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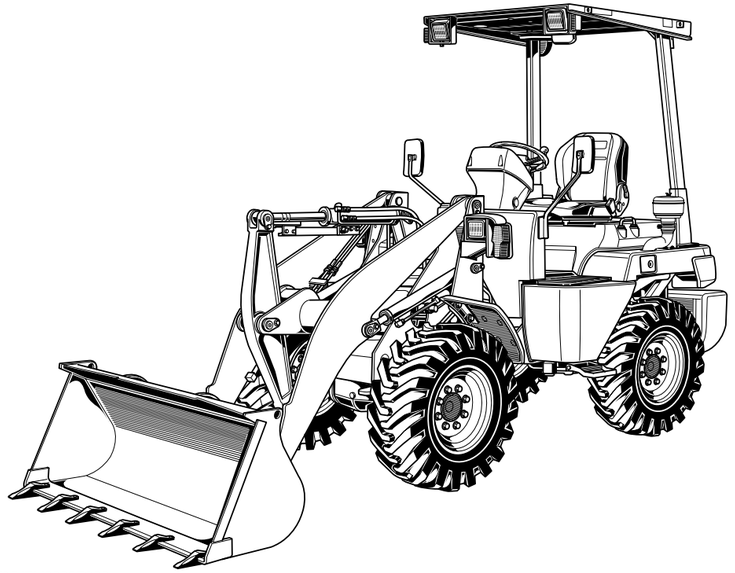
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OPERATOR'S MANUAL

KUBOTA WHEEL LOADER

MODEL R430



1YYPV00007000

READ AND SAVE THIS MANUAL

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Kubota

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SAFE OPERATION

Careful operation is your best insurance against an accident.
Read and understand the *Safe operation* section carefully, before operating the wheel loader.
All operators, no matter how much experience they may have had, should read this and other related manuals before operating the machine or any attachment. It is the owner's obligation to instruct all operators in safe operation.

PRECAUTIONS BEFORE OPERATING THE WHEEL LOADER

1. General precautions

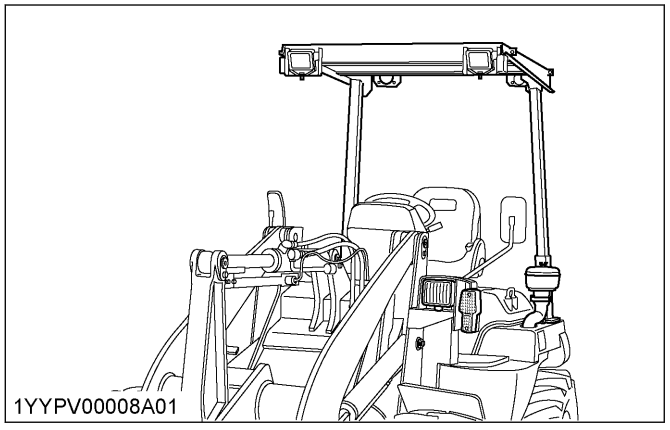
Know your equipment and its limitations. Read and understand this entire manual before starting and operating the machine.

- If using an attachment on the machine, read the attachment operator's manual to ensure the safe operating procedures.
- Pay special attention to the safety labels on the machine and the attachments.
- Do not start or operate an unsafe machine. Before working the machine, be sure that any unsafe condition has been satisfactorily remedied. Check brakes, steering, and attachment controls before moving. Consult a proper maintenance authority if any malfunctioning part of the system is observed. Be sure all safety appliances are in the right place and in good operating condition.
- Wear and use safety gear such as non-slip safety shoes or boots, safety glasses, and safety hardhats as appropriate for the job. Do not operate or work around the machine, when wearing loose, bulky clothing.
- Never operate the machine or any equipment while under the influence of alcohol or other drugs, or while fatigued.
- Before allowing other people to use your machine, give instruction to the operator on safe and correct use of the machine and make sure that the operator reads and understands the Operator's Manual for the machine.
- Inspect your seat belt daily for signs of fraying, wear or other weakness that could endanger your safety.
- Do not use the loader bucket or an attachment to lift or carry a person.
- Do not use the bucket or any other working attachment of the machine for crane work.
  Otherwise, the machine may lose its balance and overturn.
- Use the following precautions when changing the attachment.
  1. Position the machine and attachment on level ground.
  2. Make sure that no persons are in the immediate vicinity of the machine.
  3. When actuating the machine to change the front attachment:
     a. Lower the bucket and attachment to the ground.
     b. Actuate the parking brake switch.
     c. Stop the engine (for machines with mechanical quick coupler).
     d. Release the hydraulic pressure in the hydraulic system by operating the appropriate control levers (for machines with mechanical quick coupler).
     e. Lock all control levers in neutral.
  4. After changing the front attachment, make sure that the installed attachment is securely attached to the quick coupler.

