

WSM

WORKSHOP MANUAL
TRACTOR

B2301, B2601

Kubota

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the B2301 and B2601. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

■ **Information**

This section primarily contains information below.

- Safety First
- Safety Decal
- Specifications
- Dimensions

■ **General**

This section primarily contains information below.

- Engine Identification
- Model Identification
- General Precautions
- Maintenance Check List
- Check and Maintenance
- Special Tools

■ **Mechanism**

This section contains information on the structure and the function of the unit. Before you continue with the subsequent sections, make sure that you read this section.

Refer to the latest version of Workshop Manual (Code No. 9Y021-01870 / 9Y021-18200) for the diesel engine / tractor mechanism that this workshop manual does not include.

■ **Servicing**

This section primarily contains information below.

- Troubleshooting
- Servicing Specifications
- Tightening Torques
- Checking, Disassembling and Servicing

All illustrations, photographs and specifications contained in this manual are of the newest information available at the time of publication.

KUBOTA reserves the right to change all information at any time without notice.

Since this manual includes many models, information or illustrations and photographs can show more than one model.

I INFORMATION

INFORMATION

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1. SAFETY FIRST

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 try to repair 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

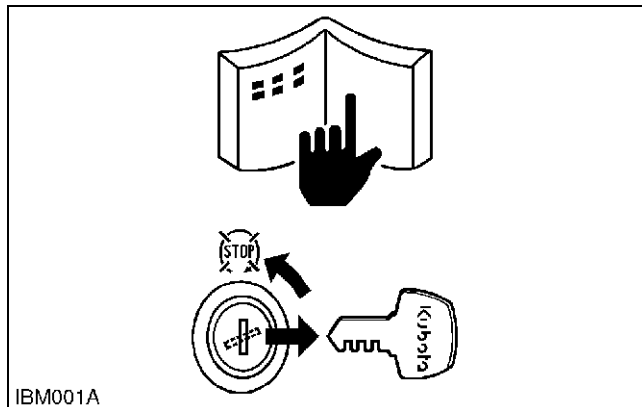
- Gives helpful information.

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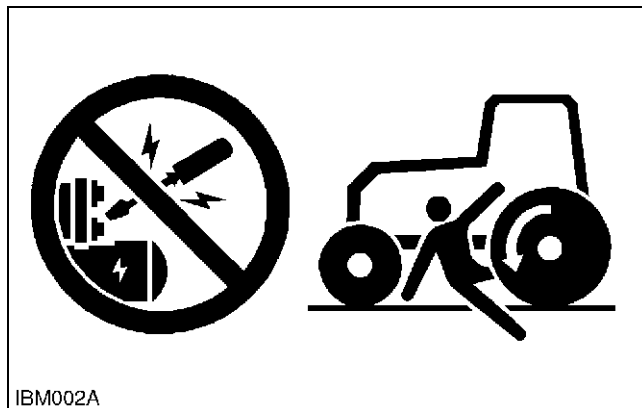
BEFORE YOU START SERVICE

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a stable and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, then remove the key.
- Disconnect the battery negative cable.
- Hang a "DO NOT OPERATE" tag in the operator station.

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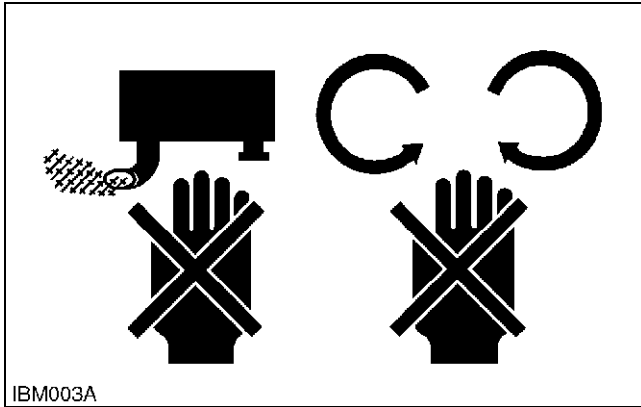


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START SAFELY

- Do not do the procedures below when you start the engine.
 - short across starter terminals
 - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Do not start the engine when you stay on the ground. Start the engine only from operator's seat.

