

SECTION 1 GENERAL



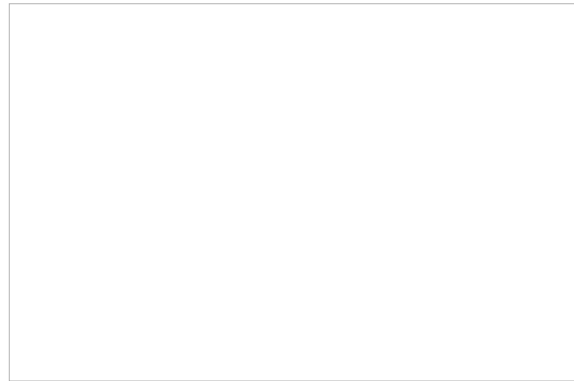
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SECTION 1 GENERAL

GROUP 1 SAFETY

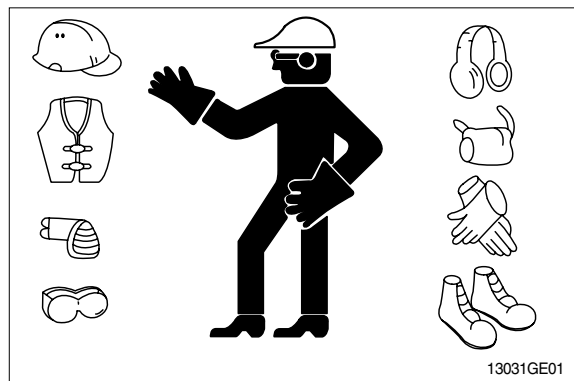
FOLLOW SAFE PROCEDURE

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



WEAR PROTECTIVE CLOTHING

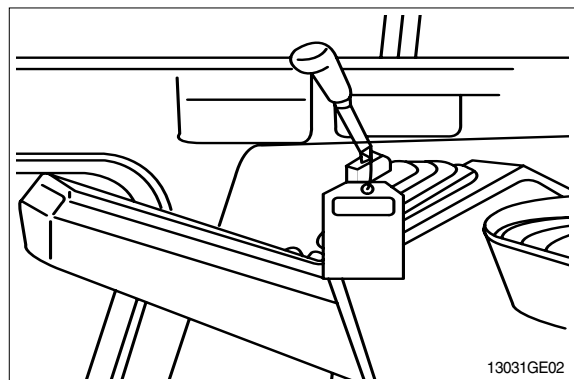
Wear close fitting clothing and safety equipment appropriate to the job.



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.



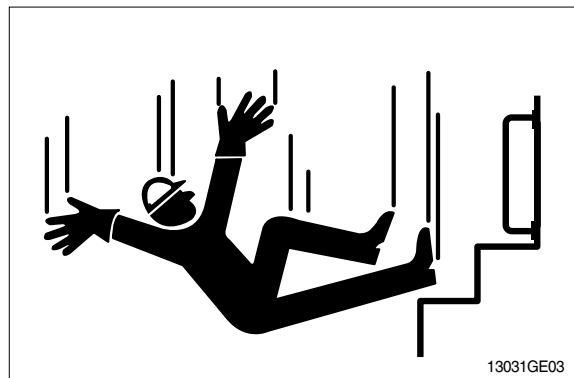
USE HANDHOLDS AND STEPS

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.

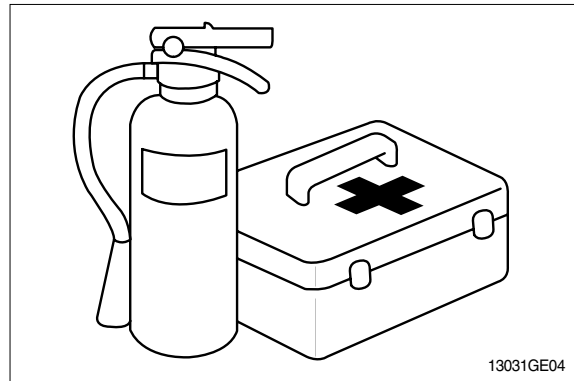


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

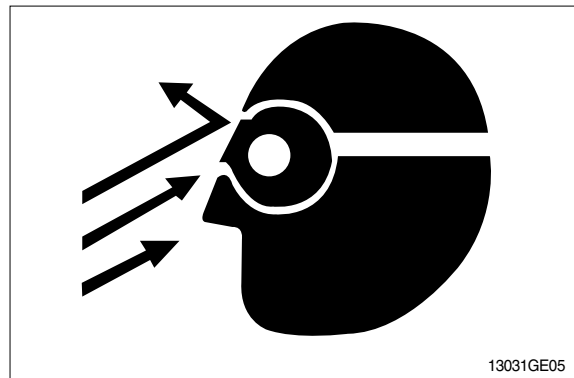
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

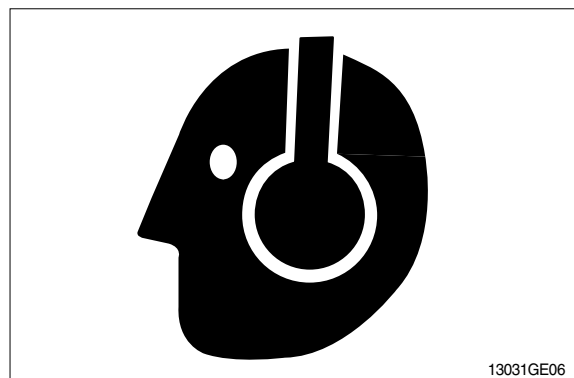
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

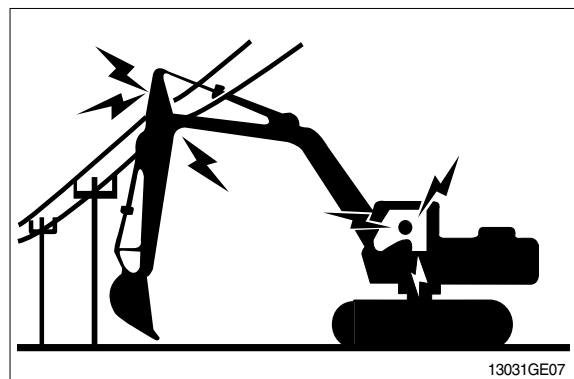
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

