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FOREWORD

This manual contains a number of instructions and safety recommendations regarding driving, handling, lubrication, maintenance, inspection and adjustment of the machine.

The manual is to promote safety maintenance and enhance machine performance.

Keep this manual handy and have all personnel read it periodically.

If you sell the machine, be sure to give this manual to the new owners.

This machine complies with EC directive "2006/42/EC".

1. **Read** and **understand** this manual before operating the machine.

This operator's manual may contain attachments and optional equipment that are not available in your area. Please consult your local HD Hyundai Construction Equipment distributor for those items you require.

Improper operation and maintenance of this machine can be hazardous and could result in serious injury or death.

Some actions involved in operation and maintenance of the machine can cause a serious accident, if they are not done in a manner described in this manual.

The procedures and precautions given in this manual apply only to intended uses of the machine. If you use your machine for any unintended uses that are not specifically prohibited, you must be sure that it is safe for you and others. In no event should you or others engage in prohibited uses of actions as described in this manual.

Some illustrations in this manual show details or attachments that can be different from your machine. Covers and guards might have been removed for illustrative purposes.

2. **Inspect** the jobsite and **follow** the safety recommendations in the **safety hints** section before operating the machine.

3. Use **genuine HD Hyundai Construction Equipment spare parts** for the replacement of parts.

We expressly point out that HD Hyundai Construction Equipment will not accept any responsibility for defects resulting from non-genuine parts or non workmanlike repair.

In such cases HD Hyundai Construction Equipment cannot assume liability for any damage.

Continuing improvements in the design of this machine can lead to changes in detail which may not be reflected in this manual. Consult HD Hyundai Construction Equipment or your HD Hyundai Construction Equipment distributor for the latest available information for your machine or for questions regarding information in this manual.

EMISSION-RELATED COMPONENTS WARRANTY (USA AND CANADA ONLY)

HD Hyundai Construction Equipment shall have obligation under the EPA (Environmental Protection Agency) regulation of warranty about Emission-related components. This warranty shall exist for 3,000 hours or five years, whichever occurs first.

Naturally, this warranty does not cover to damage arising from accident, misuse or negligence, use of non-HD Hyundai Construction Equipment parts, or from alterations not authorized by HD Hyundai Construction Equipment.

※ Emission-related components according to the EPA regulation.

1. Air-induction system.
2. Fuel system.
3. Ignition system.
4. Exhaust gas recirculation systems.
5. After treatment devices.
6. Crankcase ventilation valves.
7. Sensors.
8. Electronic control units.

BEFORE SERVICING THIS MACHINE

It is the responsibility of the owner and all service and maintenance personnel to avoid accidents and serious injury by keeping this machine properly maintained.

It also is the responsibility of the owner and all service and maintenance personnel to avoid accidents and serious injury while servicing the machine.

No one should service or attempt to repair this machine without proper training and supervision.

All service and maintenance personnel should be thoroughly familiar with the procedures and precautions contained in this manual.

All personnel also must be aware of any federal, state, provincial or local laws or regulations covering the use and service of construction equipment.

The procedures in this manual do not supersede any requirements imposed by federal, state, provincial or local laws.

HD Hyundai Construction Equipment can not anticipate every possible circumstance or environment in which this machine may be used and serviced.

All personnel must remain alert to potential hazards.

Work within your level of training and skill.

Ask your supervisor if you are uncertain about a particular task. Do not try to do too much too fast.

Use your common sense.

TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR

Machine Serial No.	
Engine Serial No.	
Manufacturing year	
Manufacturer Address	HD Hyundai Construction Equipment co., Ltd. 477 Bundangsuseo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do 13553, Korea
Distributor for North Americas Address	HD Hyundai Construction Equipment Americas, Inc 6100 Atlantic Boulevard Norcross GA 30071 U.S.A
Distributor for Europe Address	HD Hyundai Construction Equipment Europe N. V. Hyundailaan 4 3980 Tessenderlo Belgium
Dealer Address	

SYMBOLS

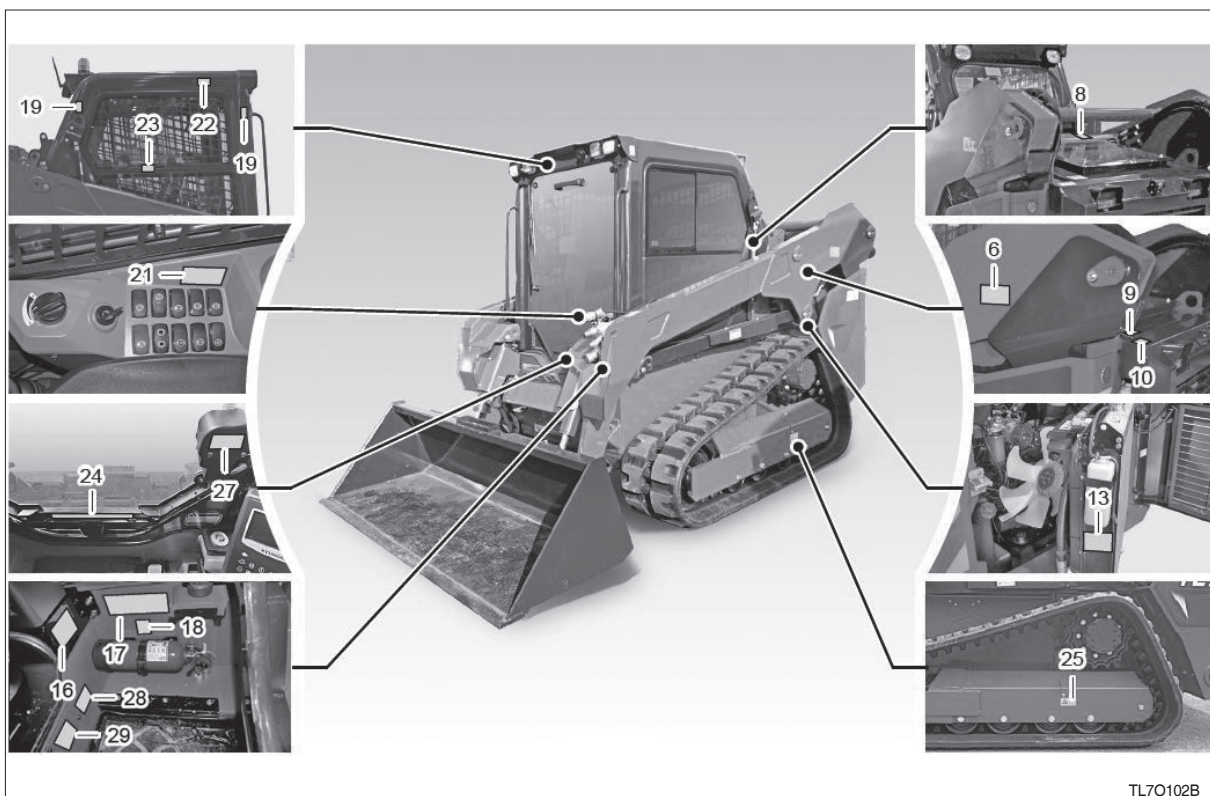
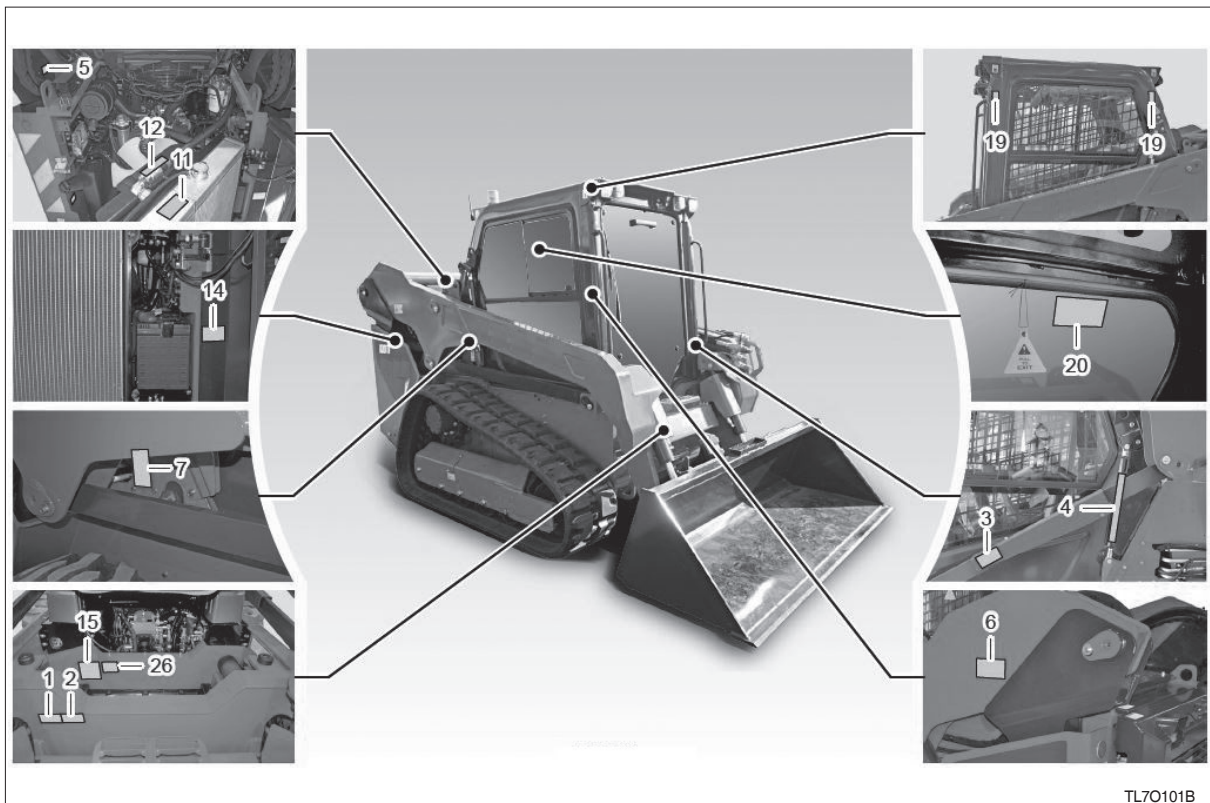
 Important safety hint.

 It indicates matters which can cause the great loss on the machine or the surroundings.

 It indicates the useful information for operator.

SAFETY DECALS

1) DECAL MOUNTING LOCATION

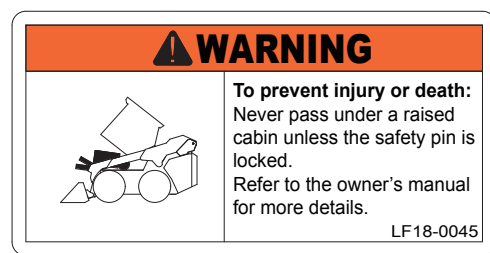


2) DESCRIPTION

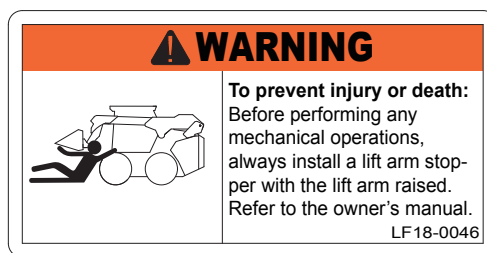
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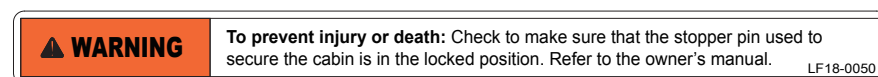
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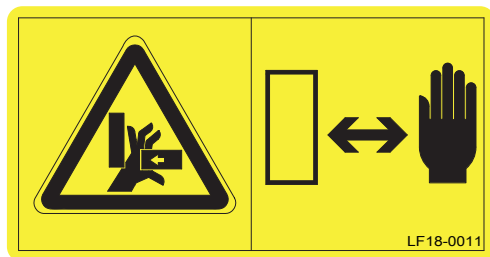
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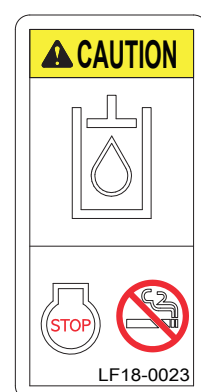
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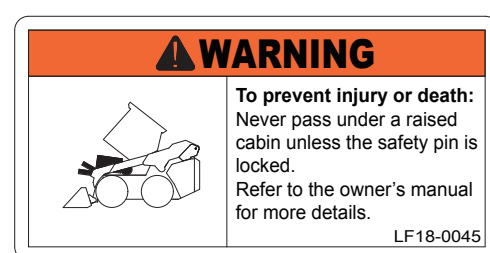
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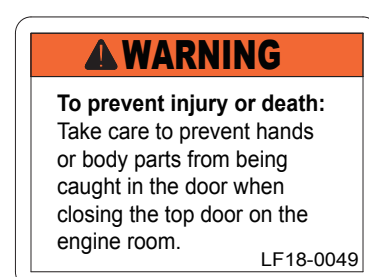
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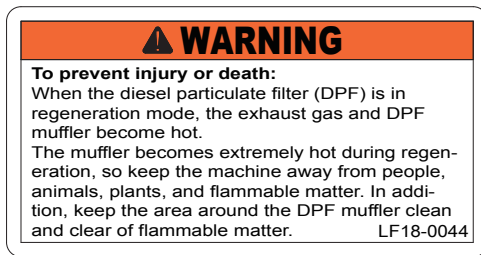
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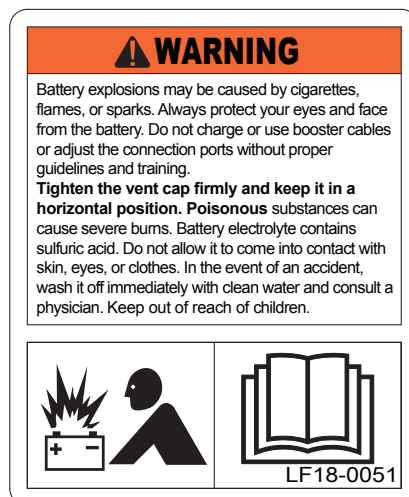
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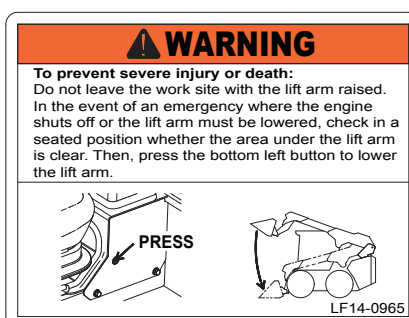
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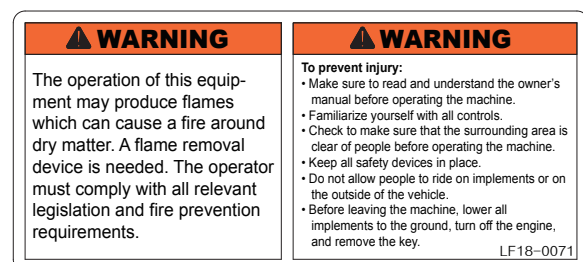
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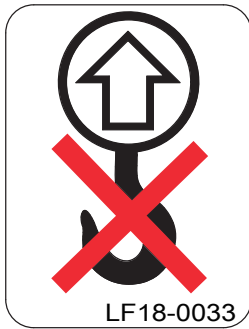
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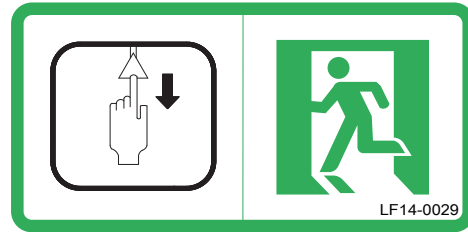
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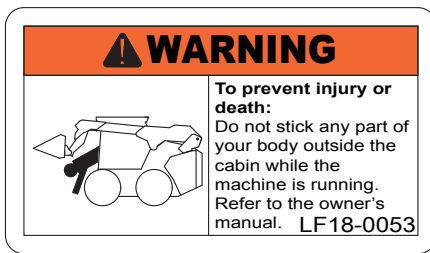
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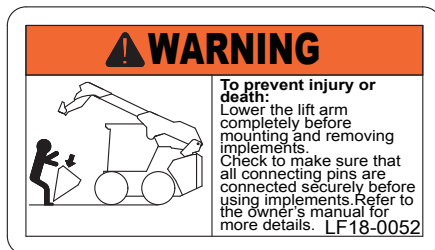
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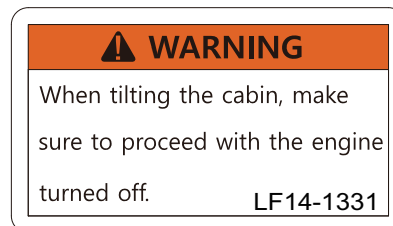
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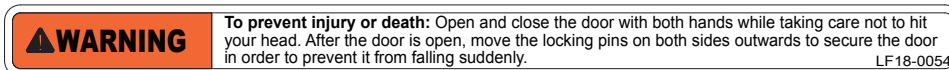
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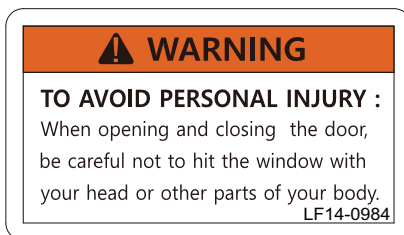
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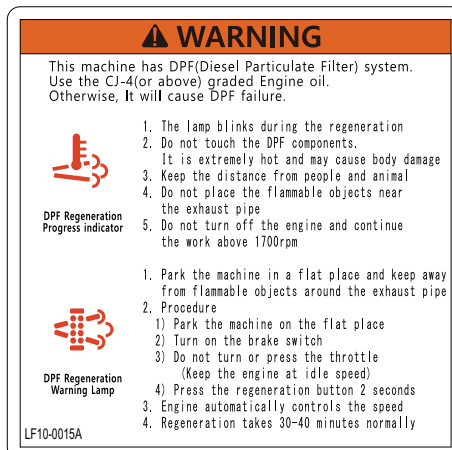
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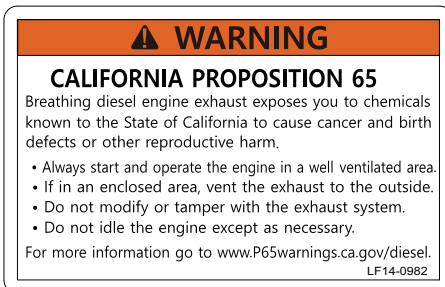
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1. SAFETY HINTS

1. SAFETY PRECAUTIONS

GENERAL PRECAUTIONS

The following information contains general and safety related precautions regarding the operation and maintenance of the machine. When you see the words CAUTION, WARNING or DANGER, please read and follow the recommended guidelines carefully to prevent incidents that could lead to injury to the operator or bystanders or damage to the machine or property.

Always read this manual carefully before operating the machine to ensure safe operating practices and preventative measures are followed. Always follow the recommended safe operating procedures when operating the machine. Always read, understand and follow the information provided in all safety decals applied to the machine.

Failure to follow the information out-lined in this manual, warning decals on the machine and recommended safe operating practices could lead to machine or property damage, injury or death to the operator or others.

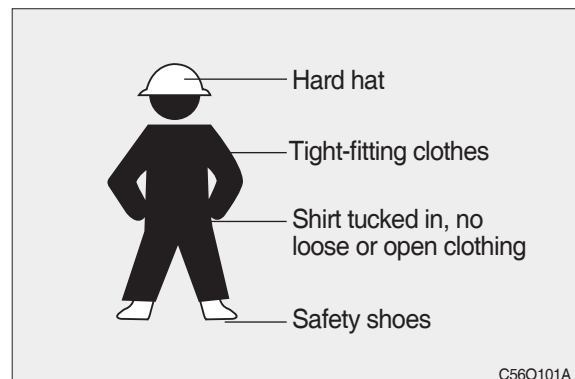
Always follow all safety precautions and safe operating procedures as outlined in this manual and all decals on the machine for your safety and the safety of others.

The following individuals should not be allowed to operate this machine under any circumstances.

- Individuals under the influence of alcohol or drugs
- Pregnant women
- Individuals who do not possess a valid driver's license
- Individuals who have not read and understand this owner's manual
- Individuals who have not been trained on the safe operation of this machine

※ Allowable age and qualification of operators should be followed by the related laws of local area where the machines are purchased in.

Please wear the appropriate working clothes.



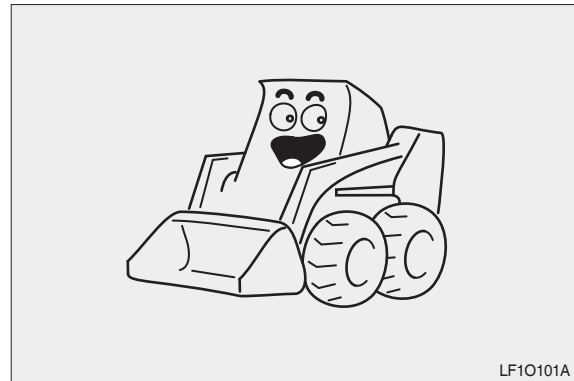
This machine is designed for use in most agricultural or construction type settings where a "skid-steer" type machine would be utilized to push, lift, dig, grade or power hydraulic implements to complete daily tasks.

The manufacturer is not liable for any damage resulting from unauthorized use, unauthorized or unapproved use which could potentially lead to unsafe conditions for an operator or bystanders. Authorized use means complying with operation, service and repair standards set by the manufacturer as outlined in this owner's manual and the numerous warning decals placed on the machine.

This machine should only be operated by skilled individuals who have read and understand this owner's manual on the safe operation of the machine.

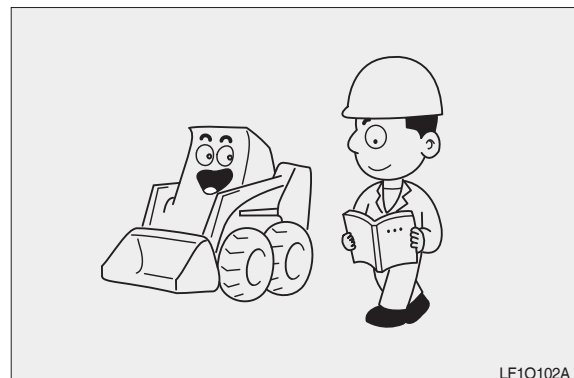
Operators should follow any state or local accident prevention protocols, general health and safety standards and traffic regulations.

The manufacturer is not liable for any damage resulting from unauthorized modification.



Make sure the owner's manual accompanies the machine should the ownership be transferred, leased or rented. Without the owner's manual, operators may not familiarize themselves with the safe operating practices of this machine.

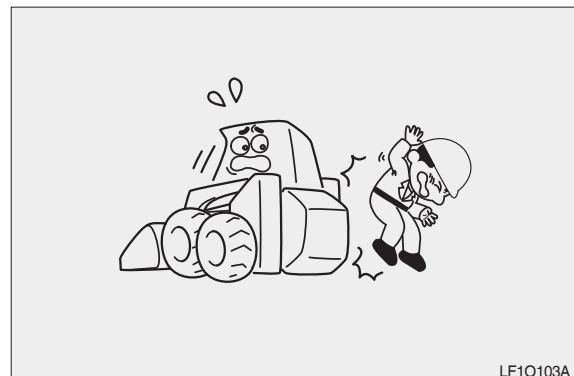
The manufacturer is not liable for the transfer of the owner's manual to subsequent owner's nor for situations that could be avoided through the safe operation of the machine as outlined in this manual.



Do not let anyone come close to the machine while working.

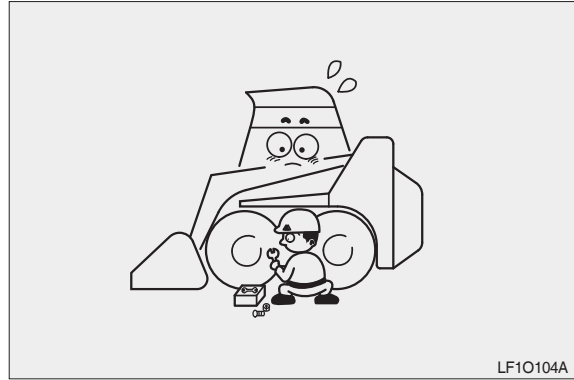
Otherwise, it can lead to a personal injury.

Keep bystanders a minimum of 50 feet away from the operating area while the machine is in use or under repair.



Do not modify the machine.

Modifying the machine could lead to premature wear or machine failure, damage to property or create an unsafe machine or work environment.

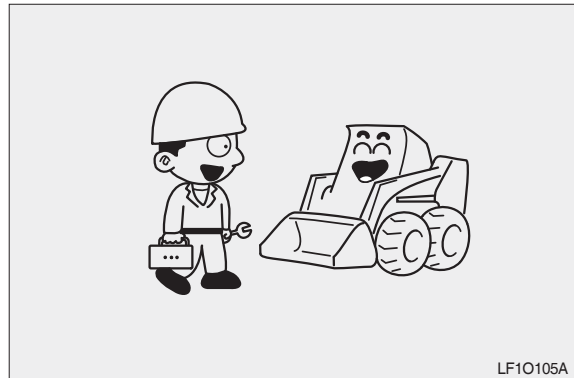


Check the condition of the machine before and after each operation use. Repair it immediately as necessary. Repair or replace any broken or damaged items immediately.

Otherwise, an unexpected accident may happen due to poor maintenance.

Follow the recommended guidelines daily, weekly or hourly inspection and maintenance as outlined in this manual to ensure your machine remains safe and ready to work.

Please contact your Authorized HYUNDAI Dealer to schedule maintenance or repairs as needed.

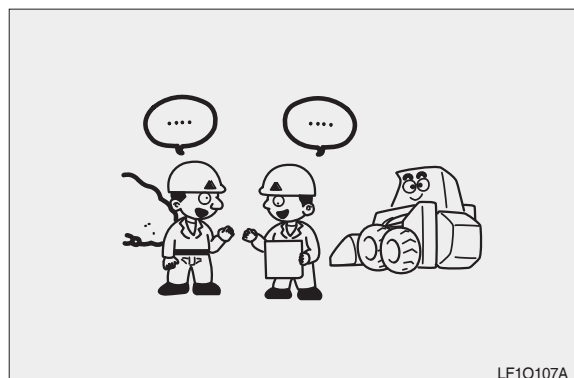


When starting the engine in an enclosed space, ventilate the area by opening doors or windows and re-move the machine from the enclosed space to an open air area.

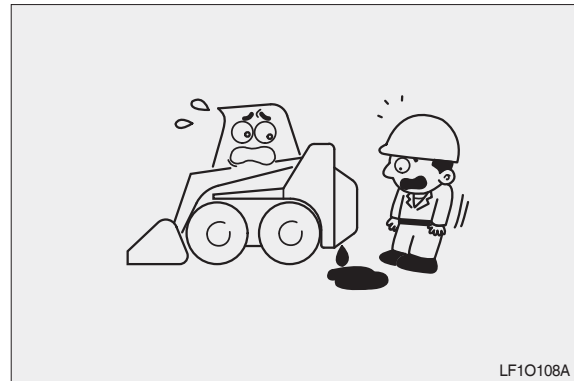
- Do not idle or run the engine in a poorly ventilated area. Otherwise, you may be poisoned by exhaust fumes, which may cause brain damage due to lack of oxygen or even death.
- Operating the machine in enclosed or poorly ventilated areas could lead to Carbon Monoxide poisoning or even death.



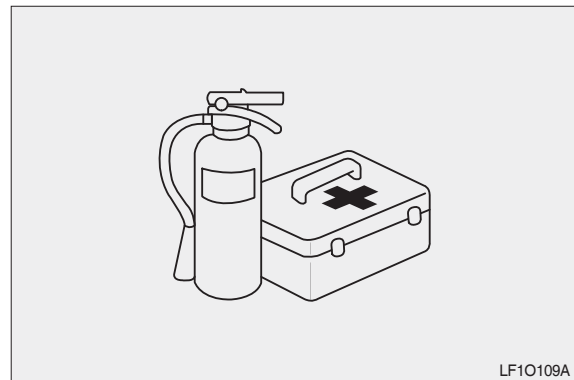
Before operating the machine, be sure to inspect the work area carefully for any hazards or items that could cause injury or accidents. Always understand the details of the job or work to be performed and discuss any concerns prior to beginning work.



Check for any leakage of engine oil, hydraulic oil, fuel, or coolant to prevent damage to the machine, danger to the operator and reduce the risk for fire or other potentially dangerous situations.



Keep fire extinguishers and emergency kits handy in preparation of fire or emergency situations.

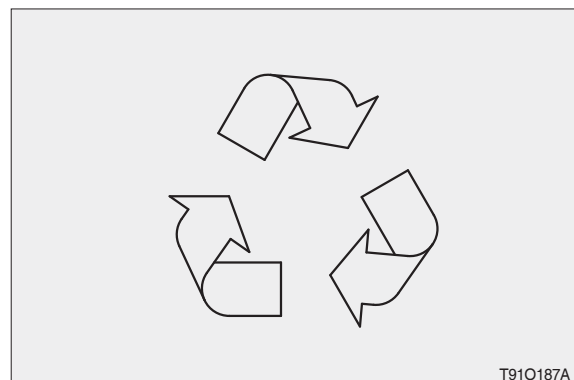


Careless disposal of waste product can be harmful to environment and ecosystem. There are various types of hazardous wastes produced from the machine, including oil, fuel, coolant, brake fluid, filter, battery and etc.

Drain fluids in a leak proof container designed for the handling and disposal of automotive and industrial fluids. Never drain or store fluids in food or beverage containers.

Always dispose of fluids or recycle through approved methods in your state or region. Never pour fluids on the ground, into rivers or drains, etc.

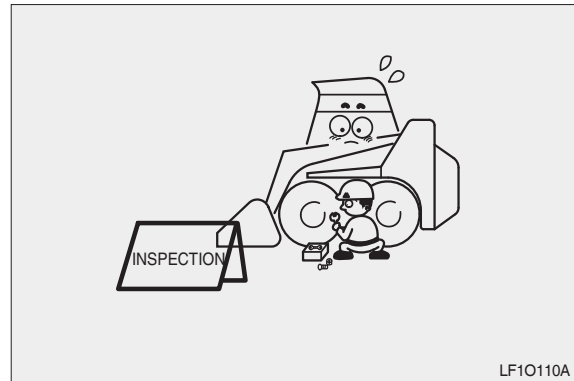
A/C refrigerant is harmful to the atmosphere and should be stored and disposed of through approved methods in your state or region. Never release refrigerant into the atmosphere.



SERVICE, INSPECTION AND MAINTENANCE

When servicing, repairing or cleaning the machine, park the machine on level ground, lower the lift arm and attachment to the ground, apply the parking brake, turn the engine off and remove the key before performing any work.

While servicing the machine, it is recommended to tag the machine alerting others that it is undergoing maintenance or repairs.

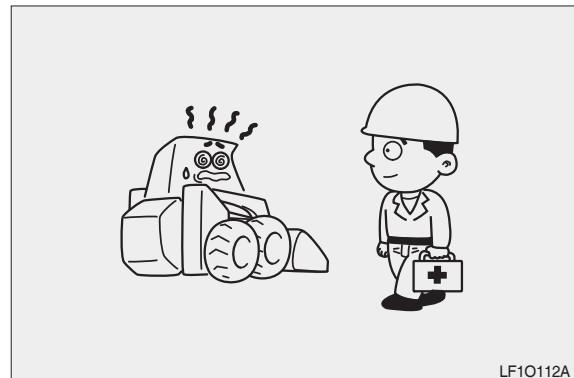


Before fueling, park the machine on level ground, lower the lift arm and attachment to the ground, apply the parking brake, turn the engine off and remove the key. NEVER add fuel while the engine is running. Always keep flammable items such as lighters, cigarettes, etc. away from the machine. After refueling, install the fuel filler cap and wipe up any spilled fuel.

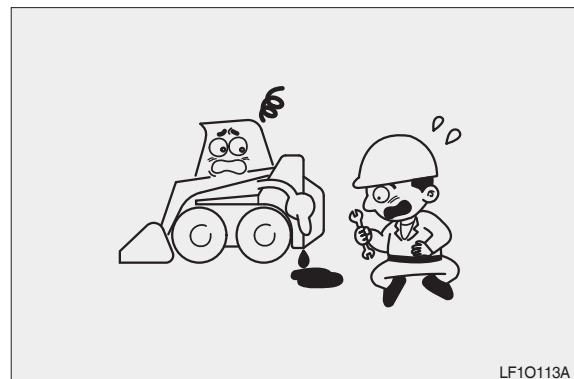


In the event the machine breaks down or fails to operate correctly, stop the machine immediately, place the lift arm and attachment on the ground, engage the park brake, turn the engine off and remove the key.

Consult with your Authorized HYUNDAI Dealer on the diagnosis and repair of the machine.



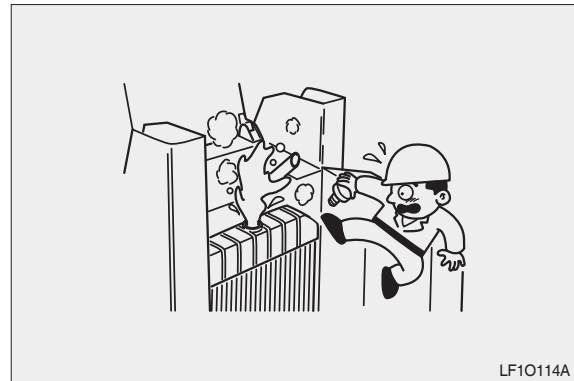
Leaking fluids, oil or grease could be dangerous or cause a fire. Be sure to keep the machine clean and free of leaks.



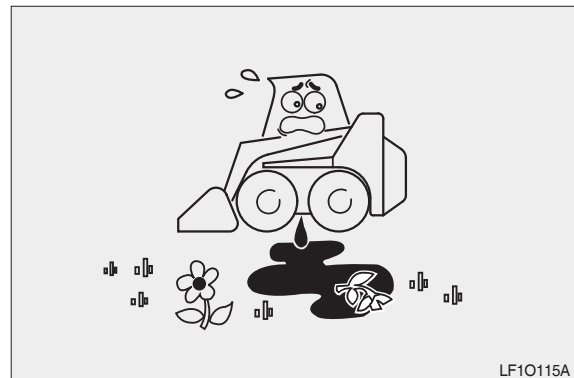
Never open the radiator cap while the radiator is hot.

- Stop the engine and let the engine cool down before opening the radiator cap.
- Check the coolant in the reservoir tank.

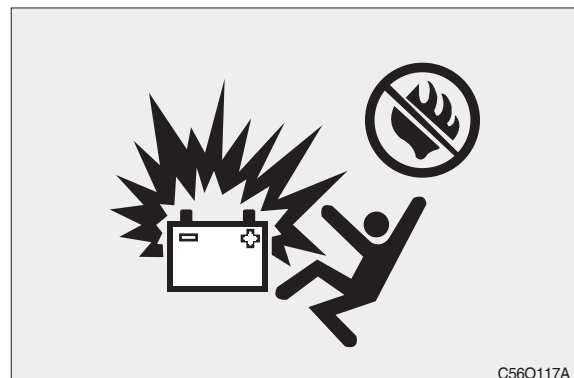
Opening the cap on a hot radiator could cause steam or coolant to release under pressure which could be a burn hazard.



Always dispose of fluids in an approved container and follow local, state or territorial laws on the proper handling and disposal of fluids.

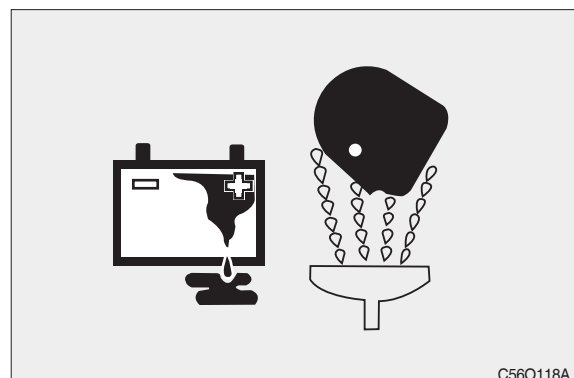


Be sure to keep cigarettes, items that may spark or open flames away from the battery at all times. When charging the battery, be sure to use a charger rated for the correct voltage, match the cables to the correct terminals (do not reverse the polarity) and keep the battery in an open area to allow any gases to vent to the atmosphere. Failure to follow these guidelines could cause the battery to explode.



BATTERY ACID CAN BURN

Be careful not to spill battery fluid onto your body or clothes. If battery fluid gets onto your eyes, skin, clothes or tool, rinse it immediately with water thoroughly. If it got into your eyes or onto your skin, rinse the affected area thoroughly with water and seek medical attention immediately. Should battery fluid get onto your clothes or tools, rinse immediately with water thoroughly.



When disconnecting the battery, disconnect its negative cable first. When connecting it, connect its positive cable first.

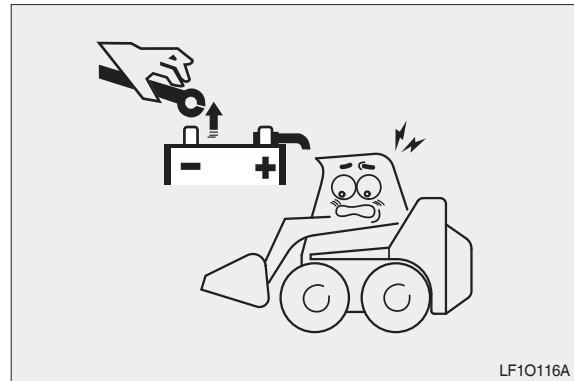
- Make sure to use the specified battery only.
- Do not mix the positive and negative battery cables.

