U.S.A. : **Kubota Tractor Corporation**
1000 Kubota Drive, Grapevine, Texas 76051, U.S.A.
Telephone : (1)-817-756-1171

Canada : **Kubota Canada Ltd.**
1155 Kubota Drive, Pickering, Ontario L1X 0H4, Canada
Telephone : (1)-905-294-6535

France : **Kubota Europe S.A.S.**
19-25, Rue Jules Vercruysse, Z.I., BP88 95101 Argenteuil Cedex, France
Telephone : (33)-1-3426-3434

Italy : **Kubota Europe S.A.S. - Filiale Italiana**
SP14 Nuova Rivoltana, 2/A, 20090 Segrate (MI), Italy
Telephone : (39)02-51650377

Germany : **Kubota Baumaschinen GmbH**
Steinhauser Straße 100, 66482 Zweibrucken Rheinlandpfalz, Germany
Telephone : (49)-6332-4870

U.K. : **Kubota (U.K.) Ltd.**
Dormer Road, Thame, Oxfordshire, OX9 3UN, U.K.
Telephone : (44)-1844-214500

Australia : **KUBOTA AUSTRALIA PTY LTD.**
25-29 Permas Way, Truganina, VIC 3029, Australia
Telephone : (61)-3-9394-4400

Malaysia : **KUBOTA MALAYSIA SDN. BHD.**
Lot 766, Jalan Subang 4, off Persiaran Subang Sungai Penaga Industrial Park,
47500 Subang Jaya
Telephone : (60)-3-7890-3533

Philippines : **KUBOTA PHILIPPINES, INC.**
232 Quirino Highway, Baesa, Quezon City 1106, Philippines
Telephone : (63)2-422-3500

Taiwan : **SHIN TAIWAN KUBOTA CO., LTD.**
No.16 Fengping 2nd Road, Daliao District, Kaohsiung City 831, Taiwan
Telephone : (886)7-702-2333

Thailand : **SIAM KUBOTA CORPORATION CO., LTD.**
101/19-24 Moo 20, Navanakorn Industrial Estate, Tambon Khlongnueng, Amphur Khlongluang,
Pathumthani 12120, THAILAND
Telephone : (66)2-909-0300

Japan : **KUBOTA Corporation**
Farm & Industrial Machinery International Operations Headquarters
2-47, Shikitsuhigashi 1-chome, Naniwa-ku, Osaka, Japan 556-8601

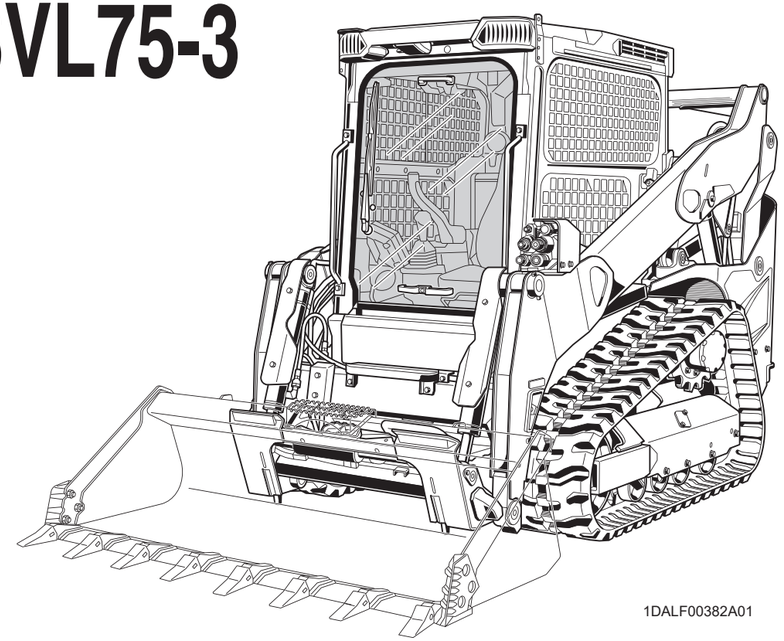
English (U.S.A.)
Code No. V0531-5811-3

S V L 7 5 - 3

OPERATOR'S MANUAL

KUBOTA CTL Compact Track Loader

MODEL SVL75-3



1DALF00382A01

READ AND SAVE THIS MANUAL

Printed in Japan

© 2022 Kubota Corporation

ABBREVIATION LIST

Abbreviations	Definitions
AFS	Air Flow Sensor
API	American Petroleum Institute
ASTM	American Society for Testing and Materials, USA
AUX	Auxiliary
CCV	Closed Crankcase Ventilation
CRS	Common Rail System
CTL	Compact Track Loader
DIN	Deutsches Institut für Normung, GERMANY (German Institute for Standardization)
DOC	Diesel Oxidation Catalyst
DPF	Diesel Particulate Filter
EGR	Exhaust Gas Re-circulation
EN	European Standard
FCC	Federal Communication Commission
FOPS	Falling Objects Protective Structure
ISED	Innovation, Science and Economic Development Canada
ISO	International Organization for Standardization
JIS	Japanese Industry Standard
MAF	Mass Air Flow
MIL	Military Specification and Standard
OPC	Operator Presence Control
OSHA	Occupational Safety and Health Administration
P/L	Pressure Limiter
PCV	Positive Crankcase Ventilation
ROPS	Roll-Over Protective Structure
rpm	Revolutions Per Minute
rps	Revolutions Per Second
SAE	Society of Automotive Engineers, USA
SCV	Suction Control Valve
SMV	Slow Moving Vehicle

California Proposition 65

⚠ WARNING ⚠

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Canadian Electromagnetic Compatibility (EMC):
This machine complies with Industry Canada ICES-002.

UNIVERSAL SYMBOLS

As a guide to the operation of your machine, various universal symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.


Caution


Engine, Electrical Preheat


Engine Lubricating Oil Pressure


Coolant Temperature


Hydraulic Oil Temperature


Hydraulic Lock


Hydraulic Unlock



AUX Hydraulics


High-Flow



AUX Hold


AUX Electrical Power


Fuel



Diesel Fuel


Fast (Speed Indicator)


Slow (Speed Indicator)


Battery Charge


DPF Standby / Regeneration



Engine Rev up


Inhibit DPF Regeneration



Parking Brake


Front Working Light


Rear Working Light


Beacon light


Wiper


Washer and wiper


Lock


Unlock


Forward


Backward


Turn Right


Turn Left


Lift Arm Raise


Lift Arm Lower


Loader Bucket, Dump


Loader Bucket, Rollback


Loader Bucket, Float


Loader Bucket, Self leveling


Quick Hitch Lock


Quick Hitch Unlock


Horn


AUX electrical mode change



Reversing fan


Track response indicator


Service indicator


Display touch disabled indicator


Menu switch


Camera


Gauge


Audio


Home switch


Sorting the items


Default sort


Memo


User


Return switch


Acknowledge


Cancel


Air conditioner


Blower



Hot(Temperature control dial)


Cool(Temperature control dial)

FOREWORD

Thank you for the purchase of a Kubota product.
Before using this product, read this manual carefully and use the product correctly. After reading, keep the manual in a safe and easy-to-access place for future reference. Note that product specifications are subject to change without prior notice. The product delivered to you may differ slightly from the product described in the manual.

SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

DANGER :	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING:	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION:	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
IMPORTANT:	Indicates that equipment or property damage could result if instructions are not followed.
NOTE:	Gives helpful information.

OTHERS

ABOUT TRADEMARKS

Trademark	Owner
Bluetooth®	The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Kubota Corporation is under license.

Company names, product names and service names described in this manual are the trademarks or registered trademarks of their respective owners. In the text, those names are not accompanied by trademark symbols (®, ™).

