

OPERATION MANUAL

DIESEL TRACTOR

YM

YM351R

YM358R

YANMAR

In case of exporting this product and providing the related technical material to non-residents in Japan or residents overseas, it is required to comply with the export and trade control laws and regulations of Japan and other relevant countries.
Please be sure to follow the necessary procedure.

INTRODUCTION

Welcome to the World of Yanmar Tractor

Thank you for purchasing Yanmar tractor product that has been designed and manufactured based on the Yanmar state-of-the-art technology and rich expertise in developing and manufacturing products.

Handle the tractor correctly by following the instructions in the operation manual so that the tractor will provide long years of reliable and predictable service.

The operation manual constitutes an indispensable part of the Yanmar tractor product. Always keep the operation manual readily accessible.

Carefully study the operation manual to get familiar with the instructions and informations contained in the operation manual. The instructions and informations are helpful in using the tractor correctly and safely, avoiding personal injury and other accidents during operation and servicing of the tractor. When using any implement together with the tractor, also carefully study the operation manual of the implement so that the operator can use the implement safely, correctly and efficiently.

The operation manual is organized with sections arranged in a particular order so that the operator can better understand the safety messages and the controls on the tractor to help the operator operate the tractor correctly and safely. The operation manual will also help the operator answer questions about operation and servicing.

The tractor shown in the operation manual may somewhat differ from the actual tractor. The operation manual will still assist the operator in understanding the instructions associated with the tractor. Before delivery of the tractor, your Yanmar Tractor dealer has performed a pre-delivery check to ensure that the tractor can long remain problem free.

Unless otherwise specified, the illustration shows YM351R.

All information, descriptions, specifications, drawings, illustrations, and pictures in this manual are based on the latest information available at the time this manual was published. Yanmar reserves the right to make changes at any time without prior notice.

PICTOGRAPHS

To help assist the operator in operating the tractor, various easy to understand pictographs have been created and are used throughout the operation manual. The pictographs are listed below together with the corresponding meanings.



Safety alert symbol

<Instrument panel>



Fuel level



Engine oil pressure



Alternator/Battery charging condition



Engine speed
x1000/min



Hour meter



Engine coolant temperature



Power Take Off (PTO)



Parking brake

<Lights>



Turn signal



Clearance lamp



Headlight high



Headlight low



Hazard warning lights

<Starter key switch>



Engine start



Engine run



Engine shut-off

<Levers and knobs>



Power Take Off (PTO) OFF position



Power Take Off (PTO) ON position



Differential lock



Fast



Slow



Position control raised position



Position control lowered position



Hydraulic flow control/stop



Parking brake lock/unlock

TABLE OF CONTENTS

TABLE OF CONTENTS

1. SAFETY PRECAUTIONS.....	1-1
1. About The Operation Manual	1-1
2. Safety Alert Symbol.....	1-1
3. Precautions Before Operating the Tractor.....	1-2
4. Safe Practices for Operating the Tractor.....	1-3
1. Start the Tractor.....	1-3
2. Work with the Tractor	1-4
3. Stop the Tractor.....	1-5
4. Considerations for Safety of a Child	1-5
5. Operate the Tractor on Slopes	1-5
6. Travel on a Road.....	1-6
7. Safe Practices for Parking the Tractor	1-7
8. Operate the Power Take Off (PTO).....	1-7
9. Use the 3-Point Hitch	1-7
10. Roll-Over Protective Structure (ROPS) Precautions	1-8
11. Safe Practices for Servicing the Tractor.....	1-8
12. Replace the Rubber Product/s, such as Hydraulic Hose, Fuel Hoses, Power Steering Hoses, Radiator Hoses and Air Intake Hose for Every 2 Years	1-10
13. This Tractor is not Designed for Forest Industry, Quarry or Mining Use, nor Designed for Use with Crop Spraying Equipment	1-10
14. Handle Agricultural Chemicals Safely	1-10
■ Handle Agricultural Chemicals Safely	1-10
■ Reduce Risk of Exposure and Injury	1-10
■ Avoid Contact with Agricultural Chemicals	1-11
■ Clean Vehicle of Hazardous Pesticides.....	1-12
15. Understand the Tractor Safety Decals	1-12
■ Safety Alert Symbol	1-12
■ Care of DANGER, WARNING and CAUTION Decals.....	1-12
2. SERVICE THE TRACTOR.....	2-1
"Operational Status Information" about the Owner's Machine	2-2
1. "Fault Diagnostics Tool"	2-2
2. Machine Management System.....	2-2
3. YANMAR's Collection and Use of the "Operational Status Information"	2-2
3. SPECIFICATIONS.....	3-1
1. Specifications Table	3-1
2. Traveling Speeds	3-2
4. IMPLEMENT CAPACITIES	4-1

TABLE OF CONTENTS

5. NAMES AND FUNCTIONS OF COMPONENTS.....	5-1
1. Overview	5-1
■ Names of Main Components	5-1
■ Functions of Main Components	5-2
2. Operator Station Controls.....	5-3
■ Names of Components	5-3
■ Function of Components	5-4
3. Instrument Panel	5-12
6. PRE-OPERATION CHECK	6-1
1. Pre-Operation Check.....	6-1
2. Precautions Before Operation.....	6-1
3. Routine Checks	6-1
4. Prevent Damage to Plastic Surfaces and Painted Surfaces	6-1
7. OPERATE THE ENGINE.....	7-1
1. Start the Engine.....	7-1
2. Shut Off the Engine	7-6
3. Restart a Stalled Engine.....	7-8
4. Start when the Engine Runs Out of Fuel.....	7-8
8. OPERATE THE TRACTOR.....	8-1
1. Operate the Tractor.....	8-2
■ Headlights.....	8-2
■ Turn Signals	8-2
■ Hazard Lights	8-3
■ Range Shift Lever.....	8-4
■ Main Shift Lever.....	8-4
■ Reverser Lever	8-5
■ 2WD/4WD Lever.....	8-5
■ Tips on the 4-Wheel Drive	8-6
■ Throttle Control Lever.....	8-6
■ Accelerator Pedal	8-6
2. Stop the Tractor.....	8-7
■ Stopping Procedure	8-7
■ Stop in an Emergency	8-7
3. Use the Brake.....	8-8
■ Engage the Parking Brake	8-8
■ Disengage the Parking Brake	8-8
■ Use the Brake Pedals as Driving Brake (on Roads).....	8-8
■ Use the Brake Pedal for Sharp Turning.....	8-9
■ Use the Clutch Pedal	8-9
4. Practices for Safe Operation	8-10
■ Differential Lock	8-10
■ Drive the Tractor on Roads	8-10
■ Loading the Tractor on a Trailer	8-11
■ Operate on Slopes and Rough Terrain.....	8-11
■ Uphill and Downhill Slopes	8-12
■ Steep Downhill Slope	8-12
■ About the Power Steering.....	8-13

TABLE OF CONTENTS

5. Raise and Lower the Roll-Over Protective Structure (ROPS)	8-13
■ Lower (Folded "Down") the Roll-Over Protective Structure (ROPS).....	8-14
■ Raise (Unfolded "Up") the Roll-Over Protective Structure (ROPS)	8-14
9. POWER TAKE OFF (PTO) SYSTEM.....	9-1
1. Operate the Power Take Off (PTO) System.....	9-1
■ Determine the Appropriate Power Take Off (PTO) Speed	9-2
■ Engage Power Take Off (PTO) (with the Operator on the Operator Seat).....	9-3
■ Disengage Power Take Off (PTO) (with the Operator on the Operator Seat).....	9-3
2. Using PTO Selection Lever	9-3
10.3-POINT HITCH, HYDRAULIC AND DRAWBAR.....	10-1
1. 3-Point Hitch.....	10-1
■ Use the 3-Point Hitch Control Lever	10-1
■ Use the Position Stop Knob.....	10-2
■ Hydraulic Flow Control/Stop Knob.....	10-2
■ Use the Draft Control <Only YM358R-L1>	10-3
■ Use the Lower Links and Top Link	10-4
■ Level the Implement Front to Rear	10-4
■ Level the Implement Side to Side.....	10-4
■ Adjust the Check Chain	10-5
2. Hydraulic Output.....	10-5
■ Single Acting Cylinder (e.g. Dump Trailer)	10-5
■ Double Acting Cylinder (e.g. Front Dozer).....	10-6
3. Drawbar.....	10-7
■ Maximum Drawbar Loads	10-7
■ Deploy/Stow the Drawbar	10-7
■ Remove Drawbar.....	10-8
■ Allowable Loads when Towing with the Tractor	10-8
4. Use the Safety Chain	10-9
11. TIRES, WHEELS AND WEIGHTS	11-1
1. Tires	11-1
2. Adjust the Wheels	11-2
■ Check the Wheel Bolt, Nut Tightening Torque	11-2
■ Select the Front Tire Rolling Direction.....	11-3
■ Change the Tire Tread Width	11-4
3. Remove/Install the Wheels.....	11-8
4. Weights (Option)	11-8
■ Select the Appropriate Amount of Front Weight.....	11-9
■ Front Weights (Option)	11-9
■ Select the Appropriate Amount of Rear Weight.....	11-9
■ Use the Optional Rear Wheel Weights.....	11-10
■ Auxiliary Wheels	11-10

TABLE OF CONTENTS

12.MAINTENANCE	12-1
1. Maintenance Check List.....	12-1
2. Oil and Grease	12-4
3. Lubricants	12-5
4. Replacement Parts.....	12-6
■ Technical Document.....	12-6
■ Parts	12-6
13.PERIODIC SERVICE.....	13-1
■ Service the Tractor	13-1
■ Warranty and Repair of the Engine	13-1
1. Clean the Tractor.....	13-2
2. Open/Close the Hood.....	13-3
■ Open the Hood	13-3
■ Close the Hood	13-4
3. Daily Checks	13-4
■ Clean the Engine Room	13-4
■ Check the Engine Oil Level	13-4
■ Inspect the Transmission Hydraulic Oil Level.....	13-5
■ Check the Tire Air Pressure	13-6
■ Clean the Grille Screen and Side Screens	13-7
■ Check the Fuel Line.....	13-7
■ Check the Power Steering Line	13-7
■ Check the Retractable Seatbelt.....	13-7
■ Check the Roll-Over Protective Structure (ROPS)	13-7
■ Check the Headlights, Hazard Lights, etc.	13-7
■ Check and Refill the Fuel Tank	13-7
■ Check and Clean the Rubber Dust Unloading Valve.....	13-8
■ Check the Radiator Hoses and Clamps	13-9
■ Clean the Radiator Cooling Screen	13-10
■ Clean Radiator Cooling Fins.....	13-10
■ Check the Wheel Bolt Tightening Torque.....	13-11
■ Inspection Procedure for the Safety System	13-12
■ Check the Cooling System	13-13
■ Adjusting Brake	13-14
■ Adjusting Clutch.....	13-14
■ Check the Battery Condition.....	13-14
4. Check and Replace as Necessary	13-15
■ Inspect the Alternator/Fan Belt	13-15
■ Replace the Battery	13-15
■ Check the Fuses.....	13-15
■ Check the Light Bulbs	13-15
■ Replace the Fuel/Water Separator	13-15
■ Change the Alternator/Fan Belt	13-15
■ Clean and Replace the Air Cleaner Element.....	13-15
■ Replace the Clutch Disk	13-15
■ Replace the Brake Disk	13-15
■ Replace the Tie Rod End	13-15

TABLE OF CONTENTS

5. First 50 Hours.....	13-15
■ Replace the Transmission Hydraulic Oil Filters.....	13-15
■ Change the Transmission Hydraulic Oil	13-15
■ Change the Front Axle Gear Oil	13-15
■ Check the Air Intake Hoses and Clamps.....	13-15
■ Inspect and Adjust the Toe-in.....	13-15
6. Every 50 Hours.....	13-16
■ Check the Front Axle Gear Oil Level.....	13-16
■ Grease Fittings	13-17
■ Service the Alternator/Fan Belt.....	13-18
■ Check the Fuel/Water Separator	13-20
7. Every 100 Hours.....	13-21
■ Clean the Air Cleaner Element.....	13-21
■ Clean the Fuel/Water Separator (and Replace the Fuel/Water Separator Filter).....	13-22
8. Every 200 Hours.....	13-23
■ Inspect and Adjust the Toe-in.....	13-23
■ Check the Air Intake Hoses and Clamps.....	13-24
9. Every 250 Hours.....	13-25
■ Replace the Fuel Filter	13-25
■ Engine Oil	13-25
■ Change the Engine Oil and Engine Oil Filter	13-25
■ Replace the Fuel/Water Separator Filter	13-26
10. Every 300 Hours.....	13-27
■ Change the Front Axle Gear Oil	13-27
11. Every 400 Hours.....	13-28
■ Replace the Outer/Inner Air Cleaner Element	13-28
12. Every 500 Hours.....	13-28
■ Adjust the Brake	13-28
■ Change the Alternator/Fan Belt.....	13-28
■ Change the Tie Rod End	13-28
13. Every 600 Hours.....	13-28
■ Transmission Hydraulic Oil.....	13-28
■ Change the Transmission Hydraulic Oil and Replace the Transmission Hydraulic Oil Filters.....	13-28
14. Every 1000 Hours.....	13-30
■ Adjust the Tension of the Throttle Control Lever	13-30
■ Adjust the Engine Valve Clearance	13-30
15. Every 1500 Hours.....	13-30
■ Check the Fuel Injection Pump.....	13-30
■ Check the Fuel Injection Nozzle	13-30
■ Inspect Crankcase Breather System	13-30
16. Every 2 Years or 2000 Hours	13-31
■ Service the Cooling System	13-31
17. General Maintenance	13-33

TABLE OF CONTENTS

14.SERVICE THE ELECTRICAL SYSTEM	14-1
1. Battery	14-1
■ Service the Battery Safely	14-1
■ Check a Battery	14-2
■ How to Do the Auxiliary Charging.....	14-3
■ How to Check Electrolyte Solution/Fluid Level and Refill Electrolyte Solution/Fluid.....	14-3
■ The Life of a Battery	14-4
■ Remove and Install the Battery	14-4
■ Clean the Battery and Terminals	14-5
■ Use a Booster Battery	14-5
2. Fuses.....	14-6
■ Replace the Accessory Fuses	14-6
■ Check the Alternator Fuse and the Main Fuse	14-7
3. Bulb	14-7
■ Replace the Headlights Bulb	14-7
■ Replace the Position Lights Bulb, Turn Signal/Hazard Lights Bulb, Tail Lights Bulb.....	14-8
15.STORAGE	15-1
1. Safe Practices for Storage	15-1
1. Prepare the Tractor for Storage.....	15-1
2. Prepare the Fuel and Engine for Storage.....	15-1
■ Fuel.....	15-1
■ Engine	15-2
■ Clutch	15-2
2. Prepare the Stored Tractor for Operation.....	15-2
16.TROUBLESHOOTING	16-1
1. How to Use the Troubleshooting Table	16-1
1. Engine	16-1
2. Electrical System.....	16-8
3. Brakes	16-10
4. Steering	16-10
5. Body and Machinery	16-11
17.INDEX.....	17-1

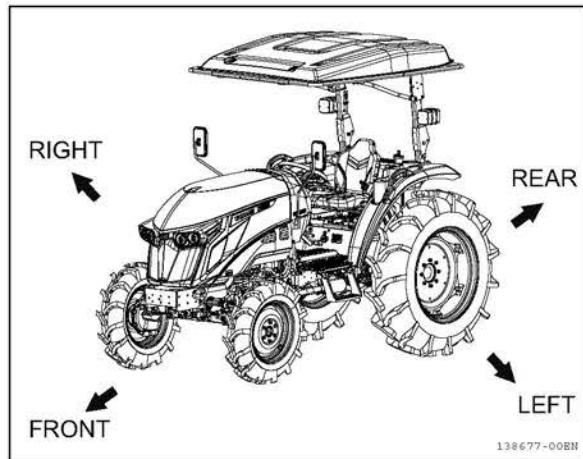
1. SAFETY PRECAUTIONS

1. About The Operation Manual

The operation manual presents messages that help the operator remain aware of potential hazards and possible tractor damage in operating and servicing the tractor. Carefully study all of the information in the operation manual so that the operator can avoid personal injury or property damage.

NOTE

- Unless otherwise stated, the expressions right hand side, left hand side, front side and rear side, used throughout the operation manual are relative to the operator's position.



2. Safety Alert Symbol



The safety alert symbol appears with most safety statements. The safety alert symbol means attention, become alert, the operator's safety is involved! Please read and strictly observe the message that follows the safety alert symbol.

DANGER

Indicates a hazardous situation which, if not avoided, *will* result in death or serious injury.

WARNING

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



WARNING: READ AND FOLLOW ALL INSTRUCTIONS IN THE OPERATION MANUAL BEFORE ATTEMPTING TO OPERATE THE TRACTOR. FAILURE TO COMPLY WITH THE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.



WARNING: The engine exhaust, some of its constituents and certain tractor components contain or emit chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



DANGER: The tractor is built to be operated according to the rules for safe operation in the operation manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. To help prevent accidents, read and take the following precautions before operating the tractor. Failure to observe the following safety instructions could result in serious injury or death.

CAUTION

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

NOTICE

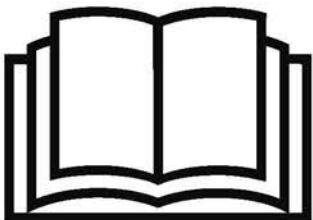
Indicates a situation which can cause damage to the tractor, personal property and/or the environment or cause the equipment to operate improperly.

IMPORTANT: Means that implement or property damage could occur if instructions are ignored.

NOTE: Provides useful information.

3. Precautions Before Operating the Tractor

- Understand the performance and limitations of the tractor. Carefully study the operation manual and learn the instructions in the operation manual before operating or servicing the tractor. Keep the operation manual in an easily accessible place. Do not operate the tractor with the mounted or trailed machinery or trailer unless all instructions in the operation manual have been followed.



- Strictly follow the statements given in the DANGER, WARNING and CAUTION safety decals attached to the tractor.
- Do not operate the tractor with the Roll-Over Protective Structure (ROPS) in the folded "down" position.

Keep the retractable seatbelt fastened while operating the tractor with the Roll-Over Protective Structure (ROPS) in the unfolded "up" position. The preceding practice will reduce the possibility of injury or death in the event of roll over accident.

If the Roll-Over Protective Structure (ROPS) has been removed for any reason, ensure to install all the associated parts before operating the tractor. Do not alter the Roll-Over Protective Structure (ROPS). The altered Roll-Over Protective Structure (ROPS) may fail to provide the designed protection.

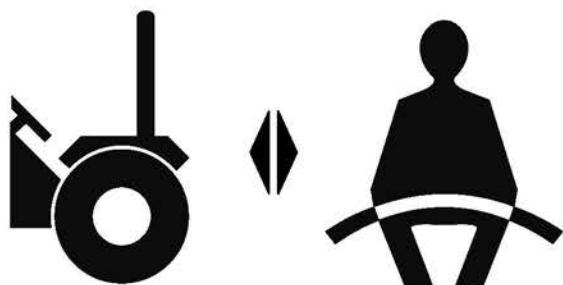
Replace the damaged Roll-Over Protective Structure (ROPS) immediately. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

The foldable Roll-Over Protective Structure (ROPS) may be temporarily folded down when absolutely necessary for areas with height limitations. Remember that when the Roll-Over Protective Structure (ROPS) is in the "down" position, the Roll-Over Protective Structure (ROPS) does not provide operator protection and the retractable seatbelt should not be worn.

NEVER alter or repair the Roll-Over Protective Structure (ROPS). Welding, bending, drilling, grinding, or cutting may weaken the Roll-Over Protective Structure (ROPS). Contact YOUR

LOCAL YANMAR TRACTOR DEALER for technical assistance.

- Always fasten the retractable seatbelt while operating the tractor with the Roll-Over Protective Structure (ROPS) in the unfolded "up" position. Check the retractable seatbelt for any damage. Replace the damaged retractable seatbelt immediately. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance. Do not use the retractable seatbelt if the Roll-Over Protective Structure (ROPS) is in the folded "down" position.



- Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator and/or Roll-Over Protective Structure (ROPS) may be struck, which could result in serious injury.
- Make sure that the usual operator and any other person who will operate the tractor studies the operation manual before operation. Know the controls and how to stop the tractor quickly.
- Make sure that any person or obstacle is not under or around the tractor before and during operation. Make sure to maintain sufficient overhead clearance above the tractor.
- Do not operate the tractor and/or implement installed on the tractor while under the influence of alcohol, drugs, medicine or controlled substance/s or when not fit to operate the tractor.
- During operation and when performing service work:
 - Wear close-fitting clothing.
 - Do not wear loose-fitting clothes, jewelry, baggy or torn clothing.
 - When any of the preceding items is caught by a moving part of the tractor, an accident can happen.
 - Do not wear cut-off pants or shorts which do not provide protection against flying debris.

1. SAFETY PRECAUTIONS

- Do not under any circumstances operate the tractor with bare feet.
 - Do not wear sandals or sneakers.
 - Wear additional protection including non-slip safety boots or shoes, protective goggles and gloves, etc., as appropriate or required by applicable local laws and regulations.
 - Wear ear protection in a noisy environment to prevent hearing damage and to reduce operator fatigue.
10. NEVER allow passenger/s on any portion of the tractor.
11. Always remain seated in the operator seat while operating the tractor.
12. Make sure that the brakes and other mechanical components are properly adjusted and do not have excessive wear.
- Immediately replace all excessively worn out or damaged components.
 - At regular intervals, check that all nuts, bolts and screws are properly tightened.
- (For details, see "Chapter 12. MAINTENANCE" on page 12-1).
13. Always keep the tractor clean. Dust, grease or grass clippings accumulated on the tractor can lead to fire accidents or personal injury.
14. Use the handholds and running board step when getting on and off the tractor to help prevent accidental falls. Keep the running board step clear of mud and debris.
15. Only use the implements that satisfy the requirements in the operation manual or are approved by your Yanmar tractor dealer. (For details, see "Chapter 4. IMPLEMENT CAPACITIES" on page 4-1).
16. When using front or rear mounted implements, install an appropriate weight/s to the front or rear of the tractor to prevent upsetting the tractor.
17. Remember that a narrower tire tread width can lead to greater possibility of upsetting the balance of the tractor. To positively stabilize the tractor, select a maximum possible tire tread width appropriate for the intended application. Contact your local YANMAR tractor dealer for technical assistance.
18. Do not under any circumstances modify the tractor. Modification can deteriorate the performance and/or safety of the tractor, possibly leading to personal injury or property damage.
19. Do not attempt to adjust the low or high idle speed limit screw. Adjusting the low or high idle speed limit screw may impair the safety and performance of the tractor and shorten the life of the tractor.
20. Do not operate the tractor during thunderstorms. Lightning strikes can cause severe injury or even death.
21. Be extremely careful when operating the tractor in close vicinity of suspended power lines. Always be sure that the tractor will not touch the power lines. It can cause severe injury or even death.
22. Do not work with ROPS type when there is a possibility of objects falling from above.



14. Use the handholds and running board step when getting on and off the tractor to help prevent

4. Safe Practices for Operating the Tractor

1. Start the Tractor

1. Remain seated in the operator seat when starting the engine or actuating the levers or controls. Do not start the engine or operate controls while standing beside the tractor.
2. Before starting the engine, ensure that all the levers are in the N (neutral) positions, the parking brake is engaged securely, and Power Take Off (PTO) switch is in the OFF position.
3. Always keep the retractable seatbelt fastened around the operator's waist whenever the Roll-Over Protective Structure (ROPS) is in the unfolded "up" position and locked securely.

4. If the tractor is started where there is a height limitation, immediately return the Roll-Over Protective Structure (ROPS) to the unfolded "up" position and locked securely and fasten the retractable seatbelt.
5. Start the engine of the tractor only by using the starter key switch. Avoid starting the engine by short circuiting across the starter solenoid terminals with a jumper wire, or by bypassing the safety start switch. This defeats the safety interlock circuit and the tractor may begin to move and/or the Power Take Off (PTO) shafts may begin to rotate, possibly leading to personal injury or property damage.

1. SAFETY PRECAUTIONS

6. Avoid running or idling the engine in a confined area that is poorly ventilated or not ventilated at all. The engine emits carbon monoxide gas that is colorless, odorless and can cause death.



7. Before operation, check that all the safety features are functioning correctly. Never tamper with safety devices. Check the proper operation regularly. Contact YOUR LOCAL YANMAR TRACTOR DEALER for safety devices malfunction.
8. Avoid accidental contact with control pedals and levers while the engine is running, as this can cause unexpected movement of the tractor.
9. Always attend to the running tractor.

2. Work with the Tractor

1. Safety is the top priority when a fire broke out. If you notice the smell of smoke or sight of flames, immediately get off the machine and move away from the fire. Never return to the machine. Call the fire department as soon as it is safe to do so.
2. To prevent fire, check and clean the engine room and keep it clean at all times.
3. Tow an implement only with the drawbar. Avoid hitching via the axle housing. The tractor can upset its balance, leading to serious injury or death. Make sure the drawbar pin is locked in place.
4. Any towed vehicle with the total weight exceeding that of the tractor should be equipped with its own braking system that is operational from the tractor operator seat.
5. Make sure that all the covers and guards are in position. Replace any missing or damaged covers immediately.
6. Before turning or during traveling on a rough terrain, or before stopping, decrease the tractor speed in order to prevent upsetting.
7. Use extra caution during operating over rough ground, when crossing ditches or operating on slopes and when turning corners.
8. Avoid turning with the differential lock engaged. Attempting to turn the tractor while the differential lock is engaged can lead to a roll over.

9. Stay clear of ditches, potholes, embankments or ponds. The incident of upsetting the tractor can occur more on soft or wet ground. Before entering an area covered with tall grass, inspect the area to detect any obstacles.
10. The operator should always pay attention for blind corners, trees and other object that can obstruct the operator's vision. The operator should always remain alert when approaching the row of trees or any obstacle.
11. When two or more people are working in one area, always keep in good communication between each other.
12. Do not under any circumstances get on or off the moving tractor.
13. When driving at night, ensure that all necessary lights are illuminated.
14. When driving, do not shift the range gear. Always shift the range gear when the tractor is completely stopped.
15. Avoiding the falling objects.

Be careful when handling large or heavy objects, as there is a danger of the tractor rolling over, or of the object falling off the loader boom onto the operator.

- Never lift a large object with an attachment that may allow the object to roll back onto the operator.
- Do not carry large objects that can fall out of loader bucket into operator's station.
- Do not carry transport or move round or square bales with the bucket attachment.
- Never lift loader higher than necessary to clear ground.
- Move slowly and carefully. Avoid rough terrain.

Front loader attachment points are provided. Never mount loader that is not approved for the YANMAR tractor.

Consult your local YANMAR tractor dealer.



045837-00X00

1. SAFETY PRECAUTIONS

3. Stop the Tractor

The procedures of stopping the tractor are as follows:

1. Make sure that the left side brake pedal and the right side brake pedal are connected with the brake pedal connector lock.
2. Reduce the engine speed.
3. Depress the clutch pedal completely to disengage the clutch.
4. Depress the brake pedals to stop the tractor.
5. Shift reverser lever to the N (neutral) position.

4. Considerations for Safety of a Child

Tragic accidents can occur if the operator is not alert to the presence of a child. A child is often attracted to the tractor. A child does not understand the dangers. Never assume a child will remain where the operator last saw the child.



1. Keep a child out of the operating area and under the watchful care of an adult other than the operator.
2. Be alert if a child enters the work area, stop the tractor immediately.
3. Never allow a child to ride on the tractor. The child can fall off and be seriously injured or interfere with safe tractor operation.
4. Never allow a child under 16 years old to operate the tractor. A child, 16 years old and under should only operate the tractor under close parental supervision and proper instruction.
5. Be extremely careful when backing the tractor. Before and during backing, look back and downward. A child may be in the path.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure the operator's vision of a child or other hazard.
7. Never allow a child to play on the tractor or implement.
8. Keep a child away from hot or running engine. The child may suffer burns.

5. Operate the Tractor on Slopes

On a slope, the tractor is less stable and more prone to tip over, possibly leading to serious injury or death. Remain very cautious while the tractor is on any slope.



A2019005

DO:

- Operate up and down slopes, not across.
- Remove obstacles such as rocks, limbs, etc.
- Watch for potholes, ruts or bumps. Uneven terrain can overturn the tractor. Tall grass can hide such obstacles.
- Place the transmission in the low range and engage the 4-wheel drive when climbing or descending slopes. Always keep the tractor in gear when going down slopes to take advantage of engine braking action.

- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction. Rapid engagement or braking can cause the front of the tractor to lift and rapidly tip over backwards which can cause serious injury.
- Avoid starting or stopping on a slope. If tires lose traction, push down Power Take Off (PTO) switch to OFF position and proceed slowly straight down the slope.
- To avoid upset, move backward up a steep slope. If backing on the slope is difficult, do not attempt to continue. Avoid an extremely steep slope.
- When moving forward to get out from a ditch, deep mud or when traveling on a steep slope, the risk of the tractor upsetting backward is high. Always move backward to get out from these situations. In the 4-wheel drive mode, special caution is needed to avoid false confidence in the tractor's ability to climb slopes.
- To improve stability on a slope, select the widest possible tire tread width. Observe the instructions for appropriate weighting.

1. SAFETY PRECAUTIONS

DO NOT:

- Do not drive near the edge of a gully or a steep embankment.
Avoid holes, ditches, etc. which may cause the tractor to tip over, especially on hillsides or steep slopes.

WARNING

- Keep away from slopes steeper than 15 degrees. See page 8-11 "Operate on Slopes and Rough Terrain" for the details.
- Before approaching a slope, select an appropriate speed setting. Make sure to run the tractor at a lower speed on slopes. Never attempt to shift gears on a slope. The tractor can suddenly go downhill out of control. Avoid increasing and decreasing the tractor speed rapidly.
- Do not move the range shift lever in the N (neutral) position when on a slope.
- When climbing or descending a slope, do not shift the range shift lever. Shifting the range shift lever into the N (neutral) position can result in loss of control of the tractor.
- Starting the tractor with the front end uphill can cause the front wheels to jump off the ground and this situation poses an extreme danger. To avoid this problem, run the engine at a lower speed, and gently start the tractor.
- Avoid parking the tractor on a slope. If parking on a slope is unavoidable, chock all the tires safely and securely and engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
- Avoid depressing the clutch pedal when operating on a slope.

6. Travel on a Road

1. Disengagement of the 4-wheel drive is recommended.
2. Remember that the braking characteristics differ between the 2-wheel drive and 4-wheel drive modes. Be aware of the current drive mode and use carefully.
3. Release the clutch pedal slowly.
4. Before turning, always slow down the tractor. High speed turn may cause the tractor to tip over.
5. When traveling on a road, use the hazard lights and turn signal lights as required by the currently effective local laws or regulations.
6. Strictly observe all the currently effective local traffic and safety laws and regulations.
7. Turn ON the headlights as required by the currently effective local laws or regulations.
8. Always travel at a speed that allows the operator to maintain control of the tractor.
9. NEVER engage differential lock while traveling on a road. It may cause the operator to lose control of the tractor.
10. While traveling on a road, do not turn the steering wheel suddenly. Such an action can lead to loss in the stability of the tractor and can cause an extremely dangerous situation.
11. While on a road, do not attempt to operate an implement. During transportation, place the 3-point hitch control lever in the raised position and lock the 3-point hitch control lever with the position stop knob. Do not fully close the hydraulic flow control/stop knob to hold an implement in the raised position while the tractor is traveling with the implements. The preceding action can cause damage to the hydraulic lift circuit.
12. When towing implement, connect a safety chain to the implement.

1. SAFETY PRECAUTIONS

13. Use safety lights and devices at night because slow moving tractors on public road are hard to see.
14. Make sure that the left brake pedal and right brake pedal are connected with the brake pedal connector lock. Do not release the brake pedal connector lock while traveling on a road.

7. Safe Practices for Parking the Tractor

1. Press the Power Take Off (PTO) switch to OFF position, ALWAYS lower the implements and attachments to the ground, move all the levers to N (neutral) position, engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3, shut off the engine and remove the key.
2. Before leaving the tractor, ensure that the tractor is completely stopped.
3. Avoid parking the tractor on a steep slope. Rather, park on solid and level ground whenever possible. If parking on a slope is unavoidable, park the tractor across the slope and lower the implement to the ground and chock all the tires safely and securely.

8. Operate the Power Take Off (PTO)

1. Before connecting/disconnecting, adjusting, cleaning or servicing Power Take Off (PTO) driven implement, ensure that the engine is not running and that all the moving components are not moving.
2. Make sure that Power Take Off (PTO) shaft cap is always in place. Replace Power Take Off (PTO) shaft cap only when the shaft is not moving.
3. Before installing or operating the Power Take Off (PTO) driven implement, carefully study the operation manual of the implement and the safety decals on the implement.



4. When installing stationary Power Take Off (PTO) driven implements, ensure to engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3, chock all the tires safely and securely. Avoid approaching or accessing any rotating component.
5. Make sure to remove the drawbar before using the Power Take Off (PTO).

9. Use the 3-Point Hitch

1. Use the 3-point hitch only in conjunction with the implement that is specifically designed for use with the 3-point hitch.
2. Before using the 3-point hitch mounted implement, the appropriate weight may need to be installed on the front of the tractor.
3. While on a road, do not attempt to operate an implement. During transportation, place the 3-point hitch control lever in the raised position and lock the 3-point hitch control lever with the position stop knob. Do not fully close the hydraulic flow control/stop knob to hold an implement in the raised position while the tractor is traveling with the implement. The preceding action can cause damage to the hydraulic lift circuit.

10. Roll-Over Protective Structure (ROPS) Precautions

The tractor is equipped with a Roll-Over Protective Structure (ROPS) which must be maintained in a fully functional condition. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging branches, before entering or leaving buildings, or in any other situation where the operator and/or Roll-Over Protective Structure (ROPS) can be struck, which can result in serious injury.

1. Always keep the Roll-Over Protective Structure (ROPS) on its original condition.
2. Replace the Roll-Over Protective Structure (ROPS) whenever the Roll-Over Protective Structure (ROPS) has been damaged. The

preceding action can weaken the structure and endanger the safety of the operator.

Contact your local YANMAR tractor dealer for technical assistance.

3. Use only genuine parts to replace any damaged part/s of the Roll-Over Protective Structure (ROPS).
4. Never attach ropes, chains or cables to the Roll-Over Protective Structure (ROPS) for pulling purposes.
5. Although the Roll-Over Protective Structure (ROPS) provides the operator protection in accordance with the regulations and relevant standards at the time of manufacture, ALWAYS take the necessary precautions.

11. Safe Practices for Servicing the Tractor

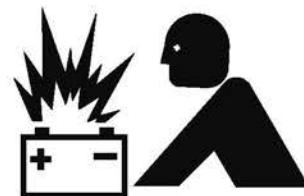
Before starting any service work, park the tractor on solid and level ground, engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3, lower the implement to the ground, move all the levers to N (neutral) position, press the Power Take Off (PTO) switch to OFF position, shut off the engine and remove the key. Only trained adults should service the tractor. Understand the instructions in the Operation Manual before servicing.

1. Always keep a first aid kit and a fire extinguisher readily available.
2. Before accessing the engine, muffler, radiator and radiator cap or other possibly hot components, wait until the tractor has fully cooled down.
3. Keep the tractor and the attachments free of grass, leaves or other debris build-up.



4. Use extreme care in handling diesel fuels. Diesel fuels are extremely flammable and the vapors are explosive.
5. Close fuel shut-off valve before servicing the fuel system.

6. Make sure to shut off the engine before refueling. After refueling, replace fuel filler cap securely and wipe off any spilled diesel fuel before starting the engine as the diesel fuel may cause a fire or explosion.
7. Do not smoke while refueling. Keep any spark or open flame away from the fuel tank.
8. Never refuel the tractor indoors because diesel fuel vapors will accumulate in the area.
9. Never store the fuel container or tractor indoor where there is an open flame or spark, such as a gas water heater, space heater or furnace.
10. Do not smoke while working around the battery. Keep any sparks or open flame away from the battery. The battery emits hydrogen and oxygen gasses, in particular during recharging and can pose a hazard of explosion.



11. Prior to "jump starting" a tractor that has fully depleted battery, read and follow all the instructions in "Chapter 14. SERVICE THE ELECTRICAL SYSTEM" on page 14-1.

1. SAFETY PRECAUTIONS

12. Add coolant or water to the reserve tank, not to the radiator (For details, see "Check the Cooling System" on page 13-13).



13. Before working on or around electrical components, disconnect the negative (-) battery terminal first.
14. To prevent a spark occurring from short circuit, disconnect the negative (-) battery terminal first and reconnect last.



15. The operator must not mount a tire onto a rim. Only qualified person must mount tire onto a rim.
16. Always keep the tires at the correct tire air pressure level. Avoid exceeding the recommended tire air pressure specified in the operation manual.



17. Wheel bolts must be tightened to specified torque using the proper procedure anytime it is loosened.
18. Keep the tractor securely supported while changing the wheels or adjusting the tire tread width. Make sure to tighten the wheel bolts to the specified tightening torque.
19. Avoid working under any hydraulically supported devices. Such devices can leak, suddenly settle down, or be accidentally lowered. If working beneath the tractor or an implement is

unavoidable, ensure to use a stand or lift apparatus with the capacity of more than 3 tons.

20. High pressure hydraulic fluid when released can penetrate human skin, possibly leading to serious personal injury. Before disconnecting any hydraulic line, fully release the internal pressure. Before exerting a pressure to the hydraulic system, ensure that all connections are tight and all the lines, pipes and hoses are free from fractures/fissures or any other damage.
21. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.
22. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



23. Check brake operation frequently. Adjust and service as required.
24. Keep all bolts and nuts tightened, make sure the tractor and the attachment is in safe working condition.
25. Avoid changing the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
26. Observe proper waste disposal laws and regulations. Prior to disposal, determine the proper method to dispose of waste from your local Environmental Protection Agency. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.
27. Use container approved by the effective law when draining fluids. Avoid using food or beverage containers that can mislead someone into drinking from food or beverage containers. Properly dispose of the containers immediately following the draining of fluids.

1. SAFETY PRECAUTIONS

28. Observe your local Environmental Protection Agency regulations when disposing of oil, fuel, coolant, brake fluids, filters, batteries, tires and other harmful waste.
29. Yanmar does not recommend the use of a pressure washer or garden hose to clean the tractor. Electrical components, spindles, pulleys, bearings or the engine can be damaged. The use of water will result in shortened life and reduce serviceability.



WARNING: THE OWNER/OPERATOR RESPONSIBILITY: Restrict the use of the tractor to persons who read, understand and follow the warnings and instructions in the operation manual and on the tractor.

12. Replace the Rubber Product/s, such as Hydraulic Hose, Fuel Hoses, Power Steering Hoses, Radiator Hoses and Air Intake Hose for Every 2 Years

The rubber product/s has/have a deteriorative character. The deteriorated rubber product/s may cause defects and damages such as fluid leakage, loss control of the tractor during operation, fire, burn injury.

13. This Tractor is not Designed for Forest Industry, Quarry or Mining Use, nor Designed for Use with Crop Spraying Equipment

14. Handle Agricultural Chemicals Safely

NOTE

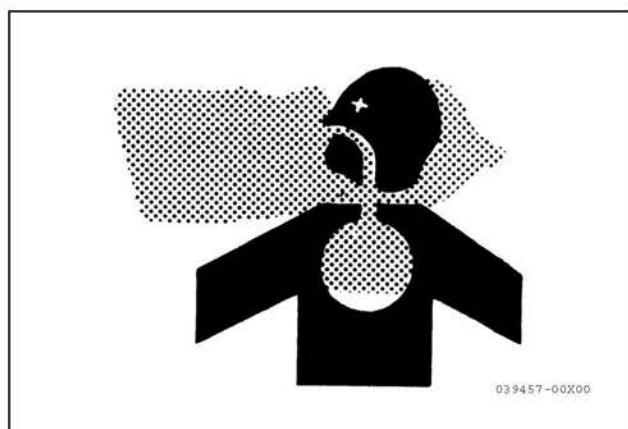
- This tractor is not equipped with a cabin. The instructions below also include instructions with the cabin installed.

■ Handle Agricultural Chemicals Safely

Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully. Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

■ Reduce Risk of Exposure and Injury

- Wear appropriate personal protective equipment as recommended by the chemical manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled "**Danger**": Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled "**Warning**": Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled "**Caution**": Least toxic. Generally require use of gloves and skin protection.



1. SAFETY PRECAUTIONS

- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.
- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly Triple rinse empty containers and puncture or crush containers and dispose of properly.
- Dispose of filter with hazardous pesticide according to published regulations or directives.
- For the training and education of an agricultural chemical, refer to the instruction manual for that agricultural chemicals.

■ Avoid Contact with Agricultural Chemicals

This enclosed cab does not protect against inhaling vapor, aerosol or dust.

The tractor shall not be used under conditions requiring protection against hazardous substances.

- When operating in an environment where pesticides are present, wear a long-sleeved shirt, long-legged pants, shoes, and socks.
- If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.
- Wear personal protective equipment as required by the pesticide use instructions when must be cleaned, enclosed cab:
 - into a treated area
 - to work with contaminated application equipment such as nozzles which must be cleaned, changed or redirected
 - to become involved with mixing and loading activities
- Before re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.
- Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



048591-00X00

■ Clean Vehicle of Hazardous Pesticides

During application of hazardous pesticides, pesticide residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous pesticides.

When exposed to hazardous pesticides, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

- Sweep or vacuum the floor of cab.
- Clean headliners and inside cowlings of cab.
- Wash entire exterior of vehicle.
- Dispose of any wash water with hazardous concentrations of active or non- active ingredients according to published regulations or directives.

15. Understand the Tractor Safety Decals

■ Safety Alert Symbol

The tractor safety decals illustrated in this section are provided in critical areas on the tractor so that people including the operator can remain always aware of potential hazards.

The tractor safety decals contain the words DANGER, WARNING and CAUTION together with the safety alert symbol. DANGER and WARNING stand for the most serious hazards.

The operation manual also contains special safety messages that explain potential hazards about which the operator must remain cautious. The messages are presented together with the word CAUTION and the safety alert symbol.

■ Care of DANGER, WARNING and CAUTION Decals

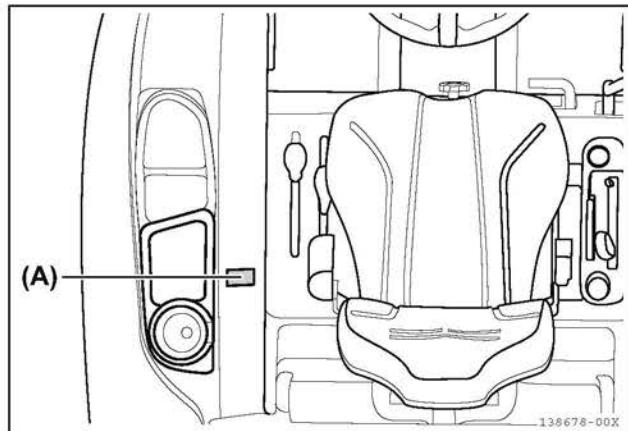
1. Always keep all the DANGER, WARNING and CAUTION decals clean and clearly legible.
2. Clean the DANGER, WARNING and CAUTION decals with soap and water, wipe dry with clean soft cloth.
3. Replace damaged or missing DANGER, WARNING and CAUTION decals with new decals available from YOUR LOCAL YANMAR TRACTOR DEALER.
4. If a component having a DANGER, WARNING and CAUTION decals is replaced with a new decal, ensure that the new decal is on the same location as of the old component.
5. Affix a new DANGER, WARNING and CAUTION decals flat on a clean and dry surface, squeezing out trapped air.

1. SAFETY PRECAUTIONS

(A) 1A8310-65950

⚠ WARNING

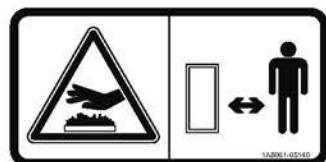
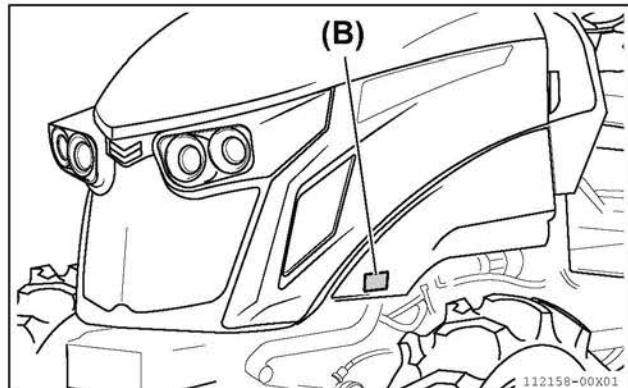
- This structure's protective capability may be impaired by structural damage, overturn, or alteration. If any of these conditions occur, this structure must be replaced.



(B) 1A8061-65140

⚠ CAUTION

Stay clear of hot surface.
Do not touch hot surface like exhaust muffler,
etc.



1. SAFETY PRECAUTIONS

(C) 1A8252-65400



WARNING
STAY CLEAR OF ENGINE FAN AND FAN BELT.

(D) 1A8252-65120



Fingers or hand entanglement rotating parts.
Put safety shield in place while engine is
running or machine is moving.

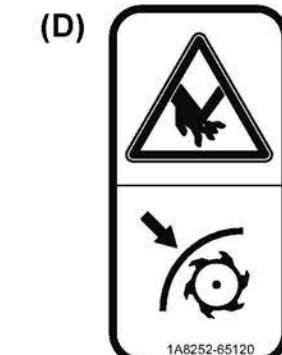
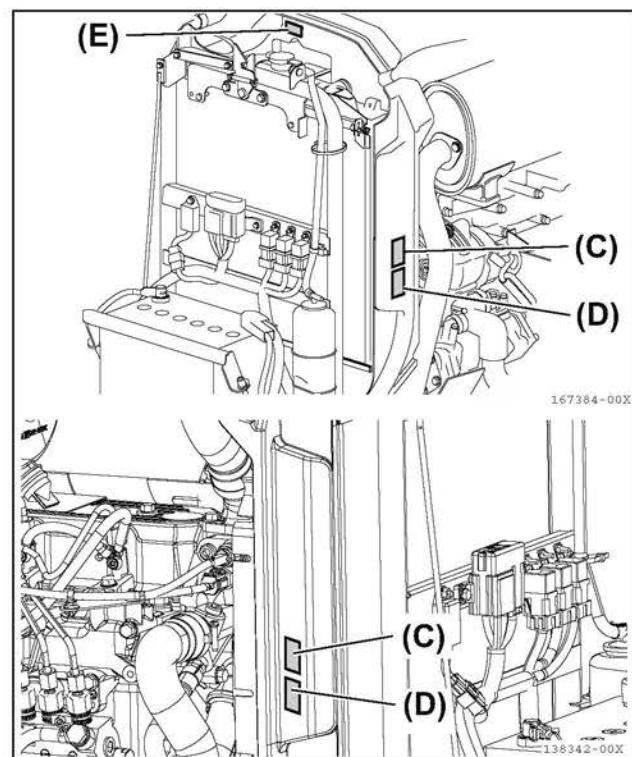
(E) 1A8061-65150



Do not open the radiator cap at high
temperature.
Hot water may blow out and cause burns.
Always allow the tractor to fully cool down
before accessing the radiator.

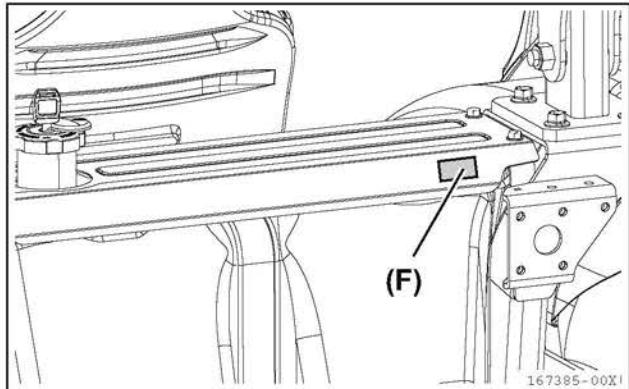
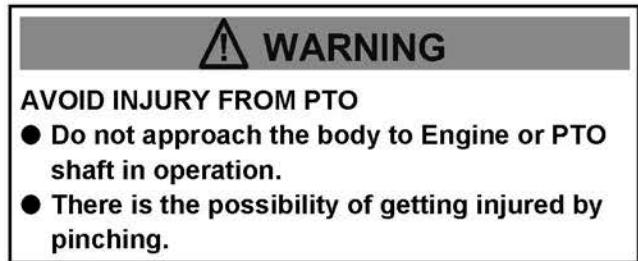
*The hood is open.

Refer to page 13-3 on how to open the hood. Same
labels are attached on the other side.

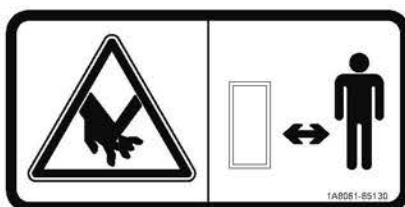
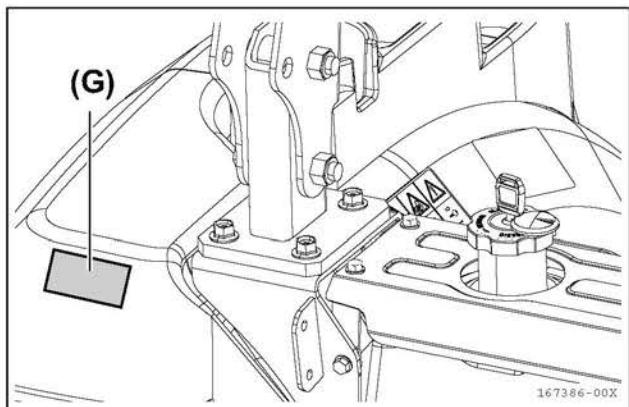


1. SAFETY PRECAUTIONS

(F) 1A8061-65110



(G) 1A8061-65130

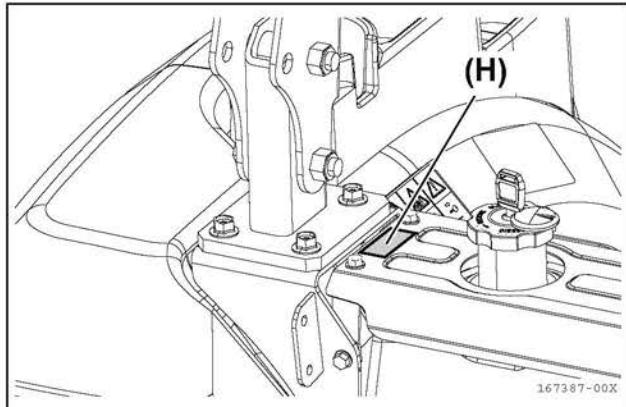


1. SAFETY PRECAUTIONS

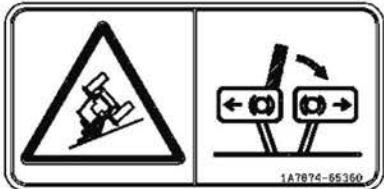
(H) 1A8330-65930

! WARNING

1. Use extreme care in handling diesel fuels. Diesel fuels are extremely flammable and the vapors are explosive. Use only a container approved by the local effective law.
2. Make sure to shut off the engine before refueling. After refueling, replace fuel filler cap securely and wipe off any spilled diesel fuel before starting the engine as the diesel fuel may cause a fire or explosion.
3. Do not smoke while refueling. Keep any spark or open flame away from the fuel tank.
4. Never refuel the tractor indoors because diesel fuel vapors will accumulate in the area.
5. Never store the fuel container or tractor indoor where there is an open flame or spark, such as a gas water heater, space heater or furnace.

