Mahindra TRACTORS

MaX 26XLT SHUTTLE/HST

Mahindra TRACTORS

OPERATOR'S MANUAL

MaX 26XLT SHUTTLE

MaX 26XLT HST

The Mahindra Group ▪ Mahindra USA, Inc ▪ 9020 Jackrabbit Road ▪ Houston, Texas 77095 ▪ 1-281-449-7771 ▪ www.mahindrausa.com

ABOUT THIS MANUAL

This manual has been prepared to assist you in following the correct procedure for break-in, operation and maintenance of your new Mahindra tractor.

Your tractor has been designed and built to give maximum performance, with good fuel economy and ease of operation under a wide variety of operating conditions. Prior to delivery, the tractor was carefully inspected, both at the factory and by your Mahindra dealer, to ensure that it reaches you in optimum condition. To maintain this condition and ensure trouble free performance, it is important that the routine service, as specified in this manual, are carried out at the recommended intervals.

Read this manual carefully and keep it in a convenient place for future reference. If at any time you require advice concerning your tractor, do not hesitate to contact your authorised Mahindra dealer. He has trained personnel, genuine Mahindra parts and necessary equipment to undertake all your service requirements.

Mahindra USA Inc's. policy is one of continuous improvement, and the right to change prices, specifications or equipment at any time without notice is reserved.

All data given in this book is subject to production variations. Dimension & weight are approximate only and the illustrations do not necessarily show tractors in standard condition. For exact information about any particular tractor, please consult your Mahindra dealer.

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MITSUBISHI DIESEL ENGINE

SL-SERIES

ELECTRIC GOVERNOR

(EPA PART1039: NONROAD DIESEL ENGINES)
(CARB ARTICLE4: OFF-ROAD DIESEL ENGINES AND EQUIPMENTS)

MITSUBISHI HEAVY INDUSTRIES
ENGINE & TURBOCHARGER, LTD.

Limited Warranty

During the warranty period, Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.(MHIET) will repair and replace any defective products, which are returned, if such defective are found to be manufacturing defects by investigation. For warranty period, contact your MHIET dealer.
Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.(MHIET) warranty is limited to the compensation work of repair or replacement of parts.
The warranty coverage is effective for the original purchaser only. Those to whom ownership is later transferred are not provided with the warranty. However, the warranty coverage is effective for the ultimate purchaser and each subsequent purchaser for emission-related parts.

- **Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.makes no warranties, either expressed or implied, except as provided in this manual, including, but not limited to, warranties as to marketability, merchantability, fitness for a particular purpose or use, or against infringement of any patent.**
- **Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.will not be liable for any damages or consequential damages, including, but not limited to, damages or other costs resulting from any abuse, misuse, misapplication of the engine and devices which supplied by us.**
- **Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.will not be liable for any damages or personal injuries resulting from any modification, without our written permission, of the engine and devices which supplied by us.**
- **Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.will not be liable for any damages or production losses caused by the use of fuel, engine oil and/or long life coolant (LLC) that we are not recommended.**
- **The owner of the engine is responsible for performing regular maintenance described in this manual.**
  When performing the maintenance, follow the instructions in the service manual published by Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.
  Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.may deny the warranty coverage if the engine or a part of the engine has failed due to inadequate or improper maintenance.

Emission Warranty

The following warranty applies to the engines that have been certified to the emission regulation of the U.S. Environmental Protection Agency.

Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. warrants to the ultimate purchaser and each subsequent purchaser that **the new non-road, stationary and emergency stationary engine**, including all parts of its emission-control system, meets two conditions:

1. It is designed, built, and equipped so it conforms at the time of sale to the ultimate purchaser with applicable regulation of the U.S. Environmental Protection Agency. If the vehicle in which the engine is installed is registered **in the state of California, a separate California emission regulation also applies.**
2. It is free from defects in materials and workmanship that may keep it from meeting these requirements.

Warranty Period

The emission warranty period is shown below.

However, if Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.'s standard warranty period is longer than the emission warranty period, the emission warranty period extends to same as Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.'s standard warranty period.

Below warranty period shall begin on the date **the new non-road, stationary and emergency stationary engine** is delivered to the ultimate purchaser.

If your engine is certified as . . .	And its maximum power is . . .	And its rated speed is . . .	Then its warranty period is . . . (whichever comes first.)	
			hours	years
Variable speed or constant speed	kW < 19	Any speed	1500	2
Constant speed	19 ≤ kW < 37	3000 rpm or higher	1500	2
Constant speed	19 ≤ kW < 37	Less than 3000 rpm	3000	5
Variable speed	19 ≤ kW < 37	Any speed	3000	5
Variable speed or constant speed	37 ≤ kW	Any speed	3000	5

Warranty Parts

Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. warrants the parts which will increase the emission of pollutants when they become defective.

The followings are examples.

I All the engine parts relating to the systems below are included in the exhaust-gas related components:

1.Air-induction system

2.Fuel system

3.Ignition system

4.Exhaust gas recirculation systems

II The parts below are also included in the exhaust-gas related components:

1.After-treatment devices

2.Crankcase ventilation valves

3.Sensors

4.Electronic control units

III The parts below also included in the evaporative emission gas related components:

1.Fuel tank

2.Fuel cap

3.Fuel Line

4.Fuel Line Fittings

5.Clamps*

6.Pressure Relief Valves*

7.Control Valves*

8.Control Solenoids*

9.Electric Controls*

10.Vacuum Control Diaphragms*

11.Control Cables*

12.Control Linkages*

13.Purge Valves

14.Vapor Hoses

15.Liquid/Vapor Separator

16.Carbon canister

17.Canister Mounting Brackets

18.Carburetor Purge Port Connector

* Parts related to evaporation-emission-gas control system

Owner's Responsibility

*The owner of the engine is responsible for the performance of the required maintenance listed in this operation manual.

*In accordance with **40 CFR 1068.115**, Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. makes no warranties if the operator caused the problem through improper maintenance or use.

California Emission Control Warranty Statement: your Warranty Rights and Obligations

IMPORTANT

The following warranty applies to the engines that have been certified the emission regulation of **the California Air Resources Board (CARB)**.

The California Air Resources Board (CARB) is pleased to explain the emission control system warranty on you **2017** or later engine. In California, **new off-road engines** must be designed, built, and equipped to meet the State's stringent anti-smog standards. Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel-injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. will repair your **off-road engine** at no cost to you including diagnosis, parts, and labor.

Manufacturer's warranty coverage

The **2017** and later **off-road engines** are warranted for the warranty period **(Same as warranty period of EPA Emission Warranty in this manual).** If any emission-related part on your engine is defective, the part will be repaired or replaced by Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.

Warranty coverage

(a) The warranty period shall begin on the date the engine or equipment is delivered to an ultimate purchaser. The use of alternate fuels shall not void the warranties on any engine certified to use such fuel.

(b) Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. of each **off-road compression-ignition engine** shall warrant to the ultimate purchaser and each subsequent purchaser of the engine registered **in the state of California** that the engine is:

(1) Designed, built and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority **in Chapters 1 and 2,Part 5,Division 26** of the Health and Safety Code; and.

(2) Free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the parts as described in Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.'s application for certification for a period of **5 years or 3,000 hours** of operation, whichever occurs first, for all engines rated at **19kW** and greater, except as noted below. In the absence of a device to measure hours of use, the engine shall be warranted for a period of **5 years.** For all engines rated less than **19 kW**, and for constant-speed engines rated under **37 kW** with rated speeds higher than or equal to 3,000 min-1, the period of **2 years or 1,500 hours** of operation, whichever occurs first, shall apply. In the absence of a device to measure hours of use, the engine shall be warranted for a period of **2 years.**

(c) The warranty on emission-related parts shall be interpreted as follows:

(1) Any warranted part which is not scheduled for replacement as required maintenance in the written instructions required by Subsection (e) shall be warranted for the warranty period defined in Subsection (b) (2). If any such part fails during the period of warranty coverage, it shall be repaired or replaced by Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. according to Subsection (4) below. Any such part repaired or replaced under the war-ranty shall be warranted for the remaining warranty period.

(2) Any warranted part which is scheduled only for regular inspection in the written instructions required by Sub-

section (e) shall be warranted for the warranty period defined in Subsection (b) (2). A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the period of warranty coverage. Any such part repaired or replaced under the warranty shall be warranted for the remaining warranty period.

(3) Any warranted part which is scheduled for replacement as required maintenance in the written instructions required in Subsection (e) shall be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. according to Subsection (4) below. Any such part repaired or replaced under the warranty shall be warranted for the remaining warranty period.

(4) Repair or replacement of any warranted part under the warranty provisions of this article shall be performed at no charge to the owner at a warranty station.

(5) Notwithstanding the provisions of Subsection (4) above, warranty services or repairs shall be provided at all Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. distribution centers that are franchised to service the subject engines.

(6) The owner shall not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. shall be liable for damages to other engine components proximately caused by failure under warranty of any warranted part.

(8) Throughout the engine's warranty period defined in Subsection (b) (2), Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. shall maintain a supply of warranted parts sufficient to meet the expected demand for such parts.

(9) Any replacement part, as defined in Section 1900(b) (13), Title 13, may be used in the performance of any maintenance or repairs and must be provided without charge to the owner. It is not necessary for replacement parts to be the same brand or by the same manufacturer as the original part sold with the engine. Such use shall not reduce the warranty obligations of Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.

(10) Add-on or modified parts, as defined in Section 1900(b)(1) and (b)(10), Title 13, that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts shall be grounds for disallowing a warranty claim made in accordance with this article. Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. shall not be liable under this article to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

(11) The Executive Officer may request and, in such case, Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. shall provide, any documents which describe that Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.'s warranty procedures or policies.

(d) Warranted parts list.

(1) Fuel metering system.

(A) Fuel injection system.

(B) Air/fuel ratio feedback and control system.

(C) Cold start enrichment system.

(2) Air induction system

(A) Controlled hot air intake system.

(B) Intake manifold.

(C) Heat riser valve and assembly.

(D) Turbocharger/supercharger systems.

(E) Charged air cooling systems.

(3) Exhaust gas recirculation (EGR) system

(A) EGR valve body, and carburetor spacer if applicable.

(B) EGR rate feedback and control system.

(4) Air injection system

(A) Air pump or pulse valve.

(B) Valves affecting distribution of flow.

(C) Distribution manifold.

(5) Catalyst or thermal reactor system

(A) Catalytic converter.

(B) Thermal reactor.

(C) Exhaust manifold.

(6) Particulate controls

(A) Traps, filters, precipitators, and any other devices used to capture particulate emissions.

(B) Regenerators, oxidizers, fuel additive devices, and any other device used to regenerate or aid in the regeneration of the particulate control device.

(C) Control device enclosures and manifolding.

(D) Smoke puff limiters.

(7) Advances oxides of nitrogen (NOx) controls

(A) Nox absorbers.

(B) Lean NOx catalysts.

(C) Selective catalyst reduction.

(D) Reductant (urea/fuel) containers/dispensing systems.

(8) Positive crankcase ventilation (PCV) system

(A) PCV valve.

(B) Oil filler cap.

(9) Miscellaneous items used in above systems

(A) Vacuum, temperature, and time sensitive valves and switches.

(B) Electronic control units, sensors, solenoids, and wiring harnesses.

(C) Hoses, belts, connectors, assemblies, clamps, fittings, tubing, sealing gaskets or devices, and mounting hardware.

(D) Pulleys, belts and idlers.

(E) Emission control information labels.

(F) Any other part with the primary purpose of reducing emissions or that can increase emissions during failure without significantly degrading engine performance.

(e) Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. shall furnish with each new engine written instructions for the maintenance and use of the engine by the owner.

Owner's Warranty Responsibilities

*As the off-road engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. recommends that you retain all receipts covering maintenance on your off-road engine, but Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

*As the off-road engine owner, you should, however, be aware that our company may deny you warranty coverage if your off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

*Your engine is designed to operate on diesel fuel only. Use of any other fuel may result in your engine no longer operating in compliance with California's emissions requirements.

*You are responsible for initiating the warranty process. The ARB suggests that you present your off-road engine to a Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. dealer or distributor dealer as soon as problem exists. The warranty repairs should be completed by the dealer or distributor as expeditiously as possible.

If you have any questions regarding your warranty rights and responsibilities, you should contact Mitsubishi Turbocharger and Engine America, Inc. at **1-630-268-0750**.

INTRODUCTION

Read this manual before you start the engine or operate your tractor. If you need any more information, see your Mahindra dealer.

This instruction manual contains information on the operation, lubrication and maintenance of your tractor. The information contained is comprehensive and essential, and is designed to assist you, even if unexperienced, in utilizing your tractor.

How well your tractor continues to give satisfactory performance depends greatly upon the manner in which it is operated. It is, therefore, requested that this manual be read carefully and kept ready for use so that the operation and maintenance service will properly be carried out in order to keep the tractor in top mechanical condition at all times.

Should any information as to your tractor be required, consult your local dealer or distributor stating the machine and engine serial numbers of the tractor concerned. We are sure you will be happy with your tractor.

SAFETY ALERT SYMBOL

This safety alert symbol indicates important safety messages in this manual.

When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.

Safety decals on this machine which use the words DANGER, WARNING, CAUTION, IMPORTANT or NOTE, are defined as follows:

⚠DANGER Indicates an immediately hazardous situation which, if not avoided, could result in death or serious injury.

⚠WARNING Indicates an potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION Indicates an potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

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

NOTE Gives helpful information.

GENERAL TABLE OF CONTENTS

SERIAL NUMBER

Write your machine model name and serial numbers of major components on the lines provided. If needed, give these numbers to your dealer when you need parts or information for your machine.

1. TRACTOR MODEL NUMBER _____

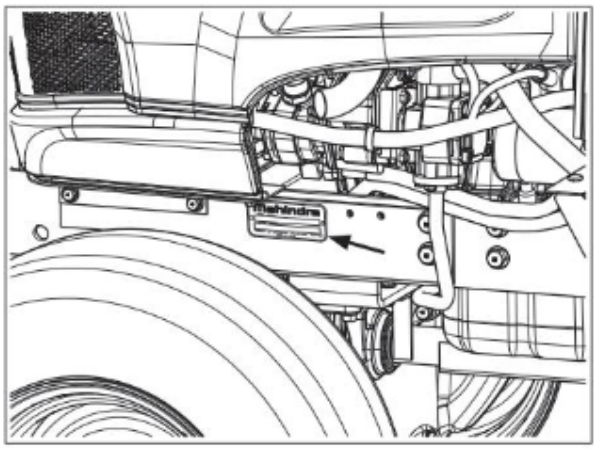
2. TRACTOR SERIAL NUMBER _____

3. ENGINE SERIAL NUMBER _____

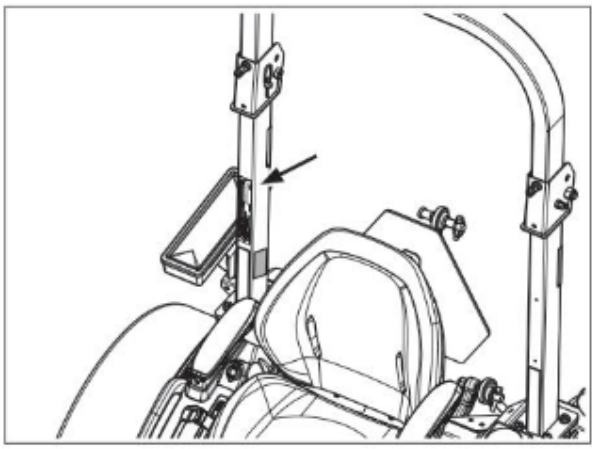
4. ROPS SERIAL NUMBER _____

■ Serial Number Locations

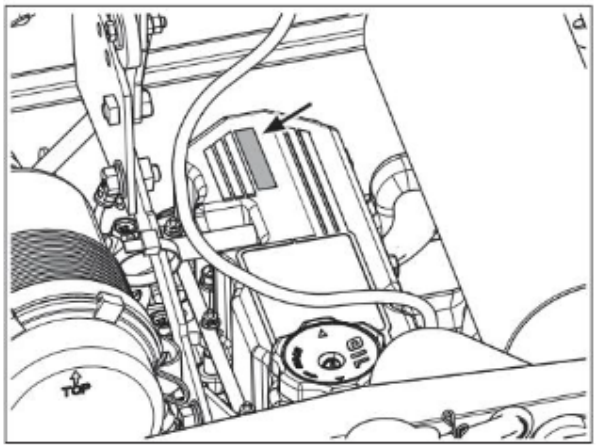
TRACTOR MODEL NUMBER AND SERIAL NUMBER PLATE



ROPS SERIAL NUMBER PLATE



ENGINE SERIAL NUMBER



SAFETY PRECAUTIONS

REMENBER: "SAFETY" IS ONLY A WORD UNTIL IT IS PUT INTO PRACTICE

Improper handling of the tractor could cause an accident. Prior to the operation of the tractor, be sure to read this Manual carefully and have a through understanding of all of the contents. In particular, the instructions given in this section entitled "Safety Precautions" must be strictly followed.

GENERAL OPERATING SAFETY PRECAUTION

1. Observe all the safety precautions in this manual when operating the tractor.
2. Operate the tractor while wearing tight clothing that allows easy movement. Avoid loose jackets, mufflers, ties, scarves, or loose shirt sleeves to prevent from being caught by moving parts.
3. Always work when you are in good physical condition by taking sufficient rest to avoid overwork.
4. DO NOT allow children or adults having no knowledge of the tractor or tractor operation, to operate the tractor.
5. Never allows riders on the tractor, linkage drawbar or attachment while traveling and operating them.
6. If the tractor is transferred or loaned, the operator manual must go with the tractor and be provided to the operator.
7. All general safety regulations for prevent the accident must be followed as well as the instructions given in the operator manual.
8. Whenever driving on public roads, always check the road safety prior to driving and follow the local traffic regulations.
9. ROPS(Roll Over Protective Structure) is a special safety unit. If a ROPS is replaced with non-genuine ROPS and/or parts or physically damaged by a tractor accident such as rolling-over, the operator can not get the protection by the ROPS. Do not modify the ROPS and all relevant parts in any cases. Prohibited modifications such as welding, drilling holes and cutting will deteriorate the safety structure and will not provide the same protection. If a ROPS and/or ROPS parts are damaged, replace with a new ROPS and parts immediately. Do not make repairs.
10. ROPS label is adhered on each ROPS. ROPS serial number is indicated on the ROPS label. Refer to page 1 for the adhered place of a ROPS label.
11. If a tractor without ROPS rolls over when driving, serious accident and injury may occur.

Detaching of the ROPS from the tractor is permitted only when the ROPS is required to check or replaced with a new ROPS. Do not operate the tractor while the ROPS is detached.

12. The ROPS is equipped on the tractor for the purpose of the operator safety and the safety function will be enhanced by using seat belt. Seat belt is important part of ROPS and wear and securely fasten it. Make sure that the seat belt is not twisted or pinched when use it.
13. Operation, maintenance and repair of the tractor should be carried out by person who has enough knowledge of the tractor and related safety regulations.
14. When refueling, be particularly careful first to stop the engine completely to prevent the fuel from igniting. Never refuel in the presence of an open flame or while smoking.
15. When starting the tractor, operating any attachment or engaging the PTO make sure that no one is in the way, especially children.
16. When starting the engine in an enclosed area or building, ensure proper ventilation by opening the doors and/or windows to prevent carbon monoxide inhalation. Mount the extension exhaust pipe on the tractor which has a cabin.

INTENDED USE

1. This tractor is designed for driving by one operator for farmwork or comparable work.(intended use)
2. Use in any other way other than the above is considered as contrary to the intended use. The manufacturer assume no liabilities whatsoever for any damage or injury resulting from the misuse. All the risks caused by it must be born solely by the operator.
3. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitutes the part of essential elements for the intended use.
4. The manufacturer will not be responsible for damage of machine or injury if tractor is modified without our permission.

OPERATION OF THE TRACTOR

Before driving the tractor, follow these rules:

1. Before starting and Driving the Tractor
   Operate the tractor only when seated properly in operator's seat and keep a firm grip on the steering wheel at all times. Never attempt to perform any operation of the tractor from anywhere else, on or off the tractor. Always wear a "hard hat" when operating the tractor.
2. Starting and Driving the Tractor

Always operate the tractor at the proper speeds which enable you to keep the tractor in complete control.

To start traveling, lower the engine speed and release the clutch pedal slowly.

Slow down when operating the tractor on rough round.

Never attempt to jump on or off from moving tractor.

3. Traveling on Roads and Streets

   For traveling on roads and streets, be sure to lock both brake pedals together before driving to prevent either brake from acting independently.

   Never operate the differential lock while driving at high speed or traveling on the road. For driving the 4WD tractor on the road, be sure to place the 4WD shift lever in OFF position.

4. Steering and Turning the Tractor

   Slow down your tractor and disengage the differential lock before going into a turn, being careful to prevent any attachments mounted on the front or rear from hitting anyone or anything.

5. Towing and Operating on Hills

   For towing work on downward slope, place the shift lever in low speed and use engine brake. Never try to reduce the speed with brake only. Towing a heavy object on a hill is highly hazardous. Widen the tread of the tractor and mount the wheel weight or chassis weight to increase the stability and operate with extra precaution.

   When operating the tractor on either a steep slope or flat ground, be sure not to suddenly steer, brake, clutch or operate attachments.

   DO NOT operate the tractor at the edge of cliff or slope. Be particularly careful right after the rain when soil is soft and may give way easily.

LEAVING THE TRACTOR

1. Before leaving the tractor, stop the engine, remove the key, apply the parking brake and make sure that the engine has come to a complete stop, and any attachment is completely touching the ground.
2. DO NOT leave the operator`s seat when driving.

IMPLEMENTS

1. For towing, be sure to use the drawbar only. Set the hitch point below the center line of the rear axle. When using a chain, never try to move forward abruptly.
2. Avoid operating the tractor on an extreme slope that appears hazardous, when forced to

operate on such slope, use extra care. Driving forward out of a ditch or mired condition or up a steep slope could cause tractor to tip over rearward. Back out of such situation does not permit you back out, use the front wheel weight or the chassis weight for balancing the tractor lengthwise. Also in case any extra-heavy rear mounting. Attachments is used, try to obtain better balance in this manner.

3. To mount or operate attachment, follow the instruction manual for the particular attachment for safe operation.
4. When using agricultural chemicals with an attachment on the tractor, always follow the instructions in the manual for the attachment as well as the instructions provided by the chemical manufacturer.

PTO OPERATION

1. Always stop the engine before connecting or disconnecting the drive shaft of implements.
2. Guards for PTO shaft and implement drive shaft must be fitted.
3. High-inertia implements do not stop the mortion immediately when the PTO is disengaged. Clean and adjust it only after the implement fully stops.
4. Cover the PTO shaft with a guard when not using.

BASIC SAFETY REQUIREMENTS FOR MAINTENANCE

Always follow these maintenance instructions before operating the tractor:

1. Immediately repair the head lights and work lamps required to conform to traffic regulations where the tractor is operated.
2. Keep tractor steps clean to avoid accidents due to slippage.
3. Be sure to engage the brake and lower any attachment or implement before disassembling any part.
4. Never adjust or service the tractor when it is in motion or while the engine is running. Always adjust the brake or clutch properly in accordance with the adjusting procedure in the instruction book.
5. DO NOT remove the radiator cap while the engine is running. Shut down the engine and wait until it cools sufficiently. For removal, turn the cap to the first stop to relieve pressure. To replace the coolant, use the coolant recovery tank.
6. Hydraulic oil or fuel escaping under pressure can penetrate the skin, causing serious injury. Before disconnecting oil or fuel lines, be sure to relieve all pressure. Before restoring pressure after repair, be sure all connections are tight and all hydraulic components are in

normal condition. If injured by leaked fluid, see a doctor immediately for proper treatment.

7. Before starting any work on electrical equipment or work that may cause you to touch the electrical parts accidentally, first disconnect the battery cables. Never remove the rubber cap cover at the positive terminal of the battery cable end. Before connecting the battery to the charger, make sure that the charger switch is in "OFF" position.

   Be sure to connect the charger to the correct terminals on the battery (positive to positive, negative to negative).

   A great amount of hydrogen gas is generated by the battery when it is being charged. Take precautions against fire: DO NOT have any exposed flame in the area where you are working.

   Be sure not to cause any leakage of the electrolyte, since it will corrode the skin or clothing. In case of accident as described below, immediately seek first aid, and see a doctor immediately for proper treatment.

   a) If the diluted sulphuric acid from the battery has gotten into the eyes: Clean the eyes with a lot of clean running water for more than 15 minutes, while opening the eyes widely, and see a doctor immediately for proper treatment.
   b) If the diluted sulphuric acid from the battery has been swallowed: Rinse the mouth with clean water immediately, and see a doctor immediately for proper treatment.
   c) If diluted sulphuric acid has gotten on the skin of clothing: Wash away the diluted euphoric acid completely with a lot of clean running water and neutralize with soap solution. Then rinse with water.
   d) If the diluted sulphuric acid is spilled: Wash away with a lot of water or neutralize with slacked lime or bicarbonate of soda.

8. Stop the engine and make sure the PTO shift lever is in Neutral before performing any of the following services, including.
   a) Removal of the propeller shaft between PTO and any attachment.
   b) Adjustment of PTO drive train and hitch.
   c) Adjustment or cleaning of PTO driven attachment.
9. The steering wheel always has built-in play to some extent, which is required for smooth meshing of sector gear and pinion gear.
10. Always inspect the amount of the play. DO NOT operate the tractor if there is too much or too little play in the steering.
11. Dispose oil, fuel and filters in compliance with local regulations. DO NOT waste oil on the ground or field, or into a drain.
12. DO NOT try to fit a tire unless the worker has the proper facility, equipment and experience to carry out the job safely.
13. Disconnect the battery cable on (-) terminal side before starting any repair works on electrical system.

14. Use genuine parts. Any defectives or damages arising from using non-genuine parts are not covered by warranty.
15. Inspection and adjustment must be carried out after the muffler, the engine and oils are cooled down.
16. DO NOT touch the muffler, the engine unit, the PTO shaft and implements while the engine is rotating.
17. DO NOT touch the engine and surrounding parts including muffler while the engine is hot. To prevent burn injury, never drain or replenish or refill oil and fuel because the oil temperature is very high. Hot water may spray out and it will be cause of burn injury if the radiator cap is removed while the engine is hot.

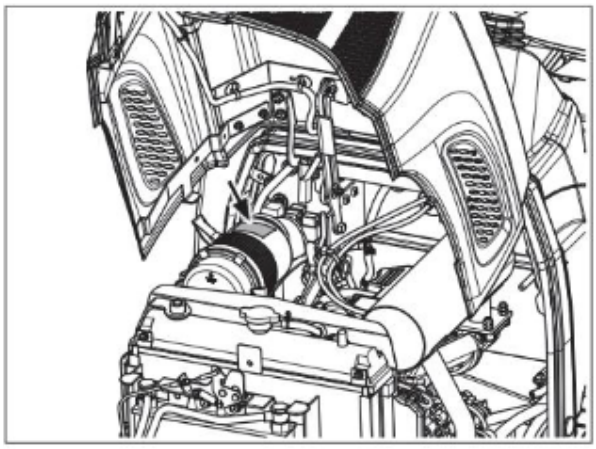
TRACTOR ACCESS

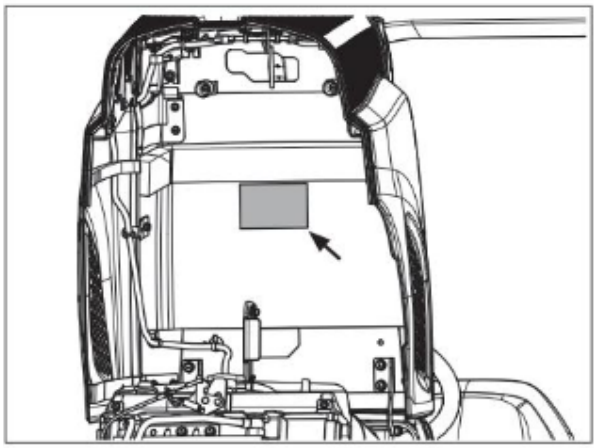
Jumping on or off the tractor can cause an injury. Always face the tractor, use the grip and sub steps, and get on or off slowly.
When boarding or leaving the tractor use the left hand when possible. If you use the right hand, avoid interference with the control pedals.

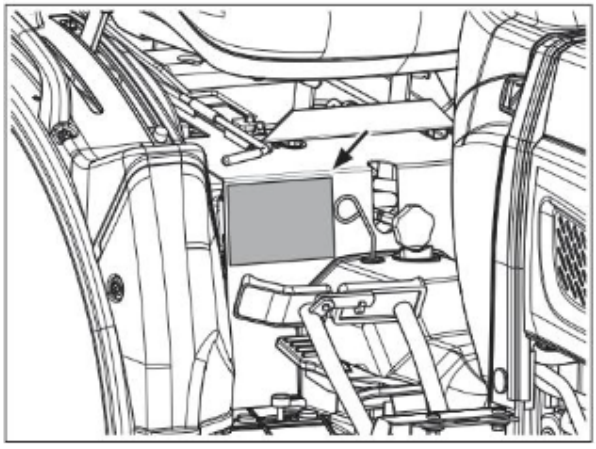
DECALS

IMPORTANT: Install new decals if the old decals are destroyed, lost, painted over or can not be read. When parts are replaced that have decals, make sure you install a new decal with each new part.

NOTE: New decals are available from your Dealer.







(1)

WARNING

EXPLOSION AND INJURY CAN RESULT FROM USE OF STARTING AIDS WITH HOT GLOW PLUGS.
DO NOT INJECT GASOLINE OR ETHER IN AIR INTAKE.

(2)

WARNING

BATTERIES CONTAIN ACID AND EXPLOSIVE GAS. EXPLOSION CAN RESULT FROM SPARKS,FLAMES, OR WRONG CABLE CONNECTIONS. TO CONNECT JUMPER CABLES OR CHARGER, SEE MANUAL(S) FOR THE CORRECT PROCEDURE. FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH

321-6714

(3)

WARNING

AVOID INJURY OR DEATH

BEFORE STARTING ENGINE:

- Read operators manual for safety information and operating instructions.
- Read all tractor safety signs.
- Be sure other people are clear of tractor and equipment.
- Be sure all gears shifted are in neutral or park and all PTO controls are off.
- Start engine only from seat.
- Shields are for your protection. Keep them in place.

OPERATION:

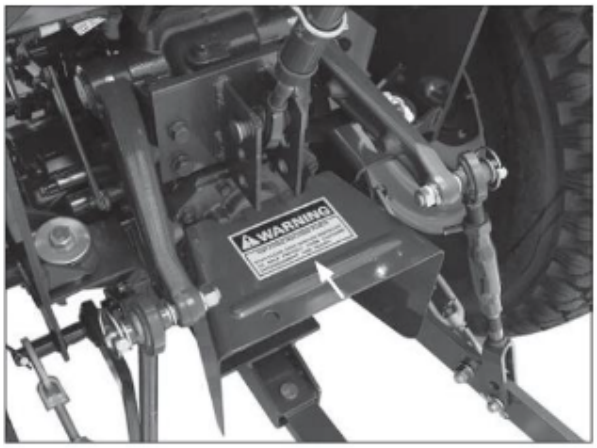
- With ROPS, always buckle and adjust seat belt.
- No riders on tractor or equipment.
- Keep hands, feet, and clothing away from power driven parts.
- For road travel, couple brake pedals, use flashing warning lamps unless prohibited by law, and keep SMV emblem visible.

TRACTORS CAN BE UPSET:

- Reduce speed on turns and rough ground. Avoid steep slopes.
- Avoid rear upset. Pull only from drawbar, never higher.

WHEN TRACTOR HAS STOPPED:

- Engage park lock or brake.
- Lower implement to ground.
- Disengage PTO, stop engine, and wait for all movement to stop before servicing or clearing equipment.



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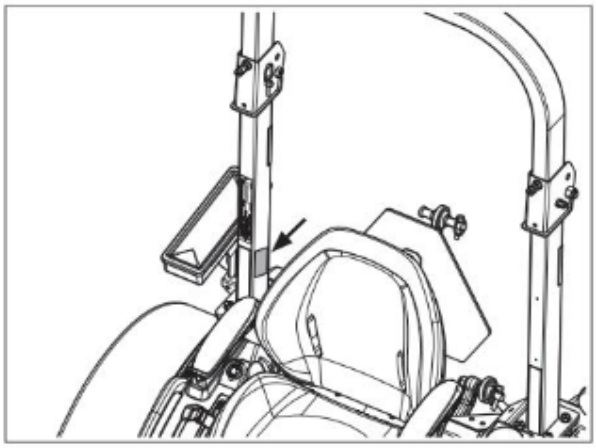

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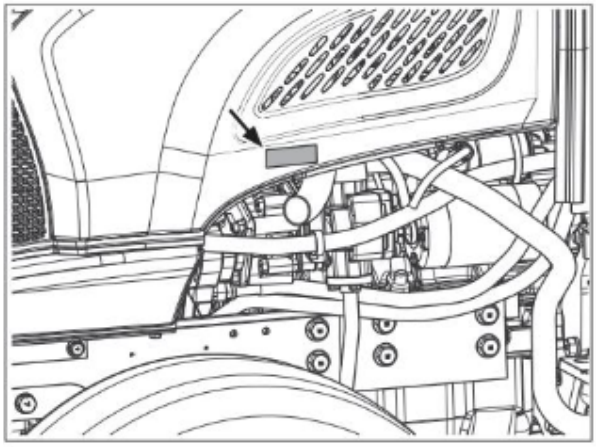


(6)

■ Decals list

No.	Parts No.	Parts name	Remarks
1	1904 2746 000	LABEL, WARNING	Air cleaner
2	1904 2759 000	LABEL, WARNING	Bonnet
3	1957 2726 000	LABEL, WARNING	Center cover
4	1904 2761 000	LABEL, WARNING	PTO cover
5	1904 2765 001	LABEL, WARNING	ROPS
6	1901 8732 000	LABEL, CAUTION	Muffler

ROLL OVER PROTECTIVE STRUCTURE (ROPS)

■ Foldable ROPS Frame

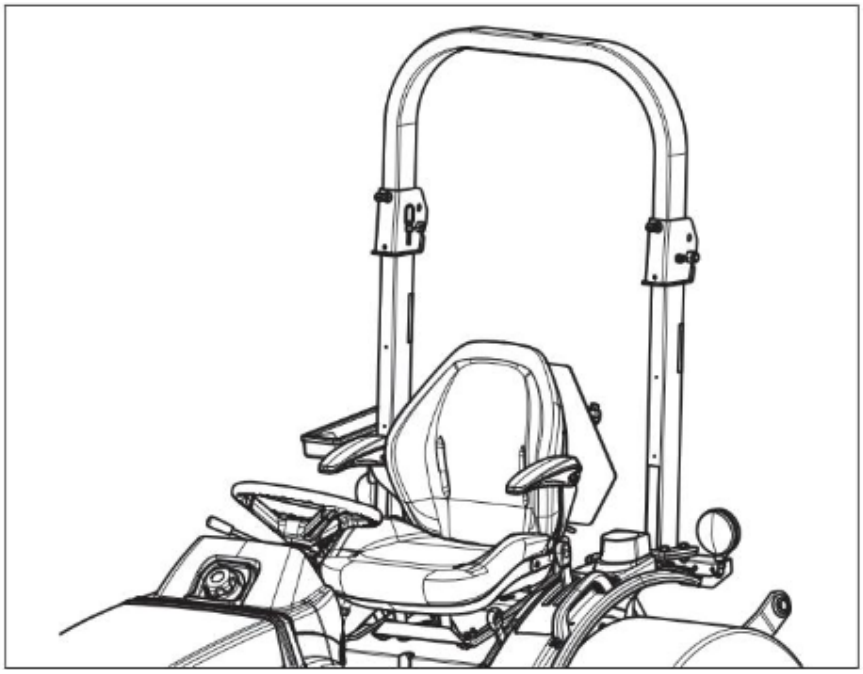
⚠ WARNING :

- **Be sure to fix the ROPS frame in the upright position and fasten the seat belt when operating the tractor in any place other than the one where the height is restricted.**
  Otherwise, it could cause an accident, resulting in injury or death when the tractor rolls over or turns over due to improper operation.
- **Do not fasten the seat belt with the ROPS in the lowered position.**
  Otherwise, it could cause an accident, resulting in injury or death when the tractor rolls over or turns over due to improper operation.

ROPS is foldable so that the tractor can be operated in places such as orchards where the height is restricted. See Folding the ROPS in this manual.

■ Normal Operating Position

For normal operation, including transport, always use the foldable ROPS in the secured upright position with a fastened seat belt for full rollover protection.

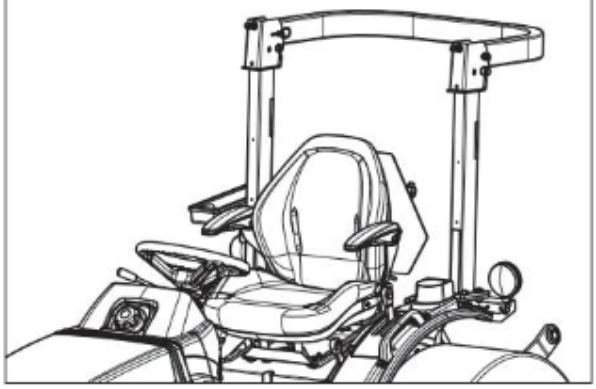


■ Low Clearance Positions

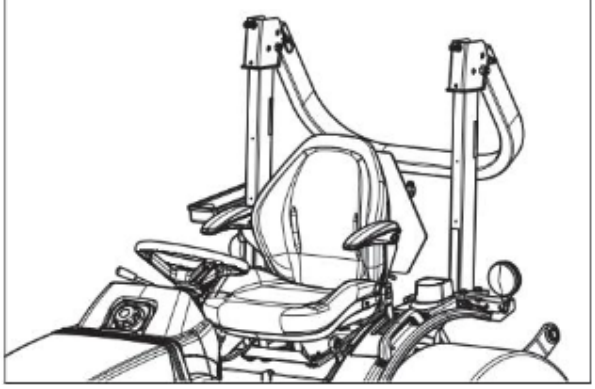
For low clearance operation, such as operating in buildings, orchards or vineyards, the ROPS can be lowered and secured in the lowered position.

No rollover protection is provided in the lowered positions and the seat belt should not be fastened. When the low clearance operation is completed, return the ROPS to the secured upright position for all other tractor uses and transport.

SECOND POSITION



STORED POSITION



IMPORTANT: When the ROPS frame is in the lowered position, make sure there is clearance between the frame and hitch mounted equipment. Slowly raise the hitch to maximum height to check for necessary clearance. For drawbar attached and/or PTO driven equipment, check for clearance including turning corners.

■ Tractor Roll Over

ROPS is a special safety unit. After an accident, The ROPS must be replaced so that you will get the same protection as a new ROPS.

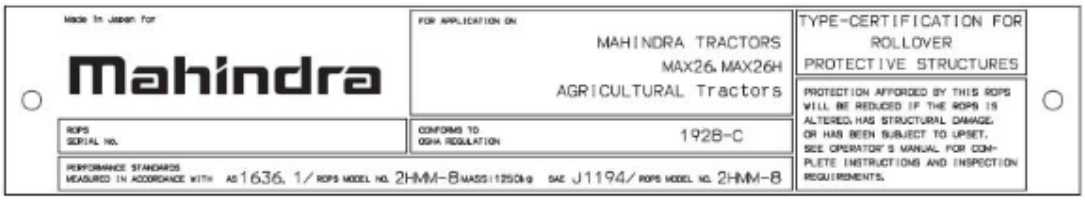
ROPS, the seat, the seat belts and all the mounting, accessories and wiring inside the operator's protective area must be carefully checked after a tractor accident and all parts with damage should be replaced immediately. DO NOT TRY TO MAKE REPAIRS WELDING THE ROPS.

■ Safety Rules

1. Do not make modification to the ROPS. Example, welding an accessory to the ROPS, or drilling a hole in the ROPS.
2. Special fasteners are used to install the operator protective parts. Replacement parts must be the same as given in the Parts Catalog for your tractor.

