

# HYDRAULIC BREAKER AND QUICK COUPLER

## 1. SELECTING HYDRAULIC BREAKER

- 1) Become familiar with the manual and select breakers suitable to machine specifications.
- 2) Make careful selection in consideration of oil quantity, pressure and striking force, to enable satisfied performance.
- 3) When apply a breaker to the machine, consult your local dealer of Hyundai for further explanation.

## 2. CIRCUIT CONFIGURATION

- 1) As for breaker oil pressure line, use extra spool of main control valve.
- 2) Set proper breaker pressure on load relief valve.
- 3) The pressure of the ROBEX80CR-9A system is 280 kgf/cm<sup>2</sup> (3980 psi).
- 4) The accumulator should be used to the breaker charging and return line.  
If the accumulator is not used, it will be damage as the input wave is delivered.  
※ **Keep the pressure pulsation of pump below 60 kgf/cm<sup>2</sup> (850 psi) by installing the accumulator.**
- 5) Do not connect the breaker return line to the main control, but connect to the return line front of the cooler.
- 6) Do not connect the breaker return line to drain lines, such as of swing motor, travel motor or pump, otherwise they should be damaged.
- 7) One of spool of the main control valve should be connected to the tank.
- 8) Select the size of pipe laying considering the back pressure.
- 9) Shimless tube should be used for the piping. The hose and seal should be used Hyundai genuine parts.
- 10) Weld the bracket for pipe clamp to prevent damage caused by vibration.

### 3. MAINTENANCE

#### 1) MAINTENANCE OF HYDRAULIC OIL AND FILTER

- (1) As machine with an hydraulic breaker provides the hydraulic oil becomes severely contaminated.
- (2) So, unless frequently maintained, the machine may easily go out of order.
- (3) Inspect and maintain hydraulic oil and 3 kinds of filter elements in particular, in order to prolong machine life.
- (4) Replace when the breaker work is used for short time according to the standard of right graph.

#### 2) RELEASE THE PRESSURE IN BREAKER CIRCUIT

When breaker operating is finished, stop engine and push pedal or switch for breaker to release pressure in breaker circuit.

If pressure still remains, the lifetime of the diaphragm in the accumulator will be shortened.

- 3) Be careful to prevent contamination by dust, sand and etc.  
If such pollution become mixed into the oil, the pump moving parts will wear abnormally, shorten lifetime and become damaged.
- 4) When operating breaker, bolts and nuts of main equipment may be loosened by vibration. So, it must be inspected periodically.

Service interval unit : hours

Attachment	Operating rate	Hydraulic oil	Filter element
Breaker	100 %	600* <sup>1</sup>	200
		1000* <sup>2</sup>	

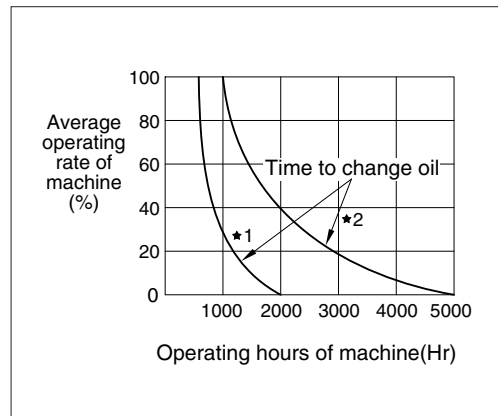
\*<sup>1</sup> : Conventional hydraulic oil

\*<sup>2</sup> : Hyundai genuine long life hydraulic oil

#### ● Replace following filter at same time

- Hydraulic oil return filter : 1 EA
- Pilot line filter element : 1 EA

Hyd oil change guide for hydraulic breaker



\*<sup>1</sup> : Conventional hydraulic oil

\*<sup>2</sup> : Hyundai genuine long life hydraulic oil

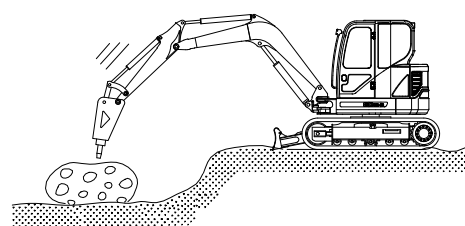
## 4. PRECAUTIONS WHILE OPERATING THE BREAKER

### 1) DO NOT BREAK ROCK WHILE LOWERING

As the breaker is heavy in comparison with bucket, it must be operated slowly.

