FOREWORD

Congratulations, and welcome to the fabulous world of **DK4220/4520/4720/5020/5320/5520/6020** ownership, where serious work is made fun again!

This versatile tractor is a culmination of the entire tractor and diesel engine knowledge gained by the Daedong Industrial Co.,LTD over the years since 1947. The **DK4220/4520/4720/5020/5320/5520/6020** and has been designed with the finest materials and under rigid quality control standards set forth by the **KIOTI** Engineering Department.

Knowledge of tractor operation is essential for many years of dependable service and reliability. To help new owner's familiarize themselves with the **KIOTI DK4220/4520/4720/5020/5320/5520/6020**, it is the policy of **KIOTI** tractor to provide an owner's manual which includes helpful information about tractor safety, operation and maintenance. If the information you seek is not found in this manual, your **KIOTI** tractor dealer will be happy to help you.

Please feel free to contact **DAEDONG IND. CO.,LTD** with your questions/concerns.

< NOTE >

- Make sure to read this manual carefully and keep it handy for future reference.
- When leasing or transferring this tractor, deliver this manual together with the tractor.
- The specifications in this manual are subject to change without notice.

ISO 3600 EU STANDARDS

This manual was compiled in compliance with the ISO 3600, standards and the instructions contained here comply with the requirements of the Machinery Directive 2010/52/EU in force in the European Community. For tractors sold or used outside the European Community, local laws will prevail.

Main protections on the tractors discussed in this manual.

DESCRIPTION	NON CABIN	CABIN
1. ROPS (Protection against overturning)	Yes	Yes
2. FOPS (Protection against objects falling from above)	No	Yes (1365J)
3. OPS (Protection against penetration of objects from sides) protection against hazardous chemicals	No (Category Ⅰ)	No (Category Ⅰ)

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SAFETY AND VEHICLE DAMAGE WARNING

This manual includes information titled as **WARNING, CAUTION, IMPORTANT** and **NOTE**. These titles indicate the following:

 **WARNING**	**This indicates that a condition may result in harm, serious injury or death to you or other persons if the warning is not heeded. Follow the advice provided with the warning.**
 **CAUTION**	**This indicates that a condition may result in damage to your vehicle or its equipment if the caution is not heeded. Follow the advice provided with the caution.**
 **IMPORTANT**	**This mark indicates emphasis on notable characteristics of working procedures, and information about technology for easier operation.**
 **NOTE**	**This indicates that interesting or helpful information is being provided.**

UNIVERSAL SYMBOLS

Various universal symbols have been used on the instruments and controls of your **KIOTI** tractor. Below is a list of the universal symbols and their meanings.

	Low Fuel Warning Light		QT lamp	**H**	Hight Temperature
	Coolant Temperature Warning Light		Preheat	**C**	Low Temperature
	Parking Brake		Headlight-High Beam		Water-In-Fuel warning lamp
	Battery Charging Condition	**ECO**	ECO PTO Lamp		DPF Warning Light
	Engine Oil Pressure		Single Brake Light		DPF Progress Light
	Turn Signal Light	**N**	N: Neutral Position	**CRUISE PTO**	Cruise PTO Warning Light
	Power Take-Off Clutch Control-On Position	**F**	Full		
	Four-Wheel Drive-ON	**E**	Empty		

PRECAUTIONS BEFORE OPERATION
GENERAL PRECAUTIONS

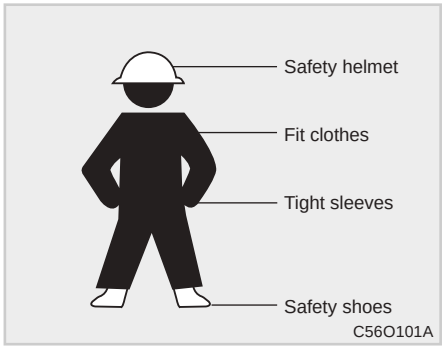
A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, use these safety precautions, and pay attention to the job at hand. If you can prevent an accident, your time will have been well spent.

The following should never be allowed to operate this machine.

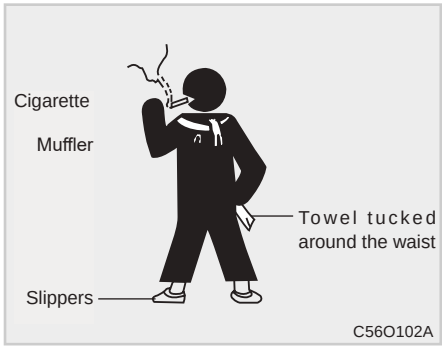
- Those under the influence of alcohol
- Women that are pregnant.
- Those under 18
- Those without driver's license
- Those who are fatigued, sick or under the influence of medicine; others who are not qualified for certain reasons to operate this machine

Do not operate the machine with fatigue. Take a rest if necessary.

Otherwise, an unexpected accident can occur.



Please wear the appropriate working clothes.



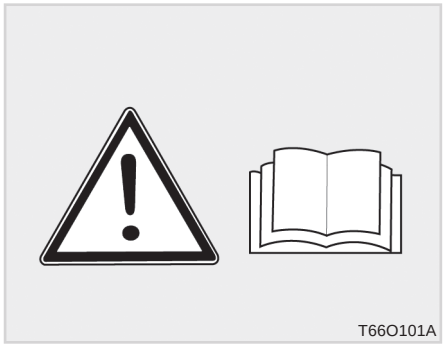
Otherwise, your clothes can be caught into rotating parts or you may slip, leading to an accident.

This tractor is basically designed for agricultural use or similar.

Use other than the specified cannot be covered by warranty. The manufacturer is not liable for any damage resulting from unauthorized use, and such action can lead to a dangerous situation to a user. Authorized use means complying with operation, service and repair standards set by the manufacturer.

This tractor should be operated, service and repaired by a well-trained and skilled technician who is also aware of accompanying danger.

It is necessary to follow any applicable accident prevention practices, general health and safety standards and traffic regulations. The manufacturer is not liable for any damage resulting from unauthorized modification.



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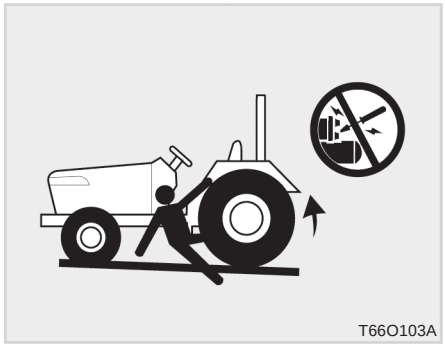
1. It is recommended that you read and understand this entire manual before operation of your new tractor. Failure to do so could result in accidents or injury.
2. Only persons who are properly trained should be allowed to operate the tractor.
3. Read and follow all warning labels and decals affixed to the tractor.
4. Replace any missing or damaged decals as soon as it is practical. A list of decals is shown on page 1-21~1-25.
5. Keep safety decals clean of dirt and debris.
6. Watch where you are going at all times so that you are able to avoid obstacles that can cause injury or damage to your tractor.
7. When starting the tractor make sure your path is clear of people to avoid accidents caused by sudden movements.
8. Before operating in reverse with your tractor, you should always check to see that the path is clear.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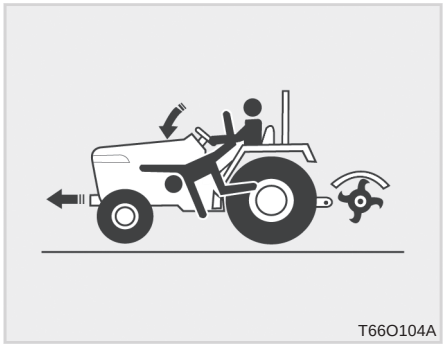
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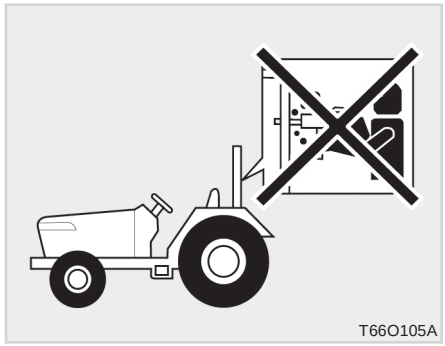
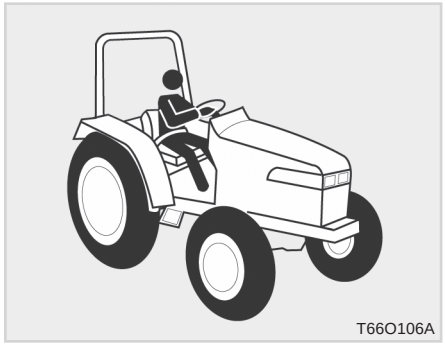

T66O105A

9. Never operate this tractor or any other agricultural equipment while under the influence of alcohol, drugs or while fatigued.
10. While working in cooperation with other tractors always communicate your intentions.
11. Do not start your tractor by shorting across the starter.
12. Never start the engine while standing on the ground.
13. Only the operator should ride on the tractor unless a passenger seat is installed. Keep bystanders away from the tractor while in operation.
14. When getting on and off the tractor, hand holds and step plates should always be used. This will help to prevent accidental slips trips and falls.
15. Be sure to scrape off mud or soil from your shoes before mounting the tractor.
16. All persons using the tractor should have knowledge of its proper operation and should read this manual carefully.
17. Never get off the tractor without setting the parking brake, lowering the implement to the ground and shutting of the tractor.
18. No modifications should be made to your **KIOTI** tractor.


T66O106A

19. Before starting your tractor you should depress the clutch and make sure that all shift levers are in the neutral position and parking brake is applied.

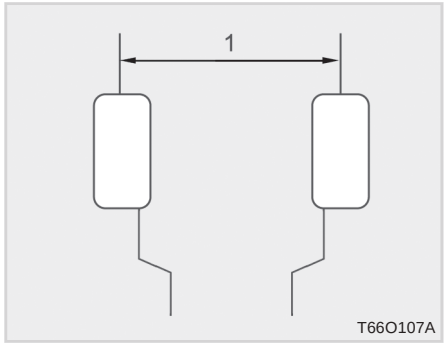
20. For your safety **ROPS** with a seat belt is recommended for all applications.

NOTE

- Always use seat belt when the tractor is equipped with a **ROPS** and **CAB**. Never use the seat belt when tractor is not equipped with a **ROPS**. (**ROPS**: Roll-Over Protective Structures)

A **ROPS** and **CAB** should never be modified by welding, grinding or cutting, as this can weaken the **ROPS** structure. If any components of the **ROPS** unit are damaged, They must be replaced.

If the **ROPS** unit is removed or loosened for any reason, the parts should be fitted back to their original positions and all bolts should be properly torqued.

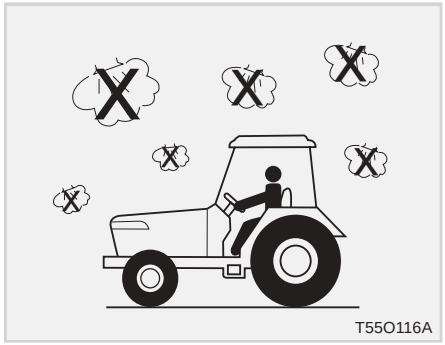


T66O107A

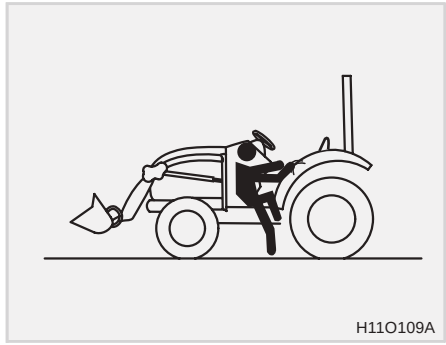
(1) Tread

21. Extra caution should be taken when driving tractors with narrow tread widths. For added stability you should adjust your rear wheel tread width, see page 4-57.

PRECAUTIONS DURING OPERATION


T55O116A

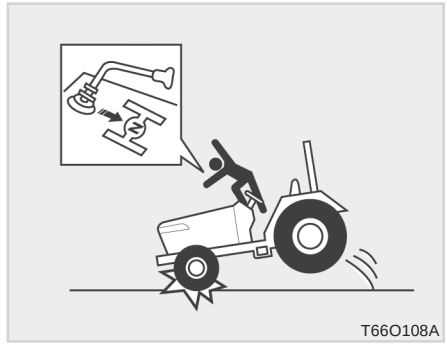
22. This cabin is not certified for chemical proof, never operate the tractor for chemical spray or in the air contaminated by any chemical or equivalent without approved personal safety equip; cartridge respiration/eyeprotection/gloves/etc.


H11O109A

1. Enter or leave the tractor leftward griping hand rail on a fender.

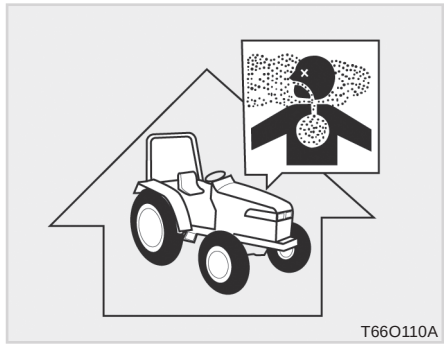
⚠ WARNING

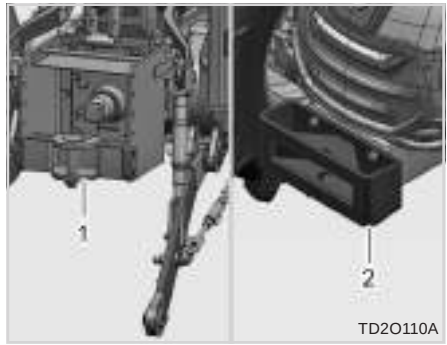
- ***Do not jump on or off the tractor. It may cause injuries. Always face the tractor, use the hand rails and steps, and get on or off slowly. Maintain a minimum three point contact to avoid falling. (Both hands on rails and one foot on the step, or one hand on the hand rail and both feet on the steps)***


T66O108A

2. Avoid accidental contact with gear shift levers while the engine is running. Unexpected tractor movements can result in bodily injury.


T66O109A


T66O110A



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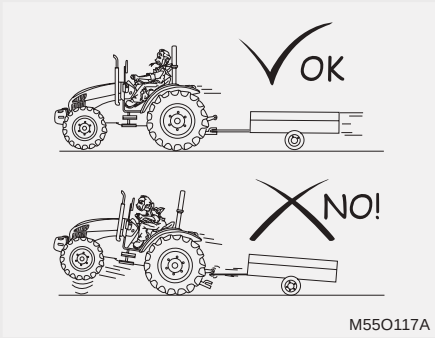
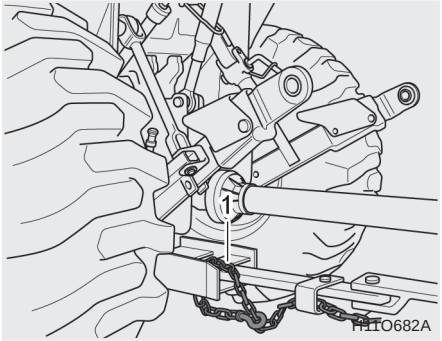
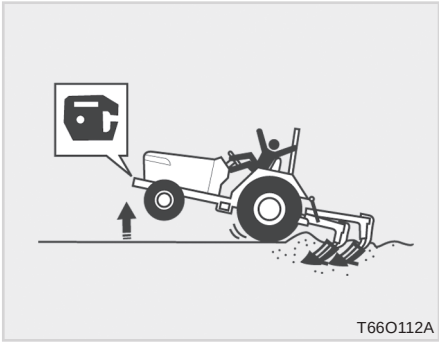
(1) Height Control Hitch *(2) Towing Hook*

3. Do not park your tractor on a steep incline, and remember to shut off the engine and P.T.O before dismounting the tractor.
4. Do not operate your tractor in an enclosed building without the proper ventilation. Inhaling carbon monoxide can cause serious injury or death.
5. Make sure that all pressure lines are tight before starting the tractor.
6. Pull only from the hitch. Never hitch anything to the axle housing or any other point except the hitch. Pulling from any other location only increase the risk of serious personal injury or death.

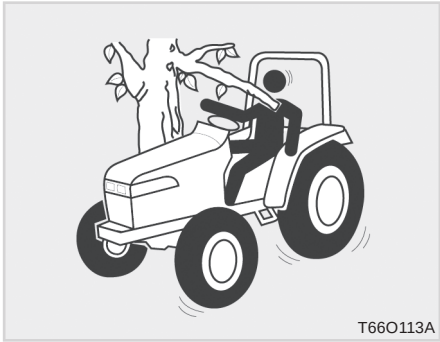




7. Improper use of the draw-bar, even if correctly positioned, can cause a rear overturn.
8. Do not overload an attachment or towed equipment. Use proper counterweights to maintain tractor stability. Hitch heavy loads to the draw-bar only.
9. Check for correct coupling between tow hook and trailer. See the Towing Attachments chapter.
10. Use ballast weight as recommended. Never add more ballast to compensate a higher load than allowed. Reduce load for safety.
11. A safety chain will help control drawn equipment should it be accidentally separated from the draw-bar while transporting. Using the proper adaptor parts, attach the chain to the tractor draw-bar support or other specified anchor locations. Provide only enough slack in the chain to permit turning. See your Dealer for a chain with a strength rating equal to, or greater than the gross weight of the towed equipment.


T66O112A

12. If the front of the tractor tends to rise up when heavy implements are attached to the three point hitch, weights should be installed on the front of tractor. Do not operate the tractor with a light front end.

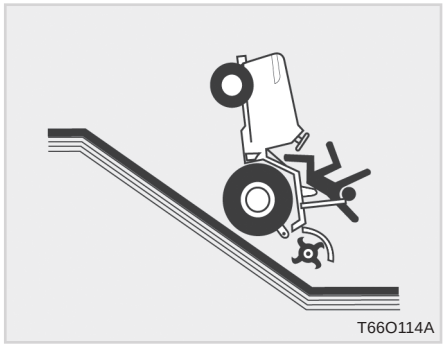

T66O113A

13. Always use the proper ballast weight on your tractor when using rear implements.
14. Watch front and rear to avoid obstacles at row ends, near trees and around other obstructions.

⚠ WARNING

- ***Drive carefully to avoid injury from penetration of objects from sides, because this machine does not comply to OPS.***

15. Do not leave implements and attachments in the raised position when the vehicle is stopped or unattended.
16. When using implements or attachments with your tractor you should first read their respective owner's manual. You should always keep their safe operation procedures in mind.
17. You should be familiar with your equipment and its limitations.
18. If abused or used incorrectly your tractor can become dangerous to you and bystanders. Overloading your tractor or using unsafe equipment can also be dangerous and should be avoided. Refer to the "Specifications of Implement Limitation", which outlines the maximum load for safe tractor operation.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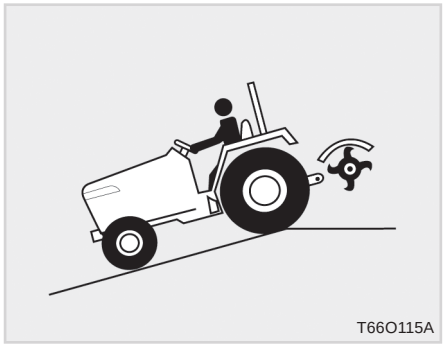
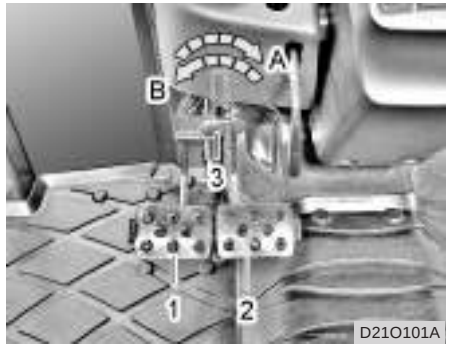

T66O115A

19. Driving forward out of a ditch or up steep inclines can cause the tractor to tip over backwards. To avoid this you should back out of these positions. Four wheel drive tractors can give you a false sense of security in the tractors ability to maneuver out of these positions, so extra caution should be taken.
20. Never try to get on or off a moving tractor.
21. When working in groups, always let the others know what you are going to do before you do it.
22. Never "freewheel". Disengaging the clutch or shifting into neutral while descending a slope as this could lead to a loss of control.
23. Do not operate near ditches, holes, embankments, or other terrain features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet.

WHEN DRIVING THE TRACTOR

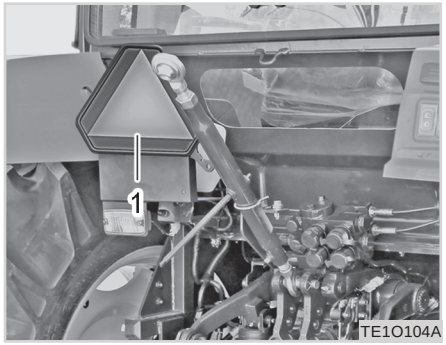


D21O101A

(1) Brake Pedal (L) *(2) Brake Pedal (R)*
(3) Brake Lock
(A) Lock *(B) Unlock*

1. Lock the brake pedals together when traveling at road speeds. Brake both wheels together or at the same time when making an emergency stop. Uneven braking at road speeds could cause the tractor to tip over.

2. Always slow the tractor before turning. Turning at high speed may tip the tractor over 3 or cause a loss of control.

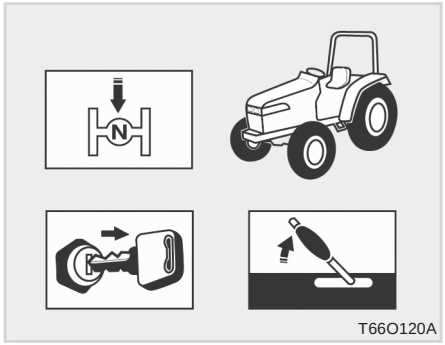


(1) SMV Emblem

3. Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights as required.

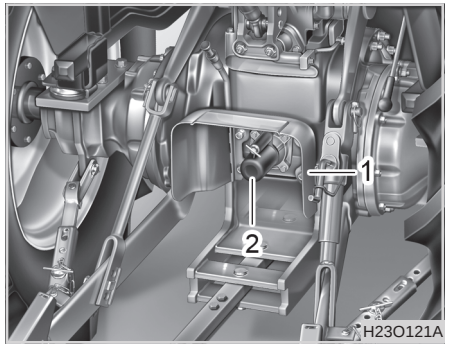
4. Observe all local traffic and safety regulations.
5. Turn the headlights on. Dim them when meeting another vehicle.
6. Drive at speeds that allow you to maintain control at all times.
7. Do not apply the differential lock while traveling at road speeds. As the tractor may run out of control.
8. Avoid sudden movements of the steering wheel as this can cause a loss of control of the tractor. This risk is especially great when traveling at road speeds.
9. Do not operate an implement while the tractor is on the road. Lock the three point hitch in the raised position.
10. When towing other equipment, use a safety chain and place an SMV emblem on it as well.

WHEN PARKING THE TRACTOR



1. Disengage the P.T.O, lower all implements, place all control levers in the neutral position, set the parking brake, stop the engine and remove the key.

WHEN OPERATING THE P.T.O



(1) P.T.O Shaft Cover (2) P.T.O Shaft Cap

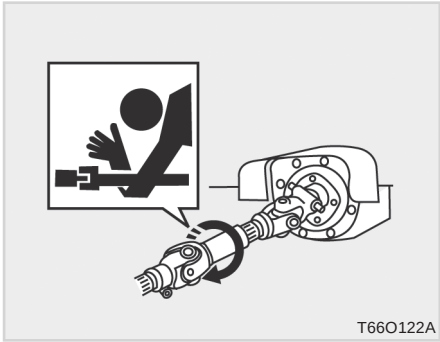
1. Make sure the tractor is completely stopped, gears are in neutral and all moving components have completely stopped before connecting, disconnecting, adjusting, cleaning or servicing any P.T.O driven equipment.
2. Keep the P.T.O shaft cover in place at all times. Replace the P.T.O shaft cap when the shaft is not in use.
3. Before installing or using P.T.O driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment.

⚠ WARNING

- ***Before driving an implement through the PTO, always make sure that all bystanders are well away from the tractor.***
- ***When using the PTO drive with a stationary tractor, always make sure that the gears are in neutral and that the parking brake is applied.***
- ***Before starting up any PTO-driven implement hitched to the three-point linkage, lift the implement to its full height and check that at least 1/4 of the total length of the telescopic section of the drive shaft is engaged.***

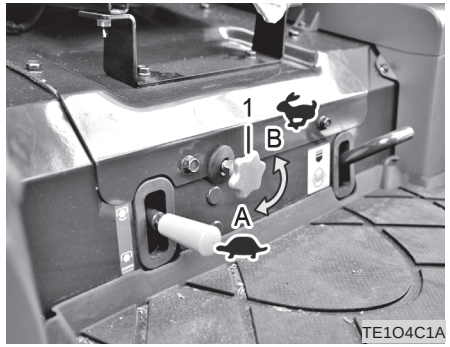
⚠ WARNING

- ***Ensure that implements and attachments are properly installed and that the tractor and implement PTO RPM ratings match.***



4. When operating stationary P.T.O driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts.
5. Do not attach a PTO dirven implement if the implements safety shields are damaged or not in place. Rotating shafts are an entanglement hazard.

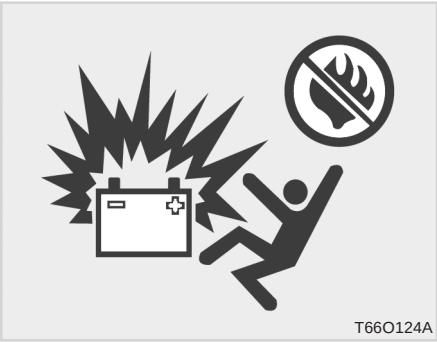
WHEN USING THE 3-POINT HITCH



(1) 3-point Hitch Lowering Speed Knob
(A) FAST (B) SLOW

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

SAFETY PRECAUTIONS DURING SERVICING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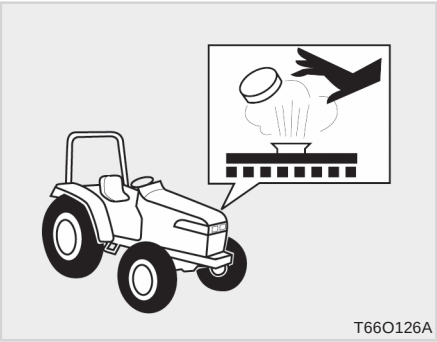
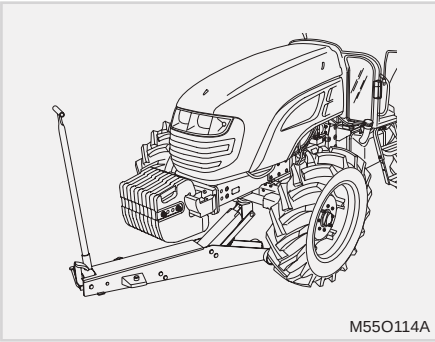

T66O126A

In order to service your tractor you must park it on a flat level surface, set the parking brake, place the gear shift lever in neutral and stop the engine.

1. Do not smoke while working around the battery or when refueling your tractor. Keep all sparks and flames away from the battery and fuel tank. The battery presents an explosive hazard because it gives off hydrogen and oxygen gas, especially when recharging.
2. Allow the tractor time to cool off before servicing any part that may have become hot while the tractor was running.
3. You must always stop the engine before refueling the tractor. Avoid overfilling the tractor or spilling the fuel.
4. Before jump starting a dead battery, read and follow all of the instructions.
5. It is recommended to keep a first aid kit and fire extinguisher handy at all times.
6. Do not remove the radiator cap while the coolant is hot. When cool, slowly rotate the cap to the first stop and allow sufficient time for excess pressure to escape. After all the pressure is released remove the cap completely. If your tractor is equipped with a coolant recovery tank, add coolant there rather than to the radiator.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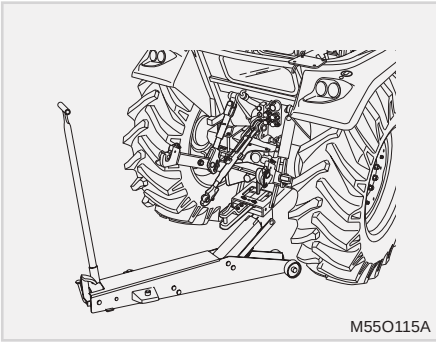
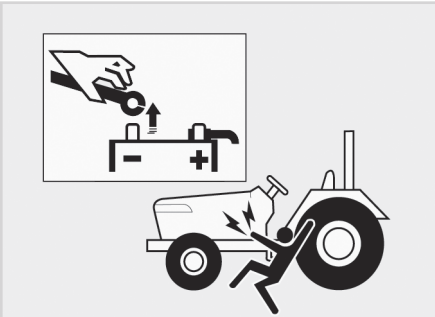

M55O115A

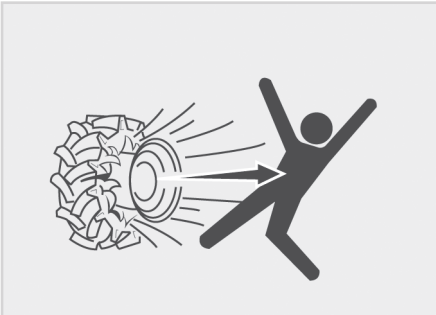
NOTE

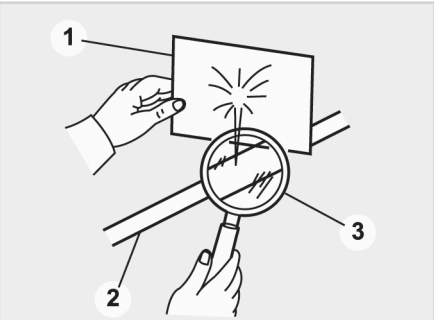
- Apply the jack lift to the lifting points according to the type of operation and follow the safety procedures given before.

1

7. If the tractor must be lifted for servicing, take it to a suitably equipped workshop.
8. Carry out the following operations before any operation of the tractor: Engage the four-wheel drive, the first gear and the parking brake and put chocks to the wheels touching the ground.
9. Before lifting the tractor, prevent it from swinging by means of wooden wedges applied to the front axle.
10. Use floor jack of suitable capacity and apply them at the centre of the front and rear axles while paying due attention to weight distribution.
11. No decals for the lifting point are applied on the tractor, as they would be, too difficult to apply in the available spaces and would be all too easily removed or effaced during normal operation of the tractor.


T66O127A


T66O128A



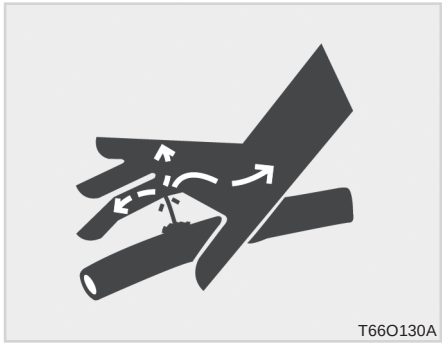
T66O129A

(1) Cardboard (2) Hydraulic Line
(3) Magnifying Glass

12. When working with your tractors electrical components you must first disconnect the battery cables.
13. To ensure that there are no accidents from sparks you must first disconnect the negative battery cable.
14. Tire mounting should be done by qualified professionals, with the proper equipment.
15. Maintaining correct tire pressure is important for the life of your tires.

    Do not inflate the tires above the recommended pressure specified in the owner's manual.
16. Securely support the tractor when changing wheels or the wheel tread width.
17. Make sure that wheel bolts have been tightened to the specified torque.
18. Leaking hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Be sure to release all residual pressure. Before disconnecting hydraulic lines.

Before pressurizing to the hydraulic system, make sure that all connections are tight and that all line, pipes and hoses are free of damage.


T66O130A


T66O131A

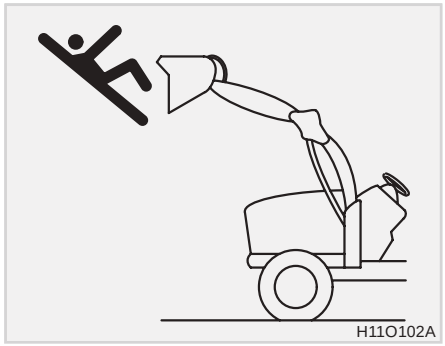
19. Fluid leaking from pinholes may be invisible. Do not use hands to search for suspected leaks;

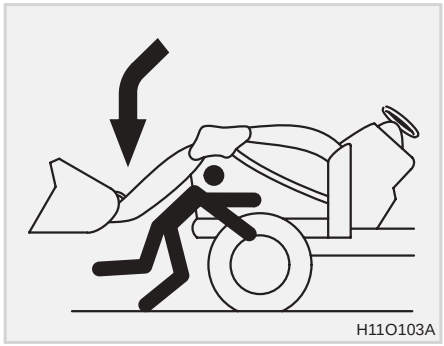
    Use a piece of cardboard or wood, instead. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid can produce gangrene and/or severe allergic reaction.

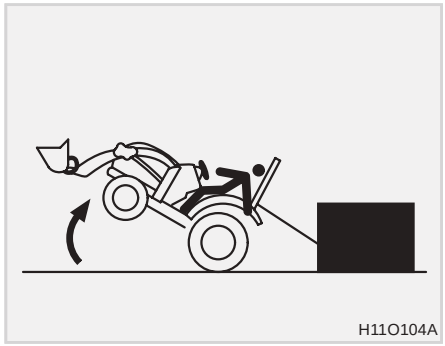
20. Keep environmental pollution in mind. When replacing coolant or oil, dispose properly.

    Be sure to observe all relevant regulations when you dispose of the engine oil, transmission oil, fuel, coolant, filters and battery.

SAFETY PRECAUTIONS WHEN USING THE LOADER


H11O102A


H11O103A

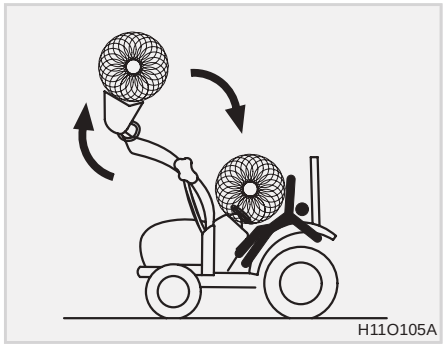

H11O104A

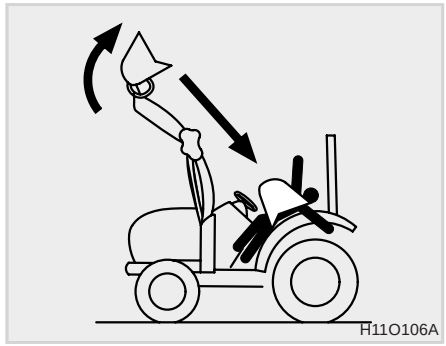
1. Never let anyone get in the loader and use the loader as a work-bench. Otherwise, it may lead to injury or even death.

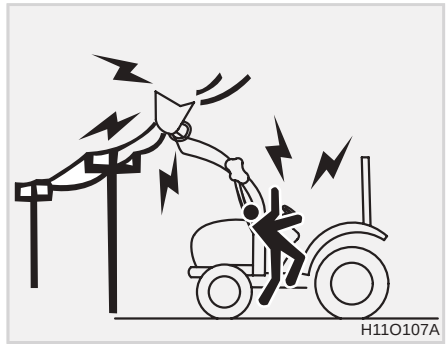
2. Do not stand under the lifted loader or get close to it. Also, lower the loader arm onto the ground before leaving the tractor. Otherwise, it may lead to a fatal injury or even death.

3. The loader can be turned over if a draw-bar is improperly loaded.

   Make sure to use a draw-bar proper for the 3-point hitch lower link. Otherwise, it may lead to an injury or even death.


H11O105A


H11O106A


H11O107A

4. Never carry a big object with the loader unless the correct implement is attached. Keep a carried object low during driving. Otherwise, it may lead to an injury or even death.

5. When attaching or detaching the loader, fit parts which are connected to the bucket and boom. The bucket or boom can be accidentally dropped down, leading to an injury or even death.

6. Do not allow loader arms or attachment to contact electrical power lines. Electrocution will cause serious injury or death.


H11O108A


C56O185A

7. Keep bystanders away. No riders.

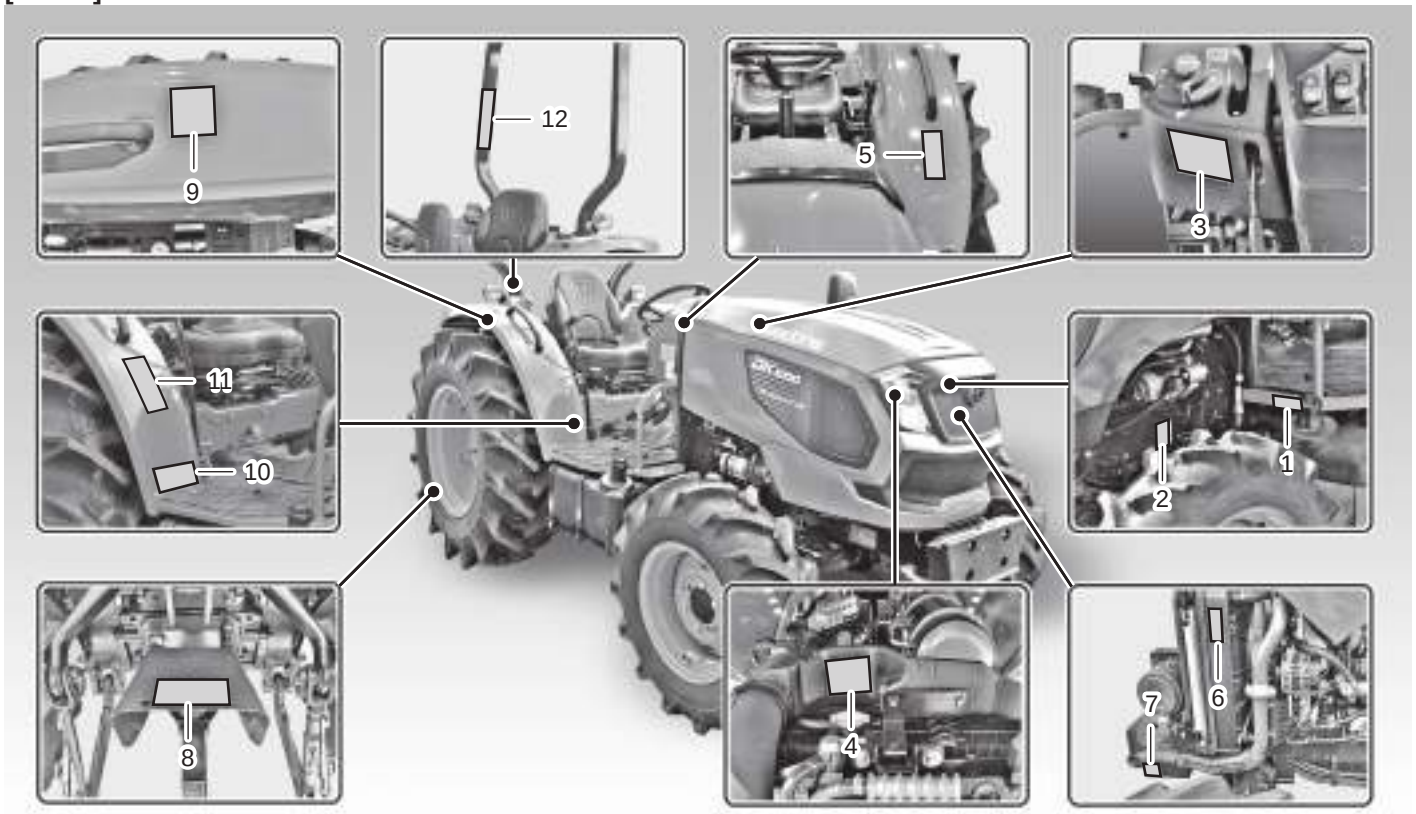
IMPORTANT

- **ROPS (Roll Over Protective Structure), sun canopy are not a FOPS (Falling Object Protective Structure).**
  It never can protect the riders against falling objects.
  Avoid driving the vehicle into a dangerous area such as falling rocks zone.