■ ROPS Label

1. ROPS is equipped with a ROPS label.
2. The label contains the ROPS serial number and applicable standards.



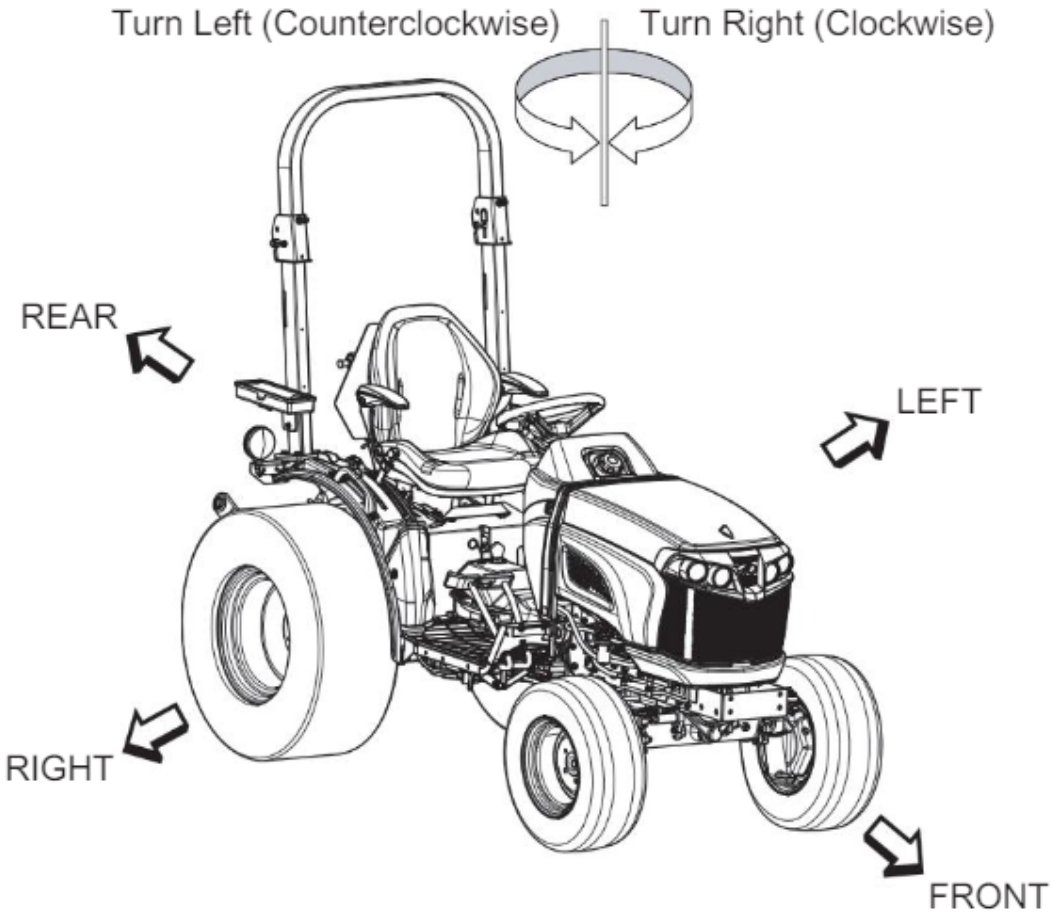
PRIOR TO USE

TERMS AND GLOSSARY

■ Left-Hand and Right-Hand

Expressions such as LEFT, RIGHT, FRONT, or REAR used in this manual should be understood in accordance with following rules:

FRONT means the front grille end while REAR means the lifting arm end of the tractor. LEFT or RIGHT means the left or right hand side of the tractor looking forward from operator's seat.



■ Definition of Signs

Item to be followed are indicated with the following signs in this instruction manual.

- ⚠ **DANGER** ⚠ **WARNING** ⚠ **CAUTION :** important items for safety are categorized in three levels and described. Please be sure to read thoroughly

- **NOTE:** Points to bring out the full performance of the machine are described. If not followed, it may cause machine damage.

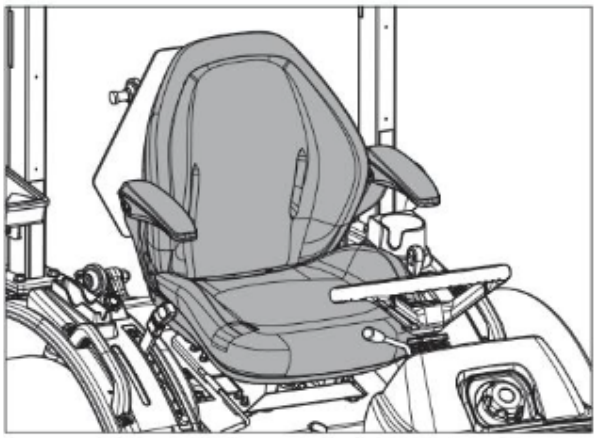
INSTRUMENT/CONTROLS

OPERATORS SEAT

Seat can be adjustable for each operator as follows.

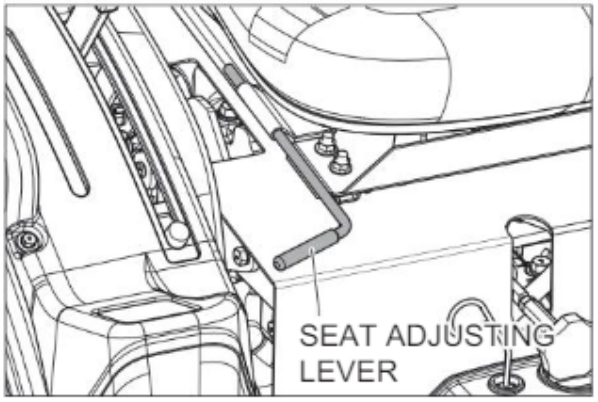
⚠ WARNING

• Do not adjust the seat while operating the tractor. It may cause to loss of control and freak accident and injury may occur.



■ Adjusting Seat

The seat can be adjusted in 5 forward or rearward positions by moving the lever.



1. Sit on seat.
2. Pull the lever upward to unlock seat position.
3. Slide the seat forward or rearward to the reguired position.
4. Release lever to look seat in position.

IMPORTANT: Check the switch as the following procedure after having installed the standard seat.

Checking the switch

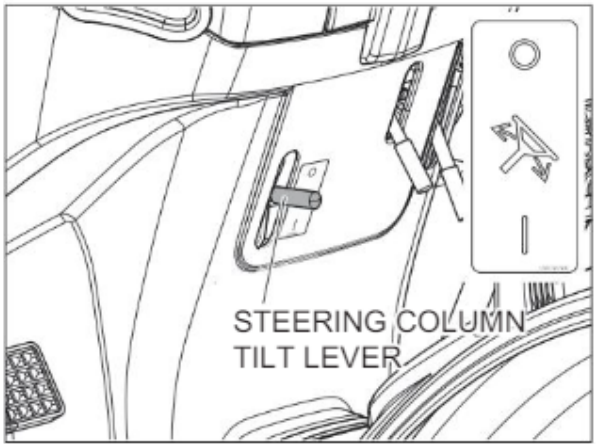
(1) Sit on the operator's seat
(2) Apply the parking brake.
(3) Shift the all operating control lever to "N" or "OFF".
(4) Depress the clutch pedal.
(5) Start the engine.
(6) Shift the Mid PTO lever to "ON". (If Mid PTO equipped)
(7) Leave the operator's seat.
(8) Make sure the engine must shut off. In case the Mid PTO is disengaged, the engine will remain running if you stand up.

NOTE: If you leave the seat when the Mid PTO is engaged, safety system will automatically shut down the engine.

While engine is running, if you leave a seat, engine will shut off after one second.

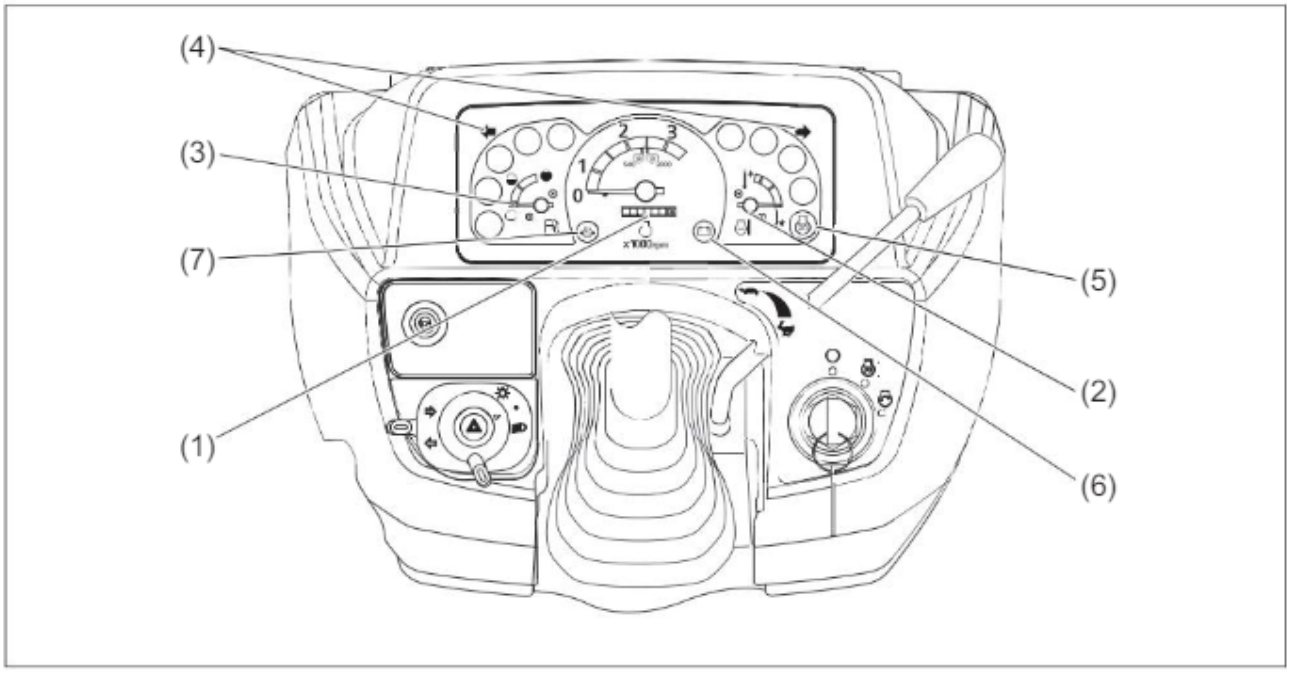
STEERING COLUMN TILT

The steering wheel angle can be adjusted in three positions by the lever located under the steering column.
To adjust the position of the steering wheel, use following procedure.



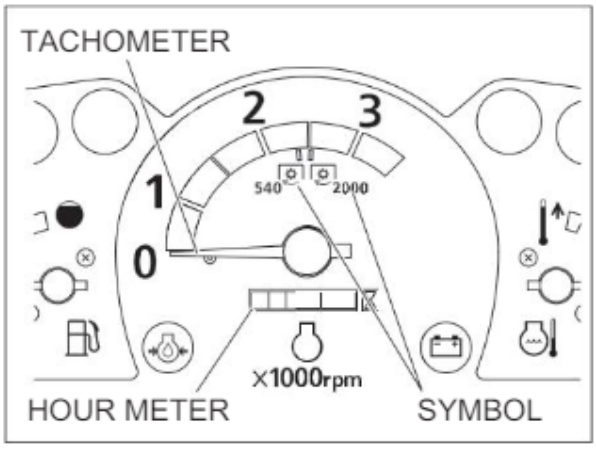
1. Move the lever fully downward to disengage the latch from the column.
2. Move the steering wheel rearward or forward to the required position, then return the lever upward to lock the steering column.
3. Make sure that the lock is engaged.

INSTRUMENTS AND INDICATORS



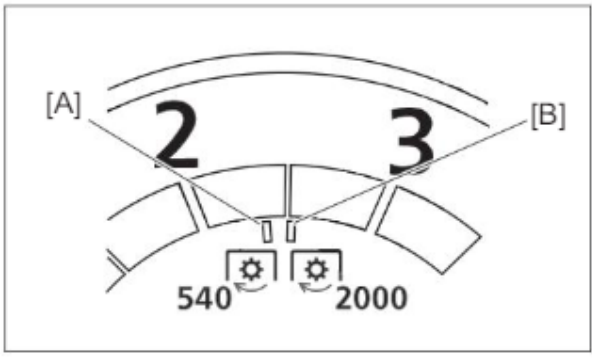
(1) Tachometer and Hour Meter

- The tachometer displays "Engine rotational speed / minute" (RPM).
- The symbol of the shape of the cogwheel directs the speed that uses appropriate PTO.
- The hour meter displays the engine driving time.



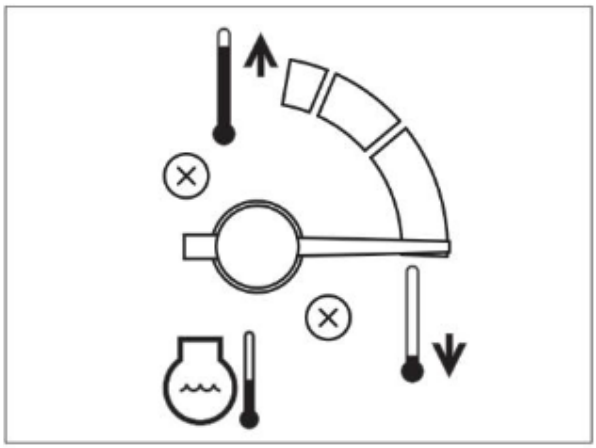
White line [A] shows the 540 rpm of the Rear PTO speed.

White line [B] shows the 2000 rpm of the MID PTO speed.



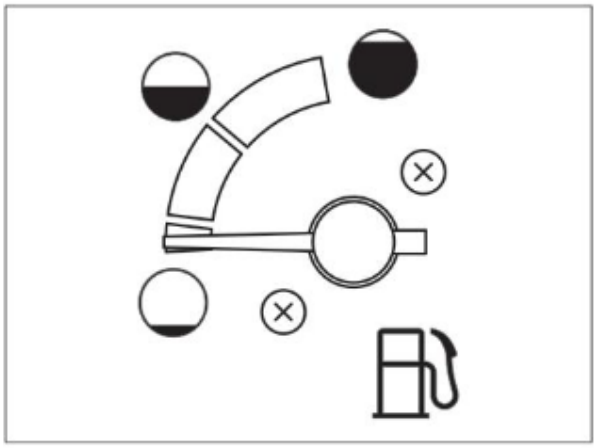
(2) Engine Coolant Temperature Gauge

The gauge indicates the coolant temperature when the starter key switch is in ON position. If the engine overheats, the pointer turns the up side into ↑ position area. In this case, stop the engine immediately and check for the cause.



(3) Fuel Gauge

The meter shows how much fuel is in the tank.

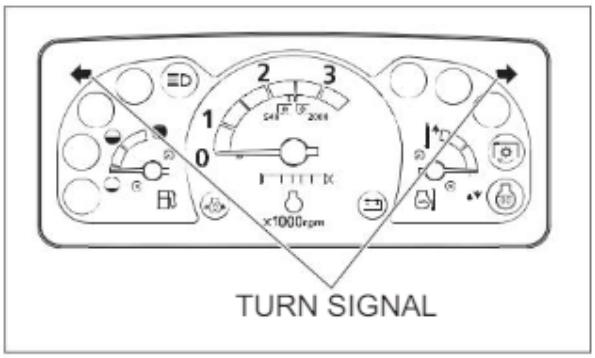


NOTE: The pointer can be in lowest position when the starter key switch is in the OFF position. To get a fuel level indication, turn the starter key switch to the ON position.

(4) Turn Signal Indicators

The LH indicator on the TACHOMETER will operate when the turn signal switch is moved to downward. The RH indicator will operate when the switch is moved to upward.

Both indicators will operate ON and OFF when hazard switch is pushed down.



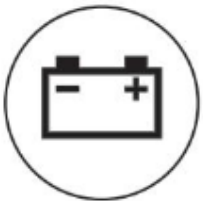
TURN SIGNAL

(5) Engine Glow Plug Indicator

This signal indicates the correct functioning of the glow plug circuit. When 10 seconds after the starter key switch turns to the ON position, or when the engine starts, the glow plug indicator lamp will be turned off.

(6) Charge Indicator

The charge indicator shows the battery is being discharged. If the lamp illuminates during operation, stop the engine and check for the cause.

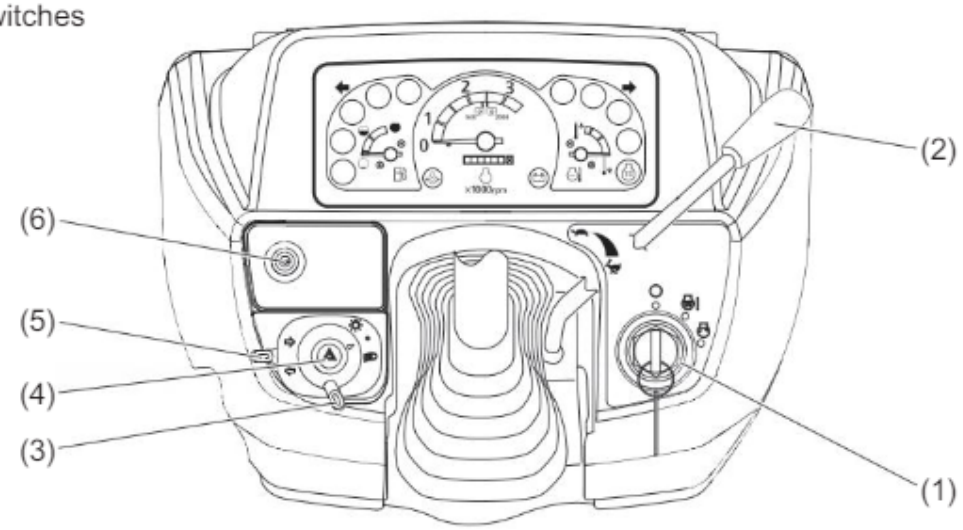


(7) Engine Oil Pressure Indicator

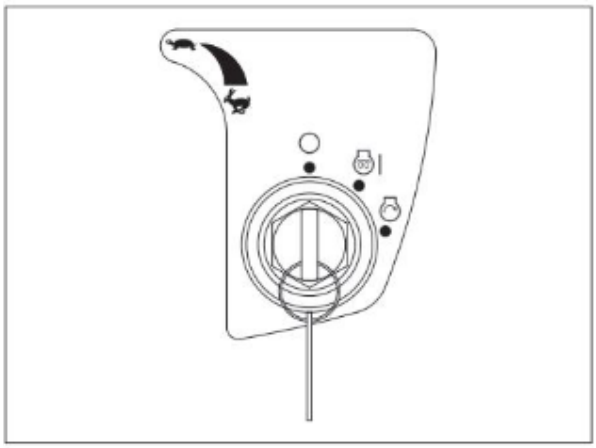
The engine oil pressure indicator shows low engine oil pressure. If the engine oil pressure drops below its normal pressure, the engine oil pressure indicator will turn on. Shut off the engine immediately. Check for the cause.

OPERATING CONTROLS

Control Switches



(1) Starter Key Switch



The starter key switch can be removed in the OFF position. Three switch positions are as follows:

Position (OFF)

Engine and all lamps except the hazard signal and flasher lamps are turned off.

Position (HEAT) & (ON)

First position clockwise from OFF. In this position (Engine not running) energizes the glow plugs. The charge indicator, glow plug indicator and oil pressure indicator will illuminate.

The fuel gauge and temperature gauge will show correct values.

Position (START)

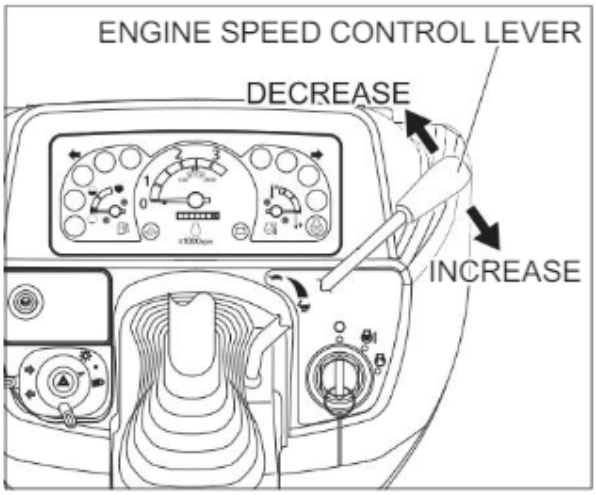
Turn the key fully clockwise against the force of the spring in the switch. The starter motor will turn the engine. Release the key immediately when the engine starts.

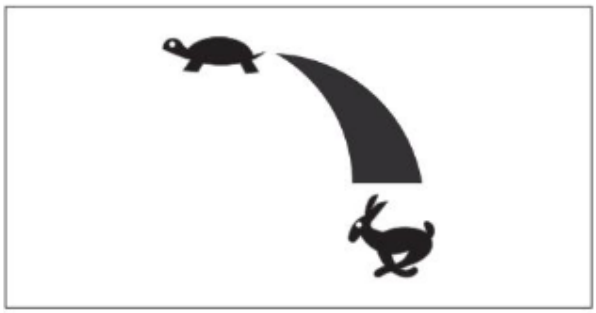
NOTE: To prevent operation by persons not authorized and the possible discharge of the battery, remove the starter key when you leave the tractor.

IMPORTANT: Do not keep the starter key switch in the ON position for a long time when the tractor is not operating.

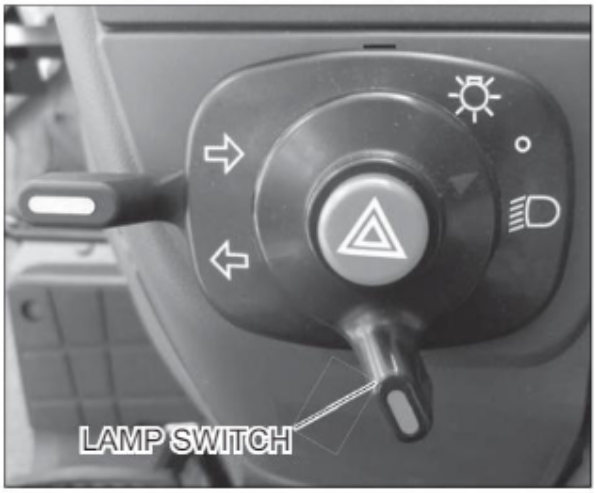
(2) Engine Speed Control Lever

Pull the engine speed control lever to the rearward to increase the engine speed. Push the engine speed control lever forward to decrease the engine speed.





(3) Lamp Switch



Two position switch as follows:

ALL lamps are OFF. (Turn signal, hazard signal and flasher lamps can be turned on.)

First position clockwise illuminates head lamps, instrument panel and rear red lamp.

(4) Hazard Switch

To flash the Flasher Lamps whenever the tractor is operated or traveling on roads.

(5) Turn Signal Switch

To indicate that you are going to turn the tractor to the RIGHT, move the turn signal switch to upward. To indicate that you are going to turn the tractor to the LEFT, move the turn signal switch to downward. Center position is OFF.

◆Turn Signal with Hazard switch ON

When the turn signal switch is moved to upward, the RH flasher lamp will blink, and the LH lamp will stay ON.

When the turn signal switch is moved to downward, the LH flasher lamp will blink, and the RH lamp will stay ON.

◆Turn Signal with Hazard switch OFF

When the turn signal switch is returned to the center position, both flasher lamps will illuminate ON and OFF.

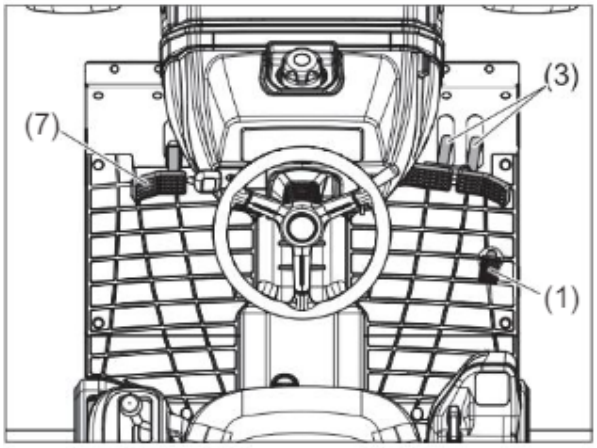
IMPORTANT: When towing an implement or wagon by the tractor, the complete rear area warning system (amber warning lamps, rear red lamp and SMV emblem) must be easily seen by any vehicle operator coming near the tractor.

(6) Horn Switch

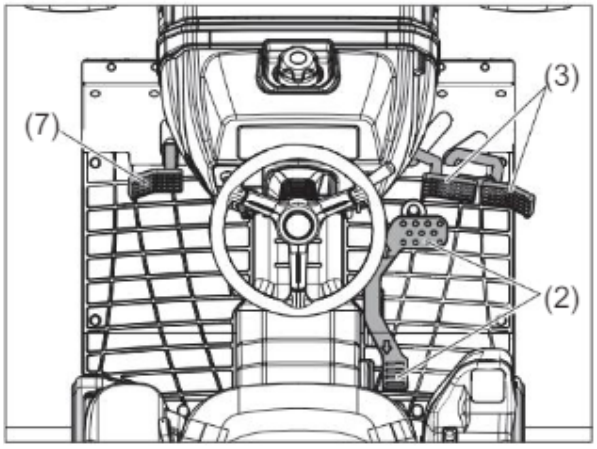
Press the horn switch to energize the horn.

CONTROL LEVERS AND PEDALS

[Shuttle Type]



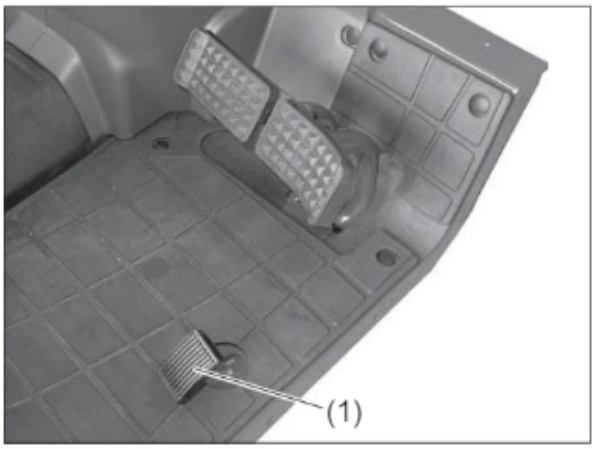
[HST Type]



(1) Accelerator Pedal (Shuttle Type Only)

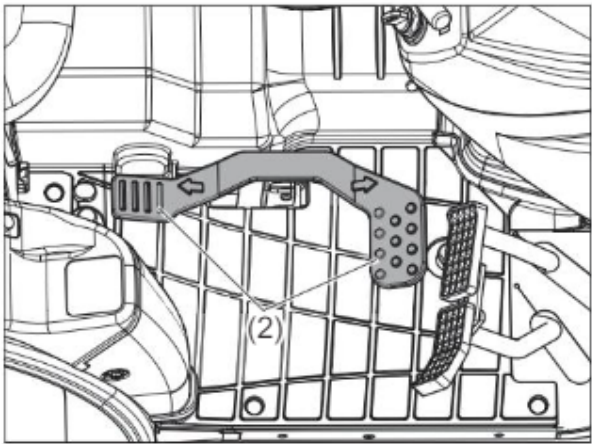
Use this pedal when operating the tractor on the road. Push the pedal down to increase engine speed.

NOTE: The engine speed control lever must be set to give the slowest engine speed when the throttle pedal is used.



(2) Speed Ratio Control Pedal (HST Type Only)

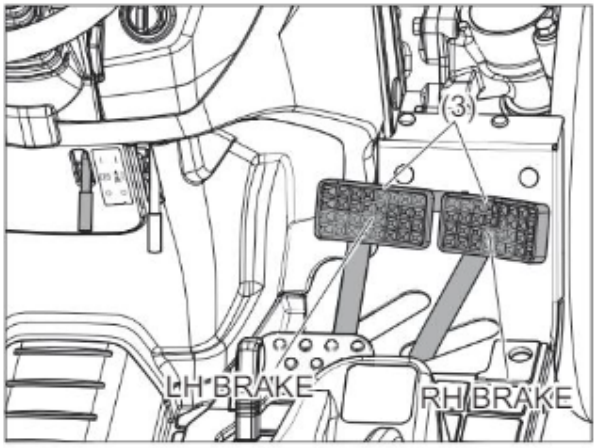
The control pedal is centralized to the neutral position by spring load. Push down on the front pedal to increase forward speed. Push down on the rear pedal to increase reverse speed.



(3) Brake Pedals

The pedals when locked together, provides braking to both rear wheels for stopping the tractor. When the brake pedals are unlocked, the pedals are used for individual braking of the rear wheels to aid in turning the tractor in soft soil conditions.

Push the RH brake pedal down to slow or stop the RH rear tractor wheel, push the LH brake pedal down to slow or stop the LH rear wheel. The tractor will turn in the direction of the wheel that is slowed or stopped.

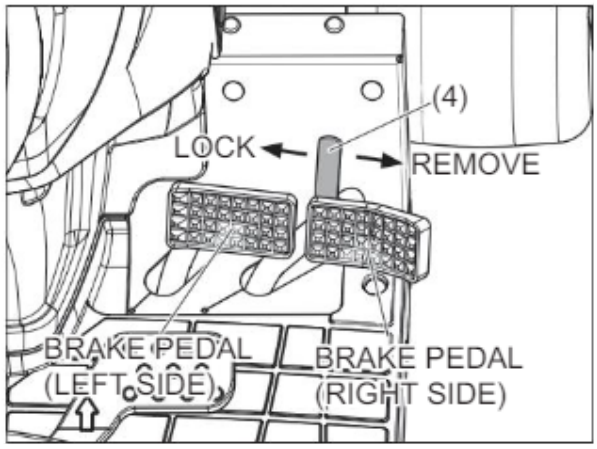


(4) Brake Pedal Lock

⚠ WARNING

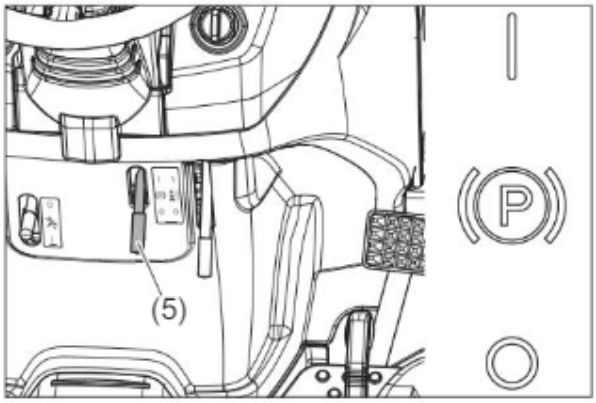
- **Be sure to lock the 2 brake pedals by using the brake pedal lock to step on the pedals simultaneously when travelling on a road.**
  If the brake pedals unlocked when traveling road, brake will be applied unevenly, causing an accident.
- **When operating the tractor with extra weight applied or in a bad traction condition such as mud or ice, apply brake earlier than usual.**
  Liquid in the tires, ballast weight on the machine or wheels, or tank filled with fertilizer, herbicide or insecticide, etc. will cause extra weight.
  Otherwise, it could cause an accident due to increased stopping distance.

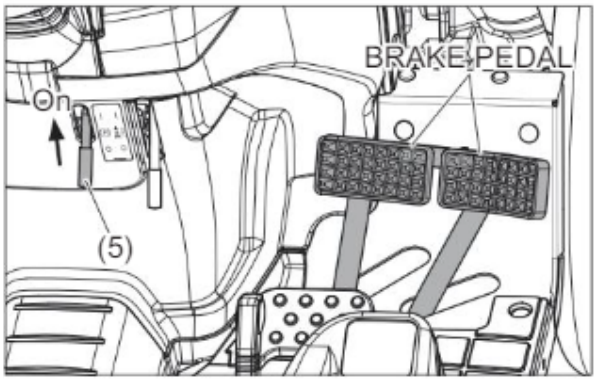
The brake pedal lock is located at the brake pedal arms and is used to lock the two brake pedals together so that both brakes are applied.



(5) Park Brake Lever

1. The park brake must be on to prevent movement of the tractor during stationary power takeoff work or when the tractor is parked. To engage the park brake, lock the brake pedals together, push down on the brake pedals and move the park brake lever upward. Push the brake pedal down to release the park brake.



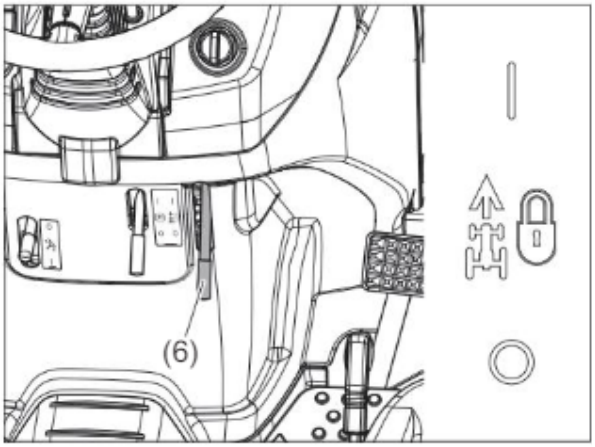


2. Before getting off the tractor, disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine and remove the key.
3. If it is necessary to park on an incline, be sure to check the wheels to prevent accidental rolling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

[HST Type]
It is free on engine brake with the range lever engaged, be sure set the parking brake.

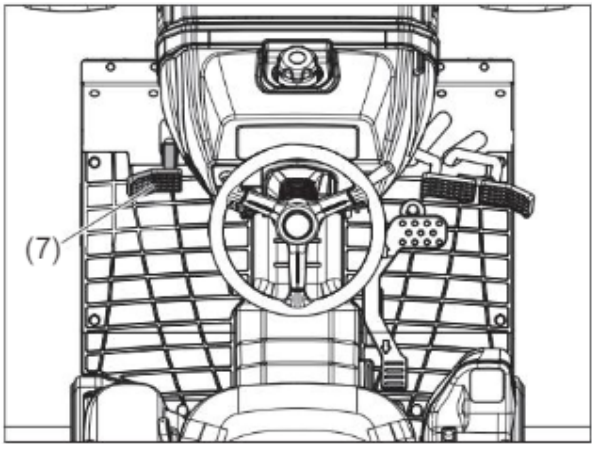
(6) Speed Lock Lever (HST Type Only)

To keep a constant forward travel speed, move the lever fully upward, while holding the speed ratio control pedal at the desired speed. It does not work in reverse.



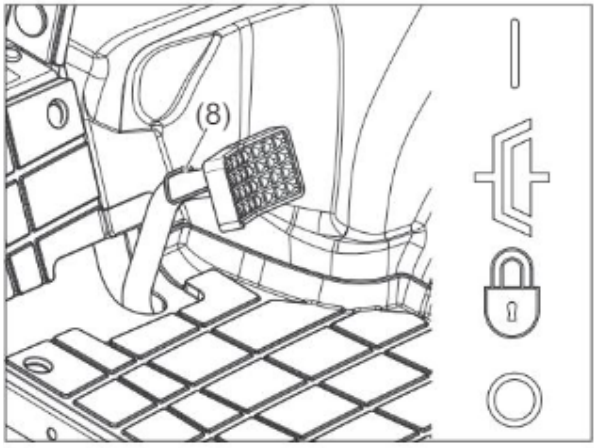
(7) Clutch Pedal

The clutch must be disengaged when starting the engine, stopping the tractor, storing the tractor and operating the following levers, gear shift lever, range shift lever Rear PTO lever, MID PTO lever, MFD lever, shuttle shift lever (Shuttle Type).



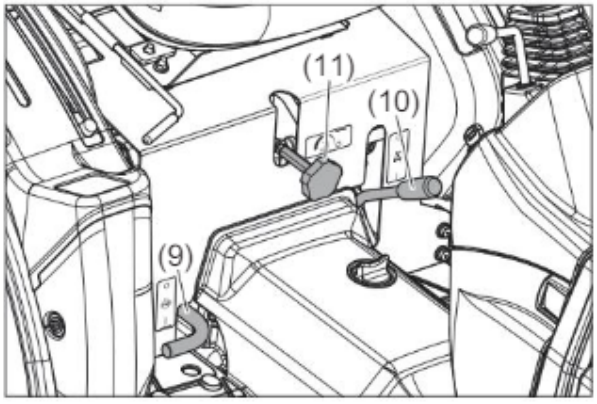
(8) Clutch Lock Latch

For long term storage, lock the clutch pedal in the disengaged position. This will prevent the clutch disc from sticking to the engine flywheel.

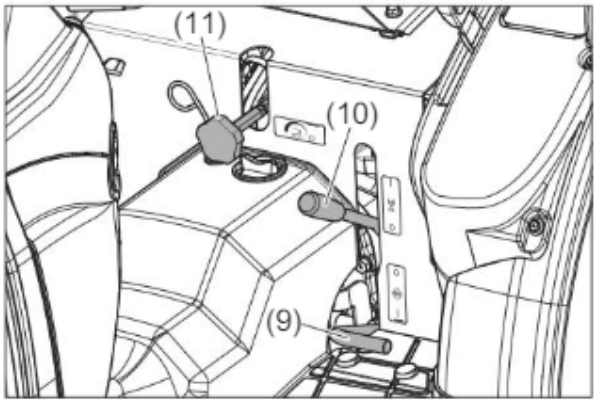


CONTROL LEVERS AND PEDALS

[Shuttle Type]



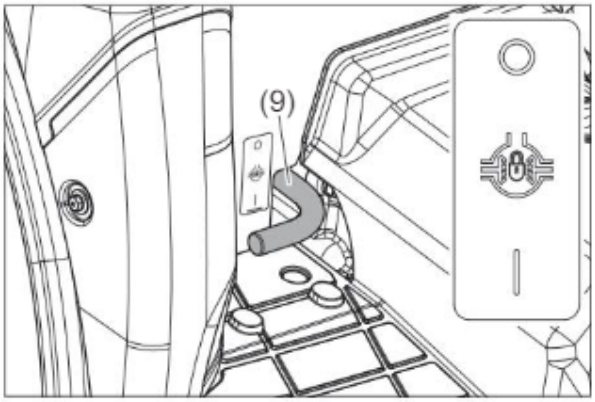
[HST Type]



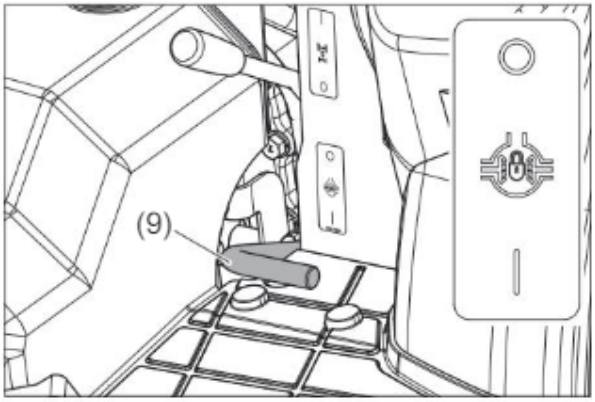
(9) DIFFERENTIAL LOCK PEDAL

Push the pedal down to engage the differential lock. A spring inside of the differential lock pushes it out of engagement when pedal is released.

[Shuttle Type]



[HST Type]



NOTE: When engaging the differential lock, push the clutch pedal down or bring speed ratio control pedal to Neutral, to stop the wheels that are rotating, then push the differential lock pedal. Do not operate the differential lock pedal while the wheels are rotating.

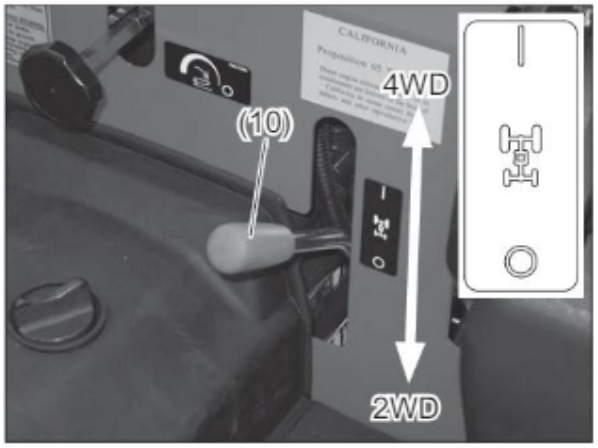
⚠ WARNING

- **Do not engage the differential lock when travelling on a road or operating at a high speed.**
  Otherwise, the steering will be disabled, causing an accident.

(10) MFD Control Lever

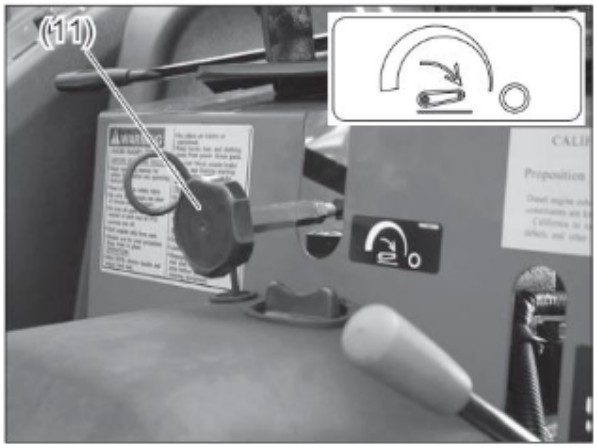
To engage the MFD (Mechanical Front Drive), move the MFD control lever upward. Move the lever downward to disengage MFD (drive to the rear wheels only).

IMPORTANT: The clutch pedal must be pushed down to operate the MFD lever.



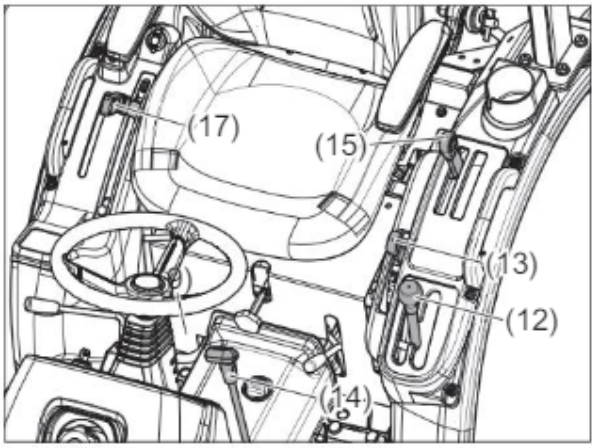
(11) Hydraulic Flow Control Knob

Use the hydraulic flow control knob to adjust the hitch lowering speed. Adjust the lowering speed to provide smooth operation of the hitch with the implement being used. Turn the knob fully clockwise to lock the hitch in position. See Hitch Lowering Speed Adjustment in this manual for more information.

