BAD BOY TRACTORS

MODEL
3026H



PLEASE REFER TO THIS MANUAL BEFORE YOU USE THE PRODUCT. ALWAYS PLACE THIS MANUAL NEAR THE PRODUCT AND NOTE THAT THIS MANUAL SHOULD BE TRANSFFERED TO OTHERS IF YOU TRANSFER THE PRODUCT TO THEM.

OPERATOR'S MANUAL

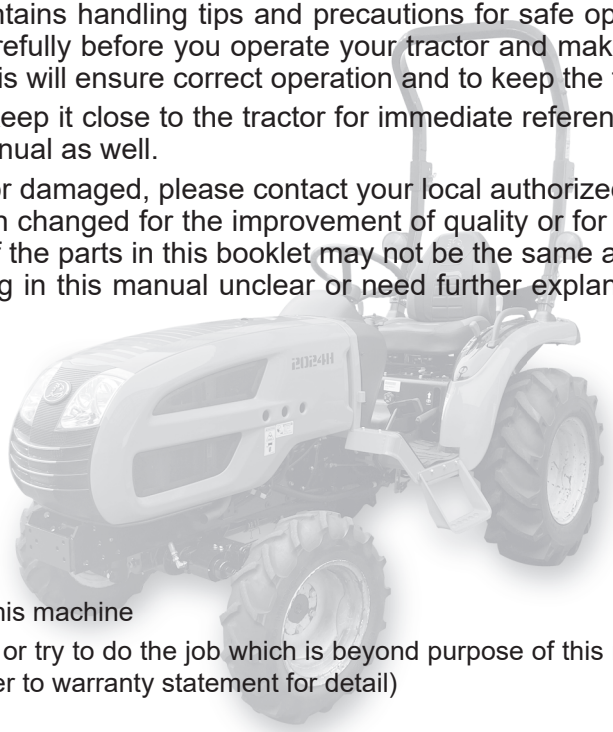
OPERATOR'S MANUAL
MODEL 3026H

PREFACE

This operator's manual contains handling tips and precautions for safe operation of your **BAD BOY 2024H / 3026H** tractor. Read it carefully before you operate your tractor and make sure that you have a full understanding of this manual. This will ensure correct operation and to keep the tractor optimum condition.

After reading the manual, keep it close to the tractor for immediate reference. When you loan your tractor to someone else, loan the manual as well.

In case the manual is lost or damaged, please contact your local authorized dealer for a copy. Some parts of this product may have been changed for the improvement of quality or for safety reasons, in which case the photographs or drawings of the parts in this booklet may not be the same as the actual parts installed on this product. If you find anything in this manual unclear or need further explanation, please contact your authorized dealer.

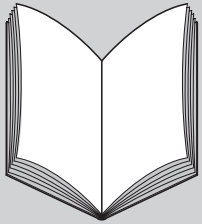


※ Regarding the purpose of this machine

Do not modify the machine or try to do the job which is beyond purpose of this machine. Otherwise it may cause the warranty cancellation. (Refer to warranty statement for detail)

TABLE OF CONTENTS

SECTION



- FOR SAFE OPERATION 1
- REGARDING WARRANTY SUPPORT 2
- SPECIFICATION 3
- DESCRIPTION OF OPERATING SYSTEM 4
- CONTROLS AND COMPONENTS 5
- PERIODIC CHECKS AND MAINTENANCE 6
- DIAGNOSIS AND TROUBLE SHOOTINGS 7
- STORAGE AND DISPOSAL 8

SAFETY AND VEHICLE DAMAGE WARNING

The instructions given with the following marks are very important for your safety.

DANGER	**Failure to observe the instruction given with this mark may result in death or injury.**
WARNING	**Failure to observe the instruction given with this mark may expose you to the risk of death or injury.**
CAUTION	**Failure to observe the instruction given with this mark may expose you to injury.** **• The section, " To Ensure Safe Operation," on the following pages details safety points to be observed to ensure safe operation of your tractor.** **• Please make sure you read it carefully before operating the tractor.**
NOTE	**This instruction is to give an additional description to operator so that he/she can operate the machine more effectively.**
IMPORTANT	**Read this Manual for correct and safe use of the product. Failure to use the product properly may result in an accident. Keep this Manual close to the tractor after you have read it.**

SYMBOL MARKS OF CONTROLLER

This manual includes symbol marks of the controller to simplify operations for maneuverability and maintenance. These meanings are as below, so carefully read it for a proper function.

	Left side indicator		High Beam		Preheat
	Right side indicator		Battery		Engine oil pressure

"USE AND DISPOSAL" POLICY CONCERNED WITH ENVIRONMENT PRESERVATION

We try our best to preserve the environment and are always concerned about our environmental impact at each step of planning, development, production, distribution, use and disposal of products, and for our overall operations through an “environmentally friendly” management system. We comply with international environmental regulations, environmental regulations designated by country and local authorities and other requirements with which we are in agreement, and we work towards the prevention of environmental pollution and the conservation of resources. We provide environmental education and have an awareness campaign to raise environmental awareness among all our employees and members of the supporting companies.

We introduce the “Use and Disposal” policy concerned with environment preservation as follows.

1. Please read the operator’s manual thoroughly for global environment protection. Overload on the machine shortens the product life and increases the harmful exhaust gas, which causes air pollution due to the incomplete combustion.
2. When replacing various fluids (for engine, transmission, hydraulics, etc.) by yourself, don’t dispose the used oil to anywhere not recommended. It can pollute the ground and water. Please contact your local dealer to dispose it legally.
3. Observe the operator’s manual and store or dispose the waste product properly. Rust, oil, etc. leaked from waste product improperly stored can pollute the ground and water. Accordingly for a waste product disposal, contact the necessarily “approved waste collection and recycling facility” to discard the used materials legally.

1. FOR SAFE OPERATION

SAFETY PRECAUTIONS 1-2

BEFORE USING THE MACHINE 1-2
BEFORE WORKING 1-11
WHILE WORKING 1-16
AFTER USING THE MACHINE 1-17
PRECAUTION FOR PROLONGED STORAGE 1-21
OTHER 1-23

DECAL MOUNTING LOCATION 1-31

DECAL 1-33

CAUTIONS FOR DECAL MAINTENANCE 1-36

SAFETY PRECAUTIONS

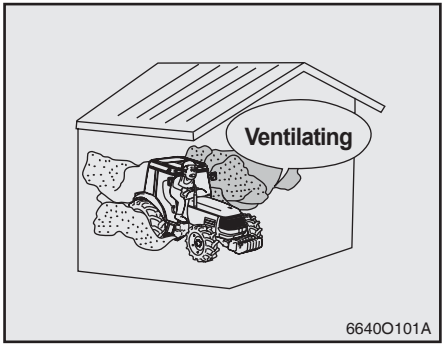
If the instructions in this chapter are ignored, it may cause a machine failure, a fatal accident with injury or death.

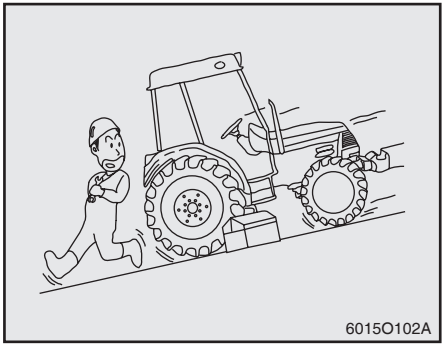
For further detailed information, refer to each chapter.

NOTE

- **Please understand that some of the figures or contents in this manual may not match with your own machine due to the product variation.**
- **This tractor is not designed for road driving. Please use a truck to move this machine on the public roads.**

BEFORE USING THE MACHINE





⚠ WARNING

Beware of exhaust gas;

- **Running the engine, repairing (tightening) any painted part or grinding any painted area should be performed only in a well-ventilated area.**

If this instruction is ignored, the exhaust gas or dust can cause intoxication and lead to fatal consequences.

⚠ WARNING

Wide and flat enough area;

- **Inspect or repair the tractor on a wide and flat area.**

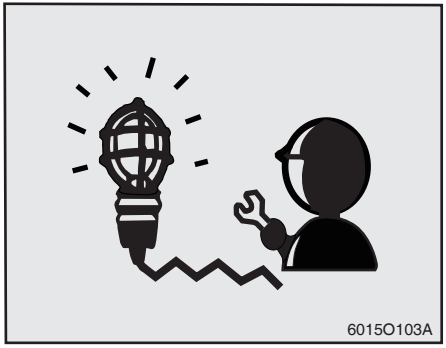
If this instruction is ignored, an unexpected accident may occur, such as overturning of the tractor.

⚠ WARNING

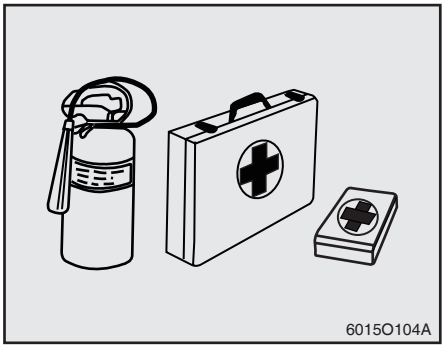
Clean and arranged place;

- **Do not mess the place by dust, mud, oil, or parts**

If this instruction is ignored, an unexpected accident may occur.



6015O103A



6015O104A

⚠ WARNING

Carry out maintenance in a well-lit place;

- **Make sure work area is properly lighted.**

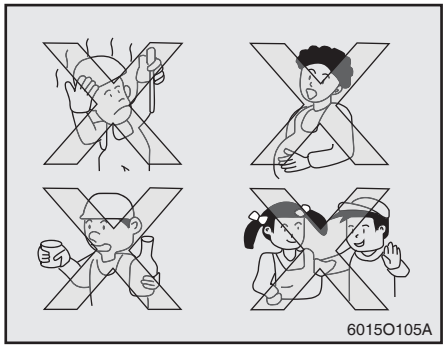
  Use safety work lights with protective covering when working inside or under the machine.

If this instruction is ignored, an unexpected accident may occur, possibly fire or explosion.

⚠ WARNING

Prepare for emergencies;

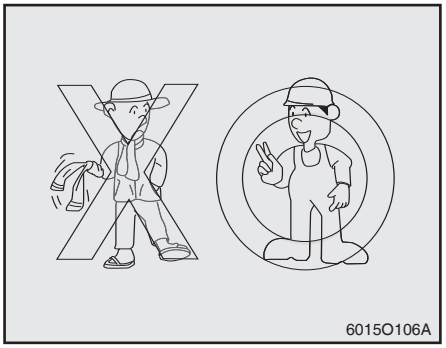
- **Keep a first aid kit and fire extinguisher handy at all times while operating machine.**



⚠ WARNING

Do not drive if you are;

- **Unable to concentrate because of fatigue, under treatment of medicine.**
- **Under the influence of alcohol**
- **Pregnant**
- **Under the age of 18**

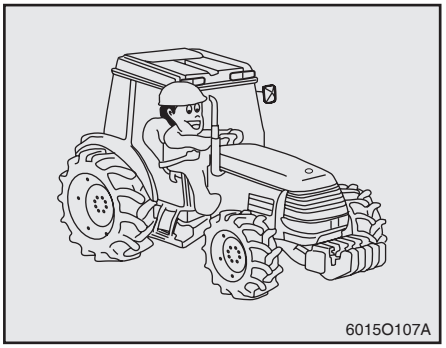


⚠ WARNING

Wear properly for the job;

- **Hair band, loose clothing is not allowed. Wear tight clothes, work hat, and work shoes which have rough bottoms against slippery surface.**

If this instruction is ignored, you will be exposed to a risk of being entangled, slipping, or falling.

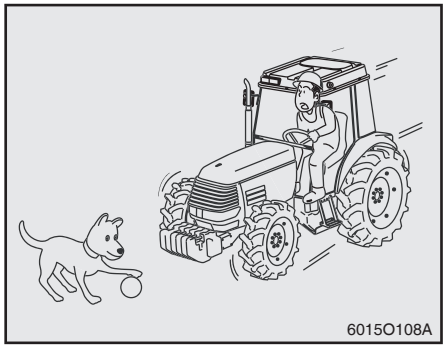


⚠ WARNING

Use only recommended implements;

- **Be sure to use only implements which are recommended by manufacturer.**

If this instruction is ignored, an unexpected accident may occur or tractor may not perform properly.

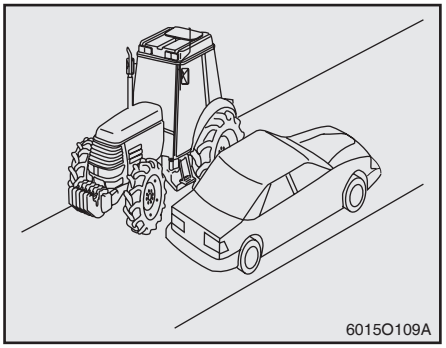

6015O108A

⚠ WARNING

Start the machine slowly after reminding bystander;

- **Start the engine after reminding bystanders of your intension. Do not start the machine abruptly.**

If this instruction is ignored, unexpected accident or injury can happen.

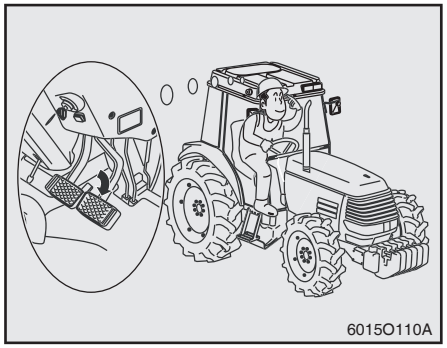

6015O109A

⚠ WARNING

Pay attention to the shoulder of the road;

- **When moving along the unpaved road with ditches or slanted sides, pay attention to the shoulders.**

If this instruction is ignored, there is a risk of falling over.

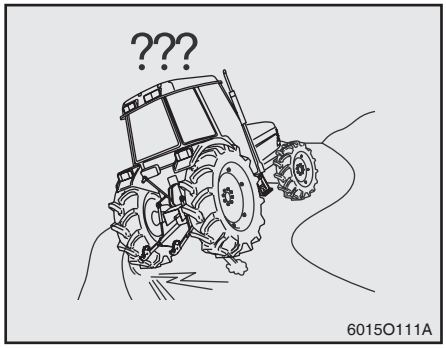

6015O110A

⚠ WARNING

Interlock the brake pedals (left and right) when driving on a road;

- **Make sure to interlock the brake pedals (left and right) when driving on a road**

If this instruction is ignored, there is a risk of abrupt turning or overturning due to one-sided braking.



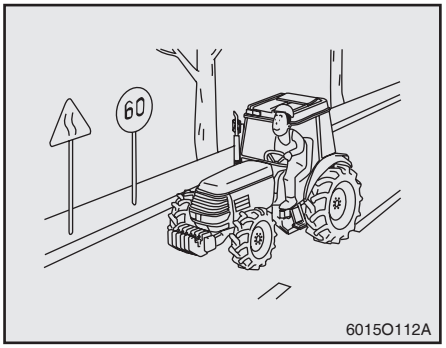
6015O111A

⚠ WARNING

Avoid rapid starting, braking, turning, and excessive speed;

- **Start and stop the tractor slowly. Reduce engine speed when making a turn and driving on hilly or curved roads.**

If this instruction is ignored, there is a risk of overturning or damage to the machine.



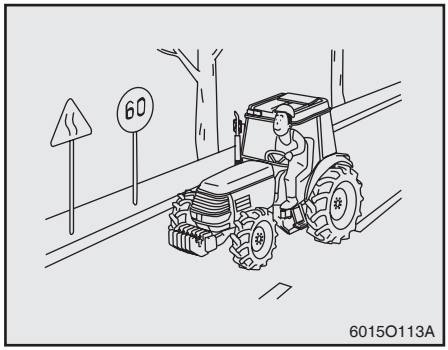
6015O112A

⚠ WARNING

Observe traffic regulations and drive safely;

- **When driving on the road, observe the traffic regulations and wear a hard hat and seat belt.**

If this instruction is ignored, there is a risk of accident or injury.



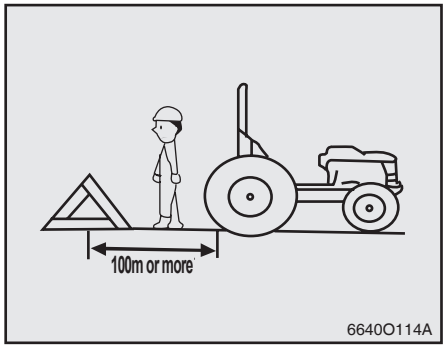
6015O113A

⚠ WARNING

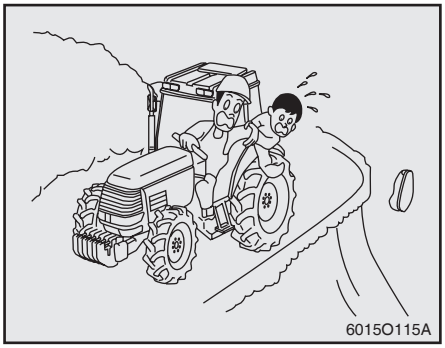
Observe traffic regulations when driving on a road safely;

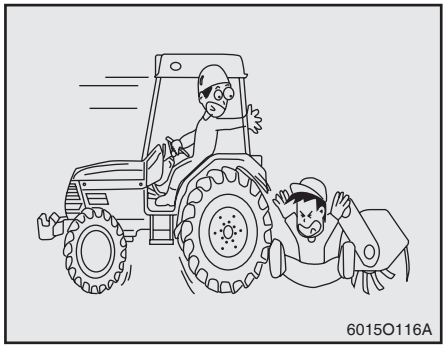
- **If the machine is broke down and stopped on the road, move the machine to a safe place out of the road.**

If this instruction is ignored, there is a risk of accident or injury.



6640O114A


6015O115A


6015O116A

⚠ WARNING

Put machine shut down sign if the machine is stopped on the road;

- **If the tractor is stopped on the road due to the machine failure, put the machine shut down sign (Emergency triangle reflex reflector) at least 100~200 yards before failed machine in accordance with local traffic laws.**

If this instruction is ignored, the machine can be hit by a car and cause a traffic accident with injury or death.

⚠ WARNING

Only driver should be aboard the tractor while in operation;

- **This tractor is designed to allow only one operator. The driver must not allow anyone else to get on the tractor.**
- **Especially never allow children on the machine while in use.**

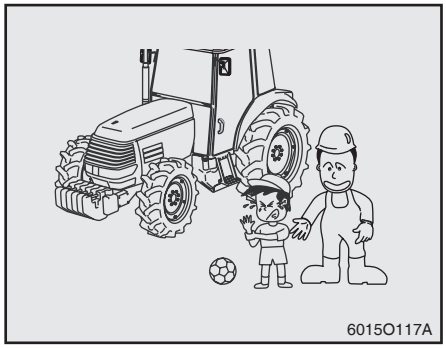
If this instruction is ignored, an unexpected accident may occur.

⚠ WARNING

Do not allow anyone near while operating the tractor or implement;

- **When engaging or disengaging the implement by moving the tractor, make sure that no one is around the tractor or between the implement and the tractor.**

[If this instruction is ignored, there is a risk of accident or injury.


6015O117A

⚠ WARNING

Precautions for children;

- **Fully warn the children and keep them away from the tractor at all times.**

If this instruction is ignored, unexpected accident of injury can happen.



6640O118A

⚠ WARNING

Properly train anyone operating;

- **Explain the handling tips in detail and make sure the driver reads the Manual before driving.**

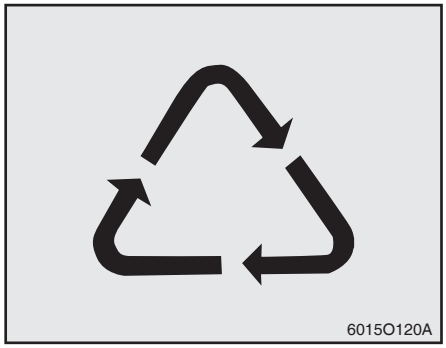
If this instruction is ignored, there is a risk of death, serious injury, or damage to tractor.


6015O119A

⚠ WARNING

Use Pesticides safely;

- **Careless use of agricultural chemicals such as disinfectants, herbicide, pesticides, rat poison, and fertilizer can be harmful to environment and human body. Be sure to observe all relevant regulation and instructions to use the agricultural chemicals efficiently and safely. Then it may prevent injury or accident.**


6015O120A

⚠ WARNING

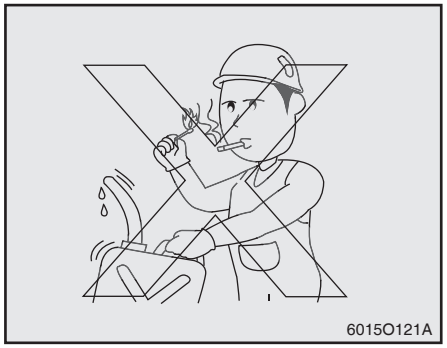
Observe all relevant regulations for disposal;

- **Careless disposal of waste product can be harmful to environment and ecosystem.**
- **When draining the fuel and oil, use a proper container that is not leaking, not food or beverage containers to prevent from drinking. Do not bury the waste product in the ground or dispose to drainage.**

⚠ WARNING

Observe all relevant regulations for disposal;

- **Be sure to observe all relevant regulations when you dispose of the engine oil, transmission oil, fuel, coolant, filters and battery.**
- **Never dispose the used oil directly to the river or drainage, follow legal procedures.**

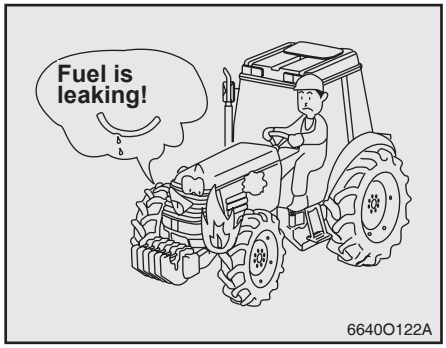

6015O121A

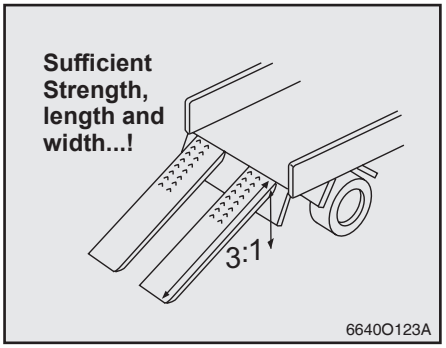
⚠ WARNING

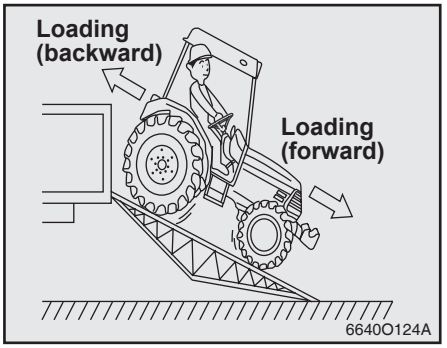
No smoking or open flame when fueling;

- **Do not smoke or use match or lighter while refueling.**

If this instruction is ignored, fuel can catch fire and lead to explosion or fatal injury with burn.







⚠ WARNING

Inspect for fuel leaking;

- **Check the fuel lines and hoses for damage or leakage**

If this instruction is ignored, there is a risk of fire.

⚠ WARNING

Consider the strength, length and width of loading ramps before using;

- **Loading or unloading must be done on a flat and safe place, the tractor engine switched off, and the parking brake engaged. The loading ramps must be non-slip and have sufficient strength, length, and width for the tractor.**

If this instruction is ignored, the tractor may roll backwards or fall off causing accident or injury.

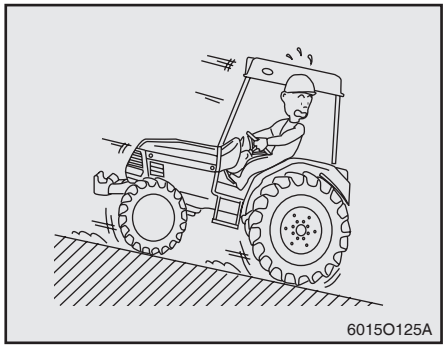
⚠ WARNING

Move the tractor backward when loading, and forward when unloading;

- **Move the tractor backward when loading it on the truck, and forward when unloading from the truck.**

If this instruction is ignored, the tractor may roll or fall off causing accident or Injury.

BEFORE WORKING

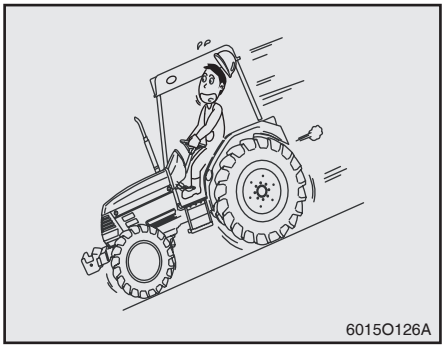

6015O125A

⚠ WARNING

Be careful when driving on the loading ramps;

- **Be careful when driving on the loading ramps. Do not disengage the clutch, shift the main shift, range shift, or forward/reverse lever.**

If this instruction is ignored, the tractor may roll backwards or fall causing accident or injury.

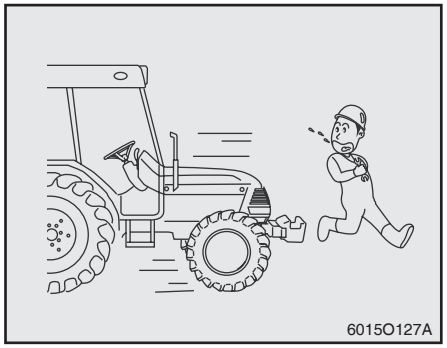

6015O126A

⚠ WARNING

Do not shift gears on slopes or on the loading ramps;

- **When driving on slopes or on loading ramps, select the proper shift gear before approaching the loading ramps and then do not shift the gear on the loading ramps.**

If this instruction is ignored, there is a risk of slipping, rolling, or overturning.

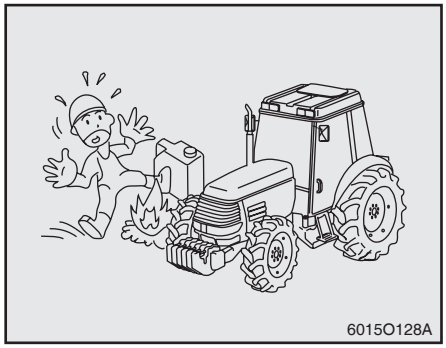

6015O127A

⚠ CAUTION

Stop the engine before maintenance;

- **Stop the engine before maintenance when checking, repairing or cleaning the machine.**

If this instruction is ignored, there is a risk of injury.



⚠ DANGER

Stop and cool down the engine before fueling or lubricating;

- **Do not fill the fuel while the engine is running or machine is hot.**

If this instruction is ignored, fuel can catch fire or lead to fatal injury with burn.

