SECTION 1 GENERAL

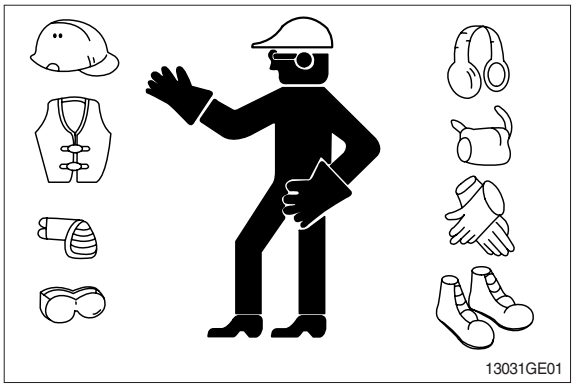
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

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

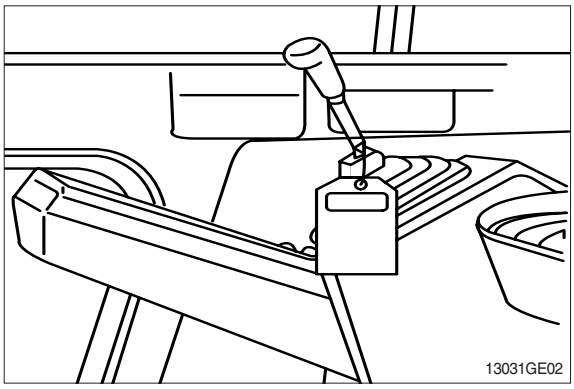
WEAR PROTECTIVE CLOTHING

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



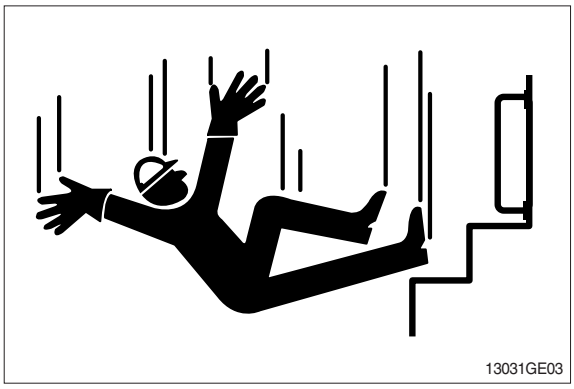
WARN OTHERS OF SERVICE WORK

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.

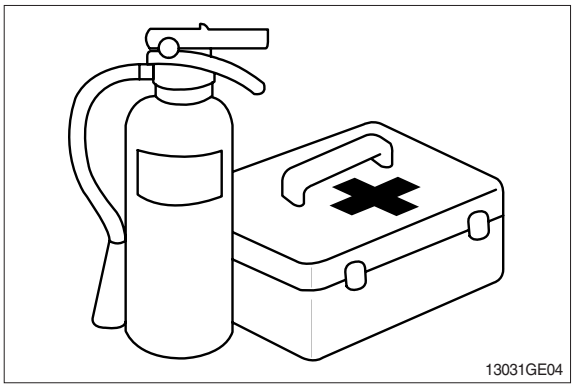


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

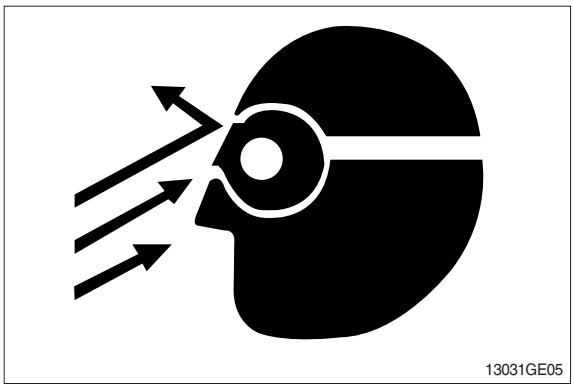
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

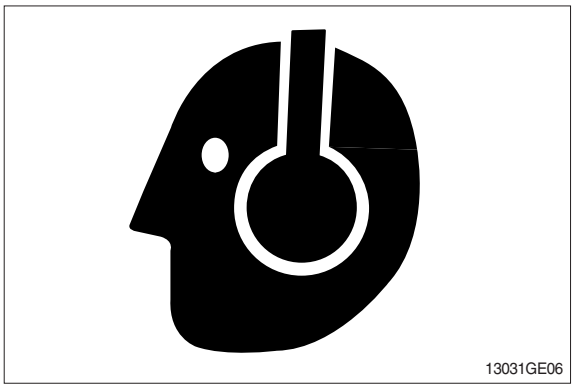
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

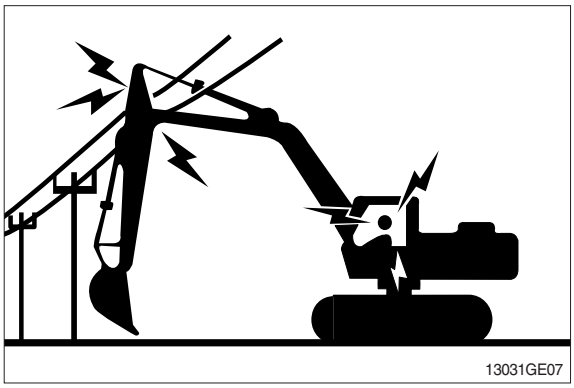
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

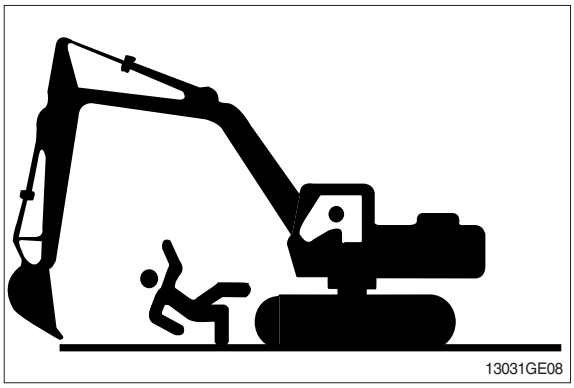
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

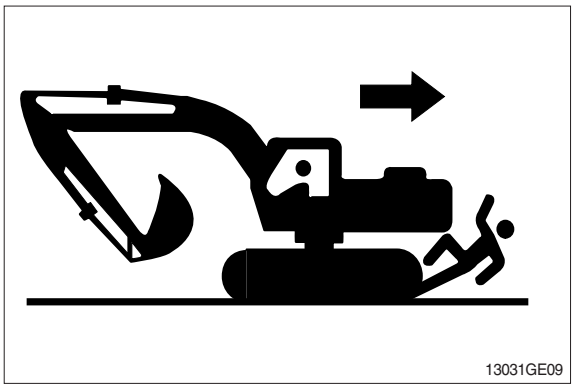

13031GE08

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.

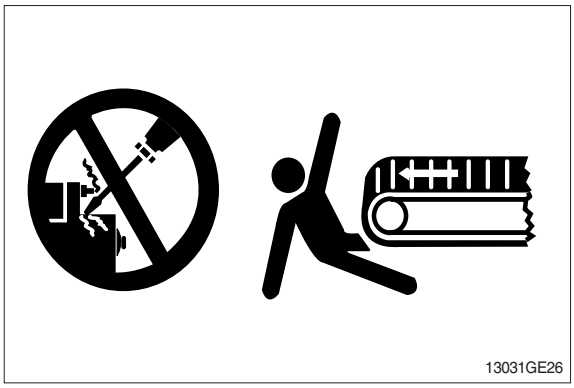
Use a signal person when moving, swinging, or operating the machine in congested areas. Coordinate hand signals before starting the excavator.


13031GE09

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.


13031GE26

PARK MACHINE SAFELY

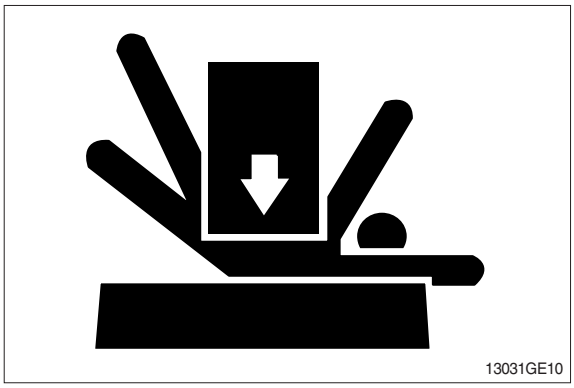
Before working on the machine:

- 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.

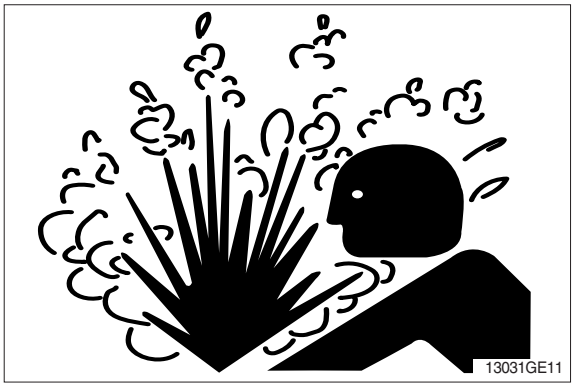
Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load.
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.


13031GE10

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.


13031GE11

HANDLE FLUIDS SAFELY-AVOID FIRES

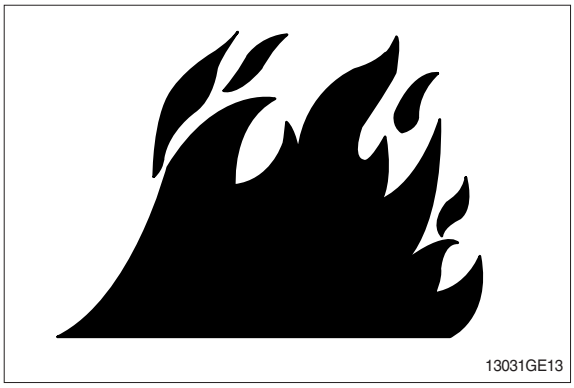
Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine.
Fill fuel tank outdoors.


13031GE12

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

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

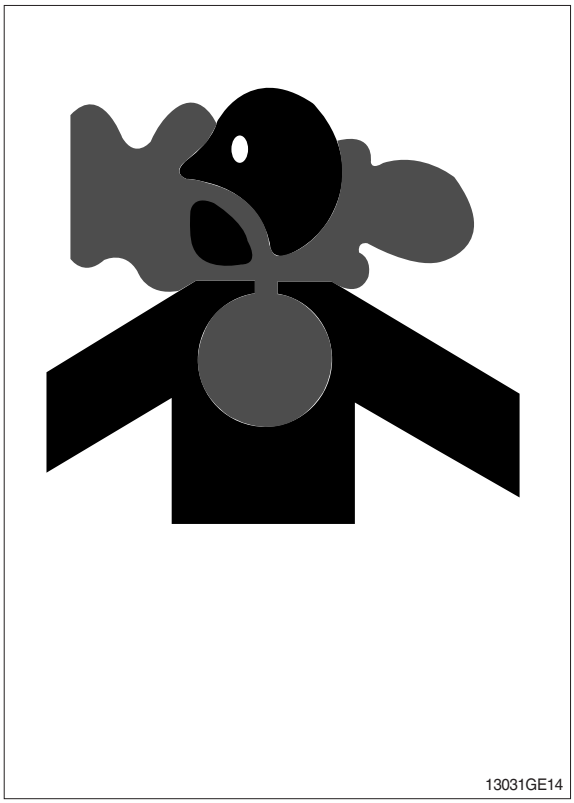
Do not store oily rags; They can ignite and burn spontaneously.


