



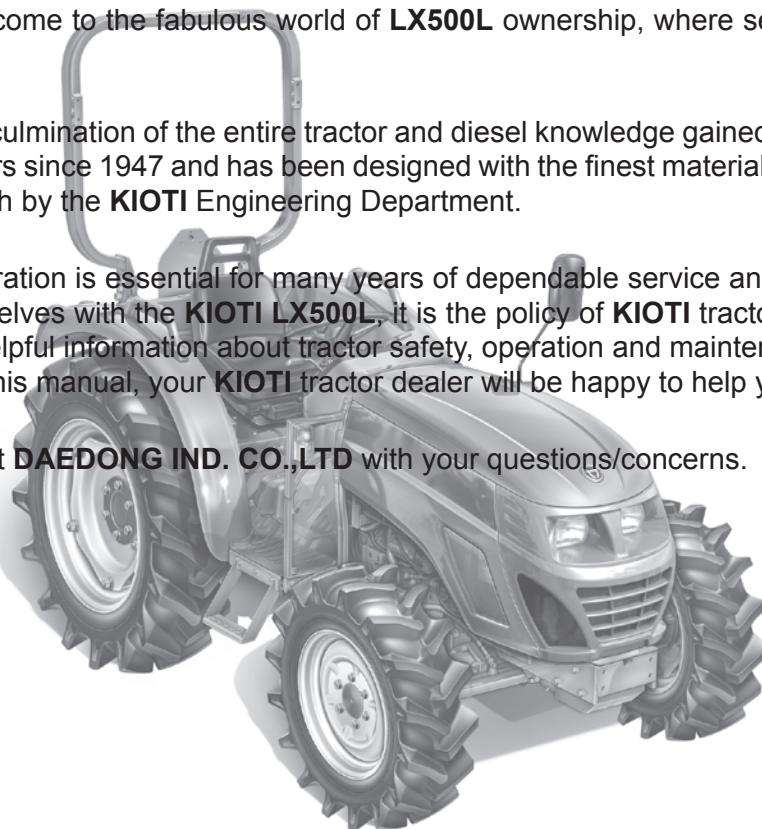
FOREWORD

Congratulations, and welcome to the fabulous world of **LX500L** ownership, where serious work is made fun again!

This versatile tractor is a culmination of the entire tractor and diesel knowledge gained by the Daedong Industrial Co.,LTD over the years since 1947 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 LX500L**, 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.





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



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.



ABBREVIATION LIST

ABBREVIATIONS	DEFINITIONS
4WD	Four Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers, USA
ASTM	American Society of Agricultural Engineers, USA
fpm	Feet Per Minute
Hi-Lo	High Speed-Low Speed
HST	Hydrostatic Transmission
m/s	Meters Per Second
PTO	Power Take Off
RH / LH	Right-hand and Left-hand sides are determined by facing in the direction of forward travel
ROPS	Roll-Over Protective Structures
m ⁻¹ (rpm)	Revolutions Per Minute
S ⁻¹ (r/s)	Revolutions Per Second
SAE	Society of Automotive Engineers, USA
SMV	Slow Moving Vehicle



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.



Fuel-Level



Engine Coolant-Temperature



Parking Brake



Battery Charging Condition



Engine Oil-Pressure



Turn Signal



Power Take-Off Clutch Control-ON Position



Power Take-Off Clutch Control-OFF Position



Differential Lock



Position Control-Lowered Position



Hazard Warning Lights



Headlight-Low Beam



Headlight-High Beam



Four-Wheel Drive-ON



Fast



Slow



Creep



High Range



Middle Range



Low Range



Neutral Position



Coolant



Preheat



QT Lamp



H: High Speed Travel Light



L: Low Speed Travel Light



Auto Draft Work Light



Auto Level Work Light



Auto Tilling Depth Work Light



Turn Up Light



Back Up Light



Auto Switch



Single Brake Light



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SAFETY PRECAUTIONS

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BEFORE OPERATING THE TRACTOR

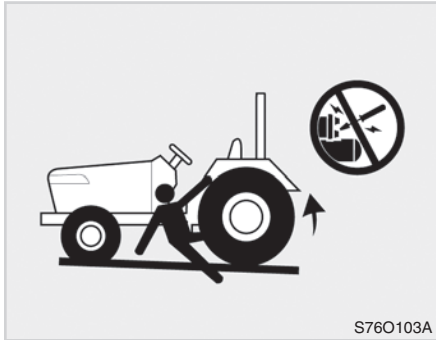
A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, use these safety precautions, and pay attention to the job at hand. If you can prevent an accident, your time will have been well spent.



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 1-18~22.

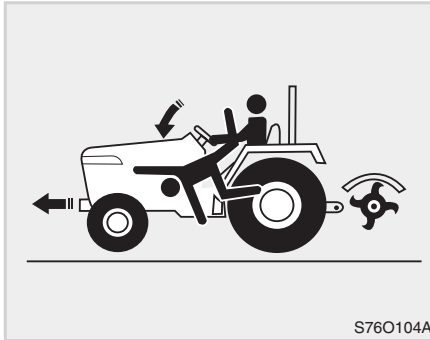


5. Keep safety decals clean of dirt and debris.
6. Watch where you are going at all times so that you are able to avoid obstacles that can cause injury or damage to your tractor.
7. When starting the tractor make sure your path is clear of people to avoid accidents caused by sudden movements.
8. Before making reverse movements with your tractor, you should always check to see that the path is clear.



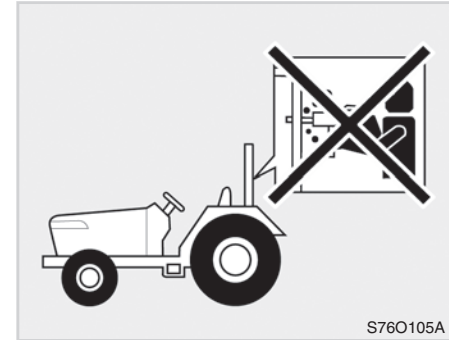
S76O103A

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.



S76O104A

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, handholds 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.



S76O105A

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 alterations should be made to your **KIOTI** tractor.



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.

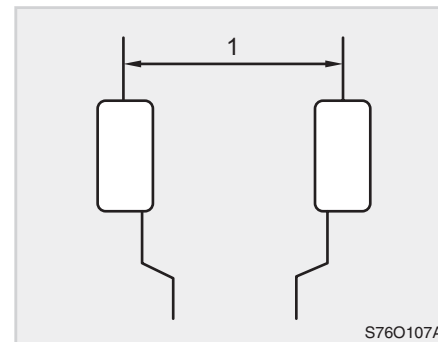
20. For your safety **ROPS** with a seat belt is recommended for all applications.

 NOTE

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

A **ROPS** should never be modified by welding, grinding or cutting, as this can weaken the **ROPS** structure. If any components of the **ROPS** unit is damaged, it 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.

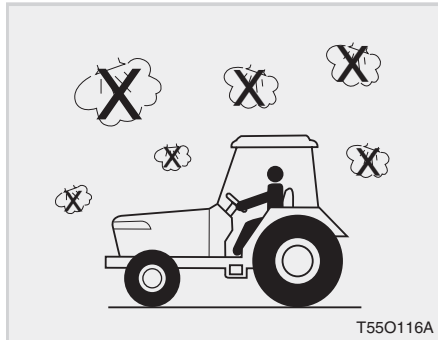


(1) Tread

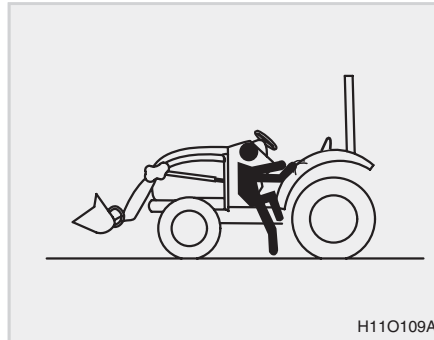
21. Extra caution should be taken when driving tractors with narrow tread widths. For added stability you should adjust your rear wheel tread width, see page 8-4.



OPERATING THE TRACTOR



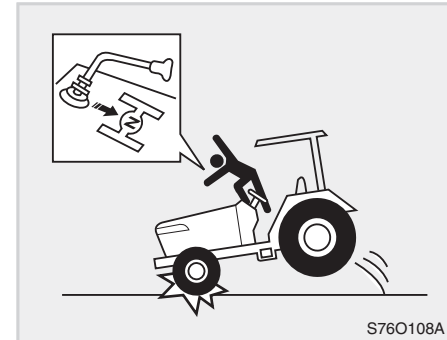
22. This tractor is not certified for chemical proof, never operate the tractor for chemical spray or in the air contaminated by any chemical or equivalent without approved personal safety equip; respiration/chensvit/eye protection/gloves/etc.



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

⚠ WARNING

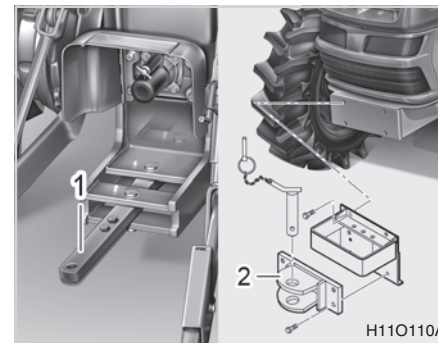
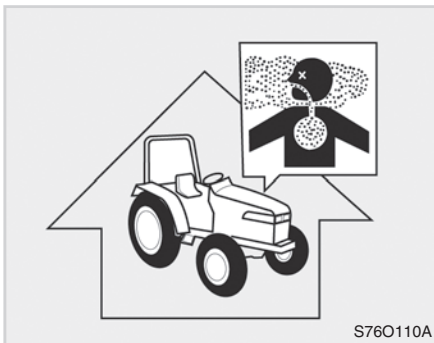
- ***Do not jump on or off the tractor. It may cause injuries. Always face the tractor, use the hand rails and steps, and get on or off slowly. Maintain a minimum three point contact to avoid falling. (Both hands on rails and one foot on the step, or one hand on the hand rail and both feet on the steps)***



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



1-6 LX500L



(1) Drawbar

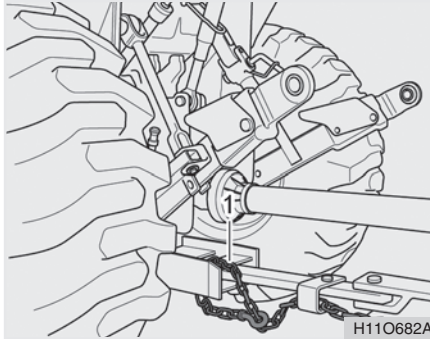
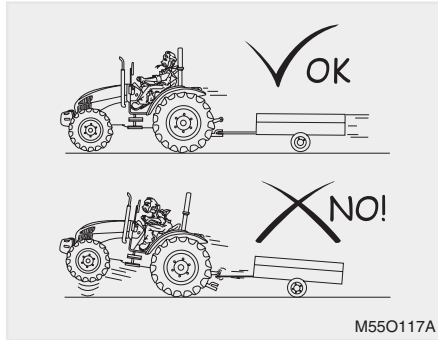
(2) Towing Hook

3. Do not park your tractor on a steep incline, and remember to shut off the engine and PTO before dismounting the tractor.

4. Do not operate your tractor in an enclosed building without the proper ventilation. Containing 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 drawbar. Never hitch anything to the axle housing or any other point except the drawbar. Pulling from any other location only increase the risk of serious personal injury or death.



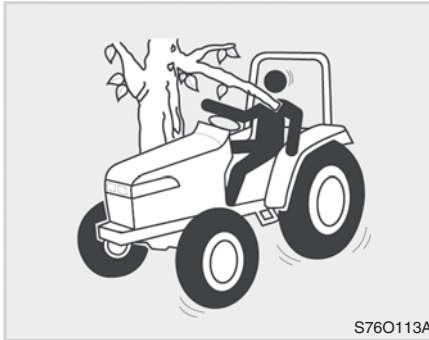
draw-bar while transporting. Using the proper adaptor parts, attach the chain to the tractor draw-bar support or other specified anchor location. Provide only enough slack in the chain to permit turning. See your Dealer for a chain with a strength rating equal to, or greater than the gross weight of the towed machine.

1

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



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 tractor. Do not operate the tractor with a light front end.



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.

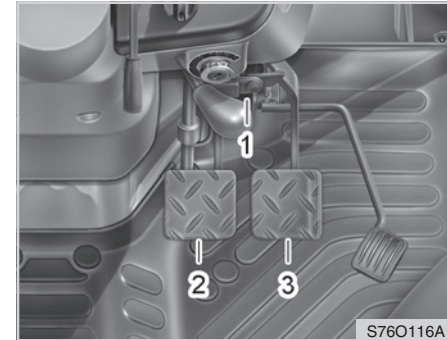
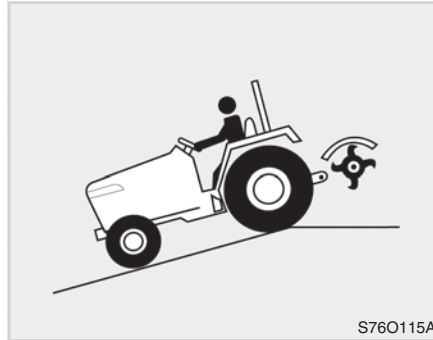
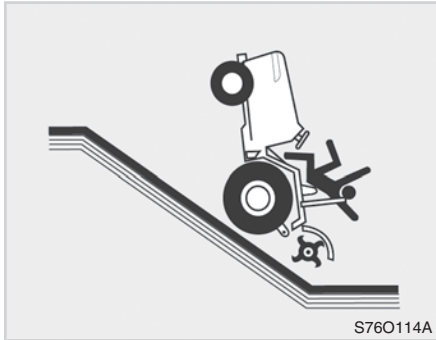
⚠ WARNING

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

15. Do not leave equipment 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.



DRIVING THE TRACTOR



1

(1) Brake Pedal Lock (2) Brake Pedal (L)
(3) Brake Pedal (R)

19. Driving forward out of a ditch or 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 tractor's 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.

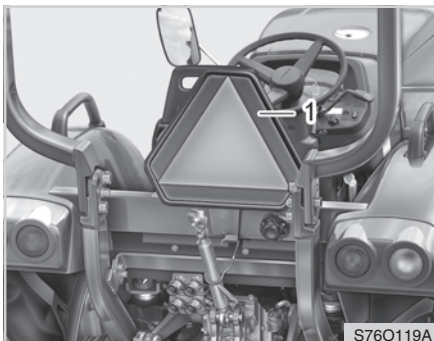
1. Lock the brake pedals together when traveling at road speeds. Brake both wheels simultaneously when making an emergency stop. Uneven braking at road speeds could cause the tractor to tip over.



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



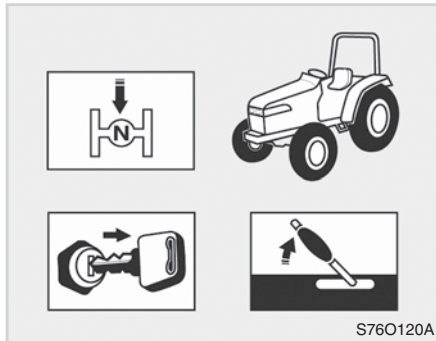
(1) SMV Emblem

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.

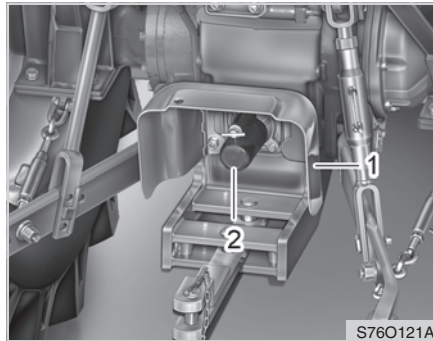


PARKING THE TRACTOR



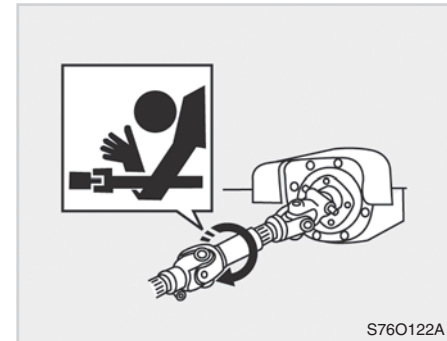
1. Disengage the PTO, lower all implements, place all control levers in the neutral position, set the parking brake, stop the engine and remove the key.

OPERATING THE PTO



- (1) PTO Shaft Cover
(2) PTO 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 PTO driven equipment.
2. Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use.
3. Before installing or using PTO 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.***

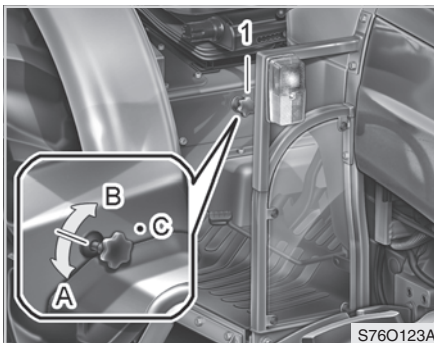


USING 3-POINT HITCH

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

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



S76O123A

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

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.

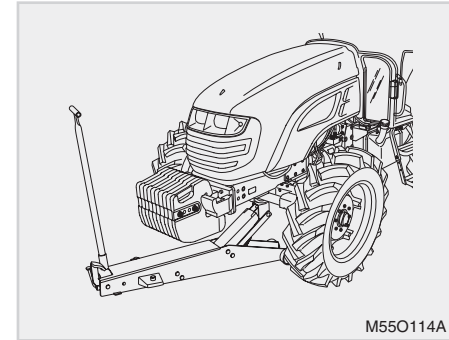
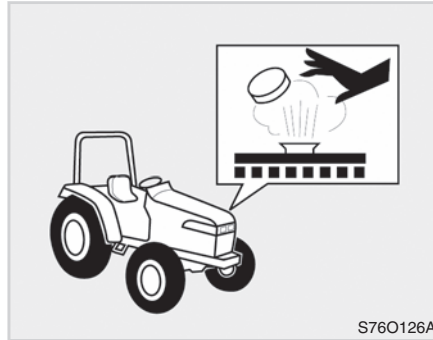
SERVICING THE TRACTOR



S76O124A

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... especially when recharging.

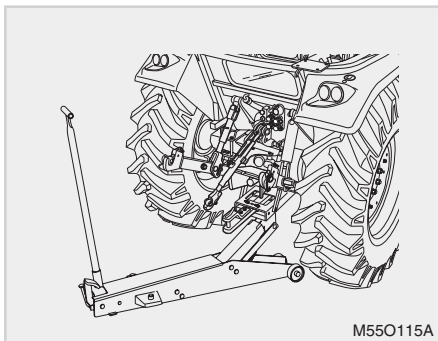


1

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.

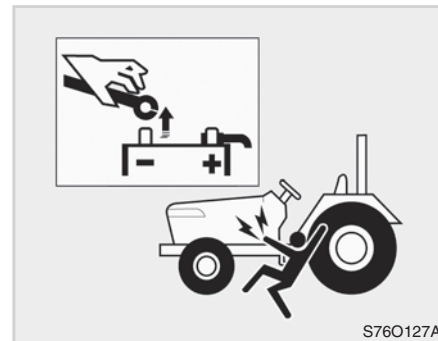
6. Do not remove the radiator cap while the coolant is hot. When cool, slowly rotate the cap to the first stop and allow sufficient time for excess pressure to escape. After all the pressure is released remove the cap completely. If your tractor is equipped with a coolant recovery tank, add coolant there rather than to the radiator.

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 about 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, avoid its swinging by means of wooden wedges applied to the front axle.



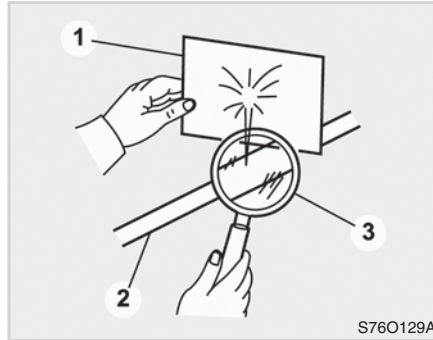
NOTE

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



10. Use jack lifts 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.

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.



(1) Cardboard
(3) Magnifying Glass

(2) Hydraulic Line



1

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

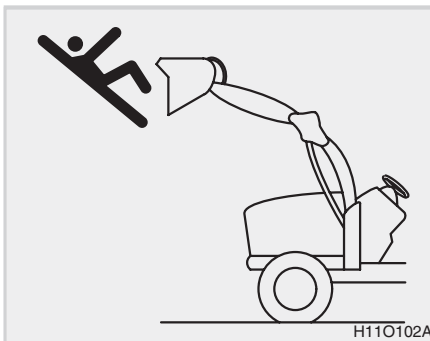
19. Fluid escaping from pinholes may be invisible. Do not use hands to search for suspected leaks; Use a piece of cardboard or wood, instead. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid can produce gangrene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



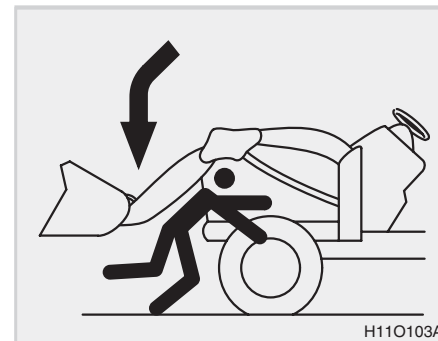
SAFETY PRECAUTIONS WHEN USING THE LOADER



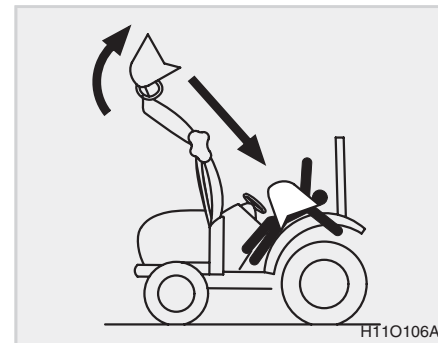
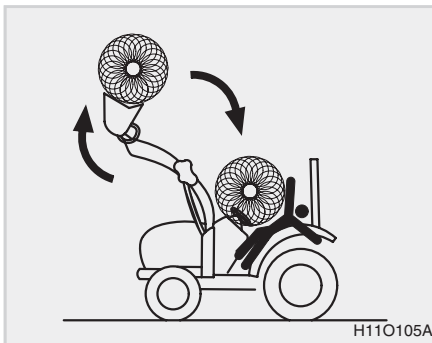
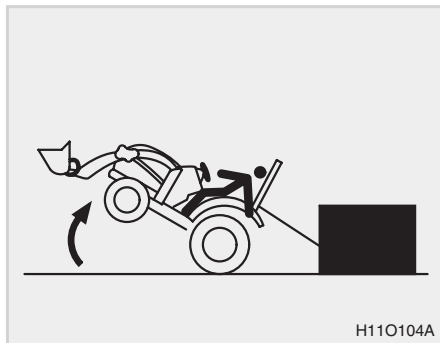
20. Keep environmental pollution in mind. When replacing coolant or oil, dispose of it the right way. Be sure to observe all relevant regulations when you dispose of the engine oil, transmission oil, fuel, coolant, filters and battery.



1. Never let anyone get in the loader and use the loader as a workstation. Otherwise, it may lead to a fatal 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.



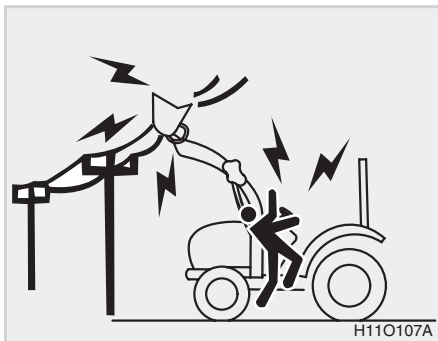
1

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

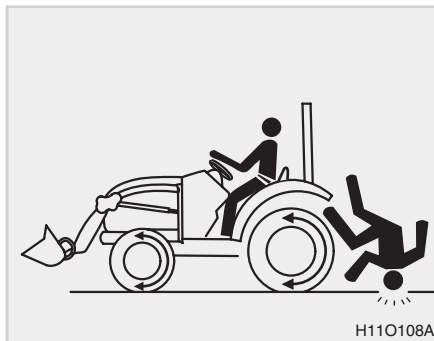
Make sure to use a draw-bar proper for the 3-point hitch lower link. Otherwise, it may lead to an injury or even death.

4. 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 an injury or even death.

