⚠ SAFE OPERATION

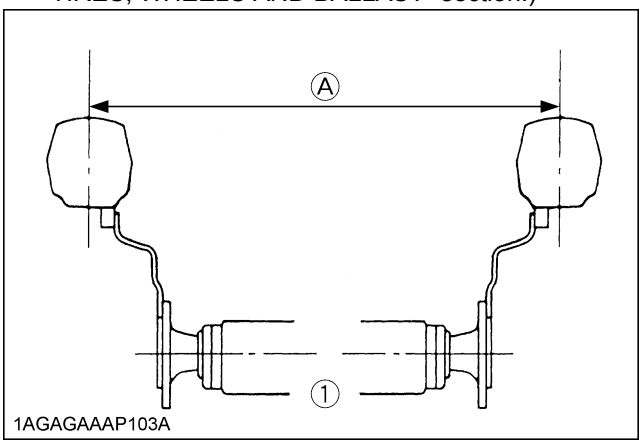
Careful operation is your best insurance against an accident.

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.

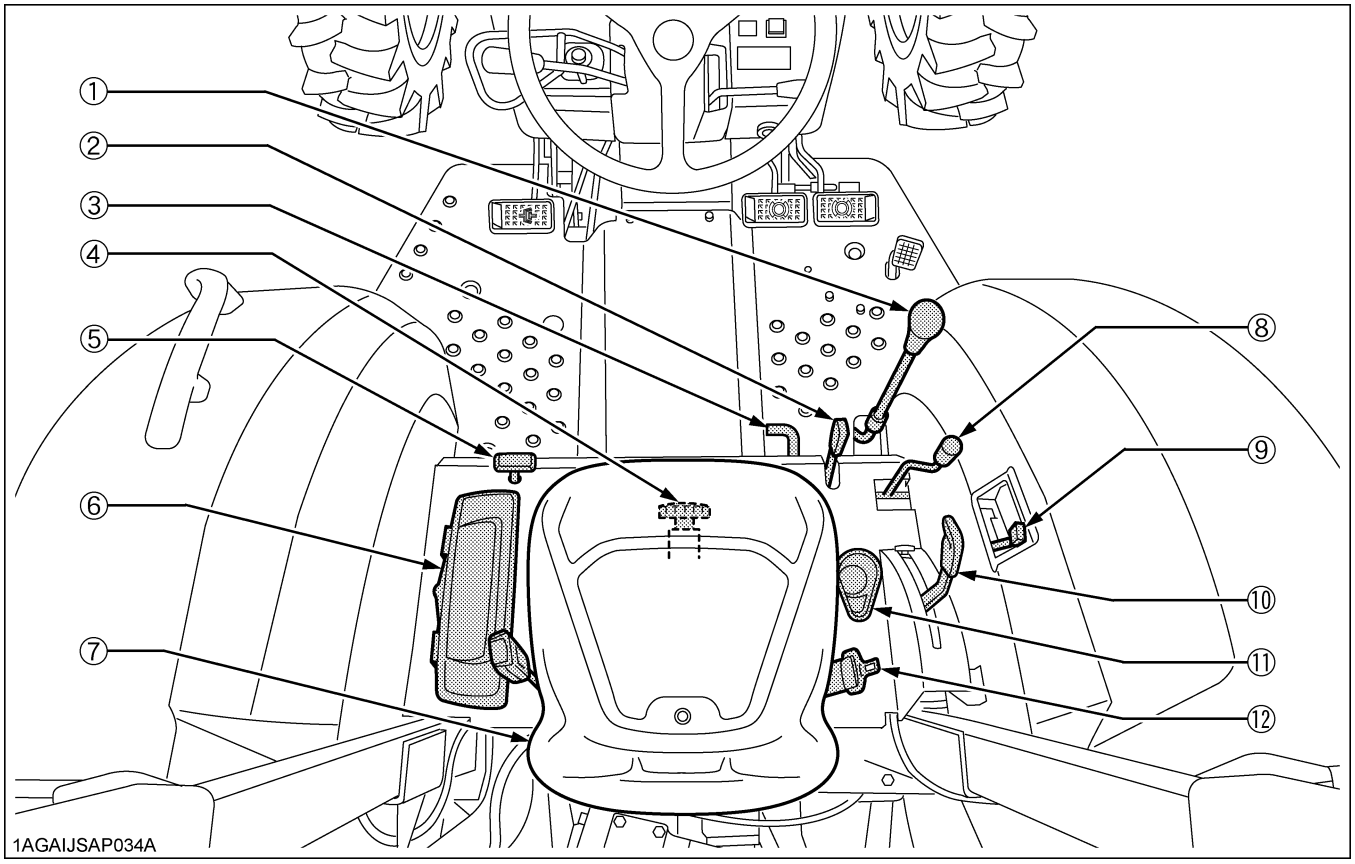
◆ **CAB, ROPS**

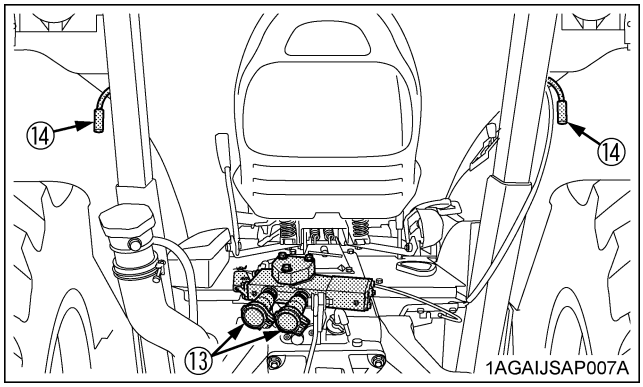
1. KUBOTA recommends the use of a CAB or Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the tractor be upset. Check for overhead clearance which may interfere with a CAB or ROPS.
2. Set parking 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. If any structural member of the CAB or ROPS is damaged, replace the entire structure at your local KUBOTA Dealer.
6. If the tractor is equipped with a foldable ROPS it 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 the ROPS should be placed in the upright and locked position and the seat belt fastened for all other operations.)