CONTENTS

SAFE OPERATION 7

SERVICE OF THE MACHINE 25

DEALER SERVICE 25
1. Warranty policy 25
2. Procedure for scrapping the machine 26

TECHNICAL DATA 27

SPECIFICATION TABLE 27

MACHINE PARTS 29

DESCRIPTION OF MACHINE PARTS 29

INSTRUMENT PANEL AND SWITCH 31

INSTRUMENT PANEL 31
1. Handling the touch panel 32
1.1 Basic procedure of the touch panel 32
2. Handling the jog dial 34
2.1 Function of the home switch and the return switch 34
3. Fuel gauge indicator 34
4. Low fuel warning indicator 35
4.1 Fill level monitor when refuelling 35
5. Coolant temperature gauge 36
5.1 Checking the coolant temperature gauge 36
6. Hydraulic oil temperature gauge 37
7. Hour meter 37
8. Engine tachometer 37
9. Battery voltmeter 37
10. Glow plug indicator 38
11. Parking brake warning indicator 38
12. Bucket-floating indicator 38
13. Self leveling indicator 38
14. Master warning indicator 39
15. Engine oil pressure indicator 39
16. Battery charge warning indicator 39
17. Diesel-particulate-filter (DPF) regeneration indicator 40
18. Engine rev up indicator 40
19. CCV system freezing warning indicator [closed cab model] 40

MACHINE SETTING 41
1. Vital display function 41
2. Periodic check 43
2.1 How to read the list of the periodic check items 44
2.2 Service hour meter 45
2.3 Changing the maintenance interval 46
3. Log record 46
4. Checking error messages 47
5. Setting the clock 49
6. Reordering year/month/day and selecting AM/PM or 24-hour 51
7. Setting the display language 52
8. Unit setting 53
9. Setting the display brightness 53
10. Setting the work light turn-off delay function 54
11. Setting the machine lockout 55
11.1 How to use the machine lockout function 56
12. Setting the reversing fan (Option) 57

13. Setting the track response ... 58
14. Setting the rearview camera ... 59
15. Setting the rearview camera image position ... 61
16. Setting the restriction of the touch operation ... 61
16.1 Setting the restriction of the touch operation during the hydraulic system locked ... 62
17. Auto shift adjustment ... 63
18. Setting the user name ... 65
19. Setting the user password ... 67
20. Setting function restrictions for each user ... 69
21. Adding the user account ... 71
22. Deleting the user account ... 72
23. Deleting all user account ... 73
24. Setting the travel alarm ... 74
25. Setting the dealer name ... 75
26. Setting the dealer phone number ... 77
27. Calling the dealer ... 80
REARVIEW CAMERA MODE ... 81
AUDIO MODE ... 82
1. Change to the audio screen ... 82
2. Switch audio power ON/OFF ... 83
3. Operation of AM mode ... 84
4. Operation of FM mode ... 86
5. Bluetooth mode operation ... 87
6. Operation of the weather band mode ... 89
7. Call control for Bluetooth-connected cell phone ... 90
8. Adjustment of audio volume ... 91
9. Switching audio source ... 93
MEMO MODE ... 93
1. Switching to the memo screen ... 93
2. How to enter a memo ... 94
SWITCHES, ELECTRICAL OUTLET, AND USB OUTLET ... 96
1. Start switch ... 97
2. Parking brake switch ... 97
3. Hydraulic unlock switch ... 98
4. Horn switch ... 98
5. Travel speed switch ... 98
6. Working light switch ... 99
7. Seat switch ... 99
8. Inhibit diesel particulate filter (DPF) regeneration switch ... 99
9. Float switch ... 100
10. AUX port switch ... 100
11. AUX port switch [High-Flow model only] ... 100
12. AUX port variable switch ... 101
13. AUX hold switch ... 101
14. AUX electrical control switch (option) ... 102
15. AUX electrical mode change switch (option) ... 102
16. Hydraulic quick-hitch switch [Hydraulic quick-hitch model only] ... 102
17. Self leveling switch ... 103
18. Beacon light switch ... 103
19. Reversing fan switch (Option) ... 103
20. Emergency engine stop button ... 104
21. Electrical outlet and USB outlet ... 105
PEDAL AND LEVERS ... 106
CONTROL PEDALS AND LEVERS ... 106
SAFETY FEATURES ... 107
HOW TO USE THE EMERGENCY EXIT ... 107

OPC FUNCTION 107
HOW TO USE AND CHECK THE FUNCTION OF THE ARMREST 107
HOW TO USE AND CHECK THE SEAT FUNCTION 107
HOW TO CHECK THE BACK-UP ALARM 107
HOW TO USE THE FORCED LIFT ARMS LOWERING DEVICE 108
EXHAUST AFTERTREATMENT DEVICE 109
CATALYST-CONTAINING DIESEL-PARTICULATE-FILTER (DPF) DEVICE 109
REGENERATION OF DIESEL-PARTICULATE-FILTER (DPF) 109
AIR CONDITIONER 111
ADJUSTING THE AIR FLOW OF THE AIR CONDITIONER 111
AIR CONTROL VENT 111
HOW TO USE THE CONTROL PANEL 113
OPERATING THE CONTROL PANEL 113
OPERATION 114
CAB TYPE MACHINE 114
1. Interior lamp 114
2. How to use the wiper/washer switch [Closed cab model] 114
3. Opening and closing the cab door [Closed cab model] 114
4. Opening and closing the side cab window [Closed cab model] 116
OPERATION OF THE ENGINE 116
1. Starting the engine 117
2. Checking the machine after starting the engine 118
3. Adjusting the engine speed 118
STARTING THE ENGINE UNDER COLD CONDITIONS 118
STOPPING THE ENGINE 119
1. Starting the engine with an auxiliary battery 119
OPERATION OF THE MACHINE 120
1. Running-in of the machine 120
2. Start of the machine 120
2.1 Adjusting the operator's seat 120
2.2 How to use the seat belt 121
2.3 How to use the armrest 122
3. Driving 122
3.1 Traveling forward and backward 122
4. Turning the machine 123
4.1 How to use pivot turn 123
4.2 How to use spin turn 124
5. Operating the lift arms 124
5.1 How to use the lift arm stopper 125
6. Operating the bucket 126
AUXILIARY HYDRAULIC 128
HOW TO USE THE AUXILIARY HYDRAULIC CONTROL 128
1. Operating the auxiliary hydraulic control 128
2. Operating the attachment control device (option) 129
ADVANCED MULTIFUNCTION VALVE (AMV) 130
QUICK-HITCH 131
HOW TO USE THE MECHANICAL QUICK-HITCH 131
HOW TO USE THE HYDRAULIC QUICK-HITCH 133
RADIO 135
BLUETOOTH MICROPHONE 135
IMPACT OF BLUETOOTH 135
COMPLIANCE STATEMENT 136
1. FCC Statement 136

2. ISED Canada Statement 137
MACHINE PRECAUTION 138
IMPORTANT INFORMATION ON MACHINE OPERATION 138
1. Caution while traveling 138
2. Precaution when traveling in high speed 138
3. Precautions for use of machine near water 138
4. Precautions when traveling on inclines 139
5. Parking on an incline 139
6. Prohibited actions for the machine 140
7. Prevention of slippage of rubber tracks 140
LIFTING 141
LIFTING THE MACHINE 141
TRANSPORTING 144
LOADING THE MACHINE ON A TRANSPORT VEHICLE 144
TOWING AN OPERABLE MACHINE 145
TOWING AN INOPERABLE MACHINE 146
MAINTENANCE 147
MAINTENANCE INTERVALS 149
OPENING AND CLOSING OF COMPONENTS 152
1. Opening and closing the rear door 152
2. Opening the rear upper cover 152
3. Opening the air-conditioner condenser 153
4. Opening the fan motor cover 154
5. Where to keep the operator's manual 154
6. Tilting up the cab 154
DISCHARGING MUD FROM OPERATOR CAB AND MAIN FRAME 156
1. Discharging mud from the operator cab 156
2. Discharging mud from the main frame 157
DAILY CHECKS 157
1. Daily check items before starting the machine 157
2. Checking the coolant level 158
3. Checking the fuel level 158
4. Checking the engine oil level 159
5. Checking the hydraulic oil level 159
6. Lubrication points of the machine 160
7. Checking the radiator and the oil cooler 160
8. Checking and cleaning the engine and the electrical wiring 161
9. Precautions for checking the V-belt 161
10. Precautions for washing whole machine 161
11. Draining the water separator 161
12. Checking the evacuator valve 162
13. Checking the pre-cleaner 162
14. Checking the DPF (diesel-particulate-filter) muffler 162
15. Checking the washer liquid [Closed cab model] 163
16. Checking the battery condition 163
17. Checking the air-conditioner condenser and the reverse fan 164
18. Cleaning the fuel tank cap 165
EVERY 50 SERVICE HOURS 165
1. Draining the water from the fuel tank 165
2. Checking the track tension 166
3. Checking the air cleaner element 166
4. Cleaning the air cleaner element 167
5. Cleaning the evacuator valve 168
6. Cleaning the fresh air filter 168
7. Cleaning the recirculation air filter 169

