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SAFE OPERATION

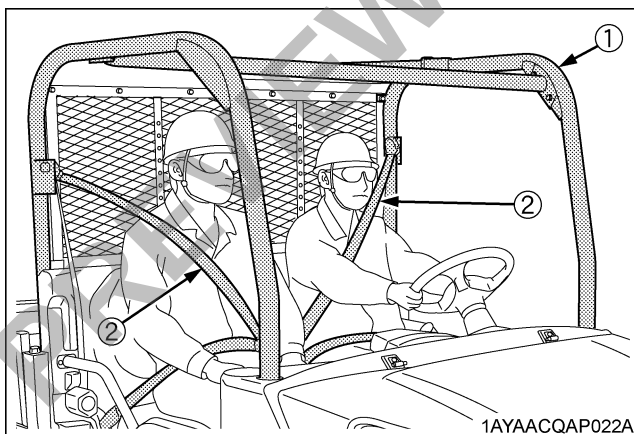
Careful operation is your best insurance against an accident.

Read and understand this Operator's Manual carefully before operating the vehicle.

All operators, no matter how much experience they may have, should read this and other related manuals before operating the vehicle or any implement attached to it. It is the owner's obligation to instruct all operators in safe operation.

1. BEFORE OPERATING THE VEHICLE

1. Know your equipment and its limitations. Read this entire manual before attempting to start and operate the vehicle.
2. Pay special attention to the Danger, Warning and Caution labels on the vehicle.
3. Do not remove Roll-Over Protective Structures (ROPS) for any application and fasten seat belts at all times. This combination will reduce the risk of serious injury or death, should the vehicle be upset.
If the ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the vehicle.
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.



(1) ROPS
(2) Seat belt

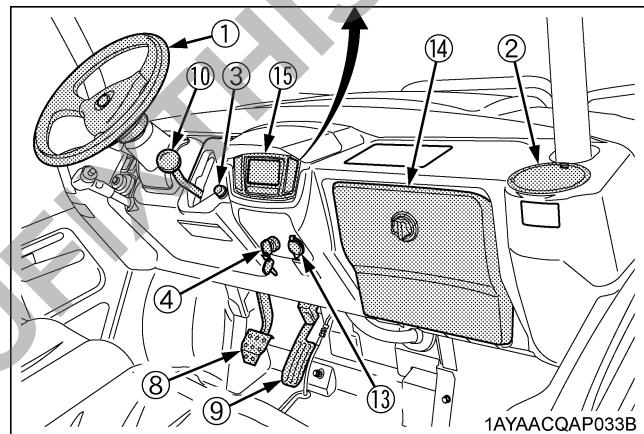
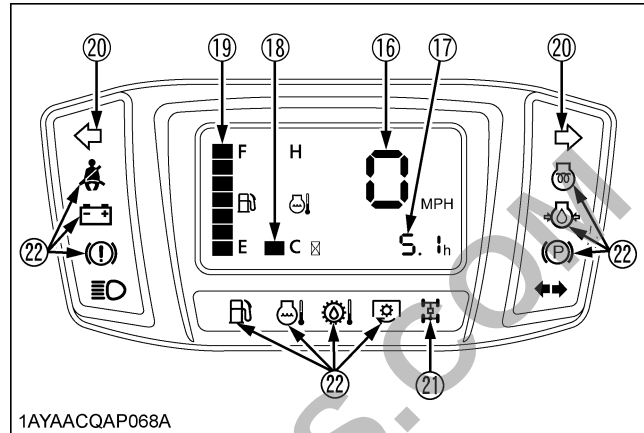
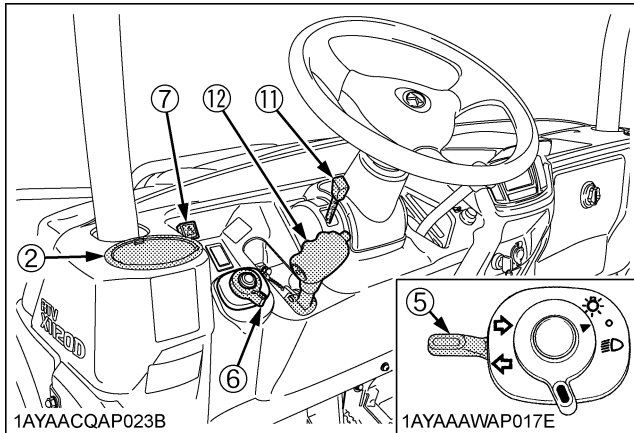
4. Always use the seat belts. Check the seat belts regularly and replace if frayed or damaged.
5. Do not operate the vehicle or any implement attached to it while under the influence of alcohol, medication, controlled substances or while fatigued.

