



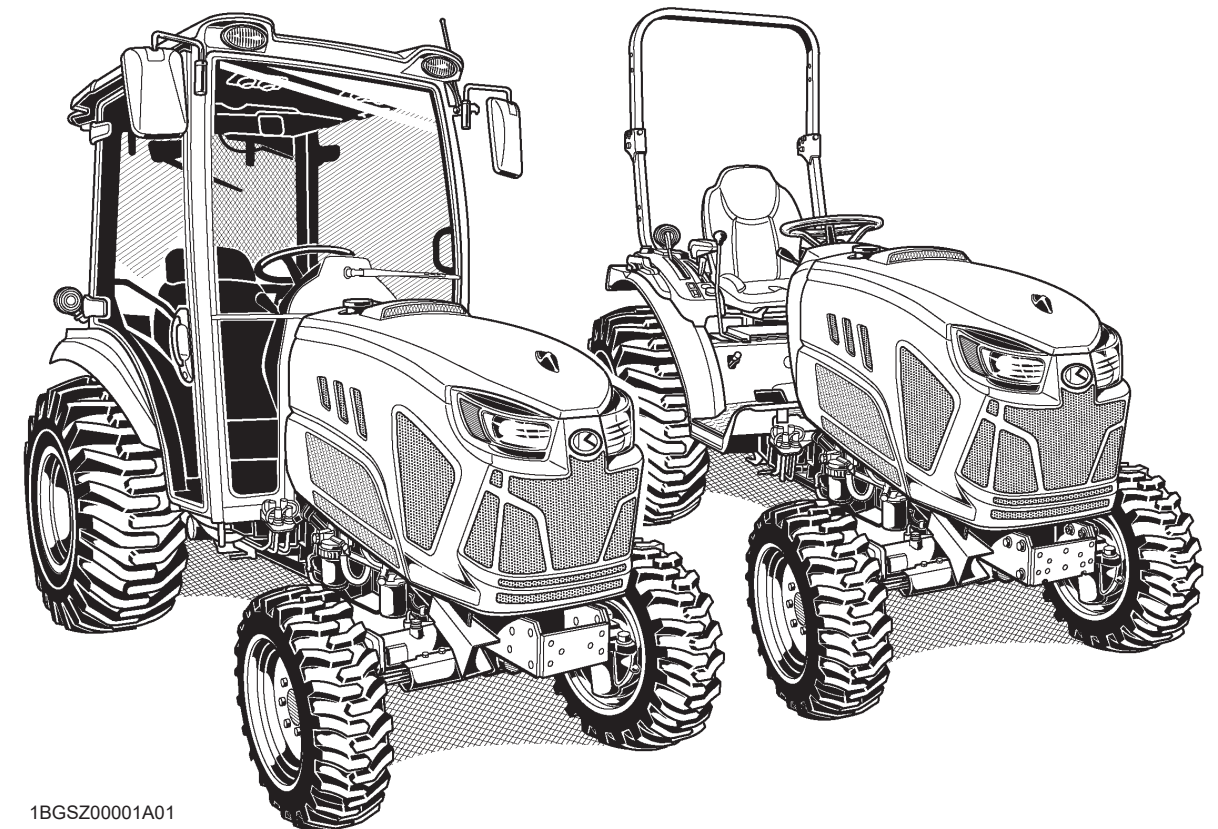
- U.S.A. : **Kubota Tractor Corporation**
1000 Kubota Drive, Grapevine, Texas 76051, U.S.A.
Telephone : (1)-817-756-1171
- Canada : **Kubota Canada Ltd.**
1155 Kubota Drive, Pickering, Ontario L1X 0H4, Canada
Telephone : (1)-905-294-6535
- France : **Kubota Europe S.A.S.**
19-25, Rue Jules Vercurysse, 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 Baumaschinen GmbH**
Steinhauser Straße 100, 66482 Zweibrücken Rheinlandpfalz, Germany
Telephone : (49)-6332-4870
- U.K. : **KUBOTA (U.K.) LTD.**
Dormer Road, Thame, Oxfordshire, OX9 3UN, U.K.
Telephone : (44)1844-214500
- Spain : **Kubota España S.A.**
Calle Fernando Alonso número 15, Leganés, 28914 (Madrid), Spain
Telephone : (34)-91-508-6442
- Turkey : **KUBOTA TURKEY MAKINE TIC.LTD.ŞTİ.**
Cumhuriyet Mah. Yahya Kaptan Cad. No:3 Cayirova / Kocaeli/Turkey 41420
Telephone : (90)262-658-9045
- Australia : **KUBOTA AUSTRALIA PTY LTD.**
25-29 Permas Way, Truganina, VIC 3029, Australia
Telephone : (61)-3-9394-4400
- Malaysia : **KUBOTA MALAYSIA SDN. BHD.**
Lot 766, Jalan Subang 4, off Persiaran Subang Sungai Penaga Industrial Park,
47500 Subang Jaya
Telephone : (60)-3-7890-3533
- Philippines: **KUBOTA PHILIPPINES, INC.**
232 Quirino Highway, Baesa, Quezon City 1106, Philippines
Telephone : (63)2-422-3500
- 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.**
41-27, Jayumuyeok-gil, Baeksan-myeon, Gimje-si, Jeollabuk-do, Korea
Telephone : (82)-63-544-5822
- India : **KUBOTA AGRICULTURAL MACHINERY INDIA PVT. LTD.**
B 500 A & C, Indospace Industrial Park, 104 Polivakkam Village,
Sriperumbadur-Thiruvallur Main Road, Thiruvallur District-602 002.
Telephone : (91)44-4019-2000
- Vietnam : **KUBOTA VIETNAM CO., LTD.**
Lot B-3A2-CN, My Phuoc 3 Industrial Park, Thoi Hoa Ward, Ben Cat Town, Binh Duong Province, Vietnam
Telephone : (84)-274-3577-507

English (U.S.A.)
Code No. 6F170-6313-2

OPERATOR'S MANUAL

KUBOTA TRACTOR

MODELS LX3520 LX3520SU LX4020



1BGSZ00001A01

L
X
3
5
2
0

L
X
3
5
2
0
S
U

L
X
4
0
2
0

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
GST	Glide shift transmission
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

California Proposition 65

 **WARNING** 

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Canadian Electromagnetic Compatibility (EMC):
This machine complies with Industry Canada ICES-002.

UNIVERSAL SYMBOL

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.

■ General

	Safety alert symbol
	Master system warning
	Fast
	Slow
	Read operator's manual
	Lock
	Unlock
	On
	Off

■ Engine-related

	Diesel fuel
	Fuel level
	Hour meter / elapsed operating hours
	Engine coolant - temperature
	Engine oil - pressure
	Water separator
	Engine - warning
	Engine - rotational speed
n/min	
	Engine - rpm memory A
n/min	
	Engine - rpm memory B
n/min	
	Engine - rpm increase
n/min	

	Engine - run
	Engine - start
	Engine - stop
	Diesel preheat / glow plugs (low temperature start aid)
	Emission control
	Regeneration
	Regeneration inhibit
	Regeneration (switch)
	Parked regeneration

■ Vehicle body-related

	Tractor forward movement - overhead view
	Tractor rearward movement - overhead view
	4-wheel drive - on
	4-wheel drive - off
	Tractor front-wheel drive
	Cruise control
	Clutch
	Brake
	Parking brake



Differential lock



Steering wheel - tilt control

■ PTO-related



Power take-off control - off position (disengaged)



Power take-off clutch control - off position (disengaged)



Power take-off control - on position (engaged)



Power take-off clutch control - on position (engaged)



Stationary PTO



Rear PTO



Mid PTO

■ Hydraulic-related



Position control - lowered position



3-point lowering speed control



Position control - raised position



Remote cylinder - retract



Remote cylinder - extend



Remote cylinder - float

■ Electric-related



Battery charging condition



Headlight



Work light



Turn signal indicator



Hazard warning lights



Audible warning device



Beacon light



Front wiper/washer switch



Rear wiper/washer switch



Air circulation fan



Introduction of indoor air



Introduction of outer air



Rear window defroster

FOREWORD

Thank you for the purchase of a Kubota product.

Before using this product, read this manual carefully and use the product correctly. After reading, keep the manual in a safe and easy-to-access place for future reference. Note that product specifications are subject to change without prior notice. The product delivered to you may differ slightly from the product described in the manual.



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.

OTHERS

About trademarks

Trademark	Owner
AdBlue®	AdBlue is a registered trademark of the VDA - Verband der Automobilindustrie e.V. (The German Association of the Automotive Industry).

Company names, product names and service names described in this manual are the trademarks or registered trademarks of their respective owners. In the text, those names are not accompanied by trademark symbols (®, ™).

CONTENTS

SAFE OPERATION	11
SERVICING OF TRACTOR	27
WARRANTY	28
SCRAPPING THE TRACTOR AND ITS PROCEDURE	28
SPECIFICATIONS	29
SPECIFICATION TABLE FOR ROPS MODEL	29
SPECIFICATION TABLE FOR CAB MODEL	31
TRAVELING SPEEDS	33
IMPLEMENT LIMITATIONS	34
IMPLEMENT SPECIFICATION TABLE	35
INSTRUMENT PANEL AND CONTROLS	36
SWITCHES AND HAND CONTROLS	36
INSTRUMENT PANEL	38
FOOT AND HAND CONTROLS	39
PRE-OPERATION CHECK	41
DAILY CHECK	41
OPERATING THE ENGINE	42
EXHAUST AFTERTREATMENT DEVICES	42
DIESEL PARTICULATE FILTER (DPF) MUFFLER	42
1. Handling points	42
2. DPF regeneration process	43
3. Operating procedure for auto regeneration mode	44
3.1 PM warning level and required procedures	45
4. Operating procedure for regeneration inhibit mode	47
4.1 PM warning level and required procedures	48
5. Operating procedure for parked regeneration	49
6. Tips on diesel particulate filter (DPF) regeneration	50
STARTING THE ENGINE	50
OPERATING THE ENGINE IN FREEZING CONDITIONS	54
1. Block heater (if equipped)	54
STOPPING THE ENGINE	54
WARMING UP THE ENGINE	54
1. Warm-up and transmission fluid at low temperature range	54
JUMP STARTING	54
OPERATING THE TRACTOR	56
OPERATION OF NEW TRACTOR	56
BOARDING AND LEAVING THE TRACTOR	56
OPERATING FOLDABLE ROPS (IF EQUIPPED)	56
1. Folding the ROPS	56
2. Raising the ROPS to upright position	57
3. Adjustment of foldable ROPS	57
STARTING THE TRACTOR	58
1. Operator's seat	58
2. Seat belt	59
3. Tilt steering adjustment	60
4. Headlight switch	60
5. Turn signal switch and hazard light switch	61
6. Horn button [CAB model only]	62
7. Brake pedals (right and left)	62

8. Parking brake lever	62
9. Range gear shift lever (L-M-H)	63
10. Front wheel drive lever	64
10.1 Front-wheel drive (4WD) usage	64
11. Hand throttle lever	64
12. Speed control pedal	65
13. Cruise control lever (if equipped)	65
STOPPING THE TRACTOR	66
CHECK DURING DRIVING	66
1. Fuel temperature indication	66
2. Engine low temperature regulation	66
3. Easy Checker	67
4. Fuel gauge	67
5. Coolant temperature gauge	68
5.1 Overheating countermeasures	68
6. Hourmeter and tachometer	68
7. Changing display mode	68
ELECTRONIC ENGINE CONTROL	70
1. <i>RPM dual memory</i> setting	70
PARKING THE TRACTOR	73
OPERATING TECHNIQUES	74
1. Differential lock	74
2. Operating the tractor on a road	74
3. Operating on slopes and rough terrain	75
4. Transporting the tractor safely	75
5. Directions for the use of power steering	75
6. Accelerator auto throttle system	76
7. Electrical outlet	76
PTO	77
PTO OPERATION	77
1. PTO clutch control switch	77
1.1 LCD monitor message	79
2. Rear PTO gear shift lever	79
3. Mid-PTO gear shift lever (if equipped)	79
4. Rear and mid-PTO speed table	80
5. PTO shaft cover and shaft cap	80
6. How to use the stationary PTO	80
3-POINT HITCH AND DRAWBAR	83
THE 3-POINT HITCH SETUP	85
1. Selecting the holes of lower links	85
2. Selecting the holes to mount the top link	85
3. Drawbar	86
4. Adjusting the lifting rod (right)	86
5. Adjusting the top link	86
6. Telescopic stabilizers	87
7. Telescopic lower links [CAB model]	87
DRAWBAR	87
1. Adjusting drawbar length	87
HYDRAULIC UNIT	89
3-POINT HITCH CONTROL SYSTEM	89
1. Position control	89
2. 3-point hitch lowering speed knob	89
AUXILIARY HYDRAULICS	90
1. Hydraulic block type outlet	90
2. Dual remote hydraulic control system	91
2.1 Control lever and hydraulic hose connections	91

2.2 Loader/remote control valve lever	92
2.3 Valve lock	92
3. Rear hydraulic outlet (option)	93
4. Remote hydraulic control system (option)	93
4.1 Remote control valve	93
4.2 Remote control valve lever (option)	93
5. Remote control valve coupler	95
6. Hydraulic control unit use-reference chart	96
TIRES, WHEELS AND BALLAST	97
TIRES	97
1. Inflation pressure	97
2. Dual tires	97
WHEEL ADJUSTMENT	97
1. Front wheels	97
1.1 Front jack point	98
2. Rear wheels	98
2.1 Rear jack point	98
3. Treads	99
BALLAST	100
1. Front ballast	100
1.1 Front end weights (option)	100
2. Rear ballast	100
2.1 Liquid ballast in rear tires	100
3. Overall ballast	101
CAB OPERATION	102
DOORS AND WINDOWS	102
1. Locking and unlocking the door	102
2. Opening the door	102
3. Rear window	102
4. Rear window half-lock	102
5. Emergency exit	103
LIGHT	103
1. Dome light	103
2. Work light switch	103
3. Front work light	104
4. Rear work light (if equipped)	104
WIPER	104
1. Front wiper and washer switch	104
2. Rear wiper and washer switch [except SU model]	104
3. Using the wipers in cold season	104
AIR CONDITIONER	105
1. Airflow	105
2. Air control vent	105
2.1 Front air outlet	105
2.2 Side air outlet and door air outlet	105
2.3 Recirculation or fresh air selection lever	106
3. Control panel	106
3.1 Mode switch	106
3.2 Temperature control dial	106
3.3 Blower switch	106
3.4 Air conditioner switch	106
4. Operation	107
4.1 Heating	107
4.2 Cooling or dehumidifying-heating	107
4.3 Foot warming and head cooling	107
4.4 Defrosting or demisting	108

REAR DEFOGGER [EXCEPT SU MODEL]	108
HANGER.....	109
MAINTENANCE.....	110
SERVICE INTERVALS.....	110
LUBRICANTS, FUEL AND COOLANT	113
1. Biodiesel fuel (BDF) B0-B20.....	115
PERIODIC SERVICE	117
WASTE DISPOSAL	117
HOW TO OPEN THE HOOD	117
1. Hood	117
1.1 Opening the hood.....	117
1.2 Closing the hood	118
2. Engine side cover	118
DAILY CHECK	118
1. Walk around inspection	118
2. Checking and refueling	118
3. Checking water separator.....	119
4. Checking engine oil level	120
5. Checking transmission fluid level	120
6. Checking coolant level.....	121
7. Cleaning evacuator valve	121
8. Cleaning air conditioner condenser screen [CAB model]	121
9. Cleaning grill and radiator screen	121
10. Checking DPF muffler.....	122
11. Checking brake pedal	122
12. Checking gauges, meter and Easy Checker	122
13. Checking headlight, hazard light, and so on.....	122
14. Checking seat belt and ROPS	123
15. Checking and cleaning of electrical wiring and battery cables	123
16. Checking movable parts	123
EVERY 50 HOURS	123
1. Lubricating grease fittings.....	123
2. Checking engine start system	124
3. Checking wheel bolt torque	124
EVERY 100 HOURS	125
1. Checking battery condition	125
1.1 How to read indicator	126
1.2 Charging the battery.....	126
1.3 Directions for battery storage	126
2. Cleaning air cleaner primary element.....	126
3. Adjusting fan belt tension	127
4. Adjusting brake pedal	128
EVERY 200 HOURS OR 1 YEAR.....	128
1. Changing engine oil.....	128
EVERY 200 HOURS	129
1. Replacing engine oil filter	129
2. Replacing transmission oil filter	129
3. Checking the power steering line	130
4. Adjusting toe-in.....	131
5. Adjusting air conditioner belt tension [CAB model].....	131
6. Cleaning inner air filter [CAB model]	131
7. Cleaning fresh air filter [CAB model]	132
7.1 Cleaning the filter	132
8. Checking the air conditioner condenser [CAB model]	132
EVERY 400 HOURS.....	133
1. Replacing water separator element.....	133

2. Changing transmission fluid	133
3. Replacing hydraulic oil filter	134
4. Replacing fuel filter	135
5. Adjusting front axle pivot (4WD)	135
6. Changing front axle gear case oil	135
EVERY 800 HOURS	136
1. Adjusting engine valve clearance	136
EVERY 1000 HOURS OR 1 YEAR	136
1. Replacing air cleaner primary element and secondary element	136
EVERY 1500 HOURS	136
1. Cleaning fuel injector nozzle injection pressure	136
2. Checking EGR cooler	136
EVERY 2000 HOURS OR 2 YEARS	136
1. Flushing cooling system and changing coolant	136
2. Antifreeze	137
EVERY 3000 HOURS	138
1. Checking EGR system	138
2. Checking supply pump	138
3. Checking turbocharger	138
EVERY 3000 HOURS TO 6000 HOURS	138
1. Cleaning DPF muffler	138
EVERY 1 YEAR	138
1. Checking exhaust manifold	138
2. Checking the radiator hoses and clamps	138
3. Checking fuel lines	139
4. Checking intake air line	139
5. Checking the air conditioner pipe and hose [CAB model]	139
6. Checking CAB isolation cushion [CAB model]	139
EVERY 2 YEARS	139
1. Checking radiator hose (water pipes)	139
2. Checking power steering line	139
3. Checking air conditioner hose [CAB model]	139
EVERY 4 YEARS	140
1. Replacing fuel lines	140
2. Replacing intake air line	140
3. Replacing differential pressure sensor hose	140
SERVICE AS REQUIRED	140
1. Bleeding fuel system	140
2. Draining clutch housing water	140
3. Replacing fuses	141
4. Replacing slow-blow fuses	142
5. Replacing light bulb	143
5.1 Replacing headlamp [SU model only]	143
5.2 Replacing tail light	144
5.3 Replacing room lamp [CAB model only]	144
6. Replacing the LED light	145
7. Lubricating points for door and window [CAB model]	145
8. Adding washer liquid [CAB model]	145
9. Checking amount of refrigerant (gas) [CAB model]	145
10. Replacing radiator hose (water pipes)	146
11. Replacing fuel lines	146
12. Replacing the intake air line	146
STORAGE	147
TRACTOR STORAGE	147
REMOVING THE TRACTOR FROM STORAGE	147
TROUBLESHOOTING	148

ENGINE TROUBLESHOOTING	148
POWERTRAIN TROUBLE SHOOTING.....	149
OPTIONS	150
LIST OF OPTIONS	150
MOUNTING THE SUPPORT PLATE.....	150
1. Installation procedures	150
INDEX.....	152

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.

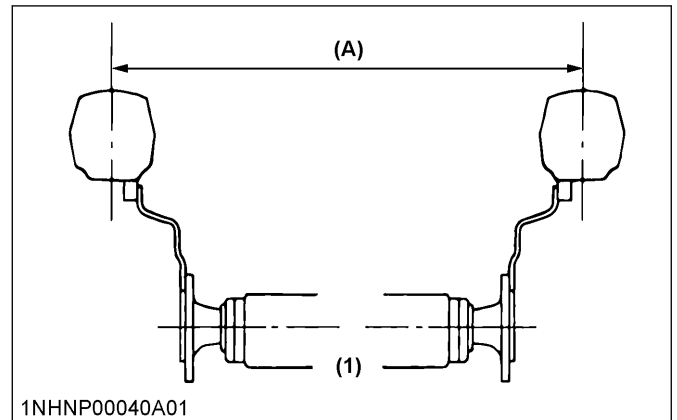
BEFORE OPERATING THE TRACTOR

Before operating the tractor, adhere to the following instructions, and safely operate the tractor.

1. General

- Pay special attention to the safety labels on the tractor.
- Do not operate the tractor or any implement attached to it while under the influence of alcohol, medication, controlled substances or while fatigued.
- Carefully check the vicinity before operating the tractor or any implement attached to it.
Do not allow any bystanders around or near the tractor during operation.
- Before allowing other people to use your tractor, explain how to operate and have them read this manual before operation.
- Never wear loose, torn, or bulky clothing around the tractor. It may catch on moving parts or controls, leading to the risk of an accident.
Use additional safety items, such as a hard hat, safety boots or shoes, eye and hearing protection, gloves and so on, as appropriate or required.
- Do not allow passengers to ride on any part of the tractor at any time. The operator must remain in the tractor seat during operation.
- 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. (See MAINTENANCE on page 110.)
- Keep your tractor clean. Dirt, grease, and trash buildup may contribute to fires and lead to personal injury.
- Use only implements meeting the specifications listed in this manual or implements approved by Kubota. (See IMPLEMENT LIMITATIONS on page 34.)

- 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 maintain proper balance and braking. Follow the safe operating procedures specified in the implement or attachment manual.
- 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 on page 97.)



(1) Rear wheels

(A) Tread width

- Do not modify the tractor. Unauthorized modification may affect the function of the tractor, which may result in personal injury.
- Do not make any modifications to the engine or emission components as they may result in damage and malfunctions such as:
 - Damage to the powertrain from excessive engine output.
 - Engine overheating caused by exceeding the engine cooling performance capabilities.
 - Malfunctions of the exhaust gas aftertreatment control devices.

Modifications to the engine and its emission components may violate emission regulations and are subject to fines and penalties.

Kubota and its affiliates are not liable for any damage, malfunction or accidents caused by modifications to the engine or emission components.

2. CAB and ROPS

- Kubota recommends the use of a CAB or roll over protective structures (ROPS) and seat belt in almost all applications. This combination will reduce

SAFE OPERATION

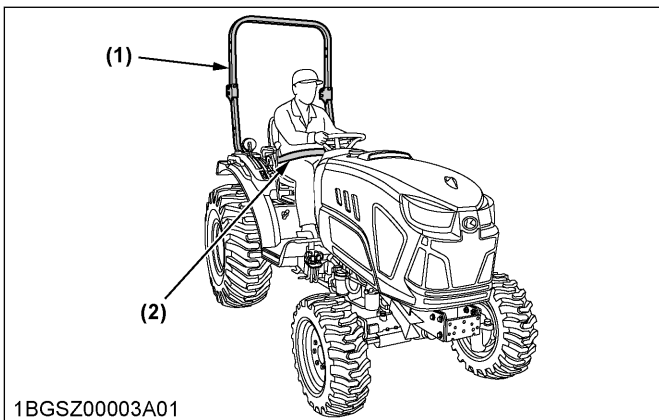
the risk of serious injury or death, should the tractor be upset. Check for overhead clearance which may interfere with a CAB or ROPS.

- Set the parking brake and stop the 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.
- If the CAB or ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.
- Never modify or repair any structural member of a CAB or ROPS because welding, bending, drilling, grinding, or cutting may weaken the structure.
- If any structural member of the CAB or ROPS is damaged, replace the entire structure at your local Kubota Dealer.
- 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.

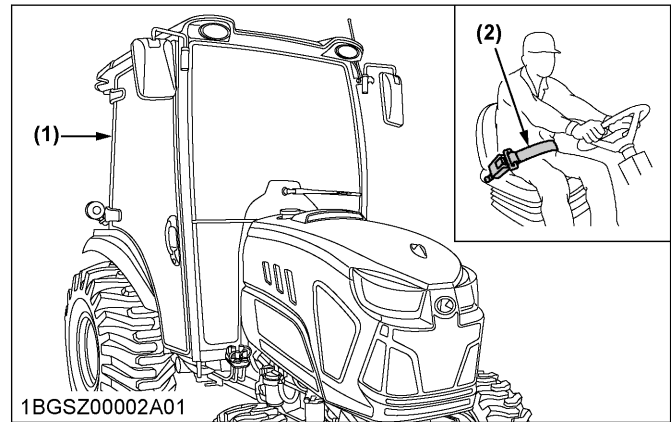
- Always use the seat belt if the tractor has a CAB or ROPS. Do not use the seat belt if a foldable ROPS is down or there is no ROPS. Check the seat belt regularly and replace if frayed or damaged.

ROPS model



- (1) ROPS
(2) Seat belt

CAB model



- (1) CAB
(2) Seat belt

- The CAB is not tested for falling object protection structure (FOPS).
- The CAB provides protection against dust but not against aerosols and vapours.
- You cannot use the CAB under conditions requiring protection against aerosols and vapours.

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, loads carried too high and so on. 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.

1. Starting to operate the tractor

- Always sit in the operator's seat when starting the engine or operating levers or controls. Adjust the seat per instructions in the operating the tractor section. Never start the engine while standing on the ground.
- 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.
- Do not start the engine by shorting across starter terminals or bypassing the safety start switch. The machine may start in gear and move if the normal starting circuitry is bypassed.

! SAFE OPERATION

- Do not operate or idle the engine in an unventilated area. Carbon monoxide gas is colorless, odorless, and deadly.
- Check that the operator presence control (OPC) system is functioning correctly before each time you use the tractor.

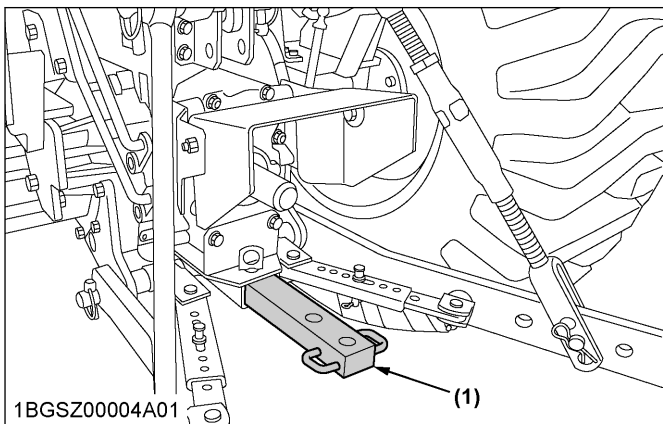
Test the safety systems.

(See Checking engine start system on page 124.)

Do not operate unless they are functioning correctly.

2. Working the tractor

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



(1) Drawbar

- For trailing PTO-driven implements, set the drawbar to the towing position.
- Attach pulled or towed loads to the drawbar only.
- Keep all shields and guards in place. Replace any that are missing or damaged.
- Avoid sudden starts. To avoid upsets, slow down when turning, on uneven ground, and before stopping.
- The tractor cannot turn with the differential locked and attempting to do so could be dangerous.
- 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.
- Watch where you are going at all times. Watch for and avoid obstacles. Be alert at row ends, near trees, and other obstructions.
- When working in groups, always let the others know what you are going to do before you do it.
- Never try to get on or off a moving tractor.
- Always sit in the operator's seat when operating levers or controls.

- Do not stand between tractor and implement or trailed vehicle unless the parking brake is applied.
- Do not operate the tractor when there is a possibility of lightning. Even if the tractor is equipped with a CAB, the operator is not safe from lightning.
- Whenever tractor is operated in reverse, confirm visibility to the rear.

3. 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.

- Never assume that children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of another responsible adult.
- Be alert and shut your machine down if children enter the work area.
- 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.
- Never allow children to operate the machine even under adult supervision.
- Never allow children to play on the machine or on the implement.
- Use extra caution when backing up. Look behind and down to make sure area is clear before moving.

4. 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.

- 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.
- Driving forward out of a ditch, mired condition or up a steep slope increases the risk of rear rollovers. 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.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, direction or braking, nor make sudden motions with the steering wheel.
- Avoid disengaging the clutch or changing gears when climbing or going down a slope. If on a slope, disengaging the clutch or changing gears to neutral could cause the loss of control.

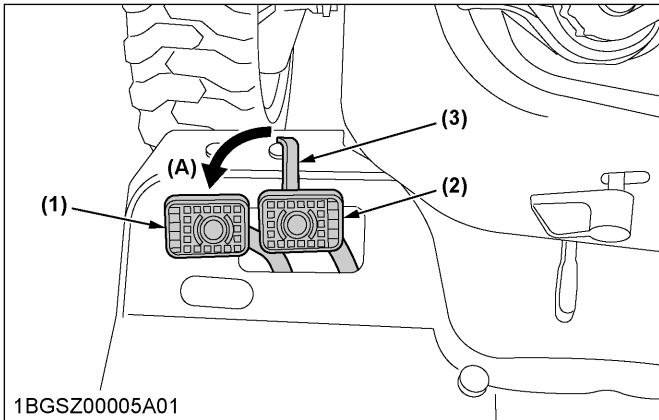
SAFE OPERATION

- Special attention should be paid to the weight and location of implements and loads as such will affect the stability of the tractor.
- To improve stability on slopes, set the widest possible wheel tread.
(See TIRES, WHEELS AND BALLAST on page 97.)
Follow the recommendations for proper ballasting.

5. Driving the tractor on the road

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

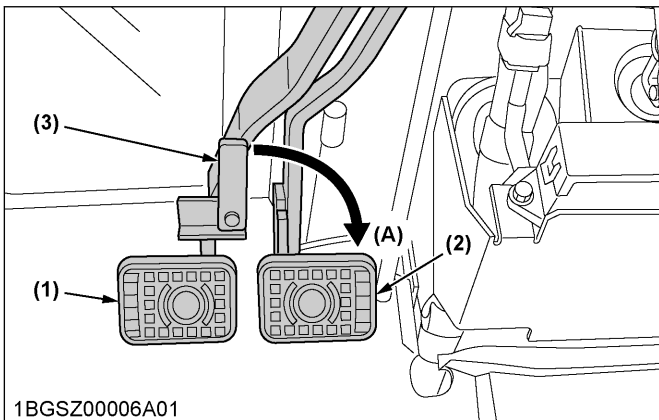
ROPS model



- (1) Brake pedal (LH)
- (2) Brake pedal (RH)
- (3) Brake pedal lock

(A) Lock the brake pedals whenever traveling on the road.

CAB model



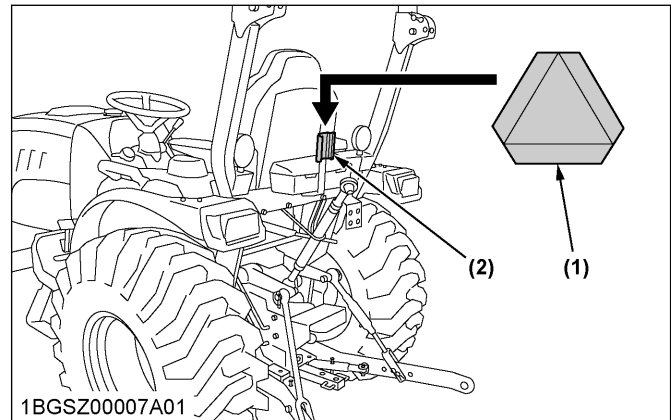
- (1) Brake pedal (LH)
- (2) Brake pedal (RH)
- (3) Brake pedal lock

(A) Lock the brake pedals whenever traveling on the road.

- Check the front wheel engagement. The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.
- When driving down a slope, engage the 4-wheel drive (if equipped) to increase traction and braking efficacy.
- Always slow down the tractor before turning. Turning at high speed may tip over the tractor.

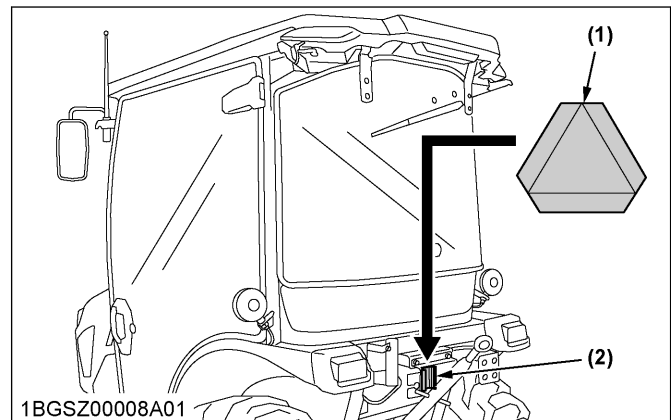
- Observe all local traffic and safety regulations.
- Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights and turn signals as required.

ROPS model



- (1) SMV emblem
- (2) Bracket

CAB model



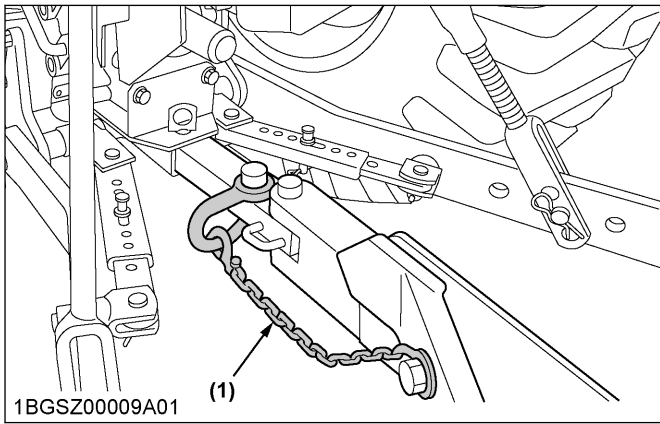
- (1) SMV emblem
- (2) Bracket

- Turn the headlights on. Dim them when meeting another vehicle.
- Drive at speeds that allow you to maintain control at all times.
- Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.
- Avoid sudden motions of the steering wheel as they can lead to a dangerous loss of stability. The risk is especially high when the tractor is traveling at road speeds.
- 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.
- Do not operate an implement while the tractor is on the road. Lock the 3-point hitch in the raised position.
- When towing other equipment, use a safety chain and place an SMV emblem on it as well.

! SAFE OPERATION

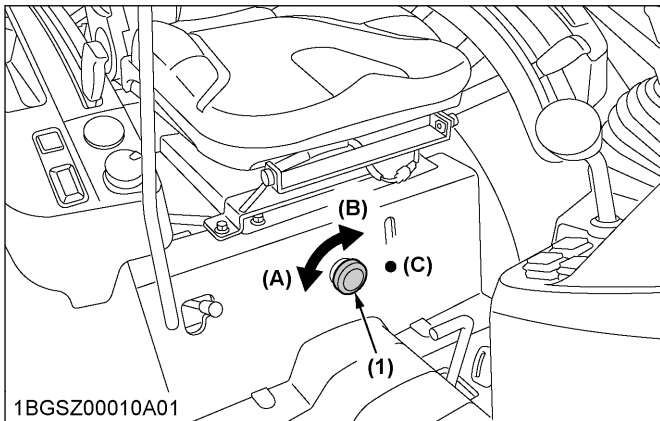
OPERATING THE PTO

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

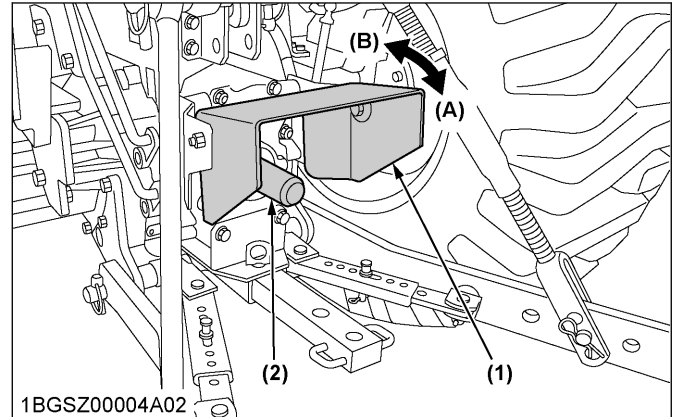


(1) Safety chain

- Set the 3-point hitch 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"



(1) PTO shaft cover
(2) PTO shaft cap
(A) "NORMAL" position
(B) "RAISED" position

- Before installing or using PTO driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment. To prevent PTO driven equipment from improper or unsafe use, select the lower speed (540 rpm) unless the higher one is specifically recommended as safe by the equipment manufacturer.
- 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.

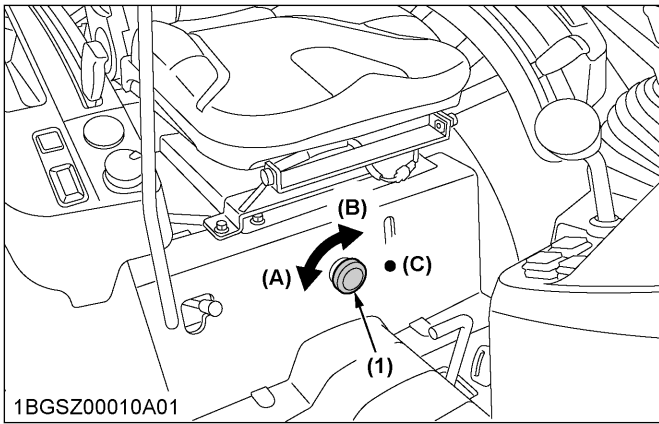
PARKING THE TRACTOR

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

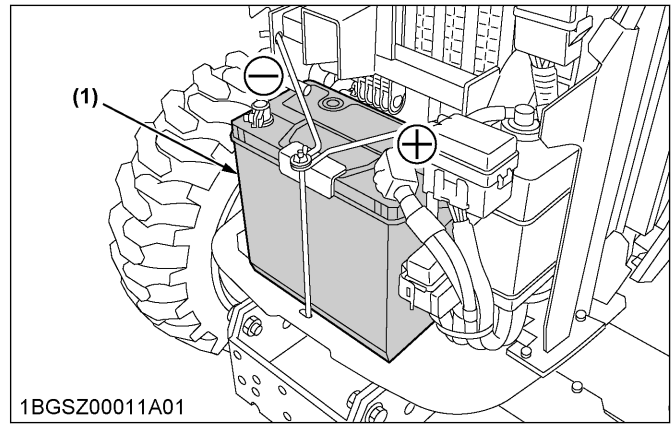
USING 3-POINT HITCH

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

⚠️ SAFE OPERATION



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



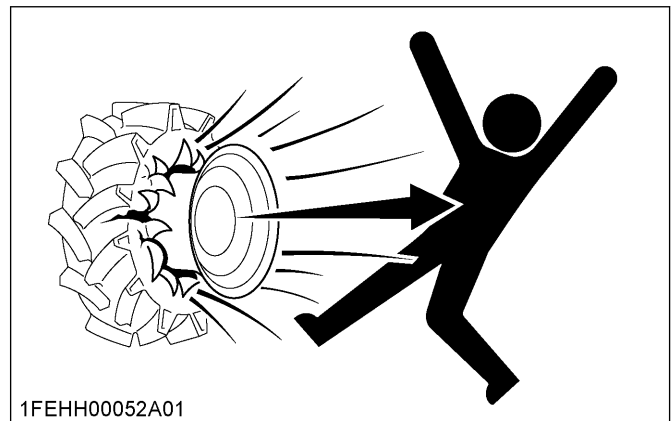
- (1) Battery

- 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.

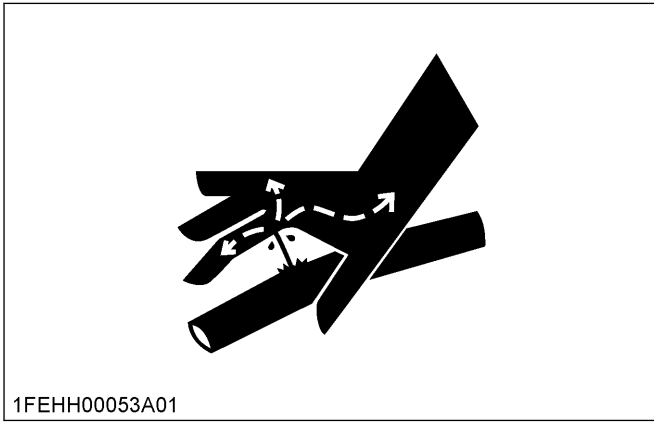
SERVICING THE TRACTOR

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.

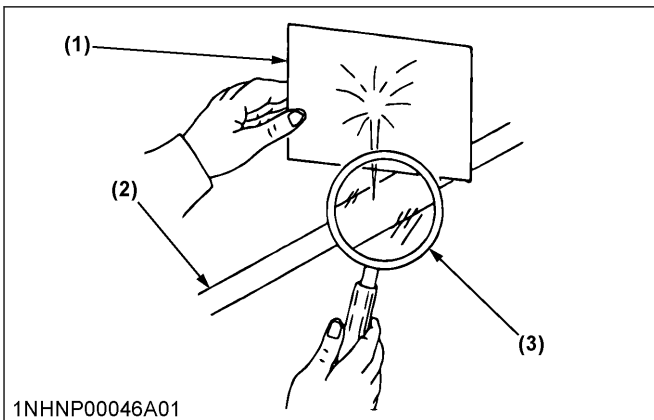
- Allow the tractor time to cool off before working on or near the engine, muffler, radiator and so on.
- Do not remove radiator cap while the coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely. If the tractor has a coolant recovery tank, add coolant or water to the recovery tank, not the radiator.
(See Checking coolant level on page 121.)
- Always stop the engine before refueling. Avoid spills and overfilling.
- Always use grounded refueling facilities.
- Do not smoke when working around the 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.
- Before "jump-starting" a dead battery, read and follow all of the instructions.
(See JUMP STARTING on page 54.)
- Keep first aid kit and fire extinguisher handy at all times.
- Disconnect the battery's ground cable before working on or near electric components.
- 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.
- To avoid sparks from an accidental short circuit, always disconnect the battery's ground cable (-) first and reconnect it last.



- Securely support the tractor when either changing wheels or adjusting the wheel tread width.
- Make sure that wheel bolts have been tightened to the specified torque.
- 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 the tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.
- Escaping hydraulic fluid under pressure has sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting hydraulic lines, 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.



- To avoid fire hazard:
After use and pressure-washing, make sure there is nothing flammable near the exhaust pipe. Grass or twigs under the hood may cause fire.
- 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 reactions.



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

- The improper disposal or burning of waste causes environmental pollution and can be punishable by your local laws and regulations.
 - When draining fluids from the tractor, place a container underneath the drain port.
 - Do not pour waste onto the ground, down a drain, or into any water source (such as rivers, streams, lakes, marshes, seas, and oceans).
 - Waste products such as used oil, fuel, coolant, hydraulic fluid, aqueous urea solution (DEF(AdBlue)), refrigerant, solvent, filters, rubber, batteries and harmful substances can harm the environment, people, pets and wildlife. Please dispose of properly.
See your local recycling center or Kubota Dealer to learn how to recycle or get rid of waste products.

- Meaning of symbols on batteries regarding management of waste batteries:



- Separate collection symbol : batteries must not be disposed of with the household waste.

Pb

- Pb symbol : batteries contain more than 0.004 % lead.

- Do not open the high-pressure fuel system.
High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt to repair fuel lines, sensors, or any other components between the high-pressure fuel pump and injectors on engines with high-pressure common rail fuel system.
- To avoid hazardous high voltage, turn the key switch to the "OFF" position if it is necessary to check or repair the computer, harness or connectors.
- During diesel particulate filter (hereinafter called DPF) regenerating operations, exhaust gases and exhaust filter components reach temperatures hot enough to burn people or ignite or melt common materials.
- Keep the tractor away from people, animals or structures which may be susceptible to harm or damage from hot exhaust gases.
- To prevent fires, keep the DPF muffler and its surroundings clear of anything flammable and keep clean at all times.
- During regeneration, white exhaust gas may be visible. Do not allow regeneration to happen in an unventilated place.
- During regeneration, do not leave the tractor.

! SAFE OPERATION

SAFETY LABELS

(1) Part No. 6F172-3012-1

S.O.C Indicator ● OK ● Charge ○ Replace Delkor	55B24LS 480CCA (SAE) 400CCA (EN) 12V 58Ah(20HR) RC 90(MIN)	DANGER • DUE TO HYDROGEN GAS GENERATED FROM BATTERY, HANDLING WITHOUT CARE CAN CAUSE FIRE AND EXPLOSION. • THIS 12V BATTERY IS ONLY FOR STARTING ENGINE. DO NOT APPLY THIS PRODUCT FOR OTHER USES. • CHARGE THIS BATTERY ONLY AT WELL VENTILATED PLACES, AND AVOID SHORTS OR SPARKS. • REFER TO THE INSTRUCTION MANUAL OF VEHICLE OR BATTERY BEFORE USING BOOSTER CABLE. SULFURIC ACID MAY CAUSE BLINDNESS OR SEVERE BURN. IN CASE EYES, SKIN, CLOTHES OR ANY ARTICLES ARE STAINED WITH ACID, FLUSH OBJECTS IMMEDIATELY WITH WATER. IF ACID BEING SWALLOWED, DRINK PLENTY OF WATER PROMPTLY. IN CASE OF ACCIDENTAL CONTACT, CONSULT A DOCTOR IMMEDIATELY. • BATTERY FILLED WITH ACID(DO NOT TILT OR SPILL) • FLAMMABLE. DO NOT CHARGE NEAR FIRE OR SPARKS • DO NOT CHARGE RAPIDLY • DO NOT DISASSEMBLE THE BATTERY(SEALED TYPE) CALIFORNIA PROPOSITION 65 ⚠ WARNING: THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FOR MORE INFORMATION GO TO WWW.P65WARNINGS.CA.GOV  BATTERY MUST BE RECYCLED DK206679
---	---	--

TO AVOID INJURY FROM BATTERY GASES AND ACID



Keep away cigaretts, flames or sparks.



Always shield eyes and face from battery.



Keep out of reach of children.



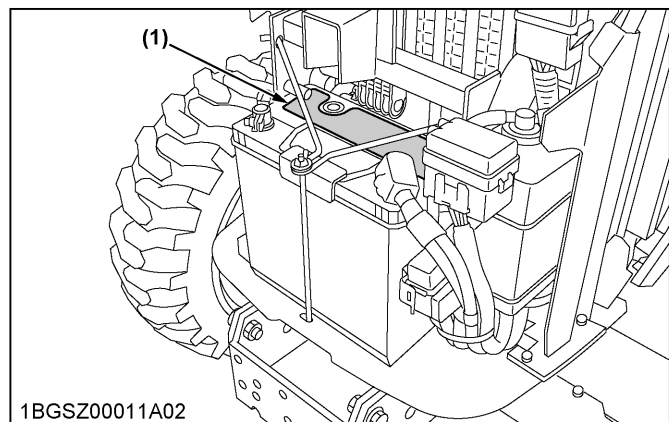
Poison causes severe burns.
Contains sulfuric acid.



Read and understand operator's manual.



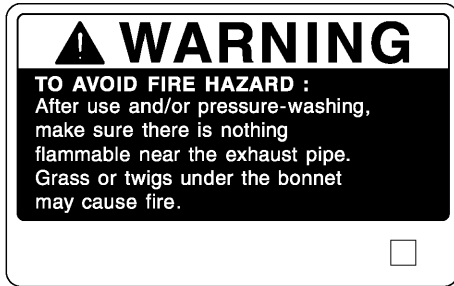
Danger explosive gases.



1BGSZ00068A01enUS

! SAFE OPERATION

(1) Part No. 6F170-4752-1



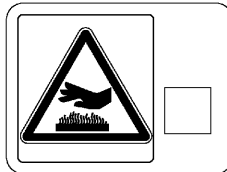
(2) Part No. 6C952-4959-3

Do not touch hot surface like muffler and so on.



(3) Part No. 6F172-4719-2

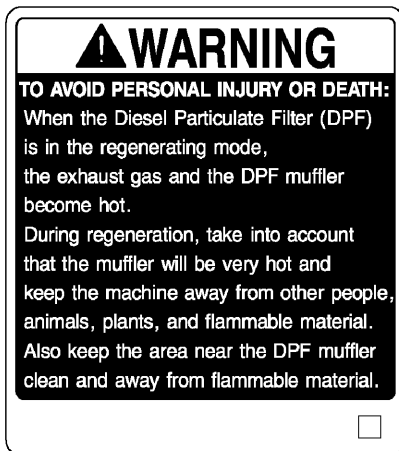
Do not touch hot surface like muffler and so on.



(4) Part No. 6F170-4718-1

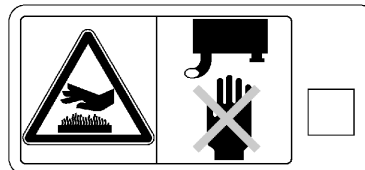


(5) Part No. 6F170-9868-1



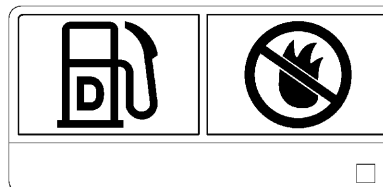
(6) Part No. 6F172-4720-1

Do not touch hot surface like muffler and so on.



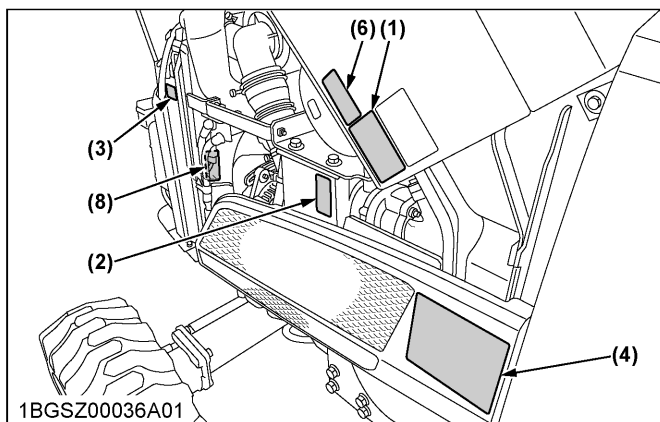
(7) Part No. 6F170-4741-1

DIESEL FUEL ONLY NO OPEN FLAME



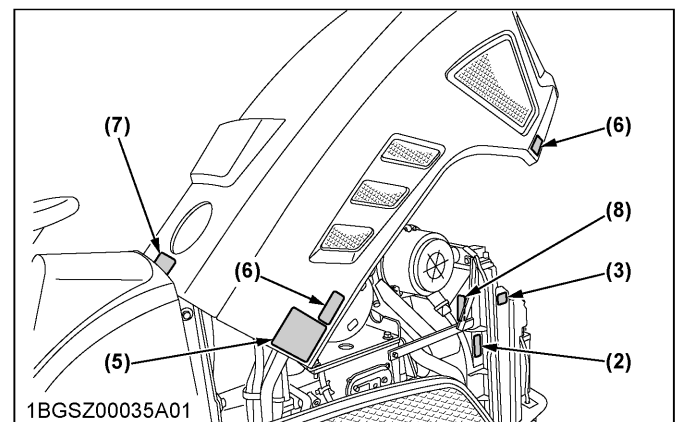
(8) Part No. 6C952-4958-3

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



1BGSZ00036A01

1BGSZ00069A01enUS



1BGSZ00035A01

SAFE OPERATION

ROPS model

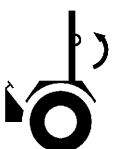
(1) Part No. 6F170-4742-1

 **WARNING**

TO AVOID PERSONAL INJURY OR DEATH :

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

(2) Part No. TA240-9848-3




 **WARNING**

TO AVOID INJURY OR DEATH FROM ROLL-OVER:

- Keep Roll-Over Protective Structures (ROPS) in the upright and locked position.
- Fasten SEAT BELT before operating.

THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION:

- Check the operating area and fold the ROPS only when absolutely necessary.
- Do not wear SEAT BELT if ROPS is folded.
- Raise and lock ROPS as soon as vertical clearance allows.
- Read ROPS related instructions and warnings.

(3) Part No. 6F170-4743-1

 **WARNING**



BEFORE DISMOUNTING TRACTOR:

1. ALWAYS SET PARKING BRAKE.
Leaving transmission in gear with the engine stopped will not prevent tractor from rolling.
2. PARK ON LEVEL GROUND WHENEVER POSSIBLE.
If parking on a slope, position tractor across the slope.
3. LOWER ALL IMPLEMENTS TO THE GROUND.
Failure to comply to this warning may allow the wheels to slip, and could cause injury or death.
4. LOCK SHUTTLE SHIFT LEVER IN NEUTRAL POSITION (if equipped) AND STOP THE ENGINE.

(4) Part No. 6F170-4755-1

 **CAUTION**

TO AVOID PERSONAL INJURY:

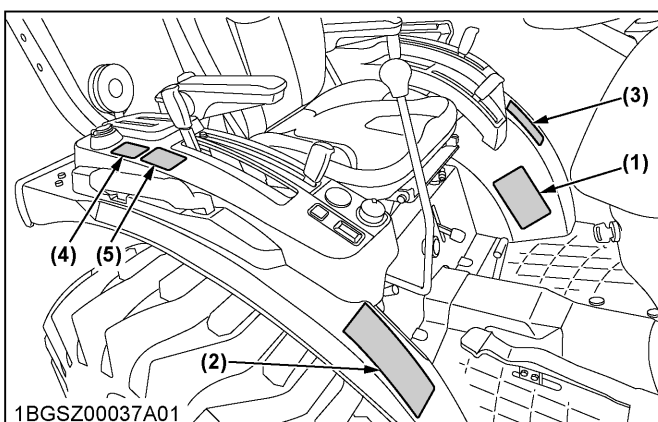
Do not put your hands into the lever guide slot, as the cruise lever will shift back swiftly when the brake pedal is applied.

(5) Part No. 6F170-4751-2

 **WARNING**

TO AVOID PERSONAL INJURY OR DEATH: BEFORE STARTING THE ENGINE.

1. Make sure the parking brake is set.
2. Make sure the range gear shift lever (L-M-H) is in "NEUTRAL" position.
3. Make sure the cruise control lever is in "NEUTRAL" position (Far back position).



1BGSZ00070A01enUS

ROPS model

(1) Part No. 6F170-4754-1

California Proposition 65

! WARNING !

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



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

! WARNING

TO AVOID PERSONAL INJURY:

1. Attach pulled or towed loads to the drawbar only.
2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.



! WARNING

TO AVOID PERSONAL INJURY:

1. Keep PTO shield in place at all times.
2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer.
3. For trailing PTO-driven implements, set drawbar at towing position. (see operator's manual)

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

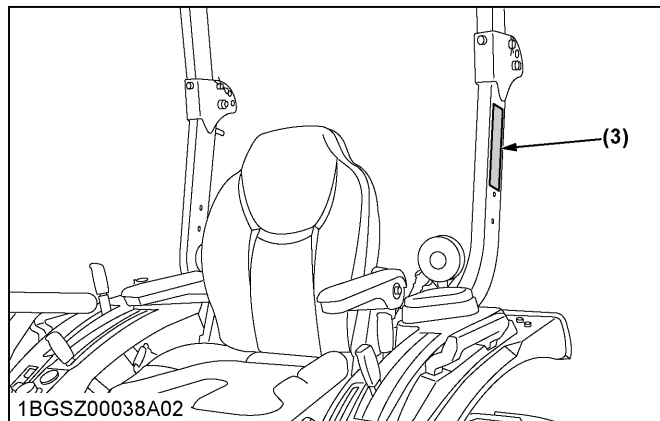
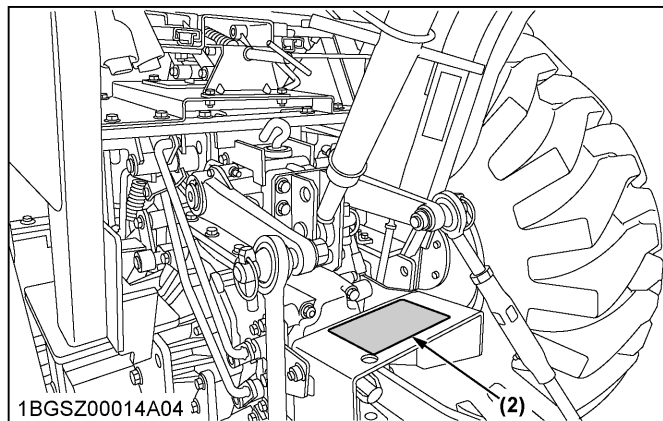
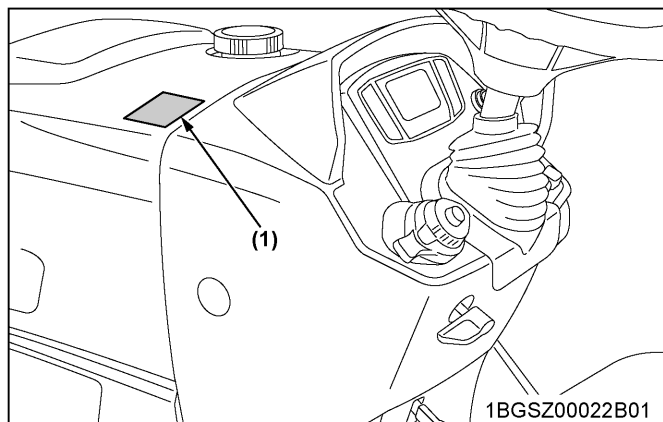
! WARNING

Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

! WARNING

TO AVOID PERSONAL INJURY OR DEATH WHEN RAISING OR FOLDING ROPS :

- Set parking brake and stop engine.
- Remove any obstruction that may prevent raising or folding of the ROPS.
- Do not allow any bystanders.
- Always perform function from a stable position at the rear of the tractor.
- Hold the top of the ROPS securely when raising or folding.
- Make sure all pins are installed and locked.



SAFE OPERATION

CAB model

(1) Part No. 6F170-4742-1

 **WARNING**

TO AVOID PERSONAL INJURY OR DEATH :

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

☐

(2) Part No. 6F170-4755-1

 **CAUTION**

TO AVOID PERSONAL INJURY:
Do not put your hands into the lever guide slot, as the cruise lever will shift back swiftly when the brake pedal is applied.

☐

(3) Part No. 6F170-4751-2

 **WARNING**

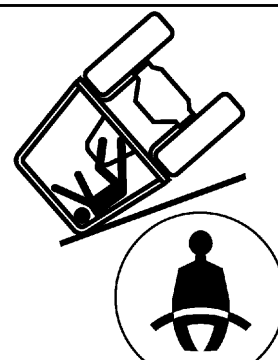
TO AVOID PERSONAL INJURY OR DEATH: BEFORE STARTING THE ENGINE.

1. Make sure the parking brake is set.
2. Make sure the range gear shift lever (L-M-H) is in "NEUTRAL" position.
3. Make sure the cruise control lever is in "NEUTRAL" position (Far back position).

☐

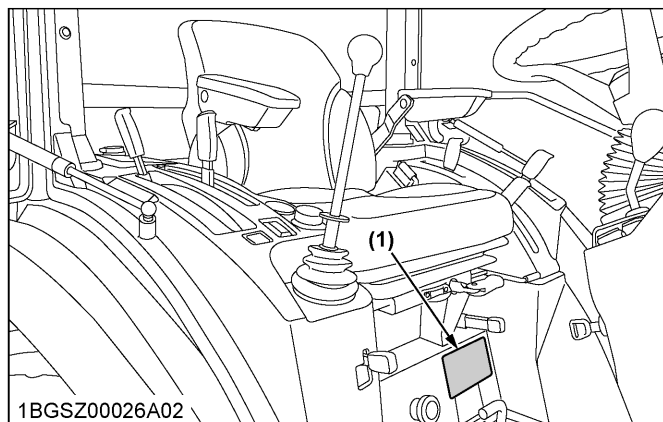
(4) Part No. 6F170-4753-1

 **WARNING**

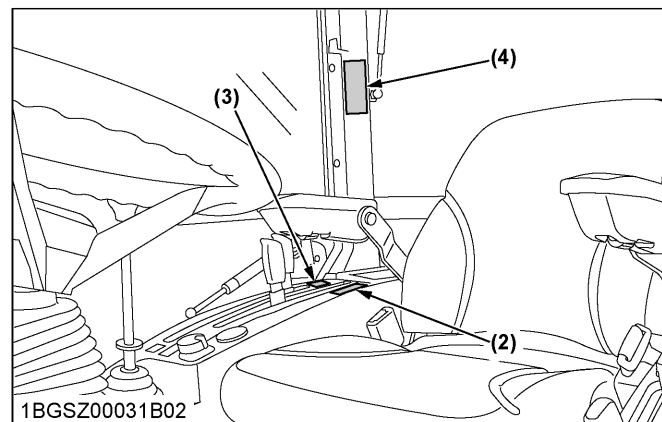


TO AVOID INJURY OR DEATH FROM ROLL-OVER:
Always use seat belt when driving.