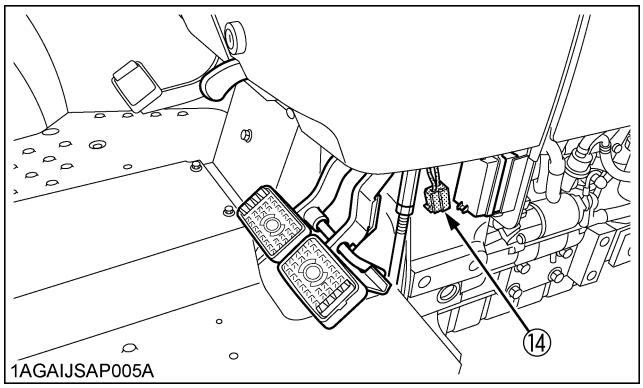
Model				M5660SU	
				2WD	4WD
Traveling system	Standard tire size	Front tires		6.5-16	8.3-24
		Rear tires		14.9-28 *2	
	Clutch			Multiple wet disc	
	Steering			Hydraulic Power Steering	
	Braking system			Multiple wet disks mechanical	
	Differential			Bevel gears with differential lock (Rear)	
Hydraulic unit	Hydraulic control system			Position control	
	Pump capacity		L (U.S.gals.) / min	40.2 (10.6)	
	3-point hitch			Category 1 and 2	
	Max. lifting force	At lifting points	kg (lbs.)	1900 (4189) At lower link end with links horizontal	
		24 in. behind lifting point	kg (lbs.)	1500 (3307)	
	Remote hydraulic control			1 standard (2nd & 3rd valve optional)	
	System pressure		MPa (kgf/cm^2)	19.1 (195)	
	Traction system			Swinging drawbar, adjustable in direction	
PTO	Live PTO (Indepen-dent)	Direction of turning		Clockwise, viewed from tractor rear	
		PTO/ Engine speed	rpm	6 spline: 540 / 2295	

The company reserves the right to change the specifications without notice.
NOTE: *1 Manufacturer's estimate
*2 Cast iron disks available for wheels.

■ Foot and Hand Controls

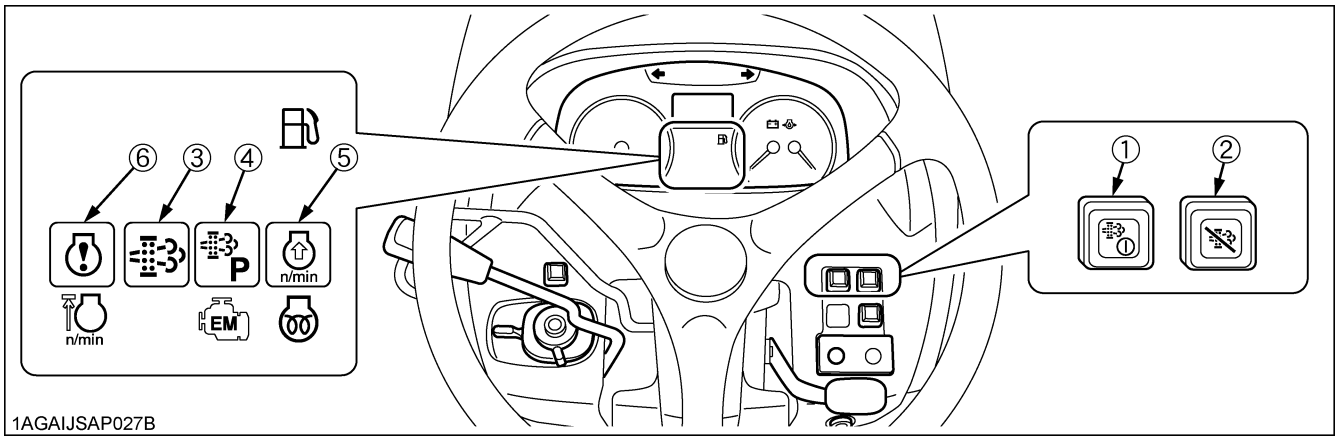






ILLUSTRATED CONTENTS

Operating Procedure for Regeneration Inhibit Mode



(1) Parked regeneration switch
(2) DPF INHIBIT switch
(3) Regeneration indicator
(4) Parked regeneration indicator
(5) Engine RPM increase indicator
(6) Engine warning indicator

■Regeneration Operating Procedure

1. Start the engine.

2. Press the DPF INHIBIT switch  , and the switch lamp illuminates.

Switch lamp ON: Regeneration Inhibit Mode selected.
Switch lamp OFF: Auto Regeneration Mode selected.