13031GE13

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.

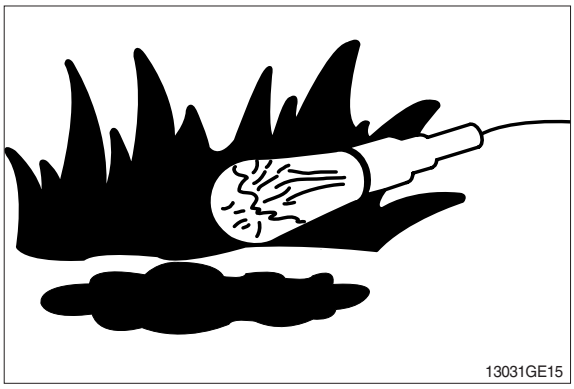
Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

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

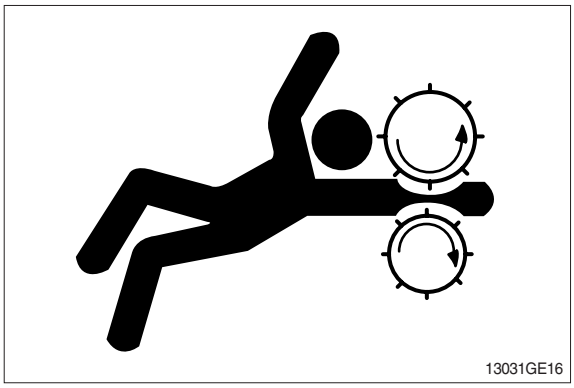
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.


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.

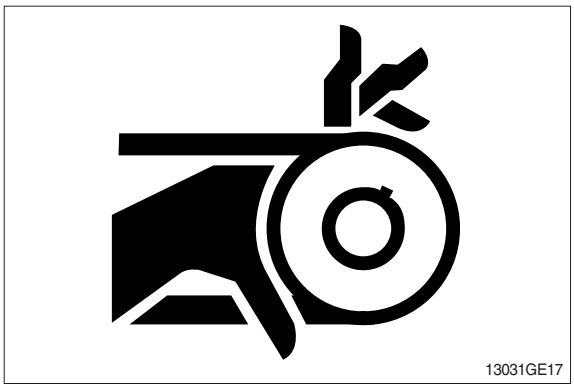
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



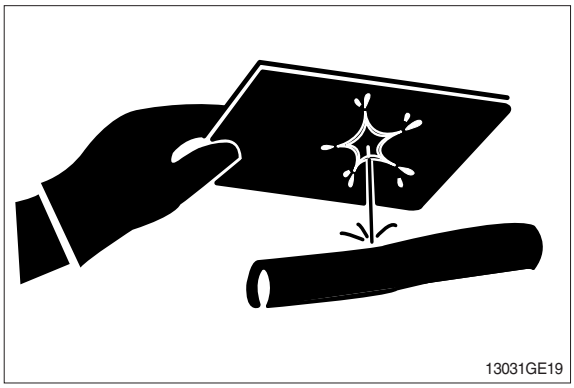
AVOID HIGH PRESSURE FLUIDS

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.


13031GE20

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 do not charge a frozen battery; It may explode. Warm battery to 16 ℃ (60 ℉).


13031GE21

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:

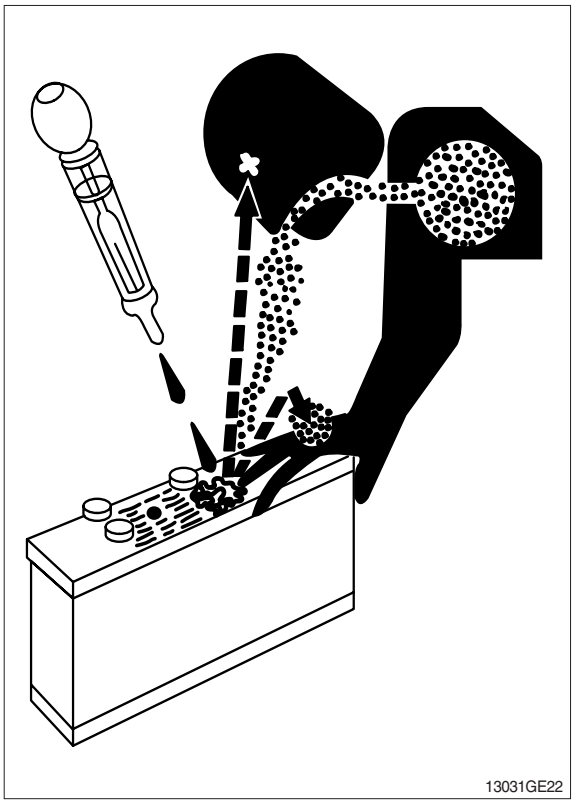
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling of dripping electrolyte.
5. Use proper jump start procedure.

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.



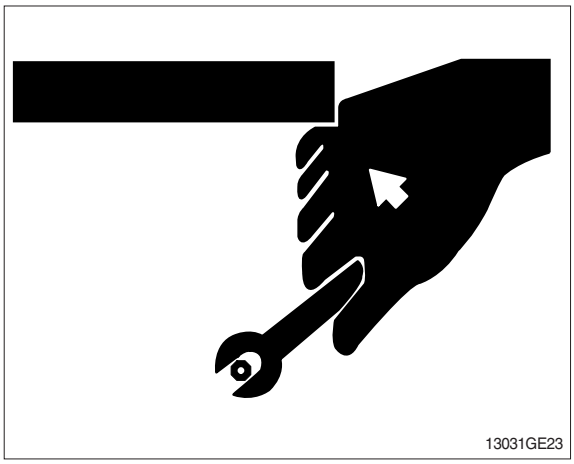
USE TOOLS PROPERLY

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 manual.)

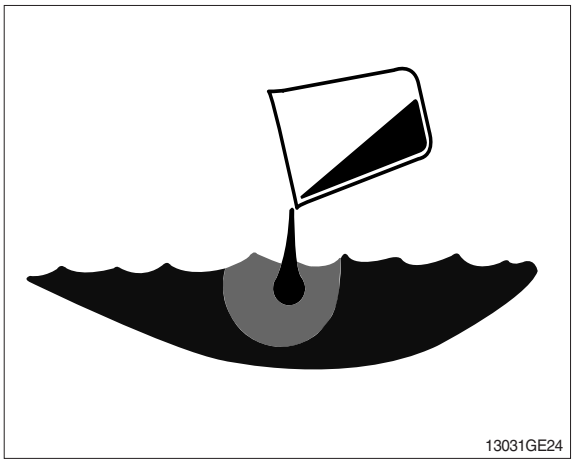


DISPOSE OF FLUIDS PROPERLY

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.

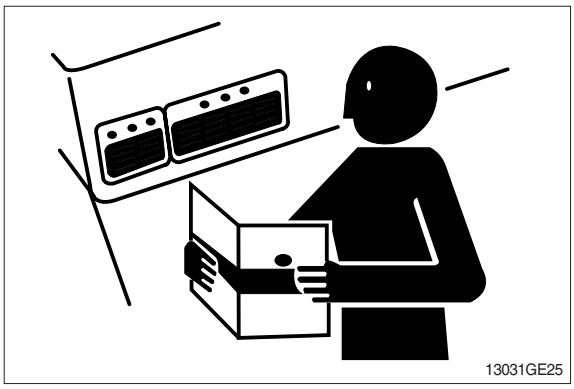
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.

