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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

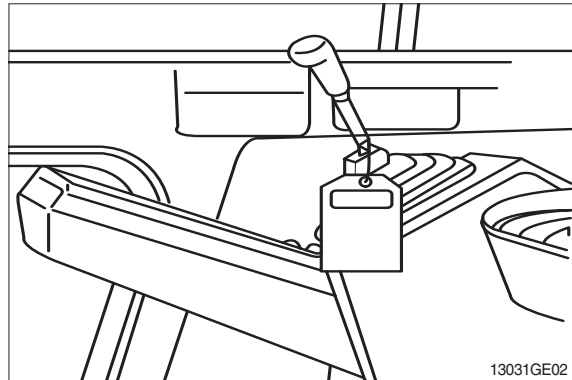
Wear close fitting clothing and safety equipment appropriate to the job.



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.



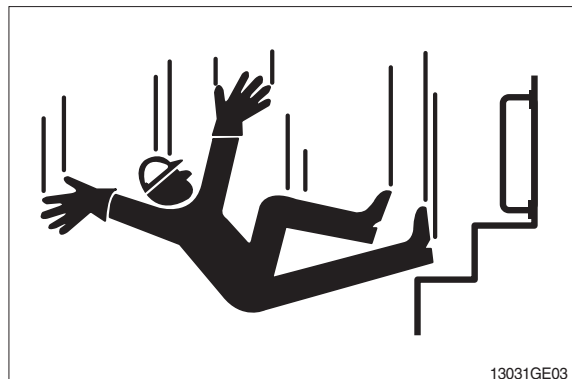
USE HANDHOLDS AND STEPS

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.

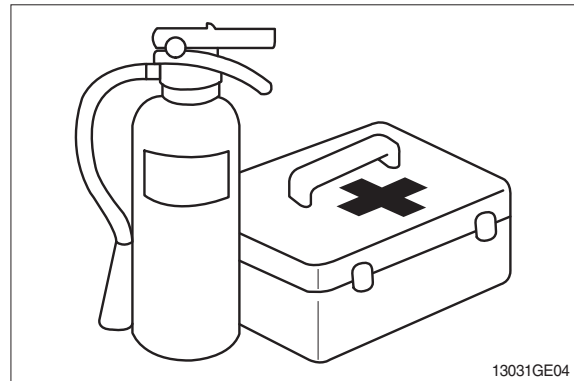


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

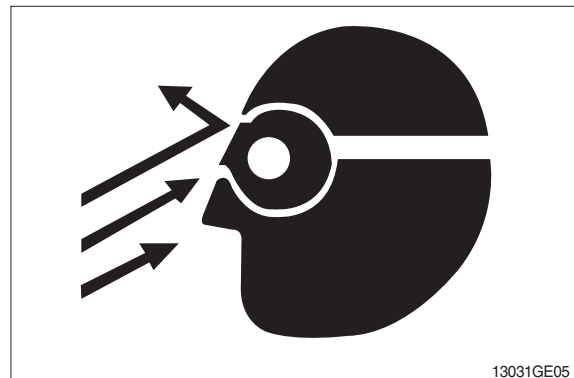
Keep a first aid kit and fire extinguisher handy.

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.

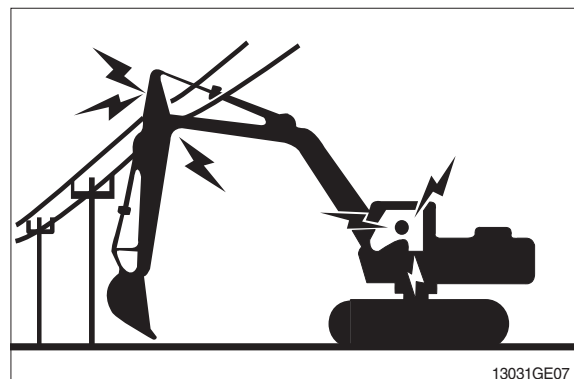
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

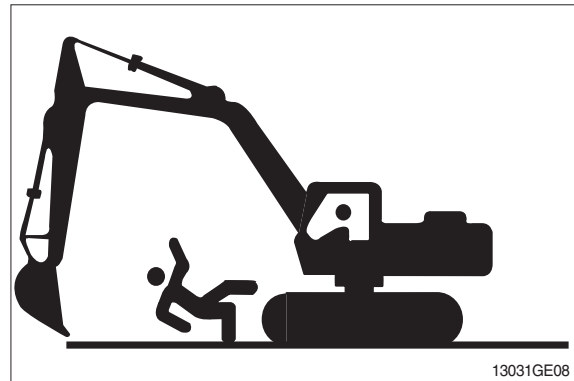
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

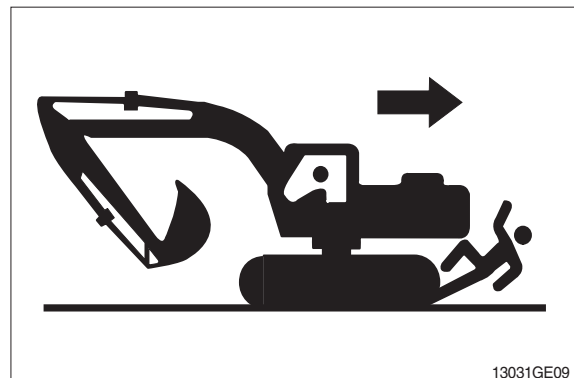


MOVE AND OPERATE MACHINE SAFELY

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 FROM 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:

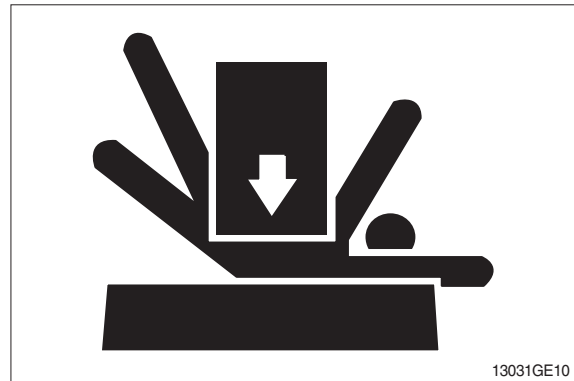
- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

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

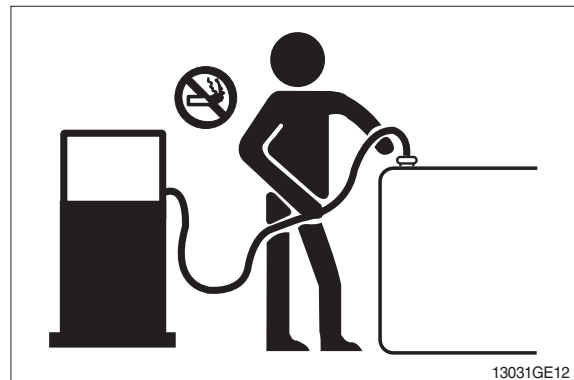
Explosive release of fluids from pressurized cooling system can cause serious burns.

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.