If breaker is rapidly pushed down, working device may be damaged.

Incorrect

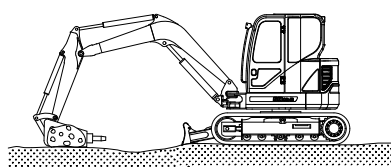


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### 2) DO NOT USE BREAKER TO CARRY BROKEN STONE OR ROCK BY SWING OPERATING

This may damage the operation device and swing system.

Incorrect

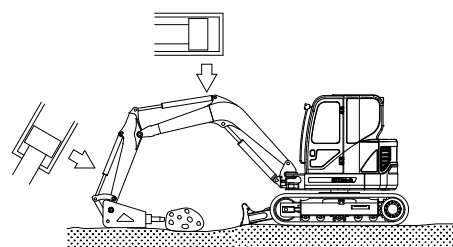


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### 3) OPERATE BREAKER WITH A GAP IN EXCESS OF 100 mm (4 inches) FROM THE END OF THE STROKE TIP

If breaker is operated with the end tip, the cylinder may be damaged.

Incorrect

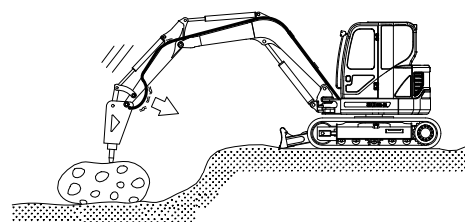


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### 4) IF THE HYDRAULIC HOSES VIBRATE EXCESSIVELY

If the machine used in this condition continuously this will effect badly on the machine such as loosening bolt, oil leakage, damage of pump pipe and etc.

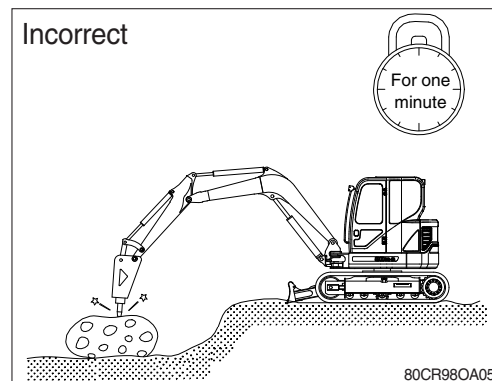
Incorrect



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**5) DO NOT CONTINUE TO WORKING OVER ONE MINUTE AT SAME POSITION OF BOOM AND ARM**

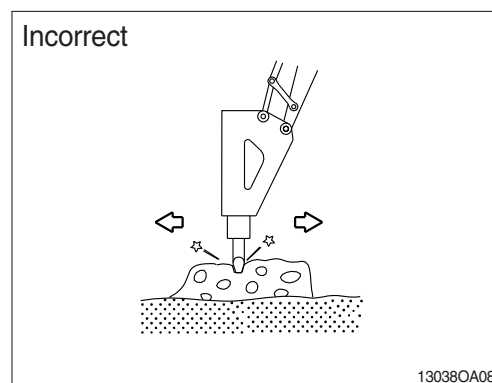
This will increase the temperature of the oil, and cause problem in the accumulator and seals.



**6) DO NOT MOVE MACHINE OR BREAKER WHILE STRIKING**

Do not move hammer while striking.

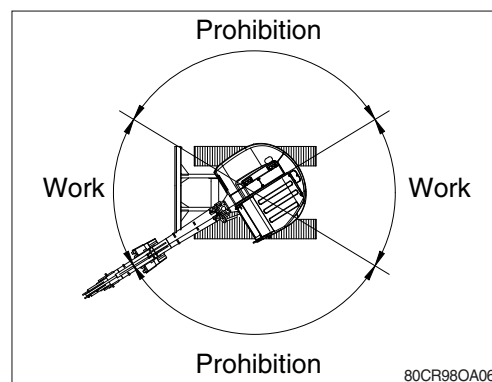
This will cause damage to the working device and the swing system.



