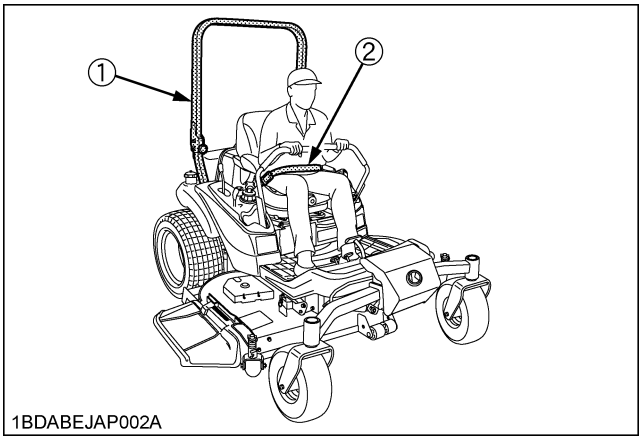
⚠ SAFE OPERATION

Careful operation is your best insurance against an accident. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property. Read and understand this manual carefully before operating the machine. All operators, no matter how much experience they may have had, must read this and other related manuals before operating the machine or any implement attached to it. It is the owner's obligation to instruct all operators in safe operation.
If the operator(s) or mechanic(s) cannot read English it is the owner's responsibility to explain this material to them.
This mowing machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

1. BEFORE OPERATING

1. The ZERO TURN MOWING MACHINE has different steering characteristics than other machines with a steering wheel and does not have a service brake pedal (but, has a parking brake lock pedal that can be used to stop the machine in an emergency. Normal slowing down and stopping is done with the motion control levers.). Read and understand the operators manual before operating the machine. Practice operating machine at low engine speed without mower engaged in an unobstructed area.
2. Know your equipment and its limitations. Read all instructions in this manual before attempting to start and operate the machine.
3. Pay special attention to the danger, warning and caution labels on the machine itself.
4. The ROPS is an integral and effective safety device.
   KUBOTA recommends the use of a Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the machine be upset.
   The machine is equipped with a Foldable ROPS, which may be temporarily folded down only when absolutely necessary for areas with height constraints. There is no operator protection provided by the ROPS in the folded position. For operator safety you must set the ROPS in the upright and locked position and put on the seat belt for all other operations.
   DO NOT remove the ROPS.
   If the ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the machine.
   Never modify or repair a ROPS because welding, bending, drilling, grinding, or cutting may weaken the structure.
   If any structural member of the ROPS is damaged, replace the entire structure at your local KUBOTA Dealer. Any alterations to a ROPS must be approved by the manufacturer.
   Check the area to be mowed and never fold down a folding ROPS in areas where there are slopes, drop offs or water.
   Check carefully for overhead clearances (i.e. branches, doorways, electrical wires) before driving under any objects and do not contact them.
   Keep the ROPS in safe operating condition by periodically thoroughly inspecting for damage and keeping all mounting fasteners tight.



