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KUBOTA Corporation

English (U.S.A.)
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M5-091-M5-111

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OPERATOR'S MANUAL

KUBOTA TRACTOR

MODELS M5-091
M5-111



1AGBDAAAP001A

READ AND SAVE THIS MANUAL

PRINTED IN JAPAN

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Kubota

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⚠ SAFE OPERATION

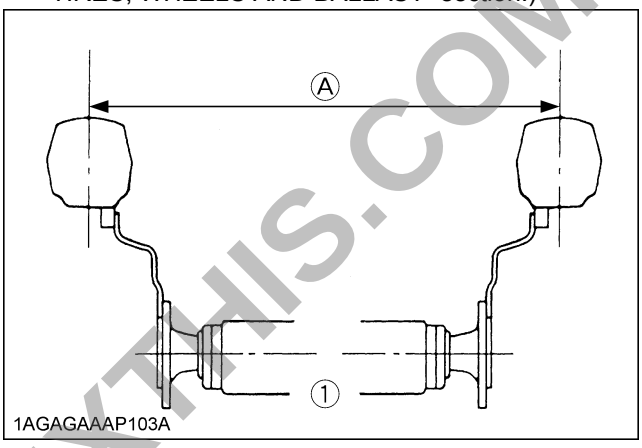
Careful operation is your best insurance against an accident.

Read and understand this manual carefully before operating the tractor.

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

1. BEFORE OPERATING THE TRACTOR

1. Know your equipment and its limitations. Read this entire manual before attempting to start and operate the tractor.
2. Pay special attention to the danger, warning and caution labels on the tractor.
3. Do not operate the tractor or any implement attached to it while under the influence of alcohol, medication, controlled substances or while fatigued.
4. Before allowing other people to use your tractor, explain how to operate and have them read this manual before operation.
5. Never wear loose, torn, or bulky clothing around tractor. It may catch on moving parts or controls, leading to the risk of an accident. Use additional safety items, e.g. hard hat, safety boots or shoes, eye and hearing protection, gloves, etc., as appropriate or required.
6. Do not allow passengers to ride on any part of the tractor at anytime. The operator must remain in the tractor seat during operation.
7. Check brakes, clutch, linkage pins 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.)
8. Keep your tractor clean. Dirt, grease, and trash build up may contribute to fires and lead to personal injury.
9. Use only implements meeting the specifications listed under "IMPLEMENT LIMITATIONS" in this manual or implements approved by KUBOTA.
10. Use proper weights on the front or rear of the tractor to reduce the risk of upsets. When using the front loader, put an implement or ballast on the 3-point hitch to improve stability. Follow the safe operating procedures specified in the implement or attachment manual.
11. The narrower the tread, the greater the risk of a tractor upset. For maximum stability, adjust the wheels to the widest practical tread width for your application. (See "TIRES, WHEELS AND BALLAST" section.)



(1) Rear wheels *(A) Tread Width*

12. Do not modify the tractor. Unauthorized modification may affect the function of the tractor, which may result in personal injury.

◆ **CAB, ROPS**

1. KUBOTA recommends the use of a CAB or 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 tractor be upset. Check for overhead clearance which may interfere with a CAB or ROPS.
2. 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.
3. If the CAB or ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.
4. Never modify or repair any structural member of a CAB or ROPS because welding, bending, drilling, grinding, or cutting may weaken the structure.
5. A damaged CAB or ROPS structure must be replaced, not repaired or revised.
6. If any structural member of the CAB or ROPS is damaged, replace the entire structure at your local KUBOTA Dealer.

