

Operator's Manual



Rubber Track Tractor

938 Vario MT

AGCF09xxxLxxx1001-

940 Vario MT

943 Vario MT



Rubber Track Tractor

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1.1 Safety instructions

1.1.1 Operator Manual

This operator manual uses the latest information available at the time of publication. Read the operator manual carefully before operating the machine.

Right-hand and left-hand, as used in the operator manual, is determined by facing the direction that the machine travels when in use.

Photos, illustrations, and data used in the operator manual were current at the time of publishing. Because of possible production changes, each machine can vary. Manufacturer reserves the right to redesign and change the machine as necessary without notification.

1.1.2 Safety symbol

The safety symbol tells you about a potentially hazardous area!

Look for the safety symbol in this manual and on the machine. The safety symbols tell you that there is important safety instructions in the manual.



Fig. 1

1.1.3 Safety messages

The words DANGER, WARNING or CAUTION are used with the safety symbol. Learn these safety messages and obey the recommended precautions and safety instructions.



DANGER:
If you do not obey the recommended precautions and safety instructions, DEATH OR INJURY will occur.



WARNING:
If you do not obey the recommended precautions and safety instructions, DEATH OR INJURY can occur.



CAUTION:
If you do not obey the recommended precautions and safety instructions, INJURY can possibly occur.



Fig. 2

1.1.4 Information messages

The words important and note are not related to personal safety, and are used to give information about the operation and servicing of the machine.

IMPORTANT: Identifies special instructions or procedures which, if not followed, can cause damage to the machine, the process, or the area around the machine.

NOTE: *Information to make procedures easier.*

1.1.5 Safety signs



WARNING:

Do not remove the safety signs. Replace safety signs that you cannot read, are damaged, or are missing.

Clean the machine surface with a weak soap and water solution before you replace the safety signs. Replacement safety signs are available from your dealer.

Always make sure that safety signs are in the correct locations and that you can read the safety signs. Illustrations of safety sign locations are in this section.

Keep the safety signs clean. If necessary, use a weak soap and water solution.

1.1.6 Important safety information

IMPORTANT: *Any Modifications to the machine or systems not authorized by AGCO will void the AGCO Warranty. This includes, but is not limited to hitches.*



WARNING:

When replacement parts are required for this product, AGCO recommends using AGCO replacement parts or parts with equivalent specifications including, but not limited to, physical dimensions, type, strength and material. Failure to heed this warning can get untimely failures, product damage, personal injury or death.

Failure to obey basic safety rules and precautions can cause personal injuries during product operation, maintenance, or repair. Know dangerous situations before an injury occurs.

A person must be alert to possible dangers. This person must also have the necessary training, skills and tools to do these operations correctly.

Incorrect operation, lubrication, maintenance or repair of this product can be dangerous and can result in injury or death.

Read and understand all the information about the operation, lubrication, maintenance, and repair before operating on this machine.

The product and this manual give safety precautions and warnings. Bodily injury or death can occur to you or to other persons if all warnings are not heeded.

Not every possible circumstance that can involve a potential danger can be anticipated. The warnings in this publication and on the product are, thus, not all inclusive. If a tool or procedure, not recommended by AGCO, is used, make sure they are safe for everyone.

An operator must make sure the product will not be dangerous or damaged by the operation, lubrication, maintenance or repair procedures selected. Information, specifications, and illustrations in this publication come from information available at the time of publication production.

Specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can change the service that is given to the product. Get the complete and most current information before starting a job. AGCO dealers have the most current information available.

1.1.7 General safety instruction



CAUTION:
Carefully read the operator manual before operating the machine. See all instructions and safety rules when operating or doing maintenance.



Fig. 3

Do not start the engine until the area is free of personnel. Honk the horn two times to tell others. This will help prevent personal injury because machine movement can occur.

Know the width of the equipment to keep the correct clearance when operating near fences or near boundary blockage.

Wear a hard hat, protective glasses, and other protective equipment, as necessary.