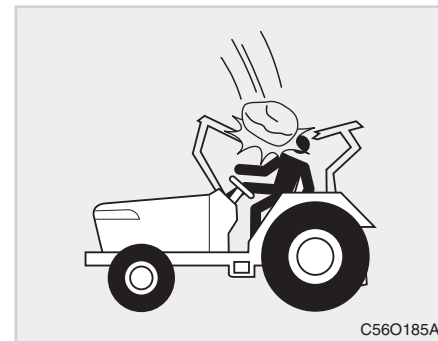
5. When attaching or detaching the loader, fix all parts which are connected to the bucket and boom. The bucket or boom can be accidentally dropped down, leading to an injury or even death.



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



7. Keep bystanders away. No riders. Otherwise, it may lead to a fatal injury or even death.

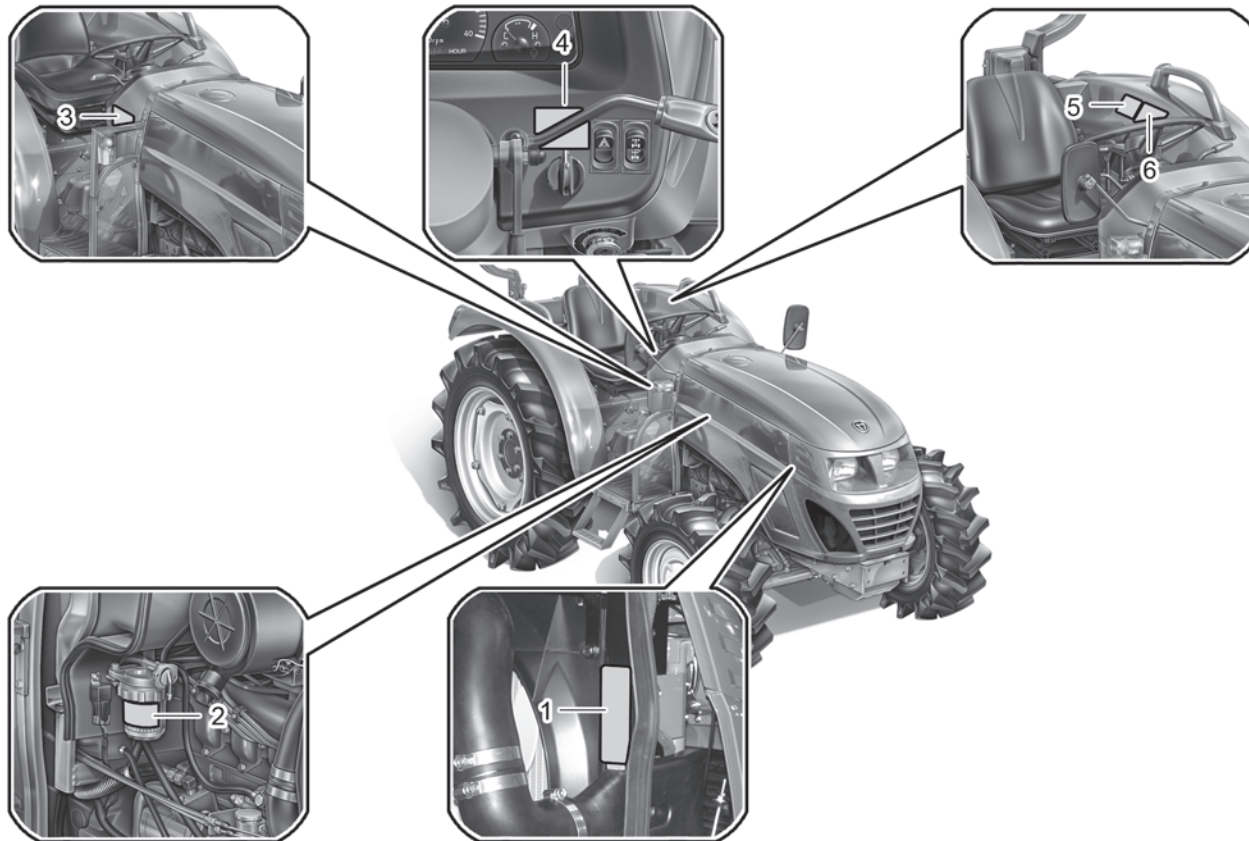


⊕ IMPORTANT

- **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.**



TRACTOR SAFETY LABELS

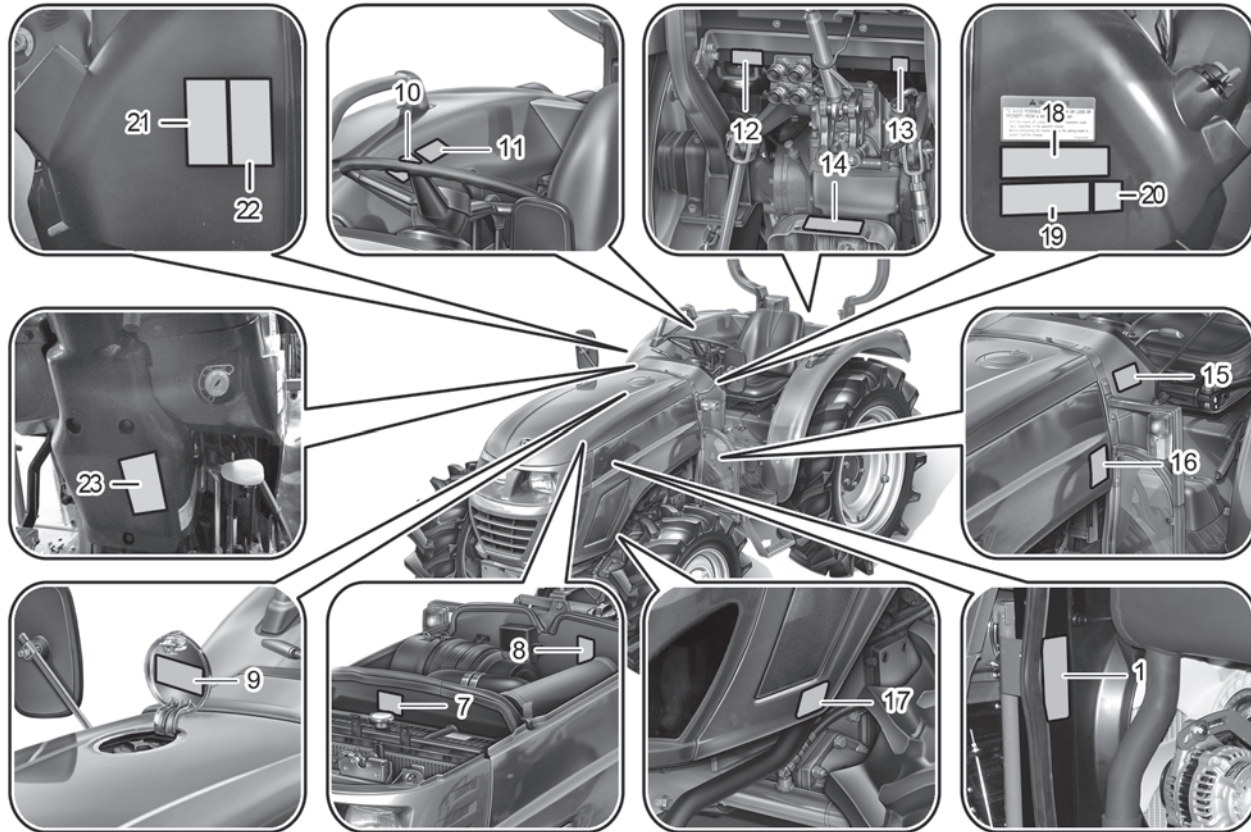


1

S76O185A



1-20 LX500L



S76O187A



(1) Part No. : T4625-52351



(2) Part No. : T2325-50192

REMINDER

1. Do not allow too much water or sediment to accumulate in the filter.
2. Replace paper element every 100 hours of operation.
3. Replace element if damaged or a hole is noticed.
4. Use the specified fuel only.

T2325-50192

(3) Part No. : T2615-50771

⚠ DANGER ⚠

To avoid personal injury :
When the tractor tipped over, It may cause serious injury to the operator or other persons.
Do not use the Quick turn system in case of the following jobs.

1. When traveling at fast speed.
2. When working a steep slope or sharp curve.
3. When pulling a plow.
4. When working with a front - end loader, etc.

T2615-50771

(4) Part No. : T4625-52162

To start the engine, the PTO switch must be located on the neutral position.



(5) Part No. : T2241-50112

ENGINE OIL FILTER CARTRIDGE

1. Replace cartridge after every 150 hours of use.
2. Apply a thin film of oil to the surface of gasket before screwing on.
3. Tighten filter by hand.
4. When filter has been removed, the oil level will decrease. Be sure to check the crankcase oil level and refill to designated level. After starting the engine, check for leaks.

1. The oil filter cartridge must be changed every 300 service hours.
2. Apply a slight coat of oil on to the cartridge gasket.
3. Install the new filter cartridge hand tight only. Over tightening may cause deformation of rubber gasket.

1

(6) Part No. : T2445-50724

⚠ WARNING ⚠



TO AVOID PERSONAL INJURY:

1. Roll-Over Protective Structure(ROPS) with a seat belt is recommended in most applications. Check the owner's manual and discuss with your local dealer.
2. Always use the seat belt when the tractor is equipped with ROPS. Never use the seat belt when the tractor is not equipped with ROPS.

T2445-50724

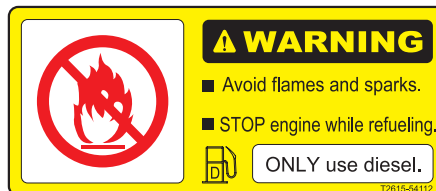


1-22 LX500L

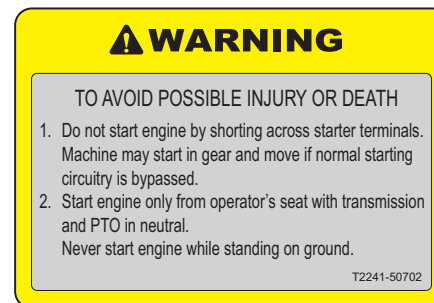
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(9) Part No. : T2615-54112



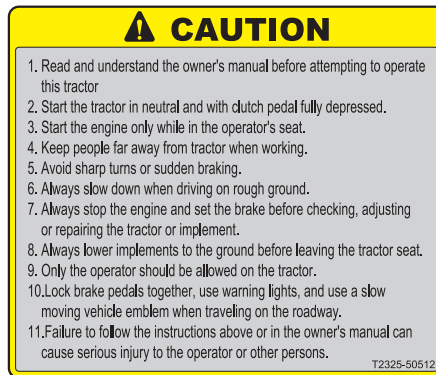
(11) Part No. : T2241-50702



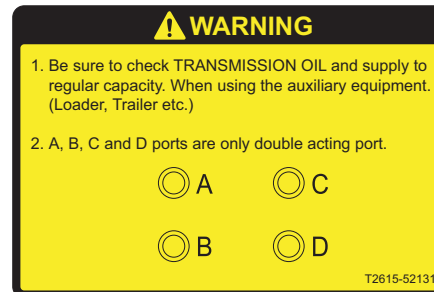
(8) Part No. : T4625-52361



(10) Part No. : T2325-50512

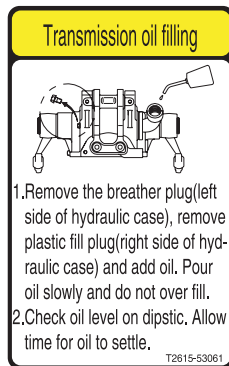


(12) Part No. : T2615-52131





(13) Part No. : T2615-53061



(15) Part No. : T4625-53191



(17) Part No. : T2615-55112



(14) Part No. : T2325-50743



(16) Part No. : T4938-53551



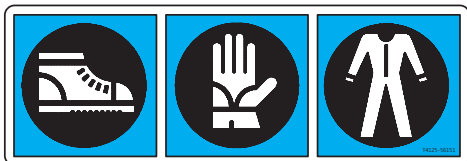


1-24 LX500L

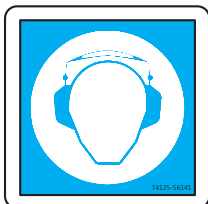
(18) Part No. : T4125-56161



(19) Part No. : T4125-56151



(20) Part No. : T4125-56141



(21) Part No. : T4125-56171



(23) Part No. : T4125-56181



(22) Part No. : T4125-56111





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 as thinner or acetone, since it can ruin the decals.**
- **Do not spray high-pressure water directly onto the decal.** The decal may fall off the tractor.



IMPORTANT

- **If a decal is damaged or lost, contact your local Kioti dealer immediately to install a new decal.**
- **Make sure to attach the decal to 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.**



MEMO





SERVICING OF TRACTOR

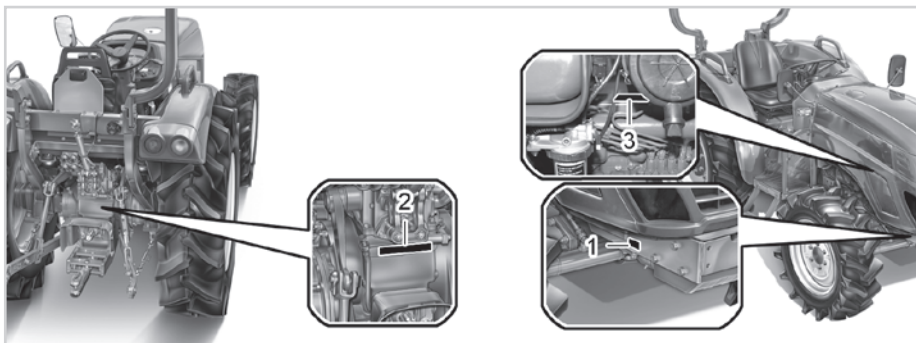
SERVICING..... 2-2

2

2



SERVICING



(1) Tractor serial number Plate
(3) Engine Serial Number

(2) Transmission Serial Number

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

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

The tractor serial number is located on the front axle support on the right side of the tractor. The engine serial number is located on the fuel injection device of the engine. The transmission number is located on the rearward of the tractor and the transmission case in the upward of the PTO cover. Locate the serial numbers now and record them in the space provided.

Before using implements not sold by **KIOTI DISTRIBUTOR**, contact your nearest dealer, regarding safety in its application.

• Identification No.

• Engine Serial No.

• Transmission Serial No.

• Date of Purchase

※ To be filled in by purchaser.



SPECIFICATIONS

SPECIFICATIONS.....	3-2
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NOISE LEVELS AS PERCEIVED BY THE OPERATOR.....	3-7
VIBRATION LEVELS OF THE TRACTOR EXPOSITION TO VIBRATIONS	3-7
IMPLEMENT LIMITATIONS.....	3-9

3

3



3-2 LX500L

SPECIFICATIONS

Model		LX500L
Engine	Engine power gross	HP(kW) / rpm
		49 (36.6) / 2,600
	Model	4B243LWL
	Type	Direct injection, vertical, water-cooled, 4-cycle diesel turbo engine
	Number of cylinder	4
	Bore and stroke	φxmm (φxin.)
		87 x 102.4 (87 x 4.03)
	Total displacement	cc (cu.in.)
		2,435 (148.59)
	Rated revolution	rpm
Capacities		2,600
	Injection timing	BTDC 12° (Standard: sub port)
	Injection order	1-3-4-2
	Compression ratio	22:1
	Fuel tank	L (U.S.gals.)
		42 (11.1)
	Engine crankcase	L (U.S.gals.)
		7.7 (2.0)
	Engine coolant	L (U.S.gals.)
		8.7 (2.3)
	Transmission case	L (U.S.gals.)
		48 (12.7)
	Front axle case oil	L (U.S.gals.)
		7.0 (1.8)



Model			LX500L	
Dimensions (with Std.tires)	Overall length (Without 3p & Front weight)		mm (in.)	3,215 (126.6)
	Overall length (With 3p & Front weight)		mm (in.)	3,500 (137.8)
	Overall width (Minimum tread)		mm (in.)	1,440 (56.7)
	Overall height (Top of ROPS)		mm (in.)	2,365 (93.1)
	Wheel base		mm (in.)	1,700 (66.9)
	Min. ground clearance		mm (in.)	335 (13.2)
	Tread	Front	mm (in.)	AG: 1,235 (48.6), Turf: 1,435 (56.5), ind: 1,312 (51.7)
		Rear	mm (in.)	AG: 1,125 ~1,345 (44.3~53.0) Turf: 1,145~1,305 (45.1~51.4) IND: 1,205~1,260 (44.7~49.6)
Traveling System	Tire size	Front AG	(Turf, IND)	8-16 / 6PR (29.5-12.5-15 / 4PR, 10-16.5 / 4PR)
		Rear AG	(Turf, IND)	12.4-24 / 6PR (41-14-20 / 4PR, 43-16-20 / 4PR)
	Clutch			Dry single plate-single stage type
	Steering			Hydraulic power steering
	Transmission			Synchronized shuttle and transmission (16 forward and 16 reverse speeds)
	Brake	Traveling		Wet disc type (Rear brake)
		Parkings		Wet disc type
	Differential			



3-4 LX500L

Model			LX500L
Hydraulic	Hydraulic lift control system		Position, Draft, Mixed control
	Pump capacity	L / min (U.S.gpm)	Main pump: 28.98 (7.66) Power steering pump: 24.07 (6.36)
	Three point hitch		Category I
	Maximum lifting capacity	kg (lbs)	1,230 (2,712)
	No. of standard remote valves		4
PTO	PTO Type		Dependent
	Revolution (Independent PTO)	1st rpm	540
		2nd rpm	1,000
Min. Turning radius		mm (in.)	2,800 (110.2)
Traction system		Swing drawer bar (Cleviss)	
Weight		kg (lbs)	1,690 (3725)
Traveling speed	Forward	Km/h (M/h)	0.20~22.07 (0.12~13.71)
	Reverse	Km/h (M/h)	0.18~20.36 (0.12~12.65)

NOTE: The specifications are subject to change for the purpose of improvement without any notice.



TRAVELING SPEED

* At rated engine speed with Std. tires.

[FORWARD]

Km/h (M/h)

Operating the lever			Model
Main	Range	Main	LX500L
Forward	Creep (C)	1	0.20 (0.12)
		2	0.27 (0.17)
		3	0.42 (0.26)
		4	0.62 (0.39)
	Low (L)	1	1.59 (0.99)
		2	2.21 (1.37)
		3	3.42 (2.12)
		4	5.00 (3.11)
	Middle (M)	1	0.87 (0.54)
		2	1.21 (0.75)
		3	1.86 (1.16)
		4	2.72 (1.69)
	High (H)	1	7.00 (4.35)
		2	9.72 (6.04)
		3	15.01 (9.33)
		4	21.96 (13.65)



3-6 *LX500L*

[REVERSE]

Km/h (M/h)

Operating the lever			Model
Main	Range	Main	LX500L
Reverse	Creep (C)	1	0.18 (0.11)
		2	0.25 (0.16)
		3	0.39 (0.24)
		4	0.57 (0.35)
	Low (L)	1	1.47 (0.91)
		2	2.04 (1.27)
		3	3.15 (1.96)
		4	4.61 (2.86)
	Middle (M)	1	0.80 (0.50)
		2	1.11 (0.69)
		3	1.72 (1.07)
		4	2.51 (1.56)
	High (H)	1	6.46 (4.01)
		2	8.97 (5.57)
		3	13.85 (8.61)
		4	20.25 (12.58)



NOISE LEVELS AS PERCEIVED BY THE OPERATOR

The following tables give the noise level values, measured from the driver's seat in instantaneous conditions in compliance with standards 2009/76/EC(dBA) - annex II (without load) - and when driving by in compliance with standard 2009/63/EC(dBA).

Tractors without Cabin			
Model	Directive of The European Parliament and of the Council	Noise level at the operator's ear according to 2009/76/EC	Noise level in motion according to 2009/63/EC
LX500L	2003/37/EC	Less than 88.9 dB(A)	Less than 80.2 dB(A)

※ Note: Data supplied by the manufacturer, approval values pending.

VIBRATION LEVELS OF THE TRACTOR EXPOSITION TO VIBRATIONS

⚠ WARNING

- *The vibration level transmitted to the body as a whole depend on different parameters, some of them relating to the machine, others to the terrain and many specific for the operator. The prevailing parameters are the type of terrain or work surface and the ground speed.*
- *Vibrations cause discomfort for the operator and in some cases put his/her health and safety at risk.*
- *Make sure that the tractor is in good condition and that all routine servicing is correctly and regularly carried out.*
- *Check tire pressure and the steering and braking systems.*
- *Check that the operator's seat and adjustment systems are in good condition, then adjust the seat to the operator's weight and size.*

⊕ IMPORTANT

- **More information on Whole Body Vibration (WBV) on agricultural tractors can be found in more specific publications and the relative risks can be taken into account following the laws of the country. In order to correctly estimate statistical values based on your daily work on the tractor, a specific measure instrument is required, such a three-axis accelerometer applied to the seat**



3-8 *LX500L*

In accordance to EU Directive 78/764/EC the following table shows vibration levels measured on seats, in aws.

Operator's Vibration level			
Seat type	Directive of The European Parliament and of the Council	Light-weight operator	Heavy-weight opeartor
W08SSS	78/764/EEC	Less than 1.24 m/s ²	Less than 1.12 m/s ²

* aws = correct weighted value of the vibration acceleration (m/s²)



IMPLEMENT LIMITATIONS

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

Model \ Item		Tread (max. width)		Lifting Capacity max. loading weight (24 in. aft of hitch)
		Front	Rear	
LX500L	AG	1,235 mm (48.6 in.)	1,340 mm (52.8 in.)	1,013 Kg (2,233 lbs.)
	Turf	1,435 mm (56.5 in.)	1,305 mm (51.4 in.)	
	IND	1,312 mm (56.7 in.)	1,260 mm (49.6 in.)	

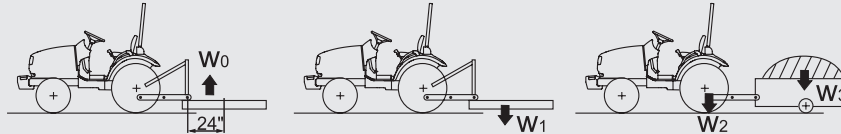
Model \ Item		Actual figures		Trailer loading weight W_3 Max. capacity
		Implement weight W_1 and / or size	Max. Drawbar Load W_2	
LX500L		As in the following list (Shown in the next page)	650 kg (1433.0 lbs.)	3,000 Kg (6613.9 lbs.)

Lifting Capacity max. loading weight The max. allowable load which can be put on the 24 in. aft of hitch : W_0

Implement weight The implement's weight which can be put on the lower link : W_1

Max. drawbar load W_2

Trailer loading weight The max. loading weight for trailer (without trailer's weight) : W_3



T46O301A

NOTE : Implement size may vary depending on soil types and field conditions.