(1) ROPS
(2) Seat belt

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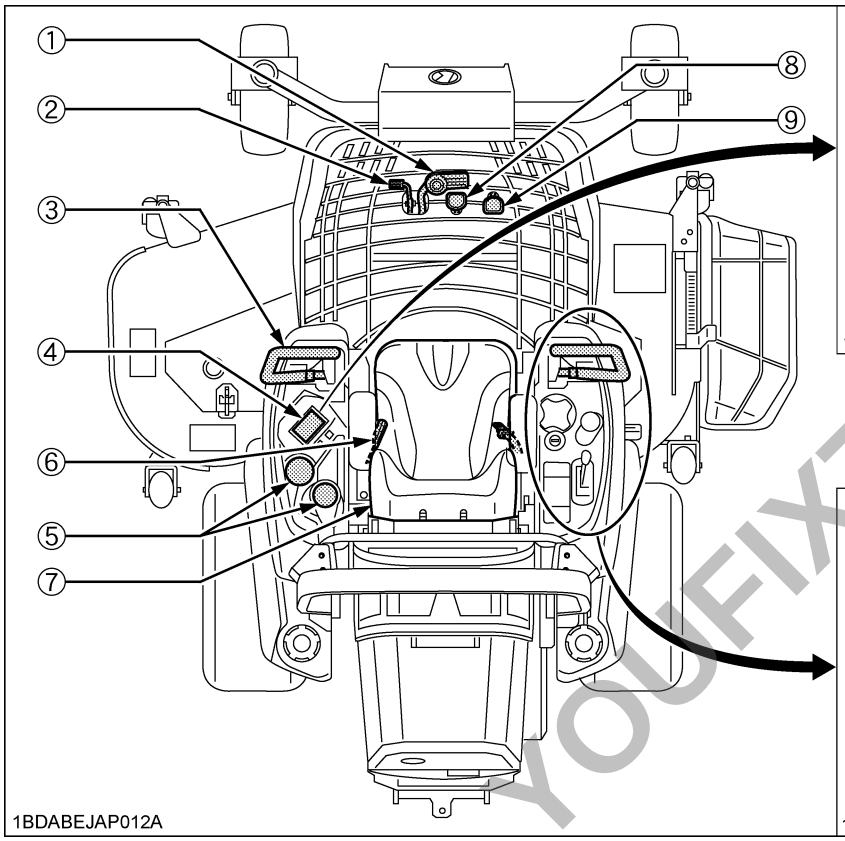
SPECIFICATIONS

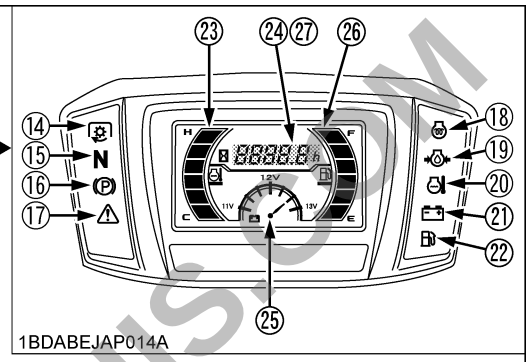
Model				ZD1211	ZD1211R	ZD1211L	ZD1211RL
Engine	Model			D1105			
	Max. engine power (Gross)		kW (HP)	18.5 (24.8) (*1) (*2)			
	Type			Liquid-cooled			
	Number of cylinders			3			
	Bore and stroke		mm (in.)	78 x 78.4 (3.07 x 3.09)			
	Total displacement		cm^3 (cu. in.)	1123 (68.5)			
	Rated revolution		rpm	3000			
	Low idling revolution		rpm	1400 to 1500			
	Fuel			Diesel fuel No.1 [below -10 ℃(14 ℉)] Diesel fuel No.2 [above -10 ℃(14 ℉)]			
	Starter			Electric starter with battery, glow plug, 12V, 1.2kW			
	Lubrication			Forced lubrication by gear pump			
	Cooling			Liquid with pressurized radiator			
	Battery			SMF51R (12V, RC:80min, CCA:430A)			
Capacities	Fuel tank		L (U.S.gals.)	49 (12.9)			
	Engine crankcase (with filter)		L (U.S.qts.)	3.9 (4.1)			
	Engine coolant		L (U.S.qts.)	3.5 (3.7)			
	Recovery tank		L (U.S.qts.)	0.25 (0.26)			
	Transmission case including Rear axle gear case		L (U.S.qts.)	12.1 (12.8) (*3)			
Dimensions	Overall length		mm (in.)	2260 (89.0)		2380 (93.7)	
	Overall width w/o mower deck		mm (in.)	1510 (59.4)		1540 (60.6)	
	Overall height	With ROPS upright	mm (in.)	2000 (78.7)			
		With ROPS folded	mm (in.)	1640 (64.6)			
	Wheelbase		mm (in.)	1440 (56.7)		1560 (61.4)	
	Min. ground clearance		mm (in.)	130 (5.12) W/60"		130 (5.12) W/72"	
	Tread	Front	mm (in.)	1064 (41.9)		1250 (49.2)	
		Rear	mm (in.)	1210 (47.6)			
Weight (W/O FUEL, W/MOWER DECK)			kg (lbs.)	765 (1687) with 60"	780 (1720) with 60"	800 (1764) with 72"	810 (1786) with 72"