☐

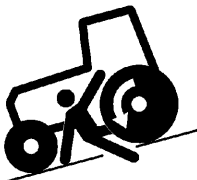


1BGSZ00072A01enUS



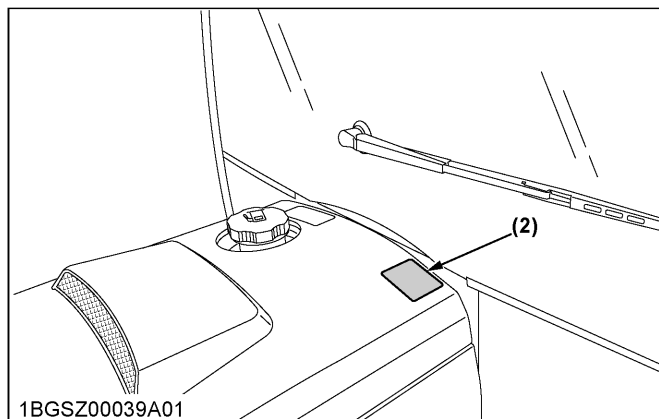
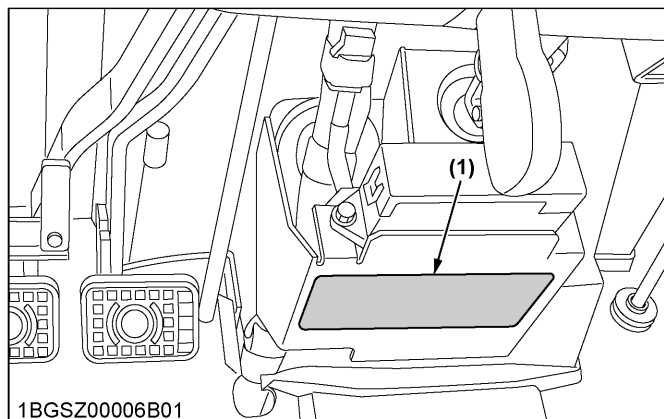
CAB model

(1) Part No. 6F170-4743-1

! WARNING	BEFORE DISMOUNTING TRACTOR: 1.ALWAYS SET PARKING BRAKE. Leaving transmission in gear with the engine stopped will not prevent tractor from rolling. 2.PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope. 3.LOWER ALL IMPLEMENTS TO THE GROUND. Failure to comply to this warning may allow the wheels to slip, and could cause injury or death. 4.LOCK SHUTTLE SHIFT LEVER IN NEUTRAL POSITION (if equipped) AND STOP THE ENGINE.
	☐

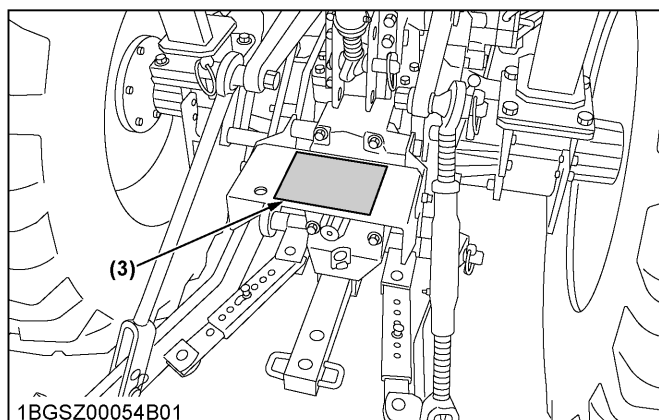
(2) Part No. 6F170-4754-1

California Proposition 65	
! WARNING !	
Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.	
☐	



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

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



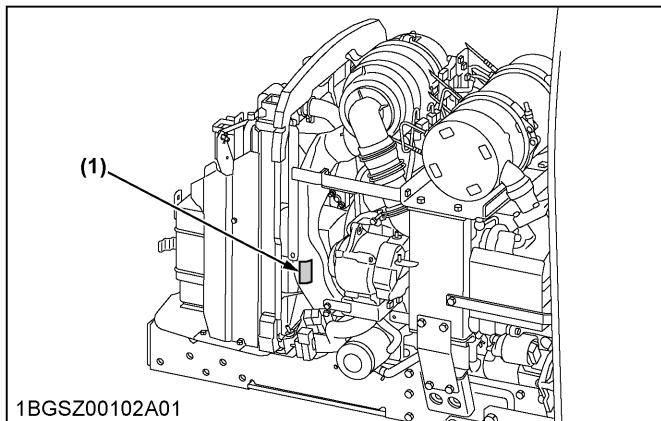
1BGSZ00073A01enUS

SAFE OPERATION

LX3520HSDCC and LX4020HSDCC only

(1) Part No. 6C952-4958-3

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



1BGSZ00098A01enUS

CARE OF SAFETY LABELS

- Keep safety labels clean and free from obstructing material.
- Clean safety labels with soap and water, dry with a soft cloth.
- Replace damaged or missing safety labels with new labels from your local Kubota Dealer.
- If a component with safety label(s) affixed is replaced with new part, make sure new label(s) is (are) attached to the same location(s) as the replaced component.
- Mount new safety labels by applying on a clean dry surface and pressing any bubbles to outside edge.

SERVICING OF TRACTOR

Your dealer has knowledge of your new machine 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, see your Kubota Dealer.

For service, contact the Kubota Dealership from which you purchased your machine or your local Kubota Dealer.

When in need of parts, be prepared to give your dealer the product identification number (PIN), the CAB/ROPS serial number, and the engine serial number.

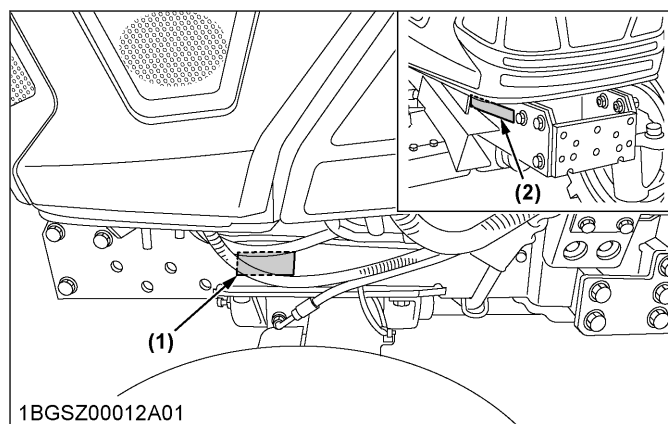
Locate the PIN and serial numbers now and fill in the following tables.

Date of purchase	
Name of dealer	

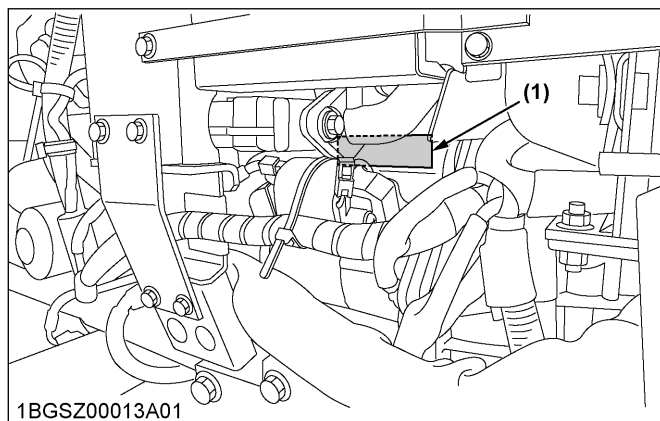
Tractor type	
PIN	

	Type	Serial No.
CAB/ROPS		
Engine		

To be filled in by the purchaser

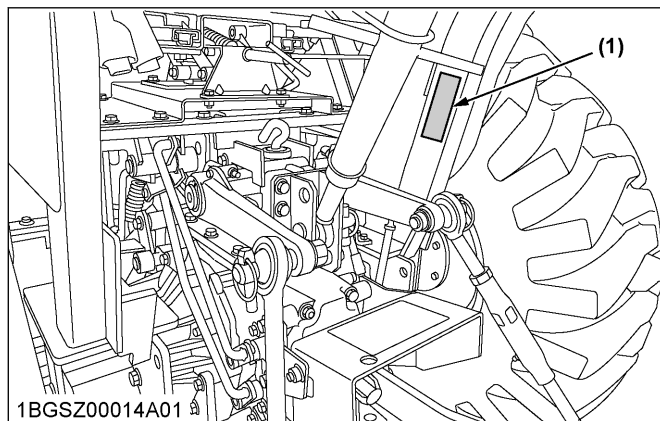


(1) Identification plate
(2) Product identification number



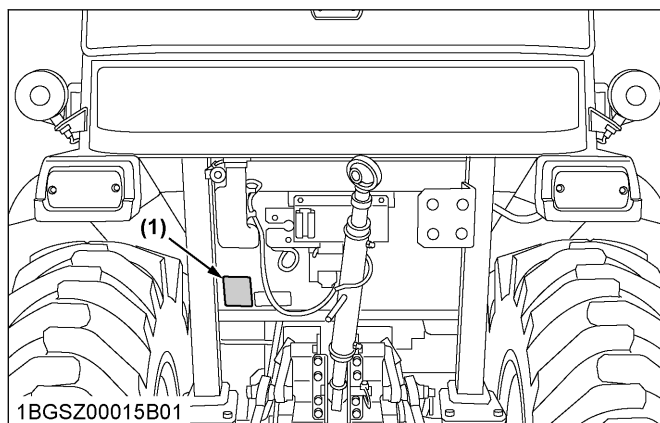
(1) Engine serial number

ROPS model

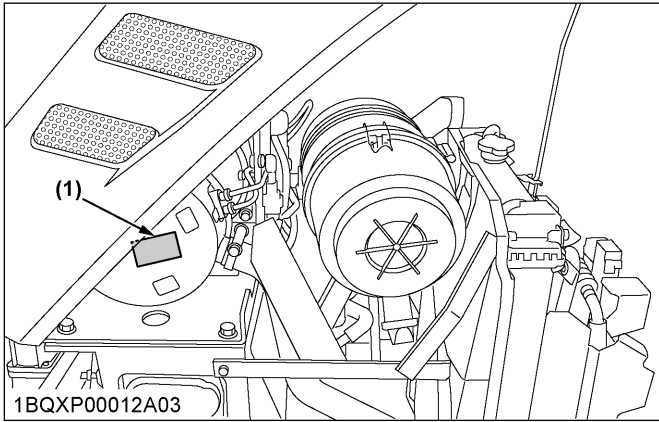


(1) ROPS identification plate (ROPS serial number)

CAB model



(1) CAB identification plate (CAB serial number)

All models

(1) Diesel particulate filter (DPF) serial number

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 serviced and maintained according to the instruction given in the operator's manual, even if it is within the warranty period.

SCRAPPING THE TRACTOR AND ITS PROCEDURE

To put the tractor out of service, follow the local rules and regulations of the country or territory where you scrap it.

If you have questions, consult your local Kubota Dealer.

SPECIFICATIONS

SPECIFICATION TABLE FOR ROPS MODEL

Model			LX3520HSD	LX3520HSDRC	LX4020HSD	LX4020HSDRC	
PTO power *1		kW (HP)	21.4 (28.7)		24.3 (32.6)		
Engine	Manufacturer		Kubota				
	Model		V1505-CR-TE5-D40R8	V1505-CR-TE5-D40R5	V1505-CR-TE5-D40R7	V1505-CR-TE5-D40R4	
	Type		Direct injection. Vertical, water-cooled, 4 cycle diesel				
	Number of cylinders		4				
	Bore and stroke	mm (in.)	φ78 × 78.4 (φ3.1 × 3.1)				
	Total displacement	cm ³ (cu. in.)	1498 (91.5)				
	Engine gross power *2	kW (HP)	26.0 (34.9)		29.7 (39.8)		
	Rated revolution	rpm	2700				
	Low idling revolution	rpm	1300				
	Maximum torque	N·m (ft·lb)	111.0 (81.7)		117.5 (86.8)		
	Battery		12 V, RC : 90 min, CCA (SAE) : 480 A, CCA (EN) : 400 A				
	Fuel		Diesel fuel No.2 (above -10 °C (14 °F)) Diesel fuel No.1 (below -10 °C (14 °F))				
Capacities	Fuel tank	L (U.S.gals.)	32 (8.4)				
	Engine crankcase (with filter)	L (U.S.qts.)	4.7 (5.0)				
	Engine coolant	L (U.S.qts.)	4.5 (4.8)				
	Transmission case	L (U.S.gals.)	21 (5.5)				
Dimensions *3	Overall length (with 3P)		mm (in.)	2950 (116.1)			
	Overall width (minimum tread)		mm (in.)	1365 (53.7)			
	Overall height		mm (in.)	2240 (88.2)			
	Wheel base		mm (in.)	1695 (66.7)			
	Minimum ground clearance		mm (in.)	225 (8.8)	325 (12.8)	225 (8.8)	325 (12.8)
	Tread	Front	mm (in.)	1033 (40.7)			
		Rear	mm (in.)	1050 (41.3)			
Weight		kg (lbs.)	994 (2191)				
Clutch			Not applicable				
Traveling system	Tires (turf)	Front	7-12				
		Rear	12.4-16				

(Continued)

SPECIFICATIONS

Model			LX3520HSD	LX3520HSDRC	LX4020HSD	LX4020HSDRC
Traveling system	Steering		Hydraulic power steering			
	Transmission		Main hydrostatic transmission, 3 range gear shift			
	Brake		Wet disk type			
	Minimum turning radius (with brake)	m (feet)	2.3 (7.5)			
Hydraulic unit	Hydraulic control system		Position control			
	Pump capacity	L / min (gals / min)	3P: 20.4 (5.4), Power steering: 15.4 (4.1)			
	3-point hitch		SAE Category 1			
	Max. lift force	At lift points	kg (lbs.)	1150 (2535)		
		600 mm (24 in.) behind lift point	kg (lbs.)	890 (1962)		
PTO	Rear-PTO		SAE 1-3 / 8, 6 splines			
	PTO / Engine speed	rpm	540 / 2670, 540E / 1960			
	Mid-PTO		USA No.5 (Kubota 10-tooth) involute spline	—	USA No.5 (Kubota 10-tooth) involute spline	—
	PTO / Engine speed	rpm	2460 / 2700	—	2460 / 2700	—

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

*1 Manufacturer's estimate

*2 SAE J1995. The engine output value indicated on the EPA exhaust gas label is the ISO 8178 net value without a cooling fan. **LX3520**: 24.9 kW, **LX4020**: 28.6 kW

*3 Farm tire fixed on the tractor

SPECIFICATION TABLE FOR CAB MODEL

Model			LX3520HSDC	LX3520SUHSDC	LX3520HSDCC	LX4020HSDC	LX4020HSDCC	
PTO power *1			kW (HP)		21.4 (28.7)	20.1 (26.9)	23.3 (31.2)	
Engine	Manufacturer		Kubota					
	Model		V1505-CR-TE5-D40Q4		V1505-CR-TE5-D40Q6	V1505-CR-TE5-D40Q3	V1505-CR-TE5-D40Q5	
	Type		Direct injection. Vertical, water-cooled, 4 cycle diesel					
	Number of cylinders		4					
	Bore and stroke	mm (in.)	φ78 × 78.4 (φ3.1 × 3.1)					
	Total displacement	cm ³ (cu. in.)	1498 (91.5)					
	Engine gross power *2	kW (HP)	26.0 (34.9)			29.7 (39.8)		
	Rated revolution	rpm	2700					
	Low idling revolution	rpm	1300					
	Maximum torque	N·m (ft·lb)	111.0 (81.7)			117.5 (86.8)		
	Battery		12 V, RC : 90 min, CCA (SAE) : 480 A, CCA (EN) : 400 A					
	Fuel		Diesel fuel No.2 (above -10 °C (14 °F)) Diesel fuel No.1 (below -10 °C (14 °F))					
	Capacities	Fuel tank	L (U.S.gals.)	32 (8.4)				
Engine crankcase (with filter)		L (U.S.qts.)	4.7 (5.0)					
Engine coolant		L (U.S.qts.)	5.8 (6.1)					
Transmission case		L (U.S.gals.)	21 (5.5)					
Dimensions *3	Overall length (with 3P)		mm (in.)	2950 (116.1)				
	Overall width (minimum tread)		mm (in.)	1365 (53.7)				
	Overall height		mm (in.)	2175 (85.6)				
	Wheel base		mm (in.)	1695 (66.7)				
	Minimum ground clearance		mm (in.)	225 (8.8)	325 (12.8)		225 (8.8)	325 (12.8)
	Tread	Front	mm (in.)	1033 (40.7)				
		Rear	mm (in.)	1050 (41.3)				
Weight			kg (lbs.)	1190 (2624)	1175 (2590)	1190 (2624)		
Clutch			Not applicable					
Traveling system	Tires (turf)	Front	7-12					
		Rear	12.4-16					
	Steering		Hydraulic power steering					
	Transmission		Main hydrostatic transmission, 3 range gear shift					
	Brake		Wet disk type					
	Minimum turning radius (with brake)		m (feet)	2.3 (7.5)				

(Continued)

SPECIFICATIONS

Model			LX3520HSDC	LX3520SUHSDC	LX3520HSDCC	LX4020HSDC	LX4020HSDCC
Hydraulic unit	Hydraulic control system		Position control				
	Pump capacity		L / min (gals / min)	3P: 20.4 (5.4), Power steering: 15.4 (4.1)			
	3-point hitch		SAE Category 1				
	Max. lift force	At lift points	kg (lbs.)	1150 (2535)			
		600 mm (24 in.) behind lift point	kg (lbs.)	890 (1962)			
PTO	Rear-PTO		SAE 1-3 / 8, 6 splines				
	PTO / Engine speed		rpm	540 / 2670, 540E / 1960			
	Mid-PTO		USA No.5 (Ku- bota 10-tooth) involute spline	—		USA No.5 (Ku- bota 10-tooth) involute spline	—
	PTO / Engine speed		rpm	2460 / 2700	—		2460 / 2700

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

*1 Manufacturer's estimate

*2 SAE J1995. The engine output value indicated on the EPA exhaust gas label is the ISO 8178 net value without a cooling fan. **LX3520**: 24.9 kW, **LX4020**: 28.6 kW

*3 Farm tire fixed on the tractor

TRAVELING SPEEDS

Model		LX3520/LX4020			
Tire size (Rear)		12.4-16 Farm		13.6-16 Turf	
	Range gear shift lever	km / h	mph	km / h	mph
Forward	Low	0 to 6.1	0 to 3.8	0 to 6.3	0 to 3.9
	Middle	0 to 10.4	0 to 6.5	0 to 10.6	0 to 6.6
	High	0 to 27.4	0 to 17.1	0 to 27.9	0 to 17.5
Reverse	Low	0 to 4.6	0 to 2.9	0 to 4.8	0 to 3.0
	Middle	0 to 7.9	0 to 4.9	0 to 8.0	0 to 5.0
	High	0 to 20.8	0 to 13.0	0 to 21.2	0 to 13.3

Model		LX3520/LX4020			
Tire size (Rear)		12.4-16 Industry		14-17.5 R14	
	Range gear shift lever	km / h	mph	km / h	mph
Forward	Low	0 to 6.0	0 to 3.7	0 to 5.9	0 to 3.7
	Middle	0 to 10.1	0 to 6.3	0 to 10.0	0 to 6.3
	High	0 to 26.7	0 to 16.7	0 to 26.5	0 to 16.6
Reverse	Low	0 to 4.5	0 to 2.8	0 to 4.5	0 to 2.8
	Middle	0 to 7.7	0 to 4.8	0 to 7.6	0 to 4.8
	High	0 to 20.3	0 to 12.7	0 to 20.1	0 to 12.6

Model		LX3520/LX4020			
Tire size (Rear)		15-19.5 Industry		15-19.5 R14	
	Range gear shift lever	km / h	mph	km / h	mph
Forward	Low	0 to 6.6	0 to 4.1	0 to 6.6	0 to 4.1
	Middle	0 to 11.2	0 to 7.0	0 to 11.2	0 to 7.0
	High	0 to 29.5	0 to 18.4	0 to 29.5	0 to 18.4
Reverse	Low	0 to 5.0	0 to 3.1	0 to 5.0	0 to 3.1
	Middle	0 to 8.5	0 to 5.3	0 to 8.5	0 to 5.3
	High	0 to 22.4	0 to 14.0	0 to 22.4	0 to 14.0

At rated engine rpm

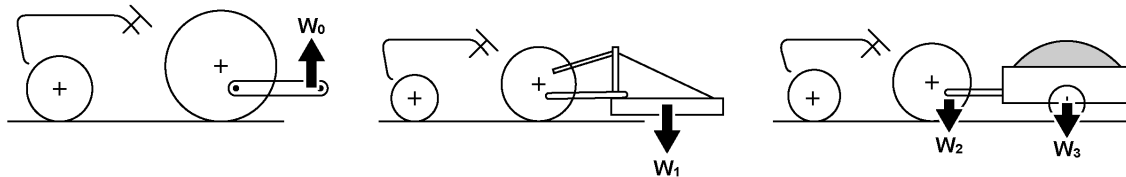
The company reserves the right to change the specification without notice.

IMPLEMENT LIMITATIONS

The tractor has been thoroughly tested for proper performance with implements sold or approved by Kubota. Using implements that are not sold or approved by Kubota, which exceed the maximum specifications listed in the following table, or which are otherwise unfit for use with the 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. lifting capacity: W0
Front	Rear	
1033 mm (40.7 in.)	1050 mm (41.3 in.)	360 kg (800 lbs.)

Actual figures		
Implement weight and/or size: W1	Max. drawbar load: W2	Trailer loading weight max. capacity: W3
As in the following list (See IMPLEMENT SPECIFICATION TABLE on page 35.)	500 kg (1100 lbs.)	1500 kg (3300 lbs.)



1RVNX00001A02

W0 Lower link end max. loading weight - the max. allowable load which can be put on the lower link end

W1 Implement weight - the implement's weight which can be put on the lower link

W2 Max. drawbar load

W3 Trailer loading weight - the max. loading weight for trailer (with trailer's weight)

NOTE :

- Implement size may vary depending on soil operating conditions.
- For selecting implements, consult your local dealer.
- Strictly follow the instructions outlined in the operator's manual of the mounted or trailed machinery or trailer, and do not operate the combination of tractor-machine or tractor-trailer unless all instructions have been followed.
- This tractor is not designed, nor intended to be used in a forestry application. Forestry applications present the following hazards:
 - Toppling trees, primarily in the case of when a rear-mounted tree-grab crane is mounted at the rear of the tractor
 - Penetrating objects in the operator's enclosure, primarily in the case of when a winch is mounted at the rear of the tractor

To address with these and other related hazards, the tractor requires additional and optional equipment such as an operator-protective structure (OPS) and a falling object-protective structure (FOPS). Optional equipment such as an OPS and a FOPS, however, are not available for this tractor.

Without optional equipment such as an OPS and a FOPS, the use of the tractor is limited to tractor-specific applications like transport and stationary work.

IMPLEMENT SPECIFICATION TABLE

Implement		Remarks		LX3520	LX4020
Mower	Mid-mount	Max. cutting width	mm (in.)	1830 (72)	
		Max. weight	kg (lbs.)	240 (528)	
	Rotary-cutter (1 Blade)	Max. cutting width	mm (in.)	1524 (60)	1830 (72)
		Max. weight	kg (lbs.)	227 (500)	272 (600)
	Rear-mount (2 or 3 Blades)	Max. cutting width	mm (in.)	1830 (72)	
		Max. weight	kg (lbs.)	272 (600)	
	Flail-mower	Max. cutting width	mm (in.)	1270 (50)	
	Sickle bar	Max. cutting width	mm (in.)	1524 (60)	
Rotary tiller		Max. tilling width	mm (in.)	1470 (58)	
		Max. weight	kg (lbs.)	272 (600)	
		Slip clutch		Necessary	
Bottom plow		Max. size	mm (in.)	305 (12) × 2	
Disc plow		Max. size	mm (in.)	559 (22) × 2	
Cultivator		Max. width	mm (in.)	1524 (60) 1 Row	
Disc harrow		Max. harrowing width	mm (in.)	1676 (66)	
		Max. weight	kg (lbs.)	250 (550)	
Sprayer		Max. tank capacity	L (U.S.gals.)	246 (65)	
Front blade		Max. cutting width	mm (in.)	1830 (72)	
Rear blade		Max. cutting width	mm (in.)	1830 (72)	
		Max. weight	kg (lbs.)	250 (550)	
Front-end loader		Max. lifting capacity	kg (lbs.)	499 (1100)	
		Max. width	mm (in.)	1524 (60)	
Box blade		Max. cutting width	mm (in.)	1676 (66)	
		Max. weight	kg (lbs.)	227 (500)	
Back hoe		Max. digging depth	mm (in.)	2295 (90)	
		Max. weight	kg (lbs.)	400 (880)	
		Sub frame		Necessary	
Snow blower		Max. working width	mm (in.)	1625 (64)	
		Max. weight	kg (lbs.)	250 (550)	
Trailer		Max. load capacity	kg (lbs.)	1500 (3300)	
		Max. drawbar load	kg (lbs.)	500 (1100)	

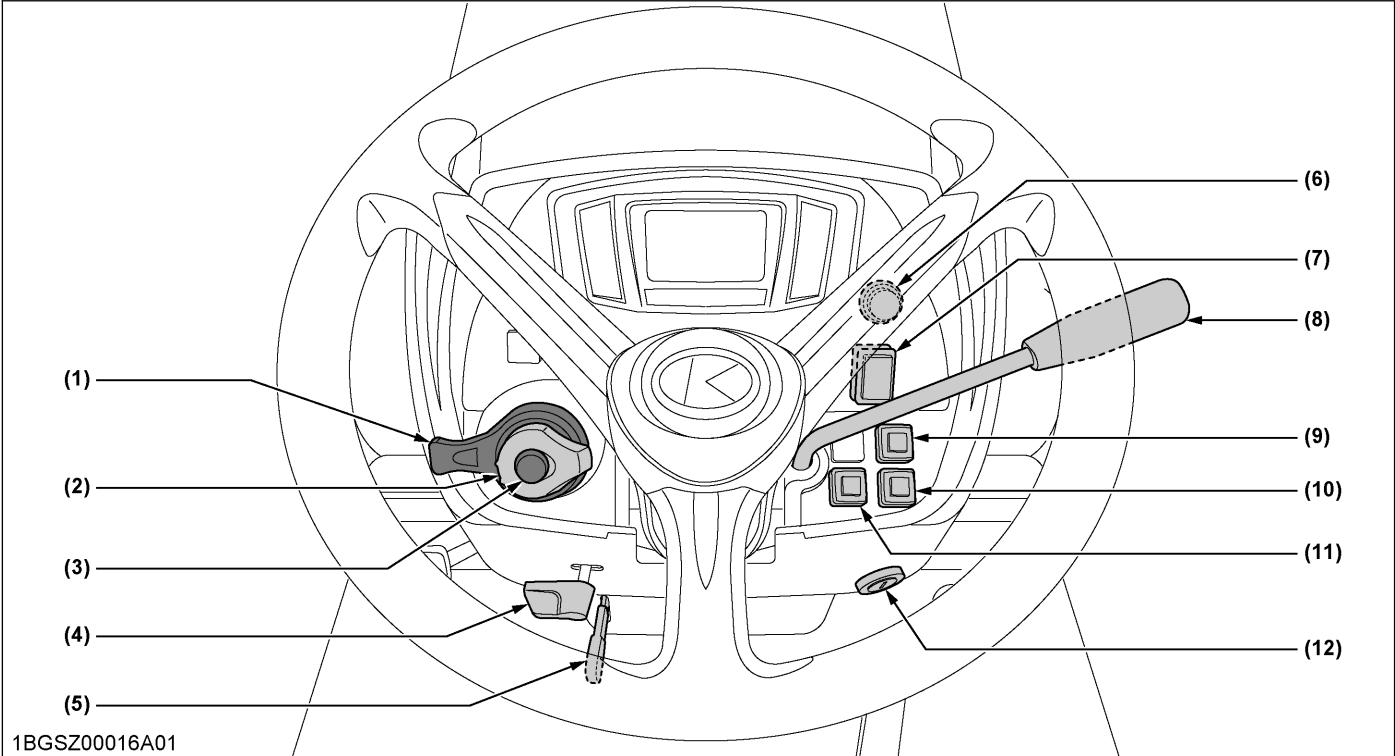
NOTE :

- Implement size may vary depending on soil operating conditions.
- As indicated in the instructions manual of the rotary-cutter, use the shear bolt or slip clutch properly when attaching the rotary-cutter.

INSTRUMENT PANEL AND CONTROLS

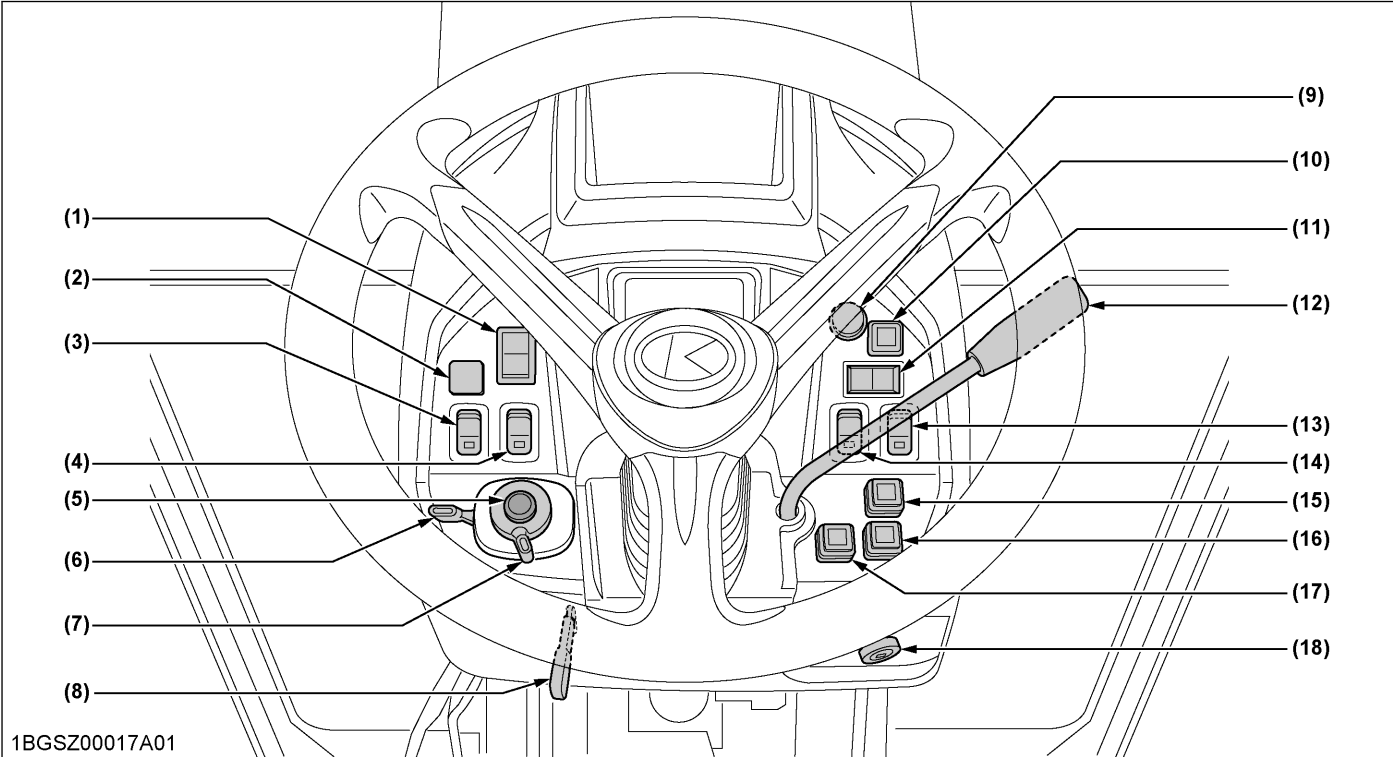
SWITCHES AND HAND CONTROLS

ROPS model



(1) Turn signal light switch.....	61	(7) RPM dual memory switch	70
(2) Headlight switch.....	60	(8) Hand throttle lever	64
(3) Hazard light switch.....	61	(9) Stationary PTO switch	80
(4) Steering wheel tilt lever.....	60	(10) DPF inhibit switch	47
(5) Parking brake lever.....	62	(11) Parked regeneration switch	49
(6) Display switch (Engine rpm, PTO speed)	68	(12) Key switch.....	50

CAB model



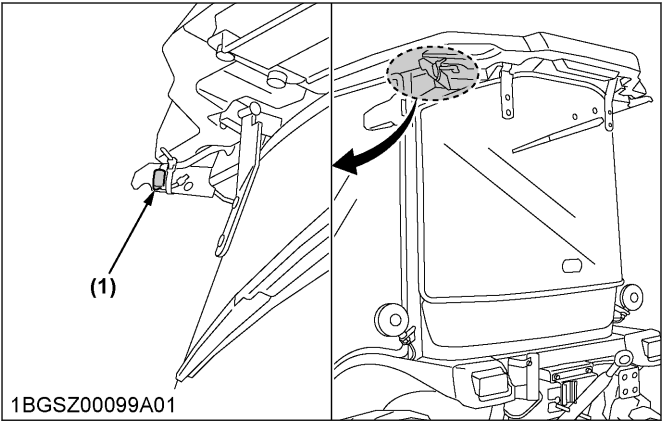
1BGSZ00017A01

(1) RPM dual memory switch	70	(10) Stationary PTO switch	80
(2) Beacon switch (if equipped)		(11) Defogger switch (if equipped)	108
(3) Front work light switch	104	(12) Hand throttle lever	64
(4) Rear work light switch (if equipped)	104	(13) Rear wiper and washer switch (if equipped)	104
(5) Horn button	62	(14) Front wiper and washer switch	104
(6) Turn signal light switch	61	(15) Hazard light switch	61
(7) Headlight switch	60	(16) DPF inhibit switch	47
(8) Parking brake lever	62	(17) Parked regeneration switch	49
(9) Display switch (Engine rpm, PTO speed)	68	(18) Key switch	50

NOTE :

- See the following figure for beacon connector.

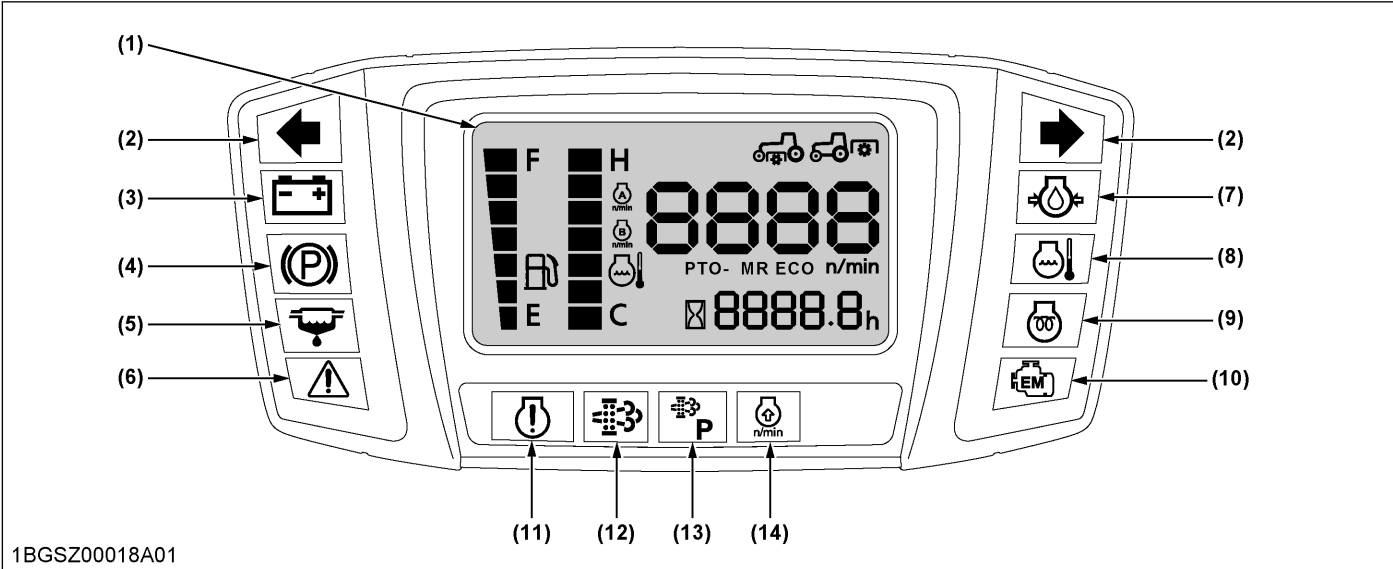
CAB model



1BGSZ00099A01

(1) Beacon connector

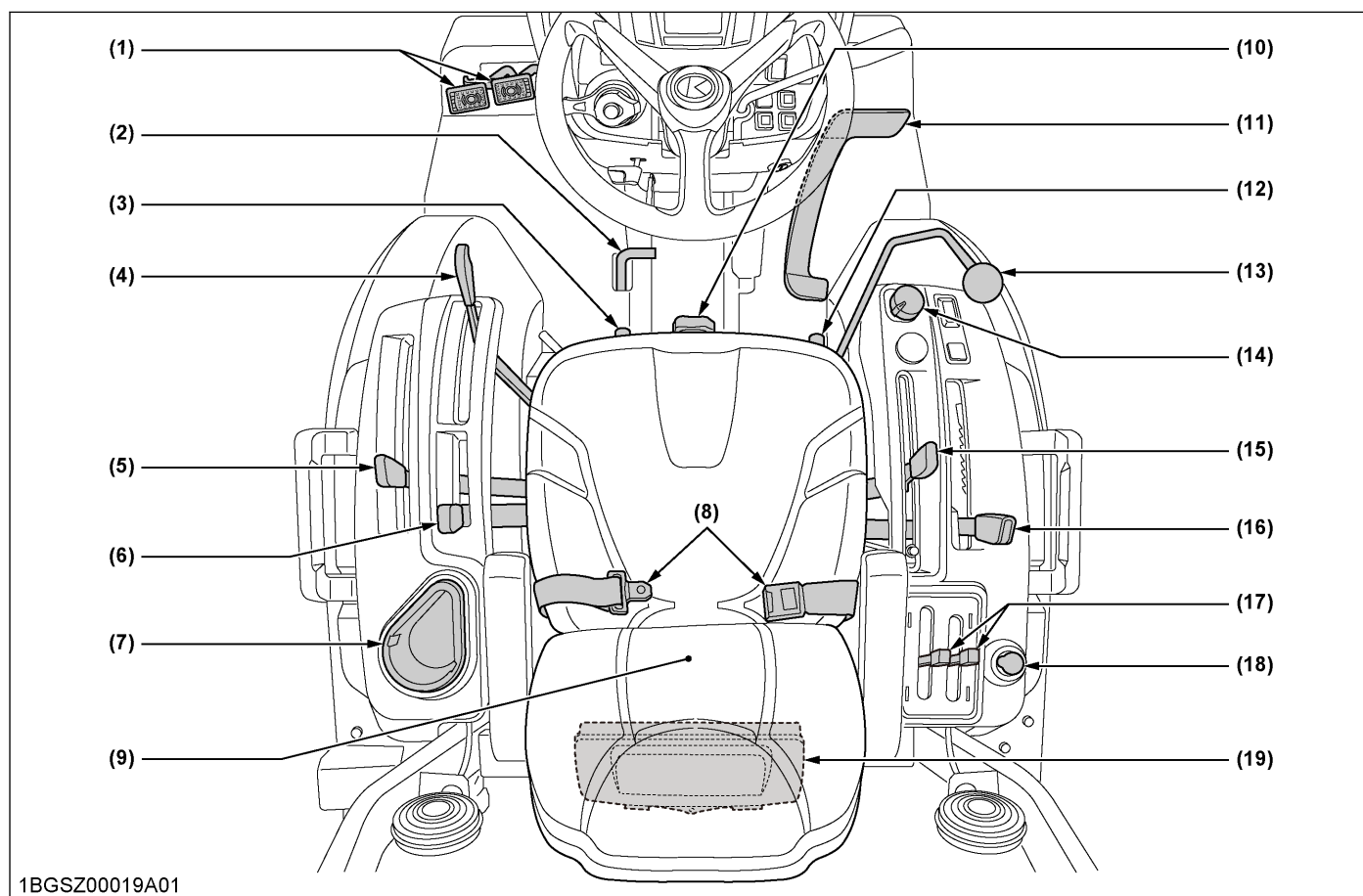
INSTRUMENT PANEL



(1) Liquid crystal display	(8) Engine overheat warning indicator	67
(2) Turn signal indicator.....	(9) Heater indicator	50
Hazard light indicator.....	(10) Emission indicator.....	67
(3) Electrical charge warning indicator.....	(11) Engine warning indicator	67
(4) Parking brake warning indicator	(12) Regeneration indicator.....	44
(5) Water separator indicator.....	(13) Parked regeneration indicator.....	47
(6) Master system warning indicator	(14) Engine RPM increase indicator	44
(7) Engine oil pressure warning indicator.....		

FOOT AND HAND CONTROLS

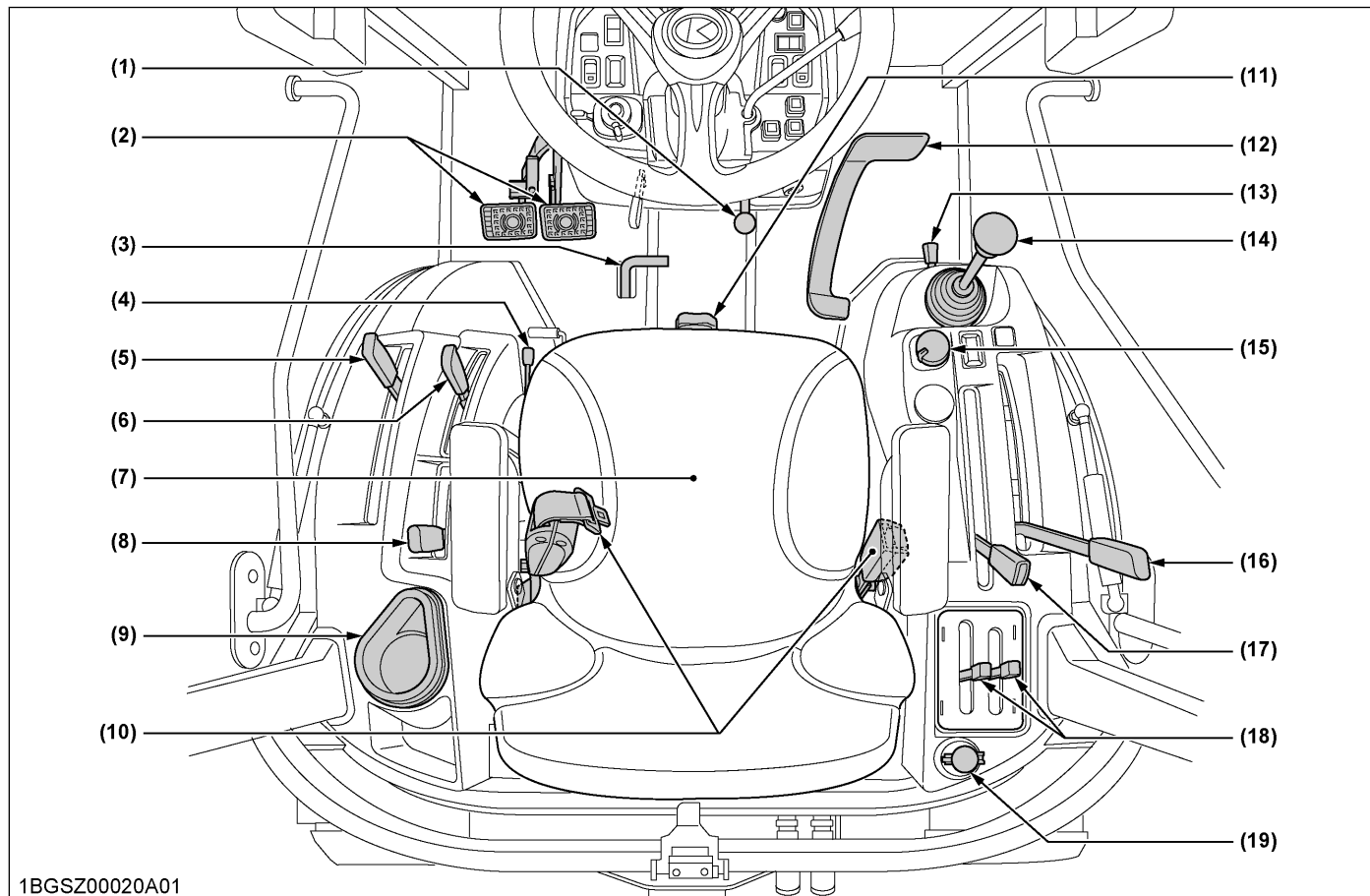
ROPS model



1BGSZ00019A01

(1) Brake pedal.....	62	(11) Speed control pedal.....	65
(2) Differential lock pedal.....	74	(12) Loader lock lever.....	92
(3) Front wheel drive lever.....	64	(13) Loader control lever.....	91
(4) Rear PTO gear shift lever.....	79	(14) PTO clutch control switch.....	77
(5) Range gear shift lever.....	63	(15) Position control lever.....	89
(6) Mid-PTO gear shift lever (if equipped).....	79	(16) Cruise control lever.....	65
(7) Cup holder.....		(17) Remote control valve lever (option).....	93
(8) Seat belt.....	59	(18) Electrical outlet.....	76
(9) Operator's seat.....	58	(19) Tool box.....	
(10) 3-point hitch lowering speed knob.....	89		

CAB model



1BGSZ00020A01

(1) Steering wheel tilt pedal.....	60	(11) 3-point hitch lowering speed knob	89
(2) Brake pedal.....	62	(12) Speed control pedal.....	65
(3) Differential lock pedal	74	(13) Loader lock lever	92
(4) Front wheel drive lever	64	(14) Loader control lever	91
(5) Range gear shift lever.....	63	(15) PTO clutch control switch	77
(6) Rear PTO gear shift lever	79	(16) Cruise control lever (if equipped).....	65
(7) Operator's seat	58	(17) Position control lever	89
(8) Mid-PTO gear shift lever (if equipped)	79	(18) Remote control valve lever (option)	93
(9) Cup holder		(19) Electrical outlet	76
(10) Seat belt.....	59		

PRE-OPERATION CHECK

DAILY CHECK



WARNING

To avoid personal injury or death:

- Check and service the tractor on a level surface with the engine shut off, the parking brake “ON” and the implement lowered to the ground.

Before operating the tractor, check the following items to prevent malfunctions or accidents from occurring.

Check item

- Walk around inspection
- Check engine oil level
- Check transmission oil level
- Check coolant level
- Check washer liquid level
- Check water separator
- Clean grill and radiator screen
- Clean air conditioner condenser screen [CAB model only]
- Check DPF muffler
- Check air cleaner evacuator valve (when used in a dusty place)
- Check parking brake lever
- Check brake pedal
- Check indicators, gauges and meter
- Check lights
- Check wire harness
- Check seat belt
- Check ROPS and CAB
- Check movable parts
- Refuel
(See Checking and refueling on page 118.)
- Care of the safety labels
(See SAFETY LABELS on page 18.)

OPERATING THE ENGINE

⚠ WARNING

To avoid personal injury or death:

- Read and understand the safe operation section.
(See SAFE OPERATION on page 11.)
- Read and understand the safety 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 the engine while standing on the ground. Start the engine only from operator's seat.
- Make it a rule to set all shift levers to the "NEUTRAL" positions and to place the PTO clutch control switch 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 10 seconds.
- Operate, use, and maintain the engine, including the emission control system, in accordance with the instructions provided to the end users, so that the engine's emission performance is kept within the requirements applicable to the engine's category.
- Do not tamper with, or misuse, the engine emission control system, especially with regard to deactivating or not maintaining an exhaust gas recirculation (EGR) system or a reagent dosing system.
- When a warning indicator lights up, the engine is experiencing trouble, which may also cause problems in the emission control system. Take prompt action and rectify any incorrect operation, use, or maintenance of the emissions control system in accordance with the rectification measures.
(See ENGINE TROUBLESHOOTING on page 148.)

EXHAUST AFTERTREATMENT DEVICES

⚠ WARNING

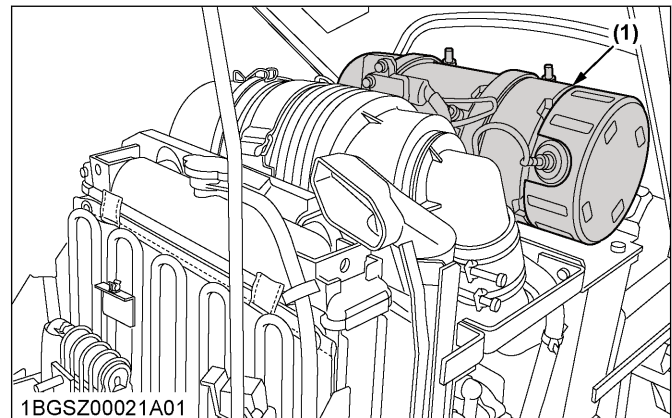
To avoid personal injury or death:

- During diesel particulate filter (DPF) regenerating operations, exhaust gases and exhaust filter components reach temperatures hot enough to burn people or ignite or melt common materials.
- Keep tractor away from people, animals or structures which may be susceptible to harm or damage from hot exhaust gases.
- During regeneration, white exhaust gases may be visible. Do not allow regeneration in an unventilated garage or confined area.
- During regeneration, do not leave the tractor.

DIESEL PARTICULATE FILTER (DPF) MUFFLER

This tractor is equipped with an engine with a diesel particulate filter (DPF) muffler which serves to reduce hydrocarbons, carbon monoxide and other toxic gases, all of which are contained in diesel engine emissions, to harmless carbon dioxide and water. The DPF also traps particulate matter (PM).

Please handle exhaust aftertreatment devices correctly and in an environmentally responsible manner.



(1) Diesel particulate filter (DPF)

1. Handling points

When a specific amount of particulate matter (PM) has accumulated in the DPF muffler, it is necessary to refresh the DPF muffler by burning the PM inside it. This burning off work is called "Regeneration".

To extend operating time to reach this regeneration, and to avoid DPF muffler trouble, adhere to the following.

Fuel

Use ultra-low sulfur fuel (S15).

IMPORTANT :

- **Use of diesel fuel other than ultra-low sulfur fuel may adversely affect the engine and DPF performance.**
Use of fuels other than ultra-low sulfur fuel (S15) may not meet regulations for your region.

Engine oil

Use DPF-compatible oil (CJ-4) for the engine.

IMPORTANT :

- **If any engine oil other than CJ-4 is used, the DPF may become clogged earlier than expected and the fuel economy may drop.**

Prohibition of unnecessary idling operation

Generally, the lower the engine speed, the lower the exhaust gas temperature is, so the PM contained in exhaust gas will not be burned, and begins to accumulate. Therefore, do not idle unnecessarily.

Regeneration

When there is “*Regeneration*” instruction sign by lamp or buzzer, immediately perform the required procedure for regeneration.

IMPORTANT :

- **Interrupting the regeneration cycle or continuing operation while ignoring the warning signs may cause DPF and engine damage.**
- **Operation with clogged air cleaner may cause regeneration failure and DPF damage.**

2. DPF regeneration process

DPF regeneration process can be performed by choosing “*Auto regeneration*” or “*Regeneration inhibit*” mode according to your job conditions.

For jobs not affected by hot gases emitted during regeneration, “*Auto regeneration*” is advisable.

Auto regeneration mode

When starting the engine (switch operation is unnecessary), the “*Auto regeneration*” mode is automatically activated.

With the auto regeneration mode on, when a specific amount of PM has accumulated, and the regeneration conditions are satisfied, the DPF will be automatically regenerated whether the tractor is in motion or parked. (See Tips on diesel particulate filter (DPF) regeneration on page 50.)

In this way, work efficiency is improved. For more details, read the “*Auto regeneration*” section of this manual.

(See Operating procedure for auto regeneration mode on page 44.)

Regeneration inhibit mode

After starting the engine, if the “*DPF inhibit switch*” is pressed to turn on the switch lamp, the “*Regeneration inhibit*” mode will be activated.

With “*Regeneration inhibit*” mode on, the PM which has accumulated inside the DPF will not be burned, unless the operator performs the regeneration work manually. The “*Regeneration inhibit*” mode is effective for work in poorly ventilated workspaces.

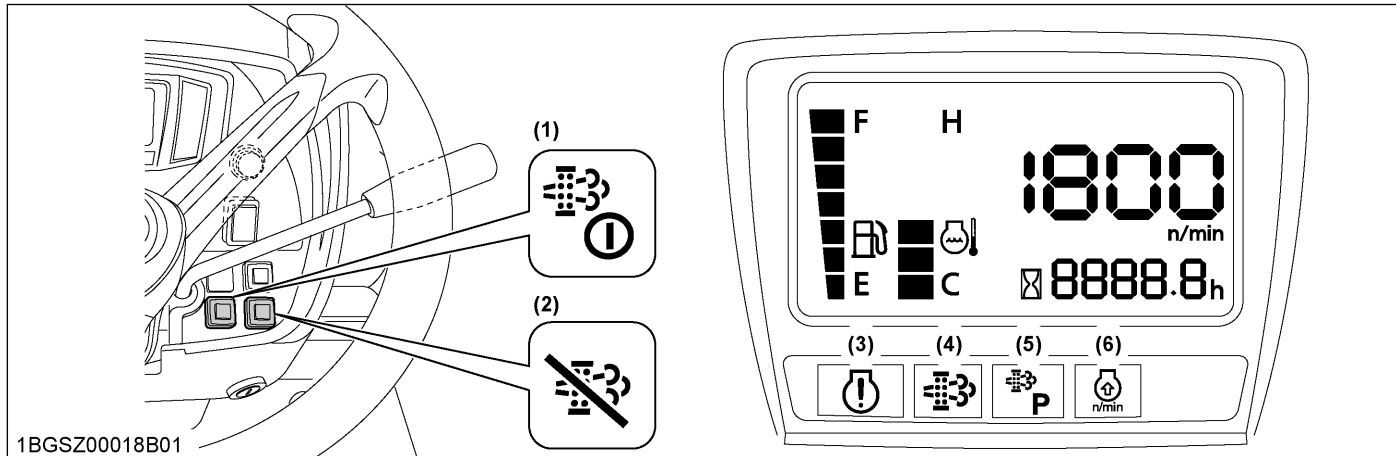
For more details, read the regeneration prohibition section of this manual.

(See Operating procedure for regeneration inhibit mode on page 47.)

NOTE :

- **If the engine is stopped once, the “*Auto regeneration*” mode will be activated.**

3. Operating procedure for auto regeneration mode



Regeneration operating procedure

1. Start the engine.

Make sure that the DPF inhibit switch  is "OFF".

Switch lamp "OFF": Auto regeneration mode activated.

Switch lamp "ON": Regeneration inhibit mode activated.

NOTE :

- When the engine is started, the "Auto regeneration" mode is automatically activated.
- "Regeneration inhibit" mode is activated when the DPF inhibit switch is pushed after the engine is started.

2. When the regeneration indicator starts flashing.

A specific amount of PM has built up in the DPF.

Continue to operate the tractor, and the regeneration process will begin automatically; make sure the working place is in a safe area as DPF and exhaust temperature will rise.

3. When the engine rpm increase indicator starts flashing:

Keep on working and increase the engine rpm until the indicator turns "OFF".

NOTE :

- Even if the auto regeneration mode is selected, DPF regeneration may not begin because system requirements have not been satisfied.
- The engine rpm increase indicator is used as a guide to satisfy the regeneration conditions. If the engine load is too heavy, the engine rpm increase indicator may continue to flash, even though regeneration system conditions are satisfied and regeneration may begin automatically.
(See Tips on diesel particulate filter (DPF) regeneration on page 50.)

3.1 PM warning level and required procedures

During auto regeneration mode when the PM level has built up in the DPF, the regeneration cycle will begin automatically.

If the regeneration cycle is interrupted or the regeneration conditions are not satisfied, the buzzer starts sounding and the indicator display changes in response to the PM level in order to prompt the operator to perform the required procedure listed in the following table.

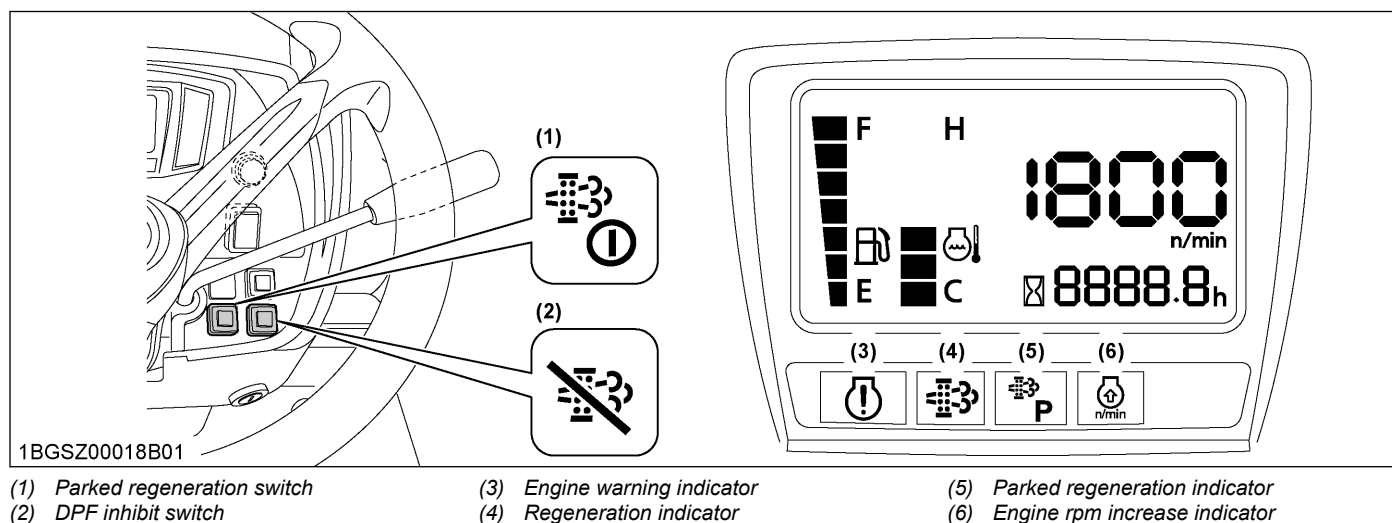
IMPORTANT :

- **Once the regeneration level has been reached, immediately perform the required procedure for regeneration.**
Interrupting the regeneration cycle or continuing operation while ignoring the warning signs may cause DPF and engine damage.

Auto mode		
	DPF system status	Required procedure
PM warning level: 1 Buzzer: Not sounding	 The regeneration indicator starts flashing.	A specific amount of PM has accumulated in the DPF muffler. Continue to work the tractor to raise the DPF temperature. Continue the work and increase the engine rpm until the indicator turns "OFF". The parked regeneration can also be started. (See Operating procedure for parked regeneration on page 49.) The regeneration cycle begins and continues until the cycle is complete, and then the indicator will turn "OFF".
	 The rpm increase indicator starts flashing.	
	 The parked regeneration indicator starts flashing.	
	 The regeneration indicator will stop flashing and remain "ON" constantly.	
PM warning level: 2-1 Buzzer: Sounding every 5 seconds	If the regeneration cycle was interrupted or conditions are not satisfied for regeneration then DPF system is now in Level 2.	
PM warning level: 2-2 Buzzer: Sounding every 3 seconds	 The regeneration indicator starts flashing.	Start the regeneration, referring to PM warning level: 1 above. The regeneration cycle begins and continues until the cycle is complete, and then the indicator will turn "OFF".
	 The rpm increase indicator starts flashing.	
	 The parked regeneration indicator starts flashing.	
	 The regeneration indicator will stop flashing and remain "ON" constantly.	

Auto mode		
	DPF system status	Required procedure
PM warning level: 3 Buzzer: Sounding every 1 second Engine output: 50%	If the regeneration fails in the warning level 2:	
	 The engine warning indicator starts flashing.  The parked regeneration indicator starts flashing.	Immediately discontinue working the tractor and begin the parked regeneration cycle process. (See Operating procedure for parked regeneration on page 49.) At this PM warning level, the auto regeneration mode does not function. If the tractor is operated further, the regeneration cycle will be disabled.
PM warning level: 4 Buzzer: Sounding every 1 second Engine output: 50%	If the parked regeneration is interrupted or the tractor is continuously operated in the warning level 3:	
	 The engine warning indicator remains constantly "ON".	Immediately move the tractor to a safe place, park it there and turn the engine "OFF". Contact your local Kubota Dealer. At this level, do not continue to operate the tractor; otherwise, damage will result to the DPF and engine.

4. Operating procedure for regeneration inhibit mode



Regeneration operating procedure

1. Start the engine.
2. Press the DPF inhibit switch , and the switch lamp illuminates.

Switch lamp "ON": Regeneration inhibit mode selected.

Switch lamp "OFF": Auto regeneration mode selected.

3. When the parked regeneration indicator  starts flashing:

A specific amount of PM has accumulated in the DPF muffler.

Move the tractor to a safe place and activate the DPF muffler.

(See Operating procedure for parked regeneration on page 49.)

4.1 PM warning level and required procedures

In the regeneration inhibit mode, the buzzer starts sounding and the indicator display changes in response to the PM level in order to prompt the operator to perform the required procedure listed in the following table.

IMPORTANT :

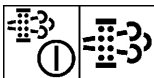
- Once the regeneration level has been reached, immediately perform the required procedure for regeneration.
Interrupting the regeneration cycle or continuing operation while ignoring the warning signs may cause DPF and engine damage.

Regeneration inhibit mode		
	DPF system status	Required procedure
PM warning level: 1 Buzzer: Not sounding	 The regeneration indicator starts flashing.	A specific level of PM has built up in the DPF muffler. Continue with the operation as it is.
	 The parked regeneration indicator starts flashing.	
	 At PM warning levels range from 1 to 2-2, it is also possible to change DPF inhibit switch to auto regeneration mode, then perform the regeneration.	
PM warning level: 2-1 Buzzer: Sounding every 5 seconds	 The regeneration indicator starts flashing.	Move the tractor to a safe area, then begin the parked regeneration cycle process. (See Operating procedure for parked regeneration on page 49.)
PM warning level: 2-2 Buzzer: Sounding every 3 seconds	 The parked regeneration indicator starts flashing.	
PM warning level: 3 Buzzer: Sounding every 1 second Engine output: 50%	If the parked regeneration cycle is interrupted or the tractor is continuously operated in the PM warning level 2:	
	 The engine warning indicator starts flashing.	Immediately stop working the tractor, move the tractor to a safe area, then begin the parked regeneration cycle process. (See Operating procedure for parked regeneration on page 49.) If the tractor is operated further and the operator ignores the warning signs, then regeneration will be disabled.
	 The parked regeneration indicator starts flashing.	
PM warning level: 4 Buzzer: Sounding every 1 second Engine output: 50%	If the regeneration cycle is interrupted or the tractor is continuously operated ignoring the warning signs, in the PM warning level 3:	
	 The engine warning indicator remains constantly "ON".	Immediately move the tractor to a safe place, park it there and turn the engine "OFF". Contact your local Kubota Dealer. At this level, do not continue to operate the tractor; otherwise, damage may result to the DPF and engine.