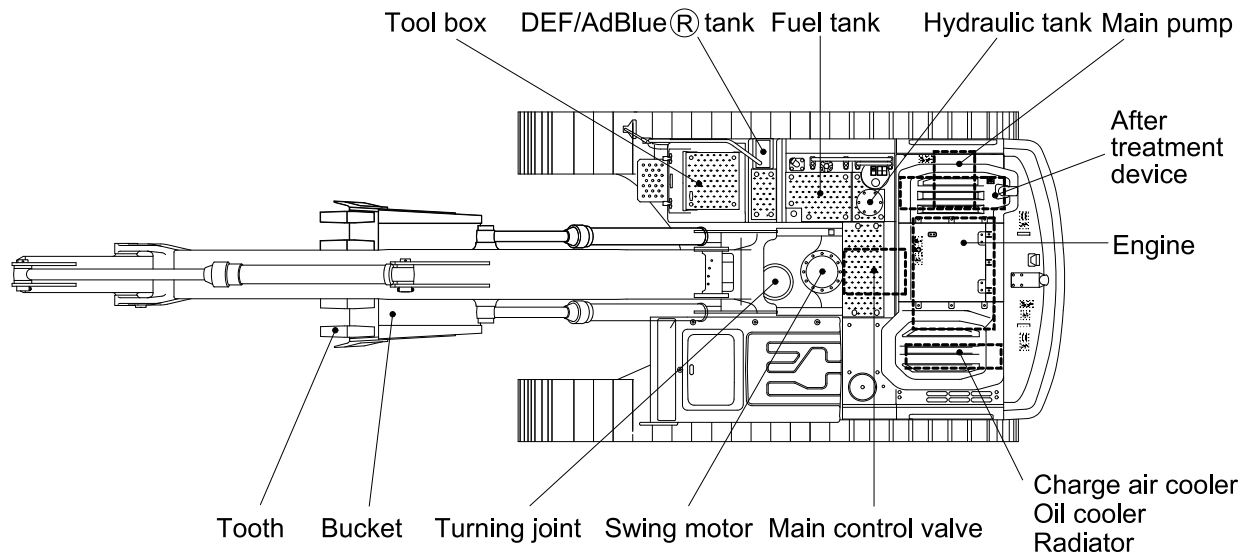

13031GE25

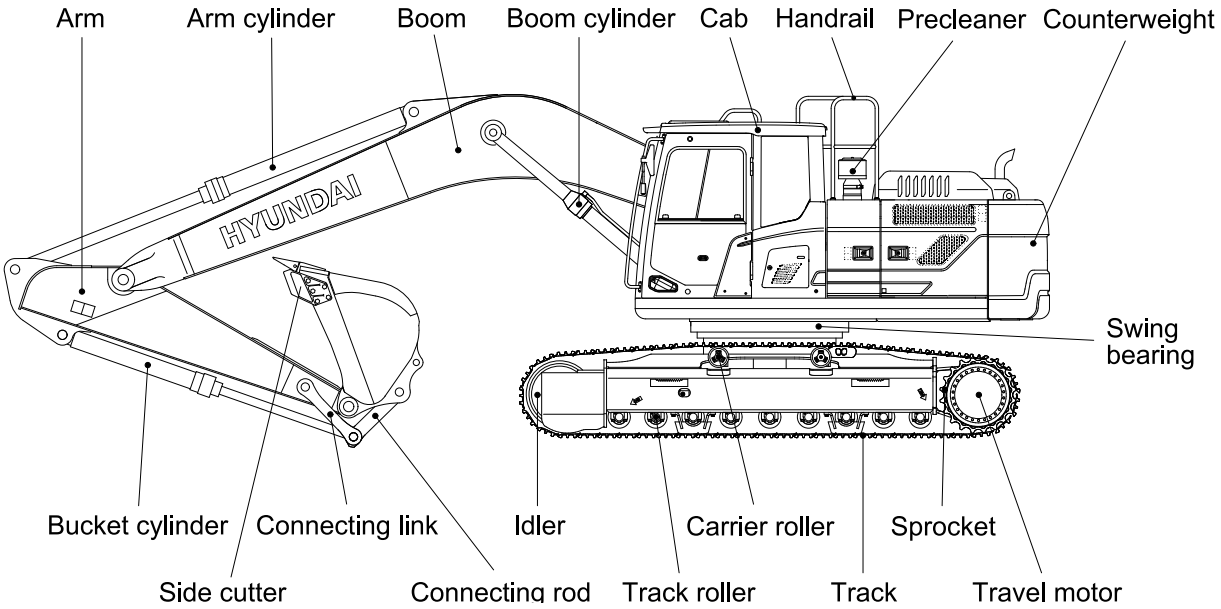
LIVE WITH SAFETY

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

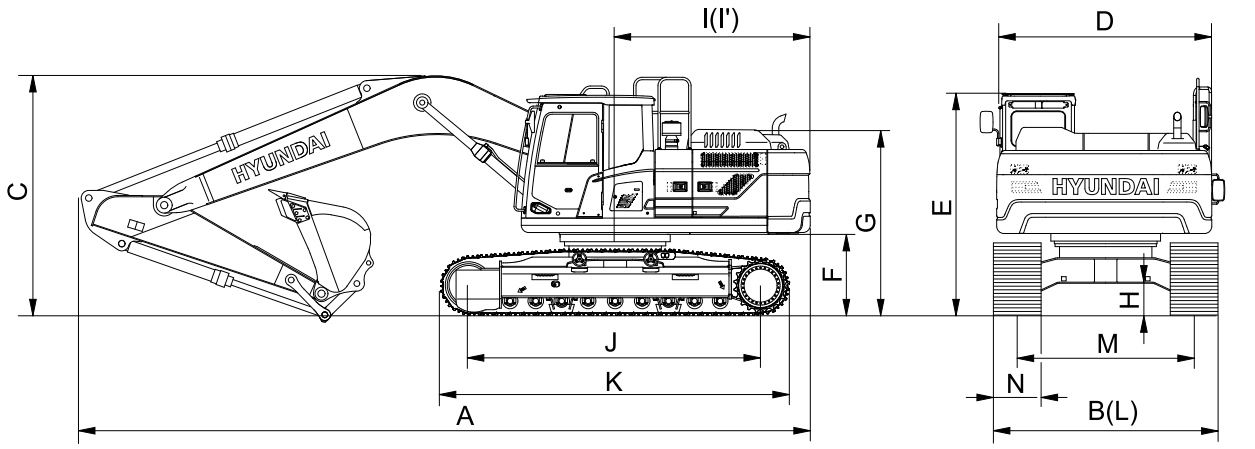




220A2SP01

2. SPECIFICATIONS

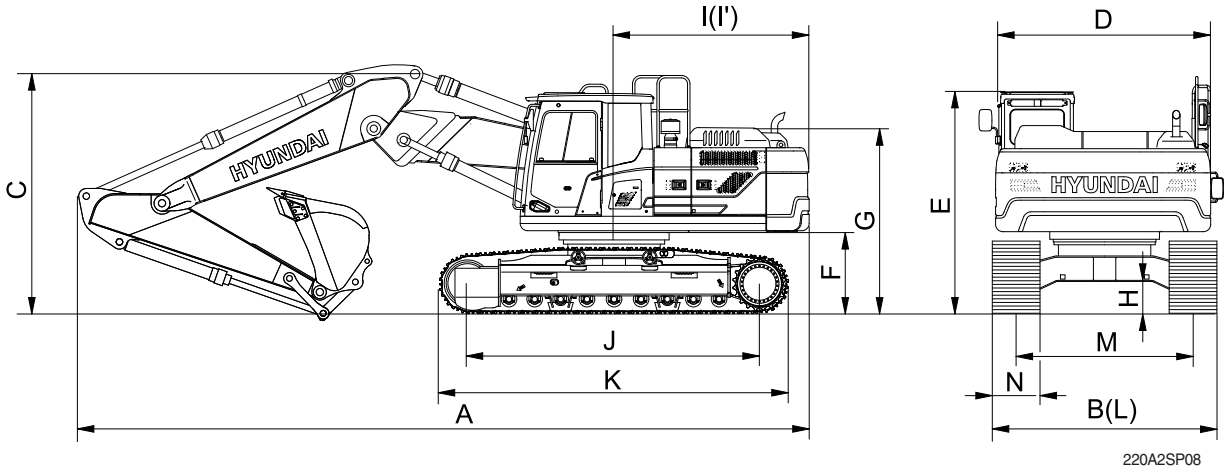
1) HX220A L, MONO BOOM



220A2SP02

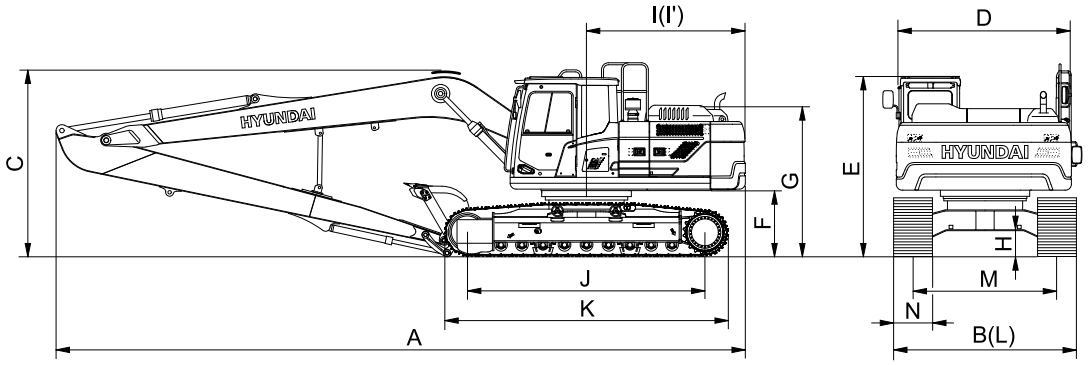
Description		Unit		Specification			
		m (ft-in)	Boom	5.70 (18' 8")			
			Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")	3.50 (11' 6")
		mm (in)	Shoe	600 (24)			
Operating weight		kg (lb)		22280 (49120)	22130 (48790)	22190 (48920)	22510 (49630)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.2)	0.92 (1.2)	0.92 (1.2)	0.92 (1.2)
Overall length	A	mm (ft-in)		9550 (31' 4")	9620 (31' 7")	9575 (31' 5")	9560 (31' 4")
Overall width	B			2990 (9' 10")	2990 (9' 10")	2990 (9' 10")	2990 (9' 10")
Overall height of boom	C			2960 (9' 9")	3115 (10' 3")	3020 (9' 11")	3320 (10' 11")
Superstructure width	D			2740 (9' 0")	2740 (9' 0")	2740 (9' 0")	2740 (9' 0")
Overall height of cab	E			3035 (9' 11")	3035 (9' 11")	3035 (9' 11")	3035 (9' 11")
Ground clearance of counterweight	F			1115 (3' 8")	1115 (3' 8")	1115 (3' 8")	1115 (3' 8")
Overall height of engine hood	G			2520 (8' 3")	2520 (8' 3")	2520 (8' 3")	2520 (8' 3")
Overall height of guardrail	G'			3245 (10' 8")	3245 (10' 8")	3245 (10' 8")	3245 (10' 8")
Minimum ground clearance	H			475 (1' 7")	475 (1' 7")	475 (1' 7")	475 (1' 7")
Rear-end distance	I			2770 (9' 1")	2770 (9' 1")	2770 (9' 1")	2770 (9' 1")
Rear-end swing radius	I'			2890 (9' 6")	2890 (9' 6")	2890 (9' 6")	2890 (9' 6")
Distance between tumblers	J			3650 (12' 0")	3650 (12' 0")	3650 (12' 0")	3650 (12' 0")
Undercarriage length	K			4395 (14' 5")	4395 (14' 5")	4395 (14' 5")	4395 (14' 5")
Undercarriage width	L			2990 (9' 10")	2990 (9' 10")	2990 (9' 10")	2990 (9' 10")
Track gauge	M			2390 (7' 10")	2390 (7' 10")	2390 (7' 10")	2390 (7' 10")
Track shoe width, standard	N			600 (24")	600 (24")	600 (24")	600 (24")
Travel speed (low/high)		km/hr (mph)		3.5/5.4 (2.2/3.4)	3.5/5.4 (2.2/3.4)	3.5/5.4 (2.2/3.4)	3.5/5.4 (2.2/3.4)
Swing speed		rpm		11.4	11.4	11.4	11.4
Gradeability		Degree (%)		35 (70)	35 (70)	35 (70)	35 (70)
Ground pressure		kgf/cm^2 (psi)		0.48 (6.76)	0.47 (6.72)	0.47 (6.74)	0.48 (6.83)
Max traction force		kg (lb)		20830 (45922)	20830 (45922)	20830 (45922)	20830 (45922)

2) HX220A L, 2-PIECE BOOM



Description		Unit		Specification		
		m (ft-in)	Boom	5.87 (19' 3")		
			Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")
		mm (in)	Shoe	600 (24)	600 (24)	600 (24)
Operating weight		kg (lb)		22990 (50680)	22840 (50350)	22900 (50490)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.2)	0.92 (1.2)	0.92 (1.2)
Overall length	A	mm (ft-in)		9715 (31' 10")	9750 (32' 0")	9725 (31' 11")
Overall width	B			2990 (9' 10")	2990 (9' 10")	2990 (9' 10")
Overall height of boom	C			3035 (9' 11")	3010 (9' 11")	3015 (9' 11")
Superstructure width	D			2740 (9' 0")	2740 (9' 0")	2740 (9' 0")
Overall height of cab	E			3035 (9' 11")	3035 (9' 11")	3035 (9' 11")
Ground clearance of counterweight	F			1115 (3' 8")	1115 (3' 8")	1115 (3' 8")
Overall height of engine hood	G			2520 (8' 3")	2520 (8' 3")	2520 (8' 3")
Overall height of guardrail	G'			3245 (10' 6")	3245 (10' 6")	3245 (10' 6")
Minimum ground clearance	H			475 (1' 7")	475 (1' 7")	475 (1' 7")
Rear-end distance	I			2770 (9' 1")	2770 (9' 1")	2770 (9' 1")
Rear-end swing radius	I'			2890 (9' 6")	2890 (9' 6")	2890 (9' 6")
Distance between tumblers	J			3650 (12' 0")	3650 (12' 0")	3650 (12' 0")
Undercarriage length	K			1395 (14' 5")	1395 (14' 5")	1395 (14' 5")
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 (24")	600 (24")	600 (24")
Travel speed (low/high)		km/hr (mph)		3.5/5.4 (2.2/3.4)	3.5/5.4 (2.2/3.4)	3.5/5.4 (2.2/3.4)
Swing speed		rpm		11.2	11.2	11.2
Gradeability		Degree (%)		35 (70)	35 (70)	35 (70)
Ground pressure		kgf/cm^2 (psi)		0.49 (6.98)	0.49 (6.98)	0.49 (6.98)
Max traction force		kg (lb)		20830 (45922)	20830 (45922)	20830 (45922)

