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### 6) HIGH PRESSURE HOSE (item 6)

This warning label is positioned on the pump screen and front of the upper frame.

- ▲ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines or other lines.
- ※ See the maintenance section for details.

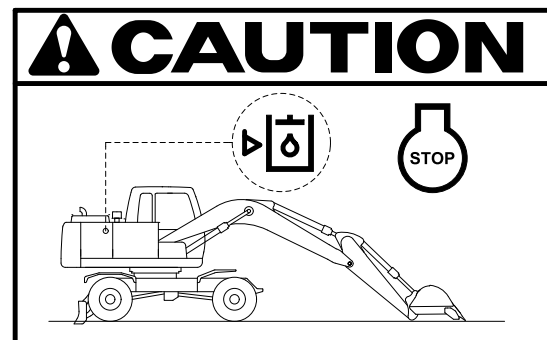


14070FW29

### 7) HYDRAULIC OIL LEVEL (item 7)

This warning label is positioned on the pump screen.

- ▲ Place the bucket on the ground whenever servicing the hydraulic system.
- ※ Check oil level on the level gauge.
- ※ Refill the recommended hydraulic oil up to specified level if necessary.

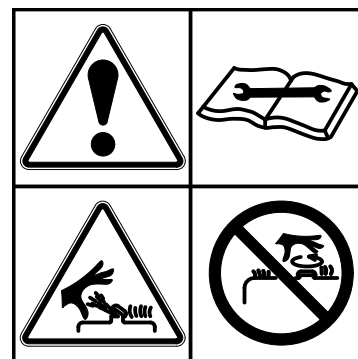


20W70FW07A

### 8) HYDRAULIC OIL LUBRICATION (item 8)

This warning label is positioned on the top 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.

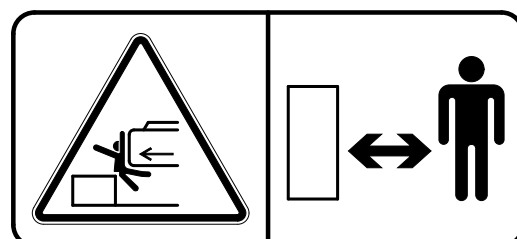


14070FW08

### 9) KEEP CLEAR-REAR (item 9)

This warning label is positioned on the rear of counterweight.

- ▲ To prevent serious personal injury or death keep clear of machine swing radius.
- ▲ Do not deface or remove this label from the machine.

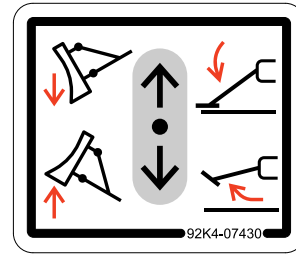


21090FW09

#### 40) DOZER/OUTRIGGER IDEOGRAM (item 54)

This warning label is positioned on the LH console box.

- ※ See page 4-12 for details.
- ※ Guidelines for using the general dozer blade.
  - Be careful not to apply an excessive load when using a blade.
  - Avoid impacts and loads on the bottom due to machine modification or excessive working conditions.
  - Check the BLADE UP status before traveling the machine.
  - Avoid any collision with the upper working device and the blade.
  - Do not move machine in the blade jack up state.
  - When using blade jack up, use it in an environment where the ground is not rough and the machine and ground are same level.

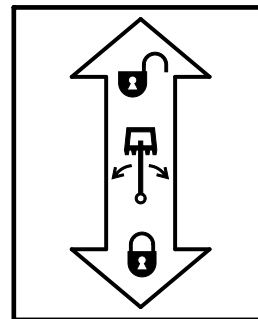


92K4-07430

#### 41) SWING LOCK (item 55)

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

- ▲ Before you leaving the machine, always place the swing lock pin securely in the LOCK position.
- ※ See page 3-50 for detail.



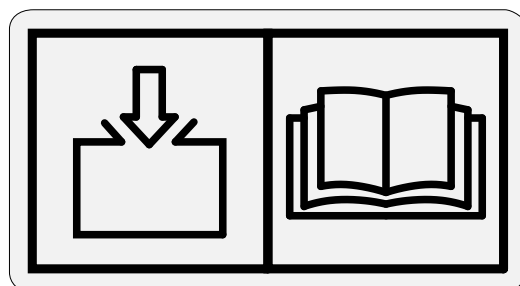
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#### 42) SURGE TANK (item 56)

This warning label is positioned on the top of the surge tank.

This system must be filled slowly to prevent air locks.

- ※ Fill rate  $\leq 11$  lpm



3009A0FW54

## SAFETY FEATURES

Be sure all guards and covers are in their proper position. Have guards and covers repaired if damaged.

Use safety features such as safety lock and seat belts properly.

**Never** remove any safety features. **Always** keep them in good operating condition.

Improper use of safety features could result in serious bodily injury or death.

## MACHINE CONTROL PATTERN

Check machine control pattern for conformance to pattern on label in cab.

If not, change label to match pattern before operating machine.

Failure to do so could result in injury.

## CALIFORNIA PROPOSITION 65

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

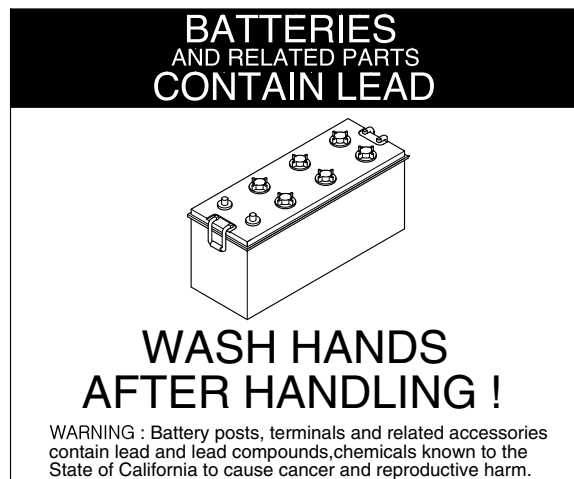
This product contains or emits chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

Battery posts, terminals and related accessories contain lead and lead compounds.

WASH HANDS AFTER HANDLING

Do not load the machine with the lifting eyes on the counterweight.

**▲ The wrong loading method can result in serious bodily injury or death.**



13031SH55

## MODIFICATIONS

Modifications to the machine, including use of unauthorized accessories and spare parts, may affect the machine's condition and its ability to function as it was designed. No changes of any kind may be performed without first obtaining written approval from Hyundai Heavy Industries. Hyundai Heavy Industries reserves the right to refuse all warranty claims that have resulted due to or can be attributed to unauthorized modifications.

Never modify the operator's cabin by welding, grinding, drilling holes or adding attachments unless instructed by Hyundai Heavy Industries in writing. Changes to the cabin can cause loss of operator protection from roll-over and falling objects, and result in death or serious injury.

The person who performs unauthorized modifications assumes all responsibility for consequences that arise due to the modification or can be attributed to the modification, including damage to the machine.

Modifications may be considered to be officially approved, if at least one of the following conditions has been met :

1. The attachment, the accessory, or the spare part has been made or distributed by Hyundai Heavy Industries and has been installed according to approved methods described in a publication available from Hyundai Heavy Industries; or
2. The modification has been approved in writing by the Engineering Department at each product company within Hyundai Heavy Industries.

Be careful that the front window may be promptly closed.