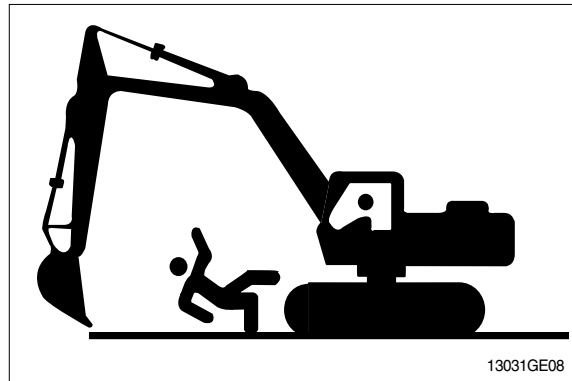
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

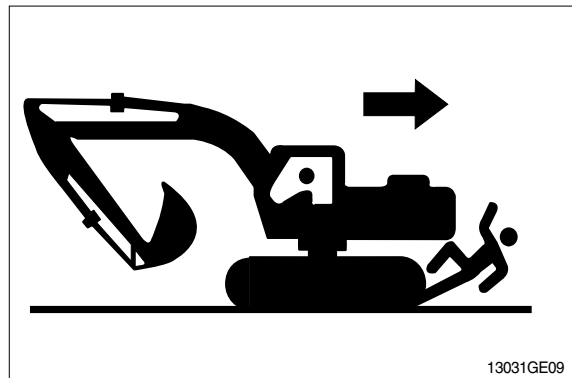


MOVE AND OPERATE MACHINE SAFELY

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:

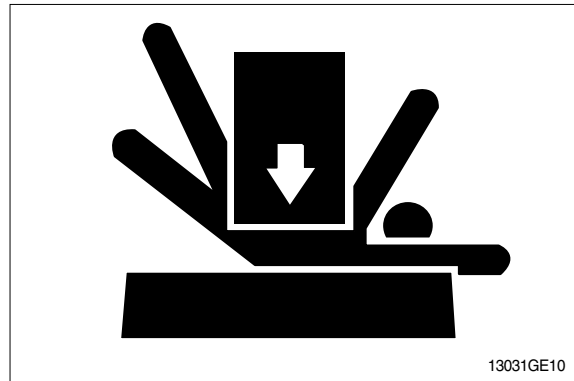
- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

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.

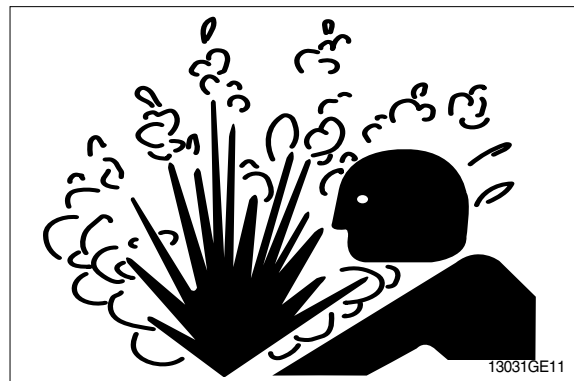
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



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.

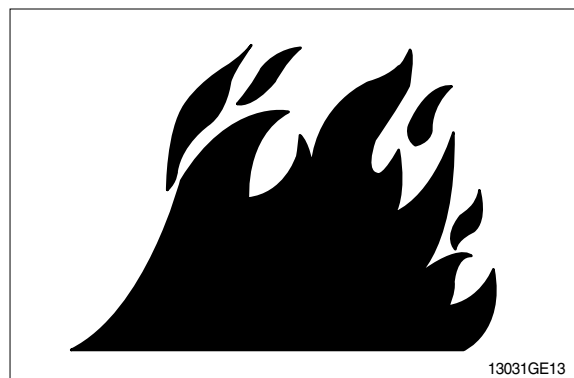
Fill fuel tank outdoors.



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

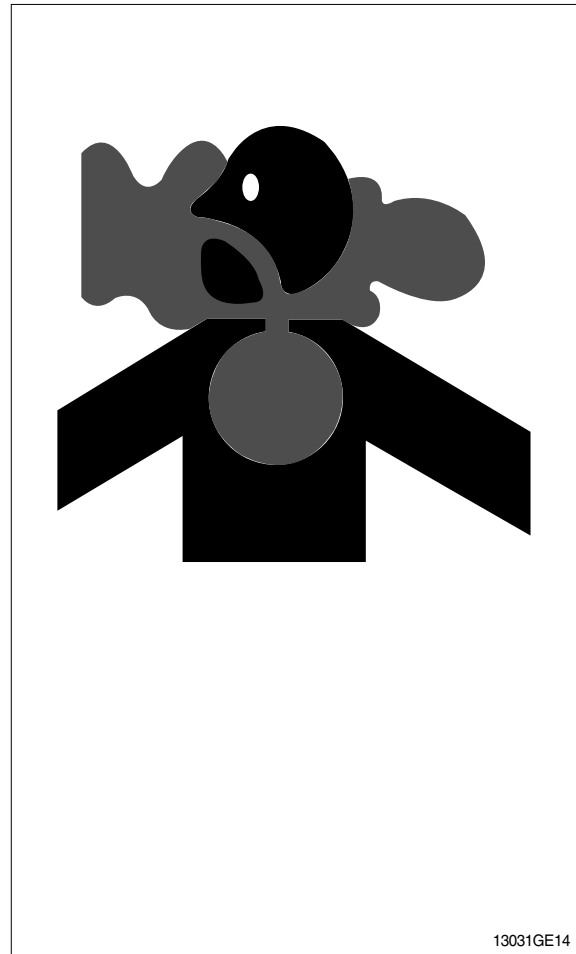
Avoid potentially toxic fumes and dust.