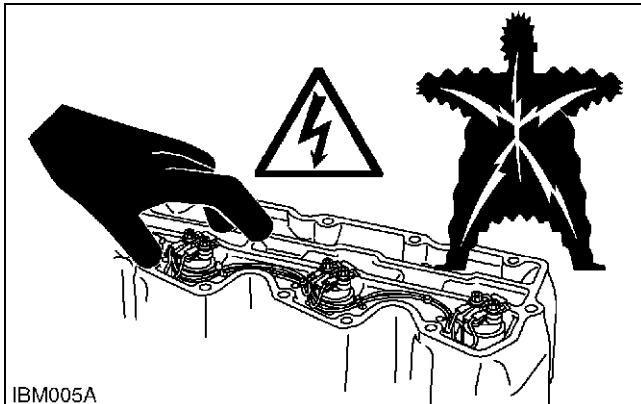
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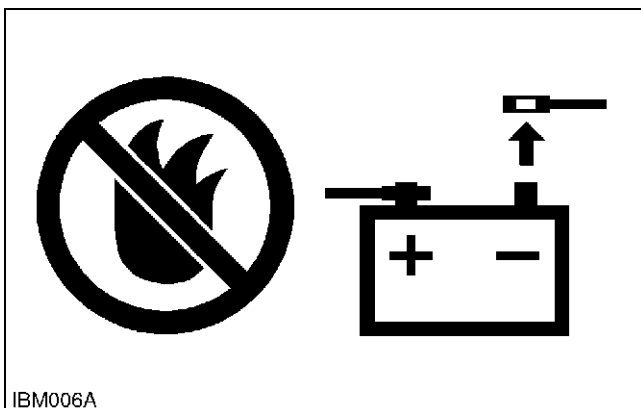
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OPERATE SAFELY

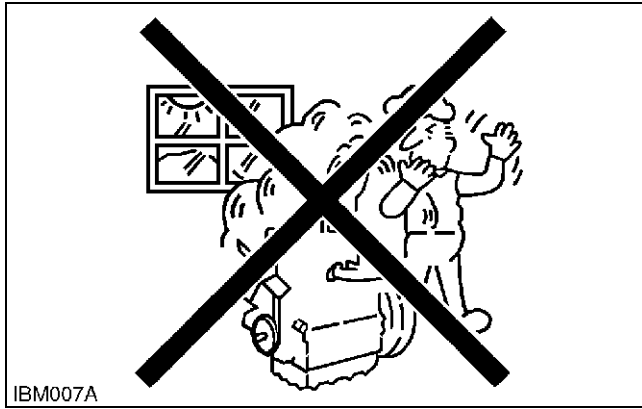
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below the machine that only a jack holds. Always use a safety stand to hold the machine.
- Do not touch the hot parts or parts that turn when the engine operates.
- Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.
- Released fluid (fuel or hydraulic oil) under pressure can cause damage to the skin and cause serious injury. Release the pressure before you disconnect hydraulic or fuel lines. Tighten all connections before you apply the pressure.
- Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure.
- Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises.
- Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector.

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PREVENT A FIRE

- Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area.
- To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery.
- Make sure that you do not spill fuel on the engine.

