

SECTION 1 GENERAL



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SECTION 1 GENERAL

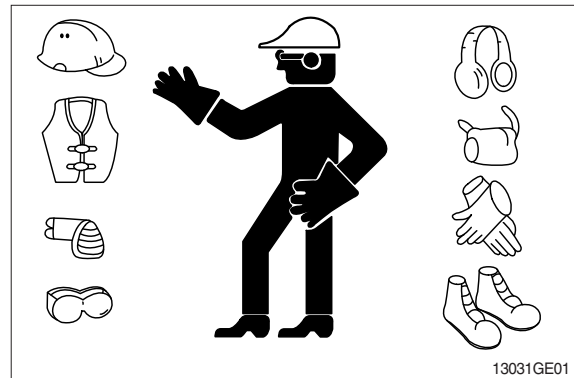
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

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

WEAR PROTECTIVE CLOTHING

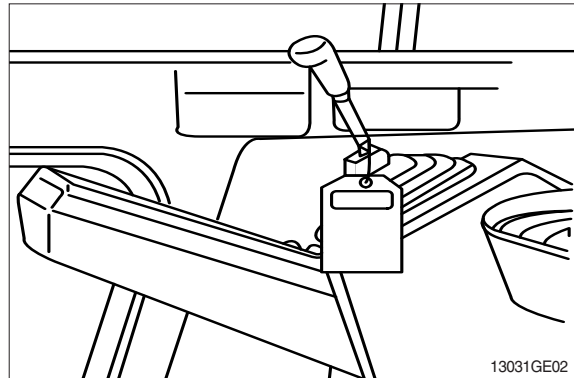
Wear close fitting clothing and safety equipment appropriate to the job.



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.



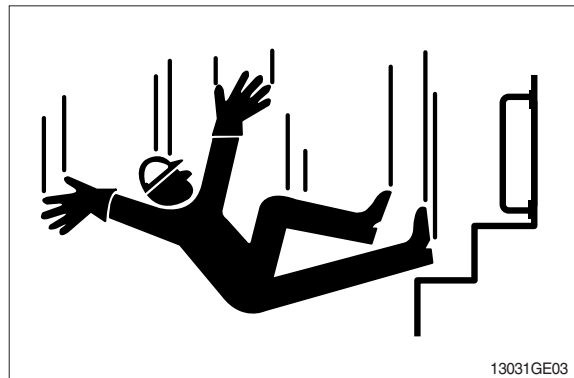
USE HANDHOLDS AND STEPS

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.

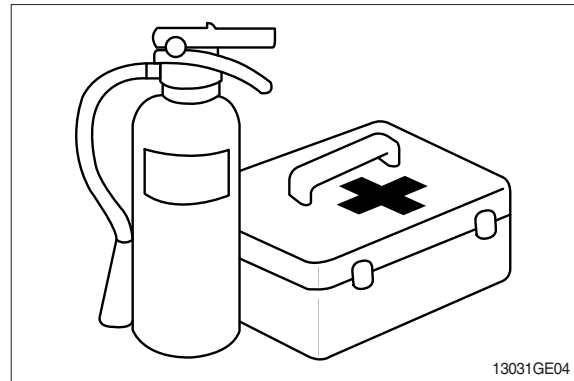


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

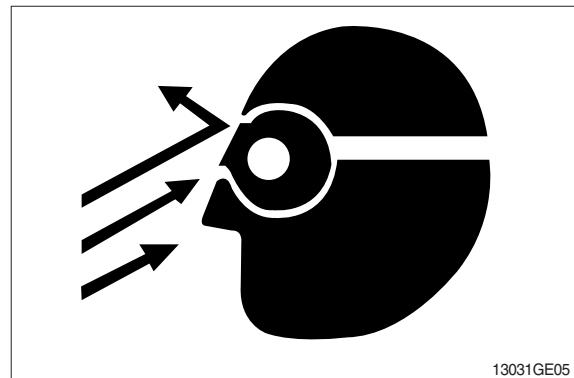
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

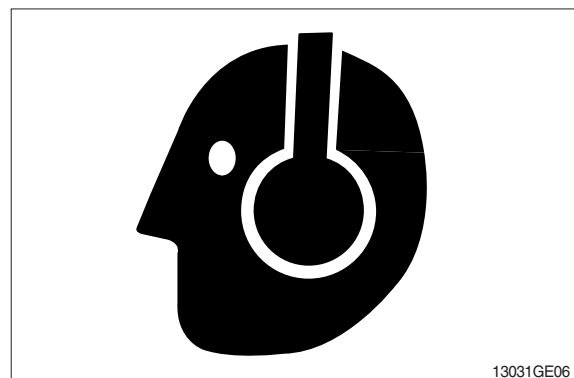
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