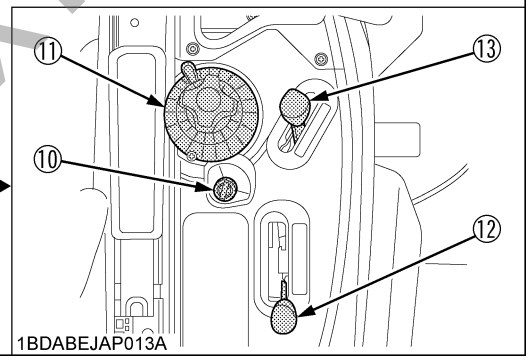
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INSTRUMENT PANEL AND CONTROLS







ILLUSTRATED CONTENTS

(1) *Parking brake pedal..... 11, 25*
(2) *Parking brake lock pedal..... 11, 25*
(3) *Motion control lever..... 12, 25*
(4) *LCD monitor..... 15*
(5) *Cup holder..... -*
(6) *Seat belt..... 24*
(7) *Operator's seat..... 23*
(8) *Hydraulic lift control pedal (DOWN)..... 24*
(9) *Hydraulic lift control pedal (UP)..... 24*
(10) *Key switch..... 13*
(11) *Cutting height control dial..... 31*
(12) *PTO lever..... 12, 34*
(13) *Throttle lever..... 24*
(14) *PTO clutch indicator..... 11*

ILLUSTRATED CONTENTS

(15) *Neutral indicator (Motion control lever)... 12*
(16) *Parking brake warning indicator..... 11*
Easy Checker (TM): (17) to (22)
(17) *Master system warning indicator..... 14*
(18) *Glow plug indicator..... 14*
(19) *Engine oil pressure warning indicator..... 14*
(20) *Engine overheat warning indicator..... 14*
(21) *Electrical charge warning indicator..... 14*
(22) *Fuel level indicator..... 14*
(23) *Coolant temperature gauge..... 16*
(24) *Hourmeter..... 16*
(25) *Battery voltage meter..... 16*
(26) *Fuel gauge..... 15*
(27) *Service code display..... 17*

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ENGLISH

MOWER MOUNTING

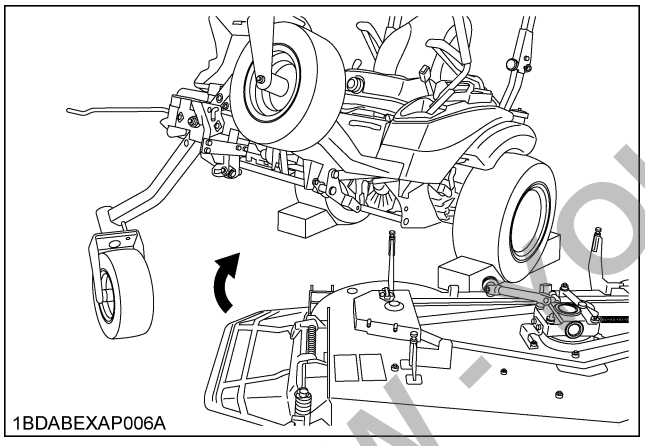
MOUNTING THE MOWER DECK

WARNING

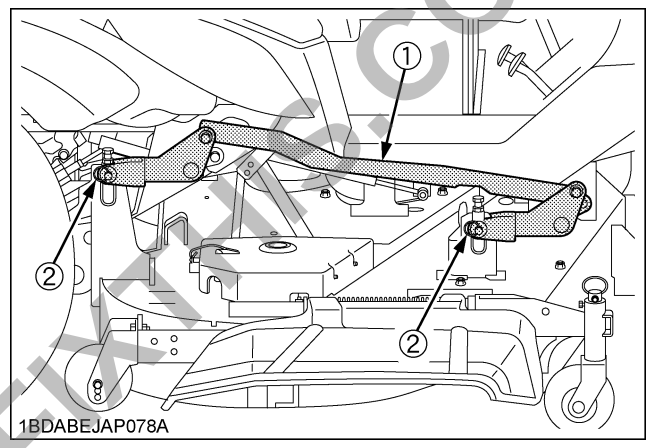
To avoid serious injury or death:

- **Park the machine on a firm and level surface.**
- **Apply the parking brake.**
- **Chock the rear tires.**
- **Stop the engine and remove the key.**

1. Before mounting the mower deck, raise the lift links to the full up position.
2. Adjust the cutting height control dial to 1 in. position.
3. Tilt up the machine with the maintenance lift system. (See "HOW TO TILT UP THE MACHINE" in "PERIODIC SERVICE" section.)
4. Place the mower deck at the left side of the machine.



