



- U.S.A. : **KUBOTA TRACTOR CORPORATION**
3401 Del Amo Blvd., Torrance, CA 90503, U.S.A.
Telephone : (310)370-3370
- Western Division : 1175 S. Guild Ave., Lodi, CA 95240
Telephone : (209)334-9910
- Central Division : 14855 FAA Blvd., Fort Worth, TX 76155
Telephone : (817)571-0900
- Northern Division : 6300 at One Kubota Way, Groveport, OH 43125
Telephone : (614)835-1100
- Southeast Division : 1025 Northbrook Parkway, Suwanee, GA 30024
Telephone : (770)995-8855
- Canada : **KUBOTA CANADA LTD.**
5900 14th Avenue, Markham, Ontario, L3S 4K4, Canada
Telephone : (905)294-7477
- France : **KUBOTA EUROPE S.A.S**
19-25, Rue Jules Vercey, Z.I. BP88, 95101 Argenteuil Cedex, France
Telephone : (33)1-3426-3434
- Italy : **KUBOTA EUROPE S.A.S Italy Branch**
Via Grandi, 29 20068 Peschiera Borrome (MI) Italy
Telephone : (39)02-51650377
- Germany : **KUBOTA (DEUTSCHLAND) GmbH**
Senefelder Str. 3-5 63110 Rodgau /Nieder-Roden, Germany
Telephone : (49)6106-873-0
- U.K. : **KUBOTA (U.K.) LTD.**
Dormer Road, Thame, Oxfordshire, OX9 3UN, U.K.
Telephone : (44)1844-214500
- Spain : **KUBOTA ESPAÑA S.A.**
Avenida Recomba No.5, Poligno Industrial la Laguna, Leganes, 28914 (Madrid) Spain
Telephone : (34)91-508-6442
- Australia : **KUBOTA TRACTOR AUSTRALIA PTY LTD.**
25-29 Permas Way, Truganina, VIC 3029, Australia
Telephone : (61)-3-9394-4400
- Malaysia : **SIME KUBOTA SDN. BHD.**
No.3 Jalan Sepadu 25/123 Taman Perindustrian Axis,
Seksyen 25, 40400 Shah Alam, Selangor Darul Ehsan Malaysia
Telephone : (60)3-736-1388
- Philippines: **KUBOTA PHILIPPINES, INC.**
155 Panay Avenue, South Triangle Homes, 1103 Quezon City, Philippines
Telephone : (63)2-9201071
- Taiwan : **SHIN TAIWAN AGRICULTURAL MACHINERY CO., LTD.**
16, Fengping 2nd Rd, Taliao Shiang Kaohsiung 83107, Taiwan R.O.C.
Telephone : (886)7-702-2333
- Indonesia : **PT KUBOTA MACHINERY INDONESIA**
Tower A at EightyEight@Kasablanka Lantai 16
Jalan Raya Casablanka Kav. 88, Jakarta 12870 Indonesia
Telephone : (62)-21-29568-720
- Thailand : **SIAM KUBOTA CORPORATION CO., LTD.**
101/19-24 Moo 20, Navanakorn Industrial Estate, Tambon Khlongnueng, Amphur Khlongluang,
Pathumthani 12120, THAILAND
Telephone : (66)2-909-0300
- Korea : **KUBOTA KOREA CO., LTD.**
106-24 Mongsan-Ri, Mankyung-Up, Kimje-City, Chonrapuk-Do, KOREA
Telephone : (82)-63-544-5822
- India : **KUBOTA AGRICULTURAL MACHINERY INDIA PVT. LTD.**
Regus, Level 2 Altius, Olympia Tech Park, No.1 SIDCO Industrial Estate, Guindy, Chennai 600032, TN, India
Telephone : (91)-44-4299-4237
- Vietnam : **KUBOTA VIETNAM CO., LTD.**
Lot B-3A2-CN, My Phuoc 3 Industrial Park, Ben Cat District, Binh Duong Province, Vietnam
Telephone : (84)-650-3577-507

KUBOTA Corporation

English (Australia)
Code No. 6C435-6311-1

OPERATOR'S MANUAL

KUBOTA TRACTOR

MODELS B3150·B3150SU



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READ AND SAVE THIS MANUAL



ABBREVIATION LIST

Abbreviations	Definitions
2WD	2 Wheel Drive
4WD	4 Wheel Drive
API	American Petroleum Institute
ASABE	American Society of Agricultural and Biological Engineers, USA
ASTM	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DT	Dual Traction [4WD]
fpm	Feet Per Minute
Hi-Lo	High Speed-Low Speed
HST	Hydrostatic Transmission
m/s	Meters Per Second
PTO	Power Take Off
RH/LH	Right-hand and left-hand sides are determined by facing in the direction of forward travel
ROPS	Roll-Over Protective Structures
rpm	Revolutions Per Minute
r/s	Revolutions Per Second
SAE	Society of Automotive Engineers, USA
SMV	Slow Moving Vehicle

KUBOTA Corporation is ...

Since its inception in 1890, KUBOTA Corporation has grown to rank as one of the major firms in Japan.

To achieve this status, the company has through the years diversified the range of its products and services to a remarkable extent, until today, 19 plants and 16,000 employees produce over 1,000 different items, large and small.

All these products and all the services which accompany them, however, are unified by one central commitment. KUBOTA makes products which, taken on a national scale, are basic necessities. Products which are indispensable, products intended to help individuals and nations fulfill the potential inherent in their environment. For KUBOTA is the Basic Necessities Giant.

This potential includes water supply, food from the soil and from the sea, industrial development, architecture and construction, transportation.

Thousands of people depend on KUBOTA's know-how, technology, experience and customer service. You too can depend on KUBOTA.

UNIVERSAL SYMBOLS

As a guide to the operation of your tractor, various universal symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.

	Safety Alert Symbol		Remote Cylinder-Retract
	Diesel Fuel		Remote Cylinder-Extend
	Fuel-Level		Remote Cylinder-Float
	Engine-Rotational Speed		Steering Wheel-Tilt Control
	Hourmeter/Elapsed Operating Hours		Audible Warning Device
	Engine Coolant-Temperature		Lock
	Brake System		Unlock
	Parking Brake		Hazard Warning Lights
	Battery Charging Condition		Headlight
	Engine Oil-Pressure		Working Light
	Turn Signal		4-Wheel Drive-On
	Engine-Stop		4-Wheel Drive-Off
	Engine-Run		Fast
	Diesel Preheat/Glow Plugs(Low Temperature Start Aid)		Slow
	Starter Control		Read Operator's Manual
	Power Take-Off Control-Off Position (Disengaged)		Tractor-Forward Movement-Overhead View of Machine
	Power Take-Off Control-On Position (Engaged)		Tractor-Rearward Movement-Overhead View of Machine
	Differential Lock		Engine Speed Control
	Cruse Control		Front Wiper / Washer Switch
	Position Control-Raised Position		Rear Wiper / Washer Switch
	Position Control-Lowered Position		Air Circulation Fan
	Engine Warning		Air Conditioner
	3-Point Lowering Speed Control		Introduction of Indoor Air
			Introduction of Outer Air
			Rear Window Defroster
			Master System Warning

FOREWORD

You are now the proud owner of a KUBOTA Tractor. This tractor is a product of KUBOTA quality engineering and manufacturing. It is made of fine materials and under a rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your tractor, please read this manual carefully. It will help you become familiar with the operation of the tractor and contains many helpful hints about tractor maintenance. It is KUBOTA's policy to utilize as quickly as possible every advance in our research. The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated. KUBOTA distributors and dealers will have the most up-to-date information. Please do not hesitate to consult with them.



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 attempt to assemble 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, could 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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SAFE OPERATION

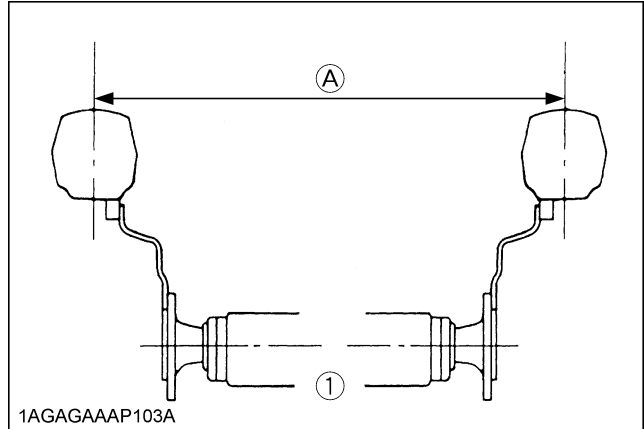
Careful operation is your best insurance against an accident.

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



(1) Rear wheels

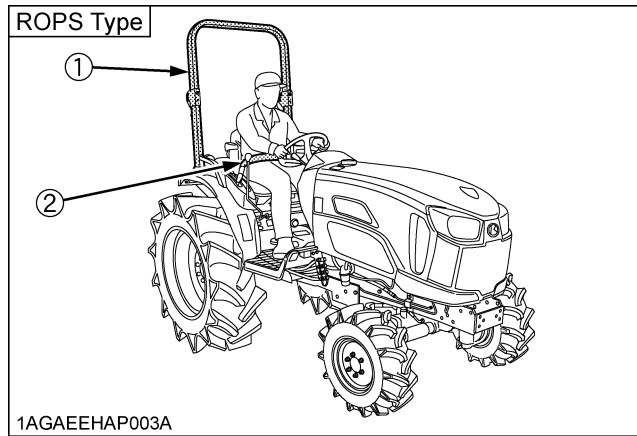
(A) Tread Width

◆ CAB, ROPS

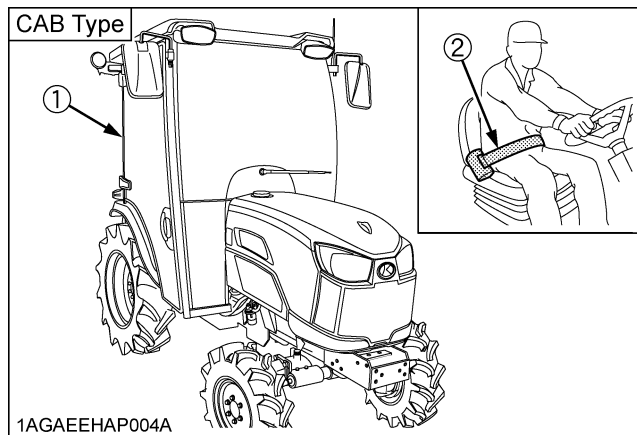
1. KUBOTA recommends the use of a CAB or Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the tractor be upset. Check for overhead clearance which may interfere with a CAB or ROPS.
2. Set parking 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.)

7. Always use the seat belt if the tractor has a CAB or ROPS.

Do not use the seat belt if a foldable ROPS is down or there is no ROPS. Check the seat belt regularly and replace if frayed or damaged.



(1) ROPS
(2) Seat belt



(1) CAB
(2) Seat belt

2. OPERATING THE TRACTOR

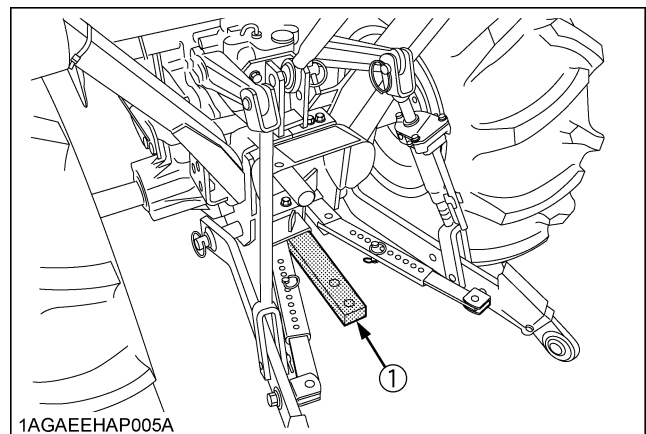
Operator safety is a priority. Safe operation, specifically with respect to overturning hazards, entails understanding the equipment and environmental conditions at the time of use. Some prohibited uses which can affect overturning hazards include traveling and turning with implements and loads carried too high etc. This manual sets forth some of the obvious risks, but the list is not, and cannot be, exhaustive. It is the operator's responsibility to be alert for any equipment or environmental condition that could compromise safe operation.

◆ Starting

1. Always sit in the operator's seat when starting engine or operating levers or controls. Adjust seat per instructions in the operating the tractor section. Never start engine while standing on the ground.
2. Before starting the engine, make sure that all levers (including auxiliary control levers) are in their neutral positions, that the parking brake is engaged, and that both the clutch and the Power Take-Off (PTO) are disengaged or "OFF".
Fasten the seat belt if the tractor has a CAB or a foldable ROPS in the upright and locked position.
3. 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.
4. Do not operate or idle engine in a non-ventilated area. Carbon monoxide gas is colorless, odorless, and deadly.
5. Check before each use that operator presence controls are functioning correctly. Test safety systems. (See "Checking Engine Start System" in "EVERY 50 HOURS" in "PERIODIC SERVICE" section.)
Do not operate unless they are functioning correctly.

◆ Working

1. Pull only from the drawbar. Never hitch to axle housing or any other point except drawbar; such arrangements will increase the risk of serious personal injury or death due to a tractor upset.



(1) Drawbar

2. For trailing PTO-driven implements, set the drawbar to the towing position.
3. Attach pulled or towed loads to the drawbar only.
4. Keep all shields and guards in place. Replace any that are missing or damaged.
5. Avoid sudden starts. To avoid upsets, slow down when turning, on uneven ground, and before stopping.
6. The tractor cannot turn with the differential locked and attempting to do so could be dangerous.

7. Do not operate near ditches, holes, embankments, or other ground surface features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet. Tall grass can hide obstacles, walk the area first to be sure.
8. Watch where you are going at all times. Watch for and avoid obstacles. Be alert at row ends, near trees, and other obstructions.
9. When working in groups, always let the others know what you are going to do before you do it.
10. Never try to get on or off a moving tractor.
11. Always sit in the operator's seat when operating levers or controls.
12. Do not stand between tractor and implement or trailed vehicle unless parking brake is applied.

◆ Safety for children

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to machines and the work they do.

1. Never assume that children will remain where you last saw them.
2. Keep children out of the work area and under the watchful eye of another responsible adult.
3. Be alert and shut your machine down if children enter the work area.
4. Never carry children on your machine. There is no safe place for them to ride. They may fall off and be run over or interfere with your control of the machine.
5. Never allow children to operate the machine even under adult supervision.
6. Never allow children to play on the machine or on the implement.
7. Use extra caution when backing up. Look behind and down to make sure area is clear before moving.

◆ Operating on slopes

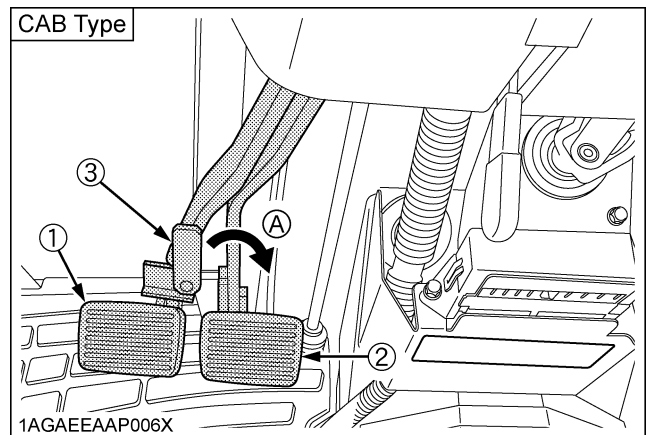
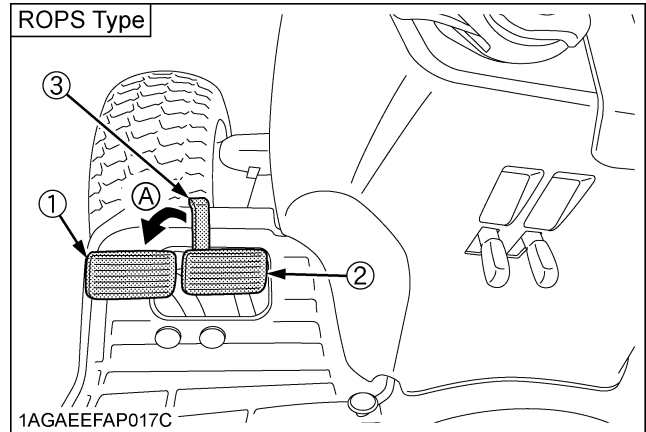
Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution.

1. To avoid upsets, always back up steep slopes. If you cannot back up the slope or if you feel uneasy on it, do not operate on it. Stay off slopes too steep for safe operation.
2. Driving forward out of a ditch, mired condition or up a steep slope increases the risk of a tractor to be upset backward. Always back out of these situations. Extra caution is required with 4-wheel drive models because their increased traction can give the operator false confidence in the tractor's ability to climb slopes.
3. Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, direction or apply brake and make sudden motions of the steering wheel.
4. Avoid disengaging the clutch or changing gears speed when climbing or going down a slope. If on a slope disengaging the clutch or changing gears to neutral could cause loss of control.

5. Special attention should be made to the weight and location of implements and loads as such will affect the stability of the tractor.
6. To improve stability on slope, set widest wheel tread as shown in "TIRES, WHEELS AND BALLAST" section.
Follow recommendations for proper ballasting.

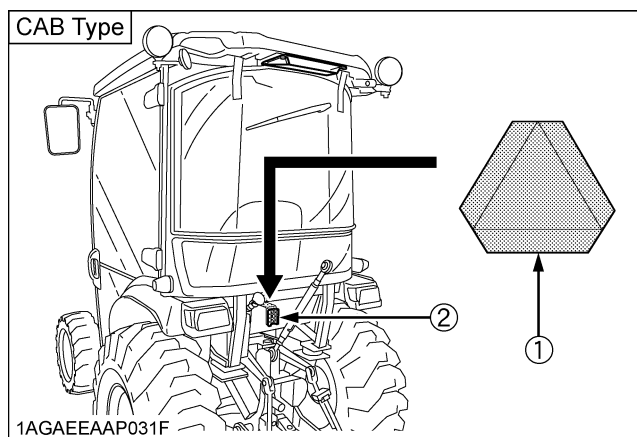
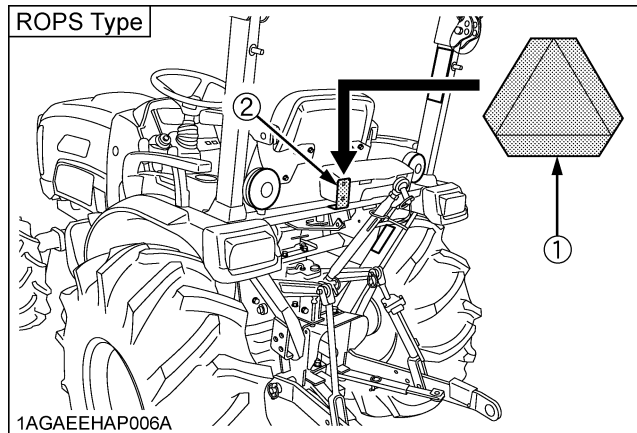
◆ Driving the tractor on the road

1. Lock the 2 brake pedals together to help assure straight-line stops. Uneven braking at road speeds could cause the tractor to tip over.



- (1) Brake Pedal (LH) (A) Whenever travelling on the road
 (2) Brake Pedal (RH)
 (3) Brake Pedal Lock

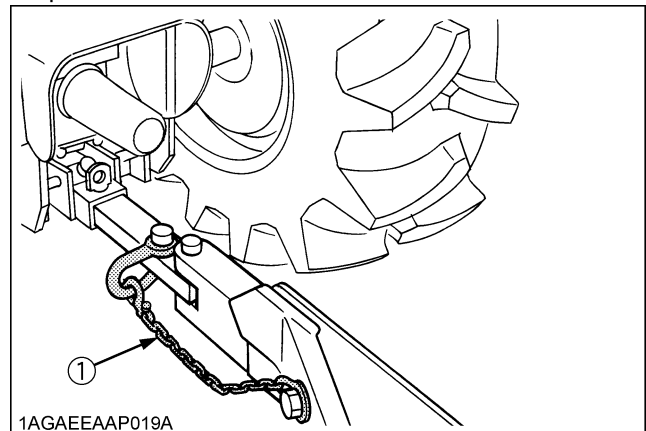
2. Check the front wheel engagement. The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.
3. Always slow the tractor down before turning. Turning at high speed may tip the tractor over.
4. Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights and turn signals as required.



(1) SMV emblem
(2) Bracket

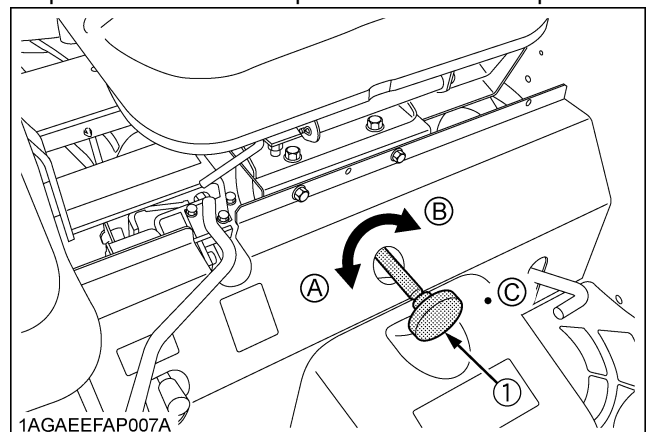
5. Observe all local traffic and safety regulations.
6. Turn the headlights on. Dim them when meeting another vehicle.
7. Drive at speeds that allow you to maintain control at all times.
8. Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.
9. Avoid sudden motions of the steering wheel as they can lead to a dangerous loss of stability. The risk is especially great when the tractor is traveling at road speeds.
10. Keep the ROPS in the "UP" position and wear the seat belt when driving the tractor on the road. Otherwise, you will not be protected in the event of a tractor roll-over.
11. Do not operate an implement while the tractor is on the road. Lock the 3-point hitch in the raised position.

12. When towing other equipment, use a safety chain and place an SMV emblem on it as well.



(1) Safety chain

13. Set the implement lowering speed knob in the "LOCK" position to hold the implement in the raised position.



(1) 3-point hitch lowering speed knob

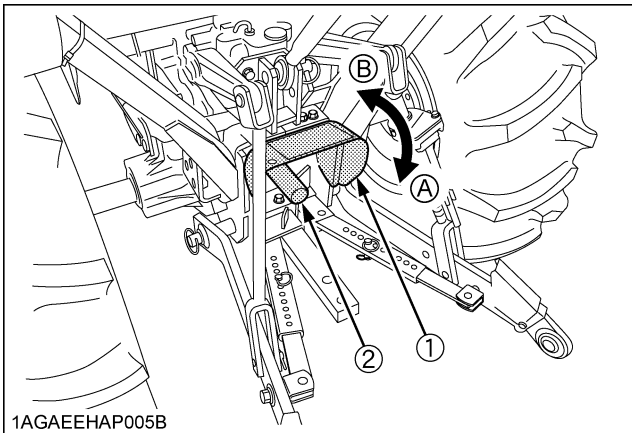
(A) "FAST"
(B) "SLOW"
(C) "LOCK"

3. PARKING THE TRACTOR

1. Disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine, remove the key from the ignition and lock the cab door (if equipped). Leaving transmission in gear with the engine stopped will not prevent tractor from rolling.
2. Make sure that the tractor has come to a complete stop before dismounting.
3. Avoid parking on steep slopes, if at all possible park on a firm and level surface; if not, park across a slope with chock the wheels.
Failure to comply with this warning may allow the tractor to move and could cause injury or death.

4. OPERATING THE PTO

1. Wait until all moving components have completely stopped before getting off the tractor, connecting, disconnecting, adjusting, cleaning, or servicing any PTO driven equipment.
2. Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use.

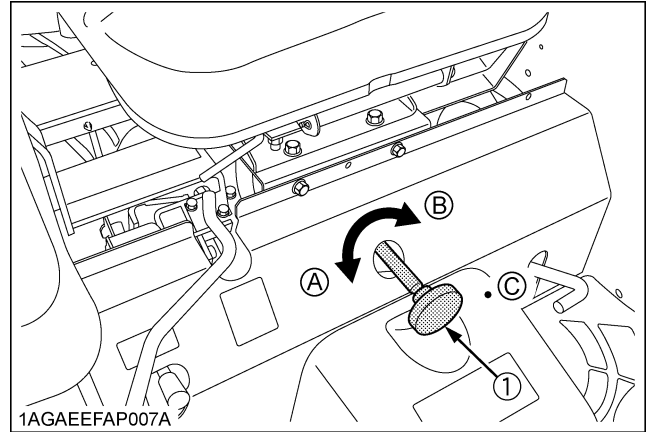


- (1) PTO Shaft cover (A) "NORMAL POSITION"
(2) PTO Shaft cap (B) "RAISED POSITION"

3. Before installing or using PTO driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment.
4. When operating stationary PTO driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts. Never step over rotating parts.

5. USING 3-POINT HITCH

1. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
2. When using a 3-point hitch mounted implement, be sure to install the proper counterbalance weight on the front of the tractor.
3. When transporting on the road, set the implement lowering speed knob in the "LOCK" position to hold the implement in the raised position.



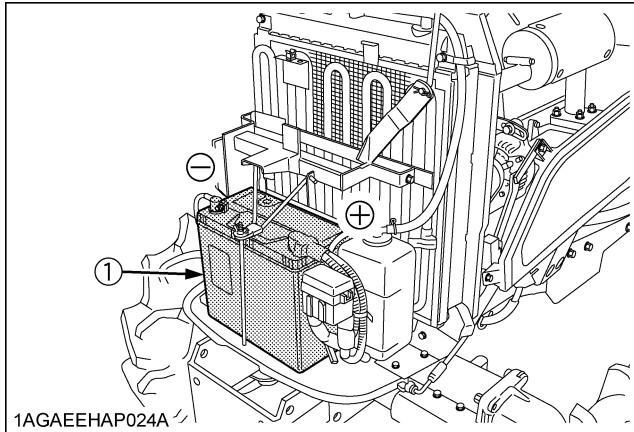
- (1) 3-point hitch lowering speed knob (A) "FAST"
(B) "SLOW"
(C) "LOCK"

6. SERVICING THE TRACTOR

Before servicing the tractor, park it on a firm, flat and level surface, set the parking brake, lower all implements to the ground, place the gear shift lever in neutral, stop the engine and remove the key.

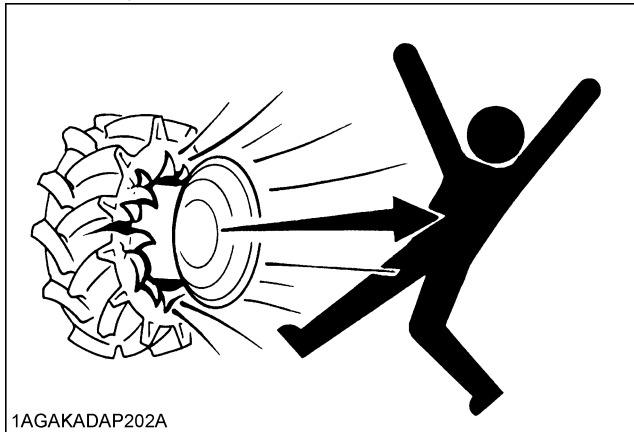
1. Allow the tractor time to cool off before working on or near the engine, muffler, radiator, etc.
2. Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely. If the tractor has a coolant recovery tank, add coolant or water to the tank, not the radiator. (See "Checking Coolant Level" in "DAILY CHECK" in "PERIODIC SERVICE" section.)
3. Always stop the engine before refueling. Avoid spills and overfilling.
4. Do not smoke when working around battery or when refueling. Keep all sparks and flames away from battery and fuel tank. The battery presents an explosive hazard, because it gives off hydrogen and oxygen especially when recharging.
5. Before "jump starting" a dead battery, read and follow all of the instructions. (See "JUMP STARTING" in "OPERATING THE ENGINE" section.)
6. Keep first aid kit and fire extinguisher handy at all times.
7. Disconnect the battery's ground cable before working on or near electric components.
8. To avoid the possibility of battery explosion, do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.

9. To avoid sparks from an accidental short circuit, always disconnect the battery's ground cable (-) first and reconnect it last.



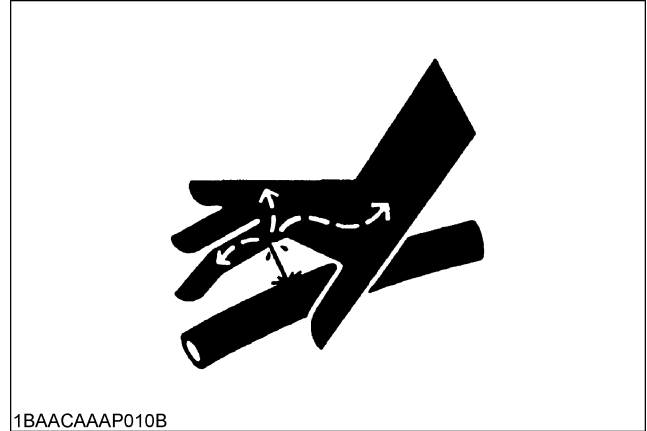
(1) Battery

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

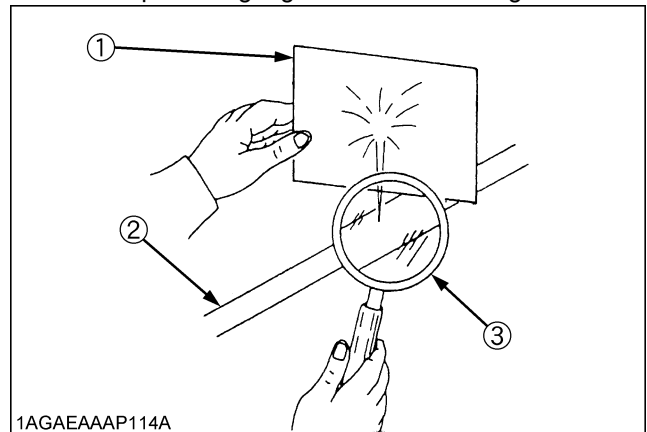


12. Securely support the tractor when either changing wheels or adjusting the wheel tread width.
13. Make sure that wheel bolts have been tightened to the specified torque.
14. Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If it is necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.

15. Escaping hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Before disconnecting hydraulic lines, be sure to release all residual pressure. Before applying pressure to the hydraulic system, make sure that all connections are tight and that all lines, pipes, and hoses are free of damage.



16. Fluid escaping from pinholes may be invisible. Do not use hands to search for suspected leaks; use a piece of cardboard or wood. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid will produce gangrene or severe allergic reaction.

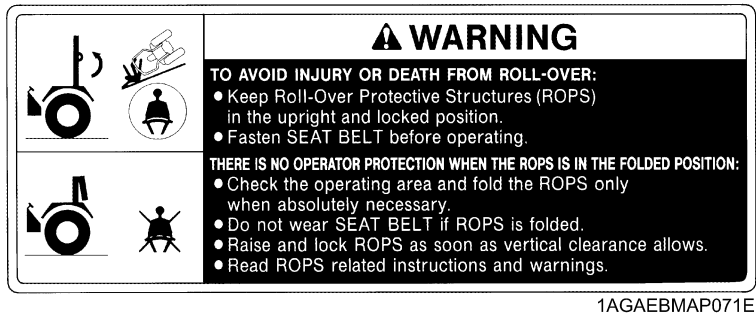


- (1) Cardboard
(2) Hydraulic line
(3) Magnifying glass

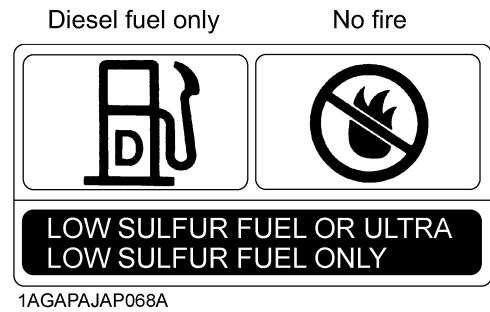
17. Waste products such as used oil, fuel, hydraulic fluid, and batteries, can harm the environment, people, pets and wildlife. Please dispose properly. See your local Recycling Center or KUBOTA Dealer to learn how to recycle or get rid of waste products.

7. DANGER, WARNING AND CAUTION LABELS

(1) Part No. TA240-9848-2 [ROPS Type Only]

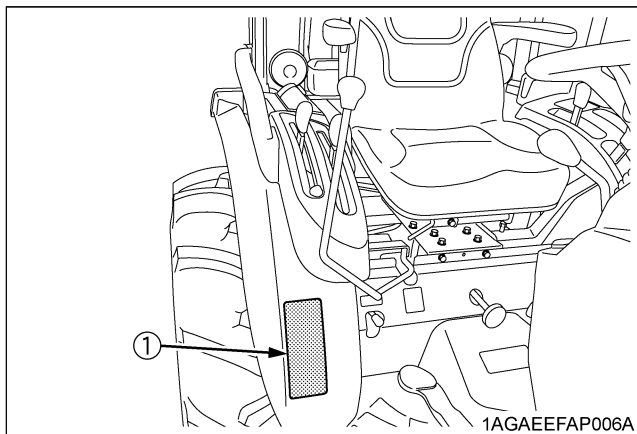


(2) Part No. TC230-4956-1

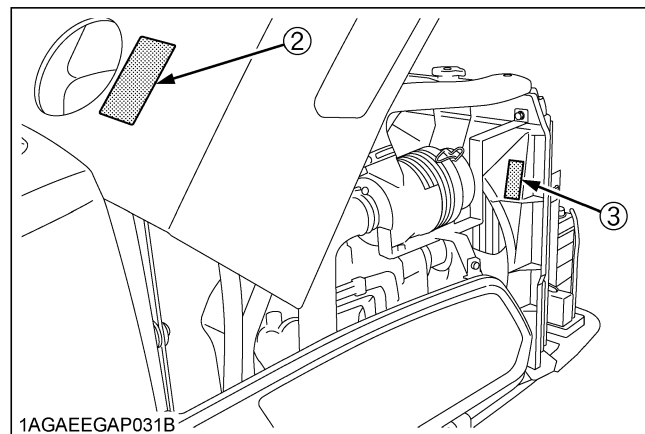


(3) Part No. 6C090-4958-2

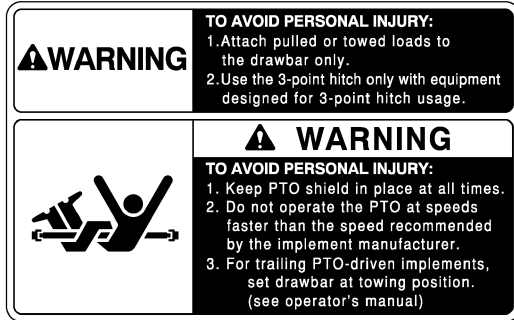
Do not get your hands close to engine fan and fan belt.



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



1AGAECEAP013E

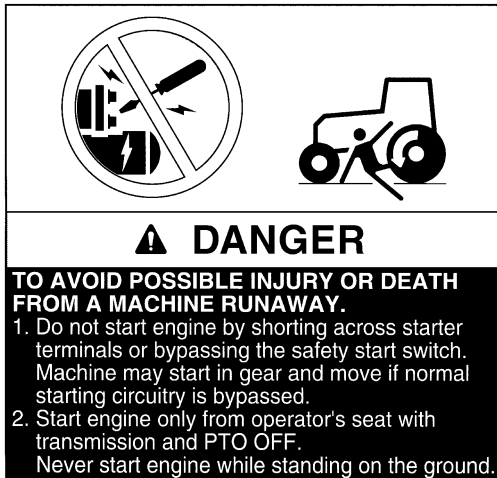
(2) Part No. 6C090-4958-2

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



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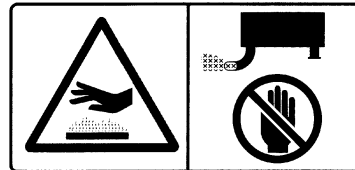
(3) Part No. 6C430-4965-1



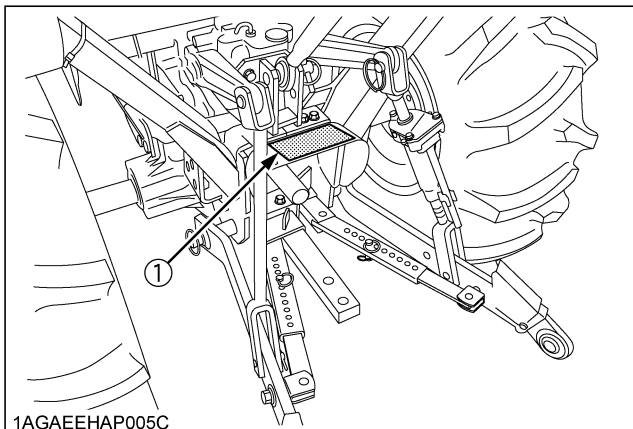
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(4) Part No. 6C430-4959-1

Do not touch hot surface like muffler, etc.

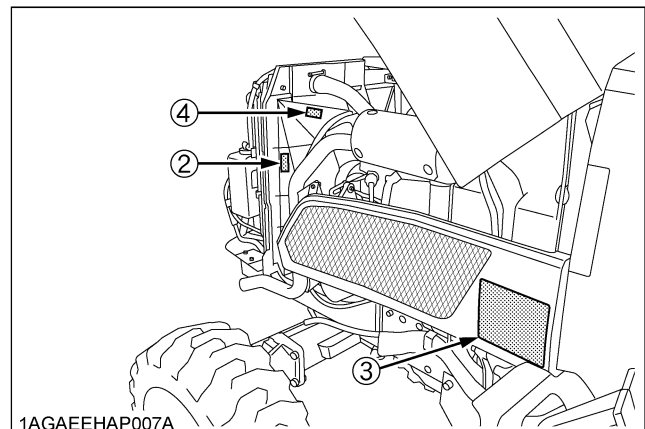


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1AGAEHAP005C

1AGAEHAP010A



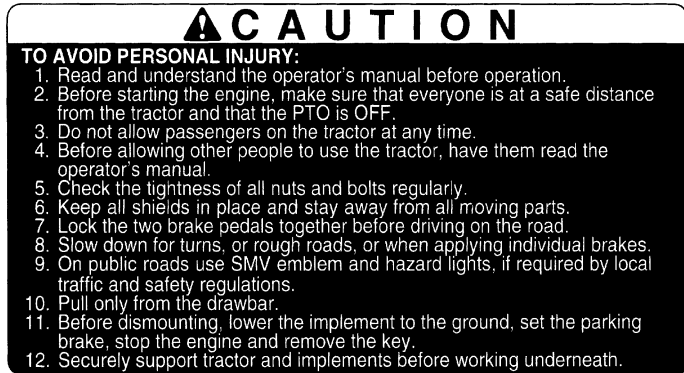
1AGAEHAP007A

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



1AGAEBQAP107A

(2) Part No. 6C070-4742-2



1AGAEBMAP068E

(3) Part No. 6C150-4743-1 [ROPS Type Only]

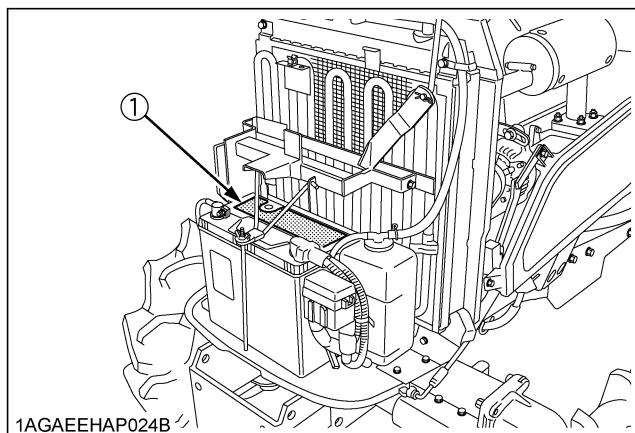


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(4) Part No. 6C230-4743-1 [CAB Type Only]

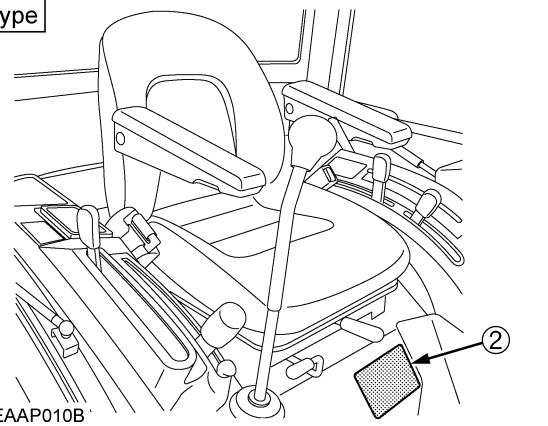


1AGAMAOAP0790



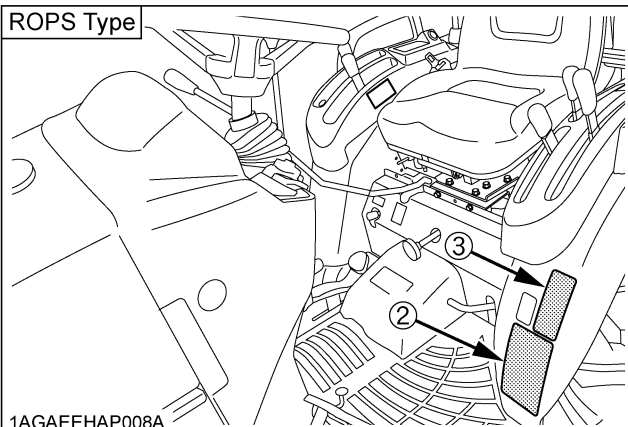
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CAB Type



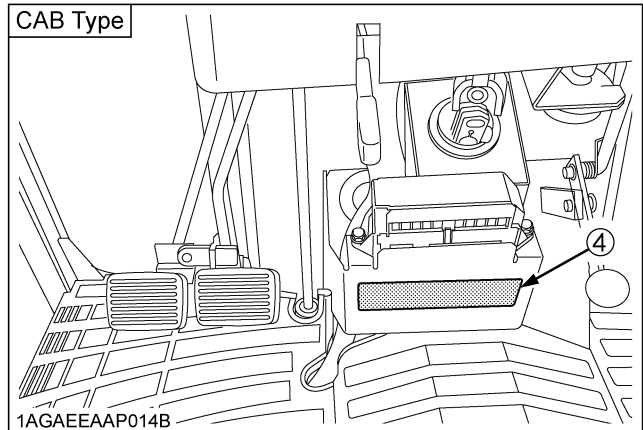
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ROPS Type



1AGAEHAP008A

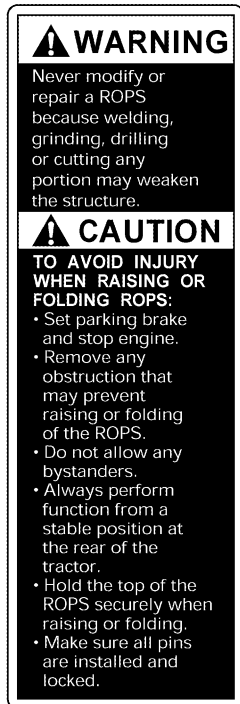
CAB Type



1AGAEHAP014B

1AGAEHAP011A

(1) Part No. 3A111-9554-1
[ROPS Type Only]



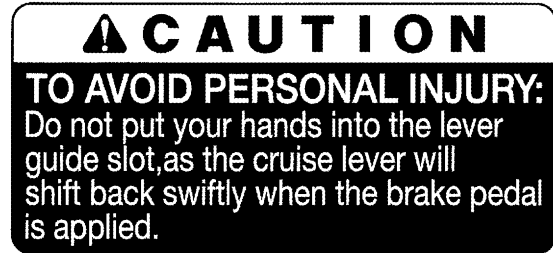
1AGAEHMAP080E

(2) Part No. TA040-4902-1
[CAB Type Only]



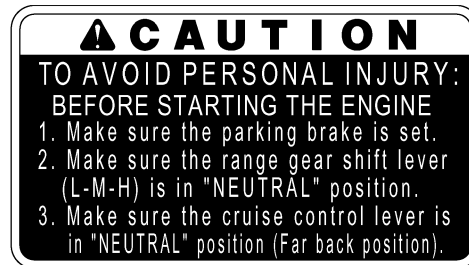
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(3) Part No. 6C430-4752-1
[CAB Type Only]

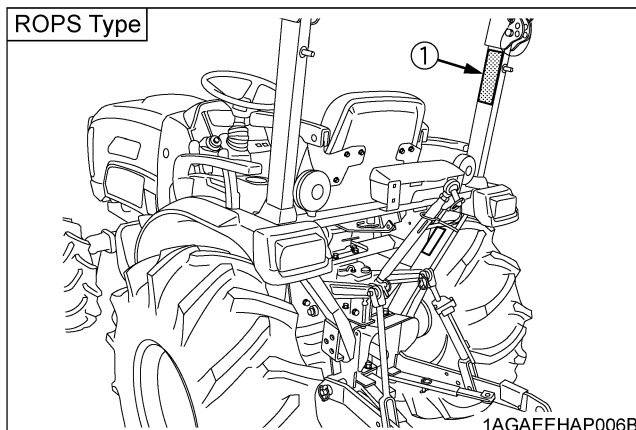


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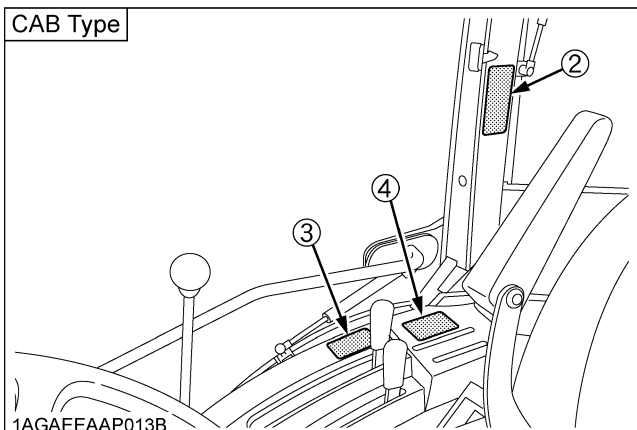
(4) Part No. 6C200-4751-1
[CAB Type Only]



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8. 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 from your local KUBOTA Dealer.
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 replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

SERVICING OF TRACTOR

Your dealer is interested in your new tractor and has the desire to help you get the most value from it. After reading this manual thoroughly, you will find that you can do some of the regular maintenance yourself.

However, when in need of parts or major service, be sure to see your KUBOTA Dealer.

For service, contact the KUBOTA Dealership from which you purchased your tractor or your local KUBOTA Dealer. When in need of parts, be prepared to give your dealer the tractor, CAB/ROPS and engine serial numbers. Locate the serial numbers now and record them in the space provided.

