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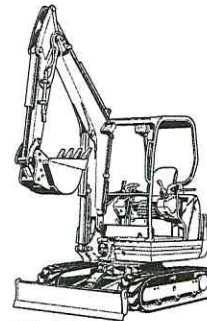
English (U.S.A.)  
Code No. RC358-8124-3

## OPERATOR'S MANUAL

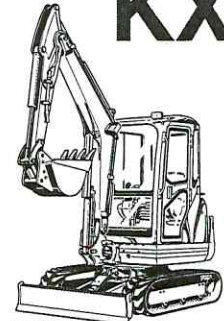
# KUBOTA EXCAVATOR

**Super Series**

MODEL **KX71-3**



1BAAAAAP0670



1BAAAAAP0110

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X  
71  
-  
3

READ AND SAVE THIS MANUAL

Kubota

## ABBREVIATION LIST

Abbreviations	Definitions
AI	Auto Idle
API	American Petroleum Institute
ASTM	American Society for Testing and Materials, USA
CECE	Committee for European Construction Equipment
DIN	German Institute for Standards, Federal Republic of Germany
EN	European Standard
FRONT	"Front" means the front view towards the boom and dozer
HI	High speed
ISO	International Standardization Organization
JIS	Japanese Industrial Standard
L	Volume (Liter)
L/min	Liter per minute
Lo	Low speed
MIL	Military Standards
OPG	Operator Protective Guards
OSHA	Occupational Safety & Health Administration
rpm	Revolutions per minute
ROPS	Roll-Over Protective Structures
SAE	Society of Automotive Engineers, USA
TPSS	Two Pattern Selection System

### California Proposition 65

#### **⚠ WARNING ⚠**

































Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

#### **IMPORTANT**

The engine in this machine is not equipped by the manufacturer with a standard spark arrester. It is a violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest-covered, brush-covered land, or grass-covered land unless the exhaust system is equipped with a working spark arrester meeting state laws. Other states or federal areas may have similar laws.

# GENERAL SYMBOLS

The instruments and operation elements have been marked with a series of symbols in order to simplify the operation of your excavator. These symbols are listed below with the respective descriptions.


	Safety alert Symbol		Boom swing (left)
	Warning lamp "Fuel level too low"		Boom swing (right)
	System lamp		Dozer raise
	Warning lamp "Engine Oil pressure"		Dozer lower
	Warning lamp "Battery charge"		Operation direction of control lever
	Warning lamp "Auto Idle (AI) Lamp"		Operation direction of control lever
	Indicator lamp "Glow"		Read operator's manual
	Working light switch		Engine stop control lamp
	Horn		Lock
	Wiper/Washer switch		Unlock
	Diesel		Reducing / Increasing track width
	Hydraulic fluid		
	Gear oil		
	Grease		
	Fast		
	Slow		
	Excavator - Overhead movement toward the front		
	Excavator - Overhead movement toward the rear		
	Boom raise		
	Boom lower		
	Arm out		
	Arm in		
	Bucket crowd		
	Bucket dump		


# FOREWORD


You are now the proud owner of a KUBOTA Excavator. This excavator is a product of KUBOTA quality engineering and manufacturing. It is made of fine materials and under a rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your excavator, please read this manual carefully. It will help you become familiar with the operation of the excavator and contains many helpful hints about excavator maintenance. It is KUBOTA's policy to utilize as quickly as possible every advance in our research. The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated. KUBOTA distributors and dealers will have the most up-to-date information. Please do not hesitate to consult with them.

## SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

 **DANGER :** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING :** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION :** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**IMPORTANT :** Indicates that equipment or property damage could result if instructions are not followed.

**NOTE :** Gives helpful information.

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# SAFE OPERATION

The best insurance against accidents is to abide by the safety regulations.

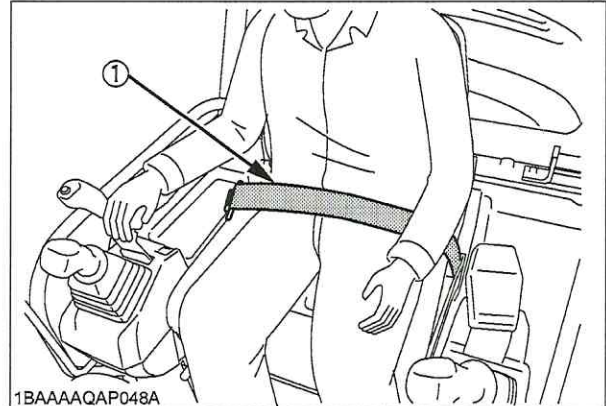
**Read and understand this manual carefully before operating the excavator.**

Every user, however experienced, should carefully read and understand this manual and those of the attachments and accessories before taking the excavator into operation. The owner is obliged to inform the operators of these instructions in detail.

Keep this manual in the pocket under the seat.

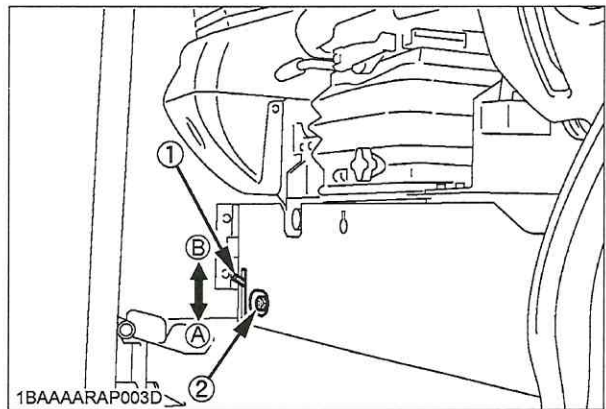
## 1. BEFORE OPERATION

1. Make yourself acquainted with the excavator and be aware of its limits. Read the operating instructions carefully before starting the excavator.
2. Obey the danger, warning and caution labels on the machine.
3. For your safety, a ROPS/OPG (Top Guard Level I) with a seat belt is installed by KUBOTA.
  - ROPS: Roll-Over Protective Structure
  - OPG (Top Guard Level I): Operator Protective Guards of Top Guard Level I
 OPG (Top Guard Level I) in accordance with ISO10262 is equivalent in definition to FOPS (Falling Object Protective Structure). Always use the seat belt when the machine is equipped with a ROPS/OPG (Top Guard Level I). Do not modify structural members of ROPS by welding, drilling, bending, grinding or cutting, as this may weaken the structure. If any component is damaged, replace it. Do not attempt repairs. If ROPS is loosened or removed for any reason, make sure all parts are reinstalled correctly. Tighten mounting bolts to proper torque.
4. The seat belt must be inspected regularly and replaced if damaged.



(1) Seat belt

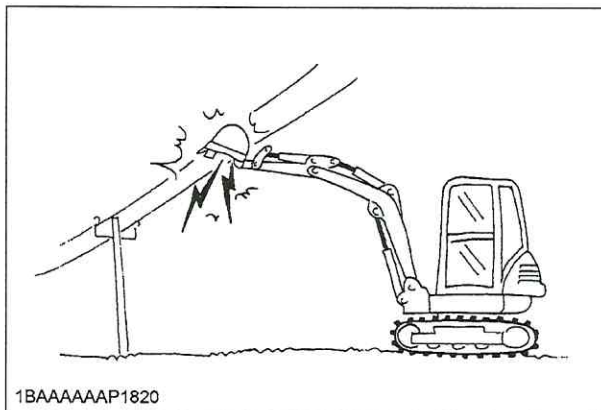
5. Always sit in the operator's seat when starting engine or operating levers or controls.
6. Study control lever pattern A and pattern B. Then choose the one which is most familiar. Familiarize yourself with the pattern selected by operation slowly at low engine speed.
  - Engage the lever lock to prevent accidental pattern change.



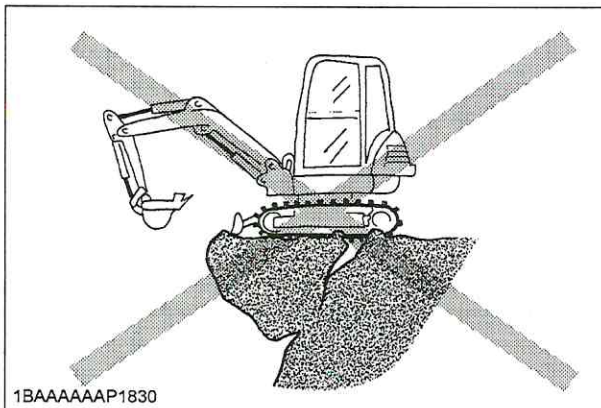
(1) Pattern selector lever  
(Two Pattern Selection System: TPSS)  
(2) Lever lock knob

## 4-2 SAFE OPERATION

7. Do not operate the excavator while under the influence of alcohol, medication, controlled substances or while fatigued.
8. Check the surroundings carefully before using the excavator or when attachments are being attached.
  - Pay attention to the overhead clearance with electric wires.

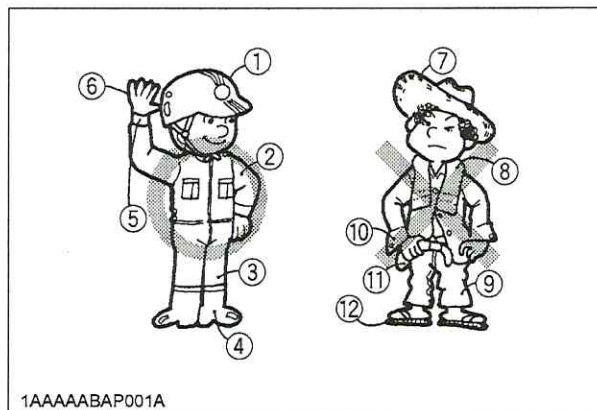


- Check for pipes and buried cables before digging.
- Check for hidden holes, hindrances, soft underground, and overhangs.



- During excavator use, do not allow any persons within the working range.
9. Do not allow other persons to use the machine before having informed him on the exact operation and work instructions, and be assured that the operator's manual has been read and completely understood.

10. Do not wear baggy, torn or oversized clothing when working with the excavator. Clothing can get caught in rotating parts or control elements which can cause accidents or injuries. Wear adequate safety clothing, e.g. safety helmet, safety shoes, eye protection, ear protection, working gloves, etc., as necessary and as prescribed by law or statutes.

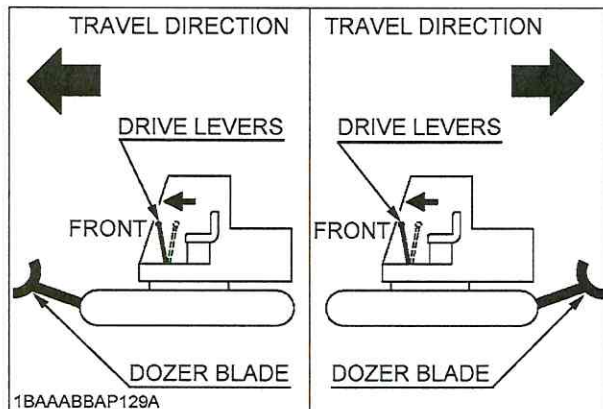


- |                           |                               |
|---------------------------|-------------------------------|
| (1) Helmet                | (7) Straw hat                 |
| (2) Clothing fit for work | (8) Towel                     |
| (3) Tight seams           | (9) Baggy trousers            |
| (4) Good grip footwear    | (10) Loose cuffs of the shirt |
| (5) Well fitting cuffs    | (11) Baggy shirt              |
| (6) Working gloves        | (12) Rubber sandals           |

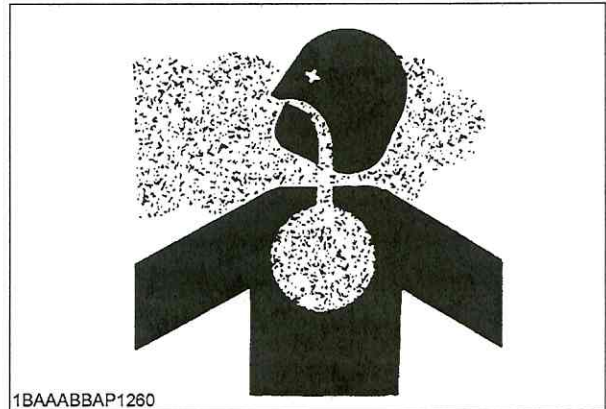
11. Do not allow passengers to ride on any part of the excavator at anytime. The operator must remain in the excavator seat during operation.
12. Check mechanical parts for correct adjustments and wear.
13. Keep your excavator clean. Heavy soiling, grease, dust and grass can cause fires, accidents or injuries.
14. Use only KUBOTA authorized attachments.
15. Before starting the excavator, be absolutely sure that the excavator has been filled with fuel, lubricated, greased and undergone all necessary maintenance.
16. Do not modify the excavator, otherwise it could lead to unforeseen safety problems.
17. Do not hammer anything that is above the operator's seat level. Objects may fall into the operator station of mini-excavator from front.
18. Make sure attachments, particularly those utilizing quick attach systems, are securely mounted.

