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Fire and Explosion

Preventing fires

The following actions should be taken to minimize the risk of fire:

- Do a visual inspection before operating the machine to check for any risk of fire.
- Do not operate the machine if there is a risk of fire.
- Be sure to identify the primary exit and alternative exit of the machine, and fully understand how to use the exits in the event of a fire.
- Do not perform any welding or drilling work on the engine cover.
- Keep the engine compartment free from the build-up of flammable materials such as dead leaves, small branches, paper, and other types of trash.
- Keep the covers of the major parts of the machine closed. Make sure that the covers operate normally in order to be able to use firefighting equipment in the event of a fire.
- Be careful when handling fuel. Fuel is a highly flammable.
- Always stop the engine when refueling the machine.
- Refuel outdoors.
- Remove any build-up of flammable materials from the machine.
- Do not operate the machine near a flame.
- All fuels and most lubricant and coolant mixtures are flammable materials, so special care should be exercised when handling such materials to prevent fire and explosion.
- Keep all fuels and lubricant in adequate containers.
- Never smoke in the area where refueling is taking place or in the space for handling battery electrolytes and other flammable materials.
- Oil leaked to a hot surface or electronic component may cause a fire.
- Do not operate the machine if there is an oil leak. Repair the source of the oil leak, and wipe clean any leaked oil before operating the machine.
- Always clean all electrical lines, connectors, and clamps, and check whether they are securely connected on a regular basis.
- If any electrical wire or connector is loose or damaged, repair it immediately.
- Do not weld, cut or use a cutting torch through any tubes or lines in which flammable flows. Check all tubes and lines for signs of abrasion or deterioration and replace if damaged.
- Dust or particles generated when repairing the non-metallic hood or fender are flammable or explosive. Repair such parts in a well ventilated area well away from flames or sparks, and be sure to wear suitable PPE (Personal Protective Equipment).



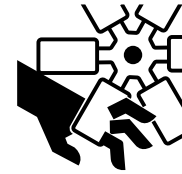
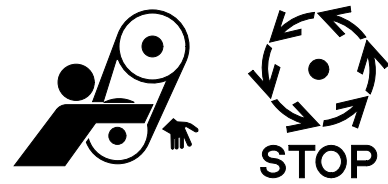
Instructions on mitigating vibration

Machines should be correctly adjusted and maintained to ensure smooth operation. The terrain conditions should be observed. The following instructions will help reduce the whole body vibration level:

- ① Use the correct size attachments for your machine.
- ② Maintain the machines pursuant to the manufacturer's recommendations.
- ③ Maintain and provide good terrain conditions.
 - Remove any large rocks or obstacles.
 - Fill gutters or holes.
 - Adjust speed and driving path as needed for the conditions.
- ④ Use a driver's seat that satisfies ISO 7096.
 - Adjust the driver's seat and suspension for the weight and the size of the operator.
 - Inspect the suspension and adjusting devices of the driver's seat.
- ⑤ Perform the following maneuvers without using excessive force :
 - Steering
 - Braking
 - Accelerating
 - Gear shifting
- ⑥ Move the attachments smoothly.
- ⑦ Keep the level of vibration minimal when working for a long time or driving for a long distance.
 - Use a machine mounted with suspension system.
 - Transport the machine when moving between worksites; do not drive the machine to get to another worksite.
- ⑨ Take the following actions for optimal operator comfort and convenience:
 - Adjust the driver's seat adjustment device to allow a convenient posture.
 - Adjust the angles of the mirrors to minimize awkward, compromised posture
 - Avoid working for an excessively long time, and take regular breaks.
 - Do not jump on or off the cabin.
 - Minimize repeated handling of loads and lifting of loads.
 - The vibration information and calculation procedures are based on <ISO/TR 25398> has been defined according to the emission of vibrations measured under the actual working conditions of the machines.

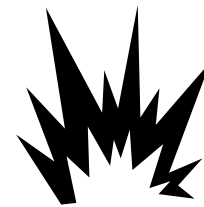
Collision or cutting

- Never perform a maintenance while the engine is running.
- Never open or remove the engine hood while the machine is in operation.
- If an inspection is required while the engine is running, two or more workers must perform the inspection.
- Keep areas in the vicinity of rotating or moving parts clean.
- Keep articles in the vicinity of the fan clean.
 - Wear safety gloves when handling the wire cables.
 - Wear protective goggles and protective clothes



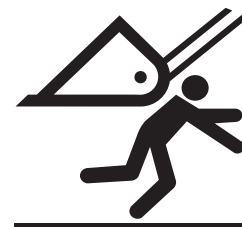
Preventing fire and explosion

- Use caution when handling fuels, lubrication oils, and coolant mixtures to prevent fire and explosion. Failure to comply may result in serious injury or death.
- Oil that leaks on to a hot surface or electronic components may cause a fire.
- Keep all fuels and lubrication oils in adequate containers.
- Do not smoke while refueling or while adding any fluids to the machine. Do not smoke near the fuel tank at anytime.
- Do not smoke in a space where battery electrolyte and other flammable materials are handled.
- Always keep all electrical lines, connectors, and clamps clean, and check whether they are securely connected on a regular basis.
- If any electrical wire or connector is loose or damaged, repair it immediately.
- Do not weld or cut with gas cutter pipes or tubes that contains flammable fluids.



Cautions on decoupling the attachments

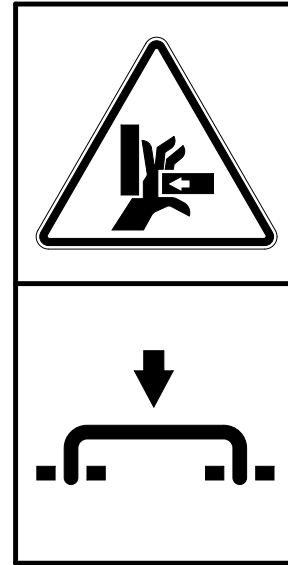
- Do not allow unauthorized workers to access the machine.
- Place the machine in a safe position.
- Install safety fences around the machine.



10) **STAY FIX** (item 14)

This label is positioned on the LH and RH side cover.