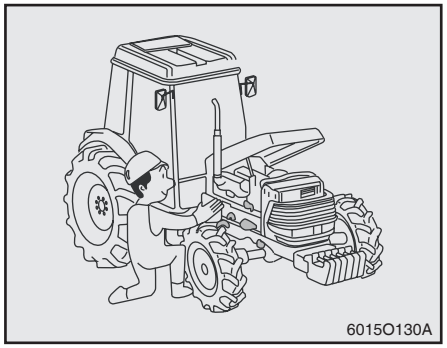


⚠ DANGER

No fire or spark near to the battery;

- **No fire or spark near to the battery while checking and charging the battery.**

If this instruction is ignored, the battery can cause a blaze or explosion and lead to a fatal injury or death.

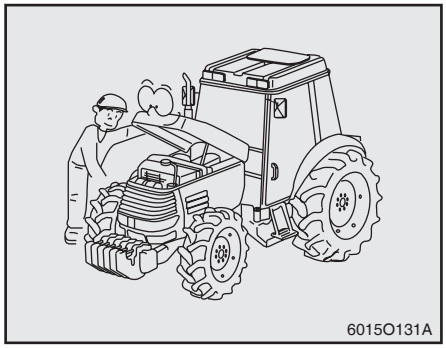


⚠ DANGER

Remove dirt and debris from muffler and engine before operating;

- **Clean if there is dust, debris or fuel on the engine or muffler before operating the machine every day.**

If this instruction is ignored, there is a risk of fire.


6015O131A



6640O132A



6640O133A

⚠ WARNING

Check electrical component and wire harness;

- **Check before work if the wire harnesses are burned or stuck on any other component, if the cord cover is peeled off or if the wire connectors are loose.**

If this instruction is ignored, the electrical short can cause fire and injury.

⚠ CAUTION

Do not over inflate tires;

- **When filling tires with air, do not inflate it beyond the maximum pressure stated in this manual. (Refer to P5-22 of Proper inflation pressure)**

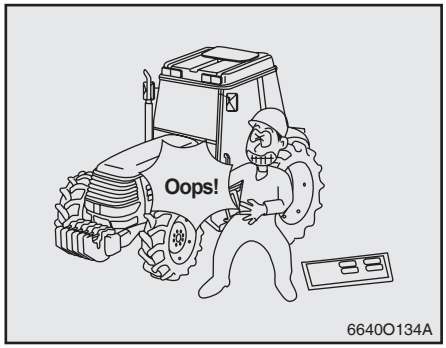
If this instruction is ignored, the tire may blow out, causing an injury.

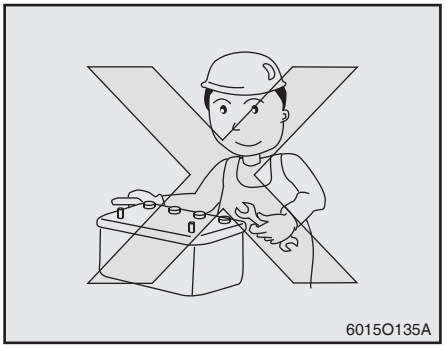
⚠ CAUTION

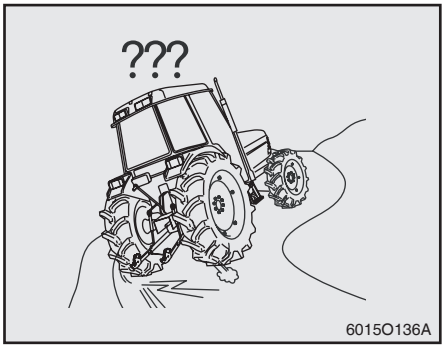
Use correct tools;

- **Use proper tools to carry out all maintenance procedure. Also have available the required tools in the tractor at all times.**

If this instruction is ignored, there is a risk of accident due to poor maintenance.







⚠ CAUTION

Secure hood and side covers before operating tractor;

- **After detaching the covers for checking or maintenance, make sure to put them back in their place.**

If this instruction is ignored, there is a risk that you may get entangled in the tractor or get injured.

⚠ CAUTION

Observe correct procedures when installing or removing the battery;

- **Connect the (+) terminal first when installing the battery, and disconnect the (-) terminal first when removing it.**

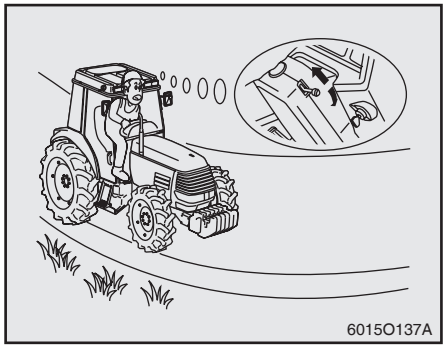
If this instruction is ignored, there is a risk of burn or fire due to short circuit.

⚠ WARNING

It is necessary to inspect the brake and steering wheel;

- **Check if the brakes work properly and evenly on both sides or if the steering wheel is loose.**

If this instruction is ignored, there is a risk of accident.

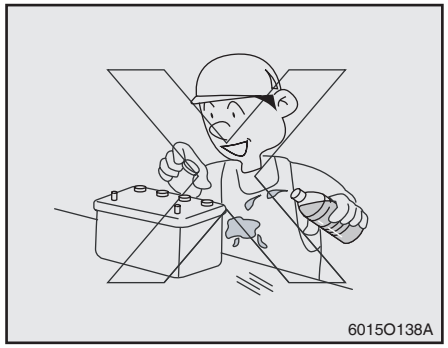

6015O137A

⚠ WARNING

Lock tilt lever and telescopic knob when adjusting steering wheel;

- **Except when you adjust the steering wheel, make sure that the tilt lever and telescopic knob are secured in the "No" and "Lock" positions.**

If this instruction is ignored, the tractor may not turn properly, causing an accident.

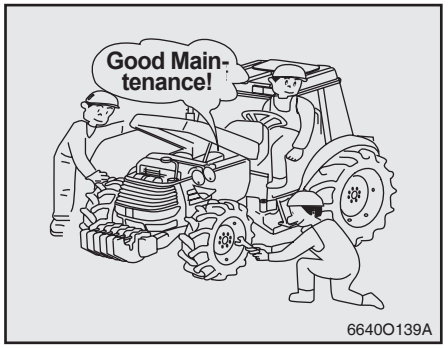

6015O138A

⚠ DANGER

Avoid contact with the battery solution;

- **Be careful that your body or your clothes do not come in contact with the battery solution. If it contacts your skin, wash immediately with water.**

If this instruction is ignored, it can burn your skin or clothes.



6640O139A

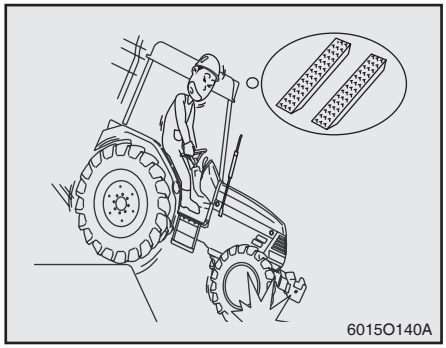
⚠ WARNING

Be sure to check before and after using machine;

- **Be sure to check the machine before and after using. Especially inspect and repair controls such as clutch, brake, lever, etc.**

If this instruction is ignored, the machine can be broken or lead to an accident or injury.

WHILE WORKING

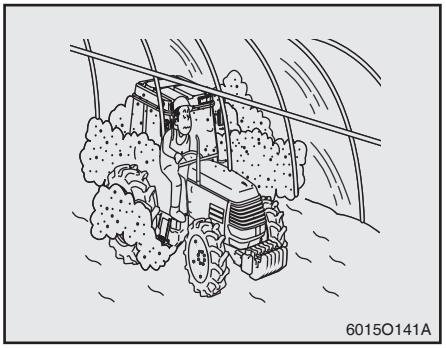


⚠ WARNING

Use the loading ramps when crossing a ditch or a dike;

- **Be sure to use the loading ramps when crossing a ditch or dike, or when passing through soft land. The loading ramps must be suitable for the tractor in width, length and strength.**

If this instruction is ignored, there is a risk of accident that the tractor may slip or turn over.

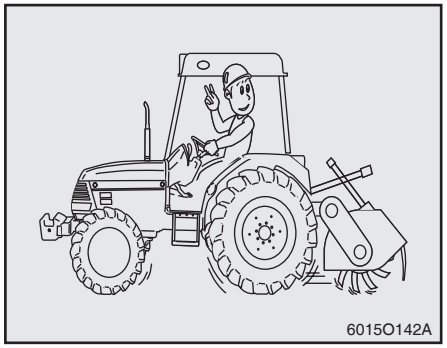


⚠ WARNING

Properly ventilate when working in a green house;

- **Ventilate the green house to let out the exhaust gas.**

If this instruction is ignored, the exhaust gas can cause intoxication and lead to fatal consequences.

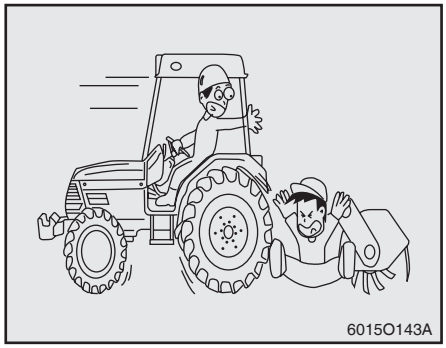


⚠ WARNING

Pay attention and keep hands on the steering wheel while driving;

If this instruction is ignored, there is a risk of accident or injury.

AFTER USING THE MACHINE

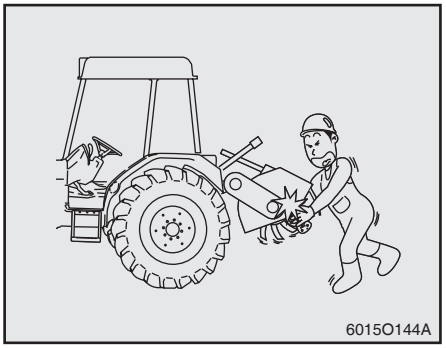

6015O143A

⚠ WARNING

Do not allow anyone near while operating the tractor or implement;

- **When engaging or disengaging the implement by moving the tractor, make sure that no one is around the tractor or between the implement and the tractor.**

If this instruction is ignored, there is a risk of accident or injury.

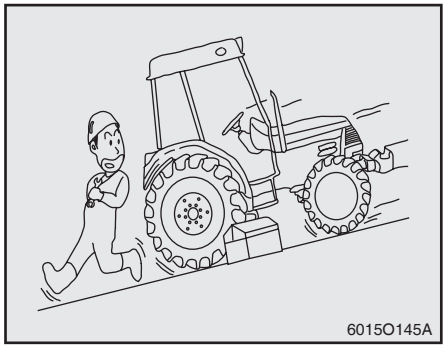

6015O144A

⚠ WARNING

Stop the engine when removing grass, etc. from blades of the cultivator;

- **Stop the engine when removing grass, etc. from blades of the cultivator and lock the flow control valve not to lower the implement.**

If this instruction is ignored, there is a risk that you will get entangled in the cultivator or sustain a serious injury due to lowering the implement.

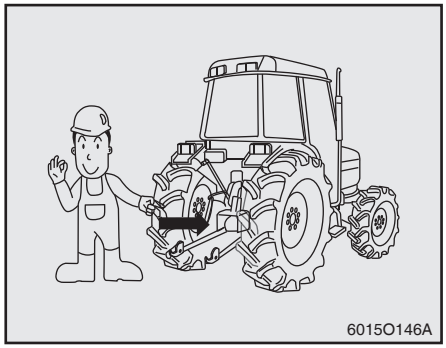

6015O145A

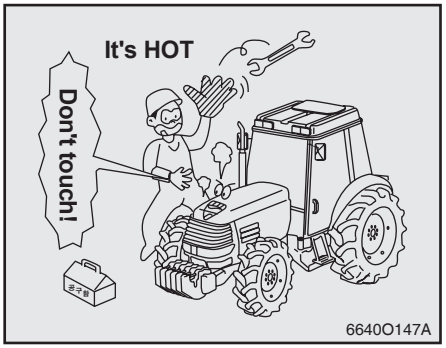
⚠ WARNING

Perform the maintenance on a level and safe location;

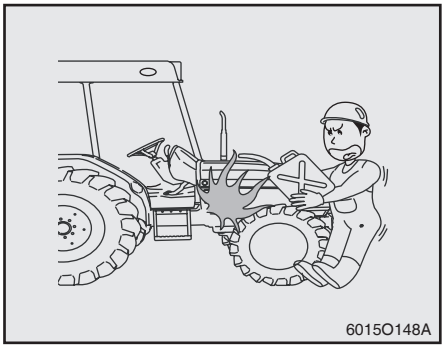
- **Perform the maintenance on a level and safe location that will keep the tractor in place and will not cause a risk to people passing by. Before carrying out the maintenance, place blocks at the front and rear tires to prevent movement.**

If this instruction is ignored, an unexpected accident may occur, such as overturning of the tractor.


6015O146A



6640O147A


6015O148A

⚠ CAUTION

Cover the PTO shaft when not in use;

- **When the PTO shaft is not in use, apply grease and keep it covered.**

If this instruction is ignored, there is a risk that you may get entangled or get injured. Implement shaft installation on the PTO shaft will not be easy due to the rust on it.

⚠ CAUTION

Carry out maintenance after the parts have cooled down;

- **Carry out the maintenance work after the heated area such as the muffler or the engine is fully cooled down.**

If this instruction is ignored, there is a risk of getting burnt.

⚠ CAUTION

Stop and cool down the engine before fueling or lubricating;

- **Do not fill the fuel while the engine is running or machine is hot.**

If this instruction is ignored, fuel can catch fire or lead to fatal injury with severe burns.

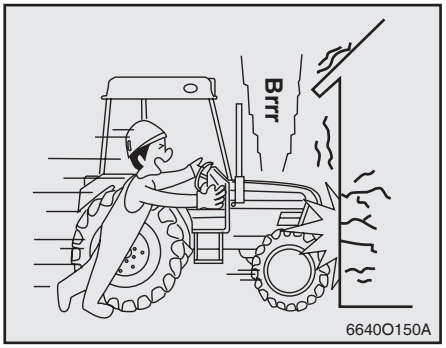

6015O149A

⚠ CAUTION

Be careful of high oil pressure;

- **Make sure that the hydraulic coupling or the hose is not loose or damaged. Before separating the hydraulic coupling or the hose, eliminate the high pressure inside the hydraulic system by moving the control lever while engine is stopped.**

If this instruction is ignored, the oil under high pressure may cause skin injury.



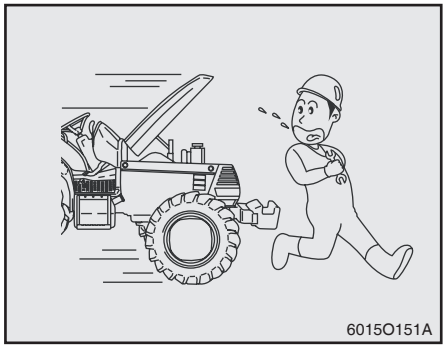
6640O150A

⚠ WARNING

Make sure that you are seated in the driver's seat with your seat belt fastened before starting engine;

- **When starting the engine, make sure that you are seated in the driver's seat with your seat belt fastened and check the seat position and the safety of the tractor.**

If this instruction is ignored, an unexpected accident may occur.

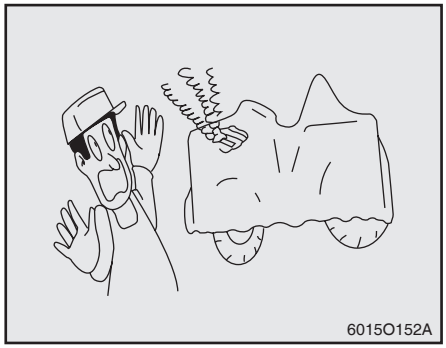

6015O151A

⚠ CAUTION

Stop the engine before maintenance;

- **Stop the engine before maintenance such as checking, repairing or cleaning the machine.**

If this instruction is ignored, there is a risk of injury.

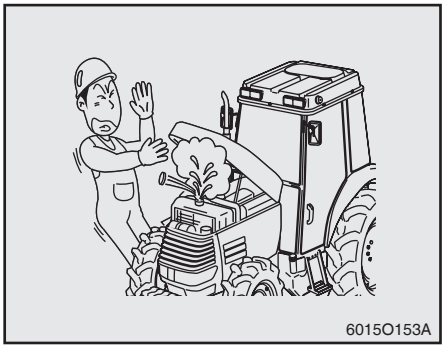


⚠ WARNING

Put tractor rain cover on only after tractor has cooled down;

- **Put tractor rain cover on only after parts such as the engine and muffler have cooled down.**

If this instruction is ignored, there is a risk of fire.

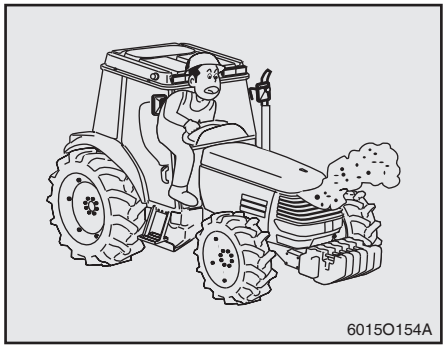


⚠ WARNING

Do not open the radiator cap when the radiator is hot;

- **Never open the radiator cap when the radiator is heated.**

If this instruction is ignored, hot water may spurt, causing burns or damage.



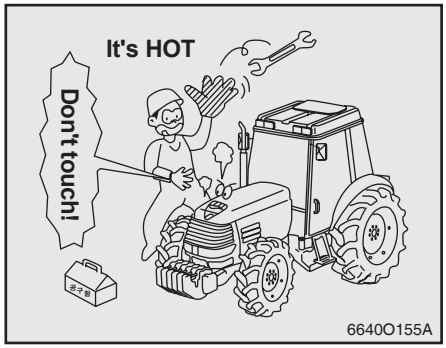
⚠ WARNING

Remove dirt and debris from muffler and engine before operating;

- **Clean if there is dust, debris or fuel on the engine or muffler before operating the machine every day.**

If this instruction is ignored, there is a risk of fire.

PRECAUTION FOR PROLONGED STORAGE

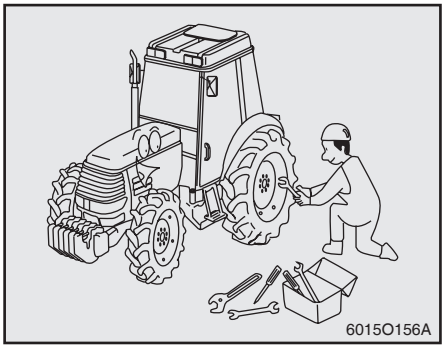


⚠ CAUTION

Be careful of hot muffler;

- **During operation and right after the engine is turned off, the muffler is very hot. Avoid touching it.**

If this instruction is ignored, you may get burnt.

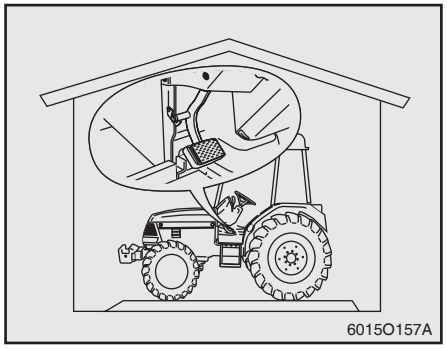


⚠ CAUTION

After working, immediately repair if necessary;

- **Immediately repair or replace the faulty parts.**
  - **Tighten the loose bolt and nut right away.**

If this instruction is ignored, an unexpected accident may occur due to poor maintenance.

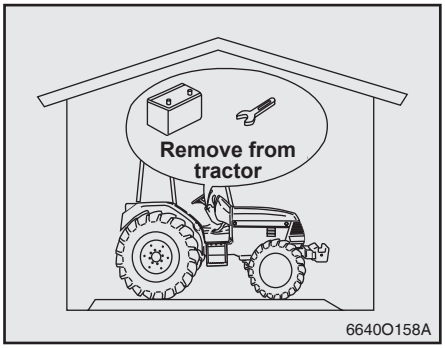


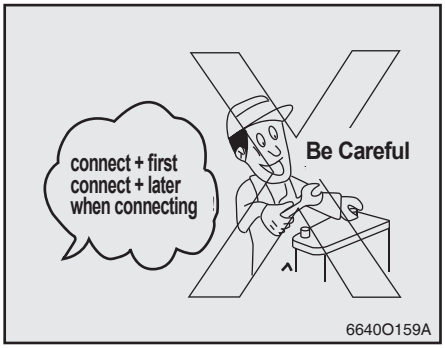
⚠ CAUTION

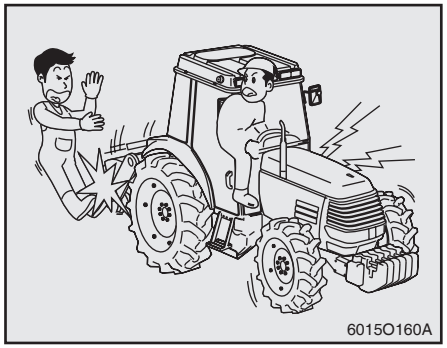
Disengage the clutch when storing the tractor for a long time;

- **When storing the tractor for a long period of time, make sure to put the clutch pedal in the disengaging position.**

If this instruction is ignored, the clutch disc can be stuck to the fly wheel after long period time.







⚠ WARNING

Disconnect the Battery and the key when storing the tractor for a long period of time;

- **When storing the tractor without use for a long period of time, park the machine on the leveled ground and clean each component, remove the battery and keep the key in a safe place.**

If this instruction is ignored, battery power may be weakened and starting will be failed.

⚠ CAUTION

Observe correct procedures when installing or removing the battery;

- **Connect the (+) terminal first when installing the battery, and disconnect the (-) terminal first when removing it.**

If this instruction is ignored, there is a risk of burn or fire due to short circuit.

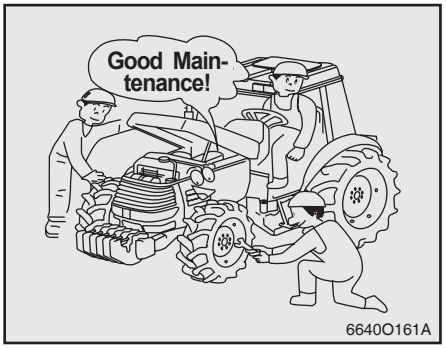
⚠ WARNING

Confirm that the implement is down on the ground when starting the engine;

- **When starting the engine, confirm that the control lever is on "Lowest" position.**

If this instruction is ignored, implement may come down suddenly and cause an injury.

OTHER



⚠ WARNING

Maintenance periodically;

- After using tractor, visit your local dealer for maintenance, such as oil change and filters.
  - Contact the local dealer to discard the parts (battery, etc.) or waste materials.

If this instruction is ignored, there is a risk of accident due to poor maintenance.

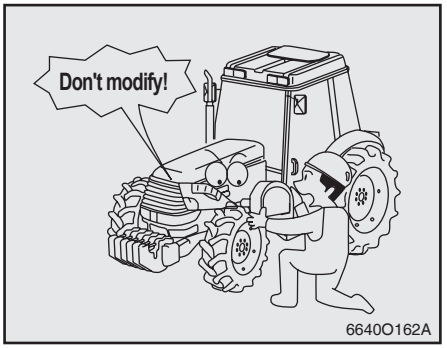
⚠ WARNING

Do not adjust or repair following components. Consult your local BAD BOY dealer for these repair;

- Injection capacity and timing of the engine fuel injection pump.
- Correction and repair of hydraulic system (safety valve, hydraulic pump, brake valve, PST cylinder, SCV valve).

There is a risk of accident or injury or machinery breakdown. Remember it may cause the warranty cancellation.

If this instruction is ignored, consult your local BAD BOY dealer for those repair and adjustment.

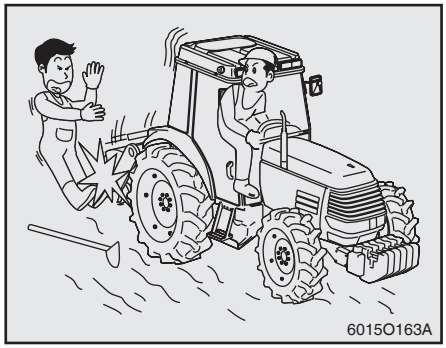


⚠ CAUTION

Do not modify the tractor;

- Use only the genuine parts or other approved parts. Do not modify the tractor.

If this instruction is ignored, there is a risk of accident or injury or machinery breakdown. Remember it may cause the warranty cancellation.

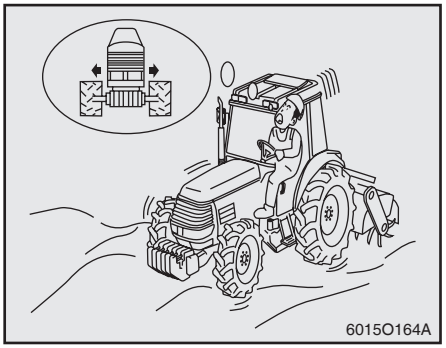

6015O163A

⚠ WARNING

Pay attention when turning with implement;

- **Depending on implements, the overall length may become very long. Pay particular attention to people or objects nearby when making a turn.**

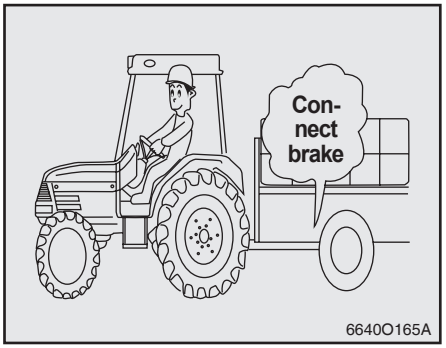
If this instruction is ignored, there is a risk of person injury or a collision of the implement.


6015O164A

⚠ WARNING

Move wheels to widest setting (width between left and right tires) when working slope or when towing;

If this instruction is ignored, there is a risk of turning over.



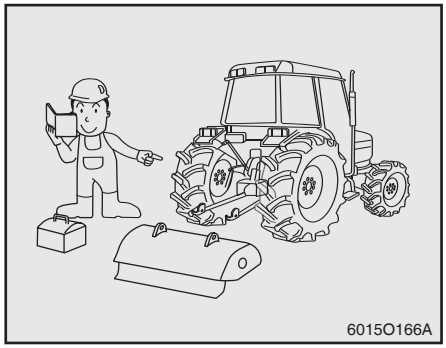
6640O165A

⚠ WARNING

Use caution sign when towing a trailer;

- **Link the brake of the trailer with the brake of the tractor. Do not shift gears when driving on a hill.**

If this instruction is ignored, there is a risk of accident or injury.