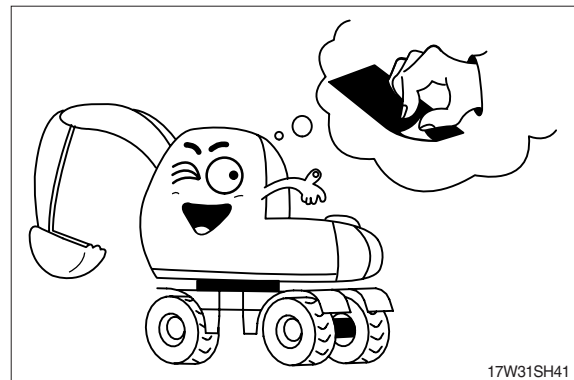
Be sure to support stay, when the side door needs to be opened.

Be careful that the open side door may closed by the external or natural force like strong wind.

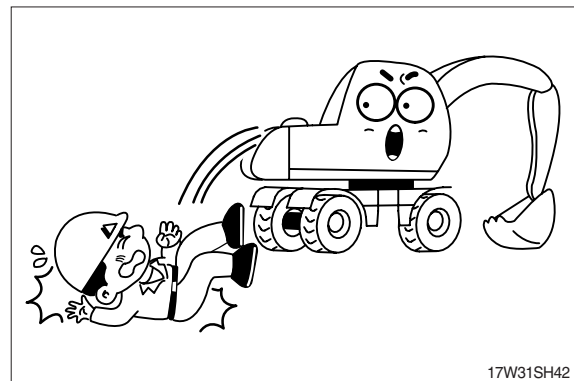


The antislip protection should be replaced if they have become worn or have been printed over.

Be sure to free of oil, water and grease etc.



Be careful of not touching slip, fall down etc., when you work at the upper frame to service engine and/or other component.

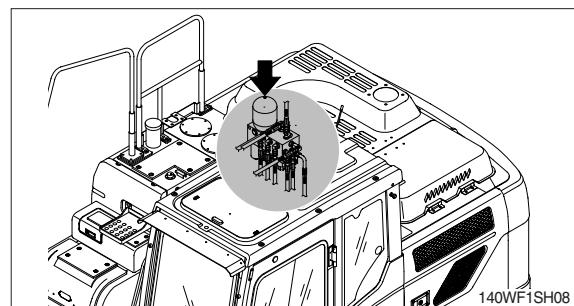


### HIGH PRESSURE GAS

Contain high pressure gas.

To avoid explosion and personal injury, do not expose to fire, do not weld, do not drill.

Relieve pressure before discharging.

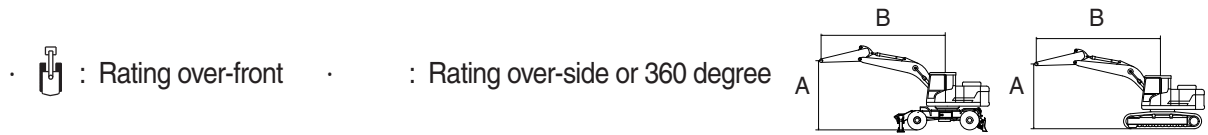












### LIFT EYES CAN FAIL

Lift eyes or tank can fail when lifting tank containing fluids resulting in possible personal injury.

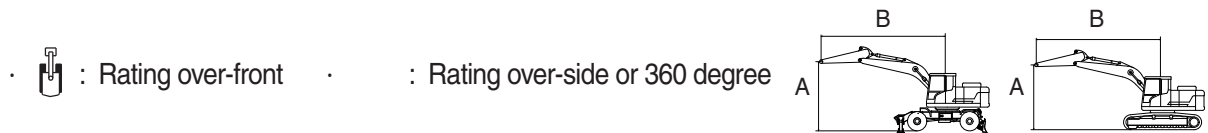
Drain tank of all fluids before lifting.











Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HW140	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		4600	1900	2200	-	500	-	Down	-	-



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					*4140	*4140			*3560	*3560	4.95 (16.2)
	lb					*9130	*9130			*7850	*7850	
4.5 m (14.8 ft)	kg					*4450	*4450			*3320	2960	5.92 (19.4)
	lb					*9810	*9810			*7320	6530	
3.0 m (9.8 ft)	kg					*5400	4380	3910	2840	*3350	2580	6.39 (21.0)
	lb					*11900	9660	8620	6260	*7390	5690	
1.5 m (4.9 ft)	kg					5960	4180	3830	2770	3410	2470	6.49 (21.3)
	lb					13140	9220	8440	6110	7520	5450	
Ground Line	kg			*6540	*6540	5840	4070	3780	2720	3590	2590	6.22 (20.4)
	lb			*14420	*14420	12870	8970	8330	6000	7910	5710	
-1.5 m (-4.9 ft)	kg	*6610	*6610	*9530	7780	5840	4070			4260	3050	5.54 (18.2)
	lb	*14570	*14570	*21010	17150	12870	8970			9390	6720	
-3.0 m (-9.8 ft)	kg			*7420	*7420					*5070	4590	4.24 (13.9)
	lb			*16360	*16360					*11180	10120	

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HW140	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		4600	1900	2200	-	500	-	Up	-	-

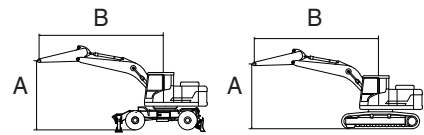










Lift-point height (A)		Lift-point radius (B)								At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		Capacity		Reach
												m (ft)
6.0 m (19.7 ft)	kg					*4140	*4140			*3560	*3560	4.95 (16.2)
	lb					*9130	*9130			*7850	*7850	
4.5 m (14.8 ft)	kg					*4450	*4450			*3320	2970	5.92 (19.4)
	lb					*9810	*9810			*7320	6550	
3.0 m (9.8 ft)	kg					*5400	4390	3910	2850	*3350	2580	6.39 (21.0)
	lb					*11900	9680	8620	6280	*7390	5690	
1.5 m (4.9 ft)	kg					5960	4180	3830	2770	3410	2480	6.49 (21.3)
	lb					13140	9220	8440	6110	7520	5470	
Ground Line	kg			*6540	*6540	5840	4080	3780	2730	3590	2600	6.22 (20.4)
	lb			*14420	*14420	12870	8990	8330	6020	7910	5730	
-1.5 m (-4.9 ft)	kg	*6610	*6610	*9530	7800	5840	4080			4260	3060	5.54 (18.2)
	lb	*14570	*14570	*21010	17200	12870	8990			9390	6750	
-3.0 m (-9.8 ft)	kg			*7420	*7420					*5070	4600	4.24 (13.9)
	lb			*16360	*16360					*11180	10140	

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HW140	2-PIECE BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5000	1900	2200	-	500	-	Down	-	-

 : Rating over-front

 : Rating over-side or 360 degree

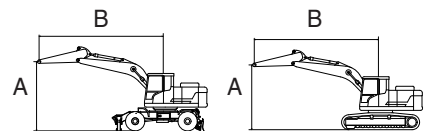










Lift-point height (A)		Lift-point radius (B)						At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		Capacity		Reach
										m (ft)
7.5 m (24.6 ft)	kg lb							*4580 *10100	*4580 *10100	3.81 (12.5)
6.0 m (19.7 ft)	kg lb			*4060 *8950	*4060 *8950			*4260 *9390	3400 7500	5.46 (17.9)
4.5 m (14.8 ft)	kg lb	*5850 *12900	*5850 *12900	*4620 *10190	4580 10100	4000 8820	2900 6390	3630 8000	2640 5820	6.35 (20.8)
3.0 m (9.8 ft)	kg lb			*5740 *12650	4320 9520	3910 8620	2820 6220	3210 7080	2320 5110	6.79 (22.3)
1.5 m (4.9 ft)	kg lb			5900 13010	4090 9020	3800 8380	2720 6000	3100 6830	2230 4920	6.88 (22.6)
Ground Line	kg lb			5780 12740	3990 8800	3740 8250	2670 5890	3250 7170	2330 5140	6.63 (21.8)
-1.5 m (-4.9 ft)	kg lb	*10350 *22820	7670 16910	5780 12740	3990 8800	3770 8310	2690 5930	3770 8310	2690 5930	6.00 (19.7)