- ▲ **Be sure to fix the stay when the door needs to be opened.**
- ▲ **A door which is not fixed in the fully closed or open position (via stay) can suddenly move causing severe personal injury or death.**

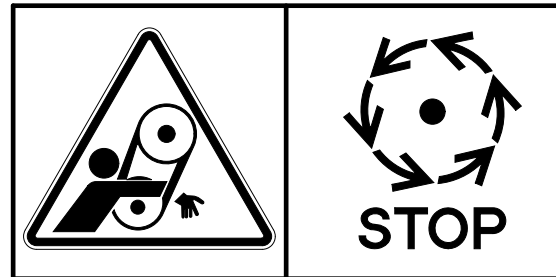


21070FW14

11) **ENGINE HOOD SHEARING** (item 15)

This label is positioned on the engine hood.

- ▲ **Do not open the engine hood while the engine is running. Stay clear of rotating parts. Failure to comply may cause serious injury or death.**
- ▲ **Do not touch exhaust pipe or it may cause severe burn.**

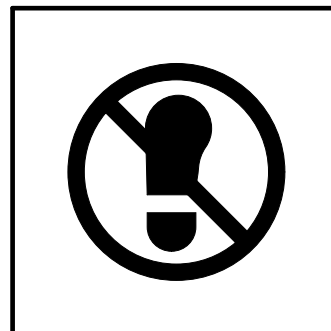


21070FW15

12) **NO STEP** (item 16)

This label is positioned on the engine hood and counterweight.

- △ **Don't step on the engine hood and counterweight.**

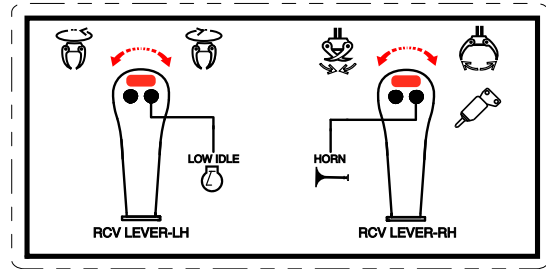


21070FW16

40) RCV CONTROL (item 59)

This label is positioned on the right side window of inside the cab.

- ※ **Read and understand the operation of the RCV lever.**

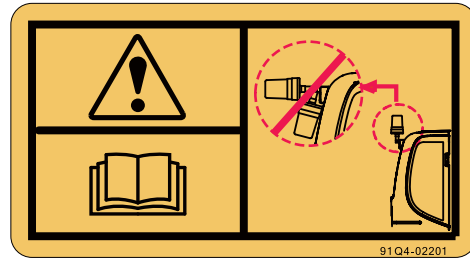


330F0SL05

41) BEACON LAMP (item 65)

This warning label is positioned on the rear top side of the cab.

- ▲ **Keep the beacon lamp straight up condition.**



91Q4-02201

42) HIGH PRESSURE (item 66)

This label is positioned on the top side of the radiator Assy.

- ▲ **Do not touch hot or high pressure parts as it may cause severe burn.**



94K8-01110

43) HYDRAULIC OIL LUBRICATION (item 67)

This label is positioned on the top side of the hydraulic tank.

- ※ **Do not mix with different brand oils.**
- ▲ **Never open the filler cap while high temperature.**
- ▲ **Loosen the cap slowly and release internal pressure completely.**



91N6-03112

(3) User mode

① User mode is useful for setting the user preferable power quickly.
(engine speed, power shift and idle speed)

② There are two methods for use of user mode.

a. In operation screen

User mode switch is used to memorize the current machine operating status and activate the memorized user mode.

Refer to page 3-13.

b. In menu

Engine high idle rpm, auto idle rpm and pump torque (power shift) can be modulated and memorized separately in menu status.

- Each memory mode has a initial setting which is mid-range of max engine speed, power shift and auto idle speed.

- High idle rpm, auto idle rpm and EPPR pressure can be adjusted and memorized in the U-mode.

※ Refer to the page 3-19 for setting the user mode (available on U mode only).

· LCD segment vs parameter setting

Step ()	Engine speed (rpm)	Idle speed (rpm)	Power shift (bar)
1	1550	1000	0
2	1600	1050	3
3	1650	1100	6
4	1700	1150 (auto decel)	9
5	1750	1200	12
6	1800	1250	16
7	1850	1300	20
8	1900	1350	26
9	1950	1400	32
10	2000	1450	38

※ One touch decel & low idle : 1000 rpm



User mode switch

220S40P32A



220S40P33A

(4) Travel mode

 : Low speed traveling.

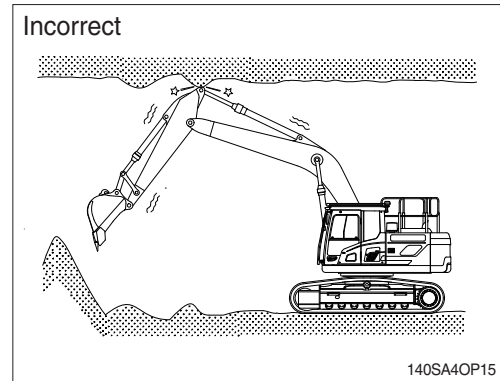
 : High speed traveling.

(5) Auto idle mode

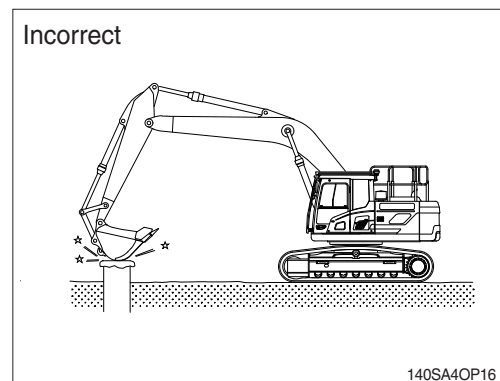
Pilot lamp ON : Auto idle function is activated.

Pilot lamp OFF : Auto idle function is canceled.

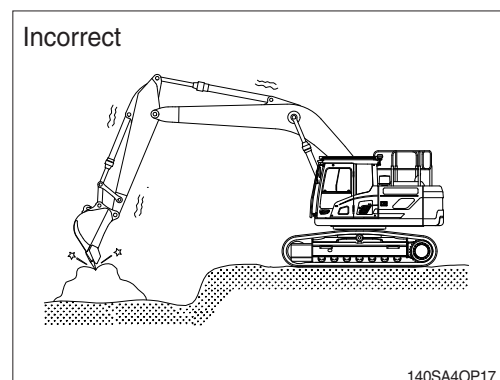
- 9) If the excavation is in an underground location or in a building, make sure that there is adequate overhead clearance and that there is adequate ventilation.