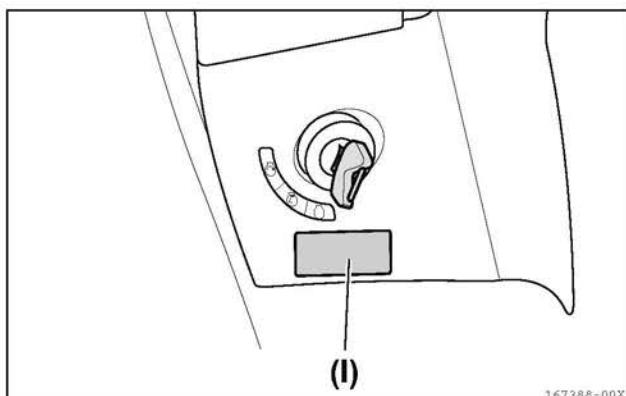


(I) 1A7874-65360



! WARNING

Make sure that the left brake pedal and the right side brake pedal are connected with the brake pedal connector lock. Do not release the brake pedal connector lock while traveling on a road.

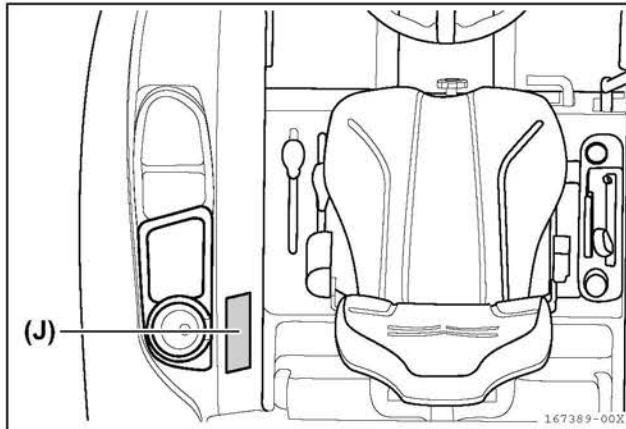


1. SAFETY PRECAUTIONS

(J) 1A8310-65310

⚠ WARNING

- Read and understand operation manual carefully.
- Stop the engine and remove key before servicing.
- Avoid entanglement. Always keep hands away from rotating parts.
- Keep a safe distance from the machine.
- Never allow passenger/s on any portion of the tractor.



⚠ DANGER

TO AVOID INJURY OR DEATH:

- Do not start engine by shorting across starter terminals or bypassing safety start switch.
- Start engine only from seat with transmission and PTO OFF.

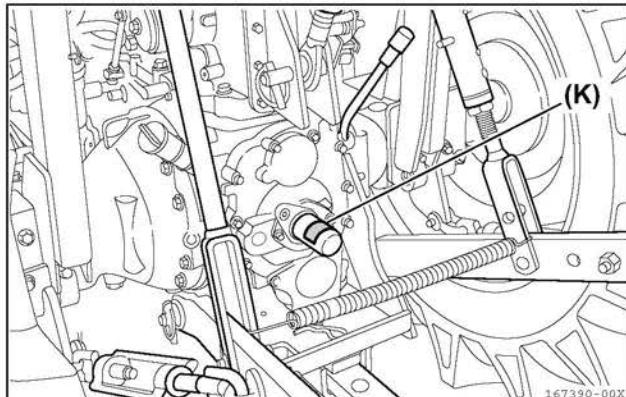


(K) 1A8061-65110



⚠ WARNING

- Do not approach the body to Engine or PTO shaft in operation.
- There is the possibility of getting injured by pinching.



2. SERVICE THE TRACTOR

Your Yanmar tractor dealer is committed to provide reliable and quality services to the tractor. Through the preceding services, the full performance potential of the tractor can be realized.

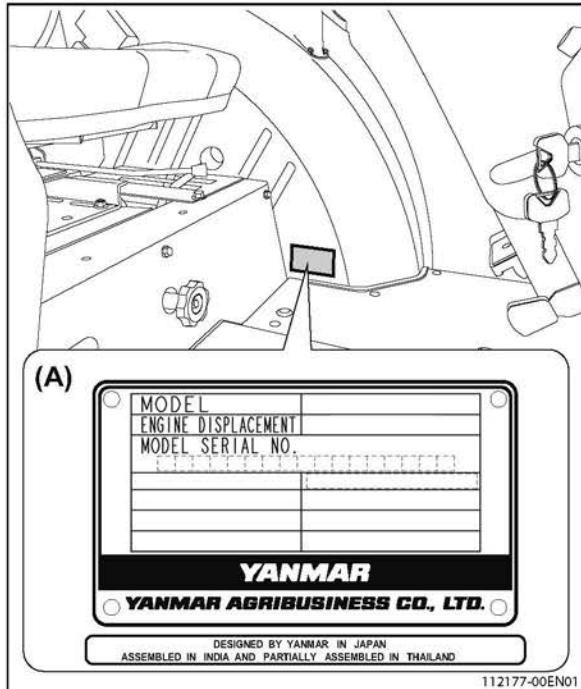
After carefully studying the contents of the operation manual, the tractor owner/operator can perform certain regular maintenance work.

- Exercise caution so as not to injure the operator and other persons.
- Do not attempt to do work that is beyond the owner/operator capability and knowledge.

When in doubt, always consult YOUR LOCAL YANMAR TRACTOR DEALER.

For information about servicing, contact YOUR LOCAL YANMAR TRACTOR DEALER.

For new parts and components and major service work, contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.



(A) Tractor identification plate with tractor serial number

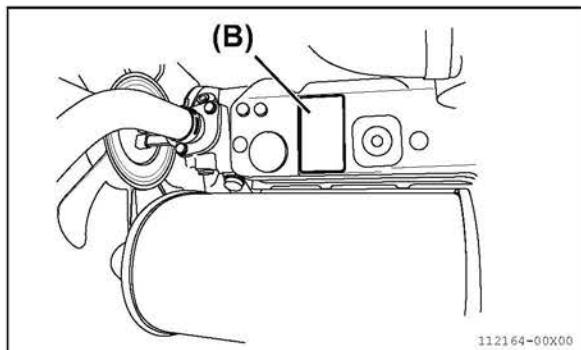
When ordering a part or component, always provide the serial numbers of the following to YOUR LOCAL YANMAR TRACTOR DEALER:

- Tractor
- Engine

(B) Engine serial number

After accepting delivery of the tractor, immediately find the serial numbers and enter the numbers into the following table.

- The information in the table must come in handy, if for some reason, the serial numbers on the tractor are covered, erased or become illegible.



	Type/Model	Serial No.
Tractor		
Engine		
Date of Purchase		
Name of Dealer		

"Operational Status Information" about the Owner's Machine

Yanmar tractor YM351R/YM358R, of your machine, mounts which has the function for "Operational Status information."

Yanmar can get and use "Operational Status information" with "Fault diagnostics tool" and "Machinery Management system."

What is "Operational Status information"?

The following data for the machine operational control are-

- Each sensor data on temperature, angles and the operational lever
 - Error data of abnormal sensor and irregular control values
 - Information data, such as operating time and fuel consumption.
 - The information from GNSS sensor, such as location data.
- * The actual obtainable information varies with the owner model.

Reason and purpose to get "Operational Status information"

- Communication service for the owner, via the website, such as the machine operational management.
- Service suggestion system for the owner, such as the maintenance proposal, according to the operational hours.

NOTICE

- This system uses the mobile phone service network by a communication carrier. The communication may not be available due to the conditions of the area, the line, which might be congestion and so on.
- Machine management system may be out of use due to the communication service contracts change or suspension by the communication carrier.
- The communication terminal and antenna may need the certification by the radio law. It may be punishable by the law if reselling, destructing the machine or taking the machine out to overseas. Please consult with the dealership of your machine or Yanmar.
- If may be punishable by the law if conducting the disassembly/modification of the communication terminal, the antenna and changing the display nameplates.
* It requires a separated contract to use "Machine Management system."

1. "Fault Diagnostics Tool"

By connecting the machine with "Fault diagnostics tool", they can get "Operational Status information." It also makes the accurate fault diagnostics, change, electric control parts replacement and updating the electric control software possible.

Reason and purpose to get "Operational Status information"

- Can repair by the accurate fault diagnostics.
- Can update the electric control software for the product performance quality improvement.

2. Machine Management System

The owner and Yanmar can get "Operational Status information", by GNSS antenna which mounts on the machine and the communication terminal, and use the information remotely.

3. YANMAR's Collection and Use of the "Operational Status Information"

Yanmar may collect and use "Operational Status information" to improve the owner's machine quality. By the owner's request, Yanmar accepts to offer and delete "Operational Status information" to the owner. In case that the machine cannot identify itself, Yanmar may decline the owner's request. For further details, please contact the dealership of your machine or Yanmar.

3. SPECIFICATIONS

1. Specifications Table

Model	YM351R		YM358R			
Type	-		L1			
Engine	Maker	YANMAR				
	Model	4TNV88		4TN98S		
	Gross Power	kW(HP)[PS]/rpm	37.8(50.7)[51.4]/2800	42.4(56.9)[57.6]/2400		
	Net Power	kW(HP)[PS]/rpm	33.9(45.5)[46.1]/2800	40.2(53.9)[54.7]/2400		
PTO Power	kW(HP)[PS]	28.8(38.6)[39.2]	34.4(46.1)[46.8]			
Capacities	Fuel Tank (L)	50				
	Engine Displacement (cc)	2190	3319			
Dimensions	Overall Length (mm)	3330	3380	3390		
	Overall Width (mm)	1580	1670	1720		
	Overall Height (with Canopy) (mm)	2447	2472	2488		
	Wheel Base (mm)	1900	1970			
	Min. Ground Clearance (mm)	425				
	Tire Size	Front	8-18			
		Rear	13.6-26	13.6-28		
	Tread	Front (mm)	1264(Std)/1416			
		Rear (mm)	1238(Std)/1311	1225/1338(Std)/1406/1520		
Weight	(kg)	1686	1853	1841		
Transmission Type	Synchronized reverser/main shift, 2 range					
Drive train	Main clutch	Dry single				
	Main shift	Synchronized, 4 stage				
	Reverser	Synchronized Reverser				
	Number of shift	F8-R8				
	Traveling speed (km/h)	2.4-28.0	2.7-30.8	2.8-31.7		
Hydraulic pump cap.	Power Steering (L/min)	20.0	20.7			
	Implement (L/min)	35.2	36.9			
	Total (L/min)	55.2	57.6			
3Pt. Lift capacity	Lower-link (std.) (kgf)	1450				
	24" behind (kgf)	1250				
3P-Link	Category	1		1&2		
	Position Control	Yes				
	Draft Control	N/A		Yes		
Brakes	Type	Mechanical, wet disk				
Steering	Type	Hydrostatic Power				
PTO	Type	Independent				
	Shaft Size	35 mm OD, 6 Splines				
	STD (rpm@540)	2430	2096			
	ECO (rpm@750)	2450	2092			
Electrical System	Battery	12V-68Ah (20h)	12V-95Ah (20h)			
	Alternator	12V-43A				
ROPS		Yes				

3. SPECIFICATIONS

2. Traveling Speeds

(at rated engine speed)

Range	Main shift lever	Range shift lever	Approximately rated speed (km/h)		
			YM351R	YM358R	YM358R-L1
F1	1	Low	2.38	2.74	2.82
F2	2	Low	3.15	3.63	3.74
F3	3	Low	5.16	5.95	6.13
F4	4	Low	7.55	8.70	8.96
F5	1	High	8.82	9.69	9.98
F6	2	High	11.69	12.84	13.22
F7	3	High	19.17	21.06	21.68
F8	4	High	28.04	30.80	31.71
R1	1	Low	2.37	2.73	2.81
R2	2	Low	3.14	3.62	3.73
R3	3	Low	5.15	5.94	6.11
R4	4	Low	7.53	8.68	8.94
R5	1	High	8.80	9.67	9.95
R6	2	High	11.66	12.81	13.19
R7	3	High	19.13	21.01	21.63
R8	4	High	27.97	30.72	31.63

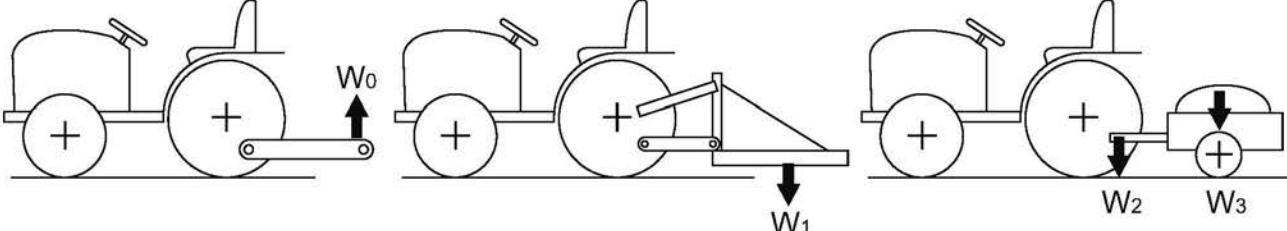
4. IMPLEMENT CAPACITIES

- Prior to delivery, the tractor is subjected to the load tests described below.
- The tests are designed to ensure the tractor performs safely and to specification when subjected to various loads and stresses.
- Genuine implements approved by Yanmar are used.

IMPORTANT

- Use only implements approved by YOUR LOCAL YANMAR TRACTOR DEALER.
- All implements used must conform to the approved specifications, per below.
- Using unapproved implements can result in malfunction, failure and damage to the tractor.
- The preceding action can also increase the possibility of injury to the operator or other people. The Yanmar warranty does not cover any malfunction or failure that results from the use of an unapproved implement.

	Lower Link End Maximum Lifting Capacity W_0	Implement Weight and Size W_1	Maximum Drawbar Load W_2	Trailer Loading Weight Maximum Capacity W_3
kg	1450	-	500	YM351R: 2500 YM358R: 2650



A0013714

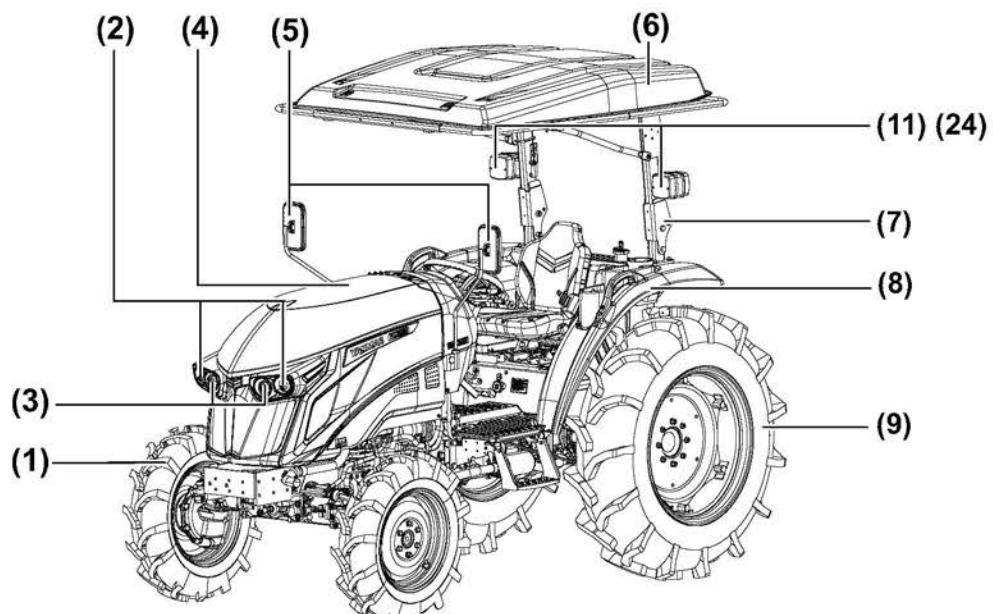
4. IMPLEMENT CAPACITIES

Implement	Description	Unit	Maximum Amount
Rotary	Tilling width	m	YM351R: 1.9 YM358R: 2.0
	Weight	kg	YM351R: 350 YM358R: 370
Disc plow	Disc size (inch) & Total disc	inch x disc	22x4, 24x3
	Weight	kg	300
Poly disc plow	Disc size (inch) & Total disc	inch x disc	22x6, 24x6
	Weight	kg	355
Front blade	Width	m	1.8
	Weight	kg	400
Glass cutter	Width	m	1.4
	Weight	kg	250
Trailer	Load capacity	kg	YM351R: 2500 YM358R: 2650
	Drawbar Load	kg	500
Front weight	Weight	kg	150
Rear wheel weight	Weight, one side	kg	120

5. NAMES AND FUNCTIONS OF COMPONENTS

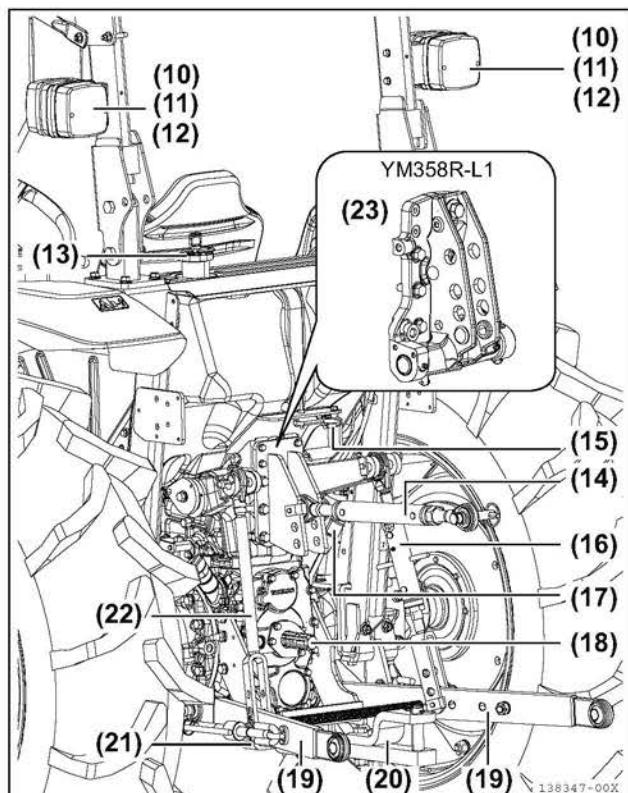
1. Overview

■ Names of Main Components



138346-00X

- (1) Front tires
- (2) Headlights: Low beam
- (3) Headlights: High beam
- (4) Hood
- (5) Rearview mirrors
- (6) Canopy
- (7) Roll-Over Protective Structure (ROPS)
- (8) Fenders
- (9) Rear tires
- (10) Tail lights
- (11) Turn signal/hazard lights
- (12) Stop lights
- (13) Fuel filler cap
- (14) Top link
- (15) Top link hook
- (16) Lift link right
- (17) PTO selection lever
- (18) Power Take Off (PTO) shaft
- (19) Lower links
- (20) Drawbar
- (21) Check chain
- (22) Lift link left
- (23) Top link hinge <YM358R-L1 only>
- (24) Position lights



5. NAMES AND FUNCTIONS OF COMPONENTS

■ Functions of Main Components

(1) Front tires

Support the front part of the tractor and allows the tractor to move.

(2) Headlights: Low beam

Outer headlights ON and Headlights Low beam.

(3) Headlights: High beam

Inner headlights ON and Headlights High beam.

(4) Hood

Covers and protects the engine.

(5) Rearview mirrors

See Rear view from operator's seat. The side mirrors can be adjusted by hand.

(6) Canopy

Use as a sunshade/rain shelter in outdoor door works.

(7) Roll-Over Protective Structure (ROPS)

Protect the operator in the event of an accident such as a roll over.

(8) Fenders

Keep mud away from the operator.

(9) Rear tires

Support the back part of the tractor and allow the tractor to move.

(10) Tail lights

Provide illumination at the rear of the tractor.

(11) Turn signal/hazard lights

Use to warn people that tractor is about to turn left or right. Use to warn people of an emergency situation.

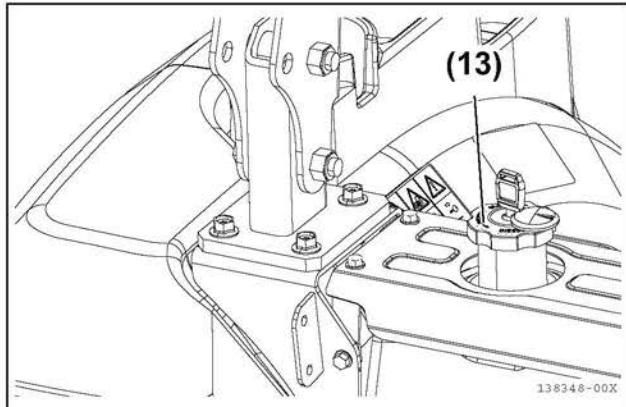
(12) Stop lights

Turn Red Light "ON" when depressing the brake pedal.

(13) Fuel filler cap

Where the fuel nozzle is inserted to fill up the fuel tank.

The key, fuel filter cap accessory, can lock the cap.



(14) Top link

Use to adjust angle or position of an implement.

(15) Top link hook

Hold the top link when the top link is not in use.

(16) Lift link right

Adjustable link.

(17) PTO Selection lever

Changes PTO (Power Take Off) Shaft speed at 2 stages.

Can change the PTO speed only when the tractor stops.

(18) Power Take Off (PTO) shaft

Transmit rotational force from the tractor to an implement.

(19) Lower links

Connects and holds an implement.

(20) Drawbar

Use to pull/tow an implement.

(21) Check chain

Controls the side sway of the implement by the tightness of Check chain.

(22) Lift link left

Non-adjustable link.

(23) Top link hinge <YM358R-L1 only>

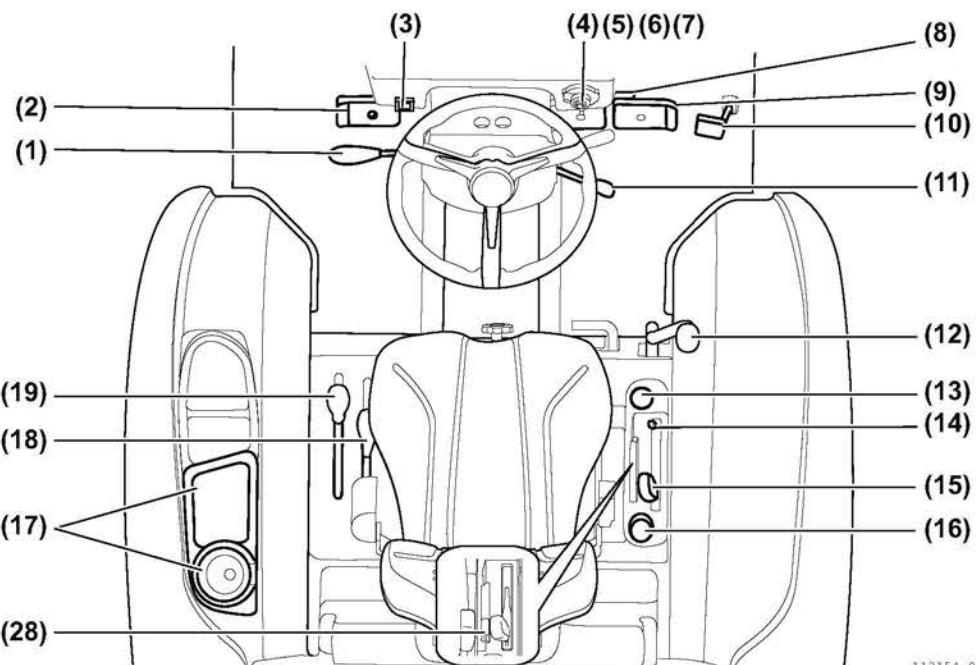
See page 10-3 for details.

(24) Position lights

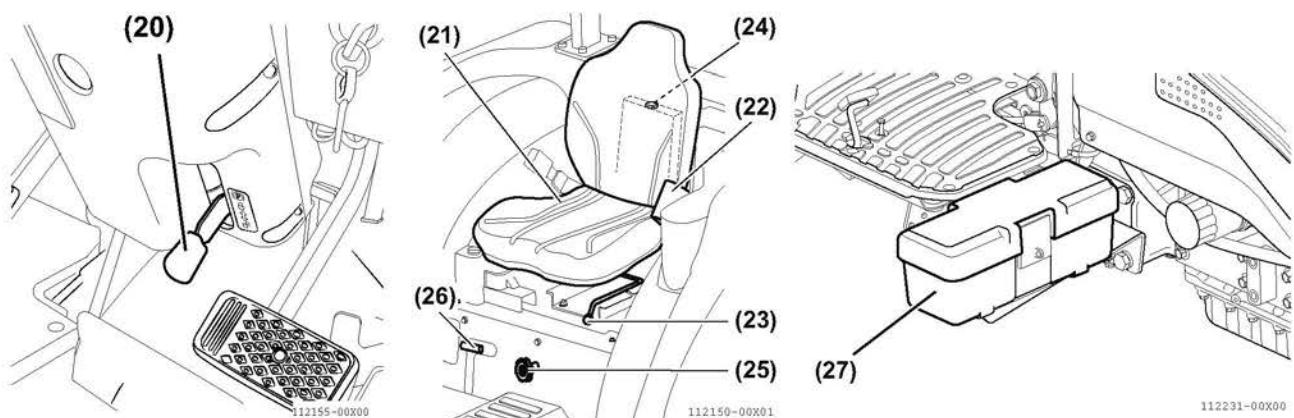
Provide illumination at the front of the tractor.

2. Operator Station Controls

■ Names of Components



112154-01X09



- 112155-00X00 112150-00X01 112231-00X00
- (1) Reverser lever
 - (2) Clutch pedal
 - (3) Hazard lights button switch
 - (4) Headlights, and tail lights switch
 - (5) Turn signal switch
 - (6) Horn switch
 - (7) Starter key switch
 - (8) Brake pedal connector lock
 - (9) Brake pedals
 - (10) Accelerator pedal
 - (11) Throttle control lever
 - (12) Main shift lever
 - (13) 12V DC outlet
 - (14) Position stop knob
 - (15) 3-point hitch control lever
 - (16) Power Take Off (PTO) switch
 - (17) Cup holder • Console box
 - (18) 2WD/4WD lever
 - (19) Range shift lever
 - (20) Parking brake lock lever
 - (21) Operator seat
 - (22) Retractable seatbelt
 - (23) Operator seat forward and backward lever
 - (24) Operator seat firmness suspension knob
 - (25) Hydraulic flow control/stop knob
 - (26) Differential lock pedal
 - (27) Toolbox
 - (28) Draft control lever <YM358R-L1 only>

■ Function of Components

(1) Reverser lever

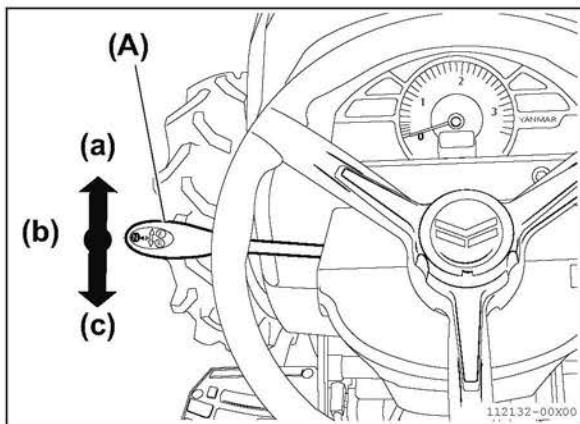
Change the direction of the tractor's movement.

(A) Reverser lever

- (a) Forward
- (b) N (neutral)
- (c) Reverse

NOTE

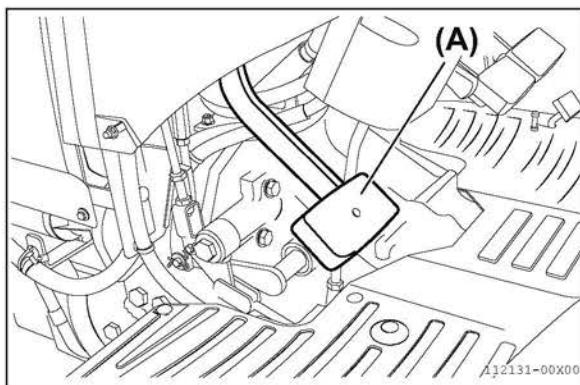
- When changing the position of reverser lever, the clutch pedal is necessary to be depressed.



(2) Clutch pedal

Engages or disengages the rotational force of the engine to the transmission.

(A) Clutch pedal

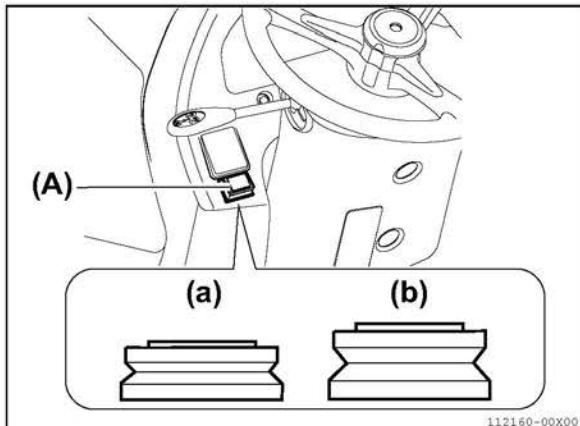


(3) Hazard lights button switch

Turn ON or OFF the hazard lights.

(A) Hazard lights button switch

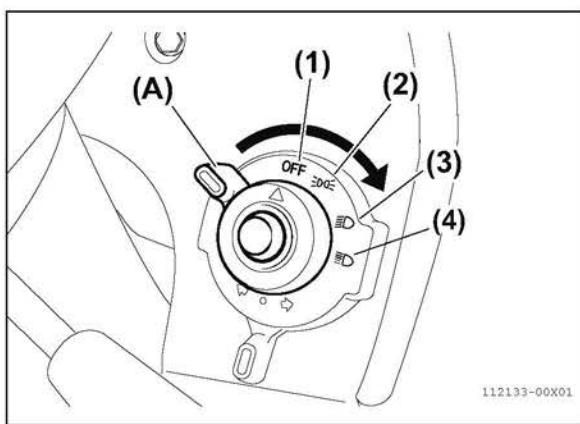
- (a) ON
- (b) OFF



(4) Headlights, and tail lights switch

- Position 1: **OFF** - All lights OFF
- Position 2: - Position lights ON, Tail lights ON
- Position 3: - Outer head lights ON, Position lights ON, Tail lights ON
- Position 4: - Inner head lights ON, Position lights ON, Tail lights ON

(A) Headlights, and tail lights switch

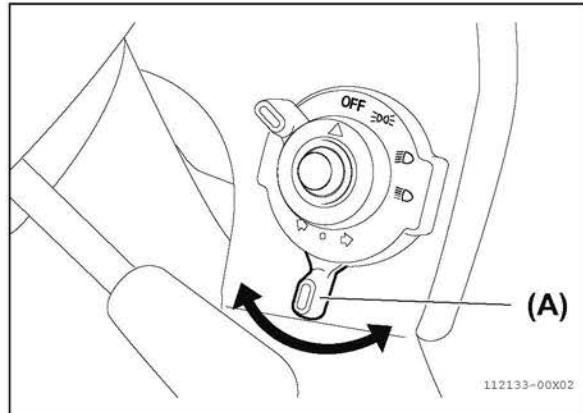


5. NAMES AND FUNCTIONS OF COMPONENTS

(5) Turn signal switch

(A) Turn signal lever

- (a) Turn clockwise the turn signal lever leftward: to signal an intention to turn left.
- (b) Turn counterclockwise the turn signal lever rightward: to signal an intention to turn right.

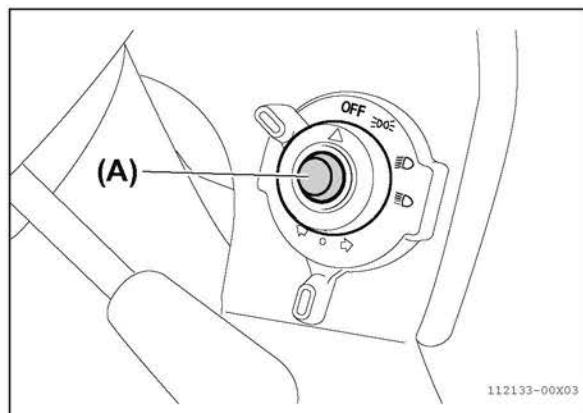


112133-00X02

(6) Horn switch

The horn can function even when the engine is not running.

(A) Horn switch



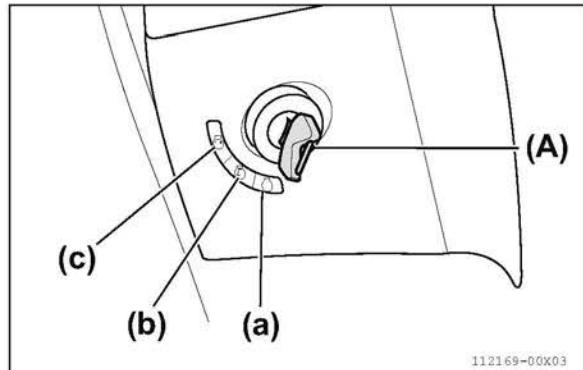
112133-00X03

(7) Starter key switch

Turns the electrical system ON, shuts off, or starts the engine.

(A) Starter key switch

- (a) OFF position
- (b) Electrical system ON position
- (c) Engine start position



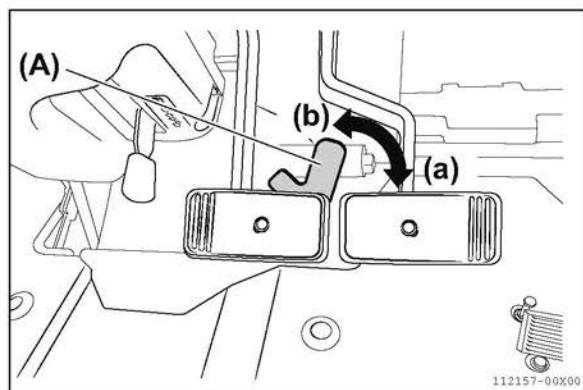
112169-00X03

(8) Brake pedal connector lock

Locks the left and the right brake pedals together.

(A) Brake pedal connector lock

- (a) Locked position
- (b) Unlocked position



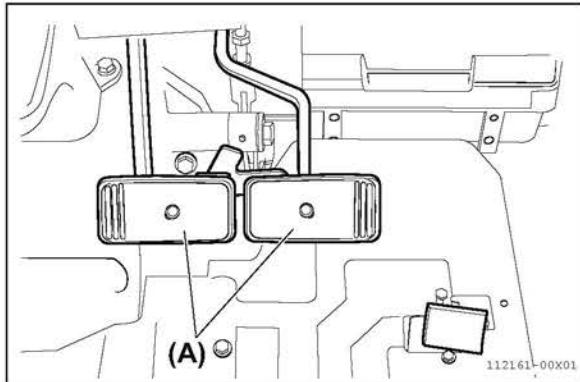
112157-00X00

5. NAMES AND FUNCTIONS OF COMPONENTS

(9) Brake pedals

Reduce the speed and stop the tractor.

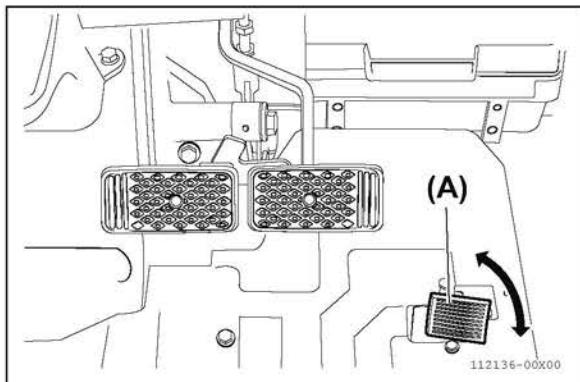
(A) Brake pedals



(10) Accelerator pedal

Increases or decreases the engine speed Revolutions Per Minute (rpm) rate.

(A) Accelerator pedal

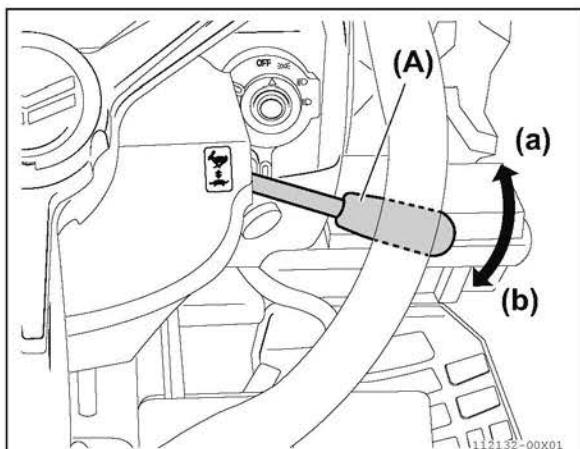


(11) Throttle control lever

Increases or decreases the engine speed (Revolutions Per Minute (rpm)) rate.

(A) Throttle control lever

- (a) Increase the engine speed (Revolutions Per Minute (rpm))
- (b) Decrease the engine speed (Revolutions Per Minute (rpm))



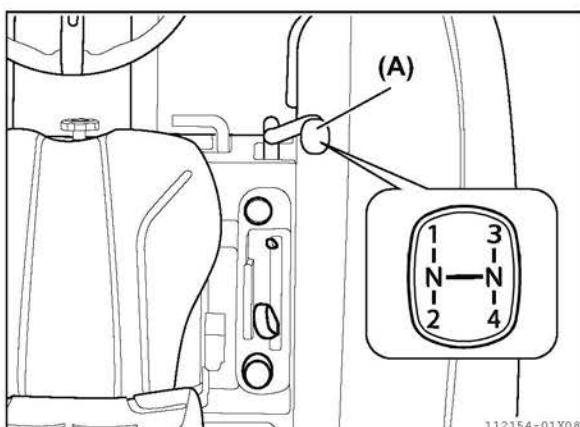
(12) Main shift lever

Shift the primary gear.

(A) Main shift lever

NOTE

- There is no need to stop the tractor before operating the main shift lever.
- Depress the clutch pedal completely before operating the main shift lever.



5. NAMES AND FUNCTIONS OF COMPONENTS

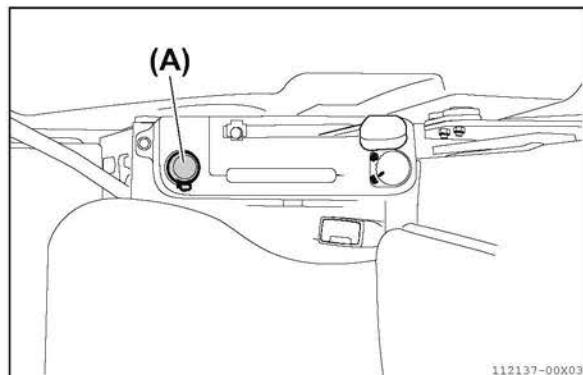
(13) 12V DC outlet

Outlet used for 12V DC supply.

(A) 12V DC outlet

NOTE

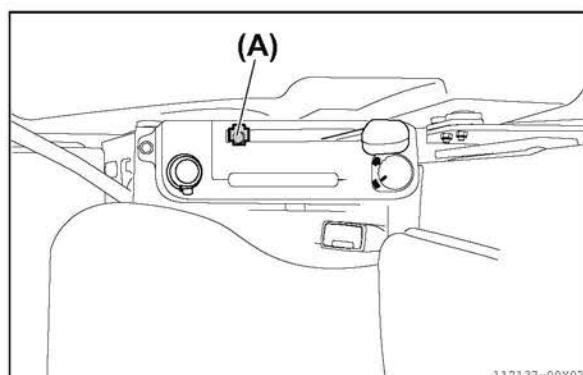
- Avoid using the 12V DC outlet as cigarette lighter.



(14) Position stop knob

Hold the 3-point hitch control lever to a specific position.

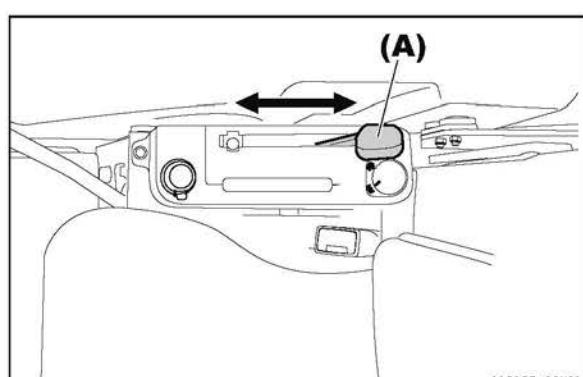
(A) Position stop knob



(15) 3-point hitch control lever

Control the height of the lower links.

(A) 3-point hitch control lever

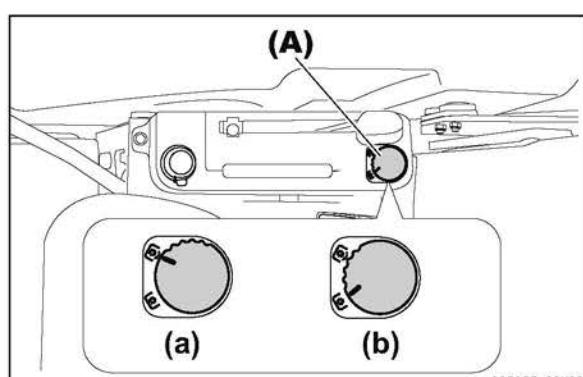


(16) Power Take Off (PTO) switch

Turn ON or OFF the Power Take Off (PTO).

(A) Power Take Off (PTO) switch

- (a) ON position
- (b) OFF position

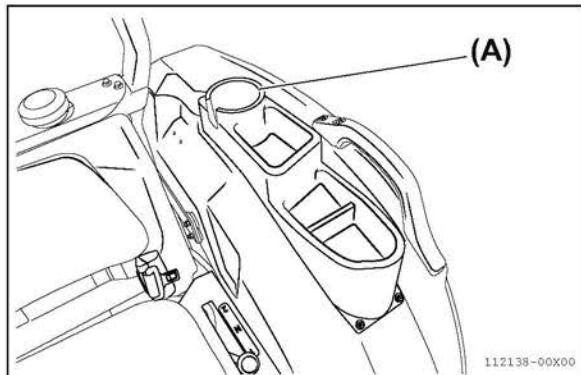


5. NAMES AND FUNCTIONS OF COMPONENTS

(17) Cup holder • Console box

The place where a cup, accessory is held.

(A) Cup holder • Console box



112138-00X00

(18) 2WD/4WD lever

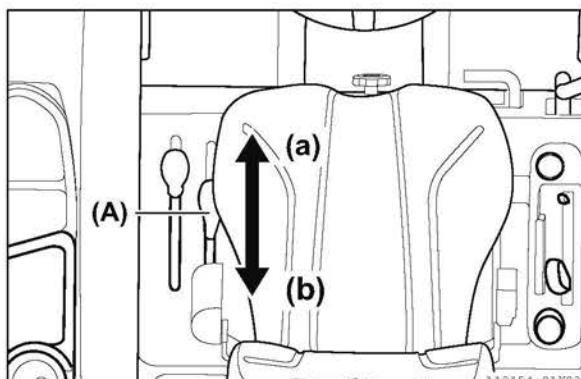
Engages or disengages the 4-wheel drive.

(A) 2WD/4WD lever

- (a) Engage position*
- (b) Disengage position*

NOTE

- Before operating the 2WD/4WD lever:
 - depress the clutch pedal
 - make sure the tractor has completely stopped



112154-01X03

(19) Range shift lever

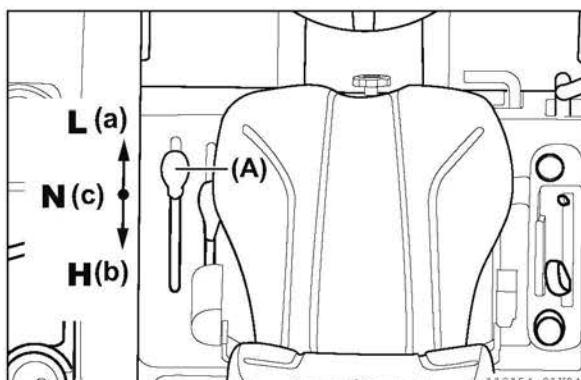
Change the range gear setting.

(A) Range shift lever

- (a) Low*
- (b) High*
- (c) neutral*

NOTE

- Before operating the range shift lever:
 - depress the clutch pedal when changing gear
 - make sure the tractor has completely stopped



112154-01X04

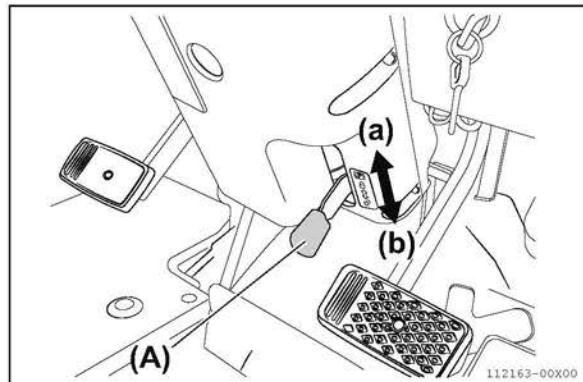
5. NAMES AND FUNCTIONS OF COMPONENTS

(20) Parking brake lock lever

Engage the parking brake.

(A) *Parking brake lock lever*

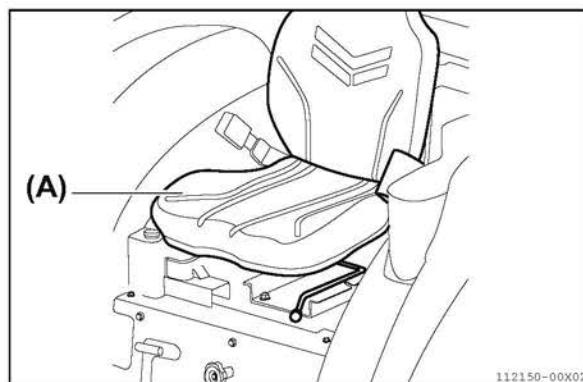
- (a) Lock
- (b) Unlock



(21) Operator seat

Station where the operator sits to operate the tractor.

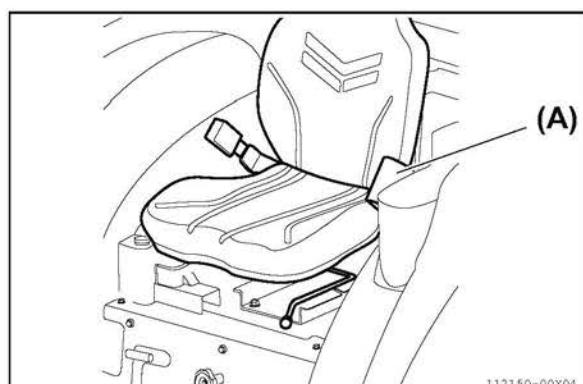
(A) *Operator seat*



(22) Retractable seatbelt

Keep the operator safe while operating the tractor.

(A) *Retractable seatbelt*



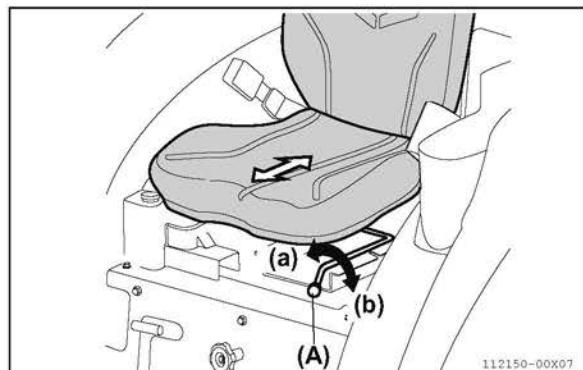
5. NAMES AND FUNCTIONS OF COMPONENTS

(23) Operator seat forward and backward lever

Adjust the operator seat to the forward or backward position.

(A) Operator seat forward and backward lever

- (a) Unlock
- (b) Lock

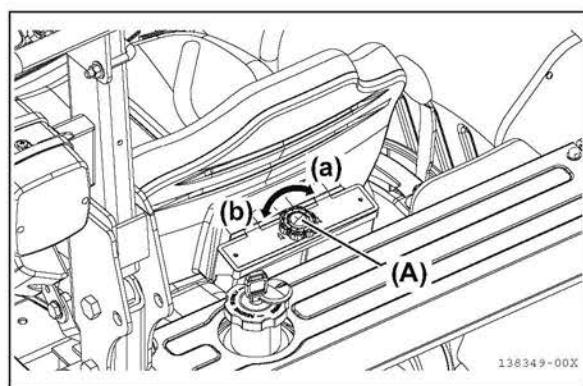


(24) Operator seat firmness suspension knob

Turn the operator seat firmness suspension knob clockwise to make the operator seat suspension firmer. Turn the operator seat firmness suspension knob counterclockwise to make the operator seat suspension softer.

(A) Operator seat firmness suspension knob

- (a) Firmer
- (b) Softer

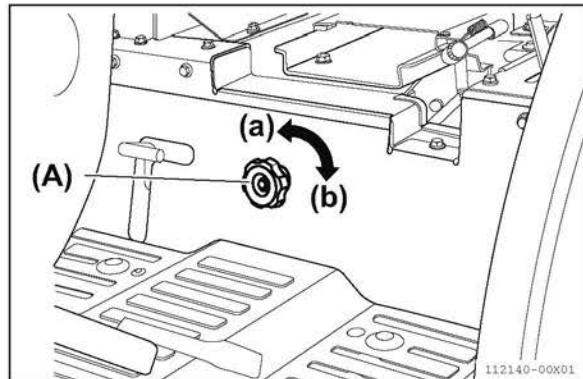


(25) Hydraulic flow control/stop knob

Increases/decreases and closes/opens the hydraulic circulation of the 3-point hitch.

(A) Hydraulic flow control/stop knob

- (a) Open
- (b) Close - stop



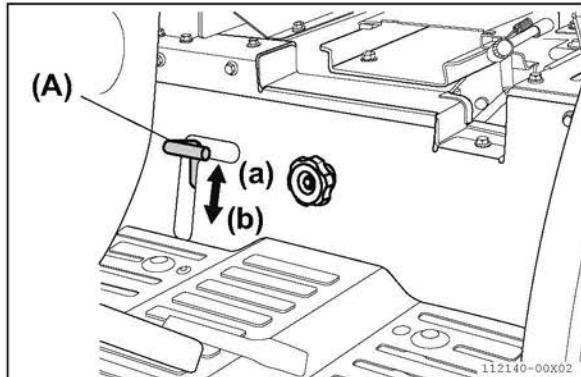
5. NAMES AND FUNCTIONS OF COMPONENTS

(26) Differential lock pedal

Engages or disengages the differential lock.