6. Carefully check the vicinity before operating the vehicle or any implement attached to it. Check for overhead clearance which may interfere with the CAB or ROPS. Do not allow any bystanders around or near the vehicle during operation.
7. Never allow anyone under age 16 or without a valid driver's license to operate this vehicle.
8. Before allowing other people to use your vehicle, explain how to operate and have them read this manual before operation.
9. Never wear loose, torn, or bulky clothing around the vehicle. It may catch on moving parts or controls, leading to the risk of an accident. Use additional safety items, e.g. helmet, safety boots or shoes, eye and hearing protection, gloves, etc., as appropriate or required.
10. This vehicle is for off road use only.
KUBOTA does not recommend operating on public roads.
11. In addition to the driver, only 1 passenger should ride in the vehicle.
Minimum age for passenger is 5 years old.
12. Keep all shields in place and stay away from all moving parts.
13. Check brakes, speed control pedal, and other mechanical parts for improper adjustment and wear. Replace worn or damaged parts promptly. Check the tightness of all nuts and bolts regularly. (For further details, see "MAINTENANCE" section.)
14. Keep your vehicle clean. Dirt, grease, and trash build up may contribute to fires and lead to personal injury.
15. Use only implements meeting the specifications listed under "VEHICLE LIMITATIONS" in this manual or implements approved by KUBOTA.
16. The maximum cargo capacity of this vehicle is 500 kg (1100 lbs.). Reduce cargo capacity to match operating conditions.
Avoid top-heavy loading and ensure that the center-of-gravity remains as low as possible.
Do not carry anything which sticks outside the cargo bed.
17. Do not modify the vehicle. Unauthorized modification may affect the function of the vehicle, which may result in personal injury.
18. Do not carry small children on lap.

SPECIFICATIONS

SPECIFICATION TABLE

Model				RTV-X900			RTV-X1120D	
				General Purpose	Worksite /Orange	Worksite /Camo	Worksite /Orange	Worksite /Camo
Engine	Make			D902			D1105	
	Type			3 cylinders, 4-cycle, diesel, OHV				
	Displacement		L (cu. in.)	0.898 (54.8)			1.123 (68.53)	
	Horsepower		kW (HP)	16.1 (21.6)			18.5 (24.8)	
	Rated revolution		rpm	3200			3000	
	Low idling revolution		rpm	1300 to 1400			1350 to 1450	
Fuel Capacity			L (U.S.gals)	30 (7.9)				
Transmission				Continuously variable hydro transmission (VHT)				
Wheels, Drive system				4, Rear 2WD or 4WD				
Differential lock				Standard; foot operated with mechanical holder				
Gear selection				Hi-Low range forward, neutral, reverse				
Brakes	Front / Rear			Wet disk brake				
	Parking brake			Rear wheel, hand lever				
Steering				Hydrostatic power				
Suspension	Front			Independent, Dual A-Arm type				
	Rear							
Dimensions	Length		mm (in.)	3055 (120.3)	3110 (122.5)			
	Width		mm (in.)	1605 (63.2)				
	Height, overall		mm (in.)	2020 (79.5)				
	Front tread centers		mm (in.)	1240 (48.8) HDWS, ATV 1290 (50.8) Turf				
	Rear tread centers		mm (in.)					
	Wheelbase		mm (in.)	2045 (80.5)				
	Ground clearance	front axle	mm (in.)	266 (10.5)				
		rear axle	mm (in.)	263 (10.4)				
	Turning diameter		m (ft)	8.0 (26.2)				
Max. Rolling weight (Towing capacity)			kg (lbs.)	Rear: 590 (1300), Front: 295 (650)				
Payload capacity			kg (lbs.)	755 (1664)	725 (1598)		685 (1510)	
Weight			kg (lbs.)	865 (1907)	895 (1973)		935 (2061)	
Gross Vehicle Weight Rating (GVWR)			kg (lbs.)	1620 (3571)				



ILLUSTRATED CONTENTS

(1) Steering wheel.....	--
(2) Cup holder.....	--
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(5) Turn signal light switch (if equipped).....	18
(6) Head light switch.....	18
(7) Hazard light switch (if equipped).....	18
(8) Brake pedal.....	20
(9) Speed control pedal.....	22
(10) Range gear shift lever.....	20
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(12) Parking brake lever.....	21

ILLUSTRATED CONTENTS

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(21) 4WD indicator.....	21
(22) Easy Checker(TM).....	22

