

SECTION 1 GENERAL

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SECTION 1 GENERAL

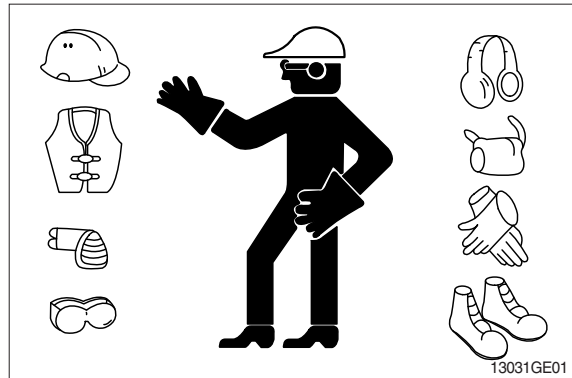
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

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

WEAR PROTECTIVE CLOTHING

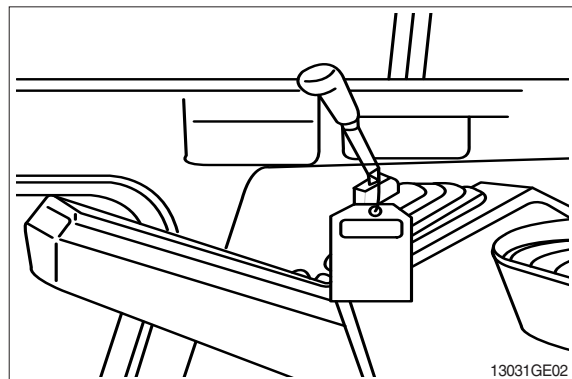
Wear close fitting clothing and safety equipment appropriate to the job.



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.



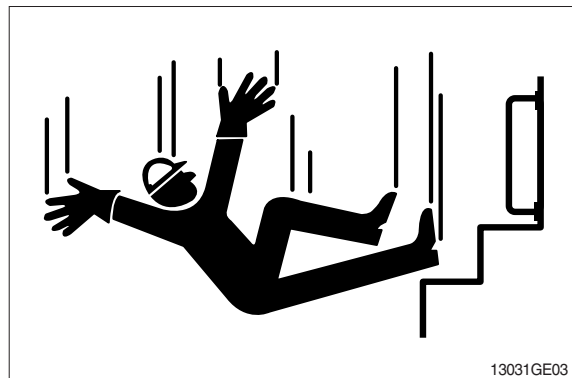
USE HANDHOLDS AND STEPS

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.

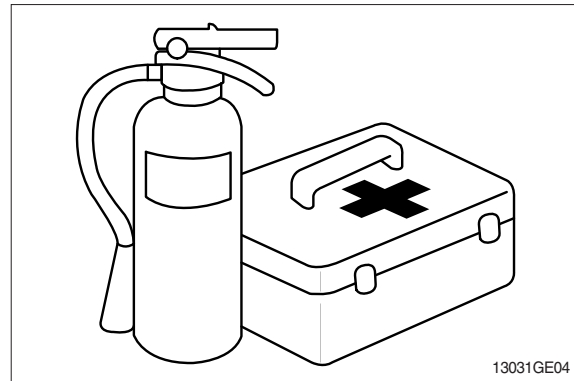


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

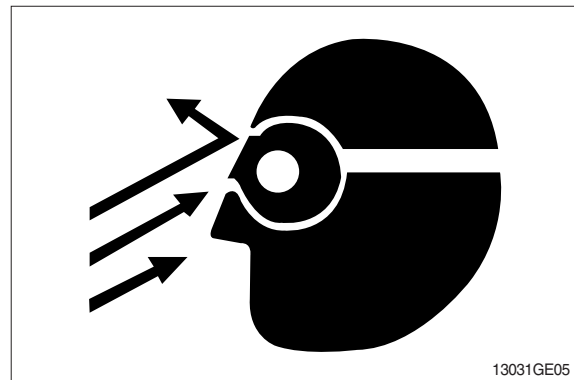
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

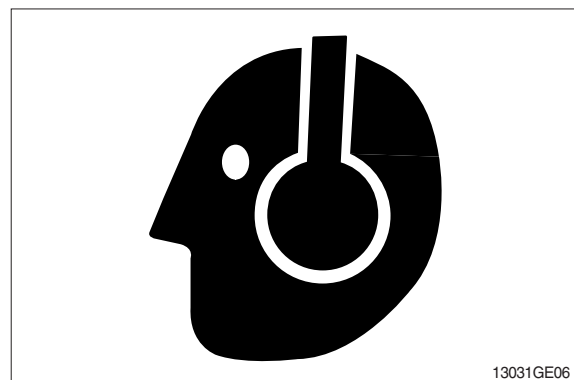
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

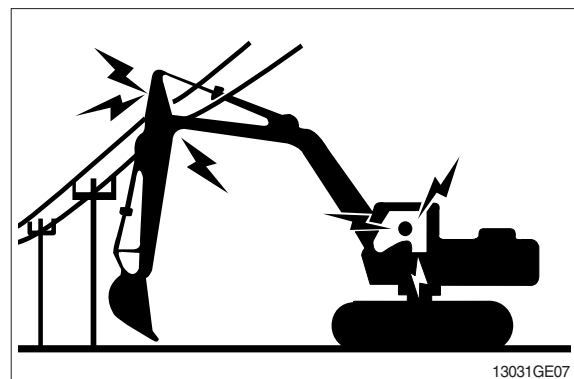
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

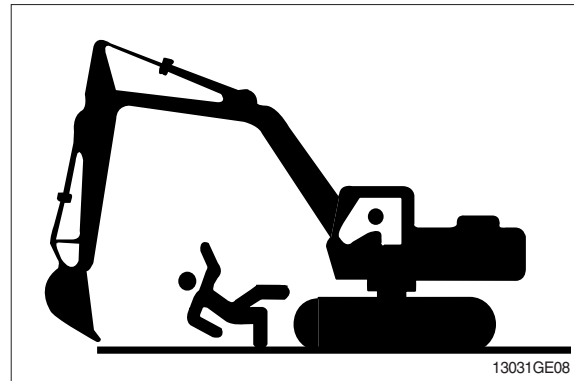
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

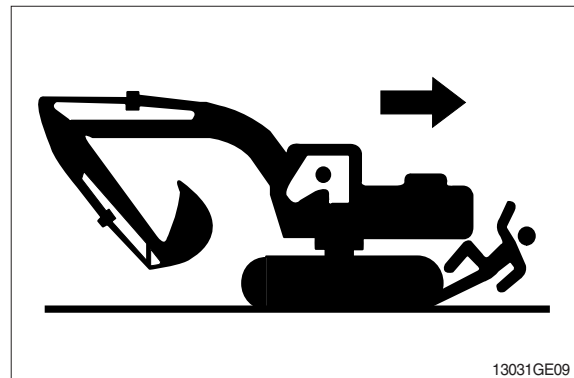


MOVE AND OPERATE MACHINE SAFELY

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:

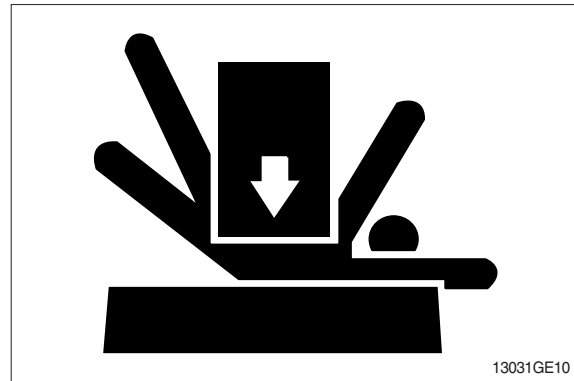
- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
 - Turn key switch to OFF to stop engine.
- Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

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.