- 10) Do not use the dropping force of the work equipment for digging.
The machine can be damaged by the impact.



- 11) Do not use the bucket to crack hard objects like concrete or rocks.
This may break a tooth or pin, or bend boom.



12) NEVER CARRY OUT EXCESSIVE OPERATIONS

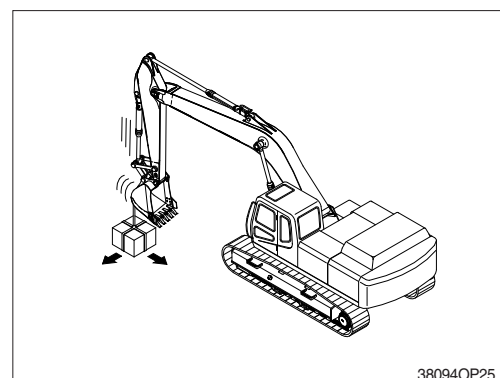
Operation exceeding machine performance may result in accident or failure, causing serious injury or death.

Carry out lifting operation within specified load limit.

Never carry out operations which may damage the machine such as overload or over-impact-load.

Never travel while carrying a load.

If you need an overload warning device installed for object handling procedure, please contact your local HD Hyundai Construction Equipment distributor.



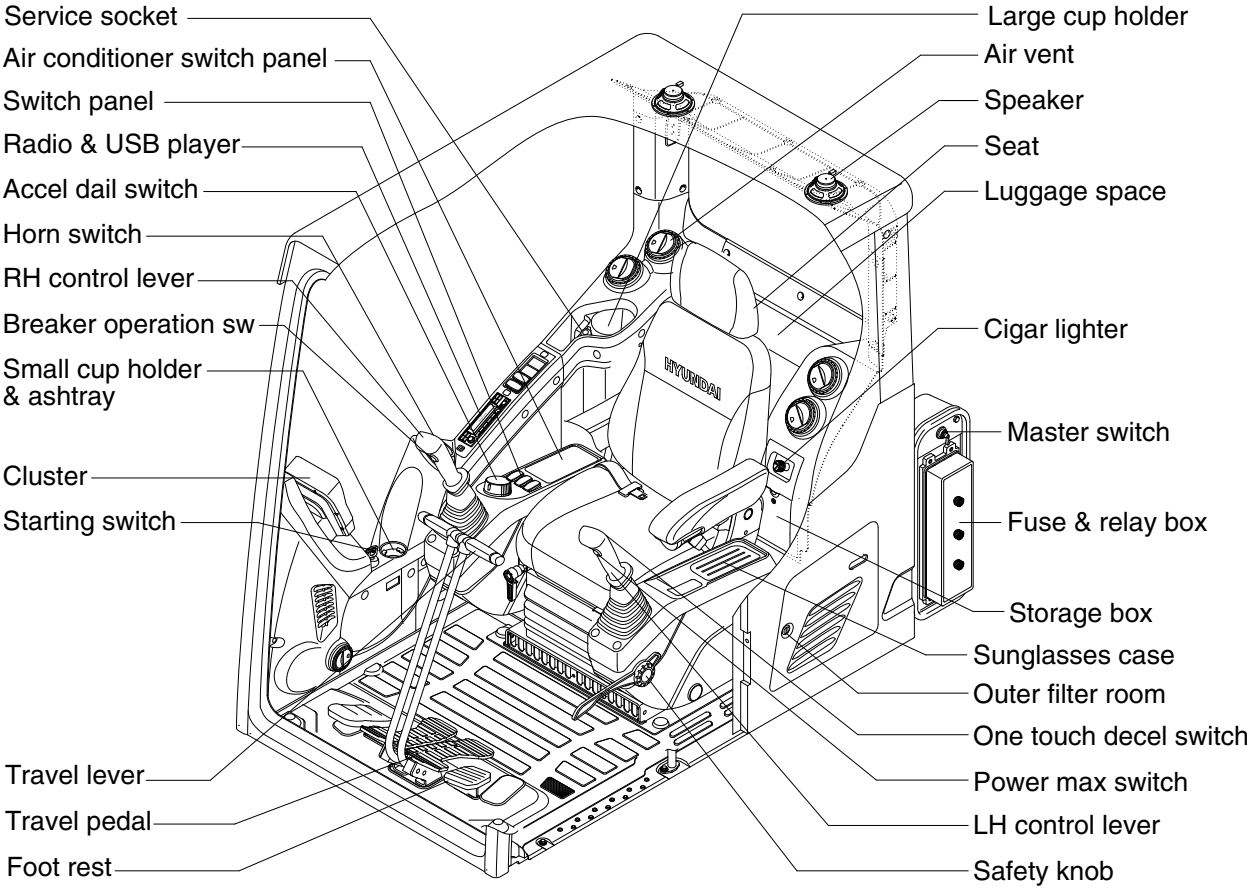
CONTROL DEVICES

1. CAB DEVICES

1) The ergonomically designed console box and suspension type seat provide the operator with comfort.

2) ELECTRONIC MONITOR SYSTEM

- (1) The centralized electronic monitor system allows the status and conditions of the machine to be monitored at a glance.
- (2) It is equipped with a safety warning system for early detection of machine malfunction.



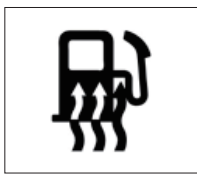
400S3CD01

(4) Decel pilot lamp



One touch decel is not available when the auto idle pilot lamp is turned ON.
Refer to page 3-35.

(5) Fuel warmer pilot lamp

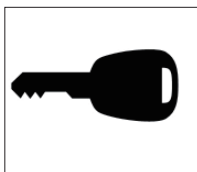


(6) Maintenance pilot lamp



Refer to page 3-24.

(7) Smart key pilot lamp (premium type opt)



Refer to page 3-25.

(8) Auto engine shutdown pilot lamp (premium type, opt)



- ① This lamp lights up when the auto engine shutdown is activated
- ※ Refer to page 3-21.