Do not wear loose clothing or jewelry that can catch on controls or on other parts of the machine.

Make sure that all protective guards and all covers are attached in position on the machine.



Fig. 4

Keep the machine free from unwanted material. Remove unwanted material, oil, tools, and other items from the deck, from walkways, and from steps.

Make sure lunch boxes, tools, and other loose items that are not a part of the machine are attached.

Know the applicable work location hand signals and the personnel that are approved to give the hand signals. Get hand signals from one person only.

Do not put maintenance fluids into glass containers. Drain all liquids into an approved container.

Discard all drained fluids and discard all filters. Refer to local regulations.

Use all cleaning solutions with precaution.

Record all necessary repairs.

Do not let untrained or not approved personnel on the machine.

Do not smoke when doing work an air conditioner. Also, if there is refrigerant gas around, do not smoke. Breathing the fumes that are released from a flame that touches air conditioner refrigerant can cause bodily injury or death.

Breathing gas from air conditioner refrigerant through a lighted cigarette can cause bodily injury or death.

Do the following before completing maintenance unless receiving other instructions:

- Parked the machine on level ground.
- Lower the implements to the ground.
- Park the machine.

1. Safety

- Stop the engine.
- Remove the switch key.
- Cool the machine.

Use other precautions if the conditions and environment make it necessary.

For operating this machine in forestry or loader operations:

This machine does not have a falling-object protective structure and must not be used in forestry or loader operations.

1.1.8 Pressurized air

Air under pressure can cause personal injury. When pressurized air is used for cleaning, wear a protective face shield, protective clothing and protective shoes.

The maximum air pressure for cleaning purposes must be below 205 kPa (30 psi).

1.1.9 Asbestos information

AGCO equipment and replacement parts are asbestos free. AGCO recommends the use of only correct AGCO replacement parts.

1.1.10 Electrical storm injury prevention

When lightning is striking in the vicinity of the machine, the operator should not attempt to dismount or mount the machine.

If you are in the operator's station during an electrical storm, stay in the operator's station. If you are on the ground during an electrical storm, stay away from the machine.

1.1.11 Mount and dismount the machine

Mount the machine and dismount the machine only at locations that have steps and/or hand holds. Before mounting the machine, clean the steps and the hand holds. Inspect the stairs and hand holds. Make any necessary repairs.

When dismounting the machine, descend the steps backwards, and maintain a three-point contact with the steps and hand holds. Three-point contact is two feet and one hand or one foot and two hands.

Never mount a moving machine. Never dismount a moving machine. Never jump off the machine except in an emergency.

Do not carry tools or supplies when you try to mount the machine or when you try to dismount the machine. Use a hand line to pull equipment onto the platform.

Do not use any controls as hand holds when you enter the operator compartment or when you exit the operator compartment.

1.1.12 Before you start the engine

Start the engine only from the operator compartment. Never short across the starter terminals or batteries. Shorting can damage electrical system or cause unexpected machine movement.

Adjust the seat so full pedal travel can be achieved with operator's back against seat back.

Make sure the machine is equipped with a lighting system sufficient for job conditions. Make sure all machine lights are working properly.

Before starting the engine or moving the machine, make sure no one is under, around or on machine. Make sure area is free of personnel.

To honk horn the key must be turned to "run" to enable the horn. As a warning honk horn twice, to alert others.



Fig. 5

1.1.13 Start the engine

Move all hydraulic controls to the hold position before you start the engine.

Make sure the machine is in park.

Press the clutch pedal before you turn the ignition key. The starter will not operate until the clutch has been pressed. To stop the starter, turn the key to off or release the clutch pedal.

Diesel engine exhaust contains material of combustion which can be dangerous. Always operate the engine in an open area. If in a closed in area, send the exhaust out.



WARNING:

If you turn the steering wheel with the transmission in the neutral position and the engine at idle speed, the machine will turn.



WARNING:

Do not use ether. Ether will cause engine damage and/or personal injury.