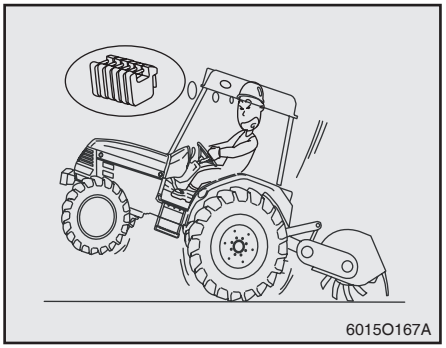

6015O166A

⚠ WARNING

Follow the instruction manual when engaging an implement;

- **When engaging an implement to the tractor, follow the instruction manual for the implement.**

If this instruction is ignored, there is a risk of personal injury or damage to the tractor.

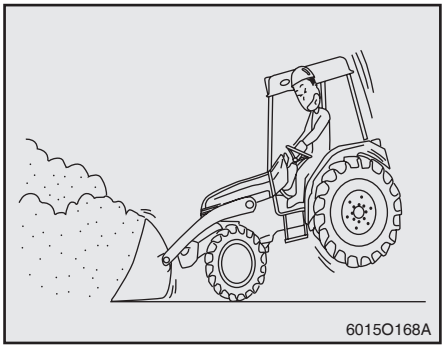

6015O167A

⚠ WARNING

Balance a heavy implement with weights;

- **When engaging a heavy implement, load the weights on the front of tractor to keep the balance of the tractor.**

If this instruction is ignored, there is a risk of accident or injury due to loss of balance.

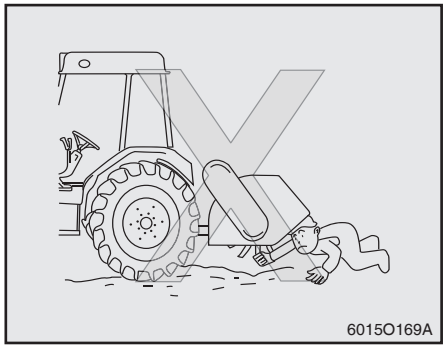

6015O168A

⚠ WARNING

Pay attention to the balance between the front and rear side during the front-end-loader operation;

- **During the front-end-loader operation, apply weights or implement to avoid loosing balance between the front and the rear side of tractor.**

If this instruction is ignored, there is a risk of overturning accident due to loss of balance.

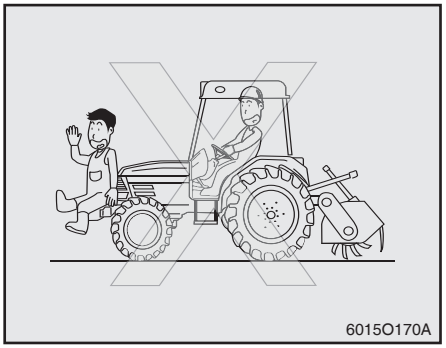

6015O169A

⚠ WARNING

Do not get under or put your feet under the implement;

- **Do not get under or put your feet under the implement.**

If this instruction is ignored, the implement unit may fall down and there is a risk of injury.

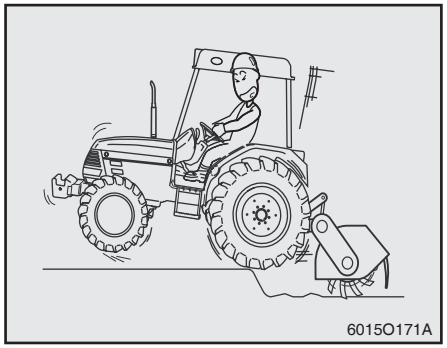

6015O170A

⚠ WARNING

Do not substitute balance weights with a person or anything else;

- **Do not use a person or anything else in place of the balance weight. Use only genuine balance weight.**

If this instruction is ignored, there is a risk of accident or injury.

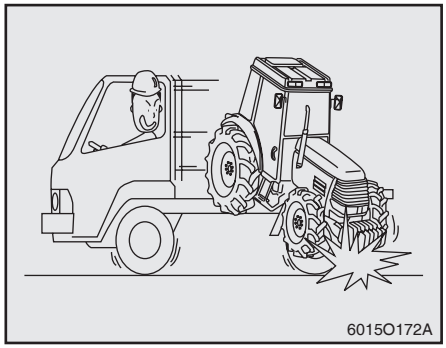

6015O171A

⚠ WARNING

Be careful of unexpected movement when using the rotary tiller;

- **When working with the rotary tiller, put the tiller slowly on soft or rocky ground. The tractor may be pushed in an unexpected direction by the rotating force of the tiller.**

If this instruction is ignored, there is a risk of accident or injury.

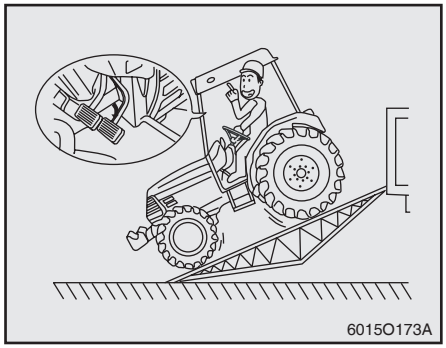

6015O172A

⚠ WARNING

Properly secure tractor during transport;

- **When transporting the tractor, apply the parking brake with gear engaged and fasten the tractor to the truck securely using ropes or belts with sufficient strength.**

If this instruction is ignored, There is a risk of accident that the tractor may fall off the truck.

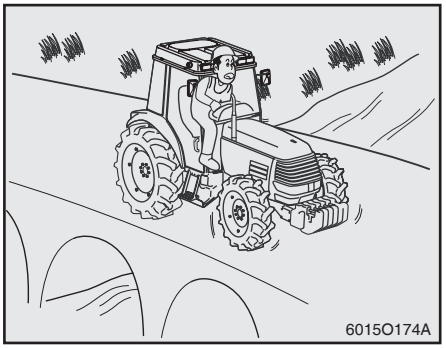

6015O173A

⚠ DANGER

Interlock the brake pedals for both sides when loading or unloading the tractor;

- **It is necessary to interlock the brake pedals for both sides when loading or unloading the tractor.**

If this instruction is ignored, the tractor may overturn due to one-sided braking when the brake pedal is depressed in an emergency.

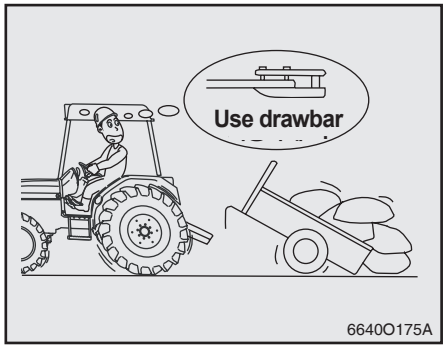

6015O174A

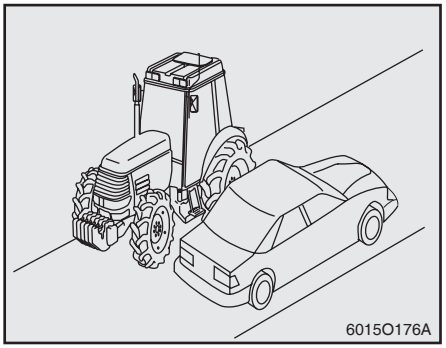
⚠ WARNING

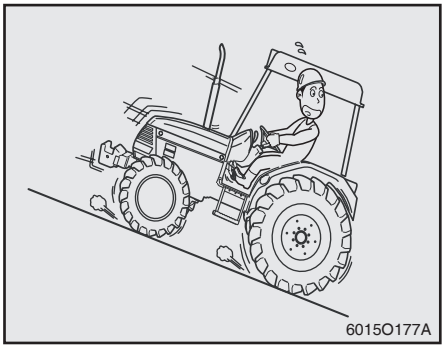
Release the differential gear lock when making a turn;

- **Make sure to release the differential gear lock when making a turn.**

If this instruction is ignored, the tractor may not turn to the intended direction and cause an accident.







⚠ WARNING

Use the drawbar when towing;

- **Make sure to use the drawbar when towing. Never tow anything with the top link or the lower links.**

If this instruction is ignored, the tractor may turn over.

⚠ WARNING

Pay attention to the shoulder of the road;

- **When moving along the unpaved road with ditches or slanted sides, pay attention to the road shoulder.**

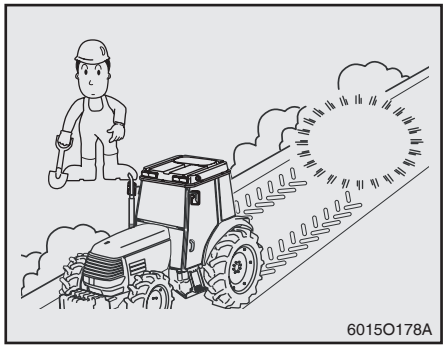
If this instruction is ignored, there is a risk of falling over.

⚠ WARNING

Be careful when driving on a hill;

- **Be careful when driving on a hill. Do not disengage the clutch on the hill. Do not shift the main shift lever, range shift lever, or shuttle lever in [neutral] on the hill.**

If this instruction is ignored, the tractor may roll backwards or fall causing accident or injury.

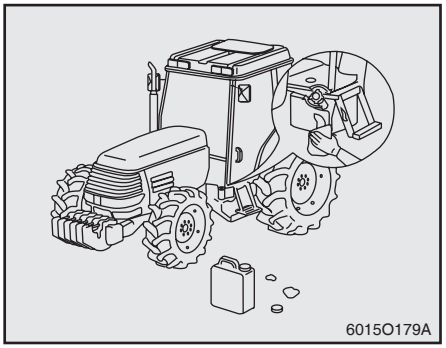


⚠ WARNING

Turn off engine in a level area when leaving the tractor;

- **When leaving the tractor, park the tractor on a level and safe area, turn off the engine, and apply the parking brake. Also, lower the implement on the ground.**

If this instruction is ignored, the tractor may move and cause an accident.

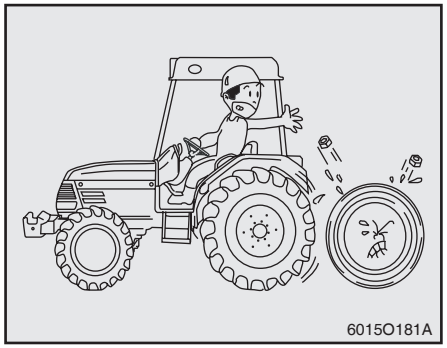


⚠ WARNING

Remove spilled excess fuel after closing the fuel cap;

- **After filling the fuel tank, close the fuel filler cap completely and wipe off the excess fuel thoroughly.**

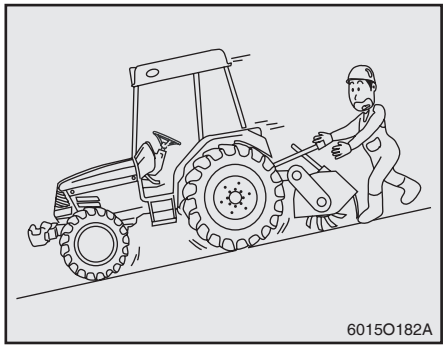
If this instruction is ignored, there is a risk of fire.

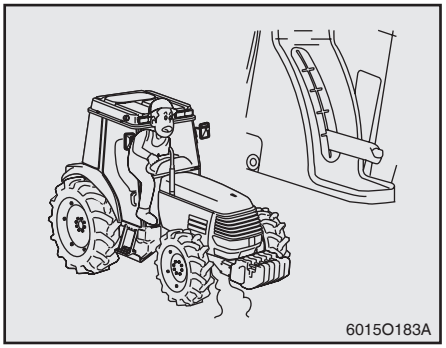


⚠ WARNING

Be aware of the PTO RPM requirements for the implements;

If this instruction is ignored, there is a risk of accident or injury.





⚠ WARNING

Only engage or disengage implements on flat, level area:

- **Engage or disengage the implement on a flat and safe place. Supply proper lighting at all times and especially night.**

[Otherwise]

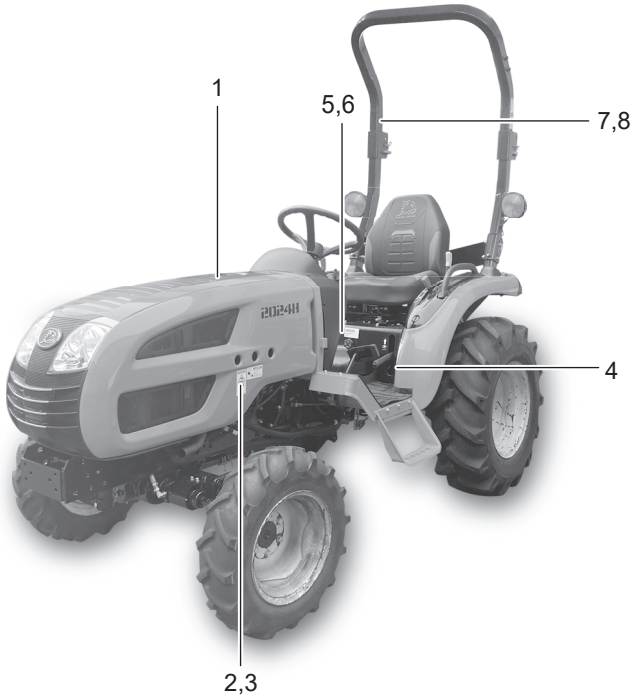
There is a danger of accident.

⚠ CAUTION

Engage the parking brake during warming up the engine;

If this instruction is ignored, the tractor may move and cause an accident or injury.

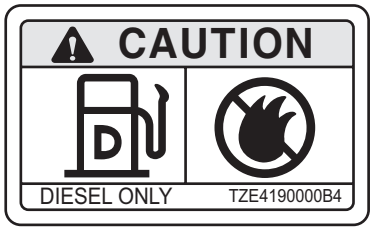
DECAL MOUNTING LOCATION




11
9
10
12

DECAL

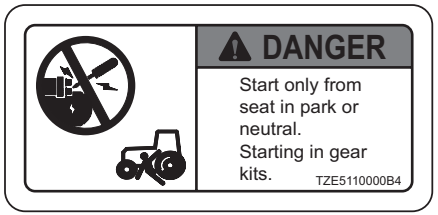
(1) No.: TZE4190000B4



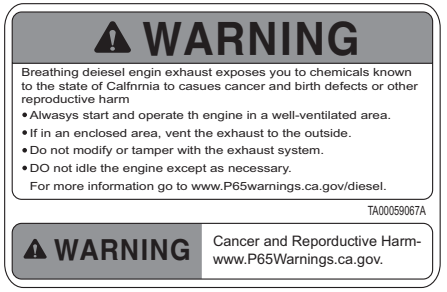
(2) No.: TZE5130000B4



(3) No.: TZE5110000B4

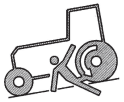


(4) No.: TA00040603A [MEC. Model]



(5) No.: TA00016517A

⚠ WARNING



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

TA00016517A

(6) No.: TA00016518A

⚠ C A U T I O N

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

TA00016518A

(7) No.: NTE5210000C4

⚠ WARNING



DEATH OR INJURY MAY RESULT IF THE TRACTOR ROLLS OVER WITH THE ROPS IN THE FOLDED DOWN POSITION.

OPERATE THIS TRACTOR WITH THE ROPS FOLDED DOWN ONLY WHEN NECESSARY.

NTE5210000C4

(8) No.: NTE5150000C4

⚠ WARNING



Use seat belt

NTE5150000C4

(9) No.: TZE5170000B3

⚠ WARNING



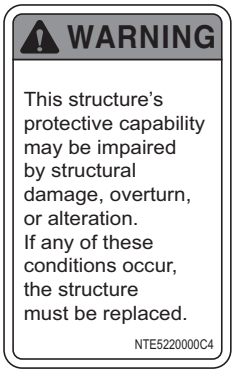
TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER;
1. BAD BOY recommends the use of a Roll-Over Protective Structures(ROPS) and seat belt in almost all applications
2. Remove the ROPS only when it substantially interferes with operation or itself presents a safety risk. (Examples include work in orchards and vineyards.) ALWAYS REINSTALL IT BEFORE USING THE TRACTOR IN OTHER APPLICATIONS.
3. Never use just the seat belt or just the ROPS. They must be used together. For further details, consult your Operator's Manual or your local dealer.

TZE5170000B3

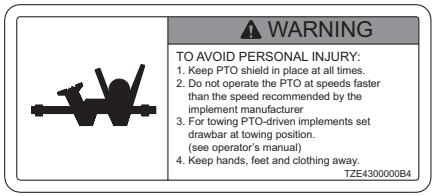
(10) No.: TZE5180000C4



(11) No.: NTE5220000C4



(12) No.: TZE4300000B4



CAUTIONS FOR DECAL MAINTENANCE

Safety decals are attached to the tractor for safe operation. Make sure to follow the instruction on the decals as well as the following instruction:

⚠ CAUTION

- **Keep the decals clean and intact. If any decal is dirty, wash it with soap and dry with a soft cloth.**
- **Never use a solvent such a thinner or acetone, since it can ruin the decals.**
- **Do not spray high-pressure water directly onto the decal. The decal may fall off the tractor.**

IMPORTANT

- **If a decal is damaged or lost, contact your local BAD BOY dealer immediately to install a new decal.**
- **Make sure to attach the decal in the correct position cleanly without bubbles after cleaning its mounting surface.**
- **If a decal is attached to a component to be replaced, replace the decal as well.**

2. REGARDING WARRANTY SUPPORT

REGARDING WARRANTY CERTIFICATE 2-2

REGARDING AFTER-SALES SERVICE 2-2

VEHICLE IDENTIFICATION NUMBER (VIN) 2-2

REGARDING SUPPLYING SERVICE PARTS 2-3

REGARDING GENUINE PARTS AND FLUID 2-3

REGARDING WARRANTY CERTIFICATE

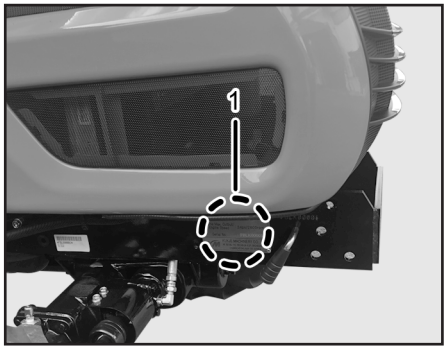
⚠ WARNING

- **Do not modify the machine. If it is damaged by unapproved modification and misuse against description of manual, it will not be covered under warranty.**

REGARDING AFTER-SALES SERVICE

VEHICLE IDENTIFICATION NUMBER (VIN)

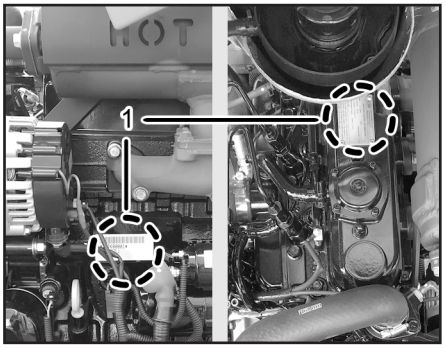
PRODUCTION SERIAL NUMBER



(1) Model And Production Serial Number

The manufacturer's serial number is marked on the serial number decal which is attached to the front right side of the front axle bracket.

ENGINE SERIAL NUMBER



(1) Engine Serial Number

The engine number is stamped on the cylinder block and is specified on the decal which is attached to the cylinder block on the left side of the engine. Also, the decal indicating the engine model and standards is attached on the top of the engine cylinder head cover.

▶ REGARDING AFTER-SALES SERVICE

If you have a problem on your machine, refer to "Troubleshooting" of chapter 7 to check by yourself. Or contact immediately to authorized **BAD BOY** dealer nearby.

▶ BE PREPARE FOR THE FOLLOWING QUESTION BEFORE CALLING

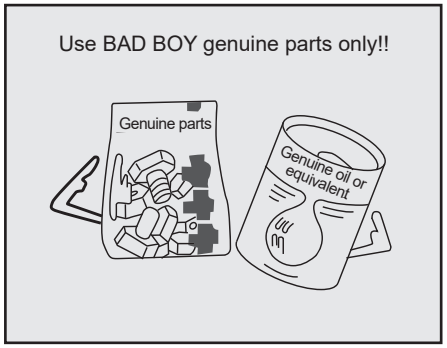
- Model and product serial number
- In case of engine failure, engine serial number
- Working conditions (What kind of job and how fast)
- Run hour of machine
- Describe the problem in detail as possible

REGARDING SUPPLYING SERVICE PARTS

We supply the service parts in accordance with the separated quality assurance regulation.

Consult your local dealer for availability and pricing.

REGARDING GENUINE PARTS AND FLUID



The **BAD BOY** genuine parts and fluid are passed severe durability and performance test. Please use **BAD BOY** genuine parts for your safety.

MEMO

3. SPECIFICATION

MAJOR SPECIFICATIONS 3-2

DRIVING SPEED 3-5

MAJOR SPECIFICATIONS

ITEMS				3026H
1. Drive system			4 Wheel Drive	
2. Dimensions	Overall Length		in. (mm)	110 (2,798)
	Overall Width		in. (mm)	53.9 (1,369)
	Overall Height		in. (mm)	91.4 (2,321)
	Wheel Base		in. (mm)	65.7 (1,670)
	Tread	Front	in. (mm)	45 (1,142)
		Rear	in. (mm)	43.2 (1,097)
	Ground Clearance		in. (mm)	16.4 (417)
	Weight		lbs (kg)	2,107 (956)

ITEMS			2024H	3026H	REMARKS
3. Engine	Model		A1100N2		
	Type		3 CYL, Water Cooled, Diesel		
	Combustion System		Swirl Chamber		
	Aspiration		Natural		
	Engine Horsepower	HP (kw)	24 (17.9)		@2,600
	Number. of Cylinders		3		
	Bore x Stroke	in. (mm)	3.07 x 3.23 (78 x 82)		
	Displacement	cu.in.(cc)	70.7 (1,175)		
	Compression Ratio		21.5:1		
	Fuel Consumption	gal/hp.hr	0.067 (210 g/hp.hr)		
	Type of Air Cleaner		Dry, Element		
	Fuel Tank Capacity	gal (L)	6.08 (23)		
4. Steering			Hydrostatic		
5. Clutch			Dry, Single		
6. Battery			12V		
7. Brake			Wet Disc		

ITEMS				2024H	3026H	REMARKS
8. Transmission	Main Shifting			Hydrostatic		
	Forward Reverse Method			HST		
	Gear Stages (Front x Rear)			HST		
	Travel Speed	Forward	mph (kmh)	3.9~12.1(6.1~19.5)	4.5~14.8(7.0~23.9)	
		Reverse	mph (kmh)	3.9~12.1(6.2~19.5)	4.5~14.8(7.1~23.9)	
9. PTO	Type			Live P.T.O. (6 Spline shaft)		
	Speed		rpm	540 / 960 / Option: 2,500(Mid)		※@2,600
10. Hydraulic System	Type			Position control		
	3 Point Hitch			Telescopic lower link / Telescopic stabilizers		
	Category			Category I		
	Lift capacity at lift point		lbs (kg)	1,433 (650)		
	Pump capacity		gal (L)	7.7 (29)		※Per min

※ Specifications are subject to change without notice. Contact your local BAD BOY dealer for more information.

DRIVING SPEED

※ mi/h (km/h)

LEVEL	SHIFTING RANGE	2024H
Forward	L	3.9 (6.1)
	H	12.1 (19.5)
Reverse	L	3.9 (6.1)
	H	12.1 (19.5)
☞ Rated Engine rpm: 2,600 rpm, Tire: agri 9.5-16 (423mm)		

※ This specification will be changed without prior notice for improvement of quality.
※ Theory speeds figured by rated engine rpm. (mile/hr)

※ mi/h (km/h)

LEVEL	SHIFTING RANGE	3026H
Forward	L	4.3 (7.0)
	M	8.0 (13.0)
	H	14.9 (23.9)
Reverse	L	4.3 (7.0)
	M	8.1 (13.0)
	H	14.9 (23.9)
☞ Rated Engine rpm: 2,600 rpm, Tire: agri 11.2-20 (476mm)		

※ This specification will be changed without prior notice for improvement of quality.
※ Theory speeds figured by rated engine rpm. (mile/hr)

4. OPERATION DESCRIPTION

EXTERIOR VIEW 4-2

SWITCHES AND LEVERS 4-3

MAIN SWITCH 4-4
HAZARD WARNING FLASHER SWITCH 4-4
TURN SIGNAL/LAMP SWITCH 4-5
CRUISE CONTROL SWITCH 4-6
HAND THROTTLE LEVER 4-7

INSTRUMENT CLUSTER 4-8

PTO INDICATOR 4-9
LEFT/RIGHT TURN SIGNAL INDICATOR 4-9
HIGH BEAM INDICATOR 4-9
PARKING BRAKE & BRAKE INDICATOR 4-10
ENGINE OIL PRESSURE WARNING LAMP 4-10
BATTERY CHARGE WARNING LAMP 4-10
PREHEAT INDICATOR 4-11
FUEL GAUGE 4-11
TACHOMETER/HOUR METER 4-11
COOLANT TEMPERATURE GAUGE 4-12

CONTROLS 1(PEDALS) 4-13

CLUTCH PEDAL 4-14
BRAKE PEDAL 4-14
F-R HST DRIVE PEDAL 4-15

CONTROLS 2(LEVER) 4-16

RANGE SHIFT LEVER 4-17
PTO SHIFT LEVER 4-17
POSITION CONTROL LEVER 4-18
MFWD LEVER 4-18
FLOW CONTROL VALVE 4-19

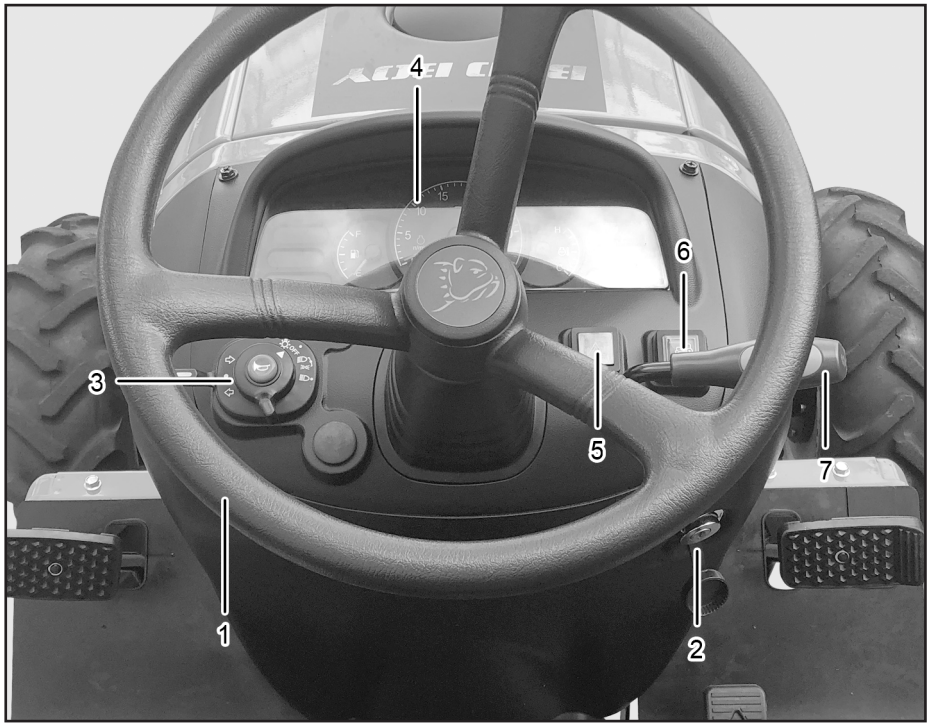
EXTERIOR VIEW





(1) Steering Wheel
(2) Fuel Tank
(3) Hood
(4) Head Lamp
(5) Front Tire
(6) ROPS
(7) Seat
(8) Rear Tire
(9) Brake Lights
(10) Lower Link

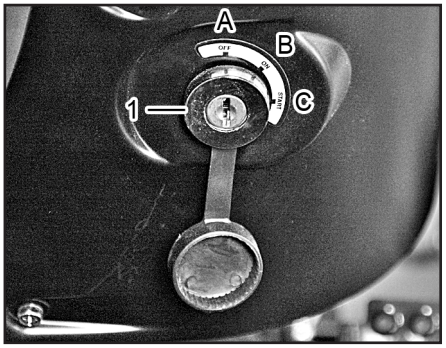
SWITCHES AND LEVERS



(1) Steering Wheel (Handle)
(2) Main Switch
(3) Turn Signal / Lamp switch
(4) Instrument Cluster
(5) Hazard Warning Flasher Switch
(6) Cruise Control Switch
(7) Hand Throttle Lever

※ Refer to the relevant content for further detailed information

MAIN SWITCH



(1) Main Switch *(A) OFF*
(B) ON *(C) START*

The main switch is used to start or stop the engine.