**7) DO NOT WORK WHILE SWING STATE**

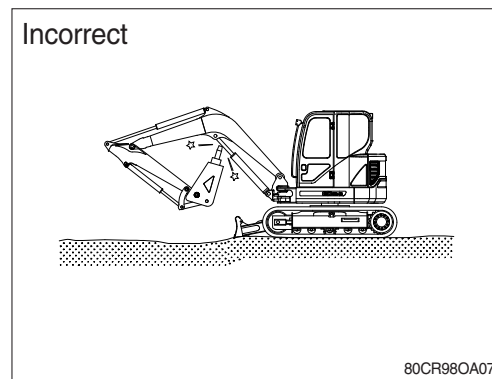
Do not work while swing position of super-structure.

It cause the band of track shoe, oil leakage of roller.



**8) TAKE CARE OF CHISEL AND BOOM INTERFACE**

Make sure of the arm and bucket control lever operation.

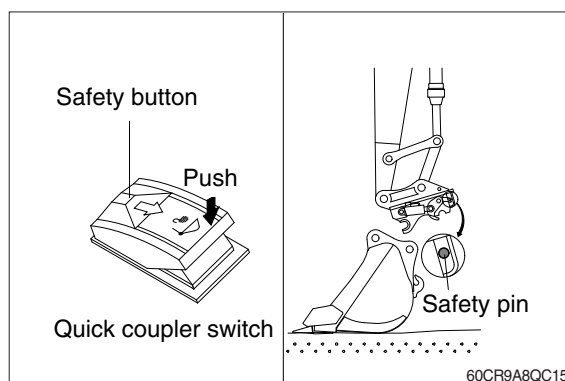


## 5. QUICK COUPLER

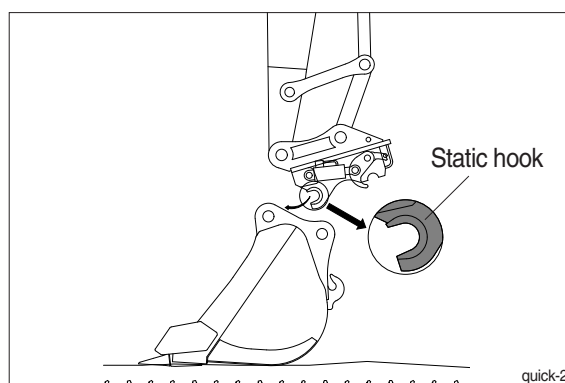
■ MACHINE SERIAL NO. : -#1442

### 1) FIXING BUCKET WITH QUICK COUPLER

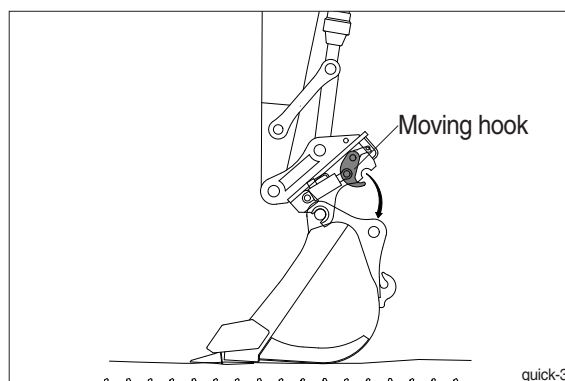
- (1) Before fixing bucket, remove safety pin of the moving hook.
- (2) Pulling safety button, press the quick coupler switch to unlock position. Then, the moving hook is placed on release position.



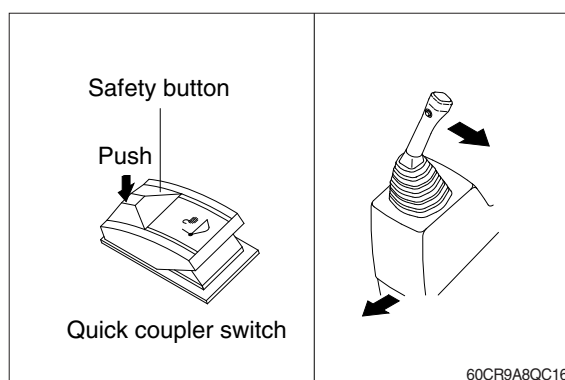
- (3) Aligning the arm and bucket, insert static hook of quick coupler to the bucket pin.