REMOVE PAINT BEFORE WELDING OR HEATING

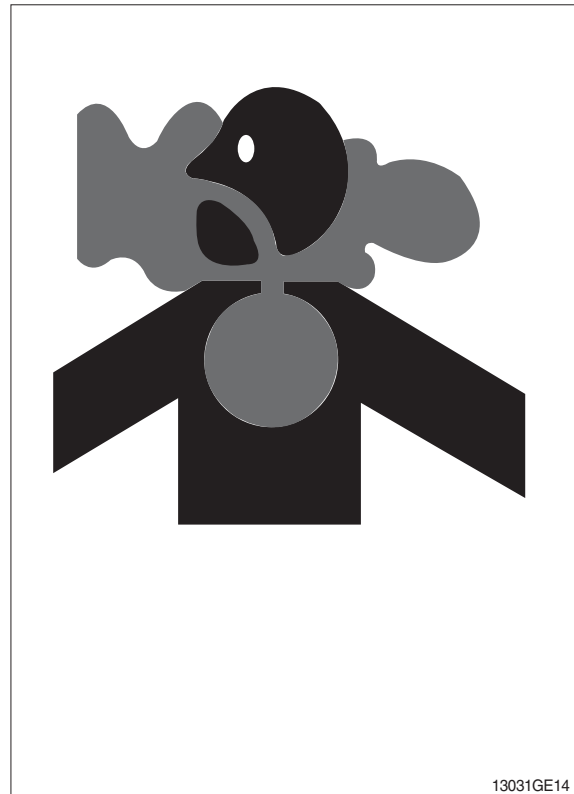
Avoid potentially toxic fumes and dust.

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

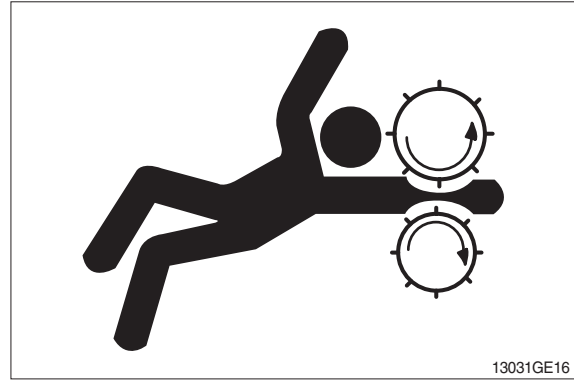
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



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.

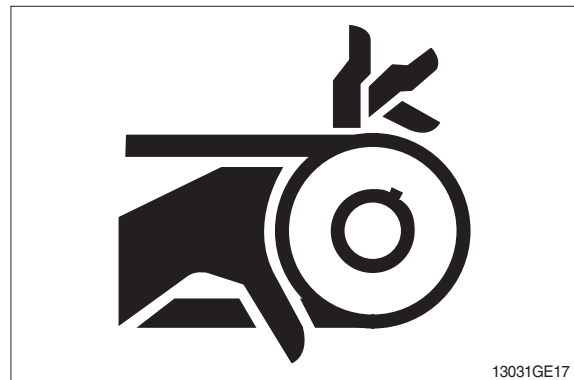
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



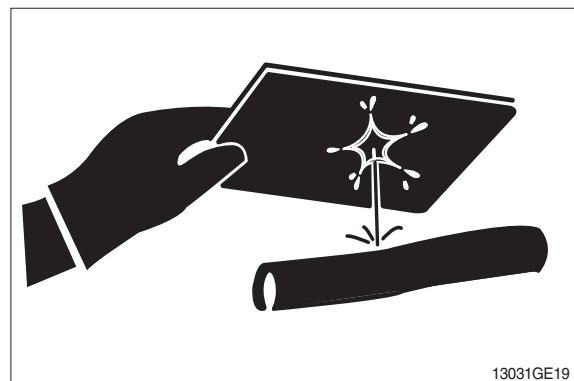
AVOID HIGH PRESSURE FLUIDS

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:

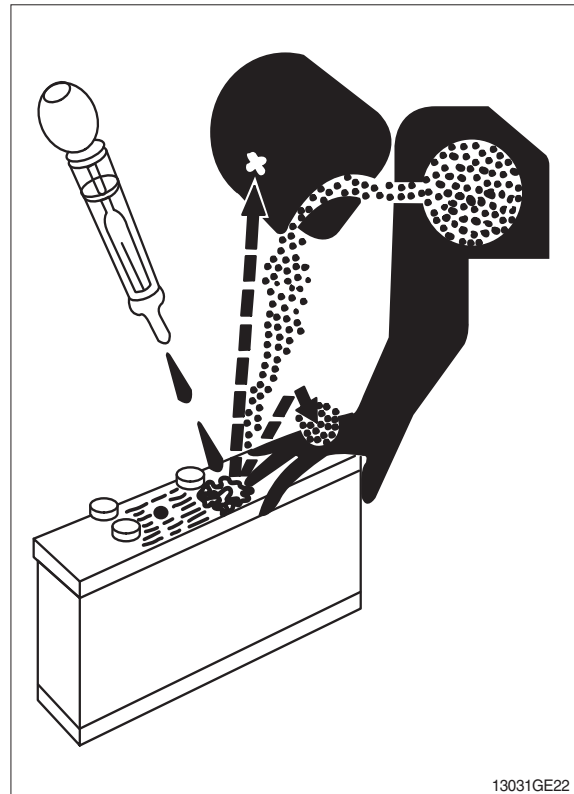
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



13031GE22

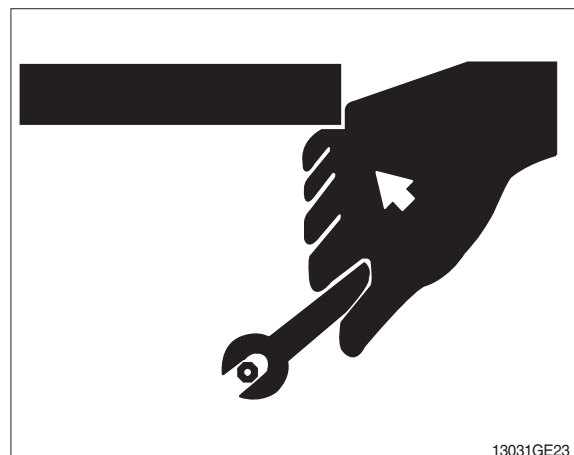
USE TOOLS PROPERLY

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.)



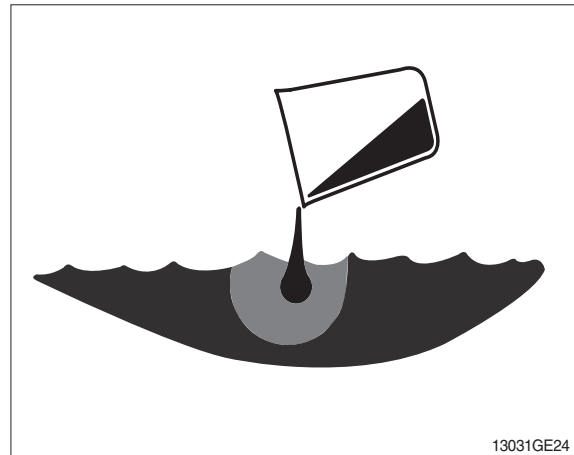
13031GE23

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.

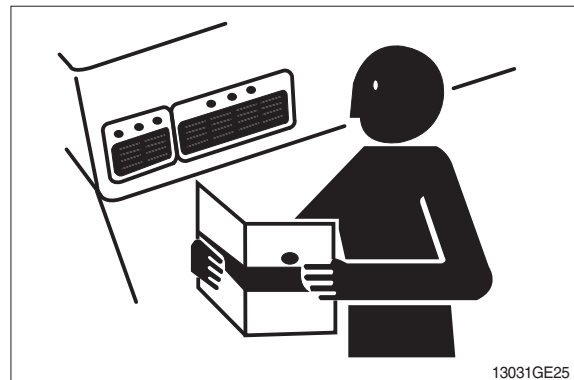
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.