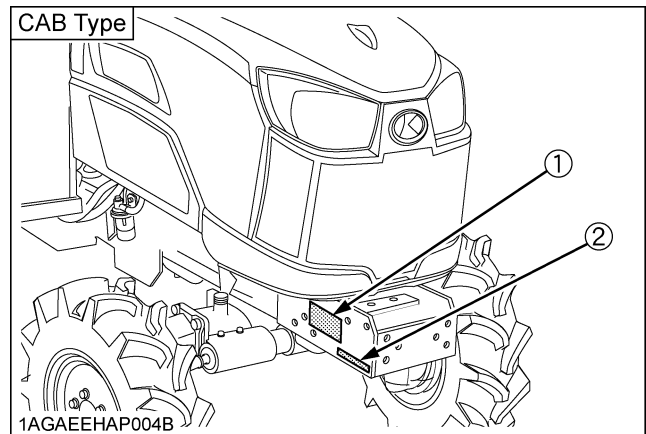
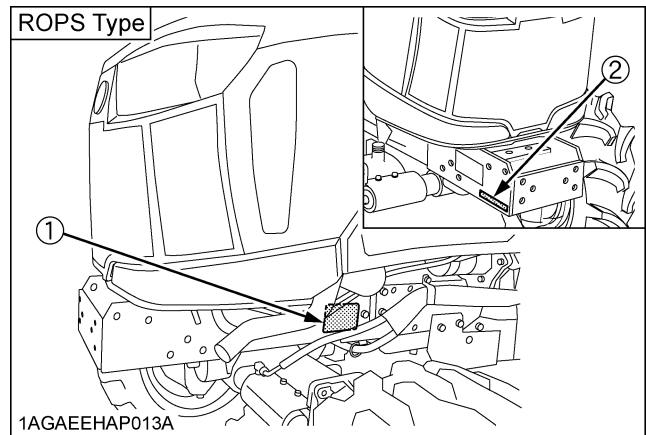
	Type	Serial No.
Tractor		
CAB / ROPS		
Engine		
Date of Purchase		
Name of Dealer		
(To be filled in by purchaser)		

◆ Warranty

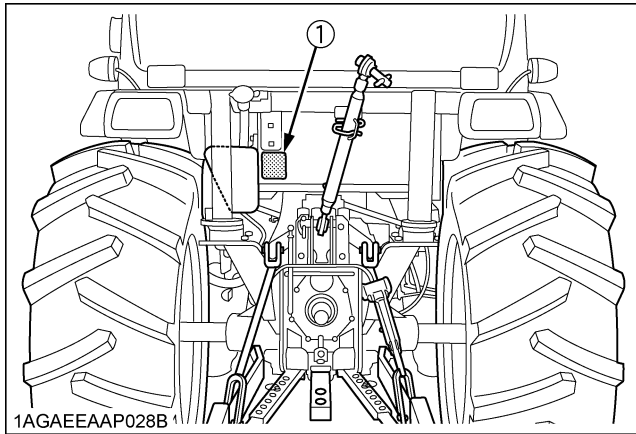
This tractor is warranted under the KUBOTA Limited Express Warranty, a copy of which may be obtained from your selling dealer. No warranty shall, however, apply if the tractor has not been handled according to the instruction given in the Operator's Manual even it is within the warranty period.

◆ Scrapping the tractor and its procedure

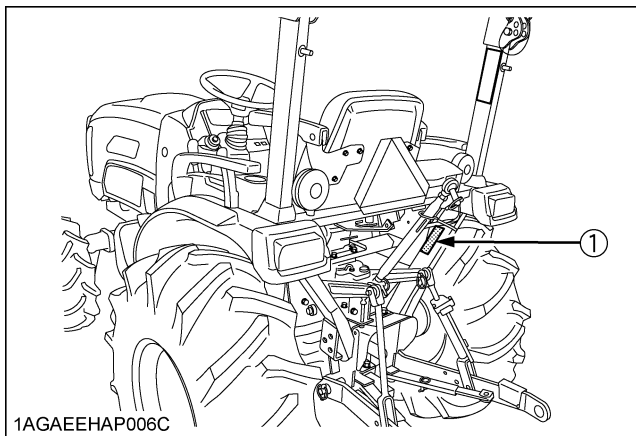
To put the tractor out of service, correctly follow the local rules and regulations of the country or territory where you scrap it. If you have questions, consult your local KUBOTA Dealer.



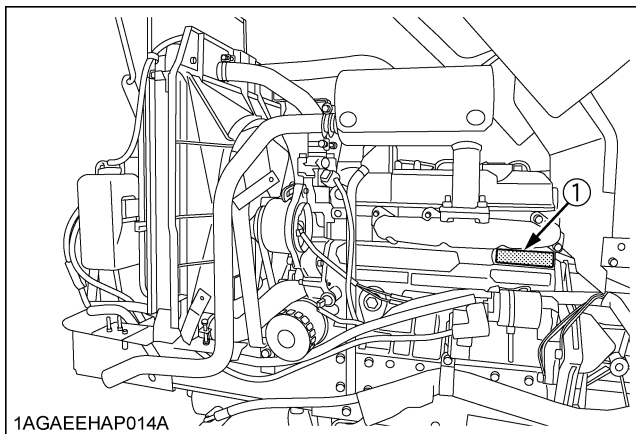
- (1) Tractor identification plate
(2) Tractor serial number



(1) CAB identification plate (CAB Serial No.)



(1) ROPS identification plate (ROPS Serial No.)



(1) Engine serial number

SPECIFICATIONS

SPECIFICATION TABLE

Model				B3150 HSD	B3150SU HSD	B3150 HSD CC
				With ROPS	With ROPS	With CAB
PTO power			kW (HP)		17.7 (23.7)*	
Engine	Maker		KUBOTA			
	Model		V1505-E3-D26BH-A		V1505-T-E3-D26BHQ-A	
	Type		Indirect Injection. Vertical, water-cooled 4 cycle diesel			
	Number of cylinders		4			
	Bore and stroke		mm (in.)		ϕ78x78.4 (ϕ3.1x3.1)	
	Total displacement		cc (cu.in.)		1498 (91.5)	
	Engine gross power		kW (HP)		22.8 (31.0)*	
	Rated revolution		rpm		2500	
	Low idling revolution		rpm		1100	
	Maximum torque		N-m (ft-lb)		97.9 (72.2)	
	Battery		12V, RC : 80min, CCD : 430A			
Capacities	Fuel tank		L (U.S.gals.)		27 (7.1)	
	Engine crankcase (with filter)		L (U.S.qts.)		4.0 (4.2)	
	Engine coolant		L (U.S.qts.)		4.3 (4.5)5.4 (5.7)	
	Transmission case		L (U.S.gals.)		15 (4.0)	
Dimensions	Overall length (without 3P)		mm (in.)		2570 (101.2)2640 (103.9)	
	Overall width (min. tread)		mm (in.)		1365 (53.7)	
	Overall height		mm (in.)		2245 (88.4)2150 (84.6)	
	Wheel base		mm (in.)		1666 (65.6)	
	Minimum ground clearance		mm (in.)		370 (14.6)	
	Tread	Front	mm (in.)		935 (36.8)	
		Rear	mm (in.)		1050 (41.3)	
Weight			kg (lbs.)		850 (1874)1070 (2359)	
Clutch				Not applicable		
Traveling system	Tires	Front	7-12			
		Rear	12.4-16			
	Steering		Hydrostatic type power steering			
	Transmission		Main-hydrostatic transmission, 3 range gear shift (3 forward, 3 reverse)			
	Brake		Wet disk type			
	Minimum turning radius (with brake)		m (feet)		2.1 (6.9)	

4 SPECIFICATIONS

Model				B3150 HSD	B3150SU HSD	B3150 HSD CC
				With ROPS	With ROPS	With CAB
Hydraulic unit	Hydraulic control system			Position control	Quarter inching valve	Position control
	Pump capacity		L / min (gals / min)	33.1 (8.7)		
	3-point hitch			SAE Category 1		
	Max. lift force	At lift points	kg (lbs.)	970 (2139)		
		24 in.behind lift point	kg (lbs.)	760 (1676)		
PTO	Rear-PTO			SAE 1-3/8, 6 splines		
	PTO / Engine speed		rpm	1 speed 540 / 2398		
	Mid-PTO			USA No. 5 (KUBOTA 10-tooth) involute spline	-	USA No. 5 (KUBOTA 10-tooth) involute spline
	PTO / Engine speed		rpm	1 speed 2500 / 2500	-	1 speed 2500 / 2500

NOTE: * SAE J1995 The company reserves the right to change the specifications without notice.

TRAVELING SPEEDS

(At rated engine rpm)

Model		B3150 HSD / B3150SU HSD / B3150 HSD CC					
Tire size (Rear)		12.4 - 16 Farm		13.6 - 16 Turf		12.4 - 16 Industry	
	Range gear shift lever	km / h	mph	km / h	mph	km / h	mph
Forward	Low	0 to 5.7	0 to 3.6	0 to 5.9	0 to 3.6	0 to 5.6	0 to 3.4
	Middle	0 to 8.5	0 to 5.3	0 to 8.7	0 to 5.4	0 to 8.3	0 to 5.1
	High	0 to 18.0	0 to 11.2	0 to 18.5	0 to 11.5	0 to 17.6	0 to 10.9
Reverse	Low	0 to 4.3	0 to 2.7	0 to 4.4	0 to 2.7	0 to 4.2	0 to 2.6
	Middle	0 to 6.4	0 to 3.9	0 to 6.5	0 to 4.1	0 to 6.2	0 to 3.9
	High	0 to 13.5	0 to 8.4	0 to 13.9	0 to 8.6	0 to 13.2	0 to 8.2

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

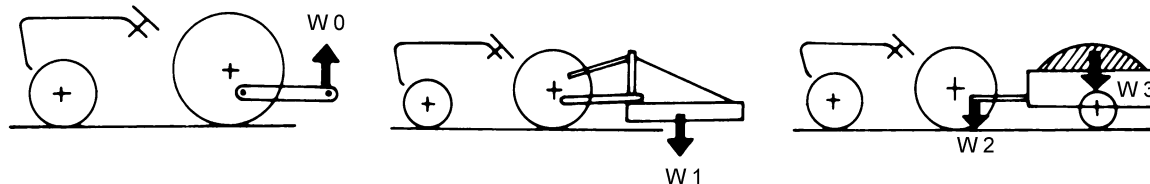
IMPLEMENT LIMITATIONS

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) with farm tires		Lower link end max. loading weight W 0
Front	Rear	
935 mm (36.8 in.)	1050 mm (41.3 in.)	360 kg (800 lbs.)

Actual figures		
Implement weight W 1 and / or size	Max. Drawbar Load W 2	Trailer loading weight W 3 Max. capacity
As in the following list (Shown on the next page)	500 kg (1100 lbs.)	1500 kg (3300 lbs.)

Lower link end max. loading weight.....The max. allowable load which can be put on the lower link end : 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 weightThe 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.

Implement		Remarks		B3150 HSD / B3150SU HSD / B3150 HSD CC
Mower	Mid-mount	Max. cutting width Max. weight	mm (in.) kg (lbs.)	1830 (72) 205 (451)
	Rotary-cutter (1 Blade)	Max. cutting width Max. weight	mm (in.) kg (lbs.)	1220 (48) 227 (500)
	Rear-mount (2 or 3 Blades)	Max. cutting width Max. weight	mm (in.) kg (lbs.)	1830 (72) 227 (500)
	Flail-mower	Max. cutting width	mm (in.)	1220 (48)
	Sickle bar	Max. cutting width	mm (in.)	1524 (60)
Rotary tiller		Max. tilling width Max. weight Slip clutch	mm (in.) kg (lbs.)	1270 (50) 250 (550) Necessary
Bottom plow		Max. size	mm (in.)	305 (12) x 2
Disc plow		Max. size	mm (in.)	559 (22) x 2
Cultivator		Max. size	mm (in.)	1524 (60) 1 Row
Disc harrow		Max. harrowing width Max. weight	mm (in.) kg (lbs.)	1676 (66) 250 (550)
Sprayer		Max. tank capacity	L (U.S.gals.)	246 (65)
Front blade		Max. cutting width Sub frame	mm (in.)	1676 (66) Necessary
Rear blade		Max. cutting width Max. weight	mm (in.) kg (lbs.)	1676 (66) 250 (550)
Front loader		Max. lifting capacity Max. width	kg (lbs.) mm (in.)	420 (926) 1524 (60)
Box blade		Max. cutting width Max. weight	mm (in.) kg (lbs.)	1372 (54) 227 (500)
Back hoe		Max. digging depth Max. weight Sub frame	mm (in.) kg (lbs.)	2295 (90) 400 (880) Necessary
Snow blower		Max. working width Max. weight	mm (in.) kg (lbs.)	1542 (60) 227 (500)
Trailer		Max. load capacity Max. drawbar load	kg (lbs.) kg (lbs.)	1500 (3300) 500 (1100)

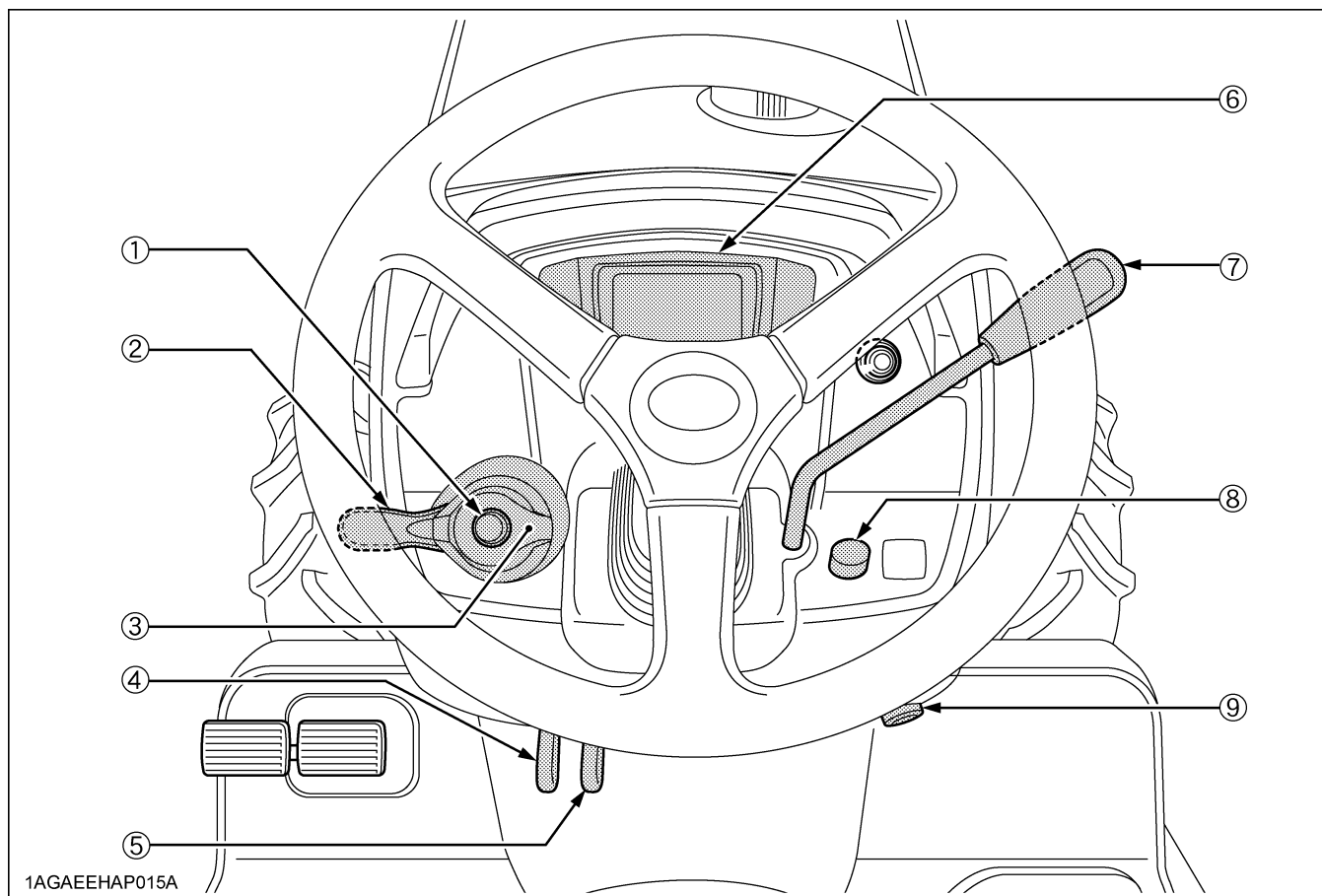
NOTE :

- Implement size may vary depending on soil operating conditions.

INSTRUMENT PANEL AND CONTROLS

■ Instrument Panel, Switches and Hand Controls

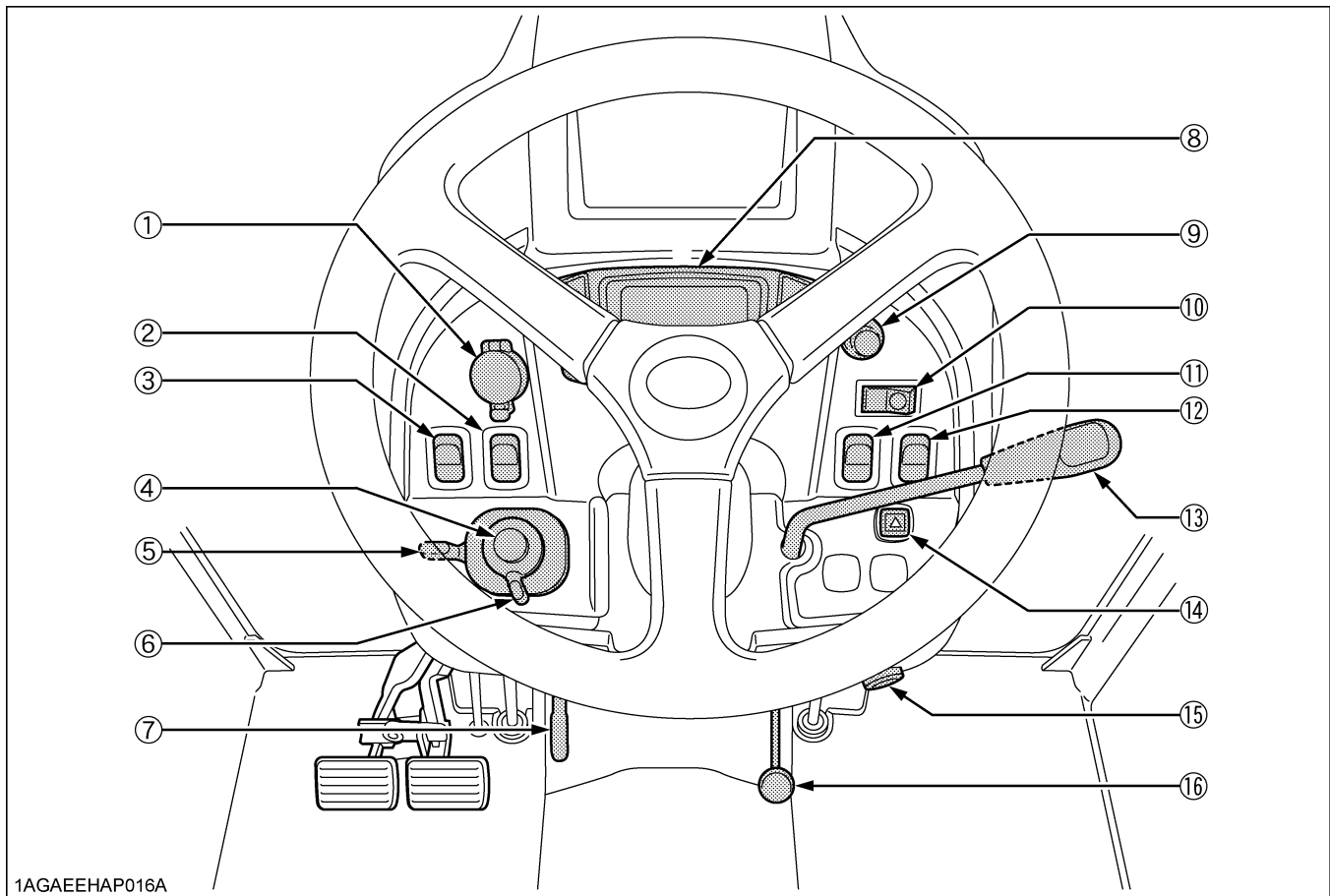
◆ ROPS Type



ILLUSTRATED CONTENTS

(1) Hazard light switch.....	26
(2) Turn signal light switch.....	26
(3) Head light switch.....	26
(4) Parking brake lever.....	31
(5) Speed set lever [Except B3150SU].....	32
(6) Instrument panel.....	---
(7) Hand throttle lever.....	31
(8) Horn button.....	27
(9) Key switch.....	14

◆ CAB Type



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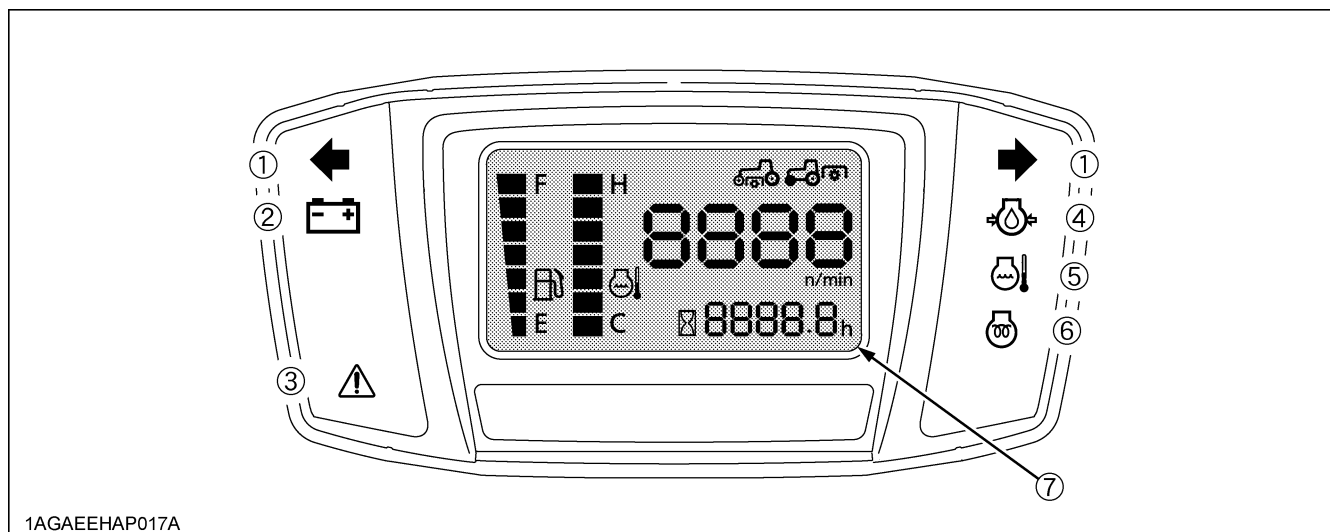
ILLUSTRATED CONTENTS

(1) Electrical outlet	67
(2) Rear work light switch (if equipped)	61
(3) Front work light switch	61
(4) Horn button	27
(5) Turn signal light switch	26
(6) Head light switch	26
(7) Parking brake lever	31
(8) Instrument panel	---

ILLUSTRATED CONTENTS

(9) Display switch (Engine rpm, PTO speed)	36
(10) Defogger switch	67
(11) Front wiper / Washer switch	62
(12) Rear wiper / Washer switch	62
(13) Hand throttle lever	31
(14) Hazard light switch	26
(15) Key switch	14
(16) Steering wheel tilt pedal	25

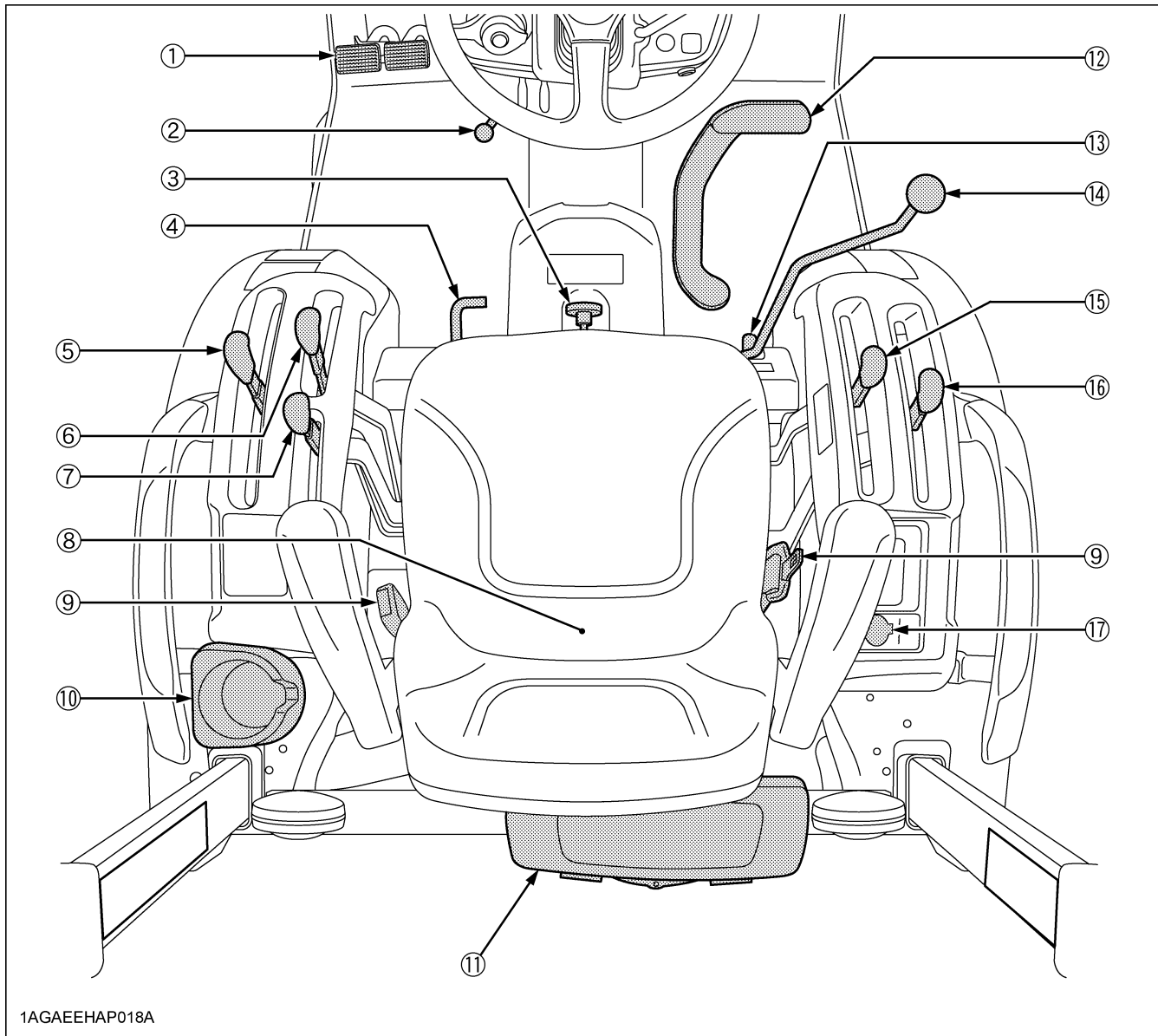
◆ Instrument Panel



ILLUSTRATED CONTENTS

(1) Turn signal / Hazard light indicator.....	26
(2) Electrical charge warning indicator.....	34
(3) Master system warning indicator.....	34
(4) Engine oil pressure warning indicator.....	34
(5) Engine overheat warning indicator.....	34
(6) Glow plug indicator.....	14
(7) Liquid crystal display.....	35

■ Foot and Hand Controls
 ◆ ROPS Type



1AGAEHAP018A

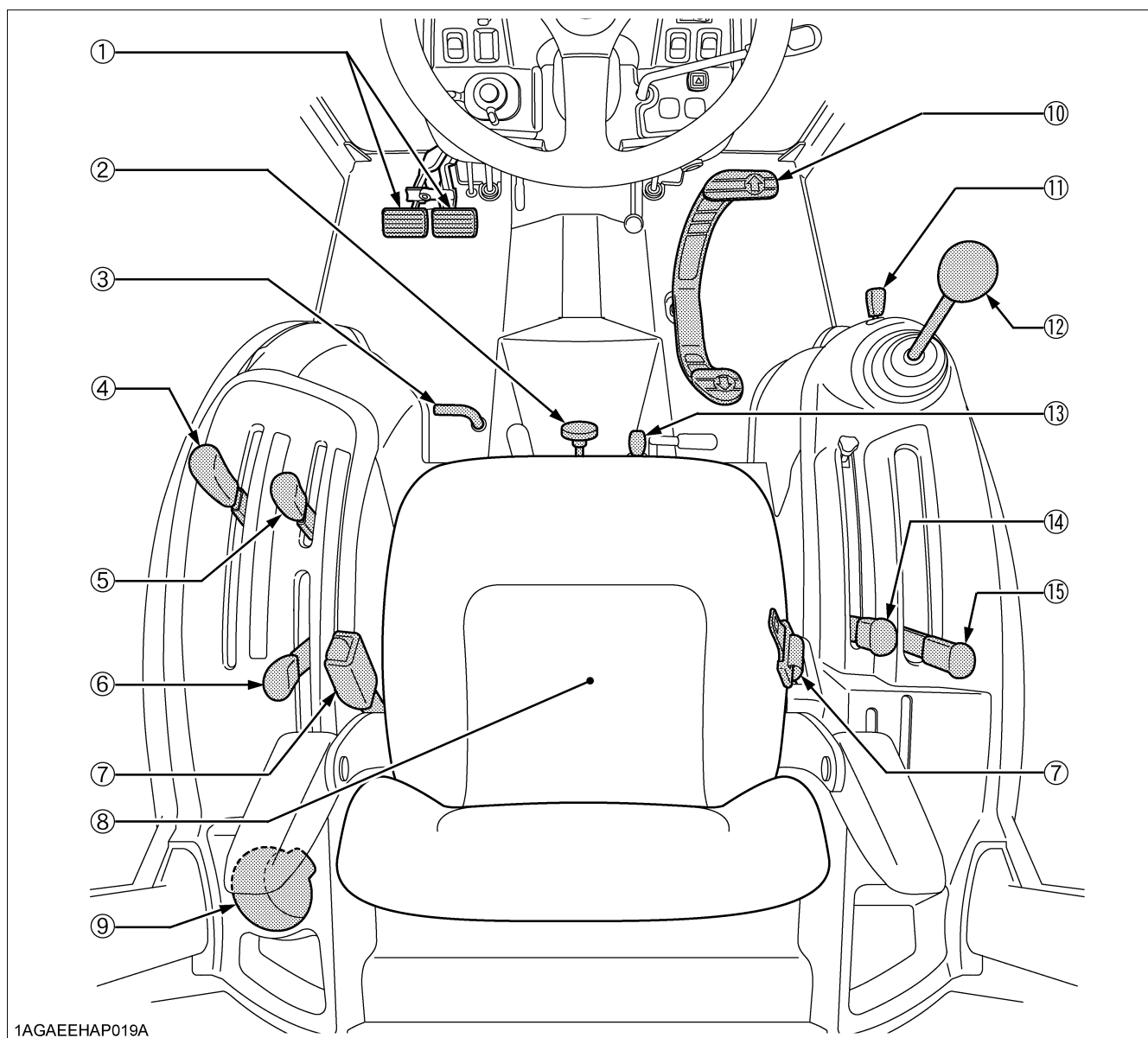
ILLUSTRATED CONTENTS

(1) Brake pedal.....	28
(2) Steering wheel tilt pedal	25
(3) 3-Point hitch lowering speed knob.....	51
(4) Differential lock pedal.....	37
(5) Range gear shift lever (L-M-H).....	30
(6) PTO clutch lever.....	41
(7) PTO select lever [B3150 Only]	40
(8) Operator's seat.....	23
(9) Seat belt.....	25

ILLUSTRATED CONTENTS

(10) Cup holder.....	---
(11) Tool-box.....	---
(12) Speed control pedal.....	32
(13) Loader lock lever.....	53
(14) Loader control lever.....	53
(15) Front wheel drive lever.....	30
(16) Position control lever [B3150 Only]	50
(16) Hydraulic control lever [B3150SU Only]	50
(17) Electrical outlet.....	39

◆ CAB Type



1AGAEHAP019A

ILLUSTRATED CONTENTS

(1) Brake pedal.....	28
(2) 3-Point hitch lowering speed knob.....	51
(3) Differential lock pedal.....	37
(4) Range gear shift lever (L-M-H).....	30
(5) PTO clutch lever.....	41
(6) PTO select lever	40
(7) Seat belt.....	25
(8) Operator's seat.....	23

ILLUSTRATED CONTENTS

(9) Cup holder	---
(10) Speed control pedal.....	32
(11) Loader lock lever.....	53
(12) Loader control lever.....	53
(13) Front wheel drive lever.....	30
(14) Position control lever	50
(15) Cruise control lever	33

PRE-OPERATION CHECK

DAILY CHECK

To prevent trouble from occurring, it is important to know the condition of the tractor well. Check it before starting.



WARNING

To avoid personal injury or death:

- **Be sure to check and service the tractor on a level surface with the engine shut off and the parking brake "ON" and implement lowered to the ground.**

Check item

- Walk around inspection
- Check engine oil level
- Check transmission oil level
- Check coolant level
- Clean air conditioner condenser screen [CAB Type only]
- Clean grill and radiator screen
- Check air cleaner evacuator valve
(When used in a dusty place)
- Check brake pedal
- Check parking brake lever
- Check indicators, gauges and meter
- Check lights
- Check wire harness
- Check seat belt
- Check ROPS and CAB
- Check movable parts
- Refuel
(See "DAILY CHECK" in "PERIODIC SERVICE" section.)
- Care of danger, warning and caution labels
(See "DANGER, WARNING AND CAUTION LABELS" in "SAFE OPERATION" section.)

OPERATING THE ENGINE



WARNING

To avoid personal injury or death:

- Read "Safe Operation" in the front of this manual.
- Read the danger, warning and caution labels located on the tractor.
- 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 all shift levers to the "NEUTRAL" positions and to place the PTO lever in "OFF" position before starting the engine.

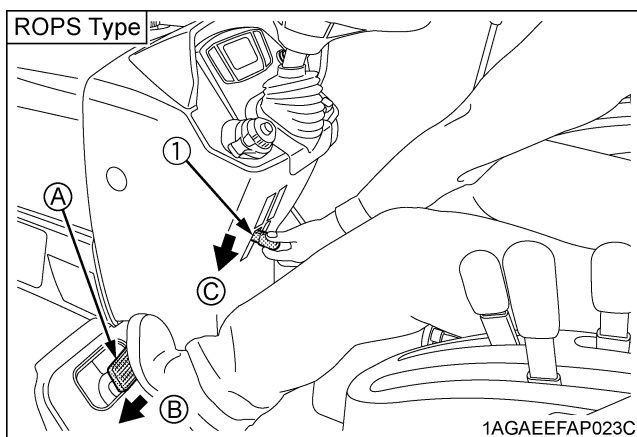
IMPORTANT :

- 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 30 seconds.

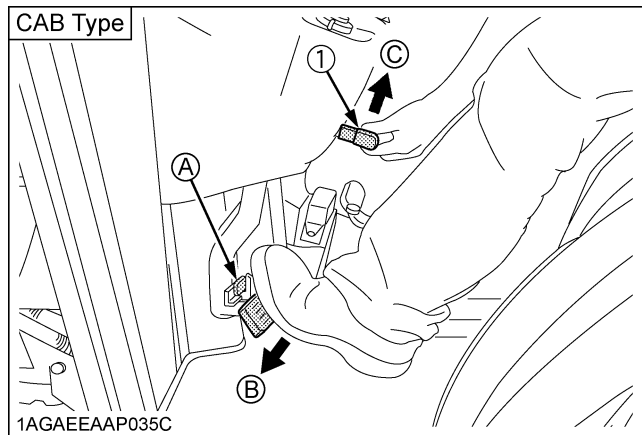
STARTING THE ENGINE

1. Make sure the parking brake is set.

- 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.
- To release the parking brake, depress the brake pedals again.



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

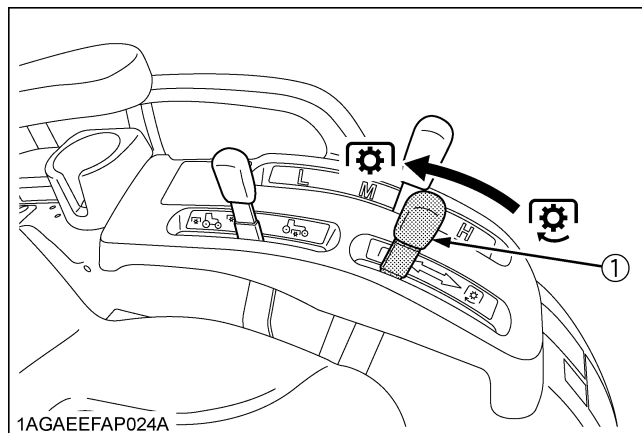


- (1) Parking brake lever
- (A) Interlock the brake pedals
(B) "DEPRESS"
(C) "PULL UP"

NOTE :

- It is recommended that the operator practice engaging and disengaging the parking brake on a flat surface without the engine running before operating the tractor for the first time.

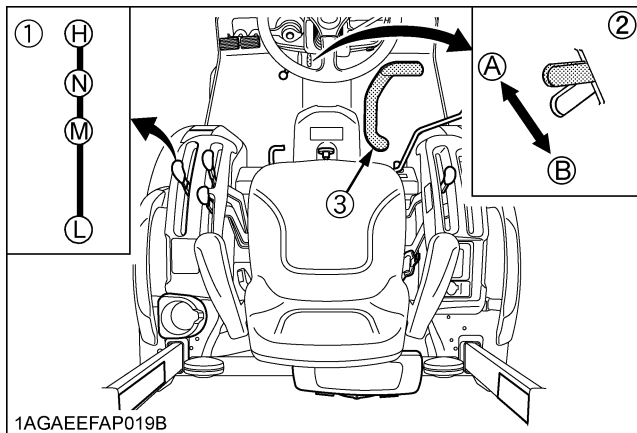
2. Place the PTO clutch lever in the "OFF" position.



- (1) PTO clutch lever
- ☑ "ON" "ENGAGE"
☒ "OFF" "DISENGAGE"

[ROPS Type]

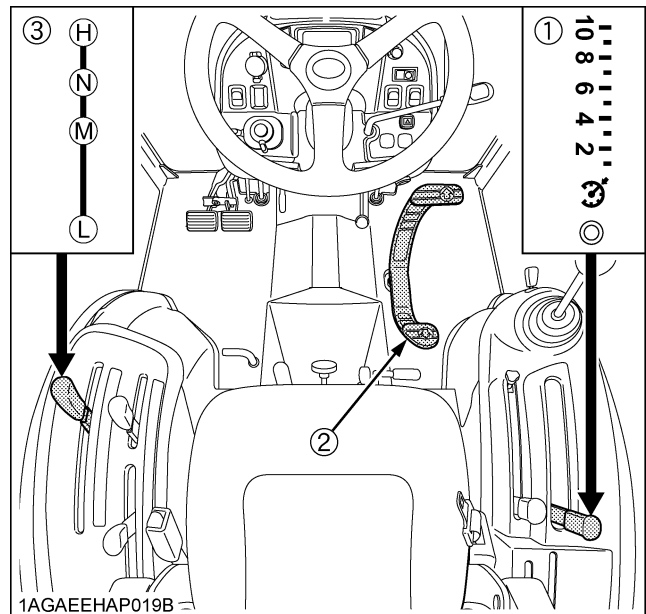
3. Place the speed set lever in the "OFF" position. [except B3150SU]
Place the speed control pedal in the "NEUTRAL" position.
Place the range gear shift lever (L-M-H) in the "NEUTRAL" position.



- (1) Range gear shift lever (L-M-H) (A) "OFF"
(2) Speed set lever (B) "ON"
[Except B3150SU] (H) "HIGH"
(3) Speed control pedal (M) "MIDDLE"
(L) "LOW"
(N) "NEUTRAL POSITION"

[CAB Type]

3. Make sure the cruise control lever is in the "NEUTRAL" position.
Place the speed control pedal in the "NEUTRAL" position.
Place the range gear shift lever (L-M-H) in the "NEUTRAL" position.

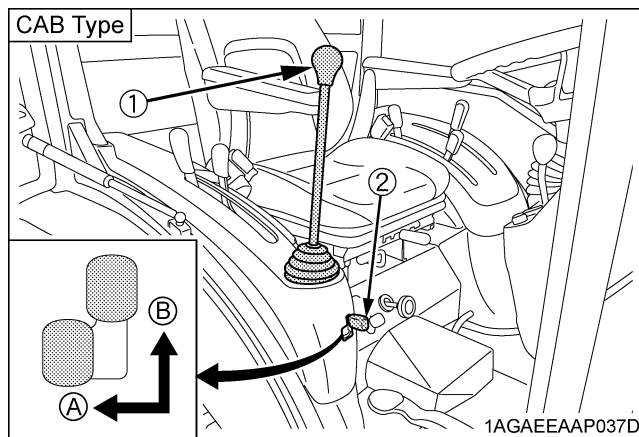
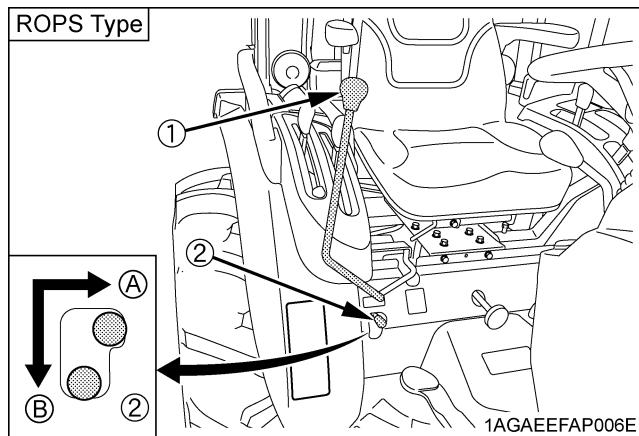


- (1) Cruise control lever (N) "NEUTRAL POSITION"
(2) Speed control pedal
(3) Range gear shift lever (L-M-H) ○Cruise "NEUTRAL POSITION"

NOTE :

- Depress the both brake pedals together, doing so the cruise control lever automatically returns to the off position.
- By removing your foot from the speed control pedal, it will allow the pedal to automatically return to the neutral position.

4. Lock the loader control lever in the "LOCK" position.

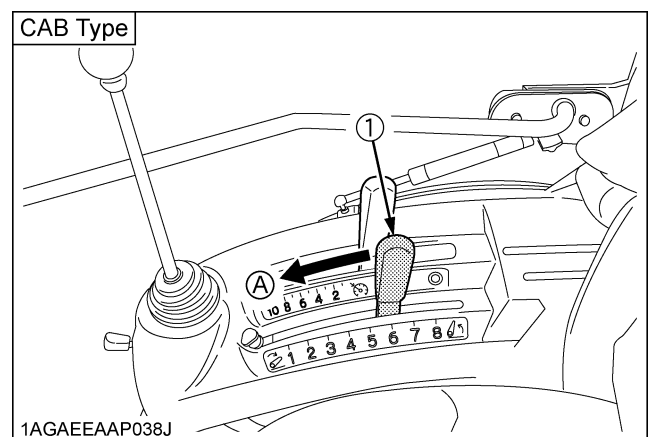
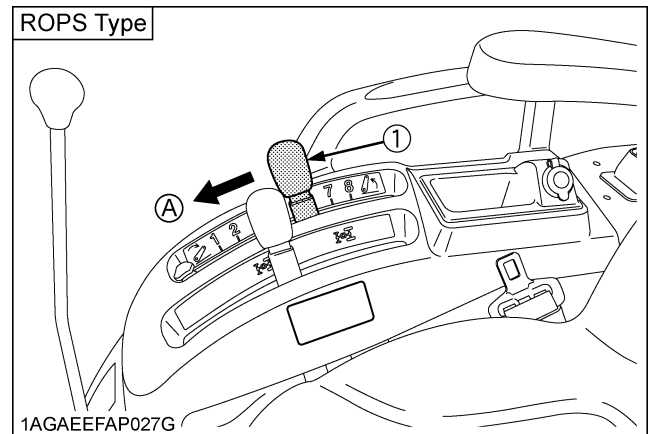


(1) Loader control lever
(2) Lock lever

(A) "UNLOCK"
(B) "LOCK"

[B3150]

5. Place the position control lever in the "LOWEST" position.

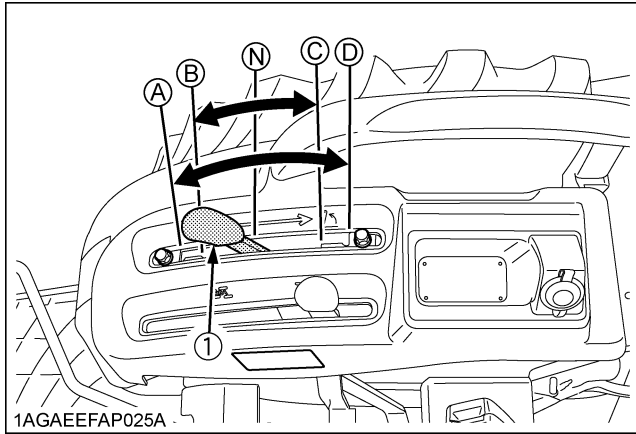


(1) Position control lever

(A) "DOWN"

[B3150SU]

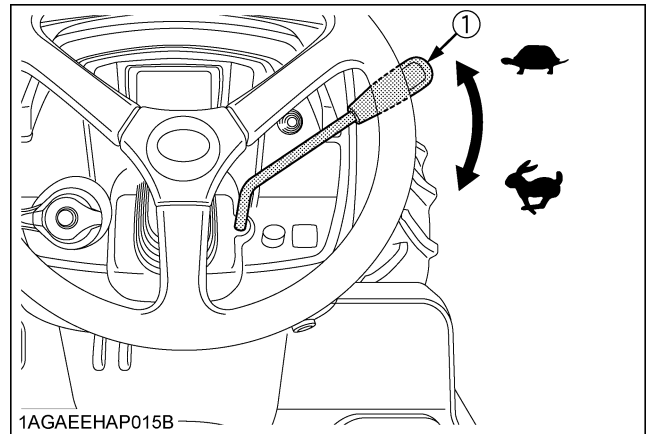
5. Place the hydraulic control lever in the "NEUTRAL" position.



(1) Hydraulic control lever

- (A) "DOWN"
 (B) "SLOW DOWN"
 (N) "NEUTRAL"
 (C) "SLOW UP"
 (D) "UP"

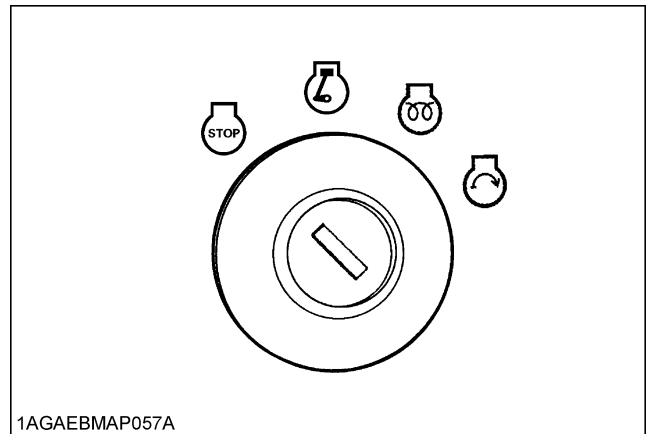
6. Set the throttle lever to about 1/2 way.



