	3100	4700	3060	7.55
9.8ft	lb			*19070	14180	*14350	9500	10470	6830	10360	6750	(24.8)
1.5m	kg					6450	4100	4660	3020	4540	2940	7.64
4.9ft	lb					14220	9040	10270	6660	10010	6480	(25.1)
0.0m	kg			9810	5900	6320	3990			4680	3010	7.43
0.0ft	lb			21630	13010	13930	8800			10320	6640	(24.4)
-1.5m	kg			9830	5920	6300	3970			5220	3340	6.88
-4.9ft	lb			21670	13050	13890	8750			11510	7360	(22.6)
-3.0m	kg	*12330	11600	*9100	6060					6600	4200	5.90
-9.8ft	lb	*27180	25570	*20060	13360					14550	9260	(19.4)
-4.5m	kg											
-14.8ft	lb											

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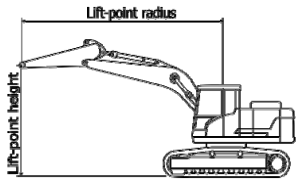
Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa. [㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger [R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2000	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5700	*5700	5.00
24.6ft	lb									*12570	*12570	(16.4)
6.0m	kg					*5440	5160			*5500	4680	6.35
19.7ft	lb					*11990	11380			*12130	10320	(20.8)
4.5m	kg			*6870	*6870	*5780	5030			*5540	3820	7.14
14.8ft	lb			*15150	*15150	*12740	11090			*12210	8420	(23.4)
3.0m	kg			*8650	7220	*6510	4800	5340	3450	5280	3420	7.55
9.8ft	lb			*19070	15920	*14350	10580	11770	7610	11640	7540	(24.8)
1.5m	kg					*7230	4600	5250	3370	5110	3290	7.64
4.9ft	lb					*15940	10140	11570	7430	11270	7250	(25.1)
0.0m	kg			*10480	6680	7170	4480			5270	3370	7.43
0.0ft	lb			*23100	14730	15810	9880			11620	7430	(24.4)
-1.5m	kg			*10180	6690	7150	4460			5890	3750	6.88
-4.9ft	lb			*22440	14750	15760	9830			12990	8270	(22.6)
-3.0m	kg	*12330	*12330	*9100	6840					*6650	4700	5.91
-9.8ft	lb	*27180	*27180	*20060	15080					*14660	10360	(19.4)
-4.5m	kg											
-14.8ft	lb											

Note 1. Lifting capacity are based on ISO 10567.
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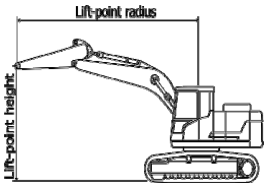
Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger[F]	Outtriger[R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2400	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5080	4910	5.58
24.6ft	lb									*11200	10820	(18.3)
6.0m	kg					*4980	4380			*4620	3490	6.82
19.7ft	lb					*10980	9660			*10190	7690	(22.4)
4.5m	kg			*6320	*6320	*5430	4230	4520	2920	4470	2880	7.55
14.8ft	lb			*13930	*13930	*11970	9330	9960	6440	9850	6350	(24.8)
3.0m	kg			*8110	6050	*6200	3990	4440	2840	4050	2590	7.94
9.8ft	lb			*17880	13340	*13670	8800	9790	6260	8930	5710	(26.1)
1.5m	kg			9370	5590	6030	3770	4330	2740	3910	2480	8.03
4.9ft	lb			20660	12320	13290	8310	9550	6040	8620	5470	(26.3)
0.0m	kg			9130	5390	5870	3630	4260	2680	4010	2530	7.83
0.0ft	lb			20130	11880	12940	8000	9390	5910	8840	5580	(25.7)
-1.5m	kg	*10830	10320	9110	5370	5820	3590			4420	2770	7.31
-4.9ft	lb	*23880	22750	20080	11840	12830	7910			9740	6110	(24.0)
-3.0m	kg	*13210	10520	9230	5470	5910	3670			5410	3390	6.40
-9.8ft	lb	*29120	23190	20350	12060	13030	8090			11930	7470	(21.0)
-4.5m	kg			*7130	5770					*6300	5160	4.89
-14.8ft	lb			*15720	12720					*13890	11380	(16.0)