OPERATING THE ENGINE



WARNING

To avoid serious injury or death:

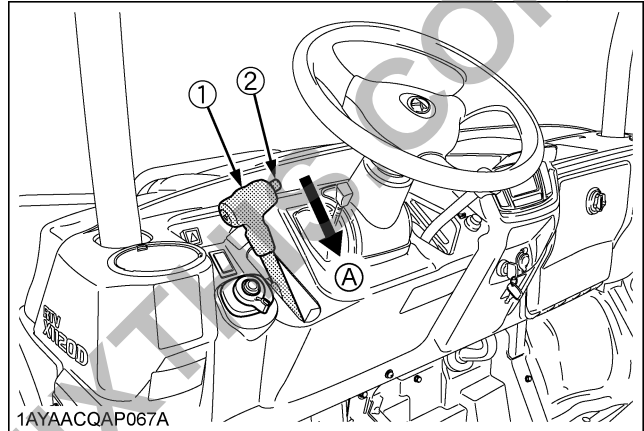
- Read and understand "Safe Operation" in front of this manual.
- Read and understand the danger, warning and caution labels located on the vehicle.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- Never start engine while standing on ground. Start engine only from operator's seat.
- Make it a rule to set range gear shift lever to the "NEUTRAL" position and to place the Hydraulic Outlet lever (if equipped) in "OFF" position and to place the hydraulic lift cylinder lever (if equipped) to the "NEUTRAL" position before starting the engine.
- Make sure the engine hand throttle (if equipped) is in its idle engine speed position.

IMPORTANT :

- Do not use starting fluid or ether.
- To protect the battery and the starter, make sure that the starter is not continuously turned for more than 10 seconds.

STARTING THE ENGINE

1. Make sure the parking brake is set.



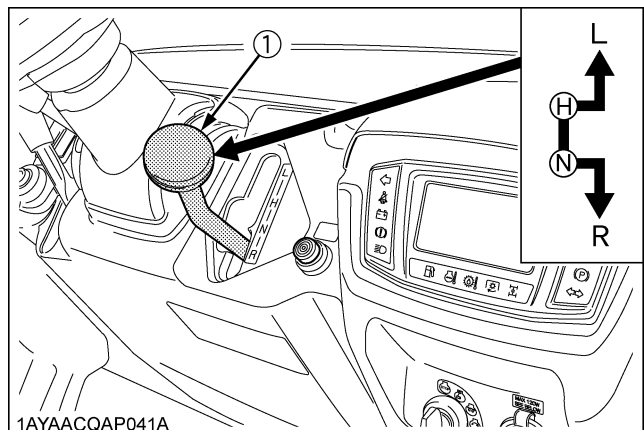
(1) Parking brake lever

(2) Release button

(A) Pull to "PARK"

2. Make sure the door is properly secured. (if equipped)
See "Locking and Unlocking the Door" in "STARTING" in "OPERATING THE VEHICLE" section.