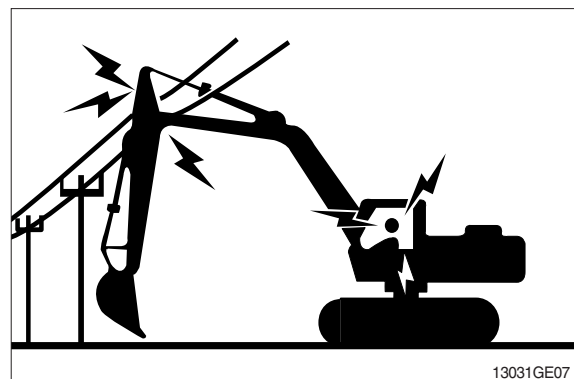
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

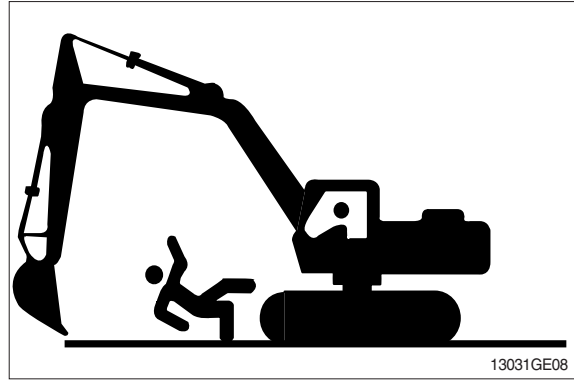
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

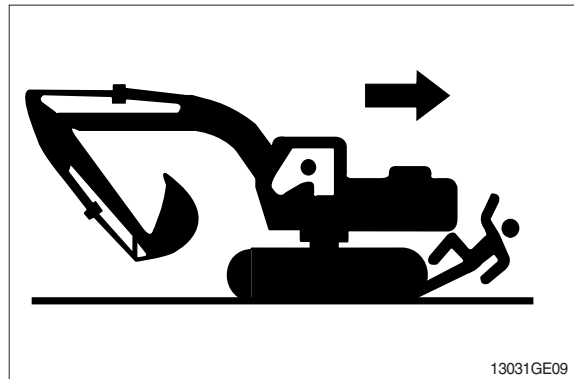


MOVE AND OPERATE MACHINE SAFELY

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:

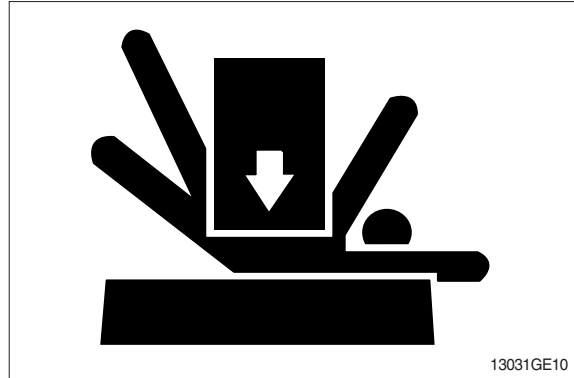
- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

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.

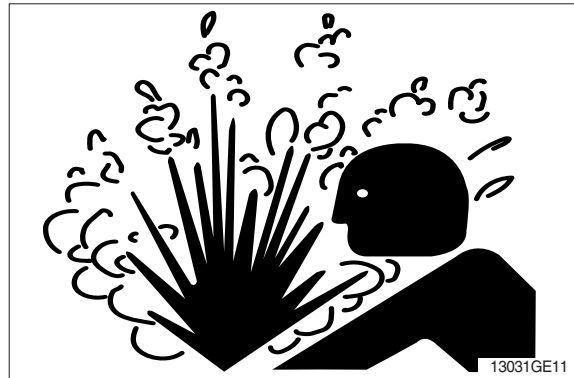
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



SERVICE COOLING SYSTEM SAFELY

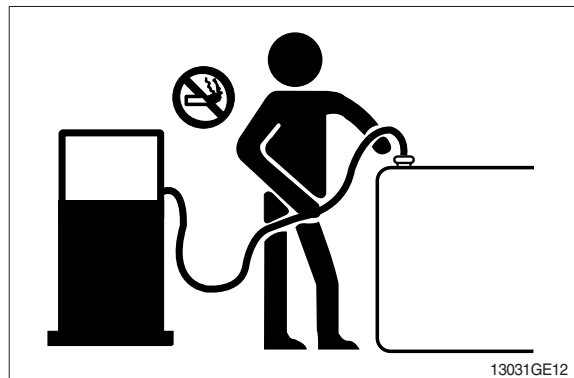
Explosive release of fluids from pressurized cooling system can cause serious burns.