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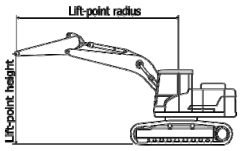
Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa. [㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger[F]	Outtriger[R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2400	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5080	*5080	5.58
24.6ft	lb									*11200	*11200	(18.3)
6.0m	kg					*4980	4870			*4620	3900	6.81
19.7ft	lb					*10980	10740			*10190	8600	(22.4)
4.5m	kg			*6320	*6320	*5430	4710	*4990	3270	*4490	3230	7.55
14.8ft	lb			*13930	*13930	*11970	10380	*11000	7210	*9900	7120	(24.8)
3.0m	kg			*8110	6810	*6200	4480	5010	3190	4570	2910	7.94
9.8ft	lb			*17880	15010	*13670	9880	11050	7030	10080	6420	(26.1)
1.5m	kg			*9660	6340	6860	4250	4900	3090	4420	2790	8.03
4.9ft	lb			*21300	13980	15120	9370	10800	6810	9740	6150	(26.3)
0.0m	kg			*10360	6140	6690	4100	4820	3020	4540	2850	7.83
0.0ft	lb			*22840	13540	14750	9040	10630	6660	10010	6280	(25.7)
-1.5m	kg	*10820	*10820	*10290	6110	6640	4060			5010	3130	7.31
-4.9ft	lb	*23850	*23850	*22690	13470	14640	8950			11050	6900	(24.0)
-3.0m	kg	*13210	12210	*9460	6220	6740	4140			6140	3820	6.41
-9.8ft	lb	*29120	26920	*20860	13710	14860	9130			13540	8420	(21.0)
-4.5m	kg			*7130	6530					*6300	5820	4.89
-14.8ft	lb			*15720	14400					*13890	12830	(16.0)

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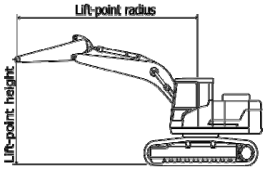
Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger[F]	Outtriger[R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2400	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5080	*5080	5.58
24.6ft	lb									*11200	*11200	(18.3)
6.0m	kg					*4980	4710			*4620	3780	6.82
19.7ft	lb					*10980	10380			*10190	8330	(22.4)
4.5m	kg			*6320	*6320	*5430	4560	4840	3180	*4490	3130	7.55
14.8ft	lb			*13930	*13930	*11970	10050	10670	7010	*9900	6900	(24.8)
3.0m	kg			*8110	6530	*6200	4330	4750	3100	4340	2820	7.94
9.8ft	lb			*17880	14400	*13670	9550	10470	6830	9570	6220	(26.1)
1.5m	kg			*9670	6070	6450	4100	4640	3000	4200	2710	8.03
4.9ft	lb			*21320	13380	14220	9040	10230	6610	9260	5970	(26.3)
0.0m	kg			9780	5870	6290	3960	4570	2930	4310	2770	7.83
0.0ft	lb			21560	12940	13870	8730	10080	6460	9500	6110	(25.7)
-1.5m	kg	*10830	*10830	9760	5850	6240	3920			4740	3030	7.31
-4.9ft	lb	*23880	*23880	21520	12900	13760	8640			10450	6680	(24.0)
-3.0m	kg	*13210	11400	*9460	5950	6330	4000			5800	3690	6.40
-9.8ft	lb	*29120	25130	*20860	13120	13960	8820			12790	8140	(21.0)
-4.5m	kg			*7130	6250					*6300	5590	4.89
-14.8ft	lb			*15720	13780					*13890	12320	(16.0)