OFF: The engine is stopped, and current ends at the ignition switch.

ON: Electric current flows to all switches in the electrical system.

START: When the start motor is engaged, the engine will start. When the engine is started, release the key. The key will return to the "ON" position automatically and the engine will keep running.

⚠ CAUTION

- **To start the engine, put the shuttle shift lever to the "Neutral" position to release the safety start system.**

⚠ CAUTION

- **When the tractor is not in use, take out the key and keep it in a safe place.**

HAZARD WARNING FLASHER SWITCH



(1) Hazard Warning Flasher Switch

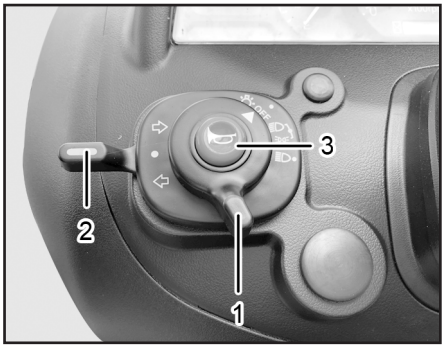
Press the hazard flasher warning switch in emergency to warn other vehicles in order to prevent an accident.

Pressing this switch blinks all turn signal lamps regardless of the position of the main switch. Pressing it again disables the flasher function.

TURN SIGNAL/LAMP SWITCH

⚠ CAUTION

- **Prolonged operation can consume electricity excessively. Therefore, use it only in emergency. Use it only when necessary as it can discharge the battery and obstruct other drivers' view.**

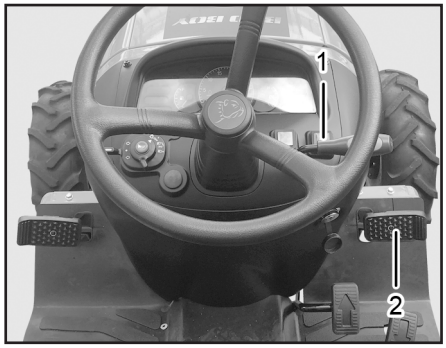


(1) Lamp Switch
(2) Turn Signal Lamp Knob (3) Horn Button

Turning the lamp switch clockwise to the first notch turns on the tail lamps and instrument cluster. Turning it further turns on the high/low beam.

Push up the turn signal lamp knob to turn on the right turn signal lamp and press down the knob to turn on the left turn signal lamp. To sound the horn, press the horn button in center of the switch.

CRUISE CONTROL SWITCH



(1) Cruise Control Switch
(2) Brake Pedal

1. When the machine has reached the desired speed, press cruise control switch to “ON” Release the HST pedal and the machine will operate at the selected speed.
2. When applying full pressure to the Brake pedals, the cruise control will deactivated and it will be necessary to reset the cruise control to the desired speed.
3. When applying light pressure to the Brake pedals, the machine’s ground speed will be reduced until the Brake pedals are released. At that point, the machine will continue at the previous setting.
4. To reset the desired speed, you should turn off the cruise control switch, then increase machine speed to reach the desired speed and push cruise switch to on.

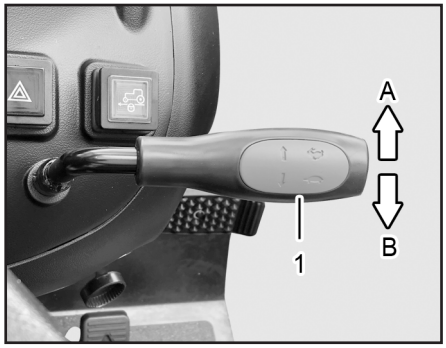
⚠ CAUTION

- **When stopping the machine cruise control automatically diseagages.**
- **Make sure to connect the both Brake pedals when use cruise control function.**

[Otherwise]

There is a risk abrupt turning or overturning due to one-sided Braking when the Brake pedal is depressed.

HAND THROTTLE LEVER



(1) Hand Throttle Lever
(A) High Speed (B) Low Speed

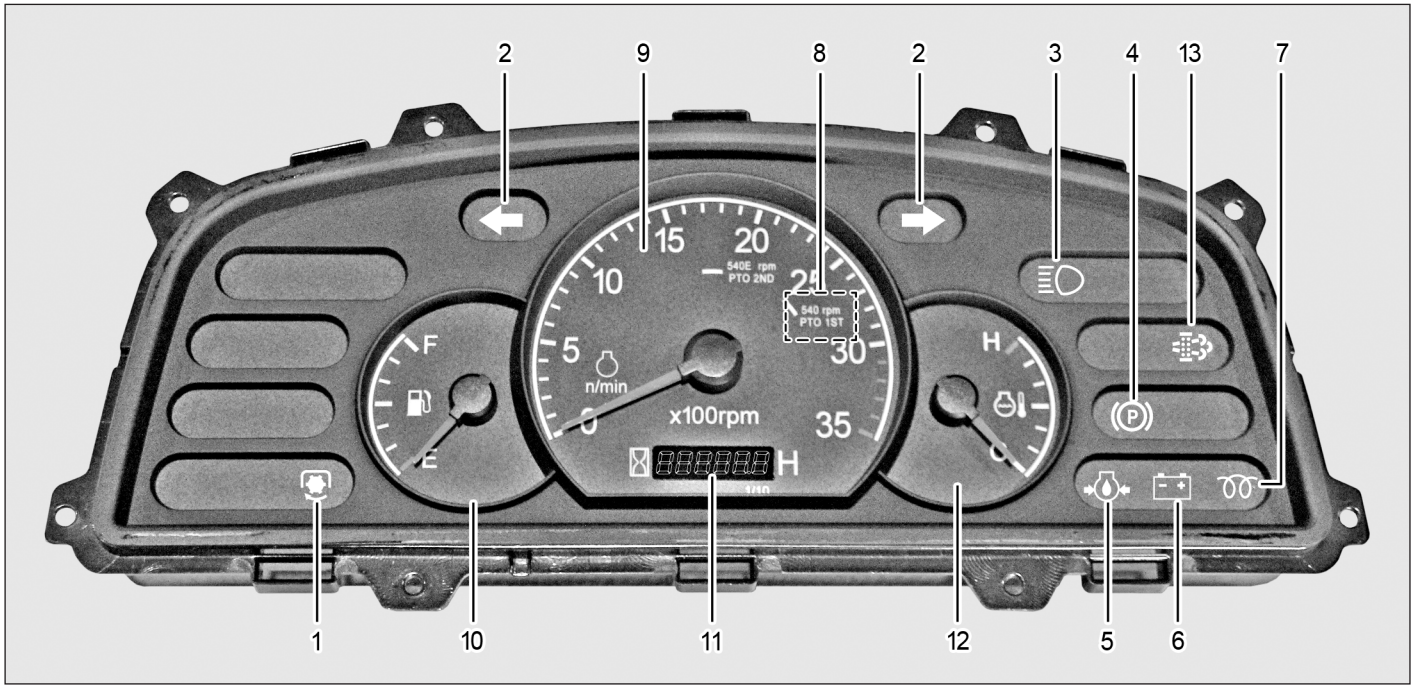
The hand throttle lever is to increase or decrease the engine rpm. This lever is mainly used while working on a field with the constant engine rpm.

Increasing engine RPM

Decreasing engine RPM

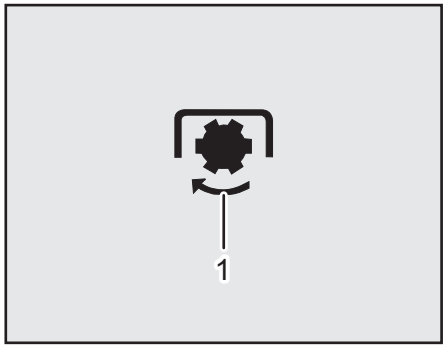
NOTE
• **Use the foot throttle pedal during driving for travel, not the hand throttle lever.**

INSTRUMENT CLUSTER



(1) PTO Indicator
(2) Turn Signal Indicator
(3) High Beam Indicator
(4) Parking Brake (Brake) Indicator
(5) Engine Hydraulic Pressure Indicator
(6) Charge Warning Lamp
(7) Preheat Indicator
(8) PTO Rotating Position
(9) Tachometer
(10) Fuel Gauge
(11) Hour Meter
(12) Coolant Temperature Gauge
(13) DPF Indicator

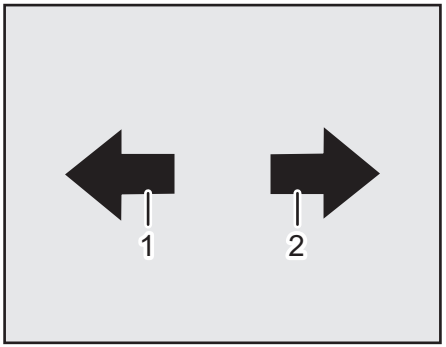
PTO INDICATOR



(1) PTO Indicator

This comes on when the PTO clutch switch is in the "IND" or "LINK" position.

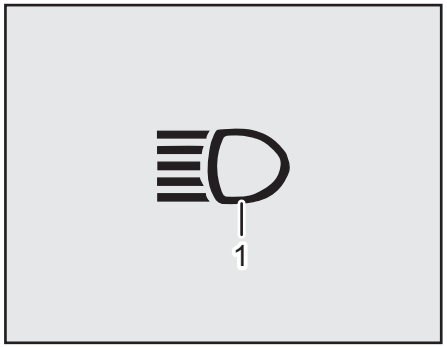
LEFT/RIGHT TURN SIGNAL INDICATOR



(1) Left Turn Signal Indicator
(2) Right Turn Signal Indicator

This indicates the condition when operating one of the turn signal lamps for the desired turning direction.

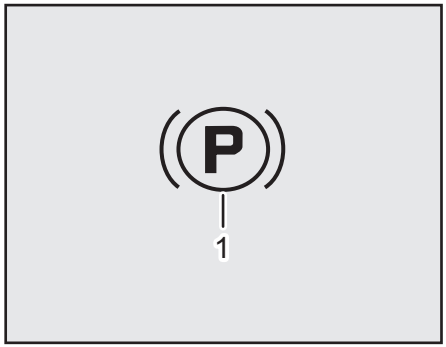
HIGH BEAM INDICATOR



(1) High Beam Indicator

It indicates the high beam. Select the low beam for driving on a road.

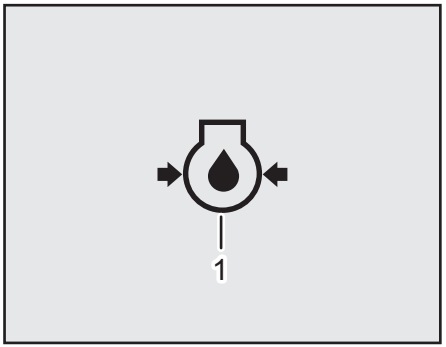
PARKING BRAKE & BRAKE INDICATOR



(1) Parking Brake (Brake) Indicator

This comes on when the parking brake is applied or the brake pedal is depressed. [US] This comes on when the parking brake is applied only. [EU] If the parking brake is applied, release the parking brake lever before driving. However, the lamp on the right side does not come on if only one side brake is released.

ENGINE OIL PRESSURE WARNING LAMP

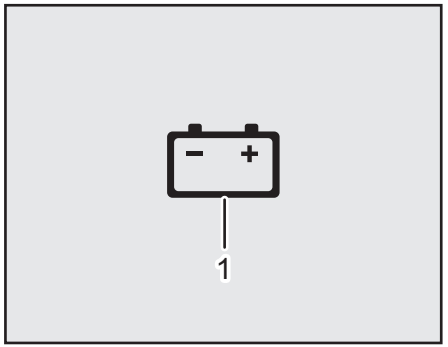


(1) Engine Oil Pressure Warning Lamp

Lamp will come on when the ignition switch is put into the “ON” position. It will turn off when the engine is started.

If this lamp comes on while the engine is running, it indicates a problem in the engine oil system. Stop the engine immediately and check for problems.

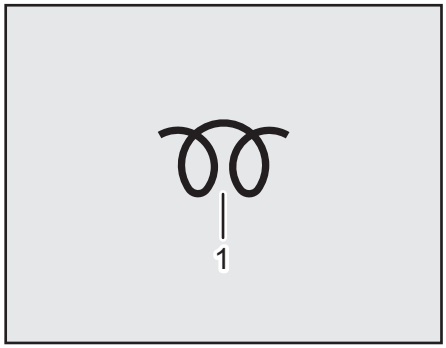
BATTERY CHARGE WARNING LAMP



(1) Battery Charge Warning Lamp

The battery charge warning lamp is turned on when the ignition switch is initially turned to the "ON" position before starting the engine but turned off after starting the engine. If this lamp comes on while driving, the charging system is malfunctioning. In this case, check the fan belt or ask your local dealer for further inspection if necessary.

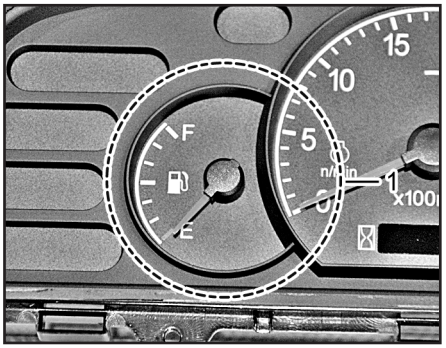
PREHEAT INDICATOR



(1) Preheat Indicator

The 4WD indicator comes on when the 4WD lever is placed in "ON" position.

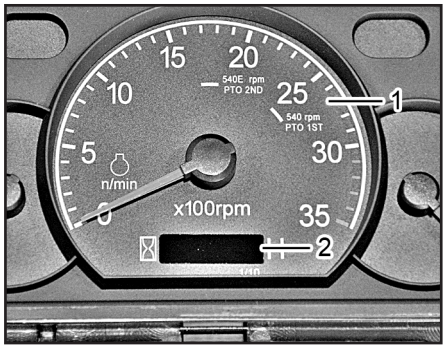
FUEL GAUGE



(1) Fuel Gauge

This indicates the remaining fuel level. Immediately fill the fuel tank if the needle reads the red area.

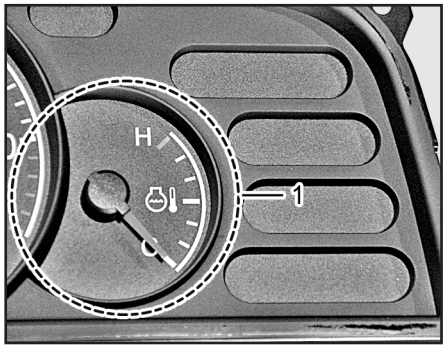
TACHOMETER/HOUR METER



(1) Tachometer *(2) Hour Meter*

The tachometer indicates the engine rpm and the hour meter indicates the total run hour of the tractor.

COOLANT TEMPERATURE GAUGE



(1) Coolant Temperature Gauge

This coolant temperature gauge indicates the engine coolant temperature after the ignition switch is turned to the "ON" position. If the needle reads the red area, immediately stop working and then inspect the tractor.

NOTE

- **Coolant temperature over 5℃: 1 sec. or shorter / Less than 5℃: 3 - 30 seconds**

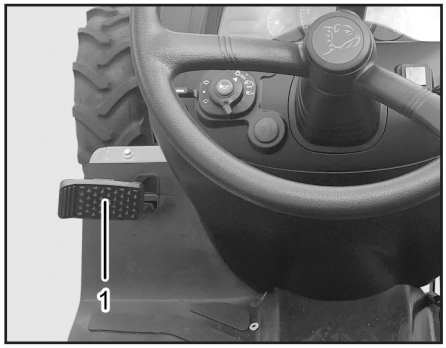
CONTROLS 1(PEDALS)



(1) Brake Pedal
(2) Clutch Pedal
(3) Forward Pedal
(4) Backward Pedal

※ Refer to the relevant content for further detailed information

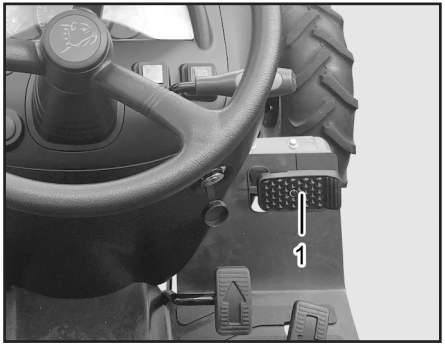
CLUTCH PEDAL



(1) Clutch Pedal

If the clutch pedal is depressed, driving power is stopped supplying. When the clutch pedal is depressed, the main/range shift lever can be operated. To start off smoothly, release the clutch pedal slowly.

BRAKE PEDAL



(1) Brake Pedal

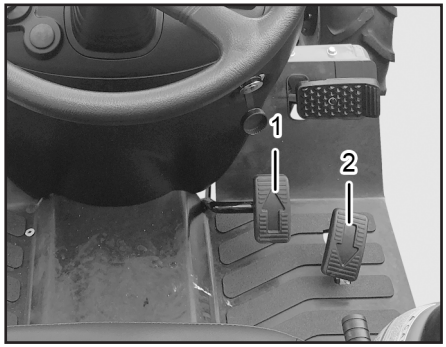
Brake pedals are independent of each other and can be used for making a small turn on the pavement. Depressing the brake pedal on the side to which to make a turn, the rear wheel on that side is stopped and the tractor can make a small turn.

⚠ WARNING

- **Make sure to interlock the left and right brake pedals with the link bracket while driving for travel.**

If this instruction is ignored, there is a risk of an accident such as rollover due to unintended movement.

F-R HST DRIVE PEDAL



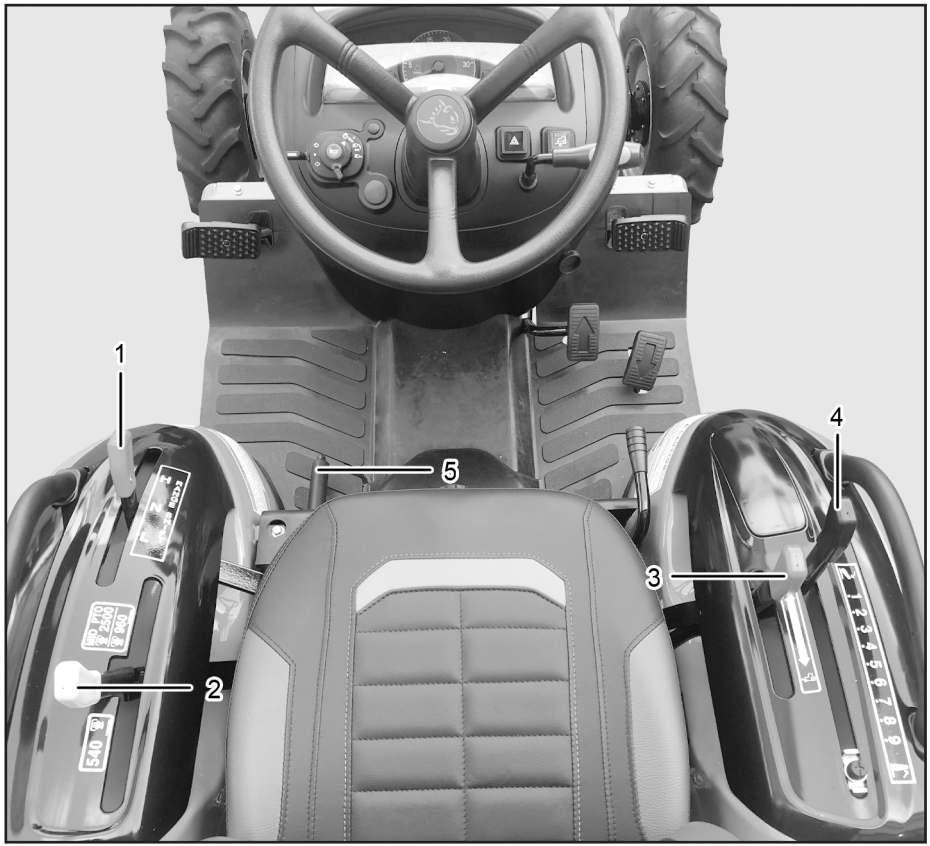
(1) HST Pedal Forward
(2) HST Pedal Reverse

It is used for shifting between “forward” and “reverse” drive. And stay pedals at neutral machine should be stopped.

⚠ WARNING

- **For safety, do not shift quickly from “forward” to “reverse”or from “reverse” to “forward”. Engage Brake pedals when stopping the machine for machine to stop quickly.**

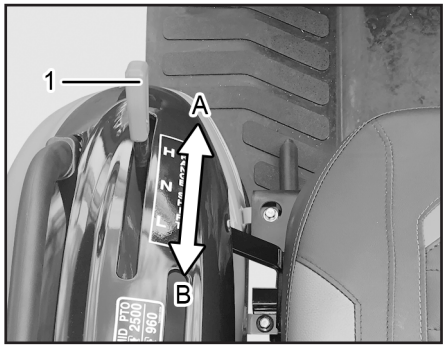
CONTROLS 2(LEVER)



(1) Range Shift Lever
(2) PTO Shift Lever
(3) MFWD Lever
(4) Position Control Lever
(5) Parking Brake

※ Refer to the relevant content for further detailed information

RANGE SHIFT LEVER



(1) Range Shift Lever
(A) High (B) Low

The range gear is shifted in three stages, in combination with the main gear shifting. When shifting the range gear, depress clutch fully.

⚠ CAUTION

- **Do not shift while driving.**

[Otherwise] The gear may be damaged.

PTO SHIFT LEVER



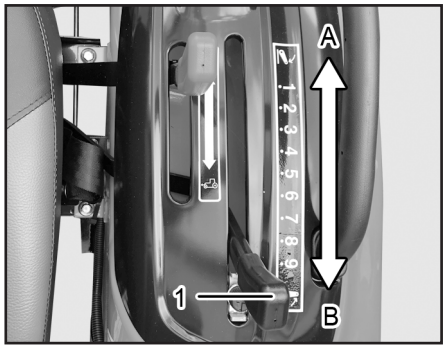
(1) PTO Shift Lever

The revolution of the PTO shaft can be shifted in two stages. (1st Rear 540 rpm : 2nd Rear 960 rpm - Mid 2500 rpm) When shifting level, press clutch pedal deeply.

⚠ CAUTION

- **Observe the PTO speed designated on the work unit.**
- **Otherwise, the work unit may be damaged and cause an accident.**

POSITION CONTROL LEVER



(1) Position Control Lever
(A) Lowering (B) Lifting

It is used to keep the implement constantly at a certain position.

A stopper is used to fix the position control lever in the “up” position while driving on a road.

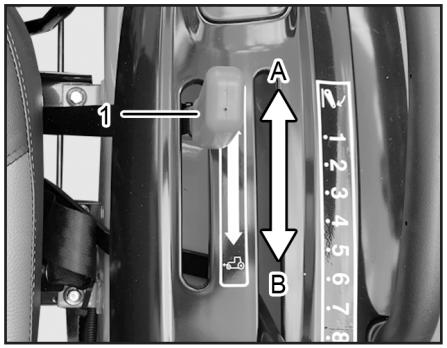
When lowering the implement, set the position control lever, and the implement will go down to the set position.

⚠ WARNING

- **Confirm that no one or a foot is under the implement before operating the system.**

[Otherwise]
There is a risk of injury.

MFWD LEVER



(1) MFWD Lever
(A) Disconnect (B) Connect

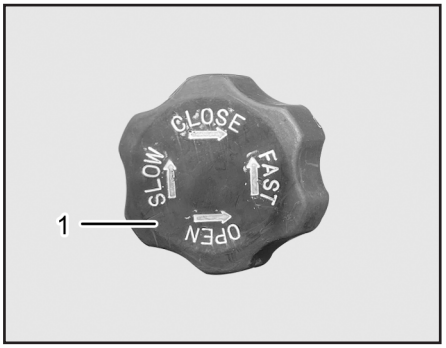
It is used to shift between 2-wheel drive and 4 wheel drive. Depress clutch pedal or stop machine when shifting the lever.

⚠ CAUTION

- **Do not shift while driving.**

[Otherwise] The gear may be damaged.

FLOW CONTROL VALVE



(1) Flow Control Valve

It is used to regulate the lowering speed of the implement (slow return function). Also, if you wind the valve fully to the right, the hydraulic pressure to the device raising the implement is stopped.

⚠ WARNING

- **Do not work under or put a foot under the implement.**

[Otherwise] The implement may fall and cause an injury.

