



- U.S.A. : **KUBOTA TRACTOR CORPORATION**  
3401 Del Amo Blvd., Torrance, CA 90503, U.S.A.  
Telephone : (310)370-3370
- Western Division : 1175 S. Guild Avc., Lodi, CA 95240  
Telephone : (209)334-9910
- Central Division : 14855 FAA Blvd., Fort Worth, TX 76155  
Telephone : (817)571-0900
- Northern Division : 6300 at One Kubota Way, Groveport, OH 43125  
Telephone : (614)835-1100
- Southeast Division : 1025 Northbrook Parkway, Suwanee, GA 30024  
Telephone : (770)995-8855
- Canada : **KUBOTA CANADA LTD.**  
5900 14th Avenue, Markham, Ontario, L3S 4K4, Canada  
Telephone : (905)294-7477
- France : **KUBOTA EUROPE S.A.S**  
19-25, Rue Jules 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 (DEUTSCHLAND) GmbH**  
Senefelder Str. 3-5 63110 Rodgau /Nieder-Roden, Germany  
Telephone : (49)6106-873-0
- U.K. : **KUBOTA (U.K.) LTD.**  
Dormer Road, Thame, Oxfordshire, OX9 3UN, U.K.  
Telephone : (44)1844-214500
- Spain : **KUBOTA ESPAÑA S.A.**  
Avenida Recomba No.5, Poligno Industrial la Laguna, Leganes, 28914 (Madrid) Spain  
Telephone : (34)91-508-6442
- Australia : **KUBOTA TRACTOR AUSTRALIA PTY LTD.**  
25-29 Permas Way, Truganina, VIC 3029, Australia  
Telephone : (61)-3-9394-4400
- Malaysia : **SIME KUBOTA SDN. BHD.**  
No.3 Jalan Sepadu 25/123 Taman Perindustrian Axis,  
Seksyen 25, 40400 Shah Alam, Selangor Darul Ehsan Malaysia  
Telephone : (60)3-736-1388
- Philippines : **KUBOTA PHILIPPINES, INC.**  
232 Quirino Highway, Baesa, Quezon City 1106, Philippines  
Telephone : (63)2-422-3500
- Taiwan : **SHIN TAIWAN AGRICULTURAL MACHINERY CO., LTD.**  
16, Fengping 2nd Rd, Taliiao 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.**  
Regus, Level 2 Altius, Olympia Tech Park, No.1 SIDCO Industrial Estate, Guindy, Chennai 600032, TN, India  
Telephone : (91)-44-4299-4237
- Vietnam : **KUBOTA VIETNAM CO., LTD.**  
Lot B-3A2-CN, My Phuoc 3 Industrial Park, Ben Cat District, Binh Duong Province, Vietnam  
Telephone : (84)-650-3577-507

KUBOTA Corporation

English (UK)  
Code No. 3Y513-9971-2

# OPERATOR'S MANUAL

# KUBOTA TRACTOR

**MODELS M100GX-II·M110GX-II  
M128GX-II·M135GX-II**



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*READ AND SAVE THIS MANUAL*



# ABBREVIATION LIST

Abbreviations	Definitions
2WD	2 Wheel Drive
4WD	4 Wheel Drive
API	American Petroleum Institute
ASABE	American Society of Agricultural and Biological Engineers, USA
ASTM	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DT	Dual Traction [4WD]
fpm	Feet Per Minute
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

## KUBOTA Corporation is ...

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

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

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

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

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

### Intended use

This machine is designed solely for use in customary agricultural or similar operations. Use in any other way is considered as contrary to the intended use. Compliance with and strict adherence to the conditions of operation, service, and repair as specified by the manufacturer, also constitute essential elements of the intended use.

This machine should be operated, serviced, and repaired only by persons who are familiar with its particular characteristics and who are acquainted with the relevant safety procedures.

Accident prevention regulations, all other generally recognized regulations on safety and occupational medicine, and all road traffic regulations must be observed at all times.

Any arbitrary modifications carried out to this machine may relieve the manufacturer of liability for any resulting damage or injury.

manufacturer or distributor of the machine	Kubota Corporation
the model designation of the machine	M100GX-II/M110GX-II/M128GX-II/M135GX-II
the name or type of publication	Operator's Manual
the part number or publication number by which the manual may be ordered	3Y513-9971-2
the date of issue	Apr. 30, 2014
the publication date	Jul. 04, 2014
the language in which the manual is written	English

# UNIVERSAL SYMBOLS

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

	Safety Alert Symbol		Position Control-Raised Position		Side Window Defroster
	Engine Warning		Position Control-Lowered Position		Empty
	Diesel Fuel		3-Point Lifting / Lowering		Full
	Engine-Rotational Speed n/min		Lift Arm Height		PTO 540 rpm
	Hourmeter/Elapsed Operating Hours		Draft Control		PTO 1000 rpm
	Engine Coolant-Temperature		Remote Cylinder-Retract		Engine Intake/Combustion Air-Filter
	Diesel Preheat/Glow Plugs(Low Temperature Start Aid)		Remote Cylinder-Extend		Battery Charging Condition
	Parking Brake		Remote Cylinder-Float		Rev-limiter Control n/min
	Engine Oil-Pressure		Hazard Warning Lights		Constant RPM Management rpm
	Turn Signal		Headlight-Low Beam		Front Suspension
	Electrical Power-accessories		Headlight-High Beam		Regeneration
	Engine-Run		4-Wheel Drive-On		DPF INHIBIT (Switch)
	Engine-Start		Fast		Regeneration (Switch)
	Engine-Stop		Slow		Parked Regeneration P
	Power Take-Off Clutch Control-Off (Disengaged) Position		Creep		Engine RPM Increase n/min
	Power Take-Off Clutch Control-On (Engaged) Position		Windshield Wiper		Master System Warning
	Bi-Speed turn		Windshield Wiper Intermittent		Beacon Light
	Differential Lock, Front		Windshield Washer		
	Differential Lock, Rear		Audible Warning Device		
	Auto-Mode		Lock		
			Rear Window Defroster		
			Steering Wheel-Tilt Control		
			Steering Wheel-Telescope Control		

# FOREWORD

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



## SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.



**DANGER :** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING :** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION :** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**IMPORTANT :** Indicates that equipment or property damage could result if instructions are not followed.

**NOTE :** Gives helpful information.

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# SAFE OPERATION

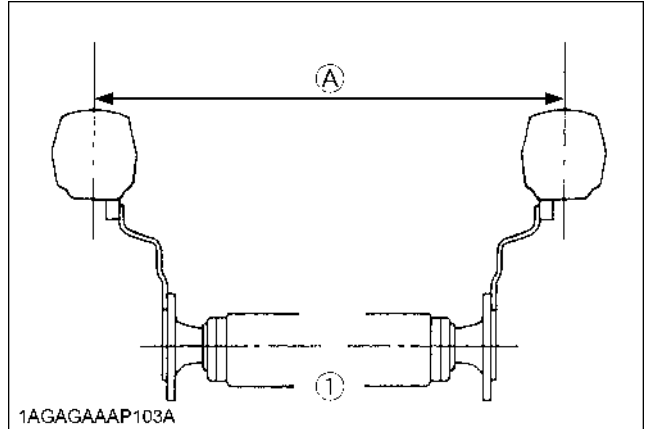
Careful operation is your best insurance against an accident.

**Read and understand this manual carefully before operating the tractor.**

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

## 1. BEFORE OPERATING THE TRACTOR

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

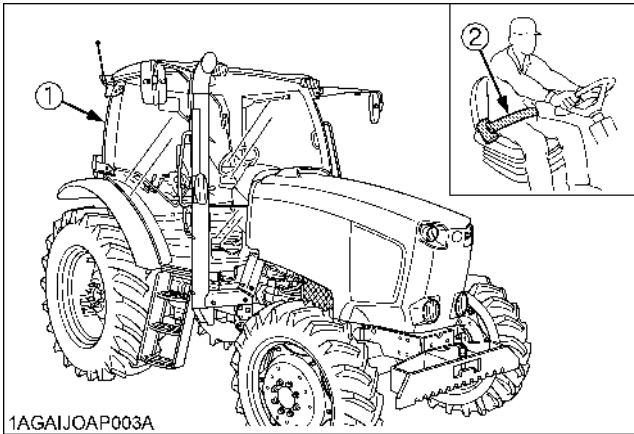


(1) Rear wheels

(A) Tread Width

### ◆ CAB, ROPS

1. KUBOTA recommends the use of a CAB or Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the tractor be upset. Check for overhead clearance which may interfere with a CAB or ROPS.
  2. If the CAB or ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.
  3. Never modify or repair any structural member of a CAB or ROPS because welding, bending, drilling, grinding, or cutting may weaken the structure.
  4. A damaged CAB or ROPS structure must be replaced, not repaired or revised.
  5. If any structural member of the CAB or ROPS is damaged, replace the entire structure at your local KUBOTA Dealer.
  6. Always use the seat belt if the tractor has a CAB or ROPS.
- Do not use the seat belt if a foldable ROPS is down or there is no ROPS. Check the seat belt regularly and replace if frayed or damaged.



(1) CAB  
(2) Seat belt

## 2. OPERATING THE TRACTOR

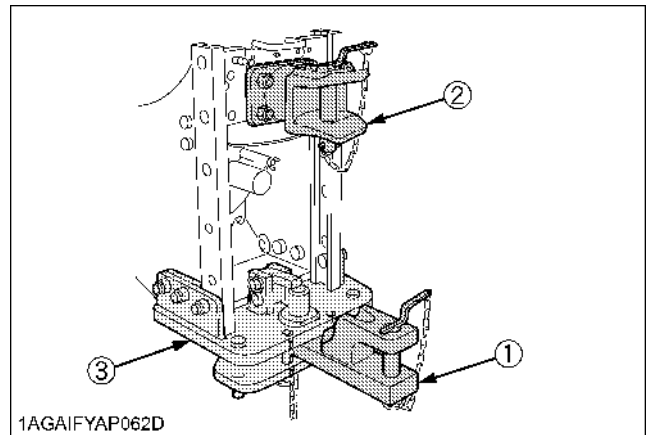
Operator safety is a priority. Safe operation, specifically with respect to overturning hazards, entails understanding the equipment and environmental conditions at the time of use. Some prohibited uses which can affect overturning hazards include traveling and turning with implements and loads carried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

### ◆ Starting

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

### ◆ Working

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



(1) Drawbar  
(2) High-hitch  
(3) Piton-fix

2. For trailing PTO-driven implements, set the hitch devices to the towing position.
3. Attach pulled or towed loads to the hitch devices only.
4. Keep all shields and guards in place. Replace any that are missing or damaged.
5. Avoid sudden starts. To avoid upsets, slow down when turning, on uneven ground, and before stopping.
6. The tractor cannot turn with the rear wheel or 4-wheel differential locked and attempting to do so could be dangerous.
7. Do not operate near ditches, holes, embankments, or other ground surface features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet. Tall grass can hide obstacles, walk the area first to be sure.
8. Watch where you are going at all times. Watch for and avoid obstacles. Be alert at row ends, near trees, and other obstructions.
9. When working in groups, always let the others know what you are going to do before you do it.
10. Never try to get on or off a moving tractor.
11. Always sit in the operator's seat when operating levers or controls.
12. Do not use "Bi-speed Turn" at high speed.
13. "Bi-Speed Turn" enables short and fast turns, therefore, become familiar with its performance before operating in close or confined areas.
14. Do not stand between tractor and implement or trailed vehicle unless parking brake is applied.

### ◆ Passenger seat (if equipped)

The passenger seat allows a person to accompany an operator with all the comfort and security needed.

1. Always wear your seat belt and stabilize your body by holding the handrail on the CAB frame front.

2. Children are not permitted to use the passenger seat.
3. The left hand door must be closed at all time whenever the passenger seat is occupied and the tractor is in motion.
4. Do not permit others to ride, except on the designated passenger seat.

#### ◆ Safety for children

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

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

#### ◆ Operating on slopes

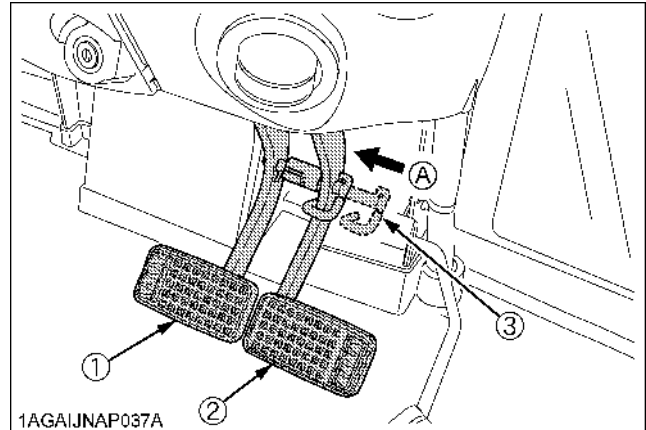
Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution.

1. To avoid upsets, always back up steep slopes. If you cannot back up the slope or if you feel uneasy on it, do not operate on it. Stay off slopes too steep for safe operation.
2. Driving forward out of a ditch, mired condition or up a steep slope increases the risk of a tractor to be upset backward. Always back out of these situations. Extra caution is required with 4-wheel drive models because their increased traction can give the operator false confidence in the tractor's ability to climb slopes.
3. Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, direction or apply brake and make sudden motions of the steering wheel.
4. Avoid disengaging the clutch or changing gears speed when climbing or going down a slope. If on a slope disengaging the clutch or changing gears to neutral could cause loss of control.
5. Special attention should be made to the weight and location of implements and loads as such will affect the stability of the tractor.
6. To improve stability on slope, set widest wheel tread as shown in "TIRES, WHEELS AND BALLAST" section.  
Follow recommendations for proper ballasting.
7. To avoid free wheeling:
  - Do not shift the shuttle lever while on a slope.

- Stop completely by using the brake and by depressing the clutch pedal, then shift the shuttle lever.
- Start off after selecting shuttle direction, by releasing the clutch pedal.

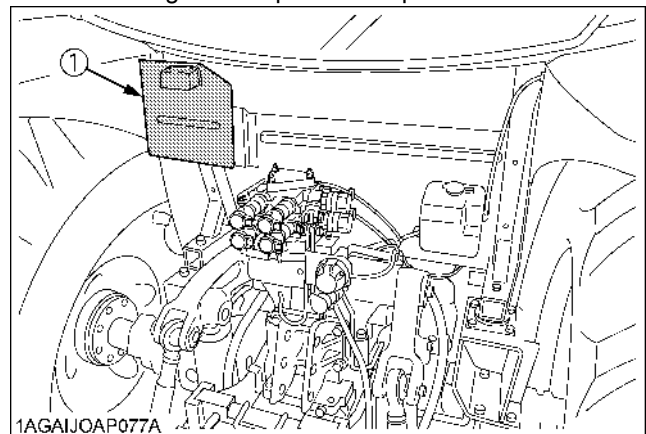
#### ◆ Driving the tractor on the road

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



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

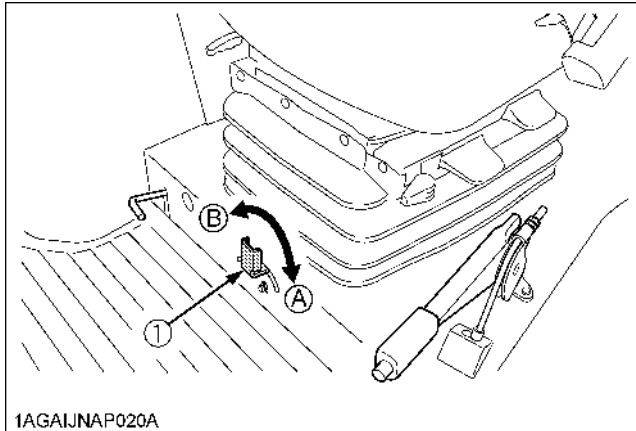
2. Check the front wheel engagement. The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.
3. Always slow the tractor down before turning. Turning at high speed may tip the tractor over.
4. Observe all local traffic and safety regulations. Use the registration plate as required.



- (1) Registration plate

5. Turn the headlights on. Dim them when meeting another vehicle.
6. Drive at speeds that allow you to maintain control at all times.
7. Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.

8. Avoid sudden motions of the steering wheel as they can lead to a dangerous loss of stability. The risk is especially great when the tractor is traveling at road speeds.
9. Do not operate an implement while the tractor is on the road. Lock the 3-point hitch in the raised position.
10. Set the implement lowering control in the "LOCK" position to hold the implement in the raised position.



(1) 3-point hitch lowering lock lever

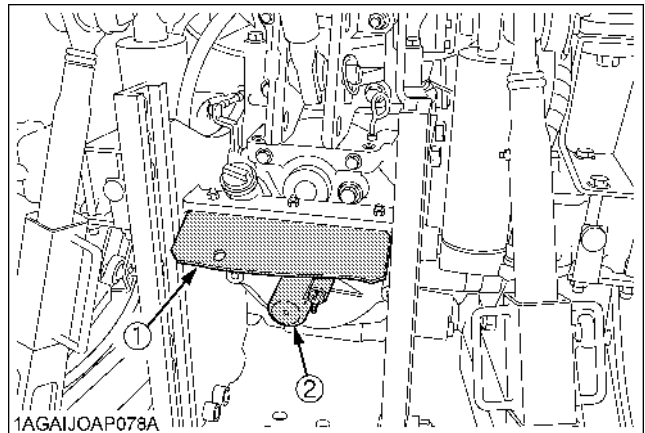
(A) "LOCK"  
(B) "UNLOCK"

### 3. PARKING THE TRACTOR

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

### 4. OPERATING THE PTO

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



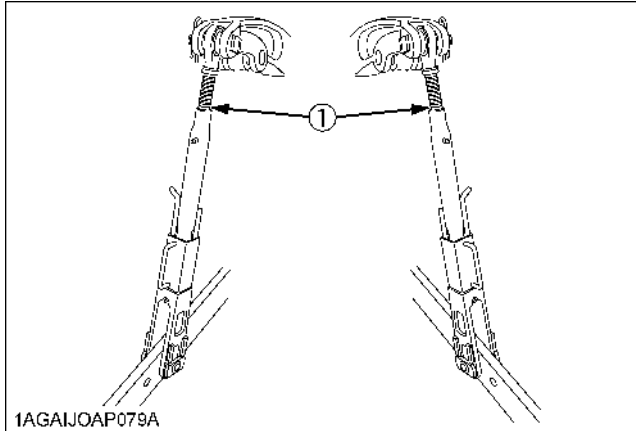
(1) PTO Shaft cover  
(2) PTO Shaft cap

3. 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 (540rpm) unless the higher one is specifically recommended as safe by the equipment manufacture.
4. When operating stationary PTO driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts. Never step over rotating parts.



## 5. USING 3-POINT HITCH

1. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
2. When using a 3-point hitch mounted implement, be sure to install the proper counterbalance weight on the front of the tractor.
3. To avoid injury from separation:  
Do not extend lift rod beyond the groove on the threaded rod.



(1) Groove

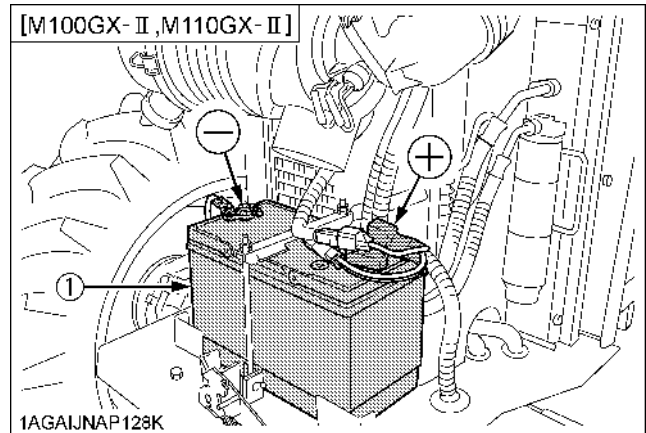
4. Use [UP-DOWN] switch or lever only on farm fields.  
For all other application, use hydraulic lever to move attachment.

## 6. SERVICING THE TRACTOR

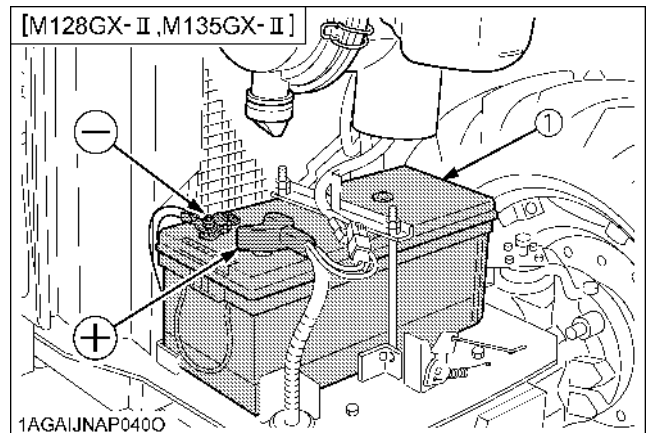
Before servicing the tractor, park it on a firm, flat and level surface, set the parking brake, lower all implements to the ground, place the gear shift lever in neutral, stop the engine and remove the key.

1. Allow the tractor time to cool off before working on or near the engine, muffler, radiator, etc.
2. Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely. If the tractor has a coolant recovery tank, add coolant or water to the tank, not the radiator. (See "Checking Coolant Level" in "DAILY CHECK" in "PERIODIC SERVICE" section.)
3. Always stop the engine before refueling. Avoid spills and overfilling.
4. Do not smoke when working around battery or when refueling. Keep all sparks and flames away from battery and fuel tank. The battery presents an explosive hazard, because it gives off hydrogen and oxygen especially when recharging.
5. Before "jump starting" a dead battery, read and follow all of the instructions. (See "JUMP STARTING" in "OPERATING THE ENGINE" section.)

6. Keep first aid kit and fire extinguisher handy at all times.
7. Disconnect the battery's ground cable before working on or near electric components.
8. To avoid the possibility of battery explosion, do not use or charge the refillable type battery if the fluid level is below the LOWER ( lower limit level ) mark. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.
9. To avoid sparks from an accidental short circuit, always disconnect the battery's ground cable (-) first and reconnect it last.



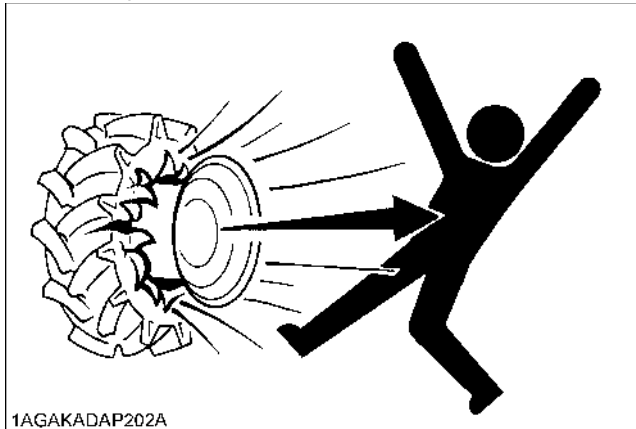
(1) Battery



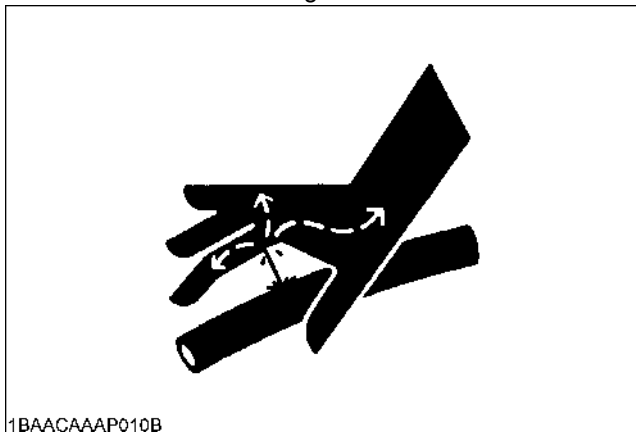
(1) Battery

10. Do not attempt to mount a tire on a rim. This should be done by a qualified person with the proper equipment.

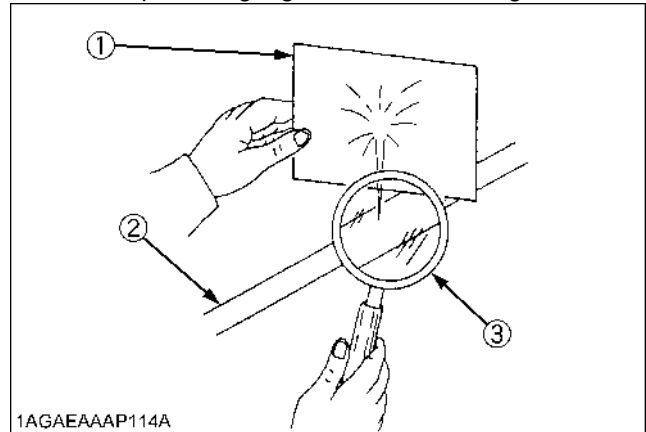
11. Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure shown in the operator's manual.



- 12. Securely support the tractor when either changing wheels or adjusting the wheel tread width.
- 13. Make sure that wheel bolts have been tightened to the specified torque.
- 14. Disconnect the battery's ground cable and stop the engine to avoid the possibility of the machine runaway due to 4WD braking system during testing, service or repair with only rear wheels off the ground.
- 15. Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If it is necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.
- 16. Escaping hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Before disconnecting hydraulic lines, be sure to release all residual pressure. Before applying pressure to the hydraulic system, make sure that all connections are tight and that all lines, pipes, and hoses are free of damage.



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



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

- 18. Do not open high-pressure fuel system. High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect nor 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.
- 19. To avoid hazardous high voltage, turn the key switch to the OFF position if it is necessary to check to repair the computer, harness or connectors.
- 20. 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.
- 21. Keep the tractor away from people, animals or structures which may be susceptible to harm or damage from hot exhaust gases.
- 22. To prevent fires, keep the DPF muffler and its surroundings clear of anything flammable and keep clean at all times.
- 23. During regeneration, white exhaust gas may be visible. Do not allow regeneration in a non-ventilated space.
- 24. During regeneration, do not leave the tractor.
- 25. Waste products such as used oil, fuel, hydraulic fluid, and batteries, can harm the environment, people, pets and wildlife. Please dispose properly. See your local Recycling Center or KUBOTA Dealer to learn how to recycle or get rid of waste products.
- 26. Before servicing a tractor equipped with the front suspension, be sure to lower the machine to the lowest position.

27. The front suspension hydraulic circuit is still under high pressure after the engine has stopped. Do not disconnect the pipes and/or hoses because you may get injured by high-pressure oil. If pipes and/or hoses are found worn or damaged, consult your local KUBOTA Dealer for this service.

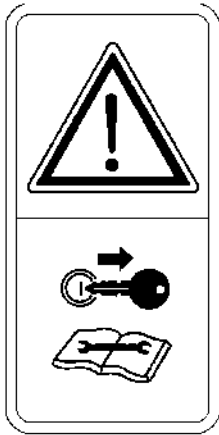
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## 7. PICTORIAL SAFETY LABELS

The pictorial safety labels affixed are intended to alert persons to potential hazards. The hazard is identified by a pictorial in the safety alert triangle or by the safety alert symbol alone. An adjacent pictorial provides instructions and information on how to avoid the hazard.

(1) Part No. 3P903-9883-1

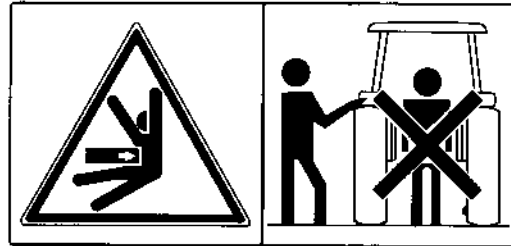
Hazardous high voltage.  
Turn the starter switch to the OFF position if it is necessary to check or repair the computer, harness, or connectors.



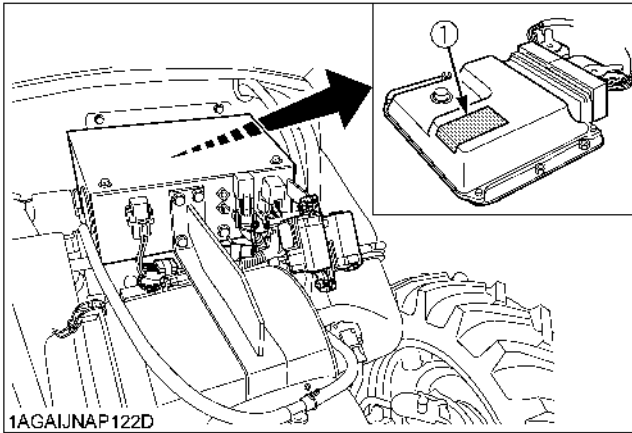
1AGAIFYAP127A

(2) Part No. 3F240-9819-1

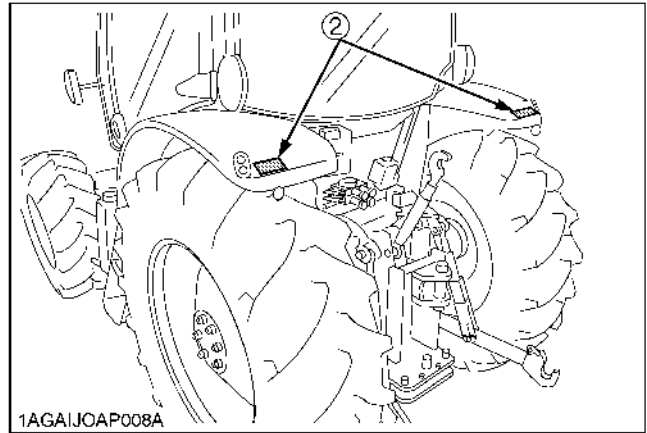
Do not stand by IMPLEMENT or between implement and tractor while operating remote hitch switch.



1AGAIBIAP1770



1AGAIJNAP122D

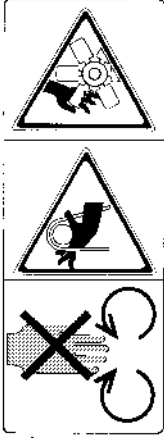


1AGAIJOAP008A

1AGAIJOAP059A

(1) Part No. TA040-4957-1

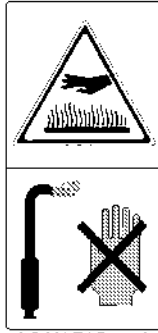
Do not open or remove safety shields while engine is running.



1AGAIAZAP110A

(2) Part No. 3N300-4958-1

Do not touch hot surfaces.



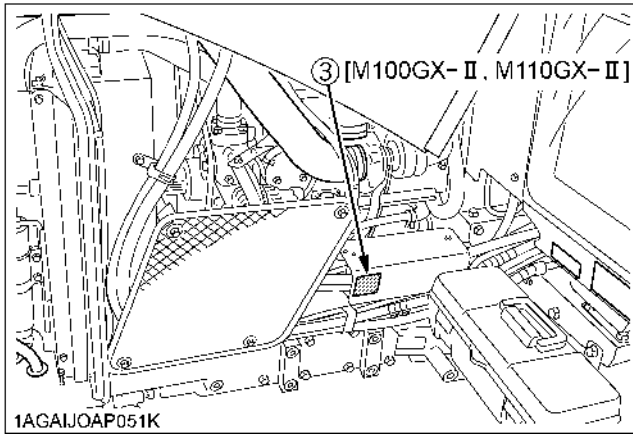
1AGAIAZAP071A

(3) Part No. 3N600-4958-1

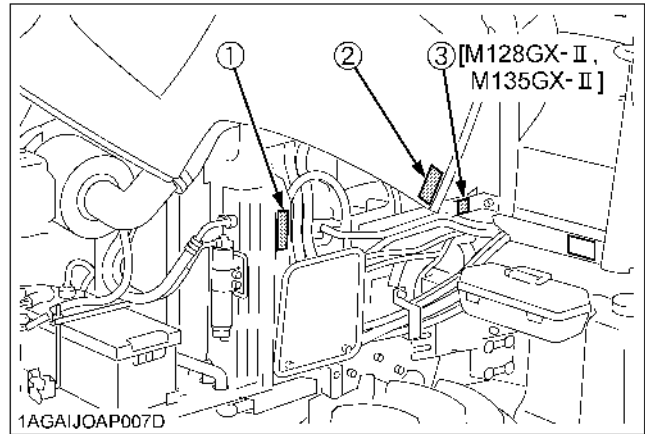
Do not touch hot surface like supply pump, etc.



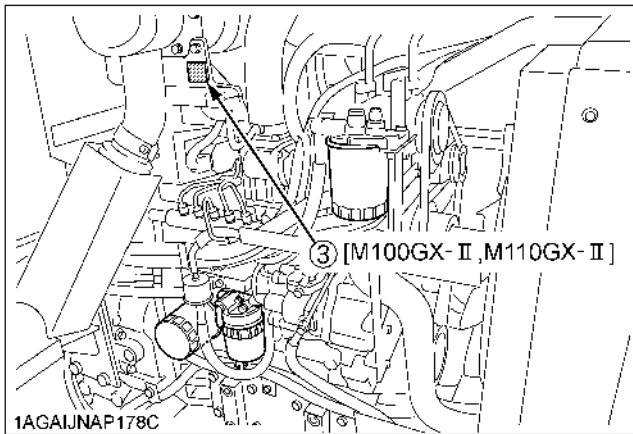
1AGAIDXAP073A



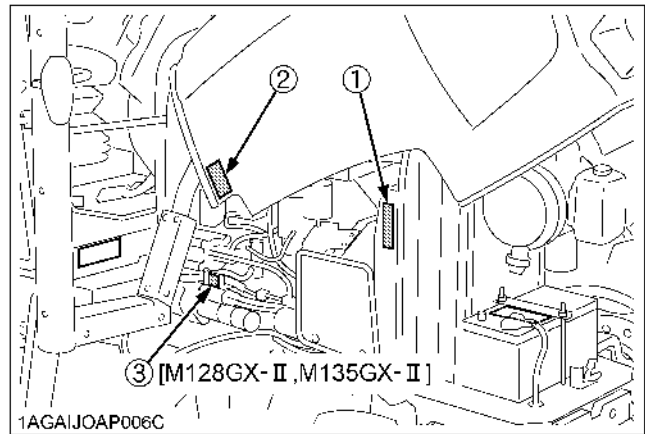
1AGAIJOAP051K



1AGAIJOAP007D



1AGAIJNAP178C

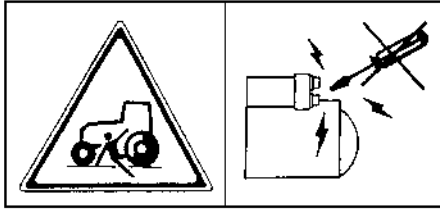


1AGAIJOAP006C

1AGAIJOAP055G

(1) Part No. K3512-4718-1

Start engine from operator's seat only.



1BDABANAP083B

(2) Part No. TA040-4956-2

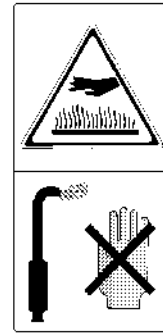
Diesel fuel only. No fire.



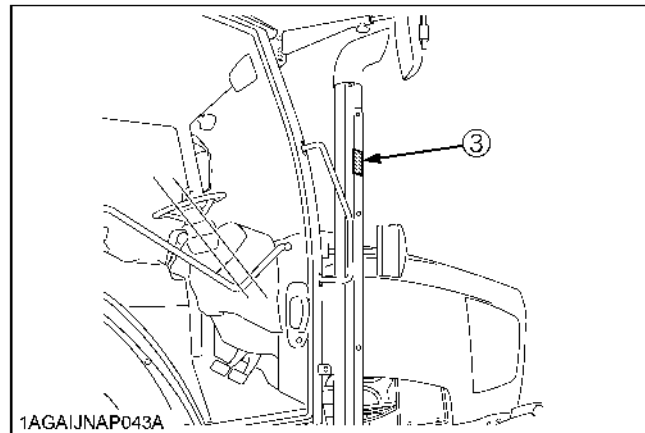
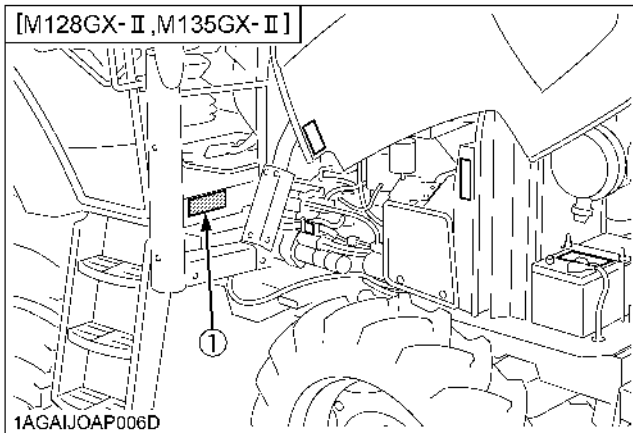
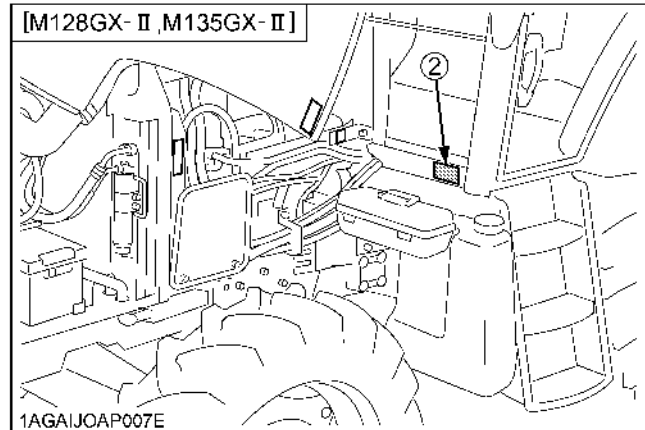
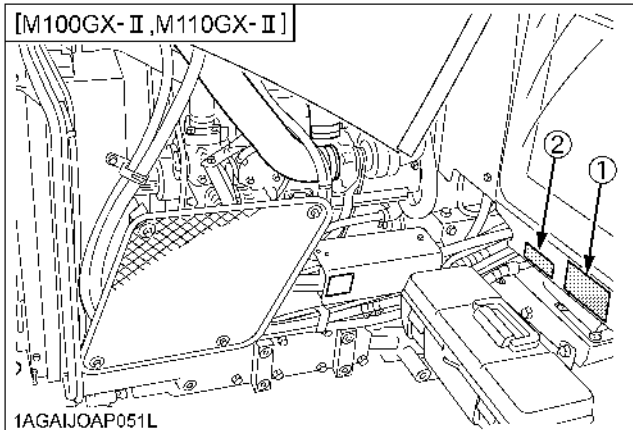
1AGAIAZAP118A

(3) Part No. 32310-4958-1

Do not touch hot surfaces.



1AGAIAZAP071A



1AGAIJOAP056G

(1) Part No. 3Y205-9892-1

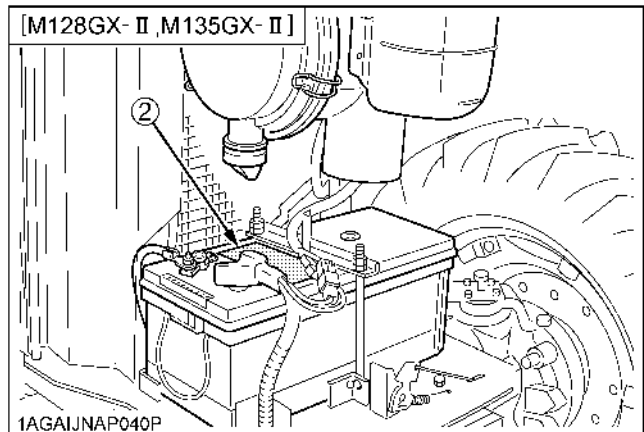
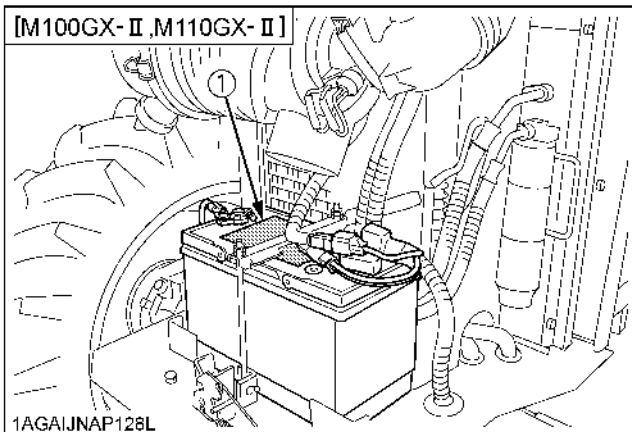
<b>⚠ DANGER/POISON</b>			<b>105E41R 12V</b>	
SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY.	NO SPARKS, FLAMES, SMOKING.	SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS.	AMP. HR (5HR)	80
KEEP OUT OF REACH OF CHILDREN. DO NOT TIP. DO NOT OPEN BATTERY.			AMP. HR (20HR)	100
FLUSH EYES IMMEDIATELY WITH WATER.  GET MEDICAL HELP FAST.			RESERVE CAPACITY (MIN)	160
PROPOSITION 65 WARNING BATTERY POSTS, TERMINALS, AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.			BCI CCA	900
			EN CCA	800
			S.O.C. INDICATOR	
			<b>Pb</b>	

1AGAIJHAP083A

(2) Part No. 3P903-9892-3

<b>⚠ DANGER / POISON</b>					<b>Pb</b>
SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY.	NO SPARKS, FLAMES, SMOKING.	SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS.			
KEEP OUT OF REACH OF CHILDREN. DO NOT TIP. DO NOT OPEN BATTERY.					
FLUSH EYES IMMEDIATELY WITH WATER.  GET MEDICAL HELP FAST.					
PROPOSITION 65 WARNING BATTERY POSTS, TERMINALS, AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.			S.O.C. INDICATOR		
<b>180G51(4D-1050)</b>	<b>12V</b>	<b>160Ah(20HR)</b>			
<b>RC 300(MIN)</b>	<b>1090CCA (SAE)</b>	<b>950CCA (EN)</b>			

1AGAIJNAP148A



1AGAIJOAP058G

(1) Part No. 3P903-9837-1

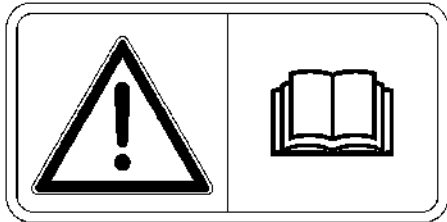
**DANGER/POISON**

- Shield eyes.
- Explosive gases can cause blindness or injury.
- No sparks, flames, smoking
- Sulfuric acid can cause blindness or severe burns.

KEEP OUT OF REACH CHILDREN.  
DO NOT TIP. DO NOT OPEN BATTERY.

- Flush eyes immediately with water.
- Get medical help fast

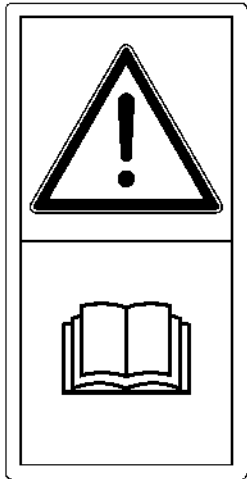
WASH HANDS AFTER HANDRING



1AGAIFYAP126A

(3) Part No. TD179-3491-1

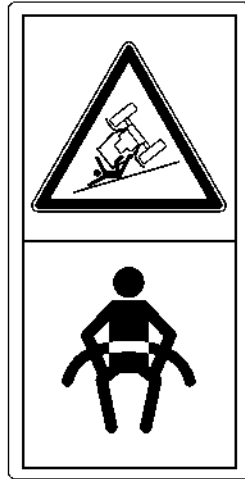
Carefully read operator's manual before handling the machine. Observe instructions and safety rules when operating.



1AGAWAEAP088A

(4) Part No. 3P903-4902-1

Seat belt should be used.

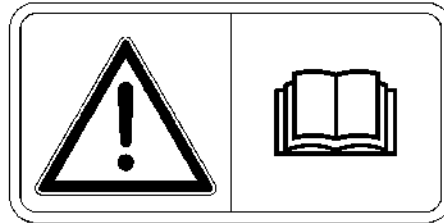


1AGAIFYAP086A

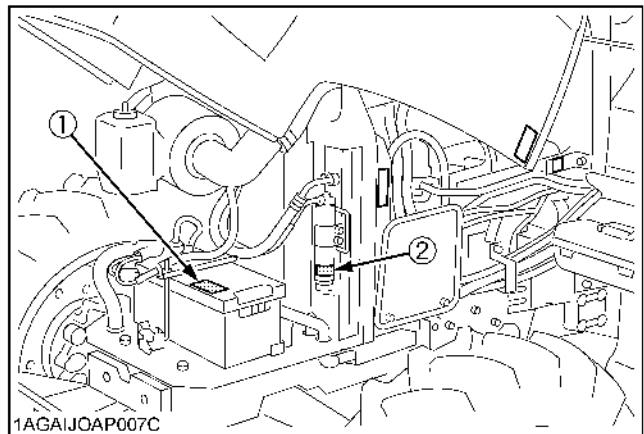
(2) Part No. 3P903-9837-1

**REFRIGERANT UNDER HIGH PRESSURE**

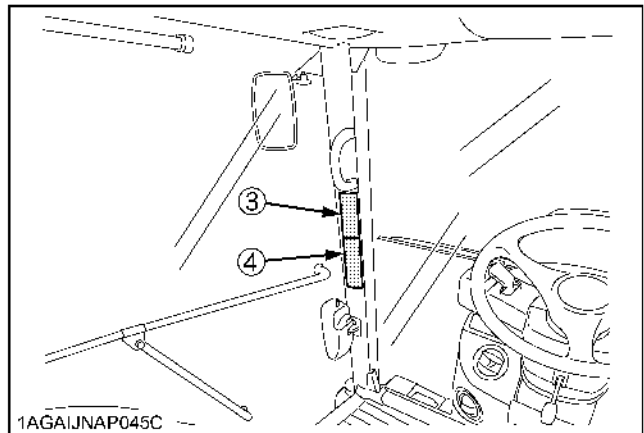
Improper service methods may cause personal injury. This air conditioning system should be serviced by your dealer or any other qualified service shop. See Repair Manual for detail.



1AGAIFYAP126A



1AGAIJOAP007C



1AGAIJNAP045C

1AGAIJOAP057A

## 8. CARE OF PICTORIAL SAFETY LABELS

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



# SERVICING OF TRACTOR

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

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

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

Locate the serial numbers now and record them in the space provided.

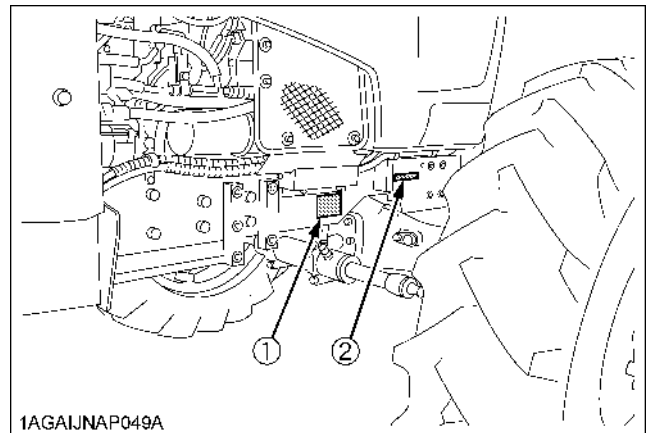
	Type	Serial No.
Tractor		
CAB / ROPS		
Engine		
Date of Purchase		
Name of Dealer		
(To be filled in by purchaser)		

◆ **Warranty**

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

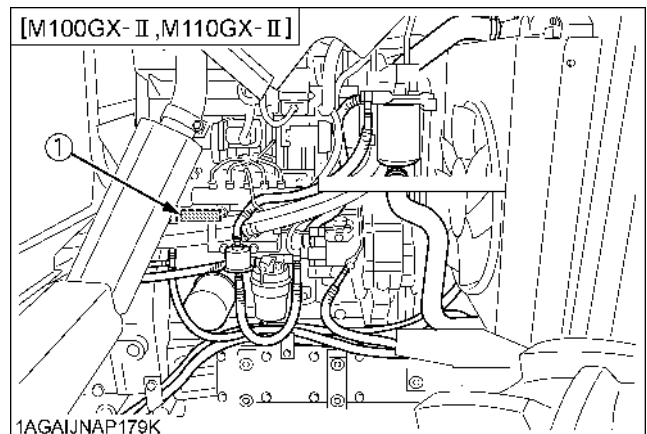
◆ **Scrapping the tractor and its procedure**

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



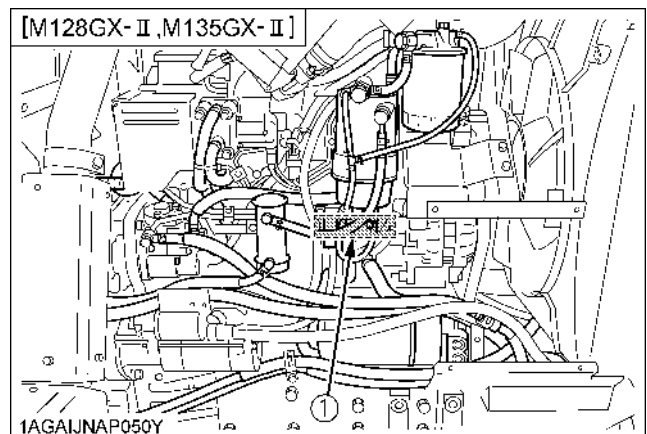
1AGAIJNAP049A

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



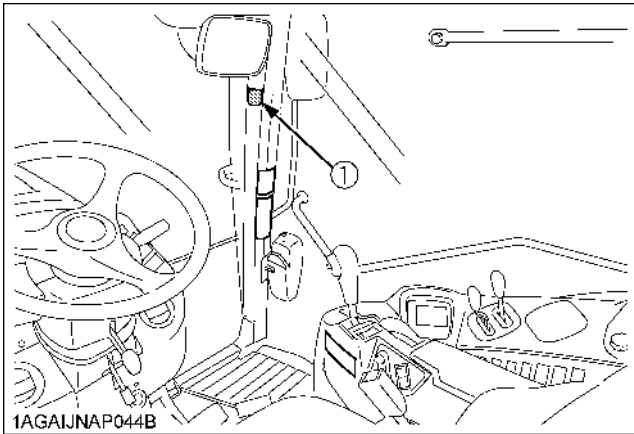
1AGAIJNAP179K

- (1) Engine serial number

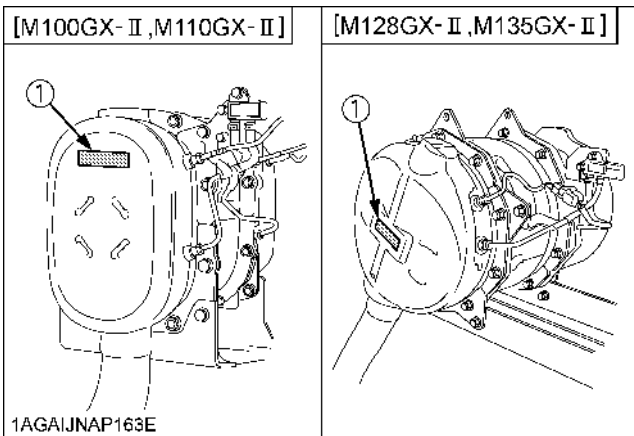


1AGAIJNAP050Y

- (1) Engine serial number



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



(1) Diesel Particulate Filter (DPF) serial number

# SPECIFICATIONS

## SPECIFICATION TABLE

Model			M100GX-II	M110GX-II	M128GX-II	M135GX-II
			4WD			
Engine	Model		V3800-CR-TIE4		V6108-CR-TIE4	
	Type		Direct Injection, with Common Rail System, turbocharger, Intercooler, Diesel Particulate Filter, and water cooled 4 cycle diesel			
	Number of cylinders		4			
	Total displacement	cm <sup>3</sup>	3769		6124	
	Bore and stroke	mm	100 x 120		118 x 140	
	Net power *1	kW (PS)	73.6 (100)	80.5 (109.5)	94.1 (128)	99.3 (135)
	PTO power (factory observed)	kW (PS) / rpm	59.6 (81) / 2600	66.9 (91) / 2600	79.4 (108) / 2200	84.6 (115) / 2200
	Maximum torque	N-m / rpm	346 / 1500	370 / 1500	537 / 1200	566 / 1200
	Battery capacity		12V, 100Ah at 20hours, 800CCA (EN)		12V, 160Ah at 20hours, 950CCA (EN)	
	Fuel tank capacity	L	190			
	Engine oil capacity	L	10.5		14.6	
	Coolant capacity	L	10.1		14.6	
Dimensions	Overall length		mm	4245	4400	
	Overall width (minimum tread)		mm	2130	2125	
	Overall height		mm	2830	2885	
	Wheel base		mm	2435	2690 <2680>	
	Tread	Front	mm	1565 to 1675	1720 to 1765	
		Rear	mm	1555 to 1860	1605 to 1810	
Crop clearance		mm	495	565		
Weight		kg	3990	4560 <4780>		
Traveling system	Standard tire size	Front tires		340/85R24	420/70R24	
		Rear tires		460/85R34	520/70R38	
	Clutch		Multiple wet disc, Electronic Hydraulically operated			
	Steering		Hydrostatic Power Steering			
	Braking system		Hydraulically operated wet disk			
	Trailer brake		Hydraulic			
	Trailer brake coupler		ISO 5676			
Differential		Bevel gears with differential lock (Front, Rear)				

4 SPECIFICATIONS

Model				M100GX-II	M110GX-II	M128GX-II	M135GX-II
				4WD			
Hydraulic unit	Hydraulic control system			Electronic Draft, Position, Mix control (Lower link sensing)			
	Pump capacity *2		L/min	76.3		82.5	
	3-point hitch			Category 2			
	Max. lifting force	At lifting points	kg	5000		6100	
		24 in. behind lifting point *3	kg	4300		4900	
	Remote hydraulic control			2 standard (3rd and 4th valve optional)			
	Remote control valve coupler			ISO 7241-1 standards "A"			
	System pressure		MPa (kgf/cm <sup>2</sup> )	19.6 (200)			
	Traction system			Swing drawbar, High-hitch and Piton-Fix			
PTO	Live PTO (Independent)	Direction of turning		Clockwise, viewed from tractor rear			
		PTO/Engine speed	rpm	6 splines: 540 / 2405 1000 / 2529		6 splines: 540 / 1994 1000 / 2050	
The level of protection against hazardous substance *4				Category 1			
Noise at the operator's ear *5		CAB/door closed	dB(A)	73		72	
		CAB/door opened	dB(A)	86		83	
Noise of the tractor in motion *6			dB(A)	82		85	
Value of the vibration level *7	Grammer MSG95A/721	Light driver	m/s <sup>2</sup>	1.24			
		Heavy driver	m/s <sup>2</sup>	1.1			

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

The figures in "Dimensions" and "Weight" are for the tractor equipped with a drawbar (Short type), a High-hitch (Normal) and a Piton-Fix.

**NOTE:** \*1 Manufacturer's estimate

\*2 Theoretical value

\*3 Top link mounting: upper hole

\*4 According to EN 15695-1:2009

\*5 Measured according to Directive 2009/76/EC

\*6 Measured according to Directive 2009/63/EC

\*7 Measured according to Directive 78/764/EEC

< > : Front suspension type

## TRAVELING SPEEDS

(At rated engine rpm)

Model	M100GX-II	M110GX-II	M128GX-II	M135GX-II
Tire size (Rear)	460/85R34	460/85R34	520/70R38	520/70R38
Range	Speed (km/h)	Speed (km/h)	Speed (km/h)	Speed (km/h)
C	1	0.20	0.20	0.20
	2	0.24	0.24	0.24
	3	0.30	0.30	0.29
	4	0.37	0.37	0.36
	5	0.41	0.41	0.41
	6	0.50	0.50	0.50
	7	0.61	0.61	0.61
	8	0.77	0.77	0.74
L	1	0.83	0.83	0.84
	2	1.02	1.02	1.01
	3	1.24	1.24	1.23
	4	1.56	1.56	1.50
	5	1.73	1.73	1.74
	6	2.12	2.12	2.11
	7	2.59	2.59	2.56
	8	3.25	3.25	3.12
M	1	3.5	3.5	3.5
	2	4.3	4.3	4.3
	3	5.3	5.3	5.2
	4	6.6	6.6	6.4
	5	7.4	7.4	7.4
	6	9.0	9.0	8.9
	7	11.0	11.0	10.9
	8	13.8	13.8	13.2
H	1	9.8	9.8	9.8
	2	12.0	12.0	11.9
	3	14.6	14.6	14.4
	4	18.3	18.3	17.6
	5	20.3	20.3	20.4
	6	24.9	24.9	24.7
	7	30.3	30.3	30.0
	8 *	39.5	39.5	39.1

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

\* At maximum engine rpm.

# IMPLEMENT LIMITATIONS

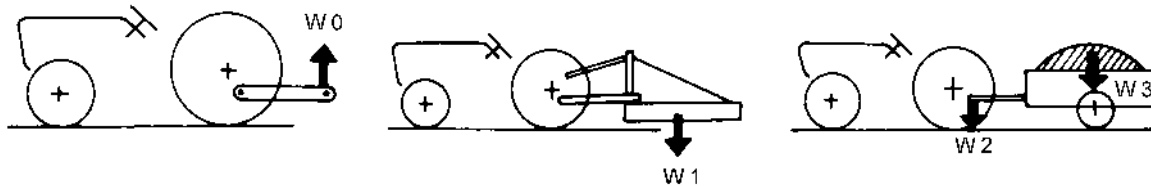
The KUBOTA Tractor has been thoroughly tested for proper performance with implements sold or approved by KUBOTA. Use with implements which are not sold or approved by KUBOTA and which exceed the maximum specifications listed below, or which are otherwise unfit for use with the KUBOTA Tractor may result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

	Tread (max. width)		Operating condition	Lower link end max. lifting capacity W0
	Front	Rear		
M100GX-II M110GX-II	1675 mm	1860 mm	<b>IMPORTANT :</b> ● Tractor with front spacer option is not approved for use with front loader.	5000 kg
M128GX-II M135GX-II	1765 mm	1810 mm		6100 kg

Actual figures		
Implement weight W1 and / or size	Max. Drawbar Load W2	Trailer loading weight W3 Max. capacity

As in the following list (Shown on the next page)

Lower link end max, hydraulic lifting capacity..... W0  
 Implement weight.....The implement's weight which can be put on the lower link: W1  
 Max. drawbar load.....W2  
 Trailer loading weight.....The max. loading weight for trailer (without trailer's weight): W3



1AGAIAZAP121B

**NOTE :**

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

No.	Implement		Remarks		M100GX-II, M110GX-II	M128GX-II, M135GX-II	
					4WD		
1	Slurry Tank		Max. Tank Capacity	L	5000	6000	
			Max. Load Capacity	kg	6000	7000	
2	Trailer		Max. Load Capacity	kg	Shown on the next page		
			Max. Drawbar Load	kg	Shown on the next page		
3	Mower	Rotary-Cutter	Max. Cutting Width	mm	3200		
			Max. Weight	kg	800		
		Flail Mower (Heavy)	Max. Cutting Width	mm	4267		
			Max. Weight	kg	1360		
Sickle Bar	Max. Cutting Width	mm	3050				
4	Sprayer		Max. Tank-Capacity	Mid	L	1000	1200
				Rear 3P	L	1200	1400
				Drawbar	L	5500	6000
5	Rotary Tiller		Max. Tilling Width	mm	2700		
			Max. Weight	kg	1200		
6	Bottom Plow		Max. Size		14 in. x 5 18 in. x 4 20 in. x 3 22 in. x 2 24 in. x 1	14 in. x 6 18 in. x 5 20 in. x 4 22 in. x 2 24 in. x 1	
			Max. Weight	kg 3P Type	1100		
7	Disk harrow	3P Type	Max. Size		24 in. x 30		
			Max. Harrowing Width	mm	3600		
		Max. Weight	kg	1000			
		Drawbar Type	Max. Harrowing Width	mm	4570		
8	Disc Plow		Max. Size		30 in. x 4		
			Max. Weight	kg	1000		
9	Sub Soiler		Numbers of Cultivating Tines		3		
			Cultivating Depth	mm	600		
10	Cultivator		Max. Width	mm	5490		
			Number of Rows		6		
			Max. Weight	kg	1000		
11	Front Blade *1,*2		Max. Cutting Width	mm	2600		
			Max. Oil Pressure	MPa (kgf/cm <sup>2</sup> )	18.1 (185)		
12	Rear Blade		Max. Cutting Width	mm	2600		
			Max. Oil Pressure	MPa (kgf/cm <sup>2</sup> )	18.1 (185)		
13	Front Loader *1,*2		Max. Lifting Capacity (Bucket pivot pin, max height) *3	kg	1950	2210	
			Max. Oil Pressure	MPa (kgf/cm <sup>2</sup> )	20.5 (209)		
14	Box Blade		Max. Cutting Width	mm	2430		
			Max. Weight	kg	800		
15	Back Hoe *2		Max. Digging Depth	mm	3050		
			Max. Weight	kg	1200		
16	Snow Blade		Max. Width	mm	2600		
			Max. Weight	kg	800		

**NOTE :**

● Implement size may vary depending on soil operating conditions.

\*1 Must remove front weight with this implement.

\*2 Need subframe

\*3 The value contains the weight of KUBOTA standard bucket.

◆ **Trailer Load Capacity**

**[M100GX-II, M110GX-II]**

TYPE: A (hitch made by: V.ORLANDI)

		Hitch type : KB31									
		Drawbar			High-hitch					Piton-fix	
		Short	Long	CUNA	EEC manual	EEC swing	CUNA C (MHC)	CUNA D2 (MH D2-1)	CUNA D3 (MH D3)		
Vertical load (kg) W2	A	2035	1375	0	1295	1295	1500	1417	1425	1405	2545
	B	---	1850		1385	1375		1515	1495	---	
	C	---	2055		1465	1465		1610	1590	---	
	D	---	---	---	1790	1790		1945	1925	---	
	E	---	---	---	2120	2110	2000	2270	---		
	F	---	---	---	2240	2230		2395	---		
	G	---	---	---	2365	2355		2500	---		
	H	---	---	---	2495	2485		---	---		
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000	3000	3000	3000	
	Independently braked mass	8000	8000	6000	8000	8000	6000	8000	8000	8000	
	Inertia-braked towable mass										
	Towable mass when fitted with hydraulic or pneumatic braking	32000	[A]		10000	32000		16000	14000	20000	32000
[B]			13500								
[C]			17000								

		Hitch type : KB3F									
		Drawbar			High-hitch					Piton-fix	
		Short	Long	CUNA	EEC manual	EEC swing	CUNA C (MHC)	CUNA D2 (MH D2-1)	CUNA D3 (MH D3)		
Vertical load (kg) W2	A	2035	1375	0	1325	1325	1500	1415	1425	1405	2975
	B	---	1850		1415	1415		1520	1500	---	
	C	---	2055		1500	1500		1610	1590	---	
	D	---	---	---	1725	1725		1945	1835	---	
	E	---	---	---	1965	1965	2000	2060	---		
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000	3000	3000	3000	
	Independently braked mass	8000	8000	6000	8000	8000	6000	8000	8000	8000	
	Inertia-braked towable mass										
	Towable mass when fitted with hydraulic or pneumatic braking	32000	[A]		10000	32000		16000	14000	20000	32000
[B]			13500								
[C]			17000								



TYPE: B (hitch made by: SCHARMÜLLER)

		Drawbar	High-hitch				Piton-fix
			Automatic Clevis	Manual Clevis	K80 Ball with Grab Handle	K80 Ball without Grab Handle	
Vertical load (kg) W2	A	1835	1365	1375	1355	1315	1315
	B	2035	1525	1535	1505	1475	1475
	C	---	1730	1740	1700	1680	1680
	D	---	1965	1985	1935	1915	1915
	E	---	2000	2000	2000	2000	2000
	F	---					
	G	---					
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000
	Independently braked mass	8000	8000	8000	8000	8000	8000
	Inertia-braked towable mass						
	Towable mass when fitted with hydraulic or pneumatic braking	13000	32000	32000	32000	32000	32000

TYPE: C (hitch made by: DROMONE)

		Auto hitch	
		Drawbar	Towing hook
Vertical load (kg) W2	A	1730	3055
	B		---
	C	---	---
	D	---	---
	E	---	---
	F	---	---
	G	---	---
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000
	Independently braked mass	8000	8000
	Inertia-braked towable mass		
	Towable mass when fitted with hydraulic or pneumatic braking	32000	32000

**[M128GX-II, M135GX-II]**

TYPE: A (hitch made by: V.ORLANDI)

		Hitch type : KB31									
		Drawbar			High-hitch					Piton-fix	
		Short	Long	CUNA	EEC manual	EEC swing	CUNA C (MHC)	CUNA D2 (MH D2-1)	CUNA D3 (MH D3)		
Vertical load (kg) W2	A	2035	1375	0	1525	1590	1500	1660	1650	2545	
	B	---	1850		1620	1660		1760	1740	---	
	C	---	2130	---	1720	1750		1865	1845	---	
	D	---	---	---	2080	2110		2000	2220	---	
	E	---	---	---	2435	2465				---	
	F	---	---	---	2545	2495				2500	---
	G	---	---	---							---
	H	---	---	---	---	---		---	---		
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000	3000	3000	3000	
	Independently braked mass	8000	8000	6000	8000	8000	6000	8000	8000	8000	
	Inertia-braked towable mass										
	Towable mass when fitted with hydraulic or pneumatic braking	32000	[A]		10000	32000		16000	14000	20000	32000
[B]			13500								
[C]			17000								

		Hitch type : KB3F								
		Drawbar			High-hitch					Piton-fix
		Short	Long	CUNA	EEC manual	EEC swing	CUNA C (MHC)	CUNA D2 (MH D2-1)	CUNA D3 (MH D3)	
Vertical load (kg) W2	A	2035	1375	0	1525	1590	1500	1660	1650	3055
	B	---	1850		1620	1680		1760	1740	---
	C	---	2130	---	1720	1780		1865	1845	---
	D	---	---	---	1955	2130		2000	2090	---
	E	---	---	---	2220	2485				2365
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000	3000	3000	3000
	Independently braked mass	8000	8000	6000	8000	8000	6000	8000	8000	8000
	Inertia-braked towable mass									
	Towable mass when fitted with hydraulic or pneumatic braking	32000	[A]		10000	32000		16000	14000	20000
[B]			13500							
[C]			17000							

TYPE: B (hitch made by: SCHARMÜLLER)

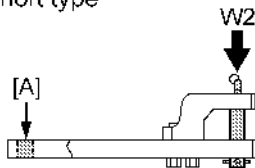
		Drawbar	High-hitch				Piton-fix
			Automatic Clevis	Manual Clevis	K80 Ball with Grab Handle	K80 Ball without Grab Handle	
Vertical load (kg) W2	A	1835	1600	1610	1590	1545	1545
	B	2035	1780	1790	1760	1730	1730
	C	---	2000	2000	1975	1945	1945
	D	---			2000	2000	2000
	E	---					
	F	---					
	G	---					
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000	3000	3000	3000	3000
	Independently braked mass	8000	8000	8000	8000	8000	8000
	Inertia-braked towable mass						
	Towable mass when fitted with hydraulic or pneumatic braking	13000	32000	32000	32000	32000	32000

TYPE: C (hitch made by: DROMONE)

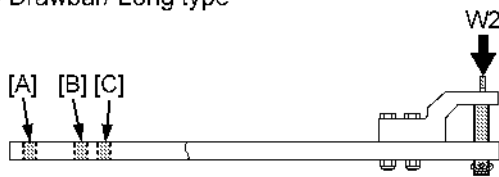
		Auto hitch	
		Drawbar	Towing hook
Vertical load (kg) W2	A	1730	3055
	B		---
	C	---	---
	D	---	---
	E	---	---
	F	---	---
	G	---	---
Trailer loading weight max. capacity (kg) W3	Unbraked towable mass	3000	3000
	Independently braked mass	8000	8000
	Inertia-braked towable mass		
	Towable mass when fitted with hydraulic or pneumatic braking	32000	32000

**[Type: A (hitch made by: V.ORLANDI)]**

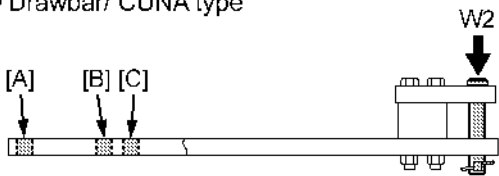
- Drawbar/ Short type



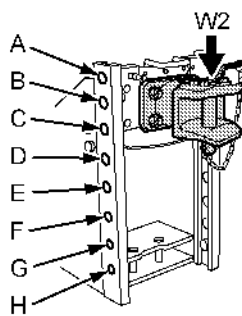
- Drawbar/ Long type



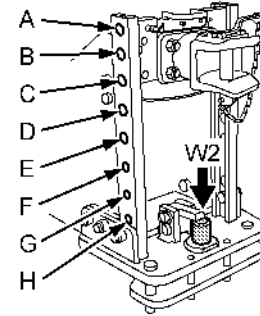
- Drawbar/ CUNA type



- High-hitch (KB31)

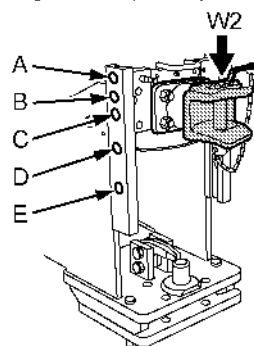


- Piton-fix (KB31)

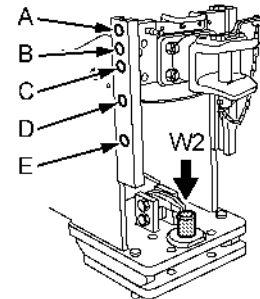


When the tractor is equipped with piton-fix, the H hole of High-hitch cannot be used.

- High-hitch (KB3F)



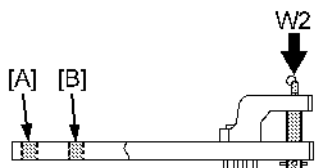
- Piton-fix (KB3F)



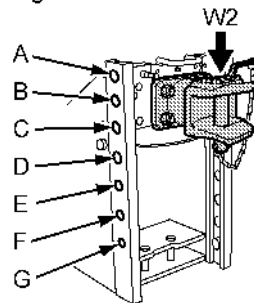
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**[Type: B (hitch made by: SCHARMÜLLER)]**

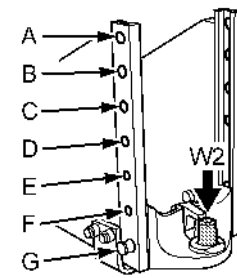
- Drawbar



- High-hitch



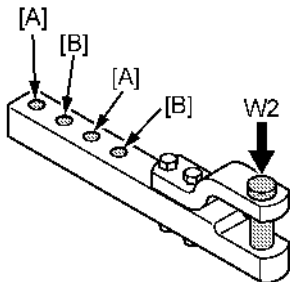
- Piton-fix



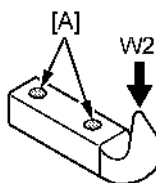
1AGAIJOAP064G

**[Type: C (hitch made by: DROMONE)]**

- Drawbar



- Towing hook



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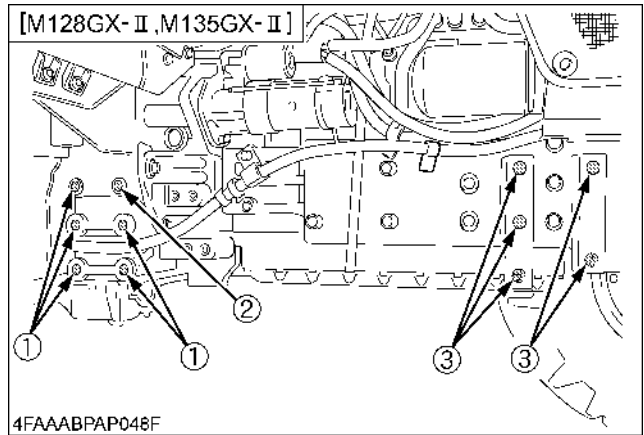
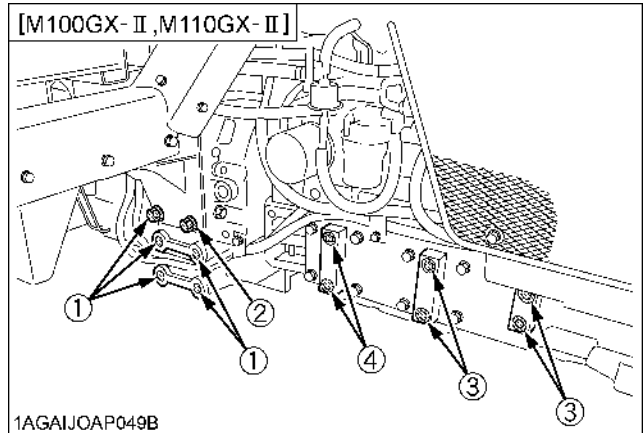
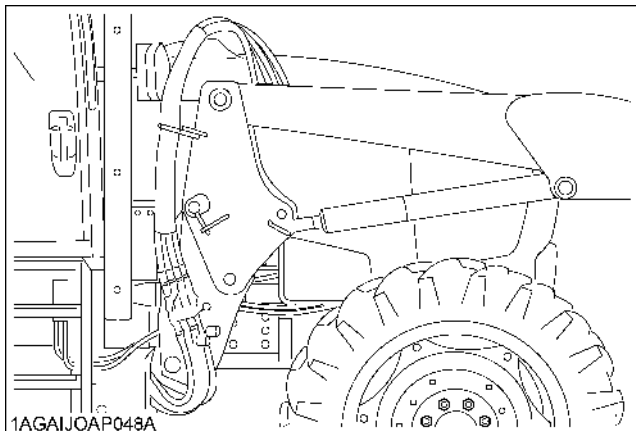
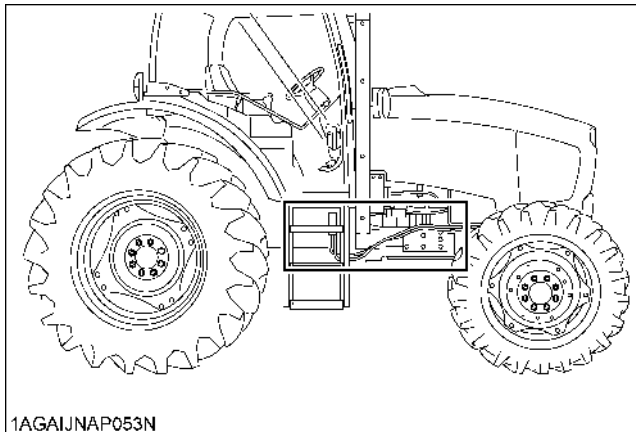
**Front Loader**

**Fixation points on the body of the tractor where the front loader must be installed.**

Install the front loader frame to the clutch housing and the front axle frame as shown.

	M100GX-II, M110GX-II			
	(1)	(2)	(3)	(4)
Size-length	M18-65 bolt	M18-60 stud	M20-60 bolt	M20-110 bolt
Strength division	8.8 Approx. SAE GR5			
Number of pieces	10	2	8	4
Tightening torque	318.5 N-m (32.5 kgf-m)		367.8 N-m (37.5 kgf-m)	

	M128GX-II, M135GX-II		
	(1)	(2)	(3)
Size-length	M18-65 bolt	M18-60 stud	M20-60 bolt
Strength division	8.8 Approx. SAE GR5		
Number of pieces	10	2	10
Tightening torque	318.5 N-m (32.5 kgf-m)		367.8 N-m (37.5 kgf-m)



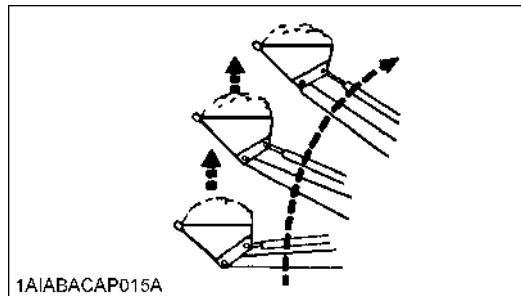
**DANGER**

To avoid personal:

- Special attention should be made when lifting the load, keep the bucket correctly positioned to prevent spillages.

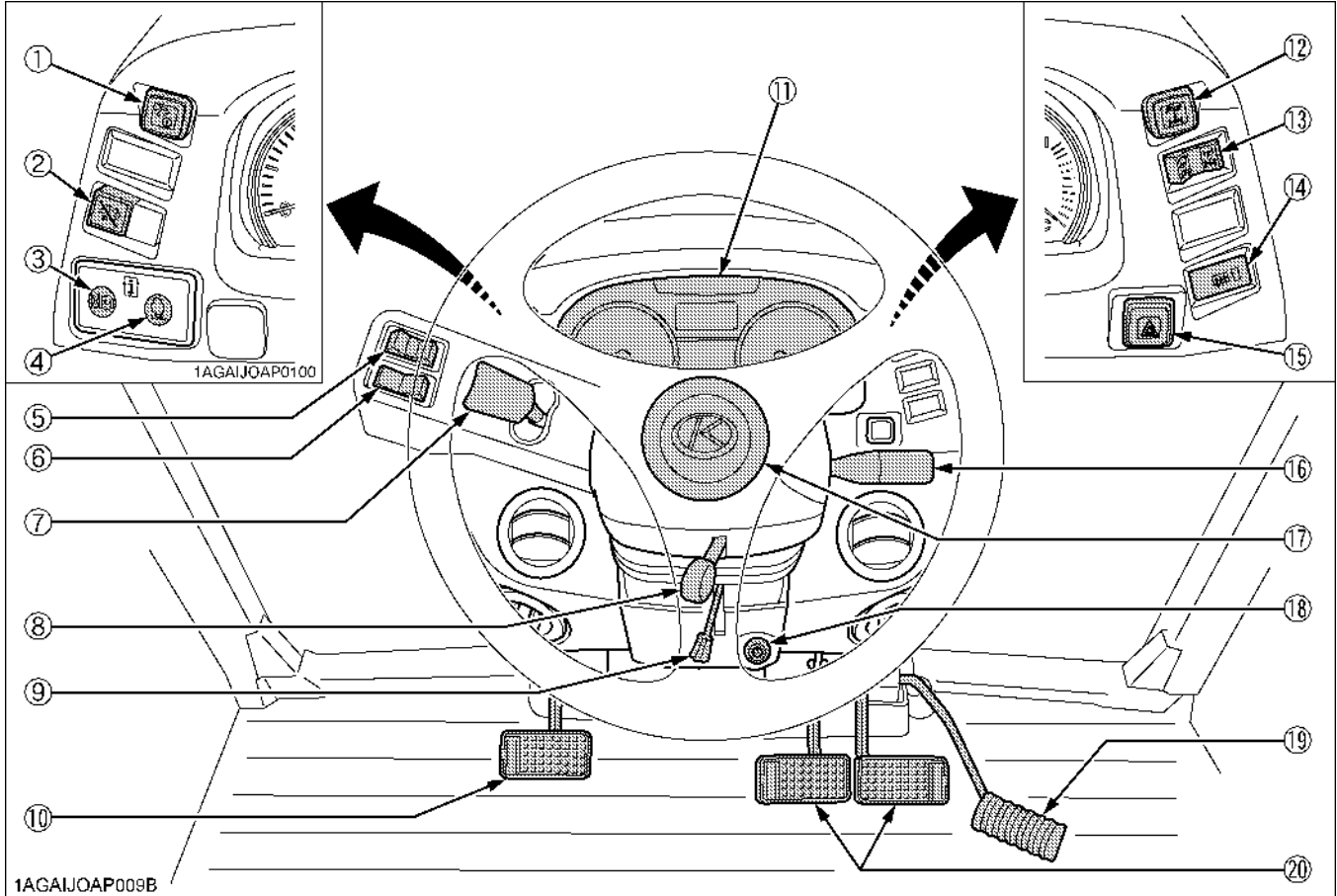
**NOTE :**

- Not all risks are listed. Refer to front loader operator's manual.