(A) Differential lock pedal

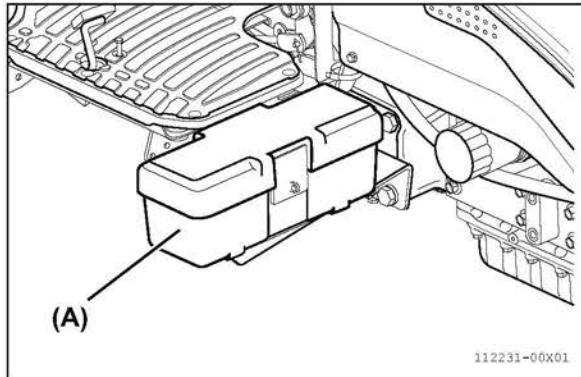
- (a) Unlock position
- (b) Lock position



(27) Toolbox

Can keep tools and so on in this box.

(A) Toolbox

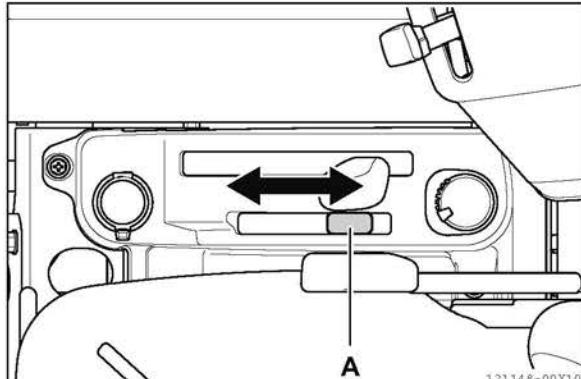


(28) Draft control lever <YM358R-L1 only>

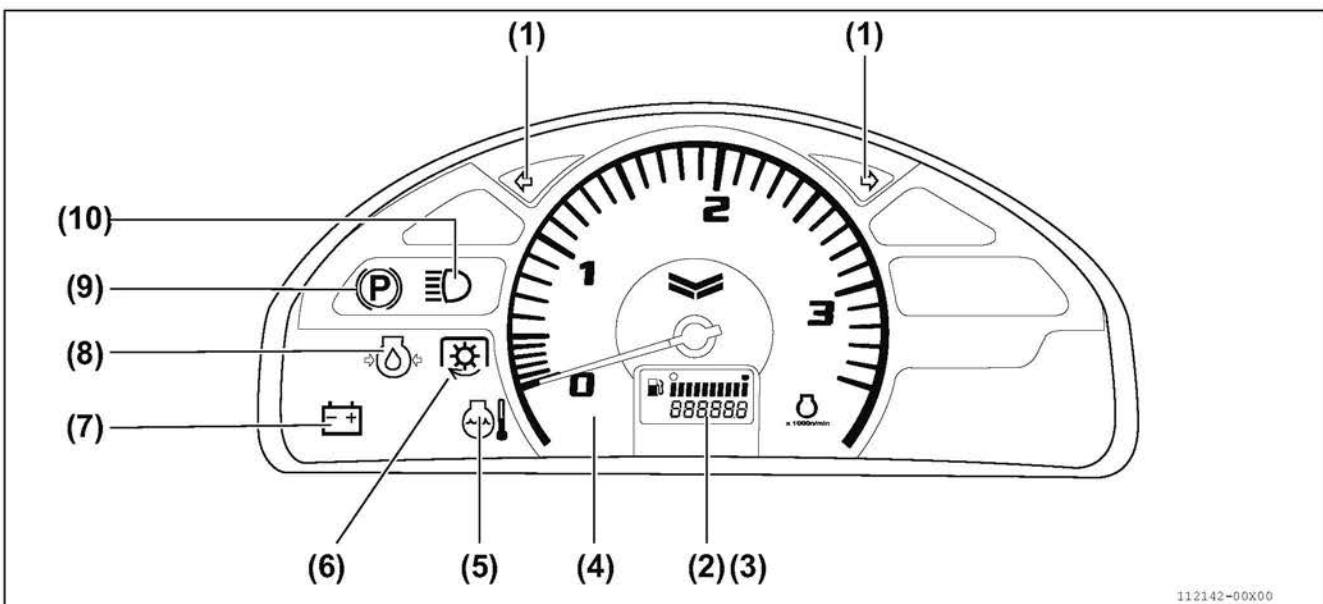
The draft control lever is used when towing with an attachment such as plow or cultivator that is linked to the three-point hitch. As the attachment drag becomes larger, the draft activates to lift the attachment, and as it becomes smaller, it returns to the original position.

When using the draft control, put the draft lock pin of the top link hinge to the draft position. Refer to page 10-3.

(A) Draft control lever



3. Instrument Panel



(1) Turn signal/hazard indicator lights

Indicates when the corresponding turn signal/hazard lights is illuminated/flashing.

NOTE

- The hazard lights remain flashing even when the starter key switch is in the OFF position.
- Allowing the turn signal/hazard lights to flash for an extended period can lead to loss of battery voltage.

(2) Hour meter

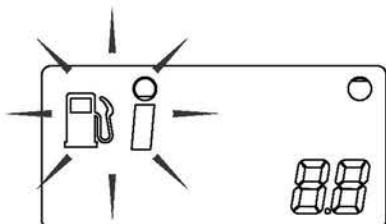
Indicate the total accumulated operating hours.

(3) Fuel gauge

Indicates how much fuel is in the fuel tank.

NOTE

- When the remaining fuel level becomes extremely low, the icon will start blinking.



076534-01DX00

(4) Tachometer

Indicates the current engine speed in increments of 100 Revolutions Per Minute (rpm).

(5) Coolant temperature gauge

The lamp turns to red when the current coolant temperature in the engine is too high.

When the engine is being cooled down enough or running in normal condition, the lamp stays ON (green).

Green lamp lightening: Normal condition.

Green lamp flashing: Closing to overheating.

Red lamp lightening: Overheating.

Red lamp flashing: Failure of water temp sensor.

IMPORTANT

- Decrease the load on the tractor:
 - when the lamp turns to red
 - To lower the coolant temperature:
 - idle the engine until the coolant temperature lamp turns to green
 - shut off the engine
 - allow the engine to cool down
 - After the preceding actions, check the following:
 - the coolant level in the radiator and in the reserve tank are adequate
 - the radiator and radiator screen are free from dust deposits
 - the alternator/fan belt tension is correct
- For details, see "Chapter 13. PERIODIC SERVICE" on page 13-1.
- If the coolant temperature lamp turns to red again:
 - lower the coolant temperature as indicated above.
 - immediately contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance

5. NAMES AND FUNCTIONS OF COMPONENTS

(6) Power Take Off (PTO) indicator light

Power Take Off (PTO) indicator light illuminates when Power Take Off (PTO) switch is in the ON position.

(7) Alternator/Battery charging light

Illuminates when:

- The starter key switch is in the ON position and the engine is not running.
- The alternator/battery charging circuit is out of order.

IMPORTANT

- While the engine is running, an illuminated alternator/battery charging light indicates the power generated by the alternator is too low.
 - fully push the throttle control lever forward
 - increase the engine speed
- If the light still remains illuminated:
 - immediately shut down the engine
 - contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance

(8) Engine oil pressure warning light

The engine oil pressure warning light remains illuminated when:

- The starter key switch is in the ON position and the engine is not running.
- The engine oil pressure is abnormal.

IMPORTANT

- While the engine is running, an illuminated engine oil pressure warning light indicates the engine oil pressure is too low.
 - immediately shut down the engine
 - contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance

(9) Parking brake indicator light

Indicate parking brake is engaged.

NOTE

- In some cases, even when the parking brake lock lever appears to be in the "LOCKED" position, the parking brake itself may not be actually securely locked. In that case, release the parking brake lock lever, and surely depress the brake pedal to lock the parking brake lock lever again.

(10) High beam indicator lamp

6. PRE-OPERATION CHECK

1. Pre-Operation Check

1. Check the tractor for damage, excessive wear, cracks, missing parts, leaks, exposed wiring and any other problems.
2. Check the joints and connections for tight fit.
3. Make sure all the lights illuminates and functions correctly.
4. Make sure all the safety alert decals are in correct positions.
5. Correct any problem detected.
6. Contact YOUR LOCAL YANMAR TRACTOR DEALER for problems that can not be solve.

Avoid operating the tractor when a problem has been indicated.

2. Precautions Before Operation

1. Always be aware of the performance limitations of the tractor.
2. Operate only within the limitations.
3. When operating the tractor, always maintain a "SAFETY FIRST!" approach.

3. Routine Checks

1. Check the safety features.
2. Check the tire air pressure.
3. Make sure the remaining diesel fuel is sufficient for the intended operation.
4. Check the engine oil level.
5. Check the transmission hydraulic oil level.
6. Check the coolant level.
7. Remove grass clippings and debris from the tractor.
8. Clean the air filter element.
9. Check any liquid leaks such as oil, coolant and fuel.
10. Check the radiator for possible blockage.
11. Check the retractable seatbelt for any problem/s.
12. Check Roll-Over Protective Structure (ROPS) for any problem/s.
13. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

4. Prevent Damage to Plastic Surfaces and Painted Surfaces

1. To prevent scratches and discolorations on the surfaces:
 - Wipe the tractor only after thoroughly washing the surfaces.
2. Chemical substances such as pesticides can damage the plastic surfaces and painted surfaces.
 - Avoid spraying chemical substances on and near the tractor.
3. Avoid spilling diesel fuel onto the tractor.
 - Diesel fuel can damage the plastic surfaces and painted surfaces.
 - Immediately wipe off spilled diesel fuel.

7. OPERATE THE ENGINE

WARNING

Always run or idle the engine in a well ventilated area:

- 
- To prevent serious illness or death, caused by the colorless and odorless carbon monoxide emitted by the engine.

- Always remain seated on the operator seat when:
 - starting the engine
 - operating the levers and controls
- Before starting the engine, always ensure:
 - the main shift lever is in the N (neutral) position
 - range shift lever is in the N (neutral) position
 - reverser lever is in the N (neutral) position
 - the parking brake lock is engaged
 - Power Take Off (PTO) switch in the OFF position
- Always keep the retractable seatbelt fastened:
- Start the engine only with the starter key switch.
 - avoid starting the engine by short circuiting across the starter solenoid terminals with a jumper wire
 - by bypassing the safety start switch
- Before operation, ensure all the safety features are functioning correctly. Make corrections as necessary.

1. Start the Engine

WARNING

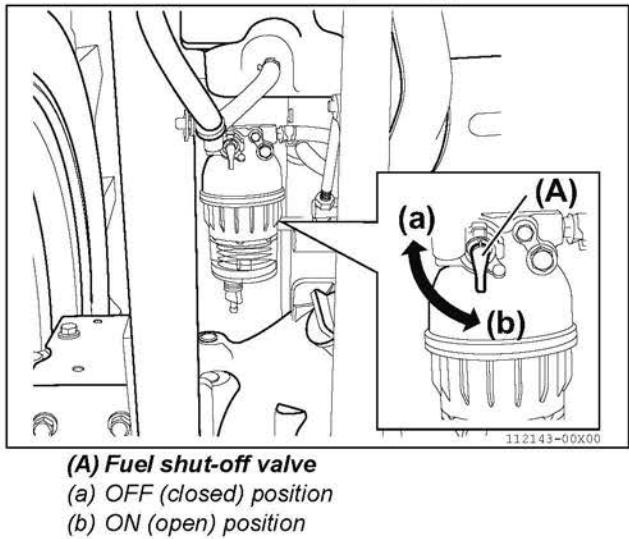
● Always observe the following precautions when starting the engine.

- before starting and during running the engine:
 - always drive the tractor outside or to a well ventilated area
 - to prevent serious illness or death caused by the carbon monoxide contained in the exhaust of the engine
- To prevent explosions, always use only diesel fuel to start the engine.
- To prevent injury or death from a runaway tractor:
 - avoid starting the engine by short circuiting across the starter solenoid terminals with a jumper wire
 - the tractor starts in gear and begins to move when the normal circuitry is bypassed
- When starting the engine:
 - always remain seated on the operator seat with the transmission in the N (neutral) position
 - do not under any circumstances attempt to start the engine while the operator is still on the ground

7. OPERATE THE ENGINE

1. Open/Close the Fuel Shut-Off Valve

1. To open the fuel shut-off valve: Turn the fuel shut-off valve to the ON (open) position.
2. To close the fuel shut-off valve: Turn the fuel shut-off valve to the OFF (closed) position.

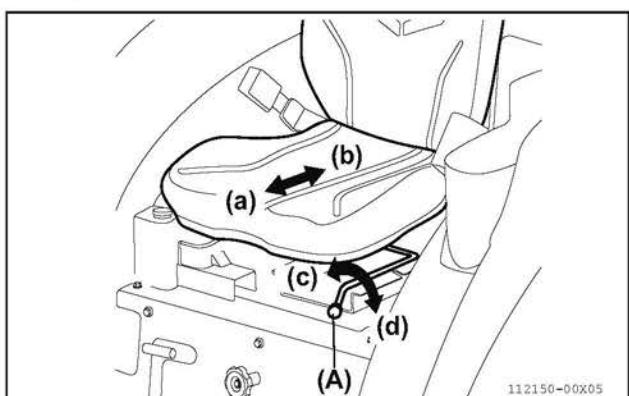


2. Get on the Tractor

1. Always use the step located on the left side of the tractor to climb on the tractor.
2. Sit on the operator seat.

3. Adjust the Operator Seat

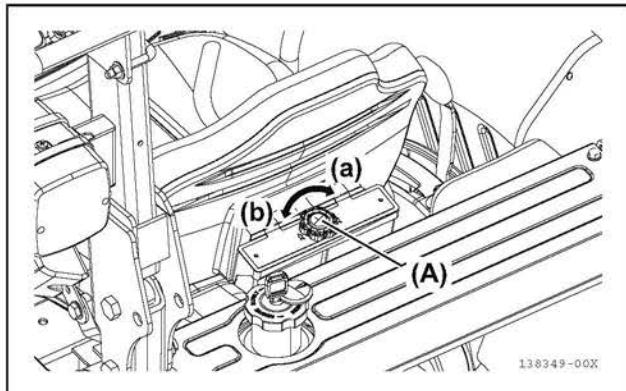
1. Sit on the operator seat.
2. Operator seat forward and backward lever.
 - Move the operator seat forward and backward lever to set the optimal position.
 - the operator seat can be adjusted to 6 different positions in 5 mm increments



(A) Operator seat forward and backward lever
(a) Toward the front
(b) Toward the rear
(c) Unlock
(d) Lock

4. Operator seat firmness suspension knob

- Turn the operator seat firmness suspension knob clockwise to make the operator seat suspension firmer.
- Turn the operator seat firmness suspension knob counterclockwise to make the operator seat suspension softer.



(A) Operator seat firmness suspension knob
(a) Firmer
(b) Softer

NOTE

While sitting:

- Make sure the control levers and knobs can be comfortably operated.
- Readjust the operator seat position as necessary.

5. Fasten the Retractable Seatbelt

⚠ WARNING

- Always keep the retractable seatbelt fastened:
- The preceding action reduces the possibility of injury or death in the event of an accident such as an overturn or roll over.

1. Pull out the retractable seatbelt from the retracted position located on the left side of the operator seat.
2. Fasten the retractable seatbelt to the buckle located on the right side of the operator seat.

NOTE

- Do not twist the retractable seatbelt.

7. OPERATE THE ENGINE

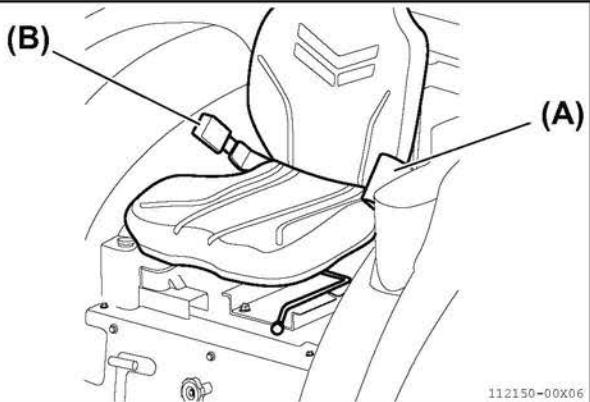
3. Adjust the retractable seatbelt to the suitable length.

NOTE

- Release the retractable seatbelt by pressing the retractable seatbelt quick release button.

CAUTION

- Hold the retractable seatbelt with the left hand when pressing the retractable seatbelt quick release button.
- The retractable seatbelt flies to the left which is highly dangerous.



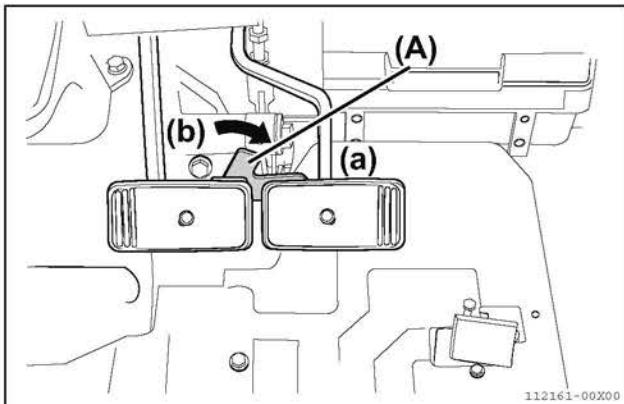
(A) Retractable seatbelt
(B) Buckle

WARNING

- Positioning the retractable seatbelt far away from the operator's abdominal area can be dangerous in the event of an accident.
- Always ensure the retractable seatbelt is in the lowest possible position relative to the operator's abdominal area.
- The retractable seatbelt must be used only by the operator.
- Do not under any circumstances use the retractable seatbelt for two or more persons.
- Do not under any circumstances use the retractable seatbelt to hold an object to the operator's body.

6. Lock the Brake Pedals

1. Release the left and right brake pedals.
2. Move clockwise the brake pedal connector lock to lock together the left and right brake pedals.



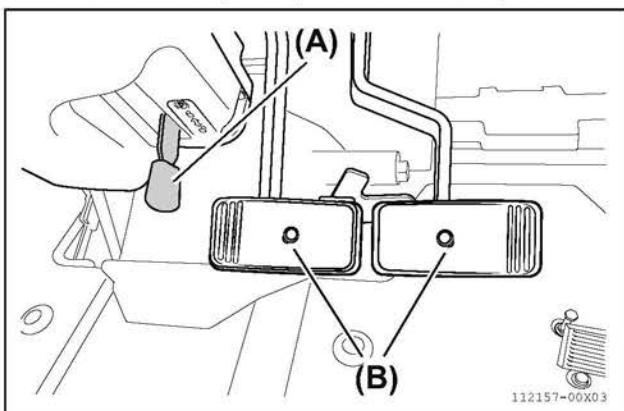
(A) Brake pedal connector lock
(a) Locked position
(b) Unlocked position

WARNING

- To prevent accidental tipping or overturning.
 - do not under any circumstances use unlocked brake pedals to stop the tractor at high speeds
- Move clockwise the brake pedal connector lock to lock together the left and right brake pedals when:
 - the brake pedals are not used for turning
 - traveling on roads
- Always slow down before making turns.

7. Lock and Set the Parking Brake

1. Use the brake pedal connector lock to connect the left and right brake pedals together.
2. Depress the brake pedals fully.
3. While depressing the brake pedals fully, pull up the parking brake lock lever to lock securely.
4. Remove the foot from the brake pedals.
5. Make sure the parking brake is securely locked.

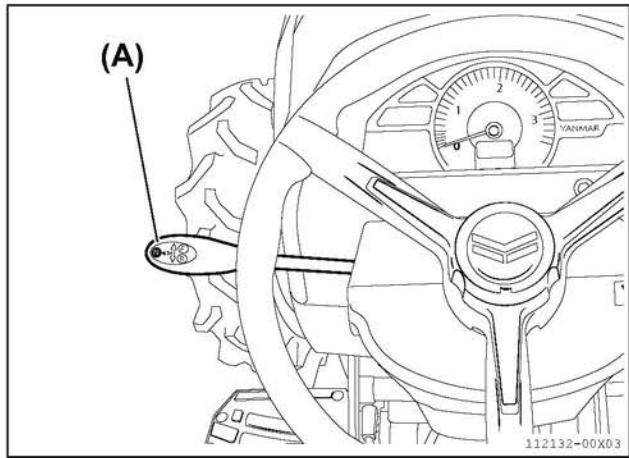


(A) Parking brake lock lever
(B) Brake pedals

7. OPERATE THE ENGINE

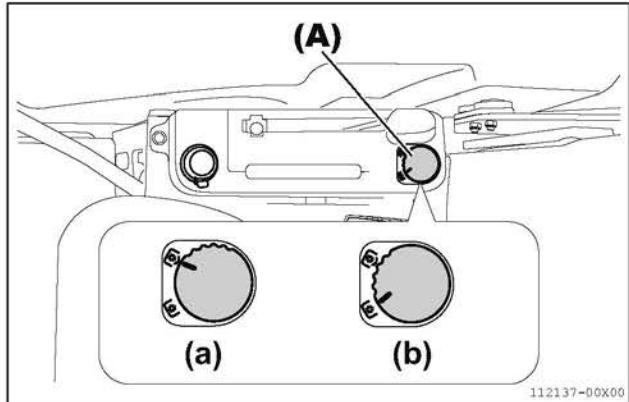
8. Perform the Rest of the Operations

1. Move the main shift lever to the N (neutral) position.
2. Move the range shift lever to the N (neutral) position.
3. Move the reverser lever to the N (neutral) position.



(A) Reverser lever

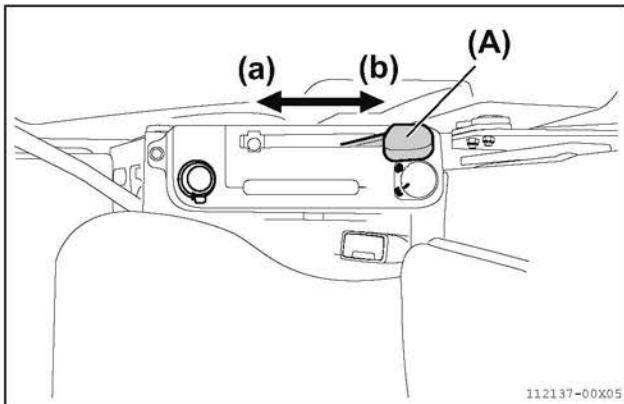
4. Press the Power Take Off (PTO) switch to OFF position.



(A) Power Take Off (PTO) switch

*(a) ON position
(b) OFF position*

5. Shift the 3-point hitch control lever forward to lower any attached implements to the ground.
6. The preceding action prevents the tractor from suddenly rearing up during the starting of the engine.



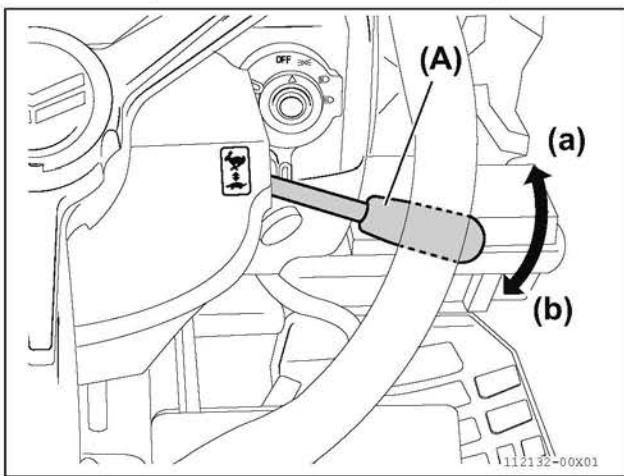
(A) 3-point hitch control lever

- (a) Lowest position*
- (b) Highest position*

NOTE

- If the tractor is equipped with the implement control valve, use the implement control lever to lower any attached implements to the ground.

7. Push the throttle control lever forward from the slow idle position to the 1/3 to 1/2 fast positions.

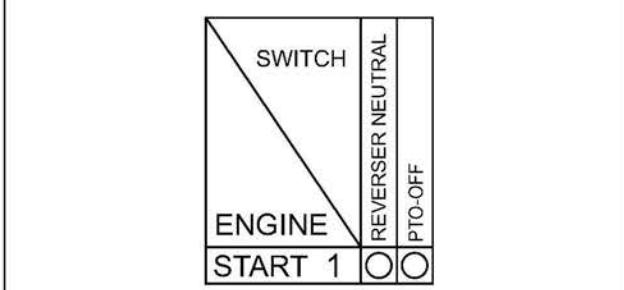


(A) Throttle control lever

- (a) To increase the engine speed, push the throttle control lever forward.*
- (b) To decrease the engine speed, pull the throttle control lever backward.*

NOTE

- The engine starting combination as shown on the chart below.



7. OPERATE THE ENGINE

9. Insert the Key into the Starter Key Switch and Turn the Key to the ON Position

OFF position:

The engine does not run.

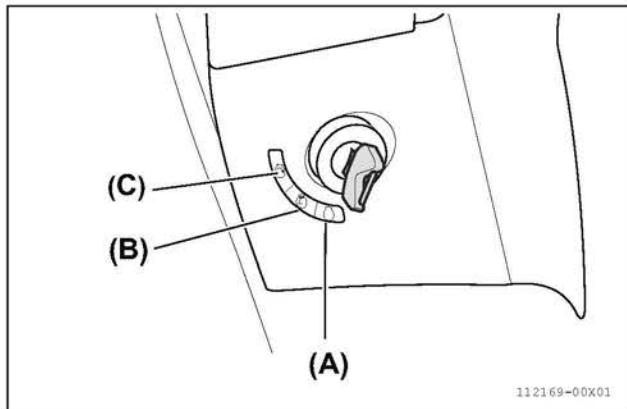
Horn and the hazard lamp can be used.

Electrical system ON position:

Headlights, work light (optional), turn signal lights and external power supply can be used. Lights illuminate as show in "10. Check the Lights on the Instrument Panel".

Engine start position:

- The starter turns the flywheel to run the engine.
- The engine begins to run.
- Once the engine is running, release the starter key switch.



(A) OFF position

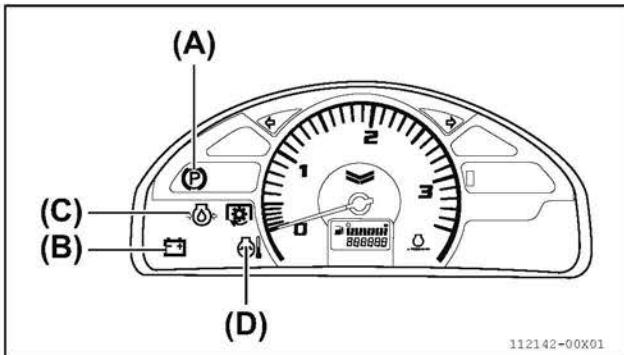
(B) Electrical system ON position

(C) Engine start position

10. Check the Lights on the Instrument Panel

After the key is turned to the ON position:

- The parking brake indicator light turns ON if the parking brake is engaged.
- The engine oil pressure warning light turns ON.
- The alternator/battery charging light turns ON.
- The color of Water temperature light changes from Red to Green.



(A) Parking brake indicator light

(B) Alternator/Battery charging light

(C) Engine oil pressure warning light

(D) Coolant temperature light

NOTE

- The engine oil pressure light turns OFF within 5 seconds after the engine has started.
- The alternator/battery charging light turns OFF within 10 seconds after the engine is started.

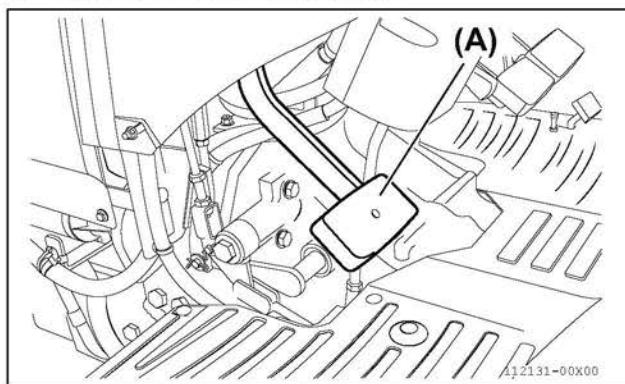
IMPORTANT

- If the engine oil pressure light fails to turn OFF within 5 seconds after the engine is started:
 - shut off the engine and check for the cause.
- If no specific cause is detected, but a problem still persists:
 - contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance

1. Turn the starter key switch to the ON position.

7. OPERATE THE ENGINE

- Depress the clutch pedal fully.

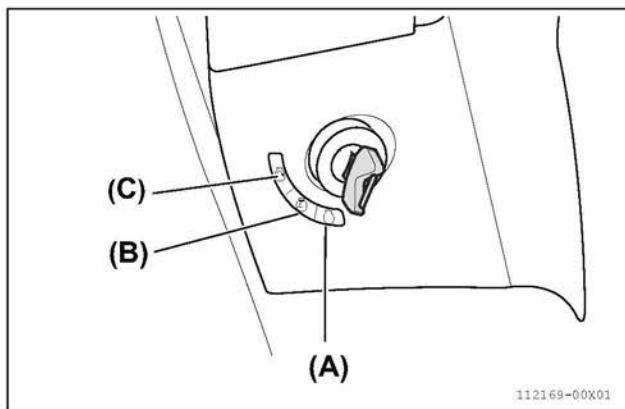


(A) Clutch pedal

- Turn and hold the key to the START position.
- After the engine has successfully started, release the key.

NOTE

- If the key is released before the engine started:
 - wait until both the starter and engine stop rotating before trying to start the tractor again



(A) OFF position

(B) ON position

(C) START position

IMPORTANT

- Continuous activation of the starter for more than 20 seconds can damage the starter.
- If the engine fails to start within 20 seconds, discontinue activating the starter.
- Wait for 2 minutes before trying to restart the engine.

- Release the clutch pedal slowly.
- After the engine has started, warm up the engine for 5 minutes at 1200 to 1500 Revolutions Per Minute (rpm) without any load.

2. Shut Off the Engine

- Shut off the engine by:
 - Depress the clutch pedal fully.
 - Depress both brake pedals.

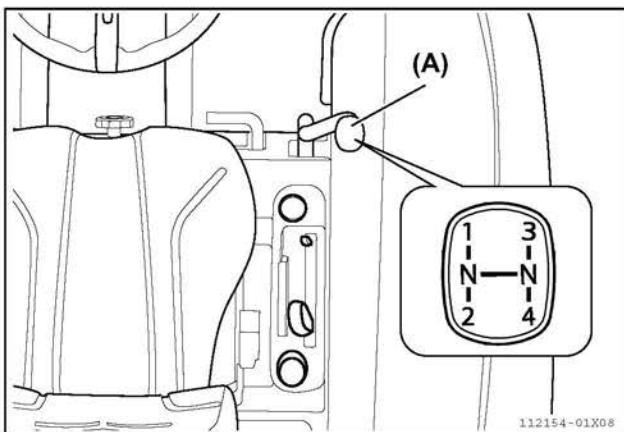
NOTE

- Make sure the brake pedals are connected together.

WARNING

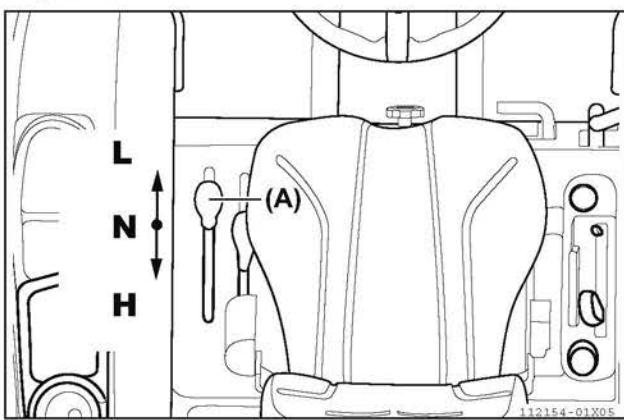
- Always depress the brake pedals fully.

- Move the main shift lever to the N (neutral) position.



(A) Main shift lever

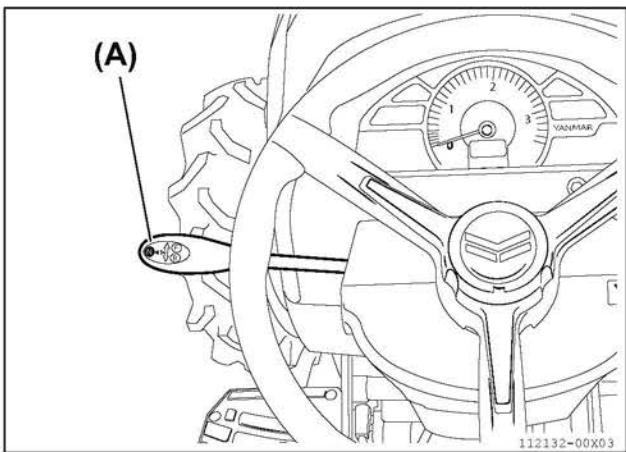
- Move the range shift lever to the N (neutral) position.



(A) Range shift lever

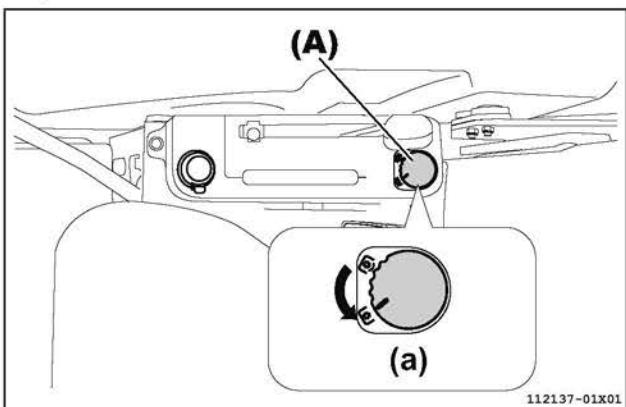
7. OPERATE THE ENGINE

4. Move the reverser lever to the N (neutral) position.



(A) Reverser lever

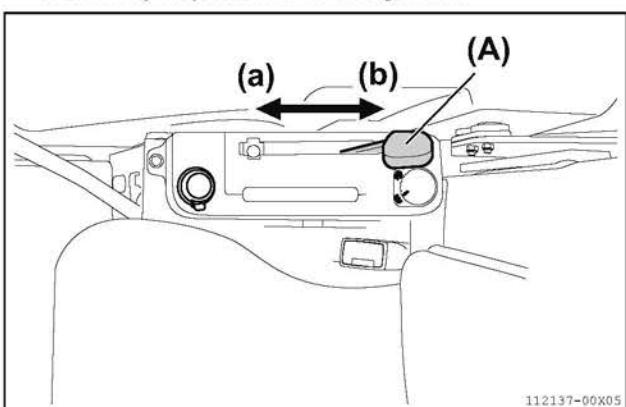
5. Press the Power Take Off (PTO) switch to OFF position.



(A) Power Take Off (PTO) switch

(a) OFF position

6. Push the 3-point hitch control lever forward to lower any implements to the ground.



(A) 3-point hitch control lever

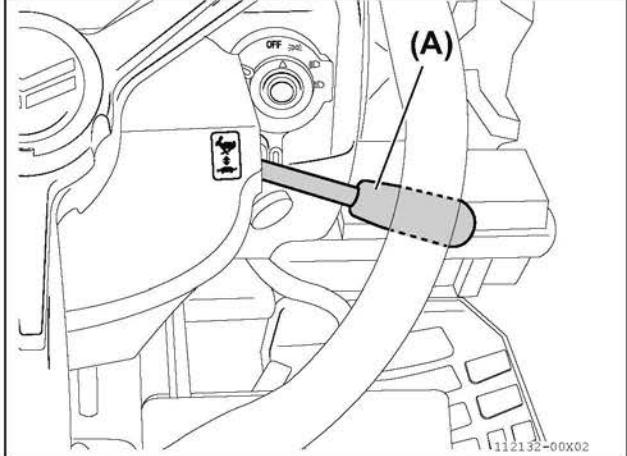
(a) Lowest position

(b) Highest position

IMPORTANT

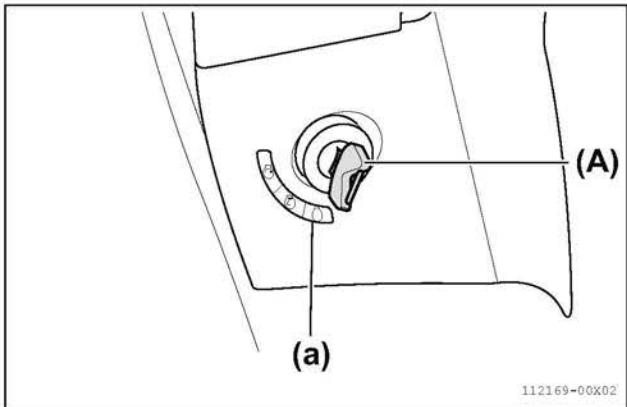
- To prevent injury and property damage:
 - always lock the parking brake
 - make sure the main shift lever, reverse lever and range shift lever are in the N (neutral) positions
 - make sure that the engine is not running
- The tractor wheels are free to move when all of the followings are in the N (neutral) position:
 - main shift lever
 - range shift lever
 - reverser lever

7. Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
8. Pull the throttle control lever backward to the low idle position.



(A) Throttle control lever

9. Turn the starter key switch to the OFF position.



(A) Starter key switch

(a) OFF position

10. Remove the key from the starter key switch.

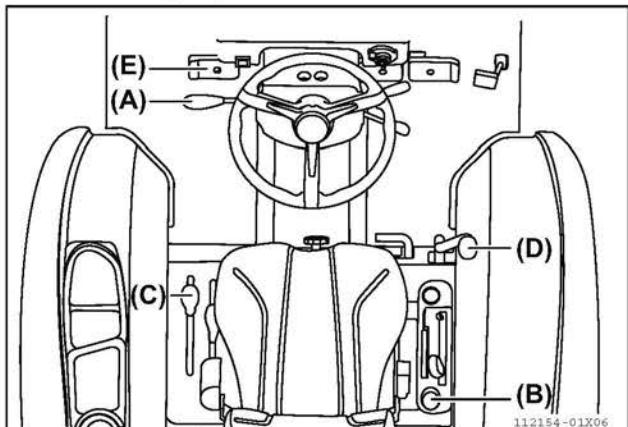
11. Before leaving the operator seat, ensure the engine and all moving parts have stopped.

3. Restart a Stalled Engine

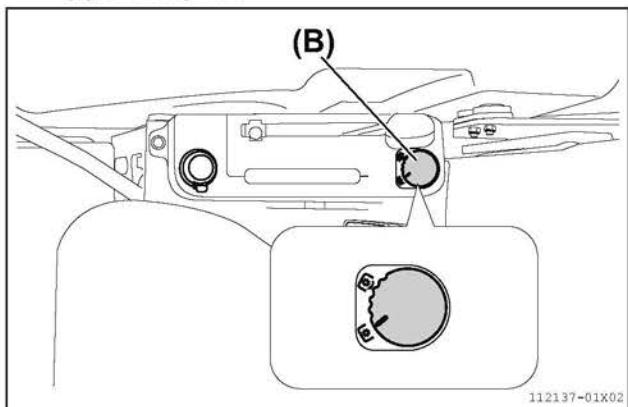
IMPORTANT

- If the engine stalls while operating under load, immediately restart the engine to prevent abnormal heat build up.

1. Depress the clutch pedal fully.
2. Move the reverser lever to the N (neutral) position.
3. Move the main shift lever to the N (neutral) position.
4. Move the range shift lever to the N (neutral) position.
5. Operator must be properly seated on the operator seat.
6. Press the Power Take Off (PTO) switch to OFF position.
7. Start the engine.
8. Continue with normal operation.
9. Set the engine to idle speed for 1 or 2 minutes before stopping.



(A) Reverser lever
 (B) Power Take Off (PTO) switch
 (C) Range shift lever
 (D) Main shift lever
 (E) Clutch pedal



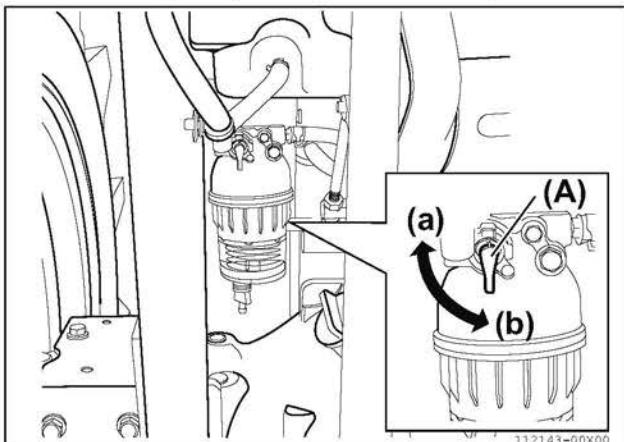
4. Start when the Engine Runs Out of Fuel

<YM351R>

NOTE

- The tractor has a self bleeding fuel system.
- Bleeding is automatically performed while the key is turned to the ON position.

1. Check the fuel tank. Add fuel as necessary.
2. Make sure the fuel filter is still functioning.
3. Make sure the fuel shut-off valve is in the ON (open) position.
4. The fuel is visible in the sediment bowl because the fuel is gravity fed into the water separator.



(A) Fuel shut-off valve
 (a) OFF (closed) position
 (b) ON (open) position

IMPORTANT

- Continuous activation of the starter for more than 20 seconds can damage the starter.
- If the engine fails to start within 20 seconds, discontinue activating the starter.
- Wait for 2 minutes before trying to restart the engine.

5. Crank the engine for a maximum of 20 seconds.
6. If the engine fails to start within 20 seconds, stop cranking.

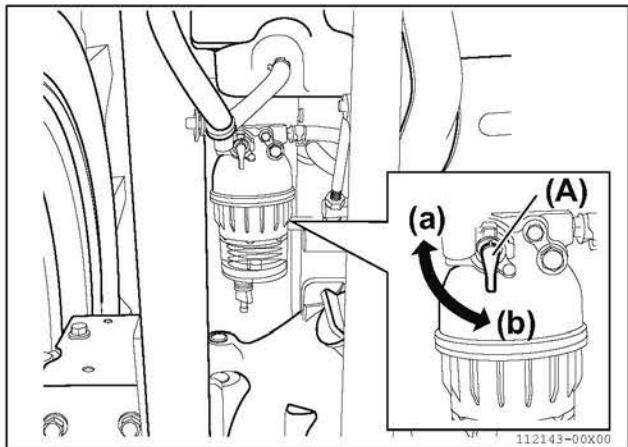
7. OPERATE THE ENGINE

<YM358R>

IMPORTANT

- If the fuel tank is empty and the engine stops, follow these steps to bleed air from the fuel system.
- Also bleed air from the fuel system when the following parts are replaced or cleaned.
 - Fuel filter
 - Fuel/water separator
 - Fuel hoses
 - Fuel pump
 - Fuel injection pump

1. Check the fuel tank. Add fuel as necessary.
2. Make sure the fuel filter is still functioning.
3. Make sure the fuel shut-off valve (A) is in the ON (open) position.

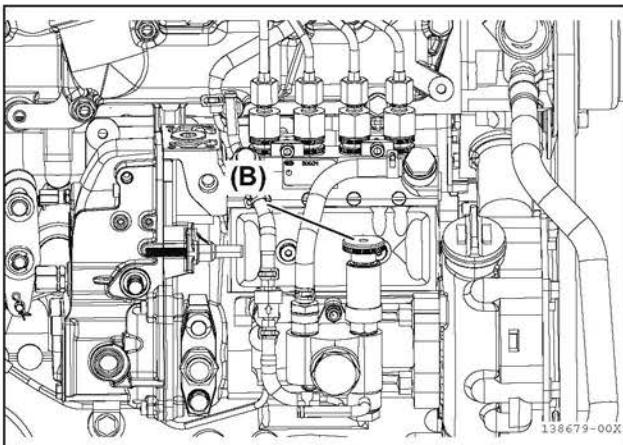


(A) Fuel shut-off valve

- (a) OFF (closed) position
(b) ON (open) position

4. The fuel is visible in the sediment bowl because the fuel is gravity fed into the fuel/water separator.
5. Turn the key switch ON. The fuel pump is activated and fuel is delivered to the fuel filter.

6. Loosen the cap (B) on the mechanical fuel injection pump.



(B) Cap

7. Pull out the cap (B).
8. Press the cap (B) approximately 20 times with the key switch ON to bleed air in the fuel system.
9. Tighten the cap (B).
10. Crank the engine for a maximum of 20 seconds.
11. If the engine fails to start within 20 seconds, stop cranking.

IMPORTANT

- Continuous activation of the starter for more than 20 seconds can damage the starter.
- If the engine fails to start within 20 seconds, discontinue activating the starter.
- Perform steps 6 through 10 again.

8. OPERATE THE TRACTOR



WARNING

Always use the drawbar to tow an implement.

- Do not under any circumstances attach a load to the axle housing.

Always decrease the tractor speed before turning:

- During traveling on a rough terrain.
- Before stopping to prevent the tractor from overturning.

Do not attempt to turn tractor with the differential lock engaged.

- Attempting to turn the tractor while the differential lock is engaged can lead to the tractor overturning.

Stay clear of ditches, potholes, embankments and ponds.

- The tractor can more easily overturn or rollover in soft and wet ground.
- Before entering an area covered with tall grass, walk and inspect the area to detect any obstacles.
- Remove potentially dangerous obstacles before driving.

Always watch where the tractor is going.

- Be alert and exercise extra caution while driving towards an area.
- Where the next section is difficult to see, e.g., blind corners, row of trees, or any similar situations.

When two or more people are working in one area:

- Regularly communicate and watch each other.
- Make sure all persons and implements in the area do not impede or cause injury to each other.

Always ensure the tractor is at a complete stop before attempting to get on or off.

Accident Hazard

- A child does not understand the principles of danger, nor comprehend imminent dangers and is often attracted to and approach the tractor.
- Do not under any circumstances assume a child remain where last seen.
- Always keep a child out of the work area. Make sure a responsible person, other than the operator carefully supervising the child.
- If any child enters the current work area, immediately stop the tractor.
- Do not under any circumstances allow a child to ride on the moving tractor. The child can tamper with the controls, fall off and be run over by the tractor.
- Do not under any circumstances allow a child to operate the tractor.
- Do not under any circumstances allow a child to play on the tractor or implements.
- Be extremely careful when backing the tractor. Before and during backing, constantly look backward, sideways and downward to ensure no child is behind the tractor.
- Safety is the top priority when a fire broke out. If you notice the smell of smoke or sight of flames, immediately get off the machine and move away from the fire.
- Never return to the machine.
- Call the fire department as soon as it is safe to do so.

1. Operate the Tractor

WARNING

- Before starting or operating the tractor, always ensure there is no bystander or obstacle.
- Press the Power Take Off (PTO) switch to OFF position.
- Raise any implements.

IMPORTANT

- To prevent damage to the transmission, stop the tractor completely before operating the:
 - range shift lever
 - reverser lever
 - 2WD/4WD lever

1. Sit on the operator seat

Regarding how to adjust operator seat position, for details, see "3. Adjust the Operator Seat" on page 7-2.

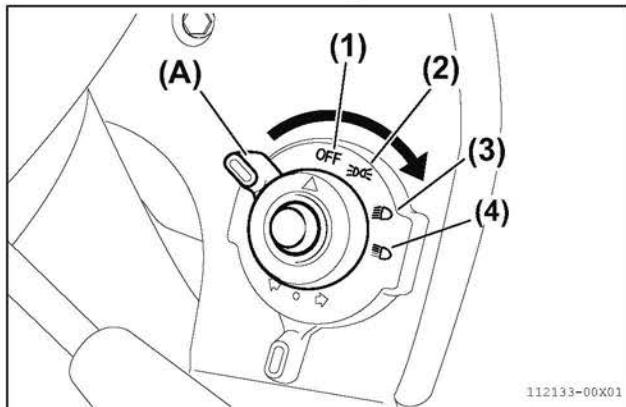
Regarding how to fasten the retractable seatbelt, for details, see "5. Fasten the Retractable Seatbelt" on page 7-2.

2. Use the headlights, tail lights, turn signal switch and hazard lights button switch as necessary

The procedures for operating the switches are described below.

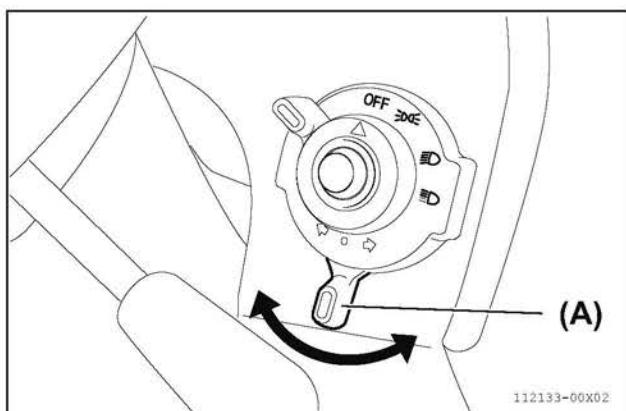
■ Headlights

- Position 1: - All lights OFF
- Position 2: - Position lights ON, Tail lights ON
- Position 3: - Outer head lights ON, Position lights ON, Tail lights ON
- Position 4: - Inner head lights ON, Position lights ON, Tail lights ON



(A) Headlights, and tail lights switch

■ Turn Signals



(A) Turn signal switch

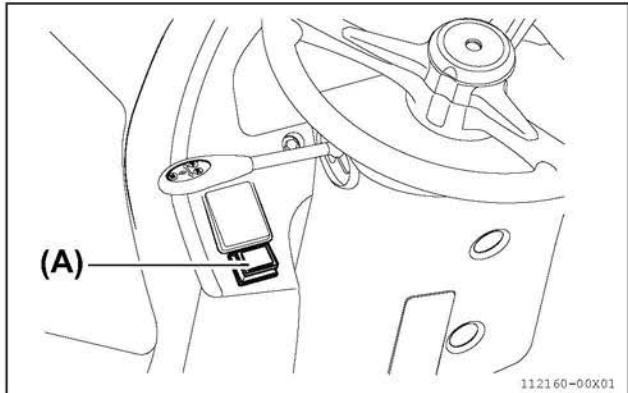
- Rotate the turn signal lever leftward: to signal an intention to turn left.
- Rotate the turn signal lever rightward: to signal an intention to turn right.

8. OPERATE THE TRACTOR

3. Use the hazard lights button switch as necessary

■ Hazard Lights

- Press the hazard lights button switch to make the hazard lights flash.



(A) Hazard lights button switch

4. Start the engine

Regarding on how to start the engine, for details, see "Chapter 7. OPERATE THE ENGINE" on page 7-1.

5. Raise the implement

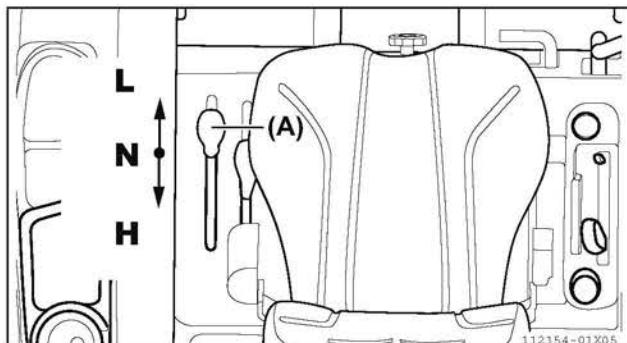
Regarding on how to raise the implement, for details, see "Chapter 10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR" on page 10-1.

memo

6. Set the levers to the desired position

■ Range Shift Lever

1. The following gear positions can be selected:
 - L-N-H
2. Use the range shift lever to select one of the gear position:
 - L (slow)
 - N (neutral)
 - H (fast)
3. One of 8 forward and 8 reverse speeds can be selected, when the range shift lever is used in conjunction with the:
 - Main shift lever
 - Reverser lever



(A) Range shift lever

NOTE

- Before operating the range shift lever:
 - depress the clutch pedal when changing gear
 - make sure the tractor has completely stopped
- Before starting the engine, always place the following levers in the N (neutral) position.
 - main shift lever
 - range shift lever
 - reverser lever
- Power Take Off (PTO) switch is in the OFF position.