Do not start the engine until the area is free of personnel to prevent personal injury because of unexpected machine movement.

1.1.14 Before operation

Clear all personnel from around the machine and the area.

Clear all obstacles from machine's path. Be careful of dangers, (electrical power lines, ditches, etc).

Make sure all the windows are clean and attached in the closed position.

Adjust the rearview mirrors for best visibility near the machine. Make sure the horn, backup alarm (if equipped) and all other warning devices are working correctly.

On the drawbar-towed implements, fasten a transport chain of sufficient capacity between the machine drawbar support and implement. Give only enough slack in the chain to permit turning.

Only one instructor must be permitted to ride in the machine cab. Instructor must be seated in the instructor seat with the seat belt fastened.

1.1.15 Operating procedures

The machine will turn with the transmission control lever in the neutral position when the engine is operating and the steering wheel is turned.

Only operate the machine while in the operator's seat. Securely connect the seat belt while operating the machine. Only operate the controls while the engine is operating.

Do a check for the correct operation of all the controls and the protective devices.

As a warning operate the horn two times to tell others in the area to prevent personal injury because of machine movement.

During operation of the machine, record damage and make necessary repairs.

A rollover of the machine can occur when doing work on hills, banks, or slopes. A rollover of the machine can also occur when operating across ditches, ridges, or other unanticipated blockages.

Hold the implement approximately 40 cm (16 in) above the ground level while operating the machine. Do not operate the machine near an overhang, near the edge of a cliff, or near edge of an excavation.

If the machine starts to sideslip on a grade, immediately decrease the load and turn machine downhill.

Be careful to prevent ground conditions which will cause the machine to rollover.

Keep the machine in control. Do not overload the machine more than the capacity.

Make sure the towing devices are sufficient for the work.

Make sure the components on the 3-point linkage are sufficient for the work.

Connect the trailing equipment only to a drawbar or hitch.

Do not straddle a wire cable.

When maneuvering to connect equipment, make sure no personnel are between machine and trailing equipment. Hold up the hitch of trailing equipment to align equipment with drawbar.

Know the maximum dimensions of the machine.

When operating on icy or muddy roads, decrease the travel speed to prevent the loss of control of machine.

After operating in muddy conditions, let sufficient time for tracks to reject unwanted material and moisture before making high speed maneuvers. Belts that are wet and belts that are muddy can impede machine's steering.

Decrease travel speed if the stability of the machine is noticeably reduced.

Slow the machine to a speed that controls the machine when declining a hill.

Use the service brakes if necessary, to control machine speed. Do not coast down a hill with transmission in neutral.

Do not steer machine when crossing ditches. Ditches that are wide and/or ditches that are deep can let the guide blocks sag below midwheels. This can cause the belt to come off.

Do not let passengers anywhere on the machine but on an approved passenger seat. Instructors must have the instructor seatbelt securely connected during all operation.

1.1.16 Parking

Make sure to park the machine on a solid, level surface. Move the drive lever to the neutral position. Wait a time for the park brake to automatically engage or press the park brake switch on the multifunction armrest. Lower all implements to the ground. Move the throttle control lever to low idle and wait a time to let the turbocharger cool. Stop the engine and take the key with you.

1.1.17 Prevent contact with power lines

Prevent Contact with Power Lines - When operating the machine prevent contact with low hanging power lines. Rural areas can have areas where power supply lines can touch part of the machine during usual operation. If a power line touches the machine, move the machine away. If the machine is disabled, make a call for aid. **DO NOT EXIT THE MACHINE UNTIL THE POWER IS DISCONNECTED.**