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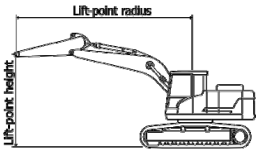
Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa. [㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger [R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2400	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5080	*5080	5.58
24.6ft	lb									*11200	*11200	(18.3)
6.0m	kg					*4980	*4980			*4620	4190	6.81
19.7ft	lb					*10980	*10980			*10190	9240	(22.4)
4.5m	kg			*6320	*6320	*5430	5060	*4990	3540	*4490	3490	7.55
14.8ft	lb			*13930	*13930	*11970	11160	*11000	7800	*9900	7690	(24.8)
3.0m	kg			*8110	7330	*6200	4820	5340	3460	*4580	3150	7.94
9.8ft	lb			*17880	16160	*13670	10630	11770	7630	*10100	6940	(26.1)
1.5m	kg			*9660	6860	*7000	4600	5230	3350	4730	3040	8.03
4.9ft	lb			*21300	15120	*15430	10140	11530	7390	10430	6700	(26.3)
0.0m	kg			*10360	6650	7140	4450	5160	3290	4860	3100	7.83
0.0ft	lb			*22840	14660	15740	9810	11380	7250	10710	6830	(25.7)
-1.5m	kg	*10820	*10820	*10290	6620	7090	4410			5350	3400	7.31
-4.9ft	lb	*23850	*23850	*22690	14590	15630	9720			11790	7500	(24.0)
-3.0m	kg	*13210	13160	*9460	6730	*6940	4490			*6280	4140	6.41
-9.8ft	lb	*29120	29010	*20860	14840	*15300	9900			*13850	9130	(21.0)
-4.5m	kg			*7130	7040					*6300	6270	4.89
-14.8ft	lb			*15720	15520					*13890	13820	(16.0)

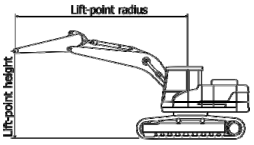
Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.
Lifting capacities will vary with different work tools, ground conditions and attachments.
The difference between the weight of a work tool attachment must be subtracted.
Consult your Hyundai dealer regarding the lifting capacities for specific work tools and attachments.

⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length[mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger[R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2920	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

- : Rating over-front
- : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
7.5m	kg							*4440	4430			*3360	*3360	6.26
24.6ft	lb							*9790	9770			*7410	*7410	(20.5)
6.0m	kg							*4410	*4410			*3090	3050	7.38
19.7ft	lb							*9720	*9720			*6810	6720	(24.2)
4.5m	kg							*4920	4260	4540	2930	*3010	2560	8.07
14.8ft	lb							*10850	9390	10010	6460	*6640	5640	(26.5)
3.0m	kg					*7340	6150	*5740	4000	4420	2820	*3060	2310	8.43
9.8ft	lb					*16180	13560	*12650	8820	9740	6220	*6750	5090	(27.7)
1.5m	kg					*9060	5610	6010	3740	4290	2700	*3240	2210	8.51
4.9ft	lb					*19970	12370	13250	8250	9460	5950	*7140	4870	(27.9)
0.0m	kg			*5920	*5920	9070	5320	5810	3560	4180	2600	*3580	2240	8.32
0.0ft	lb			*13050	*13050	20000	11730	12810	7850	9220	5730	*7890	4940	(27.3)
-1.5m	kg	*6490	*6490	*10390	10020	8970	5240	5720	3480	4150	2570	3910	2430	7.84
-4.9ft	lb	*14310	*14310	*22910	22090	19780	11550	12610	7670	9150	5670	8620	5360	(25.7)
-3.0m	kg	*11110	*11110	*14070	10210	9050	5300	5760	3520			4640	2880	7.00
-9.8ft	lb	*24490	*24490	*31020	22510	19950	11680	12700	7760			10230	6350	(23.0)
-4.5m	kg			*11520	10600	*8120	5520					*6030	4030	5.65
-14.8ft	lb			*25400	23370	*17900	12170					*13290	8880	(18.5)

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4. *Indicates load limited by hydraulic capacity.

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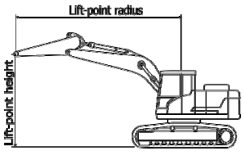
Consult your Hyundai dealer regarding the lifting capacities for specific work tools and attachments.

⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger [F]	Outtriger[R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2920	GP	0.92	NO	NO	3600	600	NONE	NONE	CABIN

- : Rating over-front
- : Rating over- side or 360 degree



Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
														m(ft)
7.5m	kg							*4440	*4440			*3360	*3360	6.26
24.6ft	lb							*9790	*9790			*7410	*7410	(20.5)
6.0m	kg							*4410	*4410			*3090	*3090	7.38
19.7ft	lb							*9720	*9720			*6810	*6810	(24.2)
4.5m	kg							*4920	4750	*4660	3280	*3010	2870	8.07
14.8ft	lb							*10850	10470	*10270	7230	*6640	6330	(26.5)
3.0m	kg					*7340	6920	*5740	4480	5000	3170	*3060	2600	8.43
9.8ft	lb					*16180	15260	*12650	9880	11020	6990	*6750	5730	(27.7)
1.5m	kg					*9060	6370	*6610	4220	4860	3040	*3240	2500	8.51
4.9ft	lb					*19970	14040	*14570	9300	10710	6700	*7140	5510	(27.9)
0.0m	kg			*5910	*5910	*10050	6070	6630	4040	4750	2950	*3580	2540	8.32
0.0ft	lb			*13030	*13030	*22160	13380	14620	8910	10470	6500	*7890	5600	(27.3)
-1.5m	kg	*6490	*6490	*10380	*10380	*10260	5980	6540	3960	4720	2920	*4190	2750	7.84
-4.9ft	lb	*14310	*14310	*22880	*22880	*22620	13180	14420	8730	10410	6440	*9240	6060	(25.7)
-3.0m	kg	*11110	*11110	*14070	11880	*9740	6050	6580	3990			5270	3260	7.00
-9.8ft	lb	*24490	*24490	*31020	26190	*21470	13340	14510	8800			11620	7190	(23.0)
-4.5m	kg			*11530	*11530	*8130	6270					*6030	4560	5.66
-14.8ft	lb			*25420	*25420	*17920	13820					*13290	10050	(18.6)

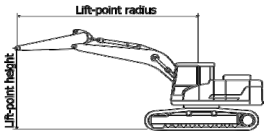
Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.
Lifting capacities will vary with different work tools, ground conditions and attachments.
The difference between the weight of a work tool attachment must be subtracted.
Consult your Hyundai dealer regarding the lifting capacities for specific work tools and attachments.

⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length[mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger[F]	Outtriger[R]	Cabin type
HX210HD	OPT	MONO	GP	5680	GP	2920	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
														m(ft)
7.5m	kg							*4440	*4440			*3360	*3360	6.26
24.6ft	lb							*9790	*9790			*7410	*7410	(20.5)
6.0m	kg							*4410	*4410			*3090	*3090	7.38
19.7ft	lb							*9720	*9720			*6810	*6810	(24.2)
4.5m	kg							*4920	4590	*4660	3180	*3010	2790	8.07
14.8ft	lb							*10850	10120	*10270	7010	*6640	6150	(26.5)
3.0m	kg					*7340	6630	*5740	4330	4740	3070	*3060	2530	8.43
9.8ft	lb					*16180	14620	*12650	9550	10450	6770	*6750	5580	(27.7)
1.5m	kg					*9060	6090	6430	4080	4600	2950	*3240	2430	8.51
4.9ft	lb					*19970	13430	14180	8990	10140	6500	*7140	5360	(27.9)
0.0m	kg			*5920	*5920	9720	5800	6230	3890	4500	2850	*3580	2460	8.32
0.0ft	lb			*13050	*13050	21430	12790	13730	8580	9920	6280	*7890	5420	(27.3)
-1.5m	kg	*6490	*6490	*10390	*10390	9620	5720	6140	3820	4460	2820	*4190	2670	7.84
-4.9ft	lb	*14310	*14310	*22910	*22910	21210	12610	13540	8420	9830	6220	*9240	5890	(25.7)
-3.0m	kg	*11110	*11110	*14070	11090	9690	5780	6180	3850			4980	3160	7.00
-9.8ft	lb	*24490	*24490	*31020	24450	21360	12740	13620	8490			10980	6970	(23.0)
-4.5m	kg			*11520	11480	*8120	6000					*6030	4390	5.65
-14.8ft	lb			*25400	25310	*17900	13230					*13290	9680	(18.5)

Note 1. Lifting capacity are based on ISO 10567.
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3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
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Lifting capacities will vary with different work tools, ground conditions and attachments.
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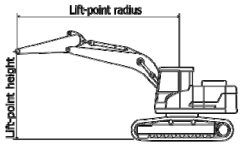
Consult your Hyundai dealer regarding the lifting capacities for specific work tools and attachments.

⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Boom type	Length [mm]	Arm type	Length [mm]	BK type	Capa.[㎥]	QC	Swing Post	CWT[kg]	Shoe (wheel) [mm]	Outtriger[F]	Outtriger [R]	Cabin type
HX220HD	OPT	MONO	GP	5680	GP	2920	GP	0.92	NO	NO	4200	600	NONE	NONE	CABIN

• : Rating over-front • : Rating over-side or 360 degree



Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
														m(ft)
7.5m	kg							*4440	*4440			*3360	*3360	6.26
24.6ft	lb							*9790	*9790			*7410	*7410	(20.5)
6.0m	kg							*4410	*4410			*3090	*3090	7.38
19.7ft	lb							*9720	*9720			*6810	*6810	(24.2)
4.5m	kg							*4920	*4920	*4660	3550	*3010	*3010	8.07
14.8ft	lb							*10850	*10850	*10270	7830	*6640	*6640	(26.5)
3.0m	kg					*7340	*7340	*5740	4830	*5020	3430	*3060	2830	8.43
9.8ft	lb					*16180	*16180	*12650	10650	*11070	7560	*6750	6240	(27.7)
1.5m	kg					*9060	6880	*6610	4570	5190	3310	*3240	2730	8.51
4.9ft	lb					*19970	15170	*14570	10080	11440	7300	*7140	6020	(27.9)
0.0m	kg			*5910	*5910	*10050	6580	7080	4390	5080	3210	*3580	2770	8.32
0.0ft	lb			*13030	*13030	*22160	14510	15610	9680	11200	7080	*7890	6110	(27.3)
-1.5m	kg	*6490	*6490	*10380	*10380	*10260	6490	6990	4310	5050	3180	*4190	3000	7.84
-4.9ft	lb	*14310	*14310	*22880	*22880	*22620	14310	15410	9500	11130	7010	*9240	6610	(25.7)
-3.0m	kg	*11110	*11110	*14070	12840	*9740	6560	7030	4340			*5400	3550	7.00
-9.8ft	lb	*24490	*24490	*31020	28310	*21470	14460	15500	9570			*11900	7830	(23.0)
-4.5m	kg			*11530	*11530	*8130	6780					*6030	4930	5.66
-14.8ft	lb			*25420	*25420	*17920	14950					*13290	10870	(18.6)

Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
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⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

6. BUCKET SELECTION GUIDE

1)HX210HD/ HX220HD COUNTERWEIGHT:

All Buckets are welded with high-strength steel.

0.92 (1.20)

1.20 (1.57)

◉ 0.87 (1.14)
◉ 1.20 (1.57)

SAE Heaped m3 (yd3)

Capacity m3(yd2)			Width mm(in)	Weight Kg (lb)	Tooth EA	Recommendation mm (ft-in) 5.680					
						3.6 ton CWT			4.2 ton CWT		
Type	SAE Heaped	CECE Heaped				2000 (6'7") Arm	2400 (7'10") Arm	2920 (9'7") Arm	2000 (6'7") Arm	2400 (7'10") Arm	2920 (9'7") Arm
HX210HD	0.92 (1.20)	0.80 (1.05)	1,080 (42.5")	765 (1,690)	5	●	◐		●	●	◐
	1.20 (1.57)	1.00(1.31)	1,330 (52.4")	810 (1,790)	5	■	▲	▲	◐	■	▲
	◉ 0.87 (1.14)	0.75 (0.98)	1,140 (44.9")	900 (1,980)	5	●	◐	■	●	●	◐
	◉1.20 (1.57)	1.00 (1.31)	1,410 (55.5")	1,030 (2,270)	5	■	▲	X	■	■	▲
HX220HD	0.92 (1.20)	0.80 (1.05)	1,080 (42.5")	765 (1,690)	5	●	●	◐	●	●	●
	1.20 (1.57)	1.00 (1.31)	1,330 (52.4")	810 (1,790)	5	◐	■	▲	◐	◐	■
	◉0.87 (1.14)	0.75 (0.98)	1,140 (44.9")	900 (1,980)	5	●	●	◐	●	●	●
	◉1.20 (1.57)	1.00 (1.31)	1,410 (55.5")	1,030 (2,270)	5	■	■	▲	◐	■	■