EVERY 250 SERVICE HOURS 169
1. Checking the radiator hoses and the clamps 169
2. Checking the fuel line and the intake air line 170
3. Checking and adjusting the V-belt tension 170
3.1 Checking and adjusting the air-conditioner belt tension [Closed cab model] 171
4. Cleaning inside of the main frame 171
5. Replacing the air cleaner element 172
EVERY 500 SERVICE HOURS 172
1. Changing the engine oil 172
2. Replacing the engine oil filter cartridge 173
3. Replacing the water separator filter element 173
4. Replacing the fuel filter cartridge 174
5. Changing the travel motor gear oil 174
6. Changing the return filter 175
7. Replacing the hydraulic breather filter 175
8. Replacing the hydraulic oil filter 175
9. Cleaning the front window roller [Closed cab model only] 175
10. Checking the air-conditioner drain 176
EVERY 1000 SERVICE HOURS 176
1. Changing the hydraulic oil including the suction filter in the hydraulic tank and the return filter 176
2. Hydraulic oil check with the hydraulic hammers 177
3. Adjusting the engine valve clearance 177
4. Replacing the front window roller [Closed cab model only] 178
EVERY 1500 SERVICE HOURS 178
1. Checking the injector tip 178
2. Checking the EGR cooler 178
EVERY 2000 SERVICE HOURS 178
1. Checking the alternator and the starter motor 178
EVERY 3000 SERVICE HOURS 178
1. Checking the EGR system 178
2. Checking the turbocharger 178
3. Replacing the fuel tank breather 178
EVERY 3000 TO 8000 SERVICE HOURS 178
1. Cleaning the diesel particulate filter (DPF) 178
ANNUAL SERVICING 179
1. Checking the air-conditioner pipes and hoses 179
2. Checking the exhaust manifold for cracks, gas leakage, and mounting screw 179
3. Checking the intake air line for air leaks 179
4. Checking the boost sensor 179
5. Checking the condition of the diesel-particulate-filter (DPF) muffler 179
6. Checking the diesel-particulate-filter (DPF) differential pressure sensor and piping for gas leak 179
7. Checking the diesel-particulate-filter (DPF) exhaust gas temperature sensor 179
8. Checking the EGR piping for gas leak 179
9. Checking the antifrost heater for oil separator (CCV heater) 179
10. Checking the CCV internal pressure switch [Closed cab model only] 179
11. Checking the relief valve 180
BIENNIAL SERVICING 180
1. Replacing the hydraulic hose 180
2. Changing the radiator coolant 180
3. Replacing the fuel hose 182
4. Replacing the intake air line 182
5. Replacing the radiator hoses 182
6. Replacing the coolant rubber piping 182
7. Replacing the air-conditioner pipes and hoses 182
8. Replacing the CCV rubber piping 182
9. Replacing the diesel-particulate-filter (DPF) differential pressure sensor rubber piping (front and back) 183
10. Replacing the suction hoses upstream and downstream the turbocharger 183
11. Replacing the boost sensor pressure rubber piping 183

12. Replacing the EGR differential pressure sensor rubber piping (Front and back) 183
13. Replacing the EGR cooler hose 183
SERVICING AS REQUIRED 183
1. Checking the amount of refrigerant gas 183
2. Draining the water separator in case warning against water of the fuel filter 183
3. Purging of the fuel system 183
4. Cleaning the plastic parts and synthetic leather 184
TRACK 185
ADJUSTING THE TRACKS 185
FUSE 187
FUSES 187
1. Replacing the fuse 187
2. Fuse capacities and circuits 187
3. Slow blow fuse 188
4. Replacing the bolted slow blow fuse 189
TROUBLESHOOTING 190
TROUBLESHOOTING OF THE ENGINE AND OTHER SYSTEMS 190
LIST OF SCREEN 192
NAVIGATION SCREENS 192
AUTOMATIC DIESEL PARTICULATE FILTER (DPF) REGENERATION 200
LOCKING AND RELEASING THE DIESEL PARTICULATE FILTER (DPF) REGENERATION 201
ENGINE SYSTEM ERROR 203
1. Engine error list 203
COLD WEATHER 207
PREPARATION FOR OPERATION OF THE MACHINE IN COLD WEATHER 207
STORING THE MACHINE AFTER COMPLETION OF WORK IN COLD WEATHER 207
LONG STORAGE 208
STORING THE MACHINE FOR A LONG PERIOD OF TIME 208
OPERATING THE MACHINE AFTER STORING FOR A LONG PERIOD OF TIME 208
1. Periodic replacement of important component parts 208
RECOMMENDED OILS 210
RECOMMENDED OILS, GREASES, AND FUELS 210
BIODIESEL FUEL (BDF) 212
APPENDICES 214
MAIN DIMENSIONS OF THE MACHINE 214
SOFTWARE INFORMATION 216
INDEX 217

SAFE OPERATION

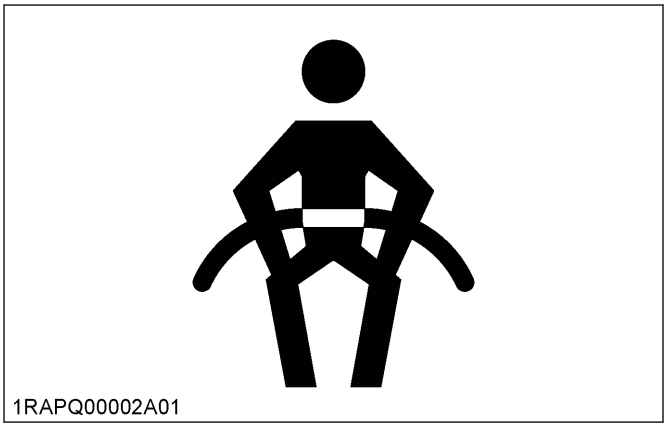
Careful operation is your best safeguard against an accident.
Read and understand the *Safe operation* section carefully, before operating the machine.
Every user, however experienced, should carefully read and understand the *Safe operation* section for the machine, the attachments, and the accessories before taking the machine into operation. The owner is obliged to inform the operators of instructions to the machine, the attachments, and the accessories in detail.
Keep this manual in the storage place.
(See Where to keep the operator's manual on page 154)

PRECAUTIONS BEFORE OPERATION OF THE MACHINE

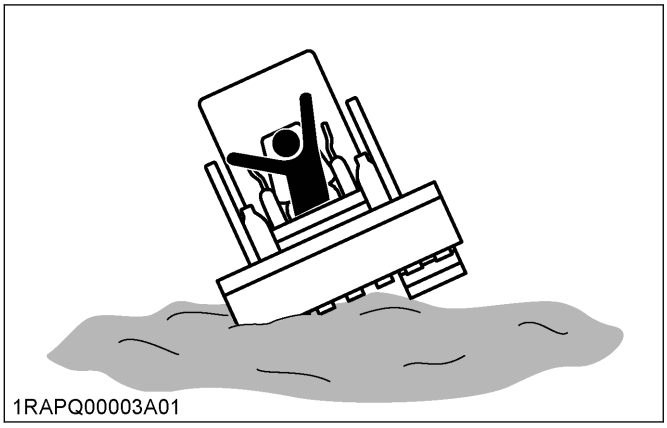
1. General precautions

Know your equipment and its limitations. Read and understand this entire manual before starting and operating the machine.

- Obey the safety labels on the machine.
- Inspect the seat belt regularly and replace it if it is frayed or damaged.


1RAPQ00002A01

- Always sit in the operator's seat when starting the engine or operating the levers or controls.
- Do not operate the machine while under the influence of alcohol, medication, controlled substances, or while fatigued.
- Check the surrounding area carefully before using the machine or when attachments are being connected.
  To avoid any danger of electrocution, never operate the machine near power lines before confirming the power is off and all local and national safety regulations. Never approach a machine or load that is contacting a power source such as power lines. Electrocution can occur by coming into contact with a machine that is near power lines.
- Check for buried pipes and cables before digging.
- Check for hidden holes, obstacles, soft underground, and overhangs. Do not enter soft ground.


1RAPQ00003A01

  – During machine use, do not allow any persons within the working range.
- Do not allow anyone to use the machine until they have been informed of the work to be performed and they have read and understood the operator's manual.
- Do not wear baggy, torn, or oversized clothing when working with the machine. Baggy, torn, or oversized clothing can get caught in rotating parts or control elements which can cause accidents or injuries.
  Wear adequate safety clothing, for example safety helmet, safety shoes, eye protection, ear protection, working gloves, and so on, as necessary and as prescribed by law or statutes.

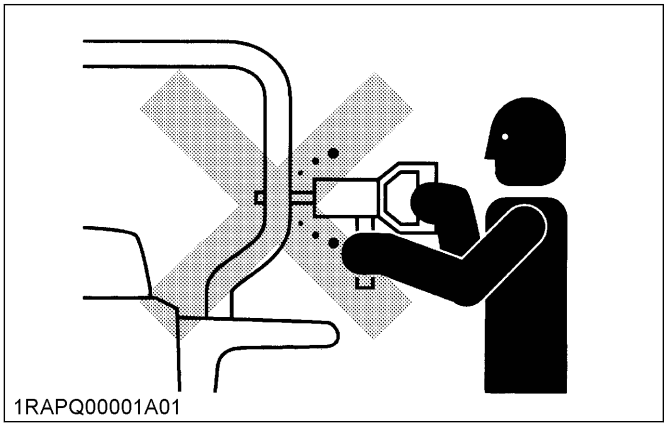

1RAPQ00004A01

- Do not allow passengers to ride on any part of the machine at any time. The operator must remain in the seat of the machine during operation.