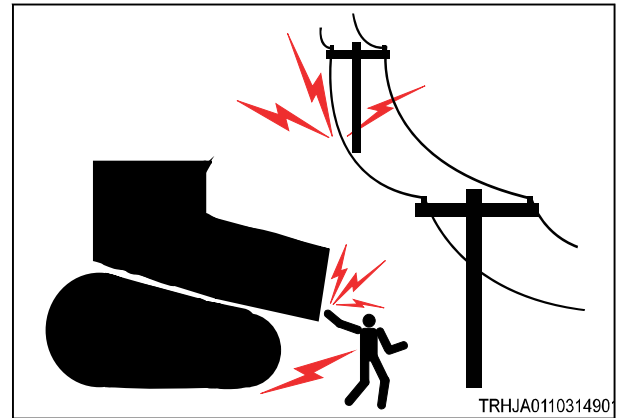


Fig. 6

1.1.18 Operator station

Do not drill holes or weld on the cab rollover protective structure. (ROPS)

Any modifications to the inner operator station must not extend into the operator space.

Any item brought into the cab must not extend into defined operator space. Secure loose items. Objects must not pose an impact hazard in rough terrain or if there is a rollover.

1.1.19 Cut and crush prevention

Support the equipment correctly when performing work below the equipment. Do not rely on the hydraulic cylinders to hold up the equipment. An implement can fall if a control lever is moved or if a hydraulic line breaks.

Never start the machine engine by shorting across the starter solenoid terminals. Machine movement can occur causing runovers .

Never make adjustments while the machine is moving or while the engine is operating.

Whenever there are attachment control linkages, the clearance in the linkage area will change with movement of the attachment.

Stay clear of all rotating parts and all moving parts.

Keep objects away from moving fan blades. The fan blades will throw objects and the fan blades can cut.

Do not use a wire tow cable that is kinked or frayed. Wear gloves when touching wire cable.

When hitting a retainer pin, the retainer pin can fly out causing personal injury. Make sure that there are no people in the area when hitting a retainer pin. To prevent eye injury, wear protective glasses when hitting a retainer pin.

Chips or other debris can fly off objects when hitting the objects. Make sure that others are clear of the area before hitting any object.

1.1.20 Rollover protective structure

Do not make any modifications to the rollover protective structure (ROPS) as this will change protection provided. Do not change structure by welding, cutting, adding weight, or drilling holes into structure.

Any change not specifically authorized by AGCO invalidates AGCO certification for ROPS. The protection offered by ROPS will be impaired if ROPS has structural damage or alteration. Damage to structure can be caused by a turn over or by falling objects.

Do not mount items (fire extinguishers, first aid kits, work lights, etc.) by welding brackets or drilling holes in ROPS. See dealer for mounting guide lines.

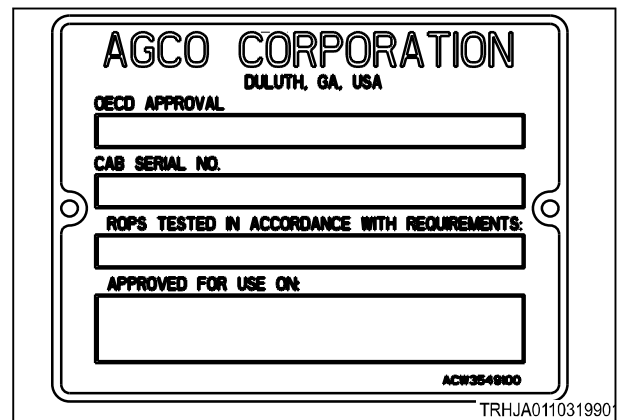


Fig. 7

1.1.21 Burn prevention

Do not touch any part of an operating engine. Other components such as the transmission, the axles and the oil reservoir can also be hot. Let the engine cool before performing any maintenance on the engine. Release all pressure in air, oil, lubrication, fuel and cooling systems before disconnecting any line fittings or related items.



Fig. 8

1.1.22 Coolant

When the engine is at operating temperature, the engine coolant is hot. The coolant is also under pressure. The radiator and all the lines to the heater or engine contain hot coolant.

Any contact with hot coolant or with the steam can cause severe burns. Allow the cooling system components to cool before the cooling system is drained.

Check the coolant level only after the engine has been stopped.

