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⚠ SAFE OPERATION

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

Read and understand this section carefully, before operating the excavator.

Every user, however experienced, should carefully read and understand this section 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 storage place. (See "Where to keep Operator's Manual" in "MAINTENANCE" section.)

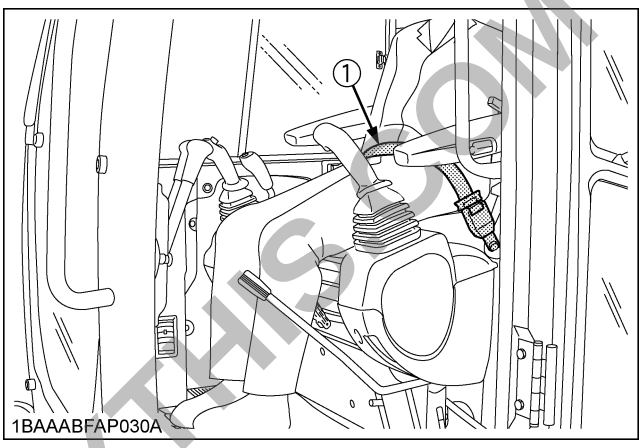
1. BEFORE OPERATION

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).

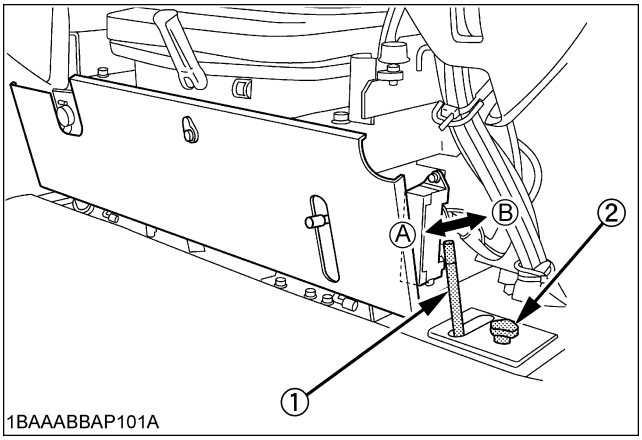
   Always use the seat belt when the machine is equipped with a ROPS/OPG (Top Guard Level I) as this combination will reduce the risk of serious injury or death, should the excavator be upset or falling objects occur.

   Do not modify any structural members of the ROPS/OPG (Top Guard Level I) 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 the ROPS/OPG (Top Guard Level I) is loosened or removed for any reason, make sure all parts are reinstalled correctly. Tighten mounting bolts to proper torque.
4. ROPS meets requirements of ISO 12117-2.
   OPG (Top Guard Level I) meets requirements of OSHA 1926･1003/ISO 10262.
5. The seat belt must be inspected regularly and replaced if damaged.



(1) Seat belt

6. Always sit in the operator's seat when starting engine or operating levers or controls.
7. 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

8. Do not operate the excavator while under the influence of alcohol, medication, controlled substances or while fatigued.

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TECHNICAL DATA

			KUBOTA EXCAVATOR		
Model name			KX080-3		
Type			Cabin		
Operating weight (including operator's weight) kg(lbs.)			Rubber tracks	Steel tracks (450 width)	Steel tracks (600 width)
			8280 (18254)	8330 (18364)	8460 (18475)
Engine	Type		Water cooled 4 cycle diesel engine with 4 cylinder		
	Model name		KUBOTA V3307DI-T		
	Total displacement cc		3331		
	Engine power	SAE gross kW(Hp)	52.2 (70.0)		
		SAE net kW(Hp)	49.6 (66.5)		
	Rated speed rpm		2000		
Performance	Unit swing speed rpm		9.5		
	Travel speed	Fast km/h	4.9		
		Slow km/h	2.7		
	Ground pressure (With operator) kPa (kgf/cm²)		36.0 (0.367)	36.2 (0.369)	27.6 (0.281)
	Climbing angle %(deg)		*36 (20)		
	Angle in case of crossing slope %(deg)		*27 (15)		
Dozer	Width x Height mm		2200 x 500		
Boom swing angle		Left rad(deg)	1.22 (70)		
		Right rad(deg)	1.05 (60)		
Pressure connection for attachments	Max.displacement (Theoretical) L/min		100		
	Max. pressure Mpa (kgf/cm²)		20.6 (210)		
Fuel tank capacity L			115		

NOTE :

- Above dimensions are based on the machine with KUBOTA original bucket and 2100 arm.
- 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.