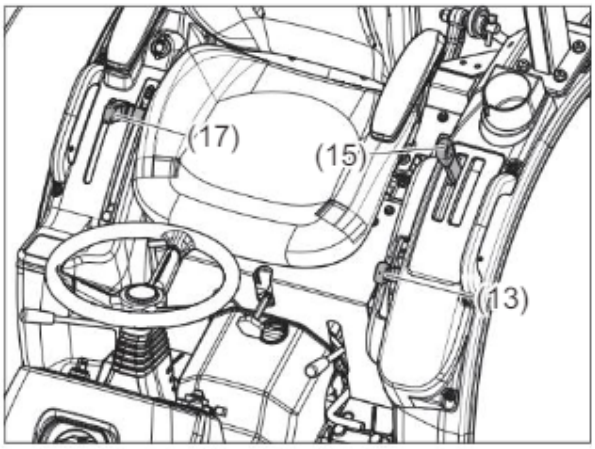


CONTROL LEVERS

[Shuttle Type]

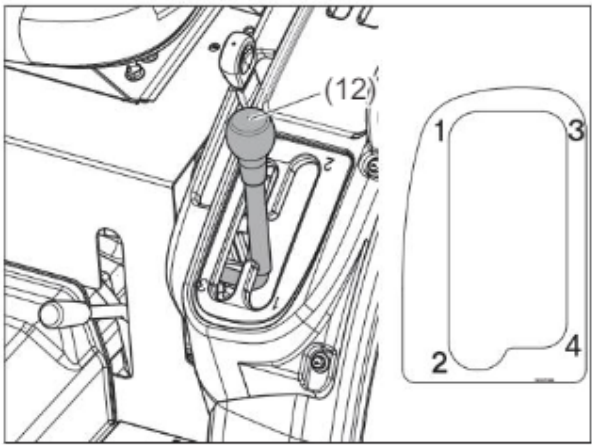


[HST Type]



(12) Gear Shift Lever (Shuttle Type Only)

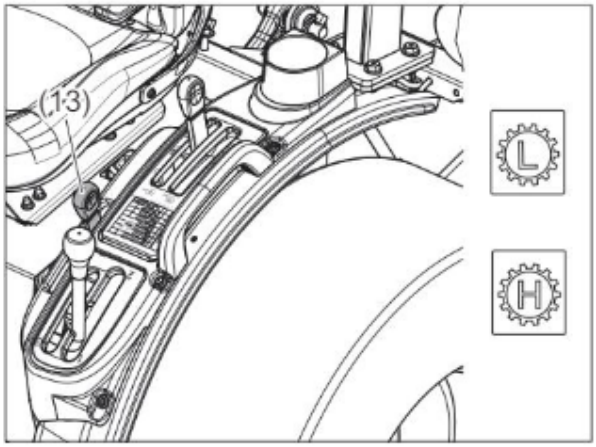
The gear shift lever is used to shift the transmission gears into any of four speeds.



(13) Range Shift Lever

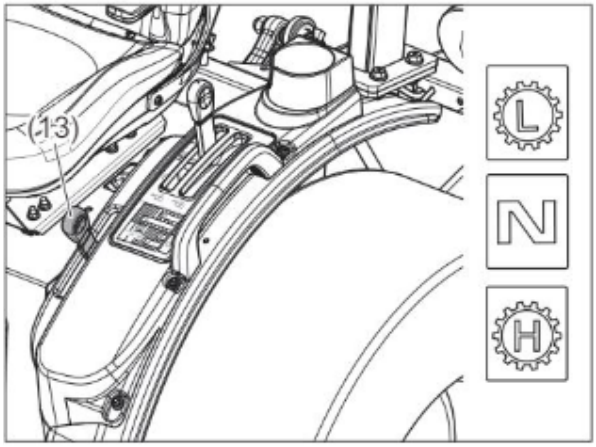
[Shuttle Type]

Move the range shift lever forward to place the transmission in H range. Move the lever rearward to place the transmission in L range.



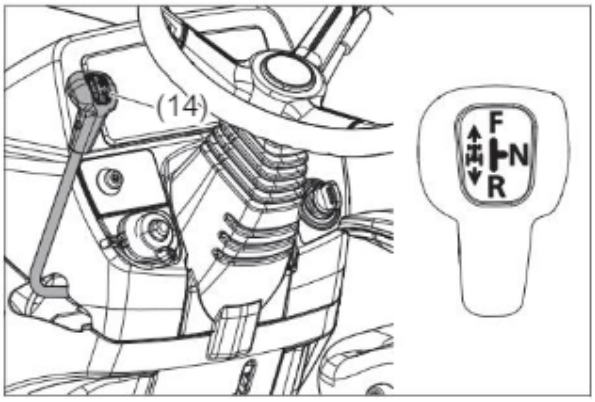
[HST Type]

Move the range shift lever forward to place the transmission in H range. Move the lever to the rearward to place the transmission in L range. The center position between L and H places the transmission in N.



(14) Shuttle Shift Lever (Shuttle Type Only)

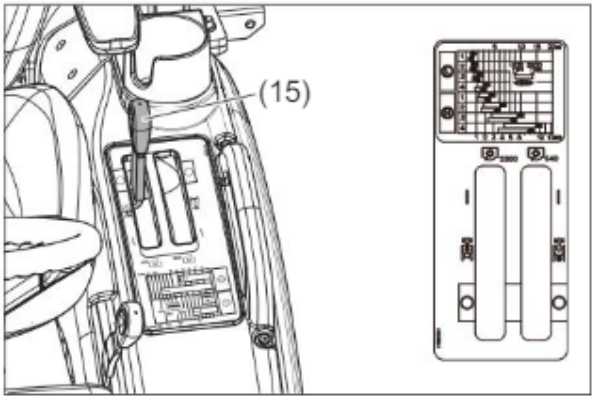
The shuttle shift lever is used to shift the transmission gear into forward of reverse position. Move the shuttle shift lever forward (F position) to the forward position. Move the shuttle shift lever rearward (R position) to the reverse position. The center position between F and R places the transmission in N position (Neutral).



NOTE: Be sure the shuttle shift lever is in N (Engine start) position when starting the engine.

(15) Rear PTO Lever

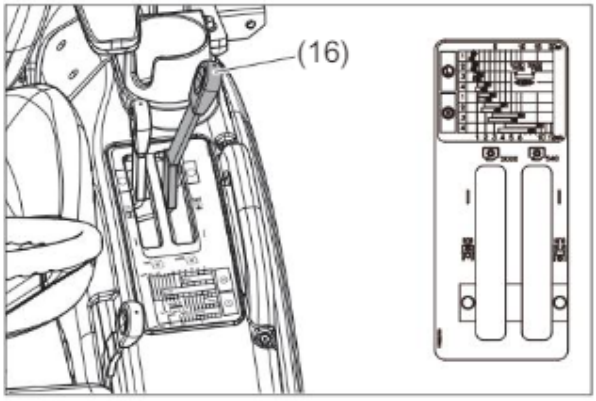
Move the lever forward to engage the Rear PTO. Move the lever rearward to disengage the Rear PTO.



NOTE: Be sure the Rear PTO lever is in OFF position when starting the engine.

(16) Mid PTO Lever (IF EQUIPPED)

Move the lever forward to engage the Mid PTO. Move the lever rearward to disengage the Mid PTO.

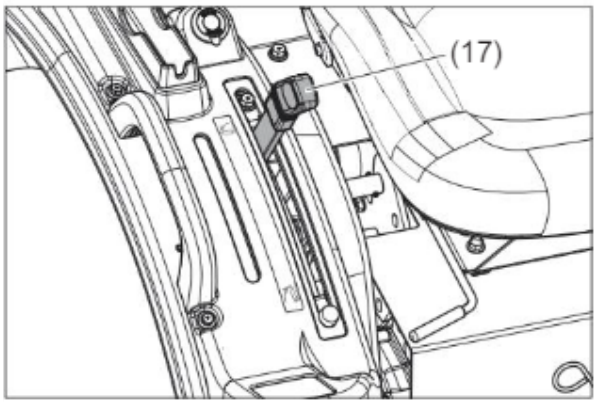


NOTE:

1. Be sure the Mid PTO lever is in OFF position when starting the engine.
2. The Rear and Mid PTO shaft can be operated at the same time.
3. When not using the Mid PTO shaft, cover the shaft with the Mid PTO cover.

(17) Hitch Control Lever

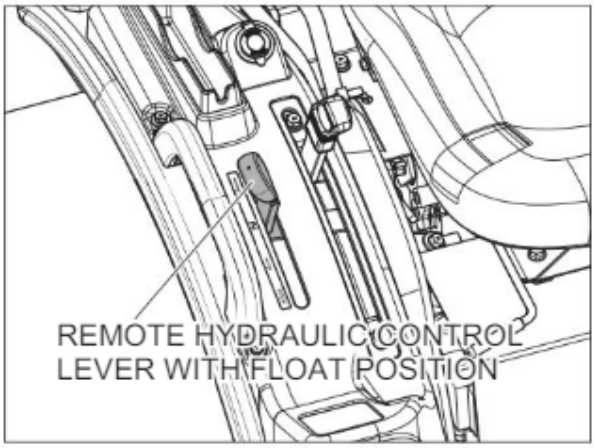
Use this lever to control the position of the hitch. Move the lever forward to lower the Three point hitch. Move the lever to the rearward to raise the Three point hitch.



(18) Remote Hydraulic Control Lever with Float Position (IF EQUIPPED)

A double acting remote control valve is available for your tractor.The remote hydraulic control lever which operates the remote control valve is located on the RH side fender.

See "remote hydraulic control valve" in this manual for more information.



OPERATING INSTRUCTIONS

BEFORE STARTING THE ENGINE

Before starting your tractor for the first time and before each operating period after that, make these checks:

1. Make sure all persons who operate or do maintenance on the tractor understand that clean fuel is important.

2. Check all lubrication fittings for grease as given in the Lubrication Chart.

3. Check the oil level in the engine crankcase. Check the oil level in the transmission.

4. Check the tractor fuel tank is filled with clean fuel that has the specifications given in this manual.

NOTE: Clean around the fuel tank cap before you remove cap.

5. Check the fuel system, cooling system and engine oil pan for leaks.

6. Check the fan belt is adjusted correctly.

7. Remove any water or sediment from the fuel filter cup.

8. Check the air pressure of the tires.

9. Make sure the PTO safety guard is installed.

10. Check the coolant level in the radiator and reservoir bottle. Add water and ethylene glycol coolant as needed.

RUN – IN PROCEDURE

If run-in instructions for a new engine are not followed, you can cause damage to position rings and cylinder walls.

LOAD

Never operate an engine immediately under full load. Allow the engine to warm up before operating it at full load. Run-in the engine carefully as shown in the table.

Period	Engine Speed Control Lever Position	Load
1st Hour	Fully advanced	Maintain engine speed 100 RPM above full load governed speed
2nd Through 5th Hour	Fully advanced	Full load governed speed with occasional short periods of lighter load

NO LOAD

Do not run the engine at idle speed. When not operating the engine with a load, you can keep the correct engine operating temperature if you run the engine at approximately 1500 RPM.

REAR WHEEL BOLTS

After the first 10 hours of operation, check the rear wheel bolts. Tighten all wheel bolts to the torque give in the Wheel Mounting Torques in this manual. (P66)

FRONT WHEEL BOLTS

After the first 10 hours of operation, check the front wheel bolts. Tighten the bolts to the torques shown in the Wheel Mounting Torques in this manual. (P66)

FRONT FRAME BOLTS

After the first 10 hours of operation, check the front frame bolts. Tighten the bolts to the torque shown below.

Front frame mounting torques

Size M12x30,35, 12Bolts

..... 107.8 N•m (80Lb•ft)

LOWER LINK BRACKET BOLTS (P53)

After the first 10 hours of operation, check the Lower Link Bracket bolts.

Tighten the bolts to the torque shown below.

Size M12, 4Bolts

..... 83 to 93 N•m (62 to 69 Lb•ft)

Size M14, 4Bolts

..... 120 to 130 N•m (89 to 96 Lb•ft)

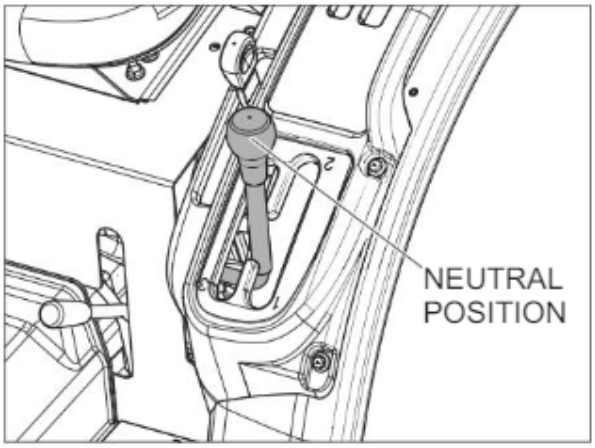
NORMAL STARTING PROCEDURE

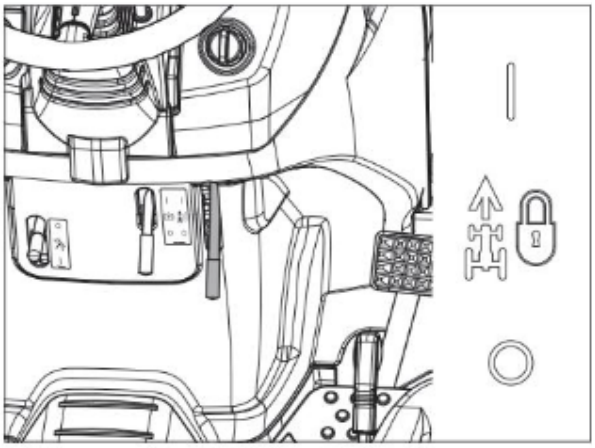
IMPORTANT: It is very important that enough lubricant reaches the engine parts before operating the engine at rated speed.

⚠ WARNING

- **Be sure to sit on the operator's seat when starting the engine and operating the tractor. Otherwise, it could cause an accident.**

1. Put the gear shift lever in the Neutral position (Shuttle Type) or the Speed Lock Lever to be released (HST Type).

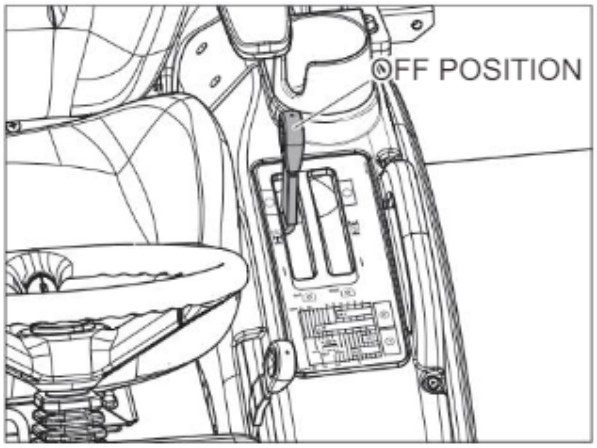




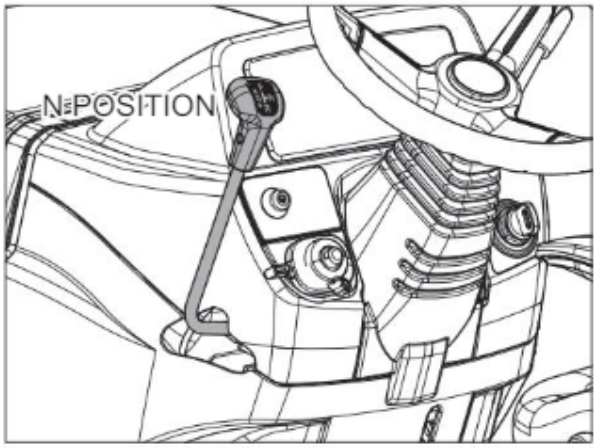
⚠ WARNING

- **Make sure that all the operating controls are set to the neutral, lock position or off position before starting the engine.**
  Otherwise, the tractor could move or the driven implement could start unexpectedly, causing an accident.

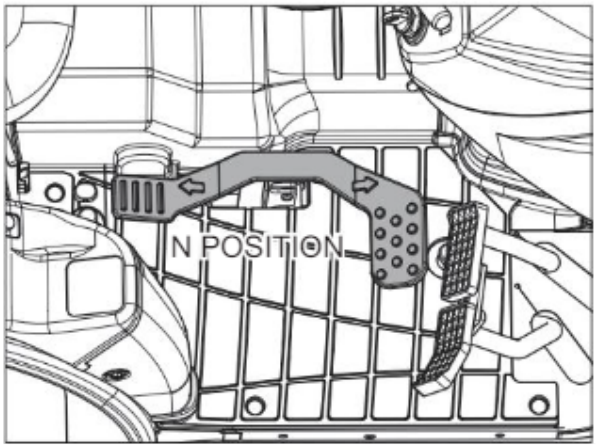
2. Put the REAR PTO and MID PTO control levers (If equipped) in the OFF (Engine start) position.



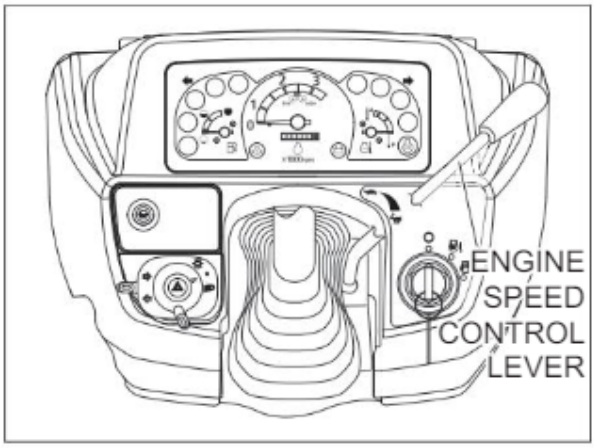
3. Put the SHUTTLE lever in the N (Engine start) slot (Shuttle Type).



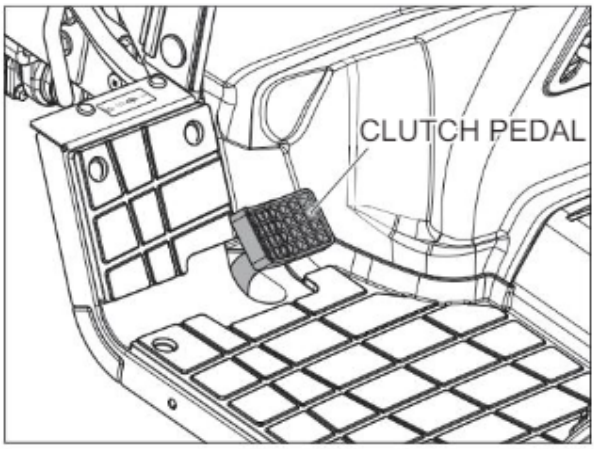
4. HST control pedal in the N position (Engine start) (HST Type)



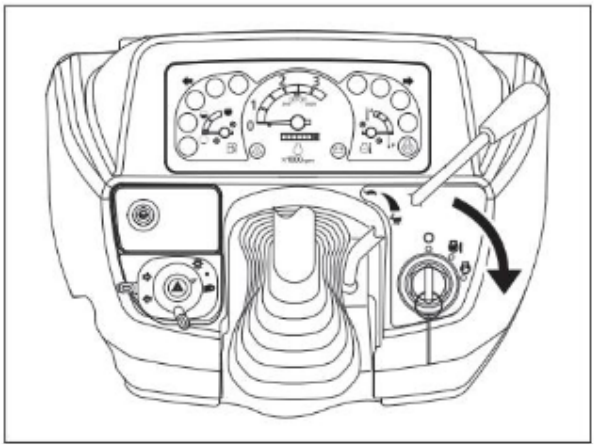
5. Put the engine speed control lever at the low speed position.



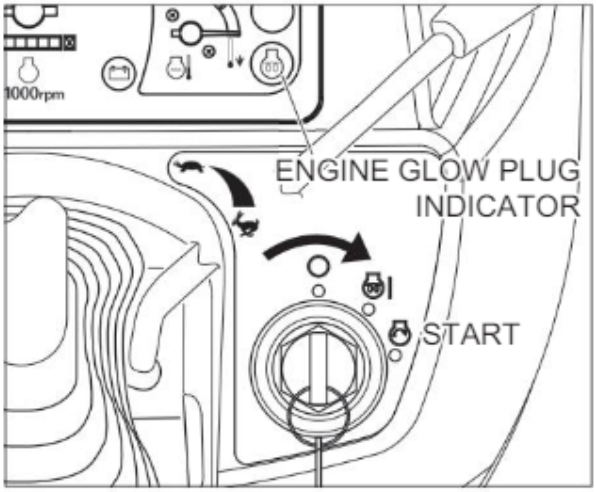
6. Push the clutch pedal down.



7. Turn the starter key switch to the heat & ON position.
   Wait until the glow plug indicator lamp is put out.



8. Turn key switch to start position until engine starts, but no more than 10 seconds, then release the key. Run engine for two minutes at 1500 RPM.



9. When the engine starts, check the oil pressure indicator, If the indicator stays on, stop the engine and find out what is wrong.

NOTE: If the oil pressure indicator stays on after the engine starts, stop the engine and check the oil level in the crankcase. Add oil if necessary. Start the engine, if the indicator is still on, do not operate the engine. Operating the engine without oil pressure will damage engine bearings and other engine parts. See your dealer.

IMPORTANT:

1. If the engine starts and then stops, wait for the starting motor to stop turning before you turn the key switch to START position again.

2. Do not use the starter motor for more than 10 seconds without stopping. Wait one minute between starts so the starter motor can cool.

3. If engine stops when operating with a load, immediately start the engine again to prevent overheating caused by stopping the flow of oil for cooling and lubrication.

4. If the charge indicator comes on during operation, determine and correct the cause to avoid complete discharge of the battery and possible damage to other components of the electrical system. See your Dealer.

5. If the coolant temperature gauge points at "⮝" position, remove the load and allow the engine to run at 1500 rpm until the gauge goes down. If the gauge does not go down within one minute, stop the engine and determine the cause.

Starting Procedure for Hydrostatic Drive Tractors After Transporting on Truck or Flatcar

IMPORTANT: Hydrostatic transmission can jump into gear without warning, if the fluid leaks out of the control system. This can occur due to vibration if the tractor is transported on a truck or rail car. It can also happen if the transmission is drained or if the tractor sit still for very long periods. If any of these have happened, start the tractor as follows:

1. Put the range shift lever into the N (Neutral) position and release the speed lock lever to permit the speed ratio control pedal to return to N (Neutral) position.

2. Lock the brake pedals together, press down on the brake pedals.

3. Pull the engine speed control lever and start the engine. Set the engine speed to about 1000 RPM.

4. Slowly move the range shift lever to H range for high speed engagement.

If gear clash is obvious, the engine should be shut off immediately and the tractor unloaded by other means. Tow the tractor with the range shift lever in N (Neutral) to an area where the transmission can be checked by your Dealer. Refer to Towing the Tractor in this manual. (P39)

If there is no obvious gear clash, drive the tractor in the normal manner.

COLD TEMPERATURE OPERATION

To start and operate your tractor during cold ambient temperatures, use these procedures:

1. BATTERY – Must have a full charge.

2. FUEL – Must be clean and with no water.

3. ENGINE OIL – Must have the correct viscosity for the ambient temperature range.

4. TRANSMISSION HYDRAULIC FLUID – See lubrication table in this manual.

5. COOLING SYSTEM – Must have ethylene glycol solution for protection.

6. TIRES – If there is liquid in the tires, the tires must have protection against temperatures below 0°C(32°F). See your Dealer.

7. STOPPING THE ENGINE – Run the engine at idle speed for a short period of time to permit the engine temperature to decrease before stopping.

8. CONDENSATION IN FUEL TANK – To prevent condensation in the fuel tank and water entering the fuel system, fill the fuel tank after each operating day.

9. FUEL FILTER CUP – During cold ambient temperatures, make sure you remove water from the fuel filter cup each day.

NOTE: Do not use ether as a cold temperature starting aid.

IMPORTANT: During cold ambient temperatures, never run the engine at low idle speed for long periods of time.

During cold ambient temperatures, the engine will not heat to or keep the rated operating temperature can cause damage to the engine. Use the following procedures to warm the engine and transmission oil, and to keep the correct operating temperature.

10. WARMING THE ENGINE AND TRANSMISSION.
    A. To heat the transmission oil to operating temperature, run the engine at 1500 RPM for approximately five minutes.

IMPORTANT: Operating the tractor with cold transmission oil can cause rough tractor operation with possible injury to the operator.

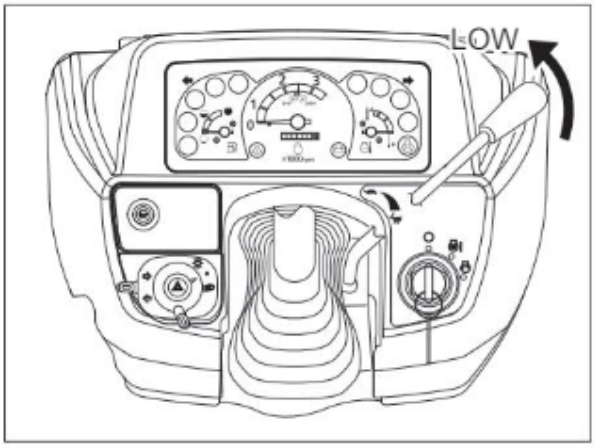
11. KEEP THE ENGINE AT CORRECT OPERATING TEMPERATURE.
    A. Never run the engine below 1500 RPM.
    B. Put a cover in front of the grille to control the amount of air going through the radiator.

12. STOPPING THE ENGINE
    A. Run the engine at slow speed for a short period of time. This will permit the engine temperature to decrease gradually before stopping the engine.

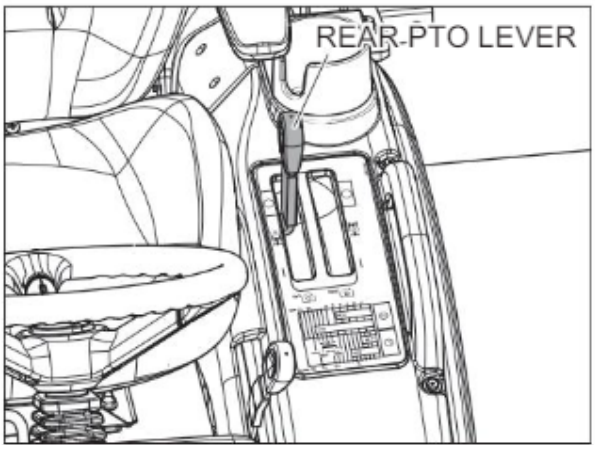
STOPPING THE ENGINE

IMPORTANT: When stopping the engine after operating under heavy load, run the engine at 1500 RPM for a short period of time. This will allow the engine temperature to decrease gradually.

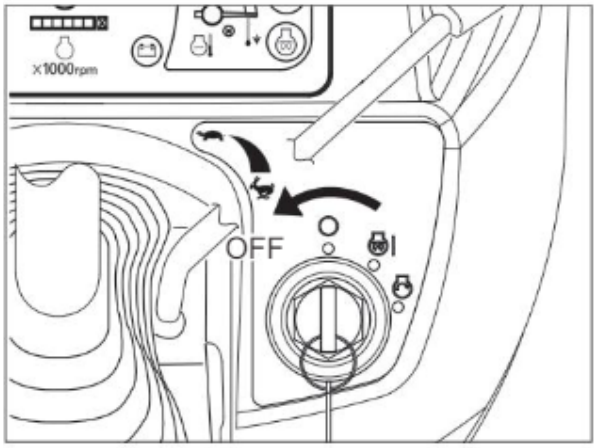
1. Move the engine speed control lever to run engine at low speed position for three to five minutes to decrease the temperature of engine.



2. Put the REAR PTO control lever, MID PTO control lever (If equipped) and the range shift lever in the OFF or N (neutral) position.

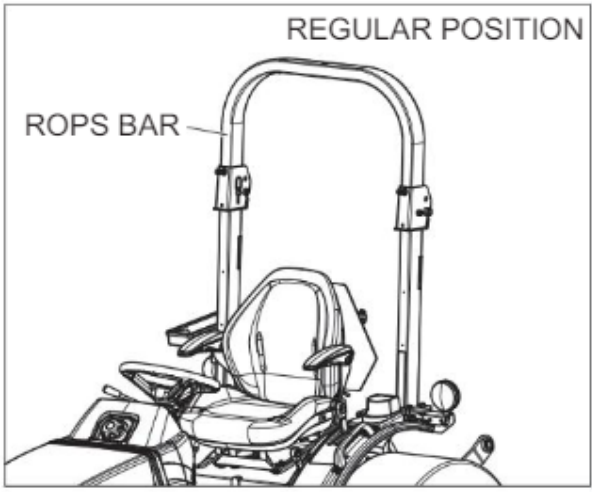


3. Turn key switch to OFF position. Remove the key.

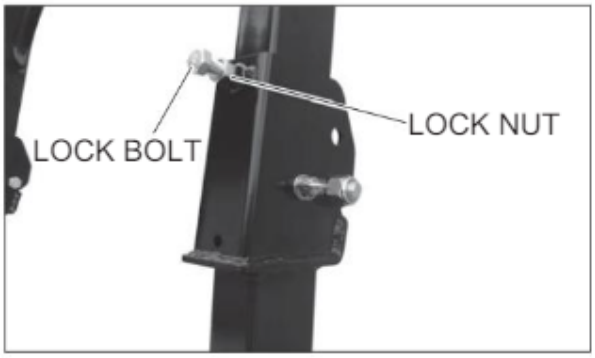


FOLDABLE ROPS FRAME

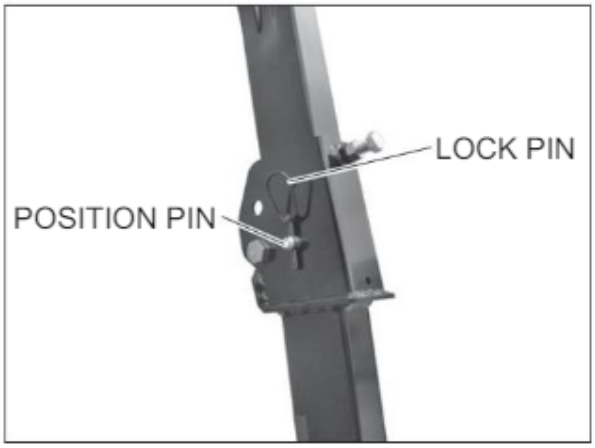
■ Holding and Adjustment



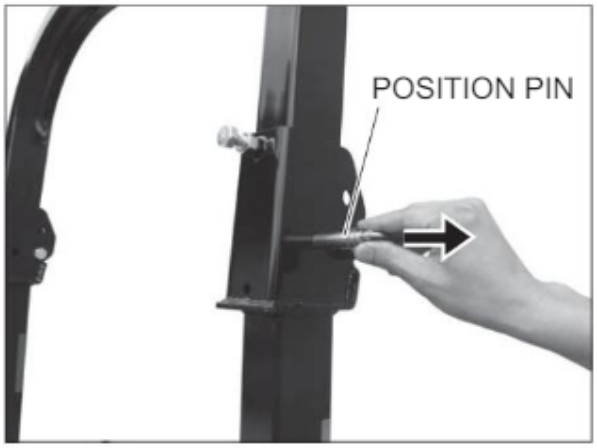
1. Loosen the lock nut and the lock bolt.



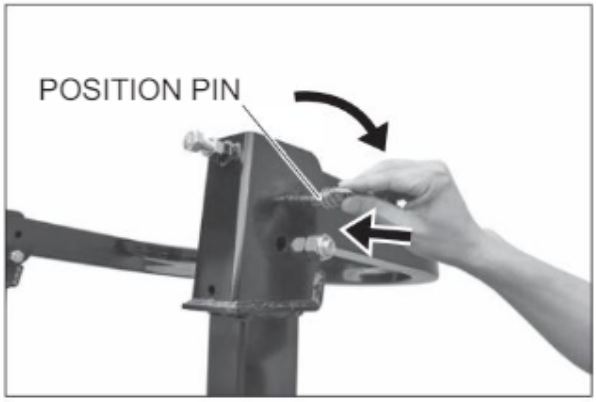
2. Remove the lock pin from the position pin.



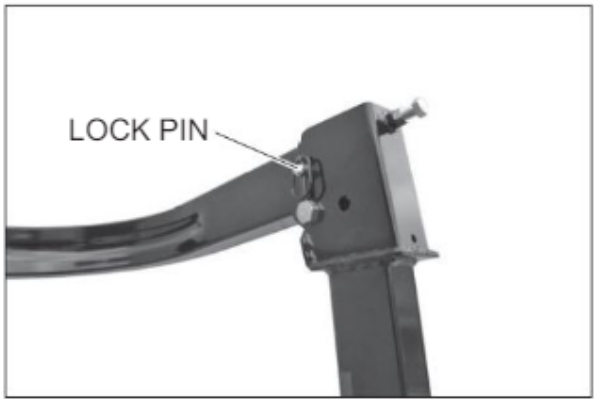
3. While holding the ROPS bar CAREFULLY remove the position pins.

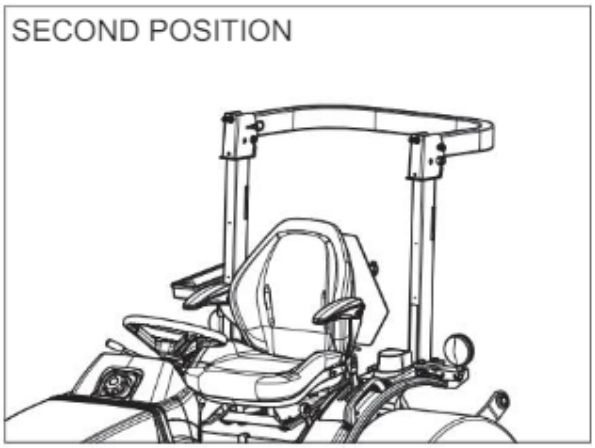


4. Down the ROPS bar slowly for the second position.
   While holding the ROPS bar carefully install the position pins.

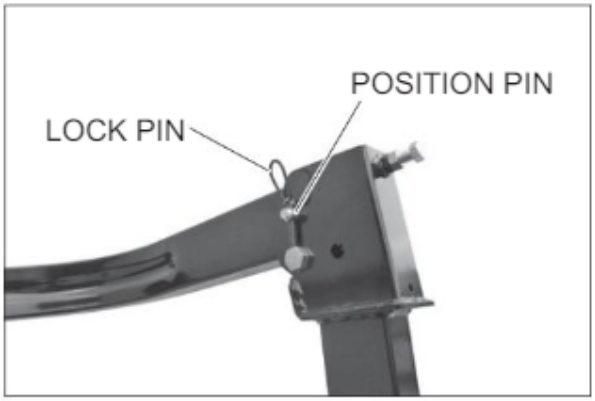


5. Install the lock pin to the position pin.

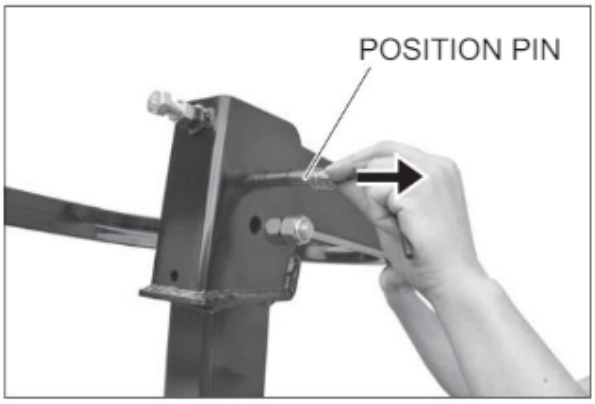




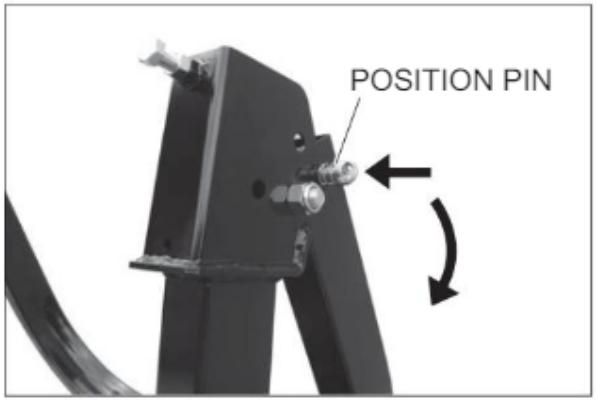
6. Remove the lock pin from the position pin.



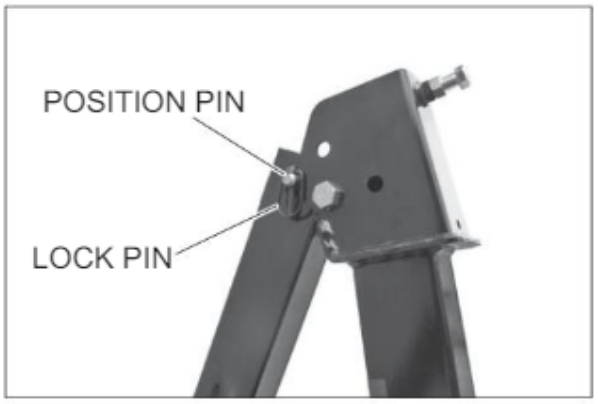
7. While holding the ROPS bar CAREFULLY remove the position pins.

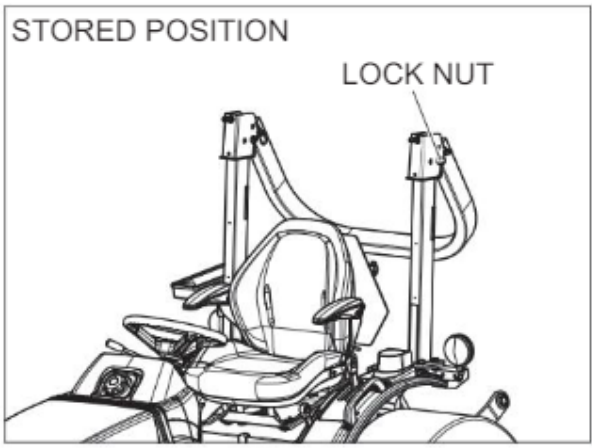


8. Down the ROPS bar slowly from the second position.
   While holding the ROPS bar carefully install the position pins.



9. Install the lock pin to the position pin.





Adjustment of Foldable ROPS.

If you feel less friction when the ROPS is at the upright position, tighten the Lock Nut until you feel the right friction in the movement.

⚠ WARNING

- **Make sure that the ROPS frame is securely fixed with the lock pins before starting operation for roll over protection.**
  Before proceeding to fold ROPS, check for any possible interference with installed implements and attachments.
  Otherwise, it could cause an accident, resulting in injury or death when the tractor rolls over or turns over due to improper operation.

NOTE: Genuine parts such as lock pin is available from your dealer.

TOWING THE TRACTOR

⚠ WARNING

- **Do not use heavier trailed vehicle than towing tractor in case the vehicle has not own brake. Otherwise, it could cause an accident due to increased stopping distance.**

When towing a tractor use the following procedures:

1. Make sure all controls are in the neutral position and the park brake is disengaged.

2. Use a rigid tow bar and safety chains to pull the tractor.
   Attach the tow bar and safety chains to the front tow hook.

3. Do not pull the tractor faster than 5 km/h (3 mph).

4. Disengage the mechanical front drive (MFD).

5. Disengage the differential lock.

6. [Shuttle Type]
   Make sure the shuttle lever and the main shift lever are placed in the neutral position.
   [HST Type]
   Make sure the HST pedal and the sub shift lever are placed in the neutral position.

NOTE: Check brake operation.

IMPORTANT: When the engine is not running, there is no power assistance to the steering.
Use extreme caution when towing with the engine stopped.