Otherwise, a short circuit can cause a burn or fire.

The following symptoms may indicate a discharged battery.

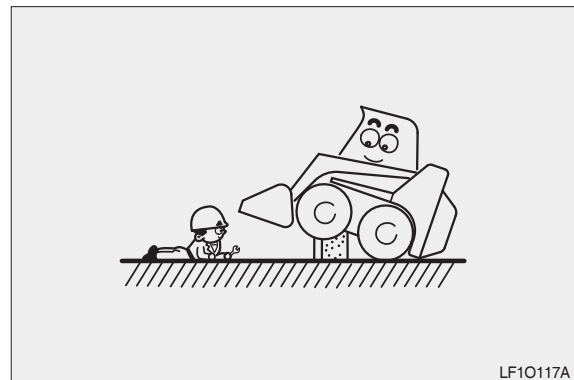
- The start motor won't run or runs only at a low speed, making impossible to start the engine.
- The headlights are much dimmer than usual.
- The horn won't sound or sounds weakly.

Remove the key from the ignition and rotate the battery switch to the "OFF" position to prevent battery discharge when the machine is not in operation.



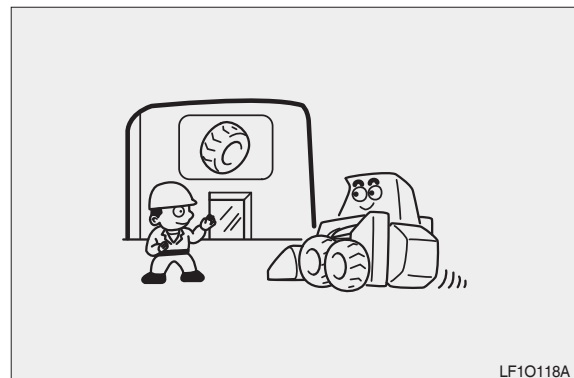
CRUSH HAZARD

When inspecting, servicing or performing repairs to the underside of the machine or the drive system, never rely on the machine's hydraulic system as the only means of raising or holding a portion or all of the machine off the ground. Always utilize jack stands, safety blocks or other approved safety devices to secure the machine in place and prevent accidental fall, settling or lowering of the machine.

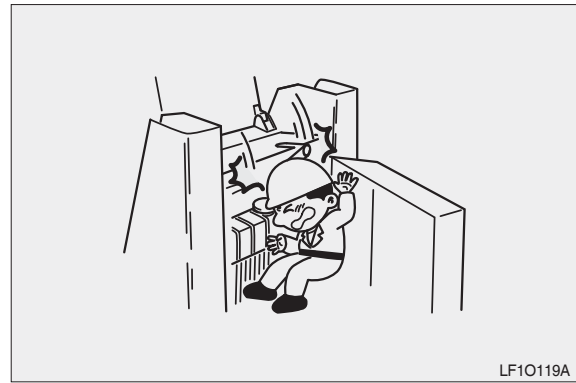


Maintain the tire inflation pressure as specified in the user's manual. Replace damaged tires or tires with worn lugs or no tread before operating the machine. Contact your local Authorized HYUNDAI Dealer or local tire dealer for assistance with tire repair or replacement.

- Underinflation can cause sidewall damage or a tire to slide off the rim under load or when turning leading to loss of control, loss or damage to the load or machine rollover.
- Over inflation can cause the tire to rupture leading to loss of control, loss or damage to the load or machine rollover.



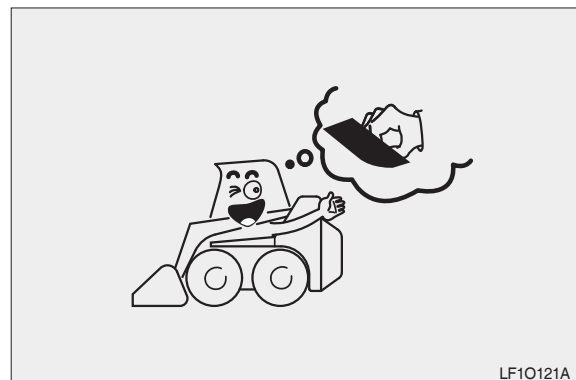
Use caution when opening inspecting or closing the rear door or other portions of the engine bay to prevent making contact with hot, heavy or potentially moving parts that could cause injury.



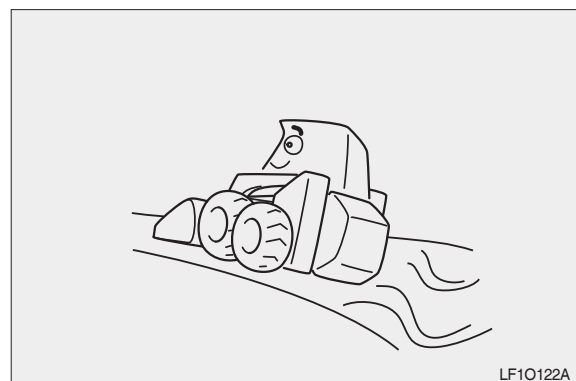
Inspect all safety features prior to operation of the machine to minimize risk of injury in the event of an accident. Safety features of this machine include: ROPS, seatbelt, operator restraint bars, park and hydraulic lock functions, horn, headlight, safety and signal lamps, all safety switches and warning decals, optional fire extinguisher, rear door and front door (cab models).



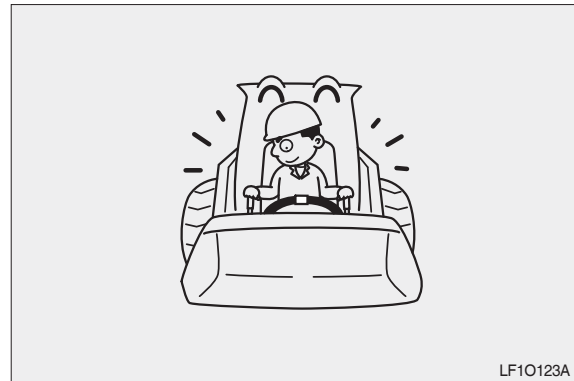
To prevent slips and falls entering or exiting the machine, replace the treads or the anti-skid steps if they are worn out or no longer function normally. Otherwise, it can lead to injuries.



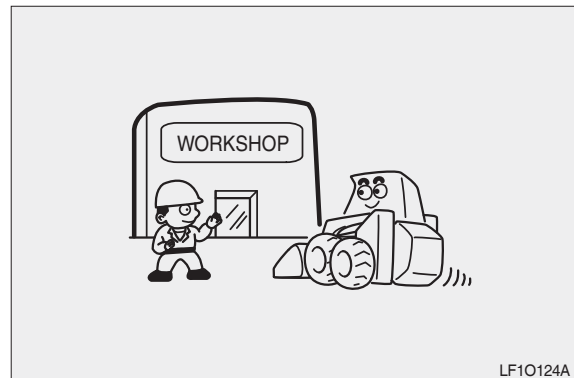
Check the wheels and lug nuts daily to ensure they are tight. Normal driving could be impacted if the wheels are not tight or lead to an accident or machine damage.



Always install any covers, shields or brackets removed during maintenance or repair before operating the machine. Failure to do so could lead to machine damage or personal injury.



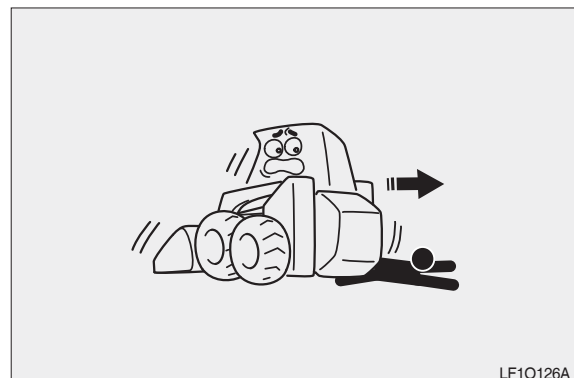
Do not try to repair or inspect the fuel system (fuel injection pump, fuel injection nozzle, etc.), or hydraulic pump/hydraulic system by yourself. Always return your machine to your Authorized HYUNDAI Dealer for inspection, diagnosis or repair. Attempting to make repairs to these systems without proper training could lead to injury, significant component failure or machine damage.



SAFETY PRECAUTIONS DURING THE USE OF THE MACHINE

Starting the engine

Always survey the surrounding area for bystanders, co-workers or hazards within the work area. NEVER start the machine with people next to the machine, in the general working area or before reviewing and addressing any hazards within the working area. NEVER attempt to start the machine with the rear door open or shields, covers, or brackets removed or safety features removed.



Exhaust components including the exhaust pipe and muffler can become extremely hot during use. To prevent injury or burns, NEVER touch any of the exhaust components while the engine is running or without allowing sufficient time for cool down after use.



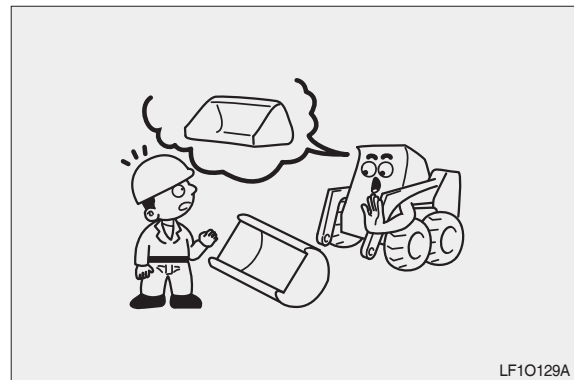
To prevent injury or machine damage, **NEVER** open the rear door or hood to access the engine area while the engine is running.



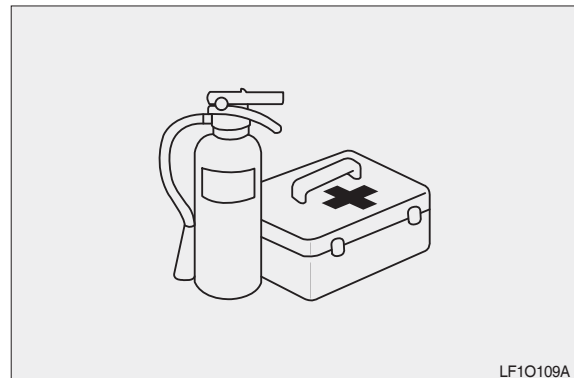
INSTALLING AND OPERATING ATTACHMENT

Only use implements designed and manufactured in accordance with SAE J2513 or ISO 24410 specifically for skid steer or compact track loader use.

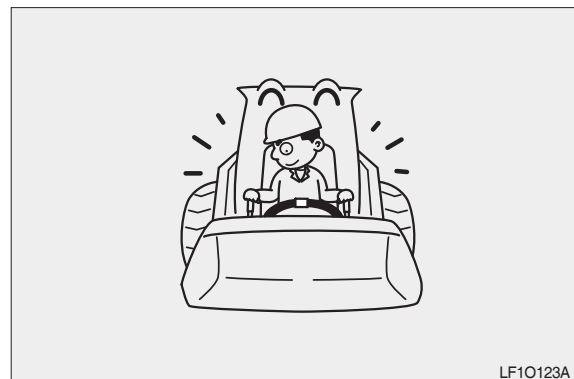
Implements not designed and manufactured in accordance with SAE J2513 or ISO 24410 or for use with other types of equipment could cause machine damage or fail to properly connect and/or operate correctly with this machine.



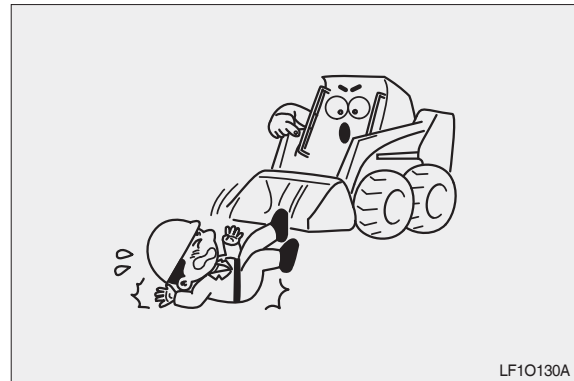
Always wear your seat belt and keep the operator restraint bars in the down position when operating the machine to prevent injury, especially in the event of a machine roll-over.



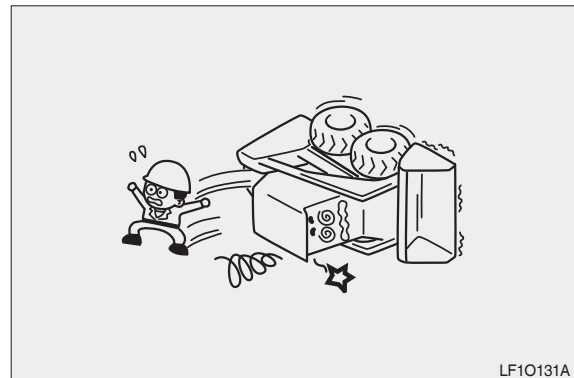
Before driving or operating the machine, it is the operator's responsibility to read and fully understand the owner's manual and all safety decals. Prior to machine operation, confirm all safety features are installed and operating correctly.



Use the safety handles and steps when getting on or off the machine. **NEVER** attempt to jump on or off the machine without using the handles and steps.

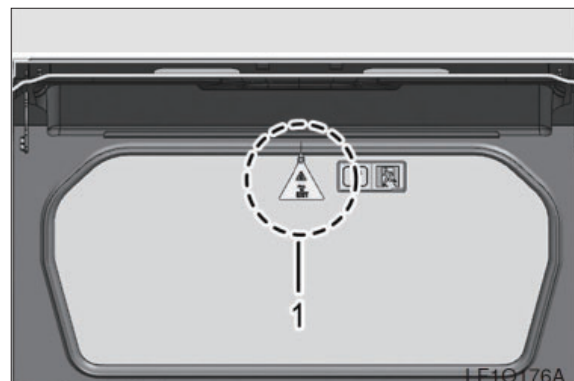


This machine is equipped with a removable rear glass. In the event of a machine roll-over or other incident causing the door to be blocked, damaged or inoperable for exit, follow the directions for rear glass removal to safely exit the machine.



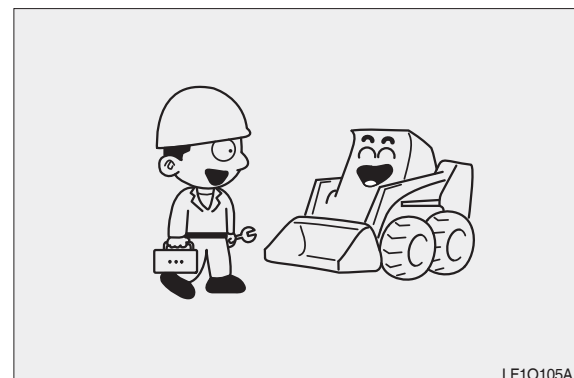
In an emergency, you can escape from the cabin by following the tips below.

- Pull out the window glass handle installed near the rubber sealing strap of the rear window of the cabin by hand.
- When the inner rubber is separated from the sealing strap, pull the inner rubber out with your hand to completely separate it.
- Push the rear window glass firmly outward to separate the glass from the cabin frame.
- Once the rear window glass is completely separated from the cabin, you can carefully escape outside.



(1) Handle on the rear window glass

Inspect the machine daily for loose, damaged or missing hardware or other items before use.

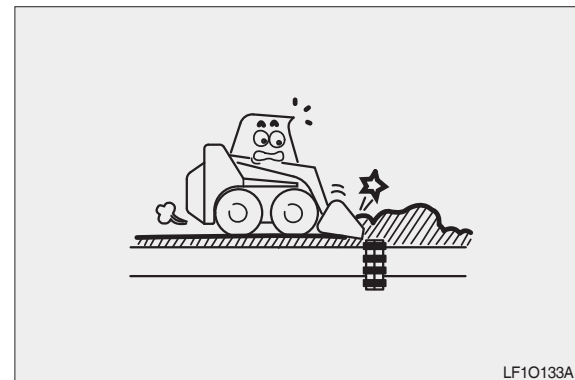


Always survey the surrounding area for bystanders, co-workers or hazards within the work area. NEVER start the machine with people next to the machine, in the general working area or before reviewing and addressing any hazards within the working area. For high traffic areas, it may be necessary to designate a safety person or someone who can coordinate personnel and machine traffic safely and without risk to people, property or equipment.

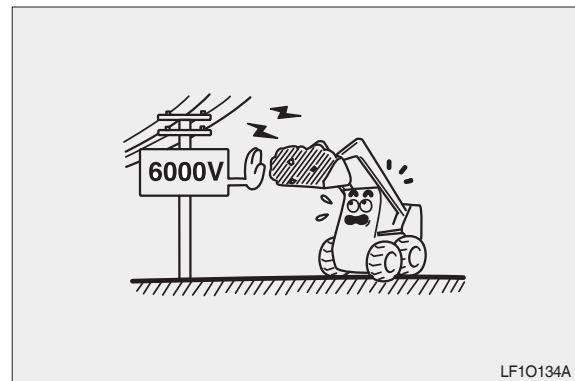
NEVER place your hands or head outside the machine or attempt to leave the driver's seat while the machine is in operation.



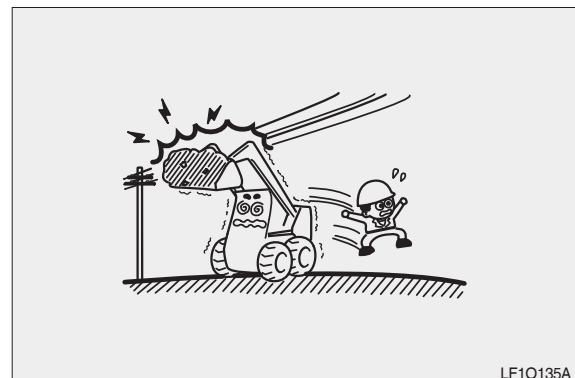
When working on a site with underground utilities or suspected underground utilities (electric, gas, water, sewer, etc), or work is being performed near underground utilities, always contact the local utilities locating service before performing any work. Failure to locate utilities prior to beginning work could lead to injury or machine or property damage.



Working near overhead power lines is extremely dangerous. Maintain a minimum of 15 feet from any overhead power line to minimize the risk for injury or machine damage due to electric shock

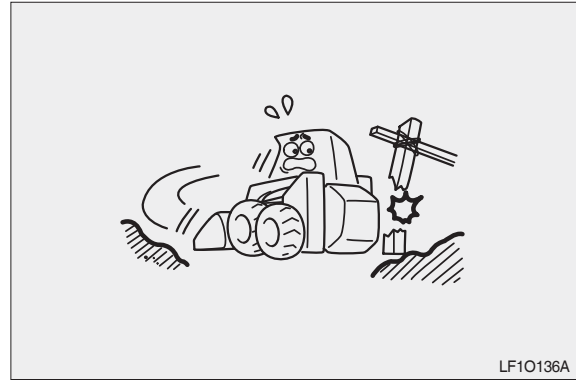


Should you make contact with a live electrical wire, shut the machine down, dial for emergency help immediately and remain calm. Leaving the operator station while the machine is in contact with a live electrical wire could cause severe burns or electrocution. NEVER leave the operator's station for any reason until emergency personnel have verbally cleared you to leave the machine.

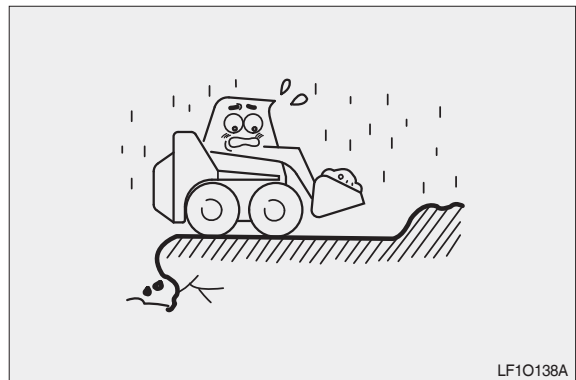


Always survey the surrounding area for bystanders, co-workers or hazards within the work area.

When working in an area with multiple obstacles or hazards, pay extra attention, especially when turning or backing to try and avoid bringing the machine into contact with the obstructions or hazards to minimize risk for injury or damage to the machine.



Avoid working near steep drop offs or areas where the ground may be unstable and is likely to slide, sink or suddenly drop in elevation. Heavy rains, extremely wet conditions or areas that have undergone excessive grading may become weak or be more susceptible to experience these conditions which could lead to injury, machine damage or become at high risk for machine roll-over.

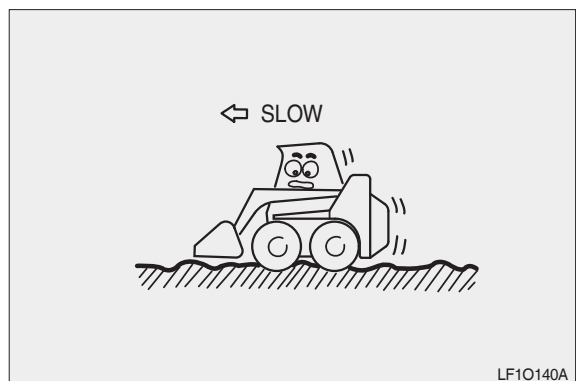


This machine is designed for pushing, lifting, excavating and powering optional hydraulically driven attachments. Operation of this machine for work or duties outside of it's intended scope could lead to injury or machine damage.



Drive slowly when passing through an uneven road or obstacles. In particular, make sure not to have the center of gravity move drastically when passing through obstacles.

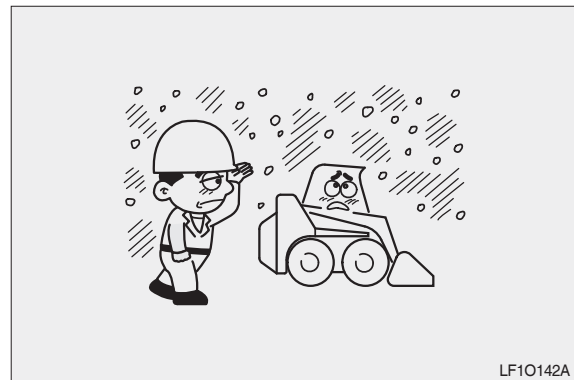
Otherwise, the machine may be damaged or casualties may result due to the risk of the overturning of the machine.



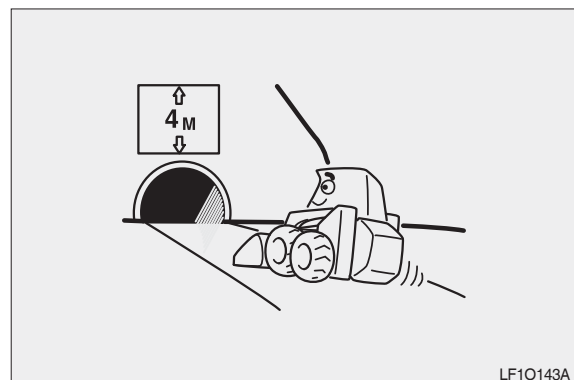
When operating the machine in low light conditions, turn the front and rear work lights on to improve forward and rearward visibility. If additional light is needed inside the cabin, the interior dome lamp can be turned on for additional illumination and improved interior visibility.



Should visibility reach a point that the operator can't clearly see a minimum of 10 feet around the machine in all directions, it is recommended to cease operations till visibility improves. Operating under conditions that impair visibility in the working area around the machine could lead to injury or machine damage.

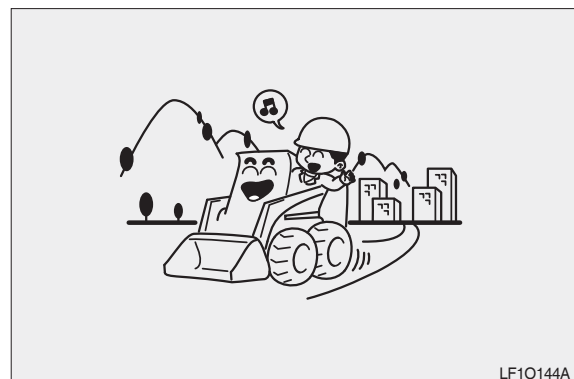


Utilize extreme caution when operating the machine in confined spaces, especially those with limited overhead clearance such as tunnels, overpasses etc. to prevent injury, machine or property damage.



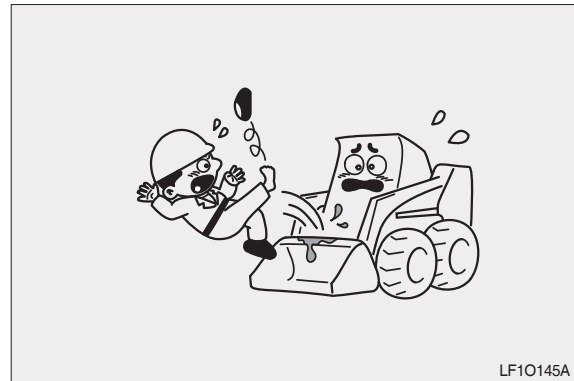
It is the operator's responsibility to read and fully understand the owner's manual and all safety decals. Prior to machine operation, confirm all safety features are installed and operating correctly.

Always comply with all local, state and federal guidelines and requirements and only operate the machine under safe working conditions.

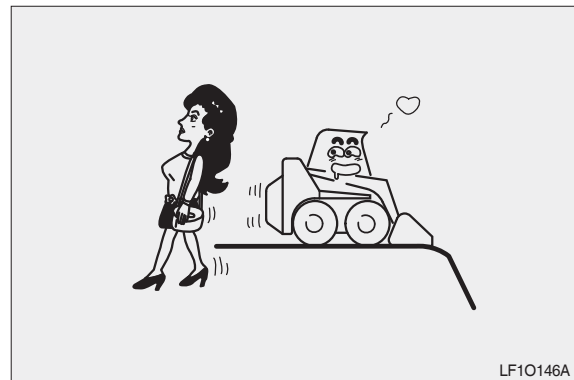


Use the safety handles and steps when getting on or off the machine. **NEVER** attempt to jump on or off the machine without using the handles and steps.

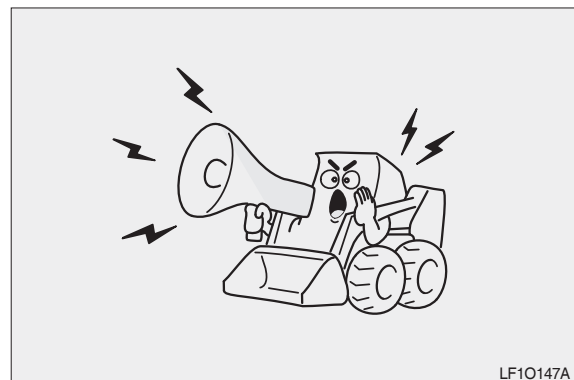
Always keep the handles and steps clean and free of grease or fluids, mud and debris to minimize the risk for slipping, falls or injury.



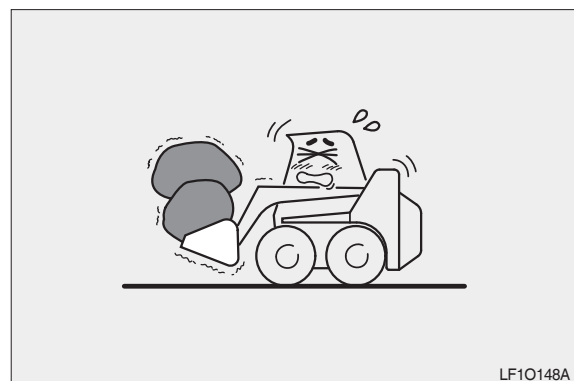
Always focus on the safe operation of the machine and **NEVER** operate the machine if you are distracted, disoriented or under the influence of alcohol or drugs.



Always sound the horn to alert others that the machine is going into motion before starting to perform any work or travel.



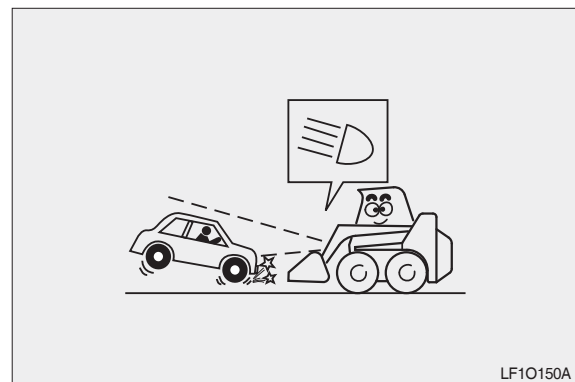
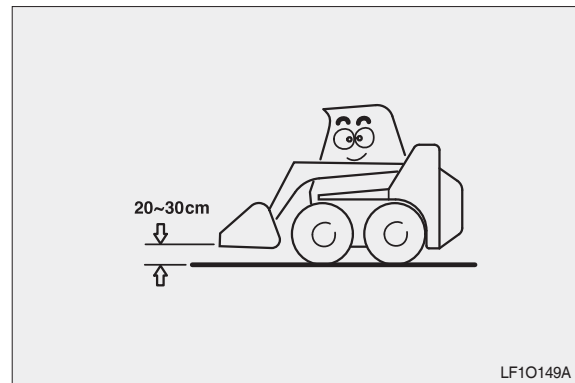
Overloading the machine could lead to injury, machine or property damage. Always operate the machine within the safe working load limits outlined in this manual. Always keep loads low to the ground and avoid sudden starts, stops or turns to maintain a low and stable center of gravity to prevent risk of machine roll-over.



Only operate this machine on public roads or highways if absolutely necessary. Always turn working lights and hazard lights on before entering the roadway to improve visibility and alert others to the machine's presence. If possible, utilize a spotter or pilot vehicle to alert others of the machine's presence.

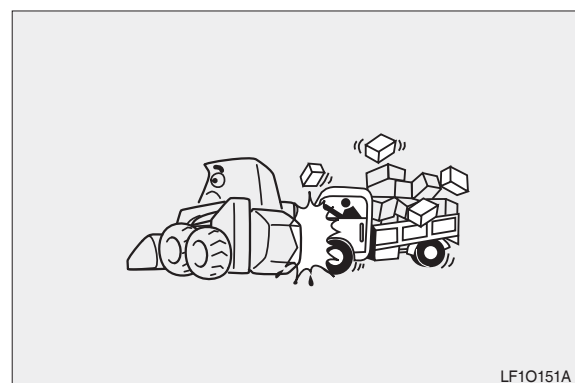
When operating on public roads or highways, always keep loads low to the ground but not too low to make contact with the road. Avoid sudden starts, stops or turns to maintain a low and stable center of gravity to prevent risk of machine roll-over.

Always turn on the working lights when operating the machine at night or in low-light conditions.



In the event of a machine breakdown or malfunction while operating on a public road or highway:

- Move the machine to the side of the road, out of the way of traffic.
- On a 2 lane road, place a safety triangle or flare 50 feet in front of the machine, 50 feet behind the machine and 100 feet behind the machine to alert others of the machine's presence on the side of the highway.
- On a divided highway, place a safety triangle or flare 50 feet behind the machine, 100 feet behind the machine and 200 feet behind the machine to alert others of the machine's presence on the side of the highway.

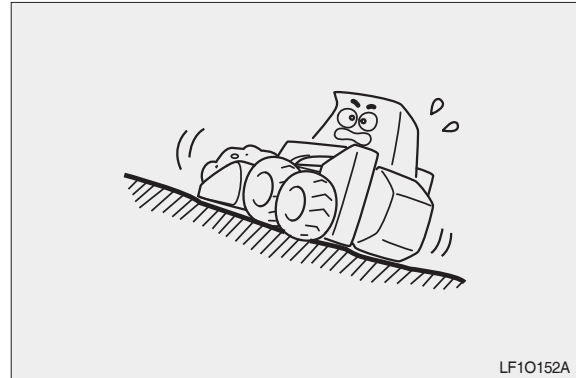


DRIVING ON ROADS

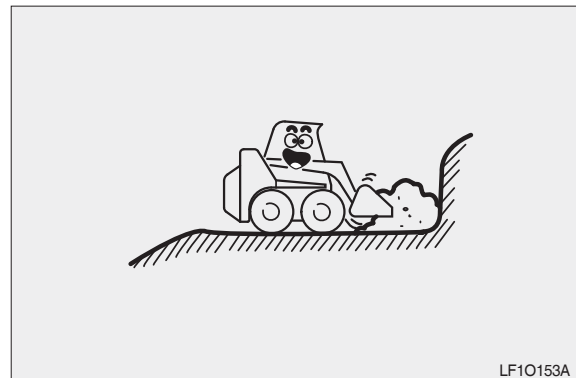
- Follow the traffic rules.
- Avoid driving at night. If it is inevitable, turn on the front and rear work lights and flashers (hazard warning signals) to prevent an accident.
- When driving on a road, do not make sudden movements like stopping or turning and stay in the lane furthest to the right whenever possible and stay on a low-speed lane.
- In case of machine failure: Move the machine to the side of the road, out of the way of traffic and follow the recommended guidelines in this manual for warning alerts to on-coming drivers.

This machine is designed and engineered to operate on a maximum slope of 10° (10 degrees).

Working on slopes can be extremely dangerous. When working on slopes too steep for the safe operation of the machine, loss of load, loss of control or roll-over could occur leading to injury, machine or property damage.

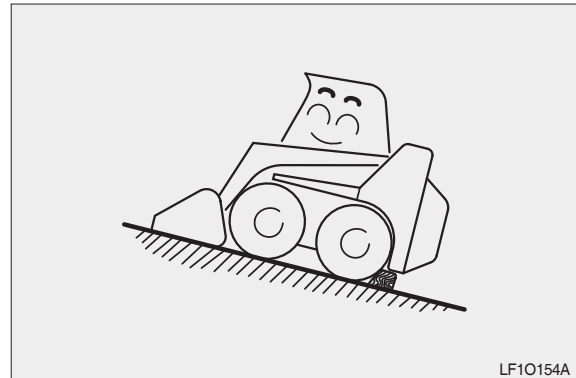


If working on a slope is inevitable, make the ground even before working. Otherwise, an unexpected accident can occur.

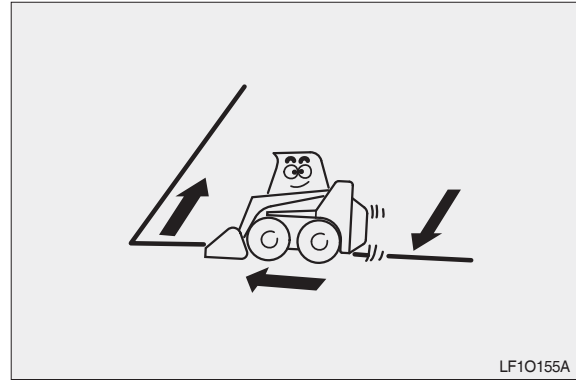


Never stop or park the machine on a slope, exit the operator station and leave the machine unattended. An unattended machine could roll or slide and cause injury, machine or property damage.

Should you need to leave the operator station while the machine is on a slope, always lower the bucket to the ground, engage the park, turn the engine off and remove the key from the ignition. ALWAYS chock the wheels or tracks to prevent an accidental machine slide or runaway.

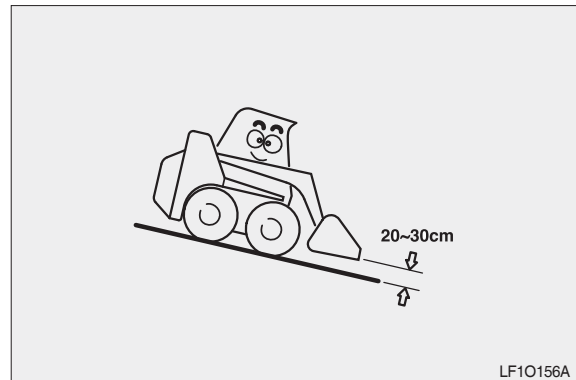


Never operate the machine sideways or across the slope. Always travel up or down the slope to prevent machine roll-over.



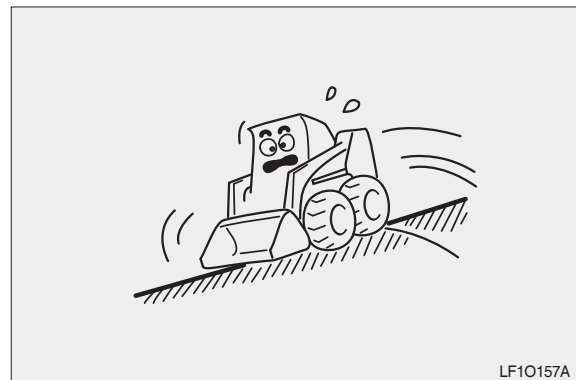
Driving on a slope is dangerous. When driving downhill follow these guidelines:

- Always drive or back slowly downhill.
- If driving downhill, always keep the bucket as close to the ground as possible but never higher than 8" (8 inches) to prevent the machine from tipping.
- If carrying a load, it is recommended to back down the slope, keeping the load uphill.