- Check the levers, pedals, and mechanical parts for correct adjustments and wear. Replace worn or damaged parts immediately. Check the nuts and bolts regularly for correct torque.
- Keep your machine clean. Heavy soiling, grease, dust, and grass can cause fires, accidents, or injuries.
- Before starting the machine, be absolutely sure that the machine has been filled with fuel, lubricated, greased, and undergone all necessary maintenance.
- Do not modify the machine, otherwise it could lead to unforeseen safety problems.
- Make sure that the attachments, particularly those utilizing quick-hitch, are securely mounted. Use only attachments authorized by KUBOTA.

2. Precautions of ROPS and FOPS

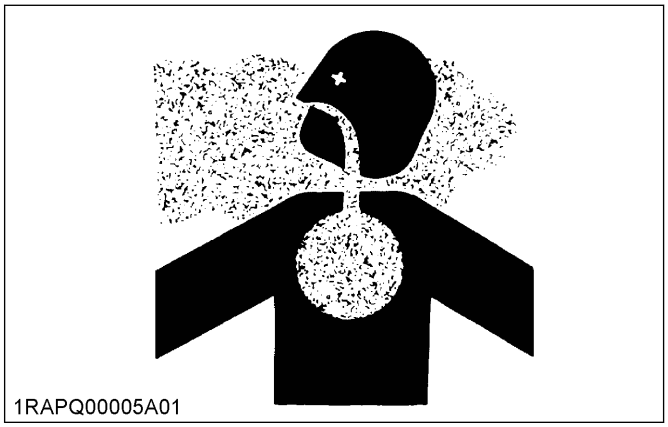
- For your safety, KUBOTA installs a ROPS (roll-over-protective-structure) and a FOPS (falling-objects-protective-structure) with a seat belt. Always use the seat belt when the machine is equipped with the ROPS or the FOPS. Combination of the seat belt and the ROPS or the FOPS will reduce the risk of personal injury or death if the machine is upset.
  Do not modify structural members of the ROPS or FOPS by welding, drilling, bending, grinding, or cutting, as this may weaken the structure.


1RAPQ00001A01

  If any component is damaged, replace it. Do not repair the component.
  If the ROPS or FOPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly. Tighten mounting bolts to proper torque.
- The ROPS and the FOPS structure complies with ISO 3471, ISO 3449, and OSHA regulations.

PRECAUTIONS FOR OPERATING THE MACHINE

- Mount and dismount the machine safely. Always face the machine. Always use handrails and available steps and maintain 3 points of contact.
  Do not grab or hold any of the control levers, pedals or switches. Do not jump on or off the machine, whether stationary or in motion.
- After the machine warms up, run it through each work cycle to ensure proper operation.
- Start and control the machine only from the operator's seat. The operator should not lean out of his or her seat when the engine is running.
- Before starting the engine, make sure that the armrests are in the raised position, the control levers are in their neutral position, and the seat belt is fastened correctly.
- Always thoroughly check the surrounding area for any possible conditions that could create a dangerous situation.
  – Make sure that you read the operator's manual to thoroughly understand the operating conditions and limitations of the machine.
  – To avoid damage and to prevent accidents, always use the buddy system and have the other person, check for clearances and other possible dangers that may be obstructed from view.
  – Never allow people to approach the vicinity of the turning radius of the machine.
  – Be cognizant of blind spots to the rear and always check behind you before backing up.
- Only operate the machine in well-ventilated area to avoid poisoning from carbon monoxide, an odorless, colorless gas that is deadly.

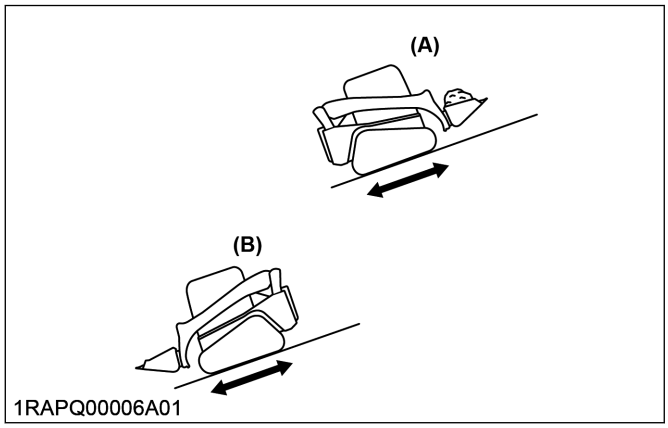

1RAPQ00005A01

- Never remove any of the safety features on the machine.
  – Make sure that all safety features, including guards, protective devices, doors, and cabin are functioning normally, properly secured, and in good condition.
  Repair and replace any lost or damaged protective features.

  - Carefully read the operator's manual in order to understand the proper use of safety features such as armrest, seat belt, and other equipment.
    Make sure that you use the armrest, the seat belt, and other equipment properly.
  - Make sure that all safety features are in good operating condition and remove only when repair is needed.
  - Make sure to use appropriate protective doors, windows, and screens (such as polycarbonate door), depending upon application. KUBOTA recommends the use of a polycarbonate door for high impact applications such as a hammer or mulcher.
- To avoid injury, always keep hands and body inside the protective structures such as ROPS and the FOPS whenever operating the machine.
  Never operate the machine using control levers from outside the operator's cabin while the machine is running.
- Always keep the heavy end of the machine up when traveling up or down an incline to avoid any possibility of rolling over of the machine.
- Place the bucket at the following distance from the ground when moving up or down an incline. Prepare to lower the bucket to the ground in case of emergency.

Distance between the bucket and ground	20 cm to 30 cm (8 in. to 12 in.)

- To avoid injury or accidents, always operate the machine or the equipment at slow speed when going up or down an incline by reducing the engine speed (rpm). Place the stroke of the left-control-lever at half speed or less when going down an incline.
  Traveling too fast down an incline can cause the operator to lose control of the machine.
  When going up or down an incline, keep the travel speed switch low speed position.
- Avoid stopping the machine suddenly on an incline, which can cause the machine to become unstable and rollover.
- Never cross an incline horizontally or at an angle, which can cause the machine to rollover.
  Approach inclines vertically to avoid loss of control.
- Use caution when moving the machine in slippery or unstable surfaces such as grass, fallen leaves, metal plates, or ice, as it may skid out of control. Do not allow the machine to be oriented diagonally to grass, fallen leaves, metal plates, or ice surfaces.
- Avoid any sudden movements while moving and operating the machine such as stopping, starting or turning.
  Do not raise the armrests while the machine is in motion. Raise the armrests while the machine is in motion will cause the parking brake to engage and could cause an accident or injury.
- Avoid driving the machine over any obstacles, which could cause loss of control. If an obstacle cannot be avoided, always place the bucket close to the ground and move slowly over the obstacle.
  Do not approach an obstacle at an angle, which could cause the machine to rollover.
- Avoid performing any work with the machine when it is on an incline, which could cause the machine to become unbalanced and rollover.
  Use caution when moving the machine on an incline.
  Always take care that the heavy end of the machine is facing up the incline when moving the machine up or down the incline.

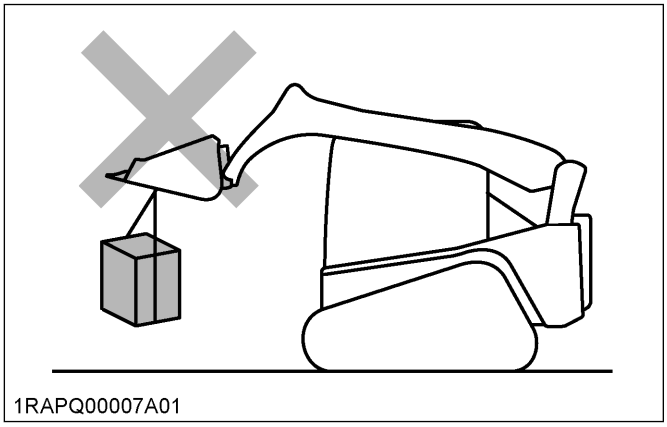


(A) With bucket full *(B) With bucket empty*

- Always use caution when floating the lift arms.
  - Always make sure that the bucket is lowered to the ground before floating the lift arms. Floating the lift arms when the bucket is raised could cause an accident or injury from the bucket falling.
  - Never move the machine forward when the lift arms are in the float position.
- Never dig or shovel at high speed, which could cause the operator to be thrown from the operator's cabin or cause injury from hitting something when the machine stops suddenly.
  Always operate the machine at low speed, carefully checking the area in front of the load which you will be moving.
- Never operate the machine with the bucket raised over the heads of people. Accident or injury may occur from objects falling from the bucket or the bucket itself falling.
- Beware of material falling from the bucket. Unstable material in the bucket such as round, cylindrical, or stacked items could fall from the bucket, causing injury.
  Always move an unstable load with the bucket lowered.
- Never exceed the maximum loading capability of the bucket or put loads off-center of the bucket,

which can cause the machine to become unstable and rollover.