3. When the parked regeneration indicator  starts flashing:

A specific amount of PM has accumulated in the DPF muffler.
Move the tractor to a safe place and activates the DPF muffler. Follow the "Operating Procedure for Parked Regeneration" procedure.

■Tips on Diesel Particulate Filter (DPF) Regeneration

- **Operation**
  The higher in speed or load the engine operates, the higher the exhaust temperature rises. As a result, particulate matter (PM) inside the DPF is consumed, therefore the regeneration process is required less frequently over time.
  The lower in speed or load the engine operates, the lower the exhaust temperature. Accordingly, less particulate matter (PM) inside the DPF is consumed, therefore more accumulation of PM will occur, which requires frequent regeneration, therefore avoid prolonged idling if possible.

- **Necessary conditions for "Regeneration"**
  When conditions below are all satisfied, regeneration will start. However, if even one condition is deviated during the process, the regeneration will be interrupted.
  (1) The engine coolant temperature.
  (2) The DPF temperature.
  (3) The engine speed is 1200 rpm or higher.

- Usually it takes 15-20 minutes to complete the regeneration cycle.
  Actual regeneration time may depend on ambient temperature, exhaust temperature and engine speed.

- It is recommended to do the regenerating while the engine is warm.

- Do not unnecessarily start and interrupt the regeneration process. Otherwise, a small amount of fuel becomes mixed with the engine oil, which degrades the oil quality.

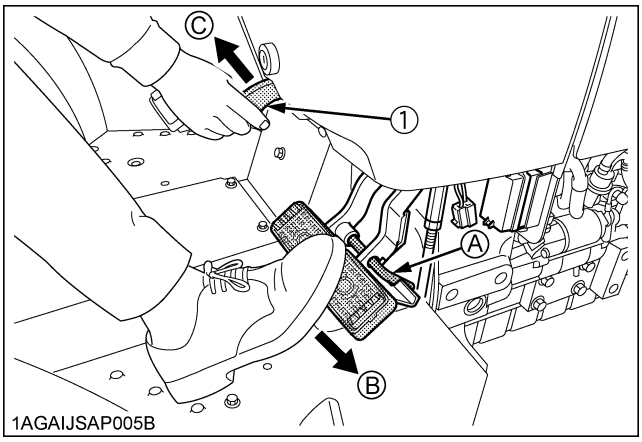
- While the DPF is being regenerated, the engine air flow rate is automatically limited to keep up the exhaust temperature. Because of this the engine may sound differently, this is normal for this engine.

- Just after the regeneration has ended, the DPF muffler remains hot. It is advisable to keep the engine running for about 5 minutes to allow cooling of the exhaust components.

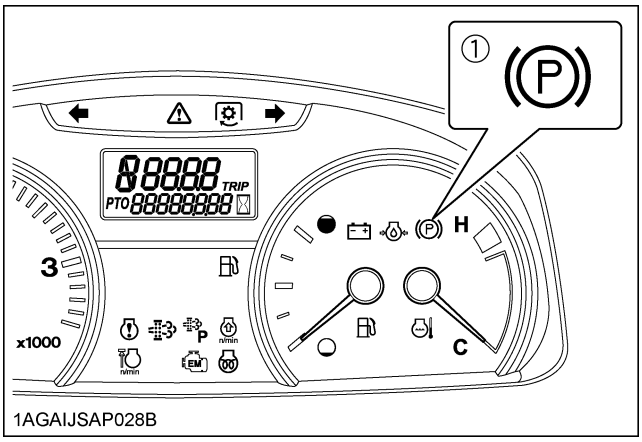
STARTING THE ENGINE

1. Make sure the parking brake is set.

1. To set the parking brake;
   (1) Interlock the brake pedals.
   (2) Depress the brake pedals.
   (3) Latch the brake pedals with the parking brake lever.
   (4) The parking brake warning indicator light on the Easy Checker(TM) will turn "ON" when the parking brake is set.
2. To release the parking brake, depress the brake pedals again.



(1) Parking brake lever
(A) "Interlock the brake pedals"
(B) "DEPRESS"
(C) "PULL"



(1) Parking brake warning indicator

IMPORTANT :
- To prevent damage to the parking brake lever, make sure that brake pedals are fully depressed before pulling the parking brake lever up.

JUMP STARTING

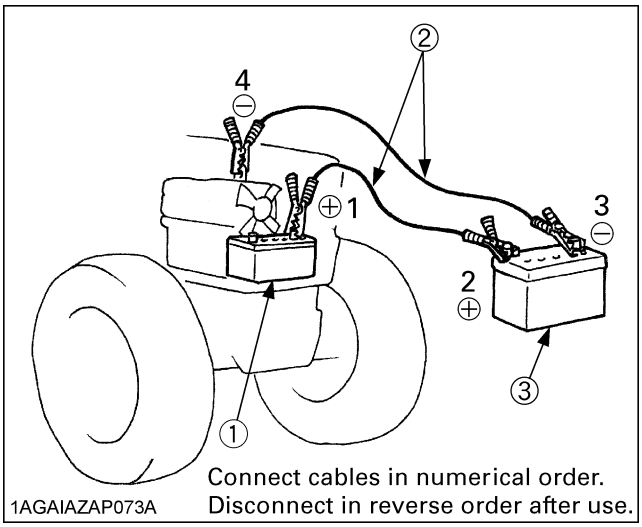
WARNING

To avoid personal injury or death:

- **Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.**
- **If tractor battery is frozen, do not jump start engine.**
- **Do not connect the other end of the negative (-) jumper cable to the negative (-) terminal of the tractor battery.**

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

1. Bring the helper vehicle with a battery of the same voltage as disabled tractor within easy cable reach. "THE VEHICLES MUST NOT TOUCH".
2. Engage the parking brakes of both vehicles and put the shift levers in neutral. Shut both engines off.
3. Wear eye protection and rubber gloves.
4. 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.
5. Clamp the other cable to the negative (black, (-) or neg.) terminal of the helper battery.
6. Clamp the other end to the engine block or frame of the disabled tractor as far from the dead battery as possible.
7. Start the helper vehicle and let its engine run for a few moments. Start the disabled tractor.
8. Disconnect the jumper cables in the exact reverse order of attachment. (Steps 6, 5 and 4).



(1) Dead battery
(2) Jumper cables
(3) Helper battery

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 tractor's electrical system could result in severe damage to tractor's electrical system.
  Use only matching voltage source when "Jump starting" a low or dead battery condition.
- Do not operate the tractor with the battery cable disconnected from the battery.
- Do not operate the tractor without the battery mounted.
- Do not operate the tractor with the battery dead. Charge the battery fully enough before operating the tractor.
  Otherwise the tractor might malfunction.

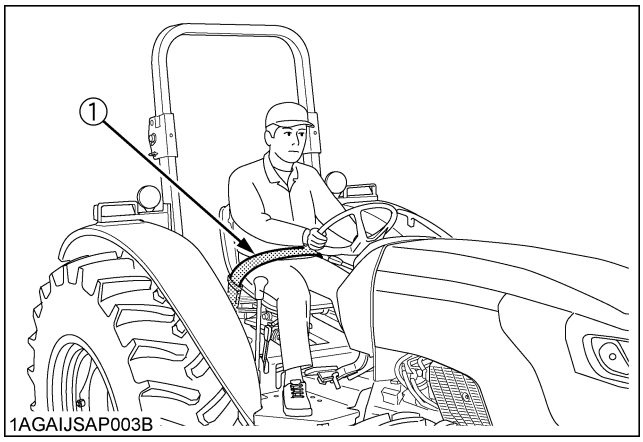
■Seat Belt

WARNING

To avoid personal injury or death:

- **Always use the seat belt when any ROPS or CAB are installed.**
- **Do not use the seat belt if a foldable ROPS or a retractable ROPS is down or there is no ROPS.**

Adjust the seat belt for proper fit and connect the buckle. This seat belt is auto-locking retractable type.



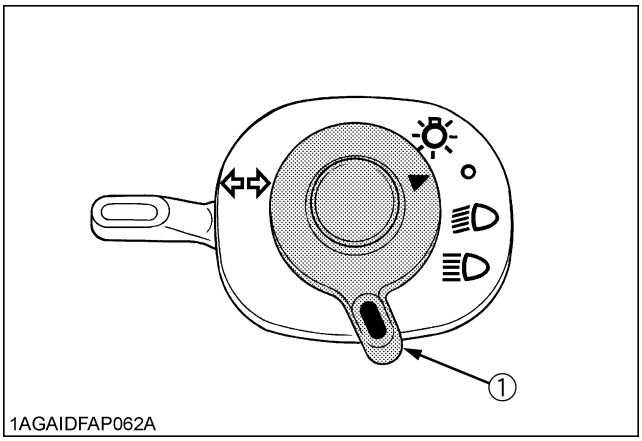
(1) Seat belt

2. Selecting Light Switch Positions.

■Light Switch

Turn the light switch clockwise, and the following lights are activated on the switch position.

○ ..... Head lights OFF.
≡D ..... Head lights dimmed, low beam.
≡D ..... Head lights ON, high beam.



(1) Head light switch

■Turn Signal / Hazard Light Switch

◆ **Hazard Light**

1. When the hazard light switch is pushed, the hazard lights flash, along with the L/H and R/H indicators on the instrument panel.
2. Push the hazard light switch again to turn off the hazard lights.

◆ **Turn Signal with Hazard Light**

1. To indicate a right turn with the hazard lights already flashing, turn the switch clockwise.
2. To indicate a left turn with the hazard lights already flashing, turn the switch counterclockwise.
3. When the left or right turn signal is activated in combination with the hazard lights, the indicated turning light will flash and the other will stay on.

◆ **Turn Signal without Hazard Light**

1. To indicate a right turn without hazard lights, turn the switch clockwise.
2. To indicate a left turn without hazard lights, turn the switch counterclockwise.
3. When the left or right turn signal is activated without the hazard lights, the indicated turning light will flash and the other will stay on.

Engine warning

This indicator serves the following two functions. If the indicator lights up, pinpoint the cause and take a proper measure.

1. Error with the engine control system
   If during operation the water temperature gauge reads an acceptable level but the warning lamp in the Easy Checker(TM) comes on, stop the engine and get it restarted. If the error happens again, consult your local KUBOTA Dealer.

IMPORTANT :

- If the warning indicator lights up, the following phenomena may appear depending on the engine's trouble spot.
  - The engine stops unexpectedly.
  - The engine fails to start or gets interrupted just after start.
  - The engine output is not enough.
  - The engine output is enough, but the warning indicator stays on.