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SPECIFICATIONS

SPECIFICATION TABLE

Model				M5-091		M5-111	
				2WD	4WD	2WD	4WD
Engine	Model			V3800-TIEF4			
	Type			4 cylinder in-line, Common Rail System, direct injection with inter cooler			
	Number of cylinders			4			
	Total displacement		cm^3 (cu.in.)	3769 (230)			
	Bore and stroke		mm (in.)	100 x 120 (3.9 x 4.7)			
	Rated revolution		rpm	2400			
	Low idling revolution		rpm	800 to 850			
	Rated Engine HP (97/68/EC)		kW (HP)	69.0 (92.5)		78.8 (105.6)	
	Net power *1		kW (HP)	63.8 (85.5)		74.6 (100)	
	PTO power *1 (factory observed)		kW (HP)	56.7 (76)		66.4 (89)	
	Maximum torque		N-m (ft-lbs) / rpm	325 (240) / 1500		357 (263) / 1500	
	Battery capacity			12V, RC: 160 min, CCA 900A			
	Fuel tank capacity		L (U.S.gals.)	105 (27.7)			
	Engine oil capacity		L (U.S.qts.)	10.7 (11.3)			
	Coolant capacity		L (U.S.qts.)	10.0 (11)			
	DEF/AdBlue® capacity		L (U.S.gals.)	12.3 (3.2)			
Dimensions	Overall length		mm (in.)	3975 (156.5)	3960 (156)	3975 (156.5)	3960 (156)
	Overall width (minimum tread)		mm (in.)	1960 (77)	1990 (78)	1990 (78)	2010 (79)
	Overall height		mm (in.)	2510 (99) (ROPS)		2535 (100) (ROPS)	
	Wheel base		mm (in.)	2285 (90)	2250 (88.6)	2285 (90)	2250 (88.6)
	Tread	Front	mm (in.)	1440 to 2040 (56.7 to 80.3)	1580 (62.2)	1440 to 2040 (56.7 to 80.3)	1580 (62.2)
		Rear	mm (in.)	1520 to 1920 (59.8 to 75.6)			
	Minimum ground clearance		mm (in.)	425 (16.7) (Drawbar bracket)		450 (17.7) (Drawbar bracket)	
Weight			kg (lbs.)	2600 (5732)	2790 (6151)	2660 (5865)	2850 (6283)

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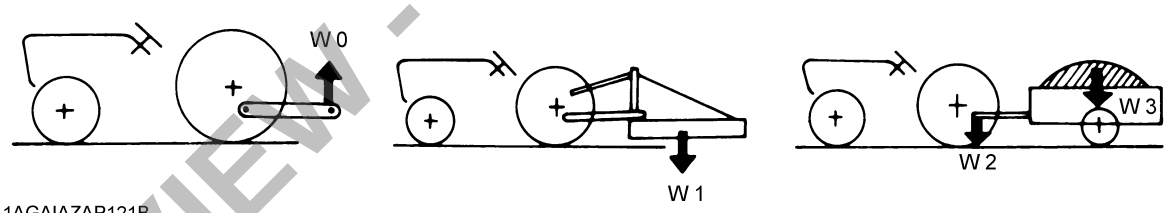
IMPLEMENT LIMITATIONS

The KUBOTA Tractor has been thoroughly tested for proper performance with implements sold or approved by KUBOTA. Use with implements which are not sold or approved by KUBOTA and which exceed the maximum specifications listed below, or which are otherwise unfit for use with the KUBOTA Tractor may result in malfunctions or failures of the tractor, damage to other property and injury to the operator or others. [Any malfunctions or failures of the tractor resulting from use with improper implements are not covered by the warranty.]

	Tread (max. width)			Lower link end max. lifting capacity: W 0
	Front		Rear	
	2WD	4WD		
M5-091 M5-111	2040 mm (80.3 in.)	1620 mm (63.8 in.)	1920 mm (75.6 in.)	Hydraulic high capacity lift cylinder equipped: 3900 kg (8600 lbs.) non-equipped: 3200 kg (7055 lbs.)

	Implement weight: W 1	Max. drawbar Load: W 2	Trailer loading weight: W 3	
			2WD	4WD
M5-091 M5-111	As in the following list (Shown on the next page)	1500 kg (3300 lbs.)	6000 kg (13200 lbs.)	7000 kg (15400 lbs.)