Turning while driving on a slope is dangerous. Avoid turning on a slope unless absolutely necessary. If you must turn on a slope be sure to:

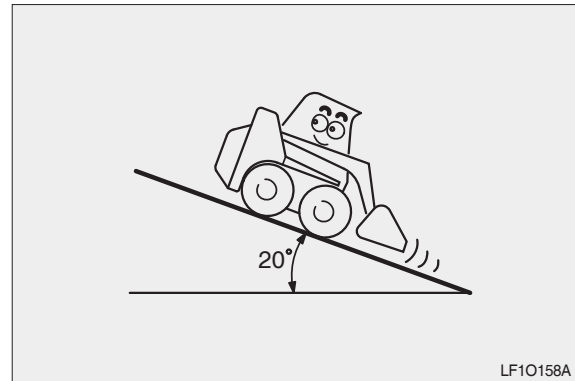
- Always keep the load facing uphill to maintain stability and control.
- Keep the load close to the ground to maintain a low and stable center of gravity.
- Avoid turning on loose or soft soil that could collapse or slide.
- Slow down and make turns cautiously and carefully. Avoid sudden, abrupt or quick movements that could cause the machine to become unstable.
- Only turn if absolutely necessary.



Always use caution when working on slopes. Working on slopes can be extremely dangerous. When working on slopes too steep for the safe operation of the machine, loss of load, loss of control or roll-over could occur leading to injury, machine or property damage.

This machine is designed and engineered to operate on a maximum slope of 20° (20 degrees). Working on slopes greater than 20° (20 degrees) could cause engine damage due to lack of lubrication on internal parts.

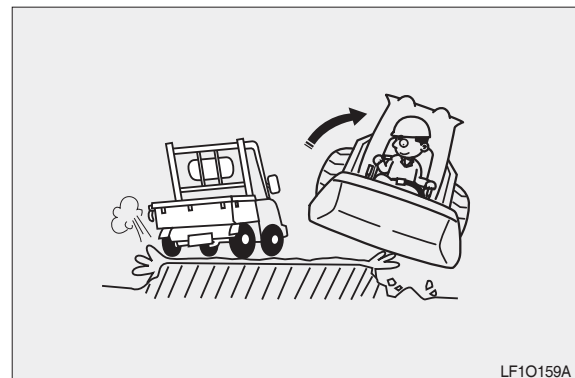
Working on slopes can be extremely dangerous. When working on slopes too steep for the safe operation of the machine, loss of load, loss of control or roll-over could occur leading to injury, machine or property damage.



Always use caution when driving on dirt paths or areas that have recently been excavated or graded. Loose or soft soils can collapse or slide leading to loss of control or stability resulting in potential machine or property damage or injury.

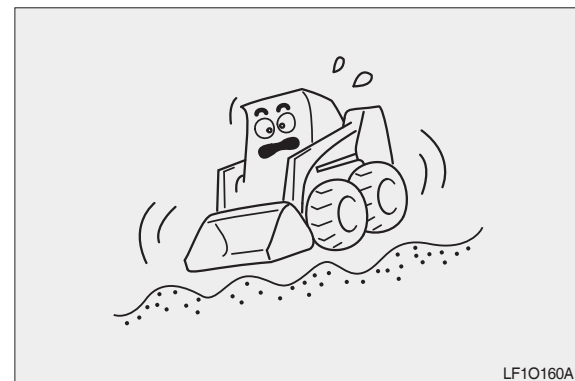
- Do not drive on a soft edge of a road or a grass-covered shoulder.
- Drive at a low speed with care when it is raining or after rain.

Otherwise, the edges can collapse and the machine can roll over. Leading to damage to machine or property or injury.



Always drive at slow speeds under the following conditions:

- Rough or uneven terrain
- Slopes
- Curves or terrain with a lot of twists and turns
- Soft soils or muddy conditions where loss of control could occur.
- When carrying a load
- When operating the machine in conditions where operator visibility is impaired.

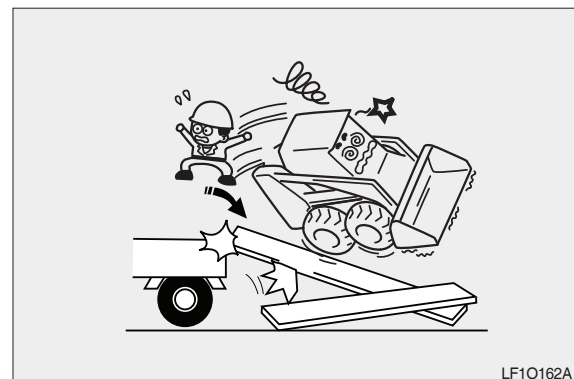
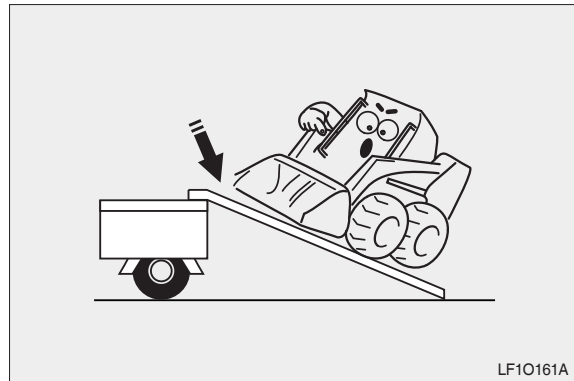


LOADING AND UNLOADING TO /FROM TRANSPORTING TRUCK

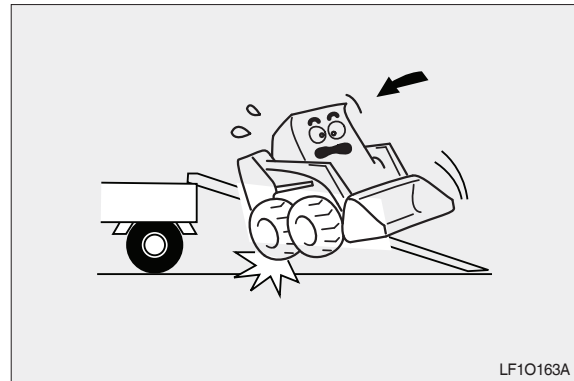
When loading or unloading the machine on a transport vehicle:

- Only load onto trailers or trucks designed to haul heavy equipment with a load carrying capacity rated to handle the machine + attachments..
- Never attempt to load onto a trailer or truck with ramps that are not permanently affixed or designed to be pinned or locked to the trailer or truck bed for loading/unloading.
- Never attempt to load or unload on smooth ramps. Always use ramps with traction plates
- Ramps must be a minimum of 12" wider than the width of the tires/tracks on the machine to minimize the risk of run-off during loading/unloading.
- Ramps should be a minimum of twice as long as the height of the cargo bed to minimize the approach angle. Never attempt to load onto a trailer or truck with an approach angle exceeding 10° (10 degrees).
- Always travel slowly and cautiously when loading/unloading.
- Always keep the load uphill.
- Always properly secure the machine to the transport vehicle with chains utilizing the securing points designed into the machine.

Always align the ramps with the center of both the left and right treads before loading/unloading the machine. Always approach the ramps and move slowly. Never try to turn or re-align the machine while on the ramps. During loading/unloading should the machine not align correctly with the ramps, return to the starting position, align the machine correctly and resume.



Always keep the load uphill. If loading the machine with an attachment, drive up the ramps to load and back down to unload. If loading the machine without an attachment, back the machine up the ramps to load and drive down to unload.



SAFETY PRECAUTIONS DURING THE STORAGE OF THE MACHINE

After daily work is completed

At the end of each work day/shift, be sure to park the machine on a flat, level surface, lower the attachment to the ground, apply the park brake, turn the engine off and remove the key before exiting the cab.

Inspect the machine for damage, loose hardware, leaks, etc. During the inspection, be sure to remove any debris or foreign material from the intake, radiator screens or engine area to reduce the risk of overheating or fires.

Also remove any mud or foreign debris from the undercarriage and belly of the machine if applicable to extend the life expectancy of the machine.

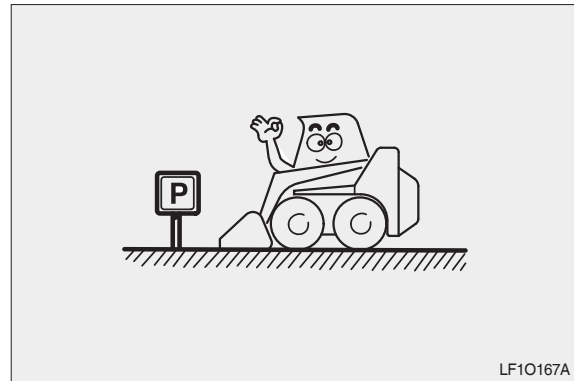


When preparing the machine for overnight storage, be sure to lock the cab (if applicable) and chock the wheels/track to prevent accidental movement.



Never store or park the machine in an area where damage is likely to occur. Examples of improper storage or parking locations include:

- Low-lying areas near creeks or streams that are susceptible to frequent flooding.
- Areas near moving or working equipment.
- Areas prone to falling debris.
- Recently graded areas with soft or loose soil likely to slide or settle.
- On slopes or inclines where the machine is likely to slide or roll.
- On the side of a street or highway.



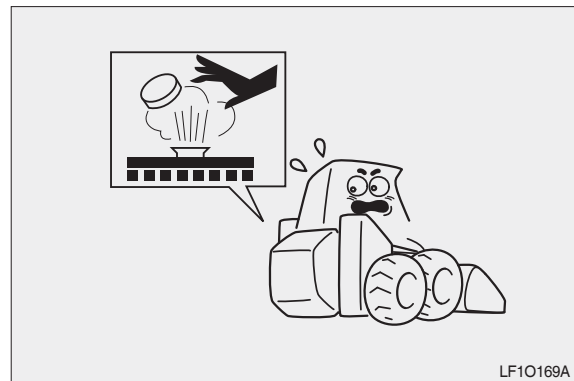
If covering the machine, be sure to allow the machine, including the engine and exhaust to cool before applying the cover. Applying a cover to a hot machine could ignite a fire causing injury or damage to machine or property.



Never open the radiator cap while the radiator is hot.

- Stop the engine and let the engine cool down before opening the radiator cap.
- Check the coolant in the reservoir tank.

Otherwise, Hot liquids and steam can cause burns.



FOR LONG-TERM STORAGE

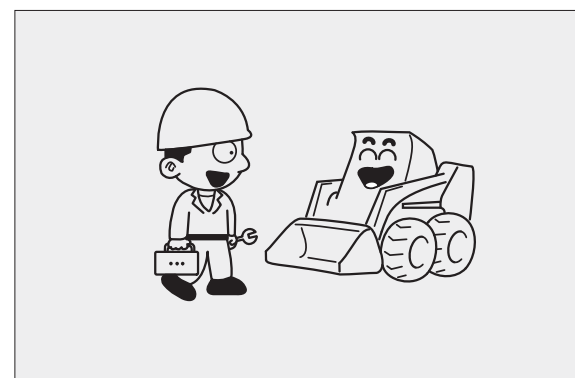
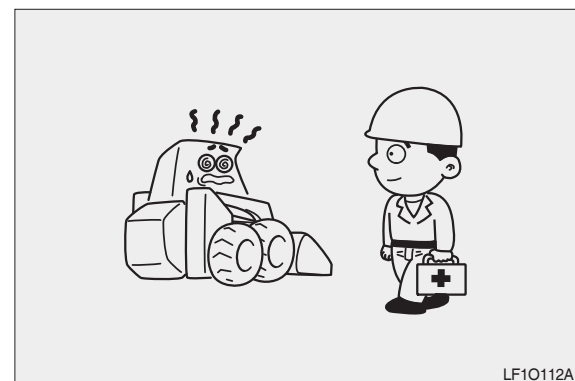
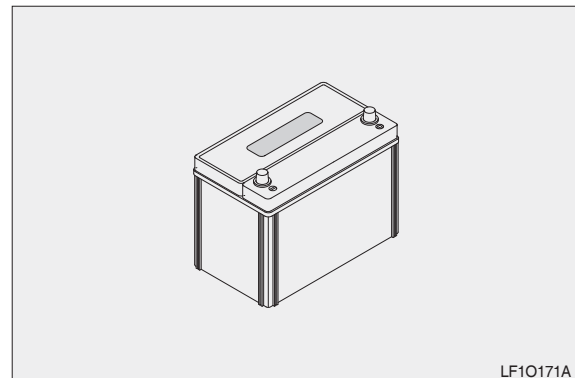
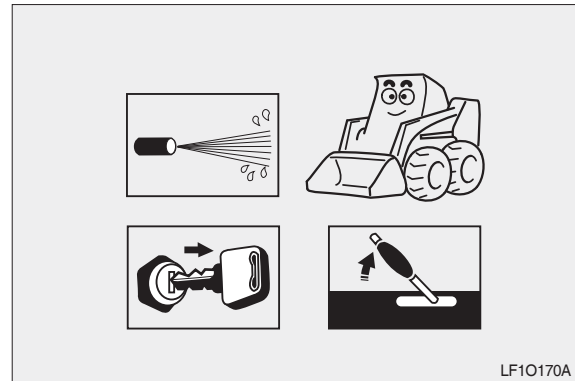
Always store the machine on a flat, level surface with the attachment lowered to the ground, the park engaged, ignition key removed, wheels/tracks chocked and cabin door locked (if applicable). For long-term storage:

- Always inflate the tires (if applicable) to maximum pressure.
- Always remove any debris, mud or foreign material from the machine.
- Fill the fuel tank with clean fuel and add a fuel stabilizer to prevent moisture build up due to condensation.
- Fill the hydraulic reservoir to the recommended operating level to minimize moisture build up due to condensation.
- Inspect the machine for loose hardware, leaks or damage that requires repair prior to storage.
- Turn the battery switch to the "off" position. For storage of more than 30 days, it's recommended to remove the battery from the machine or disconnect the negative cable.

Perform all repairs when issues arise to minimize risk of injury, machine or property damage due to a malfunctioning machine. For repairs under warranty or beyond your skill set, always contact your Authorized HYUNDAI Dealer for assistance.

Small items left unattended become costly and expensive repairs over time. Addressing items quickly saves time, money and reduces the risk for injury or machine or property damage.

Always follow the recommended maintenance schedule to keep your machine operating efficiently. Only use genuine HYUNDAI replacement parts for maintenance and repairs to ensure the correct fit and performance are achieved over the life expectancy of your machine. Maintain records of all maintenance and repairs performed. Follow local, state/territorial and federal/provincial guidelines for the proper disposal of fluids or parts.




PRECAUTIONS OF NAMEPLATE MANAGEMENT

The machine is attached with safety nameplates to ensure safe work. Familiarize yourself with the content of each nameplate and observe with the following.

- ⚠ **Keep the machine clean at all times and be careful not to damage it. If a nameplate is contaminated, clean it with soapy water and wipe it with a soft cloth.**
- ⚠ **Avoid using a solvent like thinner or acetone since it can erase the content of the nameplate.**
- ⚠ **Do not apply the high-pressure washer directly to the nameplate since it can fall off.**
- ※ **If a nameplate is damaged or lost, contact the distributor immediately to get a new one.**
- ※ **Attach the new nameplate to the same location as the old one after cleaning the location and pressing the nameplate to release bubbles through the outside edge.**
- ※ **When replacing the part with an attached nameplate, replat the nameplate also.**

CALIFORNIA PROPOSITON 65

 **WARNING**

CALIFORNIA PROPOSITION 65

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

LF14-0982

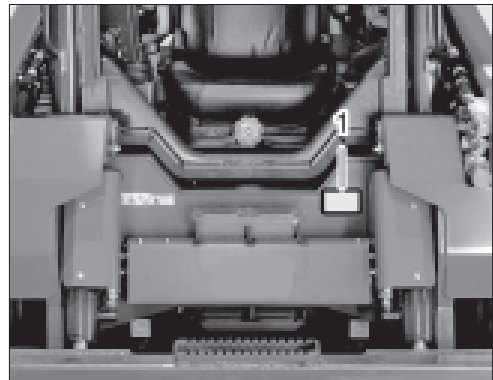
2. PRECAUTIONS

1. VEHICLE IDENTIFICATION NUMBER

1) PRODUCTION(MACHINE) SERIAL NUMBER

1 Production(machine) serial number

The production(machine) serial number is the number by which to identify a product, which is attached on the front of the machine.

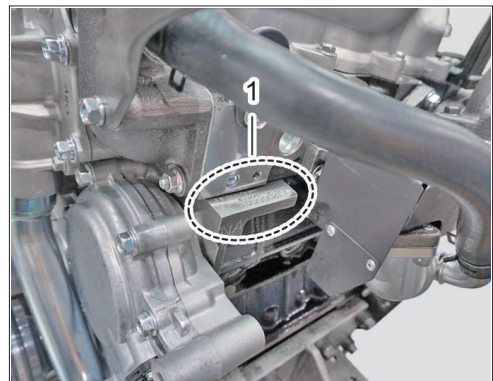


LF1O173A

2) ENGINE SERIAL NUMBER

1 Engine serial number

The engine serial number is engraved on the cylinder block behind the gear case.



LF1O201A

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

Fill in the following fields so that the production and engine serial numbers can be provided immediately when service is needed:

• Machine serial number

• Engine serial number

• Date of Purchase

(To be filled in by purchaser)

2. ESSENTIAL REPLACEMENT PARTS

1) OILS AND FLUIDS

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

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

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



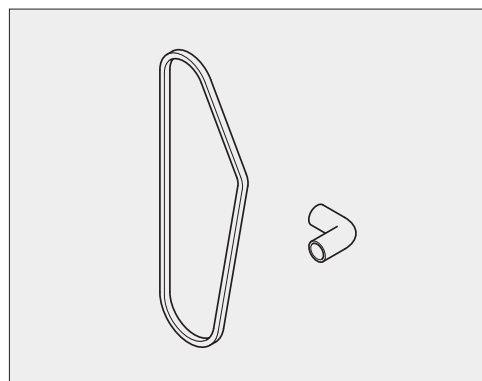
H11O204A

No.	Part name	Specification	Capacity [ℓ (U.S. gal)]
1	Engine oil (including the filter)	Spec: API CJ-4 grade or higher Viscosity (SAE): SAE 15W-40	9.0 (2.4)
2	Hydraulic oil	ISO VG 46, HYUNDAI OIL	38 (10)
3	Chain box (each on the left and right)	SAE 10W-30 or equivalent	13 (3.4)
4	Grease	SAE multi purpose type grease	As needed
5	Anti-freezer	Fresh clean water with ethylene glycol (50:50)	10.4 (2.75)

2) BELTS AND RUBBER PARTS

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

No.	Part name	Qty
1	Fan belt	1

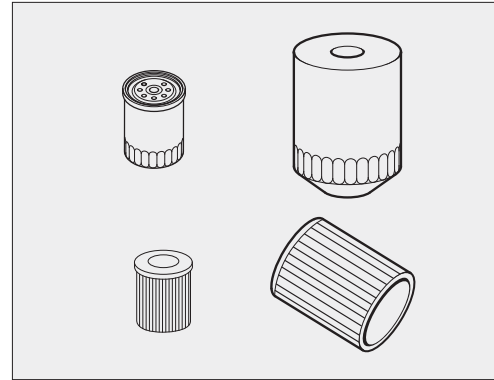


H11O206A

3) FILTERS

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

No.	Part name	Qty
1	Hydraulic filter element - HST	1
2	Hydraulic filter element - Return	1
3	Intake air filter	1
4	Fuel filter	1
5	Oil filter	1
6	Element	1

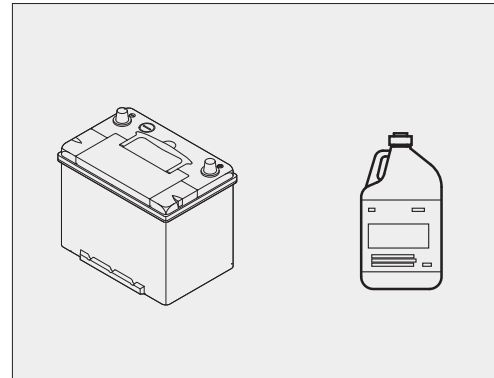


H11O205A-1

4) OTHER COMPONENTS

The battery condition is very important for engine start performance especially in winter. Therefore, make sure to check its condition daily to prevent its discharge. Also, check its service life and electrolyte condition regularly.

No.	Part name	Qty
1	Battery (110AH)	1

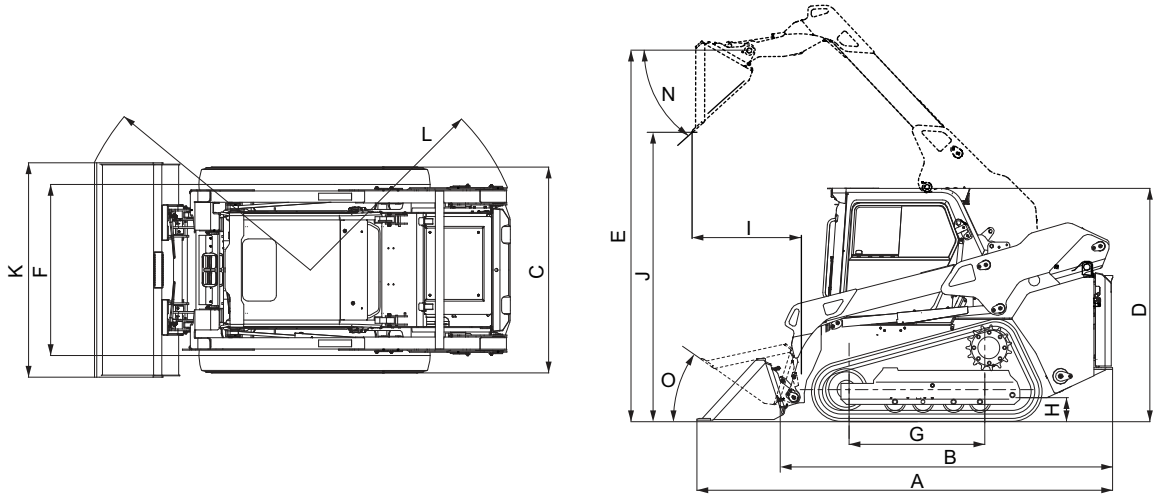


H11O207A

3. SPECIFICATIONS

1. DIMENSIONS

1) HT100V



LF10Q301B

Item		Unit	Specification	Remarks
Overall length	A	mm (ft-in)	3654 (12' 0")	Including the bucket
Overall length	B		2795 (9' 2")	Excluding the bucket
Overall width	C		1794 (5' 11")	Excluding the bucket
Overall height	D		2078 (6' 10")	
Max. height	E		3211 (10' 6")	Hinge pin
Tread	F		1394 (4' 7")	
Wheel base	G		1435 (4' 8")	
Ground clearance	H		230 (9.1")	
Dumping distance	I		916 (3' 0")	
Dumping height	J		2468 (8' 1")	
Bucket width	K		1890 (6' 2")	
Turning radius	L		1720 (5' 8")	Rear
Turning radius	M		2289 (7' 6")	Frontal bucket
Dumping angle	N	degree (°)	44.5	
Rollback angle	O		29	Driving position

2. GENERAL SPECIFICATIONS

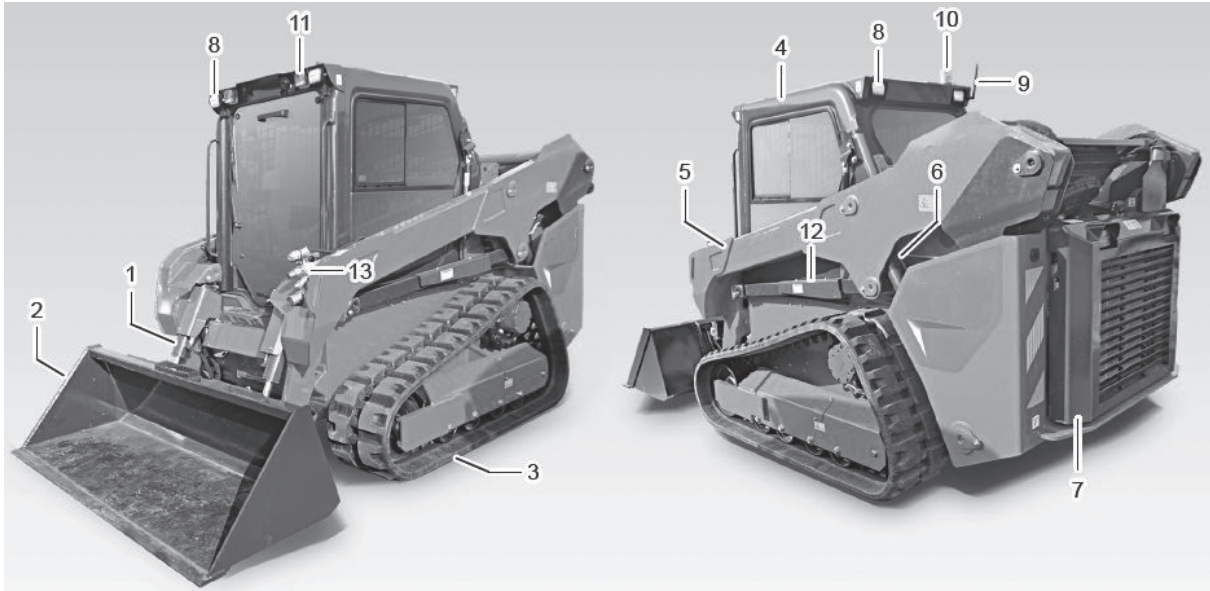
Item				HT100V
Engine	Model			4HTI4
	Rated power (Gross)		HP(kW)	73.6 (54.9)
	Rated RPM		rpm	2400
	No. of cylinders			4 cylinders
	Displacement		cc (cu in)	2435 (148)
Capacity	Fuel tank		ℓ (U.S. gal)	100 (26.4)
	Engine oil (including the filter)		ℓ (U.S. gal)	9.0 (2.4)
	Coolant		ℓ (U.S. gal)	10.4 (2.7)
	Hydraulic tank		ℓ (U.S. gal)	38 (10)
	HST motor gear oil		ℓ (U.S. gal)	1.0 (0.26)
Hydraulic	Standard flow	Loader pressure	bar (psi)	230 (3335)
		Loader flow	lpm (gpm)	82.9 (21.9)
	High flow (opt)	Loader pressure	bar (psi)	-
		Loader flow	lpm (gpm)	-
		Hydraulic output	HP (kW)	-
Driving	Speed - Low range		kph (mph)	7.5 (4.7)
	Speed - High range		kph (mph)	11.5 (7.1)
Operation	Operation weight (with operator)		kg (lb)	4395 (9689)
	Tipping load		kg (lb)	2980 (6570)
	Breakout force, Tilt (Bucket)		kg (lb)	2500 (5512)
	Breakout force, Lift		kg (lb)	2275 (5016)
	Boom type			Vertical
	Control			ISO pilot joystick control
	Track tension type			Grease
Cabin	ROPS			O
	FOPS			O
Noise	Interior (ISO 6396:2008)			80
	Exterior (EU Directive 2000/14/EC)			101

3. LIST OF OPTIONS

Item	HT100V
Seat belt (3 inch)	Option installed
Hydraulic oil (VG 32)	Option installed
Bucket - 74" (0.40 m ²)	Option installed
Bucket - 78" (0.56 m ²)	Option installed
Sweeper	Option installed
Fork - 1050 L	Option installed
Grapple (tongs)	Option installed
Beacon lamp	Option installed
Side mirror	Option installed
Turn light	Option installed
License plate light	Option installed
Extinguishers-Small (0.7 kg)	Option installed
Radio / Bluetooth / UsB	Option installed
Rear camera	Option installed
LUXEN (PC) glass	Option installed

4. CONTROL DEVICES

1. LOCATIONS



TL7O401B

- | | | | | | |
|---|---------------|----|---------------|----|-------------------------|
| 1 | Tilt cylinder | 6 | Lift cylinder | 11 | Turn signal lamp |
| 2 | Bucket | 7 | Rear door | 12 | Boom lock |
| 3 | Tire | 8 | Work lamp | 13 | Auxiliary coupler block |
| 4 | ROPS cabin | 9 | Antenna | | |
| 5 | Boom | 10 | Beacon lamp | | |

2. SWITCHES

1) MOUNTING LOCATION



LF10402B

- | | | | | | |
|---|----------------------------------------|---|------------------|----|------------------------------|
| 1 | Engine acceleration dial | 5 | Instrument panel | 10 | Left control lever (driving) |
| 2 | Right control lever
(Boom & bucket) | 6 | Key switch | 11 | Air conditioner controller |
| 3 | Seat bar | 7 | Power outlet | 12 | Right control panel |
| 4 | Relay box (Cabin) | 8 | Stereo | 13 | Left control panel |
| | | 9 | Driver's seat | | |

2) KEY SWITCH

- 1 Key switch
- A OFF
- B ON
- C START

(1) OFF (A)

It allows for inserting or removing the ignition key, and while the engine is running, turn the key to "OFF" to turn off the engine.

(2) ON (B)

The position "B" indicates the "ON" position. It turns on the whole system of the machine.

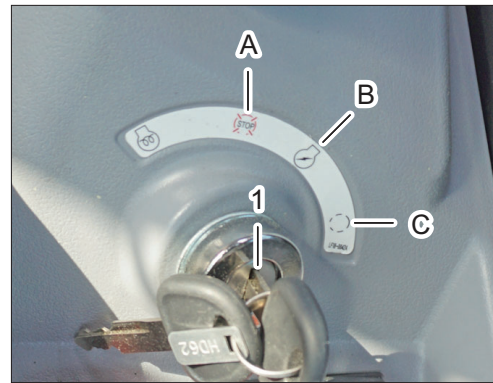
(3) START (C)

The "C" location is the ignition location, which is used to turn on the engine. Take off your hand as soon as the engine starts.

▲ Stop the engine immediately if the oil pressure warning lamp does not go off after the engine is started. The engine may be severely damaged.

▲ If the battery charge warning lamp does not go off after the engine is started, check the electrical systems, such as the alternator, for damage. Continuing to use the engine under this condition can discharge the battery or damage other electrical devices.

※ This machine is equipped with the restart prevention system so that even if the key is on the START position while the engine is running, it won't restart the engine.



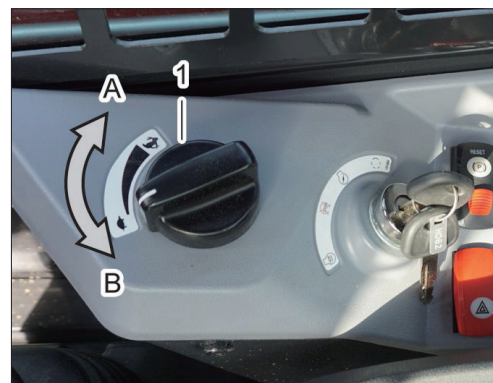
LF1O403B

3) ENGINE ACCELERATION DIAL

- 1 Engine acceleration dial
- A Acceleration
- B Deceleration

This dial controls the RPM of the engine. Turn the dial to the right to increase the RPM, and turn it to the left to decrease the RPM.

To stop the engine, turn the dial to the left to reduce the RPM to its minimum, and turn the ignition key to "OFF".



LF1O404B

4) HYDRAULIC UNLOCK SAFETY SWITCH

1 Hydraulic unlock switch

Use this switch to unlock (reset) the operation system which is locked for safety.

When you pull up the seat bar while the engine is running or turn off the engine, the machine automatically is set to the parking state. After lowering the seat bar, press the reset switch to release the lock and work is possible.



LF1O409A

5) PARKING SWITCH

1 Parking switch

When parking, press the switch. When the switch is pressed, the parking and driving devices are locked and the parking lamp (P) is turned on.

※ If you lift the seat bar or turn off the engine while starting, it automatically enters the parking state.



LF1O404A

6) MAIN LIGHT SWITCH

1 Main light switch

A OFF

B Step 1

C Step 2

This switch is in two steps to turn on the front and rear work lamps in sequence.

Switch	Functions
OFF	OFF position
Step 1	The front work lamp (headlamp) comes on.
Step 2	The front/rear work lamps come on.



LF1O405A

7) SELF-LEVELLING SWITCH (IF INSTALLED)

1 Self-levelling switch

This switch is used for the self-levelling operation. When in operation, the self-levelling lamp () comes on the instrument panel.

The self-levelling function maintains the parallel position between the bucket and the ground automatically according to the elevation angle of the boom.



LF1O4D1A

8) WIPER/WASHER SWITCH (CABIN TYPE)

1 Wiper / washer switch

A OFF

B Step 1

C Step 2

This switch is in two steps to run the wiper and the washer in sequence.

Switch	Functions
OFF	OFF position
Step 1	The wipers are on.
Step 2	The washer fluid is sprayed and the wipers are on. The washer function is activated only when the switch is pressed. When the switch is not pressed, the wipers return to their original location.



LF1O410C

9) BEACON LAMP SWITCH (OPTIONAL)

1 Beacon lamp switch

This switch can be used to warn other vehicles when malfunction occurs in the vehicle while driving on a public road. Press the switch to turn on the beacon lamp on the top of the cabin.

▲ If the beacon lamp is turned on for an extended period of time while the engine is stopped, the battery can be discharged. Therefore, use them only in emergency.



LF1O410D

10) HAZARD WARNING FLASHER SWITCH

1 Hazard warning flasher switch

This switch can be used to warn other vehicles when malfunction occurs in the vehicle while driving on a public road. The turn signal lights cannot be operated while the hazard warning flasher is in operation.



LF1O4D2A

11) TURN SIGNAL LAMP SWITCH

- 1 Turn signal lamp switch
 - A Right turn
 - B Left turn

The turn signal lamp switch is used when you want to change the turning direction of the machine or to warn other vehicle or machine. Press the lower part to have the left turn signal lamp blink, and press the upper part to have the right turn signal lamp blink.


- ※ **The turn signal lamp switch is not a self-return type. Therefore, make sure to return the switch manually after turning the machine.**
The turn signal lights can be operated without the key inserted.



LF104D3B

12) AUX SWITCH

- 1 AUX switch

This switch controls the external hydraulic pressure and power function and can be used after the implement is installed. When in operation, the AUX lamp () on the instrument panel comes on. When using the external hydraulic pressure, press the switch (ON) and control the pressure by the joystick switch and dial on the right. (refer to page 4-13.)






LF104D4B

13) HIGH FLOW SWITCH

- 1 High flow switch
- 2 AUX switch

This switch is used for work that requires flow due to the addition of optional implements, and the system operates by running the AUX pump (high flow pump).


It can be used by pressing the AUX button, which turns on the AUX lamp (), AUX hydraulic lamp () and high flow lamp (). (refer to page 4-13).



LF104D5B

14) HYDRAULIC LOCK SWITCH

1 Hydraulic lock switch

This switch is used to block the hydraulic lines for implements (boom, AU X). When in operation, the hydraulic lock indicator () on the instrument panel comes on.



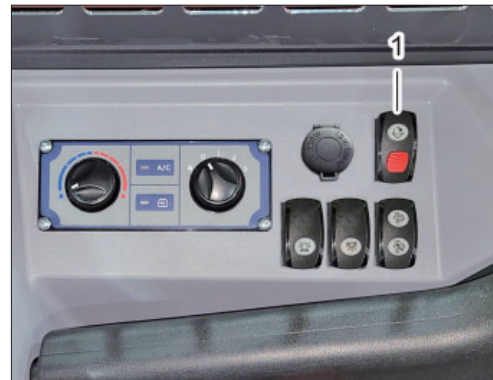
LF1O4D6B

15) QUICK ATTACHMENT SWITCH (IF INSTALLED)

1 Quick attachment switch

It is used to attach or detach the front implement (loader).

⚠ If the lock is released while driving, the loader may fall onto the cabin. Therefore, never use the unlock function while driving.



LF1O4D7A

16) DPF REGENERATION SWITCH

- 1 DPF regeneration switch
- A Activation
- B Deactivation

Activation (upper portion of switch)

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

- (1) Park the machine on a flat surface.
- (2) Idle the engine.
- (3) Press the parking switch and fix it in place.
- (4) Put all levers into the neutral position.
- (5) Run the engine for 3 to 4 minutes. Then, press the activation portion of the regeneration switch for approx. 2 seconds.
- (6) The regeneration warning lamp goes off and the regeneration process lamp blinks.

Before resuming your work, wait for approx. 30 to 40 minutes until the regeneration process is completed.

※ The illumination timing of the regeneration process lamp may differ depending on the DPF temperature.

Deactivation (lower portion of switch)

Do not press the deactivation button while the regeneration process is activated.

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

▲ To protect the catalyst filter, keep the followings:

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



LF1O4D8B

17) A/C SWITCH (CABIN TYPE)

1 A/C switch

This switch is used to control the heater. It is only applied to the vehicle equipped with an A/C. (For details, refer to the page 4-36.)



LF1O411C

18) INTERIOR LAMP SWITCH

1 Interior lamp ON/OFF switch

Press the button to turn the Interior lamp on or off.