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HW140	2-PIECE BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5000	1900	2200	-	500	-	Up	-	-

 : Rating over-front

 : Rating over-side or 360 degree



Lift-point height (A)		Lift-point radius (B)						At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		Capacity		Reach
										m (ft)
7.5 m (24.6 ft)	kg lb							*4580 *10100	*4580 *10100	3.81 (12.5)
6.0 m (19.7 ft)	kg lb			*4060 *8950	*4060 *8950			*4260 *9390	3410 7520	5.46 (17.9)
4.5 m (14.8 ft)	kg lb	*5850 *12900	*5850 *12900	*4620 *10190	4590 10120	4000 8820	2910 6420	3630 8000	2640 5820	6.35 (20.8)
3.0 m (9.8 ft)	kg lb			*5740 *12650	4330 9550	3910 8620	2830 6240	3210 7080	2330 5140	6.79 (22.3)
1.5 m (4.9 ft)	kg lb			5900 13010	4100 9040	3800 8380	2730 6020	3100 6830	2240 4940	6.88 (22.6)
Ground Line	kg lb			5780 12740	3990 8800	3740 8250	2670 5890	3250 7170	2330 5140	6.63 (21.8)
-1.5 m (-4.9 ft)	kg lb	*10350 *22820	7690 16950	5780 12740	4000 8820	3770 8310	2690 5930	3770 8310	2690 5930	6.00 (19.7)

### 3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm <sup>2</sup> (570 psi)
Rated oil flow	32.3 ℓ /min (8.5 U.S. gpm/7.1 U.K. gpm)

### 4) MAIN CONTROL VALVE

Item	Specification
Type	11 spools two-block
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm <sup>2</sup> (4980 psi) [380 kgf/cm <sup>2</sup> (5400 psi)]
Overload relief valve pressure	400 kgf/cm <sup>2</sup> (5690 psi)

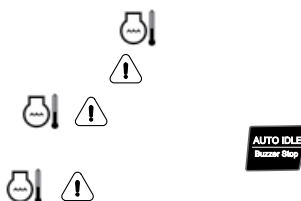
[ ]: Power boost

### 5) SWING MOTOR

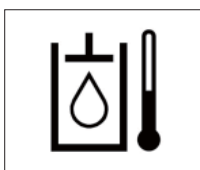
Item	Specification
Type	Fixed displacement axial piston motor
Capacity	71 cc/rev
Relief pressure	285 kgf/cm <sup>2</sup> (4054 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	30 kgf · m (217 lbf · ft)
Brake release pressure	15~50 kgf/cm <sup>2</sup> (213~711 psi)
Reduction gear type	2 - stage planetary

### 6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement bent-axis axial piston motor
Relief pressure	380 kgf/cm <sup>2</sup> (5400 psi)
Counter balance valve	Applied
Capacity (max/min)	107/40 cc/rev



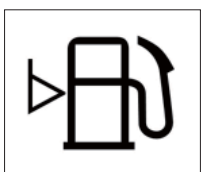
## (2) Hydraulic oil temperature warning lamp



290F3CD62

- ① Hydraulic oil temperature warning is indicated two steps.
  - 100°C over : The lamp pops up and the buzzer sounds.
  - 105°C over : The lamp pops up and the buzzer sounds.
- ② The pop-up , lamps move to the original position and blinks when the buzzer stop switch is pushed. And the buzzer stops and , lamps keep blink.
- ③ Check the hydraulic oil level and hydraulic oil cooling system.

## (3) Fuel level warning lamp



290F3CD63

- ① This warning lamp pops up and the buzzer sounds when the level of fuel is below 31 ℓ (8.2 U.S. gal).
- ② Fill the fuel immediately when the lamp blinks.

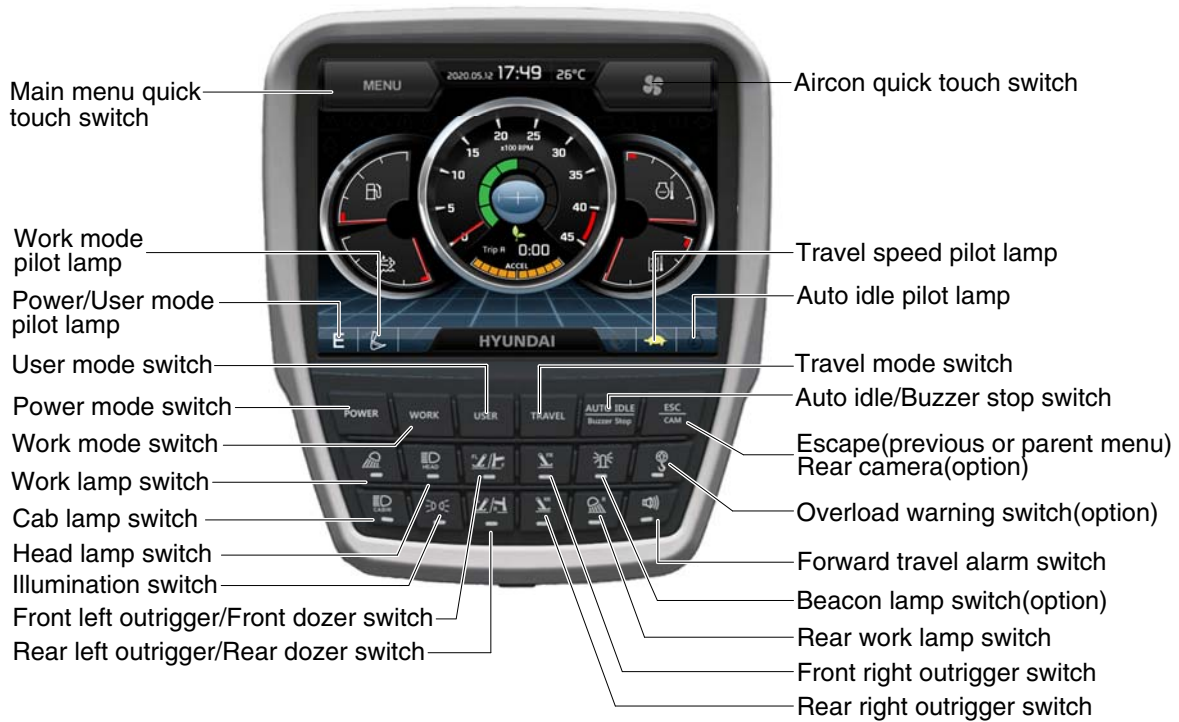
## (4) Emergency warning lamp



290F3CD64

- ① This warning lamp pops up and the buzzer sounds when each of the below warnings is happened.
  - Engine coolant overheating (over 107°C)
  - Hydraulic oil overheating (over 105°C)
  - MCU input voltage abnormal
  - Cluster communication data error
  - Engine ECM communication data error
- ※ The pop-up warning lamp moves to the original position and blinks when the buzzer stop switch is pushed. And the buzzer stops.
- ② When this warning lamp blinks, machine must be checked and serviced immediately.