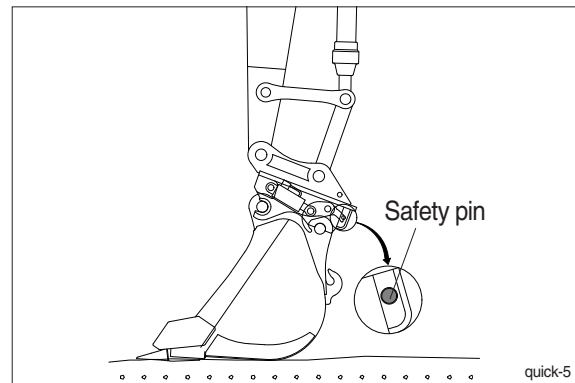
- (4) Operate RCV lever to bucket-in position. Then, the moving hook is coupled with the bucket link pin. Make sure that the moving hook is completely contacted with bucket link pin.



- (5) Press quick coupler switch to lock position. Operate RCV lever to bucket-in position.
- ※ **Be sure to check connection status between bucket pins and hooks of quick coupler.**



- (6) After checking the connection status between bucket pins and hooks of quick coupler, insert safety pin of moving hook to lock position.



## 2) REMOVE BUCKET FROM QUICK COUPLER

Removing procedure is reverse of fixing.

## 3) PRE-CAUTION OF USING QUICK COUPLER

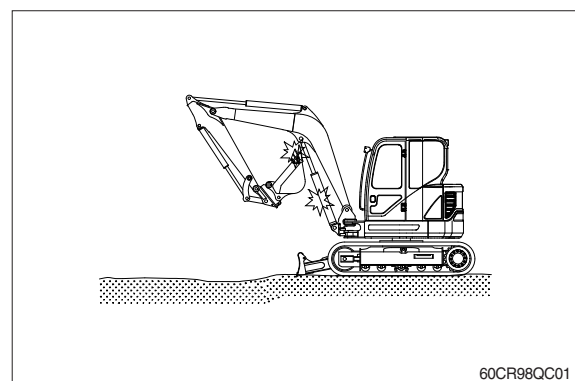
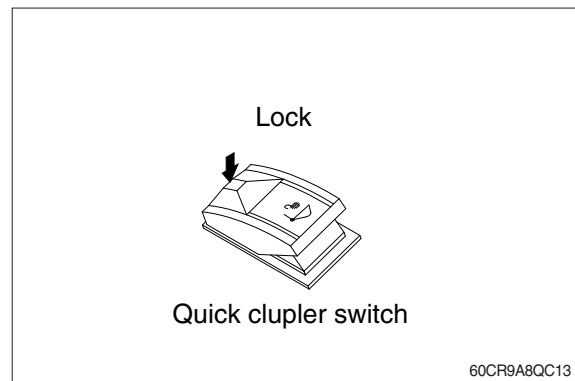
- ⚠ When operating the machine with quick coupler, confirm that the quick coupler switch is lock position and safety pin of moving hook is inserted.

Operating the machine with quick coupler switch unlocked and without safety pin of moving hook can cause the bucket to drop off and bring about the accident.

- ⚠ Serious injury or death can result from this accident.

- ⚠ Be careful to operate the machine equipped with quick coupler. The bucket may hit cab, boom and boom cylinders when it reaches vicinity of them.

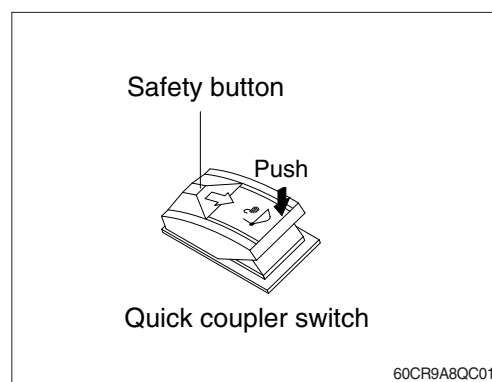
- ※ HYUNDAI will not be responsible for any injury or damage in case that safety pin is not installed properly.