220A3CD202A

⑥ Automatic engine shutdown (option)



- The automatic engine shutdown function can be set by this menu.
 - One time
 - Always
 - Disable
 - Wait time setting : Max 40 minutes, min 2 minutes

⑦ Initial mode



- **Key on initial mode**
 - Selected the power mode is activated when the engine is started.

Key on initial work mode

- Not installed
- Last setting
- Work mode

⑧ Emergency mode



- This mode can be used when the switches are abnormal on the cluster.
- The cluster switches can be selected by touching each icon.

⑥ Screen type (premium type)



220S3CD165A



A Type (Default) 220S3CD166A



220S3CD156A



B Type (Option) 220S3CD174A



220S3CD167A

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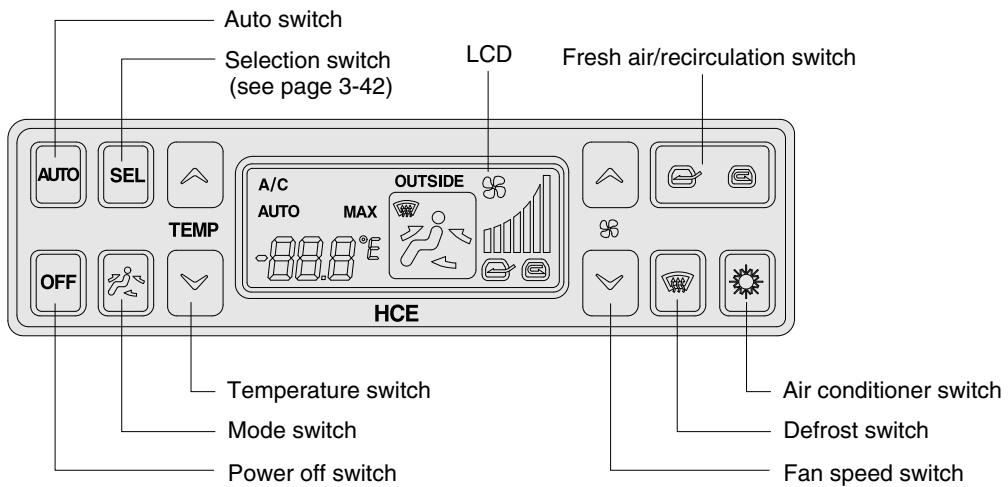
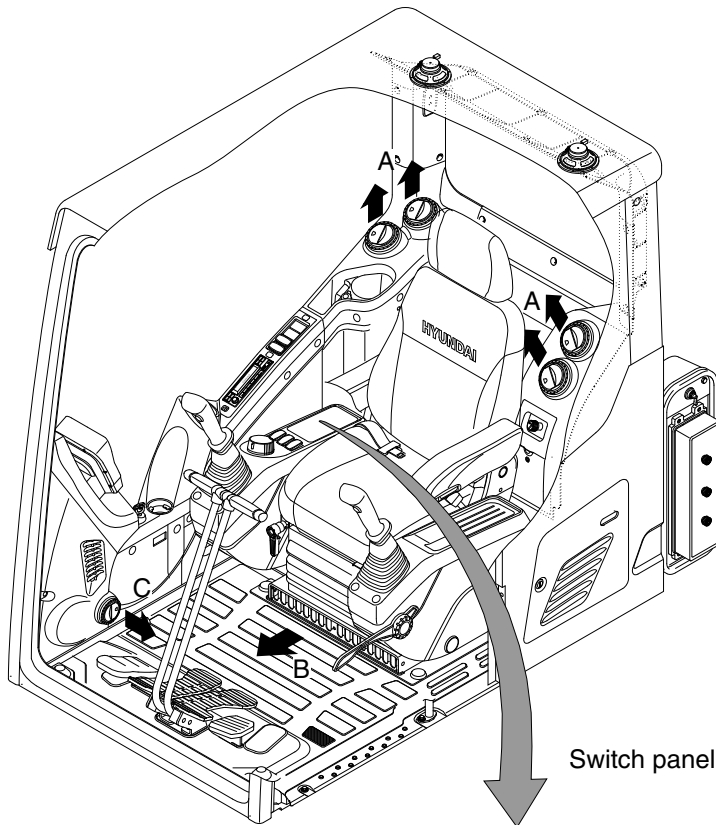
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5. AIR CONDITIONER AND HEATER

Full auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration, sensing ambient and cabin inside temperature.

· Location of air flow ducts



220S3CD49

■ RADIO

(1) Mode button



- ① Repeat press MODE button to select FM1, FM2 or AM.

(2) Manual tuning button



- ① To manually tune to a radio station, simply turn encoder TUNE (2) left or right to increase or decrease the radio frequency.

(3) Auto tuning button



- ① To automatically select a radio station, simply press Seek up or Track down button.



(4) Station preset button







- ① In radio mode, pressing buttons (6) to (11) will recall the radio stations that are memorized. To store desired stations into any of the 6 preset memories, in either the AM or FM bands, use the following procedure :

- a. Select the desired station.
- b. Press and hold one of the preset buttons for more than 2 seconds to store the current station into preset memory. Six stations can be memorized on each of FM1, FM2, and AM.

■ RESET AND PRECAUTIONS

(1) Reset function

Interfering noise or abnormal compressed files in the MP3 disc or USB instrument may cause intermittent operation (or unit frozen/locking up). It is strongly recommended to use appropriate USB storage to not cause any malfunction to the audio unit. In the unlikely event that the player fails to operate correctly, try to reset unit by any of following two methods.

- ① press and hold   simultaneously for about 5 seconds. (without Bluetooth)
- ② Press and hold   simultaneously for about 5 seconds. (with Bluetooth)

※ Take out the fuse for the audio system in the vehicle once and then plug it back in.

※ It will be necessary to re-enter the radio preset memories as these will have been erased when the microprocessor was reset.

After resetting the player, ensure all functions are operating correctly.

(2) Precautions

When the inside of the cab is very cold and the player is used shortly after switching on the heater, moisture may form on the disc or the optical parts of the player and proper playback may not be possible.

If moisture forms on the optical parts of the player, do not use the player for about one hour. The condensation will disappear naturally allowing normal operation.