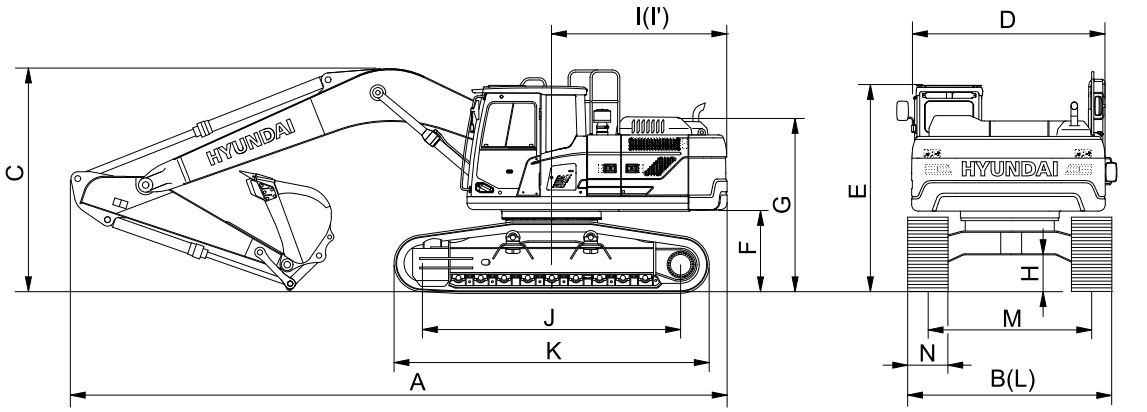
3) HX220A LR



220A2SP03

Description		Unit		Specification
		m (ft-in)	Boom	8.50 (27' 11")
			Arm	6.20 (20' 4")
		mm (in)	Shoe	800 (32)
Operating weight		kg (lb)		25420 (56040)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.2)
Overall length	A	mm (ft-in)		12345 (40' 6")
Overall width	B			3190 (10' 6")
Overall height of boom	C			3365 (11' 0")
Superstructure width	D			2740 (9' 0")
Overall height of cab	E			3035 (9' 11")
Ground clearance of counterweight	F			1115 (3' 8")
Overall height of engine hood	G			2520 (8' 3")
Overall height of guardrail	G'			3245 (10' 8")
Minimum ground clearance	H			475 (1' 7")
Rear-end distance	I			2770 (9' 1")
Rear-end swing radius	I'			2890 (9' 6")
Distance between tumblers	J			3650 (12' 0")
Undercarriage length	K			4395 (14' 5")
Undercarriage width	L			3190 (10' 6")
Track gauge	M			2390 (7' 10")
Track shoe width, standard	N			800 (32")
Travel speed (low/high)		km/hr (mph)		3.5/5.4 (2.2/3.4)
Swing speed		rpm		11.4
Gradeability		Degree (%)		35 (70)
Ground pressure		kgf/cm^2 (psi)		0.41 (5.79)
Max traction force		kg (lb)		20830 (45922)

4) HX220A HW, MONO BOOM

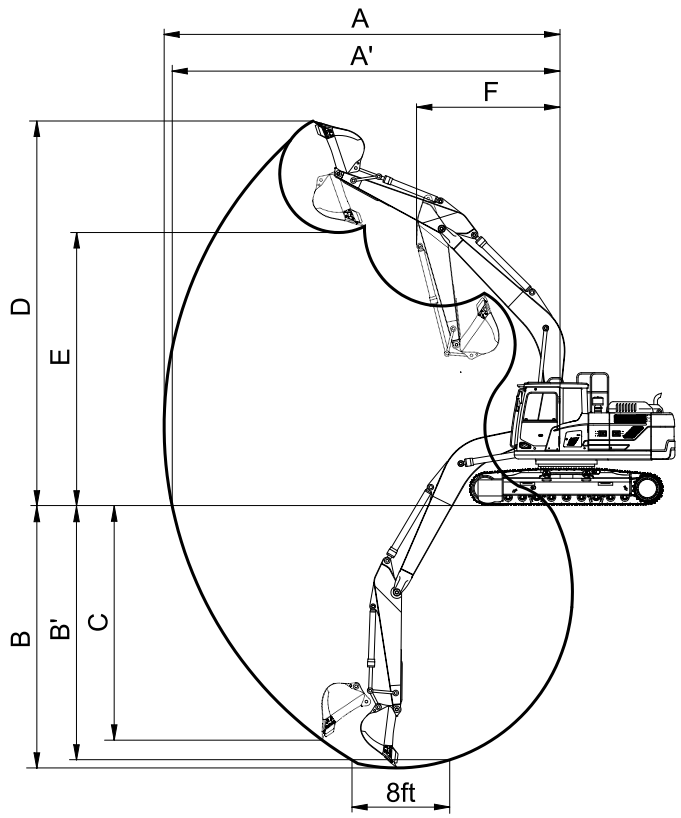


220A2SP04

Description		Unit		Specification			
		m (ft-in)	Boom	5.70 (18' 8")			
			Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")	3.50 (11' 6")
		mm (in)	Shoe	600 (24)			
Operating weight		kg (lb)		24410 (53820)	24250 (53460)	24320 (53610)	24640 (54320)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)		0.92 (1.2)	0.92 (1.2)	0.92 (1.2)	0.92 (1.2)
Overall length	A	mm (ft-in)		9515 (31' 3")	9625 (31' 7")	9560 (31' 4")	9575 (31' 5")
Overall width	B			3395 (11' 2")	3395 (11' 2")	3395 (11' 2")	3395 (11' 2")
Overall height of boom	C			2975 (9' 9")	3195 (10' 6")	3090 (10' 2")	3275 (10' 9")
Superstructure width	D			2740 (9' 0")	2740 (9' 0")	2740 (9' 0")	2740 (9' 0")
Overall height of cab	E			3200 (10' 6")	3200 (10' 6")	3200 (10' 6")	3200 (10' 6")
Ground clearance of counterweight	F			1260 (4' 2")	1260 (4' 2")	1260 (4' 2")	1260 (4' 2")
Overall height of engine hood	G			2720 (8' 11")	2720 (8' 11")	2720 (8' 11")	2720 (8' 11")
Overall height of guardrail	G'			3410 (11' 2")	3410 (11' 2")	3410 (11' 2")	3410 (11' 2")
Minimum ground clearance	H			660 (2' 2")	660 (2' 2")	660 (2' 2")	660 (2' 2")
Rear-end distance	I			2770 (9' 1")	2770 (9' 1")	2770 (9' 1")	2770 (9' 1")
Rear-end swing radius	I'			2890 (9' 6")	2890 (9' 6")	2890 (9' 6")	2890 (9' 6")
Distance between tumblers	J			3650 (12' 0")	3650 (12' 0")	3650 (12' 0")	3650 (12' 0")
Undercarriage length	K			4404 (14' 5")	4404 (14' 5")	4404 (14' 5")	4404 (14' 5")
Undercarriage width	L			3395 (11' 2")	3395 (11' 2")	3395 (11' 2")	3395 (11' 2")
Track gauge	M			2795 (9' 2")	2795 (9' 2")	2795 (9' 2")	2795 (9' 2")
Track shoe width, standard	N			600 (24")	600 (24")	600 (24")	600 (24")
Travel speed (low/high)		km/hr (mph)		2.9 (5.1)	2.9 (5.1)	2.9 (5.1)	2.9 (5.1)
Swing speed		rpm		11.4	11.4	11.4	11.4
Gradeability		Degree (%)		35 (70)	35 (70)	35 (70)	35 (70)
Ground pressure		kgf/cm^2 (psi)		0.50 (7.15)	0.50 (7.11)	0.50 (7.13)	0.51 (7.22)
Max traction force		kg (lb)		22190 (48921)	22190 (48921)	22190 (48921)	22190 (48921)

3. WORKING RANGE AND DIGGING FORCE

1) HX220A L, MONO BOOM

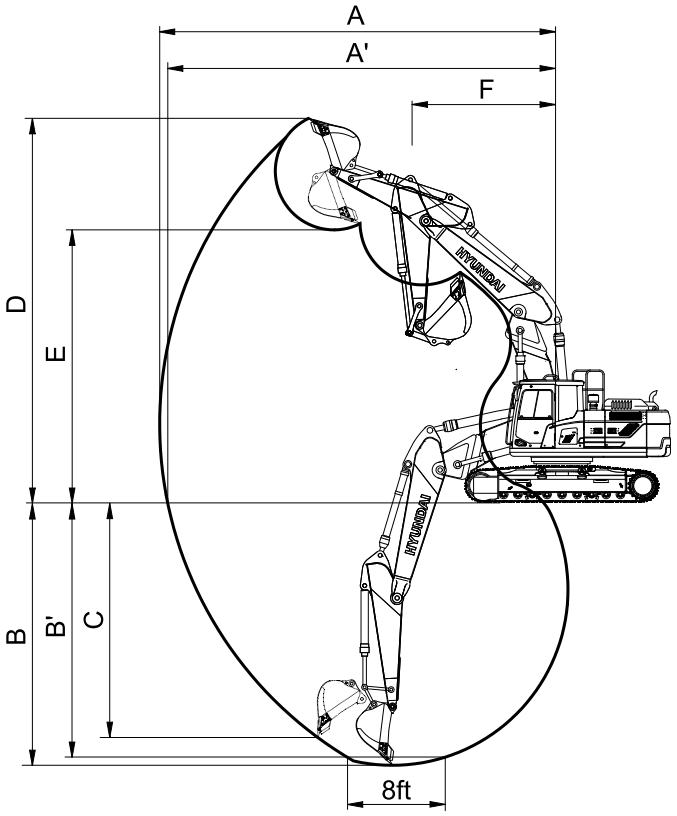


220A2SP05

Description	m (ft-in)	Boom	5.70 (18' 8")			
		Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")	3.50 (11' 6")
Max digging reach	mm (ft-in)	A	9945 (32' 8")	9145 (30' 0")	9525 (31' 3")	10450 (34' 3")
Max digging reach on ground		A'	9780 (32' 1")	8960 (29' 5")	9355 (30' 8")	10290 (33' 9")
Max digging depth		B	6500 (21' 4")	5585 (18' 4")	5990 (19' 8")	7090 (23' 3")
Max digging depth (8 ft level)		B'	6315 (20' 9")	5360 (17' 7")	5790 (19' 0")	6935 (22' 9")
Max vertical wall digging depth		C	5960 (19' 7")	5070 (16' 8")	5445 (17' 10")	6330 (20' 9")
Max digging height		D	9750 (32' 0")	9370 (30' 9")	9625 (31' 7")	9890 (32' 5")
Max dumping height		E	6990 (22' 11")	6580 (21' 7")	6380 (22' 5")	7160 (23' 6")
Min swing radius		F	3425 (11' 3")	3715 (12' 2")	3400 (11' 2")	3445 (11' 4")
Bucket digging force	kN	SAE	130.4 [141.6]	130.4 [141.6]	130.4 [141.6]	130.4 [141.6]
	kgf		13300 [14440]	13300 [14440]	13300 [14440]	13300 [14440]
	lbf		29320 [31830]	29320 [31830]	29320 [31830]	29320 [31830]
	kN	ISO	152.3 [165.3]	152.3 [165.3]	152.3 [165.3]	152.3 [165.3]
	kgf		15530 [16860]	15530 [16860]	15530 [16860]	15530 [16860]
	lbf		34240 [37170]	34240 [37170]	34240 [37170]	34240 [37170]
Arm digging force	kN	SAE	102.8 [111.6]	144.3 [156.6]	119.3 [129.4]	92.2 [100.1]
	kgf		10480 [11380]	14710 [15970]	12160 [13200]	9400 [10210]
	lbf		23100 [25090]	32430 [35210]	26810 [29100]	20720 [22510]
	kN	ISO	106.9 [116.0]	152.0 [165.0]	124.7 [135.4]	95.4 [103.6]
	kgf		10900 [11830]	15500 [16830]	12720 [13810]	9730 [10560]
	lbf		24030 [26080]	34170 [37100]	28040 [30450]	21450 [23280]