SAFETY DECAL MAINTENANCE

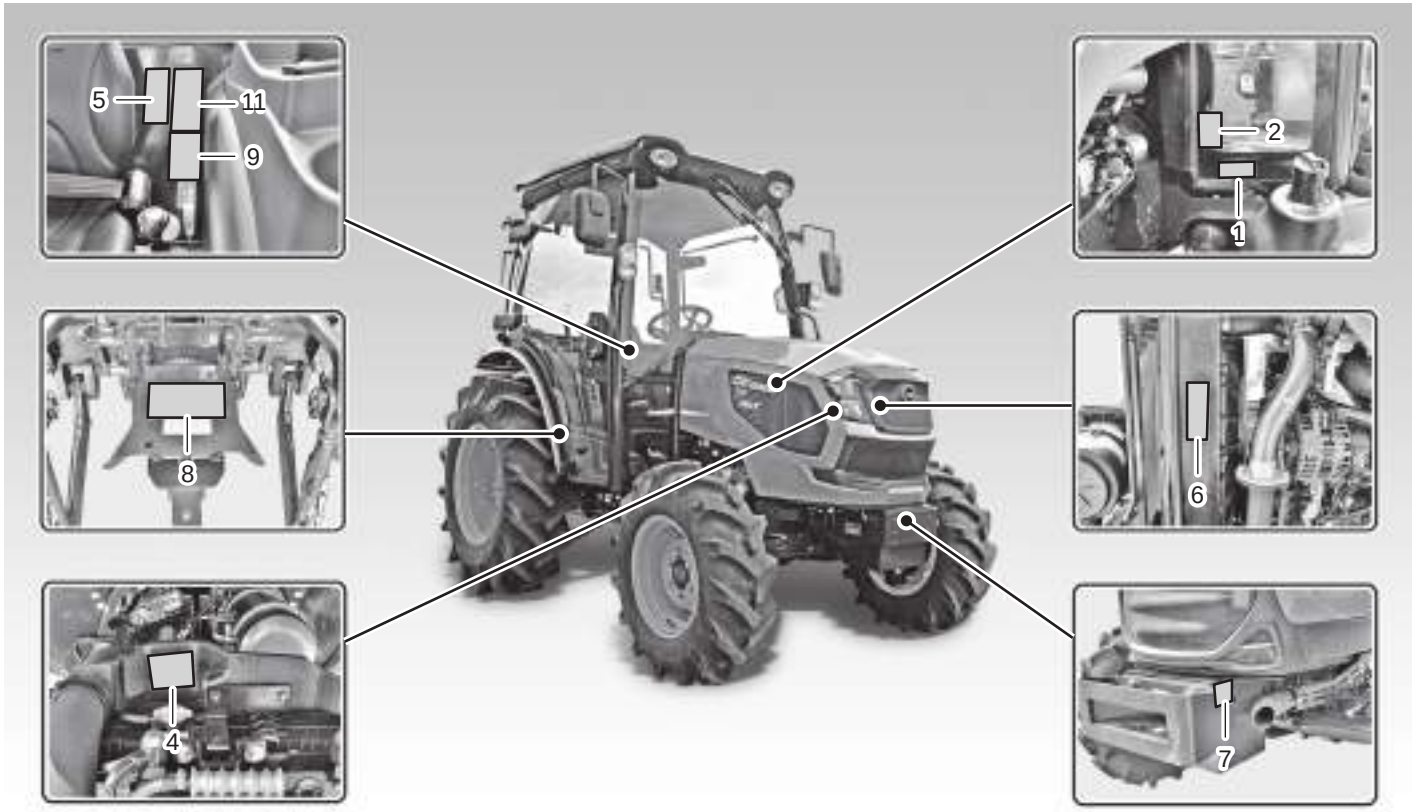
DECAL MOUNTING LOCATION

[ROPS]



D22O101B

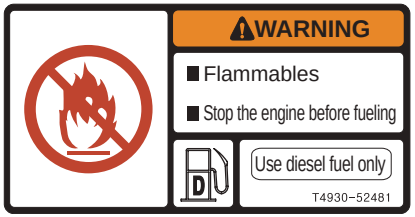
[CABIN]



D22O102A

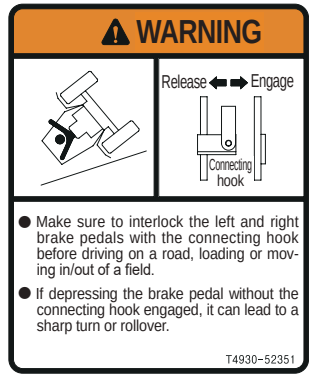
DECALS

(1) Part No.: TC26-0388A



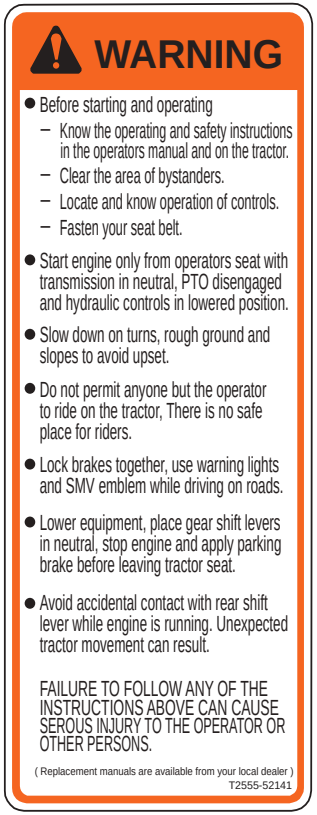
(2) Part No.: T4938-53551

(3) Part No.: T4930-52351



(4) Part No.: T4930-52371

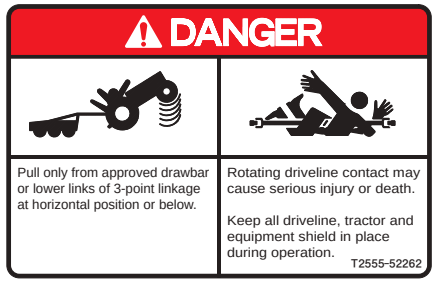
(5) Part No.: T2555-52141



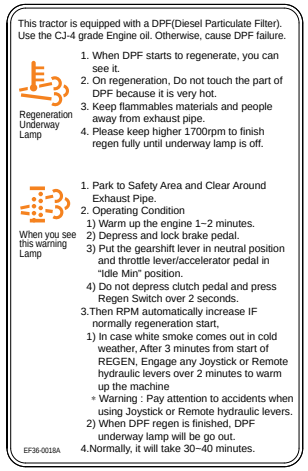
(6) Part No.: T4625-52351

(7) Part No.: T2615-55112

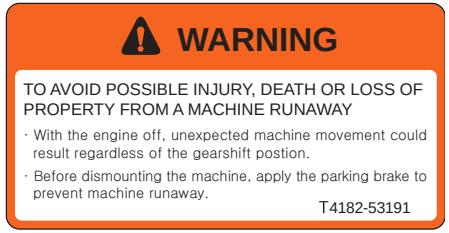
(8) Part No.: T4930-52311



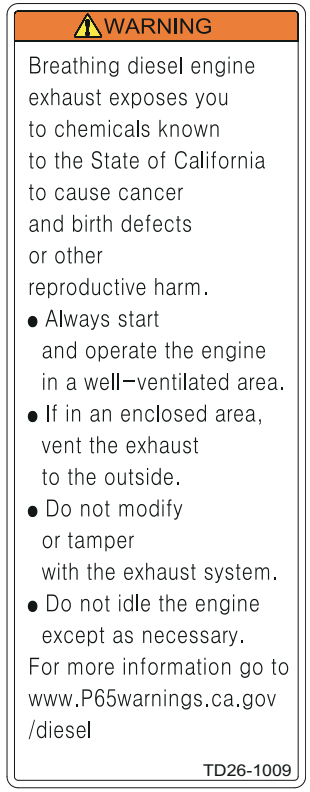
(9) Part No.: EF36-0018A



(10) Part No.: T4182-53191



(11) Part No.: TD26-1009A



(12) Part No.: T2555-52353

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 be damaged.**

IMPORTANT

- **If a decal is damaged or lost, contact your local KIOTI 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.**

VEHICLE IDENTIFICATION NUMBER

TRACTOR SERIAL NUMBER

(1) Tractor Serial Number Plate

This number is to identify the vehicle, and its plate is attached on the front right side of the front axle frame.

This number is also printed on the bar code label which is located on the dash board cover on your right hand side.

ENGINE SERIAL NUMBER

(1) Engine Identification Plate
(2) Engine Serial Number

Engine identification plate is installed on the cylinder head cover. This number indicates the engine type, displacement, injection timing, and date of manufacture.

The engine number is also stamped on the cylinder block behind the gear case in case of loss of the decal.

TRANSMISSION NUMBER

(1) Transmission Serial Number

The transmission number is engraved on the rear end of transmission case.

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

However, when in need of parts, warranty or major service, be sure to see your **KIOTI** dealer. For service, contact the **KIOTI** dealership from which you purchased your tractor or your local authorized **KIOTI** dealer.

When in need of parts, be prepared to give your dealer both the tractor and engine serial numbers.

Before using non-**KIOTI** approved implements, contact your nearest dealer, regarding safety application of the implement.

- **Tractor Model Name:**
- **Tractor Serial No:**
- **Engine Serial No:**
- **Date of Purchase:**

To be filled in by purchaser.

ESSENTIAL REPLACEMENT PARTS

OILS AND FLUIDS


H11O204A

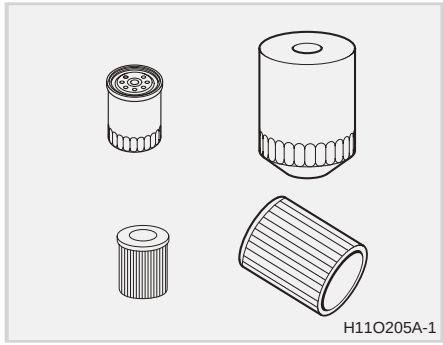
Various oils and fluids are used in this tractor for operation, lubrication, cooling, and anti-corrosion of various parts.

If oil or fluid is insufficient, contaminated or degraded, it can cause poor performance, incorrect operation, and seized parts of the tractor, leading to malfunction.

Regularly add or change the fluid specified on the right to keep the tractor in good condition.

No.	Part	Specifications	CAPA [U.S.gal. (L)]
1	Engine oil	Tier2 or 3 (Without DPF) - API CH grade above Tier4 (With DPF) - API CJ grade above SAE 10W30, 10W40, 15W40	1.95 (7.4)
2	Transmission fluid	Daedong : UTF55 or equivalent fluid oil as below Shell : Donax-TD, Exxonmobil: Mobilfluid 424 Exxon Hydraul 560 BP : Tractran UTH	11.4 (43.0)
3	Grease	SAE multi purpose type grease	Small amount
4	Antifreeze	Fresh clean water with ethylene glycol (50:50)	2.1 (7.9)

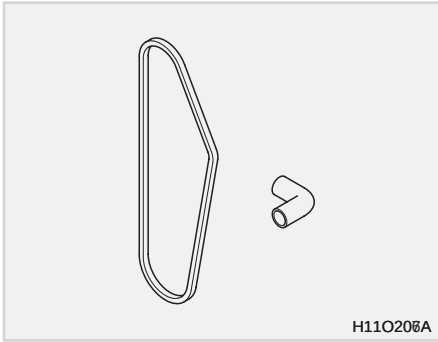
FILTERS


H11O205A-1

Filters for the engine, transmission, air cleaner, and A/C are consumables that purify oil and air. Make sure to replace the these items when changing oil.

No.	part No.	Part	QTY
1	E6201-32443	Engine oil filter	1
2	T5710-38031	Hydraulic filter	1
3	T4125-38021	HST Hydraulic filter	1
4	T4624-11012	Air Cleaner Ass'y	1
5	E7230-11081	Air Cleaner Element	1
6	EH35-0006A	Fuel filter Ass'y	1
7	EH35-0011A	Fuel filter Element	1

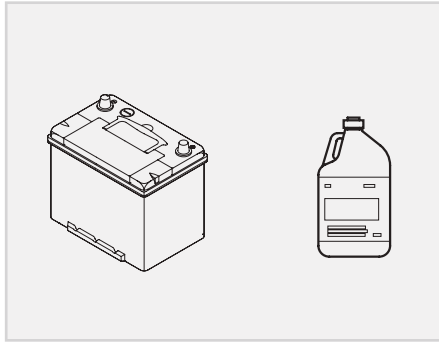
BELTS AND RUBBER PARTS



Belts, hoses and boots, which are-made of rubber, get weakened and cracked as they age.If these parts are kept left in this state, they can be broken off, leading to a serious problem in the tractor. Therefore, regularly check or replace those items to prevent the failure.

No.	part No.	Part	QTY
1	EH16-0008A	Cooling Fan belt	1
2	E7318-72531	Fan belt	1

OTHER COMPONENTS



The battery condition is very important for engine start performance especially in winter. Therefore, make sure to check its condition daily.

No.	part No.	Part	QTY
1	C7910-42205	Battery	1

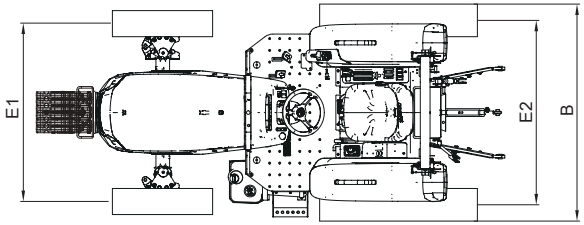
MEMO

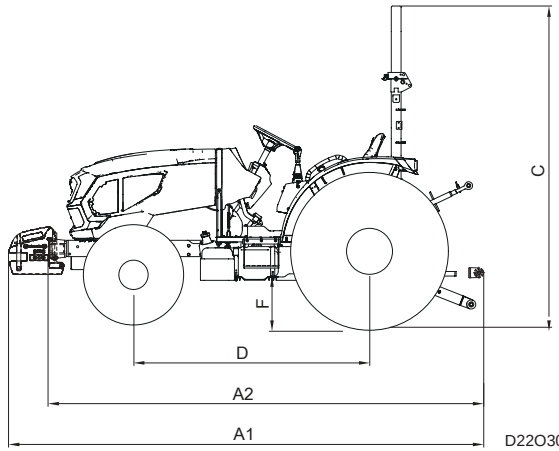
3

3

GENERAL SPECIFICATIONS
EXTERNAL DIMENSIONS

ROPS





※ There may be differences in specifications depending on the tire size.

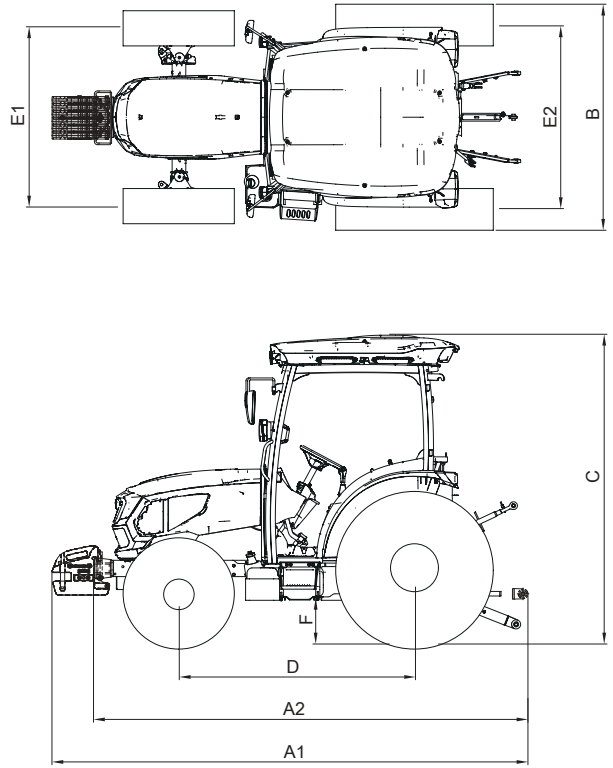
(*)-Narrow type in.(mm)

ITEM	DK4520 DK5020	DK5520	DK4220HSE DK4720HSE DK5320HSE	DK6020HSE
1. Overall length (A1)	130.2 (3,307)	130.7 (3,320)	130.2 (3,307)	130.7 (3,320)
2. Overall length (A2)	124.3 (3,157)	124.8 (3,170)	125.5 (3,189)	126.0 (3,202)
3. Overall width (B)	62.8 (1,596)	62.8 (1,596)	62.8 (1,596)	62.8 (1,596)
	58.5 (1,486)(*)	58.5 (1,486)(*)		
4. Overall height (C)	92.0 (2,338)	92.0 (2,338)	96.8 (2,458)	96.8 (2,458)
5. Wheel base (D)	71.3 (1,810)	71.3 (1,810)	71.3 (1,810)	71.3 (1,810)
6. Tread (E1)	49.4 (1,254)	49.4 (1,254)	49.4 (1,254)	49.4 (1,254)
	44.6 (1,133)(*)	44.6 (1,133)(*)		
7. Tread (E2)	49.2 (1,251)	49.2 (1,251)	49.2 (1,251)	49.2 (1,251)
	44.9 (1,141)(*)	44.9 (1,141)(*)		
8. Ground clearance (F)	14.5 (368)	14.5 (368)	14.5 (368)	14.5 (368)

※ A1: Overall length including weight and folded **ROPS**
A2: Overall length excluding weight and folded **ROPS**
E1: Front wheel tread E2: Rear wheel tread

※ These dimensions are measured with the standard tires (AG) installed to the **ROPS** model tractor.

CABIN



T22O302A

in.(mm)

ITEM	DK4220CHSE DK4720CHSE DK5320CHSE	DK6020CHSE
1. Overall length (A1)	130.2 (3,307)	130.7 (3,320)
2. Overall length (A2)	125.5 (3,189)	126.0 (3,202)
3. Overall width (B)	62.8 (1,596)	62.8 (1,596)
4. Overall height (C)	93.0 (2,363)	93.0 (2,363)
5. Wheel base (D)	71.3 (1,810)	71.3 (1,810)
6. Tread (E1)	49.4 (1,254)	49.4 (1,254)
7. Tread (E2)	49.2 (1,251)	49.2 (1,251)
8. Ground clearance (F)	14.5 (368)	14.5 (368)

※ A1: Overall length including weight
A2: Overall length excluding weight
E1: Front wheel tread E2: Rear wheel tread

※ These dimensions are measured with the standard tires. (AG)

※ There may be differences in specifications depending on the tire size.

GENERAL SPECIFICATIONS
[ROPS-DK4520/5020/5520]

ITEM			MODEL		
			DK4520	DK5020	DK5520
Engine	Model		3HT-TM4B	3HT-TM4B	3HT-TM4B
	Number of cylinders		3	3	3
	Total displacement	cc (cu)	1,826 (111.4)	1,826 (111.4)	1,826 (111.4)
	Bore and stroke	in.(mm)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)
	Engine gross power	HP (kW)	44.9 (33.5)	50.3 (37.5)	55 (41)
	Engine Net Power	HP (kW)	-	-	-
	PTO power	HP (kW)	-	-	-
	Rated revolution	rpm	2,600	2,600	2,600
Capacities	Fuel tank	U.S.gal. (L)	11.9 (45)	11.9 (45)	11.9 (45)
	Transmission fluid	U.S.gal. (L)	11.4 (43)	11.4 (43)	11.4 (43)
	Coolant (Engine Only)	U.S.gal. (L)	0.89 (3.4)	0.89 (3.4)	0.89 (3.4)
	Engine Oil	U.S.gal. (L)	1.95 (7.4)	1.95 (7.4)	1.95 (7.4)
	Support of front axle	U.S.gal. (L)	1.48 (5.6)	1.48 (5.6)	1.48 (5.6)
Drive train	Clutch		Dry single	Dry single	Dry single
	Transmission	Shuttle	Synchro shuttle	Synchro shuttle	Synchro shuttle
		Main	Synchro mesh, 4	Synchro mesh, 4	Synchro mesh, 4
		Range	Constant mesh, 2	Constant mesh, 2	Constant mesh, 2
		Speeds	F8 x R8	F8 x R8	F8 x R8

ITEM			MODEL		
			DK4520	DK5020	DK5520
Drive train	Ground speed (Tire for agricultural) mph (km/h)	Forward	1.29~16.71 (2.08~26.9)	1.29~16.71 (2.08~26.9)	1.29~16.71 (2.08~26.9)
		Reverse	1.26~16.28 (2.03~26.2)	1.26~16.28 (2.03~26.2)	1.26~16.28 (2.03~26.2)
	Four wheel drive		Mechanical	Mechanical	Mechanical
	Brake		Wet disc type	Wet disc type	Wet disc type
	Differential lock		Rear standard	Rear standard	Rear standard
Tire	Agricultural	Front	8-16	8-16	8-16
		Rear	13.6-24	13.6-24	13.6-24
	Turf	Front	29-12.5-15	29-12.5-15	29-12.5-15
		Rear	21.5L-16.1	21.5L-16.1	21.5L-16.1
	Industrial	Front	10-16.5	10-16.5	10-16.5
		Rear	14.9-24	14.9-24	14.9-24
Hydraulic system	Pump capacity L/min (gpm)		55.1 (14.56) [Main: 36.4 (9.62), Steering: 18.7 (4.94)]	55.1 (14.56) [Main: 36.4 (9.62), Steering: 18.7 (4.94)]	55.1 (14.56) [Main: 36.4 (9.62), Steering: 18.7 (4.94)]
	Steering system		Hydrostatic Power Steering	Hydrostatic Power Steering	Hydrostatic Power Steering
	Hydraulic lift control		Position	Position	Position
	3-point hitch		Category I	Category I	Category II

ITEM			MODEL		
			DK4520	DK5020	DK5520
Hydraulic system	Max. lifting capacity kgf (lbs.)	From 24 in. (61 cm) Behind	1,232 (2,716)	1,232 (2,716)	1,232 (2,716)
		At lower link ball	1,360 (2,998)	1,360 (2,998)	1,360 (2,998)
	Number of External Hydraulic valves		-	-	-
PTO	Rear	Type	Independent	Independent	Independent
		PTO shaft	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline
		Speed rpm	540	540	540
Min. turning radius (with one rear wheel braked)		in. (mm)	-	-	-
Weight (with **ROPS**)		lbs. (kg)	3,373 (1,530)	3,373 (1,530)	3,373 (1,530)
Draw-bar	Max. Drawbar vertical load	lbs.(daN)	1,655 (750)	1,655 (750)	1,655 (750)
	Max. Trailer loading weight	lbs.(kg)	9,480 (4,300)	9,480 (4,300)	9,480 (4,300)

※ The specifications are subject to change without notice.

[ROPS-DK4220/4720/5320/6020]

ITEM			MODEL			
			DK4220HSE	DK4720HSE	DK5320HSE	DK6020HSE
Engine	Model		3H-TH4D	3HT-TH4C	3HT-TH4C	3HT-TH4C
	Number of cylinders		3	3	3	3
	Total displacement	cc (cu)	1,826 (111.4)	1,826 (111.4)	1,826 (111.4)	1,826 (111.4)
	Bore and stroke	in.(mm)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)
	Engine gross power	HP (kW)	39.6 (29.5)	44.9 (33.5)	50.3 (37.5)	57.7 (43)
	Engine Net Power	HP (kW)	-	-	-	-
	PTO power	HP (kW)	29.1	33.4	39.3	44.9
	Rated revolution	rpm	2,600	2,600	2,600	2,600
Capacities	Fuel tank	U.S.gal. (L)	12.7 (48)	12.7 (48)	12.7 (48)	11.9 (45)
	Transmission fluid	U.S.gal. (L)	11.4 (43)	11.4 (43)	11.4 (43)	11.4 (43)
	Coolant (Engine Only)	U.S.gal. (L)	2.1 (7.9)	2.1 (7.9)	2.1 (7.9)	2.1 (7.9)
	Engine Oil	U.S.gal. (L)	1.95 (7.4)	1.95 (7.4)	1.95 (7.4)	1.95 (7.4)
	Support of front axle	U.S.gal. (L)	1.48 (5.6)	1.48 (5.6)	1.48 (5.6)	1.48 (5.6)
Drive train	Clutch		none	none	none	none
	Transmission	Shuttle	HST	HST	HST	HST
		Main	-	-	-	-
		Range	Constant mesh, 3	Constant mesh, 3	Constant mesh, 3	Constant mesh, 3
		Speeds	3	3	3	3

ITEM			MODEL			
			DK4220HSE	DK4720HSE	DK5320HSE	DK6020HSE
Drive train	Ground speed (Tire for agricultural) mph (km/h)	Forward	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)
		Reverse	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)
	Four wheel drive		Mechanical	Mechanical	Mechanical	Mechanical
	Brake		Wet disc type	Wet disc type	Wet disc type	Wet disc type
	Differential lock		Rear standard	Rear standard	Rear standard	Rear standard
Tire	Agricultural	Front	8-16	8-16	8-16	8-16
		Rear	13.6-24	13.6-24	13.6-24	13.6-24
	Turf	Front	29-12.5-15	29-12.5-15	29-12.5-15	29-12.5-15
		Rear	21.5L-16.1	21.5L-16.1	21.5L-16.1	21.5L-16.1
	Industrial	Front	10-16.5	10-16.5	10-16.5	10-16.5
		Rear	14.9-24	14.9-24	14.9-24	14.9-24
Hydraulic system	Pump capacity L/min (gpm)		62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]
	Steering system		Hydrostatic Power Steering	Hydrostatic Power Steering	Hydrostatic Power Steering	Hydrostatic Power Steering
	Hydraulic lift control		Position	Position	Position	Position
	3-point hitch		Category I	Category I	Category I	Category I

ITEM			MODEL			
			DK4220HSE	DK4720HSE	DK5320HSE	DK6020HSE
Hydraulic system	Max. lifting capacity kgf (lbs.)	From 24 in. (61 cm) Behind	1,232 (2,716)	1,232 (2,716)	1,232 (2,716)	1,232 (2,716)
		At lower link ball	1,360 (2,998)	1,360 (2,998)	1,360 (2,998)	1,360 (2,998)
	Number of External Hydraulic valves		1 (2 port)	1 (2 port)	1 (2 port)	1 (2 port)
PTO	Rear	Type	Independent	Independent	Independent	Independent
		PTO shaft	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline
		Speed rpm	540	540	540	540
Min. turning radius (with one rear wheel braked)		in. (mm)	102.8 (2,610)	102.8 (2,610)	102.8 (2,610)	102.8 (2,610)
Weight (with **ROPS**)		lbs. (kg)	3,522 (1,598)	3,522 (1,598)	3,522 (1,598)	3,522 (1,598)
Draw-bar	Max. Drawbar vertical load	lbs.(daN)	1,655 (750)	1,655 (750)	1,655 (750)	1,655 (750)
	Max. Trailer loading weight	lbs.(kg)	9,480 (4,300)	9,480 (4,300)	9,480 (4,300)	9,480 (4,300)

※ The specifications are subject to change without notice.

[CABIN-DK4220/4720/5320/6020]

ITEM			MODEL			
			DK4220CHSE	DK4720CHSE	DK5320CHSE	DK6020CHSE
Engine	Model		3H-TH4D	3HT-TH4C	3HT-TH4C	3HT-TH4C
	Number of cylinders		3	3	3	3
	Total displacement	cc (cu)	1,826 (111.4)	1,826 (111.4)	1,826 (111.4)	1,826 (111.4)
	Bore and stroke	in.(mm)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)	3.3 × 4 (83 × 102.4)
	Engine gross power	HP (kW)	39.6 (29.5)	44.9 (33.5)	50.3 (37.5)	57.7 (43)
	Engine Net Power	HP (kW)	-	-	-	-
	PTO power	HP (kW)	29.1	33.4	39.3	44.9
	Rated revolution	rpm	2,600	2,600	2,600	2,600
Capacities	Fuel tank	U.S.gal. (L)	12.7 (48)	12.7 (48)	12.7 (48)	11.9 (45)
	Transmission fluid	U.S.gal. (L)	11.4 (43)	11.4 (43)	11.4 (43)	11.4 (43)
	Coolant (Engine Only)	U.S.gal. (L)	2.1 (7.9)	2.1 (7.9)	2.1 (7.9)	2.1 (7.9)
	Engine Oil	U.S.gal. (L)	1.95 (7.4)	1.95 (7.4)	1.95 (7.4)	1.95 (7.4)
	Support of front axle	U.S.gal. (L)	1.48 (5.6)	1.48 (5.6)	1.48 (5.6)	1.48 (5.6)
Drive train	Clutch		none	none	none	none
	Transmission	Shuttle	HST	HST	HST	HST
		Main	-	-	-	-
		Range	Constant mesh, 3	Constant mesh, 3	Constant mesh, 3	Constant mesh, 3
		Speeds	3	3	3	3

ITEM			MODEL			
			DK4220CHSE	DK4720CHSE	DK5320CHSE	DK6020CHSE
Drive train	Ground speed (Tire for agricultural) mph (km/h)	Forward	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)	0 ~ 18.45 (0 ~ 29.7)
		Reverse	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)	0 ~ 12.92 (0 ~ 20.8)
	Four wheel drive		Mechanical	Mechanical	Mechanical	Mechanical
	Brake		Wet disc type	Wet disc type	Wet disc type	Wet disc type
	Differential lock		Rear standard	Rear standard	Rear standard	Rear standard
Tire	Agricultural	Front	8-16	8-16	8-16	8-16
		Rear	13.6-24	13.6-24	13.6-24	13.6-24
	Turf	Front	29-12.5-15	29-12.5-15	29-12.5-15	29-12.5-15
		Rear	21.5L-16.1	21.5L-16.1	21.5L-16.1	21.5L-16.1
	Industrial	Front	10-16.5	10-16.5	10-16.5	10-16.5
		Rear	14.9-24	14.9-24	14.9-24	14.9-24
Hydraulic system	Pump capacity L/min (gpm)		62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]	62.4 (14.56) [Main: 36.4 (9.62), Steering: 26 (6.87)]
	Steering system		Hydrostatic Power Steering	Hydrostatic Power Steering	Hydrostatic Power Steering	Hydrostatic Power Steering
	Hydraulic lift control		Position	Position	Position	Position
	3-point hitch		Category I	Category I	Category I	Category I

ITEM			MODEL			
			DK4220CHSE	DK4720CHSE	DK5320CHSE	DK6020CHSE
Hydraulic system	Max. lifting capacity kgf (lbs.)	From 24 in. (61 cm) Behind	1,232 (2,716)	1,232 (2,716)	1,232 (2,716)	1,232 (2,716)
		At lower link ball	1,360 (2,998)	1,360 (2,998)	1,360 (2,998)	1,360 (2,998)
	Number of External Hydraulic valves		1 (2 port)	1 (2 port)	1 (2 port)	1 (2 port)
PTO	Rear	Type	Independent	Independent	Independent	Independent
		PTO shaft	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline	SAE 1-3/8, 6 Spline
		Speed rpm	540	540	540	540
Min. turning radius (with one rear wheel braked)		in. (mm)	102.8 (2,610)	102.8 (2,610)	102.8 (2,610)	102.8 (2,610)
Weight (with **CABIN**)		lbs. (kg)	3,522 (1,598)	3,522 (1,598)	3,522 (1,598)	3,522 (1,598)
Draw-bar	Max. Drawbar vertical load	lbs.(daN)	1,655 (750)	1,655 (750)	1,655 (750)	1,655 (750)
	Max. Trailer loading weight	lbs.(kg)	9,480 (4,300)	9,480 (4,300)	9,480 (4,300)	9,480 (4,300)

※ The specifications are subject to change without notice.

OPTION LIST

ITEM	DK4520/5020/5520	DK4220/4720/5320/6020HSE	CK4220/4720/5320/6020CHSEB
Mid PTO	-	O	O
Support for front weight	O	O	O
Front Weight	O	O	O
Rear Weight	O	O	O
Rear Remote Hydraulic Valve	O	Std.	Std.
Front Fender	O	O	O
Rear View Mirror	O	O	O
7 Pin Socket	O	Std.	Std.
Front Work Light	O	O	Std.
Rear Work Light(LED)	O	O	O
Power socket	O	O	O
Finger RPM	-	O	O
Beacon	O	O	O
Rear Window Wiper	-	-	O
CD Player	-	-	O
BT Player	O	O	-
Seat Armrest	O	O	O
Sun Canopy	O	O	-
Front Grille Guard	-	O	O
SMV sign	O	O	O
HST CRUISE	-	O	O
HST LINK	-	O	O
Aux and USB charge	O	O	Std.

※ The specifications are subject to change without notice.

DRIVING SPEED TABLE

[MANUAL]

mph (km/h)

RANGE SHIFT	MAIN SHIFT	Tire sizes 13.6-24 6PR (AG)	
		Forward	Reverse
Low speed	1	1.29 (2.08)	1.26 (2.03)
	2	1.75 (2.81)	1.70 (2.73)
	3	2.98 (4.80)	2.90 (4.67)
	4	4.06 (6.53)	3.95 (6.36)
High speed	1	5.03 (8.10)	4.90 (7.89)
	2	6.79 (10.92)	6.60 (10.63)
	3	11.59 (18.66)	11.29 (18.17)
	4	15.79 (25.41)	15.38 (24.75)

[HST]

mph (km/h)

RANGE SHIFT	Tire sizes 13.6-24 6PR (AG)	
	Forward	Reverse
L	0 ~ 4.23 (0 ~ 6.81)	0 ~ 2.96 (0 ~ 4.77)
M	0 ~ 7.63(0 ~ 12.28)	0 ~ 5.34 (0 ~ 8.60)
H	0 ~ 17.44 (0 ~ 28.06)	0 ~ 12.44 (0 ~ 20.02)

※ This datas are engineering design speed and its may be different actual speed.

IMPLEMENT LIMITATIONS
THE LARGEST IMPLEMENTS ALLOWABLE

in.(mm)

IMPLEMENT	DESCRIPTION	DK4220/4520/4720/5020/5320/5520/6020	REMARKS
1. Loader	Max. Bucket width	66 (1,676)	
2. Backhoe with sub frame	Max. Digging depth	89.7 (2,280)	Do not use 3 point hitch backhoe
3. Tiller	Max. Width	65.2 (1,656)	
4. Box Blade	Max. Width	84 (2,133)	
5. Rear Blade	Max. Width	84 (2,133)	
6. Rotary Cutter	Max. Width	65 (1,650)	
7. Grooming Mower	Max. Width	72 (1,828)	
8. Aerator	Max. Width	72 (1,828)	
9. Landscape Rakes	Max. Width	84 (2,133)	

MEMO

EXTERIOR VIEW
[ROPS]

(1) Seat
(2) Steering Wheel
(3) Bonnet
(4) Headlight
(5) ROPS
(6) Turn Signal Lamp
(7) Fender Handle
(8) Top Link
(9) Lower Link
(10) Drawbar
(11) PTO Shaft
(12) Rear View Mirror
(13) Beacon Lamp

[CABIN]

(1) Work Lamp
(2) Wiper
(3) Rear View Mirror
(4) Turn Signal Lamp
(5) Door Handle
(6) Bonnet
(7) Head Lamp
(8) Top Link
(9) PTO Shaft
(10) Lower Link
(11) Hitch
(12) Tail Lamp
(13) Step
(14) Lift Rod
(15) Check Link

SWITCHES

MOUNTING LOCATION

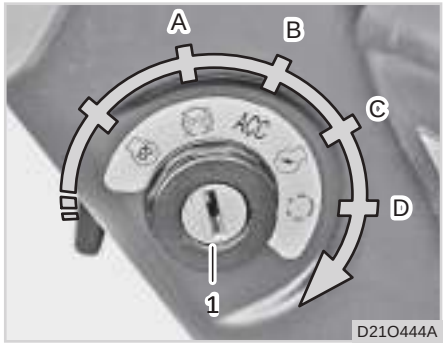
[ROPS]

(1) Combination Switch
(2) DPF Regeneration Switch
(3) PTO Setting Switch
(4) Cruise PTO Switch
(5) Hazard Warning Flasher Switch
(6) Key Switch
(7) Speed Cruise Control Switch (Option)
(8) PTO Switch (ON/OFF)

[CABIN]

(1) Combination Switch
(2) DPF Regeneration Switch
(3) PTO Setting Switch
(4) Cruise PTO Switch
(5) Hazard Warning Flasher Switch
(6) Key Switch
(7) PTO Switch (ON/OFF)

KEY SWITCH



(1) Key SwitcH
(A) OFF *(B) ACC*
(C) ON *(D) START*

• OFF (A)

When the key switch is in the position "A," the engine and all electrical devices in the vehicle are turned off. However, flasher lights and turn signal lights can be operated along with their indication lamps on the dash board.

• ACC (B)

When the key switch is turned to the position "B", brake lights, flasher lights and turn signal lights can be operated.

• ON (C)

The position "C" indicates the "ON " position. As soon as the key switch is turned to this position, the oil pressure warning lamp and battery charge warning lamp come on. (These turn off after the engine is started)

The automatic preheating operation is informed by illumination of the preheat indicator on the instrument cluster. In cold weather, preheat the engine sufficiently until the preheat indicator goes off.

• START (D)

The position "D" indicates "Start". In order to start the engine, turn the PTO switch off. As soon as the engine is started, release the key then the key will return to the position "C".

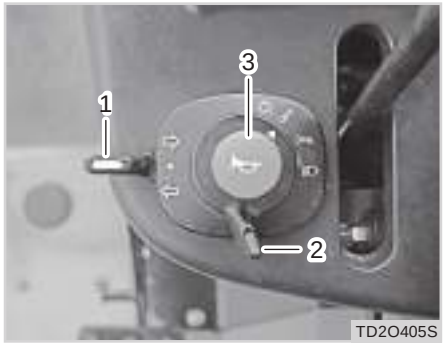
⚠ CAUTION

- ***Stop the engine immediately if the oil pressure warning lamp does not go off after the engine is started. The engine may be severely damaged.***
- ***If the battery charge warning lamp does not go off after the engine is started, check the electrical systems, such as the alternator, for damage. Continuing to use the engine under this condition can discharge the battery or damage other electrical devices.***

NOTE

- The ignition key is not directional and can be inserted in any direction. Also, be careful not to leave the tractor unattended with the key in the tractor.
- The horn, turn signal lamp and hazard lamp can be operated without the key inserted.