Speed ranges of the range shift lever

Speed Range	Applications
L	Work involving much power at low speed, e.g., rotary tiller and plough.
H	Work involving a moderate level of hauling; e.g., rotary tiller and plough.
	Work involving high-speed operation, e.g., transport.

IMPORTANT

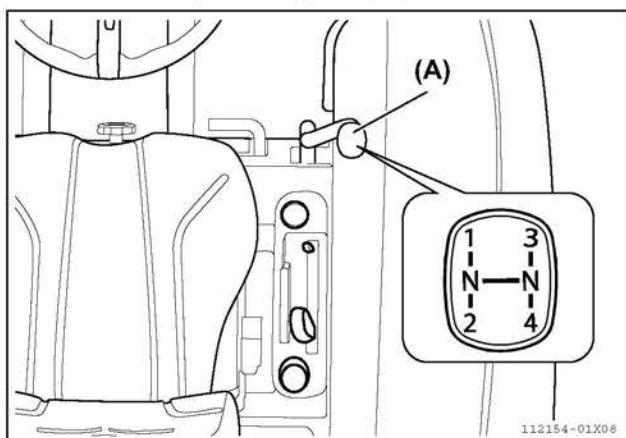
To prevent overloading the engine, always select the appropriate gear and engine speed for the job.

- Use a higher gear and lower engine speed for work involving a light load.
- Use a lower gear and higher engine speed for work involving a heavy load.

■ Main Shift Lever

Use the main shift lever to select:

- N (neutral)
- One of four speed ranges: 1, 2, 3, 4



(A) Main shift lever

NOTE

- There is no need to stop the tractor before operating the main shift lever.
- Before operating the main shift lever:
 - depress the clutch pedal completely

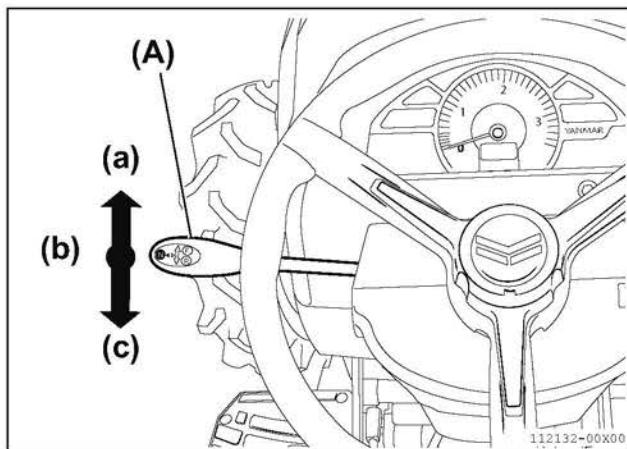
Speed ranges of the main shift lever

Speed Range	Speed	Power
1	↓	↓
2		
3		
4		

8. OPERATE THE TRACTOR

■ Reverser Lever

- Change the position of the reverser lever to make the tractor move forward or backward.



(A) Reverser lever

(a) Forward

(b) N (neutral)

(c) Reverse

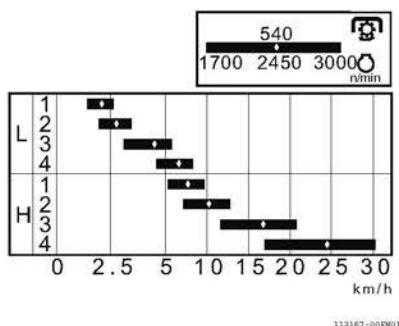
IMPORTANT

- Before starting the tractor, set the reverser lever to the N (neutral) position.

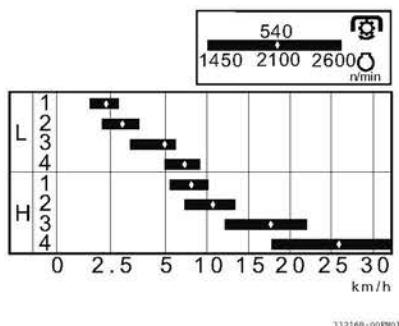
NOTE

- When changing the position of reverser lever, the clutch pedal is necessary to be depressed.

The standard for PTO Speed and Engine Speed on YM351R



The standard for PTO Speed and Engine Speed on YM358R



7. Select travel speed

1. The tractor may be operated in any gear at engine speeds between 975 and 2995 Revolutions Per Minute (rpm) for YM351R and 975 to 2590 Revolutions Per Minute (rpm) for YM358R.
2. Within the preceding range, the engine can be subjected to a variety of load conditions.

IMPORTANT

To prevent transmission damage:

- Depress the clutch pedal.
- Make sure the tractor has completely stopped before operating the range shift lever.
- Before reversing directions:
 - Reduces the tractor's speed.
- Do not under any circumstances rest foot on the clutch while the tractor is in motion.

■ 2WD/4WD Lever

WARNING

- Always exercise extreme caution while operating the tractor on slopes.
- Enable the 4-wheel drive in order to increase traction as necessary.
- While the 4-wheel drive can improve access to terrain with dangerous slopes, the danger of tipping over is still present.

1. Engage the 4-wheel drive to improve braking on wet, icy, sloped or graveled surfaces.
2. To prevent skidding and loss of steering control, also add weight to the tractor and travel at reduced speeds.

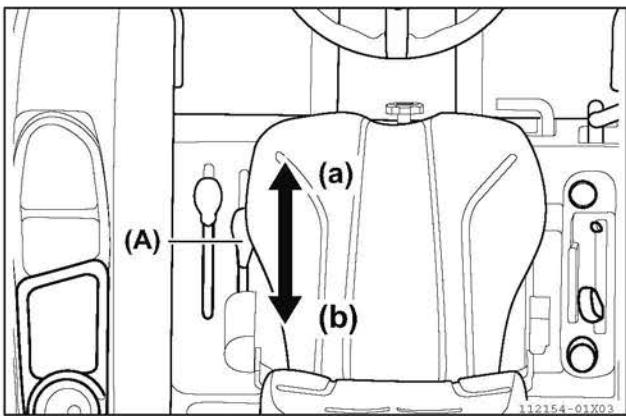
IMPORTANT

- Always disengage the 4-wheel drive during driving on a paved surface.
- Engage to the 4-wheel drive only as required to prevent premature wear on the front tires.
- Avoid under any circumstances using tire chains on the tractor's front wheels, because the tire chains can be thrown against the tractor and cause damage.

3. Use the 2WD/4WD lever to operate the tractor in either the 2-wheel drive or 4-wheel drive.
4. To engage the 4-wheel drive, push the 2WD/4WD lever forward.

8. OPERATE THE TRACTOR

- The preceding action connects the mechanical front wheel drive axle to the power train.



(A) 2WD/4WD lever
(a) 4WD position
(b) 2WD position

Engage the 4-Wheel Drive

- Before operating the 2WD/4WD lever:
 - Depress the clutch pedal.
 - Make sure the tractor has completely stopped.
- Push the 2WD/4WD lever forward to engage the 4-wheel drive.

Disengage the 4-Wheel Drive

- Before operating the 2WD/4WD lever:
 - Depress the clutch pedal.
 - Make sure the tractor has completely stopped.
- Pull the 2WD/4WD lever backward to engage the 2-wheel drive.

NOTE

- Before operating the 2WD/4WD lever:
 - always depress the clutch pedal
 - make sure the tractor has completely stopped
- The load on the tractor may have to be reduced before changing from the 4-wheel drive to 2-wheel drive.

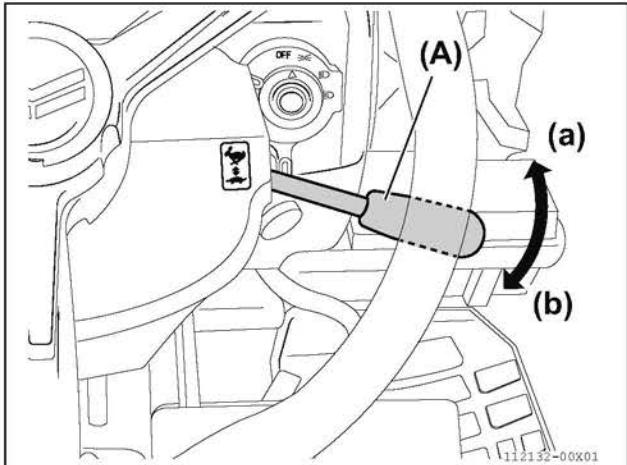
Tips on the 4-Wheel Drive

- To make sure proper performance under all types of working conditions, maintain the maximum acceptable tire air pressure in the front tires.
- Disengage the 4-wheel drive while transporting the tractor.
- Disengaging the 4-wheel drive increases the service life of the front tires.

8. Adjust the throttle control lever to reach the target speed

■ Throttle Control Lever

Use the throttle control lever to increase, decrease or maintain the current engine speed.



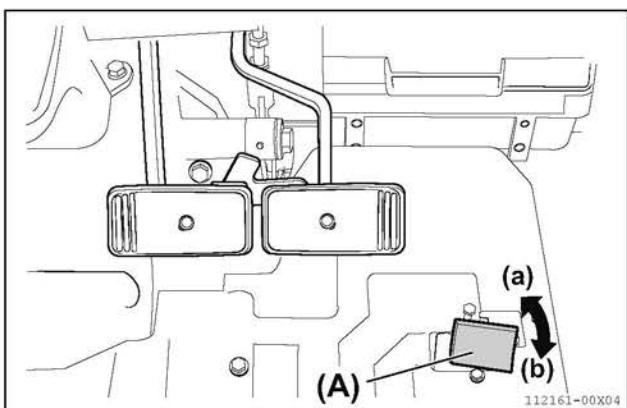
(A) Throttle control lever
(a) Increase engine speed
(b) Decrease engine speed

■ Accelerator Pedal

- Use the accelerator pedal to increase or decrease tractor speed.
- When releasing the accelerator pedal, the engine speed is reduced as the throttle control lever set. (Actual engine speed would vary depend on load on tractor.)

NOTE

- Use accelerator pedal when traveling on roads.



(A) Accelerator pedal
(a) Depress to increase engine speed
(b) Release to decrease engine speed

2. Stop the Tractor

■ Stopping Procedure

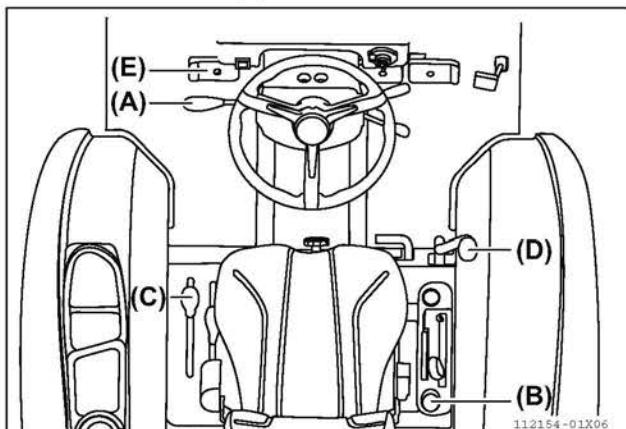
1. Slow down the engine.
2. Depress the clutch pedal (E).
3. Depress brake pedal (G) to stop the tractor.

! WARNING

Avoid injury!

- Make sure that the clutch pedal is depressed fully.

4. Press the Power Take Off (PTO) switch (B) to OFF position.
5. Move the following levers to the N (neutral) position:
 - Main shift lever (D)
 - Range shift lever (C)
 - Reverser lever (A)



(A) Reverser lever

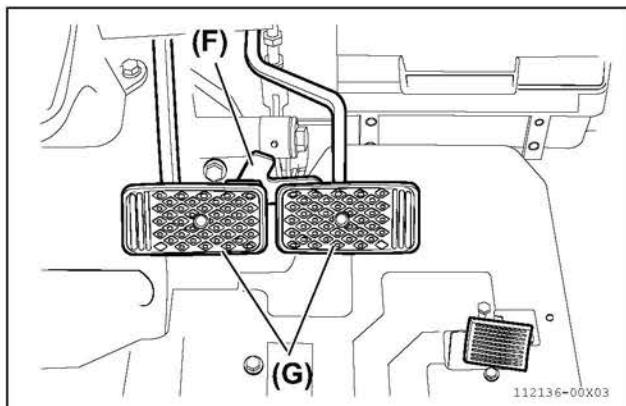
(B) Power Take Off (PTO) switch

(C) Range shift lever

(D) Main shift lever

(E) Clutch pedal

6. Make sure both brake pedals are securely connected using the brake pedal connector lock (F).



(F) Brake pedal connector lock

(G) Brake pedals

7. Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
8. Push the 3-point hitch control lever forward to lower any implements to the ground.

! WARNING

- To prevent injury or property damage:
 - always lock the parking brake when the following levers are in N (neutral) position:
 - main shift lever
 - range shift lever
 - reverser lever
 - whether the engine is running or stopped
 - the tractor wheels are free to move when the levers are in the N (neutral) position

9. Turn the starter key switch to OFF position.

■ Stop in an Emergency

1. Depress the clutch pedal.
2. Depress both brake pedals to stop the tractor.
3. Turn the starter key switch to OFF position.
4. Do not release the clutch pedal until the engine and all moving parts have completely stopped.
5. If possible, lock the parking brake securely.

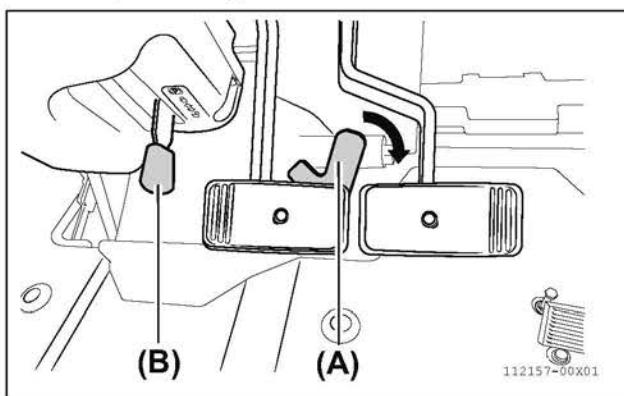
3. Use the Brake

■ Engage the Parking Brake

! WARNING

- Before leaving the tractor unattended:
 - always engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3
 - always remove the key from the starter key switch
- The preceding practice prevents a child and other people from attempting to drive or operate the tractor.

1. Use the brake pedal connector lock to lock the brake pedals together.



(A) Brake pedal connector lock
 (B) Parking brake lock lever

2. Firmly depress both brake pedals.
3. Pull up the parking brake lock lever.
4. Remove hand from the parking brake lock lever and remove foot from the brake pedals.
5. Both brake pedals should remain to the depressed position while the parking brake lock lever is engaged.

■ Disengage the Parking Brake

! WARNING

- Always park the tractor on a solid and level ground. If parking on a slope is unavoidable:
 - chock all the tires safely and securely
 - engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3

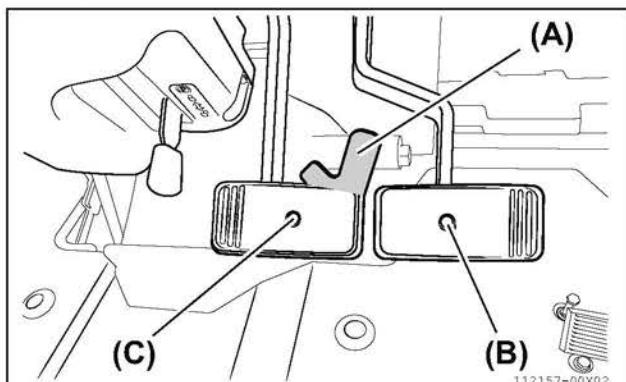
1. Depress both locked brake pedals.
2. Push all the way down the parking brake lock lever.
3. Release the locked brake pedals.
4. Make sure the parking brake is disengaged.

■ Use the Brake Pedals as Driving Brake (on Roads)

! WARNING

- To prevent accidental tipping or overturning.
 - do not under any circumstances use unlocked brake pedals to stop the tractor at high speeds
- Move clockwise the brake pedal connector lock to lock together the left and right brake pedals when:
 - the brake pedals are not used for turning
 - traveling on roads
- Always slow down before making turns.

1. Lock the brake pedal connector lock.
2. The preceding actions lock the two brake pedals together.
3. Depress the locked brake pedals to slow down or stop the tractor.



(A) Brake pedal connector lock
 (B) Right brake pedal
 (C) Left brake pedal

8. OPERATE THE TRACTOR

■ Use the Brake Pedal for Sharp Turning

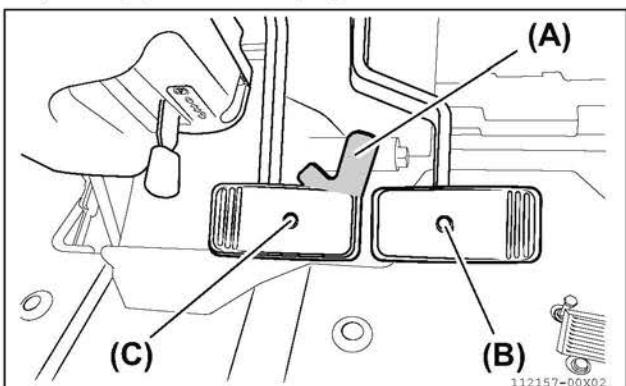
IMPORTANT

- To prevent damage to the 3-point hitch and implements:
 - always keep the implement away from the ground during brake turning

NOTE

- To perform brake turning, unlock the brake pedal connector lock.
- The preceding action can reduce the number of times the operator needs to back up the tractor.
- Always keep the brake pedals locked together when:
 - moving to another site
 - traveling on roads

1. Unlocked the brake pedal connector lock.
2. Make sure that the two brake pedals functions independently.
3. To make tighter left turn: Depress the left brake pedal (C) while turning left.
4. To make tighter right turn: Depress the right brake pedal (B) while turning right.



(A) Brake pedal connector lock

(B) Right brake pedal

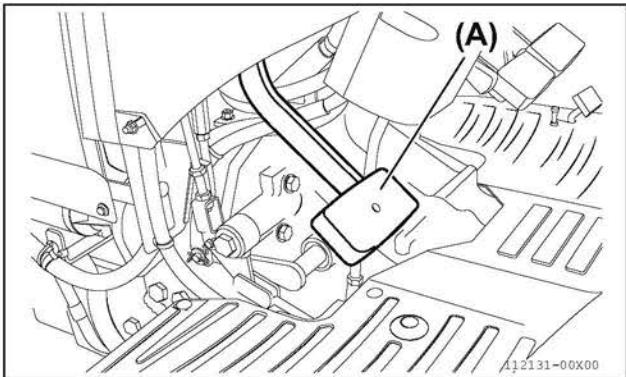
(C) Left brake pedal

■ Use the Clutch Pedal

WARNING

- Suddenly releasing the clutch pedal can make the tractor move forward or backward unexpectedly.

1. Depress the clutch pedal fully to disengage the clutch.



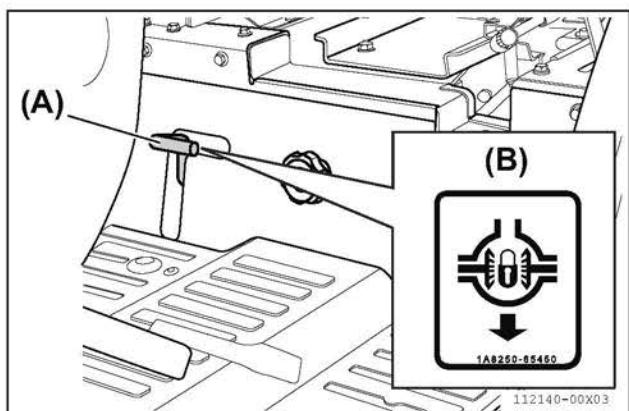
(A) Clutch pedal

IMPORTANT

- To prevent premature clutch wear:
 - quickly disengage the clutch
 - slowly engage the clutch
- Keep foot away from the clutch pedal after resuming operation.

4. Practices for Safe Operation

■ Differential Lock



(A) Differential lock pedal

(B) Decal

⚠ WARNING

- To prevent tipping of the tractor:
 - do not attempt to turn with the differential lock engaged
 - do not engage the differential lock while the tractor is traveling at a high speed

IMPORTANT

If differential lock does not disengage after removing foot from the differential lock pedal:

- Depress brake pedals to equalize traction.
- Release the differential lock pedal.

1. When rear wheels begin to slip:

- Engage the differential lock to gain greater traction.

NOTE

- Engaging the differential lock:
 - the right and left rear axles simultaneously rotate at the same speed
 - the preceding action allows the tractor to develop maximum traction force

IMPORTANT

- To prevent damage to the differential gears, always disengage the differential lock while travelling at high speed.
- The differential lock is designed to be used for short durations.
- Prolonged use can damage the differential gears.

Engage the Differential Lock

1. Stop the tractor.
2. Drive the tractor at a very slow speed.
3. Depress the differential lock pedal.

Disengage the Differential Lock

1. Release the differential lock pedal completely.

IMPORTANT

- Always decrease the engine speed when using the differential lock.
- To prevent transmission damage, always unlock the differential lock while only one rear wheel is rotating.
- If the differential lock does not disengage when the foot is removed from the differential lock pedal, try depressing lightly on the brake pedals several times.

■ Drive the Tractor on Roads

⚠ WARNING

Exercise due caution when driving the tractor on roads. Follow the following instructions.

- Turn on the hazard lights.
- Before operating the tractor on a road, become familiar with the relevant state or local regulations in effect.
- Use the turn signal lights during turning.
- Perform the following precautions:
 - always ensure that the brake pedal connector lock is securely locked

8. OPERATE THE TRACTOR

■ Loading the Tractor on a Trailer

WARNING

- Exercise extreme care during loading or unloading the tractor to or from a trailer or truck.
- Make sure the trailer is heavy duty enough to transport the tractor.

1. Select the slow tractor speed.
 - Engage the 4-wheel drive to get front traction before loading.
 - Make sure the implements attached are off the ground/gangplank enough before/during loading/unloading.
2. Drive the tractor forward onto the trailer.
 - Never try to change the course on the gangplank.
3. Lower any implement onto the trailer deck.
4. Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
5. Shut off the engine.
6. Remove the key from the starter key switch.
7. Tie down the tractor to the trailer with heavy duty straps, chains or cables.
 - Secure each of the tire to the trailer.

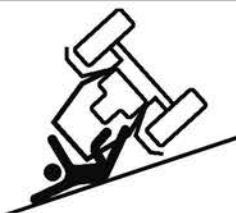
■ Operate on Slopes and Rough Terrain

WARNING

Be extremely cautious when driving the tractor on a slope and rough terrain. Observe the following precautions.

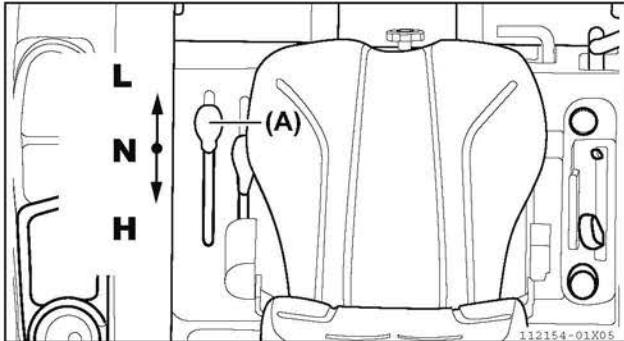
- Before driving the tractor on a slope or a rough terrain, engage the 4-wheel drive for the following purposes:
 - to increase traction
 - to greatly assist in climbing steep slopes
 - to improve braking power on sloped, frozen, wet or graveled surfaces
 - always be aware that the danger of tipping over is still present
- Add weight to the tractor as necessary.
- Drive at a lower speed to prevent skidding and loss of steering control.
- Keep away from slopes steeper than 15 degrees.
- Avoid parking the tractor perpendicular to the slope.
- Avoid turning or changing travel directions on a slope.
- Before approaching a slope, select an appropriate speed setting.
- Make sure to travel at a lower speed when on a slope.
- Avoid shifting the range shift lever while traveling on a slope. The preceding action can make the tractor uncontrollable and suddenly roll down the hill.
- Do not move the following in N (neutral) position when on the slope:
 - main shift lever
 - range shift lever
 - reverser lever
- Do not under any circumstances step on the clutch pedal when on a slope.
 - the preceding action can make the tractor uncontrollable and suddenly roll down the hill
- Sudden operating the tractor on an uphill slope can cause the front wheels to lift off the ground and result in an extremely dangerous situation.
- To prevent the preceding danger:
 - run the engine at a lower speed
 - slowly start the tractor

8. OPERATE THE TRACTOR



- Avoid parking the tractor perpendicular to a slope
 - if parking on a slope is unavoidable, chock all the tires safely and securely and engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3
- On a slope, the tractor is unstable and more prone to severe injury or even death. Always be alert.
- Avoid traveling backward, up and down on a slope to prevent tipping over.
- Keep away from ditch or deep mud to avoid the risk of the tractor tipping over.
- Always drive slowly on any slope. Avoid under any circumstances sudden change of speeds or directions.
- For increased stability of the tractor on slope:
 - always use tires with the widest possible tire tread width
 - follow the instructions for proper weighting
 - for details, see "Chapter 11. TIRES, WHEELS AND WEIGHTS" on page 11-1

1. Before approaching a slope, select a lower gear setting.



(A) Range shift lever

2. Always travel slowly on a slope.
3. Drive the tractor according to the type of a slope, as indicated below.

■ Uphill and Downhill Slopes

- Start slowly.
- Make sure the range gear is in a slow gear.
- Run the engine at a lower speed.

■ Steep Downhill Slope

- Move the range shift lever to the lower speed position before going a downhill slope.
 - the preceding action sets the level of engine brake
- Select the range shift lever position suitable for the steepness of a slope.

WARNING

Avoid injury!

- When backing up a slope, keep the tractor parallel with the inclination of the slope.

■ About the Power Steering

! WARNING

Avoid injury!

- The tractor equipped with power steering.
 - the steering wheel can turn with minimum force while the engine is running
- Avoid abrupt turning of the steering wheel, especially while traveling on paved roads.
 - the preceding action can cause an accident

1. The power steering only function when the engine is running.
2. When the engine is running at slow speed, the operator may need to exert a slightly greater force to turn the steering wheel.
3. The preceding state is normal.

IMPORTANT

- Fully turning the steering wheel causes the relief valve to trip. An audible signal is emitted.
 - the preceding state can be ignored only for a short duration
- Do not under any circumstances keep the steering wheel fully turned for an extended period of time.
- As much as possible, avoid turning the steering wheel while the tractor is not moving.
- Avoid turning the steering wheel of the tractor while the engine is shut off, unless while towing the tractor.
 - the preceding action can damage the steering valve, tires and rims

5. Raise and Lower the Roll-Over Protective Structure (ROPS)

! WARNING

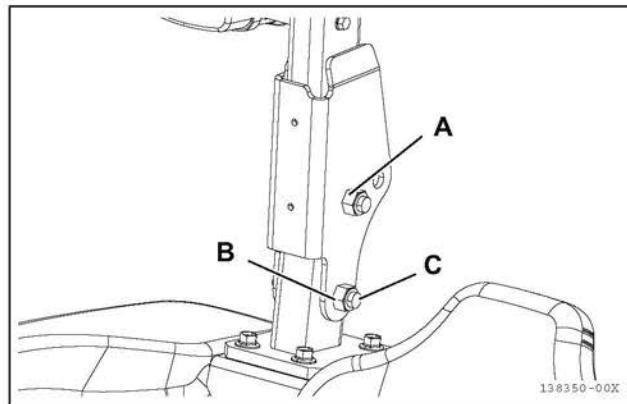
- Always operate the tractor with the Roll-Over Protective Structure (ROPS) in the unfolded "up" position.
 - unless folding the structure is absolutely necessary, e.g., during operation in a low clearance area
- Keep the retractable seatbelt fastened while operating the tractor with the Roll-Over Protective Structure (ROPS) in the unfolded "up" position.
 - the preceding practice reduces the possibility of injury or death in the event of a roll over accident
- If the Roll-Over Protective Structure (ROPS) is not installed (taken off for some reason), always install the structure before operating the tractor.
- Always keep the Roll-Over Protective Structure (ROPS) on its original condition. An alteration can impair the protective capacity of the structure.
- Immediately replace a damaged Roll-Over Protective Structure (ROPS). Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.
- Do not under any circumstances use the retractable seatbelt:
 - while the Roll-Over Protective Structure (ROPS) is in the folded "down" position
 - while the tractor does not have a Roll-Over Protective Structure (ROPS)

8. OPERATE THE TRACTOR

■ Lower (Folded "Down") the Roll-Over Protective Structure (ROPS)

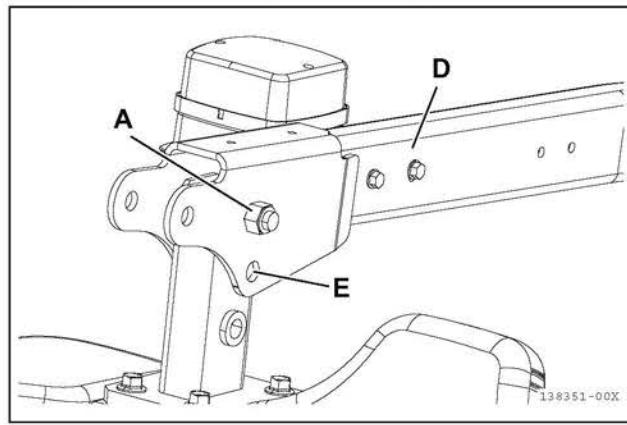
The Roll-Over Protective Structure (ROPS) can be folded down only by approximately 90 degrees.

1. Loosen the nuts (A). Do not remove the nuts (A).
2. Loosen and remove the nuts (B) and bolts (C).



(A) Nut (2 pieces)
(B) Nut (2 pieces)
(C) Bolt (2 pieces)

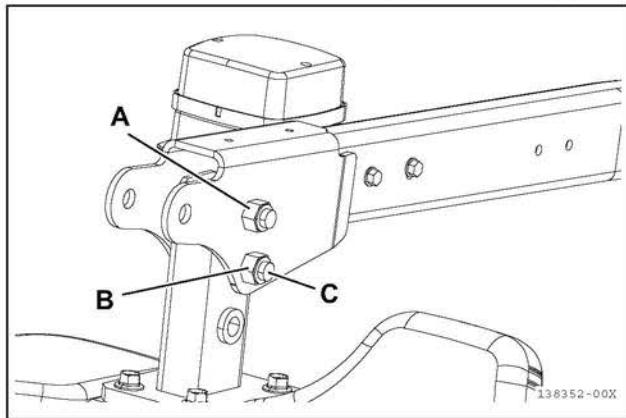
3. Push down the frame (D) backward.
4. Insert the bolts (C) into the holes (E).
5. Tighten the nuts (A) and nuts (B).



(D) Frame
(E) Hole

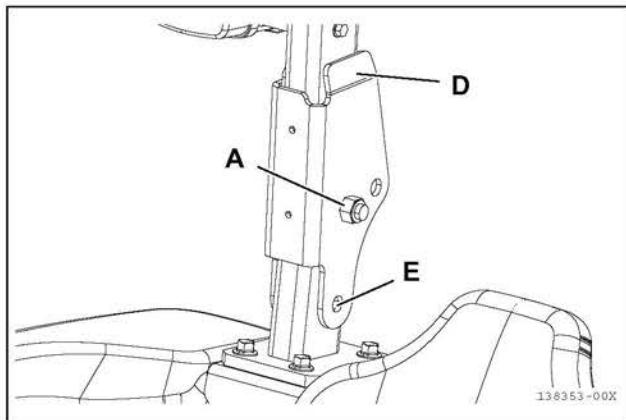
■ Raise (Unfolded "Up") the Roll-Over Protective Structure (ROPS)

1. Loosen the nuts (A). Do not remove the nuts (A).
2. Loosen and remove the nuts (B) and bolts (C).



(A) Nut (2 pieces)
(B) Nut (2 pieces)
(C) Bolt (2 pieces)

3. Push up the frame (D).
4. Insert the bolts (C) into the holes (E).
5. Tighten the nuts (A) and nuts (B).



(D) Frame
(E) Hole

9. POWER TAKE OFF (PTO) SYSTEM

! WARNING

Avoid injury!

- Before connecting, disconnecting, adjusting, cleaning or servicing any Power Take Off (PTO) driven implement:
 - always ensure all moving components have completely stopped rotating

- Before attempting to remove the Power Take Off (PTO) shaft cap:
 - always wait until the shaft has completely stopped moving

- Before installing or operating any Power Take Off (PTO) driven implements:
 - always follow Power Take Off (PTO) driven implement operation manual, safety decals and instructions

- Avoid approaching or touching any rotating component.

1. Operate the Power Take Off (PTO) System

! WARNING



- Before connecting, disconnecting, adjusting or cleaning any Power Take Off (PTO) driven implement:
 - press the Power Take Off (PTO) switch to OFF position
 - shut down the engine
 - make sure all rotating component have stopped

- Avoid approaching rotating drivelines.
- Entanglement with a rotating driveline can lead to serious injury or even death.
- Always ensure Power Take Off (PTO) shaft cap is installed while the Power Take Off (PTO) is not in use.

1. The tractor comes equipped with a hydraulic/electric Power Take Off (PTO) clutch.
2. ON/OFF the Power Take Off (PTO) switch can be done any time while the engine is running.

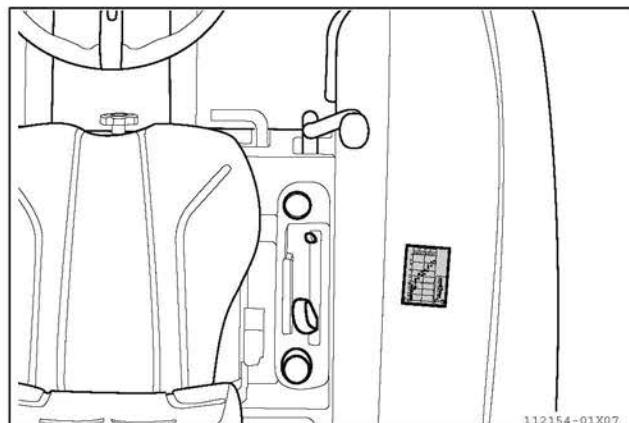
9. POWER TAKE OFF (PTO) SYSTEM

■ Determine the Appropriate Power Take Off (PTO) Speed

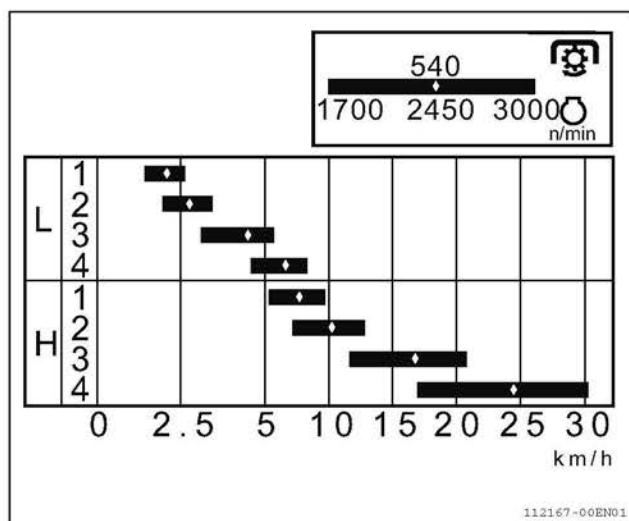
1. At the standard Power Take Off (PTO) speed (540 Revolutions Per Minute (rpm)), the engine should be run at 2430 (YM351R), 2096 (YM358R) Revolutions Per Minute (rpm).
2. Be always aware of the current tractor speed. Make sure that the tractor is controllable.
3. When Power Take Off (PTO) switch is in the ON position:
 - Always drive below the indicated RATED Revolutions Per Minute (rpm).

IMPORTANT

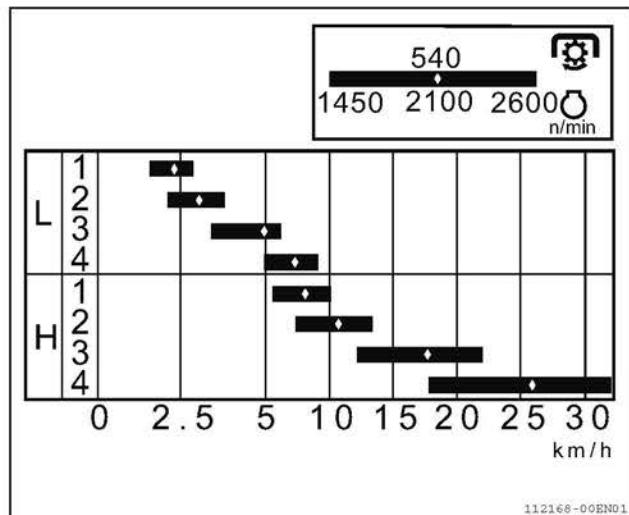
- When Power Take Off (PTO) switch is in the ON position:
 - Adjust Engine Speed to the chart below as a reference.



The standard for PTO Speed and Engine Speed on YM351R



The standard for PTO Speed and Engine Speed on YM358R



9. POWER TAKE OFF (PTO) SYSTEM

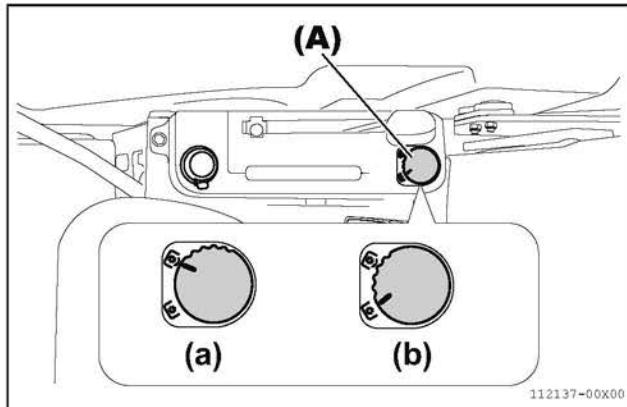
■ Engage Power Take Off (PTO) (with the Operator on the Operator Seat)

NOTE

- Do not stop the engine while PTO switch is ON position.

1. To engage Power Take Off (PTO):

- Idle the engine speed.
- Press and turn right the Power Take Off (PTO) switch to ON position (a).



(A) Power Take Off (PTO) switch
(a) ON
(b) OFF

2. Increase the engine speed required for the implement.

■ Disengage Power Take Off (PTO) (with the Operator on the Operator Seat)

1. Idle the engine speed.
2. Press the Power Take Off (PTO) switch to OFF position.

2. Using PTO Selection Lever

CAUTION

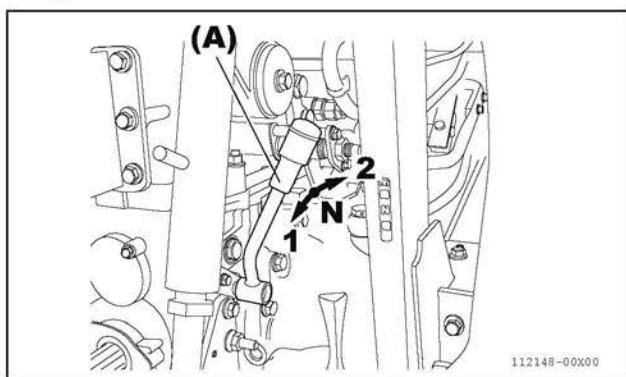
- Strictly maintain the PTO speed as specified by the implement. Otherwise, the implement can be damaged, leading to an accident.

Changes PTO (Power Take Off) Shaft speed at 2 stages.

Can change the PTO speed only when the tractor stops.

- 2: 750 rpm
- N: Stop
- 1: 540 rpm

*Engine Rated Revolution



(A) PTO selection lever

PTO selection	PTO rpm	Engine speed (rpm)	
		YM351R	YM358R
1	540	2430	2096
2	750	2450	2092

10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR

1. 3-Point Hitch

WARNING

- When a 3-point hitch-mounted implement is attached:
 - always install appropriate amount of weight to the front of the tractor

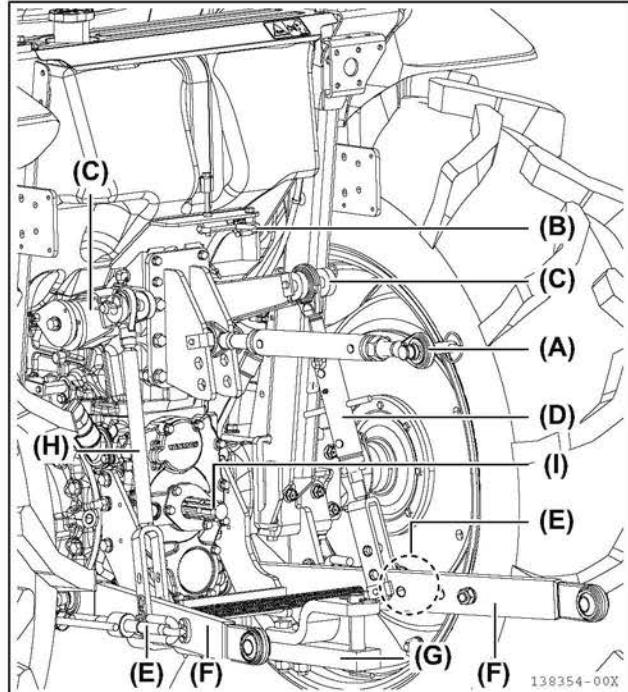
- During transportation:
 - keep placing the 3-point hitch control lever in the raised position

- Do not fully close the hydraulic flow control/stop knob in order to keep any implements in the raised position while the tractor is traveling.
 - completely closing the hydraulic flow control/stop knob can damage the hydraulic lift circuit

- Only use implements that are designed for use with the 3-point hitch.
- Always use approved implements with the 3-point hitch.
- Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

IMPORTANT

- Avoid operating the 3-point hitch control lever before the engine has been sufficiently warmed up.
- Operating the 3-point hitch control lever while the engine has not yet been sufficiently warmed up:
 - can damage the hydraulic system
 - can result in the complete failure of the hydraulic system
- If abnormal noise occurs after the 3-point hitch has been raised, incorrect adjustment or failure of the hydraulic system are possible causes.
 - immediately stop the operation
 - contact YOUR LOCAL YANMAR TRACTOR DEALER to check and repair the tractor



(A) Top link
 (B) Top link hook
 (C) Lift arm
 (D) Lift Link, right
 (E) Check chains
 (F) Lower links
 (G) Drawbar
 (H) Lift Link, left
 (I) Power Take Off (PTO) shaft

■ Use the 3-Point Hitch Control Lever

NOTE

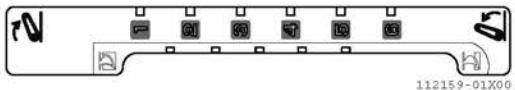
- The 3-point hitch delivered with the tractor is a Category 1.

1. Use the 3-point hitch control lever to raise and lower the implement attached to the 3-point hitch.

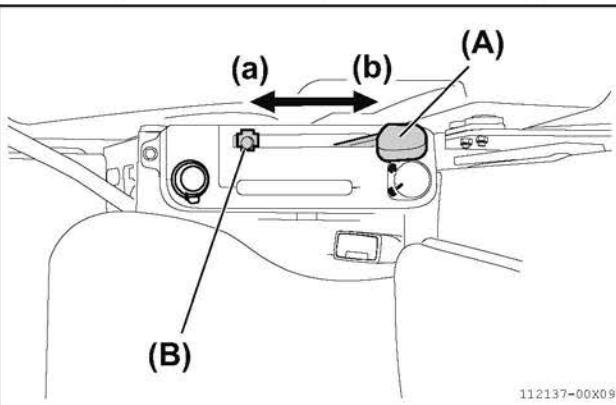
10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR

NOTE

- The 3-point hitch control lever is labeled 1 to 6.
- The numbers:
 - for reference purposes only
 - does not indicate any exact height position for the implement that is attached to the 3-point hitch
- The lower the number, the closer the lower links is to the ground.



2. Adjust the position stop knob to set the desired lowest position of the implement from the ground.



(A) 3-point hitch control lever

(B) Position stop knob

- (a) Moving the 3-point hitch control lever forward lowers the implement
- (b) Moving the 3-point hitch control lever backward raises the implement.

■ Use the Position Stop Knob

NOTE

Use the position stop knob to:

- Limit the downward movement of the lower links.

1. Operate the attached implement.
2. Use the 3-point hitch control lever to establish the desired working height/depth of the implement.
3. Loosen the position stop knob.
4. Move the position stop knob rearwards until position stop knob stops against the 3-point hitch control lever.
5. Tighten the position stop knob to fix on that particular position.

- Every time the 3-point hitch control lever stops against the position stop knob, the implement is lowered to the established working height/depth.

■ Hydraulic Flow Control/Stop Knob

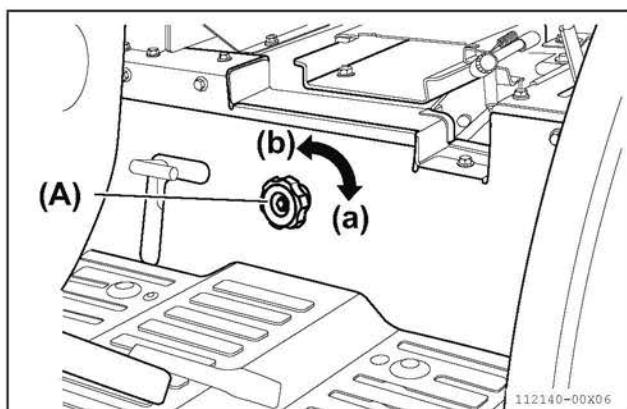
⚠ WARNING

- Lowering the 3-point hitch too fast can lead to accident or tractor failure.
- Adjust the hydraulic flow control/stop knob:
 - the time for lowering the implement from the highest position to the lowest position, is 2 seconds or longer
- While the tractor is traveling:
 - keep the 3-point hitch control lever in the raised position
 - do not fully close the hydraulic flow control/stop knob
 - completely closing the hydraulic flow control/stop knob can cause damage to the hydraulic lift circuit
- During maintenance:
 - do not use the hydraulic flow control/stop knob as a means to keep the implements raised
 - loss of hydraulic pressure may cause the implement to suddenly drop
 - set the implement on solid blocks or stand underneath the approved place of implements before starting any maintenance
- The hydraulic flow control/stop knob determines the speed at which the lower link is lowered.

IMPORTANT: Avoid damage!

- Avoid attaching a heavy load to the 3-point hitch when traveling on rough terrain.
 - the hydraulic system may be damaged
- Do not operate the 3-point hitch control lever when the hydraulic flow control/stop knob is closed.
 - the preceding action can cause the transmission hydraulic oil to overheat

10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR



(A) Hydraulic flow control/stop knob

(a) Knob turned counterclockwise:

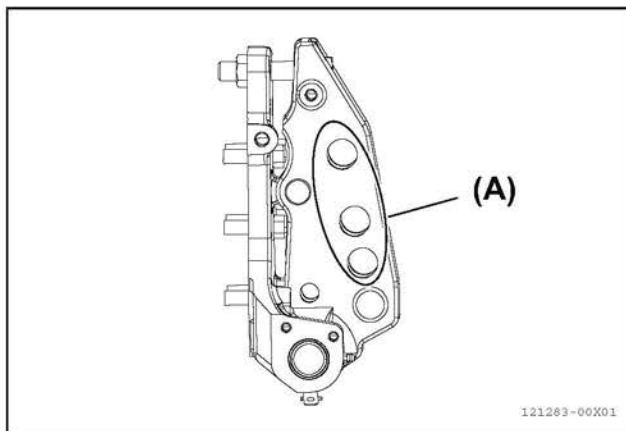
- increases the rate of drop speed
- unlocks the hydraulic lift

(b) Knob turned clockwise:

- decreases the rate of drop speed
- Knob turned clockwise until the knob stops turning:
- locks the hydraulic lift

112140-00X06

2. When using the draft control, use either of the top link holes in (A).



121283-00X01

NOTE

- Do not use the lowest hole for the draft control.
- If you need to secure the height of the implement, remove the rubber cap of the lowest hole and use the hole.

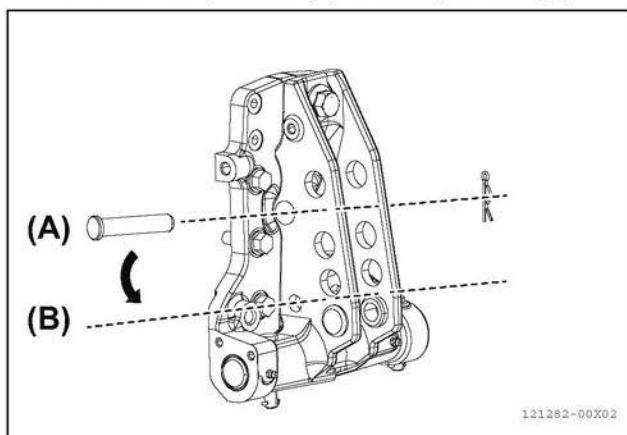
■ Use the Draft Control

<Only YM358R-L1>

IMPORTANT

- When you are not using the draft control, put the draft lock pin to the draft lock position, and fix. Here, make sure you have securely locked the top link hinge.

1. Move the draft lock pin of the top link hinge from the draft lock position (A) to draft position (B).



121282-00X02

3. When using the draft control, operate with the draft control lever.

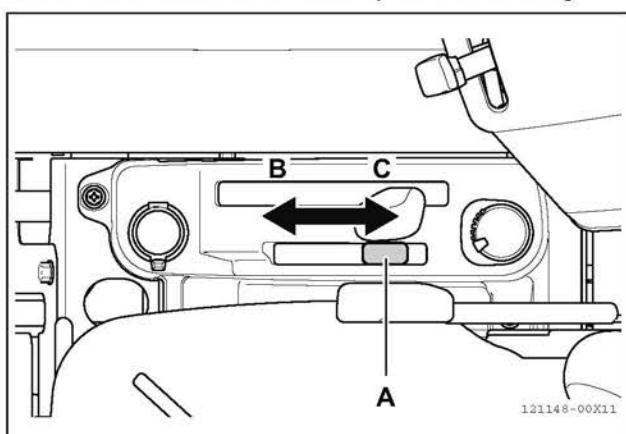
4. Select the position of the plowing depth so that the depth stays the same.

<By turning the lever toward "Shallow">

The draft control operates, the towing drag becomes smaller, and the attachment can be lifted up with smaller drag.

<By turning the lever toward "Deep">

The draft control does not operate well, making the attachment harder to be lifted up with small drag.



121148-00X11

- (A) Draft control lever
(B) "Deep"
(C) "Shallow"

■ Use the Lower Links and Top Link

⚠ WARNING

Avoid injury!