■ MACHINE SERIAL NO. : #1443-

1) FIXING BUCKET WITH QUICK COUPLER

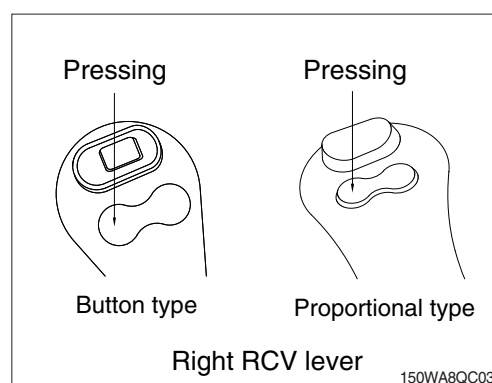
- (1) Park the excavator and attachment on firm and level ground.
- (2) After checking the safe environment conditions for installing/removing the quick coupler, perform the disengagement process.
- (3) To unlock the quick coupler switch, press the safety button forward and press the switch.



- (4) Quick coupler symbols and warning messages appear on the cluster screen, and warning buzzers sound.
- ※ The warning buzzer continues to operate up to step (12).



- (5) To unlock the quick coupler, press the quick coupler button on the right RCV lever. To maintain the unlock status of the quick coupler the operator must maintain pressing the coupler button.



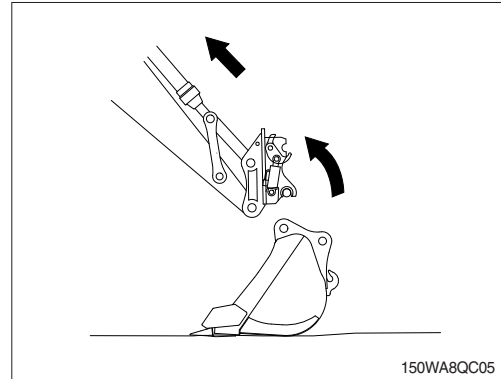


- (6) The warning message in the cluster screen is changed, and the quick coupler lock is released.



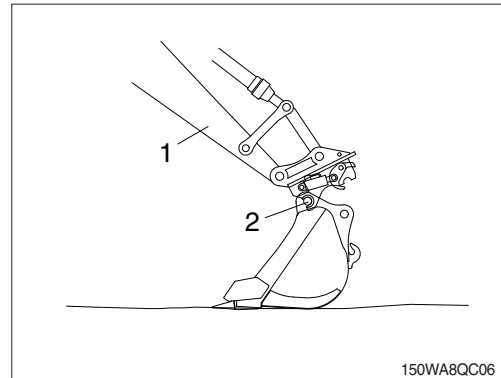
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- (7) Retract the bucket cylinder. Align the quick coupler with attachment mounting pins or interface.



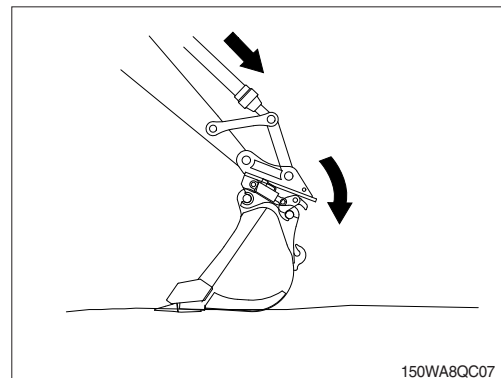
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- (8) Move the arm (1) and raise it until hook engages the upper (2) pin or interface of attachment.



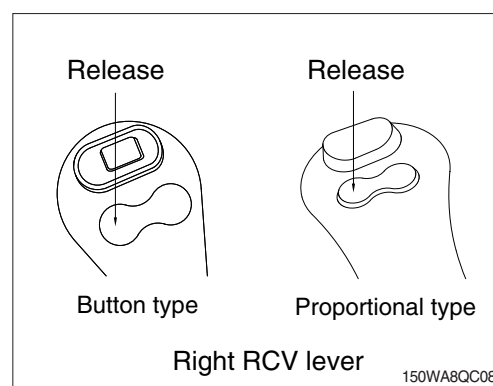
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- (9) With the bucket crowded, engage the quick coupler to the lower attachment pin or interface.