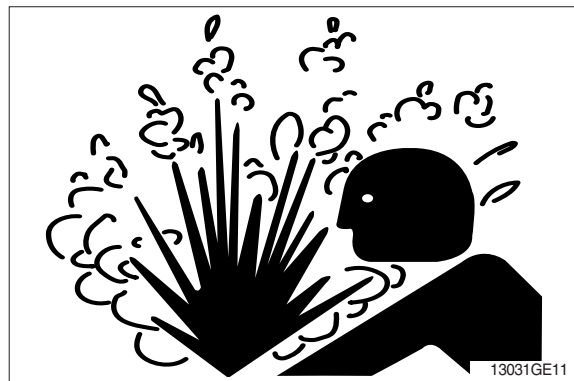
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



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

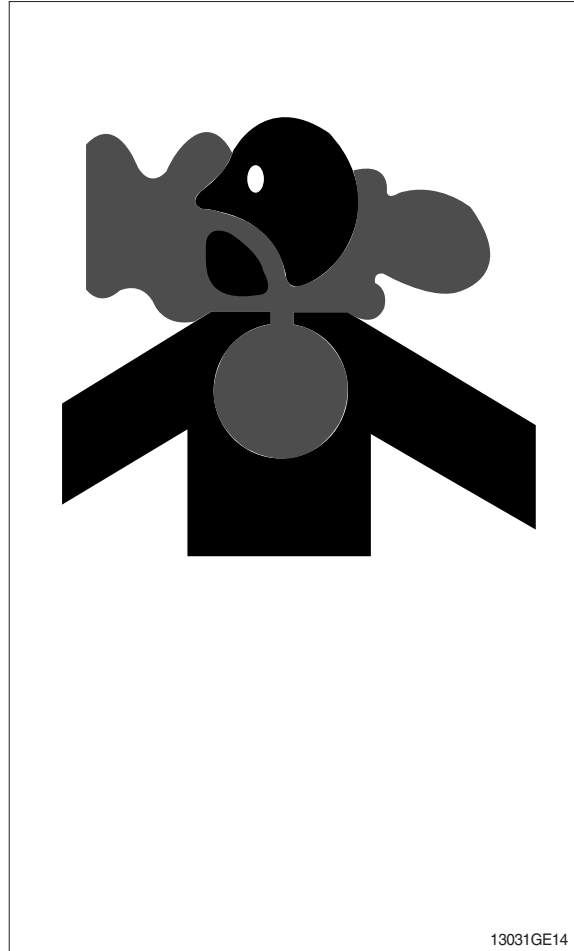
Avoid potentially toxic fumes and dust.

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.

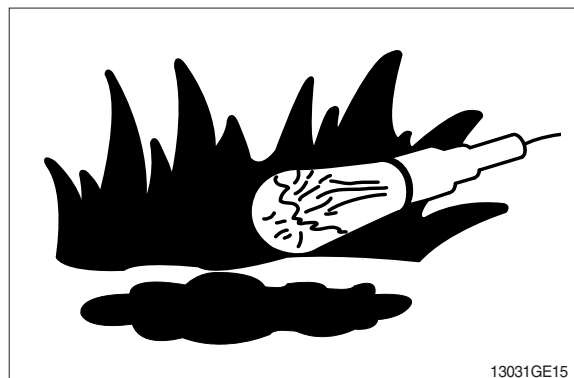
Remove paint before welding or heating:

- 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

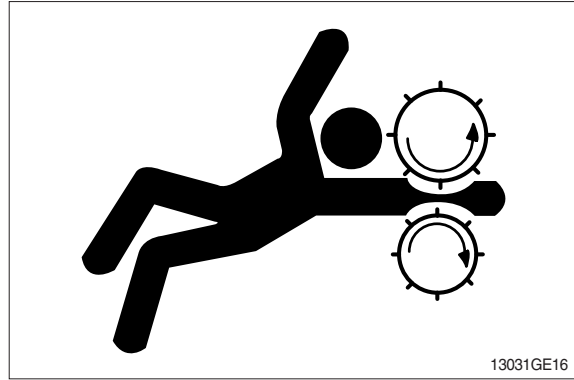
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



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.

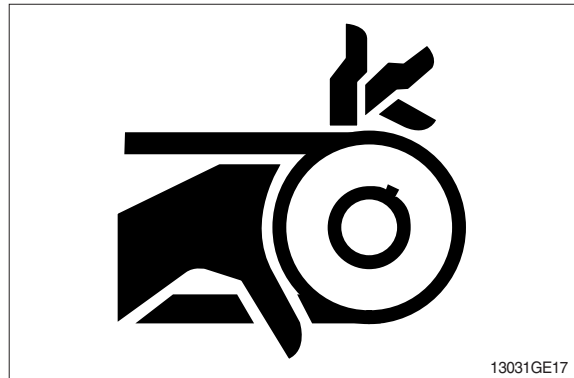
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



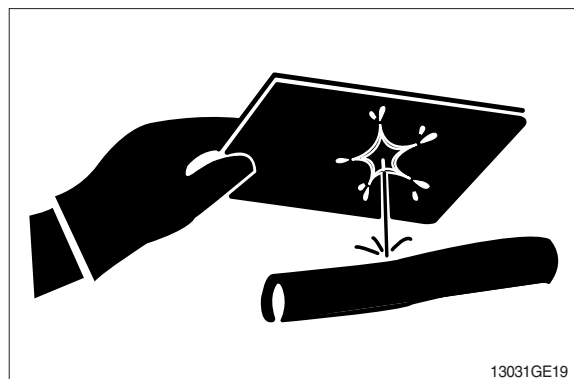
AVOID HIGH PRESSURE FLUIDS

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:

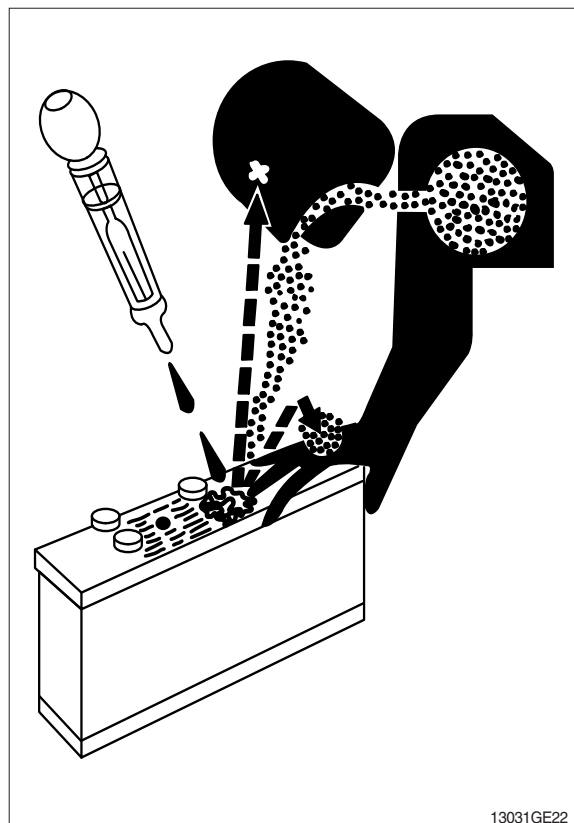
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



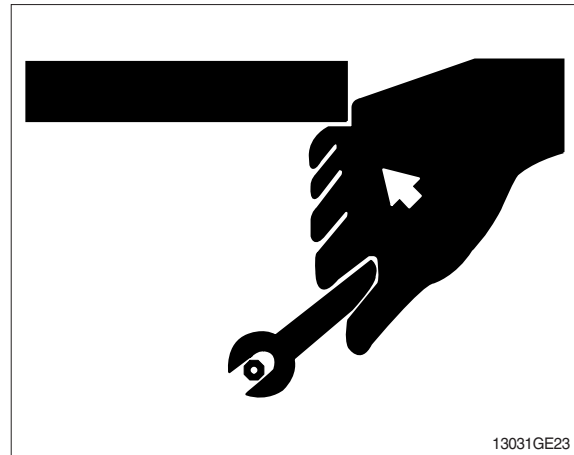
USE TOOLS PROPERLY

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

Use power tools only to loosen threaded tools and fasteners.

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

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

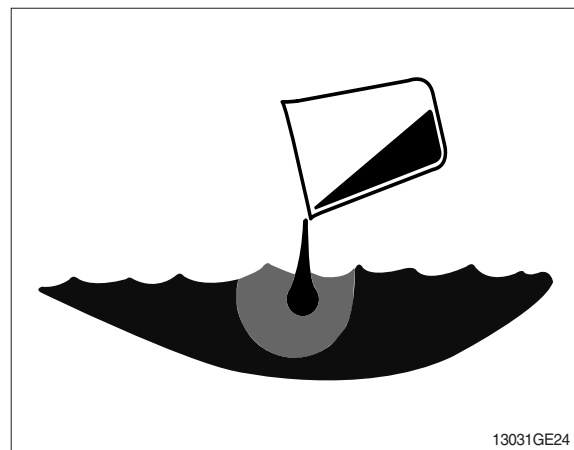


DISPOSE OF FLUIDS PROPERLY

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

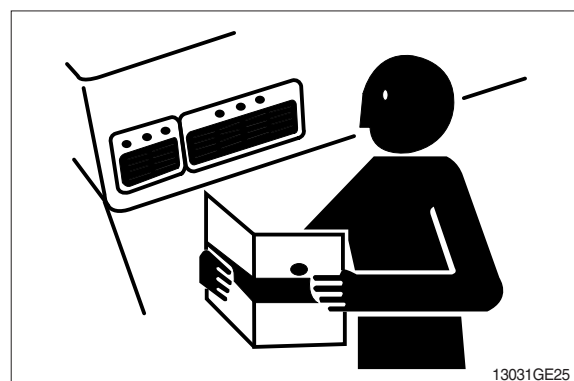
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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