## 2. STARTING OF THE EXCAVATOR

1. Get into and out of the machine safely. Always face the machine and use 3 point contact with machine. Always use handrails and available steps and keep yourself well balanced. Do not hold any of the control levers and switches. Do not jump on or off the machine, whether stationary or in motion.
2. Start and control the excavator only from the operator's seat. The driver should not lean out of his seat when the engine is running.
3. Before starting the engine, make sure that lock levers are in position "Lock" and all control levers and pedals are in their neutral positions and the seat belt is fastened correctly and the area around the excavator is clear.  
Before starting the engine, make sure that the control levers, travel lever, pedals and other control elements are not stuck and can be moved smoothly. If stuck, for example, a lever may fail to return, possibly putting you in danger. If anything wrong is found, immediately pinpoint the cause and correct it.
4. Make sure that the dozer blade is in front of you. (The dozer must be raised.) If the levers are activated with the dozer blade at the rear, the tracks will move in the opposite direction of the drive levers.



5. Do not operate or idle engine in a non-ventilated area. Carbon monoxide gas is colorless, odorless, and deadly.



6. Keep all safety equipment and covers in place. Replace damaged or missing safety devices.
7. Do not operate the excavator while putting out the hands and the body from the windows. Do not touch the control levers and the pedals from outside the cab during the engine running.
8. Precautions against tipping over. Keep away from steep slopes and embankments. Do not swing the bucket downhill. Lower the dozer during digging. Keep the bucket as low as possible while driving uphill. Turn slowly on slopes (at reduced speed). Do not place the excavator near the edges of trenches and banks, as the earth can give away due to the weight of the excavator.  
ALLOWABLE CLIMBING ANGLE : 36 % (20 deg.)  
ALLOWABLE ANGLE IN CASE OF CROSSING SIDEWAY : 27 % (15 deg.)
9. Watch out at all times for the area to which the excavator is being moved. Pay attention to any hindrances.
10. Keep enough distance from trench and bank edges.

## ▲4 SAFE OPERATION

### ◆ Safety for children

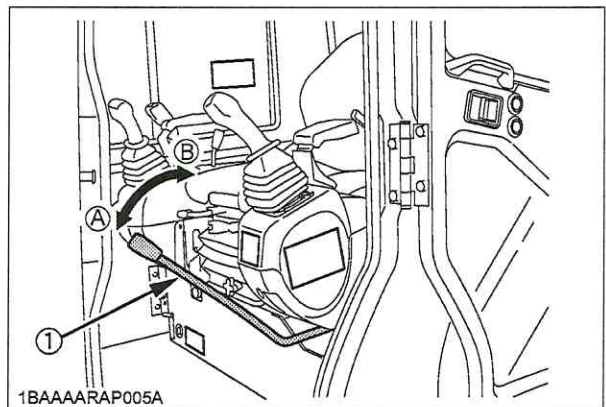
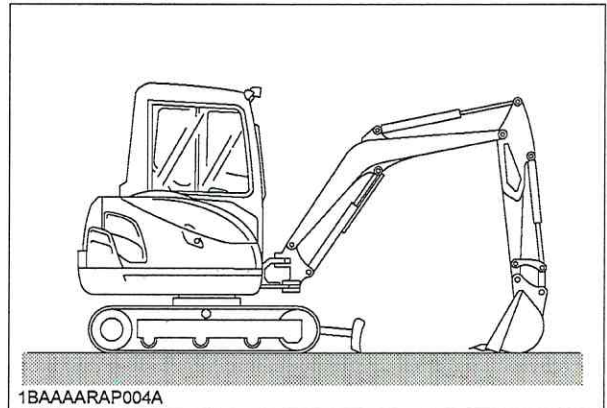
Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to machines and the work they do.

1. Never assume that children will remain where you last saw them.
2. Keep children out of the work area and under the watchful eye of another responsible adult.
3. Be alert and shut your machine down if children enter the work area.
4. Never carry children on your machine. There is not a safe place for them to ride. They may fall off and be run over or interfere with your control of the machine.
5. Never allow children to operate the machine even under adult supervision.
6. Never allow children to play on the machine or on the attachments.
7. Use extra caution when backing up. Look behind and down to make sure the area clear before moving.
8. When parking your machine, if at all possible, park on a firm, flat and level surface; if not, park across a slope. Lower the bucket and dozer to the ground, remove the key, place the control lock levers in the locked position from the ignition and lock the cab door (if equipped), before you leave.

### 3. AFTER OPERATION

Before leaving the machine,

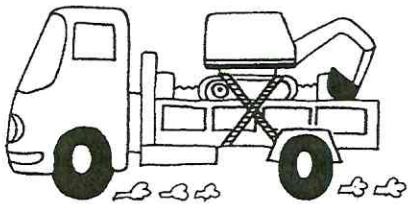
- Park the excavator on a firm, flat and level surface.
- Lower the attachments and the dozer blade to the ground.
- Stop the engine.
- Release pressure trapped in the hydraulic system.
- Lock all control levers.
- Remove the key.



- (1) Lock lever for control lever (A) "Unlock"  
(B) "Lock"

#### 4. SAFE LOADING AND TRANSPORT OF THE EXCAVATOR

1. Observe all regulations concerning the transport of excavators on public roads.
2. Use adequately long and robust ramps when loading on the machine. (for details see "TRANSPORTING THE EXCAVATOR ON A VEHICLE")
3. Do not change the running direction and to avoid a tipping over, do not try to swing the attachment crosswise to the loading ramps.
4. Lower the attachment on the loading bed and release the pressure from the hydraulic system.  
After loading the excavator on the truck, block the tracks with blocks and cable down the excavator.



1AAABANAP032A

5. Avoid abrupt braking of the vehicle with the excavator loaded. Sudden braking cause the excavator to move and may cause a serious accident.
6. If the excavator is to tow another machine, make sure the load is smaller than the strength of the hook, tow chain or cable.

Max. drawbar pull at coupling hook	70450 N (15838 lbf, 7184 kgf)
Max. vertical load at coupling hook	7210 N (1621 lbf, 735 kgf)

7. Do not use hooks on the roof of canopy or CAB for lifting the excavator.

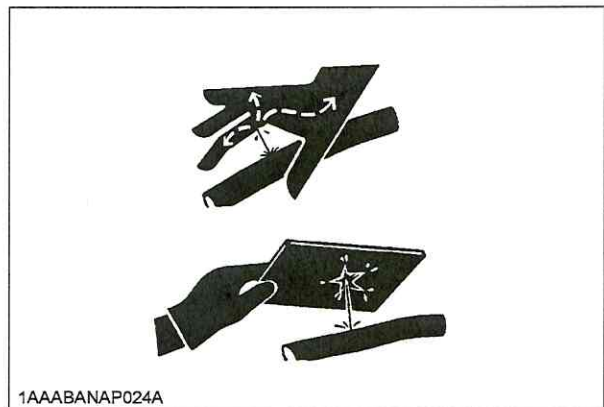
#### 5. MAINTENANCE

Before doing maintenance work on the excavator, place the machine on even solid ground, lower the attachments to the ground, stop the engine and remove the key. When dismantling hydraulic parts, make sure that the hydraulic oil has cooled down sufficiently to avoid burns.

Start maintenance work carefully, e.g. loosen plug slowly so that oil will not squirt out.

1. Before doing work on the engine, the exhaust system, the radiator and the hydraulics, let the excavator cool down sufficiently.
2. Turn off the engine at all times when filling with fuel. Avoid spilling and over-filling of fuel.

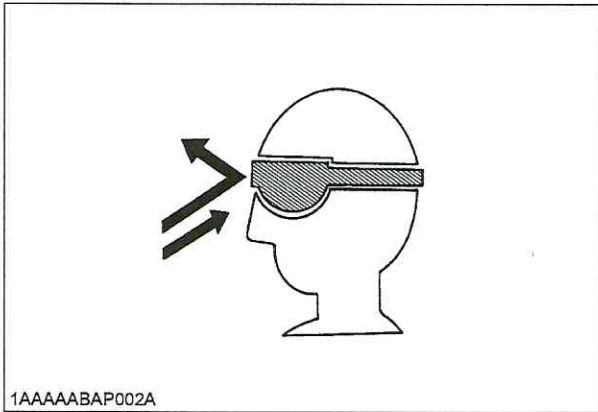
3. Smoking is prohibited while refueling or handling the battery. Keep sparks and fire away from the fuel tank and battery. Flammable gases escape from the battery, especially during charging.
4. Do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Otherwise, the battery component parts may be prematurely deteriorated, which may shorten the battery's service life or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.
5. Read and follow the directions "STARTING WITH AN AUXILIARY BATTERY" in "OPERATION OF THE ENGINE", when starting with an auxiliary battery.
6. Keep a first-aid box and a fire extinguisher at hand at all times.
7. Do not open the radiator cap before the radiator has cooled down sufficiently  
First loosen the cap to the first stop and allow the system enough time to release the remaining pressure. Then loosen the cap completely.
8. To avoid short-circuiting the battery, always remove the ground cable first and attach the positive cable first.
9. Leaking hydraulic fluid has enough pressure to penetrate the skin and cause serious injuries. Leakages from pin holes can be totally invisible. Do not use hands for checking for leaks. Always use a piece of wood or cardboard. It is strongly recommended to use a face mask or eye protection. Should injuries occur with leaking hydraulic fluid, contact a doctor immediately. This fluid can cause gangrene or serious allergic reactions.



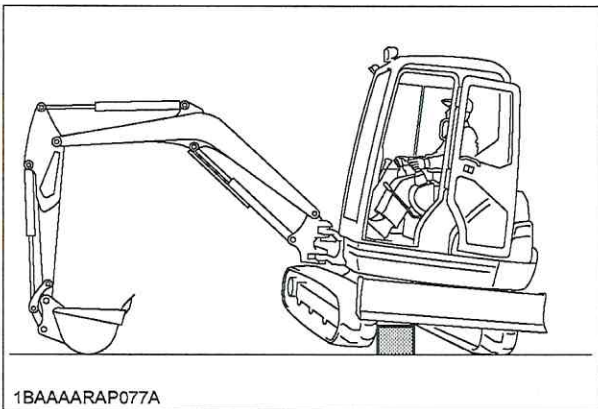
1AAABANAP024A

10. To avoid environmental damage from acid and heavy metals, do not throw the battery away.
11. Observe all laws and regulations concerning the disposal of used oil, coolants, solvents, hydraulic fluids, battery acids and batteries.
12. To avoid fire, do not heat the hydraulic components (tanks, pipes, hoses, cylinders) before they have been drained and washed.

13. Use a face mask or eye protection to protect the eyes and respiratory system against dust and other foreign particles.



14. Securely support excavator with stands or suitable blocking before working underneath. For your safety, do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered.
15. Do not dismantle the spring of the track tensioner. If dismantling is necessary, contact your KUBOTA dealer where the machine was purchased, or competent service shop. The assembly must be done according to the work shop manual of KUBOTA (W.S.M.) for the product involved.
16. When lifting the machine itself with an attachment, place a safety block or safety post to prevent the machine from turning over. Keep the lock lever for attachment control in the "LOCK" position.



17. KUBOTA uses no parts which are lined with asbestos. Do not use these kind of parts even if they are available and can be installed.
18. Fire prevention  
Excavator and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcing or sparks.