- ① Operation voltage : 9~32 volts DC, negative
- ② Output power : 40 watts maximum (20 watts x 2 channels)
- ③ Tuning range

Area	Band	Frequency range	Step
USA	FM	87.5~107.9 MHZ	200K
	AM	530~1710 KHZ	10K
EUROPE	FM	87.5~108.0 MHZ	50K
	AM	522~1620 KHZ	9K
ASIA	FM	87.5~108.0 MHZ	100K
	AM	531~1602 KHZ	9K
LATIN	FM	87.5~107.9 MHZ	100K
	AM	530~1710 KHZ	10K

● AREA Selection :

- To select an area, press and hold related buttons at FM1 band for about 3 seconds.
- USA Area: Press and hold mode + 1DIS buttons for 3 seconds
- EUROPE Area: Press and hold mode + 2 buttons for 3 seconds
- ASIA Area: Press and hold mode + 3RPT buttons for 3 seconds
- LATIN Area: Press and hold mode + 4RDM buttons for 3 seconds.

- ④ USB version : USB 1.1
- ⑤ Bluetooth version : V2.1
- ⑥ Bluetooth supported profile :
 - A2DP : Advanced Audio Distribution Profile
 - AVRCP : Audio/Video Remote Control Profile
 - HFP : Hands-Free Profile

2. TIGHTENING TORQUE

Use following table for unspecified torque.

1) BOLT AND NUT

(1) Coarse thread

Bolt size	8.8T		10.9T		12.9T	
	kgf · m	lbf · ft	kgf · m	lbf · ft	kgf · m	lbf · ft
M 6×1.0	0.8 ~ 1.2	5.8 ~ 8.6	1.2 ~ 1.8	8.7 ~ 13.0	1.5 ~ 2.1	10.9 ~ 15.1
M 8×1.25	2.0 ~ 3.0	14.5 ~ 21.6	2.8 ~ 4.2	20.3 ~ 30.4	3.4 ~ 5.0	24.6 ~ 36.1
M10×1.5	4.0 ~ 6.0	29.0 ~ 43.3	5.6 ~ 8.4	40.5 ~ 60.8	6.8 ~ 10.0	49.2 ~ 72.3
M12×1.75	6.8 ~ 10.2	50.0 ~ 73.7	9.6 ~ 14.4	69.5 ~ 104	12.3 ~ 16.5	89.0 ~ 119
M14×2.0	10.9 ~ 16.3	78.9 ~ 117	16.3 ~ 21.9	118 ~ 158	19.5 ~ 26.3	141 ~ 190
M16×2.0	17.9 ~ 24.1	130 ~ 174	25.1 ~ 33.9	182 ~ 245	30.2 ~ 40.8	141 ~ 295
M18×2.5	24.8 ~ 33.4	180 ~ 241	34.8 ~ 47.0	252 ~ 340	41.8 ~ 56.4	302 ~ 407
M20×2.5	34.9 ~ 47.1	253 ~ 340	49.1 ~ 66.3	355 ~ 479	58.9 ~ 79.5	426 ~ 575
M22×2.5	46.8 ~ 63.2	339 ~ 457	65.8 ~ 88.8	476 ~ 642	78.9 ~ 106	570 ~ 766
M24×3.0	60.2 ~ 81.4	436 ~ 588	84.6 ~ 114	612 ~ 824	102 ~ 137	738 ~ 991
M30×3.5	120 ~ 161	868 ~ 1164	168 ~ 227	1216 ~ 1641	202 ~ 272	1461 ~ 1967

(2) Fine thread

Bolt size	8.8T		10.9T		12.9T	
	kgf · m	lbf · ft	kgf · m	lbf · ft	kgf · m	lbf · ft
M 8×1.0	2.1 ~ 3.1	15.2 ~ 22.4	3.0 ~ 4.4	21.7 ~ 31.8	3.6 ~ 5.4	26.1 ~ 39.0
M10×1.25	4.2 ~ 6.2	30.4 ~ 44.9	5.9 ~ 8.7	42.7 ~ 62.9	7.0 ~ 10.4	50.1 ~ 75.2
M12×1.25	7.3 ~ 10.9	52.8 ~ 78.8	10.3 ~ 15.3	74.5 ~ 110	13.1 ~ 17.7	94.8 ~ 128
M14×1.5	12.4 ~ 16.6	89.7 ~ 120	17.4 ~ 23.4	126 ~ 169	20.8 ~ 28.0	151 ~ 202
M16×1.5	18.7 ~ 25.3	136 ~ 182	26.3 ~ 35.5	191 ~ 256	31.6 ~ 42.6	229 ~ 308
M18×1.5	27.1 ~ 36.5	196 ~ 264	38.0 ~ 51.4	275 ~ 371	45.7 ~ 61.7	331 ~ 446
M20×1.5	37.7 ~ 50.9	273 ~ 368	53.1 ~ 71.7	384 ~ 518	63.6 ~ 86.0	460 ~ 622
M22×1.5	51.2 ~ 69.2	370 ~ 500	72.0 ~ 97.2	521 ~ 703	86.4 ~ 116	625 ~ 839
M24×2.0	64.1 ~ 86.5	464 ~ 625	90.1 ~ 121	652 ~ 875	108 ~ 146	782 ~ 1056
M30×2.0	129 ~ 174	933 ~ 1258	181 ~ 245	1310 ~ 1772	217 ~ 294	1570 ~ 2126