MEMO

5. OPERATION

DAILY INSPECTION BEFORE STARTING 5-3

PRE-OPERATION CHECK.....5-3

RUNNING-IN PERIOD 5-10

STARTING / STOPPING THE ENGINE.....5-11

STARTING ENGINE 5-12
COLD START 5-14
STOPPING ENGINE..... 5-14

TRACTOR OPERATION.....5-15

WHEN ATTACHING WEIGHT 5-15
REDUCE SPEED WHEN TOWING LOAD..... 5-15
HOW TO DRIVE..... 5-16
DRIVING ON THE ROAD..... 5-19
DRIVING ON THE SLOPE 5-20
ENTERING AND LEAVING THE PAVEMENT 5-20
TURNING ON THE PAVEMENT 5-21
STOPPING 5-22
PARKING..... 5-23
TO RAISE OR LOWER THE IMPLEMENT..... 5-24
ADJUSTING THE LOWERING SPEED OF THE IMPLEMENT 5-24
TRACTOR LOADING /UNLOADING..... 5-25

ATTACHMENT OF IMPLEMENT 5-26

ATTACHMENT POSITION 5-26
CENTER LINK ADJUSTMENT 5-27
ATTACHING IMPLEMENT 5-27
ADJUSTMENT OF CHECK BAR 5-28
INSTALLATION OF PTO DRIVEN IMPLEMENT. 5-29
CYLINDER HOSE CONNECTION 5-30
PRECAUTIONS FOR CONNECTING THE IMPLEMENT 5-31
PRECAUTIONS FOR HANDLING IMPLEMENT 5-32
ROTAVATOR 5-32
EFFECTIVE PLOWING PATTERN..... 5-33

ADJUSTING WHEEL TREAD 5-36

TIRES, WHEELS AND BALLAST 5-37
TIRE TYPE 5-37
WHEEL AND AXLE 5-37

5. OPERATION

POWER STEERING 5-37

TOWING INSTRUCTIONS.....5-38

PTO SPECIFICATIONS & PRECAUTIONS 5-38

LOADER OPERATION 5-39

CARRYING THE LOAD 5-40

HANDLING LARGE HEAVY OBJECTS.....5-41

ROPS FOLDING METHOD 5-42

HOW TO FOLD DOWN THE ROPS 5-42
HOW TO STAND UP THE ROPS 5-42

DAILY INSPECTION BEFORE STARTING

1. Check the engine oil level.

   After wiping out the dipstick, insert it fully and then withdraw it. Oil should be between the two marks on dipstick.

   Do not operate the engine if oil level is below minimum mark. If below, add the corresponding grade oil according to the season through the filler.
2. Feed grease to all greasing points indicated below every 10 hours when working in damp and muddy conditions.
   - Front axle pin
   - Steering shaft and Cylinder end
   - Tie rod both ends
   - Front axle supporter
3. After cleaning the machine with highly pressurized water, lubricate the indicated points with grease below if necessary.
   - Bonnet latch
   - Seat sliding rail

PRE-OPERATION CHECK

⚠ DANGER

- **Do not provide illumination with a lit cigarette or a lighter when fueling.**
- **Never fill the fuel tank while the engine is running or hot.**
- **After filling the fuel tank, close the fuel filler cap completely and wipe off the excess fuel thoroughly.**
- **If the fuel hoses are damaged, fuel will leak. Make sure that you check for any leakage.**

⚠ WARNING

- **Perform the maintenance on a flat and safe location that will keep the tractor in place and will not cause a risk to people passing by. Before carrying out the maintenance, place blocks at the front tires to prevent movement.**

[Otherwise]

An unexpected accident may occur, such as overturning of the tractor.

- **When going under the implement, fully close the slow/stop valve.**

[Otherwise]

There is a risk of injury due to implement falling.

⚠ CAUTION

- **Stop the engine during checking, maintenance, or repair**
- **Carry out the maintenance work after heated area such as the muffler or the engine have fully cooled down.**

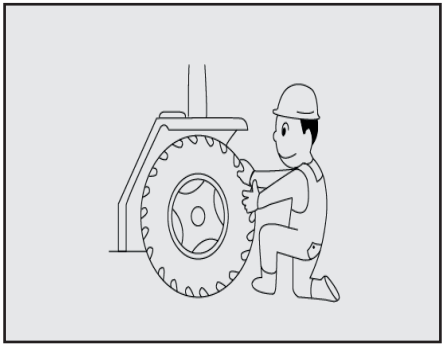
[Otherwise]

There is risk of burn.

- **After detaching the covers for checking or maintenance, make sure to put them back in their place.**

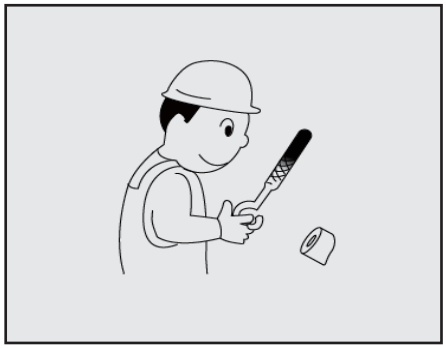
[Otherwise]

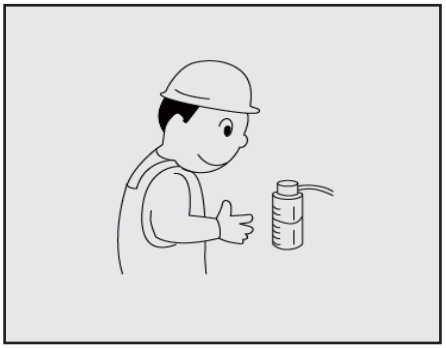
There is a risk that you may get entangled in the tractor or get injured.

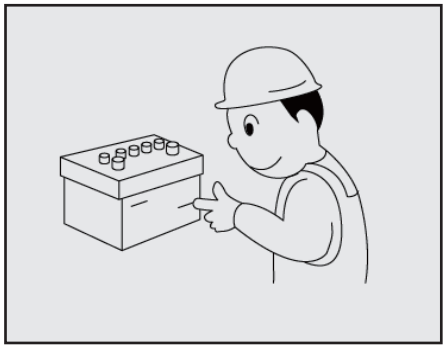


To ensure a safe and comfortable operation, please carry out the routine check-up everyday before starting work. Correct any problem immediately, and also check for problems after work. This checking should be done in the following sequence.

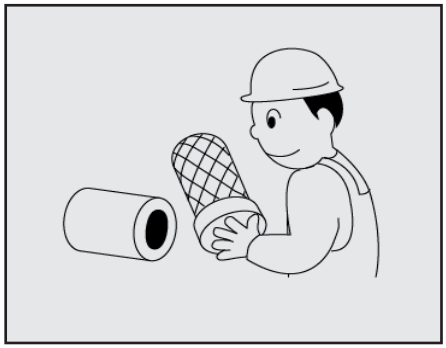
1. Check the suspicious parts of the previous day.
   - Check the parts that you thought were not normal during the work of previous day.
2. Check around the tractor.
   - Deformation, damage or stains.
   - Tire pressure and abrasion.
   - Damage to the tractor, or loosened bolts.
   - Loosening of wheel bolts.
   - Fuel quantity, fuel leaks, or damage to the fuel hose.



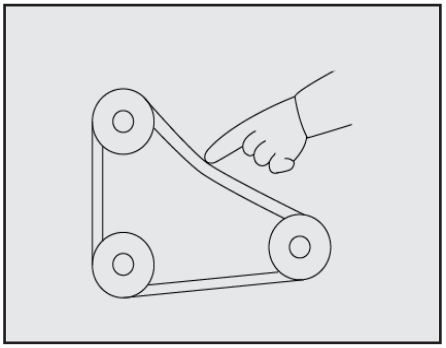




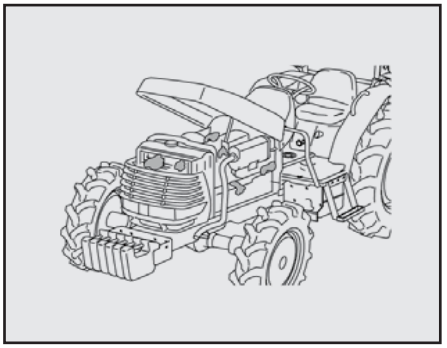
3. Open the engine hood.
   - Engine oil level, contamination, or leakage.
   - Engine coolant level, leakage, or damage to the hose.
   - Battery solution level.



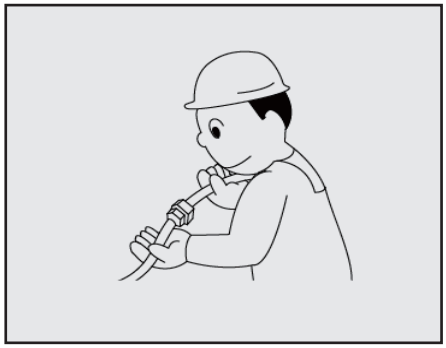
• Air cleaner.

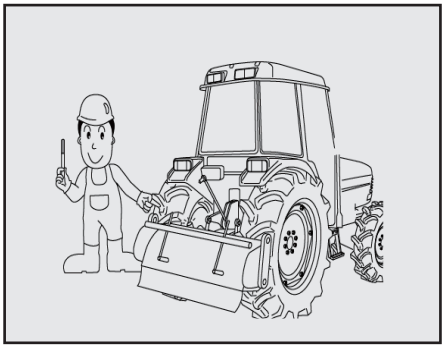


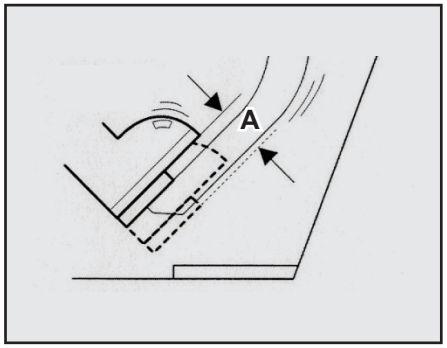
• Fan belt tension, damage.



• Dust or straw on the radiator grill or the engine.





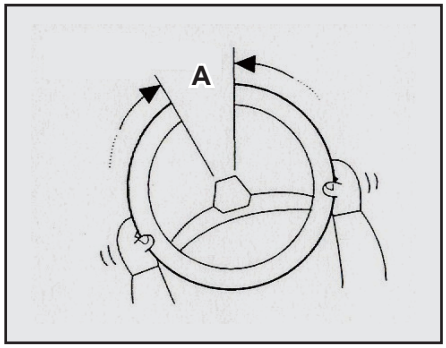


(A) Free play 0.2 ~ 0.4 in

- Damage to the coating of the cables, or loosening of the contacts.

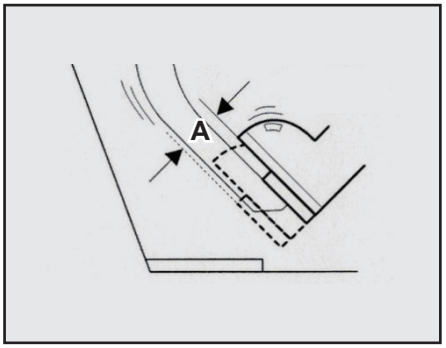
4. Check around the implement.
   - Condition of the locking pin of the universal joint inserted in the PTO shaft.
   - Condition of pins in each part.
   - Loosening of the bolts holding the blade.
   - Quantity of oil in each part. For more details, please refer to the implement manufacturer's instructions.

5. Check on the driver seat.
   - Operational condition and free play of the brake. (0.2~0.4 in)



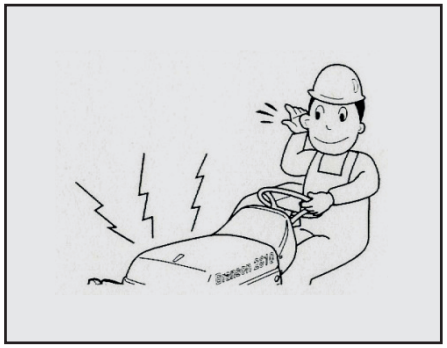
(A) Free play 0.8 ~ 2.0 in

- Free play of the steering wheel. (0.8~2.0 in)

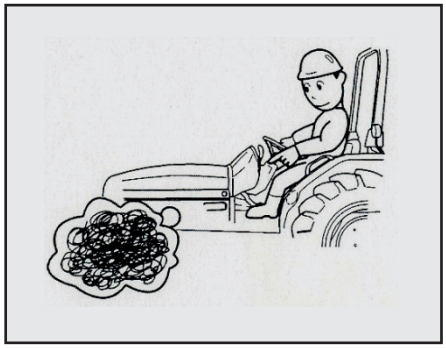


(A) Free play 1.0 ~ 1.4 in

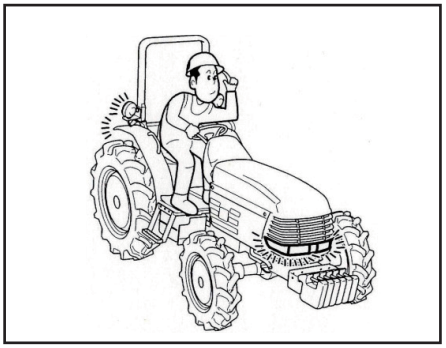
- Operational condition and free play of the clutch pedal. (Manual transmission only)



6. Start the engine.
   - Abnormal noise from the engine.



• Color of the exhaust gas.



• Operation of lamps and gauges



►Boarding and Leaving The Tractor

Use Steps and Hand-holds Correctly

1. Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps and handrails. Never use machine controls as hand-holds.
2. Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free

RUNNING-IN PERIOD

of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine

⚠ DANGER

- **Getting off the tractor, make the implement descend.**

[Otherwise]

The implement descends itself, and then causes some unexpected accident.

⊕ IMPORTANT

- **Always keep wheel bolts tightened to prevent any accident. Confirm that the wheel bolts are tight before operation. Check wheel bolt torque at least twice within the first 10 hours of operation, check it periodically at every 50 hours thereafter. Change the oil and filter after first 50 hours of operation.**

▶ Within first 10 hours of operation
- Inspect daily or every 10 hours
- Tighten the wheel bolts

▶ After first 50 hours of operation
- Tighten the wheel, disc and hub bolts
- Check the alternator and fan belt tension as well as air inlet
- Tighten the cooling system's hose and clamp
- Perform the scheduled 50-hour maintenance
- Change the transmission/hydraulic oil and oil filter element
- Change the engine oil and filter
- Change the front axle fluid

STARTING / STOPPING THE ENGINE

⚠ DANGER

- **When starting the engine, make sure that you are seated in the driver's seat and check position of the levers and the safety around the tractor.**

[Otherwise]

There is a risk of injury.

- **Do not start the engine in an enclosed space. You must start the engine outside of building. If you should have to start the engine inside a building, make sure that the space is well ventilated.**

[Otherwise]

The exhaust gas can cause intoxication and can lead to fatal consequences.

⚠ CAUTION

- **Make sure to carry out checking and maintenance before and after the use of the tractor, particularly the operating devices such as the clutch and the brake lever.**

[Otherwise]

There is a risk of injury or machinery breakdown. Engage the parking brake during warming-up. Otherwise, the tractor may move and cause an accident.

- **Don't crank engine unless hitch control lever is in the lowest position.**

[Otherwise]

Implement might rise quickly and there is a risk of injury or machinery breakdown.

Check the engine operation carefully.

⊕ IMPORTANT

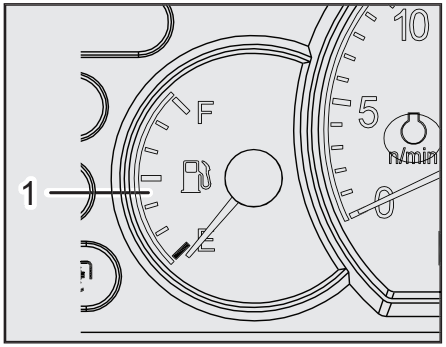
- **The engine is tuned or set for normal use. In case of a new tractor, especially carry out inspection and check within first 100 hours.**

- Be sure to warm up the engine. Inspect the battery charge warning lamp, oil pressure warning lamp and engine coolant temperature gauge.
- Avoid any unnecessary engine idling.
- Frequently check the engine oil, coolant, transmission fluid and front axle oil levels. Also, inspect for leakage of those fluids.

NOTE

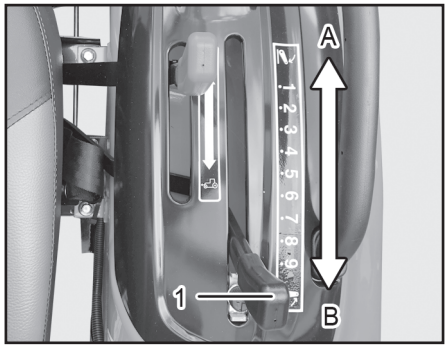
- **Make sure to add the corresponding grade oil for the season. Use only genuine oil specified by BAD BOY.**

STARTING ENGINE



(1) Fuel Gauge

1. Check the fuel gauge. Make sure that a sufficient amount of fuel is in the tank.



(1) Position Control Lever
(A) Lowering (B) Lifting

2. Check the position of the implement. Push the control lever forward to lower the implement down onto the ground.

⚠ WARNING

- **Don't crank engine unless position control lever is in the lowest position.**

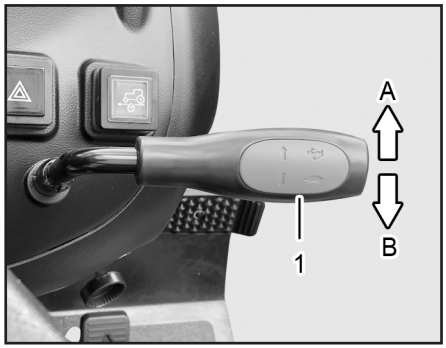
[Otherwise]

Implement might rise quickly and there is a risk of injury or machinery breakdown.

- **Check the safety around the tractor and start to move slowly.**

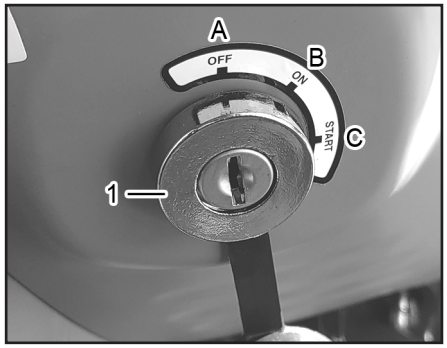
[Otherwise]

There is a risk of injury.



(1) Hand Throttle Lever
: Faster Engine RPM (A)
: Slower Engine RPM (B)

3. Place the hand throttle lever to the Minimum position.
4. After the thermostat lamp has turned off, depress the clutch pedal fully and turn main key switch to start.



(1) Main Key Switch (A) OFF
(B) ON (C) START

5. Turn the main key switch to the "START" position. When the engine is started, take your hand off the key.
6. Increase the engine to about 1,500 rpm and warm it up for about five minutes without a load.

IMPORTANT

- **Do not operate the start motor more than 20 seconds at a time. If the start motor won't start, wait until the motor is cooled down at least for 2 minutes and then try again.**

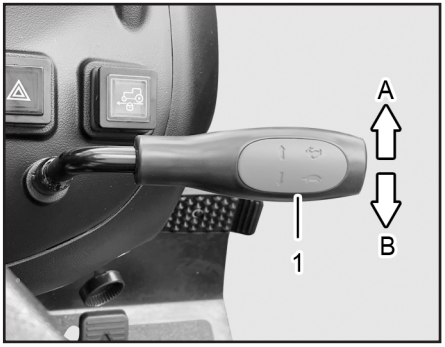
COLD START

⚠ CAUTION

- **In case of the tractor equipped with the cold start system, do not use starting fluid.**

1. When starting in cold weather, turn the ignition switch to the "ON" position and then wait until the preheat indicator is turned off.
2. For safe operation, turn the ignition switch to the "START" position with the clutch pedal depressed.
3. Repeat the above procedures until the engine is operated smoothly.
4. Let the engine idle at 1,200 rpm to warm up the engine up to the operating temperature.

STOPPING ENGINE



(1) Hand Throttle Lever

: Faster Engine RPM (A)

: Slower Engine RPM (B)

1. Put the acceleration lever on LOW, and turn the main switch to “OFF”.
2. Put shuttle lever, main gearshift lever and PTO shift lever to “N”. put PTO ON/OFF switch in to the “OFF” position and 4WD lever position on disengage.
3. Put the hitch control lever on “DOWN”

⚠ CAUTION

- **When stopping the engine, never stop it with the reducer lever.**
- **After stopping the engine, make sure to apply the parking brake.**

NOTE

- **For warming-up operation, strongly step on the brake pedal and pull your parking brake.**

⚠ WARNING

- **When leaving the tractor, park the tractor in a flat and safe place, put the shuttle lever and the main shift lever to “N”, and block the tires.**

[Otherwise]

The tractor may move and cause an accident. Always set the parking brake.

TRACTOR OPERATION

WHEN ATTACHING WEIGHT

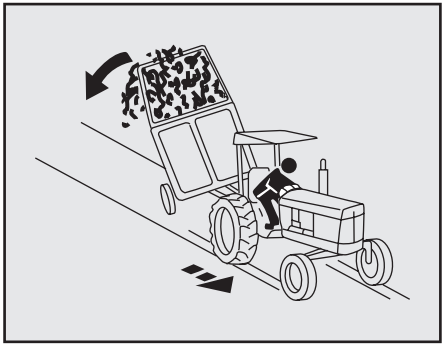


⚠ CAUTION

- **Do not drive on a road under a heavily loaded condition. Otherwise, it can lead to an injury or machine damage.**

1. Reduce the speed when driving on a bumpy or rough ground.
2. Attach the additional weight needed for stability and safe cornering if required.
3. Make sure that the front wheels are not risen up when transporting implements or towing a heavy load.

REDUCE SPEED WHEN TOWING LOAD



⚠ CAUTION

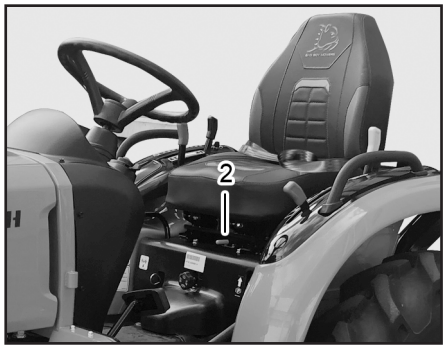
- **The stopping distance becomes longer on a downhill in proportion to the speed and load weight. If the towed weight is heavier than the tractor and the braking system is not installed on the trailer, reduce the speed. Observe the guideline for towing speed and capacity.**

Observe the guideline for towing speed and capacity as below.

1. If the trailed weight is the same or lighter than the tractor, maintain the maximum speed of 16 mph (26 km/h.)
2. If the trailed weight is twice the tractor or less, maintain the maximum speed of 8 mph (13 km/h.)
3. If the trailed weight is more than twice the tractor, do not tow it.
4. Be careful especially when towing a load on a bad condition of ground, slope or corner.

HOW TO DRIVE





(1) Seat belt *(2) Seat sliding lever*

1. Adjust the seat properly and fasten the seat belt. Adjust the seat to easily reach the pedal and the steering wheel.

   If the seat belt is worn across the abdomen or waist, not the hips, an injury can occur in case of an accident or impact.

   Adjust the levers properly according to the driver's physical condition.

⚠ CAUTION

If the tractor is out of control, it can cause a personal injury or even death. Keep the following instructions on a road:

- **Interlock the both brake pedals.**
- **Use the foot throttle pedal.**
- **Reduce the speed while driving on a slippery, or gravel road.**
- **Attach the proper weight.**
- **When reducing the speed, use the brake gently and carefully.**

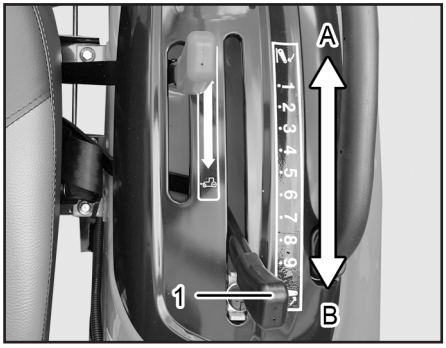
⊕ IMPORTANT

- **Don’t put a foot on the brake pedal unnecessarily during driving. Such action can reduce the brake's service life.**



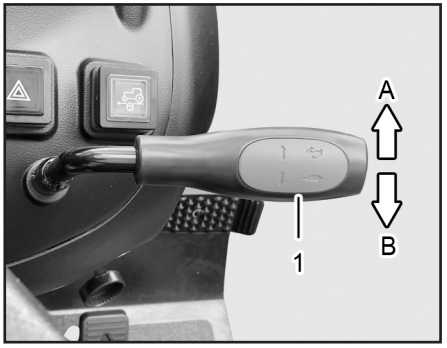
(1) Brake Pedal

2. Check if both brake pedals are interlocked.



(1) Position Control Lever
(A) Lowering (B) Lifting

3. Lift the implement.



(1) Hand Throttle Lever
: Faster Engine RPM (A)
: Slower Engine RPM (B)

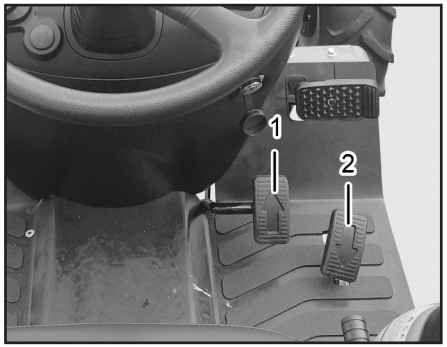
4. Control the hand throttle lever. Increase the engine rpm from low to high speed gradually.



(1) Parking Brake Lever



(1) Range shift lever



(1) HST Pedal Forward
(2) HST Pedal Reverse

5. Release the parking brake. Press the button on the end of the parking brake lever and push the lever forward.

6. Put the range shift levers into the proper positions as the operator's intention.

⚠ CAUTION

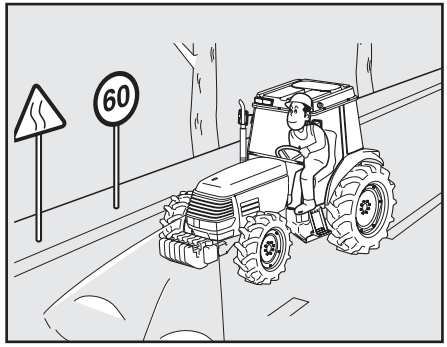
- **The range shift lever should be operated while the vehicle is stationary. If not, there is a risk of machinery damage.**

7. Operate the HST pedal. This pedal is used to select forward or reverse driving of the tractor.

DRIVING ON THE ROAD

⚠ CAUTION

- Don't put a foot on the clutch pedal unnecessarily during driving. Otherwise, the clutch is set in the slip position, resulting in premature wear of the clutch.
- Do not change the tractor speed abruptly for safe driving.
- Be careful of all directions of the tractor before driving. If not, it can cause an accident.
- When driving on a steep slope or moving to a location for loading or unloading, do not put your hand on the main shift lever. If the shift lever is half engaged, it can lead to an accident. Make sure to place the lever in the low speed position in advance.