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

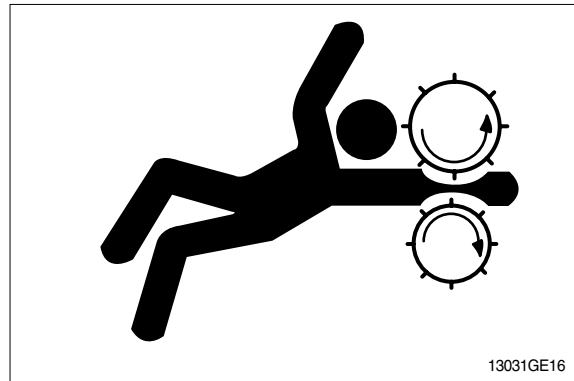
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



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.

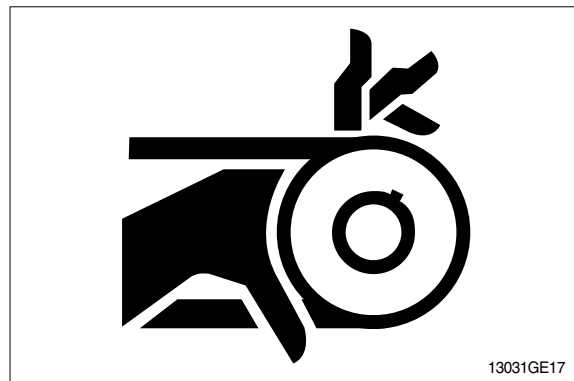
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



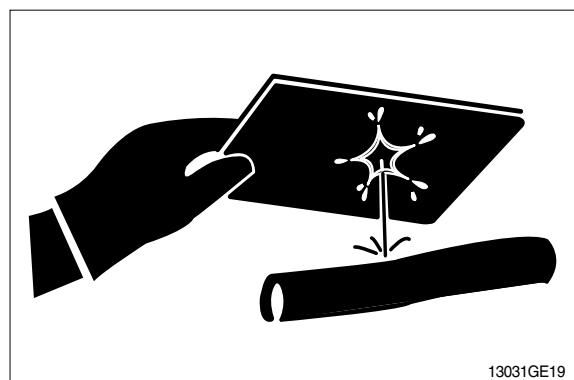
AVOID HIGH PRESSURE FLUIDS

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.

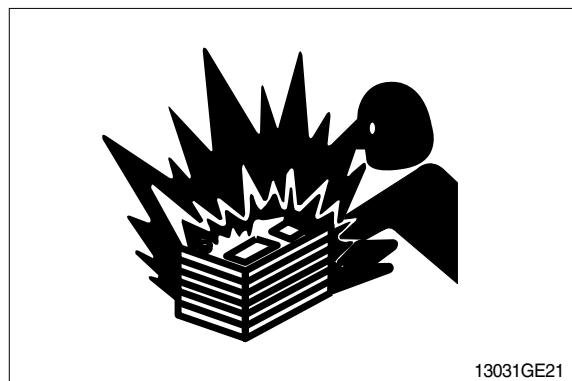


PREVENT BATTERY EXPLOSIONS

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:

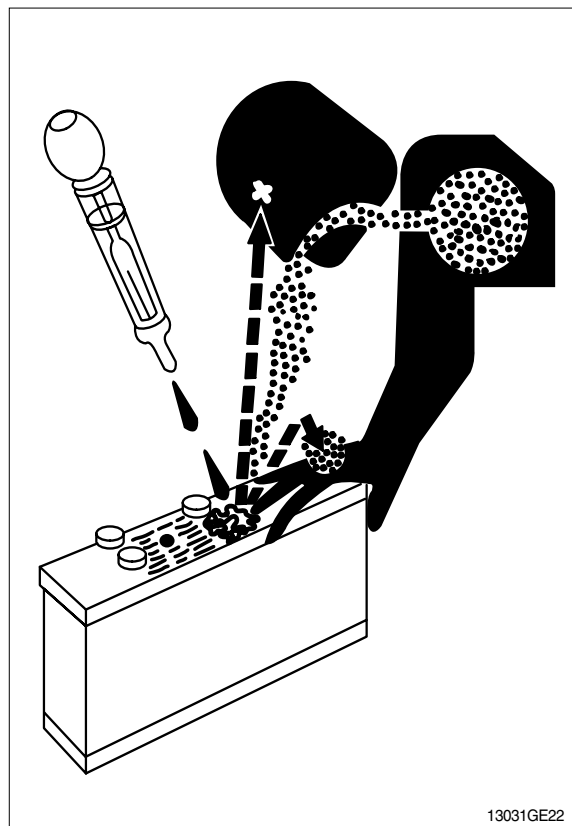
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



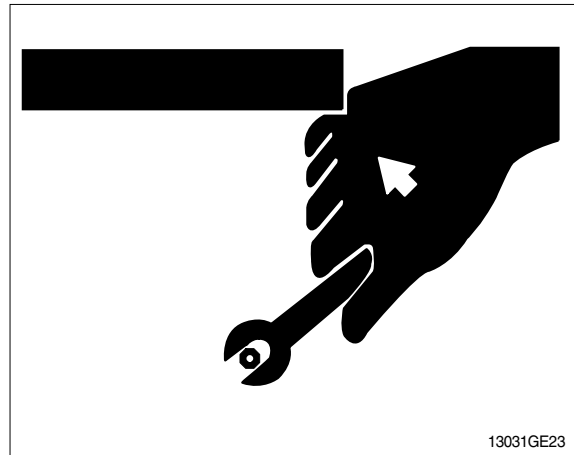
USE TOOLS PROPERLY

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.)

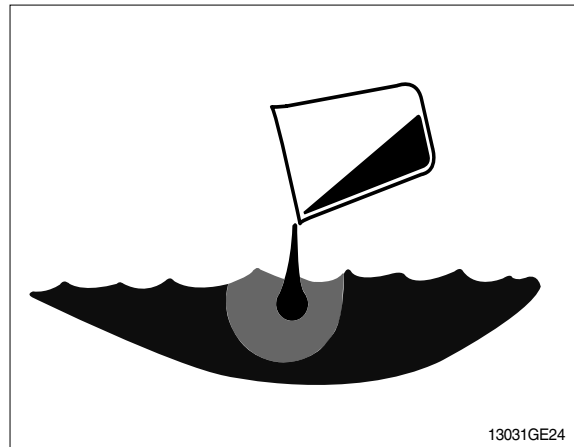


DISPOSE OF FLUIDS PROPERLY

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.