Lower link end max, hydraulic lifting capacity.....W 0
Implement weight.....The implement's weight which can be put on the lower link: W 1
Max. drawbar load.....W 2
Trailer loading weight.....The max. loading weight for trailer (without trailer's weight): W 3



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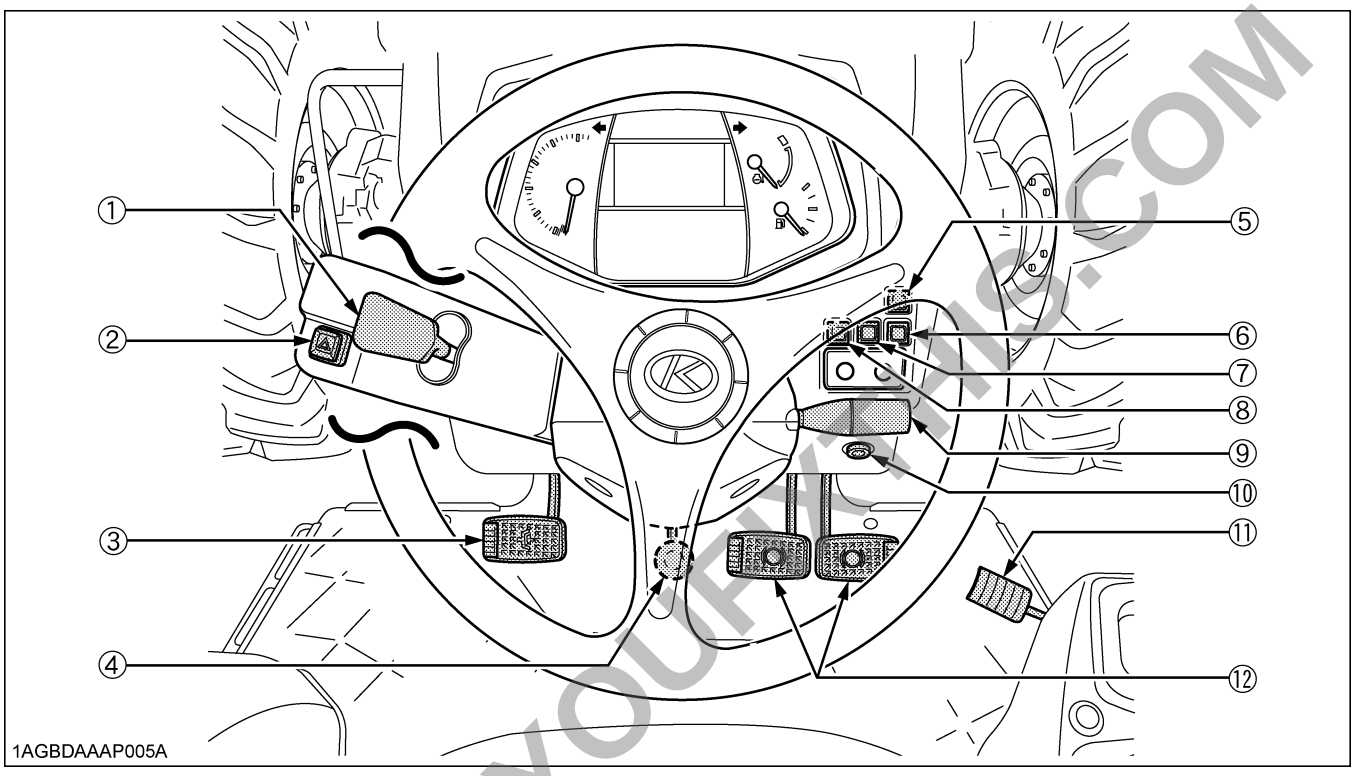
NOTE :
- Implement size may vary depending on soil operating conditions.
- Strictly follow the instructions outlined in the operator's manual of the mounted or trailed machinery or trailer, and do not operate the combination tractor - machine or tractor - trailer unless all instructions have been followed
- Forestry Application
  Following hazards exist;
  (a) toppling trees, primarily in case a rear-mounted tree grab-crane is mounted at the rear of the tractor;
  (b) penetrating objects in the operator's enclosure, primarily in case a winch is mounted at the rear of the tractor.
  Optional equipments such as OPS (Operator Protective Structure), FOPS (Falling Object Protective Structure), etc. to deal with these hazards and other related hazards are not available for this tractor. Without such optional equipment use is limited to tractor specific applications like transport and stationary work.