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



HANDLE FLUIDS SAFELY-AVOID FIRES

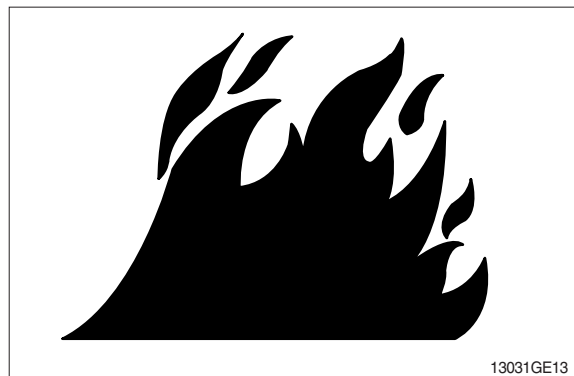
Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine. Fill fuel tank outdoors.



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

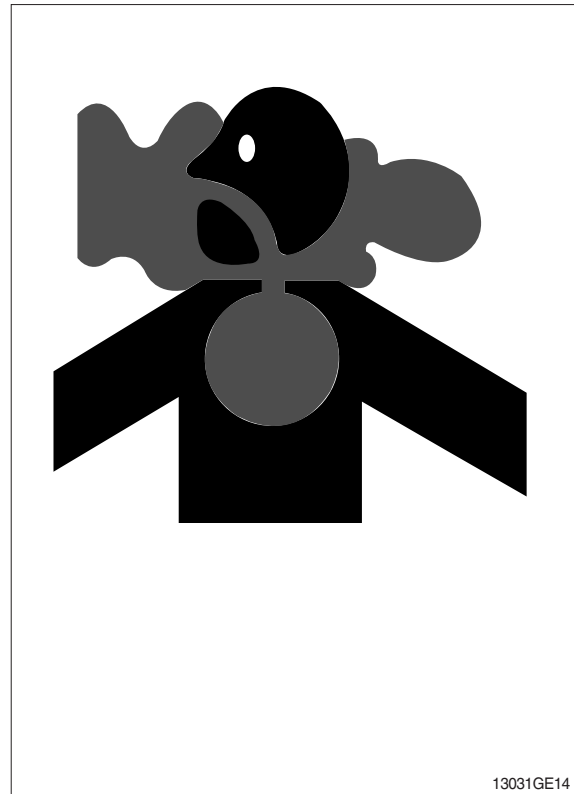
Avoid potentially toxic fumes and dust.

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.

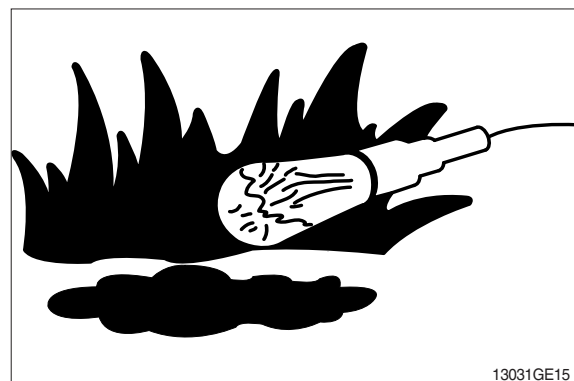
Remove paint before welding or heating:

- 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

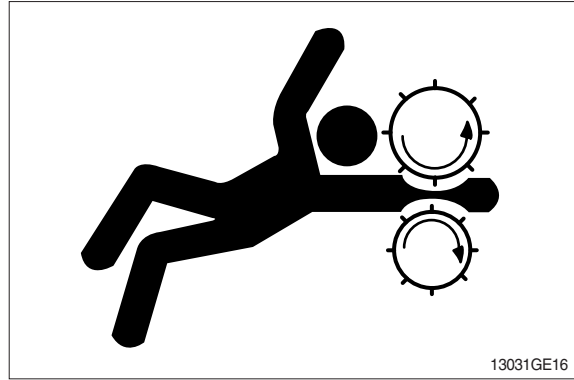
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



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.