HOW TO TRANSPORT TRACTOR

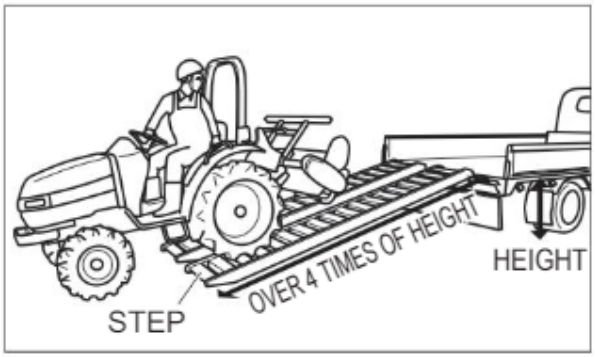
⚠ WARNING

- **Load and unload with presence and induction of assistant.**
- **Keep the tractor clear of children and people.**
- **Use a non-slip step with sufficient strength, width (sufficient for wheels not coming off), length (four time higher than the height of loading platform), and hook.**
- **Load and unload in flat place where the step does not incline by the weight of tractor.**
- **Hang the hook of step straight against the loading platform so that there is no gap with the loading platform and it does not scoot down.**
- **Do not change the driving direction on steps. Keep the tractor moving in the center of the steps. Serious accident and personal injury may occure by falling from the steps if the operator fails to do so.**
- **If the tractor requires to change the driving direction on steps, unload the tractor from the steps and adjust the direction.**
- **Do not use the main shift lever, clutch pedal, differential lock, and single brake during loading and unloading to the vehicle. The tractor may suddenly turn or fall.**
- **Load in reverse and unload in forward at low speed. Also, do not operate the steering wheel unnecessarily.**
- **When transporting the tractor on the track, apply parking brake and fix it with ropes.**

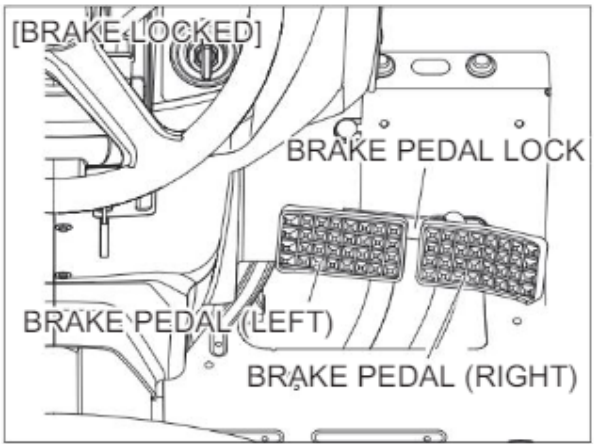
1. Use a vehicle which does not exceed its laden weight and is the sufficient size for not sticking out a part of the tractor when a tractor is loaded. Stop the engine of the vehicle, set the gear shift to “1” or “Reverse”, apply parking brake, and place a wheel chock.
2. Use a non-slip step with sufficient strength, width (sufficient for wheels not coming off), length (four time higher than the height of loading platform), and hook. Hang the hook of step straight against the loading platform according to the gap with tread of tires of tractor.

Specifications for step

Length	Four times higher or more than the height of the loading platform of vehicle
Width	More than 23.6 in {60cm}
Quantity	2
Strength	1 step is resistant enough for weight over 3308 lbf {1,500 kg}



3. Lock the both brake pedals together.



4. Make sure that differential lock is unlocked.

GEAR DRIVE TRANSMISSION (Shuttle Type Only)

The gear drive transmission has a forward and a reverse gear section and a four-speed main shift gear section, and a two-speed range section. This arrangement gives eight forward and eight reverse speeds.

■ Transmission Operation

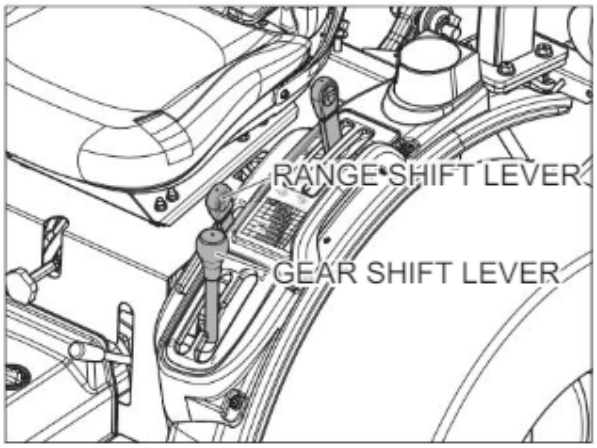
1. Push the clutch pedal and stop the tractor. Move the gear shift lever to the gear needed.

2. Move the range shift lever to the position needed, H, L (The tractor must be stopped before the range lever is operated.)

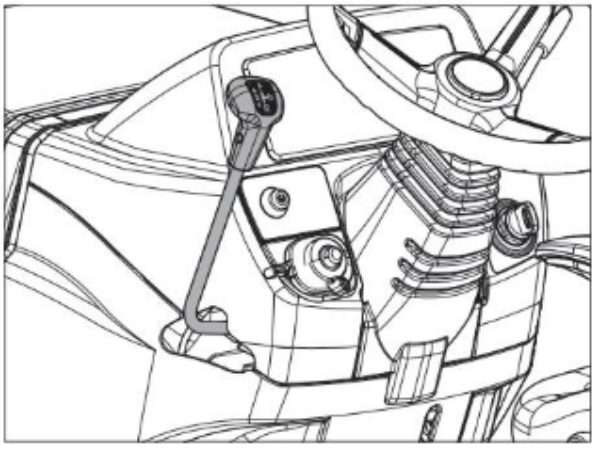
3. Move the shuttle lever to Forward or Reverse position.

4. Release the clutch pedal slowly.

[Range shift lever, Gear shift lever]



[Shuttle lever]



NOTE: When shifting from fourth range to another range, be careful not to run the engine at more than 2000 RPM.

IMPORTANT: Before selecting a new range, push the clutch pedal and stop the tractor. Do not change range when the tractor is moving.

HYDROSTATIC DRIVE TRANSMISSION (HST Type Only)

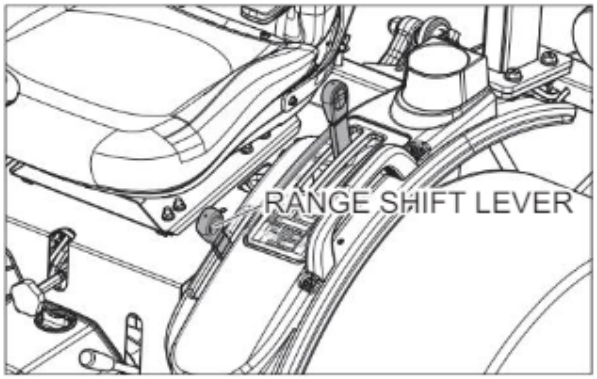
The Hydrostatic drive transmission has a forward/reverse hydrostatic section and a two-speed range section. This arrangement gives two forward and two reverse speeds ranges.

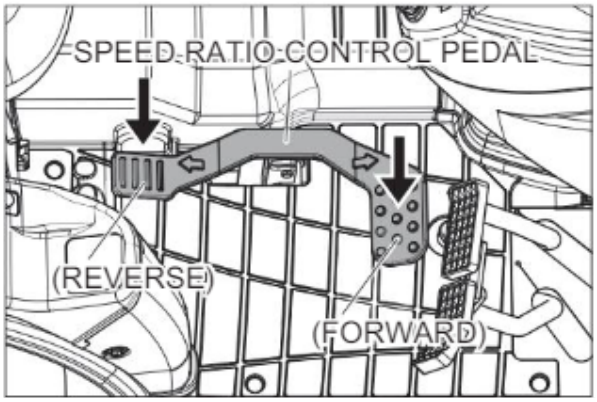
■ Transmission Operation

1. Push the clutch pedal fully and stop the tractor. Move the range shift lever to the position needed, H or L.

2. Release the clutch pedal slowly.

3. Operate the speed ratio control pedal to move the tractor.
   To shift from reverse to forward or from forward to reverse, reduce the speed and switch to depress the speed ratio control pedal one from the other.





IMPORTANT: Before selecting a new range, stop the tractor and push the clutch pedal. Do not change range when the tractor is moving.

⚠ WARNING

- **Do not change the running direction near ditches, embankments and holes.**
  If you operate inappropriately, the tractor could move in unexpected direction, causing an accident.
- **Select an appropriate speed to control the tractor completely and stably. Reduce speed when turning, crossing slopes, and running on rough, slick or muddy surfaces.**
  Otherwise, it could cause an accident.

HYDROSTATIC SPEED LOCK LEVER (HST Type Only)

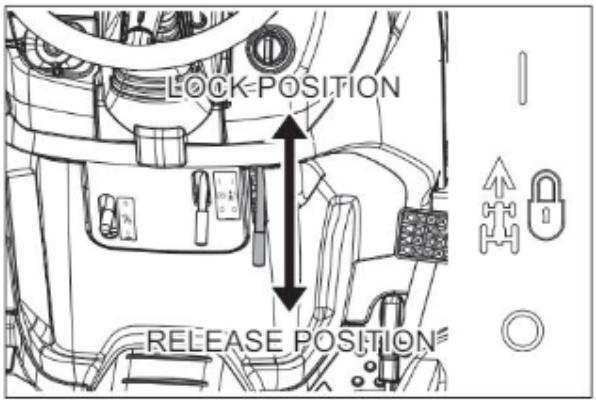
The speed ratio control pedal of hydrostatic drive has a speed lock lever.
This lever is used to keep a constant forward speed without controlling the pedal. It can not be used for reverse speed. The lever is located under the instrument panel. Operate the speed lock lever as follows:

1. Determine forward speed as you need by pressing the speed ratio control pedal forward.

2. Move the lock lever upward to lock the position of the pedal. (It can keep the forward speed constant).

3. Remove your foot from the pedal.

4. To release the lock, move the lock lever downward.



NOTE: The speed ratio control pedal will return to neutral position and the tractor will stop If your foot is not on the pedal.

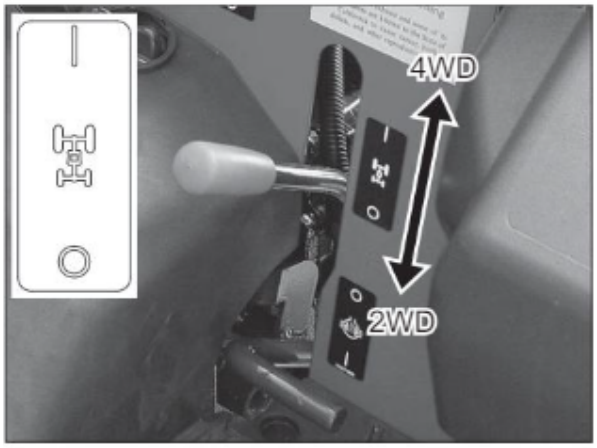
5. Increase of forward speed, speed ratio can be obtained to max. speed by pressing the pedal forward while the lock lever is in lock position.
   However, decrease of forward speed ratio or change to reverse speed can not be obtained, while the lock lever is in lock position.

6. To decrease forward speed ratio or change to reverse speed, put your foot on the pedal first, then release the lock lever. Control speed ratio or direction with the foot pedal.

NOTE:

1. The lock lever can not be released by pressing the brake pedal.
2. The lock lever can not be released by pressing the hydrostatic speed ratio control pedal.
3. Make sure to keep the lock lever in the off position when starting the tractor.
4. Return the lock lever to the off position when stopping the tractor.

MECHANICAL FRONT DRIVE (4WD)



Use the 4WD to obtain improved traction in loose, sandy or wet soil conditions. 4WD will also give improved steering control and will reduce soil compaction. 4WD can be engaged or disengaged as needed by the 4WD control lever located on the LH side below the operators seat.

To engage the 4WD, press the clutch pedal down, stop the tractor and move the 4WD control lever up to the ON position.

IF THE 4WD IS DIFFICULT TO ENGAGE, DO THE FOLLOWING:

1. Push the clutch pedal.
2. Move the range shift lever to L range.
3. Release the clutch pedal slowly, move the tractor forward or rearward small amount.
4. Move the 4WD control lever up until fully engaged with proper force.

To disengage the 4WD, push the clutch pedal, stop the tractor and move the 4WD control lever down to the OFF position.

IF THE 4WD IS DIFFICULT TO DISENGAGE, DO THE FOLLOWING:

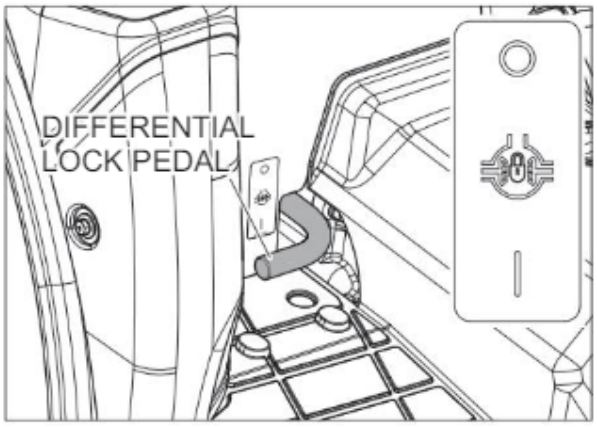
1. Move the range shift lever to L range.
2. Slowly release and press the clutch pedal to move the tractor forward or rearward small amount.
3. Push the clutch pedal and stop the tractor.
4. Move the 4WD control lever down until completely disengaged.

⚠ WARNING

· Do not go up a steep slope in the forward direction even though 4WD is more powerful than 2WD.
Otherwise, the tractor will roll backward, causing an accident.

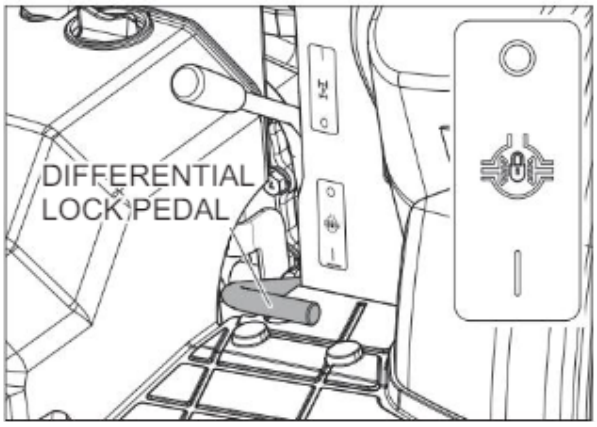
DIFFERENTIAL LOCK

[Shuttle Type]



RIGHT SIDE of the transmission

[HST Type]



LEFT SIDE of the transmission

Your tractor has a differential lock that will make both rear wheels turn at the same speed. The differential lock prevents loss of power when one wheel does not have traction but the other wheel does have traction. It also provides a straight in line steering aid when opening up the field and to control implement overlap.

TO ENGAGE THE DIFFERENTIAL LOCK:
Depress and hold the differential lock pedal down.

IMPORTANT: Do not engage the differential lock while one rear wheel is rotating and the other rear wheel is stopped. Always stop the wheel that is rotating and then engage the differential lock.

IMPORTANT: When you engage or disengage the differential lock, the front wheels must be in the straight forward position. Before turning the tractor, disengage the differential lock.

TO DISENGAGE THE DIFFERENTIAL LOCK:
The differential lock will disengage when the differential lock pedal is released. If the differential lock does not disengage easily, push down on either brake pedal instantaneously.

⚠ WARNING

- **Do not engage the differential lock when travelling on a road or operating at a high speed.**
  Otherwise, the steering will be disabled, causing an accident.

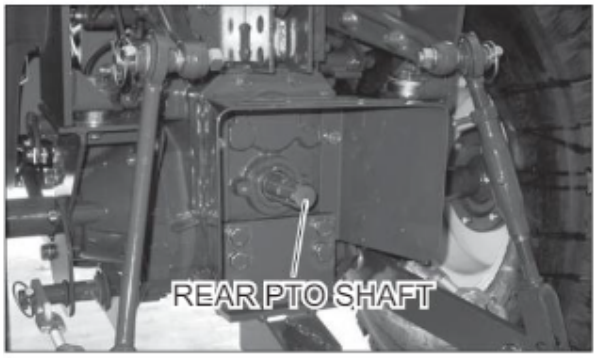
POWER TAKE OFF (REAR PTO)

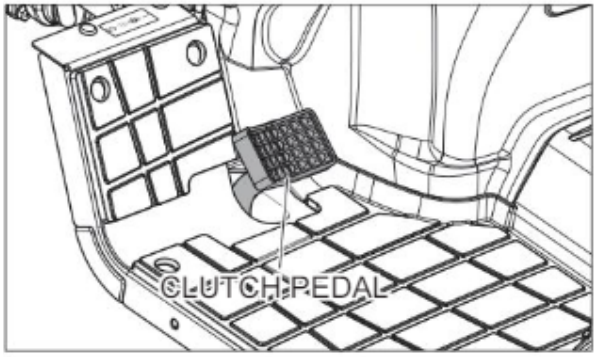
⚠ WARNING

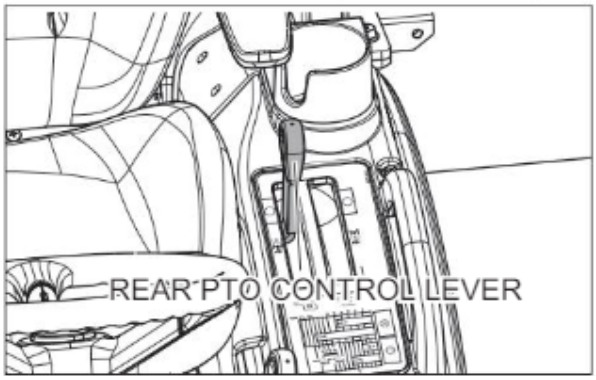
- **Be sure to move the PTO control lever to the OFF position and stop the engine and allow all rotating components to come to a complete stop before working on or near the PTO shaft, or servicing, inspecting or cleaning the PTO driven implement. During PTO driven machinery working, stay clear of rotating parts and install required safe cover. Otherwise, it could cause serious injury or death due to entanglement, etc.**

■ Rear PTO

The rear PTO is a 540 RPM with a 34.9 mm (1 3/8 inch) diameter 6 spline output shaft.







ENGAGE THE REAR PTO AS FOLLOWS:

1. Push the clutch pedal fully.
2. Move the PTO control lever to the ON position.
3. Release the clutch pedal slowly.

DISENGAGE THE REAR PTO AS FOLLOWS:

1. Push the clutch pedal fully.
2. Move the PTO control lever to the OFF (Engine Start) position.
3. Release the clutch pedal slowly.

NOTE: Keep the PTO control lever in the OFF (Engine Start) position when starting the engine and when the PTO is not being used.

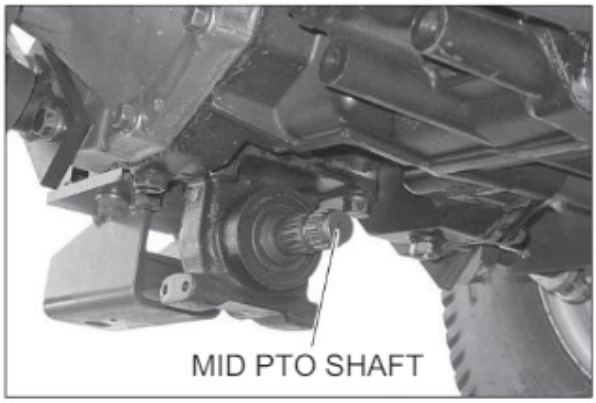
The following table shows the required speed to get the required Rear PTO output shaft speed.

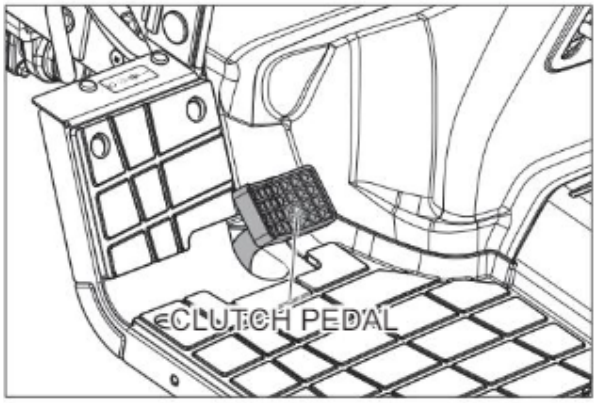
PTO Output Shaft Speed	Required Engine Speed
540 RPM	2376 RPM

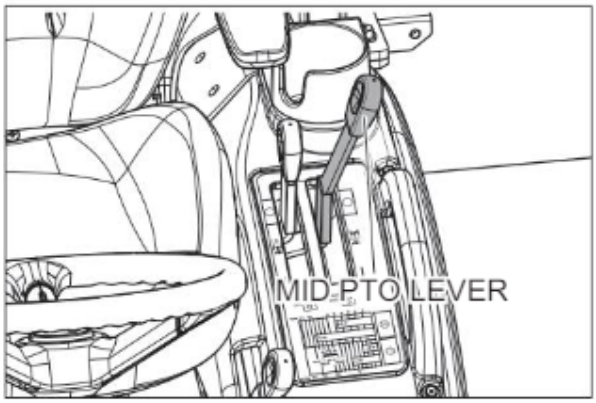
POWER TAKE OFF (MID PTO)

■ Mid PTO (IF EQUIPPED)

The Mid PTO has a 25.4 mm (1 inch) diameter 15 spline output shaft.







ENGAGE THE MID PTO AS FOLLOWS:

1. Push the clutch pedal fully.
2. Move the Mid PTO control lever to the ON position.
3. Release the clutch pedal slowly.

DISENGAGE THE MID PTO AS FOLLOWS:

1. Push the clutch pedal fully.
2. Move the Mid PTO control lever to the OFF (Engine Start) position.
3. Release the clutch pedal.

NOTE: Keep the Mid PTO control lever in the OFF (Engine Start) when starting the engine and when the PTO is not being used.

The following table shows the required engine speed to get the required Mid PTO output shaft speed.

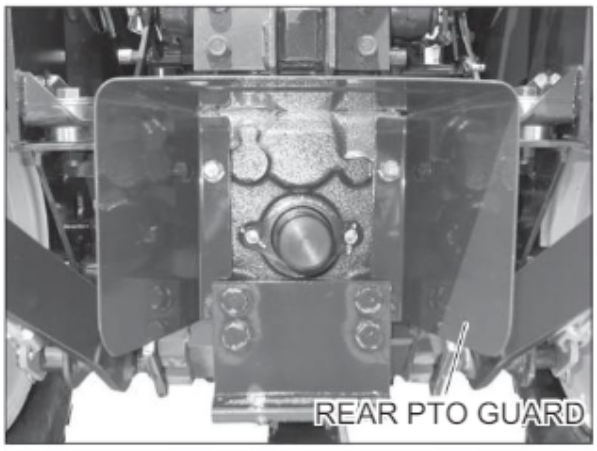
Mid PTO Output Shaft Speed	Required Engine Speed
2000 RPM	2526 RPM

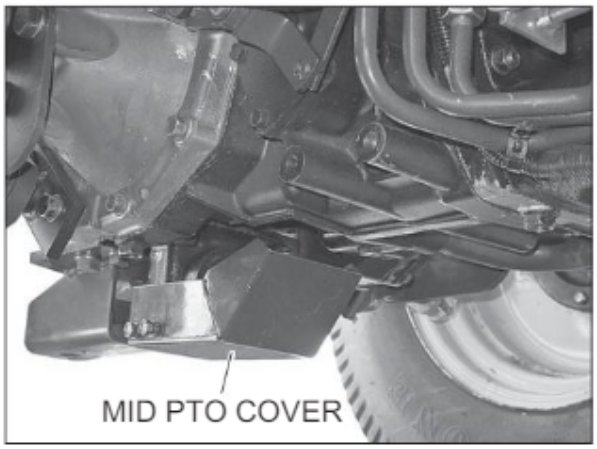
POWER TAKE OFF GUARDS

⚠ WARNING

- **Do not remove the PTO guard.**
  If the PTO guard must be moved upward or removed due to installation of attachment such as pump, be sure to install an extended shielding equivalent to the PTO guard to the attachment.
  Also, install the PTO guard and PTO shaft cap to the original position immediately after the attachment is removed.
  Otherwise, it could cause serious injury or death due to entanglement.

All tractors have a safety guard for the Rear PTO shaft and safety cover for the Mid PTO shaft.





STATIONARY REAR PTO WORK

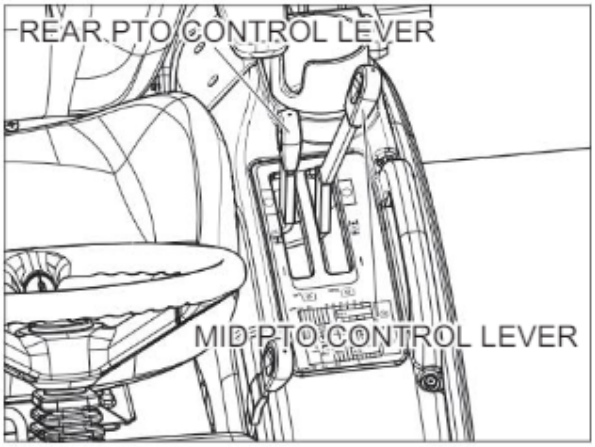
⚠ CAUTION

- **Be sure to move the Mid PTO control lever to the OFF position before leaving the operator's seat.**
  Otherwise, the safety system will stop the engine automatically and the battery will run down or be dead.

According to the following instructions, use the Rear PTO for chipper, pump, or other stationary implements.

In this way, only the Rear PTO can be used.

1. Set the blocks at the tires.
2. Sit on the operator's seat.
3. Apply the parking brake.
4. Make sure the all operating control levers are in "N" or "OFF".
5. Depress the clutch pedal and start the engine.
6. Shift the Rear PTO control lever to "ON".
7. Adjust the proper engine speed for the Rear PTO work.
8. Leave the operator's seat.



PTO OPERATING SAFETY

⚠ WARNING

- **Be sure to move the PTO control lever to the OFF position and stop the engine and allow all rotating components to come to a complete stop before working on or near the PTO shaft, or servicing, inspecting or cleaning the PTO driven implement.**
  Otherwise, it could cause serious injury or death.
- **When getting off the tractor with the PTO in operation during the stationary PTO work, always apply the tractor parking brake, place chocks behind and in front of the rear wheels, and stay clear of all the moving parts.**
  Never step over rotating parts.
  Otherwise, it could cause serious injury or death.

For the safe operation of the PTO, follow these safe operating procedures.

■ Three Point Hitch Connecting Implements

1. Connect the implement to the hitch. See THREE POINT HITCH SYSTEM in this manual.
2. Connect the implement driveline to the tractor.
3. Check the driveline for correct length and for free telescopic movement by lifting and lowering hitch system. The correct length is important to prevent the driveline from hitting bottom or from separating in any tractor implement operating position.

■ Drawbar Connecting Implements

1. Connect the implement hitch to the drawer with a hardened steel pin. Make sure the pin is securely held in place with a cotter pin or lock pin and does not make contact with the implement driveline.
2. Connect the implement hitch to the tractor drawbar before connecting the implement driveline to the PTO.
3. Connect the implement driveline to the tractor. Check the driveline for correct length and for free telescopic movement. The correct length is important to prevent the driveline from hitting bottom or from separating in any tractor or implement operating position.

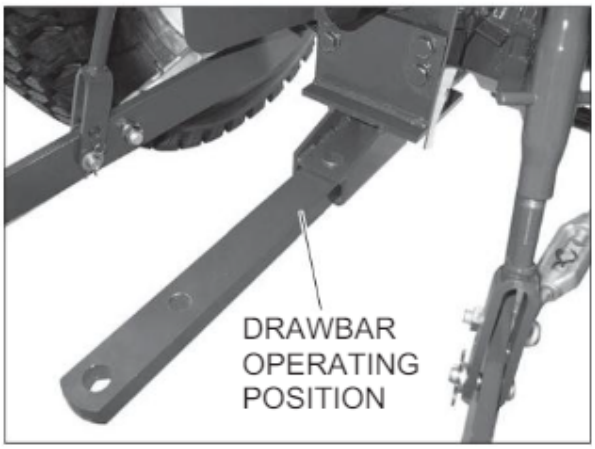
IMPORTANT: Follow the implement manufacturers recommendations in adjusting and aligning the implement and implement driveline with the tractor.

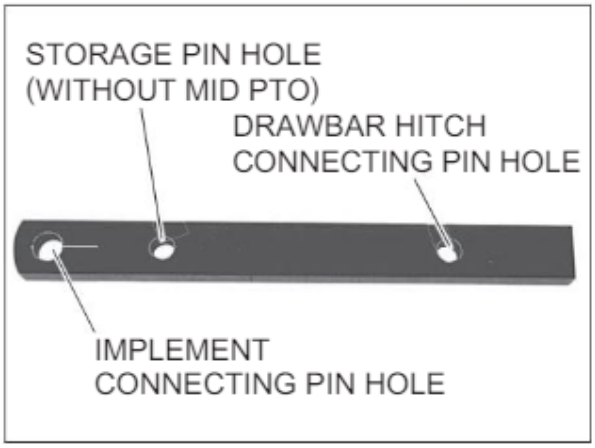
DRAWBAR

⚠ WARNING

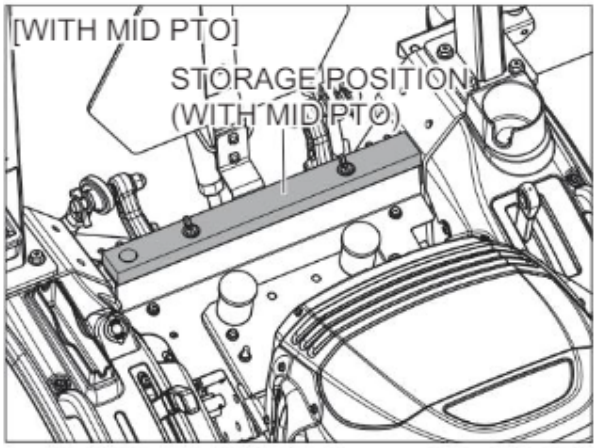
- **When a heavy implement is installed to the drawbar, add front end weights to the tractor to keep balance.**
  Otherwise, the tractor could roll backward.
- **Engage the clutch smoothly and use the brakes cautiously during traction.**
  When the implement is raised, the implement may not stabile. Travel slowly, regardless of how much ballast is used.
  Otherwise, it could cause an accident due to jerking and jackknifing.
- **Be sure to use the drawbar for traction. Use 3 Point hitch only with a traction implement designed for its use not as a drawbar.**
  Never pull other points other than above.
  If not use the drawbar or 3 point hitch, rear upset may happen.

Your tractor is equipped with a drawbar. Use the drawbar for connecting all pull-behind implements.





The drawbar must be in the storage position when using the three-point hitch.

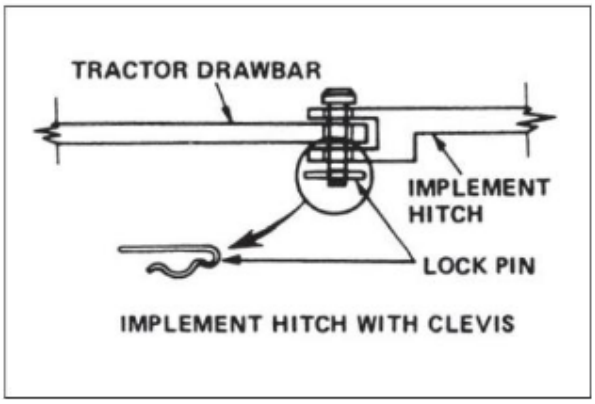


CONNECTING IMPLEMENT TO DRAWBAR

The correct connection of the implement to the drawbar will prevent stress on both the tractor and the implement.
To assure proper tractor operation and optimum implement performance, the implement must be connected to the drawbar correctly.

1. Connect pull-behind implements to the drawbar only.

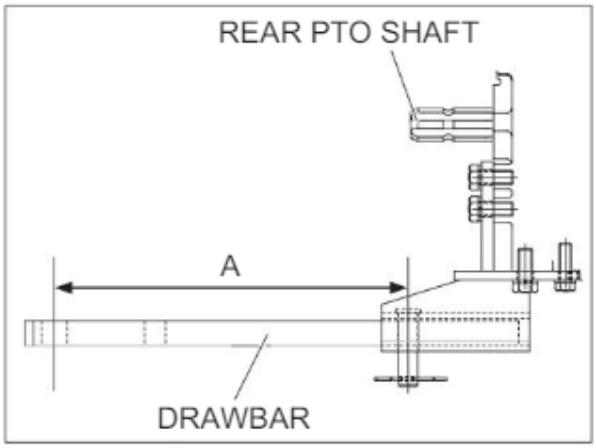
2. Use a hardened steel hitch pin to connect the implement to the drawbar. Make sure the pin is held securely in place with a lock pin.



IMPLEMENT HITCH WITH CLEVIS

3. When working with the drawbar, raise the lower links as high as possible to prevent interference between the lower links and the implement.

4. The drawbar provides the standard hitch distance from the end of the PTO shaft to the centerline of the rear hole in the drawbar. This is necessary for safe PTO operation of trailing type equipment.

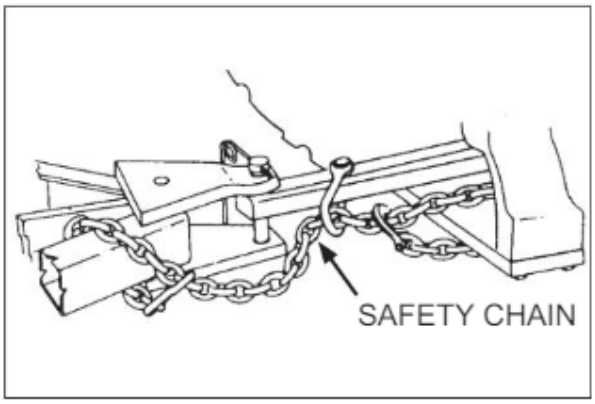


PTO RPM	PTO SHAFT DIAMETER	DIMENSION A
540	1.375 In (34.9 mm)	14 In (358 mm)

IMPORTANT: The maximum fixed drawbar vertical load is 325 kg(715 lbs)

SAFETY CHAIN

When towing equipment on a highway, use a safety chain as an auxiliary connection between the tractor and the towed equipment. The safety chain must have a rating greater than the gross load of the towed equipment. Connect the chain to the tractor drawbar support and the towed equipment as shown in the illustration. Check the adjustment of the safety chain by turning the tractor completely to the right and left. Adjust the chain as necessary.



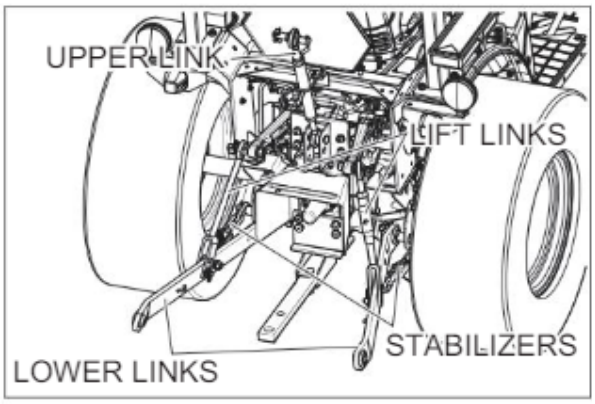
FIELD OPERATION

THREE POINT HITCH SYSTEM

The three point hitch system gives position control of implements.
This tractor is equipped with a category I hitch.

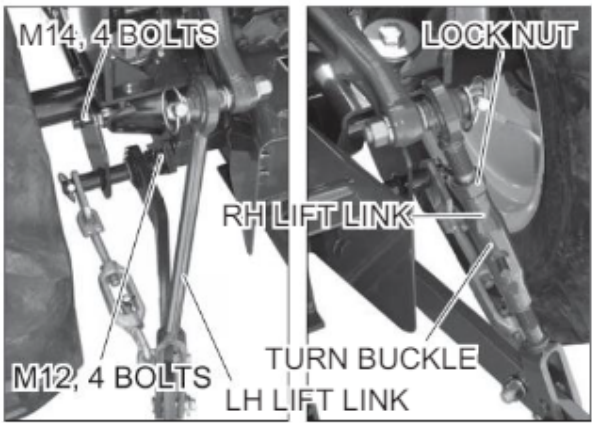
HITCH SYSTEM ADJUSTMENTS

The upper and lower links must be adjusted correctly so the implement can work at the needed depth and the links are free to move up and down with the shape of the ground.



■ Lift Links

1. Connect the lift links to the tractor and to the lower links. Make sure the lift links are installed on the proper side as shown.
2. The RH side lift link is adjustable by the turnbuckle to obtain the desired position of the hitch point.
   Turn the turnbuckle clockwise to shorten the link or counterclockwise to lengthen the link.

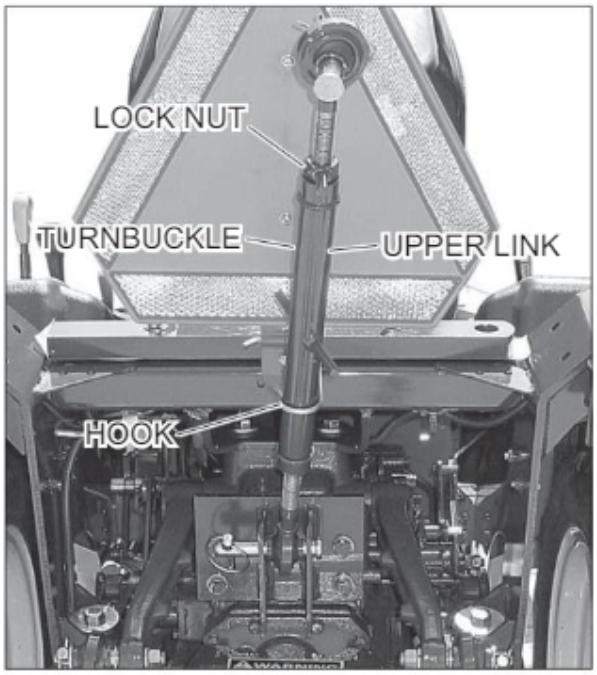


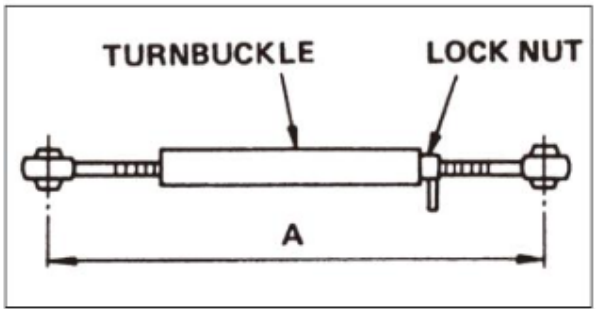
IMPORTANT: After the lift link is adjusted, make sure the locknut is tightened against the turnbuckle.

■ Upper Link

The length A of the upper link can be adjusted from 446 to 695 mm (17.6 to 27.4 inches).

Turn the turnbuckle clockwise to shorten the link or counterclockwise to lengthen the link.



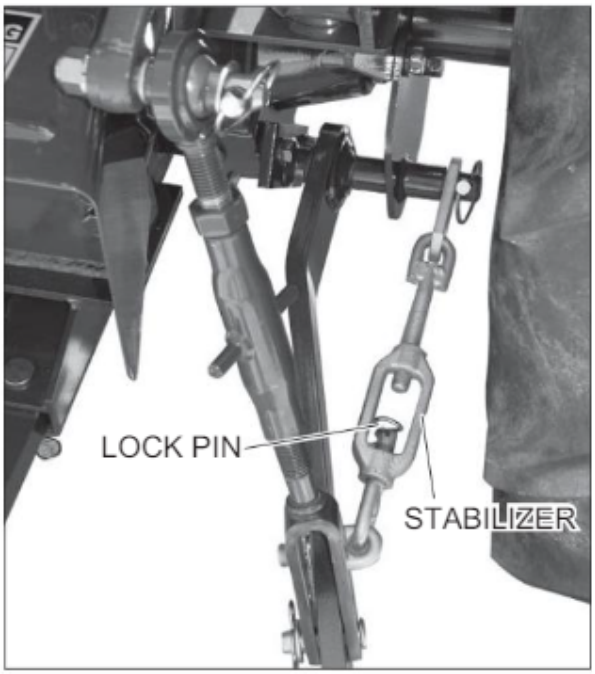


IMPORTANT: After the upper link is correctly adjusted, make sure the lock nut is tightened against the turnbuckle.

■ Stabilizer

When side movement of the hitch is undesirable or hazardous, the lateral swing is adjusted by the turnbuckle on the stabilizer.

Turn the turnbuckle clockwise to lengthen the stabilizer or counterclockwise to shorten the stabilizer.

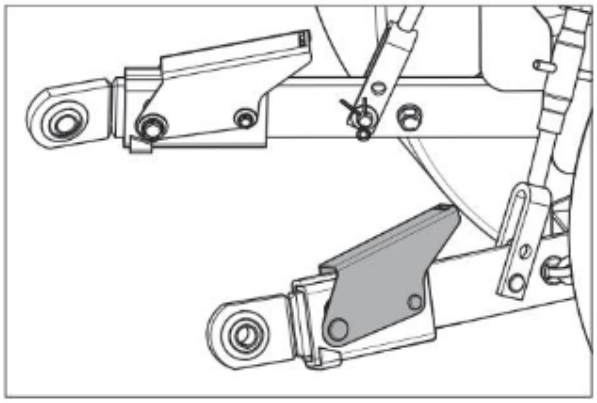


IMPORTANT: After making final adjustments carefully raise the implement to make sure that there is proper clearance between the implement and tractor components.

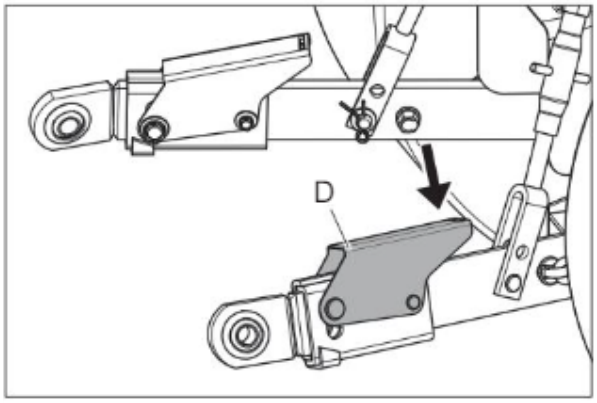
NOTE: Make sure the lock pin is installed after adjusting the stabilizer.