REPLACE SAFETY SIGNS

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



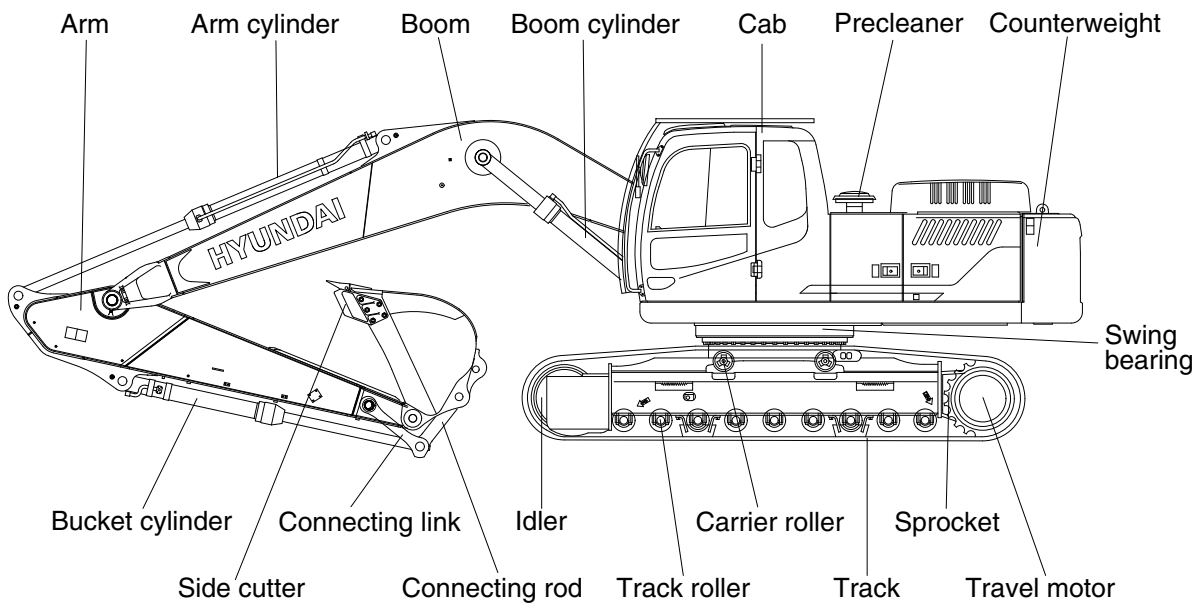
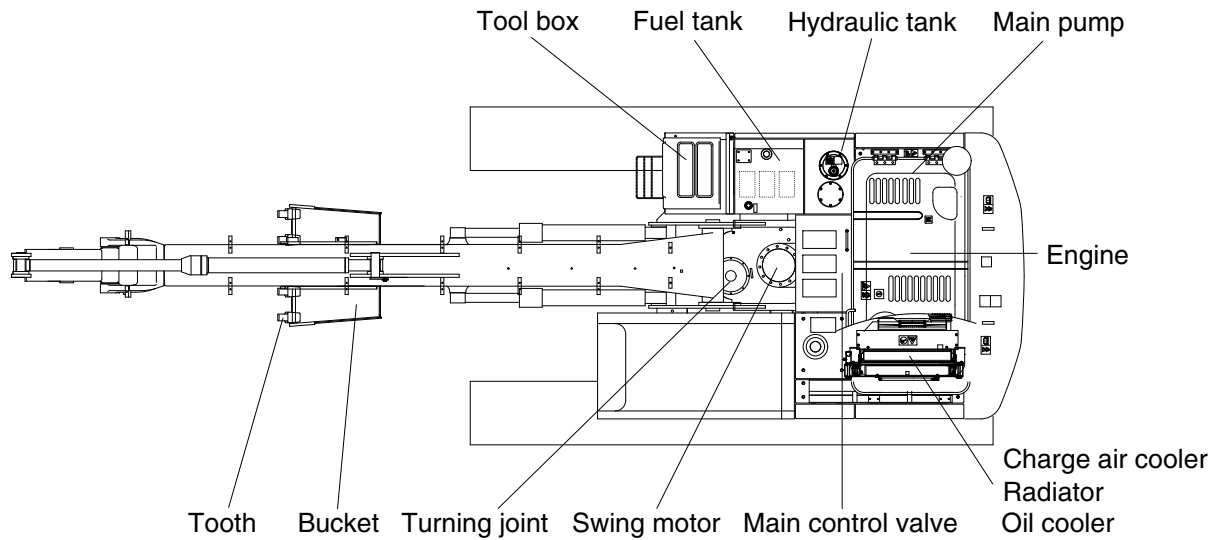
LIVE WITH SAFETY