IMPORTANT :

- When the regeneration interval becomes shorter, parked regeneration will be required as followed.
 - If it takes shorter than 4 hours or so for the regeneration indicator to go out and light up again.
 - Parked regeneration indicator starts flashing.
Buzzer: Sounding every 5 seconds.
 - Immediately discontinue working the tractor and begin the parked regeneration cycle process
(See Operating procedure for parked regeneration on page 49.)

5. Operating procedure for parked regeneration

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

NOTE :

- During the regeneration cycle, do not touch the above levers and switches (in steps 2, 3, 4), nor change the engine rpm other than for an emergency stop. Otherwise, the regeneration will be interrupted.
- Never leave the tractor when the parked regeneration process is activated.
- If the parked regeneration cycle is interrupted, the engine rpm is fixed at the idling level for about 30 seconds. For this period, keep the hand throttle lever and foot throttle pedal at the idle position. Do not move them. They will function again in 30 seconds.

6. Tips on diesel particulate filter (DPF) regeneration

• Operation

The higher in speed or load the engine operates, the higher the exhaust temperature rises. As a result, particulate matter (PM) inside the DPF is consumed and the regeneration process is required less frequently over time.

The lower in speed or load the engine operates, the lower the exhaust temperature. Accordingly, less particulate matter (PM) inside the DPF is consumed and more accumulation of PM will occur, which requires frequent regeneration. Therefore, avoid prolonged idling if possible.

• Necessary conditions for “Regeneration”

If even one condition is deviated, after starting regeneration, the regeneration will be interrupted.

- The engine coolant temperature.
- The DPF temperature.
- The engine speed is 1600 rpm or higher (depending on the environment).

- Usually, it takes 15 to 20 minutes to complete the regeneration cycle.

Actual regeneration time may depend on ambient temperature, exhaust temperature and engine speed.

- It is recommended that regeneration be done while the engine is warm and at a high revolution.
- Do not unnecessarily start and interrupt the regeneration process. Otherwise, a small amount of fuel becomes mixed with the engine oil, which degrades the oil quality.
- While the DPF is being regenerated, the engine air flow rate is automatically limited to keep up the exhaust temperature. Because of this, the engine may sound differently, but this is normal for this engine.
- Just after the regeneration has ended, the DPF muffler remains hot. It is advisable to keep the engine running for about 5 minutes to allow cooling of the exhaust components.

STARTING THE ENGINE

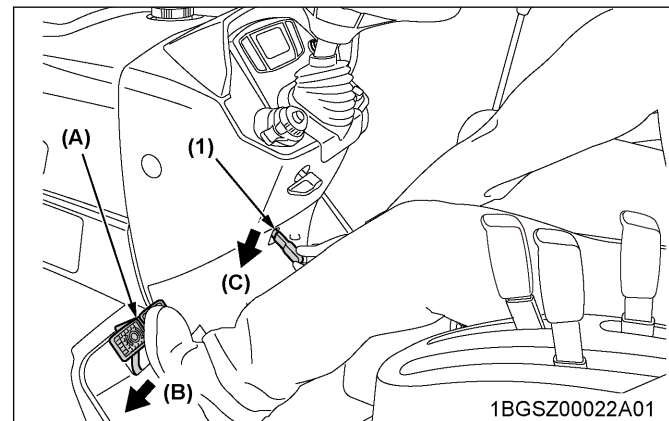
1. Make sure the parking brake is set.
 - a. Interlock the brake pedals.
 - b. Depress the brake pedals.
 - c. Latch the brake pedals with the parking brake lever.

The parking brake warning indicator on the Easy Checker will come on while the parking brake is set.

NOTE :

- When the parking brake is set while the key switch is “ON”, the parking brake warning indicator light on the Easy Checker will turn on.

ROPS model



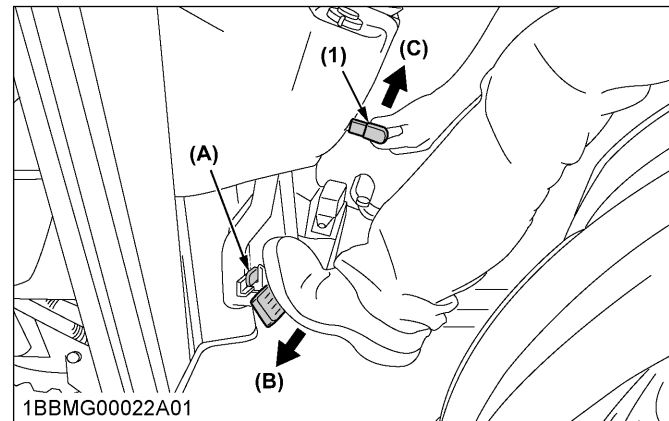
(1) Parking brake lever

(A) Interlock the brake pedals

(B) Depress

(C) Pull down

CAB model

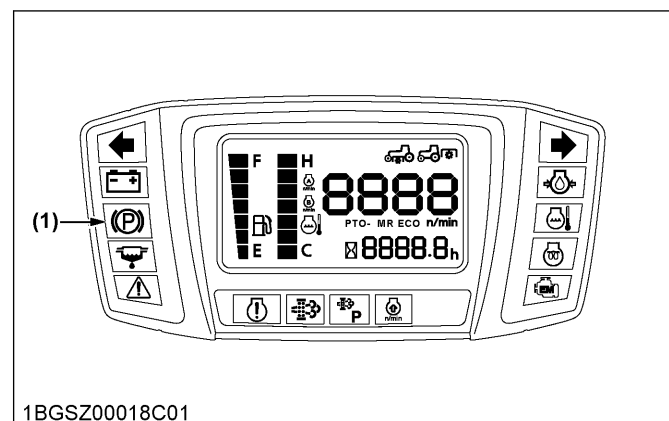


(1) Parking brake lever

(A) Interlock the brake pedals

(B) Depress

(C) Pull up

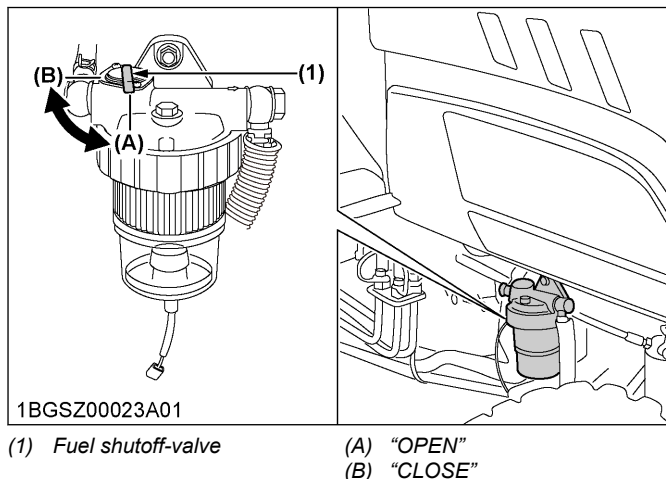


(1) Parking brake warning indicator

IMPORTANT :

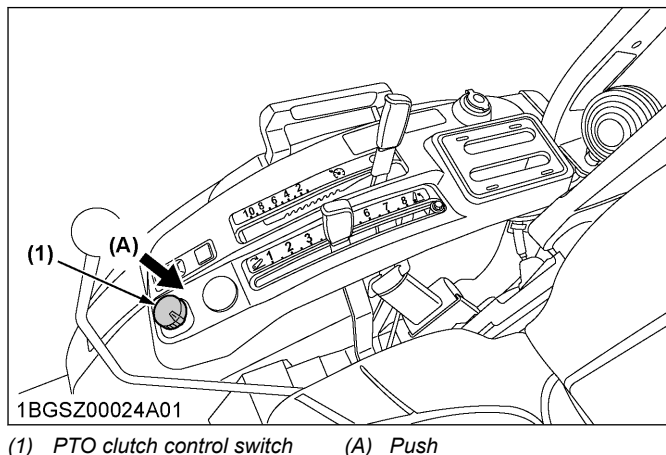
- It is recommended that the operator practices engaging and disengaging the parking brake on a flat surface without the engine running before operating the tractor for the first time.

- Make sure the fuel shutoff-valve is in the "OPEN" position.

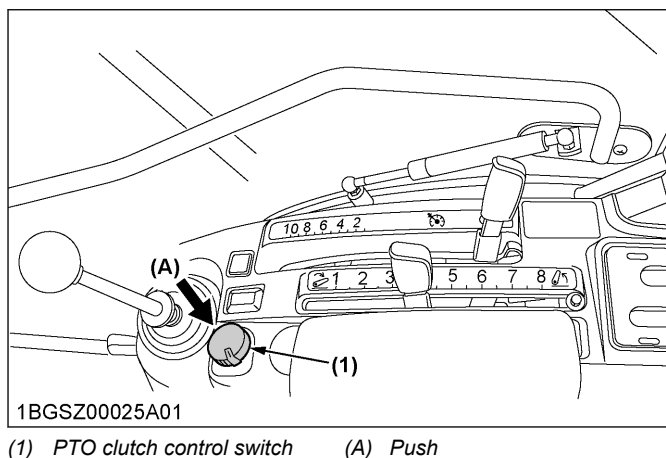


- Push the PTO clutch control switch to disengage the PTO clutch.

ROPS model

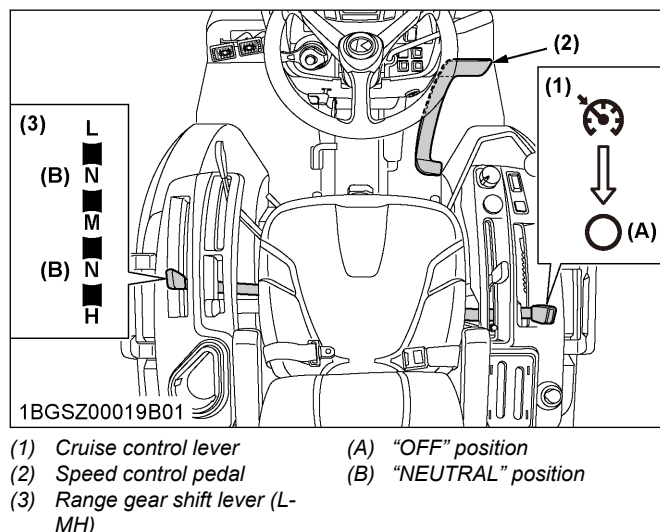


CAB model

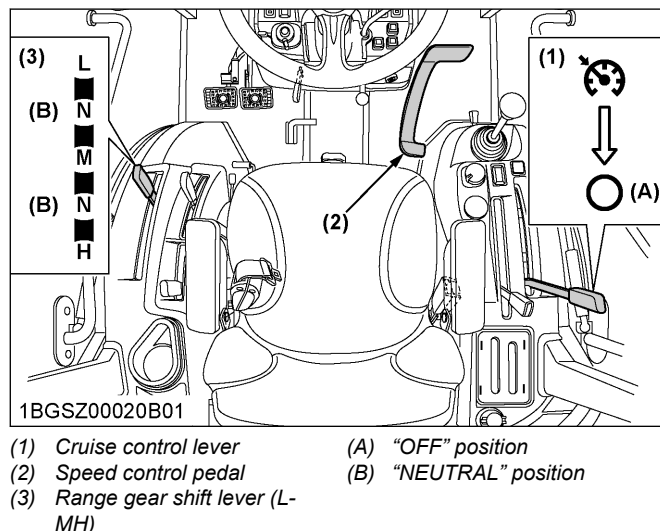


- Make sure the cruise control lever is in the "OFF" position. Place the speed control pedal in the "NEUTRAL" position. Place the range gear shift lever ("L"-"M"-"H") in the "NEUTRAL" position.

ROPS model



CAB model



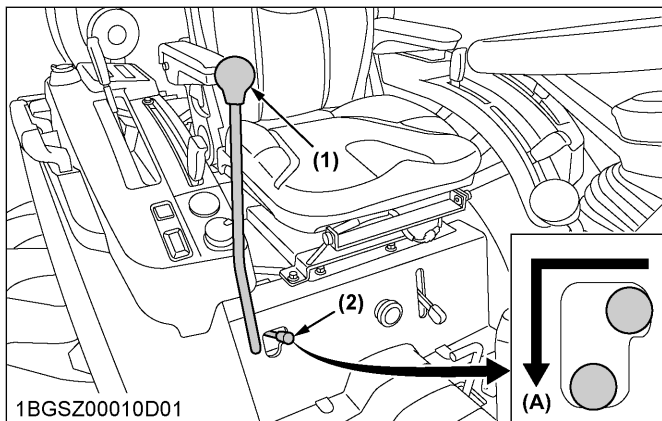
NOTE :

- 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.

OPERATING THE ENGINE

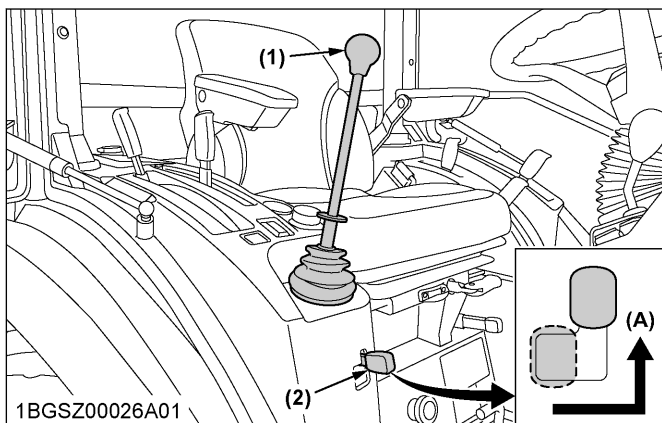
5. Lock the loader control lever in the "LOCK" position.

ROPS model



(1) Loader control lever (A) "LOCK" position
(2) Lock lever

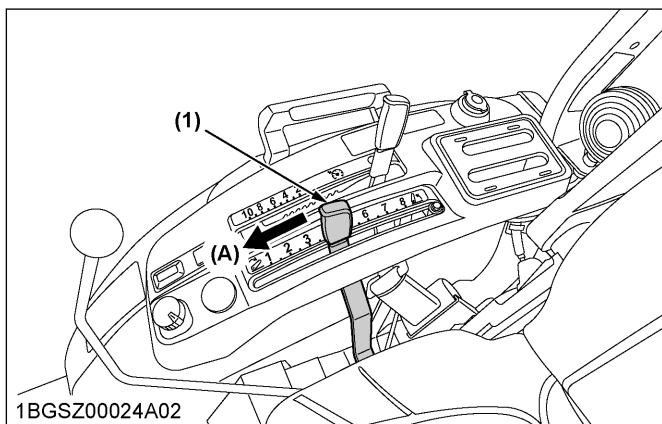
CAB model



(1) Loader control lever (A) "LOCK" position
(2) Lock lever

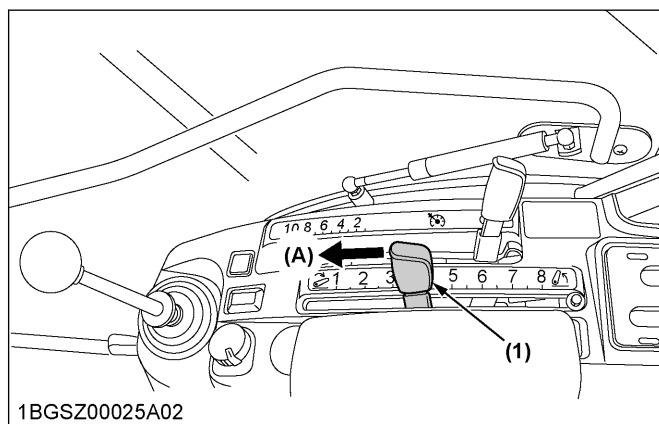
6. Place the position control lever in the "LOWEST" position.

ROPS model



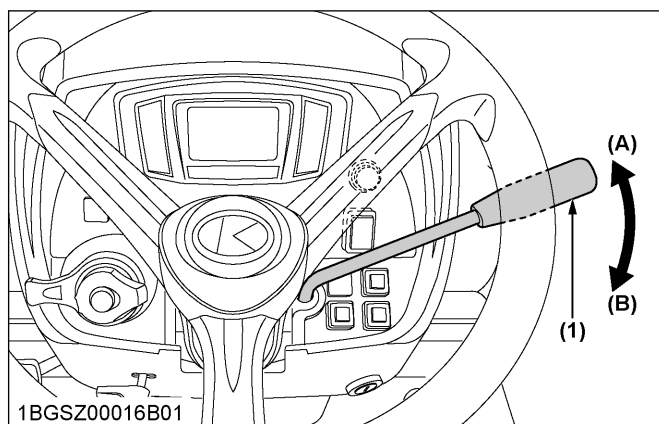
(1) Position control lever (A) "LOWEST" position

CAB model



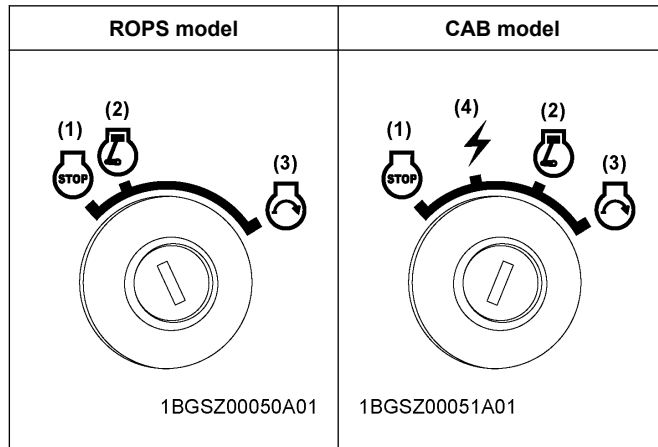
(1) Position control lever (A) "LOWEST" position

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

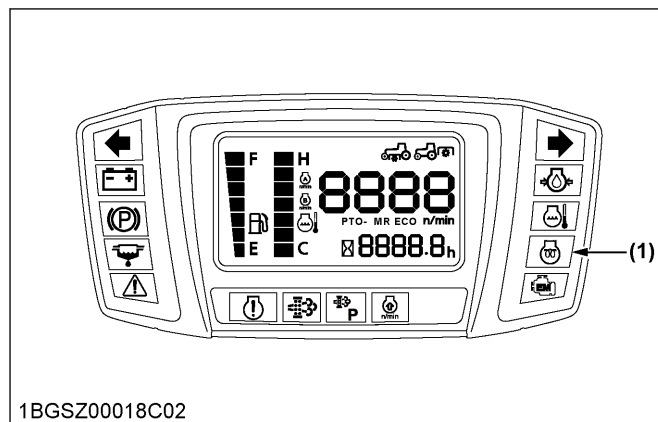


(1) Hand throttle lever (A) Decrease
(B) Increase

8. Insert the key into the key switch and turn it "ON".
If the ambient temperature is below 0 °C (32 °F) and the engine is very cold, turn the key to "ON" position and hold it until the heater indicator turns off.



- (1) Off
(2) On
(3) Start
(4) ACC (Radio only)

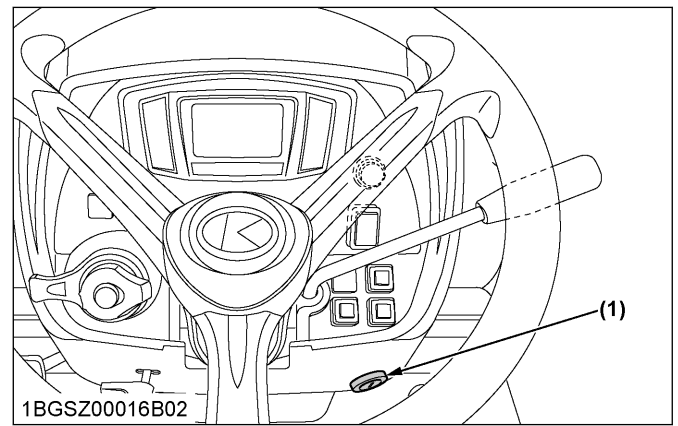


- (1) Heater indicator

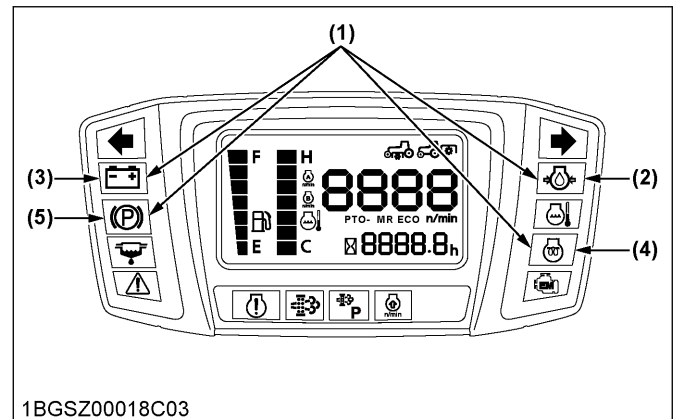
NOTE :

- Audio can be used at "ACC" position.
- Do not leave the key at "ACC" position. The battery will be quickly discharged. Turn it back to "OFF" after use.

9. Check the Easy Checker indicators.
- When the key is turned "ON", Engine oil pressure warning indicator and Electrical charge warning indicator should come on.
If an issue should occur at any location while the engine is running, the indicator lamp corresponding to problem will turn "ON".
 - If the parking brake warning indicator does not illuminate, make sure the parking brake is set.



- (1) Key switch



- (1) Easy Checker
(2) Engine oil pressure warning indicator
(3) Electrical charge warning indicator
(4) Heater indicator
(5) Parking brake warning indicator

IMPORTANT :

- Daily checks with the Easy Checker only, are not sufficient. Never fail to conduct daily checks carefully by referring to the daily check.
(See PERIODIC SERVICE on page 117.)

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

IMPORTANT :

- Because of the safety devices, the engine will not start unless the PTO clutch is disengaged and the HST pedal is placed in the "NEUTRAL" position from the operator's seat.
- 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 9 and 10. To protect the battery and the starter, make sure that the starter is not continuously turned for more than 10 seconds.

11. Check to see that all the indicators on the Easy Checker are "OFF".

If an indicator is still on, immediately stop the engine and determine the cause.

OPERATING THE ENGINE IN FREEZING CONDITIONS

1. Block heater (if equipped)

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).

STOPPING THE ENGINE

1. After slowing the engine to idle.
Wait 3 to 5 minutes for the turbo to slow down and then turn off the key switch to the "OFF" position.
2. Remove the key.

NOTE :

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

WARMING UP THE ENGINE

WARNING

To avoid personal injury or death:

- Set the parking brake during warm-up.
- Set all shift levers to the "NEUTRAL" positions and to place PTO clutch control switch in "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, seizure, breakage or premature wear may develop.

1. Warm-up and transmission fluid at low temperature range

Hydraulic oil serves as transmission fluid. In cold weather, the oil may be cold with increased 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 damage to the hydraulic system.

To prevent the above, observe the following instructions:

Warm up the engine at 2000 or more rpm according to the following table:

Ambient temperature	Warm-up time requirement
Higher than 0 °C (32 °F)	Approx. 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 the battery.
- If the 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 taking out the dead battery, putting in the battery or fixing the battery, do not allow the positive (+) terminal of the battery to touch other parts.

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 the disabled tractor within easy cable reach.

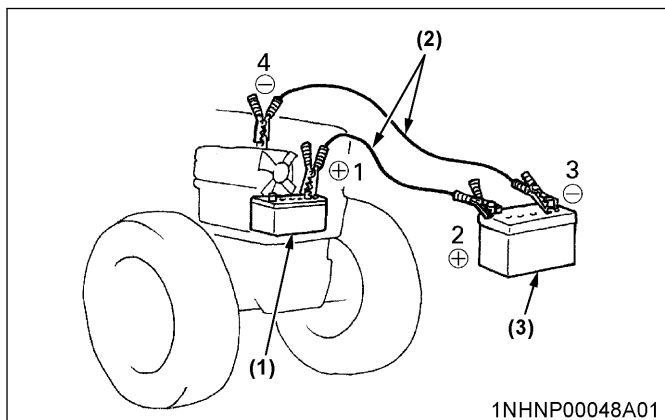
IMPORTANT :

- 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 positive) terminal of the dead battery and clamp the other end of the same cable to the positive (red, (+) or positive) terminal of the helper battery.
 5. Clamp the other cable to the negative (black, (-) or negative) 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).

Connect cables in numerical order.

Disconnect in reverse order after use.



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

IMPORTANT :

- This tractor has a 12 volt negative (-) ground starting system.
- Use only the 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 before operating the tractor.
Otherwise, the tractor might malfunction.

OPERATING THE TRACTOR

OPERATION OF NEW TRACTOR

How a new tractor is used 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 you should take care 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 used 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 using a new tractor, observe the following precautions.

Do not operate the tractor at full speed for the first 50 hours.

- Do not start the tractor quickly. Do not 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 preceding precautions are not limited only to new tractors, but to all tractors. But you should especially follow the preceding precautions 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. If 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. Small metal grit may wear out or damage the parts. Therefore, you should change the lubricating oil on a new tractor a little earlier than would ordinarily be required.

(For further details of change interval hours, see SERVICE INTERVALS on page 110)

BOARDING AND LEAVING THE TRACTOR

WARNING

To avoid personal injury or death:

- Never try to get on or off a moving tractor or jump off the tractor to exit.

- Face the tractor when getting into or out of the tractor. Do not use the controls as handholds to prevent inadvertent machine movements.
- Always keep steps and floor clean to avoid slippery conditions.



1NHNP00133A01

OPERATING FOLDABLE ROPS (IF EQUIPPED)

WARNING

To avoid personal injury or death:

- When raising or folding the ROPS, apply the parking brake, stop the engine and remove the key.
Always perform function from a stable position at the rear of the 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 the ROPS, check for any possible interference with installed implements and attachments.
If interference occurs, contact your Kubota Dealer.

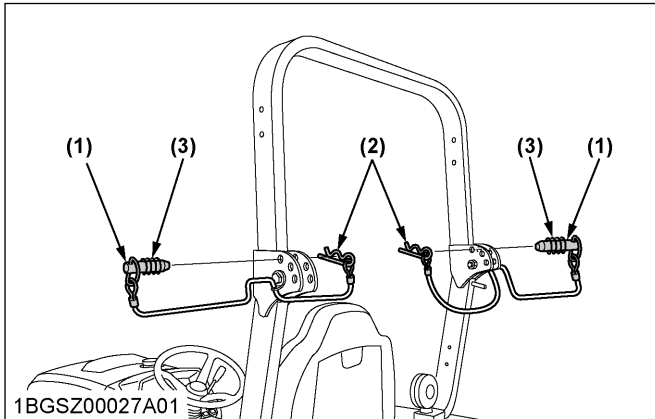
1. Folding the ROPS

WARNING

To avoid personal injury or death:

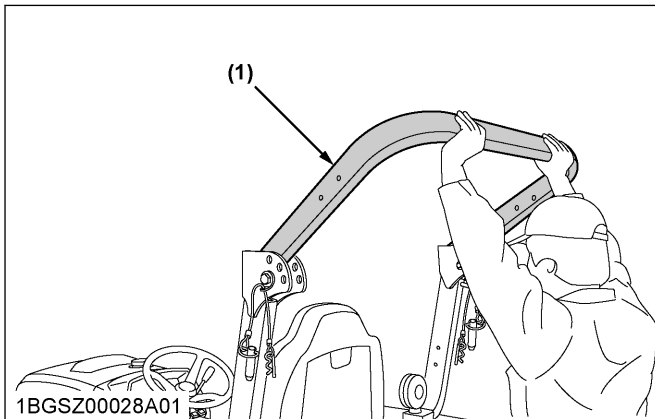
- Hold the ROPS tightly with both hands and fold the ROPS slowly and carefully.
- Make sure that both set pins are properly installed and secured with the hair pins.

1. Remove both set pins with springs, maintain a hold on the ROPS.



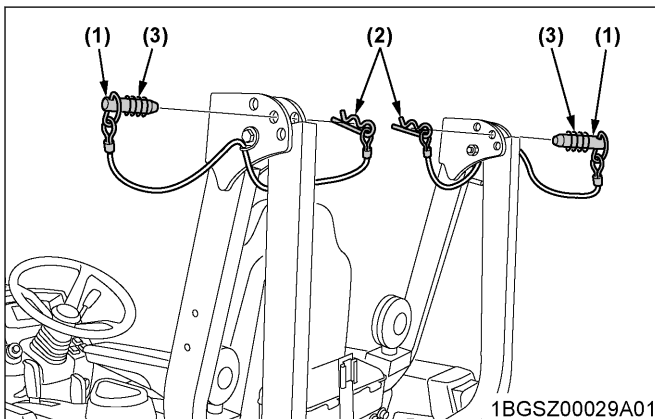
- (1) Set pin
(2) Hair pin
(3) Spring

2. Fold the ROPS.



- (1) ROPS

3. Align set pin holes and insert both set pins with springs. Slightly tighten the set pins and secure them with the hair pins.



- (1) Set pin
(2) Hair pin
(3) Spring

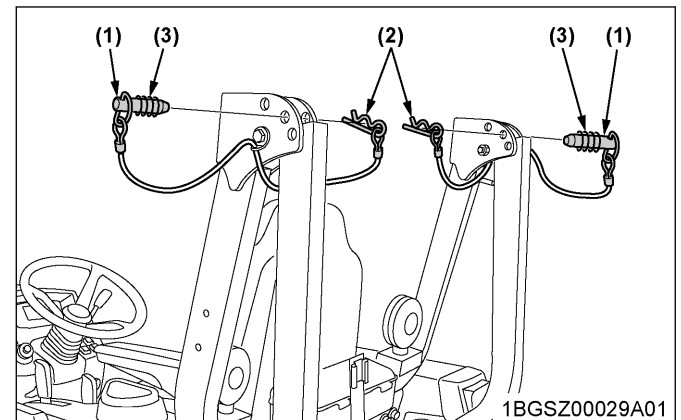
2. Raising the ROPS to upright position

⚠ WARNING

To avoid personal injury or death:

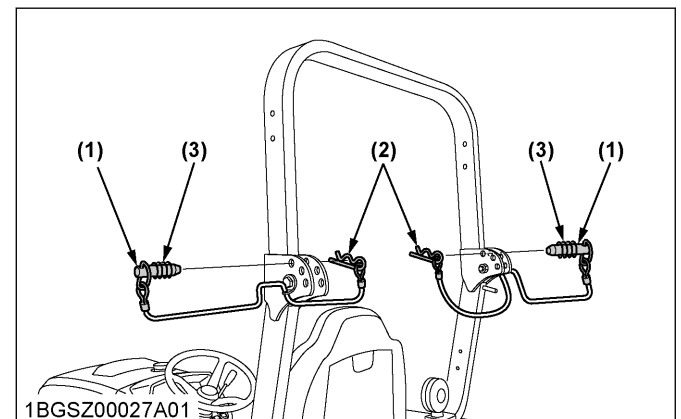
- Raise the ROPS slowly and carefully.
- Make sure that both set pins are properly installed as soon as the ROPS is in the upright position and secured with the hair pins.

1. Remove both hair pins and set pins and springs.



- (1) Set pin
(2) Hair pin
(3) Spring

2. Raise ROPS to the upright position, maintain a hold on the ROPS.
3. Align set pin holes, insert both set pins with springs. Slightly tighten the set pins and secure them with the hair pins.

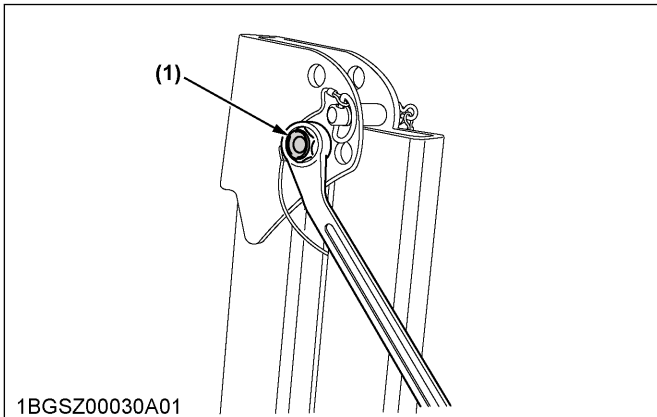


- (1) Set pin
(2) Hair pin
(3) Spring

3. Adjustment of foldable ROPS

1. Adjust free fall of the ROPS upper frame regularly.

2. If you feel less friction in folding the ROPS, tighten the nut (1) until you feel the right friction in the movement.



1BGSZ00030A01

(1) Nut

STARTING THE TRACTOR

WARNING

To avoid personal injury or death:

- Read and understand the safe operation section.
(See SAFE OPERATION on page 11)
- Read and understand the safety 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 PTO clutch control switch in "OFF" position before starting the engine.

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 on page 58
 - Seat belt on page 59
 - Tilt steering adjustment on page 60
2. Set the parking brake.
 - Parking brake lever on page 62
 3. Starting the engine.
 - STARTING THE ENGINE on page 50
 4. Selecting light switch position.
 - Headlight switch on page 60

- Turn signal switch and hazard light switch on page 61
5. Pull the position control lever to raise the implement.
 - Position control on page 89
 6. Selecting the travel speed.
 - Range gear shift lever (L-M-H) on page 63
 - Front wheel drive lever on page 64
 7. Accelerate the engine.
 - Hand throttle lever on page 64
 8. Release the parking brake.
 - Parking brake lever on page 62
 9. Depress the Speed Control Pedal.
 - Speed control pedal on page 65
 - Cruise control lever (if equipped) on page 65

1. Operator's seat

WARNING

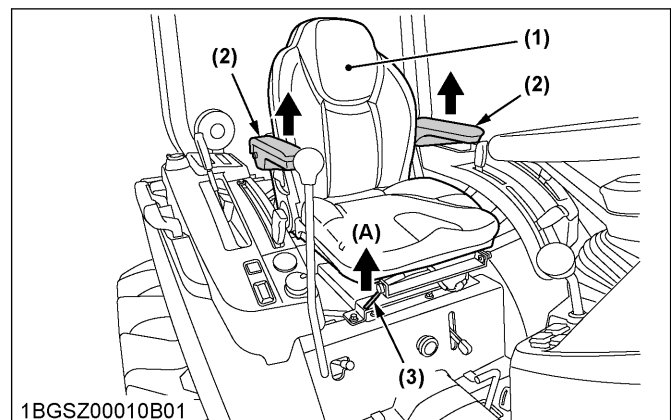
To avoid personal injury or death:

- Make adjustments to the operator's seat only while the tractor is stopped.
- Make sure that the operator's seat is completely secured after each adjustment.
- Do not allow any person other than the operator to ride on the tractor.

IMPORTANT :

- After adjusting the operator's seat, confirm that the seat is properly locked.

[ROPS model]



1BGSZ00010B01

(1) Seat

(2) Armrest

(3) Position adjust lever

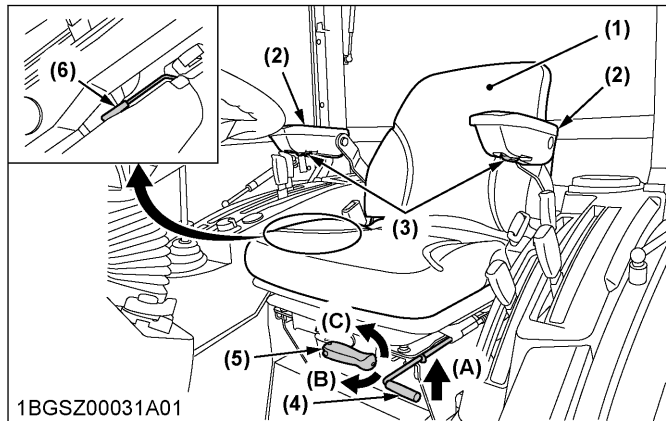
(A) Pull up

Armrest angle adjustment

Armrest may be set upright position if desired.

Position adjustment

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

[CAB model]

- (1) Seat
 (2) Armrest
 (3) Armrest angle adjust knob
 (4) Travel adjust lever
 (5) Suspension adjust knob
 (6) Backrest tilt adjust lever
 (A) Unlock
 (B) To increase tension
 (C) To decrease tension

Armrest

Armrest may be set at upright position if desired.

Armrest angle adjustment

Turn the armrest angle adjust knob to the desired 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

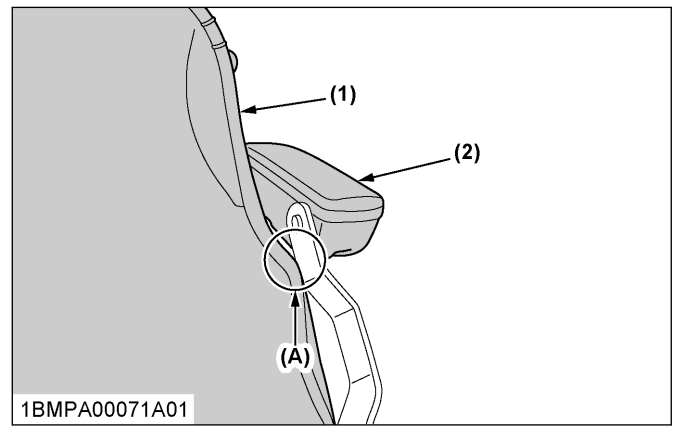
Turn the suspension adjust knob to achieve the optimum suspension setting.

Tilt adjustment

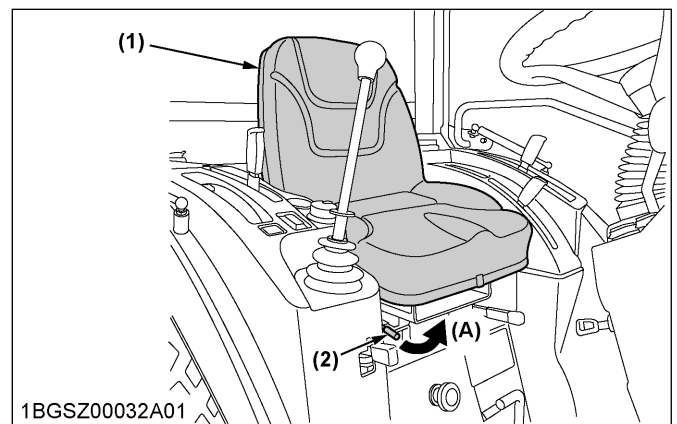
Pull the backrest tilt adjust lever and tilt the backrest to the desired position.

IMPORTANT :

- Do not tilt the backrest forward past the armrest mounting brackets. When returning the backrest to its original position from a position tilted forward past the armrest mounting brackets, there is a risk of the backrest contacting the armrest mounting brackets and tearing the backrest. If the backrest has been tilted forward past the armrest mounting brackets, always return it slowly while holding its contact areas on both the left and right sides simultaneously, ensuring that the backrest does not make contact with the armrest mounting brackets.



- (1) Backrest
 (2) Armrest
 (A) Contact area

[SU model]

- (1) Seat
 (2) Position adjust lever
 (A) Pull in

Position adjustment

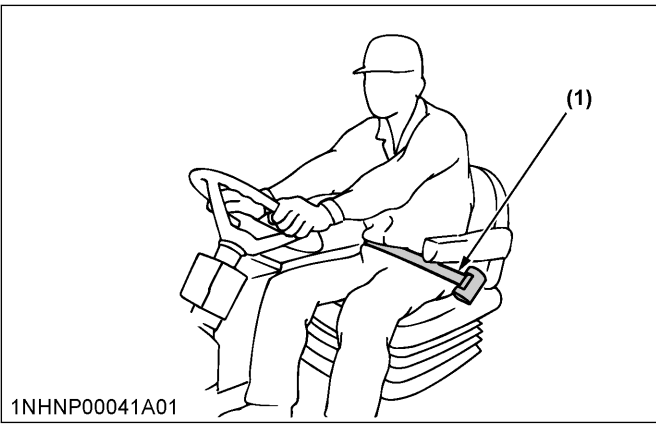
Pull in the position adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.

2. Seat belt**⚠ WARNING**

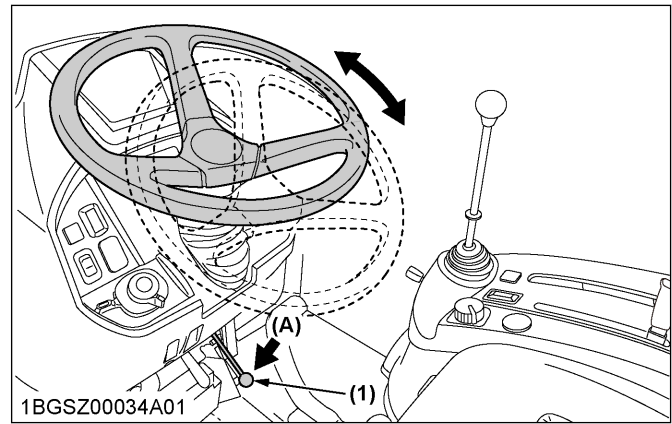
To avoid personal injury or death:

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

Adjust the seat belt for proper fit and connect the buckle.



(1) Seat belt



(1) Steering wheel tilt pedal (A) Press

3. Tilt steering adjustment

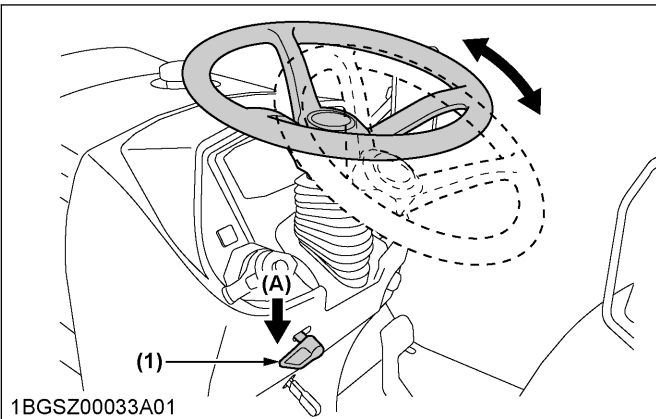
⚠ WARNING

To avoid personal injury or death:

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

[ROPS model]

Pull the steering wheel tilt lever to release the lock, so that the steering wheel can be adjusted to the desired position.



(1) Steering wheel tilt lever (A) Pull

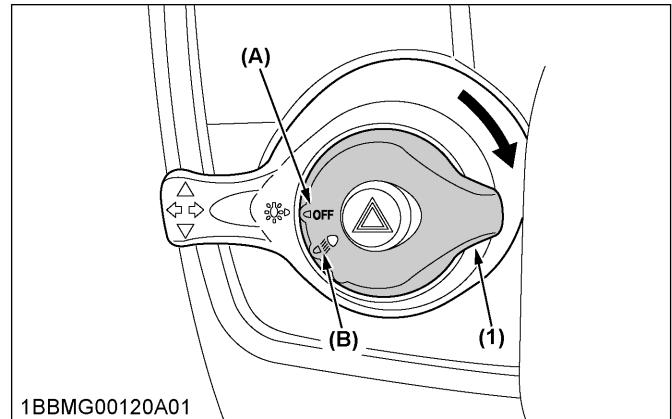
[CAB model]

Press down the steering wheel tilt pedal, to release the lock so the steering wheel can be adjusted to the desired position.

4. Headlight switch

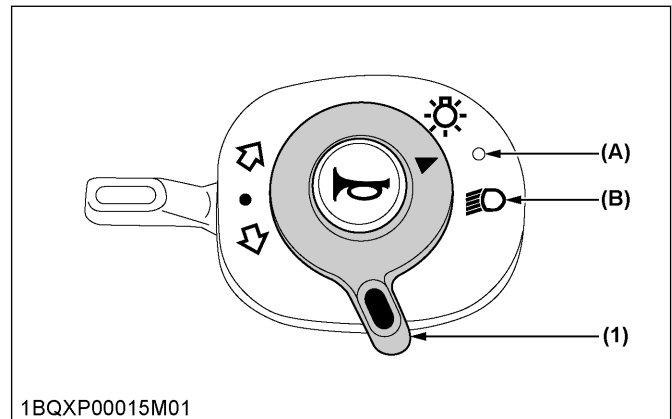
Turn the light switch clockwise, and the following lights are activated on the "ON" position.

ROPS model

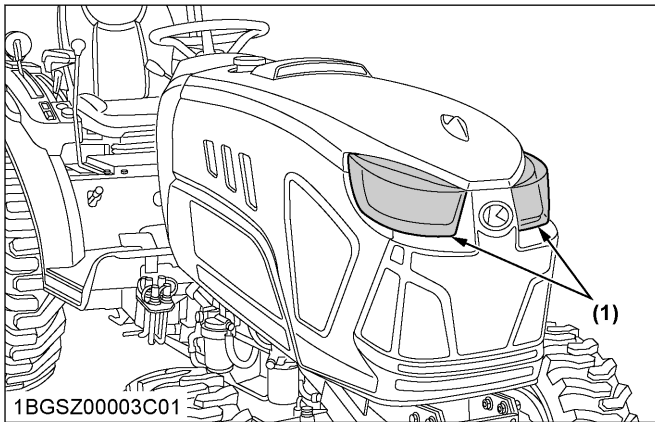


(1) Headlight switch (A) "OFF" (B) "ON"

CAB model



(1) Headlight switch (A) "OFF" (B) "ON"

All models

(1) Headlight

5. Turn signal switch and hazard light switch

Hazard light

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

Turn signal with hazard light switch on

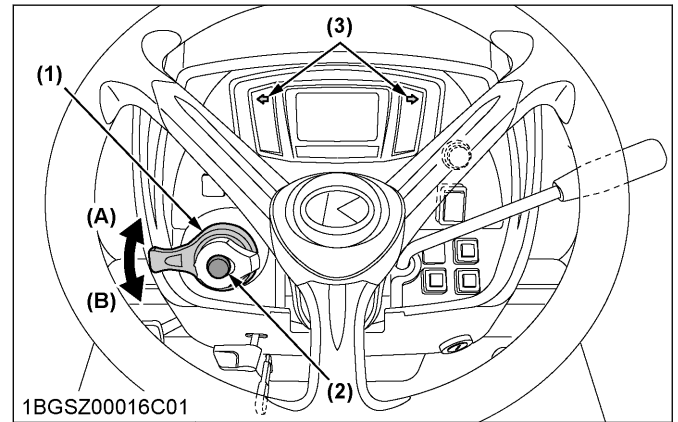
1. To indicate a right turn with the hazard lights already flashing (hazard switch on), turn the turn signal switch clockwise.
2. To indicate a left turn with the hazard lights already flashing, turn the turn signal switch counterclockwise.
3. When the left or right turn signal is activated in combination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

Turn signal with hazard light switch off

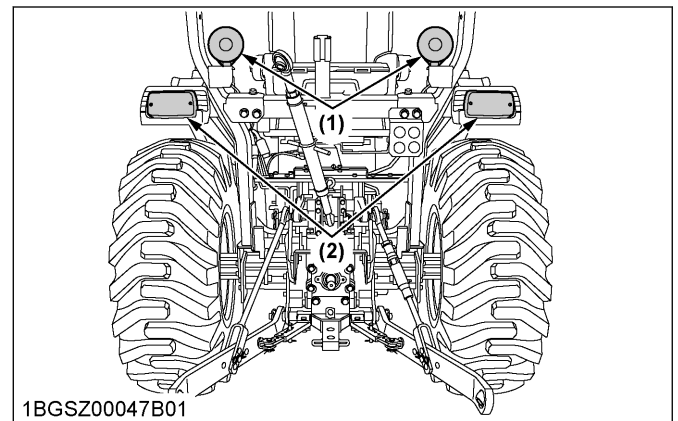
1. To indicate a right turn without hazard lights (hazard switch off), turn the turn signal switch clockwise.
2. To indicate a left turn without hazard lights, turn the turn signal switch counterclockwise.
3. When the left or right turn signal is activated without the hazard lights, the indicated turning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

NOTE :

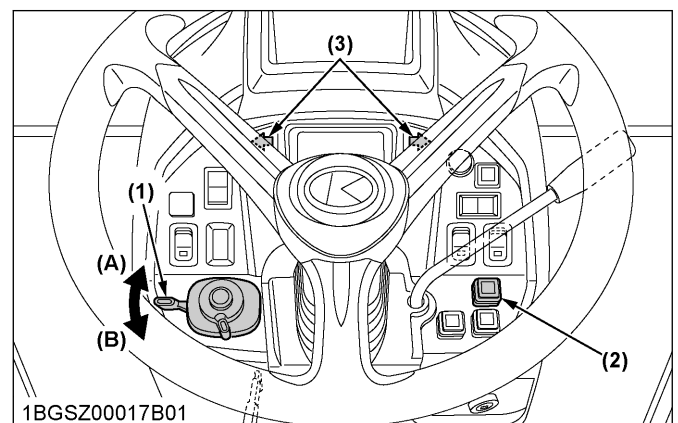
- The hazard light switch is operative when the key switch is in either the "ON" or "OFF" position.
- The turn signal light switch is only operative when the key switch is in the "ON" position.
- The indicator in the hazard light switch will light up when the head light switch is turned on.
- Return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

ROPS model

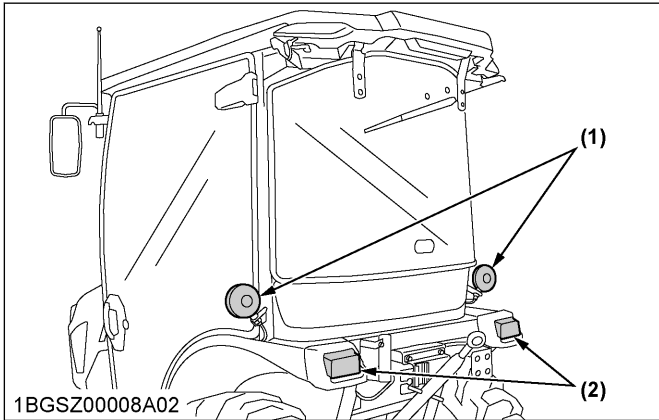
- (1) Turn signal light switch (A) To indicate a right turn
 (2) Hazard light switch (B) To indicate a left turn
 (3) Hazard and turn signal indicator

ROPS model

- (1) Turn signal and hazard light
 (2) Tail light and turn signal light and hazard light

CAB model

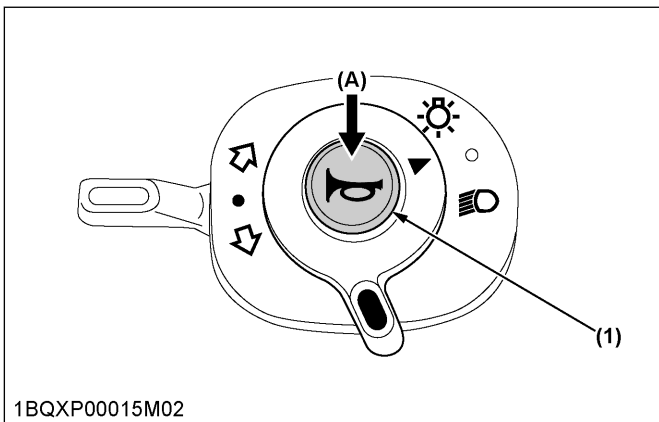
- (1) Turn signal light switch (A) To indicate a right turn
 (2) Hazard light switch (B) To indicate a left turn
 (3) Hazard and turn signal indicator

CAB model

- (1) Turn signal and hazard light
(2) Tail light and turn signal and hazard light

6. Horn button [CAB model only]

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



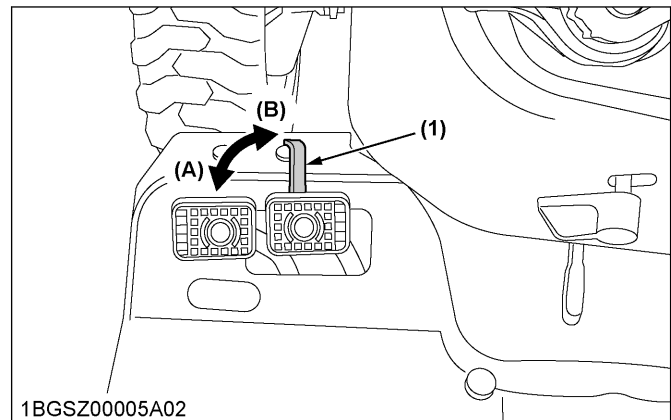
- (1) Horn button (A) Push to sound horn

7. Brake pedals (right and left)**⚠ WARNING**

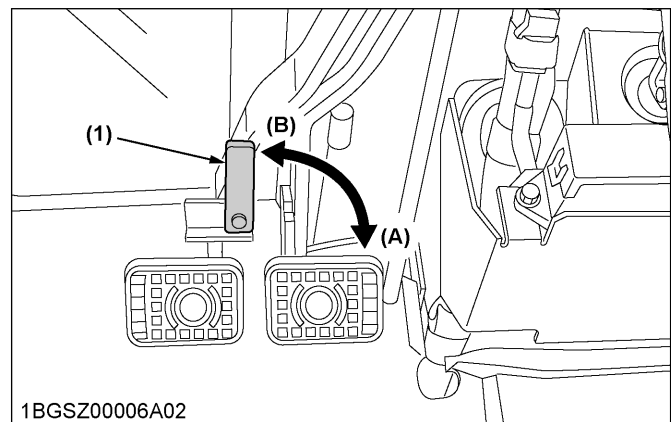
To avoid personal injury or death:

- Interlock the right and left pedals. Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over.
- Do not brake suddenly.
An accident may occur as a result of a heavy towed load shifting forward or loss of control.
- To avoid skidding and loss of steering control when driving on icy, wet, or loose surfaces, make sure the tractor is correctly ballasted, operated at reduced speed and operated with the front-wheel drive engaged (if equipped).
- The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.

1. Before operating the tractor on the road or before applying the parking brake, interlock the right and left pedals as in the following illustration.
2. Use individual brakes to assist in making sharp turns at low speeds (field operation only). Disengage the brake pedal lock and depress only one brake pedal.
3. When the pedals are interlocked, make sure that they are adjusted to the same height before use.

ROPS model

- (1) Brake pedal lock (A) "INTERLOCK"
(B) "RELEASE"

CAB model

- (1) Brake pedal lock (A) "INTERLOCK"
(B) "RELEASE"

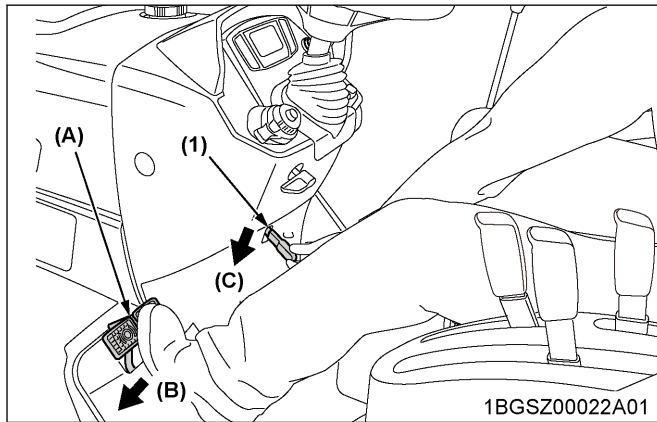
8. Parking brake lever

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;

1. Depress the brake pedals.
2. Parking brake indicator goes off.

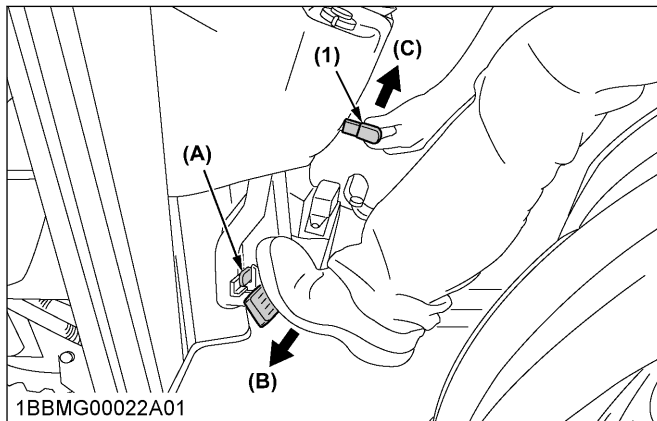
ROPS model

(1) Parking brake lever

(A) Interlock the brake pedals

(B) Depress

(C) Pull down

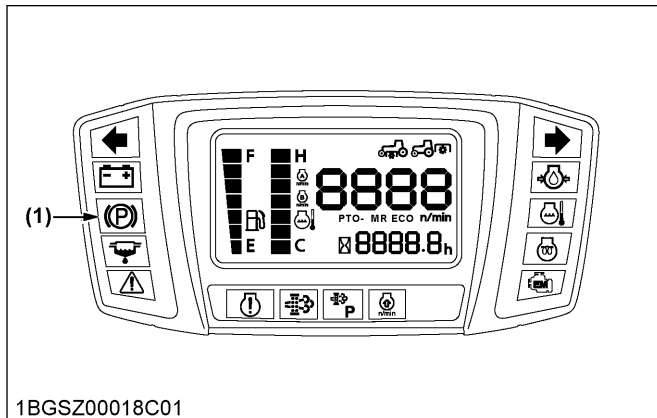
CAB model

(1) Parking brake lever

(A) Interlock the brake pedals

(B) Depress

(C) Pull up



(1) Parking brake indicator

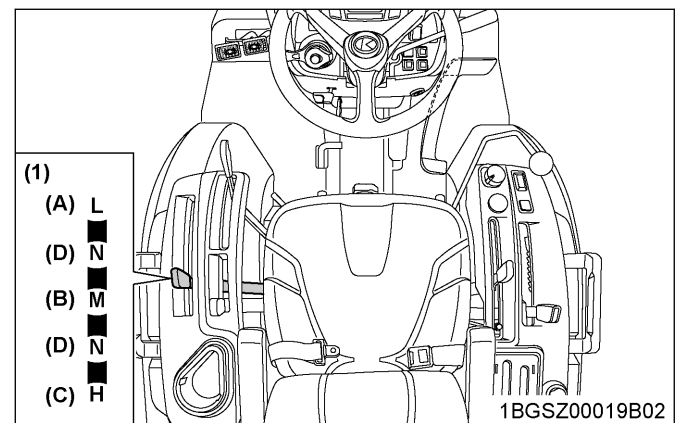
9. Range gear shift lever (L-M-H)

The range gear shift can only be shifted when the 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.
- When starting the engine, the engine is not operate unless the range gear shift lever is placed in the "NEUTRAL" position.

ROPS model

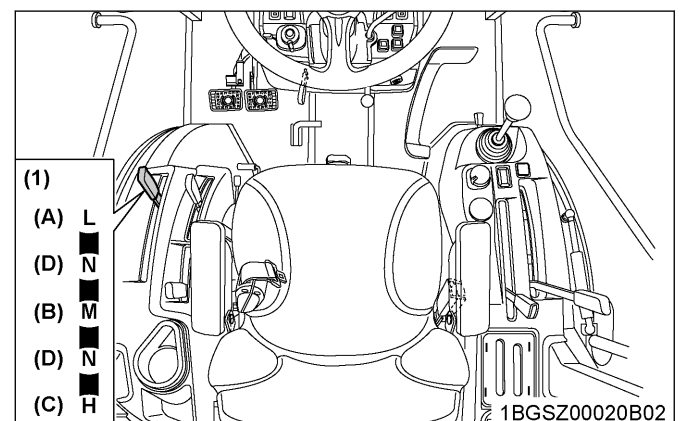
(1) Range gear shift lever (L-M-H)

(A) "LOW"

(B) "MIDDLE"

(C) "HIGH"

(D) "NEUTRAL" position

CAB model

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

(A) "LOW"

(B) "MIDDLE"

(C) "HIGH"

(D) "NEUTRAL" position

10. Front wheel drive lever

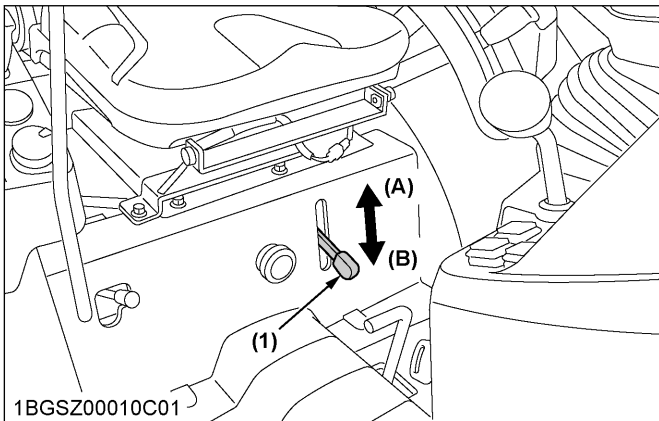
WARNING

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.

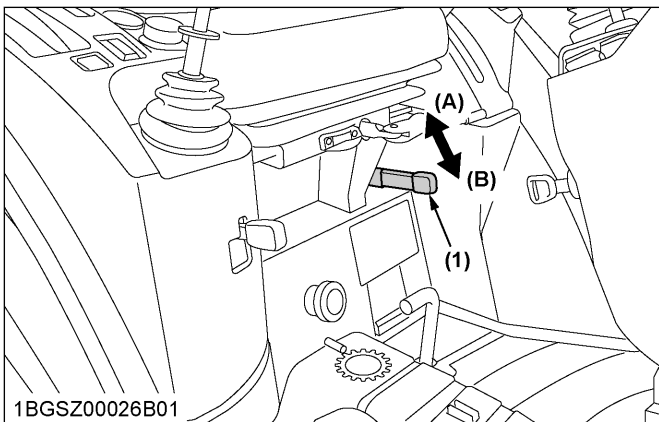
ROPS model



(1) Front wheel drive lever

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

CAB model



(1) Front wheel drive lever

(A) "ON"
(B) "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.