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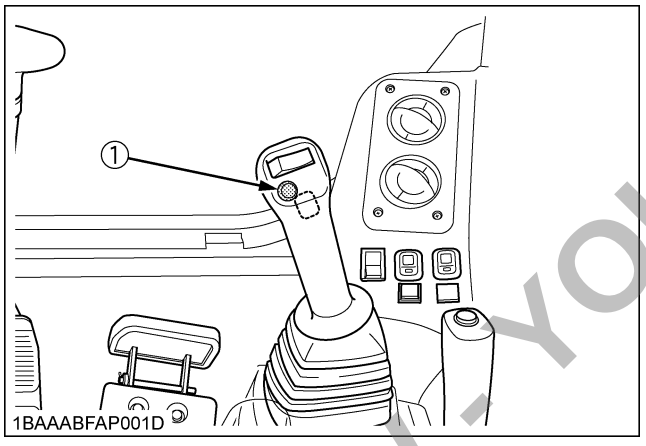
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OPERATION OF THE ENGINE

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.

NOTE :

- If you keep the attachment lock lever at **"UNLOCK"** and try to get the engine started, **"Lift up unload lever"** appears on the meter panel and the engine cannot be started. Before staring the engine, make sure the attachment lock lever is set at the **"LOCK"** position.

∃1	Lift up unload lever

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- When the engine gets started, the meter may momentarily turn off and a peep may sound. This is not a trouble. The symbol □ may also appear for a short time. This is not a trouble, either.

STARTING THE ENGINE

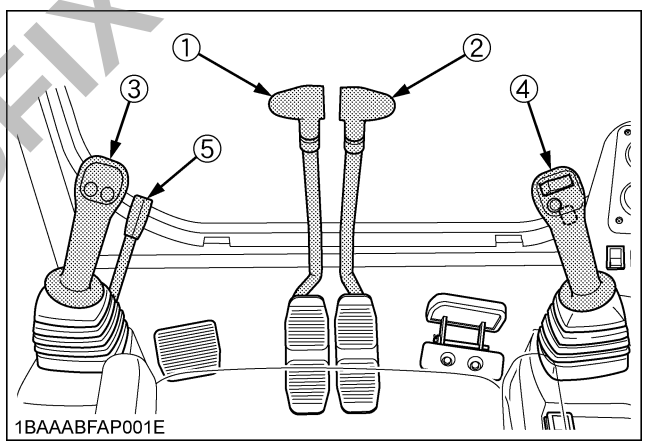
CAUTION

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.