# INSTRUMENT PANEL AND CONTROLS

■ Instrument Panel, Switches and Hand Controls

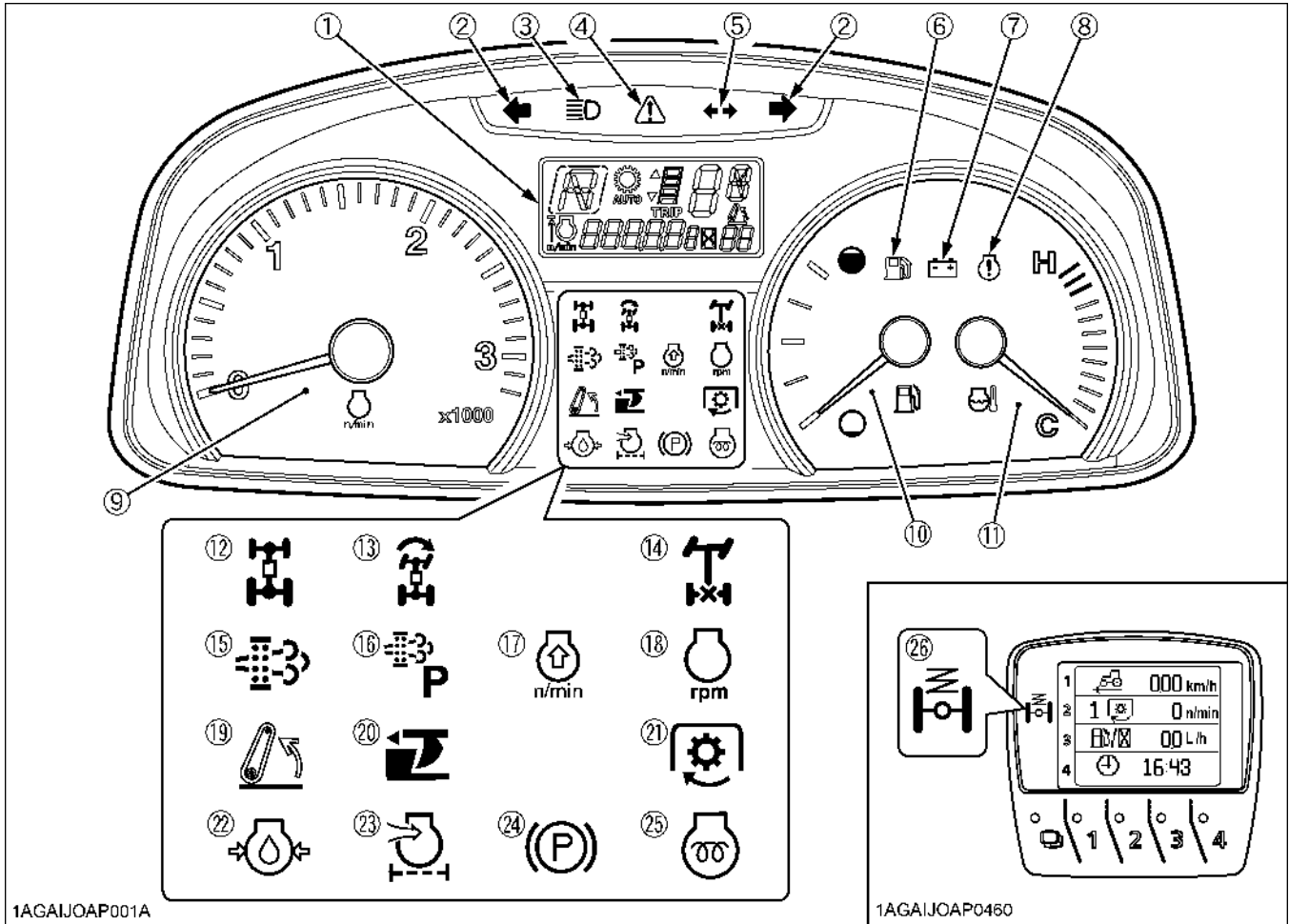


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(4) Engine RPM dual memory A/B indicator switch .....	54
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ILLUSTRATED CONTENTS

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(13) 4WD / Bi-speed turn switch .....	44
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(18) Key switch .....	---
(19) Foot throttle .....	45
(20) Brake pedal .....	39



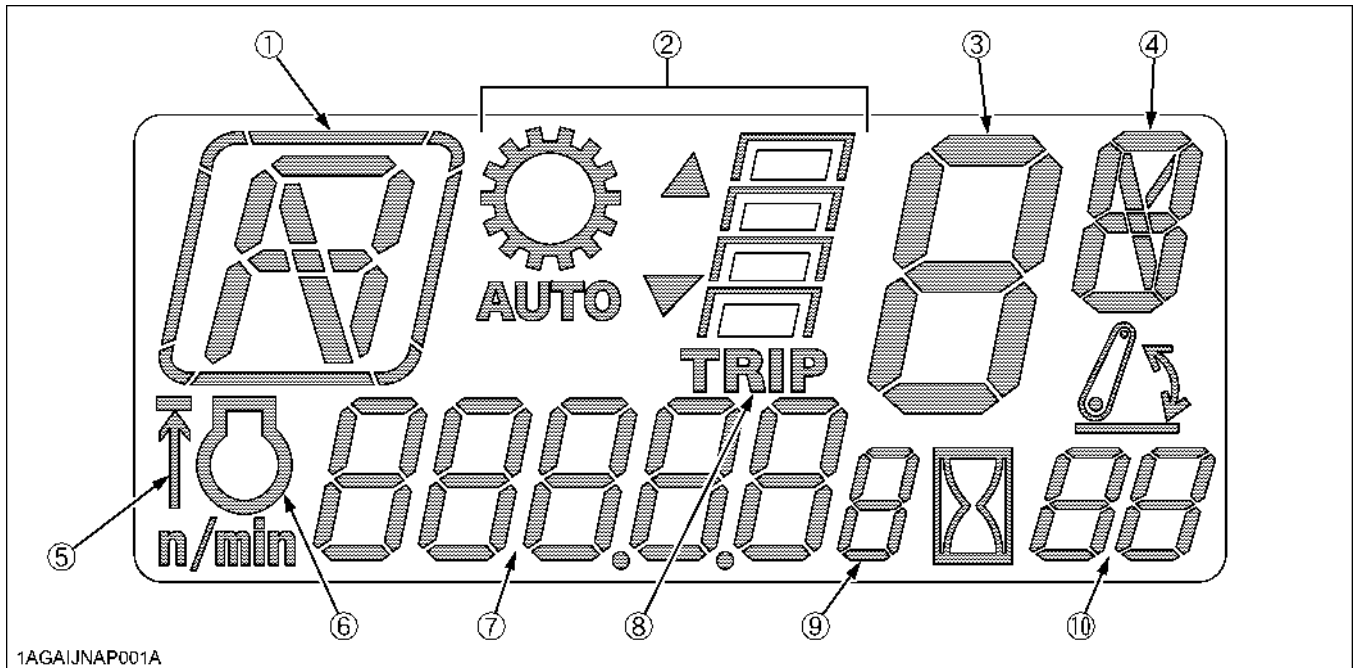
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(13) Bi-speed turn indicator .....	44
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(17) Engine RPM increase indicator .....	22
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[Front suspension type, Side digital display] .....	66

◆ Liquid Crystal Display

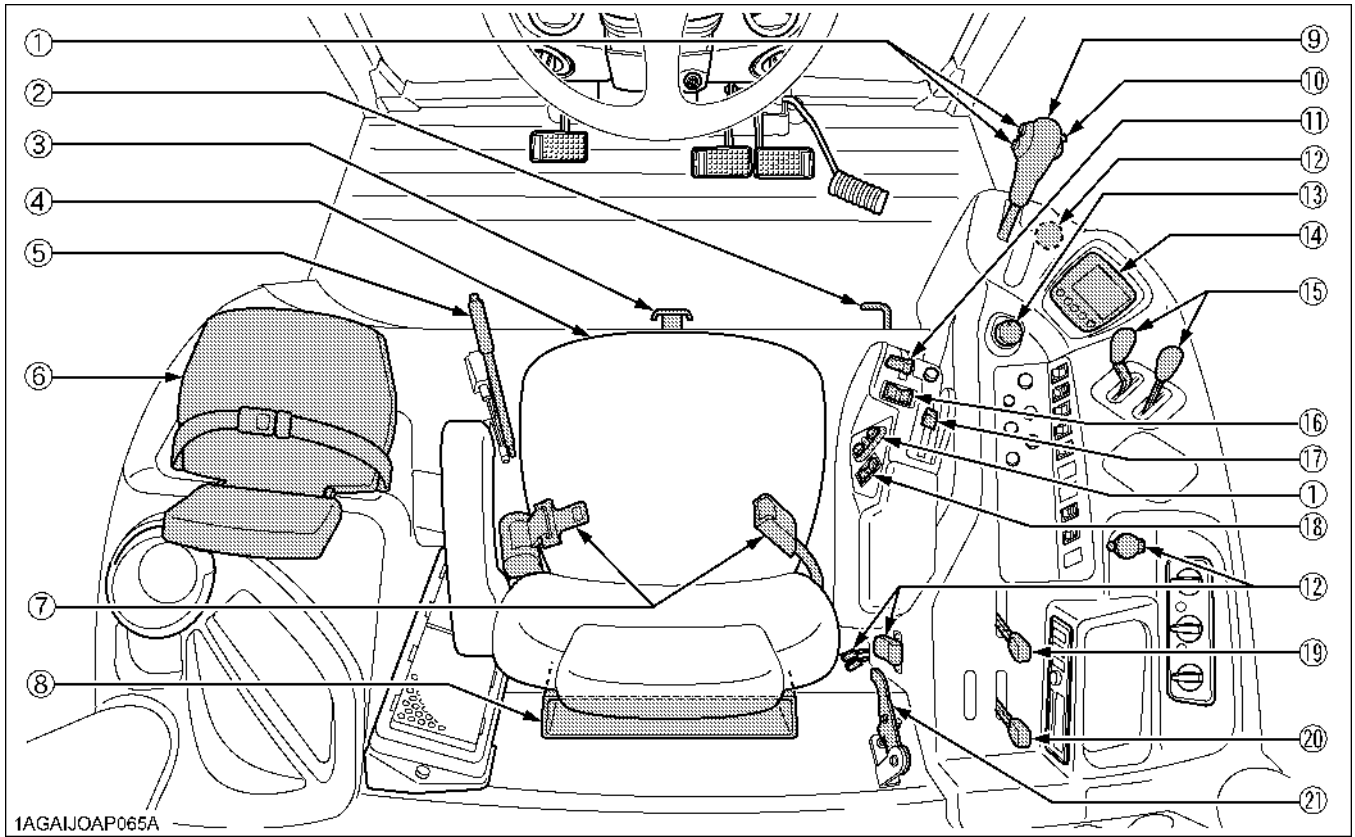


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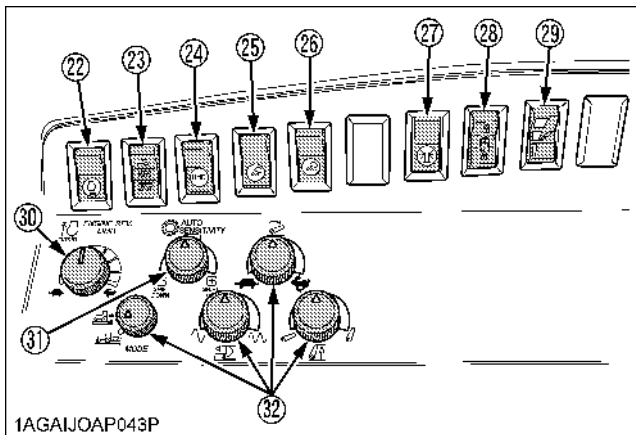
No.	Message	Description	Reference page
(1)	Displays "F", "R" or "N".	"F" is displayed when forward operation is selected with the shuttle lever. "R" is displayed when reverse operation is selected. ("N" is displayed when the lever is in the neutral position.)	43
(2)		AUTO MODE (Automatic speed change) <ul style="list-style-type: none"> <li>• Lights up when Travel mode or Field mode is selected.</li> <li>• Turns off when Travel mode and Field mode are not selected.</li> </ul>	58
(3)	Displays "1" - "8" or "E".	Displays the number of the Power shift ratios that was selected with the Up-shift/Down-shift button. "E" appears in case of gear shift error.	41
(4)	Displays "L", "M", "H", "C", or "N".	Displays the position of the range gear shift that was selected with the Power shift/Range shift lever. "C" appears when the creep speed is selected (option).	41
(5)		Light up when the Rev-limiter control has been set. (Display flashes when the engine speed is at or below the set speed.)	54
(6)		Lights up when the RPM dual memory has been set.	54
(7)		Depending on the settings, the below messages are displayed. 1. Elapsed time (hour meter)                      4. Maximum engine speed that is set by the Rev- limiter control 2. Trip time 3. Engine speed that is set in memory      5. Failure information or other information	48
(8)	TRIP	Lights up when trip time mode is selected.	48
(9)	Displays "h", "A", "B", or "L".	<ul style="list-style-type: none"> <li>• "h" is displayed when the hour meter or trip time is selected.</li> <li>• "A" or "B" is displayed when the RPM dual memory is set.</li> <li>• "L" is displayed when the Rev-limiter control has been set.</li> </ul>	48 54 54
(10)	Displays "0" - "99".	Digital display of the lift arm height.	---



■ Foot and Hand Controls



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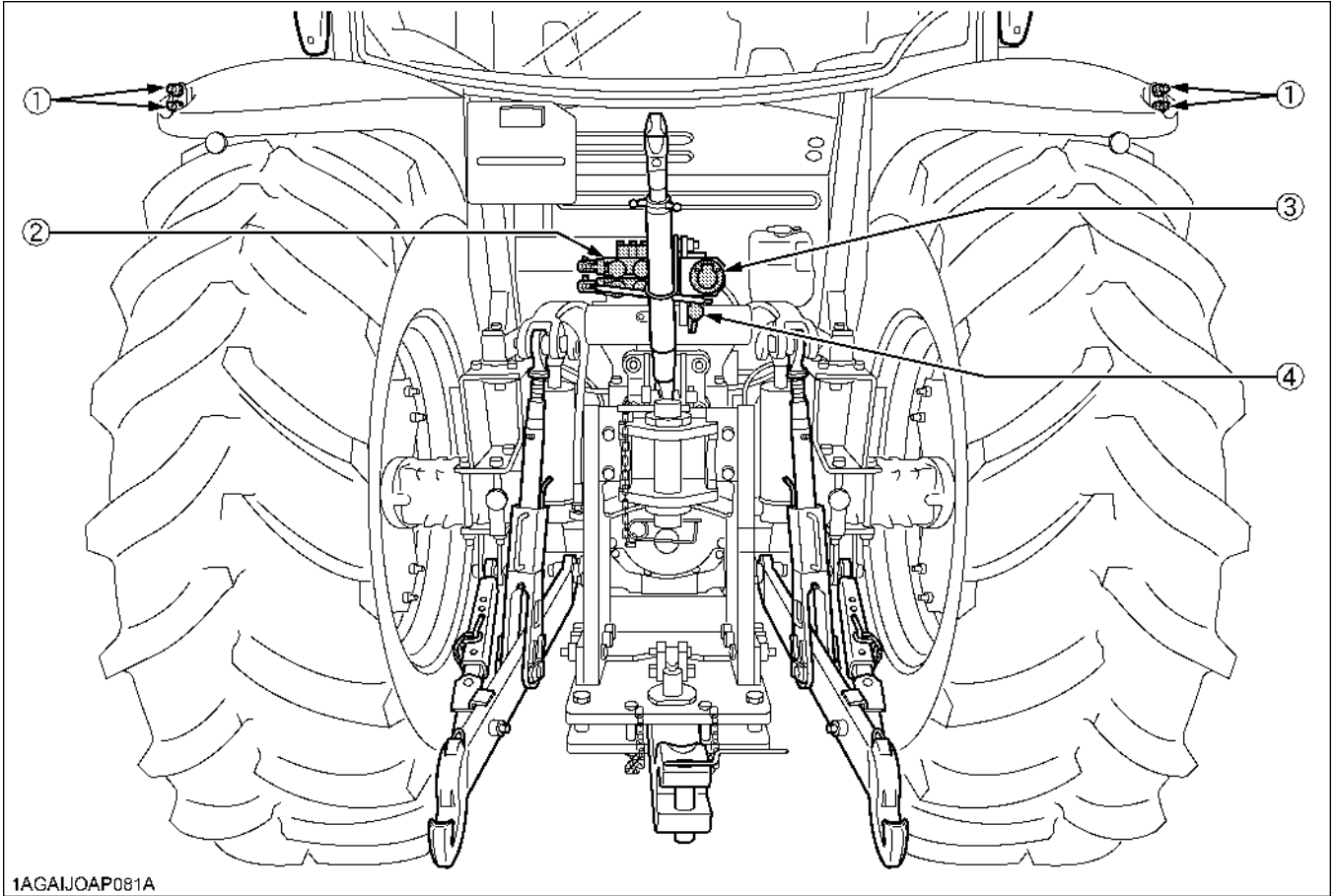
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(21) Auto hitch release lever (if equipped) .....	88
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(23) Auto-Mode switch .....	58
(24) DHC switch .....	43
(25) Front work light switch .....	38
(26) Rear work light switch .....	38
(27) Beacon light switch .....	114
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(4) Trailer hydraulic brake outlet .....	72

# PRE-OPERATION CHECK

## DAILY CHECK

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



### WARNING

To avoid personal injury or death:

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

#### Check item

- Walk around inspection
  - Check engine oil level
  - Check transmission oil level
  - Check coolant level
  - Check water separator
  - Clean grill, radiator and screen
  - Check DPF muffler
  - Check air cleaner evacuator valve  
(When used in a dusty place)
  - Check brake pedal
  - Check indicators, gauges and meter
  - Check lights
  - Check seat belt
  - Check movable parts
  - Refuel  
(See "DAILY CHECK" in "PERIODIC SERVICE" section.)
  - Care of pictorial safety labels  
(See "PICTORIAL SAFETY LABELS" in "SAFE OPERATION" section.)
-

# OPERATING THE ENGINE



## WARNING

To avoid personal injury or death:

- Read "Safe Operation" in the front of this manual.
- Understand the pictorial 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.
- When the engine is started, the machine height may change unexpectedly. Before starting the tractor, make sure the area near the machine is clear of all persons and objects. [Front suspension type].

## 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.

## EXHAUST AFTERTREATMENT DEVICES



## WARNING

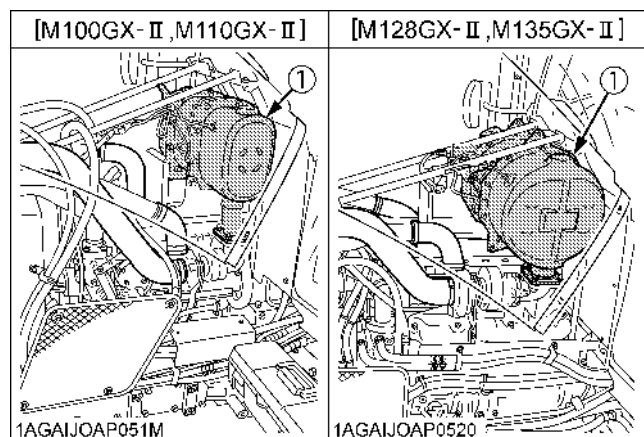
To avoid personal injury or death:

- 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 a non ventilated 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 DPF (Diesel Particulate Filter) 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 PM (particulate matter).

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



(1) Diesel Particulate Filter (DPF)

## ■ Handling Points

When a specific amount of PM (particulate matter) 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, make sure to observe the following handling matters.

### ◆ Fuel

Be sure to 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 burnt, and begins to accumulate. Therefore, don't 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 continued operation by ignoring the warning signs may cause DPF and engine damage.

## ■ DPF Regeneration Process

DPF regeneration process can be performed by choosing from "Auto Regeneration" or "Regeneration inhibit" mode according to your job conditions. For jobs not affected by hot gases emitted during regeneration, the "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 (See the "Tips on Diesel Particulate Filter [DPF] Regeneration"), the DPF will be automatically regenerated whether the tractor is in motion or parked.

By this way, work efficiency is improved. For details of auto regeneration, refer to "Operating Procedure for Auto Regeneration Mode" section.

### ◆ 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 burnt, unless the operator performs the regeneration work manually.

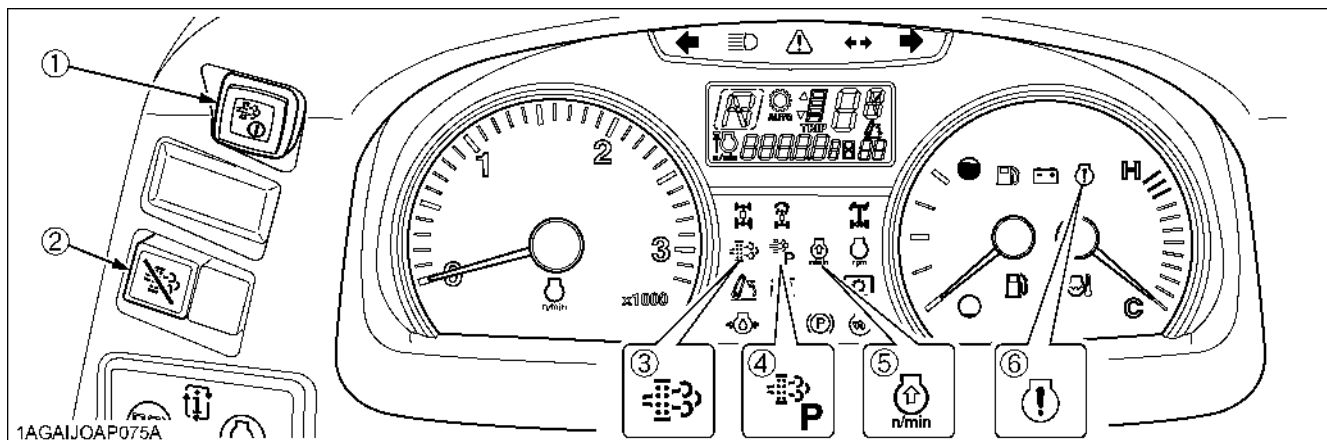
The "Regeneration Inhibit" mode is effective for work in poorly ventilated work spaces.

For details of regeneration prohibition, refer to "Operating Procedure for Regeneration Inhibit Mode" section.

### NOTE :

- If stop the engine once, the "Auto Regeneration" mode will be activated.

### Operating Procedure for Auto Regeneration Mode



(1) Parked regeneration switch  
(2) DPF INHIBIT switch

(3) Regeneration indicator  
(4) Parked regeneration indicator

(5) Engine RPM increase indicator  
(6) Engine warning indicator

### ■ Regeneration Operating Procedure


1. Start the engine.  
(Make sure that the DPF INHIBIT switch lamp  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 the "Tips on Diesel Particulate Filter [DPF] Regeneration")

### ■ PM Warning Level and Required Procedures

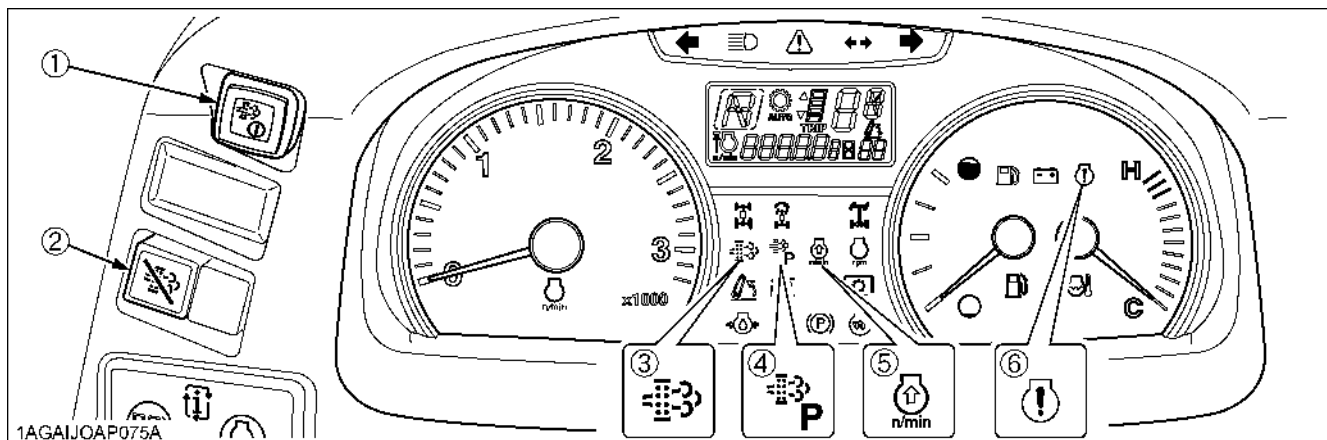
During Auto Regeneration Mode when the PM level has built up in the DPF, the regeneration cycle will begin automatically. If the regeneration cycle is interrupted or the regeneration conditions are not satisfied, the buzzer starts sounding and the indicator display changes in response to the PM level in order to prompt the operator to perform the required procedure listed below.

**IMPORTANT :**

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

Auto Mode		
	DPF system status	Required procedure
PM warning level: <b>1</b> Buzzer: Not sounding	 The regeneration indicator starts flashing.   The RPM increase indicator starts flashing.   The regeneration indicator will stop flashing and remain "ON" constantly.	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 regeneration cycle begins and continues until cycle is complete then the indicator will turn "OFF".
PM warning level: <b>2-1</b> 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.   The regeneration indicator starts flashing.	Start the regeneration, referring to PM warning level: 1 above. Now the parked regeneration indicator starts flashing, and the parked regeneration can also be started. If the regeneration conditions are not met, perform the parked regeneration. <ul style="list-style-type: none"> <li>● For the procedure, refer to "Operating Procedure for Parked Regeneration".</li> </ul>
PM warning level: <b>2-2</b> Buzzer: Sounding every 3 seconds	 The RPM increase indicator starts flashing.   The parked regeneration indicator starts flashing.	
PM warning level: <b>3</b> 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. <ul style="list-style-type: none"> <li>● For the procedure, refer to "Operating Procedure for Parked Regeneration".</li> </ul> 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: <b>4</b> 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 and park it there and turn the engine "OFF". Contact your local KUBOTA Dealer. <ul style="list-style-type: none"> <li>● At this level, never continue to operate the tractor otherwise damage will result to the DPF and engine.</li> </ul>

### Operating Procedure for Regeneration Inhibit Mode




(1) Parked regeneration switch  
(2) DPF INHIBIT switch

(3) Regeneration indicator  
(4) Parked regeneration indicator


(5) Engine RPM increase indicator  
(6) Engine warning indicator

### ■ Regeneration Operating Procedure

1. Start the engine.

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

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

3. When the parked regeneration indicator  starts flashing:

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










### ■ 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 below.

**IMPORTANT :**

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

Regeneration Inhibit Mode		
	DPF system status	Required procedure
PM warning level: <b>1</b> 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.
	 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 regeneration.	
PM warning level: <b>2-1</b> Buzzer: Sounding every 5 seconds	 The regeneration indicator starts flashing.	Move the tractor to a safe area, then follow the "Operating Procedure for Parked Regeneration".
PM warning level: <b>2-2</b> Buzzer: Sounding every 3 seconds	 The Parked regeneration indicator starts flashing.	
PM warning level: <b>3</b> 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.  The parked regeneration indicator starts flashing	Immediately stop working the tractor, move the tractor to a safe area, then follow the "Operating Procedure for Parked Regeneration". If the tractor is operated further and the operator ignores the warning signs, then regeneration will be disabled.
PM warning level: <b>4</b> 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 and place in park, turn "OFF" engine. Contact your local KUBOTA Dealer. <ul style="list-style-type: none"> <li>● At this level never continue to operate the tractor, otherwise damage may result to the DPF and engine.</li> </ul>

<b>Operating Procedure for Parked Regeneration</b>
--

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

**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 an emergency stop. Otherwise, the regeneration will be interrupted.
  - Never leave the tractor when 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.
-

## ■ Tips on Diesel Particulate Filter (DPF) Regeneration

### ● Operation

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

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

### ● Necessary conditions for "Regeneration"

When conditions below are all satisfied, regeneration will start. However, if even one condition is deviated during the process, the regeneration will be interrupted.

- (1) The engine coolant temperature.
- (2) The DPF temperature.
- (3) The engine speed is 1200 rpm or higher.

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

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

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

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

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

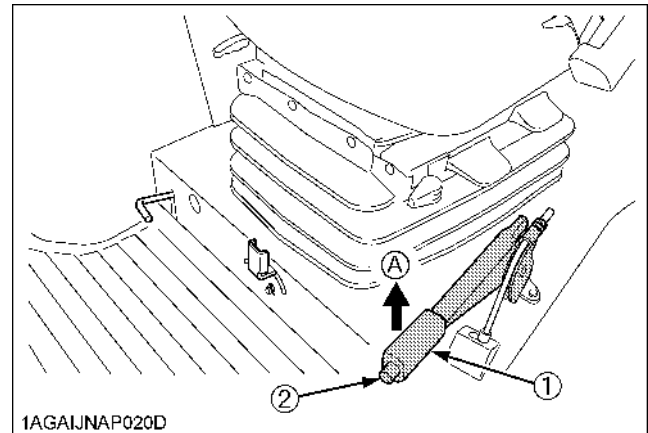
- Just after the regeneration has ended, the DPF muffler remains hot. It is advisable to keep the engine running for about 5 minutes to allow cooling of the exhaust components.

## STARTING THE ENGINE

### 1. Make sure the parking brake is set.

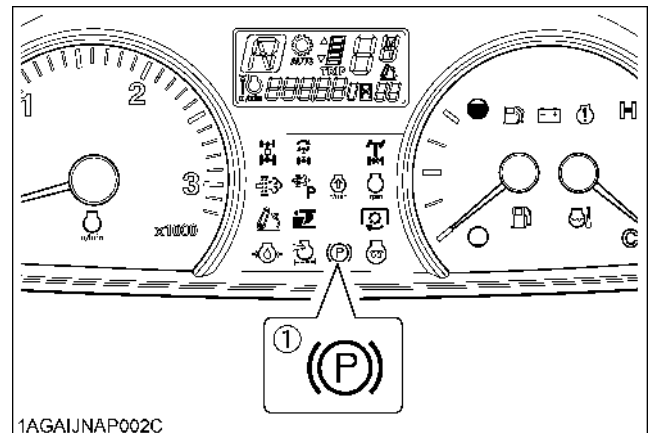
Pull the parking brake lever up to park.

The parking brake indicator light on the Easy Checker(TM) will come on while the parking brake is set.



(1) Parking brake lever  
(2) Release button

(A) "PULL"

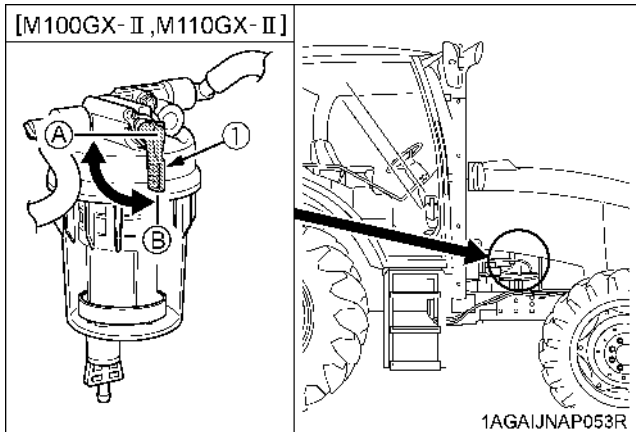


(1) Parking brake warning indicator

### IMPORTANT :

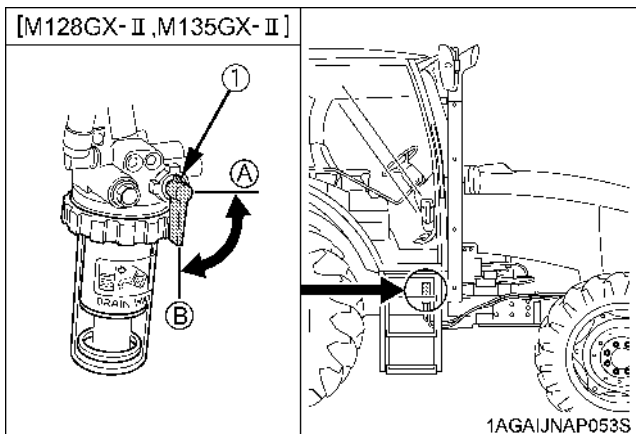
- If the tractor is operated with the parking brake set, the parking brake will be damaged.

**2. Make sure the fuel cock is in the "OPEN" position.**



(1) Fuel cock

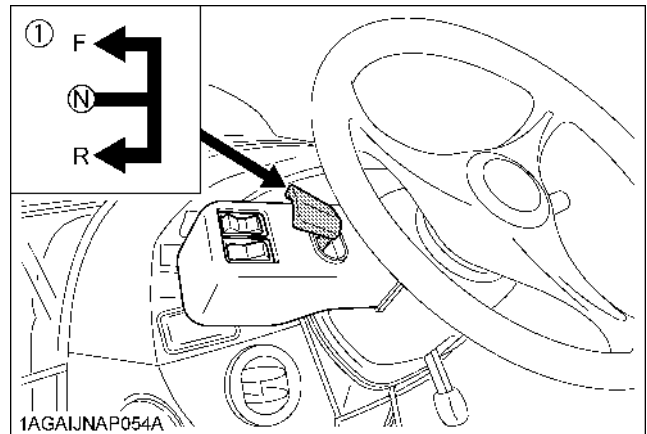
(A) "CLOSE"  
(B) "OPEN"



(1) Fuel cock

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

**3. Place the shuttle shift lever in "NEUTRAL" position.**

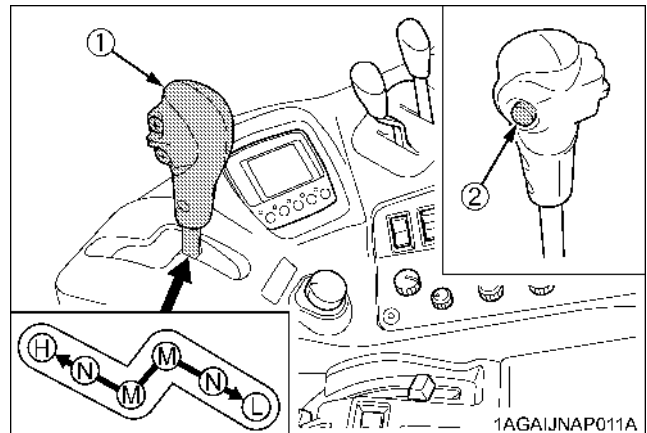


(1) Shuttle shift lever

(F) "FORWARD"  
(N) "NEUTRAL POSITION"  
(R) "REVERSE"

**4. Place the power shift / range shift lever in "NEUTRAL" position.**

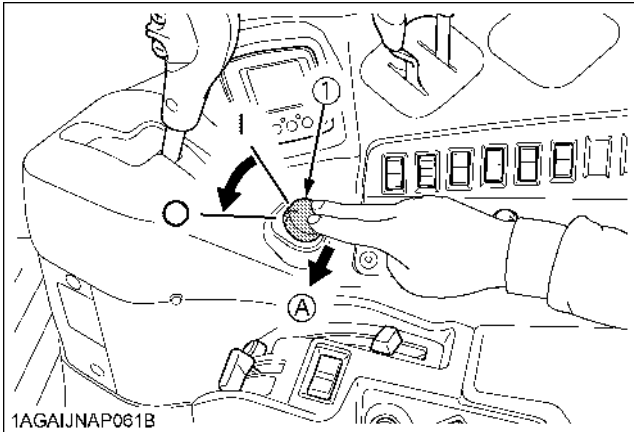
Shift the lever to neutral.



(1) Power shift / Range shift lever  
(2) Clutch button

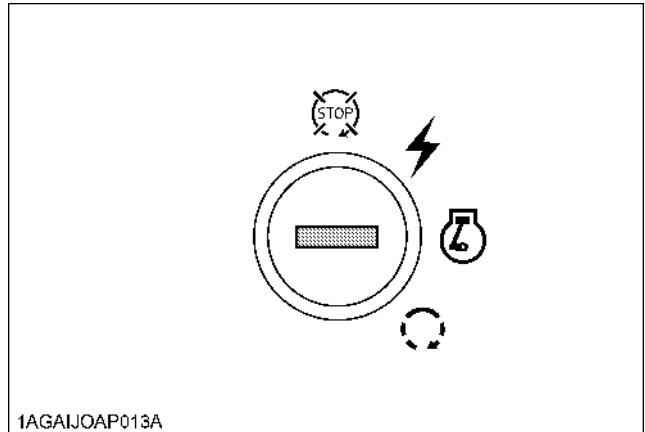
(H) "HIGH"  
(M) "MIDDLE"  
(L) "LOW"  
(N) "NEUTRAL POSITION"

**5. Place the PTO clutch control switch in "OFF" position.**



(1) PTO clutch control switch  
 | "ON" (Engaged)  
 ○ "OFF" (Disengaged)  
 (A) "PUSH"

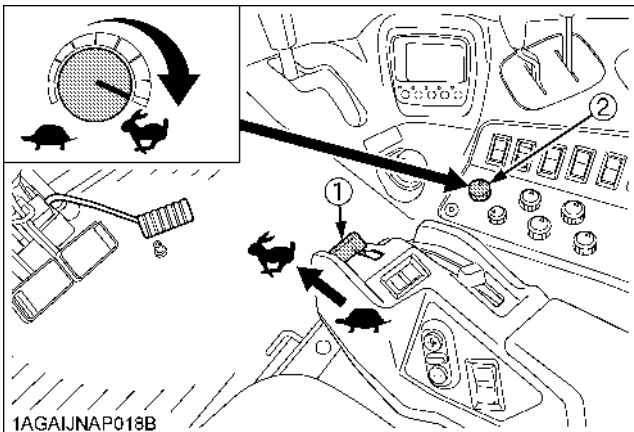
**7. Insert the key into the key switch and turn it "ON".**



⊗ "OFF" (Engine-Stop)      🔋 "ON" (Engine-Run)  
 ⚡ "ACC" (Electrical Power-accessories)      ↻ "START" (Engine-Start)

**6. Set the throttle lever at the minimum speed position.**

When the Rev-limiter control dial is set, the engine speed will not exceed the speed that is set. Even when the hand throttle lever is operated. Turn the dial all the way to the right to the "INCREASE" position.



(1) Hand throttle lever      ↗ "INCREASE"  
 (2) Rev-limiter control dial      ↘ "DECREASE"

**NOTE:**

- ACC...
- All the accessories can be used while the engine is stopped.
  - Do not leave the key at "ACC" position. The battery will be quickly discharged. Turn it back to "OFF" after use.

## ■ Check Easy Checker(TM) Lamps

Turn the key to "ON" position and make sure the following indicators light up (start flashing) or stay off.

### ◆ Indicators that light up: ..... (1), (4), (5), (6), (7), (8)

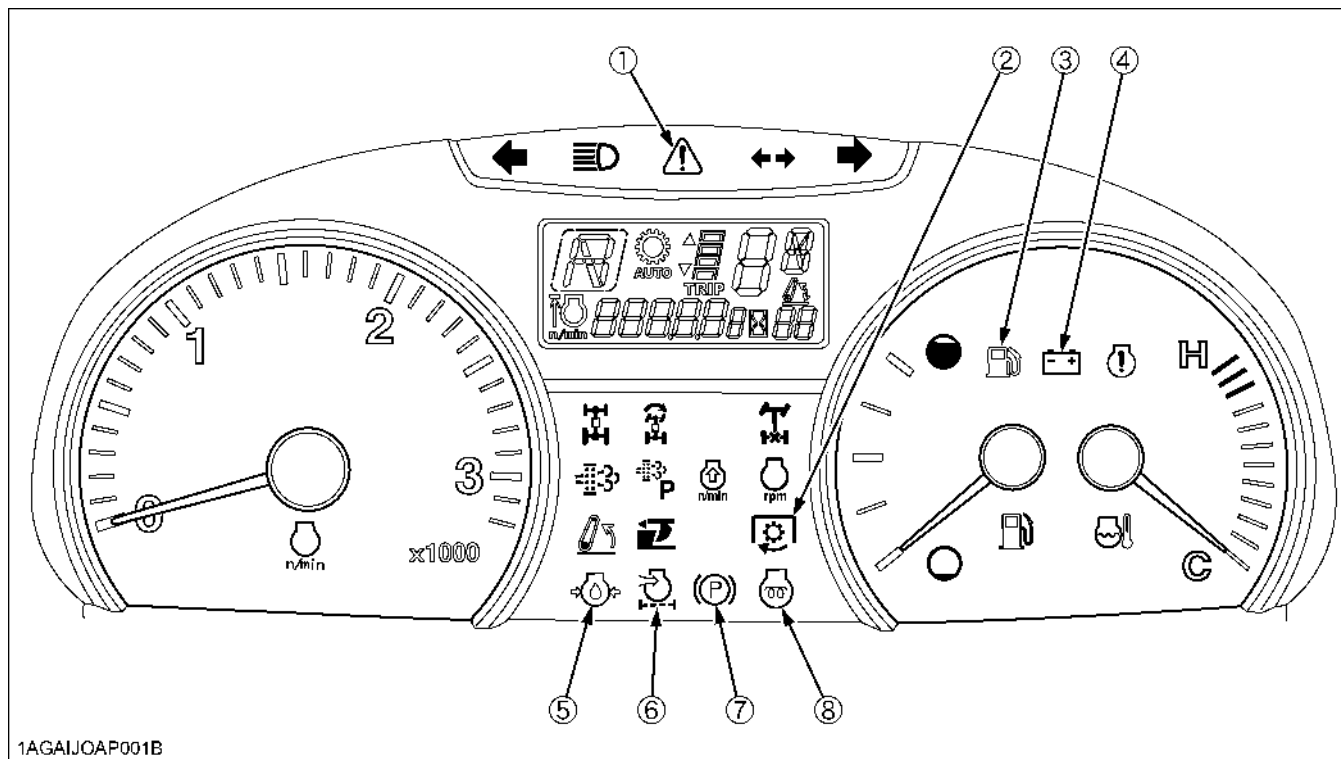
- Indicator (8) does not light up when the coolant temperature is 5 °C or higher.
- If indicator (7) does not light up, engage the parking brake.

### ◆ Indicators that stay off: ..... (2), (3)

- If indicator (2) lights up, turn the PTO switch to "OFF".
- If indicator (3) lights up, add fuel.

### IMPORTANT :

- If any of the indicators fail to light up, consult your local KUBOTA Dealer for this service.



1AGAIJOAP001B

(1) Master system warning indicator

(2) PTO clutch indicator

(3) Fuel level indicator

(4) Electrical charge warning indicator

(5) Engine oil pressure warning indicator

(6) Air cleaner indicator

(7) Parking brake warning indicator

(8) Heater indicator

### NOTE :

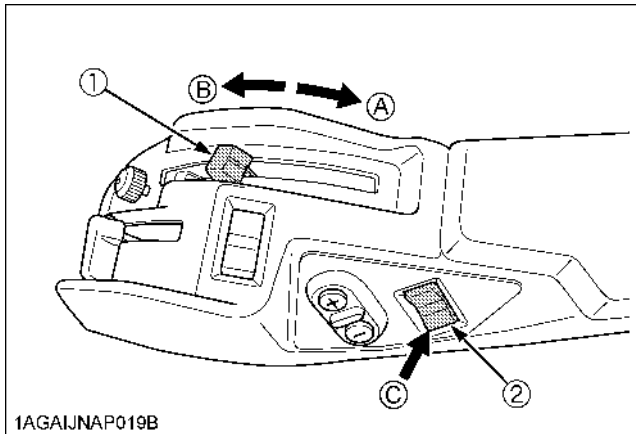
- Some of the Easy Checker(TM) lamps may light up or start flashing depending on the positions of the levers and switches on the 3-point hitch control panel.

### IMPORTANT :

- Daily checks with the Easy Checker(TM) only, are not sufficient. Never fail to conduct daily checks carefully by referring to Daily Check. (See "DAILY CHECK" in "PERIODIC SERVICE" section.)

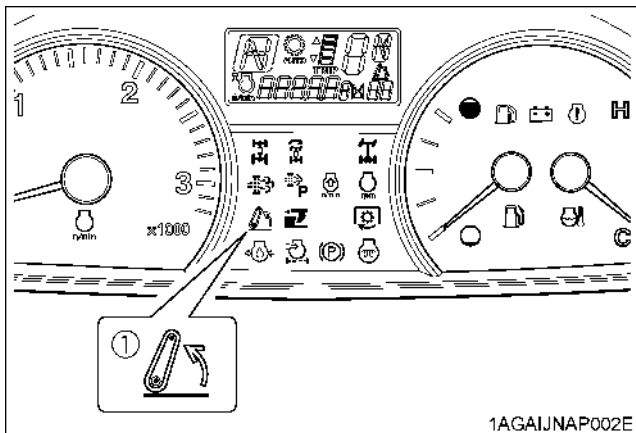
**8. Lower the implement.**

1. Move the hydraulic control lever to "UP" position and then move it back to "LOWEST" position.
2. If the implement does not lower and the 3-P. Lifting / Lowering indicator starts flashing, push the 3-P. Quick lower switch and release the position lock. (The implement will lower and indicator light will turn off.) Then lower the implement to the ground using the hydraulic control lever.



1AGAIJNAP019B

- (1) Hydraulic control lever (A) "UP"  
 (2) 3-P. Quick lower switch (B) "DOWN"  
 (C) "PUSH"



1AGAIJNAP002E

- (1) 3-P. Lifting / Lowering indicator

**NOTE :**

- The implement does not go down if the 3-point hitch is "LOCKED" with 3-point hitch lowering lock lever. (For details, see "3-Point Hitch Lowering Lock Lever" in "3-POINT HITCH CONTROL SYSTEM" in "HYDRAULIC UNIT" section.)

**9. Fully depress the clutch pedal, turn the key to "START" position and release when the engine starts.**

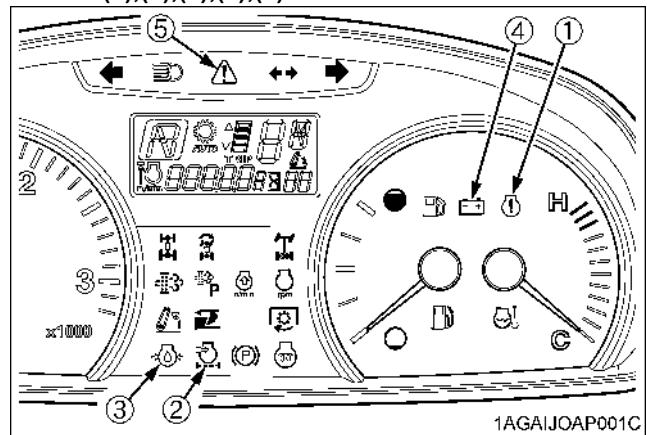
**IMPORTANT :**

- Because of safety devices, the engine will not start except when the PTO clutch control switch is placed in the "OFF" position and power shift / range shift lever is placed in the "NEUTRAL" position.

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

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

- ◆ Indicators that will turn off after starting the engine are: (1),(2),(3),(4),(5)



1AGAIJOAP001C

- (1) Engine warning indicator  
 (2) Air cleaner indicator  
 (3) Engine oil pressure warning indicator  
 (4) Electrical charge warning indicator  
 (5) Master system warning indicator

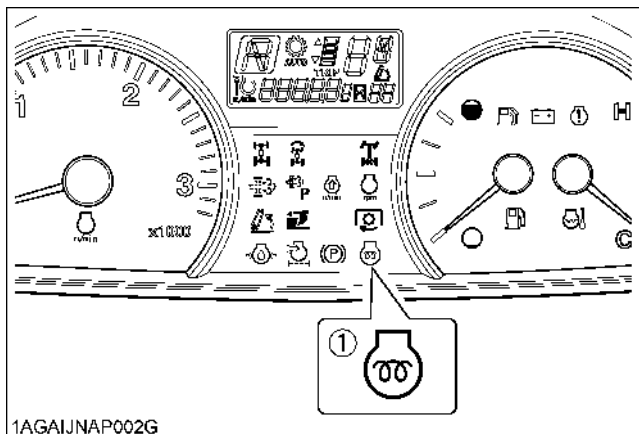
**11. Release the clutch pedal.**

## COLD WEATHER STARTING

If the ambient temperature is below 0 °C and the engine is very cold, follow the procedure below after taking the step 1 through 8 in the previous pages.

### 9. Turn the key to "ON" position and hold it until the heater indicator turns off.

Heater indicator comes on when the key is turned to "ON" position and engine coolant temperature is below 0 °C, and goes off automatically when preheat is completed.



1AGAIJNAP002G

(1) Heater indicator

### 10. Turn the key to the start position and the engine should start.

(If the engine fails to start after 10 seconds, 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.)

#### ■ 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 -20 °C.

## STOPPING THE ENGINE

1. After slowing the engine to idle, wait 3 to 5 minutes for turbo to slow down and then turn the key to "OFF".
2. Remove the key.

#### NOTE :

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

## WARMING UP



### WARNING

To avoid personal injury or death:

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

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

#### ■ Warm-up and Transmission Oil 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 trouble in the hydraulic system.

To prevent the above, observe the following instructions: Warm up the engine at about 50 % of rated rpm according to the table below:

Ambient temperature	Warm-up time requirement
Higher than 0 °C	Approx. 5 minutes
0 to -10 °C	10 to 20 minutes
-10 to -20 °C	20 to 30 minutes
Below -20 °C	More than 30 minutes

#### IMPORTANT :

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



## JUMP STARTING



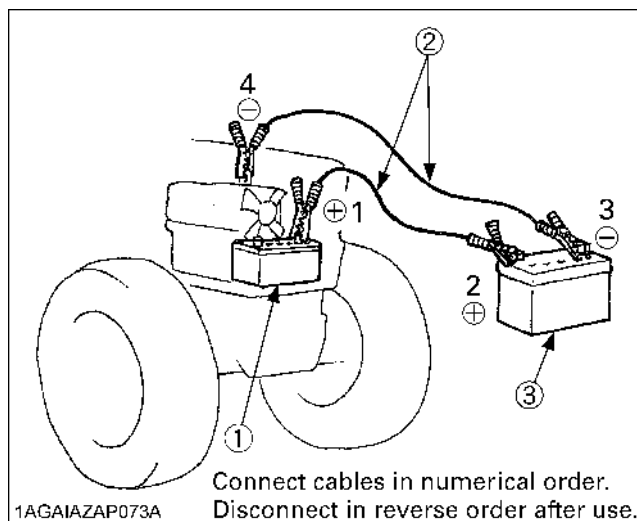
### WARNING

To avoid personal injury or death:

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

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

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



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

### IMPORTANT :

- This machine has a 12 volt negative (-) ground starting system.
- Use only same voltage for jump starting.
- Use of a higher voltage source on tractor's electrical system could result in severe damage to tractor's electrical system.  
Use only matching voltage source when "Jump starting" a low or dead battery condition.
- Do not operate the tractor with the battery cable disconnected from the battery.
- Do not operate the tractor without the battery mounted.
- Do not operate the tractor with the battery dead. Charge the battery fully enough before operating the tractor.  
Otherwise the tractor might malfunction.

# OPERATING THE TRACTOR

## OPERATING NEW TRACTOR

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

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

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

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

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

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

### ■ Changing Lubricating Oil for New Tractors

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

For further details of change interval hours.  
(See "MAINTENANCE" section.)

## BOARDING AND LEAVING THE TRACTOR

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



## STARTING

### 1. Adjusting the Operator's Position.

#### NOTE :

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

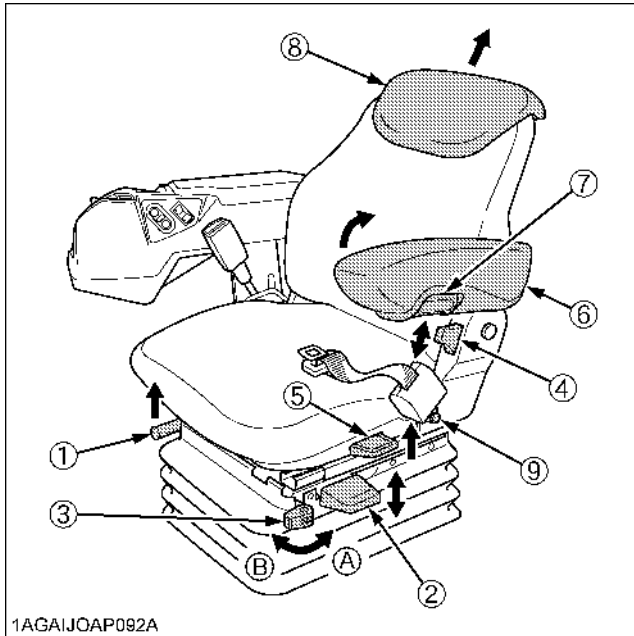
### ■ Operator's Seat



#### WARNING

To avoid personal injury or death:

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



- 1AGAIJOAP092A
- |                                  |           |
|----------------------------------|-----------|
| (1) Travel adjust lever          | (A) "ON"  |
| (2) Weight / Height adjust lever | (B) "OFF" |
| (3) Fore/aft isolator            |           |
| (4) Backrest tilt adjust lever   |           |
| (5) Swivel adjust lever          |           |
| (6) Arm rest                     |           |
| (7) Arm rest adjustment          |           |
| (8) Backrest extension           |           |
| (9) Button                       |           |

#### ◆ Travel adjustment

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

#### ◆ Weight and Height adjustment

Turn on the key switch. The seat should be adjusted for the operator's weight by briefly pulling up or pushing down the weight / height adjust lever with the tractor in a stationary position and the operator sitting on the seat. The seat can be adjusted in its adjustable range.

#### NOTE :

- If the seat is lowered below the adjustable range, it automatically comes up to the lower limit of the adjustable range just when the weight / height adjust lever is released.
- When turning on the key switch, the seat may slightly move up depending on a preset seat position (height).

#### IMPORTANT :

- In order to avoid damage of the seat, do not operate the weight / height adjust lever for more than 1 minute.

#### ◆ Fore / aft isolator

Set the isolator in "ON" position so that shock impacts in the direction of travel can be better absorbed by the seat.

#### ◆ Tilt adjustment

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

#### ◆ Arm rest (LH)

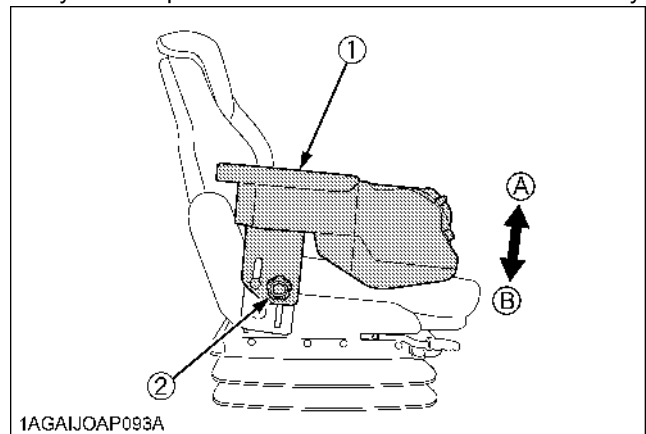
Armrest may be set at upright position if desired.

#### ◆ Arm rest height adjustment (LH)

Turn the adjustment knob to the desired height of the armrests.

#### ◆ Arm rest (RH)

The right arm rest height is adjustable. To reposition the arm rest height, loosen the knob nut and slide the arm rest upward or downward, and securely tighten it by hand so that you can operate the levers and switches comfortably.



- 1AGAIJOAP093A
- |                   |            |
|-------------------|------------|
| (1) Arm rest (RH) | (A) "HIGH" |
| (2) Knob nut      | (B) "LOW"  |

#### ◆ Backrest extension

Pull the backrest extension to the desired height.

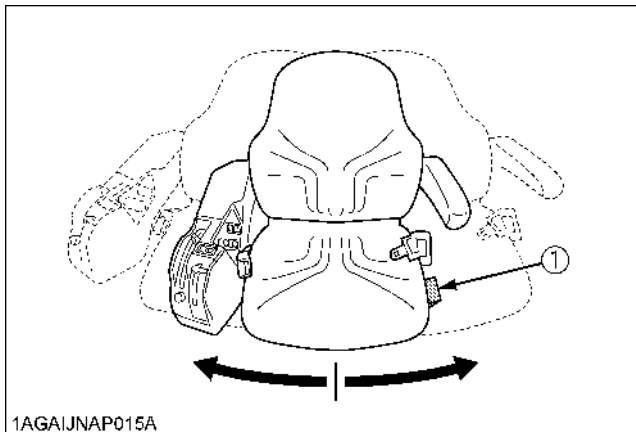
#### ◆ Swivel adjustment

Unlock the swivel adjust lever and rotate the seat right or left as desired.

#### NOTE:

Using the swivel seat

- Swivel the seat to the right and left to position yourself comfortably for jobs in which you need to look rearwards.
- Turn the seat to the left to facilitate getting in and out of the tractor.
- The seat can swivel in both directions.



1AGAIJNAP015A

(1) Swivel adjust lever

### ■ Seat Belt



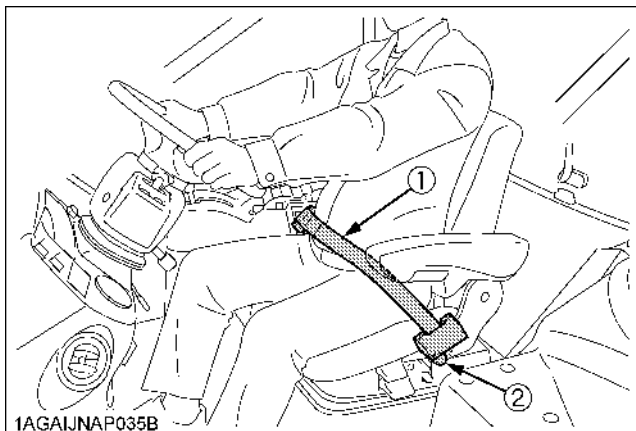
#### WARNING

To avoid personal injury or death:

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

Pull the seat belt with the button being pushed, and connect the buckle.

After adjusting the seat belt for proper fit, release the button so that the belt can be locked.



1AGAIJNAP035B

(1) Seat belt  
(2) Button

### ■ Passenger Seat



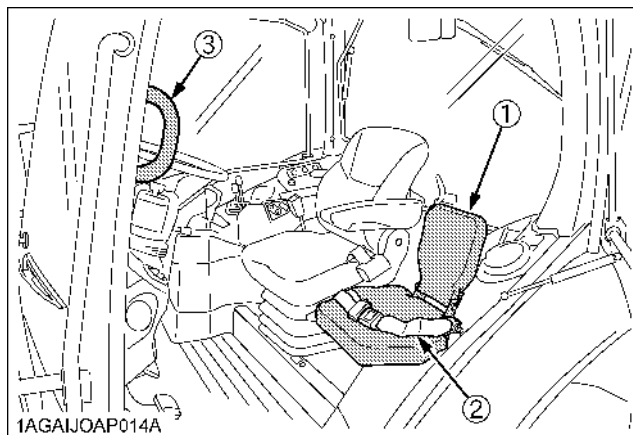
#### WARNING

To avoid personal injury or death:

- A passenger may be carried only if a proper passenger seat is fitted. Otherwise carrying a passenger is not permitted.

#### ◆ Precautions in Using the Passenger Seat

1. To avoid an unexpected opening and closing, get the door locked with the left door lock knob.
2. Always wear your seat belt and stabilize yourself by holding the handrail at the left CAB frame front.



1AGAIJOAP014A

(1) Passenger seat  
(2) Seat belt  
(3) Handrail

3. Run the tractor at low speed.
4. Do not start and stop the tractor suddenly, nor take a sharp turn.

#### IMPORTANT :

- Passenger seat is not a rack. Never put anything heavy on the seat.
- The passenger seat can be used only when permitted by your local laws. (Consult your local KUBOTA Dealer for further details.)

#### NOTE :

- The passenger seat conforms to the EC regulations.

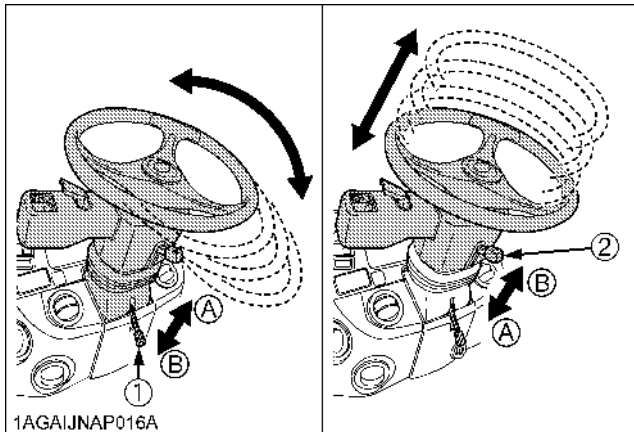
## Steering Adjustment

### CAUTION

To avoid personal injury:

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

Adjust the steering wheel to the best driving position using tilt and telescope levers.

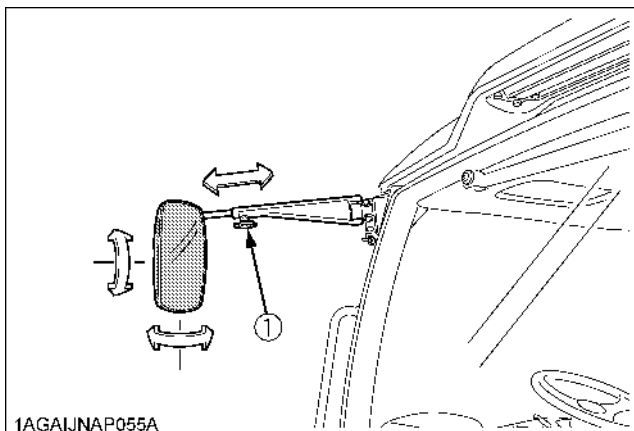


(1) Tilt lever  
(2) Telescope lever

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

## Extendable Mirror

1. To alter the length: Loosen the knob bolt and move the mirror to the required position, then tighten the knob bolt.
2. To adjust mirror head: Hold firmly, tilt horizontally and vertically as required.



1AGAIJNAP055A

(1) Knob bolt

## 2. Selecting Light Switch Positions.

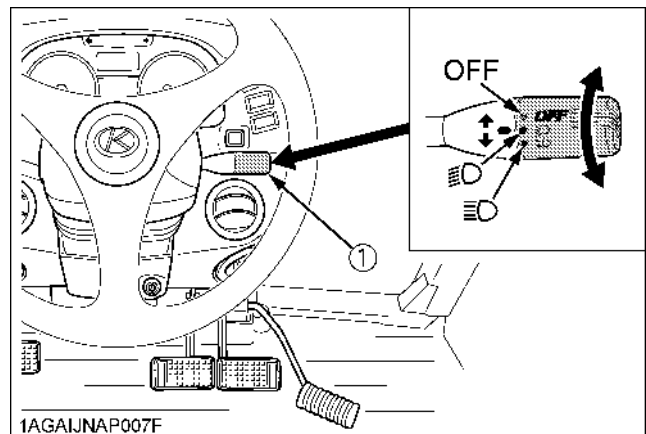
### Light Switch

1. Turn the key to the "ON" position.
2. Turn the switch knob clockwise, and the following lights are activated on the knob position.

OFF..... Head lights OFF.

..... Head lights dimmed, low beam.

..... Head lights ON, high beam.



1AGAIJNAP007F

(1) Head light switch

### NOTE :

- High beam indicator will be on when head light switch is in "high beam" position.

## Turn Signal / Hazard Light Switch

### ◆ Hazard Light

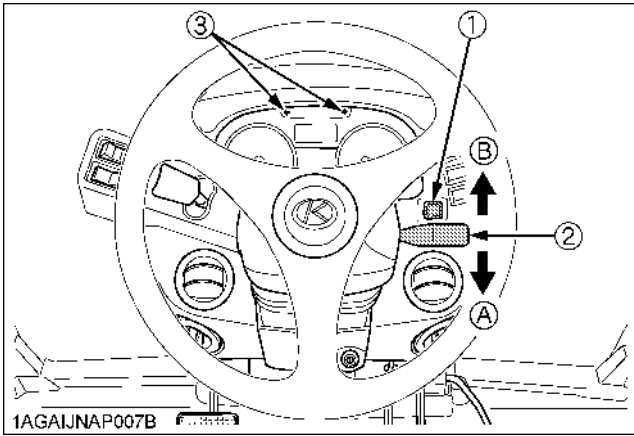
1. When the hazard light switch is pushed, the hazard lights flash, along with the L/H and R/H indicators on the instrument panel.
2. Push the hazard light switch again to turn off the hazard lights.

### ◆ Turn signal light

To indicate a right turn, turn the turn signal light switch clockwise. To indicate a left turn, turn the turn signal light switch counter-clockwise. The corresponding right and left turn signal lights and indicator on the instrument panel will flash.

### NOTE :

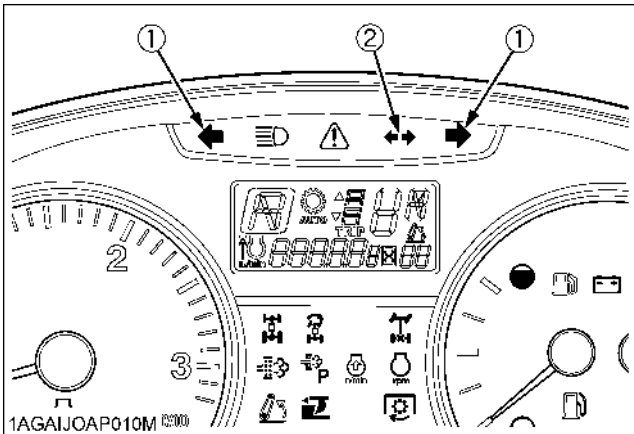
- The hazard light switch is operative when the key switch is in the "ON", "ACC" or "OFF" position.
- The turn signal light switch is only operative when the key switch is in the "ON" position.
- Be sure to return the turn signal switch to center position after turning.



(1) Hazard light switch (A) "RIGHT TURN"  
 (2) Turn signal light switch (B) "LEFT TURN"  
 (3) Hazard / Turn signal indicator

**With Trailer Connector**

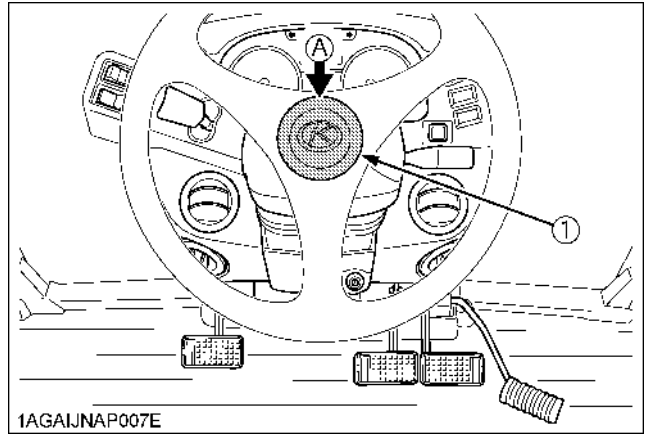
When you operate the turn signal light switch with the trailer power connector connected, the trailer indicator in the instrumental panel also starts flashing along with the turn signal indicator.



(1) Hazard / Turn signal indicator  
 (2) Trailer indicator

**Horn Button**

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



(1) Horn button (A) "PUSH"

**Work Light Switch (Front)**

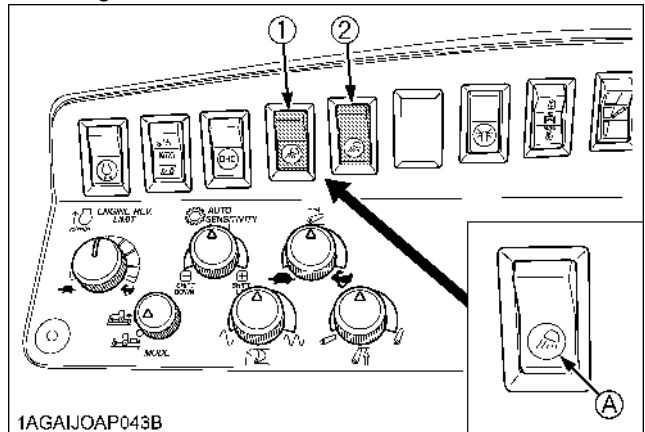
**Work Light Switch (Rear)**

**WARNING**

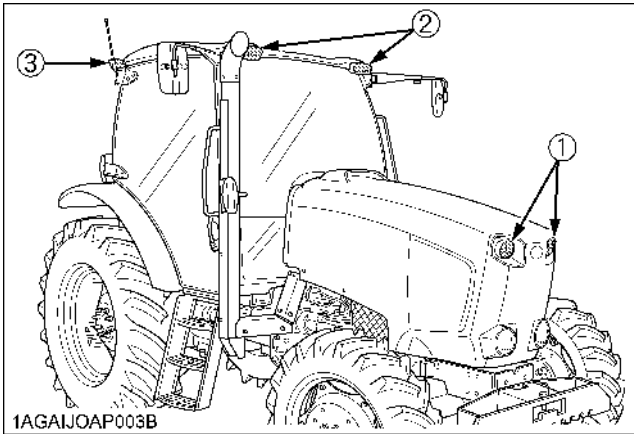
To avoid personal injury or death:

- Do not operate on roads with work lights on. Work lights may blind or confuse operators of oncoming vehicles.

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



(1) Front work light switch (A) Indicator for work lights  
 (2) Rear work light switch



(1) Front work light (Hood)  
 (2) Front work light  
 (3) Rear work light

### 3. Checking the Brake Pedal.

#### ■ Brake Pedals (Right and Left)



#### WARNING

To avoid personal injury or death:

- Be sure to interlock the right and left pedals. Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over.
- Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.



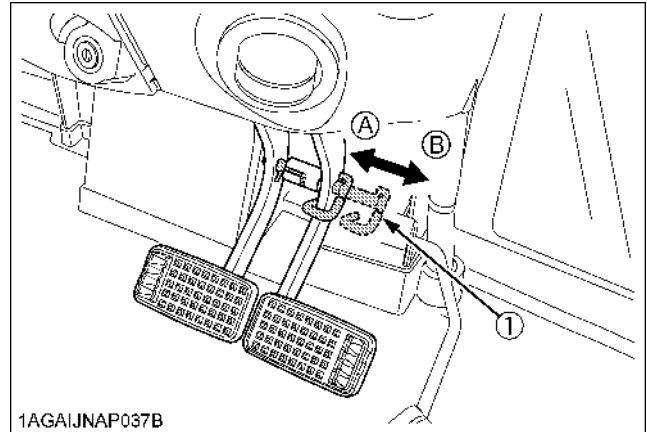
#### WARNING

To avoid personal injury or death:

- Be aware of the enhanced braking characteristics of 4 wheel braking system. Appropriate care should be taken during hard braking and/or when pulling towed loads.
- Do not make brake suddenly. An accident may occur as a result of a heavy towed load shifting forward or loss of control.
- To avoid skidding and less of steering control when driving on icy, wet, or loose surfaces, make sure the tractor is correctly ballasted, operated at reduced speed, operated with 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, be sure to interlock the right and left pedals as illustrated below.

2. Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only). Disengage the brake pedal lock and depress only one brake pedal.
3. Be sure brake pedals have equal adjustment when being used locked together.



(1) Brake pedal lock  
 (A) "LOCK"  
 (B) "RELEASE"

#### ◆ 4WD Braking System [4WD model]

4WD model tractor is equipped with 4WD braking system. When both brake pedals are applied together, the front axle is engaged for 4-wheel braking regardless of the mode selected at the 4WD/Bi-speed turn switch. The 4WD indicator light is not illuminated unless the front axle is engaged with the selector switch.



#### WARNING

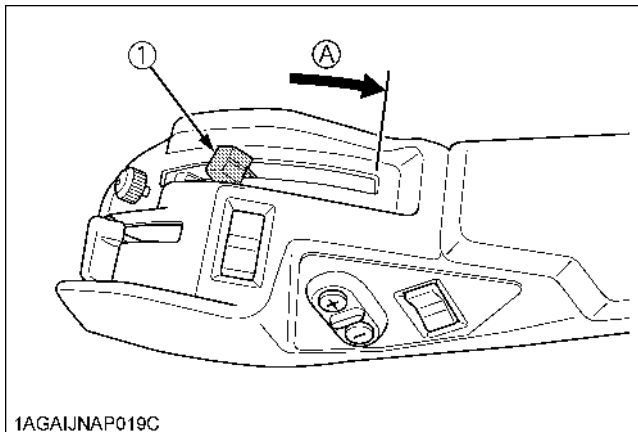
To avoid the possibility of personal injury, death or property damage from machine runaway during testing, service or repair with the rear wheels off the ground, make sure:

- Battery is disconnected and engine is not started.

If it is necessary to run the engine, make sure:

- Both front and rear wheels are off the ground and secured with stands before starting engine.

**4. Raise the Implement.**  
(see "HYDRAULIC UNIT" section.)



1AGAIJNAP019C

(1) Position control lever (A) "UP"

**5. Depress the Clutch Pedal.**

■ Clutch Pedal

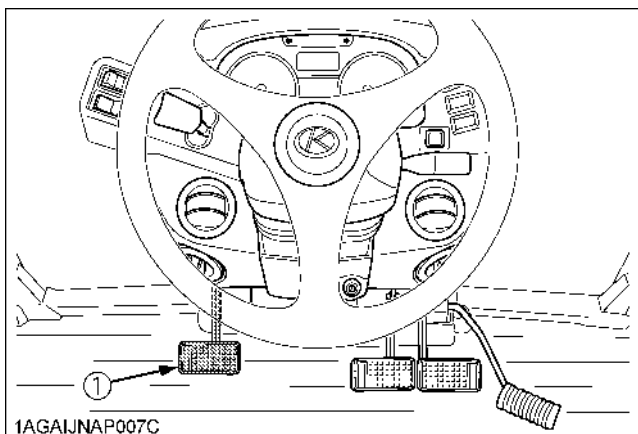


**WARNING**

To avoid personal injury or death:

- Sudden release of the clutch may cause the tractor to lunge in an unexpected manner.
- Always use the clutch pedal to start the tractor.

The clutch is disengaged when the clutch pedal is fully pressed down.



1AGAIJNAP007C

(1) Clutch pedal

**IMPORTANT:**

To help prevent premature clutch wear:

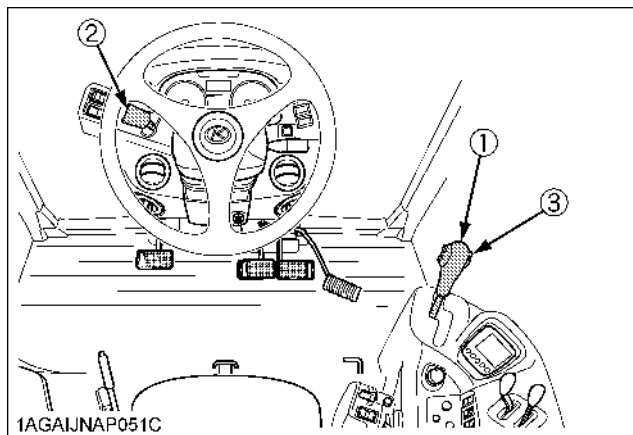
- The clutch pedal must be quickly disengaged and be slowly engaged.
- Avoid operating the tractor with your foot resting on the clutch pedal.
- Select proper gear and engine speed depending on the type of job.
- If the warning buzzer sounds too often during usual job, the tractor may require reprogramming. Consult your local KUBOTA Dealer for this service.

**NOTE :**

- If the clutch is operated in a partially engaged condition, the clutch will disengage automatically and the warning buzzer will sound to protect the clutch. Take one of the following steps to stop the buzzer. Do not let the buzzer sound continuously.

1. Fully depress the clutch pedal.
2. Press the clutch button on the power shift / range shift lever.
3. Shift the shuttle lever to "NEUTRAL".

**6. Selecting the Travel Speed.**



1AGAIJNAP051C

- (1) Power shift / Range shift lever (PS. Lever)
- (2) Shuttle lever
- (3) Clutch button

By combination of using the Power shift / Range shift lever and Shuttle lever, forward speeds and reverse speeds shown in the table below are obtained.

Standard model	Without creep	24 forward speeds 24 reverse speeds
	With creep	32 forward speeds 32 reverse speeds





## WARNING

To avoid personal injury or death:

- Use the clutch when making an emergency stop or working in confined areas, such as getting the tractor in position to attach an implement.
- An accident may occur with erratic shifting operation.  
For safe operation, push up-shift or down-shift buttons only one gear at a time.
- Avoid changing gears when climbing or descending a slope.
- Before ascending or descending a slope, shift to a gear low enough to control the tractor speed without using brakes.  
If you shift gears while ascending or descending a slope, be prepared to use the brakes to maintain control.
- Operate in reverse at slow speeds to maintain control.