10.1 Front-wheel drive (4WD) usage

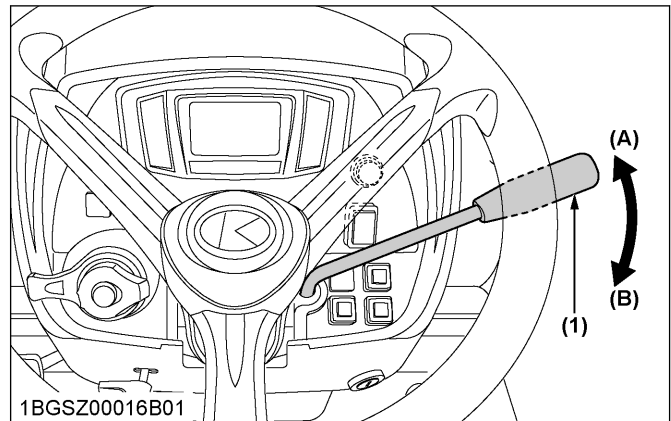
Front-wheel drive is effective for the following jobs:

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.

11. Hand throttle lever

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

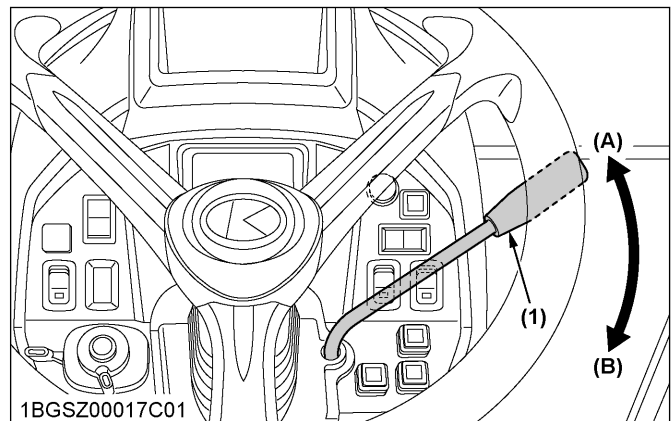
ROPS model



(1) Hand throttle lever

(A) Decrease
(B) Increase

CAB model



(1) Hand throttle lever

(A) Decrease
(B) Increase

12. 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 the speed control pedal.
- Consult your local Kubota Dealer.

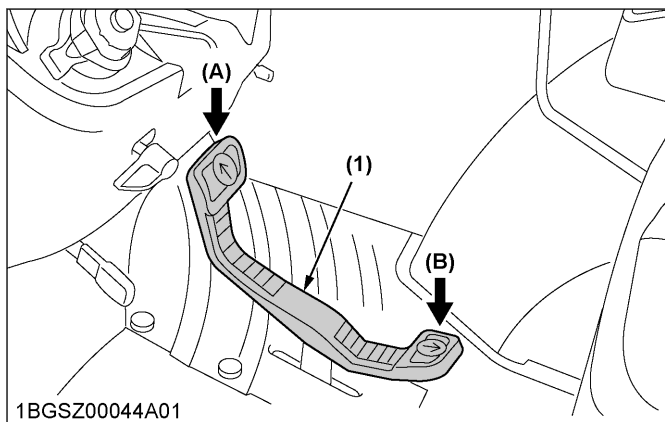
Forward pedal

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 or toe of your right foot to move backward.

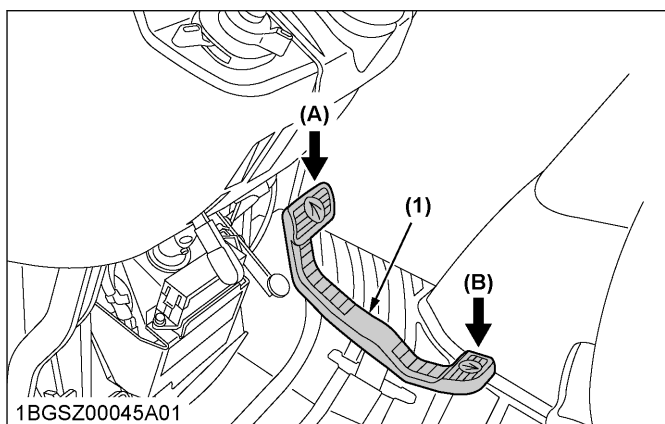
ROPS model



(1) Speed control Pedal

(A) Forward
(B) Reverse

CAB model



(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 either:

- the speed control pedal stepped on
- the cruise control lever engaged (ON)

the engine will stop regardless of whether the tractor is moving or not.

This is because the tractor is equipped with an operator presence control system (OPC).

13. Cruise control lever (if equipped)

⚠ 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.
- Connect both the left and the right brakes to release the cruise control. The cruise control will not be released with single brake activation.

IMPORTANT :

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

Cruise control is designed for tractor operating efficiency and operator comfort.

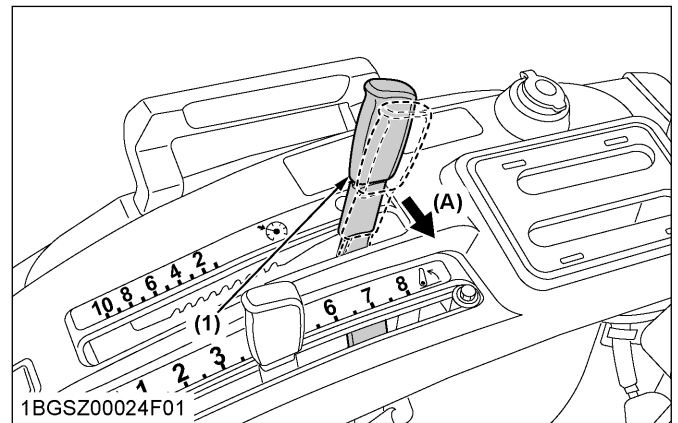
This device will provide a constant forward operating speed by mechanically holding the cruise control lever at the selected position.

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.



(1) Cruise control lever

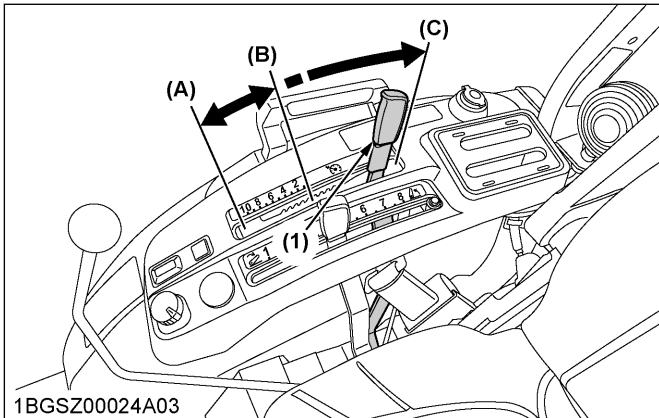
(A) Tilt

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, return the cruise control lever fully backward.

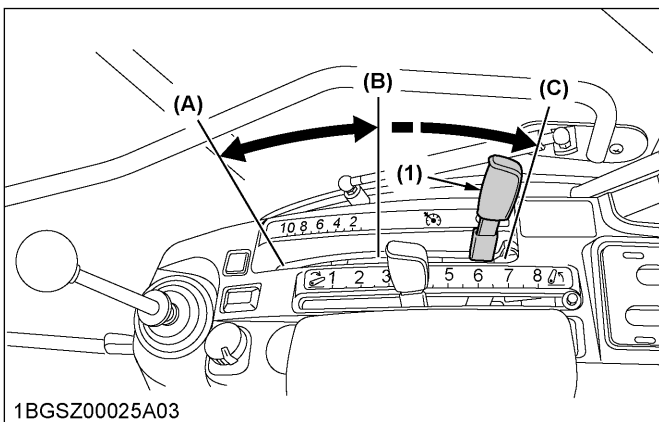
ROPS model



(1) Cruise control lever

(A) "INCREASE"
(B) "DECREASE"
(C) "NEUTRAL"

CAB model



(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 THE TRACTOR

1. Slow down the engine.

2. Step on the brake pedal.
3. Wait for the tractor to stop.
4. Disengage the PTO.
5. Lower the implement to the ground.
6. Shift the transmission to neutral.
7. Set the parking brake.

CHECK DURING DRIVING

IMPORTANT :

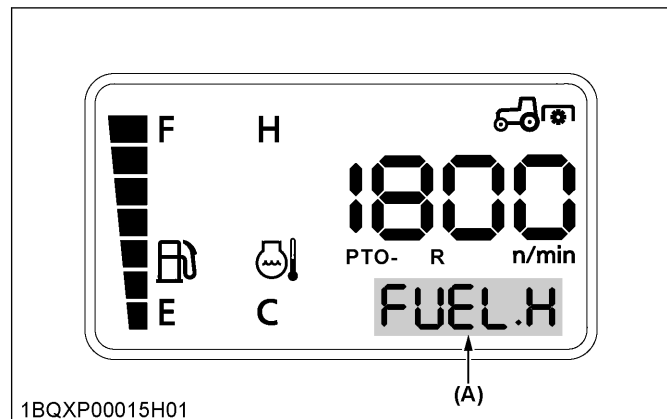
Immediately stop the engine if:

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

1. Fuel temperature indication

Fuel temperature indication informs the operator of high fuel temperature by showing a message on the display. If "FUEL.H" appears on display, immediately stop operation and idle the engine.

When the engine rpm decreases and the fuel temperature gets low, the message on the display will disappear.

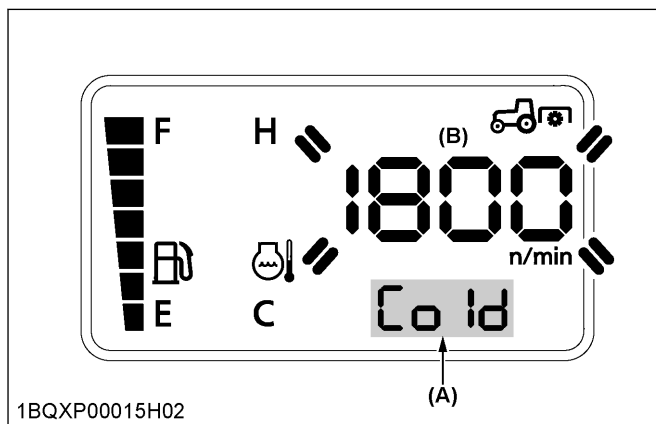


(A) "FUEL.H"

2. Engine low temperature regulation

In order to prevent engine damage due to rapid acceleration, if starting the engine when the coolant temperature is approximately 0 °C (32 °F) or below, the engine rpm will be kept at approximately 1600 for up to 1 minute. The operator will be informed by "Cold" on display, flash of engine revolution speed, and intermittent buzzer. The regulation time varies in response to the coolant temperature.

During regulation, perform the warm-up operation without using the accelerator. After regulation, the engine rpm can be gradually increased. When regulation has been completely released, the indicator will go off, and the buzzer will stop.



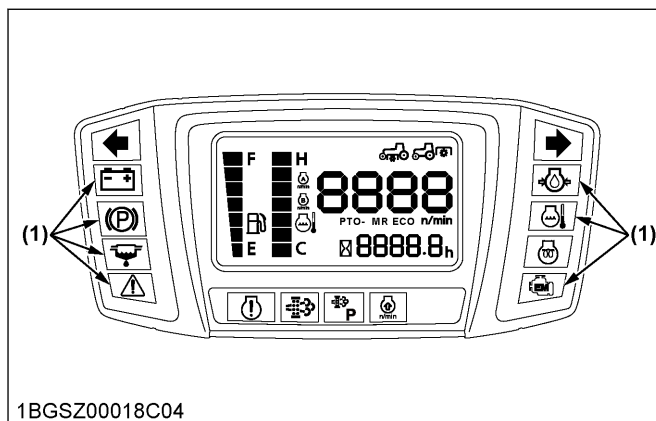
(A) "Cold"

(B) Flash

3. Easy Checker

If the indicators on the Easy Checker come on during operation, immediately stop the engine and find the cause as follows.

Never operate the tractor while an Easy Checker indicator is on.



(1) Easy Checker

Engine warning

If the regeneration of the DPF has a problem, the warning lamp in the Easy Checker will come on. (See PM warning level and required procedures on page 45.)

- **PCD/NCD warning**
If during operation a particulate control diagnostic (PCD) warning or an NOx control diagnostic (NCD) warning occurs, the engine warning indicator flashes rapidly. If this should happen during operation, stop the engine and then restart it. If the error happens again, consult your local Kubota Dealer.

Engine overheat

If the water temperature gauge reads an unusual level and the indicator on the Easy Checker comes on, the engine may have overheated. Check the

tractor by reading the troubleshooting section of this manual.

(See TROUBLESHOOTING on page 148.)

Engine oil pressure

If the oil pressure in the engine drops below the prescribed level, the indicator on the Easy Checker 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 the engine oil level.

(See Checking engine oil level on page 120.)

Water separator

If water or impurities collect in the water separator, the indicator on the Easy Checker will light up.

If this should happen during operation, drain the water from the water separator as soon as possible.

(See Checking water separator on page 119.)

Emission indicator

If this indicator lights up, take steps to lower the water temperature.

This helps keep the emission clean.

Electrical charge

If the alternator is not charging the battery, the indicator on the Easy Checker 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 issue is not corrected by restarting the tractor, contact your local Kubota Dealer.

NOTE :

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

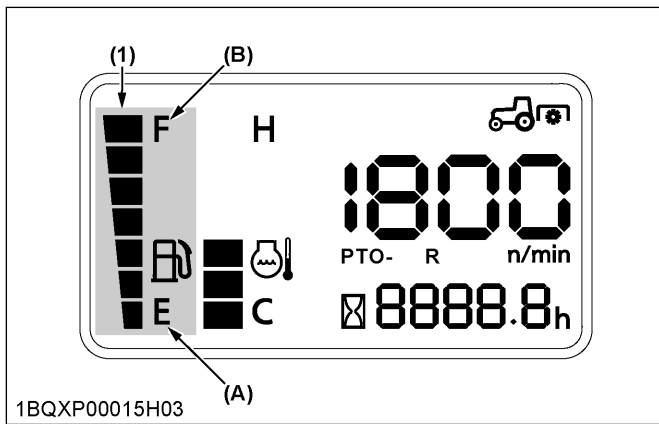
4. Fuel gauge

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 on page 140.)



(1) Fuel gauge

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

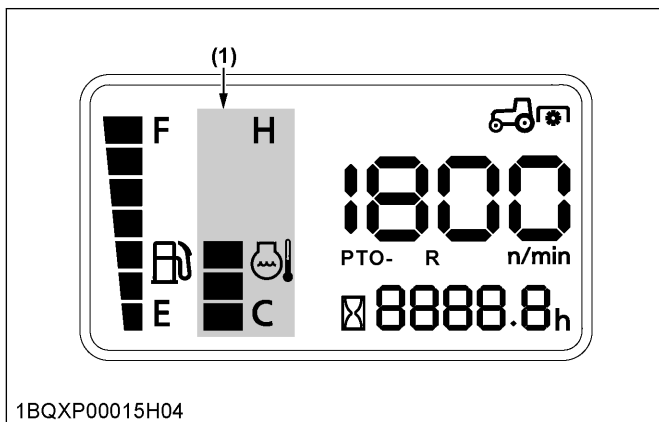
5. Coolant temperature gauge

⚠ WARNING

To avoid personal injury or death:

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

- With the key switch at "ON", this gauge indicates the temperature of the coolant. [C] is for cold and [H] is for hot.
- If the indicator reaches the [H] position (red zone), the engine coolant is overheated. Check the tractor by reading the troubleshooting section of this manual.
(See TROUBLESHOOTING on page 148.)



(1) Coolant temperature gauge

5.1 Overheating countermeasures

Take the following actions in the event the coolant temperature is nearly at or over the boiling point, also called "overheating".

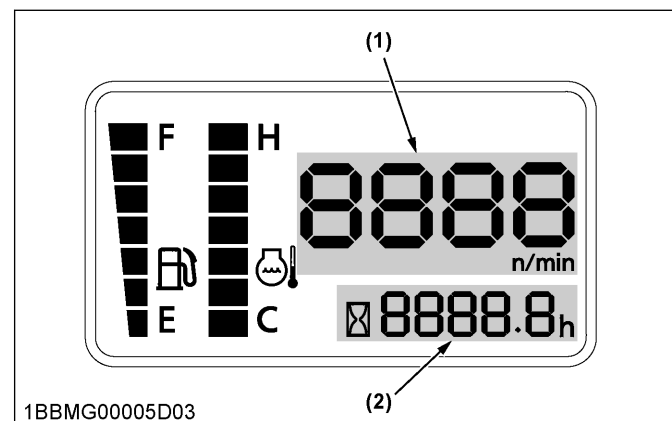
- Park the tractor in a safe place and keep the engine idling unloaded.

- Do not stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
- Keep yourself well away from the machine for further 10 minutes or while the steam blows out.
- Check that there are no dangers such as burns. Get rid of the causes of overheating according to the troubleshooting section of this manual.
(See TROUBLESHOOTING on page 148.)
Afterward, restart the engine.

6. Hourmeter and tachometer

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

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



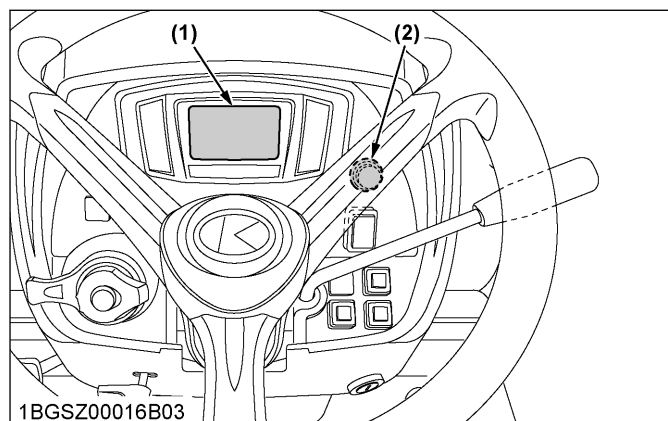
(1) Engine revolution

(2) Hours used, PM accumulation level

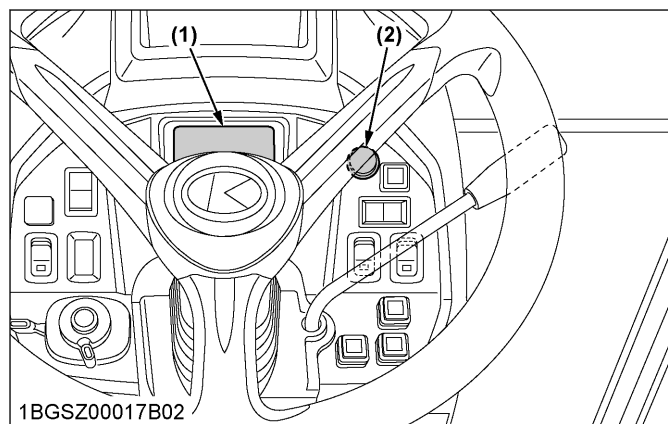
7. Changing display mode

- The LCD monitor give several different displays.
- The LCD monitor displays "Engine rpm" normally.

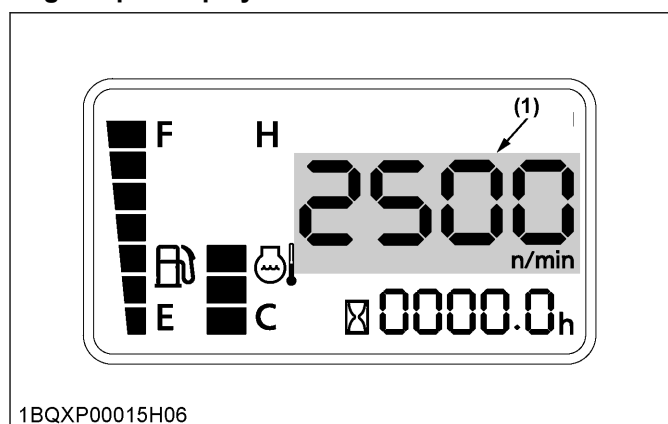
3. When the display switch is pressed, the display is switched to “Rear PTO speed”, “Mid PTO speed (if equipped)”, and “Engine rpm”.

ROPS model

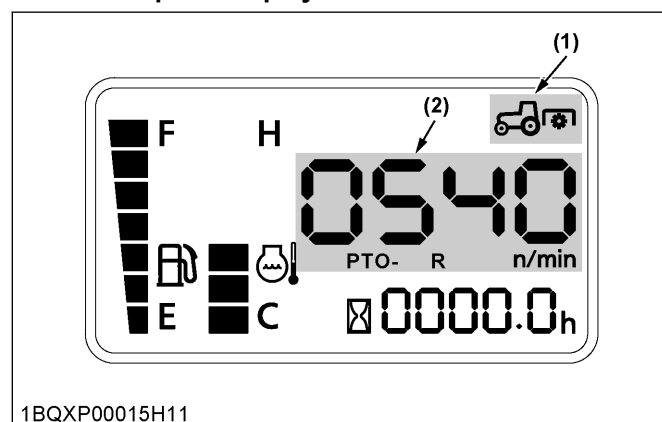
- (1) LCD monitor
(2) Display switch

CAB model

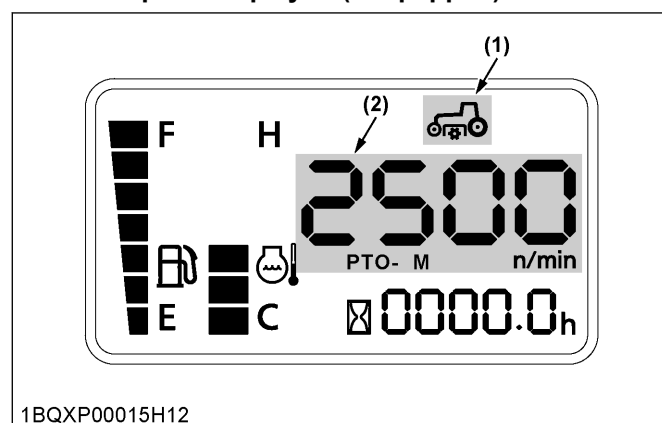
- (1) LCD monitor
(2) Display switch

Engine rpm displayed

- (1) Engine rpm

Rear PTO speed displayed

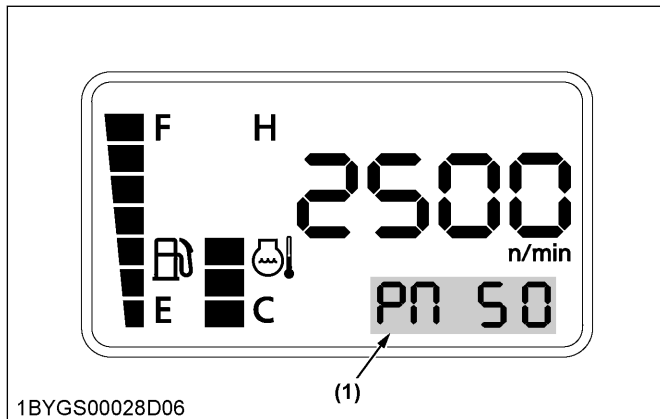
- (1) Rear PTO speed indicator
(2) Rear PTO rpm

Mid PTO speed displayed (if equipped)

- (1) Mid PTO speed indicator
(2) Mid PTO rpm

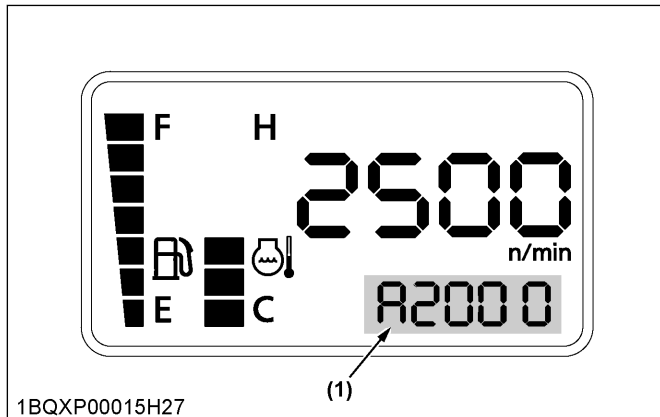
4. You can change the normal display to “PM accumulation level”, “RPM dual memory A”, or “RPM dual memory B” by the following steps.
 - a. Push and hold the display switch.
The digits on LCD monitor will flash.
 - b. Push the display switch, and the digits will change to [PM], [A], or [b].
[PM] is displayed to normally display the PM accumulation level (%).
 - Displays the PM buildup inside the DPF muffler.
 - When the PM accumulation level reaches 100 %, the PM warning level becomes level 1. The regeneration is needed.
 - If the PM accumulation increases, the level displayed will increase to 100 % or more.
 - [A] is displayed to normally display the RPM dual memory A.
 - [b] is displayed to normally display the RPM dual memory B.
 - c. Push and hold the display switch.
After a beep sounds, after appears the PM accumulation level (%).

PM accumulation level displayed



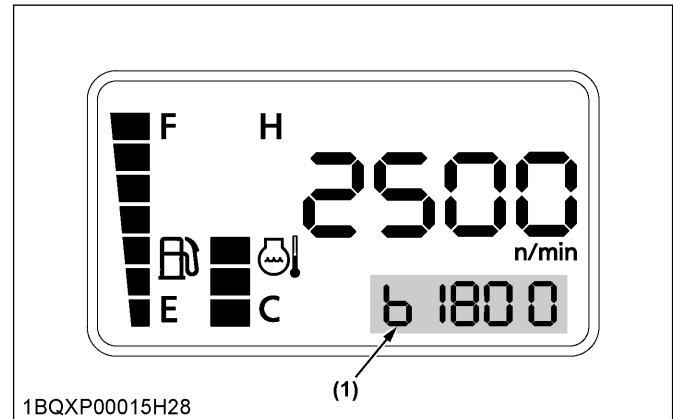
(1) PM accumulation level (%)

RPM dual memory A displayed



(1) Dual memory A setting rpm

RPM dual memory B displayed



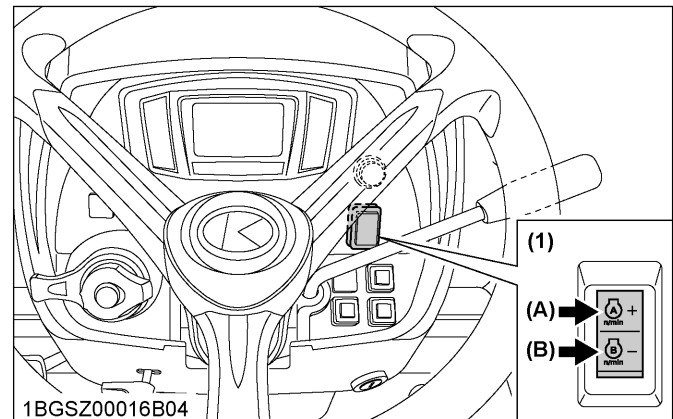
(1) Dual memory B setting rpm

ELECTRONIC ENGINE CONTROL

1. RPM dual memory setting

Two different engine speeds can be set by pressing the RPM dual memory switch A or B. This can be used to eliminate troublesome acceleration operations.

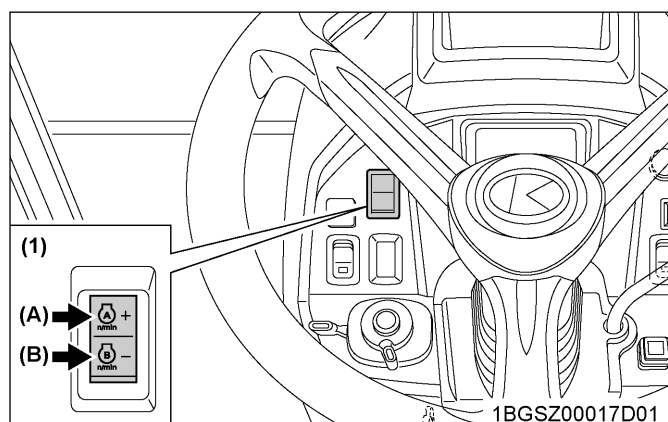
ROPS model



(1) RPM dual memory switch

(A) Switch A

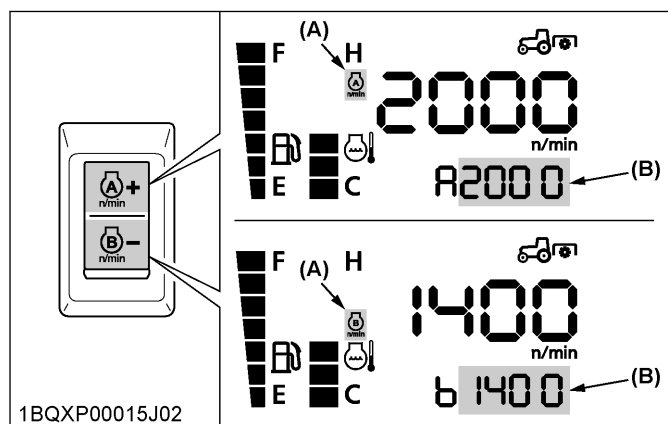
(B) Switch B

CAB model

(1) RPM dual memory switch (A) Switch A
(B) Switch B

Example of use

Consider an example in which an engine speed of 2000 rpm is set for the switch A and a speed of 1400 rpm is set for the switch B.



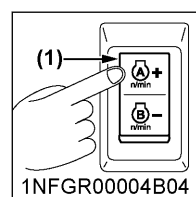
(A) Light up
Engine revolution is operating in the rpm memory setting value.
(B) Flashing
Engine revolution is more than the rpm memory setting value.

Work ↓	1NFG00004B04 (1) Switch A	During work, simply press the switch A to automatically set an engine speed of 2000 rpm.
Turning ↓	1NFG00004C02 (1) Switch B	When turning, press the switch B to lower the speed to 1400 rpm, allowing turning at low speed.
Work	1NFG00004B04 (1) Switch A	After turning, press the switch A to resume a speed of 2000 rpm.

- Keep the hand throttle lever above the minimum speed. At the minimum speed, a memory setup cannot be performed.
- During the memory function works, even if you depress the foot throttle, the engine rpm keeps the memorized rpm.

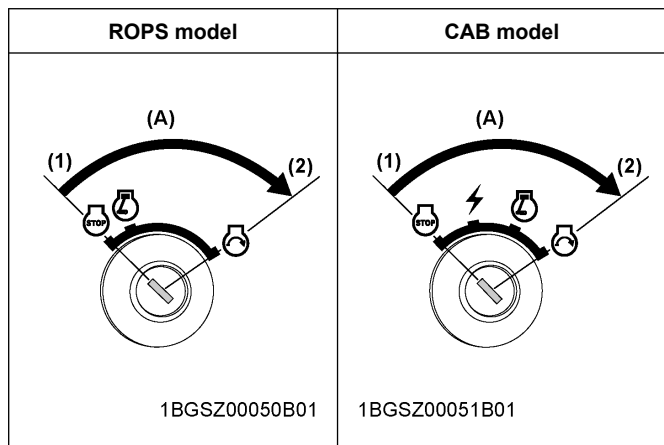
Setting the speeds or changing the speed settings

Setting RPM dual memory switch A.



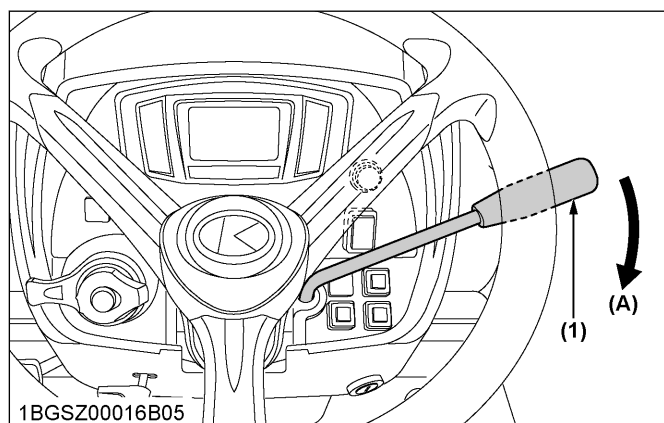
(1) Switch A

1. Turn the key switch to "START".
The speed setting can be made only when the engine is running.



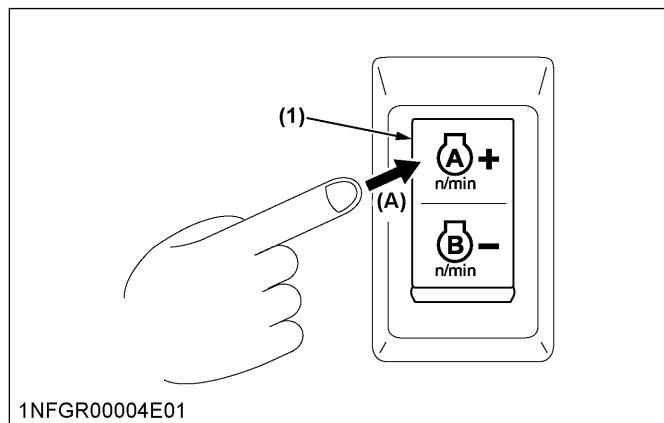
- (1) "OFF"
(2) "START"
(A) Turn

2. Set the hand throttle lever slightly toward the higher-speed side.



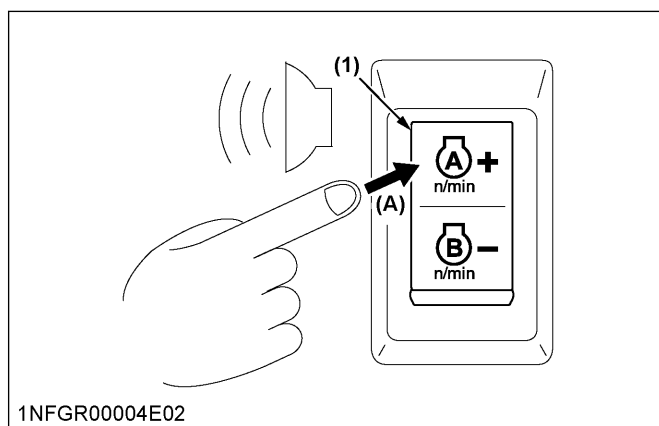
- (1) Hand throttle lever (A) Pull

3. Press the switch A and then release the switch.

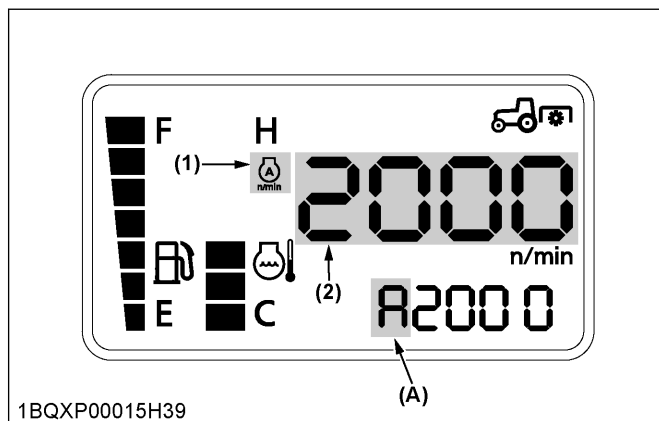


- (1) Switch A (A) Press

4. Press again and hold down the switch A (2.5 seconds) until the buzzer sounds and then release the switch.

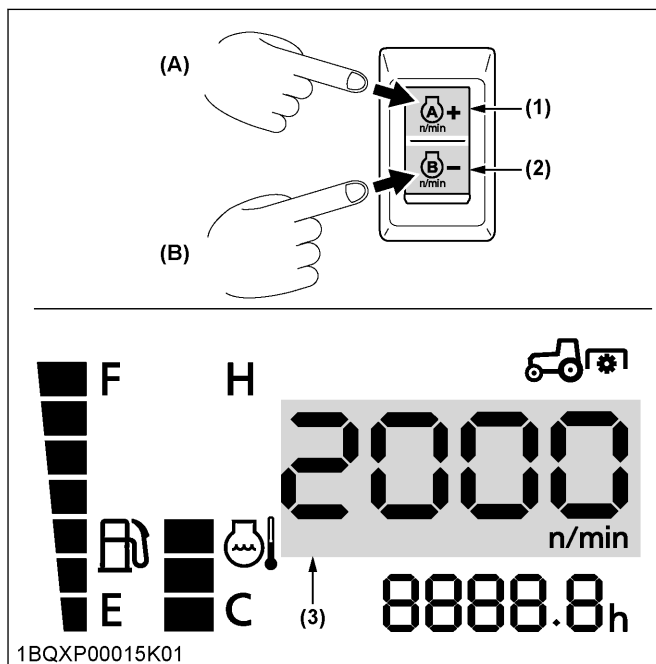


- (1) Switch A (A) Press



- (1) Engine - rpm memory A (A) Flashes
(2) Engine rpm

5. Press the switch A or B and set the speed. Pressing and holding down the switch will cause the speed to change continuously. Pressing and releasing the switch changes the speed by 50 rpm each time. Set the desired engine speed while watching the speed display.



- (1) Switch A (A) Increase speed
 (2) Switch B (B) Decrease speed
 (3) Engine rpm

6. If the switch is released and not operated for 4 seconds, a continuous buzzer sounds and the setting is completed.
7. Follow the same procedure as for the switch A to set the speed for the switch B.

NOTE :

- The set speeds will be stored even after the engine is stopped.

Canceling the setting

Any of the actions below will cancel the *RPM dual memory* settings.

1. For the switch A, when the memory speed is engaged, press the switch A again to cancel. For the switch B, when the memory speed is engaged, press the switch B again to cancel.
2. When the memory speed is canceled, the speed will return to the speed that is determined by the hand throttle lever (foot throttle). When the switch is pressed, the LCD will display the engine speed that is in effect after memory speed is canceled.
3. Return the hand throttle lever to the lowest speed position.
4. Turn the key switch to "OFF".

PARKING THE TRACTOR

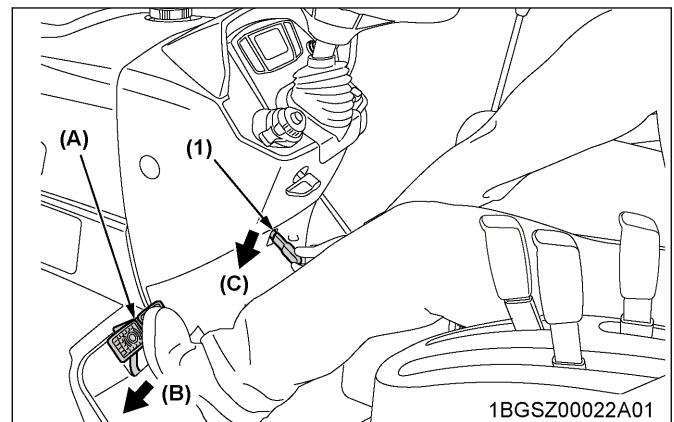
WARNING

To avoid personal injury or death:

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

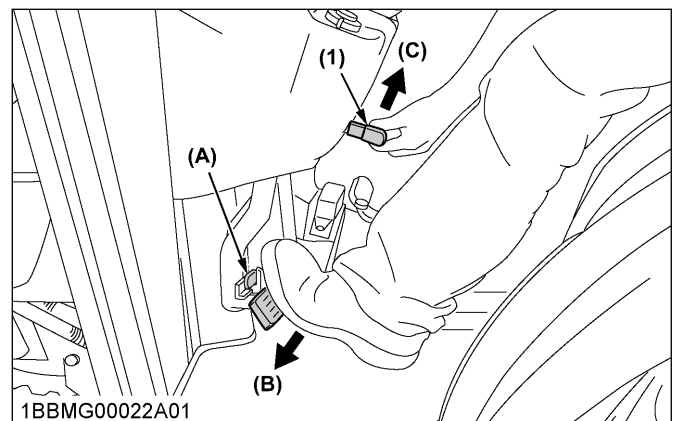
1. When parking, always set the parking brake. To set the parking brake:
 - a. Interlock the brake pedals.
 - b. Depress the brake pedals.
 - c. Latch the brake pedals with the parking brake lever.

ROPS model



- (1) Parking brake lever (A) Interlock the brake pedals
 (B) Depress (C) Pull down

CAB model



- (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.

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

NOTE :

- Apply the parking brake before exiting the seat. If you do not apply the parking brake before exiting the seat, a buzzer will sound.
- When the key is turned on, leaving the seat without applying the parking brake, rings the buzzer.

OPERATING TECHNIQUES

1. Differential lock

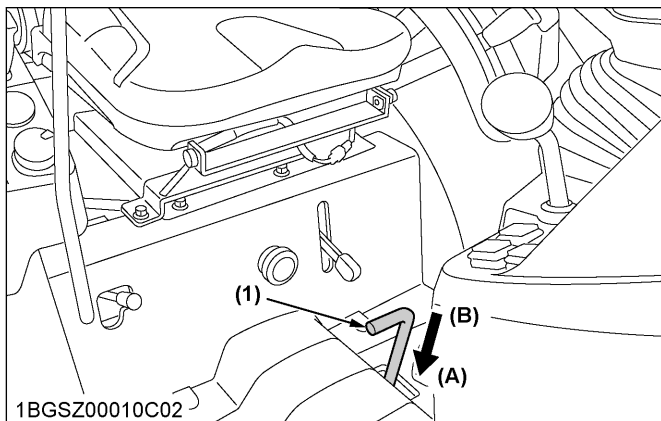
WARNING

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

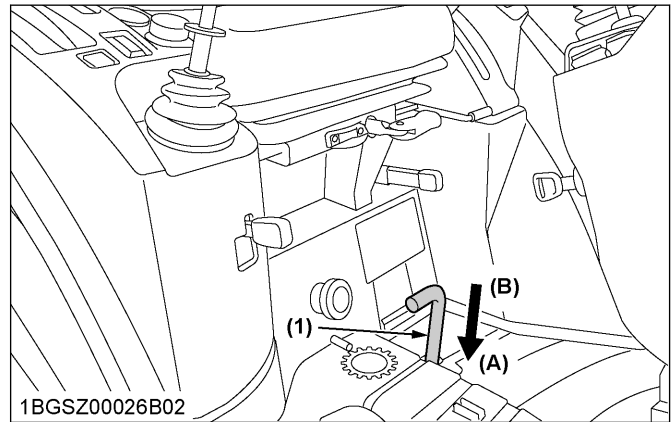
- Do not operate the tractor at high speed with differential lock engaged.
- Do not attempt to turn with the differential lock engaged.
- Release the differential lock before making a turn in field conditions.

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.

ROPS model

(1) Differential lock pedal (A) Press to engage
(B) Release to disengage

CAB model

(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 the powertrain, do not engage the differential lock when one wheel is spinning and the other is completely stopped.
- If the differential lock cannot be released, step lightly on the brake pedals alternately.

2. Operating the tractor on a road

WARNING

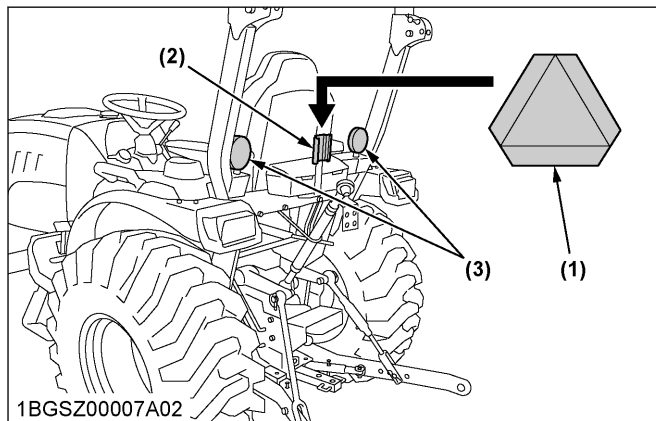
To avoid personal injury or death:

- 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, ensure there is sufficient front weight on the tractor to maintain steering ability.
- Towed equipment (without brake) must not exceed 1.5 times the tractor weight when traveling on roads or at high speeds.

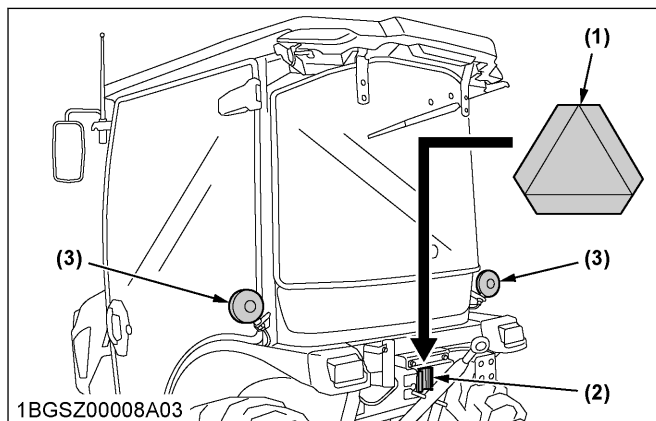
Be sure the SMV emblem and hazard lights are clean and visible. If towed or rear-mounted equipment obstructs these safety devices, install the SMV emblem and hazard lights on the equipment.

If towed or rear-mounted agricultural equipment obstructs these safety devices, do not travel on public road.

Consult your local Kubota Dealer for further details.

ROPS model

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

CAB model

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

3. Operating on slopes and 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 the 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.

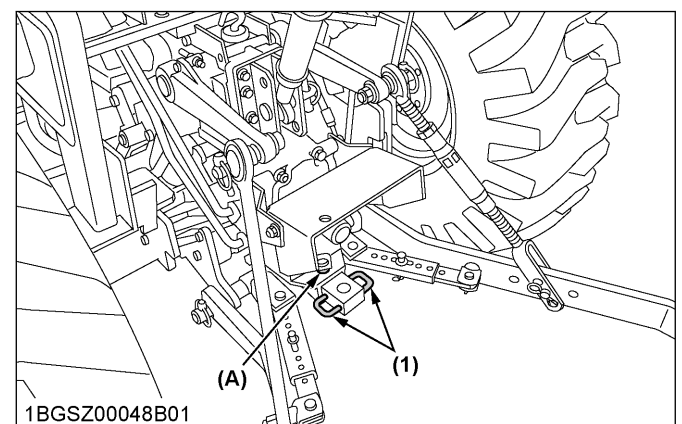
IMPORTANT :

- To avoid failure of tractor parts, keep the front loader bucket position less than hood height when transporting on rough terrain.

1. Be sure wheel tread is adjusted to provide maximum stability.
(See WHEEL ADJUSTMENT on page 97.)
2. Slow down for slopes, rough ground, and sharp turns, especially when transporting heavy, rear mounted equipment.
3. Before descending a slope, shift to a gear low enough to control the speed without using brakes.

4. Transporting the tractor safely

1. The tractor, if damaged, must be carried on a truck. Secure the tractor tightly with ropes. Use the hooks to secure the tractor. Use the hole in position (A) as shown in the following figure.



- (1) Hook (A) Hole position

2. Follow the instructions below when towing the tractor. Otherwise, the tractor's powertrain may be damaged.
 - Set all the shift levers to "NEUTRAL" position.
 - If possible, start the 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).

5. Directions for the use of power steering

- Power steering is activated only while the engine is running. While the engine is stopped, tractors with power steering function in the same manner as tractors without power steering.
- 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.

- Avoid turning the steering wheel while the tractor is stopped, or tires may wear out sooner.
- The power steering mechanism makes the steering easier. Be careful when driving on the road at high speeds.

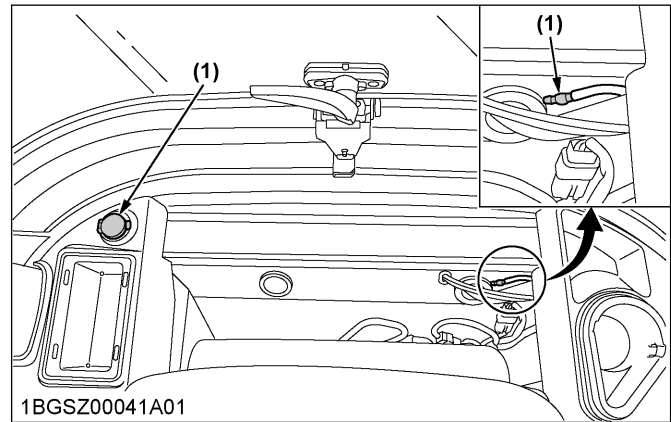
6. Accelerator auto throttle system

The accelerator-auto-throttle-system is available to further enhance the HST operation.

The engine speed increases and decreases with the movement of the speed-control-pedal.

The speed-control-pedal is operated in the same manner an accelerator pedal.

CAB model

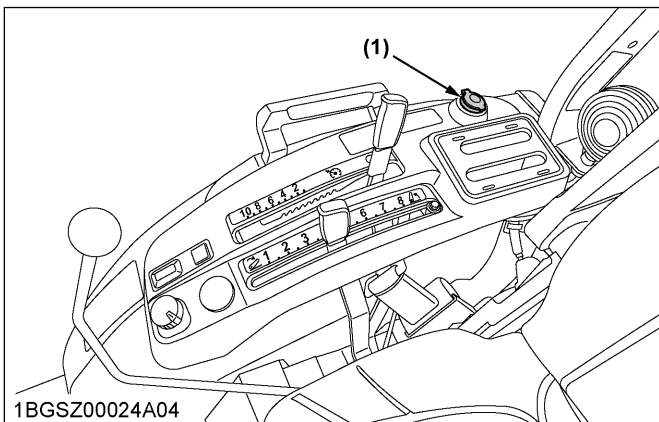


(1) Accessory electrical outlet (DC 12 V, MAX. 120 W)

7. Electrical outlet

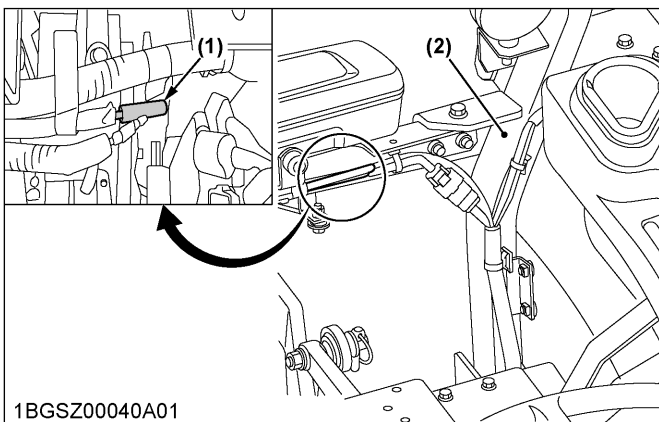
An electrical outlet is supplied for use with implement and electrical equipment.

ROPS model



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

ROPS model



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

(2) ROPS (Left side)

PTO

PTO OPERATION

WARNING

To avoid personal injury or death:

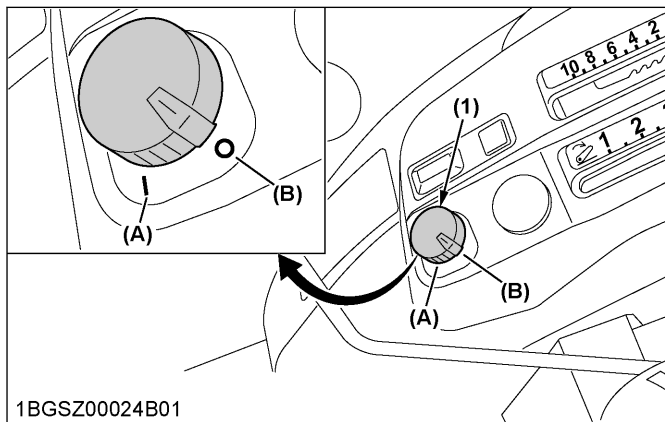
- Before operation, select the correct PTO lever (mid, mid/rear, rear).
- Disengage the PTO, stop the engine, and allow all rotating components to come to a complete stop before connecting, disconnecting, adjusting, or cleaning any PTO driven equipment.

1. PTO clutch control switch

The PTO clutch control switch engages or disengages the PTO clutch which gives the PTO independent control.

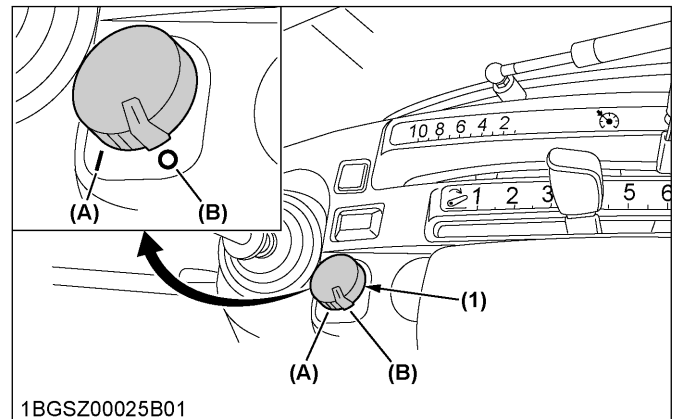
Turn the PTO clutch control switch to "ON" to engage the PTO clutch. Turn the PTO clutch control switch to "OFF" to disengage the PTO clutch.

ROPS model



(1) PTO clutch control switch (A) "ON"
(B) "OFF"

CAB model

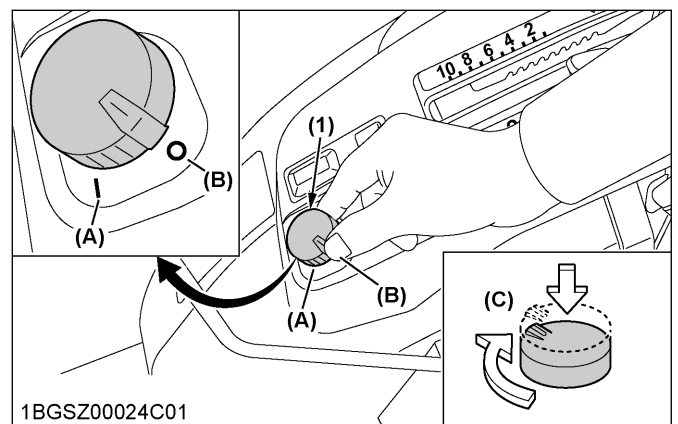


(1) PTO clutch control switch (A) "ON"
(B) "OFF"

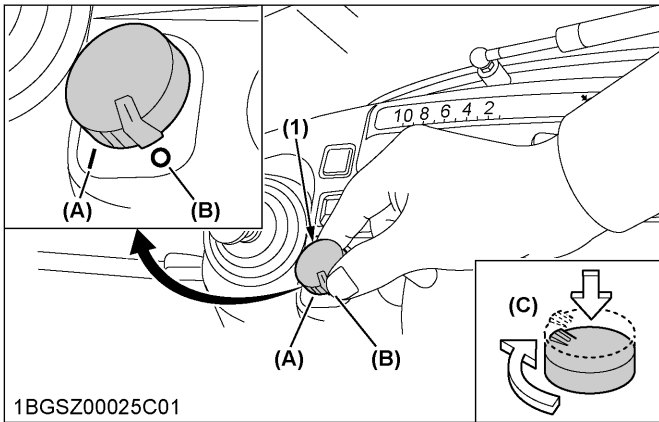
• To turn "ON"

While pushing the PTO clutch control switch, turn the PTO clutch control switch clockwise to the "ON" position. Then release your hand.

ROPS model



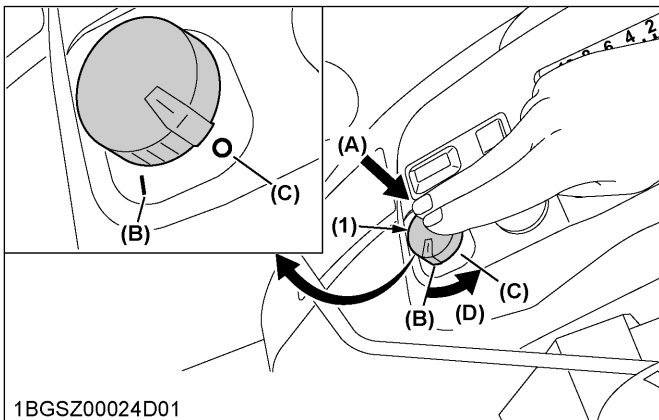
(1) PTO clutch control switch (A) "ON"
(B) "OFF"
(C) Push and turn

CAB model

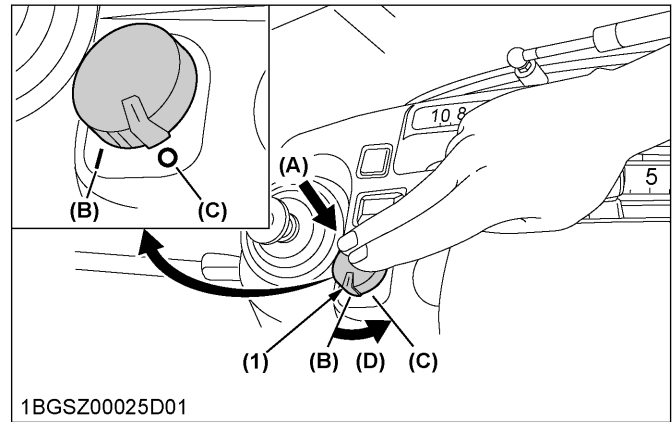
- (1) PTO clutch control switch
- (A) "ON"
- (B) "OFF"
- (C) Push and turn

- **To turn "OFF"**

Tap on top the PTO clutch control switch. The PTO clutch control switch will return to the "OFF" position.

ROPS model

- (1) PTO clutch control switch
- (A) Push
- (B) "ON"
- (C) "OFF"
- (D) Turn

CAB model

- (1) PTO clutch control switch
- (A) Push
- (B) "ON"
- (C) "OFF"
- (D) Turn

IMPORTANT :

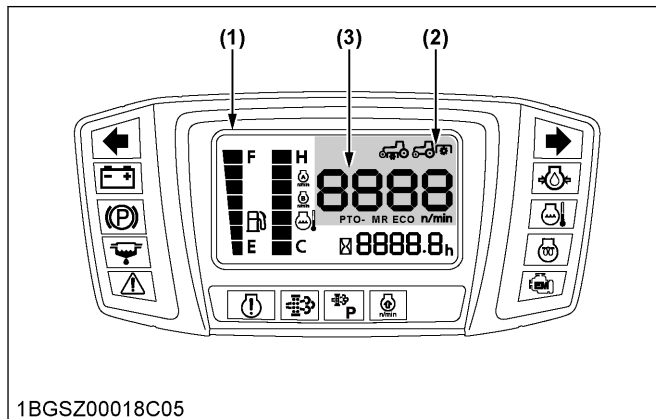
- To avoid shock loads to the PTO, reduce the engine speed when engaging the PTO, then open the throttle to the recommended speed.

NOTE :

- Tractor engine will not start if the rear PTO system or mid PTO system is engaged.
- When you stand up from the operator's seat with the speed control pedal placed in the "NEUTRAL" position and the mid PTO gear shift lever placed in the "ON" position, the engine will stop automatically.
- When you stand up from the operator's seat with the speed control pedal placed in the "NEUTRAL" position, the rear PTO gear shift lever engaged, and the parking brake released, the engine will stop automatically.

1.1 LCD monitor message

1. The PTO rpm can be checked in the LCD monitor.
(See Changing display mode on page 68.)



- (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.

2. Rear PTO gear shift lever

⚠ WARNING

To avoid personal injury or death:

- Follow the PTO shaft speed prescribed for the individual implements. It is extremely dangerous to run an implement at high speed. Operate the implement at low speed. Use the implement at high speed only when the higher rpm is specifically recommended by the implement manufacturer.

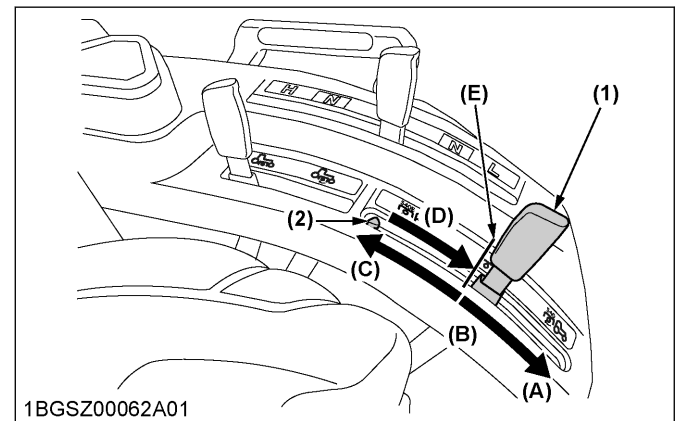
You can set the rear PTO gear shift lever to either 540 rpm or 540E rpm position.

Move the rear PTO gear shift lever to either position with the PTO clutch control switch set to “OFF”.

NOTE :

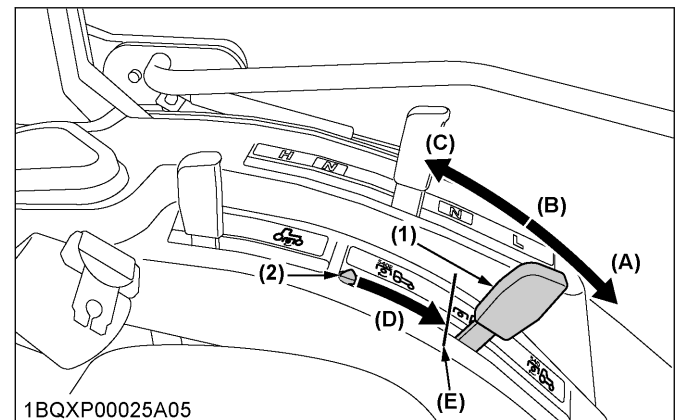
- When you are not using the PTO 540E rpm mode, perform the following procedure:
 1. Loosen the knob bolt.
 2. Shift the knob bolt in the direction of the neutral position.
 3. Fix the knob bolt in the neutral position.