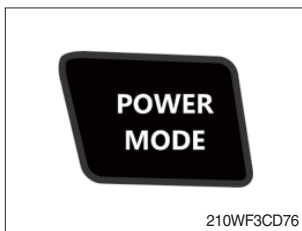
## 5) SWITCHES



140W3CD86A

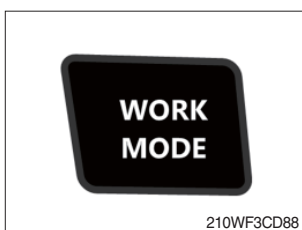
※ When some of the switches are selected, the pilot lamps are displayed on the LCD. Refer to the page 3-13 for details.




### (1) Power mode switch



- ① This switch is to select the machine power mode and selected power mode pilot lamp is displayed on the pilot lamp position.
  - P : Heavy duty power work.
  - S : Standard power work.
  - E : Economy power work.
- ② The pilot lamp changes E → S → P → E in order.

### (2) Work mode switch



- ① This switch is to select the machine work mode, which shifts from general operation mode to optional attachment operation mode.
  -  : General operation mode
  -  : Breaker operation mode (if equipped)
  -  : Crusher operation mode (if equipped)
  - Not installed : Breaker or crusher is not installed.

※ Refer to the page 4-7 for details.

#### (4) Management

##### ① Fuel rate information



140W3CD14A



140W3CD15A



140W3CD16A

- 1 General record
- 2 Hourly record
- 3 Daily record
- 4 Mode record

**(1) Power switch**



- ① This switch makes the system ON/OFF.  
Just before the power OFF, set values are stored.
- ② Default setting values

Function	Air conditioner	In/outlet	LCD	Temperature	Mode
Value	OFF	Inlet	OFF	Previous sw OFF	Previous sw OFF

**(2) Air conditioner switch**



- ① This switch turns the compressor ON/OFF.
- ※ **Air conditioner operates to remove vapor and drains water through a drain hose. Water can be sprayed into the cab in case that the drain cock at the ending point of drain hose has a problem.**  
**In this case, exchange the drain cock.**

**(3) Auto switch**



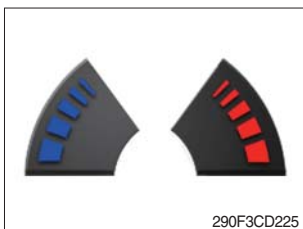
- ① Auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration sensing ambient and cabin inside temperature.

**(4) Setting temperature**



- ① Display the temperature setting out.

**(5) Temperature switch**

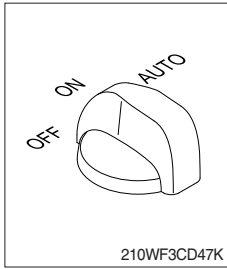


- ① Setting temperature indication  
· Lo (17°C), 17.5~31.5°C, Hi (32°C)
- ② Max cool and max warm beeps 5 times.
- ③ The max cool or the max warm position operates as following table.

Temperature	Compressor	Fan speed	In/outlet	Mode
Max cool	ON	Hi (8 step)	Recirculation	Face
Max warm	OFF	Hi (7 step)	Fresh	Def/Foot

- ④ Temperature unit can be changed between celsius (°C) and fahrenheit (°F)
  - a. Default status (°C)
  - b. Push Up/Down temperature switch simultaneously more than 5 second displayed temperature unit change (°C → °F)

### 19) RAM LOCK ROTARY SWITCH

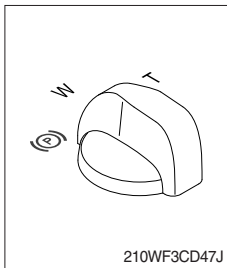


(1) This switch activate front axle oscillation cylinder to locking position for increase of stability.

- ON : Set front axle to locking position for excavation work or travels even ground. Also, the ram lock pilot lamp comes ON at the cluster.
- OFF : Front axle will be oscillate depend on ground condition when the machine travel uneven ground.
- AUTO : Set front axle to locking or unlocking as table.

Select switch (parking/working/traveling)	Ram lock	Conditions
Parking	Locking	· Always
Traveling	Unlocking	· Always
Working	Locking	· FNR lever in neutral position · Service brake pedal is depressed.
	Unlocking	· FNR lever in forward/reverse position and service brake pedal is not depressed. · 2 way pedal is equipped and service brake pedal is not depressed.

### 20) SELECT ROTARY SWITCH (parking / working / traveling)

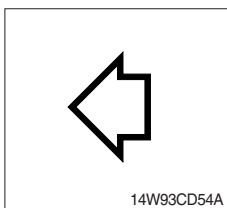


(1) This switch is used to select the operation mode as below.

- Parking (P) : The parking brake is applied.
- Working (W) : The machine needs to be working.
- Traveling (T) : The machine needs to be traveling.

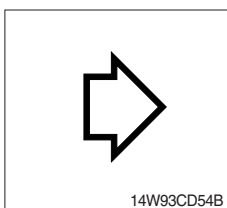
(2) When you set this switch to parking or working, the parking or working lock pilot lamp comes ON at the cluster.

### 21) LEFT TURNING PILOT LAMP



① This lamp flashes with sound when the LH multifunction switch is move to backward position.

### 22) RIGHT TURNING PILOT LAMP



① This lamp flashes with sound when the LH multifunction switch is move to forward position.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

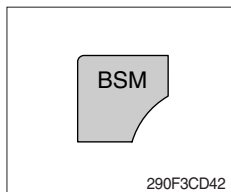
- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

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#### (4) Pre-set scan (PS) / Best station memory (BSM) button



##### ① Pre-set scan (PS)

Press BSM button shortly to scan the 6 pre-set station stored the memories on each band (AM/FM/LW).

The unit will stop at each pre-set station (the pre-set number on the LCD display will flash during pre-set scan operation) and remain on the selected frequency. Press the button momentarily again to remain on the station currently being heard.

##### ② Best station memory (BSM)

Pressing BSM button for longer than 2 seconds will activate the BSM tuning feature which will automatically scan and enter each station into memory.

If you have already set the pre-set memories to your favorite stations, activating the BSM tuning feature will erase those stations and enter the new ones.

This BSM feature is most useful when traveling in a new area where you are not familiar with the local stations.

#### ■ USB PLAYER



75793CD81-1

##### (1) USB function

① Connect a USB device if you want to listen to MP3 file in a USB device.

② It will automatically play MP3 file in the USB device and the LCD display will show "READING USB".

※ If there are no files on USB device, playback will revert back to the previous mode after displaying "NO FILE".

##### (2) AUX function

① If you want to listen to music of a external audio device, connect a external audio device through AUX cable.

② Change AUX mode by pressing MODE button.


















If audio file of Audio device is playing, you can listen to music through speaker.