5. Slide the mower deck under the machine, and make sure that the mower gear case is placed properly in the center of the machine, lower the axle from the tilt-up position to the normal position.
6. Place 50 mm (2 in.) wood blocks under each side of the mower deck.
7. Depress the hydraulic lift control pedal (DOWN) and pull down the lift links.
8. Attach the lift links to the mower deck with attaching hardwares.

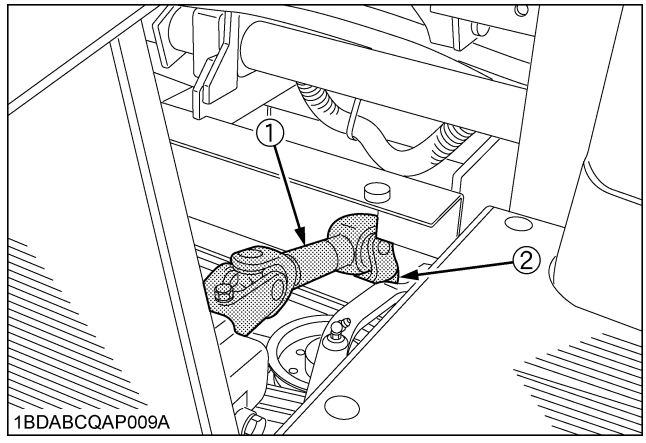


(1) Lift link
(2) Clevis pin, plain washer, snap ring

9. Install universal joint.
   Pull back the coupler of the universal joint.
   Push the universal joint onto the PTO shaft until the coupler locks.

IMPORTANT :

- Tug the universal joint backward and forward to make sure it is locked securely.



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OPERATING THE ENGINE

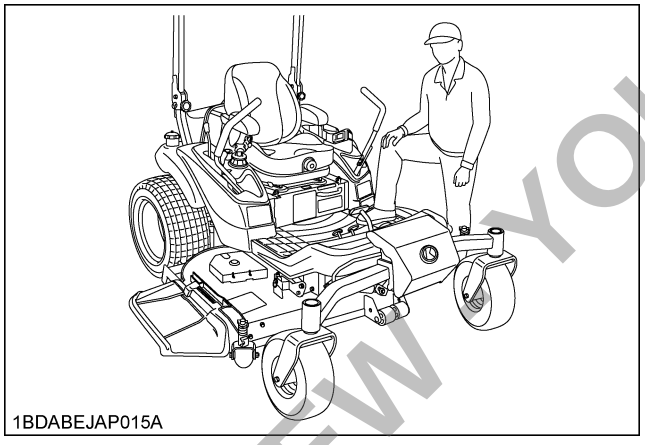
WARNING

To avoid serious injury or death:

- **Read and understand "SAFE OPERATION" in the front of this manual.**
- **Read and understand the danger and warning labels located on the machine.**
- **To avoid danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.**
- **Never start the engine while standing on the ground. Start the engine only from operator's seat.**

GET ON AND GET OFF MACHINE SAFELY

DO NOT step on either side of the mower deck when getting on and getting off the machine. When getting on the machine from either side, step over the mower deck.