The following fire prevention guidelines will help to keep your equipment up and running efficiently and keep the risk of fire to a minimum.

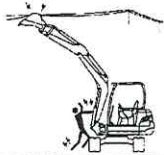
- Blow off all accumulated debris near hot engine exhaust components such as turbocharger and exhaust manifold as well as exhaust pipes and muffler more frequently when working in severe conditions.
- Clean out all accumulated flammable debris such as leaves, straw, pine needles, branches, bark, small wood chips and any other combustible materials from inside the machine belly pans or lower unit structures as well as from area in proximity to the engine.
- Inspect all fuel lines and hydraulic hoses for wear or for deterioration. Replace them immediately if they begin to leak.
- Examine electrical wiring and connectors frequently for damage. Repair any wires that are loose or frayed before operating the machine. Clean all electrical connections and tighten all electrical connections as necessary.
- Inspect the exhaust system daily for any signs of leakage. Check for broken pipes and muffler and also for loose or missing bolts, nuts and clamps. If any exhaust leaks or fractured parts are found, repairs must be completed prior to operation.
- Always keep a multipurpose fire extinguisher on or near the machine. Be familiar with the operation of the fire extinguisher.

6. DANGER, WARNING AND CAUTION LABELS

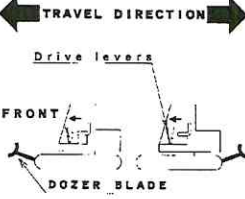

(1) Code No. RC418-5728-4

<b>CAUTION</b>	<b>TO AVOID PERSONAL INJURY:</b>
	<ol style="list-style-type: none"> <li>1. Read and understand operator's manual before attempting to start or operate the excavator.</li> <li>2. Before starting engine, make sure all control levers are in neutral and the operating area is clear of all bystanders.</li> <li>3. Never allow passengers on any part of the excavator while operating.</li> <li>4. Know your work area before starting operation.             <ul style="list-style-type: none"> <li>● Check underground lines and cables.</li> <li>● Stay off slopes too steep for safe operation.</li> <li>● Check overhead clearance with electric wires.</li> <li>● Check for hidden holes, obstacles or drop-offs and overhangs.</li> </ul> </li> <li>5. Make sure all shields are in place and securely fastened.</li> <li>6. Before disconnecting from the machine, lower all attachment to the ground, stop the engine and remove the key.</li> <li>7. Damaged POPS must be replaced, not repaired or revised.</li> </ol> <p><b>IMPORTANT</b> Never use boom, dipper, or bucket to hammer or beat sideways. Excavator is not intended for these usages.</p>
1BAAAAQAP0780	

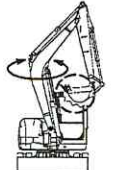
(3) Code No. RC418-5733-5

<b>DANGER</b>

<p><b>TO AVOID SERIOUS INJURY OR DEATH:</b> Check overhead clearance with electric wires.</p>
1BAAAAQAP0800

(2) Code No. RC418-5727-4

	<b>WARNING</b>	
	<p><b>TO AVOID PERSONAL INJURY OR DEATH:</b> Before moving the excavator, <b>KNOW THE LOCATION OF THE DOZER BLADE.</b> The excavator will travel in the direction of the dozer blade when drive levers are moved away from the operator.</p>	<p>DO NOT OPERATE WITHOUT ROPS. YOU COULD BE CRUSHED.</p> <p><b>USE SEAT BELT</b></p>
1BAAAAQAP0790		

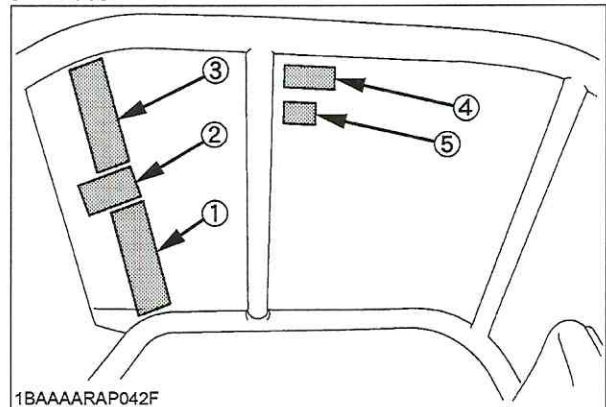
(4) Code No. RD809-5738-2

<b>WARNING</b>

<p><b>ATTACHMENT IMPACT HAZARD</b> KEEP ATTACHMENT AWAY FROM CAB AND MACHINE. FAILURE TO DO SO MAY RESULT IN SEVERE INJURIES OR DEATH OR DAMAGE TO THE BOOM/CYLINDER, HYDRAULIC HOSES OR THE CAB.</p>
1BAAAARAP1000

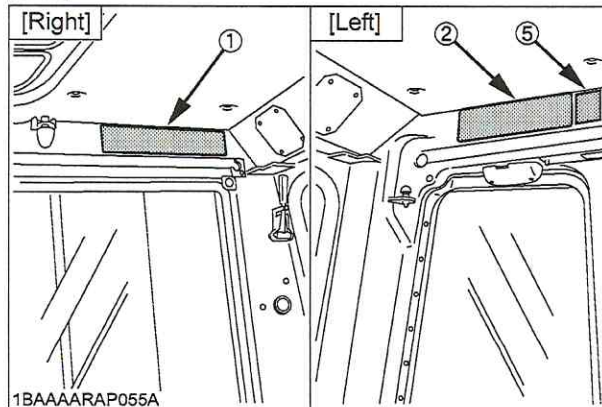
(5) Code No. 6C300-4744-1

<b>WARNING</b>
<p>Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.</p>
1AGAIHFAP069A

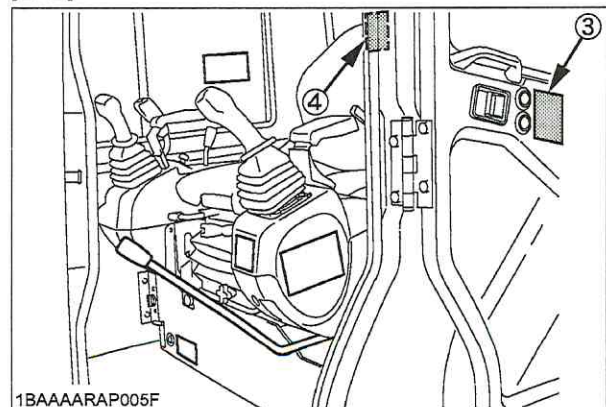
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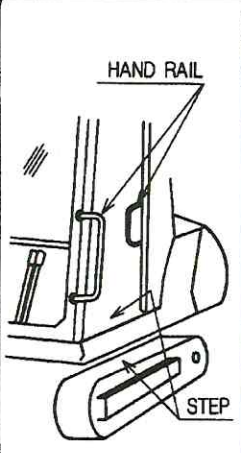
[CAB]



[CAB]



(1) Code No. RC108-5765-2 [CAB]



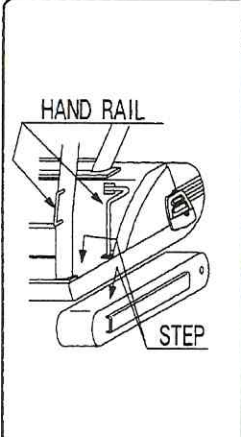
**CAUTION**

TO AVOID PERSONAL INJURY:  
MOUNT AND DISMOUNT SAFELY  
WHEN ENTERING OR LEAVING  
THE OPERATOR'S COMPARTMENT.

1. Maintain a three-point contact with the steps and handrails.
2. Face the machine.
3. Never jump on or off the machine.
4. Never attempt to mount or dismount a moving machine.
5. Never use control levers as handles.

1BAAAARAP0440

(1) Code No. RD118-5763-1 [Canopy]



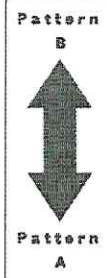
**CAUTION**

TO AVOID PERSONAL INJURY:  
MOUNT AND DISMOUNT SAFELY  
WHEN ENTERING OR LEAVING  
THE OPERATOR'S COMPARTMENT.

1. Maintain a three-point contact with the steps and handrails.
2. Face the machine.
3. Never jump on or off the machine.
4. Never attempt to mount or dismount a moving machine.
5. Never use control levers as handles.

1BAAGAAP0160

(2) Code No. RC418-5732-3



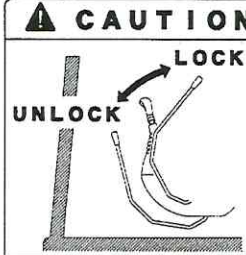
**CAUTION**

TO AVOID PERSONAL INJURY:

1. Study control lever pattern A and pattern B. Then choose the one which is most familiar.
2. Position the pattern selector lever in either the lowered position (pattern A) or the upward position (pattern B).
3. Engage lever lock to prevent accidental pattern change.
4. Familiarize yourself with the pattern selected by operating slowly.

1BAAAAP0330

(3) Code No. RC418-5753-2




**CAUTION**

TO AVOID PERSONAL INJURY:  
Lock control lever before  
leaving compartment.

1BAAAARAP0450

(4) Code No. RC108-5718-1

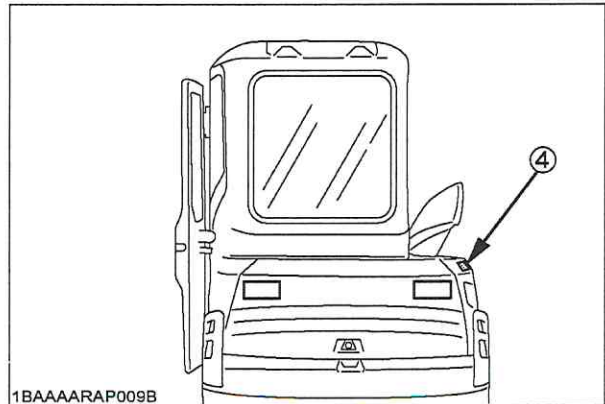
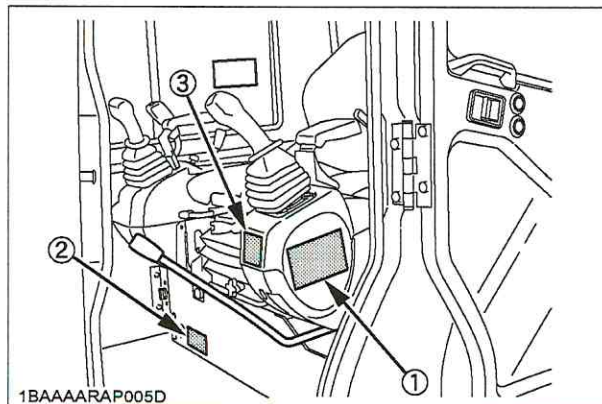


**DANGER**

TO AVOID PERSONAL INJURY OR  
DEATH FROM A MACHINE RUNAWAY.

1. Do not start engine by shorting across starter terminals.
2. Start engine only from operator's seat.

1BAAAQAP0910



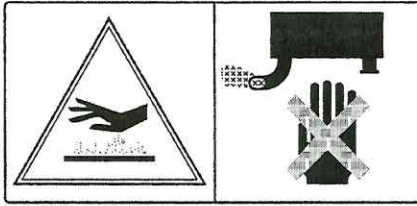


(1) Code No. RC418-5737-4  
Keep away from fan and belt.



1BAAAAQAP0880

(2) Code No. RC418-5738-2  
Do not touch hot parts  
such as exhaust etc.