### ■ Power Shift / Range Shift Lever (PS. Lever)

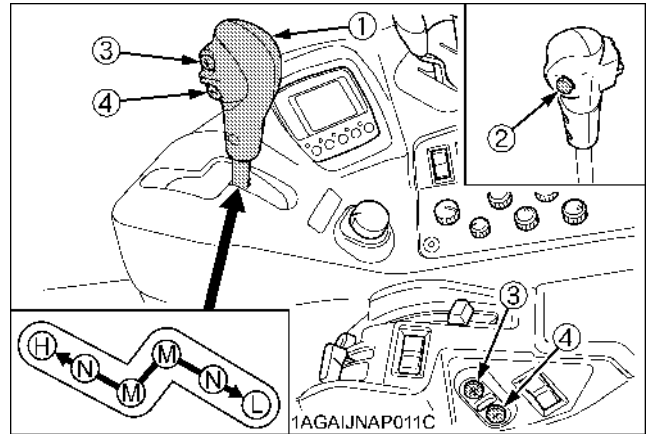
1. When changing speeds, there is no need to use the clutch.  
Press the up-shift or down-shift buttons, and the speeds 1 thru 8 can be selected. (A beep tone is heard at each speed change.)
2. To select a speed range (H, M or L), stop the machine with depressing the clutch pedal.  
Then hold down the clutch button on the PS. lever and shift the PS. lever to the desired position. By utilizing the combination of PS. lever and 8 shift button positions, 24 speeds can be obtained.
3. The selected speed (1 to 8) and speed range (H, M, L or N) are displayed on the instrument panel.



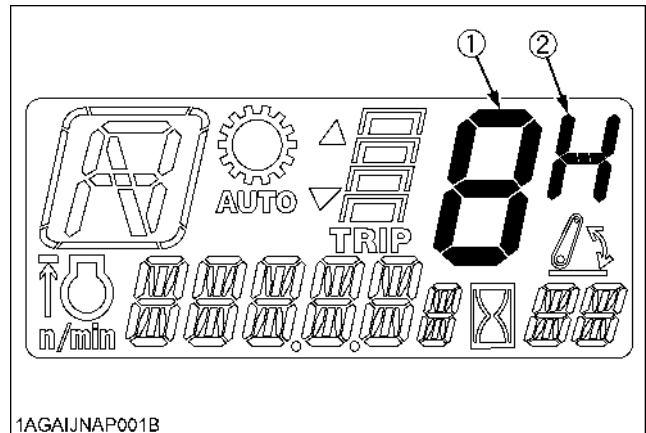
## WARNING

To avoid personal injury or death:

- If you release the clutch button when the power shift/range shift lever is at the position "L" "M" or "H", the clutch becomes engaged and the tractor will begin to move.
- Always use the clutch pedal to start the tractor.



- (1) Power shift / Range shift lever (PS.Lever) (H) "HIGH"  
(2) Clutch button (M) "MIDDLE"  
(3) Up-shift button (L) "LOW"  
(4) Down-shift button (N) "NEUTRAL POSITION"



- (1) Selected-speed (1 to 8 or E)  
(2) Selected-speed range (H, M, L or N)











### NOTE :

- If the Hydraulic shuttle lever is at "FORWARD or REVERSE", when you move the PS. lever to "H", "M" or "L" without pressing the clutch button, the alarm buzzer sounds and the tractor does not move. ("E" appears in the selected-speed display.)  
To stop the buzzer and restart the tractor:
  - (1) Move the PS. lever back to "N".
  - (2) Holding down the PS. lever's clutch button, move the lever to "H", "M" or "L".
  - (3) Release the clutch button, and the tractor will move.

◆ **Basic operation**

1. Start the engine, select a speed range "L", "M" or "H" with the PS. lever, and the tractor is set at low speed (1), middle speed (1) [9th] or high speed (1) [17th]. ("1" appears on the display.)
2. With the PS. lever at "NEUTRAL", select a speed (1st to 8th) first using the button and then a speed range, the selected speed with button is obtained.
3. With the PS. lever at "NEUTRAL" and hold down the button, the speeds change themselves continuously. (1st to 8th or 8th to 1st)
4. With a speed range "L", "M" or "H" selected, depressing the button changes the speeds. If the shuttle lever is set at "NEUTRAL" or the clutch pedal stays "DISENGAGED", however, the speeds change themselves continuously. (1st to 8th or 8th to 1st)
5. Main gear shift speed memory function:  
 Suppose that a job was done at a travel speed, the speed range (L, M, H) was changed and then the original speed range was returned. The memory function serves to automatically pick up the previously selected main gear number.  
 Only when the speed range is "H" and the main gear shift is somewhere between Speed 4 (20th) and Speed 8 (24th), however, the "H-3" speed (19th) is automatically selected.

● Memorized speed

Power shift / Range shift lever				
L1~8 (1st to 8th)	 Shift up	H1~8 (17th to 24th) M1~8 (9th to 16th)	 Shift down	L1~8 (1st to 8th)
M1~8 (9th to 16th)	 Shift up	H1~8 (17th to 24th)	 Shift down	M1~8 (9th to 16th)
M1~8 (9th to 16th)	 Shift down	L1~8 (1st to 8th)	 Shift up	M1~8 (9th to 16th)
H1~3 (17th to 19th)	 Shift down	L1~8 (1st to 8th)	 Shift up	H1~3 (17th to 19th)
H4~8 (20th to 24th)				H3 (19th)
H1~3 (17th to 19th)	 Shift down	M1~8 (9th to 16th)	 Shift up	H1~3 (17th to 19th)
H4~8 (20th to 24th)				H3 (19th)

**NOTE :**

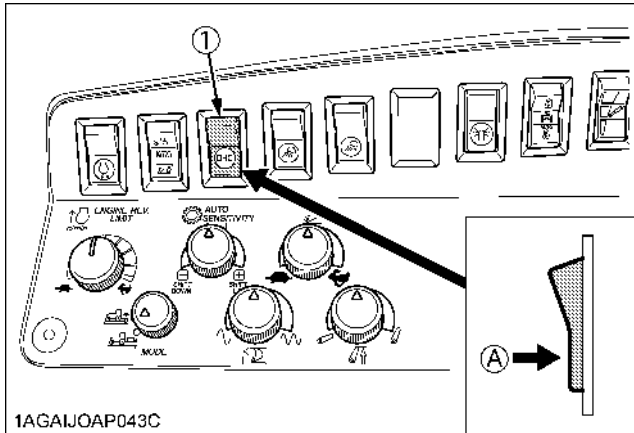
- Turn off the key switch, and the memory will be cleared.

**IMPORTANT :**

- Before selecting a speed range, be sure to stop the tractor. Step on the brake pedal and shift the PS. lever slowly.
- When you have shifted the PS. lever to "L", "M" or "H" range, be sure to look at the indicator for the power shift position. Then release the clutch button or the clutch pedal.
- Start in lower gears and shift one gear at a time until desired gear is obtained.
- To prolong clutch life, avoid slipping the hydraulic clutch. Pay attention to the following points:
  - Select proper gear and engine speed depending on the type of job.
  - Avoid lugging the engine, especially in higher gears. If RPM's drop excessively, shift to a lower gear.
- In cold climate, it may take longer for the tractor to move after the PS.lever is moved. This is because the transmission oil must warm up.
  - Properly warm up the machine. If there is not enough time to do so, start the machine with the clutch pedal slowly.
  - There is no problem with a delay in starting. The machine will start as the oil temperature increases.

## ■DHC switch

On this tractor, the engine load and other fluctuations are sensed and the speed is well controlled in response to the loads. Turn the DHC switch "ON" when using a traction PTO attachment (baler, etc.) on a slope. A well responsive speed control can be expected. In other applications, turn this switch "OFF". Smooth speed change is available for comfortable ride.



(1) DHC switch

(A) "Push to ON"

### NOTE :

- While the DHC switch is at "ON", the hydraulic clutch behaves quicker at a speed change. Even working on a slope, therefore, the push-out of an attachment can be minimized. (Do not change speeds when doing heavy-duty traction on a steep slope.)

## ■Shuttle Lever

### ! WARNING

To avoid personal injury or death:

- When attempting to shift the shuttle shift lever on a slope, be sure to completely stop the tractor.
- Slow down the engine speed before shifting the shuttle lever.
- Use the shuttle lever when the machine speed is below 11 km/h.

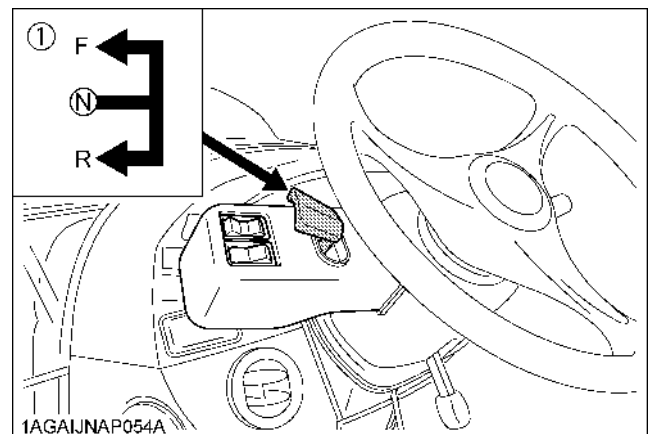
### NOTE :

- Otherwise the clutch gets disengaged and the buzzer starts sounding. To get the clutch reengaged and clear the buzzer, take either of the following steps.
  - Place the shuttle lever back to the original position. Decrease the machine speed lower than 11 km/h and use the shuttle lever.
  - Stop the tractor first and bring the shuttle lever back to the original position.

Raise up and shift the shuttle shift lever forward to obtain forward speeds and shift it backward to obtain reverse speeds without using the clutch pedal.

With the shuttle lever at neutral, press the up-shift/down-shift button of the power shift / range shift lever, select the main speed (1st thru 8th speed) and then switch the sub-speed range. Now the selected main speed is kept on whether at "L" or "H".

With the shuttle lever at neutral, press the up-shift/down-shift button of the power shift / range shift lever, select the main speed (1st thru 8th speed) and then switch the sub-speed range. Now the selected main speed is kept on whether at "L", "M" or "H".



(1) Shuttle lever

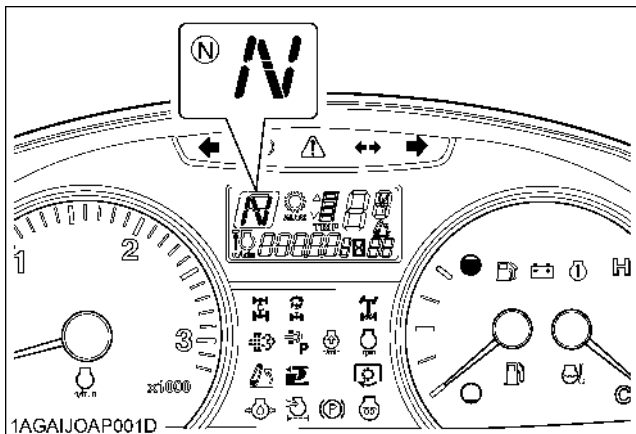
(F) "FORWARD"

(N) "NEUTRAL"

(R) "REVERSE"

**NOTE :**

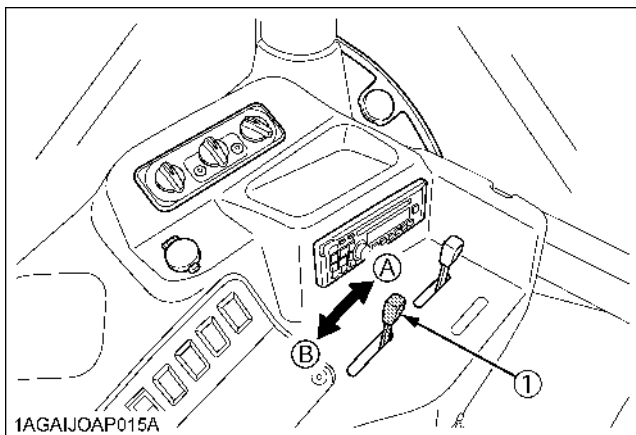
- While the shuttle shift lever is at the "NEUTRAL" position, the "N" character appears on the LCD monitor.



(N) "NEUTRAL"

**■ Creep Lever (if equipped)**

Shift the creep lever at "LOW" to obtain low speeds with power shift / range shift lever is selected "L" range. With the creep lever engaged (ON), the speed range cannot shift to "M" and "H". (The creep mode does not operate in the middle-speed and high-speed ranges.) This shifting requires clutch operation.



(1) Creep Lever

(A) "LOW".....Creep ON

(B) "HIGH".....Creep OFF

**◆ Creep speed should be used only when doing one of the following jobs:**

1. Deep rotary-tilling and harrowing
2. Planting
3. Turf application

**◆ Creep speed can not be used for any of the followings:**

1. Pulling a trailer
2. Front-loader operation
3. Front-blade operation
4. Earth-moving

5. Entering and leaving a field
6. Loading onto and unloading from a truck

**! WARNING**

To avoid personal injury or death:

- When you leave the tractor, be sure to apply the parking brake and stop the engine.
- **IN APPLYING THE BRAKES:**
  - The torque of the wheel axle is extremely high while creep speed is being used. Be sure to step down on the clutch pedal completely before applying the brakes, or the torque will overcome the brakes.
  - When starting to operate the tractor, be sure to release the parking brakes. Misuse of the brakes may cause damage to the transmission and is therefore not acceptable to KUBOTA for coverage under the warranty.

**IMPORTANT :**

- Press the clutch pedal completely down and stop the tractor's motion before shifting the range gear shift lever.

**■ 4WD / Bi-speed Turn Switch [4WD model]**

**! 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.
- 4WD model tractor is equipped with 4 wheel braking and appropriate care should be taken during hard braking.
- 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 tractor models. Be aware of the difference and use carefully.
- Do not use "Bi-speed Turn" at high speed.
- "Bi-speed Turn" enables short and fast turns, therefore, become familiar with its performance before operating in close or confined areas.

Press the right half of this switch;

The front wheel drive (4WD) is engaged.

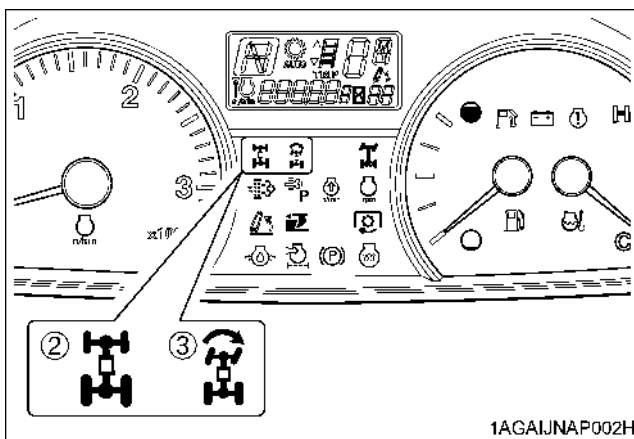
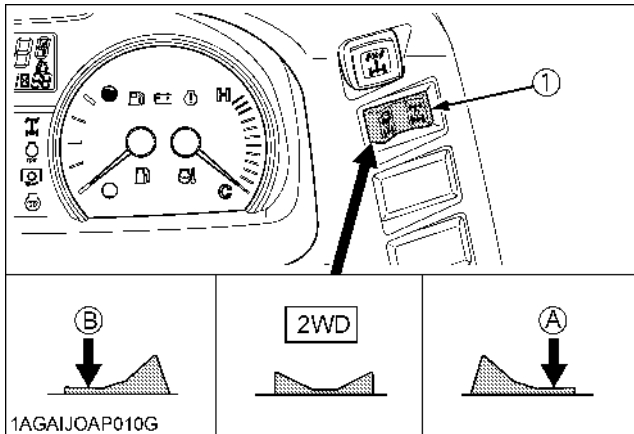
The 4WD indicator comes on when the system is in 4WD mode.

Press the left half;

The Bi-speed turn system activates.  
The 4WD indicator and Bi-speed turn indicator come on when the system is in Bi-speed turn mode.

It returns to a central position;

The drive system returns to 2WD mode  
The all indicators goes off when the system is in 2WD mode.



- (1) 4WD/Bi-speed Turn switch      (A) 4WD "ON"
- (2) 4WD indicator                      (B) Bi-speed turn "ON"
- (3) Bi-speed turn indicator

**NOTE :**

- This switch can be operated when the tractor is on the go or at rest without depressing the clutch.
- Bi-speed turn system works when you press the "4WD/Bi-speed turn switch" and the front tire (inside of the turn) exceeds 35 degrees.  
Bi-speed turn makes the front tire speed 1.6 times faster than the standard 4WD front tire speed.
- "Bi-speed Turn" operates only when the travel speed is "H-3 (19th)" or lower and the tractor travel speed is 10 km/h (6.2 mph) or less at the start of the turn.
- If the "Bi-speed Turn" indicator is flashing, then Bi-speed Turn will not operate.

◆ **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. For increased braking at reduced speed.

◆ **Bi-speed turn use is effective for the following jobs:**

1. Turning at the end of rows. (planting, cultivating, harrowing.)
2. Increasing maneuverability when working in tight spaces.

**IMPORTANT :**

- Tires will wear quickly if the front wheel drive is engaged on paved roads.

**7. Accelerate the Engine.**

■ **Hand Throttle Lever**

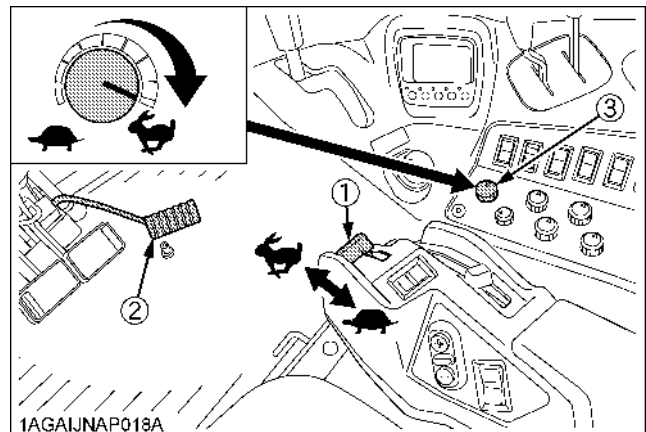
Pulling the throttle lever back decreases engine speed, and pushing it forward increases engine speed.

■ **Foot Throttle**

Use the foot throttle when traveling on the road. Press down on it for higher speed. The foot throttle is interlocked with the hand throttle lever; when using the foot throttle, keep the hand throttle lever in low idling position.

■ **Rev-limiter Control Dial**

This dial can be used to set the desired maximum engine speed. (See "Rev-limiter control setting" in "ELECTRONIC ENGINE CONTROL" in "OPERATING THE TRACTOR" section.)

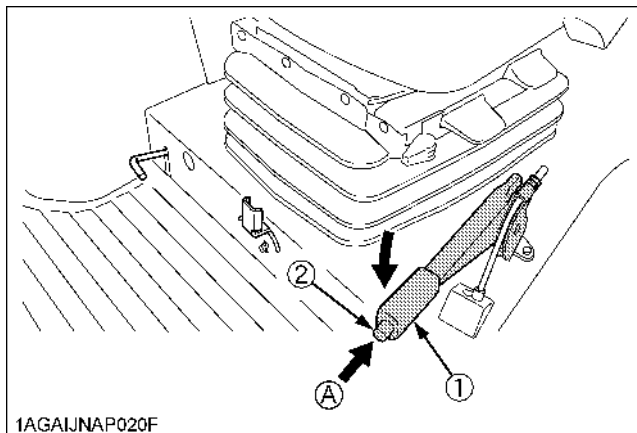


- (1) Hand throttle lever
  - (2) Foot throttle
  - (3) Rev-limiter control dial
- "INCREASE"  
 "DECREASE"

## 8. Unlock the Parking Brake and Slowly Release the Clutch.

### ■ Parking Brake Lever

To release the parking brake, depress the brake pedal, push the release button and push the parking brake lever down.



(1) Parking brake lever  
(2) Release button

(A) "RELEASE"

### NOTE :

- The parking brake warning indicator light on the Easy Checker(TM) will turn off when the parking brake is unlocked. If the tractor starts moving when the parking brake is engaged, the alarm buzzer sounds and the parking brake warning indicator flashes.

### IMPORTANT :

- Do not attempt to put the tractor in motion before the parking brake indicator light turns off.
- If the tractor is operated with the parking brake set, the parking brake might be damaged.

## STOPPING

### ■ Stopping

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

## CHECK DURING DRIVING

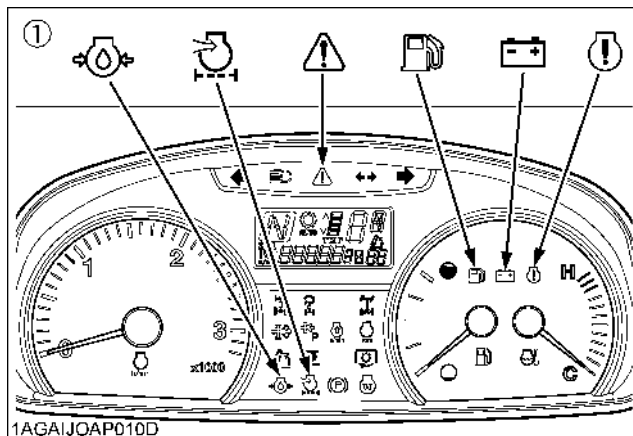
### ■ Immediately Stop the Engine if:

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

### ■ Easy Checker(TM)

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

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



(1) Easy Checker(TM)



### Engine warning

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

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

### IMPORTANT :

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

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

## 2. Engine overheat

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



### Engine oil pressure

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

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

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



### Fuel level

If the fuel in the tank goes below the prescribed level, the warning lamp in the Easy Checker(TM) will come on. (less than 14 L)

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

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

### IMPORTANT :

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



### Air cleaner

If the air cleaner is clogged, the warning lamp in the Easy Checker(TM) will come on.

If this should happen during operation, clean the air cleaner element.

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



### Electrical charge

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

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



### Master system warning

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

### NOTE :

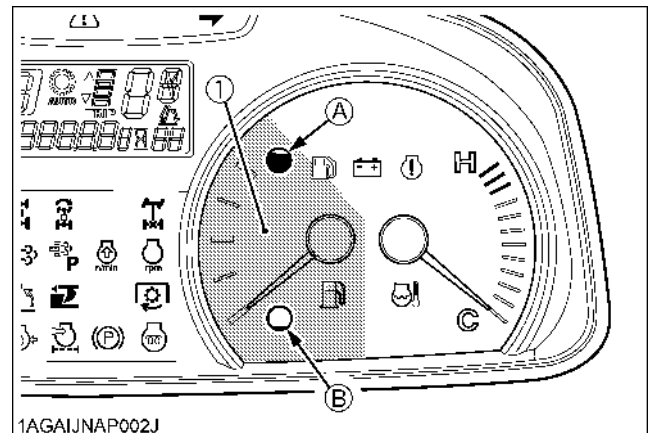
- For checking and servicing of your tractor, consult your local KUBOTA Dealer for instructions.

## Fuel Gauge

A needle indicates the amount of fuel left regardless of the key position.

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

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



(1) Fuel gauge

(A) "FULL"

(B) "EMPTY"

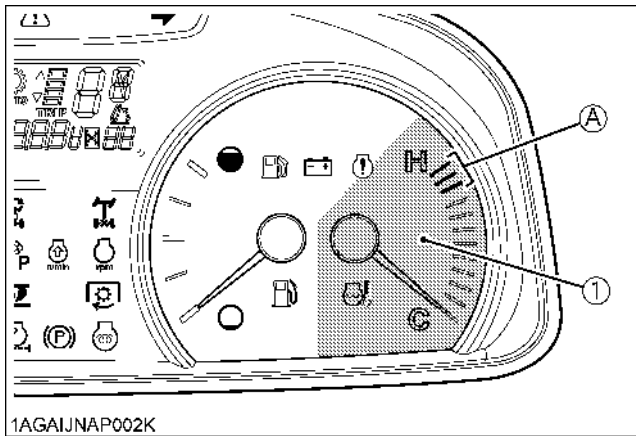
**■ Coolant Temperature Gauge**

**⚠ WARNING**

To avoid personal injury or death:

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

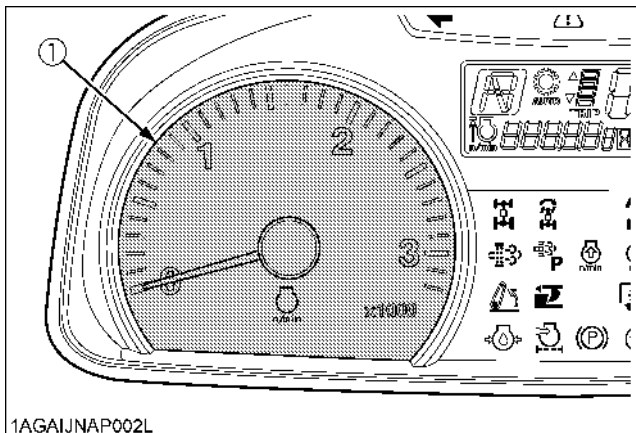
1. With the key switch at "ON", this gauge indicates the temperature of the coolant. "C" for "cold" and "H" for "hot."
2. If the indicator reaches the red zone position, engine coolant is overheated. Check the tractor by referring to "TROUBLESHOOTING" section.



(1) Coolant temperature gauge (A) "RED ZONE"

**■ Tachometer**

The tachometer indicates the engine speed on the dial.

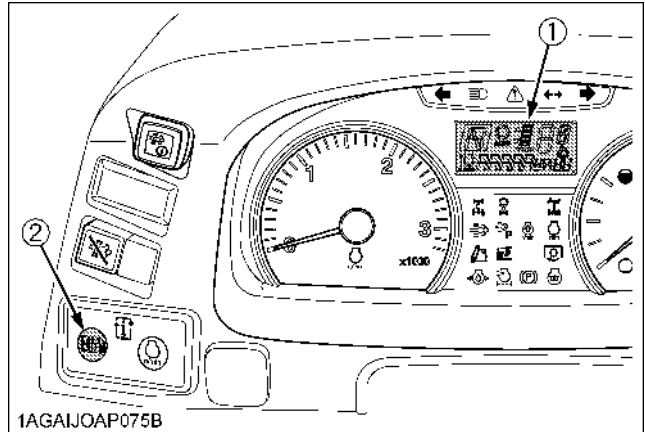


(1) Engine revolution

**■ Hour / Trip Monitor**

**◆ Display change**

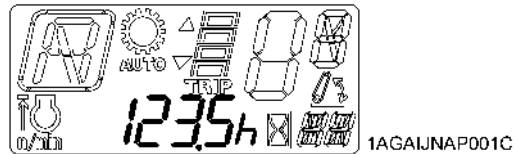
When the RPM dual memory setting is "OFF" and the Rev-limiter control setting is "OFF", the instrument panel LCD changes "Hour meter mode" and "Trip meter mode" each time the display switch is pressed. Select the appropriate display for the work being performed. If the "RPM dual memory setting" or "Rev-limiter control setting" is engaged, the set speed takes priority on the display.



(1) LCD monitor  
(2) Display switch

**◆ Hour meter mode**

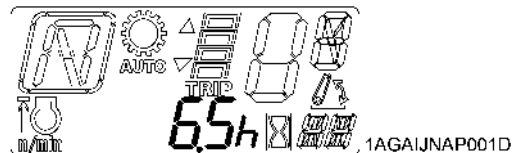
The tractor's total operating hours are displayed.



**◆ Trip meter mode**

The total operating hours counted from the previous resetting is displayed.

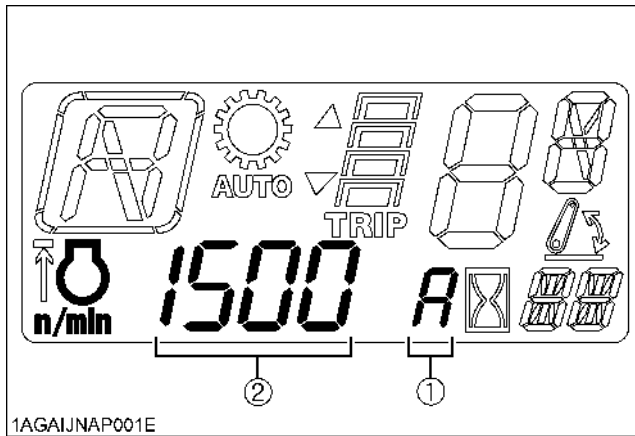
Hold down the display switch for 2 seconds or longer to reset the trip meter to [0. 0].





### ◆ Priority display

If the "RPM dual memory setting" or "Rev-limiter control setting" is engaged, the set speed takes priority on the display. The figure shown below is an example of the display when the engine speed has been set for the switch A side.



- (1) Switch A  
(2) Set engine speed

## SIDE DIGITAL DISPLAY

This display shows the following information.

1. 4 rows with 30 types of tractor information, such as travel speed, PTO rpm and mileage can be selected by the operator.
2. Operating history for the past 4 months can be displayed.

This chapter covers "How to view and select" the 4 rows of information.

For the meanings and selection procedures of other data, as well as changing the display settings, refer to the "SIDE DIGITAL DISPLAY" appendices at the back of this manual.

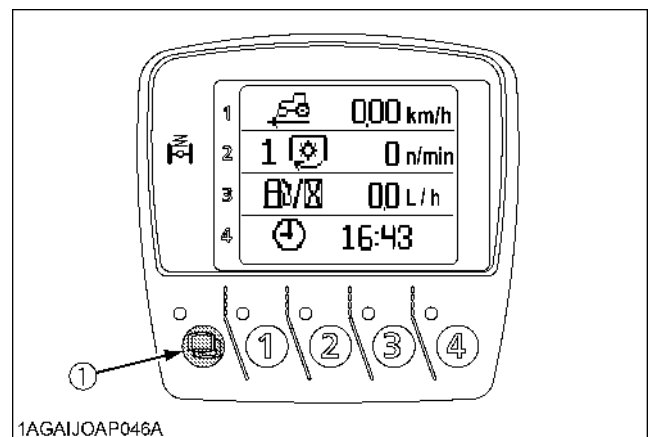
### ■ Initial Setting

Before use, make sure the tire circumference installed, the clock and the working range of implement are set.

Otherwise, the travel speed, work area, work distance and other data will not be correctly displayed.

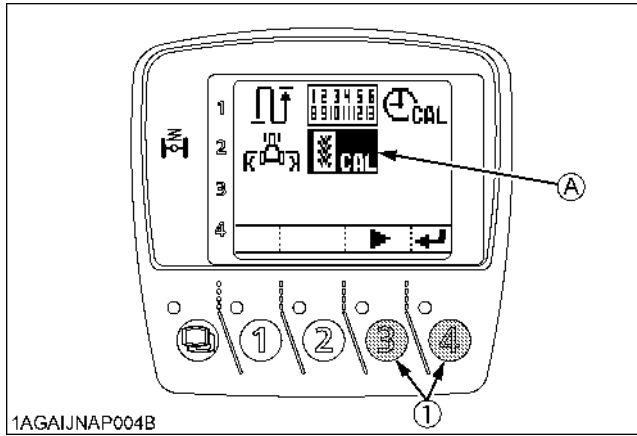
### ◆ Setting procedure

1. Turn on the key switch. With the following data on the screen, hold down the mode selector switch. Various screens can be selected.
2. Select the tire circumference setting mode with Switch 3 and press Switch 4 to go to the tire circumference setting screen.
3. Check to see if the tire circumference is correctly preset. If not, correct the numerical settings with Switches 1, 2 and 3, referring to the table below. Press Switch 4 to save the new setting.



- (1) Mode selector switch

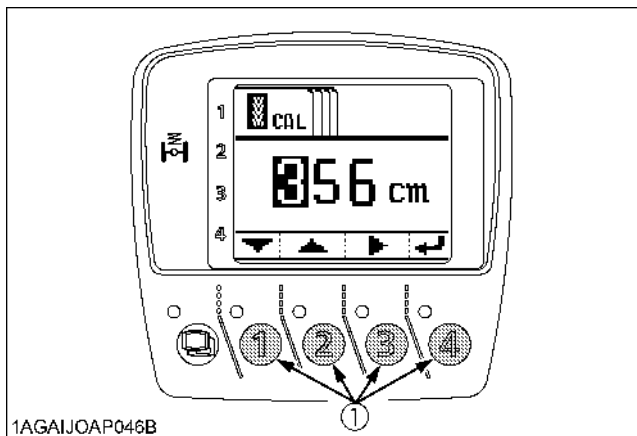
4. Select the tire circumference setting mode with Switch 3 and press Switch 4 to go to the tire circumference setting screen.



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(1) Switch (A) "Tire circumference setting mode"

5. Check to see if the tire circumference is correctly preset. If not, correct the numerical settings with Switches 1, 2 and 3, referring to the table below. Press Switch 4 to save the new setting.



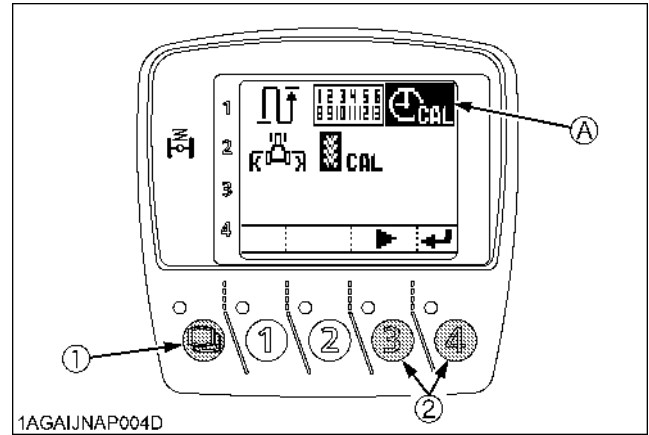
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(1) Switch

◆ Tire circumference chart

Tractor type	Tire specification	Rear tire size	Entry (cm)
M100GX-II M110GX-II	Standard	520/70R34	501
		460/85R34	489
		480/80R34	490
		540/65R30	440
		540/65R28	424
		270/95R44	485
		300/95R42	490
M128GX-II M135GX-II	Standard	18.4R38	526
		520/70R38	536
		480/80R38	526
		270/95R48	525
		320/90R46	531

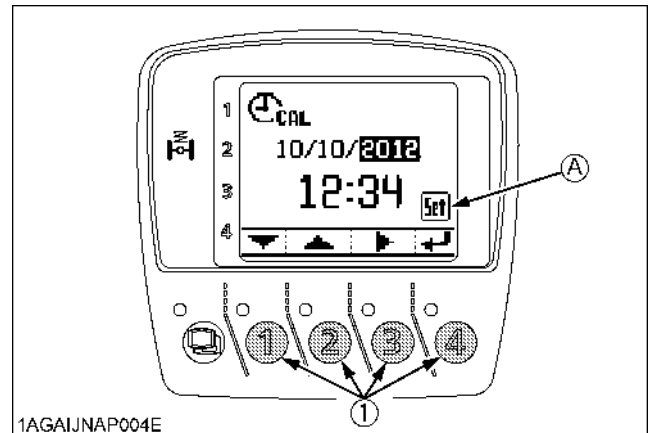
6. Go back to any of various setting mode screen. Select the clock setting mode with Switch 3. Press Switch 4, and the clock setting screen appears.



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(1) Mode selector switch (A) "Clock setting mode"  
(2) Switch

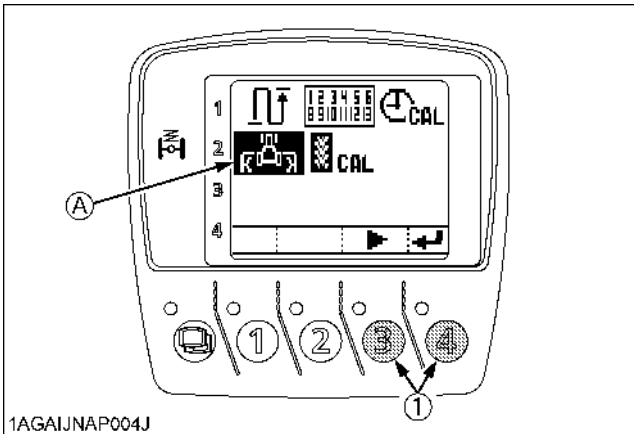
7. Check to see if the clock is correctly set. If not, set the correct date and time with Switches 1, 2 and 3. Select "Set" and press Switch 4 to save the new setting.



1AGAIJNAP004E

(1) Switch (A) "SET"

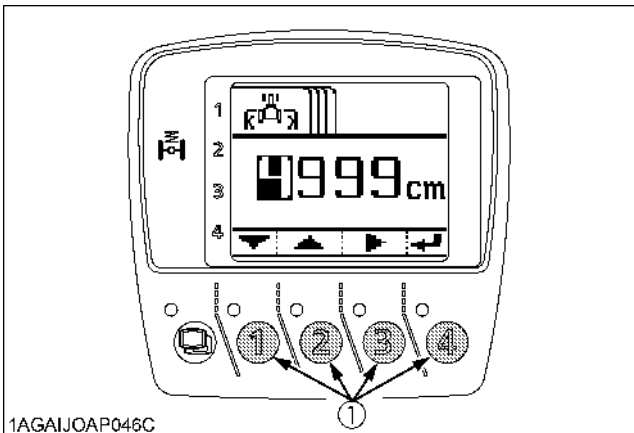
- Go back to any of various setting mode screen. Select the working range of implement setting mode with Switch 3. Press Switch 4, and the working range of implement setting screen appears.



1AGAIJNAP004J

(1) Switch (A) "Working range of implement setting mode"

- Using Switches 1, 2 and 3, enter the working range of implement. Press Switch 4 to save the setting.

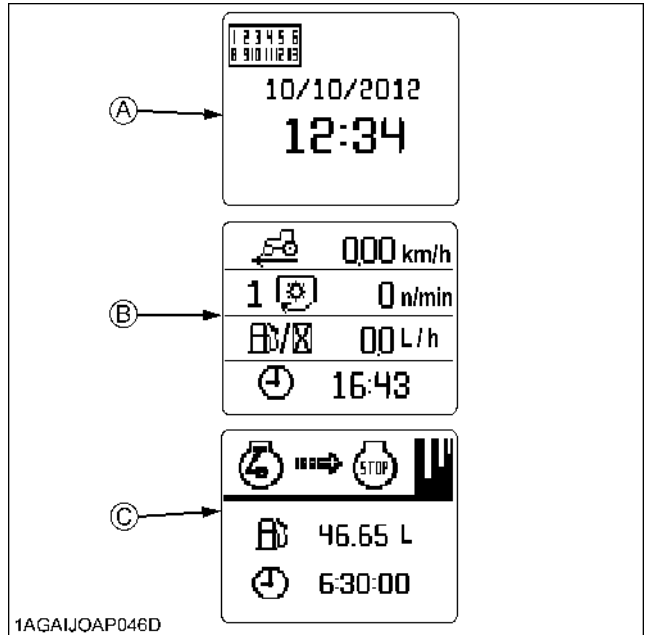


1AGAIJOAP046C

(1) Switch

### ■ Factory-set Screen Display

◆ **Display when the key switch is turned on and off**  
 Turn on the key switch, and the current time is displayed. In a couple of seconds, the Default screen appears. Turn off the key switch, the "fuel consumption" and "operating hours" appear for a few seconds after the engine is started.



1AGAIJOAP046D

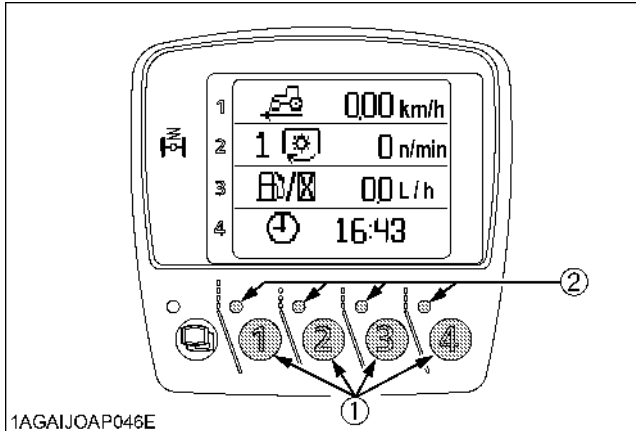
(A) "Current time"  
 (B) "Default screen"  
 (C) "With key switch turned off"

**NOTE :**

- The "current time" appears when the work history is on. For setting the display, refer to the "SIDE DIGITAL DISPLAY" appendices at the back of this manual.

◆ **Display Operating Procedures**

The display has been factory-set for the following 4 settings. They are interlocked from top to bottom with Switches 1 thru 4. For viewing and modifying the information, see the chart on the next page.













- (1) Switch
- (2) Indicator

**Indicator**

ON	Press the switch to change the display.
OFF	The display does not change even by pressing the switch.
FLASHING	The data are reset by holding down the switch.

◆ Standard factory settings and display changes

Info	Display	Remarks	Ref. page
Travel speed	Travel speed  0.00 km/h	<ul style="list-style-type: none"> <li>Each time Switch 1 is pressed, the "travel speed" and "average travel speed" are displayed alternately.</li> <li>The "average travel speed" is based on the speed since the last reset action was performed.</li> <li>With the "average travel speed" displayed, hold down Switch 1. The setting goes back to "0.0".</li> </ul>	41
	Average travel speed  0.00 km/h		<p><b>NOTE :</b></p> <ul style="list-style-type: none"> <li>The travel speed displayed does not account for wheel slip.</li> </ul>
PTO	PTO rpm (Shift 1) 1  540 1/min	<ul style="list-style-type: none"> <li>Each time Switch 2 is pressed, the "shift 1" and "shift 2" are displayed alternately.</li> <li>"1" is used to select 540 rpm. "2" is used to select 1000 rpm or 540E rpm (if equipped).</li> </ul>	73
	PTO rpm (Shift 2) 2  1000 1/min		73
Mileage	Instantaneous fuel consumption  15.0 L/h	<ul style="list-style-type: none"> <li>Each time Switch 3 is pressed, the "instantaneous fuel consumption", "average fuel consumption" and "mileage graph" are displayed alternately.</li> <li>The "instantaneous fuel consumption" is measured per hour.</li> <li>The "average fuel consumption" is measured per hour from the previous resetting.</li> <li>With the "average fuel consumption" displayed, hold down Switch 3. The setting goes back to "0.0".</li> <li>The "mileage graph" graphically shows the mileage in real time. (The more the bar is extended to the right, the worse the mileage becomes.)</li> </ul>	-
	Average fuel consumption  10.0 L/h		-
	Mileage graph  		-
Clock	Time  15:14	<ul style="list-style-type: none"> <li>Each time Switch 4 is pressed, the "time" and "date" are displayed alternately.</li> <li>With the "time" displayed, hold down Switch 4. The 24-hour system and 12-hour system are displayed alternately.</li> </ul>	49
	Date  7/ 4/2012		170

- For other data than the factory settings and modifying the data displayed, refer to the "SIDE DIGITAL DISPLAY" appendices at the back of this manual.

## ELECTRONIC ENGINE CONTROL

The electronically controlled engine which is installed in this tractor performs the following three types of control.

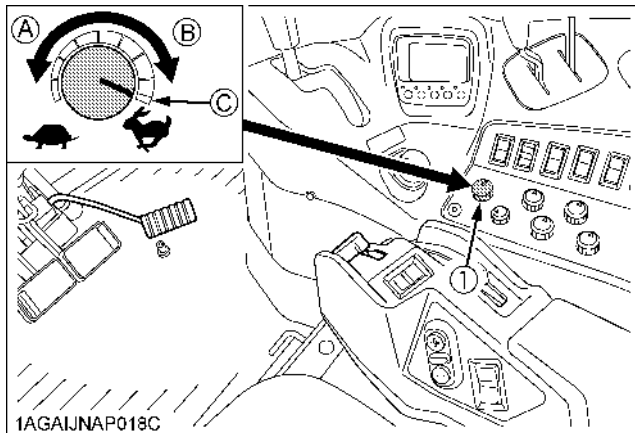
1. Rev-limiter control setting
2. RPM dual memory setting
3. Constant RPM management control

### ■ Rev-limiter Control Setting

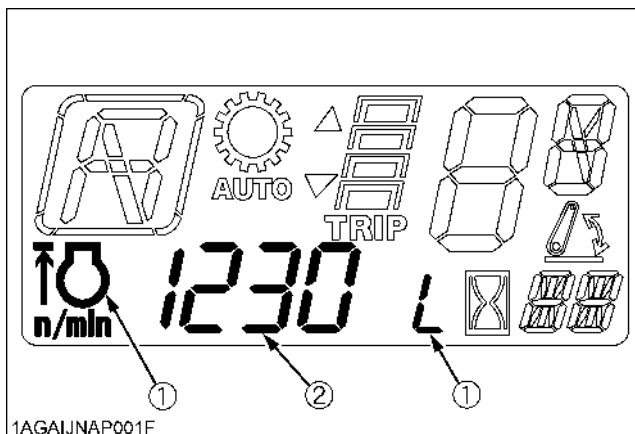
When the Rev-limiter control dial is used to restrict the maximum engine speed, the engine speed will not exceed the set speed even when the hand throttle lever or foot throttle is operated. This can prevent machine trouble caused by incorrect operation.

#### ◆ Setting the speed

1. The setting can be made both when the engine is running and when it is stopped.
2. Set the speed by turning the dial to the left or right while watching the engine speed that is displayed on the LCD.
3. When the dial is turned all the way to the right, to the "🐘" position, the restriction is canceled.



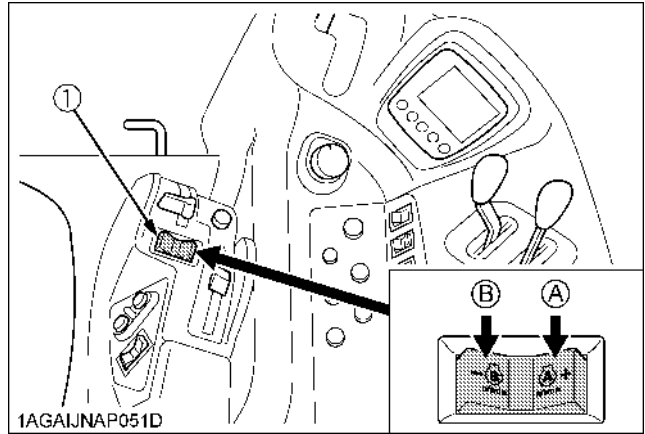
(1) Rev-limiter control dial (A) "LOW-SPEED SIDE"  
(B) "HIGH-SPEED SIDE"  
(C) "CANCELED"



(1) Display when Rev-limiter control is set  
(2) Maximum engine speed that is set

### ■ RPM Dual Memory Setting

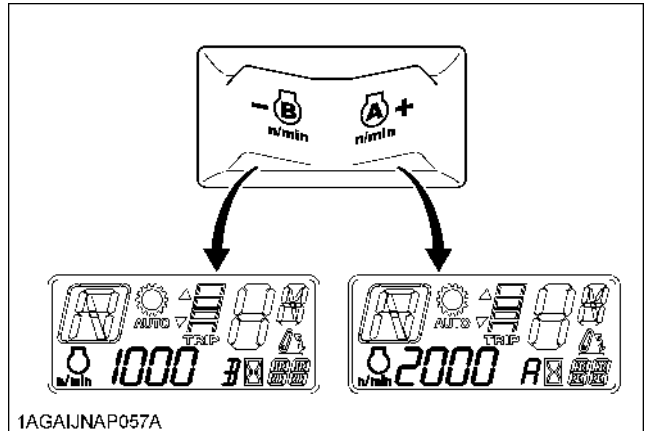
Two different engine speeds can each be set with a single touch by pressing the RPM dual memory switch to the (A) or (B) side. This can be used to eliminate troublesome acceleration operations.




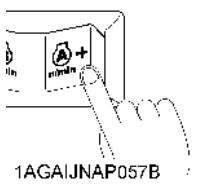

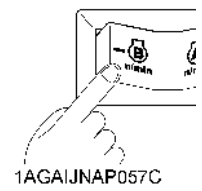

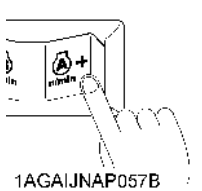
(1) RPM dual memory switch (A) Switch A  
(B) Switch B

#### ◆ Example of use

Consider an example in which an engine speed of 2000 rpm is set for the switch (A) side and a speed of 1000 rpm is set for the switch (B) side.

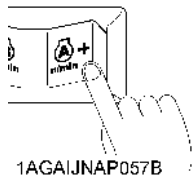


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<p>Work</p> 	 <p>1AGAIJNAP057B</p>	<p>During work, simply press the switch to the (A) side to automatically set an engine speed of 2000 rpm.</p>
<p>Turning</p> 	 <p>1AGAIJNAP057C</p>	<p>When turning, press the switch to the (B) side to lower the speed to 1000 rpm, allowing turning at low speed.</p>
<p>Work</p> 	 <p>1AGAIJNAP057B</p>	<p>After turning, press the switch again to the (A) side to resume a speed of 2000 rpm.</p>

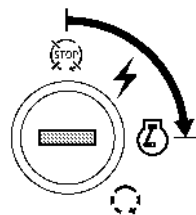
- Keep the hand throttle lever above the minimum speed. At the minimum speed, a memory setup can not be performed.
- You can also depress the foot throttle to increase the engine speed above the set speed.

◆ **Setting the speeds (or changing the speed settings)**

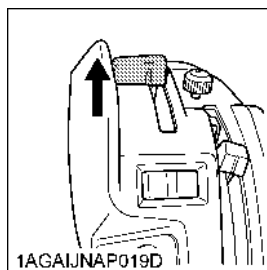


Setting RPM dual memory switch (A)

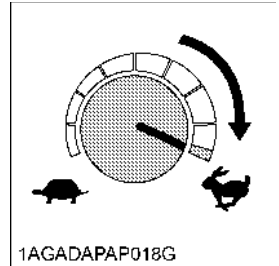
1. Turn the key switch to "ON". (The speed setting can be made both when the engine is running or stopped.)



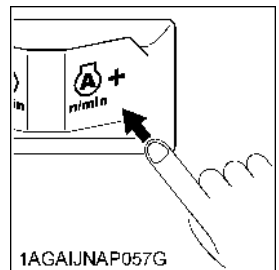
2. Set the hand throttle lever slightly toward the higher-speed side.



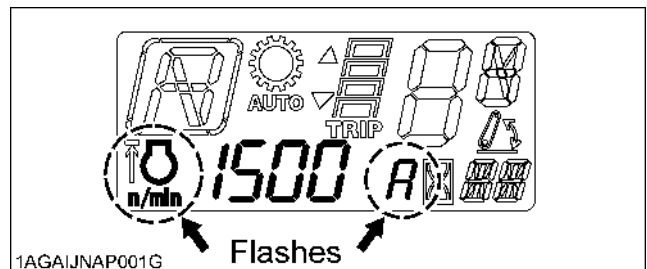
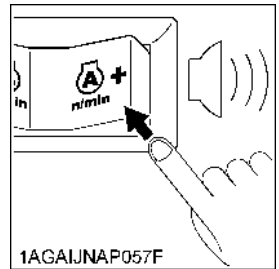
3. Turn the Rev-limiter control dial to the " " position.



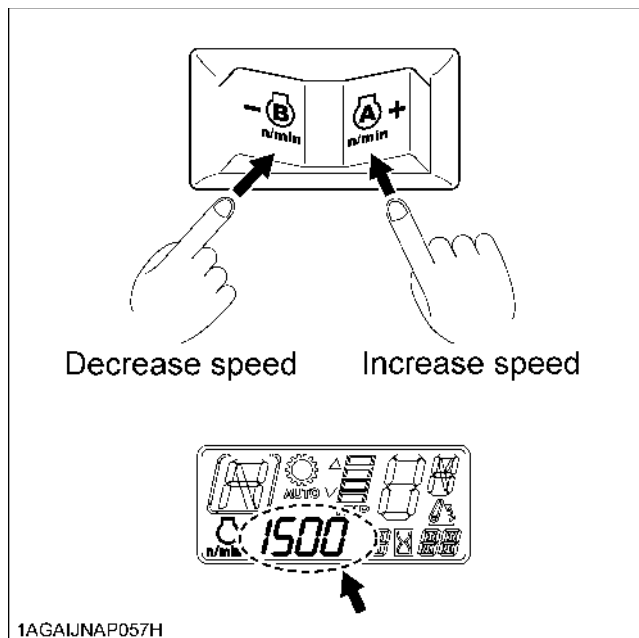
4. Press the switch (A) side and then release the switch.



5. Again press and hold down the switch (A) side (2.5 seconds) until the buzzer sounds, then release the switch.



6. Press the switch to the (A) or (B) side 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 10 rpm each time. Set the desired engine speed while watching the speed display.



7. If the switch is released and not operated for 4 seconds, a continuous buzzer sound occurs and the setting is completed.
8. Follow the same procedure as for the (A) side to set the speed for the switch (B) side.

**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. [Switch (A) side]**

When the memory speed is engaged, press the switch (A) again to cancel.

**[Switch (B) side]**

When the memory speed is engaged, press the switch (B) again to cancel.

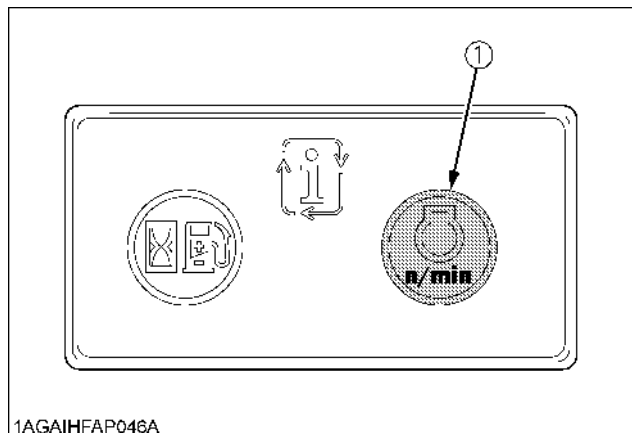
When the memory speed is canceled, the speed will return to the speed that is determined by the hand throttle lever (foot throttle).

(When the switch is pressed, the LCD will display the engine speed that is in effect after memory speed is canceled.)

2. Return the hand throttle lever to the lowest speed position.
3. Turn the key switch to "OFF".

**◆ Checking the speeds set in the memory**

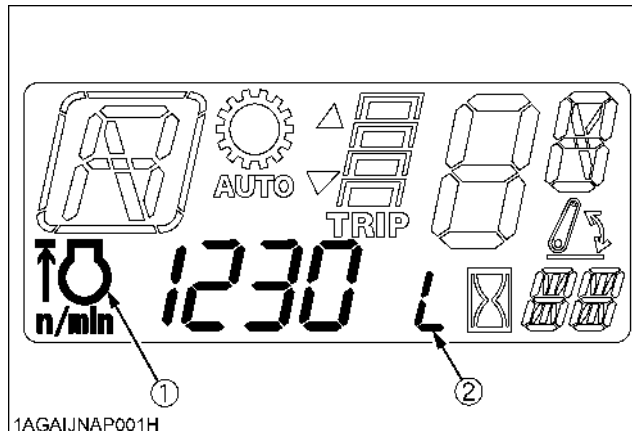
You can check the speed which is set for switch (A) and (B) on the LCD by pressing the "Engine RPM dual memory A/B indicator switch". (The display automatically disappears after 1.5 seconds.)



(1) Engine RPM dual memory A/B indicator switch

**NOTE :**

- If the memory speed setting is set higher than the value that was set with the Rev-limiter control dial, the marks (1) and (2) shown in the figure below appear on the LCD and the speed will not increase to the set speed. (The Rev-limiter control dial takes priority.)
- For example if the speed set in the memory is 2000 rpm, and the Rev-limiter control dial is set to 1230 rpm, then marks (1) and (2) shown in the figure below appear on the LCD and the engine speed will not increase above 1230 rpm.



(1) Lit or flashing

(2) [L] displayed

**■ Constant RPM Management Control**

Constant RPM Management can be turned "ON" or "OFF" by operating the switch. Pressing the switch to the lower side turns the control "ON" and pressing the switch to the upper side turns it "OFF".

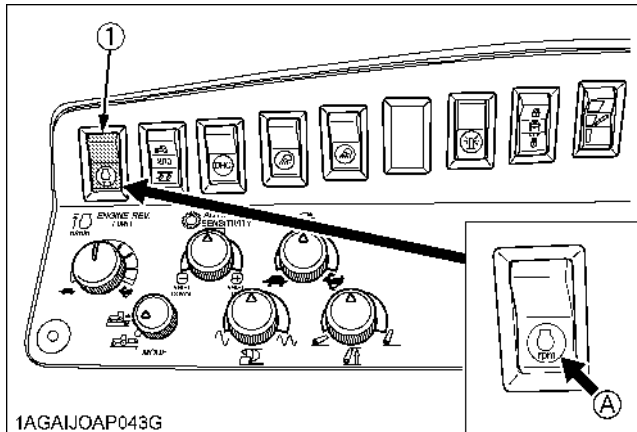
**◆ When constant RPM management is "ON"**

Fluctuations in the engine speed due to load fluctuations are reduced and the travel speed and PTO speed are kept nearly constant, allowing stable work. When constant RPM management is "ON", the switch and the instrument panel indicator light up.

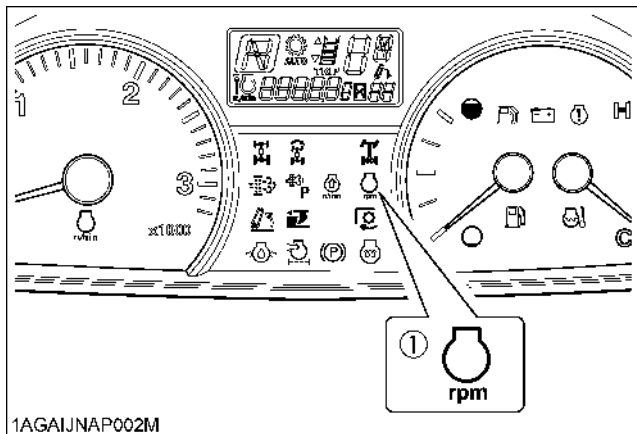


◆ **When constant RPM management is "OFF"**

As in a conventional engine, the engine speed increases or decreases according to changes in the load. The operator judges the size of the load from the engine speed and engine sound, and can adjust the travel speed or plowing depth to prevent overload on the tractor.



(1) Constant RPM management switch (A) "PRESS (ON)"



(1) Constant RPM management indicator

**NOTE :**

- In a mechanically-controlled engine, the engine speed changes according to increases and decreases in the load.  
For example, when working in a hilly area, the load increases and engine speed drops while ascending a slope, and conversely the load drops when descending. These changes in engine speed affect the travel speed and PTO-driven implements. In order to minimize these effects, the operator must make fine adjustments to the travel speed and hand throttle lever.
- When the constant RPM management switch in this tractor with its electronically controlled engine is turned "ON", the engine speed will be kept nearly constant in response to a certain level of load fluctuations. This improves the accuracy of work without the need for troublesome manipulation of the travel speed and hand throttle lever.
- It is recommended that a combination of light-load PTO-driven implements and AUTO-MODE (Automatic speed change) be used.
- There is a limit to the range within which a constant speed can be maintained. If a load exceeding the engine performance is applied, the engine speed will drop.
- The purpose of constant RPM management is not to increase the engine power.

# AUTO MODE

## ■ Outline

The Auto-Mode is an automatic speed change function that is designed to shift up and down the travel speed in response to the load-dependent engine rpm fluctuations, attachment maneuvering, acceleration pedal movement and other factors. The Auto-Mode comes in two ways, "Travel mode" and "Field mode", according to the applications.

### ◆ Travel mode

In trailing operation, the automatic shift-up/down is carried out within a predetermined range (factory-set for 2 shifts), responding to the acceleration pedal movement and rpm changes from load. This helps you avoid troublesome gear shifting.

**[Example]**  
Running at the automatic travel speeds (6), (7) and (8)

Acceleration pedal released	Tractor stopped	Uphill travel	Traveling	Deceleration under load
When the acceleration pedal is completely released and the hand throttle is in the idle position, the automatic shift-down from speed (8) to (7) to (6) occurs.	When the tractor stops, the automatic shift-up from speed (6) occurs for smooth restarting.	On an uphill slope, an increase in load is sensed, prompting the automatic shift-down to speed (7) or (6) for more traction force.	Over the uphill slope, a decrease in load is sensed, prompting the automatic shift-up.	On a downhill slope or along a curve, the automatic shift-down to speed (7) or (6) occurs, responding to the acceleration pedal movement.

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**NOTE :**

- The tractor has been factory-set for the automatic range (2 shifts) discussed above. This gearshift range can be modified to meet your applications. (For details, refer to "Changing the Auto-Mode settings" in this section.)
- The Auto-Mode does not function if the clutch is disengaged or halfway or in turning over the Bi-speed turning angle and if shuttle lever is in reverse position.
- The Auto-Mode functions when the engine rpm is above the middle speed.

◆ **Field mode**

In plowing operation, the automatic shift-up/down is carried out within a predetermined range (factory-set for 2 shifts), responding to the field condition, soil condition and other factors. When lifting the attachment using 3 pt, the automatic shift-down is made for easier turning.

With implement that require PTO rotation, automatic shift-up/shift-down occurs repeatedly. This is because the system is sensitive to the load from the plow or other towed implements. As a result, the PTO speed is kept nearly constant, improving the accuracy of work.

**[Example]**  
Running at the automatic travel speeds (6), (7) and (8)

Hard farm ground	Soft farm ground	Uphill plowing	Flat farm ground	Attachment lifted
An increase in load is sensed due to a soil change, prompting the automatic shift-down from speed (8) to (7) to (6).	A decrease in load is sensed due to a soil change, prompting the automatic shift-up.	On an uphill slope, an increase in load is sensed, prompting the automatic shift-down to speed (7) or (6) for more traction force.	Over the uphill slope, a decrease in load is sensed, prompting the automatic shift-up.	When lifting the attachment with the 3-P.Quick raise/lower switch or the hydraulic control lever, the automatic shift-down occurs for easier turning.

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**NOTE :**

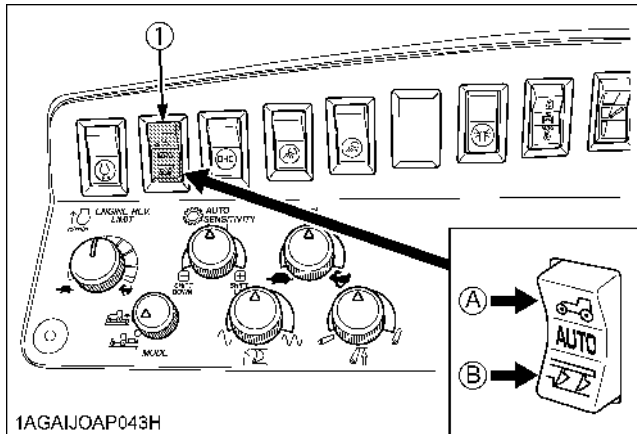
- The tractor has been factory-set for the automatic range (2 shifts) discussed above. This gearshift range can be modified to meet your applications. (For details, refer to "Changing the Auto-Mode settings" in this section.)
- The Auto-Mode does not function if the clutch is disengaged or halfway or in turning (over the bi-speed turning angle) and if shuttle lever is in reverse position.
- The Auto-Mode functions when the engine rpm is above the middle speed.

**■ Operation**

1. Press the Auto-Mode switch to select "Travel mode" or "Field mode" according to your applications. Once selected, the Auto-Mode indicator on the meter panel lights up.  
When the switch is moved to the middle position "OFF", the mode indicator goes out.

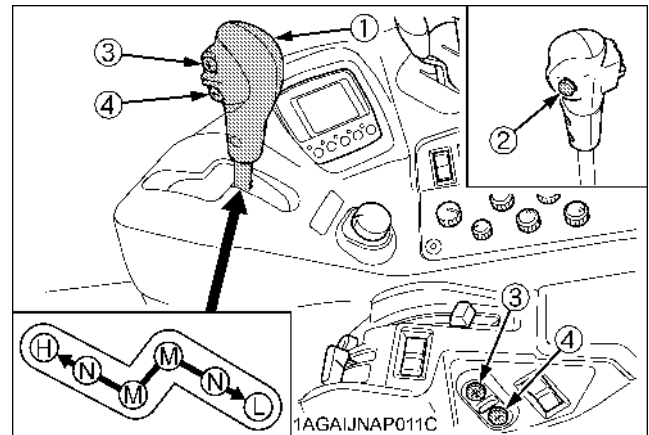
Travel mode: For pulling trailers and other hauling operations.

Field mode: For plowing, subsoiling and other tilling operations, or for harvesters and other PTO-driven implements.



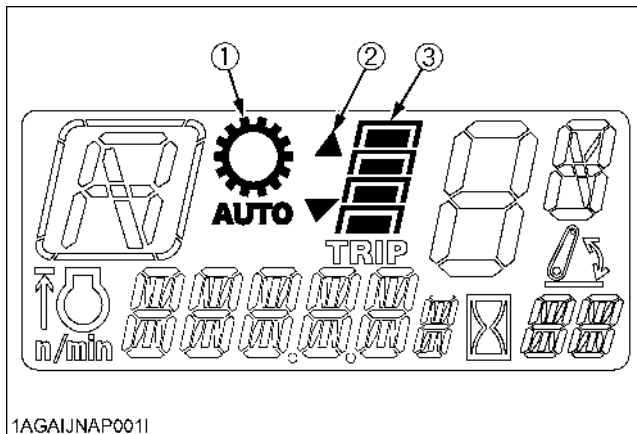
(1) Auto-Mode switch (A) "Travel mode" (B) "Field mode"

2. Use the up-shift/down-shift button on the power shift / range shift lever or on the armrest to select a field speed. The selected speed can be checked in the selected-speed display of the meter panel.



(1) Power shift / Range shift lever (2) Clutch button (3) Up-shift button (+) (4) Down-shift button (-)

3. Now the setting is completed.



(1) Auto-Mode indicator (2) Shift-up/shift-down indicator (3) Auto-shift bar indicator

### Work Speed Display

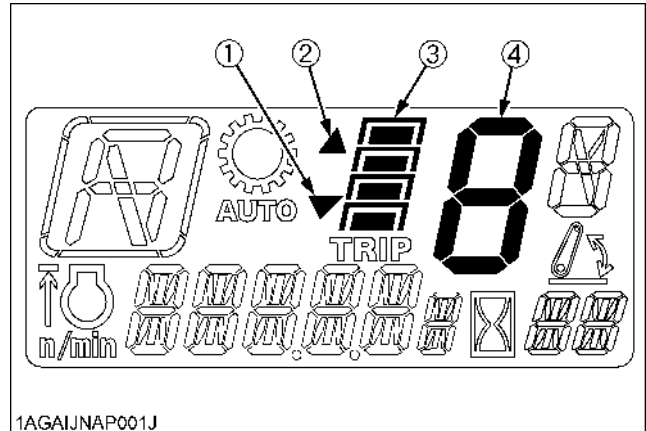
The LCD displays both the selected speed and Auto-shift bars.

#### Selected speed display

The Auto-shift range is set to 2 shifts as standard. If "8" is displayed at start, then the tractor starts in 8th speed and then automatic shift-up/shift-down occurs in the range of "8", "7", and "6". The selected speed display remains lit when driving in 8th speed, and flashes when driving in 7th or 6th.

#### Auto-shift bar display

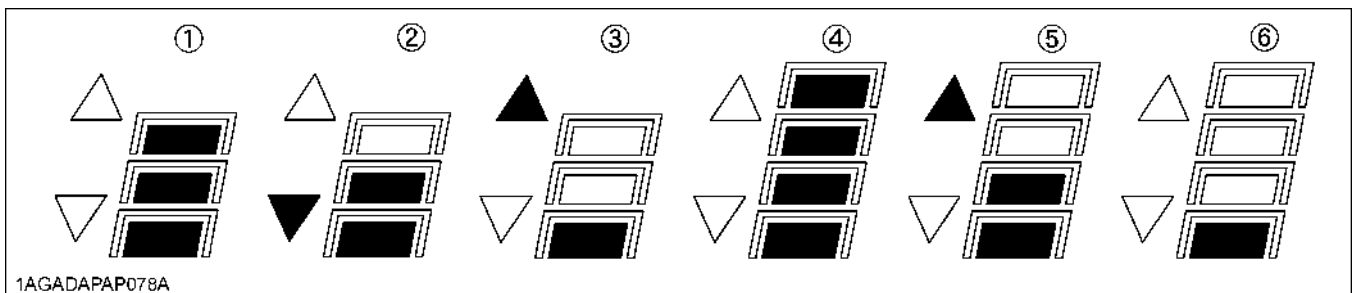
The auto shift bars display the set "automatic shift-down possible speed range" and the "current speed stage". The shift-up indicator flashes immediately before shift-up occurs, and the shift-down indicator flashes immediately before shift-down occurs.



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- (1) Shift-down indicator
- (2) Shift-up indicator
- (3) Auto-shift bar display
- (4) Selected speed ("1" to "8")

#### Example of Auto-shift bar display



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No.	Set shift-down range	Actual speed position
(1)	2 shifts (factory setting)	The current speed is the highest position of the set speeds. The load and the set speed are in balance.
(2)		The current speed is shifted 1 speed down from the highest position. The load is large and the machine is about to shift down by 1 more speed.
(3)		The current speed is shifted 2 speeds down from the highest position. The load is light and the machine is about to shift up by 1 speed.
(4)	3 shifts (when setting is changed)	The current speed is the highest position of the set speeds. The load and the set speed are in balance.
(5)		The current speed is shifted 2 speeds down from the highest position. The load is light and the machine is about to shift up by 1 speed.
(6)		The current speed is shifted 3 speeds down from the highest position.

## ■ Changing the Field Speed

Using the up-shift/down-shift button on the armrest or on the power shift / range shift lever, the field speed can be readily changed. To put the speed in memory, however, preferably take the following procedure.

### ◆ To change the speed while the tractor is stopped

Place the power shift / range shift lever to "N", press the up-shift/down-shift button, and change the field speed. The speed that appears in the selected-speed display will be the new upper speed level.

### ◆ To increase the speed while running the tractor

Check the speed that appears in the selected-speed display.

#### (When the speed display stays on - Not flashing)

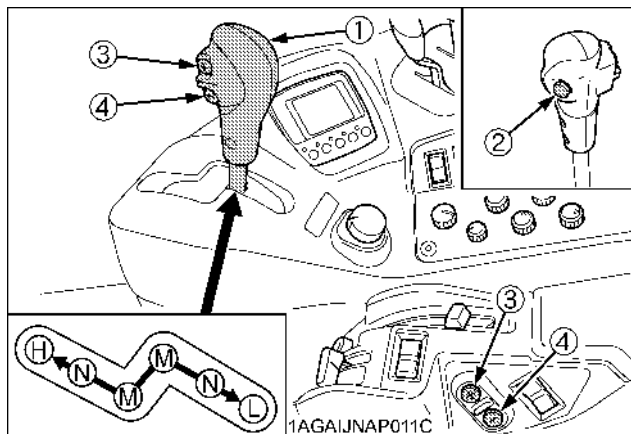
1. Press the up-shift button (+) to raise the speed.
2. The speed that appears in the selected-speed display is the new upper speed level.

#### (When the speed display is flashing)

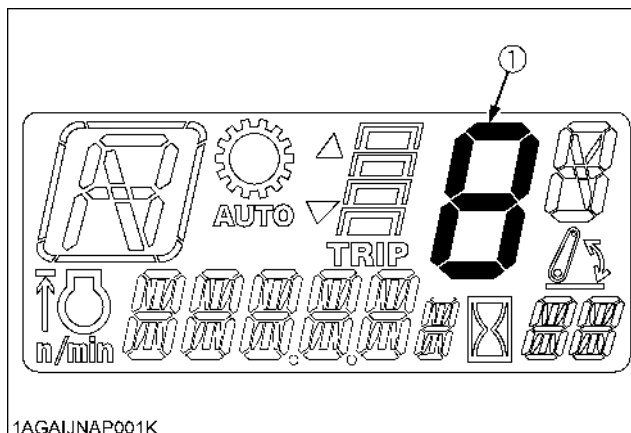
1. Press the up-shift button (+) to raise the speed.
2. Travel mode  
(trailing and other hauling operations)  
Press the top (Travel mode) of the Auto-Mode switch to the 2nd stage.
3. Field mode  
(plowing, subsoiling and other tilling operations, or for harvesters and other PTO-driven implements)  
Press the bottom (Field mode) of the Auto-Mode switch to the 2nd stage.
4. The speed that appears in the selected-speed display is now the new upper speed level.

### ◆ To decrease the speed while running the tractor

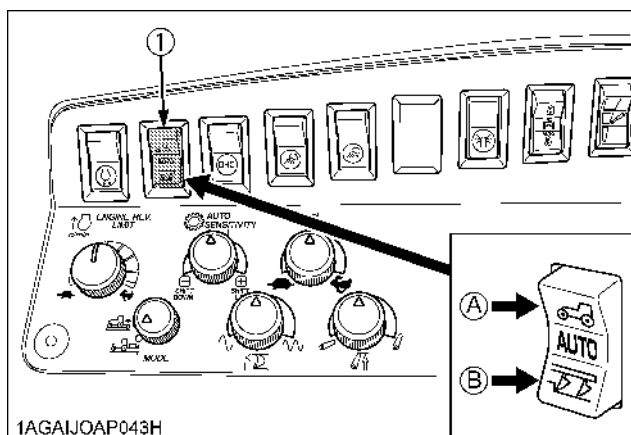
1. Press the down-shift button (-) to lower the speed.
2. Travel mode  
(trailing and other hauling operations)  
Press the top (Travel mode) of the Auto-Mode switch to the 2nd stage.
3. Field mode  
(plowing, subsoiling and other tilling operations)  
Press the bottom (Field mode) of the Auto-Mode switch to the 2nd stage.
4. The flashing number stays on. The speed that appears in the selected-speed display is now the new upper speed level.



- (1) Power shift / Range shift lever
- (2) Clutch button
- (3) Up-shift button (+)
- (4) Down-shift button (-)



- (1) Selected-speed display

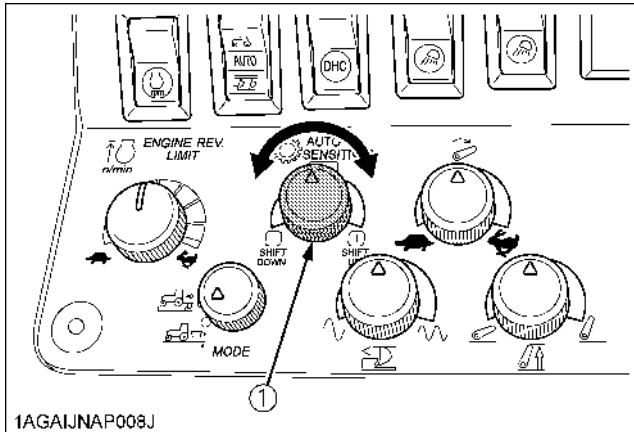


- (1) Auto-Mode switch
- (A) "Travel mode"
- (B) "Field mode"

## ■ Sensitivity Adjustment

The automatic shift-up/down sensitivity can be adjusted to meet engine load fluctuations.

Turn the dial to the negative side.	Higher sensitivity for shift-down and lower sensitivity for shift-up
Turn the dial to the positive side.	Higher sensitivity for shift-up but the same sensitivity for shift-down.



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(1) Auto-Mode sensitivity adjustment dial

## ■ Changing the Auto-Mode Setting

The Auto-Mode has been factory-set as shown in the chart on the next page. The setting can be modified as required.

### ◆ Changing the travel mode setting

[The automatic speed range and the shift-down speed at acceleration pedal release can be modified.]

1. Place the power shift / range shift lever to "N", and start the engine.
2. Push and hold down the top (Travel mode) of the Auto-Mode switch to the 2nd stage for more than 3 seconds. The buzzer sounds beeping and the setting mode is called.
3. Now each time the top (Travel mode) of the Auto-Mode switch is pressed, "r" (automatic speed) and "A" (acceleration pedal release shift-down speed) appear flashing alternately.

### Changing the automatic speed at engine load detection (RPM)

4. Using the Auto-Mode switch, make "r" appear in the display. Hold down the top (Travel mode) of the Auto-Mode switch, and the current speed setting starts flashing.
5. Each time the top (Travel mode) of the Auto-Mode switch is pressed, "2", "3" and "4" appear flashing one after another. When a desired speed setting comes up, hold down the switch again for more than 3 seconds. The flashing number stays on and the setting is completed.

6. This setting refers to how many gears the Auto-shift will use up/down, when the engine rpm changes (without using the throttle).

<Example>

- 2 gears = 1 shift
- 3 gears = 2 shifts
- 4 gears = 3 shifts

### Changing the automatic shift-down speed at acceleration pedal release (Throttle operation)

7. Using the Auto-Mode switch, make "A" appear in the display. Hold down the top (Travel mode) of the Auto-Mode switch, and the current speed setting starts flashing.
8. Each time the top (Travel mode) of the Auto-Mode switch is pressed, "0", "1" "2" and "3" appear flashing one after another. When a desired speed setting comes up, hold down the switch again for more than 3 seconds. The flashing number stays on and the setting is completed.
9. This setting refers to how many shifts the tractor will Auto-shift up/down when the operator uses the throttle.
  - <Example>
  - 0 = No shift
  - 1 = 1 shift
  - 2 = 2 shifts
  - 3 = 3 shifts

### ◆ Changing the field mode setting

[The automatic speed range and the shift-down speed at attachment lift can be modified.]

1. Place the power shift / range shift lever to "N", and start the engine.
2. Hold down the bottom (Field mode) of the Auto-Mode switch to the 2nd stage for more than 3 seconds. The buzzer sounds beeping and the setting mode is called.
3. Each time the bottom (Field mode) of the Auto-Mode switch is pressed, "r" (automatic speed) and "P" (attachment lift shift-down speed) appear flashing alternately.

### Changing the automatic speed at engine load detection (RPM)

4. Using the Auto-Mode switch, make "r" appear in the display. Hold down the bottom (Field mode) of the Auto-Mode switch, and the current speed setting starts flashing.
5. Each time the bottom (Field mode) of the Auto-Mode switch is pressed, "2", "3" and "4" appear flashing one after another. When a desired speed setting comes up, hold down the switch again for more than 3 seconds. The flashing number stays on and the setting is completed.

6. This setting refers to how many gears the Auto-shift will use up/down, when the engine rpm changes (without using the throttle).