REPLACE SAFETY SIGNS

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

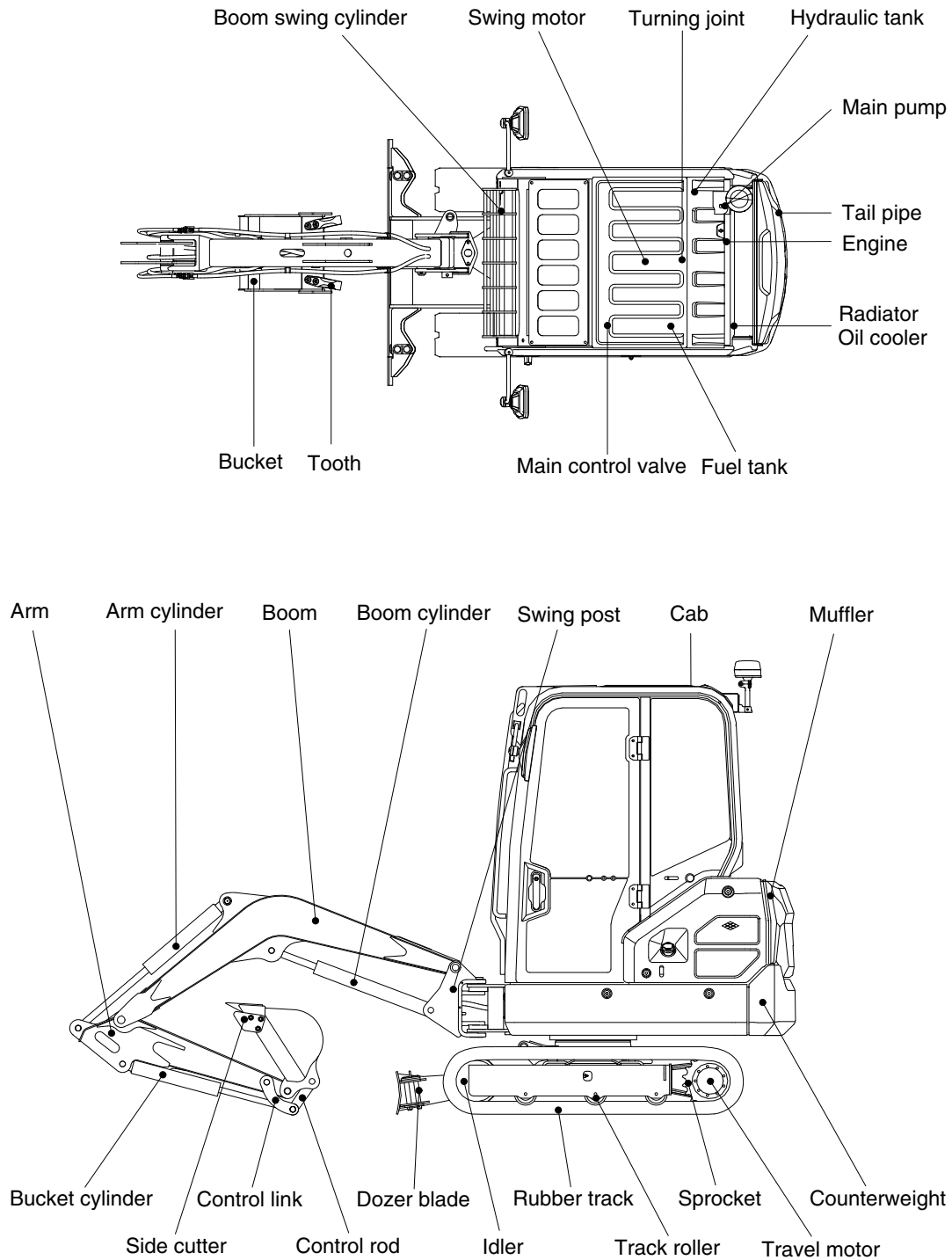


LIVE WITH SAFETY

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

GROUP 2 SPECIFICATIONS

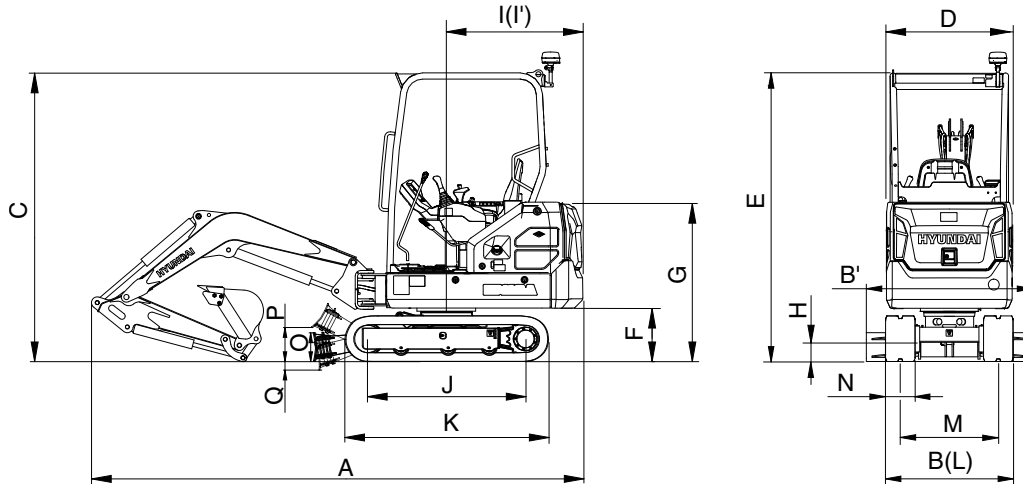
1. MAJOR COMPONENT



19A2SP01

2. SPECIFICATIONS

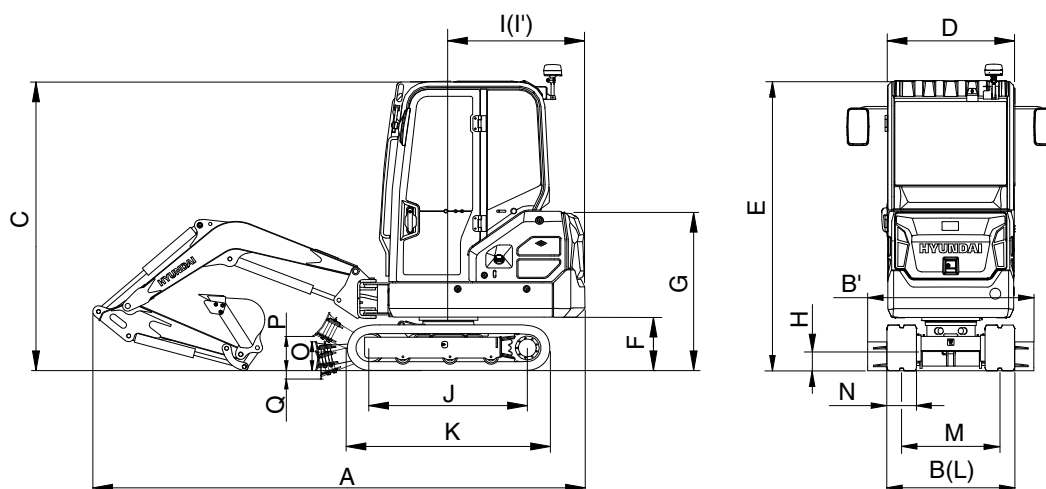
1) 1.75 m (5' 9") MONO BOOM, 1.03 m (3' 5") ARM, WITH CANOPY



19A2SP02

Description		Unit	Specification
Operating weight (canopy/cabin)		kg (lb)	1885 (4160)
Bucket capacity (SAE heaped), standard		m³ (yd³)	0.04 (0.05)
Overall length	A	mm (ft-in)	3837 (12' 7")
Overall width (extension crawler)	B		994~1290 (3' 3"~ 4' 3")
Overall width (dozer blade)	B'		1294 (4' 3")
Overall height	C		2275 (7' 6")
Overall width of upperstructure	D		980 (3' 3")
Overall height of canopy/cabin	E		2275 (7' 6")
Ground clearance of counterweight	F		415 (1' 4")
Overall height of engine hood	G		1240 (4' 1")
Minimum ground clearance	H		150 (0' 6")
Rear-end distance	I		1065 (3' 6")
Rear-end swing radius	I'		1065 (3' 6")
Distance between tumblers	J		1230 (4' 0")
Undercarriage length	K		1580 (5' 2")
Undercarriage width (extension crawler)	L		994~1290 (3' 3"~ 4' 3")
Track gauge (extension crawler)	M		764~1060 (2' 6"~ 3' 6")
Track shoe width, standard	N		230 (0' 9")
Height of blade	O		225 (0' 9")
Ground clearance of blade up	P		183 (0' 7")
Depth of blade down	Q		222 (0' 9")
Travel speed (low/high)		km/hr (mph)	2.06/3.73 (1.28/2.32)
Swing speed		rpm	9.21
Gradeability		Degree (%)	35 (70)
Ground pressure 230 mm rubber shoe (canopy/cabin)		kgf/cm² (psi)	0.31 (4.47)
Max traction force		kg (lb)	1441 (3180)

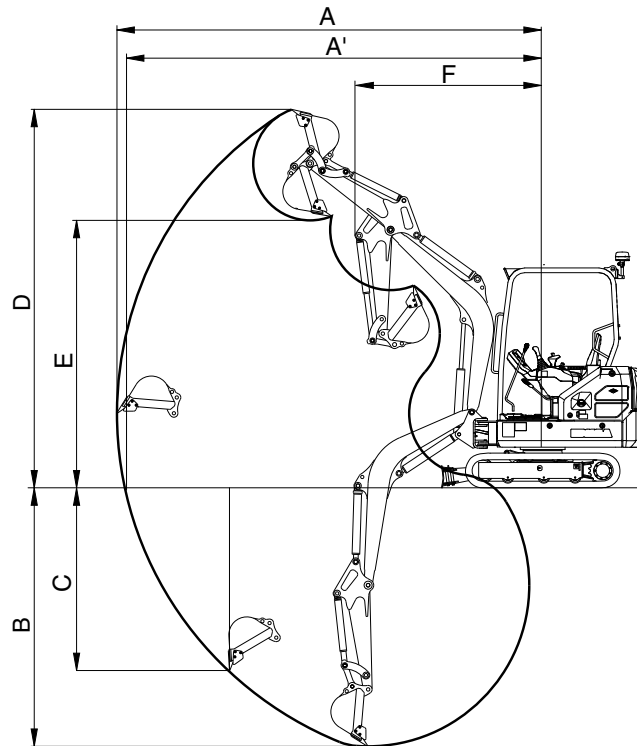
2) 1.75 m (5' 9") MONO BOOM, 1.23 m (4' 0") LONG ARM, WITH CAB