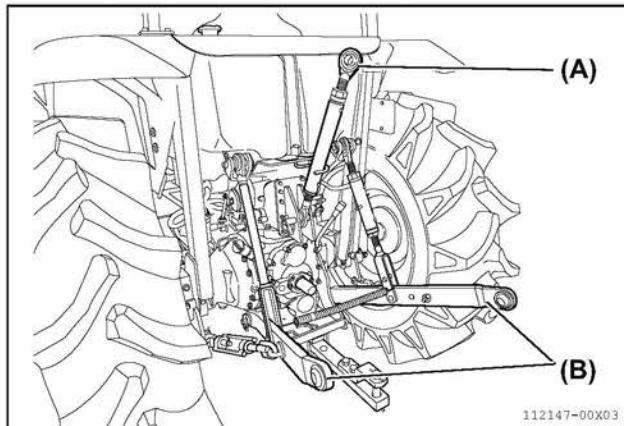
- Always be extremely careful when backing up the tractor.
- Always clear the surrounding area of the tractor from bystander/s and obstacle/s before starting to back up.
- While backing up, always watch for bystander/s and obstacle/s along the way.
- Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3 before getting in between the tractor and the implements to be installed or removed.
- Check for any interference between the implement and the tractor and/or driveline separation:
 - whenever a Power Take Off (PTO) driven implement is installed to the 3-point hitch

1. Slowly back up the tractor into a position where the lower links are aligned with the implement lift brackets.

NOTE

- Always remove the drawbar to prevent interference with the implements to be mounted.

2. Connect the lower links to the implement.
3. Unhook the top link from the top link hook, and connect to the implement.
4. Use lynch pin to secure the implement.



(A) Top link
(B) Lower Link

NOTE

- Whenever the top link is not used, always place the top link in the top link hook.

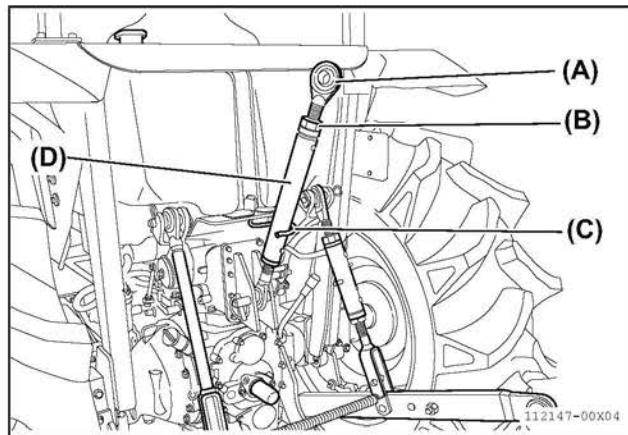
■ Level the Implement Front to Rear

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.

NOTE

- Always place the top link in the top link hook when the 3-point hitch is not in use.

2. Relieve the tension on the top link by lowering the implement to the ground.
3. Loosen lock nut. Rotate the top link body to lengthen or shorten the top link as required. If lock nut does not loosen, unscrew it with a proper wrench.



(A) Top link
(B) Lock nut
(C) Top link hook
(D) Top link body

IMPORTANT: Avoid damage!

- Avoid over turning the top link body all the way to the end, the preceding action can damage the threads.

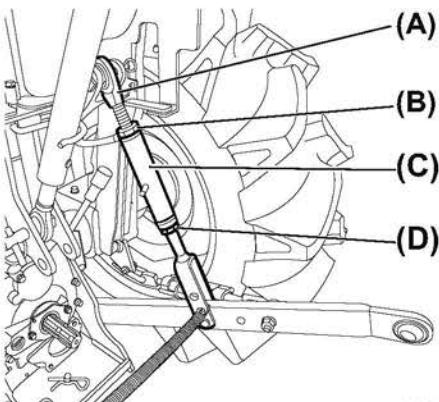
4. Raise the implement. Check if the desired levelness is attained. Re-adjust the top link as necessary.
5. Once the desired levelness is attained, securely fix the lock nut.

■ Level the Implement Side to Side

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Lower the implement to the ground.
3. Loosen lock nut (B) and lock nut (D). Rotate the top link body to lengthen or shorten the top link as required. If lock nut (B) does not loosen, it with a proper wrench.

10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR

4. Rotate Lift Link right body clockwise or counter-clockwise to raise or lower to the desired height.
5. Securely fix lock nut (B)



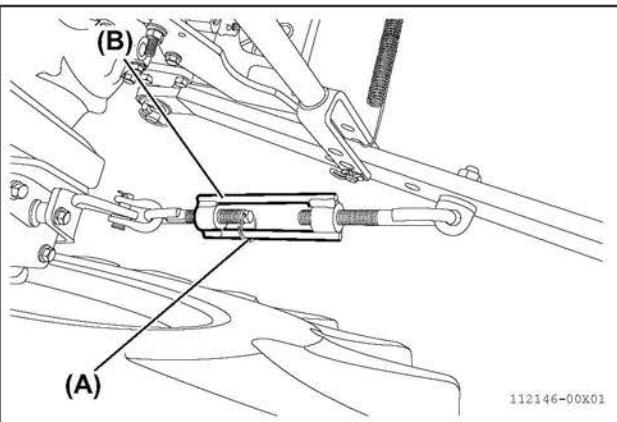
(A) Lift link right
(B) Lock nut
(C) Lift link right body
(D) Lock nut

■ Adjust the Check Chain

NOTE

- Check the procedure for adjusting the Check chain in the operation manual for the implement.
- Once the check chain has been properly adjusted, side sway of the implement can be controlled by the position of the links.

1. Lower the implement to the ground.
2. Remove the Circle-pin that stops the turn.
3. Turn the turnbuckle, and adjust the tension of the lower link.
4. Insert the Circle-pin.



(A) Circle-pin
(B) Turnbuckle

2. Hydraulic Output

WARNING

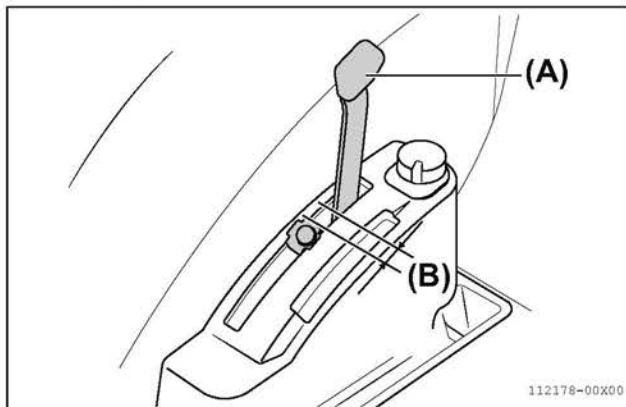
- Always completely release the internal hydraulic pressure before disconnecting a hydraulic line.
- Always ensure that all connections are securely tightened.
- Always ensure that all hydraulic lines, pipes and hoses are free from wear and/or damage.

CAUTION

- Never fail to stop the engine before trying to detach the hydraulic plug or pipes. Otherwise, you may be injured by high pressure oil.

■ Single Acting Cylinder (e.g. Dump Trailer)

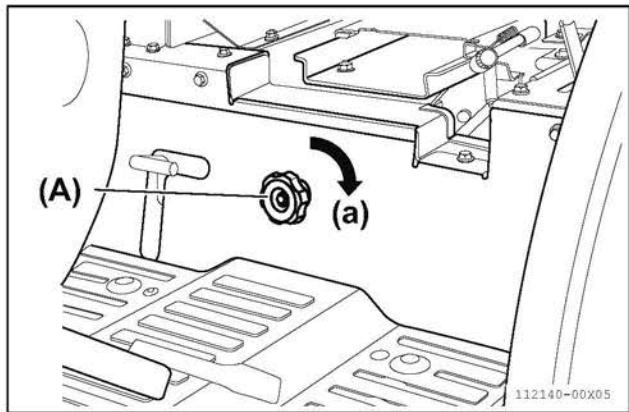
1. Set the position control lever about 20 mm below the top position.



(A) Position control lever
(B) About 20 mm

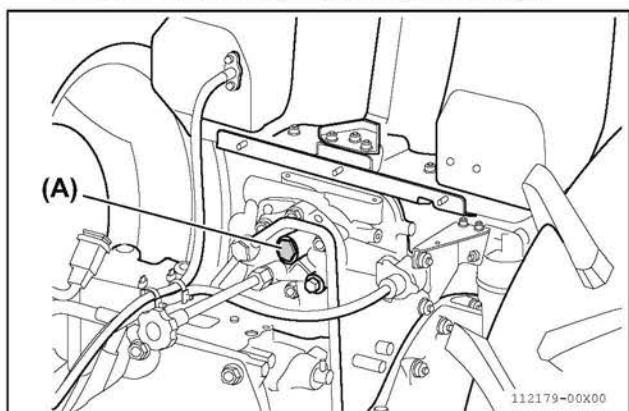
10. 3-POINT HITCH, HYDRAULIC AND DRAWBAR

2. Fasten the hydraulic stop and slow return valve fully clockwise.



(A) Hydraulic stop and slow return valve
(a) Close

3. Remove the single hydraulic output plug, and connect the high pressure hose of an implement.
*Keep removed copper packing and plugs.



(A) Single hydraulic output plug (G1/2)

NOTE

- 3-point rear hitch implement cannot be controlled by position control lever while stop slow-return valve is closed.

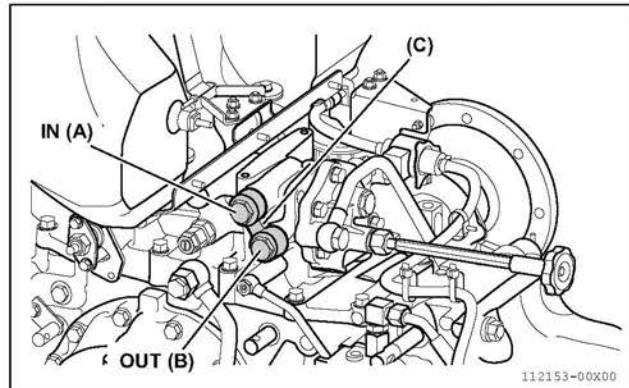
■ Double Acting Cylinder (e.g. Front Dozer)

Connects external hydraulic output, which is located at the right of the hydraulic lift case of the tractor (Seat-lower-right), with the valve of the implements/attachment.

Remove the part: C

Upper part..... In (Return: G1/2 port)

Lower port..... Out (Extraction G1/2 port)



(A) Double acting hydraulic output plug (Return to lift case, G1/2)

(B) Double acting hydraulic output plug (output from pump, G1/2)

(C) Bypass joint pipe

* For the details of the implement/attachment and how to match a hydraulically work machine, refer to the individual implements/attachment.

3. Drawbar

! WARNING

Avoid injury!

- Always use the drawbar to attach a trailer or towed implement.
- Attempting to attach a trailer or towed implement at the top link or rear axle can cause the tractor to tip over.
- Only use the drawbar that is provided with the tractor.
 - avoid installing or using a floating type or any other type of the drawbar
- Always hitch loads being towed to the drawbar.
 - the preceding action prevents the tractor from tipping over rearward
- Avoid attaching a longer drawbar.
 - the preceding action can damage the attached section
 - the same action can cause the implement to become disconnected

NOTE

- The tractor comes equipped with a stationary drawbar.
- Always remove the drawbar before attaching any 3-point hitch implement.

■ Maximum Drawbar Loads

IMPORTANT

- Make sure that the static vertical load on the drawbar does not exceed the maximum recommendations.
- Always travel slowly when towing heavy loads.

! CAUTION

- Certain heavy equipment, such as a loaded single axle trailer, can place excessive strain on the drawbar.
- Such strain is also greatly increased by speed and rough ground.

1. Avoid attaching very heavy equipment (e.g., a loaded single axle trailer) that exerts excessive strain on the drawbar.

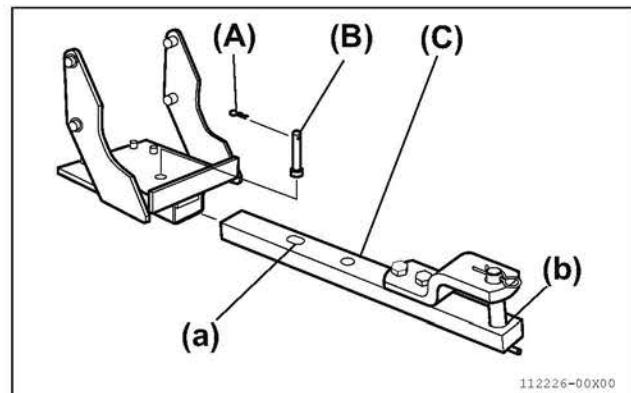
2. Avoid exceeding the maximum vertical load of 500 kg on the drawbar.
3. The strain is greatly increased by high speed and rough ground.

■ Deploy/Stow the Drawbar

IMPORTANT

- Make sure that the drawbar is removed before using the Power Take Off (PTO) driven/drawn implement.

1. Remove the hairpin clip.
2. Remove the pin.
3. Set the drawbar length by lining up the positioning hole (a) in the drawbar with that in the drawbar bracket.



112226-00X00

(A) Hairpin clip

(B) Pin

(C) Drawbar

(a) Hole for attaching the drawbar in the operating state (deployed position)

(b) Hole for most pulled away position

NOTE

To secure the drawbar in the stowed position while Power Take Off (PTO) driven implement is not used:

- Remove the hairpin clip.
 - Slide the drawbar in, until the positioning hole (b) is align with the hole in the drawbar bracket.
 - Install the hairpin clip.
4. Set the drawbar length by lining up the hole (a) in the drawbar with the corresponding hole in the drawbar bracket.
 5. Install the pin.
 6. Install the hairpin clip.

■ Remove Drawbar

1. Remove the hairpin clip.
2. Remove the pin.
3. Remove the drawbar.
4. Install the pin to the drawbar.
5. Install the hairpin clip.
6. Keep the drawbar to the storage area.

■ Allowable Loads when Towing with the Tractor

⚠ WARNING

- When towing, the distance required to stop the tractor proportionally increases with the:
 - tractor speed
 - weight of the load being towed
 - angle of a slope
- Towing loads too heavy for the tractor:
 - can result in loss of control of the tractor regardless of whether the load itself has brakes or not
- Towing at excessively high speed can result in loss of control of the tractor.
- Before towing, always ensure that the tractor has the capability to handle the total weight of all equipment and loads.

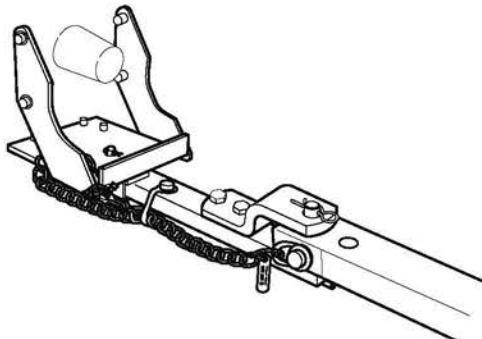
Always comply with the recommended maximum road speeds or local speed limits:

- Make sure the tractor has the capability to tow the equipment and loads. For details, see "Chapter 4. IMPLEMENT CAPACITIES".

NOTE

- Always use the drawbar to tow a load.
- Do not under any circumstances attach a load to the axle housing or any other location besides the drawbar.

3. Get and attach a safety chain (not included in this product) between the tractor drawbar support and the load.



112173-00X00

NOTE

- On a slope:
 - make sure the gear is low enough to allow the operator to control the speed of the tractor without having to use the brake pedals

⚠ CAUTION

- Make sure the tractor is heavy and powerful enough for the load being towed.
- Make sure the tractor has sufficient braking power for the load being towed.
- Do not exceed maximum vertical load on drawbar.
- Exercise caution when towing loads:
 - on difficult surface
 - when turning
 - on a slope

1. Hitch the load to the drawbar.
2. Lock the drawbar and pin in place.

4. Use the Safety Chain

⚠ WARNING

Avoid injury!

- Always hitch loads being towed to the drawbar.
- The preceding action prevents the tractor from tipping over to the rear.
- Never use the safety chain alone to tow a load.

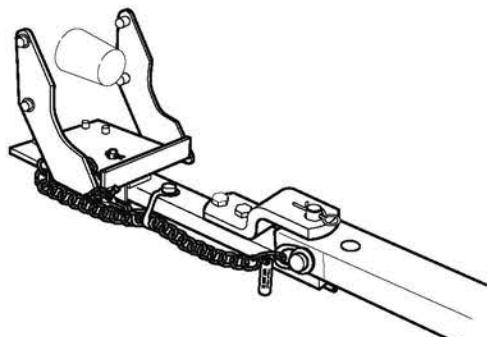
IMPORTANT

- Always secure the towed implement to the drawbar.
 - the safety chain is only intended to control the towed implement if the towed implement is accidentally disconnected from the drawbar
- Always use a chain whose strength is rated greater than the gross weight of the towed implement.
- Always replace or repair the safety chain if any of the chain links or connectors is/are broken, elongated or damaged.

1. Use the appropriate adapter parts to connect the safety chain to the tractor drawbar support and to the towed implement.
 - Allow enough slack in the safety chain to enable turning.
2. As necessary, mount additional intermediate support for the safety chain on the drawbar to eliminate excessive slack.
 - Remove and store the safety chain when not in use.

IMPORTANT

- For safety purposes, ensure that any implements or trailer towed by the tractor drawbar is equipped with a safety chain.
 - the chain holds the implement when the implement accidentally decouples from the tractor
- Make sure that the tensile strength of the chain is greater than the weight of the implement, or that of the fully loaded trailer.
- A chain shackle whose strength is the same or is greater than that of the safety chain can be added to the tractor drawbar bracket where the safety chain (of the implement or trailer) can be connected.
- For additional safety, install a chain shackle to the drawbar bracket.
- Attach the eye bolt to the middle hole of the lower link. Attach the lift link to the rear hole of the lower link. Also attach the turnbuckle (included) to the sub frame kit.



11. TIRES, WHEELS AND WEIGHTS

! WARNING

- Avoid mounting a tire on a rim by an unauthorized person.
- Always have an authorized professional with the proper equipment mount the tire on the rim.

- Always inflate tires to the correct tire air pressure.
- Avoid exceeding the recommended tire air pressure specified in the operation manual.

- Always keep the tractor securely supported while:
 - changing the wheels
 - adjusting the tire tread width

- Always keep the wheel bolts tightened to the specified torque.
- Avoid operating the tractor with loose wheels, rims, weights and axles.

1. Tires

IMPORTANT

- Only use the tires approved by Yanmar tractor dealers.
- When replacing the tires, choose the tires listed in the specifications on page 3-1. Failure to do so may cause premature tire friction or may interfere with driving, leading to an accident.

<YM358R-L1>

Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	14.9-28 6PR

- The recommended tire air pressures for these tires are as specified in the table above.
- The tire air pressure gradually decreases as the tires are used and as time elapses.
- Check the tire air pressure before starting the day's operation.
- When the tire air pressure is low, inflate the tires to the recommended tire air pressures.
- If the tire air pressures rapidly and significantly decrease though the tires are correctly inflated every day, immediately contact YOUR LOCAL YANMAR TRACTOR DEALER to inspect the problem tire/s and to replace the tire/s if necessary.

NOTE

- While a loader is mounted to the tractor, always set the front tire air pressure to the maximum recommended tire air pressure.
- The above also applies while the tractor is fitted with a full load of front weights.
- Do not use dual tires.
- Do not use large diameter tires to YM351R/YM358R. Only YM358R-L1 can use large diameter tires.

<YM351R>

Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	13.6-26 6PR

<YM358R>

Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	13.6-28 6PR

2. Adjust the Wheels



WARNING

Avoid injury!

- Before working under the tractor or an implement, always lower to the ground all attached implement.
- During work under the tractor or an implement, always use proper and rigid lifting devices with the capacity of more than 3 tons.
- Always support the implement using fixed stands or any suitable blocking devices with a capacity of more than 3 tons.
- While servicing or adjusting the tractor and implement, avoid using the hydraulic system to keep the tractor and implement in the position.
- Avoid operating the tractor with loose wheels, rims, weights and axles.
- Avoid changing the specific adjustment settings for each tire size.

■ Check the Wheel Bolt, Nut Tightening Torque



WARNING

Avoid injury!

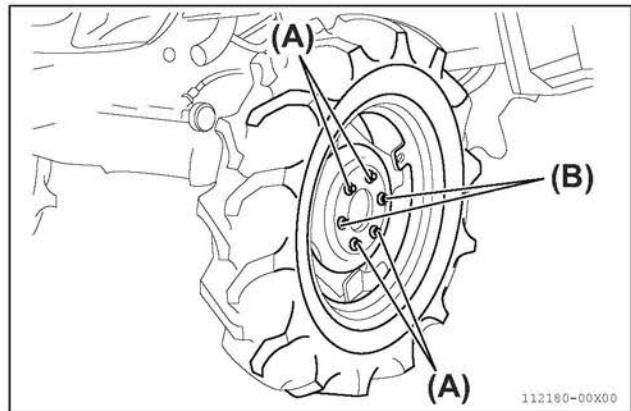
- Before operating the tractor, check that there are no loose rims, hubs, wheel bolts, nuts and/or axles.
- The preceding action promotes tractor stability.
 - reduces the possibility of the tractor tipping over
- Make daily and periodic wheel inspections to check for loose nuts and bolts on the wheels. If they are loose, retighten them to the specified torque.
- When wheel tread width was changed, check the bolts and nut tightening after the first 10 hours and again after the 50 hours. If the bolts are loose, retighten them. After that, check every 100 hours operation.
- Repeat tightening until the proper torque values of the wheel bolts, nuts are constantly maintained.
- Perform the preceding procedure when any wheel bolt/s, nuts is/are loosen.
- Make sure to maintain the tightness of the wheel bolts, nuts according to the recommended maintenance intervals.

Tighten the wheel bolts, nuts as follows:

Front Wheel

Tightening Torque kgf-m (N·m)
18.0 to 20.0 (177 to 196)

- Tighten the front wheel bolts, nuts in a crisscross sequence.

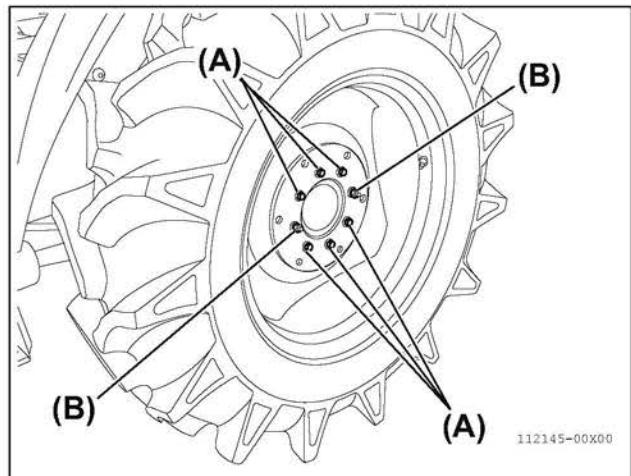


(A) Front wheel bolts
(B) Front wheel nuts

Rear Wheel

Tightening Torque kgf-m (N·m)
18.0 to 20.0 (177 to 196)

- Tighten the rear wheel bolts, nuts in a crisscross sequence.



(A) Rear wheel bolts
(B) Rear wheel nuts

■ Select the Front Tire Rolling Direction

WARNING

Avoid injury!

- Wheels are heavy or difficult to handle during removal.
- Be very careful when attempting to remove wheels from the tractor.
- Use a safe lifting device with a capacity of more than 3 tons.
- Securely support the tractor with rigid stands or jack stands with a capacity of more than 3 tons.
- Make sure to chock all the tires safely and securely which are still in contact with the ground.
- The preceding procedure prevents the tractor from rolling.
- Directional type tires, such as bar tires, have directional arrows on the sidewall.
- Install the tires with the directional arrows pointing in the rolling direction.

■ Change the Tire Tread Width

⚠ WARNING

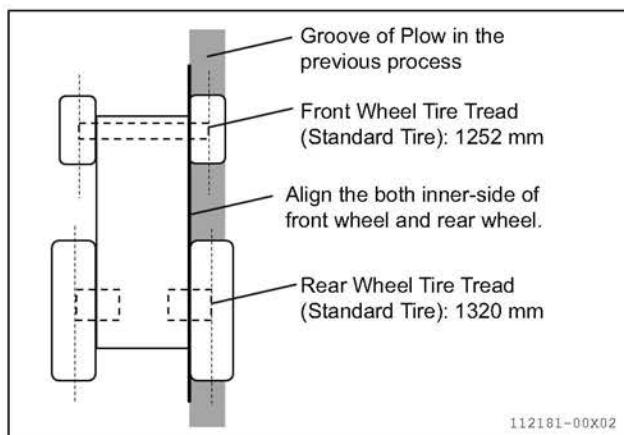
Avoid injury!

- When working on a slope, always use the tractor with the rear wheels mounted in the wide tire tread width position. The preceding practice increases stability.
- Exercise caution when removing wheels.
- Wheels are heavy and difficult to handle.
- Use a safe lifting device with a capacity of more than 3 tons.
- Securely support the tractor with rigid stands or jack stands with a capacity of more than 3 tons.
- Make sure to chock all the tires safely and securely which are still in contact with the ground.
- When wheel tread width was changed, check the bolts and nut tightening after the first 10 hours and again after the 50 hours. If the bolts are loose, re-tighten them. After that, check every 100 hours operation.

<YM351R/YM358R>

IMPORTANT

- In case of plow work (Disc plow / Poly disc plow / Bottom plow), interchange the rear wheel to extend the rear wheel tread (1320 mm). This helps stable traction performance of plow work by aligning the both inner-side of front wheel and rear wheel.



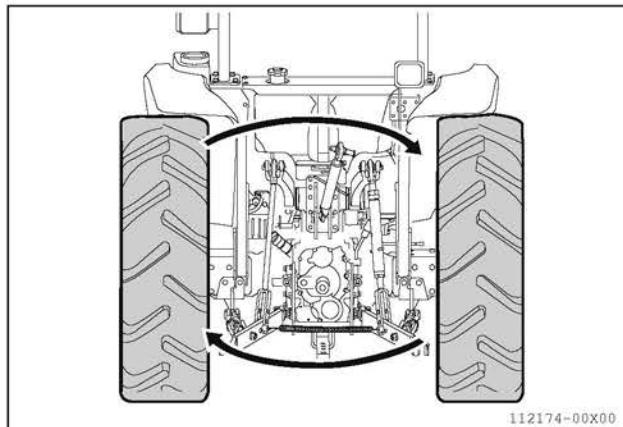
112181-00X02

IMPORTANT

- For maximum forward traction, always ensure that the arrows on the tire sidewall point in the rolling direction.

NOTE

- The tire tread width is measured from centerline to centerline of each tire.



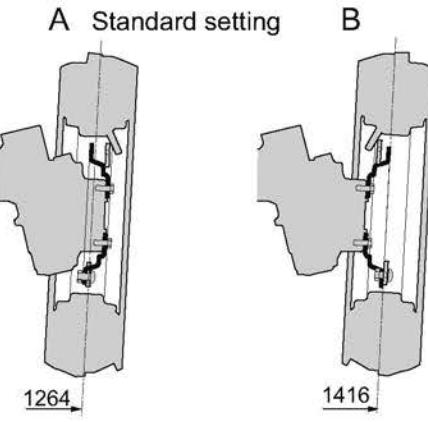
112174-00X00

Interchange the wheels located on both sides of the tractor.

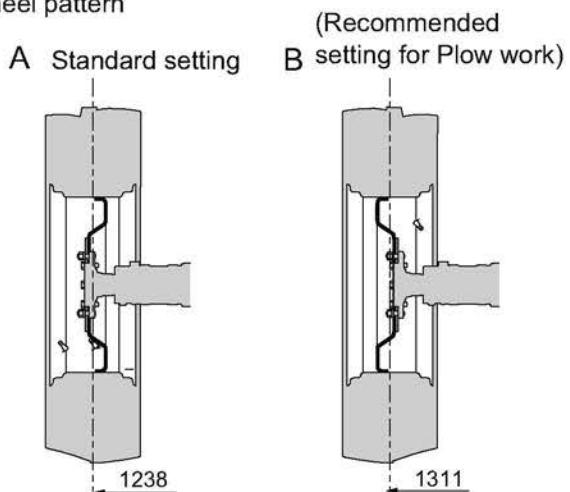
11. TIRES, WHEELS AND WEIGHTS

Tire Tread <YM351R>

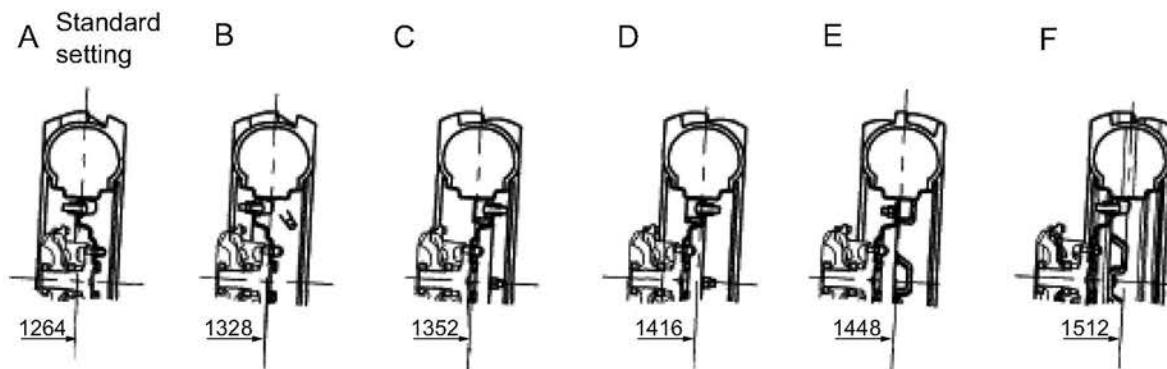
Front (8-18-6PLY). Standard tire
Wheel pattern



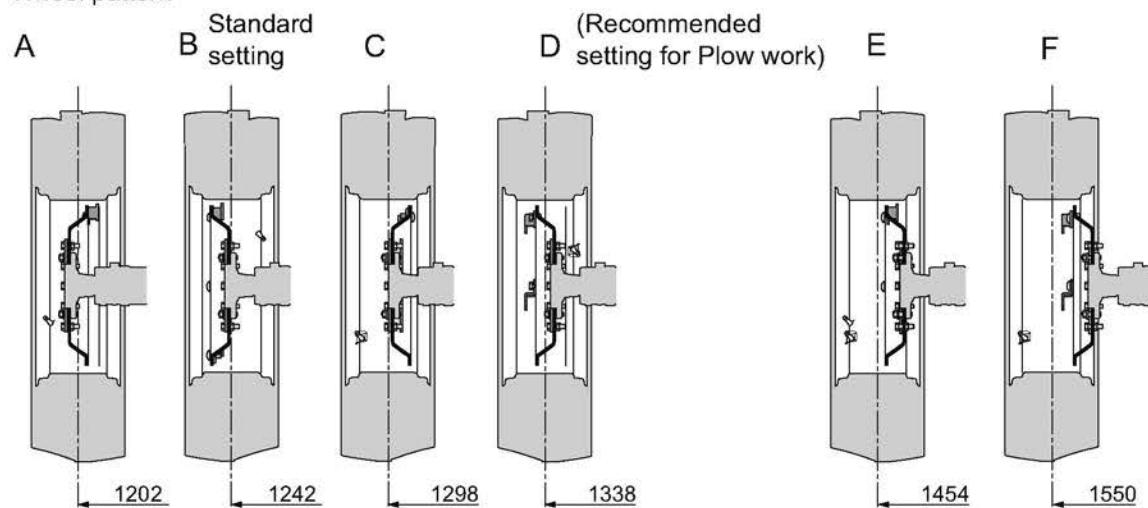
Rear (13.6-26-6PLY). Standard tire
Wheel pattern



Front (8-18-6PLY). Factory optional tire
Wheel pattern



Rear (13.6-26-6PLY). Factory optional tire
Wheel pattern



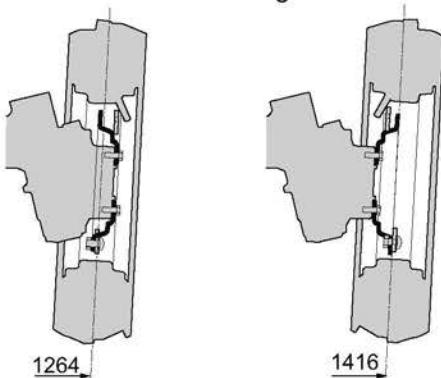
11.2181-00X06

11. TIRES, WHEELS AND WEIGHTS

Tire Tread <YM358R>

Front (8-18-6PLY). Standard tire
Wheel pattern

A Standard setting B



Front (8-18-6PLY). Factory optional tire
Wheel pattern

A Standard setting

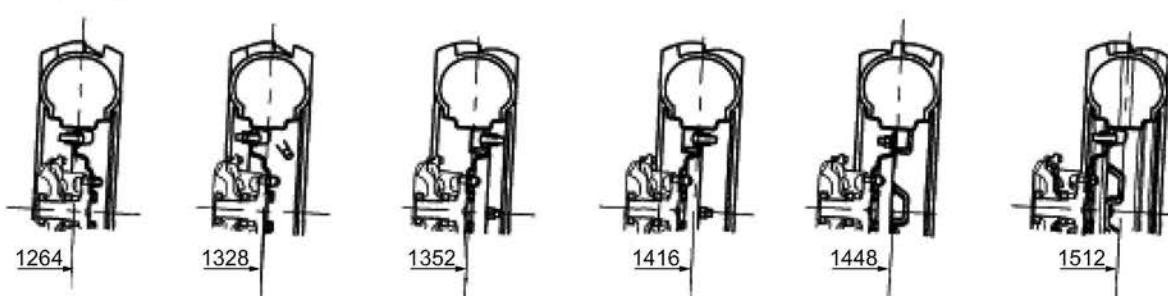
B

C

D

E

F



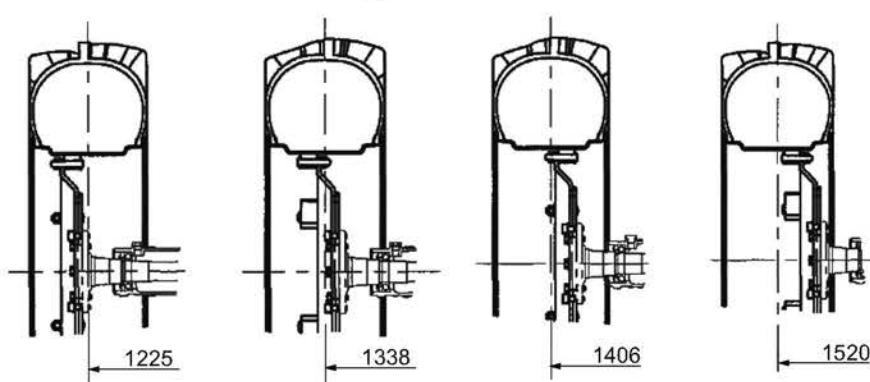
Rear (13.6-28-6PLY). Standard tire
Wheel pattern

A

B Standard setting

C

D



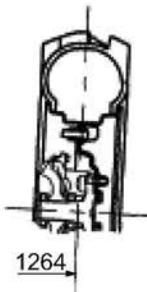
138355-01EN

11. TIRES, WHEELS AND WEIGHTS

Tire Tread <YM358R-L1>

Front (8-18-6PLY). Standard tire
Wheel pattern

A Standard setting



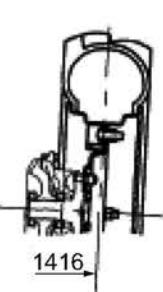
B



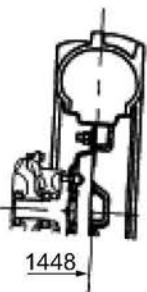
C



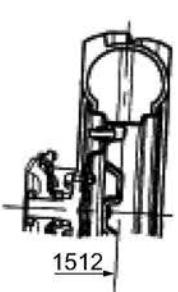
D



E

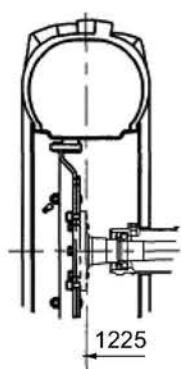


F

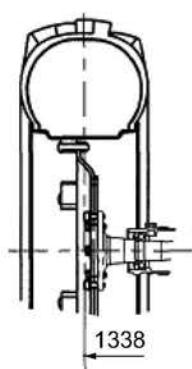


Rear (14.9-28-6PLY). Standard tire
Wheel pattern

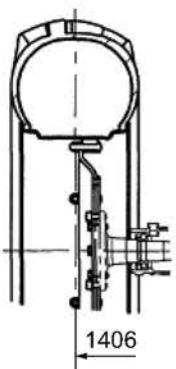
A



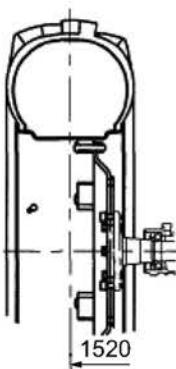
B Standard setting



C



D



132181-01X00

3. Remove/Install the Wheels

WARNING

Avoid injury!

- Wheels are heavy or difficult to handle during removal.
- Be very careful when attempting to remove wheels from the tractor.
- Use a safe lifting device with a capacity of more than 3 tons.
- Securely support the tractor with rigid stands or jack stands with a capacity of more than 3 tons.
- Make sure to chock all the tires safely and securely which are still in contact with the ground.
- The preceding procedure prevents the tractor from rolling.

4. Weights (Option)

IMPORTANT

- Make sure that tires are not subjected to loads that exceed the information.
- If the maximum weight shown on the chart is not enough to ensure safety, reduce the load or use higher tire ply rating.
- Remove the weights from the tractor when no longer needed.
- The preceding practice:
 - prevents excessive soil compaction
 - prevents resistance to wheel rotation
 - extends the drive train life

WARNING

Avoid injury!

- If there is a danger that the tractor becomes unstable when implement is used, add weight on the tractor.
- The preceding precaution is particularly necessary when an implement is raised.
- Always drive slowly over rough terrain, regardless of how much weight is used.

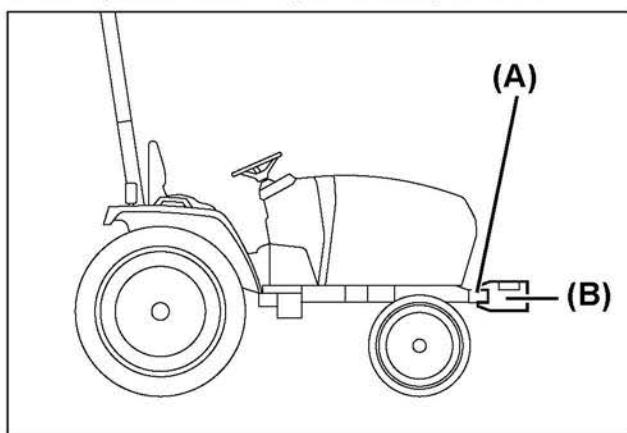
■ Select the Appropriate Amount of Front Weight

Maximum load of tire		
Tire Size	Ply Rating	Capacity (kg)
8-18	6	670

- Heavy pulling can cause the front wheels to lift off the ground.
- Heavy rear mounted implement can cause the front wheels to lift off the ground.
- As required, add weight to the front end of the tractor to make the tractor stable.
- Add just enough weight to prevent the tractor from tipping over.
- Make sure that steering control is still maintained.
- Make sure to remove all weights when no longer required.
- Use the chart above to determine the maximum load capacity of each front tire, at maximum allowed tire air pressure.

■ Front Weights (Option)

As necessary; optional front weights can be installed on the optional front weight mounting bracket.



(A) Mounting bracket (option)
(B) Front weights (option)

Max. allowable Front Weights	150 kg (30 kg x 5)
------------------------------	--------------------

■ Select the Appropriate Amount of Rear Weight

- Operation of front mounted implement such as a loader can cause the rear wheels to lift off the ground.
- As required, add weight to the rear end of the tractor to make the tractor stable.

<YM351R>

Maximum Load Per Rear Tire		
Tire Size	Ply Rating	Capacity (kg)
13.6-26	6	1400

<YM358R>

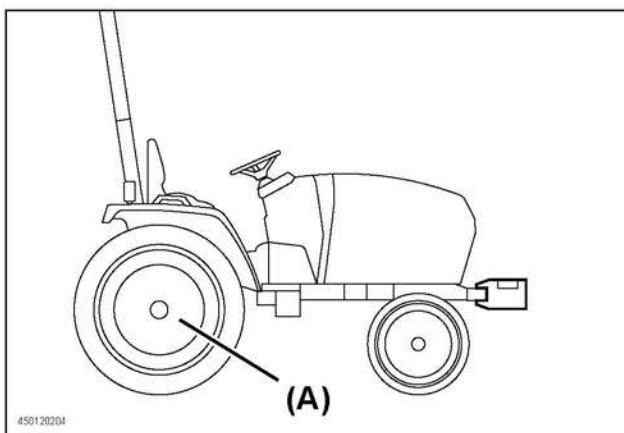
Maximum Load Per Rear Tire		
Tire Size	Ply Rating	Capacity (kg)
13.6-28	6	1450

<YM358R-L1>

Maximum Load Per Rear Tire		
Tire Size	Ply Rating	Capacity (kg)
14.9-28	6	1610

■ Use the Optional Rear Wheel Weights

Optional cast iron rear wheel weights are available from YOUR LOCAL YANMAR TRACTOR DEALER.



(A) Rear wheel weights

IMPORTANT

- Always use a lower load on the tires than the indicated maximum capacity.

<YM351R>

Max. allowable weight per side	Base	20 kg
	Additional	25 kg x 2
	Total	70 kg (one side)

<YM358R>

Max. allowable weight per side	Base	40 kg
	Additional	40 kg x 2
	Total	120 kg (one side)

1. Adjust the rear tire tread width to the wide position to improve stability.

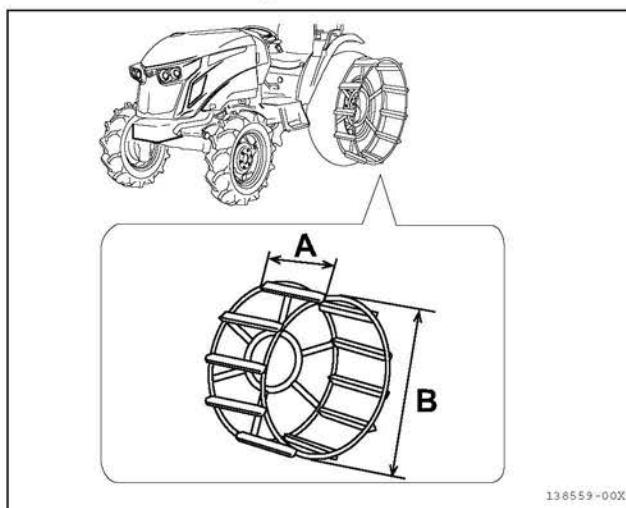
⚠ WARNING

Avoid injury!

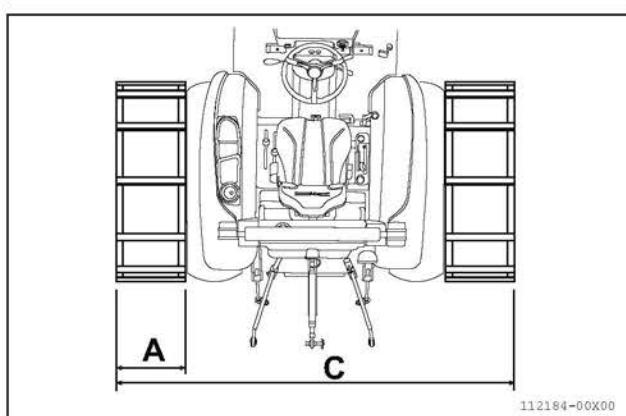
- Handle weights with care!
- Use a safe and appropriate lifting device with a capacity of more than 3 tons.
- Have the procedure performed by YOUR LOCAL YANMAR TRACTOR DEALER.

■ Auxiliary Wheels

When applying auxiliary wheels as rear wheels, use them with the following dimensions.



136559-00X00



112184-00X00

(A) Width: Shorter than Max: 340 mm

(B) Diameter: Must be smaller than that of the rear tire. Recommended diameter: Shorter than Max. 1,060 mm.

(C) Overall Length: Shorter than Max. 2,260 mm

NOTE

- Use auxiliary wheels with the outer diameter size which the rear tires contact with the ground. The recommended size of the attaching auxiliary wheels is 1,060 mm or smaller.

IMPORTANT

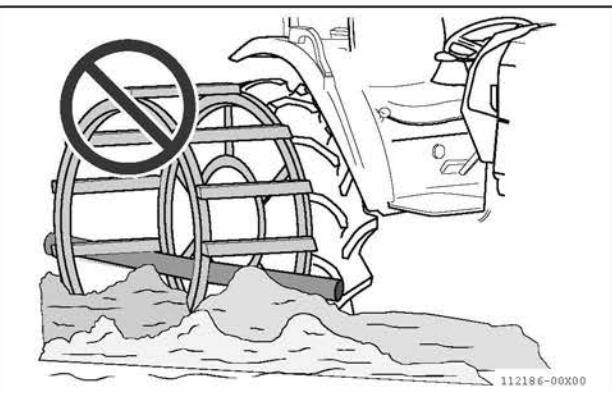
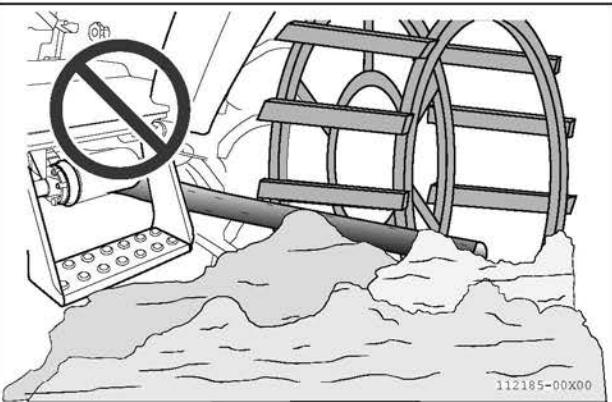
- If you do not use with the correct dimensions, serious accidents such as breaking the transmission case may occur.
- Do not travel on public road and load on truck with the auxiliary wheels on. It may cause accidents.

NOTE

- The Yanmar warranty does not cover any malfunction or failure that results from attaching the auxiliary wheels on public road.

⚠ WARNING

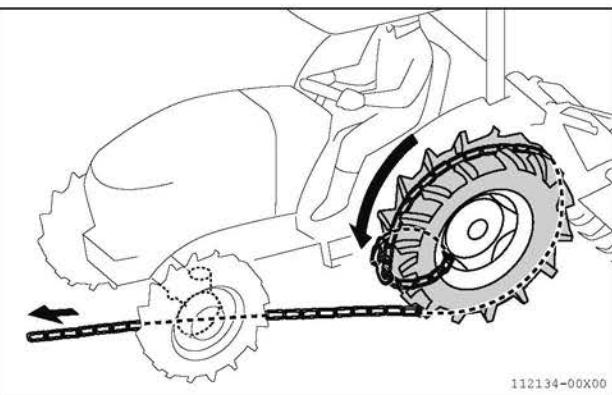
- Do not move the tractor if the wheel mounting bolts or nuts are loose. If the tractor is driven with loose nuts or bolts, there is a possibility that an accident will occur.
- Make daily and periodic wheel inspections to check for loosened nuts and bolts on the wheels. If they are loose, retighten them to the specified torque.


IMPORTANT

- The first 50 hours of handling and maintenance greatly affects the service life and performance of a new tractor. In particular, pay special attention to the following points during this period of time.
 - Refrain from sudden acceleration and sudden braking.
 - Do not increase the speed too much or carry any more load than is necessary.
 - Operate the tractor only after the engine has warmed up sufficiently.
 - Slow down on a rough road or on a slope.
 - Check the tightness of the wheel mounting bolts after the first 10 hours and again after the first 50 hours. If they come loose, retighten them. (For specific tightening torques, refer to the table in the instruction manual.)

NOTE

- These figures show rear tire with auxiliary wheel.


IMPORTANT

- When the tractor gets stuck in a muddy portion in field, do not tie a piece of lumber, log or pipe to the front or rear wheels to drive out of the muddy portion. It may break transmission and/or rear axle inner parts or cases.
- Put a ladder bridge under the wheels and then drive out. Or use strong rope or chain to pull it out of the muddy portion slowly by the other tractor or so.

NOTE

- Use strong rope or chain as shown in figure about to be able to pull the stock wheel out as winding itself up.

12. MAINTENANCE

- For each of the checkpoints listed below, check and service at the intervals indicated in the table.
- For the inspection and maintenance procedures, for details, see "Chapter 13. PERIODIC SERVICE" on page 13-1.

1. Maintenance Check List

No.	Topic	Time	Service Intervals													After purchase							
			Daily	If Necessary	50	100	150	200	250	300	350	400	450	500	550	600	750	800	1000	1500	2000	Every year	2 years
1	Engine Room	Clean	Daily	✓																			
2	Engine Oil Level	Check	Daily	✓																			
3	Transmission Hydraulic Oil Level	Check	Daily	✓																			
4	Tire Air Pressure	Check	Daily	✓																			
5	Grille screen	Check	Daily	✓																			
6	Fuel hoses	Check	Daily	✓																			✓
		Replace	Every 2 years																				
7	Power Steering Hoses	Check	Daily	✓																			✓
		Replace	Every 2 years																				✓
8	Retractable Seatbelt	Check	Daily	✓																			
9	Roll-Over Protective Structure (ROPS)	Check	Daily	✓																			
10	Headlights, Hazard Lights, and all other lights (lights and/or bulbs).	Check	Daily	✓																			
		Replace	If necessary		✓																		
11	Fuel Tank	Check	Daily	✓																			
		Refill	Daily	✓																			
12	Rubber Dust Unloading Valve	Clean	Daily	✓																			
13	Radiator Hoses and Clamps	Check	Daily	✓																			✓
		Replace	Every 2 years																				
14	Radiator Cooling Screen	Clean	Daily	✓																			
15	Radiator Cooling Fins	Clean	Daily	✓																			
16	Wheel Bolt Tightening Torque	Check	Daily	✓																			
17	Safety System	Check	Daily	✓																			
18	Cooling System	Check	Daily	✓																		✓	✓
		Replace	Every 2000hrs or 2 years																				

12. MAINTENANCE

No.	Topic	Time	Service Intervals															After purchase				
			Daily		Hours															Every year	2 years	5 years
			50	100	150	200	250	300	350	400	450	500	550	600	750	800	1000	1500	2000			
19	Brake	Check	Daily	✓																Every year	2 years	5 years
		Adjust	Every 500hrs													✓				✓	✓	✓
		Replace	If necessary		✓																	
20	Clutch	Check	Daily	✓																Every year	2 years	5 years
		Replace	If necessary		✓																	
21	Battery	Check	Daily	✓																Every year	2 years	5 years
		Replace	If necessary		✓																	
22	Fuses	Replace	If necessary		✓																	
23	Fuel/Water Separator	Drain	Every 50hrs or if necessary	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Every year	2 years	5 years
		Replace	Every 250hrs, or every year* or if necessary		✓				✓						✓		✓	✓	✓			
24	Alternator/Fan Belt	Check	Every 50hrs		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Every year	2 years	5 years
		Replace	Every 500hrs or if necessary		✓												✓					
25	Air Cleaner Element (outer/inner)	Clean	Every 100hrs or if necessary		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Every year	2 years	5 years
		Replace	Every 400hrs or every year* or if necessary		✓										✓			✓	✓			
26	Tie Rod End Assembly	Replace	Every 500hrs or if necessary		✓											✓				✓	✓	✓
27	Transmission Hydraulic Oil Filter	Replace	50/600hrs and every 600hrs after or every year*			✓												✓			✓	
28	Transmission Hydraulic Oil	Change	50/600hrs and every 600hrs after or every year*			✓											✓				✓	
29	Front Axle Gear Oil	Check	Every 50hrs		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Every year	2 years	5 years
		Change	50/300hrs and every 300hrs after or every year*			✓				✓							✓		✓			
30	Air Intake Hoses and Clamps	Check	50/200hrs and every 200hrs after			✓		✓			✓					✓	✓	✓	✓	Every year	2 years	5 years
		Replace	Every 2 years																			
31	Toe-in	Inspect/ Adjust	50/200hrs and every 200hrs after			✓		✓			✓				✓		✓	✓	✓			
32	Grease Fittings	Refill	Every 50hrs		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
33	Fuel Filter	Replace	Every 250hrs or every year*						✓						✓		✓	✓	✓	✓	✓	
34	Engine Oil	Change	Every 250hrs or every year*						✓					✓		✓	✓	✓	✓	✓		

12. MAINTENANCE

No.	Topic	Time	Service Intervals															After purchase			
			Hours																		
			Daily	If Necessary	50	100	150	200	250	300	350	400	450	500	550	600	750	800	1000	1500	2000
35	Engine Oil Filter	Replace	Every 250hrs or every year*					✓				✓			✓		✓	✓	✓	✓	✓
36	Throttle Control Lever	Adjust	Every 1000hrs														✓		✓		
37	Engine Valve Clearance	Check	Every 1000hrs														✓		✓		
38	Fuel Injection Pump	Check	Every 1500hrs															✓			
39	Fuel Injection Nozzle	Check	Every 1500hrs															✓			
40	Crankcase Breather System	Check	Every 1500hrs															✓			

*Note: Maintenance should be performed by hours or months, whichever comes first.