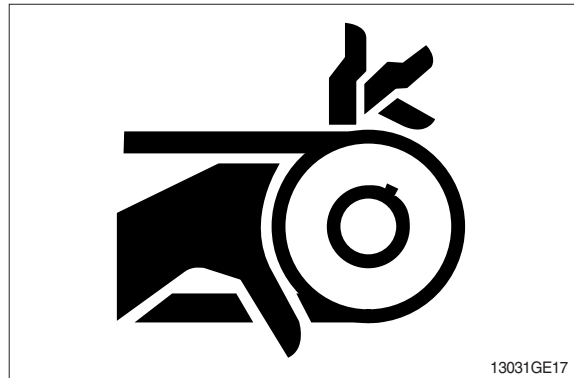
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



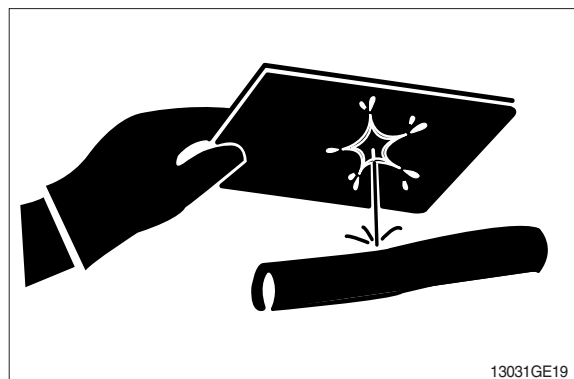
AVOID HIGH PRESSURE FLUIDS

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:

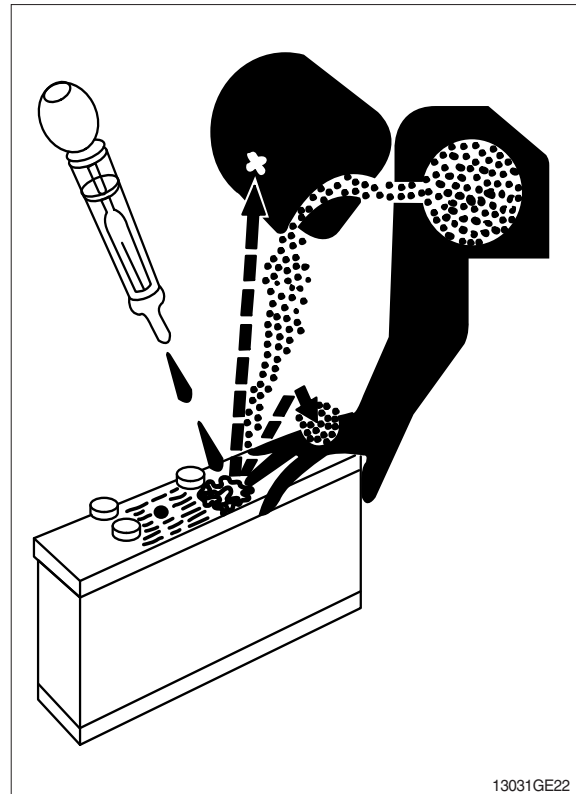
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



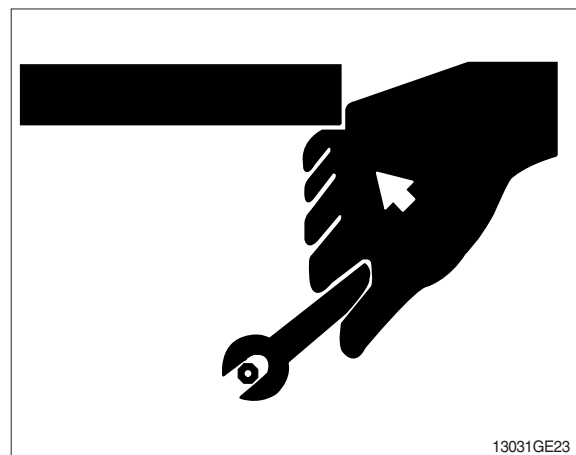
USE TOOLS PROPERLY

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.)

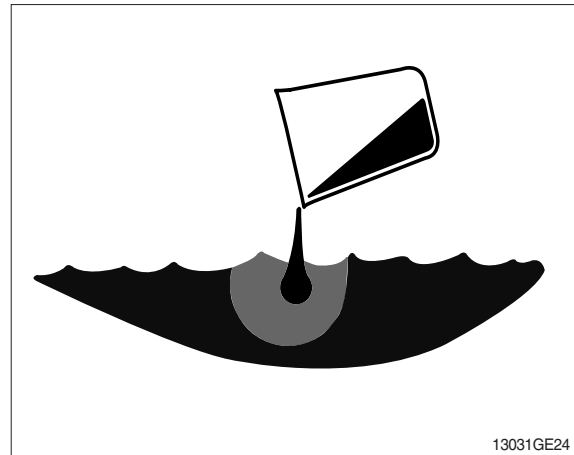


DISPOSE OF FLUIDS PROPERLY

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.