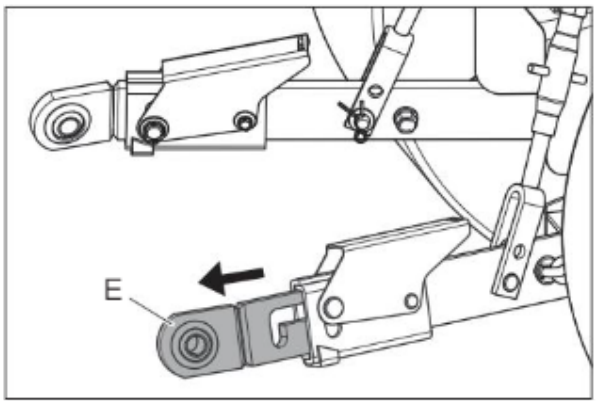
■ Telescopic Lower Links (IF EQUIPPED)

Telescopic Lower Links are provided for ease of hitching the implement as follows:



1. Slowly back tractor into position to align the telescopic lower links with implement pins.
2. Park tractor safely.
3. Press the bracket (D) in telescopic lower link and pull link (E) to extend as needed.





4. Connect telescopic lower links to the implement. Sit on Operator's seat and start engine.
5. Back tractor until each lock lever snaps and secures each telescopic lower link in the lock position.

HITCH OPERATION

■ Connecting Implement to Hitch

⚠ WARNING

- **Be careful that no object exists between the tractor and implement when moving the 3 point hitch.**
- **Keep well away from the linkage and implement when operating the 3 point hitch. Otherwise, injury may occure due to contacting with moving equipments.**
- **Clearance zone may not be obtained depending on the movement of the implement installed.**
- **Usage varies from product to product. Use the implement by the proper method in accordance with the individual operator`s manual.**

To connect an implement to the hitch, use the following procedure:

NOTE: Be sure the tractor and implement are on level ground.

1. Put the drawbar in the storage position.
2. Slowly move the tractor backwards to the implement.
3. When the hitch points on the tractor and implement are in the correct position, stop the tractor.
4. Apply the park brake and stop the engine.
5. Connect the implement to the Upper and Lower Links.
6. Adjust the Upper and Lower Links as necessary. See Hitch System Adjustments in this manual.

■ Disconnecting Implement from Hitch

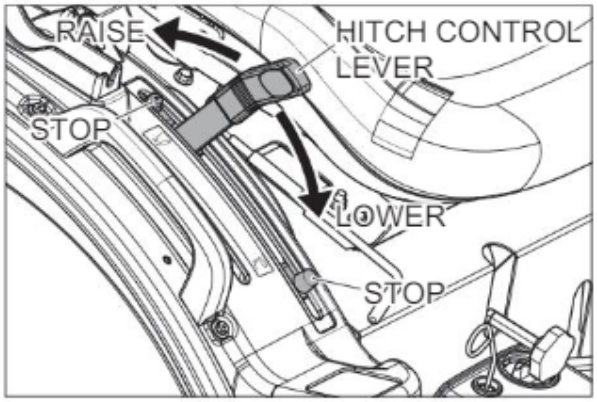
To disconnect an implement from the hitch, use the following procedure:

NOTE: Be sure the tractor and implement are on level ground.

1. Stop the tractor completely and apply the park brake.
2. Disengage the PTO, lower the implement to the ground.
3. Gear Drive: Place the gear shift and range shift levers in Neutral.
   Hydrostatic Drive: Release the speed lock lever, and place the range shift lever in Neutral.
4. Stop the engine and remove the key from the key switch before leaving the tractor.
5. Disconnect the implement from the hitch.

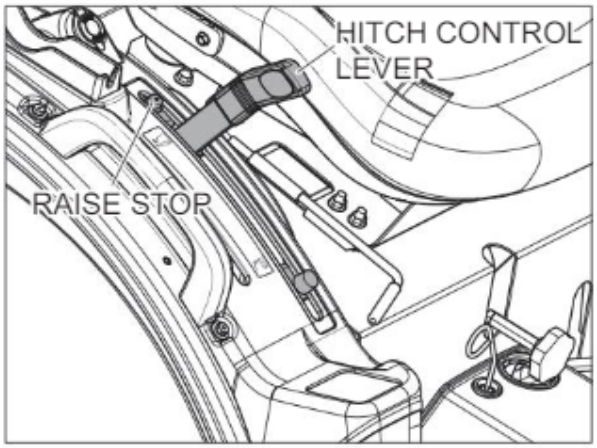
NOTE: Be sure the tractor and implement are stable and free from any tendency to roll over.

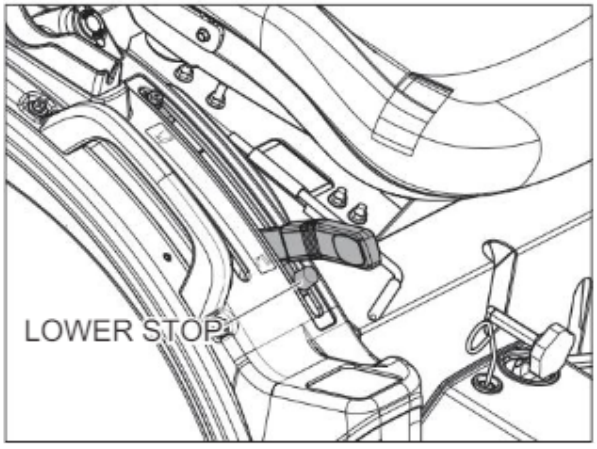
■ Hitch Control Lever



The hitch control lever is used to raise or lower the implement mounted to the three point hitch. To raise the hitch, move the lever to the rear. To lower the hitch, move the lever forward.

Adjustable stops are provided for use whenever it is desirable to return the hitch control lever to the same operating position.





IMPORTANT: The position of the raise stop should not be set so rearward that a insufficient free play of the lift arms is available at the highest position when hitch control lever is moved until the lever is reached to the raise stop.

■ Hitch Lowering Speed Adjustment

⚠ WARNING

- **Do not leave the tractor with the implement lifted.**
  If the lifted implement is not lowered unexpectedly, it could cause serious injury or death.
- **If it is necessary to servicing, inspecting or cleaning the implement in the lifted position, stop the engine, set the hydraulic flow control knob to the LOCK position and move the hitch control lever forward to make sure that the implement does not lowered. Also, put jack stands under the implement.**
  If the lifted implement is not lowered unexpectedly, it could cause serious injury or death.
- **Be sure to lift the implement and set the hydraulic flow control knob to the LOCK position when traveling the tractor.**
  If the lifted implement is lowered unexpectedly, it could cause serious injury or death.

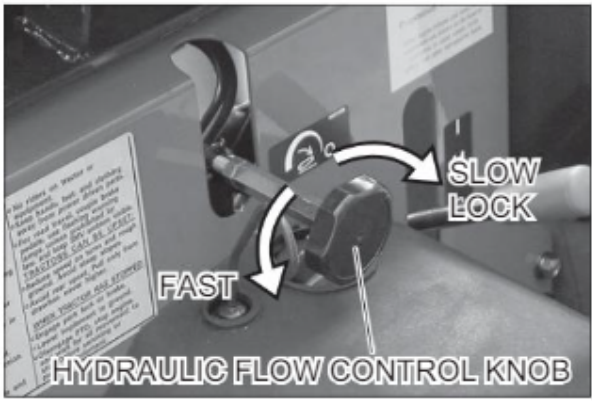
To adjust the hitch lowering speed, use the following procedure:

1. Move the hitch control lever forward to lower the implements.

2. Turn the hydraulic flow control knob to adjust the lowering speed. Turn the knob counter clockwise to increase the lowering speed. Turn the knob clockwise to decrease the speed or lock the hitch.

3. After adjusting the speed, raise the hitch and then lower it to check the speed.

3. After adjusting the speed, raise the hitch and then lower it to check the speed.



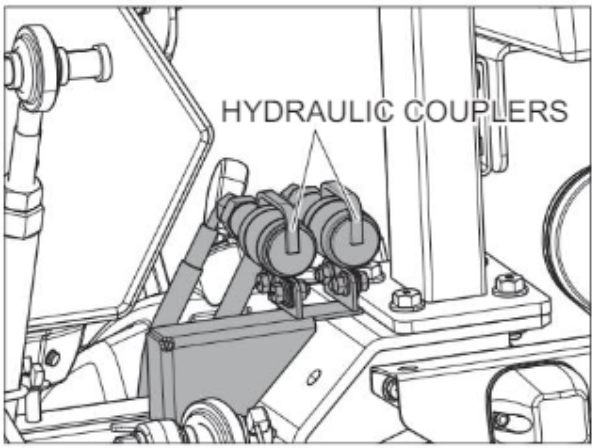
NOTE: When transporting the tractor on the road with the implement mounted on the three point hitch, always set hydraulic flow control knob to the LOCK position.

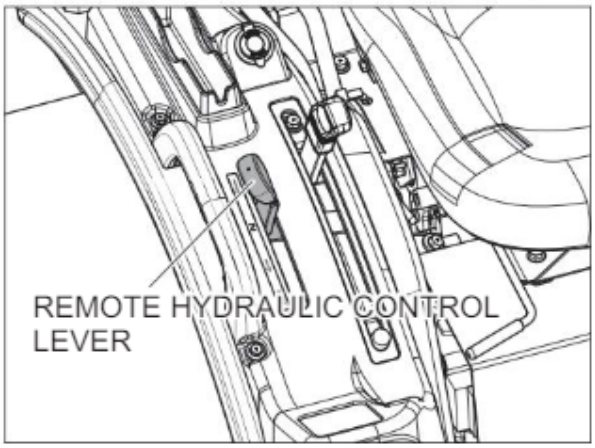
IMPORTANT: Never park a tractor with an implement in the raised position. Moving the hitch control lever forward will lower the implement even though the engine is not running. If it is necessary to service the implement in the raised position, use jack stands to safely block the implement in place. Put the hydraulic flow control knob in the LOCK position.

REMOTE HYDRAULIC CONTROL VALVE (IF EQUIPPED)

A double acting remote hydraulic control valve with a "float position", is available from your Dealer.
If equipped, the control lever is located on the right side.

Connect the implement hoses to the remote hydraulic couplers so that the implement lowers when the control lever is pushed forward and raises when the lever is pulled rearward.
Switch the hoses if the implement works in the opposite way.





REMOTE HYDRAULICS OPERATION

■ Float Operation

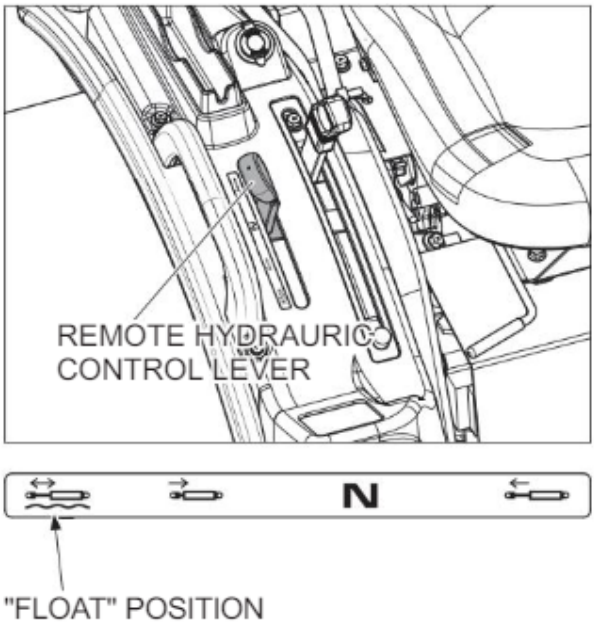
To operate the remote hydraulics in a float condition, move the control lever fully forward to the detent position.

The lever will not return to neutral automatically when in the float position.

IMPORTANT: If implement is attached that has single acting cylinders, always use the "FLOAT" position when lowering. Continual use of the "LOWER" position will cause overheating and possible damage to the hydraulic system.

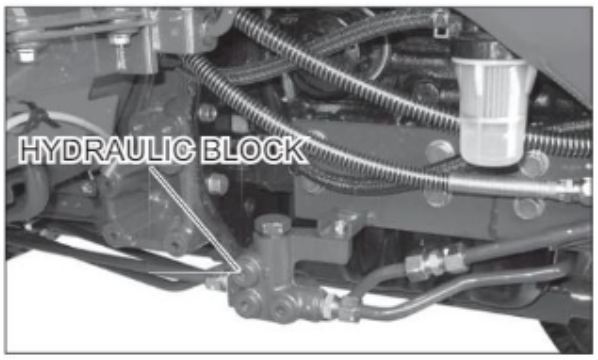
NOTE: The control lever for the remote hydraulic valve must be in the neutral for the three point hitch to operate.

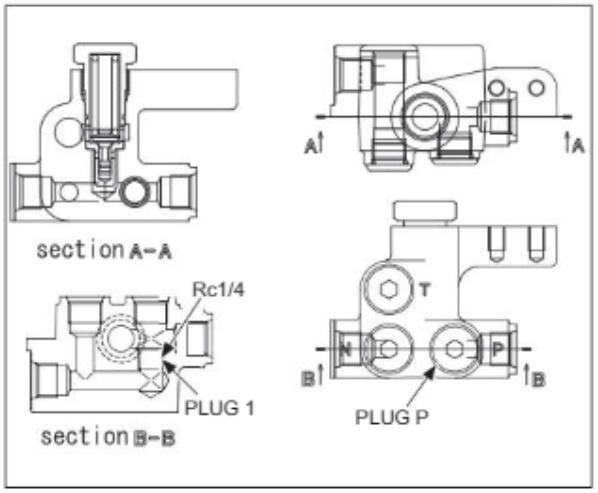
IMPORTANT: Never park a tractor with an implement in the raised position. Moving the control lever forward will lower the implement even though the engine is not running. If it is necessary to service the implement in the raised position, use jack stands to safely block the implement in place. Put the hydraulic flow control knob in the LOCK position.



HYDRAULIC BLOCK

A hydraulic block is located on the right side of the tractor. This block can provide an external hydraulic circuit for loader use or other applications. See your dealer.





IMPORTANT: Never park a tractor with an implement in the raised position. Moving the hitch control lever forward will lower the implement even though the engine is not running. If it is necessary to service the implement in the raised position, use jack stands to safely block the implement in place. Put the hydraulic flow control knob in the LOCK position.

IMPORTANT:

Remove the Plug P when the loader and the hydraulic block are used.

Installing plug 1 to the Rc1/4. (tightening torque 21to29N•m{15to21Lb•ft})

(Do not close the port in the hydraulic block when there is no plug 1.)

When Remote attachment is not installed, remove plug1. Afterwards, install Plug P. (tightening torque 49to58.8N•m{35to44 Lb•ft})

When the above is neglected, the hydraulic apparatus will be disadvantaged

Plug 1 is provided by the Loader manufacturer.

■ Adding Fluid after Connecting Cylinders and Hoses

⚠ WARNING

- When a cylinder or hoses is connected to the hydraulic system, cycle the control lever (such as the aux. valve levers, loader valve levers) more than five times to remove air from the cylinder or hose.
  If there is air left in the cylinder or hose, the lifted implement could be lowered unexpectedly, causing serious injury or death.
- Be sure to observe the following to prevent injury.
  - Make sure that fluid lines and fuel lines are securely connected before applying pressure.
  - Remove pressure completely from all the fluid lines before disconnecting them.
  - Use safety goggles or other eye protection to check the leakage. Not use your hand.
    Fluid Escaping hydraulic fluid under pressure from a pinhole may causes to penetrate skin.
    If injured or allergic reaction by leaking fluid, see your doctor immediately.
- Be sure to lower the implement to the ground before disconnecting the cylinder or hose.
  If the lifted implement is lowered unexpectedly, it could cause serious injury or death.
- Do not leave the tractor with the implement lifted.
  If the lifted implement is lowered unexpectedly, it could cause serious injury or death.
- When servicing, inspecting or cleaning the implement in the lifted position, stop the engine, set the hydraulic flow control knob to the LOCK position and move the hitch control lever forward to make sure that the implement does not lowered.
  Also, put jack stands under the implement.
  If the lifted implement is lowered unexpectedly, it could cause serious injury or death.

Operate the engine at a moderate idle speed. Set the stroke stop at the yoke end of the cylinder rod to provide maximum stroke. Then operate the cylinder in both directions about five times at least by moving the control lever up and down.

This will fill the cylinder and hoses with fluid and remove the air from the system. Fill the cylinder completely, stop the engine and check the fluid level with the transmission dipstick.

Add sufficient, clean specified fluid to bring the oil up to the proper level.
See TRANSMISSION AND HYDRAULIC LUBRICATION in this manual.

NOTE: If any of the hydraulic units are removed and replaced for any reason, check the oil level and add the specified fluid to the transmission to bring the oil up to the proper level.

TIRES/WHEELS/SPACING/BALLAST

TIRE AND RIM EQUIPMENT

■ Tire Inflation Specifications

⚠ WARNING

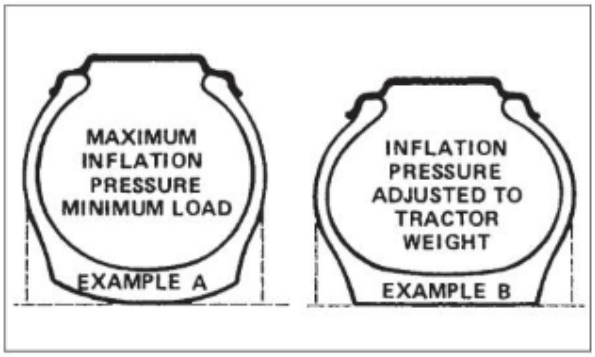
- **Do not increase the inflation pressure beyond 35 psi.**
  Otherwise, the tire could explode during inflation, causing serious injury or death.
- **Do not damage the inflated or partially inflated tire.**
  Otherwise, the tire could explode, causing serious injury or death.
- **Make sure that the tire is correctly seated on the rim before inflating.**
  Otherwise, the tire could explode, causing serious injury or death.
- **Make sure that air is completely removed from the tire before removing it from the rim.**
  Otherwise, the tire could explode, causing serious injury or death.

For normal tractor operation use the inflation pressure shown in the tire and wheel chart. The inflation pressure are based on cold inflation pressure recommendations by Tire and Rim Association Inc.

For maximum tractor performance, always adjust the tire pressure within the minimum/ maximum range to conform with the actual load on the tires. Under normal conditions, use the minimum pressure rating for general drawbar work. Use the higher pressure rating, up to the maximum, for heavy three point hitch mounted equipment, or heavy front and mounted equipment.

Example A shows the cross section of a tire inflated for maximum load but with a minimum load on the tire. The tire tread is not making full contact with the ground which will give poor performance.

Example B shows the cross section of a tire with inflated pressure correctly adjusted to the load on the tire. The tire tread is making full contact with the ground which will give maximum performance.



Tire pressure can also be adjusted as required to safety the following requirements.

A. Severe Service. Tire pressure can be increased 28 kPa (4 psi) more than the maximum pressure shown in the chart for tires used in severe service. Severe service includes the furrow tire in regular plowing operations, the downhill tire in plowing and in other hillside operations.
B. Tires With Liquid Ballast. Inflate the tires 14 kPa (2 psi) more than the recommended pressure. This will compensate for aeration that occurs when the tires are in motion.

IMPORTANT: During transportation on a railroad car or trailer, the tractor tires are often inflated to higher than normal operating pressures. Before using your tractor, check the air pressure in the tires to make sure that the air pressure does not exceed the maximum pressures shown in the tire and wheel equipment chart.

■ Tire Load Capacity

The maximum load capacity, shown in the tire pressure and load capacity chart, is of the wheel with the tire inflated to the maximum pressure. Do not exceed the maximum load capacity of the tire.

FRONT	TIRE SIZE	TIRE RATING	MAX. LOAD CAPACITY AT MAX. INFLATIO PRESURE	INFLATION PRESURE
AG. TIRES	7 - 12	4PR	715LBS	24psi
IND.TIRES	23 x 8.50 - 12	4PR	1000LBS	35psi
TURF TIRES	23 x 8.50 - 12	6PR	1440LBS	34psi

REAR	TIRE SIZE	TIRE RATING	MAX. LOAD CAPACITY AT MAX. INFLATIO PRESURE	INFLATION PRESURE
AG. TIRES	9.5 - 16	6PR	1390LBS	30psi
IND.TIRES	12 x 16.5	6PR	2870LBS	40psi
TURF TIRES	33 x 12.5 - 16.5	4PR	2340LBS	30psi

■ Check Air Pressure

Tire Pressure Check Interval

....Every 50 hours of operation or weekly.

Check the condition of the tires and rims for wear or damage. Keep the tires inflated to the recommended pressures. See Tire and Wheel Specifications in this manual for recommended inflation pressures for each tire size.

For tires equipped with liquid ballast, check the air pressure as follows:

1. Use an air-water gauge. The valve must be at the bottom of the tire to get an accurate reading.
2. Use a standard air gauge as follows:
   A. The valve must be at the top of the tire.
   B. Measure the rim diameter.
   C. Add 3.5 kPa (1/2 psi) for each 305 mm (12 inches) of rim diameter to the standard gauge reading.

■ Tire Inflation Procedure

⚠ WARNING

- **Do not increase the inflation pressure beyond 35 psi.**
  Otherwise, the tire could explode during inflation, causing serious injury or death.
- **Do not damage the inflated or partially inflated tire.**
  Otherwise, the tire could explode, causing serious injury or death.
- **Make sure that the tire is correctly seated on the rim before inflating.**
  Otherwise, the tire could explode, causing serious injury or death.

DO NOT inflate a tire that has had a complete loss of air. If the tire has lost all air pressure, have a qualified tire mechanic service the tire.

To add air to a partly inflated tire, use the following procedure:

1. Use an air hose with a remote shutoff valve and a self – locking air chuck.
2. Stand behind the tread of the tire and make sure all persons are away from the side of the tire before you start to add air.
3. Inflate the tire to the recommended air pressure. DO NOT inflate the tire more than the recommended pressure.

NOTE: Tires can be inflated 28 kPa (4 psi) over maximum recommended in chart when tractor is used for heavy draft operation and ground compaction is not a problem.

WHEEL MOUNTING TORQUES

Front Wheel Disc to Axle Hub Bolts
..... 83 to 93 N•m (65 to 69 Lb•ft)
Rear Wheel Disc to Axle Hub Bolts
..... 118 to 132 N•m (87 to 98 Lb•ft)

IMPORTANT: Check the wheel bolts and nuts after the first 10 hours of operation and again after every 100 hours of operation. Also do this procedure any time the wheel or rim is removed.

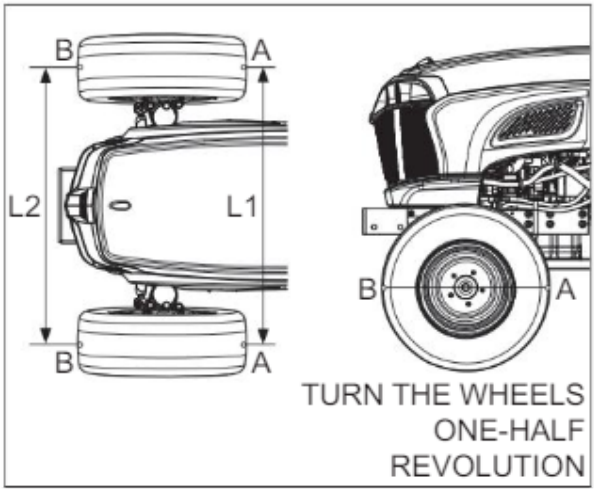
NOTE: The front wheel of tires must always be assembled with the valve side out.
When putting the wheels on the axle, make sure that the tires rotate in the correct direction.

TOE-IN ADJUSTMENT

TO CHECK THE TOE-IN, USE THE FOLLOWING PROCEDURE:

1. Put the tractor on ground and the wheels in the straight-ahead position.
2. Place chalk marks at points A on the centerlines of both front tires at the same height as the centerline of the hubcap.
3. Measure the distance (L1) between the chalk marks at points A.
4. Move the tractor forward a distance equal to one-half revolution of the front wheels.
5. The chalk marks will now be at points B. Measure the distance (L2) between the chalk marks at points B.
6. The figure of L1 minus L2 is the toe-in. Make sure the toe-in is adjusted properly. If not, adjust the toe-in.

FRONT AXLE TYPE	TOE-IN (L1-L2)
MFD	0 to 0.60 INCH (0 to 15 mm)



TO ADJUST THE TOE-IN, USE THE FOLLOWING PROCEDURE:

Adjust the rods to be equal the dimensions A on both side.

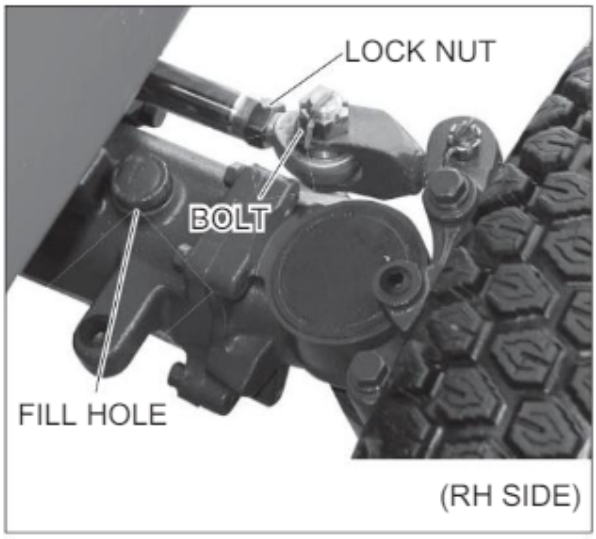
1. Loosen the lock nut at the rod end.

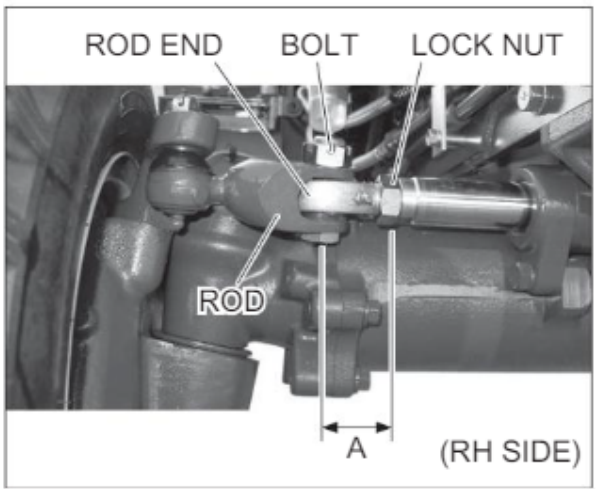
2. Turn the rod end to shorten or lengthen.

3. Lock the lock nuts.

Tightening torque

..... 147 to 166 N•m(109 to 123Lb•ft)





TIRE SIZE COMBINATIONS

Your Tractor must use front and rear tire combinations that are correctly matched. The use of recommended tire combinations will give maximum tractor performance, extended tire and reduced wear on drive train components.

IMPORTANT: The tire size combinations shown below are specified to provide matched ground speeds of the front and rear tires. Mixing worn and new tires or tires of different diameters or loaded radii can give incorrect ground speed match. When replacing tires, consult your Dealer.

TIRE	SIZE
AGTires(Front/Rear)	7-12/9.5-16
IndustrialTires(Front/Rear)	23 x 8.50 - 12 /12 x 16.5
Turf Tires (Front/Rear)	23 x 8.50 - 12 /33 x 12.5 - 16.5

TRACTOR BALLAST

Ballast for your tractor includes front-end weights, rear wheel weights and liquid ballast in the rear tires. Front-end weights improve the steering characteristic when heavy hitch loads cause a movement of tractor weight from the front to the rear wheels. Rear wheel weights and adding liquid to the rear tires increase traction by putting weight on the driving wheels.

IMPORTANT: The Maximum operating weight of tractor should not exceed the following values. The operating weight of tractor includes the weight of tractor, ballast weight and implement.

Front Axle

.....1200kg (2646lbs)

Rear Axle

.....1200kg (2646lbs)

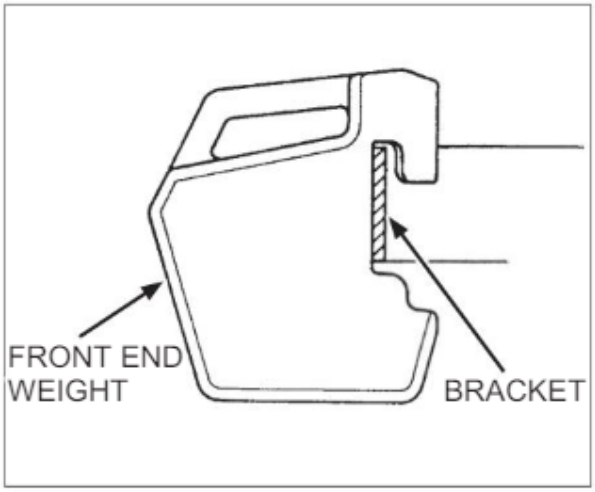
Total

.....2000kg (4410lbs)

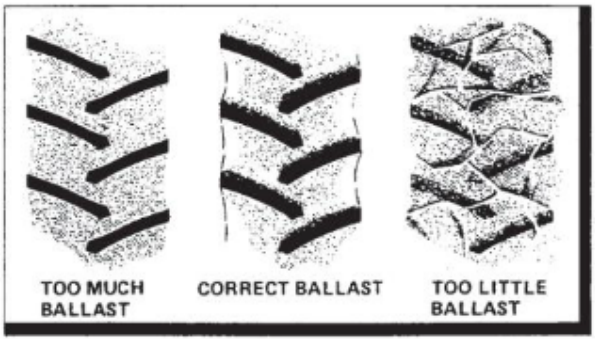
■ Front End Weights

Front-end weights can be mounted on the front-end bracket of the tractor with locking bolts and nuts. The weights, locking bolts and nuts are available from your Dealer. A maximum of three weights at 22 kg (49 lbs) each can be installed, depending on implement application and soil conditions.

Use front-end weights as needed to provide effective steering control and front end stability and to achieve maximum operating efficiency and tractor filed performance.



NOTE: When you have too much ballast installed on the tractor, you will see the clear shape of the tire tread in the ground which is an indication of no slippage. With too little ballast, the tire tread marks will not show because of the tire slippage.



LUBRICATION AND MAINTENANCE

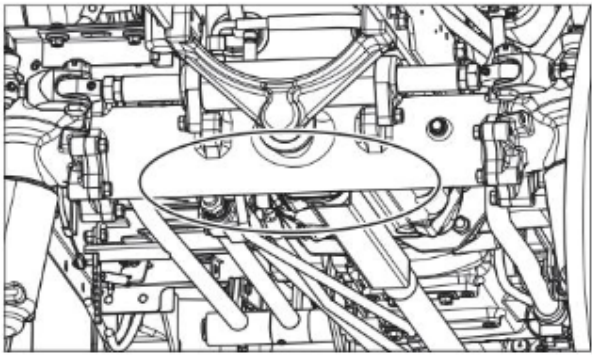
The tractor is adjusted before shipment; however, wearing and slacking are caused along its use. Perform inspection and readjustment periodically and replace parts which exceeded its service limit to maintain the tractor in optimum condition at all time.

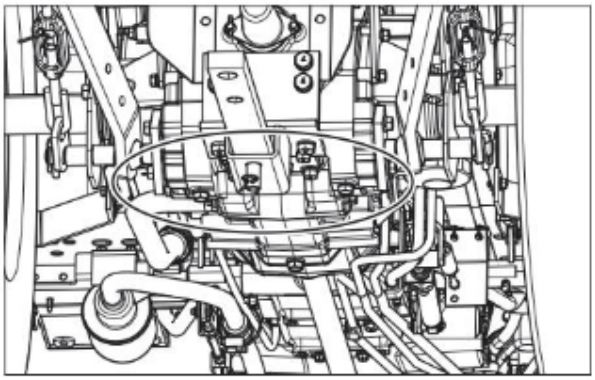
⚠ WARNING: For burn, fire and injury accident prevention.

- When cleaning and performing inspection, adjustment, and maintenance, park the tractor on wide flat place, apply parking brake, lower the implement, and stop the engine to stop the movement of all parts before performing the work.
- Wait until the engine cools down before performing inspection and maintenance of the engine and its surroundings.
- When cleaning and performing inspection, adjustment, and maintenance with the implement lifted, set the flow control grip to the <FIX>, make sure that the implement does not lower, and place stand under the implement.
- Place all the covers back to where removed before starting the engine.
- Request the inspection and maintenance to the dealer for parts not listed in the below periodical inspection and maintenance list.
- Check and read the operator`s manual for the proper usage of the implements before using implements on the tractor.

⚠ WARNING: When raising your vehicle

- Use the appropriate jack to lift up the chassis from the ground.
- Park the tractor on safe, hard and flat ground. Jack may be falling down if working on unstable ground such as the slope or soft ground and it will be cause of injury.
- Before jacking up the tractor, stop the engine and apply the park brake securely. Keep the tractor stationary by placing wheel stoppers at front and behind of tires.
- Lower the implement to the down position when the tractor is required to jack up while attaching the implement on it.
- Be careful not to get under the tractor or vibrate the chassis when jacking up the tractor.
- Be careful not to jack up more than requires. Tractor gets unstable if it is jacked up too high.
- Using method of the jack varies from product to product. Use the jack by the proper method in accordance with the individual operator`s manual.
- Support at the axle when the jack is used.





PERIODICAL INSPECTION AND MAINTENANCE LIST

Perform inspection and maintenance referring to the "Periodical Inspection and Maintenance List" so that the correct functions are performed and the safe condition is maintained at all times. This "Periodical Inspection and Maintenance List" is referential. Adjust as necessary in case of errors.

Service point	No.of points	Frequency in hours					Description
		Clean	Change	Check	Grease	Drain	
Engine oil level	1			Daily			
Front axle tie rod end	3				10		
Brake pedal boss	4				10		
Transmission oil level	1			Daily			
Radiator coolant level	1			Daily			
Fuel filter cup	1	10		Daily			
Air cleaner	1	10		Daily			
Fan belt tension	1			Daily			
Grill and radiator area	1	Daily		Daily			
Tire pressure	4			50			
Fuel tank water drain plug	1					50	
Engine oil	1		100				First time:50
Wheel retaining bolt and nuts	24			100			
Engine oil filter	1		100				First time:50
Transmission oil	1		300				First time:50
Hydrostatic filter (Hydrostatic drive)	1		300				First time:50
Hydraulic filter	1		300				First time:50
MFD-front axle lubricant	1		300				First time:50
Clutch pedal	1			200			
Brake pedal	2			200			
Air induction systems	1			200			
Engine valve clearance (See NOTE 1)	-			200			
ROPS	-			200			
Cooling system	-	Y	Y			Y	
Air cleaner filter element (See NOTE 2)	1	50	500				
All linkage pivot points (See NOTE 3)	-	AY					
Threads of 3-point hitch links	2				AY		
Fuel filter	1		AY				
Hydraulic system	-			AY			
Battery water level and terminals	-	AY		AY			
Engine frame bolts	12			50			First time:10

MARK Y: Yearly or 1000 Hours, Whichever occur first.
AY: Yearly or as needed.

Note 1: Consult your Dealer.

Note 2: Replace element after 10 cleanings or yearly.

Note 3: Apply gear oil.

NOTE: Contact the dealer when disposing any machinery or parts.

- For waste disposal
- Dampening or incineration of wastes causes environmental pollution and may be subjected to punishment according to the law.
  -When draining waste fluid from the equipment, use a drip pan.
  -Do not drain on the ground, river, lake, or ocean.
  -Contact the dealer and dispose according to the laws and regulations when disposing or incinerating waste oil, fuel, coolant (antifreeze), refrigerant, solution, filter, battery, rubbers, and other hazardous materials.

OIL SUPPLY, LUBRICATION AND WATER SUPPLY LIST

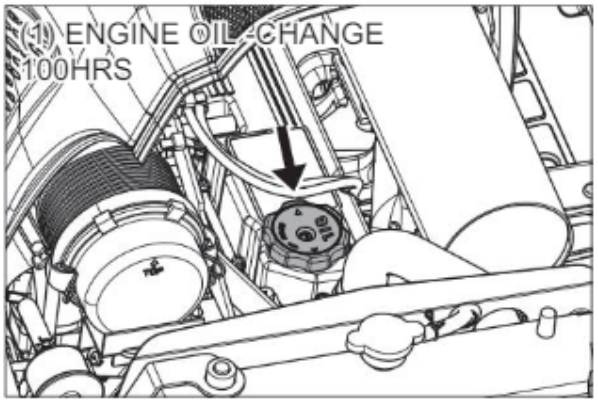
■ System Capacities

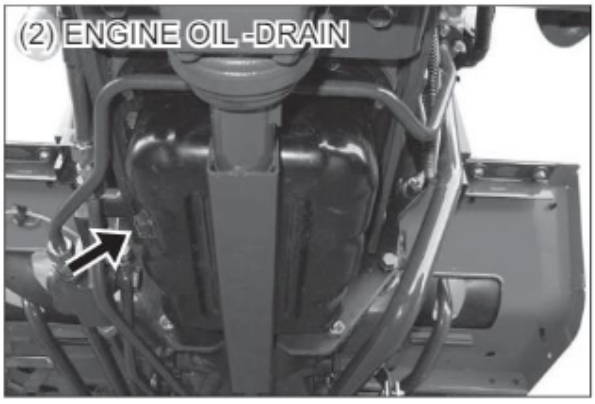
SYSTEM	U.S. MEASURE	METRIC MEASURE
Engine Oil without filter change with filter change	 3.4 QTS 3.9 QTS	 3.2 Liters 3.7 Liters
Fuel tank	6 Gallons	23 Liters
Coolant Engine and radiator coolant bottle	 5.3 QTS 0.6 QTS	 5.0 Liters 0.6 Liters
Transmission Oil gear drive hydrostatic drive	 23.2 QTS 24.3 QTS	 22 Liters 23 Liters
Front Axle MFD	 4.2 QTS	 4.0 Liters

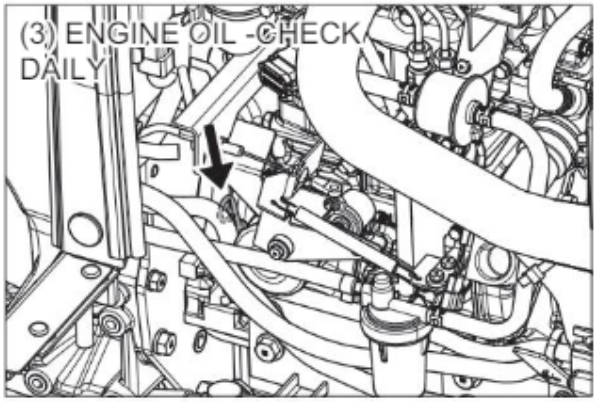
■ Lubrication Table

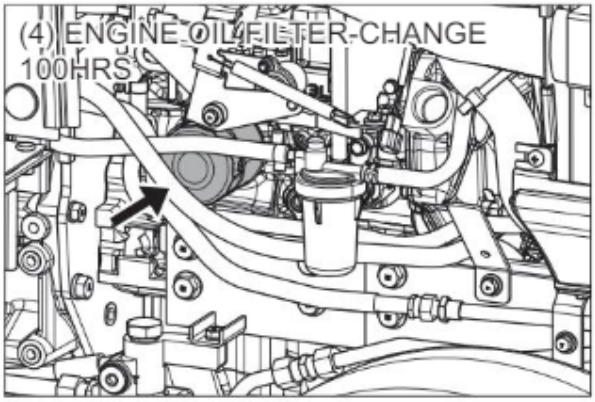
Application	Kind of Oil	API Classification	Ambient temperature	Grede		Description	Recommendation Oil Brand
				Single	Multi		
Engine	Engine Oil	CF	-25°C (-14°F)	5W	5W-20	Use high Grade Diesel Oil	(For 15W 40 oil) Mahindra SAE 15W-40 Diesel engine oil Citgo-Citgard 500 15W 40 Exxon-XD3Extra 15W40 Chevron-Delo 400 15W 40 Mobile-Devlac 1300 15W 40 Shell-Rotella T 15W 40 Texaco-Ursa Super Plus 15W 40
			-20-0°C (-4-32°F)	10W	10W-30 15W-40	Engine Oil	
			-10-10°C (14-50°F)	20W			
			0-20°C (32-68°F)	20		Use high Grade Diesel Oil	
			10-30°C (50-86°F)	30			
			30°C (86°F)	40	20W-40		
Transmission oil front diff. oil	Hydraulic Transmission Fluid	Hydraulic Transmission Fluid					Mahindra Universal Tractor Hydraulic Fluid Citgo-Transgard Tractor Hydraulic Fluids Exxon-Torque Fluid 56 Chevron Chevron 1000 THF Mobil-Mobil Fluid 424 Shell Donax TD Texaco-THD oil Special
Grease Nipple	Grease	-					Use good grade grease, designed for pin and bushings on agricultural equipment. Lithium or aluminium complex type grease with high viscosity base oil, takiness and molybdenum disulfide are suitable. Grease approved for the NL GI certification make GC-LB are recommended.