1BAAAAKAP0350

(3) Code No. RD568-5754-1



1BAAAAQAP0890

(4) Code No. RD358-5736-1  
Diesel fuel only No fire

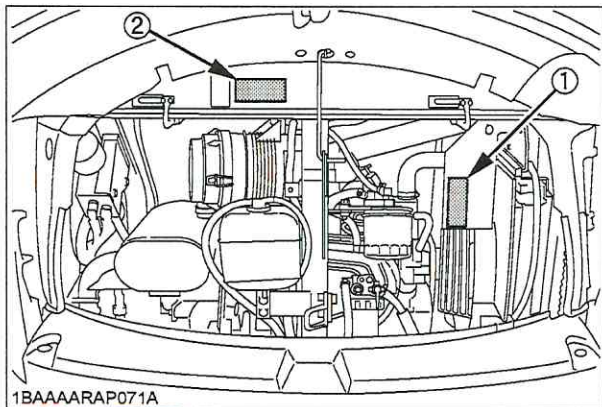


1BAAGAAP1810

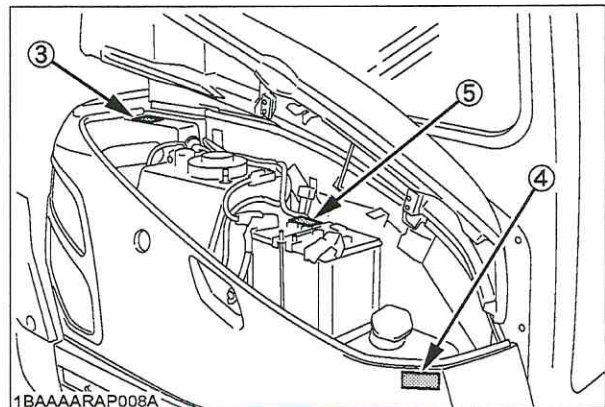
(5) Code No. 6C040-5559-1

**DANGER EXPLOSIVE GASES**  
Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.  
**KEEP VENT CAPS TIGHT AND LEVEL**  
**POISON CAUSES SEVERE BURNS**  
Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.  
**KEEP OUT OF REACH OF CHILDREN**

1BAAAAQAP0960



1BAAAAARAP071A

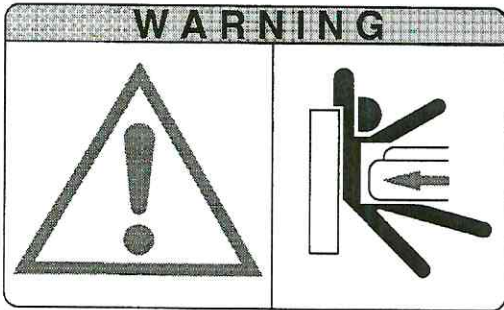


1BAAAAARAP008A

**▲-10 SAFE OPERATION**

(1) Code No. RC418-5725-1

Do not allow any persons within the working range.



1BAAAQAP0900

(2) Code No. 68328-5735-1 [Both sides]



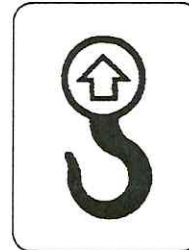
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(4) Code No. RD118-5737-1



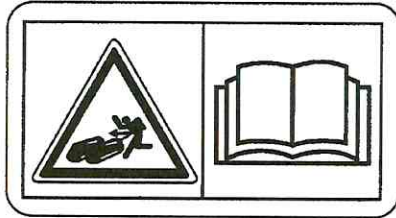
1BAAAARAP062E

(5) Code No. RC108-5796-1 [Both sides]



1BAAAQAP0940

(3) Code No. RD517-5795-2 [Both sides]

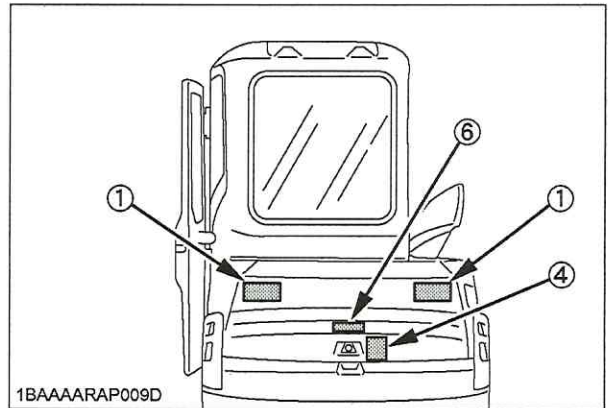


1BAABAMAP0010

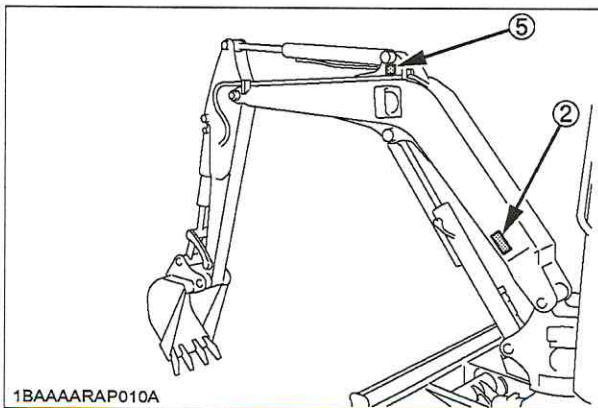
(6) Code No. RC108-5714-1



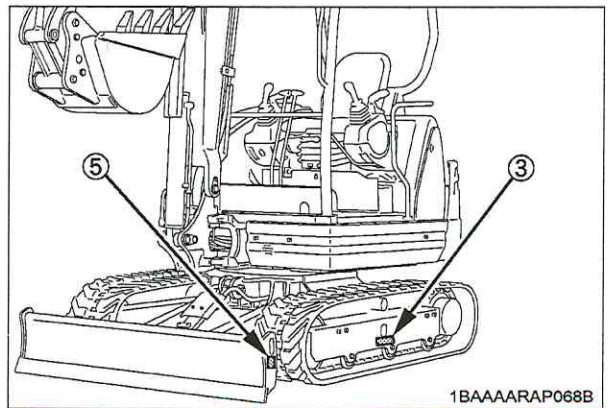
1BAAGAAP0260



1BAAAARAP009D



1BAAAARAP010A



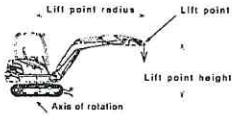
1BAAAARAP068B

(1) Code No. RC348-5747-3

**▲ WARNING**

**TO AVOID PERSONAL INJURY OR DEATH:**

- Do not move raised load over people.
- It is forbidden to lift loads greater than those values mentioned in the lifting capacity table.
- The values mentioned in the table are valid only on even, hard grounds. When lifting on soft ground, the machine can lift over due to the fact that the load is concentrated only on one side of the machine.
- The table values are calculated at the end of the arm without the bucket. In order to find the allowable loads for machines with bucket, the bucket weight must be subtracted from the values in the table.



1. The lifting capacities are based on ISO 10567 and do not exceed 75 % of the static lift load of the machine or 87 % of the hydraulic lifting capacity of the machine.
2. The strokes are as follows.
  - 1) The load point corresponds to the front bolt part of the arm.
  - 2) The machine positions are (0) over-front (Blade down), (1) over-front (Blade up), and (10) over-side.
  - 3) The operating cylinder is the boom cylinder.
3. The bucket of the excavator, the hook, the sling and other lifting accessories are taken into consideration for the loads.

LIFT POINT HEIGHT (ft)	LIFTING CAPACITY OVER-FRONT BLADE DOWN Unit=1000 lbs.				LIFTING CAPACITY OVER-FRONT BLADE UP Unit=1000 lbs.				LIFTING CAPACITY OVER-SIDE Unit=1000 lbs.			
	LIFT POINT RADIUS (ft)				LIFT POINT RADIUS (ft)				LIFT POINT RADIUS (ft)			
	4	6	8	12	4	6	8	12	4	6	8	12
10												
8			0.80				0.80				0.80	
6		1.10	0.86			1.10	0.83			1.10	0.78	
4		1.47	0.83			1.47	0.87			1.38	0.76	
2		1.78	1.00			1.54	0.85			1.31	0.74	
0	1.98	1.87	1.04		1.98	1.61	0.84		1.98	1.38	0.73	
-2	2.15	2.75	1.83	1.01	2.15	2.43	1.50	0.84	2.15	1.99	1.27	0.73
-4	3.44	2.37	1.83		3.44	2.37	1.61		3.44	2.02	1.29	
-6	2.95	1.70	1.19		2.86	1.70	1.19		2.85	1.70	1.19	

Machine with ROPS canopy and rubber crawler, without bucket

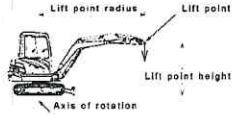
1BAAAARAP064E

(2) Code No. RC348-5748-3

**▲ WARNING**

**TO AVOID PERSONAL INJURY OR DEATH:**

- Do not move raised load over people.
- It is forbidden to lift loads greater than those values mentioned in the lift capacity table.
- The values mentioned in the table are valid only on even, hard grounds. When lifting on soft ground, the machine can lift over due to the fact that the load is concentrated only on one side of the machine.
- The table values are calculated at the end of the arm without the bucket. In order to find the allowable loads for machines with bucket, the bucket weight must be subtracted from the values in the table.

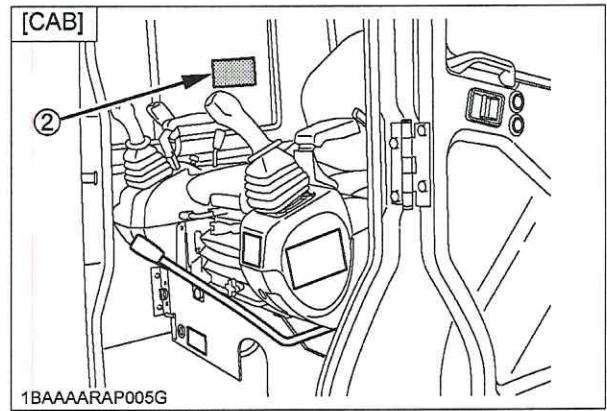
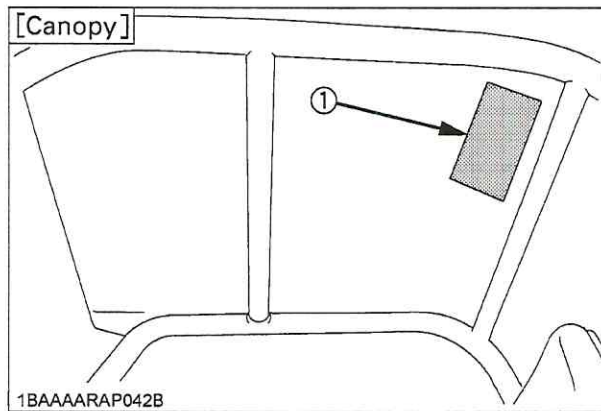


1. The lifting capacities are based on ISO 10567 and do not exceed 75 % of the static lift load of the machine or 87 % of the hydraulic lifting capacity of the machine.
2. The strokes are as follows.
  - 1) The load point corresponds to the front bolt part of the arm.
  - 2) The machine positions are (0) over-front (Blade down), (1) over-front (Blade up), and (10) over-side.
  - 3) The operating cylinder is the boom cylinder.
3. The bucket of the excavator, the hook, the sling and other lifting accessories are taken into consideration for the loads.