ROPS model



- (1) Rear PTO gear shift lever
- (2) Knob bolt
- (A) 540 rpm
- (B) “NEUTRAL” position
- (C) 540E rpm
- (D) Shift
- (E) Position of the knob bolt when PTO 540E rpm mode is not in use.

CAB model



- (1) Rear PTO gear shift lever
- (2) Knob bolt
- (A) 540 rpm
- (B) “NEUTRAL” position
- (C) 540E rpm
- (D) Shift
- (E) Position of the knob bolt when PTO 540E rpm mode is not in use.

3. Mid-PTO gear shift lever (if equipped)

⚠ WARNING

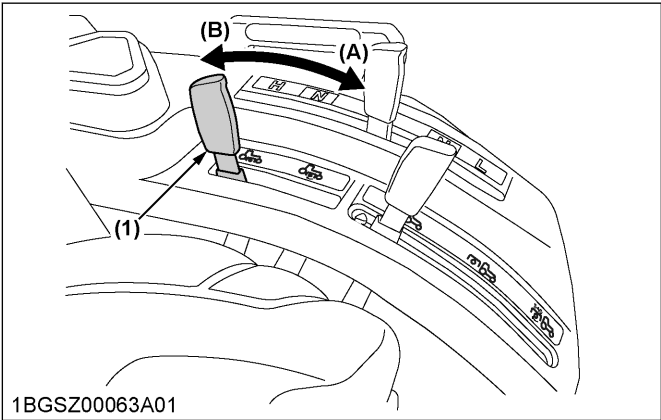
To avoid personal injury or death:

- Before operation of the tractor, select the correct PTO gear shift lever (mid or rear).

To use the mid-PTO, shift the mid-PTO gear shift lever to the engaged position and turn the PTO clutch control switch to the engaged position.

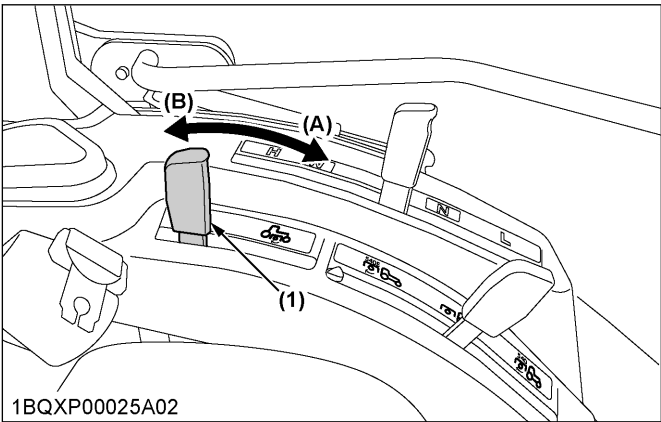
The mid-PTO is available for Kubota approved implements.

ROPS model

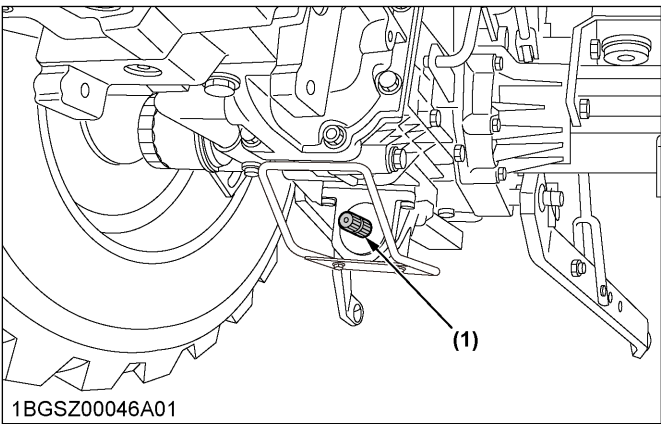


(1) Mid-PTO gear shift lever (A) "ON" (B) "OFF"

CAB model



(1) Mid-PTO gear shift lever (A) "ON" (B) "OFF"



(1) Mid-PTO

4. Rear and mid-PTO speed table

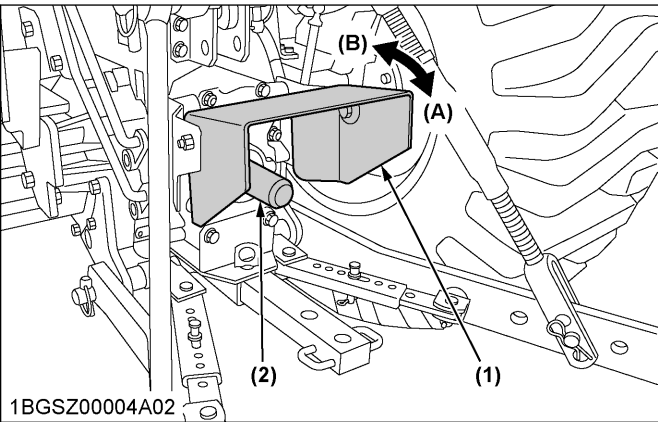
Mid-PTO gear shift lever	Rear PTO gear shift lever	PTO clutch	Rear PTO speed	Mid-PTO speed
"OFF"	540	"OFF"	540/2670	0
	"NEUTRAL"	↓	0	
	540E	"ON"	540E/1960	
"ON"	540	"OFF"	540/2670	2460/2700
	"NEUTRAL"	↓	0	
	540E	"ON"	540E/1960	

5. PTO shaft cover and shaft cap

⚠ WARNING

To avoid personal injury or death:

- Keep the PTO shaft cover in place at all times. Put back the PTO shaft cap when the PTO is not in use.
- Before connecting or disconnecting a drive shaft to the PTO shaft, be sure the engine is off. Also, if a raisable PTO shaft cover is equipped, raise the cover up to the raised position. Afterward return the PTO shaft cover to the normal position.



(1) PTO shaft cover (A) "NORMAL" position (2) PTO shaft cap (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.

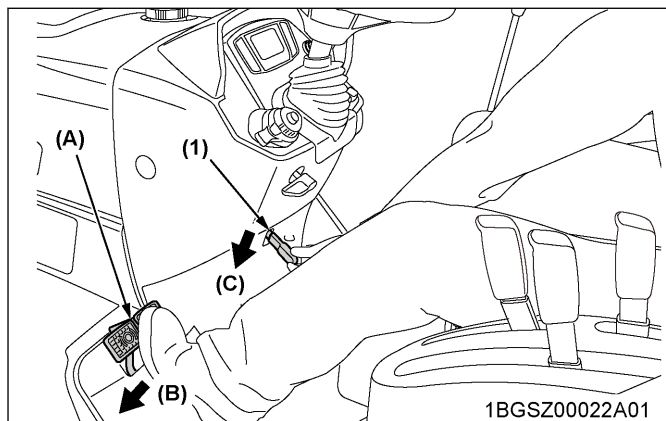
6. How to use the stationary PTO

To park the tractor and use the rear PTO system for chipper or pump, for example, start the PTO system in the procedure in this section.

1. Apply the parking brake and place blocks at the tires.

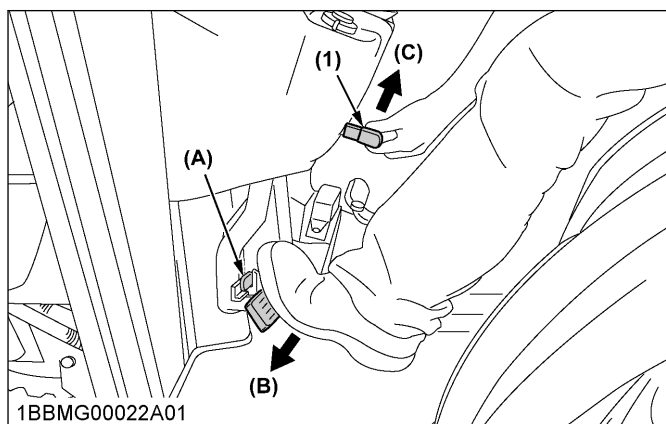
(See PARKING THE TRACTOR on page 73)

ROPS model



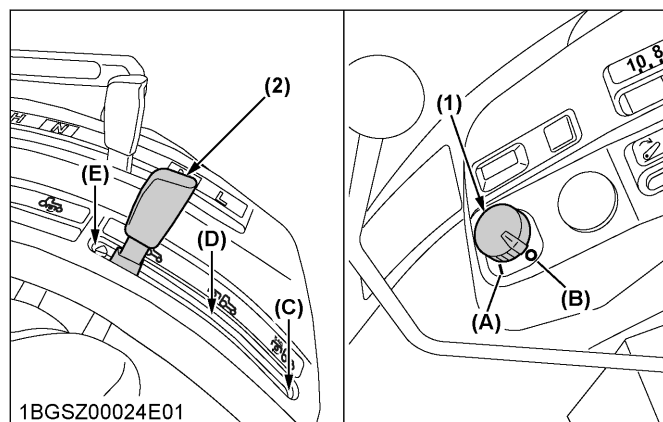
- (1) Parking brake lever
- (A) Interlock the brake pedals
(B) Depress
(C) Pull down

CAB model



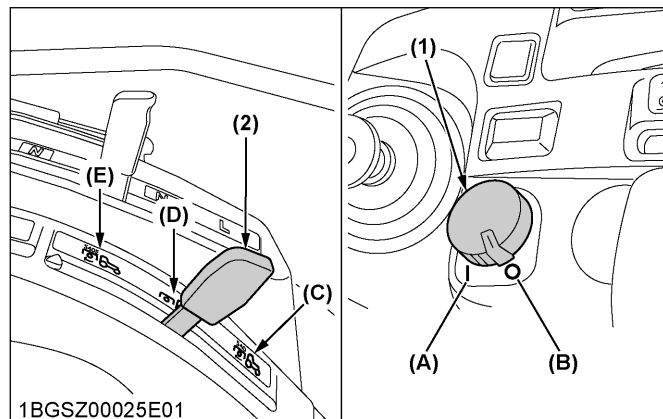
- (1) Parking brake lever
- (A) Interlock the brake pedals
(B) Depress
(C) Pull up

ROPS model



- (1) PTO clutch control switch
(2) Rear PTO gear shift lever
- (A) "ON"
(B) "OFF"
(C) 540 rpm
(D) "NEUTRAL" position
(E) 540E rpm

CAB model



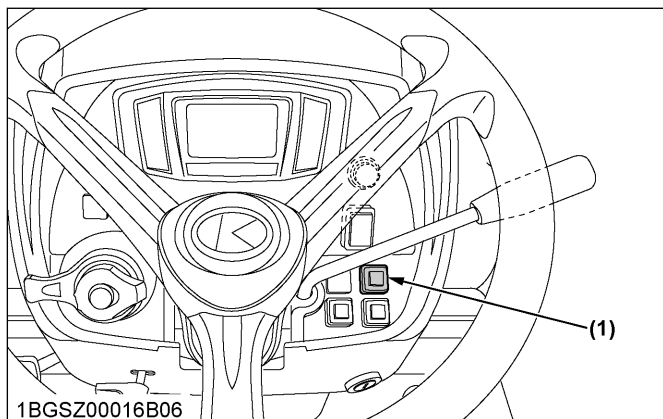
- (1) PTO clutch control switch
(2) Rear PTO gear shift lever
- (A) "ON"
(B) "OFF"
(C) 540 rpm
(D) "NEUTRAL" position
(E) 540E rpm

2. Make sure that the speed control pedal and all shift levers are in their neutral position.
3. Start the engine.
(See STARTING THE ENGINE on page 50)
4. Set the rear PTO gear shift lever to either 540 rpm or 540E rpm position, and set the PTO clutch control switch to the on position.

5. Set the engine speed to provide recommended rear PTO speed.

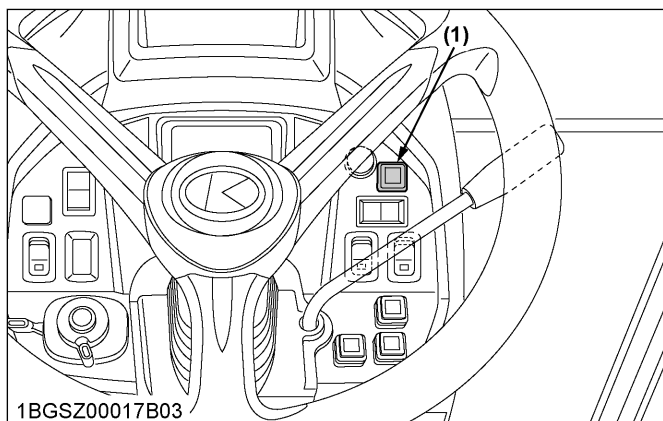
6. Push the stationary PTO switch to turn on the switch lamp.

ROPS model



(1) Stationary PTO switch

CAB model



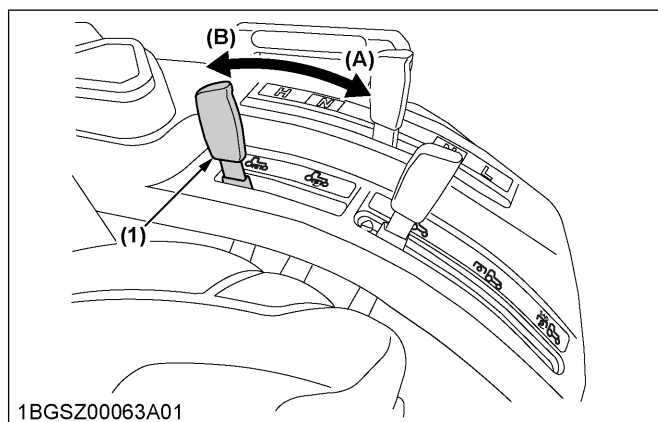
(1) Stationary PTO switch

7. Get off the tractor.

NOTE :

- If the rear PTO system is engaged and the parking brake is released, the engine stops automatically.
- Make sure the mid-PTO gear shift lever is set to the off position.

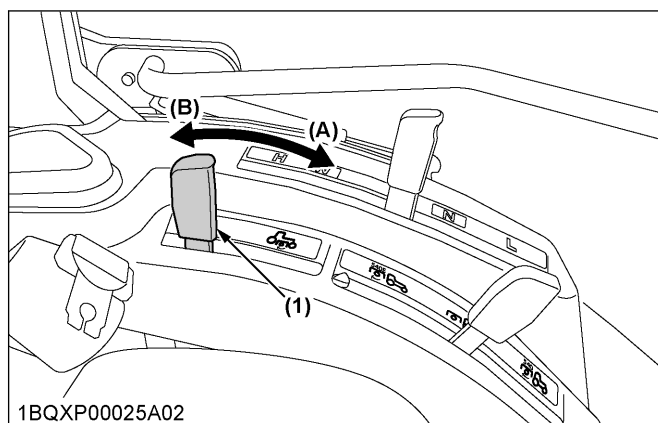
ROPS model



(1) Mid-PTO gear shift lever

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

CAB model

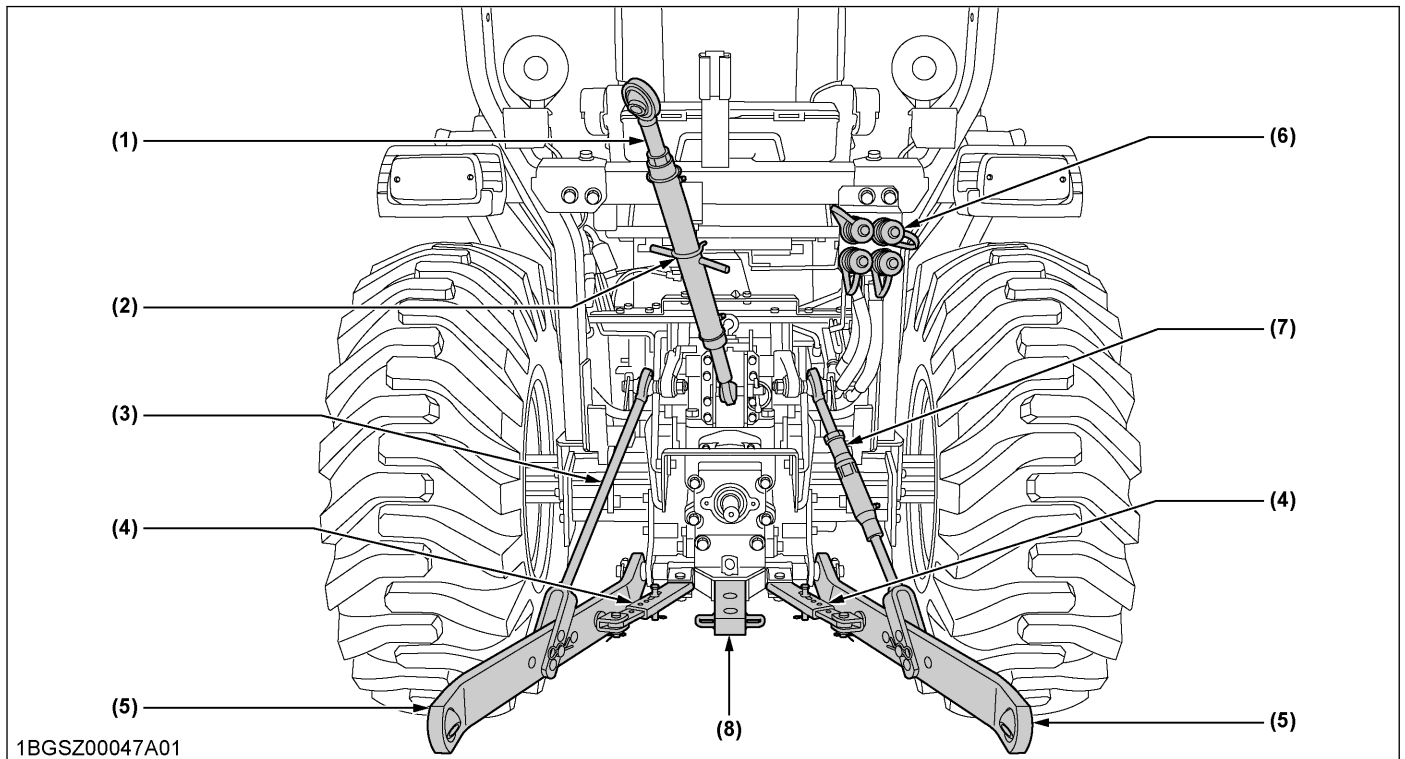


(1) Mid-PTO gear shift lever

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

3-POINT HITCH AND DRAWBAR

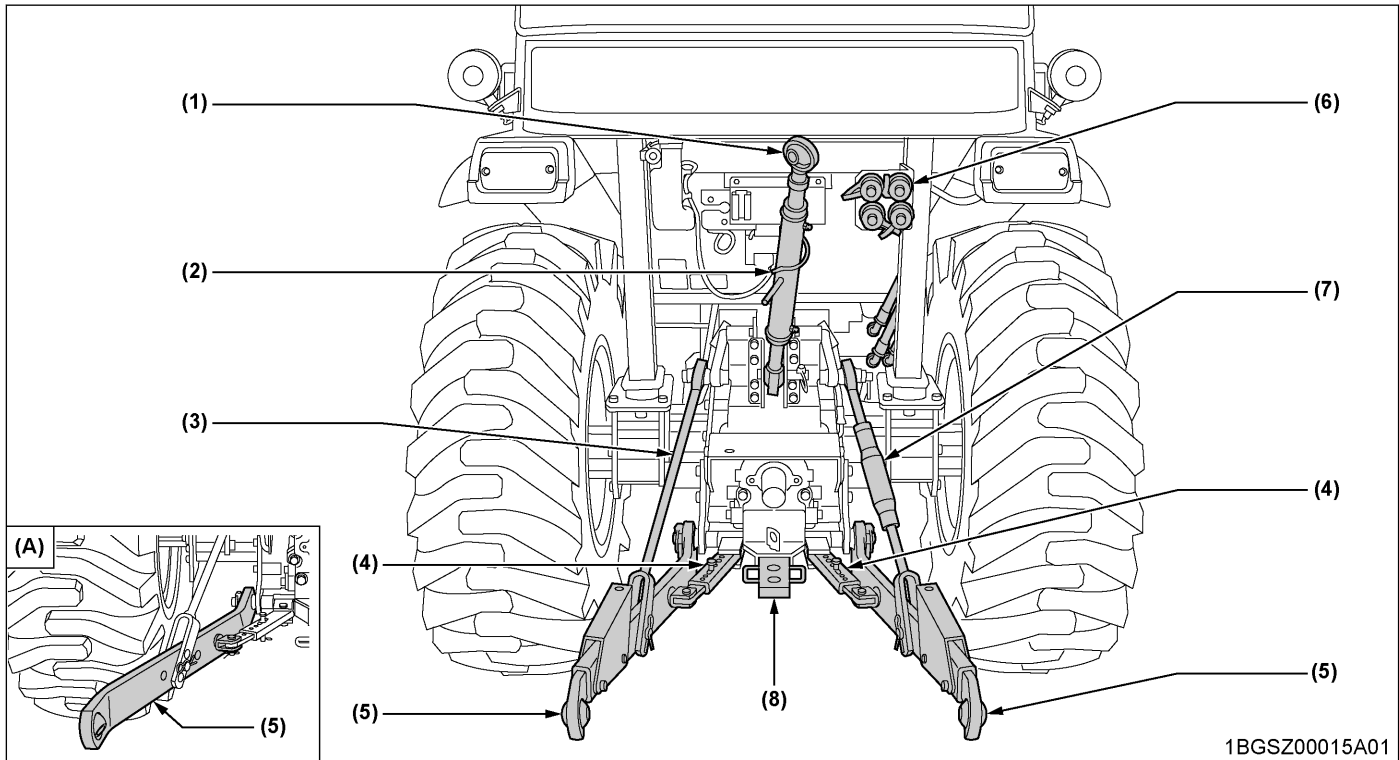
ROPS model



- (1) Top link
- (2) Top link holder
- (3) Lifting rod (left)
- (4) Telescopic stabilizers

- (5) Lower link
- (6) Rear hydraulic outlet (option)
- (7) Lifting rod (right)
- (8) Drawbar

CAB model



- | | | |
|----------------------------|------------------------------------|--------------|
| (1) Top link | (5) Lower link | (A) SU model |
| (2) Top link holder | (6) Rear hydraulic outlet (option) | |
| (3) Lifting rod (left) | (7) Lifting rod (right) | |
| (4) Telescopic stabilizers | (8) Drawbar | |

THE 3-POINT HITCH SETUP

1. Make preparations for attaching implement.
 - Selecting the holes of lower links on page 85
 - Selecting the holes to mount the top link on page 85
 - Drawbar on page 86
2. Attaching and detaching implements

WARNING

To avoid personal injury or death:

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

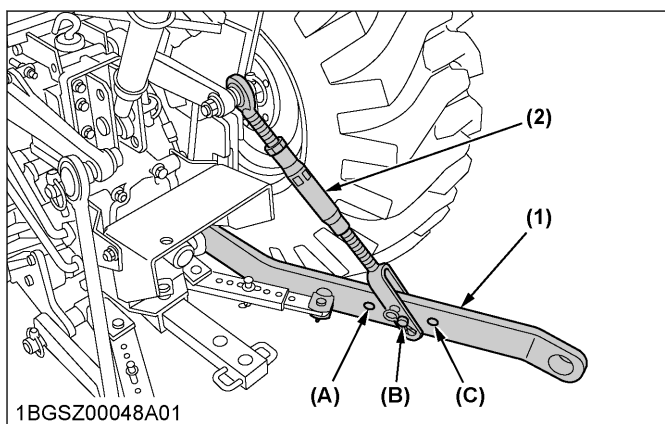
- Adjusting the lifting rod (right) on page 86
- Adjusting the top link on page 86
- Telescopic stabilizers on page 87
- Telescopic lower links [CAB model] on page 87
- DRAWBAR on page 87

1. Selecting the holes of lower links

[ROPS and SU models]

1. Selecting the proper holes of lower links to attach the lifting rod.

There are 3 holes in the lower links. For most operations, you should attach the lifting rods to the hole-B.



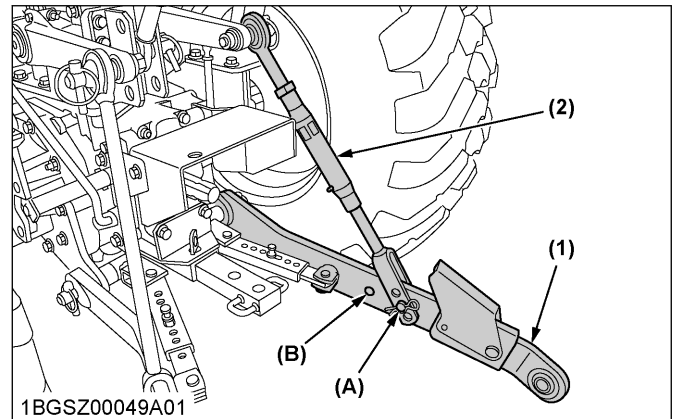
- (1) Lower link
(2) Lifting rod
- (A) Hole-A
(B) Hole-B
(C) Hole-C

NOTE :

- You may attach the lifting rods to the hole-A for higher lifting height with reduced lifting force.
- You may attach the lifting rods to the hole-C for greater lifting force.
- Do not attach the lifting rods to the hole-C when the backhoe sub frame is installed on the tractor.

[CAB model]

There are 2 holes in the lower links. For most operations, the lifting rods should be attached to the hole-A.



- (1) Lower link
(2) Lifting rod
- (A) Hole-A
(B) Hole-B

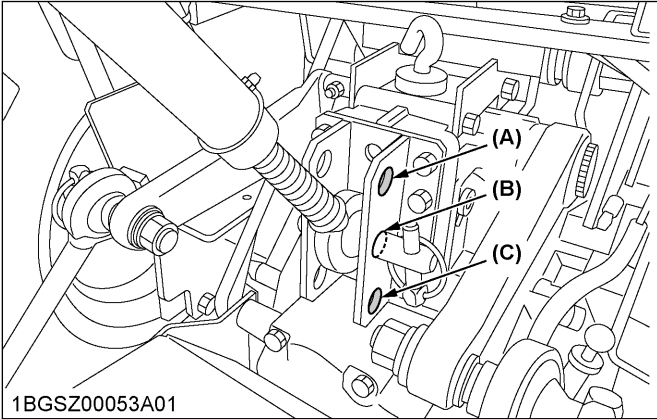
NOTE :

- The lifting rods may be attached to hole-B for greater lifting height.

2. Selecting the holes to mount the top link

1. Select the proper set of holes.
(See Hydraulic control unit use-reference chart on page 96.)

[ROPS model]

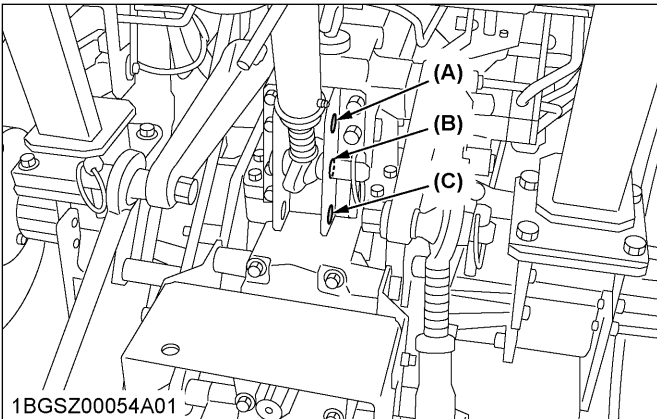


- (A) Hole-A
(B) Hole-B
(C) Hole-C

[CAB model]

IMPORTANT :

- When storing the top link in its bracket, the top link pin may damage the rear glass of the CAB. Remove the pin from the hole at the end of the top link and insert it in the unused top link mounting hole.



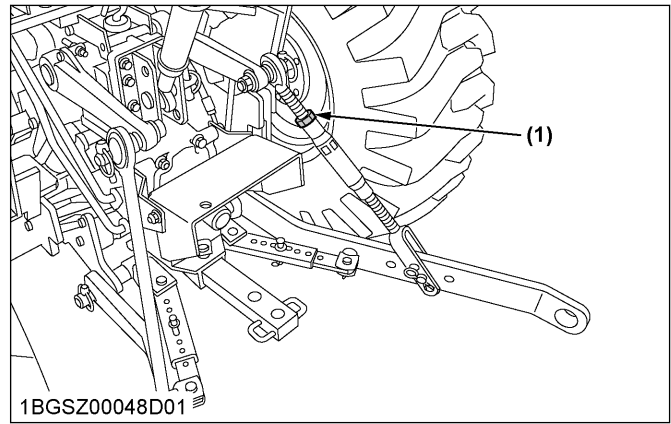
- (A) Hole-A
(B) Hole-B
(C) Hole-C

3. Drawbar

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

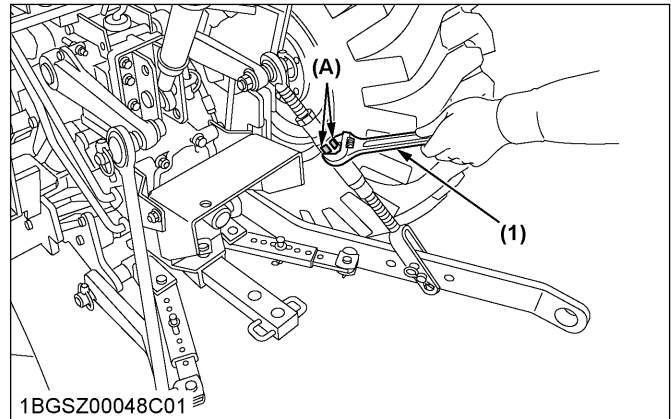
4. Adjusting the lifting rod (right)

- Loosen the lock nut.



- (1) Lock nut

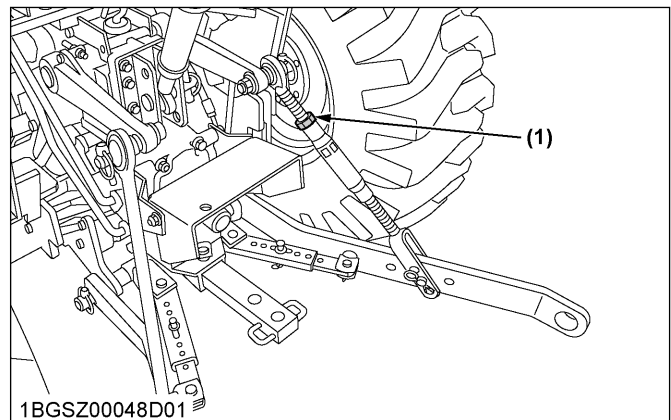
- Put the 3-point mounted implement on the ground.
- Adjust the height of the lifting rod by turning it with an adjustable wrench until the 3-point mounted implement is level. Make sure that the wrench is aligned with the indentations on the rod.



- (1) Adjustable wrench

- (A) Indentation

- Shorten or lengthen the adjustable lifting rod.
- After adjustment, tighten the lock nut securely.

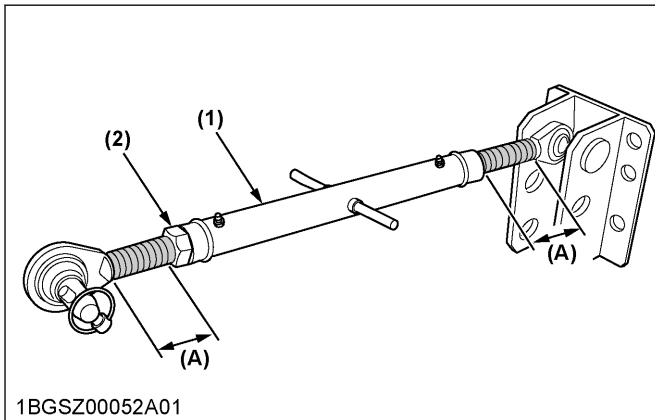


- (1) Lock nut

5. Adjusting the top link

The proper length of the top link varies according to the type of implement being used.

1. Loosen the lock nut.
2. Adjust the angle of the implement to the desired position by shortening or lengthening the top link.
3. After adjustment, tighten the lock nut securely.



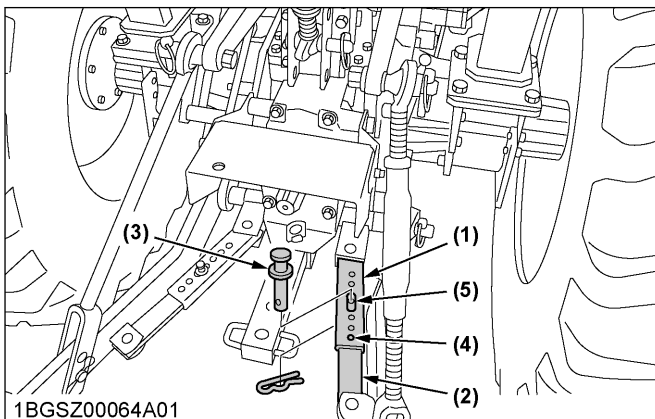
- (1) Top link
(2) Lock nut
(A) Length of the screw

NOTE :

- The length of the screw at both ends of the top link must be the same always.

6. Telescopic stabilizers

1. Adjust the telescopic stabilizers to control horizontal sway of the implement.
Select the proper set of holes.
(See Hydraulic control unit use-reference chart on page 96.)
2. After aligning satisfactorily, insert the set-pin through any one of the holes on the outer tube that align with one of the holes on the inner bar and 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.

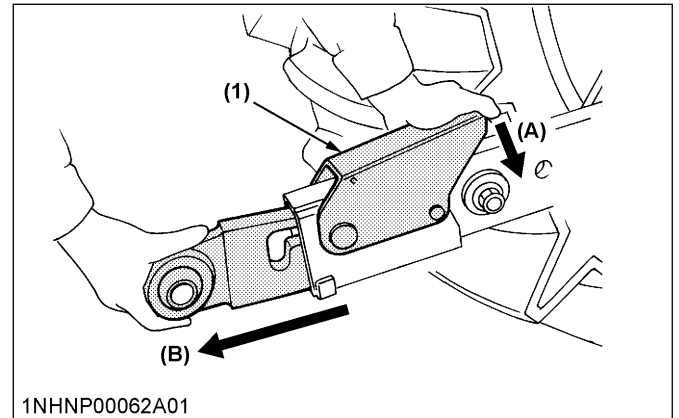


- (1) Outer tube
(2) Inner bar
(3) Set-pin
(4) Hole
(5) Slot

7. Telescopic lower links [CAB model]

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

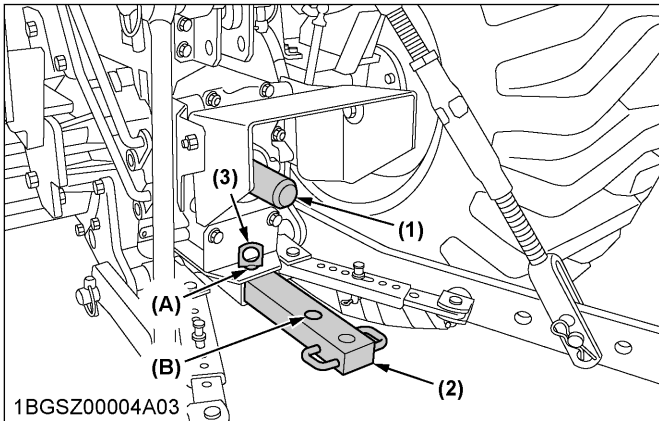
To avoid personal injury or death:

- Never pull from the top link, the rear axle, or any point above the drawbar. Pulling from the top link, the rear axle, or any point above the drawbar could cause the tractor to tip over rearward.

1. Adjusting drawbar length

1. When towing an implement, it is recommended that hole (A) in drawbar be utilized.

2. For information about the drawbar load, read the implement limitations section of this manual.
(See IMPLEMENT LIMITATIONS on page 34.)



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

- (A) Hole
(B) Hole

HYDRAULIC UNIT

3-POINT HITCH CONTROL SYSTEM

⚠ WARNING

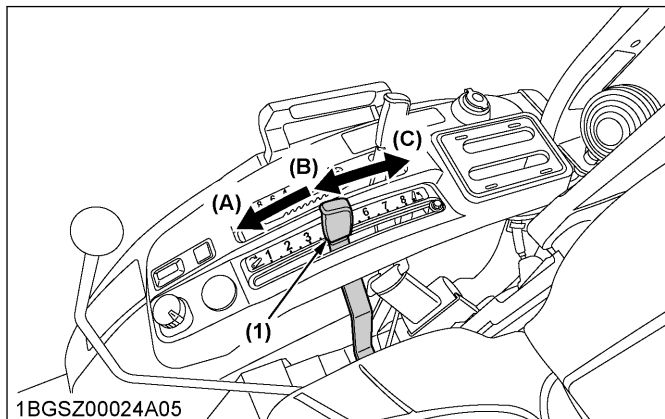
To avoid personal injury or death:

- Before using the 3-point hitch controls, ensure that no person or object is in the area surrounding 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.

1. Position control

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

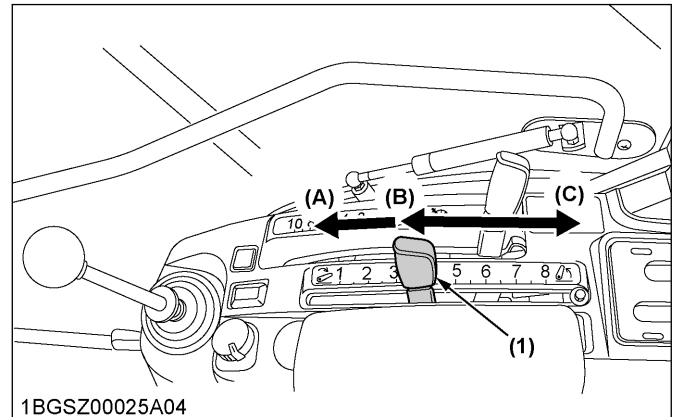
ROPS model



(1) Position control lever

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

CAB model



(1) Position control lever

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

IMPORTANT :

- If the 3-point hitch cannot 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.

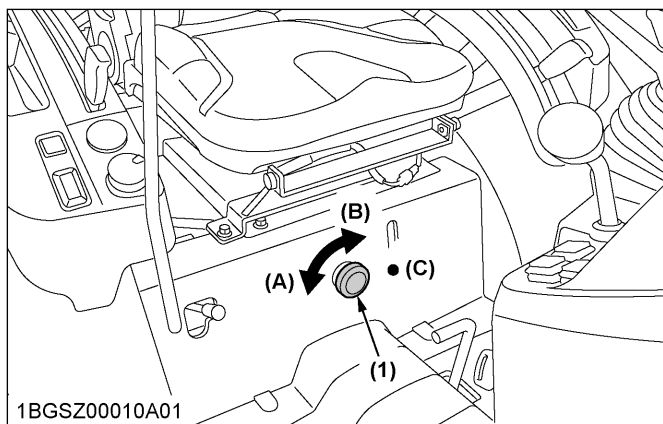
2. 3-point hitch lowering speed knob

⚠ WARNING

To avoid personal injury or death:

- A fast lowering speed may cause damage or injury. The lowering speed of the 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

Rear hydraulic outlet can be installed on the tractor as an option.

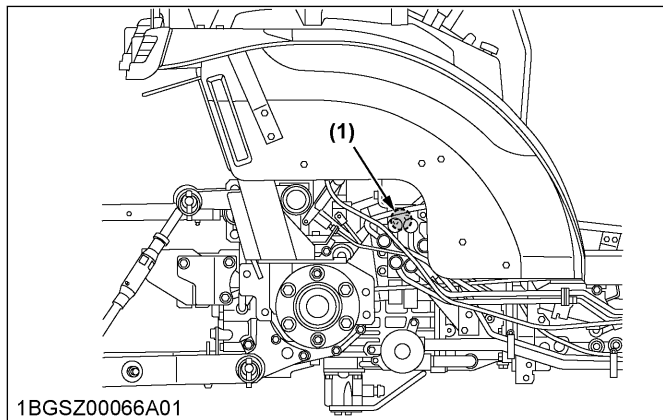
1. Hydraulic block type outlet

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

When an implement is attached

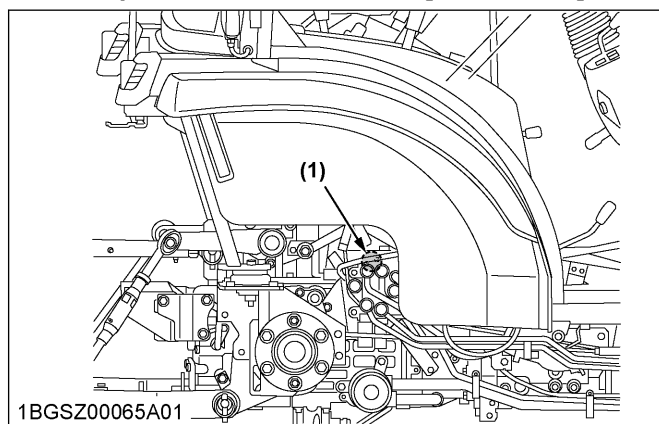
1. Remove the block cover.
2. Attach the block outlet cover (option).

When implement is not attached [ROPS model]



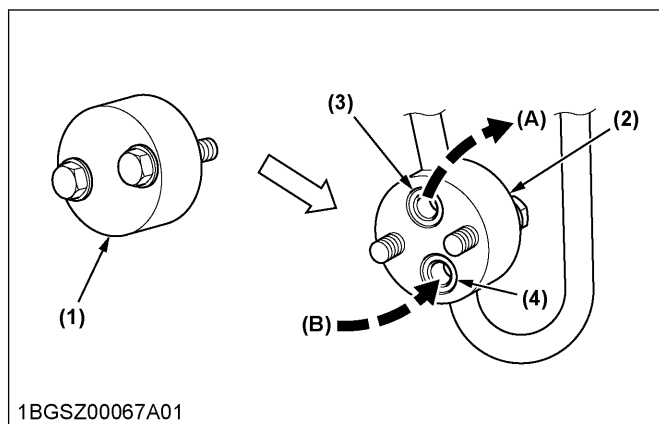
- (1) Block cover

When implement is not attached [CAB model]



- (1) Block cover

When implement is attached



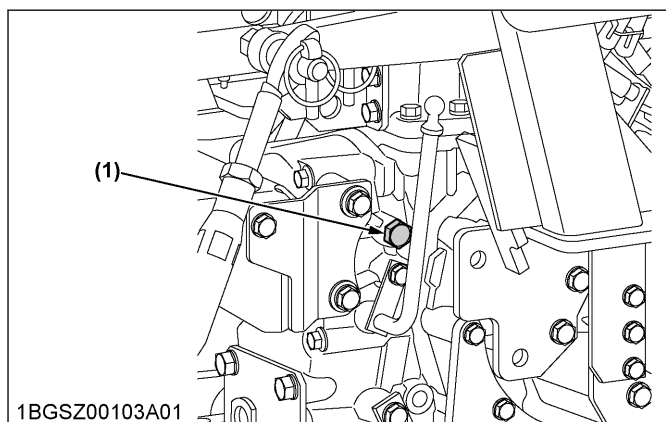
- (1) Block cover
(2) Block outlet cover (option)
(3) Outlet
(4) Inlet
- (A) To implement inlet
(B) From implement outlet

Implement inlet

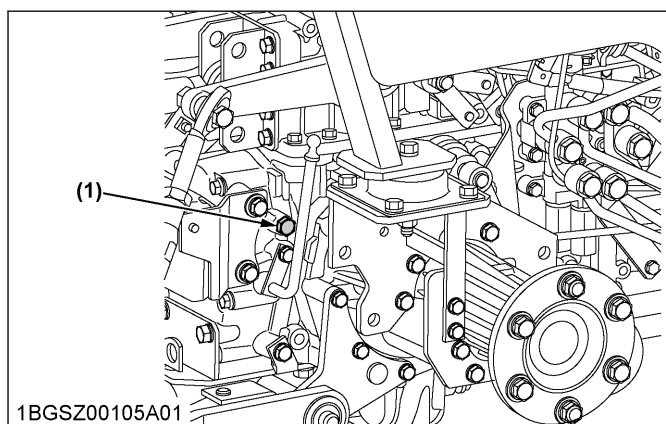
Max. flow	20.4 L/min (5.4 U.S.gals./min)
Max. pressure	15.9 to 16.9 MPa (163 to 172 kgf/cm ²) (2310 to 2450 psi)

NOTE :

- If the control valve of implement has the relief valve, the tank port flow from implement should be connected to the port (T).

ROPS model

(1) Port (T)

CAB model

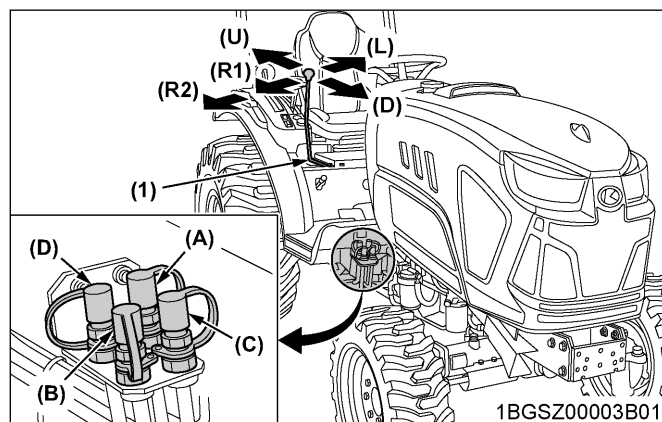
(1) Port (T)

2. Dual remote hydraulic control system

The tractor is equipped with the double-acting 2-segment hydraulic control valve for front loader. To apply the hydraulic power take-off for general attachments, keep the following point in mind.

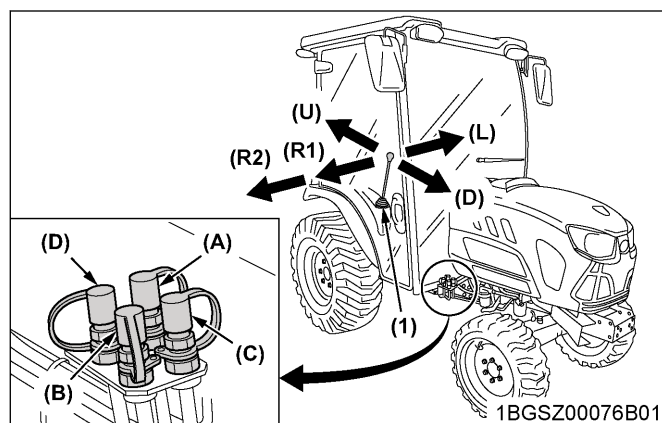
2.1 Control lever and hydraulic hose connections

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

ROPS model

(1) Loader control lever

(R) "RIGHT"
(L) "LEFT"
(U) "UP"
(D) "DOWN"

CAB model

(1) Loader control lever

(R) "RIGHT"
(L) "LEFT"
(U) "UP"
(D) "DOWN"

Pressure →
Returning ←

Hydraulic outlet ports of first segment

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, 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.

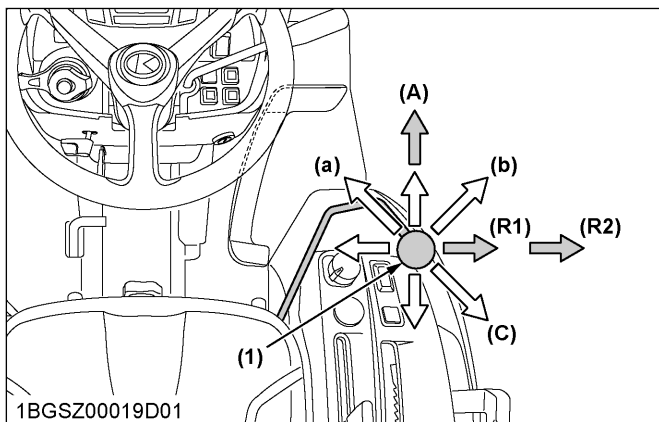
Colored coupler	Hydraulic cylinder port
[B: yellow], [C: blue]	Head-end side
[A: white], [D: red]	Rod-end side

- For the attachment side, the couplers made by Parker Hannifin are recommended.

2.2 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.

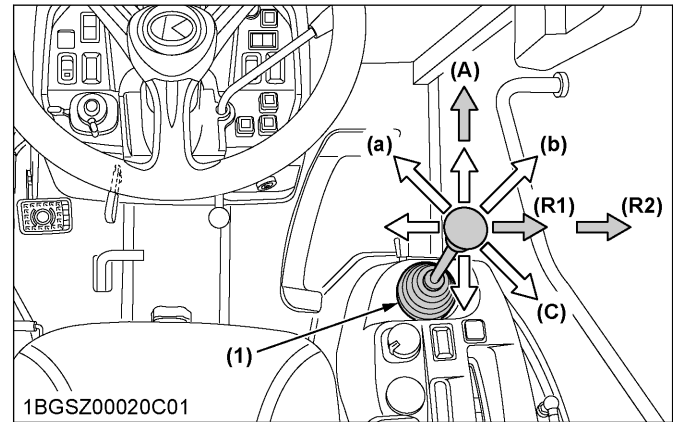
ROPS model



(1) Loader control lever

(A) "FLOAT"

CAB model



(1) Loader control lever

(A) "FLOAT"

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.

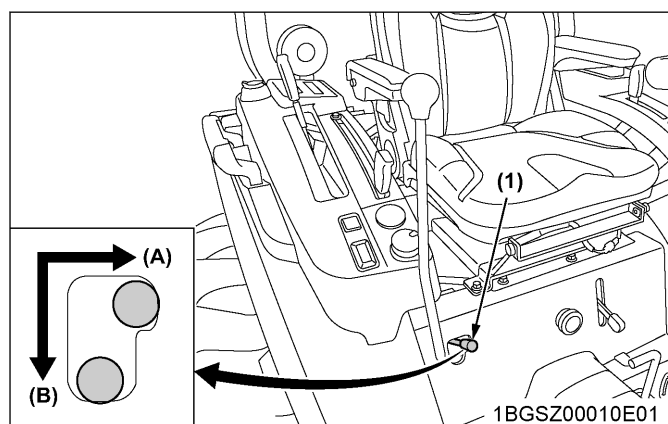
2.3 Valve lock

⚠ WARNING

To avoid personal 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.

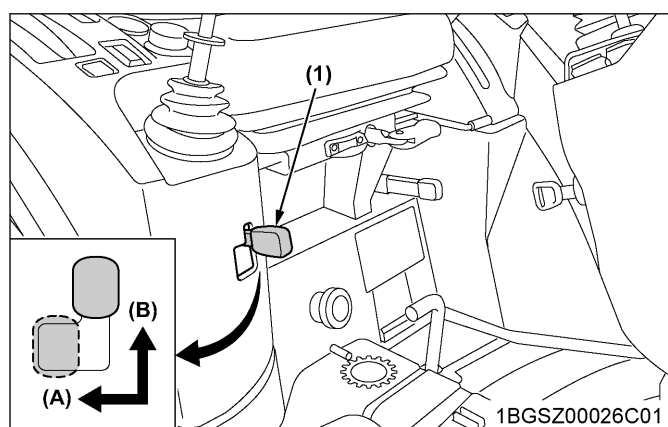
The control valve is equipped with a valve lock feature. The control valve is locked in the "LOCK" position. The lock is not intended and will not prevent a leak down of the implement during the period of storage.

ROPS model

(1) Lock lever

(A) "UNLOCK"

(B) "LOCK"

CAB model

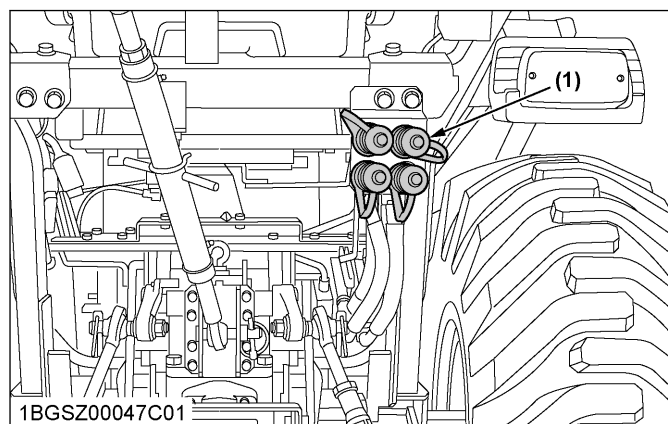
(1) Lock lever

(A) "UNLOCK"

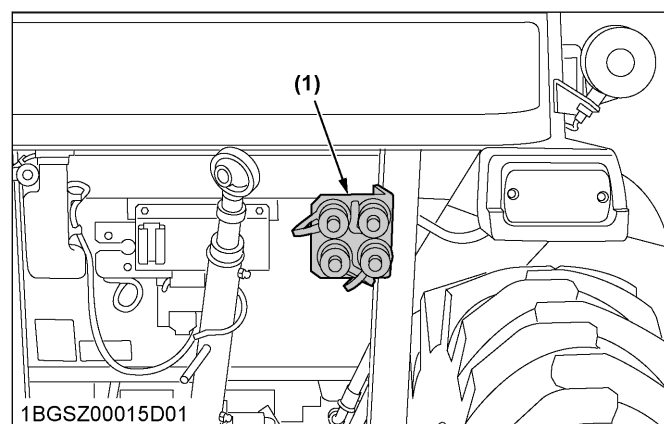
(B) "LOCK"

3. Rear hydraulic outlet (option)

With the optional kit in place, oil can be taken out of the back of the tractor.

ROPS model

(1) Rear hydraulic outlet

CAB model

(1) Rear hydraulic outlet

4. Remote hydraulic control system (option)

The hydraulic auxiliary control valves can be installed with up to 2 segments.

4.1 Remote control valve

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

- Double acting valve.
- Double acting valve with float position:
This valve may be placed in the float mode with the control lever all the way forward. The cylinder is free to extend or retract, letting an implement such as a loader bucket follow the ground.

NOTE :

- Double acting valve with float position cannot be attached to the 2nd position.

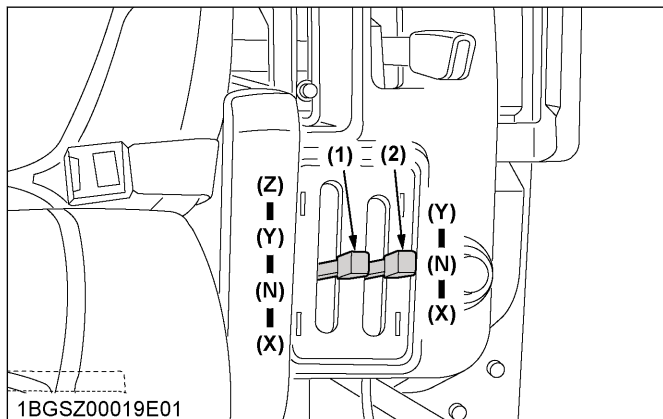
4.2 Remote control valve lever (option)

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

Example: Installing double segment valves

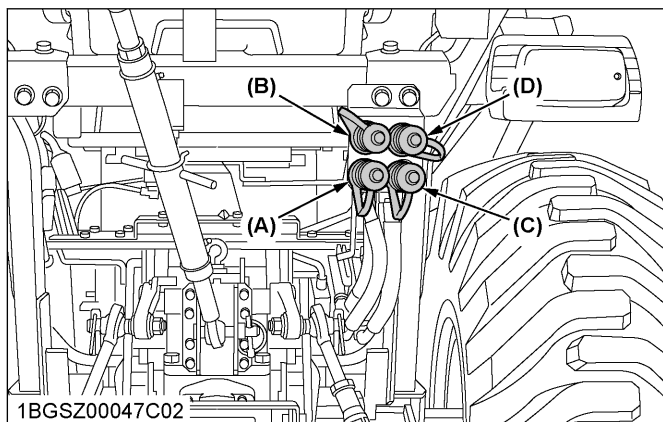
1st	Double acting valve with float position
2nd	Double acting valve

ROPS model

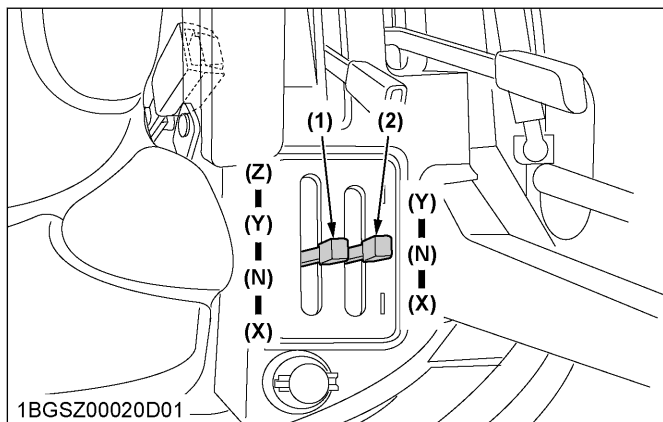


- (1) Remote control valve lever 1
(2) Remote control valve lever 2

ROPS model

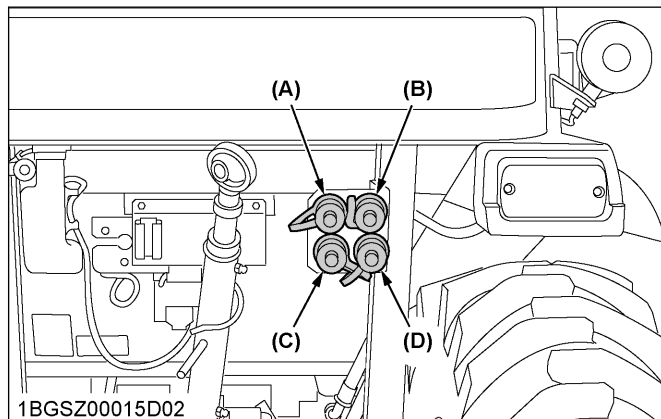


CAB model



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

CAB model



Pressure →
Returning ←

Lever 1		Lever position					
		Z (detent)		Y		X	
Port	(A)	In	Float	In	←	Out	→
	(B)	Out		Out	→	In	←

Lever 2		Lever position			
		Y		X	
Port	(C)	In	←	Out	→
	(D)	Out	→	In	←

Coupler size	
Port (A), (B), (C), (D)	
3/8" BSPP	

IMPORTANT :

- Do not hold the lever in the "REARWARD" or "FORWARD" position once the remote cylinder has reached the end of the stroke, as this will cause oil to flow through the relief valve.
- Forcing oil through the relief valve for extended periods will overheat the oil.
- When using the tractor hydraulic system to power the front loader, do not operate the boom and bucket cylinders simultaneously.

NOTE :

- To use the single-acting cylinder with the float valve, connect this cylinder to the (C) port. To extend a single-acting cylinder, pull the remote control valve lever rearward. To retract a cylinder, push it fully forward to the "FLOAT" position. Do not hold it in the down position or the transmission fluid may overheat.

5. Remote control valve coupler



WARNING

To avoid personal injury or death:

- Stop the engine and relieve pressure before connecting or disconnecting lines.
- Do not use your hands to check for leaks.

Connecting

1. Clean both couplers.
2. Remove dust plugs.
3. Insert the implement coupler into the tractor hydraulic coupler.
4. Pull the implement coupler slightly to make sure that the couplers are firmly connected.

Disconnecting

1. Lower the implement to the ground to release hydraulic pressure from the hoses.
2. Clean the couplers.
3. Relieve pressure by moving the hydraulic control levers with the engine shut off. To release the hose, pull it straight from the hydraulic coupler.
4. Clean oil and dust from the coupler, then replace the dust plugs.

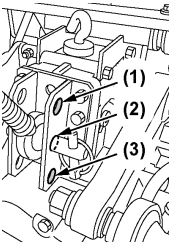
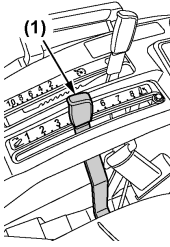
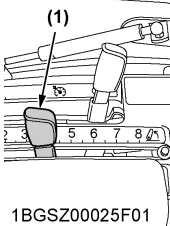
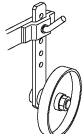
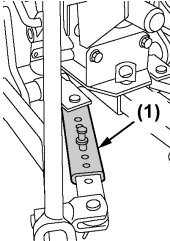
NOTE :

- Your local Kubota Dealer can supply parts for adapting couplers to hydraulic hoses.

6. Hydraulic control unit use-reference chart

In order to handle the hydraulics properly, the operator must be familiar with the following.

Although this information may not be applicable to all types of implements and soil conditions, it is useful for general conditions.

Implement	 1FEHH00035A01 Soil condition	 1BGSZ00053B01 Top link mounting holes	ROPS model  1BGSZ00024G01 CAB model  1BGSZ00025F01 (1) Position control lever	 1FEHH00093A01 Gauge wheel	 1BGSZ00004C01 (1) Stabilizers	Remarks
Moldboard plow	Light soil Medium soil Heavy soil	Hole (2): Hole (1) and (3) is used only when there is some obstacle that prevents you from using the hole (2).	Position control	Yes/No	Loose	Insert the set-pin through the slot on the outer tube that align with one of the holes on the inner bar. For implements with gauge wheels, lower the implements to the ground.
Disc plow	—	(2) or (3)				
Harrow (spike, spring-tooth, disc type)	—	(2) or (3)				
Subsoiler, and so on.				Yes	Tighten	Telescopic stabilizer 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.
Weeder, ridger, and so on.						
Earth mover, digger, scraper, manure fork, rear carrier, and so on.	—	(3)				
Mower (mid-and rear-mount type) Hay rake, tedder, and so on.				Yes/No		

TIRES, WHEELS AND BALLAST

TIRES

WARNING

To avoid personal injury or death:

- Do not attempt to mount a tire on a rim. Tires should be mounted 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.