MEMO





DESCRIPTION OF OPERATING SYSTEM

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OPERATING THE CONTROLS	4-5

4

4



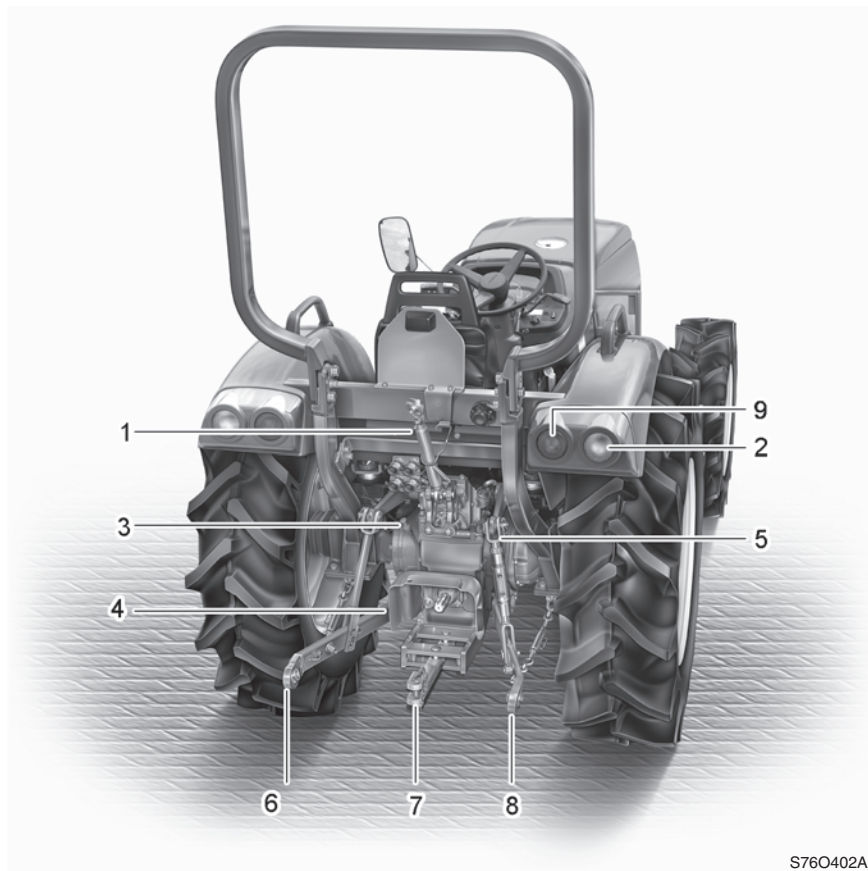
4-2 LX500L

EXTERIOR VIEW



- (1) Seat
- (2) Steering Wheel
- (3) Fuel Tank Cover
- (4) Hood / Bonnet
- (5) Rear View Mirror
- (6) Head Lamp
- (7) ROPS
- (8) Fender
- (9) Turn Signal Lamp (Front)

S76O401A

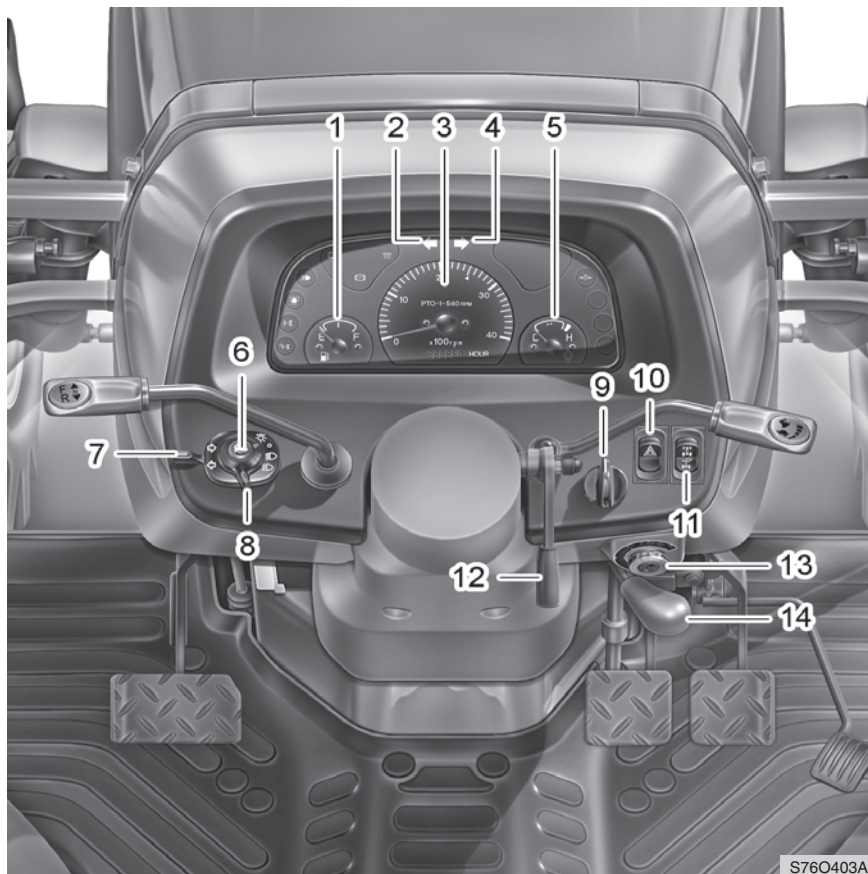


S76O402A

- (1) Top Link
- (2) Turn Signal Lamp (Rear)
- (3) Transmission Oil Gauge
- (4) PTO Shield Cover
- (5) Lift Rod
- (6) Lower Link
- (7) Swing Drawbar
- (8) Lower Link
- (9) Brake Lamp



INSTRUMENT PANEL AND SWITCHES

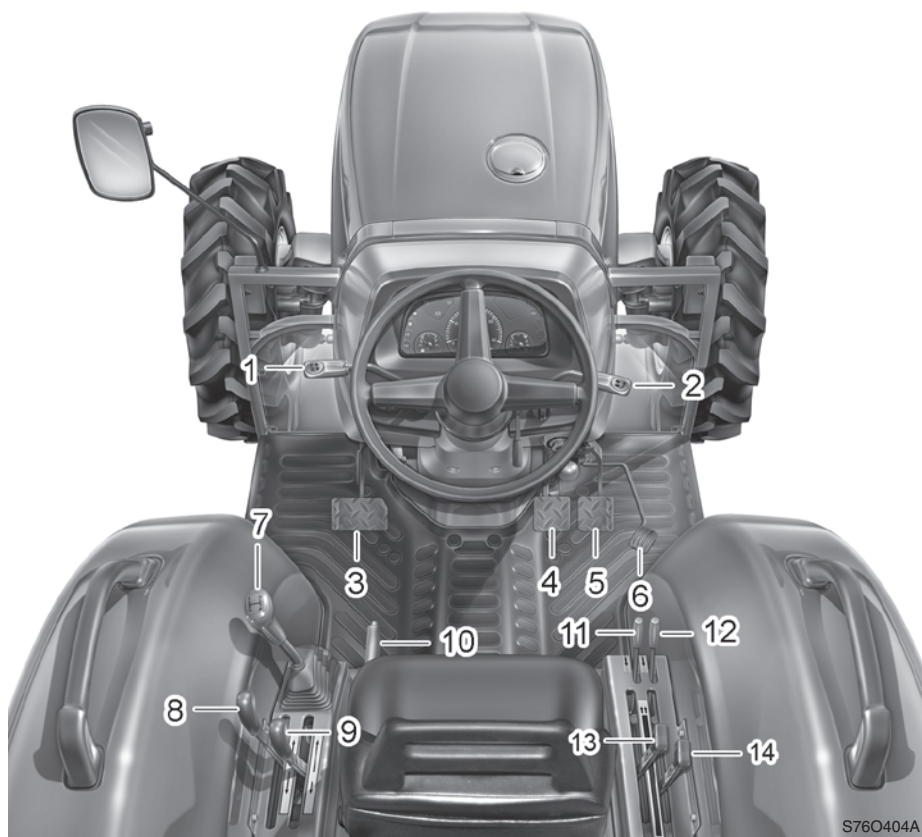


- (1) Fuel Gauge
- (2) Left Turn Signal Lamp
- (3) Tachometer
- (4) Right Turn Signal Lamp
- (5) Coolant Temperature Gauge
- (6) Horn Switch
- (7) Turn Signal Lamp Switch
- (8) Headlamp Switch
- (9) PTO Selector Switch (Auto / Manual)
- (10) Hazard Warning Flasher Switch
- (11) 4WD / Quick Turn Selection Switch
- (12) Tilt Steering Lever
- (13) Key Switch
- (14) PTO Shift Lever

S76Q403A



OPERATING THE CONTROLS



- (1) Forward / Reverse Shift Lever
- (2) Hand Accelerator Lever
- (3) Clutch Pedal
- (4) Brake Pedal (LH)
- (5) Brake Pedal (RH)
- (6) Throttle Control Pedal
- (7) Main Shift Lever
- (8) Range Shift Lever
- (9) Creep Shift Lever
- (10) Parking Brake Lever
- (11) Double Acting Lever (A, B)
- (12) Double Acting Lever (C, D)
- (13) Draft Control Lever
- (14) Position Control Lever



MEMO





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5

5



PRE-OPERATION DAILY CHECK

It is very important to check the condition of the tractor before starting the engine. Perform daily checking every-day before you start work.



CAUTION

To avoid personal injury:

- **Stop the tractor on level ground, stop the engine, and apply the parking brake when checking or servicing the tractor.**
- **Refer to the "Daily Check" in Servicing Section for refueling.**
- **Read "DANGER, WARNING and CAUTION labels" carefully. (Refer to the "DANGER, WARNING and CAUTION" labels to ensure safe working)**

CHECK ITEMS

- Walk around inspection
- Check the oil level of the engine
- Check the oil level of the transmission
- Check the coolant level
- Clean the grille and radiator screen
- Check the air cleaner and filter
- Check the brake pedal
- Check the dash gauges and indicators
- Check the headlamps, turn signal lamps, and work lamps
- Check accessible wiring harness
- Check the seat belt and **ROPS** for damage
- Refuel (Refer to "Daily Check" in Regular Servicing Section)
- Check all danger and warning labels



OPERATING NEW TRACTOR

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

New tractors, though they are subject to various tests before delivery from the factory, may need to be accustomed to various related parts. Care should be taken to operate the tractor for the first 50 hours at a slower speed and avoid excessive work or operation until the various parts become 'break-in'.

The manner in which the tractor is handled during the 'breaking-in' period greatly affects the life of your tractor. Therefore, to obtain the maximum performance and the longest life of the tractor, it is very important to properly break-in your tractor.

In handling a new tractor, the following precautions should be observed.

- You should not operate your tractor at full speed for the first fifty hours of use.
- Avoid sudden starts and stops.
- In cold weather, allow your tractor plenty of time to warm up.
- Do not run the engine at speeds faster than necessary.
- Take due caution when operating your tractor on rough roads or terrain.

The above precautions are not limited to new tractors only but are a good practice for tractors regardless of their age.

CHANGING LUBRICATING OIL FOR NEW TRACTOR

Special attention should be given to lubricating oil for new tractors. New parts are not accustomed to each other and are not broken in properly. Small metal grit can develop in the lubricating system as metal parts begin to break-in, and continuous use of the contaminated oil can cause damage and failure to the tractor.

Therefore you should change the tractor's oil after the break-in period.

For further details on the oil change and service intervals, refer to "Maintenance" Section.



OPERATING THE ENGINE

⚠ CAUTION

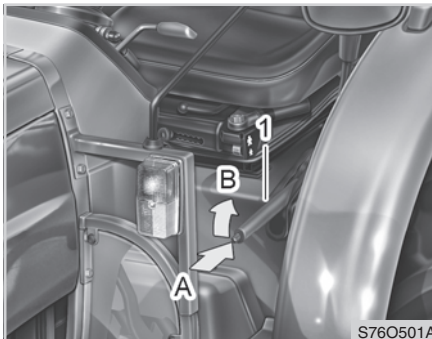
To avoid any personal injury:

- The warning and caution labels on the tractor should be read and followed carefully.
- It is very important to allow proper ventilation when the engine is operated indoors or within enclosed spaces to avoid concentration of emissions.
- Do not start the engine without the operator being seated. This may result in an accident.

⊕ IMPORTANT

- Use of fluids or additives for starting the tractor can cause tractor damage and can not be covered by the warranty.
- Do not attempt to start the tractor for more than 10 seconds. This can cause damage to the starting motor or battery.

STARTING THE ENGINE

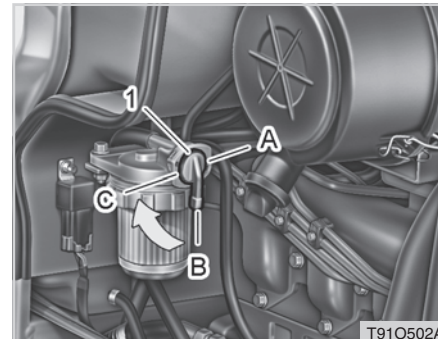


(1) Parking Brake Lever
(A) "PUSH" (B) "PULL"

1. Make sure the parking brake is locked.

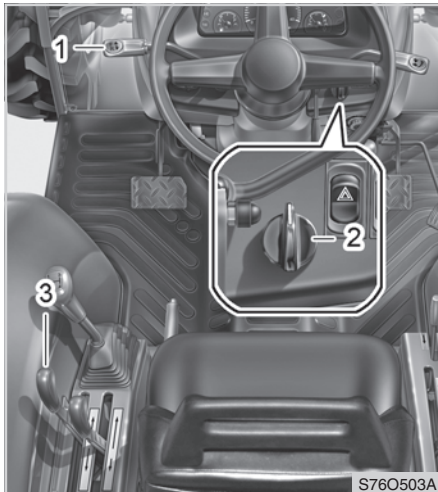
📖 NOTE

- The parking brake lamp is on while the parking brake lever is pulled up. Parking brake lamp goes off when the parking brake lever is released.



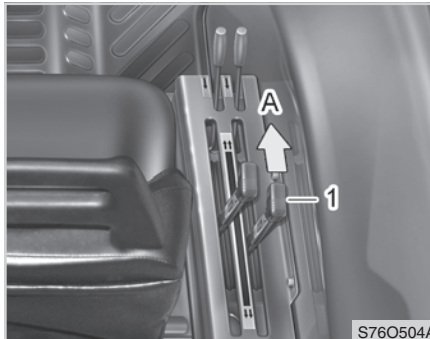
(1) Fuel Cock
(A) "CLOSE" (B) "OPEN"
(C) "BLEEDER"

2. Check if the fuel cock is in open position.



- (1) Forward / Reverse Lever
(2) PTO Selector Switch (Auto / Manual)
(3) Range Shift Lever (Hi-Mi-Lo)

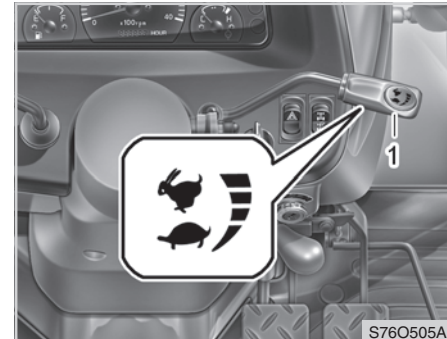
3. Place the PTO selector switch in the "NEUTRAL" position.
4. Place the forward/reverse lever in the neutral position.
5. Place the range shift lever (Hi-Mi-Lo) in the "NEUTRAL" position.



- (1) Position Control Lever
(A) "Lowering"

6. Push the position control lever forward. (A: "Lowering")

When lowering the implement, push the position control lever forward.

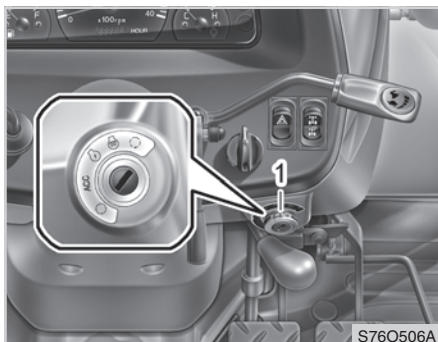


- (1) Hand Accelerator Lever
🐰 "Increase" 🐢 "Decrease"

7. Place the speed control lever in mid speed position.



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(1) Key Switch

8. Wait until the preheat indicator goes off (About 8 seconds) while the key is inserted in the key switch and turned to the "ON" position.

1. As starting the motor needs a lot of electric current, please do not use it more than 10 seconds continuously.
2. If it is not started within 10 seconds, stop and wait for over 30 seconds, and then repeat the same operation.

3. If it will not start, please do not re-start before the flywheel stops.
4. The tractor will be preheated manually while the key is turned from "ON" to Preheat positions.



T91O507A

- (1) Battery Charge Warning Lamp
- (2) Parking brake
- (3) Glow Plug Indicator
- (4) Engine Oil Pressure Warning Lamp

- 9. Turn the key to the "Start" position until the engine is started.**
- 10. Check whether all check lamps are turned off.**



If the lamp doesn't go off, stop the engine immediately and determine its cause.

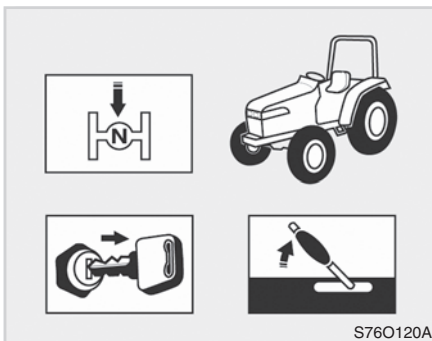
CHECK THE CHECK LAMP

1. The indicator (1), (4) will be illuminated when the key is turned to "ON" position. If the problem occurs while the engine is running, the corresponding warning lamp will light up.
2. The glow plug indicator (3) will come on when the key is turned to "ON" to preheat the engine and goes off automatically when the preheat is completed.
3. The parking brake lamp will come on when the parking brake is pulled up and goes off when released.

IMPORTANT

- Check lamps cannot be checked enough by routine checking. Check lamps must be checked carefully as specified in the daily check item. (Refer to "Daily Check" in section 10)

STOPPING THE ENGINE



1. Reduce the engine revolution to idle before you stop the engine.
2. Remove the key.



CAUTION

- If the engine is not working, consult your local KIOTI dealer.

WARMING UP

Start the tractor and allow about five minutes to warm up before applying any load to the tractor. This will allow time for oil to reach every part of the engine. If a load is applied to the tractor before it has time to warm up, then severe damage can occur like premature wear, breakage, or seizure.



CAUTION

- Be sure that the parking brake is applied while the engine is warmed up.
- Place all shift levers to neutral position and PTO switch to OFF position before you warm up the engine.



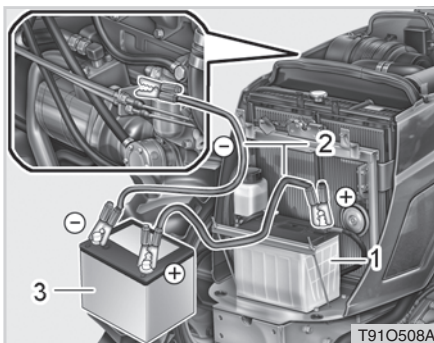
JUMP STARTING

WARM-UP AND TRANSMISSION OIL IN THE LOW TEMPERATURE RANGE

Transmission fluid serves as a hydraulic oil. In cold weather, the oil may be cold with increased viscosity, resulting in delayed oil circulation or abnormally low hydraulic pressure for some time after engine start-up. This in turn can result in trouble in the hydraulic system. To prevent the above, observe the following instructions.

Warm up the engine at 50% of the rated rpm according to the table below:

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



(1) Dead Battery
(3) Helper Battery

(2) Jumper Cables

Connect the cables to the following order.

Disconnect the cables in reverse order as they were connected.

⚠ CAUTION

To avoid personal injury:

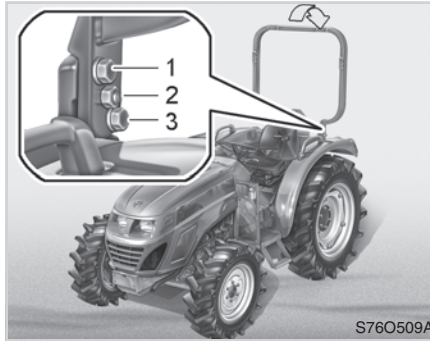
- Keep all flames, sparks, and cigarettes away from the battery.
- If the tractor battery is frozen, do not jump start the engine.
- Do not connect the jumper cable between negative (-) terminal of the helper battery and negative (-) terminal of the dead battery.



OPERATING THE TRACTOR HOW TO FOLD AND UNFOLD THE ROPS

When jump starting the engine, observe the following instructions to ensure safety.

1. Use a battery of the same voltage as the disabled tractor to jump start. Allow as much distance as possible the distance between the batteries within the range the jumper cables will reach to ensure safety
2. Engage the parking brake of the tractor and turn off the key switch.
3. Wear safety goggles and rubber gloves.
4. Connect the red cable to the positive (+) terminal of the dead battery and connect the other end to the positive (+) terminal of the helper battery.
5. Connect the black cable to the negative (-) terminal of the helper battery and connect the other end to the engine lifting hook.
6. If the helper battery is in another vehicle, start the vehicle's engine after connecting the cables and let it run for a few moments. Then, start the engine of the disabled tractor.
7. Disconnect the battery cables in the exact reverse order as they were connected.



(1) Bolt
(3) Bolt

(2) Nut

1. Remove two adjusting bolts (1), (3).



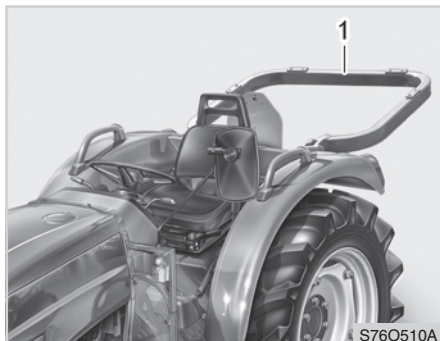
CAUTION

- Stop the engine, remove the key, and apply the parking brake before you folding or unfolding the ROPS.
- This must be performed at the safe and proper position from the rear side of the tractor.



CAUTION

- ROPS must be not folded except only when it is inevitable, and it must be returned to its original straight position as soon as possible.



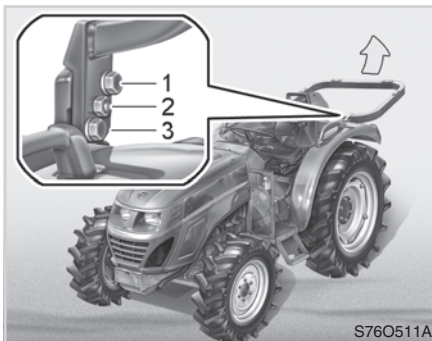
(1) ROPS

2. Remove the adjustment nut (2) and fold the **ROPS**.

 CAUTION

To avoid personal injury:

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



(1) Bolt

(2) Nut

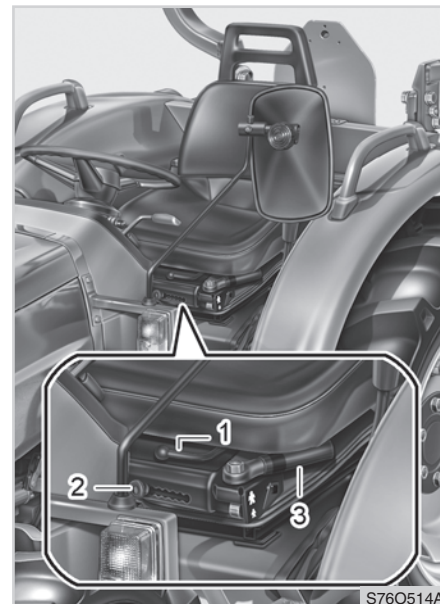
3. Align the two adjusting bolts with the holes and tighten after pre fastening the adjusting bolts.
4. Unfold the **ROPS** in the reverse order as they were folded.

 CAUTION

To avoid personal injury:

- Unfold the ROPS slowly and carefully.

STARTING THE TRACTOR



(1) Horizontal Adjustment (Slide lock)

(2) Weight Adjuster

(3) Height Adjuster

1.ADJUSTING THE SEAT POSITION.



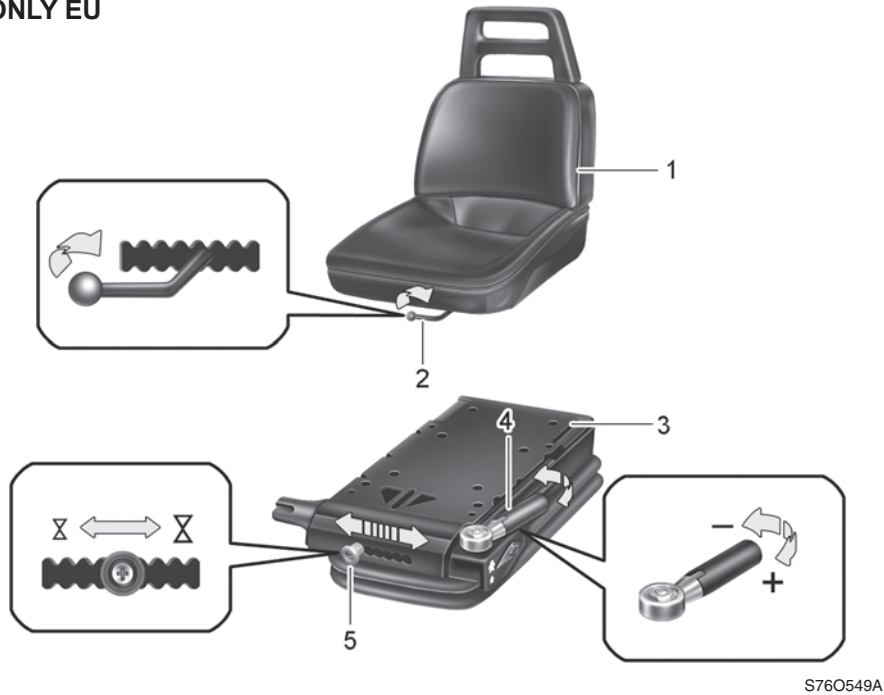
SEAT

⚠ CAUTION

To avoid personal injury:

- Check to be certain that the seat is securely locked after the seat adjustment.
- Only the driver should be on the tractor.

ONLY EU



- (1) Seat
(2) Horizontal Adjustment (Slide rails)
(3) Suspension Assembly

- (4) Height Adjuster
(5) Weight Adjuster



The seat installed on your tractor has a comprehensive range of adjustments. Before prorating the tractor, it is important to adjust the seat to the comfortable position.

1. The lever which control the seat position (up or down) in accordance with operator's. Use the lever when you change the seat position.
2. When you change the seat position (front or rear), pull the lever up and push or pull seat to front or rear direction.
3. When you change the suspension of the seat, you can adjust the suspension of the seat using the lever. Pull the lever front direction and move the lever left or right.

CAUTION

- For one seated occupant.
- Do not adjust seat when vehicle is in operation.
- Keep clear of maintenance should be carried out by authorized & competent personnel only.