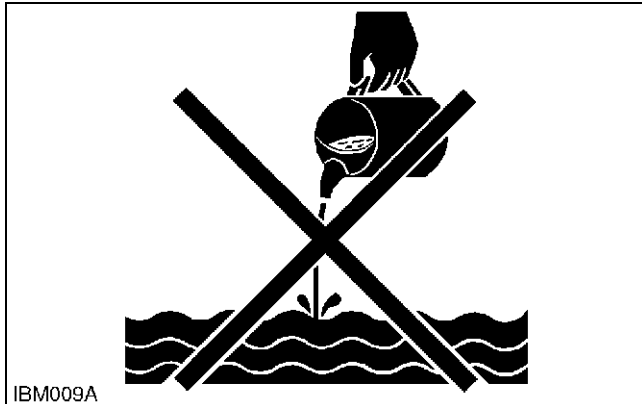
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KEEP A GOOD AIRFLOW IN THE WORK AREA

- If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

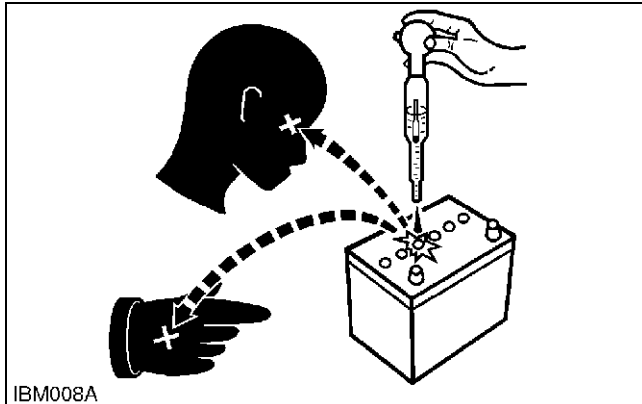
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DISCARD FLUIDS CORRECTLY

- Do not discard fluids on the ground, down the drain, into a stream, pond, or lake. Obey related environmental protection regulations when you discard oil, fuel, coolant, electrolyte and other dangerous waste.

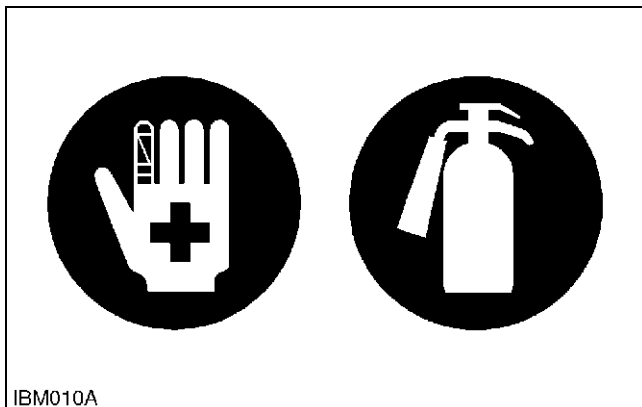
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PREVENT ACID BURNS

- Keep electrolyte away from your eyes, hands and clothing. Sulfuric acid in battery electrolyte is poisonous and it can burn your skin and clothing and cause blindness. If you spill electrolyte on yourself, clean yourself with water, and get medical aid immediately.

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PREPARE FOR EMERGENCIES

- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

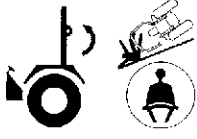

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2. SAFETY DECALS

The following safety decals are installed on the machine. If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.

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(1) Part No. TA240-9848-2



	<p>⚠ WARNING</p> <p>TO AVOID INJURY OR DEATH FROM ROLL-OVER:</p> <ul style="list-style-type: none"> • Keep Roll-Over Protective Structures (ROPS) in the upright and locked position. • Fasten SEAT BELT before operating. <p>THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION:</p> <ul style="list-style-type: none"> • Check the operating area and fold the ROPS only when absolutely necessary. • Do not wear SEAT BELT if ROPS is folded. • Raise and lock ROPS as soon as vertical clearance allows. • Read ROPS related instructions and warnings.
	