For assistance in periodic maintenance procedures, contact YOUR LOCAL YANMAR TRACTOR DEALER.

12. MAINTENANCE

2. Oil and Grease

OIL, GREASE	TYPE
Fuel	Diesel fuel, up to B20 only
Engine oil	SAE 10W-30 or 15W-40 API Grade CD or better
Grease	Multipurpose Grease
Transmission oil, Hydraulic system oil	TF500T

Biodiesel fuel:

1. Have the fuel injector inspected and cleaned every 1000 hours.
It is strongly recommended to replace the fuel hoses after 2000 operating hours or 2 years whichever comes first same as conventional diesel fuel used.
2. Please use only biodiesel fuel that is appropriate to the intended operation environment of the engines.
This especially applies if the operating ambient temperature falls below 0 degrees centigrade.
3. In particular, operation with biodiesel required daily maintenance as follows:

- Please daily check the engine oil level. If the oil level rises above the oil level of the previous day, the engine oil needs to be immediately replaced.
- Please daily check the water level of the water separator. If the water level rises above the "max" indicator, an immediate drain of the water separator is required.
- Before a long term storage without operating the engine, the biodiesel needs to be drained out completely and the engine has to be run for 30 minutes with conventional diesel fuel (no biodiesel included).

The summary of difference for operation condition by blends.

Biodiesel Blends	Service interval of Engine lubrication oil, Fuel filter	Parts exchange
-B7	Same as standard	Not required
B8-B10	Half of standard	Not required
B11-B20 (fuel filter, water separator, fuel drain timing) Other than above, same as standard.	Half of standard	Required

4. Bio-Diesel Fuel: Mixture concentration ratio: up to B20 can be used within three months only after the biodiesel production date.
Use Bio Diesel Fuel within two months after filling up it to the fuel tank or within three months after the fuel production, whichever earlier.

12. MAINTENANCE

3. Lubricants

No.	Locations	Capacities	Lubricants
1	Fuel	50L	Diesel light oil
2	Coolant	YM351R: 6.0 L YM358R: 7.7 L	Anti-rusting fluid
3	Engine oil	YM351R: 5.3 L YM358R: 8.9 L	SAE 10W-30 or 15W-40
4	Transmission	34 L	TF500T
5	Front axle	9.0 L	SAE 90
6	Brake and parking brake linkage Front axle pivot Tie rod end Lift link	-	General all purpose grease NLGI No.2

(Specifications and design are subject to change without prior notice for improvement.)

*NOTE

- Immediately after purchasing the tractor:
 - adjust the coolant mixture ratio of the coolant and water to suite the local climate
 - the preceding practice assists in making the tractor function efficiently
- The coolant can remain unchanged for a period of 2 years:
 - if during the period the tractor is operated for less than 1200 hours
 - if the tractor is operated for more than 1200 hours during the period, the coolant has to be replaced during flushing of the system
- After pouring the coolant, run the engine for a short period to mix the two fluids thoroughly.

4. Replacement Parts

■ Technical Document

For a copy of the Illustrated Parts List or the Service Manual of the tractor, contact YOUR LOCAL YANMAR TRACTOR DEALER.

■ Parts

- Use Yanmar lubricants available from YOUR LOCAL YANMAR TRACTOR DEALER.

NOTE

- Only use the Yanmar genuine parts. Non-genuine parts can cause serious damage and accidents.

When ordering a part, tell YOUR LOCAL YANMAR TRACTOR DEALER the tractor serial number and engine serial number. For details, see "Chapter 2. SERVICE THE TRACTOR" on page 2-1.

Part Numbers

Item	Parts Number	
	YM351R	YM358R
Engine Oil Element		119005-35170
Fuel/Water Separator		129630-55731
Fuel Filter		129907-55810
Cooling Fan Belt	25152-004100 (4TNV88)	129671-42280 (4TN98S)
Line Filter		1A7640-48310
Clutch Disk	1A8252-21510	1A8263-21510
Clutch Case	1A8252-21520	1A8263-21520
Wire Harness	Main	1A8273-51100
	Starter	1A8273-51400
	Rear Combination	1A8273-51880
	Front Combination	1A8256-51310
Battery	1A8253-51500	1A8294-51550
Air Cleaner Element CMP (Outer)	1A8240-05110	172B06-11510
Air Cleaner Element CMP (Inner)	1A8240-05120	172B06-11520
Accelerator Wires	Hand	1A8272-01200
	Foot	1A8252-01210
Bulb (Head Lamp)		1A8252-53220
Bulb (Combi)	BULB, 12V21W	1A8253-53410
	BULB, 12V5W	1A8253-53420
5 Amp Fuse		198535-52110
10 Amp Fuse		198535-52120
15 Amp Fuse		198535-52130
20 Amp Fuse		198535-52140
Slow Blow Fuse (50A)		1E8720-83120
Slow Blow Fuse (60A)		1E8540-83220
Tie Rod End Assembly Kit	Left	1A8252-12301
	Right	1A8252-12401

Parts numbers are included for reference. Refer to the latest parts catalog when ordering parts.

13. PERIODIC SERVICE

⚠ WARNING

Explosion Hazard



- Never smoke around the battery.
- Never smoke during refueling.
- Keep sparks and open flames away from the battery and the fuel tank.
- The battery emits hydrogen and oxygen during recharging and can pose a serious hazard.

- Never work under any hydraulically supported devices which can settle down, suddenly leak or be accidentally lowered.
- Always support the tractor securely with rugged jack stands or other suitable lifting device with the capacity of more than 3 tons.
- Always allow the tractor to fully cool down before accessing the:
 - engine, muffler, radiator, and hot components
- Always park the tractor on a solid and level ground.
- Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
- Press the Power Take Off (PTO) switch to OFF position.
- Lower all the implement to the ground.
- Move the range shift lever to N (neutral) position.
- Shut off the engine.
- Remove the key from the starter key switch before starting any maintenance work.
- Chock all the tires safely and securely.

■ Service the Tractor

IMPORTANT

- Service and maintain the tractor more frequently if the tractor is used in severe conditions.
- Engine components and parts can get dirty or deteriorate on the following condition:
 - the tractor is operated in extreme heat
 - dusty locations
 - severe operating conditions
- The engine oil deteriorates earlier than expected on the following conditions:
 - the tractor is constantly operated at slow or low engine speeds
 - the tractor is used frequently for short durations
 - for details, see "1. Maintenance Check List" on page 12-1

■ Warranty and Repair of the Engine

NOTE

- The maintenance, inspection, repair and replacement services on the engine emission control devices and systems:
 - can be performed at the owner's expense by any qualified off road engine repair shop or mechanic
 - warranty repairs must be executed by an authorized Yanmar tractor dealer

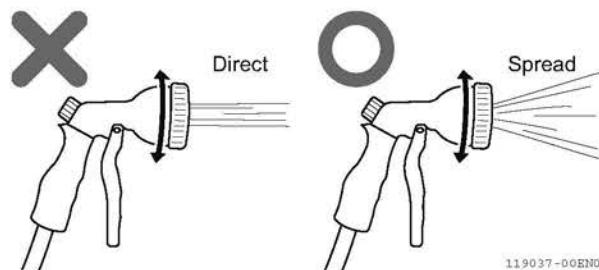
WARNING**NEVER inhale the engine exhaust gas.**

- Read the DANGER, WARNING AND CAUTION statements on the safety alert decals on the tractor.
- Before starting the engine:
 - remain seated on the operator seat
 - move the range shift lever to the N (neutral) position
 - press the Power Take Off (PTO) switch to OFF position.
 - never attempt to start the engine while the operator is still on the ground
- Engine exhaust gas contains carbon monoxide.
 - if inhaled, the engine exhaust gas can cause severe poisoning or even death
- Always perform the safety checks in a well ventilated area.
- When working in an enclosed area, always expel the engine exhaust gas to an outdoor area.
 - connect one end of an extension pipe to the engine exhaust pipe
 - set the other end outside of the work area
- Never run the engine in a closed area that is not correctly ventilated.

1. Clean the Tractor**WARNING**

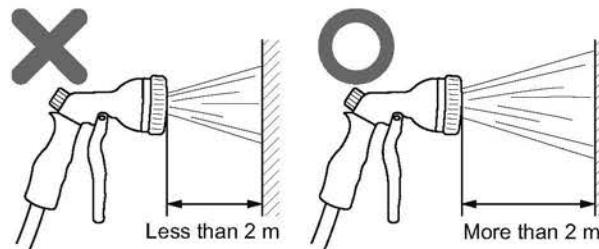
- Clean the tractor at the flat and stable place. If not, the tractor may move and cause injury.
- When cleaning with a high pressure cleaner, place the cleaner nozzle in the "spread" position and keep the cleaner nozzle at least 2 m from the tractor.
[If you do not obey]
 - may cause fire due to damage or disconnect of electrical wiring
 - high pressure oil may blow out and cause injury due to damage of the hydraulic hose

<Do not wash the tractor with "direct" position>



119037-00EN00

<Do not wash the tractor near>



119038-00EN00

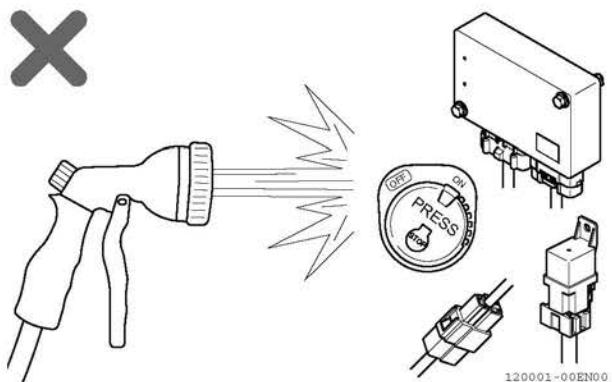
Wash the tractor with water on the same day you worked and then clean the tractor as follows.

- Remove the objects and debris that are pinched or wrapped around rotating parts
- Wipe off the wetness well
- Apply grease to parts easily rust
- Lubricate to rotating and sliding parts
- Apply grease to each grease injection part (grease nipple)

When water or mud water gets into the electrical component connection (coupler), wipe it off with a clean cloth.

IMPORTANT

- If the tractor is inappropriately washed, it may cause malfunction or damage.
 - safety label and sticker may be peeled off
 - electronic components, engine and transmission may cause a failure by water invasion
 - damage to tires, oil seals, rubber such as crawlers, resin covers, glass, etc. may occur
 - coating and plating surface may be peel
- When washing the tractor with a high pressure cleaner, do not use to following parts. It may cause failure of electrical parts.
 - instrument panel
 - steering area
 - hydraulic/travel control lever area
 - battery area
 - other electrical components (switches, sensors, lamps, controllers, etc.)
- Do not splash water to the air cleaner or engine area. It may cause a failure.

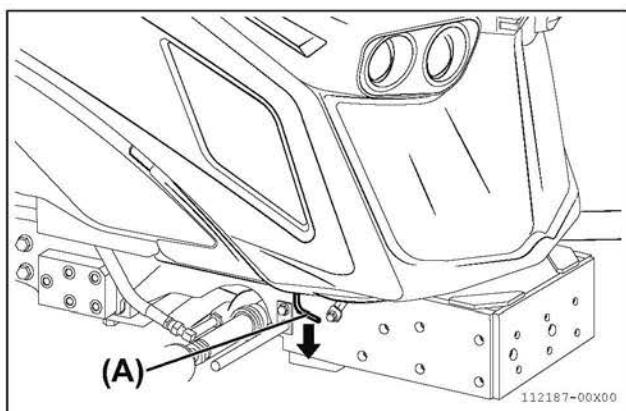
**2. Open/Close the Hood****WARNING**

Avoid injury!

- Avoid opening the hood while the engine is running.
- Avoid touching any hot components, e.g., the muffler and the exhaust pipe.

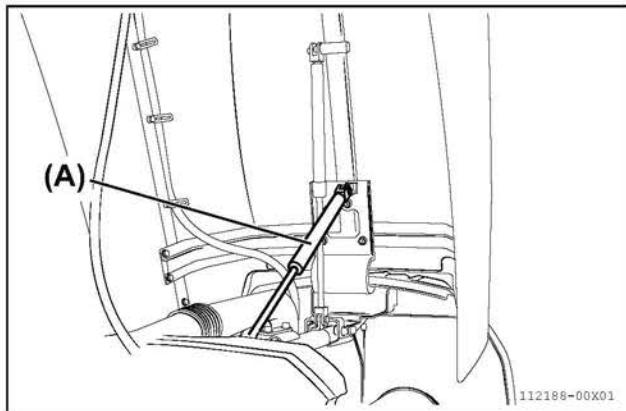
■ Open the Hood

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Pull the hood release lever outward to unlock the hood latch.



(A) Hood release lever

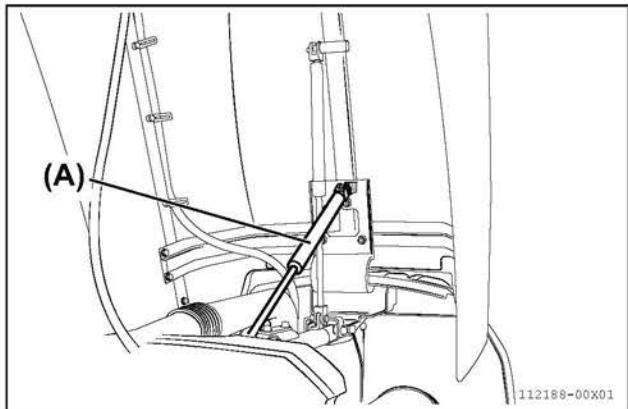
3. Lift up the hood with both hands.
 - The hood support is automatically set when the hood is fully raised.



(A) Hood support

■ Close the Hood

- Gradually lower the hood by the hood closing wire.
- Firmly press downward on the upper front portion of the hood:
 - Until the hood latch locks the hood in the closed position.
- Try to lift the hood to ensure the hood latch has securely locked.



(A) Hood support

! CAUTION

- When closing the hood, avoid getting finger/s trapped in the hood or hood support.

3. Daily Checks

■ Clean the Engine Room

IMPORTANT

- Be sure to clean the engine room before and after work.

NOTE

- Make sure the muffler is cool before cleaning the engine room.

- Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
- Shut off the engine.
- Allow the engine to cool down for several minutes.
- Raise the hood.
- Remove dust, dry grass and straw that has accumulated on the engine and muffler.
- Lower the hood.

■ Check the Engine Oil Level

IMPORTANT

- Always check the engine oil level daily.
 - insufficient or no engine oil can cause serious engine problems
- Always check the engine oil level before commencing operations.
- Always check the engine oil level only while the engine is cold and not running.
- Always maintain the engine oil level between the lower and the upper mark.
- Before adding the engine oil, always:
 - shut off the engine
 - allow the engine to cool down for several minutes

NOTE

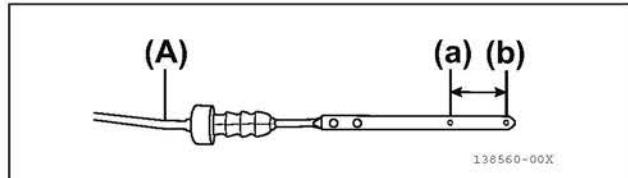
- Make sure that the engine is cold before checking the engine oil level.

- Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
- Shut off the engine.
- Allow the engine to cool down for several minutes.

NOTE

- During the checking of the engine oil level:
 - dirt and dust can enter the engine
- Clean the area around the dipstick before removing the dipstick.

- Remove the dipstick.
- Clean the dipstick with a clean rag.
- Insert the dipstick completely.
- Remove the dipstick again.
- Read the engine oil level on the dipstick.
- The engine oil level must be between the upper and lower marks on the dipstick.



(A) Dipstick
 (a) Upper mark
 (b) Lower mark

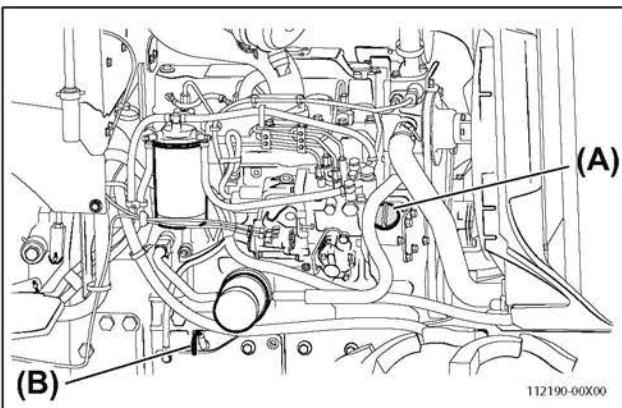
NOTE

If the engine oil level is low:

- If the engine oil is a shortage, remove the side cover, open the hood and add the oil.
- Remove the engine oil filler cap.
- Add the specified engine oil until the engine oil level is in the operating range on the dipstick.

NOTICE

- Avoid overfilling the engine with engine oil.



(A) Engine oil filler cap
 (B) Dipstick

10. If the engine oil exceeds the upper mark level on the dipstick:

- Drain the engine oil to a proper level. For maintenance work, for details, see "Change the Engine Oil and Engine Oil Filter" on page 13-25.

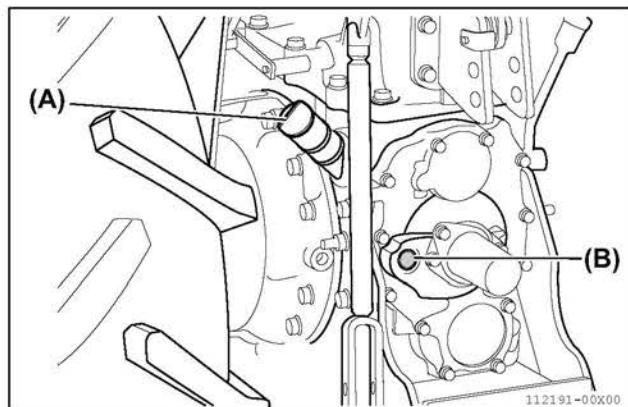
11. Insert the dipstick to check the engine oil level.

■ Inspect the Transmission Hydraulic Oil Level

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.

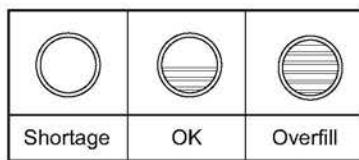
IMPORTANT

- Before removing transmission hydraulic oil filler cap and dipstick, carefully clean the area around the transmission hydraulic oil filler cap and dipstick.
- The preceding action prevents dirt and other contaminants from entering the transmission.
- Avoid overfilling the transmission with transmission hydraulic oil.



(A) Transmission hydraulic oil filler cap
 (B) Oil observing window

4. Look through the window next to the PTO shaft to check the oil surface.
5. If there is not enough oil in the transmission, add more (but within the visible area of the window) via the oil filler port.



076538-00EN00

■ Check the Tire Air Pressure

WARNING

Avoid injury!

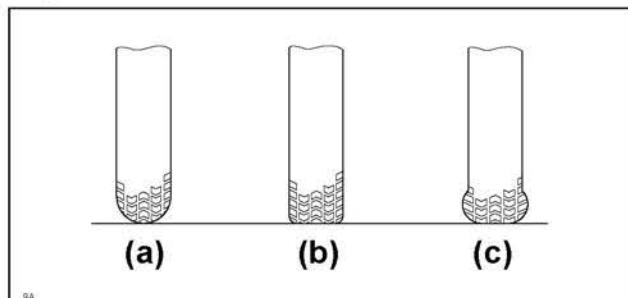
Improperly maintained tires and rim parts can cause explosive separation of the wheels.

- Mounting and dismounting of the tires into and from the rim must be performed by an authorized person using proper equipment.
- Avoid inflating the tires above the recommended tire air pressure.
- Avoid standing in front of or over a tire assembly during inflation.
- Always use a clip-on chuck and extension hose long enough for the tire to be inflated from a safe distance.
- Avoid attempting to weld or apply heat into a rim and tire assembly.
 - welding can structurally weaken or deform the rim
 - heat can cause an increase in tire air pressure and result in an explosion

IMPORTANT

- When checking tire air pressure of liquid filled tires:
 - rotate the tire placing the valve stem on top position
 - the preceding practice prevents the liquid from escaping through the valve stem
- To prevent tire damage:
 - always inflate the tires to less than the maximum tire air pressure shown on the tire sidewall

1. Inspect the tires for fissures or any other damages.
2. Use a tire gauge to check the tire air pressure.
3. Adjust the tires to the standard tire air pressure as per the illustration below.



(a) Too high

(b) Standard

(c) Too low

The table below shows the maximum allowed tire air pressure.

Maximum Tire Air Pressure

<YM351R>

Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	13.6-26 6PR

<YM358R>

Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	13.6-28 6PR

<YM358R-L1>

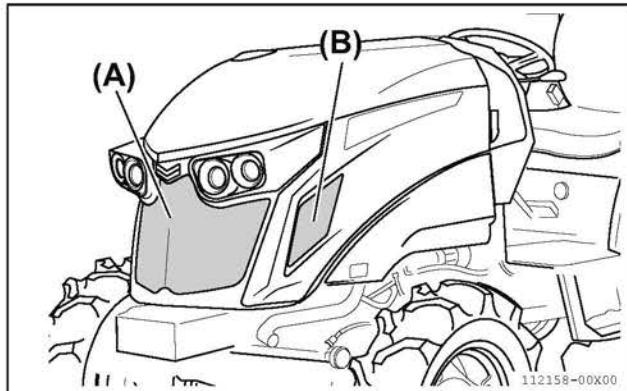
Tire Size	Tire Air Pressure (kPa)
Front	8-18 6PR
Rear	14.9-28 6PR

■ Clean the Grille Screen and Side Screens

IMPORTANT: Avoid damage!

- To prevent the engine from overheating.
- To ensure adequate air inflow.

1. Check the grille screen and the side screens for dirt, grass clippings and debris.
2. Clean the grille screen and side screens with a brush or cloth.



(A) Grille screen
(B) Side screens

■ Check the Fuel Line

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Check the fuel rubber hoses for any leaks or damages.

■ Check the Power Steering Line

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Check at the lower part and underneath the tractor.
5. Check for leaks and damages on the power steering lines and hoses.

■ Check the Retractable Seatbelt

1. Before operating the tractor:
 - Always ensure that all the retractable seatbelt mounting hardwares are in good working condition.
2. Replace any damaged hardware.

■ Check the Roll-Over Protective Structure (ROPS)

1. Before operating the tractor:
 - Always ensure that the Roll-Over Protective Structure (ROPS) mounting hardwares are in correct working condition.
2. If any damage hardware is detected:
 - Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Check the Headlights, Hazard Lights, etc.

1. Inspect the lights for blown bulb/s and damage lens/es.
2. Replace blown bulb/s and/or damage lens/es.

■ Check and Refill the Fuel Tank

⚠ WARNING

Avoid injury!

Remember that the fuel vapor is explosive and flammable:

- Shut off the engine before refilling the fuel tank.
- Never smoke while handling fuel.
- Keep the fuel away from an open flame or sparks.
- Refuel on outdoors or in a well ventilated area.
- Immediately wipe away any spilled fuel.
- To prevent static electric discharge:
 - use a clean non-metal fuel container
 - use a clean plastic funnel that has no metallic screen mesh or filter

IMPORTANT

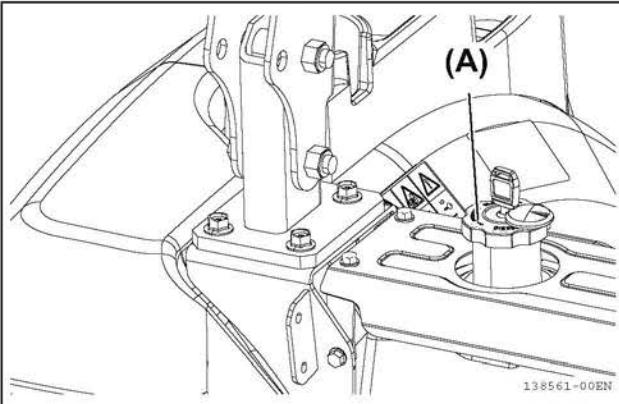
- Dirt and water in the fuel can damage the engine.
- Remove dirt and debris from the fuel tank opening.
- Use a clean, fresh, and no additive fuel.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Turn the starter key switch to ON position.
 - by observing the fuel gauge on the instrument panel
 - if the reading on the fuel gauge is 1/4 or less
3. Turn the starter key switch to the OFF position.
4. Allow the engine to cool down for several minutes.
5. Unlock with the key and remove the fuel filler cap.
6. Fill the fuel tank with fresh fuel.

IMPORTANT

- Never overfill the fuel tank.

7. Install the fuel filler cap and lock it with key.



(A) Fuel filler cap

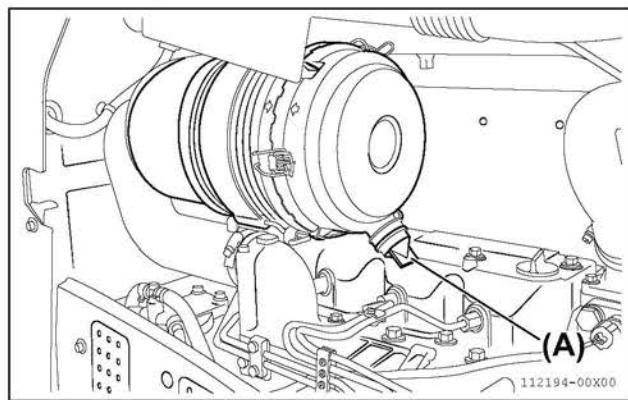
■ Check and Clean the Rubber Dust Unloading Valve

IMPORTANT: Avoid damage!

Always operate the engine with:

- The air filter element installed.
- The rubber dust unloading valve installed.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood to access the rubber dust unloading valve.
5. Remove the air cleaner canister cover and clean inside. Remove the rubber dust unloading valve from the air cleaner canister cover and clean it as necessary.



(A) Rubber dust unloading valve

NOTE

- The above illustration shows.

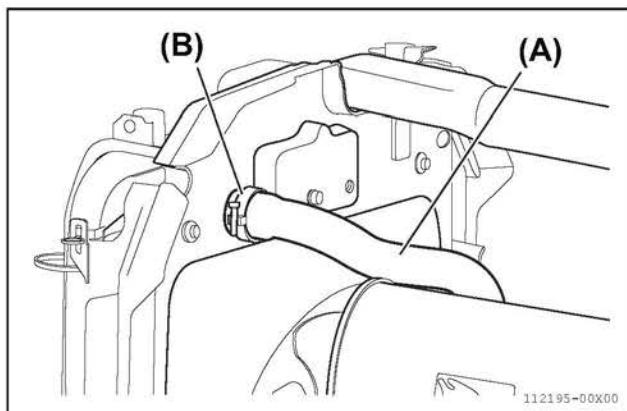
■ Check the Radiator Hoses and Clamps

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.

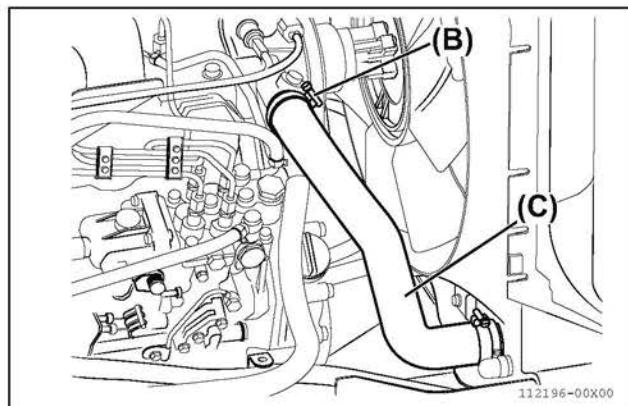
NOTE

- Visually check the hoses for damages and cracks.
- Squeeze the hoses to check for evidences of deterioration.
- The hoses must not be too hard, brittle, too soft or swollen.
- Replace the damaged hose/s.

5. Check the upper and the lower radiator hoses for any damages and cracks.
6. Replace any damaged hoses.
7. Check for loosen hose clamps.
8. Replace as necessary.
9. Lower the hood.



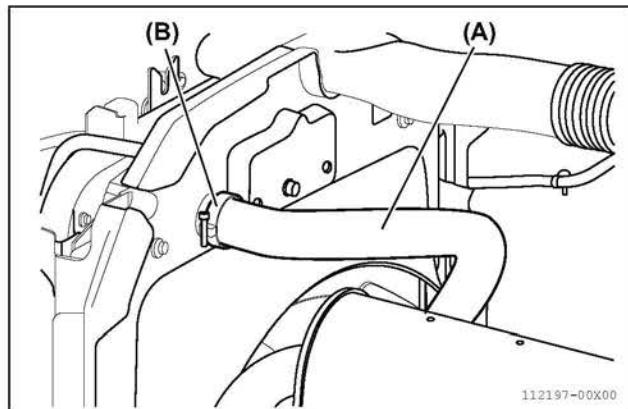
(A) Upper radiator hose
(B) Hose clamps



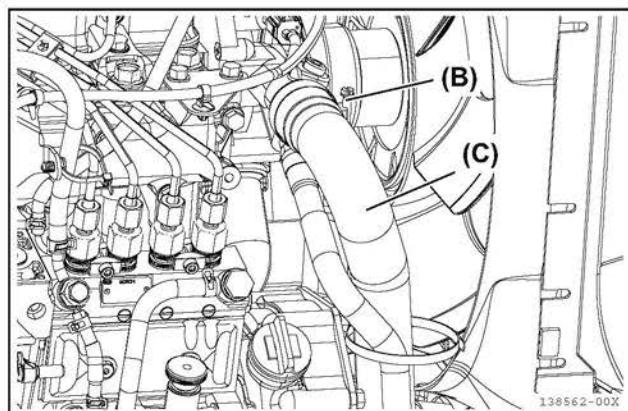
(B) Hose clamps
(C) Lower radiator hose

NOTE

- The above illustration shows YM351R.



(A) Upper radiator hose
(B) Hose clamps



(B) Hose clamps
(C) Lower radiator hose

NOTE

- The above illustration shows YM358R.

■ Clean the Radiator Cooling Screen

WARNING

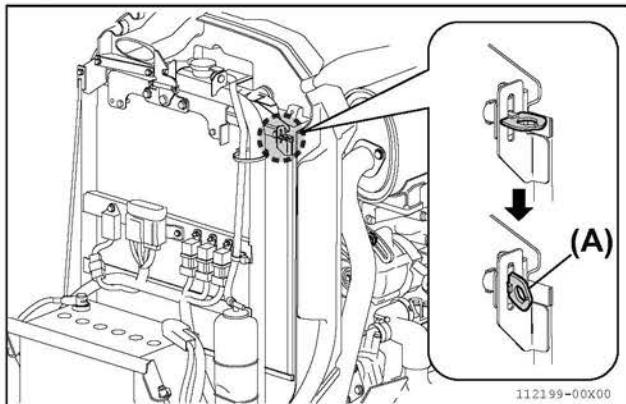
Compressed air can explosively spray debris and dirt over a wide area:

- Make sure there are no bystander/s near the tractor.
- While using compressed air for cleaning, always wear protective goggles.
- Use low pressure compressed air or water.

IMPORTANT

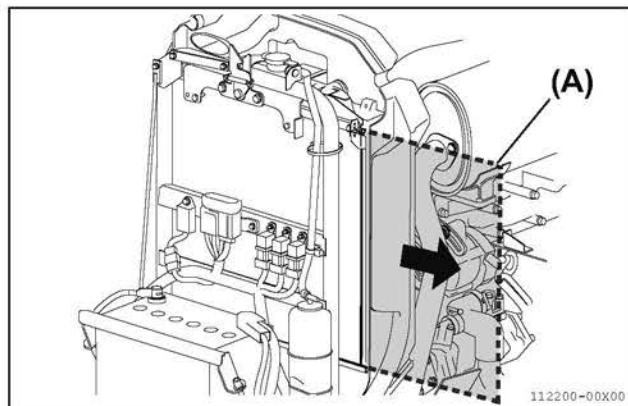
- Keep the cooling screen clean:
 - make sure adequate air inflow is present
 - prevent the engine from overheating

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Change the cam lock of Radiator cooling screen to "Stand" position and turn it into the longitudinal position.



(A) cam-lock

6. Pull out radiator cooling screen to the right side of the main body.



(A) Radiator cooling screen

7. Remove straw and dust attached from the radiator cooling screen.

NOTE

- Install Radiator Cooling Screen along with the body side rail.

■ Clean Radiator Cooling Fins

WARNING

Avoid injury!

Compressed air can explosively spray debris and dirt over a wide area:

- Make sure there are no bystander/s near the tractor.
- While using compressed air for cleaning, always wear protective goggles.
- Use low pressure compressed air or water.

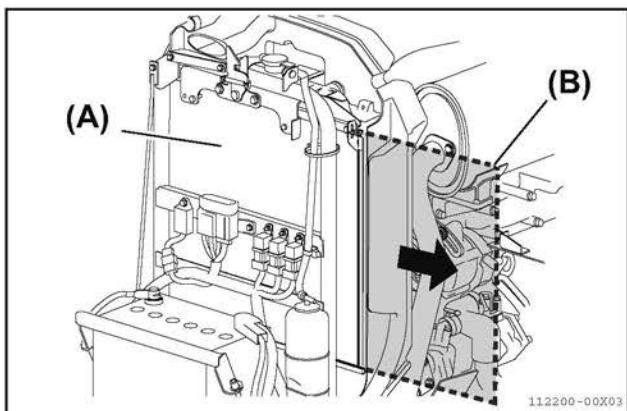
IMPORTANT: Avoid damage!

- To prevent overheating:
 - keep the radiator cooling fins clean
- When cleaning the radiator cooling fins:
 - avoid using pressure washers, which can damage the radiator cooling fins
- Prevent the radiator cooling fins from bending:
 - avoid spraying compressed air directly into the radiator cooling fins

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.

13. PERIODIC SERVICE

5. Clean the radiator cooling fins from all dirt and debris:
 - Use low pressure, compressed air or water.
 - During the preceding procedure, maintain maximum distance to the engine.
6. Install the radiator cooling screen.
7. Lower the hood.



(A) Radiator cooling fins
(B) Radiator cooling screen

■ Check the Wheel Bolt Tightening Torque

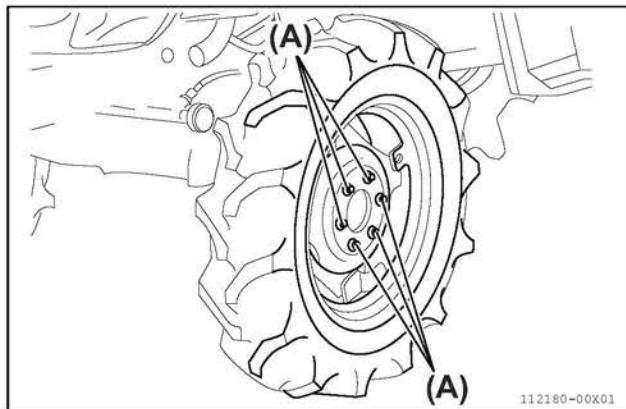
Service Intervals

- Regular intervals: Before daily operation.
- After adjusting the tire tread width and after replacing the tires:
 - after 10 hours of operation
 - every 50 hours after that until appropriate tightening torque values are reached and maintained

For more information on maintenance work on the wheel bolt tightening torque, for details, see "Check the Wheel Bolt, Nut Tightening Torque" on page 11-2 to 11-3.

Front Wheel

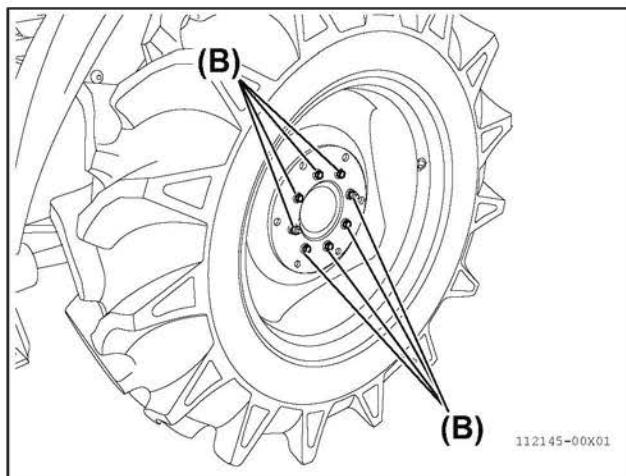
Tightening Torque kgf·m (N·m)
18.0 to 20.0 (177 to 196)



(A) Front wheel bolts and nuts

Rear Wheel

Tightening Torque kgf·m (N·m)
18.0 to 20.0 (177 to 196)



(B) Rear wheel bolts and nuts

■ Inspection Procedure for the Safety System

WARNING

NEVER inhale the engine exhaust gas.



- Read the DANGER, WARNING AND CAUTION statements on the safety alert decals on the tractor.
- Before starting the engine:
 - remain seated on the operator seat
 - always move the following levers to the N (neutral) position:
 - main shift lever
 - range shift lever
 - reverser lever
 - press the Power Take Off (PTO) switch to OFF position
 - never attempt to start the engine while the operator is still on the ground
- Engine exhaust gas contains carbon monoxide.
 - if inhaled, the engine exhaust gas can cause severe poisoning or even death
- Always perform the safety checks in a well ventilated area.
- When working in an enclosed area, always expel the engine exhaust gas to an outdoor area.
 - connect one end of an extension pipe to the engine exhaust pipe
 - set the other end outside of the work area
- Never run the engine in a closed area that is not correctly ventilated.

IMPORTANT

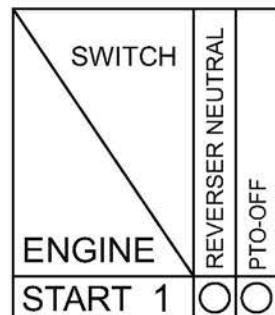
- Before operating the tractor, ALWAYS perform the safety checks on the tractor's safety interlock system.

If a problem is detected on the safety interlock system:

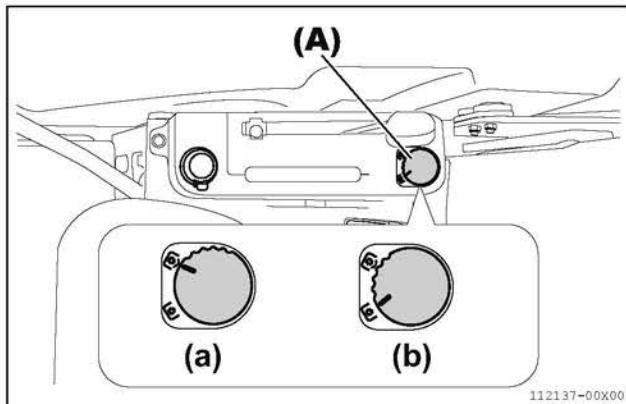
- Do not attempt to operate the tractor.
- Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

NOTE

- The engine starting combination as shown on the chart below.

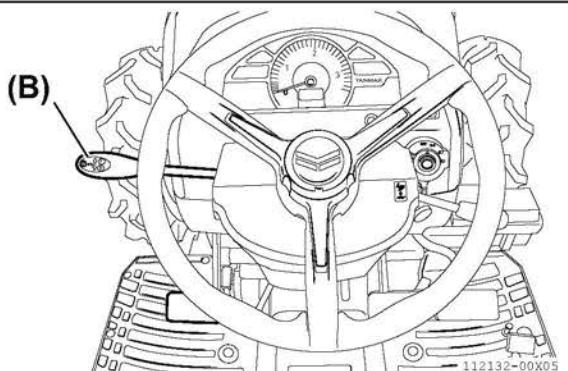


1. Devices



(A) Power Take Off (PTO) switch

- (a) ON
- (b) OFF



(B) Reverser lever

2. Procedure

1. Sit on the operator seat.
2. Engage the parking brake securely, for details, see "7. Lock and Set the Parking Brake" on page 7-3.
3. Move the reverser lever (B) to the N (neutral) position.
4. Press and turn right the Power Take Off (PTO) switch (A) to ON (a) position.
5. Turn the starter key switch to the START position.

NOTE

- The engine must not crank when Power Take Off (PTO) switch is in ON position.

6. Confirm that the starter motor does not operate.
7. Next, press the Power Take Off (PTO) switch (A) to OFF position.
8. Shift the reverser lever (B) to the forward or reverse position.
9. Turn the starter key switch to the START position.
10. Confirm that the starter motor does not operate.
11. Next, move the reverser lever (B) to the N (neutral) position.
12. Turn the starter key switch to the START position.
13. Confirm that the starter motor starts the engine.

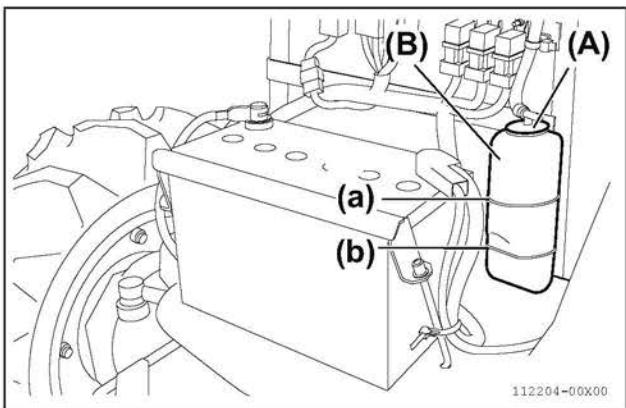
■ Check the Cooling System

WARNING

Avoid injury!

- Before checking always allow the radiator to cool down:
 - the radiator is hot and can cause burns
 - the build up pressure in the cooling system can cause the coolant to spray out explosively during removal of the radiator cap
- Always shut off the engine.
- Allow the engine to cool down.
- Remove the radiator cap only when:
 - the radiator and the engine are sufficiently cooled down that can be touched with bare hands
- When removing the radiator cap, always:
 - loosen the radiator cap to the first stop
 - the preceding action releases excessive pressure on the radiator
 - fully remove the radiator cap once the pressure has been released completely
- Add pre-diluted coolant to reserve tank, not to the radiator.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Check the coolant level of the reserve tank:
 - If the engine is warm, the coolant level must be between the full line and the low line.
 - If the engine is cold, the coolant level must be at the low line on the reserve tank.
6. When necessary, remove the reserve tank cap and add a pre-diluted coolant with an antifreeze water ratio that suits the local climate.
 - Contact YOUR LOCAL YANMAR TRACTOR DEALER for more details.
 - Use High Quality Permanent Type Antifreeze (Ethylene Glycol with corrosion and rust inhibitor chemicals).
7. Install the reserve tank cap.
8. Lower the hood.
9. Confirm that the hood latch locked securely.

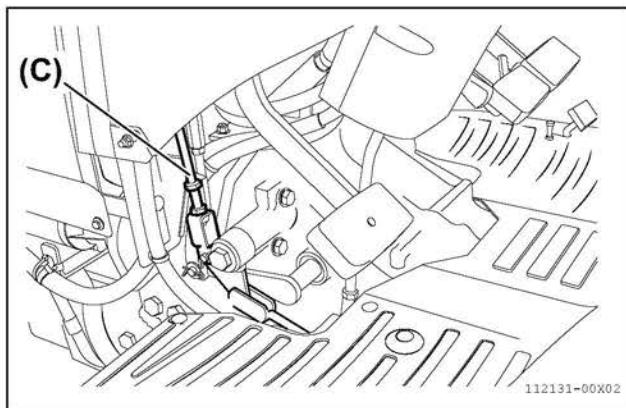


(A) Reserve tank cap

(B) Reserve tank

(a) Full line

(b) Low line



(C) Turnbuckle: Left side

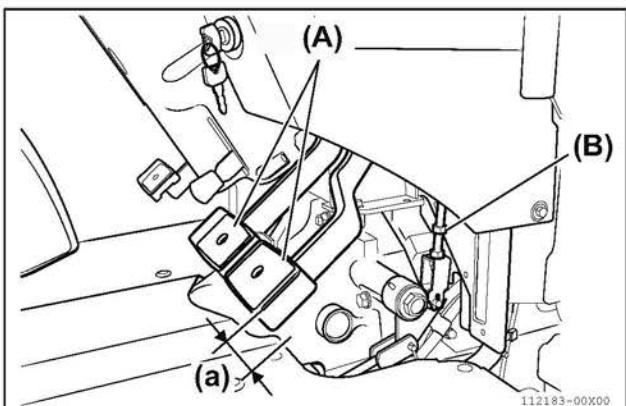
■ Adjusting Brake

⚠ WARNING

Avoid injury!

- Check if both sides brake works equally and effectively.
- Unequal braking may cause an accident, Make sure that both sides of the brake work equally and effectively.

1. Depress the brake to see a required play of 30-40 mm is available and if the left and right pedals work together.
2. If not, adjust the turnbuckles behind the pedals for a play of 30-40 mm.
3. Secure the turnbuckle with the lock nuts.
4. Make sure the parking brake lock is put on when the brake pedals are fully stepped in.



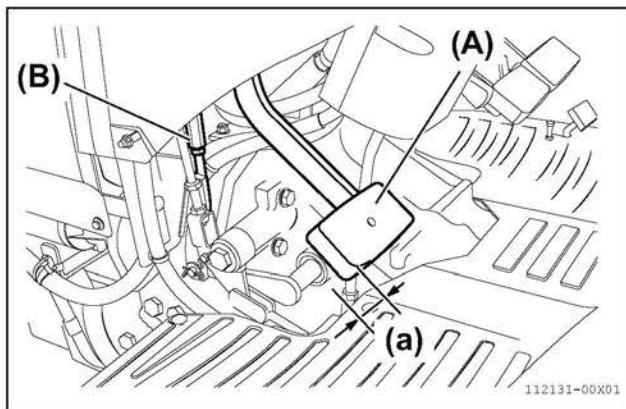
(A) Brake pedals

(B) Turnbuckle: Right side

(a) Play 30-40 mm

■ Adjusting Clutch

The standard of clutch pedal play is 15-25 mm. Tight the lock nut securely after adjustment.



(A) Clutch pedal

(B) Turn buckle

(a) Play 15-25 mm

■ Check the Battery Condition

For details, see "1. Battery" on page 14-1.

4. Check and Replace as Necessary

■ Inspect the Alternator/Fan Belt

- Perform a visual inspection on the alternator/fan belt.
- Check for loose alternator/fan belt tension or damaged alternator/fan belt.

For more information on maintenance work on the alternator/fan belt, for detail, see "Service the Alternator/Fan Belt" on page 13-18.

■ Replace the Battery

For details, see "1. Battery" on page 14-1.

■ Check the Fuses

For details, see "2. Fuses" on page 14-6.

■ Check the Light Bulbs

For details, see "3. Bulb" on page 14-7.

■ Replace the Fuel/Water Separator

For details, see "Clean the Fuel/Water Separator (and Replace the Fuel/Water Separator Filter)" on page 13-22.

■ Change the Alternator/Fan Belt

For details, see "Service the Alternator/Fan Belt" on page 13-18.

■ Clean and Replace the Air Cleaner Element

For details, see "Clean the Air Cleaner Element" on page 13-21.

■ Replace the Clutch Disk

If the clutch slips even after adjusting the clutch pedal play, the clutch disc must be replaced. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Replace the Brake Disk

If the brake slips even after adjusting the brake pedal play, the brake disc must be replaced. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Replace the Tie Rod End

Replace the tie rod end assembly accordingly depending on the wear condition of the link ball. Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

5. First 50 Hours

■ Replace the Transmission Hydraulic Oil Filters

For maintenance work, for details, see "Change the Transmission Hydraulic Oil and Replace the Transmission Hydraulic Oil Filters" on page 13-28.

■ Change the Transmission Hydraulic Oil

For maintenance work, for details, see "Change the Transmission Hydraulic Oil and Replace the Transmission Hydraulic Oil Filters" on page 13-28.

■ Change the Front Axle Gear Oil

For maintenance work, for details, see "Change the Front Axle Gear Oil" on page 13-27.

■ Check the Air Intake Hoses and Clamps

For maintenance work, for details, see "Check the Air Intake Hoses and Clamps" on page 13-24.

■ Inspect and Adjust the Toe-in

For maintenance work, for details, see "Inspect and Adjust the Toe-in" on page 13-23.

6. Every 50 Hours

■ Check the Front Axle Gear Oil Level

IMPORTANT

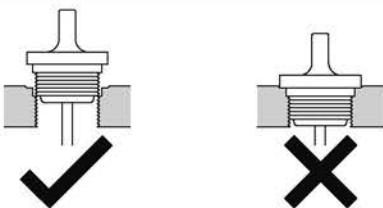
- Before checking the front axle gear oil level, allow the front axle gear oil to settle for 1 hour until the current front axle gear oil level can be accurately read on the dipstick.
Recheck the front axle gear oil level after operating the tractor for several hours.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Chock all the tires safely and securely.
4. Allow the engine to cool down for several minutes.
5. Make the front axle gear oil settle for at least 1 hour.

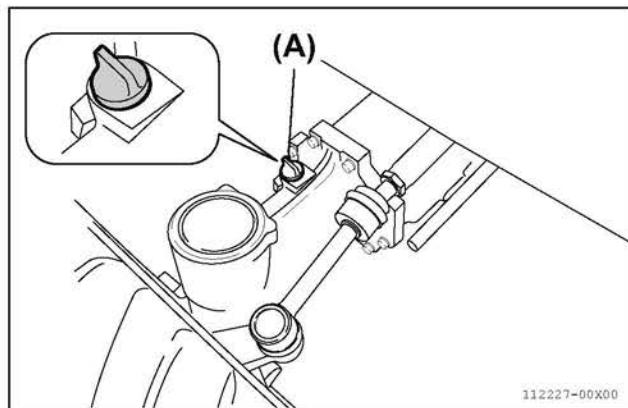
IMPORTANT

- Dirt and debris in the front axle gear oil can damage the front axle components.
- Clean the area around the dipstick before removing the dipstick.