LF1O406A

3. CONTROLS



LF1O414A

- 1 Right control lever (boom & bucket)
- 2 Left control lever (driving)
- 3 Throttle pedal

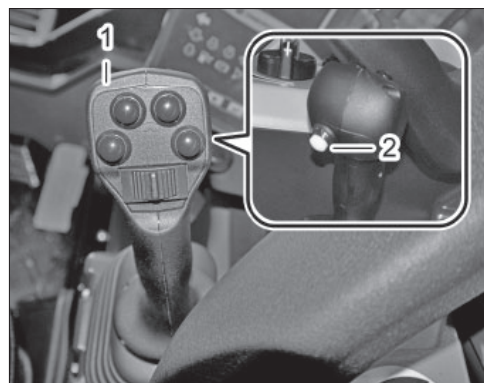


LF1O415A

1) RIGHT CONTROL LEVER (BOOM & BUCKET)

- 1 Right control lever
- 2 AUX electric mode activation button

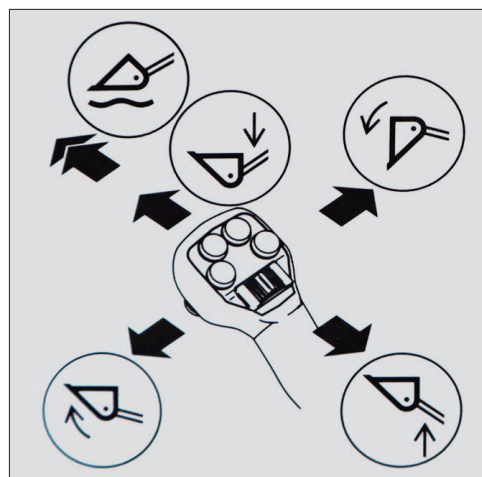
The right control lever is used to control the boom and the bucket. Also, with the AUX button on the joystick pressed, the lever can be used for hydraulic or electric work. (However, any electric work can be performed only after pressing the AUX electric mode activation button.)



LF1O4E1A

(1) Lever operation

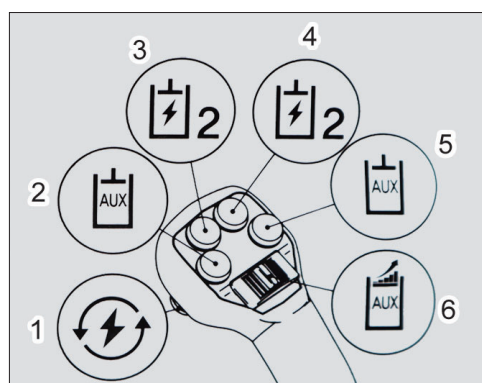
Direction	Function
	Boom floating
	Bucket up
	Bucket down
	Boom up
	Boom down



LF1O4E2A

(2) Lever button operation

No.	Buttons	Functions
1		AUX electric mode activation button
2		AUX port: Male coupler port (Refer to page 4-16)
3		14-pin power supply-E
4		14-pin power supply-F
5		AUX port: Female coupler port (Refer to page 4-16)
6		AUX jog dial (M← →F)



LF1O4E3A

(3) Aux electric mode activation button

With AUX switch ON :

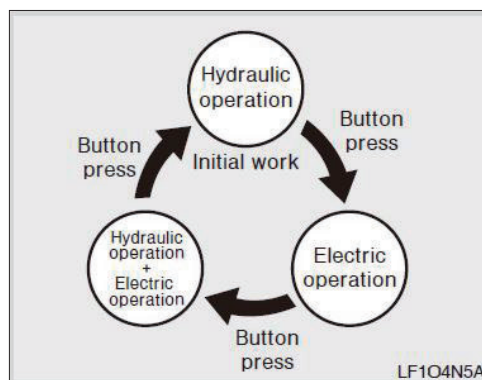
Initially, the auxiliary hydraulic operation mode () is activated. Pressing the AUX electric mode activation button () activates the auxiliary electric operation mode ().

Pressing the button again enables simultaneous auxiliary hydraulic operation and auxiliary electric operation mode (+).

When pressing the button again, the activation cycle is reset, starting from the initial auxiliary hydraulic operation mode. The lamp on the instrument cluster also indicates the current operating state.

With AUX switch OFF :

No auxiliary operation mode can be activated.

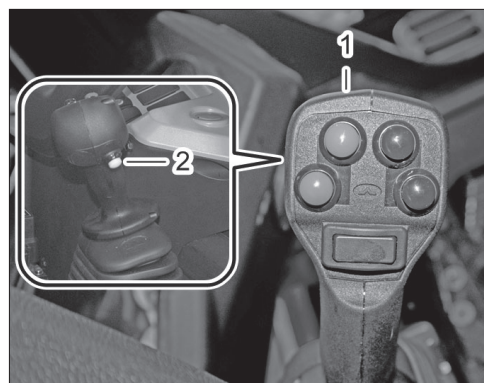


LF1O4N5A

2) LEFT CONTROL LEVER (DRIVING)

- 1 Left control lever
- 2 2-speed button

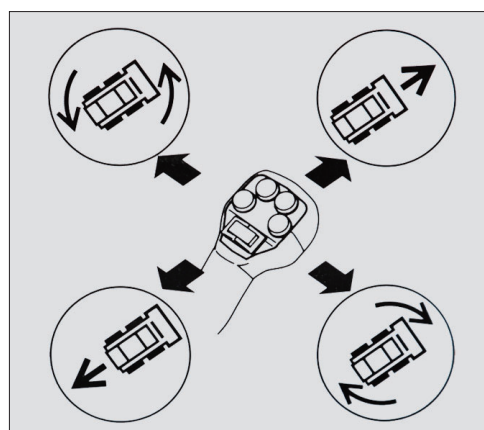
With the left control lever, you can move the vehicle forward or backward, and turn it to the left and right. In addition, the AUX power operation, ride control, 2-speed and horn functions can be used by pressing the button on the control lever.



LF1O4E6A

(1) Lever operation

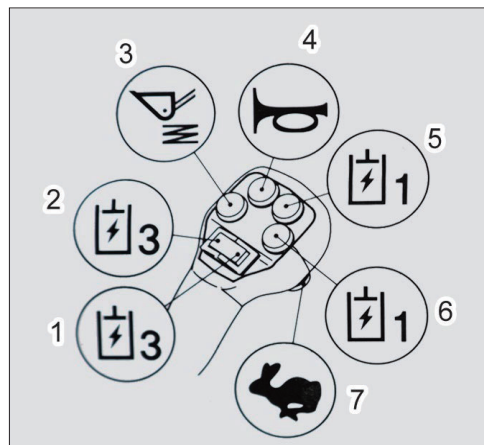
Direction	Functions
	Forward
	Reverse
	Left turn
	Right turn



LF1O4E3A-1

(2) Lever button operation

No.	Buttons	Functions
1		14-pin power supply-G
2		14-pin power supply-H
3		Ride control
4		Horn button
5		14-pin power supply-C
6		14-pin power supply-D
7		2-speed button




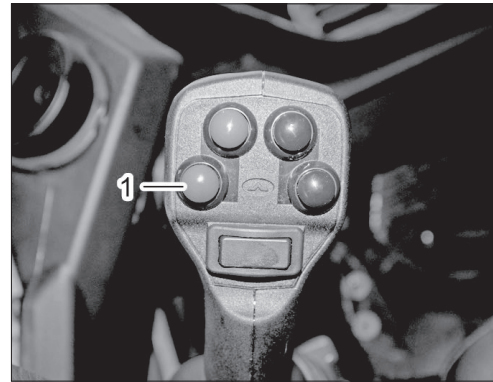
LF1O4E4B

(3) Ride control

1 Ride control button

When driving the loaded machine on an uneven road, the movement delivered to the boom is directly sent to the machine, causing an unstable driving condition. Under this condition, pressing the ride control button allows for the movement delivered from the road surface to the boom to be forcefully controlled by the hydraulic action of the accumulator in the ride control valve, which cancels some vibration, resulting in a stable driving condition.

When in operation, the ride control lamp () on the instrument panel comes on.

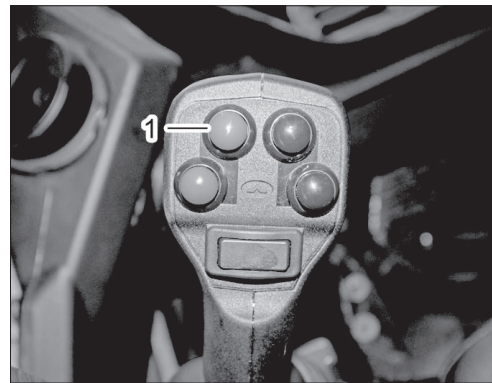


LF1O4H1A

(4) Horn button

1 Horn button

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

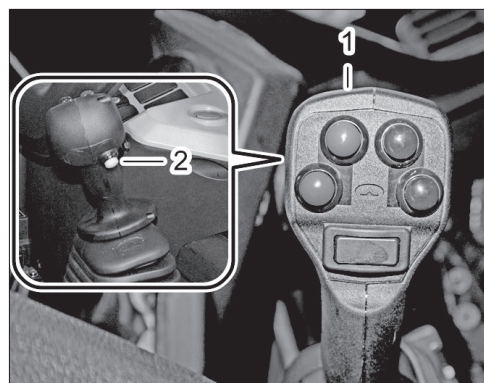


LF1O4H2A

(5) 2-speed button (selflevelling, quick attachment, high flow model)

- 1 Left control lever
- 2 2-speed button

The vehicle speed can be controlled in two steps by the driving motor. Pressing the button while driving allows for the second (high-speed) driving mode. When in operation, the 2-speed lamp (🔌) on the instrument panel comes on.



LF1O4G6A

3) HOW TO OPERATE EXTERNAL HYDRAULIC PRESSURE

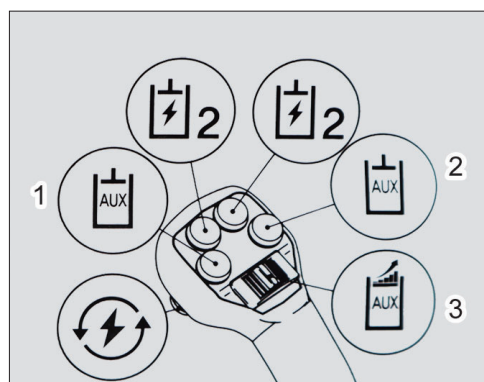
- 1 AUX switch

- (1) Turn the AUX switch ON.
- (2) Press the right control lever button 1 to continue supplying hydraulic pressure to the male coupler.
- (3) Press the right control lever button 2 to continue supplying hydraulic pressure to the female coupler.
- (4) The flow level can be controlled by the jog dial, and more flow will be introduced by pushing it from the center to the edge. Push the jog dial to the left to supply the hydraulic pressure to the male coupler and to the right to supply it to the female coupler.
- (5) It is possible to set the flow level of each button (1, 2). Please refer to the setting function on the instrument panel. (Page 4-38, 'Hydraulic pressure control'.)



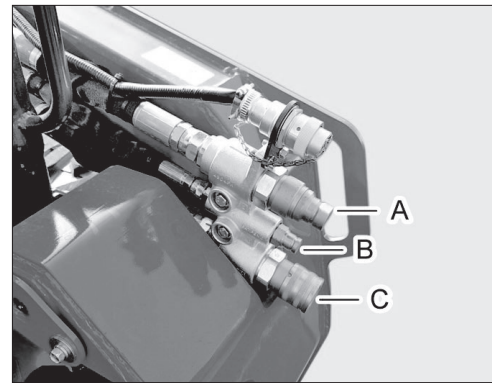
LF1O4G2B

- 1 Male coupler operation button
- 2 Female coupler operation button
- 3 Jog dial



LF1O4E3A-1

- A Male coupler port
- B Return port
- C Female coupler port



LF1O4G4A

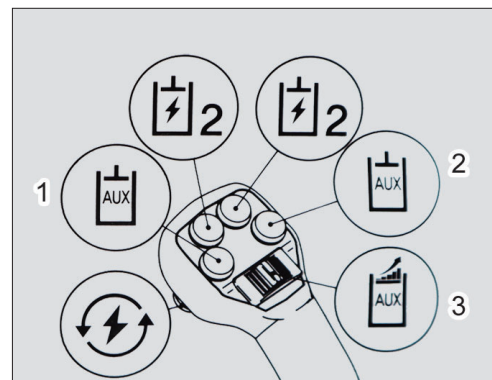
4) HOW TO OPERATE THE HIGH FLOW FUNCTION

- 1 High flow switch
- 2 AUX switch



LF1O4D5B

- 1 Male coupler operation button
- 2 Female coupler operation button
- 3 Jog dial






LF1O4E3A-1

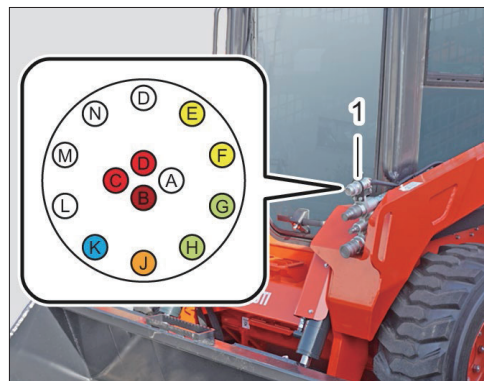
- (1) Turn on the AUX switch and high flow switch.
- (2) Turn the right control lever button 1 or jog dial to the left to operate the high flow function to the male coupler, which allows for more flow supply.

▲ The high flow function can be activated by operating the right control lever button 1 or turning the jog dial to the left and is only applied to the male coupler.

5) 14-PIN AUXILIARY POWER OUTLET

1 14-pin auxiliary power outlet

After installing the external implement and connecting the aux. power outlet connector, it is possible to operate the control lever button to control the implement. Turn on the auX switch and press the auX electric mode activation button on the right control lever to activate the aux. power outlet, at which the auX lamp () and AUX power indicator () on the instrument panel come on. When pressing the left or right control lever button to output the power, the port lamp to which the power is applied () comes on in the instrument panel.

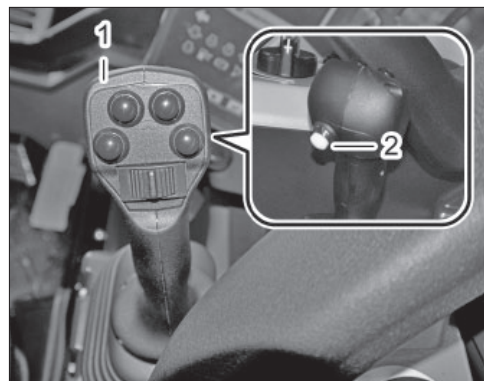


LF1O4E6A-1

6) HOW TO OPERATE THE AUXILIARY POWER

- 1 Right control lever
- 2 AUX electric mode activation button

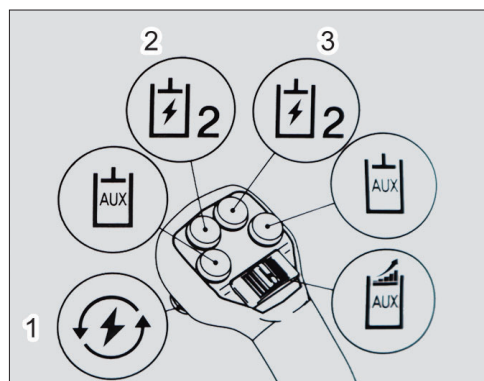
- (1) Turn on the AUX switch.
- (2) Press the AUX electric mode activation button (2) on the right control lever to use the auxiliary external power.



LF1O4E1A

- 1 AUX electric mode activation button
- 2 14-pin power supply-E
- 3 14-pin power supply-F

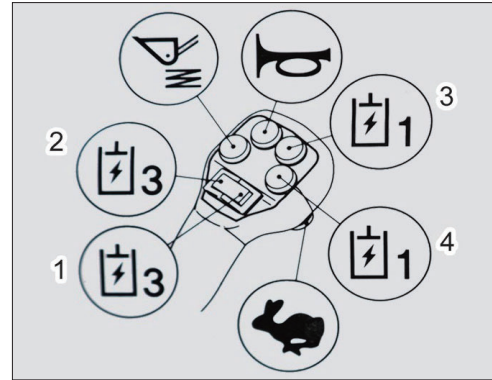
- (3) Press the right control lever button 2 to supply power to the aux. power outlet - E pin.
- (4) Press the right control lever button 3 to supply power to the auxiliary power outlet - F pin.



LF1O4E8A

- 1 14-pin power supply-G
- 2 14-pin power supply-H
- 3 14-pin power supply-C
- 4 14-pin power supply-D

- (5) Press the left control lever button 1 to supply power to the auxiliary power outlet - G pin.
- (6) Press the left control lever button 2 to supply power to the auxiliary power outlet - H pin.
- (7) Press the left control lever button 3 to supply power to the auxiliary power outlet - C pin.
- (8) Press the left control lever button 4 to supply power to the auxiliary power outlet - D pin.



LF1O4G9A

8) THROTTLE PEDAL

- 1 Throttle pedal

The engine speed is controlled by the amount of force applied to the throttle pedal. Depressing it further, the engine speed increases; if not, the engine idles at a low speed.



LF1O418A

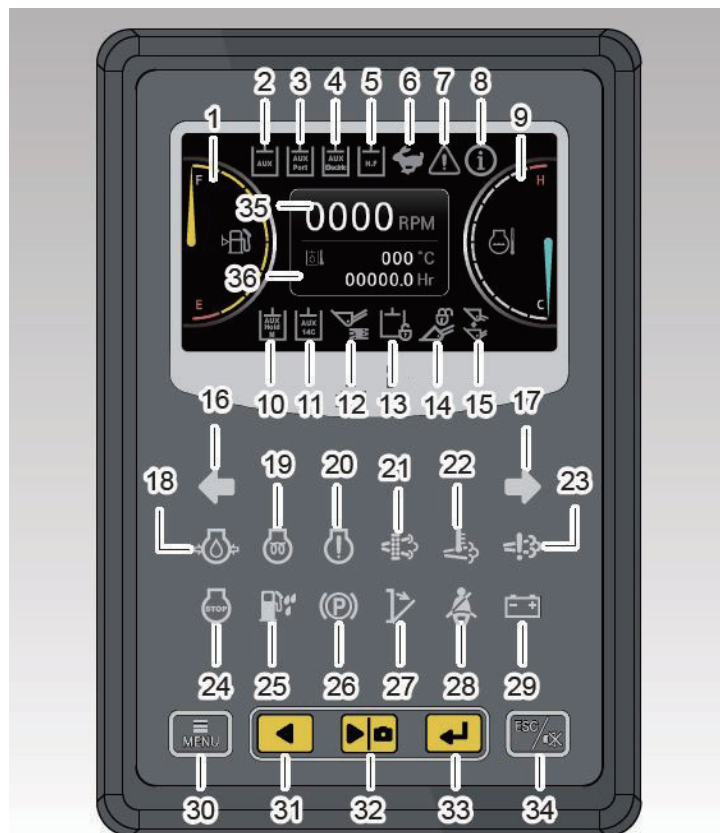
4. INSTRUMENT PANEL

1) INSTRUMENT PANEL FEATURES

The instrument panel consists of the following LCD and switches. The LCD shows the driver the operating condition of the vehicle and any defect status for the correct use and maintenance of the vehicle. Also, it allows for setting various modes, monitoring or other convenience devices and displays their status. Set the machine's operation mode by using switches.

▲ If a warning lamp comes on in the monitor, check the issues immediately and take necessary actions.

※ The monitor does not guarantee the status of the machine. For safe use of the machine, do not rely only on the monitor. Conduct daily checkup procedures according to Chapter 6: Maintenance.



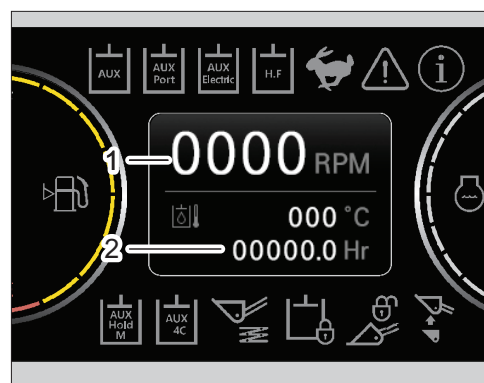
LF1O413U

- | | | |
|---------------------------------------------------------------|-----------------------------------------|--------------------------------------|
| 1 Fuel gauge | 13 Hydraulic lock indicator | 25 Water-In-Fuel warning lamp |
| 2 AUX. indicator | 14 Quick attachment unlock warning lamp | 26 Parking brake warning lamp |
| 3 Auxiliary hydraulic indicator | 15 Self-levelling indicator | 27 Safety cover warning lamp |
| 4 Auxiliary electric port indicator | 16 Left turn signal indicator | 28 Safety bar warning lamp |
| 5 High flow indicator | 17 Right turn signal indicator | 29 Battery Charge Warning Lamp |
| 6 2-speed lamp | 18 Engine oil pressure warning lamp | 30 Menu switch |
| 7 Hazard flasher, High-temperature hydraulic oil warning lamp | 19 Engine preheat indicator | 31 Left menu button |
| 8 Consumables management warning lamp | 20 CHECK ENGINE warning lamp | 32 Right menu button / Camera button |
| 9 Engine coolant temp. gauge | 21 DPF regeneration warning lamp | 33 Enter button |
| 10 Auxiliary hydraulic port indicator | 22 DPF regeneration process indicator | 34 ECS/ Buzzer OFF button |
| 11 AUX. indicator | 23 Emissions system warning lamp | 35 Tachometer |
| 12 Ride control indicator | 24 Engine stop warning lamp | 36 Hour meter |

2) TACHOMETER/HOUR METER

- 1 Tachometer
- 2 Hour meter


The tachometer indicates the engine rpm. The hour meter cumulates the duration of operation of the engine in hour after it starts

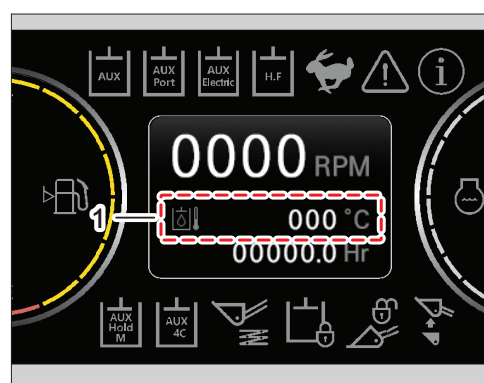


LF1O447B

3) HYDRAULIC OIL TEMPERATURE GAUGE

- 1 Hydraulic oil temperature gauge

It displays the temperature of the hydraulic oil, and if it exceeds 90°C, the warning lamp () will come on and the buzzer will sound. If the lamp comes on, contact a dealer nearby to get it checked.



LF1O447B-1

4) FUEL GAUGE

- 1 Fuel gauge

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

- E: It indicates low fuel (requiring refueling).
- F: Fuel is fully filled.

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



LF1O448B

▲ If the level is in red or the fuel level warning lamp lights in red on the instrument panel, replenish the fuel immediately.

▲ If the level continues to be within the red zone or the warning lamp comes on even after no issues were found, check the electric system as it may be due to the defect in sensors, poor connection of connectors, or the gauge's ground issue.

※ Make sure to use only genuine fuel as the engine can be damaged if unqualified fuel is used.

Use fuel for winter season in cold weather to start the engine easier.

5) ENGINE COOLANT TEMPERATURE GAUGE

1 Engine coolant temp. gauge

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

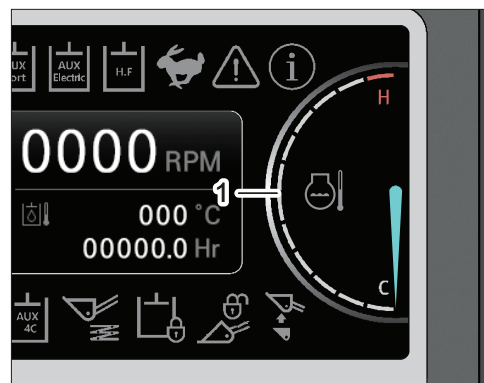
- Amber zone: Low temperature between 55 and 115°C
- Red zone: High temperature at 115°C or over

If the level goes to the red zone or the warning lamp blinks in red and the buzzer sounds while driving, it indicates that the engine is overheated.

Reduce the workload immediately.

▲ Adjust the workload sufficiently so as to not have the level rise up to the red zone.

If the level stays in the red zone, do not stop the engine immediately. Instead, reduce the work load to cool down the engine before stopping the engine.

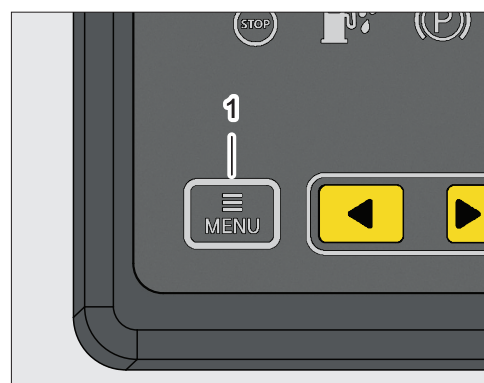


LF1O449B

5) MENU SWITCH

1 Menu switch

Press this switch to return to the main menu from the main screen.



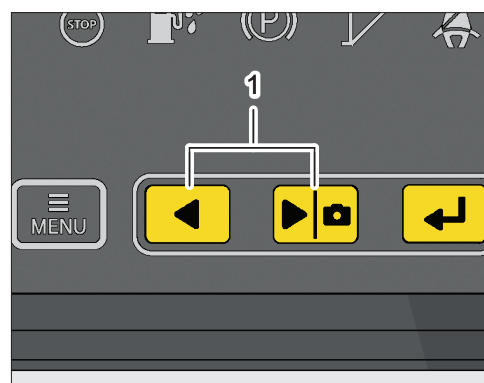
LF1O450B

6) LEFT/RIGHT MENU SWITCH/CAMERA SWITCH

1 Left/right menu switch/camera switch

Move to the left up or right down in the menu to increase or decrease the input value.

The rear camera mode is displayed from the main screen.

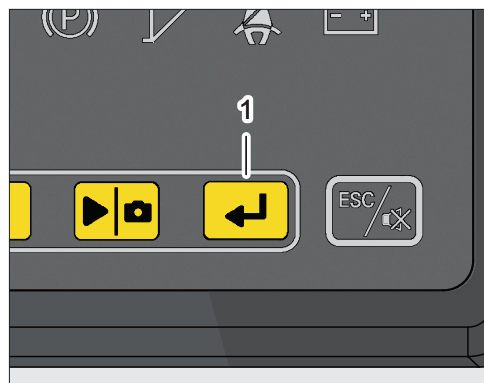


LF1O451B

7) ENTER SWITCH

1 Enter switch

Press the Enter switch to display the selected menu.



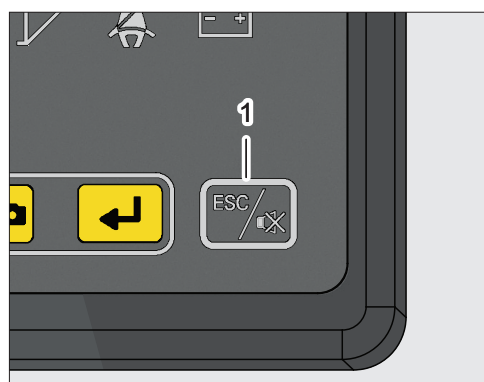
LF1O452B

8) ESC / BUZZER OFF BUTTON

1 ESC / Buzzer OFF button

This switch is used to cancel the other menu (move to the previous menu).

The buzzer sounds when the machine malfunctions. At this point, press the switch to stop the buzzer.



LF1O453B

9) HAZARD FLASHER

1 Hazard flasher

This warning lamp blinks in case of the followings:

- Warning lamp illumination
- Instrument panel communication data error
- Error code generated
- High hydraulic oil temperature detected (at 90°C or over)

If the hazard flasher comes on, check for causes and repair it immediately.



LF1O454B

10) ENGINE OIL PRESSURE WARNING LAMP

1 Engine oil pressure warning lamp

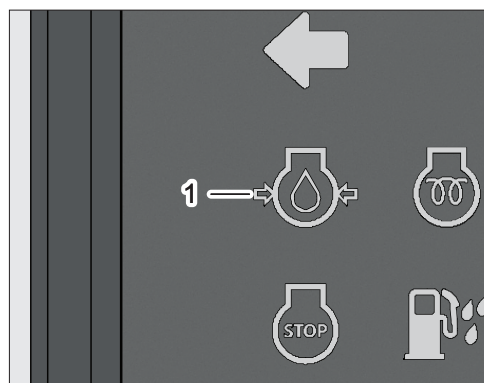
This lamp comes on and the buzzer sounds when the engine oil pressure or oil level is low.

If this lamp comes on while driving, stop the engine immediately and check the engine oil level.

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

▲ If the oil level is below the specified range, the engine can stall.

The engine can be severely damaged if driving or operating the tractor with the engine oil warning lamp ON.

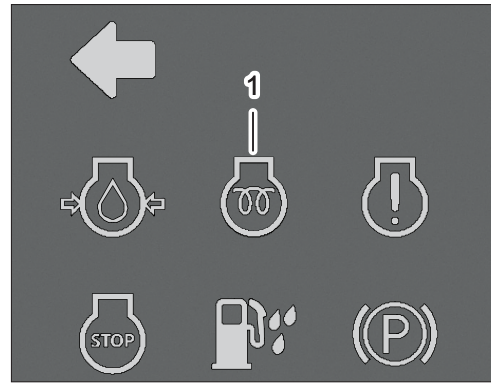


LF1O455B

11) ENGINE PRE-HEATING INDICATOR

1 Engine preheat indicator

Once the key switch is on, engine preheating starts automatically. Once this indicator is turned off, start the engine.

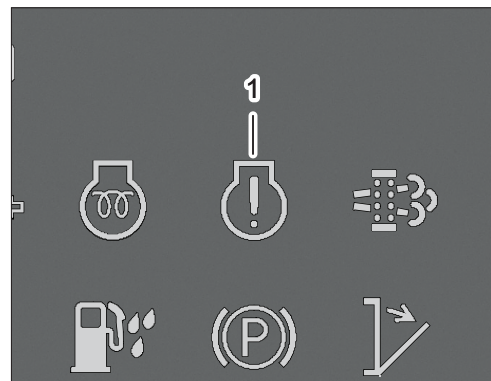


LF1O457B

12) CHECK ENGINE WARNING LAMP

1 CHECK ENGINE warning lamp

It comes on in case of any defect of engine operation. If the warning lamp comes on, check for causes and repair it immediately.

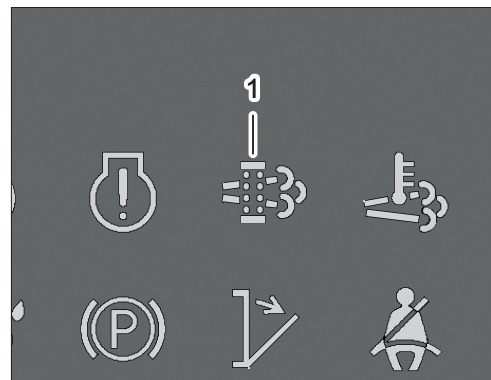


LF1O460B

13) DPF REGENERATION WARNING LAMP

1 DPF regeneration warning lamp

It comes on according to the regeneration order from the ECU. If this warning lamp comes on, press the regeneration button.

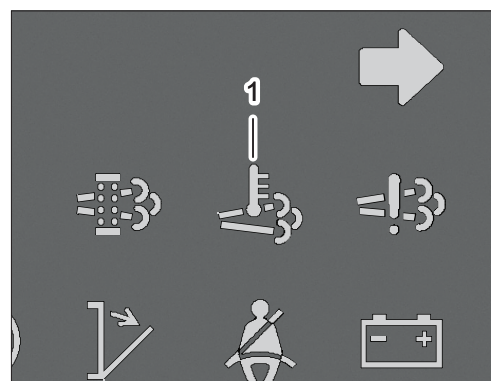


LF1O461B

14) DPF REGENERATION PROCESS INDICATOR

1 DPF regeneration warning lamp

Press the DPF regeneration button when the DPF regeneration warning lamp comes on. Then, the DPF regeneration process indicator comes on, and the DPF regeneration process starts.

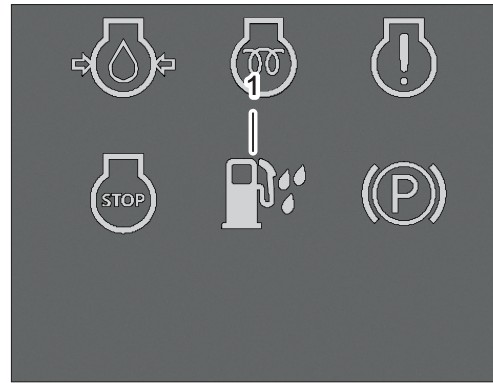


LF1O462B

15) WATER-IN-FUEL WARNING LAMP

1 Water-In-Fuel warning lamp

When a certain amount of water is accumulated in the fuel filter, the warning buzzer sounds. In this case, stop the engine immediately and drain water from the fuel filter. (Refer to Chapter 6: Maintenance.)



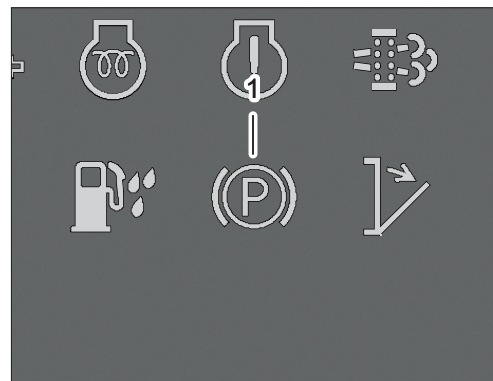
LF1O465B

16) PARKING BRAKE WARNING LAMP

1 Parking brake warning lamp

When lifting the seat bar after parking, the parking brake is automatically engaged, and the warning lamp comes on. When lowering the seat bar and pressing the reset switch, the warning lamp is turned off.

▲ If the warning lamp continues to come on even after having lowered the seat bar and pressed the reset switch, have the machine checked at a dealer or a nearby service center.

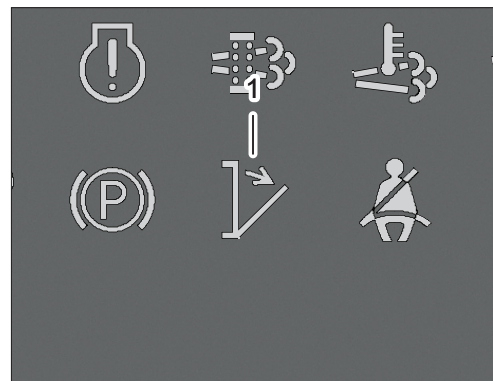


LF1O466B

17) SAFETY COVER WARNING LAMP

1 Safety cover warning lamp

It comes on when the rear radiator door of the engine is open. Under this condition, the engine won't start.

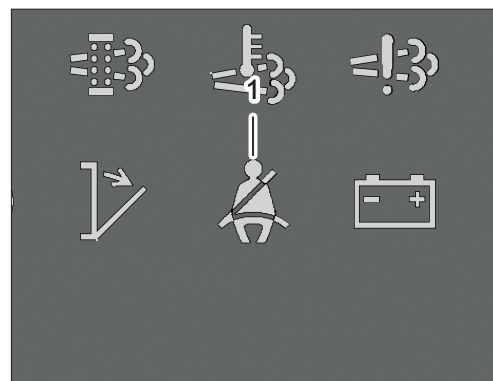


LF1O467B

18) SAFETY BAR WARNING LAMP

1 Safety bar warning lamp

It comes on when the safety bar is lifted.



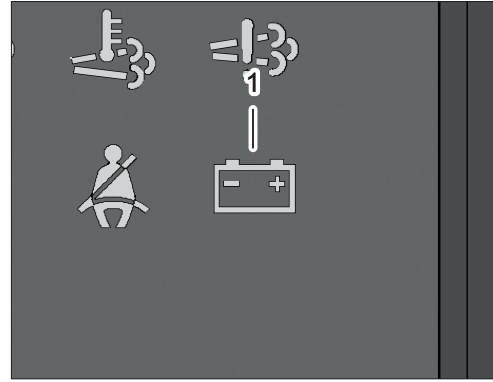
LF1O468B

19) BATTERY CHARGE WARNING LAMP

1 Battery Charge Warning Lamp

This warning lamp comes on when the battery charging voltage is low. If the warning lamp is on, check the battery charging circuit.

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



LF1O458B

20) REAR VIEW CAMERA (OPTION)

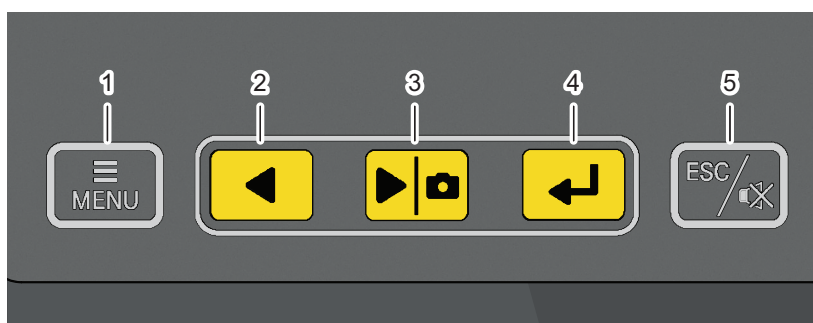
- 1 Main screen on the instrument cluster
- 2 Camera switch

Press the camera switch on the instrument cluster to use the camera function. When the reverse gear-linked function is set to be activated, the rear view is automatically displayed on the main screen when reversing. (for the proper setting, refer to Page 4-28.)