[ ] : Power boost

2) HX220A L, 2-PIECE BOOM

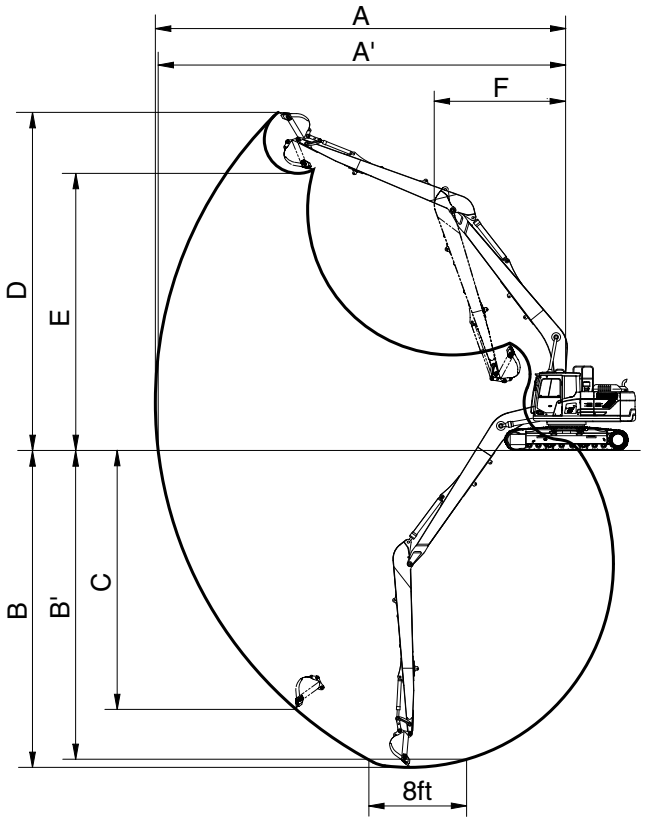


220A2SP10

Description	m (ft-in)	Boom	5.87 (19' 3")		
		Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")
Max digging reach	mm (ft-in)	A	10215 (33' 6")	9380 (30' 9")	9775 (32' 1")
Max digging reach on ground		A'	10055 (33' 0")	9205 (30' 2")	9605 (31' 6")
Max digging depth		B	6410 (21' 0")	5535 (18' 2")	5940 (19' 6")
Max digging depth (8 ft level)		B'	6305 (20' 8")	5415 (17' 9")	5825 (19' 1")
Max vertical wall digging depth		C	4160 (13' 8")	3405 (11' 2")	3690 (12' 1")
Max digging height		D	11430 (37' 6")	10730 (35' 2")	11090 (36' 5")
Max dumping height		E	8500 (27' 11")	7800 (25' 7")	8160 (26' 9")
Min swing radius		F	2610 (8' 7")	2820 (9' 3")	2700 (8' 10")
Bucket digging force	kN	SAE	130.4 [141.6]	130.4 [141.6]	130.4 [141.6]
	kgf		13300 [14440]	13300 [14440]	13300 [14440]
	lbf		29320 [31830]	29320 [31830]	29320 [31830]
	kN	ISO	152.3 [165.3]	152.3 [165.3]	152.3 [165.3]
	kgf		15530 [16860]	15530 [16860]	15530 [16860]
	lbf		34240 [37170]	34240 [37170]	34240 [37170]
Arm digging force	kN	SAE	102.8 [111.6]	144.3 [156.6]	119.3 [129.4]
	kgf		10480 [11380]	14710 [15970]	12160 [13200]
	lbf		23100 [25090]	32430 [35210]	26810 [29100]
	kN	ISO	106.9 [116.0]	152.0 [165.0]	124.7 [135.4]
	kgf		10900 [11830]	15500 [16830]	12720 [13810]
	lbf		24030 [26080]	34170 [37100]	28040 [30450]

[ ] : Power boost

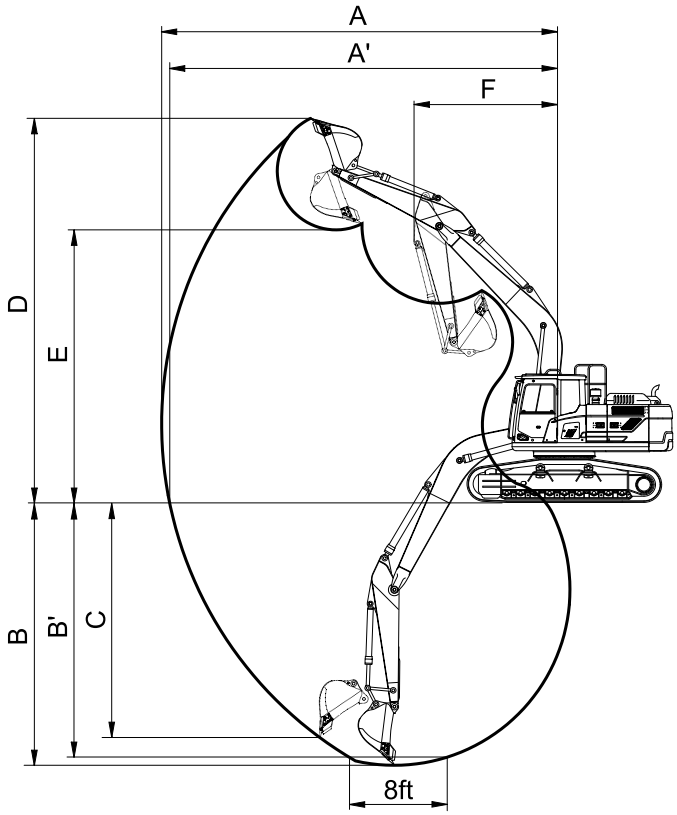
3) HX220A LR



220A2SP06A

Description	m (ft-in)	Boom	8.50 (27' 11")
		Arm	6.20 (20' 4")
Max digging reach	mm (ft-in)	A	15425 (50' 7")
Max digging reach on ground		A'	15320 (50' 3")
Max digging depth		B	11500 (37' 9")
Max digging depth (8 ft level)		B'	11355 (37' 3")
Max vertical wall digging depth		C	10265 (33' 8")
Max digging height		D	13445 (44' 1")
Max dumping height		E	11200 (36' 9")
Min swing radius		F	4705 (15' 5")
Bucket digging force	kN	SAE	68.0
	kgf		6930
	lbf		15280
	kN	ISO	80.3
	kgf		8190
	lbf		18060
Arm digging force	kN	SAE	49.5
	kgf		5050
	lbf		11130
	kN	ISO	111.3
	kgf		11350
	lbf		25020

4) HX220A HW



220A2SP07

Description	m (ft-in)	Boom	5.70 (18' 8")			
		Arm	2.90 (9' 6")	2.00 (6' 7")	2.40 (7' 10")	3.50 (11' 6")
Max digging reach	mm (ft-in)	A	9945 (32' 8")	9145 (30' 0")	9525 (31' 3")	10450 (34' 3")
Max digging reach on ground		A'	9740 (31' 11")	8920 (29' 3")	9310 (30' 7")	10255 (33' 8")
Max digging depth		B	6290 (20' 8")	5385 (17' 8")	5785 (19' 0")	6890 (22' 7")
Max digging depth (8 ft level)		B'	6115 (20' 1")	5160 (16' 11")	5590 (18' 4")	6735 (22' 1")
Max vertical wall digging depth		C	5760 (18' 11")	4870 (16' 0")	5245 (17' 2")	6130 (20' 1")
Max digging height		D	9950 (32' 8")	9570 (31' 5")	9825 (32' 3")	10090 (33' 1")
Max dumping height		E	7190 (23' 7")	6780 (22' 3")	7030 (23' 1")	7360 (24' 2")
Min swing radius		F	3425 (11' 3")	3715 (12' 2")	3340 (10' 11")	3445 (11' 4")
Bucket digging force	kN	SAE	130.4 [141.6]	130.4 [141.6]	130.4 [141.6]	130.4 [141.6]
	kgf		13300 [14440]	13300 [14440]	13300 [14440]	13300 [14440]
	lbf		29320 [31830]	29320 [31830]	29320 [31830]	29320 [31830]
	kN	ISO	152.3 [165.3]	152.3 [165.3]	152.3 [165.3]	152.3 [165.3]
	kgf		15530 [16860]	15530 [16860]	15530 [16860]	15530 [16860]
	lbf		34240 [37170]	34240 [37170]	34240 [37170]	34240 [37170]
Arm digging force	kN	SAE	102.8 [111.6]	144.3 [156.6]	119.3 [129.4]	92.2 [100.1]
	kgf		10480 [11380]	14710 [15970]	12160 [13200]	9400 [10210]
	lbf		23100 [25090]	32430 [35210]	26810 [29100]	20720 [22510]
	kN	ISO	106.9 [116.0]	152.0 [165.0]	124.7 [135.4]	95.4 [103.6]
	kgf		10900 [11830]	15500 [16830]	12720 [13810]	9730 [10560]
	lbf		24030 [26080]	34170 [37100]	28040 [30450]	21450 [23280]

[ ] : Power boost

4. WEIGHT

Item	HX220A L		HX220A LR		HX220A HW	
	kg	lb	kg	lb	kg	lb
Upperstructure assembly						
· Main frame weld assembly	1,890	4,170	1,890	4,170	1,930	4,260
· Engine assembly	583	1,285	583	1,285	583	1,285
· Aftertreatment assembly	74	162	74	162	74	162
· Main pump assembly	140	309	140	309	140	309
· Main control valve assembly	220	485	220	485	220	485
· Swing motor assembly	240	529	240	529	240	529
· Hydraulic oil tank WA	220	485	220	485	220	485
· Fuel tank WA	210	463	210	463	210	463
· Counterweight	3,800	8,380	5,300	11,680	3,800	8,380
· Cab assembly	490	1,080	490	1,080	490	1,080
Lower chassis assembly						
· Track frame weld assembly	2,530	5,580	2,530	5,580	3,605	7,950
· Swing bearing	280	620	280	620	299	660
· Travel motor assembly (2EA)	609	1,340	609	1,340	609	1,340
· Turning joint	57	130	57	130	57	130
· Sprocket (2EA)	112	247	112	247	103	227
· Track recoil spring (2EA)	279	615	279	615	326	719
· Idler (2EA)	301	664	301	664	301	664
· Upper roller (2EA)	93	205	93	205	177	390
· Lower roller (18EA)	797	1,757	797	1,757	797	1,757
· Track-chain assembly (600 mm triple grouser shoe) (2EA)	2,712	5,979	-	-	2,902	6,398
· Track-chain assembly (700 mm triple grouser shoe) (2EA)	3,184	7,020	-	-	3,184	7,020
· Track-chain assembly (800 mm triple grouser shoe) (2EA)	3,468	7,646	3,468	7,646	3,468	7,646
· Track-chain assembly (900 mm triple grouser shoe) (2EA)	3,750	8,267	-	-	3,750	8,267
· Track-chain assembly (700 mm double grouser shoe) (2EA)	3,458	7,624	-	-	3,458	7,624
Front attachment assembly						
· 5.68 m boom assembly	1,520	3,351	-	-	1,520	3,351
· 2.92 m arm assembly	760	1,676	-	-	760	1,676
· 0.92 m^3 SAE heaped bucket	820	1,808	-	-	820	1,808
· 8.2 m boom assembly	-	-	2,110	4,652	-	-
· 6.3 m arm assembly	-	-	1,100	2,425	-	-
· 0.52 m^3 SAE heaped bucket	-	-	470	1,036	-	-
· Boom cylinder assembly (2EA)	180	397	180	397	180	397
· Arm cylinder assembly	280	617	270	595	280	617
· Bucket cylinder assembly	170	375	100	220	170	375
· Bucket control linkage total	200	441	170	375	200	441

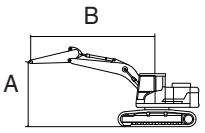
※ This information is different with operating and transportation weight because it is not including harness, pipe, oil, fuel so on.