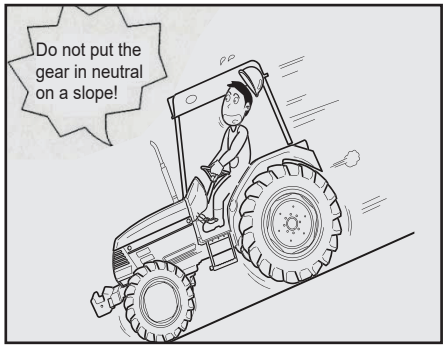
⚠ WARNING

- When driving on a road or crossing a dike, make sure to connect the brake pedals. Otherwise, the tractor may turn abruptly or turn over due to one-sided braking.
- Observe the traffic regulations when driving on the road. Otherwise, you may be involved in an accident.

⚠ WARNING

- This tractor is designed to accommodate only one person. Do not allow anyone on the tractor other than the driver. Otherwise, you will be exposed to a risk of accident.
- Put the PTO lever into "N" and connect the brake pedals.
- When making a turn, turn on the direction indicator lamp to inform other vehicles of your intention.
- Pay particular cautions to narrow farm roads, slopes, and grassy shoulders, and reduce the speed.
- Put the position control lever to UP and lock it with the stopper. Otherwise, you will be exposed to a risk of an accident.
- Connect the brake pedals when driving on a road. Otherwise, there is a risk of abrupt turning or overturning due to one-sided braking.
- Before every operation, make sure that operator wears safety belt.

DRIVING ON THE SLOPE



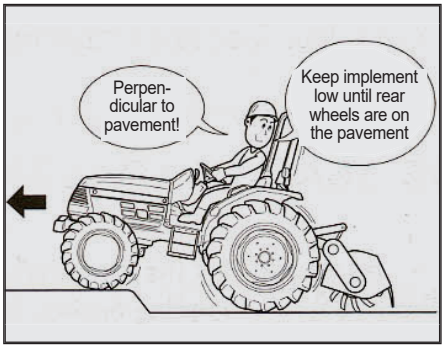
⚠ WARNING

- **Select a proper speed, and do not shift the gear.**
- **Do not park on a slope. Otherwise, the tractor may slip or overturn and cause an accident.**
- **Reduce speed and pay special attention to the speed.**

⚠ WARNING

- **Do not depress the clutch pedal when driving on a slope. The tractor may slide down and lead to a serious situation.**
- **When starting the tractor upwards on a slope, start slowly in low gear with low engine rpm. Otherwise, the front of the tractor may be lifted and cause a very dangerous situation.**
- **You may shift the gear when you are no longer on the slope. If you stop on a slope, apply the parking brake. Otherwise, you may be exposed to a risk of accident.**

ENTERING AND LEAVING THE PAVEMENT



⚠ WARNING

- **Make sure to connect the brake pedal. Otherwise, the tractor may turnover due to one-sided braking.**

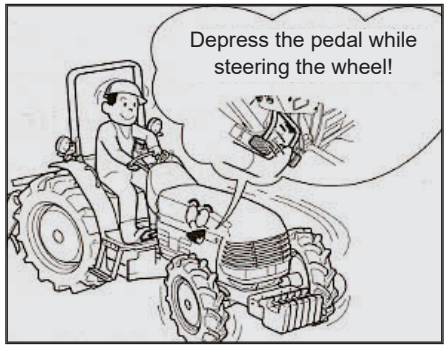
TURNING ON THE PAVEMENT

⚠ WARNING

- **When you cross a dike or raised ground to enter or leave the pavement, use loading ramps with sufficient strength, and lower the implement to achieve a lower center of gravity.**
- **Drive backward when climbing up a steep slope, and drive forward when climbing down.**

NOTE

- **Enter or leave the pavement in a perpendicular direction. When climbing onto the pavement, lower the implement to achieve a lower center of gravity. Once all wheels of the tractor are on the pavement, raise the implement.**



When making a turn, reduce the engine rpm and make a slow turn. When making a turn on the pavement, remove the connector of the brake pedals. Depress the brake pedal on the side to which to make a turn, while steering the wheel, this will allow the tractor to make the turn without moving ahead. Make sure to keep the implement in the up position when making a turn.

⚠ WARNING

- **Make sure to release the differential lock before making a turn.**

[Otherwise]

The tractor will not turn in the intended direction. It may cause an accident.

STOPPING

1. Stop the tractor with the brake pedal.
2. Put the main shift lever to the neutral position.
3. Put the shuttle lever to the neutral position.
4. Put all SCV levers to the neutral position.
5. Set the PTO switch in the OFF position.
6. Lower all implements on the ground.
7. Push the hand throttle lever back slowly to decelerate the engine and keep the engine for 1 - 2 minutes of unloaded idling.
8. Make sure the parking brake is applied.
9. Turn the main switch to the 「OFF」 position to stop the engine.

⚠ CAUTION

- **When leaving the tractor, put the shuttle lever into the neutral position. If not, the tractor may move even though the engine is stopped.**

IMPORTANT

- **The tractor needs to be stationary before making a shift. If the parking brake is applied while the tractor is moving, the transmission can be damaged.**
- **Each part of the engine is cooled down by the engine oil. If the hot engine is suddenly stopped, its high temperature or insufficient lubricant can cause damage to the related parts.**

⚠ CAUTION

- **Remove the ignition key before leaving the tractor to prevent its use by an unqualified person.**

PARKING



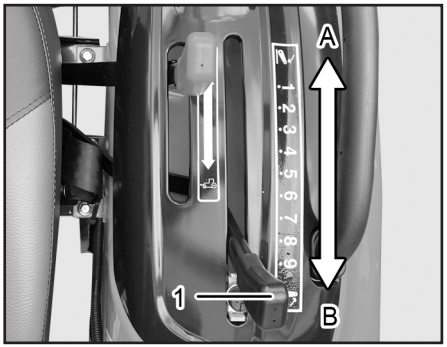
(1) Parking Brake Lever

1. When parking or stopping the tractor, pull the parking brake lever securely.

⚠ CAUTION

- **The brake disc can be rapidly worn if you drive with the parking brake applied. To park the vehicle, apply the parking brake and then place prop under the rear wheels.**

TO RAISE OR LOWER THE IMPLEMENT



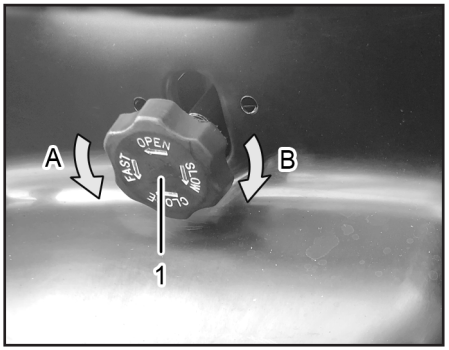
(1) Position Control Lever
(A) Lowering (B) Lifting

1. This position control lever can be used to lower and lift an implement freely.
2. Pulling the lever back lifts the implement while pushing it forward lowers the implement.

⚠ CAUTION

- **To avoid a personal injury, use the position control lever when attaching/detaching the implement.**

ADJUSTING THE LOWERING SPEED OF THE IMPLEMENT



(1) Flow Control Valve
(A) Fast (B) Slow

For adjusting the lowering speed, turn valve (A) to the left for faster movement or (B) to the right for slower movement. Turning the valve fully to the right (B) will block the hydraulic pressure and will cause the implement to stop.

⚠ WARNING

- **Do not work under or put a foot under the implement.**

[Otherwise]

The implement may fall and cause an injury.

TRACTOR LOADING /UNLOADING

⚠ DANGER

- **Fix the direction so that the tractor will not have to modify its direction on the loading bridge, and proceed at the lowest speed.**
- **Never depress the clutch pedal to change direction or stop.**

[Otherwise]

There is a danger that the tractor may turn over.

⚠ WARNING

- **Loading and unloading must be done on a flat and safe place, with the engine turned off and the parking brake engaged. The loading lamp must be non-slippery and have sufficient strength, length, and width for the tractor. To avoid slipping of the loading lamp, latch it securely onto the truck. Move the tractor backward when loading, and forward when unloading. Fasten the tractor to the truck securely with rope.**

[Otherwise]

The tractor may fall off the truck and cause an accident.

ATTACHMENT OF IMPLEMENT
ATTACHMENT POSITION



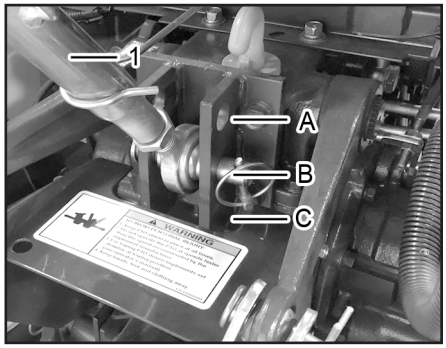
(1) Lift link
(2) Lower link
(3) Center link
(4) Check bar
(5) Draw bar

⚠ CAUTION

Select an implement to match the tractor horse power;

The tractor horse power should correspond with the size of an implement. If the power level of tractor is exceeded, the implement may be damaged. Also, if the implement is too big, the tractor may be damaged. Be sure of the maximum and minimum power of the tractor before attaching an implement.

CENTER LINK ADJUSTMENT



(1) Center link *(A) Low traction*
(B) Mid traction *(C) High traction*

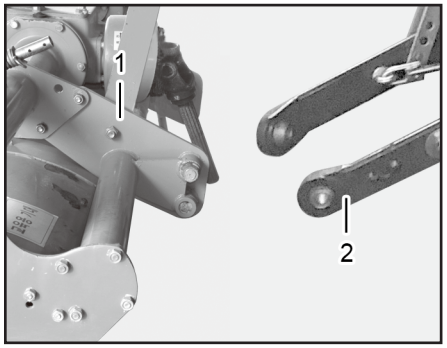
The center link can be installed to 3 selective positions according to the working condition.

A: If the center link is attached to the top position, the draft system will not be activated. This is good for the implement such as a drilling machine or equivalent which does not require any traction force.

B: The center hole is the standard installation hole for a rotary tiller.

C: If the center link is attached to the bottom position, the draft system will be activated with highest sensitivity which is suitable for the implement such as a plow or equivalent which requires traction force.

ATTACHING IMPLEMENT

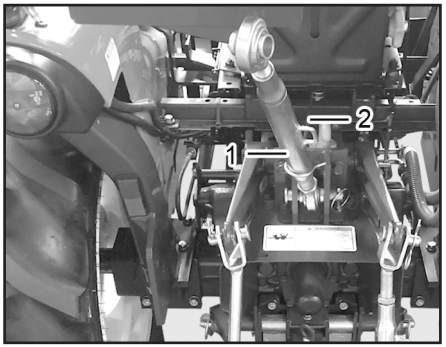


(1) Implement *(2) Lower link*

1. Drive the tractor backward to move close to an implement to fit the position of 3-point hitch.
2. Apply the parking brake and stop the engine.
3. Attach the lower link to the link hook and insert pin in to hook.

⚠ WARNING

- **To prevent the locker shaft from unexpected movement, turn "OFF" the traction (draft) control before attaching the implement to the hitch.**



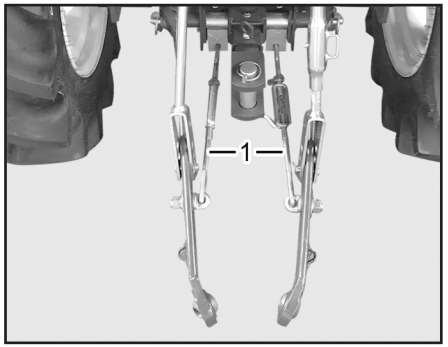
(1) Center link *(2) Fixing bracket*

4. Detach the center link from the fixing bracket.
5. Attach the center link to the top mast of the implement.
6. Adjust the length of the center link and lower link if required.

⊕ IMPORTANT

- **Do not extend the center link excessively out of the limit. The center link's body or thread can be damaged.**

ADJUSTMENT OF CHECK BAR



(1) Check bar

1. For implements such as a plow and disc harrow, adjust the length so that it can be moved for 5 - 6 cm sideways.
2. For implements such as a rotary tiller and mower, adjust the length so that it cannot be swayed sideways.

INSTALLATION OF PTO DRIVEN IMPLEMENT

1. Attach the implement to the tractor.
2. Lift the implement off the ground.
3. Stop the engine and put the PTO shift lever in the neutral position.
4. After opening the PTO cover, connect the universal joint shaft while turning the PTO shaft by hand so as to align the splines.
5. To check the PTO shaft is secured, check if the pin is returned to the original position by pulling the universal joint shaft.
6. Close the PTO cover.
7. Adjust the PTO shift lever according to the working speed.
8. Check if the safety shields are in place and working environment is normal. If the master safety shield is not installed, do not operate the PTO. Stop the engine to check the PTO shaft and its guards Repair or lubricate if required.
9. The PTO shaft should not be interfered by any surrounding parts.

8. Check if the safety shields are in place and working environment is normal. If the master safety shield is not installed, do not operate the PTO. Stop the engine to check the PTO shaft and its guards Repair or lubricate if required.
9. The PTO shaft should not be interfered by any surrounding parts.

⚠ CAUTION

- **If someone is entangled in the rotating part, it can cause a fatal injury. Always wear protective gear and install the safety shields and guards to the drive line. Don't wear loose clothing.**
- **Do not remove the installed protective cover of the PTO drive shaft without permission. If working with this protective cover removed, it can cause a severe injury. Refer to the warning decal on the cover.**

CYLINDER HOSE CONNECTION

1. Make sure to use the correct hoses for expansion and retraction. The expanding hose must be connected to the left coupler. The retracting hose must be connected to the right coupler.
2. Remove the dust cap from the end of the hose.
3. Slide the coupler cap.
4. Make sure the end of the hose and the coupler are clean. Insert the hose tip correctly into the coupler. Pull the hose once to make sure the hose is correctly inserted into the coupler.
5. When connecting an external hydraulic hose, be careful not to let foreign substances enter. Be sure to clean the connector and assemble it in a clean state.

⚠ CAUTION

- **High pressure oil leaking under pressure can penetrate the skin and cause severe wounds. Avoid danger by reducing pressure before disconnecting hydraulic or other wires. Tighten all connections before applying pressure.**
- **To check for leakage, use a piece of cardboard and protect your hands and feet from the pressurized fluid.**
- **Get medical attention immediately in case of accident. Fluids injected into the skin may rot if not removed surgically within a few hours.**
- **External hydraulic hoses can be damaged by physical damage, aging and explosion. Check the hoses regularly. If the hose is damaged, replace it immediately.**

PRECAUTIONS FOR CONNECTING THE IMPLEMENT

1. When engaging or disengaging the implement by moving the tractor, make sure that no one is allowed around the tractor or between the implement and the tractor.
2. Engage or disengage the implement on a flat and safe place. Supply proper lighting at all times and especially at night.
3. When engaging a heavy implement, load the weight on the front to keep the balance of the tractor.
4. When adjusting the implement, apply the parking brake, switch off the engine, and confirm that the PTO lever is on the “OFF” position.
5. When towing something, make sure to use the draw-bar.
6. Increase the wheel tread on a slope or when towing.
7. Depending on the implement, the overall length may become very long. Pay particular attention to people or objects nearby when making a turn.
8. Do not substitute the balance weight with a person or anything else. Always use the recommended balance weight.
9. For front loader work, mount an implement on the rear to keep the balance of the tractor.
10. Read the instruction manual of the implement mounted to the tractor.

⚠ WARNING

- **When the PTO shaft is not in use, affix the safety cover on it.**

[Otherwise]
There is a risk of getting entangled in the tractor or injured.

PRECAUTIONS FOR HANDLING IMPLEMENT

1. When driving the tractor to attach or detach an implement, make sure that there is no one in between or around the tractor and implement.
2. Install and remove the implement only on safe and level ground.
3. When engaging a heavy implement, load the weight on the front to keep the balance of the tractor.
4. When adjusting an implement, apply the parking brake, stop the engine and set the PTO switch in the OFF position in advance.
5. To tow anything, use the towing-hitch only.

⚠ WARNING

- **Read instructions on warning decals on each implement thoroughly before work.**
- **To avoid an injury due to mishandling of an implement, read the user's manual of the implement thoroughly and work safely and precisely with caution.**
- **Installation of an improper implement can lead to an injury. Install only implements specified by the Manufacturer.**

ROTAVATOR

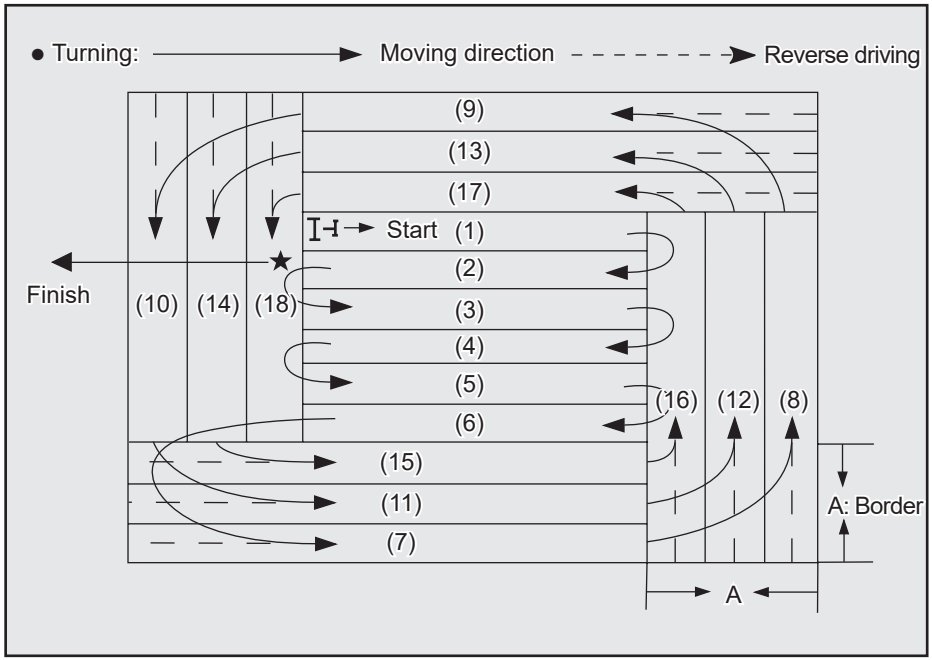
▶ Safety precautions for rotavator

- Never remove the safety cover of the rotavator.
- Do not remove the PTO shaft cover and safety cover on the universal joint.
- When adjusting each part, disengage the PTO and stop the engine in advance.
- When driving on a road, keep the PTO disengaged. Also, keep the rotavator lowered on a road as long as it does not hit the ground.
- For the universal joint, its inner shaft and outer shaft should be overlapped at least 15 cm.
- Check that the universal joint is firmly fixed to the tractor and rotavator shaft.

EFFECTIVE PLOWING PATTERN

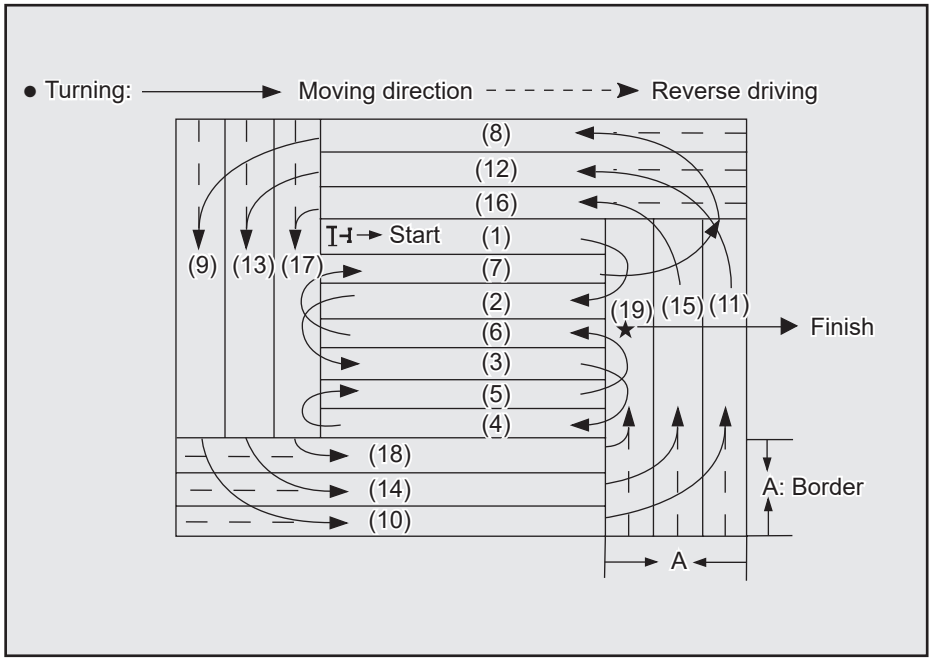
▶Safety precautions for rotavator

- This pattern can be useful in a well-planned field in a good condition.
- The border shown in the figure is the effective plowing width of the rotavator and should be set a little narrower than three times of one plowing width.
- The starting point is the ending point.
- Plow in a sequential pattern from (1) to (6) and in a circular pattern from (7) to (18).
- When driving forward to plow, have the bank on the right side.
- Be careful not to press already-plowed soil with the wheels.



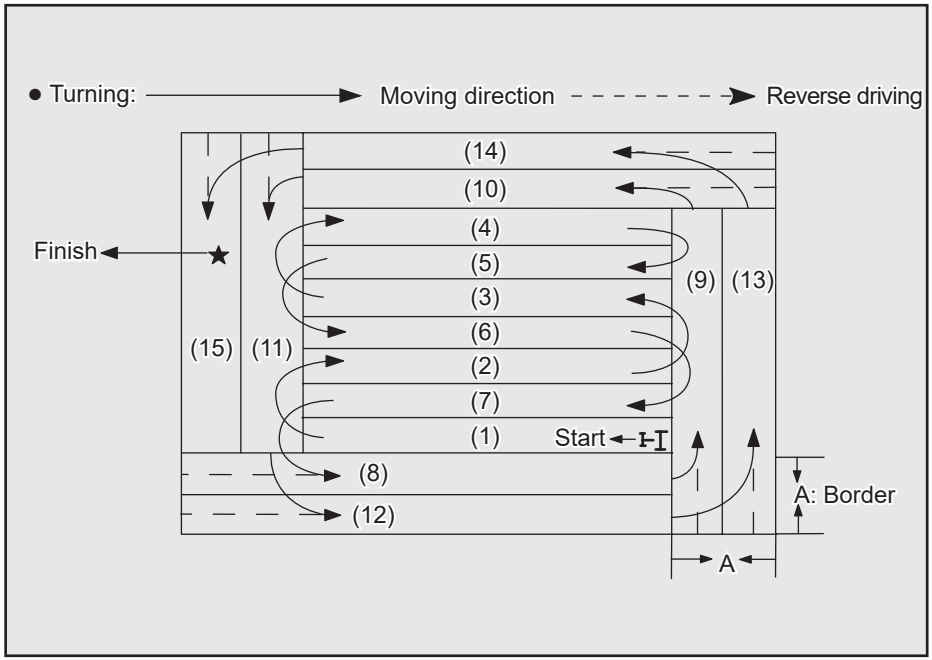
▶ Alternating returning plowing pattern

- This pattern is useful for narrow or short fields or poorly planned fields in which are not easy to turn.
- In the figure, the plowing width for (1), (2), (3) and (4) should be overlapped with the one for (5), (6) and (7) for approx. 10 cm.
- For the sections (1) to (7), perform plowing in an alternating pattern. For the sections (8) to (19), plow in a circular pattern.
- Refer to the sequential returning pattern for other details.

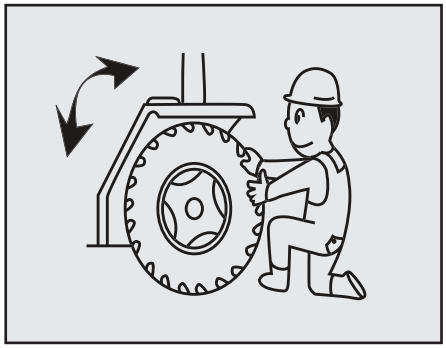


▶Land leveling pattern

- The land leveling work may be performed after crushing soil or not.
- The vehicle speed can be set faster when performing the land leveling work with soil crushed already.
- When working in a wet field, fill the field with a sufficient amount of water so that the trace of plowing cannot be seen.
- The border shown in the figure should be set a little narrower than two times of one plowing width.
- Refer to the alternating returning pattern for other details.



ADJUSTING WHEEL TREAD



Adjust the wheel tread depending on the type and condition of the work. Also, increase the wheel tread when working on a slope or towing.

1. Pull the parking brake, block the front wheels, and raise the body with a jack to make the rear wheels separate from the ground.
2. Be sure to make adjustments alternatively between the left and right wheels.

►TIGHTENING TORQUE

⚠ WARNING

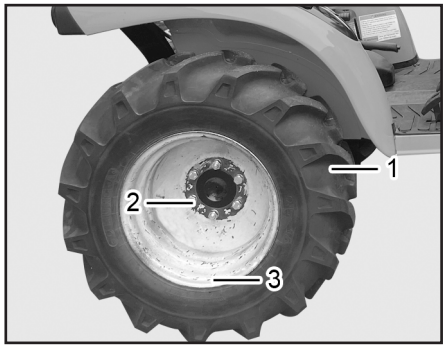
- **When changing tires, please use a hoist or strong support and make sure the tractor does not move.**

[Otherwise]
There is a risk of death or injury.

	DESCRIPTION	TIGHTENING TORQUE
FRONTWHEEL	Bolts on wheels and axle	130 (18 kgf.m)~ 152 lb-ft (21 kgf.m)
REAR WHEEL	Bolts on wheels and axle	130 (18 kgf.m)~ 152 lb-ft (21 kgf.m)
	Bolts on rim and disk of wheels	188 (26 kgf.m)~ 224 lb-ft (31 kgf.m)

TIRES, WHEELS AND BALLAST

TIRE TYPE



(1) Tire *(2) Wheel nut*
(3) Rim

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.

WHEEL AND AXLE

If the wheel or axle is loosened, tighten to the specified torque.

1. Drive the tractor about 110 yds (100 m) and tighten it to the specified torque.
2. Inspect the wheel and axle every 10 hours of engine run or every 3 hours of working.
3. Inspect all wheels and axles frequently and securely tighten if necessary.