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(2) Part No. TC420-4956-1

Diesel fuel only

No fire

	
ULTRA LOW SULFUR DIESEL FUEL ONLY	

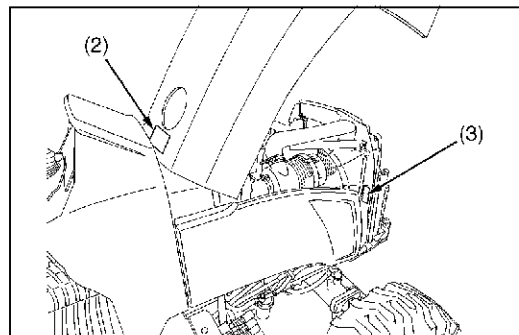
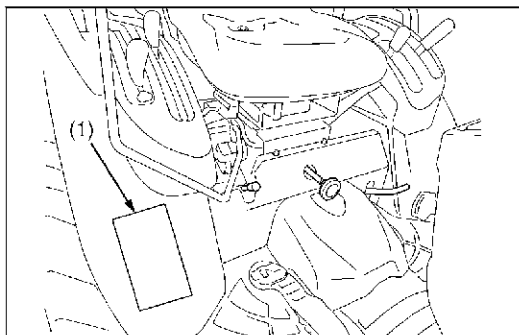
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(3) Part No. 6C090-4958-2

Do not get your hands close to engine fan and fan belt.



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(1) Part No. 6C200-4959-1

⚠ WARNING	TO AVOID PERSONAL INJURY: 1. Attach pulled or towed loads to the drawbar only. 2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
	⚠ WARNING TO AVOID PERSONAL INJURY: 1. Keep PTO shield in place at all times. 2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer. 3. For trailing PTO-driven implements, set drawbar at towing position. (see operator's manual)

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(3) Part No. 6C430-4965-1

	
⚠ DANGER	
TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY. 1. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed. 2. Start engine only from operator's seat with transmission and PTO OFF. Never start engine while standing on the ground.	

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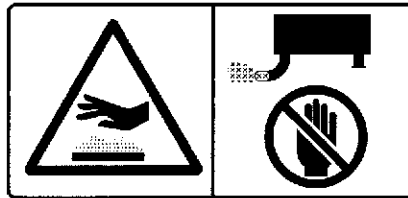
(2) Part No. 6C540-9554-1

⚠ WARNING Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.
⚠ WARNING TO AVOID PERSONAL INJURY OR DEATH WHEN RAISING OR FOLDING ROPS: • Set parking brake and stop engine. • Remove any obstruction that may prevent raising or folding of the ROPS. • Do not allow any bystanders. • Always perform function from a stable position at the rear of the tractor. • Hold the top of the ROPS securely when raising or folding. • Make sure all pins are installed and locked.

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(4) Part No. 6C430-4959-1

Do not touch hot surface like muffler, etc.



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(6) Part No. 6C300-4744-1

⚠ WARNING 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.

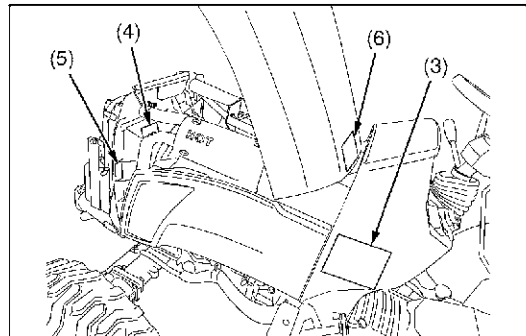
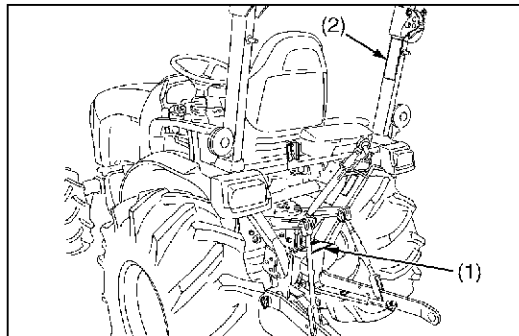
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(5) Part No. 6C090-4958-2

Do not get your hands close to engine fan and fan belt.