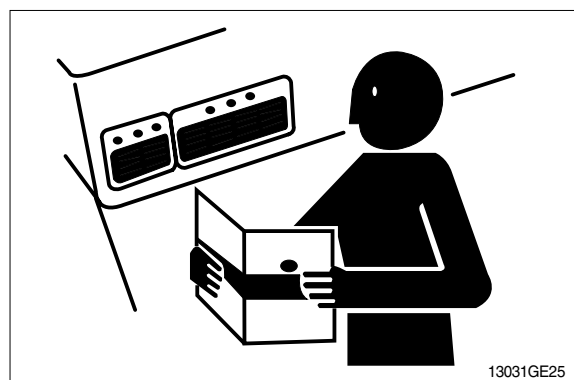
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.

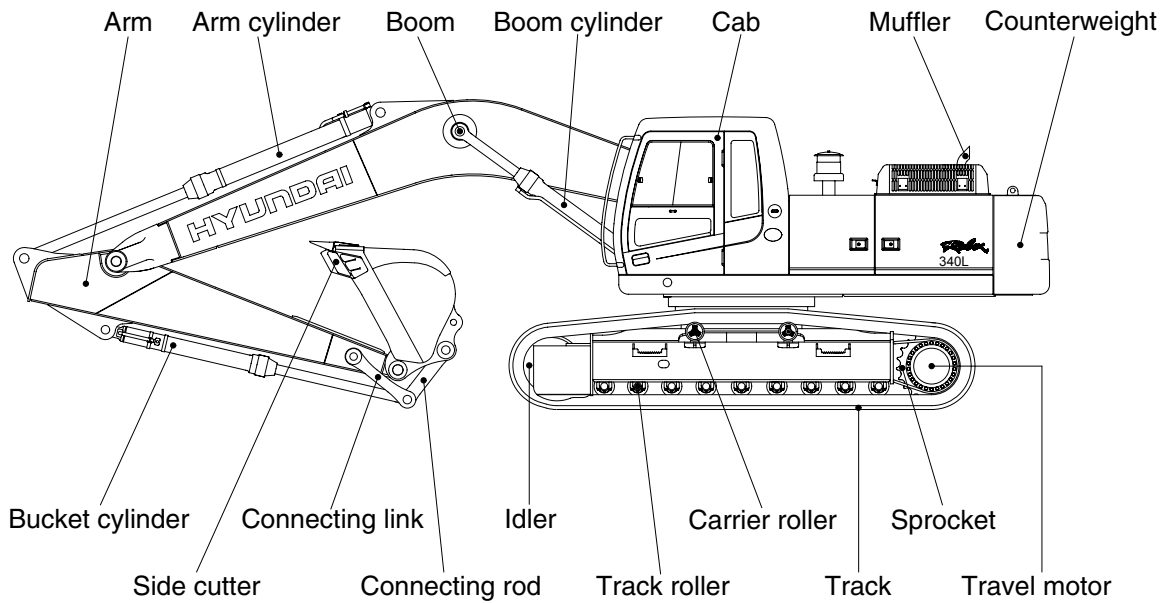
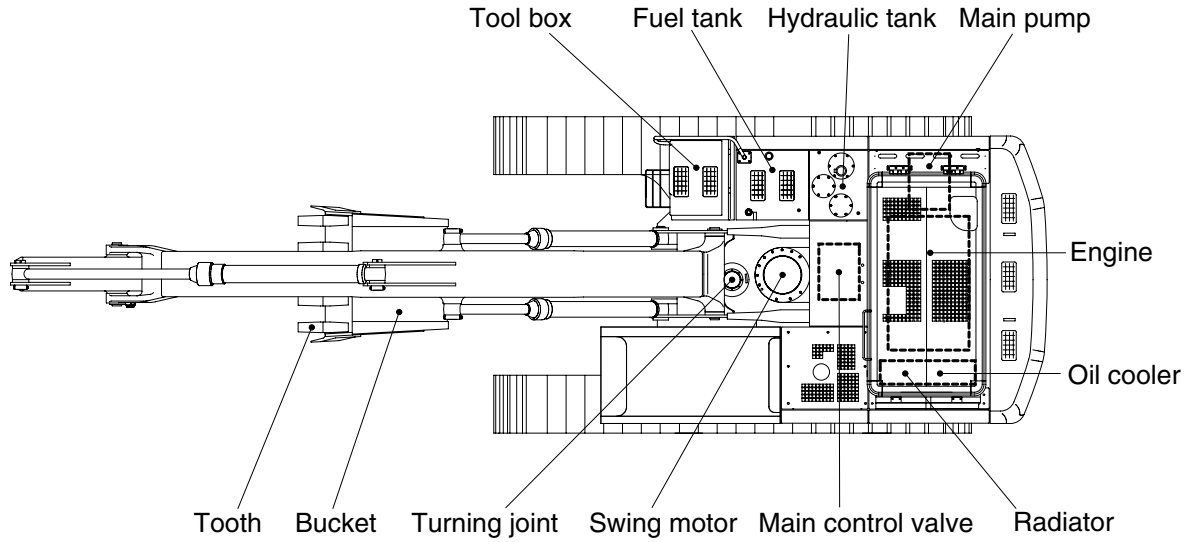