COMBINATION SWITCH

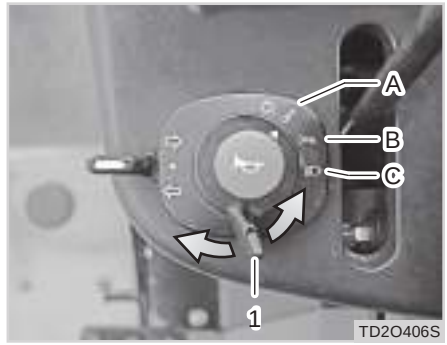


(1) Turn Signal Lamp Switch
(2) Head Light Switch *(3) Horn Switch*

The combination switch consists of the head light, turn signal light, and horn switches. Its function by its position is as follows:

Switches	Functions
OFF	Headlamp and tail light OFF
≡D0≡	Low beam and tail light ON
≡O	High beam and tail light ON
⇦ ⇨	Turn signal lamp ON

HEAD LIGHT SWITCH



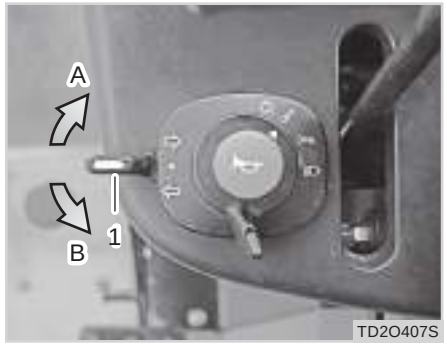
(1) Head Light Switch
(A) OFF *(B) Low Beam ON*
(C) High Beam ON

The head light switch can be operated only while the key switch is in “ON ” position. Turning the head light switch clockwise one click will illuminate the low beam head lights while turning it one more click will illuminate the high beam head lights.

⚠ WARNING

- ***Driving with high beam head light disturbs the approaching vehicle’s visibility for safe driving. Use the high beam head lights only if necessary.***

TURN SIGNAL LIGHT SWITCH



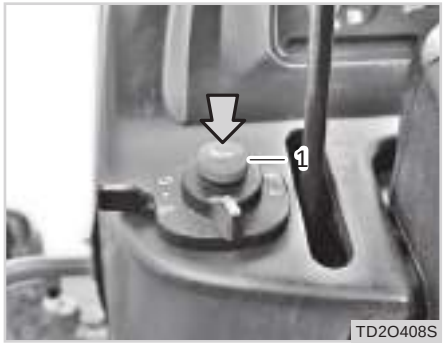
(1) Turn Signal Light Switch
(A) Right Turn (B) Left Turn

The turn signal lights are used when turning the vehicle left or right. Pulling the lever up blinks the right turn signal light while pushing the lever down blinks the left turn signal light.

NOTE

- The turn signal light lever is not the self-return type. Therefore, make sure to return the lever manually after turning the vehicle.
- The turn signal lamps can be operated without the key inserted.

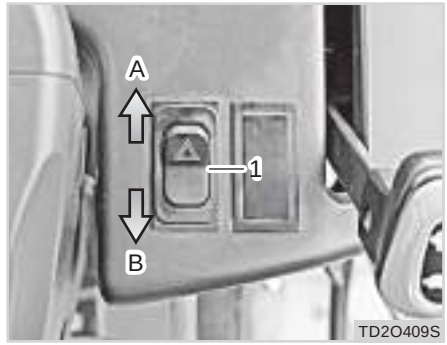
HORN SWITCH



(1) Horn Switch

The horn switch can be operated without the key inserted. Pressing this switch sounds the horn.

HAZARD LAMP SWITCH



(1) Hazard Warning Flasher Switch
(A) ON (B) OFF

This switch can be used to warn other vehicles when malfunction occurs in the tractor while driving on a public road. Pressing this switch up blinks the hazard lamp and returning it turns off the lamp. The turn signal lights cannot be operated while this switch is pressed up to operate the hazard lamps.

PTO CRUISE

⚠ CAUTION

- ***If the hazard lamps are turned on for an extended period of time while the engine is stopped, the battery can be discharged. Therefore, use them only in emergency.***
- ***The hazard lamp can be operated without the key inserted.***

(1) PTO Cruise Switch
(2) PTO Cruise Control Switch

This function is to control the engine speed for convenient operation at over 1,300 rpm.

PTO CRUISE ACTIVATION

Run the engine at a speed over 1,300 RPM. Set the desired engine speed. Then, with the brake pedal released, set the PTO cruise switch to the ON position and press the SET (-) portion of the PTO cruise control switch.

The cruise control switch can be operated as follows while the PTO cruise function is activated:

- RES(+): Increment by 50 rpm
- SET(-): Decrement by 50 rpm

HOW TO DEACTIVATE PTO CRUISE

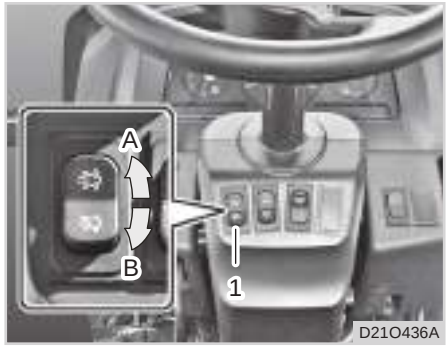
Depress the brake pedal or turn off the PTO cruise switch to deactivate the function.

If the PTO cruise is deactivated by depressing the brake pedal with the PTO cruise switch in the “ON” position, pressing the RES (+) switch once resumes the function to the previous state.

IMPORTANT

- ***The PTO cruise is not deactivated when depressing one of the brake pedals with the brake pedals disconnected from each other.***

DPF REGENERATION SWITCH



(1) DPF Regeneration Switch
(A) Activation (B) Deactivation

ACTIVATION (UPPER BUTTON)

Perform the following procedure when the regeneration warning lamp comes on :

1. Park the vehicle on level ground
2. Start the engine and run the engine at the idle speed.
3. Depress the brake pedal and lock it in place.
4. Do not depress the clutch pedal.(if equipped)
5. Put the range shift lever on the neutral position
6. Run the engine 3 to 4 minutes. Then, press the regeneration button over 2 second.

NOTE

- The regeneration underway lamp is turned on when the DPF temperature reaches a certain temperature.

7. The regeneration underway lamp blinks after the regeneration warning lamp goes off.

   Wait for approx. 30 to 40 minutes until the regeneration process is completed.

DEACTIVATION (LOWER PORTION OF SWITCH)

Do not press the deactivation portion of the switch while the regeneration process is activated.

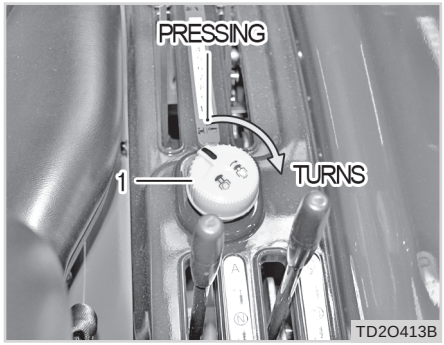
However, the switch can be set to the deactivation position to stop the regeneration process in emergency.

PTO SWITCH (ON / OFF)

⚠ CAUTION

To protect the catalyst filter, keep the followings:

- ***Make sure to use only specified fuel.***
- ***Keep the engine oil replacement schedule.***
- ***Check the engine oil level frequently to keep it to the specified level.***
- ***Avoid any unnecessary engine idling.***
- ***Never stop the engine during driving.***
- ***Never place the shift lever in the neutral position when driving downhill.***
- ***Do not use any engine oil additive.***
- ***Avoid driving with any warning lamp illuminated.***
- ***Do not allow any flammable materials, such as dry grass and paper, to come near the catalyst filter while parked.***



(1) PTO Switch

The PTO switch is used to supply power from the tractor to the implement.

Make sure to put this switch into the “OFF” position before starting the engine. Otherwise, the engine cannot be started.

The rear PTO rotates at 540 rpm when the engine speed is approx. 2,444 rpm.

To activate the PTO, press and turn the switch clockwise. To deactivate it, press the switch once.

⚠ CAUTION

To avoid personal injury and accident:

- ***Before disassembling or cleaning the PTO system, make sure that the PTO switch is in the “OFF” position, the engine is stopped, and all parts are stopped.***
- ***Always keep the PTO driving part clean. Also, check the PTO cover is closed while PTO is in operation.***
- ***Disengage the PTO while driving the tractor on the public road.***
- ***Be careful not to get your hand, foot, cloth, or hair into any driving part while the PTO is in operation. You can be severely injured.***

Make sure that no one is around the tractor and implement while the PTO is in operation.

PTO CRUISE SETTING SWITCH

(1) RES/SET Button

PTO CRUISE ACTIVATION

Run the engine at a speed over 1,300 RPM. With the brake pedal released, set the PTO cruise switch to the ON position and press the SET (1) portion of the cruise activation switch

The cruise setting switch can be operated as follows while the PTO cruise function is activated.

- RES(+) : Speed is increased by 50 RPM when pressing it.
- SET(-) : Speed is decreased by 50 RPM when pressing it.

PTO CRUISE DEACTIVATION

Depress the brake pedal or set the PTO cruise switch to the "OFF" position to deactivate the PTO cruise function.

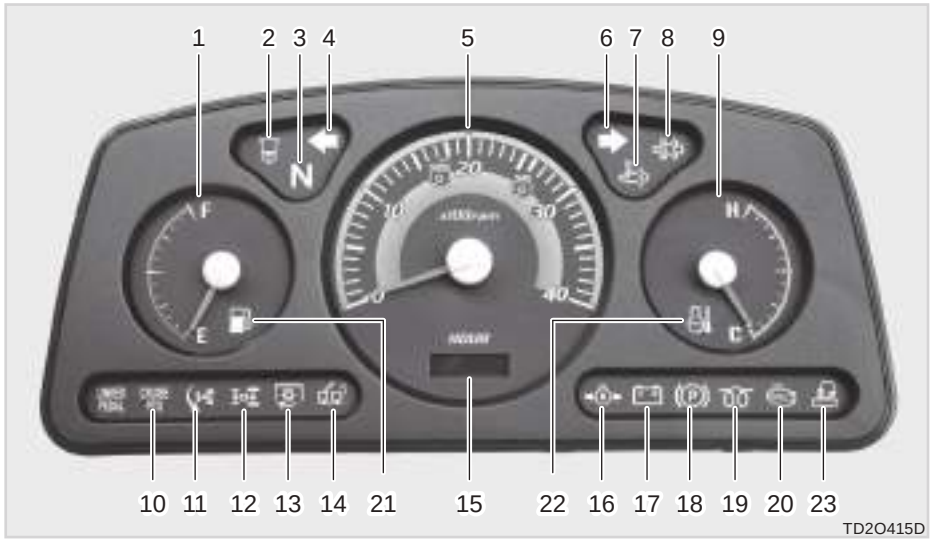
If the PTO cruise function is deactivated by depressing the brake pedal with the PTO cruise switch set in the "ON" position, pressing the RES(+) switch once resumes the previous PTO activation setting.

IMPORTANT

- ***If the brake pedals are not connected to each other, depressing the brake pedal does not deactivate the PTO cruise function.***

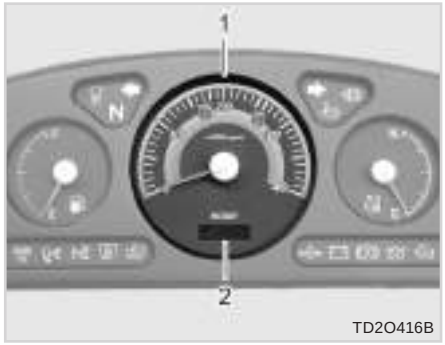
INSTRUMENT CLUSTER
INSTRUMENT CLUSTER FEATURES

Symbols on the instrument panel come on when the key switch is turned to the “ON” position.



(1) Fuel Gauge
(2) Water-in-fuel Warning Lamp
(3) Neutral Indicator
(4) Turn Signal Lamp (LH)
(5) Tachometer
(6) Turn Signal Lamp (RH)
(7) DPF Regeneration Underway Lamp
(8) DPF Regeneration Warning Lamp
(9) Coolant Temperature Gauge
(10) Cruise PTO Warning Lamp
(11) Quick-turn Indicator (If applicable)
(12) 4WD Indicator
(13) PTO Indicator
(14) Single Brake Light
(15) Hourmeter
(16) Engine Oil Pressure Warning Lamp
(17) Low Battery Charge Warning Lamp
(18) Parking Brake Indicator
(19) Glow Plug Indicator
(20) Engine Check Lamp
(21) Lack Of Engine Warning Light
(22) Coolant Temperature Warning Light
(23) Auto Balance Lamp (If equipped)

TACHOMETER/HOURMETER



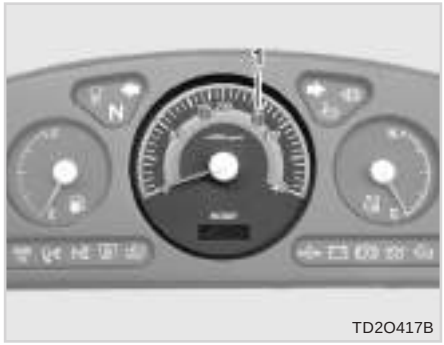
(1) Tachometer (2) Hourmeter

The tachometer indicates the engine rpm.

The hour meter indicates the total run hours of the tractor in 6 digits. The last digit represents 1 hour.

The hourmeter does not operate if the engine is stopped even if the key switch is in the "ON" position.

PTO SPEED MARK



(1) 540 rpm

The PTO speed can be selected as desired according to the operating condition.

Set the engine speed around this mark for efficient and rapid work.

At this time, PTO speed will be approx. 540.

FUEL GAUGE

(1) Fuel Gauge
E: Empty F: Full

This gauge indicates the remaining fuel level after the key switch is turned to the “ON” position.

- F: Fuel is fully filled.
- E: Replenish the fuel tank.

If driving is continued with the needle below the position “E”, air may enter the fuel supply system. In this case, “bleed” the system. (For detailed instructions, refer to “Bleeding fuel system” in the chapter “Maintenance”)

ENGINE COOLANT TEMPERATURE GAUGE

⚠ WARNING

- ***If the low fuel level warning lamp on the instrument cluster is illuminated, add fuel to the tank immediately.***

NOTE

- Make sure to use only genuine fuel as the engine can be damaged if unqualified fuel is used.
- Use fuel for winter season in cold weather to start the engine easier.
- The gauge needle can move on a hill as fuel slopes in the tank.

(1) Coolant Temperature Gauge
C: Cold H: Hot

This gauge indicates the coolant temperature after the key switch is turned to the “ON” position.

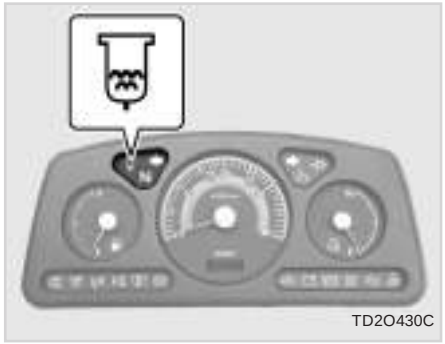
- C: Coolant is cold.
- H: Coolant is hot.

When the pointer is in the zone “H" during driving, it means that the engine is overheated. Decrease work load immediately.

⚠ CAUTION

- ***Make sure to control the work load so that the needle is not in the red zone.***
- ***If the needle stays in the red zone, do not stop the engine immediately. Instead, reduce the work load to cool down the engine before stopping the engine.***
- ***Make sure to keep the front grill clean so that air is sucked through it freely for fast cooling.***

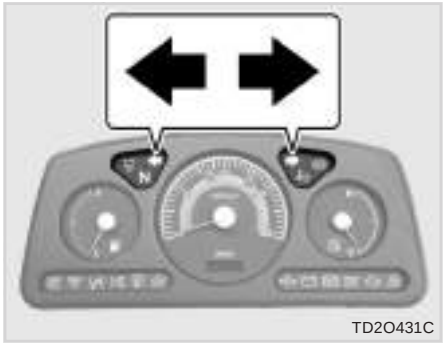
WATER-IN-FUEL WARNING LAMP


TD2O430C

When a certain amount of water (Approx. 45 cc) is accumulated in the fuel filter, this lamp will be turn on. In this case, stop the engine immediately and drain water from the fuel filter.

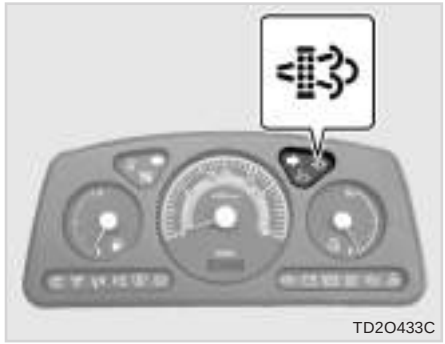
Otherwise, engine speed will be drop around 1,400 to protect the engine.

TURN SIGNAL LAMP


TD2O431C

Operating the turn signal lamp switch left and right turns on the corresponding lamp in green.

DPF REGENERATION WARNING LAMP


TD2O433C

If carbon is accumulated in the exhaust catalytic filter, this warning lamp comes on or blinks.

If this warning lamp comes on, press the "regeneration" button.

DPF REGENERATION UNDERWAY LAMP


TD2O432C

This lamp comes on while the regeneration process is being performed in the DPF.

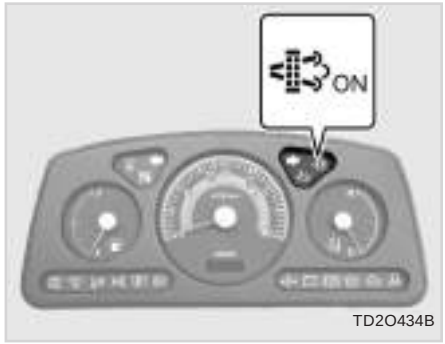
IMPORTANT

- ***If the DPF regeneration underway lamp is illuminated during operation, please keep the engine rpm at 1,500 or above.***

WARNING

- ***Do not touch or go closer the DPF part during the regeneration process as its surrounding area is hot. Otherwise, There is a danger of personal injury or burns.***

DPF REGENERATION WARNING LAMP



TD2O434B

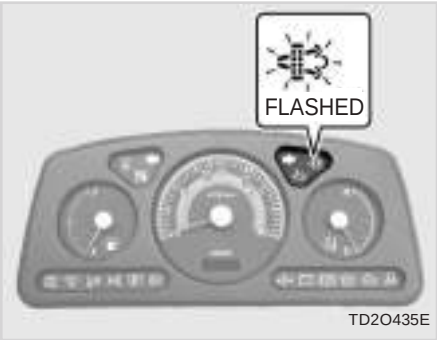
1. Stage 1 warning lamp for DPF clogging

   : DPF Soot Loading Level 120% - 160%

   Manual regeneration required.

   Engine RPM limit is activated (below 2,200 rpm)

If the DPF is not regenerated in the stage 1 warning state, the warning lamp blinks. In this state, make sure to perform DPF regeneration process. (see page 4-11)



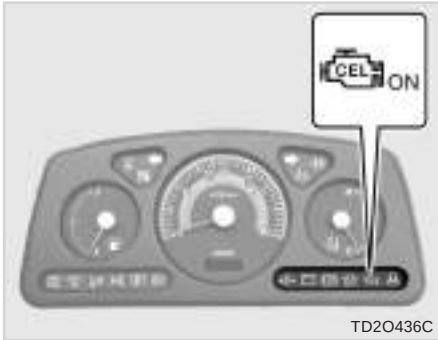
2. Stage 2 warning lamp for DPF clogging

: DPF Soot Loading Level 160% - 200%

Manual regeneration required.

Engine RPM limit is activated (below 2,200 rpm)

If the DPF is not regenerated in the stage 1 warning state, the warning lamp blinks. In this state, make sure to perform DPF regeneration process. (see page 4-11)



3. Stage 3 warning lamp for DPF clogging

: DPF Soot Loading Level 200% or higher

Passive regeneration prohibited.

Engine RPM limit is activated (below 2,200 rpm)

If the DPF is still not regenerated even in stage 2, the Check engine lamp comes on and the DPF needs to be replaced.

⚠ WARNING

- ***In the warning level 3 (CEL lamp ON), both manual and automatic regeneration processes cannot be performed.***
- ***When the DPF warning lamp comes on, make sure to perform the manual regeneration as the active regeneration cannot be performed.***
- ***Enabling condition for manual regeneration***
  - ***Brake ON***
  - ***Engine rpm Idle state***
- ***If any of the above conditions is not met during regeneration, the regeneration mode is deactivated.***

⚠ WARNING

- ***Other general operation cannot be performed during the manual regeneration process. During regeneration, the engine speed is maintained***
  - ***1st: Before Mode: 30 ~ 700 sec. at 1,500 rpm***
  - ***2nd: Regen Mode: 1,500 sec. at 2,600 rpm***
  - ***3rd: After Mode: 180 sec. at 1,600 rpm***

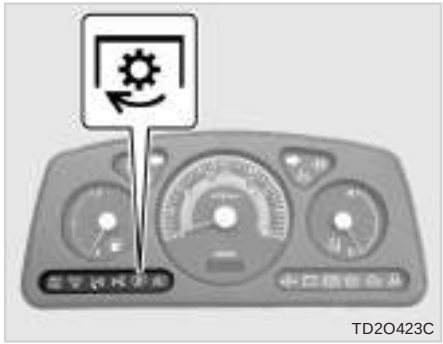
ref) For models with non turbo engine, engine speed will go up to 2,600 and keep running for 30~300sec.

CRUISE PTO WARNING LAMP

TD2O420C

The switch is used to set the PTO rpm. With the PTO cruise button set in the ON position, pressing the SET (-) button turns on this lamp.

PTO INDICATOR

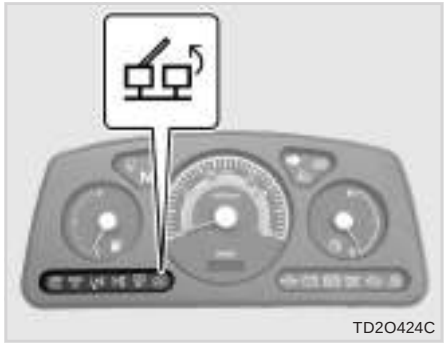

TD2O423C

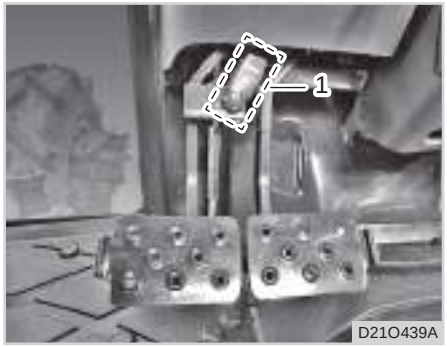
This indicator shows the PTO engagement condition. When the PTO is engaged, this indicator comes on. When the PTO clutch is disengaged, this indicator goes off.

⚠ CAUTION

- ***Set the PTO switch to the "OFF" position in order to start the engine.***

SINGLE BRAKE LIGHT


TD2O424C



D21O439A

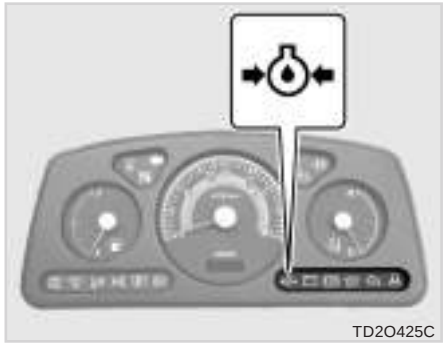
(1) Brake Pedal Interlock

This lamp indicates the single brake condition. This comes on when the brake pedal interlock is released.

IMPORTANT

- ***If driving with the brake pedal interlock released (Using single brake) on a road or at a high speed, it can lead to a rollover. Follow the instruction.***
- ***If the single brake light is illuminated on the instrument cluster, the brake pedals are disconnected so either brake pedal can be used.***
- ***In a normal operating condition, keep the interlock to the Lock position.***

ENGINE OIL PRESSURE WARNING LAMP


TD2O425C

This lamp comes on when the engine oil pressure or oil level is low.

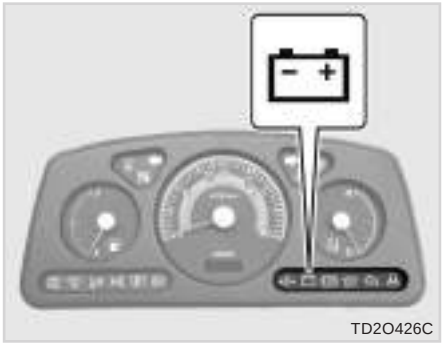
This lamp is turned On when the key switch is turned On before starting the engine but turned Off after starting the engine. If this lamp comes on while driving, stop the engine immediately and check the engine oil level.

If this lamp comes on even with the specified engine oil level, have the tractor checked by your local **KIOTI** dealer or workshop immediately.

⚠ CAUTION

- ***If the oil level is below the specified range, the engine can seize.***
- ***The engine can be severely damaged if driving or operating the tractor with the engine oil warning lamp ON.***

BATTERY CHARGE WARNING LAMP

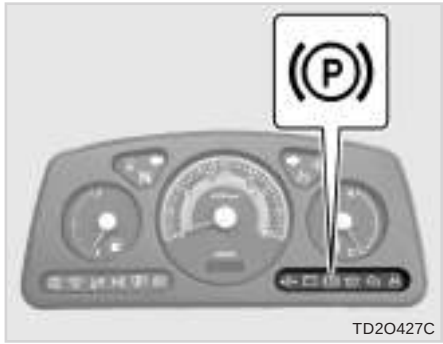


This lamp is turned On when the starting switch is turned On before starting the engine but turned Off after starting the engine.

⚠ CAUTION

- ***If this warning lamp comes on while driving, the charging system, such as the alternator, is malfunctioning. Therefore, turn off all electrical devices and have the tractor checked by your local KIOTI Dealer or workshop as soon as possible.***

PARKING BRAKE WARNING LAMP

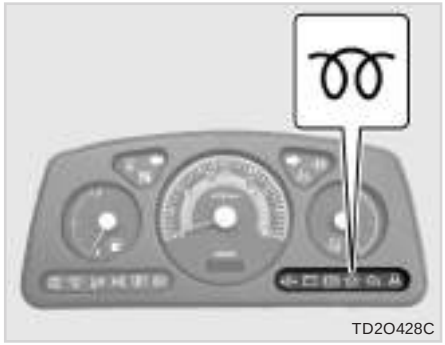


When the parking brake is actuated, the lamp lights On.

⚠ CAUTION

- ***If this indicator is ON even with the parking brake released, have the tractor checked by your local KIOTI dealer or workshop immediately.***

GLOW PLUG INDICATOR


TD2O428C

This indicates the operating condition of the preheat system. In case the auto pre-heating kit is installed, this indicator comes on 8 seconds when the key switch is turned to the “ON” position. In case of basic model, this indicator comes on when the key is held in “PRE-HEAT ” position by operator.

ENGINE CHECK LAMP

TD2O429C

This lamp indicates the current condition of the engine. If this comes on while the engine is running or during working, contact your dealer.

ERROR INDICATOR

(1) Display

You can see the Error code below on the LCD window for Hour meter. When You found these on the LCD, please contact with KIOTI dealer.

NO.	DISPLAY	DESCRIPTION
1	ERR-001	No Signal at TACHO Input
2	ERR-002	No Signal at Water Temp
3	ERR-006	No Signal at GLOW LAMP Input
4	ERR-007	No Signal at PTO CRUISE LAMP
5	ERR-008	No Signal at Water IN FUEL Input
6	ERR-009	No Signal at HOUR Input

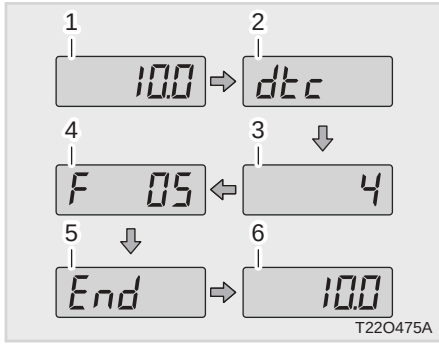
⚠ WARNING

- ***If some error codes read, contact to local KIOTI dealer.***

NOTE

- Some error codes may not displayed depending on the model.

ECU ERROR CODE

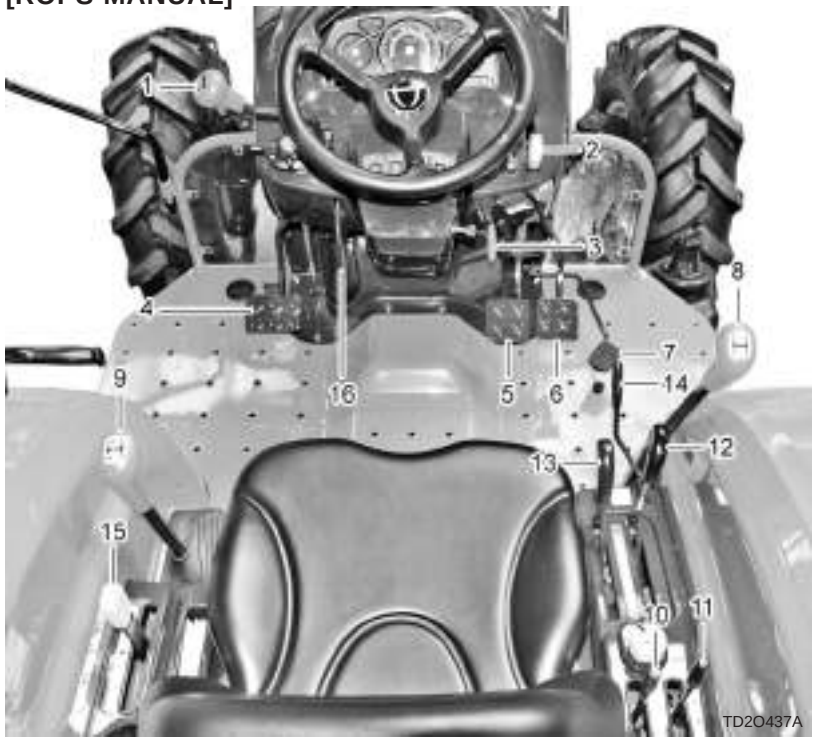


(1) Total run hours
(2) DTC (Diagnostic Trouble Code)
(3) SPN (Suspect Parameter Number)
(4) FMI (Failure Mode Indicator)
(5) End
(6) Total run hours

If an error code occurs on the engine, the information of (1) to (6) is displayed on the hourmeter of the LCD window at an interval of 1 second.

OPERATING THE CONTROLS

[ROPS-MANUAL]



(1) Hydraulic Shuttle Shift Lever
(2) Hand Throttle Lever
(3) Parking Brake Lever
(4) Clutch Pedal
(5) brake Pedal (LH)
(6) brake Pedal (RH)
(7) Foot Throttle
(8) Main Shift Lever
(9) Range Shift Lever
(10) Double Acting Lever (A, B)
(11) Double Acting Lever (C,D) (Option)
(12) Lift Position Control Lever
(13) Draft load control lever
(14) One-touch lifting/lowering lever
(15) PTO Shift lever
(16) Tilt Control Lever

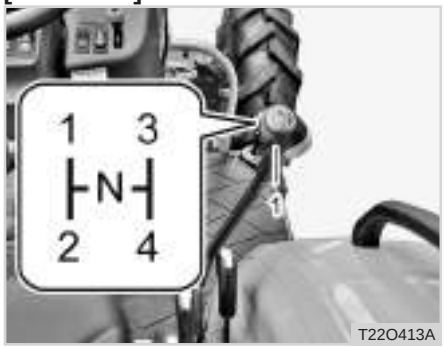
[ROPS-HST]

(1) Hand Throttle Lever
(2) Parking Brake Lever
(3) Brake Pedal (LH)
(4) Brake Pedal (RH)
(5) Forward Driving Pedal
(6) Reverse Driving Pedal
(7) Range Shift Lever
(8) Lift Position Control Lever
(9) Double Acting Lever
(10) Tilt Control Lever
(11) Linked Pedal Lever (Option)

[CABIN-HST]

(1) Hand Throttle Lever
(2) Parking Brake Lever
(3) Brake Pedal (LH)
(4) Brake Pedal (RH)
(5) Forward Driving Pedal
(6) Reverse Driving Pedal
(7) Range Shift Lever
(8) Lift Position Control Lever
(9) Joystick Lever
(10) Tilt Control Lever
(11) Switch Panel
(12) Aux & USB Charge

MAIN SHIFT LEVER
[MANUAL]

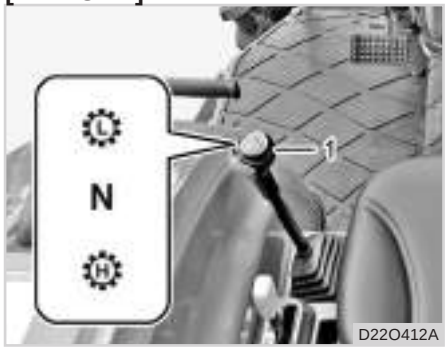


(1) Main Shift Lever

Four speeds can be selected by moving this main shift lever in “H” shaped path. As the gear is a synchromesh type, shift operation is possible with the clutch pedal depressed during driving.

In total, 8 forward driving speeds and 8 reverse driving speeds are provided by combination of the main shift lever (4 speeds), range shift lever (2 speeds), shuttle shift lever.

RANGE SHIFT LEVER
[MANUAL]

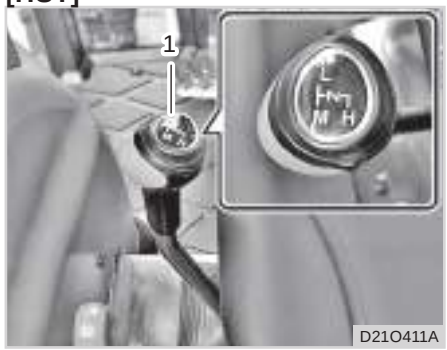


(1) Range Shift Lever

High speed and low speed can be selected by the range shift lever. Make sure to shift the range shift lever after the tractor is completely stopped by depressing the brake pedal.

If the lever is not moved freely or makes abnormal noise, put the lever into the neutral position and then try to shift the lever.

[HST]

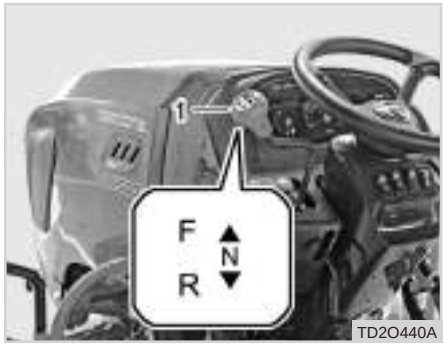


(1) Range Shift Lever

High speed, mid speed and low speed can be selected by the range shift lever. Make sure to shift the range shift lever after the tractor is completely stopped by depressing the brake pedal.

If the lever is not moved freely or makes abnormal noise, put the lever into the neutral position and then try to shift the lever.

SHUTTLE SHIFT LEVER



(1) Shuttle Shift Lever
F: Forward Driving R: Reverse Driving
N: Neutral

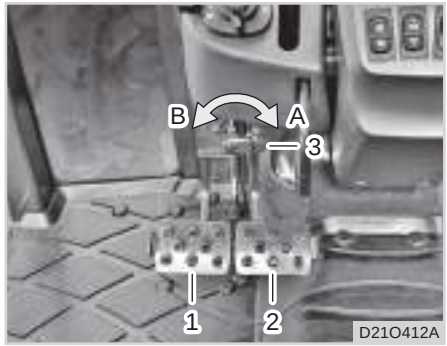
"This lever is to select the forward and reverse driving direction. As the gear is a synchromesh type, shift operation is possible with the clutch pedal depressed. Put this lever into the neutral position when the tractor is not driven.

For the hydraulic shuttle model (H-Shuttle), shift operation is possible with the clutch pedal released during driving at a low speed. Avoid shifting during driving at a high speed."

⚠ CAUTION

- **Make sure to operate the shuttle shift lever only while the vehicle is stationary. Otherwise, the vehicle may turn abruptly, resulting in a personal injury and transmission damage.**

BRAKE PEDAL



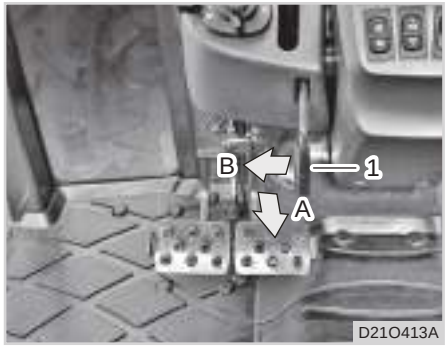
(1) Brake pedal (LH) (2) Brake pedal (RH)
(3) Pedal Interlock latch
(A) Engage (B) Disengage

1. Make sure to latch the left right brake pedals as shown in the figure while driving on a road. The tractor can roll over if depressing only one brake pedal at a high speed.
2. To make a sharp turn in a work field, disengage the left and right brake pedals to use one of brake pedals separately. Unlock the brake lock, and then turn the steering wheel while depressing the brake pedal on the turning side.

PARKING BRAKE LEVER

⚠ WARNING

- ***Interconnect the left and right brake pedals to avoid rollover or crash during driving or moving in or out of a field.***
- ***Do not use sharp-turn-brake at high speed even in the work field. Otherwise the tractor can be rolled over.***



(1) Parking Brake Lever
(A) Depress (B) Pull

With the brake pedal depressed, pull up the parking brake lever to apply the parking brake.

To release the brake, depress the brake pedal firmly.

⚠ CAUTION

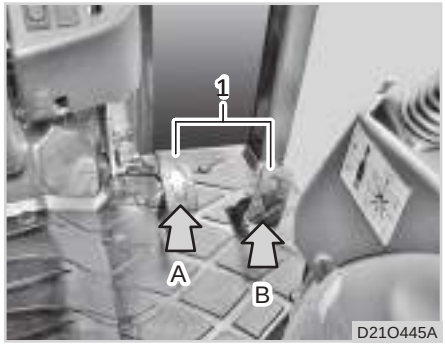
- ***If the vehicle is driven with the parking brake partially or completely engaged, it may cause early wear of the brake disc.***

⚠ WARNING

To avoid possible injury, death or loss of property from a machine runaway:

- ***With the engine off, the tractor may move unexpectedly regardless of the gear shift position. Before leaving the tractor, certainly apply the parking brake to prevent machine runaway.***

FORWARD / REVERSE DRIVING PEDALS



(1) Forward / Reverse Driving Pedals
(A) Forward (B) Reverse

Depressing the left pedal selects the forward driving while depressing the right pedal selects the reverse driving.

IMPORTANT

- ***"Unlike a gas pedal, these HST pedals act like a main speed shift in a mechanical tractor". Therefore, depress them deeper to obtain higher speed with lower torque and release them to obtain lower speed with higher torque.***

HAND THROTTLE LEVER

(1) Hand Throttle Lever
: Slow : Fast

The hand throttle lever is to control the engine rpm.

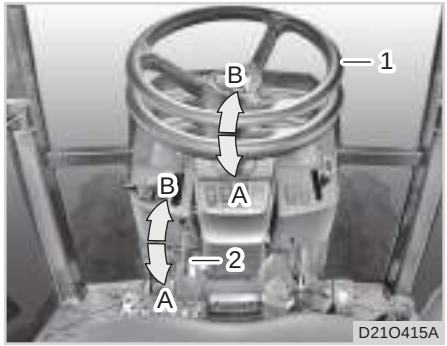
The engine accelerates to its full speed by pulling the hand throttle lever (Position) completely out while pushing the lever (Position) decelerates the engine.

The hand throttle lever is mainly used while working on a field.