Description		Unit	Specification
Operating weight (canopy/cabin)		kg (lb)	2020 (4450)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.04 (0.05)
Overall length	A	mm (ft-in)	3835 (12' 7")
Overall width (extension crawler)	B		994~1290 (3' 3"~4' 3")
Overall width (dozer blade)	B'		1294 (4' 3")
Overall height	C		2270 (7' 5")
Overall width of upperstructure	D		980 (3' 3")
Overall height of canopy/cabin	E		2270 (7' 5")
Ground clearance of counterweight	F		415 (1' 4")
Overall height of engine hood	G		1240 (4' 1")
Minimum ground clearance	H		150 (0' 6")
Rear-end distance	I		1065 (3' 6")
Rear-end swing radius	I'		1065 (3' 6")
Distance between tumblers	J		1230 (4' 0")
Undercarriage length	K		1580 (5' 2")
Undercarriage width (extension crawler)	L		994~1290 (3' 3"~4' 3")
Track gauge (extension crawler)	M		764~1060 (2' 6"~3' 6")
Track shoe width, standard	N		230 (0' 9")
Height of blade	O		225 (0' 9")
Ground clearance of blade up	P		183 (0' 7")
Depth of blade down	Q		222 (0' 9")
Travel speed (low/high)		km/hr (mph)	2.06/3.73 (1.28/2.32)
Swing speed		rpm	9.21
Gradeability		Degree (%)	35 (70)
Ground pressure 230 mm rubber shoe (canopy/cabin)		kgf/cm ² (psi)	0.34 (4.78)
Max traction force		kg (lb)	1441 (3180)

3. WORKING RANGE

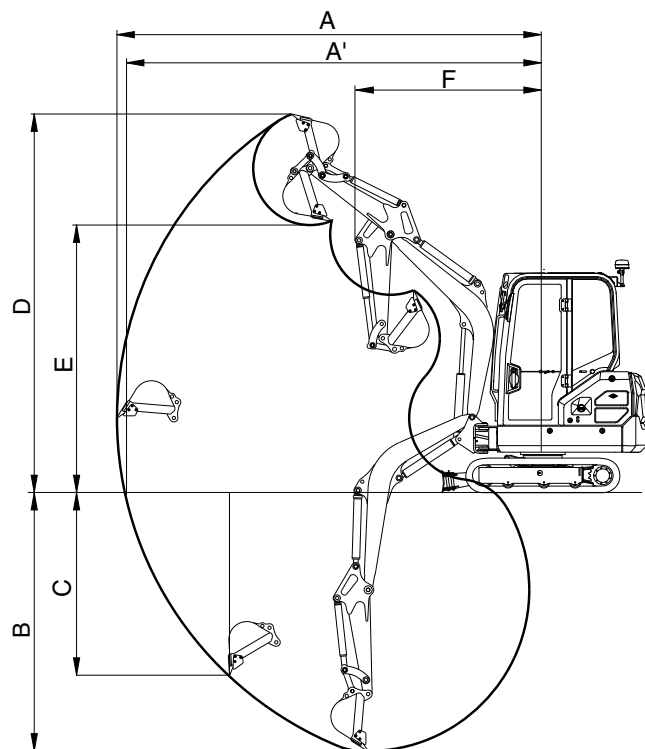
1) 1.75 m (5' 9") MONO BOOM, WITH CANOPY



19A2SP05

Description		1.03 m (3' 5") Arm
Max digging reach	A	3940 mm (12' 11")
Max digging reach on ground	A'	3850 mm (12' 8")
Max digging depth	B	2340 mm (7' 8")
Max digging depth (8 ft level)	B'	1740 mm (5' 9")
Max vertical wall digging depth	C	1840 mm (6' 0")
Max digging height	D	3470 mm (11' 5")
Max dumping height	E	2440 mm (8' 0")
Min swing radius	F	1725 mm (5' 8")
Boom swing radius (left/right)		55°/59°
Bucket digging force	SAE	14 kN
		1436 kgf
		3167 lbf
	ISO	16 kN
		1664 kgf
		3668 lbf
Arm crowd force	SAE	9 kN
		899 kgf
		1981 lbf
	ISO	9 kN
		933 kgf
		2057 lbf

2) 1.75 m (5' 9") MONO BOOM, WITH CAB



19A2SP06

Description		1.23 m (4' 0") Long arm
Max digging reach	A	4130 mm (13' 7")
Max digging reach on ground	A'	4040 mm (13' 3")
Max digging depth	B	2540 mm (8' 4")
Max digging depth (8 ft level)	B'	2000 mm (6' 7")
Max vertical wall digging depth	C	2020 mm (6' 8")
Max digging height	D	3585 mm (11' 9")
Max dumping height	E	2550 mm (8' 4")
Min swing radius	F	1760 mm (5' 9")
Boom swing radius (left/right)		55°/59°
Bucket digging force	SAE	14 kN
		1436 kgf
		3167 lbf
	ISO	16 kN
		1664 kgf
		3668 lbf
Arm crowd force	SAE	8 kN
		796 kgf
		1754 lbf
	ISO	8 kN
		822 kgf
		1812 lbf

4. WEIGHT

Item	kg	lb
Upperstructure assembly		
· Main frame weld assembly	248	547
· Engine assembly (including DPF)	75	165
· Main pump assembly	13	29
· Main control valve assembly	25	55
· Swing motor assembly	23	51
· Hydraulic oil tank wa	16	35
· Fuel tank wa	4	9
· Counterweight	65	143
· Cab assembly	364	802
Lower chassis assembly		
· Track frame weld assembly	206	454
· Dozer blade assembly	63	139
· Swing bearing	19	42
· Travel motor assembly	36	79
· Turning joint	14	31
· Sprocket	4	9
· Track recoil spring	11	24
· Idler	14	31
· Lower roller	5	11
· Track-chain assembly-rubber	71	157
Front attachment assembly		
· Boom assembly	72	159
· Arm assembly-1.03 m	37	83
· Arm assembly-1.03 m thumb bracket	40	88
· Arm assembly-1.23 m	47	104
· Arm assembly-1.23 m thumb bracket	49	109
· Bucket assembly	41	90
· Boom cylinder assembly	16	36
· Arm cylinder assembly	16	34
· Bucket cylinder assembly	12	25
· Dozer cylinder assembly	10	23
· Boom swing cylinder	10	22
· Extension cylinder	7	15
· Bucket control linkage total	12	27



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

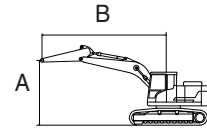
※ Refer to transportation for actual weight information and specifications for operating weight.