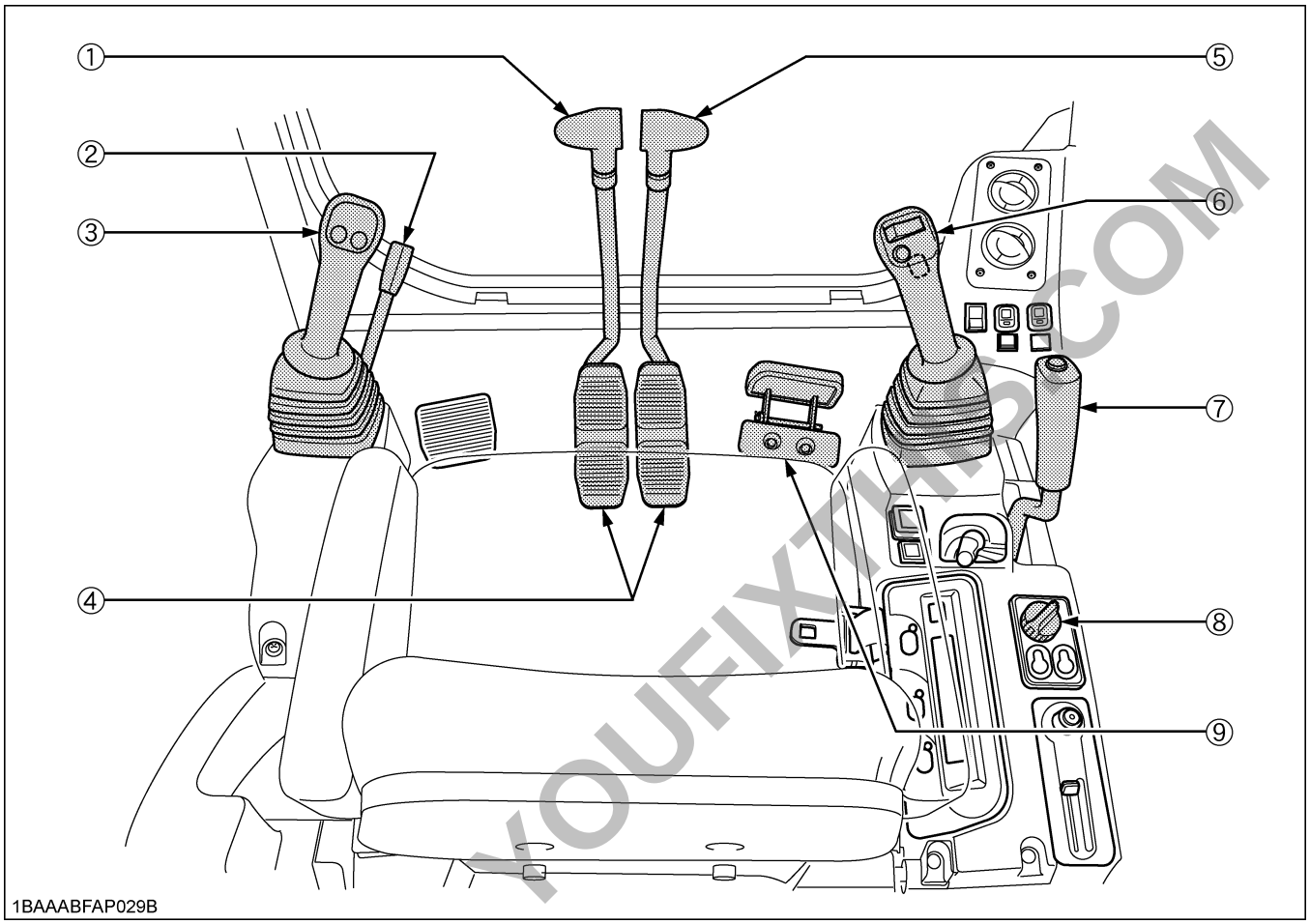


(1) Drive lever (left)
(2) Drive lever (right)
(3) Attachment control lever (left)
(4) Attachment control lever (right)
(5) Lock lever

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■ Control Pedals and Levers



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

IMPORTANT :
* When the lock lever pulled up prevents inadvertent machine movement.

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TWO PATTERN SELECTION SYSTEM(TPSS)

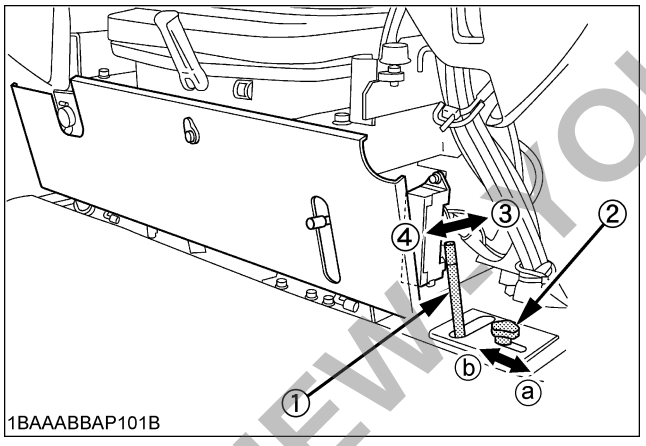
CAUTION

To avoid personal injury:

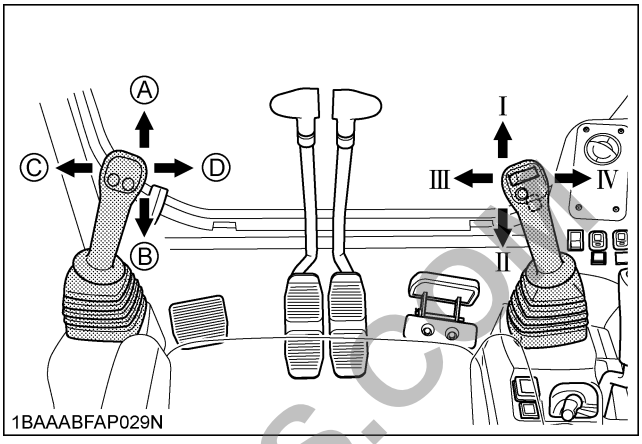
- **Study control lever pattern A and pattern B. Then choose the one which is most familiar.**
- **Position the pattern selector lever (located on the left side of operator's seat) in either the rear position (pattern A) or the front position (pattern B).**
- **Engage the lock lever to prevent accidental pattern change.**
- **Familiarize yourself with the pattern selected by operating slowly.**

■Pattern Change

1. Loosen the lever lock knob (2) and slide it to the direction (a), and position the pattern selector lever (1) to the desired position.
2. Slide the lever lock knob (2) to the direction (b) and tighten it.



(1) Pattern selector lever
(Two Pattern Selection System:TPSS)
(2) Lever lock knob
(3) Pattern A
(4) Pattern B



Lever Position		Pattern A	Pattern B
Attachment Control Lever (Left)	A	Boom down	Arm up
	B	Boom up	Arm crowd
	C	Swing left	Swing left
	D	Swing right	Swing right
Attachment Control Lever (Right)	Ⅰ	Arm up	Boom down
	Ⅱ	Arm crowd	Boom up
	Ⅲ	Bucket crowd	Bucket crowd
	Ⅳ	Bucket dump	Bucket dump

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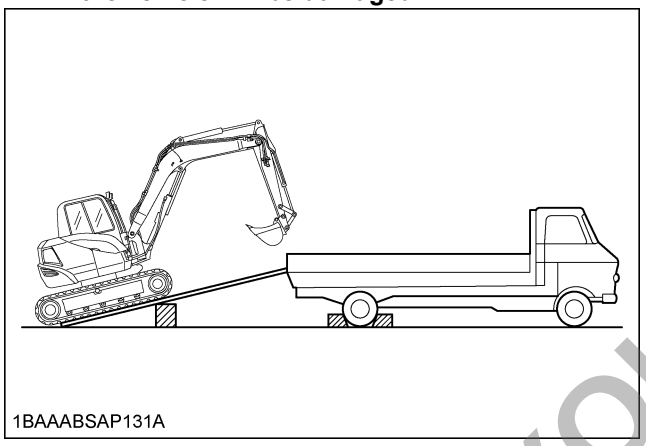
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TRANSPORTING THE EXCAVATOR ON A VEHICLE

DANGER

To avoid serious injury or death:

- **No directional changes should be made when the excavator is on the ramp. Should a change of direction be necessary, drive off the ramp completely and make the turn.**
- **When driving forwards or backwards onto the vehicle, or when swinging the upper body, make sure that neither the CAB or the gates of the vehicle will be damaged.**



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- **When the excavator reaches the point between the ramps and the bed, halt and then move very slowly until the excavator reaches the horizontal position.**
- **Move the excavator onto the vehicle only with the arm completely pulled in.**
- **Do not jack up the machine using its boom to load or unload the excavator from the vehicle. Doing this is dangerous.Otherwise the CAB of the vehicle could be damaged when swinging around the upper body.**
- **Make sure the ramp are of sufficient capacity and securely connected to the vehicle to safety support the machine throughout the loading / unloading operation.**