2. Precautions of ROPS and FOPS

Know your equipment and its limitations. Read and understand this entire manual before starting and operating the machine with the ROPS and FOPS.

- For your safety, KUBOTA installs a ROPS (roll-over-protective-structure) and a FOPS (falling-objects-protective-structure) with a seat belt. Always use the seat belt when the machine is equipped with canopy.
  OSHA regulations and SAE standard require the ROPS and FOPS on wheel loaders, bulldozers, truck type loaders, graders, and scrapers.



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SPECIFICATIONS

SPECIFICATION TABLE

Model				**R430**
Type				**Canopy**
*1Operating weight			kg	3080
Bucket capacity			m^3	0.38
Engine	Manufacturer			KUBOTA
	Model			Water-cooled D1803-CR-TIE4-WL5
	Horse power	SAE J1995	kW/rpm (HP/rpm)	35.5/2600 (47.6/2600)
		SAE J1349	kW/rpm (HP/rpm)	33.2/2600 (44.5/2600)
	Number of cylinders			3
	Displacement		cc	1826
	Starter		V/kW	12/1.4
	Battery		V/kW	12/52
Dimensions	Overall length		mm	4265
	Overall width (without bucket)		mm	1520
	Overall height		mm	2515
	Min. ground clearance		mm	280
	Wheel base		mm	1775
	Tread		mm	1180
	Angle of articulation		Deg	40 each
	Angle of oscillation		Deg	8 each
	Turning radius (w/QC bucket)		mm	3665
Bucket	Hinge pin height		mm	2805
	Dump height (w/teeth)		mm	2150
	Reach fully raised (w/teeth)		mm	805
	Tipping load	Straight (ISO 14397-1)	kg (kN)	2010 (19.7)
		Full turn (ISO 14397-1)	kg (kN)	1734 (17.0)
	Rated operating capacity (ISO 14397-1)		kg (kN)	868 (8.5)
	Breakout force (ISO 14397-2)		kgf (kN)	2661 (26.1)
Traveling	Drive system			4WD
	Tire			12.5/70-16-8PR
	Traveling speed	Forward	km/h	0 to 20
		Reverse	km/h	0 to 20
	Traction force		kgf (kN)	2488 (24.4)
Auxiliary	Max. flow rate (theoretical)		L/min	42.1