(1) Hand throttle lever

- 🐢 "INCREASE"
 🐇 "DECREASE"

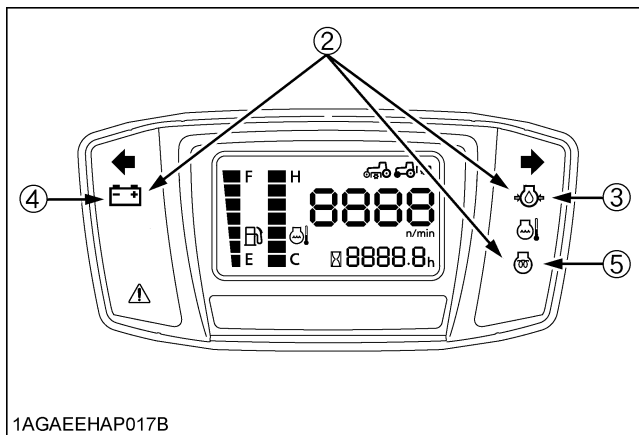
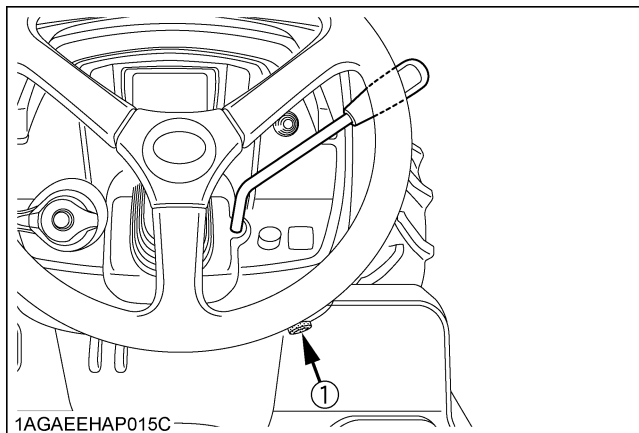
7. Insert the key into the key switch and turn it "ON".



- 🔌 "OFF"
 🔌 "ON"
 🔌 "PREHEAT"
 🔌 "START"

◆ Check Easy Checker(TM) lamps:

When the key is turned "ON", lamps (3) (4) should come on. If trouble should occur at any location while the engine is running, the indicator lamp corresponding to problem will turn "ON".



- (1) Key switch
 (2) Easy checker(TM)
 (3) Engine oil pressure warning indicator
 (4) Electrical charge warning indicator
 (5) Glow plug indicator

8. Turn the key to "PREHEAT" position and hold it for about 2 to 3 seconds.

For the appropriate preheating time, refer to the table below:

Temperature	Preheating Time
Over 0 °C (32 °F)	2 to 3 sec.
0 to -5 °C (32 to 23 °F)	5 sec.
-5 to -15 °C (23 to 5 °F)	10 sec.

NOTE :

- Glow plug indicator (5) comes on while engine is being preheated.

9. Turn the key to "START" position and release when the engine starts.

IMPORTANT :

- Because of the safety devices, the engine will not start except when the PTO clutch lever is placed in the "OFF" position and speed control pedal is placed in the "NEUTRAL" position.

◆ Cold Weather Starting

When the ambient temperature is below -5°C (23°F) and the engine is very cold. If the engine fails to start, turn off the key for 30 seconds. Then repeat steps 8 and 9. To protect the battery and the starter, make sure that the starter is not continuously turned for more than 30 seconds.

■ Block Heater (Option)

A block heater is available as an option from your dealer. It will assist you in starting your tractor when the ambient temperature is below -15°C (5°F)

10. Check to see that all the lamps on the Easy Checker(TM) are "OFF".

If any lamps stays on, immediately stop the engine and determine the cause.

STOPPING THE ENGINE

1. After slowing the engine to idle, turn the key to "OFF".
2. Remove the key.

NOTE :

- If key does not stop the engine, consult your local KUBOTA Dealer.

WARMING UP



WARNING

To avoid personal injury or death:

- Be sure to set the parking brake during warm-up.
- Be sure to set all shift levers to the "NEUTRAL" positions and to place the PTO clutch lever in the "OFF" position during warm-up.

For 5 minutes after engine start-up, allow the engine to warm up without applying any load, this is to allow oil to reach every engine part. If load should be applied to the engine without this warm-up period, trouble such as seizure, breakage or premature wear may develop.

■ Warm-up Transmission Oil at Low Ambient Temperatures

Hydraulic oil serves as transmission fluid. In cold weather, the oil will be cold, which will increase oil viscosity. This can cause delayed oil circulation or abnormally low hydraulic pressure for some time after engine start-up. This in turn can result in trouble in the hydraulic system. To prevent the above, observe the following instructions: Warm up the engine at about 50% of rated rpm according to the table below:

Ambient temperature	Warm-up time requirement
Above 0 °C (32 °F)	At least 5 minutes
0 to -10 °C (32 to 14 °F)	5 to 10 minutes
-10 to -20 °C (14 to -4 °F)	10 to 15 minutes
Below -20 °C (-4 °F)	More than 15 minutes

IMPORTANT :

- Do not operate the tractor under full load condition until it is sufficiently warmed up.

JUMP STARTING



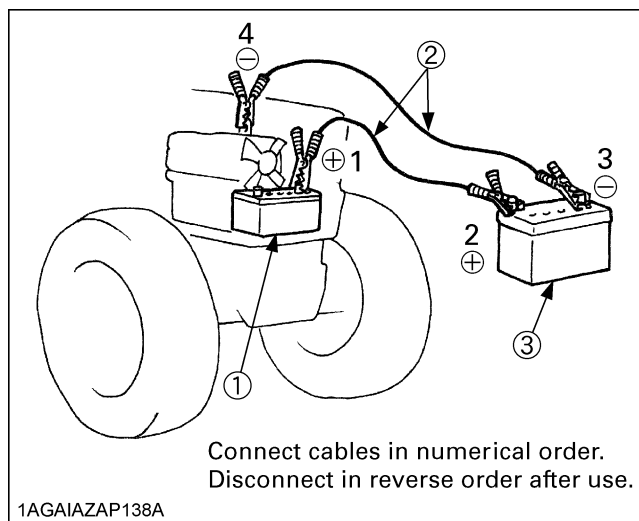
WARNING

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.

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

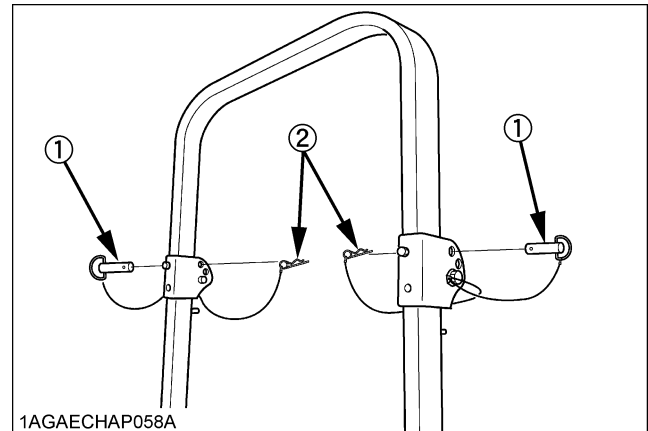
To avoid personal injury or death:

- 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, maintain a hold on the ROPS.



- (1) Set bolt
(2) Hair pin

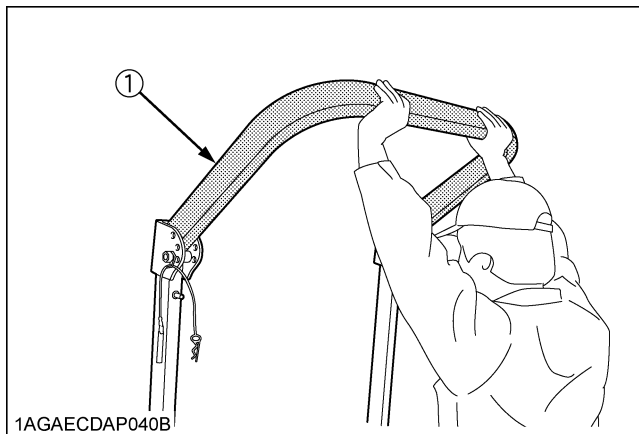
2. Fold the ROPS.



CAUTION

To avoid personal injury:

- Hold the ROPS tightly with both hands and fold the ROPS slowly and carefully.



(1) ROPS

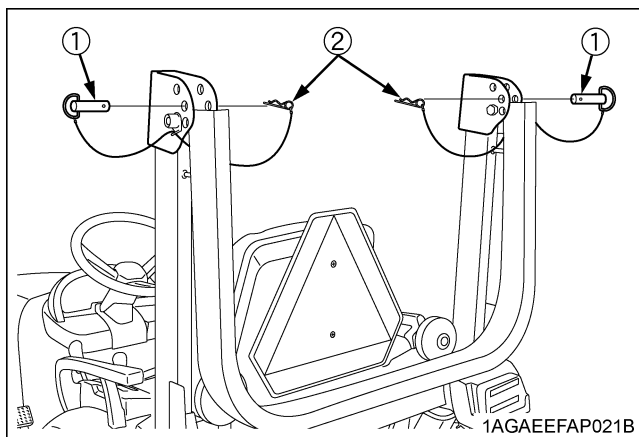
3. Insert both set bolts and secure them with the hair pins.



CAUTION

To avoid personal injury:

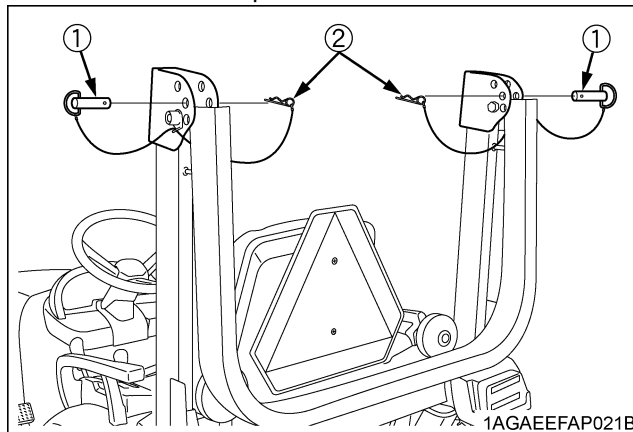
- Make sure that both set bolts are properly installed and secured with the hair pins.



(1) Set bolt
(2) Hair pin

■ To Raise the ROPS to Upright Position

1. Remove both hair pins and set bolts.



(1) Set bolt
(2) Hair pin

2. Raise ROPS to the upright position, maintain a hold on the ROPS.



CAUTION

To avoid personal injury:

- Raise the ROPS slowly and carefully.

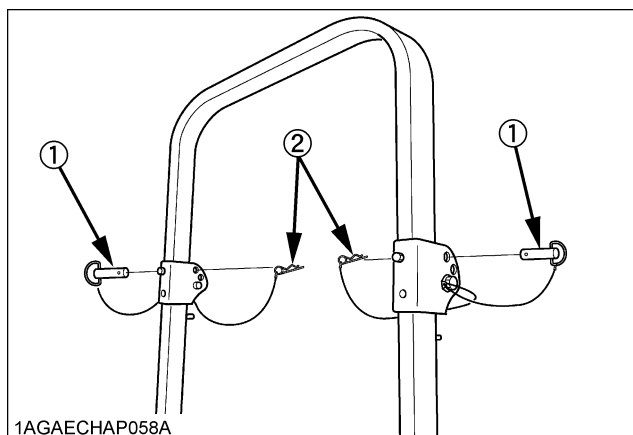
3. Insert both set bolts and secure them with the hair pins.



CAUTION

To avoid personal injury:

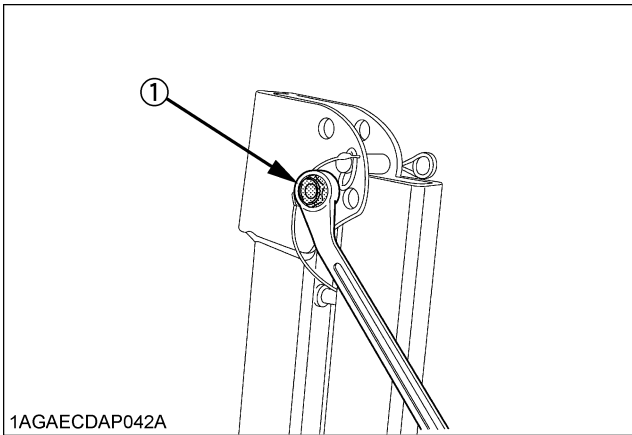
- Make sure that both set bolts are properly installed as soon as the ROPS is in the upright position and secured with the hair pins.



(1) Set bolt
(2) Hair pin

■ Adjustment of Foldable ROPS

- Adjust free fall of the ROPS upper frame regularly.
- If you feel less friction in folding the ROPS, tighten the nut (1) until you feel the right friction in the movement.



(1) Nut

STARTING

1. Adjusting the operator's position.

NOTE :

- The seat and suspension should be adjusted to ensure that the controls are comfortably at hand for the operator, ensuring that the operator maintains a good posture and minimizes risks from whole body vibration.

■ Operator's Seat

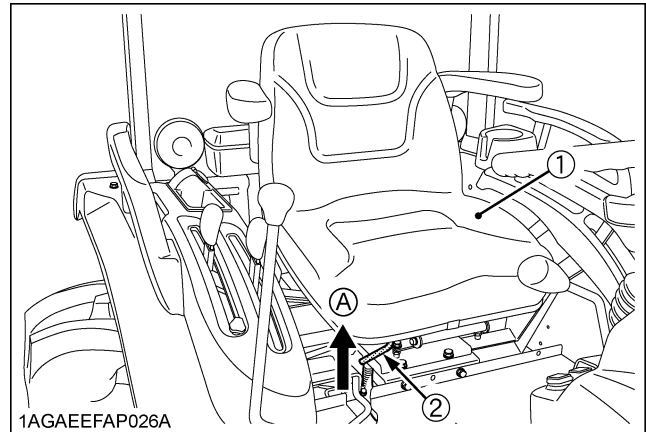


WARNING

To avoid personal injury or death:

- Make sure that the seat is completely secured after each adjustment.
- Do not allow any person other than the driver to ride on the tractor.

[B3150 ROPS]



(1) Seat

(A) "PULL UP"

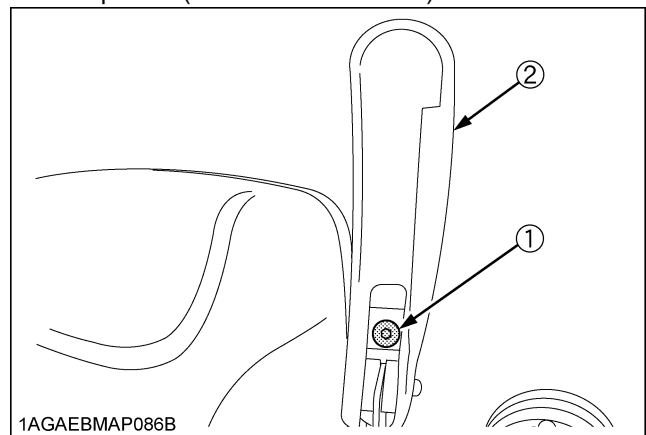
(2) Position adjust lever

◆ Travel adjustment

Pull in the position adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.

◆ Armrest angle adjustment

The armrest angle can be adjusted by the hex socket head cap bolts (socket size 7/32 inch).

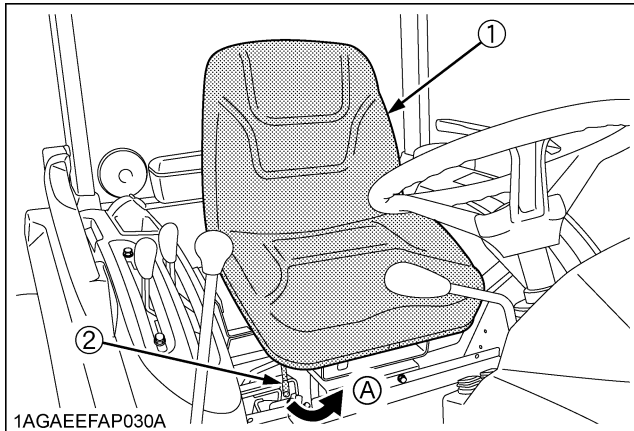


(1) Hex socket head cap bolt

(2) Armrest

IMPORTANT :

- After adjusting the operator's seat, be sure to check to see that the seat is properly locked.

[B3150SU ROPS]

(1) Seat

(2) Position adjust lever

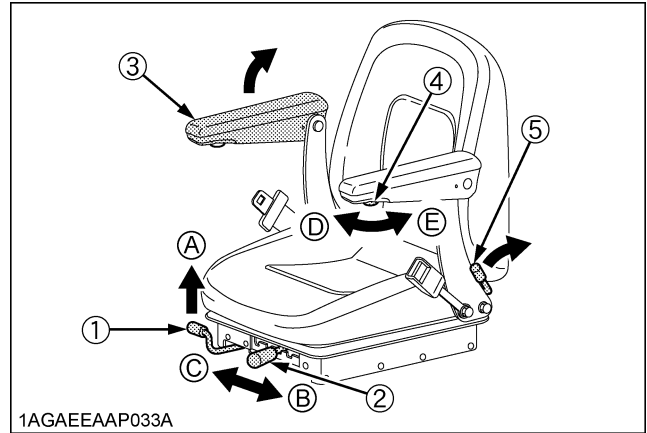
(A) "PULL IN"

◆ Travel adjustment

Pull in the position adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.

IMPORTANT :

- After adjusting the operator's seat, be sure to check to see that the seat is properly locked.

[B3150 CAB]

(1) Travel adjust lever

(2) Suspension adjust lever

(3) Arm rest

(4) Arm rest angle adjust knob

(5) Backrest tilt adjust lever

(A) "UNLOCK"

(B) "TO INCREASE TENSION"

(C) "TO DECREASE TENSION"

(D) "TO INCREASE ANGLE"

(E) "TO DECREASE ANGLE"

◆ Travel adjustment

Unlock the travel adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.

◆ Suspension adjustment

Pull and slide the suspension adjust lever to desired tension or increase tension position while sitting in the seat.

◆ Tilt adjustment

Pull the backrest tilt adjust lever and tilt the backrest to the desired position.

◆ Arm rest

Armrest may be set at upright position if desired.

◆ Armrest angle adjustment

Turn the arm rest angle adjust knob to the desired angle.

IMPORTANT :

- After adjusting the operator's seat, be sure to check to see that the seat is properly locked.

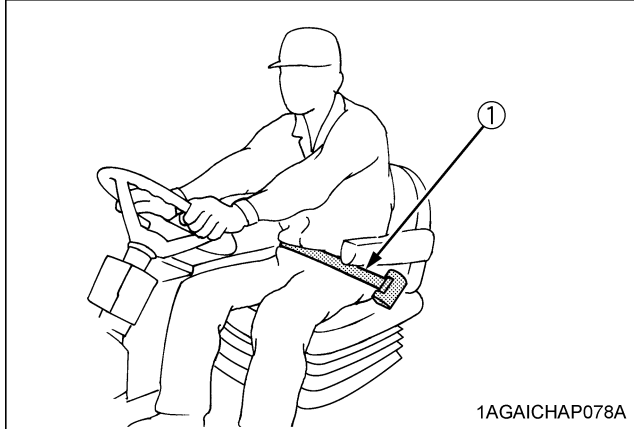
■ Seat Belt

WARNING

To avoid personal injury or death:

- Always use the seat belt when any ROPS or CAB are installed.

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



(1) Seat belt

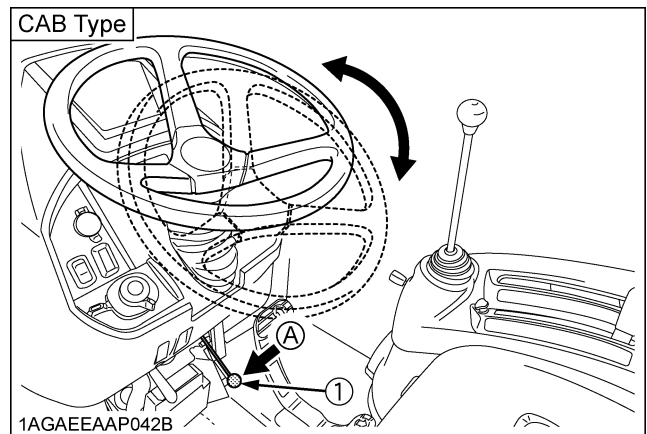
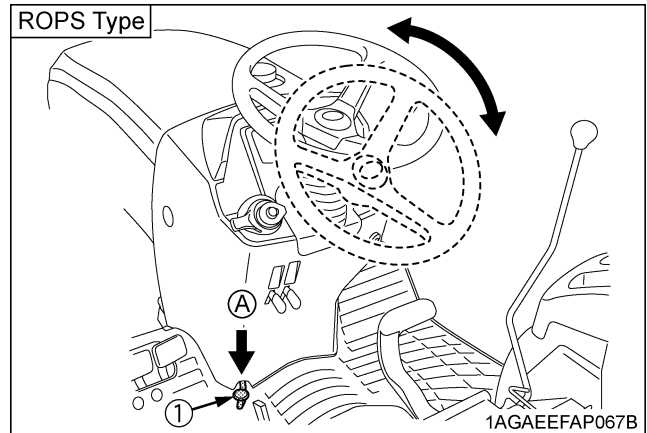
■ Tilt Steering Adjustment

CAUTION

To avoid personal injury:

- Do not adjust the steering wheel while the tractor is in motion.

Press down the steering wheel pedal, to release the lock so the steering wheel can be adjusted to one of 3 desired positions.



(1) Steering wheel tilt pedal (A) "PRESS DOWN"

2. Selecting light switch positions.

■ Head Light / Turn Signal / Hazard Light Switch

◆ Head Light Switch

(A) OFF.....Head light OFF.

(B) Head light ON.

◆ Hazard Light

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

◆ Turn Signal with Hazard Light Switch On.

1. To indicate a right turn with the hazard lights already flashing (hazard switch on), turn the turn signal switch clockwise.
2. To indicate a left turn with the hazard lights already flashing, turn the turn signal 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.

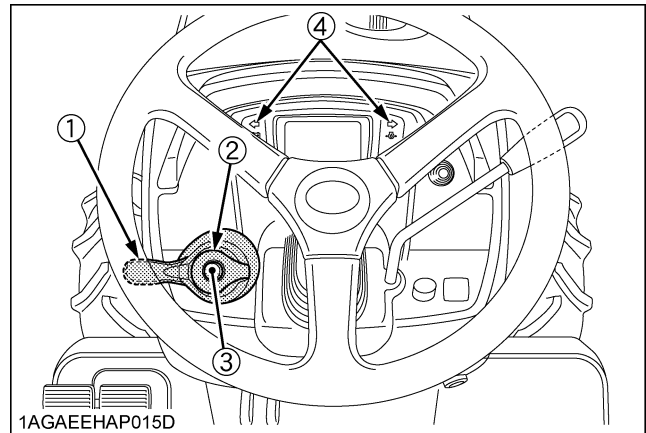
◆ Turn Signal with Hazard Light Switch Off

1. To indicate a right turn without hazard lights (hazard switch off), turn the turn signal switch clockwise.
2. To indicate a left turn without hazard lights, turn the turn signal 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.

NOTE :

- The hazard light switch is operative when the key switch is in either the "ON" or "OFF" positions.
- The turn signal light switch is only operative when the key switch is in the "ON" position.
- The indicator in the hazard light switch will light up when the head light switch is turned on.
- Be sure to return the turn signal switch to center position after turning.

[ROPS Type]

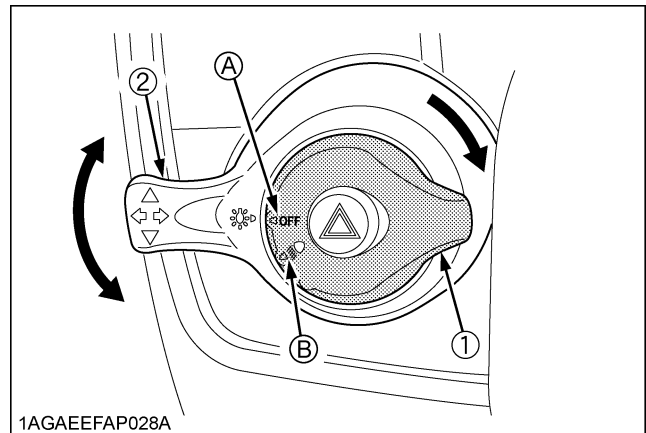


(1) Turn signal light switch

(2) Head light switch

(3) Hazard light switch

(4) Hazard / Turn signal indicator



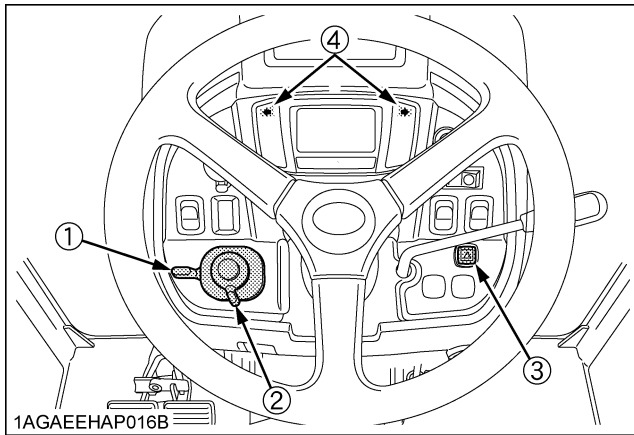
(1) Head light switch

(2) Turn signal light switch

(A) "OFF"

(B) "ON"

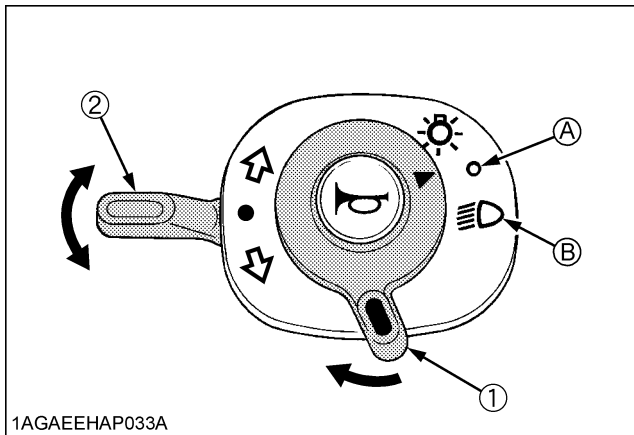
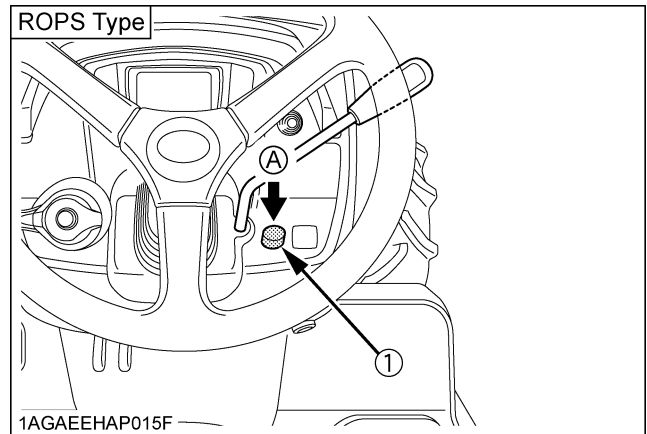
[CAB Type]



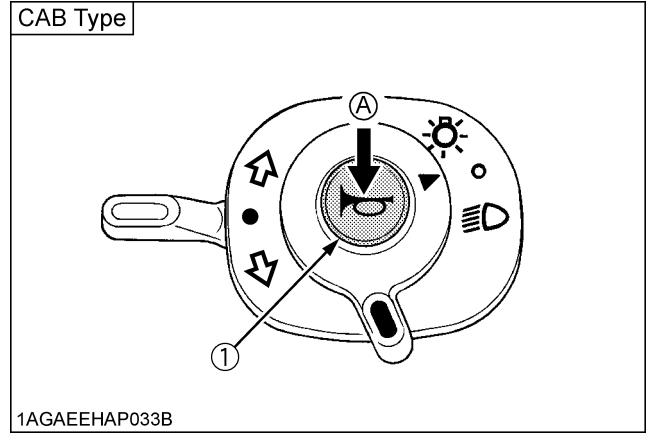
- (1) Turn signal light switch
- (2) Head light switch
- (3) Hazard light switch
- (4) Hazard / Turn signal indicator

■Horn Button

The horn will sound when the key switch is in the "ON" position and the horn button pressed.



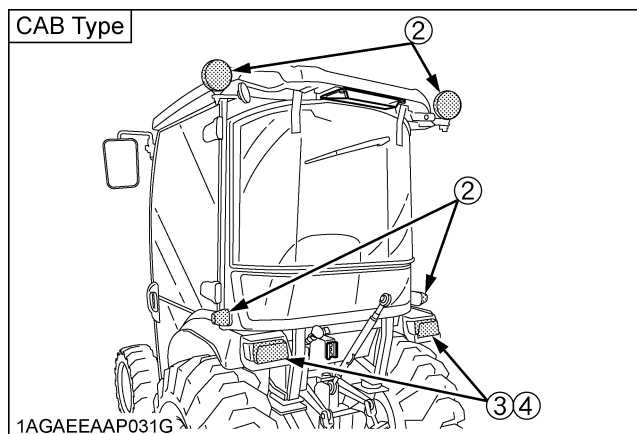
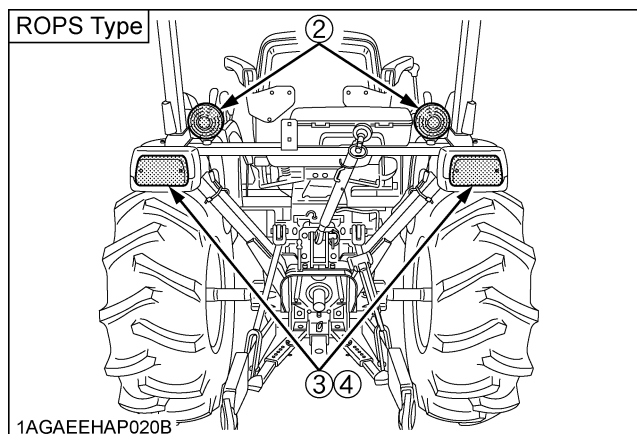
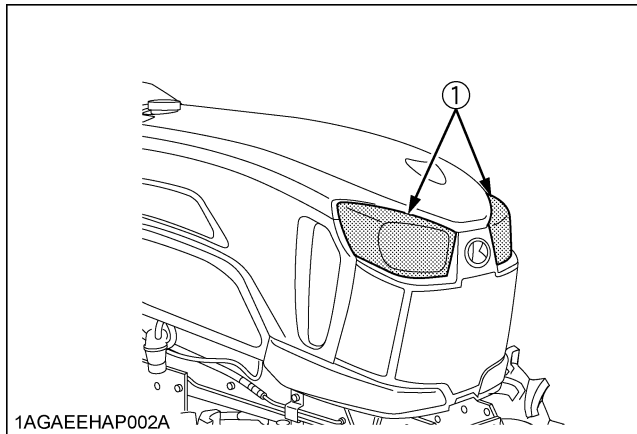
- (1) Head light switch
- (2) Turn signal light switch
- (A) "OFF"
- (B) "ON"



- (1) Horn button
- (A) "PUSH"

■ Tractor Lights

- (1) Head light
- (2) Turn signal / Hazard light
- (3) Tail light
- (4) Brake stop light



3. Checking the brake pedal.



WARNING

To avoid personal injury or death:

- Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over.

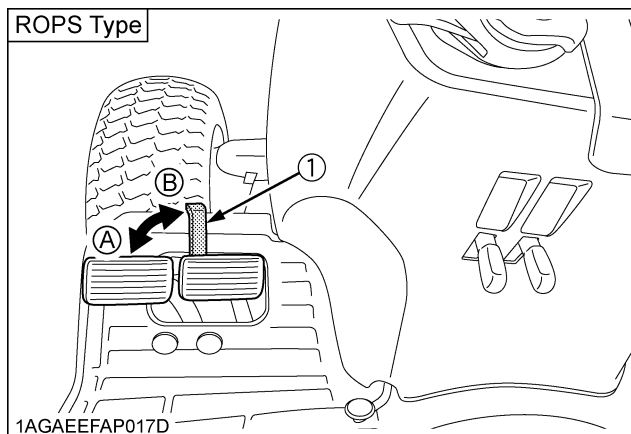


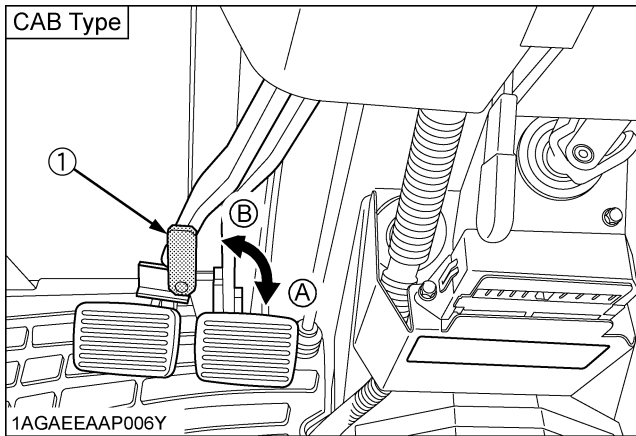
WARNING

To avoid personal injury or death:

- An accident may occur if the tractor is suddenly braked, such as by heavy towed loads shifting forward or loss of control.
- The braking characteristics are different between 2 and 4 wheel drive. Be aware of the difference and use carefully.
- When driving on icy, wet or loose surfaces, make sure the tractor is correctly ballasted to avoid skidding and loss of steering control. Operate at reduced speed.

1. Before operating the tractor on the road or before applying the parking brake, be sure to interlock the right and left pedals as illustrated below.
2. Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only). Disengage the brake pedal lock and depress only one brake pedal.
3. Be sure brake pedals have equal adjustment when using locked together.

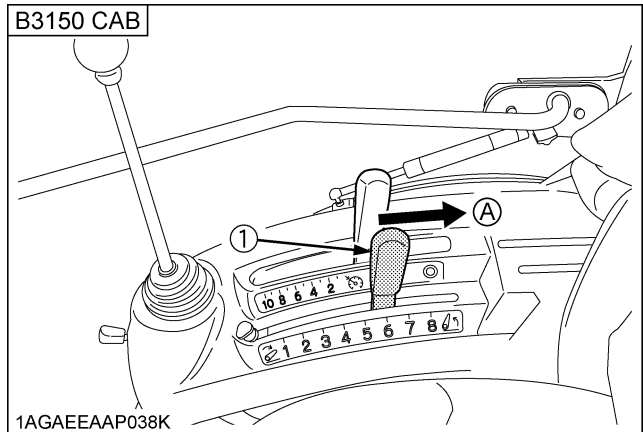
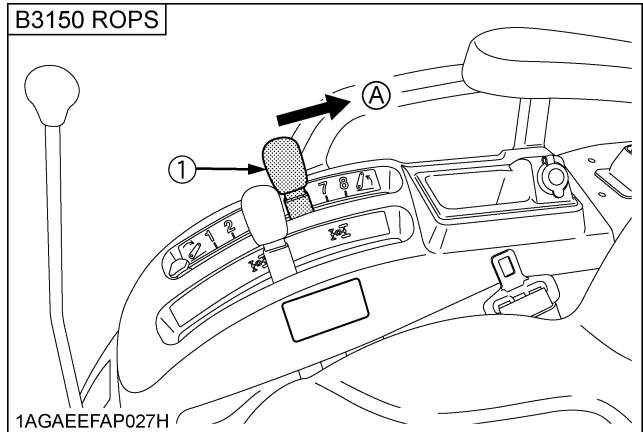




(1) Brake pedal lock

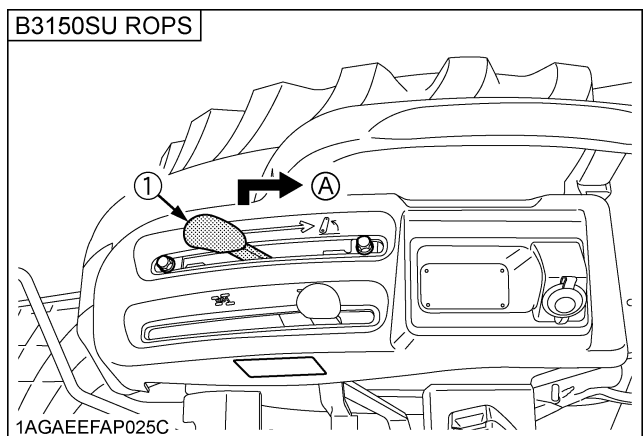
(A) "LOCK"
(B) "RELEASE"

4. Raise the implement. (See "HYDRAULIC UNIT" section)



(1) Position control lever

(A) "UP"



(1) Hydraulic control lever

(A) "UP"

5. Selecting the Travel Speed.

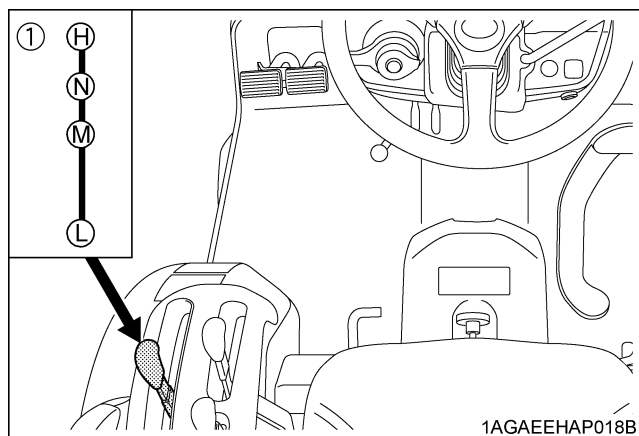
■ Range Gear Shift Lever (L-M-H)

The range gear shift can only be shifted when tractor is completely stopped.

IMPORTANT :

Do not force the range gear shift lever.

- If it is difficult to shift the range gear shift lever into the neutral position;
 - (1) Depress the brake pedal firmly for several seconds.
 - (2) Without reducing the brake pedal force, shift the range gear shift lever.
- If it is difficult to shift the range gear shift lever into "L", "M" or "H" from neutral position;
 - (1) Slightly depress the speed control pedal to rotate the gears inside of transmission.
 - (2) Release the speed control pedal to neutral position.
 - (3) Shift the range gear shift lever.
- To avoid damage of transmission, stop tractor before shifting between ranges.



(1) Range gear shift lever (L-M-H)

(H) "HIGH"
(M) "MIDDLE"
(L) "LOW"
(N) "NEUTRAL POSITION"

■ Front Wheel Drive Lever

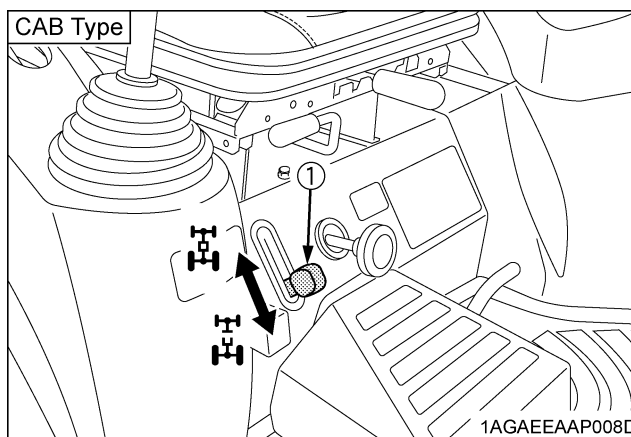
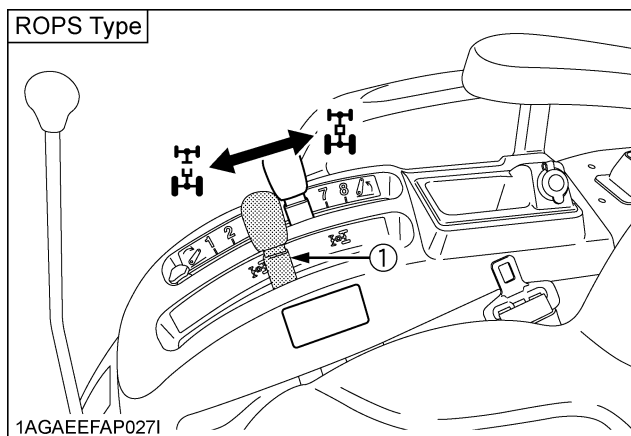


WARNING

To avoid personal injury or death:

- Do not engage the front wheel drive when traveling at road speed.
- When driving on icy, wet or loose surfaces, make sure the tractor is correctly ballasted to avoid skidding and loss of steering control. Operate at reduced speed and engage front wheel drive.
- An accident may occur if the tractor is suddenly braked, such as by heavy towed loads shifting forward or loss of control.
- The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.

Use the lever to engage the front wheels with the tractor stopped. Shift the lever to "ON" to engage the front wheel drive.



(1) Front wheel drive lever (H) "ON" (L) "OFF"

IMPORTANT :

- To avoid damage of transmission, when front wheel drive lever is not smoothly shifted, slightly step forward or rearward on speed control pedal.
- Tires will wear quickly if front wheel drive is engaged on paved roads.

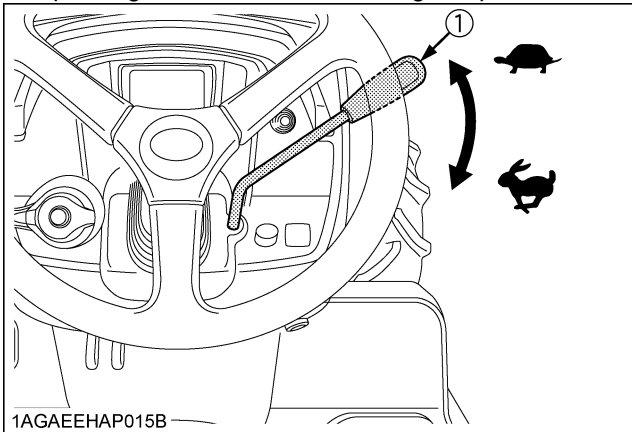
◆ **Front wheel drive is effective for the following jobs:**

1. When greater pulling force is needed, such as working in a wet field, when pulling a trailer, or when working with a front-end loader.
2. When working in sandy soil.
3. When working on a hard soil where a rotary tiller might push the tractor forward.
4. Additional braking at reduced speeds.

6. Accelerate the Engine.

■ **Hand Throttle Lever**

Pulling the throttle lever back increases engine speed, and pushing it forward decreases engine speed.



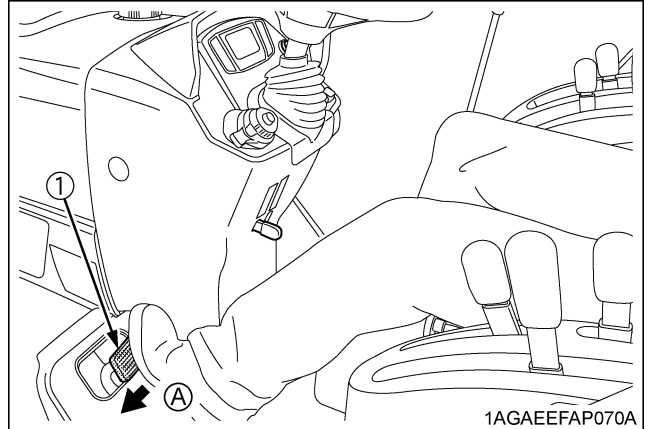
(1) Hand Throttle lever

🐢 "INCREASE"
🐰 "DECREASE"

7. Unlock the Parking Brake.

■ **Parking Brake Lever**

To release the parking brake, depress the brake pedals again.



(1) Brake pedals

(A) "DEPRESS"

8. Depress the Speed Control Pedal.

■ Speed Control Pedal



WARNING

To avoid personal injury or death:

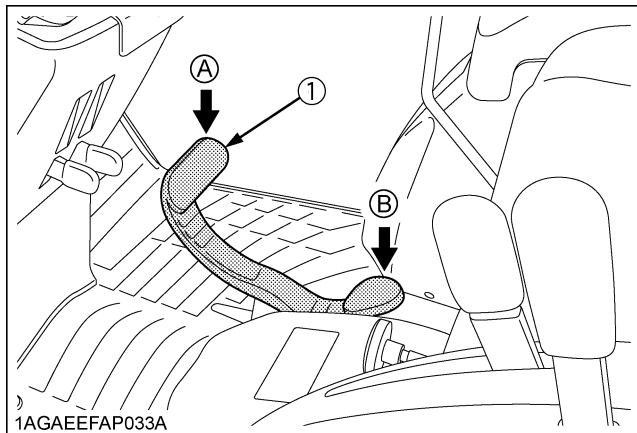
- Do not operate if the tractor moves on level ground with the operators foot off of Speed Control Pedal.
- Consult your local KUBOTA Dealer.

Forward Pedal

Depress the speed control pedal with the toe of your right foot to move forward.

Reverse Pedal

Depress the speed control pedal with the heel of your right foot to move backward.



(1) Speed control pedal

(A) "FORWARD"

(B) "REVERSE"

IMPORTANT :

- To prevent serious damage to the HST, do not adjust the stopper bolts.

NOTE :

- When you stand up from the seat with the speed control pedal stepped on or the speed set device engaged (ON), the engine will stop regardless of whether the machine is moving or not. This is because the tractor is equipped with Operator Presence Control system (OPC).

■ Speed Set Device

[B3150 ROPS only]



WARNING

To avoid personal injury or death:

- Pull the speed set lever completely to the up position before starting the engine.
- Do not use the speed set device when driving on the road.
- Be sure to connect both the left and the right brakes to release the speed set device. The speed set device won't be released with singlebrake activation.

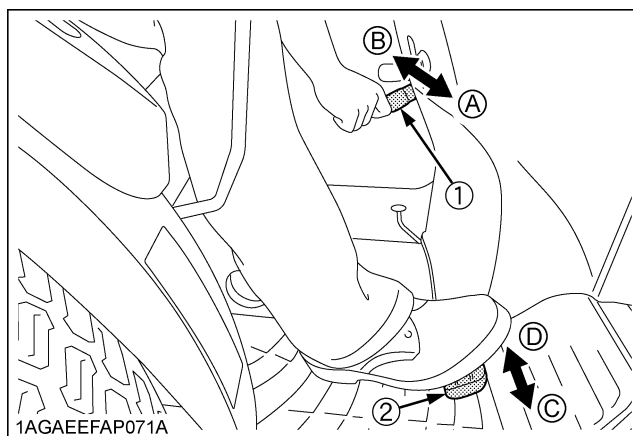
The Speed Set Device is designed for tractor operating efficiency and operator comfort. This device will provide a constant forward operating speed by mechanically holding the speed control pedal at a selected position.