<Example>

- 2 gears = 1 shift
- 3 gears = 2 shifts
- 4 gears = 3 shifts

**Changing the automatic shift-down speed at 3-point hitch lift**

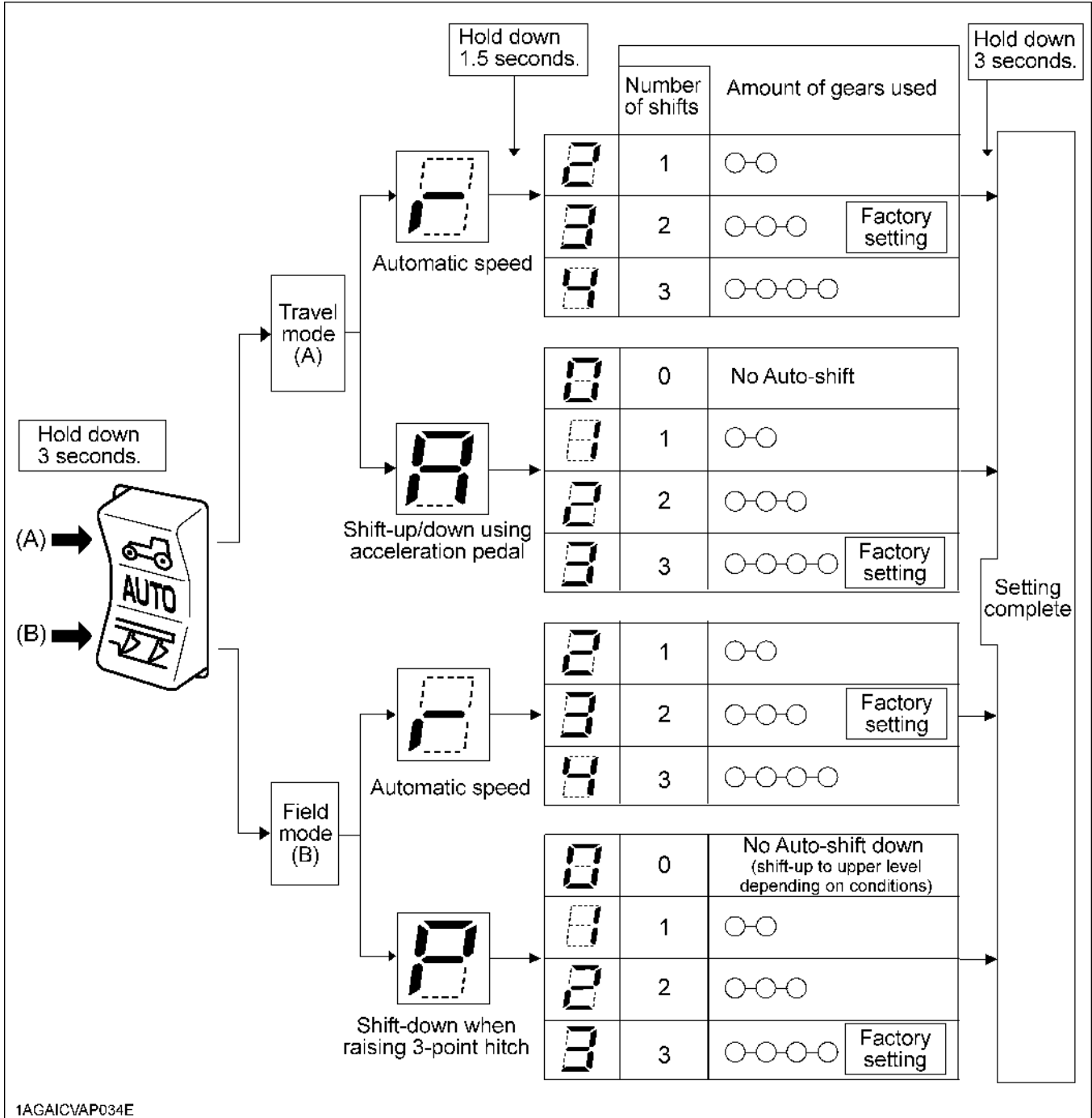
7. Using the Auto-Mode switch, make "P" appear in the display. Hold down the bottom (plow marking) of the Auto-Mode switch, and the current speed setting starts flashing.
8. Each time the bottom (plow marking) of the Auto-Mode switch is pressed, "0", "1" "2" and "3" appear flashing one after another. When a desired speed setting comes up, hold down the switch again for more than 3 seconds. The flashing number stays on and the setting is completed.
9. This setting refers to how many shifts the tractor will Auto-shift down when the operator raises the 3-point hitch.

<Example>

- 0 = No shift down
  - 1 = 1 shift
  - 2 = 2 shifts
  - 3 = 3 shifts
-



◆ Changing the Auto-Mode settings



**NOTE :**

- It is impossible to preset a greater number of shift-down speeds than the number of automatic speeds.
- If the key switch is moved to "OFF" or the Auto-Mode switch is turned "OFF" halfway, the setting is cancelled.

## FRONT SUSPENSION



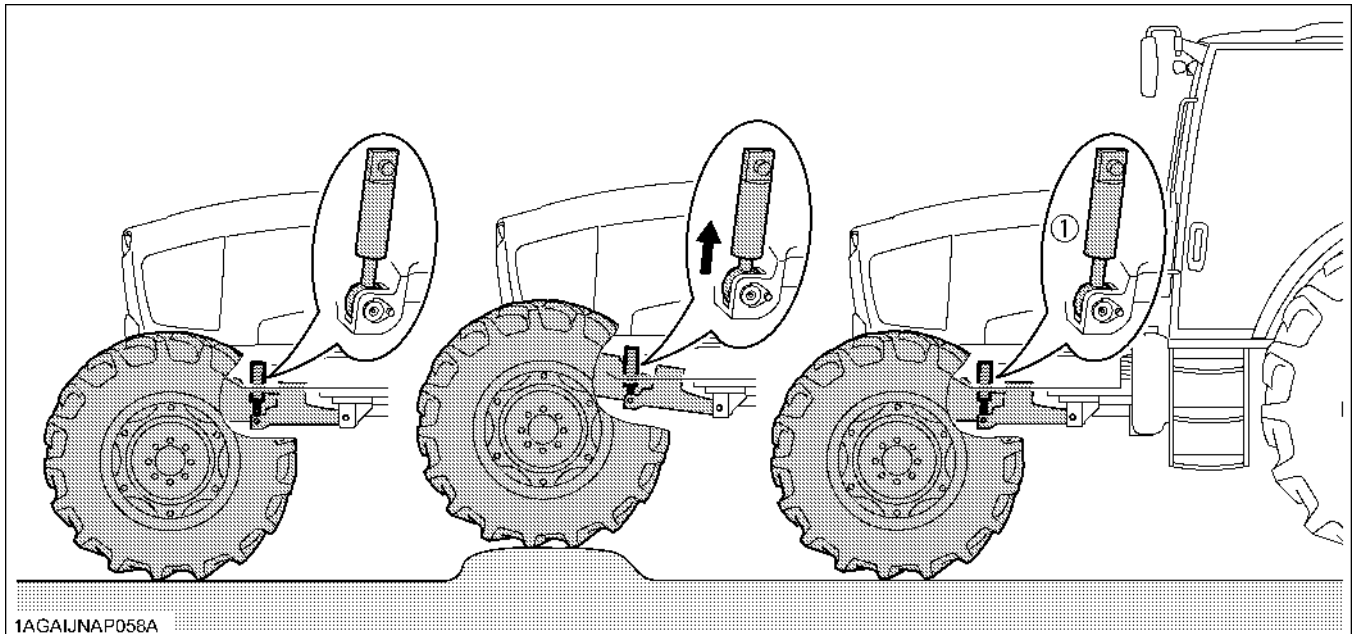
### WARNING

To avoid personal injury or death:

- The front suspension control system is working when the engine is running. In the ON mode, the LOCK mode or the AUTO LOCK mode, the control system will subtly change the machine's height at startup or as weight changes when implements are attached. These subtle movements can be unexpected. Before starting it, make sure the area near the machine is clear of all persons and objects.

### ■ Outline

The front suspension system works to absorb shocks and vibrations that can be caused by field surface conditions, road surface conditions, and changes in weight caused by implements. Different implements can change the way a tractor carries weight and that weight is also changed when driving in the field or driving on the road. The front suspension system provides the operator with a smoother ride, improved tractor stability, and higher productivity. The front suspension control system has two control switches that allow the operator to adjust the suspension system to operating conditions. Those switches are the Suspension Switch and the Ride Condition Damper Switch. The operator can quickly adjust the suspension system to changing conditions with the touch of buttons.



(1) Suspension cylinder

### ■ Suspension Switch

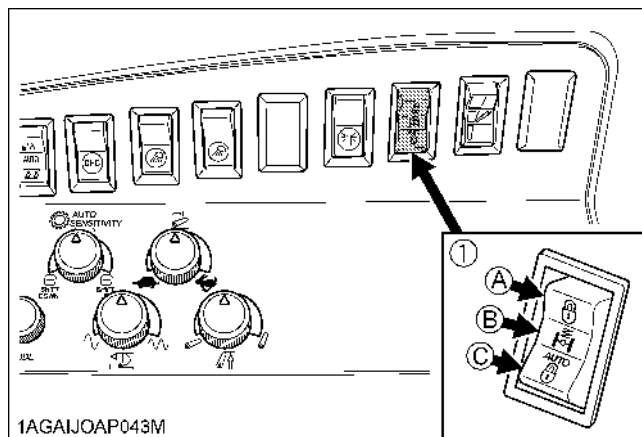


### WARNING

To avoid personal injury or death:

- Before using the suspension switch, make sure the area near the machine is clear of all persons and objects. The hydraulic pressure in the suspension cylinders, accumulators or a valve can cause the tractor and the attached implement to move unexpectedly.

Using the front suspension switch, the following 3 modes can be selected: ON, LOCK, and AUTO LOCK. While the "ON" or "AUTO LOCK" is selected, the suspension indicator is illuminated. In the "LOCK" mode, the indicator is not illuminated.

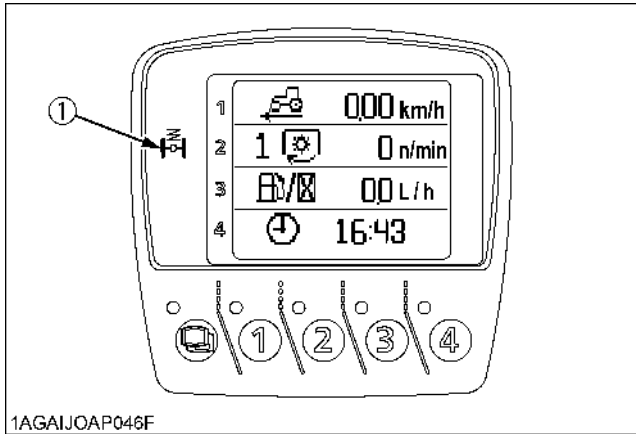


(1) Suspension switch

(A) Suspension "LOCK"

(B) Suspension "ON"

(C) Suspension "AUTO LOCK"



1AGAIJOAP046F

(1) Suspension indicator

**◆ Suspension "ON" Mode**

Whether driving on roads or doing work, the ON mode reacts to changing surface conditions and the changing weight of the tractor as implements are used. The ON mode is usually selected. When the ON mode is selected, the suspension indicator is illuminated.

**◆ Suspension "LOCK (OFF)" Mode**

The suspension system is locked out, and no suspension action takes place. The LOCK mode should be selected when the operator needs to prevent the tractor and the attached implements from overcompensating the front suspension system. The suspension indicator does not illuminate when the LOCK mode is selected.

**◆ Suspension "AUTO LOCK" Mode**

In this mode, the suspension is automatically selected LOCK or ON as listed in the table below.

The suspension indicator is illuminated when the AUTO LOCK mode is selected.

3-Point Hitch Control Mode	Suspension	
	LOCK	ON
Position selected	<ul style="list-style-type: none"> <li>● At low-speed travel</li> <li>● At lower 3-point hitch</li> </ul>	<ul style="list-style-type: none"> <li>● While travelling</li> <li>● At higher 3-point hitch</li> </ul>
Draft selected	<ul style="list-style-type: none"> <li>● With heavy draft load (at lower 3-point hitch)</li> <li>● At lower travel speed</li> <li>● While the 3-P. Quick lower switch is pressed</li> </ul>	<ul style="list-style-type: none"> <li>● With light draft load (at lower 3-point hitch)</li> <li>● At higher 3-point hitch</li> </ul>

**Example: Front End Loader operation (position mode)**

In order to efficiently perform Front End Loader work, the suspension stays locked at lower speeds. This helps hold the tractor in a stable condition. While traveling, the suspension is turned on for comfortable ride.

**Example: Plowing (draft mode)**

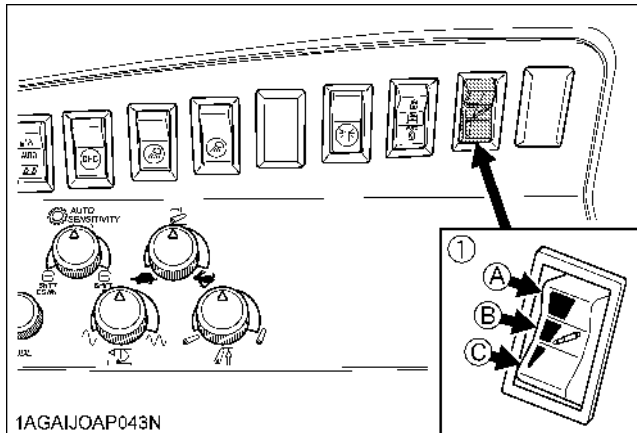
When a drafted load becomes heavy, the suspension gets locked. When the load becomes lighter, the suspension is turned on. In moving with the plow up, the suspension is kept on.

**NOTE :**

- In the AUTO LOCK mode, the hydraulic pressure in the suspension cylinders, accumulators or a valve may cause the machine height to change, when the suspension system switches automatically from "LOCK" to "ON" status.
- The suspension cylinder adjustment control does not work in the operating conditions below.
  - (1) The front wheels are overloaded.
  - (2) The engine runs at low speeds and the oil temperature is high.
  - (3) Both the brake pedals are stepped down.
  - (4) The manual control mode is selected.
- The machine speed in the suspension auto lock mode has been factory-setting at below 3 km/h (1.9 mph). To change this setting, contact your local KUBOTA Dealer.

## ■ Ride Condition Damper Switch

The suspension dampening can be adjusted by using the Ride Condition Damper Switch. To adjust the suspension dampening you must have the Suspension Switch set to the ON mode or the AUTO LOCK mode. Set the Ride Condition Damper Switch to match implement, ground conditions, and the type of work you are doing.



(1) Ride condition damper switch (A) "FIRM MODE"  
(B) "NORMAL MODE"  
(C) "SOFT MODE"

### ◆ Normal Mode

In Normal mode, the tractor will automatically select the optimum dampening force between soft, medium, and firm to insure the best ride. The suspension dampening should be selected based on the tractors gross weight with implements. Of the three modes (Normal mode, Firm mode, Soft mode), Normal mode is generally recommended for most tractor work.

### ◆ Firm Mode

In Firm mode, the suspension damping is set one level higher than Normal mode. As an example, the operator would use Firm mode when working with heavy implements to prevent "rocking" or excessive bouncing, for example a heavy round bale in the loader.

### ◆ Soft Mode

In Soft mode, the suspension system is set one level lower than Normal mode. As an example, the operator would use Soft mode when traveling on uneven or rough road surfaces to obtain a more comfortable ride.

### NOTE :

- Depending on the tractor gross weight, the "Firm" and "Soft" modes may work at nearly the same as the "Normal" mode.

## ■ Manual Control Mode

### ! WARNING

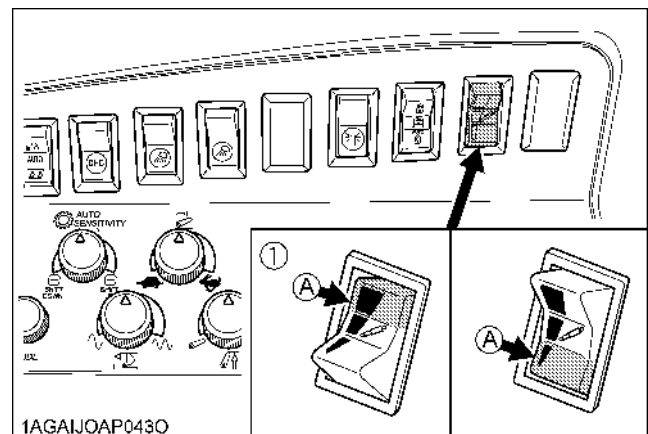
To avoid personal injury or death:

- Before releasing the manual control mode, make sure the area near the machine is clear of all persons and objects. Because of the hydraulic pressure in the cylinder, the machine height may change unexpectedly or the suspension cylinder adjustment control may get activated, which affects the height and/or posture of the tractor or the implement.

The tractor front end height can be raised or lowered by moving the suspension cylinder in the manual control. This is useful in attaching and detaching a front implement or front weight.

### ◆ Height adjusting procedure

- Hold down the top (Firm mode) or the bottom (Soft mode) of the ride condition damper switch to the second stage for more than 3 seconds, and the buzzer starts beeping and the suspension indicator starts flashing (2 or so flashes every second). Now the machine gets in the manual control mode.
- Hold down the top (Firm mode) of the ride condition damper switch to the second stage, and the height is raised.
- Hold down the bottom (Soft mode) of the ride condition damper switch to the second stage, and the height is lowered.



(1) Ride condition damper switch (A) "PRESS DOWN TO THE SECOND STAGE"

### ◆ Releasing the manual control mode

Reposition the suspension switch (to "ON", "LOCK" or "AUTO LOCK") to release the manual control mode. When released, the modes pre-selected with the suspension switch and the ride condition damper switch are resumed.

#### NOTE :

- The manual control mode is cleared in any of the following cases.
  1. Stopping the engine (turning OFF the key switch).
  2. Running the machine at higher than 5 km/h (3.1 mph).

#### IMPORTANT :

- Do not run or operate the machine with its height raised or lowered (while the manual control mode is selected). Otherwise it may get in trouble.

#### NOTE :

- Even in the manual control mode, the suspension works according to the mode selected with the suspension switch.
- With the "LOCK" mode selected, the machine height becomes stable and an implement may be easily attached and detached.
- The manual-mode raising and lowering speed varies depending on the mode selected with the suspension switch.

## PARKING

### ■ Parking



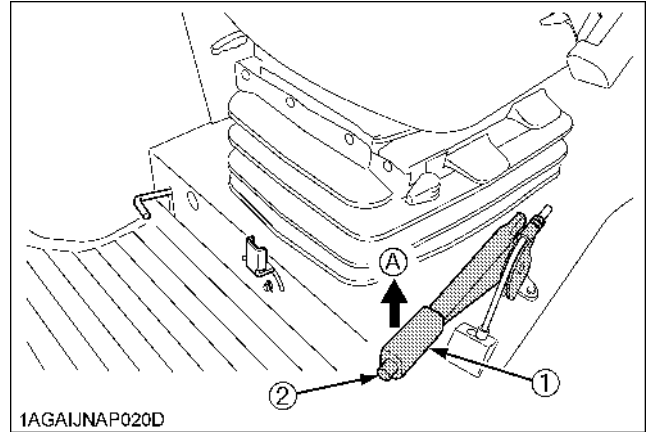
### WARNING

To avoid personal injury or death:

#### BEFORE DISMOUNTING TRACTOR

- ALWAYS SET PARKING BRAKE AND LOWER ALL IMPLEMENTS TO THE GROUND.  
Leaving transmission in gear with the engine stopped will not prevent the tractor from accidental rolling.
- STOP THE ENGINE AND REMOVE THE KEY.

1. Before getting off the tractor, disengage the PTO, lower all implements, place all control levers in their neutral positions, pull the parking brake lever up to park, stop the engine and remove the key.
2. If it is necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.



(1) Parking brake lever

(A) "PULL"

(2) Release button

#### IMPORTANT :

- Do not leave your tractor in the rain. If it cannot be avoided, cover the muffler pipe to prevent water entering.

#### NOTE :

- On the tractors equipped with the front suspension, the machine height may change depending on the hydraulic oil temperature or other factors.

## OPERATING TECHNIQUES

### ■ Differential Lock



### WARNING

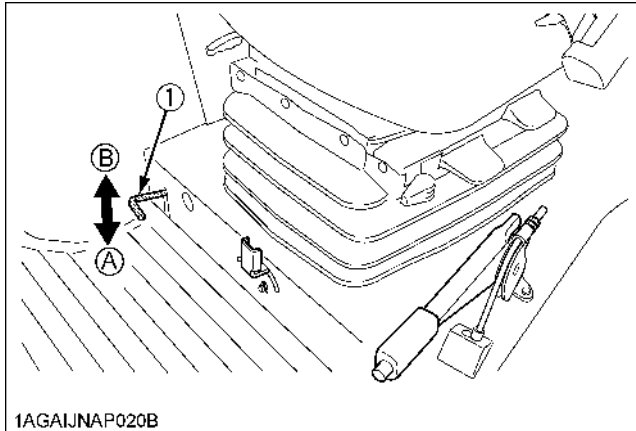
To avoid personal injury or death due to loss of steering control:

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

### ■ Rear Wheel Differential Lock Pedal

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

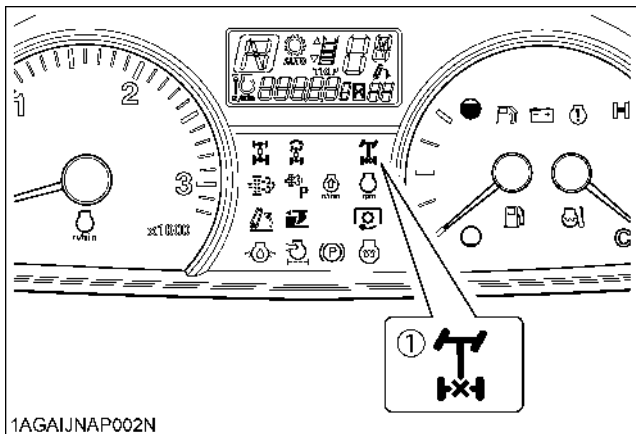
Differential lock is maintained only while the pedal is depressed.



(1) Differential lock pedal (A) Press to "ENGAGE"  
(B) Release to "DISENGAGE"

### ◆ Rear wheel differential lock indicator

While the differential lock pedal is stepped on, rear wheel differential lock indicator will come on. It will go off when the pedal is released.



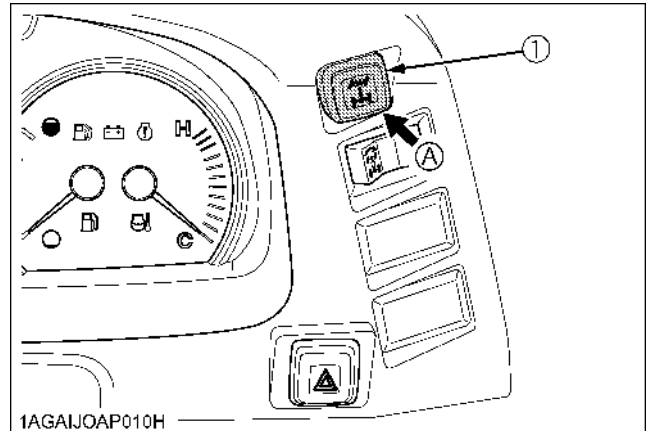
(1) Rear wheel differential lock indicator

### IMPORTANT :

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

### ■ Front Wheel Differential Lock Switch

1. If the front and/or rear wheels should slip while driving straight in field conditions, press the front wheel differential lock switch and step on the rear wheel differential lock pedal. The 4 wheels will then turn together, reducing slippage.
2. If the front and/or rear wheels slip while in a turn in field conditions, push on the front wheel differential lock switch only. The front wheels alone will rotate together for easy turning.
3. To release the front wheel differential lock, press the switch again.



(1) Front wheel differential lock switch with indicator (A) "PUSH"

### NOTE :

- The front wheel differential lock mechanism works only when the 4WD/Bi-speed turn switch is at the ON position.
- The front wheel differential lock switch's indicator turns on while the front differential lock is engaged.

### IMPORTANT :

- Always slow down the engine before pushing on the differential lock switch.
- To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.

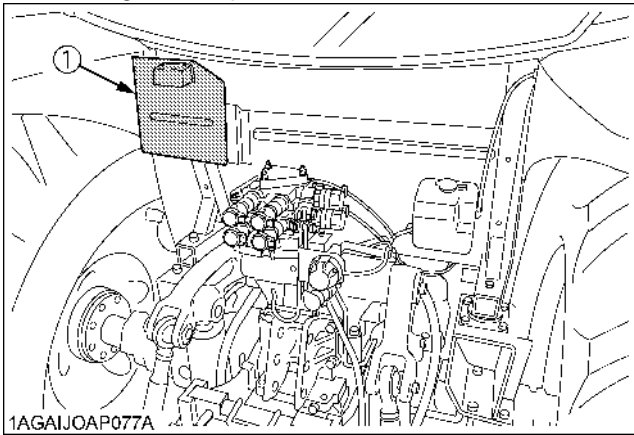
## ■ Operating the Tractor on a Road

### WARNING

To avoid personal injury or death:

- To help assure straight line stops when driving at transport speeds, lock the brake pedals together. Uneven braking at road speeds could cause the tractor to roll-over.
- When traveling on road with 3-point hitch mounted implement attached, be sure to have sufficient front weight on the tractor to maintain steering ability.

Observe all local traffic and safety regulations.  
Use the registration plate.



(1) Registration plate

## ■ 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 clutch or shift levers to neutral. Doing so could cause loss of control.
- Do not drive the tractor close to the edges of ditches or banks which may collapse under the weight of the tractor. Especially when the ground is loose or wet.

1. Be sure wheel tread is adjusted to provide maximum stability.  
(See "WHEEL ADJUSTMENT" in "TIRES, WHEELS AND BALLAST" section.)
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 speed without using brakes.

## ■ Transport the Tractor Safely

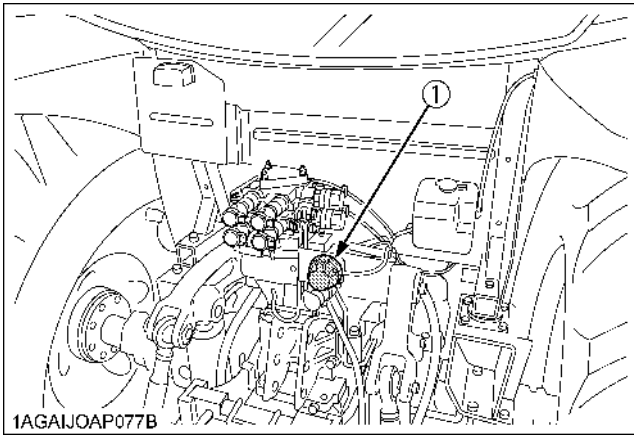
1. The tractor, if damaged, must be carried on a truck. Secure the tractor tightly with ropes.
2. Follow the instruction below when towing the tractor: Otherwise, the tractor's powertrain may get damaged.
  - Set the all shift levers to "NEUTRAL" position.
  - If possible, start engine and select 2WD,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

## ■ Directions for Use of Power Steering

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

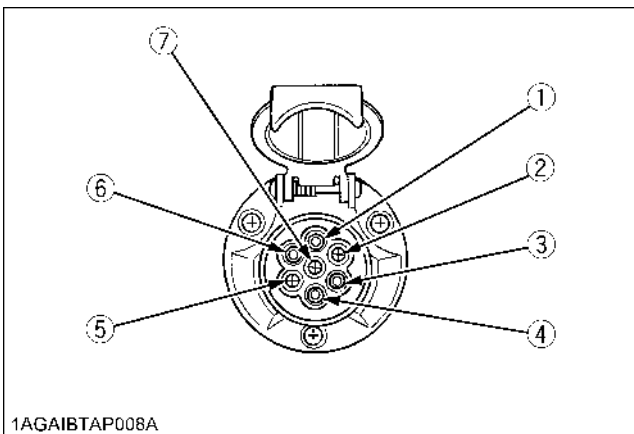
**Trailer Electrical Outlet**

A trailer electrical outlet is supplied for use with trailer or implement.



(1) Trailer electrical outlet

**Function of each terminals in trailer electrical outlet**

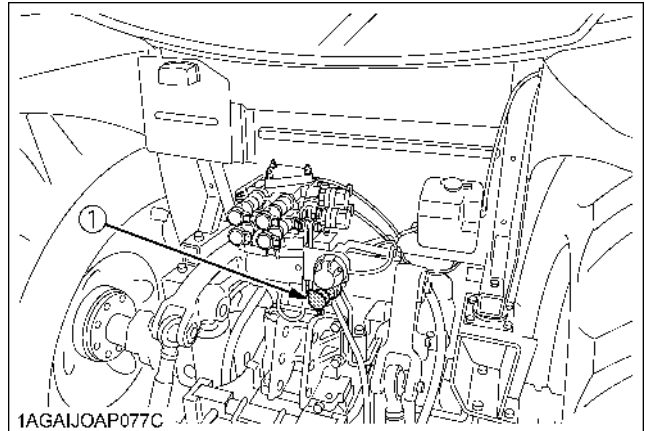


Terminal	Function
(1)	Turn signal light (LH)
(2)	---
(3)	Ground
(4)	Turn signal light (RH)
(5)	Tail light Sidemarker light Parking light
(6)	Brake stop light
(7)	Registration plate light

**Hydraulic Brake for Trailer**

The trailer brake is worked when using the tractor's brake pedals. It uses the pressure from the main hydraulic circuit. The braking force while towing is proportional to the force applied on the tractor pedals.

It is most useful when towing very heavy loads, this device considerably increases braking efficiency and safety.



(1) Trailer hydraulic brake outlet



# PTO

## PTO OPERATION



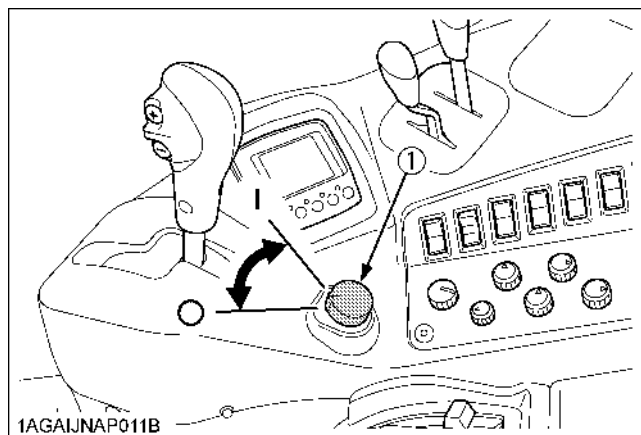
### WARNING

To avoid personal injury or death:

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

### ■ PTO Clutch Control Switch

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

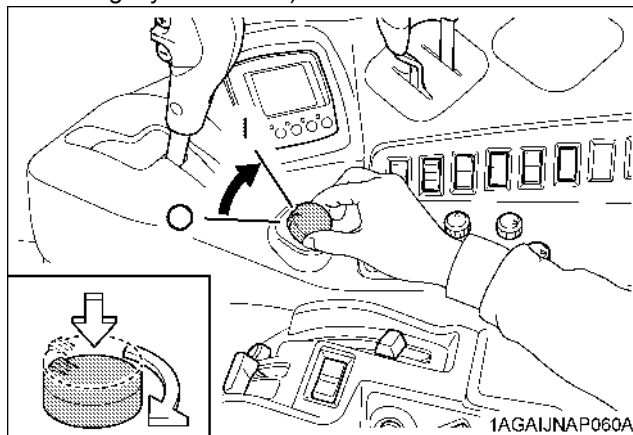


(1) PTO clutch control switch    | "ON"    ○ "OFF"

### ◆ PTO Clutch Control Switch

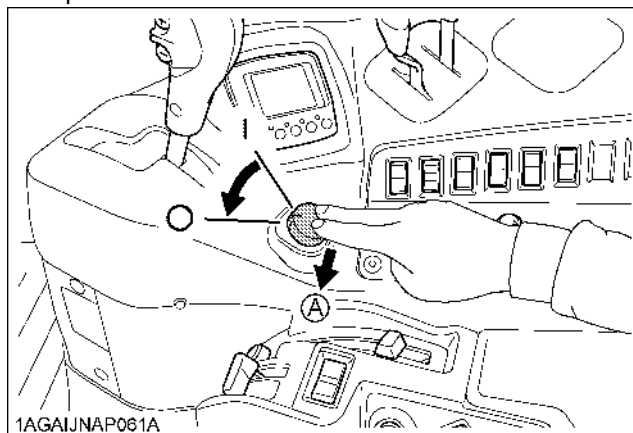
#### To turn ON

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



#### To Turn OFF

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



(A) "PUSH"

#### IMPORTANT :

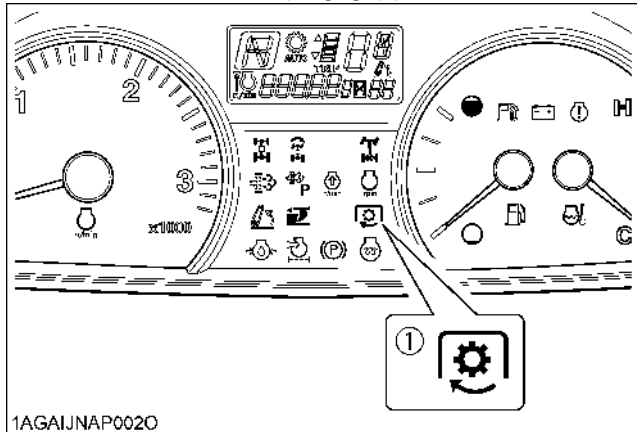
- To avoid shock loads to the PTO, reduce engine speed when engaging the PTO, then open the throttle to the recommended speed.

#### NOTE :

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

**◆ PTO Clutch Indicator**

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



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(1) PTO clutch indicator

**PTO 540 / 1000 rpm model**

**■ PTO Gear Shift Lever**



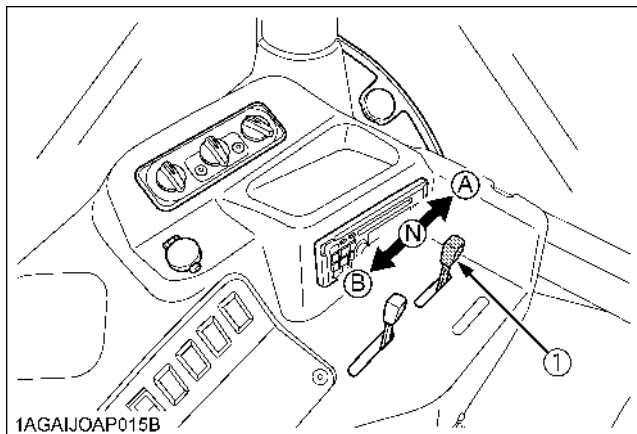
**WARNING**

To avoid personal injury or death:

- Be sure to observe the PTO shaft speed prescribed for the individual implements. It is extremely dangerous to run an implement at high speed that is meant to be operated at low speed. Use only when this higher rpm is specifically recommended by the implement manufacturer.

The PTO gear shift lever can be set to either 540 rpm or 1000 rpm positions.

Move this lever to either position with the PTO clutch control switch set to "OFF".



1AGAIJOAP015B

(1) PTO gear shift lever

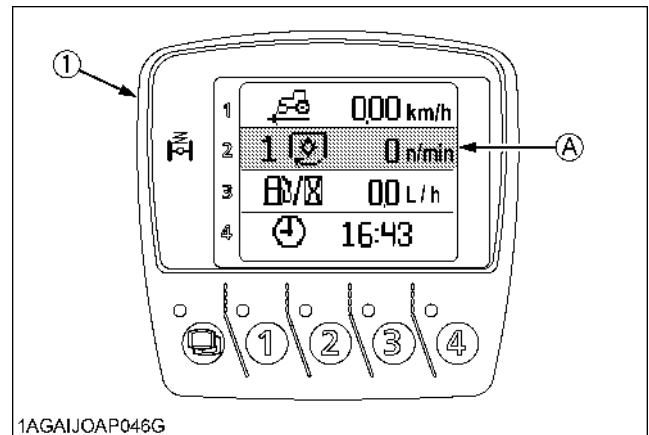
- (A) 540 rpm
- (B) 1000 rpm
- (N) "NEUTRAL" position

**IMPORTANT :**

- For maximum PTO shaft speeds of various implements, see the implement Operator's Manual.

**NOTE :**

- Whenever the PTO speed is changed to the other speed, it is necessary to switch the PTO speed display mode of the side digital display. Otherwise the PTO speed will not get correctly displayed in the side digital display. (See "SIDE DIGITAL DISPLAY" in "OPERATING THE TRACTOR" section.)



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(1) Side digital display

(A) "PTO SPEED"

## PTO 540 / 540E rpm model (if equipped)

## ■ PTO Gear Shift Lever

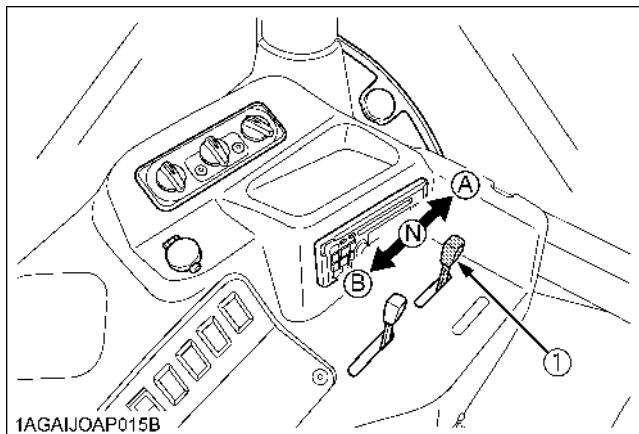
**WARNING**

To avoid personal injury or death:

- Be sure to observe the PTO shaft speed prescribed for the individual implements. It is extremely dangerous to run an implement at high speed that is meant to be operated at low speed. Use only when this higher rpm is specifically recommended by the implement manufacturer.

The PTO gear shift lever can be set to either 540 rpm or 540E rpm positions.

Move this lever to either position with the PTO clutch control switch set to "OFF".



(1) PTO gear shift lever

(A) 540 rpm

(N) "NEUTRAL POSITION"

(B) 540E rpm

**IMPORTANT :**

- For maximum PTO shaft speeds of various implements, see the implement Operator's Manual.

**NOTE :**

- Whenever the PTO speed is changed to the other speed, it is necessary to switch the PTO speed display mode of the side digital display. Otherwise the PTO speed will not get correctly displayed in the side digital display. (See "SIDE DIGITAL DISPLAY" in "OPERATING THE TRACTOR" section.)

## Shiftable PTO (540 / 1000 rpm) model (if equipped)

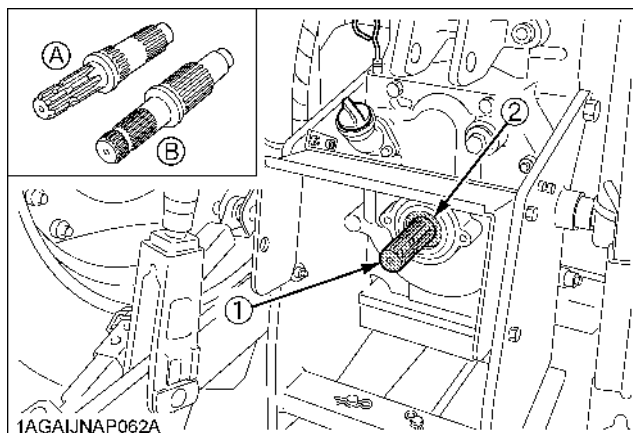
## ■ 1000 rpm PTO Shaft

**WARNING**

To avoid personal injury or death:

- Be sure to observe the PTO shaft speed prescribed for the individual implements. It is extremely dangerous to run an implement at high speed that is meant to be operated at low speed. Use only when this higher rpm is specifically recommended by the implement manufacturer.

By interchanging the PTO shafts, two different PTO shaft speeds can be obtained.



(1) PTO shaft

(A) 540 rpm PTO shaft

(2) Snap ring

(B) 1000 rpm PTO shaft

## ◆ PTO shaft interchanging procedure

1. The 6-spline 540 rpm PTO shaft is standard equipment.
2. Place an oil pan under the PTO shaft to catch oil spillage. Remove the snap ring, and then the PTO shaft.
3. Install the 21-spline PTO shaft (1000 rpm). To ensure that it is tight, push it in by turning.
4. Reinsert the snap ring.
5. Set the distance from drawbar pin hole to the rear end of PTO shaft according to the following instructions.

**IMPORTANT :**

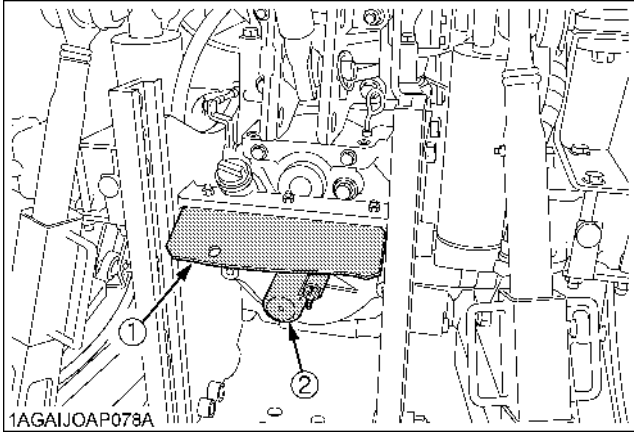
- For maximum PTO shaft speeds of various implements, see the implement Operator's Manual.

**NOTE :**

- Whenever the PTO speed is changed to the other speed, it is necessary to switch the PTO speed display mode of the side digital display. Otherwise the PTO speed will not get correctly displayed in the side digital display. (See "SIDE DIGITAL DISPLAY" in "OPERATING THE TRACTOR" section.)

### ■PTO Shaft Cover and Shaft Cap

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

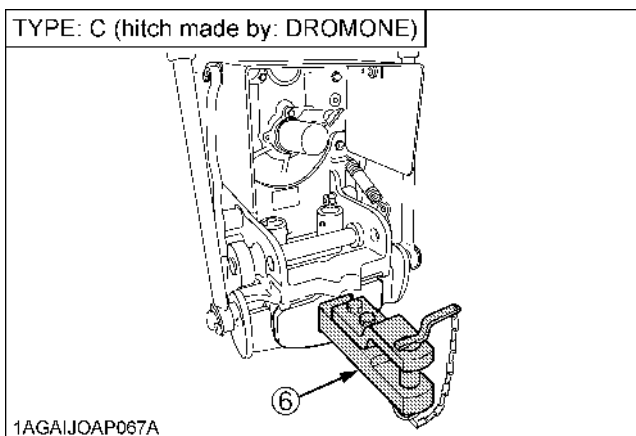
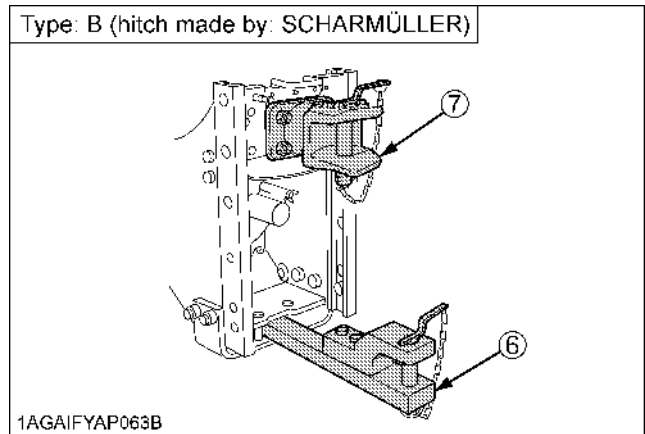
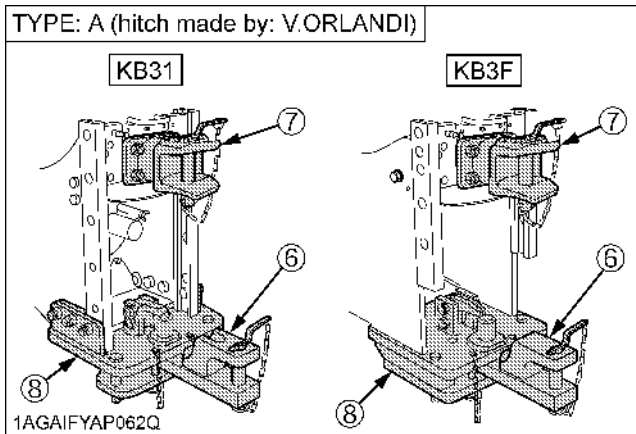
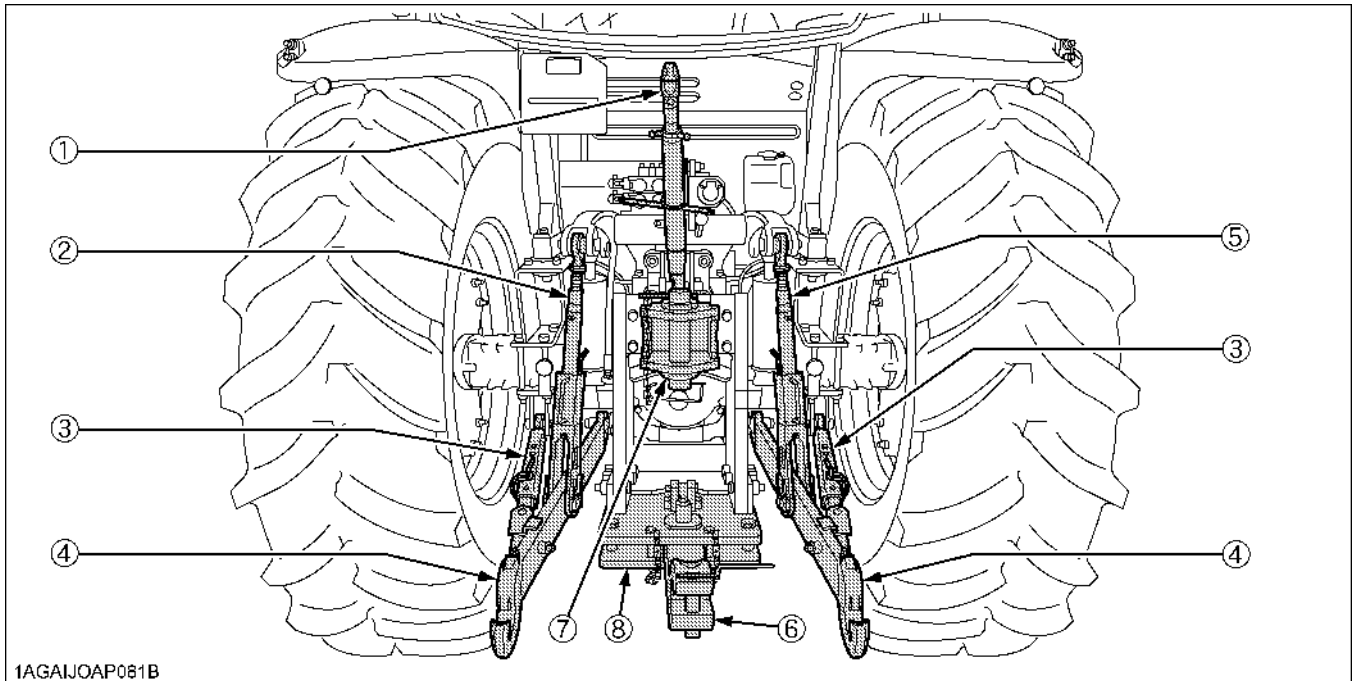


- (1) PTO shaft cover
- (2) PTO shaft cap

#### **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.

# 3-POINT HITCH & DRAWBAR



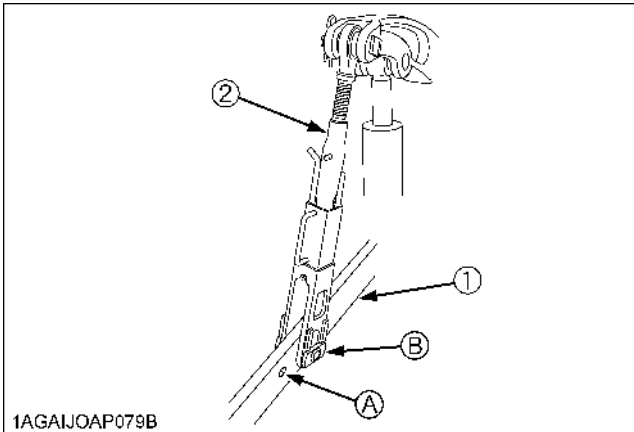
- (1) Top link
- (2) Lifting rod (Left)
- (3) Telescopic stabilizers
- (4) Lower link
- (5) Lifting rod (Right)
- (6) Drawbar (if equipped)
- (7) High-hitch (if equipped)
- (8) Piton-fix (if equipped)

## 3-POINT HITCH

### 1. Make preparations for attaching implement.

#### ■ Selecting the holes of Lower Links

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



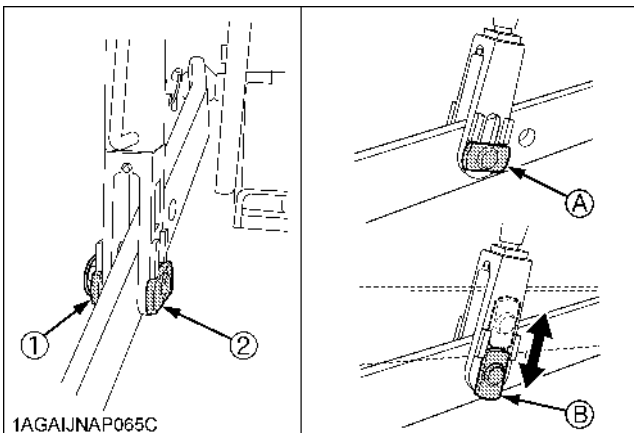
(1) Lower link  
(2) Lifting rod  
holes: (A), (B)

#### NOTE :

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

#### ■ Adjusting Lateral Float

To allow the implement to follow ground contour, attach the rectangular washers and pin heads in vertical position. To hold the implement, reset the rectangular washers and pin heads in horizontal position.



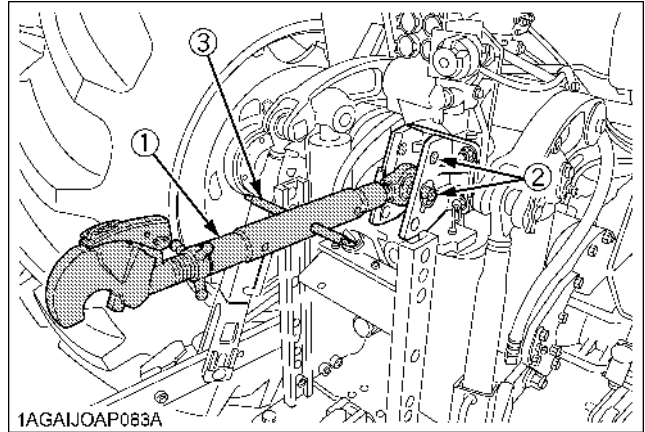
(1) Rectangular washer  
(2) Pin head  
(A) Horizontal position  
(B) Vertical position

#### ◆ Floating mechanism

When the floating mechanism is used, the implement is able to follow the tractor freely in response to the soil and ground conditions. This is suited for operation with implements wider than the tractor.

#### ■ Selecting the Top Link Mounting Holes

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



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

#### ■ Drawbar

Remove the drawbar if a close mounted implement is attached.

## 2. Attaching and detaching implements



### WARNING

To avoid personal injury or death:

- Be sure to stop the engine.
- Do not stand between tractor and implement unless parking brake is applied.
- Before attaching or detaching implement, locate the tractor and implement on a firm level surface.
- Whenever an implement or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding or PTO separation.
- Do not exceed maximum allowable length of either lifting rod, or the lifting rod will come apart and the 3-point equipment may fall.

### ■ Remote Hitch UP / DOWN Switch

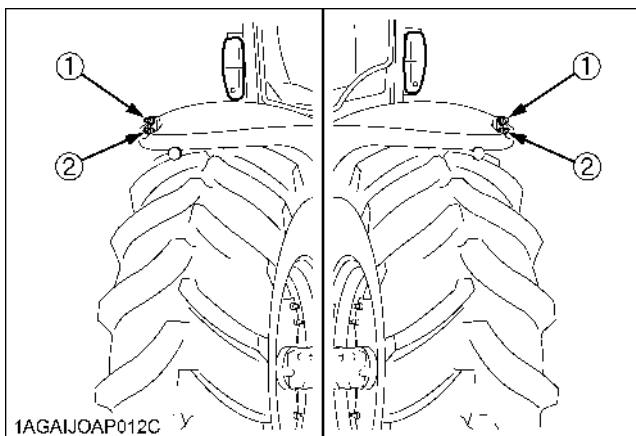


### WARNING

To avoid personal injury or death:

- Do not use the Remote hitch up / down switch when the implement is attached on the 3-point hitch.

These switches are used to raise and lower the 3-point hitch for aligning the arm with the implement only. Press the "UP" switch and 3-point hitch goes up. Press the "DOWN" switch and the 3-point hitch comes down. Movement of the 3-point hitch stops when the switch is released.



(1) "UP" switch

(2) "DOWN" switch

### NOTE :

- If these switches are pushed, the 3-point hitch's position lock is activated and 3-P. Lifting / Lowering indicator starts flashing (2 or so flash every second). If it flashing, press the 3-P. quick raise switch or 3-P. quick lower switch to release the position lock. (The indicator goes off or turns on.)

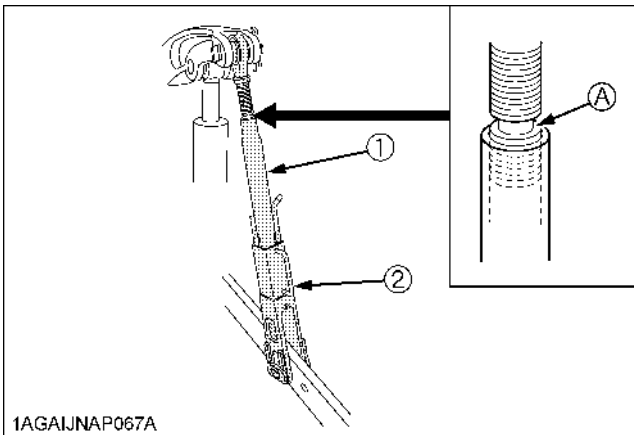
**■ Lifting Rod**

**! WARNING**

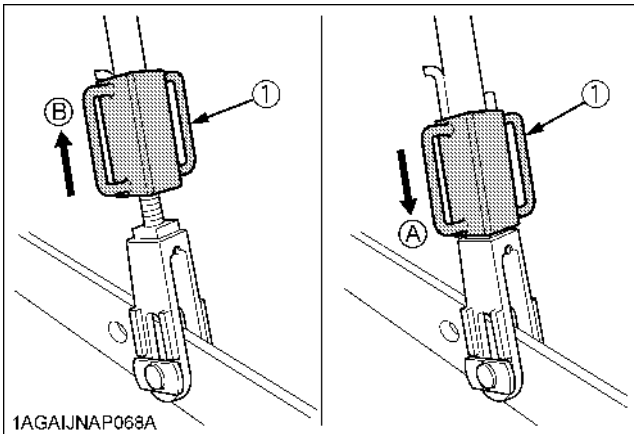
To avoid personal injury or death:

- Do not extend lifting rod beyond the groove on the thread rod.

1. To adjust the length of the lifting rod, lift the adjusting handle and turn to desired length.
2. After adjusting, lower the lifting rod adjusting handle to the lock position.
3. When extending the rod using adjusting handle, do not exceed the groove on the rod thread.



1AGAIJNAP067A  
 (1) Lifting rod (A) "GROOVE"  
 (2) Adjusting handle



1AGAIJNAP063A  
 (1) Adjusting handle (A) "LOCK POSITION"  
 (B) "UNLOCK POSITION"

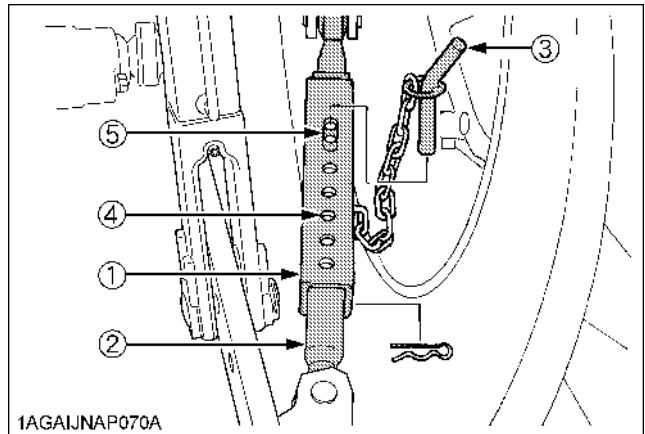
**■ Top Link**

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

**■ Telescopic Stabilizers**

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

After aligning satisfactorily, insert the set-pin through any one of the 5 holes on the outer tube that align with one of the holes on the inner bar, both stabilizers will be locked. If the set-pin is inserted through the slot to engage one of the holes on the inner bar, a limited degree of sway will be permitted.



1AGAIJNAP070A  
 (1) Outer tube (4) Hole  
 (2) Inner bar (5) Slot  
 (3) Set-pin

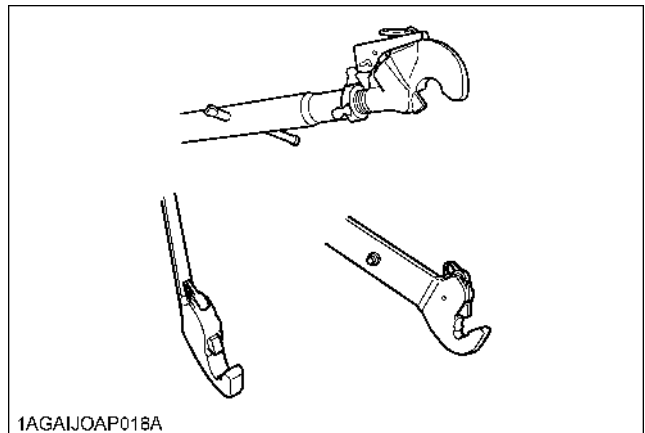
**■ Quick Hitch (Hook type)**

**! WARNING**

To avoid personal injury or death:

Confirm the below when installing the implement:

- Make sure the hook of the quick hitch is securely locked



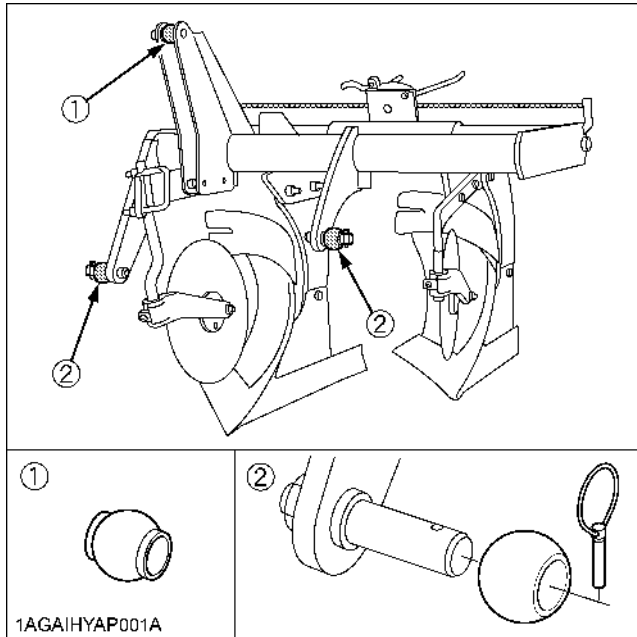
1AGAIJOAP018A



The 3-point hitch with quick-hitch consists of a pair of lower links and a top link, all of which have claw ends that permit rapid attaching and detaching of implements.

#### ◆ Installing Ball-joint to Implement

Before the implement is installed on the 3-point hitch with quick hitches, it is necessary to install the ball-joints to the implement according to the following instructions.

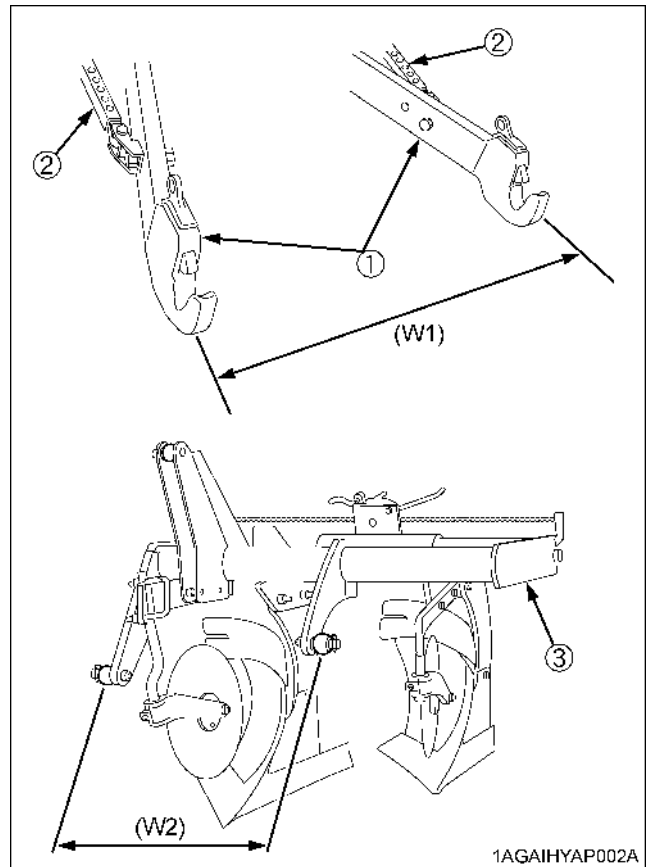


- (1) Plain ball-joint (for upper hitch pin)  
 (2) Ball-joint (for lower hitch pin)

#### ◆ Adjusting Lower Link Width

Set the width (W1) of lower links to be the same as width (W2) of the implement.

(See "Telescopic Stabilizers" in this section to adjust the width (W1) of lower links.



- (1) Lower link  
 (2) Telescopic stabilizer  
 (3) Implement

#### ◆ Attaching implement to Tractor

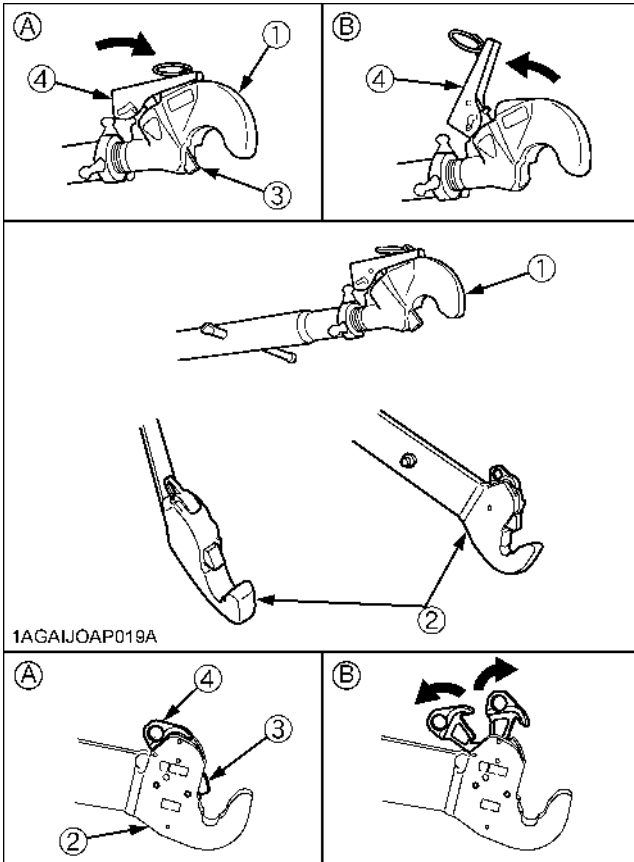
1. Set the release lever on the quick hitches to "LOCK" position, if its lever is in "UNLOCK" position. (Self-locking latches are closed)
2. With the lower links fully lowered, reverse the tractor until the quick hitches are beneath the implement ball-joints.
3. Raise the lower links using the hydraulic control lever until the quick hitches engage the ball-joints.

#### NOTE :

- An audible click will be heard as the self-locking latches engage the implement ball-joint.
4. Lower the top link hook onto the upper implement ball-joint and press down until the latch is engaged. If necessary, adjust the top link length.

#### NOTE :

- The hook of a top link is attached in a downward direction.



- (1) Top link
  - (2) Lower link
  - (3) Latch
  - (4) Release lever
- (A) "LOCK" position  
(B) "UNLOCK" position

◆ **Detaching Implement from Tractor**

1. Fully lower the implement to the ground.  
Support the implement with parking stand. (if equipped) If necessary, adjust the top link and or lifting rod length so that the implement may stabilize on the ground.
2. Pull the release lever on the top link to release the hook from implement ball-joint.  
Hook the top link in the top link support.
3. Pull the release lever on both lower links to the unlocked position to release the quick hitches from implement ball-joints.  
The latches will disengage and allow the lower links to lower and detaching the implement.

Type: A (hitch made by V.ORLANDI)

**DRAWBAR**

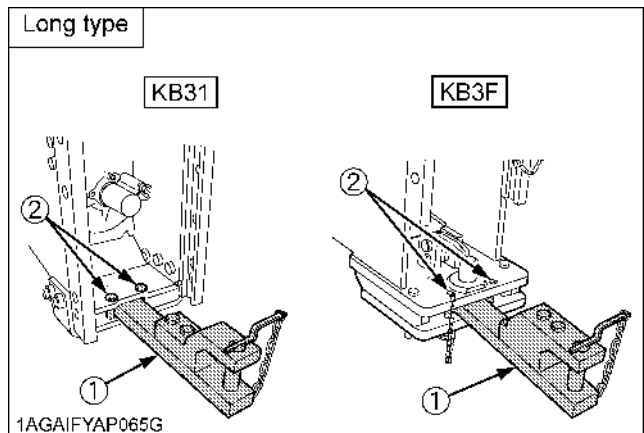
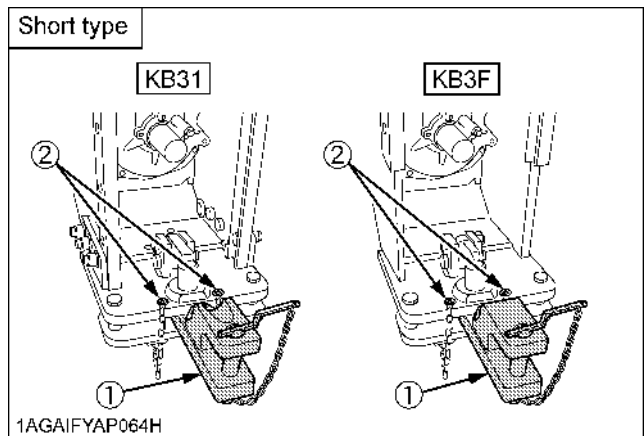
**! WARNING**

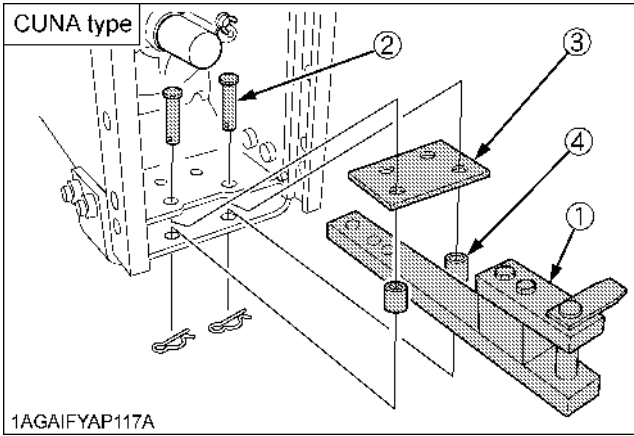
To avoid personal injury or death:

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

**NOTE :**

- The drawbar load is referred to "IMPLEMENT LIMITATIONS" section.

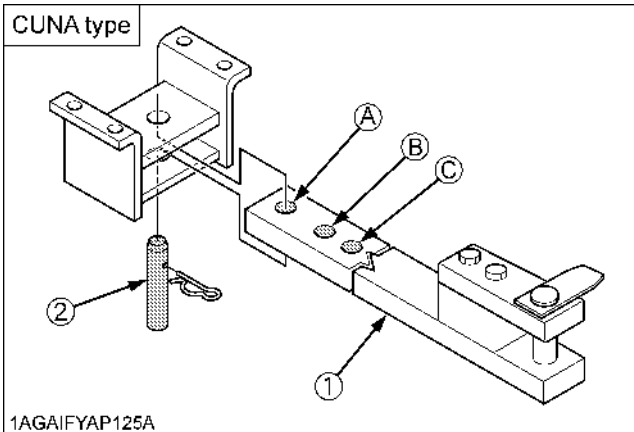
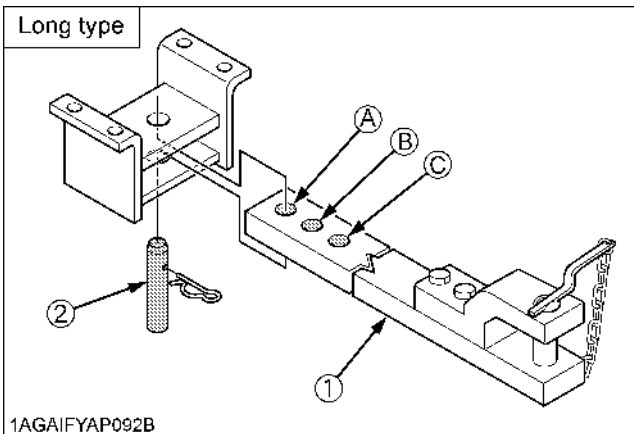




- (1) Drawbar
- (2) Locating pin
- (3) Shim
- (4) Collar

**NOTE :**

- The drawbar can be used in 3 positions.

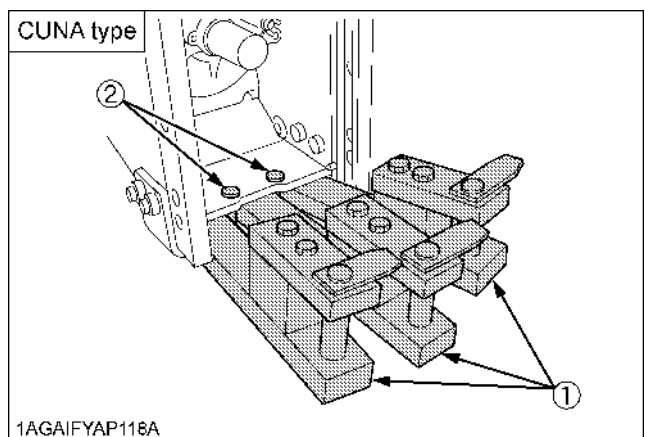
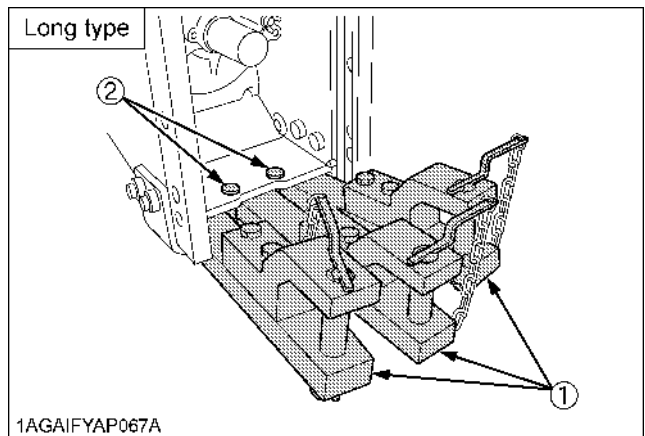
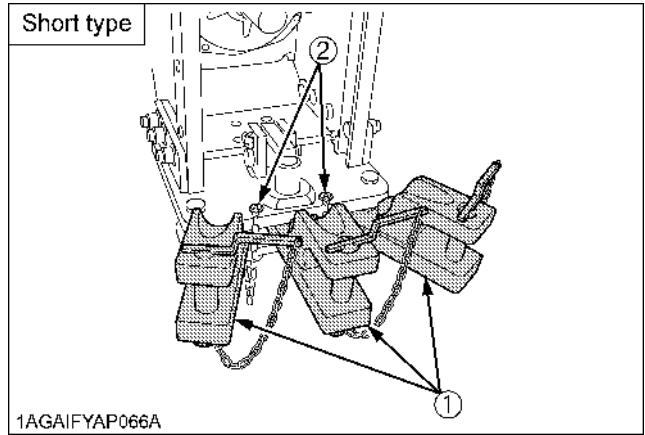


- (1) Drawbar
- (2) Pivot pin

Holes: (A)(B)(C)

**■ Swing Drawbar**

The drawbar can be used in 3 different ways as illustrated below. Assemble it correctly with locating pins.



- (1) Drawbar
- (2) Locating pin

## HIGH-HITCH



### WARNING

To avoid personal injury or death:

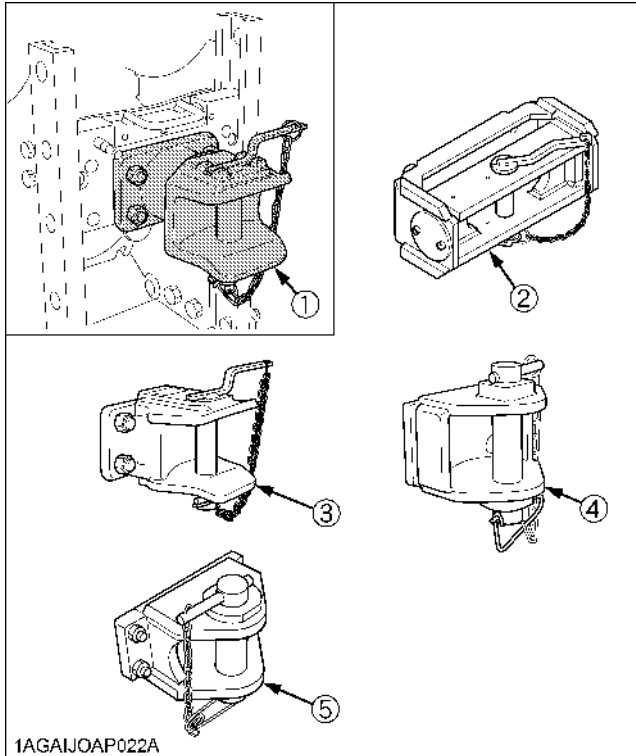
- Never pull from the top link, the rear axle or any point above the hitch. Doing so could cause the tractor to tip over rearward causing personal injury or death.

### NOTE :

- The high-hitch load is referred to "IMPLEMENT LIMITATIONS" section.

### ■ High-Hitch

The high-hitch can be adjusted depending on an attachment to pull behind. The high-hitch may get in the way when connecting the universal joint. In such case, either set the high-hitch to its uppermost position or remove it.

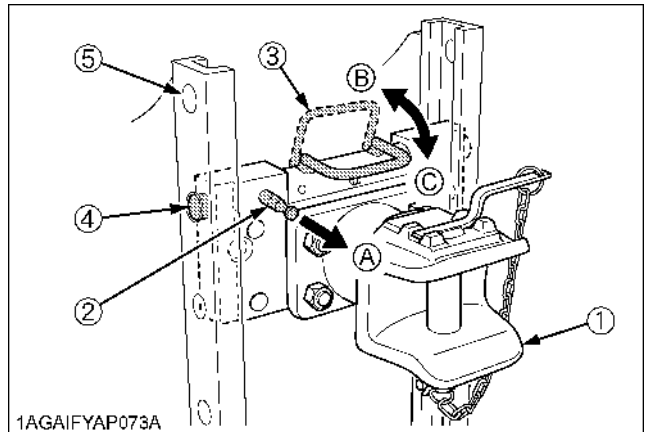


1AGAJQAP022A

- (1) EEC manual
- (2) EEC swing
- (3) CUNA C
- (4) CUNA D2
- (5) CUNA D3

### ◆ Adjusting the high-hitch level

1. Pull the restriction knob and turn the handle upward to unlock them. Move the high-hitch bracket up and down to change the hitch height.
2. Align the lock pin with the lock hole. Return the handle horizontal to lock them. Make sure the restriction knob has returned to lock position.



1AGAI FYAP073A

- (1) High-hitch
- (2) Restriction knob
- (3) Handle
- (4) Lock pin
- (5) Lock hole
- (A) "PULL"
- (B) "UN-LOCK"
- (C) "LOCK"

## PITON-FIX



### WARNING

To avoid personal injury or death:

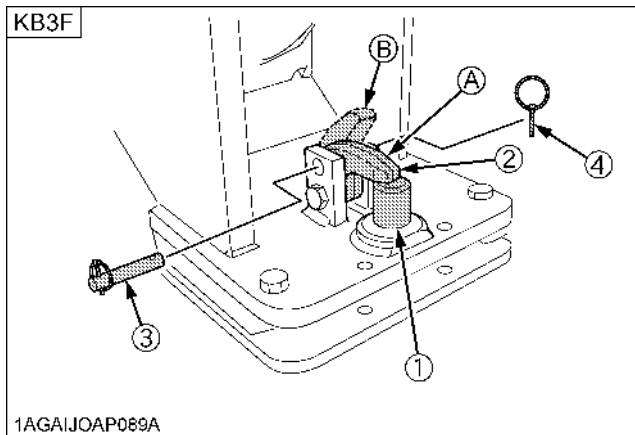
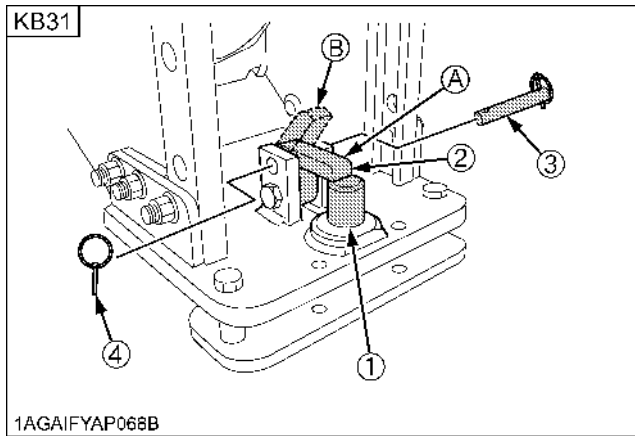
- Never pull from the top link, the rear axle or any point above the piton-fix. Doing so could cause the tractor to tip over rearward causing personal injury or death.