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(1) Part No. 6C300-3012-2

<p>S.O.C. INDICATOR</p> <ul style="list-style-type: none"> OK CHARGE BATTERY REPLACE BATTERY 		<p>DANGER</p> <p>• DUE TO HYDROGEN GAS GENERATED FROM BATTERY, HANDLING WITHOUT CARE CAN CAUSE FIRE AND EXPLOSION. • THIS 12V BATTERY IS ONLY FOR STARTING ENGINE. DO NOT APPLY THIS PRODUCT FOR OTHER USES. • CHARGE THIS BATTERY ONLY AT WELL VENTILATED PLACES, AND AVOID SHORTS OR SPARKS. • REFER TO THE INSTRUCTION MANUAL OF VEHICLE OR BATTERY BEFORE USING BOOSTER CABLE. • SULFURIC ACID MAY CAUSE BLINDNESS OR SEVERE BURN IN CASE EYES, SKIN, CLOTHES OR ANY ARTICLES ARE STAINED WITH ACID. FLUSH OBJECTS IMMEDIATELY WITH WATER. IF ACID BEING SWALLOWED, DRINK PLenty OF WATER PROPERLY. IN CASE OF ACCIDENTAL CONTACT, CONSULT A DOCTOR IMMEDIATELY. • BATTERY FILLED WITH ACID (DO NOT TILT OR SPILL) • FLAMMABLE DO NOT CHARGE NEAR FIRE OR SPARKS • DO NOT CHARGE RAPIDLY • DO NOT DISASSEMBLE THE BATTERY (SEALED TYPE)</p>
<p>55B24LS 430CCA (SAE) 360CCA (EN) 12V 45Ah(20HR) RC 80(MIN)</p>		<p>PROPOSITION 65 WARNING BATTERY POSTS, TERMINALS, AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.</p> <p>DK 85495</p>

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(2) Part No. 6C540-4742-1

WARNING

TO AVOID PERSONAL INJURY OR DEATH:

1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.

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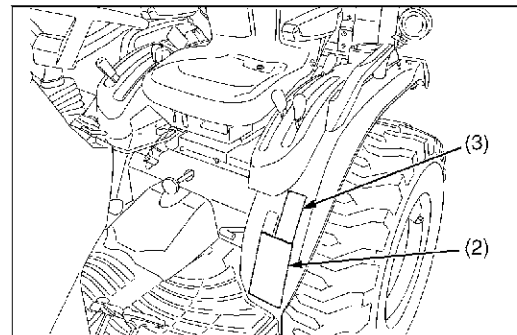
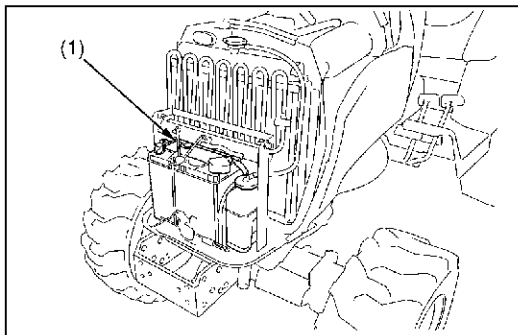
(3) Part No. 6C150-4743-1

WARNING

BEFORE DISMOUNTING TRACTOR:

1. ALWAYS SET PARKING BRAKE.
2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope.
3. LOWER ALL IMPLEMENTS TO THE GROUND.
4. STOP THE ENGINE.

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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.
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 replace 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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3. SPECIFICATIONS