Make sure the filler cap is cool before removing. The filler cap must be cool enough to touch with a bare hand. Remove the filler cap slowly to relieve the pressure.

The cooling system conditioner contains alkali. Alkali can cause personal injury.

Do not allow alkali to contact skin, eyes or mouth.



Fig. 9

1.1.23 Oils

Pressurized hot oil and hot components can cause personal injury. Do not allow hot oil to contact skin. Do not allow hot components to contact skin.

Remove the hydraulic tank filler cap only after the engine has been stopped.

The filler cap must be cool enough to touch with a bare hand. Follow the standard procedure in this manual to remove the hydraulic tank and transmission filler caps.

1.1.24 High pressure lines

Do not bend or strike the high pressure lines. Do not install any lines that are bent or damaged.

Repair any loose or damaged lines. Leaks can cause fires. Consult your dealer for repair or for replacement parts.

**DANGER:**

Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes. This can cause serious personal injury, blindness, or death.

1.1.25 Fluid penetration

Always use a board or cardboard when checking for a leak. Leaking fluid under pressure can penetrate the body tissue. Fluid penetration can cause serious injury and possible death. A pin hole leak can cause severe injury. If fluid is injected into the skin, get treatment immediately. Get treatment from a doctor familiar with this type of injury.

Check the lines, the tubes and the hoses carefully. Do not use your bare hand instead, use a board or cardboard to check for leaks. Tighten all connections to the recommended torque.

Replace the hose if any of the following conditions are present:

- End fittings are damaged or leaking.
- Outer coverings are rubbed or cut.
- Wires are showing.
- Outer coverings are ballooning.
- The flexible part of the hose has a kink.
- Outer coverings have embedded armoring.
- The end fittings are displaced.

IMPORTANT: *Take care to contain fluids during the performance of the inspection, the maintenance, the testing, the adjusting, and the repair of the machine. Have a suitable container large enough ready to collect the fluid before opening any compartment or disassembling any component containing fluids. See the local regulations and mandates when discarding fluids.*

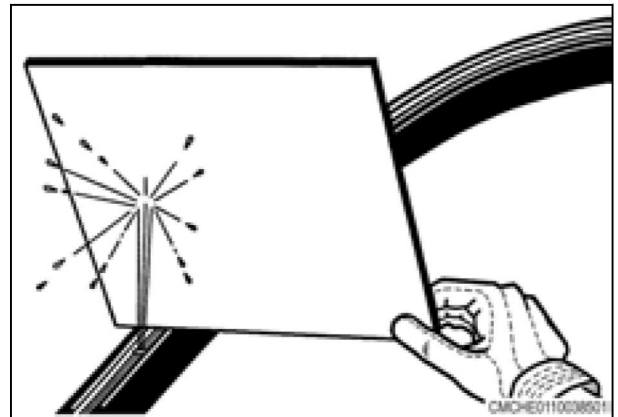


Fig. 10

1.1.26 Batteries

A lead acid battery generates flammable and explosive gases. Keep sparks and flames away from the battery.



WARNING: Sulfuric acid in battery electrolyte is poisonous.

The acid is strong enough to burn skin, eat holes in clothing and cause blindness if got into eyes.

If acid contacts skin or clothing, flush with water immediately. If acid contacts eyes get immediate medical aid.

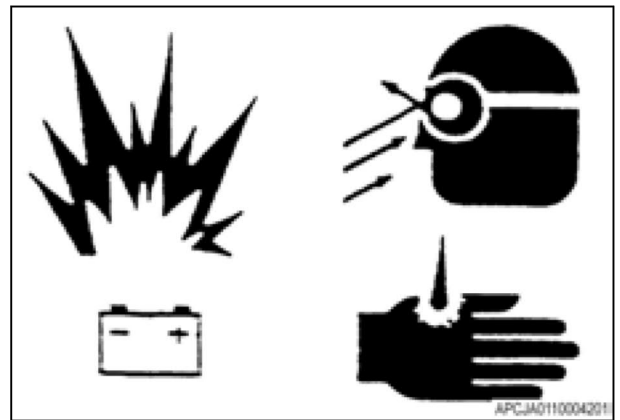


Fig. 11

Wash hands after touching batteries and connectors.