◆ To engage Speed Set Device

1. Accelerate speed to desired level using Speed Control Pedal, and push the speed set lever down to the "ON" position.
2. Release Speed Control Pedal and desired speed will be maintained.

◆ To disengage Speed Set Device

- Pull the speed set lever upward.
- Depress both brake pedals.



(1) Speed set lever

(2) Speed control pedal

(A) "ON"

(B) "OFF"

(C) "Increase"

(D) "Decrease"

NOTE :

- If you step on the pedal on the forward acceleration side, the speed set device will disengage.
- The speed set device does not disengage when the individual right or left brake is applied.
- Speed set device will not operate in reverse.
- When you stand up from the seat with the speed control pedal stepped on or the speed set device engaged (ON), the engine will stop regardless of whether the machine is moving or not. This is because the tractor is equipped with Operator Presence Control system (OPC).

IMPORTANT :

- To prevent the damage of speed set device, do not depress the reverse pedal when the speed set device is engaged.

■Cruise Control Lever**[B3150 CAB only]****WARNING****To avoid personal injury or death:**

- **Pull the cruise control lever completely to the rear before starting the engine.**
- **Do not use the cruise control when driving on the road.**
- **Be sure to connect both the left and the right brakes to release the cruise control. The speed cruise control won't be released with single brake activation.**

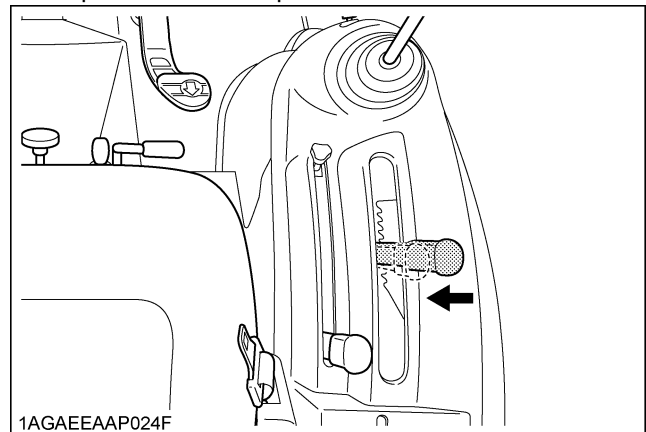
Cruise control is designed for tractor operating efficiency and operator comfort. This device will provide a constant forward operating speed by mechanically holding the cruise control lever at the selected position.

◆ To engage Cruise Control Device

1. The proper forward speed will be maintained if you apply the cruise control lever at any position.
2. To operate faster than the set speed, depress the speed control pedal further down in this condition. The set speed will be resumed if you release the pedal.

◆ To disengage Cruise Control Device

- Tilt the lever toward the seat, move the lever all the way back and then to the "NEUTRAL" position to release the cruise control.
- Depress both brake pedals.

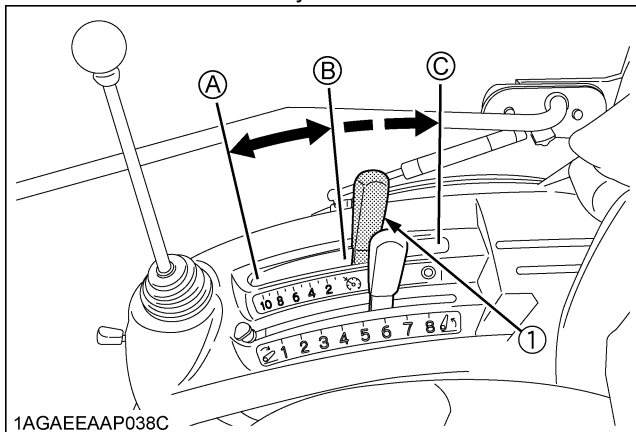
**IMPORTANT :**

- Do not depress the speed control pedal backward to disengage the cruise control.

NOTE :

- Cruise control will be disengaged automatically when both brake pedals are depressed.
- The cruise control device does not disengage when the individual right or left brake is applied.
- Cruise control device will not operate in reverse.

- Preferably set the cruise control lever, while holding down the speed control pedal. This makes the setting smoother.
- When releasing the cruise mode, be sure to return the cruise control lever fully backward.



(1) Cruise control lever
 (A) "INCREASE"
 (B) "DECREASE"
 (C) "NEUTRAL"

NOTE :

- When you stand up from the seat with the speed control pedal depressed or the cruise control lever engaged (ON), the engine will stop regardless of whether the machine is moving or not. This is because the tractor is equipped with Operator Presence Control (OPC) system.

STOPPING

■ Stopping

1. Slow the engine down.
2. Step on the brake pedal.
3. After the tractor has stopped, disengage the PTO, lower the implement to the ground, shift the transmission to neutral and set the parking brake.

CHECK DURING DRIVING

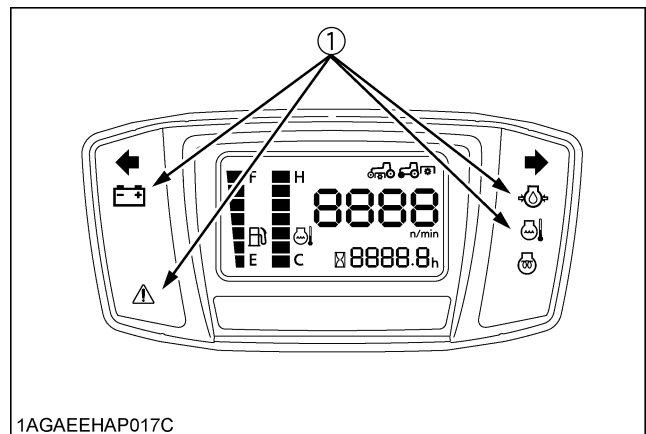
■ Immediately Stop the Engine if:

- The engine suddenly slows down or accelerates.
- Unusual noises suddenly are heard.
- Exhaust fumes suddenly become very dark.

■ Easy Checker (TM)

If the warning lamps of the Easy Checker(TM) come on during operation, immediately stop the engine, and find the cause as shown below.

Never operate the tractor while Easy Checker(TM) lamp is on.



(1) Easy checker(TM)



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)

-  **Electrical charge**
If the alternator is not charging the battery, the warning lamp in 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 the trouble is not corrected by restarting the tractor, consult your local KUBOTA Dealer.

NOTE :

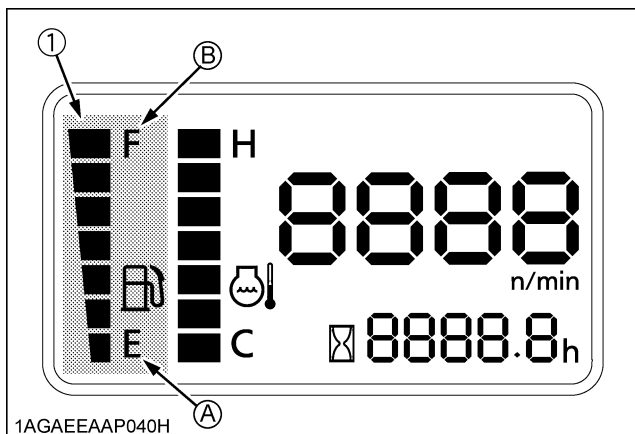
- For checking and servicing of your tractor, consult your local KUBOTA Dealer for instructions.

LCD MONITOR**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

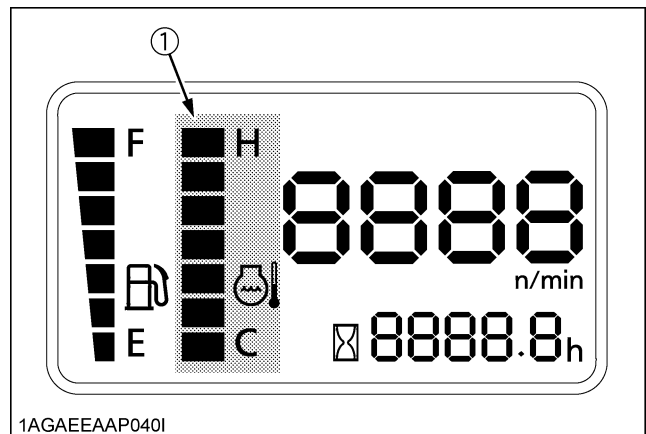
(A) "EMPTY"
(B) "FULL"

Coolant Temperature Gauge**WARNING**

To avoid personal injury or death:

- Do not remove radiator cap until coolant temperature is well below its boiling point. Then loosen the cap slightly to relieve any pressure before removing the cap completely.

- With the key switch "ON", this gauge indicates the temperature of the coolant. "C" for "cold" and "H" for "hot".
- If the indicator reaches the "H" position (red zone), engine coolant is overheated. Check the tractor by referring to "TROUBLESHOOTING" section.

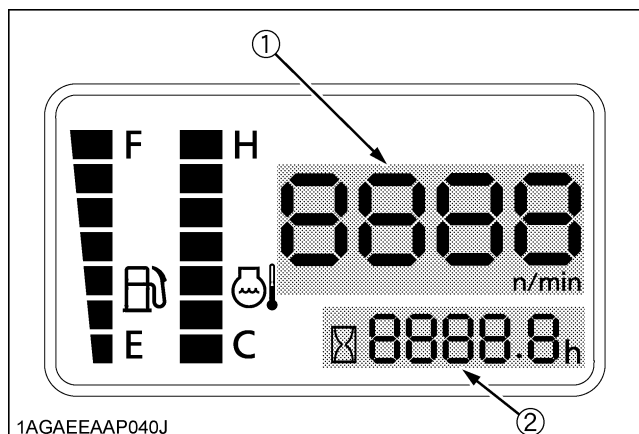


(1) Coolant temperature gauge

Hourmeter / Tachometer

This meter gives readings for engine speed, PTO shaft speed and the hours the tractor has been operated.

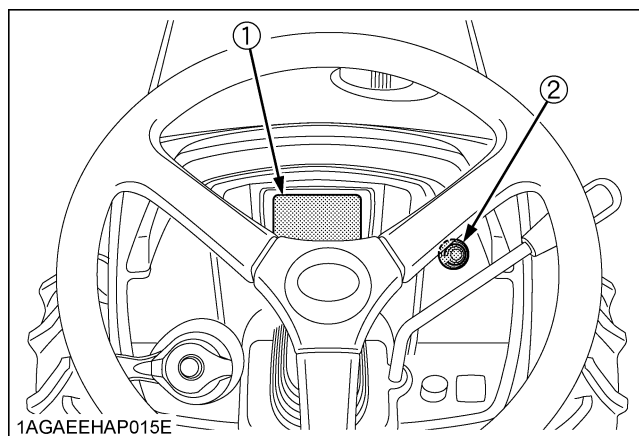
1. The tachometer indicates the engine speed and the PTO shaft speed location on the dial.
2. The hourmeter indicates in 5 digits the hours the tractor has been used; the last digit indicates 1/10 of an hour.



- (1) Engine revolution / PTO speed
(2) Hours used

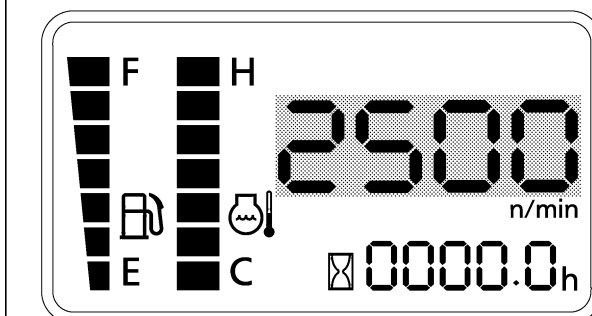
Changing Display Mode

1. The LCD monitor give several different displays.
2. The LCD monitor displays "Engine rpm" normally.
3. The display switch is pressed, the display is switched to "Rear PTO speed", "Mid PTO speed", "Engine rpm".

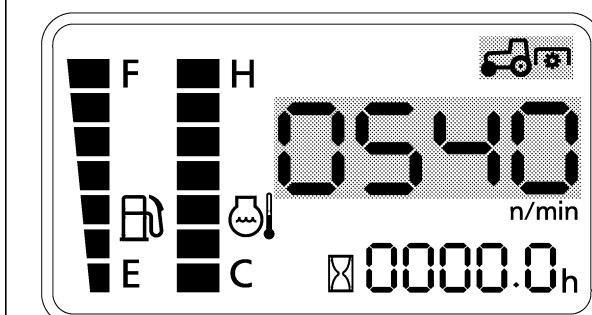


- (1) LCD monitor
(2) Display switch

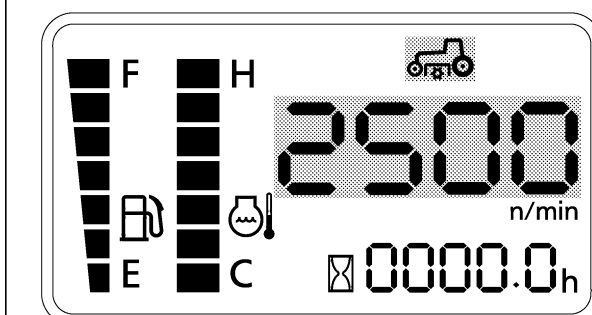
Engine rpm



Rear PTO speed



Mid PTO speed



NOTE :

- Models that are not equipped with the "Mid PTO" also displays "Mid PTO speed".

PARKING

■ Parking

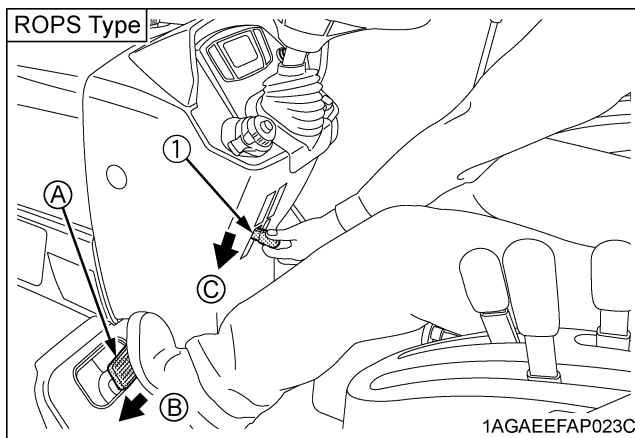


WARNING

To avoid personal injury or death:

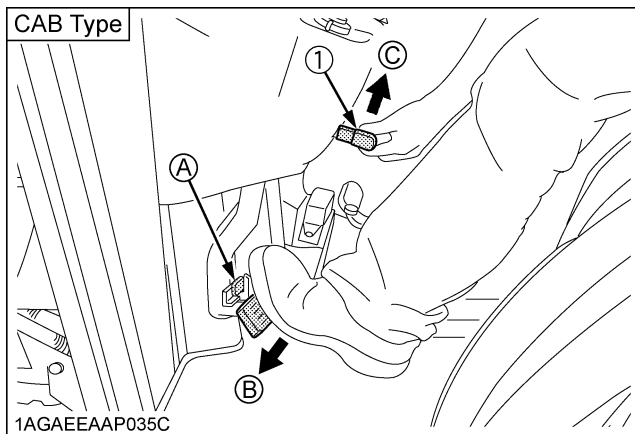
- Always set the parking brake, stop the engine and remove the key before leaving the tractor seat.

1. When parking, be sure to set the parking brake.
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.



(1) Parking brake lever

(A) Interlock the brake pedals
(B) "DEPRESS"
(C) "PULL DOWN"



(1) Parking brake lever

(A) Interlock the brake pedals
(B) "DEPRESS"
(C) "PULL UP"

2. Before getting off the tractor, disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine and remove the key.

3. If it is necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.

OPERATING TECHNIQUES

■ Differential Lock



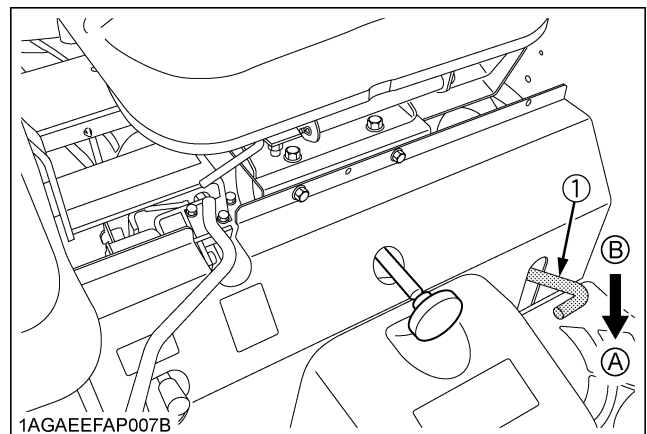
WARNING

To avoid personal injury or death due to loss of steering control:

- Do not operate the tractor at high speed with differential lock engaged.
- Do not attempt to turn with the differential lock engaged.
- Be sure to release the differential lock before making a turn in field conditions.

If one of the rear wheels should slip, step on the differential lock pedal. Both wheels will turn together, then reduce slippage.

Differential lock is maintained only while the pedal is depressed.



(1) Differential lock pedal

(A) Press to "ENGAGE"
(B) Release to "DISENGAGE"

IMPORTANT :

- When using the differential lock, always slow the engine down.
- To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.
- If the differential lock cannot be released in the above manner, step lightly on the brake pedals alternately.

■ Operating the Tractor on a Road



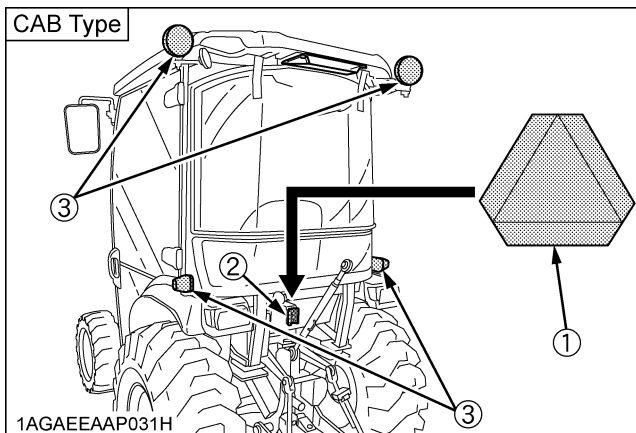
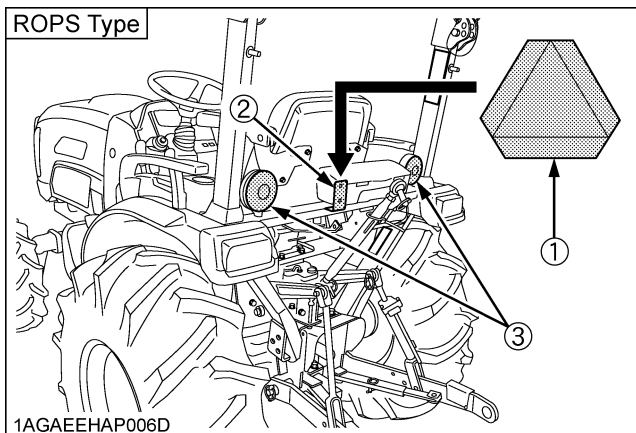
WARNING

To avoid personal injury or death:

- To help assure straight line stops when driving at transport speeds, lock the brake pedals together. Uneven braking at road speeds could cause the tractor to roll-over.
- When traveling on road with 3-point hitch mounted implement attached, be sure to have sufficient front weight on the tractor to maintain steering ability. (See "BALLAST" section.)
- Towed equipment (without brake) must not exceed 1.5 times the tractor weight when traveling on roads or at high speeds.

Be sure SMV emblem and hazard light are clean and visible. If towed or rear-mounted equipment obstructs these safety devices, install SMV emblem and hazard light on equipment.

Consult your local KUBOTA dealer for further detail.



- (1) SMV emblem
(2) Bracket
(3) Hazard light

■ Operating on Slopes or Rough Terrain



WARNING

To avoid personal injury or death:

- Always back up when going up a steep slope. Driving forward could cause the tractor to tip over backward. Stay off hills and slopes too steep for safe operation.
- Avoid changing gears when climbing or descending a slope.
- If operating on a slope, never disengage shift levers to neutral. Doing so could cause loss of control.
- Do not drive the tractor close to the edges of ditches or banks which may collapse under the weight of the tractor. Especially when the ground is loose or wet.

1. Slow down for slopes, rough ground, and sharp turns, especially when transporting heavy, rear mounted equipment.
2. Before descending a slope, be sure that the range lever is in the low so that speed can be controlled without using brakes.

■ Transport the Tractor Safely

1. The tractor, if damaged, must be carried on a truck. Secure the tractor tightly with ropes.
2. Follow the instruction below when towing the tractor: Otherwise, the tractor's powertrain may get damaged.
 - Set the all shift levers to "NEUTRAL" position.
 - If possible, start engine and select 2WD, if creep speed is fitted ensure that it is disengaged.
 - Tow the tractor using its front hitch or drawbar.
 - Never tow faster than "10 km/h (6.2 mph)".

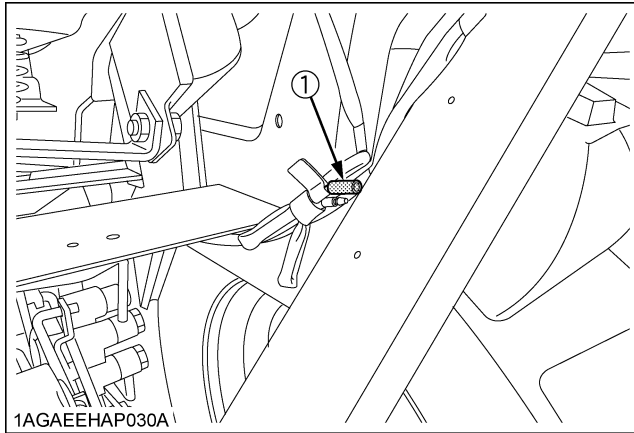
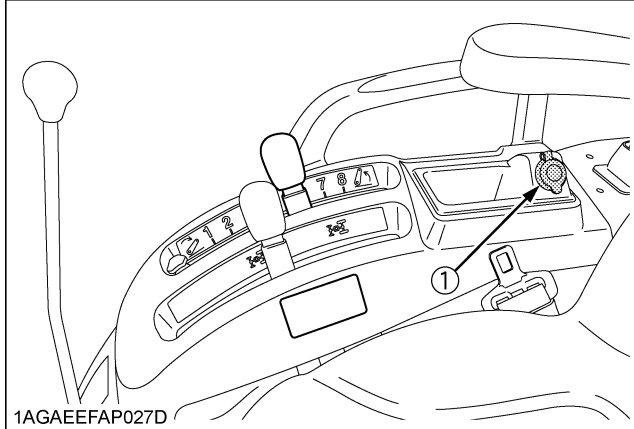
■ Directions for Use of Power Steering

1. Power steering is activated only while the engine is running. While the engine is stopped, the tractor functions in the same manner as tractors without power steering.
2. When the steering wheel is turned all the way to the stop, the relief valve is activated. Do not hold the steering wheel in this position for a long period of time.
3. Avoid turning the steering wheel while the tractor is stopped, or tires may wear out sooner.
4. The power steering mechanism makes the steering easier. Be careful when driving on a road at high speeds.

■Electrical Outlet

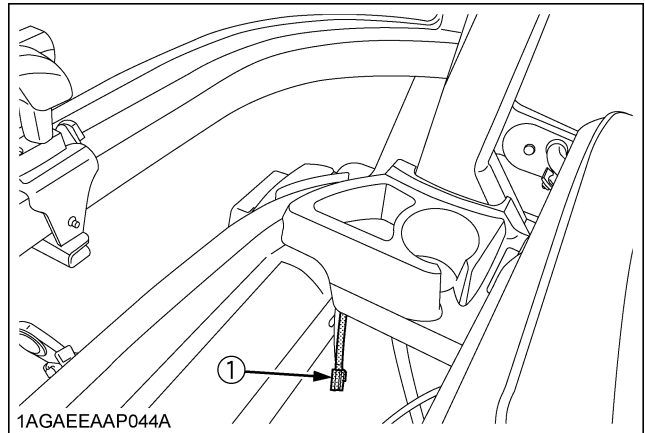
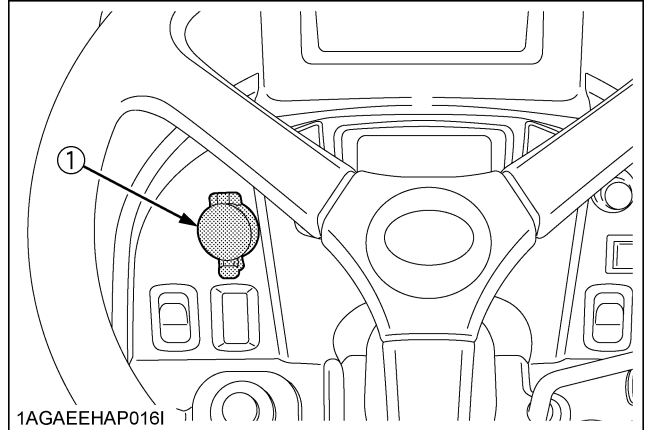
An electrical outlet is supplied for use with implement and electrical equipment .

[ROPS Type]



(1) Accessory electrical outlet (DC 12V, MAX 120W)

[CAB Type]



(1) Accessory electrical outlet (DC 12V, MAX 120W)

PTO

PTO OPERATION



WARNING

To avoid personal injury or death:

- Before operation, be sure to select the correct PTO lever (mid, mid/rear, rear).



WARNING

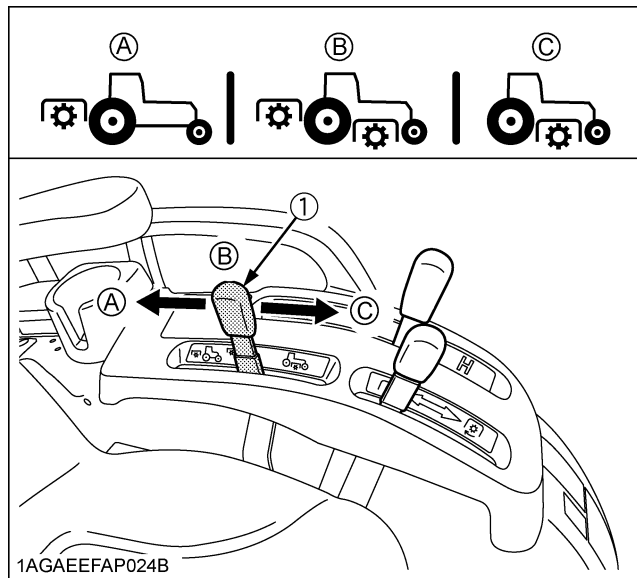
To avoid personal injury or death:

- 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 Select Lever

[B3150]

The tractor has a 540 rpm rear PTO speed and a 2 500 rpm mid-PTO speed.



(1) PTO select lever

(A) Rear-PTO position

(B) Mid-Rear-PTO position

(C) Mid-PTO position

◆ Mid-PTO

To use Mid-PTO, shift the PTO select lever to Mid-PTO position and the PTO clutch lever to the "ON" position.

◆ Mid-Rear PTO

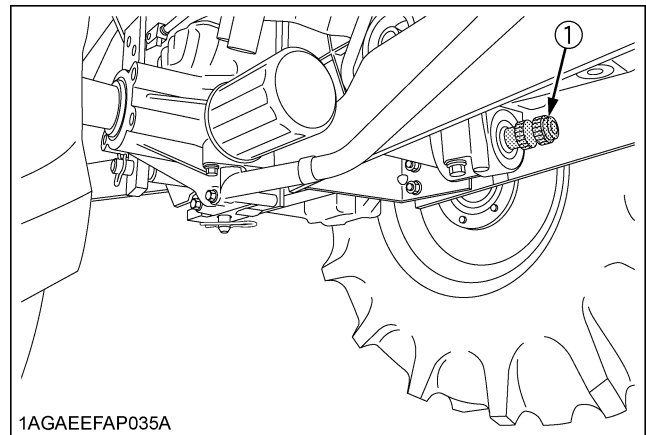
To use mid and rear PTO at the same time, shift the PTO select lever to mid-rear PTO position and the PTO clutch lever to the "ON" position.

◆ Rear PTO

To use rear PTO, shift the PTO select lever to rear PTO position and the PTO clutch lever to the "ON" position.

◆ Mid-PTO

The Mid-PTO is available for KUBOTA approved implements.



(1) Mid-PTO

◆ Mid-PTO

		B3150
Engine speed	rpm	2500
PTO speed	rpm	2500

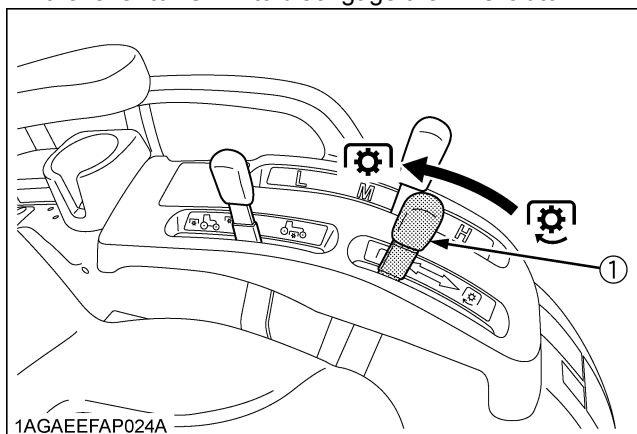
◆ Rear PTO

		B3150
Engine speed	rpm	2398
Shaft		6-spline
PTO speed	rpm	540

■PTO Clutch Lever

[B3150]

1. The PTO clutch lever engages or disengages the PTO clutch which gives the PTO independent control.
2. Shift the lever to "ON" to engage the PTO clutch. Shift the lever to "OFF" to disengage the PTO clutch.



(1) PTO clutch lever

⚙️ "ON" "ENGAGE"

⚙️ "OFF" "DISENGAGE"

IMPORTANT :

- To avoid shock loads to the PTO, reduce engine throttle from high idle to low idle by pushing up on engine throttle when engaging the PTO, then open the throttle to the recommended engine rpm.
- To avoid damage to PTO clutch and implement, shift the PTO clutch lever slowly, when engaging the PTO clutch. Do not keep the PTO clutch lever half way.
- To avoid damage of transmission, when PTO select lever is not smoothly shifted, slightly shift PTO clutch lever.
- To avoid damage of transmission, do not shift PTO select lever until the PTO has stopped completely.

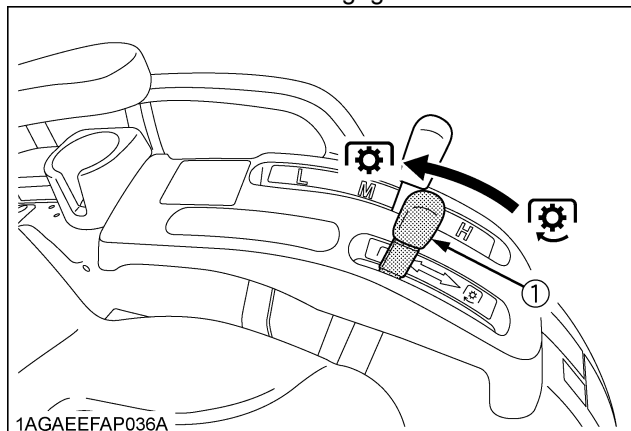
NOTE :

- Tractor engine will not start if the PTO clutch lever is in the engaged "ON" position.
- When you stand up from the seat with the PTO clutch lever in the "ON" position, the engine will stop regardless of the position of the PTO select lever. This is because the tractor is equipped with Operator Presence Control (OPC) system.

■PTO Clutch Lever

[B3150SU]

1. The tractor has a 540 rpm speed position.
2. Shift the lever to "ON" to engage the PTO clutch. Shift the lever to "OFF" to disengage the PTO clutch.



(1) PTO clutch lever

⚙️ "ON" "ENGAGE"

⚙️ "OFF" "DISENGAGE"

IMPORTANT :

- To avoid shock loads to the PTO, reduce engine throttle from high idle to low idle by pushing up on engine throttle when engaging the PTO, then re-engage the engine to high idle.
- To avoid damage to PTO clutch and implement, shift the PTO clutch lever slowly, when engaging the PTO clutch. Do not keep the PTO clutch lever half way.

		B3150SU
Engine speed	rpm	2398
Shaft		6-spline
PTO speed	rpm	540

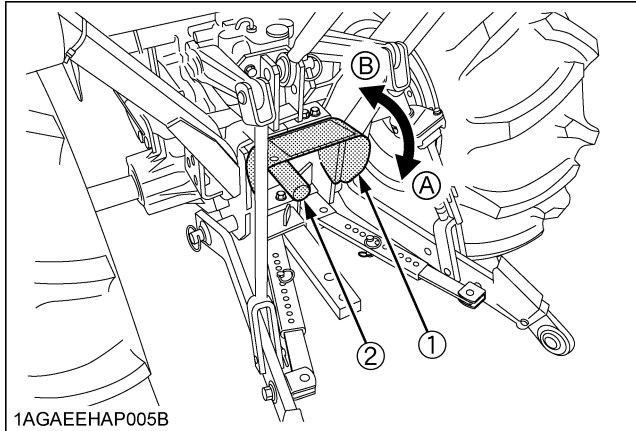
NOTE :

- Tractor engine will not start if the PTO clutch lever is in the engaged "ON" position.
- When you stand up from the seat with the PTO clutch lever in the "ON" position, the engine will stop regardless of the position of the PTO select lever. This is because the tractor is equipped with Operator Presence Control (OPC) system.

■PTO shaft Cover and Shaft Cap

Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the PTO is not in use. Before connecting or disconnecting a drive shaft to PTO shaft, be sure the engine is "OFF" and raise up the PTO shaft cover.

Afterward be sure to return the PTO shaft cover to the "NORMAL POSITION".



- (1) PTO shaft cover
(2) PTO shaft cap

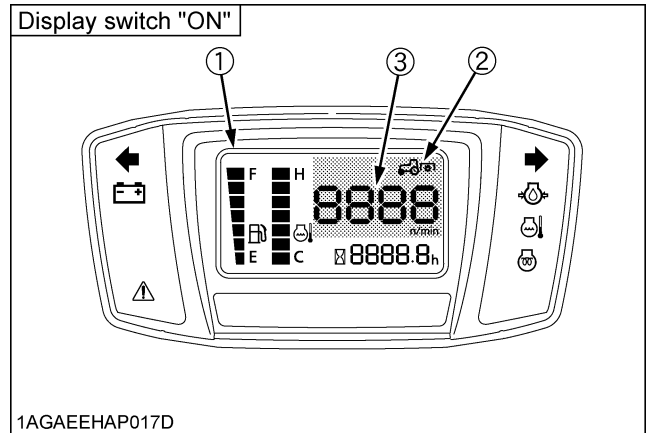
- (A) "NORMAL POSITION"
(B) "RAISED POSITION"

IMPORTANT :

- The universal joint of the PTO drive shaft is technically limited in its moving angle. Refer to the PTO Drive Shaft Instructions for proper use.

■LCD Monitor Message

1. The PTO rpm can be checked in the LCD monitor.
(See "LCD MONITOR" in "OPERATING THE TRACTOR" section.)



- (1) LCD monitor
(2) PTO indicator
(3) PTO speed

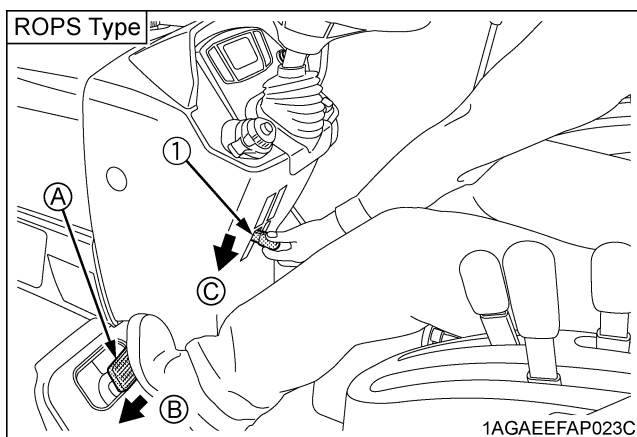
NOTE :

- With the PTO in the "ON" position, a numeric value is displayed on the LCD monitor even if the PTO shaft is not turning.

■ Stationary PTO

To park the tractor and use the PTO system (for chipper or pump, for example), start the PTO system in the following steps.

1. Apply the parking brake and place blocks at the tires.
2. Make sure the shift levers are at NEUTRAL, and start the engine.
3. Set the PTO select lever to rear only position. **[B3150 only]**
4. Set the PTO clutch lever to engage "ON".
5. Set the engine speed to provide recommended rear PTO speed.
6. Get off the tractor.

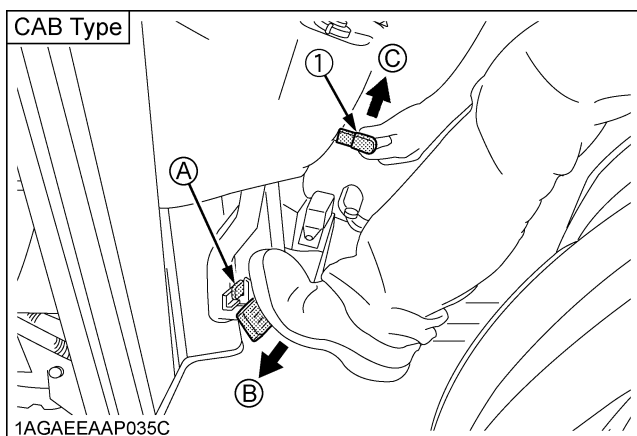


(1) Parking brake lever

(A) Interlock the brake pedals

(B) "DEPRESS"

(C) "PULL DOWN"

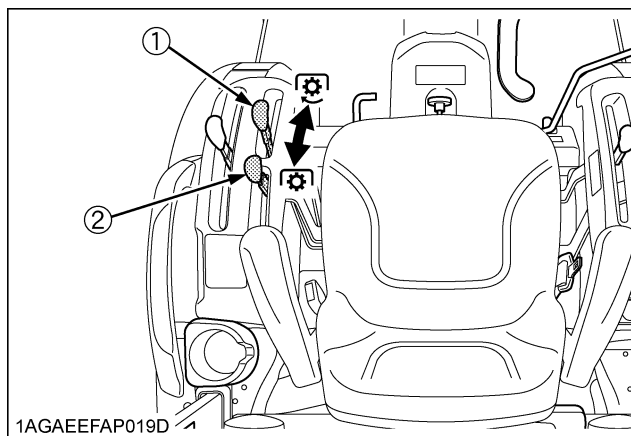


(1) Parking brake lever

(A) Interlock the brake pedals

(B) "DEPRESS"

(C) "PULL UP"



(1) PTO clutch lever

☑ "ON"

(2) PTO select lever

☑ "OFF"

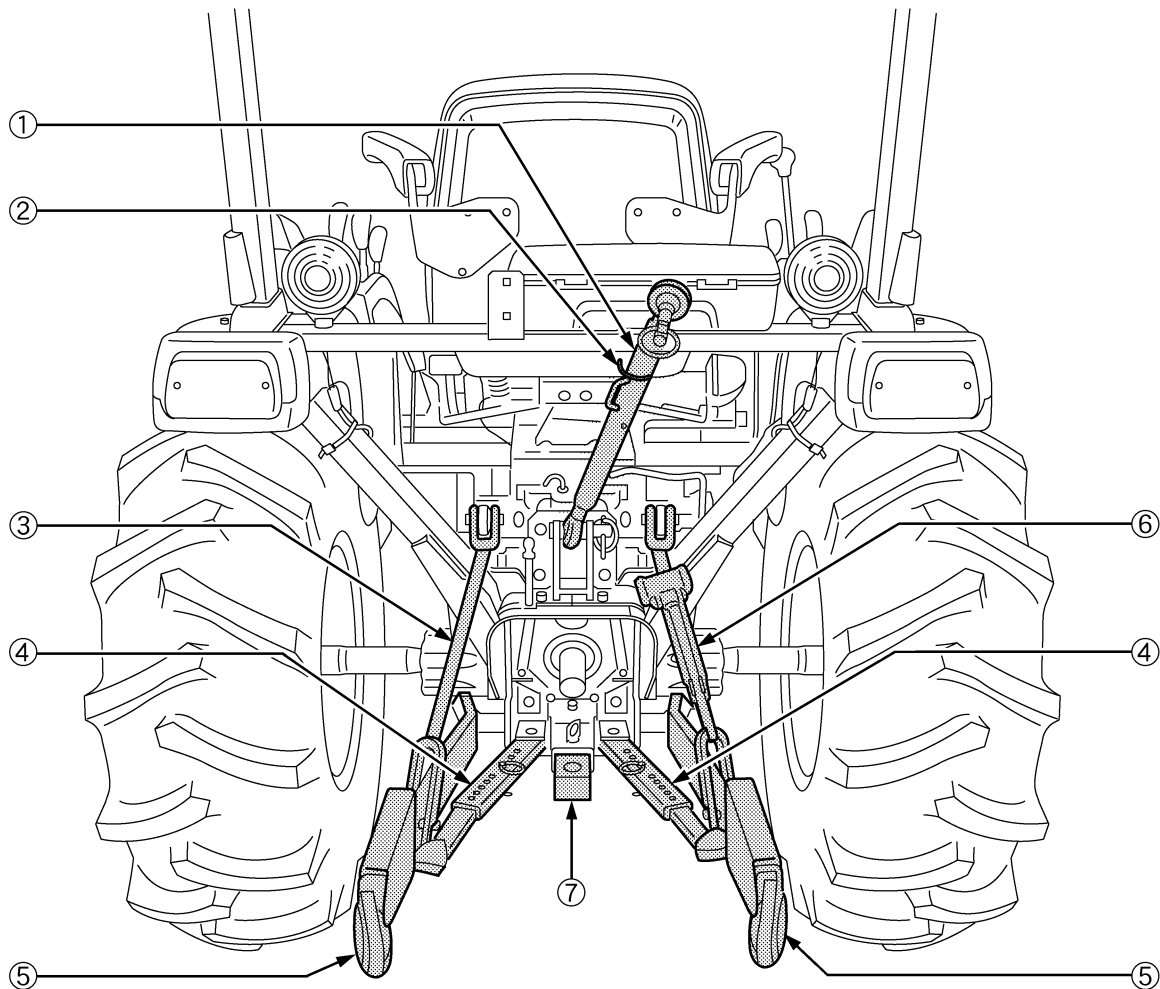
[B3150 only]

NOTE :

- If the PTO system is engaged and you stand up from the seat and release the parking brake, the engine stops automatically after standing up.

3-POINT HITCH & DRAWBAR

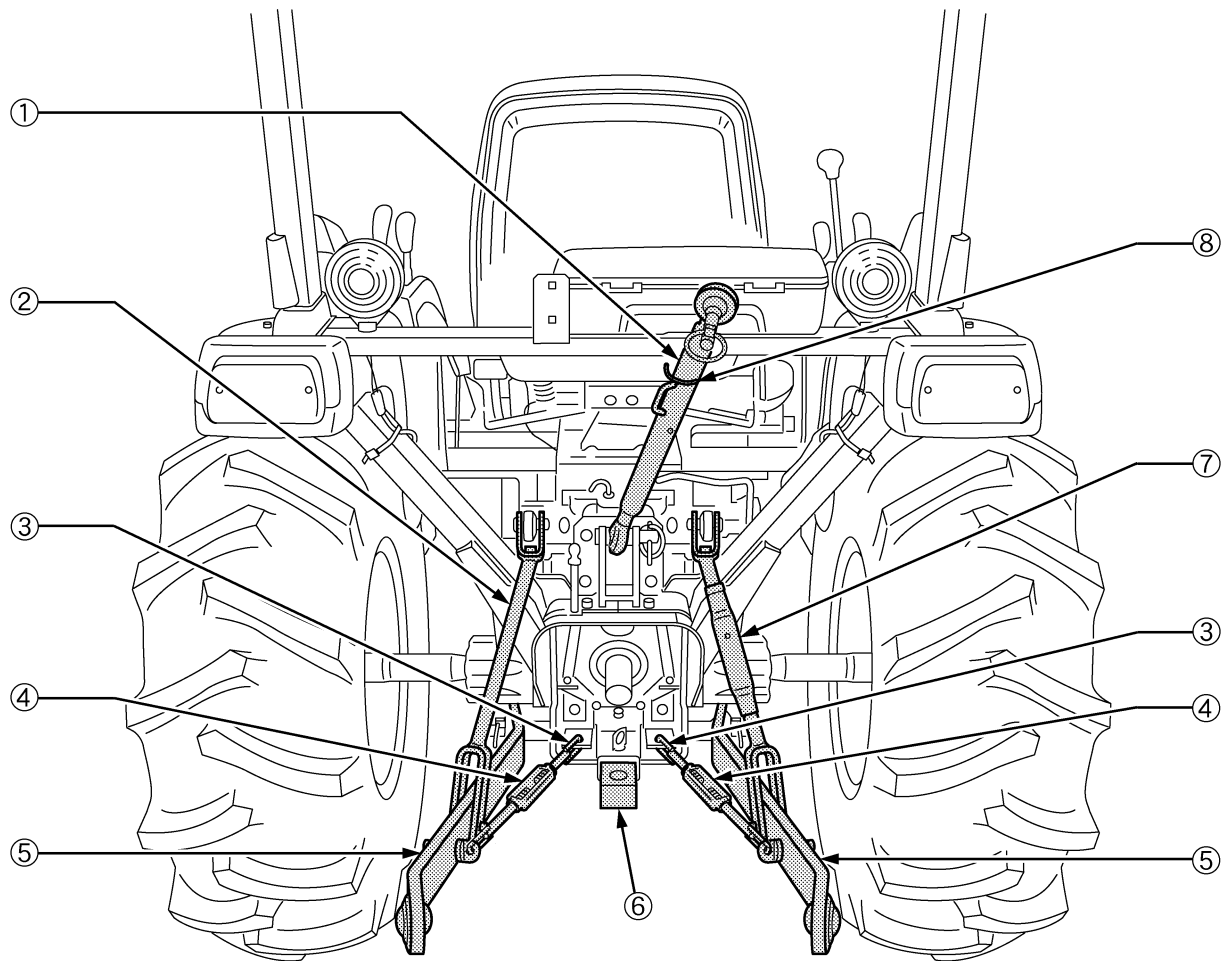
B3150



1AGAEHAP020A

- (1) Top link
- (2) Top link holder
- (3) Lifting rod (Left)
- (4) Telescopic stabilizers
- (5) Lower link (Telescopic type)
- (6) Lifting rod (Right, Ratchet type)
- (7) Drawbar

B3150SU



1AGAEHAP021A

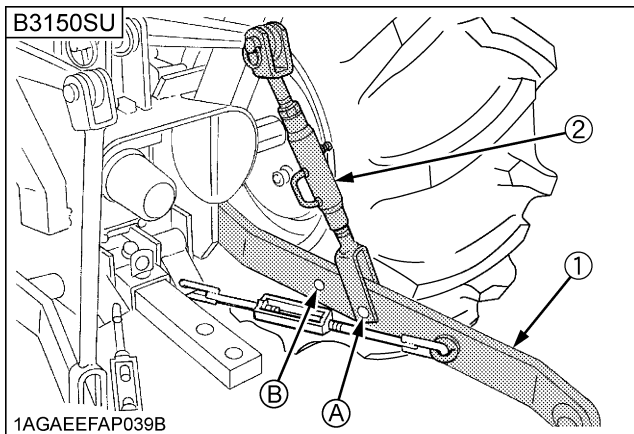
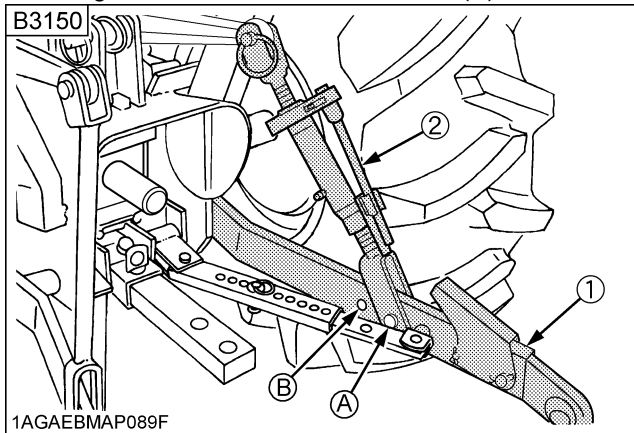
- (1) Top link
- (2) Lifting rod (Left)
- (3) Check chains
- (4) Turnbuckle
- (5) Lower link
- (6) Drawbar
- (7) Lifting rod (Right)
- (8) Top link holder

3-POINT HITCH

1. Make preparations for attaching implement.

■ Selecting the holes of lifting rods and lower links

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



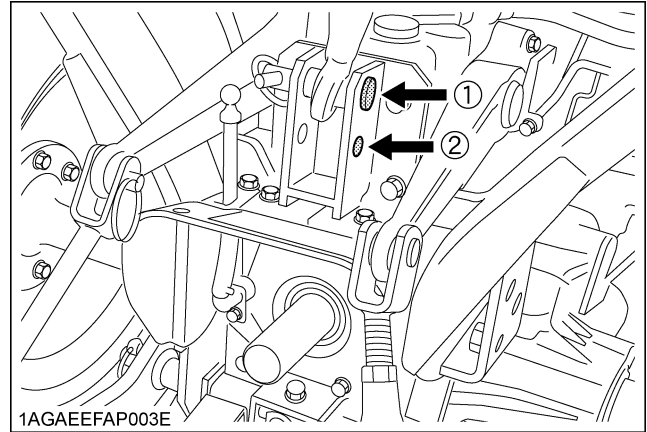
(1) Lower links
(2) Lifting rods
holes: (A), (B)

NOTE :

- The lifting rods may be attached to (B) hole for higher lifting height. (with reduced 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) Mounting hole 1
(2) Mounting hole 2

■ Drawbar

Remove the drawbar if a close mounted implement is being attached.