(1) Seat Belt

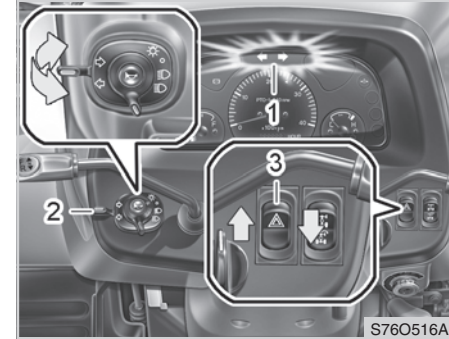
2. SEAT BELT

Adjust the seat belt to the proper length and engage the buckle. The seat belt is the auto lock foldable type.

CAUTION

To avoid personal injury:

- Always wear the seat belt when the ROPS is installed.
- Do not wear the seat belt if the ROPS is removed or not provided on the tractor.



- (1) Hazard Warning Flasher / Turn Signal Lamps
(2) Turn Signal Lamp Switch
(3) Hazard Warning Flasher Switch

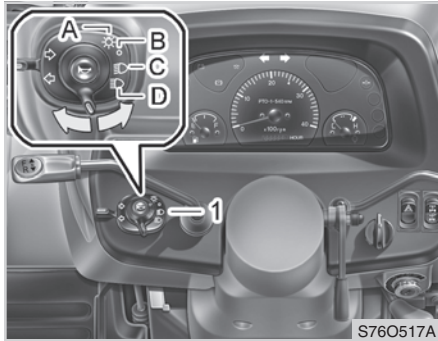
3. SELECTION SWITCHES

(1) Turn Signal Lamp Switch

Turn the turn signal switch clockwise to turn right and turn counterclockwise to turn left.

NOTE

- Return the switch to center (OFF) position after making turns.



(1) Headlamp Switch

- (A) Tail Lamp (B) "OFF"
(C) "ON" (Low Beam) (D) "ON" (High Beam)

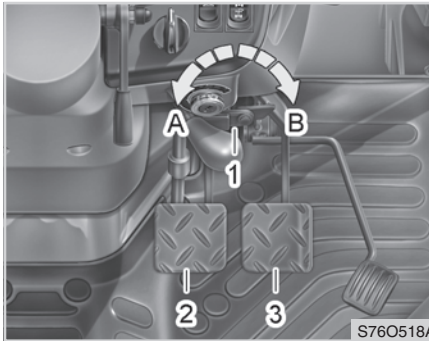
(2) Headlamp Switch

- A: Headlamp-tail lamp (ON)
- B: OFF
- C: Headlamp-low beam (ON)
- D: Headlamp-high beam (ON)

(3) Hazard Warning Flasher Switch

The indicators on the instrument panel flash when the hazard warning flasher switch is "ON".

Turn the switch to "OFF" position to turn off the hazard warning flasher switch.



- (1) Brake Pedal (LH) (2) Brake Pedal (RH)
(3) Brake Pedal Interlock
(A) "LOCK" (B) "UNLOCK"

4. CHECKING THE BRAKE PEDAL

- (1) Brake Pedal (LH, RH)

⚠ WARNING

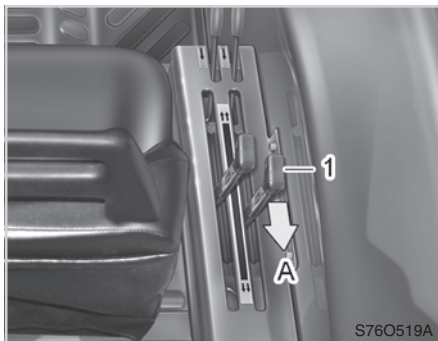
To avoid personal injury:

- *The tractor may go off the route or overturn when the brake (One side) is depressed when operating at high speed.*

1. Interlock both left and right pedals as shown in the figure before operating the tractor on the road or engaging the parking brake.

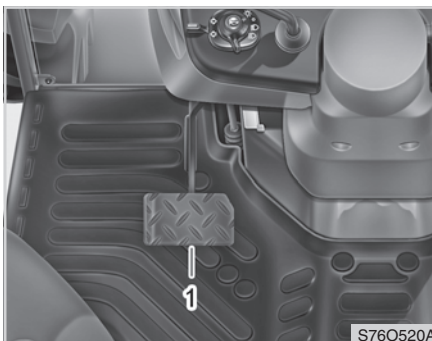
2. The brake (One side) is used at low minimum speed. Disengage the brake pedals and depress the one side brake pedal only. (Applicable for field operation only)

3. When the brake pedals are used in the interlocked mode, adjust them so that they are depressed to the same level.



(1) Position Control Lever

(A) Lifting



(1) Clutch Pedal

⊕ IMPORTANT

- Select proper gear and engine speed according to the type of work you want.

5. LIFT THE IMPLEMENT.

6. DEPRESS THE CLUTCH PEDAL.

⚠ CAUTION

To avoid personal injury:

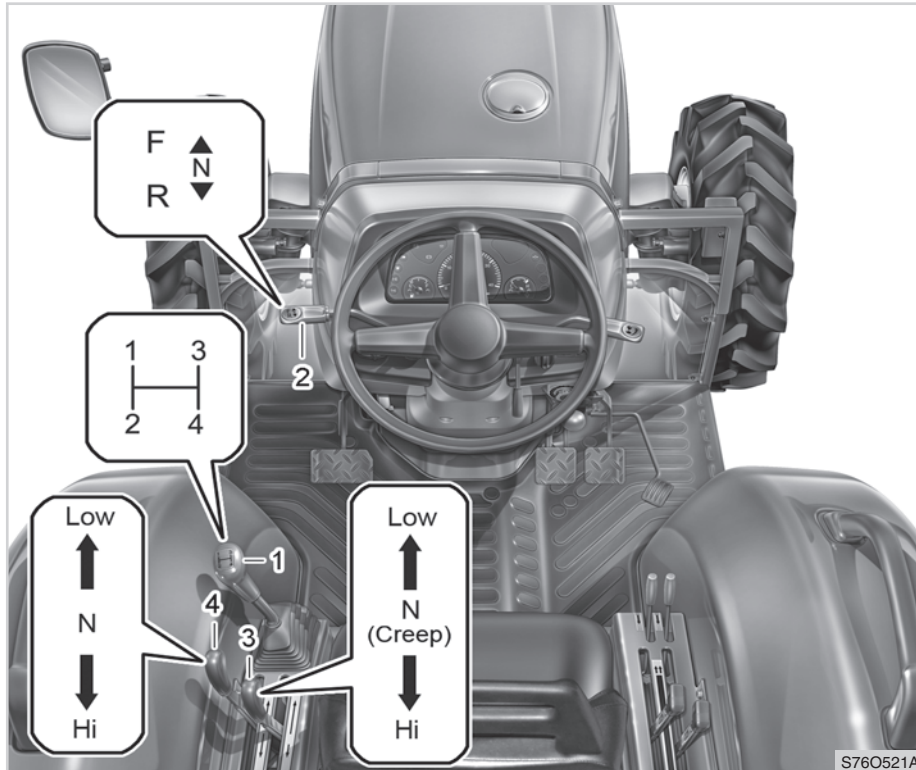
- Do not remove your foot from the clutch pedal suddenly.
- The tractor may rush forward suddenly.

When disengaging the clutch, depress the clutch pedal fully.

⊕ IMPORTANT

To prevent premature wear of the clutch pedal:

- Depress the clutch pedal quickly when disengaging the clutch and remove the foot from the clutch pedal slowly when engaging the clutch.
- Do not put your foot constantly on the clutch pedal.



- (1) Main Shift Lever
(2) Forward / Reverse Shift Lever
(3) Creep Shift Lever
(4) Range Shift Lever (Hi-Lo)

F - Forward
R - Reverse

7. SELECTING THE DRIVING SPEED

(1) Main Shift Lever

Four speeds can be selected by operating a single lever. It is the synchromesh type, and the gear can be shifted by disengaging the clutch during driving.

(2) Forward / Reverse Shift Lever

The forward/reverse shift lever shifts the power to drive forward when it is pushed forward and to drive backward when it is pulled back without operating the main and range shift levers.

5

CAUTION

- Stop the tractor and depress the clutch before you move the forward/reverse shift lever.
- Sudden gear change can cause transmission damage.



(3) Range Shift Lever (Hi-Lo)

Range shift is available when the tractor is stopped completely and the clutch is depressed. If it is difficult to shift the range shift lever, observe the following procedures.

1. Always place the range shift lever in neutral position.
2. Release the clutch pedal.
3. Depress the speed control pedal gently to allow the gears inside the transmission to turn.
4. Depress the clutch pedal and move the range shift lever.

IMPORTANT

- **Depress the clutch pedal and stop the tractor before you move the range shift lever to prevent transmission damage.**



CAUTION

- **The tractor can stop due to increased load on the axle when the range shift gear is in high speed position or the engine is running at low rpm. If this happens, move the range shift gear to low speed position or increase the engine rpm.**

(4) Creep Lever

How to use the creep lever.

Forward 8 and reverse 8 will be applied when the shift lever is pulled to **H** and forward 16 and reverse 16 (creep speed) will be applied when pushed to **L**.

Care must be taken to the following instructions as improper use or mishandling of the creep speed may cause failure in the tractor.

1. When to use

- Deep and fine plowing with a rotavator
- When plowing is not possible at standard speed on the hard ground with a rotavator
- Transplanting
- Agricultural trencher works
- Loading and unloading

2. Inapplicable works

- Escaping from muddy field
- Drafting, Trailing
- Front loader works
- Civil works

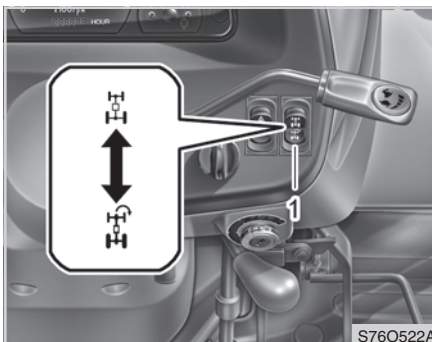


3. Precautions for creep speed application.

- Depress the clutch pedal fully before you move the creep lever
- Be sure to release the parking break before you drive off
- Be sure to disengage the clutch and depress the brake before you stop the tractor

 CAUTION

- **The brake will not be applied when the break pedal is depressed strongly with no clutch depressed since the axle rotation force is not significant at creep speed.**



(1) 4WD / Quick Turn Selection Switch

 "4WD" (Front Wheel)

 "Quick Turn" (QT)

(5) Front Wheel Drive Switch

The front wheel drive can be operated conveniently by ON/OFF switch operation as it is the hydraulic type.

Turn on the front wheel drive switch to engage the front wheel drive and turn off the front wheel drive switch to disengage.

Front wheel driving is convenient for following works.

1. When pulling the trailer, requiring significant traction, or when using the front-end loader in wet areas.
2. When working on sandy soils.
3. When working on hard ground where the tractor is pushed forward by the rotary tiller.

 CAUTION

To avoid personal injury:

- **Do not turn on the front wheel drive switch when driving on a road.**
- **This may cause sudden stop of the tractor.**

 IMPORTANT

- **Depress the clutch pedal before you turn on the front wheel drive switch.**
- **Care should be taken when you are using the front wheel drive since it may cause premature wear of the tires.**



How to use the quick turn.

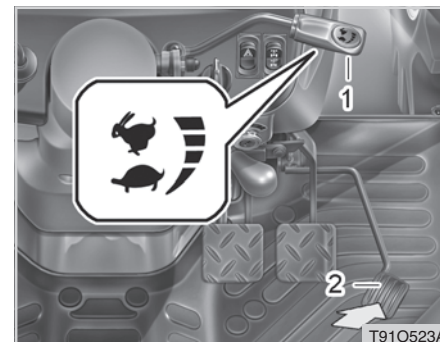
Place the switch to QT position to operate the quick turn.

Align the front wheel tires to the straight ahead position before you select QT with the switch to operate the quick turn.

CAUTION

- **Quick turn is useful for rotary works in a field, muddy paddy, etc. Care should be taken when using the quick turn as its improper use may cause accidents such as turning over. Do not use the quick turn during driving. Never use the quick turn on a steep slope or sharp curve.**

1. The tractor is designed so that the quick turn function does not work when the range shift is at high speed or mid speed in order to ensure safety.
2. Turn the switch to 2WD or 4WD before you come out from the field.
3. Always use the 2WD position when you are driving. Driving at 4WD or QT may cause an unexpected accident.
4. Do not make a sharp turn when driving as it may be dangerous.
5. Never use the quick turn for works with heavy load on the front loader or 4 wheel drive as it may cause premature wear or seizure of the QT clutch disc.



(1) Hand Throttle Lever

(2) Throttle Control Pedal



"Increase"



"Decrease"

8. ACCELERATING THE ENGINE

(1) Hand Throttle Lever

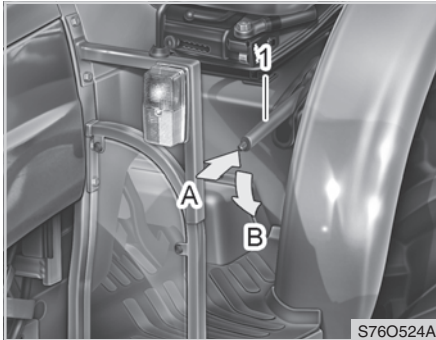
Push the hand throttle lever forward to speed up the engine and pull the hand throttle lever back to slow down the engine.

(2) Throttle Control Pedal

Use the throttle control pedal when driving on the road. Depress the throttle control pedal harder to speed up. The throttle control pedal and hand throttle lever are coupled together. Turn the hand throttle lever to low idle position when using the throttle control pedal.



STOPPING THE TRACTOR

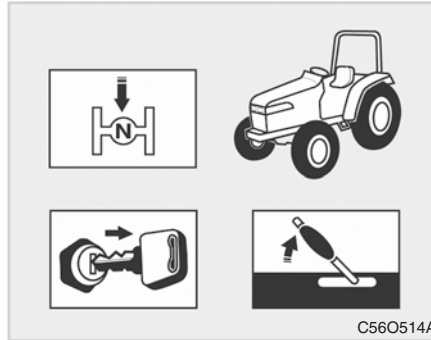


(1) Parking Brake Lever

(A) "PUSH"

(B) "RELEASE"

9. Release the parking brake and the clutch pedal slowly.



1. Adjust the accelerator to put the engine at idle speed.
2. Step on the clutch pedal and brake pedal.
3. Put the shift lever in the neutral position.
4. If some implement is mounted, put PTO clutch switch and PTO shift lever in the neutral position.
5. Push the lifting lever forward to lower the attachment slowly.

6. You should securely lock the parking brake.

7. Switch "OFF" engine.

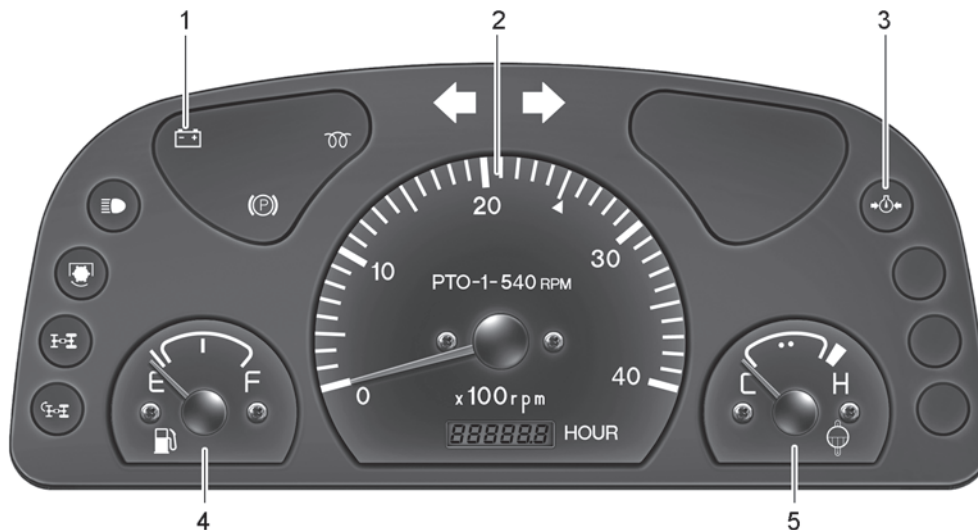
⊕ IMPORTANT

- When you park and stop the tractor, you should pull the parking brake to fix it. Make sure all gear's and ranges are in low when parking the tractor. The shuttle should be in forward.
- Please get out of the tractor after confirming the tractor is stopped while you are parking and stopping it.
- When you park the tractor at the steep place, please chock its tires so that the tractor will not move.
- Do not park it on tall grass or straw.
- If they touches the exhaust pipe, a fire can break out.



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CHECK ITEMS FOR OPERATION SUDDEN ENGINE STOP



T91O525A

(1) Battery Charge Warning Lamp
(2) Tachometer

(3) Engine Oil Pressure Warning Lamp
(4) Fuel Gauge

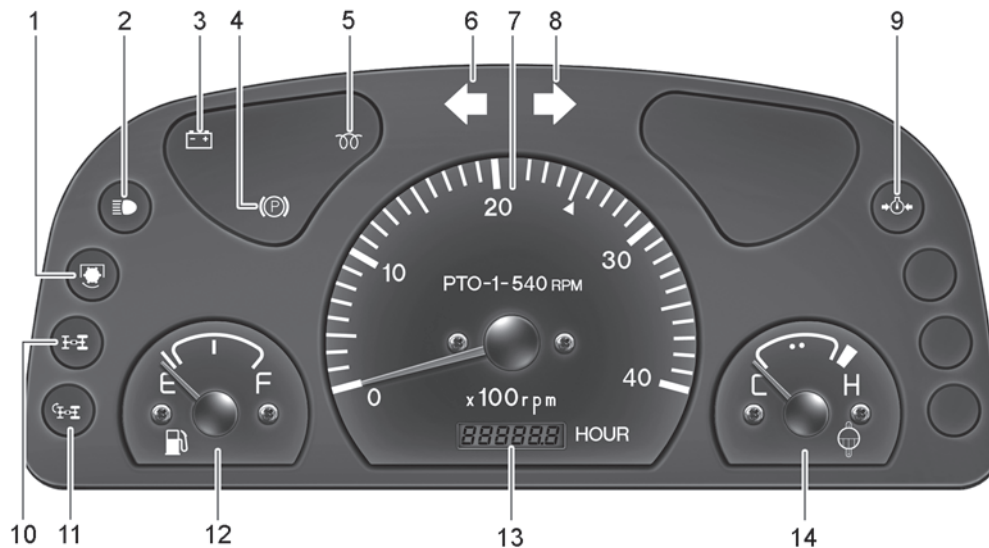
(5) Coolant Temperature Gauge

1. Engine decelerates or accelerates suddenly.
2. Abnormal noise can be heard from the engine.
3. Black exhaust smoke is generated.

Check that all parts are working properly during operation before you use the tractor again



CHECK ITEMS FOR INSTRUMENT PANEL



T91O526A

- (1) PTO Indicator
- (2) High Beam Lamp
- (3) Battery Charge Warning Lamp
- (4) Parking Brake Lamp
- (5) Glow Plug Indicator

- (6) Turn Signal Lamp (LH)
- (7) Tachometer
- (8) Turn Signal Lamp (RH)
- (9) Engine Oil Pressure Warning Lamp
- (10) Front Wheel Drive Indicator

- (11) Quick Turn Indicator
- (12) Fuel Gauge
- (13) Hour meter
- (14) Coolant Temperature Gauge

If the warning lamp comes on while driving, stop the engine immediately and determines its cause. Do not operate the tractor while the warning lamp is on.



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TACHOMETER



T91O527A

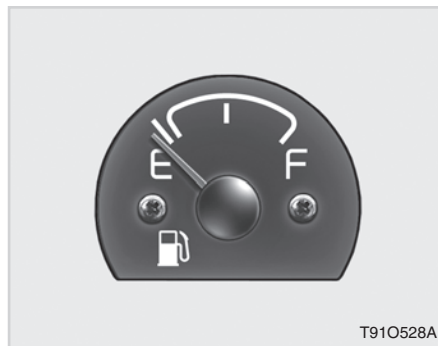
(1) Tachometer

(2) Hour meter

The tachometer indicates the engine speed and dial's 540 RPM PTO axis speed.

The hour meter indicates the operation hours of the tractor in five digit numbers.

FUEL GAUGE



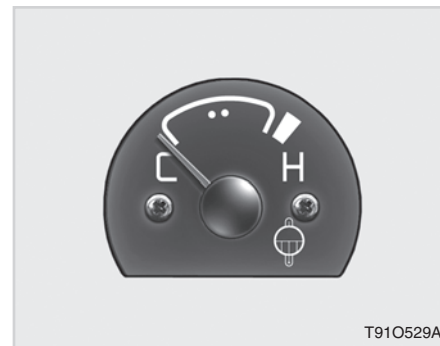
T91O528A

(1) Fuel Gauge
"E" Empty

"F" Full

Fuel level is displayed on the fuel gauge when the key switch is turned on. Be careful so that the fuel tank does not get completely empty. If the fuel tank is empty, air may enter to the fuel supply system. In this case, it is necessary to bleed it. (Refer to "Bleeding Fuel Supply System" in Regular Servicing Section)

COOLANT TEMPERATURE GAUGE



T91O529A

(1) Coolant Temperature Gauge
"C" Cool
"H" Hot

Coolant temperature is displayed on the coolant temperature gauge when the key switch is turned on. "C" indicates that the coolant is cold, and "H" indicates that the coolant is hot.



CAUTION

To avoid personal injury:

- **Wait until the coolant temperature is below the boiling point to open the radiator cap. Remove the cap slowly to allow pressure inside to be released slowly**



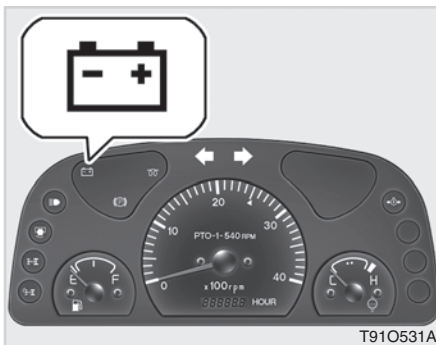
ENGINE OIL PRESSURE WARNING LAMP



The engine oil pressure warning lamp will be on if the engine oil pressure of the tractor falls below the specified level. (Normally, this lamp is on when the key is on (Without starting the engine))

If this occurs while the tractor is in operation or the engine does not stop when it is accelerated to over 1,000 rpm, check the engine oil level.

BATTERY CHARGE WARNING LAMP

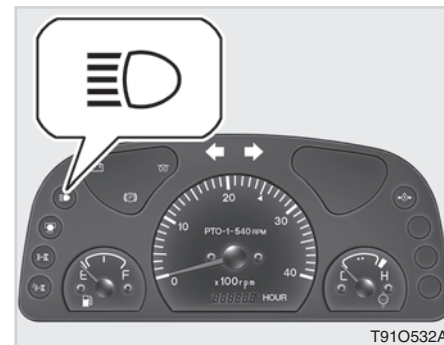


If the battery level is too low, the battery charge warning lamp will light up. If this lamp comes on while engine is running, check the electrical charging system or consult a **KIOTI** dealer.

NOTE

- Consult your local **KIOTI** dealer for checking or servicing of the tractor.

HIGH BEAM LAMP



The high beam lamp will light up when the light switch is turned to high beam.



TURN SIGNAL LAMP



The turn signal lamp will blink if the turn signal lamp switch is turned left or right.

GLOW PLUG INDICATOR



The glow plug indicator will light up yellow according to the external temperature when the key switch is turned on and will go off when the preheat is over.

At this time, turn the start key to start the engine.

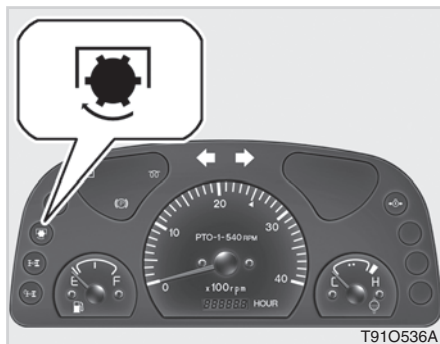
PARKING BRAKE LAMP



The parking brake lamp will light up red if the parking lever applied.



PTO INDICATOR

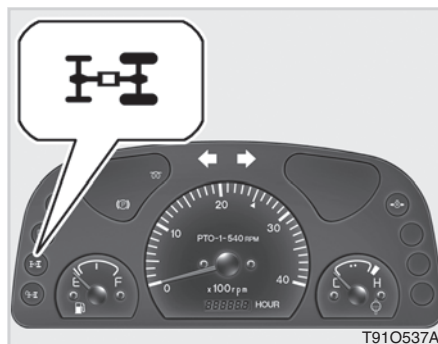


This indicates the ON and OFF status of the PTO clutch.