- Never undercut a high embankment.
  Always carefully check the area for conditions that could cause the ground to cave-in.
  - Never operate in areas where there is a possibility of falling rock.
  - Never operate or drive the machine on unstable surfaces such as cliffs, shoulder of roads, deep trenches, and so on. The machine could lose stability from unstable ground or vibration underneath, causing the machine to rollover or fall.
    - Ground surfaces are especially unstable after heavy rain or explosions.
    - Embankments and trenches may cause instability of the ground around the area.
- Pay particular attention when passing through tunnels or moving the machine near high walls to avoid hitting the machine and causing accident or injury.
  Always check height and width dimensions of the machine against tunnels or any other narrow spaces through which the machine is to be moved in order to avoid accident or injury from hitting an obstruction.
- The machine is not designed for operation with hanging loads and has no safety features for such circumstances. Never operate in conjunction with a crane or other device, which could cause serious injury.


1RAPQ00007A01

1. Safety for children

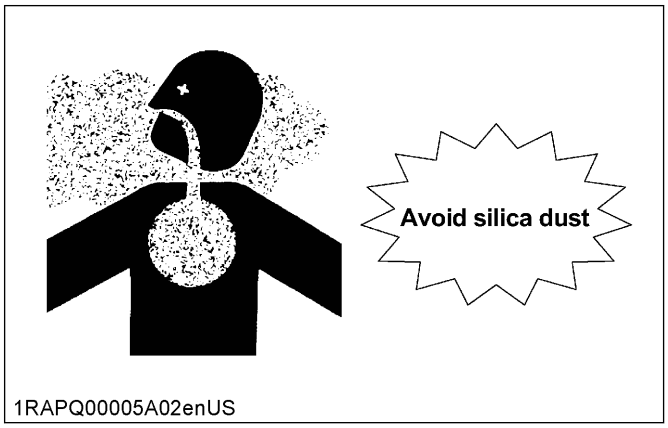
Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to machines and their work.

- Never assume that children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of another responsible adult.
- Be alert and shut your machine down if children enter the work area.
- Never carry children on your machine. There is not a safe place for them to ride. They may fall off and be run over or interfere with your control of the machine.
- Never allow children to operate the machine even under adult supervision.
- Never allow children to play on the machine or on the attachments.
- Use extra caution when backing up. Look behind and down to make sure that the area is clear before moving.

2. Avoiding crystalline silica (quartz) dust

To avoid serious injury or death from silica dust:

- Avoid exposure to dust containing crystalline silica particles.
  This dust can cause serious injury to the lungs (silicosis).
  Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica.
  Trenching, sawing and boring of material containing crystalline silica can produce dust containing crystalline silica.



1RAPQ00005A02enUS

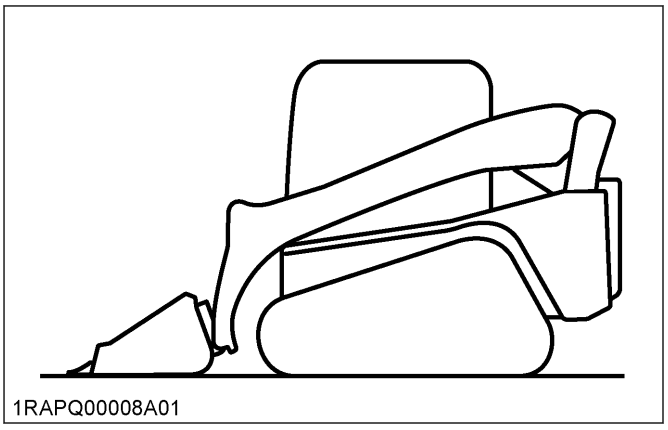
- If dust which contains crystalline silica is present, there are guidelines which should be followed:
  - Be aware of the potential health effects of crystalline silica and that smoking may add to the damage.
  - Be aware of and follow OSHA (or other local, State or Federal) guidelines for exposure to airborne crystalline silica.
  - Know the work operations where exposure to crystalline silica may occur.
  - Participate in air monitoring or training programs offered by the employer.
  - Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning, if the machine has

such equipment. Otherwise respirators shall be worn.
– Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter the respirator in any way. Workers who use tight-fitting respirators cannot have beards/ mustaches which interfere with the respirator seal to the face.
– If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
– Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
– Store food, drink and personal belongings away from the work area.
– Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

PARKING THE MACHINE

Before leaving the machine, follow the procedure.

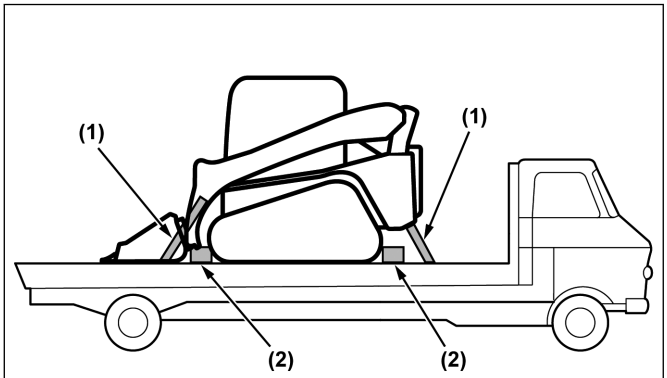
1. Park the machine on a firm, flat and, level surface.
   If parking the machine on a firm, flat and, level surface is not possible, block the machine securely to prevent movement of the machine.


1RAPQ00008A01

2. Lower the attachments to the ground.
3. Stop the engine.

PRECAUTIONS FOR SAFELY LOADING AND TRANSPORTING THE MACHINE

- Observe all regulations concerning the transport of the machine on public roads.
- Use adequately long and robust ramps when loading the machine. Block the ramps, and transport the machine appropriately.
  If towing is required, use proper tow lines and attachment points.
  For details, see LOADING THE MACHINE ON A TRANSPORT VEHICLE on page 144.
- To avoid tipping over, the heaviest end of the unit should proceed up the ramps first, do not change the running direction, and do not swing the attachment crosswise to the loading ramps.
- Lower the attachment on the loading bed and release the pressure from the hydraulic system.
  After loading the machine on the truck, secure the tracks with blocks and tie down the machine at the appropriate locations.



1RAPQ00009A01

(1) Chain *(2) Block*

- Avoid abrupt braking of the vehicle with the machine loaded. Sudden braking could cause the machine to move and could cause a serious accident.

PRECAUTIONS FOR MAINTENANCE

1. Preparing maintenance

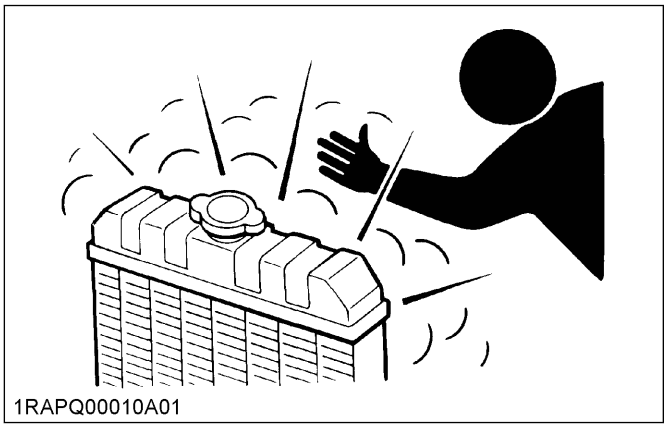
Before performing maintenance work on the machine, following the procedure.

1. Place the machine on a firm, flat, and level surface.
2. Lower the lift arms slowly to the ground.
3. Stop the engine.