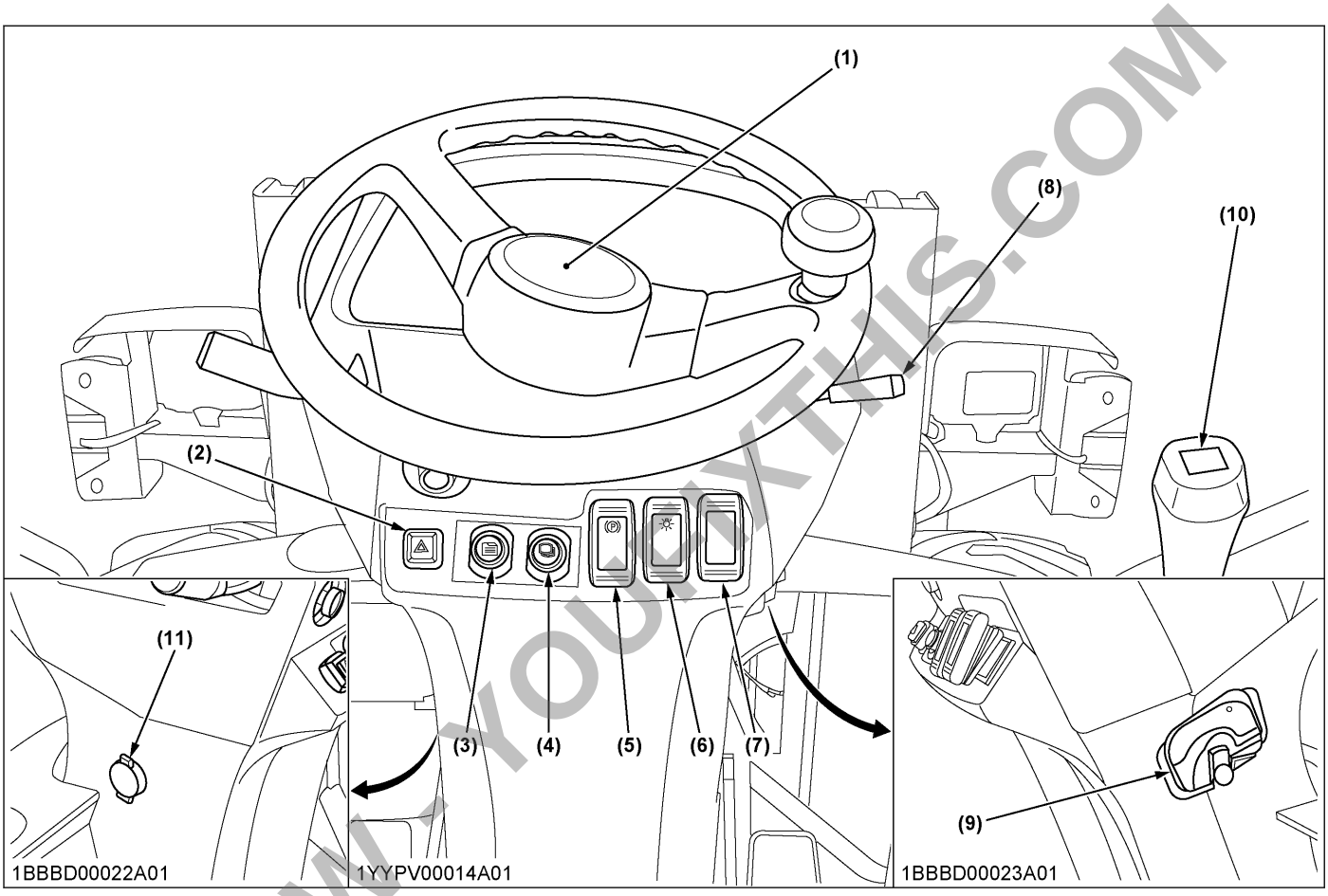
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INSTRUMENT PANEL AND CONTROLS

SWITCHES

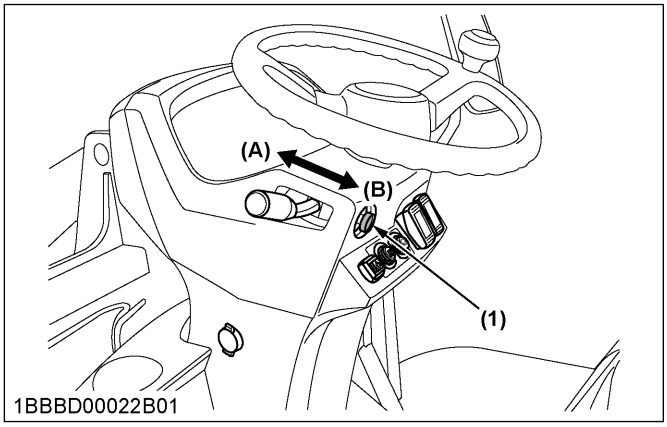


(1) Horn switch
(2) Hazard lamp switch
(3) User setting switch
(4) Display selector switch
(5) Parking brake switch
(6) Light switch
(7) Working light switch [only for canopy]
(8) Turn signal switch
(9) Starter switch
(10) Travel speed switch
(11) Electrical outlet

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1. To lock the shuttle-change-lever, push the shuttle-change-lever-lock-knob with the shuttle-change-lever in the neutral position.
2. To unlock the shuttle-change-lever, pull the shuttle-change-lever-lock-knob.