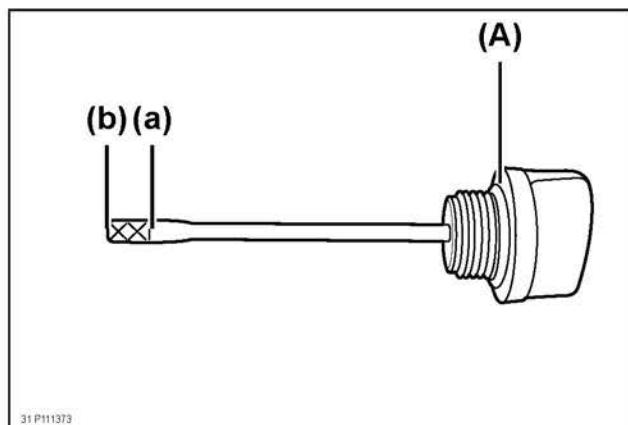
6. Loosen and remove the dipstick located on the right side of the front axle.
7. Use a clean rag to wipe the front axle gear oil from the dipstick.
8. Insert the dipstick into the hole without tightening.



9. Remove the dipstick again.
10. Check the front axle gear oil level on the dipstick.
11. The front axle gear oil level must be between the upper and lower marks on the dipstick.



(A) Dipstick



(A) Dipstick

- (a) Upper mark
- (b) Lower mark

IMPORTANT

When the front axle gear oil level is low:

- Add SAE 90 gear oil through the fill opening until the front axle gear oil level is appropriate.

12. Install and tighten the dipstick.
13. Operate the tractor for several hours.
14. Check the front axle gear oil level again.

■ Grease Fittings

IMPORTANT

- Use the recommended greases by Yanmar.
 - the preceding procedure prevents premature wear or failure of the parts and components
- The recommended greases by Yanmar perform efficiently in an average ambient temperature range from -29 to +135 °C.
- When intending to operate the tractor outside the preceding temperature range:
 - contact YOUR LOCAL YANMAR TRACTOR DEALER for the applicable special purpose greases

(General all purpose grease NLGI grade No. 2)

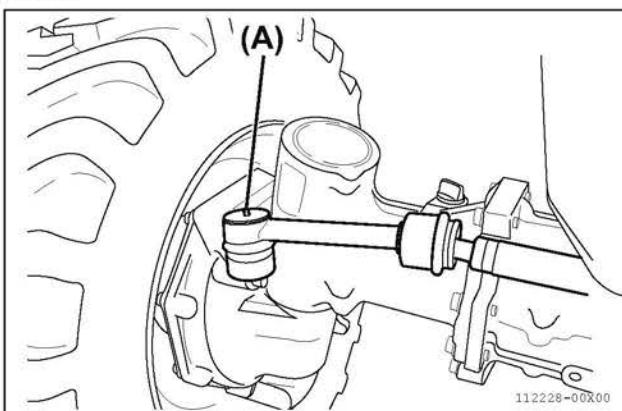
1. Lubricate the Grease Fittings on the Tie Rod

Extremely Wet or Muddy Conditions

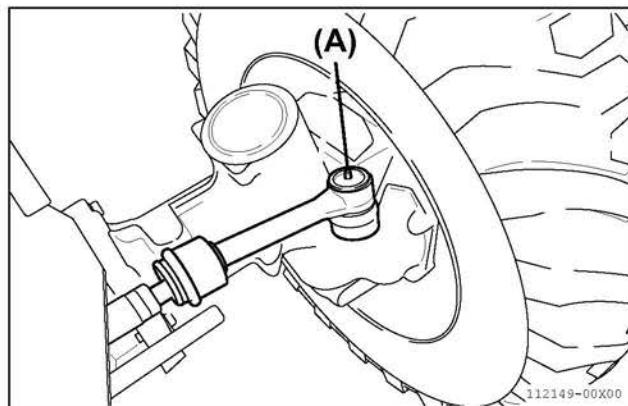
Lubricate the grease fittings once every 10 operating hours or once a day.

All Other Conditions

Lubricate the grease fittings once every 50 operating hours.



(A) Right tie rod end (grease fitting)



(A) Left tie rod end (grease fitting)

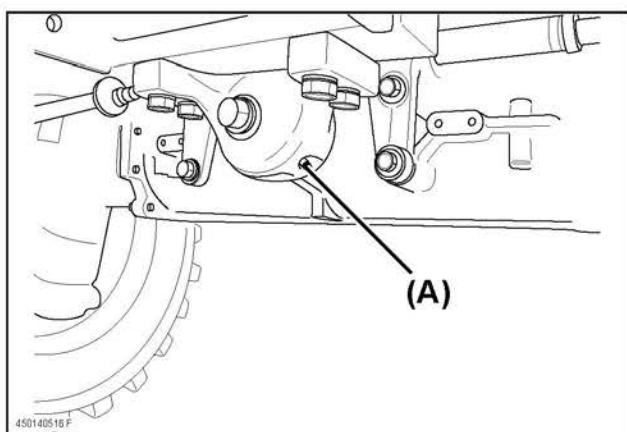
2. Check and Lubricate the Front Axle Pivot

Extremely Wet or Muddy Conditions

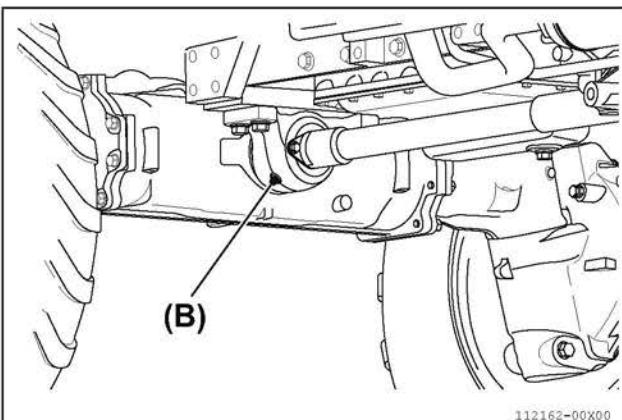
Lubricate the grease fittings once every 10 operating hours or once a day.

All Other Conditions

Lubricate the grease fittings once every 50 operating hours.



(A) Front axle pivot pin grease fitting (front)

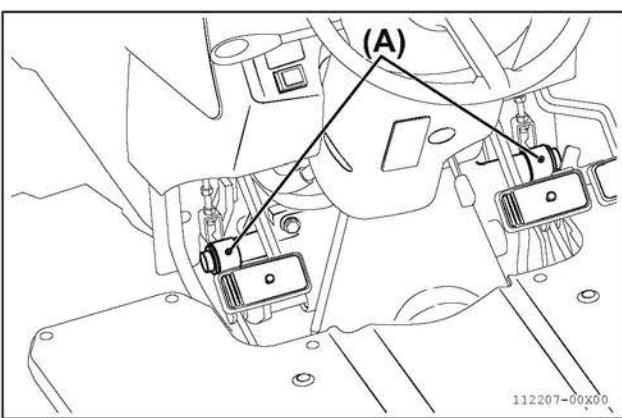


(B) Front axle pivot pin grease fitting (rear)

NOTE

- The grease fitting of the front axle pivot pin is located below the front platform on the tractor.

3. Lubricate the Grease Fittings on the Brake and the Parking Brake Linkage



(A) Brake and the Parking Brake pivot pin grease fitting

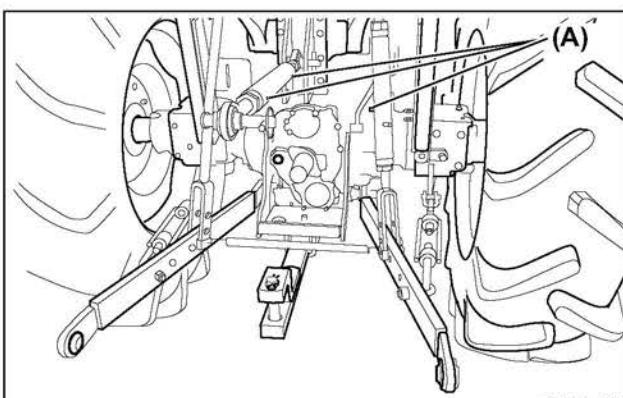
Extremely Wet or Muddy Conditions

Lubricate the grease fittings once every 10 operating hours or once a day.

All Other Conditions

Lubricate the grease fittings once every 50 operating hours.

4. Lubricate the 3-Point Hitch



(A) Lube fitting

■ Service the Alternator/Fan Belt

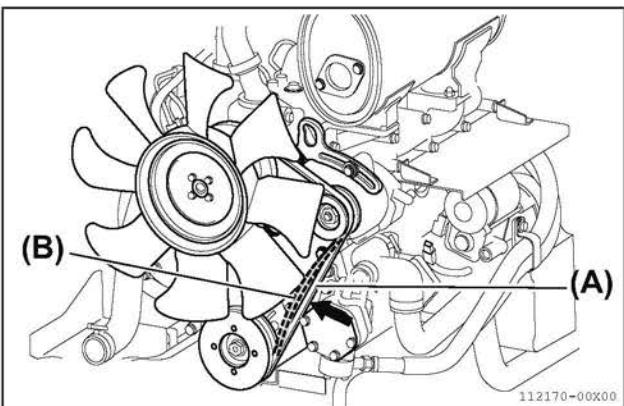
WARNING

Avoid injury!

- Fingers or loose clothing can get entangled with rotating parts.
- Before performing maintenance, shut off the engine.
- Allow all the moving parts to completely stop.

1. Check the Alternator/Fan Belt Tension

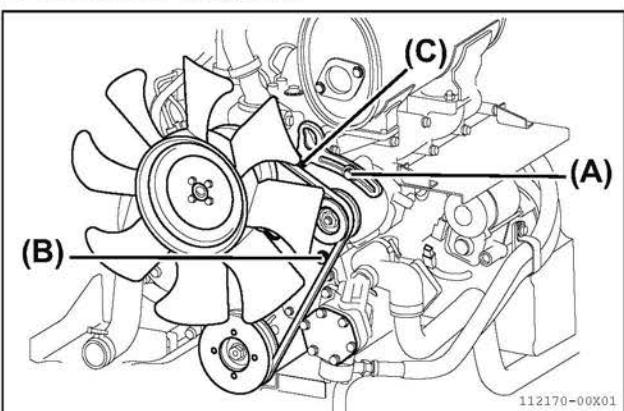
- Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
- Shut off the engine.
- Allow the engine to cool down for several minutes.
- Raise the hood.
- Using the thumb, gently apply pressure to the midpoint of the alternator/fan belt between the pulleys.
- Check whether the alternator/fan belt deflects inward by approximately 10 to 15 mm.
- If the deflection is not as specified, adjust the tension of the alternator/fan belt.



(A) Alternator/Fan belt
(B) 10-15 mm

2. Adjust the Alternator/Fan Belt Tension

1. Loosen the adjusting bolt.
2. Loosen the mounting bolt.
3. Loosen the fixing bolt.



(A) Adjusting bolt
(B) Mounting bolt
(C) Fixing bolt

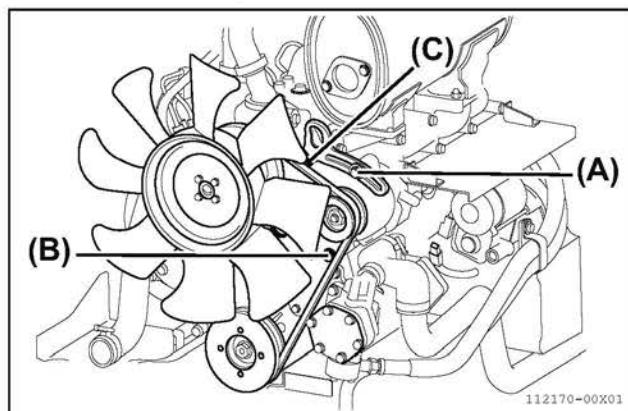
4. Exert an outward pressure on the alternator housing to attain the correct tension.
5. Tighten the adjusting bolt, and the mounting bolt, in that order.
6. Check the alternator/fan belt tension.
7. Tighten the fixing bolt.
8. Lower the hood.
9. Confirm that the hood latch locked securely.

3. Replace the Alternator/Fan Belt

NOTE

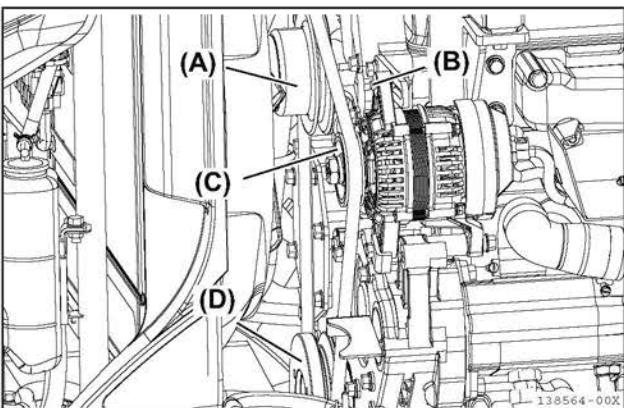
- Replace an excessively worn out, damaged or elongated alternator/fan belt with a new alternator/fan belt.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Loosen the adjusting bolt.
6. Loosen the mounting bolt.
7. Loosen the fixing bolt.

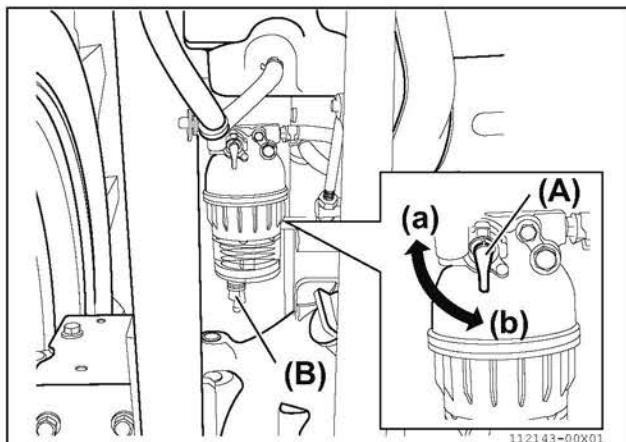


(A) Adjusting bolt
(B) Mounting bolt
(C) Fixing bolt

8. Apply an inward pressure to the alternator housing.
9. Remove the alternator/fan belt from the alternator sheave, fan sheave and crankshaft sheave.
10. Route the defective alternator/fan belt over the fan and remove the alternator/fan belt.
11. Install a new alternator/fan belt over the fan and onto the sheaves.
12. Exert an outward pressure to the alternator housing to attain the correct tension.
13. Tighten the adjusting bolt and the mounting bolt, in that order.
14. Check the alternator/fan belt tension.
15. Tighten the fixing bolt.
16. Lower the hood.
17. Confirm that the hood latch locked securely.



(A) Fan sheave
 (B) Adjusting bolt
 (C) Alternator sheave
 (D) Crankshaft sheave



(A) Fuel shut-off valve
 (B) Drain cock
 (a) OFF (closed) position
 (b) ON (open) position

■ Check the Fuel/Water Separator

(Drain the Fuel/Water Separator)

WARNING

Avoid injury!

Remember that diesel fuel vapor is explosive and flammable:

- Never smoke while handling diesel fuel.
- Keep the diesel fuel away from open flame or sparks.
- Before performing maintenance, shut off the engine and allow the engine to cool down.
- Work in a well ventilated area.
- Immediately wipe away any spilled diesel fuel.

NOTE

- Change the fuel filter if the fuel in the tank runs out while the engine is running.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Turn the fuel shut-off valve to the OFF (closed) position.
5. Turn the drain cock at the bottom of the fuel/water separator to drain away the water condensation.
6. Close the drain cock.
7. Turn the fuel shut-off valve to the ON (open) position.

NOTE

- The fuel system is self bleeding. (YM351R only)

8. In YM351R, turn the starter key switch to START position.
 Allow any trapped air to be bled from the fuel system. If necessary, contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.
9. In YM358R, turn the starter key switch to START position.
 If the engine does not start, see "4. Start when the Engine Runs Out of Fuel" on page 7-8, and bleed air in the fuel system.

7. Every 100 Hours

■ Clean the Air Cleaner Element

! WARNING

Avoid injury!

- Touching hot surfaces can burn skin.
- If the engine has been running for some time, the engine components are hot including all internal fluids.
- Before performing maintenance or working near the engine and engine parts:
 - allow the engine to cool down
 - always wear protective goggles and protective clothing

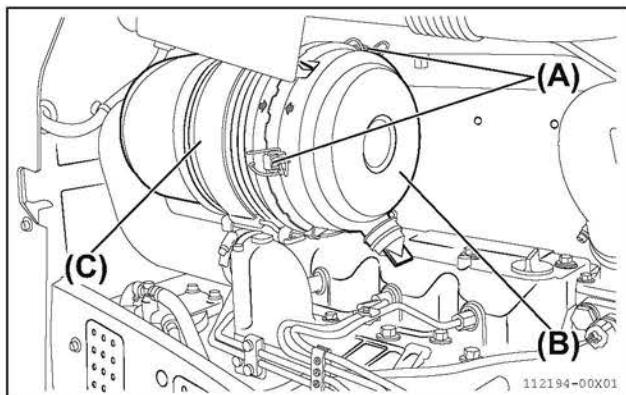
IMPORTANT

A damaged air cleaner element can fail to prevent dirt, dust and other contaminants from entering the engine.

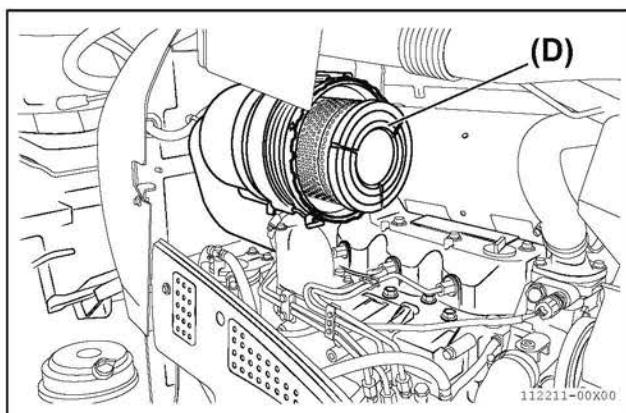
- Never wash the inner filter.
- Never attempt to clean the inner filter by tapping the inner filter against another object.
- Never use a compressed air to clean the inner filter.
- Always replace a contaminated, damaged and cracked inner filter seal.
- For operation in dusty environment, clean the air cleaner element every 50 hours.

1. Service the Outer Filter

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Release the three latch hooks.
 - The latch hooks secures the air cleaner canister cover to the air cleaner canister.
6. Unhook the latch hooks from the air cleaner canister.
7. Remove the air cleaner canister cover.



(A) Latch hook
 (B) Air cleaner canister cover
 (C) Air cleaner canister

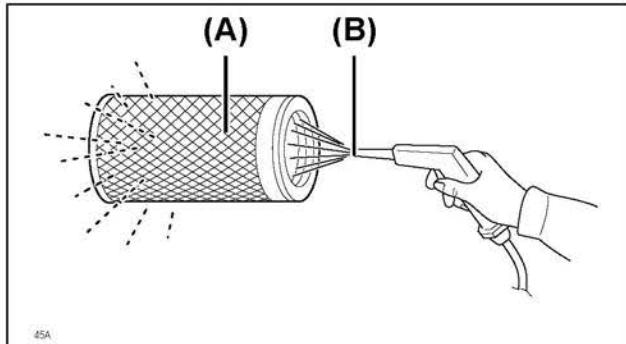


(D) Outer filter

NOTE

- The above illustration shows YM358R.

8. Remove the outer filter.
9. Clean the outer filter using the procedure below.
 - When dust is found on the element:
 - apply compressed air from inside the element to blow away the dust
 - Use low pressure compressed air.
 - If carbon or oil deposits are found on the outer filter, replace it with new.



(A) Outer filter
 (B) Compressed air

10. Install the outer filter.
11. Replace the old outer filter with a new outer filter, as necessary. Standard replacement interval is 400 hours.
12. Install the air cleaner canister cover.
13. Make sure the rubber dust unloading valve points downward.
14. Align the arrow on the air cleaner canister with the arrow shown on the air cleaner canister cover.
15. Hook the three latch hooks onto the air cleaner canister.
16. Push the top of the latch hooks inward toward the air cleaner canister cover:
 - To lock the latch hooks.
 - To secure the air cleaner canister cover.

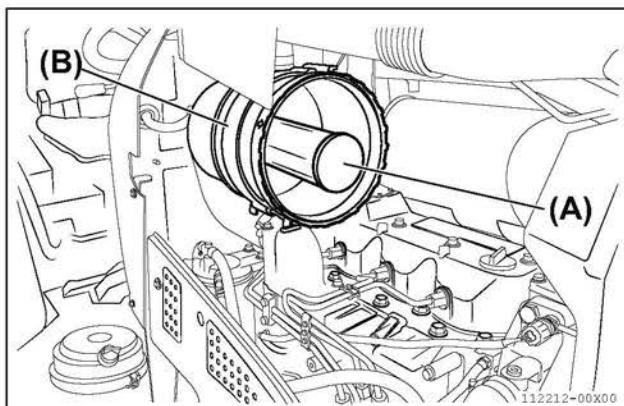
2. Service the Inner Filter

1. Remove the air cleaner canister cover.
2. Remove the outer filter.
3. Remove the inner filter.
4. Install a new inner filter as necessary. Standard replacement interval is 400 hours.

IMPORTANT

- Do not use the old inner filter.
- Do not remove the inner element (A). The inner element prevents unexpected dust from entering into the engine. When the inner element is dirty, replace it. It cannot be cleaned.

5. Install the outer filter.
6. Install the air cleaner canister cover.
7. Lower the hood.



(A) Inner filter
(B) Air cleaner canister

IMPORTANT

- The main purpose of the inner filter is to:
 - protect the engine against dust when a fouled up outer filter is removed
- Do not remove the inner filter during maintenance work on the outer filter.

■ Clean the Fuel/Water Separator (and Replace the Fuel/Water Separator Filter)

WARNING

Avoid injury!

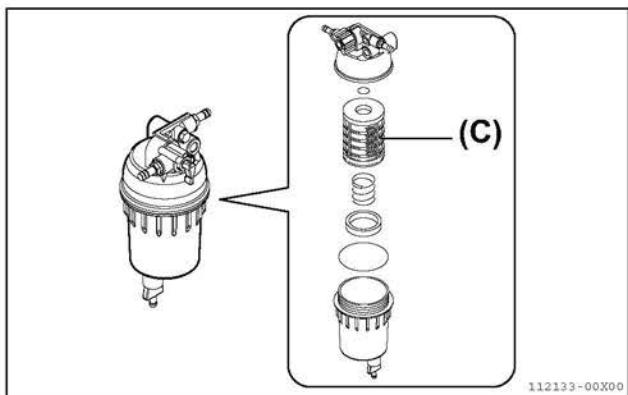
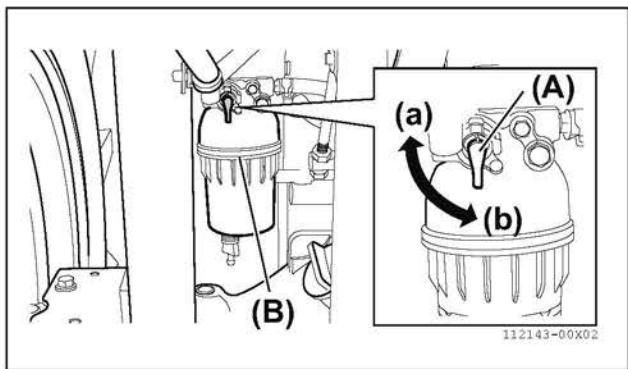
Remember that diesel fuel vapor is explosive and flammable:

- Never smoke while handling diesel fuel.
- Keep the diesel fuel away from open flame or sparks.
- Before performing maintenance, shut off the engine and allow the engine to cool down.
- Work in a well ventilated area.
- Immediately wipe away any spilled diesel fuel.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Turn the fuel shut-off valve to the OFF (closed) position.
5. Place a drain pan underneath the fuel/water separator to catch any spilled fuel.
Dispose of the waste fuel properly following effective local law.
6. Turn the locking collar counterclockwise to unlock the sediment bowl.
7. Pull down the sediment bowl to remove from separator body.
8. Remove the fuel/water separator filter from the separator body when replacing the fuel/water separator filter.
Dispose of the fuel/water separator filter properly following effective local law.
9. Clean the sediment bowl.
10. Install the new fuel/water separator filter into the separator body when replacing the fuel/water separator filter.
11. Install the sediment bowl and turn the locking collar clockwise to secure the bowl.

13. PERIODIC SERVICE

12. Turn the fuel shut-off valve to the ON (open) position.



(A) Fuel shut-off valve
(B) Sediment bowl
(C) Fuel/Water separator filter
(a) OFF (closed) position
(b) ON (open) position

NOTE

- The fuel system is self bleeding. (YM351R only)
- Skip step 8 and 10 when only cleaning the fuel/water separator.

13. In YM351R, turn the starter key switch to START position.

Allow any trapped air to bleed from the fuel system.

14. In YM358R, turn the starter key switch to START position.

If the engine does not start, see "4. Start when the Engine Runs Out of Fuel" on page 7-8, and bleed air in the fuel system.

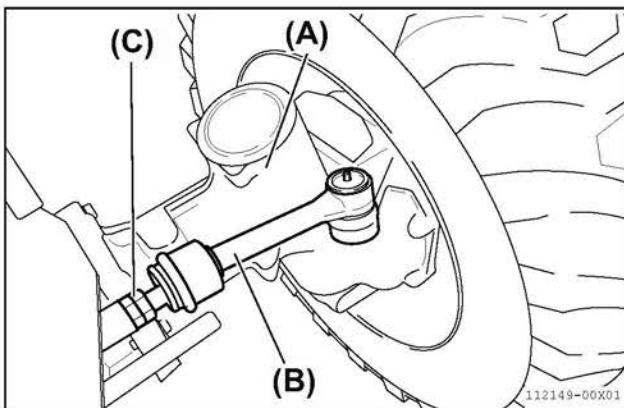
8. Every 200 Hours

■ Inspect and Adjust the Toe-in

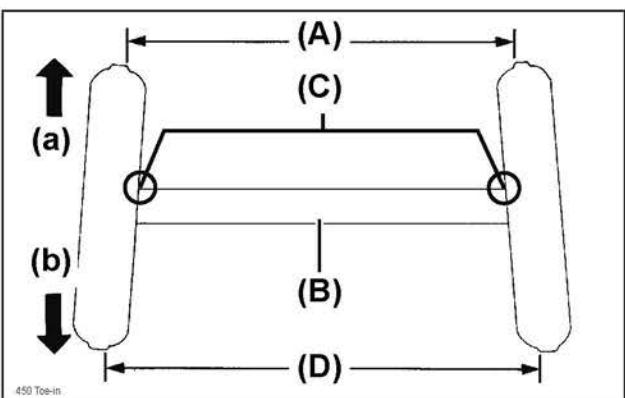
NOTE

- Poorly adjusted toe-in can cause difficulty in steering action or abnormal sway of the steering wheel.

- Mark the center line of the front end of the two front tires.
- Mark the center line of the rear end of the two front tires.
- Measure the distance between the marks at the rear end of the tire as D.
- Measure the distance between the marks at the front end of the tire as A.
- Get the difference of the distance measurements: D minus A.
 - The difference of the distance measurements must be limited to 4 to 8 mm.
- If the difference of the distance measurement is not within the limits.
 - Loosen the lock nut of the left and right tie rods.
 - Adjust the length of the threaded portion of the left and right tie rods.
 - Repeat the preceding procedures 3, 4 and 5 until the required difference of the distance measurement is attained.
- If the difference of the distance measurement is within the limits.
 - Hold the tie rod and tighten the lock nut.



(A) Front axle
(B) Tie rod
(C) Lock nut



450 Toe-in

(A) Front tire (front end)

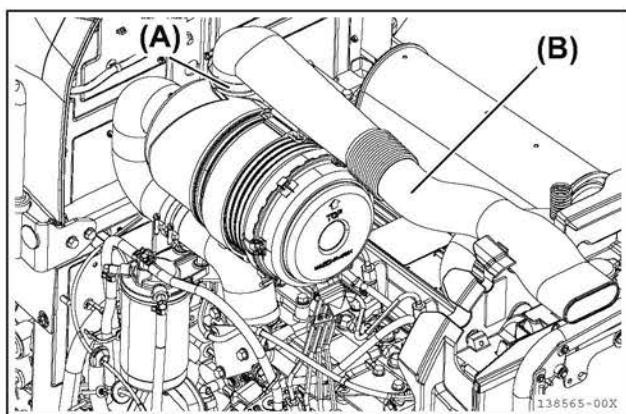
(B) Front axle

(C) Tie rod

(D) Front tire (rear end)

(a) Front

(b) Rear



138565-00X

(A) Air intake hose clamp

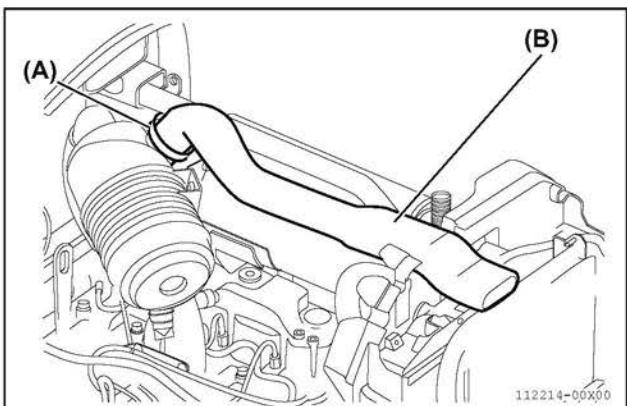
(B) Air intake hose

NOTE

- The above illustration shows YM358R.

■ Check the Air Intake Hoses and Clamps

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Chock all the tires safely and securely.
4. Allow the engine to cool down for several minutes.
5. Raise the hood.
6. Check for loose clamps.
As necessary, tighten air intake hose clamp.
7. Lower the hood.



(A) Air intake hose clamp

(B) Air intake hose

NOTE

- The above illustration shows YM351R.

9. Every 250 Hours

■ Replace the Fuel Filter

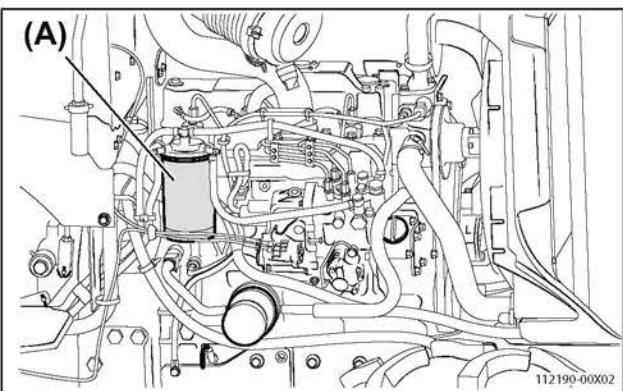
! WARNING

Avoid injury!

Remember that diesel fuel vapor is explosive and flammable:

- Never smoke while handling diesel fuel.
- Keep the diesel fuel away from open flame or sparks.
- Before performing maintenance, shut off the engine and allow the engine to cool down.
- Work in a well ventilated area.
- Immediately wipe away any spilled diesel fuel.

1. Turn the fuel shut-off valve to OFF (closed) position to prevent the fuel from draining.
2. Place an oil pan underneath the fuel filter.
3. Clean the area around fuel filter base.
4. Raise the hood.
5. Remove the right side cover.
6. Remove the fuel filter by turning counter-clockwise using filter wrench.
7. Apply a small amount of diesel fuel into the gasket of the new fuel filter.
8. Install the new fuel filter by turning clockwise and hand tighten until the gasket is seated against the fuel filter base.
9. Turn the fuel filter an additional of approximately 1/2 turn.
10. Turn the fuel shut-off valve to ON (open) position.
11. Install the right side cover.
12. Lower the hood.
13. Turn the starter key switch to ON position.
14. Wait at least 5 seconds to fill up the fuel filter.
15. Start the engine.



(A) Fuel filter

<YM358R only>

16. If the engine does not start, see "4. Start when the Engine Runs Out of Fuel" on page 7-8, and bleed air in the fuel system.

■ Engine Oil

Use engine oil with a viscosity that is appropriate for use within the air temperature range:

- Wherein the tractor is scheduled to operate until the next engine oil change.

Engine Crankcase

Capacity	Lubricant
Approximately YM351R:5.3 L	API Service Classifications CD or higher
YM358R:8.9 L	SAE 10W-30 or SAE 15W-40

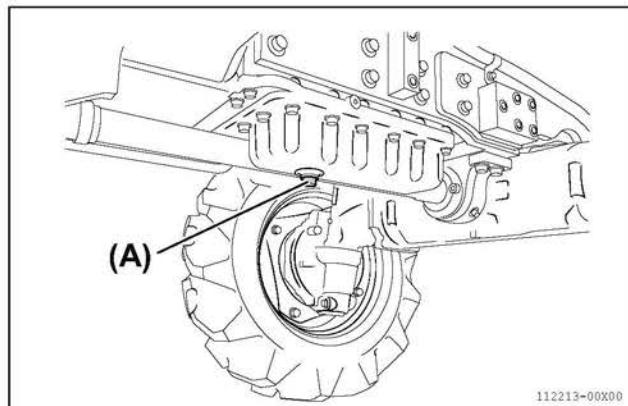
■ Change the Engine Oil and Engine Oil Filter

IMPORTANT

Change the engine oil more frequently if the tractor is used in extremely demanding conditions such as the following:

- Extremely dusty conditions
- Frequent slow speed operation
- Frequent short trips

1. Run the engine to warm up the engine oil.
2. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
3. Shut off the engine.
4. Allow the engine to cool down for several minutes.
5. Raise the hood.
6. Remove the right side cover.
7. Place an oil pan underneath the engine oil drain plug.



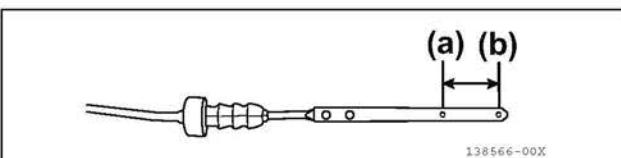
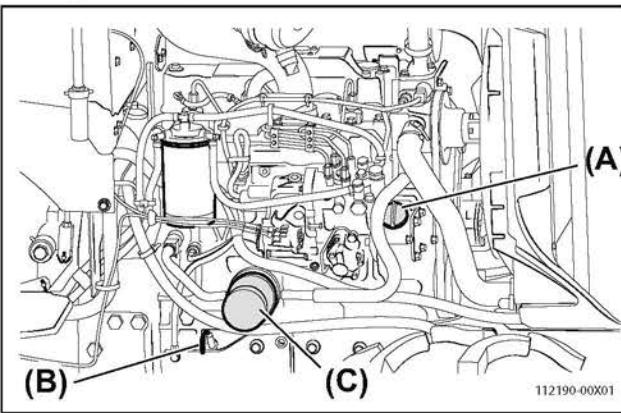
(A) Engine oil drain plug

CAUTION

While draining oil that is still hot:

- Stay clear of the hot oil and other engine parts in order to avoid getting burned.

8. Remove the engine oil drain plug by turning counterclockwise.
9. Allow the engine oil to drain completely from the engine.
10. Wipe away the dirt and dust surrounding the engine oil filter.



- (A) Engine oil filler cap
 (B) Dipstick
 (C) Engine oil filter
 (a) Upper mark
 (b) Lower mark

NOTE

- The above illustrations shows YM358R.

NOTE

- Carefully clean the area around the dipstick before removing the dipstick.

11. Remove the engine oil filter by turning counterclockwise.
12. Clean the area around engine oil filter mounting base.
13. Apply a small amount of clean engine oil into the gasket of the new engine oil filter.
14. Install the new engine oil filter by turning clockwise:
 - Until the gasket is seated against the engine oil filter base.
 - Turn the engine oil filter an additional half turn.
15. Install the engine oil drain plug.
 Avoid over tightening.
16. Remove the engine oil filler cap.
17. Pour an approximately 5.3 L (YM351R), 8.9 L (YM358R) of engine oil.
18. Install the engine oil filler cap.
19. Start and run the engine at idle to check for any leaks.
20. Shut off the engine.
 Repair any leaks before operating the tractor.
21. The engine oil level must be between the upper and lower marks on the dipstick.
 Add engine oil as necessary.
22. Install the right side cover.
23. Lower the hood.

■ Replace the Fuel/Water Separator Filter

For maintenance work, for details, see "Clean the Fuel/Water Separator (and Replace the Fuel/Water Separator Filter)" on page 13-22.

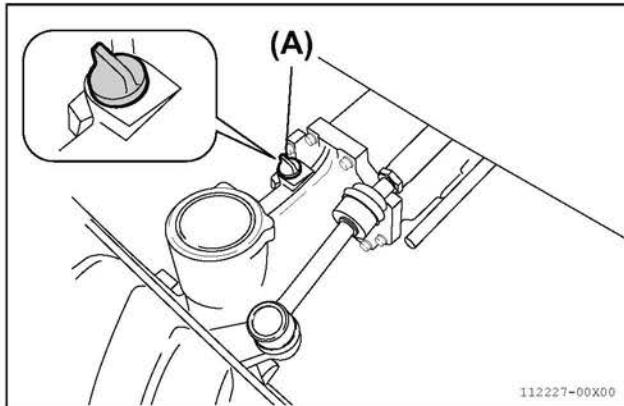
10. Every 300 Hours**■ Change the Front Axle Gear Oil****IMPORTANT**

- Always use SAE 90 gear oil for the front axle.

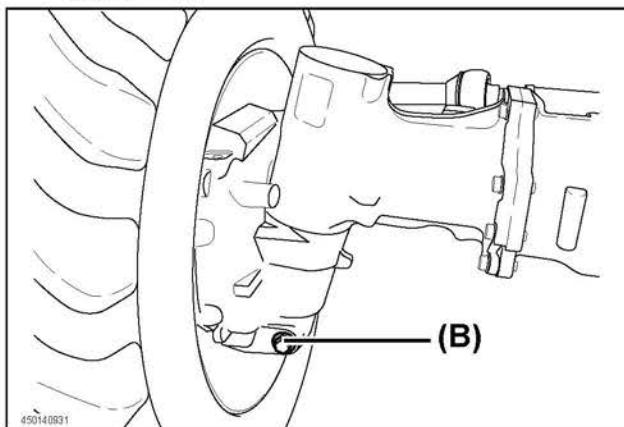
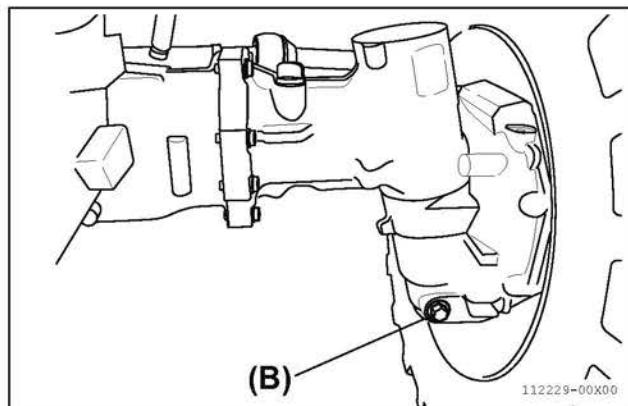
Front Axle Gear Oil

Capacity	Lubricant
Approximately 9.0 L	SAE 90 gear oil

1. Drive the tractor to warm up the front axle gear oil.
2. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
3. Shut off the engine.
4. Allow the engine to cool down for several minutes.
5. Remove the dipstick located on the right side of the front axle.
6. Place an oil pan underneath the drain plugs on both sides of front axle.
 - Remove the drain plugs.
 - Allow the front axle gear oil to drain completely.

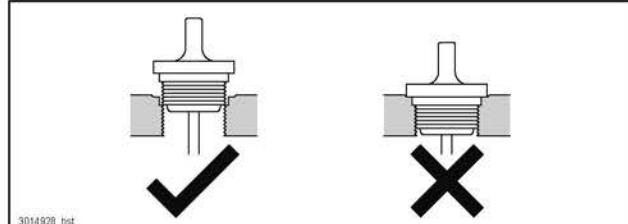


(A) Dipstick

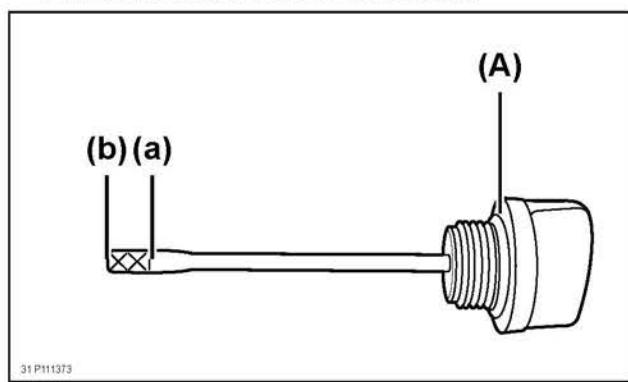
**13. PERIODIC SERVICE**

(B) Front axle oil drain plug

7. Once the front axle gear oil is completely drained:
 - Install and tighten all the drain plugs.
8. Pour approximately 9.0 L of SAE 90W gear oil through the fill hole.
9. Insert the dipstick to the fill hole.
10. Allow the front axle gear oil settle for at least 1 hour.
11. Remove the dipstick from the fill hole.
12. Use a clean rag to wipe the front axle gear oil from the dipstick.
13. Insert the dipstick into the fill hole without tightening.



14. Remove the dipstick again.
15. Check the front axle gear oil level on the dipstick.
16. The front axle gear oil level must be between the upper and lower marks on the dipstick.
Add front axle gear oil as necessary.



(A) Dipstick
(a) Upper mark
(b) Lower mark

17. Install and tighten the dipstick.
18. Operate the tractor for several hours.
19. Check the front axle gear oil level again.

IMPORTANT

Before checking the front axle gear oil level:

- Allow the front axle gear oil to settle for 1 hour.
- The preceding action allows accurate reading of the current front axle gear oil level on the dipstick.
- Recheck the front axle gear oil level after operating the tractor for several hours.

11. Every 400 Hours**■ Replace the Outer/Inner Air Cleaner Element**

For maintenance work, for details, see "Clean the Air Cleaner Element" on page 13-21.

12. Every 500 Hours**■ Adjust the Brake**

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Change the Alternator/Fan Belt

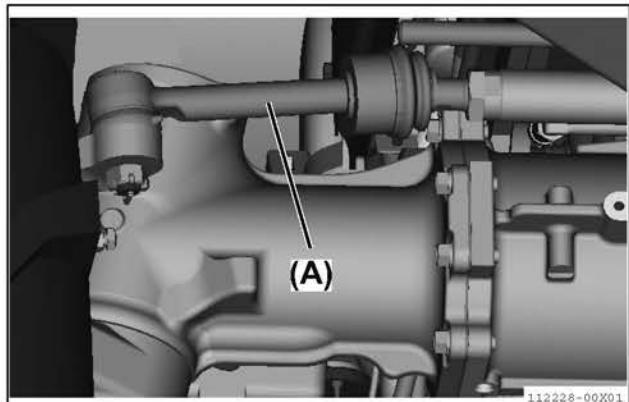
For maintenance work, For details, see "Service the Alternator/Fan Belt" on page 13-18.

■ Change the Tie Rod End

Replace the tie rod end assembly accordingly depending on the wear condition of the link ball.

After replacement, adjust the toe-in. For details, see "Inspect and Adjust the Toe-in" on page 13-23.

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.



(A) Tie Rod End Assembly

13. Every 600 Hours**■ Transmission Hydraulic Oil****IMPORTANT**

- Always use YANMAR TF500T for the transmission hydraulic oil.

Transmission

Capacity	Lubricant
Approximately 34 L	YANMAR TF500T

■ Change the Transmission Hydraulic Oil and Replace the Transmission Hydraulic Oil Filters**WARNING**

- Touching any hot surfaces can burn the skin.
- If the engine has been running for some time, the engine components, including all internal fluids are hot:
 - always allow the engine to cool down before performing maintenance or working near the engine and engine parts

IMPORTANT

- More frequent maintenance can be required under severe or abnormal conditions.
- Always keep the transmission hydraulic oil filler cap in place.
- Remove the transmission hydraulic oil filler cap only as necessary;
 - the preceding practice prevents the transmission hydraulic oil from becoming contaminated
 - a contaminated transmission hydraulic oil can cause damage to or failure of the transmission
- Avoid operating the tractor immediately after the transmission hydraulic oil is changed.
- After the transmission hydraulic oil is changed, run the engine at medium speed for a few minutes, to prevent damage to the transmission.

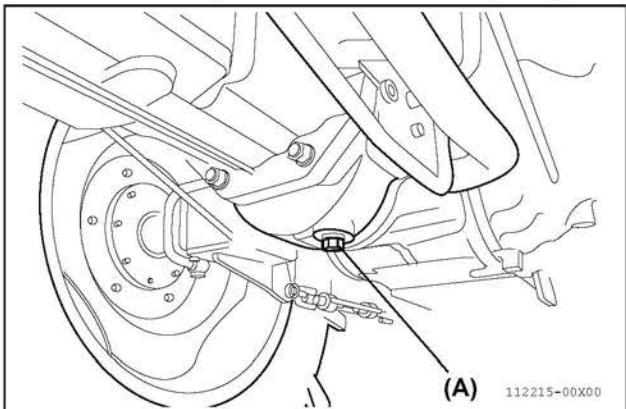
13. PERIODIC SERVICE

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Run the engine to warm up the transmission hydraulic oil.
3. Shut off the engine.
4. Allow the engine to cool down for several minutes.

IMPORTANT

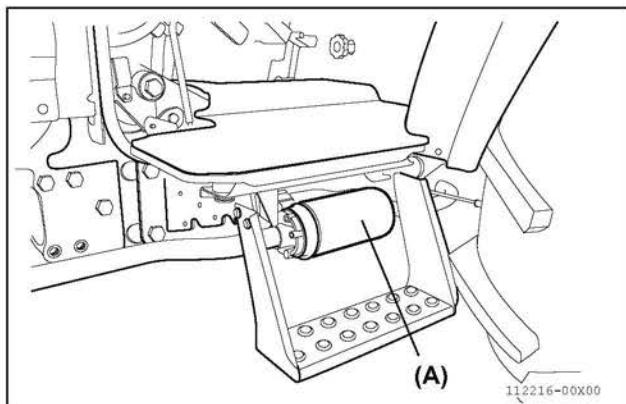
- Take the preceding information into consideration while draining the transmission hydraulic oil.

5. Place an oil pan underneath the transmission drain plug. Remove the drain plug and allow the transmission hydraulic oil to drain completely.



(A) Drain plug (transmission)

6. Install all the drain plugs.
Tighten accordingly.
7. Place an oil pan underneath the transmission hydraulic oil filter on the left side of the transmission.
8. Remove the transmission hydraulic oil filter by turning counterclockwise using a filter wrench.
9. Apply a small amount of clean transmission hydraulic oil into the gasket of the new transmission hydraulic oil filter.
10. Fill the transmission hydraulic oil filter with the designated type of transmission hydraulic oil to about 1/3 to 1/2 full.
11. Install the new transmission hydraulic oil filter by turning clockwise.
 - Continue turning until the gasket is seated against the transmission hydraulic oil filter base.
 - Turn the transmission hydraulic oil filter an additional of approximately 1/2 turn.



(A) Transmission hydraulic oil filter

IMPORTANT

To prevent dirt and other contaminants from entering the transmission:

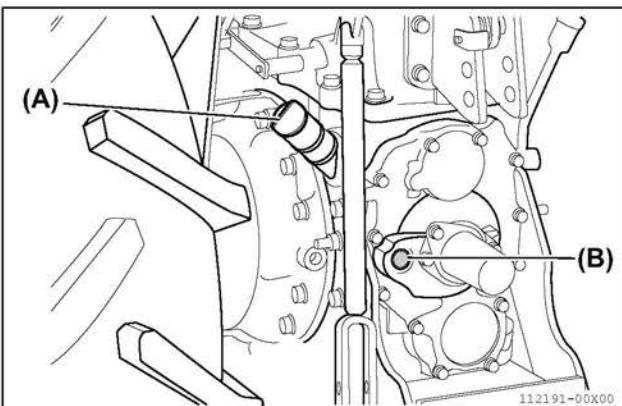
- Carefully clean the area around the transmission hydraulic oil filler cap prior to removal.
- Avoid overfilling the transmission.
- Oil expands during operation and can overflow.

12. Remove the transmission hydraulic oil filler cap.
13. Add approximately 34 L of transmission hydraulic oil through the transmission hydraulic oil filler opening.

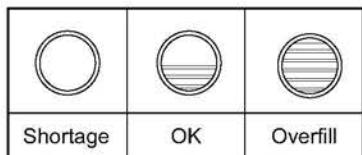
13. PERIODIC SERVICE

14. Install the transmission hydraulic oil filler cap.

- Start the engine.
- Check for leaks around the transmission hydraulic oil filter base and the drain plugs.
- Using the oil observing window, check the transmission hydraulic oil level is in the correct operating range. Add transmission hydraulic oil as necessary.



(A) Transmission hydraulic oil filler cap
(B) Oil observing window



076538-00EN00

14. Every 1000 Hours

■ Adjust the Tension of the Throttle Control Lever

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Adjust the Engine Valve Clearance

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

15. Every 1500 Hours

■ Check the Fuel Injection Pump

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

■ Check the Fuel Injection Nozzle

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

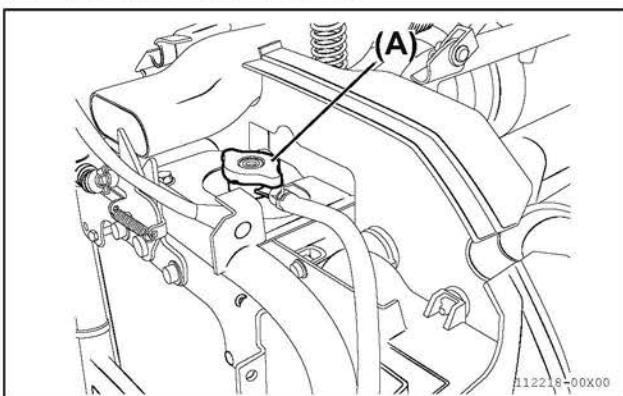
■ Inspect Crankcase Breather System

Contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

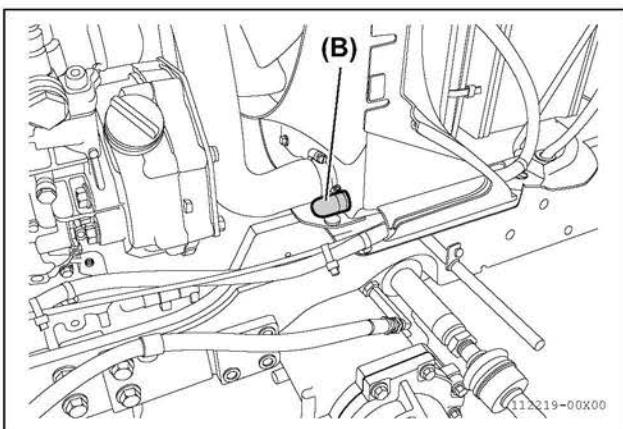
16. Every 2 Years or 2000 Hours**■ Service the Cooling System****⚠ WARNING****Avoid injury!**

- Always allow the radiator to cool down:
 - the radiator is hot and can cause burns
 - the build up pressure in the cooling system can cause the coolant to spray out explosively during removal of the radiator cap
- Always shut off the engine.
- Allow the engine to cool down.
- Remove the radiator cap only when:
 - the radiator and the engine are sufficiently cooled down that can be touched with bare hands
- When removing the radiator cap, always:
 - loosen the radiator cap to the first stop
 - the preceding action releases excessive pressure on the radiator
 - fully remove the radiator cap once the pressure has been released completely
- For tractors equipped with a coolant reserve tank:
 - add coolant or water to reserve tank, not to the radiator, for details, see "Check the Cooling System" on page 13-13

9. Install the radiator drain cap.



(A) Radiator cap



(B) Radiator drain cap

1. Drain the Cooling System

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Remove the radiator cap to speed up the draining of the coolant.
 - Loosen the radiator cap to the first stop.
 - the preceding action releases excessive pressure on the radiator
 - Fully remove the radiator cap once the pressure has been released completely.
6. Place a drain pan underneath the radiator drain cap.
7. Remove the radiator drain cap.
8. Drain the coolant.

