

# WSM

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WORKSHOP MANUAL

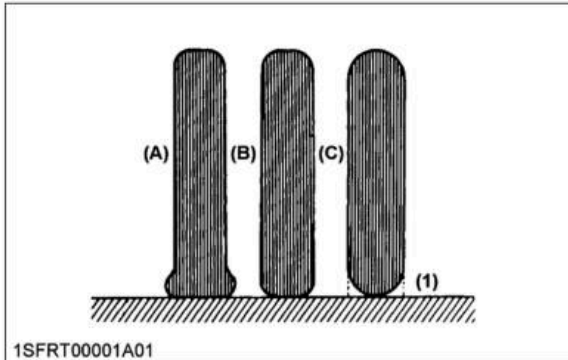
Z231KW-AU

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**Kubota**

### 3. MAINTENANCE

	Tire sizes	Recommended inflation pressure
Front	11 x 4 - 5, 4PR smooth	170 kPa (1.7 kgf/cm <sup>2</sup> , 25 psi)
Rear	18 x 7.5 - 10, 4PR turf	83 kPa (0.9 kgf/cm <sup>2</sup> , 12 psi)



(1) Ground

(A) "INSUFFICIENT"  
(B) "NORMAL"  
(C) "EXCESSIVE"

## 1.5 Checking movable parts

If any of the movable parts, such as levers and pedals, cannot be smoothly moved because of rust or anything sticky, do not attempt to force it into motion. In this case, remove the rust or the sticky object, and apply oil or grease on the relevant spot. Otherwise, the machine may get damaged.

## 2. Check points every 50 hours

### 2.1 Checking engine start system

The engine start system in your machine is designed to protect you while operating. Check the engine start system periodically (daily is best) to test the function of the engine start system before operation.

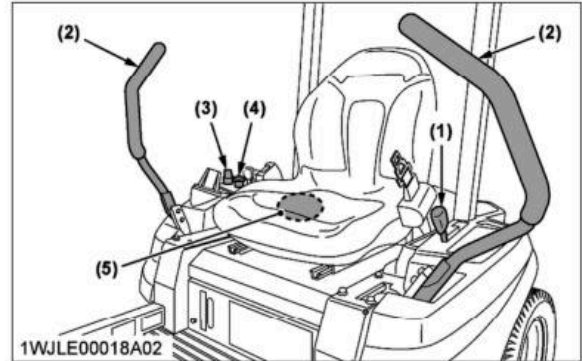
#### WARNING

To avoid serious injury or death:

- Do not allow anyone near the machine while testing.
- Sit on the operator's seat for all tests except for test 1.

#### IMPORTANT

- Test the following before operating the machine:



- (1) Parking brake lever  
(2) Motion control lever  
(3) Key switch  
(4) PTO switch  
(5) Seat switch

Test the following before operating the machine:

#### Test 1 (operator not on the seat)

1. Securely set the parking brake.
2. Set the PTO switch to the "DISENGAGE" (OFF) position.
3. Set the motion control levers to the "NEUTRAL LOCK" position.
4. Turn the key switch to the "START" position.
5. The engine must not crank.

#### Test 2 (operator on the seat)

1. Do not set the parking brake (release it from test 1).
2. Set the PTO switch to the "DISENGAGE" (OFF) position.
3. Set the motion control levers to the "NEUTRAL LOCK" position.
4. Turn the key switch to the "START" position.
5. The engine must not crank.

#### Test 3 (operator on the seat)

1. Securely set the parking brake.
2. Set the PTO switch to the "DISENGAGE" (OFF) position.
3. Grasp the motion control levers and move them inward from the "NEUTRAL LOCK" position to the "NEUTRAL" position and then release the levers.
4. Turn the key switch to the "START" position.
5. The engine must not crank.