※ Refer to Transportation for actual weight information and Specifications for operating weight.

5. LIFTING CAPACITIES

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2900	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)										At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
														m (ft)
7.5 m (24.6 ft)	kg							*4920	*4920			*4330	*4330	6.21
	lb							*10850	*10850			*9550	*9550	(20.4)
6.0 m (19.7 ft)	kg							*4830	*4830			*4030	3980	7.34
	lb							*10650	*10650			*8880	8770	(24.1)
4.5 m (14.8 ft)	kg					*6130	*6130	*5330	*5330	*4960	3800	*3960	3390	8.03
	lb					*13510	*13510	*11750	*11750	*10930	8380	*8730	7470	(26.3)
3.0 m (9.8 ft)	kg					*7880	7870	*6120	5150	*5300	3700	*4060	3100	8.39
	lb					*17370	17350	*13490	11350	*11680	8160	*8950	6830	(27.5)
1.5 m (4.9 ft)	kg					*9500	7350	*6940	4910	5540	3580	*4320	2990	8.48
	lb					*20940	16200	*15300	10820	12210	7890	*9520	6590	(27.8)
0.0 m (0.0 ft)	kg			*4930	*4930	*10340	7080	*7510	4740	5450	3490	4730	3050	8.28
	lb			*10870	*10870	*22800	15610	*16560	10450	12020	7690	10430	6720	(27.2)
-1.5 m (-4.9 ft)	kg	*5620	*5620	*9410	*9410	*10370	7000	7470	4660	5410	3460	5130	3290	7.80
	lb	*12390	*12390	*20750	*20750	*22860	15430	16470	10270	11930	7630	11310	7250	(25.6)
-3.0 m (-9.8 ft)	kg			*13620	*13620	*9630	7060	*7140	4700			*5810	3880	6.96
	lb			*30030	*30030	*21230	15560	*15740	10360			*12810	8550	(22.8)
-4.5 m (-14.8 ft)	kg			*10720	*10720	*7730	7280					*5820	5370	5.60
	lb			*23630	*23630	*17040	16050					*12830	11840	(18.4)

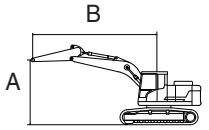
Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited 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 with your local HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.

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

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2000	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)								At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
												m (ft)
7.5 m (24.6 ft)	kg									*6130	*6130	5.05
	lb									*13510	*13510	(16.6)
6.0 m (19.7 ft)	kg			*6180	*6180	*5780	5450			*5810	4910	6.39
	lb			*13620	*13620	*12740	12020			*12810	10820	(21.0)
4.5 m (14.8 ft)	kg			*7370	*7370	*6130	5330			*5780	4040	7.17
	lb			*16250	*16250	*13510	11750			*12740	8910	(23.5)
3.0 m (9.8 ft)	kg					*6820	5110	5670	3700	5570	3640	7.58
	lb					*15040	11270	12500	8160	12280	8020	(24.9)
1.5 m (4.9 ft)	kg					*7480	4920	5580	3630	5400	3520	7.67
	lb					*16490	10850	12300	8000	11900	7760	(25.2)
0.0 m (0.0 ft)	kg			*10600	7160	7620	4810			5580	3610	7.46
	lb			*23370	15790	16800	10600			12300	7960	(24.5)
-1.5 m (-4.9 ft)	kg			*10130	7180	*7580	4800			6220	4000	6.92
	lb			*22330	15830	*16710	10580			13710	8820	(22.7)
-3.0 m (-9.8 ft)	kg	*11600	*11600	*8810	7310					*6360	4990	5.95
	lb	*25570	*25570	*19420	16120					*14020	11000	(19.5)

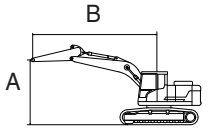
Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited 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 with your local HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.

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

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2400	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)								At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
												m (ft)
7.5 m (24.6 ft)	kg									*5580	*5580	5.62
	lb									*12300	*12300	(18.4)
6.0 m (19.7 ft)	kg					*5340	*5340			*5390	4420	6.85
	lb					*11770	*11770			*11880	9740	(22.5)
4.5 m (14.8 ft)	kg			*6830	*6830	*5770	5350	*5380	3770	*5320	3700	7.58
	lb			*15060	*15060	*12720	11790	*11860	8310	*11730	8160	(24.9)
3.0 m (9.8 ft)	kg			*8560	7740	*6520	5120	*5610	3700	5160	3370	7.97
	lb			*18870	17060	*14370	11290	*12370	8160	11380	7430	(26.1)
1.5 m (4.9 ft)	kg			*9990	7300	*7250	4910	5560	3600	5000	3250	8.06
	lb			*22020	16090	*15980	10820	12260	7940	11020	7170	(26.4)
0.0 m (0.0 ft)	kg			*10530	7110	7580	4770	5490	3530	5150	3330	7.85
	lb			*23210	15670	16710	10520	12100	7780	11350	7340	(25.8)
-1.5 m (-4.9 ft)	kg	*9280	*9280	*10280	7090	7540	4730			5660	3640	7.34
	lb	*20460	*20460	*22660	15630	16620	10430			12480	8020	(24.1)
-3.0 m (-9.8 ft)	kg	*12580	*12580	*9230	7190	*6790	4810			*6060	4400	6.44
	lb	*27730	*27730	*20350	15850	*14970	10600			*13360	9700	(21.1)
-4.5 m (-14.8 ft)	kg			*6610	*6610							
	lb			*14570	*14570							

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).
4. *Indicates load limited by hydraulic capacity.

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Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	3500	3800	600	-	-	-	-	-

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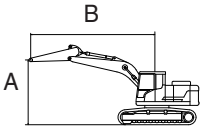

Lift-point height (A)		Lift-point radius (B)										At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
														m (ft)
7.5 m (24.6 ft)	kg											*3630	*3630	6.89
	lb											*8000	*8000	(22.6)
6.0 m (19.7 ft)	kg									*4310	3890	*3420	*3420	7.92
	lb									*9500	8580	*7540	*7540	(26.0)
4.5 m (14.8 ft)	kg							*4750	*4750	*4490	3820	*3390	3050	8.56
	lb							*10470	*10470	*9900	8420	*7470	6720	(28.1)
3.0 m (9.8 ft)	kg			*10630	*10630	*6990	*6990	*5590	5190	*4900	3690	*3480	2800	8.90
	lb			*23440	*23440	*15410	*15410	*12320	11440	*10800	8140	*7670	6170	(29.2)
1.5 m (4.9 ft)	kg					*8770	7410	*6490	4900	*5370	3550	*3710	2700	8.98
	lb					*19330	16340	*14310	10800	*11840	7830	*8180	5950	(29.5)
0.0 m (0.0 ft)	kg			*6220	*6220	*9930	7020	*7190	4680	5390	3430	*4100	2730	8.80
	lb			*13710	*13710	*21890	15480	*15850	10320	11880	7560	*9040	6020	(28.9)
-1.5 m (-4.9 ft)	kg	*5440	*5440	*9210	*9210	*10290	6870	7370	4570	5320	3360	4580	2920	8.35
	lb	*11990	*11990	*20300	*20300	*22690	15150	16250	10080	11730	7410	10100	6440	(27.4)
-3.0 m (-9.8 ft)	kg	*9050	*9050	*13720	13390	*9900	6880	*7310	4560	5350	3390	5280	3350	7.57
	lb	*19950	*19950	*30250	29520	*21830	15170	*16120	10050	11790	7470	11640	7390	(24.8)
-4.5 m (-14.8 ft)	kg			*12180	*12180	*8570	7040	*6170	4680			*5640	4360	6.34
	lb			*26850	*26850	*18890	15520	*13600	10320			*12430	9610	(20.8)

Note 1. Lifting capacity are based on ISO 10567.

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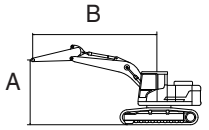
Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	2-PIECE BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5874	2900	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)								At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
9.0 m (29.5 ft)	kg			*5930	*5930					*5050	*5050	4.83
	lb			*13070	*13070					*11130	*11130	(15.8)
7.5 m (24.6 ft)	kg			*6170	*6170	*5700	5580			*4190	*4190	6.58
	lb			*13600	*13600	*12570	12300			*9240	*9240	(21.6)
6.0 m (19.7 ft)	kg			*6180	*6180	*5930	5550	*4600	3780	*3860	3630	7.65
	lb			*13620	*13620	*13070	12240	*10140	8330	*8510	8000	(25.1)
4.5 m (14.8 ft)	kg	*10240	*10240	*8250	*8250	*6360	5330	*5020	3720	*3760	3110	8.31
	lb	*22580	*22580	*18190	*18190	*14020	11750	*11070	8200	*8290	6860	(27.3)
3.0 m (9.8 ft)	kg			*9440	7670	*7080	5030	*5280	3590	*3810	2840	8.66
	lb			*20810	16910	*15610	11090	*11640	7910	*8400	6260	(28.4)
1.5 m (4.9 ft)	kg			*10140	7080	*7420	4740	5470	3450	*3990	2740	8.74
	lb			*22350	15610	*16360	10450	12060	7610	*8800	6040	(28.7)
0.0 m (0.0 ft)	kg			*9870	6780	*7340	4550	5360	3350	*4350	2790	8.56
	lb			*21760	14950	*16180	10030	11820	7390	*9590	6150	(28.1)
-1.5 m (-4.9 ft)	kg	*7840	*7840	*8760	6730	*6700	4470	*5000	3320	*4190	3020	8.09
	lb	*17280	*17280	*19310	14840	*14770	9850	*11020	7320	*9240	6660	(26.5)
-3.0 m (-9.8 ft)	kg			*6820	*6820	*5260	4530			*3520	*3520	7.29
	lb			*15040	*15040	*11600	9990			*7760	*7760	(23.9)