CAUTION

- ***Do not use the hand throttle lever while driving on the public road. Otherwise it can lead to an accident as it becomes hard to decelerate the tractor rapidly.***

STEERING WHEEL ADJUSTMENT



(1) Steering Wheel (2) Tilt Lever
(A) Down (B) Up

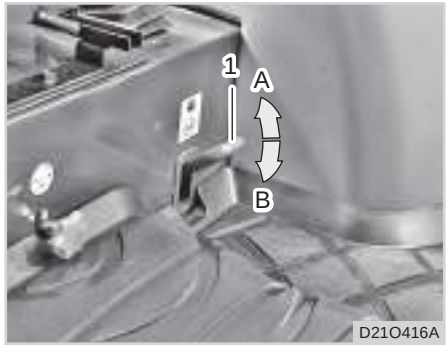
The vertical angle of the steering wheel can be adjusted as desired.

Pull up the tilt lever, adjust the steering wheel position and push down the tilt lever to fix the wheel.

⚠ CAUTION

- ***Never adjust the steering wheel position during driving. Otherwise, A personal injury can occur.***

DIFFERENTIAL LOCK PEDAL



(1) Differential Lock Pedal
(A) Release To Disengage (B) Lock

The differential lock is to secure the differential system and keep the wheel rotation on both sides the same in order to enhance the traction of the rear axle.

Depressing the pedal engages the differential lock while releasing the pedal disengages the differential lock. Use this system under the following conditions:

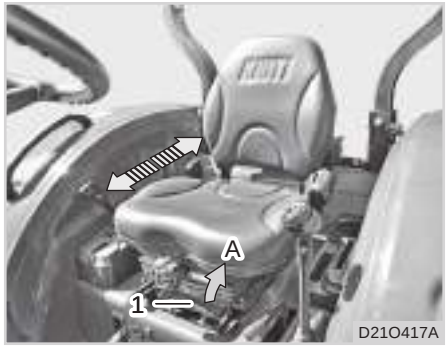
1. When any wheel slips and the tractor does not move in the field.
2. When it is hard to escape a soft or muddy field.

⚠ CAUTION

- ***The differential lock should be engaged only while the driving clutch is engaged. If the differential lock pedal does not move when depressing it, try to depress it again after releasing it.***
- ***When engaging the differential lock, reduce the engine speed. After engaging it, accelerate the tractor.***
- ***Make sure to set the steering wheel in the straight ahead position while the differential lock is in use. Otherwise, the differential system can be damaged.***

SEAT ADJUSTMENT

SEAT SLIDING



(1) Seat Adjustment Lever
(A) Pull

To adjust the seat position, pull the lever (1) to left under the front of the seat, slide the seat to the desired position, and then release the lever.

Make sure that the seat is firmly fixed by moving it gently after adjustment.

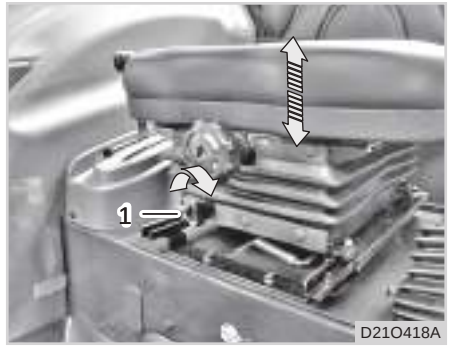
⚠ CAUTION

- ***Do not put a hand between the seat and the slides when adjusting the seat position. You can get injured unexpectedly.***

⚠ WARNING

- ***Never Leave the driver's seat while the engine running.***
- ***Before leaving the seat, be sure to turn off any implements which are equipped with rotating blades such as rotary tiller, rotary cutter, mid/rear mower, snow blower, etc. and turn off the engine.***

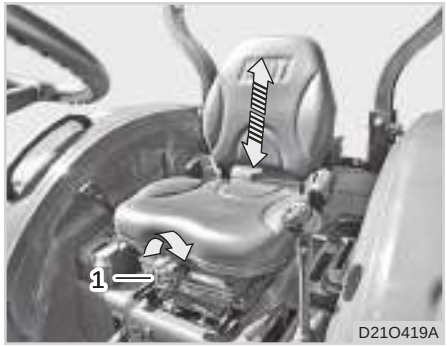
SEAT HEIGHT ADJUSTMENT



(1) Seat Height Adjustment Handle

The seat height can be adjusted to fit to the driver. Turning the handle (1) on the front of the seat clockwise raises the seat while turning it counterclockwise lowers the seat.

CUSHION STRENGTH ADJUSTMENT



(1) Cushion Adjustment Lever

The seat cushion can be adjusted according to the weight of the driver. Turning the cushion adjustment lever (1) on the front of the seat to the (-) direction makes the cushion softer while turning it to the (+) direction makes the cushion firmer.

SEAT BELT

(1) Seat Belt *(2) Release Button*
(A) Release

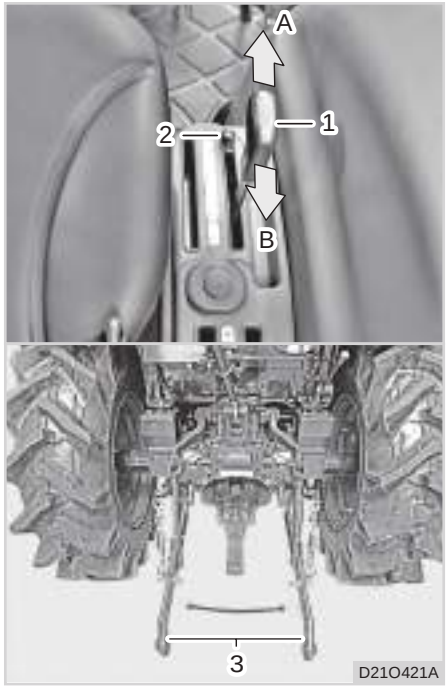
⚠ WARNING

- ***Always fasten the seat belt when the tractor has ROPS properly. Otherwise, never wear the seat belt.***
- ***Make sure that the seat belt is not twisted. It cannot work properly, leading to a dangerous situation.***

⚠ WARNING

- ***The seat belt should go around your body as low as possible, not your waist or abdomen. Otherwise, the seat belt cannot protect you properly.***

POSITION CONTROL LEVER



(1) Position Control Lever (2) Lock Bolt
(3) Lower Link
(A) Lowering (B) Lifting

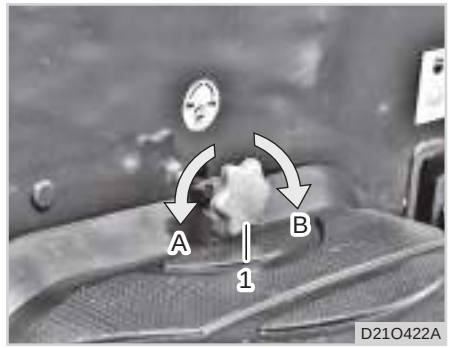
The position control lever is used to adjust the height of implements on the 3-point hitch ends.

The implement attached to the lifting arm can be lowered by pushing the lever while the implement is raised by pulling the lever.

In order to limit the lowering height of implements, use the lock bolt (2) to limit the operating range of the lever.

For detailed information, refer to “How to drive” in Chapter 5.

LIFTING ARM (LOWER LINK) SPEED CONTROL KNOB



(1) Lowering Speed Control Knob
(A) High Speed (B) Low Speed

Turning the knob counterclockwise increases the lowering speed while turning it clockwise decreases the lowering speed. Also, turning it clockwise to its end can fix the implement to a certain position.

NOTE

- This knob does not control the lifting speed of the lift arm.

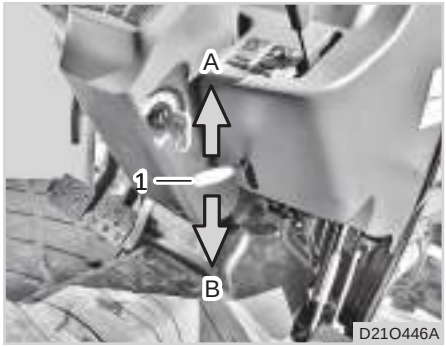
DOUBLE ACTING LEVER

(1) Double Acting Lever

This lever is used to control a auxiliary hydraulic implement installed to rear.

See the chapter 5, “How to drive” for the details.

LINKED PEDAL LEVER (OPTIONAL)



(1) Linked Pedal Lever
(A) ON *(B) OFF*

When placing the linked pedal lever in the “ON” position, the engine rpm is synchronized with the HST driving pedal.

1) Depressing the HST forward/reverse driving pedal: Engine RPM will be increased together.
2) Releasing the HST forward/reverse driving pedal: Engine RPM will be decreased together.

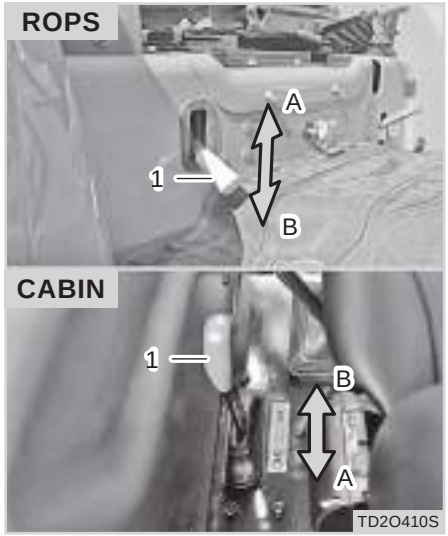
⚠ CAUTION

In abnormal driving condition, such as rapid acceleration or deceleration, is occurred by operating the HST pedal, not by other functions such as the load match, speed synchronization and cruise control, follow the following steps immediately.

1) Release the driving pedal.
2) Depress the brake pedal to its end.
3) Turn the ignition switch to the “OFF” position.

Stop the tractor by performing the steps above.

FRONT WHEEL DRIVE LEVER



(1) Front Wheel Drive Lever (4WD)
(A) : OFF (B) : ON

Using the 4WD is the best way to increase the vehicle traction. Push the 4WD lever down to engage, pull to disengage.

The 4WD function can be used under the following conditions:

1. Working in wet field, towing a trailer or using the loader.
2. Working on sand.
3. Working on firm ground where the rotary tiller should push the tractor forward.

Be sure to full stop the tractor before engaging or disengaging the 4WD.

⚠ CAUTION

To avoid accidents:

- **Do not activate the 4WD function while driving on a road. The 4WD should not be used on a paved road as tires can be worn faster.**
- **While the 4WD is engaged, drive the vehicle with low speed as steering and braking characteristics may differ.**
- **The 4WD can be activated even while the vehicle is moving. However, noise or shift shock may occur during 4WD engagement in this case. To ensure safe driving, it is recommended to engage the 4WD after stopping the machine completely.**

JOYSTICK LEVER

(1) Joystick Lever

This joystick lever is used mainly to operate the front end loader when attached to the tractor.

For detailed information, refer to "Handling Loader" in Chapter 6.

JOYSTICK FINGER RPM UP (OPTION)

(1) RPM Up Button

While this button is pressed, the engine rpm rises to the maximum rpm, and when released, the engine speed decreases to the set hand throttle position.

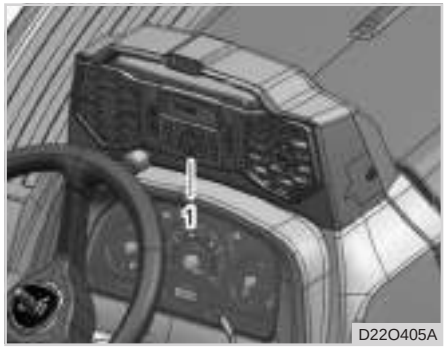
If the engine speed drops during load operation, such as loader operation, press this button to increase engine speed and increase power to facilitate the operation. Use it appropriately for high-load work.

3RD FUNCTION VALVE CONTROL BUTTON

(1) Joystick Lever
(A) Open Button (B) Close Button

The joystick lever is equipped with a button for operating the 3rd function valve as standard. Use the function by connecting the wiring of the tractor and the 3rd function kit.

BLUETOOTH STEREO (ROPS(OPTION))



(1) Bluetooth Stereo (ROPS)

This vehicle is equipped with a Bluetooth player which has an audio/radio function and wireless LAN communication. Using the Bluetooth function, it is possible to pair and use it with other Bluetooth enabled devices. For detailed information, refer to the stereo system's user manual.

⚠ CAUTION

- ***Working with the volume of the stereo system excessively high can affect the driver's concentration, leading to possible safety accidents.***

USB PORT & POWER SOCKET (ROPS(OPTION))

(1) 12V Power Outlet (2) USB Port

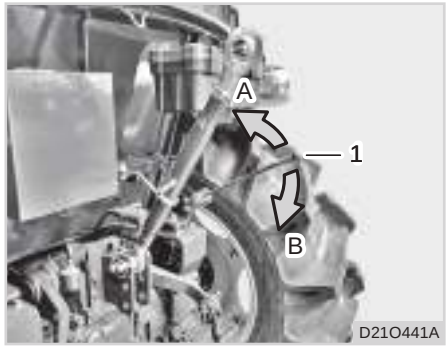
This USB Port & Power Socket operates with the key in the "ACC" or "ON" position.

Using the power outlet for an extended period of time with the engine off or connecting an electric device with its capacity over the limit into the power outlet can discharge the battery.

EXTERNAL LIFT LEVER

⚠ WARNING

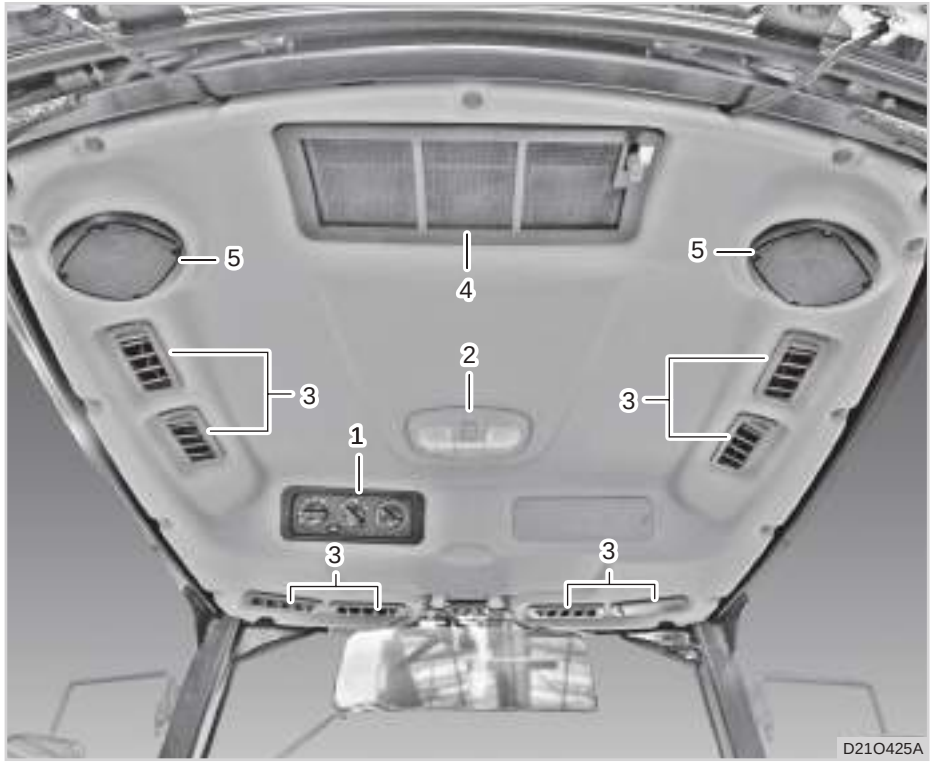
- ***Working with the volume of the stereo system excessively high can affect the driver's concentration, leading to possible safety accidents.***



(1) External lift lever
(A) Lift *(B) Lower*

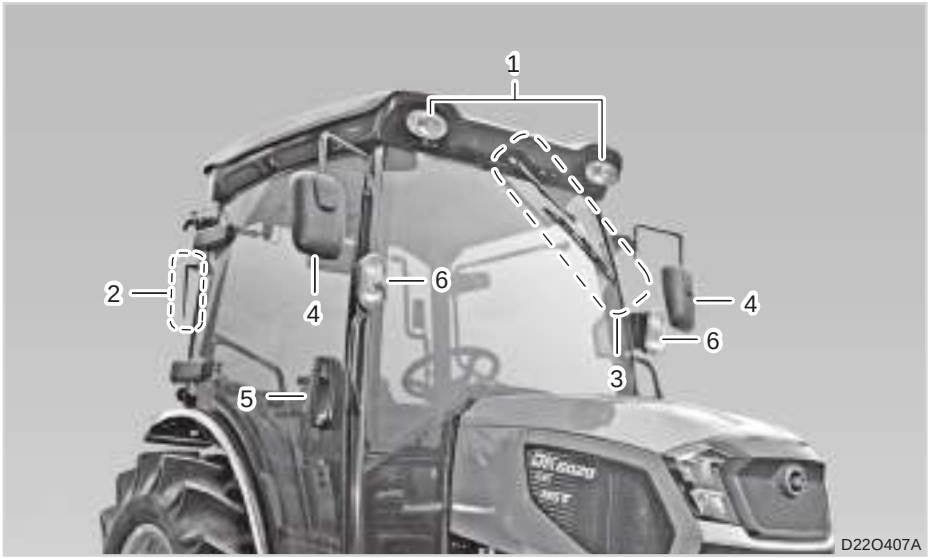
An external lift lever is installed on the back side of the cabin to make it easier to attach and detach implements.

CABIN SYSTEM
INTERIOR DEVICES



(1) Heater/Air Conditioner Switch
(2) Room Lamp
(3) Vent
(4) Air Inlet
(5) Speaker

EXTERIOR DEVICES



(1) Work Light (FR)
(2) Work Light (RR)
(3) Antenna
(4) Wiper (FRT/RR)
(5) Outside Rearview Mirror
(6) Door Handle
(7) Turn Signal Lamp

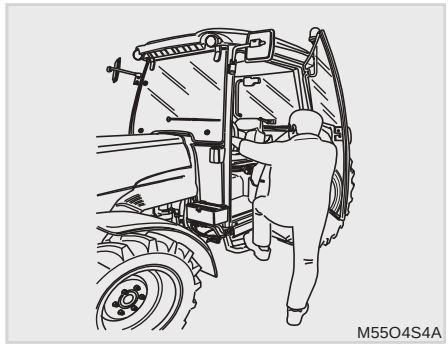
1. The cabin is designed optimally for the driver's comfort and convenience.
2. This tractor has wide windows as well as outside rearview mirrors on both sides to provide a clear and wide rear view.
3. The cabin can be kept comfortable and pleasant by operating the air conditioner and heater.
4. The cabin structure is safe as it is verified by the ROPS (Roll Over Protection Structure) test. However, make sure to fasten the seat belt for the best protection.

ENTRANCE

(1) Door Handle

Pull the handle forward to open the door.

The door can be locked through the lock on the outside of the door with the ignition key.



Enter or leave the tractor through the left-hand door.

⚠ WARNING

- ***Do not jump on or off the tractor. It may cause injuries. Always face the tractor, use the hand rails and steps, and get on or off slowly. Maintain a minimum three points of contact to avoid falling. (Both hands on rails and one foot on the step, or one hand on the hand rail and both feet on the steps)***

UNLOCKING THE DOOR

(1) Door Lever

To open the door in the cabin, push the lever outwards.

REAR WINDOW

(1) Handle Of Rear Window
(2) Locking Device

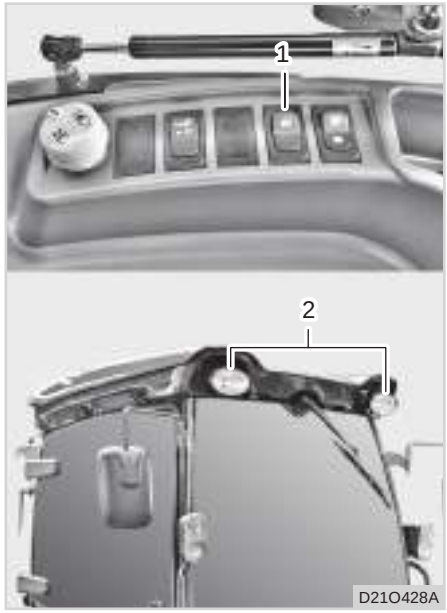
Press the locking device on the rear window handle lightly to open the rear window in the cabin.

To close it, hold the handle and pull it gently.

⚠ WARNING

- ***The rear window may not be opened due to an implement. Make sure there is enough space to open the window to prevent damage and breakage by an implement.***
- ***Never drive the tractor with the door open. An accident can occur.***

WORKING LIGHT



(1) Working Light Switch
(2) Working Light (Front)

The working lights are installed to the front and rear sections of the roof, and their operating button is installed to the right panel in the cabin.

CD PLAYER / RADIO (OPTION)

IMPORTANT

- ***Normal water can be used as the washer fluid, but it is recommended to use the washer fluid made exclusively for vehicles. Especially, make sure to use seasonal washer fluid in winter.***
- ***The washer fluid motor can be damaged if you are trying to spray the washer fluid when its tank is empty. Therefore, make sure to check the fluid level before driving.***
- ***Spray enough washer fluid and operate the wiper if there is dirt on the window. When operating the wiper while it is frozen to the window, its fuse can be blown. In this case, operate the wiper after increasing the cabin temperature enough to defrost the wiper.***
- ***Wiper blade can be damaged if operated on a window that is iced over.***

(1) CD Player / Radio (2) Power Switch

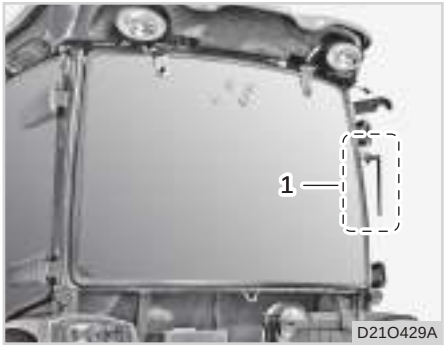
Inserting a cassette tape operates the cassette player automatically. Pushing the PWR switch one time makes the power ON, and pushing the PWR switch more one time again makes the power OFF.

For detailed information, refer to the owner's manual of the audio system.

CAUTION

- ***If the volume of the audio system is too high, the driver can be distracted, resulting in an accident.***

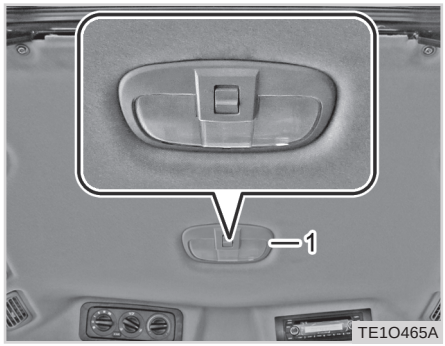
ANTENNA



(1) Antenna

Check the contact and angle of the antenna in case of poor signal reception.

INDOOR LAMP



(1) Indoor Lamp

If you press the lens, the indoor lamp will be turned on. If you press it again, it will be turned off.

⚠ CAUTION

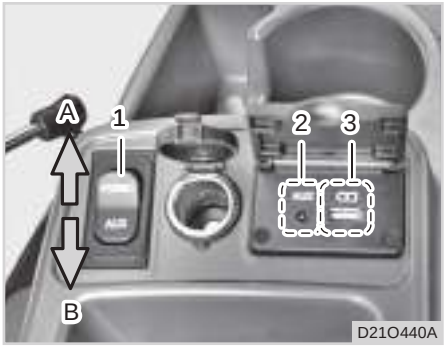
- ***The room lamp can be operated without the key inserted. However, turning it on for an extended period of time can discharge the battery.***

POWER SOCKET

(1) Power Socket

Use this as external power source.

STEREO/AUX SWITCH & USB CHARGE

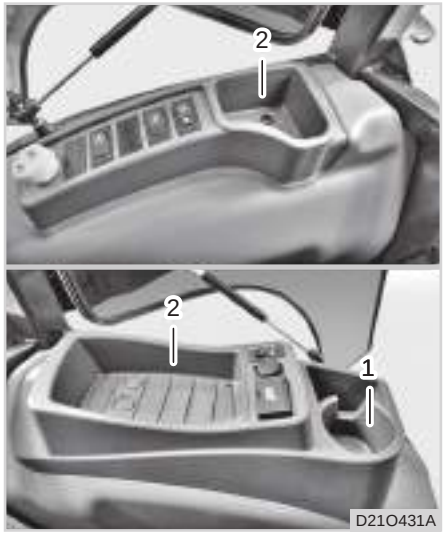


(1) Stereo/AUX Switch
(2) AUX connection hole
(3) Rechargeable USB Port
(A) Stereo (B) AUX

To use the CD player function, press the upper portion of the Stereo/Aux switch. To use the AUX function, press the lower portion of the Stereo/Aux switch and connect your external device (ex. smart phone) through the AUX port. Then, the sound can be heard from the speakers.

An external device can be charged through the USB charging port on the side. (An AUX cable need to be purchased separately.)

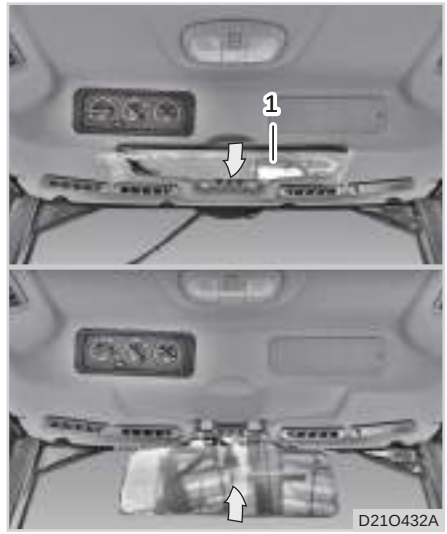
CUP HOLDER AND STORAGE



(1) Cup Holder (2) Storage

There are two storage areas and five cup holders above the left and right lever guides in the cabin.

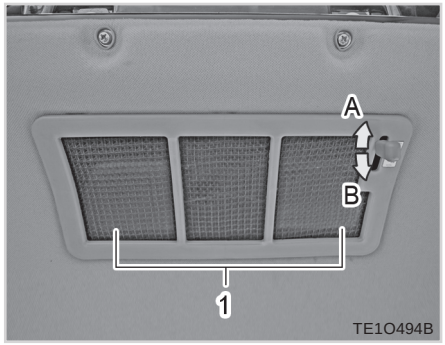
SUN VISOR(IF EQUIPPED)



(1) Sun Visor

Pull it down to block the sunlight from the front. Keep it folded unless necessary.

AIR RECIRCULATION AND FRESH AIR MODE



(1) Internal Air Inlet
(A) Fresh (B) Recircuration

It is installed to the rear section of the ceiling in the cabin.

When pushing the lever backward, the grill is closed to draw fresh air from the outside into the cabin. When pulling it forward, the grill is open to circulate air in the cabin.

It is possible to recirculate internal air or draw fresh air by operating the air conditioner.

It is not possible to block outside air from coming in, even in the recirculation mode.

In the fresh air mode, air circulating in the cabin is 100% fresh air.

⚠ WARNING

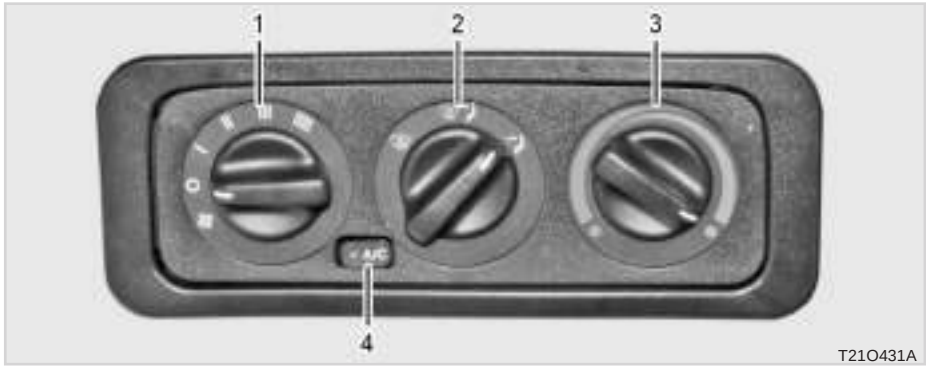
- ***This cabin is not designed for spraying chemicals and cannot block polluted outside air from entering.***

LOCATION AND METHOD OF OPENING OF EMERGENCY EXITS

(1) Handle Of Rear Window

In emergency, open the rear window and escape from the cabin.

HEATER AND AIR CONDITIONER



(1) Fan Speed Control Dial
(2) Vent Mode Control Dial
(3) Temperature Control Dial
(4) Air Conditioner Switch

The air conditioner should be operated with the engine running.

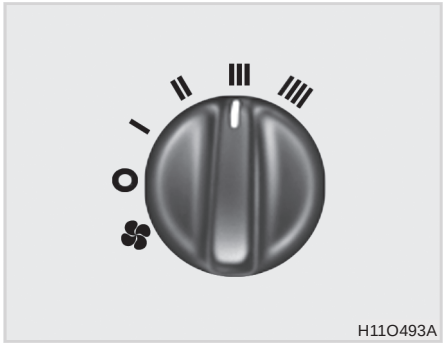
⚠ WARNING

- ***Do not leave a child alone in the cabin. His/her health can be threatened as internal temperature rises rapidly in hot weather or on a sunny day.***

⚠ WARNING

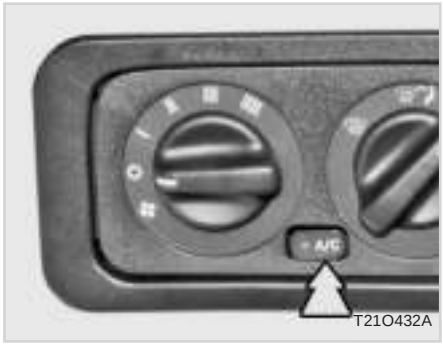
- ***Use the fresh air mode in normal conditions and use the air recirculation mode only if necessary. Continued operation of the air recirculation mode can cause the inside to become stuffy, causing headaches, drowsiness, or frost on the windows. Do not operate the recirculation mode for an extended period of time.***

FAN SPEED CONTROL DIAL



The fan speed for the heater and air conditioner can be adjusted in four positions.

AIR CONDITIONER SWITCH



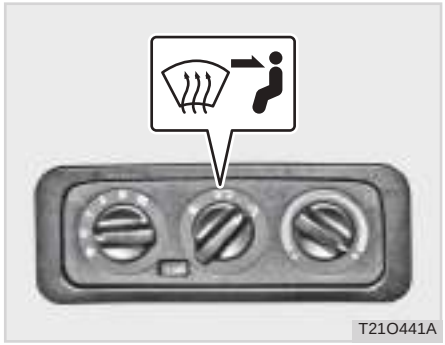
Press it to activate the air conditioner and press it again to deactivate the air conditioner.

The heater can be operated by the temperature control switch and fan speed control switch.

VENT MODE CONTROL DIAL

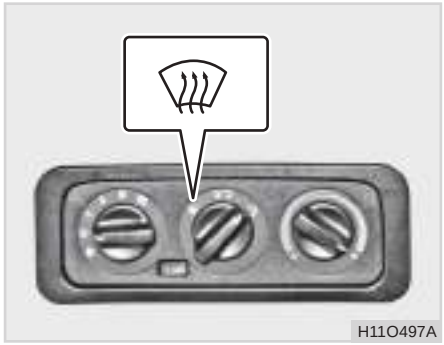
Air flows out from four left and right vents toward the driver when turning the vent mode dial to the ( ) position.

BI-LEVEL



Air flows out from four front and four left and right vents when turning the vent mode dial to the Bi-level ( ) position.

DEFROST



Air flows out from four front vents toward the driver when turning the vent mode dial to the ( ) position.

TEMPERATURE CONTROL SWITCH

The desired temperature can be set by adjusting this dial. Warm air flows out by turning it clockwise (red), and cool air flows out by turning it counterclockwise. (Blue)

The temperature control dial only controls the amount of air flowing through the heater and air conditioner.

Therefore, unnecessary load can be applied to the air conditioner if this dial is set to the high temperature with the A/C in operation.

⚠ WARNING

- ***If you sleep with the air conditioner or heater in operation, you may be suffocated to death.***
- ***If keeping the A/C on for an extended period of time, inside air can become impure. Therefore, draw outside air and ventilate the cabin regularly.***

⚠ CAUTION

- ***Keep the windows closed while the A/C is in operation for effective operation.***
- ***Turn off the air conditioner for better engine power when the work load rapidly increases.***
- ***When the tractor is stationary and being used in high load work, reduce the A/C operation period as the engine may be overheated.***
- ***Make sure you operate the air conditioner once or twice a month in winter season to prevent refrigerant leakage and facilitate the compressor lubrication for durability of the A/C compo-nents.***
- ***If the tractor has been parked under strong sunlight for a long period of time, open the windows to ventilate the cabin before operating the A/C.***

AIR CONDITIONER MAINTENANCE

Make sure to follow the instructions below to keep the air conditioner in the best condition:

1. Operation in winter season:

   During the winter time, run the air conditioner once or twice every month to prevent refrigerant leakage and corrosion in the air conditioner system and to facilitate oil circulation in the compressor in order to prevent malfunction.

   The A/C does not operate when the air temperature is below 2 É. Therefore, warm the inside air by operating the heater in order to be able to operate the A/C.

2. Air conditioner condenser care:

   If there is foreign material in the A/C condenser and engine radiator, their cooling performance may be deteriorated. Therefore, always keep them clean for their optimal cooling performance. When cleaning the core of the condenser, use

a soft brush and water carefully not to bend it.

3. Operation in summer season:

   Make sure to check the tension of the A/C belt before using the A/C frequently.

⚠ CAUTION

- ***The A/C system is charged with new refrigerant that does not destroy the ozone layer. Be careful when servicing the A/C system.***
- ***Do not use unspecified refrigerant and compressor oil, or the air conditioner system could be seriously damaged.***
- ***The performance of the A/C becomes poor when the refrigerant is insufficient. However, charging the air conditioner with excessive refrigerant affects its performance negatively. Therefore, have the system checked by a KIOTI Dealer if malfunction is found.***

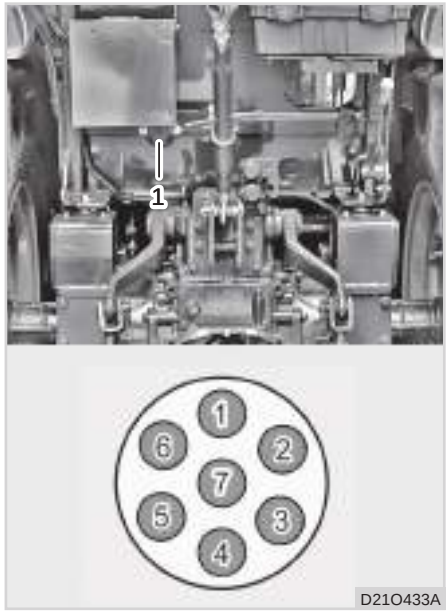
SPECIFICATIONS FOR A/C REFRIGERANT AND LUBRICANT

Item	New refrigerant	Compressor oil
Type	R-134a	UCON488
Charging amount	0.55 kg	120 g

⚠ WARNING

- ***Have the air conditioner serviced by a qualified service personnel. If it is serviced by an unqualified person, he/she can be injured by the refrigerant under high pressure.***

7-PIN SOCKET (OPTIONAL)



(1) Power Connector

The 7-pin socket is installed on the rear left side of the tractor.

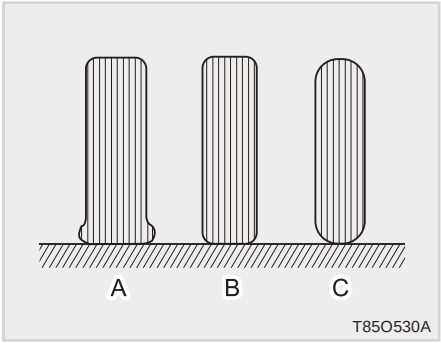
This supplies power to the brake lamps, turn signal lamps, and position lamps of the trailer.

No.	Circuit	Color of wire
1	Turn Signal (LH)	Y
2	Spare	L
3	Ground	W
4	Turn Signal (RH)	G
5	Illumination (RH)	Br
6	Stop lamp	R
7	Illumination (LH)	B

⚠ WARNING

- ***When driving on a road with an implement which has exterior lamps, such as a trailer, make sure to turn on those lamps by connecting them to the 7-pin socket in order to prevent an accident.***
- ***Make sure to check for proper operation after connecting the 7-pin socket to the trailer. It may not operate depending on the trailer specifications. Consult your local KIOTI Dealer for this issue.***

TIRES



(A) Insufficient *(B) Standard*
(C) Excessive

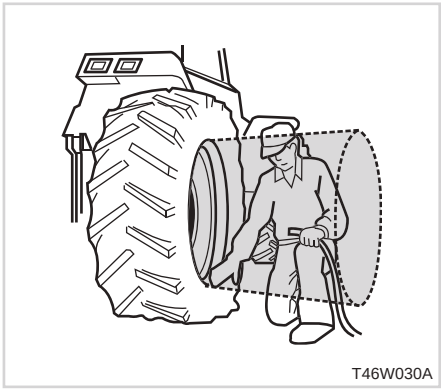
Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time.Thus, check it everyday and inflate as necessary.

⚠ WARNING

- ***Do not use tires larger or smaller than specified.***

⚠ WARNING

- ***Do not disassemble or assemble the tire. If it is necessary to disassemble/assemble the tire, let a qualified titan service person perform the work.***



⚠ WARNING

- ***The tire rims can fall out of the tires. Therefore, stay out of their way when checking or inflating tires.***

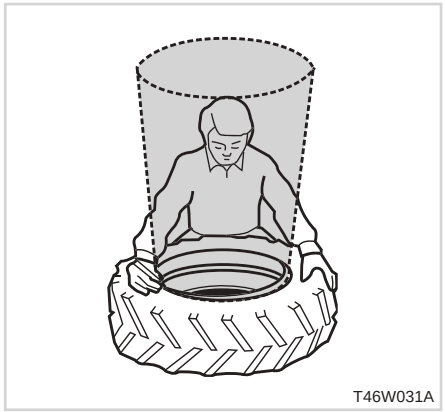
INFLATION PRESSURE

Always maintain the proper tire inflation pressure. Make sure the tire pressure does not exceed the pressure recommended in the manual.