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

SPECIFICATIONS

GROUP 2 SPECIFICATIONS

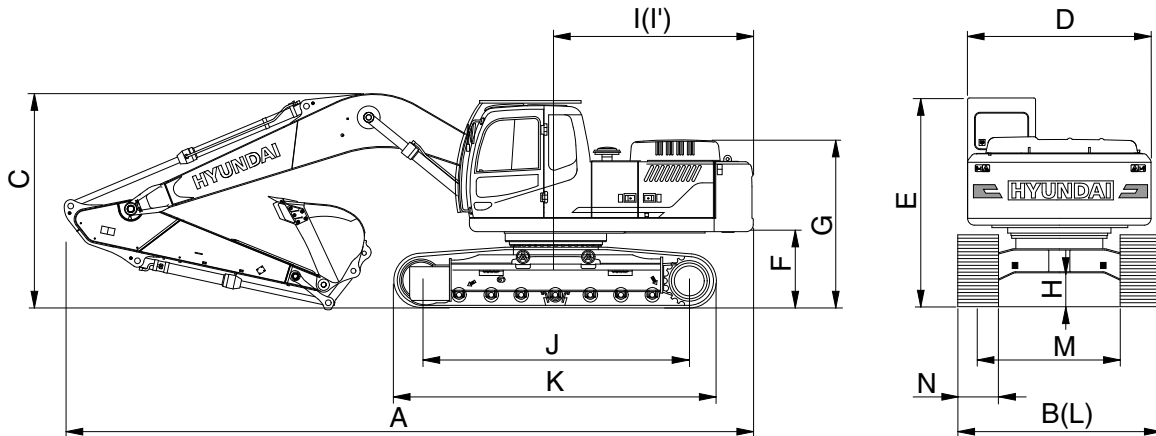
1. MAJOR COMPONENT



210S2SP01A

2. SPECIFICATIONS

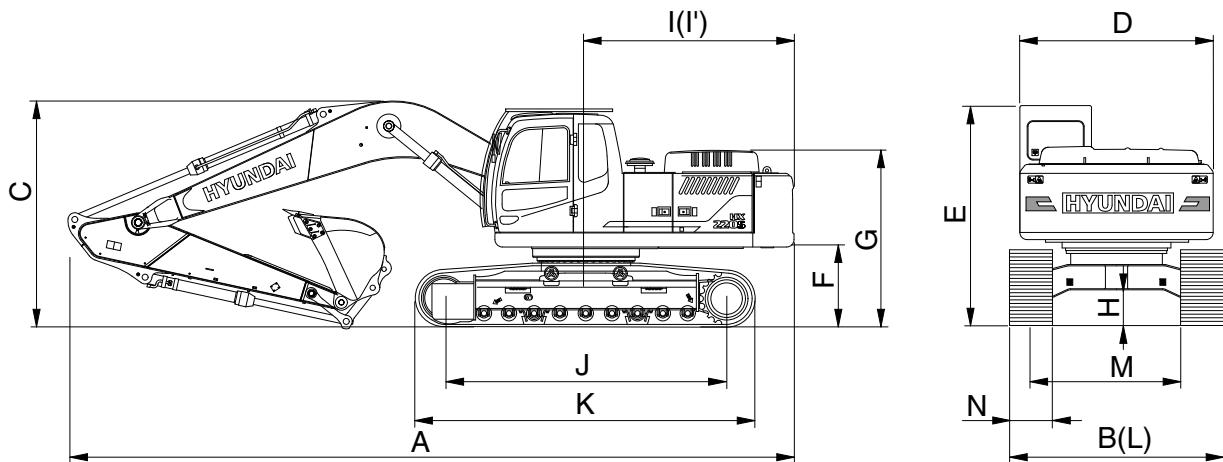
1) HX210S, MONO BOOM



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)	20830 (45920)	20670 (45570)	20740 (45720)	
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 tumbler	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 (2.2/3.5)	3.5/5.7 (2.2/3.5)	3.5/5.7 (2.2/3.5)
Swing speed	rpm	12.2	12.2	12.2	
Gradeability	Degree (%)	35 (70)	35 (70)	35 (70)	
Ground pressure	kg/cm ² (psi)	0.48 (6.81)	0.48 (6.76)	0.48 (6.78)	
Max traction force	kg (lb)	21100 (46517)	21100 (46517)	21100 (46517)	

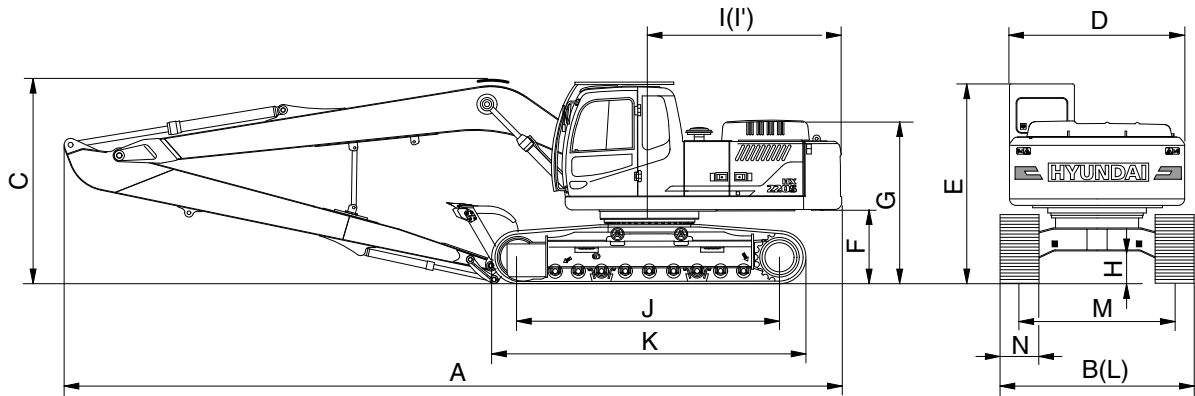
2) HX220S, MONO BOOM



210S2SP03

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)		21260 (46870)	21100 (46520)	21160 (46650)	
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 (2.2/3.5)	3.5/5.7 (2.2/3.5)	3.5/5.7 (2.2/3.5)	
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 (6.45)	0.45 (6.41)	0.45 (6.42)	
Max traction force	kg (lb)		21100 (46517)	21100 (46517)	21100 (46517)	

3) HX220S LR

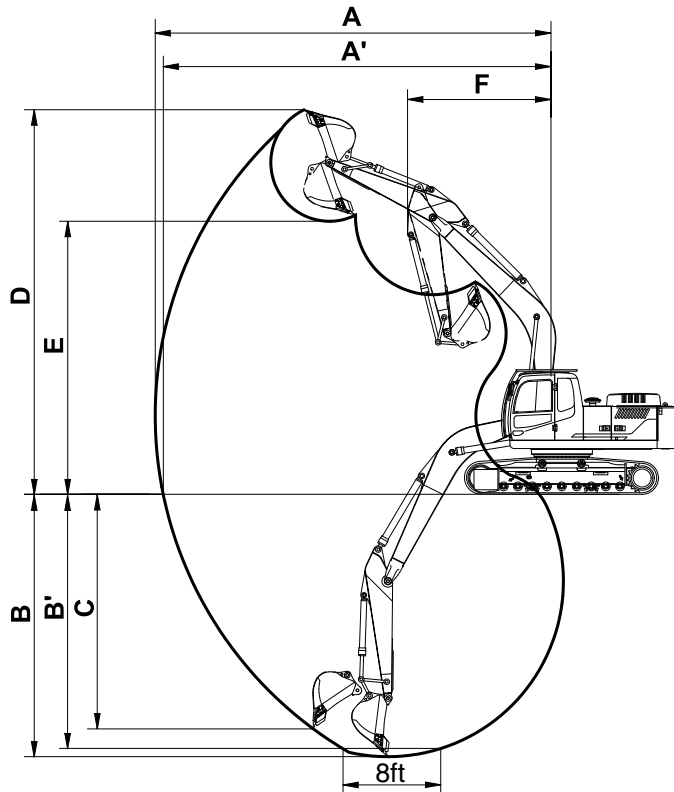


210S2SP10

Description		Unit		Specification
		m (ft-in)	Boom	8.2 (26' 11")
			Arm	6.30 (20' 8")
		mm (in)	Shoe	800 (32)
Operating weight		kg (lb)		24390 (53770)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)		0.52 (0.68)
Overall length	A	mm (ft-in)		12030 (39' 6")
Overall width	B			3190 (10' 6")
Overall height of boom	C			3280 (10' 9")
Superstructure width	D			2700 (8' 10")
Overall height of cab	E			3000 (9' 10")
Ground clearance of counterweight	F			1060 (3' 6")
Overall height of engine hood	G			2380 (7' 10")
Overall height of handrail	G'			2970 (9' 9")
Minimum ground clearance	H			470 (1' 7")
Rear-end distance	I			2770 (9' 1")
Rear-end swing radius	I'			2845 (9' 4")
Distance between tumblers	J			3650 (12' 0")
Undercarriage length	K			4440 (14' 7")
Undercarriage width	L			3190 (10' 6")
Track gauge	M			2390 (7' 10")
Track shoe width, standard	N			800 (2' 7")
Travel speed (low/high)				km/hr (mph)
Swing speed		rpm		12.4
Gradeability		Degree (%)		35 (70)
Ground pressure		kgf/cm ² (psi)		0.39 (5.55)
Max traction force		kg (lb)		20832 (45930)