**RADIO AND USB PLAYER (WITH BLUETOOTH) : MACHINE SERIAL NO.: #0169-**



9403CD100

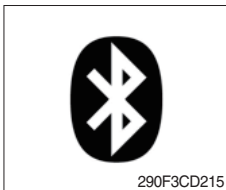
**■ FRONT PANEL PRESENTATION**

- |   |   |
|---|---|
| <p>1  ..... Power ON/OFF,<br/>Volume UP/DOWN button</p> <p>2  ..... Manual UP/DOWN Tuning,<br/>File search, SEL button</p> <p>3  ..... Mode button,<br/>Audio mute button</p> <p>4  ..... Call &amp; Pair button</p> <p>5  ..... Call end button</p> <p>6  ..... Station preset 1<br/>DIS ..... Display button</p> <p>7  ..... Station preset 2</p> <p>8  ..... Station preset 3<br/>RPT ..... Repeat play button</p> <p>9  ..... Station preset 4<br/>RDM ..... Random play button</p> | <p>10  ..... Station preset 5<br/>DIR- ..... Directory down button</p> <p>11  ..... Station preset 6<br/>DIR+ ..... Directory up button</p> <p>12  ..... Scan play button (SCAN)<br/>Best station memory (BSM) button</p> <p>13  ..... Auto tune up, Seek up button</p> <p>14  ..... Auto tune down, Track down button</p> <p>15  ..... USB connector</p> <p>16  ..... AUX IN Jack</p> <p>17  ..... MIC hole</p> |
|---|---|

■ **BLUETOOTH** (if equipped)

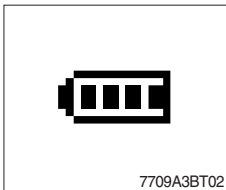
**1) Using a bluetooth wireless connection**

- (1) Your audio unit supports bluetooth wireless technology. You can set up a wireless link with bluetooth cellular phone.
- (2) Keep PAIRING the cellular phone with audio unit in a few minutes as the phone are being switched on well enough.
- ※ **Since this audio unit is on standby to connect with your cellular phone via bluetooth wireless technology, using this audio unit without running the engine can result battery drainage.**
- ※ **This audio unit phone call reception is on standby when ignition switch is set to ACC OFF or ON.**
- ※ **The line-of-sight distance between this audio unit and your cellular phone must be 10 meters or less for sending and receiving voice and data via bluetooth wireless technology. However the transmission distance may become shorter than the estimated distance depending on the environment in use.**
- ※ **Digital Noise & Echo suppression system provides the best sound clarity with little or no distortion (Echo & side tone will happen depending on cellular phone or service network).**
- ※ **To ensure the quality of calling, you should select a proper bluetooth VR level. This audio unit has already set with the best bluetooth VR level.**



① **Bluetooth icon**

It will blink while establishing the bluetooth pairing.  
It will light after a bluetooth device connected.



② **Battery icon**

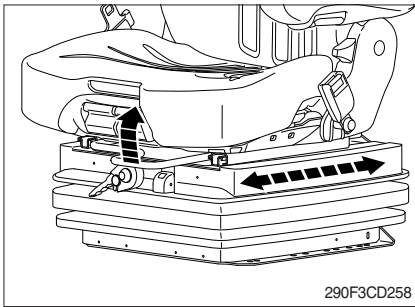
It indicates the battery status of the connected bluetooth device.



③ **Single strength icon**

It indicates the signal strength of the connected bluetooth device.

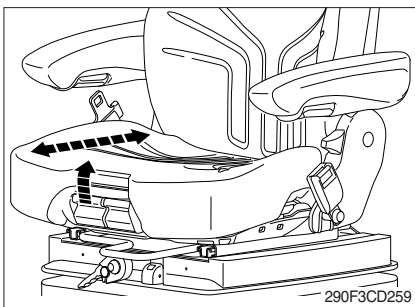
## (2) Fore/after adjustment



① The fore/after adjustment is released by lifting the locking lever.

- ⚠ **Do not operate the locking lever while operating.**
- ※ **After the adjustment, the locking lever must latch into the desired position with an audible click. It should not be possible to move the operator's seat into another position when it is locked.**
- ※ **Do not lift the locking lever with your leg or calf.**

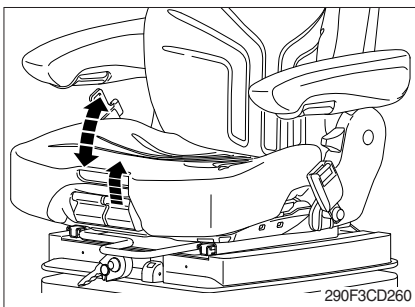
## (3) Seat depth adjustment



① The depth of the seat pan can be individually adjusted.

② To adjust the depth of the seat cushion, pull the right handle upwards. By moving the seat pan backwards or forwards the desired seating position can be reached.

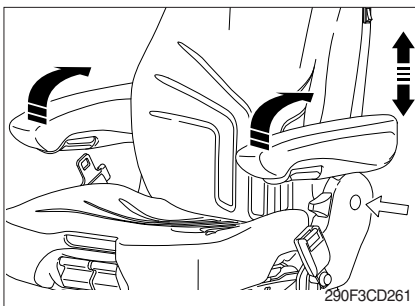
## (4) Seat pan angle adjustment



① The angle of the seat pan can be individually adjusted.

② To adjust the angle of the seat pan, pull the left handle upwards. By exerting pressure on or off the front or rear part of the seat pan it can be moved to the desired angle position.

## (5) Armrests



① The armrests can be folded up if required and the height can be individually adjusted.

② To adjust the armrest for height, separate the round cap (see arrow) from the cover and loosen the hexagon nut (size 13 mm) behind it adjust the armrests to the desired position (5 steps) and tighten the nut again (25 Nm). Replace the cap onto the nut.

## 1. SUGGESTION FOR NEW MACHINE

- 1) It takes about 100 operation hours to enhance its designed performance.
- 2) Operate according to below three steps and avoid excessive operation for the initial 100 hours.

Service meter	Load
Until 10 hours	About 60 %
Until 100 hours	About 80 %
After 100 hours	100 %

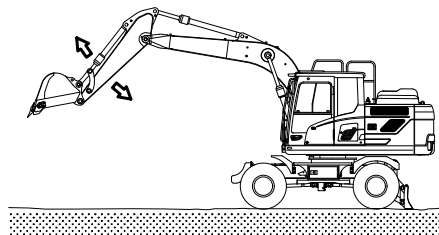
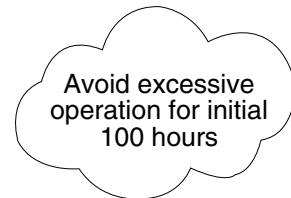
※ **Excessive operation may deteriorate the potential performance of machine and shorten lifetime of the machine.**

### 3) Be careful during the initial 100 hours operation

- (1) Check daily for the level and leakage of coolant, engine oil, hydraulic oil and fuel.
- (2) Check regularly the lubrication and fill grease daily all lubrication points.
- (3) Tighten bolts.
- (4) Warm up the machine fully before operation.
- (5) Check the gauges occasionally during the operation.
- (6) Check if the machine is operating normally during operation.

### 4) Replace followings after initial 250 hours of operation

Checking items	Hours
Engine oil	250
Engine oil filter element	
Fuel filter	
Prefilter	
Transmission oil	
Hydraulic oil return filter element	
Hydraulic oil tank drain filter cartridge	
Line filter element	
Swing reduction gear oil	
Axle oil	



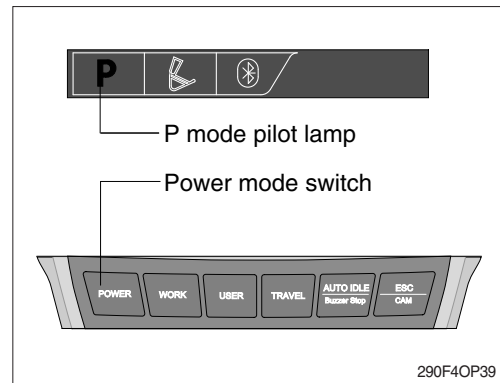
140WF40P01

### (3) P mode

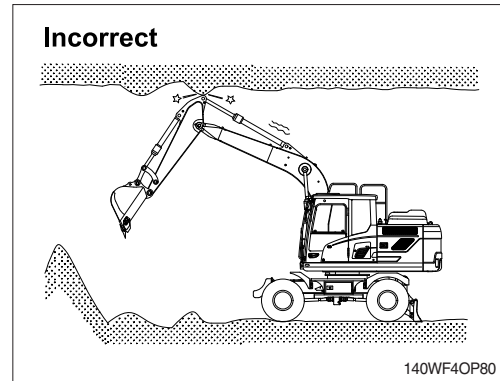
The accel dial is set 10 and the auto idle mode is canceled.