LIFT POINT HEIGHT (ft)	LIFTING CAPACITY OVER-FRONT BLADE DOWN Unit=1000 lbs.				LIFTING CAPACITY OVER-FRONT BLADE UP Unit=1000 lbs.				LIFTING CAPACITY OVER-SIDE Unit=1000 lbs.			
	LIFT POINT RADIUS (ft)				LIFT POINT RADIUS (ft)				LIFT POINT RADIUS (ft)			
	4	6	8	12	4	6	8	12	4	6	8	12
10												
8				0.78				0.78				0.78
6		1.07	0.83			1.07	0.83			1.07	0.80	
4		1.43	0.90			1.43	0.90			1.41	0.78	
2		1.71	0.98			1.71	0.98			1.55	0.76	
0	1.93	1.83	1.02		1.93	1.55	0.89		1.93	1.32	0.75	
-2	2.09	2.68	1.78	0.89	2.09	2.49	1.54	0.88	2.09	2.04	1.31	0.75
-4	3.35	2.30	1.69		3.35	2.30	1.55		3.35	2.07	1.32	
-6	2.72	1.65	1.15		2.72	1.65	1.16		2.72	1.65	1.15	

Machine with ROPS cab and rubber crawler, without bucket

1BAAAARAP065E



**7. CARE OF DANGER, WARNING AND CAUTION LABELS**

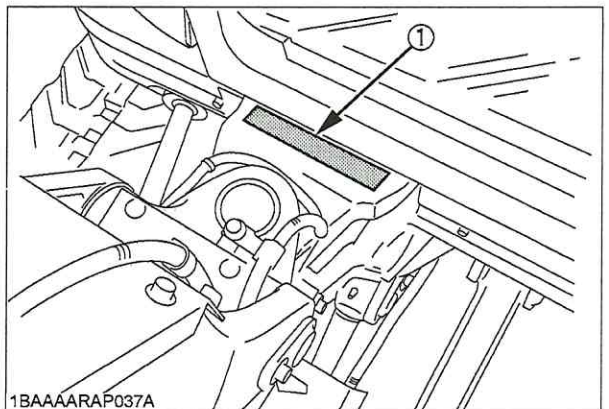
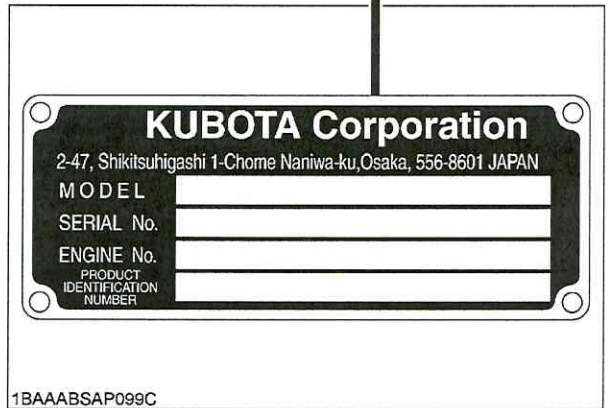
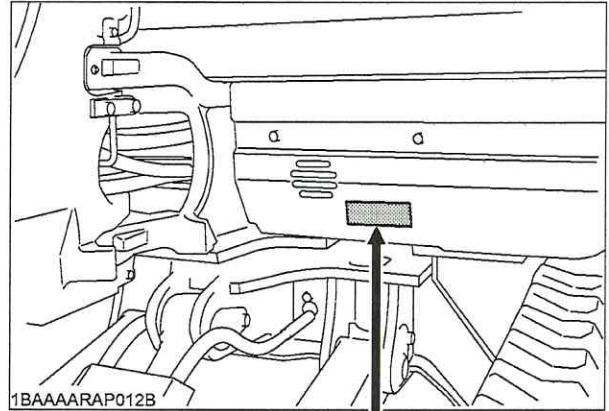
1. Keep danger, warning and caution labels, clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your KUBOTA dealer.
4. If a component with danger, warning and caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

# DEALER SERVICE

Your KUBOTA dealer is always ready to help so that your excavator offers the best performance. After having carefully read these instructions, you will realize that much of the routine maintenance can be done by yourself. Your KUBOTA dealer is responsible for servicing and the delivery of spare parts. When ordering spare parts from your KUBOTA dealer, always mention the serial number of the excavator and the engine.

Note these numbers right away in the supplied lines.

	Model	Serial No.
Excavator		
Engine		
Dealer's name (To be filled in through the owner)		



(1) Serial No.

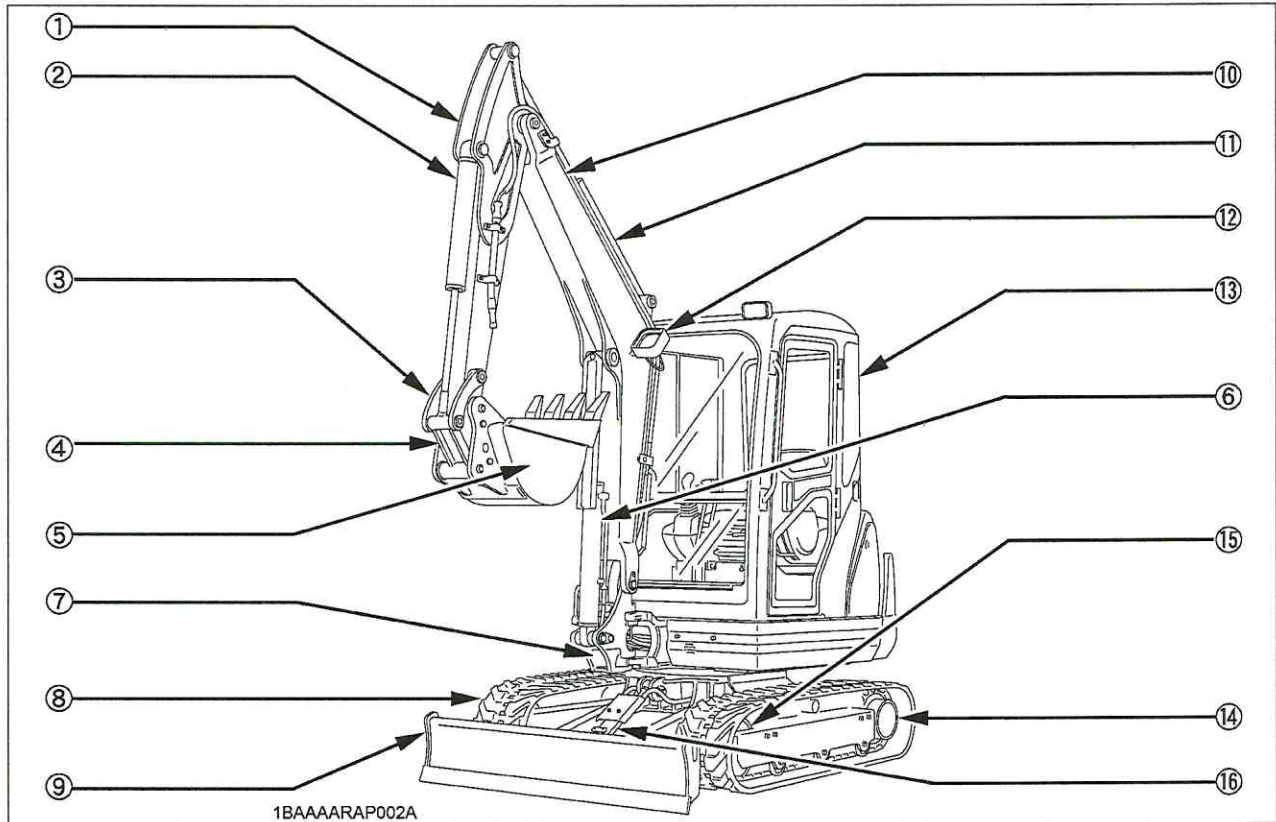
# TECHNICAL DATA

		KUBOTA EXCAVATOR		
Model name		KX71-3S		
Type		Canopy	Cabin	
Operating weight (including operator's) kg (lbs.)		2855 (6295)	2965 (6540)	
Engine	Type	Water cooled 4 cycle diesel engine with 4 cylinder		
	Model name	KUBOTA V1505-E4-BH-1		
	Total displacement cc (cu.in)	1498 (91.4)		
	Engine power	SAE gross kW (HP)	18.2 (24.4)	
		Net kW (HP)	17.2 (23.1)	
	Rated speed rpm	2250		
	Low idle speed rpm	1050 to 1150	1250 to 1350	
Performance	Unit swing speed rpm	9.4		
	Travel speed	Fast km/h (mph)	4.5 (2.8)	
		Slow km/h (mph)	2.6 (1.6)	
	Ground pressure (With operator)	kPa (kgf/cm <sup>2</sup> ) [psi]	27.0 (0.28) [4.19]	28.0 (0.29) [4.34]
		Climbing angle % (deg)	*36 (20)	
	Angle in case of crossing slope % (deg)	*27 (15)		
Dozer	Width X Height mm (in.)	1500 x 300 (59.1 x 11.8)		
Boom swing angle	Left rad (deg)	1.40 (80)		
	Right rad (deg)	1.05 (60)		
Pressure connection for attachments	Max. displacement (Theoretical) L (US gal)/ min	49.5 (13.1)		
	Max. pressure Mpa (kgf/cm <sup>2</sup> ) [psi]	20.6 (210) [2987]		
Fuel tank capacity	L (US gal)	45 (11.9)		

**NOTE :**

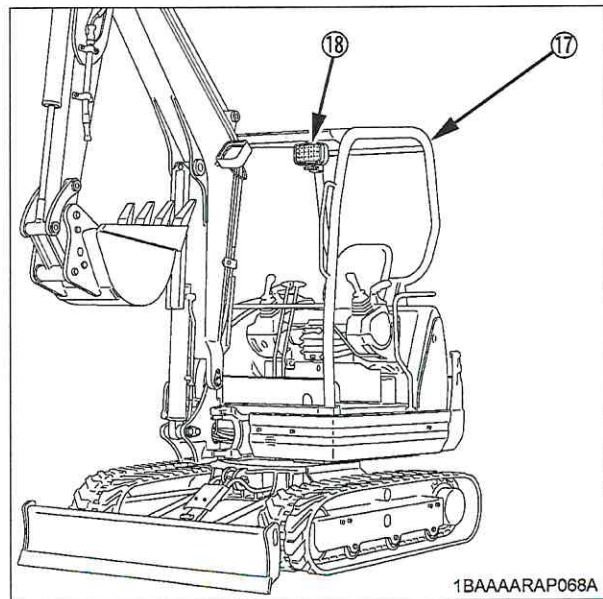
- Above dimensions are based on the machine with rubber tracks and JPN bucket.  
JPN = made in Japan
- Specifications subject to change without notice.
- \* With unloaded digging bucket.
- \* Firm compacted soil.
- \* Operators must exercise extra caution and follow instructions in the operator's manual.
- \* Worse condition or heavier attachment to the above will decrease climbing angle.

# DESCRIPTION OF MACHINE PARTS



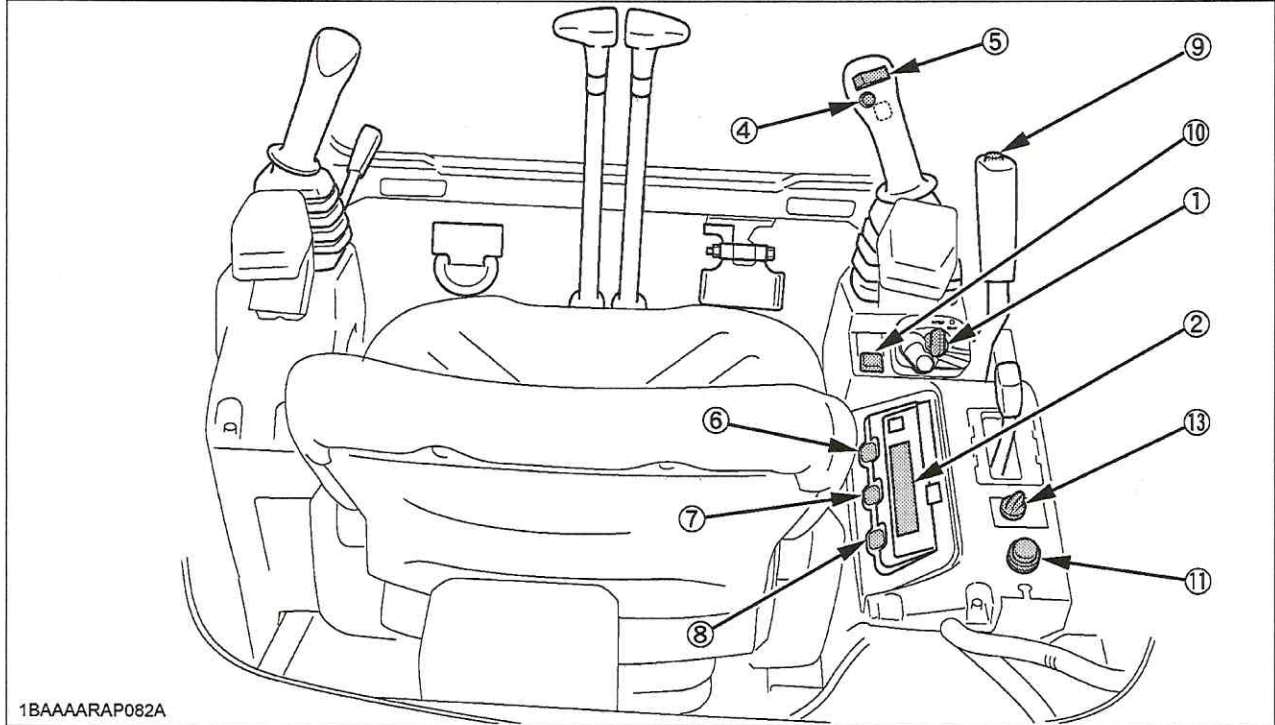
## DEPICTED CONTENTS

- (1) Arm
- (2) Bucket cylinder
- (3) Bucket link 2 and 3
- (4) Bucket link 1
- (5) Bucket
- (6) Boom cylinder
- (7) Swing bracket
- (8) Track
- (9) Dozer blade
- (10) Boom
- (11) Arm cylinder
- (12) Working light
- (13) Cabin
- (14) Drive sprocket
- (15) Front idler
- (16) Dozer cylinder
- (17) Canopy
- (18) Working light (option)