3. Set the range gear shift lever to the "NEUTRAL" position.



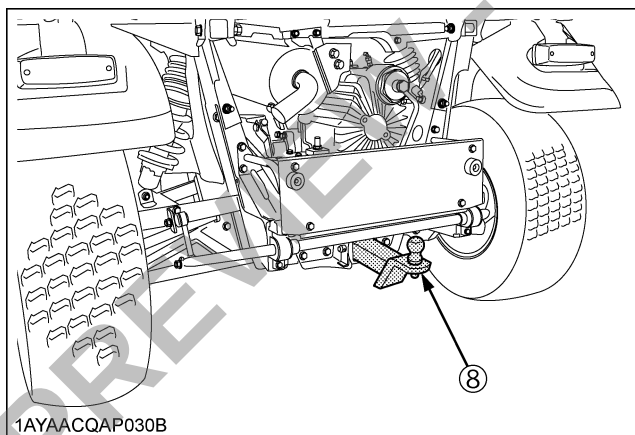
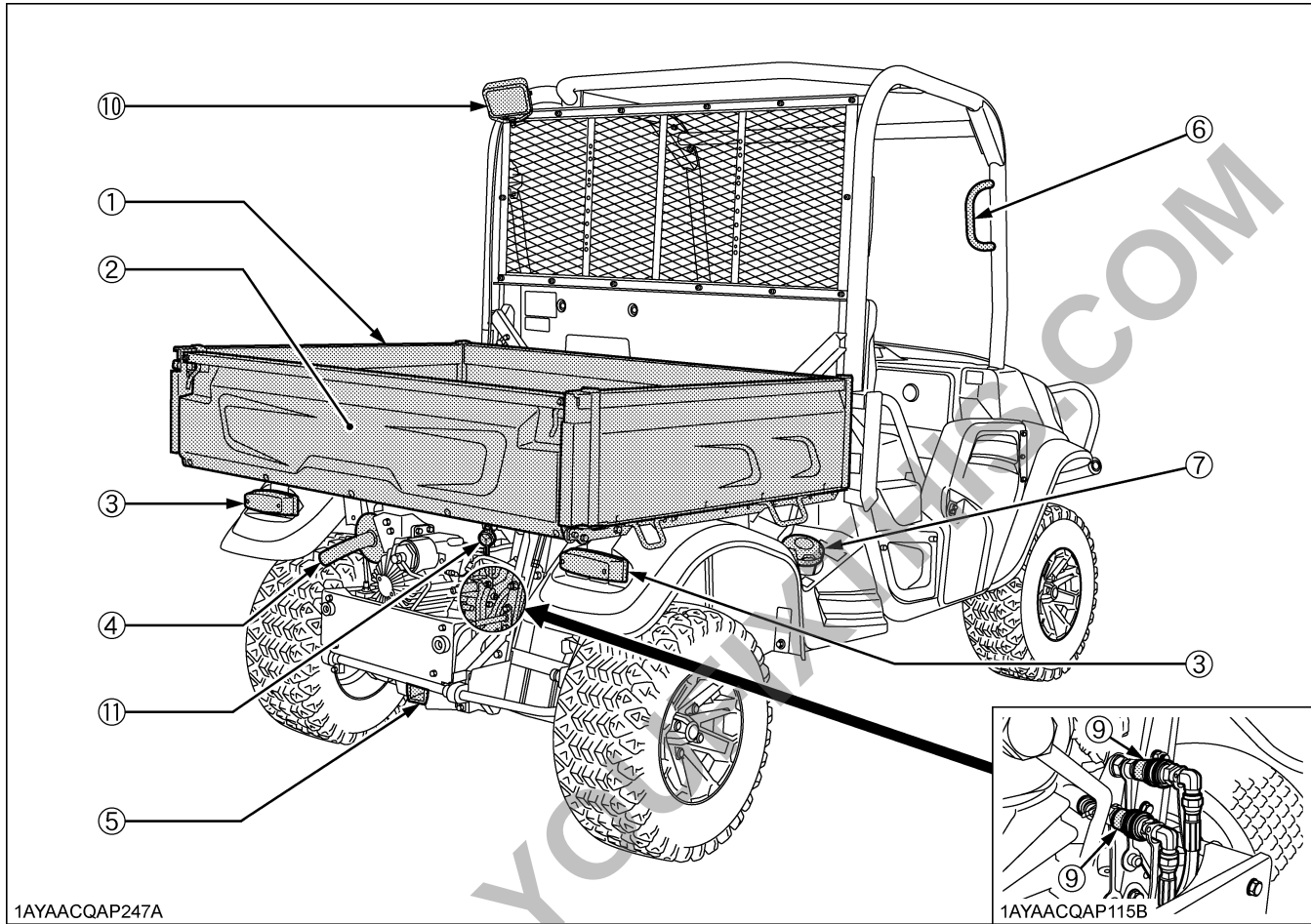
(1) Range gear shift lever

(L) LOW Range

(H) HIGH Range

(N) "NEUTRAL" POSITION

(R) "REVERSE"

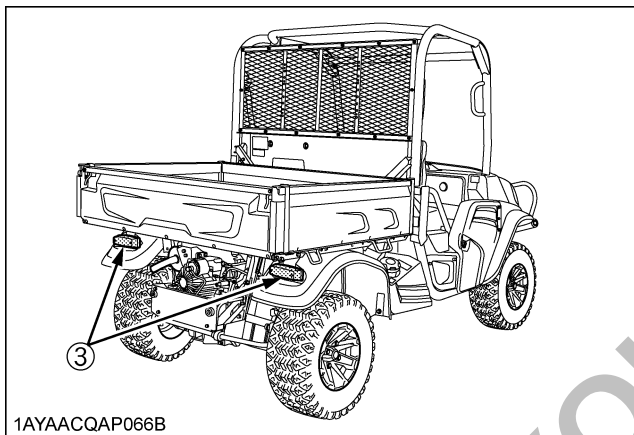
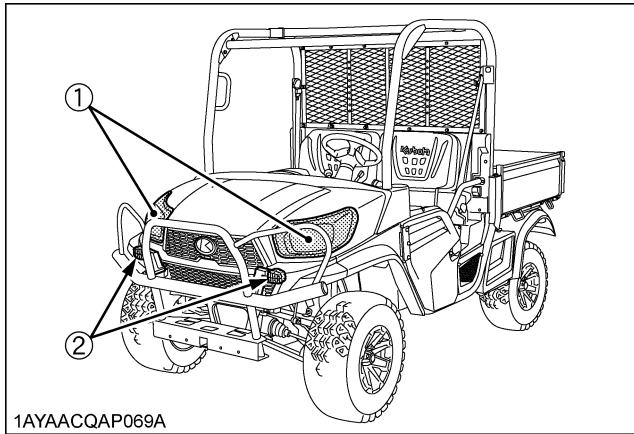