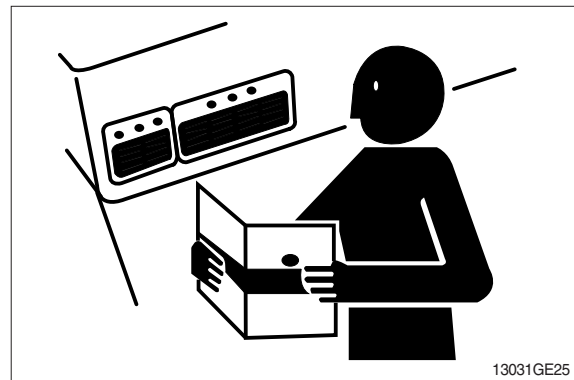
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.

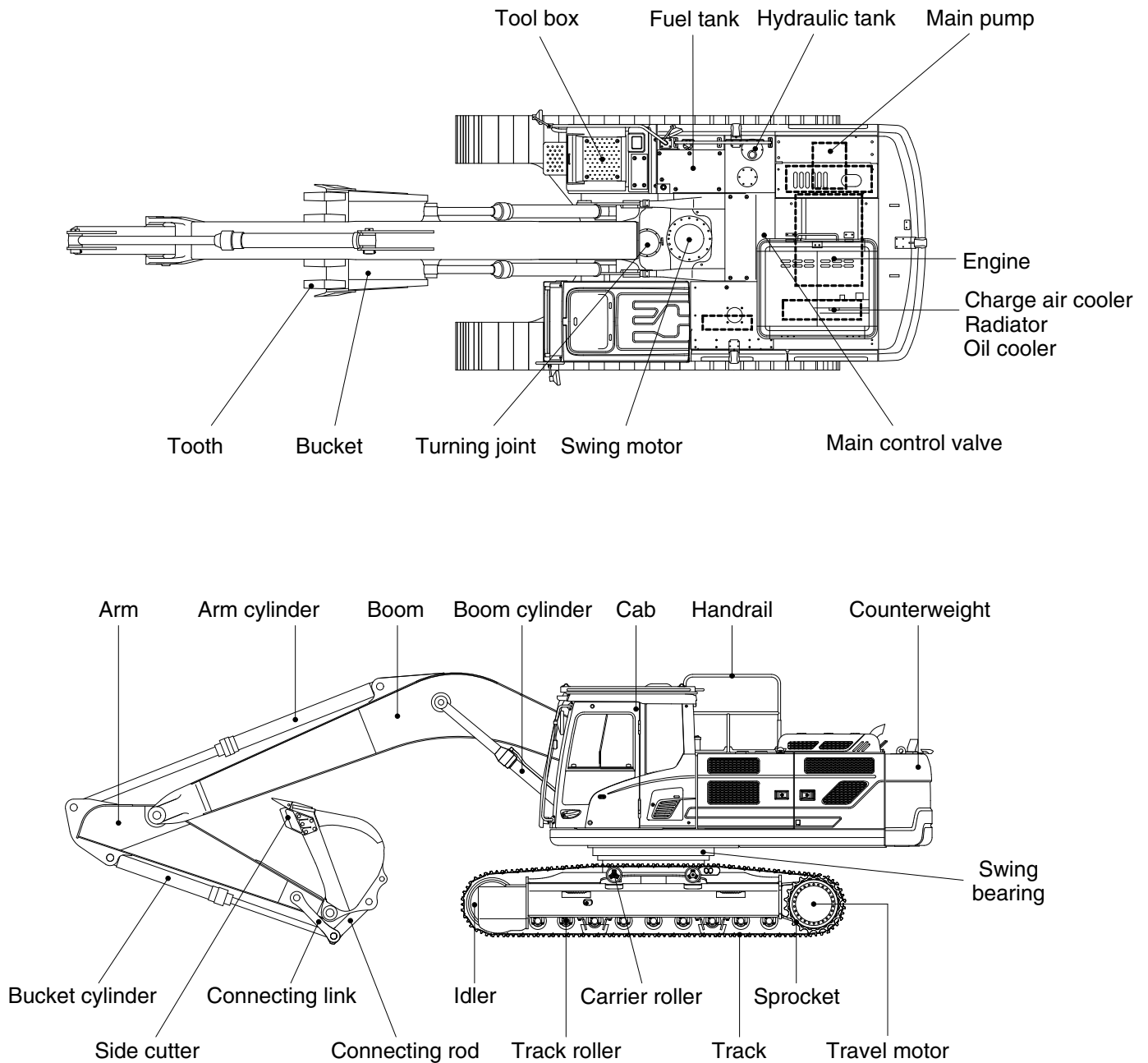


LIVE WITH SAFETY

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

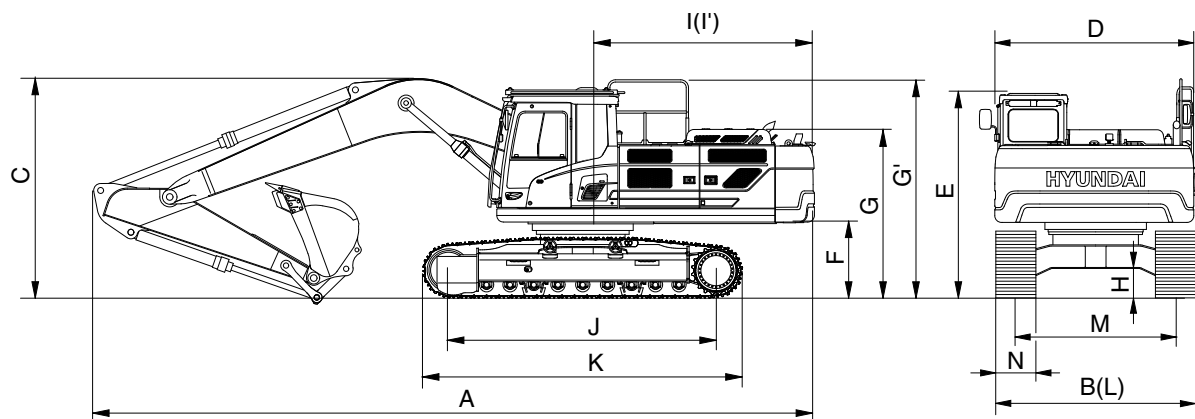


340S2SP01

2. SPECIFICATIONS

1) HX340HD

(1) 6.45 m (21' 2") boom and 3.20 m (10' 6") arm

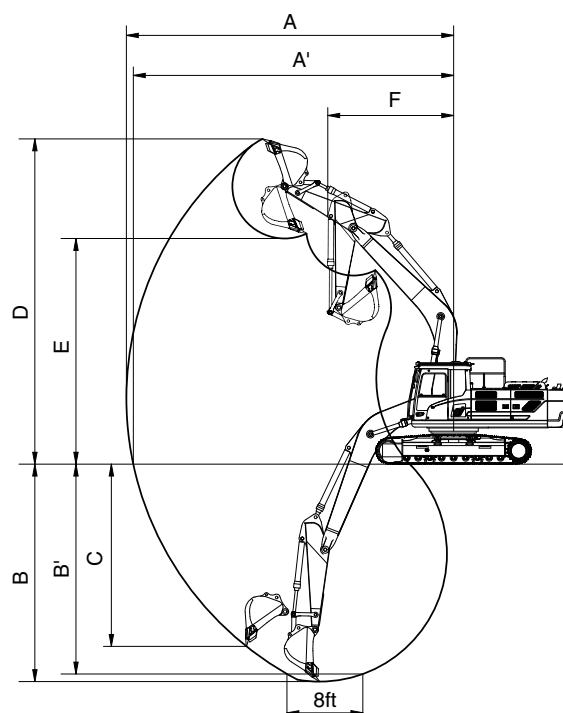


330S2SP02

Description		Unit	Specification
Operating weight		kg (lb)	33000 (72750)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	1.74 (2.28)
Overall length	A	mm (ft-in)	11220 (36' 10")
Overall width, with 600 mm shoe	B		3280 (10' 9")
Overall height of boom	C		3360 (11' 0")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3145 (10' 4")
Ground clearance of counterweight	F		1200 (3' 11")
Overall height of engine hood	G		2672 (8' 9")
Overall height of handrail	G'		3350 (11' 0")
Minimum ground clearance	H		500 (1' 8")
Rear-end distance	I		3510 (11' 6")
Rear-end swing radius	I'		3570 (11' 9")
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)	3.6/6.4 (2.11/3.98)
Swing speed		rpm	11.2
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.64 (9.03)
Max traction force		kg (lb)	29500 (65030)