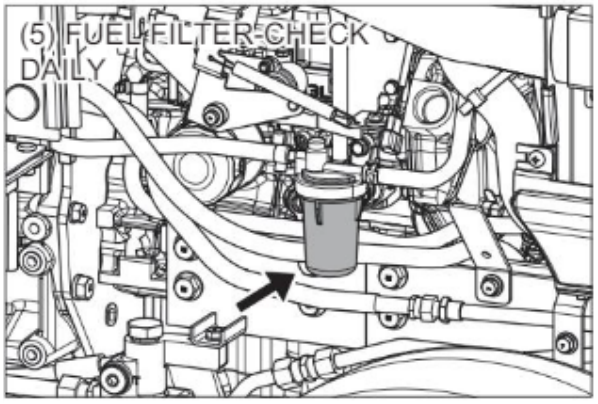
OIL SUPPLY, OIL LEVEL CHECK, GREASE SUPPLY, FILTERS CHANGE

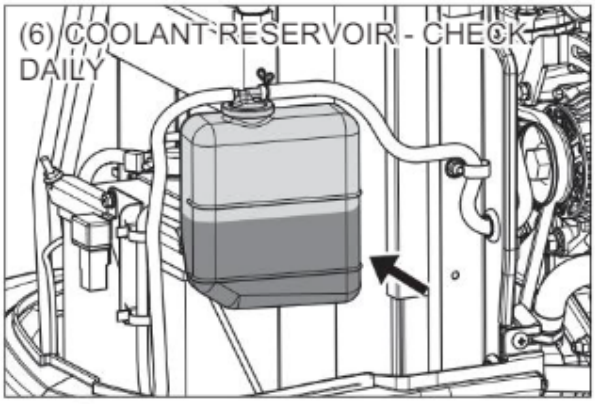


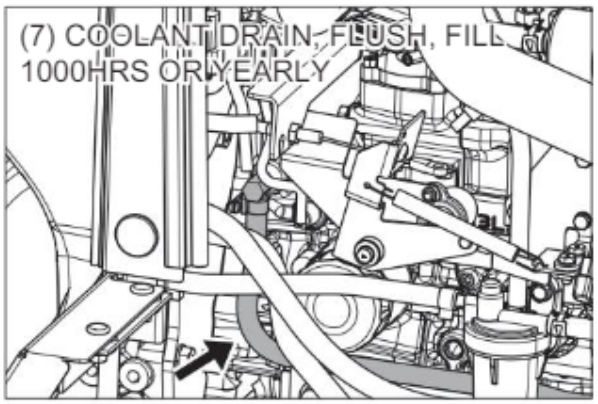


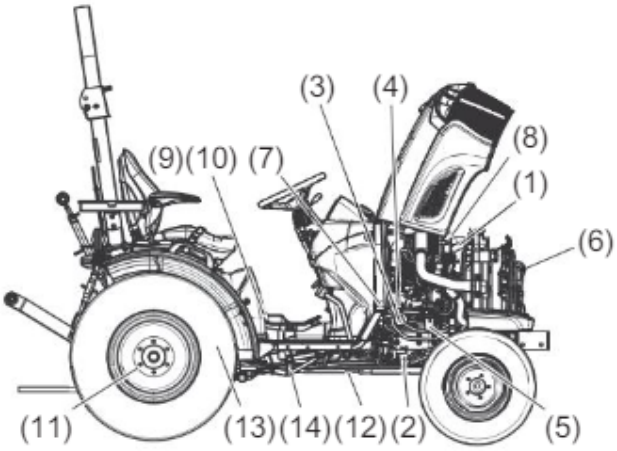


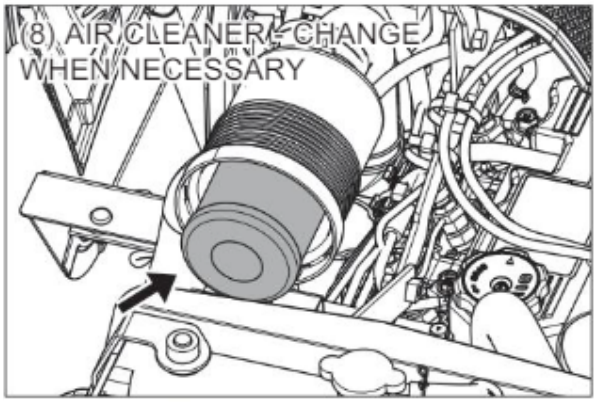


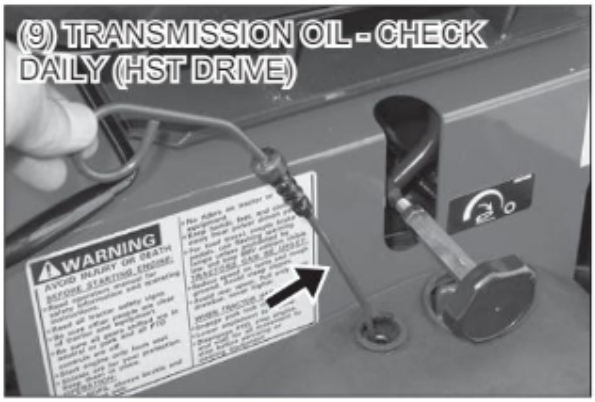


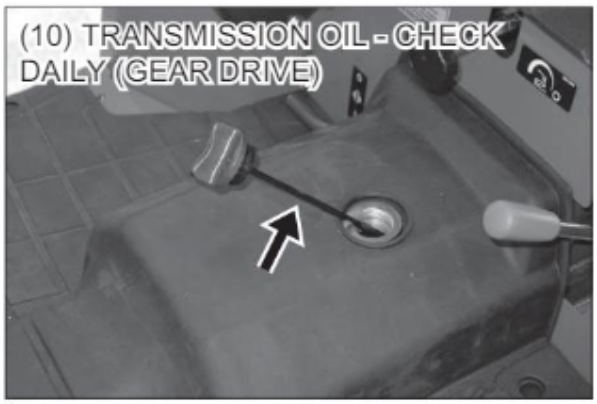


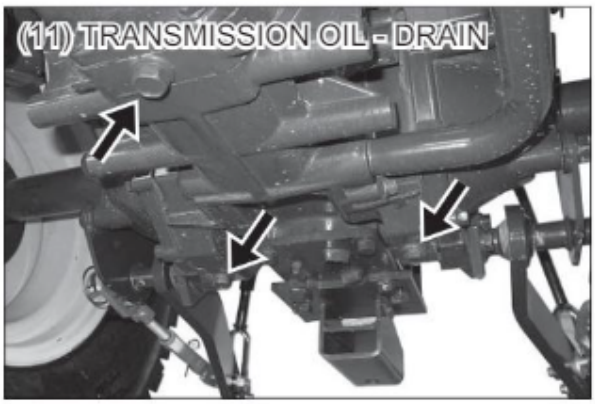


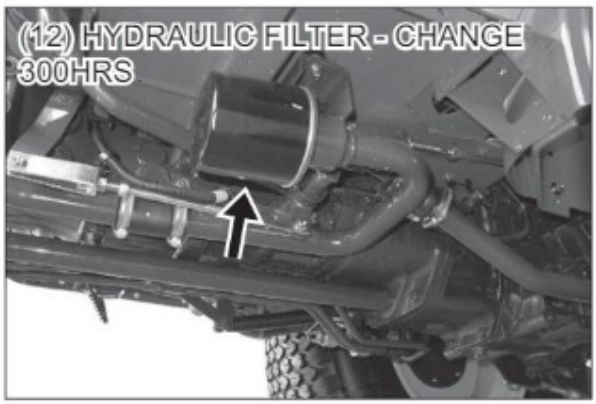


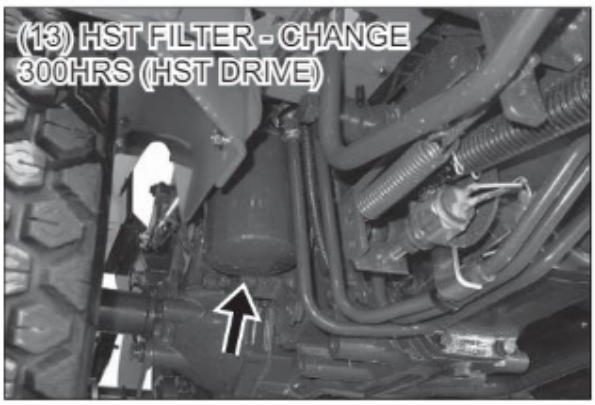

(8) AIR CLEANER - CHANGE WHEN NECESSARY

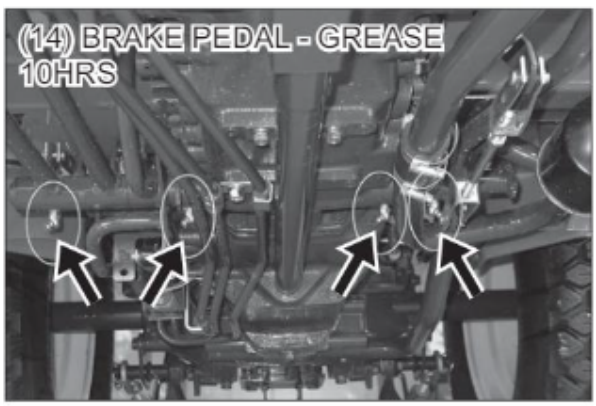

(9) TRANSMISSION OIL - CHECK DAILY (HST DRIVE)
WARNING

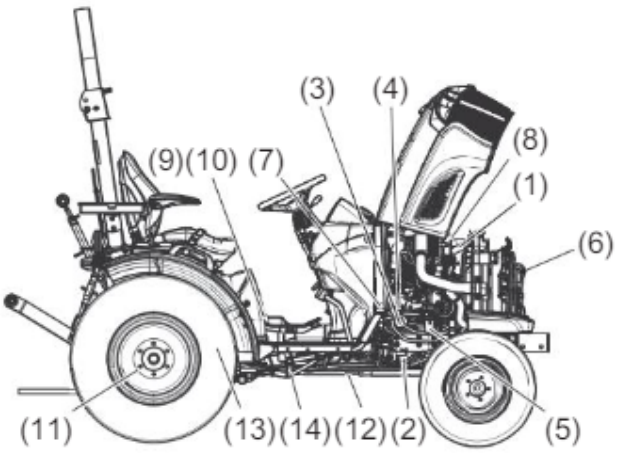

(10) TRANSMISSION OIL - CHECK DAILY (GEAR DRIVE)


(11) TRANSMISSION OIL - DRAIN


(12) HYDRAULIC FILTER - CHANGE 300HRS


(13) HST FILTER - CHANGE 300HRS (HST DRIVE)


(14) BRAKE PEDAL - GREASE 10HRS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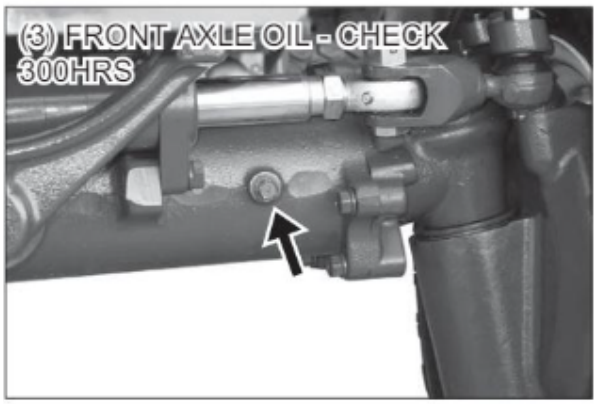
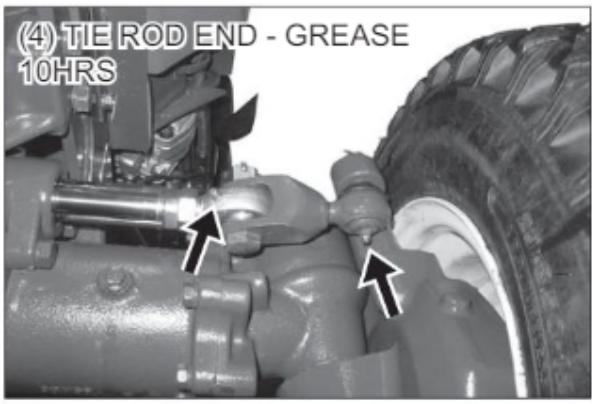
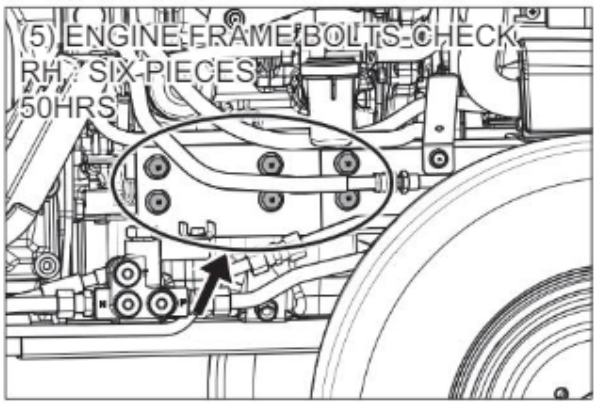
(5)

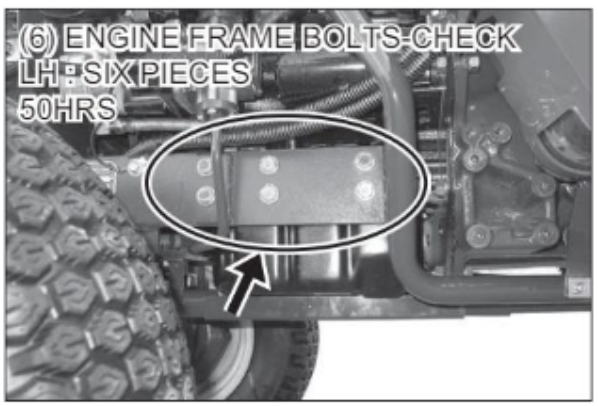
OIL SUPPLY, OIL LEVEL CHECK, GREASE SUPPLY

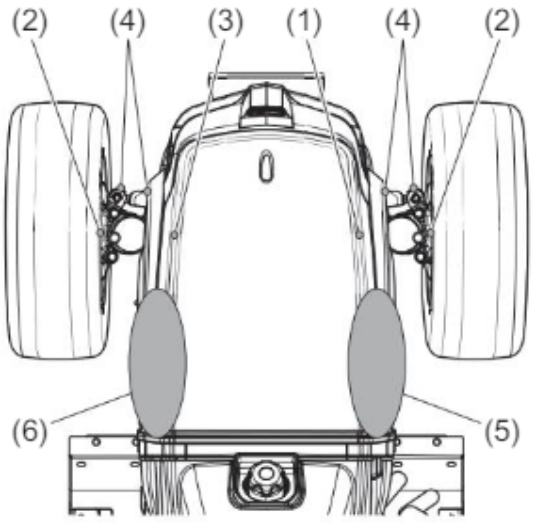






USE NLGI NO,2 MULTIPURPOSE LITHIUM GREASE.





HOOD

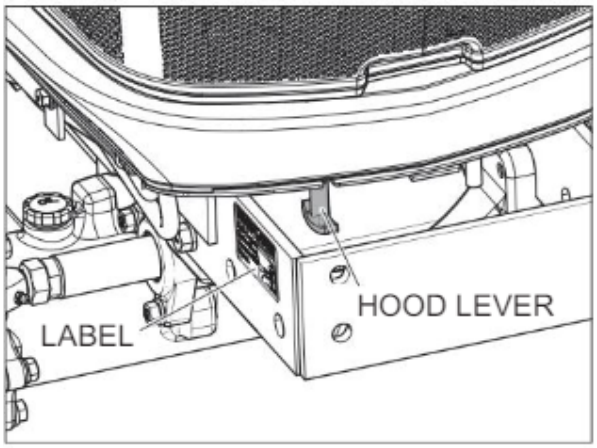
■ How To Open / Close The Hood

⚠ WARNING

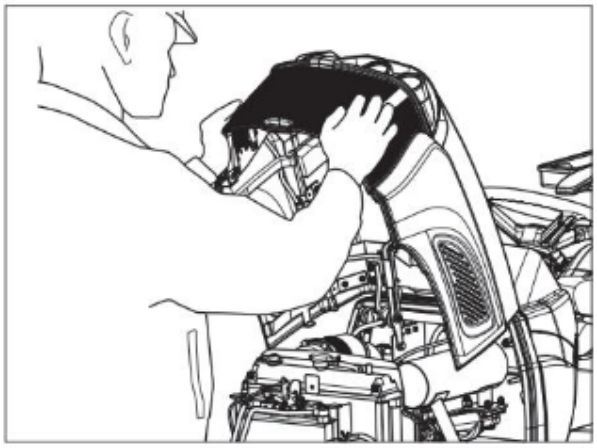
· Be sure to support hood with other hand while locking/unlocking the prop-rod.
Otherwise, it could cause an accident.

◆Opening the Hood

1. Pull the lever to release the hood.

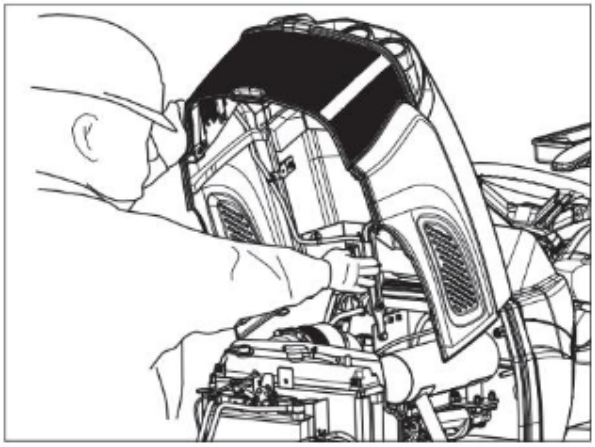


2. Lift the hood upwards by holding its bottom with both hands until the prop-rod is fixed securely.

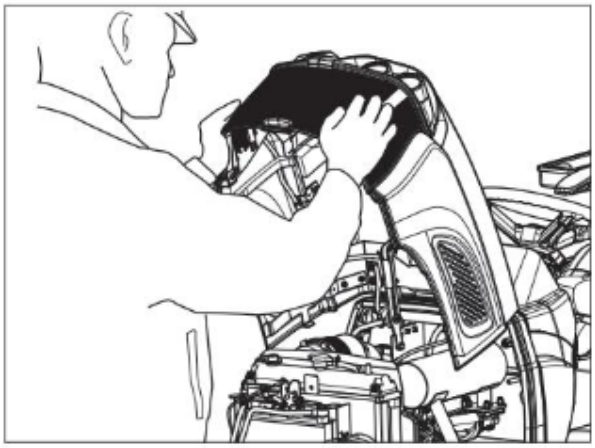


◆Closing the Hood

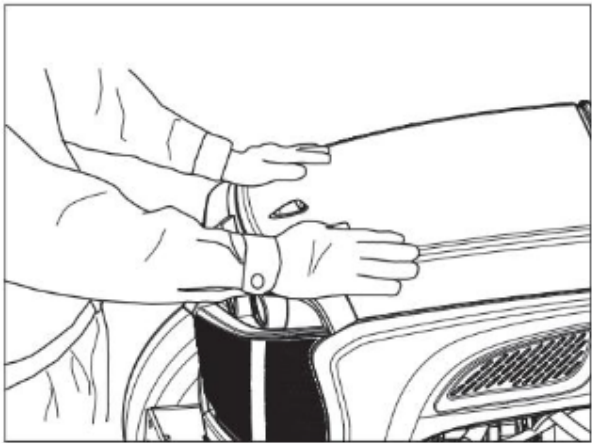
1. To close the hood, hold the hood and release the prop-rod by pushing its.



2. In closing the hood, use both hands and operate slowly.



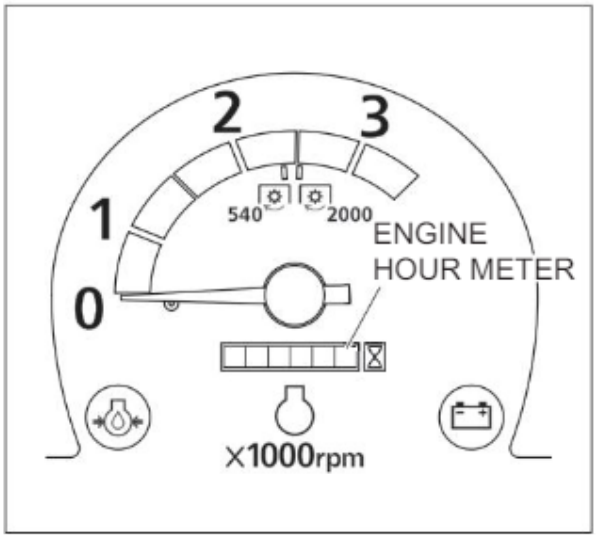
3. Press the hood downwards with both hands until it locks securely.



SERVICE HOUR INTERVAL

Service your tractor at the intervals and locations given on the Lubrication and Service Chart.
When you service your tractor, use only high quality lubricants.

■ Engine Hour meter



The engine hour meter shows the total amount of actual engine operated hours of the tractor. The first number to the right side displays added one by one every six minutes and is a black number on a white surface. The remaining numbers are displays added one by one every one hour and is a white number on a black surface. Use the hour meter along with the Lubrication Chart to service your tractor at the correct time periods.

■ Service After First 50 Hours

1. Engine Oil
   Drain all the oil from the crankcase while the engine is warm and refill with new oil to the upper Notch (full) on the engine oil dipstick. See Engine Oil Change in this manual.

2. Engine Oil Filter
   Replace the engine oil filter. See Engine Oil Filter in this manual.

3. Transmission & Hydraulic System
   (1) Transmission Oil
   Check the level of the transmission oil. Add the specified fluid as needed to maintain proper level. See Transmission Oil Level (Gear Drive) or Transmission Oil Level (Hydrostatic Drive) in this manual.
   (2) Hydrostatic System Filter (Hydrostatic Drive)
   Replace the filter with a new one. See Hydrostatic System Filter in this manual.
   (3) Hydraulic Filter
   Replace filter with a new one. See Hydraulic Filter in this manual.

4. Front Axle Lubricant (MFD)
   Change the oil. See FRONT AXLE LUBRICATION (MFD) in this manual.

5. Radiator Core
   Inspect the radiator core and clean if necessary. See COOLING SYSTEM in this manual.

6. Hoses and Connections between Air Cleaner and Manifold.
   Inspect for loose fit or leakage. See AIR INDUCTION SYSTEM in this manual.

7. Water Pump, Fan and Alternator Belt Tension.
   Check the belt for tension, replace if necessary. See Fan Belt Adjustment in this manual.

ENGINE LUBRICATION

■ Service Specifications

Oil Level Check Interval

.....Daily

Oil Change Interval

.....Every 100 hours (See NOTE)

Oil Type

.... See Lubrication Table in this manual.

Oil Capacity

Without Filter Change

..... 3.2 Liters (3.4 QTS)

With Filter Change

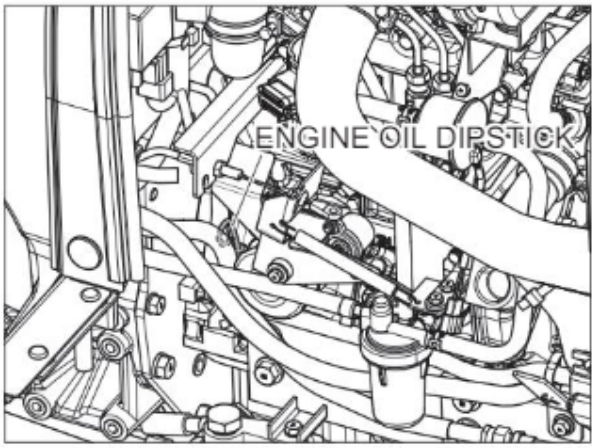
..... 3.7 Liters (3.9 QTS)

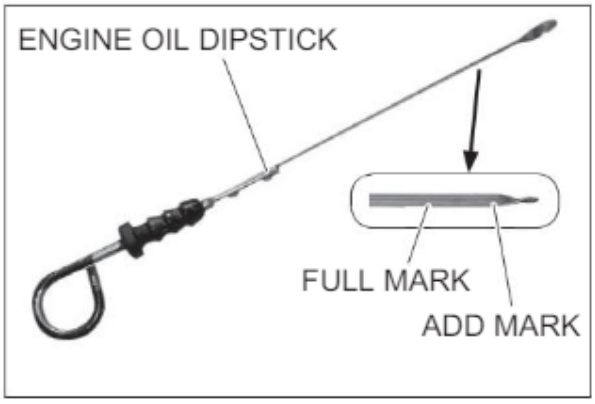
NOTE: Change the engine oil after the first 50 hours of operation and then use the regular change interval. Change the engine oil more frequently when the operating conditions are severe, such as, operating in very high or very low ambient temperatures, very dusty.

■ Engine Oil Level

To check the engine oil level, put the tractor on level ground and stop the engine. Pull the dipstick out, wipe the dipstick with a dry cloth and install the dipstick to check the oil level. If the oil level is below the A (Add) mark, add oil to raise the oil level to the F (Full) mark.

Do not raise the oil level above the F (Full) mark.





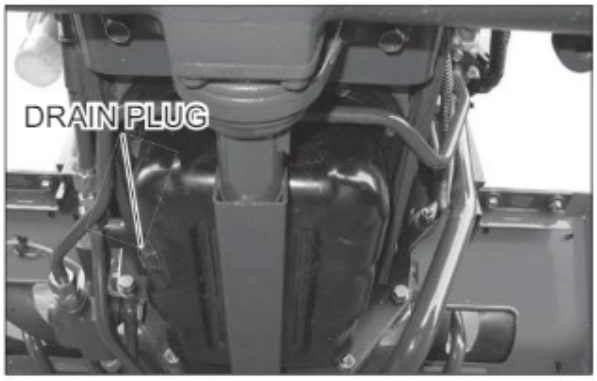
IMPORTANT: The level should be checked before starting or 5 minutes after the engine has been shut off.

■ Engine Oil Change

To change the engine oil, put the tractor on level ground and stop the engine. Change the engine oil as follows:

NOTE: For best results change the oil while the engine is still warm.

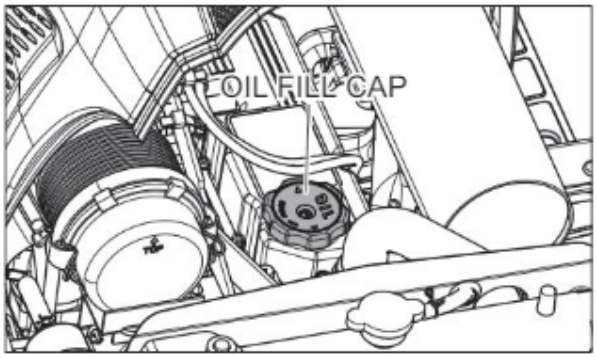
1. Remove the oil pan drain plug and drain the oil from the engine.



2. See Engine Oil Filter in this manual, if the filter needs to be changed.

3. Install the drain plug in the oil pan. Tighten the plug to a torque of 50 to 60 N•m (36 to 43 Lb•ft).

4. Put the correct type and amount of new oil into the engine. See Engine Oil Selection in this manual for the recommendation of oil type.



IMPORTANT: Do not use the oil level dipstick as a guide when you fill the oil to engine crankcase . Always measure the amount of oil you install.

5. Start the engine. Operate the engine for five minutes at 1200 rpm.
   Check for oil leaks at the filter base and drain plug.

6. Stop the engine. Wait approximately five minutes for the oil return to the oil pan. Check the oil level on the dipstick and add oil if needed.

■ Engine Oil Filter

Change Interval

.....Every 100 hours (See NOTE)

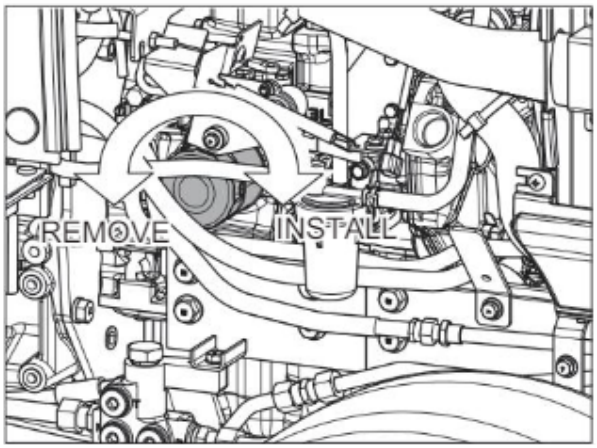
NOTE: Change the engine oil filter after the first 50 hours of operation and then use the regular change interval.

IMPORTANT: Change the oil filter at the recommended time interval. Your Dealer has approved genuine filters. Do not use other type filters.

Change the engine oil filter as follows:

1. Drain the oil from the engine.See Engine Oil Change in this manual.

2. Turn the oil filter counterclockwise to remove. Use a filter wrench, if necessary.



3. Apply clean oil to the O-ring on the new filter.

4. Install the filter. Turn the filter until the O-ring comes in contact with the case surface. Tighten the filter an additional 2/3 turns by hand.

IMPORTANT: DO NOT use a filter wrench to install the oil filter. When the filter is too tight, you can cause damage to the O-ring and filter.

5. Put new oil in the engine. See Engine Oil change in this manual.

ENGINE COOLANT

■ Service Specifications

Coolant Change Interval

..... Every 1000 hours or once per each year whichever occurs first.

Capacity of System

Engine and Radiator

..... 5.0 Liters (5.3 QTS)

Coolant reserve bottle

..... 0.6 Liters (0.6 QTS)

Thermostat

..... 76.5°C to 90°C (170°F to 194°F)

Radiator Cap Pressure

..... 88 kPa (12.8 psi)

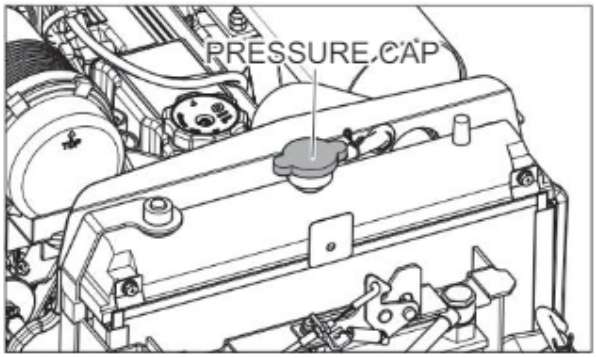
Daily before starting the engine, check the coolant level the coolant reserve bottle. The coolant level should be between the "FULL" and "LOW" lines when the engine is cool.

■ Pressure Cooling System

⚠ WARNING

• Be sure to cool down the cooling system before removing the radiator cap. After cooling down, turn the radiator cap to the first notch and wait until the pressure is completely removed.

Otherwise, hot coolant will blow out, causing burn injury.



1. The pressure cap on a pressure cooling system has a control valve that operates as a SAFETY RELIEF VALVE to keep the pressure within the system operating range. Operating the engine without a pressure cap or with a pressure cap but not setting value to operate at the correct pressure can cause damage.

2. A pressure cooling system decreases the loss of coolant caused by evaporation or boiling. The system must have good seals at the radiator cap, hoses and hose connections. It is important that you stop ALL LEAKS OF ANY SIZE as soon as the leaks are found. A small leak can become a large flow when pressure is increased in the cooling system. While the tractor is in operation, a weak hose can break and cause injury or damage. Check all hoses and hose connections with frequency. KEEP HOSES, HOSE CONNECTIONS AND PRESSURE CAP IN GOOD CONDITION.

■ Coolant Solutions

Your tractor cooling system is equipped with an ethylene glycol coolant solution that has a high boiling point.

IMPORTANT: Change the coolant solution at the change interval recommended in this manual (See Lubrication and service Chart). The heat generated by the diesel engine causes a natural change in the inhibitors in the coolant, which results in loss of corrosion protection. The loss of the inhibitors may cause water pump cavitations and cylinder block erosion.

Install only ethylene glycol coolant solution in the cooling system. Use a good quality, high boiling point, ethylene glycol that does not have any additives to stop leaks. Do not install any rust inhibitors that are not approved. It is possible that the rust inhibitors and ethylene glycol will not mix and work against each other to decrease corrosion protection, from deposits in the cooling system and cause damage to the cooling system and the radiator.

Do not use a low boiling point, alcohol type coolant solution.

The boiling point of alcohol is below the tractor minimum operating temperature; loss of coolant due to evaporation will result.

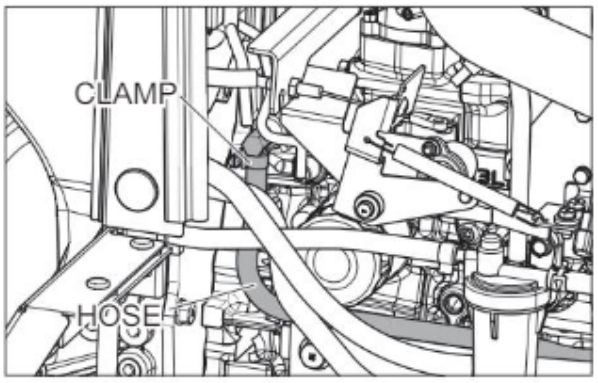
IMPORTANT: Always have a minimum of 50 percent ethylene glycol coolant in the cooling system at all times and at all ambient temperature ranges. Do not install more than 50 percent ethylene glycol in the cooling system unless the ambient air temperature will be less than -34°F. More than 50 percent ethylene glycol decreases heat transfer and will cause the engine surface temperature to be higher than normal.

■ Cleaning The Cooling System

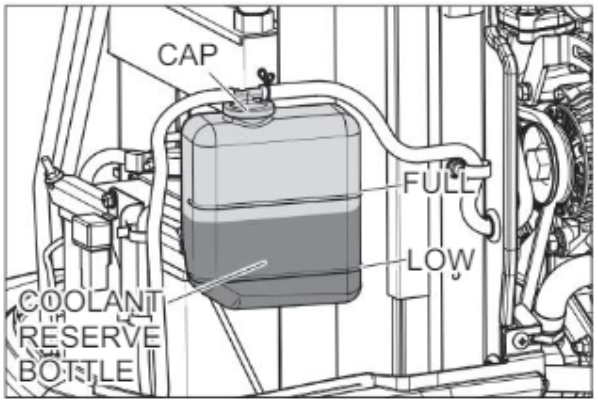
IMPORTANT: NEVER PUT COOLANT IN A HOT ENGINE: THE ENGINE BLOCK OR CYLINDER HEADS CAN GET CRACKS BECAUSE OF THE DIFFERENCE IN TEMPERATURE BETWEEN THE METAL AND THE COOLANT.

Clean the cooling system each time when the coolant is changed. See the Lubrication and Service Chart in this manual for recommended change intervals. Clean the system as follows:

1. Remove the hose to drain the coolant. Close the plug after the system is empty.



2. Install a good type of radiator cleaner and fill the system with clean water. Follow the instructions given with the radiator cleaner.



3. Remove the radiator cleaner solution. Flush the system with clean water.

4. Fill the cooling system with the coolant solution specified in this manual. Install coolant system treatment (If required). See Coolant Solutions in this manual for more information. (P83)

5. Check the hoses, radiator, pump and water manifold for leaks.

IMPORTANT: Never drain the coolant when the engine is hot.

NOTE: After the cooling system is completely filled, run the engine for approximately five minutes to remove all air from the system. Check the coolant level and add coolant if needed.

FUEL SYSTEM

⚠ WARNING

- **Never refuel the machine when the engine is hot or running. Never smoke while refueling.**
- **Engine fuel is flammable and can cause a fire or an explosion. DO NOT fill the fuel tank or service the fuel system near an naked flame, welding, burning cigars, cigarettes etc.**

■ Service Specifications

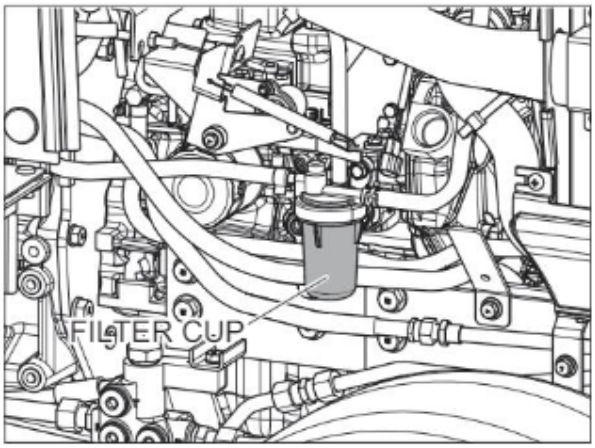
Fuel Filter Cup Service Interval
.....Every 10 Hours
Fuel Filter Element Change
.....Replace when loss of power or misfiring occurs

This type of filter cannot be cleaned. Change the filter when the engine is misfiring or a loss of power is evident. It is necessary to remove the air from the system after each replacement.
Only a filter recommended by your Dealer should be used to be sure that it is both effective and capable of withstanding the required suction or pressure without damage to the filter element.
Fill the fuel tank at the end of each day to reduce condensation.

NOTE: Do not fill the fuel tank to its full capacity. Space is required for vapor expansion in the event of a temperature change. A tank filled to capacity may overflow if exposed to a rise in temperature or direct sunlight.

■ Water Removal from the Filter Cup

Before starting each day's work, check for water or sediment in the filter cup. If water or sediment is in the cup, remove filter cup, clean and reinstall.

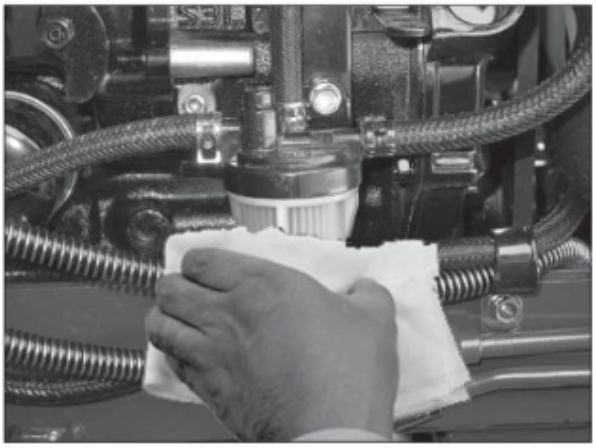


NOTE: Be careful not to allow dirt, water and other foreign materials to get into the filter when cleaning the cup.

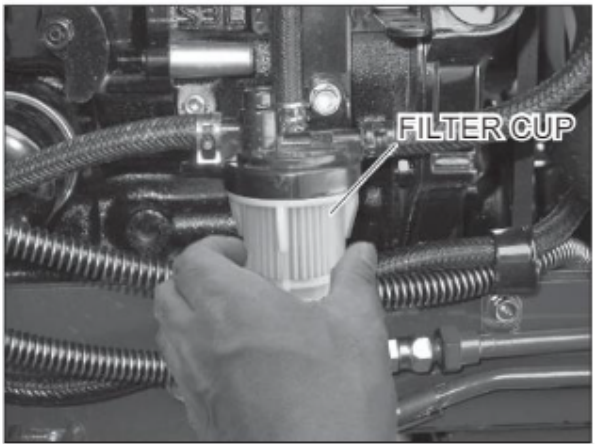
■ Fuel Filter Element Replacement

To replace the filter element, use following procedure:

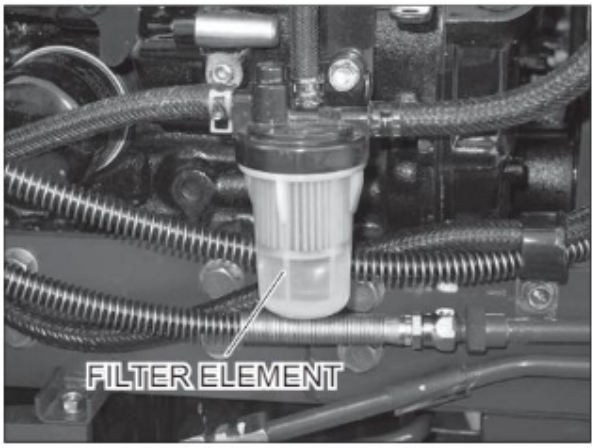
1. Clean the outside of the filter body and cup to prevent dirt or foreign materials from entering into the system.



2. Loosen the filter cup. Remove filter cup. Remove old filter element and clean inside of filter cup.



3. Install new filter element. Assemble filter cup and retaining nut to filter body.



NOTE: Be sure O-ring is in place on the filter body and filter cup.

4. Clean off the fuel from the engine. Start the engine to check for fuel leaks around the filter, lines and fittings.

NOTE: If the engine does not have power with a full load after you have done the filter service and removed the air from the system, see your Dealer to find and correct the cause.

■ Fuel System Air Removal

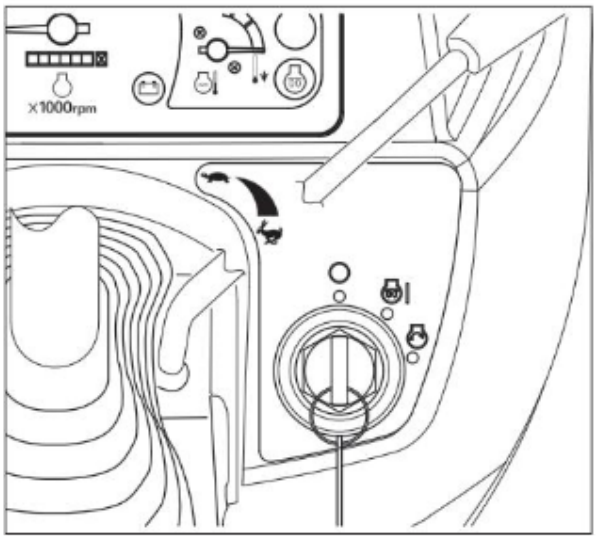
AIR MUST BE REMOVED FROM THE FUEL SYSTEM.

AIR CAN ENTER THE FUEL SYSTEM WHEN:

1. The engine stopped caused from lack of fuel.
2. The fuel filter has been replaced or the filter cup has been cleaned.
3. Any connections between the injection pump and fuel tank have been loosened or disconnected for any reasons.
4. The tractor has not been operated for long time.
5. The fuel pump has not operated correctly.