ILLUSTRATED CONTENTS

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(4) Muffler.....	67
(5) Rear trailer hitch bracket.....	40
(6) Handgrip.....	--

ILLUSTRATED CONTENTS

(7) Fuel tank cap.....	52
(8) Rear trailer hitch (if equipped).....	40
(9) Hydraulic outlet (if equipped).....	36
(10) Rear work light (if equipped).....	19
(11) Backup beeper (if equipped).....	58

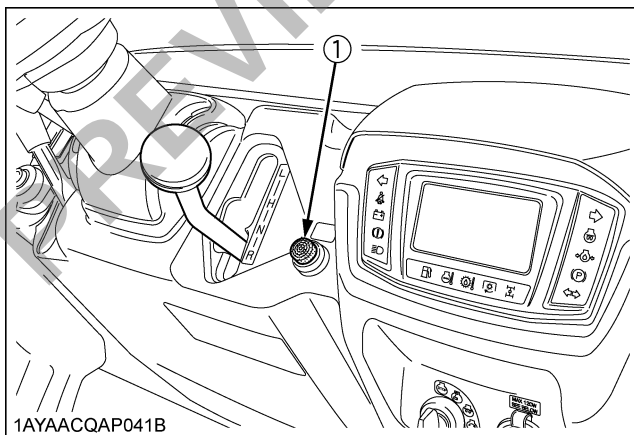


- (1) Head light
- (2) Hazard / Turn signal light (if equipped)
- (3) Tail lamp (Combination lamp if equipped)

■Horn Button

The horn switch is operative when the key switch is in either the "ON" or "OFF" position.

The horn will sound when the horn button is pressed.

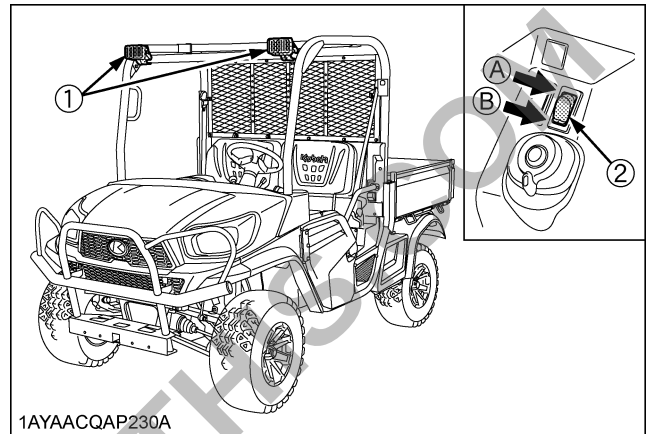


- (1) Horn button

■Work Light (Front)

[if equipped]

When the key switch is turned to the "ON" position and the front work light switch is turned to the "ON" position, the work light comes on.



- (1) Front work light (if equipped)
- (2) Front work light switch (if equipped)

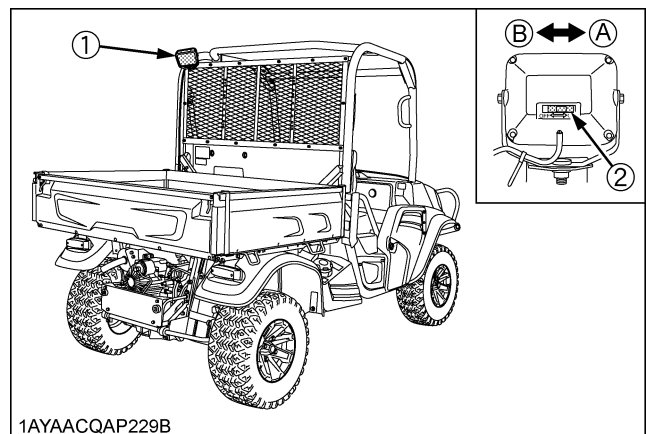
- (A) "ON"
- (B) "OFF"

■Work Light (Rear)

[if equipped]

When the key switch is turned to the "ON" position and the slide switch at the rear of each work light is slid to the "ON" position, the work light comes on. When the slide switch is slid to the "OFF" position, the light goes off.