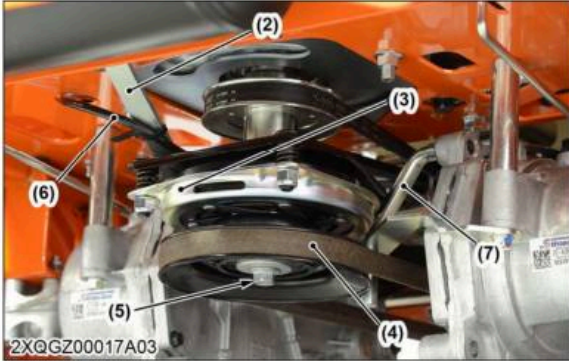
#### Test 4 (operator on the seat)

1. Securely set the parking brake.
2. Set the PTO switch to the "ENGAGE" (ON) position.
3. Set the motion control levers to the "NEUTRAL LOCK" position.
4. Turn the key switch to the "START" position.
5. The engine must not crank.

#### Test 5 (operator on the seat)

1. Start the engine.
2. Keep the parking brake securely set.
3. Set the PTO switch to the "DISENGAGE" (OFF) position.

3. Remove the mower belt (4) from the electric clutch (3).
4. Remove the PTO clutch stopper (2).
5. Remove the clutch belt pin (7).
6. Remove the flange bolt (5) and electric clutch.



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- |                        |                             |
|------------------------|-----------------------------|
| (2) PTO clutch stopper | (6) Electric clutch harness |
| (3) Electric clutch    | (7) Clutch belt pin         |
| (4) Mower belt         |                             |
| (5) Flange bolt        |                             |

**(When reassembling)**

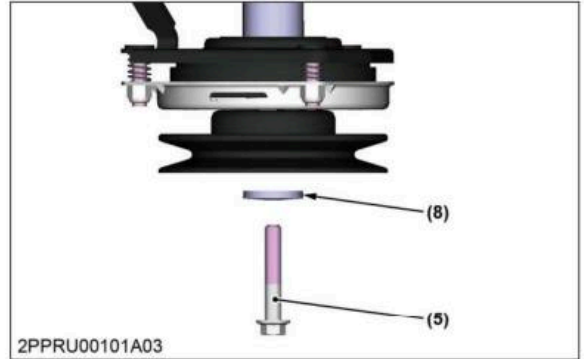
**■ IMPORTANT**

- Install the PTO clutch stopper into the slot (A), next to the wire harness.



(A) Slot

- Make sure to install the spring plate (8) with the cup face up.



2PPRU00101A03  
 (5) Flange bolt (8) Spring plate

- Tighten to the specified tightening torque.

Tightening torque	Thread bolt (Air guide)	20.0 to 23.0 N · m 2.04 to 2.34 kgf · m 14.8 to 16.9 lbf · ft
	Flange bolt (Electric clutch)	62.8 to 72.5 N · m 6.41 to 7.39 kgf · m 46.4 to 53.4 lbf · ft
	Flange bolt (Clutch belt pin)	23.5 to 27.4 N · m 2.40 to 2.79 kgf · m 17.4 to 20.2 lbf · ft

**5.1.4 Removing HST pulley**

**⚠ WARNING**

To avoid serious injury or death:

- Be careful when you remove the HST pulley. When tension is removed from the belt, the pulley will fall from its operating position.

**Tools required**

- LOCTITE C5-A Copper Based Anti-Seize Lubricant or equivalent.

## 5. Disassembling and assembling

### 5.1 Separating transaxle

#### 5.1.1 Removing rear wheel

#### **⚠ DANGER**

To avoid personal injury or death:

- Park the machine on a hard and level surface.
- Block the front wheels and lift the rear of the machine with a crane, lift, or jack. Secure the rear of the machine with jack stands. Do not operate the machine during the work.