Model			B2301	B2601
PTO power *1			17.5 kW (13.0 HP)	19.5 kW (14.5 HP)
Engine	Maker		KUBOTA	
	Model		D1005-E4-D32	D1105-E4-D32
	Type		E-TVCS. Liquid-cooled, 3-cylinder diesel	
	Number of cylinders		3	
	Bore and stroke		76 × 73.6 mm (3.0 × 2.9 in.)	78 × 78.4 mm (3.1 × 3.1 in.)
	Total displacement		1001 cc (61.1 cu.in.)	1123 cc (68.5 cu.in.)
	Engine gross power *1		22 kW (16.4 HP)	25.5 kW (19.0 HP)
	Rated revolution		2800 min ⁻¹ (rpm)	
	Low idling revolution		1000 to 1100 min ⁻¹ (rpm)	
	Maximum torque		60 N·m (6.1 kgf·m, 44 lbf·ft)	71 N·m (7.2 kgf·m, 52 lbf·ft)
	Battery		12 V, RC: 80 min, CCD: 430 A	
Capacities	Fuel tank		23 L (6.1 U.S.gals, 5.1 Imp.gals)	
	Engine crankcase (with filter)		3.1 L (3.3 U.S.qts, 2.7 Imp.qts)	
	Engine coolant		3.8 L (4.0 U.S.qts, 3.3 Imp.qts)	
	Transmission case		15 L (4.0 U.S.gals, 3.3 Imp.gals)	
Dimensions	Overall length (without 3P)		2380 mm (93.7 in.)	2410 mm (94.9 in.)
	Overall width (min. tread)		1150 mm (45.3 in.)	1245 mm (49.0 in.)
	Overall height		2130 mm (83.9 in.)	2160 mm (85.0 in.)
	Wheel base		1560 mm (61.4 in.)	
	Minimum ground clearance		305 mm (12.0 in.)	325 mm (12.8 in.)
	Tread	Front	800 mm (31.5 in.)	815 mm (32.1 in.)
Rear		900 mm (35.5 in.)	950 mm (37.4 in.)	
Weight			710 kg (1566 lbs)	740 kg (1632 lbs)
Clutch			Not applicable	
Traveling system	Tires	Front	6-12	7-12
		Rear	9.5-16	11.2-16
	Steering		Hydraulic type power steering	
	Transmission		HST (3 range)	
	Brake		Wet disk type	
Minimum turning radius (with brake)		2.1 m (6.9 feet)		
Hydraulic unit	Hydraulic control system		Position Control Valve	
	Pump capacity		31.4 L/min (8.3 gals/min)	
	3-point hitch		SAE Category 1	
	Max. lift force	At lift points	820 kg (1808 lbs)	
24 in. behind lift point		640 kg (1411 lbs)		
PTO	Rear-PTO		SAE 1-3/8, 6 splines	
		PTO / Engine speed	540 min ⁻¹ (rpm) / 2768 min ⁻¹ (rpm)	
	Mid-PTO		USA No.5 (KUBOTA 10-tooth) involute spline	
		PTO / Engine speed	2500 min ⁻¹ (rpm) / 2753 min ⁻¹ (rpm)	

■ **NOTE**

- * Manufacturer's estimate

The company reserves the right to change the specifications without notice.

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4. TRAVELING SPEEDS

(At rated engine rpm)