After the slide switch for each work light is shifted to the "OFF" position, turn the key switch to the "OFF" position.



- (1) Rear work light (if equipped)
- (2) Rear work light switch (if equipped)

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

MAINTENANCE



WARNING

To avoid serious injury, death or vehicle damage:

- Be sure you have sufficient knowledge, experience, the proper replacement parts and tools before you attempt any vehicle maintenance task.
- If you don't have the knowledge and equipment which are necessary to perform the maintenance task, consult your local KUBOTA Dealer.
- Have your local KUBOTA Dealer perform inspection items which are marked *6 in the chart below.

SERVICE INTERVALS

IMPORTANT :

- The jobs indicated by ☉ must be done after the first 50 hours of operation.
- *1 The initial 50 hours should not be a replacement cycle.
- *2 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- *3 Every 1000 hours or every 1 year whichever comes faster.
- *4 Replace if any deterioration (crack, hardening, scar, or deformation) or damage occurred.
- *5 Every 2000 hours or every 2 years whichever comes faster.
- *6 Consult your local KUBOTA Dealer for this service.
- *7 When the battery is used for less than 100 hours per year, check the battery condition by reading the indicator annually.
- The items listed below (@marked) are registered as emission related critical parts by KUBOTA in the U.S.EPA non road emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the below instruction. Please see Warranty Statement in detail.

No.	Items		Indication of Hour Meter													After 700 hrs	Ref. Page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700			
1	Engine start system	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	60	
2	Greasing	Apply	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	59	
3	Muffler [Spark arrester]	Clean		○		○		○		○		○		○		○	every 100 hrs	67	
4	Wheel fastener torque	Check	☉	○		○		○		○		○		○		○	every 100 hrs	62	*1
5	Battery condition	Check		○		○		○		○		○		○		○	every 100 hrs	64	*7
6	Alternator belt	Adjust		○		○		○		○		○		○		○	every 100 hrs	63	
7	VHT neutral spring	Check		○		○		○		○		○		○		○	every 100 hrs	61	*6
8	VHT pressure release	Check		○		○		○		○		○		○		○	every 100 hrs	61	*6
9	Toe-in	Adjust		○		○		○		○		○		○		○	every 100 hrs	66	
10	Fuel filter element	Check		○		○		○		○		○		○		○	every 100 hrs	63	
		Replace								○							every 400 hrs	76	*6

LUBRICANTS, FUEL AND COOLANT

No.	Locations		Capacity		Lubricants, fuel and coolant	
			RTV-X900	RTV-X1120D		
1	Fuel		30 L (7.9 U.S.gals.)		No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below -10 °C (14 °F)	
2	Coolant (with reserve tank)		6.1 L (6.4 U.S.qts.)		Fresh clean water with anti-freeze	
3	Engine crankcase	Filter exchanged	3.1 L (3.3 U.S.qts.)	4.1 L (4.3 U.S.qts.)	● Engine oil: API Service Classification CF or higher	
			Filter non-exchanged	2.7 L (2.9 U.S.qts.)	3.8 L (4.0 U.S.qts.)	Above 25 °C (77 °F)
		0 to 25 °C (32 to 77 °F)				SAE20, SAE10W-30 or 15W-40
		Below 0 °C (32 °F)				SAE10W, SAE10W-30
4	Transmission case		7.0 L (1.8 U.S.gals.)		For U.S.A. market: KUBOTA SUPER UDT2 fluid* For Canada market: Premium UDT fluid* For other than the above: KUBOTA UDT or SUPER UDT fluid*	
5	Front axle case		0.6 L (0.6 U.S.qts.)			
6	Front knuckle case		Ref. 0.25 L (0.26 U.S.qts.)			
7	Hydraulic tank oil		18.0 L (19.0 U.S.qts.)			
8	Brake fluid (reservoir and lines)		0.4 L (0.4 U.S.qts.)		KUBOTA DOT3 GENUINE BRAKE FLUID	

Greasing	No. of greasing points	Capacity	Type of grease
Parking brake lever	2	moderate amount	Multipurpose EP2 Grease (NLGI Grade No. 2)
Battery terminal	2		
Cargo lift cylinder pivot	1	Until grease overflows	
Cargo bed pivot	2	moderate amount	
VHT link	2	Until grease overflows	
	1	moderate amount	
Valve lever link	1		
4WD lever link	1		
Range gear shift link	1		
Unload link	1		
Differential lock pedal	2		
Front A-ARM	6	Until grease overflows	
Rear A-ARM	8		
Parking brake link	1	moderate amount	
Hand throttle cable [if equipped]	---		

NOTE:

* The product name of KUBOTA genuine UDT fluid may be different from that in the Operator's Manual depending on countries or territories. Consult your local KUBOTA Dealer for further detail.