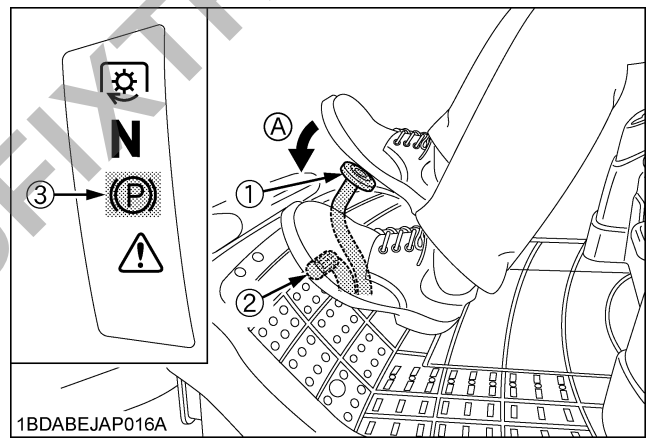


1BDABEJAP015A

STARTING THE ENGINE

1. **Sit on the operator's seat. Put on the seat belt.**
2. **Apply the parking brake.**

To apply the parking brake:
Depress the parking brake pedal firmly with your right foot and the parking brake lock pedal simultaneously with your left foot. Then release the parking brake pedal while holding the parking brake lock pedal down. Parking brake warning indicator will come ON.



1BDABEJAP016A

(1) Parking brake pedal *(A) "DEPRESS"*
(2) Parking brake lock pedal
(3) Parking brake warning indicator

To release the parking brake:
Depress the brake pedal and release slowly with your right foot without pressing the parking brake lock pedal.

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MAINTENANCE

SERVICE INTERVALS

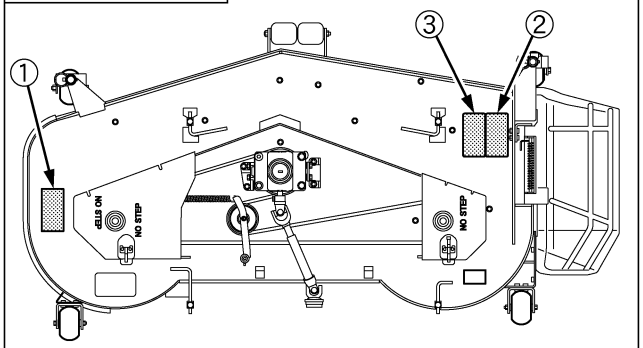
You must do the following servicing jobs on the machine at the stated running-time intervals.

No.	Items		Indication hour meter (Hr)													Ref. Page		
			50	100	150	200	250	300	350	400	450	500	550	600	After since			
1	Engine start system	Check	○	○	○	○	○	○	○	○	○	○	○	○	every 50Hr	56		
2	OPC system	Check	○	○	○	○	○	○	○	○	○	○	○	○	every 50Hr	57		
3	Mower gear box oil	Check	○	○	○	○	○	○	○	○	○	○	○	○	every 50Hr	57		
		Change			○			○			○			○	every 150Hr	65		
4	Greasing (except mower and mower link bushings)	-	○	○	○	○	○	○	○	○	○	○	○	○	every 50Hr	58		
5	Throttle Cable	Oil	○	○	○	○	○	○	○	○	○	○	○	○	every 50Hr	59		
6	Greasing (mower link bushings, pivot)	-		○		○		○		○		○		○	every 100Hr	63		
7	Air cleaner primary element	Clean		○		○		○		○		○		○	every 100Hr	60	*2	@
		Replace													every 1000Hr or 1 year	69	*3	
	Secondary element	Replace													every 1000Hr or 1 year	69	*3	
8	Fuel filter element	Check		○		○		○		○		○		○	every 100Hr	60		@
		Replace								○					every 400Hr	69	*6	
9	Fan belt	Adjust		○		○		○		○		○		○	every 100Hr	61		
10	Parking brake	Adjust		○		○		○		○		○		○	every 100Hr	62	*9	
11	Battery condition	Check		○		○		○		○		○		○	every 100Hr	63	*7	
12	Engine oil	Change	◎			○				○				○	every 200Hr	66	*1	
13	Engine oil filter	Replace	◎			○				○				○	every 200Hr	66	*1	
14	Transmission oil filter [HST]	Replace	◎			○				○				○	every 200Hr	67	*1	
15	Front axle pivot	Adjust		◎		○				○				○	every 200Hr	67	*8	