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INSTRUMENT PANEL AND CONTROLS

■ Instrument Panel, Switches and Hand Controls



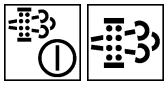
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(8) Parked regeneration switch 18
(9) Turn signal/Headlight switch 34
(10) Key switch ..... -
(11) Foot throttle 40
(12) Brake pedal 35

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■Operating Procedure for Parked Regeneration

1. Park the tractor in a safe area away from buildings, people, and animals.
2. Apply the parking brake.
3. Set the shuttle shift lever to the neutral position.
4. Turn "OFF" the PTO clutch control switch.
5. Return the engine rpm to the idle speed.
6. Lower the implement to the ground.
7. Press the DPF INHIBIT switch , and the switch lamp turns "OFF".
8. When the regeneration conditions are satisfied (2 to 5 and 7 mentioned above),
   the parked regeneration switch lamp  start flashing.
9. Press the parked regeneration switch  to start the regeneration cycle.
   (The switch lamp will stop flashing and remain "ON" constantly during the cycle.)
10. The engine rpm will automatically rise, and the regeneration process will begin.
11. Both indicators  stay "ON" while regenerating the DPF.
    They turn "OFF" when the cycle is complete.
12. After the lamp turns "OFF", normal tractor work may resume.
    When driving in "Regeneration Inhibit" mode, press the DPF INHIBIT switch to turn on the switch lamp.

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OPERATING THE TRACTOR

OPERATING NEW TRACTOR

How a new tractor is handled and maintained determines the life of the tractor.

A new tractor just off the factory production line has been, of course, tested, but the various parts are not accustomed to each other, so care should be taken to operate the tractor for the first 50 hours at a slower speed and avoid excessive work or operation until the various parts become "broken-in". The manner in which the tractor is handled during the "breaking-in" period greatly affects the life of your tractor.

Therefore, to obtain the maximum performance and the longest life of the tractor, it is very important to properly break-in your tractor. In handling a new tractor, the following precautions should be observed.

■Do not Operate the Tractor at Full Speed for the First 50 Hours.

- Do not start quickly nor apply the brakes suddenly.
- In winter, operate the tractor after fully warming up the engine.
- Do not run the engine at speeds faster than necessary.
- On rough roads, slow down to suitable speeds. Do not operate the tractor at fast speed.

The above precautions are not limited only to new tractors, but to all tractors. But it should be especially observed in the case of new tractors.

■Changing Lubricating Oil for New Tractors

The lubricating oil is especially important in the case of a new tractor. The various parts are not "broken-in" and are not accustomed to each other; small metal grit may develop during the operation of the tractor; and this may wear out or damage the parts. Therefore, care should be taken to change the lubricating oil a little earlier than would ordinarily be required.

For further details of change interval hours.

(See "MAINTENANCE" section.)

BOARDING AND LEAVING THE TRACTOR

1. Never try to get on or off a moving tractor or jump off the tractor to exit.
2. Face the tractor when getting into or out of the tractor. Do not use the controls as hand holds to prevent inadvertent machine movements.
3. Always keep steps and floor clean to avoid slippery conditions.