LF1O4N6A




20) MAIN AND SUB-MENU



LF10469B

- | | | | |
|---|----------------------------|---|-------------------------|
| 1 | Menu switch | 4 | Enter button |
| 2 | Left menu button | 5 | ECS / Buzzer OFF button |
| 3 | Right menu button / Camera | | |

(1) Input buttons

No.	Item	Functions	Remarks
1	MENU	When pressing this button on the home screen, the sub menu is displayed. When pressing this button on the sub-menu screen, the corresponding item is selected and its input value can be adjusted.	While controlling the function within each sub menu, pressing this button lets you move to the next sub menu.
2	 	The button to select functions and adjust (increase or decrease) input values within the sub-menu	When the camera button is selected, the rear camera image is on regardless of the driving direction.
3		The button to enter the desired function and set input values within the sub menu	
4	ESC / Buzzer OFF	The button to move back to the previous menu screen or to cancel the current function	Press and hold the button to move to the home screen immediately. Press the button while the buzzer sounds to turn the buzzer off.

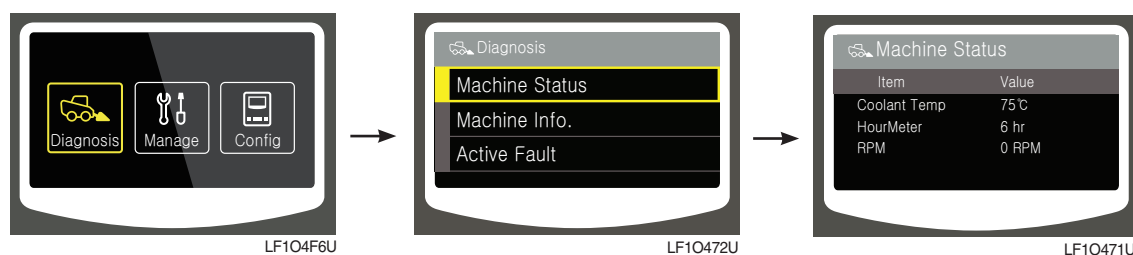
(2) Structure

Main menu	Submenu	Description
Diagnosis function	<ul style="list-style-type: none"> · Machine condition · Machine information · Current fault 	<ul style="list-style-type: none"> · Displaying coolant temperature, hour meter, RPM, etc. · Displaying instrument panel & MCU version, model name, etc. · Displaying current fault status list of the engine and machine
Maintenance function	<ul style="list-style-type: none"> · Engine start inhibition setting · Consumables management · A/S contact · Administrator menu 	<ul style="list-style-type: none"> · Engine start inhibition setting, password change or password display · Changing oil/filters replacement intervals and checking elapsed time · Displaying and changing A/S telephone number · Displaying fault history and mode change
Configuration	<ul style="list-style-type: none"> · Brightness settings · Time settings · Unit settings · Language settings · Camera settings 	<ul style="list-style-type: none"> · Brightness manual/automatic (day, night) settings · Current time settings · Temperature (°F/°C) · Korean, English · Reverse gear-linked function ON/OFF

※ Press the menu button to activate the sub-menu.

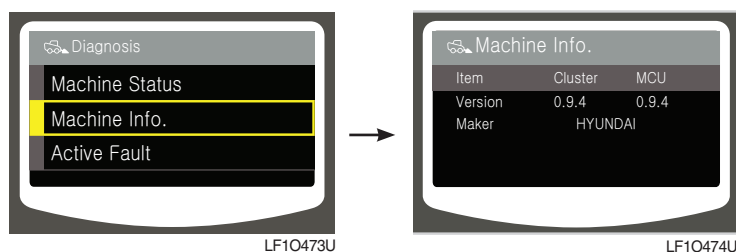
(3) Diagnosis function

① Machine status



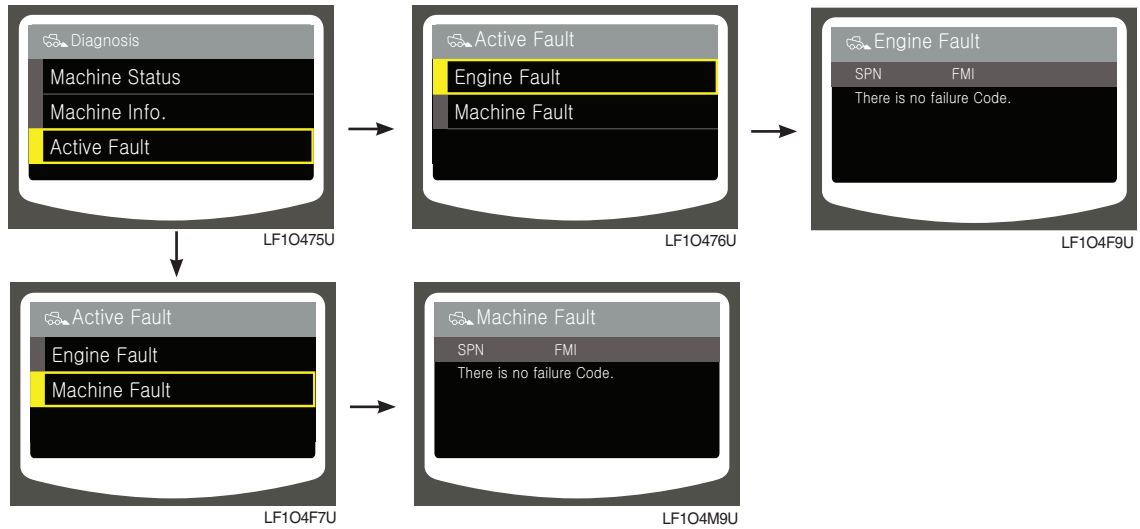
- The status of the machine is displayed.

② Machine information



- You can check the version of the instrument panel and MCU as well as the machine's model name.

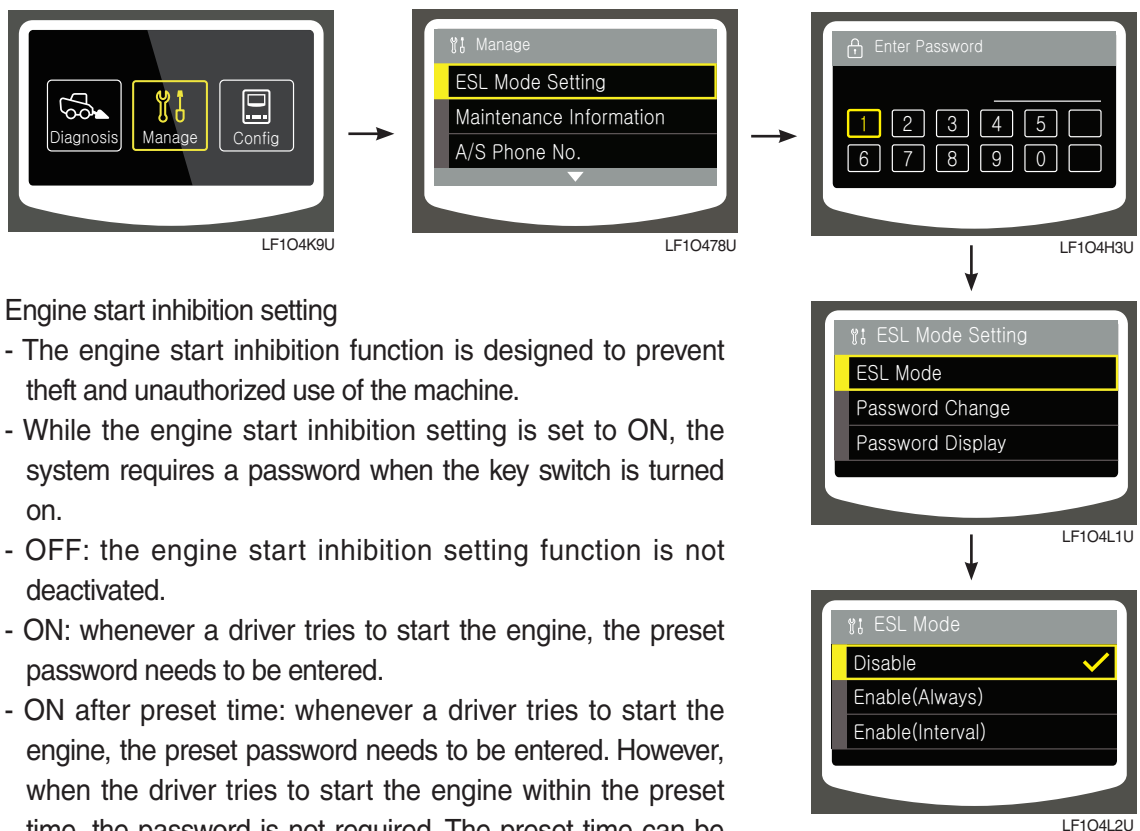
③ Current fault



- You can check the current fault of the engine and machine.
- ※ In case of related codes, contact a dealer nearby to get it checked.

(4) Maintenance function

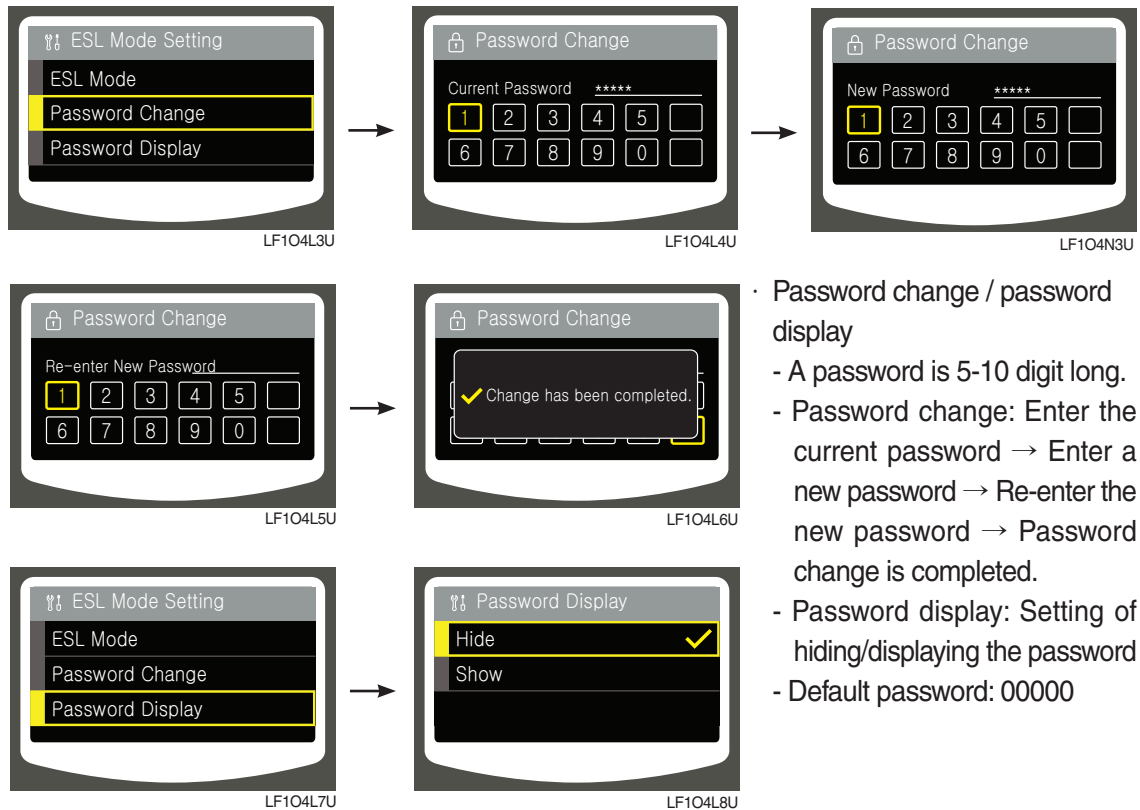
① Engine start inhibition setting



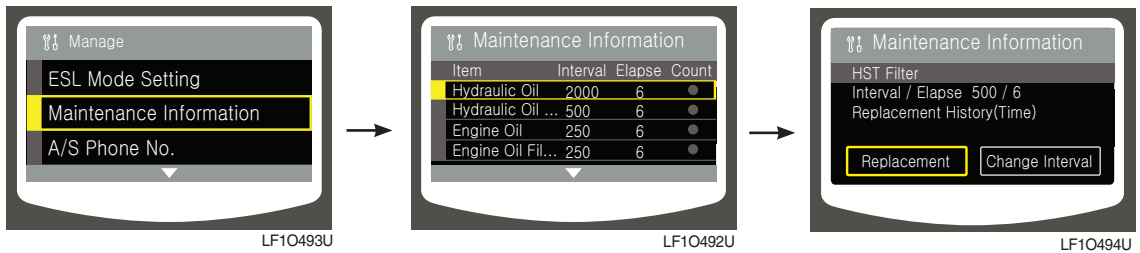
- Engine start inhibition setting
 - The engine start inhibition function is designed to prevent theft and unauthorized use of the machine.
 - While the engine start inhibition setting is set to ON, the system requires a password when the key switch is turned on.
 - OFF: the engine start inhibition setting function is not deactivated.
 - ON: whenever a driver tries to start the engine, the preset password needs to be entered.
 - ON after preset time: whenever a driver tries to start the engine, the preset password needs to be entered. However, when the driver tries to start the engine within the preset time, the password is not required. The preset time can be set up to two days.

※ Default password: 00000

※ Length of the password: 5~10 digits

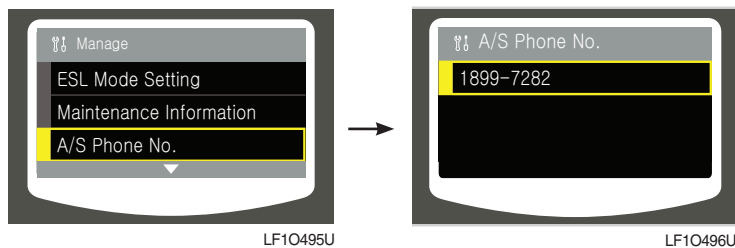


② Consumables management



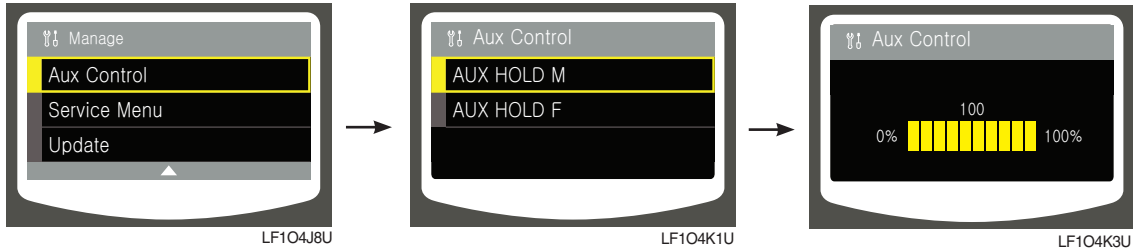
- Elapsed time: it shows the elapsed time after the maintenance.
- Replacement interval: the replacement interval can be incremented/decremented in 50 hours.
- Replacement frequency: it shows the maintenance replacement history.
- Replacement: the elapsed time is reset to 0.

③ A/S contact



- You can check and change the A/S contact details.

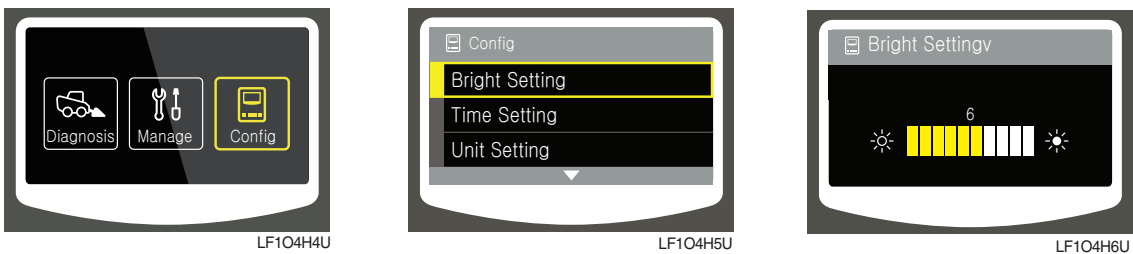
④ Hydraulic control



- Hydraulic control: The amount of hydraulic flow delivered to the external hydraulic implement can be controlled.
- AUX HOLD M : The amount of flow sent to the male coupler can be set by percentage, using the ◀, ▶ buttons in the instrument panel.
- AUX HOLD F: The amount of flow sent to the female coupler can be set by percentage, using the ◀, ▶ buttons in the instrument panel.
 - Press the auxiliary hydraulic pressure supply button to continue to supply the set hydraulic pressure.
 - When supplying hydraulic pressure via the jog dial, the amount of flow increases as the dial turns from the center towards the end. The maximum possible flow is supplied based on the value set by the jog dial (ex: the maximum value is 50% when 50% is set by the jog dial).
 - When controlling the flow by jog dial, turning it to the left supplies the hydraulic pressure to the male coupler, and turning it to the right supplies the hydraulic pressure to the female coupler.

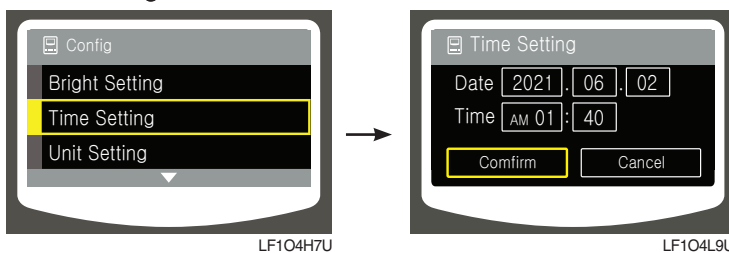
(5) Configurations

① Brightness settings



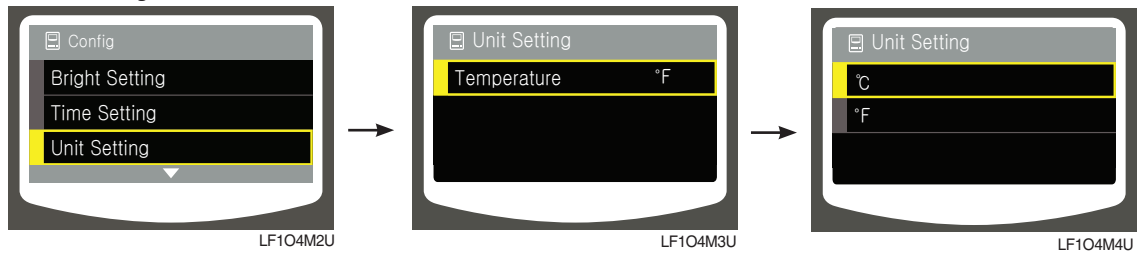
- Manual: The LCD brightness can be set manually.
- Automatic: The LCD brightness is automatically controlled according to the setting level for daytime/nighttime.
- Daytime duration setting: The daytime duration can be set. Once the duration for daytime is set, the remaining duration corresponds to the nighttime.

② Time settings



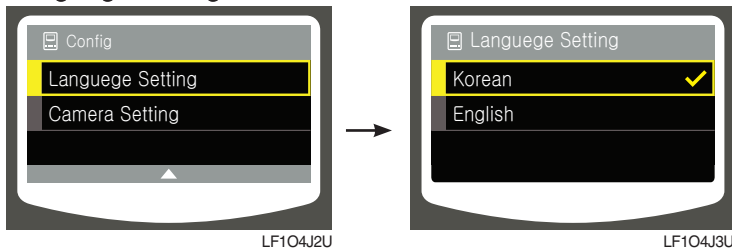
- The time can be set. (Year, Month, Day, Hour, Minute)

③ Unit setting



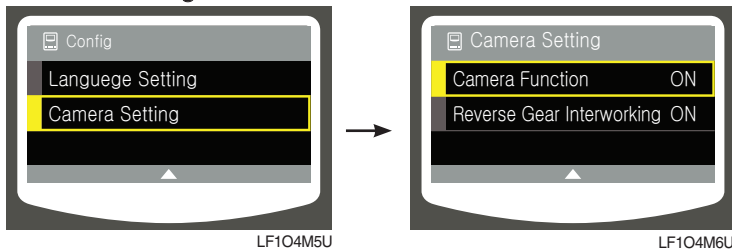
- Temperature: Celsius (°C) ↔ Fahrenheit (°F)

④ Language settings



- The desired language can be selected. Once a language is selected, all information is displayed in that language.



⑤ Camera settings



- You can set the camera function on or off (optional).
- You can turn the reverse gear linked function on or off.
- Reverse gear linked function: When the vehicle is in reverse, the camera mode is automatically displayed on the main screen.

21) MACHINE DIAGNOSIS

(1) Checking the monitor

- ① Check if the  or  warning lamp is illuminated on the monitor.




LF104C3B

- ② Press the MENU button.




LF104C4U

- ③ Press the Enter button () to select the 'Diagnosis' function.



LF104C5U

- ④ Press the Enter button () to select the "Current fault".




LF104C6U

- ⑤ Press the Enter button () to select the "Machine fault".



LF104C7U

- ⑥ Check the code and press the Enter button ().



LF104C8U

⑦ Verify and check the diagnosis details.

※ In case of related codes, contact a dealer nearby to get it checked.



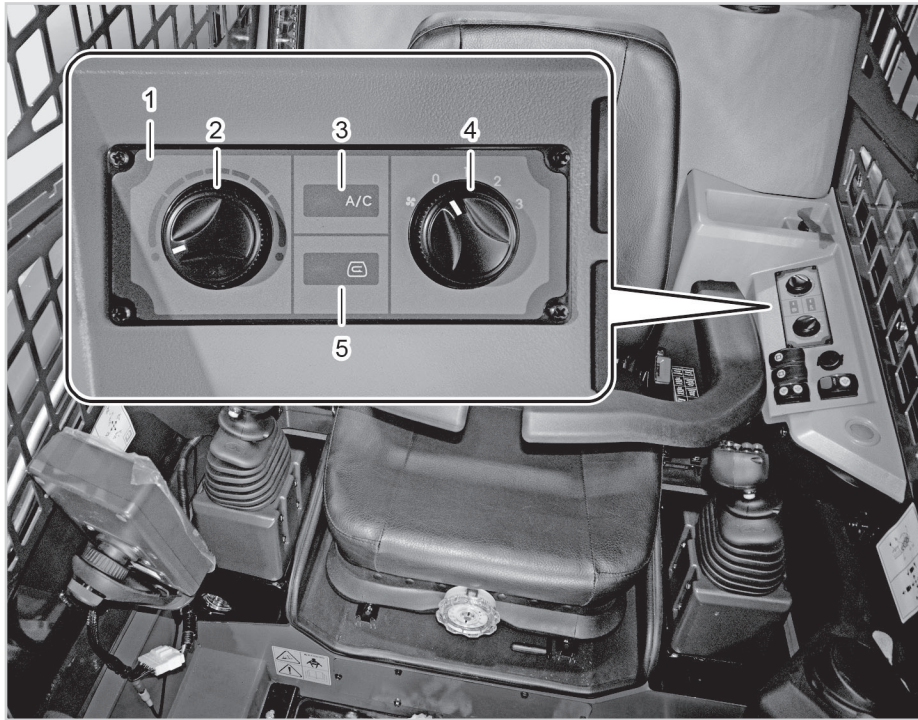
LF1O4C9U

■ Input buttons

No.	DTC		Description	Part that might have failed
	DDSPN	FMI		
1	101	3	Voltage of the oil temperature sensor and its wiring is higher than normal or they are shorted.	Oil temperature sensor, Oil temperature sensor wiring
		4	Voltage of the oil temperature sensor and its wiring is lower than normal or they are shorted.	
2	301	3	Voltage of the fuel sender circuit is higher than normal, or the circuit is shorted to high voltage or open	Fuel sender Fuel sender wiring
		4	Voltage of the fuel sender circuit is lower than normal, or the circuit is shorted to low voltage	
3	705	0	High battery voltage	Battery Battery wiring
		1	Low battery voltage	
4	707	1	Alternator voltage is low or open.	Fuse (R terminal power), alternator or wiring
5	841	2	ECU communication error	ECU/MCU/Cluster/Wiring

5. CABIN

1) INTERIOR DEVICES



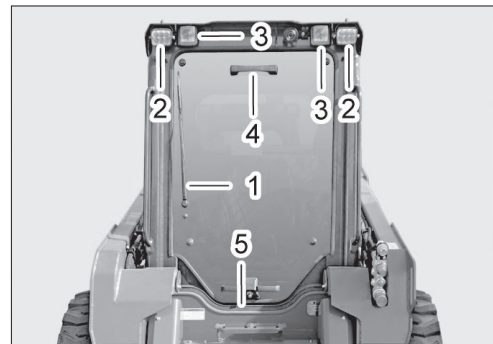
LF1O419B

- | | |
|----------------------------|-----------------------------|
| 1 Heater / A/C controller | 4 Blower speed control dial |
| 2 Temperature control dial | 5 Vent mode button |
| 3 A/C power button | |

2) EXTERIOR DEVICES

- 1 Wiper
- 2 Work lamp
- 3 Turn signal lamp
- 4 Handle
- 5 Door lock

- (1) The cabin was design to offer a comfortable and convenient working condition.
- (2) With wide windows and rearview mirrors on the left and right sides, it offers a wide viewing angle for forward/reverse driving.
- (3) With the A/C and heater, a pleasant indoor environment can be maintained in the cabin.
- (4) The ROPS (Roll Over Protection Structure) certified cabin structure guarantees your safety. However, its safety degrades drastically if the driver does not wear the seat belt.



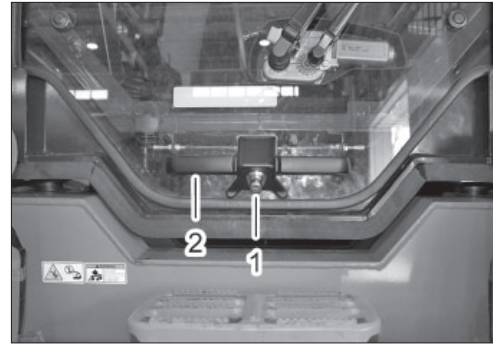
LF1O420B

3) DOOR

- 1 Door lock
- 2 Handle

Press the door lock to unlock it. Then, the front door can be raised. To close the door, use the handle to lower the door so that the lock is engaged.

The door can be locked by turning the lock device on the outside of the door with the ignition key.



LF1O422A

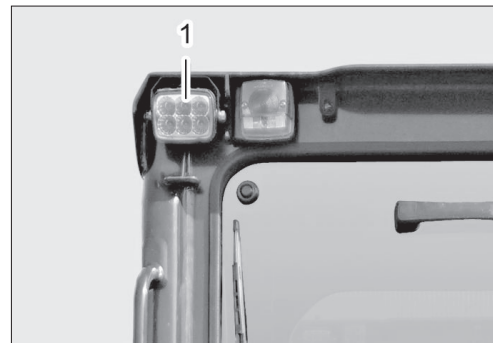
4) WORK LAMP

- 1 Work Lamp (front)

The work lamp is installed on the front and rear of the cabin roof, and the button is attached on the right panel inside the cabin.

Press the "ON" section of the work lamp switch (front/rear) to turn on the work lamp.

At this point, the key switch should be in the "ON" position.

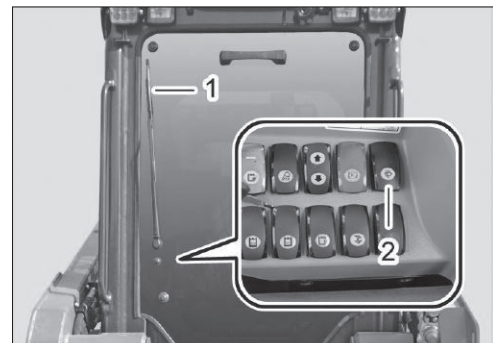


LF1O423B

5) WIPER

- 1 Wiper
- 2 Wiper switch

- (1) While the key switch is on, press the "ON" section of the wiper switch (front/rear) to turn on the wipers.
- (2) While the wiper switch is "ON", press it again to have the washer liquid sprayed from the nozzles connected to the window brushes.



LF1O425B

- 1 Washer fluid reservoir tank

- (3) The washer fluid reservoir tank for cleaning the windshield is installed on the right side of the driver's seat in the rear of the cabin.

⚠ While tap water can be used as washer fluid, it would be advised to use washer fluid exclusively for automobiles. In particular, make sure to use the washer fluid for automobiles (for winter season) in winter.



LF1O426A

⚠ If you keep trying to spray the washer fluid with the washer fluid reservoir tank empty, the washer fluid motor will be damaged.

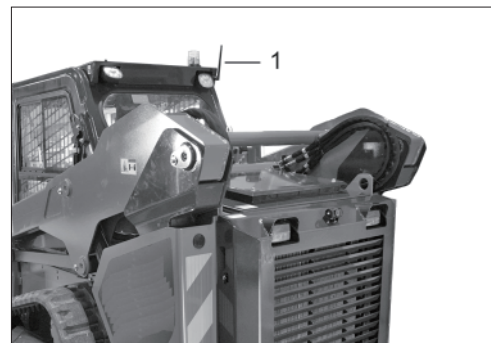
Therefore, make sure to check the washer fluid level before driving.

⚠ In case of dirt on the windshield, spray a sufficient amount of washer fluid when using the wipers. In winter, using the wipers on the frozen windows may cause blown fuses. In this case, raise the cabin interior temperature and use the wipers.

6) ANTENNA

1 Antenna

※ If the radio signal reception is poor, check the antenna connection and angle.



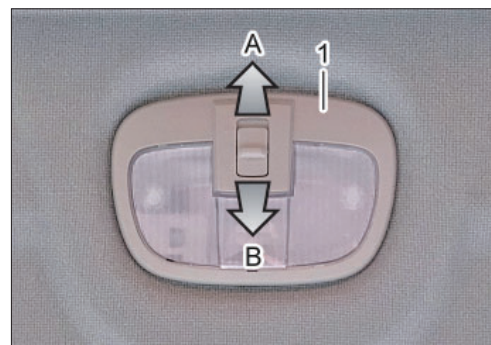
LF1O427A

7) INTERIOR LAMP

1 Interior lamp

Turn on the interior lamp by turning the interior lamp switch to "ON". Place the switch to AUTO to have the interior lamp turned on and off automatically.

⚠ The interior lamp can be operated without the key inserted. If the interior lamp is left on for a long time, it may cause the battery to be discharged.



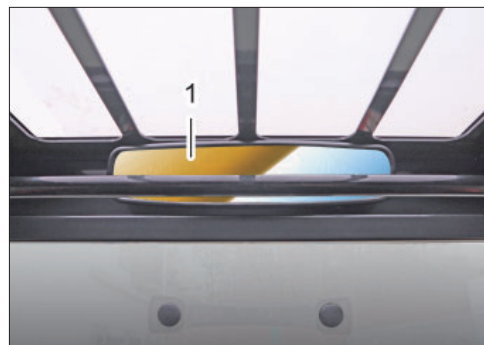
LF1O501A

8) ACCESSORIES

(1) Rear view mirror

- 1 Rear view mirror

The rear view mirror for automobiles is installed inside the cabin for the convenience of operation. Adjust the angle of the rear view mirror before driving so as to secure sufficient rear view.



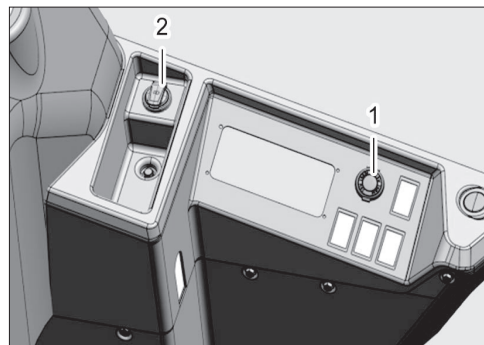
LF1O459A

(2) Power socket & USB socket

- 1 Power socket
- 2 USB socket

The power socket and the USB socket are activated when the ignition key is turned to "ON". If these sockets are used for a long time when the engine is off or an electric products with excessive capacity is used on the sockets, the battery may be discharged.

▲ If emergency power is needed, the power socket can be used. In this case, do not exceed 12V, 100W.

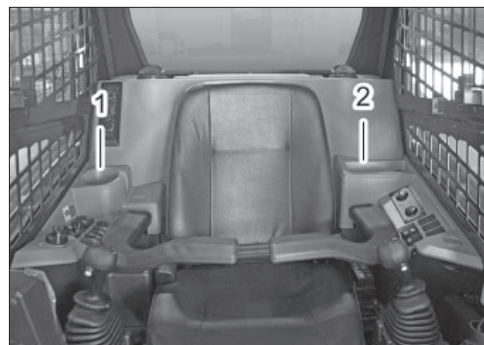


LF1O428B

(3) Cup holder and storage space

- 1 Cup holder
- 2 Storage space

The cup holder and storage space are located on the left and right side of the driver's seat.



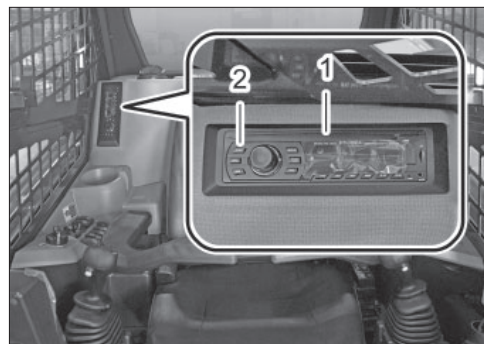
LF1O429A

9) RADIO & USB PLAYER (OPTIONAL)

- 1 Bluetooth player / radio player
- 2 Power (PWR) switch

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

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



LF1O430A

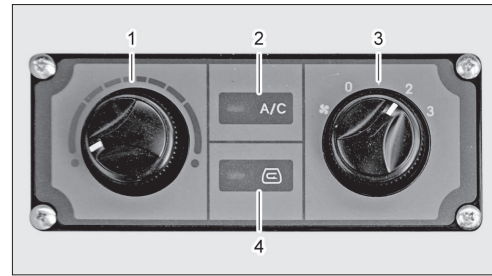
HEATER AND A/C (OPTION)

- 1 Temperature control dial
- 2 A/C Switch
- 3 Blower speed control dial
- 4 Vent mode switch

10) Use the A/C only after the engine is started.

⚠ Do not leave children in the cabin alone without a guardian. On hot or sunny days, the cabin temperature may soar rapidly, which may cause casualties.

⚠ Use the fresh air mode in a normal condition, and use the air recirculation mode only if necessary. Using the air recirculation mode for a long time may lead to lack of oxygen in the cabin, which results in headaches or sleepiness. Or it may also cause frost on the window, blocking views. Therefore, such mode should be used only temporarily.



LF104E8A-1

11) BLOWER SPEED CONTROL DIAL

The heater or A/C blower speed is controlled in four steps.

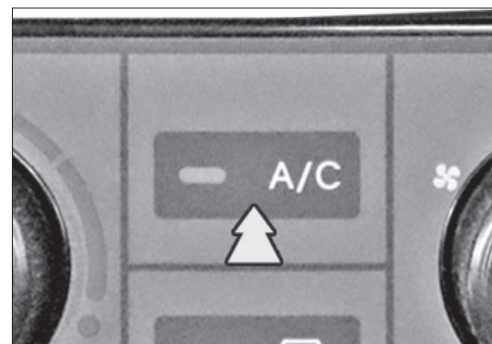


LF104E9A

12) A/C SWITCH

Press the A/C switch once to run the A/C and press it again to turn it off.

The heater is controlled by the temperature control dial and blower speed control dial.



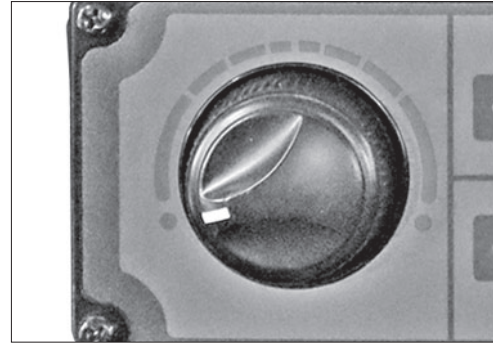
U45O432A

13) TEMPERATURE CONTROL DIAL

Use this dial to obtain the desired temperature. Turn it to the right (red) for warm air and to the left (blue) for cool air.

The temperature control dial only controls the blower speed of the air passing through the heater or the A/C.

Therefore, if setting it to high temperature with the A/C on, unnecessary load may be applied to the A/C.



U45O434A

- ⚠ Close all windows when using the A/C for effective cooling.
- ⚠ When workload soars abruptly, turn off the A/C to improve the engine power.
- ⚠ If the A/C is used for a long time while the vehicle is at a stop and is engaged in a high-load work, the engine may overheat. Reduce the duration of the A/C operation.
- ⚠ Even in winter when the A/C is not used, run the A/C 1-2 times every month to prevent the refrigerant from being leaked and to promote the compressor lubrication, resulting in lengthening the service life of A/C parts.
- ⚠ If the vehicle is parked in a place with direct sunlight, open the windows to take out hot air inside before turning on the A/C.

14) A/C MAINTENANCE

To maintain the optimal condition of the A/C, please keep the followings:

(1) Operation in winter

In winter, make sure to run the A/C 1-2 times every month to prevent refrigerant leakage and rust inside the A/C system and to promote the compressor lubrication so as to prevent any malfunctioning in advance.

The A/C does not work if the air temperature is at 2°C or below. Run the heater to increase the cabin temperature before use.

(2) A/C condenser cleaning

Impurities in the A/C condenser or engine radiator may reduce cooling efficiency and should be removed. Clean them using a soft brush or a water hose and be careful not to bend the core of the condenser.