Item		Tire sizes	Inflation pressure
Front	Agri.	8-16, 6PR	235 kPa (2.4 kg/cm², 34 psi)
		9.5-16, 6PR	216 kPa (2.2 kg/cm², 31 psi)
		260/70R16	240 kPa (2.44 kgf/cm², 34.7 psi)
		280/70R16	240 kPa (2.44 kgf/cm², 34.7 psi)
	Ind.	305/70R16.5	400 kPa (4.07 kgf/cm², 57.8 psi)
Rear	Agri.	12.4-24, 6PR	157 kPa (1.6 kg/cm², 22 psi)
		12.4-24, 8PR	216 kPa (2.2 kg/cm², 31 psi)
		13.6-24, 6PR	157 kPa (1.6 kg/cm², 22 psi)
		280/85R24	160 kPa (1.63 kg/cm², 23 psi)
		320/85R24	160 kPa (1.63 kg/cm², 23 psi)
		340/85R24	160 kPa (1.63 kg/cm², 23 psi)
		360/70R24	160 kPa (1.63 kg/cm², 23 psi)
		380/70R24	160 kPa (1.63 kg/cm², 23 psi)
	Ind.	360/80R24	400 kPa (3.26 kg/cm², 46.3 psi)

NOTE

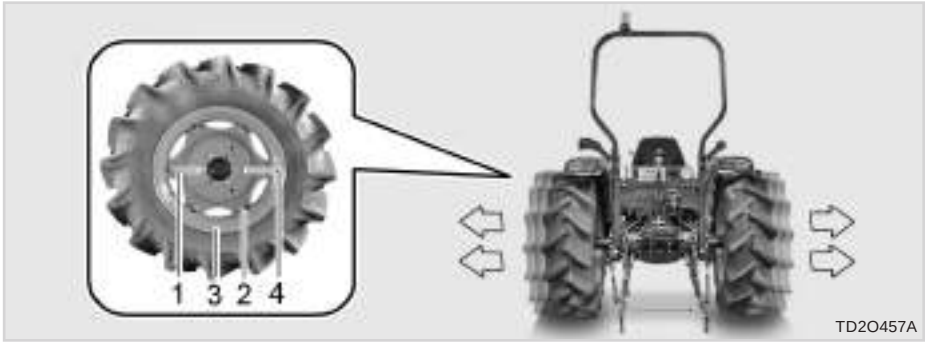
- Keep the front tire pressure to maximum when using the front end loader or front suitcase weights.
- If tires with a different size from the ones above mentioned in the table are installed, contact the **KIOTI** dealer for the front/rear wheel speed ratio. Improper front/rear wheel speed ratio can result in excessive wear of tires.


T46W031A

⚠ WARNING

- ***Do not weld or apply heat to the tire rim or disc. The tire can explode due to the rapidly increased pressure in the tire.***
- ***Check tires for inflation pressure, damage, deformation, and excessive wear on lug and damage of rim and disc. Also check if wheel bolts, rim bolts, and nuts are loose.***

TREAD



(1) Bolt *(2) Rim bolt* *(3) Rim* *(4) Disc*

When working on a field where crops are linearly aligned, the tread should be adjusted so that the tires do not cross over the crops. Also, it is necessary to increase the tread to prevent any accident when working on a slope or trailing.

⚠ WARNING

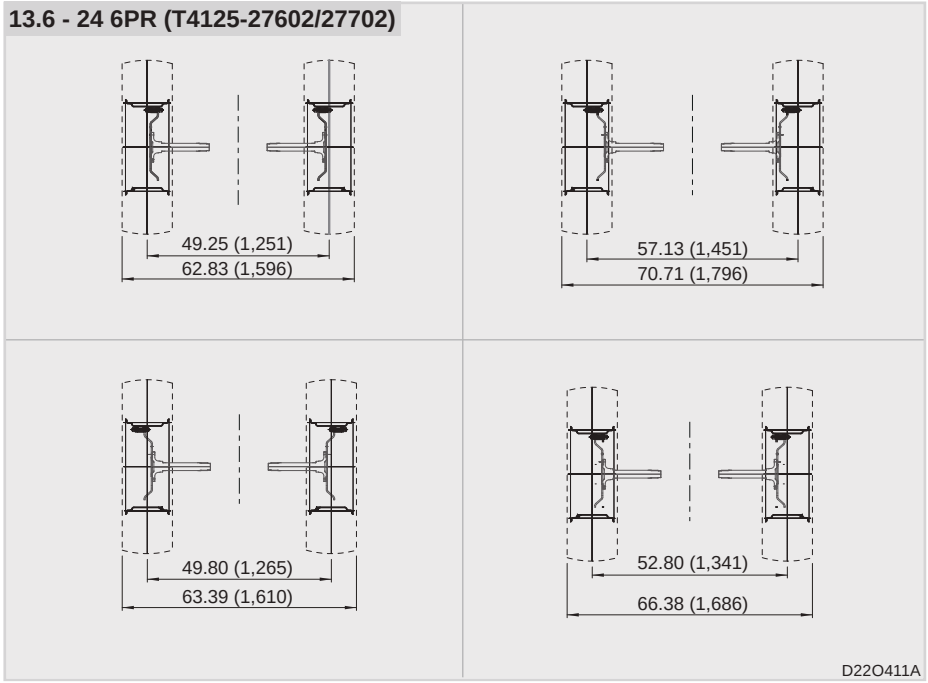
Never operate tractor with a loose rim, wheel, or axle.

- ***Always tighten nuts or bolts to the specified torque.***
- ***Make sure to perform inspection daily.***

STANDARD TREAD DIMENSION (REAR WHEEL)

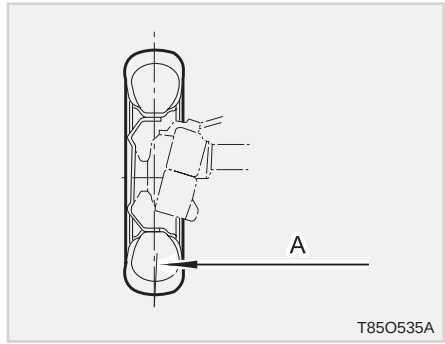
in. (mm)

13.6 - 24 6PR (T4125-27602/27702)

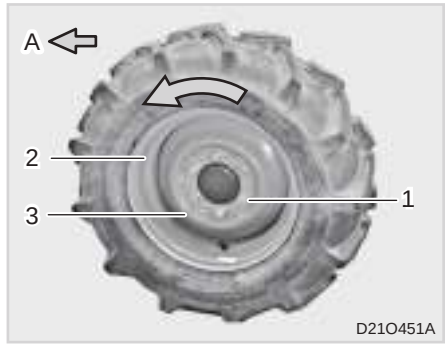


WHEEL TORQUE AND DIRECTION

FRONT WHEEL INSTALLATION PATTERN



(A) Tread



(1) Wheel bolt
(2) Rim *(3) Disc*
(A) Forward

4

Front tread can not be adjusted. If it is necessary to adjust it, contact your local **KIOTI** Dealer.

If it is damaged by unapproved modification, it will not be covered by warranty.

WHEEL INSTALLATION DIRECTION

For agricultural tires, make sure to install them with their arrow marks on their side pointing the front driving direction.

The tire is correctly installed if the tread mark “V” on the ground is shown correctly, not up side down, while the tractor is moving forward.

FRONT TIRE SPECS AND WHEEL BOLT/NUT TORQUE

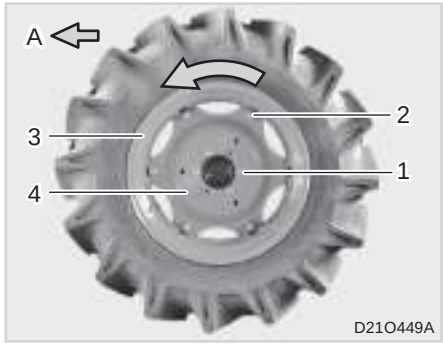
Tire size (Agri)
8-16 / 6PR

Tightening torque of wheel bolt (Nut)
196~225 N·m 144~166 lbf-ft 20 ~ 23 kgf·m

⚠ WARNING

- ***Use tires approved by KIOTI only.***
- ***Assemble the tire as shown in the figure.***
- ***Contact your local KIOTI Dealer if it is necessary to change the tire specification or installation method.***

REAR WHEEL INSTALLATION PATTERN



(1) Wheel bolt (Nut) *(2) Rim bolt*
(3) Rim *(4) Disc*
(A) Forward

WHEEL INSTALLATION DIRECTION

For agricultural tires, make sure to install them with their arrow marks on their side pointing the front driving direction.

The tire is correctly installed if the tread mark “V” on the ground is shown correctly, not up side down, while the tractor is moving forward.

REAR TIRE SPECS AND WHEEL BOLT/NUT TORQUE

Tire size (Agri)
13.6-24 / 6PR

Tightening torque of wheel bolt (Nut)
196~225 N·m 144~166 lbf-ft 20 ~ 23 kgf·m

⚠ WARNING

- ***Use tires approved by KIOTI only.***
- ***Assemble the tire as shown in the figure.***
- ***Contact your local KIOTI Dealer if it is necessary to change the tire specification or installation method.***

ADDITIONAL WEIGHT (OPTION)

ADDITIONAL FRONT WEIGHT

(1) Additional Front Weight

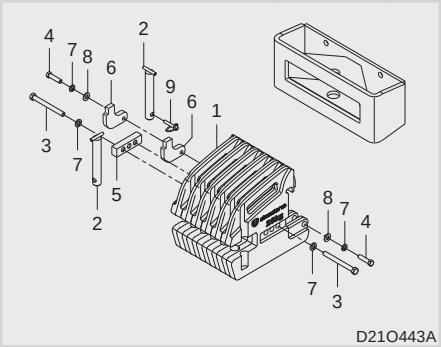
If the loader is not installed, attach a weight to the front frame of the tractor as a safety measure.

If a heavy implement is installed at the rear or when towing a heavy trailer, the front wheels may be lifted. Add sufficient weight to keep steerability and to prevent rollover.

If sufficient weight, such as front loader, is applied to the front wheels, remove the extra front weight.

If the front tires are excessively loaded, it becomes hard to steer the tractor, the tires can be worn faster and the durability of the front axle can be deteriorated.

COMPONENTS FOR ADDITIONAL FRONT WEIGHT (OPTION)



(1) Front Weight
(2) Pin
(3) Front weight Bolt
(4) Hex Head Screw
(5) Plate
(6) Bracket
(7) Spring Washer
(8) Plain Washer
(9) Clip pin

When installing or removing a weight, always check the tire inflation pressure and adjust it as necessary.

The front weights are available at the **KIOTI** Dealer. For required number of weights, consult your local **KIOTI** Dealer.

Max. load
344 lbs. (26 kg×6 Pieces)

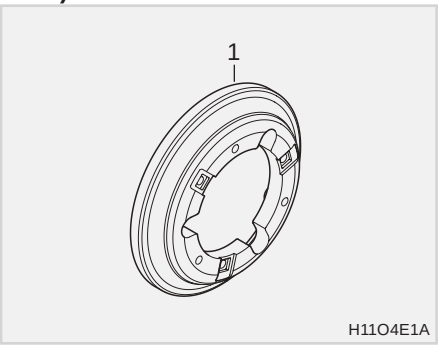
⚠ CAUTION

- ***Additional weight might be needed for transporting heavy implements.***
- ***Reduce the speed regardless of additional weight when driving on a bumpy or rough road with the implement lifted. The tractor can roll over.***

IMPORTANT

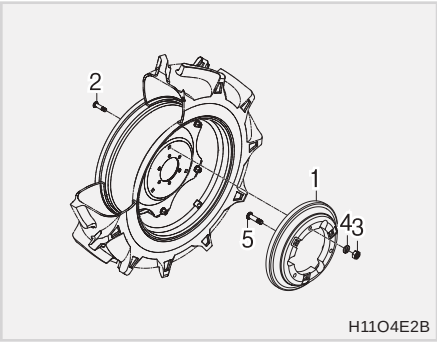
- ***Attach only required amount of weight.***
- ***The durability of the axle and tires can be degraded.***

ADDITIONAL REAR WEIGHT (OPTION)



(1) Rear Weight

The rear weight is used to maximize the traction of the tractor by increasing the grip of the rear wheels when using a heavy trailer or plow.



(1) Rear Weight
(2) Weight Bolt
(3) Nut
(4) Spring Washer
(5) Bolt

For detailed information on installation, contact your local **KIOTI** Dealer.

Max. load
220 lbs. (25 kg x 4 Pieces)

IMPORTANT

- ***Attach only required amount of weight.***
- ***Unnecessary weight can result in poor braking performance, rapid wear of the brake discs, shortened axle life, and increase in fuel consumption.***

MEMO

5

PRE-OPERATION CHECK

It is a good practice to know the condition of your tractor before you start it. You should do routine check before each use.

⚠ CAUTION

- **Park the tractor on the level ground, stop the engine, and apply the parking brake before checking or repairing it.**
- **Refer to "Daily check item" in Chapter "Maintenance" for fueling.**
- **Be sure to read and understand the information titled as "DANGER", "WARNING", and "CAUTION" thoroughly for the safe operation.**

CHECK ITEMS

- Walk around inspection.
- Engine oil level.
- Transmission oil level.
- Coolant level.
- Clean the front grill and radiator screen.
- Air cleaner element.
- Brake pedal free play.
- All dash gauges and indicators.
- Head lights, tail lights, and working lights.
- Accessible wiring harness for any damage.
- Seat belt and **ROPS** for damage.
- Fuel level.
- All "DANGER" and "WARNING" decals.
- Tire pressure and wheel bolt tightness condition.

For detailed information, refer to "Maintenance schedule chart" in chapter 7.

INITIAL OPERATION

Driving a new tractor at a high speed or under heavy load can affect its durability.

Make sure to run the tractor at the proper work load and speed for the initial operation of 10 to 20 hours.

TIPS FOR BREAKING-IN

1. Start the engine and idle the engine at a low speed for 3 to 4 minutes in advance.
2. Increase the idling time in cold weather.
3. Do not drive the tractor at the maximum speed on a road.
4. Never apply excessive load during work.
5. Idle the engine at a low speed for 2 to 3 minutes before stopping it.

OPERATING THE ENGINE
STARTING THE ENGINE

⚠ WARNING

To avoid accidents:

- *Be sure to read and understand the warning and caution decals on the tractor thoroughly.*
- *Run the engine only in a well-ventilated area, or you can be suffocated by exhaust gas.*
- *Never start the engine unless you are on the driver's seat. The tractor can abruptly start off, resulting in an injury or accident.*

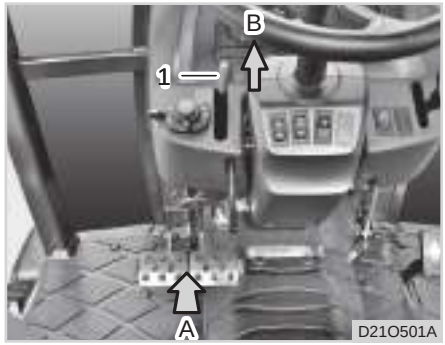
⊕ IMPORTANT

- **Using ether or starting fluid so the engine will start more easily can damage the engine. And it will not be covered by warranty.**
- **Never try to start the engine for over 10 seconds consecutively to protect the start motor and battery from damage.**

⊕ IMPORTANT

Safety start system is applied:

- **Start condition (HST): Operator on the seat + Pushing brake pedal. (HST pedal, Rear PTO and Mid PTO levers should be in neutral position)**
- **Start condition (Mechanical): Operator on the seat + Applying clutch pedal + Pushing brake pedal. (Shuttle lever, Rear PTO and Mid PTO levers should be in neutral position)**
- **Operation continuance condition when operator leaves from the seat: when parking brake in on and range shift and Mid PTO lever is in a neutral position. In any other condition, the tractor stops operation by it self in 3 sec of time delay.**



(1) Parking Brake Lever
(A) Depress (B) Pull

1. Make sure there is no obstacle around the tractor.
2. Make sure the parking brake is set.

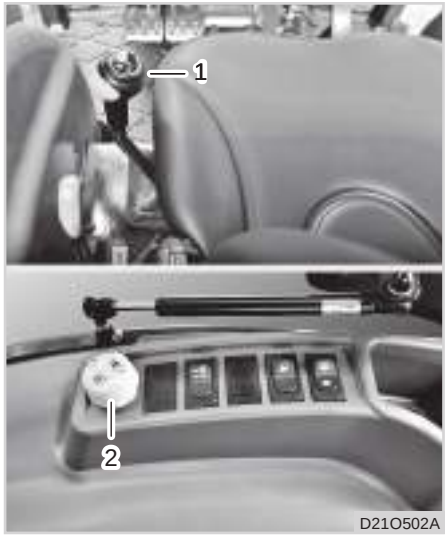
⊕ IMPORTANT

- **Make sure that the brake pedals are fully depressed before pulling the parking brake lever up.**

5

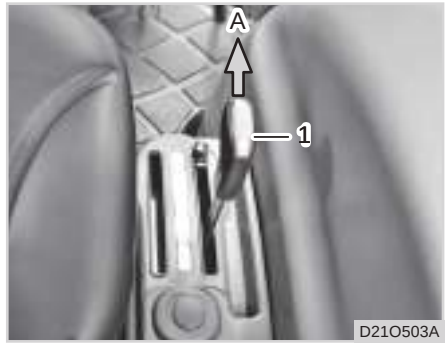
NOTE

- When the parking brake is engaged, the parking brake lamp on the instrument cluster illuminates. When releasing it, the parking brake lamp is turned off.



(1) Range Shift Lever (2) PTO Switch

3. Place the PTO switch to the “OFF” position. (It cannot be started engine while the PTO is engaged)
4. Set the range shift lever in the neutral position.

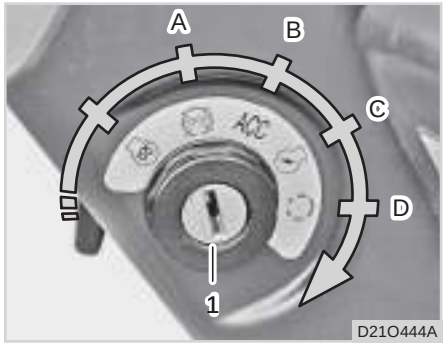


(1) Position Control Lever
(A) “DOWN”

5. Lower the attachment by pushing the position control lever forward.

WARNING

- ***Make sure that no one is near the implement or behind the tractor.***



(1) Key Switch
(A) OFF *(B) ACC*
(C) ON *(D) START*

6. Insert the key into the key switch, turn it to the "ON" position and wait until the glow plug indicator goes off (Depending on the coolant temperature).

   It is normal that the charge warning lamp and engine oil pressure warning lamps come on when the key is in “ON” position before the engine starts.

⚠ WARNING

- ***Never operate the start motor for more than 10 consecutive seconds as it consumes an excess of battery power. If the engine cannot be started within 10 seconds, wait for 30 seconds and try again.***
- ***When trying to start the engine again, wait until the flywheel is completely stopped.***

7. When the engine is started, release the key. Then, the key is automatically turned back to the “ON” position.
8. Warm up the engine for 3 to 4 minutes (10 minutes in winter).

(1) Instrument Cluster
(2) Engine Oil Pressure Warning Lamp
(3) Charge Warning Lamp

9. Check to see that all the warning lamps on the instrument cluster turn “OFF”.

If any lamp remains on, immediately stop the engine and determine the cause.

CHECKING WARNING LAMPS

1. If the oil pressure warning lamp (2) does not go off in 4 to 5 seconds after the engine is properly started, stop the engine immediately and check the engine oil level. If the engine oil level is proper, contact your local **KIOTI** Dealer.

⚠ WARNING

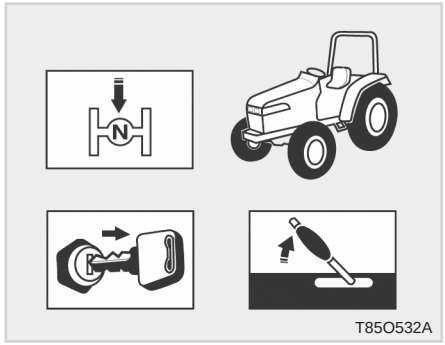
- ***The engine can be severely damaged if it is ran with the oil pressure warning lamp ON.***

2. If the charge warning lamp (3) does not go off in 4 to 5 seconds after the engine is properly started, it means that the battery is not being charged. Have the charging system, such as the battery and alternator, inspected.
3. Refer to “Instrument panel” in chapter 4 for detailed information about other indicators and lamps.

⚠ WARNING

- ***If driving the tractor for an extended period of time with the charge warning lamp ON, the battery can be discharged and the tractor’s electrical system can be damaged.***

STOPPING THE ENGINE



1. Make sure to reduce the engine rpm before stopping the engine.
2. Depress the brake pedal and put all shift levers in the neutral position.
3. Run the engine at the idle speed for approx. 2 to 3 minutes, and then turn the key switch to the “OFF” position to stop the engine.
4. Remove the key.

WARMING UP

⚠ WARNING

- ***Never touch the muffler or hot covers until they have cooled down after running the engine or driving the tractor.***

⊕ IMPORTANT

- **Turn off all the electrical devices and remove the ignition key before leaving the tractor.**
- **Do not leave the tractor outside unattended. It can be stolen, as the key used for all KIOTI tractors are the same in design.**
- **The horn, turn signal lamp and hazard lamp can be operated without the key inserted. Therefore, using these components without the engine started can discharge the battery.**

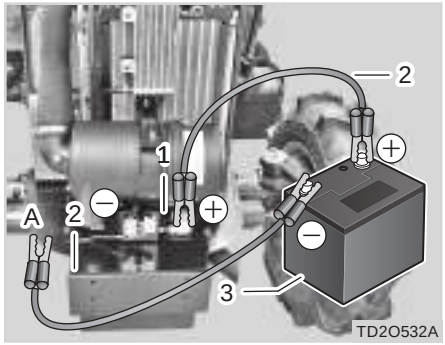
It is recommended always to warm up the engine before driving in order to maintain the durability of the engine. Before warming up the engine, make sure that each part in the engine is properly lubricated and each hydraulic part is in a perfect condition in order to prevent malfunction in the engine as well as the hydraulic system.

Ambient temperature	Warm-up period
0℃ or warmer	5~10 minutes
0℃ ~ -10℃	10~20 minutes
-10℃ ~ -20℃	20~30 minutes
-20℃ or colder	30 minutes or more

⚠ WARNING

- ***Warming up the engine excessively increases fuel consumption and affects the durability of the tractor negatively.***
- ***Never warm up the engine and leave the tractor for an extended period of time. It can cause fire and an accident.***
- ***Never leave the tractor unattended while warming up.***
- ***Be sure to apply parking brake while warming up the engine.***
- ***If the warm-up is skipped or missed, the tractor can take off abruptly to cause a fatal accident.***

JUMP STARTING

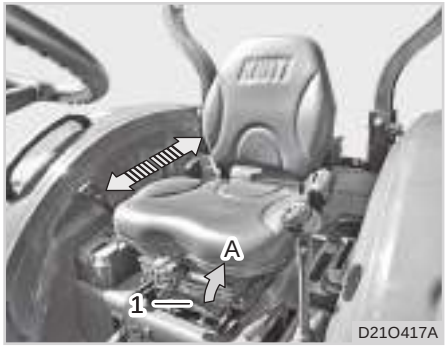


(1) Dead Battery (2) Jump Cable
(3) Helper Battery
(A) Ground (Transmission Case)

If the battery is discharged and the engine cannot be started, it is possible to start the engine by connecting the discharged battery to a battery from another tractor or other extra battery.

1. Check that the rated voltage of the discharged battery is same as the voltage of the other tractor or vehicle for jump start. (Specification for this tractor: 12 V)
2. Check the length of the jump cable and position another tractor near the tractor with the discharged battery. Then, put all the shift levers in the neutral position, apply the parking brake, and stop the engine.
3. Wear protective glasses and gloves and open the hoods of both tractors. Remove the battery terminal cover as necessary.
4. Connect the alligator clips on both ends of the red positive cable to the positive terminals of both batteries.
5. Connect one clip of the black negative cable to the negative terminal of the normal battery and the other clip to the tractor body with the discharged battery. Make sure to connect the clip to the body part without paint.
6. Start the engine of the tractor with the normal battery.
7. Start the engine of the tractor with the discharged battery.
8. Disconnect the black cable from the negative battery terminals of both of the tractors.
9. Disconnect the red cable.
10. Run the engine for at least 30 minutes to charge the discharged battery.
11. If the battery is discharged again, replace it or check the charging system, such as the alternator.

OPERATING THE TRACTOR
HOW TO DRIVE



(1) Seat Adjustment Lever (Sliding)
(A) Pull

1. Adjust the seat.

⚠ WARNING

- ***Check if the seat is securely locked after the seat adjustment.***
- ***Do not adjust the seat while driving. The seat may move suddenly causing the loss of control of the tractor.***

(1) Seat Belt

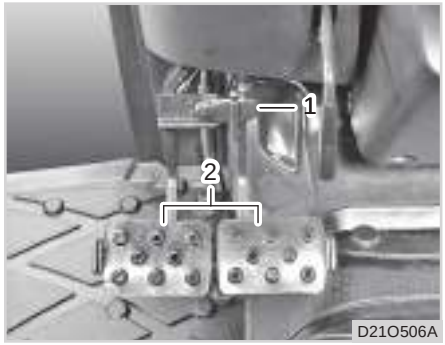
2. Fasten the seat belt.

⚠ WARNING

- ***Be sure to fasten your seat belt if the tractor is equipped with the ROPS or cabin.***
- ***The seat belt should go around your pelvis or as low as possible, not your waist or abdomen. Otherwise, the seat belt cannot protect you properly.***

⚠ WARNING

- ***Do not wear the seat belt if the ROPS is not installed or folded down.***

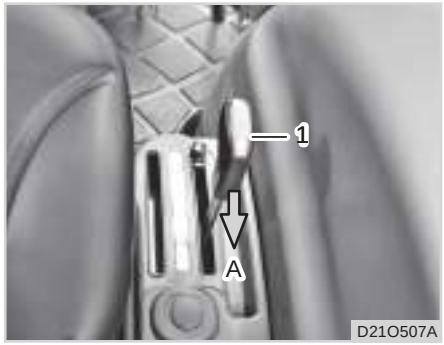


(1) Brake Pedals (LH/RH)
(2) Brake Pedal Interlock Latch

3. Make sure that both brake pedals are interlocked.

⚠ WARNING

- ***If depressing only one brake pedal at a high speed, the tractor can lose its balance and be overturned.***



(1) Position Control Lever
(A) "UP"

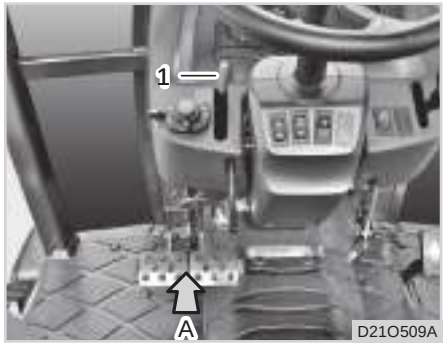
4. If an implement is attached, push the position control lever backwards to lift the implement.

NOTE

- If the implement won't be lifted, please contact **KIOTI** dealer.

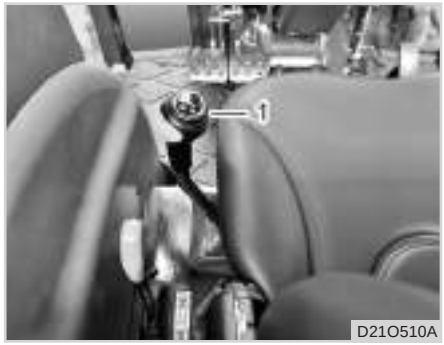
(1) Hand Throttle Lever
: Slow *: Fast*

5. Increase slowly the engine RPM from idle speed to medium speed.



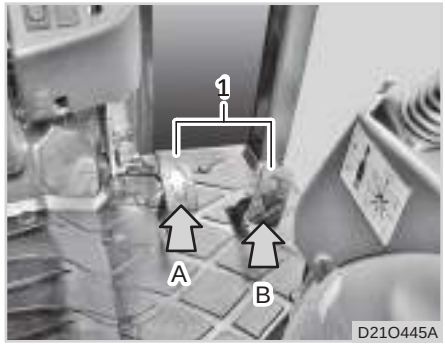
(1) Parking Brake (2) Brake Pedal
(A) Depress

6. Depress the brake pedal to release the parking brake.



(1) Range Shift Lever

8. Change the range shift lever to the position you want.



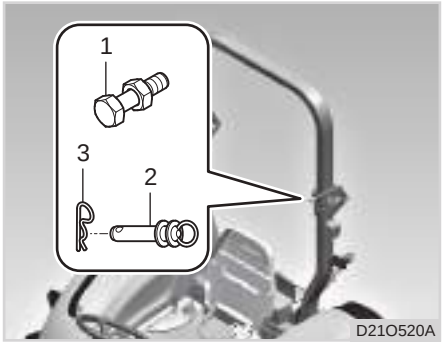
(1) Forward / Reverse Driving Pedals
(A) Forward (B) Reverse

9. The tractor starts to move if you depress the forward or reverse driving pedal slowly.

HOW TO FOLD AND RAISE THE ROPS

⚠ CAUTION

- **Do not change the tractor speed abruptly for safe driving.**
- **When driving on a slope or loading or unloading the tractor to a transporting vehicle, reduce the speed in advance so that there is no need to shift the gear in the middle of the slope. Also, do not put your hand on the shift lever while driving on a slope. The tractor may roll down the slope due to the disengaged gear which is very dangerous.**



(1) Locking Bolt
(2) Set Pin
(3) Clip Pin

1. Unscrew the Locking bolt. Then, Remove the clip pin and set pin.

⚠ CAUTION

- **You should always stop the engine, remove the key and set the parking brake before raising or folding the ROPS.**
- **Always perform such tasks from a safe and stable position at the rear of the tractor.**

⚠ CAUTION

- **It is very dangerous to drive with the ROPS folded. Fold the ROPS only when there is absolutely no possibility for roll over. If the situation changes, raise the ROPS upright immediately.**

*(1) **ROPS***

2. Fold the **ROPS**.

⚠ CAUTION

To avoid accidents:

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

3. Align pin holes, insert set pin, and secure them with the clip pin.
4. To stand the **ROPS**, perform the above steps in the reverse order.

⚠ CAUTION

To avoid personal injury:

- **Stand the ROPS slowly and carefully.**

⚠ CAUTION

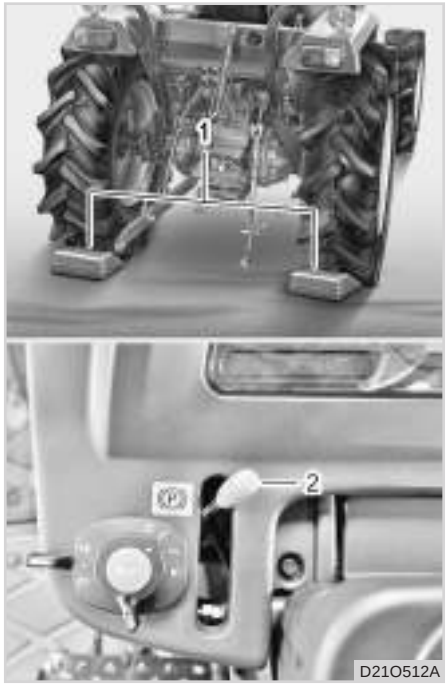
To avoid accidents:

- **Make sure to set the ROPS upright and fasten the seat belt during work. If it is necessary to work with ROPS folded, do not fasten the seat belt. Fastening seat belt with folded ROPS can be dangerous in case of tractor rollover.**

IMPORTANT

- **ROPS (Roll Over Protective Structure), sun canopy are not a FOPS (Falling Object Protective Structure). It never can protect the riders against falling objects. Avoid driving the vehicle into a dangerous area such as falling rocks zone. Otherwise, it may lead to a serious injury.**

PARKING



(1) Block
(2) Parking Brake Lever

1. Pull the parking brake lever (2) up with the brake pedals depressed fully to engage the pedals with the latch. If the braking force is insufficient, depress the pedals more firmly.
2. Before leaving the tractor after parking it, make sure to stop the PTO, lower the implement onto the ground, and stop the engine.
3. If it is necessary to leave the tractor with the engine running, put all the shift levers in the neutral position and apply the parking brake firmly.
4. When parking the tractor on a slope, stop the engine with the parking brake applied and all gears engaged in the low speed position.
5. If it is necessary to park the tractor on a slope with the engine running, apply the parking brake and chock(1) all four wheels.
6. To release the parking brake, depress the brake pedals firmly once again.

⚠ WARNING

- ***The brake pad can be rapidly worn if you drive with the parking brake applied.***
- ***Never park the tractor on a steep slope in any circumstance. A severe accident can occur.***

⚠ WARNING

To avoid possible injury, death or loss of property from a machine runaway:

- ***With the engine off, the tractor may move unexpectedly regardless of the gear shift position. Before leaving the tractor, certainly apply the parking brake to prevent machine runaway.***

※ ***Only H-shuttle model.***

IMPORTANT

- **The tractor may move slowly with the engine running, even though the main and shuttle shift levers are in the neutral position. This is normal and is due to the fluid friction in the transmission. This symptom can occur easily when the engine rpm is high, the low speed gear is selected by the range shift lever, and the viscosity of the transmission fluid is high due to low temperature. To prevent this symptom, make sure to apply the parking brake.**
- **Get off the tractor after checking that the tractor is completely stopped and the parking brake is firmly applied.**
- **Do not park the tractor on tall grass or hay. If grass or hay contacts with the muffler, it can catch fire.**

TURNING

You should turn slowly by reducing vehicle speed.

WARNING

To prevent accidents due to loss of steering control:

- ***If you turn at high speed, the tractor can turn over.***
- ***Never use the differential lock system turning at high and low speeds. A serious accident can occur.***

DRIVING ON SLOPE

1. Please drive according to the conditions of the slope at safe speed so that the engine is not under heavy load if possible.
2. Make sure to shift to the lower gear in order to prevent the engine from stalling on an uphill.
3. Drive with the low speed gear on a downhill road to facilitate the engine brake.

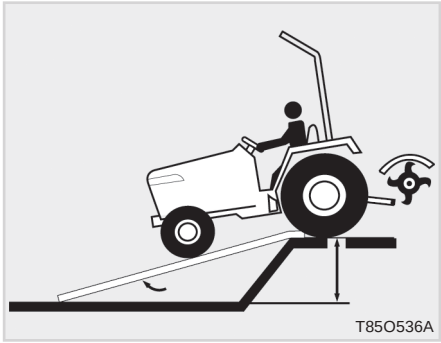
WARNING

- ***Make sure the brake pedals are interlocked and differential lock pedal is released.***
- ***Put the shift lever in the neutral position on a steep slope. Otherwise, the tractor may become inoperable.***
- ***Before entering a steep slope, move the shift lever down to a proper gear and never try to move the shift lever on a slope. A serious accident can occur.***

IMPORTANT

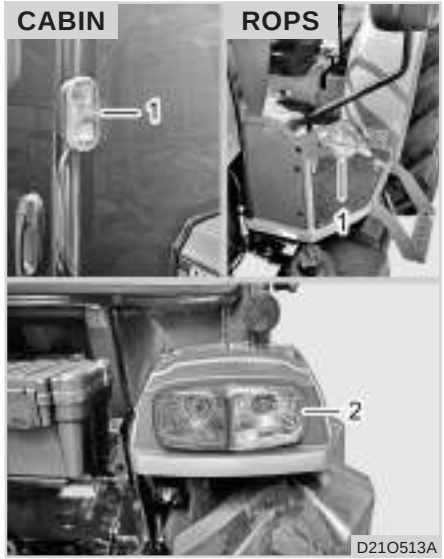
- **For a heavy load job, such as front end loader operation, use low speed of the range shift lever.**

PRECAUTIONS WHEN COMING IN AND OUT OF WORK FIELD



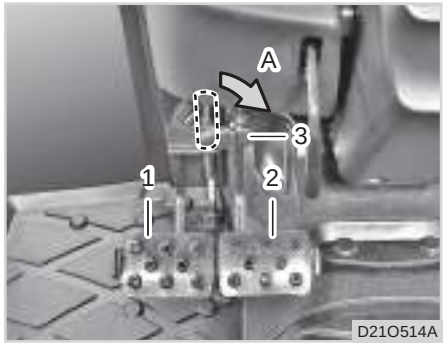
1. Make sure that the left and right pedal are interlocked.
2. Enter and exit the field by driving the tractor at a right angle to the bank.
3. It is recommended to use the 4WD and drive backward when moving onto a bank.

PRECAUTIONS WHILE DRIVING ON THE ROAD



(1) Turn Signal Lamp (RR)
(2) Turn Signal Lamp (FRT)

1. When you change the driving direction on the road, let other vehicles know your direction with turn signal lights.



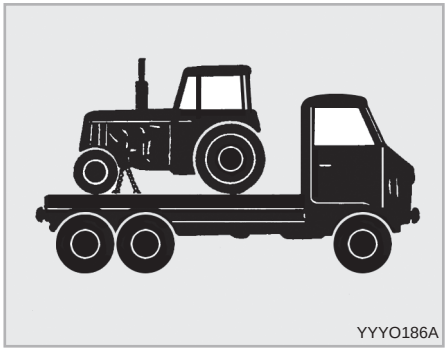
(1) Brake Pedal (Lh) (2) Brake Pedal (Rh)
(3) Pedal Interlock Latch
(A) Whenever Traveling On The Road

2. Do not use high beam headlights when another vehicle is approaching from the opposite direction so that not to interrupt another driver' s view.
3. Always interlock the left and right brake pedals while driving on the public road.

⚠ WARNING

- ***Make sure to connect the left and right pedals firmly before driving on a road. If they are not interlocked, the tractor can be pulled to one side, resulting in rollover or collision.***
- ***When you are driving on the road, observe all local traffic and safety regulations. Only the operator should ride on the tractor unless a passenger seat is installed.***
- ***If the tractor is broken down during driving on the road, move it to a safe place with flasher lights blinking. If not, it can cause personal injury.***

LOADING INTO AND UNLOADING OUT OF THE TRUCK



1. When you load the tractor, load it by driving backward.
2. If the engine stalls out halfway, step on the brake pedal at once, and then release the pedal slowly to reach the road. After that, start the engine to try to load again.

PRECAUTIONS WHEN USING POWER STEERING

⚠ WARNING

- ***When transporting the tractor with a truck, fix the tractor firmly onto the truck and be aware of the height of the loaded tractor to avoid hitting the ceiling of a tunnel or the bottom of a bridge. Make sure to follow this instruction as such accidents frequently happen.***

(1) Power Steering Wheel

1. The power steering function is activated only while the engine is running. The steering wheel can be operated but becomes very heavy while the engine is stopped. However, the steering wheel becomes slightly heavier when the engine is running at a low speed.
2. If you operate the steering wheel with the tractor loaded, using the implement or loader, the steering wheel operation can be somewhat a little heavy. Operate the steering while tractor is in motion
3. When a loader is mounted, adjust the air pressure of the front wheel to its maximum specification and mount weight or implement on the 3 point hitch of the tractor, and remove the front weight to make the front and rear balance more stable for safe working.
4. When turning the steering wheel to its end, the operating sound of the safety valve (Relief valve) can be heard. Do not operate the tractor if the valve sound is heard continually. (OK for a short period of time).

   The temperature of the hydraulic fluid may rise, causing malfunctions.

NOTE

The power steering system in this tractor is a load reaction, full hydraulic type.

- The full hydraulic system means that power necessary for power steering is transferred by hydraulic fluid only and therefore mechanical devices, such as racks and pinions, are not installed to the tractor. Therefore, it features simpler structure. However, the angles of the steering wheel and front wheels are not bound to each other, so they can be different sometimes. Therefore, the angle of the **KIOTI** emblem on the center of the steering wheel may differ occasionally, which is normal.
- The load reaction type means that the reaction force or impact applied to the front axle is transferred to the steering wheel. Therefore, the steering wheel can be returned to its straightforward position from the turning position.

NOTE

- Therefore, it is easy to control the steering wheel during driving. (It has automatic return function, but its reactivity is not sensitive.)