(1) Shuttle change lever lock knob
(A) Lock
(B) Unlock

5. Control lever lock knob

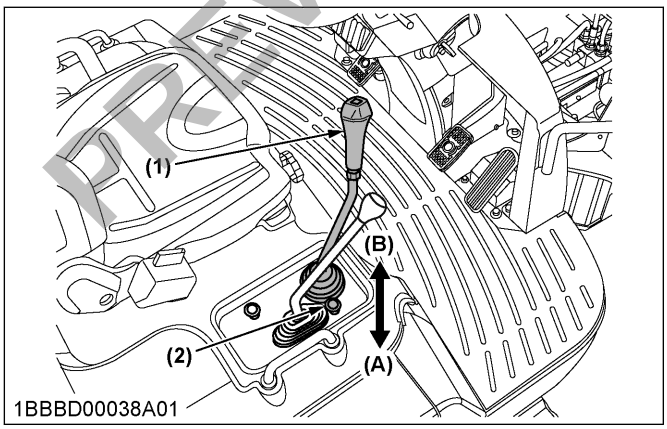
Control-lever-lock-knob locks the control lever.

⚠ WARNING

To avoid personal injury or death:

- **When dismounting the machine or when servicing the machine, be sure to set the parking brake, stop the engine, lower the bucket and the attachment to the ground, and release the hydraulic pressure in the hydraulic system by operating control levers. Lock all control levers in neutral, and remove the starter key.**

1. To lock the control lever, push the control-lever-lock-knob with the control lever in the neutral position.
2. To unlock the control lever, pull the control-lever-lock-knob.



(1) Control lever
(2) Control lever lock knob
(A) Lock
(B) Unlock

6. Auxiliary port lever lock knob

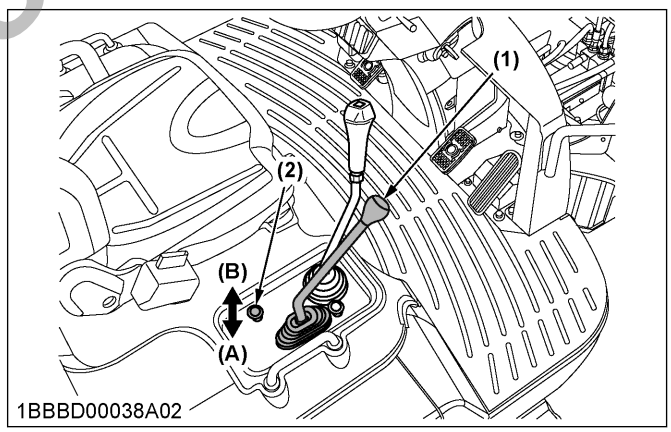
Auxiliary-port-lever-lock-knob locks the auxiliary-port-lever.

⚠ WARNING

To avoid personal injury or death:

- **When dismounting the machine or when servicing the machine, be sure to set the parking brake, stop the engine, lower the bucket and the attachment to the ground, and release the hydraulic pressure in the hydraulic system by operating control levers. Lock all control levers in neutral, and remove the starter key.**
- **In case of the auxiliary-port-lever is used for the hydraulic-quick-coupler, always lock the auxiliary-port-lever after installing the front attachment (bucket, and so on) to the hydraulic-quick-coupler. If the machine is operated without the lock, it causes serious injury or death.**

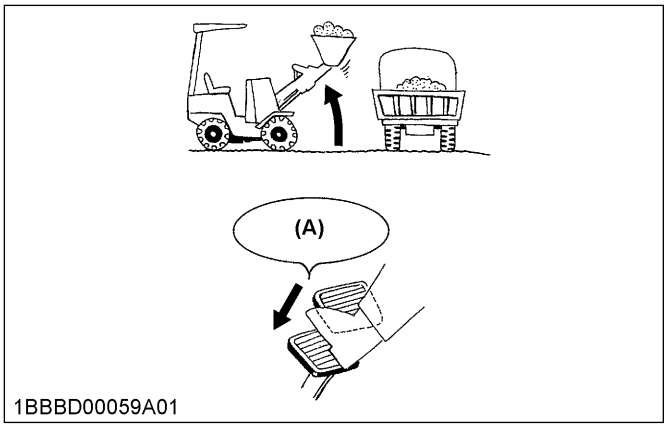
1. To lock the auxiliary-port-lever, push the auxiliary-port-lever-lock-knob with the auxiliary-port-lever in the neutral position.
2. To unlock the auxiliary-port-lever, pull the auxiliary-port-lever-lock-knob.