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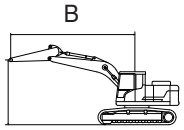
Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A L	LONG REACH	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		8500	6200	5300	800	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)																		At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		9.0 m (29.5 ft)		10.5 m (34.4 ft)		12.0 m (39.4 ft)		13.5 m (44.3 ft)		Capacity		Reach
																						m (ft)
12.0m	kg																			*770	*770	9.80
39.4ft	lb																			*1700	*1700	(32.1)
10.5m	kg													*1250	*1250					*690	*690	11.17
34.4ft	lb													*2760	*2760					*1520	*1520	(36.7)
9.0m	kg													*1730	*1730	*870	*870			*640	*640	12.21
29.5ft	lb													*3810	*3810	*1920	*1920			*1410	*1410	(40.1)
7.5m	kg													*2020	*2020	*1470	*1470			*620	*620	12.99
24.6ft	lb													*4450	*4450	*3240	*3240			*1370	*1370	(42.6)
6.0m	kg													*2170	*2170	*1850	*1850	*690	*690	*610	*610	13.55
19.7ft	lb													*4780	*4780	*4080	*4080	*1520	*1520	*1340	*1340	(44.5)
4.5m	kg											*2530	*2530	*2350	*2350	*2170	2100	*1150	*1150	*620	*620	13.94
14.8ft	lb											*5580	*5580	*5180	*5180	*4780	4630	*2540	*2540	*1370	*1370	(45.7)
3.0m	kg					*5420	*5420	*4030	*4030	*3300	*3300	*2850	*2850	*2560	2530	*2360	2010	*1440	*1440	*640	*640	14.15
9.8ft	lb					*11950	*11950	*8880	*8880	*7280	*7280	*6280	*6280	*5640	5580	*5200	4430	*3170	*3170	*1410	*1410	(46.4)
1.5m	kg					*6960	*6960	*4870	*4870	*3810	*3810	*3180	3030	*2780	2390	*2510	1910	*1600	1540	*680	*680	14.20
4.9ft	lb					*15340	*15340	*10740	*10740	*8400	*8400	*7010	6680	*6130	5270	*5530	4210	*3530	3400	*1500	*1500	(46.6)
0.0m	kg			*2220	*2220	*5360	*5360	*5550	4900	*4260	3650	*3490	2830	*2990	2260	*2650	1830	*1610	1490	*740	*740	14.08
0.0ft	lb			*4890	*4890	*11820	*11820	*12240	10800	*9390	8050	*7690	6240	*6590	4980	*5840	4030	*3550	3280	*1630	*1630	(46.2)
-1.5m	kg	*2100	*2100	*2900	*2900	*5130	*5130	*6000	4600	*4600	3430	*3740	2680	*3170	2150	*2760	1760	*1360	*1360	*810	*810	13.81
-4.9ft	lb	*4630	*4630	*6390	*6390	*11310	*11310	*13230	10140	*10140	7560	*8250	5910	*6990	4740	*6080	3880	*3000	*3000	*1790	*1790	(45.3)
-3.0m	kg	*2950	*2950	*3740	*3740	*5680	*5680	*6220	4450	*4810	3300	*3900	2580	*3280	2080	*2830	1710			*920	*920	13.35
-9.8ft	lb	*6500	*6500	*8250	*8250	*12520	*12520	*13710	9810	*10600	7280	*8600	5690	*7230	4590	*6240	3770			*2030	*2030	(43.8)
-4.5m	kg	*3820	*3820	*4700	*4700	*6630	*6630	*6230	4410	*4860	3240	*3950	2530	*3310	2050	*2670	1700			*1090	*1090	12.71
-14.8ft	lb	*8420	*8420	*10360	*10360	*14620	*14620	*13730	9720	*10710	7140	*8710	5580	*7300	4520	*5890	3750			*2400	*2400	(41.7)
-6.0m	kg	*4770	*4770	*5800	*5800	*7930	6810	*6020	4450	*4750	3250	*3870	2540	*3200	2060					*1340	*1340	11.84
-19.7ft	lb	*10520	*10520	*12790	*12790	*17480	15010	*13270	9810	*10470	7170	*8530	5600	*7050	4540					*2950	*2950	(38.8)
-7.5m	kg	*5810	*5810	*7100	*7100	*7280	7010	*5570	4560	*4430	3330	*3580	2610	*2390	2150					*1780	*1780	10.68
-24.6ft	lb	*12810	*12810	*15650	*15650	*16050	15450	*12280	10050	*9770	7340	*7890	5750	*5270	4740					*3920	*3920	(35.0)
-9.0m	kg			*8410	*8410	*6130	*6130	*4760	*4760	*3760	3500	*2880	2770							*2740	2730	9.13
-29.5ft	lb			*18540	*18540	*13510	*13510	*10490	*10490	*8290	7720	*6350	6110							*6040	6020	(30.0)

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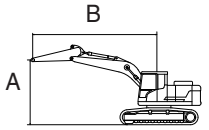
Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A HW	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2000	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)								At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
												m (ft)
7.5 m (24.6 ft)	kg									*6050	*6050	5.27
	lb									*13340	*13340	(17.3)
6.0 m (19.7 ft)	kg			*6280	*6280	*5790	5760			*5800	5030	6.52
	lb			*13850	*13850	*12760	12700			*12790	11090	(21.4)
4.5 m (14.8 ft)	kg			*7590	*7590	*6210	5610			*5780	4220	7.25
	lb			*16730	*16730	*13690	12370			*12740	9300	(23.8)
3.0 m (9.8 ft)	kg					*6920	5400	*5900	3930	*5870	3850	7.61
	lb					*15260	11900	*13010	8660	*12940	8490	(25.0)
1.5 m (4.9 ft)	kg					*7550	5220	5940	3860	5760	3750	7.66
	lb					*16640	11510	13100	8510	12700	8270	(25.1)
0.0 m (0.0 ft)	kg			*10580	7620	*7800	5120			6010	3890	7.41
	lb			*23320	16800	*17200	11290			13250	8580	(24.3)
-1.5 m (-4.9 ft)	kg			*10010	7650	*7500	5120			*6340	4360	6.81
	lb			*22070	16870	*16530	11290			*13980	9610	(22.4)
-3.0 m (-9.8 ft)	kg	*11230	*11230	*8540	7810					*6330	5540	5.78
	lb	*24760	*24760	*18830	17220					*13960	12210	(18.9)

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Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A HW	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2400	3800	600	-	-	-	-	-

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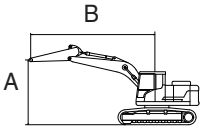


Lift-point height (A)		Lift-point radius (B)								At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
												m (ft)
7.5 m (24.6 ft)	kg									*5540	*5540	5.82
	lb									*12210	*12210	(19.1)
6.0 m (19.7 ft)	kg					*5370	*5370			*5380	4550	6.97
	lb					*11840	*11840			*11860	10030	(22.9)
4.5 m (14.8 ft)	kg			*7040	*7040	*5860	5640	*5390	4010	*5320	3880	7.65
	lb			*15520	*15520	*12920	12430	*11880	8840	*11730	8550	(25.1)
3.0 m (9.8 ft)	kg			*8790	8130	*6630	5410	*5650	3920	5450	3560	8.00
	lb			*19380	17920	*14620	11930	*12460	8640	12020	7850	(26.2)
1.5 m (4.9 ft)	kg			*10120	7720	*7330	5200	5910	3830	5340	3470	8.05
	lb			*22310	17020	*16160	11460	13030	8440	11770	7650	(26.4)
0.0 m (0.0 ft)	kg			*10540	7560	*7710	5070	5850	3770	5540	3580	7.80
	lb			*23240	16670	*17000	11180	12900	8310	12210	7890	(25.6)
-1.5 m (-4.9 ft)	kg	*10260	*10260	*10190	7560	*7580	5050			*5980	3960	7.25
	lb	*22620	*22620	*22470	16670	*16710	11130			*13180	8730	(23.8)
-3.0 m (-9.8 ft)	kg	*12250	*12250	*9010	7680	*6560	5150			*6060	4870	6.28
	lb	*27010	*27010	*19860	16930	*14460	11350			*13360	10740	(20.6)

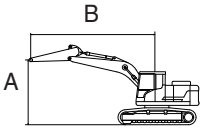
Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited 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 with your local HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.

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

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A HW	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	2900	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)										At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
														m (ft)
7.5 m (24.6 ft)	kg							*4850	*4850			*4270	*4270	6.40
	lb							*10690	*10690			*9410	*9410	(21.0)
6.0 m (19.7 ft)	kg							*4870	*4870			*4010	*4010	7.45
	lb							*10740	*10740			*8840	*8840	(24.4)
4.5 m (14.8 ft)	kg					*6340	*6340	*5420	*5420	*5000	4030	*3970	3560	8.09
	lb					*13980	*13980	*11950	*11950	*11020	8880	*8750	7850	(26.6)
3.0 m (9.8 ft)	kg					*8120	*8120	*6240	5430	*5350	3920	*4090	3290	8.42
	lb					*17900	*17900	*13760	11970	*11790	8640	*9020	7250	(27.6)
1.5 m (4.9 ft)	kg					*9660	7760	*7040	5200	*5750	3800	*4370	3200	8.47
	lb					*21300	17110	*15520	11460	*12680	8380	*9630	7050	(27.8)
0.0 m (0.0 ft)	kg			*5470	*5470	*10390	7520	*7550	5040	5800	3720	*4890	3280	8.24
	lb			*12060	*12060	*22910	16580	*16640	11110	12790	8200	*10780	7230	(27.0)
-1.5 m (-4.9 ft)	kg	*6250	*6250	*10100	*10100	*10320	7460	*7620	4980	5780	3700	5570	3580	7.71
	lb	*13780	*13780	*22270	*22270	*22750	16450	*16800	10980	12740	8160	12280	7890	(25.3)
-3.0 m (-9.8 ft)	kg			*13330	*13330	*9470	7540	*7000	5030			*5830	4270	6.81
	lb			*29390	*29390	*20880	16620	*15430	11090			*12850	9410	(22.4)
-4.5 m (-14.8 ft)	kg			*10170	*10170	*7310	*7310					*5780	*5780	5.36
	lb			*22420	*22420	*16120	*16120					*12740	*12740	(17.6)

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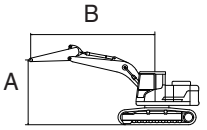
⚠ Failure to comply to the rated load can cause serious injury, death, or property damage. Make adjustments to the rated load as necessory for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220A HW	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	3500	3800	600	-	-	-	-	-

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



Lift-point height (A)		Lift-point radius (B)										At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
														m (ft)
7.5 m (24.6 ft)	kg											*3590	*3590	7.05
	lb											*7910	*7910	(23.1)
6.0 m (19.7 ft)	kg							*4260	*4260	*4310	4130	*3410	*3410	8.02
	lb							*9390	*9390	*9500	9110	*7520	*7520	(26.3)
4.5 m (14.8 ft)	kg							*4850	*4850	*4530	4050	*3400	3210	8.62
	lb							*10690	*10690	*9990	8930	*7500	7080	(28.3)
3.0 m (9.8 ft)	kg					*7240	*7240	*5710	5460	*4960	3910	*3510	2970	8.93
	lb					*15960	*15960	*12590	12040	*10930	8620	*7740	6550	(29.3)
1.5 m (4.9 ft)	kg					*8970	7800	*6600	5180	*5430	3770	*3750	2890	8.97
	lb					*19780	17200	*14550	11420	*11970	8310	*8270	6370	(29.4)
0.0 m (0.0 ft)	kg			*6530	*6530	*10020	7450	*7260	4980	5740	3650	*4170	2950	8.76
	lb			*14400	*14400	*22090	16420	*16010	10980	12650	8050	*9190	6500	(28.7)
-1.5 m (-4.9 ft)	kg	*5900	*5900	*9710	*9710	*10280	7320	*7520	4870	5680	3600	*4910	3170	8.26
	lb	*13010	*13010	*21410	*21410	*22660	16140	*16580	10740	12520	7940	*10820	6990	(27.1)
-3.0 m (-9.8 ft)	kg	*9580	*9580	*14270	*14270	*9790	7350	*7230	4880			*5470	3680	7.43
	lb	*21120	*21120	*31460	*31460	*21580	16200	*15940	10760			*12060	8110	(24.4)
-4.5 m (-14.8 ft)	kg			*11750	*11750	*8290	7530	*5870	5030			*5650	4900	6.13
	lb			*25900	*25900	*18280	16600	*12940	11090			*12460	10800	(20.1)

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).
4. *Indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.
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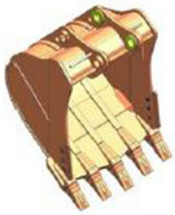
⚠ Failure to comply to the rated load can cause serious injury, death, or property damage. Make adjustments to the rated load as necessory for non-standard configurations.