! CAUTION

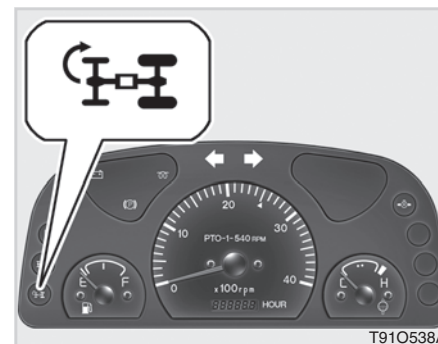
- When the PTO clutch is engaged, this indicator comes on. When the PTO clutch is disengaged, this indicator goes off. Set the PTO clutch switch to the neutral position to start the engine since the engine cannot be started with the PTO indicator "ON".

4WD INDICATOR



This indicates status of 4WD.
This indicator will light up if the 4WD/QT selection switch is in 4WD position and 4WD is in operation.

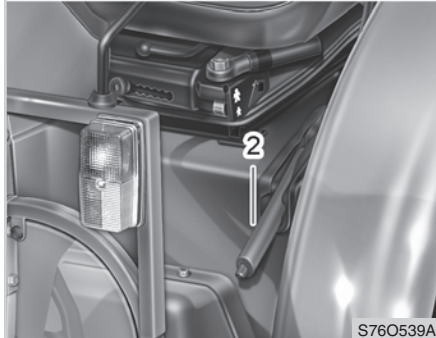
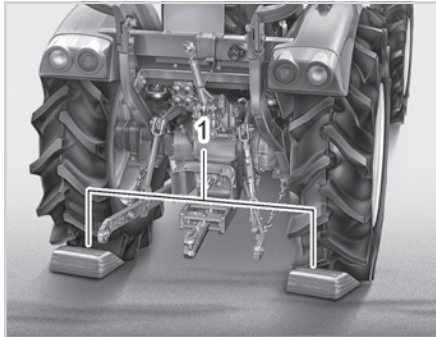
QUICK TURN INDICATOR



This indicates status of quick turn driving.
This indicator will light up if the 4WD / QT selection switch is in QT position and the handle is turned 38 degrees or more to the left or right.



PARKING PARKING BRAKE LEVER



(1) Chocks

(2) Parking Brake Lever

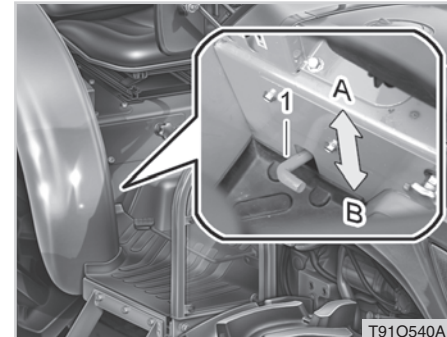
⚠ CAUTION

To avoid personal injury:

- Always pull up the parking brake and stop the engine before you leave the tractor.
- When you park the tractor on a sloped area, set wheel chocks under the tires to prevent any unexpected tractor accident.

1. When parking the tractor, secure it by applying the parking brake lever.
2. Disengage PTO, lower all implements, turn the adjusting lever to the neutral position, pull up the parking brake lever, stop the engine, and remove the key before you leave the tractor.

HOW TO DRIVE DIFFERENTIAL LOCK



- (1) Differential lock pedal
(A) "Release" - Disengaged
(B) "Depress" - Engaged

⚠ WARNING

To prevent personal injury due to loss of steering control:

- Do not operate the tractor at high speed while the differential lock is engaged.
- Do not use the differential lock when you are turning the tractor.

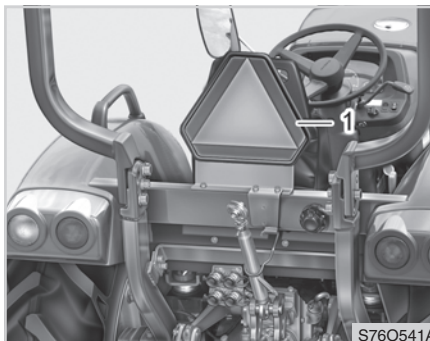


If one of the rear wheels has slipped, the differential lock must be used. This make the wheels on both sides rotate simultaneously. The differential lock is applied only when the pedal is depressed.

⊕ IMPORTANT

- **Operate the engine at low speed when you use the differential lock.**
- **To prevent power transmission damage, do not engage the differential lock when the wheel on one side is in rotation while the wheel on the other side is locked completely.**
- **If the differential lock is not released by above procedure, depress the brake pedals gently by turns.**

OPERATING THE TRACTOR ON THE ROAD



(1) SMV Emblem

Make sure that the warning lamps and SMV sign are clean and visible at all times. If you are towing rear mounted equipment or implements you will need to install warning lamps and SMV signs on the equipment.

⚠ CAUTION

To avoid personal injury:

- **Couple the brake pedals to stop the tractor in a balanced way when operating at driving speed. The tractor may overturn if uneven braking force is applied at driving speed.**
- **When running the tractor on the road with the implement attached to the 3-point hitch, attach the ballast weight at the front of the tractor to maintain the resistance.**



OPERATING ON SLOPED OR ROUGH AREAS

1. Adjust the wheels while ensuring their optimum safety.
2. Slow down the speed at rough, sloped, or sharp curve areas. Special care should be taken when moving the heavy equipment in the rear side of the tractor.
3. Shift the gear properly according to the slope on the sloped area and avoid using the brake as much as possible.

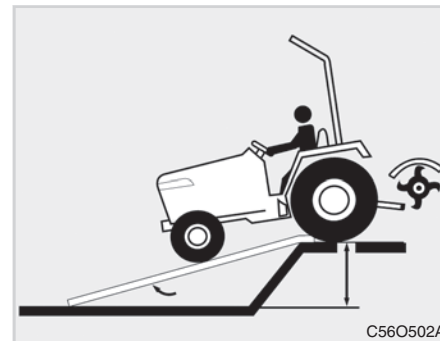


CAUTION

To avoid personal injury:

- **Drive the tractor in the reverse direction on a sloped area. Driving forward may cause overturn of the tractor. Avoid driving on sloped or rough areas if possible to ensure safety.**
- **Do not shift the gear when you are driving up or down hill**
- **When driving on the sloped area, do not disengage the clutch or move the shift lever to neutral position. If these cautions are ignored, the tractor may fail to operate.**
- **Do not operate the tractor near a ditch or levee. There is a possibility of collapse due to tractor weight. Care shall be taken especially in soft or damp soils.**

PRECAUTIONS FOR ENTERING THE FIELD



1. Make sure that the left and right pedals are coupled.
2. It is dangerous if there is significant level difference when entering the field. Use the lamp, etc..
3. Go in and out of the cultivated land at a right angle.
4. When driving up a slope, take care that the tractor does not tip over backwards. Lift the implement simultaneously when both front and rear wheels of the tractor go over the bank.
5. Significantly improved climbing capacity can be obtained for 4WD tractor if the tractor climbs up the bank in reverse position.



LOADING INTO AND UNLOADING OUT OF THE TRUCK

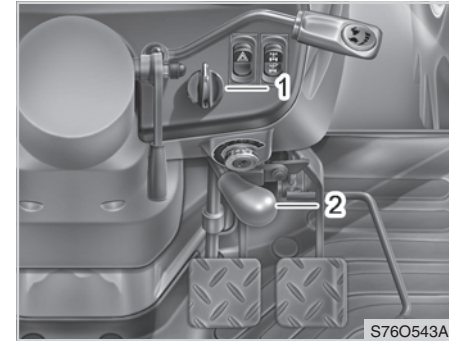
1. When you load the tractor on the truck, do it by driving backward.
2. If the engine stalls out halfway, depress the brake pedal immediately, and then release the pedal slowly to return to the ground. After that, start the engine again to go up.

INSTRUCTIONS FOR USE OF POWER STEERING

1. Power steering is only possible while the engine is running. If the engine speed is decreased, the steering wheel may be somewhat hard to turn

When the engine is stopped, the steering wheel will still work with the heavy feeling.
2. If the steering wheel is turned to the end, the safety valve is activated. Avoid keeping the steering wheel turned to the end for a long time.
3. Avoid turning the steering wheel while the tractor is stopped. This may cause premature wear of the tires.
4. Steering wheel operation is very easily performed with power steering, so be careful when driving on the road at high speed. So you do not turn more sharply than you meant.

OPERATING PTO OPERATING REAR PTO



- (1) PTO Selector Switch (Auto / Manual)
(2) PTO Shift Lever

1. Three speeds can be selected by PTO.
2. It is necessary to apply the clutch to shift the PTO. Depress the clutch pedal fully so that the tractor and the PTO driving implement can be stopped completely before you depress the PTO switch.

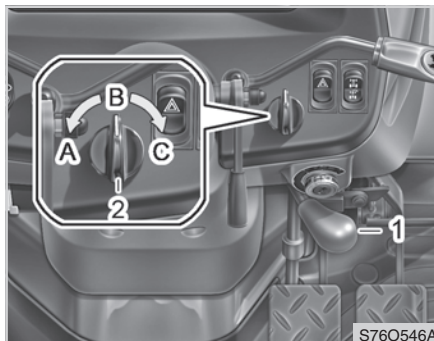


CAUTION

To avoid personal injury:

- When you assemble, remove, adjust, or clean the PTO drive system, disconnect the PTO and stop the engine to be sure all moving parts of the tractor are stopped completely.

PTO CLUTCH SWITCH



- (1) PTO Shift Lever
(2) PTO Selector Switch (Auto / Manual)
(A) AUTO (B) NEUTRAL (C) MANUAL

PTO switch consists of the auto/manual selector switch and the engage/disengage switch.

1. PTO engagement - AUTO

If the PTO clutch selector switch is turned to AUTO position, the PTO is disengaged automatically when the hydraulic lifting arm (or implement) is lifted with a position adjusting lever to the predetermined position.

2. PTO Engagement - Manual

If the PTO clutch selector switch is turned to Manual position, the PTO keeps operating regardless of the lifting height of the lifting arm.

3. PTO Disengagement

Turn the PTO clutch switch to "OFF" position.

IMPORTANT

- When PTO is engaged, slow down the engine to prevent any impact load on the PTO. Then, accelerate the engine at recommended speed.
- Disengage the clutch completely before shifting the PTO shift lever to prevent transmission damage.



RECORDING ENGINE RPM

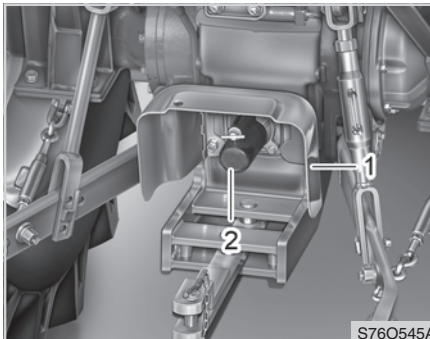
Rated speed PTO (min ⁻¹)	Corresponding engine speed (min ⁻¹)
540	2,528
750	2,729
1,000	2,416



NOTE

- 540rpm is displayed on the tachometer board.

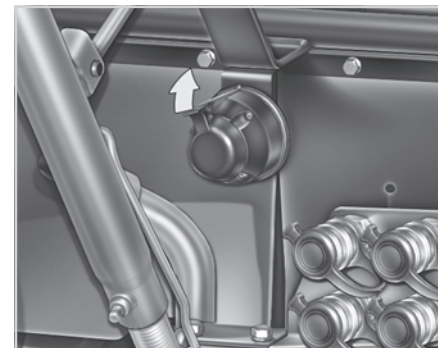
PTO SHAFT COVER, SHAFT CAP



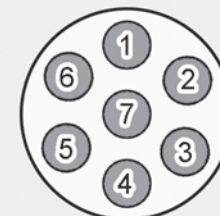
(1) PTO Shaft Cover (2) PTO Shaft Cap

Always place the PTO cover in position and close the cap when the PTO shaft is not used.

SEVEN PIN ELECTRICAL POWER OUTLET



5



T85O518A

A standard 7-pin trailer lighting socket is provided and mounted right side of the tractor, at the rear of the tractor.



5-32 *LX500L*

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 light	R
7	Illumination (LH)	B



3-POINT HITCH / DRAWBAR

3-POINT HITCH / DRAWBAR..... 6-2

3-POINT HITCH 6-3

PRECAUTIONS FOR HANDLING OF THE IMPLEMENT 6-3

TOP LINK 6-4

DRAWBAR..... 6-5

INSTALLING PTO SHAFT 6-7

FIXATION POINTS FOR FRONT END LOADER.....6-9

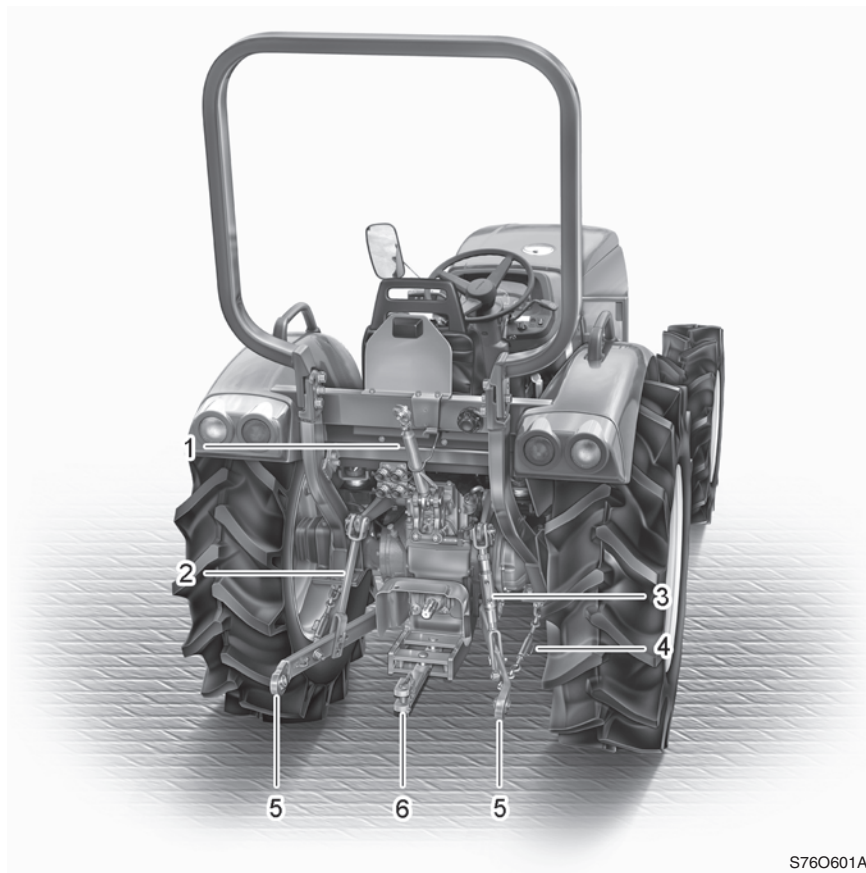
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6



6-2 LX500L

3-POINT HITCH / DRAWBAR



- (1) Top Link
- (2) Lift Rod (LH)
- (3) Lift Rod (RH)
- (4) Check Link
- (5) Lower Link
- (6) Swing Drawbar

S76O601A



3-POINT HITCH PRECAUTIONS FOR HANDLING OF THE IMPLEMENT

1. When you remove or install the implement, make sure that no one stands around the tractor or between the tractor and the implement.
2. Remove or install the implement at a flat and safe place. Please use proper lighting at night.
3. When the heavy implement is installed, fix a balance weight in front to keep the balance.
4. In case you need to adjust the implement, apply the parking brake of the tractor, or stop the engine, and then perform the adjustment after confirming that PTO switch and PTO shift lever are in the "NEUTRAL" position.
5. When you do draft work, you must use the draft hitch. Do not use the equipment without using the draft hitch.
6. When you do draft work or you are working on a slope, you should increase the width of the distance between the left and right tires, making the tractor wider.
7. Since using different kinds of implements will make the tractor longer than usual, be careful of people or objects around where you are working, especially when turning the tractor to avoid accidents.
8. Do not use a person or object(s) instead of the balance weight.
9. When you are working with the front loader, keep the tractor balanced by attaching the implement in the rear.

WARNING

- ***Carefully read the user's manual for the implement to be used to ensure safe and correct usage. If this is not observed, it may cause personal injury.***
- ***If the toxic chemical sprayer (agricultural chemicals, etc) is used, make sure to wear a protective mask and observe the safety cautions shown on the bottle.***

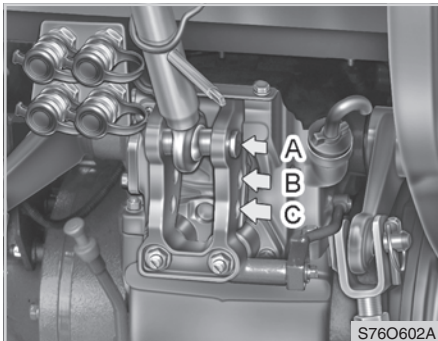
NOTE

- Remove the drawbar if the implement is installed.



6-4 LX500L

TOP LINK



- (A) Traction power is not required
(B) Heavy load traction work
(C) Normal load traction work

CAUTION

- A plate describing how to attach the implement is placed on the standard implement of our company.
- When you are attaching an implement (like rotary) not requiring any traction, mount the assembling spot of the top link into the hole A or B.

CAUTION

- When you are attaching an implement (like plow) requiring some traction, mount the assembling spot of the top link into the hole C.
- When you are moving with an attached implement, you have to mount the top link into the hole A or B. If not, the lifting part can be troubled, and it can fall down because the draft sensor is activated.

ADJUSTING THE LOWER LINK

Implement	Adjusting the stabilizer
Smooth connection	Inserting the pin in the slot hole.
Rough connection (Moving, etc.)	Inserting the pin in the location other than the slot hole as the implement is not swaying.

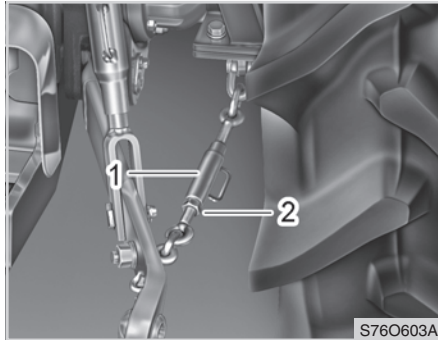
LIFT ROD (RH)

Turn the handle of the lift rod (RH) to adjust the horizontal position of the lift rod implement. Most of the implements are designed to keep the horizontal alignment. Set the handle to the desired position and fix the lock system.



DRAWBAR

CHECK LINK



(1) Check Link

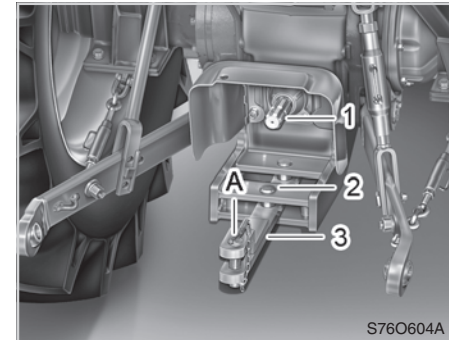
(2) Pin

The check link is used to adjust the distance to move horizontally when operating the implement. It is also used to position the implement behind the tractor to the center.

⚠ WARNING

- *Be careful when you are adjusting the check link. Many dangerous factors may be involved in handling the heavy implement*

Remove the pin and adjust the check link to reach the distance you want to move horizontally. Insert the pin in the link to fix.



(1) PTO Shaft
(3) Drawbar

(2) Drawbar Pin
(A) Hole

⚠ WARNING

To avoid personal injury:

- *Never pull the drawbar from the top link or rear axle or from the upper position. This may cause the tractor to over turn, resulting in personal injury or death.*

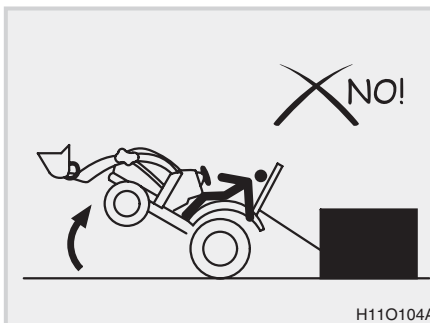
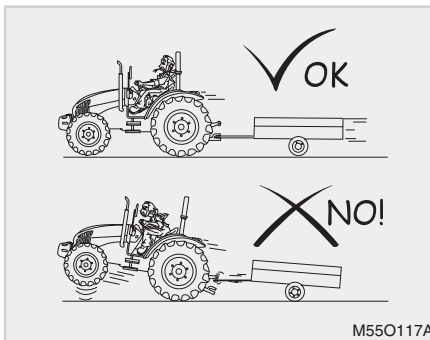
For drawbar loads, refer to "Implement Limitations" Section.



6-6 LX500L

CAUTION

- When using an implement that is attached to the draw bar, such as a trailer, check if the towing hitch is firmly attached.

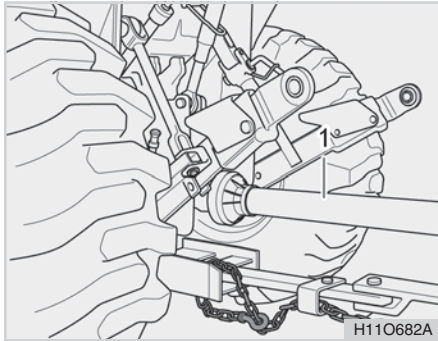


WARNING

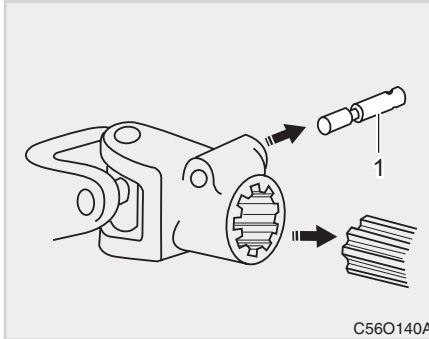
- **Never use any other part for pulling except draw bar. Pulling with top link, ROPS and etc. will cause a fatal accident.**
- **Be sure to install the auxiliary safety chain when installing a trailer.**
- **Improper use of the draw-bar, even if correctly positioned, can cause a rear overturn.**
- **Do 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 nobody or not obstacle between tractor and trailer.**



INSTALLING PTO SHAFT

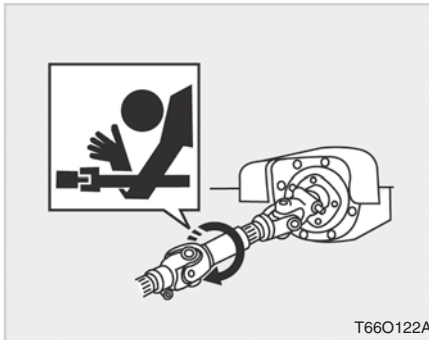


(1) PTO Shaft



(1) Lock Pin

1. Consult your local **KIOTI** Dealer for selection of the PTO Shaft.
2. When selecting a PTO Shaft, 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 male 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.