WARNING

- ***When driving on a road with an implement attached to the rear of the tractor, the contact of the front wheels becomes poor, resulting in poor steerability. In this case, attach a proper front weight and drive at a low speed.***
- ***If a malfunction occurs while driving on a road, stop the tractor in a safe place and service it. If it is not possible to move the tractor, turn on the hazard lights and set a warning triangle behind the tractor. Otherwise, a rear end accident may occur.***

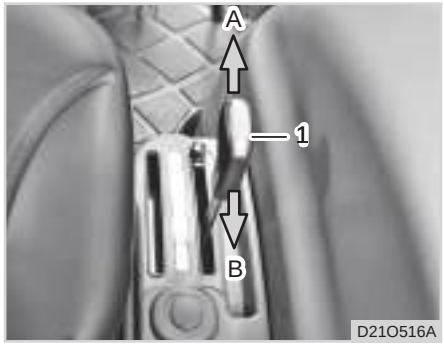
WARNING

- ***The center of gravity of the tractor is higher compared to other common vehicles, so the possibility of the roll-over accident is very high. Be extra careful when driving on a lateral slope, bumpy road, road with puddles, and narrow road. Make sure to set the ROPS in its original position (straight up position) and fasten the seat belt.***

3-POINT HITCH CONTROL POSITION CONTROL

⚠ WARNING

- ***If stopping the engine while driving, the steering performance can become deteriorated due to loss of hydraulic power, resulting in a severe accident. Never stop the engine while driving.***
- ***Keep your hands on the steering wheel after turning to return the steering wheel back to the straight-ahead position. This steering wheel is not a self-return type. Taking your hands off the steering wheel during driving can lead to a serious accident.***



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

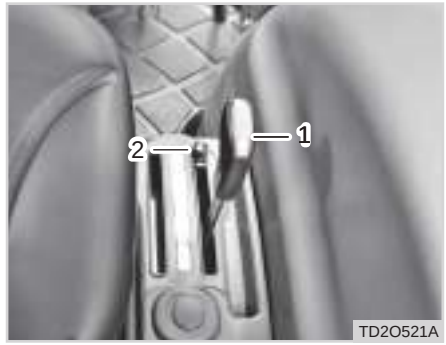
(1) Lower Link

The 3-point hitch can be controlled by the position control lever.

1. The position control lever is used to lift or lower the lifting arm (lower link) of the 3-point hitch.
2. Pushing the lever forward lowers the lower link while pulling the lever backward lifts the lower link.
3. The height of the lower link is precisely controlled proportional to the position of the lever.
4. The lower link is lifted by the hydraulic energy of the tractor while it is lowered by potential energy of its own weight. Therefore, the implement cannot be lowered by the hydraulic pressure.
5. Therefore, the implement attached to the lower link may be lifted by protrusion on the ground when it is lowered to the ground. It is called as "floating."

(1) Lowering Speed Control Lever
(A) High speed (B) Low speed

6. The lowering speed of the lower link is proportional to the applied weight but can be controlled by adjusting the draining passage of the hydraulic fluid. (See “Lowering speed control valve of lifting arm” on Page 4-32)



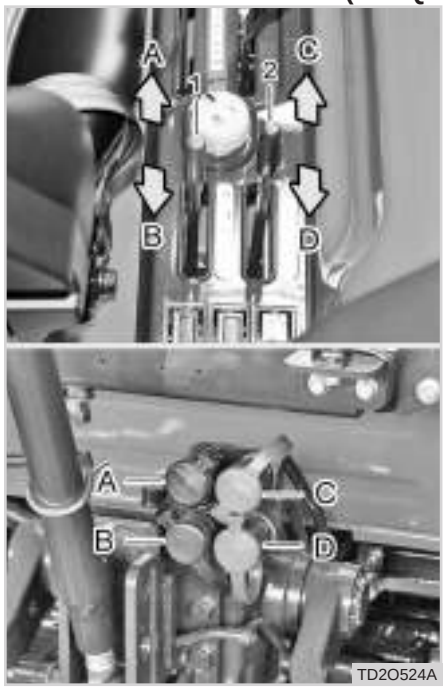
(1) Position Control Lever
(2) Lock Bolt

7. The lower limit of the implement’ s height can be set by limiting the movement of the control lever by the lock bolt.

⚠ WARNING

- ***If trying to lift an object with excessive weight by the 3-point hitch while the tractor is not equipped with proper front suit case weights, the front wheels may be lifted instead, leading to roll over. Make sure to follow the specifications for use.***

REMOTE HYDRAULICS
DOUBLE ACTING LEVER (IF EQUIPPED)



(1) Double Acting Valve 1, Lever 1
(2) Double Acting Valve 2, Lever 2
(A) Port A *(C) Port C*
(B) Port B *(D) Port D*

Pressure ⇨ Returning ⬅

Lever 1		Push	Pull
Valve 1 Port	A	Out ⇨	In ⬅
	B	In ⬅	Out ⇨
Lever 2		**Push**	**Pull**
Valve 2 Port	C	Out ⇨	In ⬅
	D	In ⬅	Out ⇨

Port	Coupler Size
A, B, C, D	PT 1 / 2

This machine is equipped with one double-acting valves (Detent type) which can supply hydraulic pressure to exterior devices. Utilize them properly according to implement specifications.

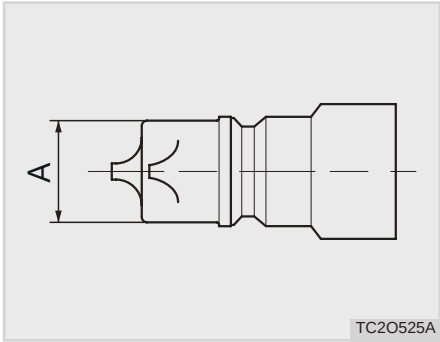
- For the self-return type double acting lever, it returns to its neutral position to block the hydraulic fluid when it is pushed/pulled and then released. Therefore, this type of double acting valve lever should be pulled or pushed continuously for operation which is suitable for an implement with a short operating time, such as a hydraulic cylinder.
- For the detent type double acting valve lever, it keeps its position after it is pulled or pushed to a certain position. Therefore, it is not necessary to hold the lever to a certain position which is suitable for an implement with a long operating time, such as the hydraulic motor.

  Additionally, you can attach one more double acting valve please contact **KIOTI** dealer.

IMPORTANT

- **Put the detent valve operating lever into the neutral position when the hydraulic implement is not in use. If the detent valve is kept in the operating position for an extended period of time, the relief valve is kept open and the temperature of the hydraulic fluid rises, leading to damage of various hydraulic parts, such as the oil seals and O-rings.**
- **When the detent valve is in operation, unnecessary load is applied to the engine. Therefore, the engine power decreases significantly, and noise and vibration increases by the opening of the relief valve.**
- **It is hard to start the engine while the detent valve is in operation. This is especially true in winter and exhaust gas increases even after the engine is started.**

PT1/2 COUPLER SOCKET (IMPLEMENT)



(A) Diameter

The hose unions used must comply with ISO standards.

Dimension (A) must be between 20.48 and 20.56 mm (0.806 and 0.809 in.).

CONNECTING AND DISCONNECTING IMPLEMENT

CONNECTION

1. Make sure to stop the engine before connecting it.
2. Move the double acting valve lever forward and backward for 4 to 5 times to release the pressure in the hydraulic line of the tractor. Otherwise, it is hard to connect the couplers, and hydraulic fluid can be sprayed from the line and get in to your eyes while connecting them.
3. Remove any foreign material around the male and female couplers. If foreign material enters the hydraulic components, it can lead to malfunction of the system.
4. Open the dust-proof cover of the female coupler of the tractor and insert the male coupler of the implement. A clicking sound is heard when the couplers are engaged.
5. Pull the hydraulic hose of the implement to check that the couplers are properly connected.
6. Start the engine and check the operating status and leakage.

DISCONNECTION

1. Make sure to stop the engine before disconnecting it.
2. Release any residual pressure in the hydraulic hoses of the implement and tractor by operating the double acting valve lever 4 to 5 times.
3. Remove any foreign material around the couplers.
4. Lower the implement on the ground or remove any external load applied to the implement. Disconnecting hoses while outer load is applied to the implement is very difficult and dangerous due to the pressurized fluid in the hose.
5. Remove the male coupler by pushing the female coupler boss backward.
6. Close the dust-proof cover of the female coupler. Wrap the male coupler of the implement with a plastic bag to prevent contamination.

⚠ WARNING

- ***Never connect or disconnect the implement hydraulic hoses while the pressure in it is not released or the engine is running. It is hard to connect and disconnect the hose and hydraulic fluid can be sprayed from the hose, and get into your eyes or skin.***
- ***Stop the engine and wear protective glasses and gloves before work.***

6

TRANSPORTING TRACTOR

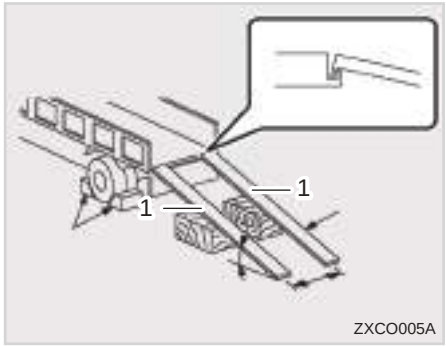
Tractors are best transported in flatbed carriers. Use chains to secure the tractor to the carrier.

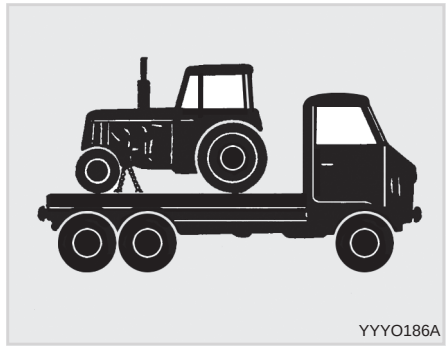
The axles and tractor frame are suitable attachment points.

Before transporting the tractor on a low-loader truck or flatbed rail wagon, make sure that the hood is secured over the tractor engine and that doors, roof hatch (if equipped) and windows are properly closed.

Never tow a tractor at a speed greater than 10 km/h (6 mph). An operator must steer and brake the tractor under tow.

LOADING INTO AND UNLOADING OUT OF THE TRUCK





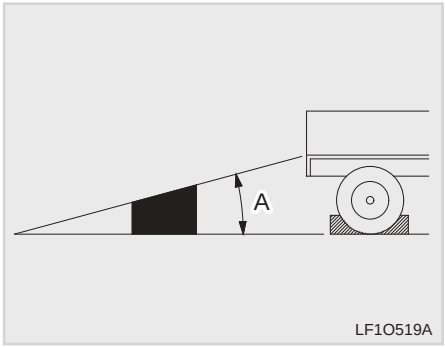
(1) Loading Ramps

1. Check the width of the cargo bed of a transporting vehicle or trailer.
2. Set ramps to the transporting vehicle firmly.
3. The length of the loading ramps should be at least four times the height of the loading bed.
4. It is recommended to back the tractor onto the transporting vehicle and drive the tractor OFF in the forward direction.

⚠ WARNING

- ***When transporting the tractor with a truck, fix the tractor firmly onto the truck and be sure to aware the height of loaded tractor to avoid to hit the ceiling of the tunnel or the bottom of the bridge.***
- ***Make sure to follow this instruction as such accidents really happen.***

5. Be sure to keep the speed down when loading/unloading.
6. After loading the tractor onto the transport vehicle, secure the tractor first by setting the parking brake, then tying down to the transport with chains or straps. Utilize the tie down points built into the tractor to not damage the tractor during transit.



(A) Within 15°

7. The permitted angle for the operation of the engine is 10°. Under no circumstance can the machine be operated over the permitted angle for the operation of the engine.

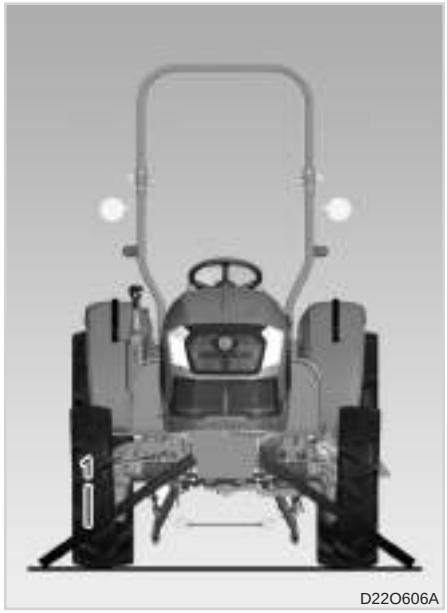
   Otherwise, the engine may be seized, or the main lubricating parts may be worn out early, causing damage to the machine and injuries.

⚠ CAUTION

- **Select the ramp load by checking the weight of the tractor.**

8. During vehicle transporting, pay attention to motor vehicle laws, mark the transport with the applicable decals or markings.
9. Be sure to Confirm the overall height of the vehicle with the tractor loaded, make sure that does not exceed the maximum height for travel under bridges or through tunnels.

LASHING THE TRACTOR TO TRANSPORT TRAILERS



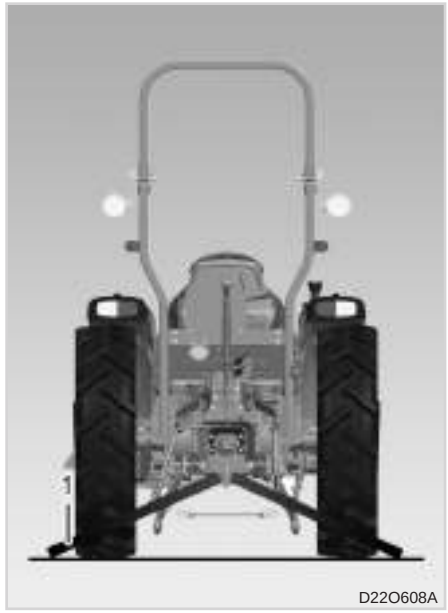
(1) Lashing Strap

Point for lashing the tractor. (Front)

⚠ CAUTION

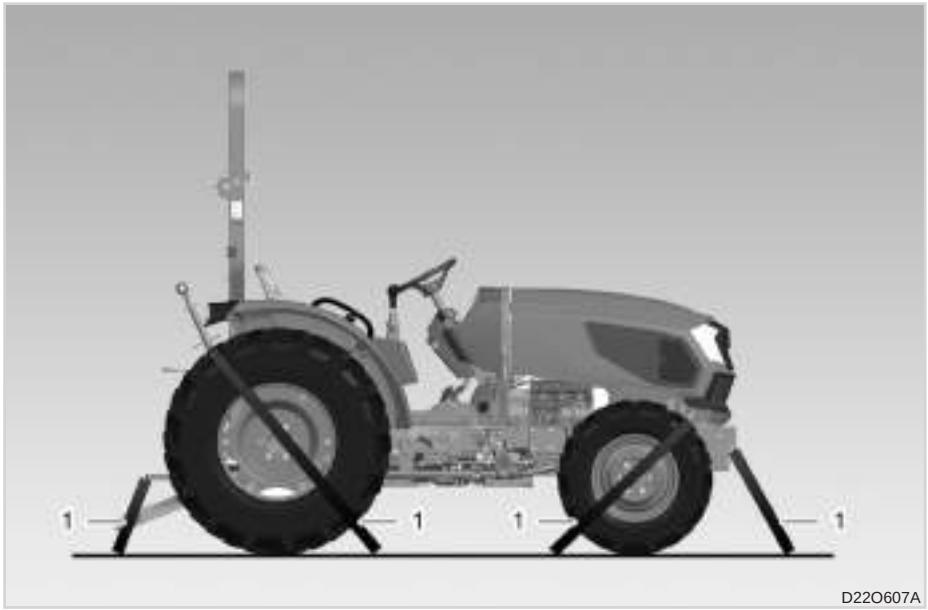
Danger to life from lost cargo:

- **Inadequately secured cargo presents a high risk of the cargo or tractor detaching itself during driving, and falling off the transport trailer.**
- **The tractor has a sufficient number of fixture points where suitable devices such as lashing straps or tensioning chains can be attached. In addition, use lockable chock blocks. Loose wedges might get lost and are therefore not permissible. Always observe legal requirements for securing cargo.**
- **Select the size of lashing straps and tensioning chains in relation to tractor weight.**



(1) Lashing Strap

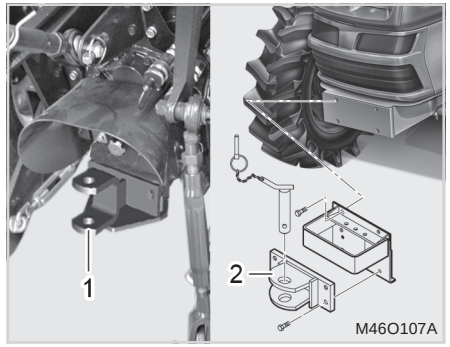
Point for lashing the tractor. (Rear)



(1) Lashing Strap

Example of a tractor lashed across the wheels. Additional cargo securing in front and rear, and use of chock blocks.

HOW TO TOW THE TRACTOR



(1) Draw-bar *(2) Towing Hook*

1. Range Shift lever to neutral position.
2. Adjust the steering wheel so that all wheels point in a straight line.
3. Towing the tractor using a towing hook or draw-bar.

⚠ CAUTION

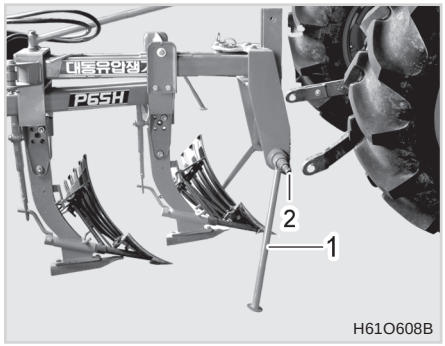
- **Never tow the tractor faster than 10 km/h (6 mph).**
- **When the engine is not running, more force is required to turn the steering wheel and pedal travel is longer (no hydraulic assistance).**

IMPORTANT

- **If the engine is capable of running, switch off front-wheel drive.**
- **NEVER HITCH ANYTHING TO THE AXLE HOUSING OR ANY OTHER POINT.**
- **The front hitch may be used for towing on hard-surfaced roads only.**

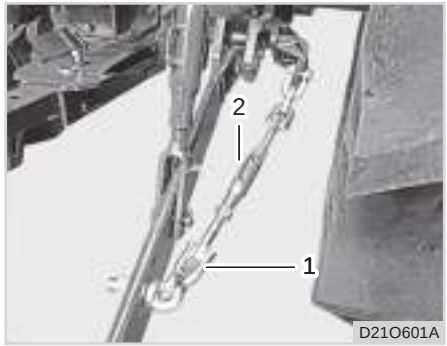
7

REMOVAL AND INSTALLATION OF 3-POINT HITCH IMPLEMENT (INCLUDING CONNECTION OF UNIVERSAL JOINT)



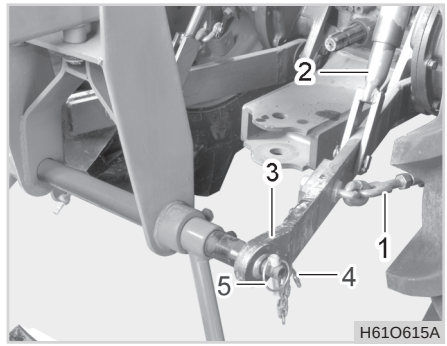
(1) Implement Support *(2) Implement Pin*

1. Place implement on the level ground.
2. Drive the tractor backward to move as close as possible to an implement (Approx. 5 cm). Then, adjust the height of the lower link to be parallel to the pins of the implement.
3. Place the shift levers in the neutral position, stop the engine and apply the parking brake.



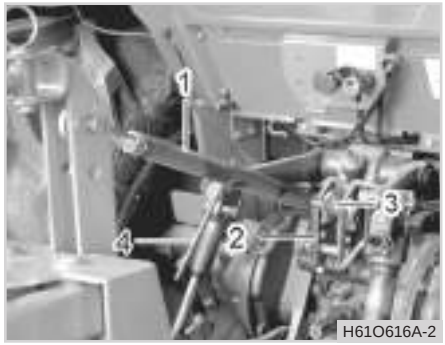
(1) Check Link *(2) Turn Buckle*

4. Lengthen the chain by turning the check link turn buckle.



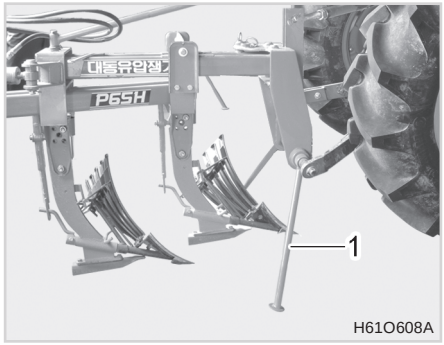
(1) Turn Buckle *(2) Lift Rod (RH)*
(3) Lower Link *(4) Implement Pin*
(5) Lynch Pin

5. First install the left lower link to the implement pin and insert lynch pin into the hole and turn the ring to hold implement pin securely.
6. Install the right lower link to the implement pin and insert lynch pin into the hole and turn the ring to hold implement pin securely.



(1) Top Link *(2) Top Link Bracket*
(3) Snap Pin *(4) Top Link Hook*

7. Install the top link to the top link hole of the implement. Loosen the lock nuts of top link and turn the top link handle to adjust the length of it as needed. Align the pin holes for top link and top link hole on the implement to insert the set pin. Insert the snap pin into the set pin hole securely to hold the set pin.



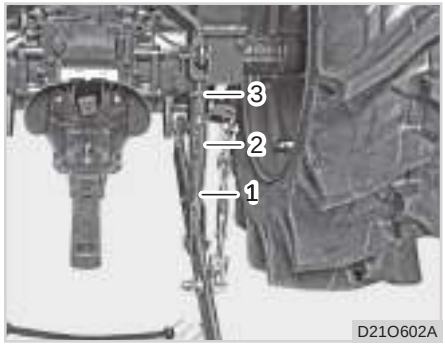
(1) Implement Support

8. Raise up the implement by position control of tractor. Remove the implement support as needed. Align the implement by adjusting the length of the check chains on both sides. Tighten the lock nuts on the check chain securely.
9. Adjust the tip angle of implement by adjusting the length of top link. Tighten the top link lock nuts securely.
10. Adjust the balance of implement by adjusting the length of lift rod (RH). Tighten the turn buckle lock nut of lift rod (RH) securely afterward.

OPERATION FOR 3-POINT HITCH IMPLEMENT MOUNTING COMPONENTS

(1) Top link
(2) Lift Rod (L)
(3) Lift Rod (R)
(4) Check Chain
(5) Lower link
(6) Drawbar

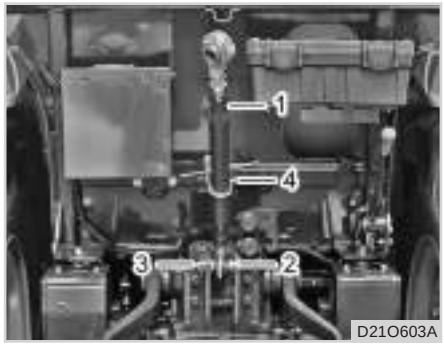
ADJUSTMENT OF LIFT ROD



(1) Lift Rod *(2) Turn Buckle*
(3) Lock Nut

1. Adjust the implement balance by turning the lift rod turn buckle.
2. After adjustment, secure it with the lock nut.

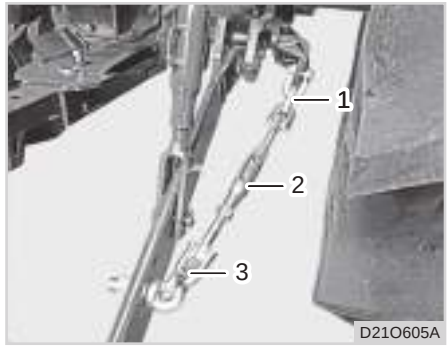
ADJUSTMENT OF TOP LINK



(1) Top Link *(2) Set Pin*
(3) Lynch Pin *(4) Top Link Hook*

1. Install the top link to the desired hole, install the set pin and lynch pin securely.
2. Tighten the lock nut on the top link securely after adjusting top link length.

ADJUSTMENT OF CHECK LINK



(1) Check Chain *(2) Turn Buckle*
(3) Set Pin

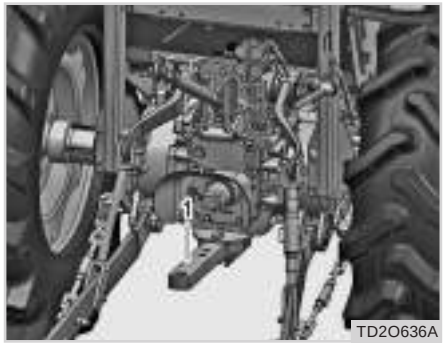
1. Adjust the check chain to control horizontal sway of the implement.

   It is also used to set the implement on the back of the tractor in center.
2. To adjust the check chain, pull out the turn buckle and adjust it until the desired transverse moving distance is obtained.

DISMOUNTING THE IMPLEMENT

1. Park the tractor with the implement on the level ground and lower the implement all the way down. Install the implement support as needed.
2. Disconnect the top link and lower links from the implement by removing the pins.
3. Be sure to insert the set pins, lynch pins and snap pins back to the implement securely to keep those safe.
4. Stop the engine and move the remote hydraulic control lever back and forth to release the hydraulic pressure in the system before disconnecting hydraulic couplers.
5. Put the top link back to its hook. Hold both lower links together with a rubber band. Otherwise, the lower links can contact with rear tires and cause damage to the lower links and tires while driving.

DRAWBAR AND TRAILER



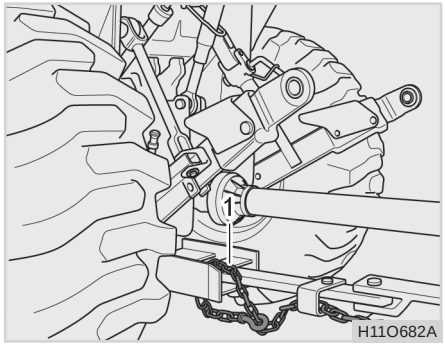
(1) Draw Bar

The draw bar is used to pull an implement, such as a trailer.

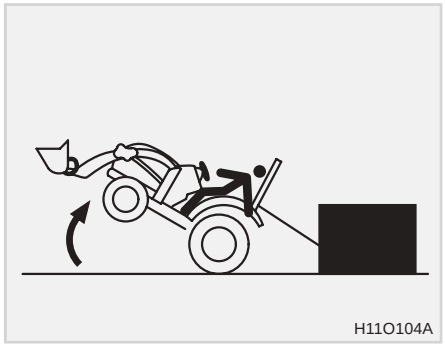
Make sure to check the max. towing weight of the trailer and max. vertical load that can be applied to the draw bar.

The specification and type of the drawbar are different according to the each countries.

Type	Tractor drawbar
Approval number	e11*89/173*2000 /1*2002*00
Maker	Daedong Industial Co.,Ltd
Towable mass	4,300 kg
Unbraked towable mass	3,000 kg
Independently braked towable mass	3,300 kg
Vertical load on the coupling point	735 daN



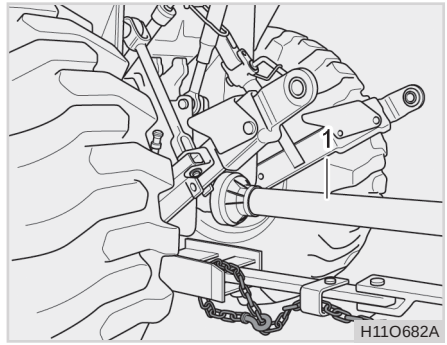
(1) Safety Chain



⚠ WARNING

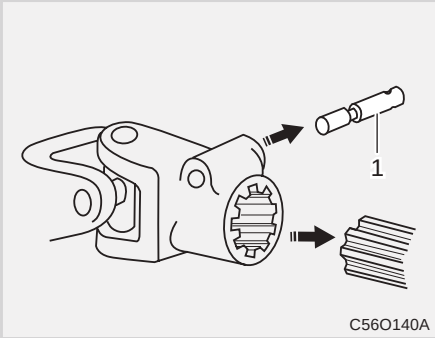
- ***Never use any other part for pulling except draw bar. Pulling with top link, ROPS and etc. will cause a fatal accident.***
- ***Be sure to install the auxiliary safety chain when installing a trailer.***
- ***Improper use of the draw-bar, even if correctly positioned, can cause a rear overturn.***
- ***Do not overload an attachment or towed equipment. Use proper counterweights to maintain tractor stability. Hitch heavy loads to the draw-bar only.***
- ***Make sure that there is no one nor object between the tractor and trailer.***

INSTALLING PTO SHAFT

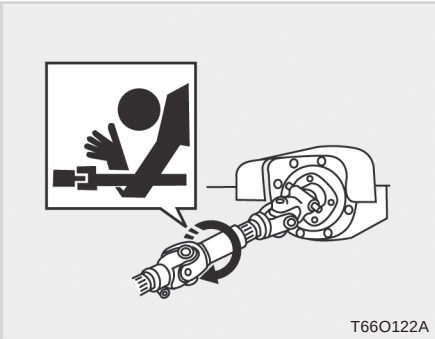


(1) Universal Joint

1. Consult your local **KIOTI** Dealer for selection of the universal joint.
2. When selecting a universal joint, make sure that it is not too short to come off of the female and male shafts at the highest position or too long to impact its female and mail shafts at the lowest position.
3. Move the joint back and forth to check that its lock pin is properly seated to the groove of the PTO shaft.



(1) Lock Pin

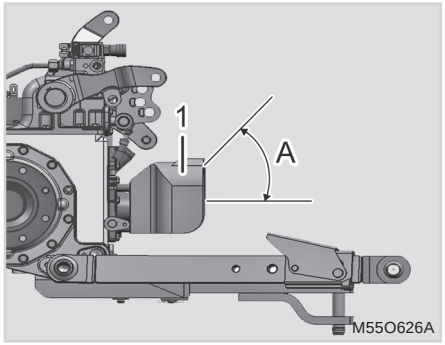


⚠ WARNING

- ***Make sure that the PTO safety cover is in its position before driving the PTO shaft.***
- ***Never go close to the rotating PTO or tractor PTO shaft. A severe accident can happen.***
- ***Before driving an implement through the PTO, always make sure that all bystanders are well away from the tractor.***
- ***When using the PTO drive with a stationary tractor, always make sure that the gears are in neutral and that the parking brake is applied.***
- ***The tractor PTO and PTO shaft should not be interfered by any surrounding parts.***

⚠ WARNING

- ***Before starting up any PTO-driven implement hitched to the three-point linkage, lift the implement to its full height and check that at least 1/4 of the total length of the telescopic section of the drive shaft is engaged.***



(1) PTO Cover
(A) Allowable Angle Of Universal Joint: 50˚

Refer to the chart below as to installing of an universal joint.

The type of PTO shaft
SAE 1-3 / 8" 6 splines

Allowable angle of universal joint
50˚

HANDLING LOADER

D22O601A

(1) Loader Mounting Bracket
(2) Balancing Cylinder
(3) Loader Arm
(4) Boom
(5) Grill Guard
(6) Tilt Cylinder
(7) Bucket

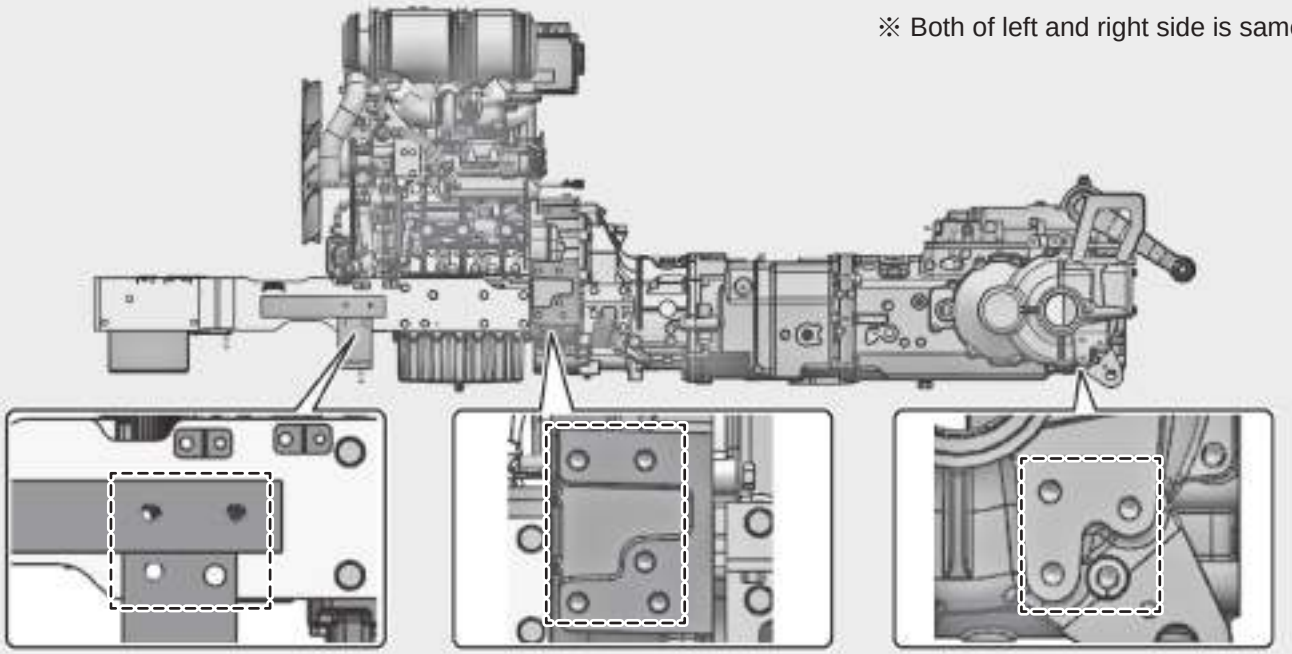
For detailed information about installation and use of the front loader, refer to the separate manual of the loader.

IMPORTANT

- **Check the transmission fluid level and add fluid as necessary after installing an implement related to the hydraulic fluid, such as a loader or backhoe, and driving the tractor for a test.**

FIXATION POINTS FOR FRONT END LOADER

※ Both of left and right side is same.



[Front axle frame] [Flywheel housing] [Rear axle & transmission]

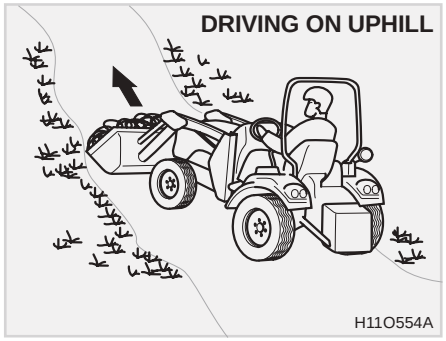
D21O611A

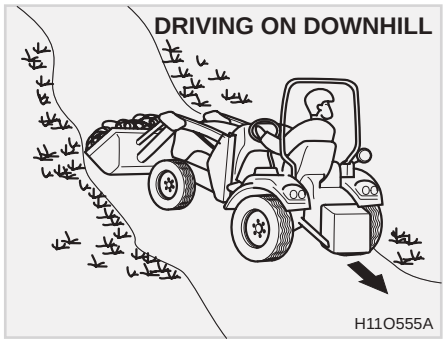
⚠ WARNING

- ***When you do install the front loader, certainly mount the bolt for mounting bracket at indicated point.***

DRIVING ON SLOPE

WHEN LOADED BUCKET AND REAR BALLAST ARE INSTALLED





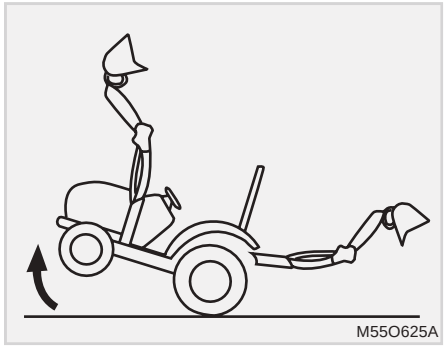
WHEN UNLOADED BUCKET AND REAR BALLAST ARE INSTALLED

When driving downhill with the empty bucket and rear ballast installed, keep the rear ballast toward the higher level of the ground. In other words, drive backward on uphill and forward on downhill.

Use the 4WD to increase traction when driving on a slope with the loaded bucket and rear ballast installed.

On a bumpy road, lift the bucket and implement high so that they do not hit any obstacle.

PARKING WITH LOADER INSTALLED



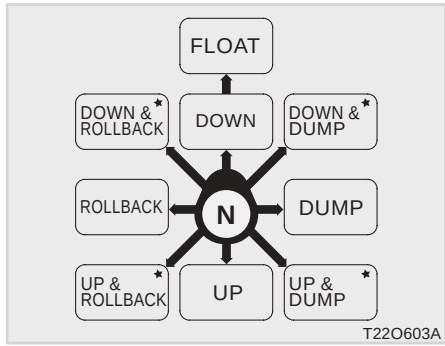
JOYSTICK LEVER(IF EQUIPPED)

(1) Joystick Lever

(1) Joystick Lever
(A) Boom Down *(B) Boom Up*

⚠ CAUTION

- **When parking a tractor which is equipped with a loader or backhoe, make sure that the bucket of loader or backhoe is lowered on the ground. Otherwise, the tractor can become unstable, leading to an unexpected accident, such as roll over.**

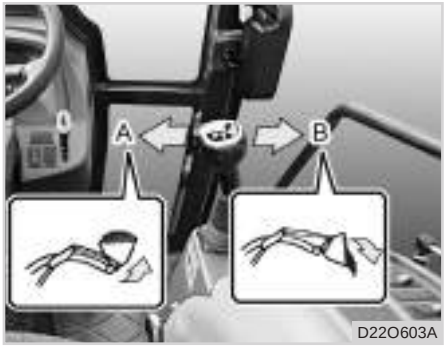


(1) Joystick Lock Lever

1. Up and down of boom

   Pulling the joystick lever back (B) lifts the boom of the loader while pushing it forward (A) lowers the loader boom.

7



(A) Bucket Roll Back (B) Bucket Dump

2. Roll back & Dump

"Roll back" means that the bucket scoops up. To operate this function, move the joystick lever to the left (A). "Dump" means that the bucket dumps. To operate this function, move the joystick lever to the right (B).

3. Float

The floating function is activated when the joystick lever is pushed one position further to forward from the down position. When the lever is in this position, the boom moves up and down freely along the surface of the ground as the hydraulic line is opened from the valve to the boom cylinder. This function is useful when removing soft objects on hard ground (for example, when removing snow or sand on paved road.

⚠ WARNING

- ***If moving the lever to the floating position while the boom is up in the air, the boom can fall freely and lead to an accident.***

4. Regen

The regen function is activated when the joystick lever is pushed one position further to the right from the dump position. The regen means "fast dumping".

5. Down & Roll back

The boom can be lowered and the bucket can be rolled back at same time by operating the joystick lever to the front left position (10 o'clock position). However, the operation time may not be shortened much since the boom is lowered first and then the bucket is rolled back later due to unbalanced hydraulic pressure in the hydraulic circuit.

6. Down & Dump

The boom can be lowered and the bucket can dump at same time by operating the joystick lever to the front right position (2 o'clock position). However, these two operations may not be performed simultaneously due to unbalanced hydraulic pressure in the hydraulic circuit.