5. LIFTING CAPACITIES

1) CANOPY TYPE

Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Canopy	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1030	65	230	-	Up	-	-	-

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



Load point height (A)		Load radius (B)						At max. reach		
		2.0 m (6.6 ft)		2.5 m (8.2 ft)		3.0 m (9.8 ft)		Capacity		Reach
										m (ft)
2.5 m	kg			*370	*370			*350	350	2.77
(8.2 ft)	lb			*820	*820			*770	770	(9.1)
2.0 m	kg			*380	*380	320	310	300	290	3.10
(6.6 ft)	lb			*840	*840	710	680	660	640	(10.2)
1.5 m	kg	*510	*510	420	400	320	300	270	260	3.30
(4.9 ft)	lb	*1120	*1120	930	880	710	660	600	570	(10.8)
1.0 m	kg	570	540	410	390	310	300	260	250	3.39
(3.3 ft)	lb	1260	1190	900	860	680	660	570	550	(11.1)
0.5 m	kg	550	510	400	380	300	290	250	240	3.39
(1.6 ft)	lb	1210	1120	880	840	660	640	550	530	(11.1)
0.0 m	kg	530	500	390	370	300	290	260	250	3.29
(0.0 ft)	lb	1170	1100	860	820	660	640	570	550	(10.8)
-0.5 m	kg	530	500	380	360	300	290	290	280	3.08
(-1.6 ft)	lb	1170	1100	840	790	660	640	640	620	(10.1)
-1.0 m	kg	540	510	390	370			340	330	2.73
(-3.3 ft)	lb	1190	1120	860	820			750	730	(9.0)
-1.5 m	kg	*500	*500					*430	*430	2.14
(-4.9 ft)	lb	*1100	*1100					*950	*950	(7.0)

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.

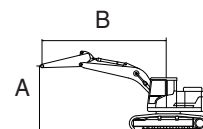
Consult with your local HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.









※ Please be aware of the local regulations and instructions for lifting operations.

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

Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Canopy	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1030	65	230	-	Down	-	-	-

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



Load point height (A)		Load radius (B)						At max. reach		
		2.0 m (6.6 ft)		2.5 m (8.2 ft)		3.0 m (9.8 ft)		Capacity		Reach
										m (ft)
2.5 m	kg			*370	*370			*350	*350	2.77
(8.2 ft)	lb			*820	*820			*770	*770	(9.1)
2.0 m	kg			*380	*380	*390	330	*330	310	3.10
(6.6 ft)	lb			*840	*840	*860	730	*730	680	(10.2)
1.5 m	kg	*510	*510	*440	430	*410	320	*330	280	3.30
(4.9 ft)	lb	*1120	*1120	*970	950	*900	710	*730	620	(10.8)
1.0 m	kg	*700	580	*520	420	*440	320	*340	260	3.39
(3.3 ft)	lb	*1540	1280	*1150	930	*970	710	*750	570	(11.1)
0.5 m	kg	*850	550	*600	400	*480	310	*370	260	3.39
(1.6 ft)	lb	*1870	1210	*1320	880	*1060	680	*820	570	(11.1)
0.0 m	kg	*910	540	*640	390	*490	310	*410	270	3.29
(0.0 ft)	lb	*2010	1190	*1410	860	*1080	680	*900	600	(10.8)
-0.5 m	kg	*870	540	*630	390	*470	310	*440	300	3.08
(-1.6 ft)	lb	*1920	1190	*1390	860	*1040	680	*970	660	(10.1)
-1.0 m	kg	*760	540	*540	390			*450	350	2.73
(-3.3 ft)	lb	*1680	1190	*1190	860			*990	770	(9.0)
-1.5 m	kg	*500	*500					*430	*430	2.14
(-4.9 ft)	lb	*1100	*1100					*950	*950	(7.0)

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.

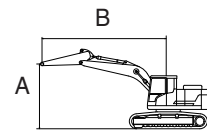
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※ Please be aware of the local regulations and instructions for lifting operations.

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

Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Canopy	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1230	65	230	-	Up	-	-	-

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



Load point height (A)		Load radius (B)								At max. reach		
		2.0m (6.6ft)		2.5m (8.2ft)		3.0 m (9.8 ft)		3.5 m (11.5 ft)		Capacity		Reach
												m (ft)
3.0 m	kg			*350	*350					*320	*320	2.53
(9.8 ft)	lb			*770	*770					*710	*710	(8.3)
2.5 m	kg					*290	*290			*280	*280	3.01
(8.2 ft)	lb					*640	*640			*620	*620	(9.9)
2.0m	kg					320	310			*270	260	3.31
(6.6 ft)	lb					710	680			*600	570	(10.9)
1.5m	kg			*390	*390	320	300			250	240	3.50
(4.9 ft)	lb			*860	*860	710	660			550	530	(11.5)
1.0m	kg	580	540	410	390	310	300	240	230	230	220	3.58
(3.3 ft)	lb	1280	1190	900	860	680	660	530	510	510	490	(11.7)
0.5m	kg	550	510	390	370	300	290	240	230	230	220	3.58
(1.6 ft)	lb	1210	1120	860	820	660	640	530	510	510	490	(11.7)
0.0m	kg	530	500	380	360	290	280			240	230	3.48
(0.0 ft)	lb	1170	1100	840	790	640	620			530	510	(11.4)
-0.5m	kg	520	490	380	360	290	280			260	250	3.29
(-1.6 ft)	lb	1150	1080	840	790	640	620			570	550	(10.8)
-1.0m	kg	520	490	380	360					300	280	2.98
(-3.3 ft)	lb	1150	1080	840	790					660	620	(9.8)
-1.5m	kg	530	500							390	370	2.47
(-4.9 ft)	lb	1170	1100							860	820	(8.1)
-2.0m	kg									*290	*290	1.45
(-6.6 ft)	lb									*640	*640	(4.7)

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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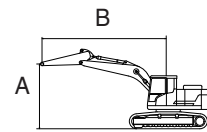
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Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Canopy	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1230	65	230	-	Down	-	-	-

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



Load point height (A)		Load radius (B)								At max. reach		
		2.0m (6.6ft)		2.5m (8.2ft)		3.0 m (9.8 ft)		3.5 m (11.5 ft)		Capacity		Reach
												m (ft)
3.0 m	kg			*350	*350					*320	*320	2.53
(9.8 ft)	lb			*770	*770					*710	*710	(8.3)
2.5 m	kg					*290	*290			*280	*280	3.01
(8.2 ft)	lb					*640	*640			*620	*620	(9.9)
2.0m	kg					*340	330			*270	*270	3.31
(6.6 ft)	lb					*750	730			*600	*600	(10.9)
1.5m	kg			*390	*390	*370	320			*270	250	3.50
(4.9 ft)	lb			*860	*860	*820	710			*600	550	(11.5)
1.0m	kg	*620	580	*480	420	*410	320	*370	250	*270	240	3.58
(3.3 ft)	lb	*1370	1280	*1060	930	*900	710	*820	550	*600	530	(11.7)
0.5m	kg	*790	550	*560	400	*450	310	*390	250	*290	240	3.58
(1.6 ft)	lb	*1740	1210	*1230	880	*990	680	*860	550	*640	530	(11.7)
0.0m	kg	*880	540	*620	390	*480	300			*330	240	3.48
(0.0 ft)	lb	*1940	1190	*1370	860	*1060	660			*730	530	(11.4)
-0.5m	kg	*890	530	*630	380	*480	300			*390	260	3.29
(-1.6 ft)	lb	*1960	1170	*1390	840	*1060	660			*860	570	(10.8)
-1.0m	kg	*810	530	*580	380					*420	300	2.98
(-3.3 ft)	lb	*1790	1170	*1280	840					*930	660	(9.8)
-1.5m	kg	*620	540							*420	400	2.47
(-4.9 ft)	lb	*1370	1190							*930	880	(8.1)
-2.0m	kg									*290	*290	1.45
(-6.6 ft)	lb									*640	*640	(4.7)

Note 1. Lifting capacity are based on ISO 10567.