■ Transporting on a truck

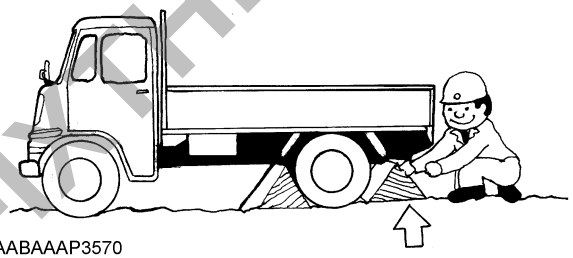
WARNING

To avoid personal injury or death:

- **After loading the machine on the truck, lower the bucket and dozer onto the truck bed.**

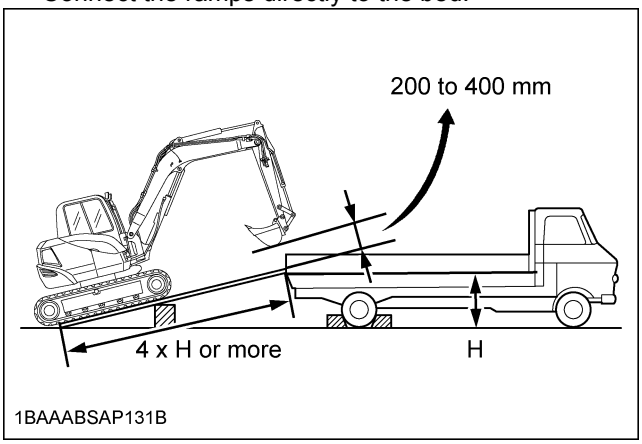
Prepare a platform to load or unload the excavator.Take following steps when using ramps.

1. Apply the parking brakes of the vehicle, and block the drive wheels from both sides.



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2. Use mounting brackets secure the ramp properly. Connect the ramps directly to the bed.



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MAINTENANCE

MAINTENANCE INTERVALS

No.	Check points		Measures	Hour meter indicator									Interval	Ref. page		
				50	100	150	200	250	300	350	400	450				
1	Coolant		check	Daily check										54		
			change										every 2 years	75		
2	Fuel		check	Daily check										54		
3	Engine oil		check	Daily check										55		
			change	◉					○				every 250 hrs	67		
4	Hydraulic oil		check	Daily check										56		
			change										every 1000 hrs	72		
5	Grease front attachments	Bucket and bucket link pin	-	Daily check										68		
		Boom swing fulcrum	-		○		○		○		○		every 100 hrs	61		
		Others	-					○					every 250 hrs	68		
6	Radiator and oil cooler / Engine oil cooler		check	Daily check										57		
7	Washer liquid		check	Daily check										58		
8	Engine and electrical wiring		check	Daily check									every year	58		
9	Fuel tank, Water separator		drain	○	○	○	○	○	○	○	○	○	every 50 hrs	59,59		
10	Battery condition		check	○	○	○	○	○	○	○	○	○	every 50 hrs	60		
11	Greasing swing bearing teeth		-	○	○	○	○	○	○	○	○	○	every 50 hrs	61		
12	V-belt tension		check	Daily check										56		
			adjust				○				○		every 200 hrs	62		
13	Radiator hoses and clamps		check				○				○		every 200 hrs	63		
			replace										every 2 years	74		
14	Air filter element	Outer element	clean				○				○		every 200 hrs	63	*2	
			replace										every 1000 hrs	73	*2	@
		Inner element	replace										every 1000 hrs	73	*2	
15	Greasing swing ball bearing		-				○				○		every 200 hrs	64		
16	Fuel filter cartridge		replace										every 500 hrs	70		@
17	Engine oil filter		replace	◉					○				every 250 hrs	68		
18	Drive unit oil		change		◉								every 500 hrs	69		
19	Hydraulic return filter cartridge		replace					◉					every 500 hrs	70		
20	Hydraulic suction filter element		replace										every 1000 hrs	72		
21	Filter in the pilot hydraulic system		replace										every 1000 hrs	71		
22	Fuel injection nozzle injection pressure		check										every 1500 hrs	74	*4	@
23	Front idler and track roller oil		change										every 2000 hrs	74		
24	Alternator and starter motor		check										every 2000 hrs	74		
25	Injection pump		check										every 3000 hrs	74	*4	@
26	Radiator system		rinse										every 2 years	75		
27	Fuel line and Intake air line		check				○				○		every 200 hrs	65		@
			replace										every 2 years	76	*3	