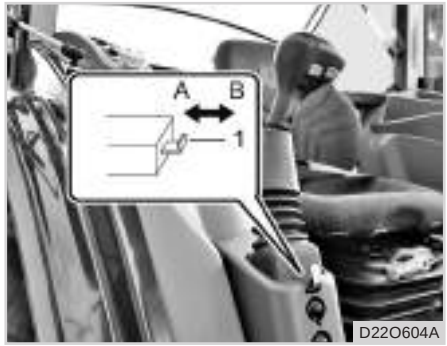
7. Up & Roll back

The boom can be lifted and the bucket can scoop up at same time by operating the joystick lever to the rear left position (7 o'clock position). However, these two operations may not be performed simultaneously due to unbalanced hydraulic pressure in the hydraulic circuit.

8. Up & Dump

The boom can be lifted and the bucket can dump at same time by operating the joystick lever to the rear right position (5 o'clock position). However, the operation time may not be shortened much since the bucket dumps first and then the boom is lifted later due to the unbalanced hydraulic pressure in the hydraulic circuit.

9. Locking / Unlocking joystick



(1) Joystick Lock Lever
(A) Lock *(B) Unlock*

Pressing the joystick lock lever in, locks the joystick, while pulling it outward, unlocks the joystick as shown in the figure.

⚠ WARNING

- ***Make sure to lock the joystick lever while moving. Otherwise, its vibration can cause safety problems, such as falling off of the implement.***

⚠ WARNING

- ***Do not leave the tractor with the boom off the ground in any circumstances. If it is neces-sary, lock the joystick.***
- ***When the joystick lever is not in use, lock it since the implement can fall down if the lever is operated accidently.***

⊕ IMPORTANT

- **If the boom or bucket is not operating properly, lower the bucket onto the ground, stop the engine and move the joystick lever to remove all hydraulic pressure in the system. Then, check all the hydraulic connections and reconnect them correctly.**
- **Before connecting or disconnecting the hydraulic hose coupling from the loader, lower the boom onto the ground, stop the engine, and move the joystick lever front and back, left and right for several times to remove residual pressure in the hydraulic hose.**

⚠ WARNING

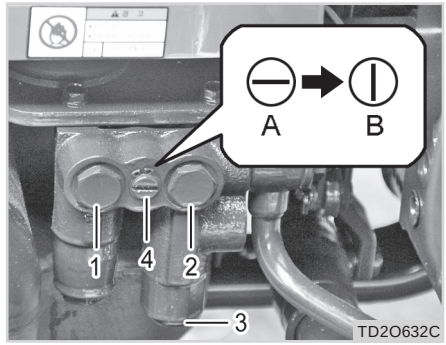
- ***Pressurized diesel fuel or hydraulic fluid may be sprayed on your skin or eyes, leading to a severe injury or even death.***
- ***To for leaks, use a board and wear protective gloves and goggles.***
- ***If your eyes come into contact with the hydraulic fluid, seek medical attention immediately.***
- ***Never try to disconnect the tube and quick coupler while the tractor and implement are in operation. Release the pressure by operating the lever after the engine is stopped.***

JOYSTICK VALVE PORT (IF EQUIPPED)

(E) Bucket Up *(F) Bucket Down*
(G) Boom Up *(H) Boom Down*

PORT	DIRECTION	FUNCTION
E		Bucket Up
F		Bucket Down
G		Boom Up
H		Boom Down

HYDRAULIC BLOCK (IF EQUIPPED)



(1) In (From Implement`s Control Valve)
(2) Out (To Implement`s Control Valve)
(3) Return (From Implement's Control Vlave)
(4) Flow Plug
(A) OFF *(B) ON*

NOTE

- The hoses and couplers for installation are supplied with the loader.
- For detail about implement installation method, refer to **KIOTI** front loader owner's manual.

⚠ WARNING

- *Never let anyone get in the loader and use the loader as a workbench. Otherwise, it may lead to injury or even death.*
- *Do not stand under the lifted loader or get close to it. Also, lower the loader arm onto the ground before leaving the tractor. Otherwise, it may lead to injury or even death.*
- *Never carry a big object with the loader unless a proper implement is attached. Keep a carried object low during driving. Otherwise, it may lead to injury or even death.*

⚠ WARNING

- *When attaching or detaching the loader, fix all parts which are connected to the bucket and boom. The bucket or boom can be accidentally dropped down, leading to injury or even death.*
- *Do not allow loader arms or attachment to contact electrical power lines. Electrocution will cause serious injury or death.*

⊕ IMPORTANT

- **ROPS (Roll Over Protective Structure), sun canopy or cabin are not a FOPS (Falling Object Protective Structure). It never can protect the riders against falling objects. Avoid driving the vehicle into a dangerous area such as falling rocks zone. Otherwise, it may lead to a serious injury.**

MEMO

MAINTENANCE CHECK LIST
DAILY CHECK ITEM

SERVICE SCHEDULE		Page
Item	SERVICE REQUIRED	
Engine Oil	Check the oil level and add as needed. Do not overfill.	8-14
Hydraulic (Transmission/ front axle) oil level	Check level and add as needed.	8-13
Air cleaner and its filter	Check the filter condition for leakage and damage. Clean the element.	8-27
Engine Cooling System	Clean the radiator, screen and grill. Check coolant level and add anti-freeze if necessary.	8-16, 8-34
Seat Belt	Check the condition of seat belt and mounting hardware. Repair or replace as needed.	
Tires	Check for wear, damaged tires and ensure for proper sized tires and correct air pressure.	
Parking brake	Check for automatic rotation and have it adjusted by your dealer if necessary.	
Clean Pedals	Clean brake pedals, travel control pedal, clutch pedal and footrest area.	8-16
General Items	Check for loose or broken parts, damaged cabin component, instrument operation, loose wheel nuts / bolts, oil leaks and damaged or missing signs (Decals), floor mat. Replace them as necessary.	8-22
PTO	Check spline condition. Replace the PTO cover if damaged or missing.	
Three-point Linkage	Check operation and condition of pins, links and bars.	
Loader (If Equipped)	Check mounting hardware for loose or broken parts.	

※ Refer to section "Maintenance code" for detailed information related to maintenance codes.

MAINTENANCE SCHEDULE CHART

NO.	Item \ Maintenance Interval		Initial 50 hours	Run Hour											Remarks		Refer to page
				50	100	200	250	400	600	800	1500	3000	1 Year	2 Year			
1	Transmission oil filter	Replace	○			○											8-17
	HST oil filter	Replace	○			○											
	Transmission fluid level	Check	○														8-17
	Front axle oil level	Check	○														8-32
	Air cleaner element	Check	○														8-22
	Clutch pedal free play	Adjust	○		○												8-19
	Brake pedal free play	Adjust	○		○												8-20
	Radiator grill cleaning	Check	○														8-16
	Coolant level	Check	○														8-34
2	Engine start system	Check		○													
	Greasing	Apply		○													8-21
	Wheel bolt torque	Check		○													8-22
3	Engine oil & Filter	Check			○												8-30
	Clutch pedal free play	Adjust			○												8-19
	Brake pedal free play	Adjust			○												8-20
	Battery condition	Check			○										*3		8-25
	Air cleaner element	Clean			○										*1	#	8-22

NO.	Item / Maintenance Interval		Initial 50 hours	Run Hour											Remarks		Refer to page
				50	100	200	250	400	600	800	1500	3000	1 Year	2 Year			
3	Fan belt, Air-con belt	Adjust			○										*3		8-27
	Fuel line	Check			○											#	8-24
4	HST oil filter	Replace				○											
	Air cleaner element	Replace				○							○		*2	#	8-27
	Fuel filter element	Replace				○										#	8-23
	Radiator hose and clamp	Check				○											8-28
	Power steering hose and oil line	Check				○											8-28
	Intake air line	Check				○											8-29
	Toe-in	Adjust				○											8-29
5	Engine oil & Filter	Replace						○					○				8-30
	Transmission fluid	Replace						○									8-19
	Front axle oil	Replace						○									8-32
6	Front axle pivot	Adjust							○								8-33
7	Engine valve clearance	Adjust								○							8-33
8	Fuel injection nozzle injection pressure	Check									○					#	
9	Injection pump	Check										○				#	
10	Engine oil & Filter	Replace											○				8-30
	Air cleaner element	Replace											○		*2	#	8-27

NO.	Item / Maintenance Interval		Initial 50 hours	Run Hour											Remarks		Refer to page
				50	100	200	250	400	600	800	1500	3000	1 Year	2 Year			
10	Air-con filter	Replace											○				
11	Power steering hose and oil line	Replace												○			8-28
	Fuel line	Replace												○		#	8-24
	Intake air line	Replace												○	*3		8-29
	Radiator hose and clamp	Replace												○			8-28
	Cooling system	Clean												○			8-34
	Coolant	Replace												○			8-34
12	Fuel system	Check													*3		8-36
	Fuse	Replace													*3		8-40
	Bulb	Replace													*3		8-44

IMPORTANT

- **The symbol of the remark follows.**
  - *** 1 Air cleaner should be cleaned more often in dusty conditions than in normal condition.**
  - *** 2 Every year or every 5 times of cleaning.** *** 3 Replace only if necessary.**
- **The items listed above (# marked) are registered as emission related critical parts by KIOTI in U.S. EPA exhaust emission standard non-road emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the above instruction.**
- **Engine should be operated, used and maintained in accordance with the owner's manual in order to maintain the emissions performance of the engine.**

MAINTENANCE SCHEDULE CHART BY OPERATING HOURS

Run Hour	Check List											
	1	2	3	4	5	6	7	8	9	10	11	12
50	○	○										
100		○	○									
150		○										
200		○	○	○								
250		○										
300		○	○									
350		○										
400		○	○	○	○							
450		○										
500		○	○									
550		○										
600		○	○	○		○						
650		○										
700		○	○									
750		○										
800		○	○	○	○		○					
850		○										
900		○	○									

Run Hour	Check List											
	1	2	3	4	5	6	7	8	9	10	11	12
950		○										
1000		○	○	○								
1050		○										
1200		○	○	○	○	○						
1250		○										
1300		○	○									
1350		○										
1400		○	○	○								
1450		○										
1500		○	○					○				
1550		○										
1600		○	○	○	○		○					
1650		○										
1700		○	○									
1750		○										
1800		○	○	○		○						
1850		○										
1900		○	○									

Run Hour	Check List											
	1	2	3	4	5	6	7	8	9	10	11	12
1950		○										
2000		○	○	○	○							
2050		○										
2100		○	○									
2150		○										
2200		○	○	○								
2250		○										
2300		○	○									
2350		○										
2400		○	○	○	○	○	○					
2450		○										
2500		○	○									
2550		○										
2600		○	○	○	○							
2650		○										
2700		○	○									
2750		○										
2800		○	○	○	○							

Run Hour	Check List											
	1	2	3	4	5	6	7	8	9	10	11	12
2850		○										
2900		○	○									
2950		○										
3000		○	○	○	○	○	○	○	○			
Every 1 year										○		
Every 2 years											○	
As Required												○

LUBRICANTS

To prevent serious damage to the equipment, use only genuine **KIOTI** fluids, oils and greases or equivalents.

No.	Item	[U.S.gal. (L)]	Lubricants
1	Fuel	DK4520/5020/5520: 11.9 (45) DK4220/4720/5320/6020: 12.7 (48)	Ultra-low sulfur diesel (Sulfur content: 10 ppm or less)
2	Coolant	2.1 (7.9)	Antifreezing solution: Ethylene glycol + Pure water (50:50)
3	Engine oil	1.95 (7.4)	Grade : API CJ grade above Oil Viscosity : SAE 10W30, 10W40, 15W40
4	Transmission fluid	11.4 (43.0)	DAEDONG : UTF55 or equivalent fluid oil as below S h e l l : Donax-TD, Exxonmobil: Mobilfluid 424 Exxon Hydraul 560 B P : Tractran UTH In winter season : DURATRANTM XL Synthetic Blend
5	Front axle oil	1.48 (5.6)	SAE 90 gear oil or better, or same as Transmission oil
6	Grease - Front axle support - Brake pedal - Brake lever - Top link holder - Control lever	A little	SAE multi-purpose type grease

⚠ WARNING

- ***Check the oil level periodically. Correct the oil level, if needed, before operating.***
- ***Always check and add oil with the tractor on a flat, level surface.***
- ***Do not deliberate tampering with or misuse of the engine emissions control system; in particular with regard to deactivating or not maintaining an exhaust gas recirculation (EGR).***
- ***Engine should be promptly rectified any incorrect operation, use or maintenance fo the emissions control system.***
- ***Using poor fuel can be damged on high pressure pump and injectors.***
- ***Use the follwing fuel to maintain the performance of the emissions control system. Fuel with Sulphur content not greater than 10mg/kg, cetane number not less than 45 and FAME content not greater than 8% v/v shall be used.(EU model)***

DAILY CHECK
HOW TO DISCONNECT THE HOOD

(1) Hood
(2) Opening Knob
(A) Pull
(B) Open

1. It is very easy to open the hood with one touch pulling knob.
2. The hood stays open by itself with air cylinder. To close it, just press down without any bothering process.

(1) Hood

⚠ CAUTION

- **Never open the hood while the engine is running.**

⚠ CAUTION

- **Be careful not to trap your fingers when closing the side cover.**
- **Never open the side covers while the engine is running.**

WALK AROUND INSPECTION

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

⚠ CAUTION

To avoid personal injury:

- **Turn off the engine, apply the parking brake, and perform inspection and maintenance on a level ground.**

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

CHECKING AND ADDING FUEL

(1) Fuel Tank Cap

The fuel tank is installed in the middle of the tractor body. Make sure to use pure and high-quality diesel fuel.

Fuel Tank Capacity [U.S.gal. (L)]	
DK4520/5020/5520	11.9 (45)
DK4220/4720/5320/6020	12.7 (48)

1. Turn the key switch to "ON", check the amount of fuel by fuel gauge.
2. If the needle on the fuel gauge is close to “E” or the fuel level is low, open the fuel tank filler cap and add the fuel.
3. After adding the fuel, close the fuel tank filler cap.

⚠ CAUTION

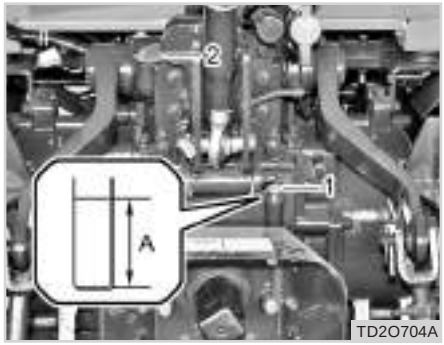
To avoid personal injury:

- **Do not smoke while refueling.**
- **Add the fuel in a well-ventilated area.**
- **Be sure to stop the engine before refueling.**
- **As dirt or sand contained in fuel may cause the fuel injection pump to malfunction, use the strainer when refuelling.**

CHECKING TRANSMISSION FLUID LEVEL

⚠ CAUTION

- **Be careful not to let the fuel tank become empty. Otherwise air will enter the fuel system, necessitating bleeding before next engine start.**
- **Be careful not to spill during refueling. If a spill occur, wipe it off at once, or it may cause a fire.**
- **If unit is not used for a long time, make sure the fuel viscosity is suitable for the cold weather.**



(1) Oil Dipstick (2) Oil Filler Plug
(A) Oil Level Is Acceptable Within This Range

1. Park the tractor on a level ground and lower the implement.
2. Make sure the parking brake is set.
3. Set all shift levers into the neutral position.
4. Stop the engine.

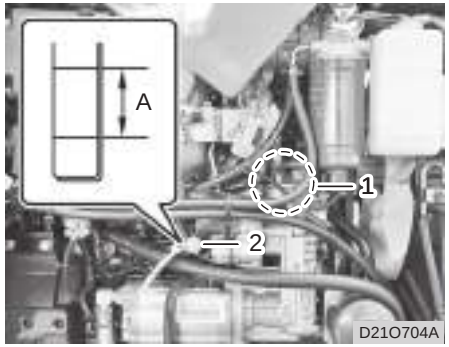
(1) Oil Dipstick
(A) Upper Limit

5. Pull out the oil dipstick, clean it, and then insert it into its original position. Then, pull it out again and check if the oil level is within the specified range.
6. If the oil level is too low, add some new oil so that the level is within the allowable range.

CHECKING ENGINE OIL LEVEL

IMPORTANT

- **If oil level is low, do not run engine.**
- **Never add the oil over the upper limit.**
- **Be sure to check the oil level after installing hydraulic implement. Add the fluid as needed.**
- **Check the oil level with the cylinders of an implement extended and check again with cylinders retracted. Add the oil to adjust average oil level in the range of the oil limit. (Upper or lower)**



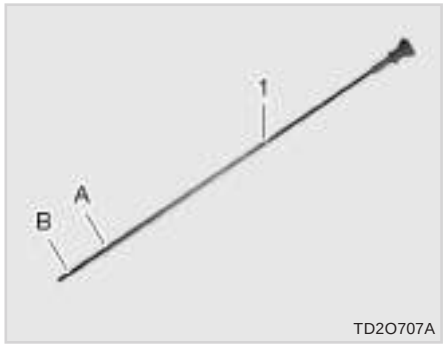
(1) Oil Filler Neck (2) Oil Dipstick
(A) Oil Level Is Acceptable Within This Range

1. Check the engine oil daily.
2. Park the tractor on a level ground and lower the implement.
3. If the engine was just running, wait for approx. 5 minutes before checking the oil level.

CAUTION

To avoid injury:

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



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

4. Pull out the oil dipstick, clean it, and then insert it into its original position. Then, pull it out again and check if the oil level is within the specified range.
5. If the oil level is too low, add new oil so that the level is within the allowable range.

CHECKING COOLANT LEVEL

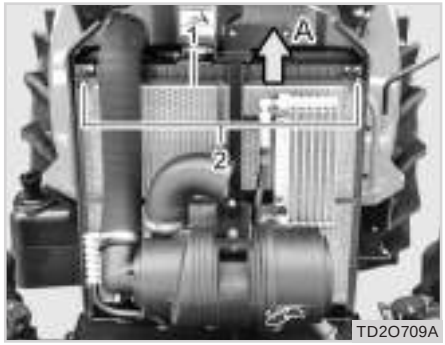
IMPORTANT

- **When using oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.**
- **Do not start the engine when the oil level is below lower limit.**
- **Wipe the oil dipstick with clean cloth or tissue. If foreign material enters the oil sump, it can lead to malfunction of the engine.**
- **Never add the oil over the upper limit.**

(1) Reservoir Tank
(A) FULL *(B) LOW*

1. Check to see that the coolant level is between the "FULL" and "LOW " marks of reservoir tank.
2. When the coolant level d**rops** due to evaporation, add water only up to the "FULL" level mark. In case of leakage, add anti-freeze and water in the specified mixing ratio up to the middle of the range. (Refer to the instructions for cleaning the cooling system and changing coolant in Chapter Maintenance for every two years.)
3. The tractor is furnished in the factory with a mixture of anti-freeze (ethylene glycol) and water in a ratio of 50:50 which is usable in any season.

CLEANING GRILL, RADIATOR SCREEN



(1) Radiator Screen
(A) Detach *(B) Hook*

1. Check that the radiator grill and screen are free of foreign materials.
2. If there are foreign materials stuck in the screen, remove it from its hooks and remove all foreign materials from it.

⚠ CAUTION

To avoid accidents:

- **Be sure to stop the engine before removing the screen.**

IMPORTANT

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

CHECKING BRAKE AND CLUTCH PEDALS

1. The brake and clutch pedals should be inspected for free travel, and smooth operation.
2. You should adjust these pedals if an incorrect measurement is found. (Refer to the instructions for adjusting the clutch and brake pedals in the Chapter Maintenance.)

NOTE

- When depressing the brake pedals separated, both of the brake pedals should be moved down to the same depth.

CHECKING GAUGES, METER AND INDICATORS

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

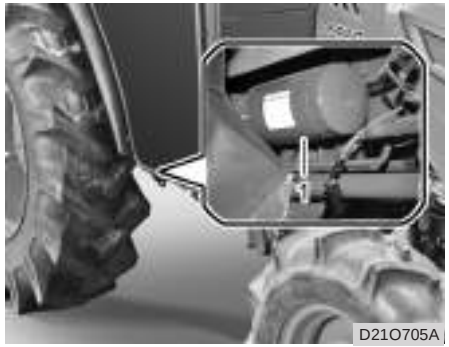
CHECKING HEAD LIGHT, HAZARD LIGHT ETC.

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

CHECKING SEAT BELT AND CABIN

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

REPLACING TRANSMISSION FLUID AND FILTER



(1) Hydraulic Filter

(1) Drain Plug

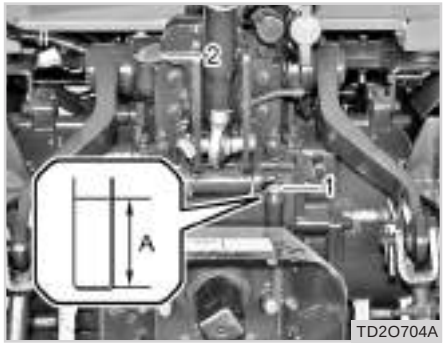
If transmission fluid is contaminated or the transmission is repaired, transmission fluid should be changed. Make sure to replace its filter as well.

However, Replace the oil filter only at every 200 hours of operation.

1. Park the tractor on a level ground and start the engine to warm it up.
2. Stop the engine, apply the parking brake and remove the drain plug.
3. To drain the used fluid, place the oil container under the transmission case and remove the drain plug to drain used fluid.

   If the fluid does not flow out freely, unscrew the breather plug on the side of the hydraulic cylinder on the left of the top link bracket to facilitate drainage. (Refer to next page) Reinstall the drain plugs securely afterward.

4. Unscrew the fluid filter from the rear right section on the tractor using a filter wrench.



(1) Oil Dipstick (2) Oil Filler Plug
(A) Oil Level Is Acceptable Within This Range

5. Apply a thin film of clean oil onto the O-ring of a new filter.
6. Tighten the filter until it touches the mounting surface. Then, tighten the filter for a half turn further with a hand.
7. After installing a new filter, run the engine for a few minutes and stop it.
8. Check the oil level again and add more oil to the specified level.

Oil Capacity
11.36 U.S.gal. (43 L)

⚠ CAUTION

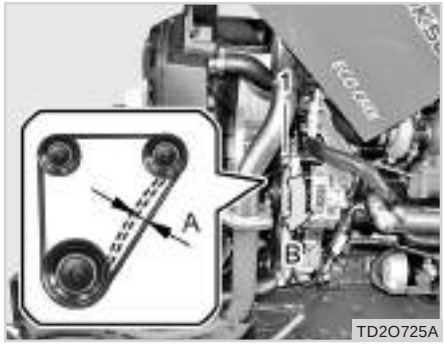
To avoid injury:

- **Be sure to stop the engine before changing the fluid or replacing the filter.**
- **Cool down the fluid sufficiently. You can get burnt by hot fluid.**

IMPORTANT

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

ADJUSTING FAN BELT TENSION



(1) Adjusting Bolt
(A) Adjusting Belt Tension *(B) Pull*

In order to extend the fan belt's lifetime, the tension of the belt should be correctly adjusted if it slips. The belt tension should be inspected regularly according to the following procedure:

1. Stop the engine and apply the parking brake.
2. Open the hood.
3. In order to measure the belt tension, apply thumb pressure strongly to the "A" location of belt.

Belt deflection for proper fan belt tension (A)
A deflection of between 0.27 ~ 0.35 in. (7 ~ 9 mm)

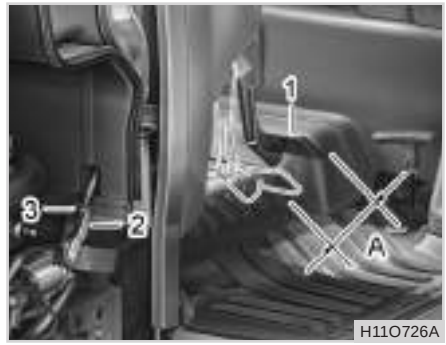
4. If the tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
5. Be sure to retighten the alternator mounting bolt and hinge bolt securely after adjusting belt tension.
6. Replace the fan belt if it is damaged, cracked or worn.

⚠ CAUTION

To avoid injury:

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

ADJUSTING CLUTCH PEDAL



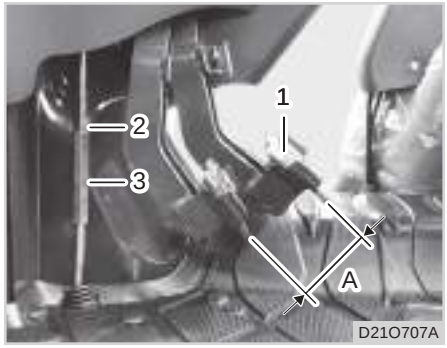
(1) Brake Pedal *(2) Clutch Cable*
(3) Lock Nut
(A) Free Play

1. If the clutch does not operate properly due to its excessive play, or periodically, adjust its play.
2. To adjust the free play, unscrew its lock nut and adjust the clutch cable.
3. After setting the play properly, tighten the lock nut firmly.

Proper clutch pedal free play (A)
0.78~1.18 in. (20~30 mm)

8

ADJUSTING BRAKE PEDAL



(1) Brake Pedal *(2) Lock Nut*
(3) Turn Buckle
(A) Free Play

Prolonged use of the brake pedal increases its free play. This free play deteriorates the brake performance and can cause a problem to the brake system.

The brake pedal can be adjusted as follows:

1. Release the parking brake.
2. Depress the right brake pedal slightly until some resistance is felt. Then, measure the free play from the top of the pedal.
3. When adjustments are needed, loosen the locking nut and turn the turn buckle until the rod length is at the desired and acceptable limit.
4. After adjustment, tighten the locking nut firmly.
5. Repeat the same procedure for the left brake pedal and measure its free play.
6. Interlock the brake pedals after checking or adjusting them.

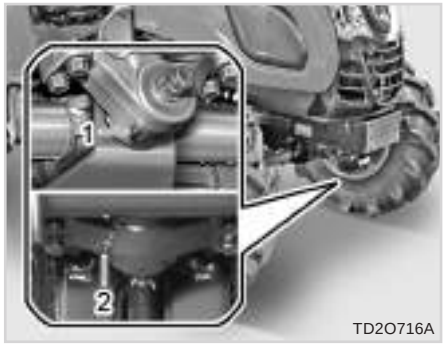
Proper brake pedal free travel (A)
0.8~ 1.2 in. (20 ~ 30 mm)

⚠ CAUTION

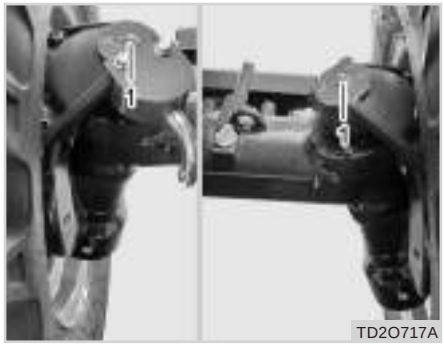
- **Stop the engine and chock the wheels before checking brake pedal.**
- **Keep the free play in the right and left brake pedals equal.**

EVERY 50 HOURS
LUBRICATING GREASE NIPPLE

Apply quality multi-purpose grease to the locations specified in the following figure at every 50 hours of use or when necessary. Also, record the operating hour on every application.



(1) Front Bracket (Axle Pivot)
(2) Rear Bracket (Axle Pivot)



(1) Bevel Gear Case (LH/RH)

(1) Position Control Lever Shaft Housing

CHECKING WHEEL BOLT/NUT TORQUE

(1) Front Wheel Bolt/nut
(2) Rear Wheel Bolt/nut

⚠ CAUTION

To avoid injury:

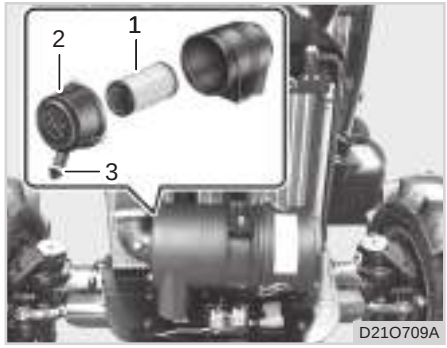
- **Never operate tractor with a loose rim, wheel, or axle.**
- **Any time bolts and nuts are loosened, retighten to specified torque.**
- **Check all bolts and nuts frequently and keep them tight.**

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

Item		Tightening torque
Front wheel	Bolt	225 N·m 166 lbf·ft 20~23 kgf·m
	Nut	
Rear wheel	Bolt	
	Nut	

EVERY 100 HOURS

CLEANING AND REPLACING AIR CLEANER FILTER



(1) Filter *(2) Dust Cap*
(3) Evacuator Valve

1. The air cleaner uses a dry element. Never apply oil.
2. Make sure that dust is not accumulated over the half of the dust cap. Remove the dust cap, wipe out any dust and clean the filter every week. If the tractor is operated in extremely dusty conditions, daily inspection is required.
3. Do not service the filter unless it should be cleaned.

4. For filter replacement, refer to the instruction for replacing the air cleaner filter for every year.

To clean the filter, use only clean dry compressed air on the inside of the filter. Air pressure at the nozzle must not exceed 2 kgf/cm² (29 psi). Maintain reasonable distance between the nozzle and the filter.

IMPORTANT

- **The air cleaner will only fulfill its function if it is correctly and regularly maintained. A poorly maintained air cleaner will mean loss of power, excessive fuel consumption and a reduction in engine life.**
- **Do not run the engine with filter element removed.**

IMPORTANT

- **Be sure to refit the cover with the arrow ↑ (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element. (Refer to the instructions for replacing the air cleaner filter for every year in Chapter Maintenance.)**

EVACUATOR VALVE

Open the evacuator valve gab by fingers once a week under ordinary conditions or daily when used in dusty conditions to get rid of large particles of dust and dirt.

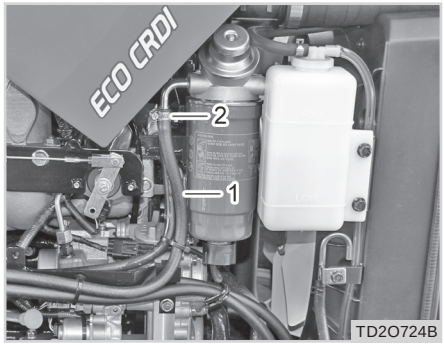
FUEL FILTER

REMOVING WATER FROM FUEL FILTER

1. Water and dust in fuel are accumulated in the filter. Remove the plug from the bottom of the fuel filter to drain any impurities.
2. Tighten the filter with a hand (not a tool) after drainage.
3. Start the engine and check for fuel leakage.

CHECKING FUEL LINES

(1) Fuel Filter (2) Drain Plug



(1) Fuel Pipe (2) Fuel Hose Clamp

REPLACING FUEL FILTER

1. Wipe the surface of the fuel filter clean.
2. Unscrew the plug on the bottom of the fuel filter to drain fuel.
3. Remove the fuel filter.
4. Remove foreign materials, such as dirt, thoroughly and replace the fuel filter with a new one.

Although checking the fuel pipe connection is recommended every 100 service hours, it should be done every 6 months if operation does not exceed 100 hours in 6 months.

1. If the hose clamps are loose, apply a slight coat of lubricant onto the threads and securely tighten it.
2. The fuel pipe is made of rubber and ages regardless of period of service. Change the fuel pipe together with the hose clamps every two years and securely tighten.
3. If the fuel pipes and hose clamps are found damaged or deteriorated earlier than two years, then change them immediately.
4. After the fuel pipe and hose clamps have been changed, bleed the fuel system.

⚠ WARNING

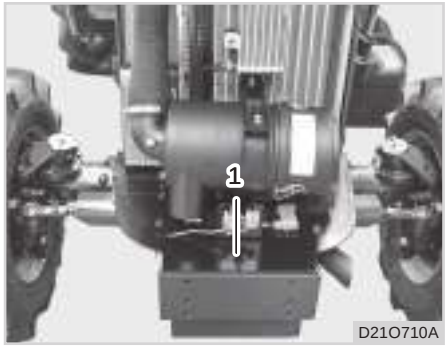
- ***Stop the engine when checking the items above.***
- ***Inspect the fuel pipe regularly. The fuel pipes are subject to wear and aging. Failure to perform periodic inspections may lead to a fuel leak. Fuel leaking on a hot engine could cause a fire.***

IMPORTANT

- **When disconnecting the fuel pipe for replacement, plug both ends with cloth or paper to prevent dust or foreign material from entering it. Otherwise, the fuel injection pump can be damaged. Pay extra caution to the fuel pump to prevent dust from entering it.**

BATTERY

PRECAUTIONS FOR HANDLING



(1) Battery

Mishandling the battery shortens the service life and adds to maintenance costs. If the battery is insufficiently charged, the headlights may dim and the engine is hard to start. It is important to inspect the battery periodically.

1. The battery cable should always be clean and firmly connected. When installing a new or used battery, clean its terminals.
2. Check the battery and cable for damage and corrosion.
3. Apply grease to the terminals and cable end in order to prevent corrosion.

WARNING

- ***The battery gas can explode. Do not expose the battery to flames or sparks. It may cause a fire.***
- ***The battery fluid contains sulfuric acid that can burn you. Do not allow the battery fluid to contact your eyes, skin, or painted surfaces. If you accidentally get it in your eyes or on your skin, flush with water and contact your doctor.***
- ***Be sure to wear eye protection while working on the battery. The battery fluid can hurt your eyes.***
- ***Use only the battery with the specified voltage. Otherwise, it may cause a fire.***

CHARGING

1. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, and then recharge in the standard fashion.
2. Boost charging is only for emergencies. It will partially charge the battery at a high rate and in a short time. Failure to do this will shorten the battery's service life.
3. When the battery is discharged and should be replaced, replace it with a new one with same specification and capacity.

Battery type	Volts (V)
80D26R (80 AH)	12

⚠ CAUTION

- **The charge warning lamp comes on if the charging system is defective. If it comes on while driving, have the system checked or repaired by your local KIOTI Dealer.**
- **Keep the battery fully charged. If the battery fluid concentration is too low during the winter season, the battery may be frozen.**
- **Do not start the engine when the battery is frozen. Try to warm it up first.**
- **If the battery is not securely installed, the battery case and electrolytes could be damaged by vibration. To prevent the battery acid from contacting the terminals, apply grease around the battery terminals and connections.**
- **Never check the charge status of the battery by placing a metal object across the posts. Use a voltmeter or hydrometer.**

DIRECTION FOR STORAGE

1. When storing the tractor for a long period, remove the battery from tractor and store in a dry place out of direct sunlight.
2. The battery self discharges while it is stored. Recharge it once every three months in hot seasons and once every six months in cold seasons.

CHEKING ENGINE OIL FILTER

1. See pages 8-17.

ADJUSTING FAN BELT TENSION

1. See pages 8-21.

ADJUSTING CLUTCH PEDAL FREE PLAY

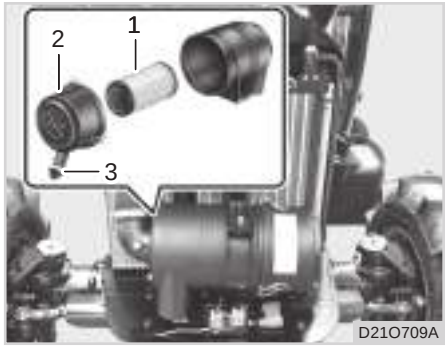
1. See pages 8-21.

ADJUSTING BRAKE PEDAL FREE PLAY

1. See pages 8-22.

EVERY 200 HOURS

REPLACING AIR CLEANER FILTER



(1) Filter *(2) Dust Cap*
(3) Evacuator Valve

If the air cleaner is not in a good condition, the lifetime of the engine can be shortened, excessive soot can be produced, and the engine power can be deteriorated. Therefore, the filter should be inspected frequently. Its replacement interval can be changed according to driving conditions. Replace the filter according to the following procedure:

1. Open the hood and check the suction hose and air cleaner housing for damage.
2. Unscrew the air cleaner clip and remove the cover.
3. Clean the inside of the air cleaner housing thoroughly.
4. Replace the filter and check the housing for damage.
5. Install the cover and fix it with the clip.

NOTE

- When installing the cover, make sure that the dust collection valve is heading down.

CAUTION

- **Use only a KIOTI genuine filter. If using a product other than the genuine one, it can damage the engine internal section and sensor.**
- **Make sure that no dust enters the system by installing the cover firmly.**
- **When removing the filter, be careful not to let foreign material enter the air inlet.**

CHECKING RADIATOR HOSE AND CLAMP

(1) Clamp (2) Radiator Hose

Check to ensure the radiator hoses are free from damage and are tightened properly every 200 hours or every 6 months, whichever comes first.

1. If the hose clamps are loose or water leaks from hose, tighten clamps securely.
2. If the radiator hose is swollen, hardened, cracked or damaged, it should be replaced immediately. Also, it should be replaced every 2 years.

Take the following actions in the event the coolant temperature reaches the boiling point, what is called "Over-heating".

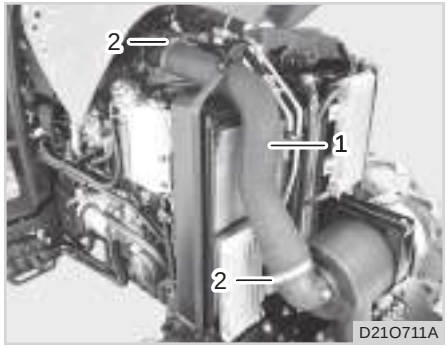
1. Stop the machine in a safe place and keep the engine unloaded idling.
2. After 5 minutes of unloaded idling, shut the engine down.
3. Keep yourself away from the tractor for another 10 minutes or until steam has stopped blowing out of the engine.
4. Make sure that there is no danger and repair the cause of the overheating according to the manual's instruction. (Refer to the instruction in Chapter. Troubleshooting before starting the engine.)

POWER STEERING LINE

(1) Power Steering Oil Line

1. Check to see that all hydraulic lines and hose fittings are tight and undamaged.
2. If damage is found you should replace the hose or clamp at once.

CHECKING INTAKE AIR LINE

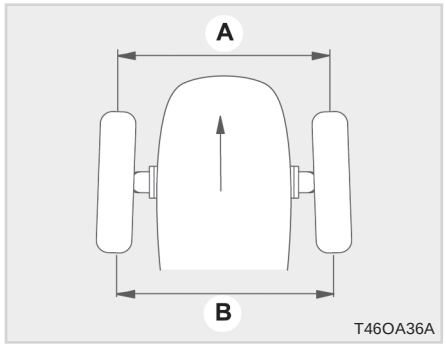


(1) Air Line Hose *(2) Clamp*

1. If the hose clamps are loose, tighten clamps securely.
2. If the hoses and clamps are damaged, you must replace them at once. Failure to do so could lead to engine damage.

ADJUSTING TOE-IN

ADJUSTING PROCEDURE



(A) Wheel - To - Wheel Distance At Front
(B) Wheel - To - Wheel Distance At Rear

1. Park tractor on a flat surface.
2. Turn steering wheel so front wheels are pointed straight ahead.
3. Lower the implement, lock the parking brake and stop the engine.
4. Measure distance between tire beads (Center) at front of tire and hub height.
5. Measure distance between tire beads at back of tire and hub height.
6. Front distance should be 2 ~ 8 mm (0.079 ~ 0.315 in.) less than rear distance. If not, adjust the length of the tie rod joint.