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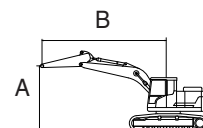
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2) CAB TYPE

Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Cab	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1030	65	230	-	Up	-	-	-

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



Load point height (A)		Load radius (B)						At max. reach		
		2.0 m (6.6 ft)		2.5 m (8.2 ft)		3.0 m (9.8 ft)		Capacity		Reach
										m (ft)
2.5 m	kg			*370	*370			*350	*350	2.77
(8.2 ft)	lb			*820	*820			*770	*770	(9.1)
2.0 m	kg			*380	*380	350	330	*330	310	3.10
(6.6 ft)	lb			*840	*840	770	730	*730	680	(10.2)
1.5 m	kg	*510	*510	*440	430	350	330	300	280	3.30
(4.9 ft)	lb	*1120	*1120	*970	950	770	730	660	620	(10.8)
1.0 m	kg	620	580	440	420	340	320	280	270	3.39
(3.3 ft)	lb	1370	1280	970	930	750	710	620	600	(11.1)
0.5 m	kg	590	560	430	410	330	320	280	270	3.39
(1.6 ft)	lb	1300	1230	950	900	730	710	620	600	(11.1)
0.0 m	kg	580	550	420	400	330	310	290	280	3.29
(0.0 ft)	lb	1280	1210	930	880	730	680	640	620	(10.8)
-0.5 m	kg	580	540	420	400	330	310	320	300	3.08
(-1.6 ft)	lb	1280	1190	930	880	730	680	710	660	(10.1)
-1.0 m	kg	580	550	420	400			380	360	2.73
(-3.3 ft)	lb	1280	1210	930	880			840	790	(9.0)
-1.5 m	kg	*500	*500					*430	*430	2.14
(-4.9 ft)	lb	*1100	*1100					*950	*950	(7.0)

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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Lifting capacities will vary with different work tools, ground conditions and attachments.


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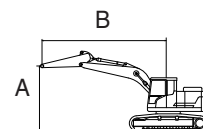
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▲ Failure to comply to the rated load can cause serious injury, death, or property damage. Make adjustments to the rated load as necessary for non-standard configurations.

Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Cab	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1030	65	230	-	Down	-	-	-

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



Load point height (A)		Load radius (B)						At max. reach		
		2.0 m (6.6 ft)		2.5 m (8.2 ft)		3.0 m (9.8 ft)		Capacity		Reach
										m (ft)
2.5 m	kg			*370	*370			*350	*350	2.77
(8.2 ft)	lb			*820	*820			*770	*770	(9.1)
2.0 m	kg			*380	*380	*390	350	*330	*330	3.10
(6.6 ft)	lb			*840	*840	*860	770	*730	*730	(10.2)
1.5 m	kg	*510	*510	*440	*440	*410	350	*330	300	3.30
(4.9 ft)	lb	*1120	*1120	*970	*970	*900	770	*730	660	(10.8)
1.0 m	kg	*700	620	*520	450	*440	340	*340	290	3.39
(3.3 ft)	lb	*1540	1370	*1150	990	*970	750	*750	640	(11.1)
0.5 m	kg	*850	600	*600	440	*480	340	*370	280	3.39
(1.6 ft)	lb	*1870	1320	*1320	970	*1060	750	*820	620	(11.1)
0.0 m	kg	*910	590	*640	430	*490	330	*410	290	3.29
(0.0 ft)	lb	*2010	1300	*1410	950	*1080	730	*900	640	(10.8)
-0.5 m	kg	*870	590	*630	430	*470	330	*440	320	3.08
(-1.6 ft)	lb	*1920	1300	*1390	950	*1040	730	*970	710	(10.1)
-1.0 m	kg	*760	590	*540	430			*450	380	2.73
(-3.3 ft)	lb	*1680	1300	*1190	950			*990	840	(9.0)
-1.5 m	kg	*500	*500					*430	*430	2.14
(-4.9 ft)	lb	*1100	*1100					*950	*950	(7.0)

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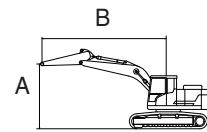
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Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Cab	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1230	65	230	-	Up	-	-	-

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



Load point height (A)		Load radius (B)								At max. reach		
		2.0m (6.6ft)		2.5m (8.2ft)		3.0 m (9.8 ft)		3.5 m (11.5 ft)		Capacity		Reach
												m (ft)
3.0 m	kg			*350	*350					*320	*320	2.53
(9.8 ft)	lb			*770	*770					*710	*710	(8.3)
2.5 m	kg					*290	*290			*280	*280	3.01
(8.2 ft)	lb					*640	*640			*620	*620	(9.9)
2.0m	kg					*340	330			*270	*270	3.31
(6.6 ft)	lb					*750	730			*600	*600	(10.9)
1.5m	kg			*390	*390	350	330			*270	260	3.50
(4.9 ft)	lb			*860	*860	770	730			*600	570	(11.5)
1.0m	kg	*620	590	440	420	340	320	270	250	260	240	3.58
(3.3 ft)	lb	*1370	1300	970	930	750	710	600	550	570	530	(11.7)
0.5m	kg	590	560	430	410	330	310	260	250	250	240	3.58
(1.6 ft)	lb	1300	1230	950	900	730	680	570	550	550	530	(11.7)
0.0m	kg	580	540	420	390	320	310			260	250	3.48
(0.0 ft)	lb	1280	1190	930	860	710	680			570	550	(11.4)
-0.5m	kg	570	530	410	390	320	300			280	270	3.29
(-1.6 ft)	lb	1260	1170	900	860	710	660			620	600	(10.8)
-1.0m	kg	570	540	410	390					330	310	2.98
(-3.3 ft)	lb	1260	1190	900	860					730	680	(9.8)
-1.5m	kg	580	550							*420	410	2.47
(-4.9 ft)	lb	1280	1210							*930	900	(8.1)
-2.0m	kg									*290	*290	1.45
(-6.6 ft)	lb									*640	*640	(4.7)