Service interval	No.	Description	Service action	Oil symbol	Capacity ℓ (U.S.gal)	Service points No.
50 Hours or weekly	8	Fuel tank (water, sediment)	Check, Drain	-	-	1
	10	Swing reduction gear oil	Check, Add	GO	3.5 (0.9)	1
	12	Track tension	Check, Adjust	PGL	-	2
	24	Bucket linkage pins	Check, Lubricate	PGL	-	6
	24	Dozer blade pins	Check, Lubricate	PGL	-	6
250 Hours	4	Charge air cooler and piping	Check	-	-	1
	4	Cooling fan	Check	-	-	1
	7	Attachment pins & bushings	Check, Lubricate	PGL	-	11
	9	Swing bearing grease	Check, Add	PGL	-	2
	13	Battery (voltage), battery cable and connections	Check, Replace	-	-	1
Initial 250 Hours	2	Engine oil	Change	EO	11 (2.9)	1
	3	Engine oil filter	Replace	-	-	1
	5	Fuel pre-filter element	Replace	-	-	1
	10	Swing reduction gear oil	Change	GO	3.5 (0.9)	1
	14	Hydraulic oil return filter	Replace	-	-	1
	15	Drain filter	Replace	-	-	1
	18	Pilot line filter element	Replace	-	-	1
	21	Fuel filter element	Replace	-	-	1
500 Hours	2	Engine oil	Change	EO	11 (2.9)	1
	3	Engine oil filter	Replace	-	-	1
	5	Fuel pre-filter element	Replace	-	-	1
	19	Aircon & heater outer filter	Replace	-	-	1
	19	Aircon & heater inner filter	Replace	-	-	1
	20	Air cleaner element (primary)	Check, Clean	-	-	1
	21	Fuel filter element	Replace	-	-	1
	22	Radiator, oil cooler, charge air cooler	Check, Clean	-	-	3
1000 Hours	6	Drive belt, cooling fan hub	Check, Replace	-	-	2
	6	Cooling fan belt tensioner	Check, Replace	-	-	1
	10	Swing reduction gear oil	Change	GO	3.5 (0.9)	1
	11	Swing gear and pinion grease	Change	PGL	5.9 kg (13.1 lb)	1
	14	Hydraulic oil return filter	Replace	-	-	1
	15	Drain filter	Replace	-	-	1
	16	Hydraulic tank air breather element	Replace	-	-	1
	18	Pilot line filter element	Replace	-	-	1
23	Travel reduction gear oil	Change	GO	2.3 (0.6)	2	

※ Oil symbol

Please refer to the recommended lubricants for specification.

DF : Diesel fuel

GO : Gear oil

HO : Hydraulic oil

C : Coolant

PGL : Grease

EO : Engine oil

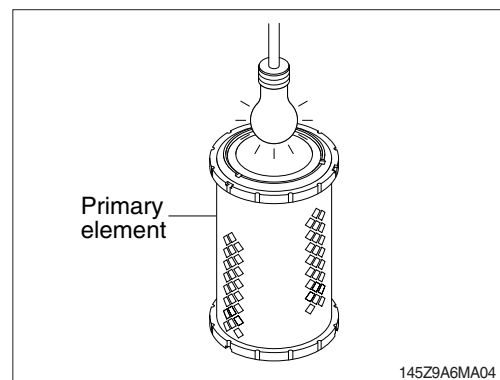
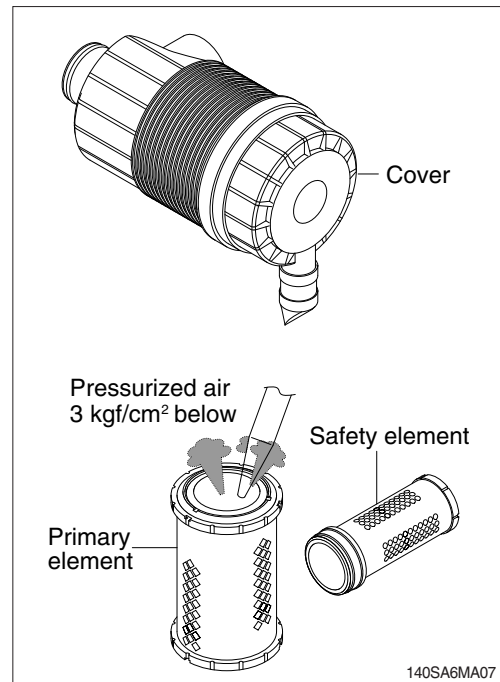
10) CLEANING OF AIR CLEANER

(1) Primary element

- ① Turn the cover to the left and remove the element.
 - ② Clean the inside of the body.
 - ③ Clean the element with pressurized air.
 - Remove the dust inside of the element by the pressurized air (below 3 kgf/cm², 40 psi) forward and backward equally.
 - ④ Inspect for cracks or damage of element by putting a light bulb inside of the element.
 - ⑤ Insert element and turn the cover to the right.
- ※ **Replace the primary element after 4 cleanings.**

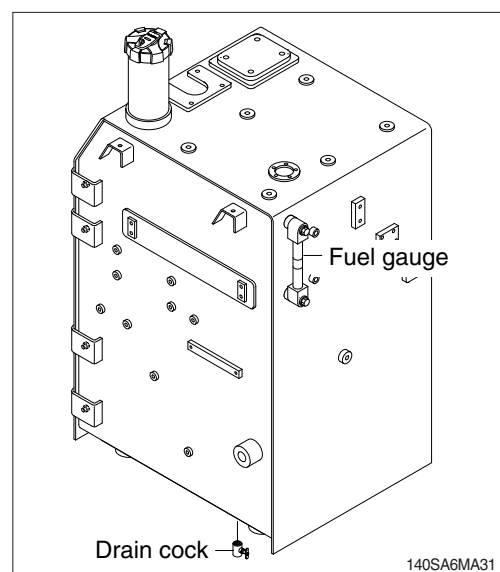
(2) Safety element

- ※ **Replace the safety element only when the primary element is cleaned 4 times.**
- ※ **Always replace the safety element. Never attempt to reuse the safety element by cleaning the element.**



11) FUEL TANK

- ※ **Remove the strainer of the fuel tank and clean it if contaminated.**
- (1) Fill fuel tank fully to minimize water condensation and check the fuel gauge level before starting the machine.
 - (2) Drain the water and sediment in the fuel tank by opening the drain cock.
- ※ **Be sure to LOCK the cap of fuel tank.**
- ▲ **Stop the engine when refueling.**
All lights and flames shall be kept at a safe distance while refueling.



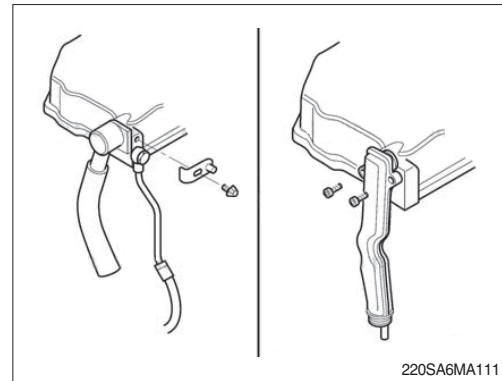
(19) Connect the breather tube connection to the rocker lever cover.

In general, two types of breather tube connections are used at the rocker lever cover.