2. Attaching and detaching implements



WARNING

To avoid personal injury or death:

- Be sure to stop the engine and remove the key.
- Do not stand between tractor and implement unless parking brake is applied.
- Before attaching or detaching implement, locate the tractor and implement on a firm, flat and level surface.
- Whenever an implement or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding or PTO driveline separation.

■Lifting Rod (Right, Ratchet type)

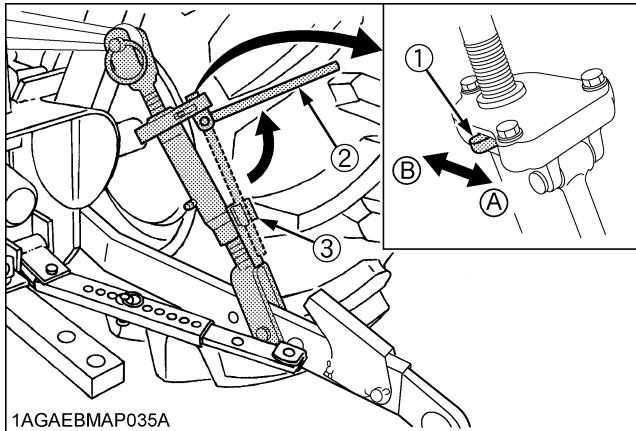
[B3150]

To level a 3-point mounted implement,

1. Press the up and down changing lever.
2. Turn the adjusting handle from side to side to shorten or lengthen the adjustable lifting rod with the implement on the ground.

IMPORTANT :

- After adjustment, be sure to lock the adjusting handle with the handle stopper.



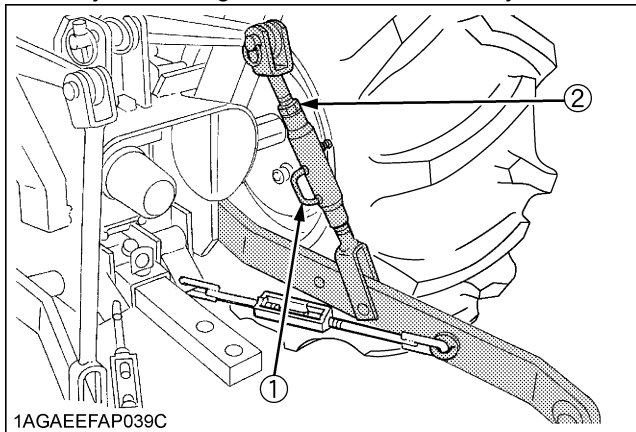
- 1AGAEBMAP035A
- (1) Up and down changing lever (A) To shorten the lifting rod
(2) Adjusting handle (B) To lengthen the lifting rod
(3) Handle stopper

■Lifting Rod (Right)

[B3150SU]

Level a 3-point mounted implement from side to side by turning the adjusting handle to shorten or lengthen the adjustable lifting rod with the implement on the ground.

After adjustment, tighten the lock nut securely.



- 1AGAEFAP039C
- (1) Adjusting handle
(2) Lock nut

■Top Link

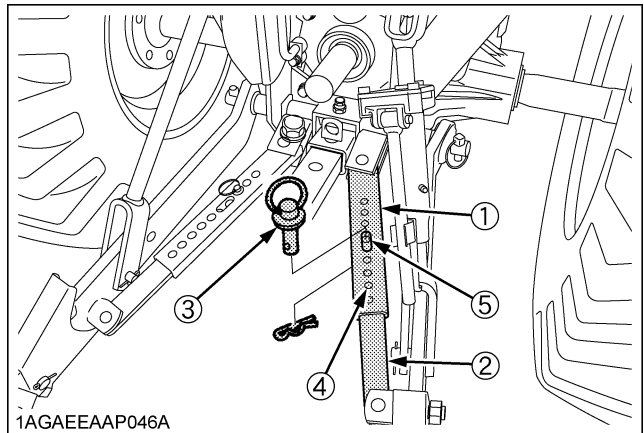
1. Adjust the angle of the implement to the desired position by shortening or lengthening the top link.
2. The proper length of the top link varies according to the type of implement being used.

■Telescopic Stabilizers

[B3150]

Adjust the telescopic stabilizers to control horizontal sway of the implement. Select the proper set of holes by referring to the "Hydraulic Control Unit Use Reference Chart" in "AUXILIARY HYDRAULICS" in "HYDRAULIC UNIT" section.

After aligning satisfactorily, insert the set-pin through any one of the 8 holes on the outer tube that align with one of the holes on the inner bar, both stabilizers will be locked. If the set-pin is inserted through the slot to engage one of the holes on the inner bar, a limited degree of sway will be permitted.



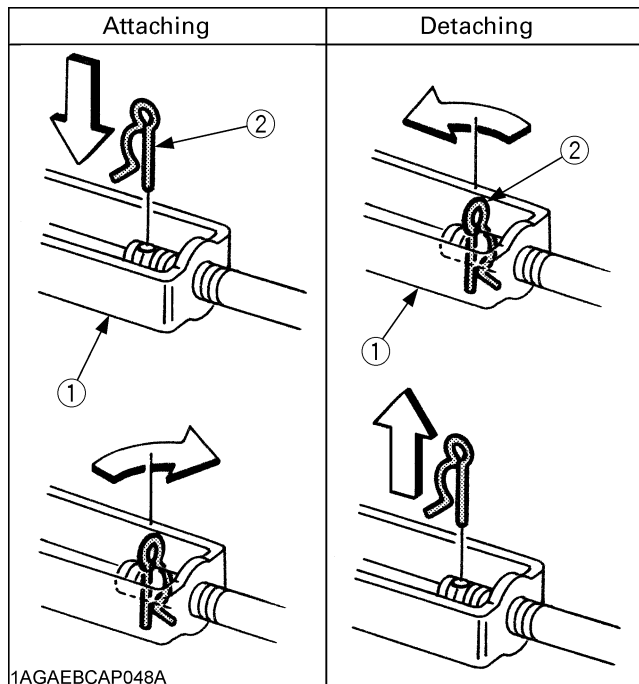
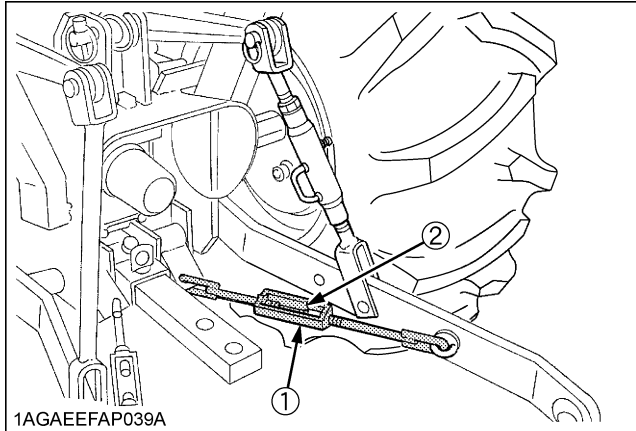
- 1AGAEAAAP046A
- (1) Outer tube
(2) Inner bar
(3) Set-pin
(4) Hole
(5) Slot

■ Check Chains

[B3150SU]

Remove the snap pin and adjust the turnbuckle to control horizontal sway of the implement.

After adjustment, re-set the snap pin.



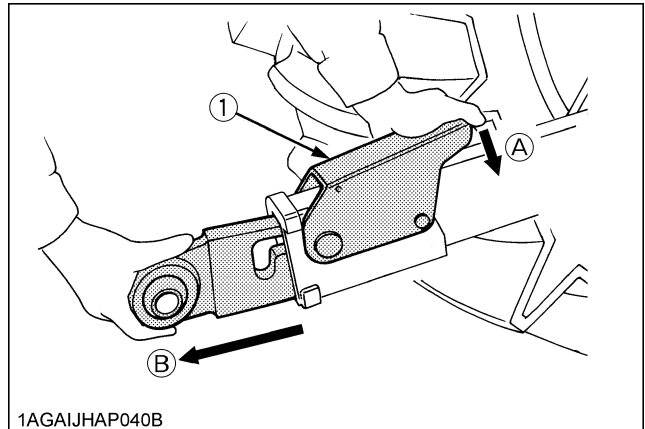
- (1) Turnbuckle
(2) Snap pin

■ Telescopic Lower Links

[B3150]

To attach an implement, follow the instructions below:

1. Push the levers, pull out the lower link ends, and attach to the implement.
2. Back up the tractor slightly to make sure the lower links are pushed in securely.



(1) Lever

(A) "PUSH"

(B) "PULL OUT"

DRAWBAR



WARNING

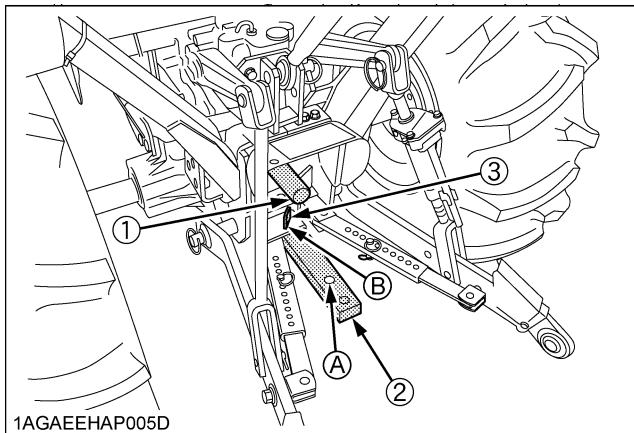
To avoid personal injury or death:

- Never pull from the top link, the rear axle or any point above the drawbar. Doing so could cause the tractor to tip over rearward causing personal injury or death.

■ Adjusting Drawbar Length

When towing an implement, use of (B) hole in drawbar is recommended.

The acceptable drawbar load is provided in the "IMPLEMENT LIMITATIONS" section.



- (1) PTO Shaft cap
(2) Drawbar
(3) Drawbar pin

Hole : (A), (B)

HYDRAULIC UNIT

3-POINT HITCH CONTROL SYSTEM



WARNING

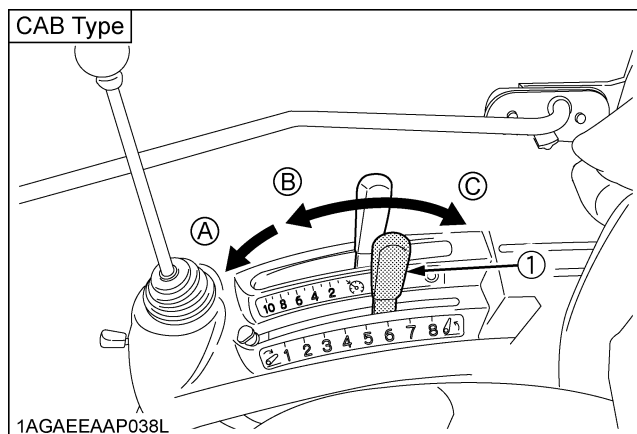
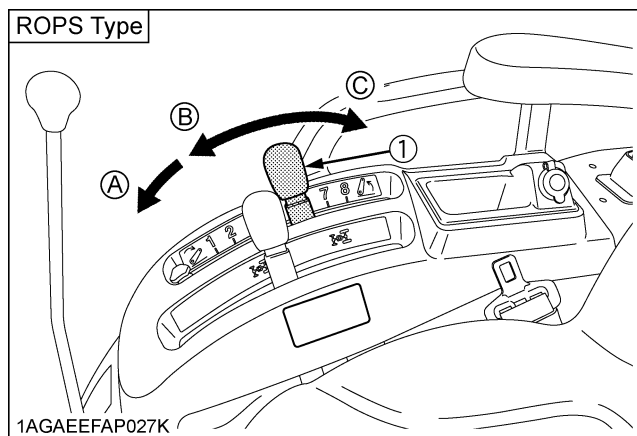
To avoid personal injury or death:

- Before using the 3-point hitch controls, ensure that no person or object is in the area of the implement or 3-point hitch. Do not stand on or near the implement or between the implement and tractor when operating the 3-point hitch controls.

Position Control

[B3150]

This will control the working depth of 3-point hitch mounted implement regardless of the amount of pull required.



(1) Position control lever

(A) "FLOAT"
(B) "DOWN"
(C) "UP"

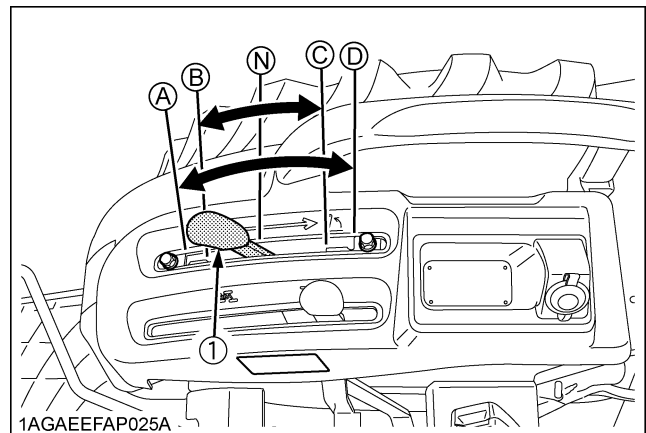
Hydraulic Control

[B3150SU]

Operating the hydraulic control lever actuates the hydraulic lift arm, which controls the height of 3-point hitch mounted implement.

To lower implement, push the lever forward; to raise it, pull the lever back. After setting the implement to the desired height, move the lever back to "NEUTRAL" position.

The lever position (B) or (C) enables you to control the valve with ease in increments of approximately 1/4 inches at the lower link end.



(1) Hydraulic control lever

(A) "DOWN"
(B) "SLOW DOWN"
(N) "NEUTRAL"
(C) "SLOW UP"
(D) "UP"

IMPORTANT :

- If the 3-point hitch can not be raised by setting the hydraulic control lever to the UP position after long term storage or when changing the transmission oil, turn steering wheel to the right and left several times to bleed air from the system.
- Do not operate until the engine is warmed up. If operation is attempted when the engine is still cold, the hydraulic system may be damaged.
- If noises are heard when implement is lifting after the hydraulic control lever has been activated, the hydraulic mechanism is not adjusted properly. Unless corrected, the unit will be damaged. Contact your KUBOTA Dealer for adjustment.

3-point Hitch Lowering Speed

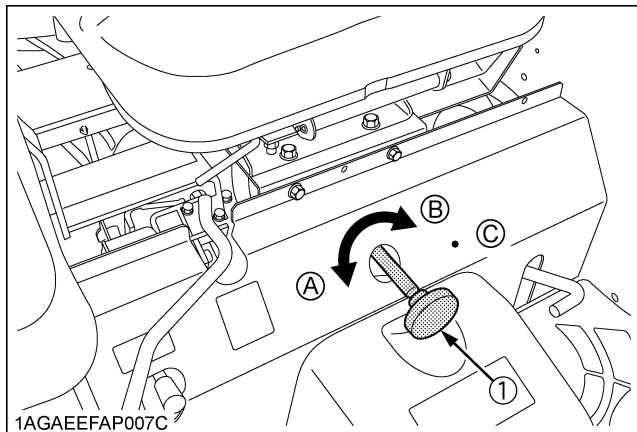


WARNING

To avoid personal injury or death:

- Fast lowering speed may cause damage or injury. Lowering speed of implement should be adjusted to 2 or more seconds.

The lowering speed of the 3-point hitch can be controlled by adjusting the 3-point hitch lowering speed knob.



(1) 3-Point hitch lowering speed knob

(A) "FAST"
(B) "SLOW"
(C) "LOCK"

AUXILIARY HYDRAULICS

Hydraulic outlet (rear) is provided on the tractor.

Hydraulic Block Type Outlet

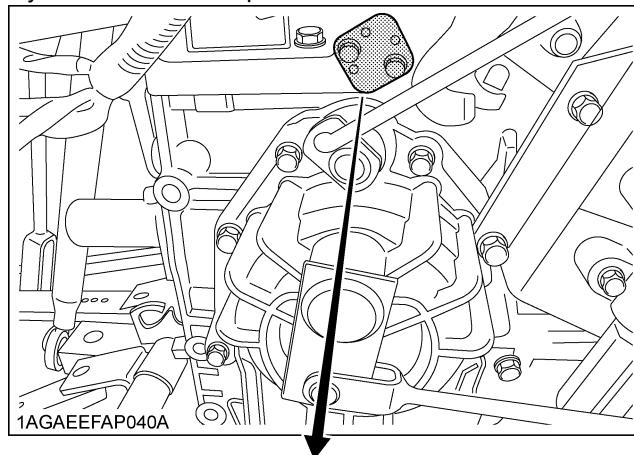
Hydraulic block type outlet is useful when adding hydraulically operated equipment such as front end loader, front blade, etc.

When an implement is attached

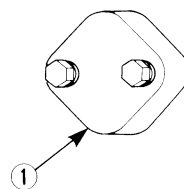
1. Remove the block cover.
2. Attach the block outlet cover. (option)

[Rear outlet]

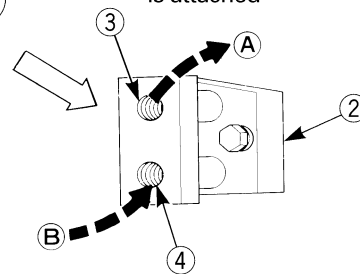
Hydraulic outlets are provided on the tractor.



When implement
is not attached



When implement
is attached



1AGAEBCAP055A

- (1) Block cover
(2) Block outlet cover (option)
(3) Outlet
(4) Inlet

(A) To implement inlet
Max. flow
20.1 L/min
(5.3 U.S.gals./min)
Max. pressure
15.8 to 16.6 MPa
(161 to 169 kgf/cm²)
(2292 to 2408 psi)
(B) from implement outlet

NOTE :

- If the implement control valve has a relief valve, the tank port flow from implement should be connected to the port located on the right hand side of transmission case.

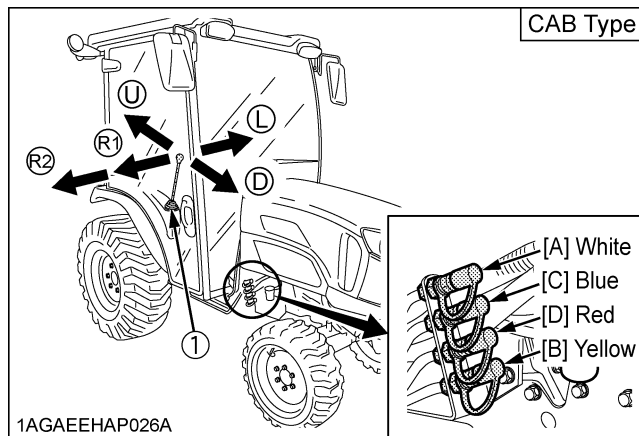
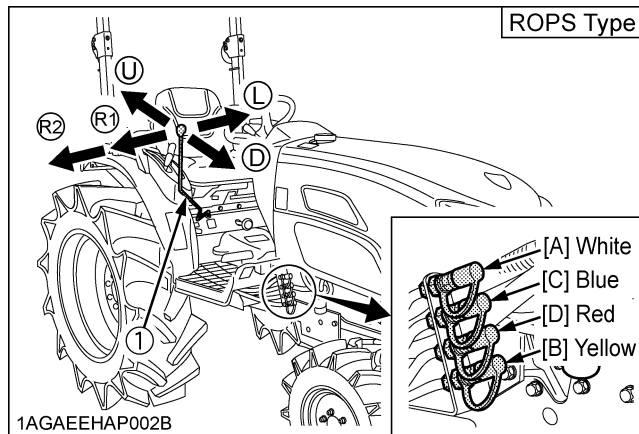
DUAL REMOTE HYDRAULIC CONTROL SYSTEM

The tractor is equipped with the double-acting 2-segment hydraulic control valve for the front loader.

To apply the hydraulic power take-off for general attachments, keep the following point in mind.

Control Lever and Hydraulic Hose Connections

Connect the control lever in its specified direction and the hydraulic hoses to their specified ports.



(1) Loader / Remote control valve lever (R) "RIGHT"
(L) "LEFT"
(U) "UP"
(D) "DOWN"

Hydraulic outlet ports of first segment

Pressure →
Returning ←

Lever		UP		DOWN	
Port	[A]	In	←	Out	→
	[B]	Out	→	In	←

Hydraulic outlet ports of second segment

Lever		RIGHT		LEFT	
Port	[C]	In	←	Out	→
	[D]	Out	→	In	←

IMPORTANT :

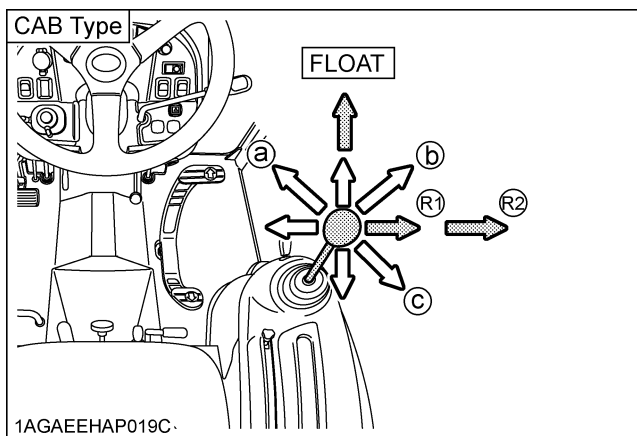
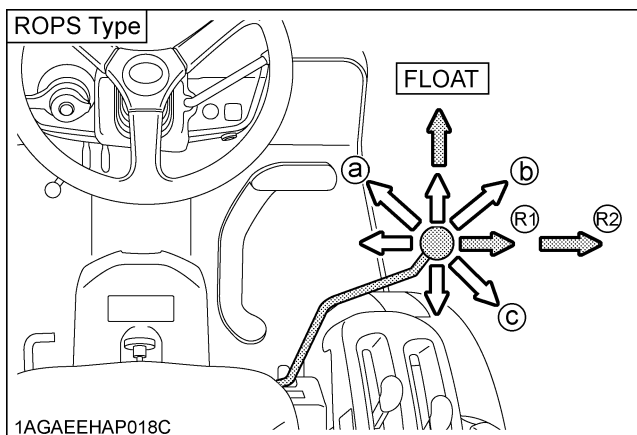
To avoid damage of the attachments:

- Do not connect attachments through the hydraulic motor to the [C] and [D] ports. If the control lever is moved to the Regeneration position (R1), the seals on the hydraulic motor will be damaged.
- This control valve is provided with the Regeneration position. When the [C] and [D] ports are used to take off hydraulic power for the hydraulic cylinder, be sure to connect the [C] port to the "Head-End" side port of the hydraulic cylinder.
- Make the following connections when using this valve to take off hydraulic power for the hydraulic cylinder.

Colored Coupler	Hydraulic Cylinder port
[B: Yellow], [C: Blue]	Head-End side
[A: White], [D: Red]	Rod-End side

■ Loader / Remote Control Valve Lever

1. Before moving the lever, make sure that the hydraulic hoses for attachments are connected.
2. Move the lever diagonally (a, b, c shown in the figure), and the first and second segments can be controlled simultaneously.



NOTE :

- Move the lever to the "FLOAT" position, and it will be held there by the detent mechanism. To use the valve as a floating valve with detents, connect the hydraulic hoses to ports [A] and [B].
- When taking off hydraulic power from port [D], the flow rate can be adjusted in 2 stages with the lever. The flow rate is high at position (R1) and low at position (R2). Move the lever to position (R1) or (R2) depending on the attachment in use.

■ Valve Lock

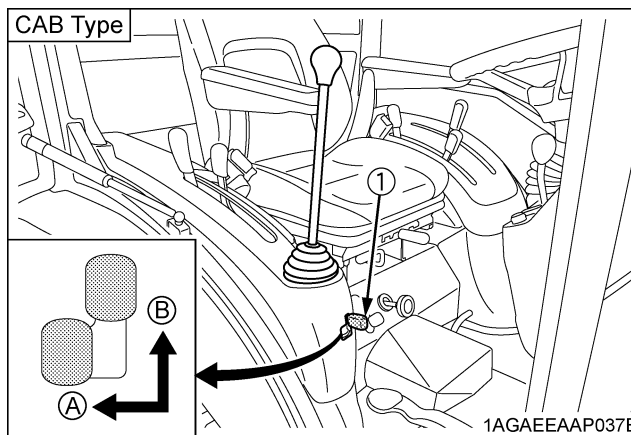
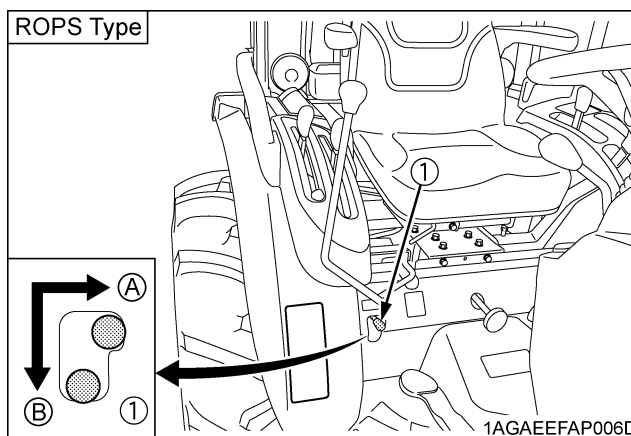


WARNING

To avoid injury or death from crushing:

- Do not utilize the valve lock for machine maintenance or repair.
- The valve lock is to prevent accidental actuation when implement is not in use or during transport.

The control valve is equipped with a valve lock feature. The control valve is locked in the "LOCK" position. The lock is not intended and will not prevent a leak down of the implement during the period of storage.

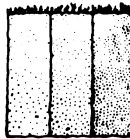
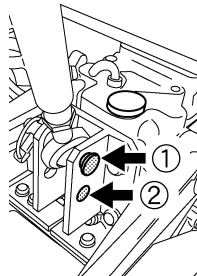
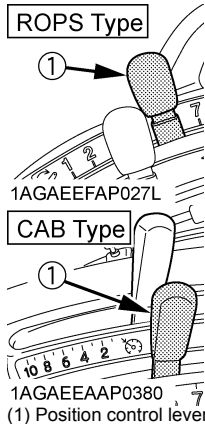
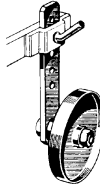
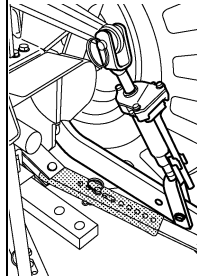
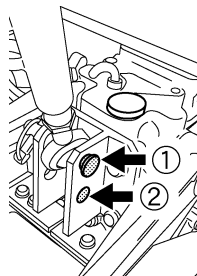
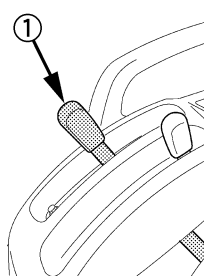
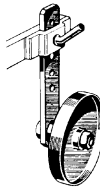
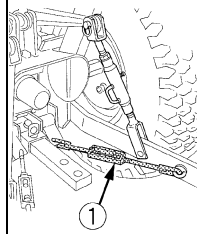


(1) Lock lever

(A) "UNLOCK"
(B) "LOCK"

■Hydraulic Control Unit Use Reference Chart

In order to handle the hydraulics properly, the operator must be familiar with the following. Though this information may not be applicable to all types of implements and soil conditions, it is useful for general conditions.

Implement	B3150					
	 1AGAIAZAP122A Soil condition	 1AGAEAAAP030B Top link mounting holes	 ROPS Type 1AGAEFAP027L CAB Type 1AGAEAAAP0380 (1) Position control lever	 1AGAIAZAP070A Gauge wheel	 1AGAEAAAP029C Telescopic stabilizers	Remarks
	B3150SU					
	 1AGAIAZAP122A Soil condition	 1AGAEAAAP030B Top link mounting holes	 1AGAECHAP022C (1) Hydraulic control lever	 1AGAIAZAP070A Gauge wheel	 1AGAEBCAP060A (1) Check chains	Remarks
Moldboard plow	Light soil Medium soil Heavy soil	Hole1	[B3150] Position control [B3150SU] Hydraulic control	YES/NO	Loose	[B3150] Insert the set-pin through the slot on the outer tube that align with one of the holes on the inner bar.
Disc plow	---					[B3150SU] Adjust the check chains so that the implement can move 5 to 6 cm (2.0 to 2.4 in.) laterally.
Harrower (spike, springtooth, disc type)	---					For implements with gauge wheels, lower the implements to the ground.
Sub-soiler						
Weeder, ridger						
Earthmover, digger, scraper, manure fork, rear carrier	---	*Hole2 is used only when there is some obstacle that prevents you from using the hole1.	YES	Tighten	[B3150] Telescopic stabilizer should be tight enough to prevent excessive implement movement when implement is in raised position.	
Mower (mid-and rear-mount type), hayrake, tedder..			YES/NO		[B3150SU] Check chains should be tight enough to prevent excessive implement movement when implement is in raised position. For implements with gauge wheels, lower the implements to the ground.	

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.

■ 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.

	Tire sizes	Inflation Pressure
Rear	12.4-16, 4PR	120 kPa (1.2 kgf/cm ² , 17 psi)
	13.6-16, 4PR	100 kPa (1.0 kgf/cm ² , 14 psi)
	12.4-16Ind, 4PR	138 kPa (1.4 kgf/cm ² , 20 psi)
Front	7-12, 4PR	160 kPa (1.6 kgf/cm ² , 23 psi)
	24x8.50-12, 4PR	160 kPa (1.6 kgf/cm ² , 23 psi)
	23x8.50-14Ind, 4PR	241 kPa (2.5 kgf/cm ² , 35 psi)

NOTE :

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

■ 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

Front tread width can not be adjusted.

IMPORTANT :

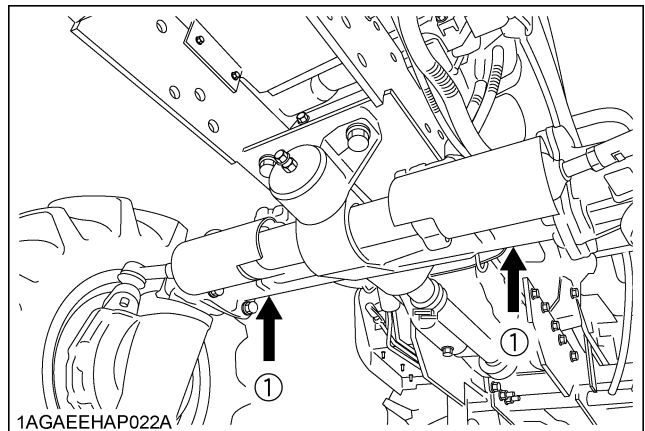
- Do not turn front discs to obtain wider tread. In setting up the front wheels, make sure that the inflation valve stem of the tires face outward.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200 m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval. (See "MAINTENANCE" section.)



WARNING

To avoid personal injury or death:

- Before jacking up the tractor, park it on a firm and level ground and chock the rear wheels.
- Fix the front axle to keep it from swinging.
- Select jacks that withstand the machine weight and set them up as shown below.



(1) Jack point

■ Rear Wheels

Rear tread width can not be adjusted.

IMPORTANT :

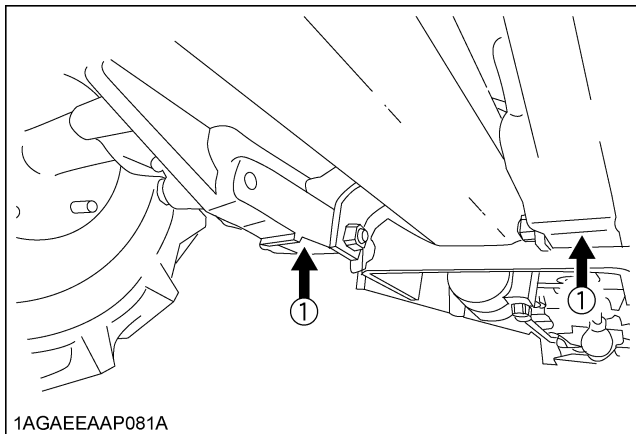
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200 m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval. (See "MAINTENANCE" section.)



WARNING

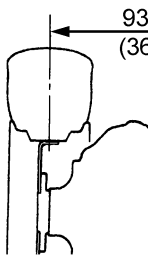
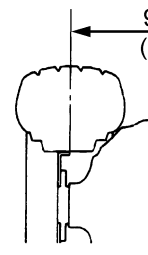
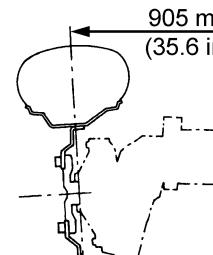
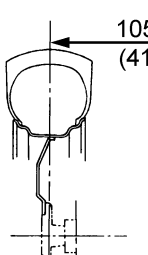
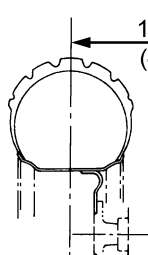
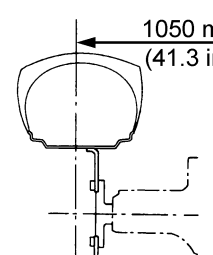
To avoid personal injury or death:

- Before jacking up the tractor, park it on a firm and level ground and chock the front wheels.
- Fix the front axle to keep it from swinging.
- Select jacks that withstand the machine weight and set them up as shown below.



(1) Jack point

Treads

Front	7-12 Farm	24x8.50-12 Turf	23x8.50-14 Ind.
	 935 mm (36.8 in.) 1AGAEBMAP024A	 980 mm (38.6 in.) 1AGAEBMAP025E	 905 mm (35.6 in.) 1AGAEBMAP026A
Rear	12.4-16 Farm	13.6-16 Turf	12.4-16 Ind
	 1050 mm (41.3 in.) 1AGAEBMAP027A	 1050 mm (41.3 in.) 1AGAEBMAP028A	 1050 mm (41.3 in.) 1AGAEBMAP029A

BALLAST



WARNING

To avoid personal injury or death:

- Additional ballast will be needed for transporting heavy implements. When the implement is raised, drive slowly over rough ground, regardless of how much ballast is used.
- Do not fill the front wheels with liquid.

Front Ballast

Add weights if needed for stability and improving traction. Heavy pulling and heavy rear mounted implements tend to lift front wheels. Add enough ballast to maintain steering control and prevent tip over.

Remove weight when no longer needed.

Front End Weights (option)

The front end weights can be attached to the bumper. See your implement operator's manual for required number of weights or consult your local KUBOTA Dealer to use.

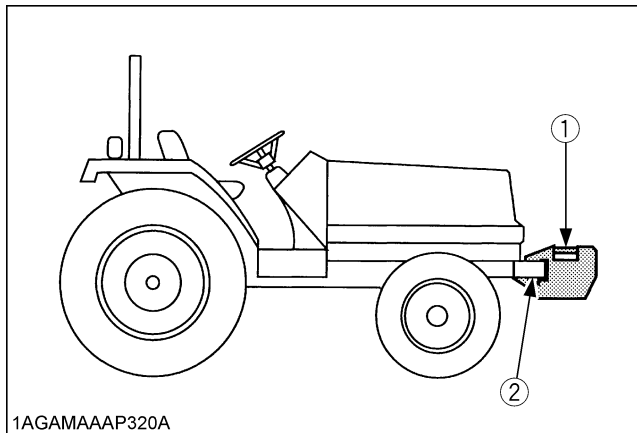
NOTE :

[For installation of up to 3 weights]

- Besides the weight, mounting bolt kit(s) are required for mounting the weight.

[For installation of up to 5 weights]

- Besides the weight, a front weight bracket and mounting bolt kit(s) are required for mounting the weight.



- (1) Front end weights
(2) Front weight bracket (option)

IMPORTANT :

- Do not overload tires.
- Add no more weight than indicated in chart.

Maximum weight	25 kg x 5 pieces (125 kg)
----------------	---------------------------

Rear Ballast

Add weight to rear wheels if needed to improve traction or for stability. The amount of rear ballast should be matched to job and the ballast should be removed when it is not needed.

The weight should be added to the tractor in the form of liquid ballast.

Liquid Ballast in Rear Tires

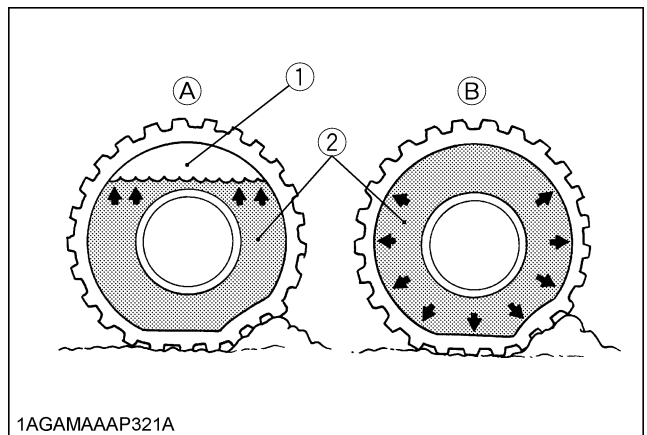
Water and calcium chloride solution provides safe economical ballast. Used properly, it will not damage tires, tubes or rims. The addition of calcium chloride is recommended to prevent the water from freezing. Use of this method of weighting the wheels has the full approval of the tire companies. See your tire dealer for this service.

Liquid weight per tire (75 Percent filled)

Tire sizes	12.4 - 16
Slush free at -10 °C (14 °F) Solid at -30 °C (-22 °F) [Approx. 1 kg (2 lbs.) CaCl ₂ per 4 L (1 gal) of water]	85 kg (187 lbs.)
Slush free at -24 °C (-11 °F) Solid at -47 °C (-52 °F) [Approx. 1.5 kg (3.5 lbs.) CaCl ₂ per 4 L (1 gal) of water]	89 kg (196 lbs.)
Slush free at -47 °C (-52 °F) Solid at -52 °C (-62 °F) [Approx. 2.25 kg (5 lbs.) CaCl ₂ per 4 L (1 gal) of water]	94 kg (207 lbs.)

IMPORTANT :

- Do not fill tires with water or solution more than 75% of full capacity (to the level of valve stem at 12 o'clock position).



- (1) Air
(2) Water

- (A) Correct : 75% Full
Air compresses like a cushion
(B) Incorrect : 100% Full
Water can not be compressed

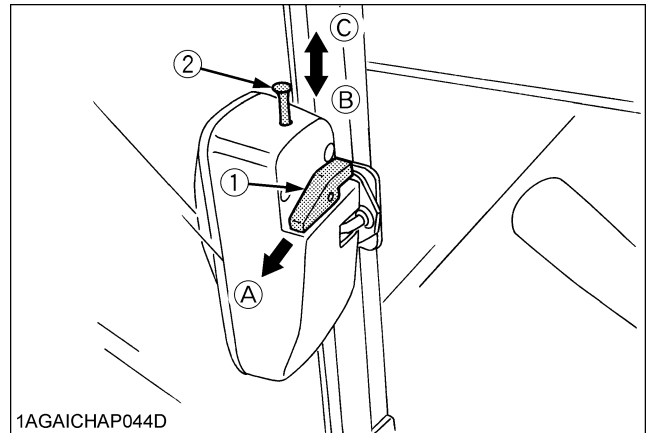
CAB OPERATION

DOOR AND WINDOW

■ Locking and Unlocking the Door

From the outside Insert the key into the door lock. Turn the key clockwise to unlock the door. To lock the door, turn the key in the opposite direction. The key can be removed when it is in the vertical direction.

From the inside Push down the lock knob to lock the door. Pull up the lock knob to unlock the door.

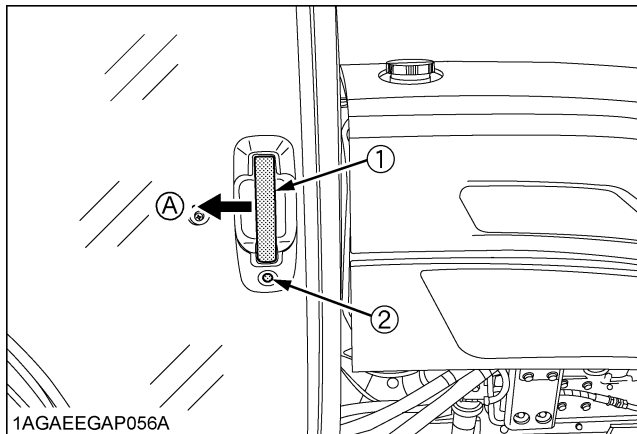


(1) Inner door handle
(2) Lock knob

(A) "PULL"
(B) "PUSH" (Lock)
(C) "PULL" (Unlock)

■ Opening the Door

From the outside Unlock the door, and pull the outer door handle.



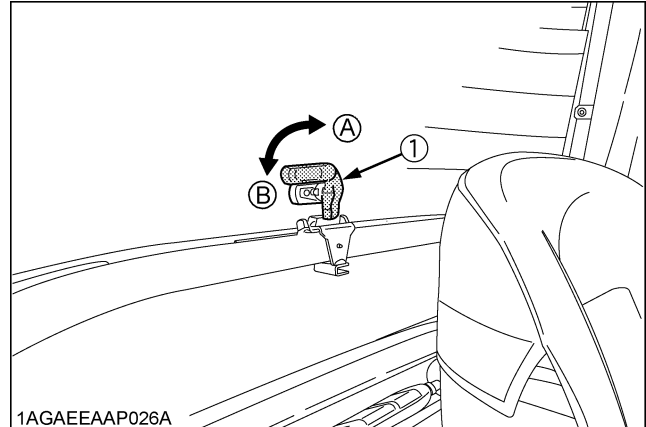
(1) Outer door handle
(2) Door lock

(A) "PULL"

From the inside Unlock the door and pull the inner door handle.

■ Rear Window

Turn the rear window handle clockwise to the vertical position and push the handle. The rear window is opened by the gas spring cylinder.

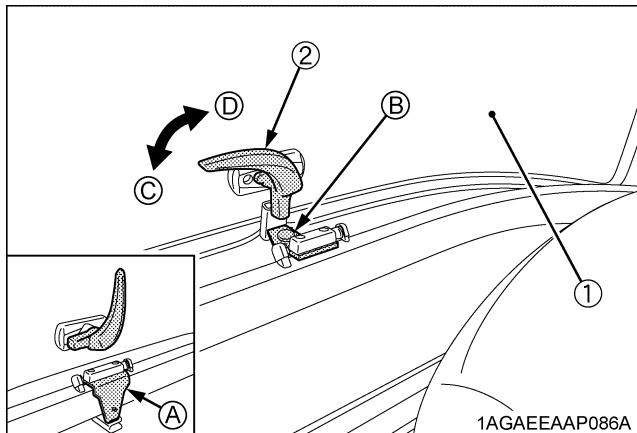


(1) Rear window handle

(A) "OPEN"
(B) "CLOSE"

■Rear Window Half-Lock

1. Grip the rear window handle (2) and slightly open the rear window (1).
2. Adjust the half-lock bracket to the set position (B).
3. Move back the rear window (1) a little and get the rear window handle (2) locked.



(1) Rear window
(2) Rear window handle

(A) Half-lock bracket
(Storage position)
(B) Half-lock bracket
(Set position)
(C) "LOCK"
(D) "UNLOCK"

IMPORTANT :

- When handling the half-lock mechanism, hold up the window just before being positioned and then slowly get it in position.
- Be careful not to travel the machine in the half-lock mode on rough roads.

■Emergency Exit

1. Open the right door of the cab if the left door is blocked, and vice versa in an emergency situation.
2. Exit through rear window if CAB doors are blocked in an emergency situation.

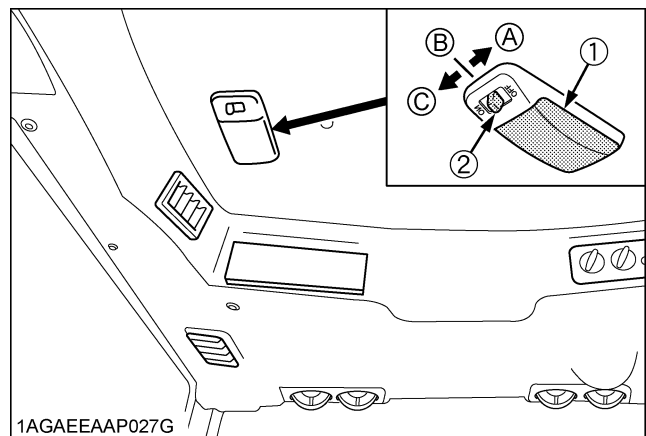
DOME LIGHT

■Dome Light

Sliding the dome light switch will give the following light condition:

OFF The light does not turn on.