WARNING: Batteries contain electrolyte which is an acid that can cause personal injury.

Do not let the electrolyte contact the skin or eyes.

Always wear protective glasses for servicing batteries.



Fig. 12

Never check battery charge by placing a metal object across the terminal posts. Use a voltmeter or a hydrometer.



WARNING: Gases from a battery can explode.

Incorrect jumper cable connections can cause an explosion causing an injury.

Keep open flames or sparks away from the top of the battery. Do not smoke in the battery charging areas. To prevent an explosion, never charge a frozen battery.



Fig. 13



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1.1.27 Exhaust fumes

Always work in a correct ventilated area.

Engine exhaust fumes can cause sickness or death. If necessary to run engine in a closed area, use correct equipment to safely remove exhaust fumes from area.

Always open the doors and get outside air into area.

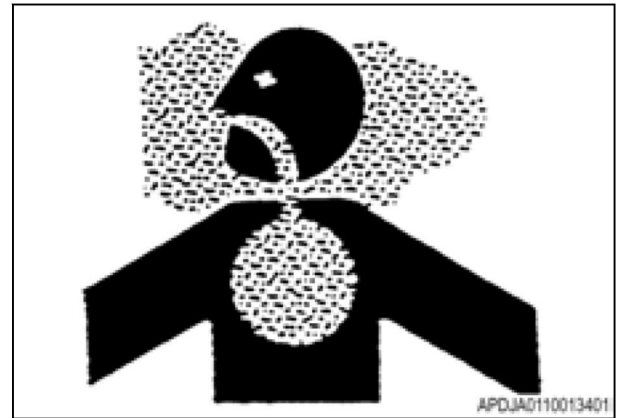


Fig. 14

1.1.28 Noise prevention

Wear proper hearing protective devices such as earmuffs or earplugs to prevent loss of hearing due to high noise levels.

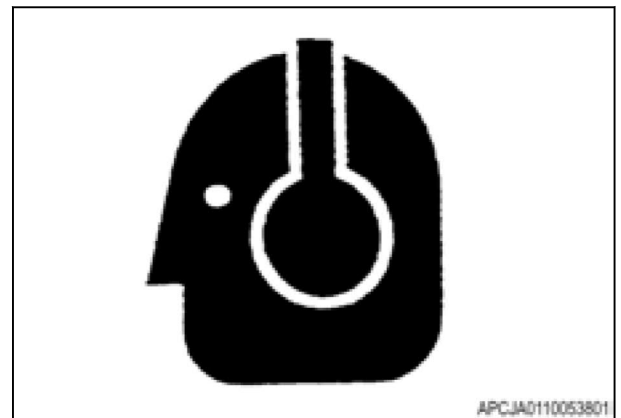


Fig. 15

1.1.29 Fire and explosion prevention

Use caution when refueling a machine. Do not smoke while refueling and do not refuel near open flames or sparks. Always stop engine before refueling. Fill fuel tank outdoors.

All fuels, most lubricants, and some coolant mixtures are flammable.

Flammable fluids leaking or spilled onto hot surfaces or electrical components can cause a fire.

Fire may cause personal injury and property damage.

Remove all flammable materials such as fuel, oil, and debris from machine.

Do not let any flammable materials to accumulate on machine.

Store fuels and lubricants in correctly identified containers away from not approved persons. Store rags with oil and any flammable materials in protective containers.