NOTE: This tractor has the function which discharges the air included in the fuel system automatically. The air exhaust procedure is as follows.

1. The starter switch is turned to the position of [ ]. Air will be discharged if it holds in the position as it is for 30 seconds.



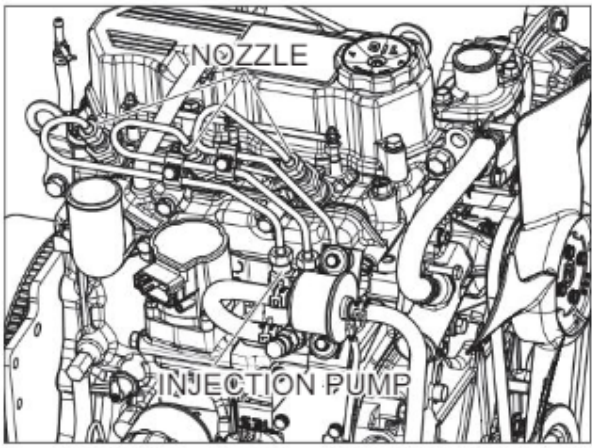
■ Fuel Injection Pump and Nozzle Check

⚠ WARNING

- **Be sure to observe the following to prevent injury.**
  - **Make sure that fluid lines and fuel lines are securely connected before applying pressure.**
  - **Remove pressure completely from all the fluid lines before disconnecting them.**
  - **Use safety goggles or other eye protection to check the leakage. Not use your hand.**
    Fluid Escaping hydraulic fluid under pressure from a pinhole may causes to penetrate skin.
    If injured or allergic reaction by leaking fluid, see your doctor immediately.

The fuel injection pump and nozzles are precision units and must be serviced only by your dealer.

The injection pump is correctly set and sealed at the factory and should not require an adjustment. Whenever adjustment or repairs are necessary, see your dealer. Do not tamper with any of the pump units.



NOTE: Figure of the engine Unit

AIR INDUCTION SYSTEM

The air induction system components require service at different intervals according to local operating conditions.

■ Service Specifications

Dump Valve

..... Clean daily or every 10 hours

Filter Element

Clean Element..... When necessary

Replace Element

..... After 10 cleanings or

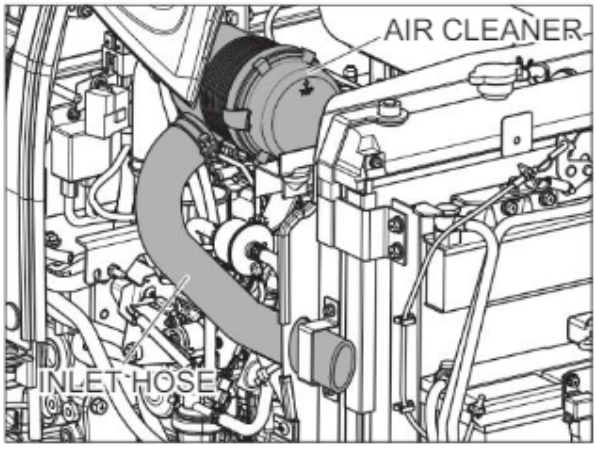
When necessary or yearly

System Inspection

..... Every 200 hours or

yearly whichever occurs first

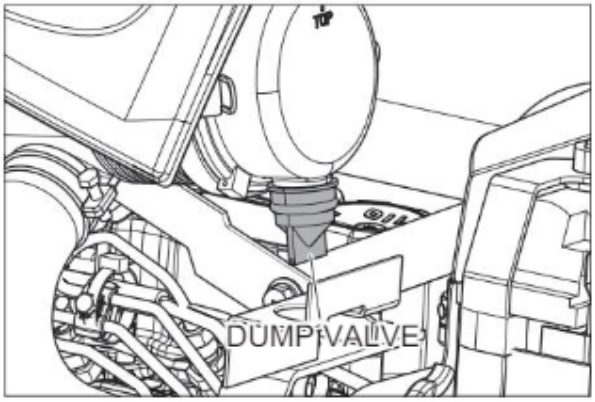
Your tractor is equipped with a dry-type air cleaner with a replaceable element.



IMPORTANT: Service the air induction system at the given service intervals. Correct maintenance will make longer life of the engine. Keep all connections on the outlet hose tight.

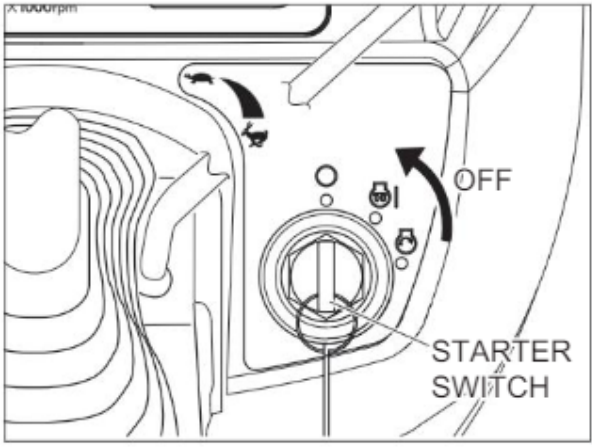
Dump Valve

The dust in the filter case should be dumped daily by using the dump valve when operating in extremely dusty conditions.

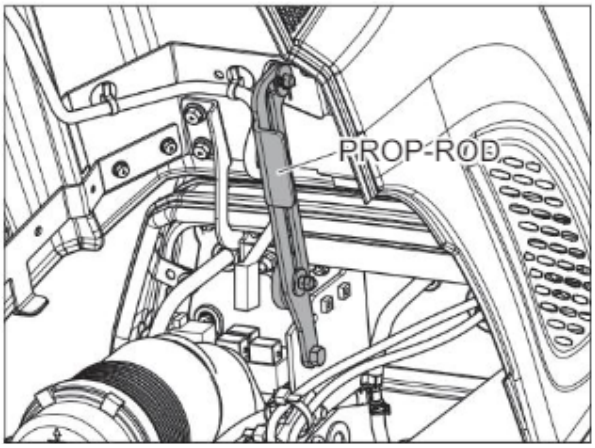


■ Air Filter Element Removal

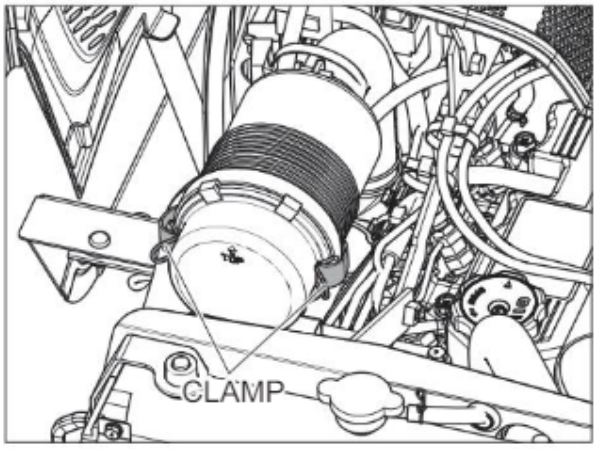
1. Stop the engine.



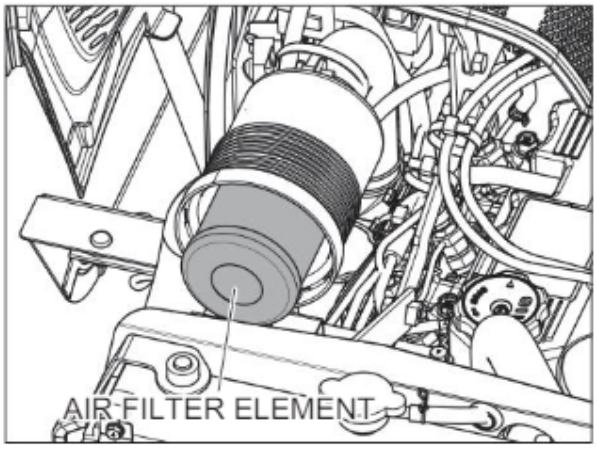
2. Open the hood and set the prop-rod.



3. When servicing the air filter element, unhook the clamp and remove element by pulling it straight out very carefully. Clean interior of canister.



4. After replacing the new or cleaned element, install and hook the clamp.



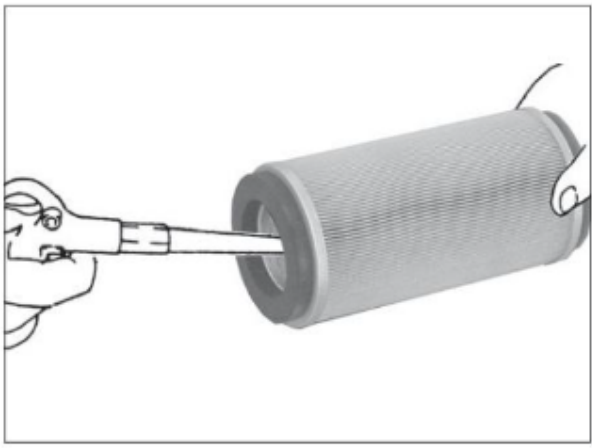
NOTE: Never attempt to remove the element from the air cleaner while the engine is running.

When installing the element, inspect the element gasket. If the gasket or element surface is damaged, replace the element immediately.

■ Element Cleaning

Use clean, dry compressed air up and down the pleats on the clean side (inside) of the element.

Continue this until the element is clean.



NOTE:

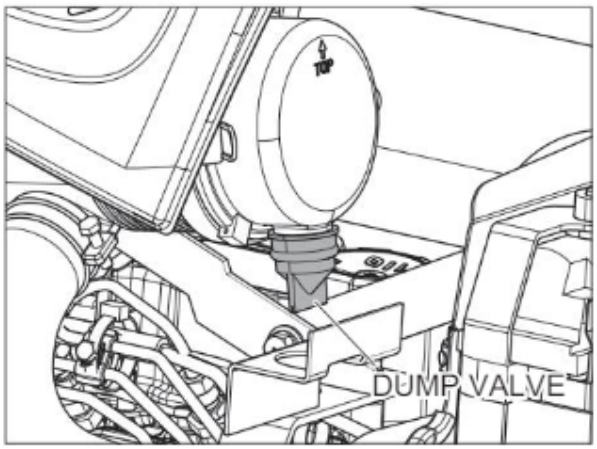
1. The paper element must be handled with care. Do not hit the element against a hard surface.

2. Air pressure at the nozzle must not exceed 689 kPa (100 psi).

3. It may be necessary to replace the element sooner if the time interval between servicing becomes short indicating the element dose not respond to cleaning (soot contaminated).

■ System Inspection

Check the dump valve and the all hoses for cracks and wear. Replace if needed. All the connections on the hoses must be tight. All the gaskets must be in good condition and the bolts must be drawn up tight.



NOTE: Inspect the hoses and connections after the first 50 hours of operation and replace when necessary.

TRANSMISSION AND HYDRAULIC LUBRICATION

■ Service Specifications

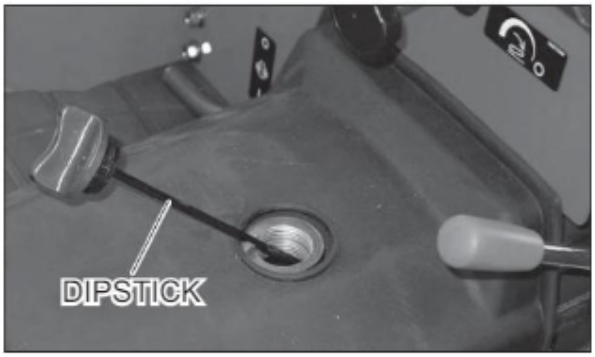
Oil Level Check Interval.....Daily
Oil Change Interval..... Every 300 hours.
Oil Capacity
Gear Drive.....22 Liters (23.2 Quarts).
Hydrostatic Drive
.....23 Liters (24.3 Quarts).
Oil Type
Shuttle Type
... HYDRAULIC TRANSMISSION FLUID
HST Type
... HYDRAULIC TRANSMISSION FLUID
Hydraulic System Check
..... Yearly inspect for leaks, cracks and abrasion. Tighten fittings or replace as needed.

■ Transmission Oil Level

[Shuttle Type]

To check the transmission fluid level, put the tractor on level ground.

Unscrew the filler cap with dipstick and wipe it clean. Check fluid by dipstick level, Do not screw in cap when checking. If the fluid level is below the lower line of the dipstick, add the recommended fluid to raise the fluid level between the F (Full) and L (Low) marked position.



■ Transmission Oil Level

[HST Type]

Before checking the oil level of the hydrostatic drive tractor, run the engine for three to five minutes at 1500 RPM with the speed ratio control lever, range shift lever and PTO control lever in Neutral or OFF position. Afterwards, stop engine. Then check the oil level in the transmission.

To check the transmission oil level, put the tractor on level ground.

Check the oil level on the transmission dipstick. If the oil level is below the lower line of the dipstick, add the recommended oil to the transmission to raise the oil level to the F (FULL) marked position.

■ Transmission Oil Change

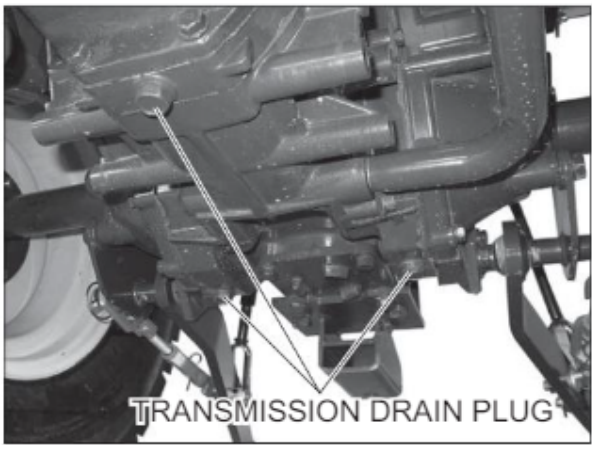
Oil Change Interval

..... Every 300 hours

To change the transmission oil, use the following procedure:

1. Put the tractor on level ground, apply the park brake and stop the engine. Move the range shift lever to L position.

2. Remove the drain plugs from the transmission case. (3 pieces)



NOTE: For best results, drain the oil when the oil is warm.

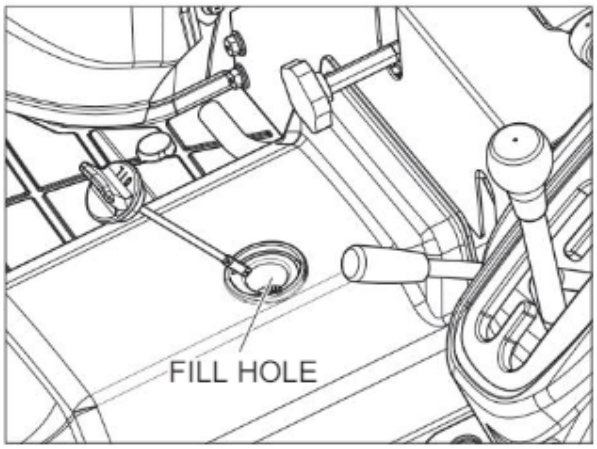
3. Replace the hydraulic filter. See Hydraulic Filter in this manual.

4. For the hydrostatic drive tractor, replace hydrostatic filter if needed, See Hydrostatic Filter (HST Type) in this manual.

5. Install the drain plugs with a seal washer and tighten to a torque of 39 to 44 N•m (29 to 33 Lb•ft).

6. Add the recommended oil through the fill hole and check the oil level.

[Shuttle Type]



[HST Type]

7. Start the engine and check for leaks.

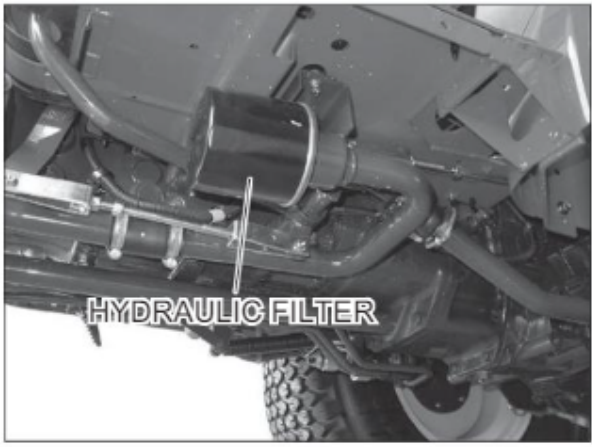
8. Recheck the oil level after stopping the engine. If the oil level is low, add oil up to the specified level.

■ Hydraulic Filter

[Shuttle & HST Type]

Change Interval

.....Every 300 hours (See NOTE)



NOTE: Replace the hydraulic filter after the first 100 hours of operation and every 300 hours of operation thereafter. Your Dealer has approved genuine filters. Do not use other type filters.

CHANGE THE HYDRAULIC FILTER AS FOLLOWS:

1. Put the tractor on level ground, move the range shift lever to the L position and apply the park brake.

2. Put an oil canister under the hydraulic filter.

3. Turn the filter counterclockwise to remove. Use a filter wrench if needed.

4. Apply clean oil to the O-ring on the new filter.

5. Install the filter. Turn the filter until the O-ring comes in contact with the case surface. Tighten the filter an additional 2/3 turns by hand.

IMPORTANT: DO NOT use a filter wrench to install the hydraulic filter.
When the filter is too tight, you can cause damage to the O-ring and filter.

6. Wipe around the hydraulic filter with a dry cloth.

7. Change the transmission oil. See Transmission Oil Change in this manual.

■ Hydrostatic System Filter

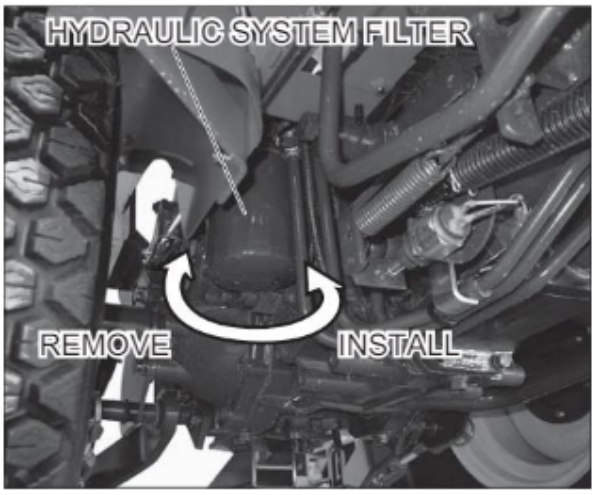
[HST Type]
Filter Change Interval
.....Every 300 hours (See NOTE)

NOTE: Change the filter after the first 100 hours of operation and every 300 hours of operation thereafter. Replace the filter more frequently when operating under unusual dirt and dust conditions. Your Dealer has approved genuine filters. Do not use other type filters.

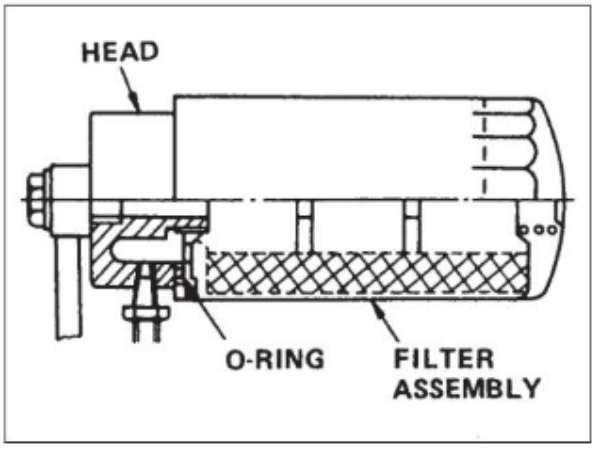
When the transmission oil filter needs changing, change the filter as follows:

1. Drain the transmission oil. See Transmission Oil Change in this manual.

2. Remove the hydrostatic system filter by turning it counterclockwise. Use a filter wrench, if necessary.



3. Apply clean oil to the O-ring on the new filter.



4. Install the new filter. Turn the filter clockwise until the O-ring comes in contact with the filter head surface. Tighten the filter an additional 2/3 turns by hand.

5. Add the transmission oil through the fill port and check the oil level.

6. Run the engine and check for leaks.

7. After stopping the engine, check the oil level. If it is low, add clean oil.

HOSES

⚠ DANGER: For fire prevention

- **Check if fuel is leaking from damages (crack, torn part, looseness of joint) of the fuel hose, peeling of external material and joint, and if leaking, replace it immediately to prevent fire.**

⚠ WARNING: For burn, fire, and injury prevention

- **Check for looseness of joint of the radiator hose. If the radiator hose comes off during operation, hot water blows up.**
- **Check for looseness of joint of the power steering hose and oil leakage. If oil leaks, the power steering does not function, causing an accident.**

■ Service Specifications

Fuel hose and power steering hose change interval

.....Every 2 years

■ Inspection

Check the fuel hose, radiator hose, and power steering hose for fuel, water, and oil leakage due to deterioration and damages and the tightening band for slackness.

■ After Replacement of Power Steering Hose

After replacing the power steering hose, turn the steering wheel to left and right completely to release the air in the hydraulic circuit.

■ After Replacement of Fuel Hose

After the fuel hose is replaced, release the air. (see P87)

FRONT AXLE LUBRICATION (MFD)

■ Service Specifications

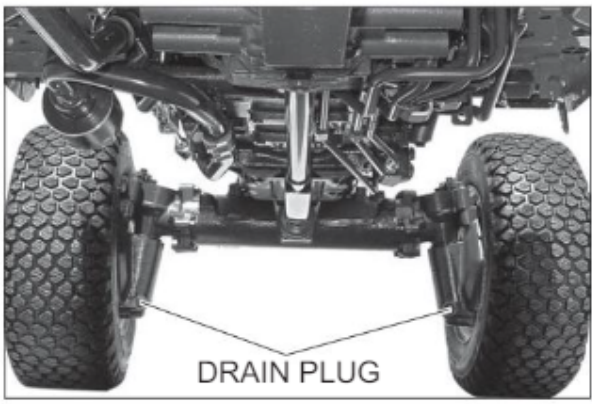
Oil Change Interval

.....Every 300 hours (See NOTE)

Oil Capacity .....4.0 Liters (4.2 Quarts)

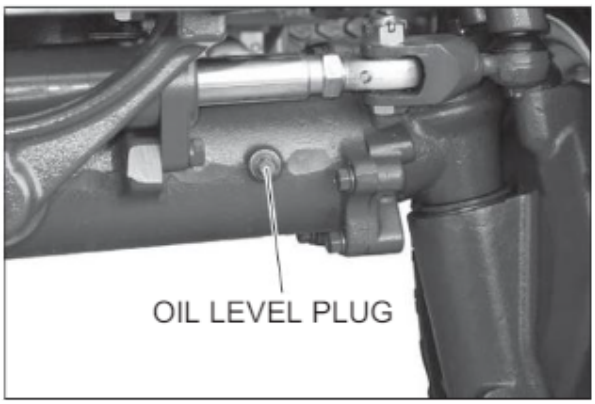
Oil Type ..... Hydraulic Transmission Fluid

NOTE: Change the oil after the first 100 hours of operation and then every 200 hours of operation.



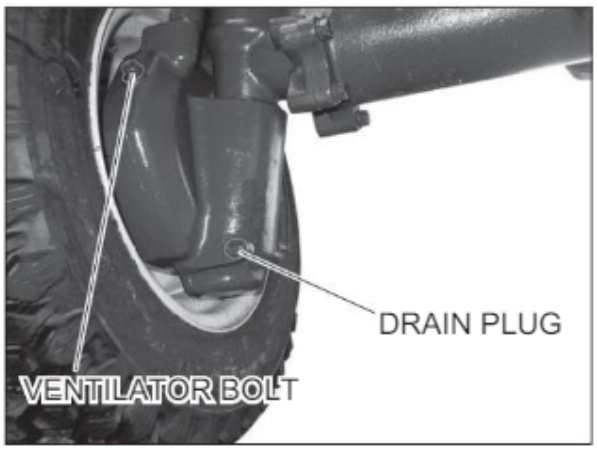
■ Front Axle Oil Level

To check the front axle oil level, put the tractor on level ground. Remove the oil level plugs located on the rear of the both gear cases. If the oil level is low, add the recommended oil type through the fill hole located on the RH side of axle housing until the oil begins to flow out of the level plugholes.



■ Front Axle Oil Change

1. To change the front axle oil, put the tractor on level ground. Put the range lever in L, engage the park brake and stop the engine.
2. Remove the fill cap located on the axle housing, the front axle drain plugs located on the bottom of both side gear cases to drain the oil.



NOTE: For best results, drain the oil when the oil is warm.

3. Install the both front axle drain plugs. Supply the oil of the specified quantity. Remove the ventilator cap of right side and left side.
   Tighten the ventilator cap, after oil flows out.(During 20 seconds, oil flows out after having removed a ventilator bolt.)
   Afterwards,remove the oil level plug and confirm that oil flows out.
   Finally, tighten the oil level check bolt.

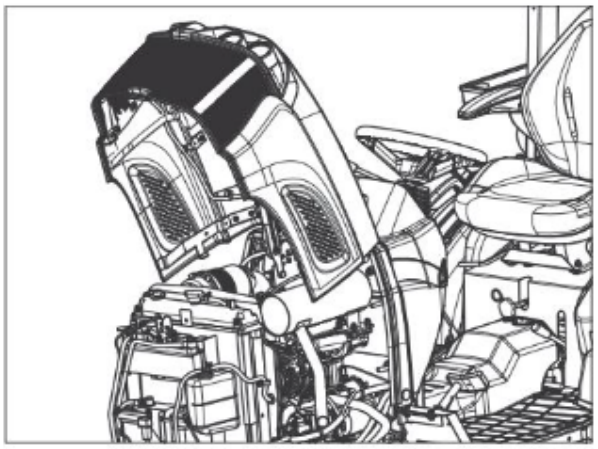
COOLING SYSTEM

■ Grill Screens and Radiator Area

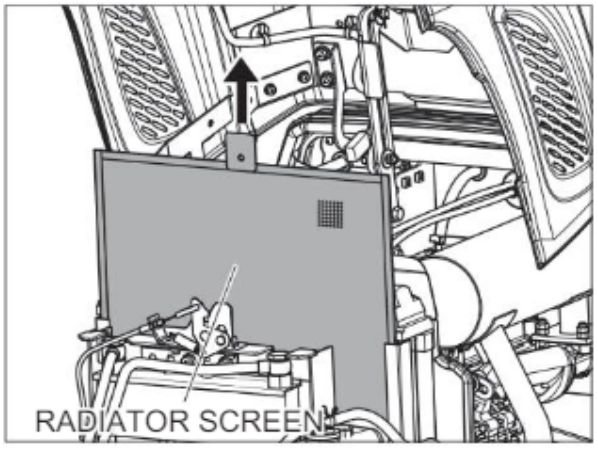
Grille Screens and Radiator Area
Service Interval
..... Every 50 hours
or more frequently if required.

To clean the radiator screen, put the tractor on level ground, apply the park brake and stop the engine.

1. Open the hood.



2. Lift the radiator screen.



3. Clean the radiator screen and the surrounding area.
4. Install the radiator screen.
   Lower the hood.

■ Fan Belt Adjustment

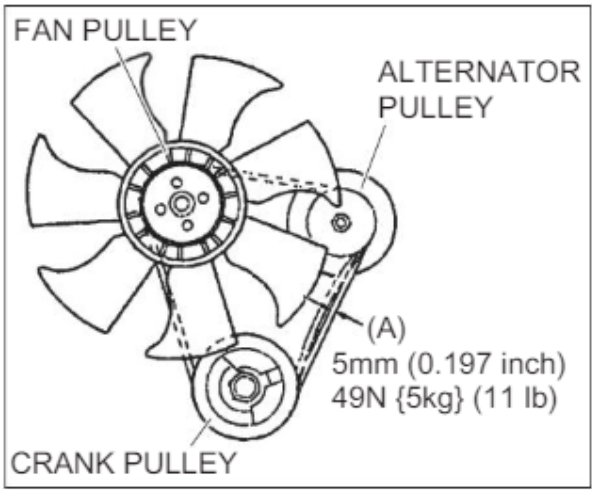
⚠ WARNING

· Be sure to stop the engine and make sure that all the parts are completely stopped before starting adjustment.
Otherwise, it could cause injury.

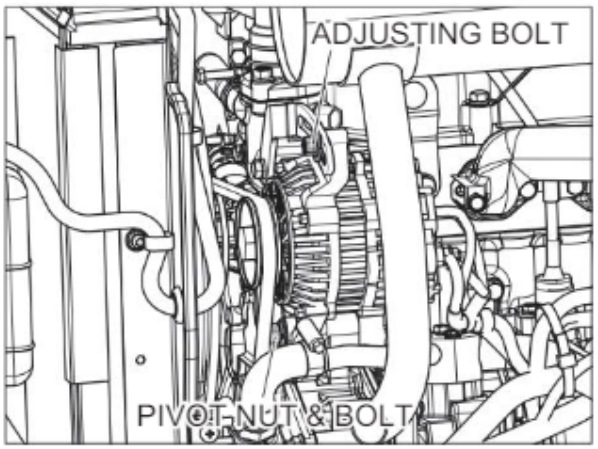
Fan Belt Tension Check Interval
.....Daily or after 10 Hours

NOTE: Adjust the belt tension after the first 50 hours of operation and replace when if needed.

Measure the fan belt for correct tension. Check to see if the belt deflection is about 5mm (0.2 inch) when pushing the belt with 49N{5 kg} (11 lb) load at point (A).



To adjust the fan belt tension, loosen the adjusting bolt and pivot nut of the alternator. Move the alternator away from the engine until as shown above. Tighten the adjusting bolt and pivot nut to a torque of 16 N•m (12 Lb•ft).



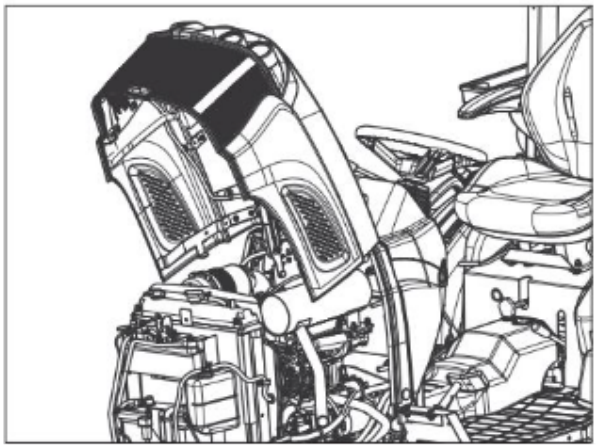
NOTE: Too high tension will cause alternator and water pump bearing failure and belt wear.

Too low tension will cause a decrease in alternator output and belt wear.

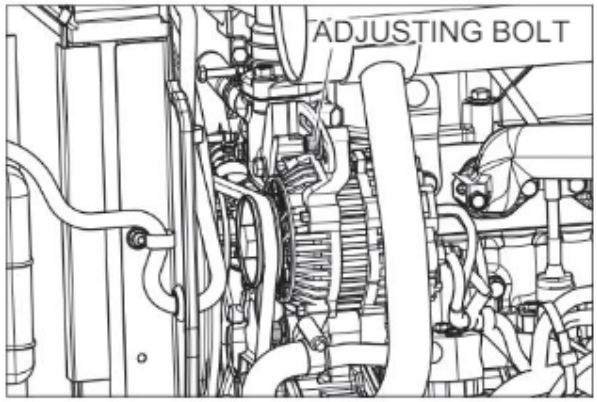
■ Fan Belt Replacement

To replace the fan belt, use following procedure:

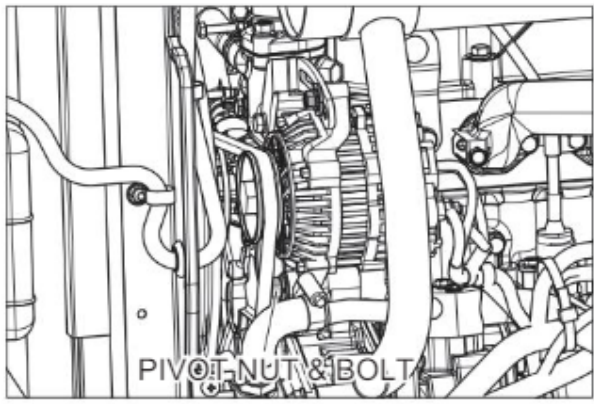
1. Open Bonnet.



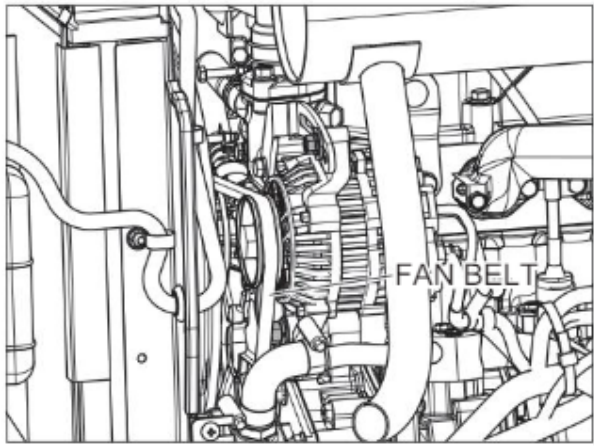
2. Loosen the alternator-adjusting bolt.



3. Loosen the alternator pivot nut and push the alternator toward the engine to remove the belt.



4. Install new fan belt and adjust the belt tension. See Fan Belt Adjustment in this manual for instructions.



CLUTCH PEDAL ADJUSTMENT

■ Service Specifications

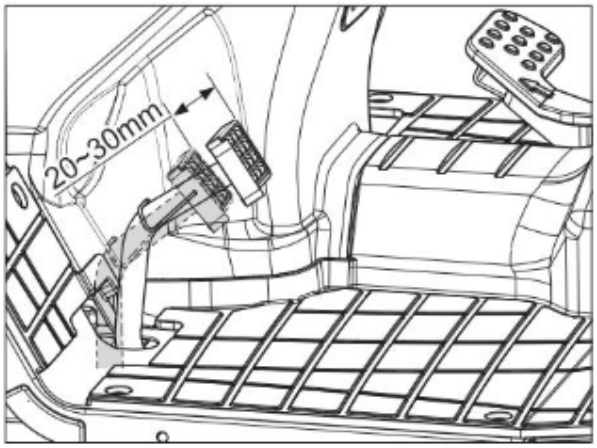
Clutch Pedal Check and Adjustment Interval
..... Every 50 hours
of operation or yearly
Free Pedal Movement
..... 20-30mm (0.8-1.2 inch)

■ Free Movement Adjustment

Clutch pedal free movement is very important and must be checked at the recommended intervals. If there is no free movement, the clutch disc will wear quickly. If there is too much free movement, the clutch will not disengage correctly and the transmission will be difficult to shift.

1. Put the tractor on level ground, move the range shift lever in the L position, apply the park brake, stop the engine and adjust the clutch pedal free movement as follows.

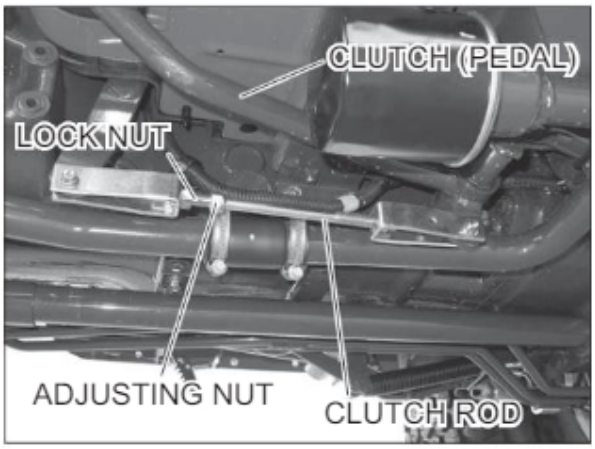
2. Push the clutch pedal down by hand, to measure the amount of pedal free movement.



3. The pedal free movement must be with in the specification shown above.

4. Loosen the lock nut.

5. Adjust the pedal free movement as necessary with the adjusting nuts on the clutch rod.



6. To increase free movement, turn the nuts at inside.

7. To decrease free movement, turn the nuts at outside.

8. Tighten the lock nuts to the torque of 44 to 54 N•m (32 to 40 Lb•ft).

BRAKE PEDAL ADJUSTMENT

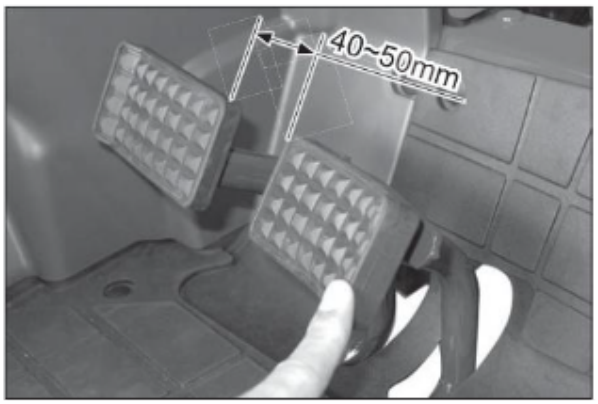
■ Service Specifications

Brake Pedal Check
and Adjustment Interval
.....Every 50 hours or yearly
Free Pedal Movement Specification
.....40 to 50mm (1.57 to 1.97inch)

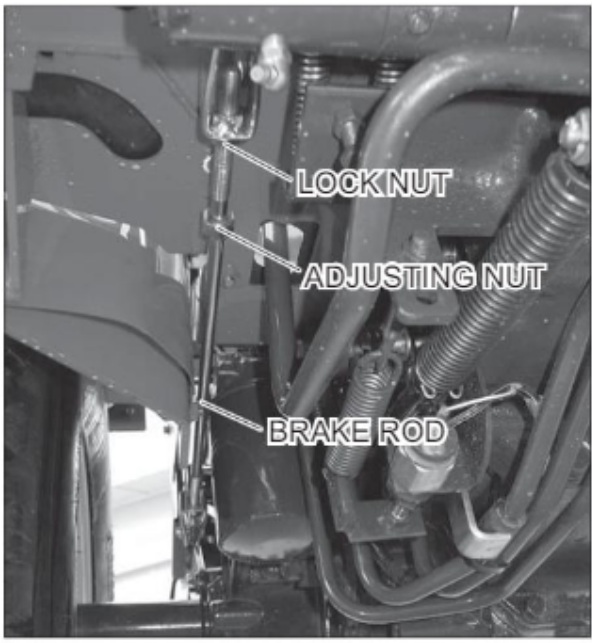
Brake pedal free movement is very important and must be checked at the recommended intervals. If there is no free movement, the brake disks will wear quickly.
If there is too much free movement, accidents may occur. If there is not the same free movement between LH pedal and RH pedal, it may cause serious accidents.

Put the tractor on level ground, move the range lever in the L position.
Stop the engine.

Loosen lock nut and rotate the brake rod to make a free play of 40 to 50 mm (1.57 to 1.97 inch.)
at the brake pedal.
With this free movement is obtained, tighten the lock nut.



Confirm that the right and left brakes operate simultaneously by running the tractor.
If not, adjust both of them by means of the brake rods.



RAISE STOP SETTING POSITION

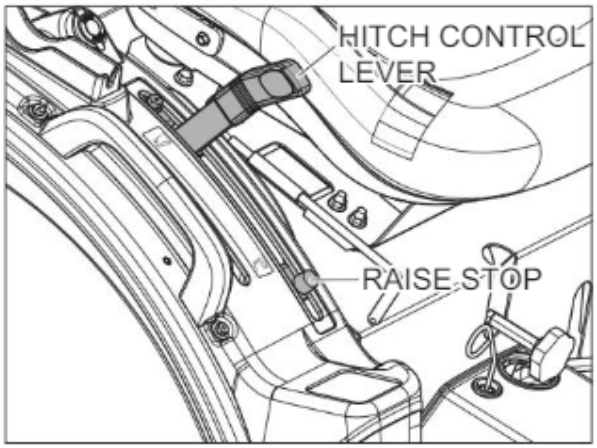
If raise stop setting position is incorrect, the hydraulic pump might be damaged.
Therefore carefully adjust as below.

1. Disconnect an implement from the hitch. (See Disconnecting Implement from Hitch in this manual.)

2. Disconnect LH and RH lifts rods from the lift arms.

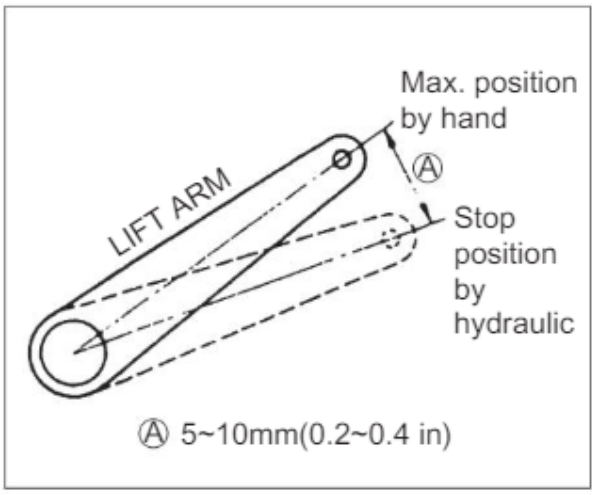
3. Start the engine.