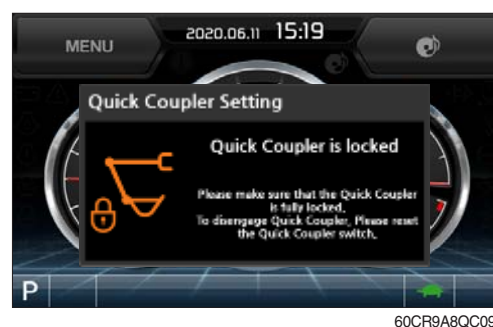
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- (10) To engage the quick coupler, release the quick coupler button on the right RCV lever.



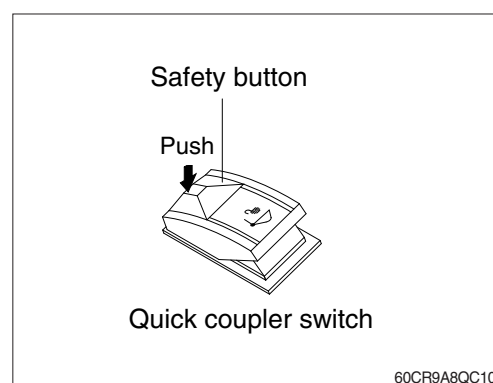
- (11) The warning message in the cluster screen is changed, and the quick coupler lock is engaged.

- ※ After changing warning message, the quick coupler will be locked even if the operator presses the quick coupler button of the right RCV lever again. To unlock the quick coupler again the operator must repeat from the process (3).

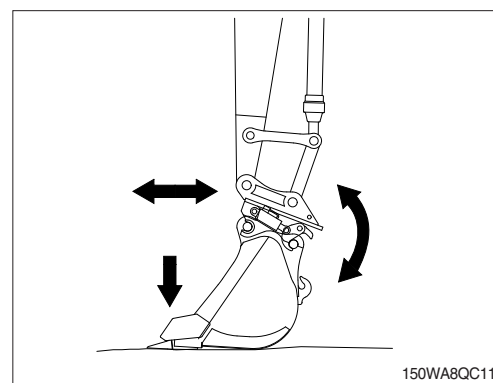


- (12) To confirm the engagement of the quick coupler, release the safety button to its original position.

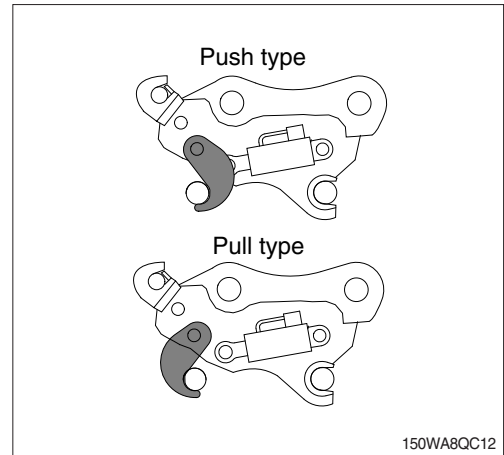
- The buzzer will stop activating.
- The warning message will disappear.



- (13) Shake the attachment vigorously and lower the boom to the ground and apply down pressure to the quick coupler and attachment to check that attachment is fully engaged and locked to the quick coupler.



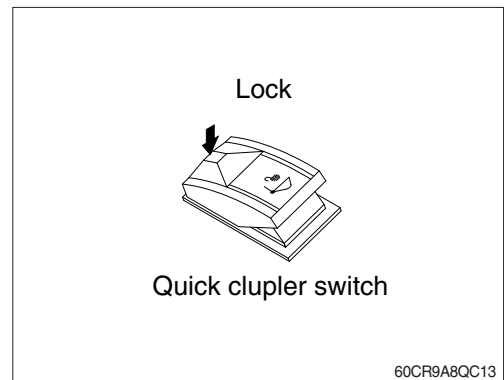
- (14) Visually check that quick coupler is fully engaged and locked before operating the machine and attachment.



## 2) PRECAUTION OF USING QUICK COUPLER

- ⚠ When operating the machine with quick coupler, confirm that the quick coupler switch is in the LOCK position.

Operating the machine with quick coupler switch unlocked can cause the bucket to drop off and could result in personal injury, death, machine damage or property damage.



- ⚠ Be careful of the operating the machine which is equipped with quick coupler.

The bucket may hit cab, boom and boom cylinders when it reaches the vicinity of them as shown in the illustration.

HYUNDAI will not be responsible for any injury, death or damage in the event that the quick coupler and attachment are not installed correctly.