3. WORKING RANGE AND DIGGING FORCE

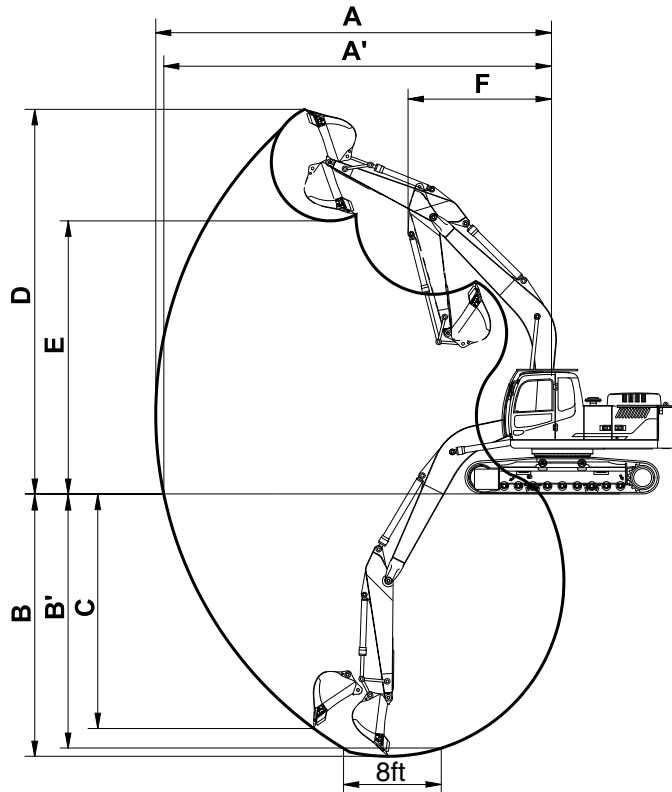
1) HX210S, MONO BOOM



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

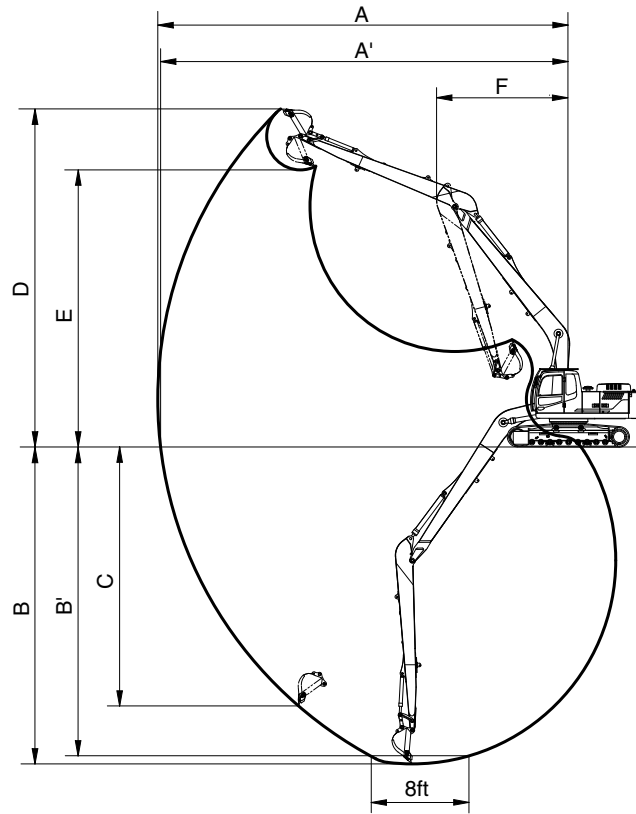
2) HX220S, MONO BOOM



210S2SP04A

Description	m (ft-in)	Boom	5.68 (20' 6")		
		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

3) HX220S LR



210S2SP11

Description	m (ft-in)	Boom	8.2 (26' 11")
		Arm	6.30 (20' 8")
Max digging reach	mm (ft-in)	A	15220 (49' 11")
Max digging reach on ground		A'	15120 (49' 7")
Max digging depth		B	11760 (38' 7")
Max digging depth (8 ft level)		B'	11650 (38' 3")
Max vertical wall digging depth		C	9610 (31' 6")
Max digging height		D	12550 (41' 2")
Max dumping height		E	10280 (33' 9")
Min swing radius		F	4870 (16' 0")
Bucket digging force	kN	SAE	72.6
	kgf		7400
	lbf		16310
	kN	ISO	83.4
	kgf		8500
	lbf		18740
Arm digging force	kN	SAE	49.0
	kgf		5000
	lbf		11020
	kN	ISO	50.0
	kgf		5100
	lbf		11240

4. WEIGHT

1) HX210S, HX220S

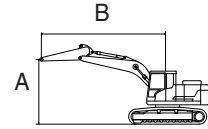
Item	HX210S		HX220S	
	kg	lb	kg	lb
Upperstructure assembly	8950	19730	←	
Main frame weld assembly	2600	5730	←	
Engine assembly	437	963	←	
Main pump assembly	120	265	←	
Main control valve assembly	200	440	←	
Swing motor assembly	190	420	←	
Hydraulic oil tank assembly	240	530	←	
Fuel tank assembly	195	430	←	
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	1520	3350	←	
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	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX210S	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5680	2000	3600	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								*5710	*5710	5.00
	lb								*12590	*12590	(16.4)
6.0 m (19.7 ft)	kg			*5450	4330				*5520	3920	6.35
	lb			*12020	9550				*12170	8640	(20.8)
4.5 m (14.8 ft)	kg		*6890	6510	*5800	4200			4900	3170	7.14
	lb		*15190	14350	*12790	9260			10800	6990	(23.4)
3.0 m (9.8 ft)	kg		*8680	5970	6260	3990	4440	2860	4400	2830	7.55
	lb		*19140	13160	13800	8800	9790	6310	9700	6240	(24.8)
1.5 m (4.9 ft)	kg				6040	3790	4360	2780	4240	2710	7.64
	lb				13320	8360	9610	6130	9350	5970	(25.1)
0.0 m (0.0 ft)	kg		9190	5450	5910	3670			4370	2770	7.43
	lb		20260	12020	13030	8090			9630	6110	(24.4)
-1.5 m (-4.9 ft)	kg		9210	5460	5900	3660			4880	3080	6.88
	lb		20300	12040	13010	8070			10760	6790	(22.6)
-3.0 m (-9.8 ft)	kg	*12380	10760	*9130	5600				6190	3880	5.90
	lb	*27290	23720	*20130	12350				13650	8550	(19.4)

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

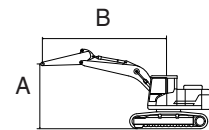
▲ Failure to comply to the rated load can cause possible personal injury or property damage.











Make adjustments to the rated load as necessary for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
		Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
HX210S	MONO BOOM	5680	2400	3600	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								*5080	4920	5.58
	lb								*11200	10850	(18.3)
6.0 m (19.7 ft)	kg				*5000	4380			*4620	3500	6.82
	lb				*11020	9660			*10190	7720	(22.4)
4.5 m (14.8 ft)	kg		*6340	*6340	*5440	4240	4530	2930	4480	2890	7.55
	lb		*13980	*13980	*11990	9350	9990	6460	9880	6370	(24.8)
3.0 m (9.8 ft)	kg		*8140	6060	*6230	4010	4450	2860	4060	2600	7.94
	lb		*17950	13360	*13730	8840	9810	6310	8950	5730	(26.1)
1.5 m (4.9 ft)	kg		9390	5620	6040	3790	4340	2760	3920	2490	8.03
	lb		20700	12390	13320	8360	9570	6080	8640	5490	(26.3)
0.0 m (0.0 ft)	kg		9160	5420	5880	3650	4270	2690	4020	2540	7.83
	lb		20190	11950	12960	8050	9410	5930	8860	5600	(25.7)
-1.5 m (-4.9 ft)	kg	*10830	10370	9130	5390	5840	3610		4430	2790	7.31
	lb	*23880	22860	20130	11880	12870	7960		9770	6150	(24.0)
-3.0 m (-9.8 ft)	kg	*13260	10570	9250	5500	5930	3680		5420	3400	6.40
	lb	*29230	23300	20390	12130	13070	8110		11950	7500	(21.0)
-4.5 m (-14.8 ft)	kg			*7160	5790				*6330	5180	4.89
	lb			*15790	12760				*13960	11420	(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 necessary for non-standard configurations.