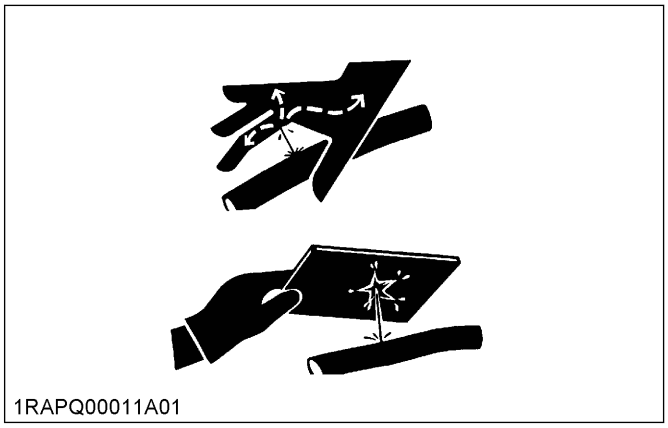
2. Checking items for maintenance

- When dismantling hydraulic parts, make sure that the hydraulic oil has cooled down sufficiently to avoid burns.
- Let the machine cool down sufficiently before working on the engine, the exhaust system, the radiator and the hydraulic system.
- Turn off the engine at all times when filling with fuel. Avoid spilling and over-filling of fuel.
- Do not smoke while refueling or using the battery. Keep sparks and fire away from the fuel tank and

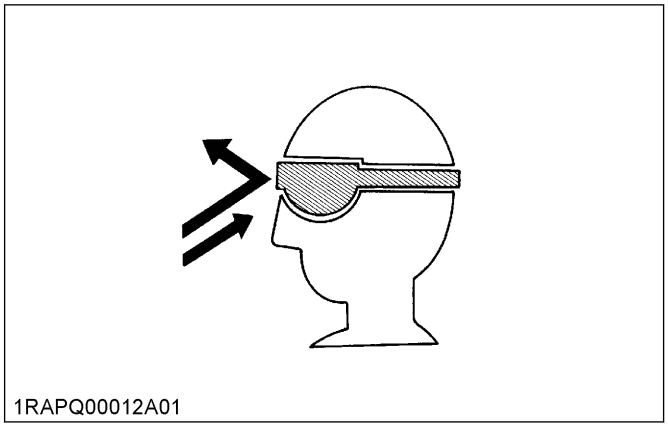
the battery. Flammable gases escape from the battery, especially during charging.
- Make sure that the fueling system is properly grounded.
- Read and follow the directions of Starting the engine with an auxiliary battery on page 119 when starting with an auxiliary battery.
- Keep a first-aid box and extinguisher at hand at all times.
- Do not open the radiator cap before the radiator has cooled down sufficiently.
  1. First loosen the cap to the first stop and allow the system enough time to release the remaining pressure.
  2. Then loosen the cap completely.


1RAPQ00010A01

- To avoid short-circuiting the battery, always remove the ground cable first and attach the positive cable first.
- Oil under high pressure can penetrate the skin and may be harmful to your health if not treated immediately.
- Leaking hydraulic fluid has enough pressure to penetrate the skin and cause serious injuries. Leakages from pinholes can be totally invisible. Do not use hands for checking for leaks of hydraulic fluid. Always use a piece of wood or cardboard. It is strongly recommended to use a face mask or eye protection.
  If injuries occur with leaking hydraulic fluid, contact a doctor immediately. This fluid can cause gangrene or serious allergic reactions. Never repair the hydraulic and air-conditioner hoses until the pressure has been relieved.


1RAPQ00011A01

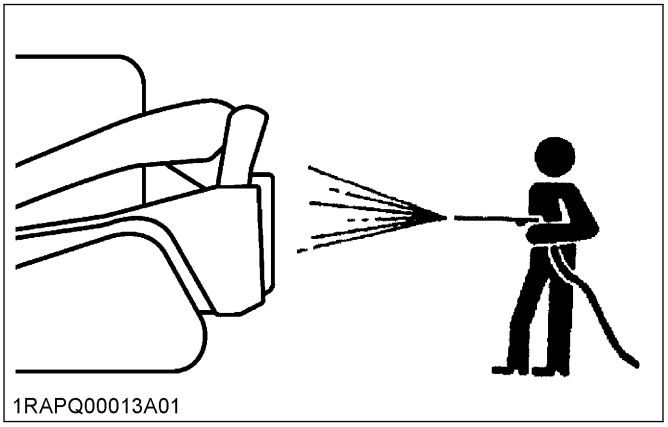
- To avoid environmental damage from acid and heavy metals, dispose of the battery appropriately.
- Observe all laws and regulations concerning the disposal of used oil, coolants, solvents, hydraulic fluids, battery acids, and the batteries.
- To avoid fire, do not heat the hydraulic components (tanks, pipes, hoses, and cylinders) before they have been drained and washed.
- Use a face mask or eye protection to protect the eyes and respiratory system against dust and other foreign particles, as appropriate, or as mandated by federal, state or local laws or regulations.


1RAPQ00012A01

- Securely support the machine with stands or suitable blocking before working underneath.
  For your safety, do not work under any hydraulically supported devices. Hydraulically supported devices can settle, suddenly leak down, or be accidentally lowered.
- Do not dismantle the spring of the track tensioner. If dismantling of the spring of the track tensioner is necessary, contact your KUBOTA dealer.
- Always attach a **[DO NOT OPERATE]** tag whenever performing any kind of maintenance or repair.
- Make sure that you have the proper tools on hand. Do not use flawed or damaged tools, gauges, or other devices. Always use tools that are appropriate for the task to be done.
- To prevent personal injury or death, use explosion-proof lighting when working on, inspecting, or using fuel, oil, coolant, battery fluid, and so on.

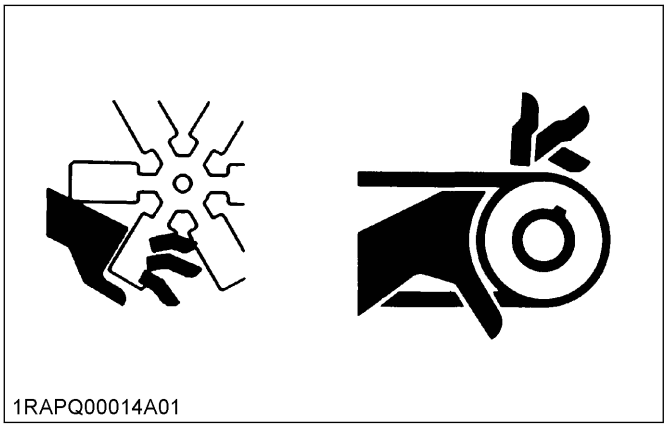
If you do not use the explosion-proof lighting or if it should break, it can ignite and cause fire, injury, or death.

- Prohibit unauthorized persons from entering the work area to prevent injury caused by debris flying off of machine parts during grinding, welding, using a hammer, or other tasks.
- Make sure that the work area is clear and safe. Work on a firm, level surface with adequate lighting. Work in well-ventilated area if you work indoors. Make sure that the area is free from any potentially dangerous conditions such as obstacles, slippery surfaces, and so on.
- Be sure the machine is clean and free of debris.
  - Always remove debris from the machine and clean it before performing any maintenance or repair work.
  - Before using water to wash or clean the machine, stop engine and make sure that all electrical parts and devices are covered. Any water seepage into electrical wiring on the machine can cause a short circuit or malfunction of controls. Never wash the electrical parts and devices, such as batteries, alternator, starter, sensors, connectors, and audible devices with water or steam.



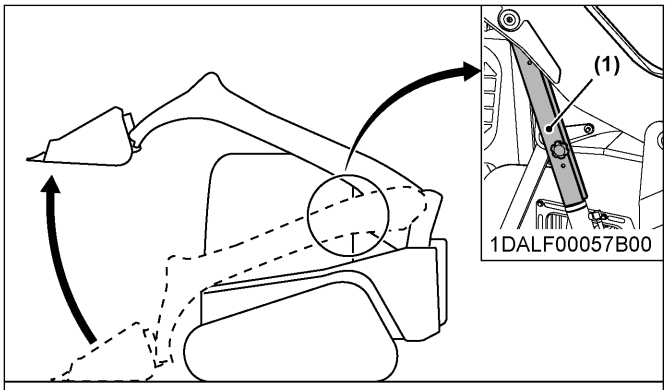
1RAPQ00013A01

- Always make sure that the engine is stopped before performing any maintenance or repairs.
  - Do not lubricate or mechanically adjust while the machine is in motion or while the engine is running even if stationary.
  - Always stay clear of moving parts. Clothing, hands, or other parts of the body can become caught in moving parts of the machine and cause personal injury or death.
  - Make sure to avoid any rotating fans, V-belt, and other moving parts. Never insert tools, fingers, hands, and so on while these parts are running.