⚠ CAUTION

- **Never operate the tractor with a loose rim, wheel, hub or axle.**

NOTE

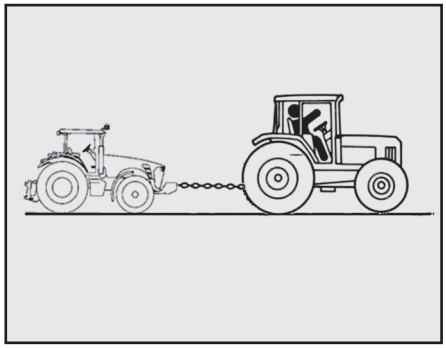
- **When operating a new tractor or when removing the wheel, follow the procedures above.**

POWER STEERING

⚠ CAUTION

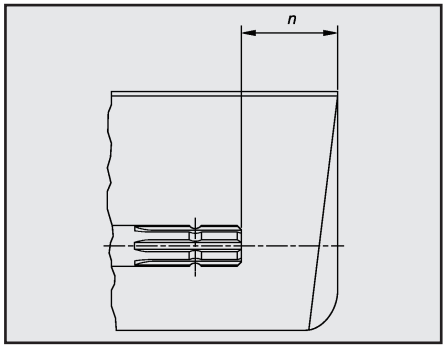
- **Pay attention to the steering wheels while driving, because it can be very lightly manipulated when the engine is running.**
- **Power steering will run only when engine is running. When engine is idling, power steering may feel a little heavy.**
- **If the wheels are steered to the maximum, the relief valve is opened and a warning sound will be made. Do not continue to operate the tractor with the warning sound.**
- **Do not steer the wheels unnecessarily, because steering the wheel without moving will attribute to early wear of tires and rims.**

TOWING INSTRUCTIONS



1. Tractor traction should be conducted in short distance. (For instance, from inside to outside)
2. Long distance towing is not allowed in traffic congestion.
3. In case tractor needs to tow, use strong and safe checked chain.
4. Traction must be conducted from the rear in usage of tow bar, tow hook and 3-point linkage.
5. When driver turns the handle, use the brake if necessary.
6. During traction, the transmission and other parts, are not being lubricated but rotating. In order to prevent breakage, please note the following:
7. Towing should be in short distance.
8. Traction speed is restricted to less 8 km/h.
9. If possible, start the engine in order to make the power steering lubricated.
10. Place the main gearshift and sub gearshift in neutral.

PTO SPECIFICATIONS & PRECAUTIONS

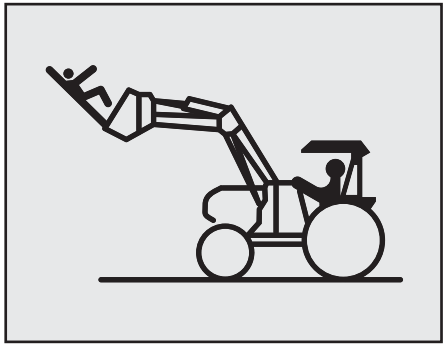


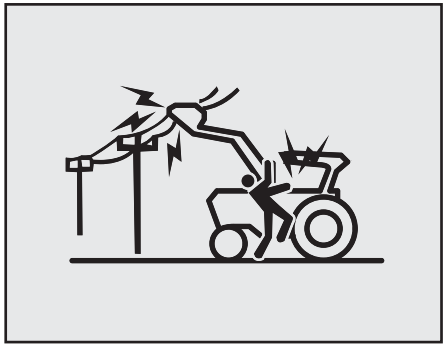
Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield should overlap the end of the splined shaft and the added adaptor device as outlined in the table.

LOADER OPERATION

PTO Type	Diameter	Splines	n ± 0.2 in. (n ± 5 mm)
1	1.378 in. (35 mm)	6	3.81 in (97 mm)



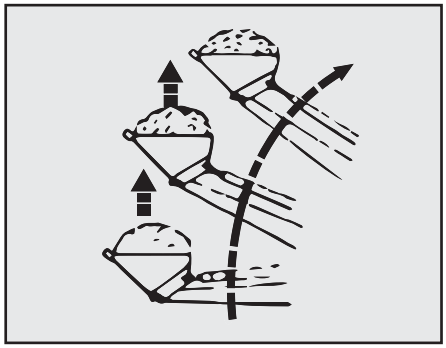


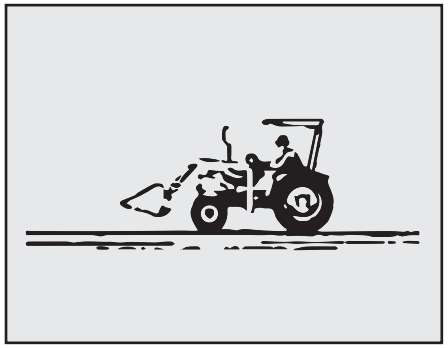
Work with front-end loader. (Risk of falling objects)

⚠ WARNING

- **Avoid contact with electrical power lines by loader or attachments.**
- **Do not lift or carry anyone in the bucket or on any other position of loader attachment.**
- **Inadvertent movement of the loader or attachment could result in serious injury or death from falling or crushing.**

CARRYING THE LOAD





⚠ CAUTION

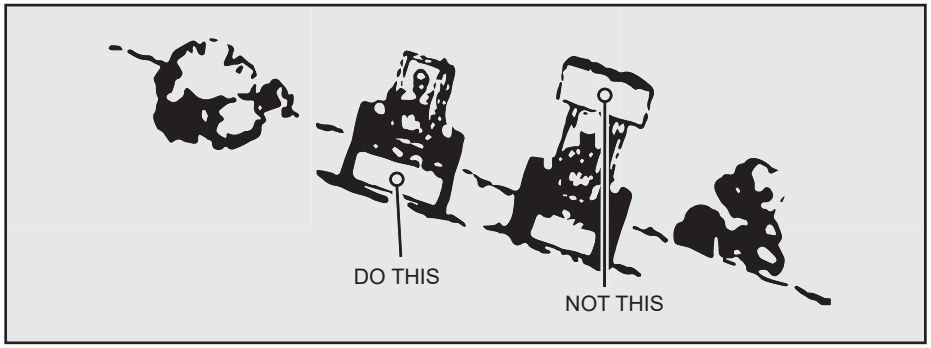
- **Operating the loader on a hillside is dangerous. extreme care is recommended.**

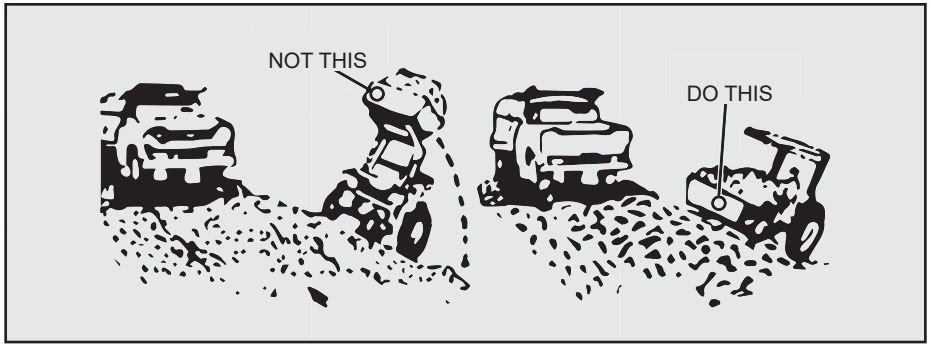
⚠ CAUTION

- **Make sure material in bucket cannot roll out and down on tractor when bucket is raised to full height.**
- **Keep clear of overhead obstructions such as trees, limbs or power lines when raising bucket.**
- **When lifting the load, keep the bucket positioned to avoid spillage.**

1. Position the bucket just below the level of the tractor hood for maximum stability and visibility, whether the bucket is loaded or empty.
2. Use extreme caution when operating the loader on a slope, keep the bucket as low as possible, this keeps the bucket and tractor center of gravity low and will provide maximum tractor stability.

HANDLING LARGE HEAVY OBJECTS





When transporting the load, keep the bucket as low as possible to avoid tipping, in case a wheel drops in a rut.

⚠ WARNING

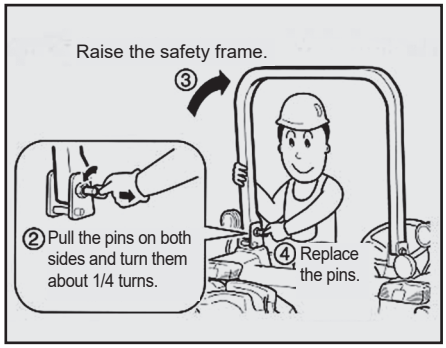
- **Do not use front end loaders for handling large, heavy objects such as large, round or rectangular bales, logs and oil drums.**
- **Handling large heavy objects can be extremely dangerous due to.**
  1. **Possibility of rolling the tractor over.**
  2. **Possibility of upending the tractor.**
  3. **Possibility of the object rolling or sliding down the loader arms onto the operator.**

⚠ CAUTION

- **When transporting the load, keep the bucket as low as possible to resist tipping, in case a wheel drops in a rut. This will avoid tipping and possible injury.**

ROPS FOLDING METHOD

HOW TO FOLD DOWN THE ROPS



1. Turn the handle to separate the push plate and the ROPS.
2. Pull the pins on both sides of the tractor and turn them about 1/4 turns to release the lock of the ROPS.
3. Raise the ROPS a little.
4. Replace the pin.
5. Fold down the ROPS, and the pins will lock into place.

※ If it is not certain whether the pins are fixed, shake the frame a little bit to fix the pins for sure.

HOW TO STAND UP THE ROPS

1. Pull the pins on both sides of the tractor and turn them about 1/4 turns to release the lock of the ROPS.
2. Raise the ROPS a little.
3. Replace the pins.
4. Stand the ROPS up, and the pins will lock into place.

※ If it is not certain whether the pins are fixed, shake the ROPS a little bit to fix the pins for sure.

5. Turn the handle to fix the push plate and the frame.

⚠ CAUTION

- **Don't fasten your seat belt after folding ROPS.**
- **When you drive tractor, fold up vertically.**
- **Fasten your seat belt after folding up ROPS.**
- **When working with the tractor, don't fold down ROPS.**
- **Don't change ROPS without authority.**
- **Before using tractor, check your ROPS support and other parts.**
- **If there is damage to the ROPS, change ROPS at once.**

[Otherwise]

If the tractor rolls over, you could be injured or death may occur.

※ROPS are a very important structure for protection on roll over, always check your ROPS.

6. MAINTENANCE

MAINTENANCE SCHEDULE CHART.....6-2

OIL, GREASE AND ANTI-FREEZE CHART.....6-4

FUEL, OIL AND COOLANT CHART 6-5

OPENING HOOD.....6-6

CHECKING AND CHANGING OILS.....6-6

- ENGINE OIL 6-6
- TRANSMISSION OIL 6-7
- FRONT AXLE FLIUD 6-8

FILTERS / COOLANT REPLACEMENT 6-9

- ENGINE OIL FILTER 6-9
- TRANSMISSION OIL FILTER 6-10
- FUEL FILTER 6-10
- DRAINING AIR IN FUEL LINE 6-11
- COOLANT..... 6-12
- ANTI-FREEZE..... 6-13

OTHERS.....6-14

- RADIATOR SCREEN & AIR CLEANER ELEMENT 6-14
- BATTERY..... 6-15
- GREASING..... 6-16
- STEERING WHEEL..... 6-16
- BRAKE..... 6-17
- FAN BELT 6-18
- TOE-IN..... 6-18
- FUSE & FUSIBLE LINKS 6-19
- COLOR OF EXHAUST GAS 6-20
- TIRES..... 6-20

MAINTENANCE SCHEDULE CHART

Meanings of symbols=▲: Replace ●: Check ○: Adjust ⦿: Clean

RUNNING HOURS / CHECK ITEMS	50	100	150	200	250	300	350	400	450	500	550	600	650	700	1YR	2YR
1. Engine oil	⦿					▲				▲						
2. Engine oil filter	⦿					▲					▲					
3. Transmission oil	⦿						▲						▲			
4. Transmission oil filter	⦿						▲						▲			
5. Front axle oil	⦿						▲						▲			
6. Radiator cleaning	At the time the coolant is replaced															
7. Fuel oil filter and element		●		●		●		●		●		●		●		
						▲						▲				
8. Coolant	Check before every work (Replace every year)															
9. Air cleaner element	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿		⦿	⦿	⦿	⦿		
										▲						
10. Fan and radiator cleaning	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿		
11. Battery solution	Replace every two years															
12. Battery (specific gravity)		●		●		●		●		●		●		●		
13. Fuel pipe and connection	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
																▲
14. Steering wheel hose	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
																▲
15. Radiator hose				●				●				●				
																▲

RUNNING HOURS / CHECK ITEMS	50	100	150	200	250	300	350	400	450	500	550	600	650	700	1YR	2YR
16. Hydraulic oil hose		●		●		●		●		●		●		●		
															▲	
17. Fuel hose		●		●		●		●		●		●		●		
															▲	
18. Electric cables	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
19. Greasing	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
20. Tightening handles		●		●		●		●		●		●				
21. Tightening bolts & Nuts	●	●		●		●		●		●		●		●		
22. Cooling fan belt	○	○		○		○		○		○		○		○		
23. Clutch		○		○		○		○		○		○		○		
24. Brake		○		○		○		○		○		○		○		
25. Engine breed pipe	●	●		●		●		●		●		●		●		
26. Engine crankcase cleaning						⊙						⊙				
27. Intake/exhaust gas valves												●				
28. Fuel injection valve												●				
29. Generator motor	●	●				●				●						
30. Hydraulic system	●	●				●				●						

※ Meanings of symbols=▲: Replace ●: Check ○: Adjust ⊙: Clean
※ Inspection should be done every 50 hours. If the tractor is not used much, inspect every year.
※ Replace parts every two years regardless of running hours.

OIL, GREASE AND ANTI-FREEZE CHART

NO	ITEM	TYPE	REMARK
1	Fuel	Diesel (Summer : S, Winter : W)	Use winter diesel when temperature in below 50°F
2	Engine oil	SAE 10W-40	CG Above
3	Grease	Arctic Grease Below 14°F (-10°C) SAE (NLGI) #0, #1 32~-22°F (0~-30°C) SAE (NLGI) #2 32~122°F (0~50°C)	
4	Coolant Anti - Freeze	ASTM D4985 Extended Lift antifreeze	
5	Transmission / Steering/Front axle oil	BAD BOY Origin Oil Texaco TDH oil, 1893	
6	Front axle oil	SAE 80W-90	

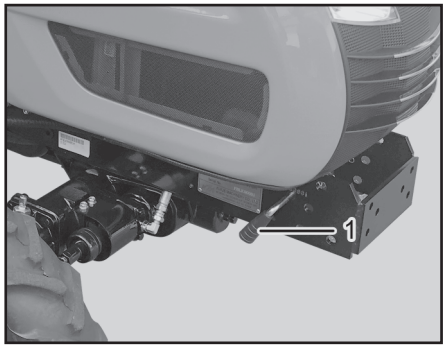
FUEL, OIL AND COOLANT CHART

NO	ITEM	CAPACITY	
		2024H	3026H
1	Fuel	6.08 gal (23 L)	6.08 gal (23 L)
2	Engine oil	0.79 gal (3.0 L)	0.79 gal (3.0 L)
3	Coolant	1.21 gal (4.6 L)	1.21 gal (4.6 L)
4	Transmission / Hyd oil	2.64 gal (13 L)	2.90 gal (13 L)
5	Front axle	0.79 gal (3.0 L)	0.79 gal (3.0 L)

IMPORTANT

- **Above listed fuel, oil and coolant table is only for initial filling, and may be reduced at the time of replace.**

OPENING HOOD



(1) Opening lever

1. The hood can be unlocked by pullingthe opening lever.
2. Slightly lift the hood with both hands and the hood is automatically lifted by the gas spring.
3. To close the hood, press its front down slightly until a “click” sound is heard.
4. After closing the hood, lift it to check that the hood is securely fixed.

CHECKING AND CHANGING OILS

Do not dispose of waste oils in the sewage system, and take appropriate measures such as contacting a waste oil disposal specialists.

⚠ DANGER

- **Never fill the fuel tank when the engine is running or hot.**

[Otherwise]

There is a danger of fire.

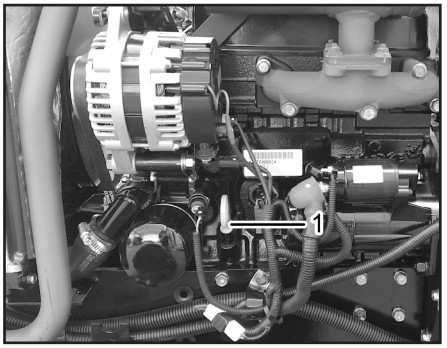
⚠ CAUTION

- **Do not change the oil right after stopping the engine.**

[Otherwise]

There is a danger of getting burnt.

ENGINE OIL

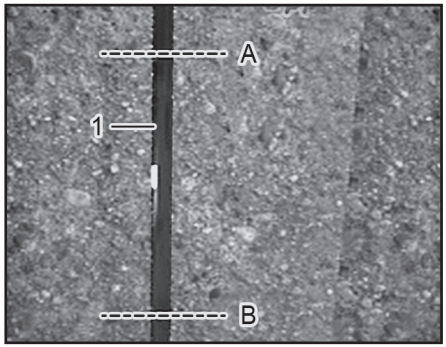


(1) Engine Oil Filler

►CHECKING OIL

Pull out the dipstick, clean the tip of dipstick, put it back into the engine, and pull it out again to see if the oil level is between the upper and lower limit. If the oil level is below the lower limit, add oil.

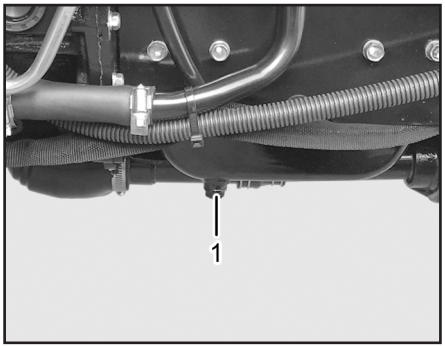
TRANSMISSION OIL



(1) Dipstick
(A) Upper Limit (B) Lower Limit

⚠ CAUTION

- **Check the oil level before the engine is started or after the engine is cooled down.**



(1) Drain Plug

►CHANGING OIL

Drain the oil by removing the plug under the engine. Put new oil through the engine oil filler hole. Change the oil periodically, and select the right type of oil depending on the temperature and usage.

⚠ CAUTION

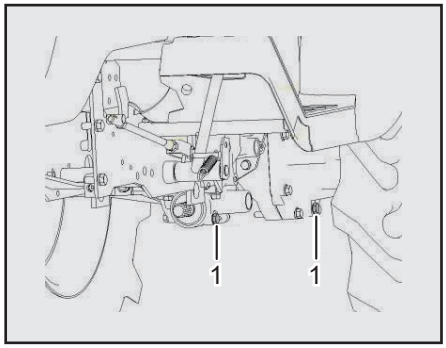
- **Drain the oil when oil is warm but be careful. If oil is hot, there is a risk of getting burnt.**



(1) Inspection Gauge

►CHECKING

Check the fluid level through the inspection window at the rear side of the transmission compartment. The level should be within sight through the inspection gauge. If the fluid level is below proper level, add fluid



(1) Drain Plug

⚠ CAUTION

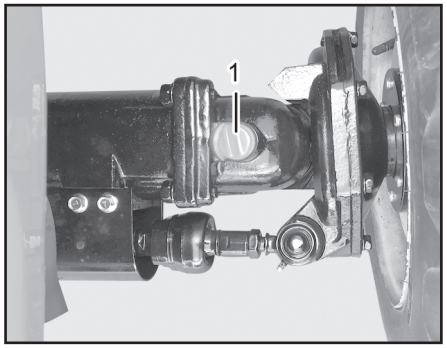
- **Drain the oil when oil is warm but be careful. If oil is hot, there is a risk of getting burnt.**

►CHANGE OF FLUID

Drain the fluid through the drain holes under the rear axle case and rear axle housing. Supply the fluid through the filler hole behind the hydraulic case.

1. Transmission oil can be used for the hydraulic system and for the power steering unit.
2. Make sure to the genuine BAD BOY transmission fluid.

FRONT AXLE FLIUD

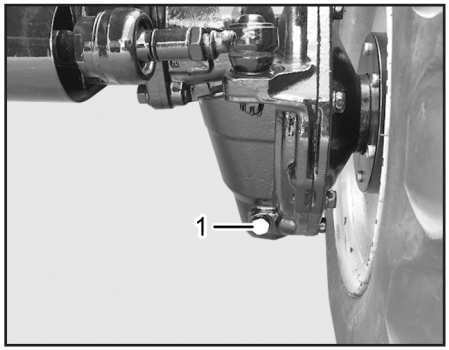


(1) Front Axle Oil Filler

►CHECKING OIL

Open the fluid filler cap on the upper right side of the front axle, clean the tip of the gauge, dip the cap without screwing in, and take it out again to read the fluid level. Refill the fluid as necessary, and also check for leaks.

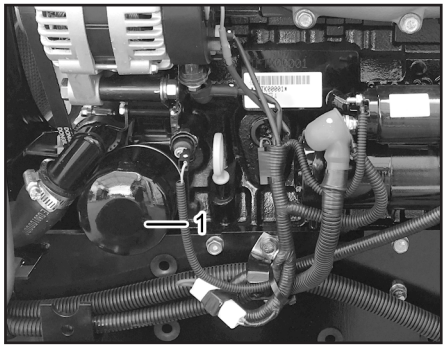
FILTERS / COOLANT REPLACEMENT
ENGINE OIL FILTER



(1) Drain Plug

►CHANGING OIL
Drain the fluid through three drain holes under the front axle.

Refill the fluid from the upper right side of the front axle



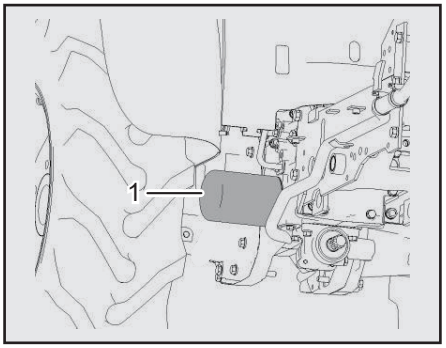
(1) Engine Oil Filter

Replace it every 300 hours or when engine oil is changed.

NOTE
• **First 50 hours, filter has to be changed.**

►REPLACEMENT
1. After draining the engine oil, turn the cartridge to the left with the filter wrench.
2. Apply a thin film of oil over the rubber ring on the bottom of the new cartridge and attach the new filter securely.
3. After changing the engine oil, start the engine and run it until the engine oil pressure warning lamp is turned off .
4. After the oil pressure warning lamp is turned off, check the oil level again. Add oil as necessary.

TRANSMISSION OIL FILTER



(1) Transmission Oil Filter

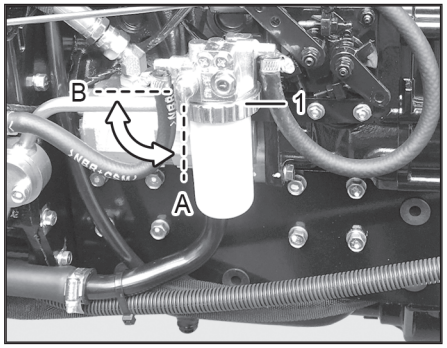
The filter is a cartridge type.

NOTE
• **First 50 hours, filter has to be changed.**

►REPLACEMENT

1. After draining the transmission fluid, turn the cartridge to the left to take it out.
2. Apply a thin film of fluid over the rubber ring on the bottom of the new cartridge and attach the new filter securely.
3. After changing the transmission fluid, start the engine to circulate the fluid and then stop the engine. Check the fluid level at dipstick on left axle housing and add fluid as necessary.

FUEL FILTER

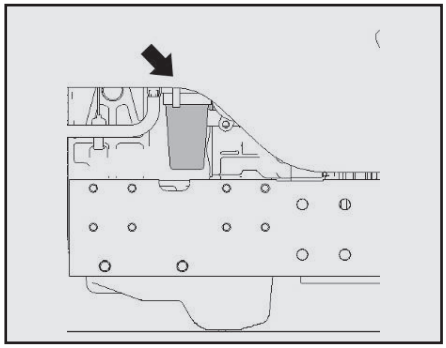


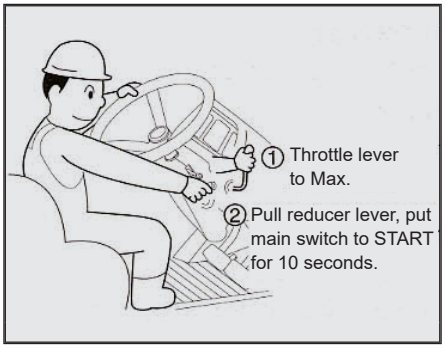
(1) Fuel Filter
(A) Open *(B) Close*

Cleaning and replacement of fuel filter element

1. Put the fuel cock to “B” position
2. Take out the filter and remove water and dust inside the filter.
3. After cleaning the filter, replace it and put the fuel cock to “A” position. Remove the air.
4. Replace the filter element.

DRAINING AIR IN FUEL LINE





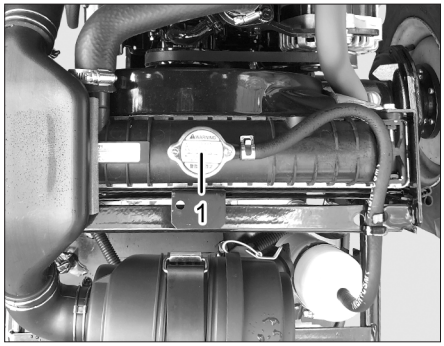
Drain the air from the fuel tank, fuel filter, and fuel filter element when the engine stops as the fuel runs out or during maintenance

1. Refill fuel to fuel tank.
2. Put the fuel filter valve to “OPEN.”
3. Put the throttle lever to MAX and the key switch to START to run the starting motor for about 10 seconds. That completes the procedure.

NOTE

- **If air is not removed, then there will be air in the fuel lines. Please check fuel lines for leakage or breakage.**

COOLANT



(1) Radiator Cap

►CHECKING

Open the engine hood and the side cover and see if the water level in the reservoir is between the upper and lower limit. Add clean water as necessary.

►REPLACEMENT

1. Open the radiator cap and the drain plug to completely drain the water from the radiator.
2. Rinse the radiator with tap water until no dirt or rust comes out.

※For better results, fill the radiator with water mixed with radiator flush, run the engine for over 15 minutes, and drain the water solution

3. Assemble the drain plug, add anti-freeze and fill the radiator with tap water.
4. Assemble the radiator cap and run the engine to mix the anti-freeze and water.

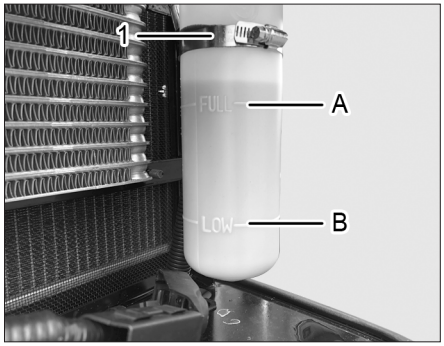
⚠ DANGER

- **Do not open the radiator cap while the engine is running or right after the engine is stopped. Open the radiator cap only after the engine is stopped and fully cooled down.**

[Otherwise]

Hot water will splash and may cause burn injury

ANTI-FREEZE



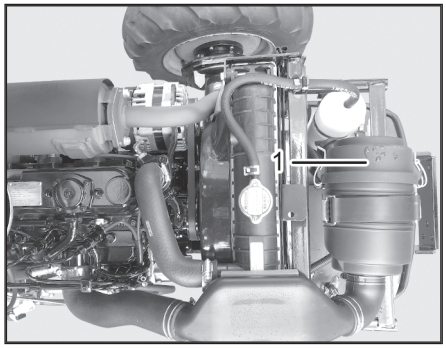
(1) Anti-freeze reservoir tank
(A) FULL (B) LOW

The anti-freeze is lowering the freezing temperature of water. The tractor is filled with appropriate genuine anti-freeze at factory.