- A clamping plate and capscrew hole the breather tube connection to the rocker lever cover. Remove the capscrew and clamping plate to disconnect the breather tube connection from the rocker lever cover.
- One or two capscrew(s) directly mount the breather tube connection to the rocker lever cover. Remove the capscrew(s) to disconnect the breather tube connection from the rocker lever cover.

(20) Tighten the capscrew(s).

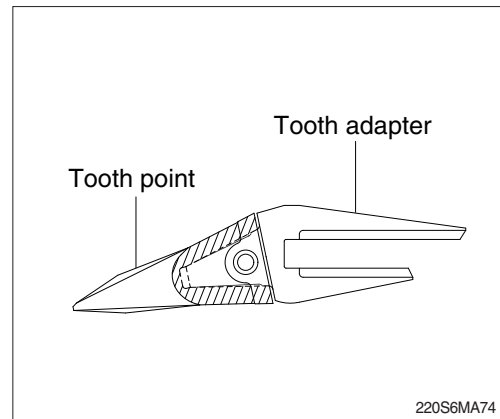
Tightening torque : 1.0 kgf · m (7.2 lbf · ft)



37) REPLACEMENT OF BUCKET TOOTH

(1) Timing of replacement

- ① Check wearing condition as shown in the illustration and replace tooth point before adapter starts to wear.
- ② In case of excessive use and tooth adapter has worn excessively, replacement may become impossible.



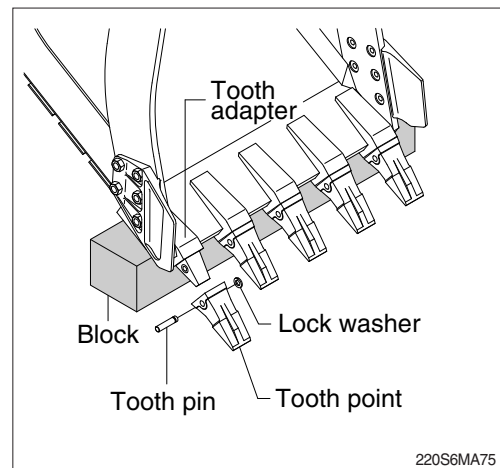
(2) Instructions for replacement

- ① Pull out pin by striking pin with punch or hammer, avoiding damage to lock washer.
- ② Remove dust and mud from surface of tooth adapter by using knife.
- ③ Place lock washer in its proper place, and fit tooth point to adapter.
- ④ Insert pin until lock washer is positioned at tooth pin groove.

▲ Serious injury or death can result from bucket falling.

▲ Block the bucket before changing tooth points or side cutters.

▲ The operator should wear clothes and personal protection gear that are appropriate for the work environment. Protects the eyes from dust, particles and airborne materials with a protection gear like goggle.



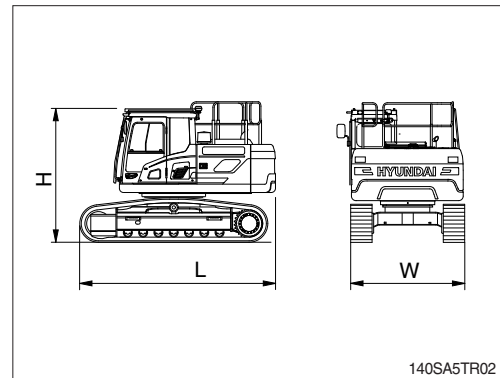
2. DIMENSION AND WEIGHT

1) BASE MACHINE

(1) HX140LT3-with counterweight

Mark	Description	Unit	Specification
L	Length	mm (ft-in)	4210 (13' 10")
H	Height	mm (ft-in)	2860 (9' 5")
500 (20") mm triple grouser			
W	Width	mm (ft-in)	2490 (8' 2")
Wt	Weight	kg (lb)	13810 (30450)
600 (24") mm triple grouser			
W	Width	mm (ft-in)	2590 (8' 6")
Wt	Weight	kg (lb)	14010 (30890)
700 (28") mm triple grouser			
W	Width	mm (ft-in)	2690 (8' 10")
Wt	Weight	kg (lb)	14230 (31370)

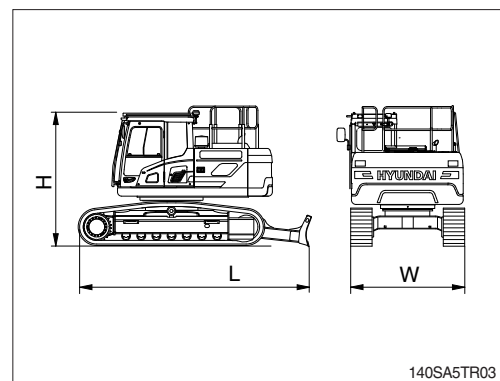
※ With triple grouser shoes and 1900 kg (4189 lb) counterweight.



(2) HX140LDT3-with counterweight

Mark	Description	Unit	Specification
L	Length	mm (ft-in)	4545 (14' 11")
H	Height	mm (ft-in)	2860 (9' 5")
500 (20") mm triple grouser			
W	Width	mm (ft-in)	2490 (8' 2")
Wt	Weight	kg (lb)	14640 (32280)
600 (24") mm triple grouser			
W	Width	mm (ft-in)	2590 (8' 6")
Wt	Weight	kg (lb)	14840 (32720)
700 (28") mm triple grouser			
W	Width	mm (ft-in)	2690 (8' 10")
Wt	Weight	kg (lb)	15060 (33200)

※ With triple grouser shoes and 1900 kg (4189 lb) counterweight.



TROUBLESHOOTING GUIDE

1. ENGINE

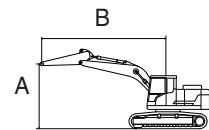
※ This guide is not intended to cover every condition, however many of the more common possibilities are listed.