OPERATING FOLDABLE ROPS

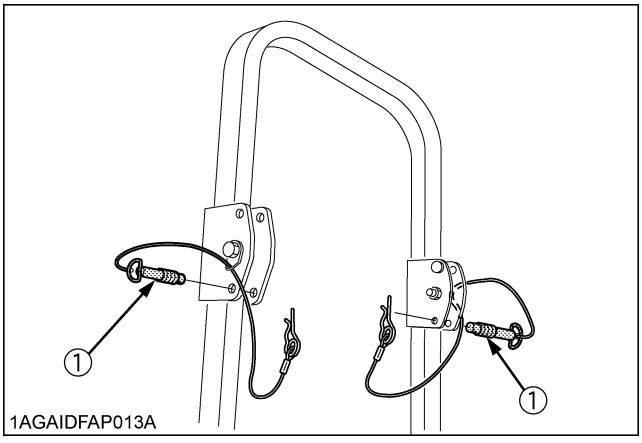
WARNING

To avoid personal injury or death:

- **When raising or folding the ROPS, apply parking brake, stop the engine and remove the key.**
  Always perform function from a stable position at the rear of tractor.
- **Fold the ROPS down only when absolutely necessary and fold it up and lock it again as soon as possible.**
- **Before proceeding to fold ROPS, check for any possible interference with installed implements and attachments.**
  If interference occurs, contact your KUBOTA Dealer.