1RAPQ00014A01

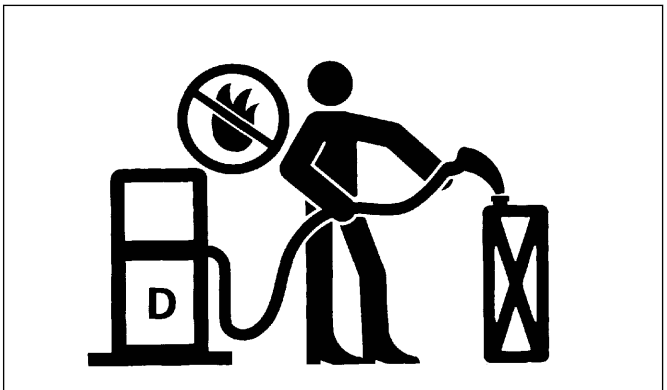
- Place blocks around the machine and place a protection where components could fall.
  - Always make sure that the bucket is at the lowest possible position or on the ground before performing any maintenance or repairs under the machine.
  - Make sure that the tracks are securely blocked off.
  - Whenever performing maintenance or repairs when the lift arms are raised, always use the lift-arm-stopper.
  - Never work any kind under the machine or on the machine while it is hoisted on jack-stands or other rigid support devices unless they are well secured and stable.
- Make sure that the raised lift arms are properly and securely blocked.
  - Make sure that the lift-arm-stopper is properly engaged before performing any work beneath raised lift arms.
    Never work any kind or move under the lift arms when they are not properly supported.
  - Keep in mind that the lift arms may fall whenever hydraulic lines are disconnected, loosened, or removed. Any malfunction or failure in the hydraulics can also cause lift arms to drop.
  - Always perform the necessary repairs or service whenever the lift-arm-stopper becomes damaged or malfunctioned, or part(s) are missing. Damaged or malfunctioning lift-arm-stopper may cause the lift arms to fall causing personal injury or death.



1RAPQ00015A02

(1) Lift arm stopper

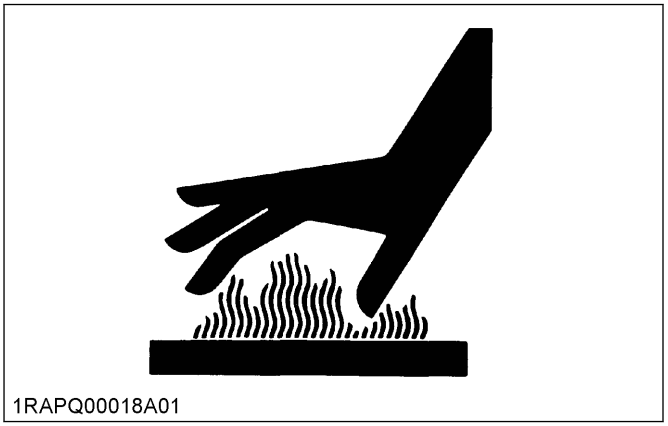
- Always secure the rear door after opening it. Avoid opening the rear door when the machine is on an incline or in strong winds.
- Precaution on tilting the cabin:
  - Do not raise or lower the cabin while the engine is running as it may move, cause the machine to become unstable, resulting in personal injury or death. Always lower the working parts of the machine to the ground and stop the engine before attempting to raise or lower the cabin.
  - Make sure that the cabin is properly and securely supported with a stopper when tilted to prevent the cabin from falling and causing personal injury.
- Use care when refueling.
  - Never smoke cigarettes or permit the use of fire while refueling or in the vicinity of refueling.
  - Always make sure that the engine is off and cool before removing the fuel cap to refuel the tank. Avoid getting fuel on any hot components.
  - Keep control of the fuel-filler-nozzle while refueling.
  - Never overfill the tank with fuel. Leave room for thermal expansion.
  - Always remove any excess or spilled fuel immediately.
  - Always make sure that the fuel-tank-cap is securely reinstalled.
    Replace the fuel-tank-cap only with a manufacturer-approved cap whenever it becomes damaged. Use of the wrong type of cap may not allow for proper venting, causing pressure in the tank to build up.
  - Never use fuel to clean the machine.
  - Always use the correct type of fuel for the machine and the temperature in which it is being operated.
  - Always use a properly grounded fueling system.



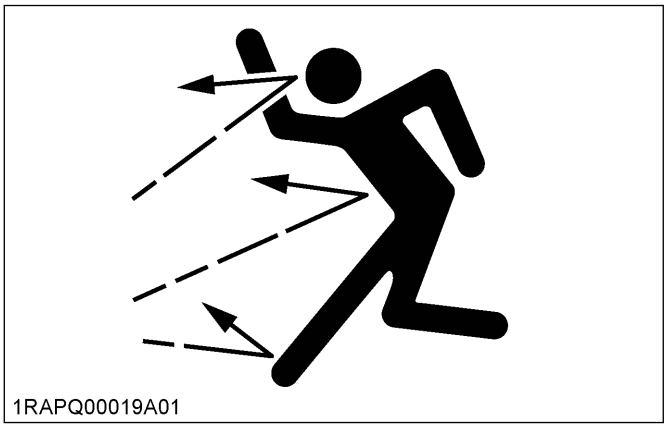
1RAPQ00017A01

- Hoses
  - Leakage in any fuel, oil, or hydraulic line can cause fire or explosion.
  - Avoid any twisting, bending, or hitting of hoses that could cause damage to the line.
  - Make sure that any loose connections are secure properly before using the machine.
- Fire prevention
  Compact-track-loader and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcing or sparks.
  The following fire-prevention-guidelines will help to keep your equipment up and running efficiently and keep the risk of fire to a minimum.
  - Blow off all accumulated debris near hot engine exhaust components such as the turbocharger and the exhaust manifold as well as the exhaust pipes and the muffler more frequently when working in severe conditions.
  - Clean out all accumulated flammable debris such as leaves, straw, pine needles, branches, bark, small wood chips, and any other combustible materials from inside the pans of belly of the machine or lower unit structures as well as from the area in proximity to the engine.
  - Inspect all fuel lines and hydraulic hoses for wear or for deterioration. Replace the fuel lines and the hydraulic hoses immediately if they begin to leak.
  - Examine electrical wiring and connectors frequently for damage. Repair any wires that are loose or frayed before operating the machine. Clean all electrical connections and tighten all electrical connections as necessary.
  - Inspect the exhaust system daily for any signs of leakage. Check for broken pipes and muffler, and for loose or missing bolts, nuts, and clamps.
    If you find any exhaust leaks or fractured parts, repair it completely prior to operation.

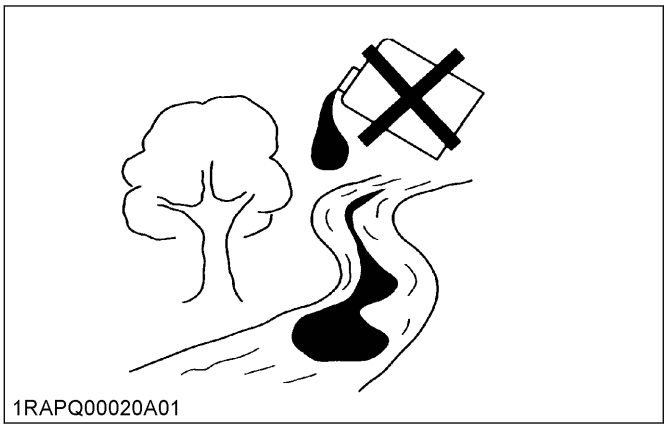
  - Always keep a multipurpose fire extinguisher on or near the machine. Be familiar with the operation of the fire extinguisher.
- Use caution when working around hot and pressurized components.
  - Always allow the engine to cool sufficiently before performing any maintenance, inspection, or repairs.
  - Never touch any parts such as the engine, the muffler, the radiator, the hydraulic lines, the sliding parts, and so on as they may be very hot immediately after the machine has been running and can cause burning. Allow the engine, the muffler, the radiator, the hydraulic lines, the sliding parts, and so on to cool sufficiently before touching them.
  - Always use sufficient care whenever removing the caps and plugs on the coolant, oil, and hydraulic fluid as they are hot and pressurized and can causing burning and injury from spraying of hot fluid.


1RAPQ00018A01

- Make certain that pressure from all of systems is sufficiently released before performing any maintenance or repairs. Oil or other fluids could be released when caps or filters are removed before the pressure has been stabilized in the hydraulic system.
  - Gradually release internal pressure build-up by standing out of the line of any possible spray and slowly removing plugs, screws, or disconnect hoses.
- Always use care whenever using grease that is pressurized.
  - Always follow the proper procedure to adjust tension.
    Grease in the track adjuster is pressurized and improper release can cause the discharge valve to fly off, causing personal injury or death.
  - Always loosen the discharge valve for the grease slowly.
  - Avoid standing in front of, or putting any parts of the body in the line of the grease-discharge-valve.
  - If no grease is released when the discharge valve is loosened, the machine has a malfunction. Do not repair any kind yourself and contact the nearest dealer for repairs. If no grease is released when the discharge valve is loosened, any operation of the machine can be very dangerous.