#### NOTE :

- The piton-fix load is referred to "IMPLEMENT LIMITATIONS" section.

### ■ Piton-Fix

In using the piton-fix to pull an attachment, lock the retainer with pin.



- (1) Piton-fix
- (2) Retainer
- (3) Pin
- (4) Lynch pin

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

Type: B (hitch made by SCHARMÜLLER)

## DRAWBAR



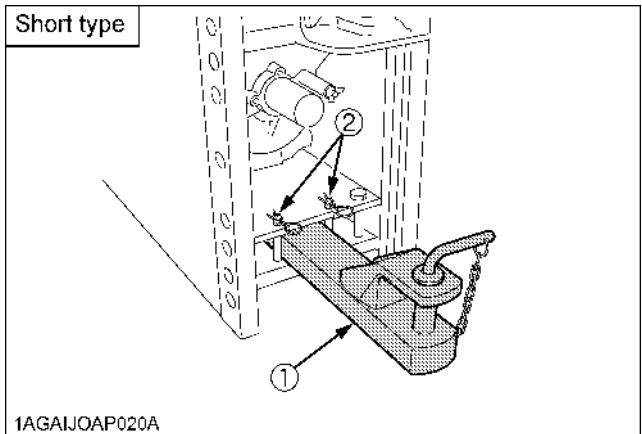
### WARNING

To avoid personal injury or death:

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

#### NOTE :

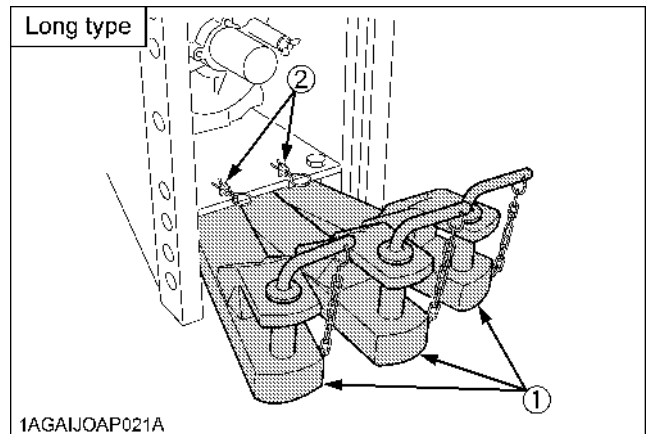
- The drawbar load is referred to "IMPLEMENT LIMITATIONS" section.



- (1) Drawbar
- (2) Locating pin

### ■ Swing Drawbar

The drawbar can be used in 3 different ways as illustrated below. Assemble it correctly with locating pins.



- (1) Drawbar
- (2) Locating pin

## HIGH-HITCH



### WARNING

To avoid personal injury or death:

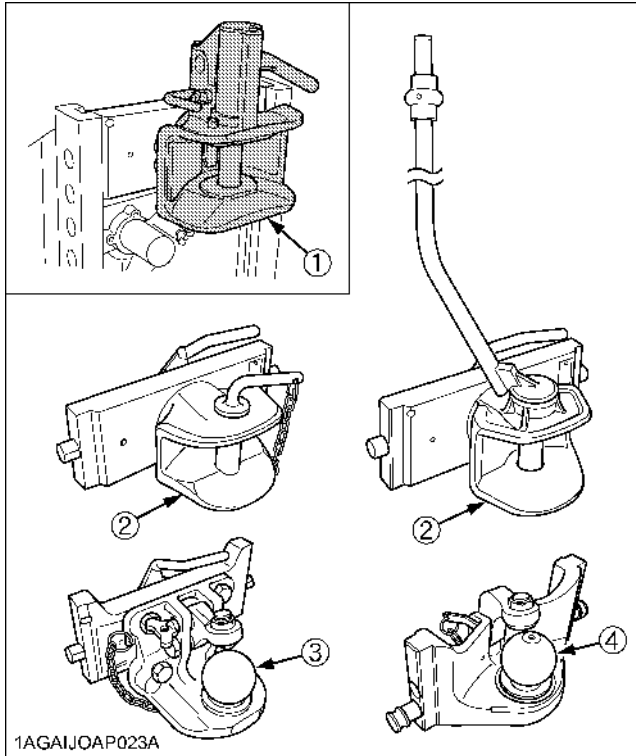
- Never pull from the top link, the rear axle or any point above the hitch. Doing so could cause the tractor to tip over rearward causing personal injury or death.

### NOTE :

- The high-hitch load is referred to "IMPLEMENT LIMITATIONS" section.

### High-Hitch

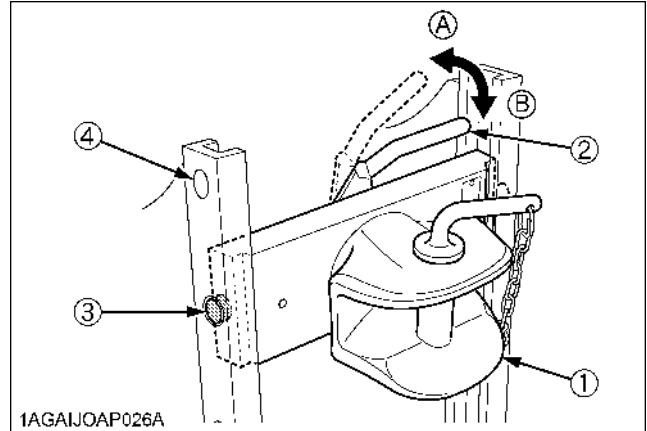
The high-hitch can be adjusted depending on an attachment to pull behind. The high-hitch may get in the way when connecting the universal joint. In such case, either set the high-hitch to its uppermost position or remove it.



- 1AGAIJOAP023A
- (1) Automatic Clevis
  - (2) Manual Clevis
  - (3) K80 Ball with Grab Handle
  - (4) K80 Ball without Grab Handle

### Adjusting the high-hitch level

1. Turn the handle upward to unlock them. Move the high-hitch bracket up and down to change the hitch height.
2. Align the lock pin with the lock hole. Return the handle horizontal to lock them.



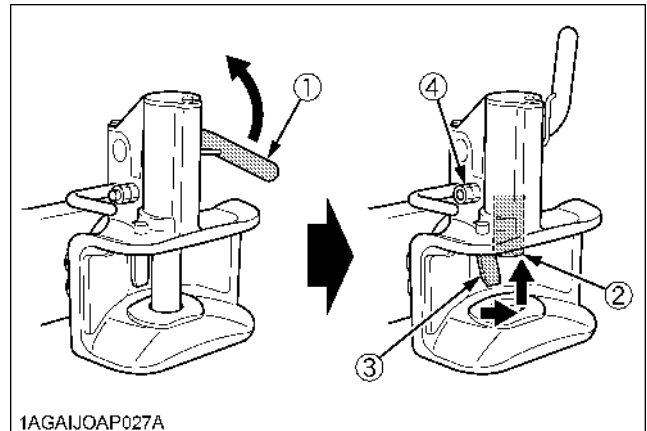
- 1AGAIJOAP026A
- (1) High-hitch
  - (2) Handle
  - (3) Lock pin
  - (4) Lock hole

- (A) "UN-LOCK"
- (B) "LOCK"

### High-hitch with Automatic Trailer Coupling

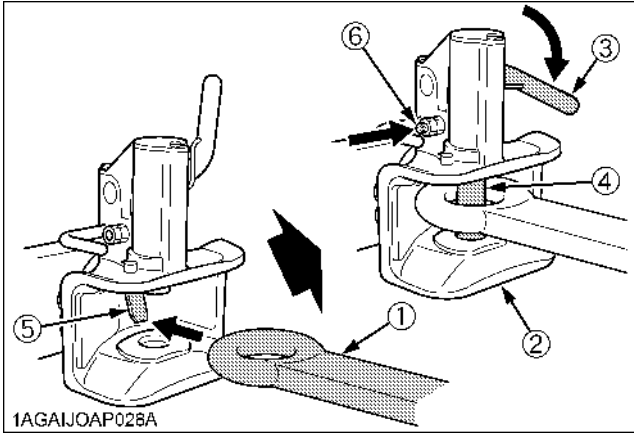
#### COUPLING UP

1. Lift the operating handle upwards as far as it will go until it blocks. The coupling pin is raised and the trigger lever is visible.



- 1AGAIJOAP027A
- (1) Operating handle
  - (2) Coupling pin
  - (3) Trigger lever
  - (4) Security pin

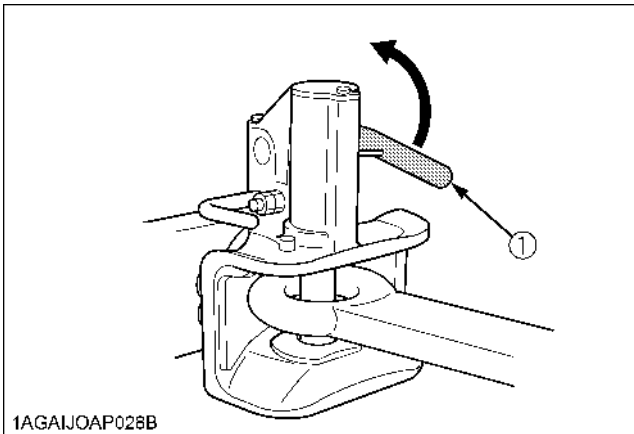
2. Slowly reverse the tractor: the drawbar eye on the trailer must fully penetrate into the hitch assembly until the trigger lever is released, whereupon the shunt force produced will cause the immediate insertion of the coupling pin as well as the automatic retraction of the security pin.



- (1) Drawbar eye
- (2) Hitch assembly
- (3) Operating handle
- (4) Coupling pin
- (5) Trigger lever
- (6) Security pin

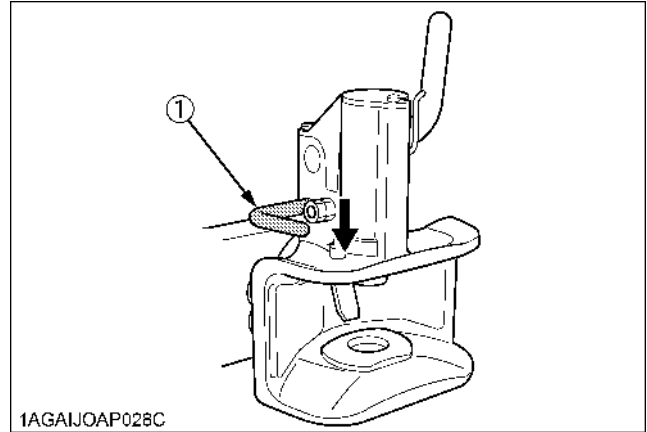
◆ **UNCOUPLING**

1. Lift the operating handle until it locks into position.
2. Travel forward the tractor until the drawbar eye is disengaged.



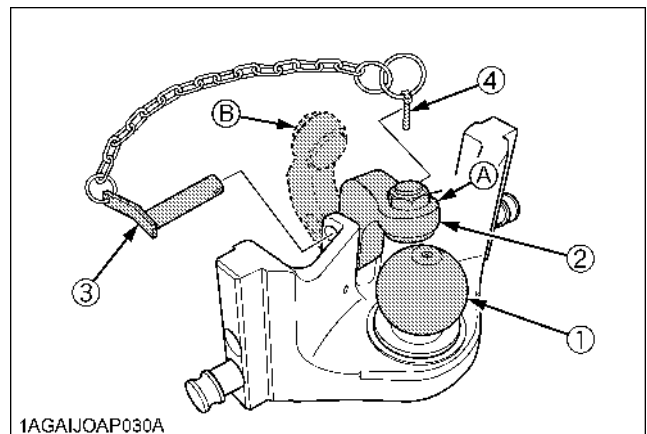
- (1) Operating handle

3. For safety reasons, it is hereby recommended that the drawbar coupling is kept locked at all times. To lock the drawbar coupling, act on the lock handle rotating it in the direction of the arrow, as illustrated.

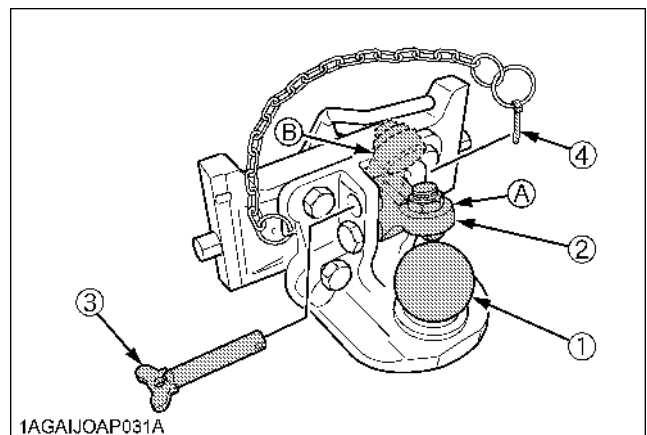


- (1) Lock handle

■ **High-hitch with Ball Trailer Coupling**



1AGAIJOAP030A



1AGAIJOAP031A

- (1) Piton-fix
- (2) Retainer
- (3) Pin
- (4) Lynch pin
- (A) "LOCK"
- (B) "UNLOCK"

## PITON-FIX



### WARNING

To avoid personal injury or death:

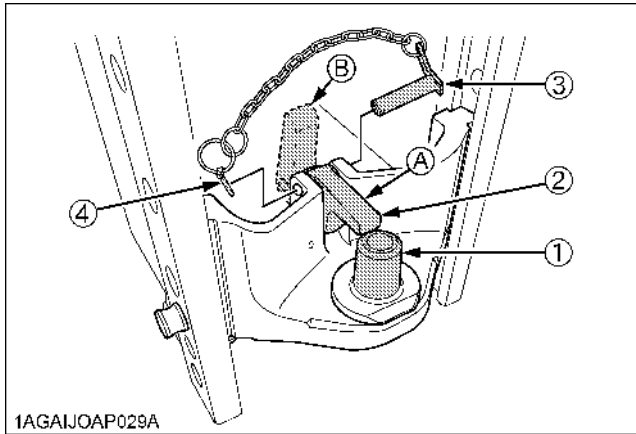
- Never pull from the top link, the rear axle or any point above the piton-fix. Doing so could cause the tractor to tip over rearward causing personal injury or death.

#### NOTE :

- The piton-fix load is referred to "IMPLEMENT LIMITATIONS" section.

### ■ Piton-Fix

In using the piton-fix to pull an attachment, lock the retainer with pin.



1AGAIJOAP029A

- (1) Piton-fix
- (2) Retainer
- (3) Pin
- (4) Lynch pin

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

Type: C (hitch made by DROMONE)

## AUTO HITCH (Push back type)



### WARNING

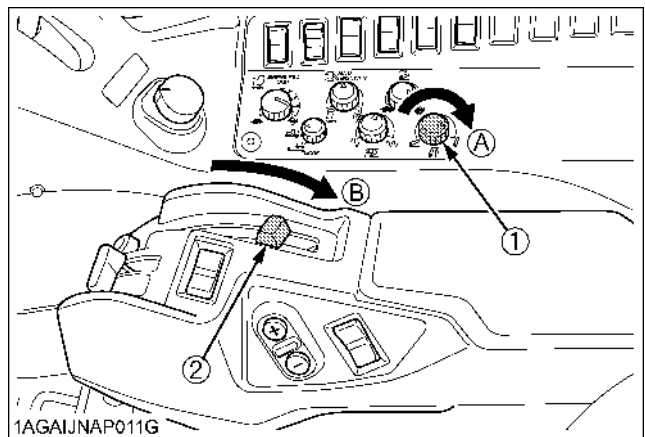
To avoid personal injury or death:

- Never pull from the top link, the rear axle or any point above the hitch. Doing so could cause the tractor to tip over rearward causing personal injury or death.
- Make sure the latch hook is locked before towing an implement.

### ■ Auto Hitch

#### ◆ To Lower the Hitch

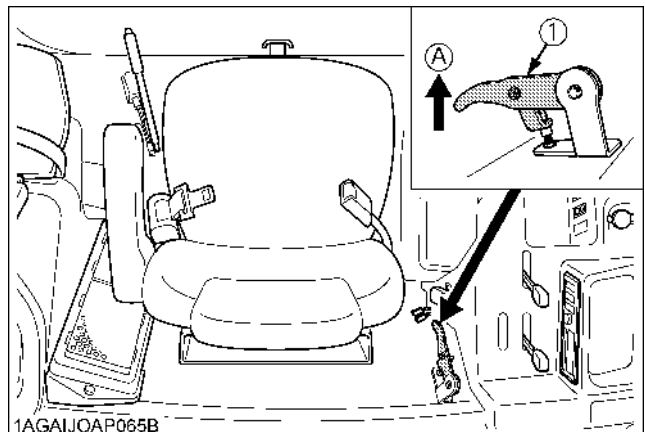
1. Start the engine and turn the lift arm top limit adjustment dial to its highest position. Move the hydraulic control lever to its highest position to raise the lift arm to its topmost position.



1AGAIJNAP011G

- (1) Lift arm top limit adjustment dial
- (2) Hydraulic control lever
- (A) "HIGH"
- (B) "UP"

2. Pull the auto hitch release lever to unlock the latch hooks and the latch bar from each other.

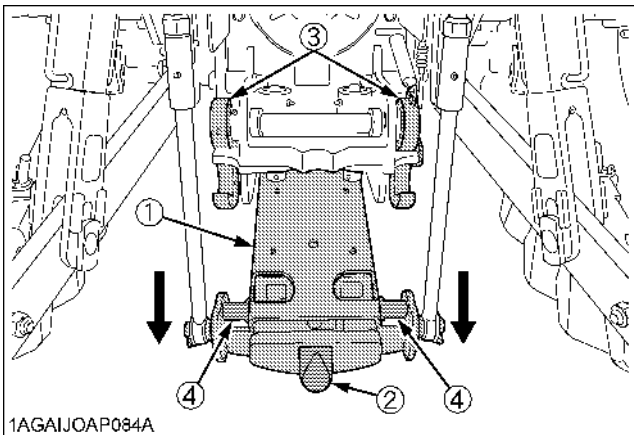


1AGAIJOAP065B

- (1) Auto hitch release lever
- (A) "PULL"



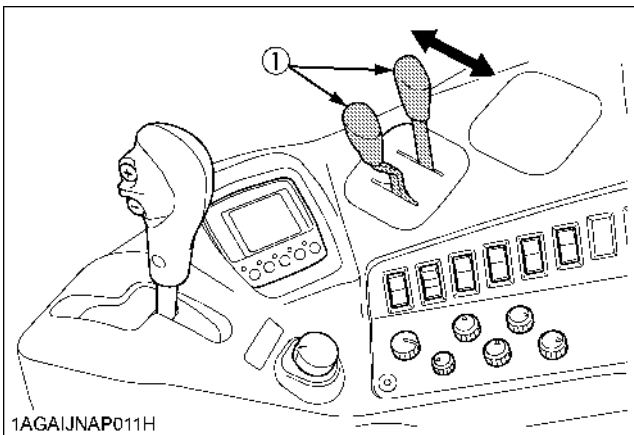
3. With the auto hitch release lever being pulled, push down the hydraulic control lever to lower the auto hitch.



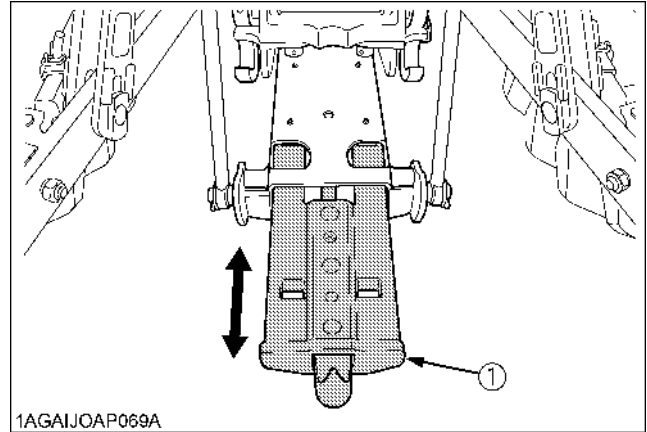
- (1) Auto hitch
- (2) Towing hook
- (3) Latch hook
- (4) Latch bar

◆ **To Extend or Retract the Hitch**

1. Operate the relevant remote control valve lever to extend or retract the hitch.
2. Attach or detach an implement.



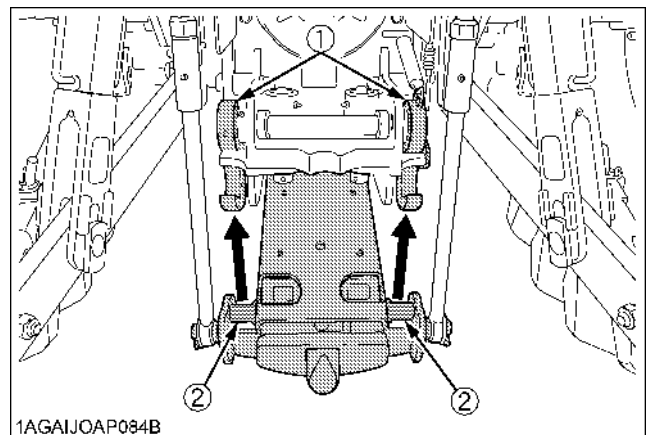
- (1) Remote control valve lever



- (1) Hitch

◆ **To Lift the Hitch**

1. Make sure the implement is securely attached or detached. Move the hydraulic control lever to its highest position to lift the auto hitch until the latch hooks tightly catch the latch bar.



- (1) Latch hook
- (2) Latch bar

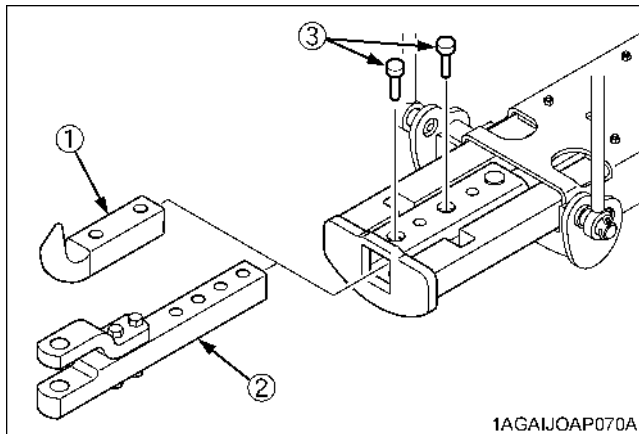
2. Slightly push down the hydraulic control lever to be sure that the auto hitch does not move down.

**IMPORTANT :**

- In pulling an implement, keep the hydraulic control lever slightly down to have the hydraulic system free of load.

◆ **Towing Hook / Drawbar Change**

1. Operate the relevant remote control valve lever to extend the hitch.
2. Remove the pivot pin and change the towing hook or the drawbar.



- (1) Towing hook
- (2) Drawbar
- (3) Pivot pin

# HYDRAULIC UNIT

The standard tractor has following hydraulic control systems as shown below. Therefore, use the most appropriate system for the implement you are using.

## ◆ 3-Point Hitch Control System

1. Position Control
2. Mixed Draft Control

## ◆ Remote Hydraulic Control System

### IMPORTANT :

- Do not operate until the engine is warmed up. If operation is attempted when the engine is still cold, the hydraulic system may be damaged.
- If noises are heard when implement is lifting after the hydraulic control lever has been activated, the hydraulic mechanism is not adjusted properly. Unless corrected, the unit will be damaged. Contact your KUBOTA Dealer for adjustment.

## 3-POINT HITCH CONTROL SYSTEM

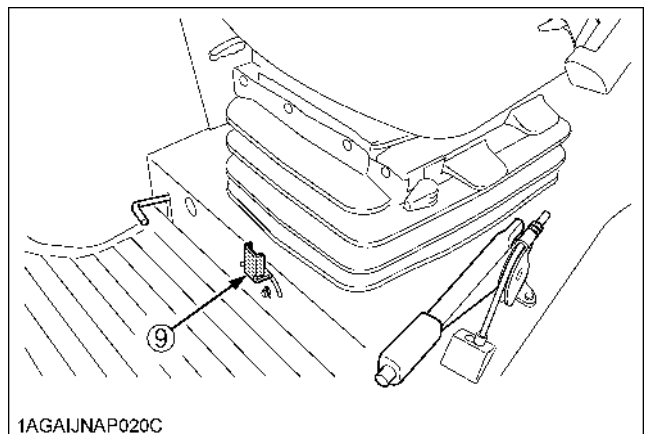
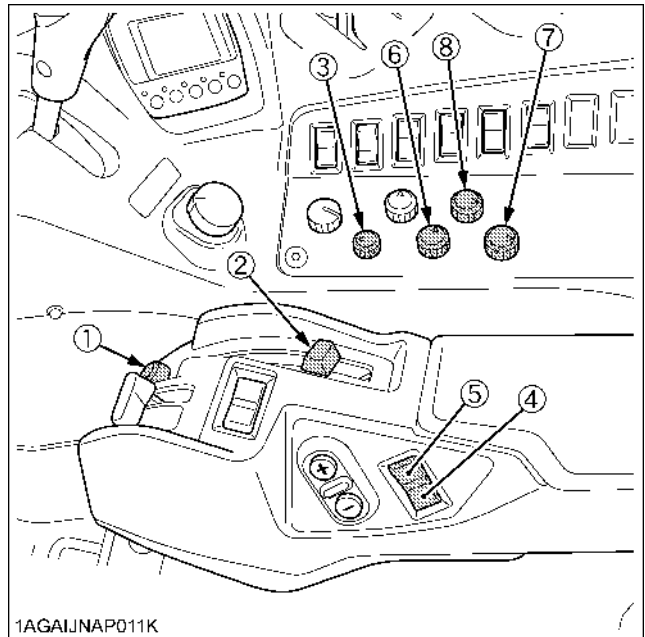


### WARNING

To avoid personal injury or death:

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

## ■ Terminology



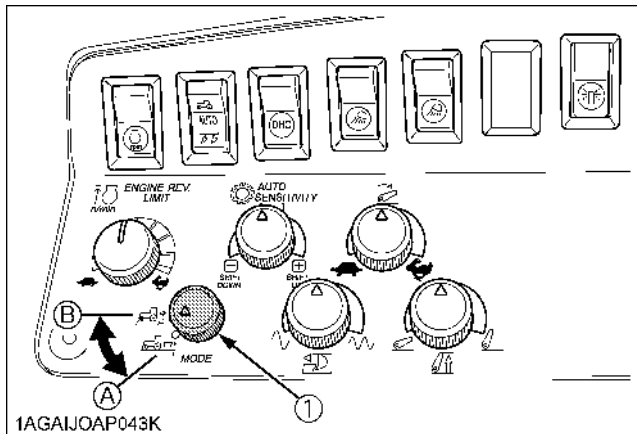
- (1) Bottom limit control dial
- (2) Hydraulic control lever
- (3) Mode selector switch
- (4) 3-P. Quick lower switch
- (5) 3-P. Quick raise switch
- (6) Draft ratio adjustment dial
- (7) Lift arm top limit adjustment dial
- (8) 3-point hitch lowering speed adjustment dial
- (9) 3-point hitch lowering lock lever

**Mode Selector Switch**

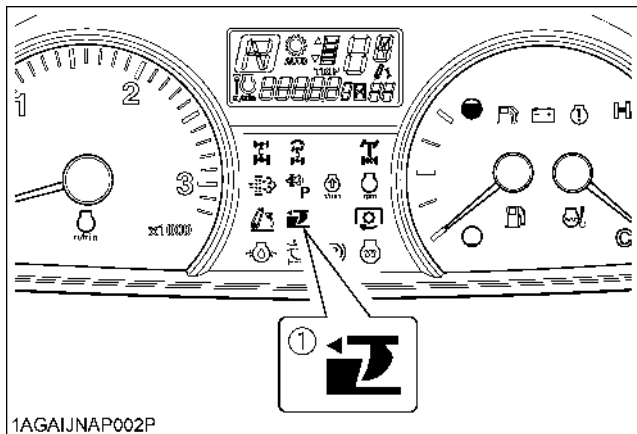
Select the position control or the draft control depending on the types of work. Choose the draft control for jobs requiring traction such as plowing and sub-soiling.

Draft control selected:..... The draft indicator lights up.

Position control selected:..... The draft indicator goes off.



(1) Mode selector switch (A) "POSITION CONTROL" (B) "DRAFT CONTROL"

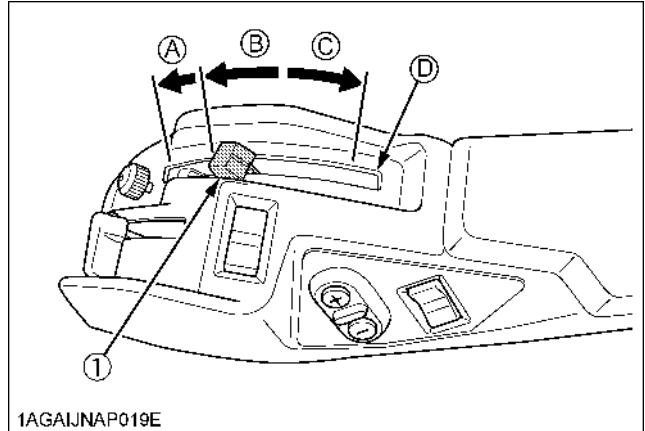


(1) Draft indicator

**Position Control Mode**

**Hydraulic control lever**

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



(1) Hydraulic control lever (A) "FLOAT" (B) "DOWN" (C) "UP" (D) "TRAVEL LOCK POSITION"

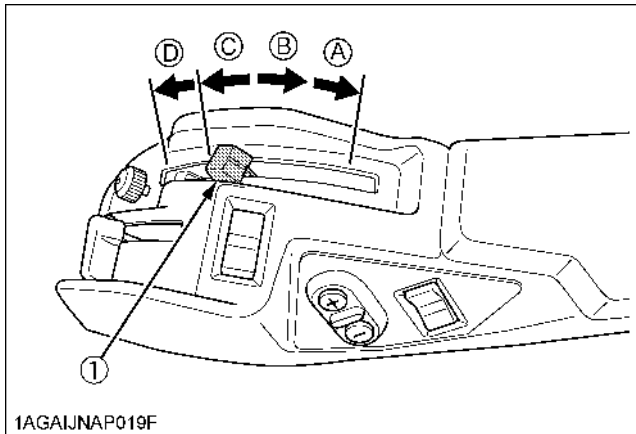
**NOTE :**

- While traveling, set the hydraulic control lever to the travel lock position (D) to prevent an unexpected drop of the implement.

**■ Mixed Draft Control Mode**

**◆ Hydraulic control lever**

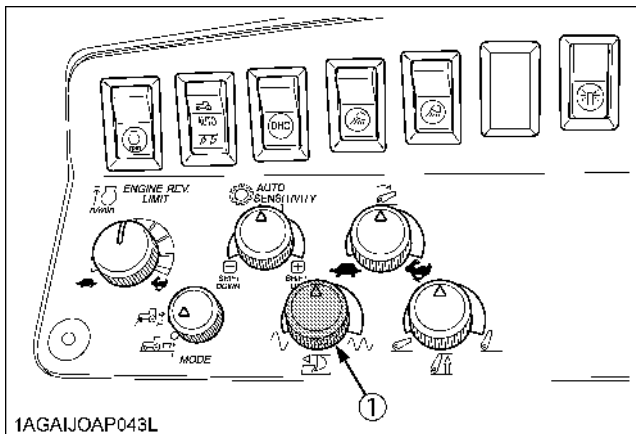
This will control the pull of the 3-point implement. As the load on the 3-point hitch changes due to various soil conditions, the draft control system automatically responds to these changes by either raising or lowering the implement slightly to maintain a constant pull. Set the implement pull with the hydraulic control lever.



(1) Hydraulic control lever  
 (A) "UP"  
 (B) "SHALLOW"  
 (C) "DEEP"  
 (D) "FLOAT"

**◆ Draft ratio adjustment dial**

Set the mode selector switch to the "DRAFT" position. Turn the draft ratio adjustment dial to adjust to specific application requirement. Make settings according to the guidelines below.



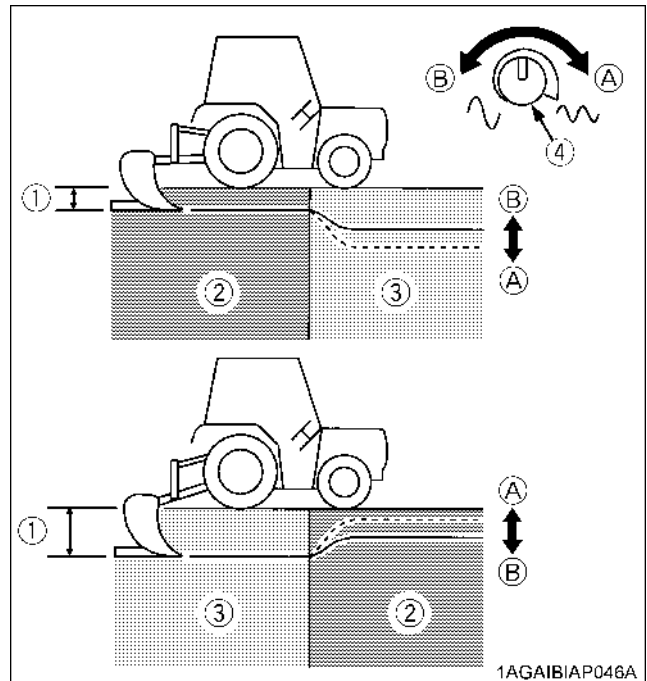
(1) Draft ratio adjustment dial

Draft ratio adjustment dial

	(Counterclockwise)	(Clockwise)
Plowing depth	Shallow	Deep
Type of soil	Light	Heavy
Field (ruggedness)	Little	Much
(Sensitivity)	(Low)	(High)

**NOTE :**

- The plowing depth may be affected when the draft ratio adjustment dial is used. Finally use the hydraulic control lever to readjust the plowing depth.



(1) Plowing depth setting  
 (2) Heavy soil  
 (3) Light soil  
 (4) Draft ratio adjustment dial  
 (A) "CLOCKWISE"  
 (B) "COUNTERCLOCKWISE"

**■ Float Control**

Place the hydraulic control lever in the float position to make the lower links move freely along with the ground conditions.

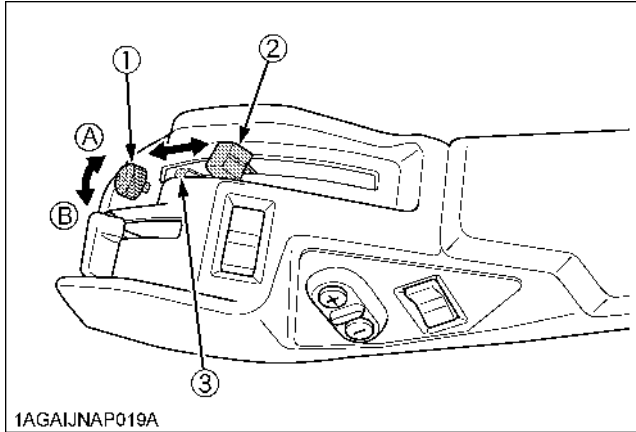
**NOTE: (Handling the hydraulic control lever)**

- After the engine has stopped, set the key switch to the "ON" position and lower the hydraulic control lever. Now the implement goes down. (The implement does not go down if the position lock is activated. See "3-Point Hitch's Position Lock" in this section.)

### Bottom Limit Control Dial

This dial is used to change the bottom limit of the 3-point hitch.

1. Turn the dial in the "UP" direction, and the bottom limit of the hydraulic control lever will raise.
2. Turn the dial in the "DOWN" direction, and the bottom limit of the hydraulic control lever will lower.



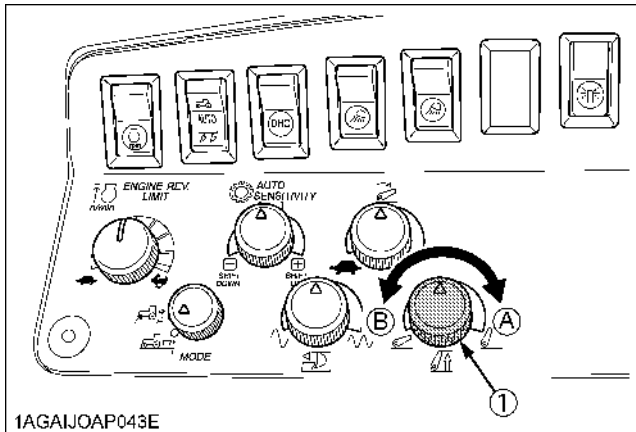
1AGAIJNAP019A

- (1) Bottom limit control dial (A) "UP"  
 (2) Hydraulic control lever (B) "DOWN"  
 (3) Bottom limit

### Lift Arm Top Limit Adjustment Dial

This dial is used to change the top limit of the 3-point hitch.

1. Turn the dial in the "HIGH" direction, and the top limit of the 3-point hitch will raise.
2. Turn the dial in the "LOW" direction, and the top limit of the 3-point hitch will lower.



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- (1) Lift arm top limit adjustment dial (A) "HIGH"  
 (B) "LOW"

**NOTE :**

- Utilizing the lift arm top limit adjustment dial, the 3-P. Lifting / Lowering switch and the hydraulic control lever can be used to adjust the top limit to any level.

### 3-Point Hitch Lowering Speed Adjustment Dial

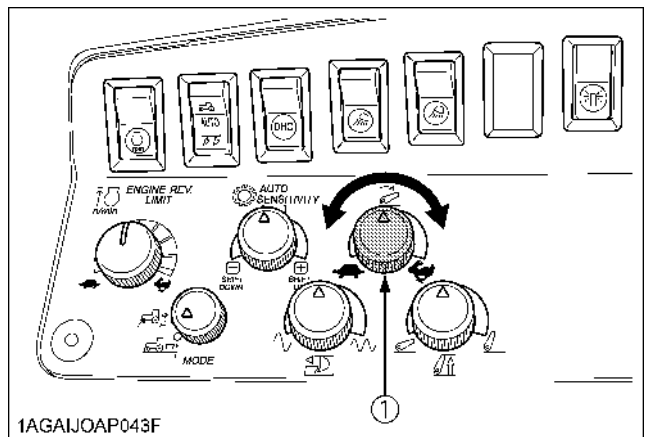
#### WARNING

To avoid personal injury or death:

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

This dial is used to change the 3-point hitch's lowering speed.

1. Turn the dial in the "FAST" direction, and the 3-point hitch's lowering speed will increase.
2. Turn the dial in the "SLOW" direction, and the 3-point hitch's lowering speed will decrease.



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- (1) 3-point hitch lowering speed adjustment dial  
 "FAST"  
 "SLOW"

**NOTE :**

- This dial is not operative for complete hydraulic lock. For traveling or for checking an implement, set the 3-point hitch lowering lock lever in the "LOCK" position.

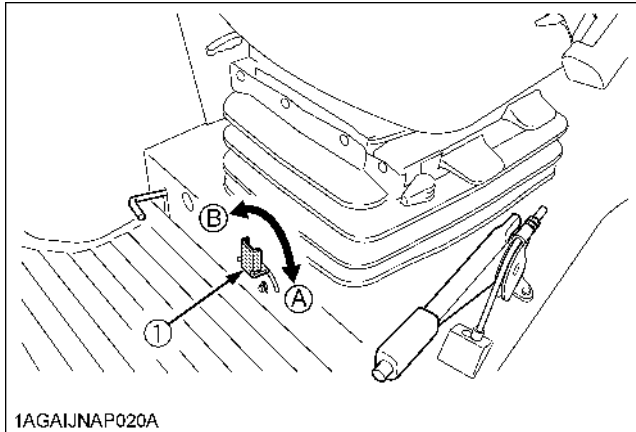
### 3-Point Hitch Lowering Lock Lever

#### WARNING

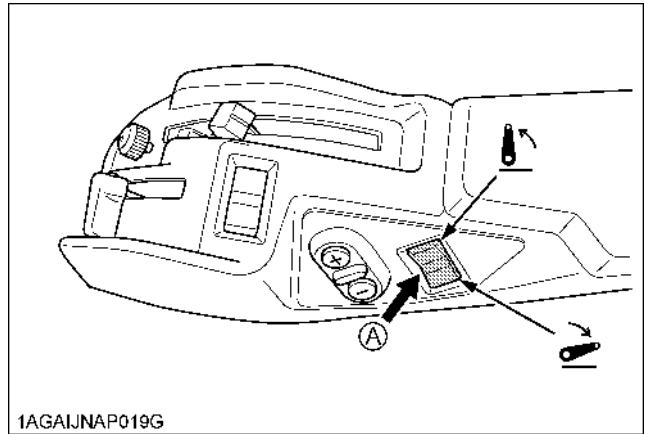
To avoid personal injury or death:

- Before checking 3-point mounted implement, be sure to lock the implement with the lock lever. In such case, move the hydraulic control lever to the "DOWN" position and make sure the implement does not drop.

This lever has 2 positions "LOCK" and "UNLOCK". Do not hold the half way position. When traveling or checking with the implement raised, set the lever to the "LOCK" position.



(1) 3-point hitch lowering lock lever (A) "LOCK" (B) "UNLOCK"



3-P. Quick raise switch (A) "PUSH"  
3-P. Quick lower switch

**NOTE :**

- To adjust the implement lowering speed, use the 3-point hitch lowering speed adjustment dial.

**3-P. Quick Raise / Lower Switch**



**WARNING**

To avoid personal injury or death:

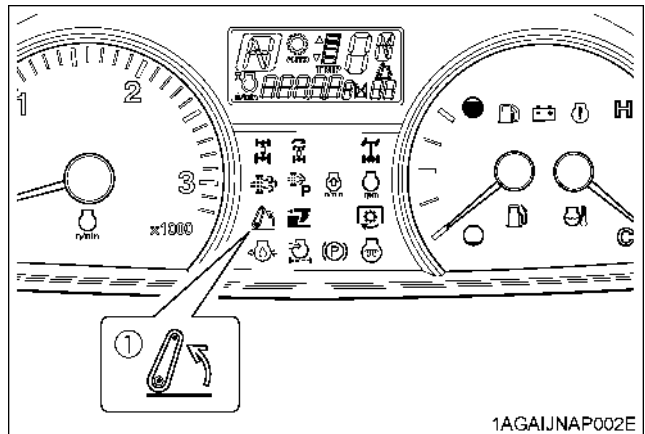
- Before road traveling, be sure to set the hydraulic control lever and the 3-point hitch lowering lock lever to the "TRAVEL LOCK" and "LOCK" positions, respectively.
- Do not use the 3-P. Quick Raise / Lower switch on road traveling.
- When an implement is changed, do not use the 3-P. Quick Raise / Lower switch before checking the full range of operation for interference using the hydraulic control lever.

These switches are used to raise and lower the implement. This facilitates turning in the field.

Press the "RAISE" switch, the 3-P. Lifting / Lowering indicator turns on and the implement goes up. Press the "LOWER" switch, the indicator goes off and the implement comes down.

When the "RAISE" switch has been pressed to raise the implement, the hydraulic control lever can not work.

To use the hydraulic control lever, first pull it up to the top position.



(1) 3-P. Lifting / Lowering Indicator

**NOTE :**

- 3-point hitch working range  
Set the hydraulic control lever for a bottom limit and the lift arm top limit adjustment dial for a top limit. The 3-P. Quick Raise / Lower switches are controls for the raising and lowering within the limits set by the hydraulic control lever and the lift arm top limit adjustment dial.
- One-touch floating function  
Set the mode selector switch to the "DRAFT" position. Hold down the "LOWER" switch to keep the 3-point hitch floating. This function is helpful in plowing, for example. Release the switch and the 3-point hitch returns to the draft control position.
- "RAISE" and "LOWER" operation with the 3-point hitch going halfway
  - When the "LOWER" switch is pressed with the 3-point hitch going up halfway, the 3-point hitch stops at this position. (The indicator turns on.) Re-push the "RAISE" or "LOWER" switch, and the 3-point hitch will go up or down respectively.
  - To lower the 3-point hitch with the 3-point hitch going up halfway, hold down the "LOWER" switch for 2 seconds or push it twice.

- (3) When the "RAISE" switch is pressed with the 3-point hitch going down halfway, the 3-point hitch goes up.

**3-Point Hitch's Position Lock**

**◆ Position Lock**

If any of the following actions are made with the hydraulic control lever and the lower links at different heights, the position lock is activated. The 3-point hitch control is interrupted and the 3-P. Lifting / Lowering indicator starts flashing (2 or so flashes every second).

1. Starting the engine.
2. Activating the 3-P. Remote hitch Up / Down switch.
3. Changing the mode selector switch.

**◆ Releasing the position lock**

If applied, press the 3-P. Quick Raise switch or 3-P. Quick Lower switch.

**NOTE :**

- When the position lock is released with the 3-P. Quick Raise / Lower switches, the 3-point hitch goes up or down.

**REMOTE HYDRAULIC CONTROL SYSTEM**

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

**Remote Control Valve**

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

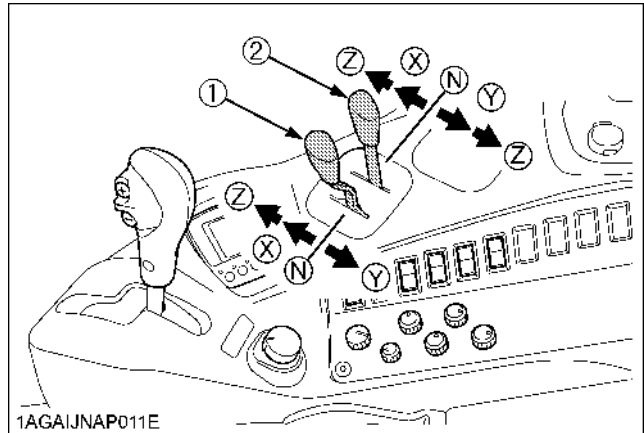
- Double acting valve with detents and self cancelling: This valve may be placed in the detent mode. The lever will stay in this position until the pressure reaches a predetermined level or a cylinder reaches the end of its stroke. Then it will automatically return to neutral
- Double acting valve with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

**Remote Control Valve Lever**

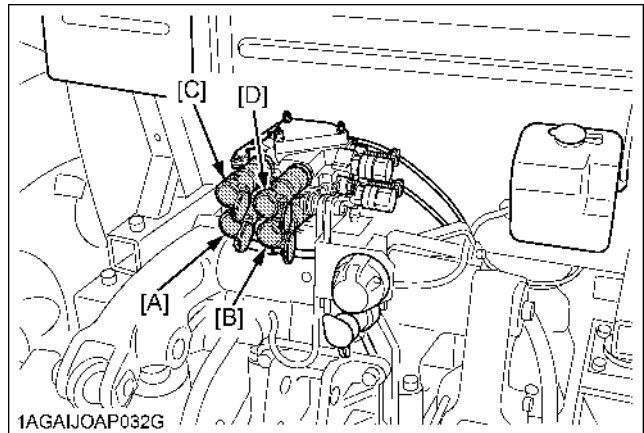
The remote control valve lever directs pressurized oil flow to the implement hydraulic system.

**[Example: Installing double segment valves]**

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



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





Pressure →  
Returning ←

Lever (1)		Lever position			
		Z (detent)	X	Y	
Port	(A)	in	Float	in ←	out →
	(B)	out		out →	in ←

Lever (2)		Lever position			
		Z(detent)	X	Y	Z(detent)
Port	(C)	in ←		out →	
	(D)	out →		in ←	

**IMPORTANT :**

- Do not hold the lever in the "pull" or "push" 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 front loader, do not operate boom and bucket cylinders simultaneously.

**NOTE :**

- Connect the pressure of load side of implement cylinders to ports (A) or (C) which have built in load check valve to prevent leak down.
- To use the single-acting cylinder with the float valve, connect this cylinder to the (A) port.  
To extend a single-acting cylinder, pull the remote control valve lever downward. To retract a cylinder, push it fully upward to the "FLOAT" position. Do not hold it in the push position, the transmission fluid may be overheat.

**Remote Control Valve Coupler Connecting and Disconnecting**



**WARNING**

To avoid personal injury or death:

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

**Connecting**

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

**Disconnecting**

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

**NOTE :**

- Your local KUBOTA Dealer can supply parts to adapt couplers to hydraulic hoses.

■ **Adjusting the flow rate**

**! WARNING**

To avoid the possibility of personal injury or death be aware of the following when making adjustments:

- The 3-point hitch operation is influenced by the combination of the adjustment of the flow control valve and the engine speed.
- The 3-point hitch may raise slowly or not at all at low engine RPM.
- The 3-point hitch may raise suddenly if engine RPM is increased, or, flow control adjustment is changed.

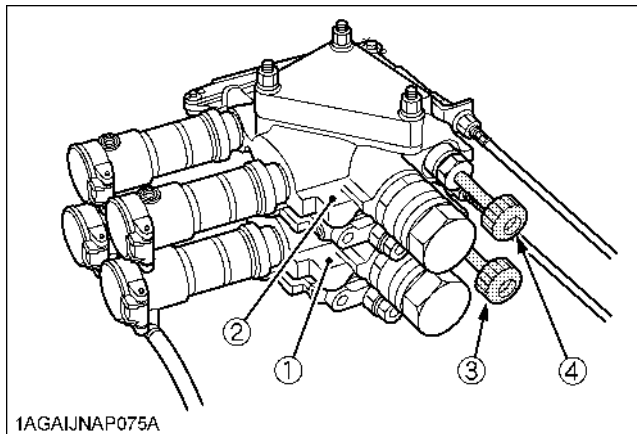
◆ **Flow control**

The remote control valve with flow control may be added for the following purposes.

1. The attachments that are connected with the auxiliary control valve can be independently adjusted for flow rate.
2. To operate within limits, the remote control valves (1) and/or (2) and the 3-point hitch at the same time without one affecting the other.
3. To maintain within limits, the constant speed of an attachment (hydraulic motor RPM, for example) when connected to the remote control valves (1) and/or (2).

**NOTE :**

- At slower engine speeds the total hydraulic flow rate may be inadequate for simultaneous operation of the remote control valves (1) and/or (2) and the 3-point hitch, or operation of an attachment connected to the remote control valves (1)(2). Under these conditions, the engine speed must be increased to provide additional hydraulic flow.



- (1) Remote control valve with flow control
- (2) Remote control valve with flow control
- (3) Flow control knob for valve (1)
- (4) Flow control knob for valve (2)

◆ **Adjusting the flow rate**

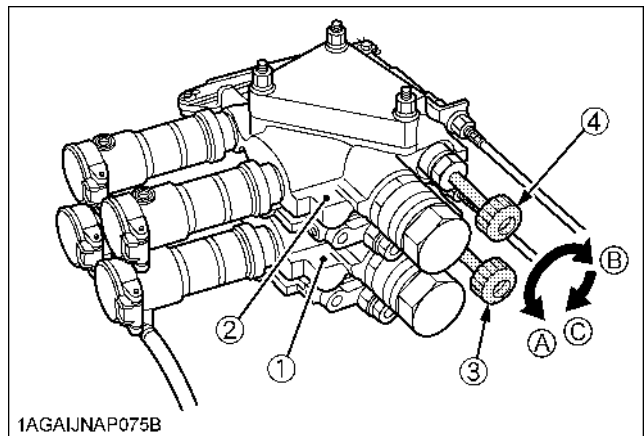
1. The flow rate for the remote control valves (1) and (2) can be adjusted.
2. Turn the flow control knobs (3) and/or (4) counterclockwise (A), and the flow rate for the remote control valves (1) and/or (2) increases. A clockwise turn (B) of the knob causes the flow to decrease. If the knob is turned all the way (C), there will be no flow.
3. To adjust the flow rate, set the engine speed to the operating RPM, turn the flow control knob once all the way clockwise (C), and then turn it gradually counterclockwise until a required flow rate is reached.

**NOTE :**

- Oil from the pump flows by priority to the auxiliary control valve. Surplus oil is fed to the 3-point hitch. With the auxiliary control valve at neutral, the total flow from the pump is fed to the 3-point hitch.

**IMPORTANT :**

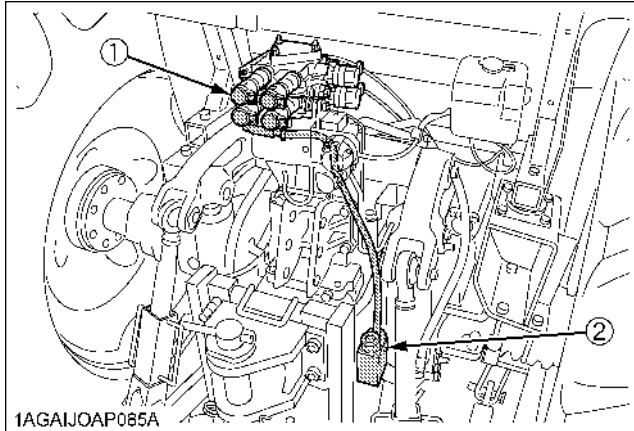
- When there is no need to adjust the flow rate, turn the flow control knob all the way counterclockwise and keep it in this position.



- (1) Remote control valve with flow control
  - (2) Remote control valve with flow control
  - (3) Flow control knob for valve (1)
  - (4) Flow control knob for valve (2)
- (A) "INCREASE"  
 (B) "DECREASE"  
 (C) "STOP"

### ■ Remote Couplers Spillage Collector

With the remote control valve coupler in place, a slight amount of oil leaking from the coupler is recovered. In this way, no oil is splashed around the tractor body.



- (1) Collector cap  
(2) Oil tank

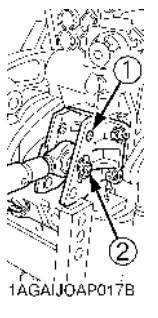
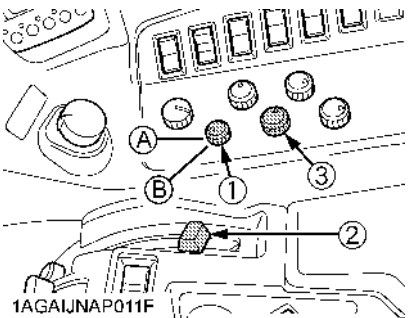
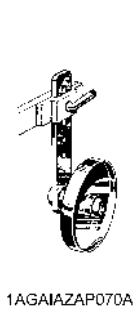
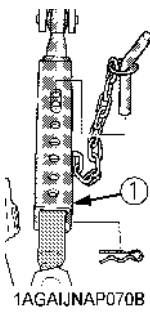
#### **IMPORTANT :**

- Oil recovered contains dust and water. Do not pour such oil back into the transmission case.

**Hydraulic Control Unit Use Reference Chart**

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

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

Implement	Soil condition	Top link mounting holes	(1) Mode selector switch	(2) Hydraulic control lever	(3) Draft ratio adjustment dial	Gauge wheel	(1) Telescopic stabilizers	Remarks
Moldboard plow Disc plow Harrower (spike, springtooth, disc type) Sub-soiler.....	Light soil Medium soil Heavy soil --- ---	 1AGAIJOAP017B 2	 1AGAIJNAP011F Draft Control (A)	Mixed draft control Place the hydraulic control lever to the suitable position.	Turn the dial to the suitable position	 1AGAIJNAP070B YES/NO	 1AGAIJNAP070B Loose	Insert the telescopic stabilizer set-pin through the slot on the outer tube that align with one of the holes on the inner bar.
Weeder, ridger..... Earthmover, digger, scraper, manurefork, rear carrier..... Mower (mid- and rear-mount type) Hayrake, tedder.....	--- ---	1	Position control (B)	Position Control Place the hydraulic control lever to the suitable position.	---	YES YES/NO NO	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 position control lever all way.

**NOTE :**

- With an implement mounted, use the top hole of the top link holder to keep the implement as horizontal as possible, and its center hole to keep the implement tilted forward. Only if the implement is not well matched, the lower hole may be used.

# TIRES, WHEELS AND BALLAST

## TIRES



### WARNING

To avoid personal injury or death:

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

### IMPORTANT :

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

### NOTE :

- When optional different-diameter tires are fitted on the machine, the travel speed display mode must be changed. Otherwise the travel speed will not get correctly displayed. Such mode switching is also needed when the original tires are back on the machine.

(See "SIDE DIGITAL DISPLAY" in "OPERATING THE TRACTOR" section.)

### ■ Inflation Pressure

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

### NOTE :

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

### [M100GX-II, M110GX-II]

	Tire sizes	Inflation Pressure
Front	340/85R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
	380/70R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
	360/80R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
	380/70R20	160 kPa (1.6 kgf/cm <sup>2</sup> )
	360/70R20	160 kPa (1.6 kgf/cm <sup>2</sup> )
	8.3R32	240 kPa (2.4 kgf/cm <sup>2</sup> )
	280/85R28	140 kPa (1.4 kgf/cm <sup>2</sup> )
	360/70R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
Rear	460/85R34	140 kPa (1.4 kgf/cm <sup>2</sup> )
	520/70R34	160 kPa (1.6 kgf/cm <sup>2</sup> )
	480/80R34	160 kPa (1.6 kgf/cm <sup>2</sup> )
	540/65R30	240 kPa (2.4 kgf/cm <sup>2</sup> )
	540/65R28	240 kPa (2.4 kgf/cm <sup>2</sup> )
	270/95R44	240 kPa (2.4 kgf/cm <sup>2</sup> )
	300/95R42	160 kPa (1.6 kgf/cm <sup>2</sup> )
	380/80R38	240 kPa (2.4 kgf/cm <sup>2</sup> )

### [M128GX-II, M135GX-II]

	Tire sizes	Inflation Pressure
Front	14.9R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
	420/70R24	160 kPa (1.6 kgf/cm <sup>2</sup> )
	400/80R24	320 kPa (3.2 kgf/cm <sup>2</sup> )
	230/95R32	320 kPa (3.2 kgf/cm <sup>2</sup> )
	320/85R28	160 kPa (1.6 kgf/cm <sup>2</sup> )
Rear	18.4R38	160 kPa (1.6 kgf/cm <sup>2</sup> )
	520/70R38	160 kPa (1.6 kgf/cm <sup>2</sup> )
	480/80R38	320 kPa (3.2 kgf/cm <sup>2</sup> )
	270/95R48	320 kPa (3.2 kgf/cm <sup>2</sup> )
	320/90R46	320 kPa (3.2 kgf/cm <sup>2</sup> )

### ■ Dual Tires

Dual tires are not approved.

## WHEEL ADJUSTMENT



### WARNING

To avoid personal injury or death:

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

### ■ Front Wheels (with 4-wheel drive)

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

To change the tread width

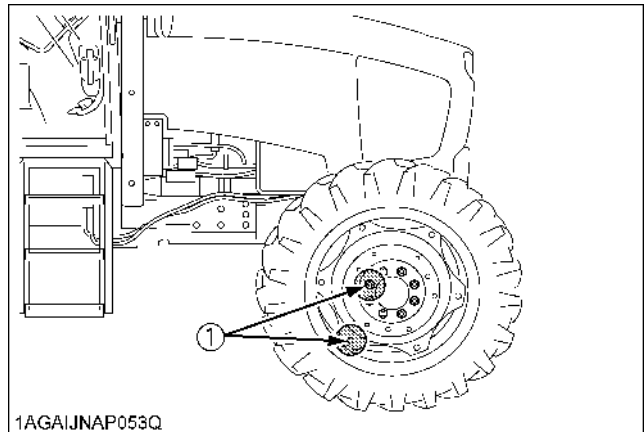
1. Remove the wheel rim and disk mounting bolts.
2. Change the position of the rim and tire to the desired position, and tighten the bolts.
3. Adjust the toe-in [2 to 8mm]  
See "Adjusting Toe-in" in "EVERY 200 HOURS" in "PERIODIC SERVICE" section.

1AGAIJOAP086A				
[M100GX-II, M110GX-II]				
340/85R24	---	---	1565 mm	1675 mm
380/70R24	---	---	---	---
360/80R24	1680 mm	---	---	---
380/70R20	---	---	1740 mm	1845 mm
360/70R20	---	---	1740 mm	1850 mm
8.3R32	---	---	1570 mm	1620 mm
280/85R28	---	---	1570 mm	1685 mm
360/70R24	---	---	1500 mm	1610 mm
[M128GX-II, M135GX-II]				
14.9R24	---	---	1720 mm	1765 mm
420/70R24	---	---	1715 mm	1760 mm
230/95R32	---	1570 mm	1660 mm	1710 mm
320/85R28	---	1570 mm	1660 mm	1775 mm

- Need to limit turning angle depended on the tire size and tread.

### IMPORTANT :

- Always attach wheels as shown in the drawing.
- If not attached as illustrated, transmission parts may be damaged.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval. (See "MAINTENANCE" section.)



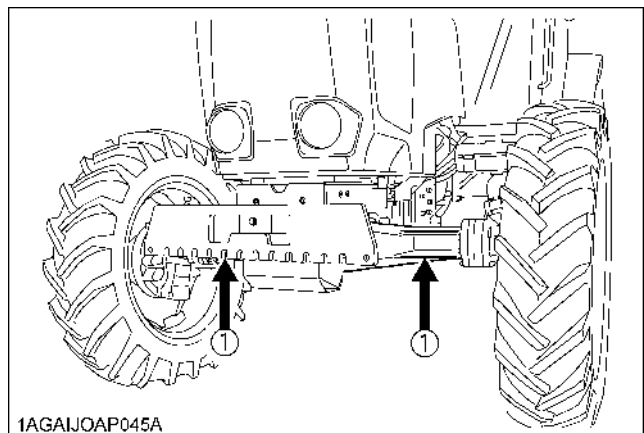
(1) 260 to 304 N-m (26.5 to 31 kgf-m)



### WARNING

To avoid personal injury or death:

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



(1) Jack point

### ■ Adjusting Front Wheel Turning Stopper Bolt

[M100GX-II, M110GX-II]

#### ◆ Adjusting procedure

1. Adjust the right and left front stoppers according to the front wheel turning angle.
2. Adjusting the rear stoppers:
  - (1) Turn the steering wheel fully clockwise until the left front stopper comes into the case. Adjust the right rear stopper so that there is a clearance of about 1 mm (0.04 in.) between the right rear stopper and the case.
  - (2) Turn the steering wheel counterclockwise to readjust the left rear stopper.

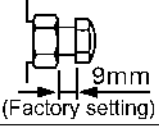
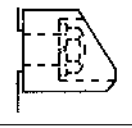
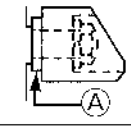
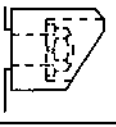
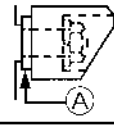
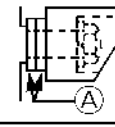
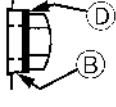
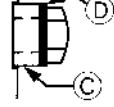
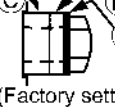
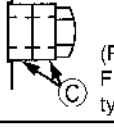
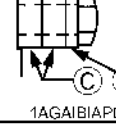
[M128GX-II, M135GX-II]

#### ◆ Adjusting procedure

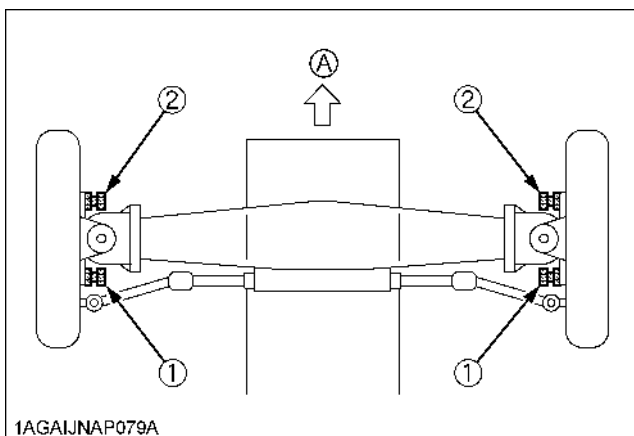
1. Adjust the right and left rear stoppers according to the front wheel turning angle.
2. Adjusting the front stoppers:
  - (1) Turn the steering wheel fully clockwise until the right rear stopper comes into the case. Adjust the front stopper so that there is a clearance of about 1 mm (0.04 in.) between the left front stopper and the case.
  - (2) Turn the steering wheel counterclockwise to readjust the right front stopper.

#### IMPORTANT :

- Always check if tires contact with tractor or loader frame assemblies.
- Adjust turning angle with provided stoppers if necessary.
- Bi-speed will not activate if turning angle is less than 34 degree.

M100GX-II M110GX-II	FRONT stopper bolts (ex. LH stopper bolt)		
Angle	50°	45°	42°
Stopper			
Angle	37°	33°	30°
Stopper			
M128GX-II M135GX-II	REAR stopper bolts (ex. LH stopper bolt)		
Angle	50°	48°	45°
Stopper			
Angle	40°		37°
Stopper			

- (A) 5 mm collar
- (B) 7 mm collar
- (C) 12.5 mm collar
- (D) 1 mm shim



(1) Rear stopper bolts  
(2) Front stopper bolts

(A) "FRONT"

**■Rear Wheels**

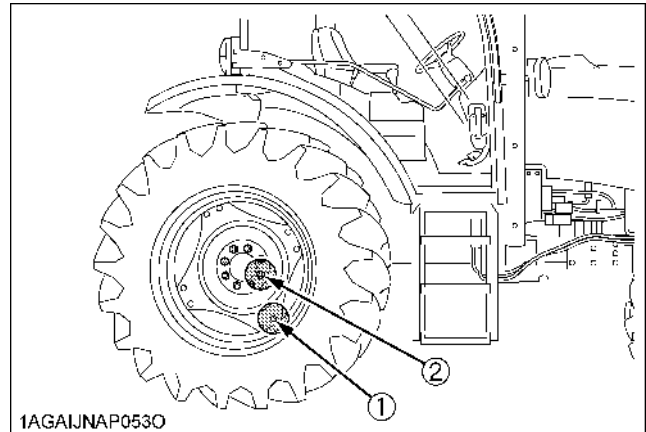
Rear tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

1. Remove the wheel rim and / or disk mounting bolts.
2. Change the position of the rim and / or disk (right and left) to the desired position, and tighten the bolts.

**IMPORTANT :**

- Always attach wheels as shown in the drawing.
- If not attached as illustrated, transmission parts may be damaged.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval. (See "MAINTENANCE" section.)



- (1) 260 to 304 N-m (26.5 to 31.0 kgf-m)
- (2) 343 to 402 N-m (35.0 to 41.0 kgf-m)

<b>[M100GX- II , M110GX- II ]</b>								
460/85R34	---	---	1555 mm	1755 mm	1850 mm	1860 mm	<1955 mm>	
520/70R34	---	---	---	1755 mm	1850 mm	1860 mm	<1955 mm>	
480/80R34	1630 mm	---	---	---	---	---	1680 mm	
540/65R30	---	---	1605 mm	1705 mm	1795 mm	<1910 mm>	<2005 mm>	
540/65R28	---	---	1620 mm	1690 mm	1885 mm	1825 mm	<2020 mm>	
270/95R44	---	1510 mm	1565 mm	1745 mm	1800 mm	<1910 mm>	<1965 mm>	
300/95R42	---	1595 mm	1645 mm	1665 mm	1715 mm	<1995 mm>	<2045 mm>	
380/80R38	---	1580 mm	1635 mm	1675 mm	1730 mm	<1980 mm>	<2035 mm>	
<b>[M128GX- II , M135GX- II ]</b>								
18.4R38	---	1605 mm	1660 mm	1755 mm	1810 mm	<2005 mm>	<2060 mm>	
520 / 70R38	---	1605 mm	1660 mm	1755 mm	1810 mm	<2005 mm>	<2060 mm>	
480/80R38	---	1605 mm	1660 mm	1755 mm	1810 mm	<2005 mm>	<2060 mm>	
270/95R48	---	1560 mm	1615 mm	1805 mm	1855 mm	<1960 mm>	<2015 mm>	
320/90R46	---	1605 mm	1660 mm	1755 mm	1810 mm	<2005 mm>	<2060 mm>	

Note: The tractors with tire treads < > are not suitable for running on public roads.

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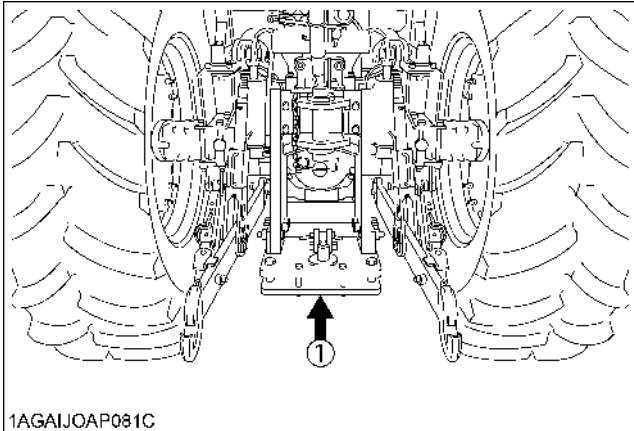




## WARNING

To avoid personal injury or death:

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



(1) Jack point

## 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.

### ■ Front Ballast

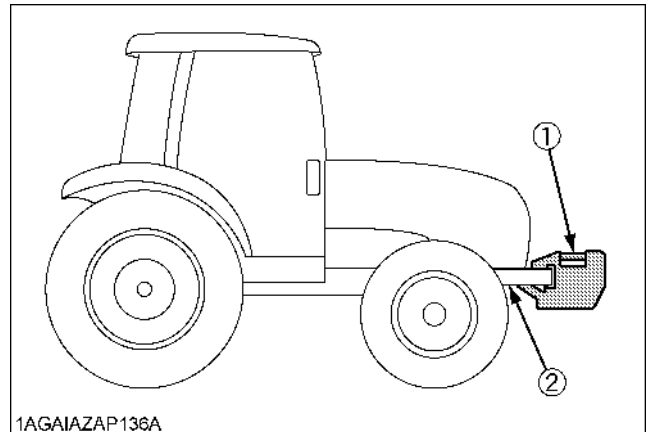
Add weights if needed for stability and improve traction. Heavy pulling and heavy rear mounted implements tend to lift front wheels.

Add enough ballast to maintain steering control and prevent tip over. Remove weight when no longer needed.

### ◆ Front End Weights (option)

The front end weights can be attached to the bumper.

See your implement operator's manual for required number of weights or consult your local KUBOTA Dealer to use.



(1) Front end weights

(2) Bumper

### IMPORTANT :

- Do not overload tires.
- Add no more weight than indicated in chart.
- Do not attach the front bumper when the front loader is attached.

Maximum weight	45 kg x 12 pieces
----------------	-------------------

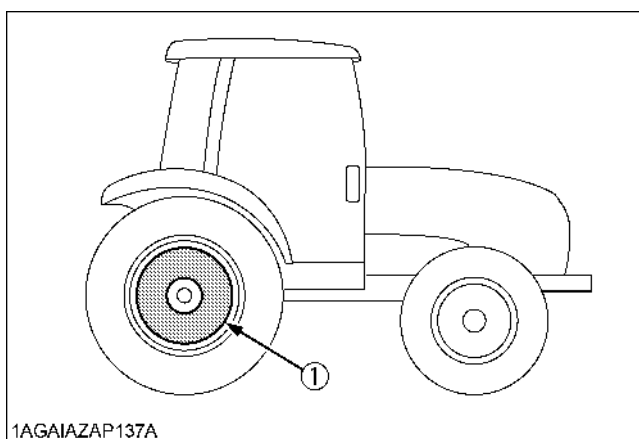
**■ Rear Ballast**

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, rear wheel weights or a combination of both.

**◆ Rear Wheel Weights (option)**

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



(1) Rear wheel weights

**IMPORTANT :**

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

Maximum weight per wheel	[Cast iron disk] 72.5 kg x 2 pieces (320 lbs.)
	[Steel disk] 72.5 kg x 3 pieces (480 lbs.)

**◆ Liquid Ballast in Rear Tires**

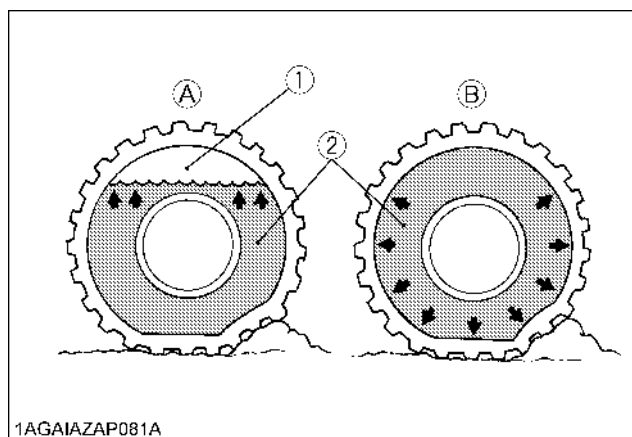
Water and calcium chloride solution provides safe economical ballast. Used properly, it will not damage tires, tubes or rims. The addition of calcium chloride is recommended to prevent the water from freezing. Use of this method of weighting the wheels has the full approval of the tire companies. See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

Liquid weight per tire (75 Percent filled)

Tractor	M100GX-II M110GX-II	M128GX-II M135GX-II	
Tire sizes	460/85R34	520/70R38	18.4R38
Slush free at -10 °C Solid at -30 °C [Approx.1 kg CaCl <sub>2</sub> per 4 L of water]	417 kg	423 kg	415 kg
Slush free at -24 °C Solid at -47 °C [Approx.1.5 kg CaCl <sub>2</sub> per 4 L of water]	457 kg	481 kg	473 kg
Slush free at -47 °C Solid at -52 °C [Approx.2.25kg CaCl <sub>2</sub> per 4 L of water]	490 kg	528 kg	519 kg

**IMPORTANT :**

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



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

**■ Maximum Masses**

(See "APPENDICES" section.)

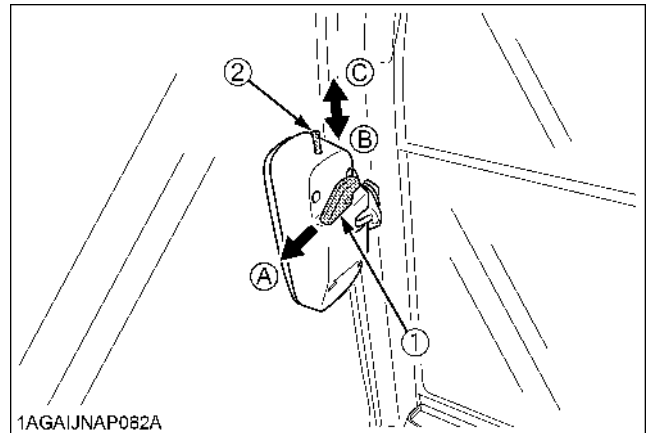
# CAB OPERATION

## DOOR AND WINDOW

### ■ Locking and Unlocking the Door

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

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



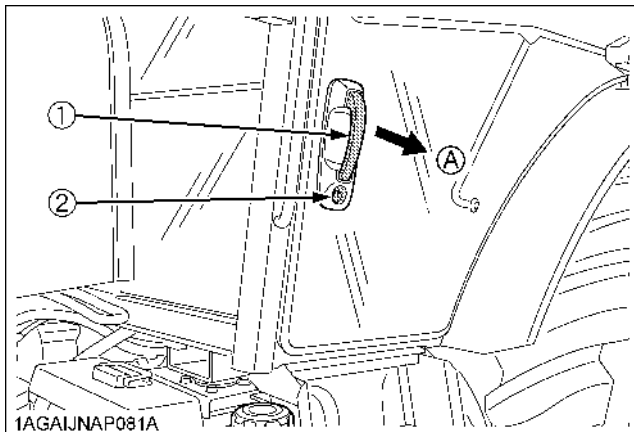
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(1) Inner door handle  
(2) Lock knob

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

### ■ Opening the Door

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



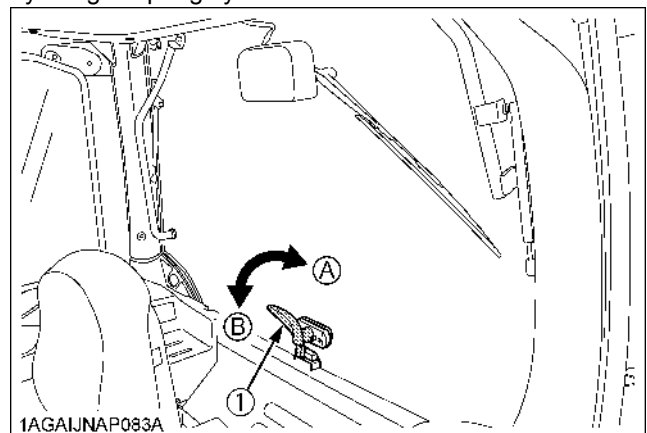
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(1) Outer door handle  
(2) Door lock

(A) "PULL"

### ■ 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.



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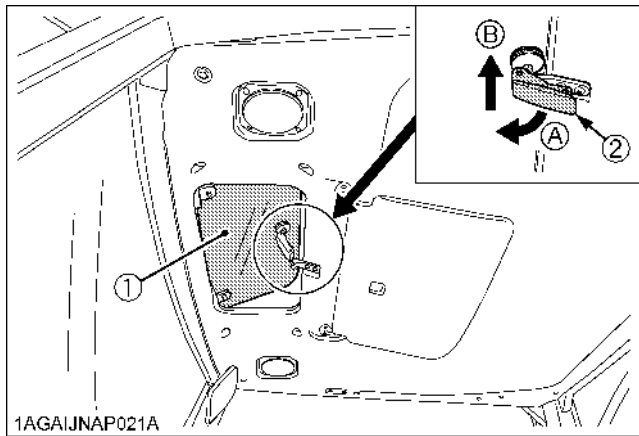
(1) Rear window handle

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

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

### ■Sun Roof

Raise the front loader, and visually check to see if the tip of an attachment (bucket and fork, for example) is visible in its position or angle from the operator's seat.



(1) Sun roof (A) "PULL"  
(2) Sun roof handle (B) "PUSH" (Open)

#### NOTE :

- Open the sun roof, to allow outside air in.

### ■Emergency Exit

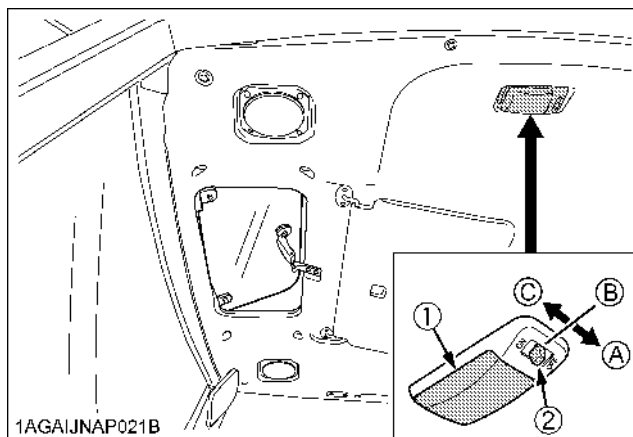
1. Open the right door of the cab if the left door is blocked, and vice versa in an emergency situation.
2. Exit through rear window if CAB doors are blocked in an emergency situation.