3. WORKING RANGE

1) HX340HD, GENERAL BUCKET



330S2SP05

Description	m (ft-in)	Boom	6.45 (21' 2")
		Arm	3.20 (10' 6")
Max digging reach	mm (ft-in)	A	11150 (36' 7")
Max digging reach on ground		A'	10950 (35'11")
Max digging depth		B	7360 (24' 2")
Max digging depth (8ft level)		B'	7200 (23' 7")
Max vertical wall digging depth		C	6330 (20' 9")
Max digging height		D	10360 (34' 0")
Max dumping height		E	7260 (23'10")
Min swing radius		F	4360 (14' 4")
Bucket digging force	kN	SAE	188.3 [204.5]
	kgf		19200 [20850]
	lbf		42330 [45970]
	kN	ISO	216.7 [235.3]
	kgf		22100 [23990]
	lbf		48720 [52890]
Arm crowd force	kN	SAE	140.2 [152.3]
	kgf		14300 [15530]
	lbf		31530 [34240]
	kN	ISO	145.1 [157.6]
	kgf		14800 [16070]
	lbf		32630 [35430]

[] : Power boost

4. WEIGHT

1) HX340HD

Item	HX340HD	
	kg	lb
Upperstructure assembly	15420	33995
Main frame weld assembly	3910	8620
Engine assembly	604	1332
Main pump assembly	201	443
Main control valve assembly	220	485
Swing motor assembly	370	820
Hydraulic oil tank assembly	300	661
Fuel tank assembly	350	772
Counterweight	6000	13230
Cab assembly	422	930
Radiator assy	230	510
Oil cooler assy	80	180
Lower chassis assembly	11500	25350
Track frame weld assembly	3970	8750
Swing bearing	470	1040
Travel motor assembly	440	970
Turning joint	54	119
Tension cylinder	225	496
Idler	250	551
Sprocket	83	183
Carrier roller	35	77
Track roller	56	123
Track-chain assembly (600 mm standard triple grouser shoe)	1880	4145
Front attachment assembly (6.45 m boom, 3.2 m arm, 1.74 m³ SAE heaped bucket)	6580	14510
6.45 m boom assembly	2560	5640
3.2 m arm assembly	1170	2580
1.44 m³ SAE heaped bucket	1230	2710
Boom cylinder assembly	305	670
Arm cylinder assembly	380	840
Bucket cylinder assembly	265	580
Bucket control linkage assembly	370	820

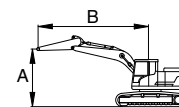
5. LIFTING CAPACITIES















Unit : mm

Model	Boom	Boom	Arm	Counterweight	Shoe	Dozer		Outrigger	
	Type	Length	Length	Weight (kg)	Width	Front	Rear	Front	Rear
HX340HD	Mono	6450	3200	6000	600	-	-	-	-

·  : Rating over-front

·  : Rating over-side or 360 degree



Load point height		Load radius												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)		Capacity		Reach
																m (ft)
7.5m 24.6ft	kg lb									*6830 *15060	6770 14930			*5610 *12370	*5610 *12370	7.74 (25.4)
6.0m 19.7ft	kg lb									*7870 *17350	6710 14790			*5430 *11970	5270 11620	8.62 (28.3)
4.5m 14.8ft	kg lb					*11980 *26410	*11980 *26410	*9660 *21300	9210 20300	*8520 *18780	6500 14330	*6670 *14700	4820 10630	*5450 *12020	4660 10270	9.17 (30.1)
3.0m 9.8ft	kg lb					*15550 *34280	13250 29210	*11360 *25040	8680 19140	*9400 *20720	6240 13760	7090 15630	4700 10360	*5650 *12460	4350 9590	9.44 (31.0)
1.5m 4.9ft	kg lb					*17440 *38450	12390 27320	*12870 *28370	8220 18120	9160 20190	5990 13210	6960 15340	4580 10100	*6050 *13340	4240 9350	9.47 (31.1)
0.0m 0.0ft	kg lb					*17250 *38030	12040 26540	12590 27760	7940 17500	8970 19780	5810 12810	6870 15150	4500 9920	6600 14550	4320 9520	9.25 (30.4)
-1.5m -4.9ft	kg lb			*10800 *23810	*10800 *23810	*18950 *41780	11990 26430	12460 27470	7820 17240	8880 19580	5730 12630			7110 15670	4650 10250	8.77 (28.8)
-3.0m -9.8ft	kg lb			*17460 *38490	*17460 *38490	*17750 *39130	12120 26720	12510 27580	7870 17350	8940 19710	5790 12760			8210 18100	5350 11790	7.98 (26.2)
-4.5m -14.8ft	kg lb			*20680 *45590	*20680 *45590	*15250 *33620	12440 27430	*11460 *25260	8100 17860					*9640 *21250	6910 15230	6.76 (22.2)

6. BUCKET SELECTION GUIDE

1) 6000 KG COUNTERWEIGHT



General bucket



Heavy duty
(without side cutter)