T66O122A

WARNING

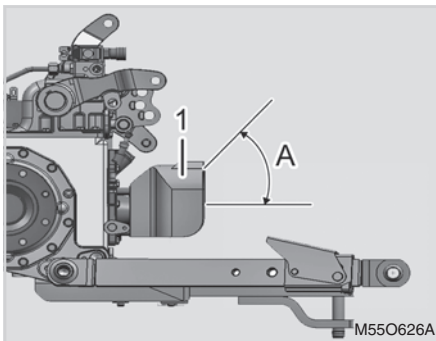
- **Make sure that the PTO safety cover is in its position before driving the PTO shaft.**
- **The tractor PTO and PTO shaft should not be interfered by any surrounding parts.**
- **Never go close to the rotating PTO or tractor PTO shaft. A severe accident can happen.**
- **Before driving an implement 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.**



6-8 LX500L

⚠ 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

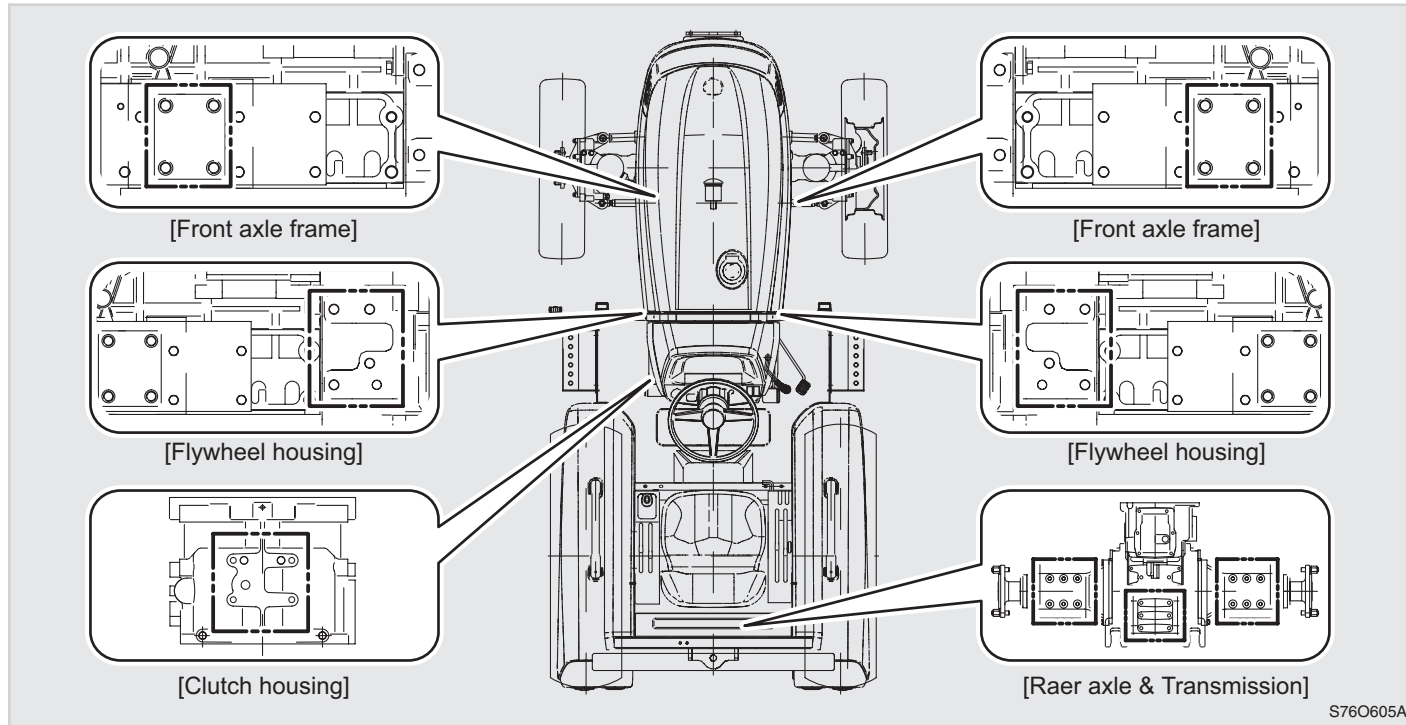
(A) Allowable angle of universal joint : 50°

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

The type of PTO shaft	Allowable angle of universal joint
SAE 1-3 / 8" 6 splines	50 degree



FIXATION POINTS FOR FRONT END LOADER



⚠ WARNING

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



MEMO





HYDRAULIC UNIT

3-POINT HITCH CONTROL SYSTEM..... 7-2

POSITION CONTROL	7-2
DRAFT CONTROL	7-3
MIXED CONTROL	7-3
IMPLEMENT LOWERING RESTRICTION	7-4
3-POINT HITCH LOWERING SPEED	7-4

AUXILIARY HYDRAULIC 7-4

HYDRAULIC BLOCK	7-4
DOUBLE ACTING VALVE LEVER (IF EQUIPPED)	7-5

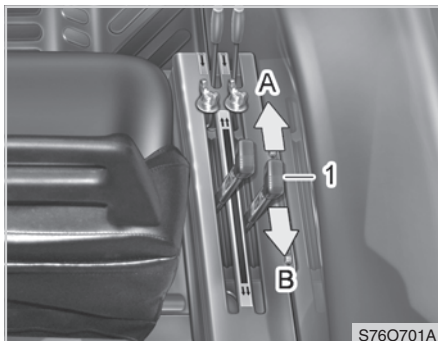
7

7



7-2 LX500L

3-POINT HITCH CONTROL SYSTEM POSITION CONTROL



(1) Position Control Lever

(A) Lowering

(B) Lifting

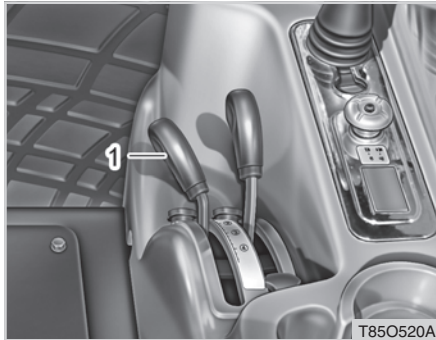
The position control lever is used to operate the hydraulic lifting arm. It is also used to adjust the height of the implement with 3-point hitch.

⊕ IMPORTANT

- Perform bleeding procedure as shown in the following if the position control lever is moved to "LIFTING" but the 3-point hitch does not lift because of long-term storage or change of the transmission oil.
 1. Stop the engine.
 2. Move the position control lever to "LOWERING" position and start the engine.
 3. Run the engine at idle for about 30 seconds and eliminate any trapped air from the hydraulic system.
- Do not operate the engine until it is warmed up. Running the engine when it is cold may cause hydraulic system damage.
- If noise can be heard when the hydraulic control lever is moved and the implement is lifted, it identifies that the hydraulic system is not adjusted correctly. If the hydraulic control system is not assembled correctly, it may cause system damage. Consult your KIOTI Dealer if you need more adjustment.



DRAFT CONTROL

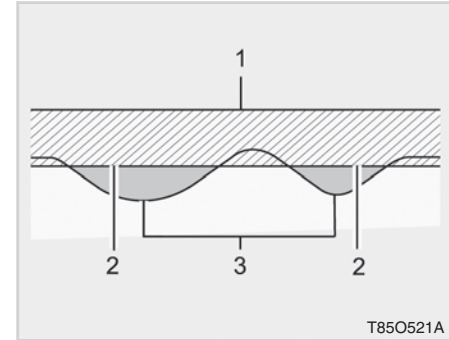


(1) Draft Control Lever

1. The draft control is used to do draft work with an attachment, like a plow, attached to the 3-point linkage.
2. In the floating range. The attachment will completely lower.
3. In the draft control range, the hydraulic unit will have a force to lift the attachment. In this stage, it is possible to do stable work without slipping.

4. If the draft force is higher than the resistance of the attachment, the attachment will be lifted up. If it is lower than the resistance of the attachment, the attachment will be restored to its original state.
5. By placing the lever closer to shallow, the attachment can be lifted up by smaller draft resistance.

MIXED CONTROL



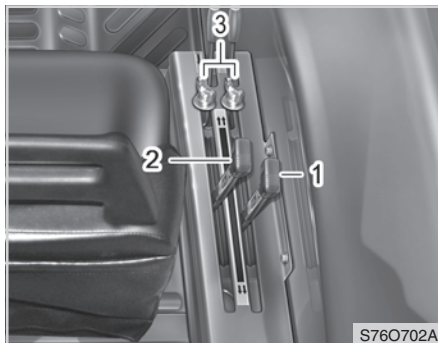
(1) Ground Surface (2) Soft Soil
(3) Implement Penetration Limit

In draft control, when draft decreases, the implement automatically lowers to increase draft. However, the implement sometimes lowers too much. To limit the degree, the implement can be lowered, set the position control lever at the lowest working depth desire for the implement. Lower the draft control lever to the point where the implement is at the desired depth.

This stops the implement from going too deep and causing loss of traction and ground speed.



IMPLEMENT LOWERING RESTRICTION

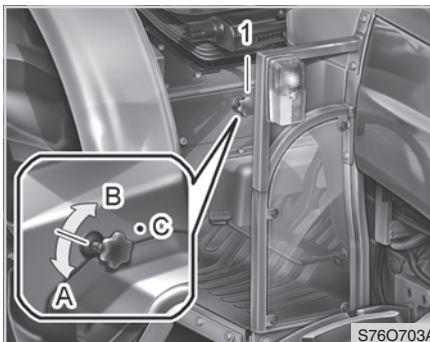


- (1) Position Control Lever
(2) Draft Control Lever
(3) Mounting Bolt

The implement lowering restriction can be adjusted by moving the position of the mounting bolt.

Lowering restriction increases if the mounting bolt is moved to the rear side and decreases if moved to the front.

3-POINT HITCH LOWERING SPEED



- (1) 3-point hitch lowering speed control lever
(A) "High Speed" (B) "Low Speed"
(C) "LOCK"

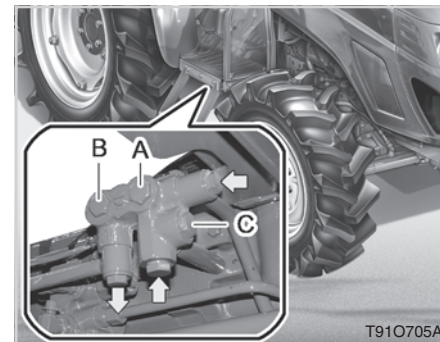
The lowering speed of the 3-point hitch can be adjusted using the 3-point hitch lowering speed control lever.

⚠ CAUTION

To avoid personal injury:

- If the lowering speed is too fast, it may cause machine damage or personal injury. The lowering speed of the implement can be adjusted to 2 seconds or longer.

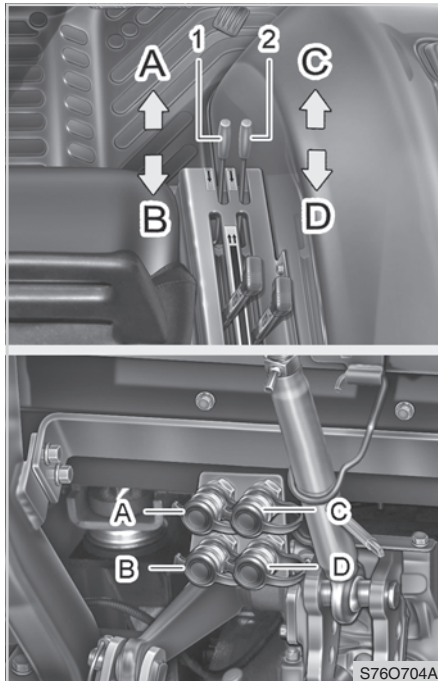
AUXILIARY HYDRAULIC HYDRAULIC BLOCK



- (A) Draining to the implement
(B) Entering from carry over port of the implement
(C) Entering from "T" port of the implement



DOUBLE ACTING VALVE LEVER (IF EQUIPPED)



- (1) Double acting valve lever
(2) Double acting valve lever
(A) "A" port (C) "C" port
(B) "B" port (D) "D" port

Applying the hydraulic →
Draining the oil ←

Port		Push		Pull
Lever 1	A	In	←	Out →
	B	Out →		In ←
Lever 2	A	In	←	Out →
	B	Out →		In ←

Coupler Size

Port A, B, C, D	PT 3/8 inch
-----------------	-------------

Move the lever up and down and hold. The implement will be up or down. The lever will return to neutral when the hand is taken off the lever.

⊕ IMPORTANT

- Do not hold the lever on the "PUSH" or "PULL" position once the external cylinder reaches the end of its stroke. The oil will flow through the relief valve. The oil which flows through the relief valve during the extended period will overheat.
- Do not operate the boom and the bucket cylinder at the same time when the hydraulic system is used to increase the power of the front loader on the tractor.



CONNECTING AND DISCONNECTING THE DOUBLE ACTING VALVE COUPLER CONNECTION

1. Clean the two couplers thoroughly.
2. Remove the protective plug.
3. Engage the implement coupler to the hydraulic coupler of the tractor.
4. Pull the implement coupler slightly to check that the coupler is engaged tightly.

REMOVAL

1. First, lower the implement to the ground to remove the hydraulic in the hose.
2. Clean the coupler thoroughly.
3. Stop the engine and move the hydraulic control lever to release the pressure. Pull the hose out straight to decrease the hydraulic pressure from the hydraulic coupler.
4. Remove oil and dust from the coupler and install the protective plug.



CAUTION

To avoid personal injury:

- **Stop the engine and release the pressure before you connect or disconnect the line.**
- **Do not use a hand to check for any oil leakage.**



NOTE

- The parts suitable for the coupler and hydraulic hose can be supplied by the **KIOTI Dealer**.



TIRES, TREAD AND BALLAST

TIRE 8-2

INFLATION PRESSURE 8-2

TREAD 8-3

FRONT WHEELS 8-3

REAR WHEELS.....8-3

BALLAST 8-4

FRONT BALLAST.....8-4

REAR BALLAST 8-5

MASS(ES) AND TIRE(S).....8-6

8

8



TIRE

WARNING

To avoid personal injury:

- ***Do not remove or install the tires. This must be handled by qualified personnel with proper tools.***
- ***Always maintain the correct tire pressure. Do not inflate the tire to a pressure more than recommended in the user's manual.***

IMPORTANT

- **Do not use tires larger than specified**
- **When you intend to mount a different size of tires from the equipped ones, consult your KIOTI dealer for front drive gear ratio. Excessive wear of tires may occur due to improper gear ratio.**

INFLATION PRESSURE

Though the tire pressure is factory-set to the prescribed level, it will naturally drop slowly. Thus, check it everyday and inflate as necessary.

		Tire sizes	Inflation pressure
Front wheel	Agri	8-16 / 6PR 260/70 R16 280/70 R 16	235 kPa (2.4 kgf/cm ² , 34.1 psi) 196 kPa (2.0 kgf/cm ² , 28.4 psi) 196 kPa (2.0 kgf/cm ² , 28.4 psi)
	TURF	29.5-12.5-15 / 4PR	138 kPa (1.4 kgf/cm ² , 20 psi)
	IND	10-16.5 / 6PR	311 kPa (3.2 kgf/cm ² , 45 psi)
Rear wheel	Agri	12.4-24 / 6PR 360/70 R24 360/70 R24	157 kPa (1.6 kgf/cm ² , 22.7 psi)
	TURF	41-14-20 / 4PR	173 kPa (1.8 kgf/cm ² , 25 psi)
	IND	43-16-20 / 4PR	138 kPa (1.4 kgf/cm ² , 20 psi)

NOTE

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



TREAD FRONT WHEELS

Front wheel tread is not adjustable.

⊕ IMPORTANT

- Do not turn the front discs to obtain wider tread.

Model		Specification	Size
LX500L	Agri	8-16 / 6PR	1,235 mm
	Turf	29.5-12.5-15 / 4PR	1,435 mm
	IND	10-16.5 / 4PR	1,312 mm

REAR WHEELS

mm (in.)

Model		Specification	Size
LX500L	AG	12.4-24 / 6PR	1,125~1,340 (44.29~52.76)
	TURF	41-14-20 / 4PR	1,145~1,305 (45.08~51.38)
	IND	43-16-20 / 4PR	1,205~1,260 (47.44~49.61)

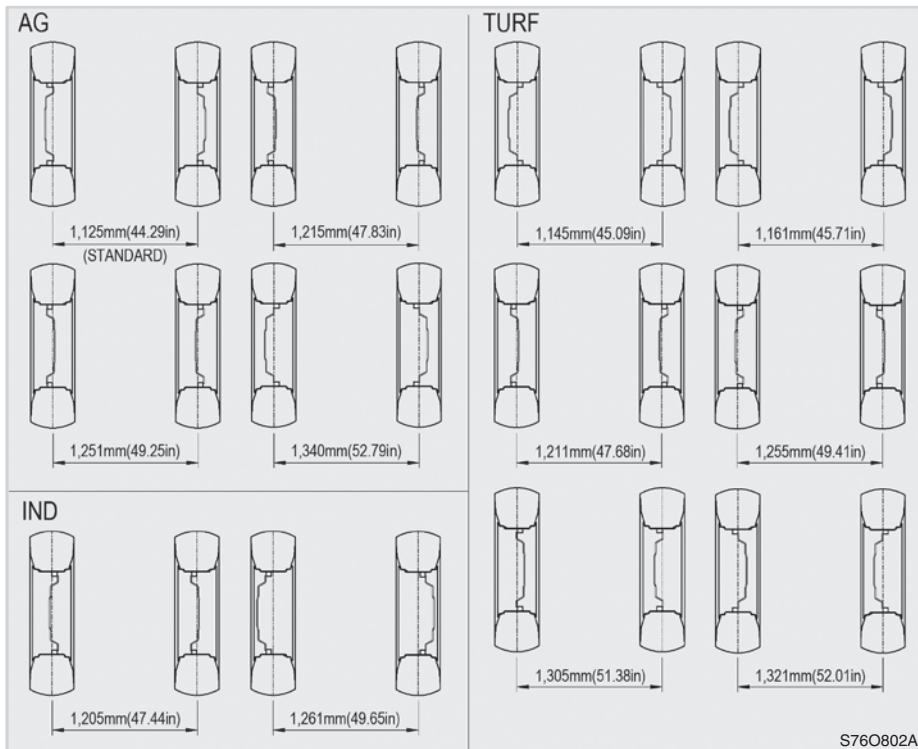
⊕ IMPORTANT

- Always attach the tires as shown in the figure.
- If not attached as illustrated, transmission parts can be damaged.
- When reinstalling or adjusting a wheel, tighten the bolts to the specified tightening torques and then recheck after driving the tractor 200 m. Recheck thereafter according to the service interval. (Refer to "Maintenance")
- Torque: 29 kgf·m



8-4 LX500L

BALLAST FRONT BALLAST



- (1) Front End Weights
(2) Rear Wheel Weight

CAUTION

To avoid personal injury:

- Additional weights are necessary for transporting a heavy implement. When the implement is raised or the tractor is driving over rough ground slowly, they are used regardless of how much ballast is used.



FRONT END WEIGHTS

The front end weight can be attached in the front of the tractor bumper. You can decide how much weight you want according to the implement manual or consult your **KIOTI** Dealer.

IMPORTANT

- **Never apply overload on the tires.**
- **Do not attach more weight than you require.**

Maximum weight

17 kg X 5 Pieces (187 lbs.)

REAR BALLAST

Weights are added to the rear wheels when traction force or stability is needed. The amount of the weights is decided based on how much work is to be done and should be removed when they are not needed. The rear wheel weights can be added to the tractor.

REAR WHEEL WEIGHTS

The rear wheel weights can be added to the rear wheels of the tractor. You can decide how much weight you want according to the implement manual or consult your **KIOTI** Dealer.

IMPORTANT

- **Never apply overload on the tires.**
- **Do not attach more weight than you require.**

Maximum weight per wheel

25 kg X 4 Pieces (220 lbs.)



MASS(ES) AND TIRE(S)

Ref to the following information for the determination of the total mass, the axle loads, the tire load carrying capacity.

Trade name	Axle No.	Tire sizes		Load Capacity (kg)	Technically permissible maximum mass per axle (kg)	Distribution of this(these) mass(es) among the axles (%)	Technically Permissible maximum laden mass	Maximum permissible vertical load on the coupling point (daN)
LX500L	Front	Agri	8-16, 6PR	600	1,100	31	3,600	735
		Turf	29-12.5-15, 4PR	598				
		Ind.	10-16.5, 6PR	1,585				
		Agri	260/70 R16	1,100			4,000	
		Agri	280/70 R16	1,030				
	Rear	Agri	12.4-24, 6PR	1,200	2,400	69	3,600	
		Turf	41-14-20, 4PR	1,395				
		Ind.	43-16-20, 4PR	2,059				
		Agri	360/70 R24	1,640			4,000	



MAINTENANCE

SERVICE INTERVALS..... 9-2

LUBRICANTS 9-4

9

9



SERVICE INTERVALS

No.	CHECK ITEMS		RUN HOUR								RUN AGE		AFTER PURCHASE	PAGE
			50	100	150	200	300	400	600	800	1year	2year		
1	Engine oil	Change	⊙	○									Every 100 hours	10-7
2	Engine oil filter	Replace	⊙			○							Every 200 hours	10-7
3	Hydraulic oil filter	Replace	⊙			○							Every 200 hours	10-9
4	Transmission fluid	Change	⊙					○					Every 400 hours	10-10
5	Front axle case oil	Change	⊙					○					Every 400 hours	10-11
6	Front axle pivot	Adjust							○				Every 600 hours	10-20
7	Greasing	-	○										Every 50 hours	10-12
8	Engine ignition system	Check	○										Every 50 hours	5-4
9	Wheel nut/bolt tightening torque	Check	○										Every 50 hours	10-13
10	Battery condition	Check		○									Every 100 hours	10-15
11	Air cleaner element	Clean		○									Every 100 hours	10-14
		Replace									○		Every year	10-21
12	Fuel filter element (Water / Oil separation)	Clean		○									Every 100 hours	10-13
		Replace						○					Every 400 hours	10-19
13	Fan belt	Adjust		○									Every 100 hours	10-17
14	Clutch	Adjust	⊙	○									Every 100 hours	10-8
15	Brake	Adjust		○									Every 100 hours	10-15
16	Radiator hose and clamp	Check							○				Every 600 hours	10-20
		Change										○	Every 2 years	10-23
17	Power steering oil line	Check				○							Every 200 hours	10-18
		Change										○	Every 2 years	10-23



No.	CHECK ITEMS		RUN HOUR								RUN AGE		AFTER PURCHASE	PAGE
			50	100	150	200	300	400	600	800	1year	2year		
18	Fuel line	Check		○									Every 100 hours	10-14
		Replace										○	Every 2 years	10-23
19	Intake air line	Check				○							Every 200 hours	10-19
		Replace										○	Every 2 years	10-23
20	Toe-in	Adjust				○							Every 200 hours	10-18
21	Engine valve clearance	Adjust								○			Every 800 hours	10-21
22	Cooling system	Flush										○	Every 2 years	10-21
23	Coolant (anti-freeze)	Change										○	Every 2 years	10-21
24	Fuse	Replace											Service as required	10-24
25	Light bulb	Replace												10-25
26	Steering wheel	Adjust												10-23
27	Bleeding fuel system	Bleed												10-23
28	Draining clutch housing	Drain												10-24
29	Radiator screen	Clean											Daily	10-6

NOTE

- The items marked ○ must be done after the first 50 hours of operation.
- The fuel injection pump, nozzle, alternator, starter, compressor, gear pump and hydraulic valve should be checked and repaired only by **KIOTI** Dealer / Distributor. If they are serviced by an unqualified person, the vehicle's safety cannot be guaranteed any longer since changes made may not conform to **KIOTI** requirements.



9-4 LX500L

LUBRICANTS

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

No.	Locations	Capacities [L (U.S.gal.)]	Lubricants	
		LX500L		
1	Fuel	42 (11.1)	Diesel	
2	Coolant	8.7 (2.3)	Fresh clean water with anti-freeze	
3	Engine crankcase	7.7 (2.0)	Engine oil: API Service Classification CC or CD	
			Above 25°C (77°F)	SAE30, SAE10W-30 or 15W-40
			0 to 25°C (32 to 77°F)	SAE20, SAE10W-30 or 15W-40
			Below 0°C (32°F)	SAE10W, SAE15W-30 or 10W-30
4	Transmission case	48 (12.7)	Exxonmobil	Mobilfluid 423 or 424 Exxon Hydraul 560
			Shell	DONAX-TD/TD Plus
			BP	Tractran UTH
5	Front axle case	7.0 (1.85)	Transmission oil or SAE 90 gear oil	
6	Greasing	Moderate amount	General type grease	

WARNING

- ***Check the oil level regularly.***
- ***Correct the oil level, if needed, before operating.***
- ***Always check and add oil with the tractor on a flat, level surface.***



PERIODIC SERVICE

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PERIODIC SERVICE

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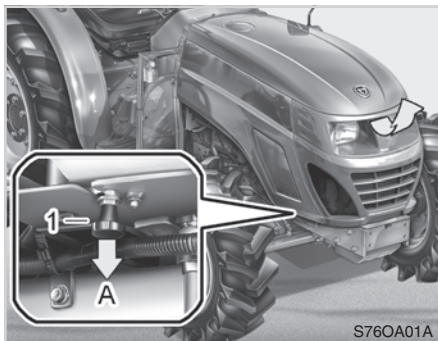
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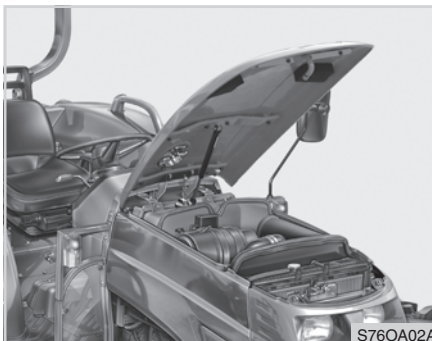
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HOW TO OPEN THE HOOD

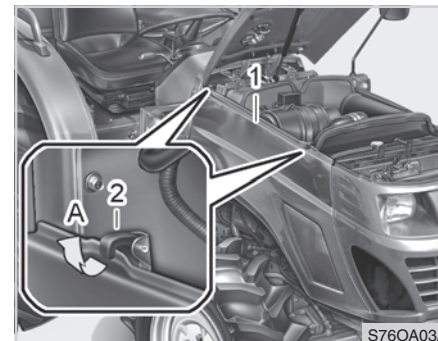


(1) Knob
(A) Pull



S76OA02A

SIDE COVER



(1) Side Cover
(2) Holder
(A) Pull

⚠ CAUTION

To prevent personal injury from contact with moving parts:

- Never open the bonnet or engine side cover while the engine is in operation.
- Avoid contact with the muffler or exhaust pipes while the engine is hot to avoid any burns.