LIVE WITH SAFETY

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

GROUP 2 SPECIFICATIONS

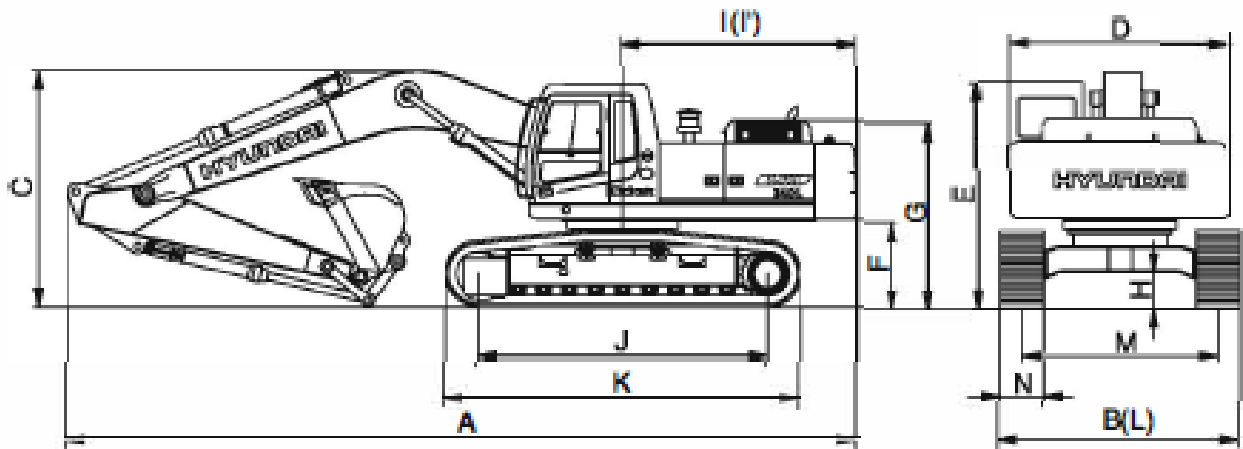
1. MAJOR COMPONENT



34072SP01

2. SPECIFICATIONS

- 6.45m(21' 2") BOOM, 2.2m(7' 3") ARM

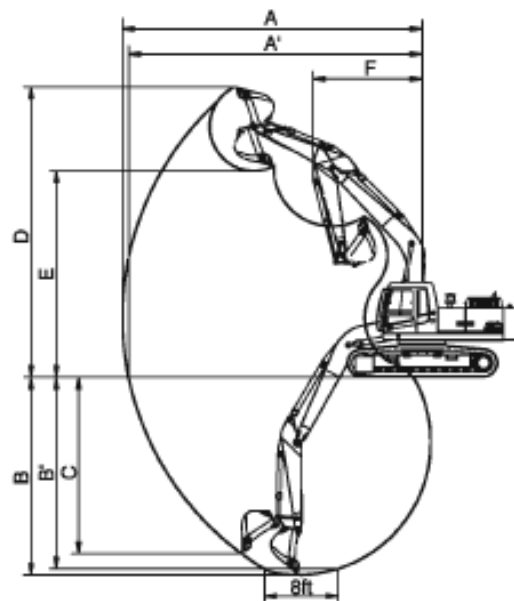


34075P02

Description		Unit	Specification
Operating weight		kg(lb)	33800(74520)
Bucket capacity(SAE heaped)		m ³ (yd ³)	2.10(2.75)
Overall length	A	mm(ft-in)	11430(37' 6")
Overall width, with 600mm shoe	B		3280(10' 9")
Overall height	C		3630(11' 11")
Superstructure width	D		2980(9' 9")
Overall height of cab	E		3090(10' 2")
Ground clearance of counterweight	F		1200(3' 11")
Engine cover height	G		2600(8' 6")
Minimum ground clearance	H		500(1' 8")
Rear-end distance	I		3400(11' 2")
Rear-end swing radius	I'		3460(11' 4")
Distance between tumblers	J		4030(13' 3")
Undercarriage length	K		4940(16' 2")
Undercarriage width	L		3280(10' 9")
Track gauge	M		2680(8' 10")
Track shoe width, standard	N		600(24")
Travel speed(Low/high)		km/hr(mph)	3.3/5.5(2.1/3.4)
Swing speed		rpm	9.5
Gradeability		Degree(%)	35(70)
Ground pressure(600mm shoe)		kg/cm ² (psi)	0.65(9.24)

3. WORKING RANGE

À 6.45m(21' 2") BOOM



340725P03

Description		6.45m(21' 2") Boom		
		2.2m(7' 3")Arm	2.65m(8' 8")Arm	3.2m(10' 6") Arm
Max digging reach	A	10230mm (33' 7")	10730mm (35' 2")	11140mm (36' 7")
Max digging reach on ground	A'	10010mm (32' 10")	10520mm (34' 6")	10940mm (35' 11")
Max digging depth	B	6310mm (20' 8")	6830mm (22' 5")	7370mm (24' 2")
Max digging depth (8ft level)	B'	6110mm (20' 1")	6660mm (21' 10")	7210mm (23' 8")
Max vertical wall digging depth	C	4320mm (14' 2")	5050mm (16' 7")	6360mm (20' 10")
Max digging height	D	9830mm (32' 3")	10120mm (33' 2")	10310mm (33' 10")
Max dumping height	E	6890mm (22' 7")	7040mm (23' 1")	7240mm (23' 9")
Min swing radius	F	4840mm (15' 11")	4740mm (15' 7")	4470mm (14' 8")
Bucket digging force	SAE	199.1[217.2] kN	←	←
		20300[22150] kgf	←	←
		44750[48820] lbf	←	←
	ISO	225.6[246.1] kN	←	←
		23000[25050] kgf	←	←
		50710[55320] lbf	←	←
Arm crowd force	SAE	204.0[222.5] kN	156.9[171.2] kN	132.4[144.4] kN
		20600[22660] kgf	16000[17480] kgf	13500[14730] kgf
		45860[50030] lbf	35270[38480] lbf	29760[32470] lbf
	ISO	211.8[231.1] kN	162.8[177.6] kgf	136.3[148.7] kN
		21600[23530] kgf	16600[18060] lbf	13900[15160] kgf
		47620[51950] lbf	36600[39930] kN	30640[33430] lbf