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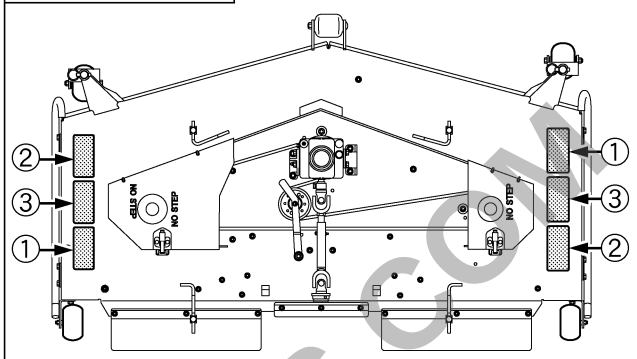
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[RCK60P, RCK72P]



1BDABEJAP010A

[RCK60R, RCK72R]



1BDABEJAP070A

(1) Part No. K5681-7312-2



1BDACAEAP015B

(2) Part No. K5681-7311-2

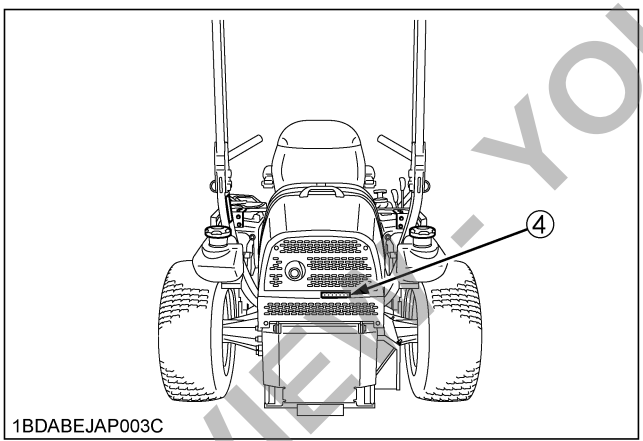


1BDACAEAP016B

(3) Part No. K5681-7310-1



1BDACAEAP017B



1BDABEJAP003C

1BDABEJAP064A

(4) Part No. K3441-6532-1



1BDABEJAP069A

8. 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, and dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your local 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.

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EVERY 200 HOURS

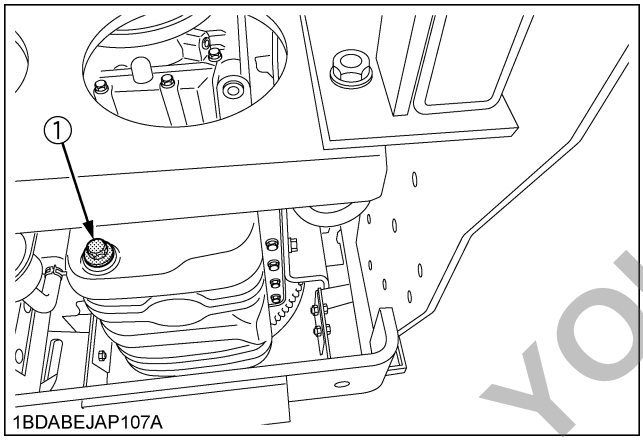
■Changing Engine Oil

WARNING

To avoid serious injury or death:

- **Be sure to stop the engine and remove the key before changing the oil.**
- **Allow engine to cool down sufficiently; oil can be hot and may cause burns.**

1. To change the used oil, remove the drain plug at the bottom of the engine and drain the oil completely. The used oil can be drained out more easily if the engine is warm.
2. Fill with the new oil up to the upper notch on the dipstick.



(1) Drain plug

3. To check the oil level. Remove the dipstick, wipe it clean, insert it and draw it out again. Check to see that the oil level is between the two marks.

■Replacing Engine Oil Filter

WARNING

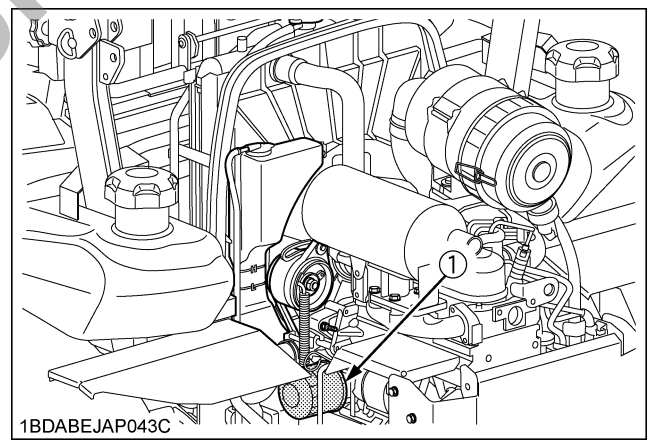
To avoid serious injury or death:

- **Be sure to stop the engine and remove the key before changing the oil and the oil filter.**
- **Allow engine to cool down sufficiently; oil can be hot and may cause burns.**

1. The oil filter must be changed every 200 service hours.
2. Apply a slight coat of oil onto the rubber gasket of new filter.
3. Tighten the filter quickly until it contacts the mounting surface. Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil level normally lowers a little. Add engine oil to proper level. Check for oil leaks around filter gasket.

IMPORTANT :

- To prevent serious damage to the engine, replacement element of the recommended type must be used. Use only a genuine KUBOTA filter or its equivalent.



(1) Engine oil filter

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GENERAL TORQUE SPECIFICATION

American standard cap screws with UNC or UNF threads				Metric cap screws			
SAE grade No.		GR.5 	GR.8 	Property class		Class 8.8 	Class 10.9 
	(lbf-ft)	8 - 9.6	12 - 14.4		(lbf-ft)	7.2 - 8.3	
1/4	(N-m)	10.7 - 12.9	16.1 - 19.3	M6	(N-m)	9.81 - 11.3	
	(kgf-m)	1.11 - 1.33	1.66 - 1.99		(kgf-m)	1.0 - 1.15	
	(lbf-ft)	17 - 20.5	24 - 29		(lbf-ft)	17.4 - 20.2	21.7 - 25.3
5/16	(N-m)	23.1 - 27.8	32.5 - 39.3	M8	(N-m)	23.6 - 27.4	29.4 - 34.3
	(kgf-m)	2.35 - 2.84	3.31 - 4.01		(kgf-m)	2.4 - 2.8	3.0 - 3.5
	(lbf-ft)	35 - 42	45 - 54		(lbf-ft)	35.5 - 41.2	44.9 - 52.1
3/8	(N-m)	47.5 - 57.0	61.0 - 73.2	M10	(N-m)	48.1 - 55.8	60.8 - 70.5
	(kgf-m)	4.84 - 5.82	6.22 - 7.47		(kgf-m)	4.9 - 5.7	6.2 - 7.2
	(lbf-ft)	80 - 96	110 - 132		(lbf-ft)	57.2 - 66.5	76.0 - 86.8
1/2	(N-m)	108.5 - 130.2	149.2 - 179.0	M12	(N-m)	77.5 - 90.1	103 - 117
	(kgf-m)	11.07 - 13.29	15.22 - 18.27		(kgf-m)	7.9 - 9.2	10.5 - 12.0
	(lbf-ft)	110 - 132	160 - 192		(lbf-ft)	91.2 - 108	123 - 144
9/16	(N-m)	149.2 - 179.0	217.0 - 260.4	M14	(N-m)	124 - 147	167 - 196
	(kgf-m)	15.22 - 18.27	22.14 - 26.57		(kgf-m)	12.6 - 15.0	17.0 - 20.0
	(lbf-ft)	150 - 180	220 - 264		(lbf-ft)	145 - 166	192 - 224
5/8	(N-m)	203.4 - 244.1	298.3 - 358.0	M16	(N-m)	196 - 225	260 - 303
	(kgf-m)	20.75 - 24.91	30.44 - 36.53		(kgf-m)	20.0 - 23.0	26.5 - 31.0

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ENGLISH

FOREWORD

You are now the proud owner of a KUBOTA ZERO TURN MOWER. This machine is a product of KUBOTA's quality engineering and manufacturing. It is made of excellent materials and under a rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your machine, please read this manual carefully. It will help you become familiar with the operation of the machine and contains many helpful hints about machine 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 manufacturing of products may cause some small parts of this manual to become outdated. KUBOTA distributors and dealers will have the most up-to-date information. Please do not hesitate to consult them.

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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, 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.