1. Inflation pressure

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

Front tire

Tire sizes	Inflation pressure
7-12, 4PR	170 kPa (1.7 kgf/cm ² , 24 psi)
180/85D12, 69A6	160 kPa (1.6 kgf/cm ² , 23 psi)
180/85D12, 77A8	140 kPa (1.4 kgf/cm ² , 20 psi)
24×8.50-14, 4PR	150 kPa (1.5 kgf/cm ² , 22 psi)
23×8.50-14 Industry, 4PR	241 kPa (2.5 kgf/cm ² , 35 psi)
23×8.50-12 Industry, 6PR	345 kPa (3.5 kgf/cm ² , 50 psi)
23×8.50-12 R14 6PR	234 kPa (2.4 kgf/cm ² , 34 psi)
25×8.50-14 Industry, 4PR	250 kPa (2.5 kgf/cm ² , 35 psi)
25×8.50-14 Industry, 6PR	345 kPa (3.5 kgf/cm ² , 50 psi)
25×8.50-14 R14 6PR	221 kPa (2.2 kgf/cm ² , 32 psi)

Rear tire

Tire sizes	Inflation pressure
12.4-16, 4PR	110 kPa (1.1 kgf/cm ² , 16 psi)
320/85D16, 104A8	103 kPa (1.1 kgf/cm ² , 15 psi)
13.6-16, 4PR	97 kPa (1.0 kgf/cm ² , 14 psi)
12.4-16 Industry, 4PR	138 kPa (1.4 kgf/cm ² , 20 psi)
14-17.5 Industry, 6PR	210 kPa (2.1 kgf/cm ² , 30 psi)
14-17.5 R14, 6PR	210 kPa (2.1 kgf/cm ² , 30 psi)
15-19.5 Industry, 4PR	210 kPa (2.1 kgf/cm ² , 30 psi)
15-19.5 Industry, 6PR	210 kPa (2.1 kgf/cm ² , 30 psi)
15-19.5 R14, 8PR	210 kPa (2.1 kgf/cm ² , 30 psi)

2. Dual tires

Dual tires are not approved.

WHEEL ADJUSTMENT

WARNING

To avoid personal injury or death:

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

1. Front wheels

Front tread width cannot 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 yard) and 10 times of shuttle movement by 5 m (5 yard), and thereafter according to service interval.

(See Checking wheel bolt torque on page 124.)

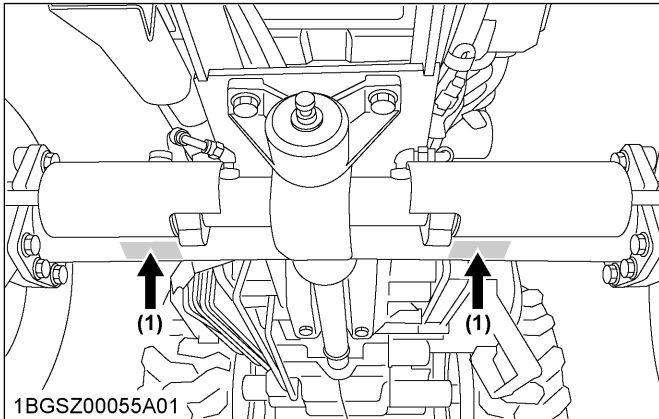
1.1 Front jack point

WARNING

To avoid personal injury or death:

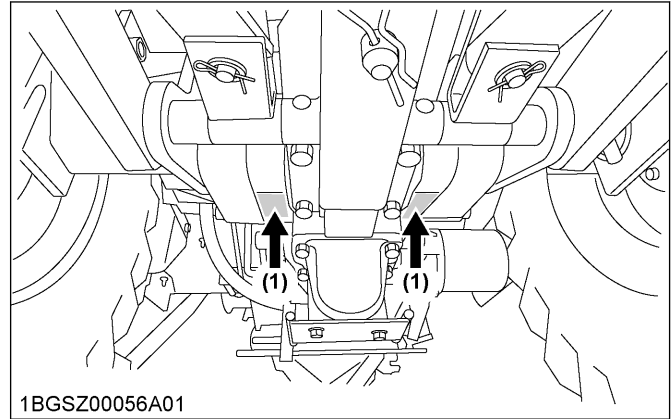
- Before jacking up the tractor, park it on a firm and level ground and chock the rear wheels.
- Fix the front axle to keep it from pivoting.
- Select jacks that withstand the machine weight and set them up as follows.

All models



(1) Jack point

All models



(1) Jack point

2. Rear wheels

Rear tread width cannot 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 yard) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval.
(See Checking wheel bolt torque on page 124.)

2.1 Rear jack point

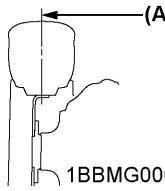
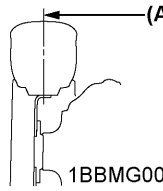
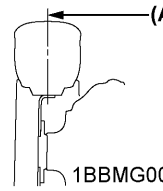
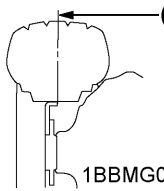
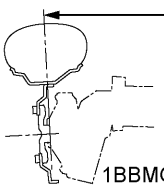
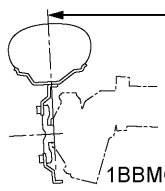
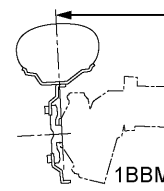
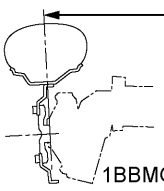
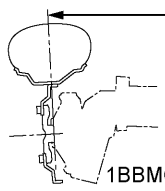
WARNING

To avoid personal injury or death:

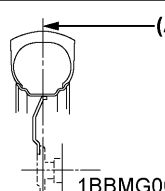
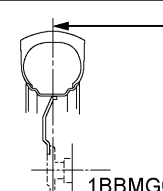
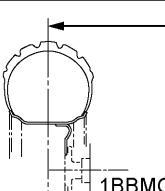
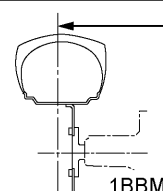
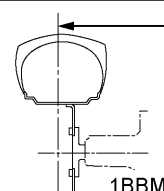
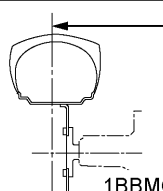
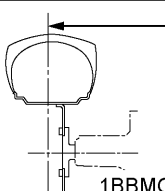
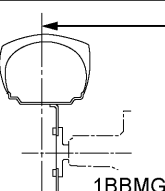
- Before jacking up the tractor, park it on a firm and level ground and chock the front wheels.
- Fix the front axle to keep it from pivoting.
- Select a jack that withstands the machine weight and set it up as follows.

3. Treads

Front

Tire	7-12 Farm	180/85D12, 69A6 Farm	180/85D12, 77A8 Farm
Tread	 (A) 1035 mm (40.7 in.)	 (A) 1050 mm (41.3 in.)	 (A) 1040 mm (40.9 in.)
Tire	24 × 8.50-14 Turf	23 × 8.50-14 Industry	23 × 8.50-12 Industry
Tread	 (A) 1030 mm (40.6 in.)	 (A) 1005 mm (39.6 in.)	 (A) 1070 mm (42.1 in.)
Tire	23 × 8.50-12 R14	25 × 8.50-14 Industry	25 × 8.50-14 R14
Tread	 (A) 1070 mm (42.1 in.)	 (A) 1020 mm (40.2 in.)	 (A) 1020 mm (40.2 in.)

Rear

Tire	12.4-16 Farm	320/85D16 Farm	13.6-16 Turf	12.4-16 Industry
Tread	 (A) 1050 mm (41.3 in.)	 (A) 1050 mm (41.3 in.)	 (A) 1050 mm (41.3 in.)	 (A) 1050 mm (41.3 in.)
Tire	14-17.5 Industry	14-17.5 R14	15-19.5 Industry	15-19.5 R14
Tread	 (A) 1050 mm (41.3 in.)	 (A) 1050 mm (41.3 in.)	 (A) 1085 mm (42.7 in.)	 (A) 1085 mm (42.7 in.)

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 to maintain steering control.

1. Front ballast

Add weights if needed for stability and improved traction.

Heavy pulling and heavy rear mounted implements tend to lift up the front wheels.

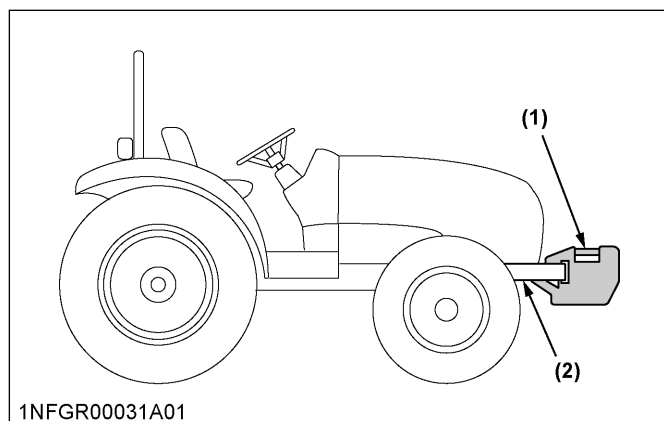
Add enough ballast to maintain steering control and to prevent tipping over. Remove the weight when it is no longer needed.

1.1 Front end weights (option)

Front end weights can be attached to the bumper.

See your implement operator's manual for the required number of weights or consult your local Kubota Dealer about their usage.

- [For installation of up to 6 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 the following table.

Maximum weight	25 kg × 6 pieces (150 kg (331 lbs.))
----------------	---

2. 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.

2.1 Liquid ballast in rear tires

A water and calcium chloride solution provides safe and 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.

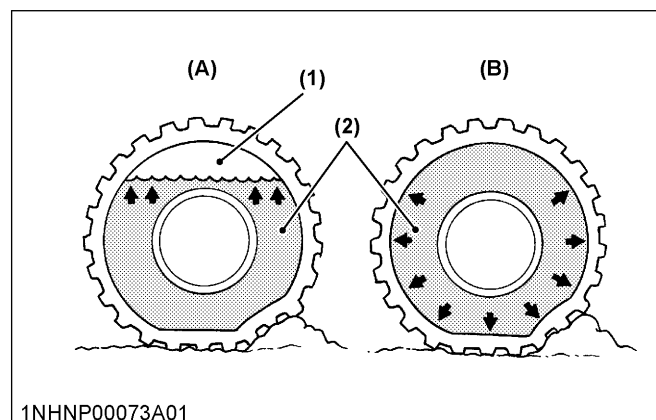
See your tire dealer for this service.

Liquid weight per tire (75 % 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 (-53 °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 (-53 °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 to more than 75% of full capacity (to the valve stem level).



- (1) Air
(2) Water

- (A) Correct - 75% full, air compresses like a cushion
(B) Incorrect - 100% full, water cannot be compressed

- While the backhoe is installed on the tractor, the liquid ballast in the rear tires should be removed.
- While the loader is installed on the CAB tractor, the liquid ballast in the rear tires should be removed.

3. Overall ballast

Overall, the tractor, depending on the job, terrain, implement and purpose should be ballasted.

CAB OPERATION

DOORS AND WINDOWS

1. Locking and unlocking the door

"From the outside"

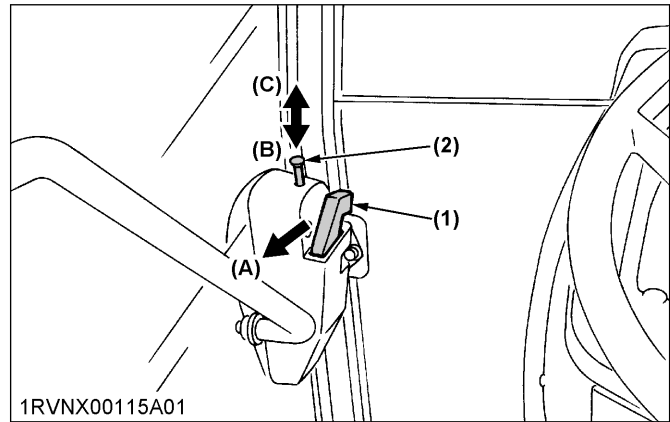
Insert the key into the door lock. Turn the key clockwise to unlock the door. To lock the door, turn the key in the opposite direction.

The key can be removed when it is in the vertical position.

"From the inside"

Push down the lock knob to lock the door.

Pull up the lock knob to unlock the door.



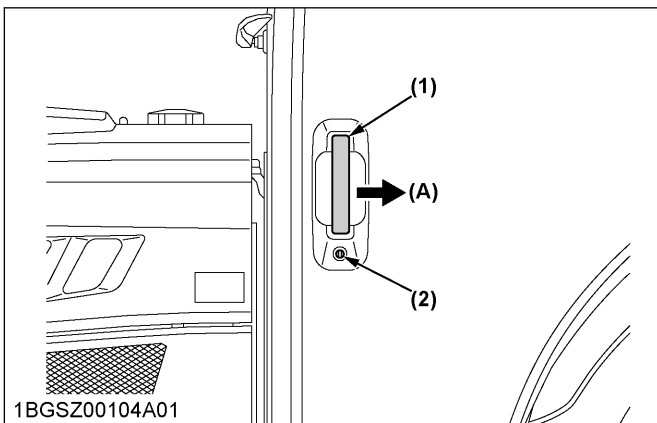
- (1) Inner door handle
(2) Lock knob

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

2. Opening the door

"From the outside"

Unlock the door, and pull the outer door handle.



- (1) Outer door handle
(2) Door lock

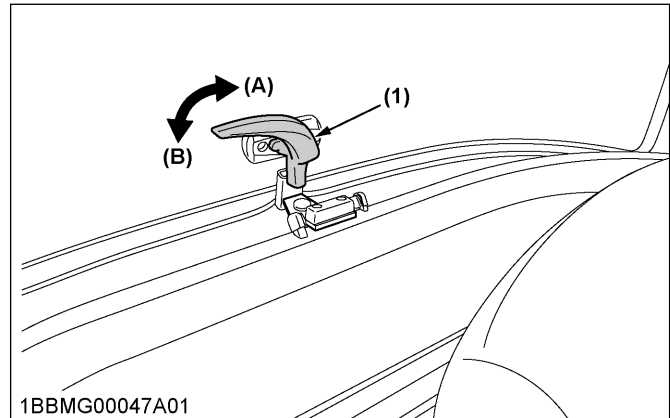
- (A) "PULL"

"From the inside"

Unlock the door and pull the inner door handle.

3. 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.



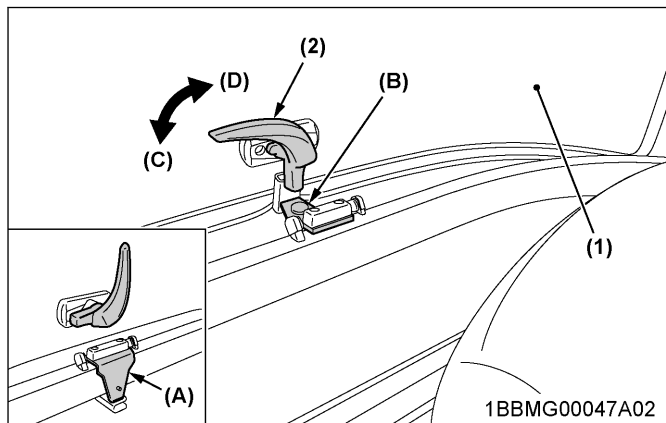
- (1) Rear window handle

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

4. 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.

5. Emergency exit

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

LIGHT

1. Dome light

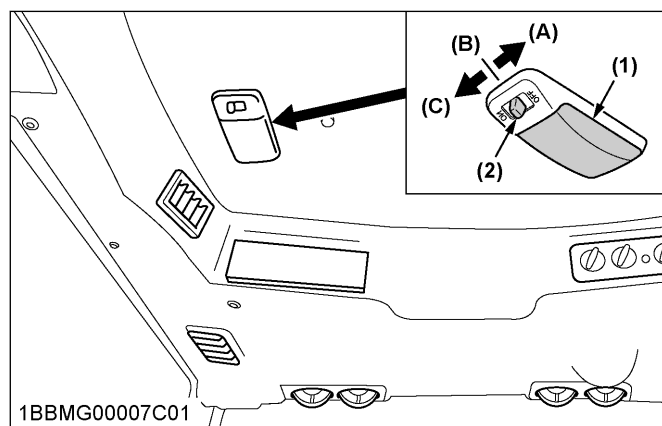
Sliding the dome light switch will give the following light condition:

[OFF]

The light does not turn on.

[ON]

The light remains on.



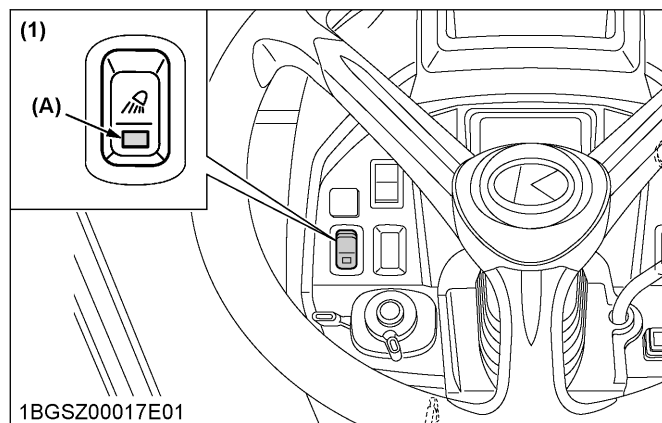
- (1) Dome light
(2) Dome light switch

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

2. Work light switch

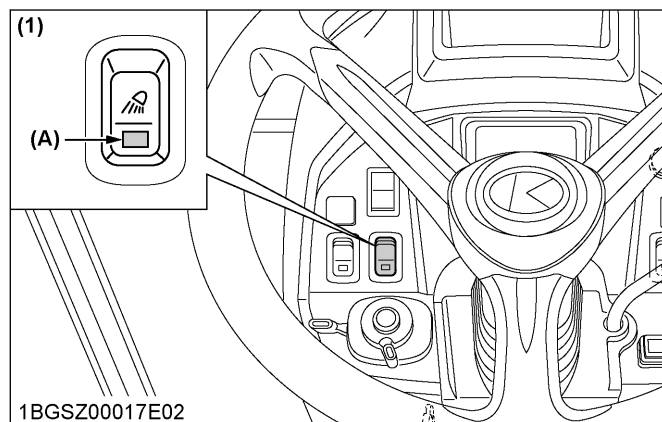
Turn on the key switch and press the top half of the work light switch.

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

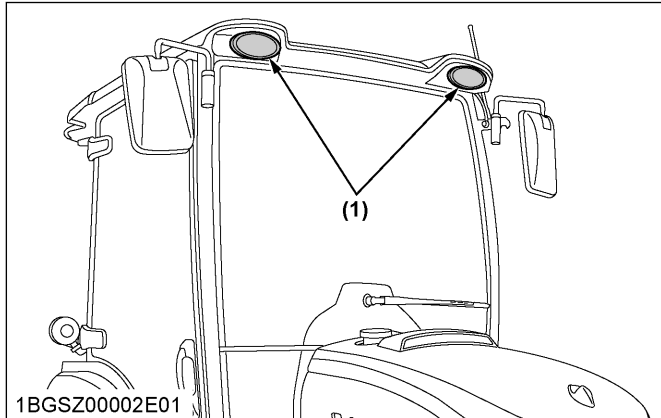
- (A) Indicator for work lights



- (1) Rear work light switch (if equipped)

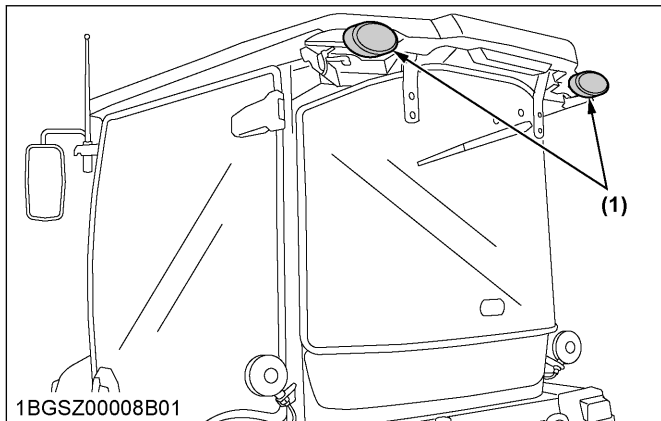
- (A) Indicator for work lights

3. Front work light



(1) Front work light

4. Rear work light (if equipped)



(1) Rear work light

WIPER

1. Front wiper and washer switch

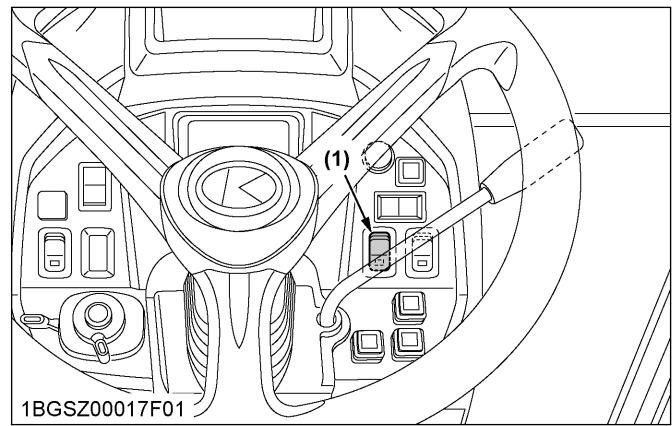
When the button is pressed to the first step, the wiper only is activated.

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.)

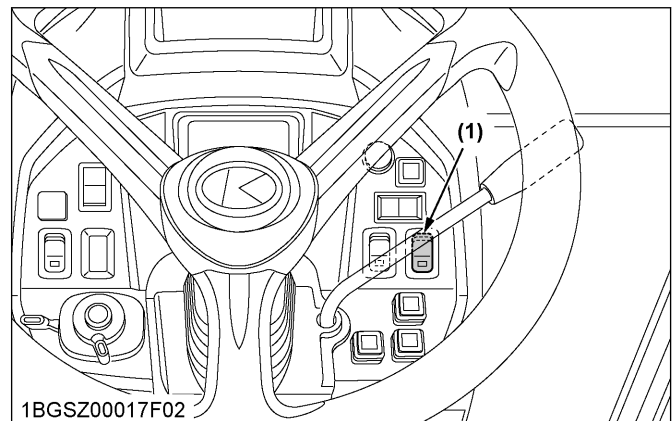


(1) Front wiper and washer switch

2. Rear wiper and washer switch [except SU model]

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.

To jet washer fluid, push the front wiper and 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.
Jet washer fluid first and then activate the wipers.

3. Using the wipers in cold season

1. While not used in cold season, keep the wiper blades off the windshield to prevent them from being frozen to the windshield.
2. If the windshield is covered with snow, scrape it off the windshield before using the wipers.
3. If the wiper blades are frozen to the windshield and fail to move, turn the main key switch to the "OFF" position and remove the ice from the blades. Then place the main key switch back to the "ON" position.

4. When commercially available cold-season wiper blades are used, make sure that their size is the same as or smaller than that of the standard ones.

IMPORTANT :

- In the cold season, the wiper blades and the wiper motor may become overloaded, and cause damage. To avoid this problem, take the previously mentioned precautions.

AIR CONDITIONER

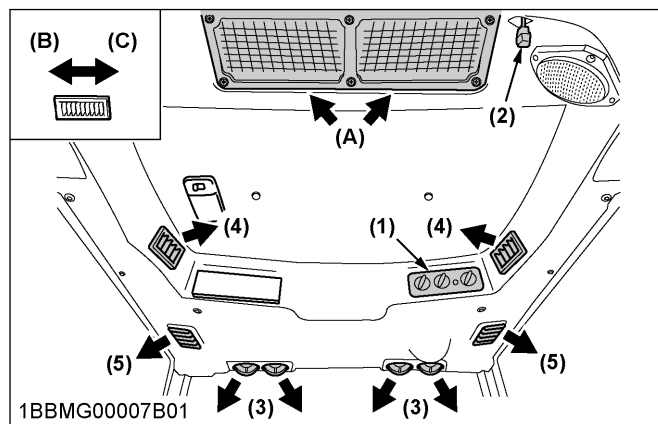
WARNING

To avoid personal injury or death:

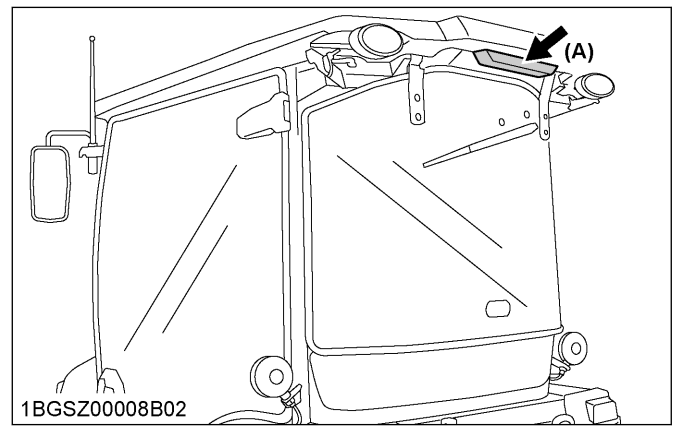
- If the window fails to defrost in extreme conditions or becomes cloudy when dehumidifying the CAB, wipe off moisture with a soft cloth.
- Do not block all the air outlets of the air conditioner. A problem could occur.

1. Airflow

Air in the CAB and fresh air introduced into the CAB flows as follows. Adjust the air ports to obtain the desired condition.



- | | |
|---|-----------------------------|
| (1) Control panel | (A) Inner air recirculation |
| (2) Recirculation or 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

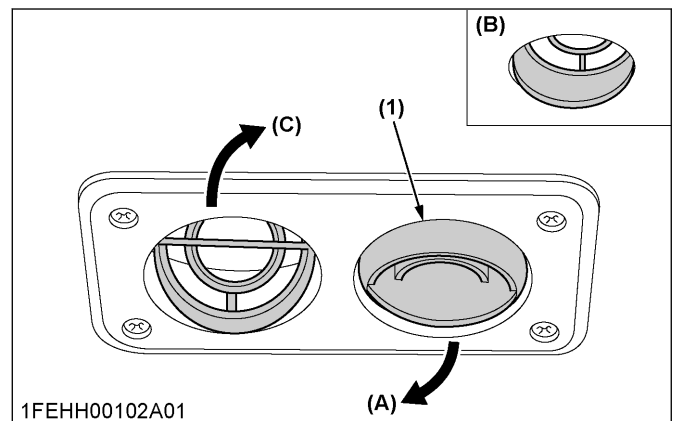
IMPORTANT :

- Do not pour water directly into the fresh air port while washing the tractor.

2. Air control vent

2.1 Front air outlet

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

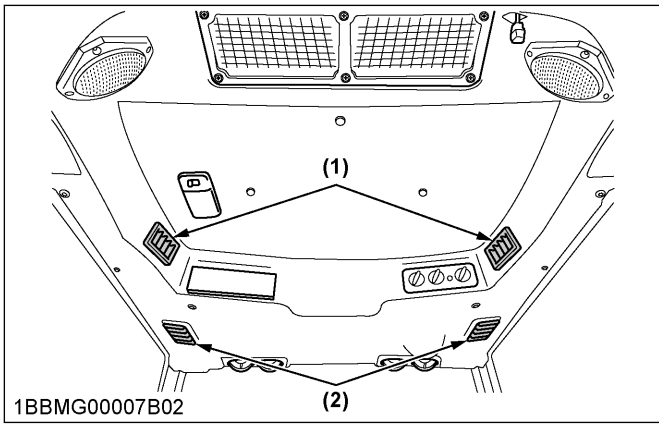


(1) Front air outlet

- (A) "WINDSHIELD"
(B) "CLOSED"
(C) "CHEST AREA"

2.2 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 door air outlet.

2.3 Recirculation or fresh air selection lever

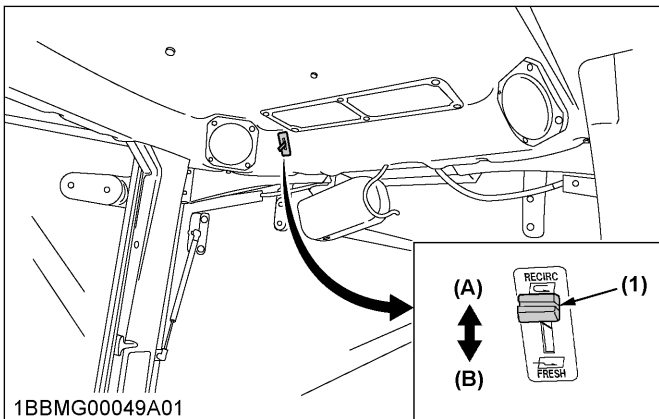
FRESH AIR:

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.



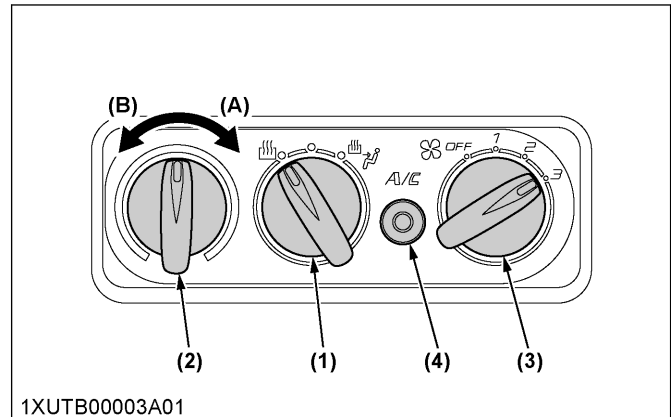
- (1) Recirculation or fresh air selection lever
(A) "RECIRCULATION"
(B) "FRESH AIR"

NOTE :

- When heating, do not keep the lever at the "RECIRCULATION" position for a long time. The windshield easily gets foggy.
- While working in 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.

3. Control panel



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

3.1 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.

3.2 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.

3.3 Blower switch

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

3.4 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 turn off.

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.

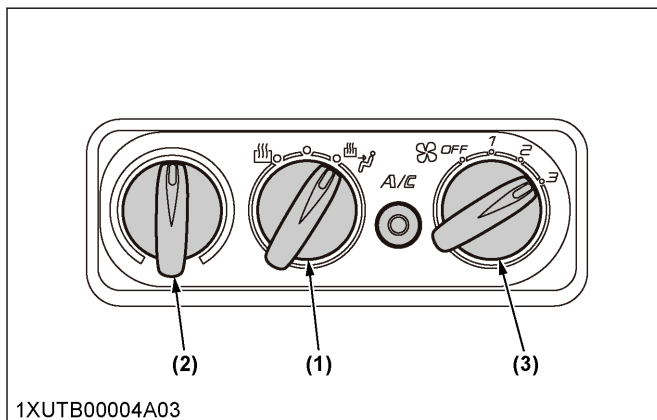
NOTE :

- 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”.

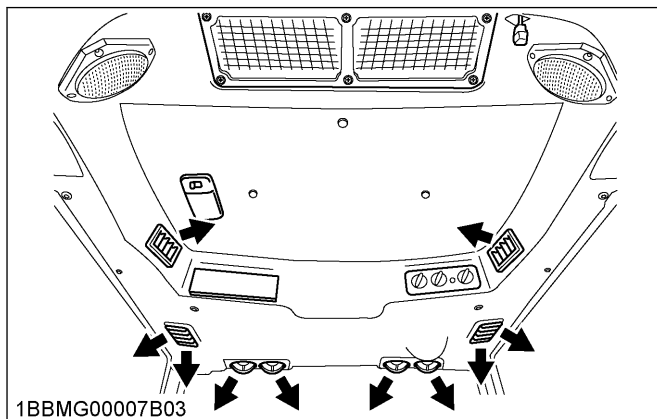
4. Operation

4.1 Heating

1. Set the mode switch to the , ● or  position.
2. Set the recirculation or 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) Temperature control dial
- (3) Blower switch



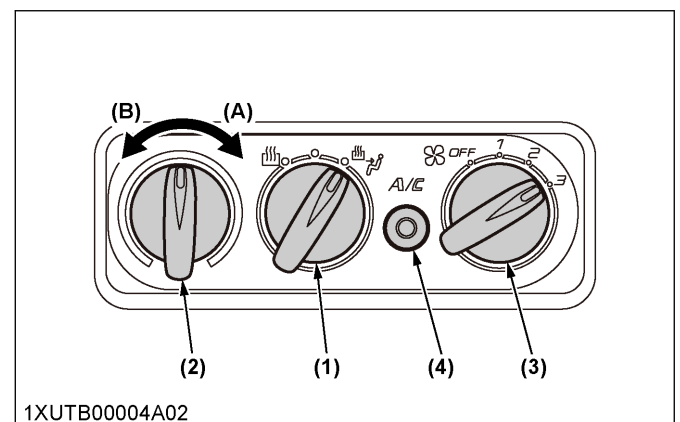
4.2 Cooling or dehumidifying-heating

1. Set the mode switch to the  position.

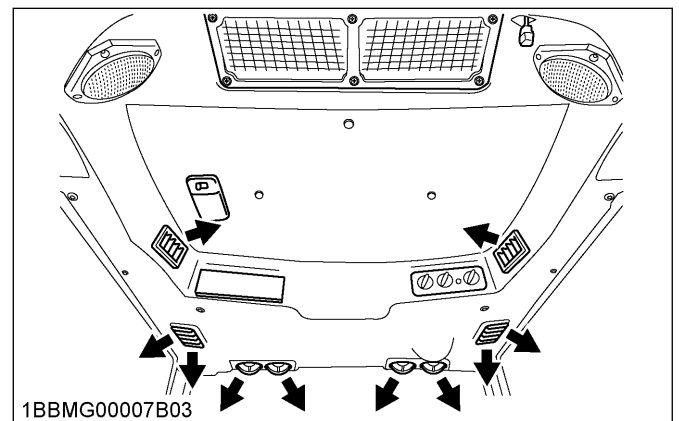
2. Set the recirculation or fresh air selection lever to the “FRESH AIR” position. To lower the temperature in the CAB quickly, set this switch to the “RECIRCULATION” position.
3. Press and turn on the air conditioner switch with indicator.
4. Turn on the blower ([1]/[2]/[3]) switch.
5. Adjust the temperature control dial to “COOL” or 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.



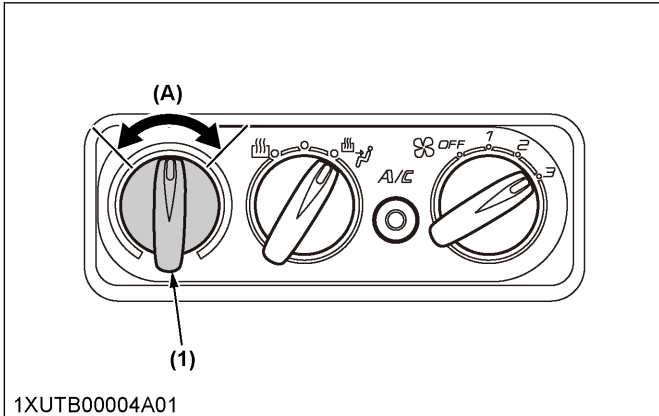
- (1) Mode switch
 - (2) Temperature control dial
 - (3) Blower switch
 - (4) Air conditioner switch with indicator light
- (A) “WARM”
(B) “COOL”



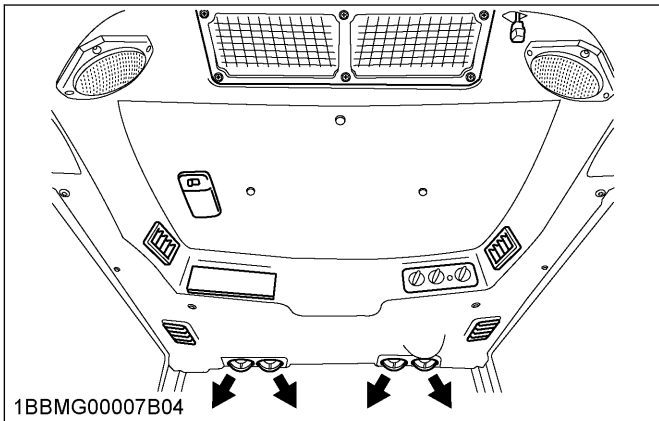
4.3 Foot warming and head cooling

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.

- Open the front air outlet and the door air outlet direct it to your feet.
- You can feel your head cool and your feet warm.



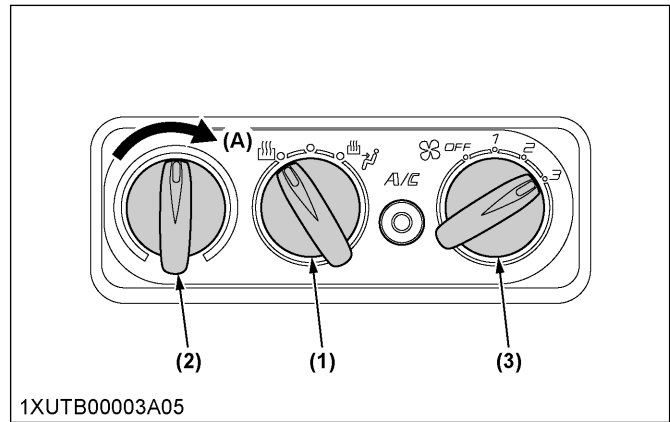
(1) Temperature control dial (A) Center position area



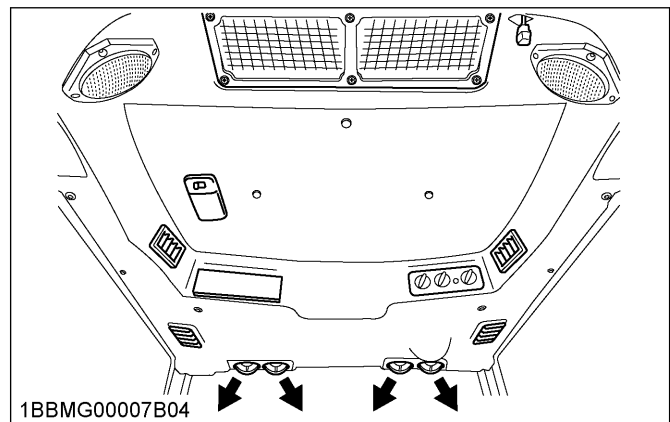
4.4 Defrosting or demisting

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

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

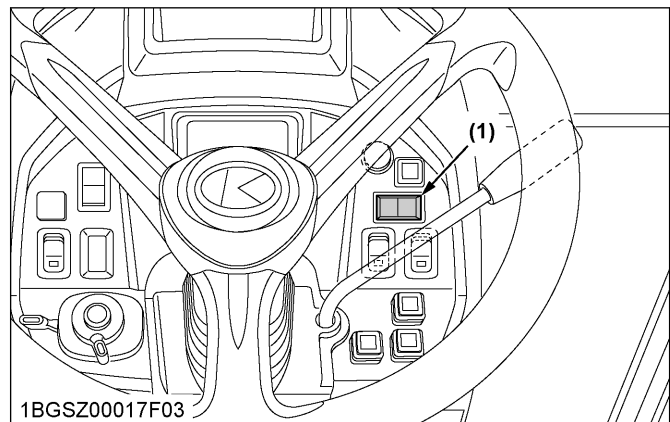


(1) Mode switch (A) "WARM"
(2) Temperature control dial
(3) Blower switch



REAR DEFOGGER [EXCEPT SU MODEL]

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” positions with the engine stopped.
Always use the defogger with the engine running.

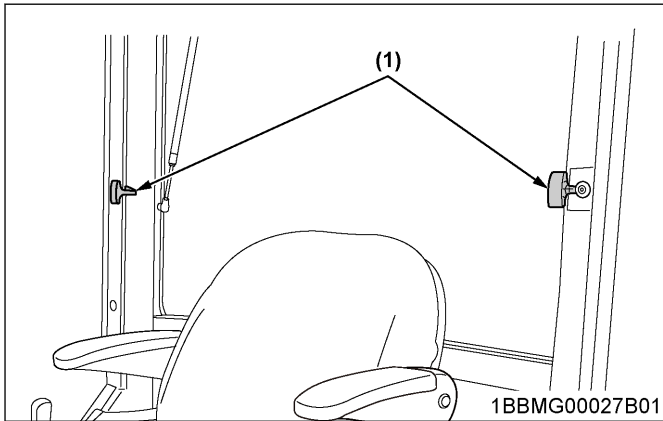
HANGER

⚠ WARNING

To avoid personal injury or death:

- 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)

MAINTENANCE

SERVICE INTERVALS

IMPORTANT :

- Perform daily checks before and after work.
(See DAILY CHECK on page 41)

Maintenance parts		Maintenance timing												Ref. page			
		Indication on hour meter											Months or years				Interval
		50	100	150	200	250	300	350	400	450	500	...					
Air conditioner condenser screen [CAB model]	Clean													Daily	121		
Greasing	—	○	○	○	○	○	○	○	○	○	○			Every 50 hrs	123		
Engine start system	Check	○	○	○	○	○	○	○	○	○	○				124		
Wheel bolt torque	Check	○	○	○	○	○	○	○	○	○	○				124		
Battery condition	Check		○		○		○		○		○			Every 100 hrs	125	*1	
Air cleaner primary element	Clean		○		○		○		○		○				126	*2	@
Fan belt	Adjust		○		○		○		○		○				127		
Brake pedal	Adjust		○		○		○		○		○				128		
Engine oil	Change	◎			○				○				1 year	Every 200 hrs or 1 year	128	*3	
Engine oil filter	Replace	◎			○				○					Every 200 hrs	129		
Transmission oil filters	Replace	◎			○				○						129		
Power steering oil line	Check				○				○						130	*4	
Toe-in	Adjust				○				○						131		
Air conditioner drive belt [CAB model]	Adjust				○				○						131		
Inner air filter [CAB model]	Clean				○				○						131		
Fresh air filter [CAB model]	Clean				○				○						132		
Air conditioner condenser [CAB model]	Check				○				○						132		
Water separator	Replace								○					Every 400 hrs	133		
Fuel filter	Replace								○						135		@
Hydraulic oil filter	Replace	◎							○						134		
Transmission fluid	Change								○						133		
Front axle pivot	Adjust								○						135		
Front axle case oil	Change								○						135		

(Continued)

Maintenance parts		Maintenance timing													Ref. page		
		Indication on hour meter											Months or years	Interval			
		50	100	150	200	250	300	350	400	450	500	...					
Engine valve clearance	Adjust											800 hrs		Every 800 hrs	136	*5	
Air cleaner primary element	Replace											1000 hrs	1 year	Every 1000 hrs or 1 year	136	*6	@
Air cleaner secondary element	Replace											1000 hrs	1 year		136	*6	@
Fuel injection nozzle In-jection pressure	Clean											1500 hrs		Every 1500 hrs	136	*5	@
EGR cooler	Check											1500 hrs			136	*5	@
Cooling system	Flush											2000 hrs	2 years	Every 2000 hrs or 2 years	136	*7	
Coolant	Change											2000 hrs	2 years		137	*7	
EGR system	Check											3000 hrs		Every 3000 hrs	138	*5	@
Supply pump	Check											3000 hrs			138	*5	
Turbocharger	Check											3000 hrs			138	*5	
DPF muffler	Clean											3000 hrs to 6000 hrs		Every 3000 hrs to 6000 hrs	138	*5	@
Radiator hose and clamp	Check												1 year	1 year	138	*4	
Fuel line	Check												1 year		139	*4	@
Intake air line	Check												1 year		139	*4	@
Exhaust manifold	Check												1 year		138		@
Air conditioner pipes and hoses [CAB model]	Check												1 year		139	*4	
CAB isolation cushion [CAB model]	Check												1 year		139	*5	
Radiator hose and clamp	Check												2 years	Every 2 years	139	*5	
Power steering oil line	Check												2 years		139	*5	
Air conditioner pipes and hoses [CAB model]	Check												2 years		139	*5	
Fuel line	Replace												4 years	Every 4 years	140	*4 *5	@
Intake air line	Replace												4 years		140	*4 *5	@
Differential pressure sensor hose	Replace												4 years		140	*5	
Fuel system	Bleed													Service as required	140		
Clutch housing water	Drain														140		
Fuse	Replace														141		
Slow-blow fuse	Replace														142		
Light bulb	Replace														143	*5	
Headlamp [ROPS and CAB model]	Replace														145		

(Continued)

MAINTENANCE

Maintenance parts		Maintenance timing												Ref. page			
		Indication on hour meter											Months or years				Interval
		50	100	150	200	250	300	350	400	450	500	...					
Headlamp [SU model]	Replace													Service as required	143		
Tail light	Replace														144		
Room lamp [CAB model]	Replace														144		
Lubricating points [CAB model]	—														145		
Washer liquid [CAB model]	Check														145		
Amount of refrigerant (gas) [CAB model]	Check														145		
Radiator hose and clamp	Replace														146	*5	
Fuel line	Replace														146	*5	
Intake air line	Replace													146	*5		

*1 When the battery is used for less than 100 hours per year, check the fluid level annually.

*2 Air cleaner should be cleaned more often in severe dusty conditions. Operation with clogged air cleaner may cause regeneration failure and DPF damage.

*3 Every 200 hours or every 1 year, whichever comes first.

*4 Replace if any deterioration (crack, hardening, scar, or deformation) or damage occurred.

*5 Consult your local Kubota Dealer for this service.

*6 Replace in 1000 hours or 1 year, whichever comes faster.

*7 Replace in 2000 hours or 2 years, whichever comes faster.

IMPORTANT :

- The jobs indicated by **⓪** must be done after the first 50 hours of operation.
- The items listed above (**@** marked) are registered as emission related critical parts by Kubota in the U.S.EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction.
Please see Warranty Statement in detail.
- When using biodiesel, check the maintenance requirements of biodiesel fuel as the intervals will change for some of the items.

LUBRICANTS, FUEL AND COOLANT

No.	Locations	Capacities				Lubricants	
		ROPS		CAB			
		LX3520	LX4020	LX3520	LX4020		
1	Fuel	32 L (8.4 U.S.gals.)				No.2-D diesel fuel No.1-D diesel fuel if temperature is below -10 °C (14 °F)	
2	Coolant (with recovery tank)	4.5 L (4.8 U.S. qts)		5.8 L (6.1 U.S qts)		Fresh clean water with antifreeze	
3	Washer liquid	—		1.5 L (1.6 U.S.qts.)		Automobile washer liquid	
4	Engine crankcase (with filter)	4.7 L (5.0 U.S.qts.)				• Engine oil: refer to the following table	
						Above 25 °C (77 °F)	SAE30, SAE10W-30 or 15W-40
						-10 °C to 25 °C (14 °F to 77 °F)	SAE20, SAE10W-30 or 15W-40
						Below -10 °C (14 °F)	SAE0W-30, 5W-30 or 0W-40
5	Transmission case	21 L (5.5 U.S.gals.)				• Kubota UDT or Super UDT fluid*	
6	Front axle case	4.5 L (4.8 U.S.qts.)				• Kubota UDT or Super UDT fluid or SAE 80- SAE 90 gear oil	
7	Greasing	No. of greasing points				Capacity	Type of grease
	Top link	2				Until grease over-flow.	Multipurpose grease NLGI-2 or NLGI-1 (GC-LB)
	Lifting rod (RH)	1					
	Brake pedal	1					
	Battery terminals	2				Moderate amount	

* **Kubota Super UDT** fluid: Kubota original transmission hydraulic fluid

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.

Engine oil

- The oil used in the engine should have an American Petroleum Institute (API) service classification and proper SAE engine oil according to the ambient temperatures shown in the previous table.
- Refer to the following table for the suitable API classification engine oil according to the diesel particulate filter (DPF) type engines and the fuel.

Fuel used	Engine oil classification (API classification)
	Oil class of engines with DPF
Ultra low sulfur fuel <0.0015 % (15 ppm)	CJ-4

- The CJ-4 engine oil is intended for diesel particulate filter (DPF) type engines.

Fuel

- Use the ultra-low sulfur diesel fuel only (below 0.0015 % or 15 ppm) for these engines.
- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20 °C (-4 °F) or elevations above 1500 m (5000 ft).
- 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

- **Kubota Super UDT-2**

For an enhanced ownership experience, we highly recommend **Super UDT-2** to be used instead of standard hydraulic or transmission fluid. **Super UDT-2** is a proprietary Kubota formulation that delivers superior performance and protection in all operating conditions. Regular **UDT** is also permitted for use in this machine.

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

1. Biodiesel fuel (BDF) B0-B20

B0-B20 Biodiesel fuels (BDF): mixed diesel fuels containing 20 % or less biodiesel can be utilized under the following conditions.

IMPORTANT :

- **Refueling and handling fuel should be done with caution in order to avoid contact with the fuel and spillage that could create a potential environmental or fire hazard. Wear appropriate protective equipment when refueling.**

Applicable BDF:

1. Blended diesel fuels containing 6 % through 20 % BDF (B6 - B20) which comply with American Society for Testing and Materials (ASTM) D7467 Standard, as revised, can be used without adversely affecting the performance and durability of the engine and fuel system components.
2. Any mineral oil diesel fuel, if used, must conform to ASTM D975 (or the European EN590) Standard, as revised. B100 fuel used to make Biodiesel blended fuels must meet ASTM D6751 (or EN14214) Standard, as revised. The final blended fuel B20 must conform to ASTM D7467 Standard, as revised. Straight vegetable oil is not allowed in any blended fuel.
3. Allowable blended fuel is mineral oil diesel fuel blended with B100 (meaning, 100 % BDF). The blended fuel ratio shall be less than 20 % B100 and 80 % or more diesel fuel. The B100 source used for Biodiesel blends must be purchased from an accredited BQ-9000 marketer or producer. More information about qualified marketer(s) and producer(s) can be found at <http://www.bq-9000.org>.

Preparation:

1. Before using BDF concentrations greater than B5, you are advised to replace the engine oil, engine oil filter and fuel filter with new oil and filters. Details regarding the replacement procedures can be found in a different section. (See Changing engine oil on page 128, Replacing engine oil filter on page 129, and Replacing fuel filter on page 135.)

Product warranty, emission and other precautions:

1. The engine emission control system was certified according to current regulations based on the use of non-BDF. When using BDF, the owner is advised to check applicable local and federal emission regulations and comply with all of them.
2. BDF may cause restricted or clogged fuel filters during cold weather conditions, resulting in the engine not operating properly.
3. BDF encourages the growth of microorganisms which may cause degradation of the fuel. This in turn may cause fuel line corrosion or reduce fuel filter flow earlier than expected.
4. BDF inherently absorbs moisture which may cause degradation of the fuel earlier than expected. To avoid this, drain the water separator and fuel filter port often.
5. Do not use Biodiesel concentrations higher than 20 % (namely, greater than B20). Engine performance and fuel consumption will be affected, and degradation of the fuel system components may occur.
6. Do not readjust the engine fuel control system as this will violate emission control levels for which the equipment was approved.
7. Compared with soybean-based and rapeseed-based feedstock, palm oil-based feedstock has a thicker consistency (that is, higher viscosity) at lower temperatures. Consequently, fuel filter performance may be reduced, particularly during cold weather conditions.
8. The Kubota Warranty, as specified in the owner's warranty information guide, only covers defects in product materials and workmanship. Accordingly, any problems that may arise due to the use of poor quality fuels that fail to meet the above requirements, whether biodiesel or mineral oil based, are not covered by the Kubota Warranty.

Routine handling:

1. Avoid spilling BDF onto painted surfaces as this may damage the finish. If fuel is spilled immediately wipe clean and flush with soapy water to avoid permanent damage.
2. When using BDF, you are advised to maintain a full tank of fuel, especially overnight and during short term storage, to reduce condensation within the tank. Tighten the fuel cap after refueling to prevent moisture build up within the tank. Water in the biodiesel mixture will damage fuel filters and may damage engine components.

Maintenance requirements when using BDF B0 through B5:

Follow the recommended oil change intervals. (See MAINTENANCE on page 110.)

Extended oil change intervals may result in premature wear or engine damage.

Maintenance requirements when using BDF B6 through B20:

The maintenance intervals for fuel related parts changes.

See the following table for the new maintenance intervals.

Items		Interval	Remarks
Fuel filter	Clean	Every 50 hrs	—
	Replace	Every 200 hrs	—
Fuel line	Check	Every 6 months	Replace if any deterioration (crack, hardening, scar or deformation) or damage occurred.
	Replace	Every 2 years	Consult your local Kubota Dealer for this service.

Long term storage:

1. BDF easily deteriorates due to oxygen, water, heat and foreign substances.
Do not store B6 through B20 longer than 1 month and B5 longer than 3 months.
2. When using B6 through B20 and storing the machine longer than 1 month, drain the fuel from the tanks and replace with light mineral oil diesel fuel.
Subsequently, run the engine at least 30 minutes to remove all of the Biodiesel from the fuel lines.
3. When using B5 fuel and storing machine longer than 3 months, drain the fuel from the tanks and replace with light mineral oil diesel fuel.
Subsequently, run the engine at least 30 minutes to remove all of the Biodiesel from the fuel lines.

PERIODIC SERVICE

⚠ WARNING

To avoid personal injury or death:

- Do not work under any hydraulically supported devices. They can settle, suddenly leak, or be accidentally lowered. If necessary to work under the tractor or any machine elements for servicing or adjustments, securely support them with stands or suitable blocking beforehand.

WASTE DISPOSAL

- The improper disposal or burning of waste causes environmental pollution and can be punishable by your local laws and regulations.
 - When draining fluids from the tractor, place a container underneath the drain port.
 - Do not pour waste onto the ground, down a drain, or into any water source (such as rivers, streams, lakes, marshes, seas and oceans).
 - Waste products such as used oil, fuel, coolant, hydraulic fluid, aqueous urea solution (DEF (AdBlue)), refrigerant, solvent, filters, rubber, batteries and harmful substances 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.

HOW TO OPEN THE HOOD

⚠ WARNING

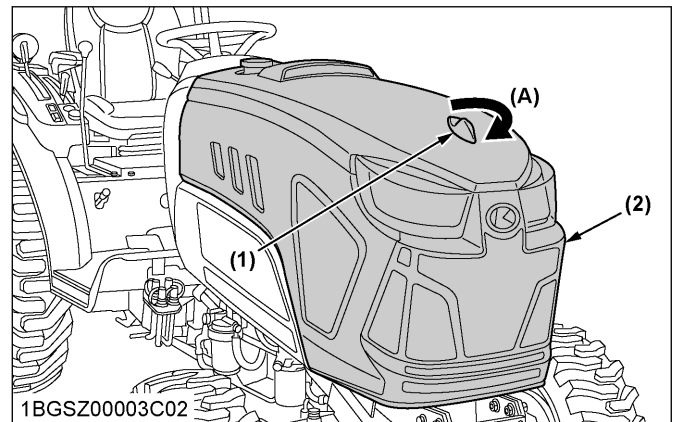
To avoid personal injury or death from contact with moving parts:

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

1. Hood

1.1 Opening the hood

1. Twist the hood latch.

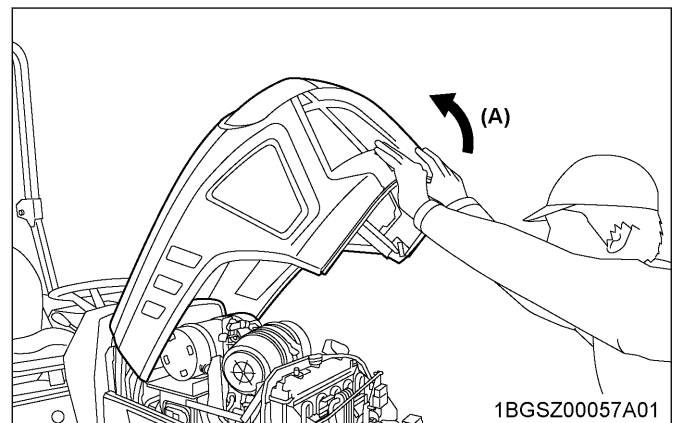


(1) Hood latch

(A) Twist

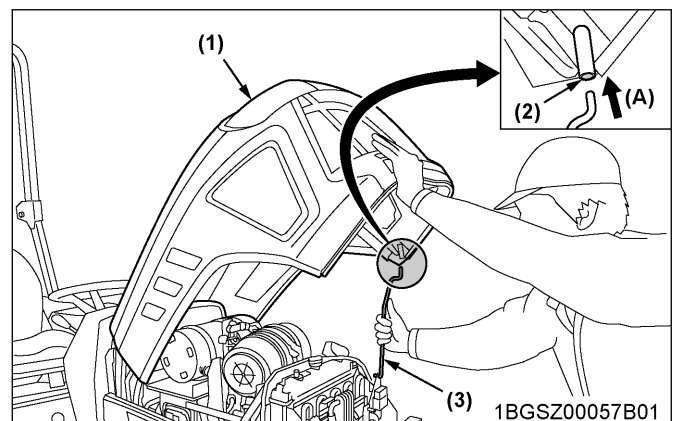
(2) Hood

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

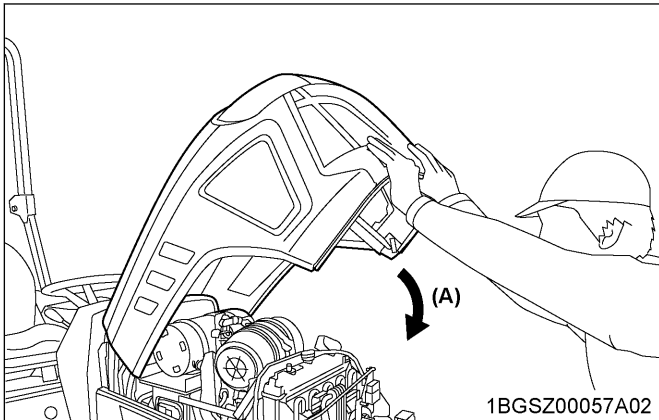
(A) Insert

(2) Mounting hole

(3) Support rod

1.2 Closing the hood

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

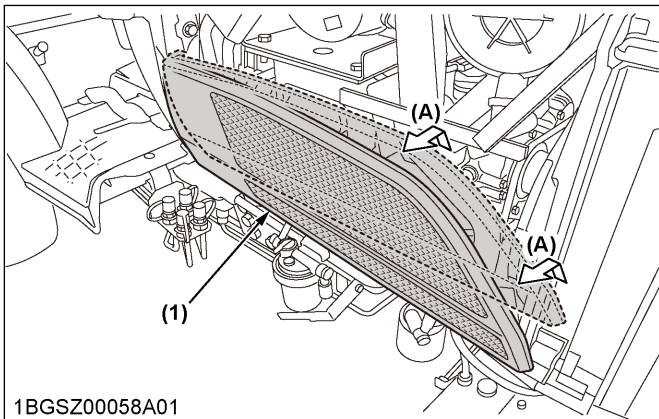


(A) Close

2. Engine side cover

Remove the side cover

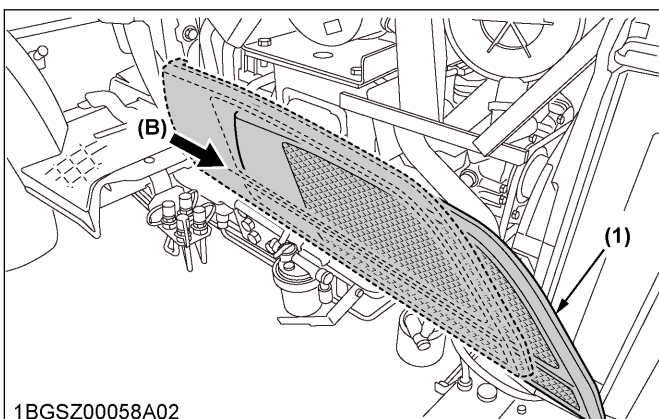
1. Pull up the cover toward "A".



(1) Side cover

(A) Pull up

2. Pull the cover toward "B" and detach the notch.

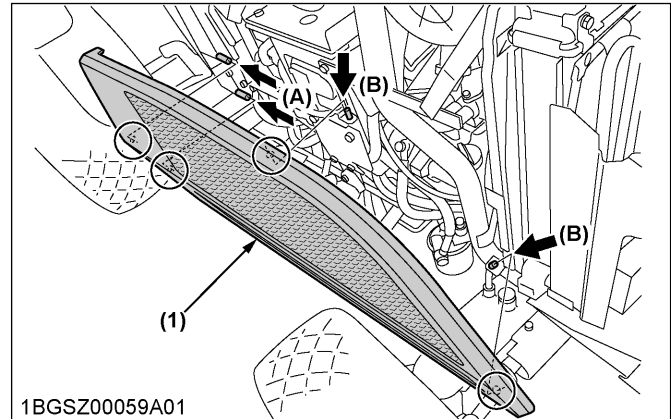


(1) Side cover

(B) Pull

Attaching the side cover

1. To attach the cover, take the reverse order.



(1) Side cover

(A) Insert

(B) Insert

DAILY CHECK

For your own safety and maximum service life of the machine, make a thorough daily inspection before operating the machine to start the engine.

⚠ 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.
- Release all residual pressure from the hydraulic system.
- Stop the engine and remove the key.
- If flammable materials such as grass or straw have accumulated around the exhaust pipe, clean them up.