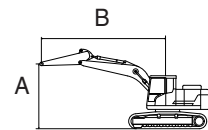
Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX210S	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5680	2920	3600	600	-	-	-	-	-



: 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							*4450	4450			*3370	*3370	6.26
	lb							*9810	9810			*7430	*7430	(20.5)
6.0 m (19.7 ft)	kg							*4440	*4440			*3100	3080	7.38
	lb							*9790	*9790			*6830	6790	(24.2)
4.5 m (14.8 ft)	kg							*4960	4280	4570	2960	*3020	2590	8.07
	lb							*10930	9440	10080	6530	*6660	5710	(26.5)
3.0 m (9.8 ft)	kg					*7400	6190	*5790	4030	4450	2850	*3070	2340	8.43
	lb					*16310	13650	*12760	8880	9810	6280	*6770	5160	(27.7)
1.5 m (4.9 ft)	kg					*9130	5670	6050	3790	4320	2730	*3250	2240	8.51
	lb					*20130	12500	13340	8360	9520	6020	*7170	4940	(27.9)
0.0 m (0.0 ft)	kg			*5920	*5920	9140	5390	5850	3610	4220	2640	*3590	2280	8.32
	lb			*13050	*13050	20150	11880	12900	7960	9300	5820	*7910	5030	(27.3)
-1.5 m (-4.9 ft)	kg	*6500	*6500	*10400	10130	9040	5300	5770	3530	4190	2610	3950	2470	7.84
	lb	*14330	*14330	*22930	22330	19930	11680	12720	7780	9240	5750	8710	5450	(25.7)
-3.0 m (-9.8 ft)	kg	*11120	*11120	*14170	10310	9110	5360	5800	3560			4680	2920	7.00
	lb	*24520	*24520	*31240	22730	20080	11820	12790	7850			10320	6440	(23.0)
-4.5 m (-14.8 ft)	kg			*11620	10680	*8190	5570					*6080	4080	5.65
	lb			*25620	23550	*18060	12280					*13400	8990	(18.5)

Note 1. Lifting capacity are based on ISO 10567.

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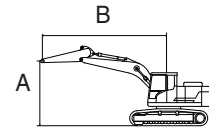
▲ Failure to comply to the rated load can cause possible personal injury or property damage.











Make adjustments to the rated load as necessary for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
		Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
HX220S	MONO BOOM	5680	2000	3600	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								*5710	*5710	5.00
	lb								*12590	*12590	(16.4)
6.0 m (19.7 ft)	kg			*5450	4820				*5520	4370	6.35
	lb			*12020	10630				*12170	9630	(20.8)
4.5 m (14.8 ft)	kg		*6880	*6880	*5800	4690			5520	3550	7.14
	lb		*15170	*15170	*12790	10340			12170	7830	(23.4)
3.0 m (9.8 ft)	kg		*8680	6730	*6530	4470	5010	3200	4960	3170	7.55
	lb		*19140	14840	*14400	9850	11050	7050	10930	6990	(24.8)
1.5 m (4.9 ft)	kg				6860	4270	4930	3120	4800	3040	7.64
	lb				15120	9410	10870	6880	10580	6700	(25.1)
0.0 m (0.0 ft)	kg		*10510	6190	6730	4150			4950	3120	7.43
	lb		*23170	13650	14840	9150			10910	6880	(24.4)
-1.5 m (-4.9 ft)	kg		*10220	6210	6720	4140			5530	3470	6.88
	lb		*22530	13690	14820	9130			12190	7650	(22.6)
-3.0 m (-9.8 ft)	kg	*12380	*12380	*9130	6350				*6670	4360	5.91
	lb	*27290	*27290	*20130	14000				*14700	9610	(19.4)

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

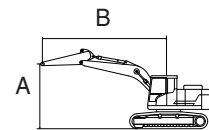
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


Make adjustments to the rated load as necessary for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220S	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5680	2400	3600	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									*5080	*5080	5.58
	lb									*11200	*11200	(18.3)
6.0 m (19.7 ft)	kg				*5000	4870				*4620	3910	6.81
	lb				*11020	10740				*10190	8620	(22.4)
4.5 m (14.8 ft)	kg		*6340	*6340	*5440	4720	*4990	3280	*4490	3240	7.55	
	lb		*13980	*13980	*11990	10410	*11000	7230	*9900	7140	(24.8)	
3.0 m (9.8 ft)	kg		*8130	6830	*6220	4490	5020	3200	*4580	2920	7.94	
	lb		*17920	15060	*13710	9900	11070	7050	*10100	6440	(26.1)	
1.5 m (4.9 ft)	kg		*9700	6370	6870	4260	4910	3100	4430	2810	8.03	
	lb		*21380	14040	15150	9390	10820	6830	9770	6190	(26.3)	
0.0 m (0.0 ft)	kg		*10400	6170	6710	4120	4840	3040	4550	2870	7.83	
	lb		*22930	13600	14790	9080	10670	6700	10030	6330	(25.7)	
-1.5 m (-4.9 ft)	kg	*10820	*10820	*10330	6140	6660	4080		5020	3140	7.31	
	lb	*23850	*23850	*22770	13540	14680	8990		11070	6920	(24.0)	
-3.0 m (-9.8 ft)	kg	*13260	12250	*9500	6250	6750	4160		6160	3830	6.41	
	lb	*29230	27010	*20940	13780	14880	9170		13580	8440	(21.0)	
-4.5 m (-14.8 ft)	kg		*7160	6550					*6330	5840	4.89	
	lb		*15790	14440					*13960	12870	(16.0)	

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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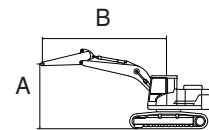
▲ Failure to comply to the rated load can cause possible personal injury or property damage.















Make adjustments to the rated load as necessary for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220S	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5680	2920	3600	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							*4450	*4450					*3370	*3370	6.26
	lb							*9810	*9810					*7430	*7430	(20.5)
6.0 m (19.7 ft)	kg							*4440	*4440					*3100	*3100	7.38
	lb							*9790	*9790					*6830	*6830	(24.2)
4.5 m (14.8 ft)	kg							*4950	4770	*4700	3310	*3020	2900	8.07		
	lb							*10910	10520	*10360	7300	*6660	6390	(26.5)		
3.0 m (9.8 ft)	kg					*7390	6960	*5790	4520	5030	3200	*3070	2640	8.43		
	lb					*16290	15340	*12760	9960	11090	7050	*6770	5820	(27.7)		
1.5 m (4.9 ft)	kg					*9130	6430	*6670	4270	4890	3080	*3250	2530	8.51		
	lb					*20130	14180	*14700	9410	10780	6790	*7170	5580	(27.9)		
0.0 m (0.0 ft)	kg			*5920	*5920	*10130	6130	6680	4090	4790	2990	*3590	2580	8.32		
	lb			*13050	*13050	*22330	13510	14730	9020	10560	6590	*7910	5690	(27.3)		
-1.5 m (-4.9 ft)	kg	*6500	*6500	*10390	*10390	*10340	6050	6590	4010	4750	2950	*4200	2790	7.84		
	lb	*14330	*14330	*22910	*22910	*22800	13340	14530	8840	10470	6500	*9260	6150	(25.7)		
-3.0 m (-9.8 ft)	kg	*11110	*11110	*14180	11990	*9820	6110	6620	4040			5310	3300	7.01		
	lb	*24490	*24490	*31260	26430	*21650	13470	14590	8910			11710	7280	(23.0)		
-4.5 m (-14.8 ft)	kg			*11620	*11620	*8200	6330					*6080	4600	5.66		
	lb			*25620	*25620	*18080	13960					*13400	10140	(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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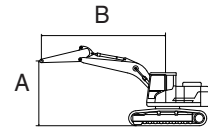
Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX220S LR	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		8200	6300	5300	800	-	-	-	-	-