(3) Operation in summer

Before the summer season, make sure to check the A/C belt tension to ensure proper use of the A/C in summer.

- ▲ Inserted in the A/C system is a new type of refrigerant that does not destroy the ozone.
- ▲ Using an unauthorized refrigerant or compressor oil may cause severe damage to the A/C system.
- ▲ Insufficient refrigerant reduces the A/C performance, but excessive refrigerant also damages the A/C system. In case of any malfunction, have it checked by a dealer.

15) A/C REFRIGERANT AND LUBRICANT SPEC.

Item	Refrigerant	Compressor oil
Type	R134a (GWP : 1,430)	PAG 46
Capacity	600g	150cc
CO ₂ eq.	0.8580t	-

- ▲ Have the A/C serviced by a specialist. Any unauthorized repair or service may lead to personal injuries and other accidents due to the high-pressurized refrigerant.

16) AIR RECIRCULATION MODE AND FRESH AIR MODE

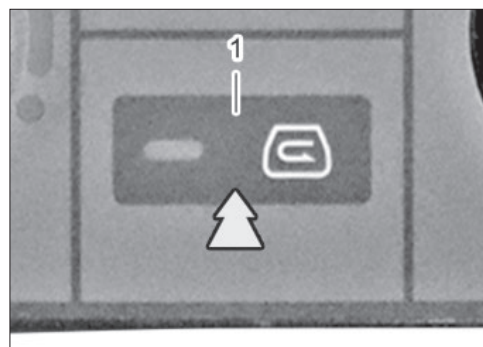
1 Vent mode switch

While the A/C is running, the air recirculation mode or fresh air mode can be selected as desired.

Even if the air recirculation mode is selected, introduction of external air cannot be completely prevented.

If the fresh air mode is selected, 100% external air is introduced to the cabin.

- ▲ This cabin was not designed for spraying pesticide, and it does not offer a function to block polluted external air into the cabin. Therefore, avoid using this machine in a polluted area.



U45O436A

17) ADJUSTING THE SEAT

(1) Seat Sliding

- 1 Seat Adjustment Lever
- A Pull

To adjust the seat position, pull up the lever under the front of the seat, slide the seat to the desired position (F/R 150 mm), and then release the lever. Make sure that the seat is firmly fixed by moving it gently after adjustment.

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



LF1O431A

(2) Seat height adjustment

- 1 Seat height adjustment lever

You can adjust the height of the driver's seat as desired. Turn the seat height adjustment lever clockwise to raise the height; turn it counterclockwise to lower the height.



LF1O432A

(2) Seat bar

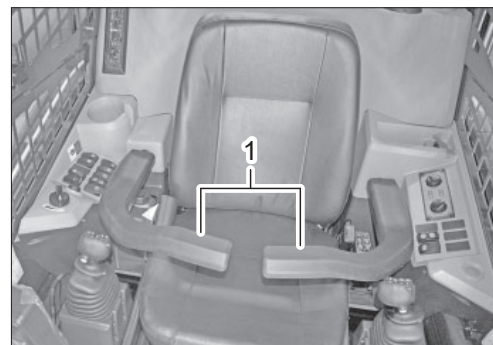
- 1 Seat bar

If the seat bar is raised, operating the control lever even with the engine running does not cause the machine to move.

Raising the seat bar engages the parking brake. Lowering the seat bar and pressing the reset switch release the parking brake.

When leaving the cabin, make sure to comply with the followings:

- Make sure that the control lever is always in neutral.
- Do not place objects on the driver's seat.
- Place the key switch to "off".
- Raise the seat bar.
- Carefully leave the cabin while holding the handle.



LF1O433A

(3) Seat Belt

- 1 Seat belt
- 2 Release button
- A Release

The seat belt is a self-retracting type. Make sure to fasten the seat belt before driving.

- ▲ To prevent accidents, operate the machine only after wearing the seat belt.
- ▲ Before use, make sure to always check for any defect in the seat belt.
- ▲ Make sure that the seat belt is not twisted. It cannot work properly, leading to a dangerous situation.
- ▲ The seat belt should go around your body as low as possible, not your waist or abdomen. Otherwise, the seat belt cannot protect you properly.

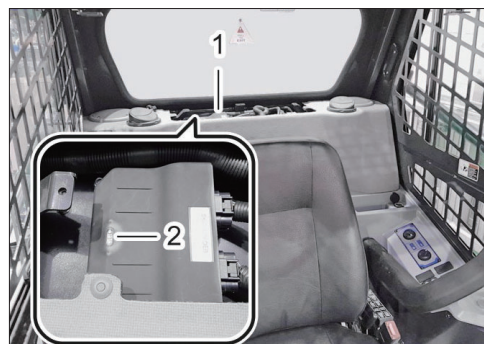


LF1O435A

18) MCU (MACHINE CONTROL UNIT)

- 1 MCU (Machine Control Unit)
- 2 Lamp

It controls various lamps and buzzers by receiving signals from the switches, engine and hydraulic pressure sensors.



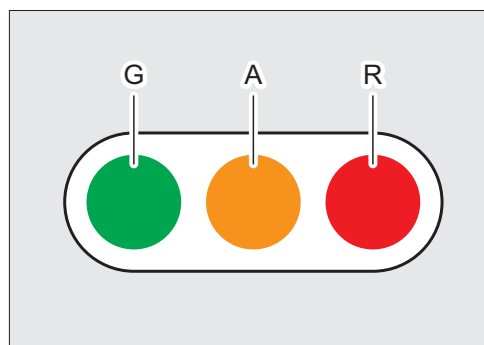
LF1O4F4A

19) LED SPEC.

- 1 Green
- A Amber
- R Red

<Error and check items by LED indication>

Lamp status			Status
Green	Orange	Red	
ON	OFF	OFF	Normal
OFF	OFF	ON	Faulty CPU
ON	ON	OFF	Faulty communication
OFF	OFF	OFF	No power



LF1O4G1A

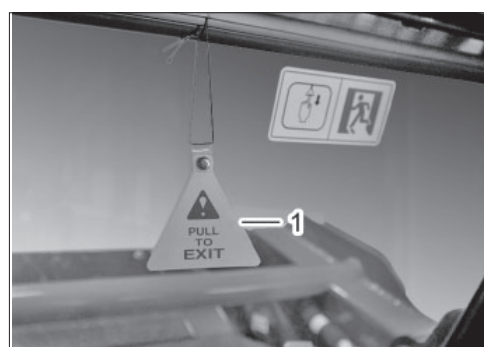
20) EMERGENCY EXIT

- 1 Emergency exit tag

The front exit and the rear window are designed as emergency exit.

To exit through the rear window, please do the following:

- Pull the tag on the rear window to pull out the core seal that fixes the window.
- Push out the window to exit.



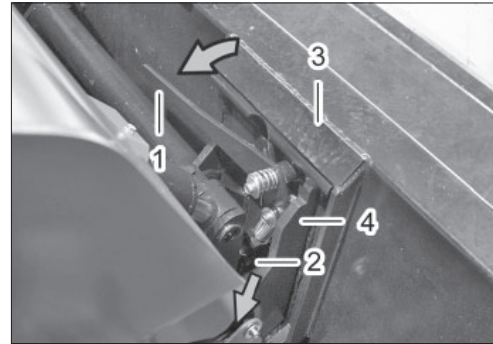
LF1O434A

6. OTHER SYSTEMS

1) MANUAL QUICK ATTACH SYSTEM

- 1 Hand lever
- 2 Locking pin
- 3 Bucket slot
- 4 Implement holder

- (1) Park the machine on even ground and pull up the both hand levers on the implement holder (quick coupler). (unlocked)
- (2) Place the implement holder (quick coupler) right behind the bucket.
- (3) If you are leaned forward to move into it, you must also lean back to align the plates flat together. You are missing a step after three and before you get out.
- (4) Lower the engine speed and raise the seat bar.
- (5) Carefully remove yourself from the machine using the handle.
- (6) Push down the hand lever and check that the locking pin went completely into the bucket slot (locked).

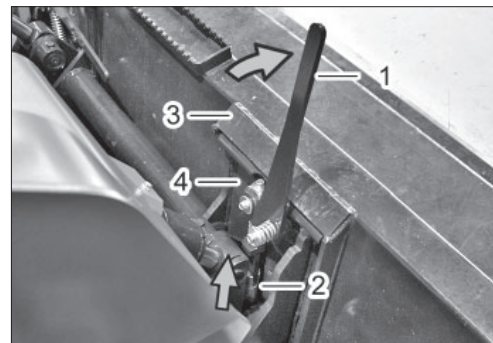


LF1O437A

2) REMOVING THE BUCKET (MANUAL TYPE)

- 1 Hand lever
- 2 Locking pin
- 3 Bucket slot
- 4 Implement holder

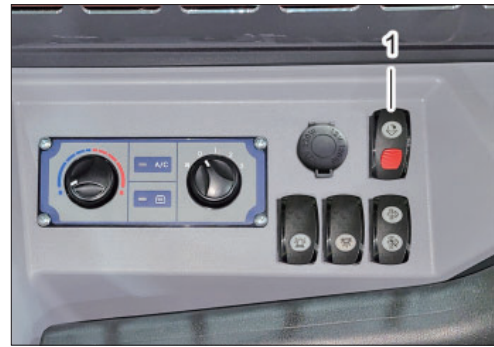
- (1) Pull up the hand lever of the implement holder and check that the locking pin is out from the bucket slot. (Unlocked)
- (2) Using the handle, enter the cabin. Lower the seat bar and increase the engine speed.
- (3) Lean the implement holder forward and move the machine backward so that the top of the holder is removed from the bottom of the top lip of the bucket.



LF1O436A

3) INSTALLING AND REMOVING THE BUCKET (HYDRAULIC QUICK ATTACH SYSTEM)

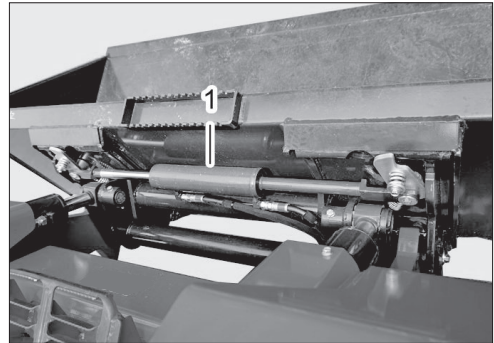
- 1 Quick attachment switch



LF1O4D7A

- 1 Removable cylinder

- (1) While the engine is running, park the machine on even ground.
- (2) Place the implement holder (quick coupler) right behind the bucket.
- (3) Lean the implement holder forward and move the machine toward the bucket so that the rear of the holder goes under top lip of the bucket.
- (4) Press the quick attachment switch to operate the removable cylinder, then the locking pin goes into the bucket slot automatically.
- (5) Raise the seat bar and get off from the machine. Check if the bucket is attached correctly.
- (6) To remove the bucket, place the bucket on even ground, and press the quick attachment switch to pull out the locking pin from the bucket slot.
- (7) Lean the implement holder forward and move the machine backward so that the top of the holder is removed from the bottom of the top lip of the bucket.



LF1O4M8A

4) BOOM LOCK

- 1 Boom lock
- 2 Locking pin

- A. Remove the two (2) attaching bolts from the boom lock. Next remove the snap pin connected to the boom lock and remove the boom lock from it's storage location. The helper who will install the boomlock should now step at least three feet away from the machine and poision themselves so they can speak to the operator through the left side window.



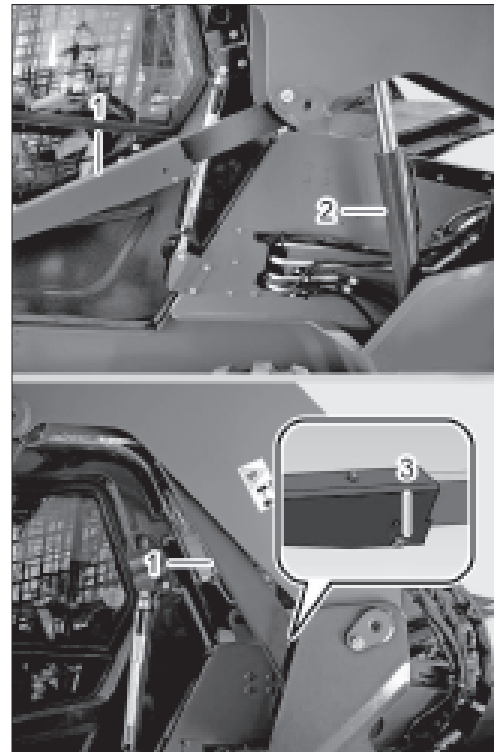
LF1O438A

- ⚠ To safely and properly install or remove the boom lock, two (2) people are required. One (1) person is the machine operator while the second person installs/removes the lock before the operator exits the machine.**

- 1 Boom lock 2 Boom cylinder
- 3 Snap pin

B. The operator should follow these steps next:

- (1) Open the LH window and acknowledge the helper who will be installing the boom lock.
- (2) Buckle the operator's seat belt.
- (3) Lower the operator restraint bars and start the engine.
- (4) Inform the helper to wait for your confirmation before proceeding with the boom lock installation.
- (5) Release the park and raise the boom to full height, remove both hands from the controls, engage the park function and turn the engine off.
- (6) Inform the helper to install the boom lock and await for confirmation.
- (7) The helper should install the narrow end of the boom lock upward covering the cylinder rod and insert the snap pin. The wide end of the boom lock should face downward and rest against the base of the cylinder body.
- (8) With confirmation that the boom lock has been installed make sure the helper has stepped away from the machine and is visible.
- (9) Turn the ignition on but do not start the engine, release the park and lower the boom slowly till it rests against the stop.
- (10) Engage the park function and turn the ignition off.
- (11) Request the helper to perform a visual inspection to confirm the boom lock is properly installed.
- (12) With confirmation, remove the key from the ignition, raise the operator restrain bars, release the seat belt and exit from the cabin.



LF1O439A

5) RELEASING THE BOOM

- 1 Boom lock
- 2 Locking pin
- 3 Boom cylinder rod

- (1) The operator should enter the machine, install their seat belt, lower the operator restraint bars and acknowledge the helper.
- (2) Inform the helper that you will start the machine now and not to approach the machine until you provide confirmation.
- (3) Start the machine and release the park function. Raise the boom to full height and remove both hands from the controls, engage the park function and turn the engine off.
- (4) Inform the helper to remove the boom lock.
- (5) With confirmation the boom lock has been removed and with the helper visible, turn the ignition on (DO NOT START THE ENGINE), release the park function and slowly lower the boom to the ground.
- (6) Engage the park function, turn the ignition off, raise the operator restraint bars, release the seat belt and exit the cabin.
- (7) Install the boom lock in its storage position. Be sure to tighten the two (2) securing bolts and to install the snap pin.
- (8) Perform a visual inspection to be sure all work has been completed and all tools have been stored.
- (9) Remove the wheel chocks.
- (10) The machine should be ready to return to work.



LF1O440A

- ▲ To safely and properly install or remove the boom lock, two (2) people are required. One (1) person is the machine operator while the second person installs/removes the lock before the operator exits the machine.
- ▲ The helper who will remove the boomlock should now step within three feet from the machine and position themselves so they can speak to the operator through the left side window.

6) RAISING THE CANOPY AND CABIN

- 1 Bolt
- 2 Washer

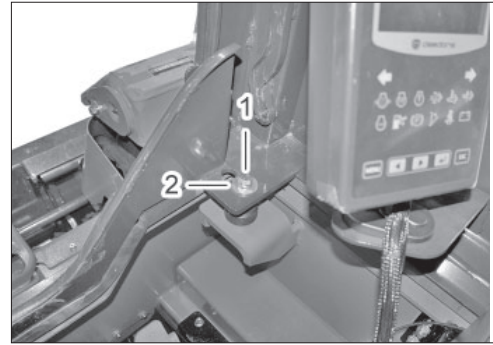
- (1) Stop the machine on even ground and lower the boom.
- (2) Loosen the mounting nuts on the left and right of the front cabin.

▲ When raising the cabin or the boom for maintenance, install a jack stand behind the frame so as to prevent the vehicle from falling backward.

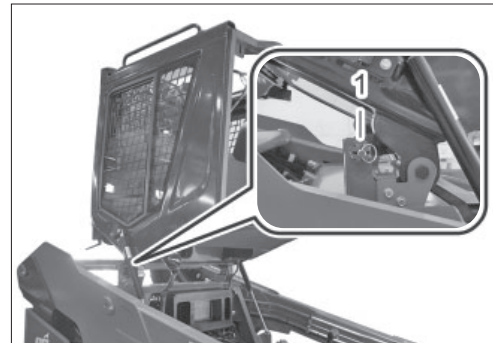
▲ If the jack stand is not installed behind the frame of the machine, the machine may fall back.

- 1 Lock

- (3) Raise the cabin slowly and fix it with the lock on the back.



LF1O441A

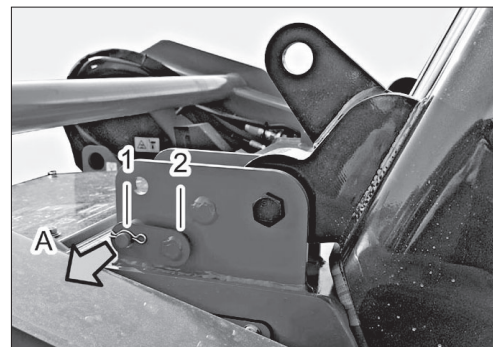


LF1O443A

7) LOWERING THE CANOPY AND THE CABIN

- 1 Snap pin
- 2 Locking pin
- 3 Loosen

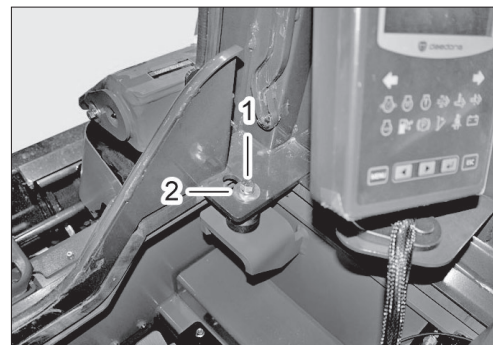
- (1) Pull out the snap pin and take out the locking pin from the frame.
- (2) Lower the cabin slowly.



LF1O444A

- 1 Bolt
- 2 Washer

- (3) Install the washers and bolts on the left and right of the front side of the cabin.



LF1O441A

5. OPERATION MODE

1. PRE-OPERATION CHECK

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

▲ Park the machine on level ground, stop the engine, and apply the parking brake before checking or repairing it.

Refer to "Daily check item" in Chapter "Maintenance" for fueling.

Be sure to read and understand the information titled as "DANGER", "WARNING", and "CAUTION" thoroughly for the safe operation.

1) CHECK ITEMS

- Walk around inspection.
- Engine oil level.
- Hydraulic oil level.
- Coolant level.
- Clean the front grill and radiator screen.
- Air cleaner element.
- All dash gauges and indicators.
- Head lights, tail lights, and working lights.
- Accessible wiring harness for any damage.
- Seat belt and cabin for damage.
- Fuel level.
- All "DANGER" and "WARNING" decals.
- Tire pressure and wheel bolt tightness condition.
- Bucket locking status (Safety)

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

2) INITIAL OPERATION

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

Make sure to run the machine at the proper work load and speed for the initial operation of 10 to 100 hours.

(1) Tips for breaking-in

- ① Start the engine and idle the engine at a low speed for 3 to 4 minutes in advance.
- ② During the braking-in, do not use the machine excessively, but operate it in the following three steps.

Operation hours	Load
Up to 10 hours	60%
Up to 100 hours	80%
After 100 hours	100%

- ③ Increase the idling time in cold weather.
- ④ Do not drive the machine at the maximum speed on a road.
- ⑤ Never apply excessive load during work.
- ⑥ Idle the engine at a low speed for 2 to 3 minutes before stopping it.

2. OPERATING THE ENGINE

1) STARTING ENGINE

⚠ To avoid accidents:

- Be sure to read and understand the warning and caution decals on the machine thoroughly.
- Run the engine only in a well-ventilated area, or you can be suffocated by exhaust gas.
- Never start the engine unless you are on the driver's seat.

The machine can abruptly start off, resulting in an injury or accident.

⚠ Do not start the engine unless the seat bar is lowered. If the seat bar is not lowered, it may lead to an accident.

⚠ Do not start the engine if "No Operation" tag is attached on the key switch or control lever.

※ Using an additive so the engine will start more easily can damage the engine. And it will not be covered by warranty.

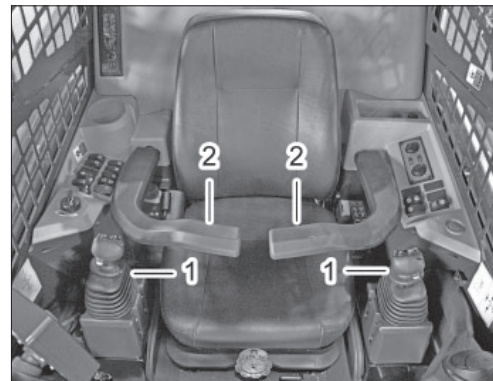
※ Never try to start the engine for over 10 seconds consecutively to protect the start motor and battery from damage.

1 Control lever

A Seat bar

(1) Make sure there is no obstacle around the machine.

(2) Check if the control lever and pedal are in neutral, then lower the seat bar.



LF1O626A

1 Parking switch

(3) Press the parking switch to put the machine into the parked state.



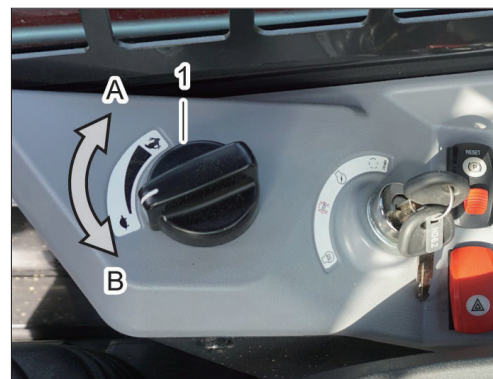
LF1O404A

1 Engine acceleration dial

A Acceleration

B Deceleration

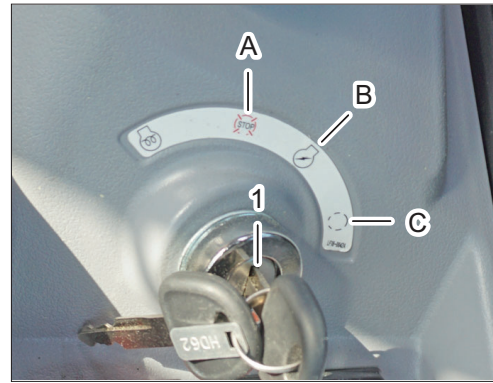
(4) Turn the engine acceleration dial to low speed, idling position.



LF1O404B

- 1 Key switch
- A OFF
- B ON
- C START

- (5) Insert the key to the key switch and turn it "ON". Once the engine preheating indicator is turned off, turn the key switch to the START position start the engine. (The engine can start only when (P) lamp on the instrument panel is turned on.)



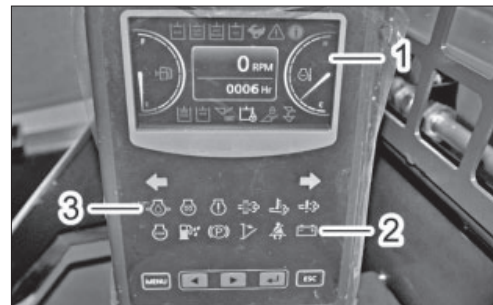
LF1O403B

- ▲ Never operate the start motor for more than 10 consecutive seconds as it consumes an excess of battery power. If the engine cannot be started within 10 seconds, wait for 30 seconds and try again.**

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

- 1 Instrument pane
- 2 Engine oil pressure warning lamp
- 3 Charge Warning Lamp

- (8) Check to see that all the warning lamps on the instrument cluster are turned "OFF." If any lamp remains on, immediately stop the engine and determine the cause.



LF1O504A

2) CHECKING WARNING LAMPS

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

▲ The engine can be severely damaged if it is run with the oil pressure warning lamp ON.

- (2) If the charge warning lamp (3) does not go off in 4 to 5 seconds after the engine is properly started, it means that the battery is not being charged.

Have the charging system, such as the battery and alternator, inspected.

- (3) Refer to "Instrument panel" in chapter 4 for detailed information about other indicators and lamps.

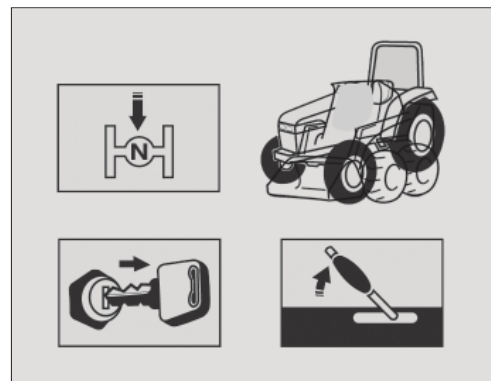
▲ If driving the machine for an extended period of time with the charge warning lamp ON, the battery can be discharged and the machine's electrical system can be damaged.

3) STOPPING ENGINE

- (1) Make sure to reduce the engine rpm before stopping the engine.
- (2) Place the boom and the bucket safely on even ground.
- (3) Run the engine at the idle speed for approx. 2 to 3 minutes, and then turn the key switch to the "OFF" position to stop the engine.
- (4) Remove the key.

▲ Never touch the muffler or hot covers until they have cooled down after running the engine or driving the machine.

※ Turn off all the electrical devices and remove the ignition key before leaving the machine.



LF1O505A

4) WARMING UP

The optimal temperature of the hydraulic oil is around 50°C . If the oil temperature is at 25°C or below, drastic operation of the machine may cause severe damage to the hydraulic system, etc. Before starting the work, warm up the engine so that the hydraulic oil temperature reaches 25°C or higher.

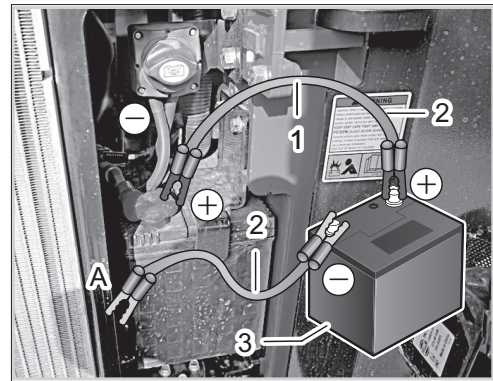
5) HOW TO WARM UP

- (1) Idle the engine at low speed for around 5 minutes.
- (2) Turn the engine acceleration dial to increase the RPM and run the engine at the mid speed.
- (3) Move the machine forward by pushing the driving lever forward by approx. 1/2.
- (4) Drive the machine with no load for one minute or until the driving system runs normally.

6) JUMP STARTING

- 1 Dead battery
- 2 Jump cable
- 3 Helper Battery
- A Ground (machine body)

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



LF1O536A

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

3. DRIVING AND OPERATION

1) OPERATION BEFORE DRIVING

1 Seat Adjustment Lever

A Pull

(1) Adjust the seat so that the pedal and the steering wheel can be easily accessed.

⚠ Check if the seat is securely locked after seat adjustment.

⚠ Do not adjust the seat while driving. The seat may move suddenly causing loss of control of the machine.



LF1O507A

1 Seat belt

(2) Wear the seat belt.

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



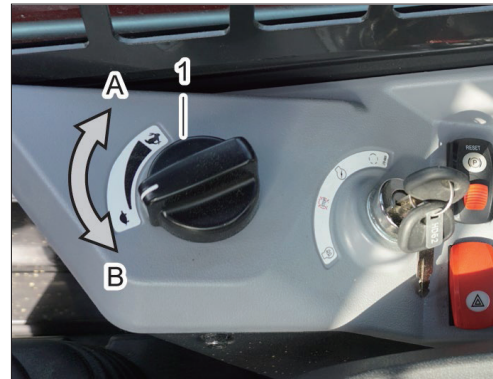
LF1O508A

1 Engine acceleration dial

A Acceleration

B Deceleration

(3) Increase the engine RPM slowly from idle speed to medium speed.

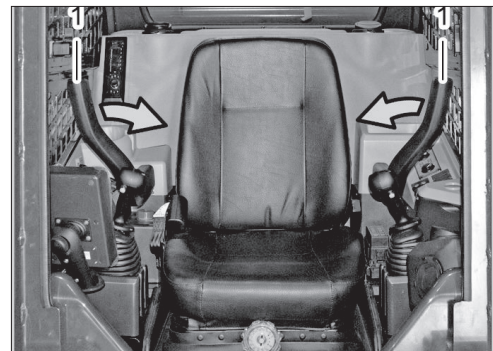


LF1O404B

1 Seat bar

2 Down

(4) Lower the seat bar.



LF1O510B

1 Reset switch

- (5) Press the top of the reset switch to unlock the machine.

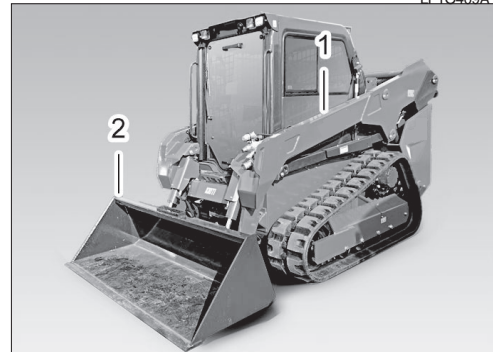


LF1O409A

1 Boom

2 Bucket

- (6) Operate the boom and the bucket so as to raise the bucket about 20-30 cm from the ground.



TL7O501A

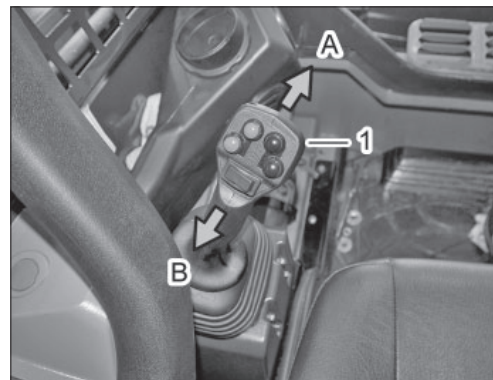
2) FORWARD AND REVERSE DRIVING

1 Driving lever

A Forward

B Reverse

- (1) Push the left control lever forward to move forward and pull it backward to reverse.
(2) As the lever moves away from the neutral location, the driving speed increases.



LF1O512A

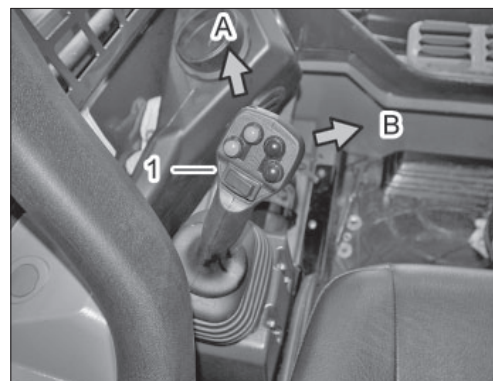
3) TURNING

1 Driving lever

A Left turn

B Right turn

- (1) When making a turn, lower the engine speed and turn slowly.
(2) To turn right, push the left control lever to the right side.
(3) To turn left, push the left control lever to the left side.



LF1O514A

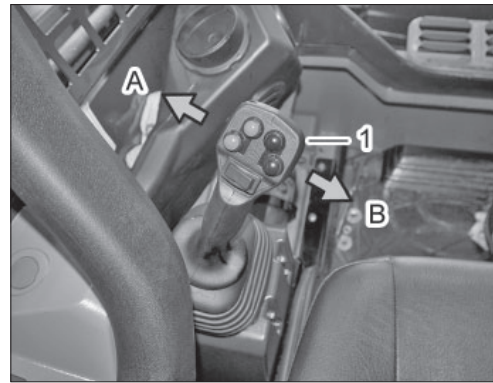
▲ To prevent accidents due to loss of steering control:

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

4) SPINNING

- 1 Left control lever
- 2 Right control lever

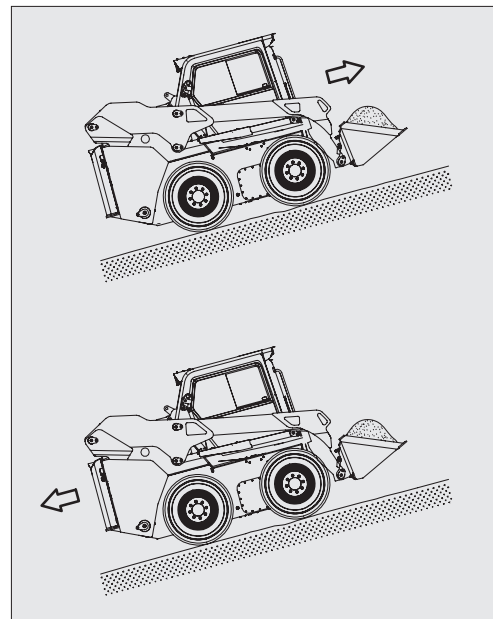
- (1) Spinning is to have the machine turn on the same spot.
- (2) Press the left control lever perpendicular to the left or right side to have the machine spin.



LF1O513A

5) DRIVING ON SLOPE

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



LF1O515A

(5) While driving without load, have the bucket positioned downward.

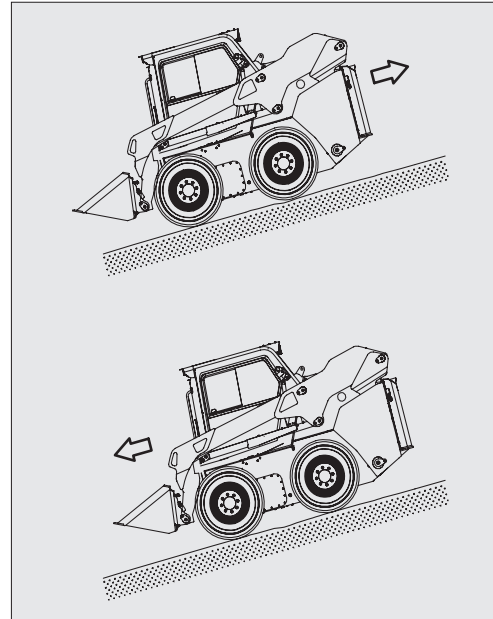
▲ The permitted angle limit for the operation of the engine is 20°, and therefore, under no circumstance should this angle be exceeded.

Do not disengage the clutch or put the shift lever in the neutral position on a steep slope.

Otherwise, the machine may become inoperable.

Before entering a steep slope, move the shift lever down to a proper gear and never try to move the shift lever on a slope.

A serious accident can occur.



LF1O516A

6) PRECAUTIONS WHILE DRIVING ON THE ROAD

1 Turn signal lamp (LH)

2 Turn signal lamp (RH)

Driving on road should only be done under emergency situations and at a short distance. If it is inevitable, make the following cautions.

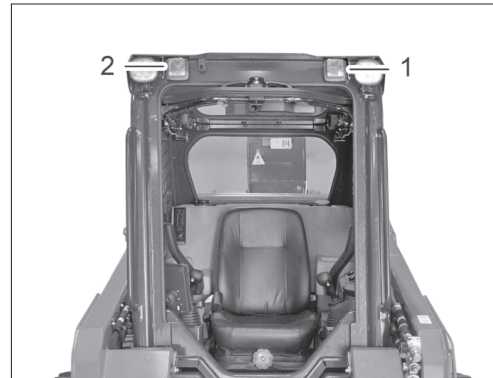
- (1) When you change the driving direction on a road, let other vehicles know your direction with the turn signal lights.
- (2) Check the tire inflation pressure and the driving speed limit before driving.
- (3) When driving for a long distance, make sure to stop the machine at every 12 km or every hour for 30 minutes to cool down the machine and check the fuel and coolant level.

A 20 - 30 cm

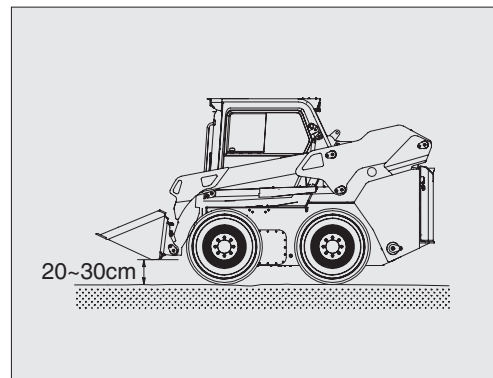
- (4) Drive with the bucket empty and raised from the ground for 20-30 cm.

▲ When driving on a road, observe all local traffic and safety regulations. Only the operator should ride on the machine.

If the machine is broken down during driving on a road, move it to a safe place with the flasher lights blinking. If not, it can cause a personal injury.



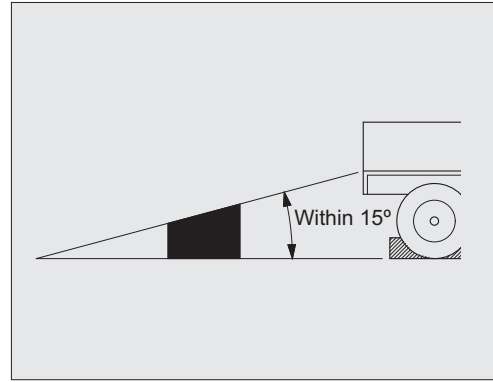
LF1O517A



LF1O518A

7) LOADING AND UNLOADING THE MACHINE TO/FROM A TRUCK

- (1) When loading the machine on a truck, apply the parking brake and choke the wheels so that the machine does not move. And, place the ramps between the trailer and the machine side by side.
- (2) For safe loading and unloading of machine, the ramps should have sufficient width, length, and thickness.