◉ Rock- Heavy duty bucket

●	Applicable for materials with density of 2100 kg/m^3 (3500 lb/yd^3) or less
◐	Applicable for materials with density of 1800 kg/m^3 (3000 lb/yd^3) or less
■	Applicable for materials with density of 1500 kg/m^3 (2500 lb/yd^3) or less
▲	Applicable for materials with density of 1200 kg/m^3 (2000 lb/yd^3) or less
X	Not recommended

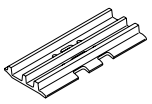
※ These recommendations are for general conditions and average use.
Work tools and ground conditions have effects on machine performance.
Select an optimum combination according to the working conditions and the type of work that is being done.
Consult your Hyundai dealer for information on selecting the correct boom−arm−bucket combination.

7. UNDERCARRIAGE

1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs, and assembled track-type tractor shoes with triple grousers.

2) TYPES OF SHOES

Model	Shapes		Triple grouser			
						
HX210HD	Shoe width	mm (in)	600 (24)	-	-	800 (32)
	Operating weight	kg (lb)	20990 (46270)	-	-	21540 (47490)
	Ground pressure	kgf/cm² (psi)	0.48 (6.86)	-	-	0.42 (6.03)
	Overall width	mm (ft-in)	2800 (9' 2")	-	-	3000 (9' 10")
HX220HD	Shoe width	mm (in)	600 (24)	-	-	800 (32)
	Operating weight	kg (lb)	21420 (47220)	-	-	22200 (48940)
	Ground pressure	kgf/cm² (psi)	0.45 (6.50)	-	-	0.35 (5.06)
	Overall width	mm (ft-in)	2990 (9' 10")	-	-	3190 (10' 6")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item		Quantity
Carrier rollers		2 EA
Track rollers	HX210HD	7 EA
	HX220HD	9 EA
Track shoes	HX210HD	46 EA
	HX220HD	49 EA

4) SELECTION OF TRACK SHOE

Suitable track shoes should be selected according to operating conditions.

Method of selecting shoes

Confirm the category from the list of applications in **table 2**, then use **table 1** to select the shoe. Wide shoes (categories B and C) have limitations on applications. Before using wide shoes, check the precautions, then investigate and study the operating conditions to confirm if these shoes are suitable.

Select the narrowest shoe possible to meet the required flotation and ground pressure.

Application of wider shoes than recommendations will cause unexpected problem such as bending of shoes, crack of link, breakage of pin, loosening of shoe bolts and the other various problems.

※ Table 1

Track shoe	Specification	Category
600 mm triple grouser	Standard	A
800 mm triple grouser	Option	C

※ Table 2

Category	Applications	Precautions
A	Rocky ground, river beds, normal soil	· Travel at low speed on rough ground with large obstacles such as boulders or fallen trees or a wide range of general civil engineering work
B	Normal soil, soft ground	· These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles
C	Extremely soft ground (swampy ground)	· Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B · These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	HYUNDAI 6BTAA-5.9 (HM5.9)
Type	4-cycle, turbocharged, charge air cooled, mechanical controlled diesel engine
Cooling method	Water cooled
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore×stroke	102×120 mm (4.02 "×4.72 ")
Piston displacement	5900 cc (360 cu in)
Compression ratio	17.3 : 1
Rated gross horse power (SAE J1995)	148 Hp at 2000rpm (110 kW at 2000 rpm)
Rated net horse power (SAE J1349)	145 Hp at 2000 rpm (108 kW at 2000 rpm)
Maximum torque at 1300 rpm	64 kgf · m (463 lbf · ft)
Engine oil quantity	14 ℓ (3.8 U.S. gal) : -#1161 20 ℓ (5.3 U.S. gal) : #1162-
Dry weight	437 kg (963 lb)
High idling speed	2250 ± 50 rpm
Low idling speed	800 ± 100 rpm
Rated fuel consumption	95 g/Hp · hr at 1200 rpm
Starting motor	Lucas 24V
Alternator	Lucas 24V-75A
Battery	2×12V×100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2×117 cc/rev
Maximum pressure	350 kgf/cm^2 (4978 psi)
Rated oil flow	2×234 ℓ /min (61.8 U.S. gpm/ 51.4 U.K. gpm)
Rated speed	2000 rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15 cc/rev
Maximum pressure	40 kgf/cm^2 (568 psi)
Rated oil flow	30.0 ℓ/min (7.9 U.S. gpm/6.7 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools mono-block
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm^2 (4978 psi)
Overload relief valve pressure	400 kgf/cm^2 (5689 psi)