ON The light remains on.



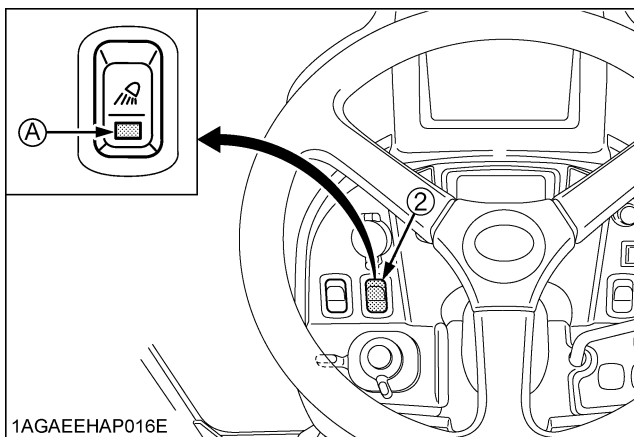
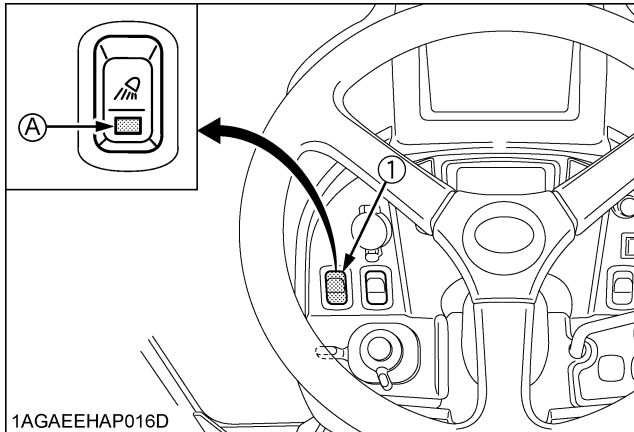
(1) Dome light
(2) Dome light switch

(A)(B) "OFF"
(C) "ON"

WORK LIGHT

■ Work Light Switch

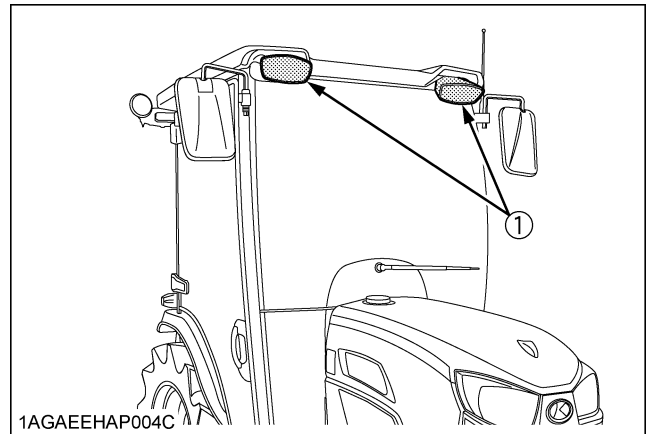
Turn on the key switch and press the top half of the work light switch. The work light and the switch's indicator light up. Press the bottom half of the work light switch to turn off the light and indicator.



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

(A) Indicator for work lights

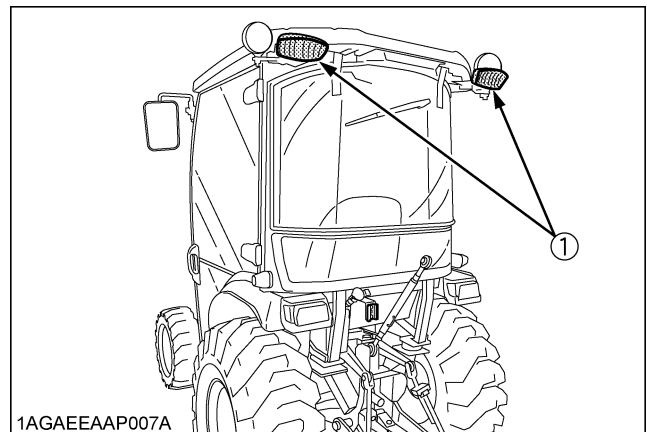
■ Front Work Light



(1) Front work light

■ Rear Work Light

(if equipped)



(1) Rear work light

WIPER

■ Front Wiper / Washer Switch

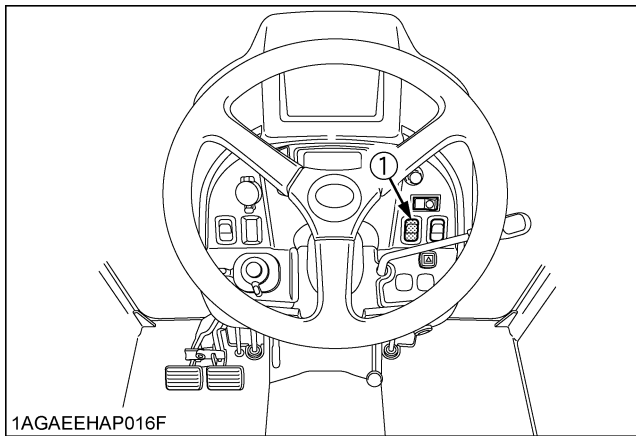
When the button marked  is pressed to the first step, the wiper only is activated.

When the button is pressed further to the second step, washer fluid jets out.

The washing continues while the button is pressed and wiper is activated continuously. (Washer fluid jets out to the rear window also.)

Hold down the bottom half of the switch when the front wiper is off, and washer fluid will keep jets out.

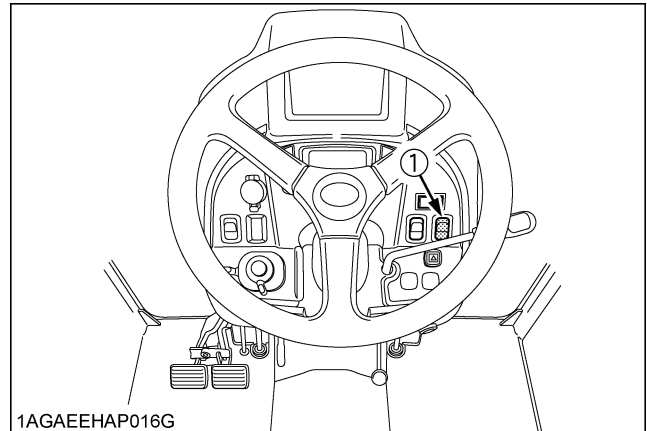
To wet the glass before activating the wipers, press the bottom half of the switch. (Washer fluid jets out to the rear window also.)



(1) Front wiper / washer switch

■ Rear Wiper Switch

1. Press the upper half of the wiper switch, and the wiper is activated. Press the lower half of the wiper switch, and the wiper stops at the initial position.
2. To jet washer fluid, push the front wiper / washer switch. (Washer fluid jets out to the front window also.)



(1) Rear wiper switch

IMPORTANT :

- Do not activate the wipers when the windows are dry, they may be scratched.
Be sure to jet washer fluid first and then activate the wipers.

■ Using the Wipers in Cold Season

1. While not used in cold season, keep the wiper blades off the windshield to prevent them from sticking with ice.
2. If the windshield is covered with snow, scrape it off the windshield before using the wipers.
3. If the wiper blades are stuck on the windshield with ice and fail to move, be sure to turn the main key switch to "OFF" and remove the ice off the blades. Then place the main key switch back to "ON".
4. When commercially available cold-season wiper blades are used, make sure their size is the same as or smaller than that of the standard ones.

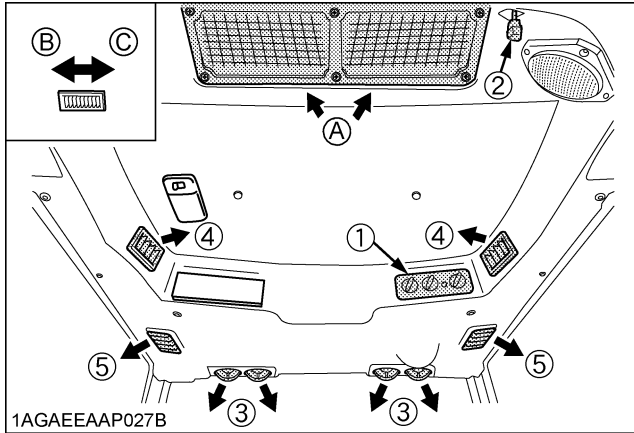
IMPORTANT :

- In cold season, the wiper blades and the wiper motor might get overloaded causing damage. To avoid this, be sure to take the above precautions.

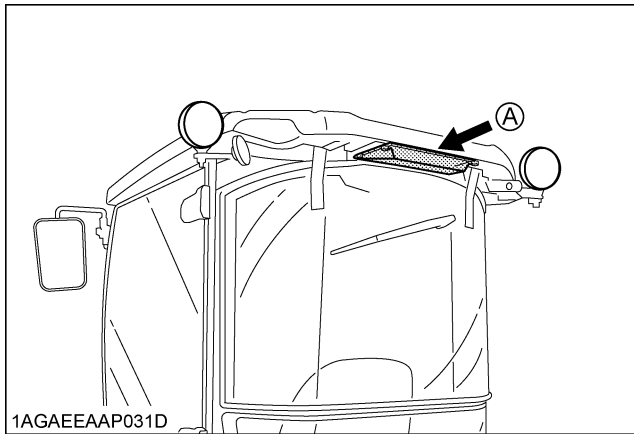
AIR CONDITIONER

■ Airflow

Air in the CAB and fresh air introduced into the CAB flow as shown below. Adjust the air ports to obtain the desired condition.



- | | |
|---|-----------------------------|
| (1) Control panel | (A) Inner air recirculation |
| (2) Recirculation / Fresh air selection lever | (B) "OPEN" |
| (3) Front air outlet (defrost, windshield, foot area) | (C) "SHUT" |
| (4) Side air outlet (face, back area) | |
| (5) Door air outlet (door area) | |

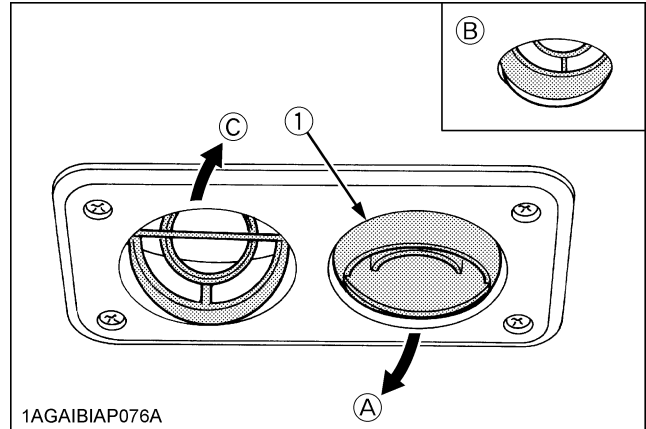


(A) Fresh air inlet

■ Air Control Vent

◆ Front air outlet

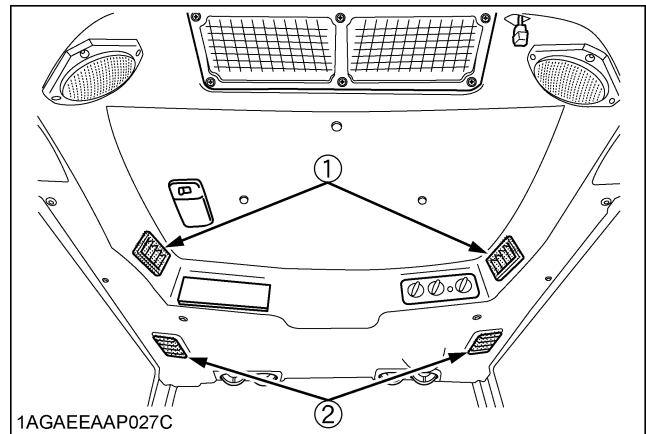
The front air outlets can be independently adjusted as required. To defrost the windshield, rotate the outlets toward the windshield.



- | | |
|----------------------|------------------|
| (1) Front air outlet | (A) "WINDSHIELD" |
| | (B) "CLOSED" |
| | (C) "CHEST AREA" |

◆ Side air outlet and door air outlet

The side and door air outlets can be adjusted to direct air on to the operator, door window or the rear of the CAB.



- | |
|---------------------|
| (1) Side air outlet |
| (2) Door air outlet |

NOTE :

- If the airflow rate at the face is too low, close the front air outlet.



CAUTION

To avoid personal injury;

- Replace the water hoses every 2 years.
- Daily inspection

Have the tractor repaired immediately if any of the following defects are discovered.

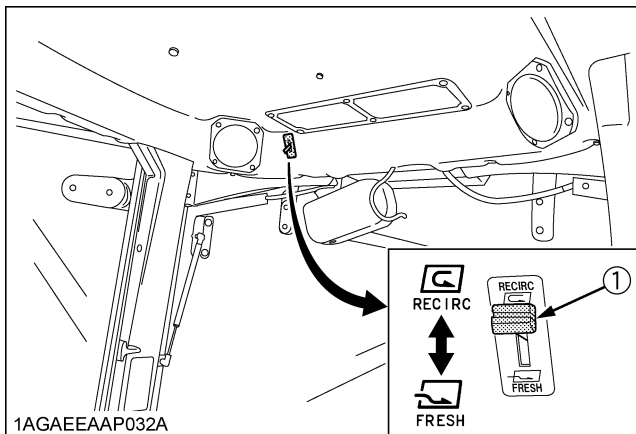
(Such defects may cause burns or injury. They may also cause engine seizure or other serious failure.)

- Scratches, cracks or swelling in water hoses.
- Water leakage at water hose joints.
- Missing or damaged water hose protective wrap or grommets.
- Loose mounting bolts, damaged brackets.
- Do not touch the water hoses and the heater with your hand. You may get burned.
- If the window fails to defrost in extreme conditions or becomes cloudy when dehumidifying the CAB, wipe off moisture with a soft cloth.
- Do not block all the air outlets of the air conditioner. A problem could occur.

◆ Recirculation / fresh air selection lever

FRESH AIR: Set the lever to the  position, and fresh air will flow into the CAB. This is helpful when you work in dusty conditions or if the glass windows get foggy.

RECIRCULATION: Set the lever to the  position, and the in-CAB air will be recirculated. This is useful for cooling or heating the CAB quickly or keeping it extra cool or warm.



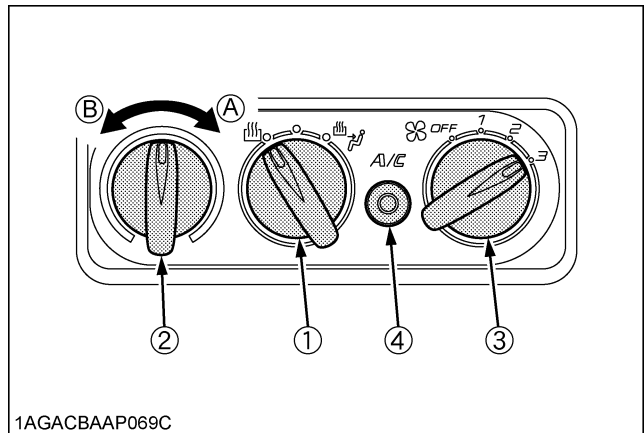
(1) Recirculation / fresh air selection lever

 "FRESH AIR"
 "RECIRCULATION"

NOTE :

- When heating, do not keep the lever at the "RECIRCULATION" position for a long time. The windshield easily gets foggy.
- While working in a dusty conditions, keep the lever at the "FRESH AIR" position. This increases the pressure in the CAB, which helps prevent dust from coming into the CAB.

■ Control Panel



1AGACBAAP069C

- | | |
|---|------------|
| (1) Mode switch | (A) "WARM" |
| (2) Temperature control dial | (B) "COOL" |
| (3) Blower switch | |
| (4) Air conditioner switch with indicator light | |

◆ Mode Switch

Set the mode switch to the desired position.

-  Air is blown from the front and side air outlets.
-  Air is blown from only the front air outlets.
 - With this switch at the middle position, air is blown weaker from the side air outlets (head) and stronger from the front air outlets.

◆ Temperature Control Dial

Set this dial at the desired position to obtain the optimum air temperature. Turn the dial in the "WARM" direction to obtain warmer air. Turn it in the "COOL" direction to obtain cooler air.

◆ Blower Switch

Air volume can be changed in 3 steps. At the "3" position, the largest air volume is obtained.

◆ Air Conditioner Switch

Push this switch to activate the air conditioner. An indicator light will light up when the switch is set to "ON". Push the switch again to turn the air conditioner off, in which case the indicator light will be off.

NOTE :

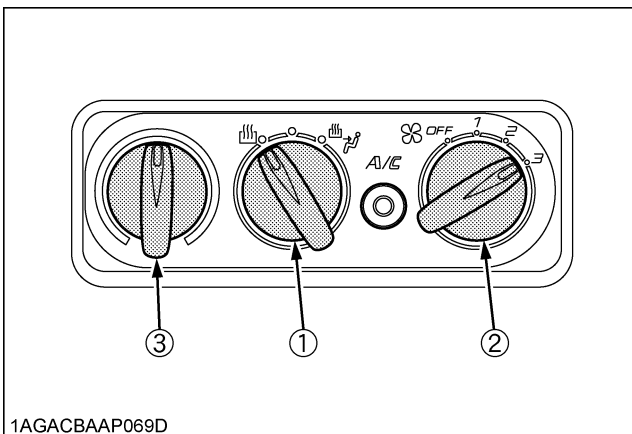
- With the blower switch at the "OFF" position, the indicator light will not light up even when the air conditioner switch is set to "ON".

IMPORTANT :

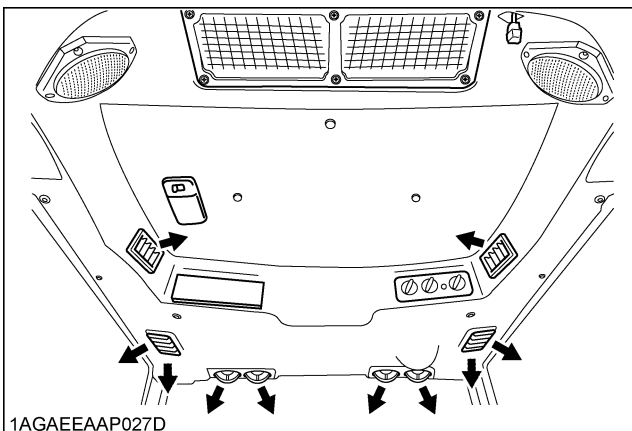
- To operate the air conditioner after the tractor has not been used for one week or longer, run the engine at idling speed first and then set the air conditioner switch to "ON". Keep this for one minute or so. If the air conditioner switch is set to "ON" with the engine running at high rpm, the compressor may get in trouble.

■ Operation**◆ Heating**

1. Set the mode switch to the , , or  position.
2. Set the recirculation / fresh air selection lever to the "FRESH AIR" position. To raise the temperature in the CAB quickly, set this lever to the "RECIRCULATION" position.
3. Adjust the blower (1/2/3) switch and the temperature control dial to achieve a comfortable temperature level.



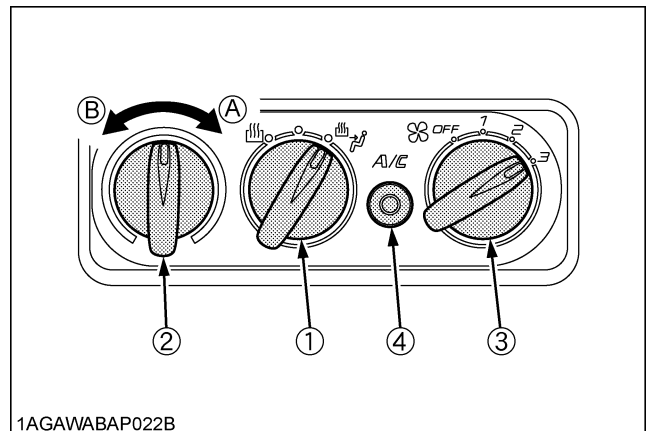
- (1) Mode switch
- (2) Blower switch
- (3) Temperature control dial



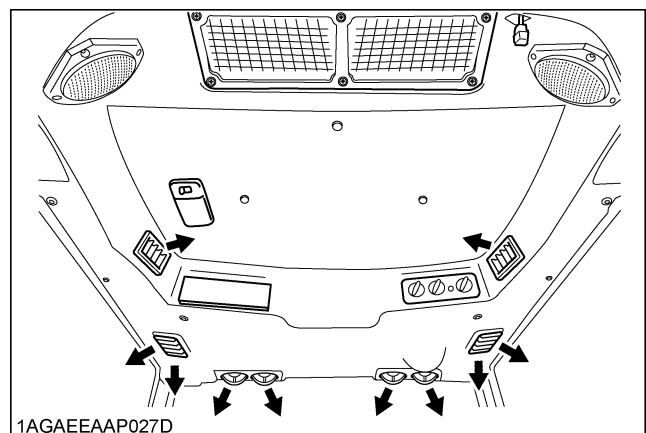
1. Set the mode switch to the  position.
2. Set the recirculation / fresh air selection lever to the "FRESH AIR" position. To lower the temperature in the CAB quickly, set this lever to the "RECIRCULATION" position.
3. Press and turn on the air-conditioner switch with indicator.
4. Turn on the blower (1/2/3) switch.
5. Adjust the temperature control dial to the "COOL" or an intermediate position to achieve a comfortable temperature level.

NOTE :

- In summer when the heater is not used, keep the temperature control dial at the max "COOL" (end of counterclockwise) position. Otherwise, hot air will raise the temperature in the CAB.

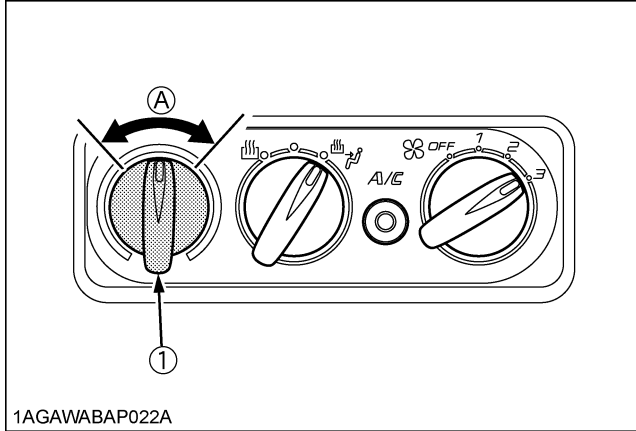


- (1) Mode switch
 - (2) Temperature control dial
 - (3) Blower switch
 - (4) Air conditioner switch with indicator light
- (A) "WARM"
(B) "COOL"

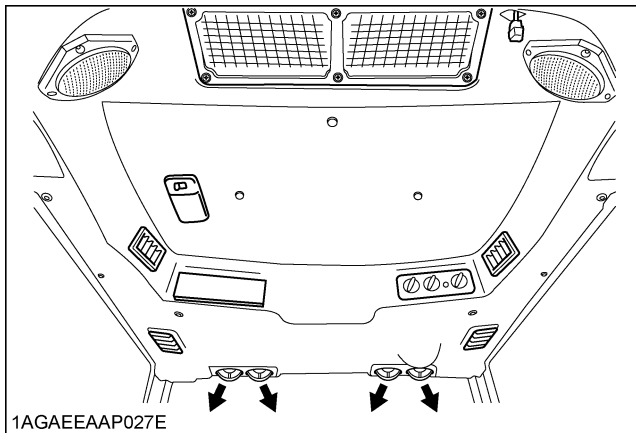
**◆ Cooling or dehumidifying-heating**

◆ Foot warming and head cooling

1. Set the mode switch to the  position.
2. In the cooling or dehumidifying-heating mode, set the temperature control dial at the center position area.
3. Open the front air outlet and the door air outlet direct it to your feet.
4. You can feel your head cool and your feet warm.



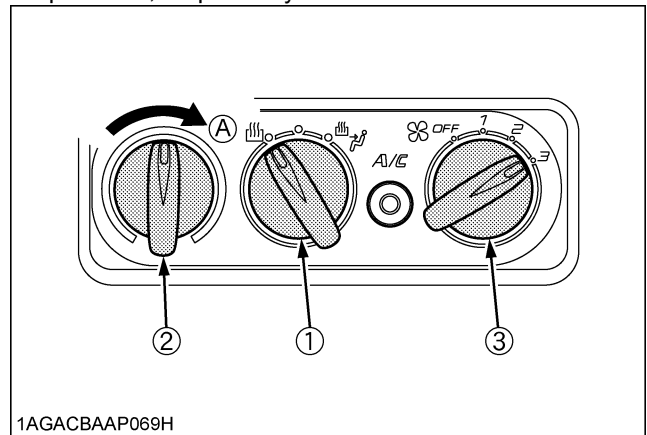
(1) Temperature control dial (A) Center position area



◆ Defrosting or demisting

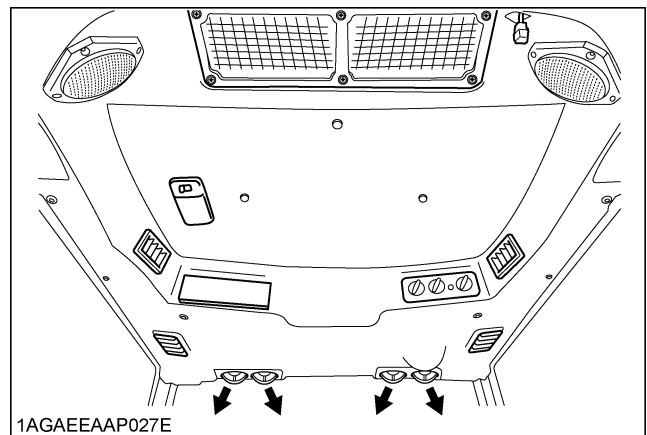
To defrost or demist the windshield, take the following steps.

1. Set the mode switch to the  position.
2. Open the front air outlet and direct it to the windshield.
3. Set the recirculation / fresh air selection lever to the "FRESH AIR" position.
4. Set the blower switch and the temperature control dial to the "3" and max "WARM" (end of clockwise) positions, respectively.



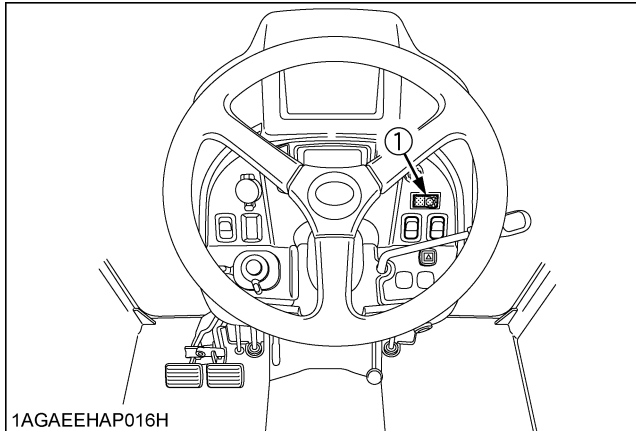
(1) Mode switch
(2) Temperature control dial
(3) Blower switch

(A) "WARM"



REAR DEFOGGER

To activate the rear window defogger, press the switch marked  while the key switch is in the "ON" position. To turn the defogger off, push down the switch marked "OFF".



(1)  Defogger switch

IMPORTANT :

- The battery will discharge if the defogger and the key switch remain in the "ON" or "ACC" positions with the engine stopped. Always use the defogger with the engine running.

■ Hanger

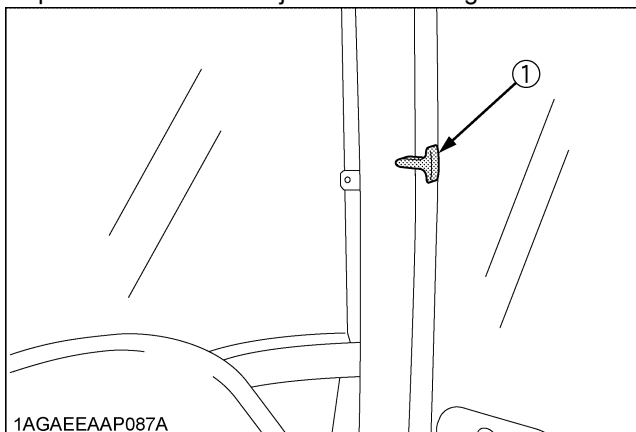


CAUTION

To avoid personal injury:

- Do not hang anything that is heavier than 3 kg. The hanger may get damaged.
- Make sure anything hanging does not interfere with your operation.

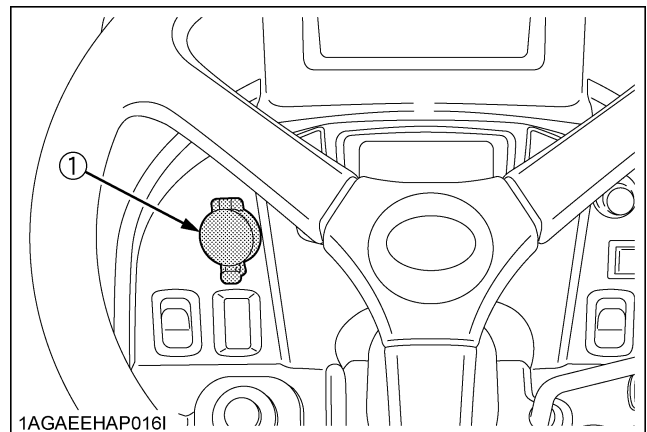
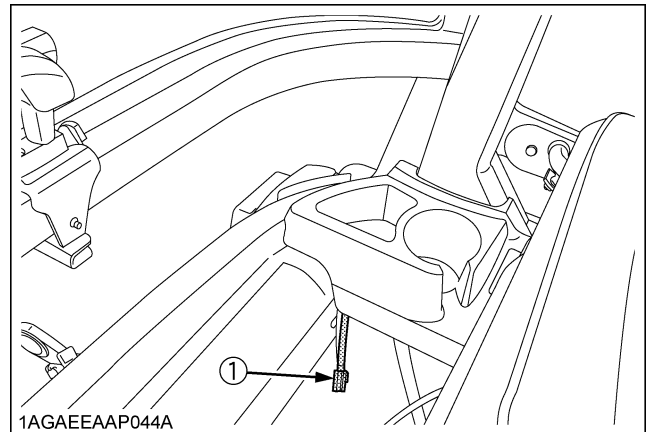
Caps and other small objects can be hung.



(1) Hanger (Both sides)

■ Electrical Outlet

An electrical outlet is supplied for use with implement and electrical equipment.



(1) Accessory electrical outlet (DC 12V, MAX 120W)

MAINTENANCE

SERVICE INTERVALS

No.	Items		Indication on hour meter														Interval	Ref page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				800
1	Clogging of air conditioner condenser screen [CAB Type only]	Clean															Daily	76		
2	Engine oil	Change	⊙			○				○				○			○	every 200 Hr	86	
3	Engine oil filter	Replace	⊙			○				○				○			○	every 200 Hr	85	
4	Transmission oil filters [HST]	Replace	⊙			○				○				○			○	every 200 Hr	86	
5	Hydraulic oil filter	Replace	⊙							○							○	every 400 Hr	92	
6	Transmission fluid	Change								○							○	every 400 Hr	91	
7	Front axle case oil	Change								○							○	every 400 Hr	93	
8	Front axle pivot	Adjust								○							○	every 400 Hr	93	
9	Engine start system	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	79	
10	Greasing	-	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	78	
11	Wheel bolt torque	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	79	
12	Battery condition	Check		○		○		○		○		○		○		○	○	every 100 Hr	80	*5
13	Air cleaner element [Double element type] Primary element	Clean		○		○		○		○		○		○		○	○	every 100 Hr	81	*1
		Replace																every 1 year	94	*2
	Air cleaner element [Double element type] Secondary element	Replace																every 1 year	94	
14	Fuel filter element	Clean		○		○		○		○		○		○		○	○	every 100 Hr	82	
		Replace								○							○	every 400 Hr	93	
15	Fan belt	Adjust		○		○		○		○		○		○		○	○	every 100 Hr	83	
16	Brake	Adjust		○		○		○		○		○		○		○	○	every 100 Hr	83	

No.	Items		Indication on hour meter														Interval	Ref page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				800
17	Tension of air conditioner drive belt [CAB Type only]	Adjust				○				○				○			○	every 200 Hr	89	
18	Clogging of inner air filter [CAB Type only]	Clean				○				○				○			○	every 200 Hr	90	
19	Clogging of fresh air filter [CAB Type only]	Clean				○				○				○			○	every 200 Hr	90	
20	Clogging of air conditioner condenser [CAB Type only]	Check				○				○				○			○	every 200 Hr	91	
21	Power steering oil line	Check				○				○				○			○	every 200 Hr	88	
		Replace																every 2 year	95	*4
22	Radiator hose and clamp	Check				○				○				○			○	every 200 Hr	87	
		Replace																every 2 year	95	
23	Fuel line	Check		○		○		○		○		○		○		○	○	every 100 Hr	85	
		Replace																every 2 year	95	*3
24	Intake air line	Check				○				○				○			○	every 200 Hr	88	
		Replace																every 2 year	95	*3
25	Toe-in	Adjust				○				○				○			○	every 200 Hr	89	
26	Engine valve clearance	Adjust															○	every 800 Hr	93	*4
27	Fuel injection nozzle Injection pressure	Check																every 1500 Hr	93	*4
28	Injection pump	Check																every 3000 Hr	93	*4
29	Air conditioner pipes and hoses [CAB Type only]	Check																every 1 year	94	
		Replace																every 2 year	95	
30	CAB isolation cushion [CAB Type only]	Check																every 1 year	94	
31	Cooling system	Flush																every 2 year	94	
32	Coolant	Change																every 2 year	95	

No.	Items		Indication on hour meter														Interval	Ref page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				800
33	Fuel system	Bleed																service as required	96	
34	Clutch housing water	Drain																	96	
35	Fuse	Replace																	96	
36	Light bulb	Replace																	98	
37	Lubricating Points [CAB Type only]	-																	98	
38	Washer liquid [CAB Type only]	Check																	99	
39	Amount of refrigerant (gas) [CAB Type only]	Check																	99	

IMPORTANT :

- The jobs indicated by © must be done after the first 50 hours of operation.
 - *1 Air cleaner should be cleaned more often in severe dusty conditions.
 - *2 Every year or after 6 cleanings.
 - *3 Replace only if necessary.
 - *4 Consult your local KUBOTA Dealer for this service.
 - *5 When the battery is used for less than 100 hours per year, check the fluid level annually.

LUBRICANTS,FUEL AND COOLANT

No.	Locations	Capacities	Lubricants	
		B3150 / B3150SU		
1	Fuel	27 L (7.1 U.S.gals.)	No. 2-D S15 diesel fuel No. 1-D S15 diesel fuel if temperature is below -10 °C(14 °F)	
2	Coolant (with recovery tank)	ROPS: 4.3 L (4.5 U.S.qts.) CAB: 5.4 L (5.7 U.S.qts.)	Fresh clean soft water with anti-freeze	
3	Washer liquid [CAB Type only]	1.5 L (1.6 U.S.qts.)	Automobile washer liquid	
4	Engine crankcase (with filter)	4.0 L (4.2 U.S.qts.)	● Engine oil : Refer to next page.	
			Above 25°C (77°F)	SAE30, SAE10W-30 or 15W-40
			-10°C to 25°C (14 to 77°F)	SAE20, SAE10W-30 or 15W-40
			Below -10°C (14°F)	SAE10W-30
5	Transmission case	15 L (4.0 U.S.gals.)	● KUBOTA UDT or SUPER UDT fluid*	
6	Front axle case	4.7 L (5.0 U.S.qts.)	● KUBOTA UDT or SUPER UDT fluid* or SAE80 - SAE 90 gear oil	
7	Greasing	No. of greasing points	Capacity	Type of grease
	● Top link	1	Until grease overflows	Multipurpose Grease NLGI-2 OR NLGI-1 (GC-LB)
	● Lift rod [RH]	1		
	● Speed control pedal	1 [CAB Type]		
	● Brake pedal	1 [ROPS Type]		
	● Battery terminals	2	moderate amount	

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 details.

NOTE :**◆ Engine Oil:**

- Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown above:
- With the emission control now in effect, the CF-4 and CG-4 lubricating oils have been developed for use of a low-sulfur fuel on on-road vehicle engines. When an off-road vehicle engine runs on a high-sulfur fuel, it is advisable to employ the "CF or better" lubricating oil with a high Total Base Number (TBN of 10 minimum).
- Refer to the following table for the suitable API classification engine oil according to the engine type (with internal EGR, external EGR or non-EGR) and the fuel (low-sulfur or high-sulfur fuel).

Fuel used	Engine oil classification (API classification)	
	Oil class of engines except external EGR	Oil class of engines with external EGR
High Sulfur Fuel [$\geq 0.05\%$ (500 ppm)]	CF (If the "CF-4, CG-4, CH-4 or CI-4" lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals. (approximately half))	---
Low Sulfur Fuel [$<0.05\%$ (500 ppm)] or Ultra Low Sulfur Fuel [$<0.0015\%$ (15 ppm)]	CF, CF-4, CG-4, CH-4 or CI-4	CF or CI-4 (Class CF-4, CG-4 and CH-4 engine oils cannot be used on EGR type engines)

EGR: Exhaust Gas Re-circulation

- The CJ-4 engine oil is intended for DPF (Diesel Particulate Filter) type engines, and cannot be used on this tractor.

	except external EGR	with external EGR
Models	B3150, B3150SU	---

◆ Fuel:

- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C or elevations above 1500 m.
- If diesel fuel with sulfur content greater than 0.5% (5000 ppm) sulfur content is used, reduce the service interval for engine oil and filter by 50%.
- NEVER use diesel fuel with sulfur content greater than 0.05% (500 ppm) for EXTERNAL EGR type engine.
- DO NOT use diesel fuel with sulfur content greater than 1.0% (10000 ppm).
- Diesel fuels specified to EN 590 or ASTM D975 are recommended.
- No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)

◆ Transmission Oil:

The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and to complete lubrication of the transmission, it is important that a multi-grade transmission fluid is used in this system. We recommend the use of **KUBOTA UDT or SUPER UDT fluid** for optimum protection and performance. (Consult your local KUBOTA Dealer for further detail.)

Do not mix different brands together.

- Indicated capacities of water and oil are manufacturer's estimate.

PERIODIC SERVICE

HOW TO OPEN THE HOOD



WARNING

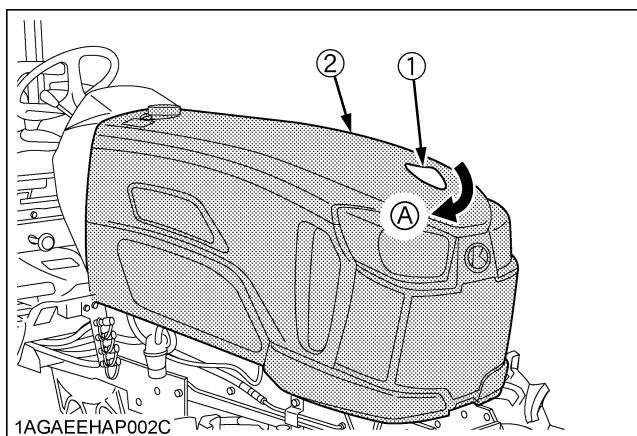
To avoid personal injury or death from contact with moving parts;

- Never open the hood or engine side cover while the engine is running.
- Do not touch muffler or exhaust pipes while they are hot; Severe burns could result.
- Support hood with other hand while unlocking support rod.

■ Hood

◆ Open the hood

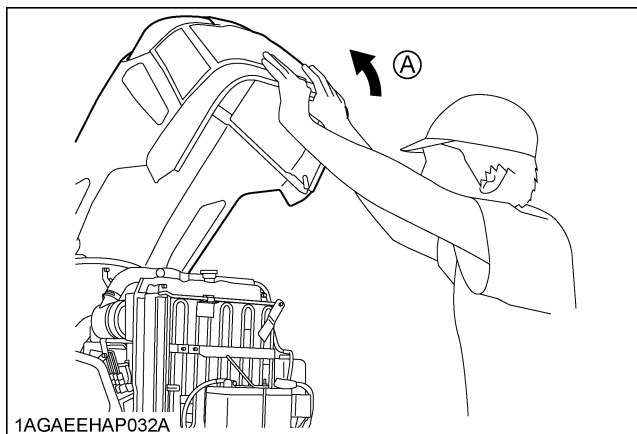
1. To open the hood, twist the mascot.



- (1) Mascot
- (2) Hood

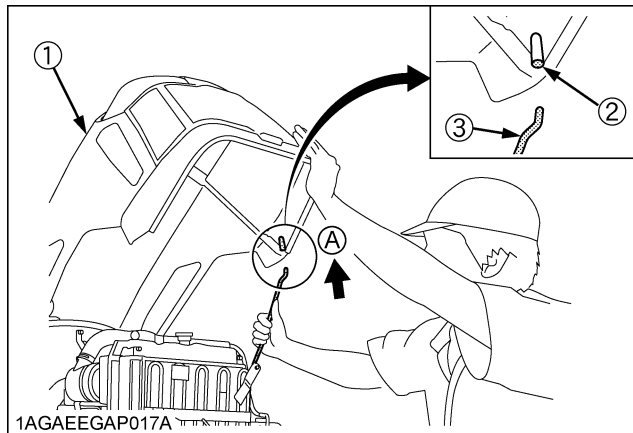
(A) "TWIST"

2. Open the hood by holding its bottom with both hands.



(A) "OPEN"

3. Hold the hood and insert the support rod to the mounting hole.

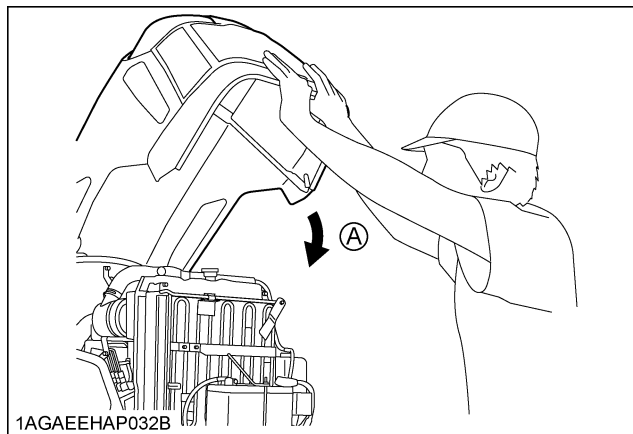


- (1) Hood
- (2) Mounting hole
- (3) Support rod

(A) "INSERT"

◆ Close the hood

1. To close the hood, hold the hood and release the support rod.
2. In closing the hood, use both hands again.

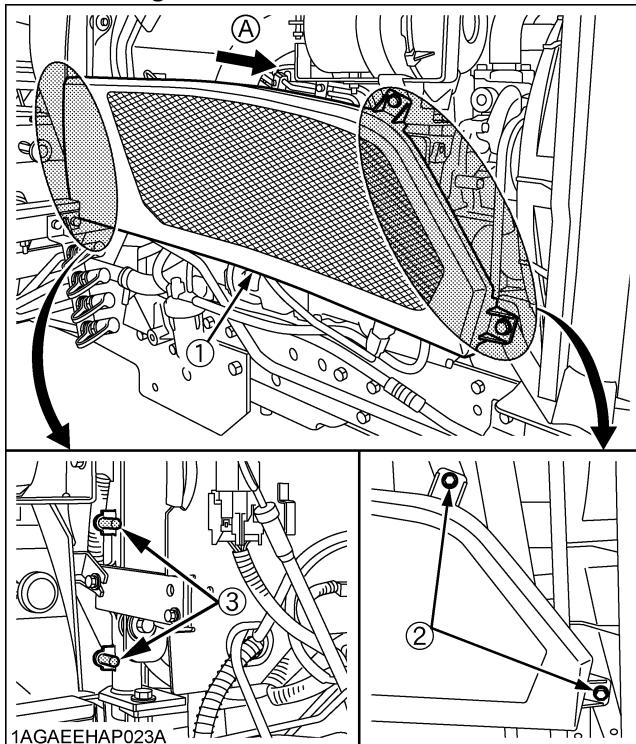


(A) "CLOSE"

■ Engine Side Cover

1. Remove the bolt.
2. Pull the cover toward "A" and detach the notch.

● Removing the side cover



(1) Cover

(2) Bolt

(3) Notch

(A) "PULL"

● Attaching the side cover

To attach the cover, take the reverse order.

DAILY CHECK



WARNING

To avoid personal injury or death:

Take the following precautions when checking the tractor.

- Park the machine on firm and level ground.
- Set the parking brake.
- Lower the implement to the ground.
- All residual pressure of the hydraulic system released.
- Stop the engine and remove the key.

■ Walk Around Inspection

Look around and under the tractor for such items as loose bolts, trash build-up, oil or coolant leaks, broken or worn parts.

■ Checking and Refueling

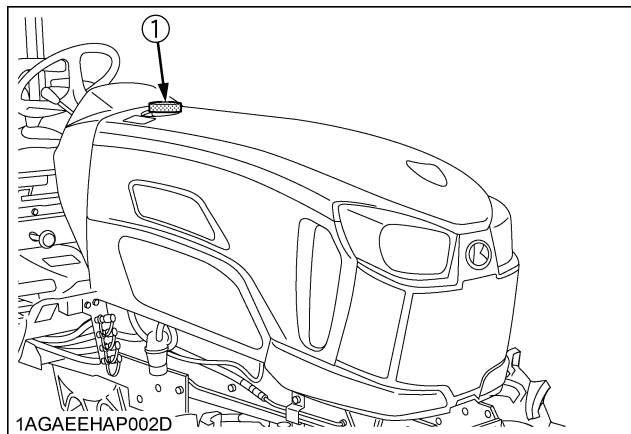


WARNING

To avoid personal injury or death:

- Do not smoke while refueling.
- Be sure to stop the engine before refueling.

1. Turn the key switch to "ON", check the amount of fuel by fuel gauge.
2. Fill fuel tank when fuel gauge shows 1/4 or less fuel in tank.
3. Use grade No.2-Diesel fuel at temperatures above -10 °C (14 °F).
Use grade No.1-Diesel fuel at temperatures below -10 °C (14 °F).



(1) Fuel tank cap

Fuel tank capacity

27 L (7.1 U.S.gals.)

IMPORTANT :

- Do not permit dirt or trash to get into the fuel system.
- Be careful not to let the fuel tank become empty, otherwise air will enter the fuel system, necessitating bleeding before next engine start.
- Be careful not to spill during refueling. If you should spill, wipe it off at once, or it may cause a fire.
- To prevent condensation (water) accumulation in the fuel tank, fill the tank before parking overnight.

■ Checking Engine Oil Level

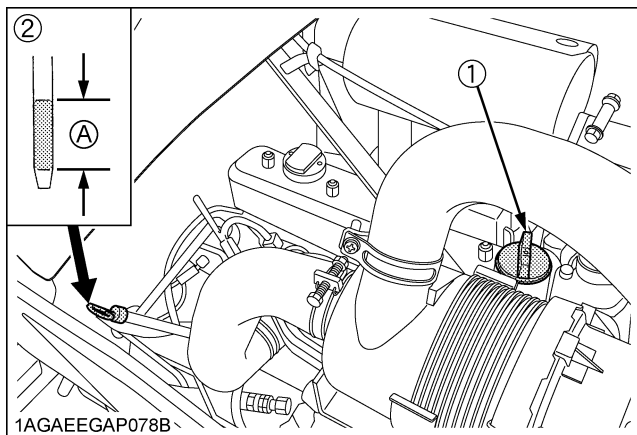


WARNING

To avoid personal injury or death:

- Be sure to stop the engine before checking the oil level.