■To Fold the ROPS

1. Remove both set bolts.

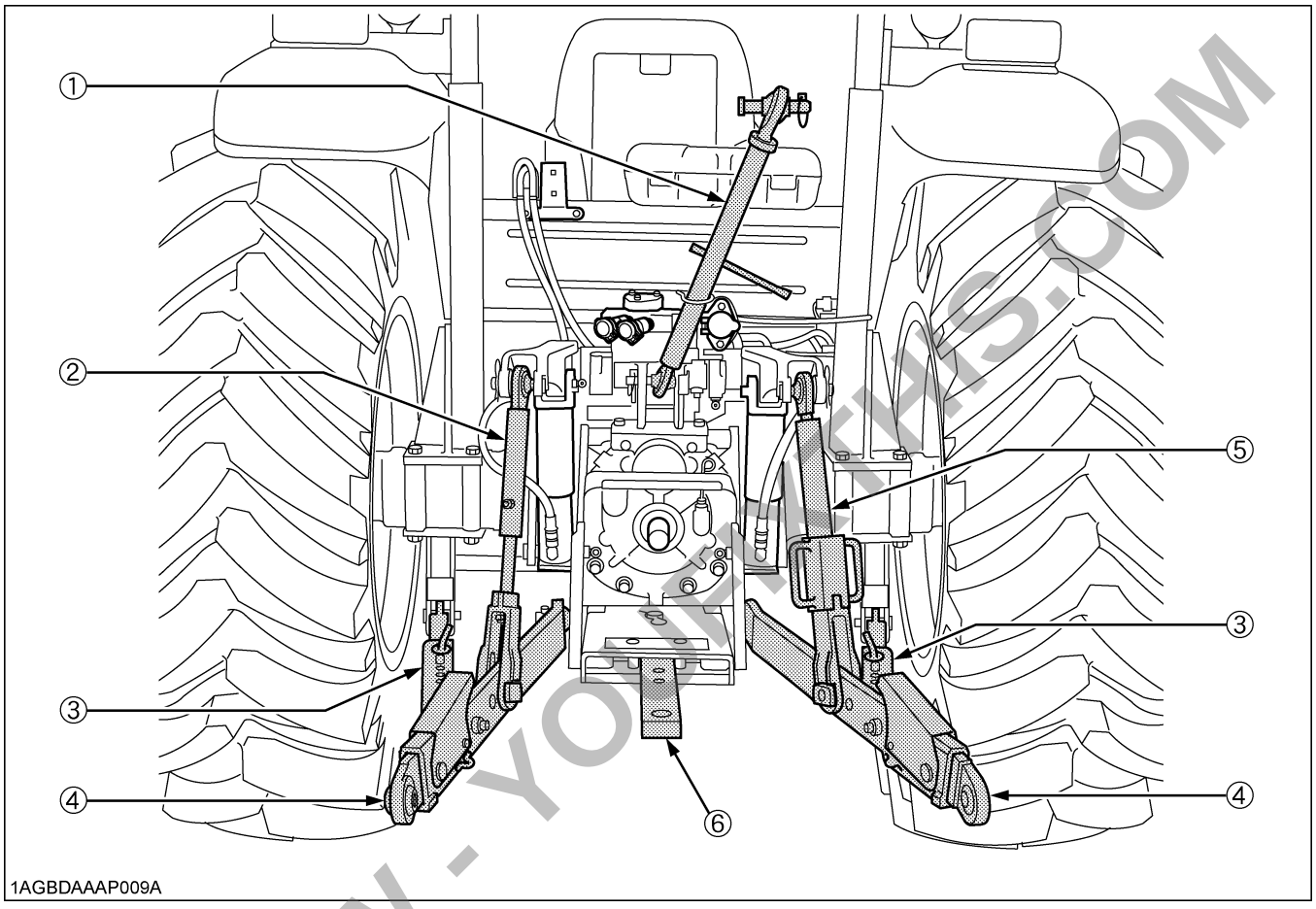


(1) Set bolt

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3-POINT HITCH & DRAWBAR



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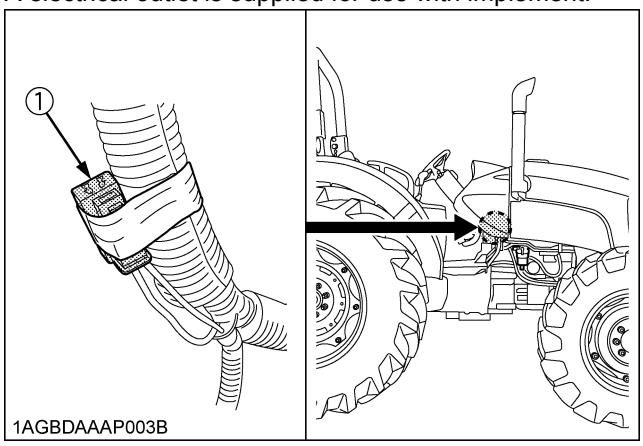
(1) Top link
(2) Lifting rod (Left)
(3) Telescopic stabilizers
(4) Lower link
(5) Lifting rod (Right)
(6) Drawbar

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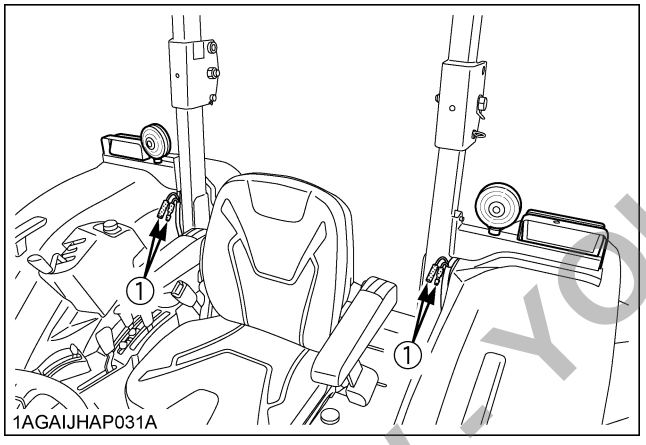
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■Electrical Outlet

A electrical outlet is supplied for use with implement.



(1) Accessory electrical outlet (15A)



(1) Accessory electrical outlet for rear work light (35W)

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PTO

PTO OPERATION

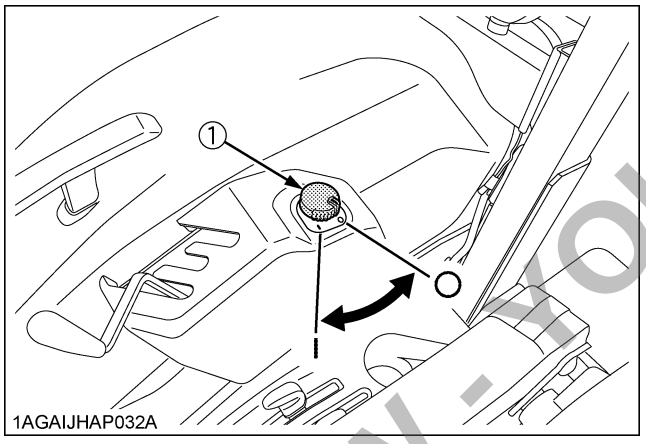
WARNING

To avoid personal injury or death:

- **Disengage PTO, stop engine, and allow all rotating components to come to a complete stop before connecting, disconnecting, adjusting, or cleaning any PTO driven equipment.**

■PTO Clutch Control Switch

The PTO clutch control switch engages or disengages the PTO clutch which gives the PTO independent control. Turn the switch to "ON" to engage the PTO clutch. Turn the switch to "OFF" to disengage the PTO clutch.

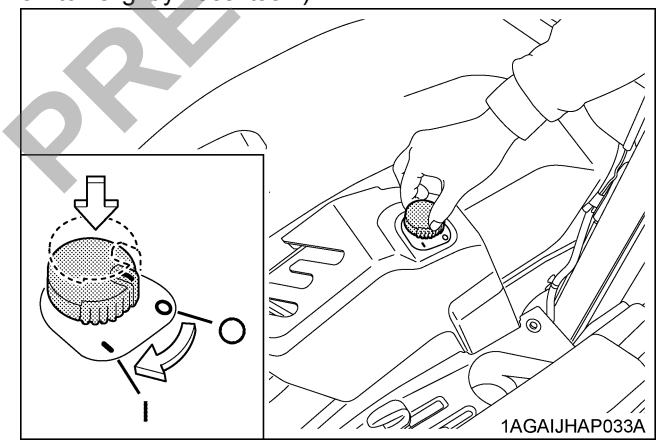


(1) PTO clutch control switch | *"ON"* ○ *"OFF"*

◆ **PTO Clutch Control Switch**

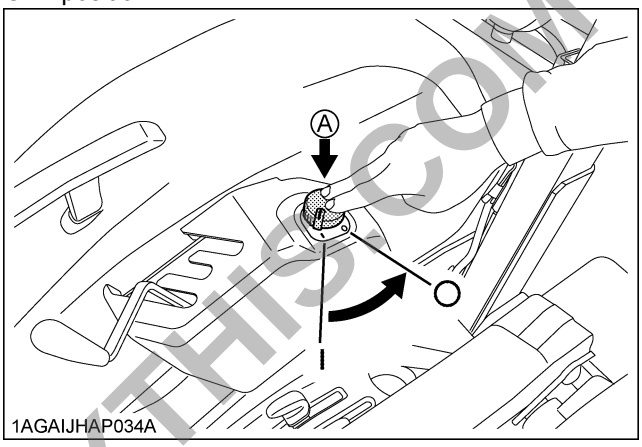
To turn ON

While pushing the switch, turn clockwise to the " | " position and release your hand. (In the ON position, switch slightly rises itself.)



To Turn OFF

Tap on top of the switch, and the switch will return to the OFF position.



(A) "PUSH"

IMPORTANT :

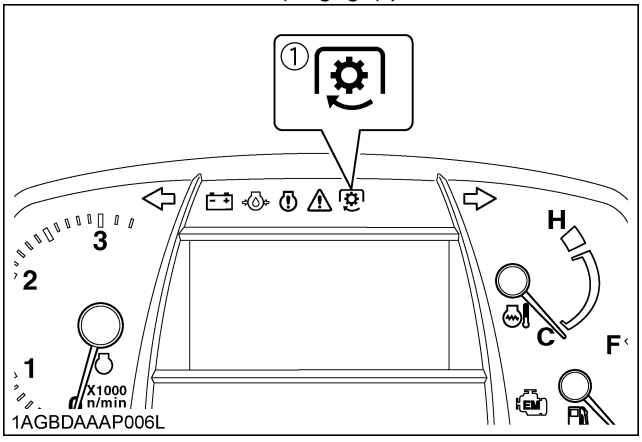
- To avoid shock loads to the PTO, reduce engine speed when engaging the PTO, then open the throttle to the recommended speed.

NOTE :

- Tractor engine will not start if PTO clutch control switch is in the engaged "ON" position.