2. Fill the Cooling System

IMPORTANT

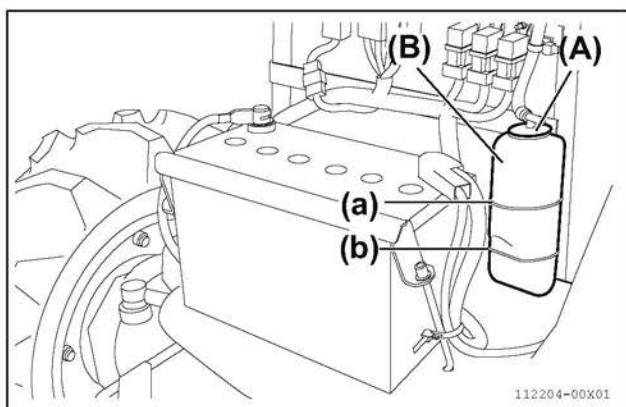
- Use correct coolant mixture to prevent damage to the cooling system.
- Avoid operating the engine with plain water in the cooling system.
- Always use a pre-diluted coolant, with an antifreeze water mixture ratio that suits the local climate.
- Allow the engine to cool down first before pouring the coolant.

NOTE

When adding coolant to the cooling system:

- Use of High Quality Permanent Type Antifreeze (Ethylene Glycol with corrosion and rust inhibitor chemicals) is recommended.
- For the correct mixture ratio, read the manufacturer's direction on the coolant container.

1. Allow the radiator to cool down.
2. Fill the cooling system with approximately 6.0 L (YM351R), 7.7 L (YM358R) of pre-diluted coolant.
3. Install and tighten the radiator cap.
4. Start and run the engine until the operating temperature is reached.
5. Shut off the engine.
6. Add coolant as necessary.
7. Lower the hood.

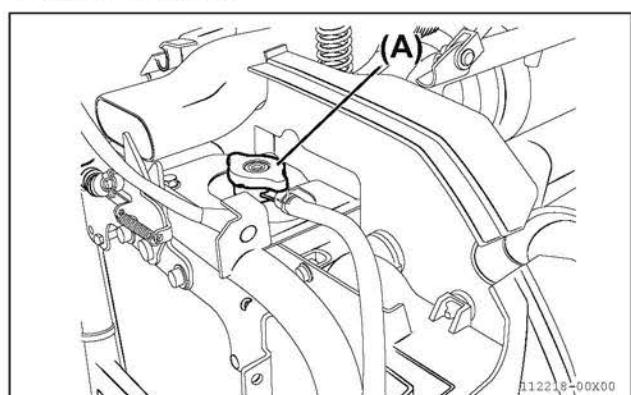


(A) Reserve tank cap

(B) Reserve tank

(a) FULL line

(b) LOW line



(A) Radiator cap

17. General Maintenance

WARNING

Avoid injury!

- The rubber product/s has/have a deteriorative character. The deteriorated rubber product/s may cause defects and damages such as fluid leakage, loss control of the tractor during operation, fire, burn injury.

NOTE

- Replace the air cleaner element at least once a year.
- Replace the coolant once every 2 years or 2000 hours.
- Replace the radiator hoses at least once every 2 years.
- Replace the fuel hoses at least once every 2 years.
- Replace the air intake hose at least once every 2 years.
- Replace the power steering hoses at least once every 2 years.

14. SERVICE THE ELECTRICAL SYSTEM

⚠ WARNING

Avoid injury:

- Read "Chapter 1. SAFETY PRECAUTIONS".
- Read the DANGER, WARNING AND CAUTION statements on the safety alert decals on the tractor.
- To prevent poisoning from engine exhaust fumes, always operate the engine in a well ventilated area.
- Always remain seated on the operator seat.
- Avoid bystander/s near the tractor.
- Before starting the engine, always move the following levers to the N (neutral) position:
 - main shift lever
 - range shift lever
 - reverser lever
- Press the Power Take Off (PTO) switch to OFF position.

1. Battery

⚠ WARNING

- After handling the battery electrolyte, wash the hands thoroughly.

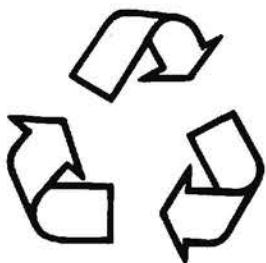
■ Service the Battery Safely

⚠ WARNING

Avoid injury:

- The battery electrolyte contains sulfuric acid that is poisonous and can cause serious burns.
- Wear protective goggles and gloves.
- Avoid getting the skin in contact with the battery electrolyte.
- If the battery electrolyte comes into contact with the skin:
 - immediately flush with plenty of water
 - seek medical attention as necessary
- If electrolyte is accidentally swallowed, immediately seek medical attention.
- If the electrolyte gets in the eyes:
 - immediately flush with running water for 15-30 minutes
 - seek medical attention
- Battery can emit flammable/explosive gasses.
- Use extreme caution when handling batteries.
- Keep cigarette and other flames far away from the battery.
- Avoid placing any metal piece across the battery posts.
- Disconnect the negative (-) battery terminal first during removal of batteries.
- Connect the positive (+) battery terminal first during installation of batteries.

NOTICE



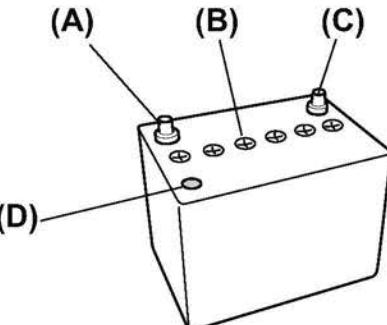
- Always observe environment protection laws.
- Dispose of (possibly) hazardous materials in accordance with the guidelines of the relevant governmental bodies.
- The hazardous materials in the tractor include:
 - engine oil
 - diesel fuel
 - transmission hydraulic oil
 - battery
 - coolant
 - front axle gear oil
- Exercise good judgment in deciding what is and what is not hazardous.
- Dispose hazardous materials only in waste disposal facilities designated by local authorities.
- Never dispose the hazardous wastes in inappropriate locations, e.g., sewer, ground, groundwater, waterways.
- Failure to follow these instructions can adversely impact the environment and can be unlawful.

■ Check a Battery

Although the battery is a maintenance free one, it is possible to refill it.

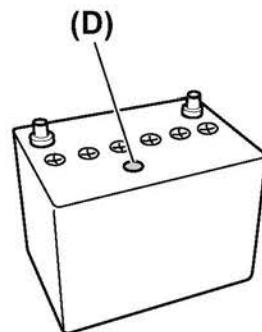
1. Open the hood/bonnet.
2. Can check the condition of the electrolyte solution/liquid from INDICATOR.

(YM351R)



112165-00X00

(YM358R)



112165-00X01

- (A) (-) Terminal
- (B) Filler Well Cap (With vent plug)
- (C) (+) Terminal
- (D) INDICATOR

*INDICATOR positions for the battery for YM351R and YM358R are located differently.

IMPORTANT

- Do not block the ventilation hole
 - If the ventilation hole is blocked, due to the gas formation inside of the battery, the internal pressure of the battery is increased.
 - It will cause the breakage.

<Description: INDICATOR display>

When checking the color of INDICATOR,

- Make sure to see it on the condition that the tractor is in a horizontal state
- Check them from straight above.

INDICATOR COLOR	CHARGING CONDITION	NECESSARY ACTION
	Normal	Usable
	Electric discharged.	The auxiliary charge is necessary.
	Electrolyte solution/fluid is decreased.	Electrolyte solution/fluid is not enough. Refill the electrolyte solution/fluid.

When INDICATOR shows "Electrolyte solution/fluid is decreased," It indicates the condition that the electrolyte solution/fluid is decreased. After refilling the electrolyte solution/ fluid, do auxiliary charge.

■ How to Do the Auxiliary Charging

Do the auxiliary charging for the following conditions

- The color of INDICATOR shows "Electric discharged" condition.
- Difficult to start Engine
- The engine cannot start with the Starter, because of natural discharge.
- The light comes to be darker.

1. Remove the battery.
2. Connects the battery terminal (+) with the (+) cable from the charger. Connects the battery terminal (-) with the (-) cable from the charge.
3. Charges the battery in approx 5A for 8-10 hours. The rough sign of the auxiliary charging completion is the time to have confirmed that the color of INDICATOR shows the "Normal."

*The recharge time is varied according to the state-of-discharge.

IMPORTANT

- The repeated quick recharge degrades the performance of the battery. Do normal recharge, except in case of emergency.
- When installing the battery, wipe out oily dust and so on from the battery terminal. After installation, apply the grease to the battery terminal.
- Make sure to install Rubber boot to the battery terminal.

■ How to Check Electrolyte Solution/ Fluid Level and Refill Electrolyte Solution/Fluid

1. Peels off the caution label gently on the upper side of the battery.
2. After removing the refill well caps, check the electrolyte solution/fluid level from the right overhead,

Filler Well Cap Condition	 <small>112172-00X00</small>
	If the existing fluid level reaches the lower edge of the sleeve, the plates are seen as they look bent, because of the surface tension embossment.
	The existing fluid level does not reach the lower edge of the sleeve, the plates are seen as they are straight, instead of being seen as they look bent. Fill up the fluid to the lower edge of the sleeve.

(A) How the fluid is seen

(B) Sleeve

3. If the cell does not have enough electrolyte solution/ fluid, refill the cell with distilled water to the lower edge of the sleeve.
*Do not overfill upper than the lower edge of the sleeve.
*Refill it on each cell, six cells individually.
4. When the refilling is completed, install all the refill well caps.
5. Affix Caution label as before.

IMPORTANT

- Do not overfill in each cell. If overfilled, the liquid is blown out when charging. It also corrodes the metal parts of the tractor.
- If the fluid is not enough and the plates are exposed to the air, the battery deterioration would be accelerated. Refill the distilled water to the regulated amount into the cell which Battery fluid is not enough.
- When changing the battery, make sure to use Yanmar's designed battery. If using the battery other than Yanmar's designed battery, the starting performance may become poorer.
- Hand over the old replaced battery to the shop which a new battery is purchased. Do not leave or discard the old replaced battery. It will be used as a recycled resource.

■ The Life of a Battery

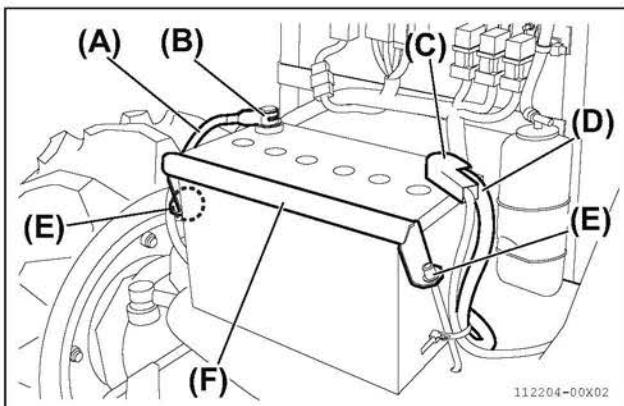
While in use, the capacity of a battery is gradually lowered. Finally, it shows the symptom "Engine cannot start with the starter." When this symptom appears, check INDICATOR at first.

- When the Indicator shows "Electric discharged," do the auxiliary charging. After the battery is fully charged, do re-check it.
- When INDICATOR shows "Electric discharged," do the auxiliary charging. After the battery is fully charged, do re-check it.
- After charged, even if the color of INDICATOR shows "Normal," Engine cannot start. The life of the battery is ended. Replace a battery.

NOTE

- INDICATOR checks the battery condition with the electrolyte specific gravity. Even if Engine cannot start in the color of "Normal," it can be determined that the battery life is ended because of some problem inside of the battery.

Tractor Model	Battery Size	Code No.
YM351R	75D26R	1A8253-51500
YM358R	115D31R	1A8294-51550

■ Remove and Install the Battery

(A) Negative (-) cable
 (B) Negative (-) terminal
 (C) Positive (+) terminal red cover
 (D) Positive (+) cable
 (E) Threaded rods
 (F) Bracket

1. Remove the Battery

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Disconnect the negative (-) battery terminal.
6. Pull up the positive (+) terminal red cover.
7. Disconnect the positive (+) battery terminal.
8. Remove the nuts, washer faced nuts, the threaded rods and the bracket.
9. Remove the battery.

2. Install the Battery

1. Install the battery onto the tractor.
2. Check that the battery is properly seated against the backstop.
3. Position the threaded rods and the bracket on each side of the battery.
4. Tighten the washer faced nuts and the nuts on each threaded rods.
5. Avoid over tightening the washer faced nuts and the nuts.
6. Connect the positive (+) battery terminal.
7. Connect the negative (-) battery terminal.
8. Push down the positive (+) terminal red cover.
 - Make sure that the positive (+) battery terminal is covered completely.
9. Lower the hood.

■ Clean the Battery and Terminals

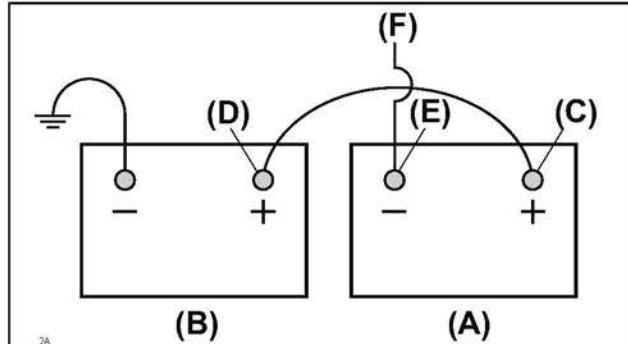
1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Remove the battery.
 - For details, see "1. Remove the Battery" on page 14-4.
6. Dissolve four tablespoons of baking soda in 3.8 L of water to prepare a solution.
 - Use the solution to wash the battery.
 - Be very careful to prevent the solution to enter the battery cells.
7. Rinse the battery with water and allow to dry.
8. Clean the terminals and battery cable ends with a wire brush to remove corrosion.
9. Apply petroleum jelly or silicon spray to the battery terminals to protect against corrosion.
10. Install the battery.
 - For details, see "2. Install the Battery" on page 14-5.

■ Use a Booster Battery

WARNING

Avoid injury!

- Never attempt to jump start a frozen battery.
- Warm the battery to 16 °C first.
- Never connect the negative (-) booster cable to the negative (-) battery terminal of the discharged battery.
- Connect the negative (-) booster cable to an appropriate grounding point other than the discharged battery.
- The battery may emit flammable gases.
- Gases explodes, as the gas gets in contact with spark or open flame.
- Do not smoke or have an open flame near the battery.



(A) Booster battery

(B) Battery on a disabled tractor

(C) Positive (+) post of booster battery

(D) Positive (+) battery terminal on a disabled tractor

(E) Negative (-) post of booster battery

(F) Other end of negative (-) booster cable

14. SERVICE THE ELECTRICAL SYSTEM

1. Park the abled tractor close enough besides the disabled tractor.
 2. Raise the hood of the disabled and abled tractors.
 3. Connect one end of the positive (+) booster cable to the positive (+) post of booster battery.
 4. Connect the other end of positive (+) booster cable to the positive (+) battery terminal on the disabled tractor.
 5. Connect one end of the negative (-) booster cable to the negative (-) post of booster battery.
 6. Connect the other end of the negative (-) booster cable to the engine block of the disabled tractor.
 7. Start the engine of the abled tractor.
 8. Start the engine of the disabled tractor.
 9. Run the engine of both disabled and abled tractors for several minutes.
 10. Check the alternator/battery charging light of the disabled tractor.

IMPORTANT

- If alternator/battery charging light illuminates:
 - shut off the engine of the disabled tractor
 - contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance

11. Carefully disconnect the booster cables:
 - Perform the disconnection of the booster cables from the abled and disabled tractors by doing the reverse of the preceding procedure.
 - Make sure to disconnect the negative (-) booster cable first before the positive (+) booster cable.
 12. Keep running the engine of the disabled tractor for not less than 10 min.

2. Fuses

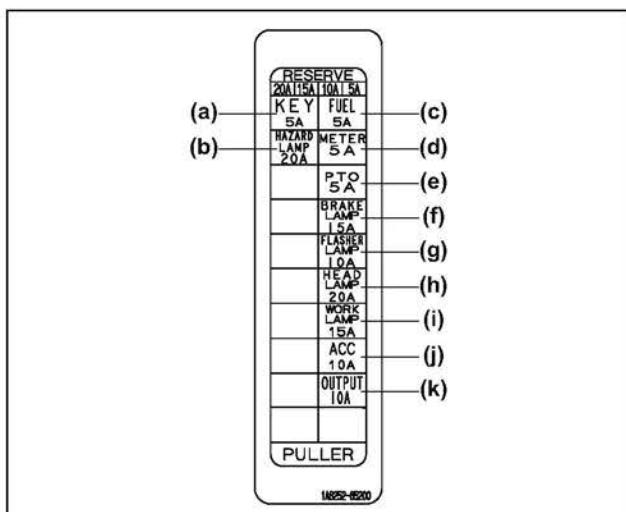
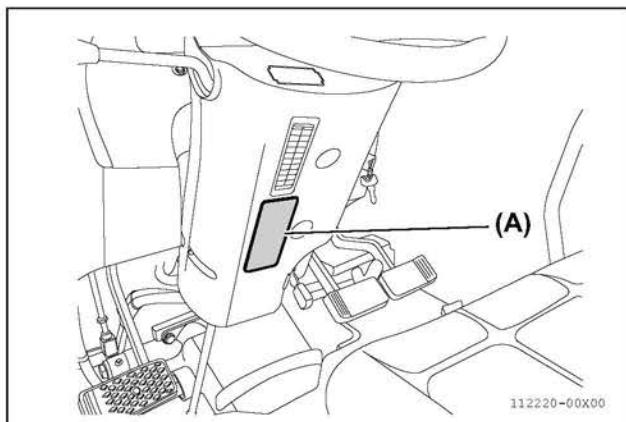
IMPORTANT

- Use of a fuse other than a correctly rated one can damage the electrical system.
 - Replace blown fuse with a new fuse of the same ampere rating only after fixing the problem.

■ Replace the Accessory Fuses

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
 2. Shut off the engine.
 3. Allow the engine to cool down for several minutes.
 4. Remove the rubber plate.
 5. Locate the fuses, refer to the illustration shown

6. Remove the blown fuse from its socket.
 7. Check and fix the problem of the blown fuse.
 8. Insert the new fuse into the socket.
 9. Install the fuse holder cover.
 10. Lower the hood.



(A) Fuse holder cover

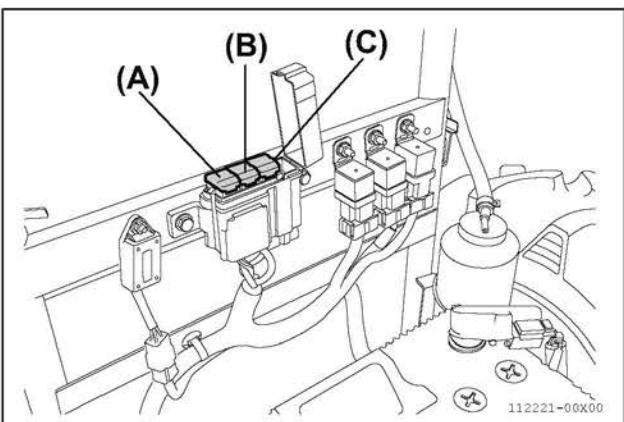
- (a) KEY: 5A
 - (b) HAZARD LAMP: 20A
 - (c) FUEL: 5A
 - (d) METER: 5A
 - (e) PTO: 5A
 - (f) BRAKE LAMP: 15A
 - (g) FLASHER LAMP: 10A
 - (h) HEAD LAMP: 20A
 - (i) WORK LAMP: 15A
 - (j) ACC: 10A
 - (k) OUTPUT: 10A

■ Check the Alternator Fuse and the Main Fuse

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Raise the hood.
5. Locate the fuses, refer to the illustration shown.
6. Check the fuses.

IMPORTANT

- The alternator fuse, fuel cut solenoid fuse and the main fuse are slow blow type.
- When any of the fuses is blown, contact YOUR LOCAL YANMAR TRACTOR DEALER.



(A) Main fuse: 60A
 (B) Charge/Starter: 60A
 (C) Fuel cut solenoid: 50A

3. Bulb

IMPORTANT

- Replace blown bulbs with new Yanmar genuine spare bulb only.

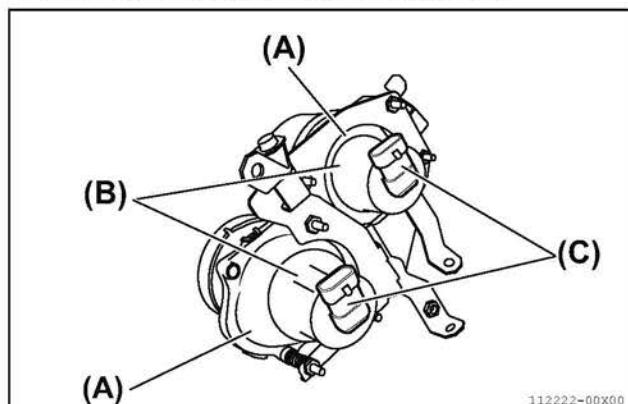
■ Replace the Headlights Bulb

IMPORTANT

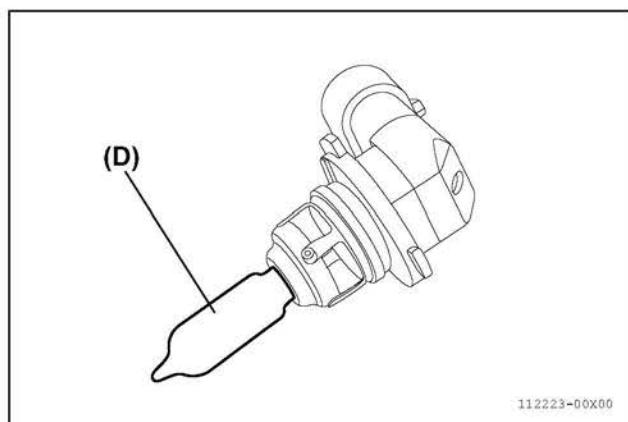
- Keep bare fingers away from the headlights bulb.
- While inspecting or replacing the headlights bulb, use gloves or a piece of cloth to handle the headlights bulb.

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.

3. Allow the engine to cool down for several minutes.
4. Remove the key.
5. Raise the hood.
6. Disconnect the wire harness connector.
7. Remove Head Light Lamp from the retaining ring after turning Head Light Lamp to either right or left with 45 degrees.
8. Pull out Head Light Bulb from the boot.



112222-00X00



112223-00X00

(A) Retaining ring
 (B) Boot
 (C) Connector
 (D) Headlights bulb

WARNING

- The halogen light bulb contains compressed gas. If the glass has been scratched or dropped, the bulb may shatter. Wear protective goggles and handle the bulb carefully when replacing halogen light bulb.

9. Screw a new Head Light Bulb to the boot and turn it to either right or left to fix it with the retaining ring.
10. Connect the wire harness connector to the headlights bulb.
11. Turn the starter key switch to ON position.
12. Turn on headlights switch.

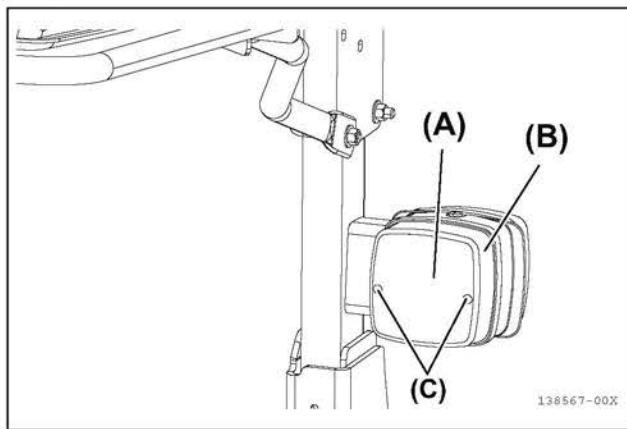
14. SERVICE THE ELECTRICAL SYSTEM

13. Make sure the headlight bulbs are functioning.
14. Lower the hood.

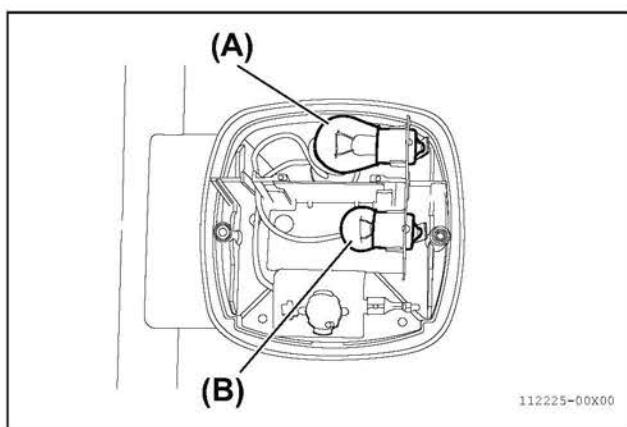
■ Replace the Position Lights Bulb, Turn Signal/Hazard Lights Bulb, Tail Lights Bulb

1. Park the tractor safely and securely.
 - For details, see "7. Safe Practices for Parking the Tractor" on page 1-7.
2. Shut off the engine.
3. Allow the engine to cool down for several minutes.
4. Remove the key.
5. Remove the two screws and lens from the lights housing.
6. Pull out "Blow-out" Light Bulb from the socket.

Body Front Side

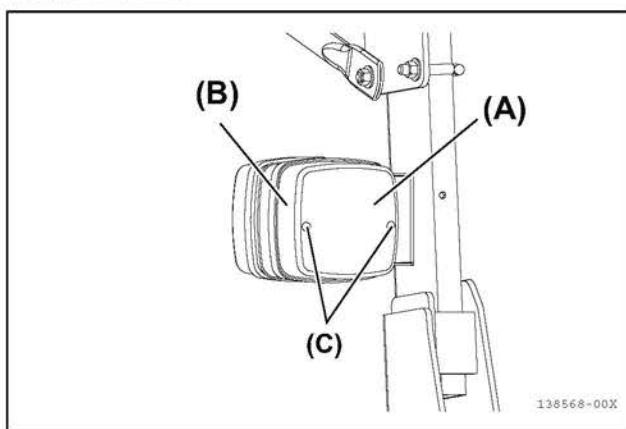


(A) Lens
(B) Front combination lamp housing
(C) Screw

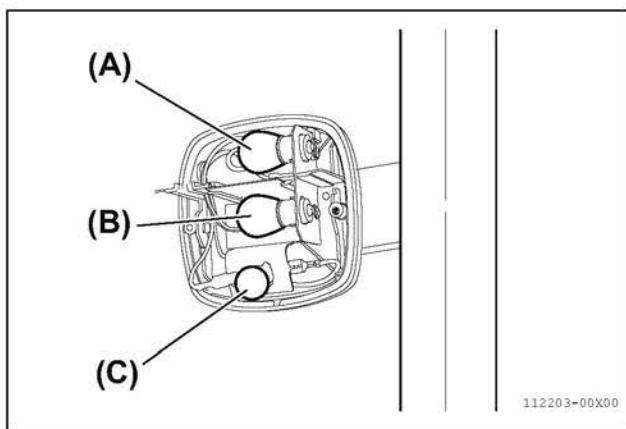


(A) Turn Signal/Hazard Lights Bulb
(B) Position Lights Bulb

Body Rear Side



(A) Lens
(B) Rear combination lamp housing
(C) Screw



(A) Turn Signal/Hazard Lights Bulb
(B) Stop Lights Bulb
(C) Tail Lights Bulb

7. Push a new Light Bulb to the socket to install it.
8. Turn the starter key switch to ON position.
9. Turn on light switch.
10. Make sure the replaced lights bulbs are functioning.
11. Install the lens and screws.

15. STORAGE

1. Safe Practices for Storage

! WARNING

- Remember that vapor from diesel fuel is explosive and flammable.
- The exhaust from the engine contains carbon monoxide that can lead to carbon monoxide poisoning, possibly causing serious illness or even death. To avoid the danger of poisoning from the exhaust gas, never run the engine in a closed area that is not correctly ventilated.
- Never wash the tractor while the engine is running.
- Run the engine as short as possible when moving the tractor to and from the place of storage.
- If the fuel tank is filled with fuel, never store the tractor in an area where fuel vapor can come into contact with open flame or spark.
- Before storing the tractor indoor, allow the engine to cool off.

10. Run the tractor for 5 minutes to dry the alternator/fan belt and pulleys.
11. Apply a light coat of clean engine oil to pivots and wear points to prevent rusting.
12. Lubricate the grease fittings.
13. Completely remove the liquid weights from the rear tires.
14. Check the tire air pressure. Adjust the tire air pressure slightly higher than specified.
15. Lower any implement to the ground.
16. Apply grease to the exposed areas on the hydraulic cylinder piston rods.

2. Prepare the Fuel and Engine for Storage

■ Fuel

1. If conventional fuel was used:
 - Fully fill the fuel tank with stabilized fuel.

NOTE

- Conventional fuel means it does not include biodiesel.
- Fill the fuel tank.
- The preceding action:
 - decreases the amount of air remaining in the fuel tank
 - prevent deterioration of the fuel in the fuel tank

2. If biodiesel was used.

- Park the tractor safely and securely in a well ventilated place.

NOTE

- Use up all the fuel in the fuel tank when the tractor is operated for the last time in the current season.

3. Run the engine until all the fuel in the fuel tank is used up, and the engine has to be run for 30 minutes with conventional diesel fuel.
 - For details about biodiesel, see "2. Oil and Grease" on page 12-4.
4. Turn the starter key switch to the OFF position.

1. Prepare the Tractor for Storage

- If the tractor is to be stored for an extended period, follow the procedure described below.
- The objective of the procedure is to ensure that the tractor is ready for operation when needed again.

1. Repair any worn out or damaged parts.
2. Replace parts as necessary.
3. Tighten any loose bolts and nuts.
4. Repair scratched or chipped metal surfaces to prevent rusting.
5. Remove grass clippings and debris from the tractor.
6. Clean below the platform.
7. Remove grass clippings and debris from inside the chute and bagger.
8. Remove all attached weight and ballast from the tractor.
9. Wash the tractor and apply wax to the metal and plastic surfaces.

IMPORTANT

- In degraded fuel:
 - varnish may be created
 - may clog the fuel injector components
 - adversely affect engine performance
- Drain out all the degraded fuel completely.

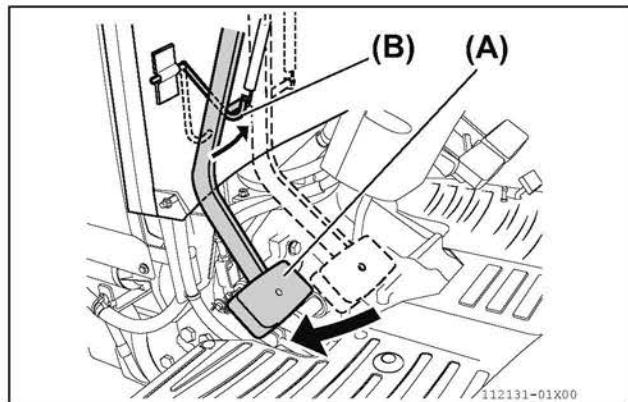
■ Engine

If the tractor is to be stored for longer than 60 days, prepare the engine for storage.

1. Remove dust and debris from the engine air intake screen.
2. Clean the engine and engine compartment.
3. Remove the battery.
4. Clean the battery and battery posts.
5. Check the electrolyte level.
6. Turn the fuel shut-off valve to OFF (closed) position.
7. Store the battery in a cool, dry, dark place.
 - The temperature of the place must not become low enough to freeze the electrolyte in battery.
8. Store the tractor in a dry and safe place.
9. If the tractor is stored outdoors, protect the tractor with a waterproof cover.
10. Jack up the tractor and place blocks under the front and rear axles to lift the tires off the ground.
11. Do not expose the tires to direct sunlight or extremely high temperature.

■ Clutch

Keeps the clutch depressed to prevent the clutch from a rusty clinging with the flywheel. Depresses the clutch pedal and lock the clutch pedal with the lock-pin to keep the space between the flywheel and the clutch.



(A) Clutch pedal

(B) Lock pin

IMPORTANT

- Always disengage the clutch before storing the tractor.
- If the clutch is engaged for a long period:
 - the clutch plate may develop rust
 - the preceding state can be the cause of the clutch becoming inoperable (cannot be engaged) when the tractor is operated the next time

2. Prepare the Stored Tractor for Operation

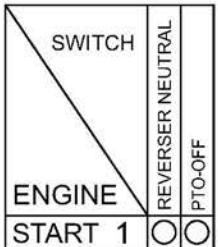
1. Check the tire air pressure. As necessary, refill with compressed air.
2. Check the levels of engine oil, transmission hydraulic oil and coolant.
3. Check the battery electrolyte level.
4. Make sure the battery has required voltage (12V).
5. Install the battery.
6. Check the alternator/fan belt tension.
7. Lubricate all the grease fittings.
8. Turn the fuel shut-off valve to ON (open) position.
9. Run the engine for 5 minutes to allow the oil to be fully distributed throughout the entire engine.
10. After stopping the engine, walk around the tractor and check for any evidence of oil or other leakage.
11. Make sure all the shields, guards or deflectors are in place.

16. TROUBLESHOOTING

1. How to Use the Troubleshooting Table

The troubleshooting table given below is quick reference for solving common problems. If any fault, failure or a problem requiring repair work is found, contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

1. Engine

The problem is:	The possible cause(s) are:	Remedy:
The engine is hard to start or does not start at all	1. A problem in the electrical	<p>1. Electrical system</p> <ul style="list-style-type: none"> • Check whether the battery is fully charged. <ul style="list-style-type: none"> • charge the battery • Check whether the fuse/s is/are blown. <ul style="list-style-type: none"> • replace the blown fuse/s • Check for loose or corroded the battery terminals and battery cables. <ul style="list-style-type: none"> • tighten the loose battery terminals • clean the corroded battery terminals and battery cables • Check whether the start relay is faulty. <ul style="list-style-type: none"> • replace start relay • Check whether the starter key switch is faulty. <ul style="list-style-type: none"> • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the starter is faulty. <ul style="list-style-type: none"> • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the glow plug/air heater are faulty. <ul style="list-style-type: none"> • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the interface combination functions correctly.  <ul style="list-style-type: none"> • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
	2. A problem in the fuel	<p>2. Fuel system</p> <ul style="list-style-type: none"> • Check whether the fuel shut-off valve is OFF (closed) position. • turn the fuel shut-off valve to ON (open) position • Check whether the fuel level is sufficient. • add specified fuel • Check whether the specification of the fuel used is correct. • use the correct fuel specification • Check whether there is water in the sediment bowl. • remove the water and clean the sediment bowl • Check whether the fuel filter is clogged. • replace the fuel filter • Check whether air is present in the fuel system. • bleed air from the fuel system • Check whether there is leak or bent in the fuel line. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel nozzles are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	3. A problem in the cooling	<p>3. Cooling system</p> <ul style="list-style-type: none"> • Check whether the air intake system is clogged. • clean the air intake system
	4. A problem in the lubrication	<p>4. Lubrication system</p> <ul style="list-style-type: none"> • Check whether the engine oil viscosity is high. • replace engine oil with the specified viscosity • Check whether the crankcase ventilation tube is clogged. • clean the crankcase ventilation tube
	5. A problem in the engine mechanical	<p>5. Engine mechanical system</p> <ul style="list-style-type: none"> • Check whether the engine idle speed is too low. • adjust engine idle speed • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
The engine runs roughly or stalls frequently	<p>1. A problem in the electrical</p>	<p>1. Electrical system</p> <ul style="list-style-type: none"> • Check whether the battery is fully charged. • charge the battery • Check for loose or corroded the battery terminals and battery cables. • tighten the loose battery terminals • clean the corroded battery terminals and battery cables
	<p>2. A problem in the fuel</p>	<p>2. Fuel system</p> <ul style="list-style-type: none"> • Check whether the fuel level is sufficient. • add specified fuel • Check whether the used fuel specification is correct. • use correct fuel specification • Check whether there is water in the sediment bowl. • remove the water and clean the sediment bowl • Check whether the fuel filter is clogged. • replace the fuel filter • Check whether air is present in the fuel system. • bleed air from the fuel system • Check whether there is leak or bent in the fuel line. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	<p>3. A problem in the cooling</p>	<p>3. Cooling system</p> <ul style="list-style-type: none"> • Check whether the air intake system is clogged. • clean the air intake system • Check whether coolant temperature is too low. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	<p>4. A problem in the engine mechanical</p>	<p>4. Engine mechanical system</p> <ul style="list-style-type: none"> • Check whether the engine idle speed is too low. • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
The engine has no power	1. A problem in the fuel 2. A problem in the cooling 3. A problem in the lubrication 4. A problem in the engine mechanical	1. Fuel system <ul style="list-style-type: none"> • Check whether the specification of the fuel used is correct. • use correct fuel specification • Check whether there is water in the sediment bowl. • remove the water and clean the sediment bowl • Check whether the fuel filter is clogged. • replace the fuel filter • Check whether air is present in the fuel system. • bleed air from the fuel system • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel nozzles are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER 2. Cooling system <ul style="list-style-type: none"> • Check whether the air intake for radiator is clogged. • clean the air intake for radiator • Check whether the engine is overheating. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the coolant temperature is too low. • contact YOUR LOCAL YANMAR TRACTOR DEALER 3. Lubrication system <ul style="list-style-type: none"> • Check whether the engine oil viscosity is high. • replace engine oil with the specified viscosity • Check for a clogged in the crankcase ventilation tube. • contact YOUR LOCAL YANMAR TRACTOR DEALER 4. Engine mechanical system <ul style="list-style-type: none"> • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
The engine has overheated	1. A problem in the cooling	<p>1. Cooling system</p> <ul style="list-style-type: none"> • Check whether the air intake system is clogged. • clean the air intake system • Check whether the coolant level is low. • add coolant • Check whether the grille, radiator screen or radiator cooling fins are dirty. • clean the radiator grille, radiator screen and radiator fins • Check whether the cooling system needs flushing. • flush the cooling system • Check whether radiator cap and thermostat is/are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the engine mechanical	<p>2. Engine mechanical system</p> <ul style="list-style-type: none"> • Check whether the alternator/fan belt is loose or faulty. • adjust or replace the alternator/fan belt
There is a knocking sound coming from the engine	1. A problem in the fuel	<p>1. Fuel system</p> <ul style="list-style-type: none"> • Check whether the specification of the fuel used is correct. • use correct fuel specification • Check whether there is water in the sediment bowl. • remove the water and clean the sediment bowl • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel nozzles are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the cooling	<p>2. Cooling system</p> <ul style="list-style-type: none"> • Check whether the coolant temperature is too low. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the engine is overheating. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	3. A problem in the lubrication	<p>3. Lubricant system</p> <ul style="list-style-type: none"> • Check whether the engine oil level is low. • add engine oil • Check whether the engine oil viscosity is low. • replace engine oil with the specified viscosity
	4. A problem in the engine mechanical	<p>4. Engine mechanical system</p> <ul style="list-style-type: none"> • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
The engine is consuming a lot of fuel	1. A problem in the fuel	1. Fuel system • Check whether the specification of the fuel used is correct. • use correct fuel specification • Check whether the fuel system has a leak. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel nozzles are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the cooling	2. Cooling system • Check whether the air intake for radiator is clogged. • clean the air intake for radiator
	3. A problem in the lubrication	3. Lubricant system • Check whether the engine oil viscosity is high. • replace engine oil with the specified viscosity
	4. A problem in the engine mechanical	4. Engine mechanical system • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER
The oil pressure is low	1. A problem in the lubrication	1. Lubrication system • Check whether the engine oil level is low. • add engine oil • Check whether the engine oil viscosity is high. • replace engine oil with the specified viscosity
The engine is consuming a lot of engine oil	1. A problem in the lubrication	1. Lubrication system • Check whether there is/are oil leak/s. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the engine mechanical	2. Engine mechanical system • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
There is white smoke coming from the engine	1. A problem in the fuel	1. Fuel system • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the cooling	2. Cooling system • Check whether the coolant temperature is too low. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	3. A problem in the lubrication	3. Lubrication system • Check whether the engine oil level is over filled. • drain the engine oil to the specified level
	4. A problem in the engine mechanical	4. Engine mechanical system • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the pistons ring is worn out. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the compression pressure is too low. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the cylinder liner is damage. • contact YOUR LOCAL YANMAR TRACTOR DEALER

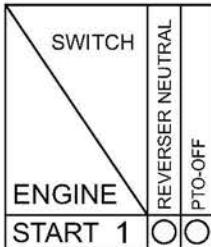
16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
There is black smoke coming from the engine	1. A problem in the fuel	1. Fuel system • Check whether the specification of the fuel used is correct. • use correct fuel specification • Check whether the air filter is clogged. • replace the air filter • Check whether there is water in the sediment bowl. • remove the water and clean the sediment bowl • Check whether the fuel nozzles are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the fuel injection pump is out of timing. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the cooling	2. Cooling system • Check whether the air intake system is clogged. • clean the air intake system
	3. A problem in the lubrication	3. Lubrication system • Check whether the engine oil level is correct. • drain the engine oil to the specified level
	4. A problem in the engine mechanical	4. Engine mechanical system • Check whether the valve clearance is correct. • contact YOUR LOCAL YANMAR TRACTOR DEALER

2. Electrical System

The problem is:	The possible cause(s) are:	Remedy:
The alternator/battery charging light remains illuminated even though the engine is running	1. A problem in the charging system	1. Charging systems • Check whether the alternator/fan belt is loose or faulty. • adjust or replace the alternator/fan belt • Check whether the fuse/s is/are blown. • replace the blown fuses • Check whether the alternator is faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the battery	2. Battery • Check whether the battery is faulty. • replace the battery
	3. A problem in the engine mechanical	3. Engine mechanical system • Check whether the engine idle speed is too low. • adjust engine idle speed

16. TROUBLESHOOTING

The problem is:	The possible cause(s) are:	Remedy:
The starter does not turn	<p>1. A problem in the starter</p> <p>2. A problem in the battery</p> <p>3. A problem in the electrical</p>	<p>1. Starter</p> <ul style="list-style-type: none"> • Check whether the fuse/s is/are blown. • replace the blown fuse/s • Check whether the starter key switch or the starter is/are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER <p>2. Battery</p> <ul style="list-style-type: none"> • Check for loose or corroded the battery terminals and battery cables. • tighten the loose battery terminals • clean the corroded battery terminals and battery cables • Check whether the battery is faulty. • replace the battery <p>3. Electrical system</p> <ul style="list-style-type: none"> • Check whether the interface combination functions correctly.  <p>• contact YOUR LOCAL YANMAR TRACTOR DEALER</p>
The starter turns too slowly	<p>1. A problem in the starter</p> <p>2. A problem in the battery</p> <p>3. A problem in the lubrication</p>	<p>1. Starter</p> <ul style="list-style-type: none"> • Check whether the starter is faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER <p>2. Battery</p> <ul style="list-style-type: none"> • Check for loose or corroded the battery terminals and battery cables. • tighten the loose battery terminals • clean the corroded battery terminals and battery cables • Check whether the battery voltage is not lower than 12V. • replace the battery • Check whether the battery is faulty. • replace the battery <p>3. Lubrication system</p> <ul style="list-style-type: none"> • Check whether the engine oil viscosity is high. • replace engine oil with the specified viscosity

16. TROUBLESHOOTING

3. Brakes

The problem is:	The possible cause(s) are:	Remedy:
The rear brakes are not working correctly	1. A problem in the brake	<ol style="list-style-type: none">1. Brake system<ul style="list-style-type: none">• Check whether the brakes are adjusted correctly.<ul style="list-style-type: none">• adjust the brakes correctly• Check whether the brake linkage is worn out or damaged.<ul style="list-style-type: none">• contact YOUR LOCAL YANMAR TRACTOR DEALER• Check whether the brake disk is worn out or damage.<ul style="list-style-type: none">• contact YOUR LOCAL YANMAR TRACTOR DEALER

4. Steering

The problem is:	The possible cause(s) are:	Remedy:
The steering is not working	1. A problem in the steering	<ol style="list-style-type: none">1. Steering<ul style="list-style-type: none">• Check whether the transmission hydraulic oil level is low.<ul style="list-style-type: none">• add transmission hydraulic oil• Check whether the wheel spindles are damaged.<ul style="list-style-type: none">• contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the steering cylinder	<ol style="list-style-type: none">2. Steering cylinder<ul style="list-style-type: none">• Check whether the steering linkage requires lubrication.<ul style="list-style-type: none">• lubricate the steering linkage• Check for excessive play in the steering.<ul style="list-style-type: none">• contact YOUR LOCAL YANMAR TRACTOR DEALER

16. TROUBLESHOOTING

5. Body and Machinery

The problem is:	The possible cause(s) are:	Remedy:
There is excessive vibration	1. A problem in the engine	1. Engine • Check whether the idle speed is too slow. • adjust the idle speed
	2. A problem in the transmission	2. Transmission • Check whether the drive components is worn out. • contact YOUR LOCAL YANMAR TRACTOR DEALER
The engine is running, but the tractor does not move	1. A problem in the transmission	1. Transmission • Check whether the transmission clutch is worn out. • contact YOUR LOCAL YANMAR TRACTOR DEALER
	2. A problem in the brake	2. Brake system • Check whether the brakes are adjusted correctly. • adjust the brakes correctly
The 3-point hitch does not rise	1. A problem in the transmission hydraulic oil	1. Transmission hydraulic oil • Check whether the transmission hydraulic oil level is too low. • add transmission hydraulic oil
	2. A problem in the transmission hydraulic oil flow	2. Transmission hydraulic oil flow • Check whether the transmission hydraulic flow control/stop knob has been closed (OFF). • open the hydraulic flow control/stop knob • Check whether an excessive load is being placed on the 3-point hitch. • reduce the 3-point hitch load • Check whether the transmission hydraulic oil filter is clogged. • replace the transmission hydraulic oil filter
The 3-point hitch lowers too slowly or does not lower at all	1. A problem in the hydraulic flow control/stop valve	1. Hydraulic flow control/stop valve • Check whether the hydraulic flow control/stop knob has been closed (OFF). • open the hydraulic flow control/stop knob on the specified rate • Check whether the rate of drop is set too slow. • set the hydraulic flow control/stop knob to the specified rate
	2. A problem in the transmission hydraulic oil	2. Transmission hydraulic oil • Check whether the transmission hydraulic oil level is too low. • add transmission hydraulic oil
The 3-point hitch lowers too quickly	1. A problem in the hydraulic flow control/stop valve	1. Hydraulic flow control/stop valve • Check whether the rate of drop is set too fast. • adjust hydraulic flow control/stop knob to specified rate
	2. A problem on loads	2. Loads • Check whether an excessive load is being placed on the hitch. • reduce excessive load

17. INDEX

2WD/4WD lever	5-8, 8-5
3-Point Hitch.....	10-1
3-Point Hitch Control Lever	5-7, 10-1
Accelerator Pedal.....	5-6, 8-6
Alternator/Fan Belt	13-18
Alternator/Battery Charging Light.....	5-13
Battery.....	14-1
Brake.....	13-14
Brake Pedal Connector Lock	5-5
Brake Pedals.....	5-6, 8-8
Bulb.....	14-7
Check Chains.....	10-5
Console Box.....	5-8
Cup Holder.....	5-8
Differential Lock	8-10
Differential Lock Pedal	5-11
Drawbar.....	10-7
Engine Runs Out of Fuel.....	7-8
Fender.....	5-2
Front Tires	5-2
Fuel Line	13-7
Fuel Filler Cap.....	5-2
Fuel Filter	13-27
Fuel Gauge	5-12
Fuel Shut-Off Valve	7-2
Fuel Tank	13-7
Fuel/Water Separator.....	13-20, 13-22
Fuses	14-6
Grease Fittings.....	13-17
Hazard Lights	5-2, 13-7
Hazard Lights Button Switch	5-4
Headlights	5-2, 8-2, 13-7, 14-7
Hood	5-2, 13-3
Hour Meter	5-12
Hydraulic Flow Control/Stop Knob	5-10, 10-2
Implement Capacities.....	4-1
Lower Links	10-4
Main Shift Lever	5-6, 8-4
Maintenance.....	12-1
Open/Close the Hood.....	13-3
Operator Station Controls	5-3
Operator Seat.....	5-9, 7-2
Operator Seat Firmness Suspension Knob.....	7-2
Operator Seat Forward and Backward Lever.....	5-10
Parking Brake.....	7-3, 8-8
Parking Brake Indicator Light	5-13
Parking Brake Lock Lever	5-9
Periodic Service	13-1
Pictographs	2
Position Stop Knob	5-7, 10-2
Power Take Off (PTO) Switch	5-7
Power Take Off (PTO) Shaft.....	5-2
Power Take Off (PTO) System	9-1
Radiator Cooling Fins	13-10
Radiator Cooling Screen.....	13-10
Radiator Hoses and Clamps.....	13-9
Range Shift Lever	5-8, 8-4
Rear Tires	5-2
Replacement Parts	12-6
Retractable Seatbelt	5-9
Reverser Lever	5-4, 8-5
Roll-Over Protective Structure (ROPS)	5-2, 13-7
Safety Precautions.....	1-1
Specifications.....	3-1
Stalled Engine	7-8
Starter Key Switch	5-5, 7-5
Tachometer.....	5-12
Tail Lights	5-2
Throttle Control Lever	5-6, 8-6
Tire Air Pressure	13-6
Tires	11-1
Top Link	10-4
Top Link Hook	10-4
Traveling Speeds	3-2
Tire Tread Width	11-4
Troubleshooting	16-1
Turn Signal/Hazard Indicator Lights	5-12
Turn Signal/Hazard Lights	5-2, 8-2
Turn Signal	5-5, 8-2
Weights	11-8
Wheels	11-2
Wheel Bolt, Nut Tightening Torque	11-2

YANMAR AGRIBUSINESS CO., LTD.

<https://www.yanmar.com>

As of November 1, 2019

OPERATION MANUAL

YM351R/YM358R



YANMAR AGRIBUSINESS CO., LTD.

yanmar.com

0A042-EN0294
Nov.2025-0