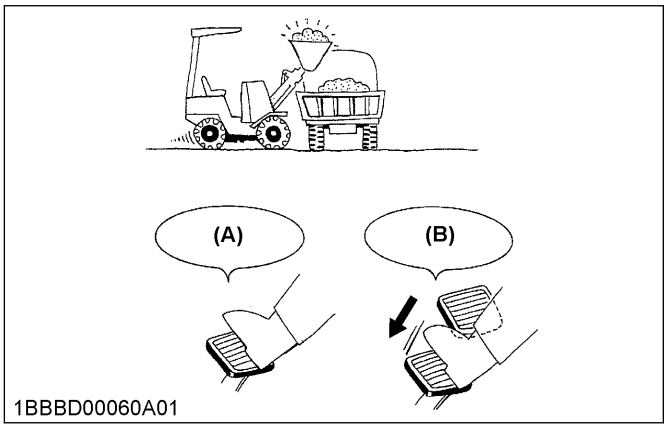


(1) Auxiliary port lever
(2) Auxiliary port lever lock knob
(A) Lock
(B) Unlock

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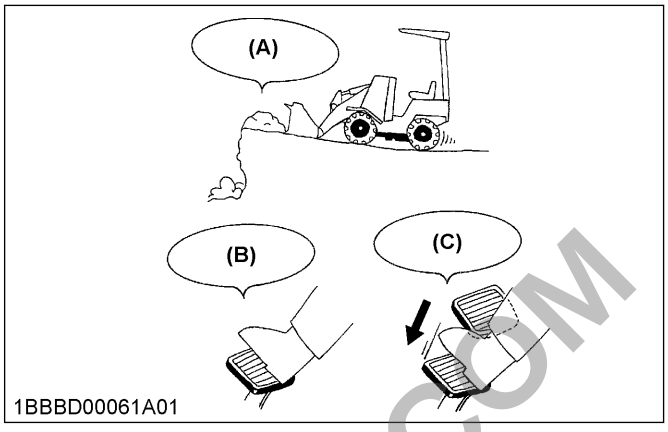




(A) Press the inching and brake pedal slightly
(B) Press the inching and brake pedal all the way

Refilling

1. Press the inching-and-brake-pedal slightly to approach the desired stop position.
2. Then press the inching-and-brake-pedal all the way to stop the machine at the exact position.
   - The traveling speed automatically decreases to prevent the engine stalling as the external load increases.
   - During traveling with bucket operation, the traveling speed abruptly increases at the time of dumping operation since the external load changes at that time.
3. Use the inching-and-brake-pedal and concentrate the power to the attachment operation near holes or slopes.



(A) Leave one pile
(B) Press the inching and brake pedal slightly
(C) Press the inching and brake pedal all the way

TYPICAL JOBS USING A WHEEL LOADER

⚠ WARNING

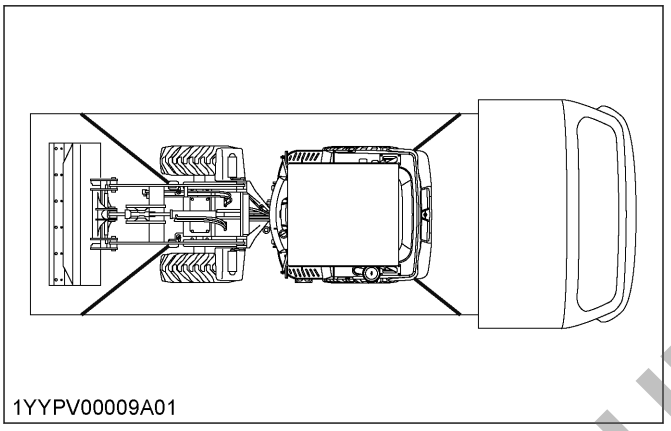
To avoid personal injury or death:

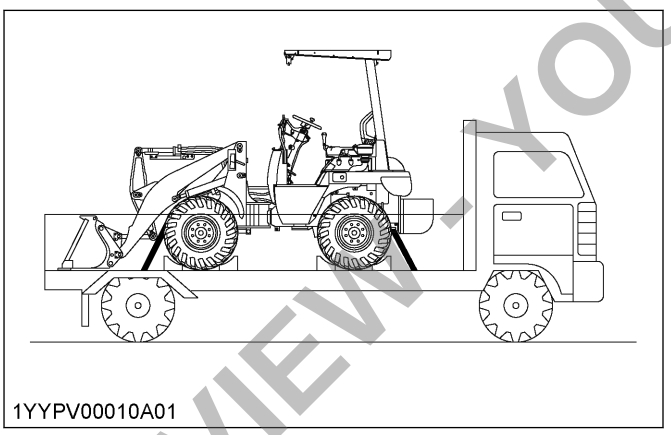
- **When transporting a load, keep the loader bucket as low as possible to avoid tipping over. Be extremely careful when working on inclines.**
- **Avoid unreasonable operation such as on dangerous terrain, beyond the load capacity, or beyond the intended use of the machine because it may cause the machine to tip over.**
- **Slow down before entering ungraded terrain.**
- **Do not drive the machine close to the edges of ditches or banks which may collapse under the weight of the machine especially when the ground is loose or wet.**
- **Operating on slopes in rain, in snow, at loose gravel, at soft ground, and so on can be dangerous because such situations will change the ground conditions.**
  Do not operate this machine in questionable ground conditions.
- **Never perform digging or shoveling with the machine in the articulated condition.**
- **Never dig or shovel at high speed.**
  Such operation can cause the machine to lose balance and its rear wheels to lift off the ground, which may cause a serious accident in turn.
- **To avoid possible tip over of machine, do not operate the machine in any site whose terrain cannot be ascertained, such as ground covered with weeds or snow. Check for hidden projections, dents, road shoulders, and so on, beforehand, and take care not to approach them during work.**
- **Be sure to ease up on the accelerator at the end of backfilling grooves, the areas at the edge of**

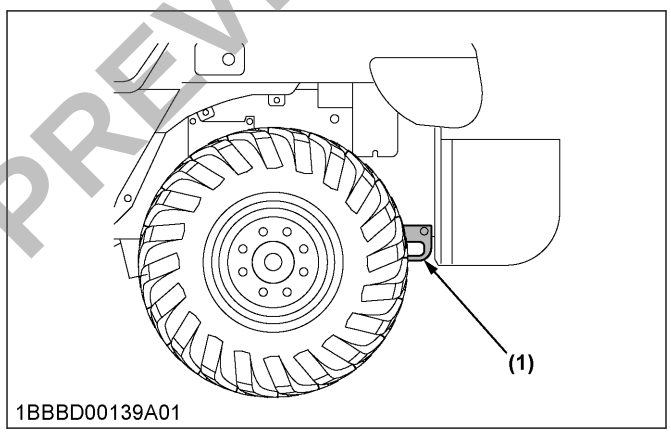
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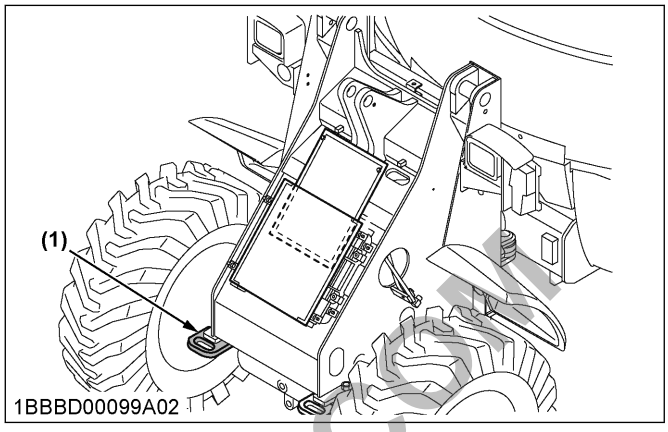
- **Check to see that the longitudinal axis of machine aligns with that of the truck bed.**
- **Set the parking brake, stop the engine and remove the starter key.**
- **Lower the bucket and attachment to the truck bed.**
- **Release the hydraulic pressure in the hydraulic system by operating control levers.**
- **Lock all control levers in neutral.**
- **Secure the steering-frame-lock.**
- **Block the wheels of machine.**
- **Securely fasten the machine to the truck with straps or chains.**