◆ **PTO Clutch Indicator**

The PTO clutch indicator turns on while PTO clutch control switch is in "ON" (Engage) position.



(1) PTO clutch indicator

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TIRES, WHEELS AND BALLAST

TIRES

WARNING

To avoid personal injury or death:

- **Do not attempt to mount a tire on a rim. This should be done by a qualified person with the proper equipment.**
- **Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure shown in the operator's manual.**

IMPORTANT :

- Do not use tires other than those approved by KUBOTA.

NOTE :

- When optional different-diameter tires are fitted on the machine, the travel speed display mode must be changed. Otherwise the travel speed will not get correctly displayed. Such mode switching is also needed when the original tires are back on the machine.
  (See "LCD MONITOR" in "OPERATING THE TRACTOR" section.)

■Inflation Pressure

Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time. Thus, check it everyday and inflate as necessary.

NOTE :

- Maintain the maximum pressure in front tires, if using a front loader or when equipped with a full load of front weights.

	Tire sizes	Inflation Pressure
Front	7.50-18, 6PR	280 kPa (2.8 kgf/cm^2, 40 psi.)
	9.5L-15, 6PR	220 kPa (2.2 kgf/cm^2, 32 psi.)
	9.5-22, 6PR	200 kPa (2.0 kgf/cm^2, 29 psi.)
	10.00-16, 6PR	200 kPa (2.0 kgf/cm^2, 29 psi.)
	11.2-24, 6PR	160 kPa (1.6 kgf/cm^2, 23 psi.)
	12.4-24, 6PR	140 kPa (1.4 kgf/cm^2, 20 psi.)
Rear	16.9-30, 6PR	110 kPa (1.1 kgf/cm^2, 16 psi.)
	16.9-34, 6PR	120 kPa (1.2 kgf/cm^2, 18 psi.)
	18.4-30, 6PR	110 kPa (1.1 kgf/cm^2, 16 psi.)

■Dual Tires

Dual tires are not approved.

WHEEL ADJUSTMENT

WARNING

To avoid personal injury or death:

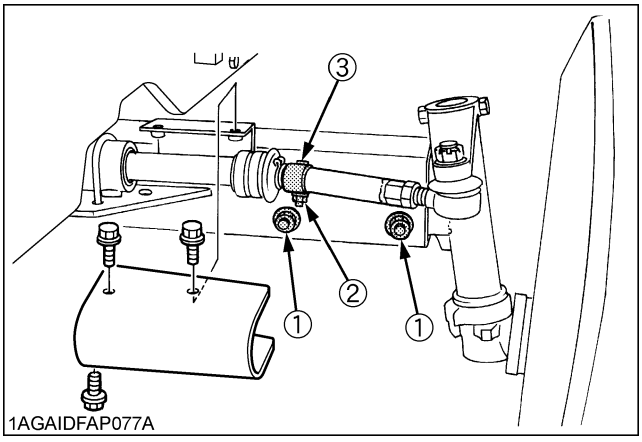
- **When working on slopes or when working with trailer, set the wheel tread as wide as practical for maximum stability.**
- **Support tractor securely on stands before removing a wheel.**
- **Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.**
- **Never operate tractor with a loose rim, wheel, or axle.**

■Front Wheels (with 2-wheel drive)

Front tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

1. Remove the front axle mounting bolts and the tie-rod mounting bolts.
2. Move the front axles (right and left) to the desired position, and tighten the bolts.
3. Adjust the toe-in: [1 to 5 mm (0.04 to 0.2 in.)]
   (See "Adjusting Toe-in" in "EVERY 200 HOURS" in "PERIODIC SERVICE" section.)



(1) Front axle mounting bolt
124 to 147 N-m (12.6 to 15 kgf-m) [91.5 to 108.9 ft-lbs.]
(2) Tie-rod mounting bolt
61 to 71 N-m (6.2 to 7.2 kgf-m) [44.8 to 52.1 ft-lbs.]
(3) Tie rod clamp

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