Pull up the knob to open the bonnet of the tractor.

Pull the hook to remove the side cover. It is not necessary to remove the side cover for daily check of the tractor.



DAILY CHECK

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



CAUTION

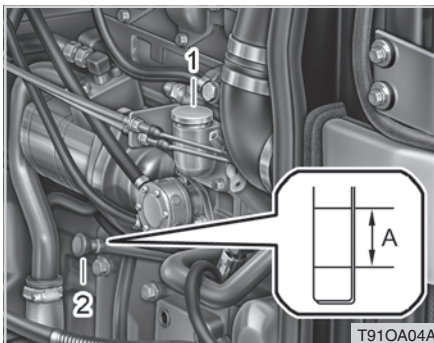
To avoid personal injury:

- Be sure to check and service the tractor on a flat place with the engine stopped and the parking brake "ON".

WALK AROUND INSPECTION

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

CHECKING ENGINE OIL LEVEL



(1) Oil Inlet

(2) Oil Gauge

(A) Oil level is acceptable within this range

1. Park the machine on a flat surface.
2. Check the engine oil before starting the engine or wait 5 minutes or more after the engine has stopped.
3. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again.

Check to see that the oil level is between the two notches. If the level is too low, add new oil to the prescribed level at the oil inlet. (Refer to "Lubricants" in the Maintenance)



IMPORTANT

- When using oil of a different brand or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
- Do not start the engine if the amount of oil is insufficient.



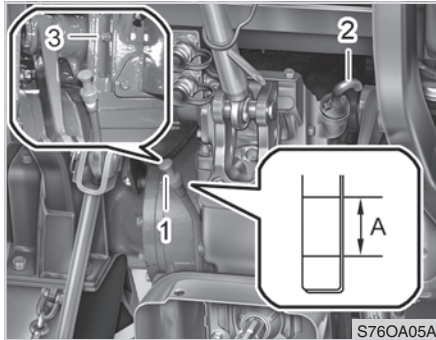
CAUTION

To avoid personal injury:

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



CHECKING TRANSMISSION FLUID LEVEL



- (1) Gauge (2) Oil Filling Plug
(3) Bleeder Plug
(A) Oil level is acceptable within this range.

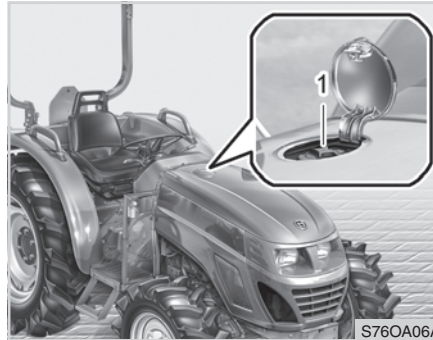
1. Park the tractor on level ground, lower the implement, and stop the engine.
2. Check the fluid level through the fluid gauge. If the level is too low, add new oil to the prescribed level at the oil inlet. (Refer to "Lubricants" in the Maintenance)

Remove the bleeder plug to allow oil flowing over by the pressure.

+ IMPORTANT

- Do not start the engine if the amount of oil is insufficient.

CHECKING AND REFUELING



- (1) Fuel Tank Cap

1. Turn the key switch to "ON", check the amount of fuel showing on the fuel gauge.
2. Fill fuel tank when the fuel gauge shows 1/4 or less fuel in the tank.
3. In cold climates (over -10°C) the use of winter diesel fuel is recommended.

Fuel Tank Capacity

42 L (11.1 U.S.gals.)

! CAUTION

To avoid personal injury:

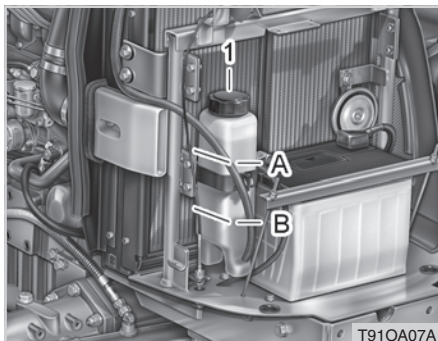
- Do not smoke while refueling.
- Be sure to stop the engine before refueling.

+ IMPORTANT

- Make sure no dust or straw debris enters the fuel system.
- Do not leave the fuel tank empty. If the fuel tank is empty, air may enter the fuel system. Bleeding is necessary before the next engine start.
- Be careful not to spill during refueling. If fuel is spilled, it should be wiped off immediately, or it may cause a fire.
- To prevent water condensation in the fuel tank, fill the tank before parking the tractor after work.



CHECKING COOLANT LEVEL



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

Check the coolant level under the upper bonnet of the engine.

⚠ CAUTION

To avoid personal injury:

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

1. Check to see that the coolant level is between the "FULL" and "LOW" marks of recovery tank.
2. When the coolant level drops due to evaporation, add water only up to the full level.

In case of leakage, add anti-freeze and water in the specified mixing ratio up to the full level.

(See "Flush Cooling System and Changing Coolant" in every 2 years maintenance)

⊕ IMPORTANT

- 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 recovery tank.
- If water should leak, consult your local KIOTI dealer.

CHECKING BRAKE AND CLUTCH PEDAL

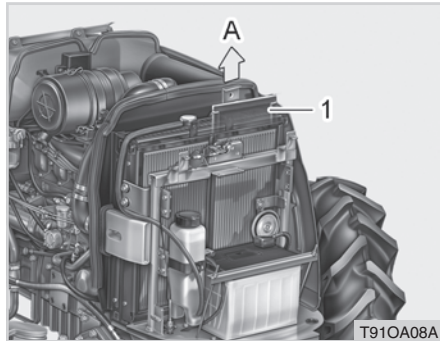
1. Examine the brake and clutch pedals for free travel and smooth operation.
2. Adjust the pedals if their free travel is not within specifications. (Refer to "Adjusting Clutch and Brake Pedal" in every 100 hours maintenance)

📖 NOTE

- Both brake pedals should have the same play when they are depressed.



CLEANING GRILL, RADIATOR, OIL COOLER SCREENS



(1) Radiator Screen (A) Detach

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



CAUTION

To avoid personal injury:

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



IMPORTANT

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

CHECKING GAUGES, METER AND INDICATORS

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

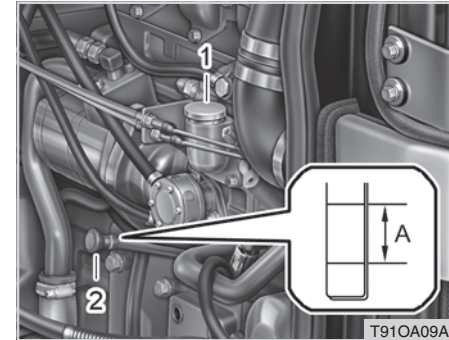
CHECKING HEAD LIGHT, HAZARD LIGHT, ETC.

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

CHECKING SEAT BELT AND ROPS

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

INITIAL 50 HOURS CHANGING ENGINE OIL



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



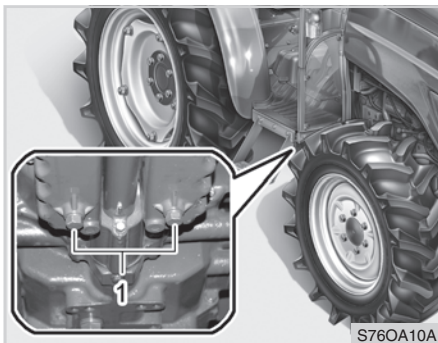
CAUTION

To avoid personal injury:

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



REPLACING ENGINE OIL FILTER



(1) Drain Plug

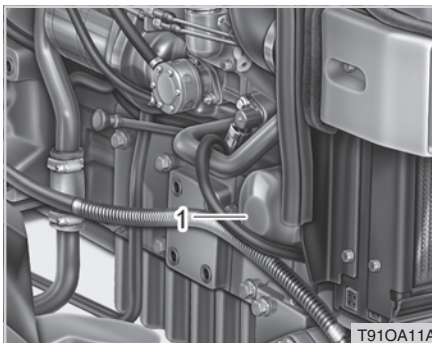
1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.

All the used oil can be drained out easily when the engine is still warm.

2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper notch on the dipstick.

Oil capacity with filter

7.7 L (2.03 U.S.gals.)



(1) Engine Oil Filter

⊕ IMPORTANT

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

⚠ CAUTION

To avoid personal injury:

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

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



ADJUSTING CLUTCH PEDAL



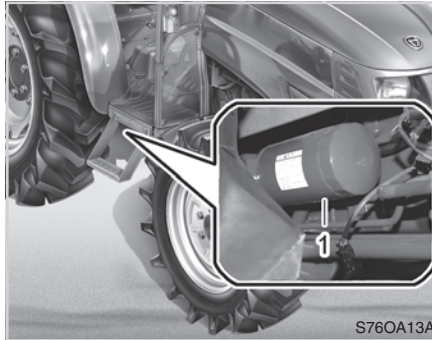
(1) Clutch rod
(A) Free play

1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free travel at top of the pedal stroke.
3. When adjusting, remove the split pin and turn the U-joint within acceptable limits of the clutch pedal to adjust the rod length.
4. Tighten the mounting nut again and remove the split pin.

Proper brake pedal free play (A)

20 to 30 (0.78~0.18in.) mm
at top of pedal stroke

REPLACING HYDRAULIC OIL FILTER



(1) Hydraulic Oil Filter

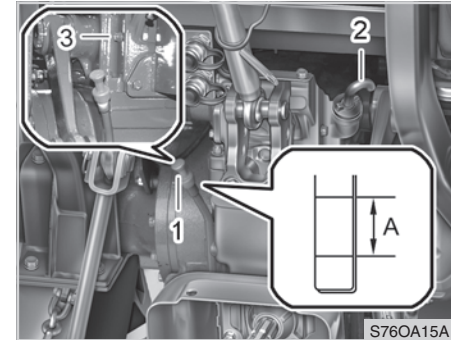
1. To drain the used fluid, open the drain plug at the bottom of the clutch housing and transmission case and drain the oil completely.



CAUTION

To avoid personal injury:

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



(1) Gauge
(2) Oil Filling Plug
(3) Bleeder Plug
(A) Oil level is acceptable within this range.

2. After draining, reinstall the drain plug.
3. Remove the oil filter.
4. Apply a film of clean transmission fluid on the rubber seal of a new filter.
5. Tighten the filter firmly until it contacts the mounting surface. Tighten the filter by a hand an additional half turn only.

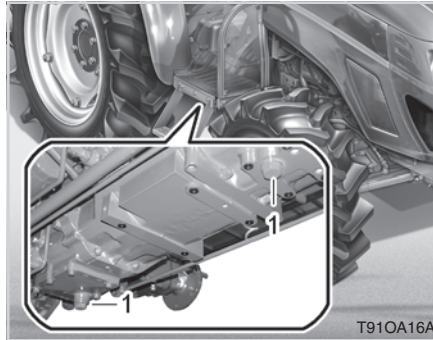


CHANGING TRANSMISSION FLUID

6. After the new filter has been installed, fill with oil up to the upper line of the gauge, not to where it will over flow when the pressure is increased after the bleeder plug is opened.
7. After running the engine for a few minutes, stop it and check the oil level again, and adding oil to the prescribed level.
8. Make sure that the transmission fluid does not leak through the seal.

⊕ IMPORTANT

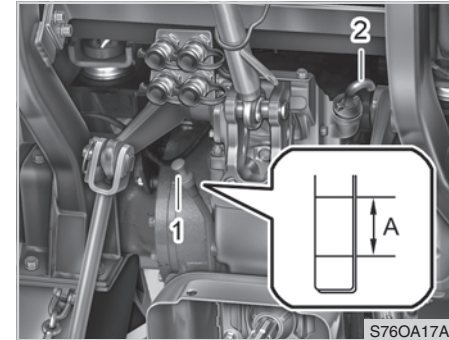
- To prevent serious damage to the hydraulic system, use only a KIOTI genuine filter.



(1) Drain Plug

⊕ IMPORTANT

- Do not operate the tractor immediately after changing the transmission fluid. Run the engine at medium speed for a few minutes to prevent damage to the transmission.



(1) Gauge

(2) Oil Filler Plug

(A) Oil level is acceptable within this range

1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with new **KIOTI TF65** fluid up to the upper line of the gauge.
(See "Lubricants" in Maintenance Section)



CHANGING FRONT AXLE CASE OIL

4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.
5. Replace the oil filter at same time when the transmission replace.

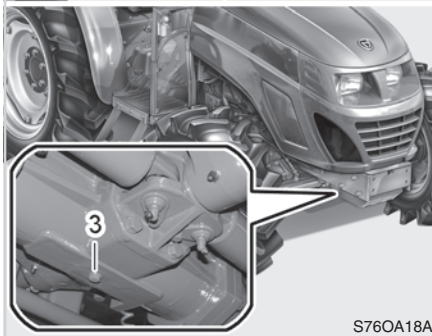
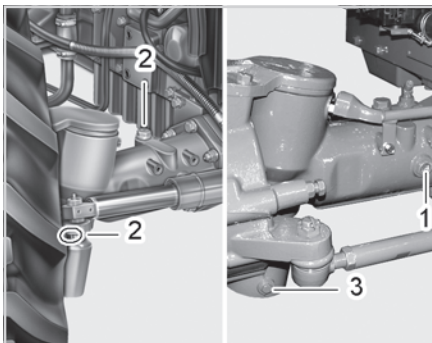
CAUTION

To avoid personal injury:

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

Coolant Capacity

48 L (12.7 U.S.gals.)



(1) Sight Glass
(3) Drain Plug

(2) Filling Plug

1. To drain the used oil, remove the right and left drain pugs and filling plug at the front axle case and drain the oil completely from the oil pan.
2. After draining, reinstall the drain plug.
3. Fill with new oil up to the proper level of the sight glass.
4. After filling, reinstall the filling plug.

Coolant Capacity

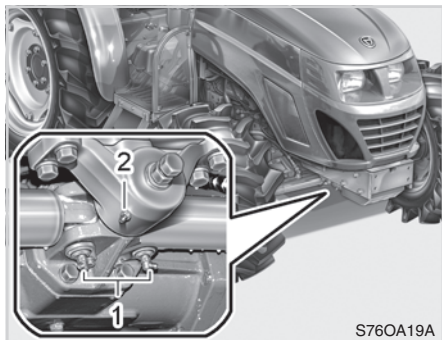
7.0 L (1.85 U.S.gals.)



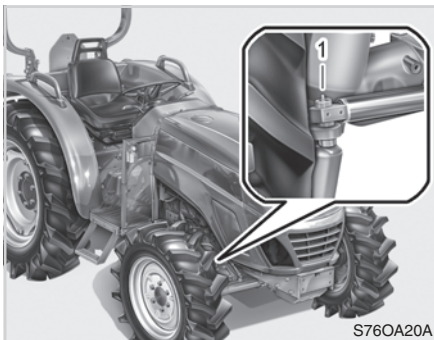
10-12 LX500L

EVERY 50 HOURS LUBRICATING GREASE NIPPLE

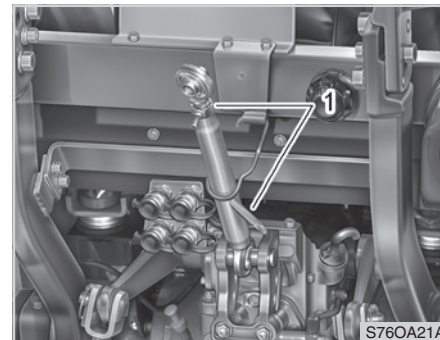
Apply a small amount of multi-purpose grease to the following points every 50 hours or as needed.



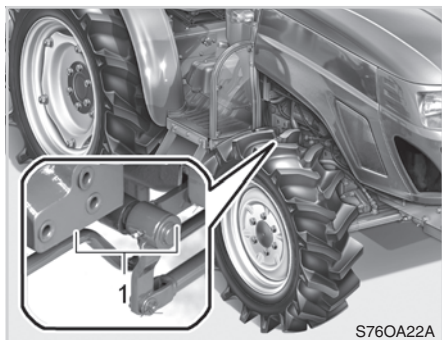
(1) Grease Nipple (Steering Cylinder (LH, RH))
(2) Grease Nipple (Front Bracket)



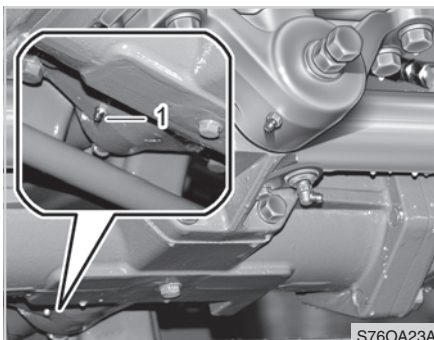
(1) Grease Nipple (Steering Cylinder (LH, RH))



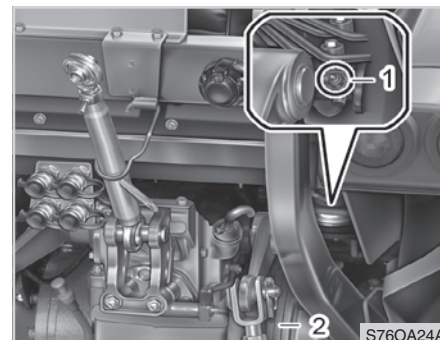
(1) Grease Inlet (Top Link)



(1) Grease Nipple (Brake Lever (LH, RH))



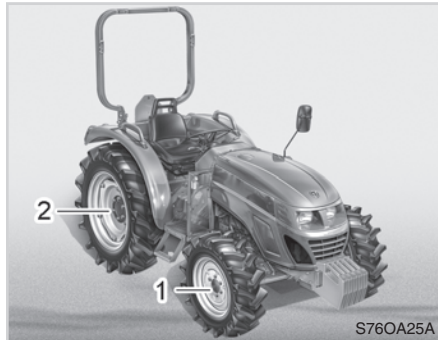
(1) Grease Nipple (Rear Bracket)



(1) Grease Nipple (Hydraulic Cylinder Support)
(2) Grease Nipple (Lift Rod)



CHECKING WHEEL BOLT TORQUE



- (1) Nut : 68.6 N.m (7 kgf.m, 50.6 lb.ft)
(2) Nut : 284.4 N.m (29 kgf.m, 209.8 lb.ft)

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

⚠ CAUTION

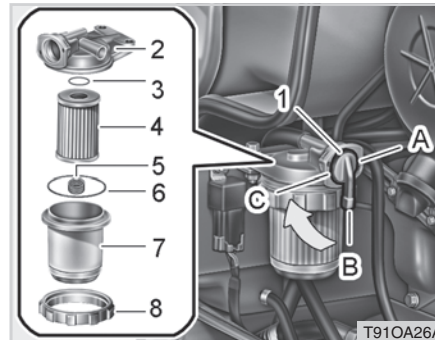
To avoid personal injury:

- 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.

EVERY 100 HOURS ADJUSTING CLUTCH PEDAL

1. Refer to "EVERY 50 HOURS" in page 10-8.

CLEANING FUEL FILTER



- (1) Fuel Cock
(2) Fuel Filter Container
(3) O-ring
(4) Filter Element
(5) Spring
(6) O-ring
(7) Filter Container
(8) Screw Ring
(A) Close
(B) Open
(C) Bleeder

This should be not performed in the place that is not clean.

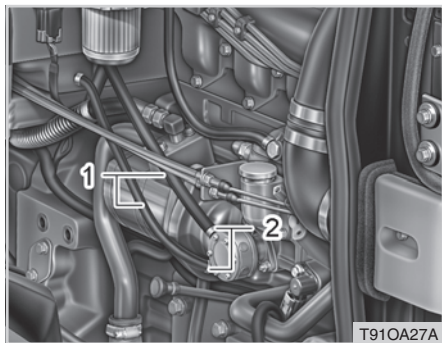
1. Close the fuel cock.
2. Loosen the ring and remove the filter container. Clean the inside with kerosene.
3. Remove filter element and immerse in the kerosene.
4. Reinstall the cleaned filter element and make sure that no dust or foreign material has entered.
Make sure all O-rings are in position.
5. Bleed the fuel system. (Refer to "Bleeding Fuel System" in the maintenance)

⊕ IMPORTANT

- Contamination by dust or foreign materials in the fuel system may cause premature wear of the fuel pump and injection nozzle. To prevent contamination, clean the fuel filter container and element regularly.



CHECKING FUEL LINE



(1) Fuel Line

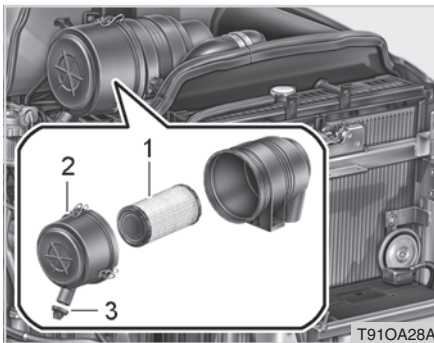
(2) Clamp Bands

1. Check that all lines and hose clamps are tightened and undamaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

NOTE

- Bleed the fuel system after removing the fuel line. (Refer to "Bleeding Fuel System" in service as required)

CLEANING AIR CLEANER ELEMENT



(1) Element

(2) Cover

(3) Evacuator Valve

1. Remove air cleaner cover and element.

2. Clean the element:

- 1) Rotate the element while blowing the compressed air into the element to clean off dry dust on the element. The pressure of the compressed air must not exceed 5 kgf/cm^2 .
- 2) Immerse the element in detergent for 15 minutes to remove carbon or contaminated oil on the element, and then clean and rinse it with water several times and dry under the sun. Check for any damage inside of the element under a light after the element has been dried completely.

3. Replacing air cleaner element: Replace the air cleaner element after 1 year or sixth cleaning after the purchase, whichever comes first.

NOTE

- Check if the drain valve is clogged with dust.



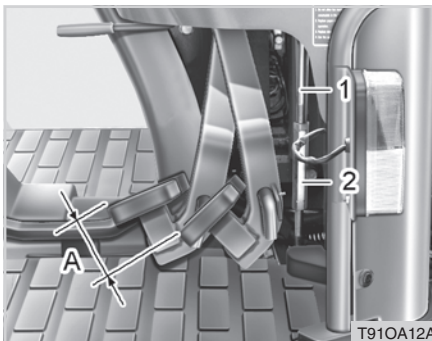
ADJUSTING BRAKE PEDAL

⊕ IMPORTANT

- Since the air cleaner uses a dry element, never apply oil.
- Do not operate the engine without installing the element.
- Be sure to refit the cover with the arrow (on the rear of cover) upright. If the cover is improperly fitted, the evacuator valve will not function and dust will adhere to the element. (Refer to "Replacing Air Cleaner Element" in every one year maintenance)

EVACUATOR VALVE

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



(1) Brake Rod
(A) Free Play

(2) Mounting Nut

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

⚠ CAUTION

To avoid personal injury:

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

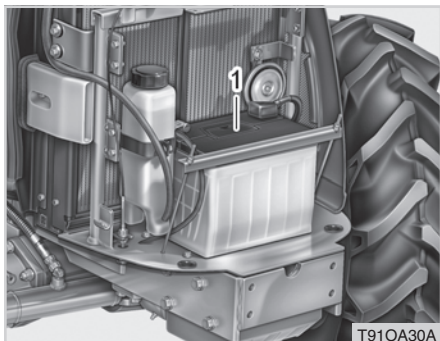
Proper brake
pedal free
travel (A)

25 to 35
mm(0.98~1.38in.)
at top of pedal stroke

Maintain the same
free play between the
left and right pedals.



BATTERY



(1) Battery

Mishandling the battery shortens the service life and increases maintenance costs. If the battery is weak, the engine will be difficult to start and the headlamps will be dim. It is important to check the battery periodically.



CAUTION

To avoid personal injury:

- Keep electrolyte away from eyes, hands, and clothes. If it is spattered on you, wash it away completely with water immediately and get medical attention.
- Wear safety goggles and rubber gloves when working around the battery.



CAUTION

To avoid personal injury:

- When the battery is activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
- When disconnecting the cables from the battery, start with the negative terminal first.
- When connecting the cable to the battery, start with the positive terminal first.
- Never check battery charge by placing a metal object across the posts. Use a voltmeter or load tester.



1. The water in the electrolyte evaporates during recharging. Insufficient battery electrolyte may cause battery damage. Excessive electrolyte spills over and damages the tractor body.
2. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
3. Boost charging is only for emergencies. It will partially charge the battery at a high rate and in a short time. It is applicable when the boost charging battery is used. If boost charging fails, the battery service life will be shortened.
4. When the battery is discharged and should be replaced, replace it with a new one with the same specification as shown in Table 1.