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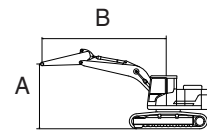
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Model	Type	Boom	Arm	Counterweight	Rubber shoe	Wheel	Dozer		Outtriger	
HX19A	Cab	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		1750	1230	65	230	-	Down	-	-	-

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



Load point height (A)		Load radius (B)								At max. reach		
		2.0m (6.6ft)		2.5m (8.2ft)		3.0 m (9.8 ft)		3.5 m (11.5 ft)		Capacity		Reach
												m (ft)
3.0 m	kg			*350	*350					*320	*320	2.53
(9.8 ft)	lb			*770	*770					*710	*710	(8.3)
2.5 m	kg					*290	*290			*280	*280	3.01
(8.2 ft)	lb					*640	*640			*620	*620	(9.9)
2.0m	kg					*340	*340			*270	*270	3.31
(6.6 ft)	lb					*750	*750			*600	*600	(10.9)
1.5m	kg			*390	*390	*370	350			*270	*270	3.50
(4.9 ft)	lb			*860	*860	*820	770			*600	*600	(11.5)
1.0m	kg	*620	*620	*480	450	*410	340	*370	270	*270	260	3.58
(3.3 ft)	lb	*1370	*1370	*1060	990	*900	750	*820	600	*600	570	(11.7)
0.5m	kg	*790	600	*560	430	*450	330	*390	270	*290	260	3.58
(1.6 ft)	lb	*1740	1320	*1230	950	*990	730	*860	600	*640	570	(11.7)
0.0m	kg	*880	580	*620	420	*480	330			*330	270	3.48
(0.0 ft)	lb	*1940	1280	*1370	930	*1060	730			*730	600	(11.4)
-0.5m	kg	*890	580	*630	420	*480	330			*390	290	3.29
(-1.6 ft)	lb	*1960	1280	*1390	930	*1060	730			*860	640	(10.8)
-1.0m	kg	*810	580	*580	420					*420	330	2.98
(-3.3 ft)	lb	*1790	1280	*1280	930					*930	730	(9.8)
-1.5m	kg	*620	590							*420	*420	2.47
(-4.9 ft)	lb	*1370	1300							*930	*930	(8.1)
-2.0m	kg									*290	*290	1.45
(-6.6 ft)	lb									*640	*640	(4.7)

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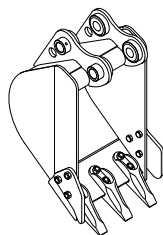
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6. BUCKET SELECTION GUIDE



0.04 m³ SAE
heaped bucket

Capacity		Width		Weight	Recommendation	
					1.75 m (5' 9") boom	
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.03 m (3' 5") arm	1.23 m (4' 0") arm
0.04 m ³ (0.05 yd ³)	0.035 m ³ (0.05 yd ³)	382 mm (15.0")	422 mm (16.6")	41 kg (90 lb)	●	●

● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

※ 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.

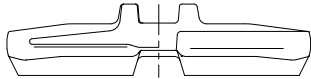
Consult with your local HD Hyundai Construction Equipment dealer for information on selecting the correct boom-arm-bucket combination.

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		Rubber track
			
HX19A	Shoe width	mm (in)	230 (9")
	Operating weight (canopy / cabin)	kg (lb)	1885 (4160)
	Ground pressure	kgf/cm ² (psi)	0.31 (4.47)
	Overall width	mm (ft-in)	994~1290 (3' 3"~4' 3")

3) 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

Model	Track shoe	Specification	Category
HX19A	T/chain-rubber for rail interlocking (230 mm)	Standard	A

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	KUBOTA D902-E4B
Type	4-cycle vertical, IDI diesel fuel
Cooling method	Water cooling
Number of cylinders and arrangement	3 cylinders, in-line
Firing order	1-2-3
Combustion chamber type	Spherical type
Cylinder bore × stroke	72.0 × 73.6 mm (2.83" × 2.90")
Piston displacement	898 cc (54.80 cu in)
Compression ratio	24 : 1
Gross power	16.2 hp (12.1 kW) at 2400 rpm
Net power	16.0 hp (11.9 kW) at 2400 rpm
Max. power	16.2 hp (12.1 kW) at 2400 rpm
Peak torque at 1900 rpm	5.57 kgf · m (40.3 lbf · ft)
Engine oil quantity	3.7 ℓ (1.0 U.S. gal)
Dry weight	75 kg (165 lb)
Starting motor	12V-1.2 kW
Alternator	12V-40 A

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Maximum pressure	210 kgf/cm ² (2990 psi)
Capacity	2 × 7.5 cc/rev
Rated oil flow	2 × 17.3 ℓ/min (4.6 U.S. gpm / 3.8 U.K. gpm)
Rated speed	2300 rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	4.5/2.7 cc/rev
Maximum pressure	190/35 kgf/cm ² (2702/498 psi)
Rated oil flow	10.4/6.2 ℓ /min (2.7/1.6 U.S. gpm / 2.3/1.4 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	Sectional, 9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	210 kgf/cm ² (2990 psi)
Overload relief valve pressure	230 kgf/cm ² (3270 psi)
2way (breaker piping) flow rate	27.7 ℓ /min (7.3 U.S. gpm / 6.1 U.K. gpm)

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	18.1 cc/rev
Relief pressure	165 kgf/cm ² (2350 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	69.7 kgf·m (504 lbf·ft)
Brake release pressure	20~50 kgf/cm ² (284~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Capacity	12.4/6.2 cc/rev
Relief pressure	210 kgf/cm ² (2990 psi)
Reduction gear type	2-stage planetary

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø60 × Ø40 × 465 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø60 × Ø40 × 393 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø55 × Ø35 × 345 mm
	Cushion	-
Boom swing cylinder	Bore dia × Rod dia × Stroke	Ø55 × Ø30 × 355 mm
	Cushion	-
Dozer cylinder	Bore dia × Rod dia × Stroke	Ø65 × Ø30 × 93 mm
	Cushion	-
Dozer cylinder-DPC	Bore dia × Rod dia × Stroke	Ø65 × Ø30 × 93 mm
	Cushion	-
Extension cylinder	Bore dia × Rod dia × Stroke	Ø50 × Ø25 × 300 mm
	Cushion	-

※ 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	3.7 (1.0)	SAE 10W				SAE 20			SAE 30	
			SAE 10W-30 or 10W-40								
Final drive	Gear oil	0.3×2 (0.1×2)	★SAE 75W-90				SAE 80W-90				
Hydraulic tank	Hydraulic oil	Tank: 20 (5.3)	★ISO VG 15								
			ISO VG 32								
			ISO VG 46, HBHO VG 46 ★3								
			ISO VG 68								
Fuel tank	Diesel fuel★1	21.3 (5.6)	★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	5.4 (1.4)	Ethylene glycol base permanent type (50 : 50)								
			★Ethylene glycol base permanent type (60 : 40)								

※ 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.

※ 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.

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 : Ultra low sulfur diesel

- sulfur content ≤ 10 ppm

★2 : Soft water

City water or distilled water

★3 : HD Hyundai Construction Equipment Bio Hydraulic Oil