Rock heavy duty

Type	Capacity		Width	Weight	Tooth	MONO						
	Recommendation											
	SAE Heaped	CECE heaped	Without side cutter			6.15 m (20' 2") Boom		6.45 m (21' 2") Boom		6.45 m (21' 2") Boom (HD)		
						2.20 m (7' 3') Arm	2.50 m (8' 2') Arm	2.50 m (8' 2') Arm	3.20 m (10' 6') Arm	4.05 m (13' 3') Arm	2.20 m (7' 3') Arm	2.50 m (8' 2') Arm
General bucket	1.74 (2.28)	1.50 (1.96)	1,620 (63.8")	1,260 (2,780)	6	●	●	◐	■	▲	◐	◐
Heavy duty	2.30 (3.01)	2.02 (2.64)	1,750 (68.9")	1,915 (4,220)	5	■	▲	▲	-	-	▲	▲
Rock heavy duty	1.83 (2.39)	1.59 (2.08)	1,765 (69.5")	1,850 (4,080)	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
-	Not available

※ 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.

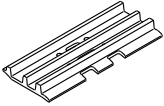
Consult with your local Hyundai dealer for information on selecting the correct boom—arm—bucket combination.

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	
				
HX340HD	Shoe width	mm (in)	600 (24)	800 (32)
	Operating weight	kg (lb)	33000 (72750)	33950 (74850)
	Ground pressure	kgf/cm ² (psi)	0.64 (9.03)	0.49 (6.97)
	Overall width	mm (ft-in)	3280 (10' 9")	3480 (11' 5")

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
600 mm triple grouser	Standard	A
800 mm triple grouser	Option	C

※ **Table 2**

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

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Hyundai / HM8.3
Type	4-cycle, turbocharged, charger air cooled, mechanical controlled diesel engine
Cooling method	Water cooled
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	114 × 135 mm (4.49" × 5.31")
Piston displacement	8.3 ℓ (506 cu in)
Compression ratio	18 : 1
Gross power	260 Hp (194 kW) at 2200 rpm
Net power	255 Hp (190 kW) at 2200 rpm
Max. power	261 Hp (195 kW) at 2200 rpm
Maximum torque	1150 N·m (848 lbf·ft) at 1300 rpm
Engine oil quantity	26.5 ℓ (7.0 U.S. gal)
Wet weight	604 kg (1332 lb)
Starting motor	24 V-7.5 kW
Alternator	24 V-90A

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 175 cc/rev
Rated oil flow	2 × 324 ℓ /min (85.6 U.S. gpm / 71.3 U.K. gpm)
Rated speed	1850 rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	26.3 ℓ /min (6.9 U.S. gpm/5.8 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	10 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Overload relief valve pressure	400 kgf/cm ² (5690 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	156.9 cc/rev
Relief pressure	300 kgf/cm ² (4270 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	84.4 kgf · m (610 lbf · ft)
Brake release pressure	36.5 kgf/cm ² (519 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	350 kgf/cm ² (4980 psi)
Capacity (max / min)	282.6/156.9 cc/rev
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	17 kgf/cm ² (242 psi)
Braking torque	134 kgf · m (969 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø 150 × Ø 105 × 1480 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø 160 × Ø 110 × 1685 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø 140 × Ø 100 × 1285 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.

8) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
HX340HD	Standard	☆ 600 mm (24")	0.64 kgf/cm ² (9.03 psi)	48	3280 mm (10' 9")
	Option	☆ 800 mm (32")	0.49 kgf/cm ² (6.97 psi)	48	3480 mm (11' 5")

☆ : Triple grouser

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★ ¹	26.5 (7.0)	★SAE 0W-40							
			★SAE 0W-30							
			SAE 5W-30							
			SAE 10W-30							
			SAE 15W-40							
Swing drive	Gear oil	11 (2.91)	★SAE 75W-90							
Final drive		7.8×2 (2.1×2)	SAE 80W-90							
Hydraulic tank	Hydraulic oil	Tank : 210 (55.5)	ISO VG 32							
		System : 414 (109.4)	ISO VG 46, HBHO VG 46★ ³							
			ISO VG 68							
Fuel tank	Diesel fuel	600 (158.5)	★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	27 (7.1)	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 : Meet or exceeds API CH-4 grade

★² : Soft water

City water or distilled water

★³ : Hyundai Bio Hydraulic Oil

※ 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.

※ Do not use any engine oil other than that specified above.

※ For HYUNDAI genuine lubricating oils and grease for use in regions with extremely low temperatures, please contact HYUNDAI dealers.