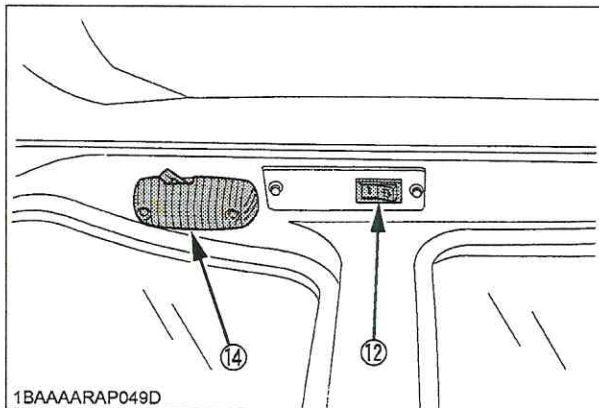


# INSTRUMENT PANEL AND CONTROL ELEMENTS

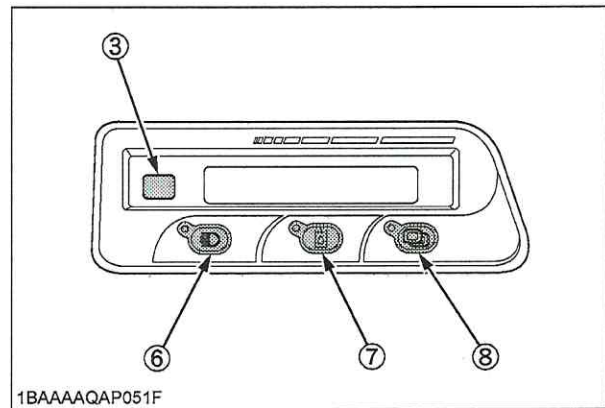
## ■ Instrument Panel, Switch



1BAAAARAP082A



1BAAAARAP049D



1BAAAQAP051F

### DEPICTED CONTENTS

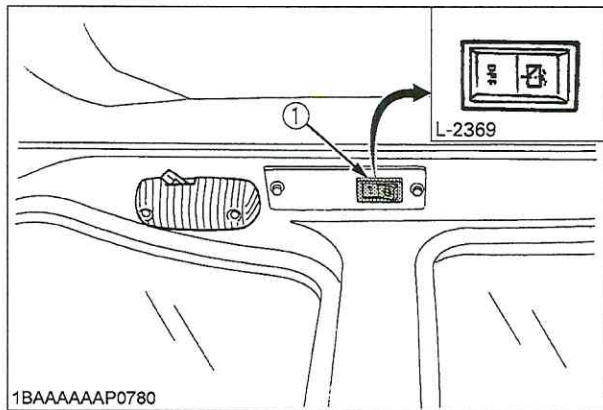
- |                                    |  |
|------------------------------------|--|
| (1) Starter switch                 | (9) Travel speed switch                    |
| (2) LCD display                    | (10) Speed indicator light                 |
| (3) Warning lamp                   | (11) Flow volume setting switch            |
| (4) Horn switch                    | (12) Wiper / Washer switch (CAB type only) |
| (5) Service port switch            | (13) Heater switch (CAB type only)         |
| (6) Working light switch           | (14) Interior lamp (CAB type only)         |
| (7) Service port activation switch |  |
| (8) Display selector switch        |  |

## CABIN TYPE MACHINE

### ■ Wiper Switch

To move the wiper, turn on the switch for the wiper when the starter key in position "RUN". A further push on the switch will activate the washer system. Even when the wiper switch is in position "OFF", the washer switch functions if it is pressed.

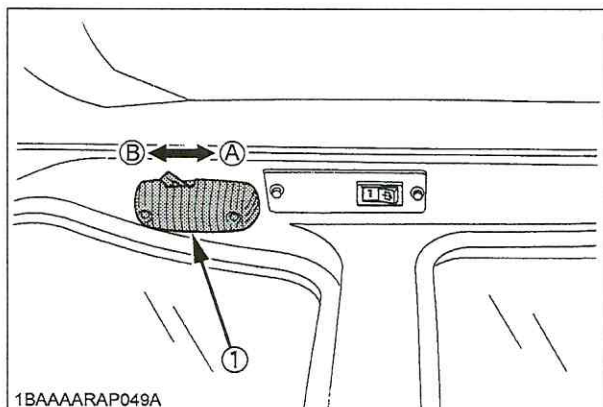
- Do not activate the washer switch if the tank for the cleaning fluid is empty; the pump can be damaged.
- Do not activate the wiper switch if the window is dry. In this case, make sure that cleaning fluid is applied to the pane before activating the wiper.
- In frosty conditions, make sure that the wiper blade is not frozen to the glass before switching-on. The motor can be damaged if the wiper system is used under such conditions.



(1) Wiper switch

### ■ Interior Lamp

To turn on the interior lamp, set the starter switch to the "RUN" and then the interior lamp switch to the "ON" positions, respectively.

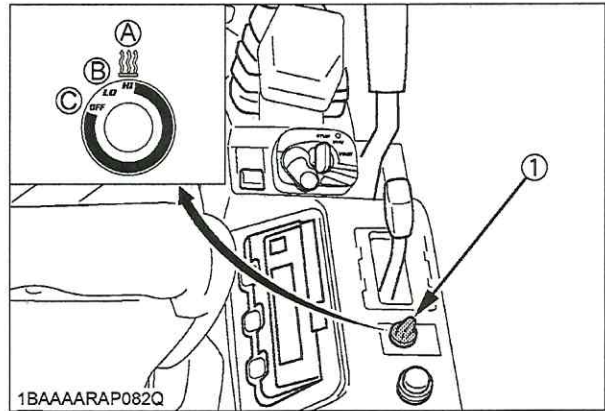


(1) Interior lamp

(A) "ON" (B) "OFF"

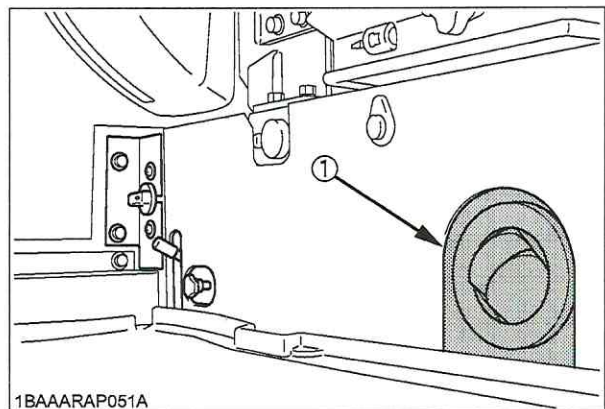
### ■ Heater Switch

Turn the starter switch to position "RUN" and turn the heater switch clockwise, the heater fan will be activated and the cabin will start to warm up. The heater has two positions - "Low" and "High".



(1) Heater switch

(A) Pos. "High"  
(B) Pos. "Low"  
(C) Pos. "Off"

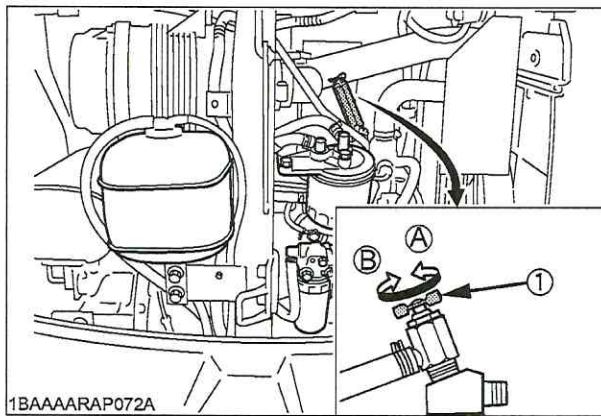


(1) Heater outlet



**IMPORTANT :**



- During summer, turn the heater valve clockwise to close the valve.

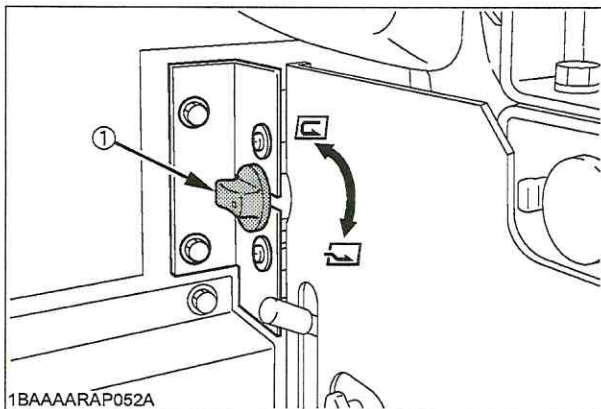


(1) Valve

- (A) "Open"
- (B) "Close"

◆ **Recirculation / Fresh Air Selection knob**

- **FRESH AIR:** Set the knob to the  position, and fresh air will flow into the CAB. This is helpful when you work in a dusty conditions or if the glass windows get foggy.
- **RECIRCULATION:** Set the knob to the  position, and the in-CAB air will be recirculated. This is useful for heating the CAB quickly or keeping it extra warm.



(1) Recirculation/  
fresh air selection knob

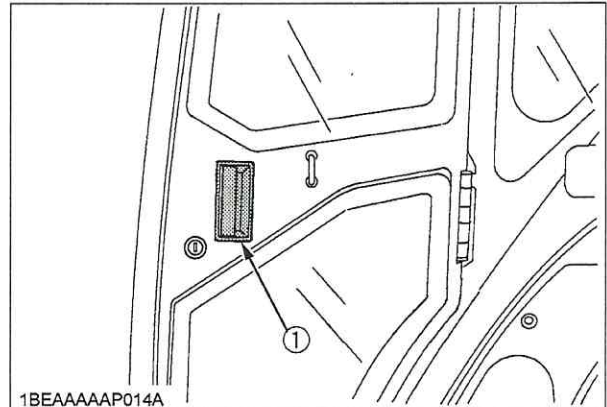
-  "FRESH AIR"
-  "RECIRCULATION"

**NOTE :**

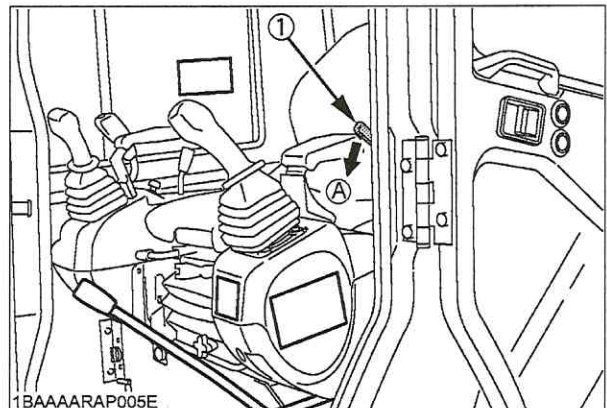
- When heating, do not keep the knob at the "RECIRCULATION" position for a long time. The windshield easily gets foggy.
- While working in a dusty conditions, keep the knob at the "FRESH AIR" position. This increases the pressure in the CAB, which helps prevent dust from coming into the CAB.