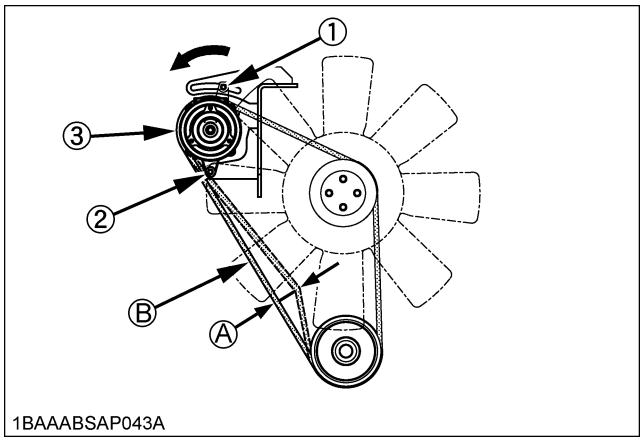
∗ 500 thru 1000 continued to the following table.

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◆ **Checking and adjustment of the fan belt tension**

1. Press the fan belt down in the middle, with a force of approx. 10 kg. The belt tension is correct if it deflects about 20 mm. If otherwise, loosen bolt (1) and (2) and shift the air-compressor (3) in the direction shown by the arrow.
2. Replace the fan belt if worn out, cracked or torn.



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(1) Bolt
(2) Bolt
(3) Air-compressor
(A) about 20 mm
(B) approx. 10 kg

IMPORTANT :

- If the engine is run with a loose fan belt, the belt could slip and cause overheating of the engine. Check fan belt tension regularly.
- If the engine is run with a loose fan belt, the belt could slip and cause insufficient battery charging. Check fan belt tension regularly.
- Should the fan belt break or jump off, the indicator light for battery charge will light up. Stop the engine and remove the key immediately.

■Checking Radiator Hoses and Clamps

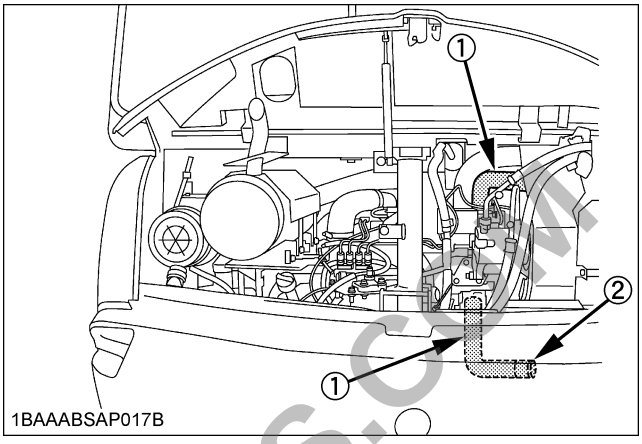
CAUTION

To avoid personal injury:

- **Wait long enough for the radiator coolant to cool down.**

Check the water hoses for proper connection. This check should be carried out every 200 hours or every 6 months, whichever comes first.

1. Should the hose clamps become loose or water leaks, tighten the hose clamps properly.
2. Should the radiator hoses become swollen, aged or cracked, they must be replaced and the hose clamps tightened again properly.