## DOME LIGHT

### ■Dome Light

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

- OFF ..... The light does not turn on when the door is opened.
- DOOR ..... The light turns on when the door (LH) is opened. It turns off when the door (LH) is closed.
- ON ..... The light remains on regardless of the door position.



(1) Dome light (A) "OFF"  
(2) Dome light switch (B) "DOOR"  
(C) "ON"

#### IMPORTANT :

- The battery will discharge if the dome light remains on. Be sure to check the dome light switch position and/or door closure.

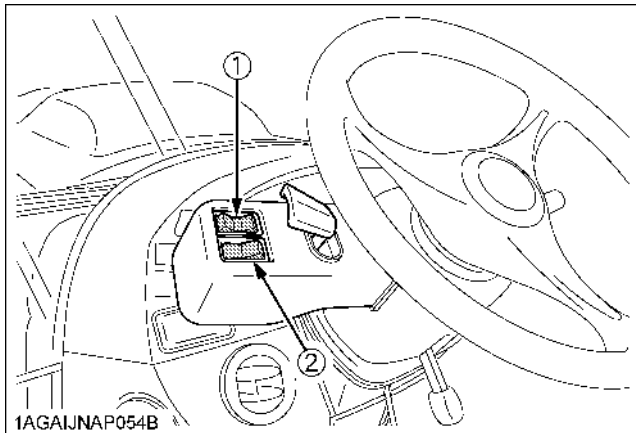
## WIPER

### ■Front Wiper / Washer Switch

1. Turn on the key switch and press the right half of the wiper switch to the first step, the wiper is activated. When the switch is pressed further to the second step, washer liquid jets out. The jetting continues while the switch is pressed and the wiper is activated continuously.
2. Press the left half to the first step, the wiper is activated at regular intervals. When the switch is pressed further to the second step, washer liquid jets out and the wiper is activated at regular intervals.

### ■ Rear Wiper / Washer Switch

1. Turn on the key switch and press the right half of the wiper switch to the first step, the wiper is activated. When the switch is pressed further to the second step, washer liquid jets out. The jetting continues while the switch is pressed and the wiper is activated continuously.
2. Press the left half of the wiper / washer switch, washer liquid only jets out.



(1) Front wiper / washer switch  
(2) Rear wiper / washer switch

#### IMPORTANT :

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

### ■ Using the Wipers in Cold Season

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

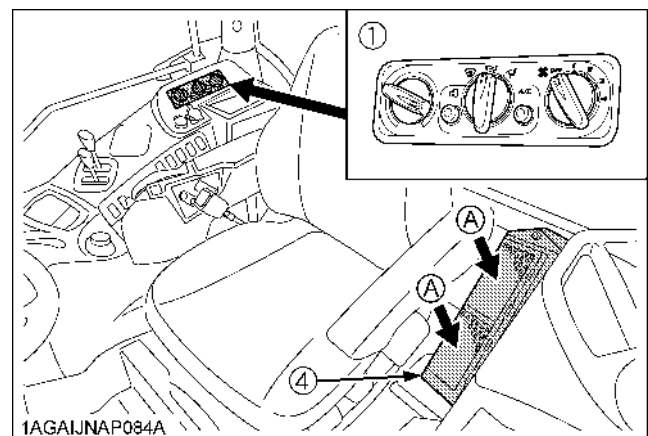
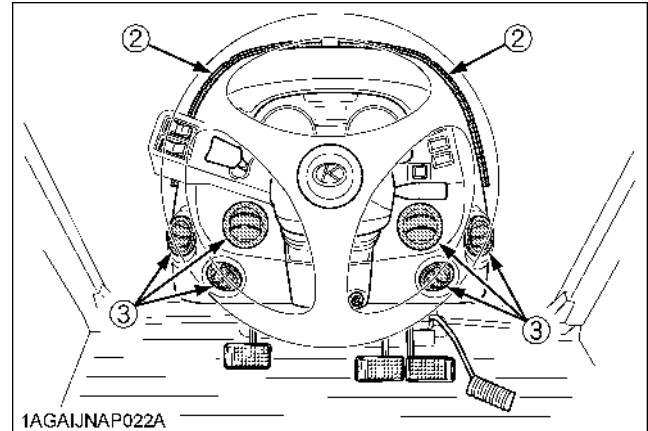
#### IMPORTANT :

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

## AIR CONDITIONER

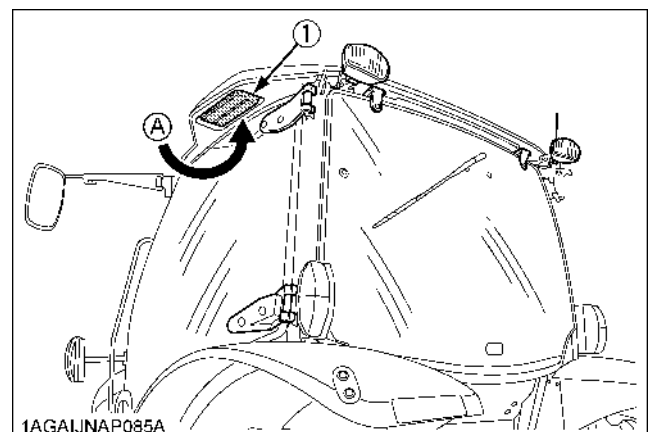
### ■ Airflow

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



(1) Control panel  
(2) Defroster air outlets  
(3) Dashboard air outlets  
(4) Inner air filter

(A) Inner air recirculation



(1) Fresh air filter

(A) "FRESH AIR INLET"

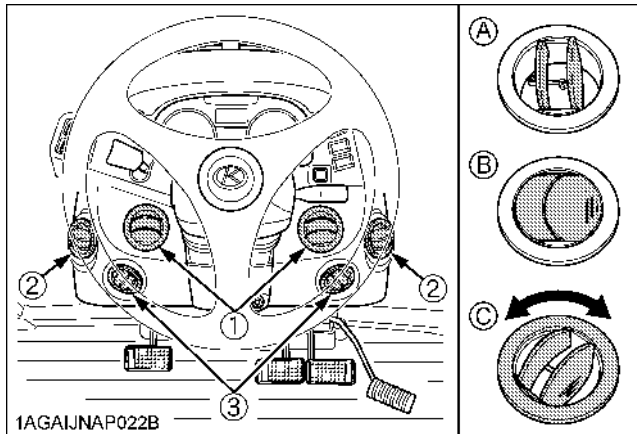
**IMPORTANT :**

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

**■ Air Control Vent**

**◆ Dashboard air outlet**

The dashboard air outlets can be independently adjusted as required.



- |                           |            |
|---------------------------|------------|
| (1) Face area air outlets | (A) "OPEN" |
| (2) Back area air outlets | (B) "SHUT" |
| (3) Feet area air outlets | (C) "TURN" |

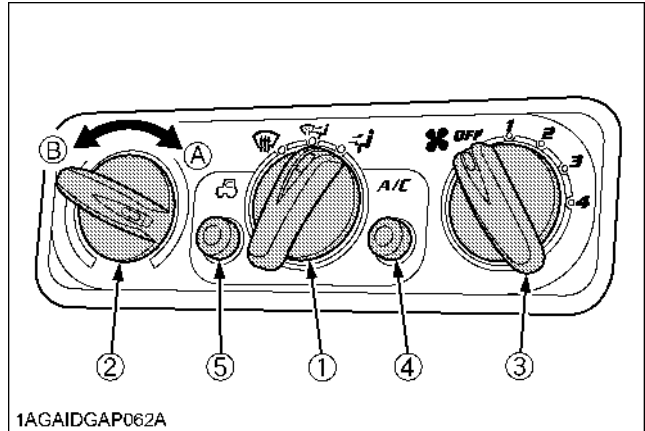


**CAUTION**

To avoid personal injury;

- Replace the water hoses every 2 years.
  - Daily inspection
- Have the tractor repaired immediately if any of the following defects are discovered. (Such defects may cause burns or injury. They may also cause engine seizure or other serious failure.)
- Scratches, cracks or swelling in water hoses.
  - Water leakage at water hose joints.
  - Missing or damaged water hose protective wrap or grommets.
  - Loose mounting bolts, damaged brackets.
  - Do not touch the water hoses and the heater with your hand. You may get burned.
  - If the window fails to defrost in extreme conditions or becomes cloudy when dehumidifying the CAB, wipe off moisture with a soft cloth.
  - Do not block all the air outlets of the air conditioner. A problem could occur.

**■ Control Panel**



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- |   |            |
|---|------------|
| (1) Mode switch   | (A) "WARM" |
| (2) Temperature control dial  | (B) "COOL" |
| (3) Blower switch   |            |
| (4) Air conditioner switch with indicator light                     |            |
| (5) Recirculation / fresh air selection switch with indicator light |            |

**◆ Mode switch**

Set the mode switch to the desired position.

- Air is blown from only the dashboard air outlets.
- Air is blown from the dashboard and defroster air outlets.
- Air is blown from only the defroster air outlet.

**◆ Temperature Control Dial**

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

**◆ Blower Switch**

Air volume can be changed in 4 steps. At the "4" position, the largest air volume is obtained.

**◆ Air Conditioner Switch**

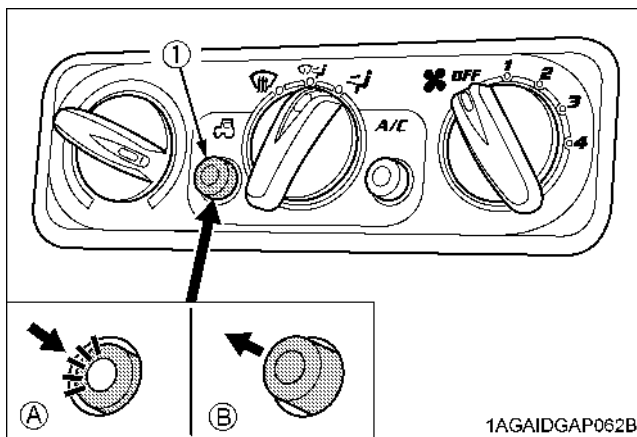
Push this switch to activate the air conditioner. An indicator light will light up when the switch is set to "ON". Push the switch again to turn the air conditioner off, in which case the indicator light will be off.

◆ **Recirculation / fresh air selection switch**

Each time the switch is pressed, the air flow position changes for "RECIRCULATION" or "FRESH AIR". An indicator light will light up when the switch is set to "RECIRCULATION". And the indicator light will be off when the switch is set to "FRESH AIR".

**FRESH AIR:** Fresh air will flow into the CAB.  
(Indicator: OFF) This is helpful when you work in dusty conditions or if the glass windows get foggy.

**RECIRCULATION:** In-CAB air will be recirculated.  
(Indicator: ON) This is useful for cooling or heating the CAB quickly or keeping it extra cool or warm.



(1) Recirculation / fresh air selection switch with indicator light  
(A) "RECIRCULATION"  
(B) "FRESH AIR"

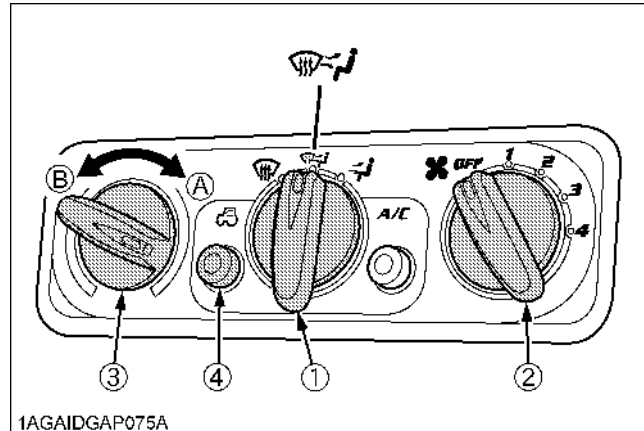
**NOTE :**

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

■ **Operation**

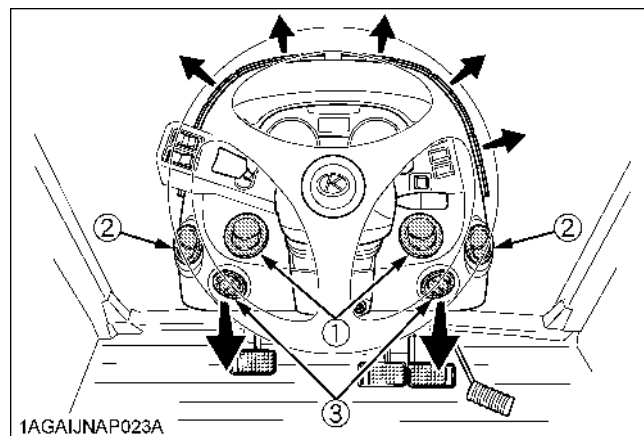
◆ **Heating**

1. Set the mode switch to the position.
2. Set the recirculation / fresh air selection switch to the "FRESH AIR" position. To raise the temperature in the CAB quickly, set this switch to the "RECIRCULATION" position.
3. Adjust the blower (1/2/3/4) switch and the temperature control dial to achieve a comfortable temperature level.



(1) Mode switch (A) "WARM"  
(2) Blower switch (B) "COOL"  
(3) Temperature control dial  
(4) Recirculation / fresh air selection switch with indicator light

4. Adjust the air volume and air direction from the dashboard air outlets. In general, open Feet area air outlets, and shut Face / Back area air outlets.



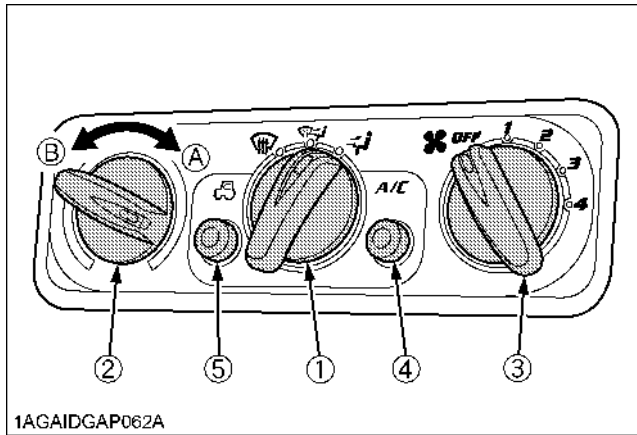
(1) Face area air outlets  
(2) Back area air outlets  
(3) Feet area air outlets

◆ **Cooling or dehumidifying-heating**

1. Set the mode switch to the position.
2. Set the recirculation / fresh air selection switch to the "FRESH AIR" position. To fall 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 (1/2/3/4) switch.
5. Adjust the temperature control dial to the "COOL" or an intermediate position to achieve a comfortable temperature level.

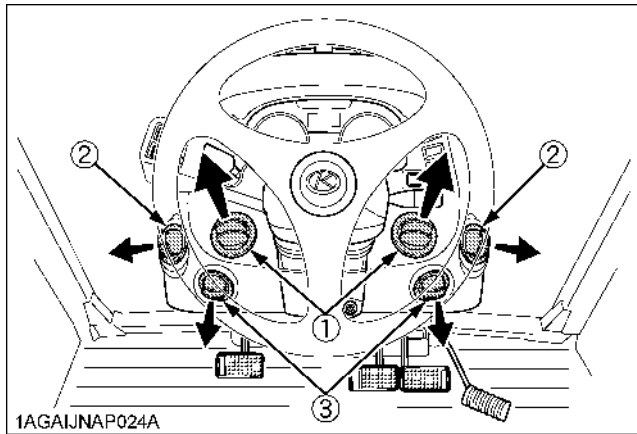
**NOTE :**

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



- (1) Mode switch (A) "WARM" (B) "COOL"  
 (2) Temperature control dial  
 (3) Blower switch  
 (4) Air conditioner switch with indicator light  
 (5) Recirculation / fresh air selection switch with indicator light

6. Adjust the air volume and air direction from the dashboard air outlets. In general, the air volume from Face area air outlets is adjusted to increase, and the air volume from Feet / Back area air outlets is adjusted to decrease.

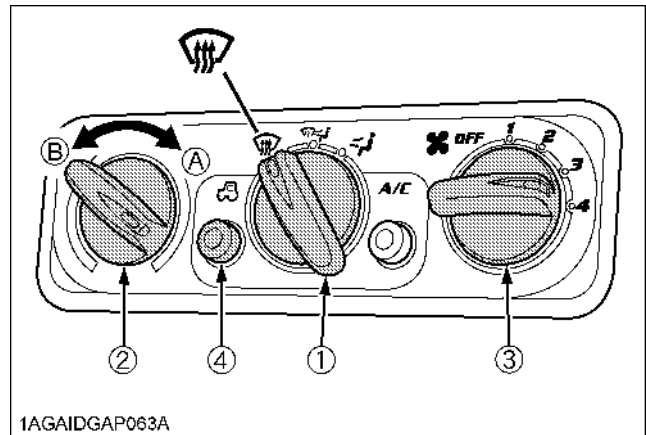


- (1) Face area air outlets  
 (2) Back area air outlets  
 (3) Feet area air outlets

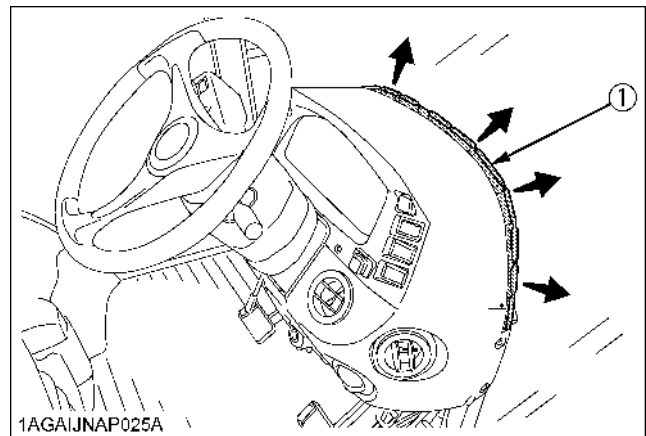
◆ **Defrosting or demisting**

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

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



- (1) Mode switch (A) "WARM" (B) "COOL"  
 (2) Temperature control dial  
 (3) Blower switch  
 (4) Recirculation / fresh air selection switch with indicator light




- (1) Defroster air outlet

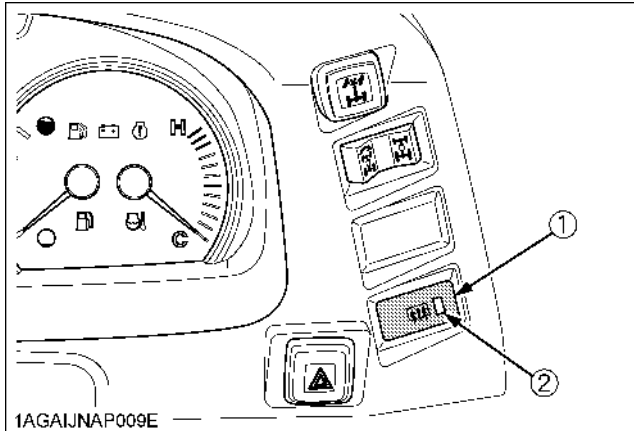
**NOTE :**

- If you set the mode switch to position, air will not come out from the dashboard air outlets.



## REAR DEFOGGER WITH TIMER (if equipped)

To activate the rear window defogger, press the switch marked  while the key switch is in the "ON" position. Then, the yellow light on the switch turns on. After about 15 minutes, the defogger automatically turns off as well as the yellow light. To turn the defogger off, press the switch once more.



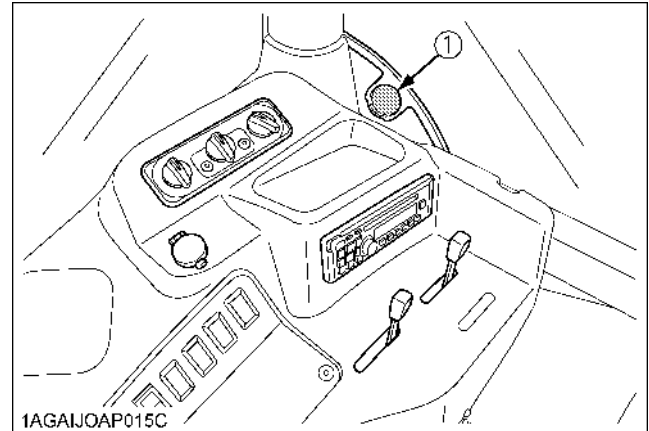
(1) Defogger switch  
(2) Yellow light

### IMPORTANT :

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

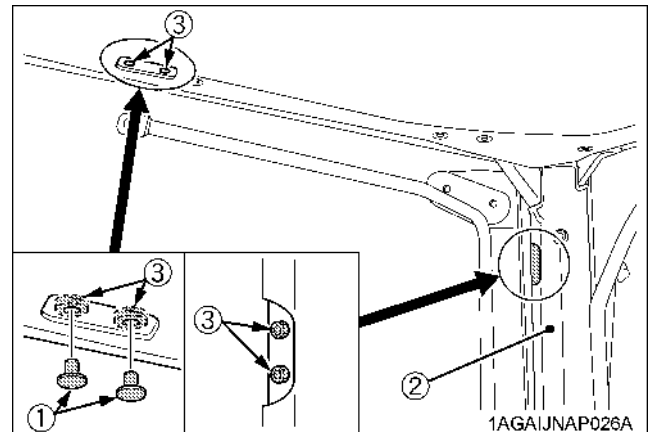
## INSTALLING THE IMPLEMENT CONTROL BOX

1. Make a slit into the corner cover. Introduce the implement control cable and hydraulic hose through this slit into the CAB.



(1) Corner cover

2. Remove the plugs in inner roof, and cut off the hatched zone of the rear pillar cover with a utility knife. Attach the control box stay with internal nuts.

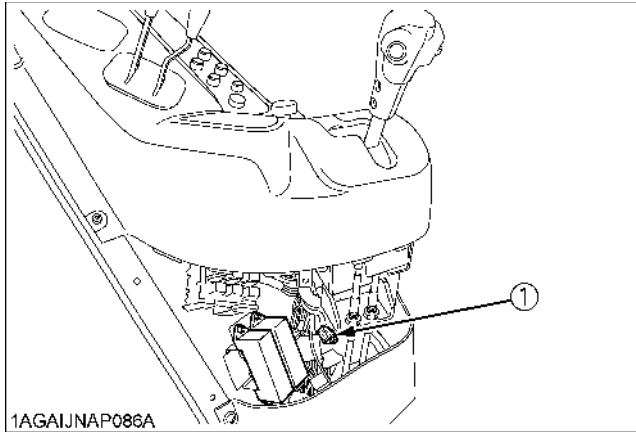


(1) Plug  
(2) Pillar cover  
(3) M6 nuts

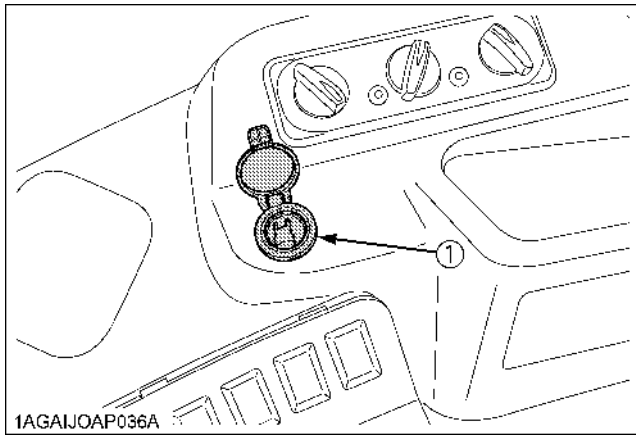
## ELECTRICAL OUTLET

### ■ Electrical Outlet

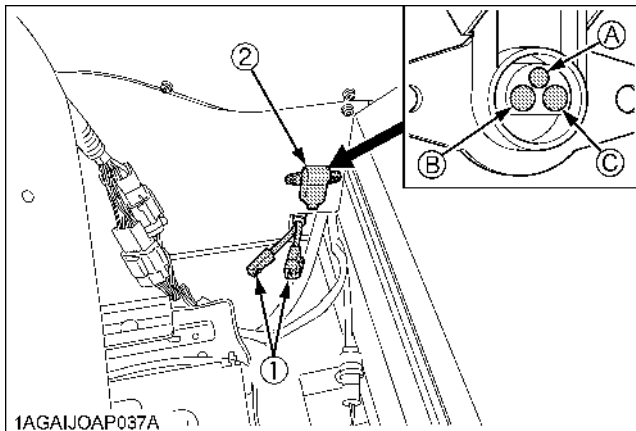
A electrical outlet is supplied for use with implement.



(1) Connector for loader electrical outlet (15A)



(1) Accessory electrical outlet (15A)



(1) Accessory electrical outlet (20A)  
 (2) Accessory electrical outlet  
 (A) Terminal: Through the ACC position of the key switch (5 A)  
 (B) Terminal: Through the battery direct (25A)  
 (C) Terminal: Ground

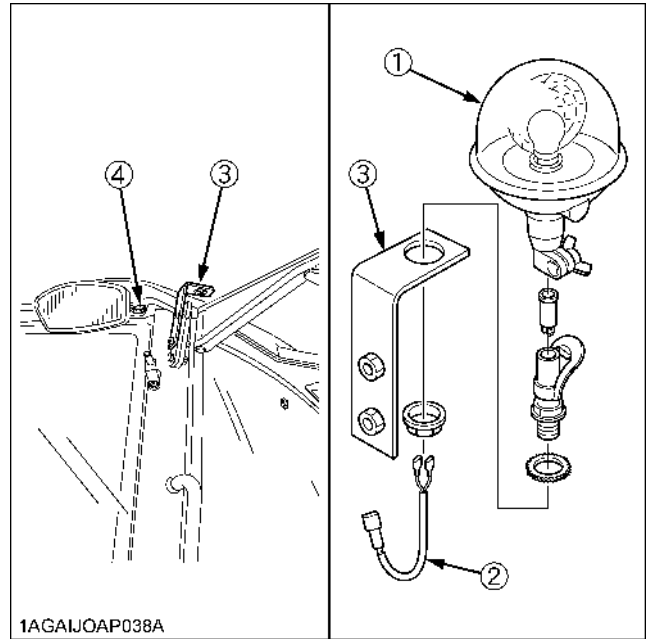
## BEACON LIGHT

### ■ Beacon Light Switch

The beacon light switch with wire harness for beacon light connection is equipped.

Turn on the key switch and press the bottom half of the beacon light switch. Then the beacon light and indicator of switch will be activated.

Press the top half of the switch, and turn off the light and the indicator.



(1) Beacon light (if equipped)  
 (2) Relay harness for beacon light  
 (MAX. 7 amperes)  
 (3) Stay  
 (4) Beacon electrical outlet

#### NOTE :

- The relay harness for beacon light is in the accessories box.
- Pre-assemble the beacon light and relay harness, and connect the relay harness to the connector of beacon electrical outlet.
- The beacon light is on the right-hand for U.K models.

# MAINTENANCE

## SERVICE INTERVALS

No.	Items		Indication on hour meter													Interval	Ref. page			
			50	100	150	200	250	300	350	400	450	500	550	600	650				700	
1	Engine start system	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	127	
2	Wheel bolt torque	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	128	
3	Tie-rod dust cover	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	128	*4
4	Battery condition	Check		○		○		○		○		○		○		○	every 100 Hr	133	*5	
5	Greasing			○		○		○		○		○		○		○	every 100 Hr	128		
6	Fan belt [M100GX-II, M110GX-II]	Adjust		○		○		○		○		○		○		○	every 100 Hr	131		
7	Brake pedal	Adjust		○		○		○		○		○		○		○	every 100 Hr	132		
8	Parking brake lever	Adjust		○		○		○		○		○		○		○	every 100 Hr	133		
9	Air cleaner element	Primary element	Clean		○		○		○		○		○		○		every 100 Hr	130	*1	
		Secondary element	Replace															every 1 year	148	*2
			Replace																every 1 year	148
10	Fuel line	Check		○		○		○		○		○		○		○	every 100 Hr	132		
		Replace																every 2 years	151	*4
11	Toe-in	Adjust				○				○				○			every 200 Hr	138		
12	Fuel tank water	Drain				○				○				○			every 200 Hr	138		
13	Oil cooler line	Check				○				○				○			every 200 Hr	137		
		Replace																every 2 years	151	*4
14	Power steering oil line	Check				○				○				○			every 200 Hr	137		
		Replace																every 2 years	151	*4
15	Radiator hose and clamp	Check				○				○				○			every 200 Hr	135		
		Replace																every 2 years	151	

No.	Items	Indication on hour meter														Interval	Ref. page			
		50	100	150	200	250	300	350	400	450	500	550	600	650	700					
16	Intake air line	Check				○												every 200 Hr	137	
		Replace																every 2 years	151	*3
17	Water separator	Clean																		
		Replace								○							every 400 Hr	141		
18	Fan / Air-conditioner belt [M128GX-II, M135GX-II]	Check	⊗														every 400 Hr	140		
19	Fuel solenoid pump [M128GX-II, M135GX-II]	Clean															every 400 Hr	142		
20	Engine oil	Change	⊗													○	every 500 Hr	143		
21	Engine oil filter	Replace	⊗													○	every 500 Hr	144		
22	Pre-Fuel filter [M128GX-II, M135GX-II]	Clean														○	every 500 Hr	144		
23	Fuel filter	Replace														○	every 500 Hr	145		
24	Hydraulic oil filter	Replace														○	every 500 Hr	145		
25	Front axle pivot	Adjust														○	every 600 Hr	146		
26	King-pin pivot	Adjust														○	every 600 Hr	146		
27	Transmission fluid	Change															every 1000 Hr	147		
28	Front differential case oil	Change															every 1000 Hr	147		
29	Front axle gear case oil	Change															every 1000 Hr	148		
30	Engine valve clearance	Adjust															every 1000 Hr	148	*4	
31	Fuel injector nozzle tip	Clean															every 1500 Hr	148	*4	
32	EGR cooler	Check															every 1500 Hr	148	*4	
		Clean																		
33	Accumulator [Front suspension type]	Check															every 1500 Hr	148	*4	
34	Turbo charger	Check															every 3000 Hr	148	*4	
35	Supply pump	Check															every 3000 Hr	148	*4	
36	EGR system	Check															every 3000 Hr	148	*4	
		Clean																		
37	DPF muffler	Clean															every 3000 Hr	148	*4	
38	Intake air heater [M100GX-II, M110GX-II]	Check															every 3000 Hr	148	*4	

No.	Items		Indication on hour meter													Interval	Ref. page			
			50	100	150	200	250	300	350	400	450	500	550	600	650				700	
39	Exhaust manifold	Check																every 1 year	149	*4
40	DPF differential pressure sensor pipe	Check																every 1 year	149	*4
41	EGR pipe	Check																every 1 year	149	*4
42	Cooling system	Flush																every 2 years	149	
43	Coolant	Change																every 2 years	149	
44	DPF differential pressure sensor hose	Replace																every 2 years	151	*4
45	Boost sensor hose	Replace																every 2 years	151	*4
46	Parking brake cable	Replace																every 2 years	151	*4
47	Lift cylinder hose	Replace																every 2 years	151	*4
48	Brake hose	Replace																every 2 years	151	*4
49	Clutch hose	Replace																every 2 years	151	*4
50	Differential lock hose	Replace																every 2 years	151	*4
51	Master cylinder kit	Replace																every 2 years	151	*4
52	Equalizer kit	Replace																every 2 years	151	*4
53	Brake seal 1 and 2	Replace																every 2 years	151	*4
54	Front suspension hose [Front suspension type]	Replace																every 2 years	151	*4
55	Fuel system	Bleed																Service as required	151	
56	Brake system	Bleed																Service as required	152	*4
57	Clutch housing water	Drain																Service as required	152	
58	Fuse	Replace																Service as required	153	
59	Light bulb	Replace																Service as required	156	

No.	Items		Indication on hour meter													Interval	Ref. page		
			50	100	150	200	250	300	350	400	450	500	550	600	650				700
1	Air conditioner drive belt [M100GX-II, M110GX-II]	Adjust		○		○		○		○		○		○		○	every 100 Hr	135	
2	Inner air filter	Clean				○				○						○	every 200 Hr	139	
3	Fresh air filter	Clean				○				○						○	every 200 Hr	139	
4	Air conditioner pipes and hoses	Check															every 1 year	148	
		Replace															every 2 years	151	*4
5	CAB isolation cushion	Check															every 1 year	149	
6	Washer liquid	Add															Service as required	157	
7	Refrigerant (gas)	Check															Service as required	157	

**IMPORTANT :**

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

## LUBRICANTS, FUEL AND COOLANT

No.	Locations	Capacities		Lubricants	
		M100GX-II M110GX-II	M128GX-II M135GX-II		
1	Fuel	190 L		No.2-D S15 diesel fuel No.1-D S15 diesel fuel if temperature is below -10°C	
2	Coolant	10.1 L (Recovery tank: 1.1 L )	14.6 L (Recovery tank: 1.5 L )	Fresh clean soft water with anti-freeze	
3	Washer liquid	2 L		Automobile washer liquid	
4	Engine crankcase (with filter)	10.5 L	14.6 L	● Engine oil: API Service Classification	CJ-4 [DPF type engine]
				Above 25 °C	SAE30, SAE10W-30 or 15W-40
				-10 to 25 °C	SAE20, SAE10W-30 or 15W-40
				Below -10 °C	SAE10W-30
5	Transmission case	65 L		● KUBOTA UDT or SUPER UDT fluid*	
6	Front differential case oil	7 L	13 L	● KUBOTA UDT or SUPER UDT fluid* or SAE 80 - SAE 90 gear oil	
7	Front axle gear case oil	3.5 L	4.5 L		
8	Greasing	No. of greasing points		Capacity	Type of grease
	Top link	2		Until grease overflows.	Multipurpose Grease NLGI-2 OR NLGI-1(GC-LB)
	Lift rod	2			
	Front axle gear case support	2			
	Front axle support	2			
	Hydraulic lift cylinder pin	4			
	Hydraulic arm axle	1			
	Battery terminal	2		A small amount	

### [Front suspension type]

No.	Locations	No. of greasing points	Capacity	Type of grease
8	Suspension cylinder	2	Until grease overflows.	Multipurpose Grease NLGI-2 OR NLGI-1(GC-LB)
	Suspension arm	2		
	Universal joint	4		

### NOTE :

The product name of KUBOTA genuine UDT fluid may be different from that in the Operator's Manual depending on countries or territories. Consult your local KUBOTA Dealer for further details.

**NOTE :****◆ Engine Oil:**

- Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown above:
- Refer to the following table for the suitable API classification engine oil according to the engine type (with DPF (Diesel Particulate Filter) type engines) and the fuel.

Fuel used	Engine oil classification (API classification)
	Oil class for engines with DPF
Ultra Low Sulfur Fuel [<0.0015% (15 ppm)]	<b>CJ-4</b>

**◆ Fuel:**

- Use the ultra low sulfur diesel fuel only [below 0.0015% (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:**

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

Do not mix different brands together.

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



# PERIODIC SERVICE



## WARNING

To avoid personal injury or death:

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

## HOW TO OPEN THE HOOD



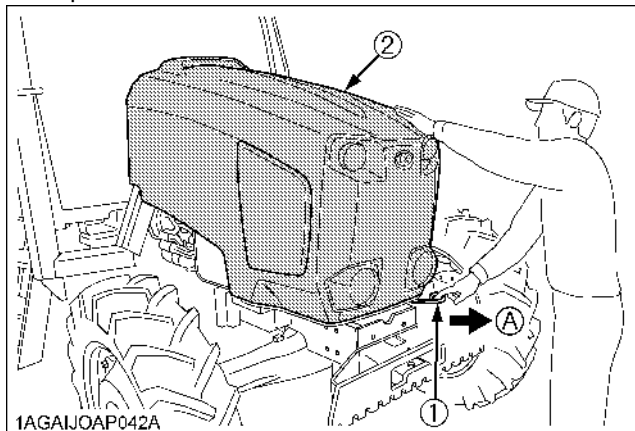
## WARNING

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

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

### ■ Hood

To open the hood, hold the hood and pull the release lever and open the hood.

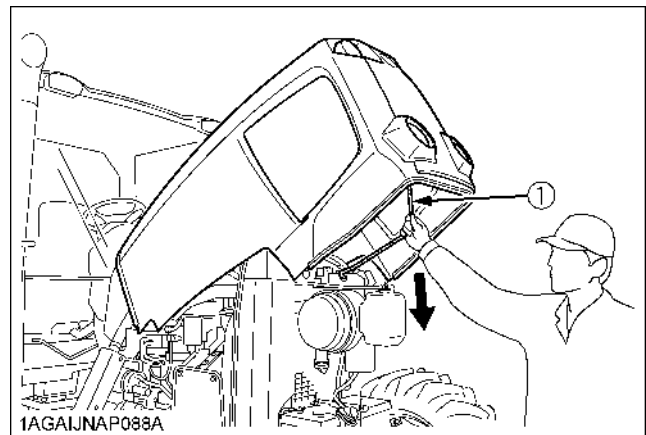


(1) Release lever  
(2) Hood

(A) "PULL"

### NOTE :

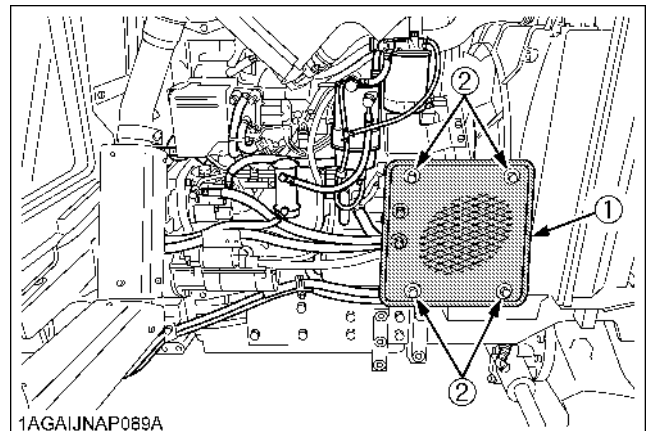
- To close the hood, pull down on the strap and push the hood into position using both hands.



(1) Strap

### ■ Side Cover

Remove the bolts as shown below.



(1) Side cover  
(2) Bolt

## 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.
- All residual pressure of the hydraulic system released.
- Stop the engine and remove the key.

- Lower the front suspension to the lowest position. [Front suspension type]

### ■ Walk Around Inspection

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

### ■ Checking and Refueling

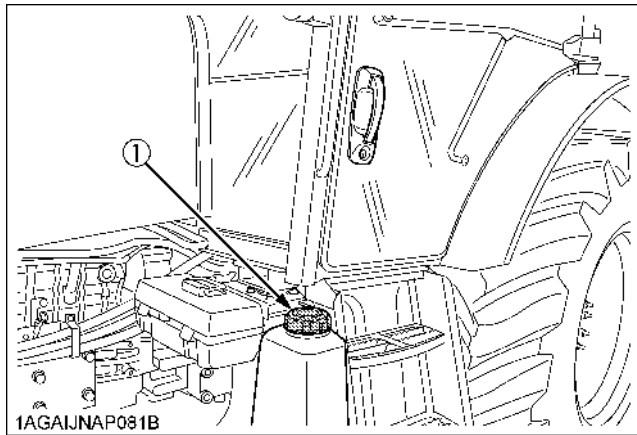


## WARNING

To avoid personal injury or death:

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

1. Check the amount of fuel by fuel gauge.
2. When the fuel warning indicator lights up, it is time to add fuel.



(1) Fuel tank cap

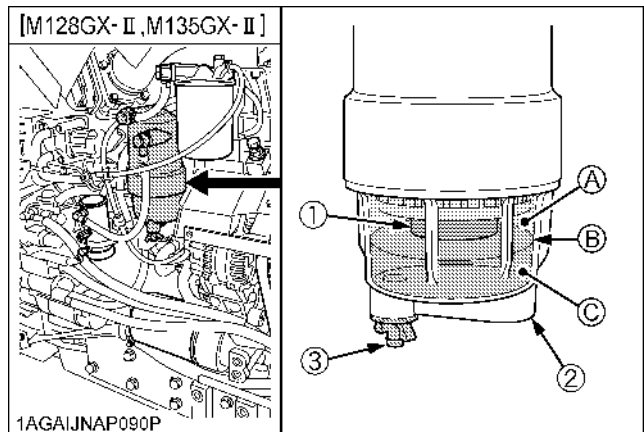
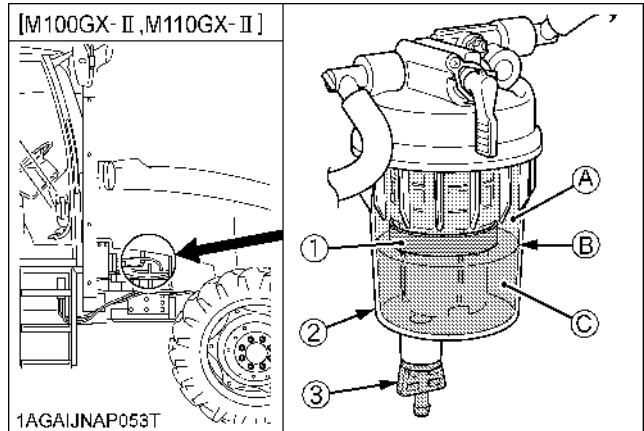
Fuel tank capacity	190 L
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### IMPORTANT :

- Be sure to 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 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 should occur, wipe it off at once, or it may cause a fire.
- To prevent condensation (water) accumulation in the fuel tank, fill the tank before parking overnight.

### ■ Checking Water Separator

1. As water is collected in the water separator, the red float is raised.
2. When the red float has reached the upper limit, loosen the drain plug by several turns. Allow water to drain. When no more water comes out and fuel starts to flow out, retighten the drain plug.
3. Bleed the fuel system. (See "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)



- (1) Red float  
(2) Cup  
(3) Drain plug

- (A) "FUEL"  
(B) "UPPER LIMIT"  
(C) "WATER"

### IMPORTANT :

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

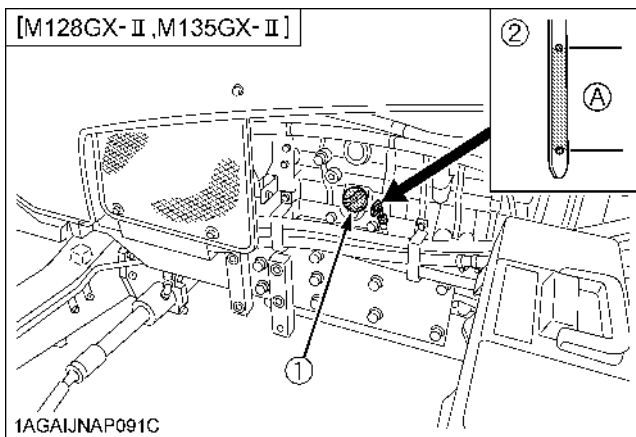
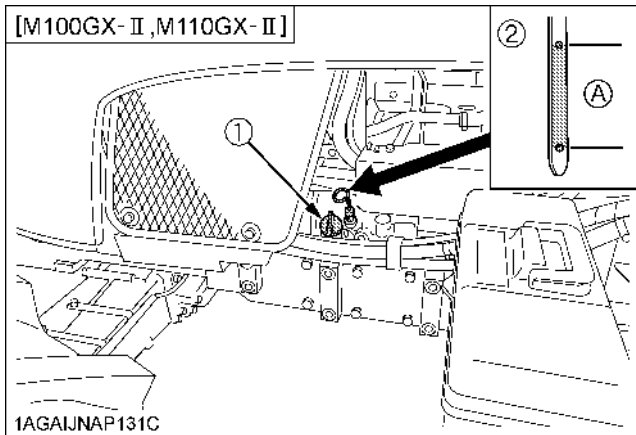
## ■ Checking Engine Oil Level

### WARNING

To avoid personal injury or death:

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

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



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

#### IMPORTANT :

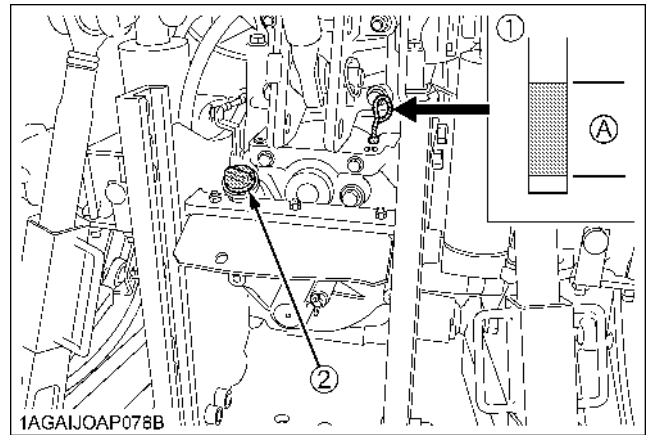
- When using an oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
- If oil level is low, do not run engine.

#### NOTE :

- At times a small amount of fuel, which is used to regenerate the DPF, may get mixed with the engine oil and the engine oil may increase in volume.

## ■ Checking Transmission Fluid Level

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



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

#### IMPORTANT :

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

## ■ Checking Coolant Level

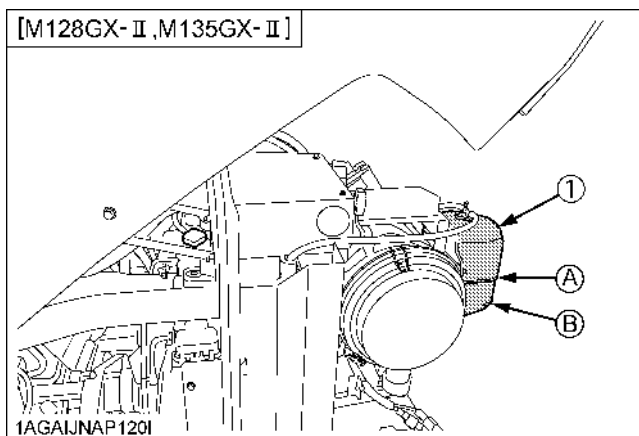
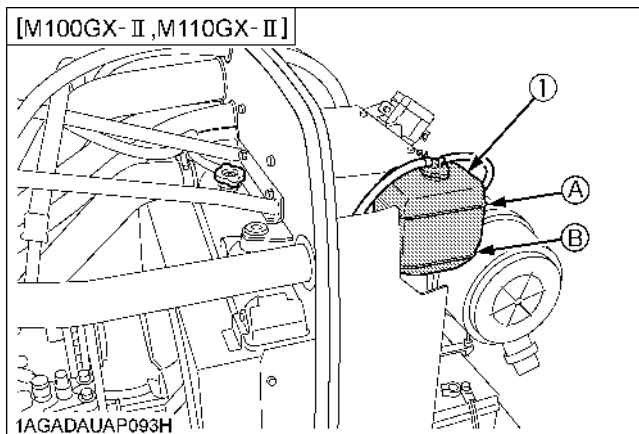
### WARNING

To avoid personal injury or death:

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

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

- When the coolant level is lower than "LOW" mark of recovery tank, remove the radiator cap and check to see that the coolant level is just below the port. If level is low, add coolant.



(1) Recovery tank

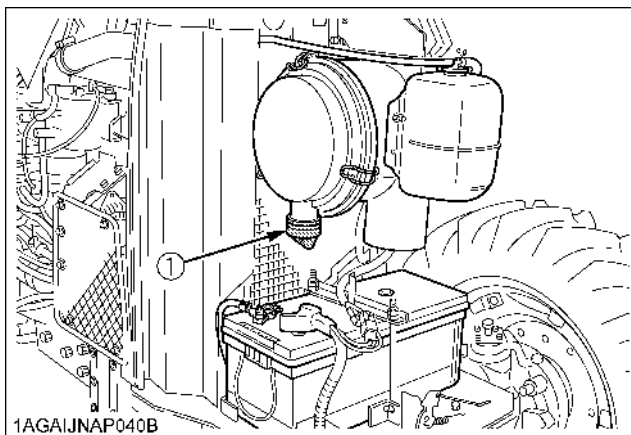
(A) "FULL"  
(B) "LOW"

**IMPORTANT :**

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

**■ Cleaning Evacuator Valve**

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



(1) Evacuator valve

**■ Cleaning Grill, Radiator and Screen**

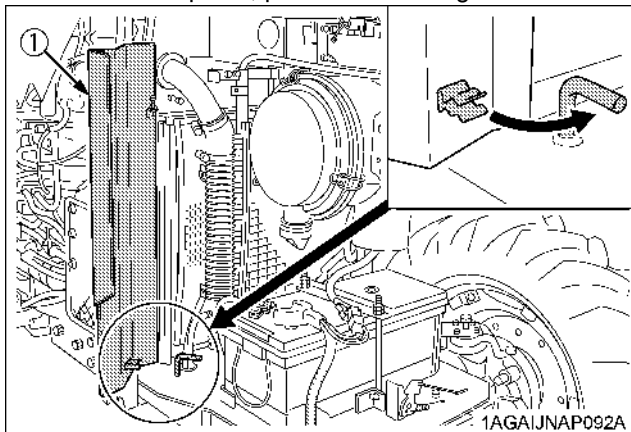
**! WARNING**

To avoid personal injury or death:

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

**◆ Opening the panel (RH)**

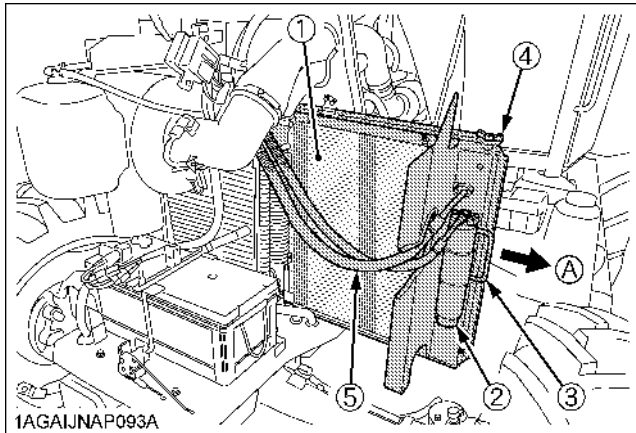
- To open the panel, pull its front outward.
- To close the panel, push it inward to get locked.



(1) Panel (RH)

◆ **Sliding the air conditioner condenser**

1. Loosen the wing nut.
2. Hold the handle, slide the air conditioner condenser assembly toward yourself.



- (1) Condenser  
 (2) Receiver  
 (3) Handle  
 (4) Wing nut  
 (5) Air conditioner hose

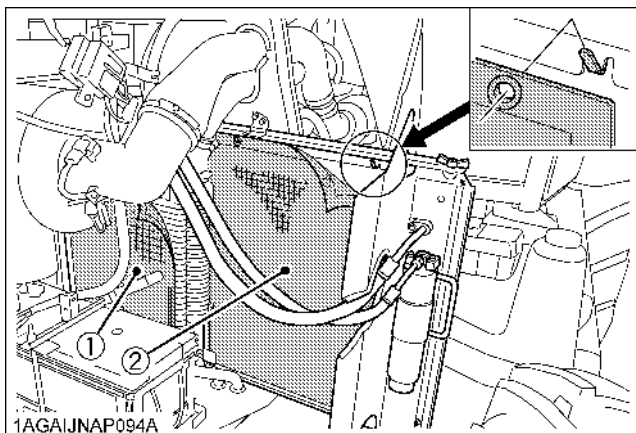
(A) "PULL"

**IMPORTANT :**

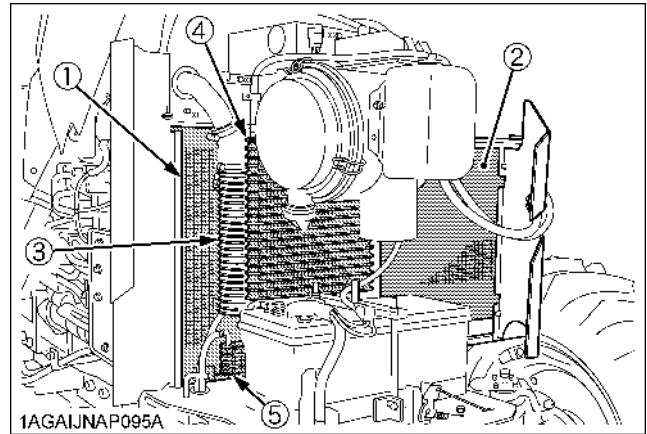
- Do not hold the air conditioner receiver or the air conditioner pipes when sliding out the condenser for cleaning.

◆ **Cleaning**

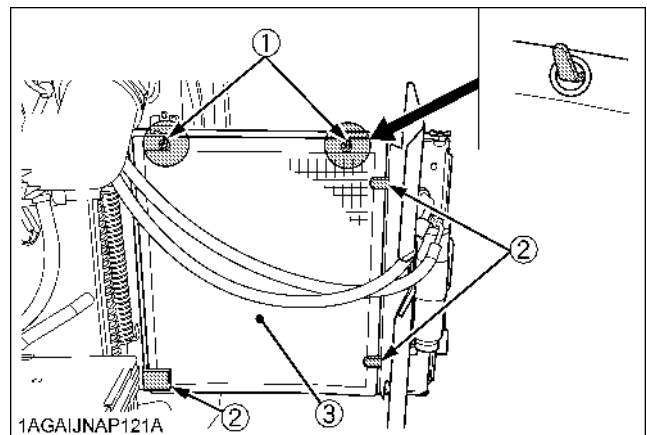
1. Check front grill to be sure it is clean from debris.
2. Detach the screen and remove all foreign materials.
3. Check radiator, air conditioner condenser, intercooler, oil cooler and fuel cooler to be sure they are clean from debris.



- (1) Screen  
 (2) Screen



- (1) Radiator  
 (2) Air conditioner condenser  
 (3) Intercooler  
 (4) Oil cooler  
 (5) Fuel cooler



- (1) Hook  
 (2) Screen clumper  
 (3) Screen

**IMPORTANT :**

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

## ■ Checking DPF Muffler

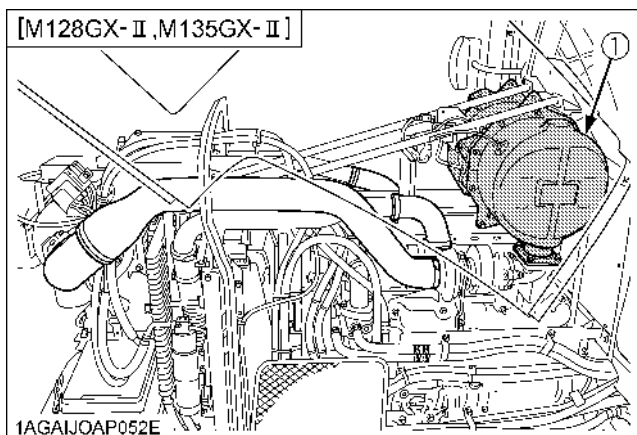
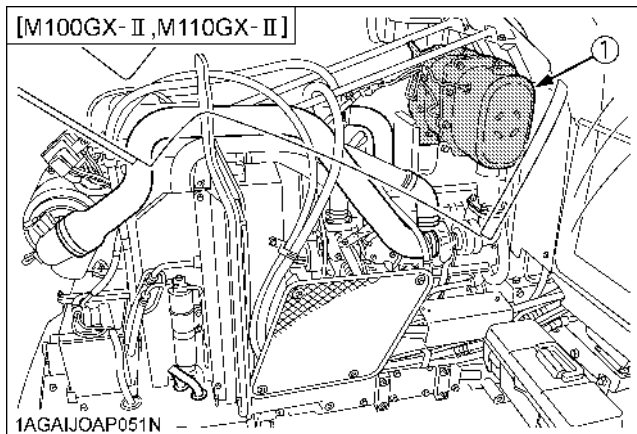


### WARNING

To avoid personal injury or death:

- Before checking or cleaning the DPF muffler, stop the engine and wait long enough until it is cooled down.

Check the DPF muffler and its surroundings for build-up of anything flammable. Otherwise a fire may result.



(1) DPF muffler

## ■ Checking Brake Pedal



### WARNING

To avoid personal injury or death:

- Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.

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

## ■ Checking Gauges, Meter and Easy Checker(TM)

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

## ■ Checking Head Light, Turn Signal / Hazard Light etc.

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

## ■ Checking Seat Belt

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

## ■ Checking Movable Parts

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

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

Otherwise, the machine may get damaged.

## EVERY 50 HOURS

### ■ 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.

#### ◆ Preparation before testing.

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

#### ◆ Test: Switch for the Power shift / Range shift lever.

1. Follow the instruction of "PARKING THE TRACTOR". (See "PARKING THE TRACTOR" in "SAFE OPERATION" section.)
2. Sit on the operator's seat.
3. Shift the Power shift / Range shift lever to the desired position.
4. Depress the clutch pedal fully.
5. Disengage the PTO clutch control switch or lever.
6. Turn the key to "START" position.
7. The engine must not crank.
8. If it cranks, consult your local KUBOTA Dealer for this service.

#### ◆ Test: Switch for the PTO clutch control switch or lever.

1. Follow the instruction of "PARKING THE TRACTOR". (See "PARKING THE TRACTOR" in "SAFE OPERATION" section.)
2. Sit on the operator's seat.
3. Engage the PTO clutch control switch or lever.
4. Depress the clutch pedal fully.
5. Shift the Power shift / Range shift lever to the neutral position.
6. Turn the key to "START" position.
7. The engine must not crank.
8. If it cranks, consult your local KUBOTA Dealer for this service.

#### ◆ Test: Checking Operator Presence Control (O.P.C.) System.

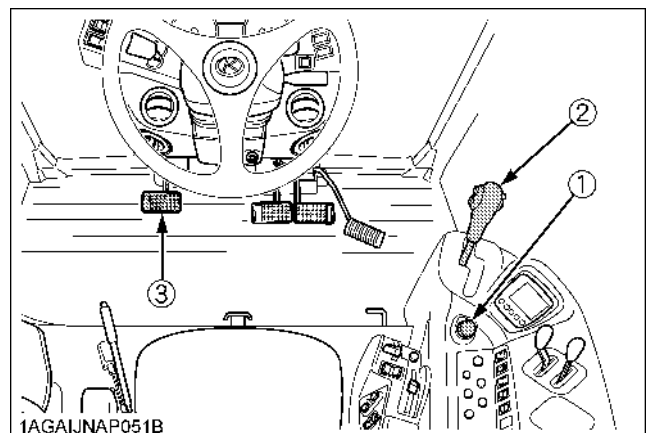
1. Follow the instruction of "PARKING THE TRACTOR". (See "PARKING THE TRACTOR" in "SAFE OPERATION" section.)
2. Make sure the PTO drive shaft is disconnected from the tractor.
3. Sit on the operator's seat.
4. Start the engine.
5. Engage the PTO clutch control switch or lever. The PTO should begin to rotate. Disengage the PTO clutch control switch or lever.
6. While lifting yourself from the seat, engage the PTO clutch control switch or lever.
  - (1) The PTO should begin to rotate and a buzzer should sound.
  - (2) Disengage the PTO clutch control switch or lever.
  - (3) If the buzzer does not sound, shut off the engine and consult your local KUBOTA Dealer for immediate servicing of the PTO OPC.
7. If the PTO OPC is operating properly, shut off the engine, and reconnect the implement drive shaft to the PTO. Restart the engine per the available instructions.



#### WARNING

To avoid personal injury or death:

- Before checking the PTO OPC, make sure that the PTO drive shaft should be disconnected from the tractor.
- If the buzzer does not sound during the PTO OPC check procedure, shut off engine and consult your local KUBOTA Dealer for immediate servicing of the PTO OPC.
- The unit should not be operated until servicing is completed.



- (1) PTO clutch control switch
- (2) Power shift / Range shift lever
- (3) Clutch pedal

### ■ Checking Wheel Bolt Torque

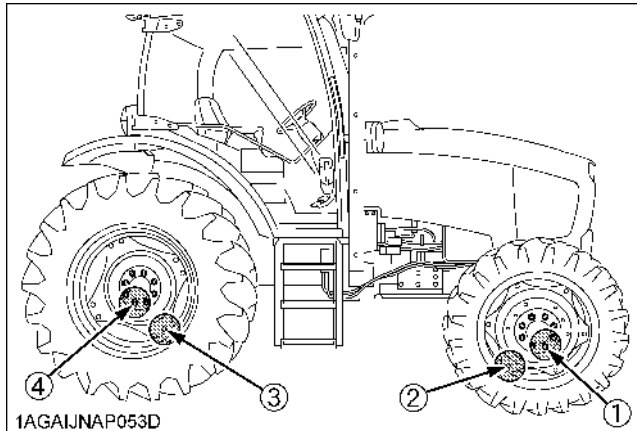


#### WARNING

To avoid personal injury or death:

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

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

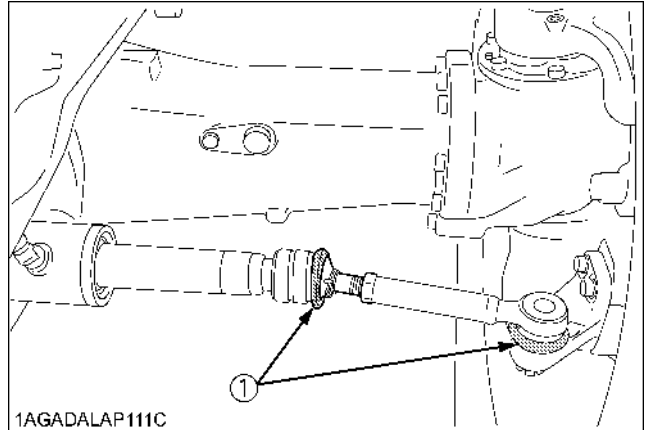


N-m (kgf-m)

(1)	(2) (3)	(4)
166.7 to 196.1 (17.0 to 20.0)	260 to 304 (26.5 to 31.0)	343 to 402 (35.0 to 41.0)

### ■ Checking Tie-rod Dust Cover

1. Check to see that dust covers are not damaged.
2. If dust covers are damaged, consult local KUBOTA Dealer for this service.



(1) Dust cover

#### IMPORTANT :

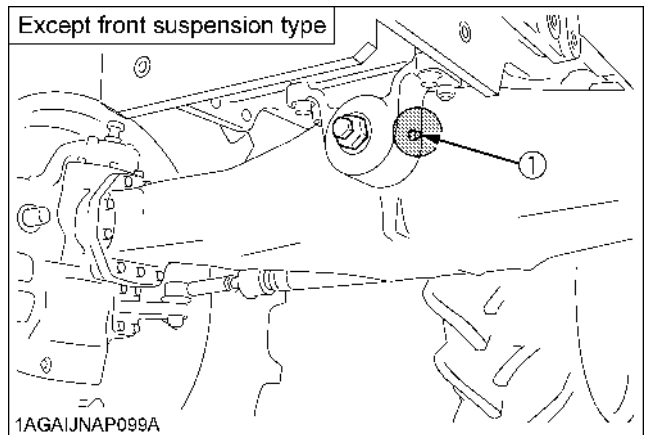
- If dust covers are cracked, water and dust invade into tie-rod and it will be early wear.

## EVERY 100 HOURS

### ■ Lubricating Grease Fittings

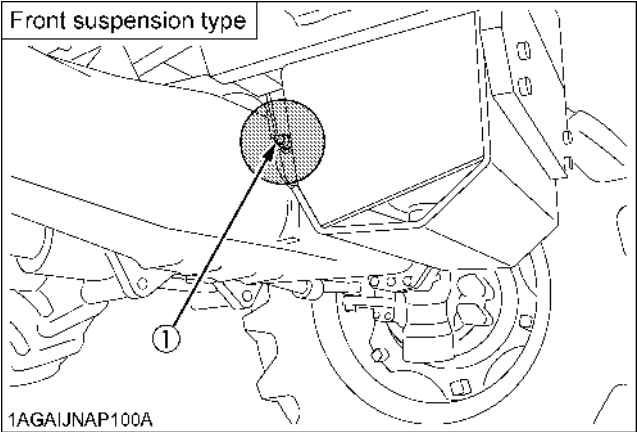
Apply a small amount of multipurpose grease to the following points every 100 hours:

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

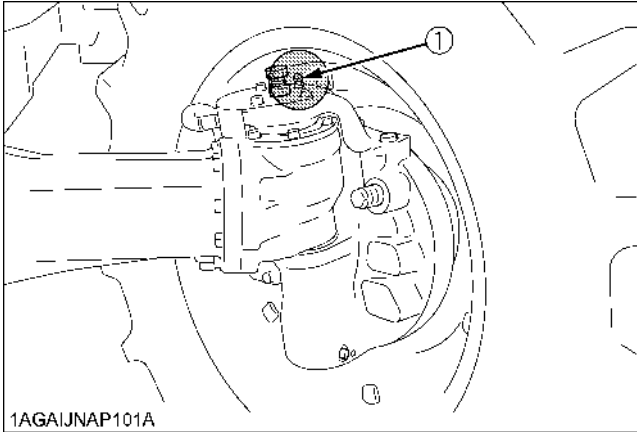


(1) Grease fitting (Front axle support)

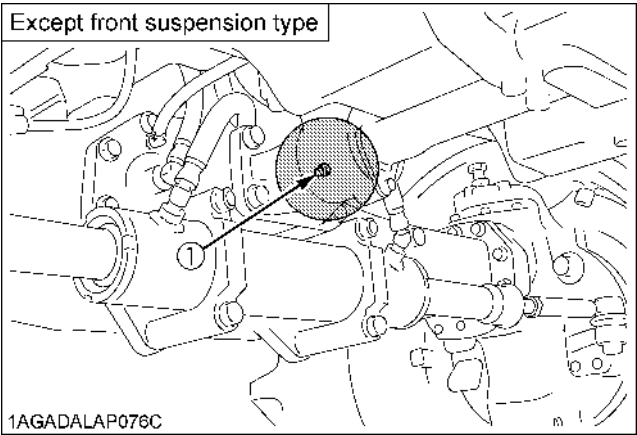




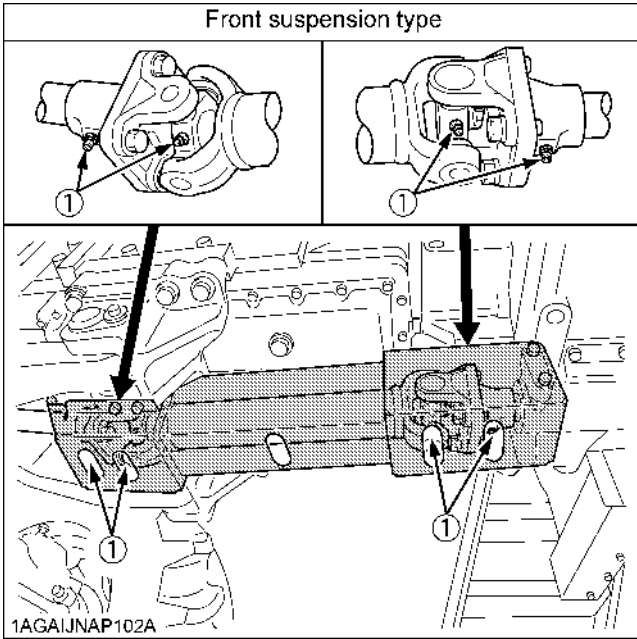
(1) Grease fitting (Front axle support)



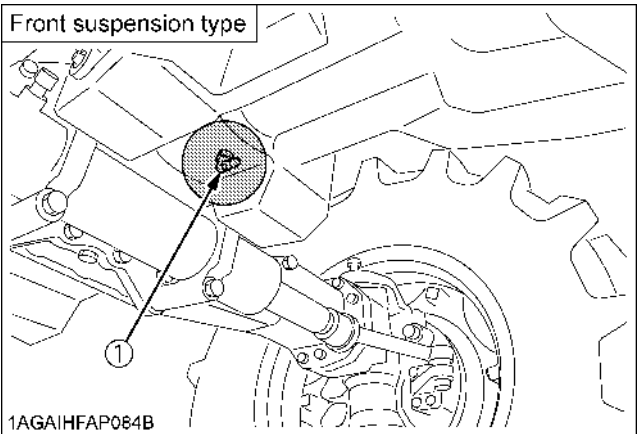
(1) Grease fitting (Front axle gear case support) [RH, LH]



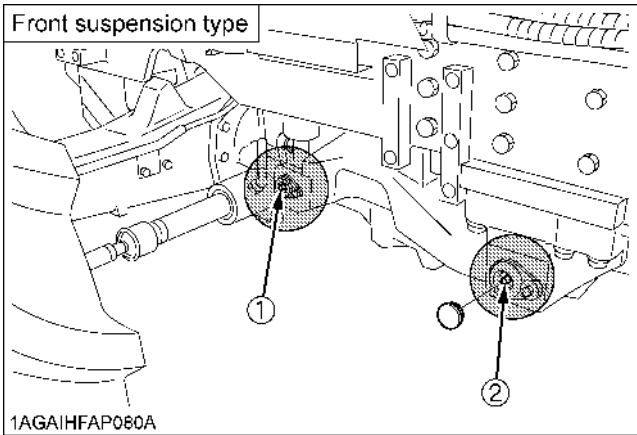
(1) Grease fitting (Front axle support)



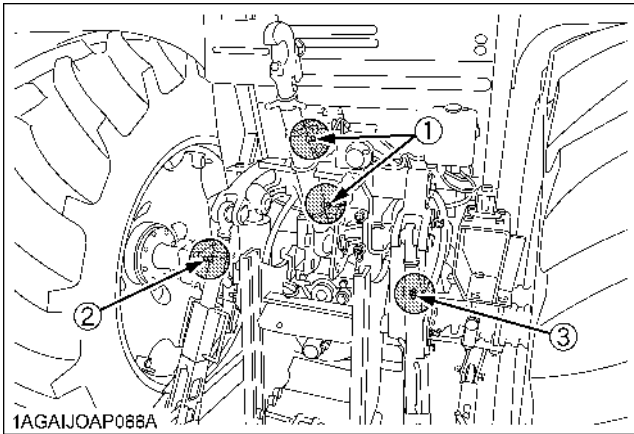
(1) Grease fitting (Universal joint)



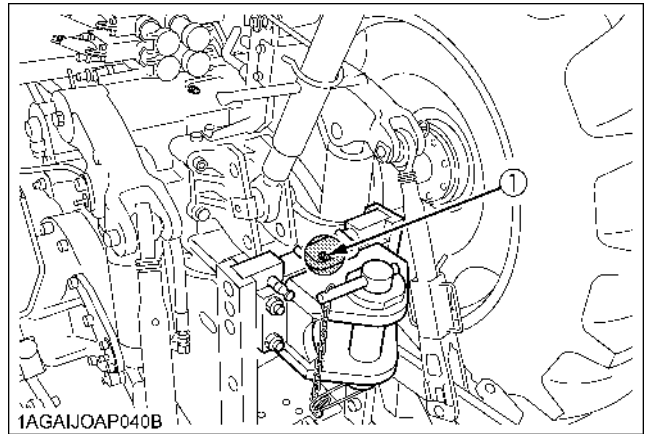
(1) Grease fitting (Front axle support)



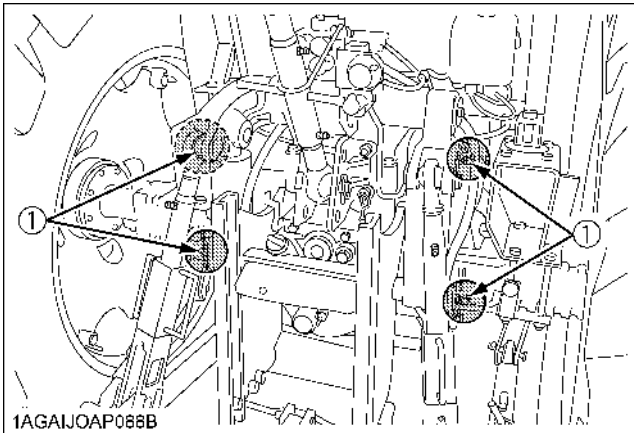
(1) Grease fitting (Suspension cylinder) [RH, LH]  
(2) Grease fitting (Suspension arm) [RH, LH]



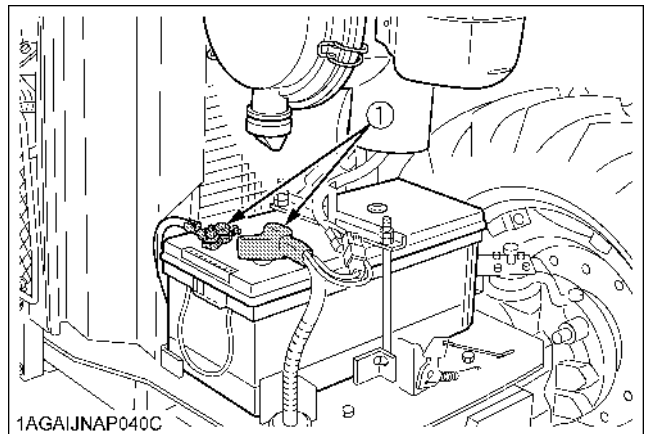
- (1) Grease fitting (Top link)
- (2) Grease fitting (Lifting rod) [LH]
- (3) Grease fitting (Lifting rod) [RH]



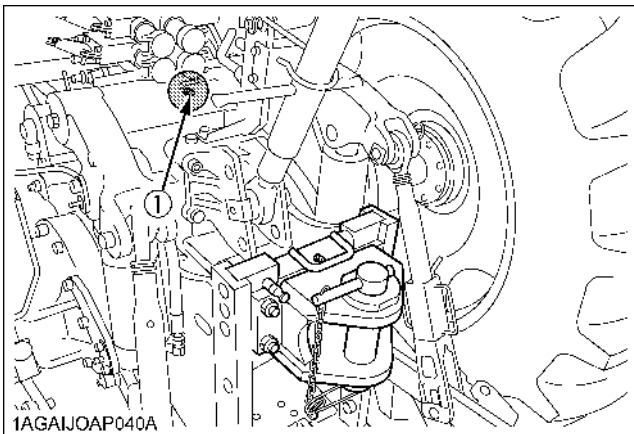
- (1) Grease fitting (High-hitch)



- (1) Grease fitting (Hydraulic lift cylinders pin)



- (1) Battery terminals



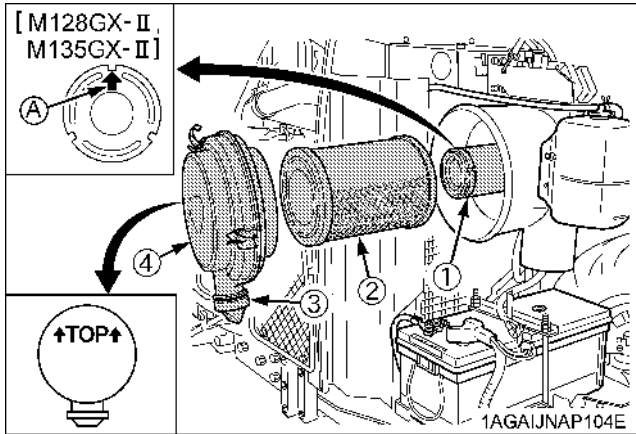
- (1) Grease fitting (Hydraulic arm axle)

### ■ Cleaning Air Cleaner Primary Element

1. Remove the air cleaner cover and primary element.
2. Clean the primary element:
  - (1) When dry dust adheres to the element, blow compressed air from the inside, turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm<sup>2</sup>, 30 psi).
  - (2) When carbon or oil adheres to the element, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.
3. Replace air cleaner primary element:  
Once yearly or after every sixth cleaning, whichever comes first.

#### NOTE :

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



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

**IMPORTANT :**

- The air cleaner uses a dry element, never apply oil.
- Do not run the engine with filter element removed.
- Be sure to refit the cover with the arrow ↑ (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element.
- Do not touch the secondary element except in cases where replacing is required.  
(See "Replacing Air Cleaner Secondary Element" in "EVERY 1 YEAR" in "PERIODIC SERVICE" section.)

● **[M128GX-II, M135GX-II]**

Be sure to refit the secondary element with the arrow ↑ upright.

◆ **Evacuator Valve**

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

**■ Adjusting Fan Belt Tension**

**[M100GX-II, M110GX-II]**



**WARNING**

To avoid personal injury or death:

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

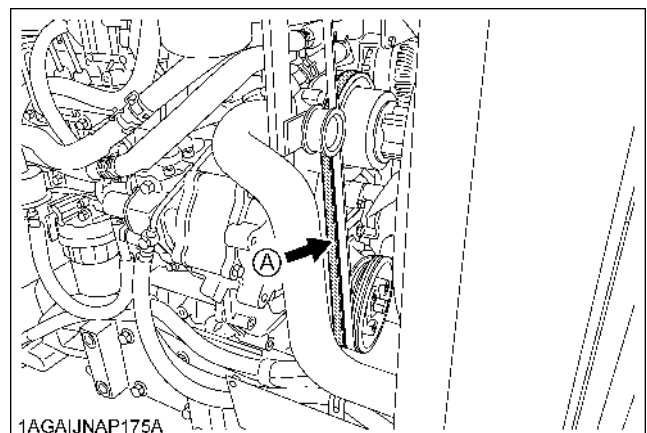
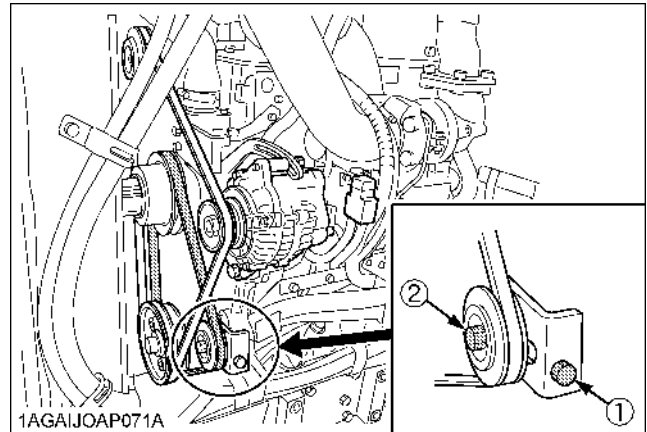
Proper fan belt tension	A deflection of between 10 to 12 mm when the belt is pressed in the middle of the span.
-------------------------	---

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

3. If tension is incorrect, loosen the tension pulley mounting nut and turn the adjusting bolt to adjust the belt tension within acceptable limits.
4. Replace fan belt if it is damaged.