1. Park the machine on a flat surface.
2. Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
3. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level lies within the crosshatched area. If the level is too low, add new oil to the prescribed level at the oil inlet.
(See "LUBRICANTS" in "MAINTENANCE" section.)



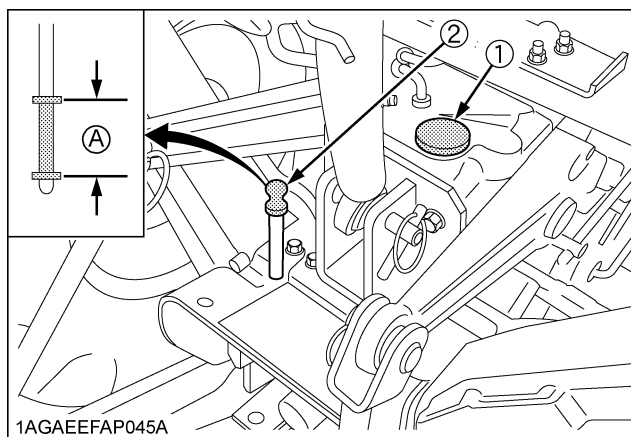
(1) Oil inlet (A) Oil level is acceptable within this range.
(2) Dipstick

IMPORTANT :

- When using an oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
- If oil level is low, do not run engine.

■ Checking Transmission Fluid Level

1. Park the machine on a flat surface, lower the implement and shut off engine.
2. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level lies within the crosshatched area. If the level is too low, add new oil to the prescribed level at the oil inlet.
(See "LUBRICANTS" in "MAINTENANCE" section.)



(1) Oil inlet (A) Oil level is acceptable within this range.
(2) Dipstick

IMPORTANT :

- If oil level is low, do not run engine.

■ Checking Coolant Level

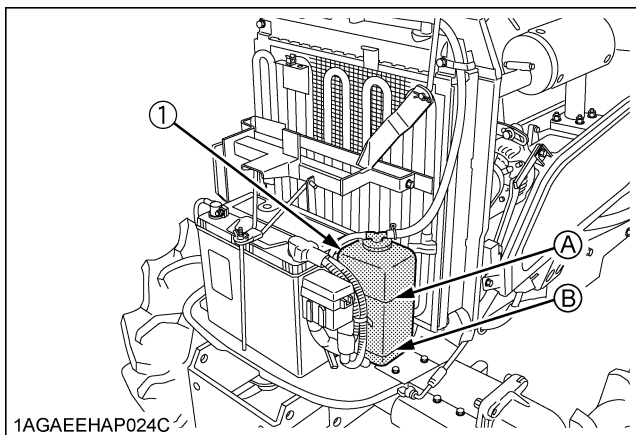


WARNING

To avoid personal injury or death:

- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Check to see that the coolant level is between the "FULL" and "LOW" marks of recovery tank.
2. When the coolant level drops due to evaporation, add soft water only up to the full level.
In case of leakage, add anti-freeze and soft water in the specified mixing ratio up to the full level.
(See "Flushing Cooling System and Changing Coolant" in "EVERY 2 YEARS" in "PERIODIC SERVICE" section.)



(1) Recovery tank

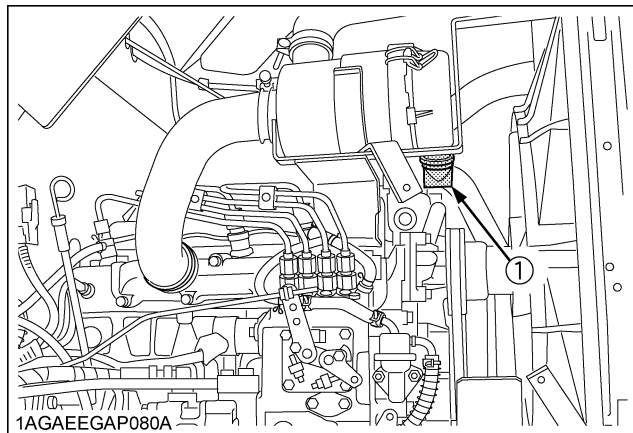
(A) "FULL"
(B) "LOW"

IMPORTANT :

- If the radiator cap has to be removed, follow the caution above and securely retighten the cap.
- Use clean, fresh soft water and anti-freeze to fill the recovery tank.
- If water should leak, consult your local KUBOTA Dealer.

■ Cleaning Evacuator Valve

Open the evacuator valve to get rid of large particles of dust and dirt.



(1) Evacuator valve

■ Cleaning Air Conditioner Condenser Screen

[CAB Type only]

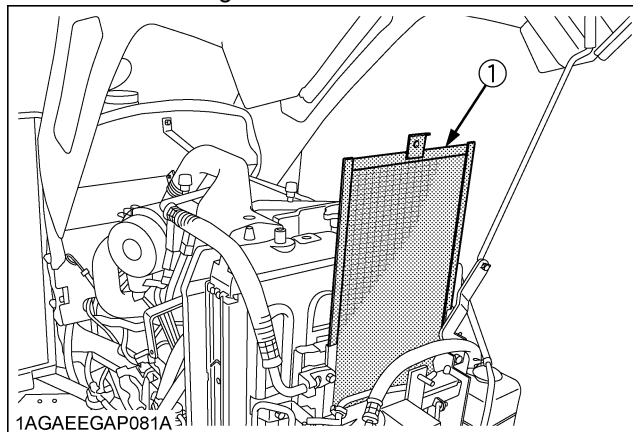


WARNING

To avoid personal injury or death:

- Be sure to stop the engine before removing the screen.
- The condenser and receiver become hot while the air conditioner is running. Before checking or cleaning them, wait long enough until they cool down.

1. Detach the air conditioner condenser screen and remove all foreign materials.



(1) Air conditioner condenser screen

IMPORTANT :

- Grill and screen must be clean from debris to prevent engine from overheating and to allow good air intake for air cleaner.

■Cleaning Grill and Radiator Screen

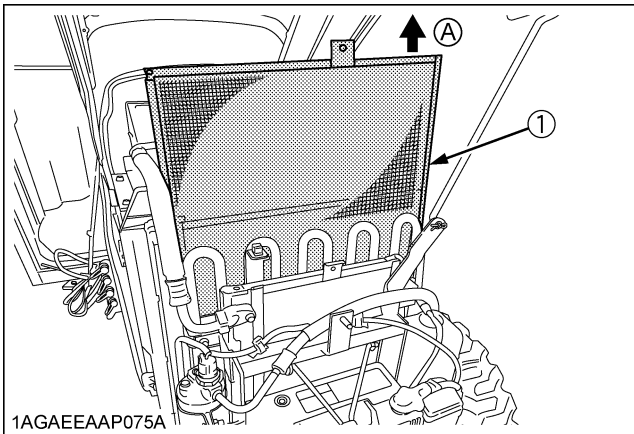


WARNING

To avoid personal injury or death:

- Be sure to stop the engine before removing the screen.
- The condenser and receiver become hot while the air conditioner is running. Before checking or cleaning them, wait long enough until they cool down.

1. Check front grill and side screens to be sure they are clean of debris.
2. Detach the screen and remove all foreign material and clean the front of radiator completely.



(1) Radiator screen

(A) "DETACH"

IMPORTANT :

- Grill and screen must be clean from debris to prevent engine from overheating and to allow good air intake for the air cleaner.

■Checking Brake Pedal

1. Inspect the brake pedals for free travel, and smooth operation.
2. Adjust if incorrect measurement is found: (See "Adjusting Brake Pedal" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

■Checking Gauges, Meter and Easy Checker(TM)

1. Inspect the instrument panel for broken gauge(s), meter(s) and Easy Checker(TM).
2. Replace if broken.

■Checking Head Light, Hazard Light etc.

1. Inspect the lights for broken bulbs and lenses.
2. Replace if broken.

■Checking Seat Belt and ROPS

1. Always check condition of seat belt and ROPS attaching hardware before operating tractor.
2. Replace if damaged.

■Checking and Cleaning of Electrical Wiring and Battery Cables



WARNING

To avoid personal injury or death:

- A loosened terminal or connector, or damaged wire may affect the performance of electrical components or cause short circuits. Leakage of electricity could result in a fire hazard, a dead battery or damage to electrical components.
- Replace damaged wires or connections promptly.
- If a fuse blows soon after replacement, DO NOT USE A LARGER THAN RECOMMENDED FUSE OR BYPASS THE FUSE SYSTEM.
- Many wiring connections are protected by waterproof plugs, plug and unplug these connections carefully and make sure they are sealed correctly after assembly.
- Accumulation of dust, chaff or spilled fuel deposits around the battery, electrical wiring, engine or exhaust system are a fire hazard. **CLEAN THESE AREAS BEFORE STARTING WORK.**

To avoid premature electrical malfunctions DO NOT APPLY high pressure water directly to battery, wiring, connectors, electrical components or instrument panel.

Inspect the following Regularly:

1. Check wiring for chafed or cracked insulation.
2. Check wiring harness clamps. Replace if necessary.
3. Check connectors and terminals for looseness, contamination or overheated (discolored) connections.
4. Check instrument panel for correct operation of switches and gauges.

Consult your Kubota Dealer regarding maintenance, diagnosis and repair.

■Checking Movable Parts

If any of the movable parts, such as levers and pedals, is not smoothly moved because of rust or sticky material, do not attempt to force it into motion.

In the above case, remove the rust or the sticky material, and apply oil or grease on the relevant spot.

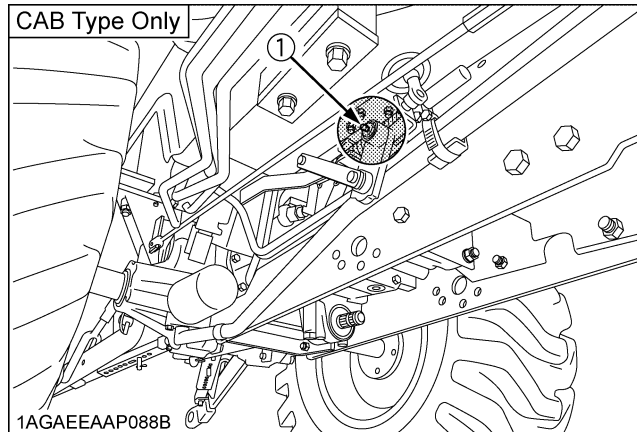
Otherwise, the machine may get damaged.

EVERY 50 HOURS

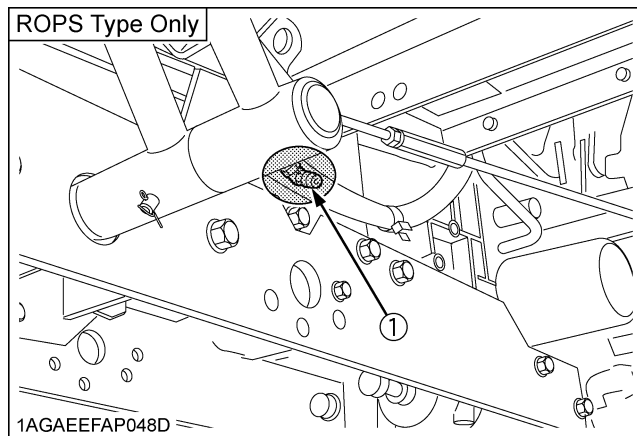
■ Lubricating Grease Fittings

Apply a small amount of multipurpose grease to the following points every 50 hours:

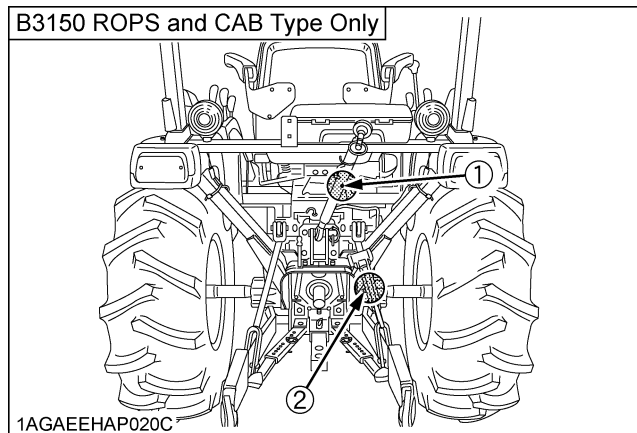
If you operated the machine in extremely wet and muddy conditions, lubricate grease fittings more often.



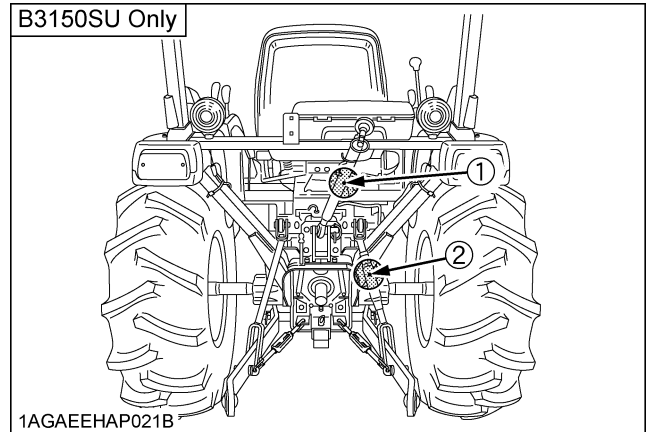
(1) Grease fitting (Speed control pedal)



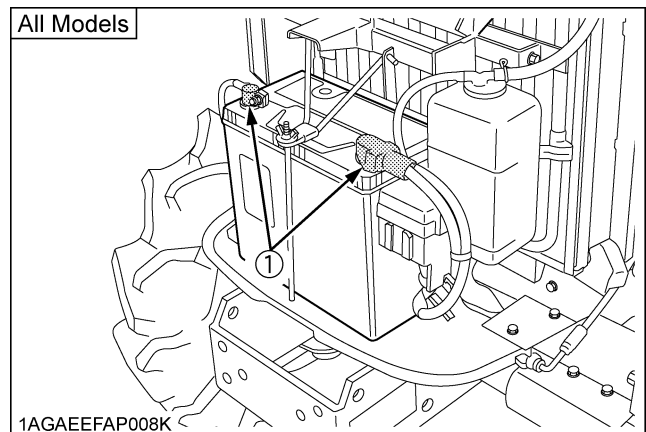
(1) Grease fitting (Brake pedals)



(1) Grease fitting (Top link)
(2) Grease fitting (Lifting rod, right)



(1) Grease fitting (Top link)
(2) Grease fitting (Lifting rod, right)



(1) Battery terminals

■ Checking Engine Start System



WARNING

To avoid personal injury or death:

- Do not allow anyone near the tractor while testing.
- If the tractor does not pass the test do not operate the tractor.
- Detach an implement before testing.

◆ Preparation before testing.

1. Sit on operator's seat.
2. Set the parking brake and stop the engine.
3. Shift the range gear shift lever to "NEUTRAL" position.
4. Place the speed control pedal in "NEUTRAL" position.
5. Shift the PTO clutch lever to "OFF" position.

◆ Test : Switch for the speed control pedal.

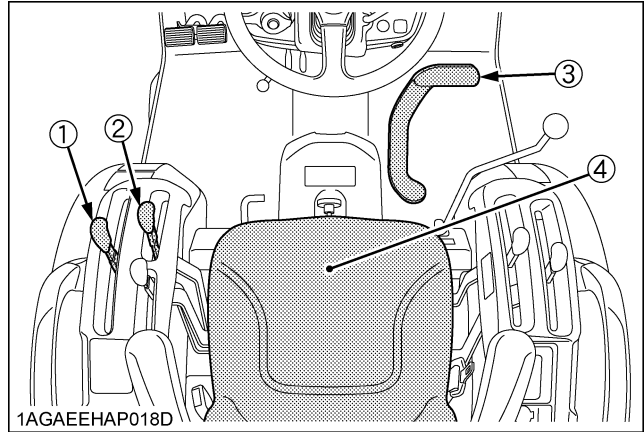
1. Depress the speed control pedal.
2. Turn the key to "START" position.
3. The engine must not crank.
4. If it cranks, consult your local KUBOTA Dealer for this service.

◆ Test : Switch for the PTO clutch lever.

1. Place the speed control pedal in "NEUTRAL" position.
2. Shift the PTO clutch lever to "ON" position.
3. Turn the key to "START" position.
4. The engine must not crank.
5. If it cranks, consult your local KUBOTA Dealer for this service.

◆ Test : Switches for the operator's seat and the PTO clutch lever.

1. Sit on the operator's seat.
2. Start the engine.
3. Engage the PTO clutch lever.
4. Stand up. (Do not get off the machine.)
5. The engine must shut off after approximately 1 second.
6. If it does not stop, consult your local KUBOTA Dealer for this service.



(1) Range gear shift lever (L-M-H)

(2) PTO clutch lever

(3) Speed control pedal

(4) Operator's seat

■ Checking Wheel Bolt Torque

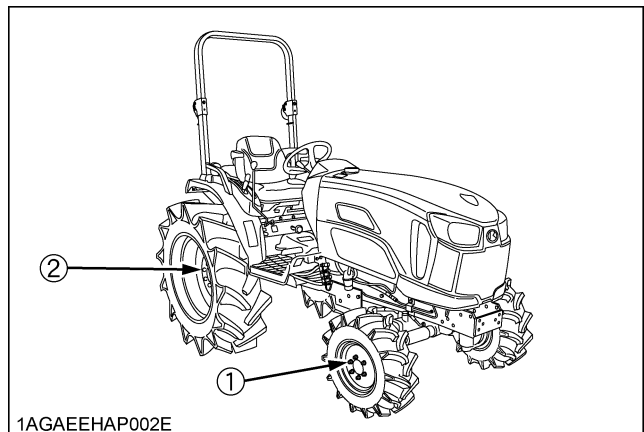


WARNING

To avoid personal injury or death:

- Never operate tractor with a loose rim, wheel, or axle.
- Any time bolts and nuts are loosened, retighten to specified torque.
- Check all bolts and nuts frequently and keep them tight.

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



(1) Nut: 77 to 90 N-m (7.9 to 9.2 kgf-m, 57 to 67 ft-lbs.)

(2) Bolt: 196 to 225 N-m (20 to 23 kgf-m, 145 to 166 ft-lbs.)

Nut: 167 to 191 N-m (17 to 19.5 kgf-m, 123 to 141 ft-lbs.)

EVERY 100 HOURS

■ Checking Battery Condition



DANGER

To avoid the possibility of battery explosion:
For the refillable type battery, follow the instructions below.

- Do not use or charge the refillable type battery if the fluid level is below the **LOWER** (lower limit level) mark. Otherwise, the battery component parts may prematurely deteriorate, which may shorten the battery's service life or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the **UPPER** and **LOWER** levels.



WARNING

To avoid personal injury or death:

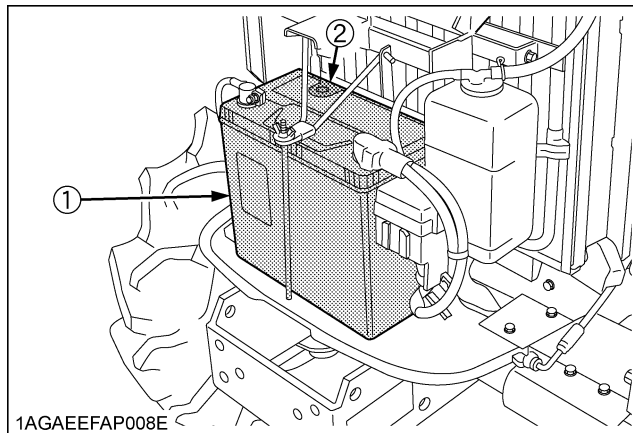
- Never remove the battery cap while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are splattered with it, wash it away completely with water immediately and get medical attention.
- Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.
- Wear eye protection and rubber gloves when working around battery.

The factory-installed battery is of non-refillable type. If the indicator turns white, do not charge the battery but replace it with new one.

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.



(1) Battery
(2) Indicator

◆ How to read the indicator

Check the battery condition by reading the indicator.

State of indicator display	
Green	Specific gravity of electrolyte and quality of electrolyte are both in good condition.
Black	Needs charging battery.
White	Needs replacing battery.

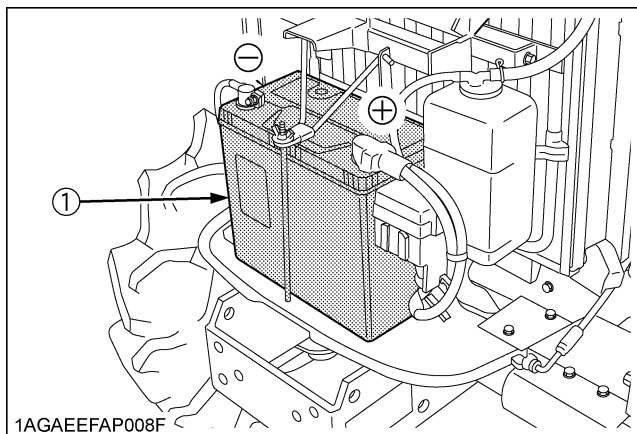
◆ Battery Charging



WARNING

To avoid personal 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.
- When charging the battery, ensure the vent caps are securely in place. (if equipped)
- 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. 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.
2. 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.
3. The battery is charged if the indicator display turns green from black.
4. When exchanging an old battery for a new one, use battery of equal specification shown in **table 1**.

[TABLE 1]

Battery Type	Volts (V)	Capacity at 5 hr (Ah)	Reserve at (min)	Cold Cranking Amps (A)	Normal Charging Rate (A)
55B24L(S)-MF	12	36	80	430	4.5

◆ Direction for Storage

1. When storing the tractor for a long period, remove the battery from tractor, adjust the electrolyte to the proper level 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.

■ Cleaning Air Cleaner Primary Element



CAUTION

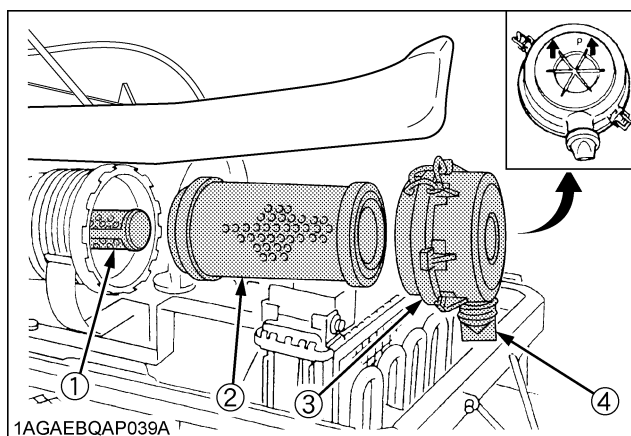
To avoid personal injury:

- Be sure to stop the engine and remove the key before cleaning air filter 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, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.
3. Replace air cleaner primary element:
Once yearly or after every sixth cleaning, whichever comes first.

NOTE :

- Check to see if the evacuator valve is blocked with dust.



- (1) Secondary (safety) element
(2) Primary element
(3) Evacuator valve
(4) 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.
(See "Replacing Air Cleaner Secondary Element" in "EVERY 1 YEAR" in "PERIODIC SERVICE" section.)

◆ 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.

■ Cleaning Fuel Filter



WARNING

To avoid personal injury or death:

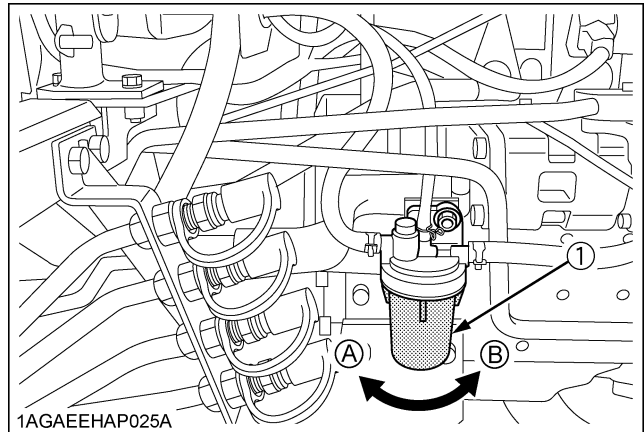
- Stop the engine and remove the key before checking fuel lines and fuel filter.
- Check the fuel lines periodically. The fuel lines are subject to wear and aging. Fuel may leak out onto the running engine, causing a fire.
- Protect your hands when using kerosene to clean components.

This job should not be done in the field, but in a clean place.

1. Loosen and remove the filter bowl, and rinse the inside with kerosene.
2. Take out the element and dip it in the kerosene to rinse.
3. After cleaning, reassemble the fuel filter, keeping out dust and dirt.
4. Bleed the fuel system.
(See "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

IMPORTANT :

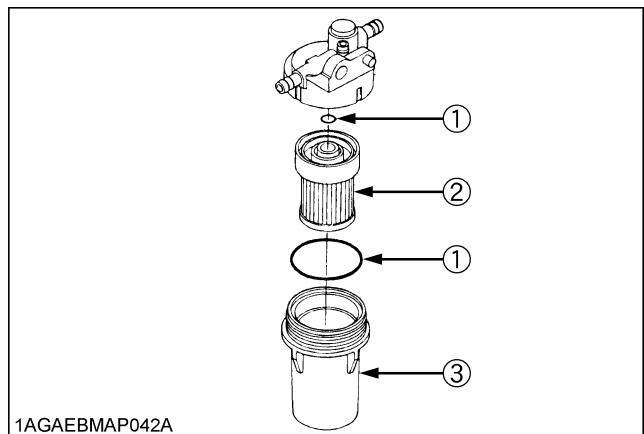
- When the fuel filter bowl has been removed, fuel stops flowing from the fuel tank. If the fuel tank is almost full, however, the fuel will flow back from the fuel return pipe to the fuel filter. Before checking, make sure the fuel tank is less than half-full.



(1) Fuel filter bowl

(A) "LOOSEN"

(B) "TIGHTEN"



(1) O ring

(2) Filter element

(3) Filter bowl

IMPORTANT :

- If dust, dirt or water enters the fuel system, the fuel pump and injection nozzles are subject to premature wear. To prevent this, be sure to clean the fuel filter bowl and element periodically.

■ Adjusting Fan Belt Tension



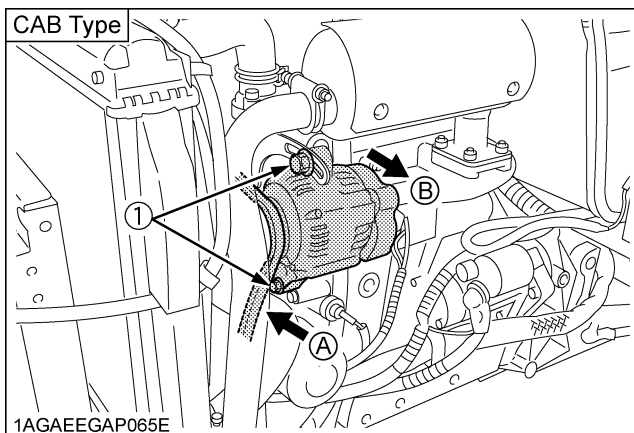
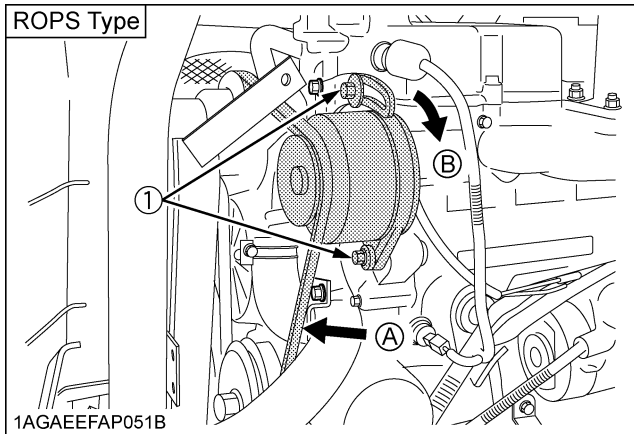
WARNING

To avoid personal injury or death:

- Be sure to stop the engine before checking belt tension.

Proper fan belt tension	A deflection of between 7 to 9 mm (0.28 to 0.35 in.) when the belt is pressed in the middle of the span.
-------------------------	--

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
4. Replace fan belt if it is damaged.



(1) Bolt

(A) Check the belt tension

(B) To tighten

■ Adjusting Brake Pedal



WARNING

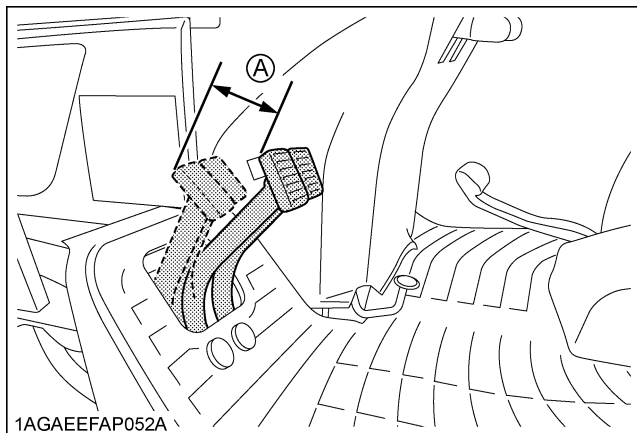
To avoid personal injury or death:

- Stop the engine and chock the wheels before checking brake pedal.
- Be sure that the difference is 5 mm or less, when the right and left brake pedals are depressed. If the difference is large, the brake pull to one side when braking, and cause an accident.

Proper brake pedal free travel	30 to 40 mm on the pedal
	Keep the free travel in the right and left brake pedals equal.

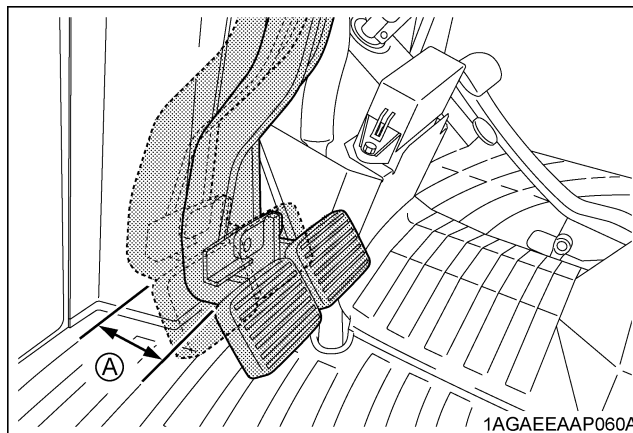
1. Release the parking brake.
2. Slightly depress the brake pedals and measure free travel at the top of pedal stroke.
3. If adjustment is needed, loosen the lock nut and turn the turnbuckle to adjust the rod length within acceptable limits.
4. Retighten the lock nut.

[ROPS Type]

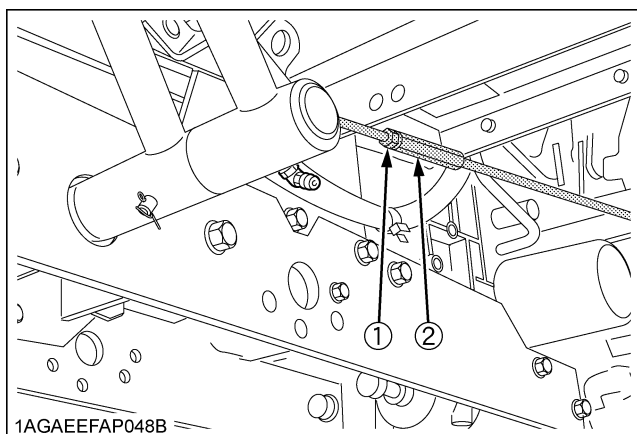


(A) Free travel

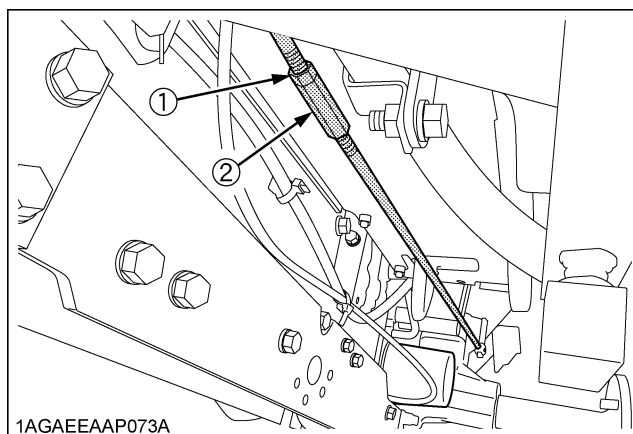
[CAB Type]



(A) Free travel



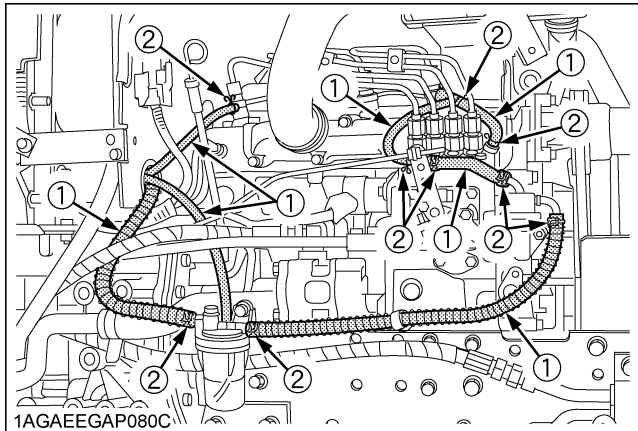
- (1) Lock nut (Both sides)
- (2) Turnbuckle (Both sides)



- (1) Lock nut (Both sides)
- (2) Turnbuckle (Both sides)

■ Checking Fuel Line

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.



- (1) Fuel lines
(2) Clamp bands

NOTE :

- If the fuel line is removed, be sure to properly bleed the fuel system.
(See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

EVERY 200 HOURS

■ Replacing Engine Oil Filter

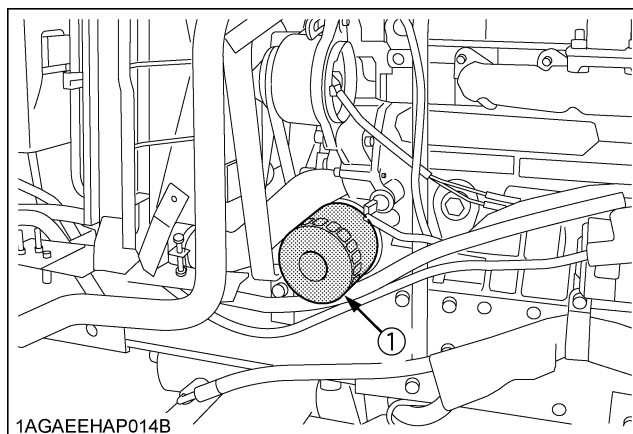


WARNING

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 oil filter.
2. Put a film of clean engine oil on the rubber seal of the new filter.
3. Tighten the filter quickly until it contacts the mounting surface.
Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.



- (1) Engine oil filter

IMPORTANT :

- To prevent serious damage to the engine, use only a KUBOTA genuine filter.

■ Changing Engine oil



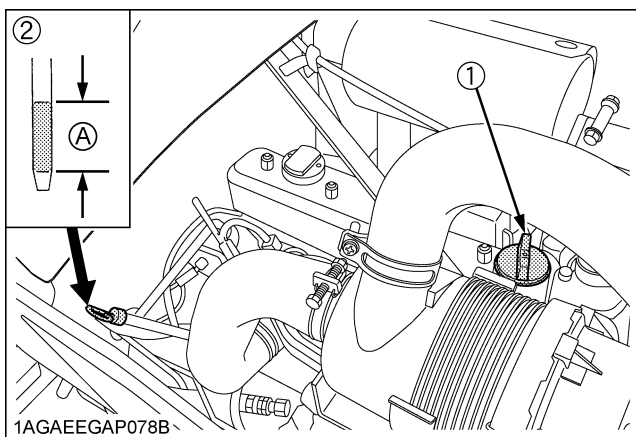
WARNING

To avoid personal injury or death:

- Be sure to stop the engine before changing the oil.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

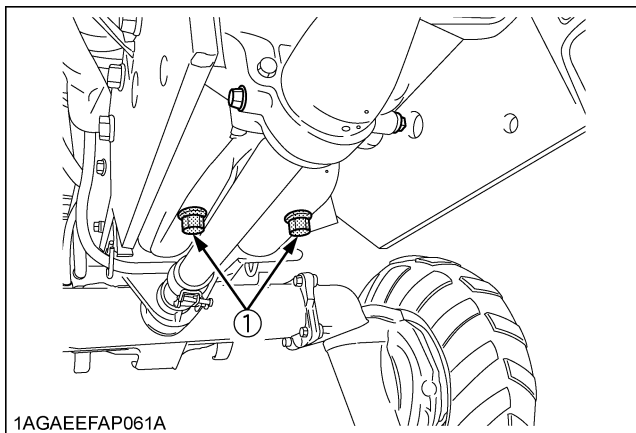
1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.
All the used oil can be drained out easily when the engine is still warm.
2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper line on the dipstick.
(See "LUBRICANTS" in "MAINTENANCE" section.)

Oil capacity with filter	4.0 L (4.2 U.S.qts.)
--------------------------	----------------------



(1) Oil inlet
(2) Dipstick

(A) Oil level is acceptable within this range



(1) Drain plug (both sides)

■ Replacing Transmission Oil Filter [HST]

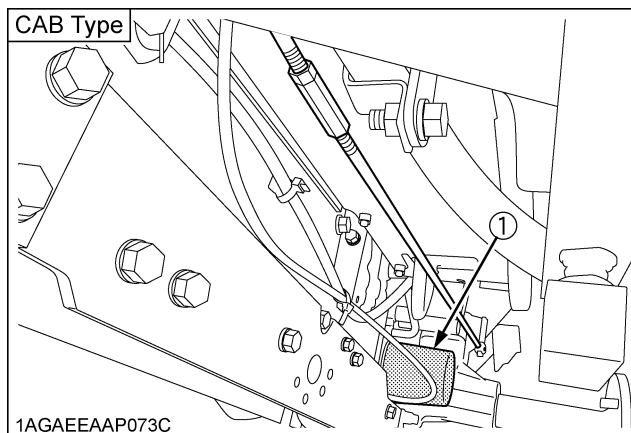
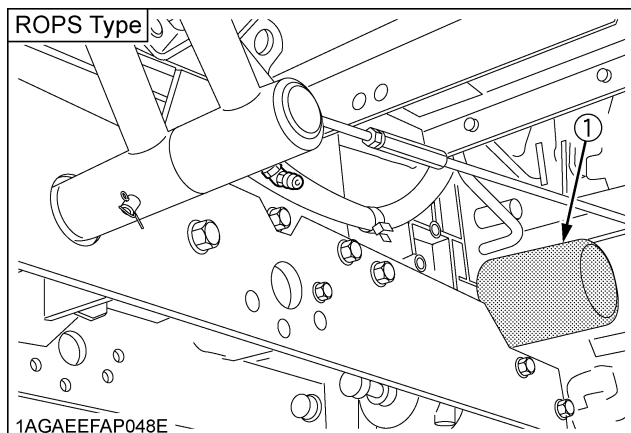


WARNING

To avoid personal injury or death:

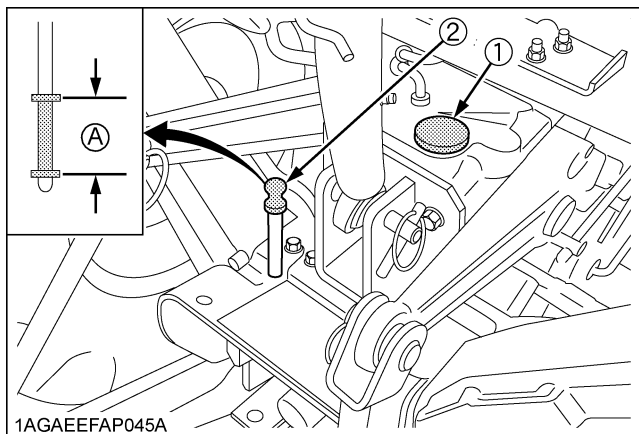
- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Place the oil pan underneath the transmission oil filter and remove the filter.
Do not remove the hydraulic oil filter. Otherwise, the oil comes out.



(1) Transmission oil filter [HST]

2. Put a film of clean transmission oil on the rubber seal of the new filter.
3. Quickly tighten the filter until it contacts the mounting surface, then, with a filter wrench, tighten it an additional 1 turn only.
4. After the new filter has been replaced, fill the transmission oil up to the upper limit on the dipstick.



(1) Oil inlet (A) Oil level is acceptable within this range.
(2) Dipstick

5. After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
6. Make sure that the transmission fluid doesn't leak past the seal on the filter.

IMPORTANT :

- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.
- Do not operate the tractor immediately after changing the transmission fluid.
Run the engine at medium speed for a few minutes to prevent damage to the transmission.

■ Checking Radiator Hose and Clamp



CAUTION

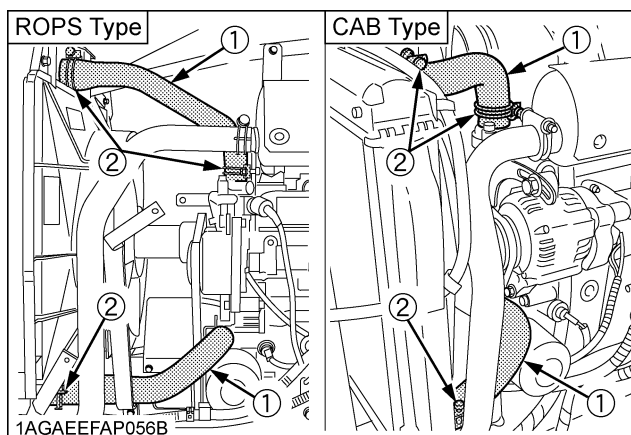
To avoid personal injury:

- Be sure to stop the engine and remove the key before checking radiator hose and clamp.
- Allow engine and coolant to cool down sufficiently before checking.

Check to see if radiator hoses are properly fixed every 200 hours of operation or 6 months, whichever comes first.

1. If hose clamps are loose or water leaks, tighten bands securely.
2. Replace hoses and tighten hose clamps securely, if radiator hoses are swollen, hardened or cracked.

Replace hoses and hose clamps every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.



(1) Radiator hoses (2 hoses)
(2) Clamp bands (4 clamps)

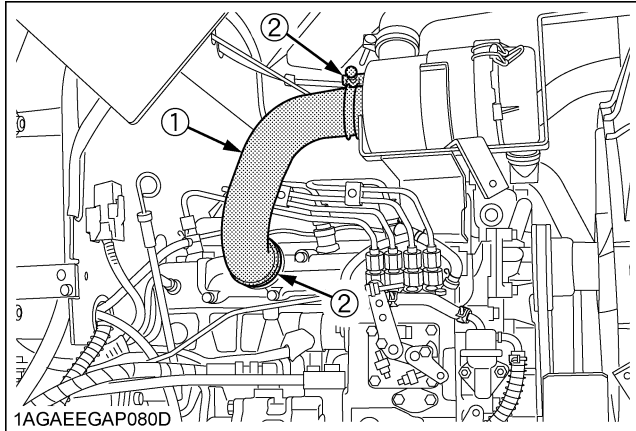
◆ Precaution at Overheating

Take the following actions in the event the coolant temperature is nearly or more than the boiling point, what is called "Overheating"

1. Park the tractor in a safe place and keep the engine unloaded idling.
2. Don't stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Keep yourself well away from the machine for further 10 minutes or while the steam blows out.
4. Check that there are no dangers such as burns. Get rid of the causes of overheating according to the manual, see "TROUBLESHOOTING" section, and then, start again the engine.

■Checking Intake Air Line

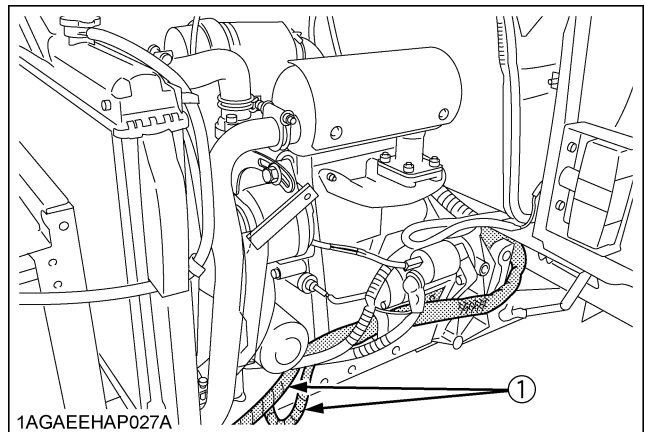
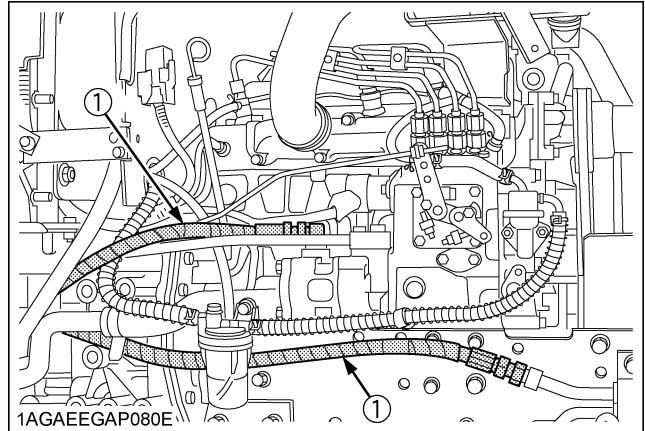
1. Check to see that hoses and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.



- (1) Hose
(2) Hose clamps

■Checking Power Steering Line

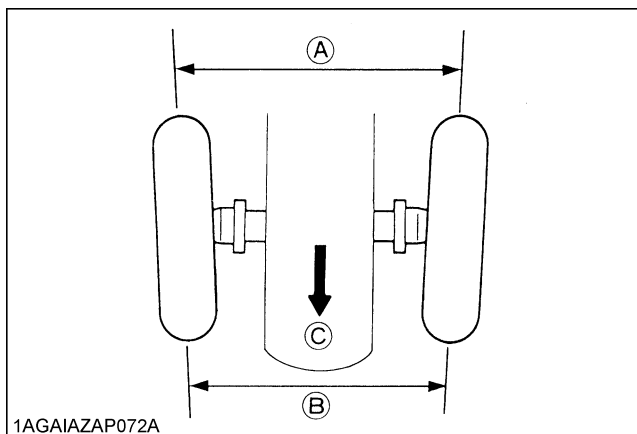
1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.