■ **Opening/Closing of CAB Door**

1. Unlock the CAB door and pull the knob. Open the CAB door fully until fixed into place.
2. To close the CAB door, push the release lever down and close the door.



(1) Door knob



(1) Release lever

(A) Down

3. When leaving the excavator, always lock the door.

**Opening/Closing of Front CAB Window**



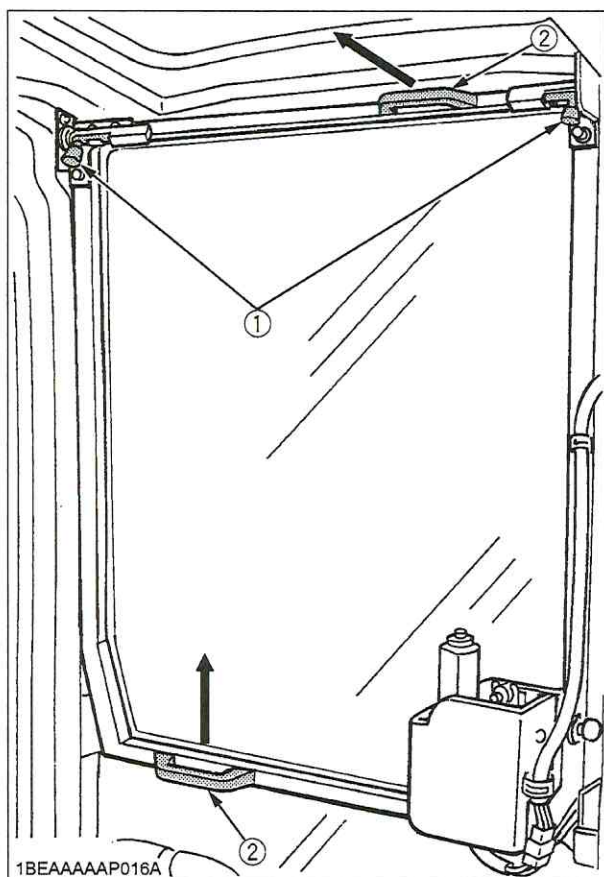
**CAUTION**

To avoid personal injury:

- Keep hands and feet away from the area between front window and CAB frame. Otherwise the operator risks serious injuries by pinching or crushing.
- Other persons should stay away when opening the window.

To open and close the front window, take the steps below.

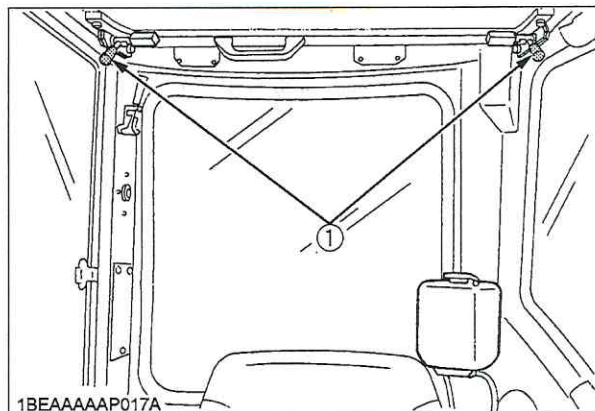
1. Release the lock levers on the top of the front window.



(1) Lock levers (2) Grip

2. Hold the top and bottom grips tightly with both hands. Pull the top grip slightly upward and toward yourself to let the windshield slide inward.

3. Pull the windshield all the way to the rubber at the back of the CAB. Tighten up the lock levers.



(1) Lock lever

4. To close the window, take the reverse steps 3, 2 and 1.

**Emergency Hammer**

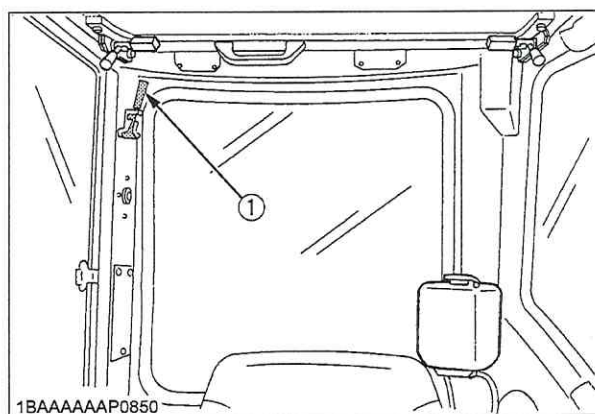


**CAUTION**

To avoid personal injury:

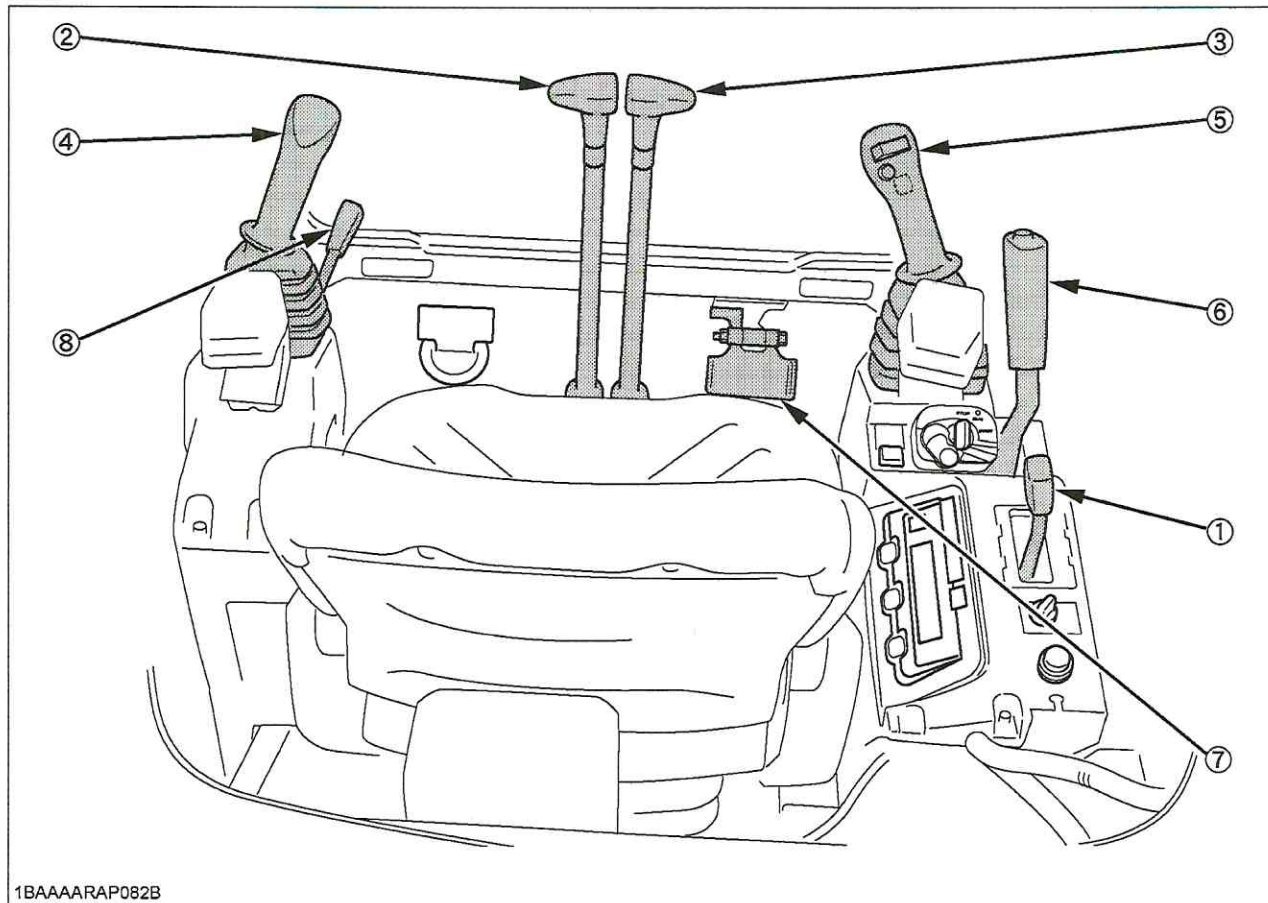
- When breaking the window pane, close your eyes and cover them with an arm.

Emergency hammer is for breaking window pane to escape urgently away from excavator as a result of window railing or locking mechanism failure.



(1) Emergency hammer

■ Control Pedals and Levers



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DEPICTED CONTENTS

- (1) Throttle lever
- (2) Drive lever (left)
- (3) Drive lever (right)
- (4) Control lever for front attachments (left)
- (5) Control lever for front attachments (right)
- (6) Dozer control lever
- (7) Boom swing pedal
- (8) Lock lever

**IMPORTANT :**

- When the lock lever pulled up prevents inadvertent machine movement.

# CHECKS BEFORE START

## DAILY CHECKS

In order to avoid damage, it is important to check the condition of the excavator before starting.



### CAUTION

To avoid personal injury:

- Do maintenance work on the excavator only on level ground with the engine off and the lock lever in the "Lock" position.

### Checks

Go around the excavator and check for visual damage and wear.

Check coolant level. (See regular check points in the chapter on maintenance.)

Check fuel level.

Check engine oil level.

Check hydraulic fluid level.

Check air filter for clogging.

Check all grease points.

Check all control lamps, indicators, tachometer and hour meter.

Check the light system.

Check the seat belt and the ROPS / OPG (Top Guard Level I) safety device.

Check the condition of the safety and warning labels. (See "DANGER, WARNING AND CAUTION LABELS" in "SAFE OPERATION".)

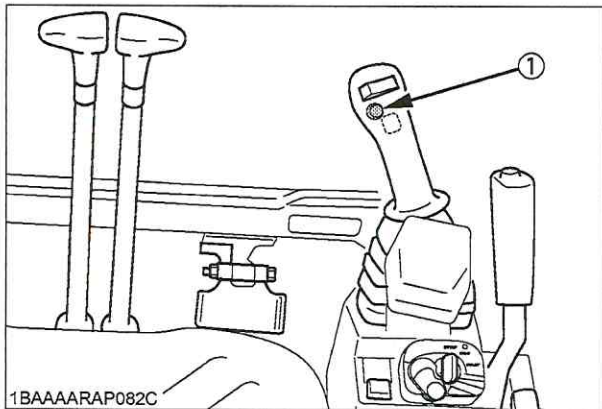
# OPERATION OF THE ENGINE



## CAUTION

To avoid personal injury:

- Read "SAFE OPERATION" at the beginning of this operator's manual.
- Obey the danger, warning and caution labels on the excavator.
- To avoid the danger of exhaust fume poisoning, do not operate the machine in a closed building without proper ventilation.
- Always start the engine from the operator's seat. Do not start the engine while standing next to the excavator. Before starting the engine, sound the horn to get the attention of persons standing nearby.



(1) Horn switch

### IMPORTANT :

- Do not use starting fluid or ether.
- In order not to overload the battery and starter, avoid engaging the starter more than 10 sec.
- When engine does not start in 10 sec., please wait 20 sec. or more, before attempting to restart.

## STARTING THE ENGINE



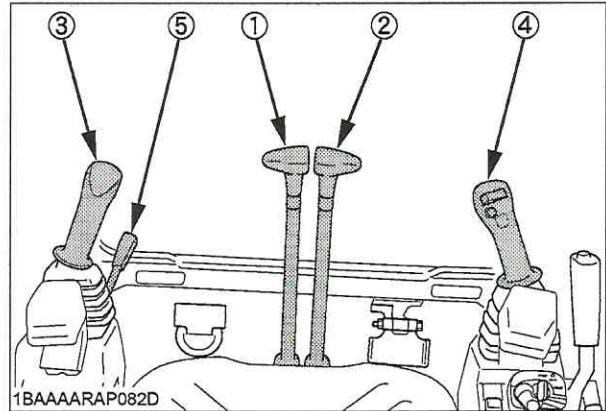
## CAUTION

To avoid personal injury:

- The operator should not depend solely on the warning lamps, but should always conduct the routine checks (see "MAINTENANCE").