[] : Power boost











4. WEIGHT

Item	R340L	
	kg	lb
Upperstructure assembly	15300	33730
Main frame weld assembly	2680	5900
Engine assembly	920	2030
Main pump assembly	250	550
Main control valve assembly	200	440
Swing motor assembly	310	680
Hydraulic oil tank assembly	230	510
Fuel tank assembly	230	510
Counterweight	6600	14550
Cab assembly	310	680
Radiator total assy	280	620
Lower chassis assembly	11950	26350
Track frame weld assembly	3970	8750
Swing bearing	435	960
Travel motor assembly	360	790
Turning joint	50	110
Tension cylinder	205	450
Idler	250	550
Sprocket	83	180
Carrier roller	35	80
Track roller	56	120
Track-chain assembly(600mm standard triple grouser shoe)	1880	4150
Front attachment assembly(6.45m boom, 3.2m arm, 2.1m ² SAE heaped bucket)	6550	14440
6.45m boom assembly	2710	5970
3.2m arm assembly	1320	2910
1.44m ² SAE heaped bucket	1450	3196
Boom cylinder assembly	280	620
Arm cylinder assembly	380	840
Bucket cylinder assembly	270	570
Bucket control linkage assembly	370	820

5. LIFTING CAPACITIES

- 1) 6.45m(21' 2") boom, 2.2m(7' 3") arm equipped with 2.10m³(SAE heaped) bucket and 600mm (24") triple grouser shoe.













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

Load point height	Load radius								At max. reach			
	3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		Capacity		Reach m(ft)	
												
7.5m (25ft)	kg									*6140	4950	7.99
	lb									*13540	10910	(26.2)
6.0m (20ft)	kg					*7290	*7290	*6760	5430	*6200	3890	8.87
	lb					*16070	*16070	*14900	11970	*13670	8580	(29.1)
4.5m (15ft)	kg		*11110	*11110	*8480	7790	*7260	5230		5520	3340	9.39
	lb		*24490	*24490	*18700	17170	*16010	11530		12170	7360	(30.8)
3.0m (10ft)	kg				*9930	7200	*7960	4960		5180	3080	9.61
	lb				*21890	15870	*17590	10930		11420	6790	(31.5)
1.5m (5ft)	kg				*11150	6730	7770	4700		5140	3040	9.56
	lb				*24580	14840	17130	10360		11330	6700	(31.4)
Ground Line	kg		*16550	10200	10940	6460	7590	4530		5420	3210	9.23
	lb		*36490	22490	24120	14240	16730	9990		11950	7080	(30.3)
-1.5m (-5ft)	kg		*16000	10250	10670	6400	7540	4490		6150	3680	8.59
	lb		*35270	22600	23660	14110	16620	9900		13560	8110	(28.2)
-3.0m (-10ft)	kg	*19750	*19750	*14800	10480	*10820	8510			*7140	4750	7.54
	lb	*43540	*43540	*32190	23100	*24070	14350			*15740	10470	(24.7)
-4.5m (-15ft)	kg	*15770	*15770	*11820	10940							
	lb	*34770	*34770	*26060	24120							

- Note
- Lifting capacity are based on SAE J1097 and ISO 10567.
 - Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
 - The load point is a hook located on the back of the bucket.
 - *indicates load limited by hydraulic capacity.

- 2) 6.45m(21' 2") boom, 2.65m(8' 8") arm equipped with 2.10m³(SAE heaped) bucket and 600mm(24") triple grouser shoe.

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

Load point height	Load radius										At max. reach		
	3.0m(10.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		9.0m(30.0ft)		Capacity		Reach m(ft)
													
7.5m (25.0ft)	kg										*5680	4360	8.53
	lb										*12480	9690	(28.0)
6.0m (20.0ft)	kg						*6280	5490			5690	3480	9.36
	lb						*13950	12100			12540	7670	(30.7)
4.5m (15.0ft)	kg		*10130	*10130	*7920	7860	*6830	5250			5050	3010	9.84
	lb		*22330	*22330	*17460	17330	*15060	11570			11130	6640	(32.3)
3.0m (10.0ft)	kg		*13280	11390	*9400	7230	*7600	4950	5800	2480	4740	2780	10.06
	lb		*29280	25110	*20720	15940	*16760	10910	12790	7670	10450	6130	(33.0)
1.5m (5.0ft)	kg		*15670	10410	*10730	6700	7730	4860	5650	3340	4700	2730	10.01
	lb		*34330	22950	*23660	14770	17040	10270	12460	7360	10360	6020	(32.6)
Ground Line	kg		*16360	10050	10650	6370	7510	4450			4930	2870	9.70
	lb		*36070	22160	23320	14040	16560	9810			10870	6330	(31.8)
-1.5m (-5.0ft)	kg	*15210	*15210	*16110	10030	10720	6290	7420	4370		5520	3250	9.10
	lb	*33530	*33530	*35520	22110	23630	13800	16360	9630		12170	7170	(29.9)
-3.0m (-10.0ft)	kg	*21000	*21000	*14990	10210	10610	6330	7510	4480		*6780	4080	8.12
	lb	*46360	*46360	*33050	22510	23330	13960	16560	9830		*14950	8990	(26.6)
-4.5m (-15.0ft)	kg	*17350	*17350	*12640	10620	*9940	6630				*6280	6120	8.58
	lb	*38250	*38250	*27870	23410	*20370	14620				*13950	13490	(21.6)

- Note
- Lifting capacity are based on SAE J1097 and ISO 10567.
 - Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
 - The load point is a hook located on the back of the bucket.
 - *indicates load limited by hydraulic capacity.