- (1) Power steering pressure hoses

■ Adjusting Toe-in

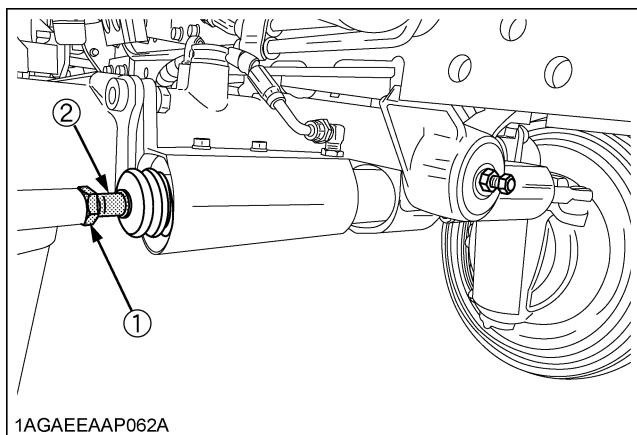
1. Park tractor on a flat place.
2. Turn steering wheel so front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure distance between tire beads at front of tire, hub height.
5. Measure distance between tire beads at rear of tire, hub height.
6. Front distance should be 0 to 10 mm (0 to 3/8 in.) less than rear distance. If not, adjust tie rod length.



(A) Wheel - to - wheel distance at rear
(B) Wheel - to - wheel distance at front
(C) "FRONT"

◆ Adjusting procedures

1. Loosen the tie-rod nut.
2. Turn the tie-rod joint to adjust the rod length until the proper toe-in measurement is obtained.
3. Retighten the tie-rod nut.



(1) Tie-rod nut
(2) Tie-rod joint

■ Adjusting Air-Conditioner Belt Tension

[CAB Type only]



WARNING

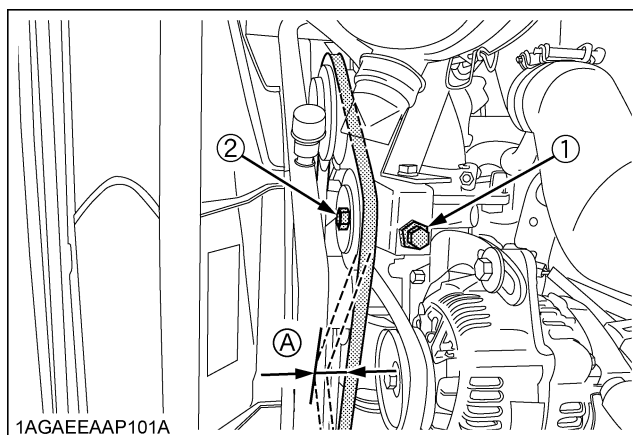
To avoid personal injury or death:

- Be sure to stop the engine and remove the key before checking.

Proper air-conditioner belt tension

A deflection of between 10 to 12 mm (0.4 to 0.48 in.) when the belt is pressed (98 N [10 kgf, 22.1 lbs]) in the middle of the span.

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the tension pulley mounting nut and turn the adjusting bolt to adjust the belt tension within acceptable limits.
4. Replace air-conditioner belt if it is damaged.



(1) Adjusting bolt

(2) Tension pulley mounting nut

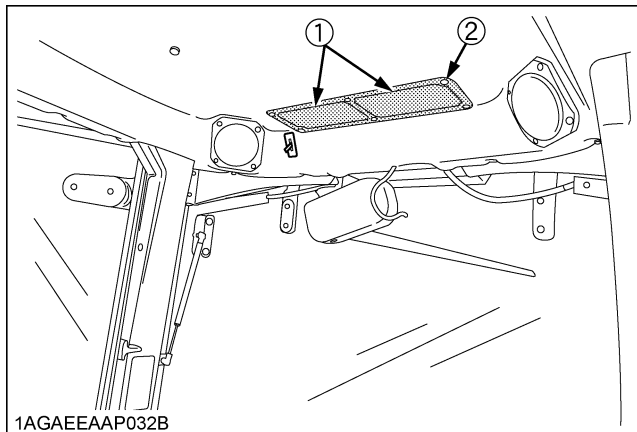
(A) Check the belt tension

■ Cleaning the Inner Air Filter

[CAB Type only]

Remove the inner filter, and blow air from the direction opposite to the filter's normal air flow.

Pressure of compressed air must be under 205 kPa (2.1 kgf/cm²).

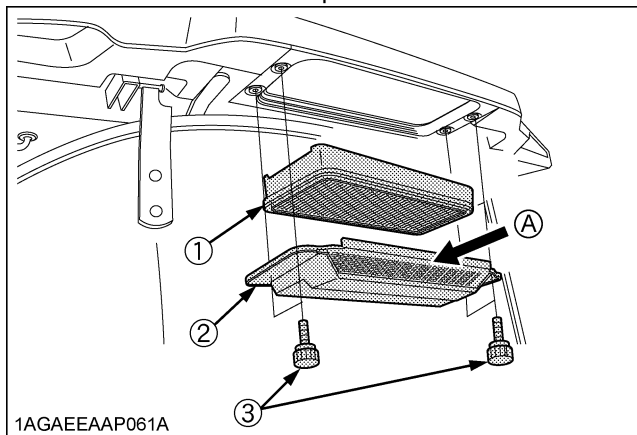


(1) Inner air filter
(2) Screw

■ Cleaning the Fresh Air Filter

[CAB Type only]

Remove the knob bolts and pull out filter.



(1) Fresh air filter
(2) Cover
(3) Knob bolts
(A) Air inlet port

NOTE :

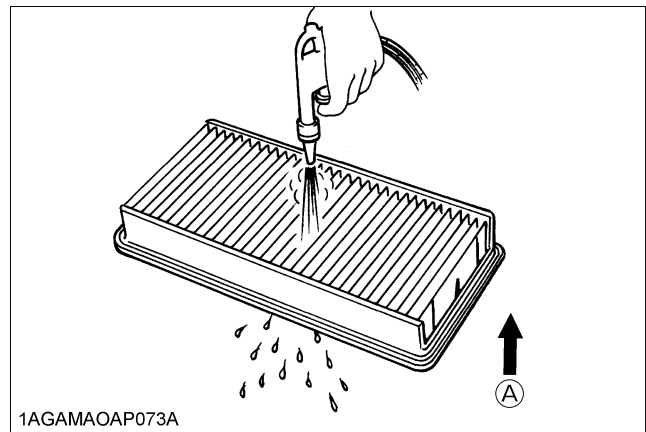
- Attach the filter and cover as illustration above.

◆ Cleaning the air filter

- Normal use
Blow air from the opposite direction to the filter's normal air flow.
Pressure of compressed air must be under 205 kPa (2.1 kgf/cm²).

IMPORTANT :

- Do not hit the filter. If the filter becomes deformed, dust may enter into the air-conditioner, which may cause damage and malfunction.



(A) "AIR CONDITIONER AIRFLOW"

NOTE :

- If the filter is very dirty:
Dip the filter in lukewarm water with mild dish washing detergent.
Move it up and down as well as left and right to loosen dirt. Rinse the filter with clean water and let it air-dry.

IMPORTANT :

- Do not use gasoline, thinner or similar chemicals to clean the filter as damage to the filter may occur.
- It may also cause an unpleasant odor in the CAB when the system is used next.

■ Checking the Air Conditioner Condenser [CAB Type only]

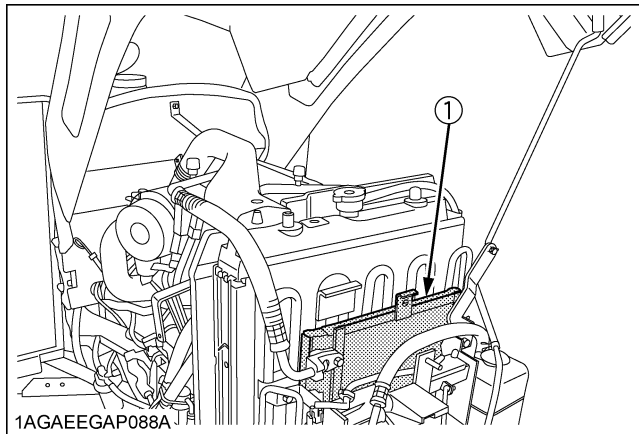


WARNING

To avoid personal injury or death:

- Be sure to stop the engine before removing the screen.
- The condenser and receiver become hot while the air conditioner is running. Before checking or cleaning them, wait long enough until they cool down.

Check air conditioner condenser to be sure it is clean of debris.



(1) Air conditioner condenser

EVERY 400 HOURS

■ Changing Transmission Fluid



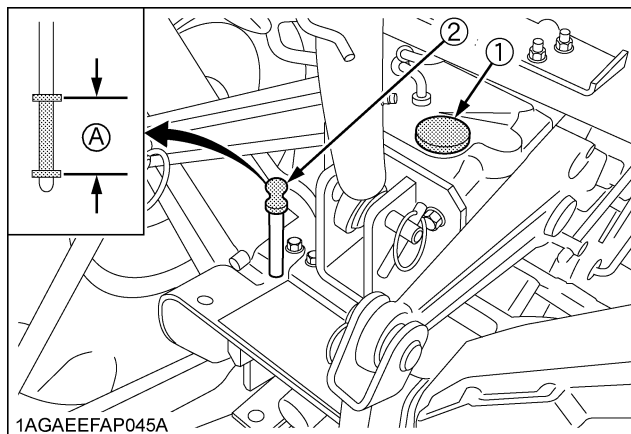
WARNING

To avoid personal injury or death:

- Allow engine to cool down sufficiently, oil can be hot and can burn.

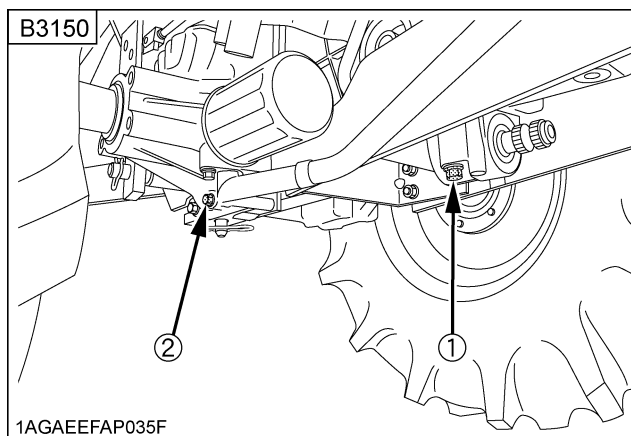
1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with new KUBOTA SUPER UDT fluid up to the upper limit on the dipstick.
(See "LUBRICANTS" in "MAINTENANCE" section and "DAILY CHECK" in "PERIODIC SERVICE" section)
4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.
5. Properly dispose of used oil.

Oil capacity	15 L (4.0 U.S.gals.)
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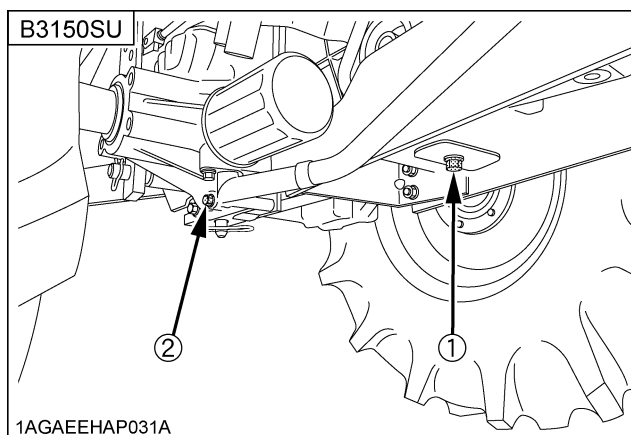


(1) Oil inlet
(2) Dipstick

(A) Oil level is acceptable within this range



1AGAEFAP035F



1AGAEHAP031A

(1) Drain plug
(2) Drain plug (Both sides)

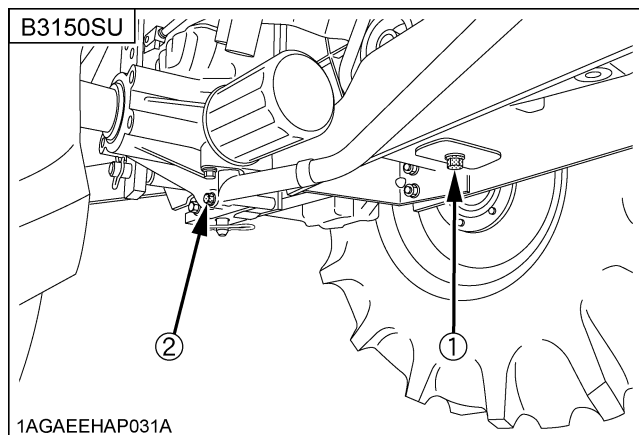
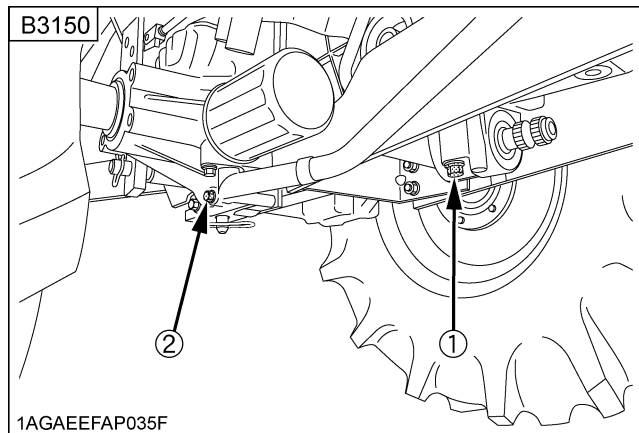
IMPORTANT :

- If the 3-point hitch can not be raised by setting the hydraulic control lever to the UP position after long term storage or when changing the transmission oil, turn steering wheel to the right and left several times to bleed air from the system.
- Do not operate the tractor immediately after changing the transmission fluid.

■ Replacing Hydraulic Oil Filter**WARNING**

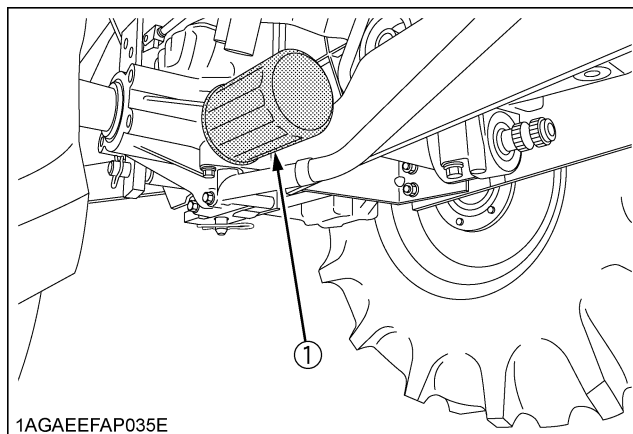
To avoid personal injury or death:

- 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 plugs at the bottom of the transmission case and drain the oil completely into the oil pan.
 2. After draining reinstall the drain plugs.



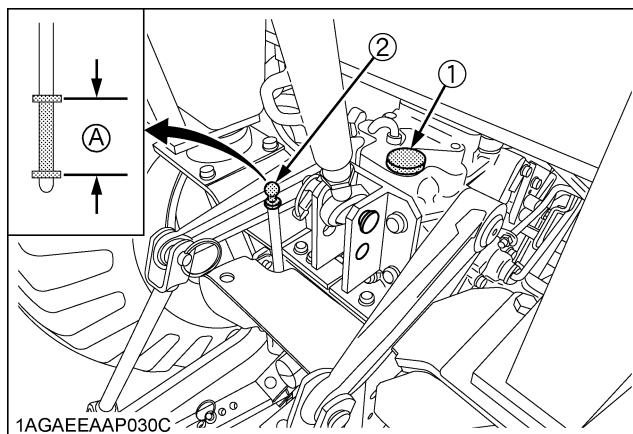
- (1) Drain plug
(2) Drain plug (Both sides)

3. Remove the oil filter



(1) Hydraulic oil filter

4. Put a film of clean transmission oil on the rubber seal of the new filter.
5. Quickly tighten the filter until it contacts the mounting surface, then tighten it by hand an additional 1/2 turn only.
6. After the new filter has been replaced, fill the transmission oil up to the upper limit on the dipstick.



- (1) Oil inlet
(2) Dipstick
(A) Oil level is acceptable within this range

7. After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
8. Make sure that the transmission fluid doesn't leak past the seal on the filter.

IMPORTANT :

- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.

■ Adjusting Front Axle Pivot [4WD]



CAUTION

To avoid personal injury:

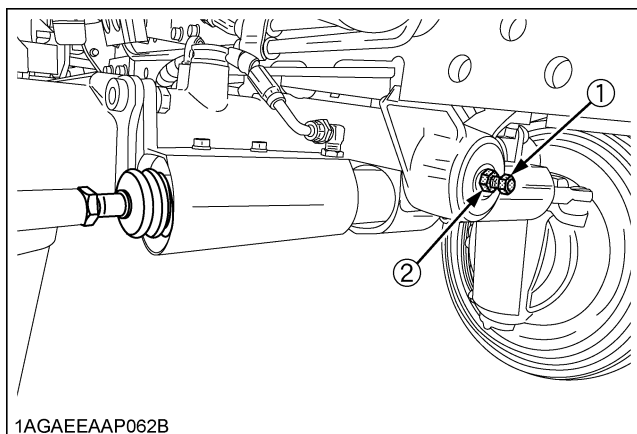
- Park the tractor on a flat place.
- Lower the implement, lock the parking brake and stop the engine.

If the front axle pivot pin adjustment is not correct, front wheel vibration can occur causing vibration in the steering wheel.

◆ Adjusting procedure

Loosen the lock nut, and tighten the adjusting screw so that the oscillating load is 50 to 100 N (5.1 to 10.2 kgf, 11.2 to 22.5 lbf). (If the adjusting screw is tightened, loosened and retightened, apply liquid gasket to its tip.) Retighten the lock nut.

Consult your local KUBOTA Dealer for further details.



(1) Adjusting screw
(2) Lock nut

■ Replacing Fuel Filter Element

(See "Cleaning Fuel Filter" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

■ Changing Front Axle Case Oil

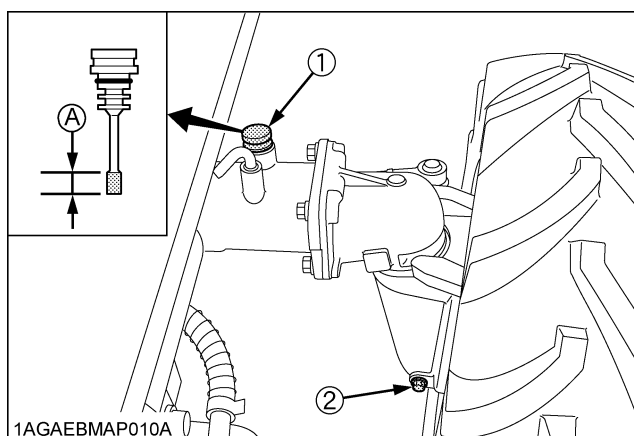
1. Park the tractor on a firm, flat and level surface.
2. To drain the used oil, remove the right and left drain plugs and filling plug at the front axle case and drain the oil completely into the oil pan.
3. After draining, reinstall the drain plugs.
4. Fill with new oil up to the upper notch on the dipstick. (See "LUBRICANTS" in "MAINTENANCE" section)

IMPORTANT :

- After 10 minutes, check the oil level again; add oil to prescribed level.

5. After filling, reinstall the filling plug.
6. Properly dispose of used oil.

Oil capacity	4.7 L (5.0 U.S.qts.)
--------------	----------------------



(1) Filling plug with dipstick
(2) Drain plug

(A) Oil level is acceptable within this range

EVERY 800 HOURS

■ Adjusting Engine Valve Clearance

Consult your local KUBOTA Dealer for this service.

EVERY 1 500 HOURS

■ Checking Fuel Injection Nozzle Injection Pressure

Consult your local KUBOTA Dealer for this service.

EVERY 3 000 HOURS

■ Checking Injection Pump

Consult your local KUBOTA Dealer for this service.

EVERY 1 YEAR

■ Replacing Air Cleaner Primary Element and Secondary Element

(See "Cleaning Air Cleaner Primary Element" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

IMPORTANT :

- To prevent serious damage to the engine, use only a KUBOTA genuine filter.

■ Checking the Air Conditioner Pipe and Hose

[CAB Type only]

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, consult your local KUBOTA Dealer for this service.

■ Checking the CAB Isolation Cushion

[CAB Type only]

Check the cushion for any breakage or fatigue. Replace them if they have deteriorated.

EVERY 2 YEARS

■ Flushing Cooling System and Changing Coolant



WARNING

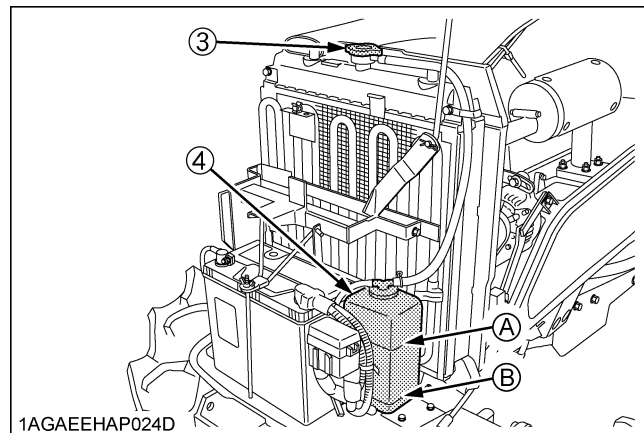
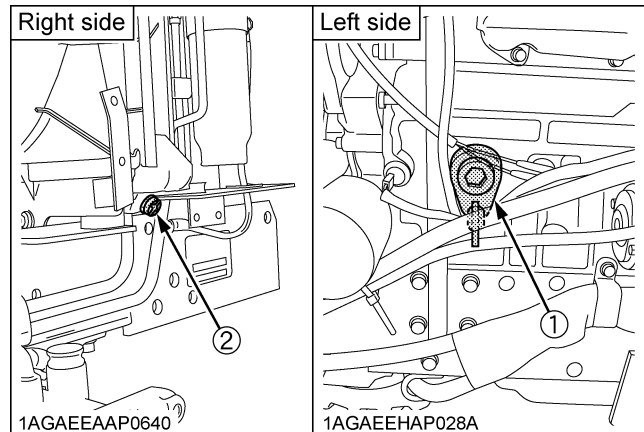
To avoid personal injury or death:

- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Stop the engine, remove the key and let it cool down.
2. To drain the coolant, open the radiator drain cock, and remove the radiator drain plug and the radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, close the drain cock and reinstall the drain plug.
4. Fill with clean soft water and cooling system cleaner.
5. Follow directions of the cleaner instruction.
6. After flushing, fill with clean soft water and anti-freeze until the coolant level is just below the radiator cap. Install the radiator cap securely.
7. Fill with coolant up to the "FULL" mark of recovery tank.
8. Start and operate the engine for few minutes.
9. Stop the engine, remove the key and let cool.
10. Check coolant level of recovery tank and add coolant if necessary.

11. Properly dispose of used coolant.

Model	Coolant capacity (with recovery tank)
B3150/B3150SU ROPS	4.3 L (4.5 U.S.qts.)
B3150 CAB	5.4 L (5.7 U.S.qts.)



- (1) Drain cock
(2) Drain plug
(3) Radiator cap
(4) Recovery tank

- (A) "FULL"
(B) "LOW"

IMPORTANT :

- Do not start engine without coolant.
- Use clean, fresh soft water and anti-freeze to fill the radiator and recovery tank.
- When mixing the anti-freeze with water, the anti-freeze mixing ratio is 50%.
- Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

■Anti-Freeze



WARNING

To avoid personal injury or death:

- When using antifreeze, put on some protection such as rubber gloves (Antifreeze contains poison.).
- If it is swallowed, seek immediate medical help. Do NOT make a person throw up unless told to do so by poison control or a health care professional. Use standard first aid and CPR for signs of shock or cardiac arrest. Call your local Poison Control Center or your local emergency number for further assistance.
- When antifreeze comes in contact with the skin or clothing, wash it off immediately.
- Do not mix different types of Antifreeze. The mixture can produce chemical reaction causing harmful substances.
- Antifreeze is extremely flammable and explosive under certain conditions. Keep fire and children away from antifreeze.
- When draining fluids from the engine, place some container underneath the engine body.
- Do not pour waste onto the grounds, down a drain, or into any water source.
- Also, observe the relevant environmental protection regulations when disposing of antifreeze.

Always use a 50/50 mix of long-life coolant and clean soft water in KUBOTA engines.

Consult your local KUBOTA Dealer concerning coolant for extreme conditions.

1. Long-life coolant (hereafter LLC) comes in several types. Use ethylene glycol (EG) type for this engine.
2. Before employing LLC-mixed cooling water, fill the radiator with fresh water and empty it again. Repeat this procedure 2 or 3 times to clean up the inside.
3. Mixing the LLC
Premix 50% LLC with 50% clean soft water. When mixing, stir it up well, and then fill into the radiator.
4. The procedure for the mixing of water and antifreeze differs according to the make of the antifreeze and the ambient temperature. Refer to SAE J1034 standard, more specifically also to SAE J814c.

Vol % Anti-freeze	Freezing Point		Boiling Point*	
	°C	°F	°C	°F
50	-37	-34	108	226

* At 1.013×10^5 Pa (760mmHg) pressure (atmospheric).
A higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

5. Adding the LLC
 - (1) Add only water if the mixture reduces in amount by evaporation.
 - (2) If there is a mixture leak, add the LLC of the same manufacturer and type in the same mixture percentage.
 - * Never add any long-life coolant of different manufacturer. (Different brands may have different additive components, and the engine may fail to perform as specified.)
6. When the LLC is mixed, do not employ any radiator cleaning agent. The LLC contains anticorrosive agent. If mixed with the cleaning agent, sludge may build up, adversely affecting the engine parts.
7. Kubota's genuine long-life coolant has a service life of 2 years. Be sure to change the coolant every 2 years.

NOTE :

- The above data represent industry standards that necessitate a minimum glycol content in the concentrated antifreeze.

■Replacing Radiator Hose (Water pipes)

Replace the hoses and clamps.

(See "Checking Radiator Hose and Clamp" in "EVERY 200 HOURS" in "PERIODIC SERVICE" section.)

■Replacing Power Steering Hose

Consult your local KUBOTA Dealer for this service.

■Replacing Fuel Hose

Consult your local KUBOTA Dealer for this service.

■Replacing Intake Air Line

Consult your local KUBOTA Dealer for this service.

■Replacing the Air Conditioner Hose

[CAB Type only]

Consult your local KUBOTA Dealer for this service.

SERVICE AS REQUIRED

■ Bleeding Fuel System

Air must be removed:

1. When the fuel filter or lines are removed.
2. When the tank is completely empty.
3. After the tractor has not been used for a long period of time.

◆ Bleeding procedure is as follows:

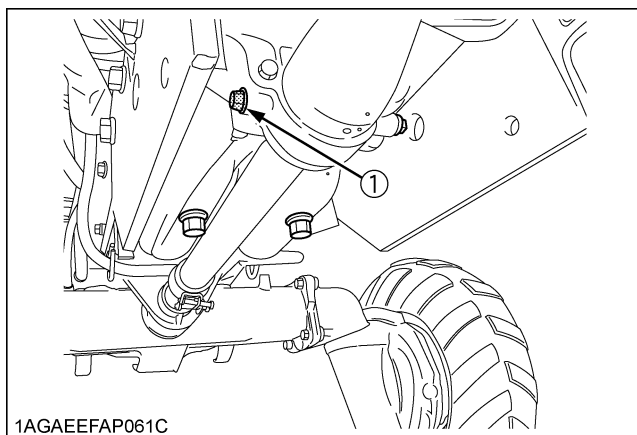
1. Fill the fuel tank with fuel.
2. Start the engine and run for about 30 seconds, and then stop the engine.

■ Draining Clutch Housing Water

The tractor is equipped with a drain plug under the clutch housing.

After operating in rain, snow or tractor has been washed, water may get into the clutch housing.

Remove the drain plug and drain the water, then install the plug again.



(1) Water drain plug

■ Replacing Fuse

The tractor electrical system is protected from potential damage by fuses.

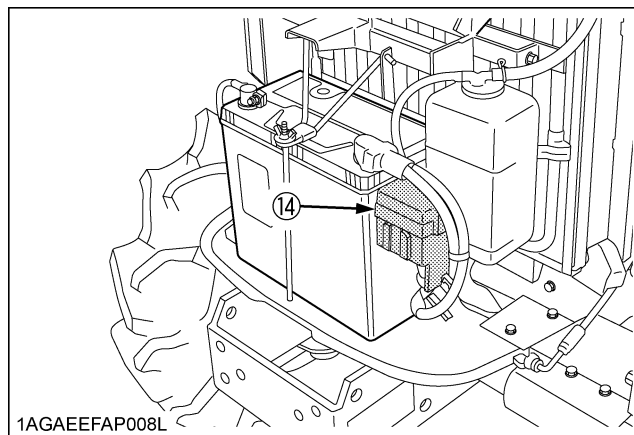
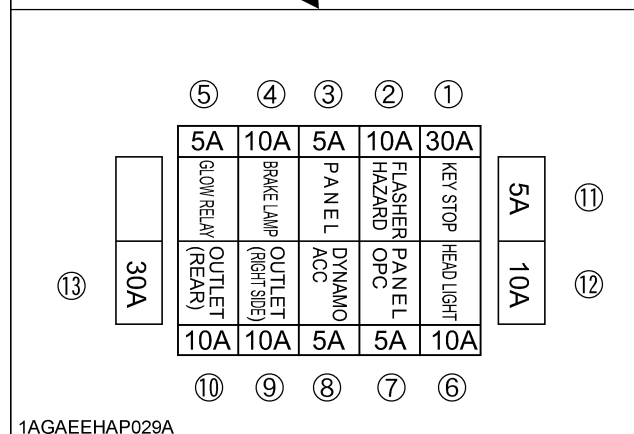
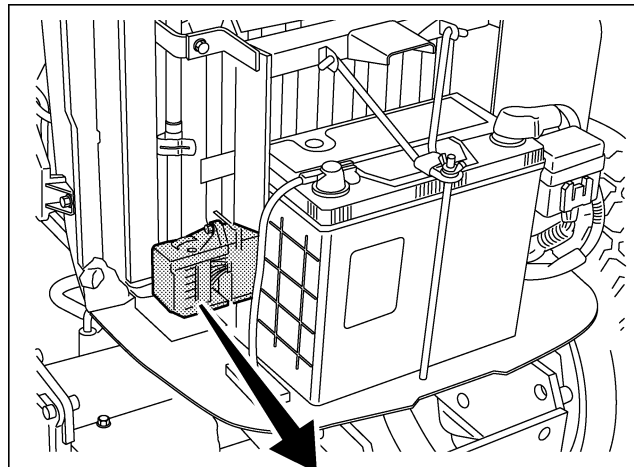
A blown fuse indicates that there is an overload or short somewhere in the electrical system.

If any of the fuses should blow, replace with a new one of the same capacity.

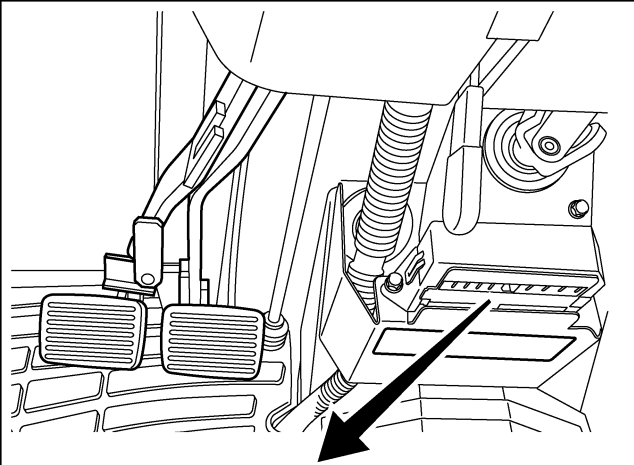
IMPORTANT :

- Before replacing a blown fuse, determine why the fuse blew and make any necessary repairs. Failure to follow this procedure may result in serious damage to the tractor electrical system. Refer to the "TROUBLESHOOTING" section of this manual or your local KUBOTA Dealer for specific information dealing with electrical problems.

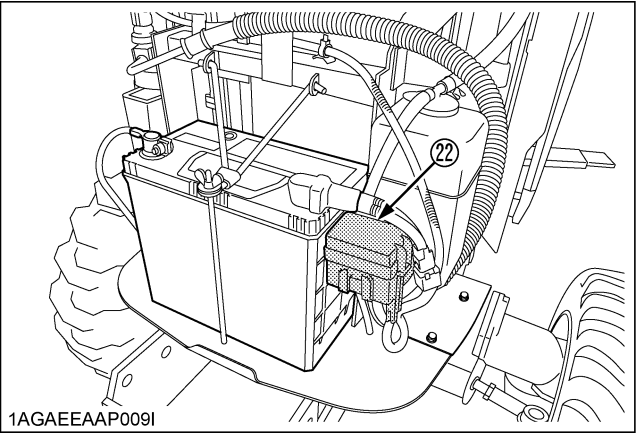
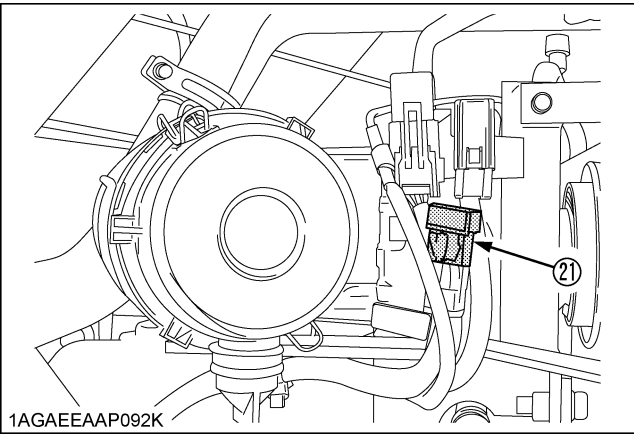
[ROPS Type]



[CAB Type]



		⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯		
		10A	5A	10A	5A	20A	15A	20A	20A	15A	⑰
⑱	5A		OUTLET (REAR)	OUTLET (FRONT)	HEAD LIGHT	PANEL	WIPER	RADIO	AIRCON	WORK LIGHT	
⑰	10A		OUTLET (REAR)	OUTLET (FRONT)	HEAD LIGHT	PANEL	WIPER	RADIO	AIRCON	WORK LIGHT	
		10A	10A	15A	15A	5A	15A	7.5A	5A		⑲
		①	②	③	④	⑤	⑥	⑦	⑧		⑲



◆ Protected circuit

B3150 / B3150SU [ROPS Type]		
FUSE No.	CAPACITY (A)	Protected circuit
(1)	30	Key Stop
(2)	10	Flasher / Hazard
(3)	5	Panel
(4)	10	Brake Stop Lamp
(5)	5	Glow Relay
(6)	10	Head Light
(7)	5	Panel / OPC
(8)	5	Dynamo / ACC Relay
(9)	10	Outlet (Right side)
(10)	10	Outlet (Rear)
(11)	5	Spare Fuse
(12)	10	Spare Fuse
(13)	30	Spare Fuse
(14)	Slow blow fuse	Check circuit against wrong battery connection

B3150 [CAB Type]		
FUSE No.	CAPACITY (A)	Protected circuit
(1)	10	Outlet (Rear)
(2)	10	Outlet (Front)
(3)	15	Head Light / Horn
(4)	15	Flasher / Hazard
(5)	5	Panel
(6)	15	Wiper
(7)	7.5	Aircon
(8)	5	Radio
(9)	10	Brake Stop Lamp
(10)	5	Panel / OPC
(11)	10	Alternator / ACC Relay
(12)	5	Glow Relay
(13)	20	Defogger
(14)	15	Radio / Dome Light
(15)	20	Aircon Blower
(16)	20	Work Light
(17)	10	Spare Fuse
(18)	5	Spare Fuse
(19)	15	Spare Fuse
(20)	20	Spare Fuse
(21)	30	Key Stop
(22)	Slow blow fuse	Check circuit against wrong battery connection

■ Replacing Light Bulb

- Head lights.
Take the bulb out of the light body and replace with a new one.
- Other lights
Detach the lens and replace the bulb.

[ROPS Type]

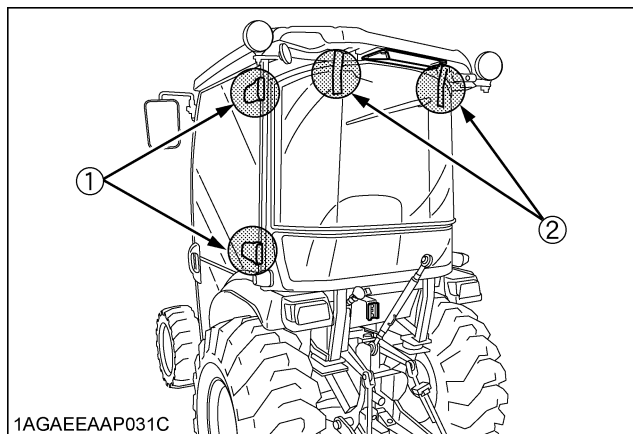
Light	Capacity
Head light	23 W
Tail light / Brake stop light	5 W / 21 W
Turn signal / Hazard light	32 CP

[CAB Type]

Light	Capacity
Head light	23 W
Tail light / Brake stop light	5 W / 21 W
Turn signal / Hazard light	20 W / 32 CP
Front work light	35 W
Dome light (Room lamp)	5 W

■ Lubricating Points

[CAB Type only]



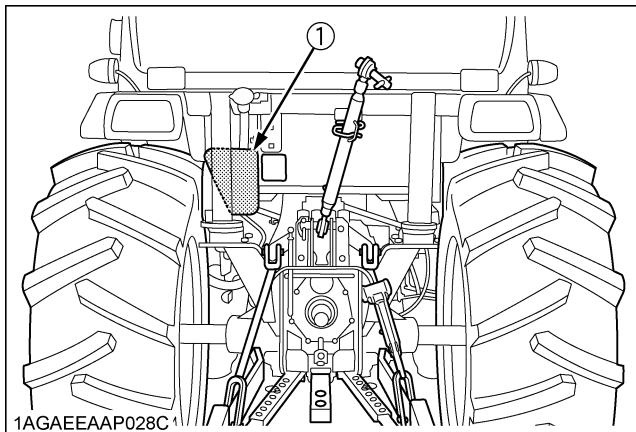
- (1) Door hinge
(2) Rear window hinge

■ Adding Window Washer Fluid

[CAB Type only]

Add a proper amount of automobile washer fluid.

(Tank capacity: 1.5 liters (0.40 U.S.gals.))



(1) Washer fluid tank

■ Checking the Amount of Refrigerant (gas)

[CAB Type only]



WARNING

To avoid personal injury or death:

- Liquid contact with eyes or skin may cause frostbite.
- In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to eyes.
- In contact with a flame, R134a refrigerant gives a toxic gas.
- Do not disconnect any part of the refrigeration circuit of the air conditioning system. Consult your local KUBOTA Dealer for assistance and service.

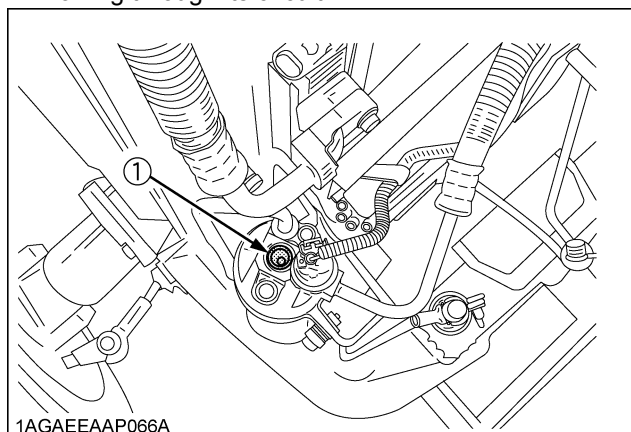
A shortage of refrigerant impairs the air-conditioner performance. Check the following points. If it is indicated that the amount of refrigerant is extremely low, ask your dealer to inspect and charge.

◆ Checking procedure

1. Run the air-conditioner in the following conditions.

● Engine speed:	About 1500 rpm
● Temperature control lever:	Maximum cooling position (leftmost)
● Fan switch:	Highest blow (HI)
● Air-conditioner switch:	ON

2. Look into the sight glass to see if the refrigerant is flowing through its circuit.

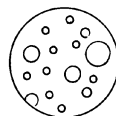


(1) Sight glass



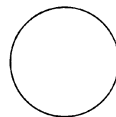
Proper

Little or no air bubbles in the refrigerant flow.



Low:

Lots of air bubbles in the refrigerant flow (air bubbles or foam passing continuously).



Overfull or no refrigerant: Colorless and transparent.

1AGAMAAP077A

IMPORTANT :

- Charge only with R134a not R12 refrigerant (gas).

STORAGE



WARNING

To avoid personal injury or death:

- Do not clean the machine while the engine is running.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- When storing, remove the key from the key switch to avoid unauthorized persons from operating the tractor and getting injured.

TRACTOR STORAGE

If you intend to store your tractor for an extended period of time, follow the procedures outlined below. These procedures will insure that the tractor is ready to operate with minimum preparation when it is removed from storage.

1. Check the bolts and nuts for looseness, and tighten if necessary.
2. Apply grease to tractor areas where bare metal will rust also to pivot areas.
3. Detach the weights from the tractor body.
4. Inflate the tires to a pressure a little higher than usual.
5. Change the engine oil and run the engine to circulate oil throughout the engine block and internal moving parts for about 5 minutes.
6. With all implements lowered to the ground, coat any exposed hydraulic cylinder piston rods with grease.
7. Remove the battery from the tractor. Store the battery following the battery storage procedures.
(See "Battery" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)
8. Keep the tractor in a dry place where the tractor is sheltered from the elements. Cover the tractor.
9. Store the tractor indoors in a dry area that is protected from sunlight and excessive heat. If the tractor must be stored outdoors, cover it with a waterproof tarpaulin. Jack the tractor up and place blocks under the front and rear axles so that all 4 tires are off the ground. Keep the tires out of direct sunlight and extreme heat.

IMPORTANT :

- When washing the tractor, be sure to stop the engine. Allow sufficient time for the engine to cool before washing.
- Cover the tractor after the muffler and the engine have cooled down.

REMOVING THE TRACTOR FROM STORAGE

1. Check the tire air pressure and inflate the tires if they are low.
2. Jack the tractor up and remove the support blocks from under the front and rear axles.
3. Install the battery. Before installing the battery, be sure it is fully charged.
4. Check the fan belt tension.
5. Check all fluid levels (engine oil, transmission/hydraulic oil, engine coolant and any attached implements).
6. Start the engine. Observe all gauges. If all gauges are functioning properly and reading normal, move the tractor outside. Once outside, park the tractor and let the engine idle for at least 5 minutes. Shut the engine off and walk around tractor and make a visual inspection looking for evidence of oil or water leaks.
7. With the engine fully warmed up, release the parking brake and test the brakes for proper adjustment as you move forward. Adjust the brakes as necessary.

TROUBLESHOOTING

ENGINE TROUBLESHOOTING

If something is wrong with the engine, refer to the table below for the cause and its corrective measure.

Trouble		Cause	Countermeasure
Engine is difficult to start or won't start.		● No fuel flow.	● Check the fuel tank and the fuel filter. Replace filter if necessary.
		● Air or water is in the fuel system.	● Check to see if the fuel line coupler bolt and nut are tight. ● Bleed the fuel system (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)
		● In winter, oil viscosity increases, and engine revolution is slow.	● Use oils of different viscosities, depending on ambient temperatures. ● Use engine block heater. (Option)
		● Battery becomes weak and the engine does not turn over quick enough.	● Clean battery cables & terminals. ● Charge the battery. ● In cold weather, always remove the battery from the engine, charge and store it indoors. Install it on the tractor only when the tractor is going to be used.
Insufficient engine power.		● Insufficient or dirty fuel. ● The air cleaner is clogged.	● Check the fuel system. ● Clean or replace the element.
Engine stops suddenly.		● Insufficient fuel.	● Refuel. ● Bleed the fuel system if necessary.
Exhaust fumes are colored.	Black	● Fuel quality is poor. ● Too much oil. ● The air cleaner is clogged.	● Change the fuel and fuel filter. ● Check the proper amount of oil. ● Clean or replace the element.
	Blue white	● The inside of exhaust muffler is dumped with fuel. ● Injection nozzle trouble. ● Fuel quality is poor.	● Heat the muffler by applying load to the engine. ● Check the injection nozzle. ● Change the fuel and fuel filter.
Engine overheats		● Engine overloaded	● Shift to lower gear or reduce load.
		● Low coolant level	● Fill cooling system to the correct level; check radiator and hoses for loose connections or leaks.
		● Loose or defective fan belt	● Adjust or replace fan belt.
		● Dirty radiator core or grille screens	● Remove all trash.
		● Coolant flow route corroded	● Flush cooling system.

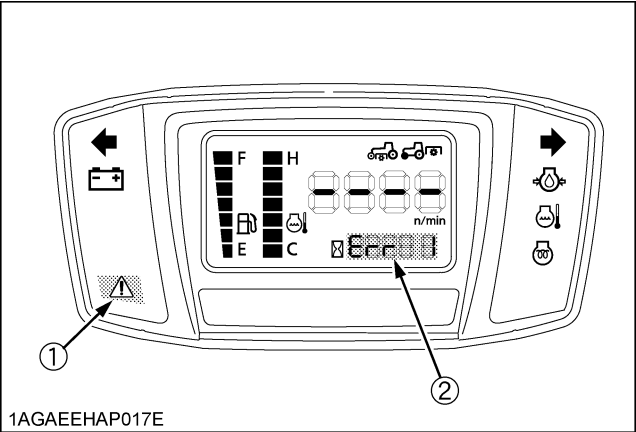
If you have any questions, consult your local KUBOTA Dealer.

Trouble	Operator's action
Engine not overheated, but engine warning indicator on.	Stop the engine and get it restarted. If the engine fails to restart or the indicator stays on, immediately contact your local KUBOTA dealer.

If you have any questions, consult your local KUBOTA Dealer.

POWER TRAIN TROUBLE SHOOTING

If something is wrong with the power train, the master system warning indicator starts blinking and the error code shown below is displayed on the liquid crystal display, indicating the location of the trouble. If an error code appears, immediately contact your local KUBOTA Dealer for repairs.



(1) Master system warning indicator
(2) Error code

Displayed error code	Trouble	Operator's action
Err 1	Water temperature sensor trouble	Contact your local KUBOTA Dealer.
Err 2	Fuel sensor trouble	
Err 3	Meter panel memory reading trouble	

OPTIONS

Consult your local KUBOTA Dealer for further detail.

- Rear Work Light.
High visibility for night work.
 - Front end weights
For front ballast
 - Mounting Kit (Front end weights)
To mount Front end weights
 - Engine Block Heater
For extremely cold weather starting
 - Rear Remote Hydraulics [CAB Type only]
 - Cruise Control Kit [B3150SU only]
 - Telescopic Lower Links Kit [B3150SU only]
 - Lifting Rod Kit [B3150SU only]
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