■ Checking Wheel Fastener Torque

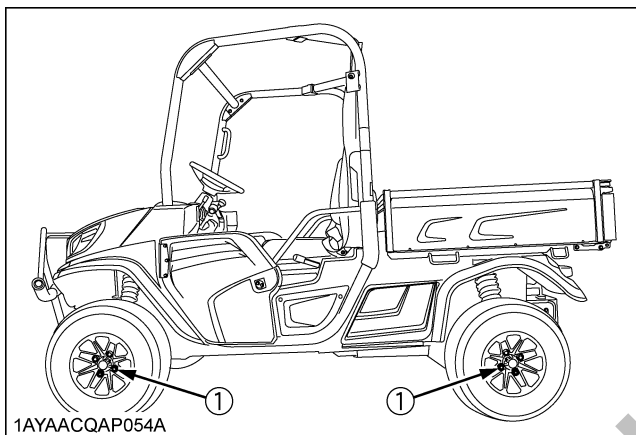


WARNING

To avoid serious injury or death:

- Never operate vehicle with a loose wheel bolts.
- Any time bolts are loosened, retighten to the specified torque.
- Check all bolts frequently and keep them tight.

Check wheel bolts regularly especially when new. If they are loose, tighten them as follows.



(1) Tightening torque (bolts and nuts)

Aluminum wheel: 90 to 110 N-m

(9.2 to 11.2 kgf-m) (66.4 to 81.1 lbf-ft)

Steel wheel: 108 to 130 N-m

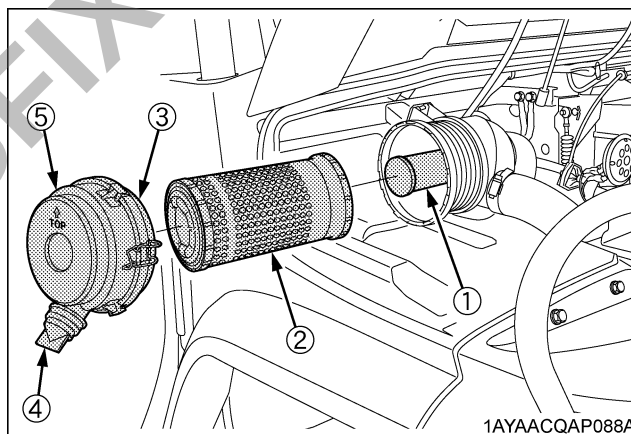
(11.1 to 13.2 kgf-m) (79.7 to 95.8 lbf-ft)

■ Cleaning Air Cleaner Primary Element

1. Remove the air cleaner cover and primary element.
2. Clean the primary element:
 - (1) When dry dust adheres to the element, blow compressed air from the inside, turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).
 - (2) When carbon or oil adheres to the element, replace the element with new one even if it has not been used for 1 year.
Do not blow material onto yourself. Wear appropriate protective gear when cleaning element.
3. Replace the primary element:
Once yearly or 1000 hours whichever comes first.

NOTE :

- Check to see if the evacuator valve is blocked with dust.
- Check the rubber seal. Replace if damaged.



(1) Secondary (safety) element

(2) Primary element

(3) Rubber seal

(4) Evacuator valve

(5) Cover

IMPORTANT :

- The air cleaner uses a dry element, never apply oil.
- Do not run the engine with filter element removed.
- Be sure to refit the cover with the arrow (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element.
- Do not touch the secondary element except in cases where replacing is required.

◆ Evacuator Valve

Open the evacuator valve once a week under ordinary conditions - or daily when used in a dusty place - to get rid of large particles of dust and dirt.

IMPORTANT :

- Mishandling the battery shortens the service life and adds to maintenance costs.

The original battery is maintenance free, but needs some servicing.

If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.

- When exchanging an old battery for a new one, use battery of equal specification in table below.