LIFTING CAPACITY

Boom : 6.45m (21' 2")
 Arm : 3.2m (10' 8")
 Bucket : 2.1 m³ SAE heaped
 Shoe 600mm Triple Grouser with 6.6 ton CWT

Robex340L / LH

 Raising over-front

 Raising over-side or 360 degree

Load point height (m/ft)	Load radius												At max. reach			
	1.5m(5.0ft)		3.0m(15.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		9.0m(30.0ft)		Capacity	Reach		
															m (ft)	
7.5 m 25.0 ft	kg									*4880	*4880			*5500	3360	9.06
	lb									*10760	*10760			*12130	9610	(29.7)
6.0 m 20.0 ft	kg									*6000	*6110			5730	3630	9.84
	lb									*13230	*13470			12630	8000	(32.3)
4.5 m 15.0 ft	kg							*7490	*7490	*6640	5860	*5070	4150	5180	3220	10.31
	lb							*16510	*16510	*14640	12920	*11180	9340	11410	7100	(33.8)
3.0 m 10.0 ft	kg				*12430	12610	*9090	7980	*7490	5540	6350	4000	4910	4910	3010	10.52
	lb				*27400	27800	*20040	17600	*16510	12210	14000	8810	10820	10820	6630	(34.5)
1.5 m 5.0 ft	kg				*15210	11540	*10610	7440	8360	5230	6180	3840	4860	2960	2960	10.48
	lb				*33530	25440	*23390	16400	18440	11530	13620	8470	10710	6520	6520	(34.4)
Ground Line	kg		*9720	*9720	*16620	11010	11630	7070	8100	5010	6050	3710	5030	3060	3060	10.19
	lb		*21430	*21430	*36640	24270	25630	15590	17860	11040	13340	8170	11080	6740	6740	(33.4)
-1.5 m -5.0 ft	kg	*10800	*10800	*13710	*13710	*16890	10870	11430	6890	7970	4880		5500	3380	3380	9.63
	lb	*23810	*23810	*30230	*30230	*37100	23970	25190	15190	17570	10760		12120	7450	7450	(31.6)
-3.0 m -10.0 ft	kg	*14530	*14530	*18410	*18410	*16100	10940	11420	6890	7970	4890		6480	4040	4040	8.74
	lb	*32030	*32030	*40590	*40590	*35490	24120	25170	15190	17570	10780		14290	8910	8910	(28.7)
-4.5 m -15.0 ft	kg			*20220	*20220	*14270	11220	10940	7070				*6880	5490	5490	7.37
	lb			*44580	*44580	*31460	24730	23280	15590				*15170	12300	12300	(24.2)
-6.0 m -20.0 ft	kg					*10450	10450									6.58
	lb					*23040	23040									(21.6)

- NOTES :
- Lifting Capacity are based on SAE J1097, ISO 10667.
 - Lifting Capacity of the Robex Series does not exceed 76% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
 - The load point is a hook (standard equipment) located on the back of the bucket.
 - (*) Indicates load limited by hydraulic capacity.

HYUNDAI
CONSTRUCTION EQUIPMENT
INDIA

9UN9-80120

9UN9-80120 LIFTING CHART 2.1















LIFTING CAPACITY

Boom : 6.45m (21' 2")
 Arm : 3.2m (10' 8")
 Bucket : 1.44 m³ SAE heaped
 Shoe 600mm Triple Grouser with 6.6 ton CWT

Robex340L / LH

 Raising over-front

 Raising over-side or 360 degree

Load point height (m/ft)	Load radius												At max. reach			
	1.5m(5.0ft)		3.0m(15.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		9.0m(30.0ft)		Capacity	Reach		
															m (ft)	
7.5 m 25.0 ft	kg									*4880	*4880			*5500	3360	9.06
	lb									*10760	*10760			*12130	9610	(29.7)
6.0 m 20.0 ft	kg									*6000	*6110			5730	3630	9.84
	lb									*13230	*13470			12630	8000	(32.3)
4.5 m 15.0 ft	kg							*7490	*7490	*6640	5860	*5070	4150	5180	3220	10.31
	lb							*16510	*16510	*14640	12920	*11180	9340	11410	7100	(33.8)
3.0 m 10.0 ft	kg				*12430	12610	*9090	7980	*7490	5540	6350	4000	4910	4910	3010	10.52
	lb				*27400	27800	*20040	17600	*16510	12210	14000	8810	10820	10820	6630	(34.5)
1.5 m 5.0 ft	kg				*15210	11540	*10610	7440	8360	5230	6180	3840	4860	2960	2960	10.48
	lb				*33530	25440	*23390	16400	18440	11530	13620	8470	10710	6520	6520	(34.4)
Ground Line	kg			*9720	*9720	*16620	11010	11630	7070	8100	5010	6050	3710	5030	3060	10.19
	lb			*21430	*21430	*36640	24270	25630	15590	17860	11040	13340	8170	11080	6740	(33.4)
-1.5 m -5.0 ft	kg	*10800	*10800	*13710	*13710	*16890	10870	11430	6890	7970	4880		5500	3380	3380	9.63
	lb	*23810	*23810	*30230	*30230	*37100	23970	25190	15190	17570	10760		12120	7450	7450	(31.6)
-3.0 m -10.0 ft	kg	*14530	*14530	*18410	*18410	*16100	10940	11420	6890	7970	4890		6480	4040	4040	8.74
	lb	*32030	*32030	*40590	*40590	*35490	24120	25170	15190	17570	10780		14290	8910	8910	(28.7)
-4.5 m -15.0 ft	kg			*20220	*20220	*14270	11220	10940	7070				*6880	5490	5490	7.37
	lb			*44580	*44580	*31460	24730	23280	15590				*15170	12300	12300	(24.2)
-6.0 m -20.0 ft	kg					*10450	10450									6.58
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- NOTES :
- Lifting Capacity are based on SAE J1097, ISO 10667.
 - Lifting Capacity of the Robex Series does not exceed 76% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
 - The load point is a hook (standard equipment) located on the back of the bucket.
 - (*) Indicates load limited by hydraulic capacity.