: 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)	
10.5m 34.4ft	kg lb													*1210 *2670	*1210 *2670							*900 *1980	*900 *1980	10.88 (35.7)	
9.0m 29.5ft	kg lb																						*850 *1870	*850 *1870	11.94 (39.2)
7.5m 24.6ft	kg lb													*1910 *4210	*1910 *4210	*1440 *3170	*1440 *3170					*820 *1810	*820 *1810	12.73 (41.8)	
6.0m 19.7ft	kg lb													*2030 *4480	*2030 *4480	*1810 *3990	*1810 *3990					*820 *1810	*820 *1810	13.31 (43.7)	
4.5m 14.8ft	kg lb												*2330 *5140	*2330 *5140	*2220 *4890	*2220 *4890	*2110 *4650	1900 4190	*1080 *2380	*1080 *2380		*830 *1830	*830 *1830	13.70 (45.0)	
3.0m 9.8ft	kg lb									*3030 *6680	*3030 *6680	*2680 *5910	*2680 *5910	*2450 *5400	2320 5110	*2300 *5070	1820 4010	*1370 *3020	*1370 *3020		*860 *1900	*860 *1900	13.92 (45.7)		
1.5m 4.9ft	kg lb			*2840 *6260	*2840 *6260	*6410 *14130	*6410 *14130	*4540 *10010	*4540 *10010	*3600 *7940	*3600 *7940	*3050 *6720	2800 6170	*2700 *5950	2180 4810	*2470 *5450	1730 3810	*1520 *3350	*1520 *3350		*910 *2010	*910 *2010	13.97 (45.8)		
0.0m 0.0ft	kg lb			*2450 *5400	*2450 *5400	*6310 *13910	*6310 *13910	*5340 *11770	4570 10080	*4120 *9080	3380 7450	*3400 *7500	2600 5730	*2950 *6500	2060 4540	*2640 *5820	1650 3640	*1500 *3310	1330 2930		*980 *2160	*980 *2160	13.85 (45.5)		
-1.5m -4.9ft	kg lb	*2020 *4450	*2020 *4450	*3010 *6640	*3010 *6640	*5640 *12430	*5640 *12430	*5920 *13050	4250 9370	*4540 *10010	3160 6970	*3710 *8180	2450 5400	*3160 *6970	1950 4300	2640 5820	1580 3480	*1200 *2650	*1200 *2650		*1080 *2380	*1080 *2380	13.57 (44.5)		
-3.0m -9.8ft	kg lb	*2900 *6390	*2900 *6390	*3830 *8440	*3830 *8440	*6080 *13400	*6080 *13400	*6270 *13820	4080 8990	*4830 *10650	3010 6640	3910 8620	2340 5160	3140 6920	1880 4140	2600 5730	1540 3400				*1220 *2690	*1220 *2690	13.11 (43.0)		
-4.5m -14.8ft	kg lb	*3820 *8420	*3820 *8420	*4830 *10650	*4830 *10650	*7050 *15540	6110 13470	*6400 *14110	4020 8860	*4970 *10960	2950 6500	3850 8490	2290 5050	3110 6860	1850 4080	*2410 *5310	1530 3370				*1420 *3130	*1420 *3130	12.45 (40.9)		
-6.0m -19.7ft	kg lb	*4830 *10650	*4830 *10650	*6000 *13230	*6000 *13230	*8460 *18650	6210 13690	*6300 *13890	4050 8930	*4940 *10890	2950 6500	3860 8510	2300 5070	3130 6900	1860 4100						*1750 *3860	1650 3640	11.56 (37.9)		
-7.5m -24.6ft	kg lb	*5980 *13180	*5980 *13180	*7440 *16400	*7440 *16400	*7880 *17370	6400 14110	*5940 *13100	4160 9170	*4690 *10340	3030 6680	*3780 *8330	2370 5220								*2330 *5140	1980 4370	10.37 (34.0)		
-9.0m -29.5ft	kg lb			*9320 *20550	*9320 *20550	*6820 *15040	6700 14770	*5210 *11490	4360 9610	*4070 *8970	3200 7050										*3240 *7140	2620 5780	8.77 (28.8)		

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.

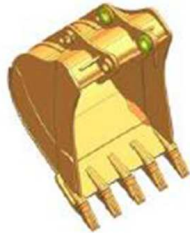
Make adjustments to the rated load as necessary for non-standard configurations.

6. BUCKET SELECTION GUIDE

1) HX210S, 3600 KG COUNTERWEIGHT



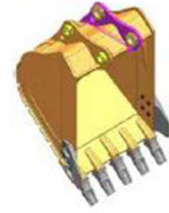
General bucket



Heavy duty
(without side cutter)



Rock heavy duty



Long reach

Type	Capacity		Width	Weight	Tooth	MONO Recommendation		
	SAE Heaped	CECE heaped	Without side cutter			5.68 m (18' 8") Boom		
	m ³ (yd ³)	m ³ (yd ³)	mm (in)	kg (lb)	EA	2.10 m (6' 7") Arm	2.4 m (7' 10") Arm	2.92 m (9' 7") Arm
General bucket	0.92 (1.20)	0.80 (1.05)	1,082 (42.6')	725 (1,600)	5	●	◐	■
	1.10 (1.44)	0.96 (1.26)	1,320 (52.0")	830 (1,830)	5	■	■	▲
	1.20 (1.57)	1.10 (1.44)	1,332 (52.4")	810 (1,790)	5	■	▲	▲
Heavy duty	0.90 (1.18)	0.80 (1.05)	1,082 (42.6")	830 (1,830)	5	●	◐	■
Rock heavy duty	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

●	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.

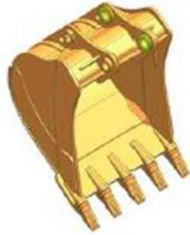
Select an optimum combination according to the working conditions and the type of work that is being done.

Consult your Hyundai dealer for information on selecting the correct boom–arm–bucket combination.

2) HX210S, 4200 KG COUNTERWEIGHT



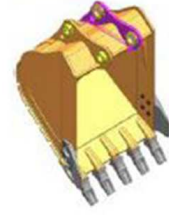
General bucket



Heavy duty
(without side cutter)



Rock heavy duty



Long reach

Type	Capacity		Width	Weight	Tooth	MONO Recommendation		
	SAE Heaped	CECE heaped	Without side cutter			5.68 m (18' 8") Boom		
	m ³ (yd ³)	m ³ (yd ³)	mm (in)	kg (lb)	EA	2.10 m (6' 7") Arm	2.4 m (7' 10") Arm	2.92 m (9' 7") Arm
General bucket	0.92 (1.20)	0.80 (1.05)	1,082 (42.6')	725 (1,600)	5	●	●	◐
	1.10 (1.44)	0.96 (1.26)	1,320 (52.0")	830 (1,830)	5	◐	■	■
	1.20 (1.57)	1.10 (1.44)	1,332 (52.4")	810 (1,790)	5	◐	■	▲
Heavy duty	0.90 (1.18)	0.80 (1.05)	1,082 (42.6")	830 (1,830)	5	●	●	◐
Rock heavy duty	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	■	■	▲

●	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

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Work tools and ground conditions have effects on machine performance.

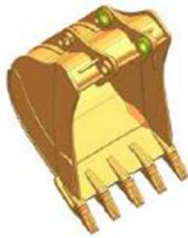
Select an optimum combination according to the working conditions and the type of work that is being done.