Engine rpm	Effect
1500 ± 50	Approximately 120 % of power and speed available than S mode.

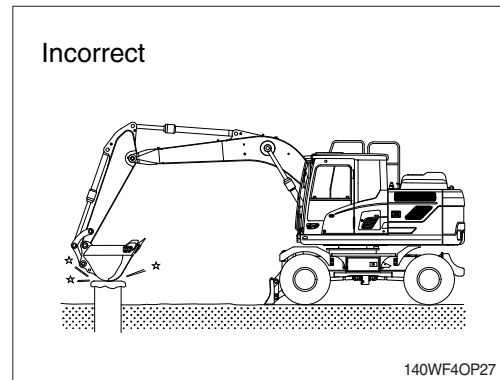
※ When the accel dial is located below 9 the engine speed decreases about 50~100 rpm per dial set.



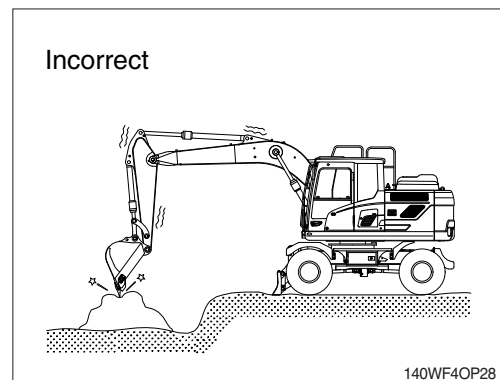
- 9) If the excavation is in an underground location or in a building, make sure that there is adequate overhead clearance and that there is adequate ventilation.



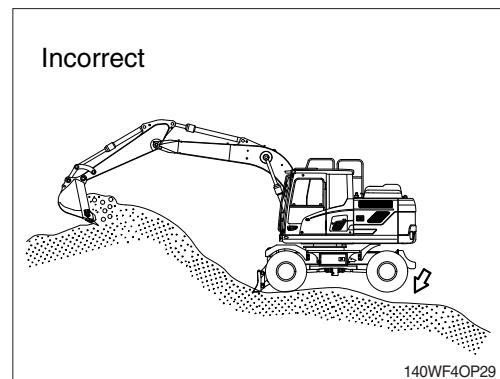
- 10) Do not use the dropping force of the work equipment for digging.  
The machine can be damaged by the impact.



- 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) Do not use the dropping force of the machine for digging.



## 2) PATTERN CHANGE VALVE INSTALL (option)

- ※ If the machine is equipped with the pattern change valve, the machine operation pattern can be easily changed.
- ※ Whenever a change is made to the machine control pattern also exchange the pattern label in the cab to match the new pattern.

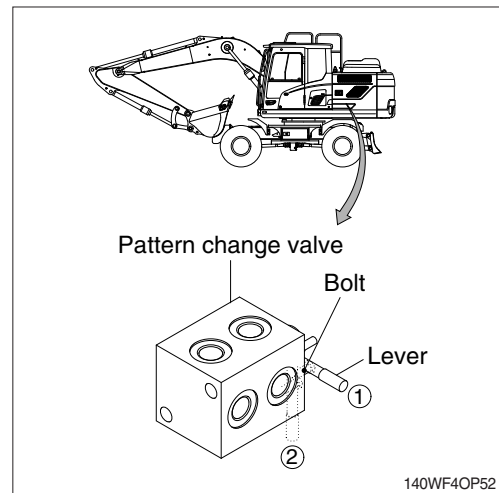
Operation	ISO type	A type
Left RCV lever		
Right RCV lever		

(1) The machine control pattern can be easily changed from the "ISO type" to "A type" by changing the position of the lever.

**▲ Before starting the machine, check the lever position of pattern change valve and actual operating of attachment.**

### (2) Change of operating pattern

- ① Loosen bolt.
- ② Move lever to the "ISO" or "A" position.
- ③ After the lever is set, tighten the bolt in order to secure the lever.
  - Position ① for "ISO" pattern.
  - Position ② for "A" pattern.



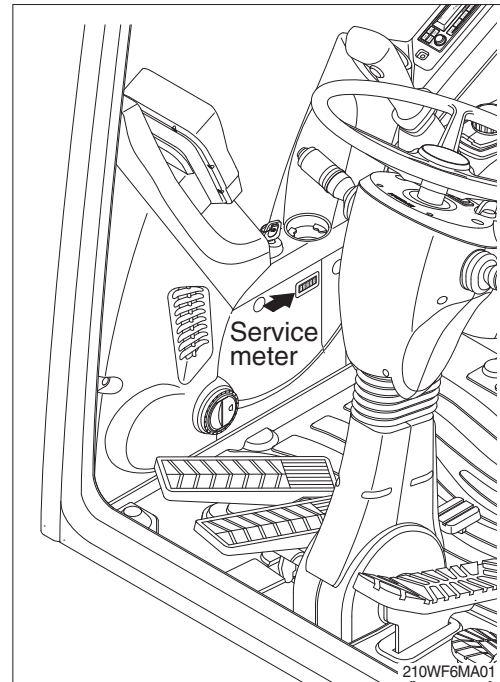
## 1. INSTRUCTION

### 1) INTERVAL OF MAINTENANCE

- (1) You may inspect and service the machine by the period as described at page 6-11 based on hour meter at control panel.
- (2) Shorten the interval of inspect and service depending on site condition. (such as dusty area, quarry, sea shore and etc.)
- (3) Practice the entire related details at the same time when the service interval is doubled.  
For example, in case of 100hours, carry out all the maintenance 「Each 100hours, each 50 hours and daily service」 at the same time.

### 2) PRECAUTION

- (1) Start to maintenance after you have the full knowledge of machine.
- (2) The monitor installed on this machine does not entirely guarantee the condition of the machine. Daily inspection should be performed according to clause 4, maintenance check list.
- (3) Engine and hydraulic components have been preset in the factory.  
Do not allow unauthorized personnel to reset them.
- (4) Drain the used oil and coolant in a container and handle according to the method of handling for industrial waste to meet with regulations of each province or country.
- ▲ **Hot oil and hot components can cause personal injury. Do not allow hot oil or hot components to contact skin.**
- △ **Accumulated grease and oil on the machine is a fire hazard. Remove this debris with steam cleaning or high pressure water, at least every 1000 hours.**
- △ **Inspect the engine compartment for any trash build up. Remove any trash build up from the engine compartment.**
- (5) Ask to your local dealer or Hyundai for the maintenance advice if unknown.