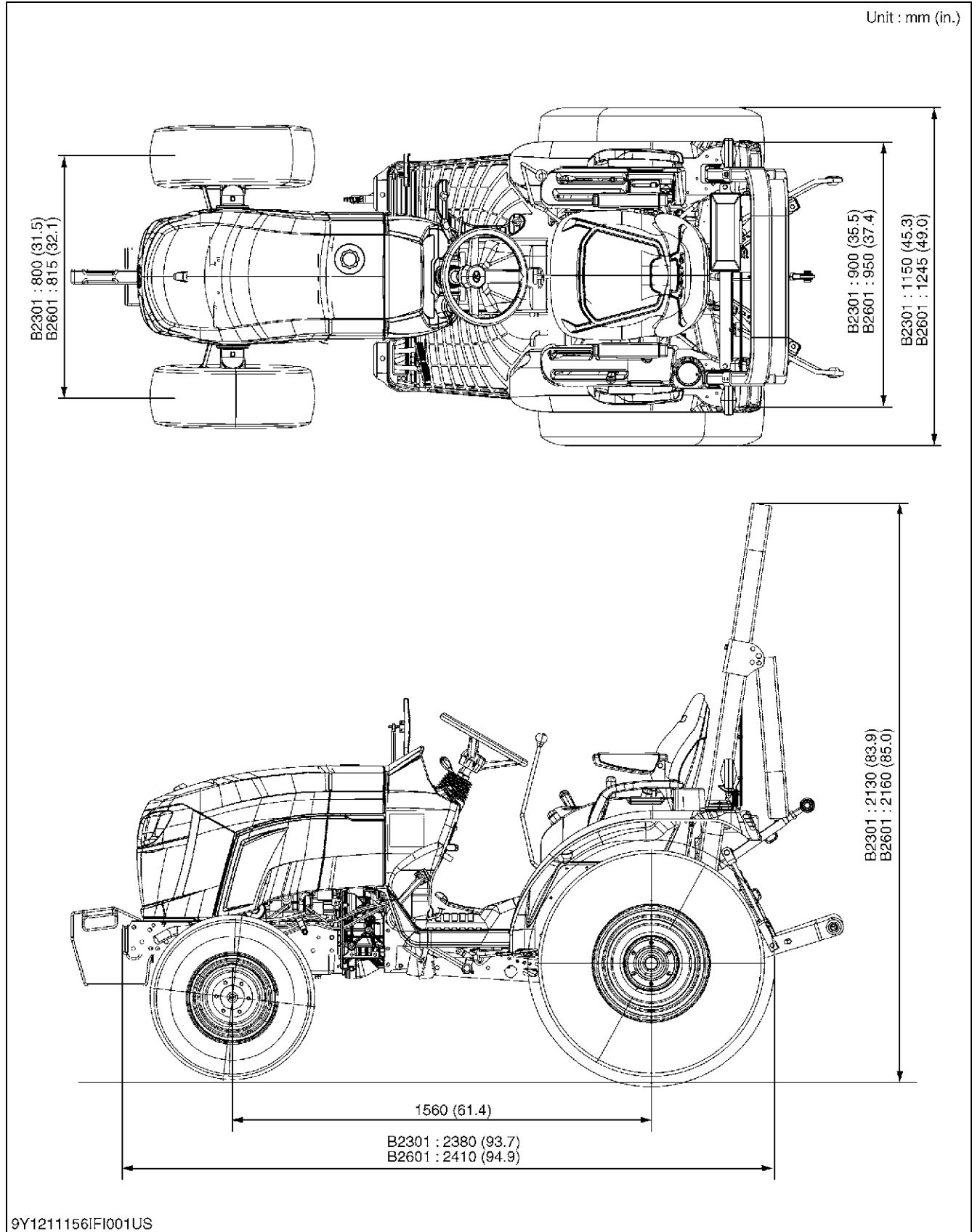
Model		B2301HSD
Tire size (Rear)		9.5-16 Farm / 33 × 12.5-15 Turf / 12-16.5 Industry
	Range gear shift lever	km/h (mile/h)
Forward	Low	0 to 5.6 (0 to 3.5)
	Middle	0 to 8.8 (0 to 5.5)
	High	0 to 19.1 (0 to 11.8)
Reverse	Low	0 to 4.2 (0 to 2.6)
	Middle	0 to 6.6 (0 to 4.1)
	High	0 to 14.3 (0 to 8.9)

Model		B2601HSD	
Tire size (Rear)		11.2-16 Farm	33 × 12.5-15 Turf / 12-16.5 Industry
	Range gear shift lever	km/h (mile/h)	
Forward	Low	0 to 6.0 (0 to 3.7)	0 to 5.6 (0 to 3.5)
	Middle	0 to 9.5 (0 to 5.9)	0 to 8.8 (0 to 5.5)
	High	0 to 20.4 (0 to 12.7)	0 to 19.1 (0 to 11.8)
Reverse	Low	0 to 4.5 (0 to 2.8)	0 to 4.2 (0 to 2.6)
	Middle	0 to 7.1 (0 to 4.4)	0 to 6.6 (0 to 4.1)
	High	0 to 15.3 (0 to 9.5)	0 to 14.3 (0 to 8.9)

The company reserves the right to change the specification without notice.

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5. DIMENSIONS



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G GENERAL

GENERAL

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