  If the engine output is not enough, immediately interrupt the operation and move the tractor to a safe place and stop the engine.

2. Engine overheat
   If the water temperature gauge reads an unusual level and the warning lamp in the Easy Checker(TM) comes on, the engine may have got overheated. Check the tractor by referring to "TROUBLESHOOTING" section.

Engine oil pressure

If the oil pressure in the engine goes below the prescribed level, the warning lamp in the Easy Checker(TM) will come on.

If this should happen during operation, and it does not go off when the engine is accelerated to more than 1000 rpm, check level of engine oil.

(See "Checking Engine Oil Level" in "DAILY CHECK" in "PERIODIC SERVICE" section.)

Fuel level

If the fuel in the tank goes below the prescribed level, the warning lamp in the Easy Checker(TM) will come on. (less than 20 L (5.3 gals.))

If this should happen during operation, refuel as soon as possible.

(See "Checking and Refueling" in "DAILY CHECK" in "PERIODIC SERVICE" section.)

IMPORTANT :

- When the fuel warning lamp lights up, refuel the tank as soon as possible. If the tractor runs out of fuel and stalls, the engine and its components may be damaged.

Emission indicator

If this indicator lights up, take the steps to lower the water temperature. This helps keep the emission clean.

Electrical charge

If the alternator is not charging the battery, the Easy Checker(TM) will come on.

If this should happen during operation, check the electrical charging system or consult your local KUBOTA Dealer.

Master system warning

If trouble should occur at the engine, transmission or other control parts, the indicator flashes as a warning. If the trouble is not corrected by restarting the tractor, consult your local KUBOTA Dealer.

NOTE :

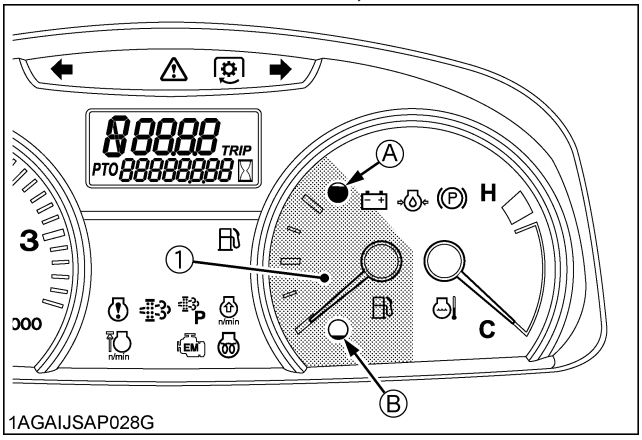
- For checking and servicing of your tractor, consult your local KUBOTA Dealer for instructions.

■Fuel Gauge

When the key switch is on, the fuel gauge indicates the fuel level.

Be careful not to empty the fuel tank. Otherwise air may enter the fuel system.

Should this happen, the system should be bled (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)



(1) Fuel gauge

(A) "FULL"
(B) "EMPTY"

PTO

PTO OPERATION

WARNING

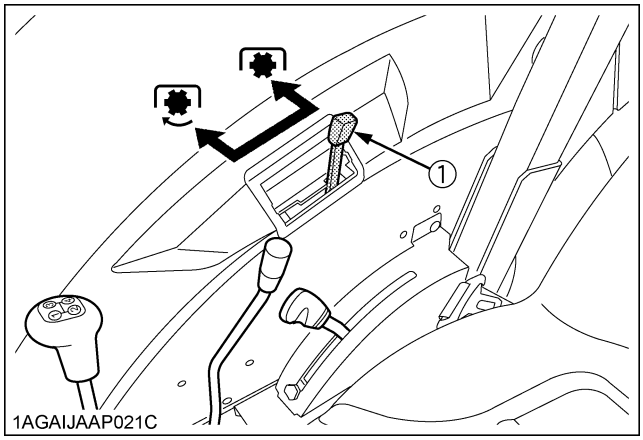
To avoid personal injury or death:

- **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 Lever

1. The tractor has a 540 rpm speed position and 6-spline shaft.
2. The PTO clutch control lever engages or disengages the PTO clutch which gives the PTO independent control.

Shift the lever to "ON" to engage the PTO clutch. Shift the lever to "OFF" to disengage the PTO clutch.



(1) PTO clutch control lever "ON" "OFF"

IMPORTANT :

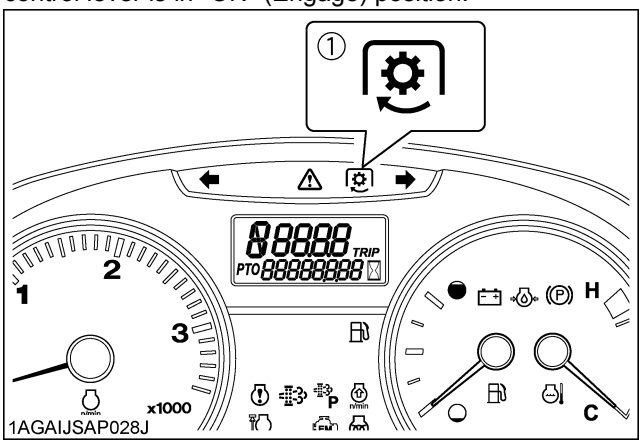
- To avoid shock loads to the PTO, reduce engine speed when engaging the PTO, then open the throttle to the recommended speed.
- To avoid damage of PTO clutch and implement, shift the PTO clutch control lever slowly, when engaging the PTO clutch. Do not keep the PTO clutch control lever half way.
  Proper warm up is strongly recommended in cold weather.
  Do not continuously shift the PTO clutch control lever.