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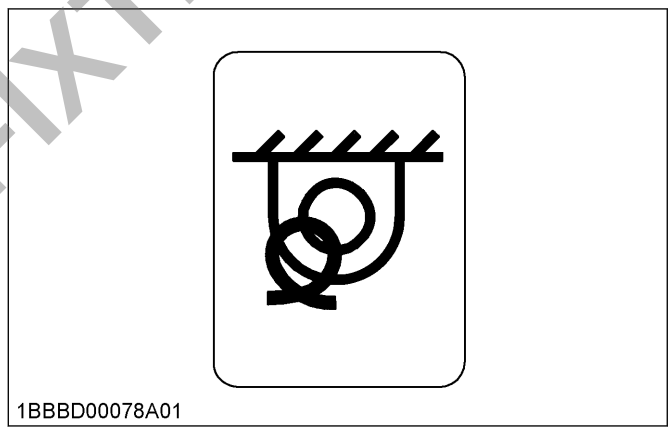
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(1) Lug (Both sides)

WARNING

To avoid personal injury or death:

- **Use the locations indicated by marks in the diagram to tie down the machine**


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2. Changing the engine oil

Change the engine oil every 250 hours, or every 6 months in the case that service hour is less than 250 hours.

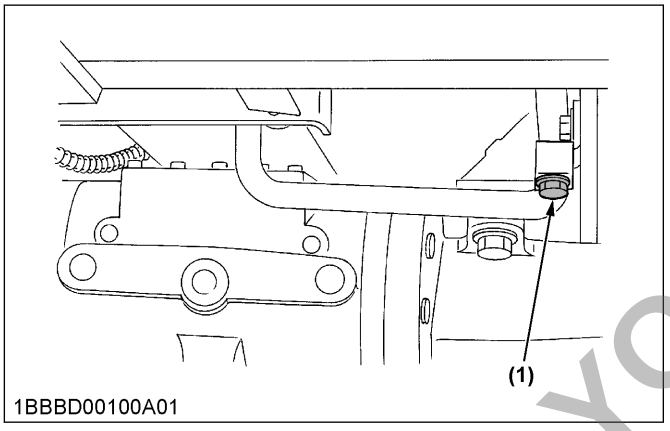
⚠ WARNING

To avoid personal injury or death:

- **Always stop the engine before changing the engine oil.**
- **Never open the oil-drain-plug immediately after the engine has stopped, or hot engine oil may rush out, causing scalding.**

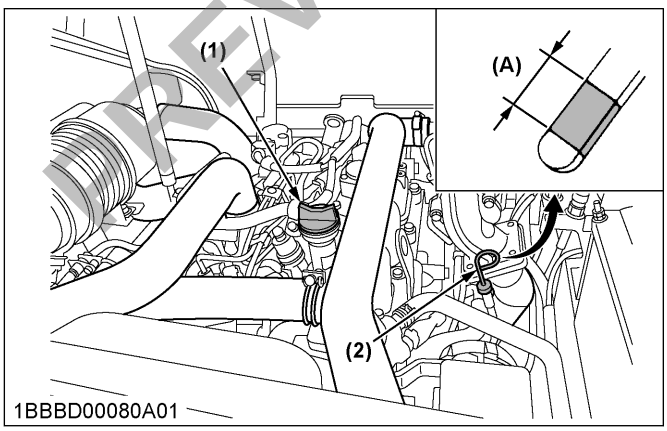
1. Remove the oil-drain-plug at the engine-oil-drain and drain the engine oil.

Oil drain plug	WOF 19 mm



(1) Oil drain plug

2. After the engine oil is fully drained, refit the oil-drain-plug with a new seal.
3. Fill the engine oil into the oil port up to the correct level.
4. Idle the engine for a short while.
5. About 5 minutes after stopping the engine, check the level of engine oil with the oil dipstick.