## 4. MAINTENANCE CHECK LIST

### 1) DAILY SERVICE BEFORE STARTING

Check items	Service	Page
Visual check		
Fuel tank	Check, Refill	6-27
Hydraulic oil level	Check, Add	6-34
Engine oil level	Check, Add	6-18
Coolant level	Check, Add	6-20
Control panel & pilot lamp	Check, Clean	6-48
Prefilter (water, element)	Check, Drain, Clean	6-27
Fan belt tension & damage	Check, Adjust	6-24
DEF/AdBlue® tank	Check, Add	6-31
★ Attachment pin and bushing	Lubricate	6-47
· Boom cylinder tube end		
· Boom foot		
· Boom cylinder rod end		
· Arm cylinder tube end		
· Arm cylinder rod end		
· Boom + Arm connecting		
· Bucket cylinder tube end		

★ Lubricate every 10 hours or daily for initial 100 hours.

### 2) EVERY 50 HOURS SERVICE

Check items	Service	Page
Fuel tank (water, sediment)	Drain	6-27
Swing reduction gear oil	Check, Add	6-37
Drive shaft grease (flange bearing)	Check, Add	6-38
Wheel nuts	Check, Tighten	6-40
Tires (air pressure)	Check, Inflate	6-40
Front axle pivot pin bushing	Check, Lubricate	6-39
Lubricate pin and bushing	Lubricate	6-47
· Bucket cylinder rod end		
· Arm + Bucket connecting		
· Arm + Bucket control link		
· Bucket control rod		
· Bucket link connecting		
· Dozer blade cylinder (rod end, tube end)		6-39
· Dozer blade pivot pin		6-39
· Outrigger (pivot pin, cylinder pin)		6-39

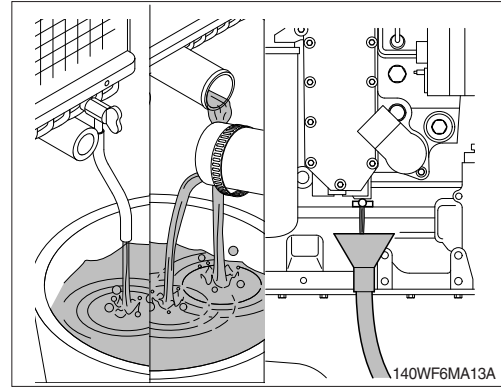
- ▲ Wait until the temperature is below 50 ° C (122 ° F) before removing the coolant system pressure cap.

Failure to do so can cause personal injury from heated coolant spray.

Drain the cooling system by opening the drain cock on the radiator, remove the hose of the oil cooler and opening the drain valve on the bottom of the engine oil cooler housing.

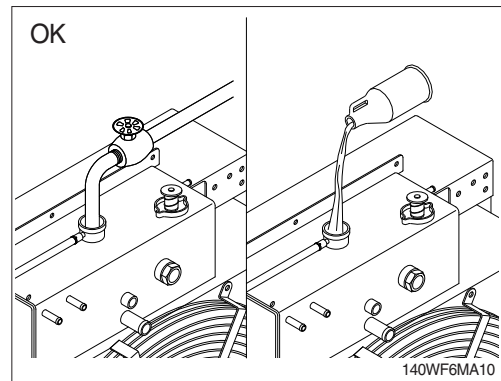
A drain pan with a capacity of 40 liters (10.6 U.S. gallons) will be adequate.

- Drain cock tightening torque :  
 $4.2 \pm 0.4 \text{ kg} \cdot \text{m}$  ( $30.4 \pm 2.9 \text{ lbf} \cdot \text{ft}$ )

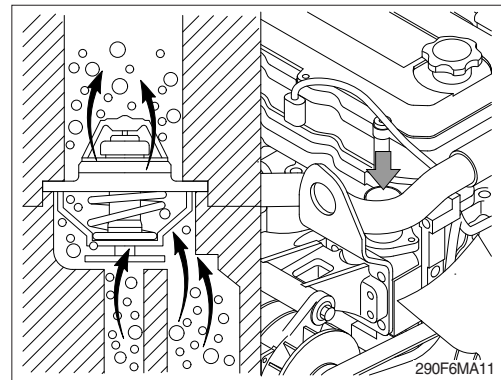


(2) Flushing of cooling system

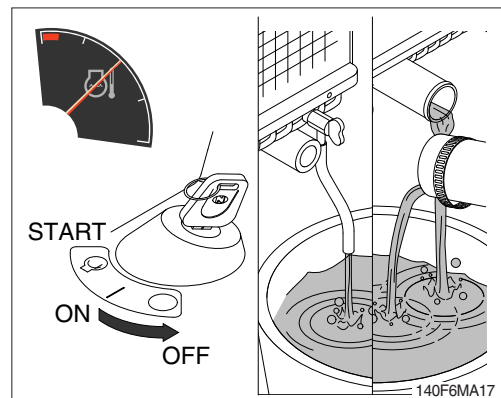
- ① Fill the system with a mixture of sodium carbonate and water (or a commercially available equivalent).
- ※ Use 0.5kg (1.0 pound) of sodium carbonate for every 23 liters (6.0 U.S. gallons) of water.
- ※ Do not install the surge tank cap. The engine is to be operated without the cap for this process.



- ※ During filling, air must be vented from the engine coolant passages. The system must be filled slowly to prevent air locks or serious engine damage can result. Wait 2 to 3 minutes to allow air to be vented, then add mixture to bring the level to the top.

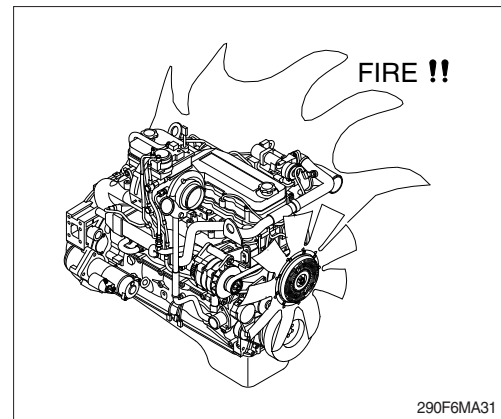


- ② Operate the engine for 5 minutes with the coolant temperature above 80°C (176°F). Shut the engine off, and drain the cooling system.



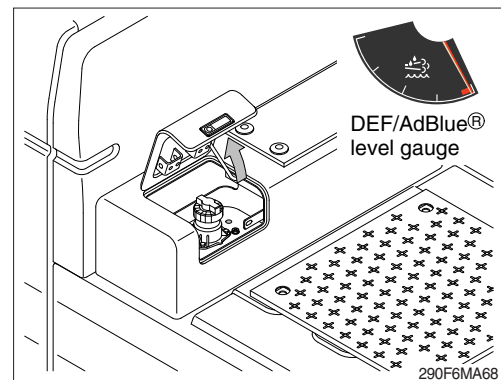
### 15) LEAKAGE OF FUEL

- ⚠ Be careful and clean the fuel hose, injection pump, fuel filter and other connections as the leakage from these part can cause fire.

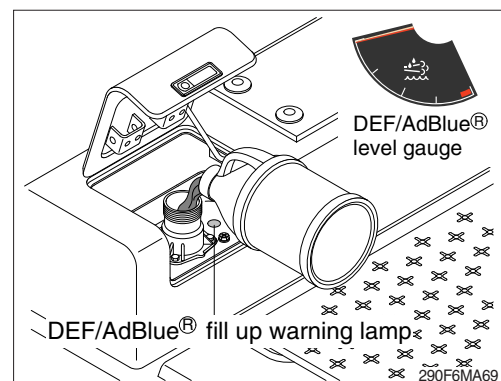


### 16) DEF/AdBlue® TANK

- (1) The DEF/AdBlue® tank level must be checked daily with DEF/AdBlue® level gauge.
  - (2) If the DEF/AdBlue® level is found to below, DEF/AdBlue® must be added.
- ⚠ It is unlawful to tamper with or remove any component of the aftertreatment system. It is also unlawful to use a catalyst solution that does not meet the specifications provided or the operate the machine with no catalytic solution.