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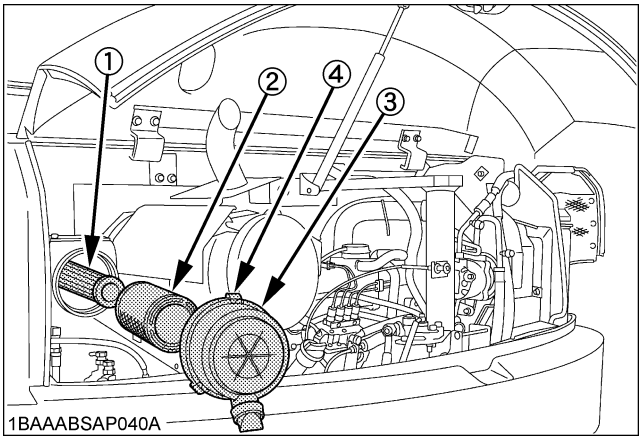
(1) Radiator hoses
(2) Hose clamps

■Inspection and Cleaning Air Filter Element

Open the engine hood and remove the dust-cover. Take out only outer element, clean the element, case interior and reassemble. During reassembly, take care to install the dust-cover so that its TOP mark (arrow) faces upwards. Do not remove the inner element.

IMPORTANT :

- Should the machine be used in extremely dusty areas, the air filter element must be inspected and cleaned more frequently than in the specified maintenance periods.
- The air filter has a dry element, keep free from oil.
- Do not run the engine without the air filter.



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(1) Inner element
(2) Outer element
(3) Dust-cover
(4) Clamps

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EVERY 250 SERVICE HOURS

Do all 50 hour servicing at the same time.

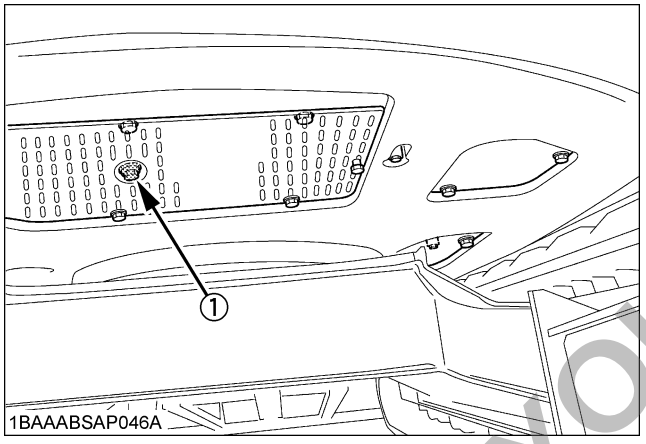
■Engine Oil Change (First Engine Oil Change after 50 Service Hours)

CAUTION

To avoid personal injury:

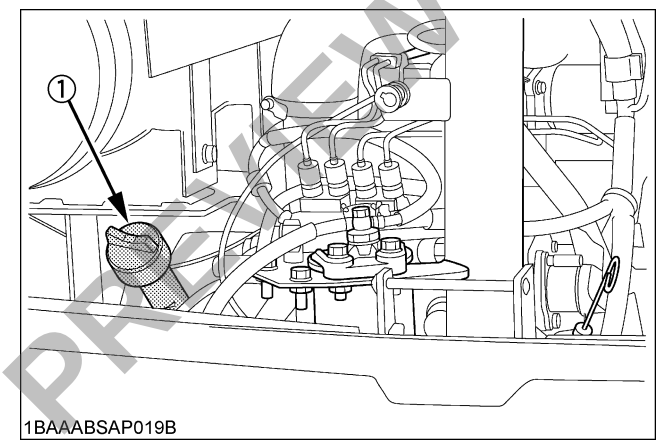
- **First stop the engine then remove the key and wait long enough for the oil to cool down.**