Consult your Hyundai dealer for information on selecting the correct boom–arm–bucket combination.

3) HX220S, 3600 KG COUNTERWEIGHT



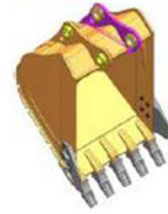
General bucket



Heavy duty
(without side cutter)



Rock heavy duty



Long reach

Type	Capacity		Width	Weight	Tooth	MONO Recommendation		
	SAE Heaped	CECE heaped	Without side cutter			5.68 m (18' 8") Boom		
	m ³ (yd ³)	m ³ (yd ³)	mm (in)	kg (lb)	EA	2.10 m (6' 7") Arm	2.4 m (7' 10") Arm	2.92 m (9' 7") Arm
General bucket	0.92 (1.20)	0.80 (1.05)	1,082 (42.6')	725 (1,600)	5	●	●	○
	1.10 (1.44)	0.96 (1.26)	1,320 (52.0")	830 (1,830)	5	○	◐	■
	1.20 (1.57)	1.10 (1.44)	1,332 (52.4")	810 (1,790)	5	○	■	▲
Heavy duty	0.90 (1.18)	0.80 (1.05)	1,082 (42.6")	830 (1,830)	5	●	●	○
Rock heavy duty	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	■	■	▲

●	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.

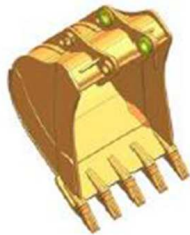
Select an optimum combination according to the working conditions and the type of work that is being done.

Consult your Hyundai dealer for information on selecting the correct boom–arm–bucket combination.

4) HX220S, 4200 KG COUNTERWEIGHT



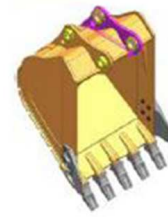
General bucket



Heavy duty
(without side cutter)



Rock heavy duty



Long reach

Type	Capacity		Width	Weight	Tooth	MONO Recommendation		
	SAE Heaped	CECE heaped	Without side cutter			5.68 m (18' 8") Boom		
	m ³ (yd ³)	m ³ (yd ³)	mm (in)	kg (lb)	EA	2.10 m (6' 7") Arm	2.4 m (7' 10") Arm	2.92 m (9' 7") Arm
General bucket	0.92 (1.20)	0.80 (1.05)	1,082 (42.6')	725 (1,600)	5	●	●	●
	1.10 (1.44)	0.96 (1.26)	1,320 (52.0")	830 (1,830)	5	●	◐	■
	1.20 (1.57)	1.10 (1.44)	1,332 (52.4")	810 (1,790)	5	◐	◐	■
Heavy duty	0.90 (1.18)	0.80 (1.05)	1,082 (42.6")	830 (1,830)	5	●	●	●
Rock heavy duty	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	◐	■	■

●	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.

5) HX220S, 5300 KG COUNTERWEIGHT



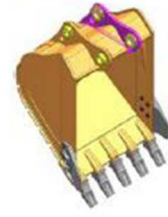
General bucket



Heavy duty
(without side cutter)



Rock heavy duty



Long reach

Type	Capacity		Width	Weight	Tooth	MONO			L/Reach
	SAE Heaped	CECE heaped	Without side cutter			Recommendation			8.2 m (26' 11") Boom
				5.68 m (18' 8") Boom			6.3 m (20' 8") Arm		
m ³ (yd ³)	m ³ (yd ³)	mm (in)	kg (lb)	EA	2.10 m (6' 7") Arm	2.4 m (7' 10") Arm		2.92 m (9' 7") Arm	
General bucket	0.92 (1.20)	0.80 (1.05)	1,082 (42.6')	725 (1,600)	5	●	●	●	X
	1.10 (1.44)	0.96 (1.26)	1,320 (52.0")	830 (1,830)	5	●	●	●	X
	1.20 (1.57)	1.10 (1.44)	1,332 (52.4")	810 (1,790)	5	●	●	◐	X
Heavy duty	0.90 (1.18)	0.80 (1.05)	1,082 (42.6")	830 (1,830)	5	●	●	●	X
Rock heavy duty	0.87 (1.14)	0.75 (0.98)	1,140 (44.9")	900 (1,980)	5	●	●	●	X
	1.20 (1.57)	1.00 (1.31)	1,410 (55.5")	1,030 (2,270)	5	●	◐	◐	X
LR	0.52 (0.68)	0.45 (0.59)	935 (36.8")	460 (1,010)	5	X	X	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.

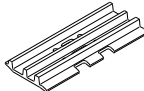
Consult your Hyundai dealer for information on selecting the correct boom–arm–bucket combination.

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			
						
HX210S	Shoe width	mm (in)	600 (24)	-	-	800 (32)
	Operating weight	kg (lb)	20830 (45920)	-	-	21380 (47140)
	Ground pressure	kgf/cm ² (psi)	0.48 (6.81)	-	-	0.42 (5.99)
	Overall width	mm (ft-in)	2800 (9' 2")	-	-	3000 (9' 10")
HX220S	Shoe width	mm (in)	600 (24)★	600 (24)	700 (28)	800 (32)
	Operating weight	kg (lb)	21260 (46870)	21450 (47290)	21750 (47950)	22040 (48590)
	Ground pressure	kgf/cm ² (psi)	0.45 (6.45)	0.46 (6.51)	0.40 (5.56)	0.35 (5.02)
	Overall width	mm (ft-in)	2990 (9' 10")	2800 (9' 2")	3090 (10' 2")	3190 (10' 6")

★ : 8.5 T

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item		Quantity
Carrier rollers		2 EA
Track rollers	HX210S	7 EA
	HX220S	9 EA
Track shoes	HX210S	46 EA
	HX220S	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
700 mm triple grouser	Option	B
800 mm triple grouser	Option	C

※ **Table 2**

Category	Applications	Precautions
A	Rocky ground, river beds, normal soil	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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 borexstroke	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) : -#1289 20 ℓ (5.3 U.S. gal) : #1290-
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 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/cm ² (92 psi)
	Maximum	26 kgf/cm ² (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	∅120 × ∅85 × 1290 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	∅140 × ∅100 × 1510 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	∅120 × ∅85 × 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
HX210S	Standard	600 mm (24")	0.48 kgf/cm ² (6.81 psi)	46	2800 mm (9' 2")
	Option	800 mm (32")	0.42 kgf/cm ² (5.99 psi)	46	3000 mm (9' 10")
HX220S	Standard	600 mm (24")	0.45 kgf/cm ² (6.45 psi)	49	2990 mm (9' 10")
		600 mm (24")	0.46 kgf/cm ² (6.51 psi)	49	2800 mm (9' 2")
	Option	700 mm (28")	0.40 kgf/cm ² (5.56 psi)	49	3090 mm (10' 2")
		800 mm (32")	0.35 kgf/cm ² (5.02 psi)	49	3190 mm (10' 6")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
HX210S	STD	0.92 m ³ (1.20 yd ³)	0.80 m ³ (1.05 yd ³)	5	1150 mm (45.3")	1270 mm (50.0")
HX220S	OPT	1.20 m ³ (1.57 yd ³)	1.00 m ³ (1.31 yd ³)	5	1400 mm (55.1")	1520 mm (59.8")
		◆0.90 m ³ (1.18 yd ³)	0.80 m ³ (1.05 yd ³)	5	1090 mm (42.9")	—

◆ : 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)
Engine oil pan	Engine oil ^{★2}	14 (3.8) : #1289 20 (5.3) : #1290-	★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.