NOTE :

- Tractor engine will not start if PTO clutch control lever is in the engaged "ON" position.
- If the PTO system is engaged and you stand up from the seat, the warning buzzer will whistle for about 10 seconds after standing up.
  This is because the tractor is equipped with "Operator Presence Control System".

◆ PTO Clutch Indicator

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



(1) PTO clutch indicator

3-POINT HITCH

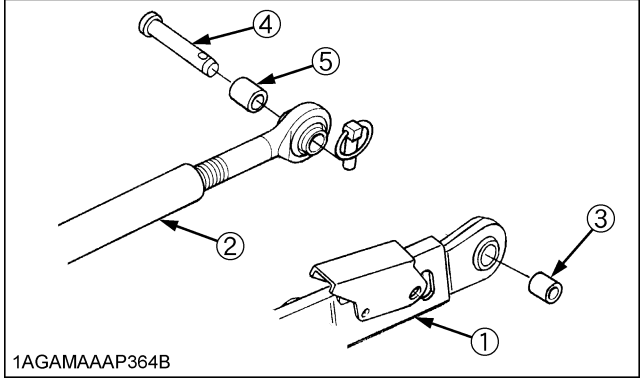
1. Make preparations for attaching implement.

■Category 1 & 2

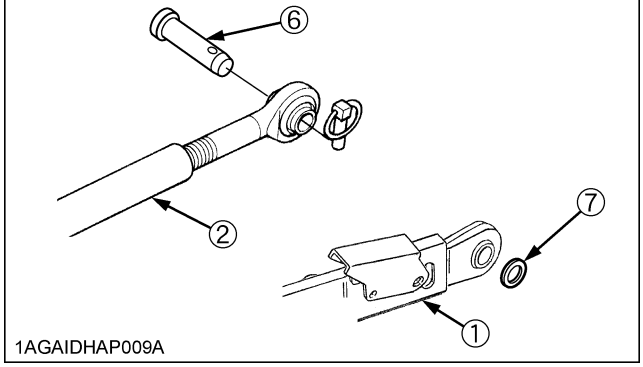
The standard tractor has both category 1 & 2.
Category 1 type is standard and assemble all parts shown as below.
To change from category 1 to category 2.

1. Remove adjusting collar from the lower link.
2. Add side collar onto both the lower links.
3. Remove adjusting collar from the rear top link pin.
4. Use the correct rear top link pin for category 2.

Category 1 type



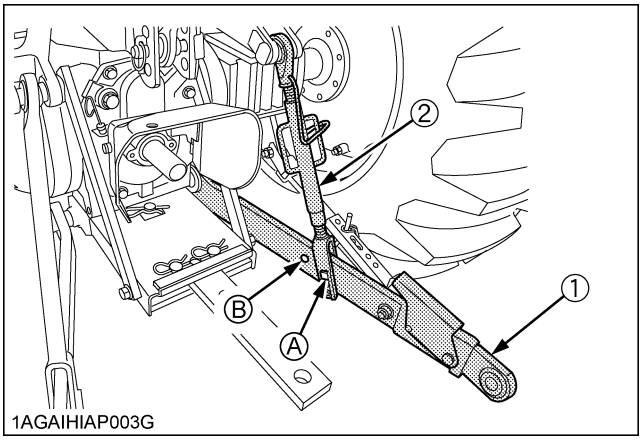
Category 2 type



(1) Lower link
(2) Top link
(3) Collar, lower link (1)
(4) Top link rear pin (1)
(5) Collar, top link (1)
(6) Top link rear pin (2)
(7) Collar, side (2)

■Selecting the holes of Lower Links

There are 2 holes in the lower links. For most operations the lifting rods should be attached to the (B) hole.



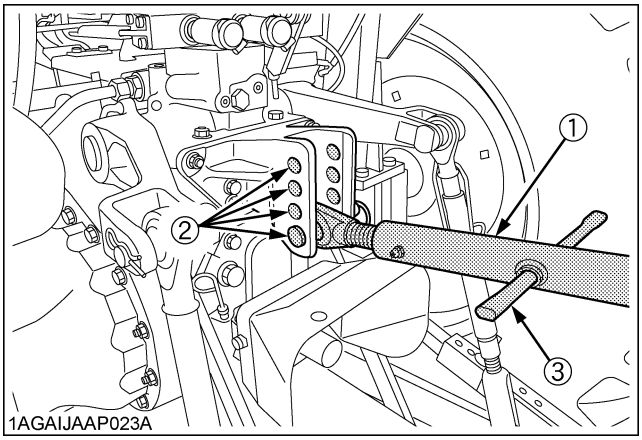
(1) Lower link
(2) Lifting rod
holes: (A), (B)

NOTE :

- The lifting rods may be attached to (A) for greater lifting force.

■Selecting the Top Link Mounting Holes

Select the proper set of holes by referring to the "Hydraulic Control Unit Use Reference Chart" in "HYDRAULIC UNIT" section.