Model	Battery Type	Volts (V)	Reserve Capacity (min)	Cold Cranking Amps	Capacity at 20 hrs (A. H.)	Normal Charging Rate (A)
RTV-X900	26R-560	12	86	560	-	8.6
RTV-X1120D	24R-670	12	115	670	66	11.5

(For non-accessible maintenance-free type batteries.)

Maintenance-free, non-accessible batteries are designed to eliminate the need to add water. Yet the volume of electrolyte above plates may eventually become depleted due to abnormal conditions such as high heat or improper regulator setting. Use a voltmeter to check the state of charge. (See reference chart below to determine if charging is necessary.)

Battery voltage	Reference state of charge
12.6	100% (Full charge)
12.4	75%
12.2	50%
12.0	25%
11.8	0%

◆ Battery Charging



DANGER

To avoid serious injury or death:

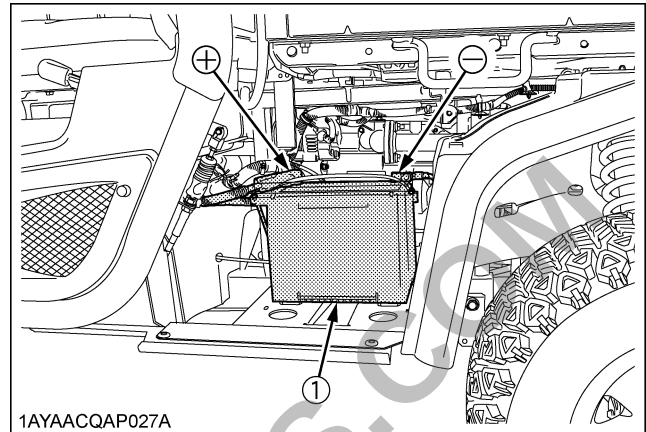
- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.



WARNING

To avoid serious injury or death:

- When disconnecting the cable from the battery, start with the negative terminal first. When connecting the cable to the battery, start with the positive terminal first.
- Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.



(1) Battery

1. Park the vehicle on a flat surface.
2. Stop the engine.
3. Remove the battery cover.
4. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
5. A boost charge is only for emergencies. It will partially charge the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible. Failure to do this will shorten the battery's service life.
6. When exchanging an old battery for a new one, use battery of equal specification shown in table 1.

◆ Direction for Storage

1. When storing the vehicle for a long period, remove the battery from vehicle, adjust the electrolyte to the proper level (refillable type only) and store in a dry place out of direct sunlight.
2. The battery self-discharges while it is stored. Recharge it once every 3 months in hot seasons and once every 6 months in cold seasons.

WHEELS



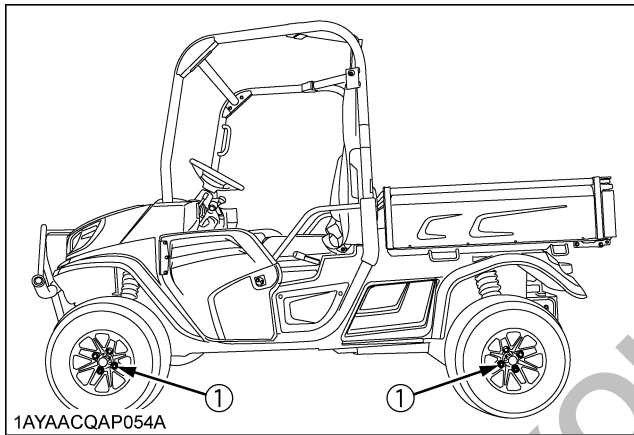
WARNING

To avoid serious injury or death:

- Support vehicle securely on stands before removing a wheel.
- Never operate vehicle with loose wheel bolts and nuts.

IMPORTANT :

- When re-fitting a wheel, tighten the bolts and nuts to the following torques then recheck after driving the vehicle 200 m (220 yards) and thereafter according to service interval.



(1) Tightening torque (bolts and nuts)

Aluminum wheel: 90 to 110 N-m

(9.2 to 11.2 kgf-m) (66.4 to 81.1 lbf-ft)

Steel wheel: 108 to 130 N-m

(11.1 to 13.2 kgf-m) (79.7 to 95.8 lbf-ft)

SHOCK ABSORBERS

Shock Absorber Spring Adjustment



WARNING

To avoid serious injury or death:

- For shock absorber spring adjustment, make sure to consult your local KUBOTA dealer.

The front and rear shock absorber springs can be adjusted for different riding and loading condition.

[Shock absorber position]

Position	Spring	Load
1	Stronger	Heavy
2	↑	↑
3 (default)	I	I
4	↓	↓
5	Weaker	Light

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