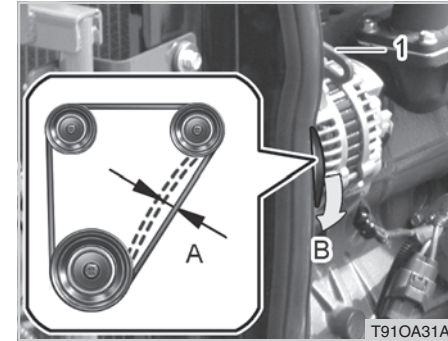
TABLE 1

Battery TYPE	Volts (v)
535 MF or Delkor DF65D	12

DIRECTION FOR STORAGE

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

ADJUSTING FAN BELT TENSION



(1) Adjusting Bolt
(A) Belt Tension (B) To Tighten

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



CAUTION

To avoid personal injury:

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

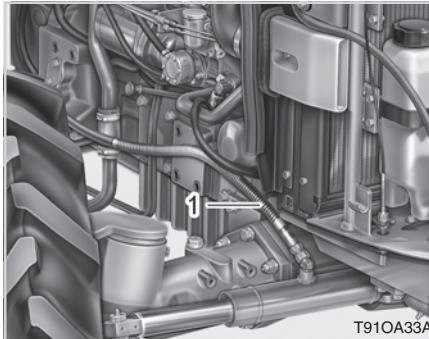
Proper fan belt tension

A deflection between 0.28 ~ 0.34 in. (7 ~ 9 mm) when the belt is pressed in the middle of the span.

CHANGING ENGINE OIL

Refer to "EVERY 50 HOURS" in page 10-7.

EVERY 200 HOURS CHECKING POWER STEERING LINE



T910A33A

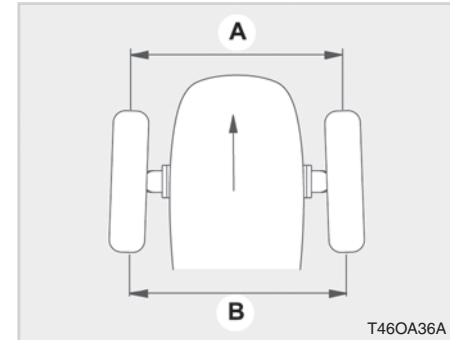
(1) Power Steering Line

1. Check that all hydraulic lines and hose clamps are tightened and undamaged.
2. If damage is found, replace the hose with its clamp.

REPLACING ENGINE OIL FILTER

Refer to "EVERY 50 HOURS" in page 10-7.

ADJUSTING TOE-IN



T460A36A

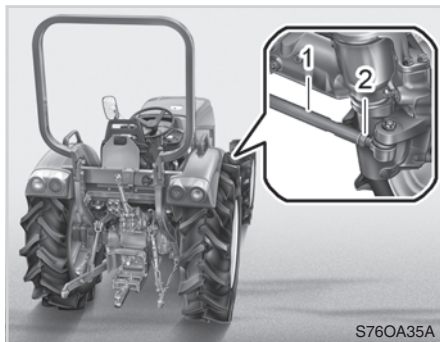
(A) Wheel - To - Wheel Distance At Front

(B) Wheel - To - Wheel Distance At Rear

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



ADJUSTING PROCEDURE

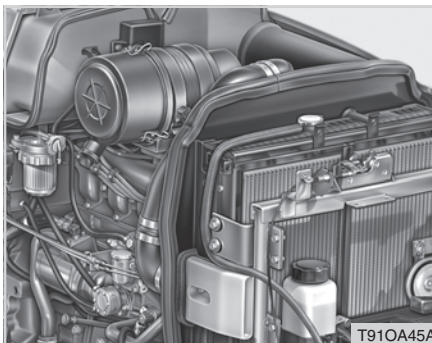


(1) Tie Rod

(2) Mounting Nut

1. Loosen the lock nut and turn the turn buckle to adjust until the proper toe-in measurement is obtained.
2. Tighten the lock nut again.

AIR INTAKE LINE



1. Tighten the hose clamp firmly if it is loosened.
2. If damage is found, replace the hose with its clamp.

EVERY 400 HOURS REPLACING FUEL FILTER ELEMENT

Refer to "EVERY 100 HOURS" in page 10-13.

CHANGING FRONT AXLE OIL

Refer to "EVERY 50 HOURS" in page 10-11.

CHANGING TRANSMISSION OIL

Refer to "EVERY 50 HOURS" in page 10-10.

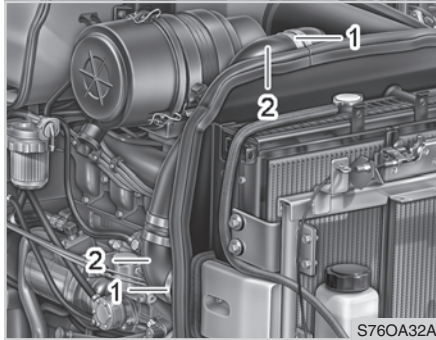
REPLACING HYDRAULIC OIL FILTER

Refer to "EVERY 50 HOURS" in page 10-9.



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EVERY 600 HOURS CHECKING RADIATOR HOSE AND CLAMP



(1) Radiator Hoses

(2) Clamp

Check the radiator hoses for damage and tighten them every 200 hours of operation or 6 months, whichever comes first.

1. Tighten loose hose clamps or leaks from hose, if any.
2. If the radiator hoses are swollen, hardened, or cracked, replace the hoses.

Replace the radiator hoses every 2 years.

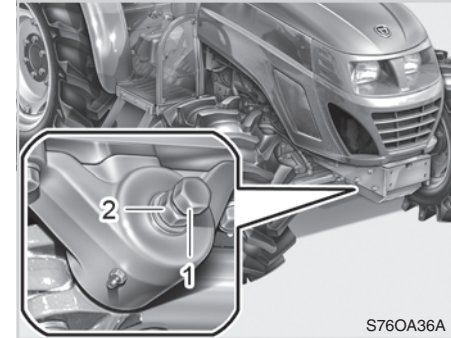
PRECAUTIONS FOR OVERHEATING

Take the following actions in the event of engine "Overheating", an event that occurs when the engine coolant temperature is equal to or greater than its boiling point.

1. Stop the tractor in a safe place and idle it without load.
2. Do not stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Stay away from the machine for another 10 minutes or until steam has stopped blowing out of the engine.
4. Make sure that there is no danger of burn and repair the cause of the overheating according to the manual's instruction.

Start the engine after reading the corresponding section in "Troubleshooting".

ADJUSTING FRONT AXLE PIVOT



(1) Lock Nut

(2) Adjusting Bolt

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

ADJUSTING PROCEDURE

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



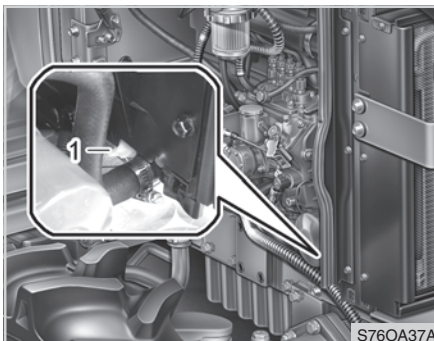
EVERY 800 HOURS ADJUSTING ENGINE VALVE CLEARANCE

Consult your **KIOTI** Dealer for this service.

EVERY 1 YEAR REPLACING AIR CLEANER ELEMENT

Refer to "EVERY 100 HOURS" in page 10-14.

EVERY 2 YEARS FLUSH COOLING SYSTEM AND CHANGING COOLANT



(1) Drain Cock

⊕ IMPORTANT

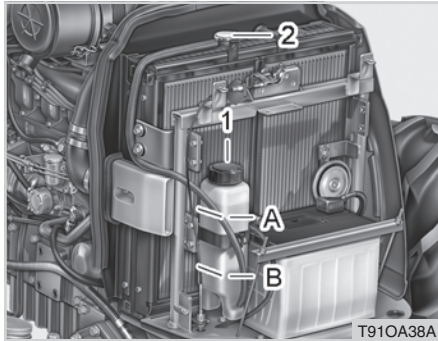
- Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

⊕ IMPORTANT

- Do not start engine without coolant.
- Use clean, fresh water and anti-freeze to fill the radiator and recovery tank.
- When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be less than 50%.



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(1) Radiator Cap
(A) "FULL"
(2) Recovery Tank
(B) "LOW"

1. Stop the engine and let it cool.
2. To drain the coolant, open the radiator drain plug and remove radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, close the drain plug.
4. Fill with clean water and cooling system cleaner.
5. Follow directions for the cleaner instruction.

6. After flushing, add clean water and anti-freeze until the coolant level is just below the port.

Securely tighten the radiator cap.

7. Install the radiator cap securely.
8. Start and operate the engine for few minutes.
9. Stop the engine and let cool.
10. Check coolant level of recovery tank and add coolant if necessary.



CAUTION

To avoid personal injury:

- **Do not remove the radiator cap when the engine is hot.**

Coolant Capacity

8.7 L (2.3 U.S.gals.)

ANTI-FREEZE

If water freezes, it can damage the engine and radiator. It is necessary, if the outside temperature falls below 0°C (32°F), to remove water after operating or to add anti-freeze to it.

1. Before adding anti-freeze for the first time, clean the radiator interior by pouring fresh water and draining it a few times.
2. The procedure for mixing of water and anti-freeze differs according to the make of the anti-freeze and the ambient temperature, basically it should be referred to SAE J1034 standard, more specifically also to SAE J814c.
3. Mix the anti-freeze with water, and then fill into the radiator.

Vol % Anti- freeze	Freezing Point		Boiling Point*	
	°C	°F	°C	°F
40	-24	-12	106	222
50	-37	-34	108	226



* At 760 mmHg pressure (atmospheric), a higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

NOTE

- 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)

REPLACING RADIATOR HOSE (WATER PIPES)

Replace the hoses and clamps.
(See "Checking Radiator Hose and Clamp" in 200 hours maintenance)

REPLACING POWER STEERING HOSE

Replace the hoses and clamps.
(See "Checking power steering line" in 200 hours maintenance)

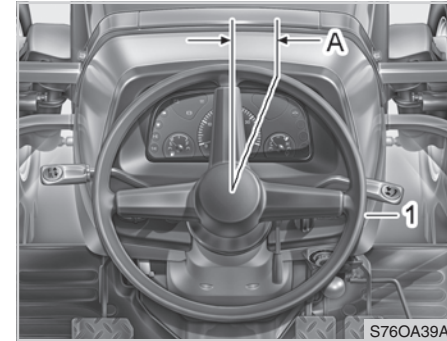
REPLACING FUEL HOSE

Replace the hoses and clamps.
(See "Checking Fuel line" in 100 hours maintenance)

REPLACING INTAKE AIR LINE

Consult your local **KIOTI** Dealer for this service.

SERVICE AS REQUIRED STEERING WHEEL



(1) Steering Wheel
(A) 20 ~ 50 mm (0.8 ~ 2.0 in.)

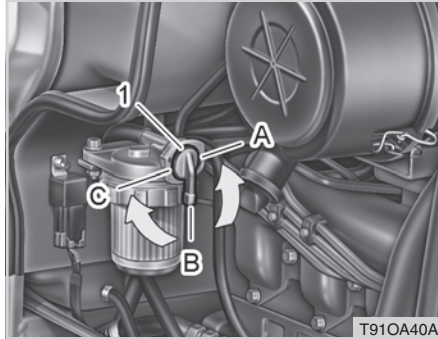
It is difficult to drive straight, if the steering wheel clearance is not good.

Moderate steering wheel play is 20~50 mm (0.8~2.0 in)



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BLEEDING FUEL SYSTEM



(1) Fuel Cock
(A) Close (B) Open (C) Bleeder

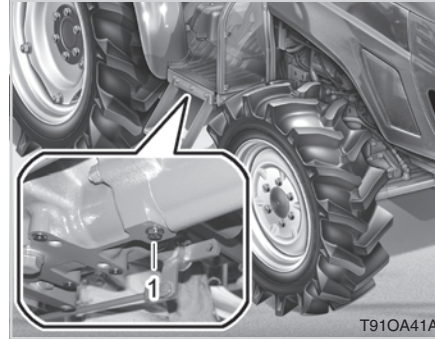
BLEEDING MUST BE PERFORMED IN THE FOLLOWING CASES:

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

BLEEDING PROCEDURE IS AS FOLLOWS:

1. Remove the cock from the fuel filter to bleed the air.
2. Start the engine to run for about 30 seconds and then stop the engine.
3. Turn the fuel cock to open position.

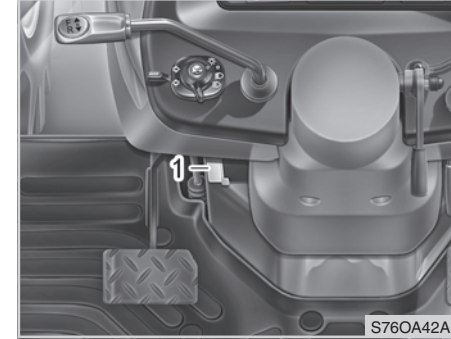
DRAINING CLUTCH HOUSING



(1) Plug

Plug is located at the bottom of the clutch housing. Moisture can be collected due to change in the internal temperature. Water can enter into the clutch housing when driving the tractor in rain or snow or cleaning the tractor. If this occurs, remove the clutch housing to drain the water. Be careful not to damage the clutch when reinstalling the plug.

REPLACING FUSE



(1) Fuse Box

Fuses protect the tractor's electrical system from potential damage.

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

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

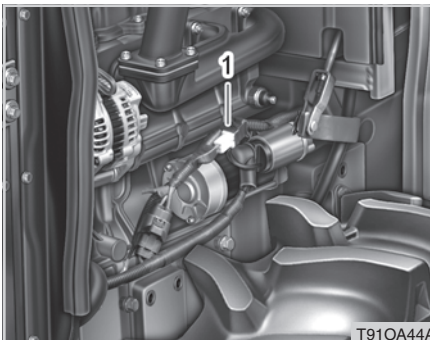


REPLACEMENT OF THE SLOW BLOW FUSE

7.5A	7.5A	10A	20A	10A	10A
Display Unit/ Alternator / Fuel solenoid (hold coil)	Combination meter	Working lamp	Head lamp/ Tail lamp / License lamp	PTO	4WD/ QT
7.5A	Spare	10A	Spare	25A	Spare
15A	10A	10A	25A	15A	
Customer Use	Beecon lamp	Stop lamp	Fuel solenoid (pull coil)	Horn/ Turn signal lamp	Fuse Puller

Use only the rating capacity fuse.

S76OA43A



T91OA44A

(1) Slow Blow Fuse

⊕ IMPORTANT

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

Slow Blow Fuse

60A



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REPLACING LIGHT BULB

1. Head lights and rear combination lights: Take the bulb out of the light body and replace with a new one.
2. Other lights: Detach the lens and replace the bulb.

Light	Capacity
Head light	12V 55W / 60W
Turn Signal light (Front)	12V 21W
Turn Signal light (Rear)	12V 21W
Work light	12V 21W
Stop light Tail light (R)	12V21W / 5W
Indicator illumination of instrument	12V 3.4W
Charge warning lamp	14V 3W
Others indicators	14V 1.4W



STORAGE

STORAGE..... 11-2

REMOVING THE TRACTOR FROM STORAGE..... 11-3

11

11



11-2 LX500L

STORAGE

CAUTION

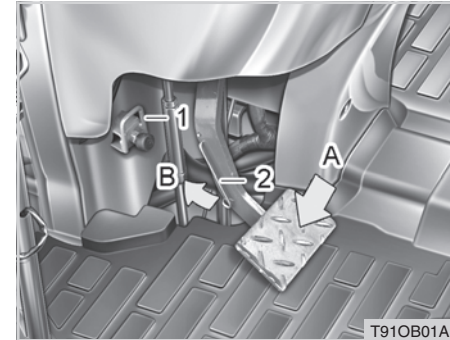
To avoid personal injury:

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

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

1. Check the bolts and nuts for looseness, and tighten if necessary.
2. Apply grease to tractor areas where bare metal will rust also to pivot areas.

3. Detach the weights from the tractor body.
4. Inflate the tires to a pressure a little higher than usual.
5. Change the engine oil and idle the engine for about 5 minutes to circulate oil throughout all engine parts.
6. Always pull the engine stop lever outward.
7. To prevent the clutch from sticking, move the clutch to "Disengaged" position. If the clutch is left engaged for an extended period of time, the clutch plate may rust, making clutch disengagement impossible at the next operation.



(1) Clutch Pedal
(A) "PUSH"

(2) Interlock
(B) "LOCK"

8. With all implements lowered to the ground, coat any exposed hydraulic cylinder piston rods with grease.
9. Remove the battery from the tractor. Store the battery following the battery storage procedures. (See "Battery condition" in 100 hours in periodic service section)



REMOVING THE TRACTOR FROM STORAGE

10. Store the tractor in a dry, protected place. Store the tractor with cover on.
11. Store the tractor indoors in a dry area that is protected from sunlight and excessive heat. If the tractor must be stored outdoors, cover it with a waterproof tarpaulin.

Jack the tractor up and place blocks under the front and rear axles so that all four tires are off the ground. Keep the tires out of direct sunlight and extreme heat.

IMPORTANT

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

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



MEMO





TROUBLESHOOTING

12

ENGINE TROUBLESHOOTING 12-2

ENGINE IS HARD TO START	12-2
ENGINE LACKS POWER.....	12-3
ABNORMAL EXHAUST FUME COLOR.....	12-4
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ENGINE TROUBLESHOOTING

ENGINE IS HARD TO START

Possible causes	Actions
1. Fuel is cloudy or fuel flow is restricted	• Check fuel tank and fuel filter. • Remove water, dirt, or other debris. • Filter out fuel, and replace the filter if contaminated.
2. Air or water in fuel system	• Fuel pump is not working properly due to air in the fuel filter or injection line. Loosen the fuel cap nut and check carefully to obtain proper fuel injection pressure. • Loosen the air vent screw from the fuel filter and fuel injection pump and bleed all air from the fuel system.
3. Thick carbon deposit at injection nozzle inlet	• Water or dirt in fuel. Clean the injection nozzle and check the nozzle inject for damage. • Check that the nozzle is working properly. Install new nozzle if necessary.
4. Incorrect valve clearance	• Adjust the valve clearance (with the engine cold). - Intake: 0.25 mm (0.010 in.) - Exhaust: 0.35 mm (0.014 in.)
5. Leaks from valve	• Polish the valve.
6. Incorrect fuel injection timing	• Adjust the injection timing. • Injection timing: BTDC 12°(sub port)
7. Engine oil is cloudy and engine runs slowly in cold weather	• Change to correct oil grade depending on the weather (temperature).
8. Low compression	• Defective valve or excessively worn ring, piston, and liner will result in low compression. Replace it with new one.
9. Battery discharged, or engine is not running	• Replace the battery. • Use the decompressor. • Remove battery from the tractor and keep it in an indoor environment in cold weather. Install the battery when you use the tractor.



ENGINE LACKS POWER

Possible causes	Actions
1. Carbon deposit at injection nozzle inlet	• Clean the inlet and needle valve carefully not to damage the nozzle inlet. • Check the nozzle. Replace with a new nozzle if necessary.
2. Leaks from valve due to low compression	• Defective valve or excessively worn ring, piston, and liner will result in low compression. Replace it with a new one. • Polish the valve.
3. Moving parts overheating	• Check the lubrication system. • Check if the oil filter is working properly. • Filter screen or element with debris will degrade the lubricant cleaning screen. • Check if the bearing clearance meets the specification. • Check engine timing. • Timing adjustment BTDC 12°(sub port)
4. In correct valve adjustment	• Adjust the valve clearance. - Intake: 0.25 mm (0.010 in.) - Exhaust: 0.35 mm (0.014 in.)
5. Air cleaner contamination	• Clean the element every 100 to 200 hours from operation
6. Worn injection pump	• Avoid using poor quality fuel. This will result in pump wear. Use NO.2 diesel only • Check fuel injection pump element and transfer valve assembly, and replace if necessary.

Consult your **KIOTI** Dealer for further information.



ABNORMAL EXHAUST FUME COLOR

Possible causes	Actions						
1. Poor fuel governor system	Consult with a dealer for repair.						
2. Poor fuel quality	Select good quality fuel.<table><tr><td>Temperature</td><td>Fuel type</td></tr><tr><td>- Over -10°C</td><td>NO.2 diesel</td></tr><tr><td>- Below -10°C</td><td>NO.1 diesel</td></tr></table>	Temperature	Fuel type	- Over -10°C	NO.2 diesel	- Below -10°C	NO.1 diesel
Temperature	Fuel type						
- Over -10°C	NO.2 diesel						
- Below -10°C	NO.1 diesel						
3. Poor nozzle	Replace with a new nozzle if necessary.						
4. Unstable burn	Poor spraying, improper injection timing, abnormal injection system, poor valve adjustment, or compression leakage, poor compression, etc. Check and repair.						

SUDDEN ENGINE STOP

Possible causes	Actions
1. Fuel leakage	- Check the fuel tank and fill if necessary. - Check air or oil leaks in the fuel system.
2. Poor nozzle	Replace with a new nozzle if necessary.
3. Engine overheats due to insufficient oil or improper lubrication for moving parts.	- Check engine oil level with the oil level gauge. - Check the lubrication system. - Check the element in the lubrication oil filter for age or being clogged. Replace with a new element if necessary. - Check if the engine bearing clearance meets the specification.

⊕ IMPORTANT

- If engine stops suddenly, pressure in the engine decreases and engine is driven gently by a fan belt. If engine runs with no problem, the trouble is due to insufficient fuel or poor nozzle.



IMMEDIATE ENGINE STOP

Possible causes	Actions
1. Sudden acceleration or deceleration	• Check injection timing and fuel system adjustment.
2. Abnormal noise	• Check all moving parts carefully.
3. Black exhaust fumes	• Check the fuel injection system, especially the fuel injection nozzle.
4. Bearing parts overheating	• Check the lubrication system.
5. Oil warning light comes on while driving	• Check the lubrication system. • Check if the engine bearing clearance meets the specification. • Check valve adjustment inside the oil filter. • Check the pressure switch. • Check the filter base gasket.



12-6 *LX500L*

TRACTOR TROUBLESHOOTING WHEN TRACTOR DOES NOT MOVE WHILE ENGINE IS RUNNING

Possible causes	Actions
1. Speed change lever is at neutral	• Check speed change lever.
2. Parking brake is working	• Release the parking brake.

WHEN 3 POINT HITCH DOES NOT MOVE

Possible causes	Actions
1. Oil filter is clogged	• Clean or change the filter.
2. 3 point hitch does not lower	• Check the hydraulic adjusting grip.



BATTERY TROUBLESHOOTING

Condition of Battery	Cause	Countermeasures	Cause
1. Starter does not function	• Key is not "ON" • Battery is over-used until light becomes dim. • Charging of battery neglected defective alternator rectifier. • Dirty or corroded terminal contacts. • Bad brushes, armature or field. • Life of battery expired.	• Turn key "ON" • Charge for long period by ordinary charging method until specific gravity of 1.26 is reached. • Repair alternator and replace defective rectifier. • Charge battery well. • Wash terminal with hot water and tighten well. • Replace. • Replace battery.	• Do not overuse the battery and charge before fully discharged. (Refrain from over discharging) • Check alternator rectifier. • Keep terminals clean, tighten well and grease to prevent corrosion.
2. From beginning, starter does not function, and lights become dim quickly	• Battery is not charged well.	• Charge battery for a long period by ordinary charging method.	• Battery must be serviced properly before initial use.
3. Low electrolyte level	• Battery used with shortage of electrolyte. • Battery over-used. Moreover, charging was neglected. (Refrain from over-discharging) • Defective alternator rectifier, defective terminal contacts causing sulphation of electrodes.	• Add distilled water and charge battery. • Charge for a long period. • Check alternator and rectifier and charge for a long period by ordinary charging method.	• Make routine checks of electrolyte. • Do not overuse the battery and fully discharge. • Make routine checks of terminals, to make sure they are clean and tight.
4. Battery cannot be charged	• The current of the alternator during operation is too high causing plates to drop, warp or short circuit. • Life of battery expired.	• Decrease the charging current of alternator. • Exchange defective battery. • Exchange battery.	• Check charging current of alternator.



12-8 *LX500L*

Condition of Battery	Cause	Countermeasures	Cause
5. Corrosion of terminals is severe	• Current of the Alternator during operation is too large.	• Clean scale from terminals and tighten well. • Adjust charging current of alternator.	• Keep terminals clean and well tightened. Apply grease to prevent corrosion. • Check charging current of alternator.
6. MElectrolyte decrease rapidly	• Over heating due to over charging. • Storage battery cracked or has small holes.	• Check charging output. • Replace battery.	• Secure battery to tractor so it would not move.



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