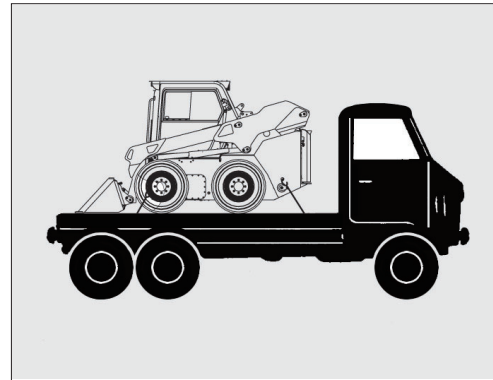
LF1O519A

- (3) When loading the machine onto a truck, load it in reverse and lower the boom.
- (4) If the engine stops abruptly during loading the machine, move down to the road slowly and restart the engine and move up.

▲ Remove dirt on the tires so as to prevent slippage on slopes.

▲ Never change the direction of the machine on ramps under no circumstances.

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

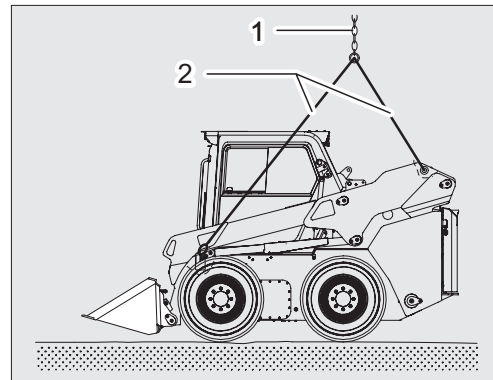


LF1O520A

8) TOWING

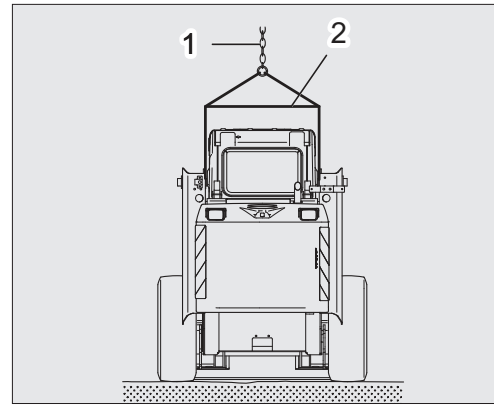
- 1 Wire rope
- 2 Support bar

- (1) To tow the machine, check the weight, overall length, overall width, and overall height of the machine by referring to the specs table in Chapter 3.
- (2) The wire rope and support bar should be long enough so as not to have them touch the machine during towing. If necessary, cover the wire rope with cloth so as to prevent any damage of the machine.
- (3) Place the crane on an appropriate spot.



LF1O521A-1

- 1 Wire rope
 - 2 Support bar
- (4) Use only the wire rope and other towing tools that do not have any damage, deterioration, and offer sufficient strength.
 - (5) If the towing method or the roping is wrong, the machine may move during towing, causing injuries or damage to the machine.
 - (6) Do not apply abrupt load to the towing wire rope and tools.
 - (7) Prevent access to the underneath or surrounding of the machine being towed.

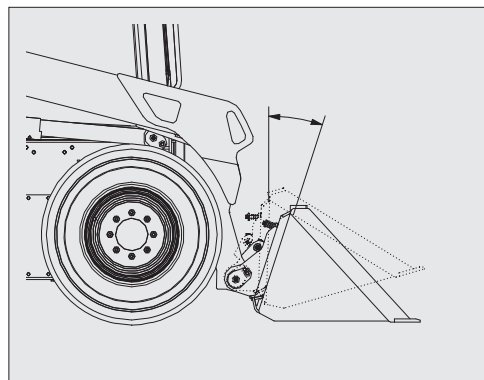


LF1O522A

4. OPERATION

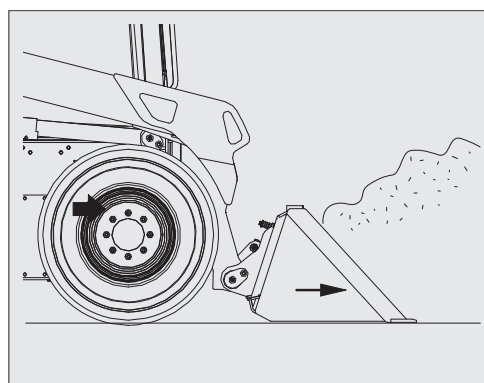
1) FILLING THE BUCKET

- (1) Place the bucket parallel to the ground surface, push the driving lever forward to move the machine forward slowly and once the bucket is fully filled, control the boom and bucket control levers at the same time to hold the objects in the bucket and reverse the machine.



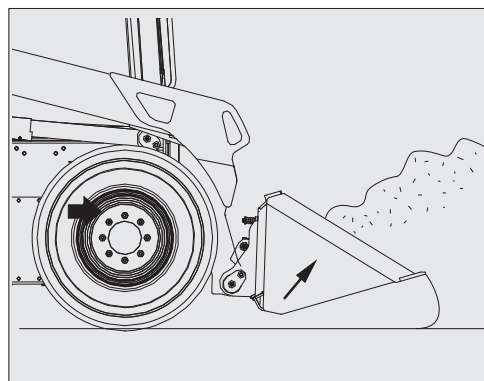
LF105A23A

- (2) When entering into the work site, place the bottom of the bucket parallel to the ground surface and make sure that no excessive load is applied to the machine body.

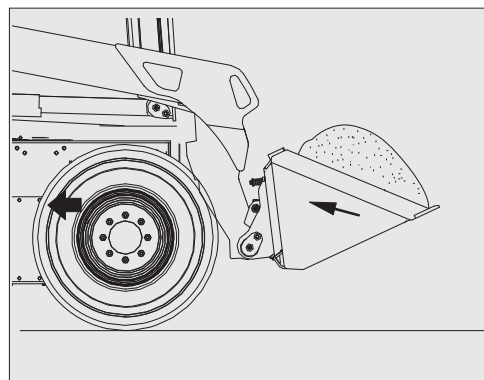


LF105A24A

- (3) Never engage in a work that exceeds the specified load of the loader. Otherwise, it may lead to accidents.



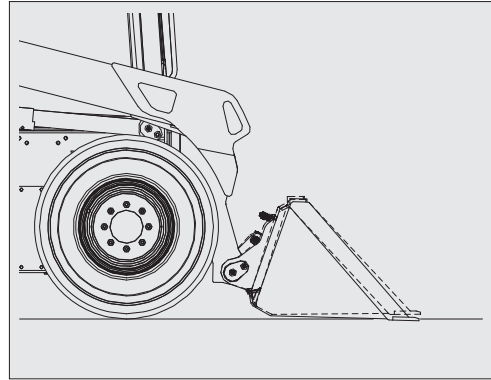
LF10525A



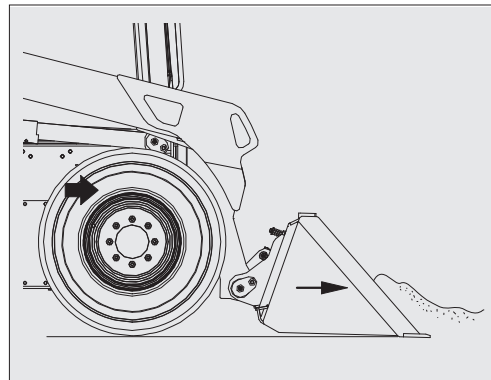
LF10526A

2) DIGGING

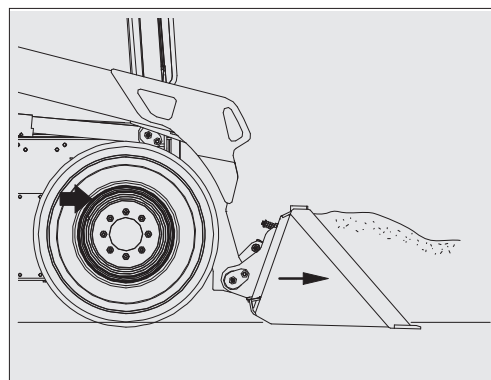
- (1) Maintain the angle so that the end of the bucket is placed to the ground surface, causing no excessive load.
- (2) Move the machine forward slowly, and once the bucket is fully filled, reverse the bucket while lifting the boom.



LF1O527A

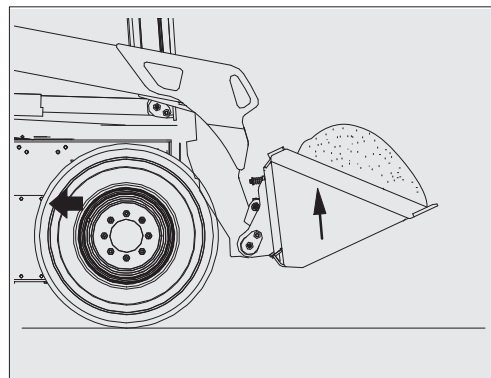


LF1O528A



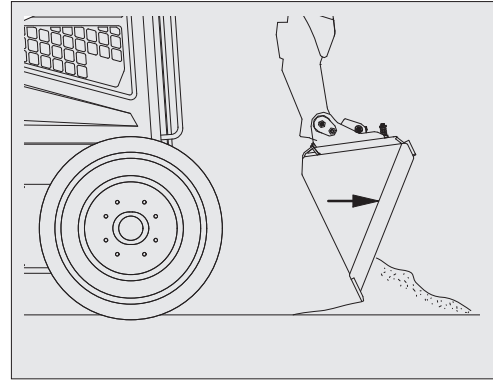
LF1O529A

- (3) Do not apply an excessive angle between the bucket and the ground.

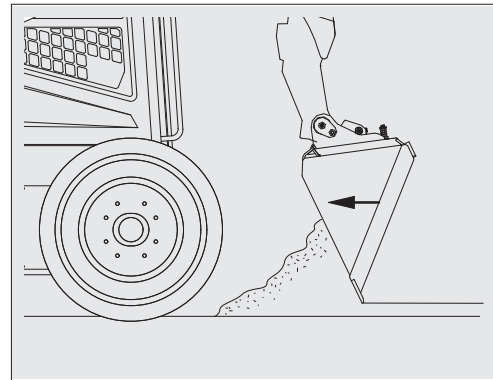


LF1O530A

3) FLATTENING

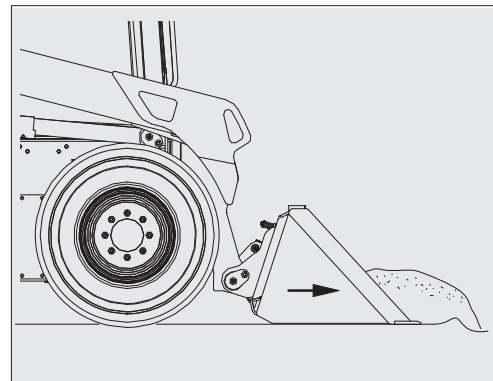


LF1O531A



LF1O532A

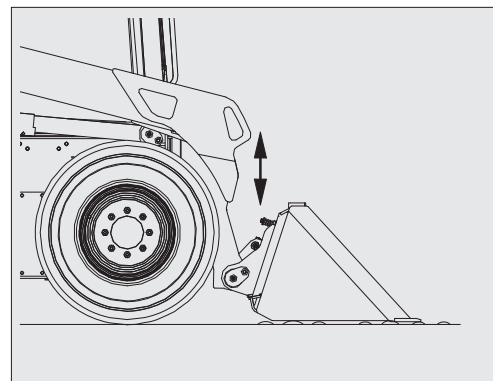
- (1) Move the bucket forward at a suitable angle against the ground surface, and move the machine forward or backward to flatten the ground surface.



LF1O533A

4) DIGGING

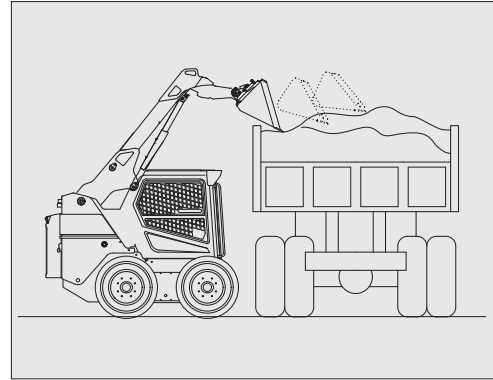
- (1) Depending on the work site's conditions, flattening the ground is possible while the boom is floated. In this case, the bottom of the bucket should be in parallel to the ground surface as much as possible.



LF1O534A

5) DUMPING

- (1) When lifting the boom, adjust the angle of the bucket so as not to spill the content out. Once the boom is sufficiently raised, move the bucket forward to pour the content.
 - (2) The machine has a function to maintain the parallel state between the bucket and the ground surface automatically, depending on the boom's lifting angle. (The self-levelling system: optional)
- ⚠ When unloaded from a truck, etc., make sure not to have the bucket or the body of the machine collide with any objects.**



LF1O535A

6. MACHINE INSPECTION

1. MAINTENANCE CHECK LIST

1) DAILY CHECK ITEM

Service Schedule		Remarks
Item	Inspection description	
Engine oil level	Check the oil level and add as needed. Do not overfill.	6-5
Hydraulic (transmission/front axle) oil level	Check level and add as needed.	6-8
Air cleaner and its filter	Check the filter condition for leakage and damage. Clean the element.	6-14
Engine cooling system	Clean the radiator, screen and grill. Check coolant level and add anti-freeze if necessary.	6-10
Seat belt and seat bar	Check the seat belt and mounting hardware. And if necessary, repair or replace it. Check the seat bar operation.	6-11
Parking brake	Check for automatic rotation and have it adjusted by your dealer if necessary.	
Cleaning pedals	Clean brake pedals, accelerator pedal, and footrest area.	
General information	Check for loose or broken parts, damaged cabin component, instrument panel operation, oil leaks and damaged or missing signs (decals) and floor mat. Replace them as necessary.	
Bucket and boom	Check mounting hardware for loose or broken parts.	
Battery	Check the voltage and check for discharge.	6-17
Cabin (if installed)	Check each device for proper operation and cleanliness	6-11

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

2) MAINTENANCE SCHEDULE CHART

No.	Schedule		Run hour								As necessary	Remarks		Page
			10	100	200	250	500	800	1000	2000				
1	Operating oil (hydraulic oil)	Check and replenish	○											6-8
		Replace							○					6-9
2	Battery (voltage)	Check		○										6-17
3	Hydraulic oil filter	Replace and adjust				⊙	○							6-9
4	Safety bar - check for any malfunctioning	Check	○											
5	Air cleaner element	Check and clean				○								6-14
		Replace									○			6-20
6	Radiator coolant	Check and replenish	○											6-10
		Replace								○	2 years	at coming first		6-20
7	Engine oil	Check		○										6-5
		Replace				○								6-6
8	Engine oil filter	Replace				○								6-6
9	Pins - grease	Check and replenish	○											6-11
10	Fuel filter element	Replace			○									6-13
11	Fan belt tension and damage	Check			○									6-16
12	Fuel-water separator	Check			○									6-13
13	Fuel hose	Check		○										6-15
		Replace										At every two years		
14	Fixing bolt torque of drive sprocket	Check	○											6-13
15	Track wheel	Check	○											
16	HST motor gear oil	Replace				⊙	○							6-10
17	HST filter	Replace				⊙	○							
18	Engine valve clearance	Adjust						○						

※ ⊙ must be done after the first 250 hours of operation.

※ The service interval is based on the hour meter on the instrument panel.

※ This service interval assumes general maintenance condition and may not be suitable for other conditions, depending on the work site's conditions.

※ Make sure to stop the engine before replenishing oil or fluid.

※ If the oil temperature is high, it may flow out and therefore, do not loosen the cap or the drain plug.

※ Loosen the cap slowly so that the internal pressure can be slowly released.

※ The surface of the instrument panel and the control panel should be always kept clean, and any damaged or defect parts should be replaced with new ones.

2. LUBRICANTS

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

No.	Item	Capacity [ℓ (U.S. gal)]	Oil
1	Fuel	100 (26.4)	Ultra low sulfur diesel (sulfur content: 15 ppm or less)
2	Operating oil	38 (10.0)	Hydraulic oil ISO VG 46, Hyundai Oil
3	Radiator coolant	10.4 (2.75)	Anti-freezing solution: Ethylene glycol + Pure water (50:50)
4	Engine oil	9.0 (2.4)	Spec: API CJ-4 or higher Viscosity (SAE): SAE 15W40
5	Pins - grease	Sufficient amount	Grease oil NLGI #2
6	HST motor gear oil	1.0 (0.26)	SAE 90 (API GL-4)

▲ Check the oil level periodically. Correct the oil level, if needed, before operating.

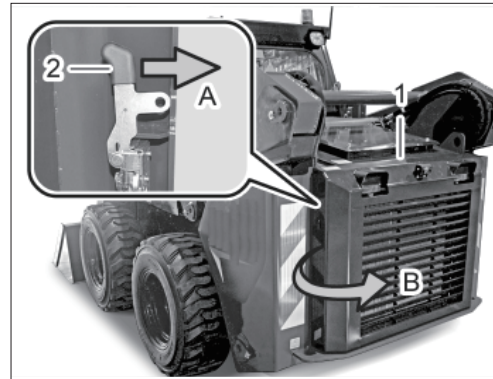
▲ Always check and add oil with the machine on a flat, level surface.

3. MAINTENANCE CODE

1) OPENING THE REAR DOOR

- 1 Rear door
- 2 Opening knob
- A Pull
- B Open

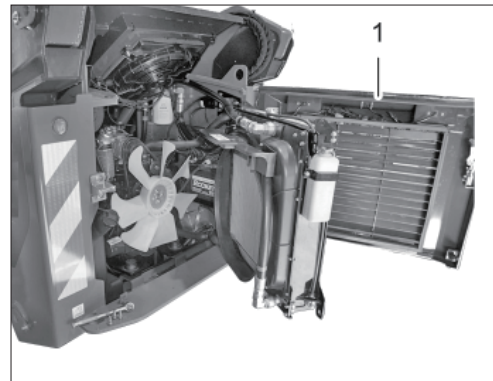
- (1) It is very easy to open the rear door with one touch pulling knob.
- (2) The hood stays open by itself with air cylinder. To close it, just press down without any bothering process.



LF1O503A

- 1 Rear door

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



LF1O602A

2) CHECKING AND ADDING FUEL

- 1 Fuel tank cap

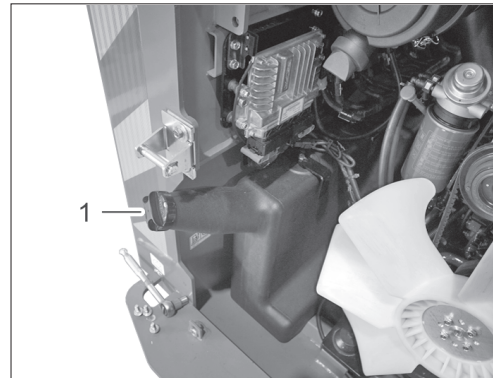
The fuel tank is installed in the middle of the machine body. Make sure to use pure and high-quality diesel fuel.

- Fuel tank capacity [ℓ (U.S. gal)] : 104 (26.4)

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

▲ **To avoid personal injury:**

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



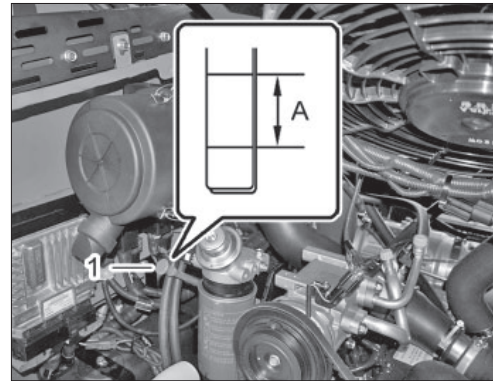
LF1O603A

- ※ Be careful not to let the fuel tank become empty. Otherwise air will enter the fuel system, necessitating bleeding before next engine start.
- ※ Be careful not to spill during refueling. If a spill occur, wipe it off at once, or it may cause a fire.
- ※ When operating the machine in winter season after a long period of time, fuel for winter season should be used.

3) CHECKING ENGINE OIL LEVEL

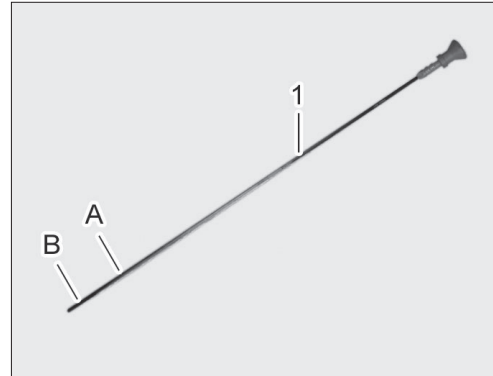
- 1 Oil filler neck
- 2 Oil dipstick
- A Oil Level is Acceptable Within This Range

- (1) Check the engine oil daily.
 - (2) Park the machine on a level ground and lower the implement.
 - (3) If the engine was just running, wait for approx. 5 minutes before checking the oil level.
- ※ **To avoid injury: Be sure to stop the engine before checking the oil level.**



LF1O604A

- 1 Oil dipstick
 - A Upper limit
 - B Lower limit
- (4) Pull out the oil dipstick, clean it, and then insert it into its original position. Then, pull it out again and check if the oil level is within the specified range.
 - (5) If the oil level is too low, add some new oil so that the level is within the allowable range.
- ※ **When using oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.**
 - ※ **Do not start the engine when the oil level is below the lower limit.**
 - ※ **Wipe the oil dipstick with clean cloth or tissue. If foreign material enters the oil sump, it can lead to malfunction of the engine.**
 - ※ **Never add oil over the upper limit.**

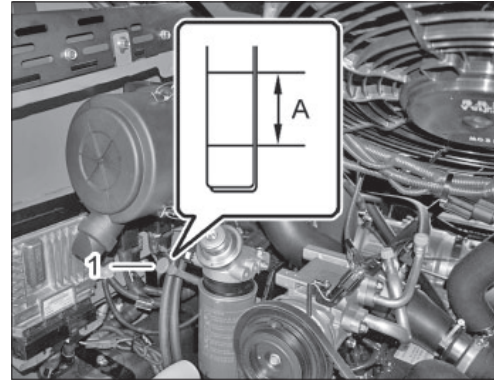


TD2O707A-1

4) CHANGING ENGINE OIL AND REPLACING FILTER

- 1 Oil filler hole
- 2 Oil dipstick
- A Oil level is acceptable within this range

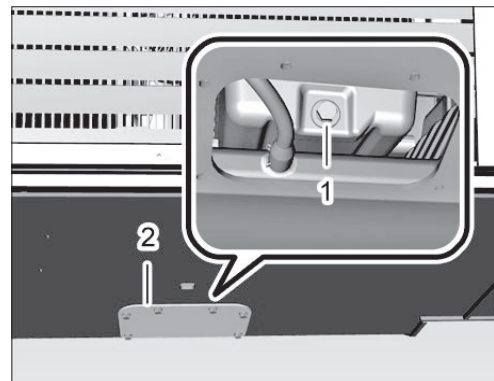
- (1) Park the machine on a level ground and start the engine to warm it up.
- (2) Stop the engine, set the parking switch to the parking state (P).
- (3) Wait until the oil is cooled down.



LF1O604A

- 1 Drain Plug
- 2 Maintenance cover

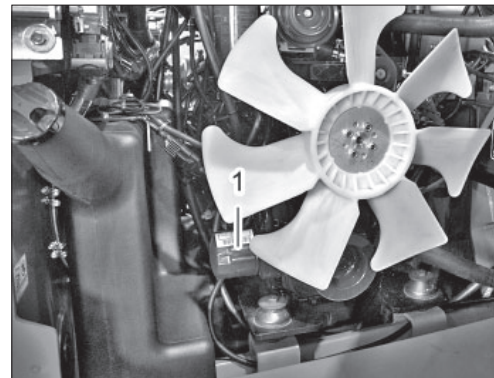
- (4) To drain the oil used, first install the oil pan at the bottom of the engine, remove the maintenance cover, and turn the drain plug counterclockwise to drain the oil completely. Used engine oil can be drained more easily before the engine cools.



LF1O628B

- 1 Engine Oil Filter

- (5) Remove the oil filter from the bottom of the fuel filter on the right side of the engine.
- (6) Apply a thin film of oil to the O-ring of a new filter and tighten the new filter firmly by hand.
- (7) Fill the engine oil to the specified level and tighten the oil filter to the specified torque.
 - Oil Capacity [ℓ (U.S. gal)] : 9.0 (2.4)



LF1O607A

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

※ **The engine oil filter should be replaced when changing the engine oil.**

▲ **The engine oil is very hot while the engine is running or right after the engine is stopped. Be careful not to be burnt.**

▲ **Avoid oil contact while changing or adding engine oil and wear eye protection to prevent eye contact.**

▲ **Prolonged and repeated contact with the engine oil may cause skin disorders and skin cancer. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**

▲ **Keep the used oil out of reach of children.**

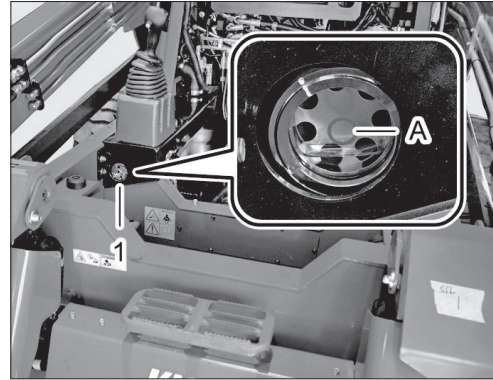
※ **Use only specified engine oil and Hyundai genuine filter to insure smooth operation and durability of the engine.**

▲ **To avoid injury:**

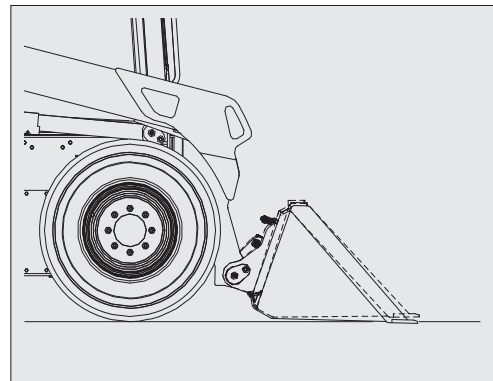
- **Be sure to stop the engine before changing the fluid or replacing the filter.**
- **Check the engine oil level before every operation of the machine. If the engine oil is insufficient, the engine can be damaged, and this is not covered by warranty. Be sure to add the engine oil when its level is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

5) CHECKING THE HYDRAULIC OIL LEVEL

- 1 Hydraulic oil level sight glass
- A Optimal level
(it should be up to the center of the gauge.)



TD2O704A



LF1O527A

1 Hydraulic oil filler neck

- (1) Park the machine on a level ground and lower the bucket onto the ground.
- (2) Stop the engine and wait for some five minutes.
- (3) The hydraulic oil level should be up to the center of the gauge. (The gauge is located at the lower right of the seat inside the cabin.)
- (4) If the oil level is too low, add some new oil so that the level is within the allowable range.

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



TL7O602A

6) REPLACING THE HYDRAULIC OIL AND FILTER

1 Return filter

If hydraulic oil is contaminated or a repair is required, it should be replaced. Make sure to replace the hydraulic oil filter element as well.

However, replace the hydraulic oil filter element only at every 500 hours of operation.

- (1) Park the machine on a level ground and start the engine to warm it up.
- (2) Stop the engine, and remove the drain plug.

- 1 Drain hole
- 2 Drain hose
- 3 Plug

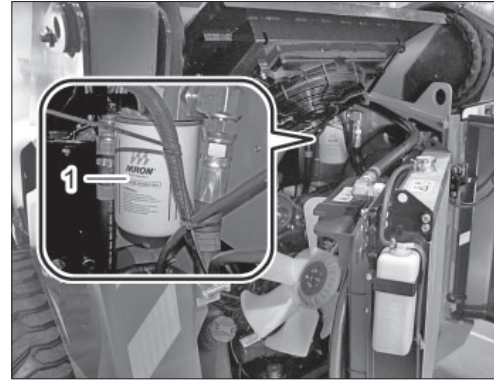
- (3) To drain used oil, point the drain hose below the step toward the hole on the floor in the front wheel (left), and loosen the plug to drain the oil completely.
- (4) Apply a thin film of clean oil onto the O-ring of a new filter.
- (5) Tighten the filter until it touches the mounting surface. Then, tighten the filter for a half turn further with a hand.
- (6) After installing a new filter, run the engine for a few minutes and stop it.
- (7) Check the oil level again and add more oil to the specified level.

· Oil Capacity [ℓ (U.S. gal)] : 38 (10)

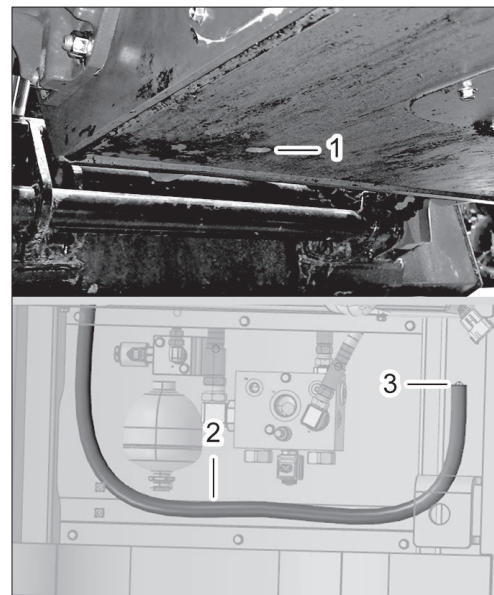
▲ To avoid injury:

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

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



LF1O620A



LF1O644A

7) CHECKING AND REPLACING HST MOTOR GEAR OIL

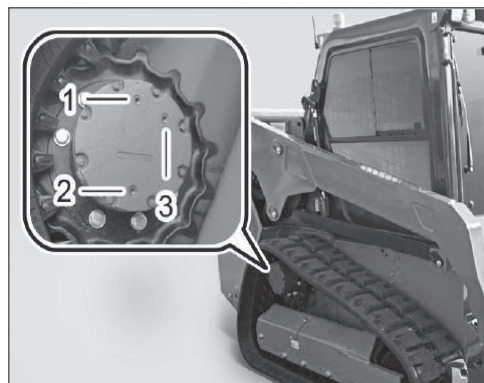
- 1 Filler hole 2 Drain plug
- 3 Oil check hole

Replace the oil according to the HST motor gear oil replacement interval.

- (1) Park the machine on a level ground and stop the engine. (Park the oil fillerhole and drain hole of the HST motor perpendicular to the ground.)
- (2) Open the drain plug and drain the oil completely.
- (3) Check the oil level again and refill oil to the specified level.

· Oil Capacity [ℓ (U.S. gal)] : 1.0 (0.26)

※ When replenishing gear oil, add until a small amount of oil flows out through the oil check hole.

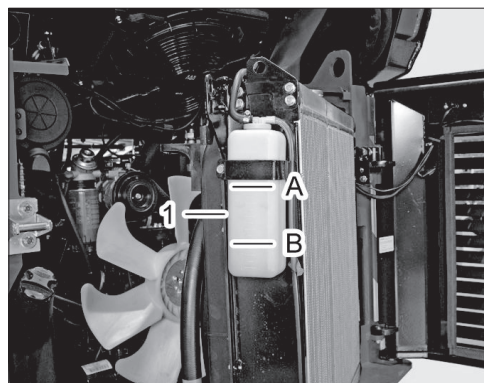


TL7O606A

8) CHECKING THE COOLANT LEVEL

- 1 Reservoir Tank
- A FULL
- B LOW

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



LF1O605A

9) CLEANING THE RADIATOR

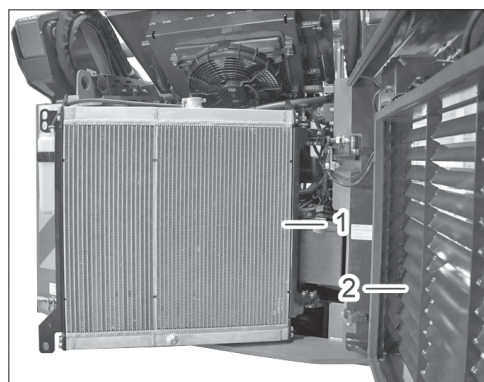
- 1 Radiator
- 2 Rear cover

- (1) Check for foreign materials on the radiator and the rear cover.
- (2) Remove any foreign materials.

▲ To avoid accidents:

· Be sure to stop the engine before cleaning.

※ The radiator and the rear cover must be clean from debris to prevent the engine from overheating and to allow good air intake for the air cleaner.



LF1O606A

10) CHECKING GAUGES, METERS AND INDICATORS

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

11) CHECKING HEAD LIGHT, HAZARD LIGHT ETC.

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

12) CHECKING SEAT BELT AND CABIN

- (1) Always check the condition of the seat belt and cabin before operating the machine.
- (2) Replace if damaged.

13) LUBRICATING GREASE NIPPLE

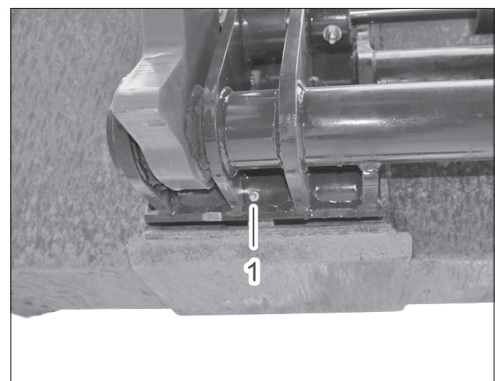
Apply quality multi-purpose grease to the locations specified in the following figure at every 10 hours of use or when necessary. Also, record the operating hour on every application.

- 1 Upper part of the bucket lift cylinder



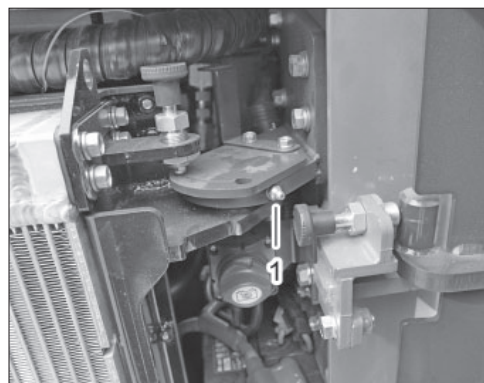
LF1O636A

- 1 Lower part of the bucket



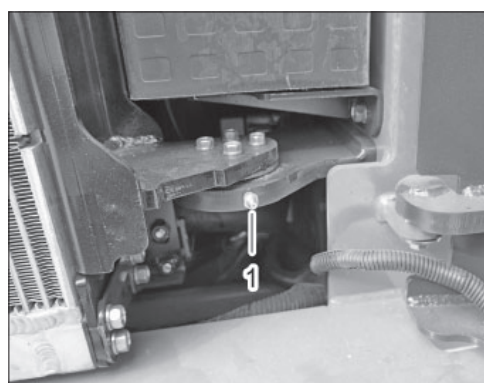
LF1O637A

- 1 Upper part of the opening of the engine compartment



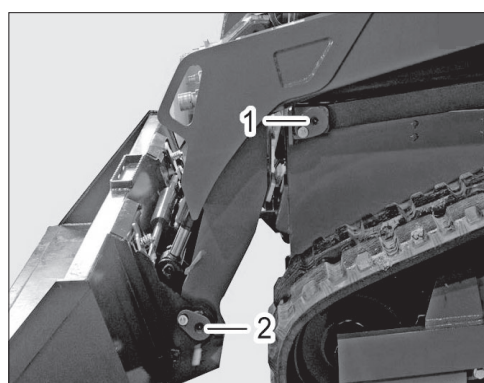
LF1O638A

- 1 Lower part of the opening of the engine compartment



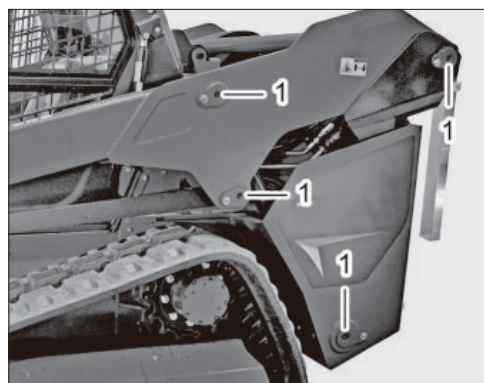
LF1O639A

- 1 Boom cylinder
- 2 Lower part of the bucket



LF1O640A-1

- 1 Upper/lower parts of the boom cylinder



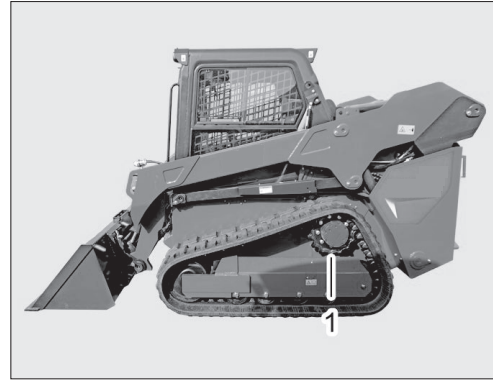
LF1O641A

14) CHECKING DRIVE SPROCKET

1 Drive sprocket

Check the drive sprocket fixing bolts regularly. If they are loose, tighten them as follows.