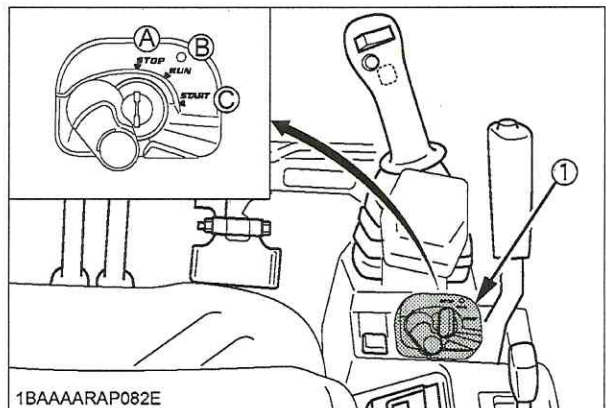
Start the engine in the following manner:

1. Before starting the engine, make sure that all control levers are in the neutral positions.



- (1) Drive lever (left)
- (2) Drive lever (right)
- (3) Attachment control lever (left)
- (4) Attachment control lever (right)
- (5) Lock lever

2. Pull the lock levers all the way back. (lock position)
  - Put the throttle lever towards
3. Insert the key into the starter switch and turn it to the position "Run". The glow lamp indicator will light up while the engine is preheated and will go out automatically after preheating is finished.

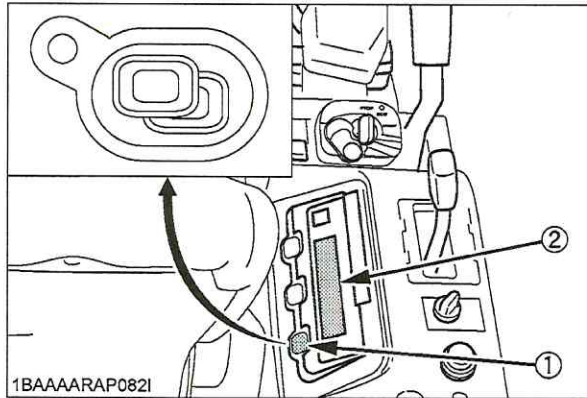


- (1) Starter switch
  - (A) "STOP"
  - (B) "RUN"
  - (C) "START"

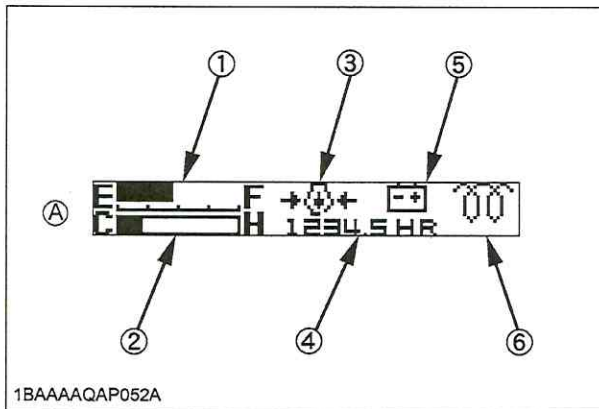
4. Turn the key to the position "START" and release after the engine has started.
5. Check if oil lamp and charge lamp have gone out. Should a warning lamp still be lit up, stop the engine then remove the key and check for the cause.

### ■ Display Selector Switch

Press the display selector switch. The LCD meter display will change from one indication mode to the other. Change the two-mode display according to your jobs.



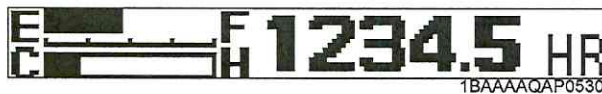
- (1) Display selector switch
- (2) LCD display



- (1) Fuel gauge
  - (2) Water temperature gauge
  - (3) Oil lamp
  - (4) Hour meter
  - (5) Charge lamp
  - (6) Glow lamp
- (A) "INDICATION MODE 1"

**NOTE :**

- With the starter key at the "STOP" position, press the electronic meter's display selector switch or the working light switch, and the LCD display shows the hour meter, fuel gauge and water temperature gauge for 10 seconds.



### ■ Charge Lamp

This warning lamp lights up if the charging system fails the engine running. When the starter switch is turned "RUN" with the engine off, the lamp lights up, and when the engine gets started, the lamp goes out. If the lamp stays on with the engine running, stop the engine and check the fan belt.

**NOTE :**

- If there is disconnection or failure in the charging system when the key is turned to "RUN", the following  symbol will appear.

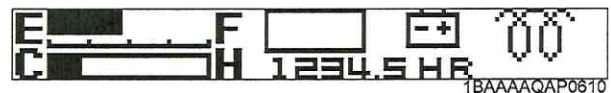


### ■ Oil Lamp

The engine oil pressure warning lamp lights up due to failure of the lubricating system with the engine running. When the starter switch is turned "RUN" with the engine off, this lamp lights up, and when the engine starts, the lamp goes out. If the lamp stays on with the engine running, stop the engine and check the engine oil level.

**NOTE :**

- If there is disconnection, failure or breakdown in the lubricating system when the key is turned to "RUN", the following  symbol will appear.



### ■ Glow Lamp

With the starter key at the "RUN" position, the engine's preheat status is indicated.

**NOTE :**

- When the starter switch is turned to the "RUN" position, the engine will be preheated for a given period of time and the lamp will turn on.
- The above indication appears momentarily when the engine is started, but it does not mean any trouble. (This is because the oil charge sensor output becomes unstable when the engine is started.)
- The  symbol appears momentarily as the engine starts. This is not an error.

■ LCD Display for Normal Operation

◆ Fuel gauge

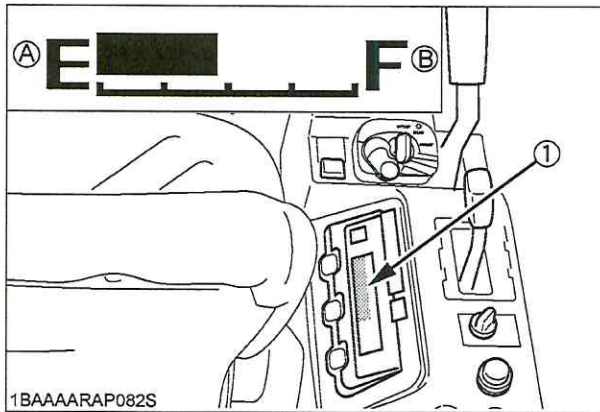


**CAUTION**

To avoid personal injury:

- Before adding fuel, be sure to stop the engine.
- Be sure to keep open flame away from the machine. Otherwise a fire may result.

With the starter key at the "RUN" position, the fuel remaining in the fuel tank is indicated in the block.



(1) Fuel gauge (A) "Empty" (B) "Full"

**NOTE :**

- If the fuel gauge indicator is near the "E" or the "FUEL" message appears, add fuel as soon as possible. If the indicator is near "E" and the machine runs on a slope, the engine may run out of fuel and get interrupted.

◆ Fuel supply

**CAUTION**

To avoid personal injury:

- If the fuel is poured too fast, the buzzer may not sound according to the fueling process.
- The moment when the fuel tank is nearly full, the buzzer starts beeping.
- Look into the fuel tank when pouring the fuel. Listen to the buzzer sound for a rough estimate of the fill-up progress.

The following functions are helpful when adding the fuel. The fueling process can be monitored by a buzzer sound.

Procedure

1. Press the work light switch or the display selector switch on the meter with the key OFF. (Keep the key at OFF.)

2. The message shown above appears.
3. Add fuel.
4. The buzzer sound interval changes according to the amount fuel added. As the fuel amount becomes close to full, the buzzer sound changes to continuous beeping.

◆ Water Temperature Gauge

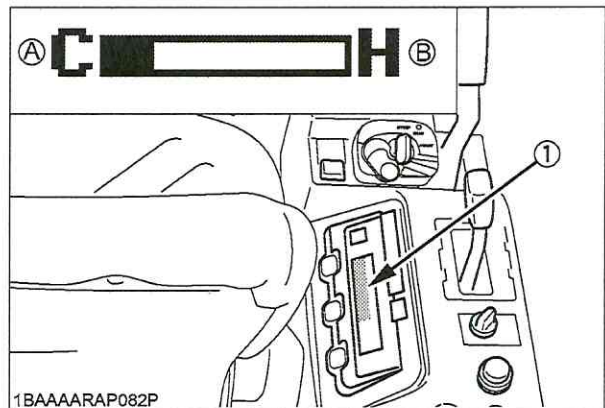
**CAUTION**

To avoid personal injury:

- Do not open the radiator cap during or just after operation. Hot coolant may gush out and scald you. Wait for the coolant to cool down before opening the cap.

With the starter key at the "RUN" position, the cooling water temperature is indicated. If the water temperature indicator is near "H", take the steps below.

1. Discontinue the job.
2. Reduce engine rpm's to idle and keep it at idle for 5 minutes.
3. Stop the engine and check the following points (1)-(3).
  - (1) Low coolant level or leak
  - (2) Fan belt tension
  - (3) Mud or dust deposits on radiator



(1) Water temperature gauge (A) "WATER TEMP LOW" (B) "WATER TEMP HIGH"

◆ Hour-meter

Indicates the total operating hours of the machine.

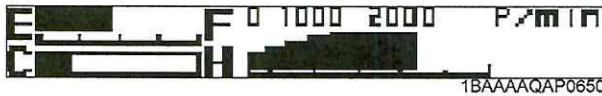
How the indicator works

- The meter advances one hour after an hour of operation regardless of the engine rpm.



◆ Engine tachometer

Indicates the current rpm of the engine.



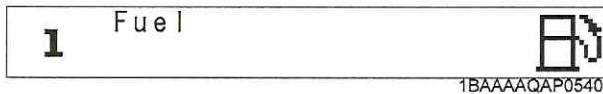
NOTE :

- The LCD display may be illegible when viewed from a certain angle. This is not a display failure.

■ LCD Display for Warning

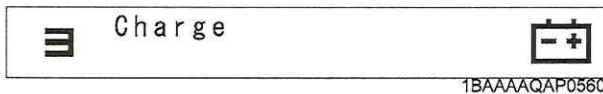
◆ Remaining fuel warning

When the fuel level is very low, the ⚠ lamp (yellow) starts flashing and the following message appears in the display.



◆ Battery charge warning

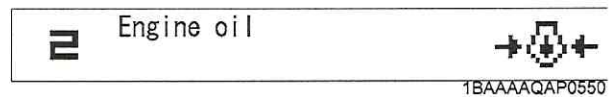
If the charging system fails, the ⚠ lamp (red) starts flashing and the following message appears in the display.



◆ Engine oil pressure low warning

When the engine oil pressure drops too low, the ⚠ lamp (red) starts flashing and the following message appears in the display.

Immediately stop the engine and check the engine oil level.



■ Warning Lamp

The warning lamp is used to indicate broken wire, short-circuit, fuel shortage and other problems.

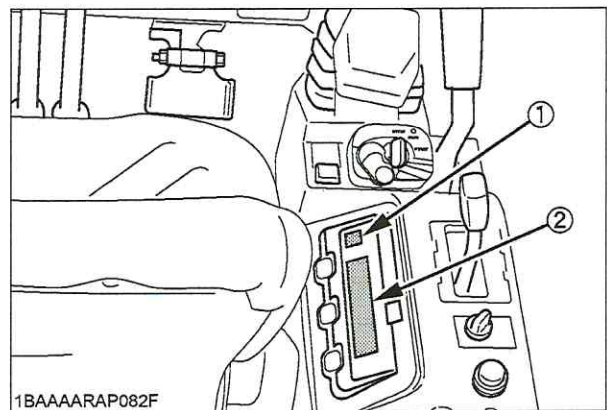
The warning lamp starts flashing in red if any trouble occurs. If the system gets in warning signal, the warning lamp starts flashing in yellow.

IMPORTANT :

- Do not just look at the meter, but also carry out the inspection and correction accordingly.

NOTE :

- The warning lamp starts flashing in red if a serious problem occurs. If the system gets in warning signal, the warning lamp starts flashing in yellow.
- Warnings and errors are displayed and an alarm buzzer beeps.
- Let your KUBOTA dealer inform you of details concerning care and maintenance.



- (1) Warning lamp (red, yellow)
- (2) LCD display