1. Walk around inspection

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

2. Checking and refueling

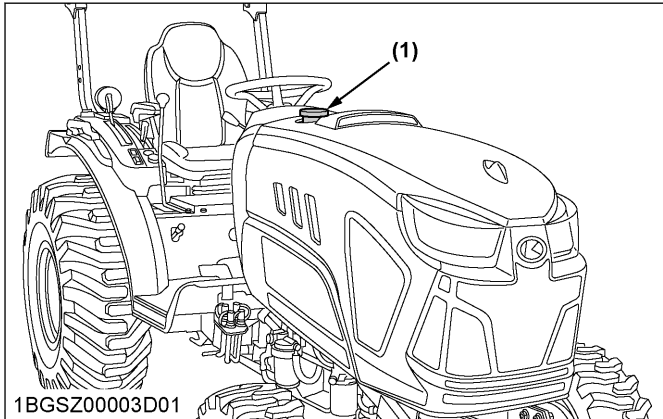
⚠ WARNING

To avoid personal injury or death:

- Never use fire.
- Do not smoke while refueling.
- Stop the engine before refueling.
- Close the fuel-tank-cap after refueling.
- For refueling, avoid parking the tractor in any place with straws, weeds and other flammable things below and around.

To avoid allergic skin reaction:

- Wash hands immediately after contact with diesel fuel.
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).
 4. After refueling, close the fuel tank cap tight enough.



(1) Fuel tank cap

Refueling alarm

If you refuel with the key switch at "ON", when you start refueling, a buzzer sounds intermittently. When the tank gets close to full, the buzzer starts sounding continuously. Stop refueling as soon as the buzzer sound turns from intermittent to continuous.

Fuel tank capacity

All models	32 L (8.4 U.S.gals.)
------------	----------------------

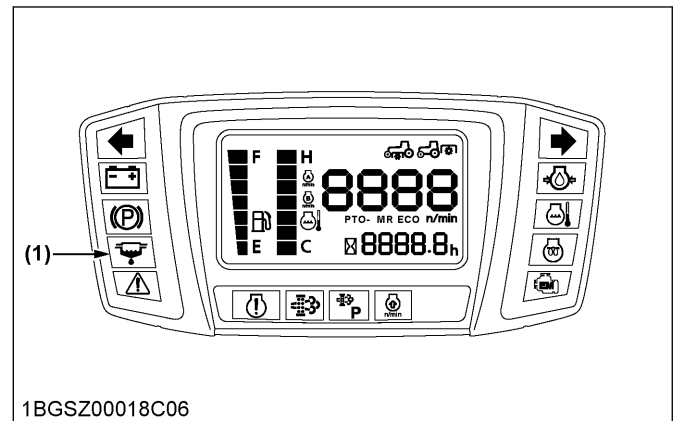
IMPORTANT :

- Use ultra low sulfur fuel (S15).
- 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 the next engine start.
- If the engine runs out of fuel and stalls, the engine components may be damaged.
- Be careful not to spill during refueling. If a spill occurs 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.
- Check to see if the fuel tank cap is tight enough.
- Before refueling, make sure there are no flames around and remove static electricity.

- Do not turn the key switch to "OFF" while refueling. Once the key switch is turned to "OFF", the buzzer may not sound even if the key switch is turned to "ON" again.
- The buzzer might not sound if you refuel while the fuel gauge is near [F].

3. Checking water separator

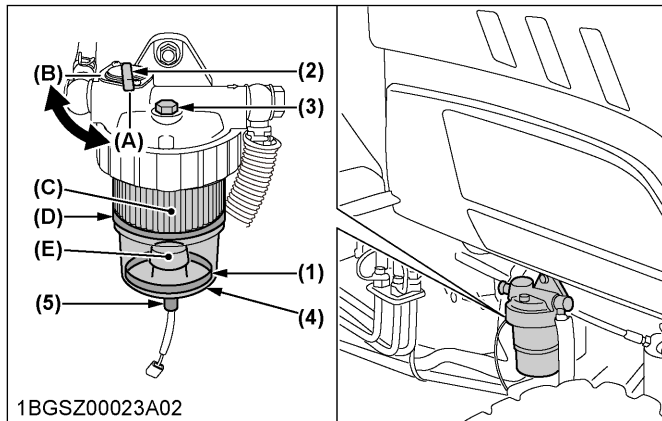
1. When the water has collected up to the upper limit in the water separator, the water separator indicator on the instrument panel lights up and a warning buzzer sounds.



(1) Water separator indicator

2. In this case, close the fuel shutoff-valve and loosen the air plug and drain plug by several turns.
3. Allow the water to drain. When no more water comes out and fuel starts to flow out, retighten the air plug and drain plug.

4. Bleed the fuel system.
(See Bleeding fuel system on page 140.)



- | | |
|------------------------|-------------------|
| (1) Red float | (A) "OPEN" |
| (2) Fuel shutoff-valve | (B) "CLOSE" |
| (3) Air plug | (C) "FUEL" |
| (4) Cup | (D) "UPPER LIMIT" |
| (5) Drain plug | (E) "WATER" |

IMPORTANT :

- If water is drawn through to the fuel pump, extensive damage will occur.

NOTE :

- When the red float reaches near the upper limit level, start from step 2 in the above procedure to drain water from the water separator.

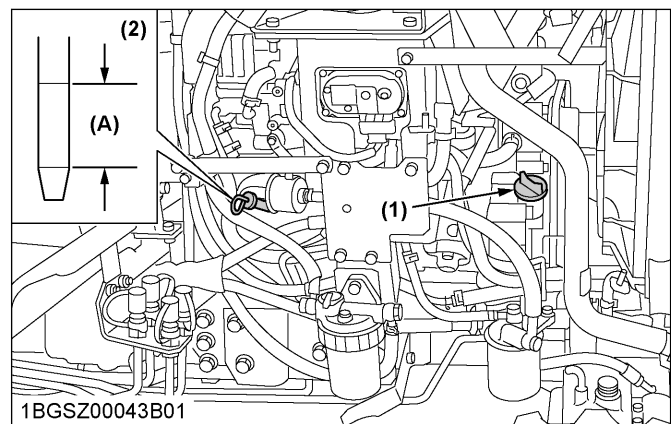
4. Checking engine oil level

WARNING

To avoid personal injury or death:

- Stop the engine before checking the oil level.

1. Park the machine on a flat surface.
2. Check the engine oil before starting the engine or 5 minutes or more after the engine has stopped.
3. To check the oil level, pull out the dipstick, wipe it clean, replace it, and pull 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, FUEL AND COOLANT on page 113.)



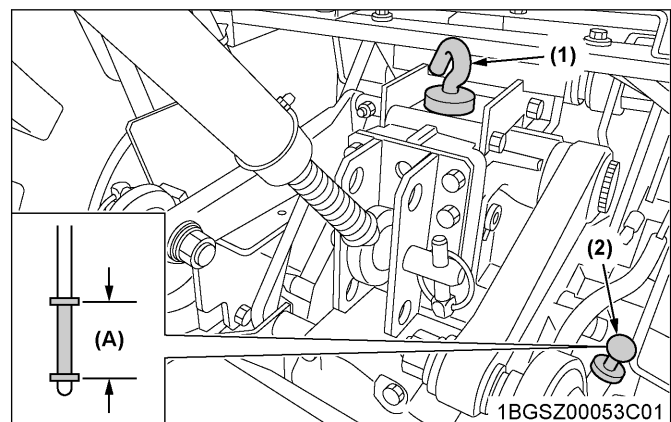
- | | |
|---------------|--|
| (1) Oil inlet | (A) Oil level is acceptable within this range. |
| (2) Dipstick | |

IMPORTANT :

- When using an oil of different manufacturer or viscosity from the previous one, remove all of the old oil.
Never mix 2 different types of oil.
- If the oil level is low, do not run the engine.
- In adding engine oil, use a funnel or the like, which could prevent the oil from getting splashed on hot spots.

5. Checking transmission fluid level

1. Park the machine on a flat surface, lower the implement and shut off the engine.
2. To check the oil level, pull out the dipstick, wipe it clean, replace it, and pull 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, FUEL AND COOLANT on page 113.)



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

IMPORTANT :

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

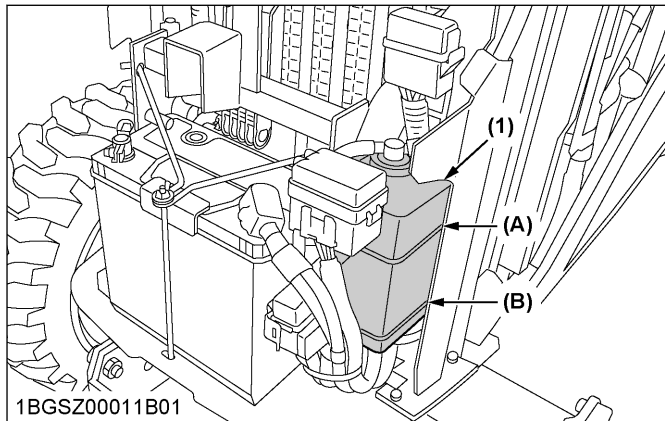
6. Checking coolant level

⚠ WARNING

To avoid personal injury or death:

- Do not remove the radiator cap while the coolant is hot. When cool, slowly rotate the 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 the 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 antifreeze and soft water in the specified mixing ratio up to the full level. (See Flushing cooling system and changing coolant on page 136.)



(1) Recovery tank

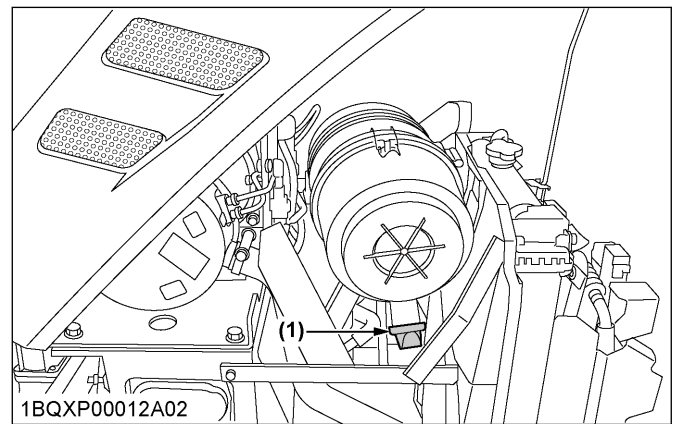
(A) **[FULL]**
(B) **[LOW]**

IMPORTANT :

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

7. Cleaning evacuator valve

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



(1) Evacuator valve

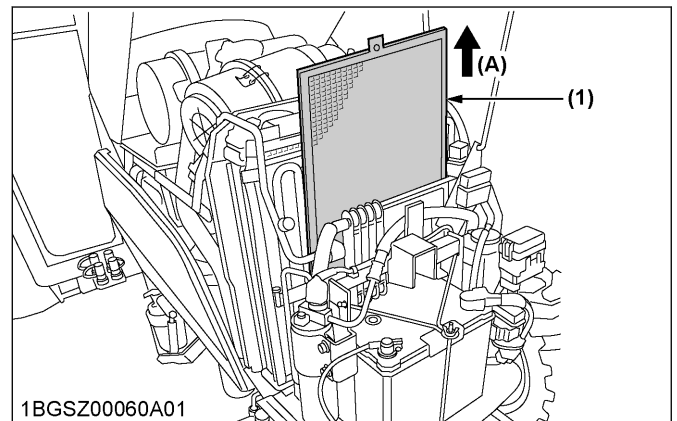
8. Cleaning air conditioner condenser screen [CAB model]

⚠ WARNING

To avoid personal injury or death:

- 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 until they cool down.

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



(1) Air conditioner condenser screen

(A) Detach screen

IMPORTANT :

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

9. Cleaning grill and radiator screen

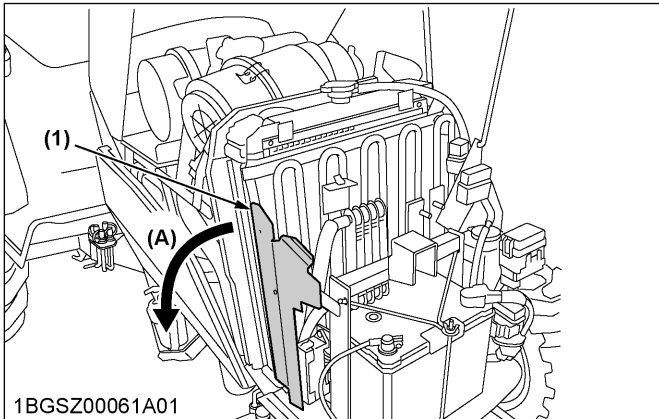
⚠ WARNING

To avoid personal injury or death:

- Stop the engine and remove the key before removing the screen.

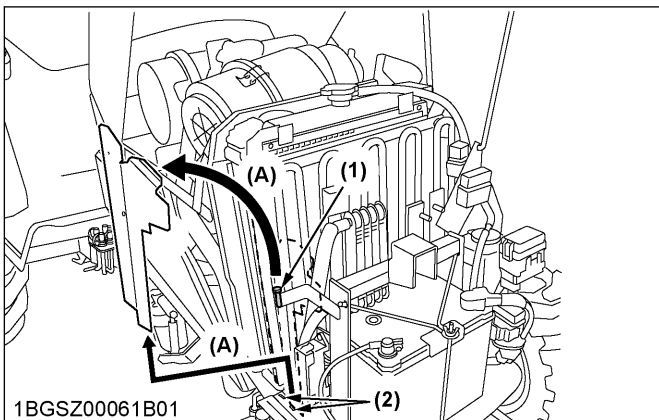
- The condenser and receiver become hot while the air conditioner is running. Before checking or cleaning them, wait until they cool down.

1. Check front grill and side screens to be sure they are clean of debris.
2. Pull the panel upward and outward. Raise the panel until the tip clears the hole, and take out the panel.



(1) Panel

(A) Pull

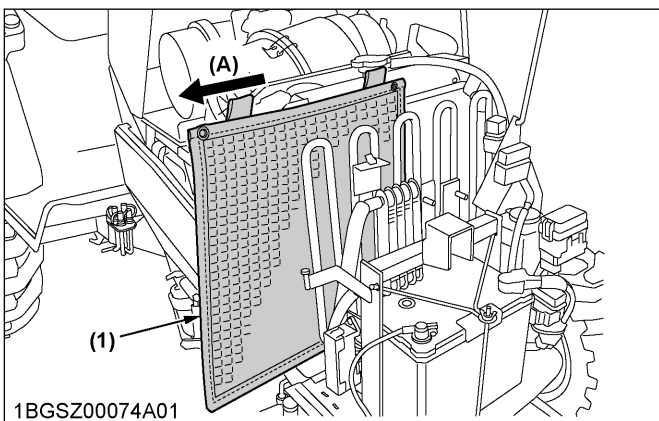


(1) Tip

(A) Pull

(2) Hole

3. Detach the screen and remove all foreign materials and clean the front of radiator completely.



(1) Radiator screen

(A) Detach

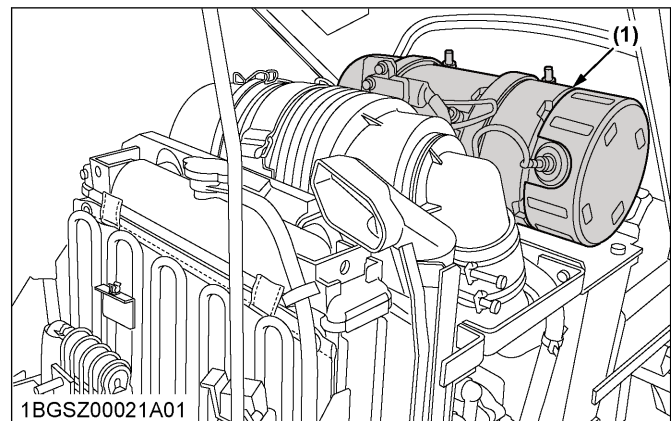
IMPORTANT :

- Grill and screen must be clean from debris to prevent engine from overheating and to allow good air intake for the air cleaner.
- Do not operate the tractor with the panel detached from the battery mount.

10. Checking DPF muffler**⚠ WARNING**

To avoid personal injury or death:

- Before checking or cleaning the DPF muffler, stop the engine and wait until it is cooled down enough.
- Check the DPF muffler and its surroundings for a buildup of anything flammable. Otherwise, a fire may result.



(1) DPF muffler

11. Checking brake pedal

1. Inspect the brake for free travel and smooth operation.
2. Adjust if incorrect measurement is found.
(See Adjusting brake pedal on page 128.)

12. Checking gauges, meter and Easy Checker

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

13. Checking headlight, hazard light, and so on

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

14. Checking seat belt and ROPS

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

15. Checking and cleaning of electrical wiring and battery cables

⚠ WARNING

To avoid personal injury or death:

- A loose terminal or connector, or a damaged wire may affect the performance of the electrical components or cause short circuits. Leakage of electricity could result in a fire hazard, a dead battery or damage to electrical components.
- Replace the 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 may cause a fire hazard. Clean these areas before starting the work.

To avoid the premature electrical malfunctioning, do not apply high pressure water directly to battery, wiring, connectors, electrical components or instrument panel.

Inspect the following regularly

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

Consult your Kubota Dealer regarding maintenance, diagnosis and repair.

16. Checking movable parts

If any of the movable parts, such as levers and pedals, do not move smoothly because of rust or sticky material, do not force them into motion.

In the above case, remove the rust or the sticky material and apply oil or grease to the relevant spot. Otherwise, the machine may be damaged.

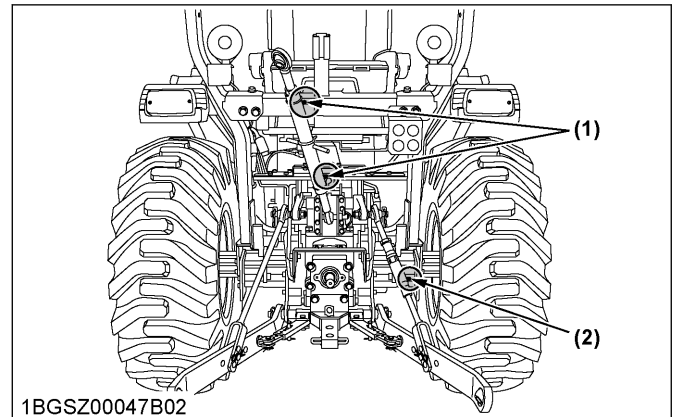
EVERY 50 HOURS

1. Lubricating grease fittings

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

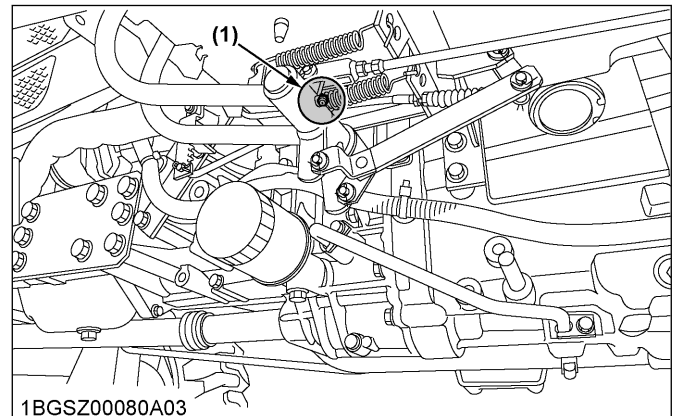
If you have been operating the machine in extremely wet and muddy conditions, lubricate the grease fittings more often.

All models



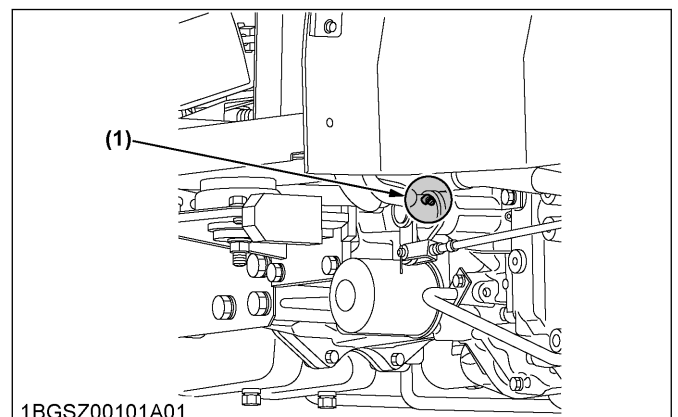
- (1) Grease fitting (top link)
(2) Grease fitting (lifting rod, right)

ROPS model



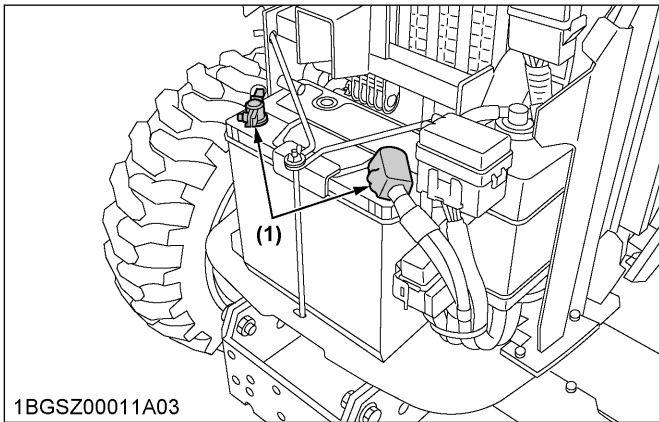
- (1) Grease fitting (brake pedal)

CAB model



- (1) Grease fitting (brake pedal)

All models



(1) Grease fitting (battery terminals)

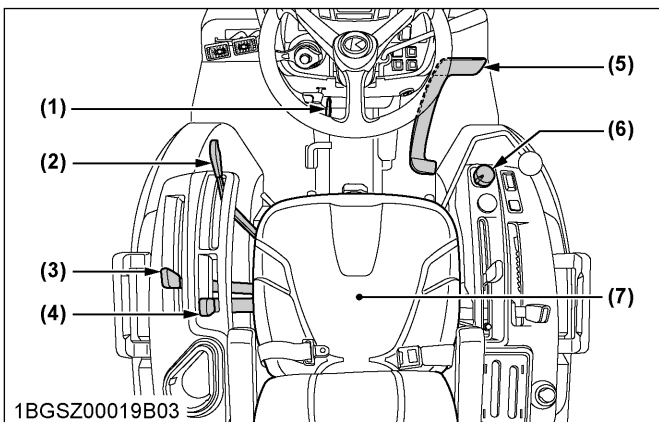
2. Checking engine start system

⚠ WARNING

To avoid personal injury or death:

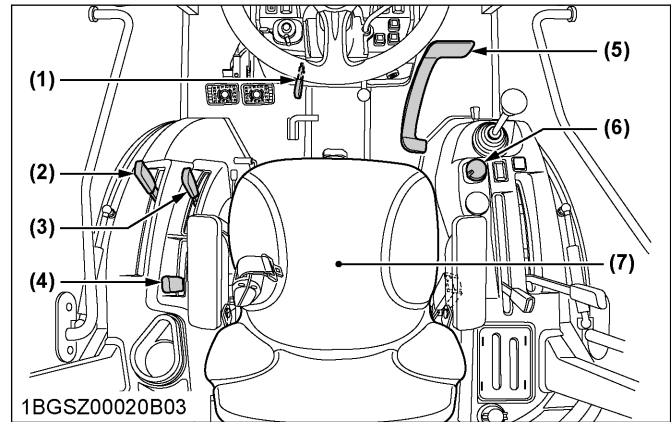
- Do not allow anyone near the tractor while testing.
- If the tractor does not pass the test, do not operate the tractor.
- Detach an implement before testing.

ROPS model



- (1) Parking brake lever
 (2) Rear PTO gear shift lever
 (3) Range gear shift lever
 (4) Mid-PTO gear shift lever (if equipped)
 (5) Speed control pedal
 (6) PTO clutch control switch
 (7) Operator's seat

CAB model



- (1) Parking brake lever
 (2) Range gear shift lever
 (3) Rear PTO gear shift lever
 (4) Mid-PTO gear shift lever (if equipped)
 (5) Speed control pedal
 (6) PTO clutch control switch
 (7) Operator's seat

Preparation before testing

1. Place all the control levers in the neutral position.
2. Set the parking brake and stop the engine.

Testing switch for the speed control pedal

1. Sit on the operator's seat.
2. Depress the speed control pedal.
3. Disengage the PTO-clutch-control-switch.
4. Turn the key to "START" position.
5. The engine must not crank.
6. If it cranks, consult your local Kubota Dealer for this service.

Testing switch for the PTO clutch control switch

1. Sit on the operator's seat.
2. Engage the PTO clutch control switch.
3. Place the speed control pedal in neutral position.
4. Turn the key to "START" position.
5. The engine must not crank.
6. If it cranks, consult your local Kubota Dealer for this service.

Testing switches for the operator's seat and the PTO clutch control switch

1. Sit on the operator's seat.
2. Start the engine.
3. Engage the PTO clutch control switch to "ON".
4. Release the parking brake.
5. Stand up. (Do not get off the tractor.)
6. The engine must shut off after approximately 1 second.
7. If it does not stop, consult your local Kubota Dealer for this service.

3. Checking wheel bolt torque

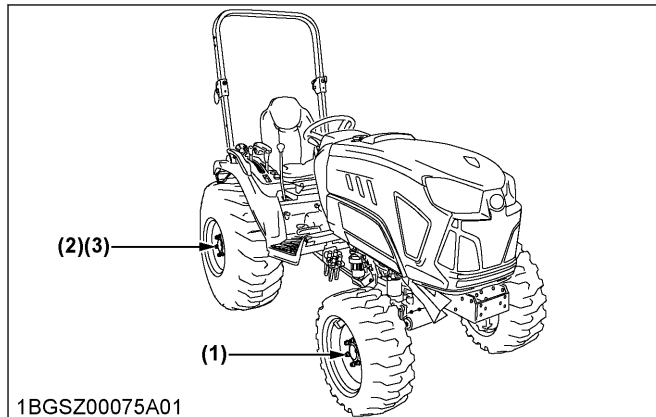
⚠ WARNING

To avoid personal injury or death:

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

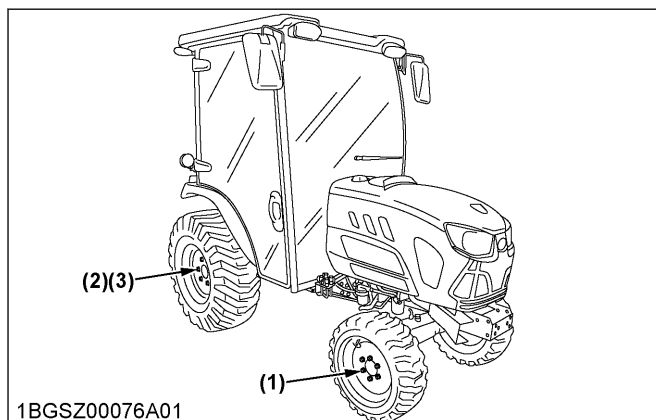
Check wheel bolts and nuts regularly, especially when new. If they are loose, tighten them as follows.

ROPS model



- (1) Nut
(2) Bolt
(3) Nut

CAB model



- (1) Nut
(2) Bolt
(3) Nut

Tightening torque

(1) Nut	78.0 N·m to 90.0 N·m (8.0 kgf·m to 9.1 kgf·m, 58 lbf·ft to 67 lbf·ft)
(2) Bolt	197.0 N·m to 225.0 N·m (20 kgf·m to 22 kgf·m, 145 lbf·ft to 166 lbf·ft)
(3) Nut	197.0 N·m to 225.0 N·m (20 kgf·m to 22 kgf·m, 145 lbf·ft to 166 lbf·ft)

EVERY 100 HOURS

1. 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, 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 the battery.

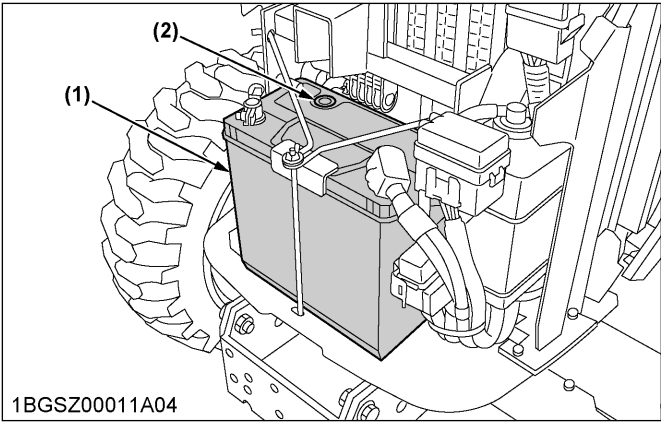
NOTE :

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

1.1 How to read indicator

Check the battery condition by reading the indicator.

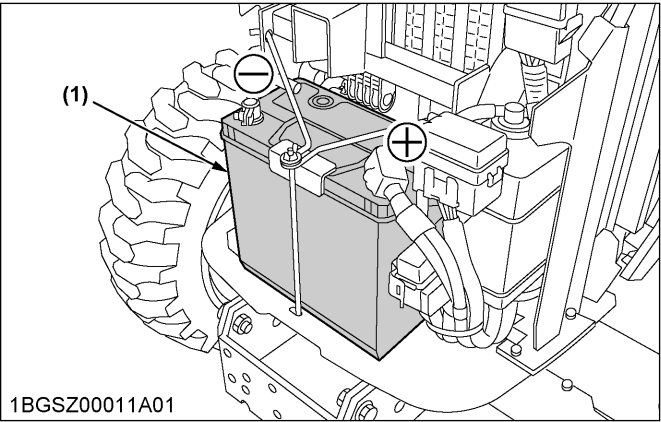
Green	Specific gravity of electrolyte and quality of electrolyte are both in good condition.
Black	Battery needs charging.
White	Battery needs replacing.

1.2 Charging the battery

 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 when the indicator display turns from black to green.
4. When exchanging an old battery for a new one, use a battery of equivalent specification to those shown in the following table.

Battery type	Volts (V)	Capac-ity at 5 hr (A.H)	Re-serve capaci-ty (min)	Cold crank-ing amps (A)	Normal charg-ing rate (A)
55B24L(S)-MF	12	46	90	480	4.5

1.3 Directions for battery storage

1. When storing the tractor for long periods of time, remove the battery from the 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.

2. Cleaning air cleaner primary element

 WARNING

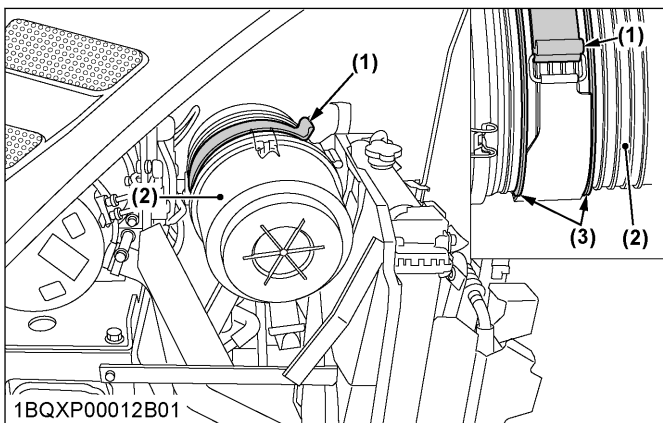
To avoid personal injury or death:

- **Stop the engine and remove the key before cleaning air filter element.**

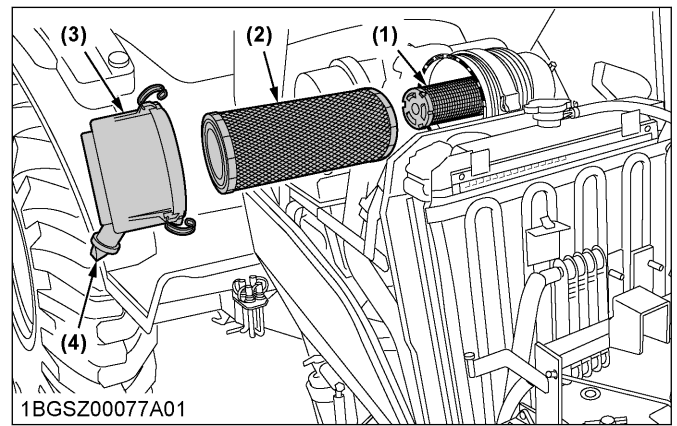
1. Unhook air cleaner band and lift body.
2. Remove the air cleaner cover and primary element.
3. Clean the primary element:
 - When dry dust adheres to the element, blow compressed air from the inside, turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).
 - When 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 the element has fully dried, inspect inside of the element with a light and check for damage.
4. Replace the air cleaner primary element:
Every 1000 hours or once yearly, whichever comes first.
5. Fit the 2 convex parts of air cleaner to the bracket end.

NOTE :

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



- (1) Air cleaner band
(2) Body
(3) Convex part



- (1) Secondary (safety) element
(2) Primary element
(3) Cover
(4) Evacuator valve

IMPORTANT :

- The air cleaner uses a dry element; never apply oil.
- Do not run the engine with the filter element removed.
- Refit the cover with the arrow ↑ (of the cover) upright. If the cover is improperly fitted, the 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 primary element and secondary element on page 136.)

Evacuator valve

Open and clean the evacuator valve to get rid of large particles of dust and dirt (once a week under ordinary conditions, or daily when used in a dusty place).

3. Adjusting fan belt tension**⚠ WARNING**

To avoid personal injury or death:

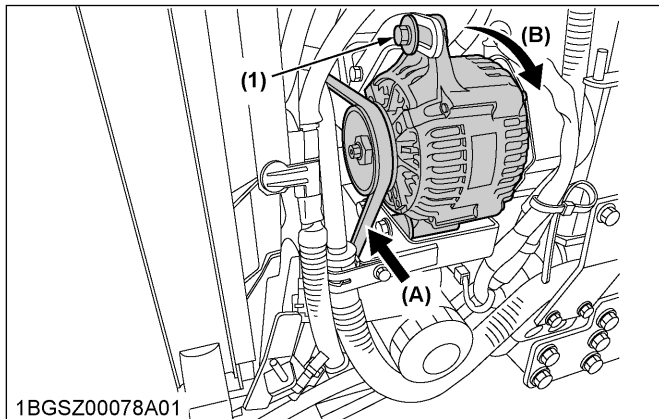
- Stop the engine and remove the key before checking the belt tension.

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to the belt between pulleys.
3. If the 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.

Proper fan belt tension

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

4. Replace the fan belt if it is damaged.



- (1) Bolt (A) Check the belt tension (B) To tighten

4. Adjusting brake pedal

⚠ WARNING

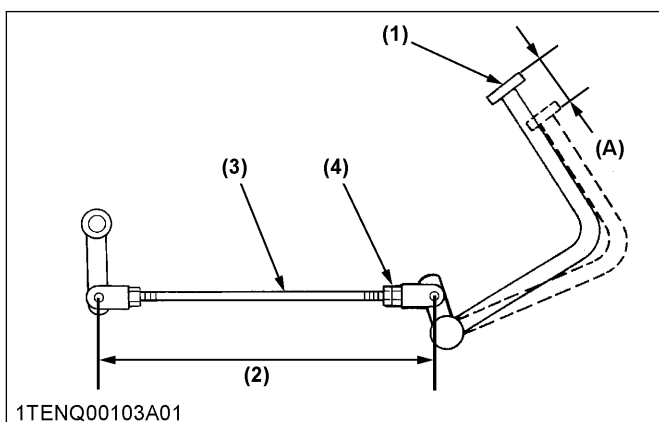
To avoid personal injury or death:

- Stop the engine and chock the wheels before checking the brake pedal.

1. Release the parking brake.
2. Slightly depress the brake pedals and measure the free travel at the top of stroke of the brake pedal.

Proper brake pedal free travel	20 mm to 30 mm (0.79 in. to 1.1 in.) on the pedal. Keep the free travel in the right and left brake pedals equal.
--------------------------------	--

3. If adjustment is needed, loosen the lock nut and turn the brake rod to adjust the rod length within the acceptable limits.
4. Retighten the lock nut.



- (1) Brake pedal (2) Length of brake rod (3) Brake rod (4) Lock nut (A) Free travel

EVERY 200 HOURS OR 1 YEAR

Perform the following servicing once every 200 hours or yearly, whichever comes first.

1. Changing engine oil

⚠ WARNING

To avoid personal injury or death:

- Stop the engine before changing the oil.
- Allow the engine to cool down sufficiently; oil can be hot and can burn.

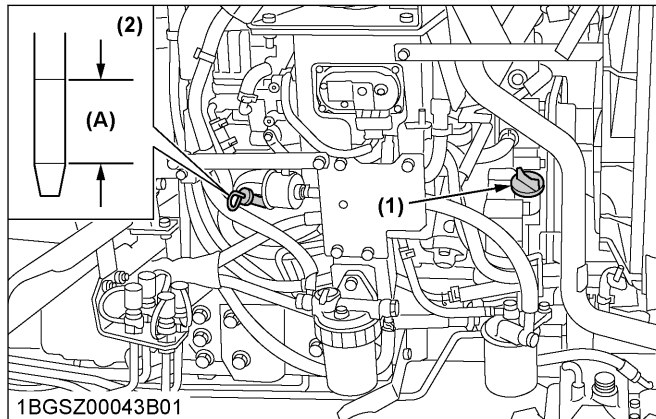
1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.
2. After draining, reinstall the drain plug.
3. Fill with new oil up to the upper notch on the dipstick.
(See LUBRICANTS, FUEL AND COOLANT on page 113.)

NOTE :

- In adding engine oil, use a funnel or the like.

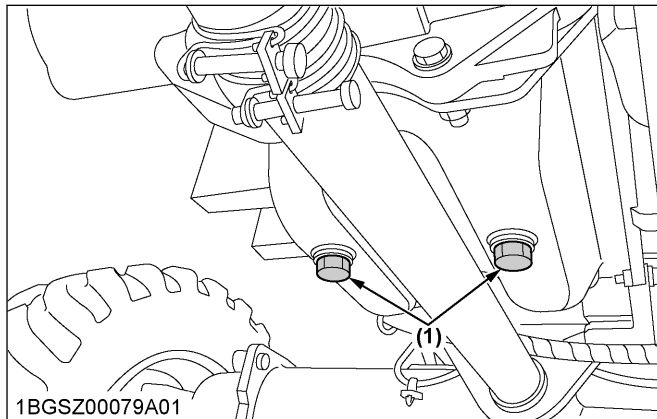
4. Properly dispose of used oil.

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



(1) Oil inlet
(2) Dipstick

(A) Oil level is acceptable within this range.



(1) Drain plug (both sides)

EVERY 200 HOURS

1. Replacing engine oil filter

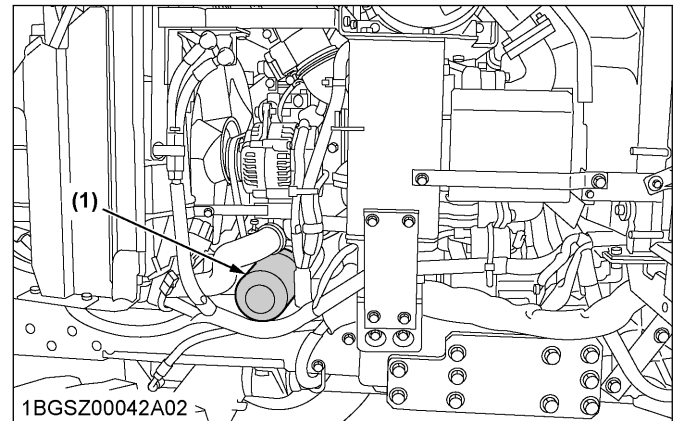
⚠ WARNING

To avoid personal injury or death:

- Stop the engine before replacing the oil filter cartridge.
- Allow the 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 the filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases by a small amount. Make sure that the engine oil does not leak through the seal and check the oil level on the dipstick. Then replenish the engine oil up to the prescribed level.

5. Properly dispose of used oil.



(1) Engine oil filter

IMPORTANT :

- To prevent serious damage to the engine, use only a Kubota genuine filter.
- When replacing the engine oil filter:
 - Be careful not to allow any oil onto the harness.
 - Use an oil pan or similar device to prevent oil from flowing into the wire harness.

2. Replacing transmission oil filter

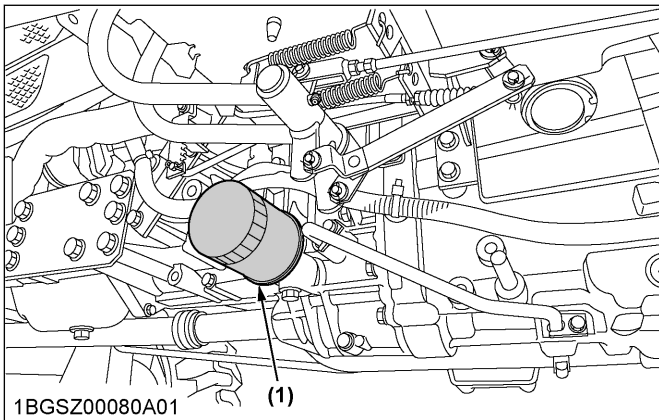
⚠ WARNING

To avoid personal injury or death:

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

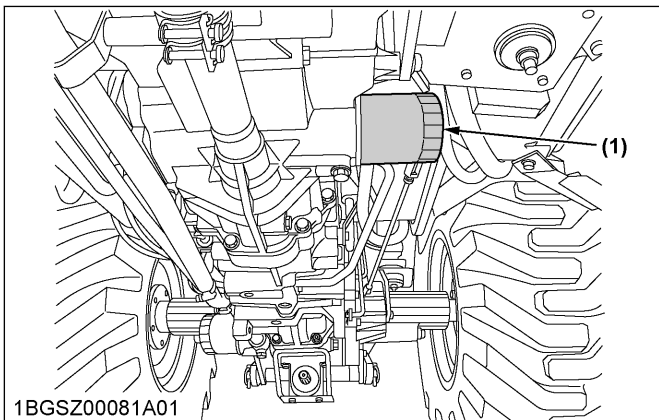
1. Place the oil pan underneath the transmission oil filter and remove the filter.
Do not remove the hydraulic oil filter. Otherwise, the oil comes out.

ROPS model



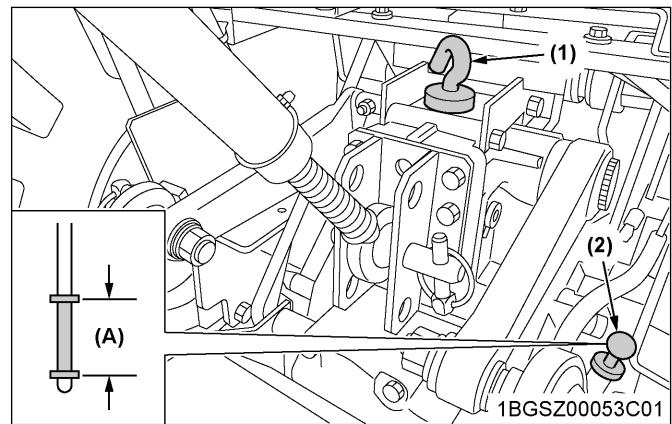
(1) Transmission oil filter

CAB model



(1) Transmission oil filter

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
(2) Dipstick

(A) Oil level is acceptable within this range

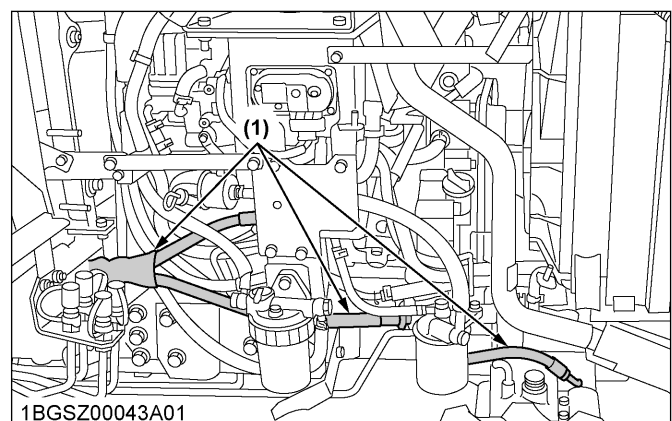
5. After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
6. Make sure that the transmission fluid does not leak past the seal on the filter.

IMPORTANT :

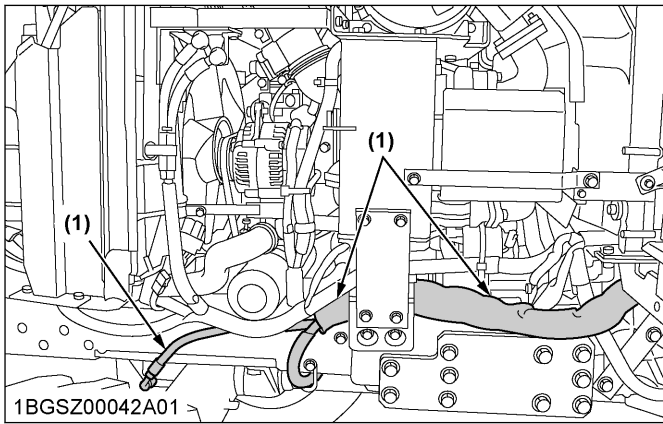
- To prevent serious damage to the hydraulic system, use only a Kubota genuine filter.
- Do not operate the tractor immediately after changing the transmission fluid.
Run the engine at medium speed for a few minutes to prevent damage to the transmission.

3. Checking the power steering line

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

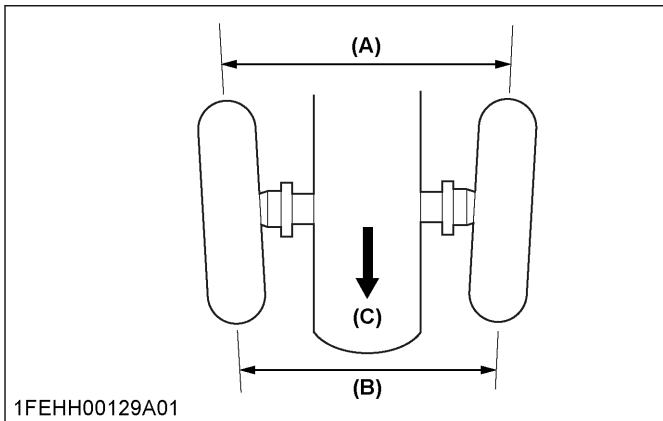


(1) Power steering pressure hoses



(1) Power steering pressure hoses

4. Adjusting toe-in



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

1. Park the tractor on a flat surface.
2. Turn the steering wheel so that the front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure the distance between the tire beads at the front of the tire, at hub height.
5. Measure the distance between the tire beads at the rear of the tire, at hub height.
6. The front distance should be 0 mm to 20 mm (0 in. to 0.79 in.) less than the rear distance. If not, adjust the tie rod length.
7. If adjust the tie rod length, consult your local Kubota Dealer.

5. Adjusting air conditioner belt tension [CAB model]



WARNING

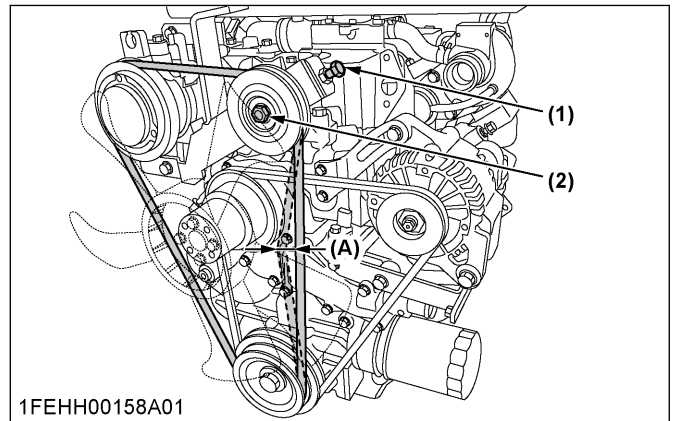
To avoid personal injury or death:

- Stop the engine and remove the key before checking the belt tension.

Proper air conditioner belt tension

A proper deflection is between 18.5 mm and 19.5 mm (0.73 in. and 0.76 in.) when applying 98 N (10 kgf / 22 lbf) pressure to the belt at the midpoint between the pulleys (at A point in the figure).

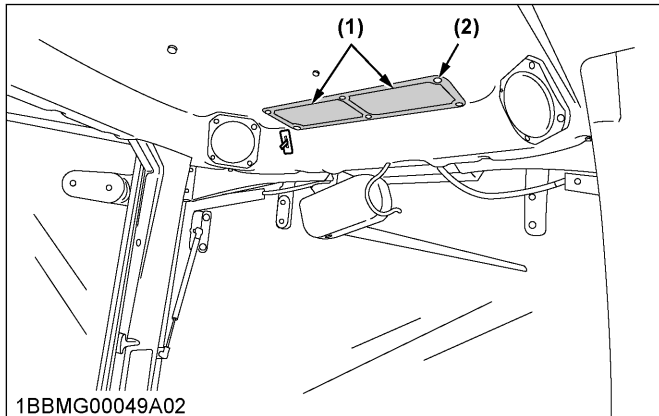
1. Stop the engine and remove the key.
2. Apply 98 N (10 kgf / 22 lbf) pressure to the belt at the midpoint between the pulleys (at A point in the figure).
3. If tension is incorrect, loosen the tension pulley mounting nut and turn the adjusting bolt to adjust the belt tension within acceptable limits.
4. Replace air conditioner belt if it is damaged. Consult your local Kubota Dealer.



(1) Adjusting bolt (A) Midpoint between the pulleys
 (2) Tension pulley mounting nut

6. Cleaning inner air filter [CAB model]

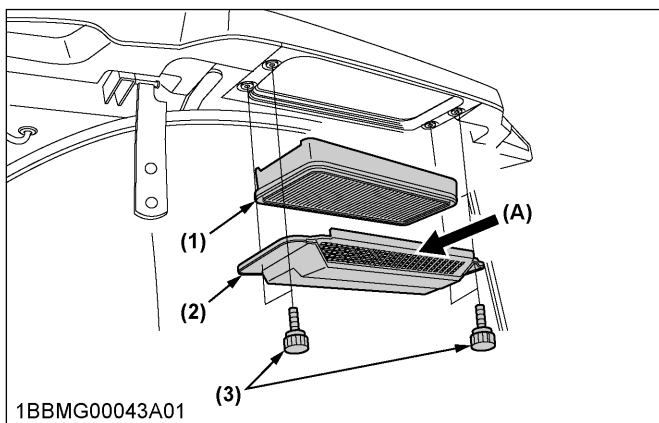
1. Remove the inner filter, and blow air from the direction opposite to the filter's normal air flow.
Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).



- (1) Inner air filter
(2) Screw

7. Cleaning fresh air filter [CAB model]

1. Remove the knob bolts and pull out the filter.



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

NOTE :

- After cleaning, attach the filter and cover as in the previous illustration.

7.1 Cleaning the filter

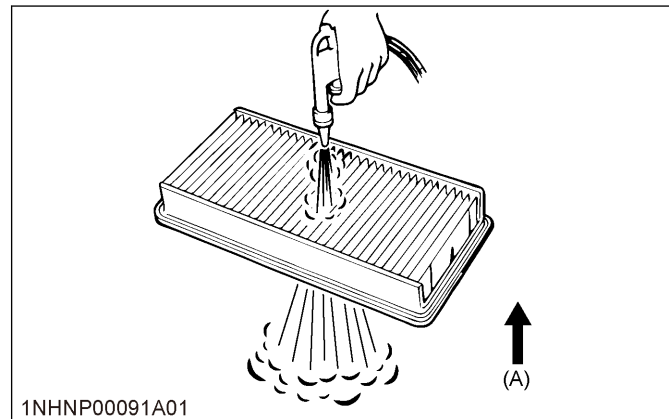
Normal use

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, 30 psi).

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 dishwashing detergent.
Move the filter 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. Cleaning the filter with such chemicals may also cause an unpleasant odor in the CAB next time the system is used.

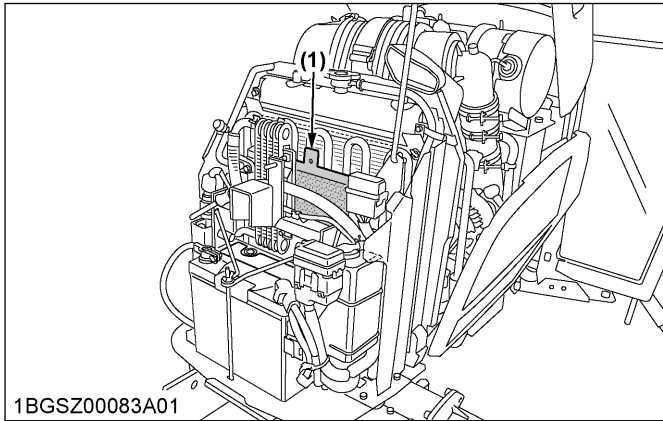
8. Checking the air conditioner condenser [CAB model]

⚠ WARNING

To avoid personal injury or death:

- 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 until they cool down.

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



1BGSZ00083A01

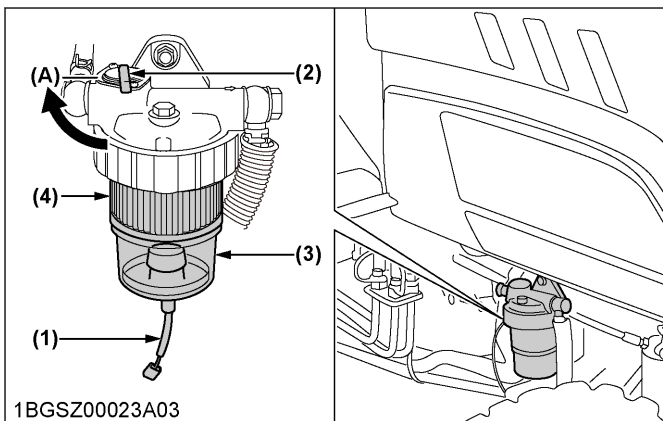
(1) Air conditioner condenser

EVERY 400 HOURS

1. Replacing water separator element

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

1. Disconnect the water sensor connector.
2. Close the fuel shutoff-valve.
3. Unscrew the cup and remove it, then rinse the inside with kerosene.
4. Take out the element and replace it with a new one.
5. After replacing, reassemble the water separator, keeping out dust and dirt.
6. Connect the water sensor connector.
7. Bleed the fuel system.
(See Bleeding fuel system on page 140.)



1BGSZ00023A03

- (1) Water sensor connector
- (2) Fuel shutoff-valve
- (3) Cup
- (4) Element

(A) "CLOSE"

IMPORTANT :

- If the water separator and/or fuel filter is not well maintained, the supply pump and

injector may be damaged earlier than expected.

2. Changing transmission fluid

⚠ WARNING

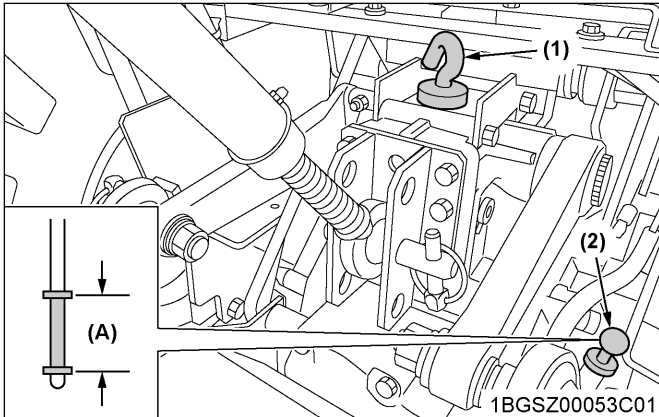
To avoid personal injury or death:

- Allow the 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 notch on the dipstick.
(See LUBRICANTS, FUEL AND COOLANT on page 113.)
4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.

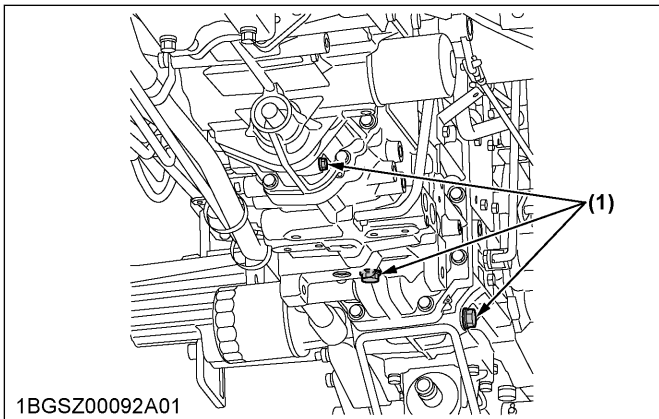
5. Properly dispose of used oil.

Oil capacity	21 L (5.5 U.S.gals.)
--------------	----------------------



- (1) Oil inlet
(2) Dipstick

(A) Oil level is acceptable within this range



- (1) Drain plug

IMPORTANT :

- If the 3-point hitch cannot 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. Run the engine at medium speed for a few minutes to prevent damage to the transmission.

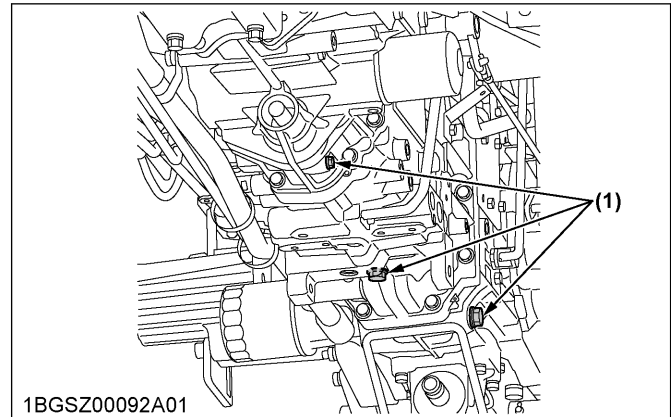
3. Replacing hydraulic oil filter

⚠ WARNING

To avoid personal injury or death:

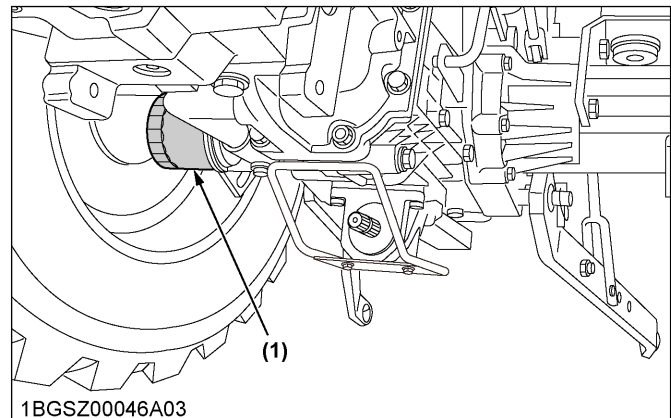
- Stop the engine before changing the oil filter cartridge.
- Allow the engine to cool down sufficiently; oil can be hot and can burn.

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

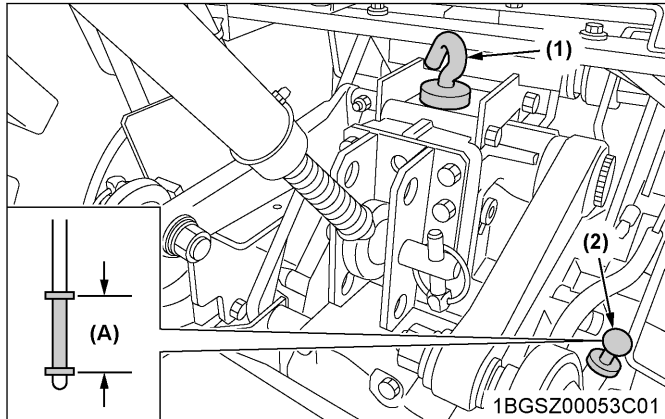
3. Remove the oil filter.



- (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.

- 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

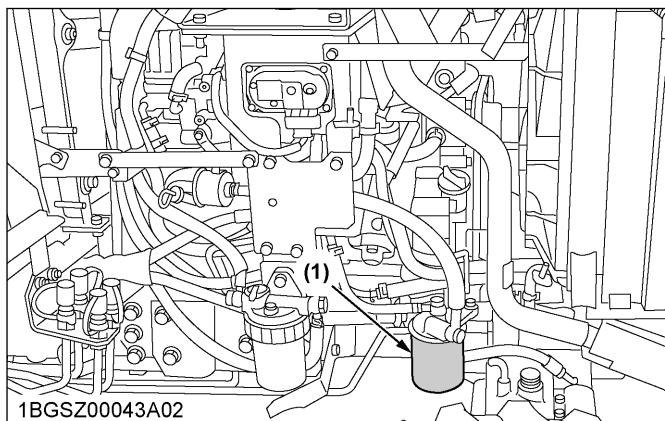
- After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
- Make sure that the transmission fluid does not leak past the seal on the filter.

IMPORTANT :

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

4. Replacing fuel filter

- Remove the fuel filter.
- Put a film of clean fuel on the rubber seal of the new filter.
- Tighten the filter quickly until it contacts the mounting surface.
Tighten the filter by hand an additional 1/2 turn only.
- Bleed the fuel system.
(See Bleeding fuel system on page 140.)



- (1) Fuel filter

5. Adjusting front axle pivot (4WD)

⚠ WARNING

To avoid personal injury or death:

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

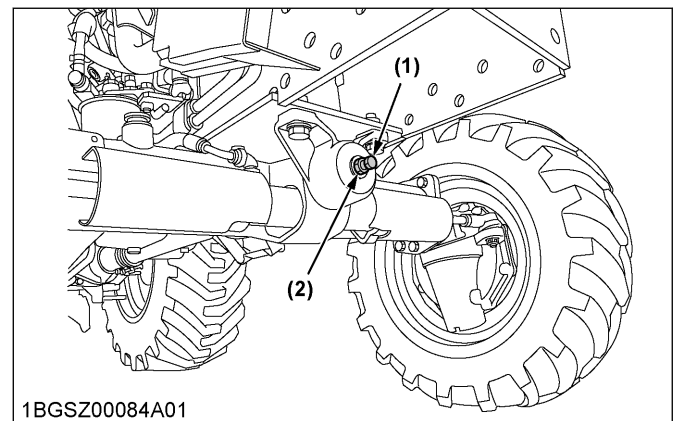
If the front axle pivot pin adjustment is not correct, front wheel vibration can occur causing vibration in the steering wheel.