(1) Top link
(2) Mounting hole
(3) Handle

■Drawbar

Remove the drawbar if a close mounted implement is attached.

REMOTE HYDRAULIC CONTROL SYSTEM

The hydraulic auxiliary control valves can be installed up to triple segments.

■Remote Control Valve

There are 2 types of remote valves available for these models.

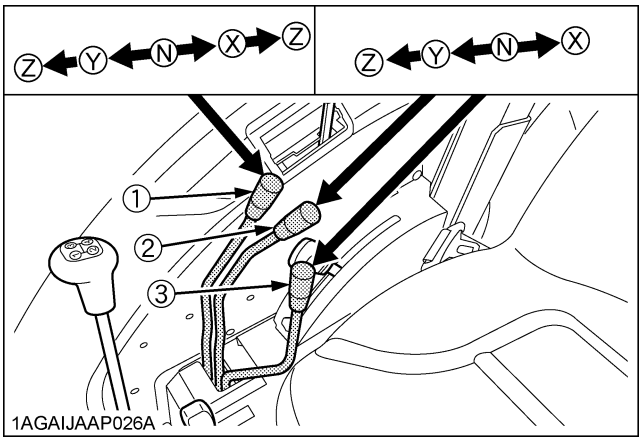
- Double acting valve with detents and self cancelling:
  This valve may be placed in the detent mode. The lever will stay in this position until the pressure reaches a predetermined level or a cylinder reaches the end of its stroke. Then it will automatically return to neutral
- Double acting valve with float position:
  This valve may be placed in the float mode with the control lever all the way forward. The cylinder is free to extend or retract, letting an implement such as a loader bucket follow the ground.

■Remote Control Valve Lever

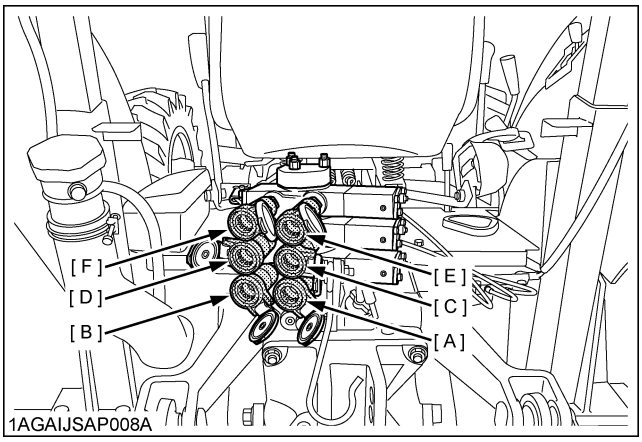
The remote control valve lever directs pressurized oil flow to the implement hydraulic system.

[Example: Installing triple segment valves]

1st	Double acting valve with detents and self cancelling (standard)
2nd 3rd	Double acting valve with float position (option)



(1) Remote control valve lever 1
(2) Remote control valve lever 2
(3) Remote control valve lever 3



Pressure ⟶
Returning ⟵

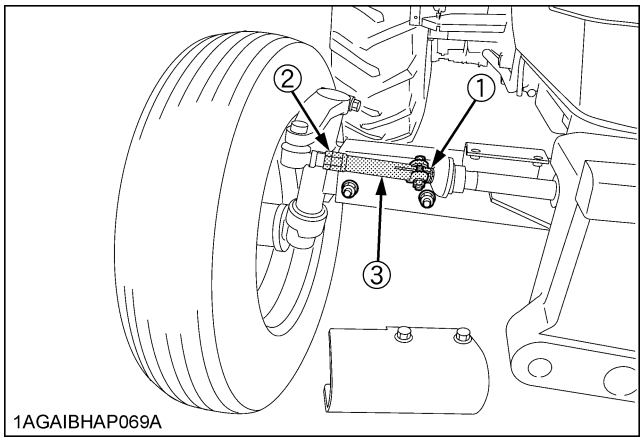
Lever (1)		Lever position			
		Z (detent)	Y	X	Z (detent)
Port	[A]	out ⟶		in ⟵	
	[B]	in ⟵		out ⟶	

Lever (2)		Lever position			
		Z (detent)		Y	X
Port	[C]	in	Float	out ⟶	in ⟵
	[D]	out		in ⟵	out ⟶

Lever (3)		Lever position			
		Z (detent)		Y	X
Port	[E]	in	Float	out ⟶	in ⟵
	[F]	out		in ⟵	out ⟶