JUMP STARTING

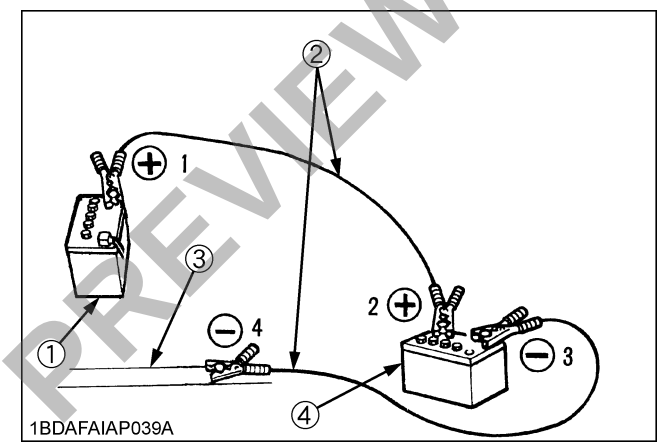
WARNING

To avoid serious injury or death:

- **Keep cigarettes, sparks, and flames away from battery.**
- **If the machine battery is frozen, do not jump start the engine.**
- **Do not connect the other end of negative jumper cable to the negative terminal of the machine battery.**

When jump starting the engine, follow the instructions below to start the engine safely.

1. Bring a helper vehicle with a battery of the same voltage as the disabled machine within easy cable reach. "THE VEHICLES MUST NOT TOUCH".
2. Apply the parking brakes of both vehicles and put the shift levers in neutral. Shut the engine off.
3. Put on safety goggles and rubber gloves.
4. Ensure vent caps are securely in place (if equipped).
5. Attach the red clamp to the positive (red, (+) or pos.) terminal of the dead battery and clamp the other end of the same cable to the positive (red, (+) or pos.) terminal of the helper battery.
6. Clamp the other cable to the negative (black, (-) or neg.) terminal of the helper battery.
7. Clamp the other end to the engine block or the frame of the disabled machine as far from the dead battery as possible.
8. Start the helper vehicle and let its engine run for a few moments. Start the disabled machine.
9. Disconnect the jumper cables in the exact reverse order of attachment. (Steps 7, 6 and 5)



(1) Dead battery
(2) Jumper cables
(3) Engine block or frame
(4) Helper battery

Connect cables in numerical order. Disconnect in reverse order after use.

IMPORTANT :

- This machine has a 12 volt negative (-) ground starting system.
- Use only same voltage for jump starting.
- Use of a higher voltage source on a machine could result in severe damage to the machine electrical system.
  Use only matching voltage source when "jump-starting" a low or dead battery condition.

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No.	Items		Indication hour meter (Hr)													Ref. Page		
			50	100	150	200	250	300	350	400	450	500	550	600	After since			
16	Transmission fluid and Rear axle gear case (RH & LH) fluid	Change								◎					every 400Hr	68		
17	Hydraulic oil filter	Replace								○					every 400Hr	69		
18	Engine valve clearance	Adjust													every 800Hr	69	*6	
19	Fuel injection nozzle injection pressure	Check													every 1500Hr	70	*6	@
20	Radiator	Clean													every 2000Hr or 2 years	70	*5	
21	Coolant	Change													every 2000Hr or 2 years	70	*5	
22	Injection pump	Check													every 3000Hr	72	*6	@
23	Fuel line	Check													every 1 year	72	*4 *9	@
		Replace													every 4 years	74	*6	
24	Radiator hose and clamp	Check													every 1 year	72	*4 *9	
		Replace													every 4 years	74	*9	
25	Hydraulic hose	Check													every 1 year	73	*4 *9	
		Replace													every 4 years	74	*6	
26	Intake air line	Check													every 1 year	73	*4 *9	@
		Replace													every 4 years	74	*9	
27	Engine breather hose	Check													every 1 year	73	*4 *6	
		Replace													every 4 years	74	*6	
28	Mower gear box oil seal	Check													every 1 year	73	*4 *6	
		Replace													every 4 years	74	*6	
29	Fuel system	Bleed													Service as required	74		
30	Fuse	Replace														74		
31	Blade	Replace														75		
32	Mower belt	Replace														76		

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