Trouble	Service	Remark
The engine oil pressure lamp lights up when engine speed is raised after completion of warm up.	<ul style="list-style-type: none"> · Add the oil to the specified level. · Replace the oil filter cartridge. · Check oil leakage from the pipe or the joint. · Replace the monitor. 	
Steam is emitted from the top part of the radiator (the pressure valve). Coolant level warning lamp lights up.	<ul style="list-style-type: none"> · Supply coolant and check leakage. · Adjust fan belt tension. · Wash out inside of cooling system. · Clean or repair the radiator fin. · Check the thermostat. · Tighten the radiator cap firmly or replace the cap itself. · Replace the monitor. 	
The engine does not start when the starting motor is turned over.	<ul style="list-style-type: none"> · Confirm fuel supply. · Repair where air is leaking into fuel system. · Check the injection pump or the nozzle. · Check the valve clearance. · Check engine compression. · In cold weather, check if fuel warmer system is working normal. 	Refer to the pages 3-33 and 2-4.
Exhaust gas is white or blue.	<ul style="list-style-type: none"> · Adjust to specified oil quantity. · Replace with specified fuel. 	
Exhaust gas occasionally turns black.	<ul style="list-style-type: none"> · Clean or replace the air cleaner element. · Check the nozzle. · Check engine compression. · Clean or replace the turbocharger. 	
Combustion noise occasionally changes to breathing sound.	<ul style="list-style-type: none"> · Check the nozzle. 	
Unusual combustion noise or mechanical noise.	<ul style="list-style-type: none"> · Confirm fuel quality. · Check over-heating · Replace the muffler. · Adjust valve clearance. 	

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX140 LT3	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		4600	2500	2300	600	-	-	-	-	-

·  : Rating over-front

·  : Rating over-side or 360 degree



Lift-point height (A)	Lift-point radius (B)								At max. reach			
	1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		Capacity		Reach	
											m (ft)	
6.0 m (19.7 ft)	kg					*3400	*3400			*2420	*2420	5.42
	lb					*7500	*7500			*5340	*5340	(17.8)
4.5 m (14.8 ft)	kg					*3650	*3650	*3410	2640	*2220	*2220	6.39
	lb					*8050	*8050	*7520	5820	*4890	*4890	(21.0)
3.0 m (9.8 ft)	kg			*6150	*6150	*4540	3990	3870	2570	*2200	2050	6.91
	lb			*13560	*13560	*10010	8800	8530	5670	*4850	4520	(22.7)
1.5 m (4.9 ft)	kg			*7480	6730	*5660	3730	3750	2470	*2310	1930	7.07
	lb			*16490	14840	*12480	8220	8270	5450	*5090	4250	(23.2)
0.0 m (0.0 ft)	kg			*6420	6410	5630	3550	3660	2380	*2570	1960	6.91
	lb			*14150	14130	12410	7830	8070	5250	*5670	4320	(22.7)
-1.5 m (-4.9 ft)	kg	*4660	*4660	*9760	6370	5550	3480	3620	2350	*3110	2170	6.38
	lb	*10270	*10270	*21520	14040	12240	7670	7980	5180	*6860	4780	(20.9)
-3.0 m (-9.8 ft)	kg	*8690	*8690	*8890	6480	5600	3520			4280	2770	5.40
	lb	*19160	*19160	*19600	14290	12350	7760			9440	6110	(17.7)

Note 1. Lifting capacity are based on ISO 10567.

- 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.
- The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
- *Indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.

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

The difference between the weight of a work tool attachment must be subtracted.

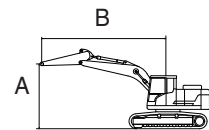
Consult with your local HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.















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

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX140 LDT3	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		4600	3000	1900	600	-	Up	-	-	-

·  : Rating over-front

·  : Rating over-side or 360 degree



Lift-point height (A)		Lift-point radius (B)										At max. reach				
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach		
																m (ft)
7.5 m (24.6 ft)	kg lb													*2420 *5340	*2420 *5340	4.49 (14.7)
6.0 m (19.7 ft)	kg lb							*2100 *4630	*2100 *4630					*2020 *4450	*2020 *4450	6.03 (19.8)
4.5 m (14.8 ft)	kg lb							*3260 *7190	2840 6260					*1890 *4170	*1890 *4170	6.91 (22.7)
3.0 m (9.8 ft)	kg lb					*4060 *8950	*4060 *8950	*3640 *8020	2760 6080					*1880 *4140	*1880 *4140	7.39 (24.2)
1.5 m (4.9 ft)	kg lb			*8230 *18140	7470 16470	*5270 *11620	4030 8880	3560 7850	2640 5820	*2120 *4670	1870 4120			*1970 *4340	1860 4100	7.53 (24.7)
0.0 m (0.0 ft)	kg lb			*7170 *15810	6990 15410	5340 11770	3800 8380	3450 7610	2530 5580					*2170 *4780	1880 4140	7.37 (24.2)
-1.5 m (-4.9 ft)	kg lb	*4240 *9350	*4240 *9350	*9110 *20080	6860 15120	5220 11510	3700 8160	3390 7470	2470 5450					*2580 *5690	2060 4540	6.88 (22.6)
-3.0 m (-9.8 ft)	kg lb	*7360 *16230	*7360 *16230	*9450 *20830	6920 15260	5220 11510	3700 8160							3440 7580	2520 5560	5.97 (19.6)
-4.5 m (-14.8 ft)	kg lb			*7110 *15670	*7110 *15670									*4500 *9920	4000 8820	4.40 (14.4)

Note 1. Lifting capacity are based on ISO 10567.

2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.

3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).

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※ Lifting capacities are based upon a standard machine conditions.

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

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

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

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Maker / Model	Cummins / QSB4.5
Type	4-cycle, turbocharged, charge air cooled, electronic controlled diesel engine
Cooling method	Water cooled
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	107 × 124 mm (4.21" × 4.88")
Displacement	4.5 ℓ (275 cu in)
Compression ratio	17.2 : 1
Gross power	130 Hp (97 kW) at 2000 rpm
Net power	127 Hp (95 kW) at 2000 rpm
Max. power	135 Hp (101 kW) at 1800 rpm
Peak Torque	620 N · m (457 lbf · ft) at 1500 rpm
Engine oil quantity	11 ℓ (2.9 U.S. gal)
Wet weight	371 kg (818 lb)
Starter motor	24 V-4.8 kW
Alternator	24 V-70 A

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 72.9 cc/rev
Maximum pressure	350 kgf/cm ² (4980 psi)
Maximum pressure (power boost)	380 kgf/cm ² (5400 psi)
Rated oil flow	2 × 131 ℓ/min (34.6 U.S. gpm / 28.8 U.K. gpm)
Rated speed	1800 rpm

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