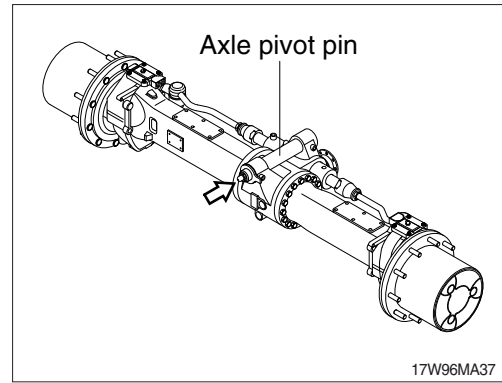


- (3) DEF/AdBlue® fill up warning lamp turns on when tank is completely filled with DEF/AdBlue®. After turning light on, do not pour DEF/AdBlue® any more.
- ※ Fill the tank with DEF/AdBlue® after key-on the start key.
  - ※ Be careful to entering dust, sand or other contamination substance when you refill the DEF/AdBlue® into the tank. Otherwise, fatal problem such as engine idle locking, derating or engine stopping can be happen.

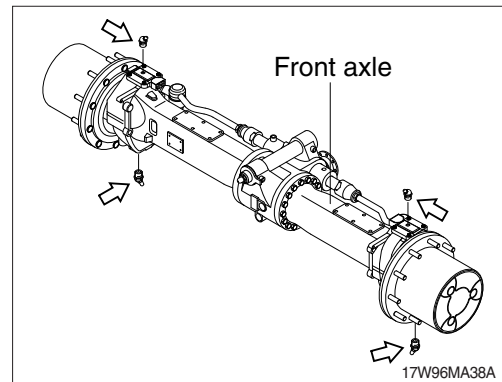


**(2) Axle**

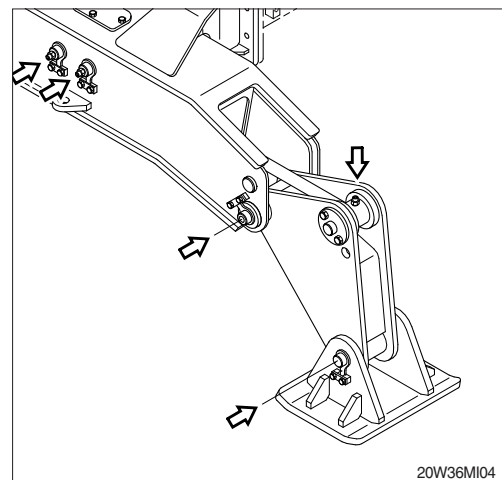
- ① Front axle : 1 point



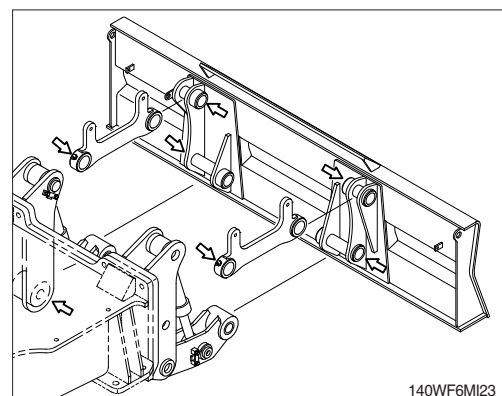
**(3) Steering case : 4 point**



**(4) Outrigger : 8 point**



**(5) Dozer blade : 12 point**



### 3) STARTING THE ENGINE WITH A BOOSTER CABLE

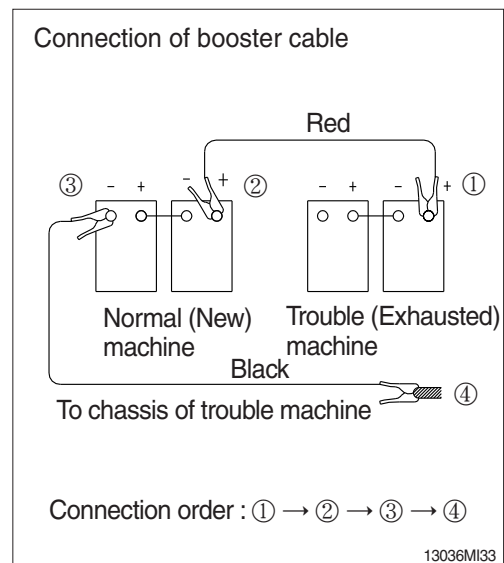
Keep following order when you are going to start engine using booster cable.

#### (1) Connection of booster cable

※ Use the same capacity of battery for starting.

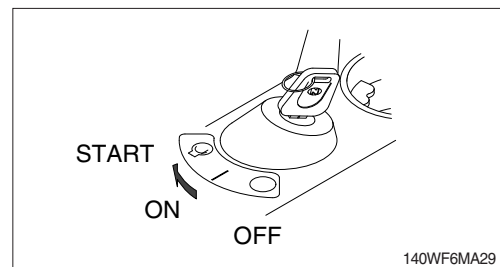
- ① Make sure that the starting switches of the normal machine and trouble machine are both at the OFF position.
- ② Connect the red terminal of booster cable to the battery (+) terminal between exhausted and new battery.
- ③ Connect the black terminal of the booster cable between new battery (-) terminal and chassis of trouble machine.

※ Keep firmly all connection, the spark will be caused when connecting finally.



#### (2) Starting the engine

- ① Starting the engine of the normal machine and keep it to run at high idle.
- ② Start engine of the trouble machine with starting switch.
- ③ If you can not start it by one time, restart the engine after 2 minutes.



#### (3) Taking off the booster cable

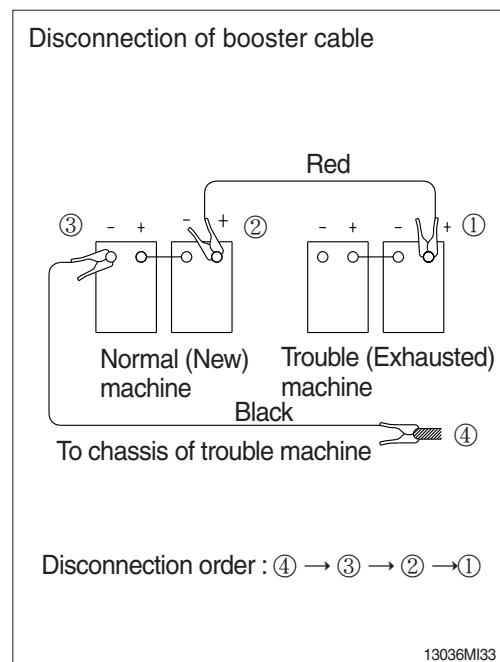
- ① Take off the booster cable (black).
- ② Take off the booster cable (red) connected to the (+) terminal.
- ③ Run engine with high idle until charging the exhausted battery by alternator, fully.

▲ Explosive gas is generated while using the battery or charging it. Keep away flame and be careful not to cause the spark.

※ Charge the battery in the well ventilated place.

※ Place the machine on the earth or concrete. Avoid charging the machine on the steel plate.

※ Do not connect (+) terminal and (-) terminal when connecting booster cable because it will be shorted.



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