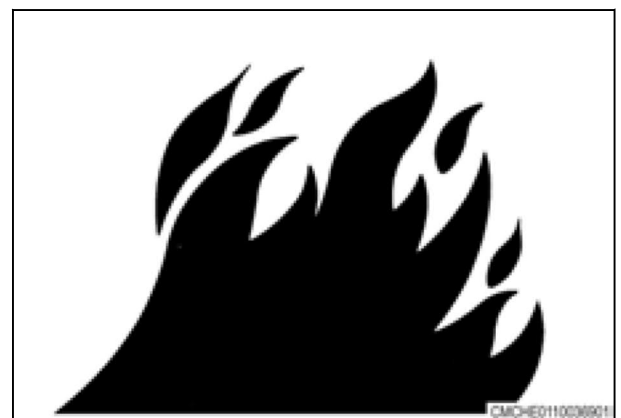


Fig. 16

1. Safety

Do not smoke in areas used for storing flammable materials.

Do not operate machine near any flame.

Do not weld on lines or tanks that contain flammable fluids. Do not flame cut lines or tanks containing flammable fluid. Clean any such lines or tanks fully with a nonflammable solvent before welding or flame cutting.

Check all electrical wires daily. Repair any wires loose or frayed before operating machine. Clean and tighten all electrical connections.

Dust generated from repairing nonmetallic hoods or nonmetallic fenders can be flammable and/or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Inspect all lines and hoses for wear or for deterioration and replace if necessary.

Route hoses correctly. Lines and hoses must have sufficient support and secure clamps. Tighten all connections to recommended torque.

1.1.30 Fire extinguisher

An optional (1) bracket can be installed on the right front frame rail. The bracket holds a 4.5 kg fire extinguisher. Make sure that all clamps, guards, and heat shields are installed correctly. Correct installation prevents vibration, abrasions and too much heat during the machine operation.

Do not weld the bracket onto the cab ROPS frame to install the fire extinguisher. Do not drill holes in the cab ROPS frame to attach the fire extinguisher.

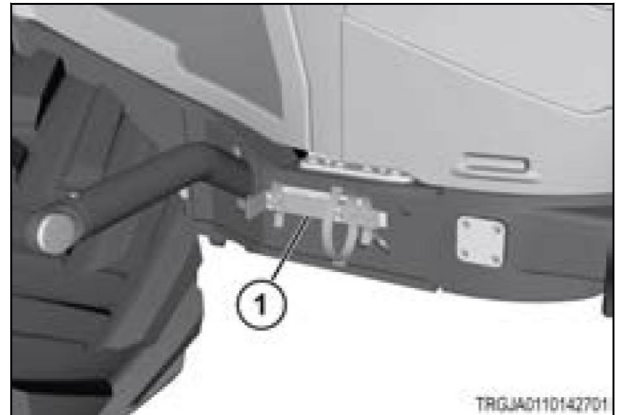


Fig. 17

Make sure that a fire extinguisher (1) is available and know the operation. Examine and service the fire extinguisher regularly. Obey the recommendations on the instruction plate.

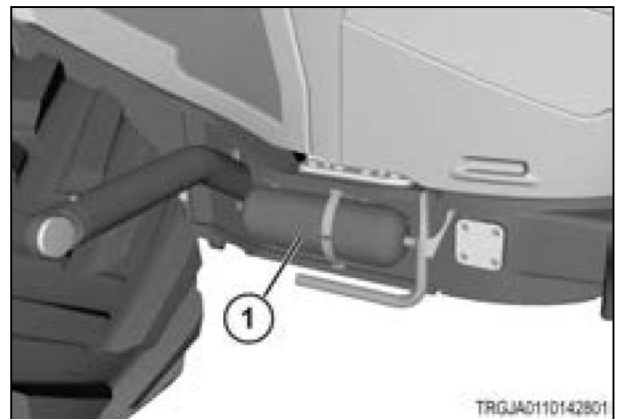


Fig. 18

1.1.31 Public road transportation

Always walk around and visually examine the machine before moving on a public road. As a warning to others in the area, honk the horn two times before starting engine. Do a check for damage and/or defective components that can make a dangerous condition. Make sure all machine systems operate correctly including (but not limited to):

- front road lamps
- tail and brake lamps
- amber hazard lights

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