- Tightening torque: 31.5~34.7 kgf · m
(227~250 lbf · ft)



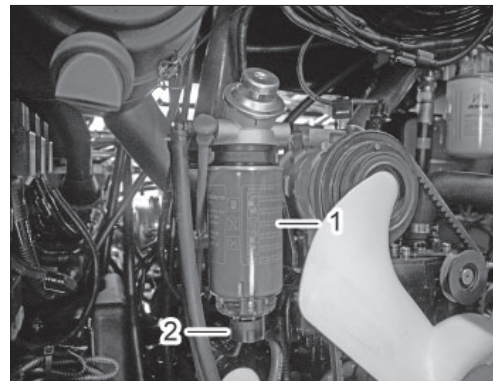
LF1O709A

▲ To avoid injury:

- Never operate the equipment with the drive sprocket securing bolts released.
- Make sure the track wheels are not out of position.
- Any time bolts and nuts are loosened, retighten to specified torque.
- Check all bolts and nuts frequently and keep them tight.

15) FUEL FILTER

- 1 Fuel filter
2 Drain plug



LF1O610A

16) REMOVING WATER FROM FUEL FILTER

- (1) Water and dust in fuel are accumulated in the filter. Remove the plug from the bottom of the fuel filter to drain water.
- (2) After draining, tighten the plug with a hand. (Do not use a tool.)
- (3) Start the engine and check for fuel leakage.

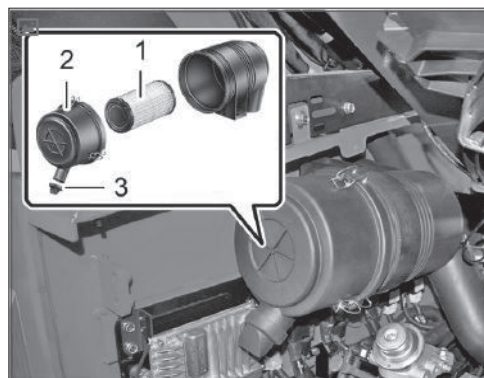
17) REPLACING FUEL FILTER

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

18) CLEANING AND REPLACING AIR CLEANER FILTER

- 1 Filter
- 2 Dust cap
- 3 Evacuator valve

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



LF10611A

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

※ **The air cleaner will only fulfill its function if it is correctly and regularly maintained.**

A poorly maintained air cleaner will mean loss of power, excessive fuel consumption and a reduction in engine life.

※ **Do not run the engine with filter element removed.**

▲ **Use only a Hyundai genuine filter. If using a product other than the genuine one, it can damage the engine internal section and sensor.**

▲ **Make sure that no dust enters the system by installing the cover firmly.**

When removing the filter, be careful not to let foreign material enter the air inlet.

※ The air cleaner uses a dry element. Never apply oil.

※ Make sure that dust is not accumulated over the half of the dust cap. Remove the dust cap, wipe out any dust and clean the filter every week. If the machine is operated in extremely dusty conditions, daily inspection is required.

※ Do not service the filter unless it should be cleaned.

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

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

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

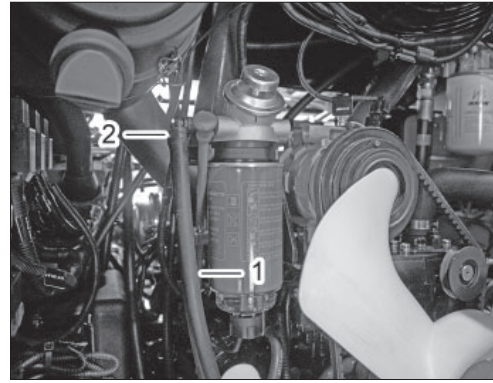
19) EVACUATOR VALVE

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

20) CHECKING FUEL LINE

- 1 Fuel line
- 2 Fuel hose clamp

It is recommended to check the fuel pipe connections every 100 hours, and should be replaced every 2 years unless the operation exceeds 1,000 hours in 2 years.



LF10612A

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

▲ Stop the engine when checking the items above.

▲ Inspect the fuel pipe regularly.

The fuel pipes are subject to wear and aging. Failure to perform periodic inspections may lead to a fuel leak. Fuel leaking on a hot engine could cause a fire.

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

21) ADJUSTING FAN BELT TENSION

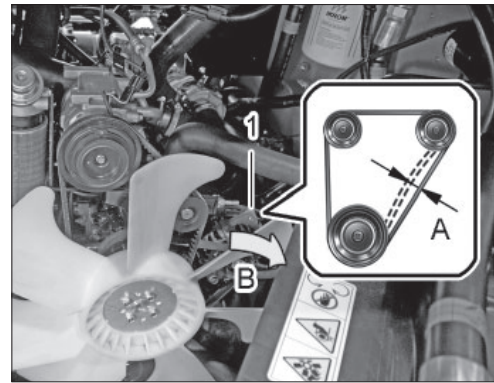
- 1 Adjusting Bolt
- A Adjusting Belt Tension
- B Pull

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

- (1) Stop the engine and check the parking status on the instrument panel.
- (2) Open the rear door.
- (3) In order to measure the belt tension, apply thumb pressure strongly to the "A" location of belt.
 - Belt deflection for proper fan belt tension (A) :
A deflection of between 7 ~ 9 mm when the belt is pressed in the middle of the span.
- (4) If the tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
- (5) Be sure to retighten the alternator mounting bolt and hinge bolt securely after adjusting belt tension.
- (6) Replace the fan belt if it is damaged, cracked or worn.

To avoid injury:

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



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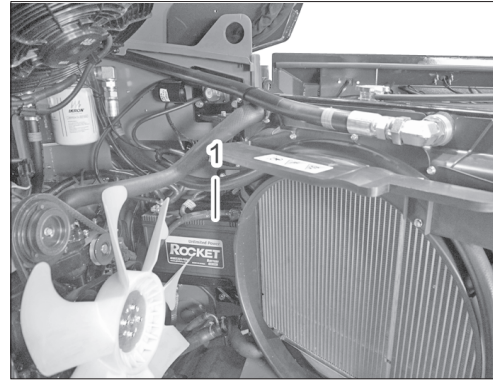
22) BATTERY

(1) Precautions for handling

1 Battery

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

- ① The battery cable should always be clean and firmly connected. When installing a new or used battery, clean its terminals.
 - ② Check the battery and cable for damage and corrosion.
 - ③ Apply grease to the terminals and cable end in order to prevent corrosion.
- ▲ The battery gas can explode. Do not expose the battery to flames or sparks. It may cause a fire.
 - ▲ The battery fluid contains sulfuric acid that can burn you. Do not allow the battery fluid to contact your eyes, skin, or painted surfaces. If you accidentally get it in your eyes or on your skin, flush with water and contact your doctor.
 - ▲ Be sure to wear eye protection while working on the battery.
 - ▲ The battery fluid can hurt your eyes. Use only the battery with the specified voltage. Otherwise, it may cause a fire.



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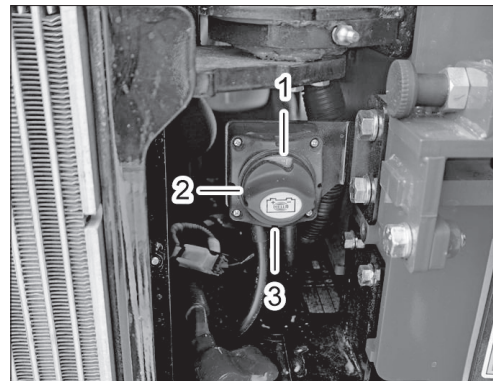
(2) BATTERY SHUT OFF SWITCH

- 1 Battery shut off switch
- A Power shut off (OFF)
- B Power ON (ON)
- C Removing the handle

Setting the battery switch OFF shuts off the power while setting it ON supplies the power. For long-term storage, set the switch OFF.

For long-term storage, turn the handle to the removal position to remove it and place it in a safe place.

- ▲ Stop the engine and wait for about two minutes, and then turn the battery switch to “OFF” or disconnect the battery terminal.
- ▲ After the engine is stopped, the ECU self-check takes about 2 minutes. If the battery is removed before this 2 minutes, ECU errors would occur.



LF1O629B

(3) Charging

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

Battery type	Volts (V)
110 AH	12

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

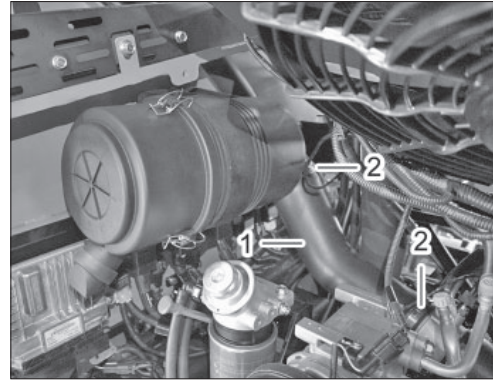
(4) Direction for Storage

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

23) CHECKING INTAKE AIR LINE

- 1 Air line hose
- 2 Clamp

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



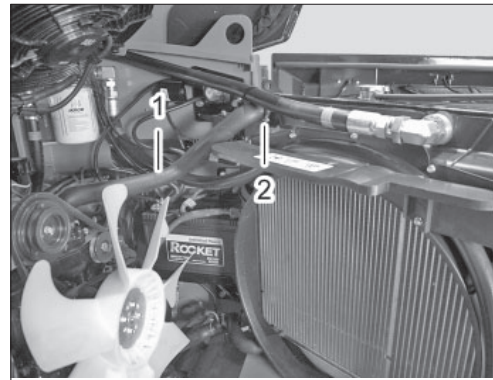
LF1O615A

24) CHECKING RADIATOR HOSE AND CLAMP

- 1 Clamp
- 2 Radiator hose

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

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



LF1O616A

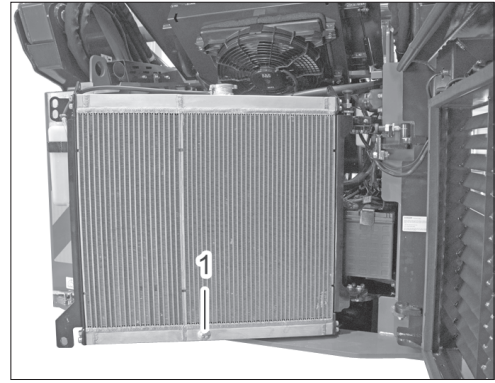
Take the following actions in the event the coolant temperature reaches the boiling point, what is called "Over-heating".

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

25) FLUSHING COOLING SYSTEM AND CHANGING COOLANT

1 Drain plug

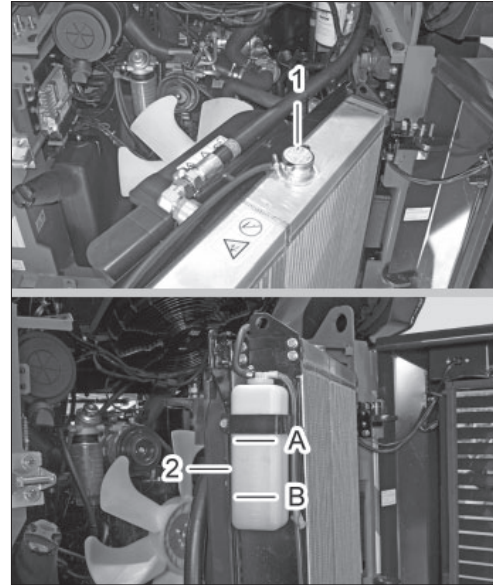
- (1) Park the machine on level ground, stop the engine and let the engine cool down.
- (2) To drain coolant, remove the drain plug from the radiator and turn the radiator cap to the 1st notch to release pressure in the radiator. Then, remove the cap completely.
- (3) After all coolant is drained, fit the drain plug.
- (4) Use clean, fresh water and anti-freeze to fill the reservoir tank.
- (5) Follow the cleaner manufacturer's instruction.



LF1O618A

- 1 Radiator cap
- 2 Reservoir tank
- A FULL
- B LOW

- (6) Install the radiator cap securely.
- (7) Start and idle the engine for few minutes.
- (8) Stop the engine and let it cool.
- (9) 9. Drain water and cooling system cleaner and close drain cock. Then, fill with antifreeze and water mixture and close radiator cap securely.
- (10) Idle the machine until it reaches the operating temperature.
- (11) Check the coolant level in the reservoir tank. If the level is low, add coolant.
 - Coolant capacity [ℓ (U.S. gal)] : 10.4 (2.75)



LF10619A

▲ To avoid accidents:

- Do not remove the radiator cap while the coolant is hot. Steam or scalding liquids released from hot cooling system can burn you seriously. Cool down the engine first.
- Even though the coolant is cooled down, turn the cap to its first stop and then wait until it is depressurized before removing the cap completely.
- ※ Do not start engine without coolant.
- ※ Use clean, fresh water and anti-freeze to fill the radiator and reservoir tank.
- ※ When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be no less than 50% mixture of water and antifreeze.
- ※ Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.
- ※ If the radiator cap has to be removed, follow the caution above and securely retighten the cap.
- ※ Use clean, fresh water and anti-freeze to fill the reservoir tank.
- ※ If the coolant leaks, contact your HYUNDAI Dealer.

26) ANTI-FREEZE

This machine is filled with 50% of ethylene glycol at factory. If the anti-freeze has been replaced by tap water later on, the coolant can freeze, leading to damage to the cylinder and radiator when the ambient temperature is below zero (32°F).

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

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

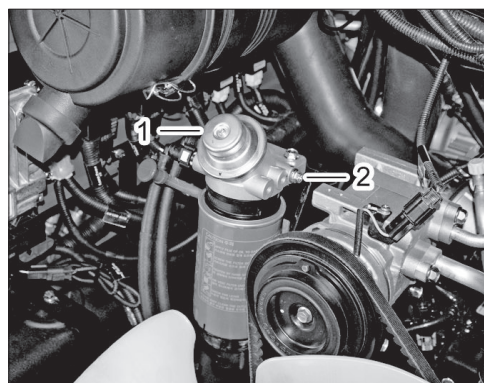
Anti-freeze % (Ethylene glycol)	Freezing Point		Boiling Point	
	°F	°C	°F	°C
40	-12	-24	222	106
50	-34	-37	226	108

- ※ At 760 mm Hg pressure (atmospheric). A higher boiling point is obtained by using a radiator pressure cap.
- ※ The temperatures shown on the left are industry standards that necessitate a minimum glycol content in the concentrated antifreeze.
- ※ When the coolant level drops due to evaporation, add water only. In case of leakage, add anti-freeze and water in the specified mixing ratio.
- ※ Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.
- ※ Do not use radiator cleaning agents when anti-freeze has been added to the cooling water. (anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts)

27) BLEEDING FUEL SYSTEM

- 1 Drive pump
- 2 Air bleeding bolt

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



LF1O621B

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

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

※ To protect the catalyst filter, keep the followings:

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

▲ Never bleed the fuel system while the engine is hot.

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

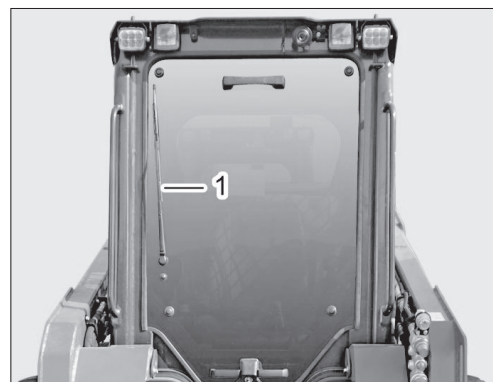
※ If the engine cannot be started even after bleeding the fuel system, contact your local Dealer.

28) CHECKING AND REPLACING WIPERS

(1) Checking

1 Wiper

Check the operation and wear condition of wiper blades regularly. When replacing the wiper blades, press and separate the wiper mounting lever, then pull the blade out. When removing the wiper arms, pull up the cap of the wiper arm and remove the nut. Next, stand the wiper arm, hold the head of the wiper arm, and shake it left and right to pull out the wiper arm from the drive spindle. Separate the washer fluid hose, and reinstall a new wiper arm at the original angle.

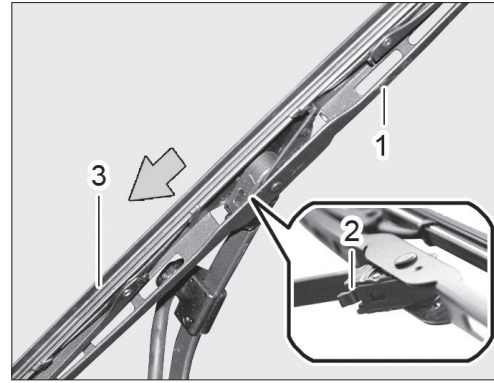


LF1O622B

(2) Changing

- 1 Wiper arm
- 2 Wiper mounting lever
- 3 Wiper blade

- ① Stand the wiper arm and prepare it so as to replace the wiper blade.
- ② Hold the blade with one hand. Press the blade mounting lever with the other hand and separate the blade from the mounting device.



- 1 Wiper blade

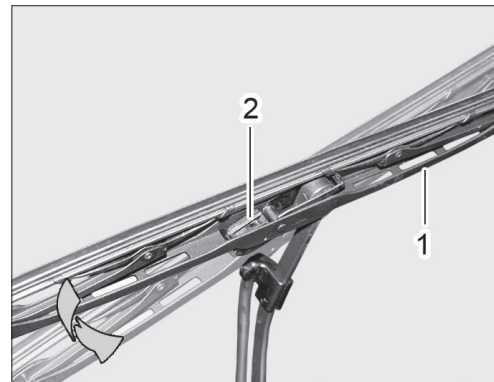
- ③ Push the blade down and take it out in the direction of the arrow as if drawing a U-shape.



- 1 Wiper arm
- 2 Mounting lever

- ④ Place the new wiper blade in parallel, point the mounting lever downward, and put the wiper arm down to the mounting lever groove.

▲ With the wiper blade removed, make sure not to have the wiper arm touch the window. It may damage window glass.

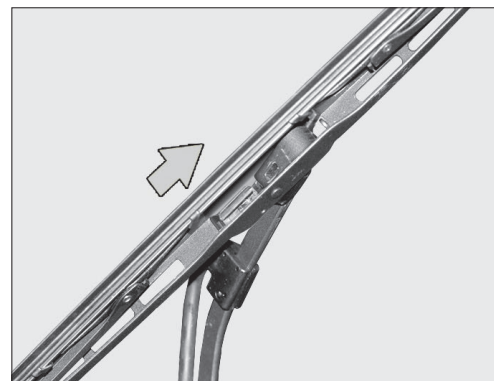


- ⑤ Push the wiper blade all the way up and install it so that the mounting lever is engaged with the wiper arm (make sure that you hear a click.)

▲ When cleaning the windshield, stand the wiper blade, spray water using a hose, etc., and wipe it with clean cloth.

▲ Do not continue operating the wipers when the wiper blade is frozen in winter or there is no washer fluid.

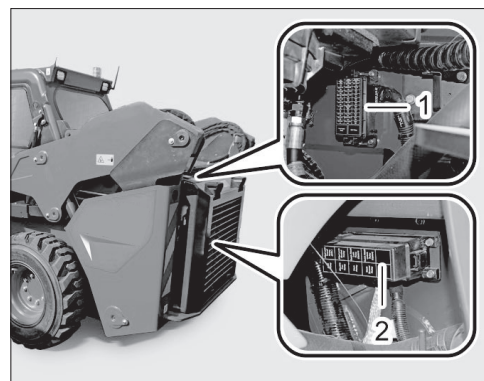
▲ To prevent the damage of the wiper blades, do not use synthetic detergent, thinner or other solvents on the windshield.



29) BODY FUSE

- 1 Body fuse box
- 2 Body relay box

Fuses protect the machine's electrical system from potential damage. A blown fuse indicates that there is an overload or short somewhere in the electrical system. The fuse panel is located in the right section of the engine compartment.



LF1O623A

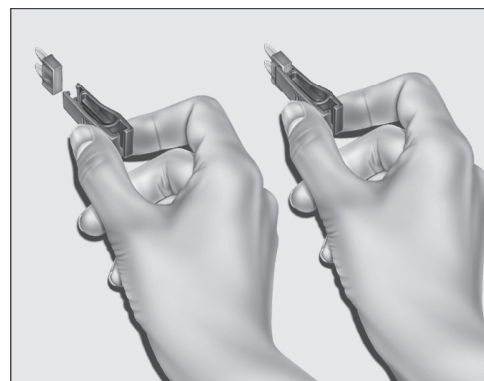
RMS Alternator 10A	14Pin C/D/E/F/G/H 30A	Back Buzzer 10A
14Pin 10A	Light FR/RR 20A	Pilot Lock Bucket/Travel 20A
Electric Fan 25A	MCU/Cluster 15A	Parking 10A
Fuel Heater 25A	Power Socket 10A	Seat 15A
ECU_Key_Power 10A	Beacon Lamp 10A	Fan Clutch 5A
Room Lamp 10A	Aircon 30A	Spare 5A
Flasher Unit 10A	Stop Lamp 10A	Spare 10A
Left Joystick 10A	Right Joystick 10A	Spare 10A
Horn 10A	Cabin 10A	Spare 15A
ECU Sensor 10A	Valve Power 30A	Spare 20A
ECU Power 25A	Bluetooth Player 10A	Spare 25A
ECU Relay 5A	Wiper Washer 15A	Spare 30A

Fuel Heater Relay	ECU Relay
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LF1O624C

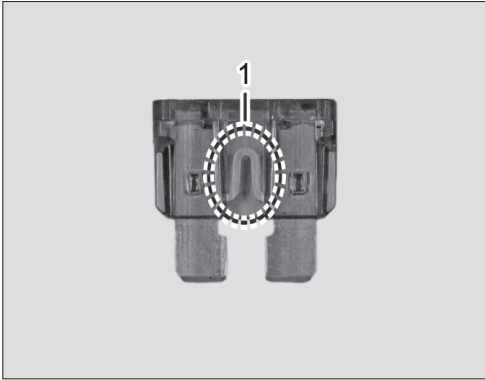
There are marks for the fuse capacity and location on the cover of the fuse panel. Replace the fuse according to the following procedure:

- (1) Turn the key switch to the "OFF" position and turn off all the electrical devices.
- (2) Open the fuse box cover and check the fuse in question using fuse tongs.
- (3) If the fuse is blown, replace it with a new fuse with same capacity. Make sure it is firmly installed.
- (4) Install the fuse box cover.



H11O655A

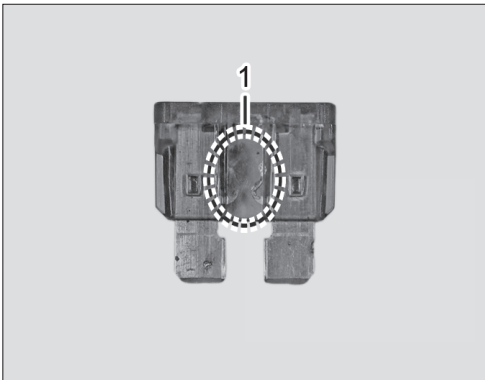
1 Normal fuse



TG1O769A

1 Blown fuse

- ⚠ Never use a fuse with the capacity higher than specified on the fuse box cover.**
If using a faulty fuse, steel wire, or foil, the electrical device can be damaged or even can catch a fire.
- ※ If the replaced fuse is blown soon, it is probable that the wiring system is faulty. In this case, contact your local Hyundai Dealer.
- ※ If the fusible link, relay or other electric component is defective, contact your local Hyundai Dealer.



TG1O770A

30) BODY RELAY

In case of relay defects, the machine will not work normally. Please have it checked at a nearby dealer.

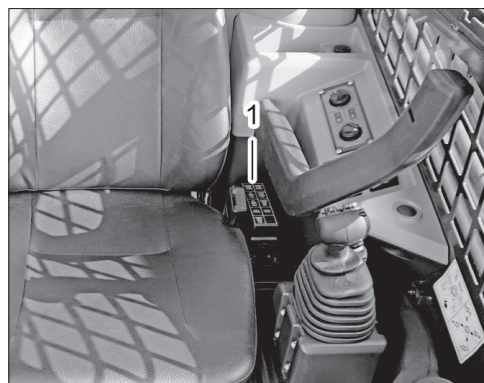
Start Relay	Pilot Lock Travel Relay (SSL)
Electric Fan Relay	Pilot Lock Bucket Relay
Horn Relay	Quick Attach Lock Relay (Option)
Horn Relay	Quick Attach Unlock Relay (Option)
Stop Relay	

LF1O625B

31) CABIN RELAY

1 Cabin relay box

※ If the relay or other electric component is defective, contact your local Hyundai Dealer.



LF1O645A

	Self Level Relay (Option)
Power Relay3	Parking Relay
Soft Shift Relay (Option)	Work Lamp Relay (R)
Ride Control Relay (Option)	Work Lamp Relay (F)
Hi Flow Relay (Option)	Beacon Relay (Option)

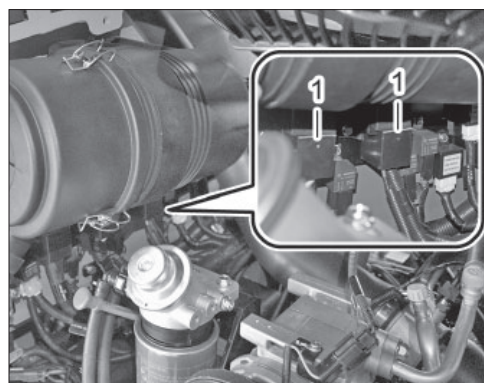
LF1O625B-1

32) SLOW BLOW FUSE

1 Slow Blow Fuse

The slow blow fuse is to protect the electric wiring. If it is blown, find and repair the cause and replace it with a new genuine part.

Slow blow fuse	
Engine / Start	40A / 30A
Glow / Power	80A / 100A
Lamp / Power 2	60A / 70A



LF1O642A

※ Using a non-approved slow blow fuse can damage electrical systems in the machine severely.
 ※ Refer to the chapter “Troubleshooting” in this manual or contact your local Dealer for specific information dealing with electrical problems.

33) REPLACE THE BULB

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

Sequence	Bulb	Capacity
1	Stop lamps / tail lamps	21W/5W
2	Turn signal lamp	21W
3	Interior lamp	10W

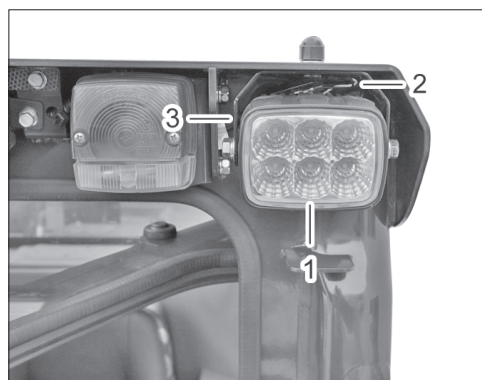
(1) Work lamp (FRT/RR)

The LED work lamp is installed to improve visibility for working at night. If replacement is needed, the whole work lamp assembly needs to be replaced.

▲ Make sure to use a genuine lamp. Using a non-recommended lamp can cause a fire.

- 1 LED work lamp
- 2 Wiring
- 3 Work lamp mounting bracket

- ① Turn the key switch “OFF” and remove the LED work lamp assembly from the work lamp mounting bracket.
- ② Remove the connector and replace it with a new LED work lamp.

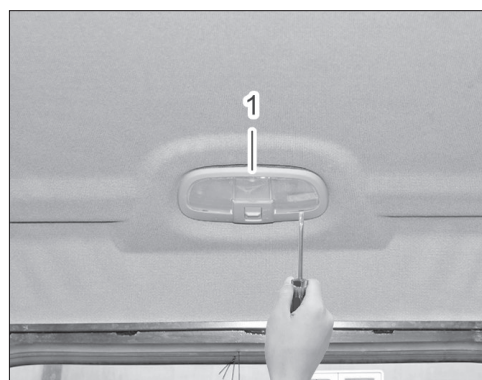


LF1O631A

(2) Interior lamp

- 1 Interior lamp

- ① Insert a flathead screw driver into the gap of the interior lamp to remove the interior lamp cover.



LF1O646A

1 Interior lamp bulb

- ② Pull up and remove the interior lamp bulb, and replace it with a new bulb.

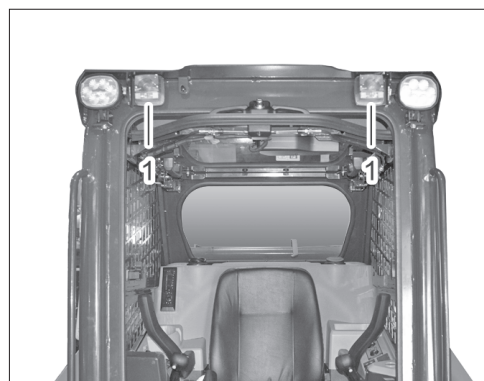


LF1O647A

(3) Front turn signal lamp

1 Front turn signal lamp

- ① The turn signal lamp (front) is installed on the front cabin frame.



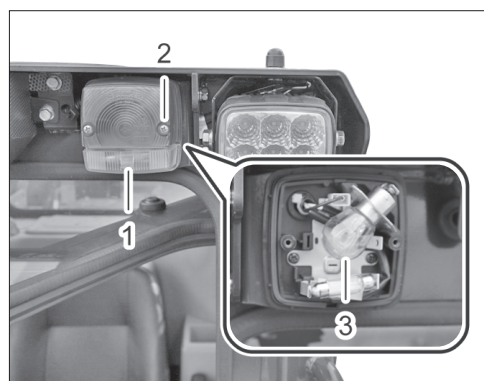
LF1O632A

1 Turn signal lamp (front)

2 Mounting bolt

3 Turn signal lamp (front) bulb

- ② Unscrew the two mounting bolts to remove the lens.
- ③ Turn the bulb counterclockwise and remove the bulb body.
- ④ Remove the bulb by pressing it gently, replace it with a new bulb, and place the socket to the groove and turn it clockwise to install it.

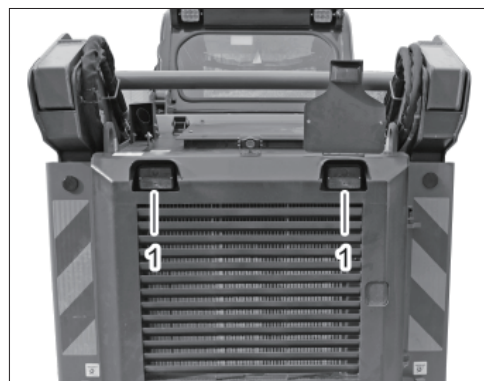


LF1O633A

(4) Brake lamp and rear turn signal lamp

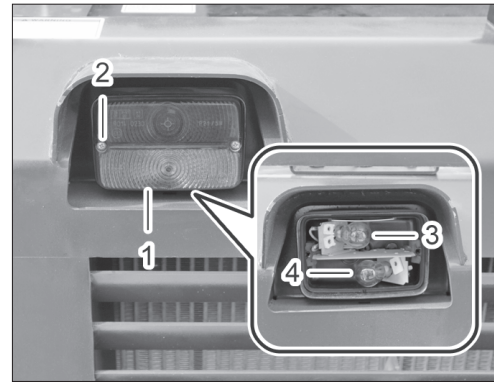
1 Brake lamp and turn signal lamp

- ① The brake lamp and the rear turn signal lamp are installed on the rear cover.



LF1O634A

- 1 Brake lamp and turn signal lamp
 - 2 Screw
 - 3 Brake lamp bulb
 - 4 Turn signal lamp bulb
- ② Loosen the screw and remove the cover.
 - ③ Turn the socket counterclockwise to remove the bulb and replace it with a new one.



LF1O635A

34) REFRIGERANT INSPECTION

Insufficient refrigerant degrades the A/C performance. Excessive amount of refrigerant also damages the A/C system, and therefore, if any defect is identified, have it checked at a local dealer immediately.

- (1) Operate the A/C in the following spec.
 - ① Engine RPM: About 1,500 rpm
 - ② Temperature control switch: At the point of maximum cooling temperature
 - ③ Blower speed control dial: Step 4
 - ④ A/C switch: "ON"
- ▲ Park the machine on even ground and choke the wheels.
- ▲ Put the shuttle shift lever, main shift lever and PTO lever in the neutral position.
- ▲ The refrigerant is at high pressure, and therefore, make sure to have only a certified specialist repair the A/C. An injury can occur.

7. STORAGE AND DISPOSAL

1. STORAGE OF MACHINE

1) BEFORE STORAGE

For the long-term storage of the machine, perform minimum maintenance and check to see if it works before storing it.

1. All parts should be cleaned and dried, and the machine should be stored in a dry indoor storage space. Never place the machine outside. If outdoor storage is absolutely necessary, place wood panels on the ground, place the machine on them and cover it with canvas, etc..
2. Replenish the fuel and oil fully and change oil before storage.
3. Apply a thin film of grease on the metallic surface. (hydraulic piston rod)
4. Disconnect the battery terminals, cover the battery and store it separately from the machine.
5. If the surrounding temperature is at or below 0°C, make sure to check if anti-freeze is in the coolant.

2) WHILE ON STORAGE

1. Run the machine once a month to prevent the oil film from being removed.
 2. Wipe the grease on the hydraulic piston rod before operating the implement.
- ※ **When running the machine to prevent rust while the machine is stored indoor, make sure to keep the storage space well ventilated, and to prevent gas pollution, open doors and windows.**

3) AFTER STORAGE

When taking out the machine after long-term storage, follow the procedures below.

1. Wipe the grease on the hydraulic piston rod.
2. Fill up the fuel and replenish fuel system.
3. Start and warm up the engine sufficiently, then check all parts thoroughly before use.

2. USAGE AND DISPOSAL

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

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

7. TROUBLESHOOTING GUIDE

1. ENGINE TROUBLESHOOTING

1) When engine is difficult to start.

Trouble	Service	Remark
Fuel is thick and doesn't flow.	<ul style="list-style-type: none"> . Check the fuel tank and fuel filter. . Remove water, dirt and other impurities. . As all fuel will be filtered by the filter, if there should be water or other foreign matters on the filter, replace the filter. 	
Air or water mixed in fuel system.	<ul style="list-style-type: none"> . If air is in the fuel filter or injection lines, the fuel pump will not work properly. . To obtain proper fuel injection pressure, unscrew the fuel cap nut and inspect the system. . Loosen air vent screw over fuel filter and fuel injection pump to eliminate all the air in the fuel system. 	
Thick carbon deposits on orifice of injection nozzle.	<ul style="list-style-type: none"> . This is caused when water or dirt is mixed in the fuel. Clean the injection nozzle and check the fuel filler hole for damage. . Check to see if nozzle is working properly or not, if not, install a new nozzle. 	
Valve clearance is wrong.	<ul style="list-style-type: none"> . Contact your local dealer. 	
Engine oil become thick in cold weather and engine cranks slow.	<ul style="list-style-type: none"> . Change grade of oil according to the weather (temperature). 	
Start motor does not rotate when key switch is turned.	<ul style="list-style-type: none"> . If the switch or start motor is faulty, have it repaired in a workshop. . If any terminal is loose or corroded, clean or fix it firm. 	

2) When power is insufficient.

Trouble	Service	Remark
Valve out of adjustment.	<ul style="list-style-type: none"> . Contact your local dealer. 	
Air cleaner is dirty.	<ul style="list-style-type: none"> . Clean or replace the element at every 100 of operation. 	
Fuel injection pressure is wrong.	<ul style="list-style-type: none"> . Contact your local dealer. 	

3) When color of exhaust is specially bad.

Trouble	Service	Remark
Fuel is of extremely poor quality.	<ul style="list-style-type: none"> . Select good quality fuel. Over -10°C (NO. 2 diesel) / Below -10°C (NO. 1 diesel) 	
Nozzle is faulty.	<ul style="list-style-type: none"> . If necessary, replace with new nozzle. 	

2. MACHINE TROUBLESHOOTING

1) When the machine does not move while engine is running.

Trouble	Service	Remark
Parking brake is applied.	. Release the parking brake.	

2) Hydraulic system is faulty.

Trouble	Service	Remark
Oil is leaked from pipe or hose	. The pipe clamp is loose. Re-tighten it. . The pipe is cracked. Have it repaired in a workshop.it.	

3) Electric system is faulty.

Trouble	Service	Remark
Headlamps cannot be turned on or are dim.	. The fuse is blown. Check the wiring and replace the fuse. . The bulb is blown. Replace it. . The ground and terminal wirings are poorly contacted. Check and clean them. . The battery electrolyte level is low. Charge the battery.	
Horn does not sound.	. The horn switch is faulty. Replace it. . The wiring is faulty. Repair it. . The horn is damaged. Repair or replace it.	
Turn signal lamps do not blink.	. The horn switch is faulty. Replace it. . The blinking device is faulty. Repair or replace it. . The ground and terminal wirings are poorly contacted. Check and clean them.	
Battery cannot be charged.	. Check the battery and alternator.	
Work lamps do not come on	. The bulb is blown. Replace it. . The ground and terminal wirings are poorly contacted. Check and clean them.	

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