6. BUCKET SELECTION GUIDE

1) 3800 KG COUNTERWEIGHT

General bucket

Heavy duty
(without side cutter)



Rock heavy duty

Type	Capacity		Width		Weight	Tooth	MONO				2-PIECE	
							Recommendation					
	SAE Heaped	CECE heaped	Without side cutter	With side cutter			5.70 m (18' 8") Boom				5.87 m (19' 3") Boom	
	m^3 (yd^3)	m^3 (yd^3)	mm (in)	mm (in)	kg (lb)	EA	2.0 m (6' 7") Arm	2.4 m (7' 10") Arm	2.9 m (9' 6") Arm	3.5 m (11' 6") Arm	2.4 m (7' 10") Arm	2.9 m (9' 6") Arm
General bucket	0.81 (1.06)	0.72 (0.94)	975 (38.4")	1125 (44.3")	700 (1540)	5	●	●	●	●	●	●
	0.92 (1.20)	0.81 (1.06)	1085 (42.7")	1230 (48.4")	750 (1650)	5	●	●	●	●	●	●
	1.05 (1.37)	0.96 (1.26)	1220 (48.0")	1370 (53.9")	790 (1740)	5	●	●	◐	◐	◐	◐
	1.17 (1.53)	1.00 (1.31)	1340 (52.8")	1490 (58.7")	850 (1870)	6	●	◐	◐	■	◐	■
	1.28 (1.67)	1.11 (1.45)	1455 (57.3")	1605 (63.2")	885 (1950)	6	◐	◐	■	X	■	▲
Heavy duty	0.92 (1.20)	0.83 (1.09)	1050 (41.3")	1095 (43.1")	865 (1910)	5	●	●	●	◐	●	◐
	1.08 (1.41)	0.97 (1.27)	1200 (47.2")	1245 (49.0")	935 (2060)	5	●	●	◐	■	◐	■
Rock heavy duty	0.91 (1.19)	0.83 (1.09)	1050 (41.3")	1095 (43.1")	1050 (2310)	4	●	●	●	X	●	◐
	1.23 (1.61)	1.11 (1.45)	1350 (53.1")	1395 (54.9")	1240 (2730)	5	◐	■	■	X	■	▲
	0.87 (1.14)	0.76 (0.99)	1130 (44.5")	1145 (45.1")	935 (2060)	5	●	●	●	X	●	●
	1.20 (1.57)	1.05 (1.37)	1445 (56.9")	1455 (57.3")	1115 (2460)	5	◐	◐	■	X	■	▲

● 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

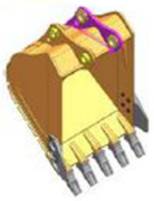
■ Applicable for materials with density of 1500 kg/m^3 (2500 lb/yd^3) or less

▲ 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 with your local HD Hyundai Construction Equipment dealer for information on selecting the correct boom−arm−bucket combination.

2) LONG REACH, 5300 KG COUNTERWEIGHT



Long reach

Type	Capacity		Width		Weight	Tooth	Long reach
							Recommendation
	SAE Heaped	CECE heaped	Without side cutter	With side cutter			8.50 m (27' 11") Boom
	m^3 (yd^3)	m^3 (yd^3)	mm (in)	mm (in)	kg (lb)	EA	6.2 m (20' 4") Arm
LR	0.51 (0.67)	0.45 (0.59)	865 (34.1")	995 (39.2")	395 (870)	5	◐

● 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.
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7. UNDERCARRIAGE

1) TYPES OF SHOES

Model	Description	Unit		Triple grouser								Double grouser	
	width	mm	(in)	600	(24)	700	(28)	800	(32)	900	(36)	700	(28)
HX220A L	Operating weight	kg	(lb)	22280	49120	22760	50180	23040	50790	23320	51410	23040	50790
	Ground pressure	kgf/cm²	(psi)	0.48	6.76	0.42	5.92	0.37	5.25	0.33	4.72	0.42	5.99
	Overall width	mm	(ft-in)	2990	9'10"	3090	10'2"	3190	10'6"	3290	10'10"	3090	10'2"
	Link quantity	EA		49		49		49		49		49	
HX220A LR	Operating weight	kg	(lb)	-	-	-	-	25460	56130	-	-	-	-
	Ground pressure	kgf/cm²	(psi)	-	-	-	-	0.41	5.8	-	-	-	-
	Overall width	mm	(ft-in)	-	-	-	-	3190	10'6"	-	-	-	-
	Link quantity	EA		-		-		49		-		-	
HX220A HW	Operating weight	kg	(lb)	23650	52140	24120	53180	24400	53790	24690	54430	24410	53810
	Ground pressure	kgf/cm²	(psi)	0.5	7.18	0.44	6.28	0.39	5.55	0.35	5	0.45	6.35
	Overall width	mm	(ft-in)	3395	11'2"	3495	11'6"	3595	11'10"	3695	12'2"	3495	11'6"
	Link quantity	EA		49		49		49		49		49	

2) 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
700 mm triple grouser	Option	B
700 mm double grouser	Option	B
800 mm triple grouser	Option	C
800 mm triple grouser (long reach)	Standard	C
900 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
Maker / Model	CUMMINS / B6.7
Type	4-cycle, turbocharged, charge air cooled, electronic 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	107 × 124 mm (4.21" × 4.88")
Displacement	6.7 ℓ (408 cu in)
Compression ratio	17.3 : 1
Gross power	173 Hp (129 kW) at 2200 rpm
Net power	170 Hp (127 kW) at 2200 rpm
Max. power	195 Hp (145 kW) at 2000 rpm
Peak Torque	881 N · m (650 lb · ft) at 1,300 rpm
Engine oil quantity	23.1 ℓ (6.1 U.S. gal)
Wet weight or Dry weight	583 kg (1,285 lb)
Starter motor	24 V-4.8 kW
Alternator	24 V-95 A

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 130 cc/rev
Maximum pressure	350 kgf/cm^2 (4980 psi) [380 kgf/cm^2 (5400 psi)]
Rated oil flow	2 × 221 ℓ /min (58.4 U.S. gpm / 48.6 U.K. gpm)
Rated speed	1700 rpm

[ ] : Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	10 cc/rev
Maximum pressure	40 kgf/cm^2 (570 psi)
Rated oil flow	17 ℓ/min (4.5 U.S. gpm/3.7 U.K. gpm)

4) MAIN CONTROL VALVE

Item		Specification
Type		9 spools two-block
Operating method		Hydraulic pilot system
Main relief valve pressure		350 kgf/cm^2 (4980 psi) [380 kgf/cm^2 (5400 psi)] *1 350 kgf/cm^2 (4980 psi) [Not applied power boost]
Port relief valve pressure	Boom	400 kgf/cm^2 (5690 psi)
	Arm	400 kgf/cm^2 (5690 psi), *1 300 kgf/cm^2 (4270 psi)
	Bucket	400 kgf/cm^2 (5690 psi), *1 280 kgf/cm^2 (3980 psi)

[ ] : Power boost *1 : Long reach only

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	142.8 cc/rev
Relief pressure	290 kgf/cm^2 (4125 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	1183 kgf · m (8560 lbf · ft) over
Brake release pressure	20.9 kgf/cm^2 (297 psi) over
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification	
	HX220A L/LR	HX220A HW
Type	Variable displacement axial piston motor	
Capacity	171.2/108.5 cc/rev	182.4/105.4 cc/rev
Relief pressure	350 kgf/cm^2 (4980 psi)	
Braking system	Automatic, spring applied hydraulic released	
Braking torque	3028 kgf · m (21900 lbf · ft)	3180 kgf · m (23000 lbf · ft)
Brake release pressure	13.5 kgf/cm^2 (192 psi)	14.2 kgf/cm^2 (202 psi)
Reduction gear type	2-stage planetary	

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Stroke	Ø120 × 1290 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Stroke	Ø140 × 1443 mm
	Cushion	Extend and retract
Adjust cylinder (2-piece boom)	Bore dia × Stroke	Ø150 × 1300 mm
	Cushion	N/A
Arm cylinder (2-piece boom)	Bore dia × Stroke	Ø140 × 1450 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Stroke	Ø120 × 1060 mm
	Cushion	Extend only
Bucket cylinder (Long reach)	Bore dia × Stroke	Ø95 × 900 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. RECOMMENDED OILS

HD Hyundai Construction Equipment 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 HD Hyundai Construction Equipment and, therefore, will meet the highest safety and quality requirements.

We recommend that you use only HD Hyundai Construction Equipment genuine lubricating oils and grease officially approved by HD Hyundai Construction Equipment.

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	23.1 (6.1)	★SAE 0W-40 SAE 5W-40 SAE 15W-40
DEF/ AdBlue® tank	Mixture of urea and deionized water	48 (12.6)	ISO 22241, High-purity urea + deionized water (32.5:67.5)
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, HBHO VG 46★3 ISO VG 68
Fuel tank	Diesel fuel★1	400 (106)	★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★2	40 (10.6)	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
DEF : Diesel Exhaust Fluid, DEF compatible with AdBlue®

★ : Cold region (Russia, CIS, Mongolia)
★1 : Ultra low sulfur diesel
- sulfur content ≤ 15 ppm
★2 : Soft water
City water or distilled water
★3 : HD Hyundai Construction Equipment Bio Hydraulic Oil

※ Using any lubricating oils other than HD Hyundai Construction Equipment genuine products may lead to a deterioration of performance and cause damage to major components.

※ Do not mix HD Hyundai Construction Equipment genuine oil with any other lubricating oil as it may result in damage to the systems of major components.

※ Do not use any engine oil other than that specified above, as it may clog the diesel particulate filter(DPF).

※ For HD Hyundai Construction Equipment genuine lubricating oils and grease for use in regions with extremely low temperatures, please contact your local HD Hyundai Construction Equipment dealer.