⚠ CAUTION

- **When changing with new coolant, add anti-rust agent and idle the engine for 5 minutes for mixing.**
- **As the coolant level is reduced naturally, fill with clean and fresh water.**
- **The expiration date on anti-freeze is 1 year. Make sure to change it every year.**

OTHERS
RADIATOR SCREEN & AIR CLEANER ELEMENT



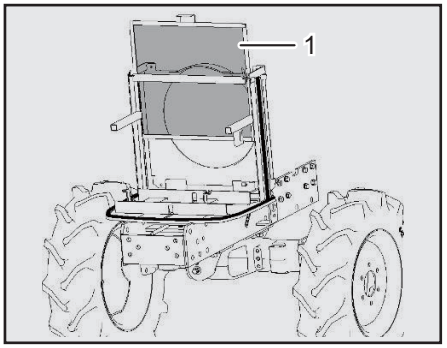
(1) Air Cleaner

The Air cleaner removes the dust mixed in the intake air, thereby preventing abrasion of cylinder liners and piston rings to keep the engine in good condition. When working in dusty environments, clean the air filter every 50 hours and replace it every 400 hours.

In normal working environments, clean the air filter every 100 hours and replace it every 1,000 hours. If the running hours are shorter, replace the element after one year.

►CLEANING OF AIR CLEANER

Open the cover and take out the element. Blow air inside the element or shake it to take the dust off the element. Be careful to avoid damage to the pins.

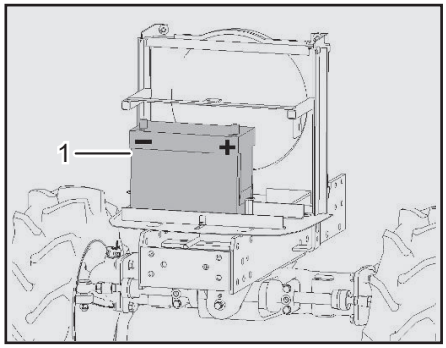


(1) Radiator Screen

►CLEANING OF RADIATOR SCREEN

Unscrew the butterfly bolt, pull up the radiator screen to take it out. Remove straw and dust. Clean it before and after working.

BATTERY



(1) Battery

1. When replacing the battery, make sure to install the battery of the same capacity as designated in the instruction manual.
2. To preserve the environment and to recycle resources, do not discard the old battery and hand it over to the battery dealer for proper disposal.

⚠ DANGER

- **Avoid heat when checking or charging the battery.**

[Otherwise]

The battery may explode and cause burns or other injury.

⚠ CAUTION

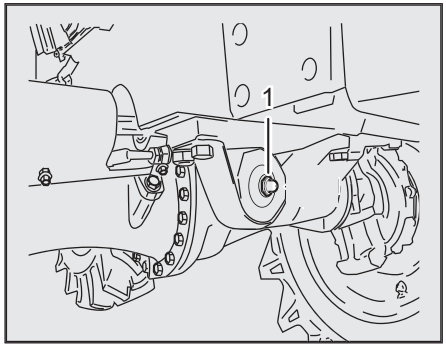
- **When connecting the battery cable, connect the (+) terminal first. When disconnecting the cable, disconnect the (-) terminal first.**

[Otherwise]

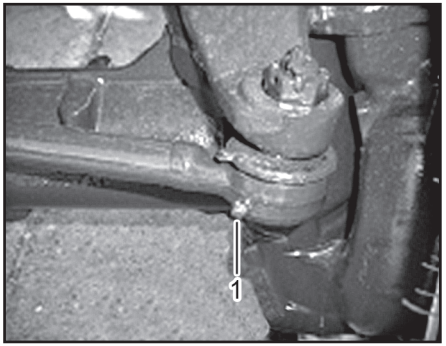
There is a risk of getting burnt due to shorting of the battery.

GREASING

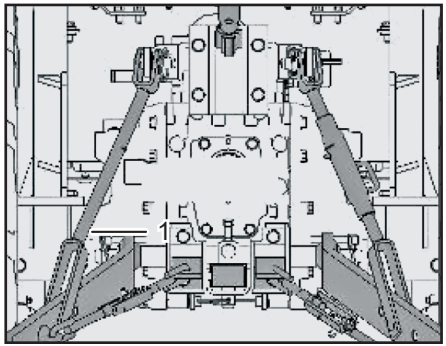
Apply grease every 50 hours. Check the relevant parts before starting work everyday and add grease as necessary. After working on a watered farm, make sure to apply grease to the tractor.



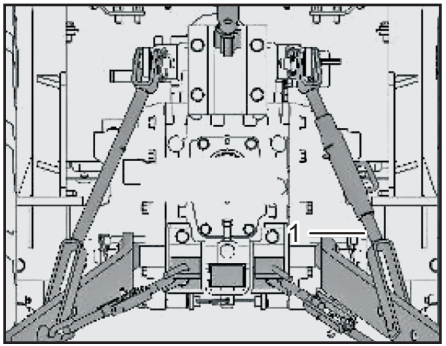
(1) Front Axle Support



(1) Tie Rod LH / RH

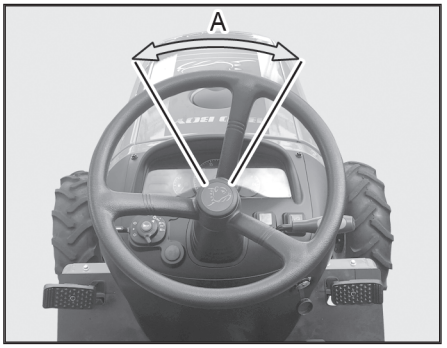


(1) Lift Link (R)



(1) Lift Link (L)

STEERING WHEEL



(1) Steering Handle
(A) Free Play : 0.8~ 2.0 in (20.3 ~50.8 mm)

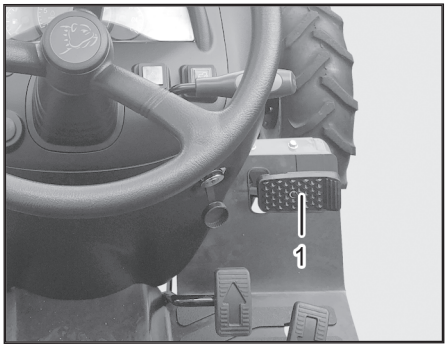
When the steering wheel is turned lightly, there should be free play 0.8~2.0 in. If the extent of the free play exceeds this range, the steering wheel may feel heavy or the tractor may not move straight. If the free play is not normal, have it fixed at your nearest authorized dealer.

BRAKE

⚠ WARNING

- **Make sure that the steering wheel does not vibrate severely or has enough free play.**

[Otherwise]
there is a risk or accident.



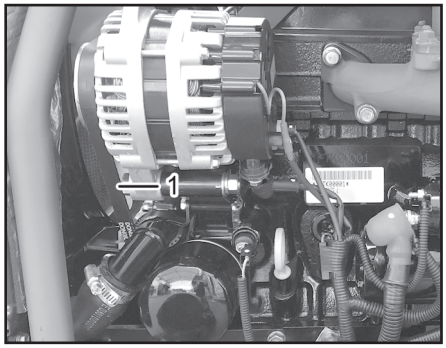
(1) Brake Pedal
Free Play : 1.2 in~ 1.5 in (30~40 mm)

- In this case, the free play of the brake pedal is 1.2~1.5 in (30~40mm).
- Adjust both of the brake pedals.

⚠ WARNING

- **Check the brakes to avoid one-sided braking. Otherwise, there is a risk of accident.**
- **If the extent of free play is different between the two brakes pedals, one-sided braking will occur. Make sure that the free play of both brake pedals is the same.**

FAN BELT



(1) Fan Belt

⚠ CAUTION

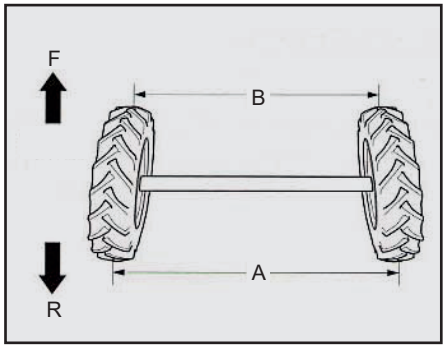
- **Carry out inspection or maintenance after the engine is fully cooled down.**

[Otherwise]

There is a risk of getting burnt.

Open the engine hood and press the middle of fan belt with finger to see if the belt sags about 0.4~0.6 in or if there is any damage to the belt. If the sagging is not correct, loosen the generator bolt and move the generator to adjust the tension of the fan belt. If the fan belt still slips after the generator is moved to the maximum, replace the belt with a new one. New belts must be inspected after 50 hours of use.

TOE-IN

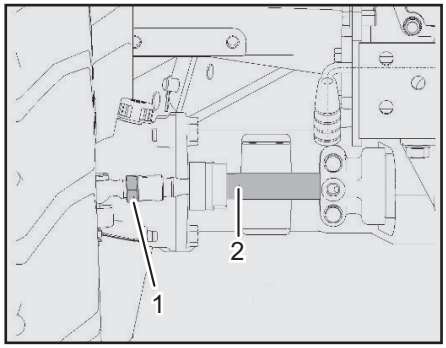


(F) Front *(R) Rear*

►CHECKING

If the toe-in is not properly aligned, the steering wheel may be uncontrollable or the tractor may produce an abnormal vibration. Measure the distance A and the distance B of the front wheels and see if the different between the two measurements is 0.16~0.3 in (4~8 mm).

FUSE & FUSIBLE LINKS

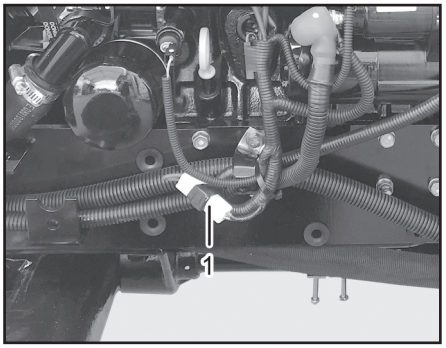


(1) Tie Rod Nut *(2) Cylinder Rod*

►ADJUSTING

If not, loosen nuts at the end of the cylinder rod on both sides and adjust the length of the screws. Tighten the nuts when the toe-in is 0.16~0.3 in (4~8 mm).

Left and right adjustment of screw length must be same.



(1) Fusible Links

Stop the engine and check the main fuse. (Fusible link)

Open the fuse box cover and check the fuses. Replace any burnt-out fuses with new ones of required capacity.

A fusible link is a type of fuse, which burns and disconnects the current in the event of excessive current flowing in the circuit , if plastic coating is discolored when it is cut off, it should be inspected by a authorized dealer.

If the fuse burns immediately after being replaced, it must be checked by the authorized dealer.

⚠ WARNING

- **When replacing the fuse, use only the one of the same capacity.**

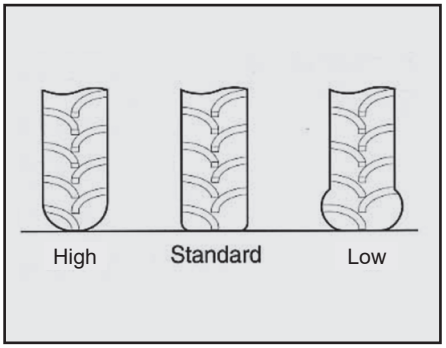
COLOR OF EXHAUST GAS

The exhaust gas may be a little black at the time of starting the engine, but normally its color is clear.

- Black – Incomplete combustion due to too much fuel intake.
- White – Misfiring or cold temperature.
- Blue – Burning of engine oil

If the color of the exhaust gas remains black or white during operation, have the tractor inspected at your nearest authorized dealer.

TIRES



Adjust air pressure in front and rear tires to standard pressure.

Also, check if there are any cracks on the tires.

When front wheels are put under a load of the front weights or a front loader, air pressure in the front wheels must be adjusted to the maximum in the chart as followed.

►AIR PRESSURE IN TIRES

		Air pressure(psi)
		BAD BOY
Rear	9.5 - 16 6PR	30
	11.2 - 20 8PR	34
	33X12.5 - 16.5 4PR	30
	12 - 16.5 6PR	40
Front	6 - 12,4PR	28
	7-16 6PR	37
	23X8.50 - 12, 4PR	22
	23X8.50 - 12, 6PR	35

►TORQUE OF WHEEL BOLTS

Type	Torque (lb-ft)
Front wheel	75 ~ 87
Rear wheel	192 ~ 224

7. TROUBLESHOOTING

TROUBLESHOOTING - ENGINE 7-2
TROUBLESHOOTING - CLUTCH AND BRAKE 7-5
TROUBLESHOOTING - HYDRAULIC SYSTEM 7-6
TROUBLESHOOTING - ELECTRICAL SYSTEM 7-7

TROUBLESHOOTING - ENGINE

Symptom	Inspection item	Action
1. The starter motor does not start when the ignition switch is turned to "START".	• Is the clutch depressed?	• Depress the clutch pedal fully and turn the ignition switch to the "START" position.
	• Is the battery discharged?	• Charge the battery.
	• Is the battery terminal loosened or corroded?	• Clean and tighten the terminals.
	• Is the main fuse blown out?	• Replace the fuse.
	• Is the ignition switch broken?	• Contact the dealer for repair or replacement.
	• Is the starter motor damaged?	• Contact the dealer for repair or replacement.
2. The starter motor runs, but the engine does not start.	• Is the fuel tank empty?	• Fill up the fuel tank and bleed the system.
	• Is the fuel mixed with air?	• Bleed the fuel system.
3. The engine revolution is irregular.	• Is air mixed in the fuel system?	• Bleed the fuel system.
	• Is water mixed in the fuel?	• Drain water and replace fuel.
	• Is the injection nozzle clogged?	• Contact the dealer for repair or replacement.
	• Is the fuel filter clogged?	• Clean or replace it.

Symptom	Inspection item	Action
4. The engine is over-heated.	• Is the coolant level low?	• Refill the coolant.
	• Is the fan belt loosened or damaged?	• Adjust the belt tension or replace it.
	• Is the radiator fin clogged?	• Clean it.
	• Is the engine oil level low?	• Refill the engine oil.
	• Is the engine running under overload?	• Reduce the load.
5. The engine power is too weak.	• Is the air cleaner clogged?	• Inspect the air cleaner and replace the element.
	• Is the nozzle damaged?	• Contact the dealer for repair.
	• Is the compression force weak?	• Contact the dealer for repair.
	• Is the valve clearance adjusted properly?	• Contact the dealer for repair.
	• Is the injection timing incorrect?	• Contact the dealer for repair.

Symptom	Inspection item	Action
6. The coolant warning lamp is turned “ON” during operation.	• Is the coolant level in the reservoir tank low?	• Refill the coolant.
7. The engine oil pressure lamp is turned “ON” during operation.	• Is the engine oil level low?	• Refill the engine oil up to required level.
	• Is the viscosity of the engine oil low?	• Replace the engine oil with proper viscosity.
	• Is the pressure switch defective?	• Replace the switch.
	• Is the oil pump defective?	• Contact the dealer for repair.
8. The battery charge warning lamp is turned “ON” during operation.	• Is the alternator defective?	• Contact the dealer for repair.
	• Is the fan belt loosened or damaged?	• Adjust the fan belt tension or replace it.

TROUBLESHOOTING - CLUTCH AND BRAKE

Symptom	Inspection item	Action
1. The clutch slips or does not be disengaged.	• Is the free play of clutch pedal proper?	• Adjust the free play of the pedals.
2. The brake does not work or works only on one side.	• Is the free play of the brake pedals proper?	• Adjust the free play of the pedals.
3. The brake pedal does not return to its original position properly and it makes a noise.	• Is the brake pedal return spring damaged?	• Replace the spring.
	• Is each sliding part well greased?	• Remove the rust and apply grease.

TROUBLESHOOTING - HYDRAULIC SYSTEM

Symptom	Inspection item	Action
1. The implement does not be lifted.	• Is the hydraulic flow control dial in the close position?	• Adjust the hydraulic flow control dial.
	• Is the transmission oil level low?	• Refill the transmission oil.
	• Is the air taken in the fluid suction system?	• Tighten the filter or connection parts. Replace the pipe or O-ring if damaged.
	• Is the oil filter clogged?	• Clean or replace it.
	• Is the Selective control valve lever in the detent position?	• Put the Selective control valve lever in the neutral position.
	• Is the hydraulic pump defective?	• Contact the dealer for repair.
	• Is the cylinder damaged?	• Contact the dealer for repair.
2. The implement does not be lowered.	• Is the hydraulic flow control dial in the close position?	• Adjust the hydraulic flow control dial.
	• Is the position control lever on the lowest position?	• Move the position control lever.
	• The implement cannot be lowered even though the position control lever is placed in the lowest position.	• Contact the dealer for repair.

TROUBLESHOOTING - ELECTRIC SYSTEM

Symptom	Inspection item	Action
1. The headlamp does not turn “ON”.	• Is the bulb blown?	• Replace the bulb.
	• Is the fuse blown?	• Replace the fuse.
	• Is the cable connector separated from the socket?	• Inspect it.
	• Is the contact in a poor condition?	• Inspect and clean the grounding and terminals.
2. The turn signal lamp does not come “ON”.	• Is the bulb blown?	• Replace the bulb.
	• Is the fuse blown?	• Replace the fuse.
	• Is the cable connector separated from the socket?	• Inspect it.
	• Is the contact in a poor condition?	• Inspect and clean the grounding and terminals.
3. The other lamp does not turn "ON".	• Is the bulb blown?	• Replace the bulb.
	• Is the fuse blown?	• Replace the fuse.
	• Is the cable in a poor contact?	• Inspect the cable and secure the contact.
	• Is the switch defective?	• Replace the switch.

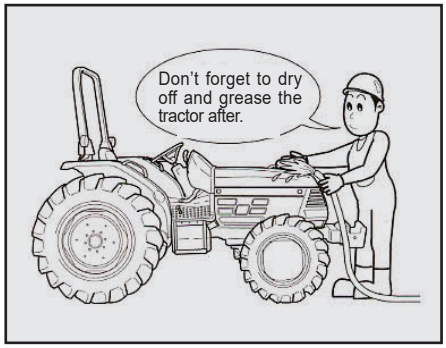
MEMO

8. STORAGE AND DISPOSAL

TRACTOR STORAGE 8-2

DAILY STORAGE 8-2
LONG-TERM STORAGE 8-3
USING TRACTOR AFTER LONG-TERM STORAGE 8-6
USE AND DISPOSAL 8-7

TRACTOR STORAGE
DAILY STORAGE



After work, clean the tractor. After cleaning, dry the moisture and supply grease into each grease nipple.

Avoid water on electrical parts whenever possible, as it will cause equipment breakdown.

1. Store the tractor after cleaning it. Especially, clean it thoroughly after harrowing or working in a wet field.
2. Be sure to lower the implement.
3. Store it indoors if possible. If it should be kept outside, cover it.

⚠ CAUTION

- **Unless the battery is removed from the vehicle, make sure to disconnect the negative battery cable. The wiring can be gnawed by rodents, leading to a fire.**

4. Remove the battery from the tractor in winter and store it indoors for easy starting.
5. Add anti-freeze to the tractor in winter season in order to prevent the radiator from freezing.
6. Remove the ignition key and store it separately.

⚠ DANGER

- **When covering the tractor, make sure that the engine or the muffler has fully cooled down.**

[Otherwise]

There is a risk of fire.

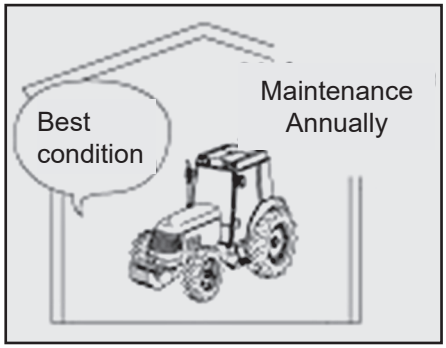
⚠ CAUTION

- **When carrying out checking, maintenance, or repair, make sure to turn off the engine.**

[Otherwise]

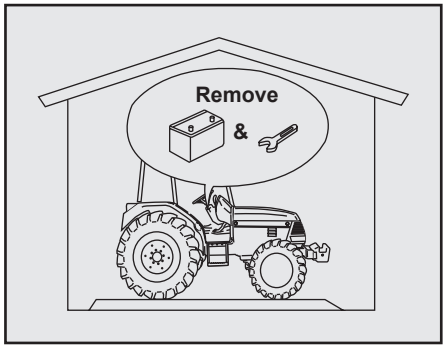
There is a risk that you may be entangled in the tractor or get injured.

LONG-TERM STORAGE



If you carry out maintenance during the off season, you can ensure optimum condition of the tractor as well as safe and comfortable working conditions during the busy season. Also, in order to secure the safety of each part of the tractor and to prevent an accident that may occur due to poor maintenance, arrange with your authorized dealer for periodic maintenance once a year.

In particular, we recommend that the electrical cables and the rubber hoses, such as fuel hose, steering wheel hoses and radiator hoses, be replaced every two years.

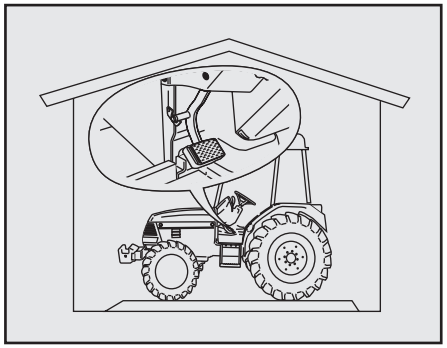


When the tractor will not be used for a long time, store it in the following manner.

1. For long storage, put the ignition switch to “OFF”
2. Select a dry and well-drained place for storage. Remove the weights & implement or put it down onto the ground.
3. Apply the anti-corrosion oil or engine oil and grease on the parts that are subject to rust.
4. Fill up the fuel tank. Empty space in the fuel tank will produce dewdrops that will produce condensa-

tion that will be the cause of rust formation. And lock the fuel cock to “C”. (Closed)

5. Disconnect the battery completely and store it away from the tractor in a well-ventilated, dry, dark place if possible. When the battery is attached to the tractor, make sure to connect the (+) terminal first
6. Change the engine oil and run the engine to circulate oil throughout all the engine parts for about 5 minutes.
7. Drain the coolant from the radiator. After draining the coolant, fasten a tag of "No coolant, do not start" to the steering wheel. If there is anti-freeze in the cooling system, it is not necessary to drain it.
8. Check the bolts and nuts for looseness, and tighten if necessary.
9. Add oil, fluid and fuel to each part according to the maintenance chart.
10. Apply a slight coat of grease or oil onto the tractor parts where is easy to be rust such as bare metal surface.
11. Inflate the tires to a pressure a little higher than usual.
12. Detach the weights and detach or lower the attached implement on the ground.
13. Place chocks behind and in front of the rear wheels.
14. Remove the battery from the tractor or disconnect the (-) cable from the battery.
15. When storing the tractor for a long period of time, make sure to put the clutch pedal in the disengaging position. If not, the clutch disc can be stuck to the flywheel after a long period time.
16. Put wooden props under the tires to protect them.
17. Recharge the battery every two months during a long-term storage.
18. Store it in a dry place to avoid rain or snow and cover the body.



19. Keep the clutch pedal in a depressed position to avoid rust on the clutch.
20. Replace the worn or damaged parts.
21. Put all controls into the neutral position.
22. Install the cover to the exhaust pipe.
23. Cover the air cleaner, muffler, and engine oil inlet with plastic sheets to keep moisture away.
24. Maintain the air pressure in the tires.

IMPORTANT

- When cleaning 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 engine have cooled down.

WARNING

- Carry out maintenance on a flat and safe place where the tractor will not fall or move and there is no traffic danger. Also, block the front tires to prevent moving of the tractor. Otherwise, there is a risk of accident, such as overturning of the tractor.

WARNING

- Carry out checking and maintenance for each part every year.
- In particular, replace the fuel pipe and the steering hose every two years. Otherwise, there is a risk of accident or machinery breakdown due to poor maintenance.
- When carrying out checking or maintenance, make sure to stop the engine.
- Replace the covers that have been detached for checking or maintenance.
- Carry out checking or maintenance after heated parts, such as muffler, engine or transmission, have fully cooled down.

[Otherwise]

There is a risk of getting burnt.

CAUTION

- To avoid a personal injury,
- Never clean the tractor body while the engine is running.
- Never run the engine in an enclosed area without proper ventilation system in order to prevent poisoning by exhaust gas.
- When storing the tractor, remove the key from the switch and store it separately in order to prevent an unauthorized person from operating the tractor and being injured.

USING TRACTOR AFTER LONG-TERM STORAGE

Keep the following instructions when using the tractor after its long-term storage.

1. Perform the inspection procedures before operation.
2. To prolong the life and to enhance the performance of the engine, idle the engine for about 30 minutes before starting work.
3. Check the tire air pressure and inflate the tires if they are low.
4. Install a fully charged battery. Check that the battery is fully charged before installing it.
5. Check the fan belt tension.
6. Check all fluid levels. (Engine oil, transmission/hydraulic oil, and engine coolant)
7. Remove grease from the exposed cylinder rod.
8. Apply grease to the lubrication points.
9. Remove the cover from the exhaust pipe.
10. Get onto the tractor and start the engine.
11. Check if the instrument panel and all parts operate correctly while running the engine for a few minutes.
12. Drive the tractor outside and check if it is operating properly. Park the tractor outside and idle the engine for at least 5 minutes. Stop the engine and visually inspect the tractor. Check if there is leakage.
13. Start the engine, release the parking brake, and check the brake condition by depressing the brake pedal. Adjust the free play of the brake pedals if necessary.
14. Stop the engine and check for leakage. Repair any part as required.

⚠ WARNING

- **When operating the tractor in an enclosed area, ventilate the area to release exhaust gas to the outside. Exhaust gas is colorless and not visible, but is harmful.**

USE AND DISPOSAL

It is recommended to keep the following to protect the environment:

1. Overload on the machine shortens the product life and increases the harmful exhaust gas which causes air pollution due to the incomplete combustion.
2. When changing the fluid (engine oil, transmission/hydraulic oil, and engine coolant) by yourself, be careful not to spill it and dispose used oil and coolant properly according to the applicable regulations. Otherwise, it can pollute the ground and water.

MEMO

3026H



BAD BOY TRACTORS

www.badboycountry.com

BBT00H-001U
SPE. 2020
088-1995-00