(1) Oil port
(2) Oil dipstick
(A) Proper oil level

Engine oil capacity	5.0 L

IMPORTANT :

- **Use the engine oil of appropriate viscosity according to ambient temperature.**
- **Change the engine oil once every 6 months regardless of the running time on the machine.**
- **Change the oil filter when you change the engine oil.**

3. Replacing the engine oil filter cartridge

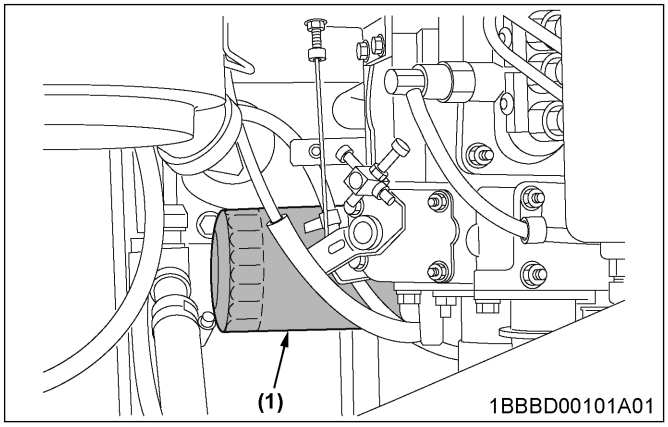
Change the engine oil filter every 250 hours, or every 6 months in the case that service hour is less than 250 hours.

⚠ WARNING

To avoid personal injury or death:

- **Always stop the engine before replacing the engine-oil-filter-cartridge.**
- **Never remove the oil filter immediately after the engine has stopped, or hot engine oil may rush out, causing scalding.**

1. Replace the engine-oil-filter-cartridge at the same time engine oil is changed.
2. Use the supplied filter wrench to remove the oil filter.



(1) Engine oil filter cartridge

3. Apply a thin layer of engine oil to the gasket of the oil filter and firmly tighten it in place by hand.
4. Top up the engine oil if necessary.
5. Idle the engine briefly.
6. Check the level of engine oil about 5 minutes after switching off the engine with the oil dipstick.

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RECOMMENDED OILS

RECOMMENDED OIL LIST

IMPORTANT :

- **Before delivery, the hydraulic oil used is JXTG Nippon Oil and Energy Diesel DH-1/CF.**
- **Use the engine oil of API service classification CJ-4.**
- **Use SAE 80W (API, GL-4, GL-5) as drive unit oil for all seasons.**

	Application	Viscosity	Shell	ExxonMobil
Gear oil	All-weather gear oil	SAE 80W	Shell Donax TD	
Hydraulic oil	In winter or by low temperatures	SAE 5W-30 SAE 10W-30		
	In summer or by high ambient temperatures	SAE 10W-30 SAE 15W-40		
Grease			Shell Alvania EP2	Mobilux EP2
Fuel			Diesel Fuel No.2-D S15	
Fuel under -5 ℃			Diesel Fuel No.1-D S15	

NOTE :

- **Engine oil**
  - **Use the engine oil of suitable American-petroleum-institute (API) service classification and with proper SAE-engine-oil-standards according to the ambient temperatures.**

Above 25 ℃	SAE 30 or SAE 10W-30, SAE 15W-40
0 ℃ to 25 ℃	SAE 20 or SAE 10W-30, SAE 15W-40
Below 0 ℃	SAE 10W or SAE 10W-30, SAE 15W-40

  - **See the following table for the suitable API classification engine oil and the fuel.**

Fuel used	Engine oil classification (API classification)
	Oil class of engines except external DPF
Ultra Low Sulfur Fuel [＜ 0.0015% (15 ppm)]	CJ-4

- **Fuel**
  - **Use the ultra-low-sulfur-diesel-fuel of the following concentrations only for these engines.**

Ultra low sulfur diesel fuel	Below 0.0015% (15 ppm)

  - **Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for the following temperatures or elevations.**

Temperatures	Below -20 ℃
Elevations	Above 1500 m

  - **Diesel fuels specified to the following are recommended.**

Diesel fuel	EN 590 or ASTM D975

  - **The following is a distillate fuel of lower volatility for engines in industrial and heavy mobile service (SAE J313 JUN87).**

Distillate fuel	No. 2-D

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- **Indicated capacities of water and oil are manufacture's estimate.**

IMPORTANT :

- **Filters must trap fuel and lubricant sulfate additives (Zn, Pb, Na, K, Ca, Mg, Cu, Ba, P, and so on) as ash during combustion.**
  Control the fuel carefully to prevent the additives being mixed into fuel such as the fuel tank anti-oxidants, the water remover, the antifreeze, and so on.

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