- Loosen the lock nut, and tighten the adjusting screw.
The oscillating load is as follows.

Oscillating load	50 N to 100 N (5.1 kg to 10.2 kg) (11.2 lbf to 22.5 lbf)
------------------	--

If the adjusting screw is tightened, loosened and re-tightened, apply liquid gasket to its tip.

- Retighten the lock nut.
Consult your local Kubota Dealer for further details.



- (1) Adjusting screw
(2) Lock nut

6. Changing front axle gear case oil

- Park the tractor on a firm, flat and level surface.
- To drain the used oil, remove the right and left drain plugs and filling plugs at the front axle gear case and drain the oil completely into the oil pan.
- After draining, reinstall the drain plugs.
- Fill with the new oil up to the upper notch on the dipstick.
(See LUBRICANTS, FUEL AND COOLANT on page 113.)

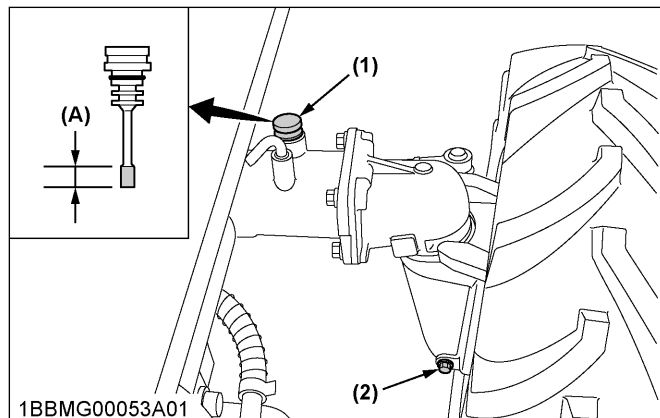
IMPORTANT :

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

- After filling, reinstall the filling plug.

6. Properly dispose of used oil.

Oil capacity	4.5 L (4.8 U.S.qts.)
--------------	----------------------



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

(A) Oil level is acceptable within this range.

EVERY 800 HOURS

1. Adjusting engine valve clearance

Consult your local Kubota Dealer for this service.

EVERY 1000 HOURS OR 1 YEAR

Perform the following servicing once every 1000 hours or yearly, whichever comes first.

1. Replacing air cleaner primary element and secondary element

(See Cleaning air cleaner primary element on page 126.)

NOTE :

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

EVERY 1500 HOURS

1. Cleaning fuel injector nozzle injection pressure

Consult your local Kubota Dealer for this service.

2. Checking EGR cooler

Consult your local Kubota Dealer for this service.

EVERY 2000 HOURS OR 2 YEARS

Perform the following servicing once every 2000 hours or biennially, whichever comes first.

1. Flushing cooling system and changing coolant

⚠ WARNING

To avoid personal injury or death:

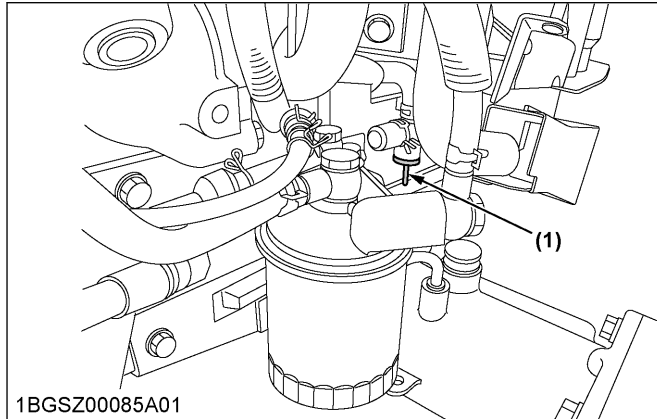
- Do not remove the radiator cap while the coolant is hot. When cool, slowly rotate the cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

- Stop the engine, remove the key and let it cool down.
- To drain the coolant, remove the radiator hose clamp, and then remove the radiator hose and the radiator cap.
- After the coolant has drained reinstall the radiator hose, clamp, and drain plug.
- Fill with clean soft water and cooling system cleaner.
- Follow the directions given in the cleaner instruction.
- 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.
- Fill with coolant up to the **[FULL]** mark of the recovery tank.
- Start up and operate the engine for a few minutes.
- Stop the engine, remove the key and let it cool down.
- Check the coolant level of the recovery tank and add coolant if necessary.

11. Properly dispose of the used coolant.

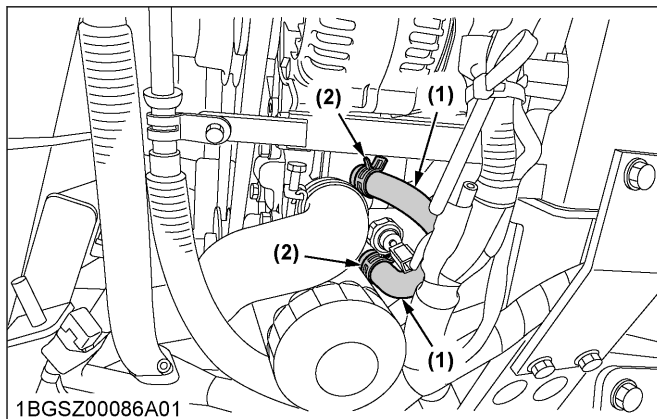
Model	Coolant capacity (with recovery tank)
ROPS	4.3 L (4.5 U.S.qts.)
CAB	5.4 L (5.7 U.S.qts.)

Right side

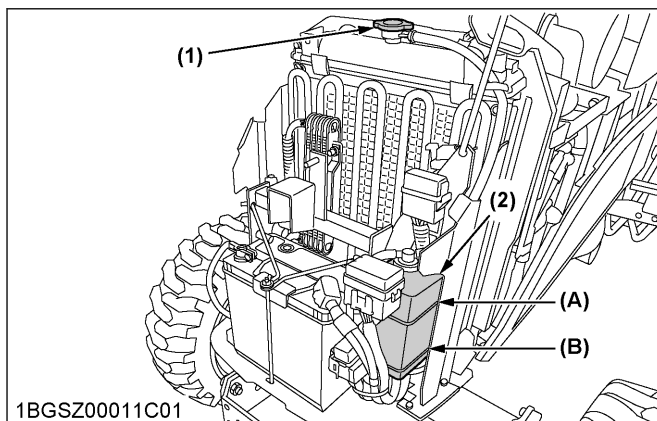


(1) Drain plug

Left side



(1) Radiator hose
(2) Radiator hose clamp



(1) Radiator cap
(2) Recovery tank

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

IMPORTANT :

- Do not start the engine without any coolant.

- Use clean, fresh soft water and antifreeze to fill the radiator and recovery tank.
- When mixing the antifreeze with water, the antifreeze mixing ratio is 50%.
- Securely tighten the radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

2. Antifreeze

⚠ WARNING

To avoid personal injury or death:

- When using antifreeze, put on some protection such as rubber gloves (antifreeze contains poison).
- If you swallow the antifreeze, seek immediate medical help. Do not make a person throw up unless told to do so by a poison control or a healthcare 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 reactions resulting in 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 a container underneath the engine body.
- Do not pour waste onto the ground, 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 pour it 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 % antifreeze	Freezing point		Boiling point *1	
	°C	°F	°C	°F
50	-37	-34	108	226

*1 At 1.013 x 10⁵ Pa (760 mmHg) 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
 - a. Add only water if the mixture level is reduced by evaporation.
 - b. If there is a mixture leak, add LLC of the same manufacturer and type in the same mixture percentage.

IMPORTANT :

- **Never add any long-life coolant from a 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. Change the coolant every 2000 hours or every 2 years, whichever comes first.

NOTE :

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

EVERY 3000 HOURS

1. Checking EGR system

Consult your local Kubota Dealer for this service.

2. Checking supply pump

Consult your local Kubota Dealer for this service.

3. Checking turbocharger

Consult your local Kubota Dealer for this service.

EVERY 3000 HOURS TO 6000 HOURS

1. Cleaning DPF muffler

1. Remove the ash.

The longer the DPF operates, the more ash (burnt residue) is collected in the filter. Too much ash build-up adversely affects the DPF performance. Consult your local Kubota Dealer to clean the filter.

IMPORTANT :

- **The DPF needs to be cleaned with a specific cleaning device. Do not disassemble the DPF for cleaning or attempt to clean it yourself. Consult your local Kubota Dealer.**

EVERY 1 YEAR

1. Checking exhaust manifold

Consult your local Kubota Dealer for this service.

2. Checking the radiator hoses and clamps

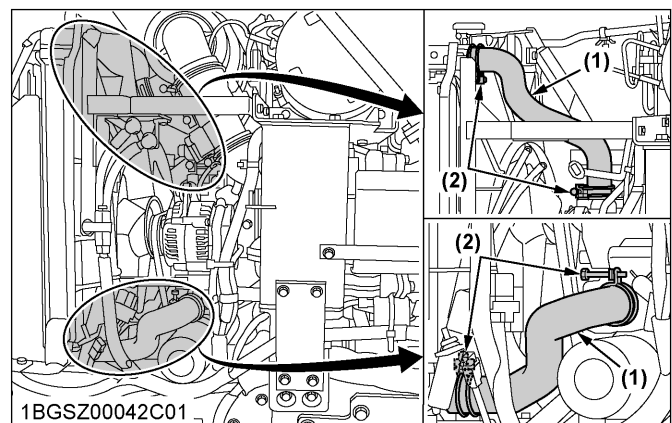
WARNING

To avoid personal injury or death:

- **Stop the engine and remove the key before checking radiator hose and clamp.**
- **Allow engine and coolant to cool down sufficiently before checking.**

Inspect every year; replace if any deterioration (crack, hardening, scar, or deformation) or damage occurred.

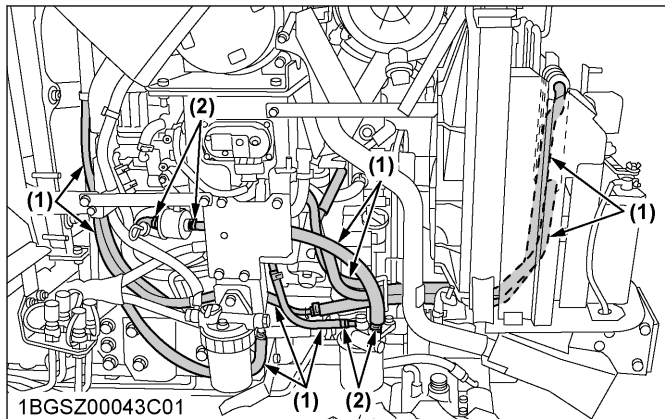
1. If the hose clamps are loose or water leaks, tighten the bands securely.
2. Replace the hoses and tighten the hose clamps securely, if the radiator hoses are swollen, hardened or cracked.



- (1) Radiator hose (2 hoses)
(2) Clamp band (4 clamps)

3. Checking fuel lines

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



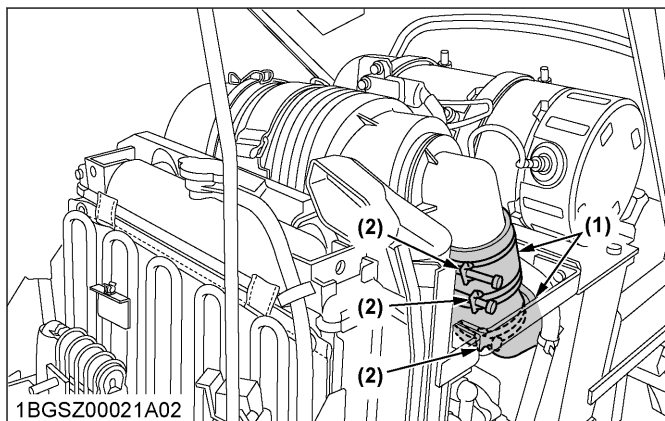
- (1) Fuel line
(2) Clamp band

NOTE :

- If the fuel line has been replaced, properly bleed the fuel system.
(See Bleeding fuel system on page 140.)

4. Checking intake air line

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



- (1) Hose
(2) Hose clamp

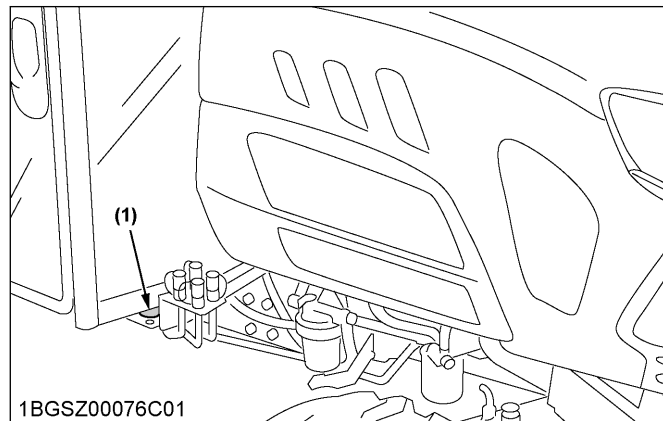
5. Checking the air conditioner pipe and hose [CAB model]

1. Check to see that all lines and hose clamps are tight and not damaged.

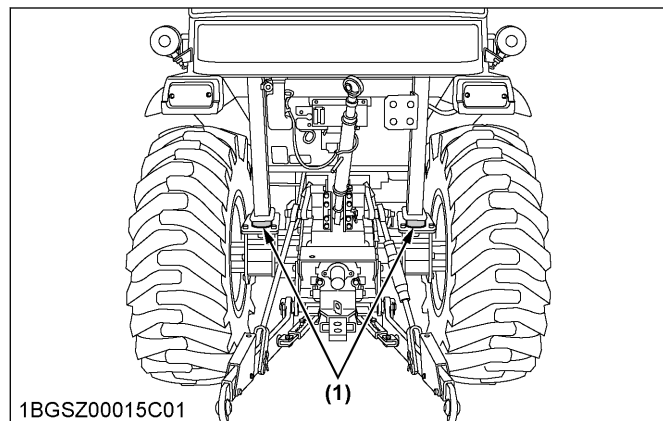
2. If hoses and clamps are found worn or damaged, consult your local Kubota Dealer for this service.

6. Checking CAB isolation cushion [CAB model]

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



- (1) Cushions (both side)



- (1) Cushion

EVERY 2 YEARS

1. Checking radiator hose (water pipes)

Consult your local Kubota Dealer for this service.

2. Checking power steering line

Consult your local Kubota Dealer for this service.

3. Checking air conditioner hose [CAB model]

Consult your local Kubota Dealer for this service.

EVERY 4 YEARS

1. Replacing fuel lines

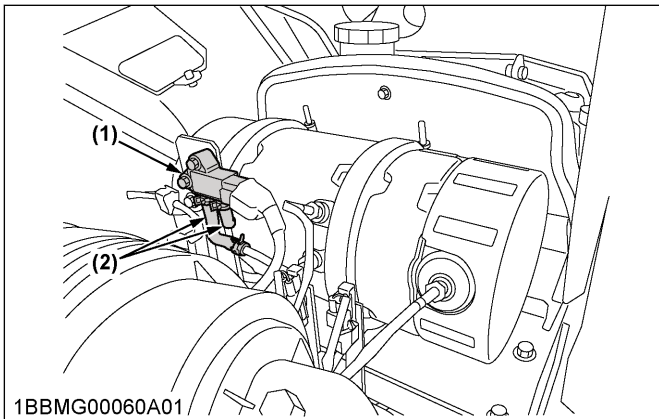
Consult your local Kubota Dealer for this service.

2. Replacing intake air line

Consult your local Kubota Dealer for this service.

3. Replacing differential pressure sensor hose

Consult your local Kubota Dealer for this service.



(1) Differential pressure sensor
(2) Hose

SERVICE AS REQUIRED

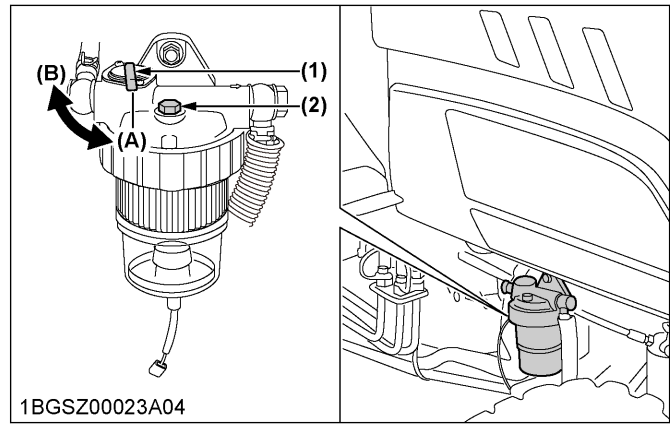
1. Bleeding fuel system

Air must be removed:

- When the fuel filter or lines are removed.
- When the water is drained from the water separator.
- When the tank is completely empty.
- After the tractor has not been used for a long period of time.

Bleeding procedure

1. Fill the fuel tank with fuel, and open the fuel shutoff-valve.
2. Loosen the air vent plug until the liquid level rises.



(1) Fuel shutoff-valve
(2) Air vent plug
(A) "OPEN"
(B) "CLOSE"

3. Wait until air in the tank is removed.
Turn on the key when the increase of liquid level is slow.
4. Set the hand throttle lever at the minimum speed position, turn the key switch to the start position.
If the engine does not start, try it several times at 30-second intervals.

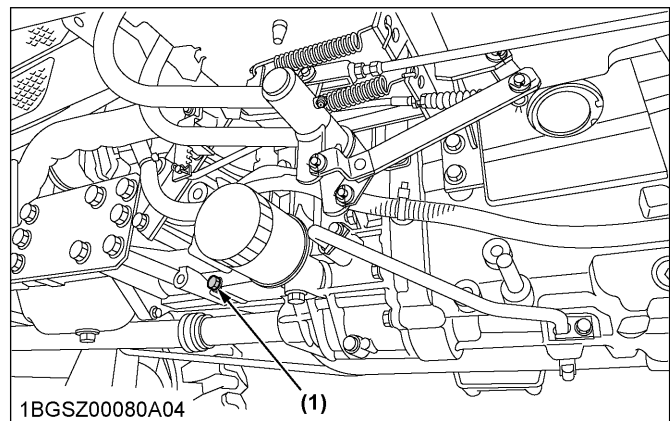
IMPORTANT :

- Do not hold the key switch at the engine start position for more than 10 seconds continuously. If more engine cranking is needed, try again after 30 seconds.
5. Accelerate the engine to remove the small portion of air left in the fuel system.
 6. If air still remains and the engine stops, repeat the previous steps.

2. Draining clutch housing water

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

After operating in the rain or snow, or if the tractor has been washed, water may get into the clutch housing. Remove the drain plug, drain the water and then reinstall the plug.



(1) Water drain plug

3. Replacing fuses

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

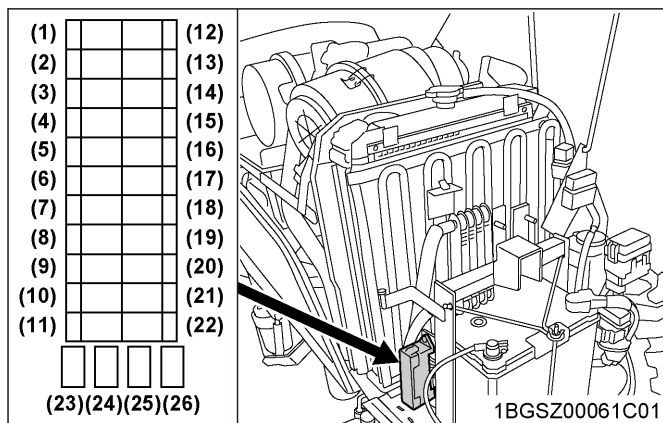
A blown fuse indicates that there is an overload or short somewhere in the electrical system.

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

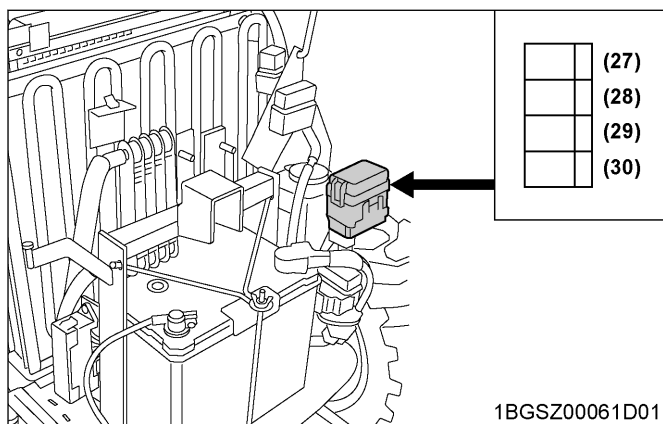
IMPORTANT :

- 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. For specific information dealing with electrical problems, read the troubleshooting section of this manual or contact your local Kubota Dealer. (See TROUBLESHOOTING on page 148.)

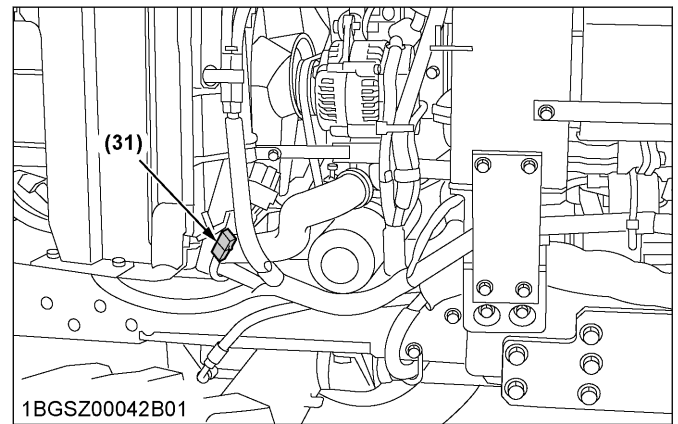
ROPS model



ROPS model



ROPS model

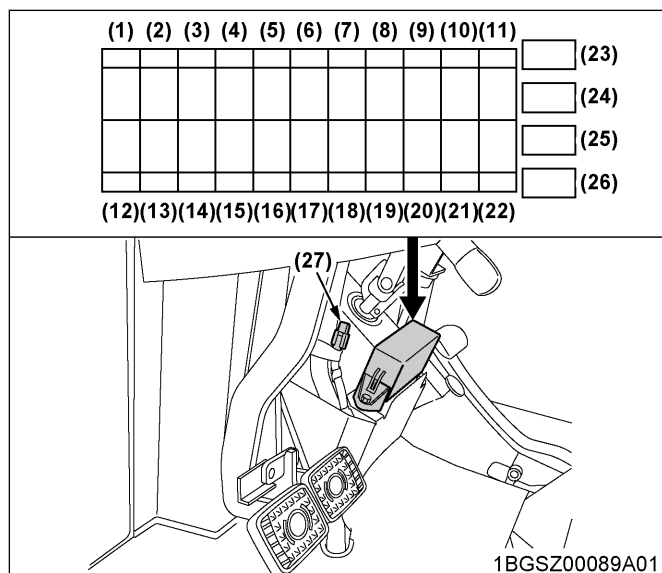
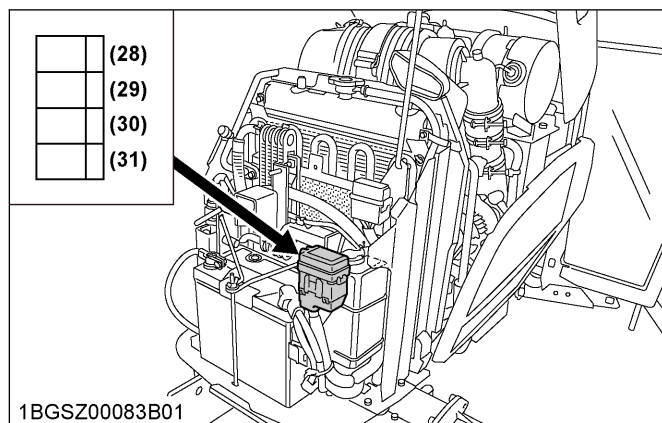
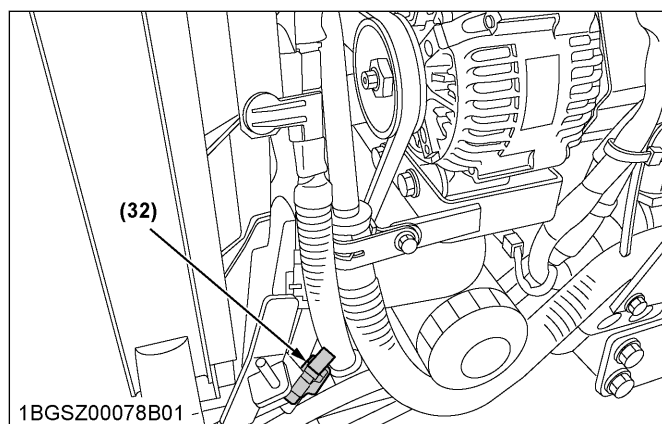


ROPS model

Fuse No.	Capacity (A)	Protected circuit
(1)	—	—
(2)	5	Loader
(3)	—	—
(4)	—	—
(5)	—	—
(6)	—	—
(7)	—	—
(8)	20	ACC1 relay
(9)	—	—
(10)	—	—
(11)	—	—
(12)	5	ECU (ST)
(13)	10	ECU (IG)
(14)	10	DPF switch, ACC2 relay
(15)	5	Panel (IG)
(16)	5	Alternator
(17)	20	Key switch
(18)	15	Head lamp, hazard lamp
(19)	15	Flasher
(20)	10	Panel, Main ECU
(21)	15	Outlet (Max. 10 A)
(22)	10	AUX (Max. 10 A)
(23)	20	Spare fuse
(24)	15	Spare fuse
(25)	10	Spare fuse
(26)	5	Spare fuse
(27)	30	Engine ECU

(Continued)

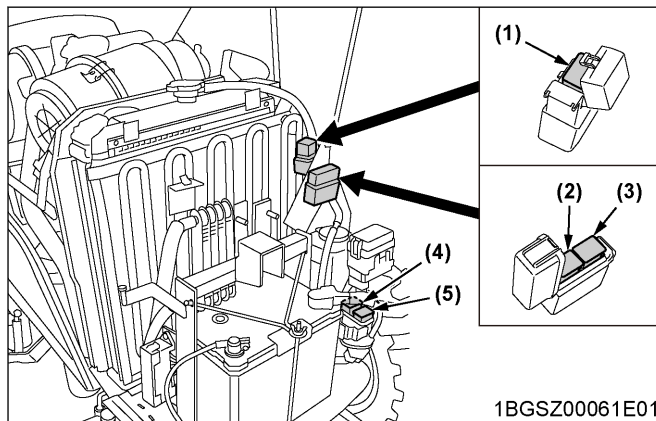
Fuse No.	Capacity (A)	Protected circuit
(28)	5	EGR, Air heater
(29)	5	Separator, Air flow sensor
(30)	10	OBD
(31)	30	Starter relay

CAB model**CAB model****CAB model****CAB model**

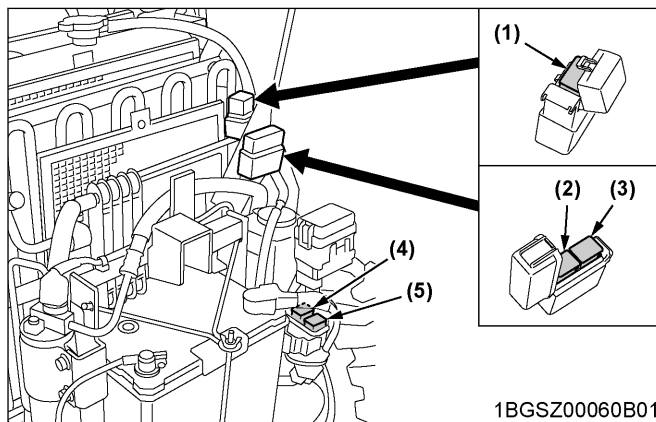
Fuse No.	Capacity (A)	Protected circuit
(1)	5	ECU (ST)
(2)	10	ECU (IG)
(3)	10	DPF switch, ACC1 relay
(4)	5	Panel (IG), Rear PTO switch
(5)	5	Alternator
(6)	—	—
(7)	15	Headlight, Hazard lamp
(8)	15	Flasher
(9)	10	Panel, Main ECU
(10)	20	Outlet (Max. 10 A)
(11)	10	AUX (Max. 10 A)
(12)	—	—
(13)	—	—
(14)	10	Beacon switch, Beacon lamp
(15)	20	Blower
(16)	15	Radio, Dome light
(17)	20	Defogger
(18)	15	Work light
(19)	20	ACC2 relay
(20)	15	Wiper
(21)	7.5	Air conditioner
(22)	5	Radio
(23)	30	Spare fuse
(24)	20	Spare fuse
(25)	15	Spare fuse
(26)	5	Spare fuse
(27)	10	Relay
(28)	30	Engine ECU
(29)	5	EGR, Air heater
(30)	5	Separator, Air flow sensor
(31)	10	OBD
(32)	30	Starter relay

4. Replacing slow-blow fuses

The slow-blow fuses are intended to protect the electrical cabling. If any of them has blown out, pinpoint the cause. Never use any substitute, use only a Kubota genuine part.

ROPS model**ROPS model**

Fuse No.	Capacity (A)	Protected circuit
(1)	60	Key switch, Starter
(2)	50	Engine ECU relay
(3)	30	Outlet
(4)	80	Alternator
(5)	100	Air heater

CAB model**CAB model**

Fuse No.	Capacity (A)	Protected circuit
(1)	50	Key switch, Stater
(2)	50	Engine ECU relay
(3)	50	Wiper, Work lamp
(4)	100	Alternator
(5)	100	Air heater

5. Replacing light bulb**⚠ WARNING**

To avoid personal injury or death:

- Be careful not to drop the bulb, hit anything against the lamp, apply excess force, or get the lamp scratched. If broken, glass may cause injury. Pay more attention to halogen lamps in particular, which have high pressure inside.
- Before replacing the lamp, turn off the light and wait until the bulb cools down; otherwise, you may get burned.

IMPORTANT :

- Use a new bulb of the specified wattage.
- Never touch the bulb surface (glass) with bare hands. Fingerprints, for example, may break the bulb.
- The light covers may get damaged while attaching or detaching them when replacing the light bulbs of the turn signal and hazard lights. Consult your local Kubota Dealer for this service.
- Headlights [SU model only]:
Take the bulb out of the light body and replace it with a new one.
- Other lights:
Detach the lens and replace the bulb.

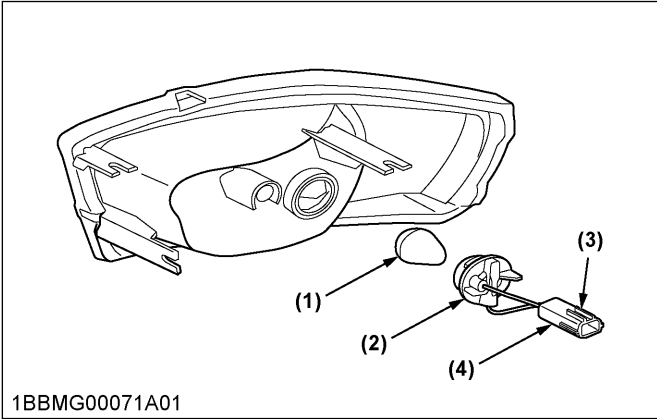
Light	Capacity		
	ROPS	CAB	SU
Headlight	—*1		23 W
Tail light	8 W		
Turn signal and hazard light	21 W /32 CP		
Front work light	—	—*1	35 W
Dome light (room lamp)	—	5 W	

*1 See Replacing the LED light on page 145.

5.1 Replacing headlamp [SU model only]

1. While pushing the center lock buttons, pull and remove the electrical connector.
2. Turn left to remove connector and then remove the bulb.

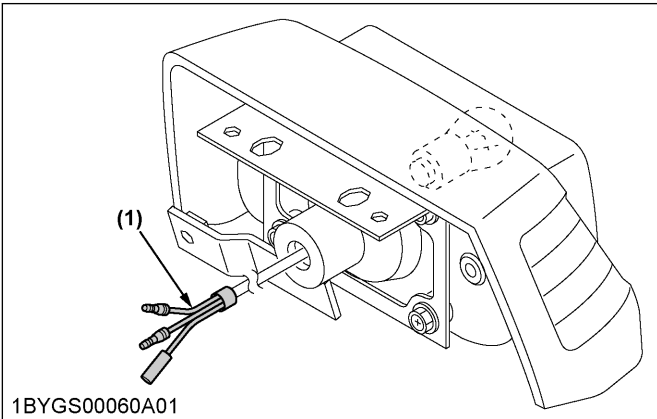
- Replace it with a new bulb and reinstall the headlamp assembly in the reverse order.



- Bulb
- Connector
- Lock buttons
- Electrical connector

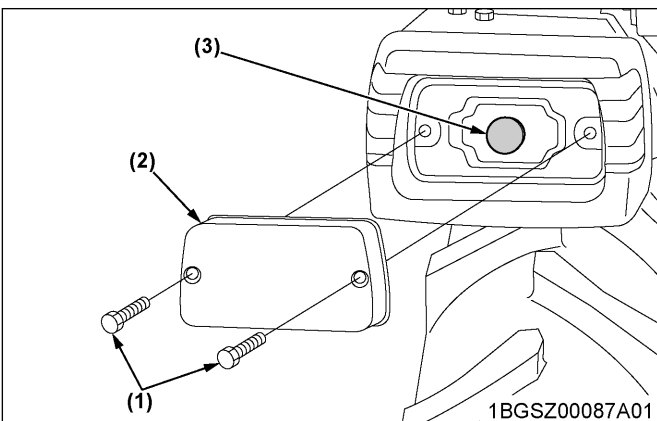
5.2 Replacing tail light

- Remove the harness connector of the tail light.



- Harness connector

- Loosen the screws and remove the lens.
- Replace the bulbs.

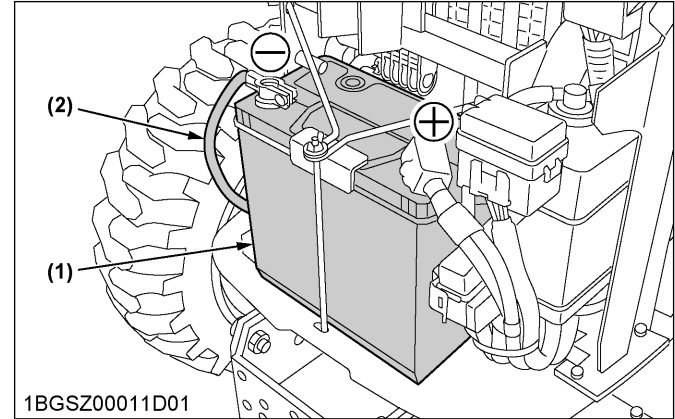


- Screw
- Lens
- Bulb

- Install the lens and the harness connector in the reverse order of step 1 to 2.

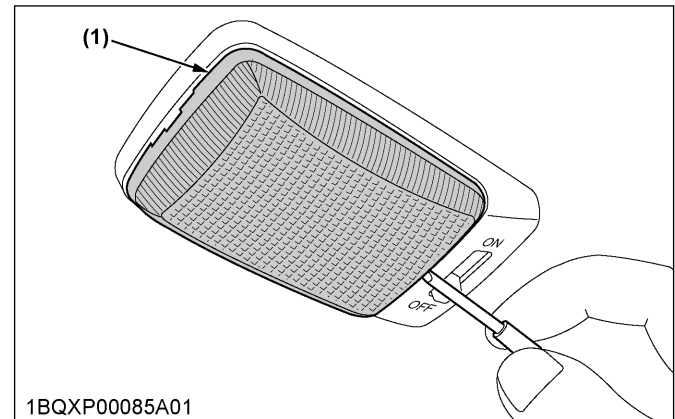
5.3 Replacing room lamp [CAB model only]

- Open the hood and disconnect the cable from the negative terminal of the battery.



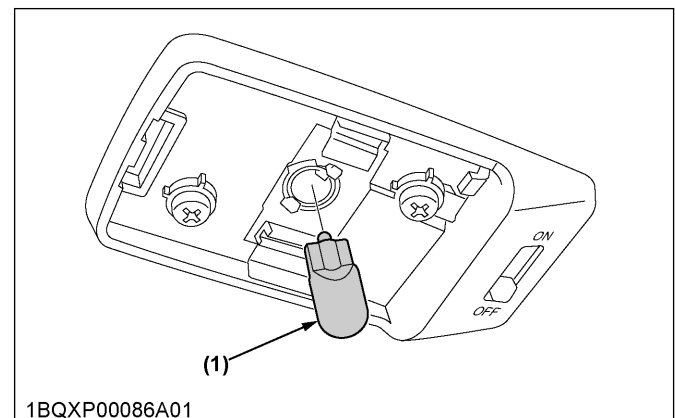
- Battery
- Cable from the negative terminal of the battery

- Remove the cover of the room light with a flathead screwdriver.



- Cover

- Replace the bulb.



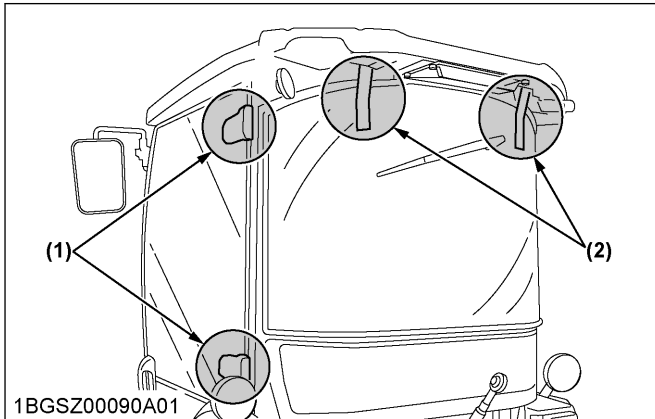
- Bulb

4. Install the cover and the cable in the reverse order of step 1 to 2.

6. Replacing the LED light

If the LED head light, front work light, or rear work light (if equipped) is no longer functioning, consult your local Kubota Dealer for replacing the LED light.

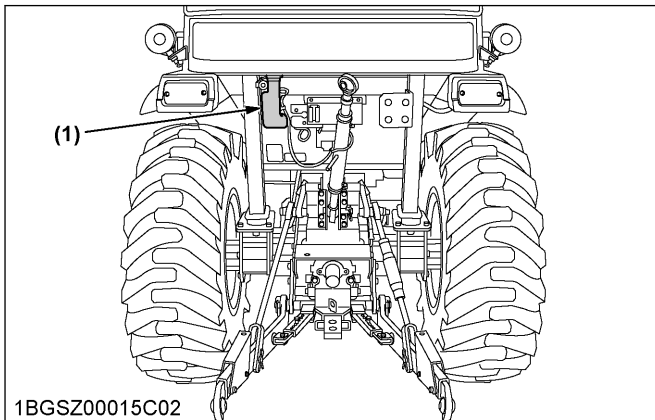
7. Lubricating points for door and window [CAB model]



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

8. Adding washer liquid [CAB model]

Add a proper amount of automobile washer liquid.



- (1) Washer liquid tank

Washer tank capacity	1.5 L (1.6 U.S.qts.)
----------------------	----------------------

9. Checking amount of refrigerant (gas) [CAB model]

⚠ WARNING

To avoid personal injury or death:

- Liquid contact with eyes or skin may cause frostbite.

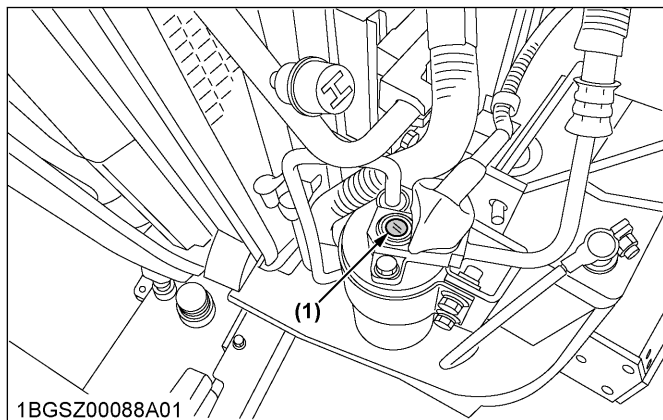
- In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to eyes.
- In contact with a flame, R134a refrigerant produces a toxic gas.
- Do not disconnect any part of the refrigeration circuit of the air conditioning system. Consult your local Kubota Dealer for assistance 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.

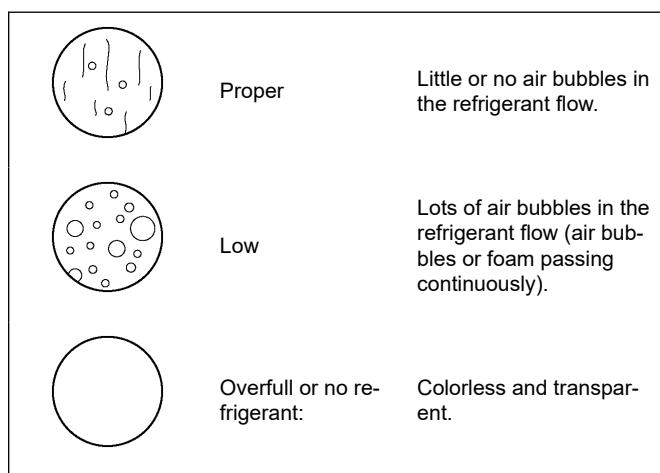
Checking procedure

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
 - Air-conditioner switch - "ON"

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



(1) Sight glass



Fluorinated greenhouse gases

Air-conditioner gas contains fluorinated greenhouse gases.

Industrial designation	Quantity (kg)	CO ₂ equivalent (ton)	GWP *
HFC-134a	0.68	0.98	1430

* GWP: Global warming potential

IMPORTANT :

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

10. Replacing radiator hose (water pipes)

Consult your local Kubota Dealer for this service.

NOTE :

- Replace the mentioned parts if any deterioration (crack, hardening, scar or deformation) or damage has occurred.

11. Replacing fuel lines

Consult your local Kubota Dealer for this service.

NOTE :

- Replace the mentioned parts if any deterioration (crack, hardening, scar or deformation) or damage has occurred.

12. Replacing the intake air line

Consult your local Kubota Dealer for this service.

NOTE :

- Replace the mentioned parts if any deterioration (crack, hardening, scar or deformation) or damage has occurred.

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 indoors without proper ventilation.
- When storing, remove the key from the key switch to prevent 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 ensure 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, and 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 Checking battery condition on page 125.)
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.
10. 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 :

- Before washing the tractor, stop the engine. Allow sufficient time for the engine to cool down 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 needed.
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 and hydraulic oil, engine coolant, and any attached implements).
6. Start the engine. Observe all gauges.
If all the gauges are functioning properly and have normal readings, 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 the 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 following table for the cause and its corrective measure.

Trouble		Cause	Countermeasure
Engine is difficult to start or will not 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 on page 140.)
		In winter, oil viscosity increases, and engine revolution is slow.	- Use oils of different viscosities, depending on ambient temperatures. - Use engine block heater (optional).
		Battery becomes weak and the engine does not turn over quick enough.	- Clean battery cables and 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. - Drain excess oil if necessary. - Clean or replace the element.
	Blue White	- The inside of the exhaust muffler is damp 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 damaged fan belt.	Adjust or replace fan belt.
		Dirty radiator core or grille screens.	Remove all trash.
		Coolant flow route corroded.	Flush cooling system.

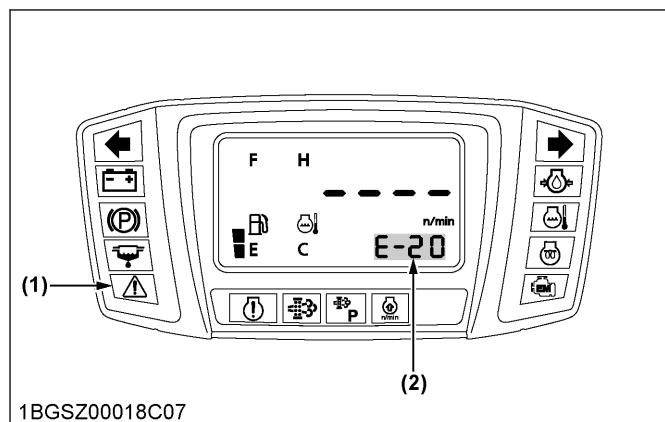
If you have any questions, contact your local Kubota Dealer.

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, contact your local Kubota Dealer.

POWERTRAIN TROUBLE SHOOTING

If something is wrong with the powertrain, 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
"E-20"	CAN Communication Error (Engine)	Contact your local Kubota Dealer.
"E-21"	CAN Communication Error (DBM)	
"E-30"	Accelerator/PTO gear lever sensor adjustment trouble	
"E-40"	Sensor supply error	
"E-75"	Rear PTO switch trouble	
"E-77"	Rear PTO ratio lever trouble	
"E-84"	Throttle sensor trouble	
"E-92"	Air heater relay trouble	
"E-93"	Starter relay trouble	
"E-94"	OPC output trouble	
"E-95"	Rear PTO solenoid trouble	
"E-99"	Ash cleaning timer trouble	
"Err2"	Fuel sensor trouble	
"Err3"	Meter panel memory reading trouble	
"Err21"	CAN communication trouble	

OPTIONS

LIST OF OPTIONS

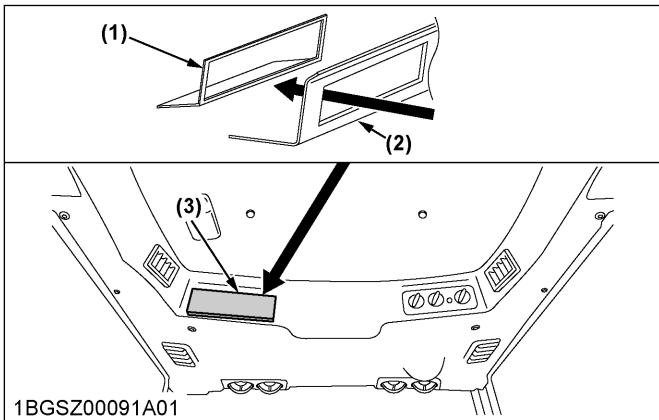
Consult your local Kubota Dealer for further details.

- 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
- Radio CD player with weather band [CAB model only]
- Rear remote hydraulics

MOUNTING THE SUPPORT PLATE

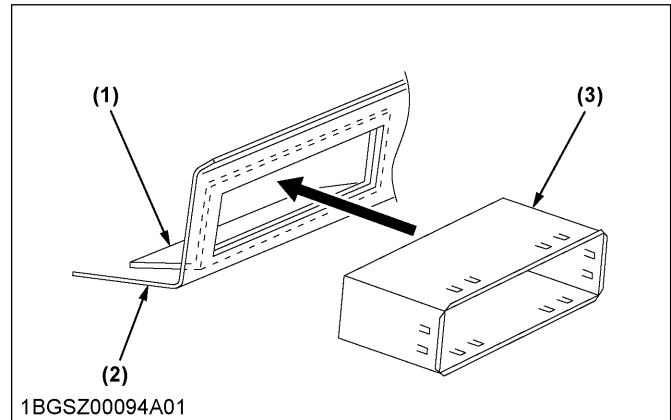
1. Installation procedures

1. Insert the support plate through the CD player mounting opening of the inner roof.



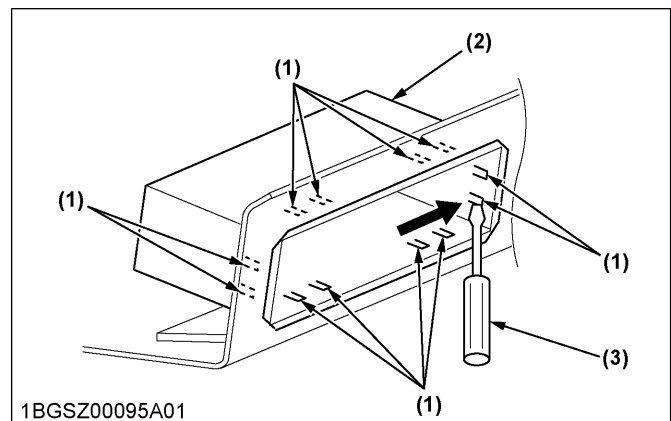
- (1) Support plate
(2) Inner roof
(3) CD player mounting opening

2. Insert the mounting collar into the inner roof and support plate.



- (1) Support plate
(2) Inner roof
(3) Mounting collar

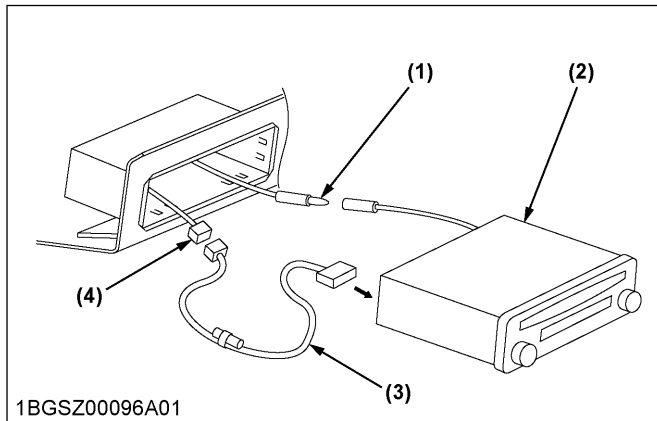
3. Bend the mounting tabs of the mounting collar out with a screwdriver.



- (1) Mounting tabs
(2) Mounting collar
(3) Screwdriver

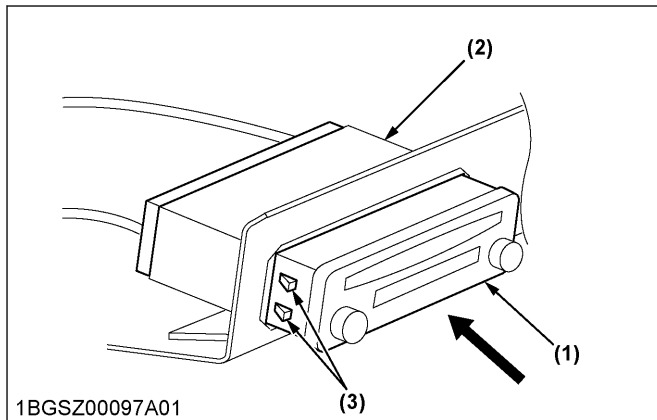
4. Connect the antenna lead to the CD player.

5. Connect the power connector to the CAB wire harness.

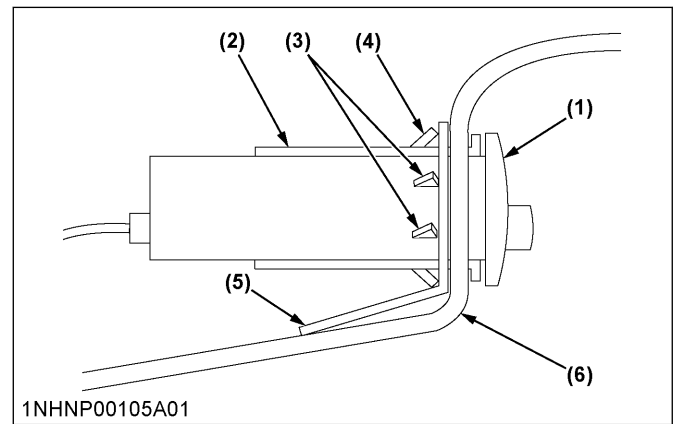


- (1) Antenna lead
(2) CD player
(3) Power connector
(4) CAB wire harness

6. Insert the CD player into the mounting collar and push it in until “click” is heard.
The CD player is secured to the mounting collar by the side tabs.



- (1) CD player
(2) Mounting collar
(3) Side tabs



- (1) CD player
(2) Mounting collar
(3) Side tabs
(4) Mounting tabs
(5) Support plate
(6) Inner roof

INDEX

Symbols

3-point hitch.....	83
lowering speed knob.....	89
starting.....	85
using.....	15

A

Accelerator auto throttle system.....	76
aftertreatment devices.....	42
air cleaner primary element	
cleaning.....	126
replacing.....	136
air cleaner secondary element	
replacing.....	136
air conditioner	
cooling.....	107
defrosting or demisting.....	108
dehumidifying-heating.....	107
foot warming.....	107
head cooling.....	107
heating.....	107
air conditioner belt [CAB model]	
adjusting tension.....	131
air conditioner condenser [CAB model]	
checking.....	132
air conditioner condenser screen [CAB model]	
cleaning.....	121
air conditioner hose [CAB model]	
checking.....	139
air conditioner pipe and hose [CAB model]	
checking.....	139
air conditioner switch.....	106
air control vent.....	105
air outlet (front).....	105
airflow	
outline.....	105
antifreeze	
using.....	137
auto regeneration mode.....	45
operating procedure.....	44

B

ballast.....	100
ballast (front).....	100
ballast (rear).....	100
battery	
charging.....	126
checking condition.....	125
checking condition by reading indicator.....	126
battery cables	
checking.....	123
cleaning.....	123

battery storage	
directions.....	126
before operating the tractor.....	11
biodiesel fuel (BDF) B0-B20.....	115
block heater	
outline.....	54
blower switch (air conditioner).....	106
brake pedal	
adjusting.....	128
checking.....	122
brake pedals (right and left).....	62

C

CAB isolation cushion [CAB model]	
checking.....	139
clutch housing water	
draining.....	140
control panel	
allocation.....	106
coolant.....	113
changing.....	136
checking level.....	121
coolant temperature gauge	
function.....	68
cooling system	
changing coolant.....	136
flushing.....	136
cruise control lever (if equipped).....	65

D

daily check.....	41, 118
checking brake pedal.....	122
checking coolant level.....	121
checking DPF muffler.....	122
checking Easy Checker.....	122
checking engine oil level.....	120
checking fuel gauge.....	118
checking gauges.....	122
checking hazard light.....	122
checking headlight.....	122
checking meter.....	122
checking transmission fluid level.....	120
checking turn signal light.....	122
checking water separator.....	119
cleaning evacuator valve.....	121
cleaning grill.....	121
cleaning radiator screen.....	121
refueling.....	118
diesel particulate filter (DPF) muffler.....	42
diesel particulate filter muffler	
DPF regeneration process.....	43
handling points.....	42

diesel particulate filter regeneration	
tips.....	50
differential lock.....	74
differential pressure sensor hose	
replacing.....	140
display mode	
changing.....	68
dome light.....	103
door	
locking and unlocking.....	102
opening.....	102
door [CAB model]	
lubricating points.....	145
DPF muffler.....	42
checking.....	122
cleaning.....	138
DPF regeneration process.....	43
handling points.....	42
DPF regeneration	
tips.....	50
drawbar.....	83,87
adjusting length.....	87
removing (if necessary).....	86
dual tires.....	97
E	
Easy Checker	
checking.....	122
Easy Checker indicators.....	67
EGR cooler	
checking.....	136
EGR system	
checking.....	138
electrical outlet.....	76
electrical wiring	
checking.....	123
cleaning.....	123
emergency exit.....	103
engine	
adjusting valve clearance.....	136
jump starting.....	54
low temperature regulation.....	66
operating in freezing conditions.....	54
overheating.....	68
starting.....	50
stopping.....	54
stopping immediately.....	66
troubleshooting.....	148
warming up.....	54
warming up at low temperature range.....	54
engine oil	
changing.....	128
checking level.....	120
engine oil filter	
replacing.....	129
engine side cover.....	118

engine start system	
checking.....	124
evacuator valve	
cleaning.....	121
exhaust aftertreatment devices.....	42
exhaust manifold	
checking.....	138

F

fan belt tension	
adjusting.....	127
fluorinated greenhouse gases.....	145
foldable ROPS	
adjusting.....	57
foldable ROPS (if equipped)	
operating.....	56
foot controls.....	39
fresh air filter	
cleaning.....	132
fresh air filter [CAB model]	
removing.....	132
front air outlet.....	105
front axle gear case oil	
changing.....	135
front axle pivot (4WD)	
adjusting.....	135
front ballast.....	100
front end weights (option).....	100
front jack point.....	98
Front wheel drive lever.....	64
front wheels tread	
adjusting.....	97,99
front wiper.....	104
front work light.....	104
front-wheel drive (4WD)	
using effectively.....	64
fuel.....	113
fuel filter	
replacing.....	135
fuel gauge.....	67
fuel injector nozzle tip	
cleaning.....	136
fuel lines	
checking.....	139
replacing.....	140,146
fuel system	
bleeding.....	140
fuel temperature indication.....	66
fuse	
replacing.....	141

G

gauge	
checking.....	122
grease fittings	
lubricating.....	123

grill	
cleaning.....	121

H

hand controls.....	36,39
hand throttle lever.....	64
hanger.....	109
hazard and turn signal indicator.....	61
hazard light	
checking.....	122
hazard light switch.....	61
headlamp [SU model only]	
replacing.....	143
headlight	
checking.....	122
headlight switch.....	60
hood	
closing.....	118
opening.....	117
horn button [CAB model only].....	62
hourmeter.....	68
hydraulic block type outlet.....	90
hydraulic control lever.....	91
hydraulic control unit	
reference chart.....	96
hydraulic hose	
connections.....	91
hydraulic oil filter	
replacing.....	134

I

inner air filter [CAB model]	
cleaning.....	131
instrument panel.....	38
intake air line	
checking.....	139
replacing.....	140,146

J

jack point (front).....	98
jack point (rear).....	98

L

LCD monitor message.....	79
LED light	
replacing.....	145
lever	
checking.....	123
lifting rod (right)	
adjusting.....	86
light bulb	
replacing.....	143
liquid ballast in rear tires.....	100
loader/remote control valve lever.....	92
valve lock.....	92

low temperature regulation for engine.....	66
lower link	
selecting hole.....	85
lower link (telescopic) [CAB model].....	87
lubricants.....	113

M

maintenance intervals.....	110
meter	
checking.....	122
mid-PTO	
speed table.....	80
mid-PTO gear shift lever (if equipped).....	79
mode switch (air conditioner).....	106

O

operator's seat.....	58
options	
list.....	150
overall ballast.....	101
overheating countermeasures.....	68

P

parked regeneration mode	
operating procedure.....	49
parking brake lever.....	62
pedal	
checking.....	123
PM warning level, required procedures.....	45,48
position control.....	89
power steering	
directions for use.....	75
power steering line	
checking.....	130,139
powertrain	
troubleshooting.....	149
PTO	
operating.....	15,77
PTO clutch control switch.....	77
PTO shaft cap.....	80
PTO shaft cover.....	80

R

radiator clamp	
checking.....	138
radiator hose	
checking.....	138
replacing.....	146
radiator hose (water pipes)	
checking.....	139
radiator screen	
cleaning.....	121
range gear shift lever (L-M-H).....	63
rear ballast.....	100
rear defogger [except SU model].....	108

rear hydraulic outlet (option).....	93
rear jack point.....	98
rear PTO	
speed table.....	80
rear PTO gear shift lever.....	79
rear wheels tread	
adjusting.....	98,99
rear window	
operation.....	102
rear window half-lock.....	102
rear wiper switch [Except SU model].....	104
rear work light.....	104
recirculation or fresh air selection lever.....	106
refrigerant (gas) amount [CAB model]	
checking.....	145
regeneration inhibit mode.....	48
operating procedure.....	47
remote control valve.....	93
remote control valve coupler	
connecting.....	95
disconnecting.....	95
remote control valve lever (option).....	93
remote hydraulic control system (option).....	93
room lamp [CAB model only]	
replacing.....	144
ROPS	
checking.....	123
folding.....	56
raising.....	57
RPM dual memory	
setting.....	70
S	
safety	
CAB and ROPS.....	11
driving tractor on the road.....	14
general information.....	11
operating tractor.....	12
operating tractor on slopes.....	13
servicing tractor.....	16
starting to operate tractor.....	12
transporting tractor.....	75
using 3-point hitch.....	15
working tractor.....	13
safety for children.....	13
safety labels.....	18
caring.....	25
seat belt.....	59
checking.....	123
service intervals.....	110
slow-blow fuse	
replacing.....	142
specification table (implement).....	35
specification table for CAB model.....	31
specification table for ROPS model.....	29
speed control pedal.....	65
stationary PTO.....	80

supply pump	
checking.....	138
support plate (option)	
installing.....	150
switches.....	36

T

tachometer.....	68
tail light	
replacing.....	144
telescopic stabilizers.....	87
temperature control dial	
operation.....	106
tilt steering	
adjusting.....	60
tire size and inflation pressure.....	97
toe-in	
adjusting.....	131
top link	
adjusting.....	85,86
tractor	
before operating.....	11
boarding.....	56
driving on the road.....	14
leaving.....	56
operating.....	12
operating new tractor.....	56
operating on a road.....	74
operating on slopes.....	13
operating on slopes and rough terrain.....	75
parking.....	15,73
removing from storage.....	147
scrapping procedure.....	28
servicing.....	16
starting.....	58
starting to operate.....	12
stopping.....	66
storing procedure.....	147
transporting safely.....	75
walk around inspection.....	118
working.....	13
transmission fluid	
changing.....	133
checking level.....	120
transmission fluid at low temperature range.....	54
transmission oil filter	
replacing.....	129
travel speeds.....	33
turbocharger	
checking.....	138
turn signal light switch.....	61

W

warranty.....	28
washer liquid [CAB model]	
adding.....	145
washer switch.....	104

washer switch [Except SU model].....	104
waste	
disposal.....	117
water pipe	
replacing.....	146
water separator	
checking.....	119
water separator element	
replacing.....	133
wheel	
adjusting.....	97
checking bolt torque.....	124
wheels tread (front)	
adjusting.....	97
wheels tread (rear)	
adjusting.....	98
window [CAB model]	
lubricating points.....	145
wiper	
using in cold season.....	104
work light (front).....	104
work light (rear).....	104
work light switch.....	103