HYUNDAI
CONSTRUCTION EQUIPMENT
INDIA

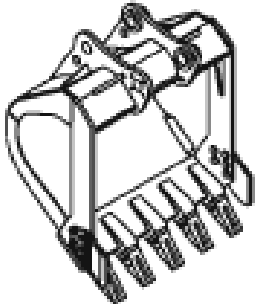
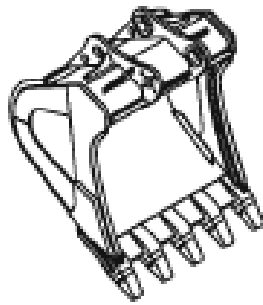
9UN9-80110

9UN9-80110 LIFTING CHART 1.44

6. BUCKET SELECTION GUIDE

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

<p>Å General bucket</p> 	<p>Å Rock-heavy duty bucket</p> 
<p>2.10m³ SAE heaped bucket</p>	<p>L 1.44m³ SAE L 1.62m³ SAE heaped bucket</p>

Capacity		Width		Weight	6.45m (21' 2") boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.2m (7' 3") arm	2.65m (8' 8") arm	3.2m (10' 6") arm
2.10m ³ (2.75yd ³)	1.90m ³ (2.49yd ³)	1710mm (67.3")	1830mm (72.0")	1505kg (3320lb)			
L 1.44m ³ (1.88yd ³)	1.25m ³ (1.64yd ³)	1290mm (50.8")	-	1510kg (3330lb)			
L 1.62m ³ (2.12yd ³)	1.43m ³ (1.87yd ³)	1590mm (62.6")	-	1540kg (3400lb)			

L : Rock - Heavy duty bucket

Applicable for materials with density of 2000kg/m³ (3370lb/yd³) or less

Applicable for materials with density of 1600kg/m³ (2700lb/yd³) or less

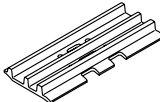
Applicable for materials with density of 1100kg/m³ (1850lb/yd³) or less

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			
						
R340L	Shoe width	mm(in)	600(24)	700(28)	800(32)	900(36)
	Operating weight	kg(lb)	33800(74520)	34400(75840)	34800(76720)	35200(77600)
	Ground pressure	kgf/cm ² (psi)	0.65(9.24)	0.57(8.11)	0.50(7.11)	0.45(6.40)
	Overall width	mm(ft-in)	3280(10' 9")	3380(11' 1")	3480(11' 5")	3580(11' 9")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2EA
Track rollers	9EA
Track shoes	48EA

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
600mm triple grouser	Standard	A
700mm triple grouser	Option	B
800mm triple grouser	Option	C
900mm 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
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 D6AC-C
Type	4-cycle turbocharged charger air cooled diesel engine
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	130 × 140mm(5.12" × 5.51")
Piston displacement	11149cc(680cu in)
Compression ratio	17 : 1
Rated gross horse power(SAE J1995)	276Hp at 1900rpm(206kW at 1900rpm)
Maximum torque	120kgf · m(868lbf · ft) at 1400rpm
Engine oil quantity	27.3 l (7.2U.S. gal)
Dry weight	920kg(2030lb)
Low idling speed	800 ± 50rpm
High idling speed	2050 + 50rpm
Rated fuel consumption	152.9g/Hp · hr at 1900rpm
Starting motor	24V-5.5kW
Alternator	24V-70A
Battery	2 × 12V × 160Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 149.5cc/rev
Maximum pressure	330kgf/cm ² (4690psi)[360kgf/cm ² (5120psi)]
Rated oil flow	2 × 254.2 l /min (67.2U.S. gpm/ 55.9U.K. gpm)
Rated speed	1700rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	35kgf/cm ² (500psi)
Rated oil flow	25.5 l /min(6.7U.S. gpm/5.6U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	330kgf/cm ² (4690psi)[360kgf/cm ² (5120psi)]
Overload relief valve pressure	390kgf/cm ² (5550psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	169.4cc/rev
Relief pressure	290kgf/cm ² (4120psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	70kgf · m(505lbf · ft)
Brake release pressure	30~50kgf/cm ² (430~710psi)
Reduction gear type	2 - stage planetary
Swing speed	9.9rpm

6) TRAVEL MOTOR

Item	Specification		
Type	Variable displacement axial piston motor		
Relief pressure	330kgf/cm ² (4700psi)		
Capacity(max / min)	Gear ratio	154.8/88.5cc/rev	72.978
Reduction gear type	3-stage planetary		
Braking system	Automatic, spring applied hydraulic released		
Brake release pressure	9kgf/cm ² (128psi)		
Braking torque	40kgf · m(290lbf · ft)		

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5kgf/cm ² (92psi)
	Maximum	26kgf/cm ² (370psi)
Single operation stroke	Lever	61mm(2.4in)
	Pedal	123mm(4.84in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	∅ 150 × ∅ 105 × 1480mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	∅ 160 × ∅ 110 × 1685mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	∅ 140 × ∅ 100 × 1285mm
	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
R340L	Standard	600mm(24")	0.65kgf/cm ² (9.24psi)	48	3280mm(10' 9")
	Option	700mm(28")	0.57kgf/cm ² (8.11psi)	48	3380mm(11' 1")
		800mm(32")	0.50kgf/cm ² (7.11psi)	48	3480mm(11' 5")
		900mm(36")	0.45kgf/cm ² (6.40psi)	48	3580mm(11' 9")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R340L	Standard	2.10m ³ (2.75yd ³)	1.90m ³ (2.49yd ³)	5	1710mm(67.3")	1830mm(72.0")
	Option	⊙1.44m ³ (1.88yd ³)	1.25m ³ (1.63yd ³)	5	1290mm(50.8")	-
		⊙1.62m ³ (2.12yd ³)	1.43m ³ (1.87yd ³)	5	1590mm(62.6")	-

⊙ : Rock - Heavy duty bucket

9. RECOMMENDED OILS

**Use only oils listed below or equivalent.
Do not mix different brand oil**

Service point	Kind of fluid	Capacity l (U.S. gal)	Ambient temperature °C (°F)								
			-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)		
Engine oil pan	Engine oil	27.3(7.2)					SAE 30				
			SAE 10W								
			SAE 10W-30								
			SAE 15W-40								
Swing drive	Gear oil	11(2.9)					SAE 85W-140				
Final drive		5.5 × 2 (1.5 × 2)									
Hydraulic tank	Hydraulic oil	Tank; 210(55.5) System; 320(84.5)	ISO VG 32								
			ISO VG 46								
			ISO VG 68								
Fuel tank	Diesel fuel	600(158)	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 water 50 : 50	45(12)	Ethylene glycol base permanent type								

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