**IMPORTANT :**

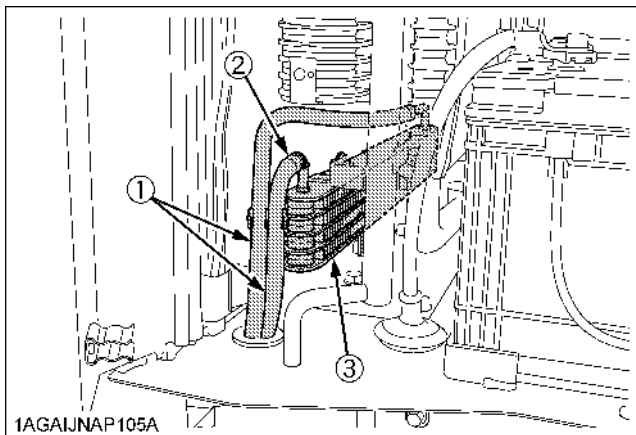
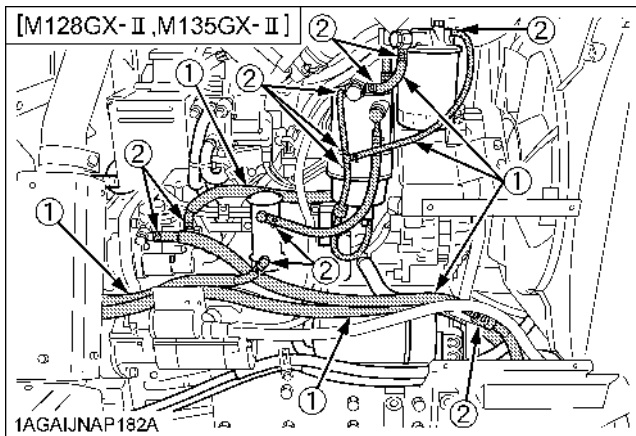
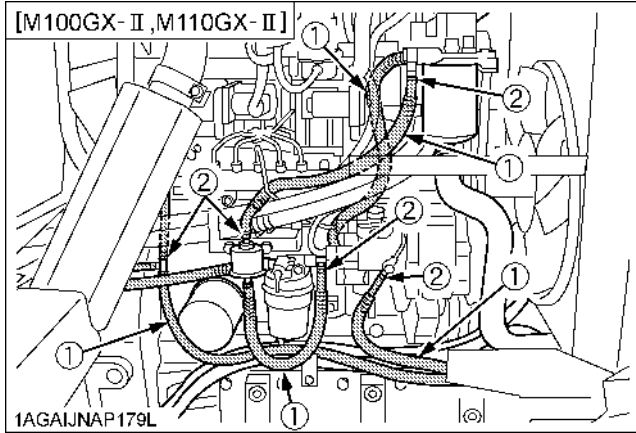
- Make sure that the V-belt tension is as specified as shown in the table above after tightening the tension pulley mounting nut.



- (1) Adjusting bolt      (A) Check the belt tension
- (2) Tension pulley mounting nut

**■ Checking Fuel Line**

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



- (1) Fuel lines
- (2) Clamp bands
- (3) Fuel cooler

**NOTE :**

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

**■ Adjusting Brake Pedal**



**WARNING**

To avoid personal injury or death:

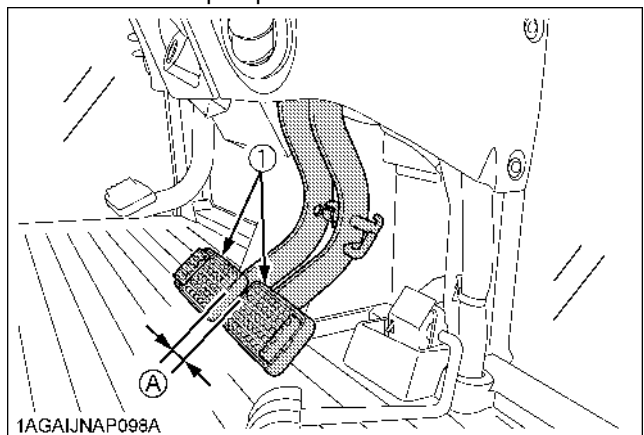
- Stop the engine and chock the wheels before checking brake pedal.
- To prevent uneven braking, the specification must be within the recommended limit. If found out of the specifications, contact your local KUBOTA Dealer for adjusting the brakes.

◆ Checking the brake pedal free travel

Proper brake pedal free travel	Right brake pedal	3 to 7 mm on the pedal
	Left brake pedal	Right brake free travel (actual value) + 9 to 11 mm on the pedal.

Step on the right brake, and the trailer hydraulic brake allows some pilot oil to flow. This means that the free travel is different between the left and right brakes.

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



- (1) Brake pedals
- (A) "FREE TRAVEL"

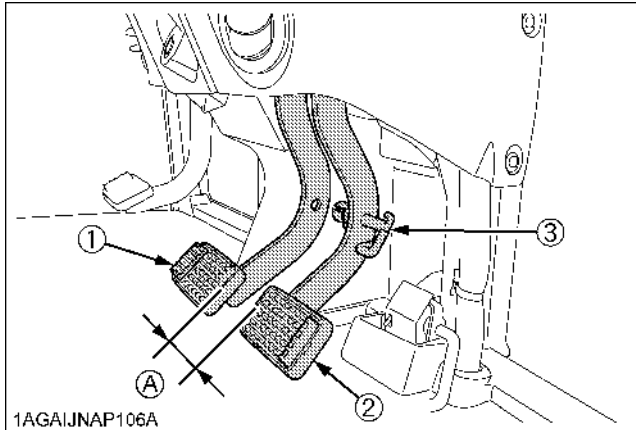
**NOTE :**

- Brake pedals should be equal when depressed.

◆ **Checking the brake pedal stroke**

Pedal stroke	Less than 100 mm at each pedal
--------------	--------------------------------

1. Disengage the brake pedal lock.
2. Depress the brake pedal several times.
3. Step on the right-hand pedal and measure the level difference (pedal stroke) between this pedal and the left-hand pedal.
4. Do the same for the left-hand pedal.



- (1) Brake pedal (LH)                      (A) "PEDAL STROKE"  
 (2) Brake pedal (RH)  
 (3) Brake pedal lock

◆ **Checking the equalizer working level (anti-imbalance device)**

1. Gently step on both brake pedals at once.
2. Further step on the right-hand pedal (the left-hand pedal slightly raises itself) and measure the level difference between the pedals.
3. Do the same for the left-hand pedal.

Equalizer working level	Level difference of over 10 mm between both pedals
-------------------------	--

■ **Adjusting Parking Brake Lever**



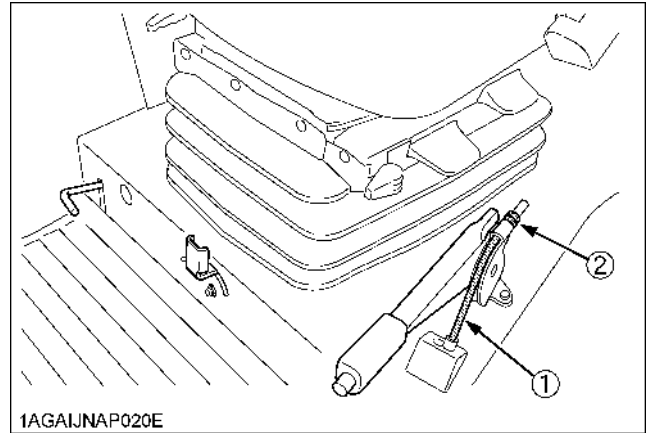
**WARNING**

- To avoid personal injury or death:
- Stop the engine and chock the wheels before checking parking brake.

Proper parking brake lever free travel	2 notches (Ratchet sound 2)
--	-----------------------------

1. Raise the parking brake lever to the parking position while counting the ratchet sound made by the parking brake lever.
2. If adjustment is needed, loosen the lock nut and adjust the parking brake cable length within acceptable limit.

3. Retighten the lock nut.



- (1) Parking brake cable  
 (2) Lock nut

■ **Checking Battery Condition**



**DANGER**

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

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



**WARNING**

To avoid personal injury or death:

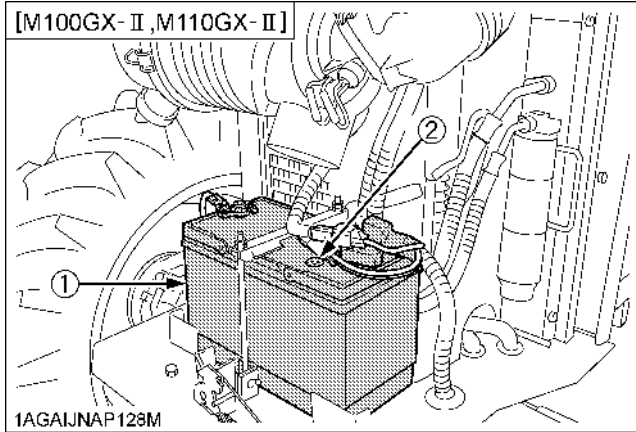
- Never remove the battery cap while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are splattered with it, wash it away completely with water immediately and get medical attention.
- Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed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

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

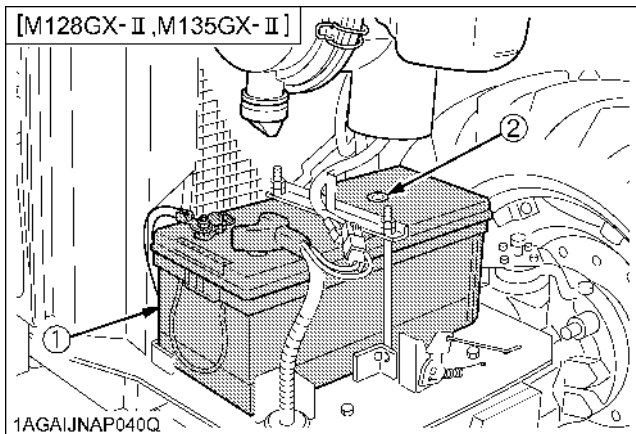
Mishandling the battery shortens the service life and adds to maintenance costs.

The original battery is maintenance free, but needs some servicing.

If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.



(1) Battery  
(2) Indicator



(1) Battery  
(2) Indicator

◆ **How to read the indicator**

Check the battery condition by reading the indicator.

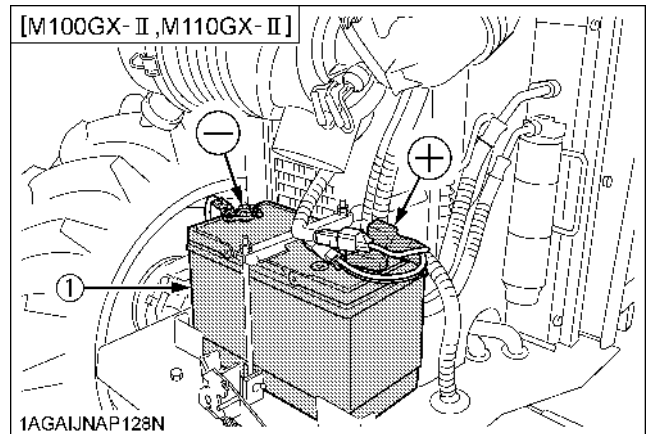
State of indicator display	
Green	Specific gravity of electrolyte and quality of electrolyte are both in good condition.
Black	Needs charging battery.
White	Needs replacing battery.

◆ **Battery Charging**

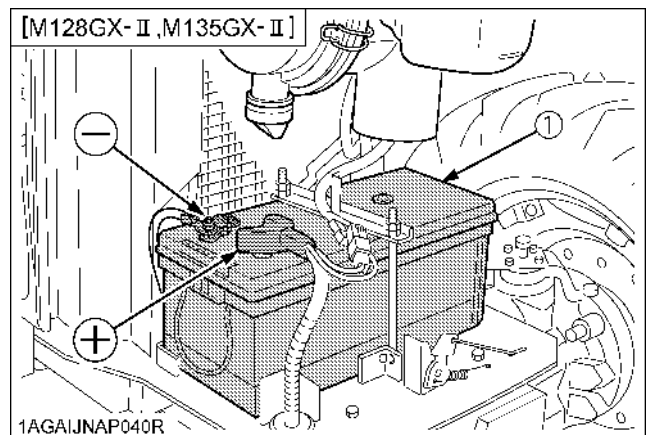
**! WARNING**

To avoid personal injury or death:

- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
- When charging the battery, ensure the vent caps are securely in place. (if equipped)
- When disconnecting the cable from the battery, start with the negative terminal first. When connecting the cable to the battery, start with the positive terminal first.
- Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.



(1) Battery



(1) Battery

1. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.

2. A boost charge is only for emergencies. It will partially charge the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible. Failure to do this will shorten the battery's service life.
3. The battery is charged if the indicator display turns green from black.
4. When exchanging an old battery for a new one, use battery of equal specification shown in **table 1**.

Table 1

Battery Type	Volts (V)	Capacity		
GP31(105E41R)	12	100 (at 20H.R(A.H))		
180G51	12	160 (at 20H.R(A.H))		

Battery Type	Reserve Capacity (min)	Cold Cranking Amps (EN)	Normal Charging Rate (A)
GP31(105E41R)	160	800	11
180G51	300	950	16

◆ **Direction for Storage**

1. When storing the tractor for long periods of time, remove the battery from tractor, adjust the electrolyte to the proper level and store in a dry place out of direct sunlight.
2. The battery self-discharges while it is stored. Recharge it once every 3 months in hot seasons and once every 6 months in cold seasons.

■ **Adjusting Air-Conditioner Belt Tension**  
[M100GX-II, M110GX-II]



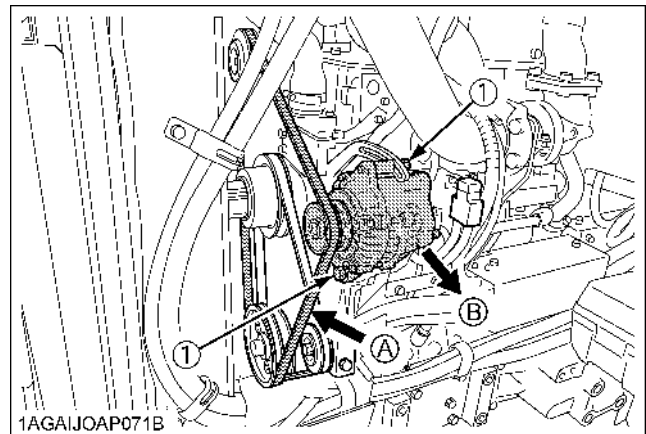
**WARNING**

To avoid personal injury or death:

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

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

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



(1) Bolt

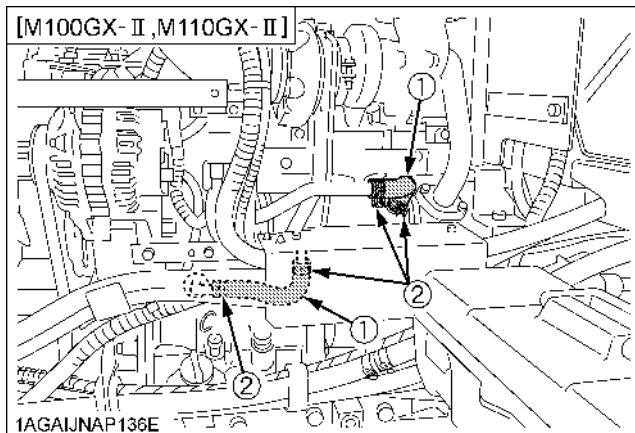
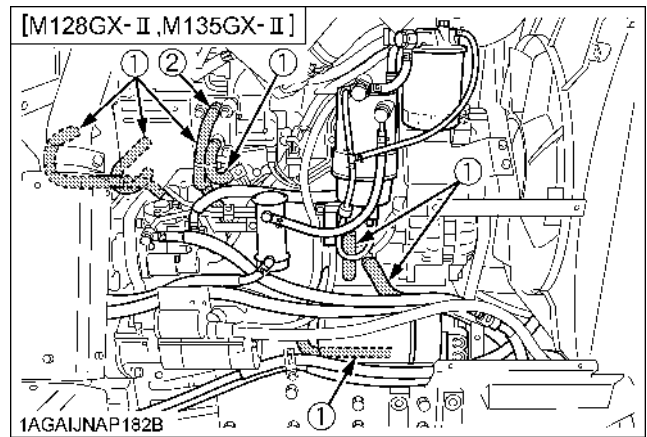
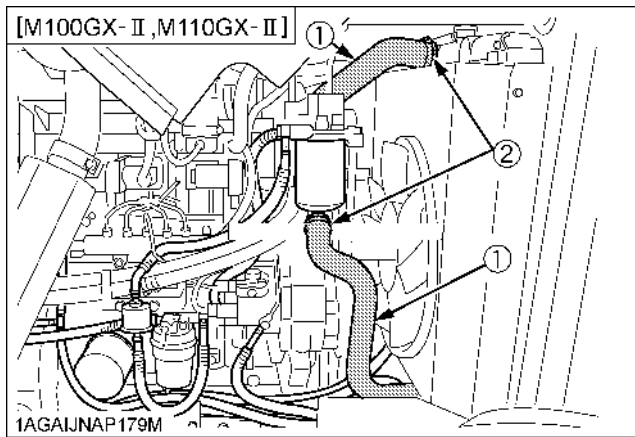
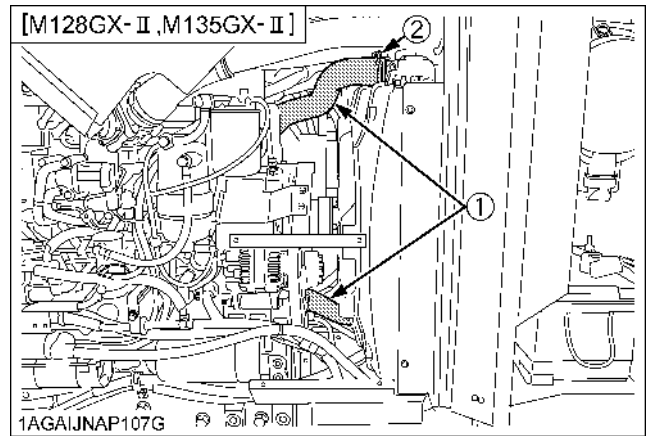
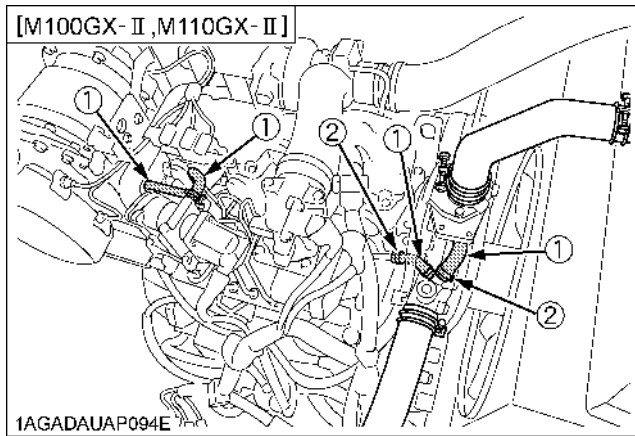
(A) Check the belt tension  
(B) To tighten

**EVERY 200 HOURS**

■ **Checking Radiator Hose and Clamp**

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

1. If hose clamps are loose or water leaks, tighten bands securely.
  2. Replace hoses and tighten hose clamps securely, if radiator hoses are swollen, hardened or cracked.
- Replace hoses and hose clamps every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.



(1) Radiator hoses  
(2) Hose clamps

(1) Radiator hoses  
(2) Hose clamps

◆ **Precaution at Overheating**

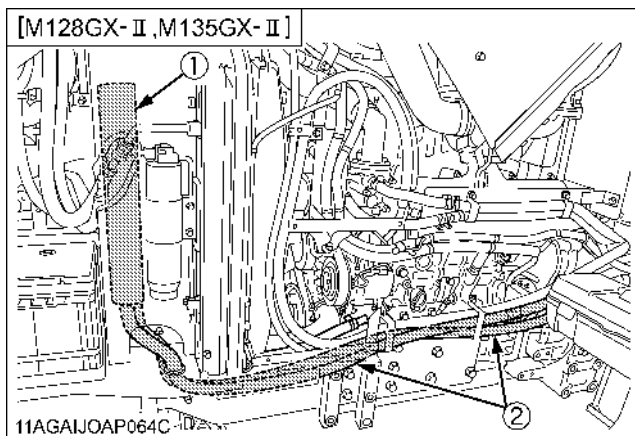
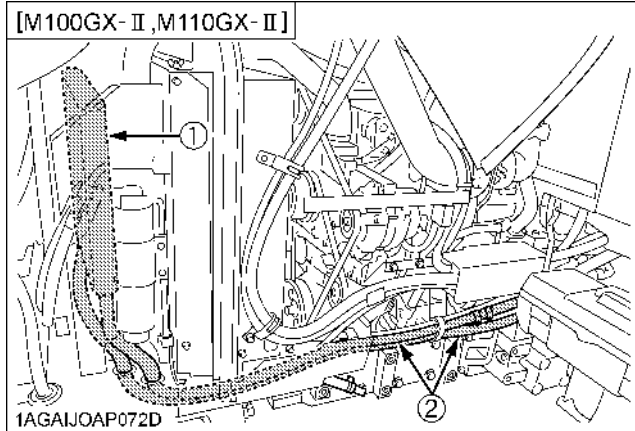
Take the following actions in the event the coolant temperature is nearly or more than the boiling point, what is called "Overheating"

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



### ■Checking Oil Cooler Line

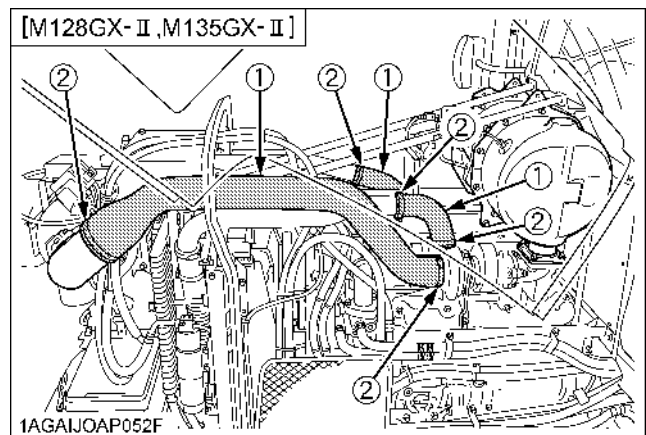
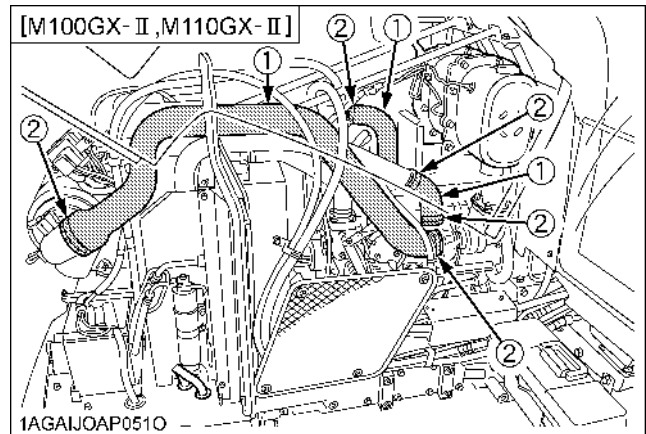
1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.



- (1) Oil cooler  
(2) Oil cooler line

### ■Checking Intake Air Line

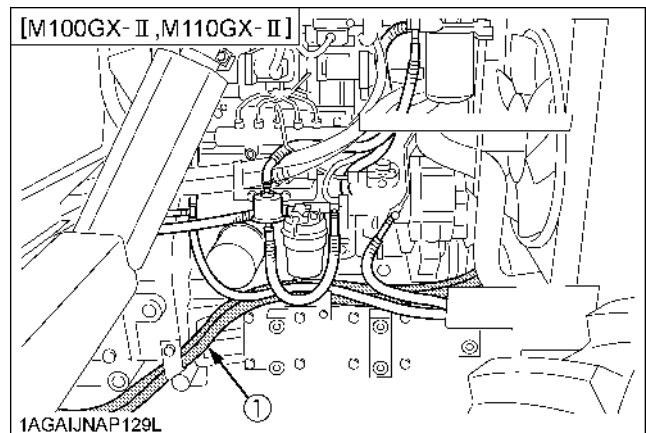
1. Check to see that hoses and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

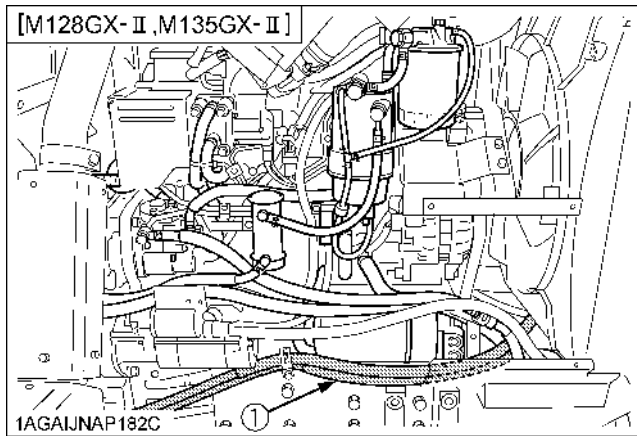


- (1) Hose  
(2) Hose clamps

### ■Checking Power Steering Line

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



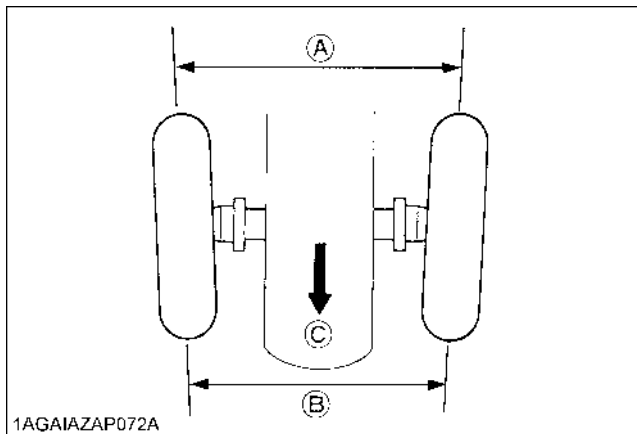


(1) Power steering pressure hoses

### ■ Adjusting Toe-in

Proper toe-in	2 to 8 mm
---------------	-----------

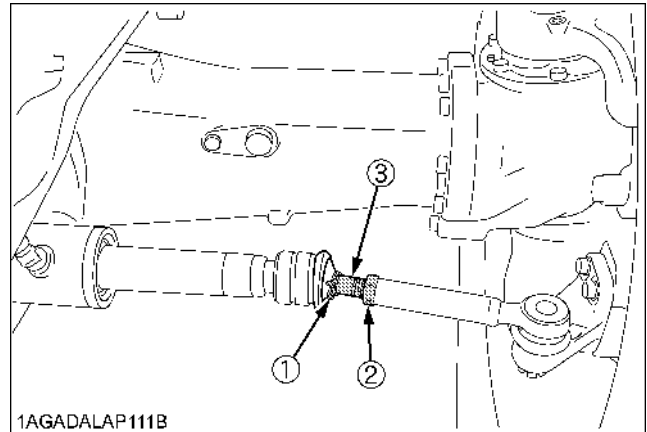
1. Park tractor on a flat place.
2. Turn steering wheel so front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure distance between tire beads at front of tire, at hub height.
5. Measure distance between tire beads at rear of tire,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



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

### ◆ Adjusting procedures

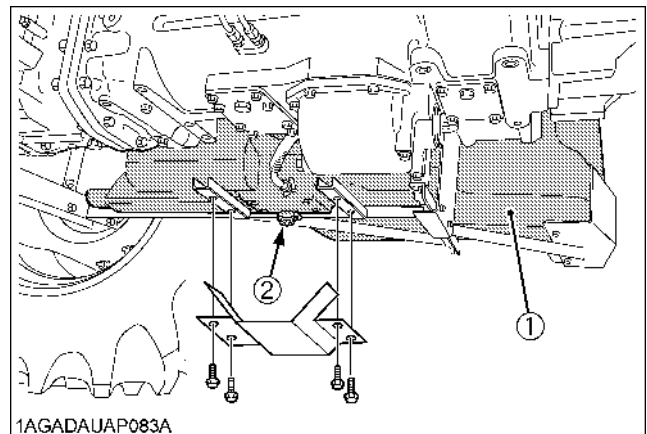
1. Detach the snap ring.
2. Loosen the tie-rod nut.
3. Turn the tie-rod joint to adjust the rod length until the proper toe-in measurement is obtained.
4. Retighten the tie-rod nut.
5. Attach the snap ring of the tie-rod joint.



(1) Snap ring  
 (2) Tie-rod nut  
 (3) Tie-rod joint

### ■ Draining Fuel Tank Water

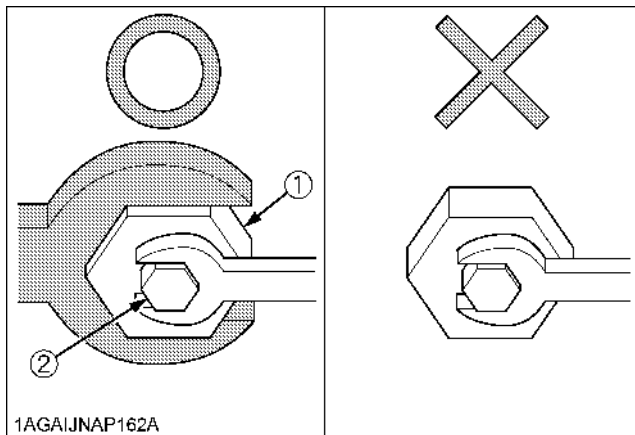
Loosen the drain plug at the bottom of the fuel tank to let sediments, impurities and water out of the tank. Finally tighten up the plug.



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

◆ **Detaching and reattaching the drain plug**

In detaching and reattaching the drain plug, be sure to apply a wrench at the hex part of the flange to keep it in place. And detach or reattach the drain plug (bolt).



(1) Flange (Hex part)  
(2) Drain plug (with seal washer)

	Tightening torque
Drain plug (M10)	22.8 to 26.2 N-m (2.3 to 2.7 kgf-m, 16.8 to 19.3 ft-lbs)
Tank cover lock bolt (M8)	23.5 to 27.5 N-m (2.4 to 2.8 kgf-m, 17.3 to 20.3 ft-lbs)

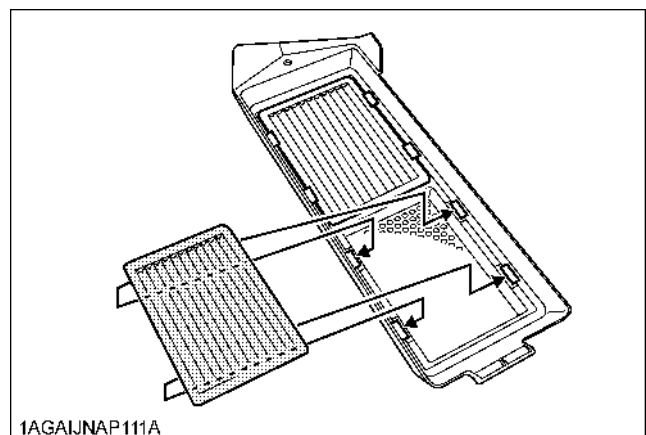
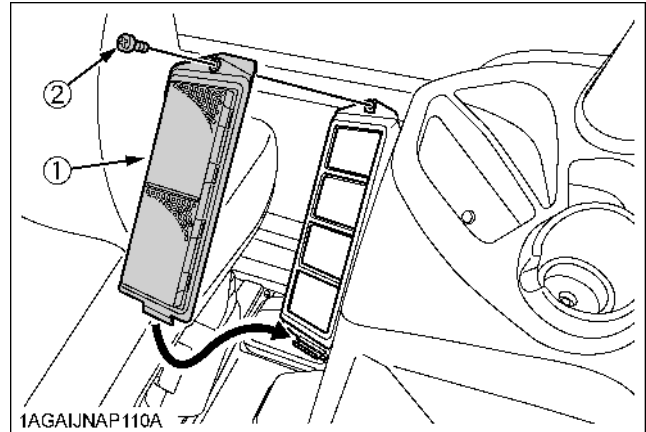
**IMPORTANT :**

- If the fuel contains impurities, such as water, drain the fuel tank at shorter intervals.
- Drain the fuel tank before operating the tractor after a long period of storage.
- The fuel tank is made of plastic. Be careful not to overtighten the bolts.

■ **Cleaning Inner Air Filter**

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/cm<sup>2</sup>, 30 psi).



(1) Inner air filter  
(2) Knob bolts

■ **Cleaning Fresh Air Filter**

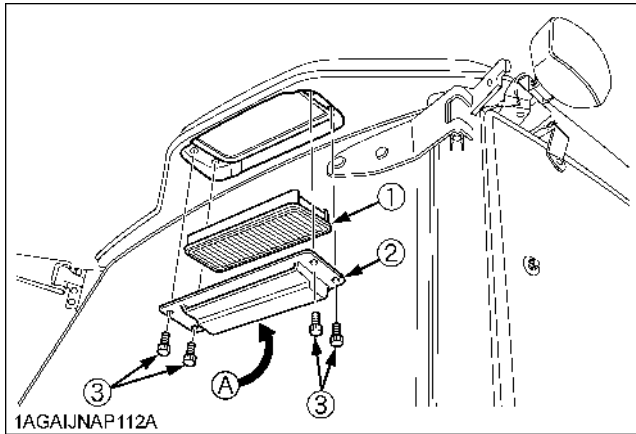


**WARNING**

To avoid personal injury or death:

- When removing and attaching the filter, apply parking brake, stop the engine and remove the key.
- Check the filter using the strong and stable ladder to stand on. Never check it while standing on a tire or fender.

Remove the knob bolts and pull out filter.



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

**NOTE :**

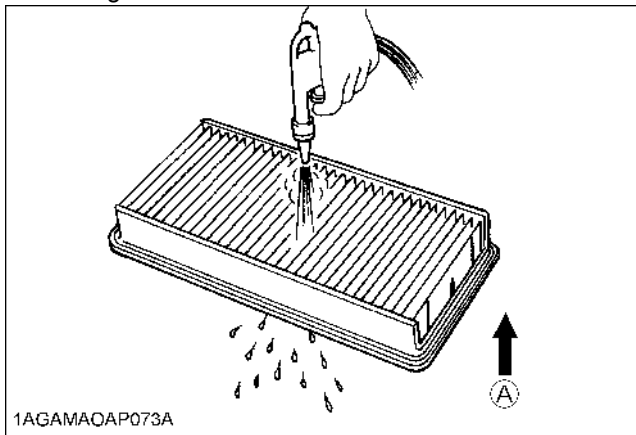
- Attach the filter and cover as the illustration above.

**◆ Cleaning the air filter**

- Normal use  
 Blow air from the opposite direction to the filter's normal air flow.  
 Pressure of compressed air must be under 205 kPa (2.1 kgf/cm<sup>2</sup>, 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.



1AGAMAQAP073A

(A) "AIR CONDITIONER AIRFLOW"

**NOTE :**

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

**IMPORTANT :**

- Do not use gasoline, thinner or similar chemicals to clean the filter as damage to the filter may occur.

- It may also cause an unpleasant odor in the CAB when the system is used next.

**EVERY 400 HOURS**

**■ Checking Fan / Air-conditioner Belt Tension**

[M128GX-II, M135GX-II]



**WARNING**

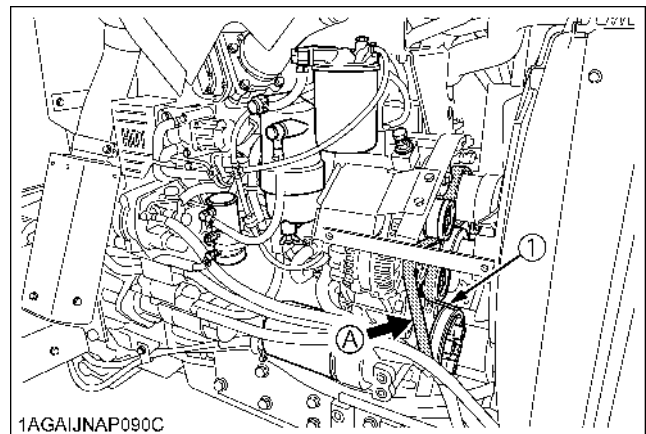
To avoid personal injury or death:

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

Proper belt tension	A deflection of between 9 to 11 mm when the belt is pressed (98 N [10 kgf]) in the middle of the span. (New belt: 7 to 9 mm)
---------------------	---

The belt is of self-tension type and needs no readjustment. Check the belt tension in the following procedure. If the deflection is out of spec or the belt itself is found damaged, replace it with new one.

1. Stop the engine and remove the key.
2. Press on the spot indicated in the figure below to measure the deflection.

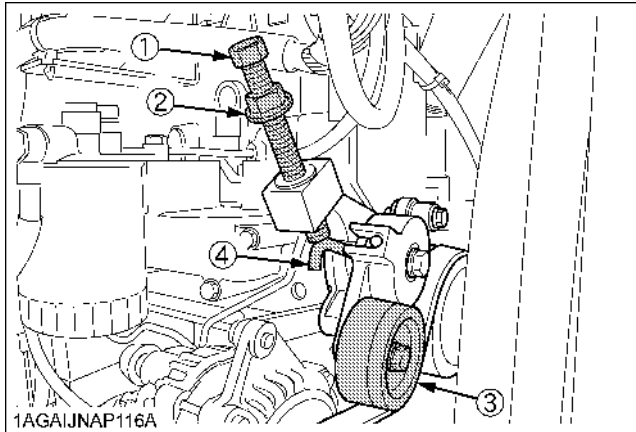


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(1) Fan / Air-conditioner belt (A) Check the belt tension

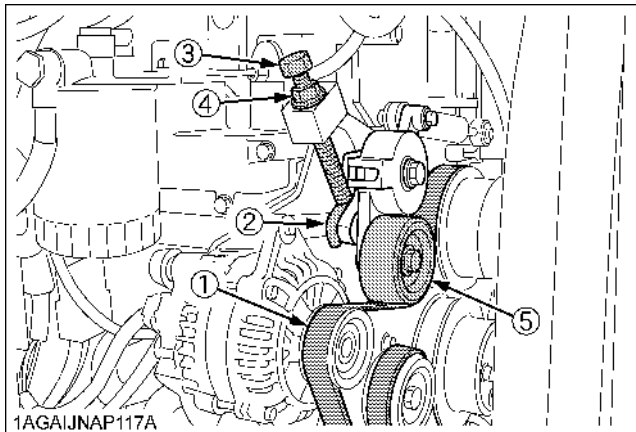
◆ Replacing the belt

1. Loosen the lock nut first and then fully loosen the tension bolt.



- (1) Tension bolt
- (2) Lock nut
- (3) Self-tension pulley
- (4) Self-tension spring

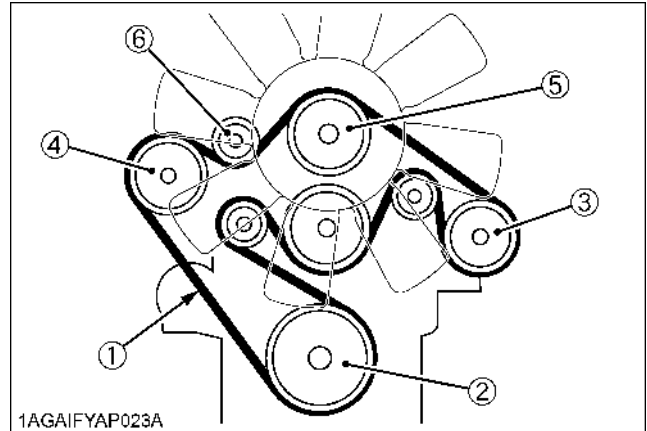
2. Lift the tension pulley and remove the belt.
3. Fit the new belt instead as shown below.
4. Tighten the tension bolt until the tension spring end comes in close contact with the engine body. Finally tighten up the lock nut.



- (1) Belt
- (2) Tension spring end
- (3) Tension bolt
- (4) Lock nut
- (5) Self-tension pulley

Tightening torque	Tension bolt	below 15 N-m (1.5 kgf-m)
	Lock nut	123.6 to 147.1 N-m (12.6 to 15.0 kgf-m)

◆ Fan / Air-conditioner Belt Routing



- (1) Belt
- (2) Drive pulley
- (3) Air-conditioner compressor
- (4) Alternator
- (5) Fan pulley
- (6) Self-tension pulley

■ Cleaning Water Separator

[M100GX-II, M110GX-II]

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

1. Close the fuel cock.
2. Unscrew the cup and remove it, then rinse the inside with kerosene.
3. Take out the element and dip it in the kerosene to rinse.
4. After cleaning, reassemble the water separator, keeping out dust and dirt.
5. Bleed the fuel system.  
(See "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

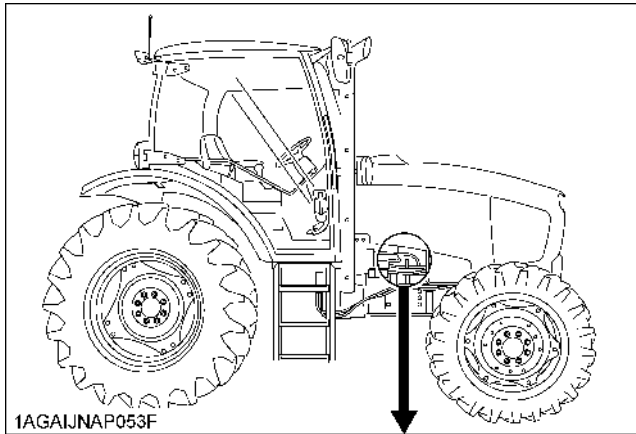
[M128GX-II, M135GX-II]

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

1. Unscrew the cup and remove it, then rinse the inside with kerosene.
2. Take out the element and replace it with a new one.
3. After cleaning, reassemble the water separator, keeping out dust and dirt.
4. Bleed the fuel system.  
(See "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

IMPORTANT :

- If a fuel element is broken, replace it with new one.



**IMPORTANT :**

- If the water separator and/or fuel filter is not well maintained, the supply pump and injector may be damaged earlier than expected.

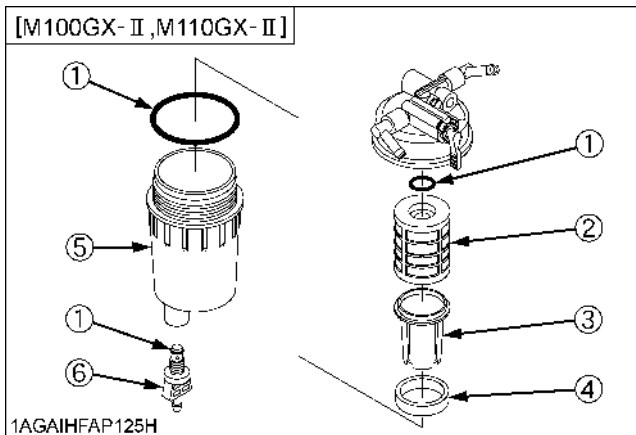
**■ Cleaning Fuel Solenoid Pump Element**

[M128GX-II, M135GX-II]

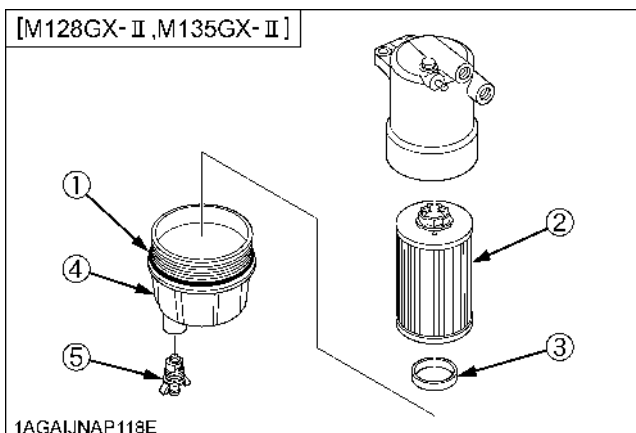
1. Close the fuel cock.
2. Unscrew the cover's nut and remove the cover from the fuel solenoid pump.
3. Remove the cover, magnet, and element and clean with kerosene.
4. Refer to the diagram below and reassemble the parts as they were before.
5. Open the fuel cock.

**IMPORTANT :**

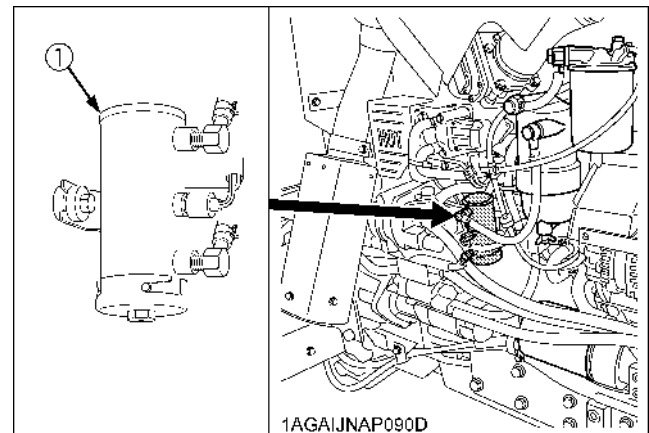
- When assembling the parts, be careful that no dirt or dust contacts them.
- Be sure to install the cover securely.
- After assembly, be sure to bleed the air from the fuel system. (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE".)



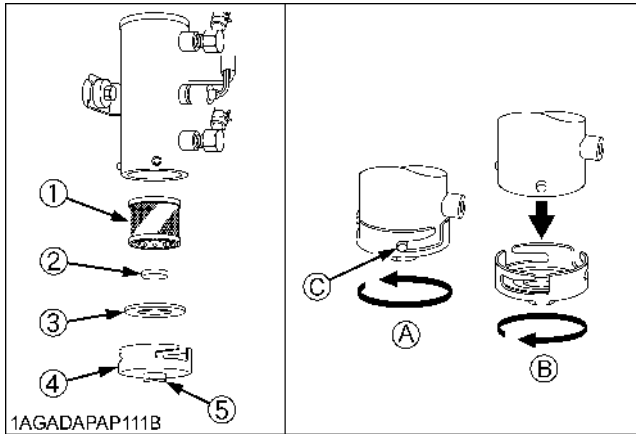
- (1) O ring
- (2) Element
- (3) Element cup
- (4) Red float
- (5) Cup
- (6) Drain plug



- (1) O ring
- (2) Element
- (3) Red float
- (4) Cup
- (5) Drain plug



(1) Fuel solenoid pump



- (1) Element
- (2) Magnet
- (3) Gasket
- (4) Cover
- (5) Nut

- (A) "TIGHTEN"
  - (B) "LOOSEN"
  - (C) Pin
- "Tighten the cover until the end of the slot contacts the pin."

## EVERY 500 HOURS

### ■ Changing Engine Oil



### WARNING

To avoid personal injury or death:

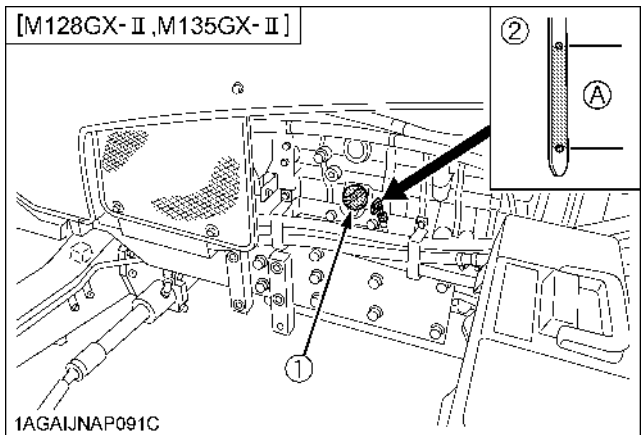
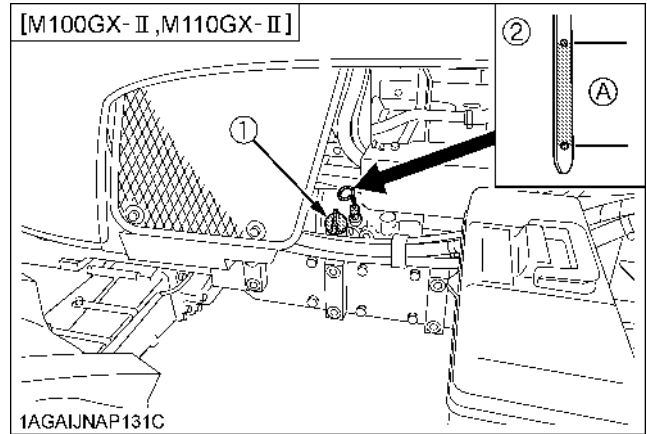
- Be sure to stop the engine before changing the oil.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

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

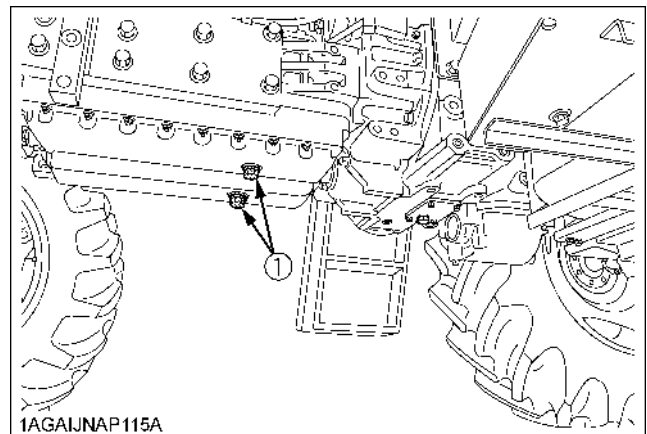
Tractor model	Oil capacity with filter
M100GX-II, M110GX-II	10.5 L
M128GX-II, M135GX-II	14.6 L

### IMPORTANT :

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



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



- (1) Drain plug

## ■ Replacing Engine Oil Filter

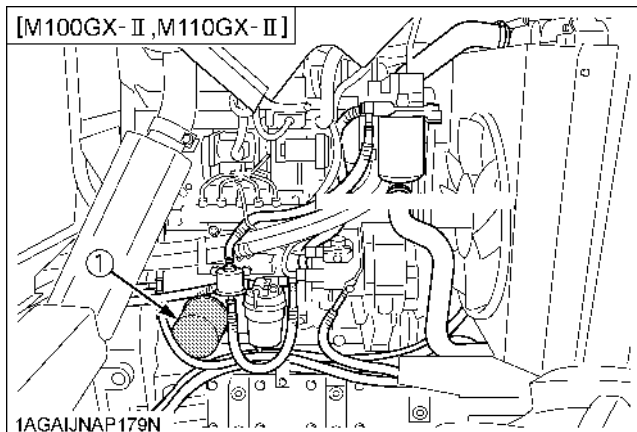


### WARNING

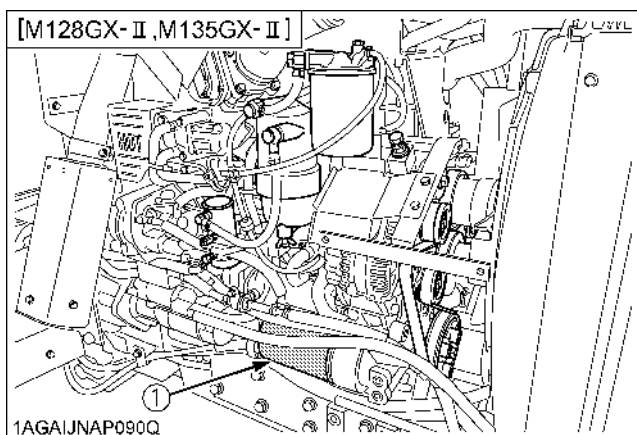
To avoid personal injury or death:

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

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



(1) Engine oil filter



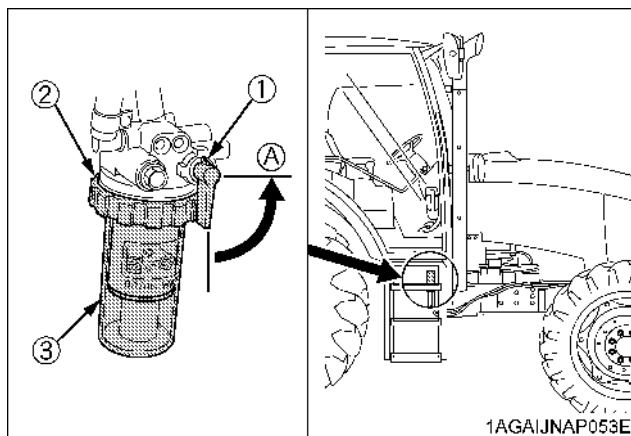
(1) Engine oil filter

## ■ Cleaning Pre-Fuel Filter

[M128GX-II, M135GX-II]

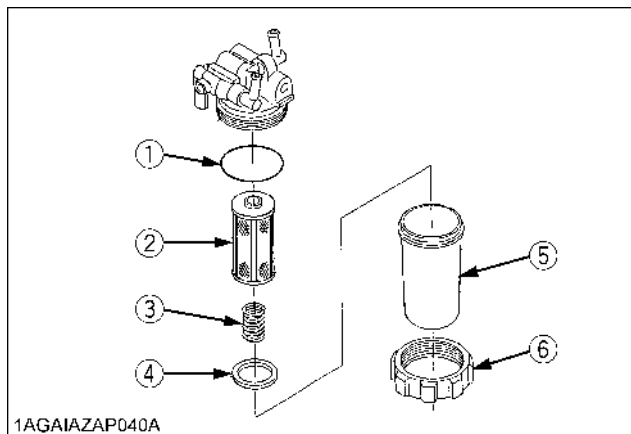
This job should not be done in the field, but in a clean place.

1. Close the fuel cock.
2. Unscrew the retainer ring and remove the cup, and rinse the inside with kerosene.
3. Take out the element and dip it in the kerosene to rinse.
4. After cleaning, reassemble the pre-fuel filter, keeping out dust and dirt.
5. Bleed the fuel system.  
(See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)



(1) Fuel cock  
(2) Retainer ring  
(3) Cup

(A) "CLOSE"



(1) O ring  
(2) Element  
(3) Spring  
(4) Cup  
(5) Retainer ring

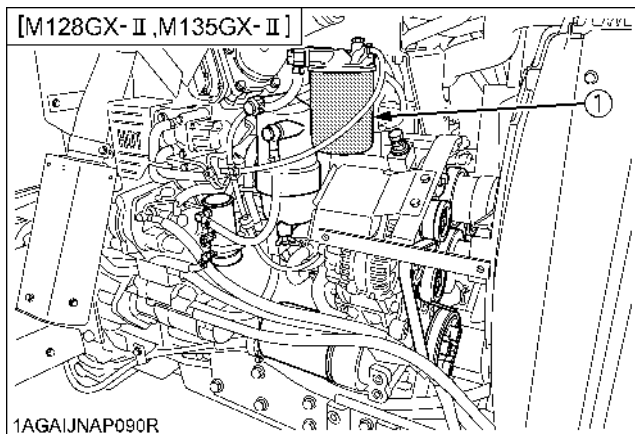
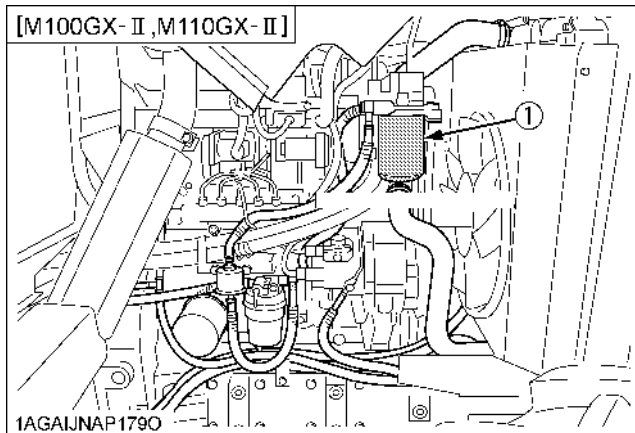
### IMPORTANT :

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



## ■ Replacing Fuel Filter

1. Remove the fuel filter.
2. Put a film of clean fuel on rubber seal of new filter.
3. Tighten the filter quickly until it contacts the mounting surface.  
Tighten filter by hand an additional 1/2 turn only.
4. Bleed the fuel system.  
(See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)



(1) Fuel filter

## ■ Replacing Hydraulic Oil Filter

### ◆ Cleaning Magnetic Filter

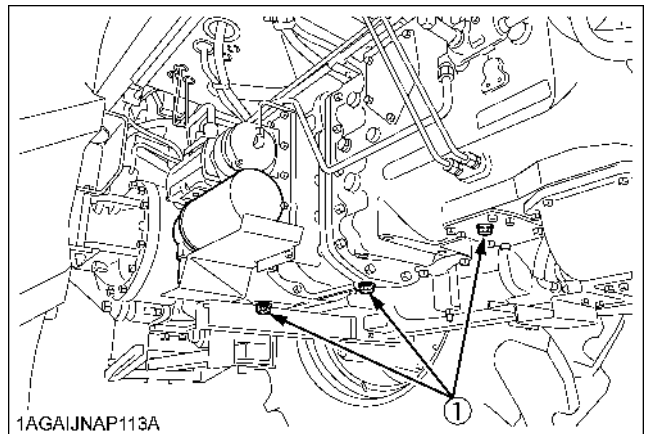


## WARNING

To avoid personal injury or death:

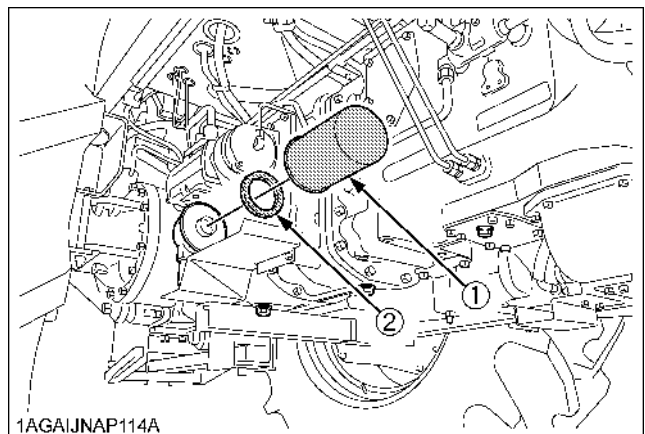
- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

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



(1) Drain plug

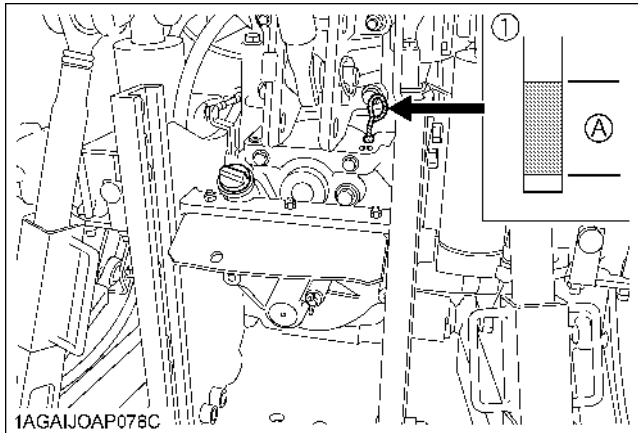
3. Remove the oil filter.
4. Wipe off metal filings from the magnetic filter with a clean rag.



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

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

6. Tighten the filter quickly until it contacts the mounting surface.  
Tighten filter by hand an additional 1/2 turn only.
7. After the new filter has been replaced, fill the transmission oil up to the upper notch on the dipstick.



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

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

**IMPORTANT :**

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

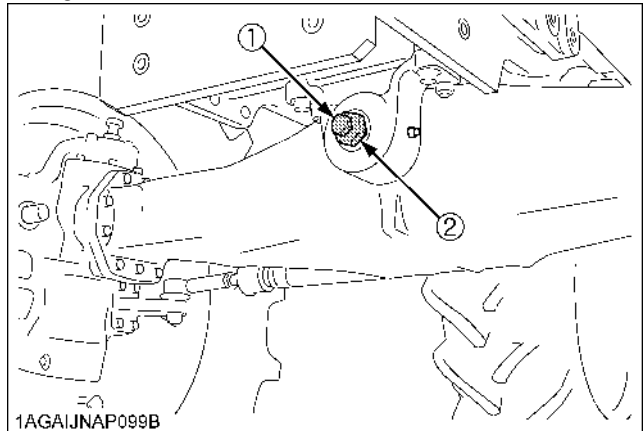
## EVERY 600 HOURS

### ■ Adjusting Front Axle Pivot

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

#### ◆ Adjusting procedure

Loosen the lock nut, screw-in the adjusting screw until seated, then tighten the screw with an additional 1/6 turn. Re-tighten the lock nut.

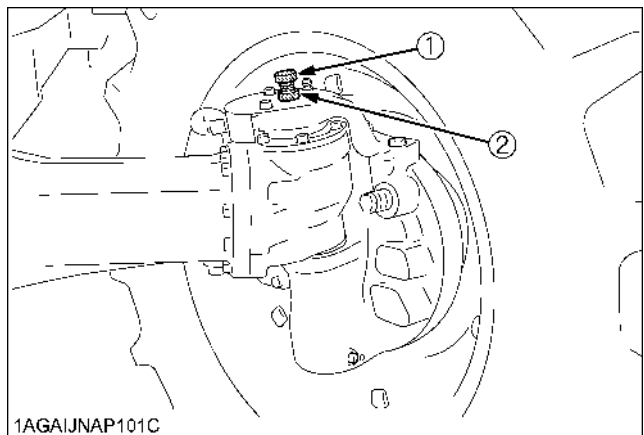


(1) Adjusting screw  
(2) Lock nut

### ■ Adjusting King-pin Pivot

Loosen the lock nut and tighten the adjusting screw with following torque:

Adjusting screw	4.9 to 9.8 N-m, 0.5 to 1.0 kgf-m
Lock nut	98.1 to 147 N-m, 10 to 15 kgf-m



(1) Adjusting screw  
(2) Lock nut

## EVERY 1000 HOURS

### ■ Changing Transmission Fluid



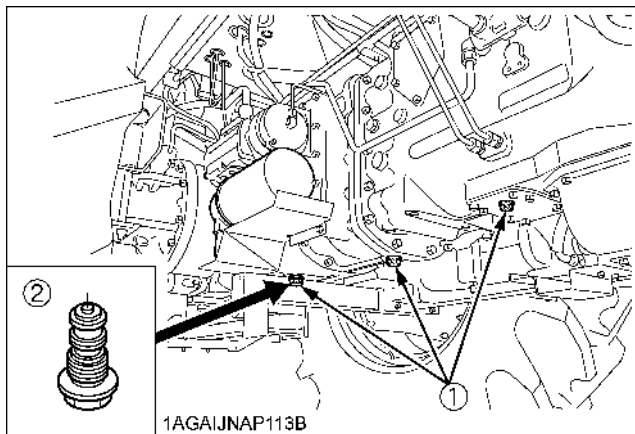
#### WARNING

To avoid personal injury or death:

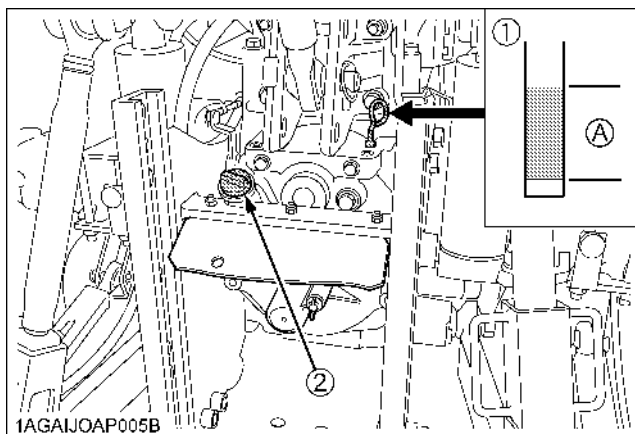
- Allow engine to cool down sufficiently, oil can be hot and can burn.

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

Oil capacity	65 L
--------------	------



- (1) Drain plugs  
(2) Magnetic plug (wipe off metal filings)



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

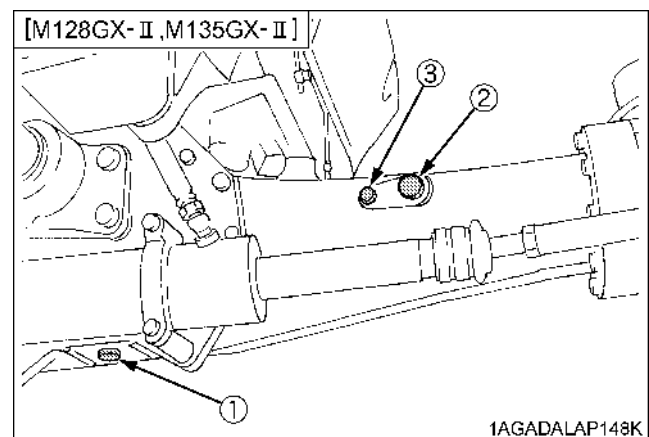
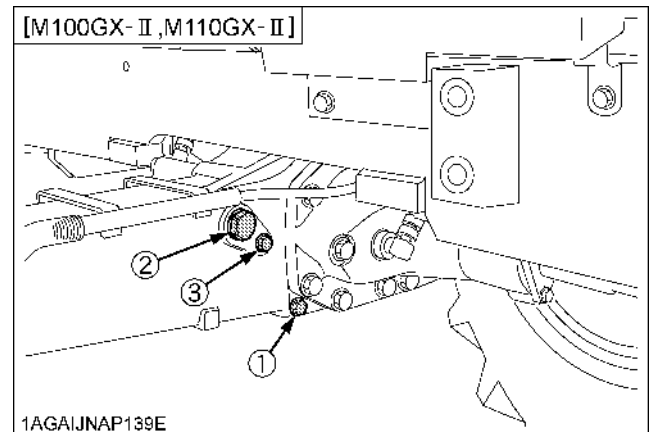
#### IMPORTANT :

- 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.

### ■ Changing Front Differential Case Oil

1. To drain the used oil, remove the drain and filling plug at the front differential case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Remove the oil level check plug.
4. Fill with the new oil up to the lower rim of check plug port. (See "LUBRICANTS" in "MAINTENANCE" section.)
5. After filling reinstall the filling plug and check plug.

Tractor model	Oil capacity
M100GX-II, M110GX-II	7 L
M128GX-II, M135GX-II	13 L

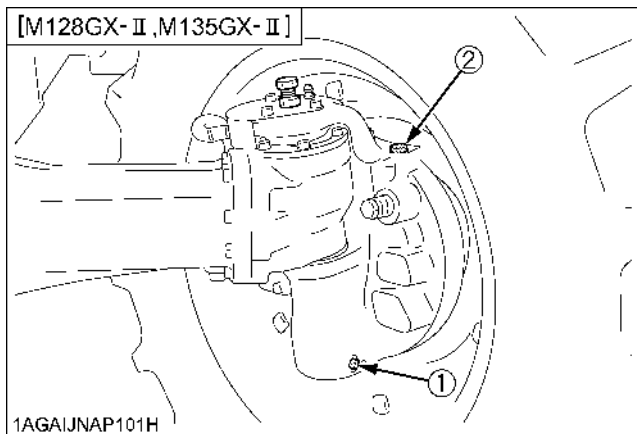
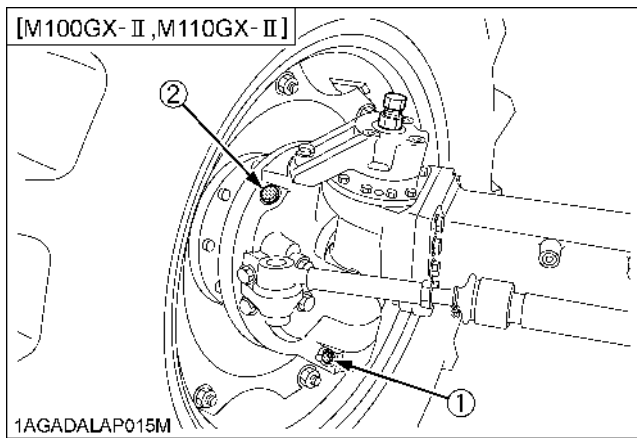


- (1) Drain plug  
(2) Filling plug  
(3) Check plug

### ■ Changing Front Axle Gear Case Oil

1. 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.
2. After draining reinstall the drain plugs.
3. Fill with the new oil up to the filling plug port.  
(See "LUBRICANTS" in "MAINTENANCE" section.)
4. After filling reinstall the filling plugs.

Tractor model	Oil capacity for each side
M100GX-II, M110GX-II	3.5 L
M128GX-II, M135GX-II	4.5 L



- (1) Drain plug  
(2) Filling plug

### ■ Adjusting Engine Valve Clearance

Consult your local KUBOTA Dealer for this service.

## EVERY 1500 HOURS

### ■ Cleaning Fuel Injector Nozzle Tip

Consult your local KUBOTA Dealer for this service.

### ■ Checking and Cleaning EGR Cooler

Consult your local KUBOTA Dealer for this service.

### ■ Checking Accumulator

[Front suspension type]

Consult your local KUBOTA Dealer for this service.

## EVERY 3000 HOURS

### ■ Checking Turbocharger

Consult your local KUBOTA Dealer for this service.

### ■ Checking Supply Pump

Consult your local KUBOTA Dealer for this service.

### ■ Checking Intake Air Heater

[M100GX-II, M110GX-II]

Consult your local KUBOTA Dealer for this service.

### ■ Checking and Cleaning EGR System

Consult your local KUBOTA Dealer for this service.

### ■ Cleaning DPF Muffler

#### ◆ Removal of 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 cleaning with a specific cleaning device. Do not clean the DPF by disassembling, and attempt by yourself, consult your local KUBOTA Dealer.

## EVERY 1 YEAR

### ■ Replacing Air Cleaner Primary Element and Secondary Element

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

### ■ Checking Air-Conditioner Pipe and Hose

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

### ■Checking CAB Isolation Cushion

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

### ■Checking Exhaust Manifold

Consult your local KUBOTA Dealer for this service.

### ■Checking DPF Differential Pressure Sensor Pipe

Consult your local KUBOTA Dealer for this service.

### ■Checking EGR Pipe

Consult your local KUBOTA Dealer for this service.

## EVERY 2 YEARS

### ■Flushing Cooling System and Changing Coolant



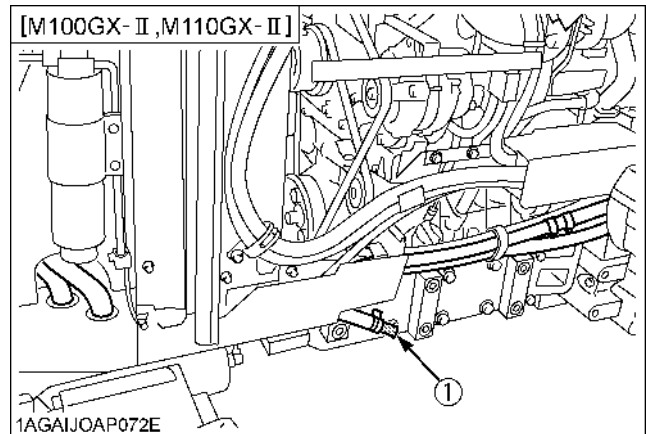
#### WARNING

To avoid personal injury or death:

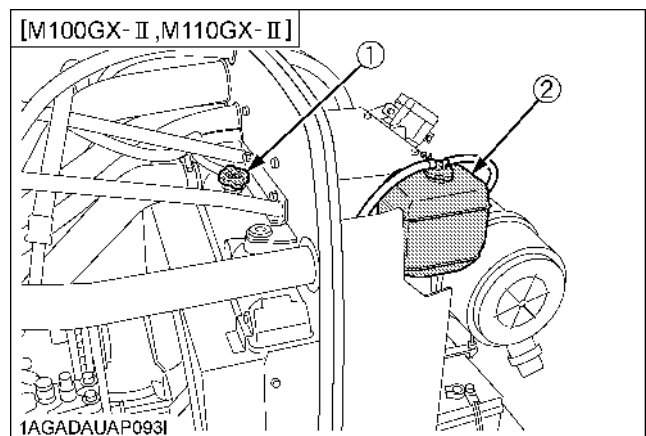
- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Stop the engine and let it cool down.
2. To drain the coolant, loosen the clamp band and remove the drain plug and remove the radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, install the drain plug securely.
4. Fill with clean soft water and cooling system cleaner.
5. Follow directions of the cleaner instruction.
6. After flushing, fill with clean soft water and anti-freeze until the coolant level is just below the port.
7. Fill with clean water and anti-freeze up to the upper line of recovery tank.
8. Install the radiator cap securely.
9. Start and operate the engine for a few minutes.
10. Stop the engine. Check coolant level and add coolant if necessary.
11. Properly dispose of used coolant.

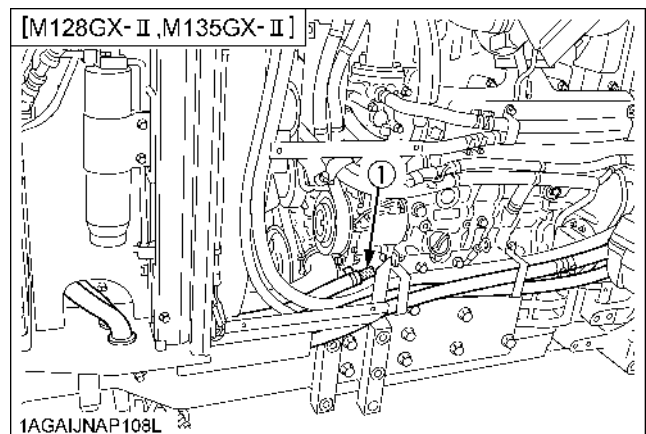
Tractor model	Coolant capacity
M100GX-II, M110GX-II	10.1 L
M128GX-II, M135GX-II	14.6 L



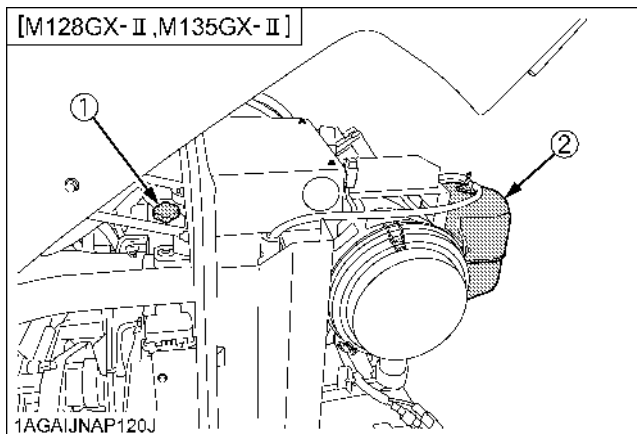
(1) Drain plug



(1) Radiator cap  
(2) Recovery tank



(1) Drain plug



- (1) Radiator cap  
(2) Recovery tank

**IMPORTANT :**

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

**NOTE :**

- On cab type machines, coolant circulates through the heater. This means that one more liter or so of coolant is required.

In changing coolant, pour coolant up to the filler port of the recovery tank. Turn ON the heater (shift the temperature control lever toward WARM), and run the engine for a while in order to warm coolant. Then stop the engine.

When coolant has cooled down, some of the coolant in the recovery tank is sucked. Now the recovery tank is appropriately filled with coolant.

**■ Anti-Freeze****WARNING**

To avoid personal injury or death:

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

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

Consult your local KUBOTA Dealer concerning coolant for extreme conditions.

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

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

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

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

**NOTE :**

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

**■ Replacing Radiator Hose (Water pipes)**

Replace the hoses and clamps.

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

**■ Replacing Power Steering Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Fuel Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Oil Cooler Line**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Intake Air Line**

Consult your local KUBOTA Dealer for this service.

**■ Replacing DPF Differential Pressure Sensor Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Boost Sensor Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Parking Brake Cable**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Brake Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Clutch Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Differential Lock Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Master Cylinder Kit**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Equalizer Kit**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Brake Seal 1 and 2**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Lift Cylinder Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Air Conditioner Hose**

Consult your local KUBOTA Dealer for this service.

**■ Replacing Suspension Hose**

[Front suspension type]

Consult your local KUBOTA Dealer for this service.

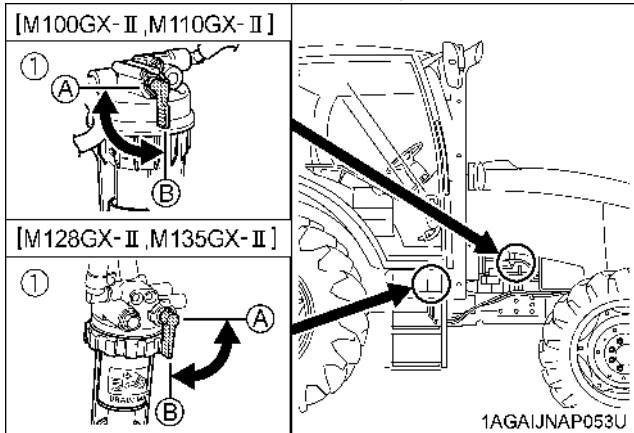
**SERVICE AS REQUIRED****■ Bleeding Fuel System**

Air must be removed:

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

◆ **Bleeding procedure is as follows:**

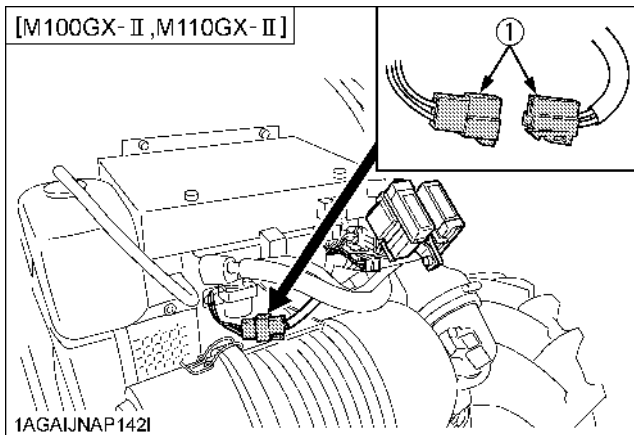
1. Fill the fuel tank with fuel, and open the fuel cock.