5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	142.8 cc/rev
Relief pressure	265 kgf/cm^2 (3894 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	63.3 kgf/cm^2 (470.8 lbf · ft)
Brake release pressure	20.9~35.5 kgf/cm^2 (297~505 psi)
Reduction gear type	2 - stage planetary
Swing speed	12.2rpm

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	350 kgf/cm^2 (4978 psi)
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	13 kgf/cm^2 (182 psi)
Braking torque	65.1 kgf · m (470 lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5 kgf/cm² (92 psi)
	Maximum	26 kgf/cm² (370 psi)
Single operation stroke	Lever	61 mm (2.4 in)
	Pedal	123 mm (4.84 in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø120 × Ø85 × 1290 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø140 × Ø100 × 1510 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø120 × Ø85 × 1055 mm
	Cushion	Extend only

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
HX210HD	Standard	600 mm (24")	0.48 kgf/cm² (6.86 psi)	46	2800 mm (9' 2")
	Option	800 mm (32")	0.42 kgf/cm² (6.03 psi)	46	3000 mm (9' 10")
HX220HD	Standard	600 mm (24")	0.45 kgf/cm² (6.50 psi)	49	2990 mm (9' 10")
	Option	800 mm (32")	0.35 kgf/cm² (5.06 psi)	49	3190 mm (10' 6")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
HX210HD HX220HD	STD	0.92 m³ (1.20 yd³)	0.80 m³ (1.05 yd³)	5	1080 mm (42.5")	1250 mm (49.2")
	OPT	1.20 m³ (1.57 yd³)	1.00 m³ (1.31 yd³)	5	1330 mm (52.4")	1500 mm (59.1")
		◈0.87 m³ (1.14 yd³)	0.75 m³ (0.98 yd³)	5	1140 mm (44.9")	–
		◈1.20 m³ (1.14 yd³)	1.00 m³ (1.31 yd³)	5	1410 mm (55.5")	–

◈ : Heavy duty bucket

9. RECOMMENDED OILS

HYUNDAI genuine lubricating oils have been developed to offer the best performance and service life for your equipment. These oils have been tested according to the specifications of HYUNDAI and, therefore, will meet the highest safety and quality requirements.
We recommend that you use only HYUNDAI genuine lubricating oils and grease officially approved by HYUNDAI.

Service point	Kind of fluid	Capacity ℓ (U.S. gal)	Ambient temperature °C(°F) -50 (-58) -30 (-22) -20 (-4) -10 (14) 0 (32) 10 (50) 20 (68) 30 (86) 40 (104)
Engine oil pan	Engine oil ★2		★SAE 0W-40 ★SAE 0W-30 SAE 5W-30 SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	6.2 (1.6)	★SAE 75W-90
Final drive		4.5×2 (1.2×2)	SAE 80W-90
Hydraulic tank	Hydraulic oil	Tank : 160 (42.3) System : 275 (72.6)	★ISO VG 15 ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	340 (89.8)	★ASTM D975 NO.1 ASTM D975 NO.2
Fitting (grease nipple)	Grease	As required	★NLGI NO.1 NLGI NO.2
Radiator (reservoir tank)	Mixture of antifreeze and soft water★1	31 (8.2)	Ethylene glycol base permanent type (50 : 50) ★Ethylene glycol base permanent type (60 : 40)

SAE : Society of Automotive Engineers
API : American Petroleum Institute
ISO : International Organization for Standardization
NLGI : National Lubricating Grease Institute
ASTM : American Society of Testing and Material

★ : Cold region
Russia, CIS, Mongolia
★1 : Soft water
City water or distilled water
★2 : Meets or exceeds
API CI-4 grade

※ Using any lubricating oils other than HYUNDAI genuine products may lead to a deterioration of performance and cause damage to major components.
※ Do not mix HYUNDAI genuine oil with any other lubricating oil as it may result in damage to the systems of major components.
※ For HYUNDAI genuine lubricating oils and grease for use in regions with extremely low temperatures, please contact HYUNDAI dealers.