4. Move the hitch control lever rearward to raise the lift arm to the maximum lifting position.



5. With the arm so raised, stop the engine.

6. Check a free play of the lift arm to be 5 to 10 mm at the top of the lift arm by hands.



7. If the free play is insufficient, move the raise stop forward and check again with the same procedure as before.

ELECTRICAL SYSTEM

GENERAL SERVICE INFORMATION

■ Alternator Charging System

Follow these general rules to prevent damage to the electrical system:

1. Before working on the electrical system, disconnect the battery cables.

2. Do not make a reverse battery connection.

3. When you use an auxiliary for starting, connect positive-to-positive and negative on the auxiliary to the tractor side rail as a ground.

4. When charging the tractor battery, disconnect the battery cables from the battery terminals.
   Do not use a battery-charging machine for starting the tractor.

5. Never operate the tractor when the battery cables are disconnected.

6. When you do maintenance on the engine, prevent foreign material from entering alternator.

7. If you must do welding, disconnect the battery. Put the welder ground cable as close as you can to the weld area. Do not put the ground cable where the current can flow through bearings or along channels with wire harnesses.

SPECIFICATIONS

■ Electrical System

Type of System
..... 12 Volt, Negative Ground
Battery
BCI Group Size 51, Top Stud Terminals
..... 12 Volt,
450 CCA at 0°F (530 CCA at 32°F)
Alternator..... 12 Volt, 50 Ampere Output
Voltage Regulator.....IC Built in Alternator
Starter Motor
..... 12 Volt, 1.6 kw with Solenoid Switch
Head Lamp..... 25 Watt
Flasher Lamp..... 23 Watt
Rear Red Lamp ..... 10 Watt
Rear Working Lamp (If Equipped)
..... 23 Watt
Panel Lamp ..... 3.4 Watt
Turn Indication Lamp..... 1.7 Watt
Indicator Lamp..... 1.7 Watt

FUSE DETAILS	
(a) 15A	MAIN
(b) 10A	HAZARD SIGNAL, TURN LAMP, TURN MONITOR LAMP
(c) 10A	ALTERNATOR, GLOW CONTROLLER, ELECMAGNET PUMP, PANEL INDICATOR, ELECTRIC GOVERNOR
(d) 15A	HEAD LAMP
(e) 10A	TURN SIGNAL, TAIL LAMP, HORN
(f) 10A	POWER OUTLET

BATTERY

■ Auxiliary Battery Connections

⚠ DANGER

- **When charging the battery, it generates a great amount of high-flammable hydrogen gas and it may cause fire explosion. Keep fire away and take caution for not generating any sparks.**
- **When charging the battery, remove the battery from the tractor.**
- **When setting on and off the battery, stop the engine and remove the key.**
- **Charge the battery at well ventilated place so as not to accumulate hydrogen gas.**
- **When charging the battery, remove all the vent plugs. (In case of battery requiring water refilling)**
- **The electrolyte is highly-venomous dilute sulfuric acid; therefore, be careful not to spill out. The electorolyte may cause a loss of vision or burning.**
- **When charging, the electorolyte may scatter. Protect the eyes with such as glasses and take caution not to let it spilled on the clothes or skin.**
- **When the electorlyte is attached to eye, skin, or clothes, wash well with a lot of water and drink a lot of water if swallowed. If it enters eye or is swallowed, have a medical diagnosis.**
- **If the battery is used or charged with the electrolyte level indicating below the [LOWER LEVEL] shown on the side of battery, the battery may explode. Immediately refill to the level between the [LOWER LEVEL] and [UPPER LEVEL].**

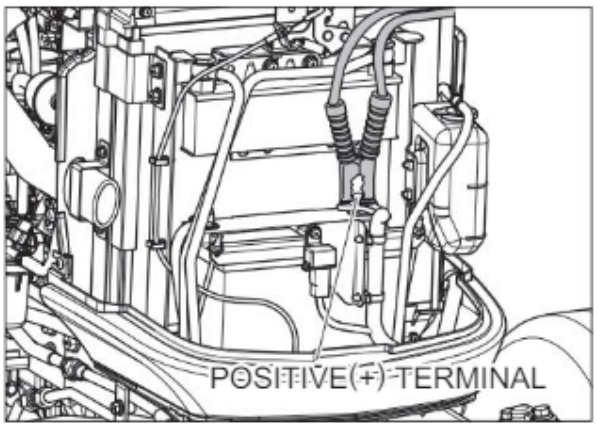
⚠ DANGER

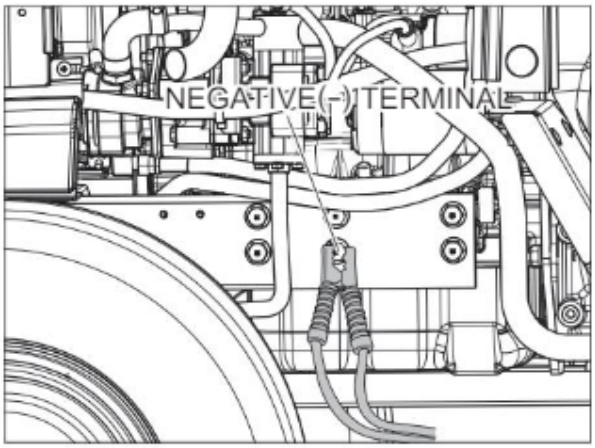
- **Do not connect the auxiliary battery cables across the terminals of the starter to start the engine.**
  Otherwise, it will cause an accident, resulting in injury or death.
- **When connecting a booster battery, be sure to connect the positive terminal of the booster battery to the positive terminal of the tractor battery, and connect the negative terminal of the booster battery only to the chassis of the tractor.**
  Otherwise, spark or short circuit will occur, causing explosion.
- **Be sure not to attempt "jump start" even if you need electrical system repair promptly.**
  Otherwise, it will cause an accident, resulting in injury or death.

When connecting an auxiliary battery or charger to the tractor battery, make sure you connect positive-to-positive and negative on the auxiliary battery to the tractor side rail as a ground.

Do not connect auxiliary battery cables across the terminals of the starter. Start the engine from the operator's seat.

IMPORTANT: This is the only safe method to start the tractor engine with an external power supply. Any other method of starting can cause injury or death to the operator or other persons.





Connect the positive (+) cable clamp of the auxiliary battery to the positive cable terminal of the tractor battery.

Connect the negative (-) cable clamp of the auxiliary battery to the tractor side rail as a ground.

IMPORTANT: Always connect the negative cable last and disconnect the negative cable first to avoid a spark at the battery. A spark can cause a battery explosion and cause injury.

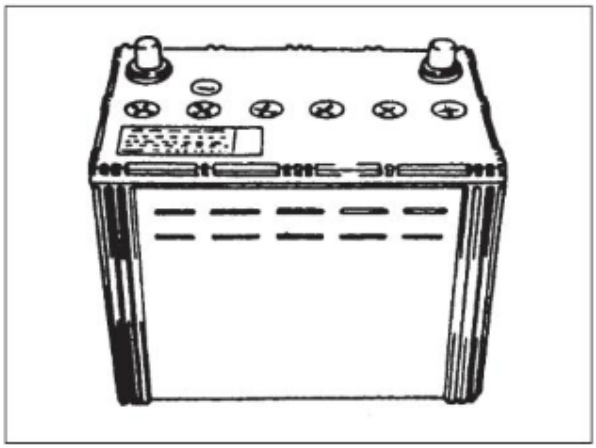
WARNING

BATTERIES CONTAIN ACID AND EXPLOSIVE GAS. EXPLOSION CAN RESULT FROM SPARKS,FLAMES, OR WRONG CABLE CONNECTIONS. TO CONNECT JUMPER CABLES OR CHARGER, SEE MANUAL(S) FOR THE CORRECT PROCEDURE. FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH

321-6714

■ Battery Cables and Terminals

The battery Terminals must be kept clean and tight. A good method to clean terminals is to use Battery Saver. If Saver is not available, remove all corrosion with a wire brush, then wash with a weak solution of baking soda or ammonia. Put some petroleum jelly or light grease on terminals to prevent corrosion.



■ Removal and Installation of Battery

To remove the battery, disconnects the battery cables and remove the battery bracket. When the battery is installed, make sure the cables are installed on the correct terminals. This is a 12-volt, negative ground electrical system and must be so connected.

NOTE: When removing the battery, disconnect the negative cable from the battery first and when install the batter, reconnect negative cable last for safety reasons.

IMPORTANT: Do not start or operate the engine with the electrical system not completely connected.

■ When Charging the Battery

⚠ DANGER

· Do not lay a metal object around the battery terminals.
Otherwise, spark or short circuit will occur, causing explosion.

IMPORTANT: Battery can explode during boosting or charging. Always wear proper eye protection, such as a safety goggles.

If the electric circuit inside the battery is broken, charging can generate a spark inside the battery, which can cause it to explode. If the battery is discharged, and the reason for discharge is unknown and if the lamps or horn do not indicate some battery voltage, check the battery with a volt meter for an open circuit using following procedure.

1. Disconnect the negative (-) cable.
2. Connect the voltmeter across battery terminals.
3. If there is no voltage present, an open internal circuit is indicated.
   Replace the battery.
4. If voltage is present, the battery is OK to charge the battery with a current of 4 amperes for 5 to 10 hours. To charge the battery quickly for urgent need, use a current of 25 amperes for 30 minutes or less. A current larger than specified will cause liquid overflow due to foaming.
5. The specific gravity of electrolyte of a fully charged battery is 1.280 at 20 °C (68 °F).

NOTE:

1. If using a battery charger, be certain the charger is turned off before connecting to the battery.
2. Charge the battery in a well ventilated area.
3. Do not attempt to charge a frozen battery.

■ When Battery is Not in Use

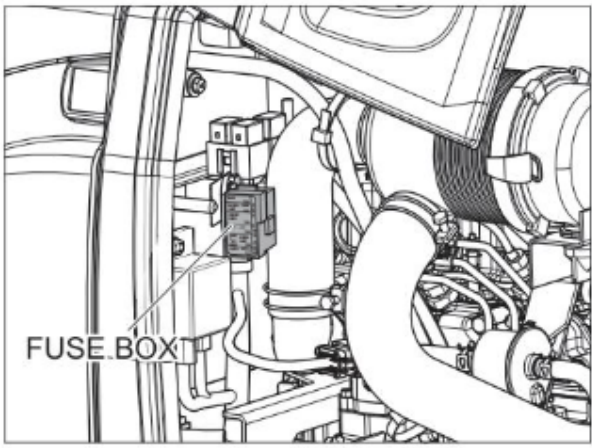
When the tractor is not in use, the battery will need a charge every three mouths to keep the specific gravity at or above 1.240. A storage battery not in use will slowly discharge. A battery that has discharged can freeze at low ambient temperature and cause damage to the battery and tractor.

FUSES

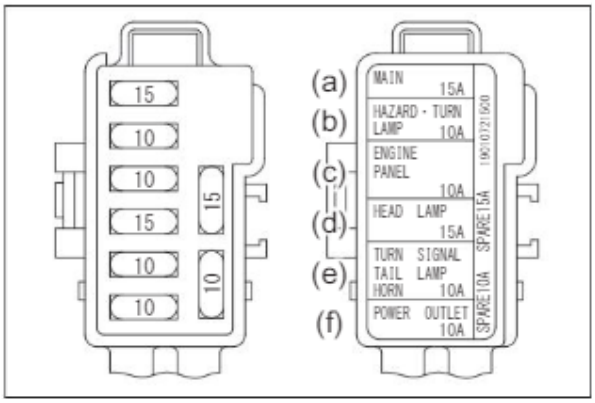
A fuse is provided in order to prevent accident in case there is an error in the wiring circuit.
When an error is recognized in electric system during operation, check the fuse.

■ Fuse Box

Cartridge type fuses are used for headlamps, rear red lamps, instrument lamps, turn signals and flasher lamps, and rear work lamps (if equipped).
The fuses are in the fuse box located at right side of engine room.
If a short circit occurs, the fuse will burn out and break the circuit preventing damage to the electrical system.



When opening the lid of the fuse box, push the lock part and the lid is opened.



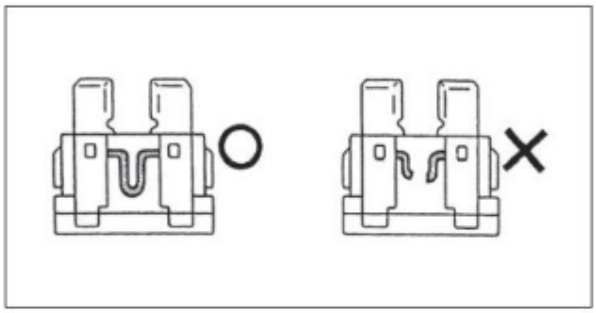
■ Fuse Replacement

⚠ WARNING: For fire prevention

- **Do not use a fuse with capacity different from the one for the attached fuse. Also, do not use a wire or wrapping foil in the place of the fuse. If used, it will cause a overheating of the wire.**

(1) Set the key to <O>.
(2) Remove the fuse.
(3) If the fuse shows as the X marked on the right side of the drawing, the fuse is burnt out.

Replace with a spare fuse



NOTE: When opening the fuse box, hole the box as pressing the concave part of the box cover and pull frontward.

If the fuse continues burnt out after replacement, request a check to the dealer.

■ Line Fuse

If the electrical circuit is accidently grounded or a reverse battery connection is made, the line fuse located on the LH side of the engine will burn out and break the circuit to prevent to damage the solenoid switch, wiring harness and alternator charging system.

If electrical problems occur, the line fuse must be checked for continuity to determine if one of the circuits is broken, see your dealer to replace and correct.

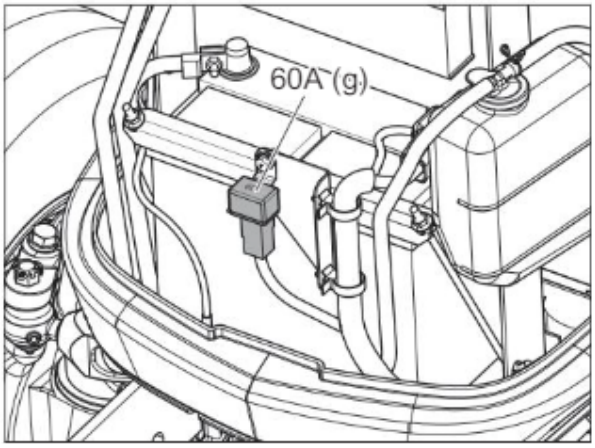


Fig:Protection of the main electrical machinery circuit

NOTE: Exchange of the fuse is performed by opening the lid.

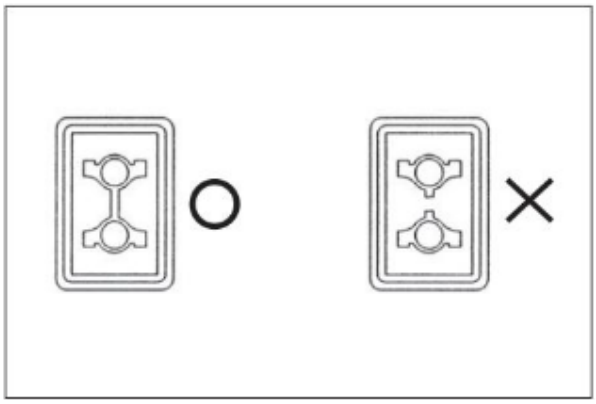
■ Replacement of Fuse (For Line Fuse)

⚠ WARNING: For fire prevention

- **Do not use a fuse with capacity different from the one for the attached fuse (for line fuse). Also, do not use a wire or wrapping foil in the place of the fuse (for line fuse). If used, it will cause a overheating of the wire.**

(1) Remove the battery (-) terminal.

(2) If the fuse (for line fuse) shows as the X marked on the right side of the below drawing, the fuse is burnt out. Replace with a spare fuse (for line fuse)



NOTE: If the fuse burnt out, request a check to the dealer.

When opening the fuse box (for line fuse), pull out the lock to open.

LONG-TERM STORAGE

STORING THE TRACTOR

When your tractor is not to be used for some time, it should be stored in a dry and protected place. Leaving your tractor outdoors, exposed to the elements, will shorten its life. Follow the procedure outlined below when your tractor is placed in storage for periods up to approximately six months.
See your Dealer for the procedure on longer storage periods.

A. Store the tractor so the tires are protected from light. Before storing the tractor, clean the tires thoroughly, Jack up the tractor, when it is to be out of service for a long period. If not jacked up, inflate the tires at regular intervals.

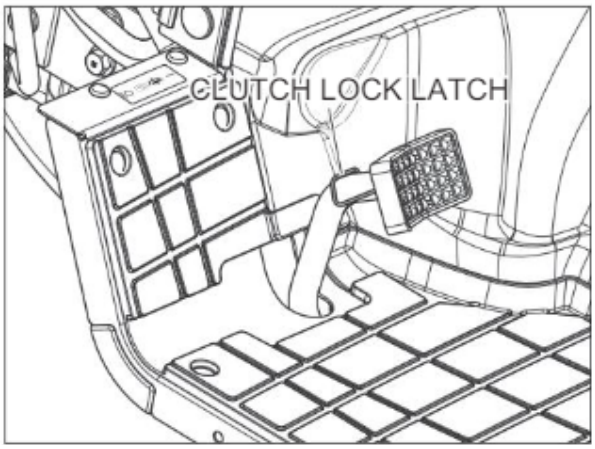
B. Run the engine long enough to thoroughly warm the oil in the crankcase, and then drain the oil. Change the oil filter as instructed in Engine Oil Filter. Refill the crankcase with new oil as specified in Engine Oil Selection in this manual and run the engine for five minutes.

C. Fill the fuel tank with a good grade of Number Two diesel engine fuel.
If this grade has not been used regularly, drain the fuel and refill. Run the engine for about five minutes to circulate the fuel through the injection system.

D. Drain flush and fill the cooling system with an antifreeze mixture ratio to protect the engine to the lowest anticipated temperature or a minimum of 50 % antifreeze and add cooling system conditioner. See COOLING SYSTEM in this manual.

E. Do not remove the battery from the tractor, except for prolonged storage at below freezing temperature. The battery should be fully changed to prevent freezing of electrolyte. Disconnect the negative ground cable at the battery to prevent possible discharge.

F. Clutch assembly may become bound together if a tractor is not used for an extended period of time. A clutch lock latch is provided on your tractor to lock the clutch in the disengaged position and should be used to prevent this condition if your tractor is not used for an extended period of time.



REMOVING FROM STORAGE

Be sure that the grade of oil in the engine crankcase is as specified in Engine Oil Selection in this manual.

A. Loosen the fuel tank drain plug and fuel filter cup, and be sure all water and sediment has drained from the fuel system before closing.
   Tighten the drain plug and replace the filter cup.

B. Check the level of the coolant in the radiator.

C. Check engine oil level.

D. Check hydraulic fluid level.

E. See that the battery is fully charged and that the terminal connections are clamped tightly.

F. On hydrostatic drive tractors, follow the same procedure for starting as Starting Procedure for Hydrostatic Drive Tractors after Transporting on truck or flatcar in this manual.

G. Start the engine and let it run slowly.

IMPORTANT: Keep the doors wide open and move the machine outside of the storage room immediately to avoid danger from exhaust fumes. Do not accelerate the engine rapidly or operate it at high speed immediately after starting.

CAUTION AT VEHICLE WASHING

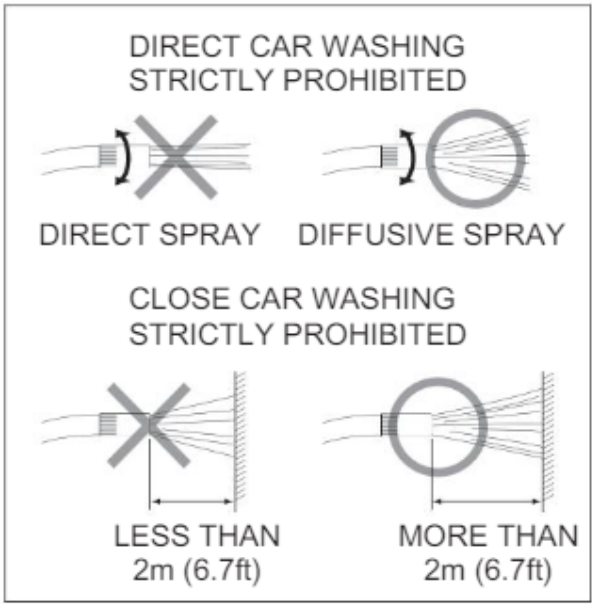
If the pressure washer is operated incorrectly, it may cause an injury or damage, breakage, and failure of the tractor. Refer to the operator's manual and labels of the pressure washer for correct operation.

⚠ WARNING

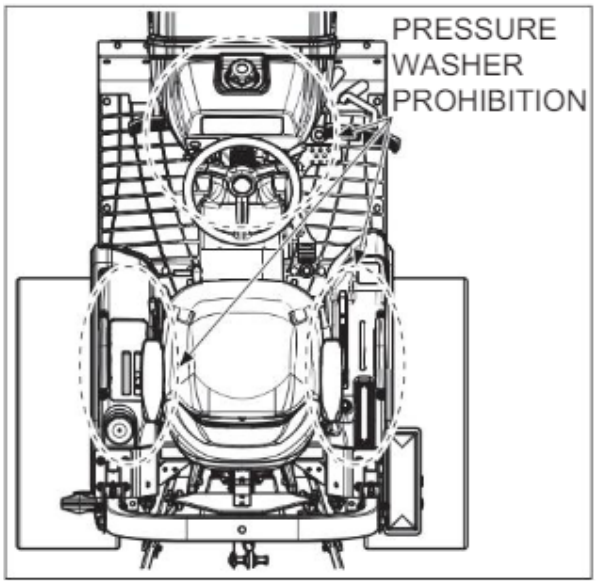
- **For burn, fire, and injury prevention:**
  Diffuse the washing nozzle so as not to damage the tractor and wash it more than 2m away from it. If sprayed directly or washed inappropriately close to the tractor, the followings may occur.

1. **It may cause a fire due to damage and disconnection of coating of electric wiring.**
2. **Highly compressed oil may be sprayed due to damage of the hydraulic hose, and it may damage the tractor.**
3. **It may cause damage, breakage, or failure of the tractor.**

e.g.) **(1) Peeling of stickers and labels**
(2) Failure by entry to electric components or engine and radiator
(3) Damages of rubber parts such as tire and oil seal, plastic parts such as decorative cover, and glasses.
(4) Peeling of paint and coating



IMPORTANT: When washing the tractor with pressure washer, DO NOT directly spray the water to the meter panel, steering column, battery and electric components. Cause damage to the electric components. DO NOT spray the water to the electric wiring part around the engine. It may cause an engine start failure.



IMPORTANT: When washing the tractor with pressure washer, DO NOT directly spray the water to glass and roof (reduce water pressure).

TROUBLESHOOTING

⚠ WARNING: For injury accident prevention

• Place the tractor on flat place, apply parking brake, lower the attachment, stop the engine, and wait until movement of each part stops when cleaning, inspecting, adjusting, and performing maintenance.

When an error occurs, immediately determine the cause and take countermeasures not to worsen the status.

If a cause cannot be determined, or error repeats after adjustment, contact the distributor and have it inspected.

In that case, inform the model type and serial number along the trouble status.

1. Engine

1. Engine does not start. Trouble at starting.

Condition	Cause	Countermeasures	Ref. page
❶Starter does not rotate by turning the key.	○Clutch pedal is not pressed sufficiently.	• Step on the pedal completely.	–
	○Battery discharge	• Recharge or replace the battery.	102 to 105
	○Removal, looseness, or corrosion of battery terminal	• Clean the terminal, tighten firmly, and apply grease for corrosion prevention.	102 to 105
	○Fuse (a) fusing ○Fuse (c) fusing ○Fuse (g) fusing	• Check the wiring and replace the fuse.	105 to 107
❷Starter rotates but engine does not start.	○Low fuel or empty in fuel tank.	• Refuel	–
	○Fuel filter clogging	• Clean or replace the filter.	85 to 86
	○Air entry in fuel system	• Bleed air.	86

2. Insufficient engine output and engine stop

Condition	Cause	Countermeasures	Ref. page
❶Engine rotation is irregular.	○Air entry in fuel system ○Fuel filter water or dust clogging ○Fuel leakage of piping ○Spray nozzle water or dust clogging	• Bleed air. • Clean or replace the filter. • Tighten clamp and replace pipes. • Repair at service dealer.	87 85 to 86 – –
❷Engine rotates excessively.	○Governed clogging	• Repair at service dealer.	–
❸ Engine suddenly stops during operation.	○Low fuel ○Fuse (a) fusing ○Fuse (c) fusing ○Fuse (g) fusing ○Nozzle failure ○Engine seizing due to insufficient oil	• Refuel and bleed air. • Check the wiring and replace the fuse. • Repair at service dealer and replace. • Repair at service dealer.	87 105 to 107 – –
❹ Engine is overheated.	○Radiator clogging ○Insufficient coolant water ○Slackness or damage of fan belt ○Low engine oil	• Clean the radiator screen. • Feed coolant water. • Adjust the belt tension or replace. • Supply oil to the specified level.	96 82 to 84 96 to 97 79
❺Exhaust gas of engine is white. (except for immediately after start)	○Excessive engine oil amount	• Inspect and adjust.	79
❻Exhaust gas of engine is black.	○Air cleaner clogging ○Poor fuel quality	• Clean the element. • Replace to specified type of fuel.	88 to 89 85
❼Engine output failure	○Air cleaner clogging ○Low fuel or fuel filter clogging	• Clean the element. • Check fuel system.	88 to 89 85
❽Oil lamp is lit during operation.	○Low engine oil amount ○Low viscosity of engine oil ○Engine oil filter clogging	• Supply to the specified amount. • Replace to oil with appropriate viscosity. • Replace the oil filter.	79 80 81

2. Driving and Operating Unit

1. Tractor does not start. Brake is not applied.

Condition	Cause	Countermeasures	Ref. page
❶Clutch slips.	○Pedal adjustment failure ○Wear and seizing of clutch lining	• Adjust the play amount of pedal. • Replace the clutch at service dealer.	98 –
❷Clutch cannot be engaged.	○Pedal adjustment failure ○Agglutination of clutch lining	• Adjust the play amount of pedal. • Repair at service dealer.	98 –
❸Poor braking or one side braking	○Excessive play amount of brake pedal ○Wear and seizing of brake lining ○Difference in pressing amount of each side	• Adjust the play amount of pedal. • Replace the brake disc at service dealer. • Step on the both brake pedals equally.	99 – 99
❹Poor return of brake pedals	○Brake return spring is damaged. ○Insufficient grease of each oscillating part	• Replace the spring. • Lubricate.	– 73 to 75

2. Power Steering

Condition	Cause	Countermeasures	Ref. page
❶Steering wheel rotates idle.	○Low oil level (transmission oil) ○Damage and oil leakage of pipes ○Pump failure	• Supply transmission oil to the specified amount. • Retighten or replace. • Repair at service dealer.	90 – –
❷Operation of steering wheel is stiff. Steering wheel cannot be controlled properly.	○Uneven air pressure in tires ○Play at rod end ○Excessive viscosity of used oil	• Set the air pressure of both tires at the specified amount. • Repair at service dealer. • Replace oil or perform warm-up operation sufficiently.	63 to 65 – –
❸Front wheels stagger. (Excessive play amount of steering wheel)	○Looseness of joint ○Play at rod end ○Air entry in hydraulic cylinder	• Retighten. • Repair at service dealer. • Check the oil level and bleed air.	– – –
❹Abnormal noise from hydraulic circuit	○Low oil level (transmission oil) ○Insufficient warm-up operation ○Hydraulic oil filter clogging	• Supply transmission oil to the specified amount. • Perform warm-up operation sufficiently. • Replace hydraulic oil filter. • Repair if pipes are deformed.	90 – 92 to 93 –

3. Hydraulic Unit

1. Hydraulic Systems

Condition	Cause	Countermeasures	Ref. page
❶ Abnormal noise from hydraulic circuit	○Low oil level (transmission oil)	• Supply transmission oil to the specified amount.	90
	○Insufficient warm-up operation	• Perform warm-up operation sufficiently.	–
	○Hydraulic oil filter clogging	• Replace hydraulic oil filter.	92 to 93
		• Repair if pipes are deformed.	–
❷Lift arm cannot be lifted.	○Low oil level (transmission oil)	• Supply transmission oil to the specified amount.	90
	○Hydraulic oil filter clogging	• Replace.	–
	○Gear pump failure	• Repair at service dealer.	–
	○Control valve failure	• Repair at service dealer.	–
❸Oil leakage in pipes	○Looseness of each joint	• Retighten.	–
	○Pipe cracks	• Repair at service dealer.	–
❹Lift arm cannot be lowered.	○Flow control lever is in <FIX> position.	• Set to the <FAST> position.	58
	○Control valve failure	• Repair at service dealer.	–

4. Electric

1. Electric Systems

Condition	Cause	Countermeasures	Ref. page
❶Parts of electric components cannot be actuated.	○Fusing	• Check the wiring and replace each fuse.	105 to 107
❷Lamp indicator cannot be lit or flickered	○Dead bulb	• Replace each bulb.	118

NOTE: When inspecting for any errors, inspect the disconnection of wiring connection, poor contact, and earth failure.
Have it inspected when fusing repeats.

SPECIFICATIONS

SPECIFICATION TABLE

Model			Max26XLT GEAR	Max26XLT HST
Engine	Model		S3L2	S3L2
	Engine Maximum Horsepower(gross)	HP	25.9	25.9
	PTO Horsepower	HP	21.7	20.2
	Rated Engine Speed	rpm	2500	2500
	Number of Cylinders		3	3
	Total Displacement	in^3(cc)	80.4(1318)	80.4(1318)
	Bore and Stroke	in(mm)	3.07x3.62(78x92)	3.07x3.62(78x92)
	Alternator	A	50	50
Dimensions			INDUSTRIAL Tires	INDUSTRIAL Tires
			23X8.5-12/12X16.5	23X8.5-12/12X16.5
	Overall Length with 3-PH	in(mm)	110(2795)	110(2795)
	Overall Width (min.tread)	in(mm)	54.3(1380)	54.3(1380)
	Height to Top of ROPS	in(mm)	84.3(2140)	84.3(2140)
	Wheelbase	in(mm)	63.2(1605)	63.2(1605)
	Min. Ground Clearance	in(mm)	11.4(290)	11.4(290)
	Tread Front (STD)	in(mm)	35.6(905)	35.6(905)
	Tread Rear (STD)	in(mm)	42.1(1070)	42.1(1070)
	Turning Radius W/Brake	feet(m)	7.2(2.2)	7.2(2.2)
	Weight	lbs(kgf)	1896(860)	1973(895)
Drive train	Gear Transmission Type A		Constant(main)	-
	Number of Speeds		F8-R8	-
	Shuttle (Forward & Revers)		Synchro	-
	HST		-	HST
	Number of Speeds		-	2 Range
	Creep Speed (Gear)		N.A.	-
	Brakes Type		Wet-Disc	Wet-Disc
	Park Brake		Latch type	Latch type
	Clutch Type		Dry - Single	Dry - Single
PTO type	Rear PTO Speed	rpm	540 @ 2376	540 @ 2376
	Type		Trans	Live
	Shaft size		1-3/8	1-3/8
	Mid PTO Speed	rpm	2000(Option)@2526	2000(Option)@2526
	Type		Trans	Live
	Shaft size		SAE 1"-12teeth	SAE 1"-12teeth
Hydraulic unit	Lift Capacity at ball-end	lbs(kg)	2315(1050)	2315(1050)
	Lift Capacity at 24" behind	lbs(kg)	1430(650)	1430(650)
	Lift Control Type Std		Position	Position
	3-Point Hitch		SAE Category 1	SAE Category 1
Capacities	Capacities Fuel Tank	USgal(L)	6.1(23)	6.1(23)
	Cooling System	gal(L)	1.3(5.0)	1.3(5.0)
	Coolant Bottle	gal(L)	0.16(0.6)	0.16(0.6)
	Crankcase	gal(L)	1.0(3.8)	1.0(3.8)
	Transmission & Hyd.	gal(L)	5.8(22)	6.1(23)
	Front Axle	gal(L)	1.1(4.0)	1.1(4.0)
Tires	AG Tires (Front/Rear)		7-12/9.5-16	7-12/9.5-16
	Turf Tires (Front/Rear)		23X8.50-12/33x12.50-16.5	23X8.50-12/33x12.50-16.5
	Industrial Tires (Front/Rear)		23X8.50-12/12-16.5	23X8.50-12/12-16.5

SPEED CHART

Gear Drive

Range shift	Gear shift	Tire size (Rear)	Speed : mph (km/h)	
			F	R
L	1	Industrial 12x16.5	0.8(1.3)	0.7(1.1)
	2		1.1(1.8)	0.9(1.5)
	3		1.7(2.8)	1.4(2.3)
	4		2.6(4.2)	2.2(3.5)
H	1		3.2(5.1)	2.7(4.3)
	2		4.5(7.3)	3.8(6.1)
	3		6.8(11.0)	5.7(9.2)
	4		10.4(16.7)	8.7(14.0)

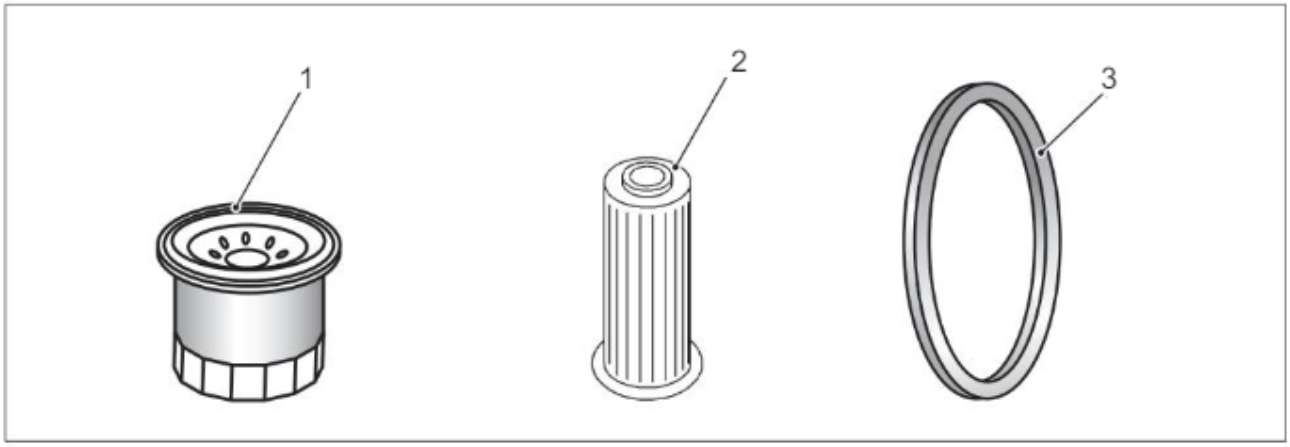
Hydrostatic Drive

Range shift	Tire size (Rear)	Speed : mph (km/h)	
		F	R
L	Industrial 12x16.5	0-3.7(6.0)	0-1.9(3.1)
H		0-9.3(14.9)	0-4.7(7.6)

APPENDIX TABLE

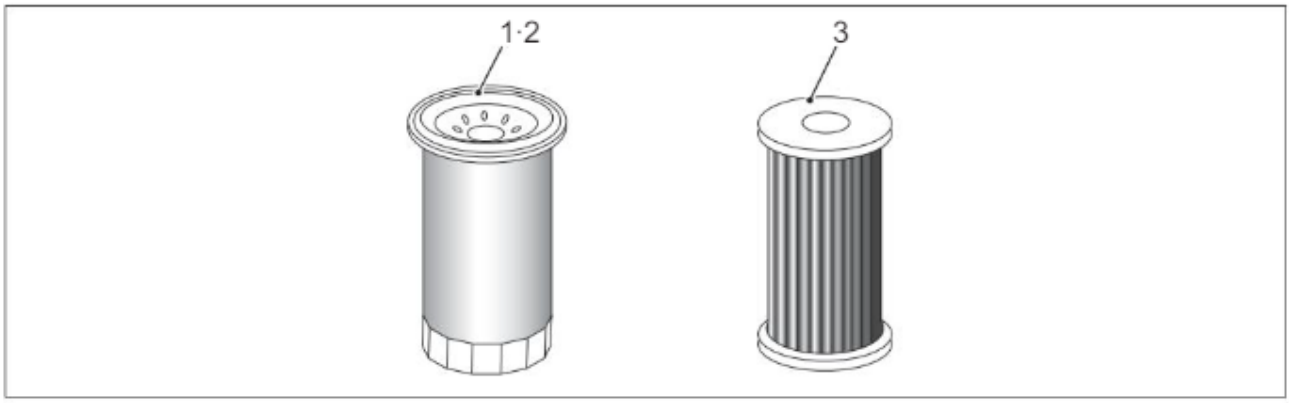
CONSUMABLES

1. Engine



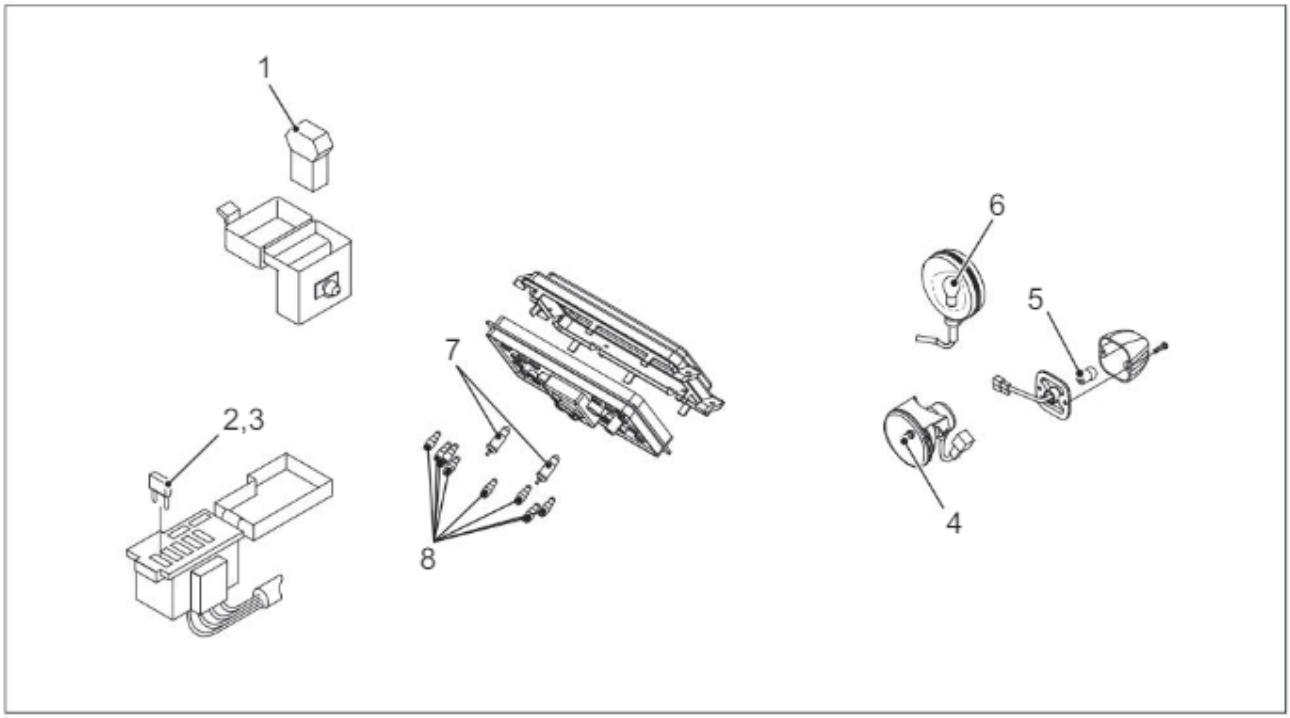
No.	Parts No.	Parts name	Quantity	Type	Remarks
1	31A40-02101	FILTER ASSY, OIL	1		
2	31A62-00317	ELEMENT	1		Fuel filter
3	MD041704	V-BELT	1		

2. Air cleaner and hydraulic line



No.	Parts No.	Parts name	Quantity	Type	Remarks
1	1038 2505 000	FILTER	1		
2	1968 2581 000	FILTER OIL	1		Hydrostatic drive
3	1055 0405 200	FILTER COMPO	1		

3. Electric components



No.	Parts No.	Parts name	Quantity	Type	Remarks
1	0980 2006 0A2	FUSE	1	60A	
2	0980 1001 506	FUSE	3	15A	
3	0980 1001 006	FUSE	5	10A	
4	1062 1121 200	BULB LAMP	4	12V25W	Head Lamp
5	0980 8121 001	BULB	2	12V10W	Rear Red Lamp
6	0980 8123 204	BULB	2	12V23W	Flasher Lamp
7	1046 2854 400	BULB	2	12V3.4W	Panel Lamp
8	1046 2854 500	BULB	8	12V1.7W	Turn Indication Lamp Indicator Lamp

ATTACHMENT

No.	Parts name	Remarks
1	FRONT END WIGHT	20kg
2	MID PTO ATTACHMENT	
3	AUXILIARY VALVE ATTACHMENT	
4	DRAFT-CONTROL ATTACHMENT	
5	TELESCOPIC LOWER LINKS ATTACHMENT	

DETAIL INDEX

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