1. Remove the drain plug on the underside of the engine and drain all oil.
2. Re-tighten the drain plug.

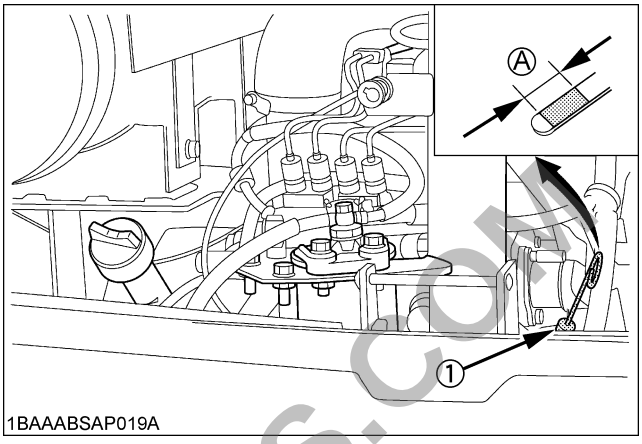


(1) Drain plug

3. Fill up with new oil through the filling port to the specified level.



(1) Oil filling port



(1) Engine oil dipstick (A) Required oil level range

4. Let the engine idle for approx. 5 min. Check the engine oil level. To check the engine oil level, insert the engine oil dipstick completely into the respective port opening and pull out again. If the oil level lies between both markings, no oil must be added.

IMPORTANT :

- Regardless of the service hours, an engine oil change is due every 1 year.

Engine oil volumes (with engine oil filter)	10.8 L

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■Battery

DANGER

To avoid the possibility of a battery explosion:
For refillable type battery, follow the instructions below.

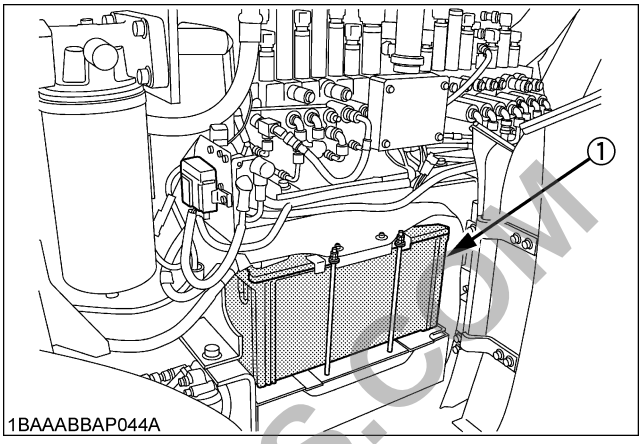
- **Do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Otherwise, the battery component parts may prematurely deteriorate, which may shorten the battery's service life or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.**

CAUTION

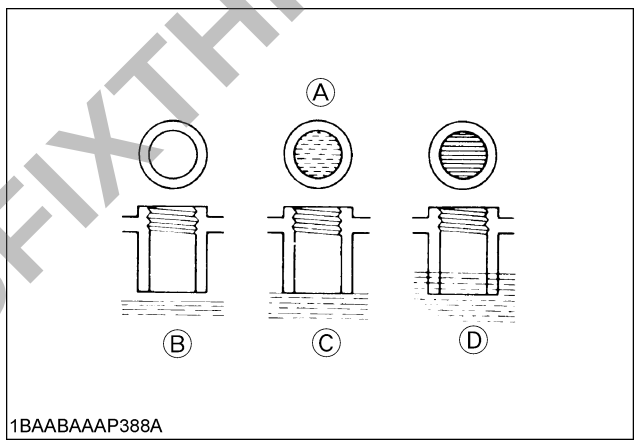
To avoid personal injury:

- **Never remove the vent caps while the engine is running.**
- **Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately and get medical attention.**
- **Wear eye protection and rubber gloves when working around the battery.**
- **Before inspection or dismounting the battery, be sure to turn off the engine and turn the starter switch to the "OFF" position.**
- **When removing the battery, always disconnect the negative ground cable first. When installing a battery, always connect the ground cable last. This prevents a possible explosion caused by sparks.**
- **Always wear eye protection when working with the battery.**

1. Open the side cover. (See "Opening / Closing of the Side Cover in "MAINTENANCE" section.)
2. Check the battery fluid level and add distilled water if necessary.
3. Should battery fluid be spilt, fill with sulphuric acid solution of the same concentration.
4. Clean the battery caps (ventilation holes).



(1) Battery



(A) Battery fluid level
(B) "Too low"
(C) "Correct"
(D) "Too high"

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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.
Please note that there may be some differences between your actual machine and the illustration in the instructions.

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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, may 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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