1. Remove the rear wheel (1).

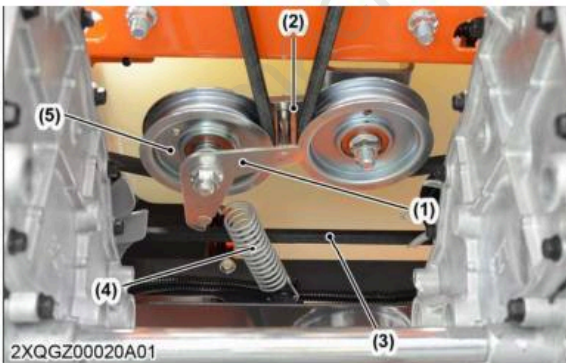


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- (1) Rear wheel

#### 5.1.2 Loosening HST belt

1. Remove the flange nut and belt retainer (1).
2. Remove the HST tension spring (4).



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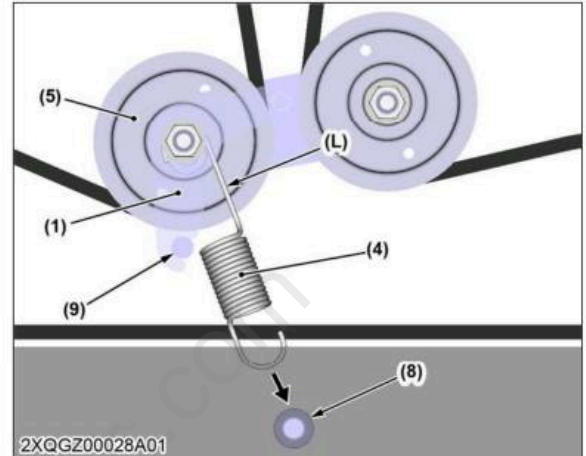
- (1) Belt retainer
- (2) HST tension arm
- (3) HST belt
- (4) HST tension spring
- (5) Tension pulley

3. Check that no tension is on the HST belt (3).

(When reassembling)

#### **■ IMPORTANT**

- Attach the HST tension spring (4) with the long hook (L) to the tension pulley (5) away from the belt retainer pin (9) as shown. Illustration view from bottom side of unit.



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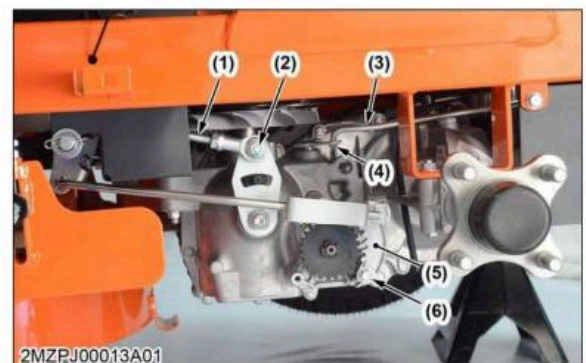
- (1) Belt retainer
- (4) HST tension spring
- (5) Tension pulley
- (8) Spring boss
- (9) Belt retainer pin
- (L) Long hook

- Tighten to the specified tightening torque.

Tightening torque	Flange nut (Belt retainer)	77.4 to 90.2 N·m 7.90 to 9.19 kgf·m 57.1 to 66.5 lbf·ft
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#### 5.1.3 Disconnecting rods

1. Remove the rue ring (4) and disconnect the bypass rod (3).



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- (1) Control rod
- (2) Speed change bolt
- (3) Bypass rod
- (4) Rue ring
- (5) Brake arm assembly
- (6) Bolt

2. Remove bolt (6) and disconnect the brake arm assembly (5).

**2. Service specifications for electrical system**

Item		Service specification	Service limit
Battery	Voltage	More than 12 V	—
	Potential difference	Less than 0.1 V	—
Electric PTO clutch	Resistance	2.88 to 3.18 $\Omega$	—
	Clearance (L)	0.35 to 0.45 mm 0.014 to 0.017 in.	0.80 mm 0.031 in.

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# Full Version Available

Kubota Z231KW-AU Zero Turn Mower Workshop Manual

This is a short preview. The complete manual contains all chapters, wiring diagrams, torque specifications and full service procedures.

[VIEW THE FULL MANUAL](#)