REPLACING TRANSMISSION FLUID FILTER

1. See pages 8-19.

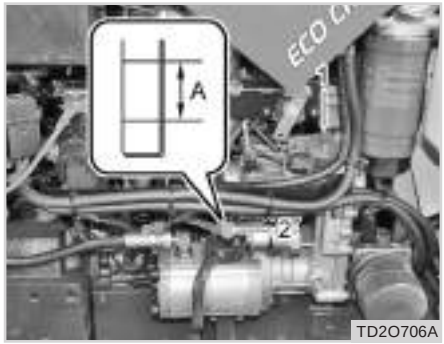
EVERY 250 HOURS

REPLACING ENGINE OIL AND FILTER

1. See pages 8-17.

EVERY 400 HOURS

CHANGING ENGINE OIL AND REPLACING FILTER



(1) Oil Filler Hole (2) Oil Dipstick
(A) Oil Level Is Acceptable Within This Range

(1) Drain Plug

1. Park the tractor on a level ground and start the engine to warm it up.
2. Stop the engine, apply the parking brake and remove the drain plug.
3. Wait until the oil is cooled down.
4. Place the oil pan under the engine and unscrew the drain plug counterclockwise to drain the oil completely. All the used oil can be drained out easily when the engine is still warm.

(1) Engine Oil Filter

5. Remove the oil filter from the bottom of the fuel filter on the right side of the engine.
6. Apply a thin film of oil to the O-ring of a new filter and tighten the new filter firmly by hand.
7. Fill the engine oil to the specified level and tighten the oil filter to the specified torque.

Oil Capacity [U.S. gal(L)]
1.95 (7.4)

8. Run the start motor for approx. 10 seconds to distribute oil to each part of the engine.
9. Run the engine for approx. 5 minutes and check for proper operation through the engine oil warning lamp. Then, stop the engine. (It is normal that the oil warning lamp is off while the engine running)
10. Check the engine oil level again with the oil dipstick. If the level is low, add more oil.

NOTE

- The engine oil filter should be replaced when changing the engine oil.

⚠ WARNING

- ***The engine oil is very hot while the engine is running or right after the engine is stopped. Be careful not to be burnt.***
- ***Avoid oil contact while changing or adding engine oil and wear eye protection to prevent eye contact.***
- ***Prolonged and repeated contact with the engine oil may cause skin disorders and skin cancer. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.***
- ***Keep the used oil out of reach of children.***

CHANGING FRONT AXLE CASE OIL

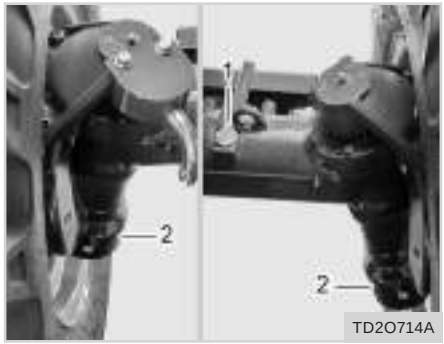
⚠ CAUTION

To avoid injury:

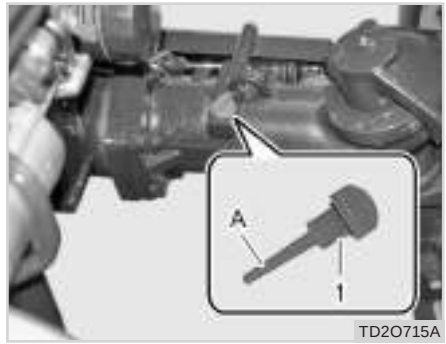
- **Be sure to stop the engine before changing the fluid or replacing the filter.**
- **Check the engine oil level before every operation of the tractor. If the engine oil is insufficient, the engine can be damaged, and this is not covered by warranty. Be sure to add the engine oil when its level is below the lower limit of the oil dipstick.**
- **Do not dispose of used oil and oil filter into drainage and other places not designated by regulations. Observe applicable regulations when disposing used oil and filters.**

IMPORTANT

- **Use only specified engine oil and KIOTI genuine filter to insure smooth operation and durability of the engine.**



(1) Oil Filler Plug *(2) Drain Plug*



(1) Oil Dipstick
(A) Upper Limit

1. Remove the drain plugs from the front axle case (LH/RH) and front axle support to drain oil.
2. After draining, reinstall the drain plugs securely.
3. Remove the bleeding plug from the front axle case and add oil through the filler hole.

Oil Capacity [U.S. gal(L)]
1.48 (5.6)

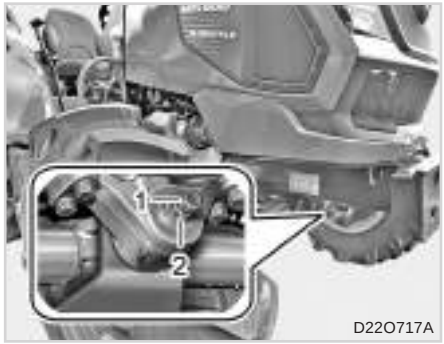
4. Add oil while checking the oil level with the dipstick attached to the filler plug. (Refer to the instructions for the lubrication system in Chapter Maintenance.)
5. After adding oil, fit the filler plug again.
6. Wait for 15 minutes and check the oil level again. If the amount is insufficient, add more oil.

REPLACING TRANSMISSION FLUID

1. See pages 8-14.

EVERY 600 HOURS

ADJUSTING FRONT AXLE PIVOT PIN



(1) Adjusting Screw *(2) Lock Nut*

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

ADJUSTING PROCEDURE

Loosen the lock nut, tighten the adjusting screw all the way, and then loosen the screw by 1/6 turn. Retighten the lock nut.

EVERY 800 HOURS

ADJUSTING ENGINE VALVE CLEARANCE

Improper adjustment of the valve clearance can reduce the performance and / or damage the engine. This adjustment should only be preformed by a certified **KIOTI** dealer.

EVERY 1 YEARS

CHECKING ENGINE OIL AND FILTER

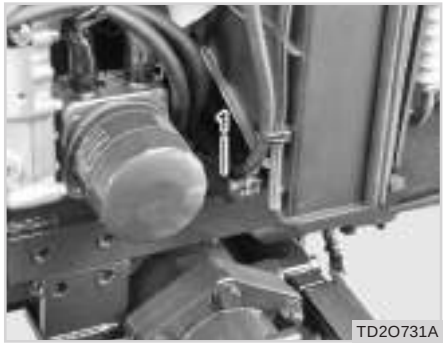
1. See pages 8-17.

REPLACING ENGINE OIL AND FILTER

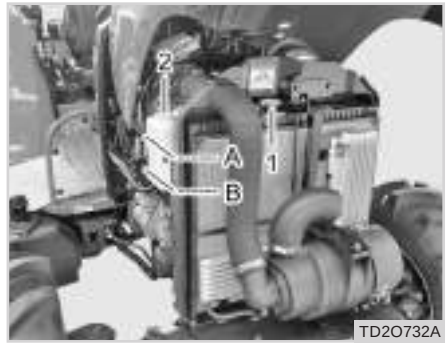
1. See pages 8-17.

EVERY 2 YEARS

FLUSH COOLING SYSTEM AND CHANGING COOLANT



(1) Drain Plug



(1) Radiator Cap *(2) Reservoir Tank*
(A) Full *(B) Low*

1. Park the tractor on level ground, stop the engine and let the engine cool down.
2. To drain coolant, remove the drain plug from the radiator and turn the radiator cap to the 1st notch to release pressure in the radiator. Then, remove the cap completely.
3. After all coolant is drained, fit the drain plug.
4. Use clean, fresh water and anti-freeze to fill the reservoir tank.
5. Follow the cleaner manufacture's instruction.
6. Install the radiator cap securely.
7. Start and idle the engine for few minutes.
8. Stop the engine and let it cool.
9. Drain water and cooling system cleaner and close drain cock. Then, fill with antifreeze and water mixture and close radiator cap securely.
10. Run tractor at idle until up to operating temperature.

11. Check the coolant level in the reservoir tank. If the level is low, add coolant.

Coolant capacity [U.S. gal(L)]
2.1 (7.9)

⚠ CAUTION

To avoid accidents:

- **Do not remove the radiator cap while the coolant is hot. Steam or scalding liquids released from hot cooling system can burn you seriously. Cool down the engine first.**
- **Even though the coolant is cooled down, turn the cap to its first stop and then wait until it is depressurized before removing the cap completely.**

IMPORTANT

- **Do not start engine without coolant.**
- **Use clean, fresh water and anti-freeze to fill the radiator and reservoir tank.**
- **When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be no less than 50% mixture of water and anti-freeze.**
- **Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.**
- **If the radiator cap has to be removed, follow the caution above and securely retighten the cap.**
- **Use clean, fresh water and anti-freeze to fill the reservoir tank.**
- **If the coolant leaks, contact your local KIOTI Dealer.**

ANTI-FREEZE

This tractor is filled with 50% of ethylene glycol at factory.

If the anti-freeze has been replaced by tap water later on, the coolant can freeze, leading to damage to the cylinder and radiator when the ambient temperature is below zero (32 °F).

Therefore, make sure to change water into anti-freeze before winter season comes.

When changing the anti-freeze with one of another type, flush the cooling system several times and contact a professional for the mixture ratio.

Anti-freeze % (Ethylene glycol)	Freezing Point		Boiling Point	
	°F	°C	°F	°C
40	-12	-24	222	106
50	-34	-37	226	108

* At 760 mmHg pressure (Atmospheric). A higher boiling point is obtained by using a radiator pressure cap.

NOTE

- The temperatures shown on the left are industry standards that necessitate a minimum glycol content in the concentrated antifreeze.
- When the coolant level drops due to evaporation, add water only. In case of leakage, add anti-freeze and water in the specified mixing ratio.
- Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.
- Do not use radiator cleaning agents when anti-freeze has been added to the cooling water. (Anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts)

BLEEDING FUEL SYSTEM

(1) Drive Pump (2) Air Plug

1. Make sure that the amount of fuel in the fuel tank is sufficient.
2. If air is introduced into the fuel filter, unscrew the bleeding bolt (2) shown in the above figure, and turn the ignition switch to run the start motor. Then, air in the fuel filter is bled through the bleeding bolt as shown in the figure above.

NOTE

- Bleeding is not necessary if installing the fuel port after fueling.

3. When fuel is visible through the bleeding bolt, tighten the bolt and start the engine.

IMPORTANT

To protect the catalyst filter, keep the followings:

- **Make sure to use only specified fuel.**
- **Keep the engine oil replacement schedule.**
- **Check the engine oil level frequently to keep it to the specified level.**
- **Avoid any unnecessary engine idling.**
- **Never stop the engine during driving.**
- **Never place the shift lever in the neutral position when driving downhill.**
- **Do not use any engine oil additive or fuel additive.**
- **Avoid driving with any warning lamp illuminated.**
- **Do not allow any flammable materials, such as dry grass and paper, to come near the catalyst filter while parked.**

CAUTION

- **Never bleed the fuel system while the engine is hot.**

IMPORTANT

- **After bleeding, fuel without air bubbles is filtered by the fuel filter and is transferred to the fuel injection pump. Maintain the proper fuel level in the fuel tank before the fuel tank becomes empty. If all fuel is completely consumed in a Diesel engine, fuel should be added to the fuel tank and then the fuel system should be bled.**

NOTE

- If the engine cannot be started even after bleeding the fuel system, contact your local Dealer.

REPLACING RADIATOR HOSE AND CLAMP

1. See pages 8-30.

REPLACING POWER STEERING LINE

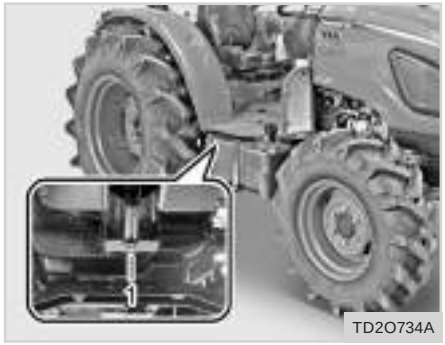
1. See pages 8-30.

REPLACING INTAKE AIR LINE

1. See pages 8-31.

SERVICE AS REQUIRED

DRAINING WATER FROM CLUTCH HOUSING



(1) Plug

1. There is a plug under the clutch housing.
2. Drain the water completely and install the plug. Drain the water into a container and dispose of it in a proper manner for environment protection.

CHECKING AND REPLACING WIPER

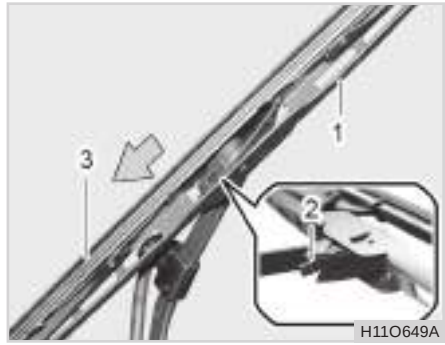
INSPECTION

(1) Wiper

Check the operation and wear of the wiper blades frequently. To replace the wiper blade, press the wiper fixing lever to separate it and then pull it away.

To remove the wiper arm, lift the cap of the wiper arm, remove the nut, and set the wiper arm upright. Then, hold the arm head and shake it left and right to remove the wiper arm from the drive spindle. Disconnect the washer fluid hose and then install a new wiper arm to its position by aligning it to the proper angle.

REPLACEMENT

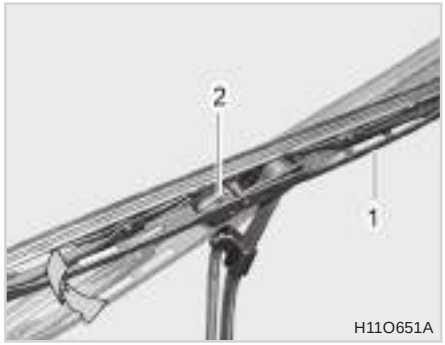


(1) Wiper Arm (2) Wiper Fixing Lever
(3) Wiper Blade

1. Set the wiper upright to replace the wiper blade.
2. Hold the blade with one hand and press the blade fixing lever with the other hand to separate the blade from the fixing part.

(1) Wiper Blade

3. Lower the blade and pull out the blade by moving it in the shape of "U". (Arrow direction in the figure)

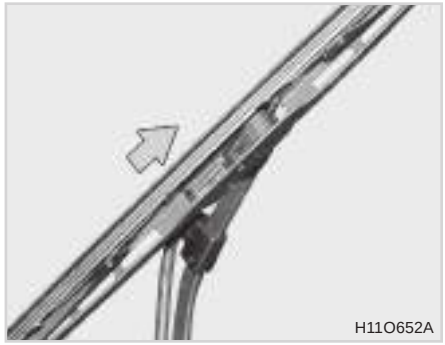


(1) Wiper Arm (2) Fixing Lever

4. Set a new wiper blade horizontal so that the fixing lever is facing down. Align the wiper arm with the fixing lever slot and lower the blade.

⚠ CAUTION

- **When the wiper blade is separated, the wiper arm should not contact the windshield or rear glass. The glass can be damaged.**

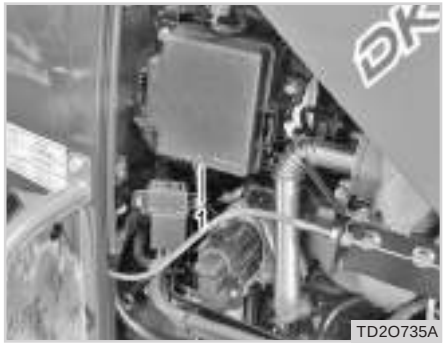


5. Lift the wiper blade to its end and install it so that the fixing lever is engaged with the wiper arm. (A clicking sound is heard)

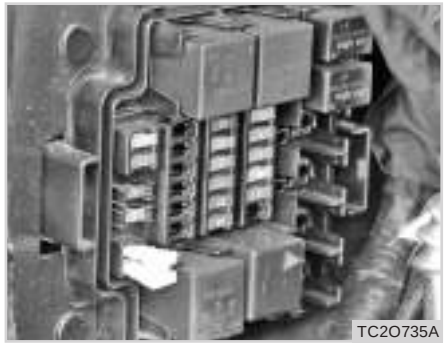
BODY FUSE

⚠ CAUTION

- **When wiping the windshield, set the wiper blade upright, spray water onto the glass with a hose, and wipe the glass with clean cloth.**
- **If the wiper blade is frozen to the glass in a cold weather or there is not washer fluid, never operate the wiper.**
- **In order to prevent damage of the wiper blade, never use synthetic detergent, thinner or solvent on the windshield.**



(1) Fuse Box



Fuses protect the tractor electrical system from potential damage.

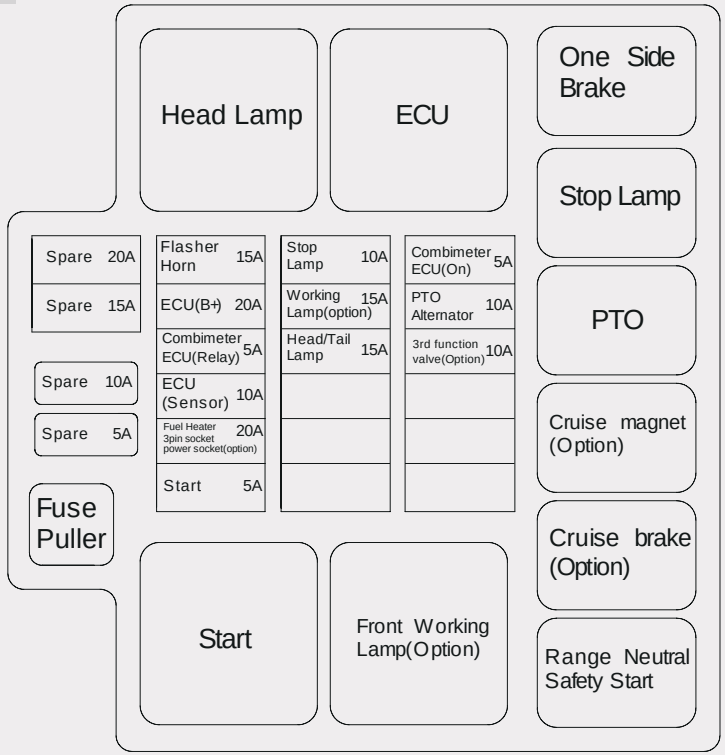
A blown fuse indicates that there is an overload or short somewhere in the electrical system.

The fuse panel is located in the right section of the engine compartment.

There are marks for the fuse capacity and location on the cover of the fuse panel. Replace the fuse according to the following procedure:

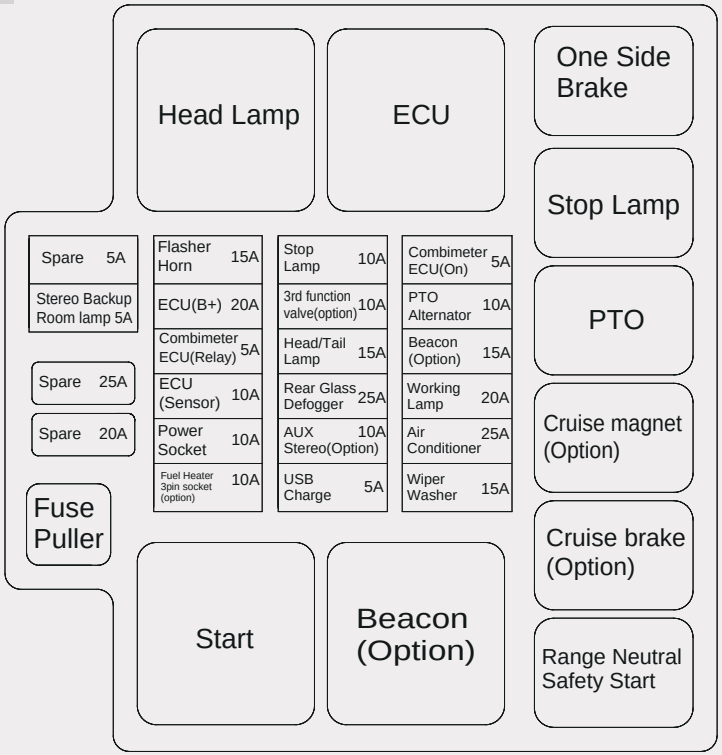
1. Turn the key switch to the “OFF” position and turn off all the electrical devices.
2. Open the fuse box cover and check the fuse in question using fuse tongs.

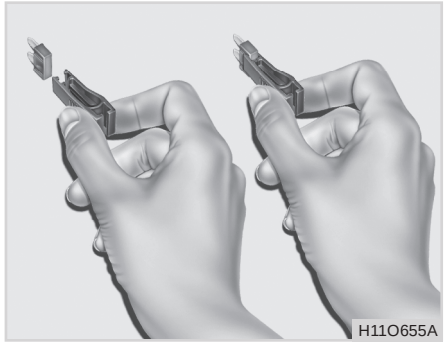
ROPS



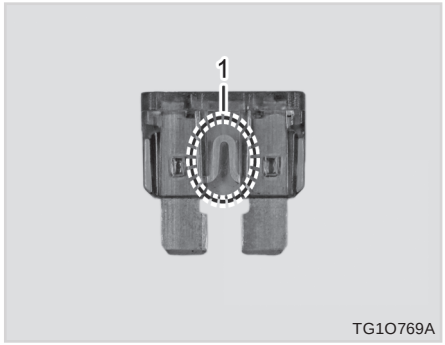
8

CABIN

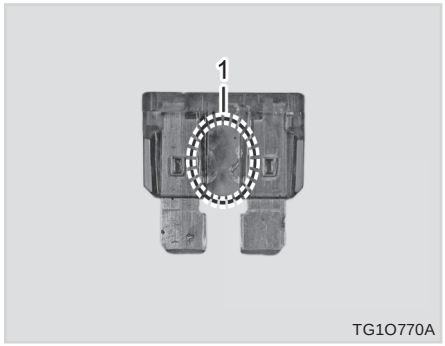




3. If the fuse is blown, replace it with a new fuse with same capacity. Make sure it is firmly installed.
4. Install the fuse box cover.



(1) Normal Fuse



(1) Blown Fuse

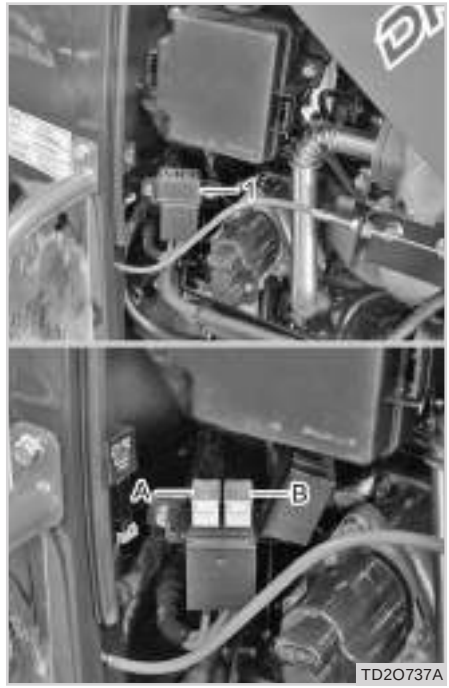
⚠ WARNING

- ***Never use a fuse with the capacity higher than specified on the fuse box cover.***
- ***If using a faulty fuse, steel wire, or foil, the electrical device can be damaged or even can catch a fire.***

NOTE

- If the replaced fuse is blown soon, it is probable that the wiring system is faulty. In this case, contact your local **KIOTI** Dealer.
- If the fusible link, relay or other electric component is defective, contact your local **KIOTI** Dealer.

SLOW-BLOW FUSE



(1) Slow-blow Fuse
(A) Charging Power Fuse
(B) Preheating Power Fuse

The slow-blow fuse is to protect electric devices and wirings. If the ignition, preheat, charge or main function is faulty, find and move its cause and replace the fuse with a new one.

Slow-blow fuse
60A

IMPORTANT

- **Using a non-approved slowblow fuse can damage electrical systems in the tractor severely.**
- **Refer to the chapter "Troubleshooting" in this manual or contact your local KIOTI Dealer for specific information dealing with electrical problems.**

REPLACING BULB

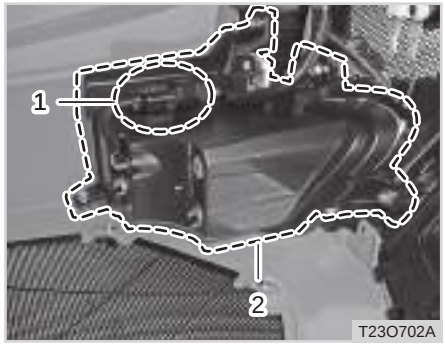
The bulbs and their capacity used in this tractor are listed in the below table. This section only describes procedures the users can handle.

Sequence	Bulb		Capacity
1	Headlamp		LED
2	Position lamp (Front)		5W
3	Stop/Position lamp (Rear)		21W/5W
4	Turn signal lamp		21W
5	Work lamp		21W
6	Instrument cluster Indicator	Charging warning light	3W
		Others	1.4W
7	Backup lamp		10W

HEADLAMP

(1) Hood *(2) Opening Knob*
(A) Pull *(B) Open*

1. Turn the key switch to the "OFF" position and open the hood.



(1) Connector
(2) LED Lamp Assembly

2. Disconnect the wire connector.
3. Undo the mounting nut to remove the LED lamp assembly.
4. Install the new LED lamp assembly and connect the connector.

⚠ WARNING

- ***If using a bulb other than the specified one, the lamp can be damaged and the tractor can even catch fire.***
- ***Make sure to use bulbs with the specified capacity.***

⚠ CAUTION

- **Make sure to use a KIOTI genuine bulb. Using a non-recommended bulb can cause a fire.**
- **The headlamps can temporarily be fogged due to rain or car wash. This is because of the temperature difference between the inside and outside of the lamp, which is normal.**

WORK LAMP (CABIN)

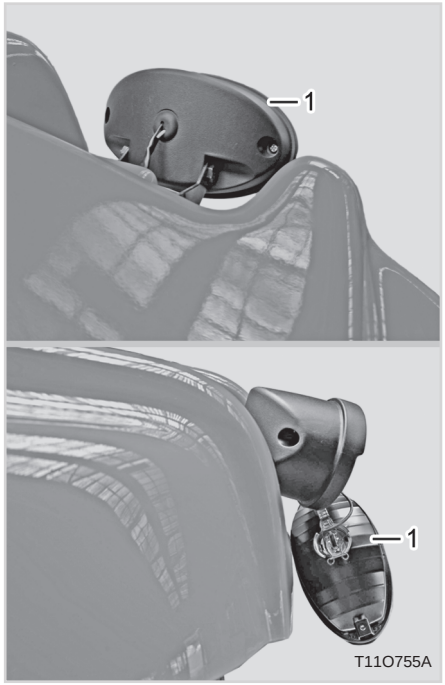
The halogen work lamps are designed to enhance the visibility during work.

Do not touch the illuminating part of the halogen bulb.

The bulb life can be shortened by finger prints, dust and moisture, or the bulb even can be broken. Clean it with soft cloth.

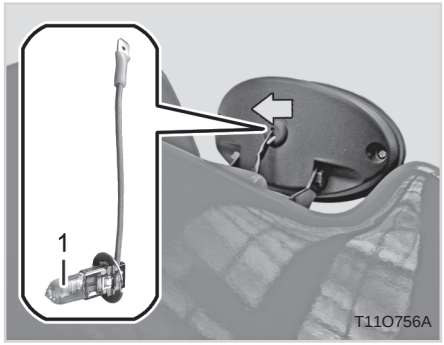
Be careful of the following when replacing the halogen bulb :

- Replace the bulb after it is cooled down.
- Do not touch the glass of the bulb.
- Handle the bulb with care and be careful not to scratch or rub it.
- Do not let the bulb contact with liquid when it is illuminated.
- Wear protective glasses when replacing the bulb.



(1) Work Lamp Glass Case

1. Turn the key switch to the "OFF" position and unscrew the screw from the mounting hole with a cross-head screwdriver to separate the front glass case.



(1) Work Lamp Bulb

2. Unscrew the ground wire screw, disconnect the connector, and turn the bulb counterclockwise to remove it. Then, install a new bulb with the same capacity.

ROOM LAMP

(1) Room Lamp

1. Fit a flat-bladed screwdriver into the edge of the room lamp and pry off the room lamp cover.

(1) Room Lamp Bulb

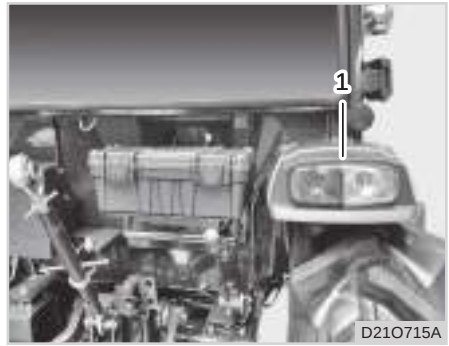
2. Remove the room lamp bulb by pulling it up. Install a new bulb.

TURN SIGNAL LAMP (FRONT)

(1) Turn Signal Lamp (FRT)
(2) Turn Signal Lamp (FRT) Bulb

1. Remove the cap and unscrew the mounting bolts to remove the front turn signal lamp assembly.
2. Turn the bulb body counterclockwise to remove it.
3. Remove the bulb by pressing it down lightly and install a new bulb. Fit the socket to the grooves and turn it clockwise.

REAR TURN SIGNAL LAMP AND POSITION LAMP



(1) Turn Signal Lamp

1. The rear turn signal lamps are mounted on the rear fender.

(1) Connector (2) Nut

2. Disconnect the connector and loosen the nut from the bottom of the fender to remove the turn signal lamp assembly.

(1) Screw (2) Cover

3. Loosen the screw to remove the cover.

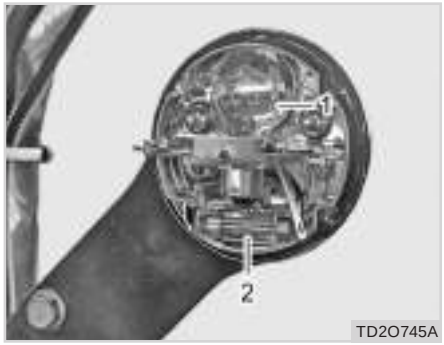
(1) Turn Signal Lamp (2) Position Lamp

4. Turn the socket counterclockwise to remove the bulb and replace it with a new one.

FRONT TURN SIGNAL LAMP AND POSITION LAMP

(1) Screw *(2) Lens*

1. The front turn signal lamps are installed onto the **ROPS** frame.
2. Loosen the screw to remove the lens.



(1) Turn Signal Lamp Bulb
(2) Position Lamp Bulb

3. Remove the bulb by turning its socket counterclockwise. Install a new bulb.

REAR LED WORK LAMP (OPTION)

(1) Rear LED Work Lamp

For the LED work lamps, when they need replacement, replace the whole assembly. If a malfunction occurs,contact your local Dealer.

CHECKING REFRIGERANT

If the refrigerant is insufficient, the performance of the air conditioner is deteriorated. Also, charging the air conditioner with excessive refrigerant affects its performance. Therefore, have the system checked by your local **KIOTI** Dealer if a malfunction is found.

1. Operate the air conditioner as follows.
   - Engine rpm: Approx. 1,500 rpm
   - Temperature control switch: at the maximum cooling temperature point
   - Air volume control switch: 4 steps
   - Air conditioner switch: “ON”

⚠ CAUTION

- **Park tractor on a flat place and chock the wheels.**
- **Put forward/backward lever, Main shift lever and PTO lever in neutral.**

⚠ WARNING

- ***Only qualified service personnel should service the air conditioner as its refrigerant is under high pressure. An injury can occur.***

9

TRACTOR STORAGE

DAILY STORAGE

1. Keep the tractor clean when it is stored. Make sure to wash it after work.
2. Store it indoors if possible. If it should be kept outside, cover it.

⚠ WARNING

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

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

LONG-TERM STORAGE

If the tractor will be kept unused for up to 1 year, follow the following instructions. This is to operate the tractor again with minimum preparation after long-term storage. After performing the following instructions, repeat them for the extension period.

IMPORTANT

- **If the tractor is not used for an extended period of time, follow the instructions below to prevent corrosion and performance deterioration of the tractor while it is stored.**

1. Check the bolts and nuts for looseness, and tighten if necessary.
2. Apply grease to tractor areas where bare metal will rust also to pivot areas.
3. Detach the weights from the tractor body.
4. Inflate the tires to a pressure a little higher than usual.
5. Change the engine oil and run the engine to circulate oil throughout the engine parts all for about 5 minutes.
6. With all implements lowered to the ground, coat any exposed area such as hydraulic cylinder piston rods with grease.
7. Remove the battery from the tractor. Store the battery following the battery storage procedures. (See section "Battery" in Chapter Maintenance.)
8. Keep the tractor in a dry place where the tractor is sheltered from rain. Cover the tractor.
9. Clean the engine components as well as the tractor.
10. Add grease to all the grease fitting.
11. Flush the cooling system and drain water from it. Also, add anti-freeze as well as water.

12. Chock the frame in order to remove the weight from the tires.
13. Install the cover to the exhaust pipe.
14. Attach a tag onto the tractor to inform the storage condition of the tractor.
15. If the tractor is equipped with an air-conditioner system, start the engine and activate the air-conditioner system once a month.
17. Interlock the brake pedals and apply the parking brake.

⚠ CAUTION

To avoid 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.**
- **Cover the tractor after the muffler and the engine have cooled down.**
- **If the battery is not to be removed, disconnect its negative terminal at least. The wiring can be gnawed by rodents, leading to a fire.**

USING TRACTOR AFTER LONGTERM STORAGE

1. Check the tire air pressure and inflate the tires if they are low.
2. Install the battery. Check that the battery is fully charged before installing it.
3. Check the fan belt tension.
4. Check all fluid levels. (Engine oil, transmission/hydraulic oil, and engine coolant)
5. Remove grease from the exposed cylinder rod.
6. Apply grease to the lubrication points.
7. Depress the clutch pedal and undo the latch hook.
8. Get onto the tractor and start the engine.
9. Check if the instrument panel and all parts operate correctly while running the engine for a few minutes.

USAGE AND DISPOSAL

10. Drive the tractor outside and check if it is operating properly. Park the tractor outside and idle engine for at least 5 minutes. Stop the engine and visually inspect the tractor. Check if there is leakage.
11. Start the engine, release the parking brake and depress the brake pedal to check for its proper condition. Adjust the free play of the brake pedal if necessary.
12. Stop the engine and check for leakage. Repair any part as required.

In order to protect the environment, use and dispose of the tractor keeping the following in mind:

1. When changing the oil or coolant by yourself, be careful not to spill it and dispose used oil and coolant properly according to the applicable regulations.
2. Never leave or discard the expired tractor or implement, but contact your local **KIOTI** Dealer to dispose it according to the regulations.
3. Avoid working under high load as it can cause excessive exhaust gas, which is harmful to the environment.

10

This troubleshooting chart summarizes simple service items for users who are familiar with mechanical systems.
For more detailed service items, contact your local **KIOTI** Dealer.

ENGINE TROUBLESHOOTING

Cause		Countermeasures
1. When engine is difficult to start	• Fuel is thick and doesn't flow.	• Check the fuel tank and fuel filter.
		• Remove water, dirt and other impurities.
		• As all fuel will be filtered by the filter, if there should be water or other foreign matters on the filter, replace the filter.
	• Air or water mixed in fuel system.	• If air is in the fuel filter or injection lines, the fuel pump will not work properly.
		• To obtain proper fuel injection pressure, unscrew the fuel cap nut and inspect the system.
		• Loosen air vent screw over fuel filter and fuel injection pump to eliminate all the air in the fuel system.
	• Thick carbon deposits on orifice of injection nozzle.	• This is caused when water or dirt is mixed in the fuel. Clean the injection nozzle and check the fuel filler hole for damage.
		• Check to see if nozzle is working properly or not, if not, install a new nozzle.
	• Valve clearance is wrong	• Contact your **KIOTI** dealer.
	• Engine oil become thick in cold weather and engine cranks slow.	• Change grade of oil according to the weather (Temperature).

Cause		Countermeasures
1. When engine is difficult to start	• Start motor does not rotate when key switch is turned	• Put the PTO switch to the OFF position.
		• If the switch or start motor is faulty, have it repaired in a workshop.
		• If any terminal is loose or corroded, clean or fix it firmly.
2. When output is insufficient	• Valve out of adjustment	• Contact your **KIOTI** dealer.
	• Air cleaner is dirty	• Clean or replace the element at every 100 to 200 hours of operation.
	• Fuel injection pressure is wrong	• Contact your **KIOTI** dealer.
3. When color of exhaust is specially bad	• Fuel is of extremely poor quality	• Select good quality fuel. Temp. Fuel type Over -10°C NO. 2 diesel Below -10°C NO. 1 diesel
	• Nozzle is bad	• If necessary, replace with new nozzle.

※ If you have any question, contact your **KIOTI** Dealer.

TRACTOR TROUBLESHOOTING

Cause		Countermeasures
1. When tractor does not move while engine is running	• Shift lever is in neutral position	• Check the shift levers.
	• Parking brake is applied	• Release the parking brake.
3. Brake is not operating properly	• Brake does not operate or only one brake pedal operates	• The brake pedal play is excessive. Adjust the play.
		• The brake lining is worn or stuck. Have it replaced in a workshop.
	• Brake pedal does not return properly	• The brake return spring is damaged. Replace it.
		• Grease is insufficient on each mating surface. Remove rust and apply grease.
4. Steering wheel is not operating properly	• Steering wheel is heavy or vibrates	• The toe-in is incorrect. Adjust it again.
	• Steering wheel is heavy or vibrates	• The tire inflation pressure is different. Inflate the left and right tires into the specified pressure.
		• Each connection is loose. Re-tighten each connection and replace the part.
	• Steering wheel play is excessive	• The steering wheel shaft is worn. Have it repaired in a workshop. • Metal parts are worn. Have them repaired in a workshop. • Each connection has play. Tighten the connection again.
5. Hydraulic system is faulty	• Oil is leaked from pipe or hose	• The pipe clamp is loose. Re-tighten it.
		• The pipe is cracked. Have it repaired in a workshop.

Cause		Countermeasures
5. Hydraulic system is faulty	• 3-point hitch cannot be lowered	• The valve and cylinder are damaged. Have them repaired at your **KIOTI** dealer.
	• 3-point hitch cannot be lifted	• The transmission fluid is insufficient. Add it to the specified level.
		• There is air in the intake pipe. Bleed the pipe.
		• The oil filter is clogged. Clean or replace it.
		• The hydraulic filter, valve and cylinder are malfunctioning. Have them repaired at your **KIOTI** dealer.
	• 3-point hitch vibrates by itself	• Defective sensor. Contact your **KIOTI** dealer.
		• Select the highest top link hole.
6. Electric system is faulty	• Headlamps cannot be turned on or are dim.	• The fuse is blown. Check the wiring and replace the fuse.
		• The bulb is blown. Replace it
		• The ground and terminal wirings are poorly contacted. Check and clean them.
		• The battery electrolyte level is low. Charge the battery.
	• Battery cannot be charged	• Check the battery and alternator.

Cause		Countermeasures
6. Electric system is faulty	• Horn does not sound	• The horn switch is faulty. Replace it.
		• The wiring is faulty. Repair it.
		• The horn is damaged. Repair or replace it.
	• Turn signal lamps do not blink	• The bulb is blown. Replace it.
		• The blinking device is faulty. Repair or replace it.
		• The ground and terminal wirings are poorly contacted. Check and clean them.
	• Work lamps do not come on	• The bulb is blown. Replace it.
		• The ground and terminal wirings are poorly contacted. Check and clean them.

※ If you have any question, contact your **KIOTI** Dealer.

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⚠WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel

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