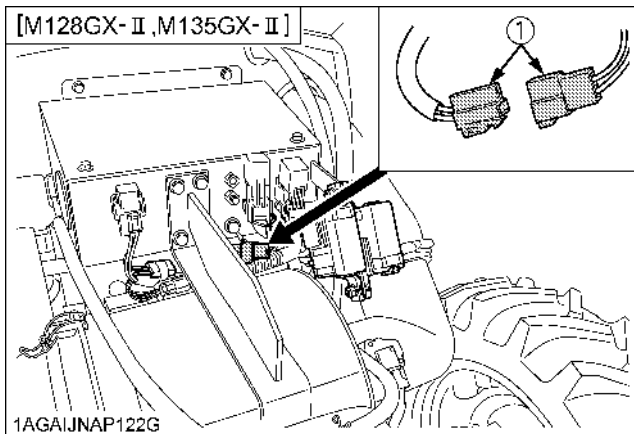
(1) Fuel cock

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

2. Disconnect the heater connector.



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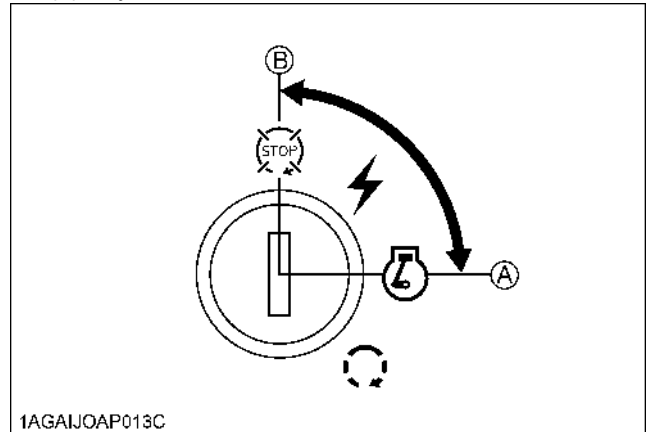
(1) Connector

**IMPORTANT :**

- Do not try air-bleeding with the heater in operation. Otherwise the battery may get damaged.

3. Turn ON and OFF the key switch repeatedly 10 times or so at the following intervals. This lets the air out of the fuel line.

- (1) Key switch ON time: 30 seconds
- (2) Key switch OFF time: 15 seconds



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(1) Key switch

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

4. Connect the heater connector.

5. Set the hand throttle lever at the maximum speed position, turn the key switch to start the engine and then reset the throttle lever at the mid speed (around 1500 rpm) position.

If engine doesn't start, try it several times at 30 second intervals.

**IMPORTANT :**

- Do not hold key switch at engine start position for more than 10 seconds continuously. If more engine cranking is needed, try again after 30 seconds.

6. Accelerate the engine to remove the small portion of air left in the fuel system.

7. If air still remains and the engine stops, repeat the above steps.

■ **Bleeding Brake System**

Consult your local KUBOTA Dealer for this service.

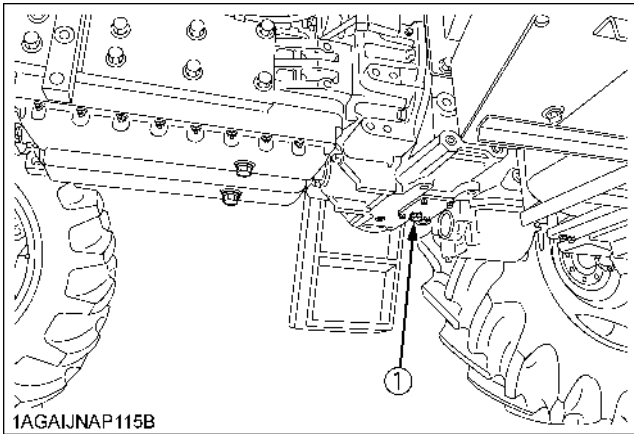
■ **Draining Clutch Housing Water**

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

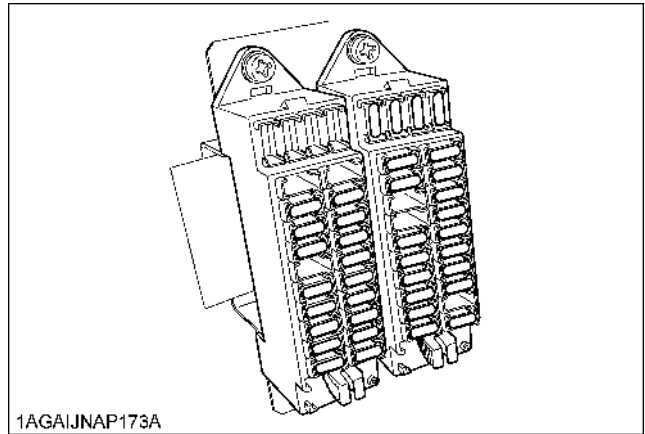
After operating in rain, snow or if the tractor has been washed, water may get into the clutch housing.

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





(1) Water drain plug



(1) Fuse box

### ■ Replacing Fuse

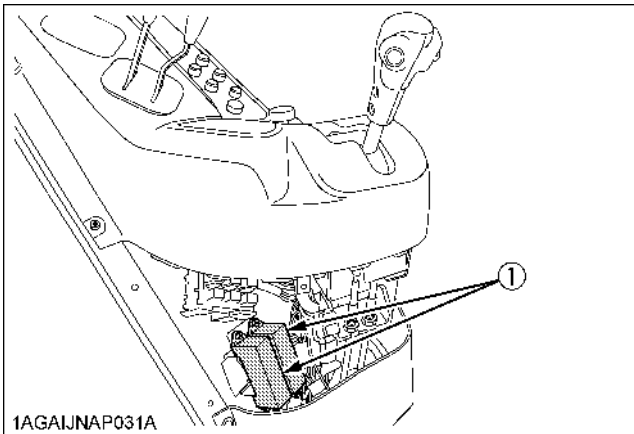
The tractor electrical system is protected from potential damage by fuses.

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

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

#### IMPORTANT :

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

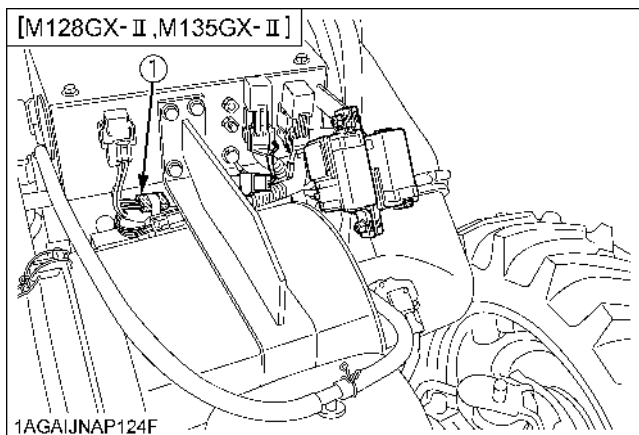
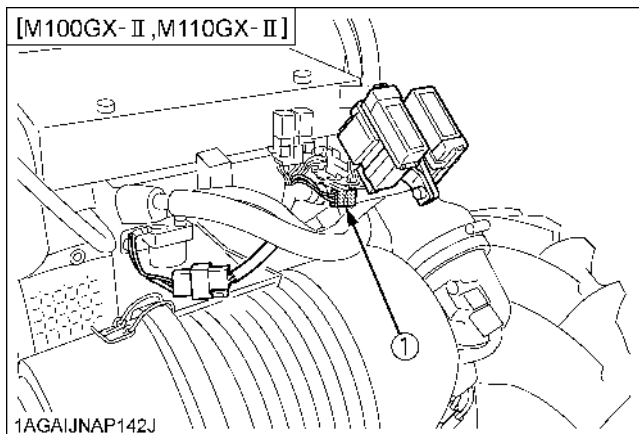


#### ◆ Protected circuit

		[5A] Spare	[10A] Spare	[15A] Spare	[20A] Spare
				[15A] Work light (Cabin side)	[10A] Electrical outlet
[10A] ECU (Suspension)*1	[5A] Switch (Transmission control)			[15A] Work light (Front upper)	[15A] Head lamp
[5A] ECU (Switch)	[5A] Switch (Hitch control)				[30A] Air conditioner fan motor
[20A] Defogger	[10A] ECU (Main)				[10A] Air conditioner compressor
	[5A] Main meter		[10A] Option lamp	[15A] Tail lamp	
[10A] Brake lamp	[5A] 4WD, Bi-speed, Differential lock		[15A] Work light (Rear)	[15A] Hazard	
[5A] Radio	[5A] Engine control, PTO valve		[10A] Work light (Bonnet)	[10A] Dome light, Radio	
[5A] Air conditioner (Fan control)	[10A] Turn signal		[15A] Seat compressor	[10A] Horn	
[15A] Wiper	[15A] Loader power aux socket		[15A] Cigarette socket		
[5A] Starter relay	[5A] LCD monitor		[15A] Work light (Option)	[5A] Back up (ECU, Meter)	

#### NOTE :

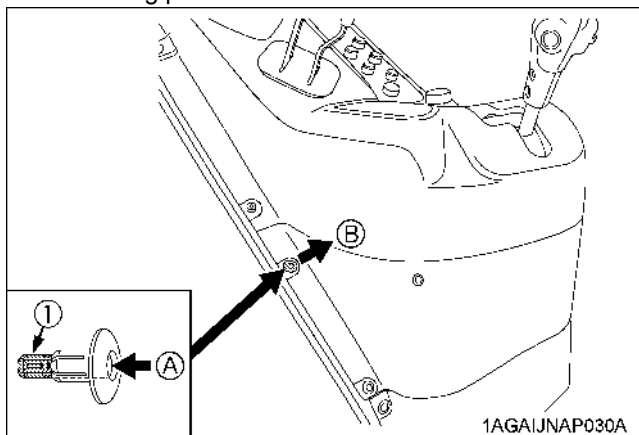
\*1 Depending on the specification, this fuse is not equipped.



(1) Fuse (20A): CRS POWER

◆ How to attach and detach the push-rivet assy.

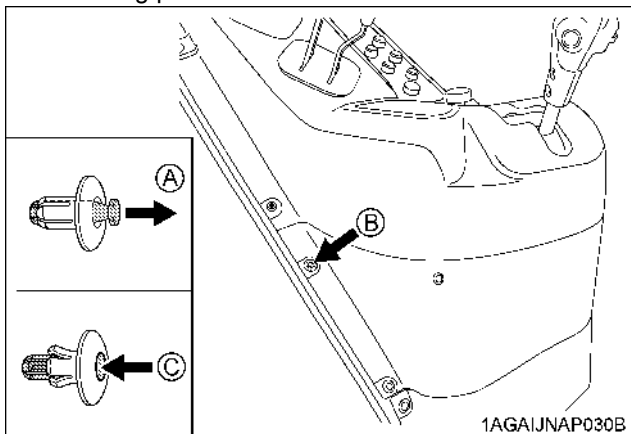
● Detaching procedure



(1) Center-rivet

- (A) Push in the center-rivet.
- (B) Pull out the push-rivet assy.

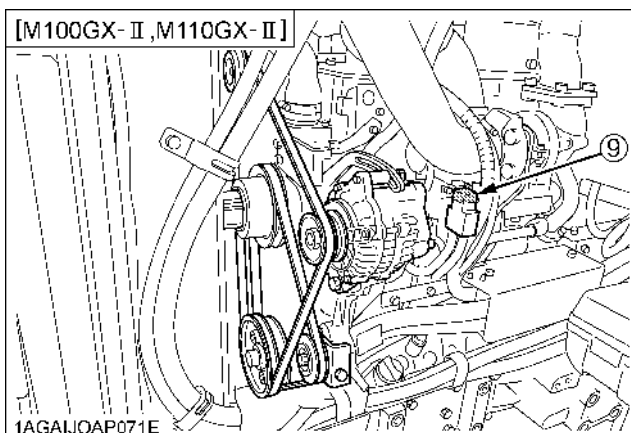
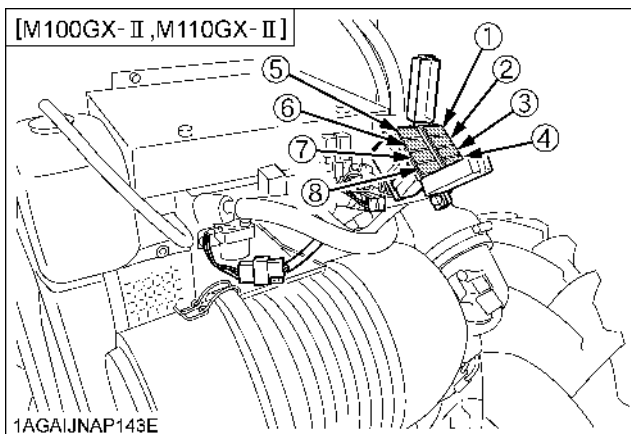
● Attaching procedure

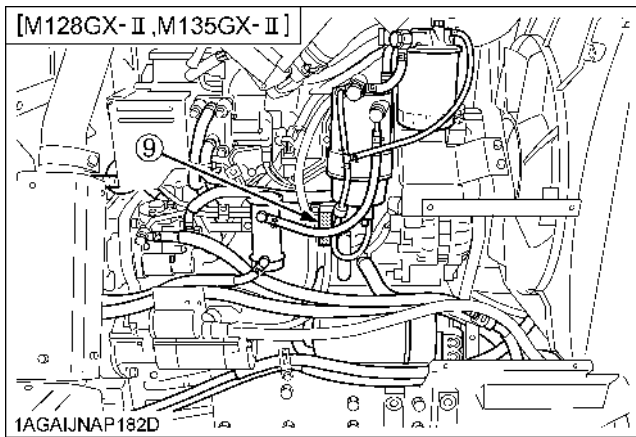
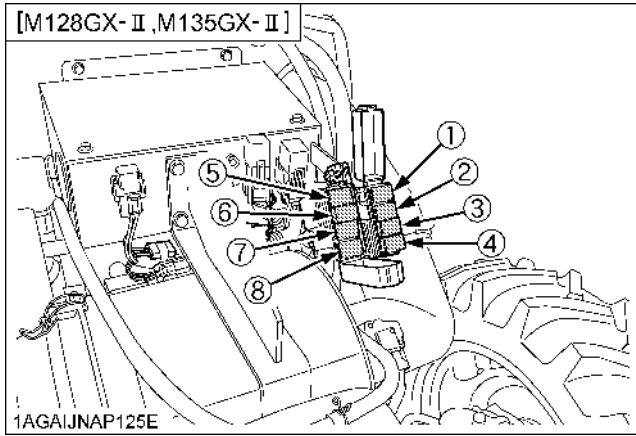


- (A) Pull out the center-rivet.
- (B) Attach the push-rivet assy.
- (C) Push the center-rivet.

■ Replacing Slow-Blow Fuses

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





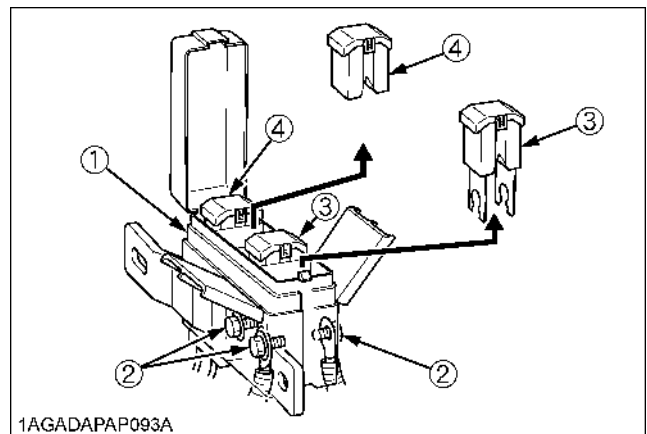
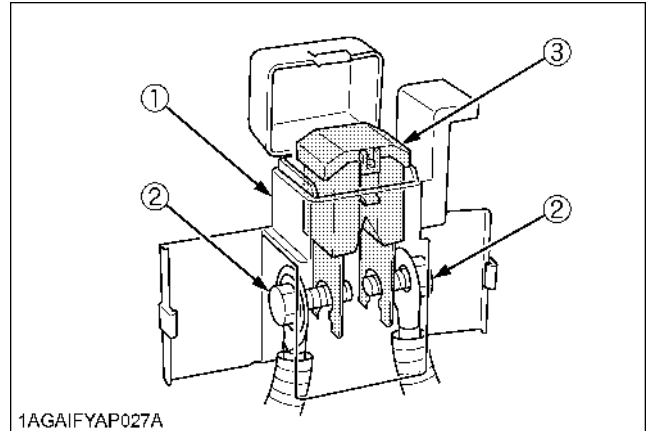
◆ Replacement procedure

**[Non bolt fixed slow-blow fuse:]**

1. Disconnect the negative cord of the battery.
2. Pull out the fuse from the fuse box.
3. Replace with a new one of the same capacity.

**[Bolt fixed slow-blow fuse:]**

Consult your local KUBOTA Dealer for this service.



- (1) Fuse box
- (2) Bolt
- (3) Bolt fixed slow-blow fuse
- (4) Non bolt fixed slow-blow fuse

No.	Capacity	Protected circuit	Type
1	40A	Defogger	Non bolt fixed
2	30A	Electrical outlet	
3	40A	Work light (Rear)	Bolt fixed
4	120A [M100GX-II, M110GX-II]	Engine preheat	
	40A [M128GX-II, M135GX-II]	Work light (Hood) Head lamp	
5	40A [M100GX-II, M110GX-II]	Work light (Hood) Head lamp	
	60A [M128GX-II, M135GX-II]	Engine preheat	
6	40A	Compressor	
7	30A	Hazard	Non bolt fixed
8	30A	Main key switch	
9	100A	Alternator	Bolt fixed

## ■ Replacing Light Bulb

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

Light	Capacity
Head light	60 / 55 W
Turn signal light (Front)	21 W
Turn signal light (Rear)	21 W
Position light (Front)	5 W
Stop light / Position light (Rear)	21 / 10 W
Rear registration plate light	5 W
Work light (Hood)	35 W
Work light (CAB)	35 W
Dome light (Room lamp)	5 W
Instrument panel light	3 W
Easy checker	1.4 W

## ■ Replacing Head Lamp

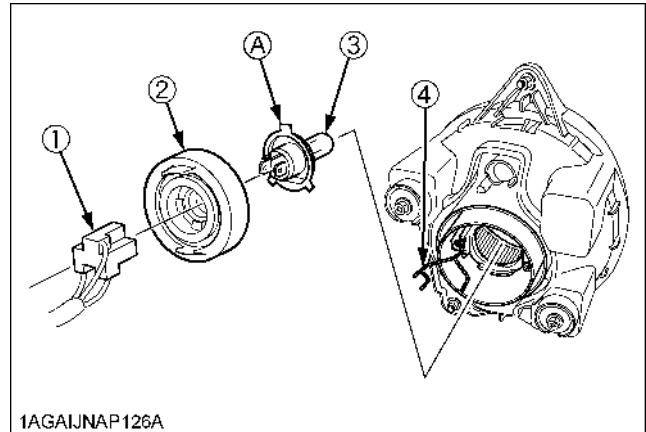


### CAUTION

To avoid personal injury:

- Be careful not to drop the bulb, hit anything against the lamp, apply excess force, and 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, be sure to turn off the light and wait until the bulb cools down, otherwise, you may get burned.

1. While pushing the right and left lock buttons, pull and remove the electrical connector.
2. Remove the rubber boot.
3. Remove the clamping fixture and take out the bulb.
4. Replace with a new bulb and reinstall the head lamp assembly in the reverse order.



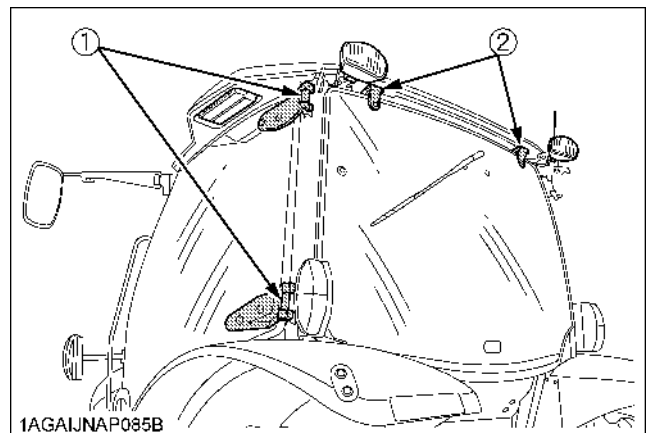
1AGAIJNAP126A

- (1) Electrical connector      (A) "Base's wider projection to face upward"  
 (2) Rubber boot  
 (3) Bulb  
 (4) Clamping fixture

### IMPORTANT :

- Be sure to use a new bulb of the specified wattage.
- Never touch the bulb surface (glass) with bare hands. Fingerprints, for example, may break the bulb.

## ■ Lubricating Points

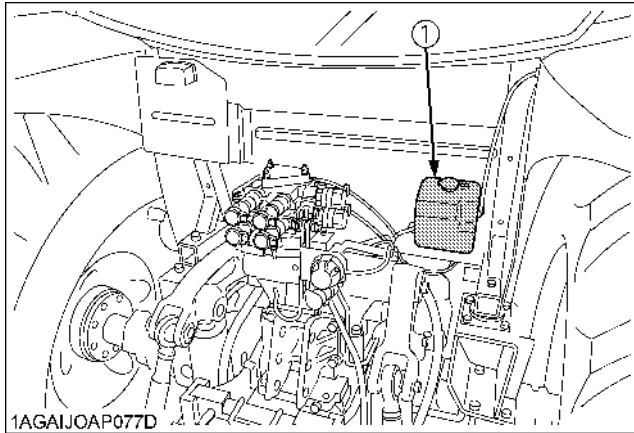


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- (1) Door hinge  
 (2) Rear window hinge

### ■ Adding Washer Liquid

Add a proper amount of automobile washer liquid.



(1) Washer liquid tank

Washer tank capacity	2.0 L
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### ■ Checking the Amount of Refrigerant (gas)



#### WARNING

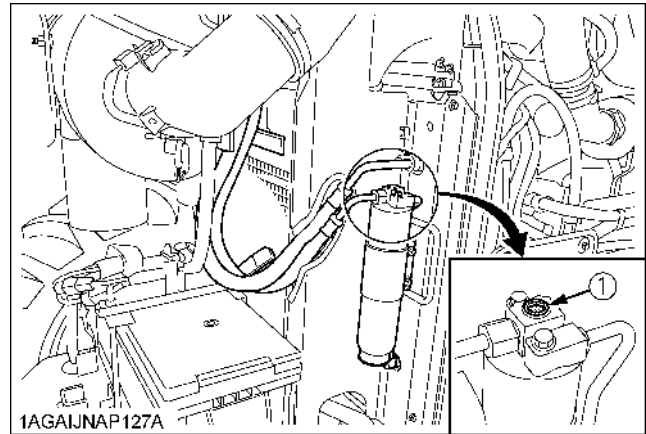
To avoid personal injury or death:

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

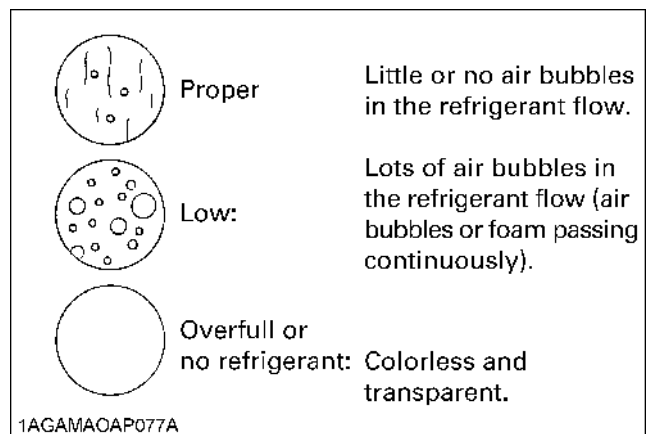
A shortage of refrigerant impairs the air-conditioner performance. Check the following points. If it is indicated that the amount of refrigerant is extremely low, ask your dealer to inspect and charge.

#### ◆ Checking procedure

1. Run the air-conditioner in the following conditions.
  - Engine speed: About 1500 rpm
  - Temperature control lever: Maximum cooling position (leftmost)
  - Fan switch: Highest blow (HI)
  - Air-conditioner switch: ON
2. Look into the sight glass to see if the refrigerant is flowing through its circuit.



(1) Sight glass



#### IMPORTANT :

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

# STORAGE



## WARNING

To avoid personal injury or death:

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

## TRACTOR STORAGE

If you intend to store your tractor for an extended period of time, follow the procedures outlined below.

These procedures will insure that the tractor is ready to operate with minimum preparation when it is removed from storage.

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

### IMPORTANT :

- When washing the tractor, be sure to stop the engine. Allow sufficient time for the engine to cool before washing.

- Cover the tractor after the muffler and the engine have cooled down.

## REMOVING THE TRACTOR FROM STORAGE

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

# TROUBLESHOOTING

## ENGINE TROUBLESHOOTING

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

Trouble		Cause	Countermeasure
Engine is difficult to start or won't start.		<ul style="list-style-type: none"> <li>No fuel flow.</li> </ul>	<ul style="list-style-type: none"> <li>Check the fuel tank and the fuel filter. Replace filter if necessary.</li> </ul>
		<ul style="list-style-type: none"> <li>Air or water is in the fuel system.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the fuel line coupler bolt and nut are tight.</li> <li>Bleed the fuel system (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)</li> </ul>
		<ul style="list-style-type: none"> <li>In winter, oil viscosity increases, and engine revolution is slow.</li> </ul>	<ul style="list-style-type: none"> <li>Use oils of different viscosities, depending on ambient temperatures.</li> <li>Use engine block heater (Optional)</li> </ul>
		<ul style="list-style-type: none"> <li>Battery becomes weak and the engine does not turn over quick enough.</li> </ul>	<ul style="list-style-type: none"> <li>Clean battery cables &amp; terminals.</li> <li>Charge the battery.</li> <li>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.</li> </ul>
		<b>[M100GX-II, M110GX-II]</b> <ul style="list-style-type: none"> <li>Intake air heater system trouble.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the slow blow fuse of the intake air heater blows.</li> <li>Check to see if the intake air heater functions in cold weather.</li> </ul>
		<b>[M128GX-II, M135GX-II]</b> <ul style="list-style-type: none"> <li>Preheat (glow plug) system trouble.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the slow blow fuse of the preheat (glow plug) blows.</li> <li>Check to see if the preheat (glow plug) functions in cold weather.</li> </ul>
Insufficient engine power.		<ul style="list-style-type: none"> <li>Insufficient or dirty fuel.</li> <li>The air cleaner is clogged.</li> </ul>	<ul style="list-style-type: none"> <li>Check the fuel system.</li> <li>Clean or replace the element.</li> </ul>
Engine stops suddenly.		<ul style="list-style-type: none"> <li>Insufficient fuel.</li> </ul>	<ul style="list-style-type: none"> <li>Refuel.</li> <li>Bleed the fuel system if necessary.</li> </ul>
Exhaust fumes are colored.	Black	<ul style="list-style-type: none"> <li>Fuel quality is poor.</li> <li>Too much oil.</li> <li>The air cleaner is clogged.</li> </ul>	<ul style="list-style-type: none"> <li>Change the fuel and fuel filter.</li> <li>Check the proper amount of oil.</li> <li>Clean or replace the element.</li> </ul>
	Blue white	<ul style="list-style-type: none"> <li>The inside of exhaust muffler is dumped with fuel.</li> <li>Injection nozzle trouble.</li> <li>Fuel quality is poor.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the intake air heater functions in cold weather.</li> <li>Heat the muffler by applying load to the engine.</li> <li>Check the injection nozzle.</li> <li>Change the fuel and fuel filter.</li> </ul>

Trouble	Cause	Countermeasure
Engine overheats	● Engine overloaded	● Shift to lower gear or reduce load.
	● Low coolant level	● Fill cooling system to the correct level; check radiator and hoses for loose connections or leaks.
	● Loose or defective fan belt	● Adjust or replace fan belt.
	● Dirty radiator core or grille screens	● Remove all trash.
	● Coolant flow route corroded	● Flush cooling system. ● Check to see if the fan drive is on. (if equipped)

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

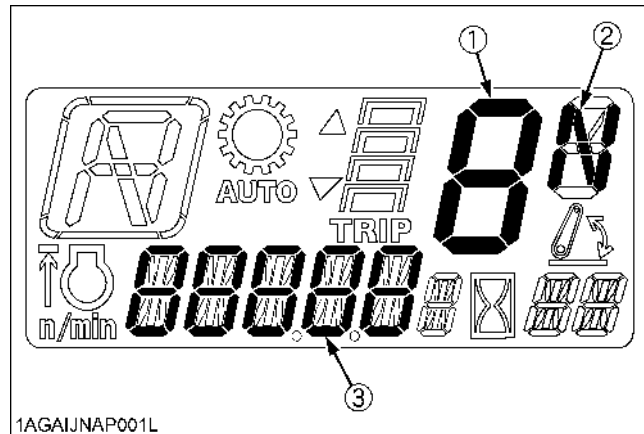
Trouble	Operator's action
Engine not overheated, but engine warning indicator on.	<p>Stop the engine and get it restarted. If the engine fails to restart or the indicator stays on, immediately contact your local KUBOTA dealer. If the warning indicator lights up, the following phenomena may appear depending on the engine's trouble spot.</p> <ul style="list-style-type: none"> <li>● The engine stops unexpectedly.</li> <li>● The engine fails to start or gets interrupted just after start.</li> <li>● The engine output is not enough.</li> <li>● The engine output is enough, but the warning indicator stays on.</li> </ul>

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



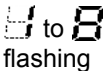



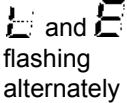
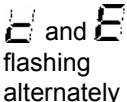
## POWER SHIFT/RANGE SHIFT TROUBLE SHOOTING


If something is wrong with the power shift / range shift, an alarm sounds or 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. Depending on the parts of the trouble, tractor can be used with some restriction as emergency measure. For details, check the error code and operator's action columns.



- (1) Power shift number display area  
 (2) Range shift position display area  
 (3) Engine speed display area

Displayed error code		Alarm buzzer	Condition	Operator's action
Power shift number display area	Engine speed display area			
and	E-R51	3 consecutive tones	<ul style="list-style-type: none"> <li>● Clutch is operated.</li> <li>● Hydraulic switch (master) trouble.</li> <li>● Proportional solenoid valve (master) trouble.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to L. The machine can travel at any of 1st to 8th gears.)
and	E-R20	3 consecutive tones	<ul style="list-style-type: none"> <li>● Trouble with the output voltage of the clutch pedal sensor.</li> <li>● Clutch pedal sensor trouble.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to N (in the L side) first and then to L. The machine can travel at any of 1st to 8th gears.)
	E-R37	3 consecutive tones	<ul style="list-style-type: none"> <li>● Proportional solenoid valve (master) trouble.</li> </ul>	Contact your local KUBOTA Dealer. (The machine cannot travel.)
---	---	---	<ul style="list-style-type: none"> <li>● Shuttle switch (F/R) trouble.</li> <li>● Shuttle F/R is not displayed.</li> </ul>	Contact your local KUBOTA Dealer. (The machine cannot travel.)

Displayed error code		Alarm buzzer	Condition	Operator's action
Power shift number display area	Engine speed display area			
	E-R31 to 36	3 consecutive tones	<ul style="list-style-type: none"> <li>● Trouble with the relevant solenoid valve.</li> <li>● Proportional solenoid valve (range shift L/H) trouble.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to N. The machine can travel at any of gears which is not flashing.)
	E-R45 to 50 E-R52 to 55	---	<ul style="list-style-type: none"> <li>● Trouble with a hydraulic switch that is not related to the flashing gear speed.</li> <li>● Hydraulic switch trouble.</li> <li>● Main spool trouble</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to N first and then to L, H or M again. The machine can travel.)
	E-R38 to 44	3 consecutive tones	<ul style="list-style-type: none"> <li>● Shifting is performed using the shift buttons.</li> <li>● Hydraulic switch trouble.</li> <li>● Main spool trouble.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to N first and then to L, H or M again. The machine can travel.) (Machine gear position return to the position before shifting.)
	E-R44	3 consecutive tones	<ul style="list-style-type: none"> <li>● Started by operation of the shift buttons, shuttle lever, and clutch pedal.</li> <li>● Trouble with master clutch hydraulic switch trouble.</li> <li>● Low system hydraulic pressure.</li> </ul>	Contact your local KUBOTA Dealer. (The machine cannot travel.)
	---	Consecutive tones	<ul style="list-style-type: none"> <li>● Power shift lever is operated with the shuttle lever is in the F or R position, the clutch pedal is released and the shift lock is not turning on.</li> </ul>	Move the range shift lever to N.
	E-R51	3 consecutive tones	<ul style="list-style-type: none"> <li>● [L and 1 to 8] and shift lock switch trouble occur at the same time.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to L. The machine can travel at any of 1st to 8th gears.)
	E-R20	3 consecutive tones	<ul style="list-style-type: none"> <li>● [C and 1 to 8] and shift lock switch trouble occur at the same time.</li> </ul>	Contact your local KUBOTA Dealer. (If necessary, move the range shift lever to L. The machine can travel at any of 1st to 8th gears.)

Displayed error code		Alarm buzzer	Condition	Operator's action
Range shift position display area	Engine speed display area			
	---	---	<ul style="list-style-type: none"> <li>● Trouble with the output voltage of the power shift lever sensor.</li> </ul>	Contact your local KUBOTA Dealer. Flashes while driving. (The machine can travel.)

Note: If the hydraulic clutch gets in trouble, the gears may get shifted from the 1st to 2nd or slower speed automatically. This is to prevent the tractor from free-wheel. In such case, carefully move the tractor to a safe place, contact your local KUBOTA Dealer for repairs.

# OPTIONS

Consult your local KUBOTA Dealer for further details.

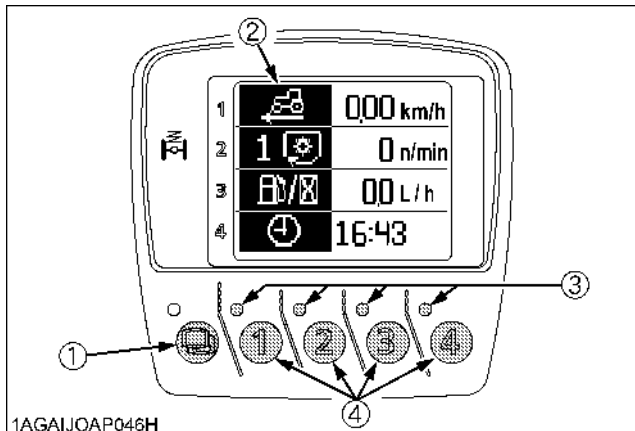
- Heavy Duty Fuel Tank Guard
  - Front end weights  
For front ballast
  - Rear Wheel Weights  
For rear ballast
  - Creep Speed Kit
  - 80" Wide Axle
  - Passenger Seat
  - Front Fender
  - Double Acting Remote Hydraulic Control Valve with  
Detents and Self-Cancelling
  - Double Acting Remote Hydraulic Control Valve with  
Flow Position and Flow Control Functions
  - Double Acting Remote Hydraulic Control Valve with  
Detents and Self-Cancelling for Flow Control Valve
  - Double Acting Remote Hydraulic Control Valve with  
Detente, Self-Cancelling and Flow Control Functions
  - Flow Control Valve Kit
  - 540 / 540E rpm PTO Speed Kit
  - 540 / 1000 rpm PTO Speed Kit
  - Front Work Light  
High visibility for night work
-

# APPENDICES

## SIDE DIGITAL DISPLAY

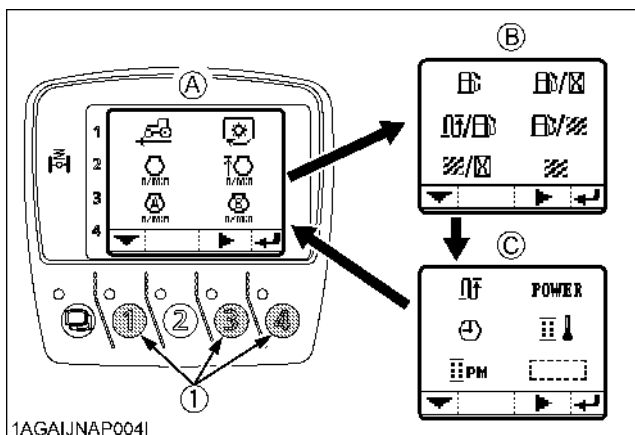
### ■ Changing the Information Displayed

- Just touch the mode selector switch on the usual screen, and the symbols are highlighted and the 4 indicators start flashing.  
Press the switch (1 – 4) of a setting to change, and the relevant select screen shows up.











- Mode selector switch
- Symbol
- Indicator
- Switc











- Each time Switch 1 is pressed, the select screens A, B and C change alternately in this order.  
Press Switch 3 to select the symbol of a setting to display.  
Press Switch 4 to enter this mode and the other symbols appear.












- Switch
- "Select screen A"
- "Select screen B"
- "Select screen C"

## Information Displayed and its Handling

Selected screen	Info	Display	Remarks	Ref. page
A	Travel speed	Travel speed  0,00 km/h	<ul style="list-style-type: none"> <li>Shows the standard factory settings. Refer to the "Handling the side digital display" section.</li> </ul>	41
		Average travel speed  0,00 km/h		41
	PTO	PTO rpm (Shift 1) 1  540 r/min	<ul style="list-style-type: none"> <li>Shows the standard factory settings. Refer to the "Handling the side digital display" section.</li> </ul>	73
		PTO rpm (Shift 2) 2  1000 r/min		73
	Engine rpm	 2200 r/min		-
	Upper-limit rpm setting	 1230 r/min		54
	Memory A rpm	 2000 r/min		54
	Memory B rpm	 1000 r/min		54

Selected screen	Info	Display	Remarks	Ref. page
B	Total fuel consumption	Total fuel consumption  800 L	<ul style="list-style-type: none"> <li>Displays the total fuel consumption measured from the previous resetting.</li> <li>The maximum value which can be displayed is 999.9 gallons or 999.9 liters.</li> <li>Hold down the corresponding switch, and the setting goes back to "0.0".</li> </ul>	-
	Mileage	Mileage  150 1/4	<ul style="list-style-type: none"> <li>Shows the standard factory settings. Refer to the "Handling the side digital display" section.</li> </ul>	-
		Average fuel consumption  10.0 1/4		-
		Mileage graph 		-
	Work distance mileage (based on fuel consumption)	Instantaneous work distance fuel consumption  1.00 km/L	<ul style="list-style-type: none"> <li>Each time the corresponding switch is pressed, the "instantaneous" and "average" are displayed alternately.</li> <li>The "average" is measured based on the fuel consumption from the previous resetting.</li> <li>With the "average" displayed, hold down the corresponding switch. The setting goes back to "0.0".</li> </ul>	-
		Average work distance fuel consumption  1.23 km/L		-
	Work area mileage (based on fuel consumption)	Instantaneous work area fuel consumption  5.0 1/4 ha	<ul style="list-style-type: none"> <li>Each time the corresponding switch is pressed, the "instantaneous" and "average" are displayed alternately.</li> <li>The "average" is measured based on the fuel consumption from the previous resetting.</li> <li>With the "average" displayed, hold down the corresponding switch. The setting goes back to "0.0".</li> <li>(See *1.)</li> </ul>	-
		Average work area fuel consumption  5.0 1/4 ha		-
	Work area operating efficiency (based on hourly coverage)	Instantaneous work area operating efficiency  3.00 ha/h	<ul style="list-style-type: none"> <li>Each time the corresponding switch is pressed, the "instantaneous" and "average" are displayed alternately.</li> <li>The "average" is measured based on the hourly coverage from the previous resetting.</li> <li>With the "average" displayed, hold down the corresponding switch. The setting goes back to "0.0".</li> <li>(See *1.)</li> </ul>	-
		Average work area operating efficiency  3.45 ha/h		-

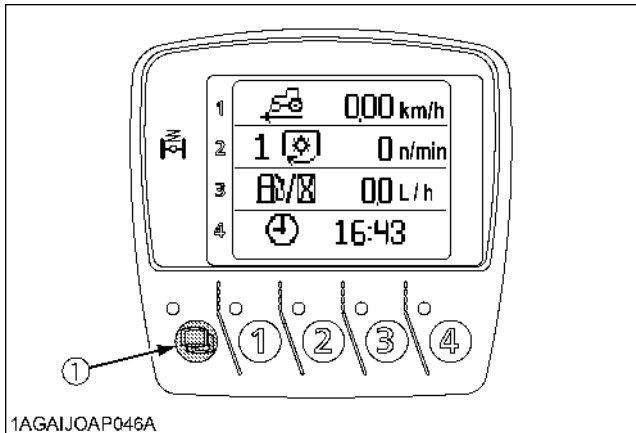
Selected screen	Info	Display	Remarks	Ref. page
B	Work area	 5000 ha	<ul style="list-style-type: none"> <li>Displays the work area measured from the previous resetting.</li> <li>Hold down the corresponding switch. The setting goes back to "0.0".</li> <li>(See *1.)</li> </ul>	-

Selected screen	Info	Display	Remarks	Ref. page	
C	Travel distance	 5000 km	<ul style="list-style-type: none"> <li>Displays the travel distance measured from the previous resetting.</li> <li>Hold down the corresponding switch, and the setting goes back to "0".</li> </ul>	-	
	Loading factor	Instantaneous loading factor	<b>POWER</b> 70%	<ul style="list-style-type: none"> <li>Each time the corresponding switch is pressed, the "instantaneous", "average" and "graph" are displayed alternately in this order.</li> <li>The "average" is measured based on the loading factor from the previous resetting.</li> <li>With the "average" displayed, hold down the corresponding switch. The setting goes back to "0".</li> <li>The "instantaneous loading factor graph" graphically displays the instantaneous loading factor in real time. (The more the bar is extended to the right, the higher the load becomes.)</li> </ul>	-
		Average loading factor	<b>Ave POWER</b> 60%		-
		Instantaneous loading factor graph	<b>POWER</b> 		-
	Clock	Time	 15:14	<ul style="list-style-type: none"> <li>Shows the standard factory settings. Refer to the "Handling the side digital display" section.</li> </ul>	49
		Date	 7/ 4/2012		170
	DPF temperature	 600 °C	<ul style="list-style-type: none"> <li>Displays the DPF muffler temperature.</li> </ul>	20	
	PM buildup	PM buildup	 70%	<ul style="list-style-type: none"> <li>Displays the PM buildup inside the DPF muffler.</li> <li>Regeneration is needed when the 100% level has been reached.</li> <li>Each time the corresponding switch is pressed, the "numerical value" and "graph" are displayed alternately.</li> <li>The more the bar is extended to the right, the more PM builds up.</li> </ul>	20
		PM buildup graph			20
	Blank			<ul style="list-style-type: none"> <li>Used to delete the information displayed.</li> </ul>	-

\*1: In the various setting mode, preset the "Working range of implement". (Refer to the "Initial Setting" in "SIDE DIGITAL DISPLAY" in "OPERATING THE TRACTOR" section.) If not preset, correctly, incorrect data will be displayed.

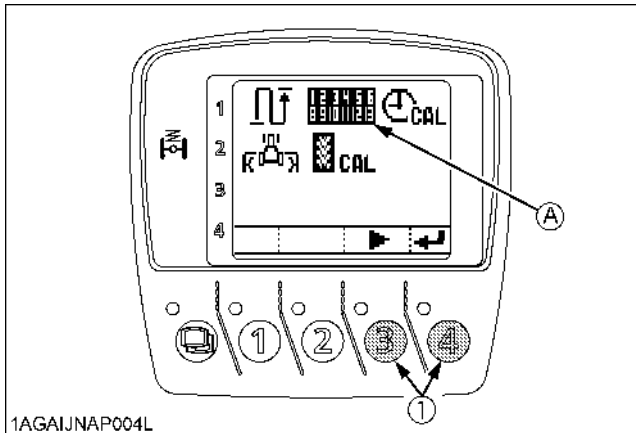
### ■ Displaying and Using the Work History

1. Turn on the key switch. Hold down the mode selector switch on the following screen, and various setting mode select screen appears.



(1) Mode selector switch

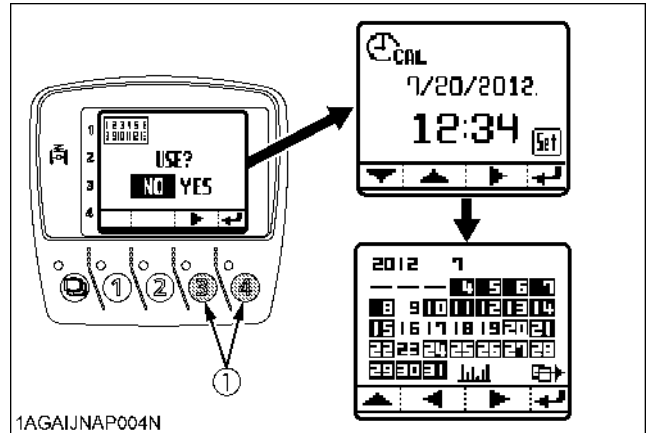
2. Press Switch 3 to select the work history mode. Press Switch 4, and the work history mode screen shows up.



(1) Switch

(A) "Work history mode"

3. Using Switch 3, select "YES". Press Switch 4, and the clock setting screen shows up. Set the clock, and the calendar screen appears instead.



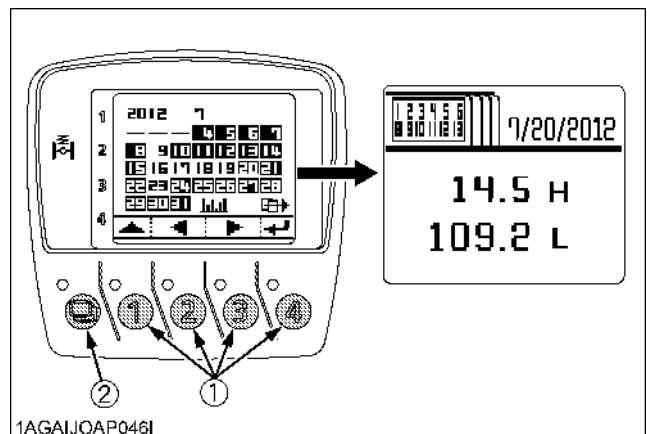
(1) Switch

### ◆ Viewing the calendar

White-numbered dates on black background	Operating days
Black-numbered dates on white background	Non-operating days
-	Non-recording days

4. Using Switches 2 and 3, select a date. Press Switch 4, and the day's operating hours and fuel consumption are displayed.

(Press the mode selector switch to go back to the calendar screen. Press Switch 1 on the calendar screen, and the previous month shows up. The data are recorded for the past 4 months.)

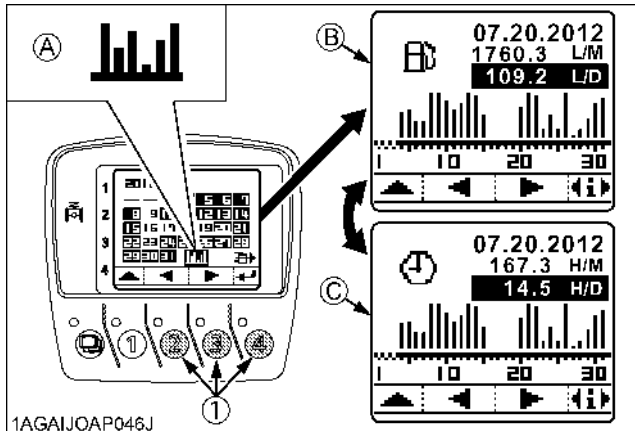


(1) Switch

(2) Mode selector switch



5. Using Switches 2 and 3, select the "graph". Press Switch 4, and the graph is displayed.



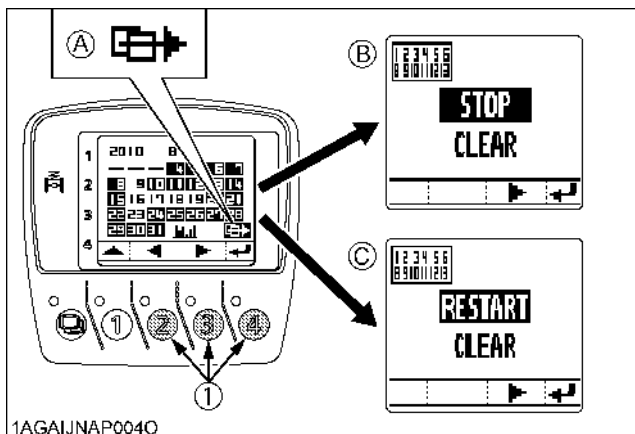
(1) Switch

- (A) "Graph"
- (B) "Fuel consumption"
- (C) "Operating hours"

◆ Viewing the graph

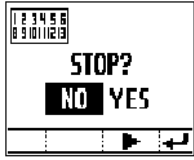

- (1) Press Switch 4, and the fuel consumption and the operating hours are alternately displayed.
- (2) Fuel consumption:  
The bar graph shows the day's fuel consumption. When a date is selected with Switch 2 or 3, the fuel consumption of the day and that of the month are digitally displayed.
- (3) Operating hours:  
The bar graph shows the day's operating hour. When a date is selected with Switch 2 or 3, the operating hours of the day and that of the month are digitally displayed.

6. Using Switches 2 and 3, select the "page feed". Press Switch 4, and the work history's "stop" or "restart" screens appear.



(1) Switch

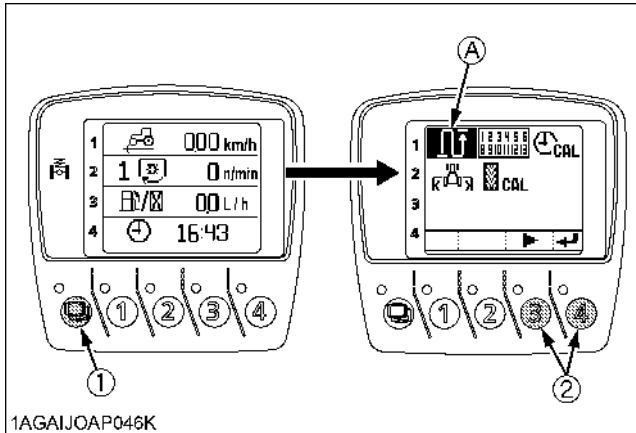
- (A) "Page feed"
- (B) "Stop (with work history enabled)"
- (C) "Restart (with work history disabled)"

STOP	<p>Press Switch 3 to select "STOP". Press Switch 4, and the following confirmation screen appears. Select "YES" and press Switch 4, and the work history will stop and various setting mode screen shows up instead.</p>  <p style="text-align: center; font-size: small;">1AGAIJNAP004R</p>
RESTART	<p>Press Switch 3 to select "RESTART". Press Switch 4, and the clock setting screen shows up. Set the clock, and the work history will get restarted.</p>
CLEAR	<p>Press Switch 3 to select "CLEAR". Press Switch 4, and the following confirmation screen appears. Select "YES" and press Switch 4, and the work history will be cleared and get in initial state. Then various setting mode screen shows up instead.</p>  <p style="text-align: center; font-size: small;">1AGAIJNAP004S</p>

7. When the mode selector switch is pressed on the calendar screen, various setting mode screen shows up again. Press the same switch once more, and the usual mode screen is resumed.

### ■ Measuring the Distance

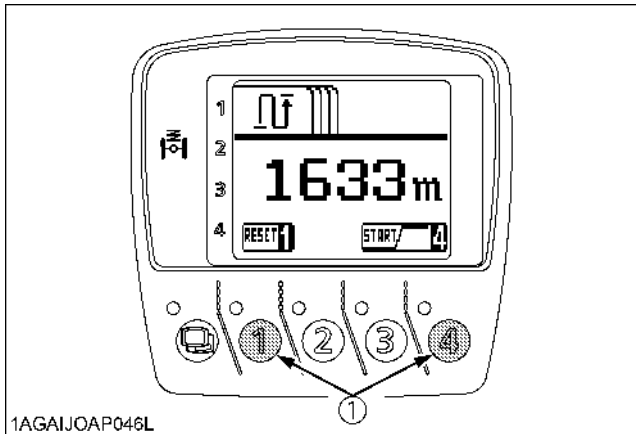
1. Hold down the mode selector switch on the usual screen, and various setting mode screen shows up. Press Switch 3 to select the distance measuring mode. Press Switch 4, and the distance measuring mode screen appears.



1AGAIJOAP046K

- (1) Mode selector switch      (A) "Distance measuring mode"  
 (2) Switch

2. Press Switch 1, and the distance data goes back to "0". Press Switch 4, and measuring the distance starts. Press this switch again to stop the measurement.

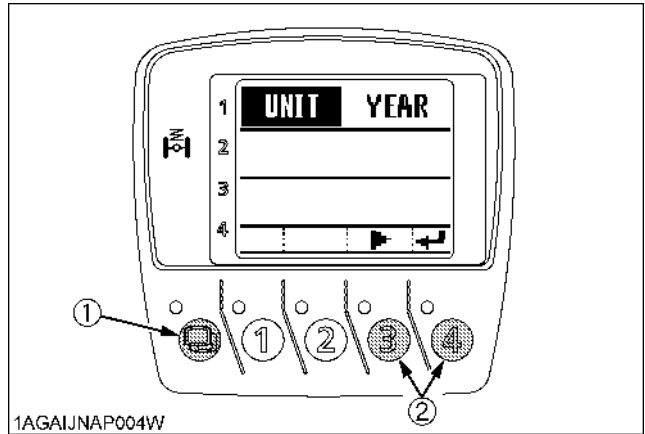


1AGAIJOAP046L

- (1) Switch

### ■ Changing the Units and Dates

1. While holding down the mode selector switch, turn on the key switch. The following screen appears.
2. Using Switch 3, select "UNIT" or "YEAR". Press Switch 4, and the setting screen shows up.

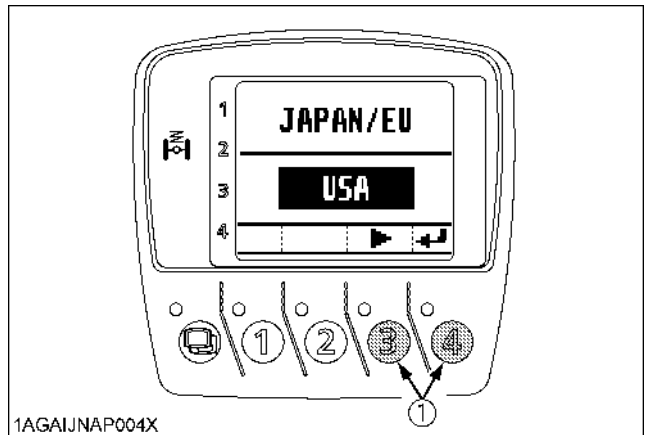


1AGAIJNAP004W

- (1) Mode selector switch  
 (2) Switch

#### ◆ Setting the units

Using Switch 3, select the units of "JAPAN/EU" or "USA". Press Switch 4 to save this setting.



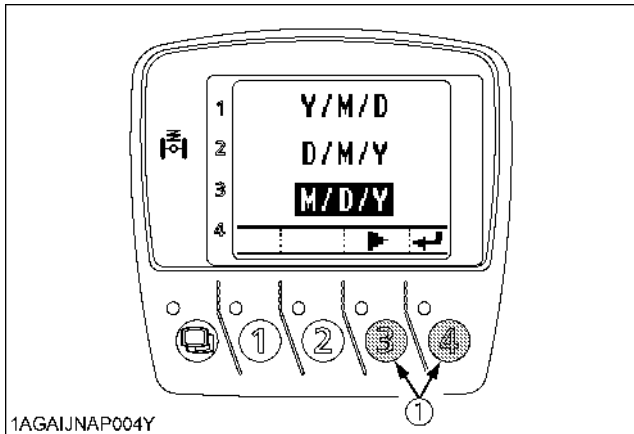
1AGAIJNAP004X

- (1) Switch

	Unit
JAPAN/EU	km, L, °C
USA	ft, gal, °F

### ◆ Setting the year

Using Switch 3, select the date to display. Press Switch 4 to enter this year.



(1) Switch

Y / M / D	Year / Month / Day
D / M / Y	Day / Month / Year
M / D / Y	Month / Day / Year

3. Press the mode selector switch, and the item select screen reappears.
4. Finally, turn off the key switch.

## MAXIMUM MASSES

### ■ Maximum Permissible Load of The Tire

#### [M100GX-II, M110GX-II]

Tire combination		1	2	3	4	5	6	7	8
Tire size	Front tire	340/85R24	360/80R24	380/70R24	380/70R20	360/70R20	8.3R32	280/85R28	360/70R24
	Rear tire	460/85R34	480/80R34	520/70R34	540/65R30	540/65R28	270/95R44	300/95R42	380/80R38
Maximum permissible load of the tire	Front tire	1650	2725	2725	1500	1400	875	1235	1500
	Rear tire	3075	4375	4375	2900	2820	1750	1960	2650
Maximum axle load	Front tire	3300	3300	3300	3300	3300	1750	2470	3000
	Rear tire	6150	6150	6150	6150	6150	3500	3920	5300
	Technically permissible maximum laden mass	8200	8200	8200	8200	8200	5250	6390	8200
	Tractor	4210-4280	4210-4280	4210-4280	4290-4360	4310-4380	1320-1390	2480-2550	4590-4660
Minimum limit percentages	Front tire	25.0%	25.0%	25.0%	29.3%	31.2%	33.3%	38.7%	35.4%
	Rear tire	60.0%	60.0%	60.0%	63.4%	65.9%	66.7%	61.3%	63.4%
	Technically permissible maximum laden mass	100%	100%	100%	100%	100%	100%	100%	100%

#### [M128GX-II, M135GX-II]

Tire combination		1	2	3	4	5
Tire size	Front tire	420/70R24	14.9R24	400/80R24	230/95R32	320/85R28
	Rear tire	520/70R38	18.4R38	480/80R38	270/95R48	320/90R46
Maximum permissible load of the tire	Front tire	1900	1820	3250	1300	1600
	Rear tire	3350	3140	5300	2020	3220
Maximum axle load	Front tire	3580	3580	3680	2600	3200
	Rear tire	6280	6280	6900	4040	6440
	Technically permissible maximum laden mass	9200	9200	9200	6640	9200
	Tractor	4640-4720	4670-4750	4650-4730	2210-2280	5330-5400
Minimum limit percentages	Front tire	31.7%	31.7%	25.0%	39.2%	30.0%
	Rear tire	61.1%	61.1%	60.0%	60.8%	65.2%
	Technically permissible maximum laden mass	100%	100%	100%	100%	100%

## ■ Trailer Load Capacity

[M100GX-II, M110GX-II]

TYPE: A (hitch made by: V.ORLANDI)

			Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking		
Hitch Type	Coupling Type		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	
KB31	Draw-bar	Short type EEC (SL03DB)	11200	3000	16200	8000	16200	8000	40000	32000	
		Long type EEC (EG30)	Position A	11200	3000	16200	8000	16200	8000	18200	10000
			Position B							21700	13500
			Position C							25200	17000
	CUNA (JD904)	11200	3000	14200	6000	14200	6000	14200	6000		
	Hi-hitch	EEC Manual (MH31H)		11200	3000	16200	8000	16200	8000	40000	32000
		EEC Swing (GB01)		11200	3000	16200	8000	16200	8000	24200	16000
		CUNA C (MHC)		11200	3000	14200	6000	14200	6000	14200	6000
		CUNA D2 (MH D2-1)		11200	3000	16200	8000	16200	8000	22200	14000
		CUNA D3 (MH D3)		11200	3000	16200	8000	16200	8000	28200	20000
Piton-fix (KB0SB14)			11200	3000	16200	8000	16200	8000	40000	32000	
KB3F	Draw-bar	Short type EEC (SL03DB)	11200	3000	16200	8000	16200	8000	40000	32000	
		Long type EEC (EG30)	Position A	11200	3000	16200	8000	16200	8000	18200	10000
			Position B							21700	13500
			Position C							25200	17000
	CUNA (JD904)	11200	3000	14200	6000	14200	6000	14200	6000		
	Hi-hitch	EEC Manual (MH31H)		11200	3000	16200	8000	16200	8000	40000	32000
		EEC Swing (GB01)		11200	3000	16200	8000	16200	8000	24200	16000
		CUNA C (MHC)		11200	3000	14200	6000	14200	6000	14200	6000
		CUNA D2 (MH D2-1)		11200	3000	16200	8000	16200	8000	22200	14000
		CUNA D3 (MH D3)		11200	3000	16200	8000	16200	8000	28200	20000
Piton-fix			11200	3000	16200	8000	16200	8000	40000	32000	

**TYPE: B (hitch made by: SCHARMÜLLER)**

		Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking	
		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer
Drawbar (820825)		11200	3000	16200	8000	16200	8000	21200	13000
High-hitch	Automatic Clevis (33350)	11200	3000	16200	8000	16200	8000	40000	32000
	Manual Clevis (3200)	11200	3000	16200	8000	16200	8000	40000	32000
	K80 ball with Grab handle (6700)	11200	3000	16200	8000	16200	8000	40000	32000
	K80 ball without Grab handle (563304)	11200	3000	16200	8000	16200	8000	40000	32000
Piton-fix (563301)		11200	3000	16200	8000	16200	8000	40000	32000

**TYPE: C (hitch made by: DROMONE)**

		Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking	
		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer
Drawbar (RMF6000)		11200	3000	16200	8000	16200	8000	40000	32000
Towing hook (RMF6000)		11200	3000	16200	8000	16200	8000	40000	32000

## TYPE: A (hitch made by: V.ORLANDI)

Hitch Type	Coupling Type		Height above ground [mm]								Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
			Tire combination *1									
			1	2	3	4	5	6	7	8		
KB31	Drawbar	Short type EEC	455	455	455	395	365	440	450	430	825	2000 (2039)
		Long type EEC	970 (Position A)									1350 (1376) (Position A)
			855 (Position B)									1815 (1850) (Position B)
	805 (Position C)										2020 (2059) (Position C)	
		CUNA	525	525	525	465	435	510	520	500	880 to 1080	0 (0)
	Hi-hitch	EEC Manual	960	960	960	900	870	945	950	930	625	1270 (1295)
			920	920	920	860	830	905	910	890		1360 (1386)
			880	880	880	820	790	865	870	850		1440 (1468)
			745	745	745	685	655	730	735	715		1760 (1794)
			625	625	625	565	535	610	615	595		2080 (2120)
			585	585	585	525	495	570	575	555		2200 (2243)
			545	545	545	485	455	530	535	515		2320 (2365)
			505	505	505	445	415	490	495	475		2450 (2497)
		EEC Swing	960	960	960	900	870	945	950	930	630	1270 (1295)
			920	920	920	860	830	905	910	890		1350 (1376)
			880	880	880	820	790	865	870	850		1440 (1468)
			745	745	745	685	655	730	735	715		1760 (1794)
			625	625	625	565	535	610	615	595		2070 (2110)
			585	585	585	525	495	570	575	555		2190 (2232)
			545	545	545	485	455	530	535	515		2310 (2355)
			505	505	505	445	415	490	495	475		2440 (2487)
		CUNA C	960	960	960	900	870	945	950	930	590	1390 (1417)
			920	920	920	860	830	905	910	890		1472 (1500)
			880	880	880	820	790	865	870	850		
			745	745	745	685	655	730	735	720		
			625	625	625	565	535	610	615	600		
			585	585	585	525	495	570	575	560		
			545	545	545	485	455	530	535	520		
			505	505	505	445	415	490	495	480		
		CUNA D2	960	960	960	900	870	945	950	930	585	
			920	920	920	860	830	905	910	890		1490 (1519)
			880	880	880	820	790	865	870	850		1580 (1611)
			745	745	745	685	655	730	735	720		1910 (1947)
	625		625	625	565	535	610	615	600	1962 (2000)		
	585		585	585	525	495	570	575	560			
	545		545	545	485	455	530	535	520			
	505		505	505	445	415	490	495	480			
	CUNA D3	960	960	960	900	870	945	950	930	595	1380 (1407)	
		920	920	920	860	830	905	910	890		1470 (1498)	
		880	880	880	820	790	865	870	850		1560 (1590)	
		745	745	745	685	655	730	735	720		1890 (1927)	
		625	625	625	565	535	610	615	600		2230 (2273)	
585		585	585	525	495	570	575	560	2350 (2396)			
545		545	545	485	455	530	535	520	2452 (2500)			
505		505	505	445	415	490	495	480				
	Piton-fix	500	500	500	440	410	485	490	470	550	2500 (2548)	

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.

TYPE: A (hitch made by: V.ORLANDI)

Hitch Type	Coupling Type		Height above ground [mm]								Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]	
			Tire combination *1										
			1	2	3	4	5	6	7	8			
KB3F	Drawbar	Short type EEC	475	475	475	415	385	460	465	445	825	2000 (2039)	
		Long type EEC	970 (Position A)										1350 (1376) (Position A)
			855 (Position B)										1815 (1850) (Position B)
	805 (Position C)											2020 (2059) (Position C)	
	CUNA	545	545	545	465	455	530	535	515	880 to 1080	0 (0)		
	Hi-hitch	EEC Manual	960	960	960	900	870	945	950	930	625	1300 (1325)	
			920	920	920	860	830	905	910	890		1390 (1417)	
			880	880	880	820	790	865	870	850		1470 (1498)	
			785	785	785	725	695	775	780	760		1690 (1723)	
			695	695	695	635	605	680	685	665		1930 (1967)	
		EEC Swing	960	960	960	900	870	945	950	930	630	1300 (1325)	
			920	920	920	860	830	905	910	890		1390 (1417)	
			880	880	880	820	790	865	870	850		1470 (1498)	
			785	785	785	725	695	775	780	760		1690 (1723)	
		CUNA C	960	960	960	900	870	945	950	930	590	1300 (1325)	
			920	920	920	860	830	905	910	890		1390 (1417)	
			880	880	880	820	790	865	870	850		1470 (1498)	
	780		780	780	720	690	765	770	750	1690 (1723)			
	700		700	700	640	610	680	685	670	1930 (1967)			
	CUNA D2	960	960	960	900	870	945	950	930	585	1300 (1325)		
		920	920	920	860	830	905	910	890		1390 (1417)		
		880	880	880	820	790	865	870	850		1470 (1498)		
		780	780	780	720	690	765	770	750		1690 (1723)		
		700	700	700	640	610	680	685	670		1930 (1967)		
	CUNA D3	960	960	960	900	870	945	950	930	595	1300 (1325)		
		920	920	920	860	830	905	910	890		1390 (1417)		
		880	880	880	820	790	865	870	850		1470 (1498)		
		780	780	780	720	690	765	770	750		1690 (1723)		
		700	700	700	640	610	680	685	670		1930 (1967)		
	Piton-fix	500	500	500	440	410	485	490	470	550	2920 (2977)		

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.



**TYPE: B (hitch made by: SCHARMÜLLER)**

Type		Height above ground [mm]								Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
		Tire combination *1									
		1	2	3	4	5	6	7	8		
Drawbar		540	540	540	480	450	525	530	510	750 (Position A)	1800 (1835) (Position A)
										650 (Position B)	2000 (2039) (Position B)
Hi-hitch	Automatic Clevis	980	980	980	915	890	960	965	945	570	1340 (1366)
		905	905	905	840	815	885	890	870		1500 (1529)
		820	820	820	760	730	800	805	785		1700 (1733)
		730	730	730	670	640	710	715	695		1930 (1967)
		640	640	640	580	550	620	625	605		1962 (2000)
		560	560	560	495	470	540	545	525		
	Manual Clevis	980	980	980	915	890	960	965	945	560	1350 (1376)
		905	905	905	840	815	885	890	870		1510 (1539)
		820	820	820	760	730	800	805	785		1710 (1743)
		730	730	730	670	640	710	715	695		1950 (1988)
		640	640	640	580	550	620	625	605		1962 (2000)
		560	560	560	495	470	540	545	525		
	K80 ball with Grab handle	960	960	960	895	870	945	950	930	615	1330 (1356)
		885	885	885	820	795	870	875	855		1480 (1509)
		800	800	800	740	710	785	790	770		1670 (1702)
		710	710	710	650	620	695	700	680		1900 (1937)
		620	620	620	560	530	605	610	590		1962 (2000)
		540	540	540	475	450	525	530	510		
	K80 ball without Grab handle	1025	1025	1025	960	935	1010	1015	995	530	1290 (1315)
		950	950	950	890	860	935	940	920		1450 (1478)
		870	870	870	805	775	850	860	840		1650 (1682)
		780	780	780	715	685	760	770	750		1880 (1916)
		690	690	690	625	595	670	680	660		1962 (2000)
		605	605	605	540	515	590	595	575		
Piton-fix	1025	1025	1025	960	935	1005	1010	990	530	1290 (1315)	
	950	950	950	890	860	930	935	915		1450 (1478)	
	870	870	870	805	775	850	855	835		1650 (1682)	
	780	780	780	715	685	760	765	745		1880 (1916)	
	690	690	690	625	595	670	675	655		1962 (2000)	
	605	605	605	540	515	585	590	570			
	490	490	490	430	400	475	480	460			

**TYPE: C (hitch made by: DROMONE)**

Type		Height above ground [mm]								Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
		Tire combination *1									
		1	2	3	4	5	6	7	8		
Drawbar		470	470	470	410	380	455	460	440	790 (Position A)	1700 (1733)
										735 (Position B)	
Towing hook		465	465	465	405	375	450	455	435	510	3000 (3058)

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.

**[M128GX-II, M135GX-II]**

TYPE: A (hitch made by: V.ORLANDI)

			Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking		
Hitch Type	Coupling Type		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	
KB31	Drawbar	Short type EEC (SL03DB)	12200	3000	17200	8000	17200	8000	40000	32000	
		Long type EEC (EG30)	Position A	12200	3000	17200	8000	17200	8000	19200	10000
			Position B							22700	13500
			Position C							26200	17000
	CUNA (JD904)		12200	3000	15200	6000	15200	6000	15200	6000	
	Hi-hitch	EEC Manual (MH31H)		12200	3000	17200	8000	17200	8000	40000	32000
		EEC Swing (GB01)		12200	3000	17200	8000	17200	8000	25200	16000
		CUNA C (MHC)		12200	3000	15200	6000	15200	6000	15200	6000
		CUNA D2 (MH D2-1)		12200	3000	17200	8000	17200	8000	23200	14000
		CUNA D3 (MH D3)		12200	3000	17200	8000	17200	8000	29200	20000
Piton-fix (KB0SB14)			12200	3000	17200	8000	17200	8000	40000	32000	
KB3F	Drawbar	Short type EEC (SL03DB)	12200	3000	17200	8000	17200	8000	40000	32000	
		Long type EEC (EG30)	Position A	12200	3000	17200	8000	17200	8000	19200	10000
			Position B							22700	13500
			Position C							26200	17000
	CUNA (JD904)		12200	3000	15200	6000	15200	6000	15200	6000	
	Hi-hitch	EEC Manual (MH31H)		12200	3000	17200	8000	17200	8000	40000	32000
		EEC Swing (GB01)		12200	3000	17200	8000	17200	8000	25200	16000
		CUNA C (MHC)		12200	3000	15200	6000	15200	6000	15200	6000
		CUNA D2 (MH D2-1)		12200	3000	17200	8000	17200	8000	23200	14000
		CUNA D3 (MH D3)		12200	3000	17200	8000	17200	8000	29200	20000
Piton-fix			12200	3000	17200	8000	17200	8000	40000	32000	

**TYPE: B (hitch made by: SCHARMÜLLER)**

		Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking	
		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer
Drawbar (820825)		12200	3000	17200	8000	17200	8000	22200	13000
High-hitch	Automatic Clevis (33350)	12200	3000	17200	8000	17200	8000	40000	32000
	Manual Clevis (3200)	12200	3000	17200	8000	17200	8000	40000	32000
	K80 ball with Grab handle (6700)	12200	3000	17200	8000	17200	8000	40000	32000
	K80 ball without Grab handle (563304)	12200	3000	17200	8000	17200	8000	40000	32000
Piton-fix (563301)		12200	3000	17200	8000	17200	8000	40000	32000

**TYPE: C (hitch made by: DROMONE)**

		Unbraked towable mass		Independently braked towable mass		Inertia-braked towable mass		Towable mass when fitted with hydraulic or pneumatic braking	
		Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer	Total technically permissible masses of the tractor-trailer combination	Maximum mass of the trailer
Drawbar (RMF6000)		12200	3000	17200	8000	17200	8000	40000	32000
Towing hook (RMF6000)		12200	3000	17200	8000	17200	8000	40000	32000

## TYPE: A (hitch made by: V.ORLANDI)

Hitch Type	Coupling Type	Height above ground [mm]					Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]	
		Tire combination *1							
		1	2	3	4	5			
KB31	Drawbar	Short type EEC	510	485	500	500	500	825	2000 (2039)
		Long type EEC	580	555	570	570	570	970 (Position A)	1350 (1376) (Position A)
								855 (Position B)	1815 (1850) (Position B)
								805 (Position C)	2020 (2059) (Position C)
		CUNA	580	555	570	570	570	880 to 1080	0 (0)
	Hi-hitch	EEC Manual	1015	990	1005	1005	1005	625	1520 (1549)
			975	950	965	965	965		1610 (1641)
			935	910	925	925	925		1700 (1733)
			800	775	790	790	790		1940 (1978)
			680	655	670	670	670		2200 (2243)
			640	615	630	630	630		2500 (2548)
			600	575	590	590	590		
			560	535	550	550	550		
		EEC Swing	1015	990	1005	1005	1005	630	1560 (1590)
			975	950	965	965	965		1630 (1662)
			935	910	925	925	925		1720 (1753)
			800	775	790	790	790		2070 (2110)
			680	655	670	670	670		2420 (2467)
			640	615	630	630	630		2452 (2499)
			600	575	590	590	590		
			560	535	550	550	550		
		CUNA C	1015	990	1005	1005	1005	590	1472 (1500)
			975	950	965	965	965		
			935	910	925	925	925		
			800	775	790	790	790		
			680	655	670	670	670		
			640	615	630	630	630		
			600	575	590	590	590		
			560	535	550	550	550		
		CUNA D2	1015	990	1005	1005	1005	585	1630 (1662)
975			950	965	965	965	1730 (1764)		
935			910	925	925	925	1830 (1865)		
800			775	790	790	790	1962 (2000)		
680			655	670	670	670			
640			615	630	630	630			
600	575		590	590	590				
560	535		550	550	550				
CUNA D3	1015	990	1005	1005	1005	595	1620 (1651)		
	975	950	965	965	965		1710 (1743)		
	935	910	925	925	925		1810 (1845)		
	800	775	790	790	790		2180 (2222)		
	680	655	670	670	670		2453 (2500)		
	640	615	630	630	630				
	600	575	590	590	590				
	560	535	550	550	550				
	Piton-fix	555	530	545	545	545	550	2500 (2548)	

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.

## TYPE: A (hitch made by: V.ORLANDI)

Hitch Type	Coupling Type		Height above ground [mm]					Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
			Tire combination *1						
			1	2	3	4	5		
KB3F	Drawbar	Short type EEC	530	500	520	520	515	825	2000 (2039)
		Long type EEC	600	570	590	590	585	970 (Position A)	1350 (1376) (Position A)
								855 (Position B)	1815 (1850) (Position B)
								805 (Position C)	2090 (2130) (Position C)
	CUNA	600	570	590	590	585	880 to 1080	0 (0)	
	Hi-hitch	EEC Manual	1015	990	1005	1005	1005	625	1500 (1529)
			975	950	965	965	965		1590 (1621)
			935	910	925	925	925		1690 (1723)
			840	820	835	835	835		1920 (1957)
			750	725	740	740	740		2180 (2222)
			1015	990	1005	1005	1005		630
		975	950	965	965	965	1650 (1682)		
		935	910	925	925	925	1740 (1784)		
		840	820	835	835	835	2090 (2130)		
		750	725	740	740	740	2440 (2487)		
		CUNA C	1015	990	1005	1005	1005	590	
			975	950	965	965	965		
			935	910	925	925	925		
			845	820	835	835	835		
			750	725	740	740	740		
		CUNA D2	1015	990	1005	1005	1005	585	1630 (1662)
			975	950	965	965	965		1730 (1764)
			935	910	925	925	925		1830 (1865)
			845	820	835	835	835		1962 (2000)
			750	725	740	740	740		
		CUNA D3	1015	990	1005	1005	1005	595	1620 (1651)
			975	950	965	965	965		1710 (1743)
			935	910	925	925	925		1810 (1845)
			845	820	835	835	835		2050 (2090)
	750		725	740	740	740	2320 (2365)		
Piton-fix	575	550	565	565	565	460	3000 (3058)		

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.

**TYPE: B (hitch made by: SCHARMÜLLER)**

Type		Height above ground [mm]					Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
		Tire combination *1						
		1	2	3	4	5		
Drawbar		595	570	585	585	585	750 (Position A)	1800 (1835) (Position A)
		595	570	585	585	585	650 (Position B)	2000 (2039) (Position B)
Hi-hitch	Automatic Clevis	1030	1005	1020	1020	1020	570	1570 (1600)
		960	935	950	950	950		1750 (1784)
		875	850	865	865	865		1962 (2000)
		785	760	775	775	775		
		695	670	685	685	685		
		610	585	600	600	600		
		500	475	490	490	490		
		1030	1005	1020	1020	1020		
	960	935	950	950	950	1760 (1794)		
	875	850	865	865	865	1962 (2000)		
	785	760	775	775	775			
	695	670	685	685	685			
	610	585	600	600	600			
	500	475	490	490	490			
	1010	985	1005	1005	1005		615	1560 (1590)
	940	915	930	930	930	1730 (1764)		
	855	830	845	845	845	1940 (1978)		
	765	740	755	755	755	1962 (2000)		
	675	650	665	665	665			
	590	565	585	585	585			
	480	455	470	470	470			
	K80 ball without Grab handle	1080	1055	1070	1070	1070		530
		1005	980	995	995	995	1700 (1733)	
		920	895	915	915	915	1910 (1947)	
		830	805	825	825	825	1962 (2000)	
		740	715	735	735	735		
		660	635	650	650	650		
		545	520	535	535	535		
Piton fix		1080	1055	1070	1070	1070	530	
	1005	980	995	995	995	1700 (1733)		
	920	895	910	910	910	1910 (1947)		
	830	805	820	820	820	1962 (2000)		
	740	715	730	730	730			
	660	635	650	650	650			
	545	520	535	535	535			

**TYPE: C (hitch made by: DROMONE)**

Type		Height above ground [mm]					Distance from the vertical plane passing through the axis of the rear axle [mm]	Maximum static vertical load/ technically permissible mass on the coupling point [daN (kg)]
		Tire combination *1						
		1	2	3	4	5		
Drawbar		525	500	515	515	515	790 (Position A)	1700 (1733)
							735 (Position B)	
Towing hook		520	495	510	510	510	510	3000 (3058)

\*1 Detail of the tire combination, see "Maximum Permissible Load of The Tire" section.

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