No.	Items		Indication on hour meter														Interval	Ref. page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				
18	Fuel filter	Replace								○							every 400 Hr	79		
19	Water separator	Clean								○							every 400 Hr	79		
20	Greasing (2WD front wheel hub)	---								○							every 400 Hr	80		
21	Transmission fluid	Change	◎											○			every 600 Hr	80		
22	Front differential case oil	Change												○			every 600 Hr	81		
23	Front axle gear case oil	Change												○			every 600 Hr	81		
24	Front axle pivot	Adjust												○			every 600 Hr	82		
25	Engine valve clearance	Adjust															every 800 Hr	82	*4	
26	Fuel injector nozzle tip	Clean															every 1500 Hr	82	*4	@
27	Oil separator element	Replace															every 1500 Hr	82		@
28	EGR cooler	Check Clean															every 1500 Hr	82	*4	@
29	EGR system	Check Clean															every 3000 Hr	82	*4	@
30	Turbo charger	Check															every 3000 Hr	82	*4	@
31	Supply pump	Check															every 3000 Hr	82	*4	
32	DPF muffler	Clean															every 3000 Hr	83	*4	@
33	Exhaust manifold	Check															every 1 year	83	*4	
34	DPF related pipe	Check															every 1 year	83	*4	
35	EGR pipe	Check															every 1 year	83	*4	
36	Cooling system	Flush															every 2 years	83		
37	Coolant	Change															every 2 years	84		
38	Oil separator related rubber pipe	Replace															every 2 years	84	*4	
39	PCV (Positive Crankcase Ventilation) valve hose	Replace															every 2 years	84	*4	
40	DPF related rubber pipe	Replace															every 2 years	84	*4	
41	EGR cooler rubber pipe	Replace															every 2 years	84	*4	
42	Boost sensor hose	Replace															every 2 years	85	*4	

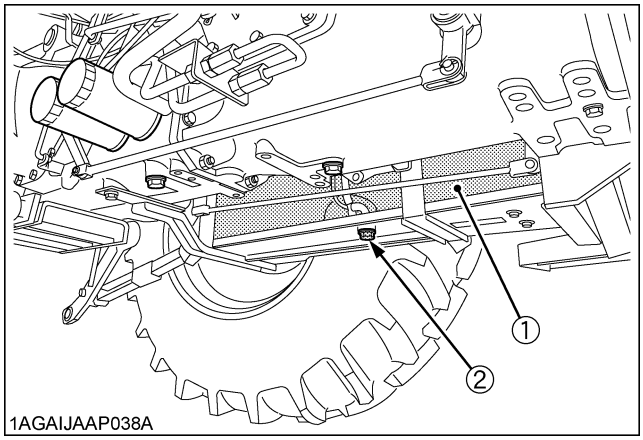
◆ **Adjusting procedure [2WD]**
1. Detach the snap ring.
2. Loosen the tie-rod nut.
3. Turn the tie-rod joint to adjust the rod length until the proper toe-in measurement is obtained.
4. Retighten the tie-rod nut.
5. Attach the snap ring of the tie-rod joint.



(1) Snap ring
(2) Tie-rod nut
(167 to 196 N-m, 17 to 20 kgf-m, 123.2 to 144.6 ft-lbs)
(3) Tie-rod joint

■Draining Fuel Tank Water

Loosen the drain plug at the bottom of the fuel tank to let sediments, impurities and water out of the tank. Finally tighten up the plug.



(1) Fuel Tank (Left)
(2) Drain plug

IMPORTANT :
- If the fuel contains impurities, such as water, drain the fuel tank at shorter intervals.
- Drain the fuel tank before operating the tractor after a long period of storage.

EVERY 300 HOURS

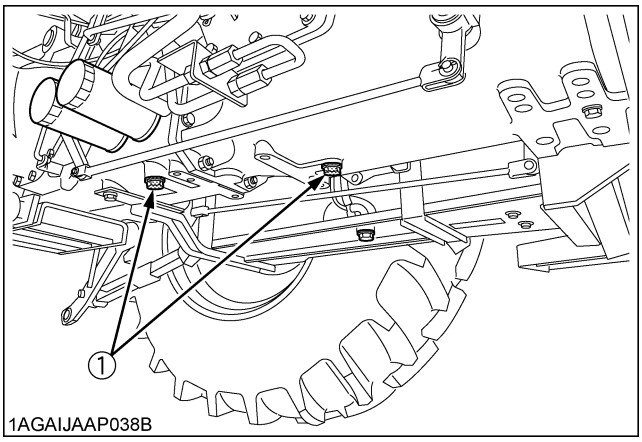
■Replacing Hydraulic Oil Filter

◆ **Cleaning Magnetic Filter**

WARNING

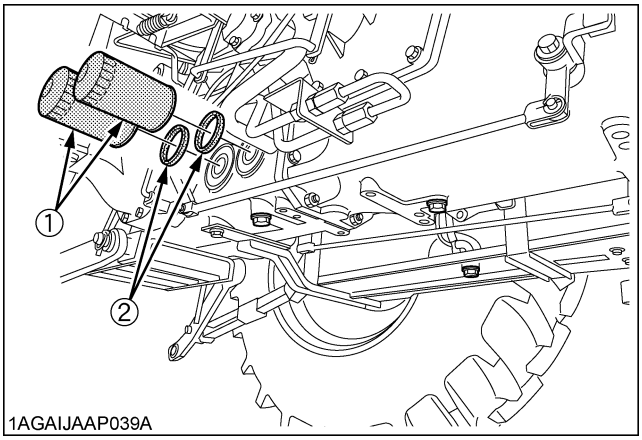
To avoid personal injury or death:
- **Be sure to stop the engine before changing the oil filter cartridge.**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. Remove the drain plug at the bottom of the transmission case and drain the oil completely into an oil pan.
2. After draining reinstall the drain plug.



(1) Drain plug

3. Remove the 2 oil filters.
4. Wipe off metal filings from the magnetic filter with a clean rag.



(1) Hydraulic oil filter
(2) Magnetic filter (Wipe off metal filings)

5. Put a film of clean transmission oil on the rubber seal of the new filters.