1RAPQ00019A01

- Always carefully check the machine after performing any maintenance or repairs.
  Confirm that no oil, water, and so on is leaking from any parts that had been serviced by carefully inspecting the parts.
  Gradually speed up the engine from a low speed to higher speed to check operation.
- Waste material
  - Always make sure that any material and waste products from the repair and maintenance of the machine are collected into proper containers using a funnel, or other device.
    Dispose of waste material properly to avoid pollution and contamination of the environment.
  - Consult local regulations and codes when disposing of oil, fuel, engine coolant, refrigerant, solvents, filters, batteries, and any other potentially harmful and hazardous material or substance.


1RAPQ00020A01

- To avoid the possibility of battery explosion, do not use or charge the refillable type battery if the fluid level is below the lower (lower limit level) mark. Check the fluid level regularly and add distilled

water as required so that the fluid level is between the upper and the lower levels.

- To avoid sparks from an accidental short circuit, always disconnect the ground cable (-) of the battery first and reconnect it last.
- Do not open high-pressure fuel system. High-pressure fluid remaining in fuel lines can cause serious injury.
  Do not disconnect nor repair fuel lines, sensors, or any other components between the high-pressure-fuel-pump and the injectors on the engines with high-pressure-common-rail-fuel-system.
- To avoid hazardous high voltage, press the start switch to stop the engine if it is necessary to check to repair the computer, harness, or connectors.
- When the diesel-particulate-filter (DPF) is in the regenerating cycle, the exhaust gas and the DPF muffler become hot. During regeneration, take into account that the muffler will be very hot and keep the machine away from other people, animals, plants, and flammable material. Also keep the area near the DPF muffler clean and away from flammable material.

SAFETY LABELS

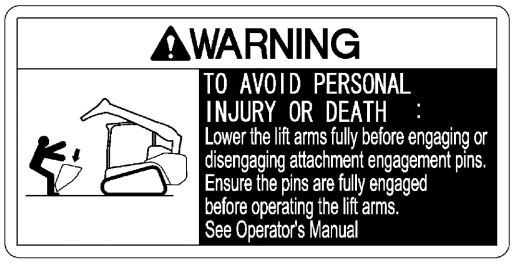
(1) Part No. V0511-5735-2



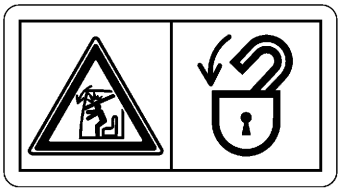
(2) Part No. V1311-5771-3 [High-Flow model only]



(3) Part No. V0511-5740-2



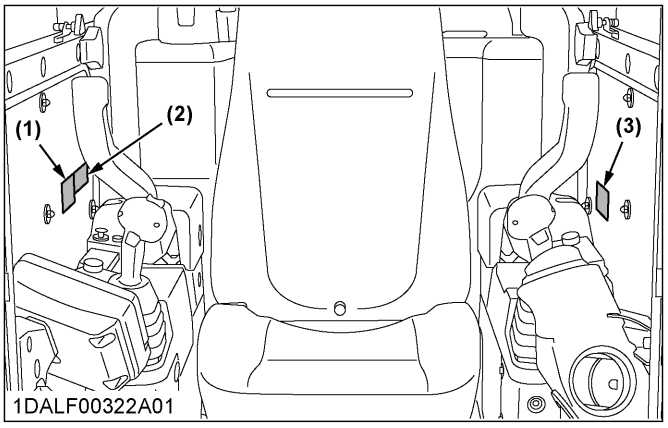
(4) Part No. RB419-5793-2 [Closed cab model only]

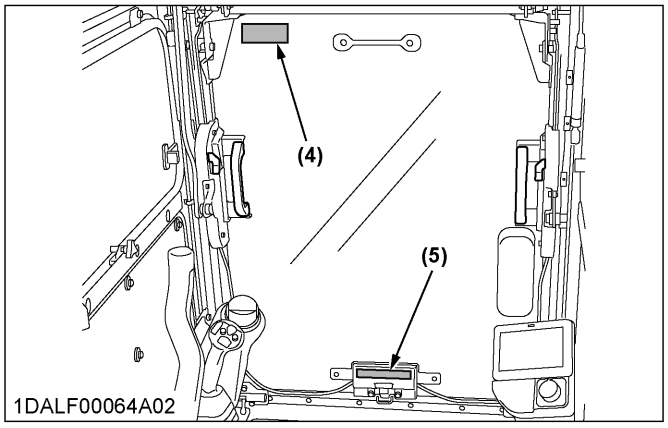


After opening, lock in place by moving both lock pins to outside to prevent door from inadvertently falling.

(5) Part No. V1311-5745-2 [Closed cab model only]







1DALF00314A01enUS

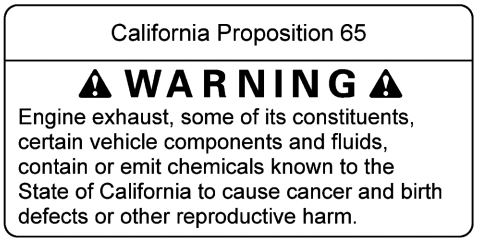
(1) Part No. V0511-5772-1



(2) Part No. V0211-5731-1



(3) Part No. V1311-5749-1

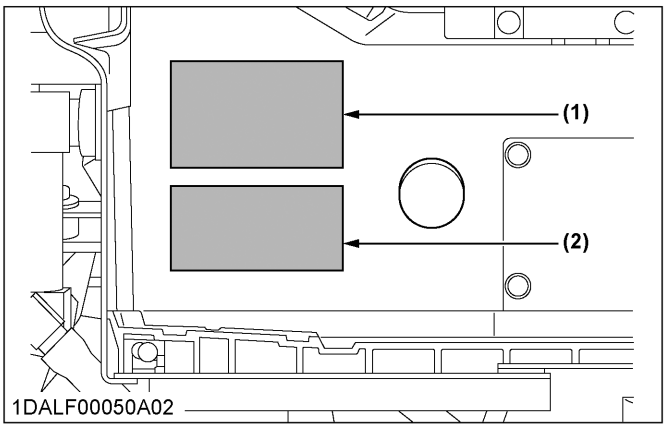


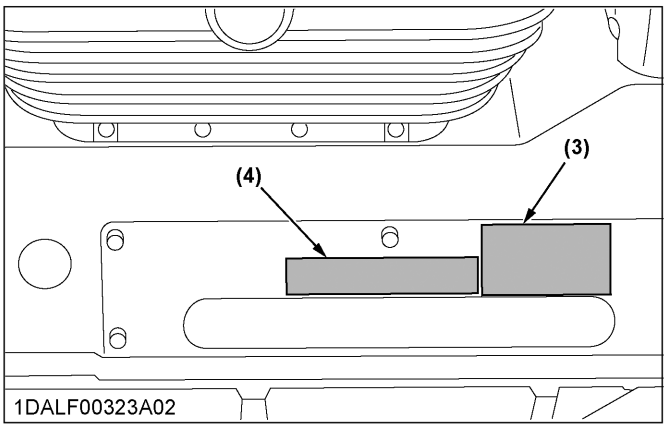
(4) Part No. V0531-5732-2

Do not operate without seat belt. You could be crash. Use the seat belt.

Read and understand Operator's Manual before operating this machine.





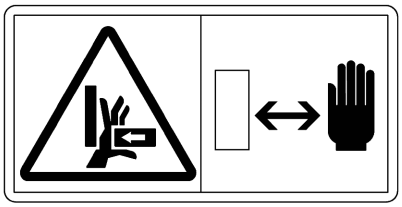


1DALF00315A01enUS

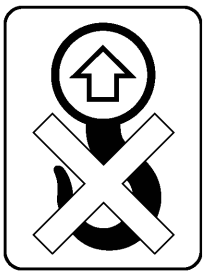
(1) Part No. V0511-5741-2



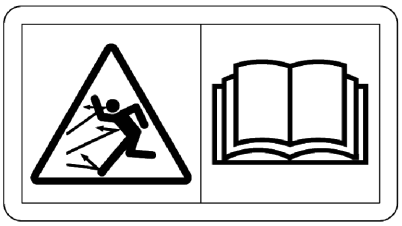
(2) Part No. V1311-5734-1 (Both sides)
Do not allow hands within the working range.



(3) Part No. RB419-5796-2 (Both sides)
Forbidden lift point

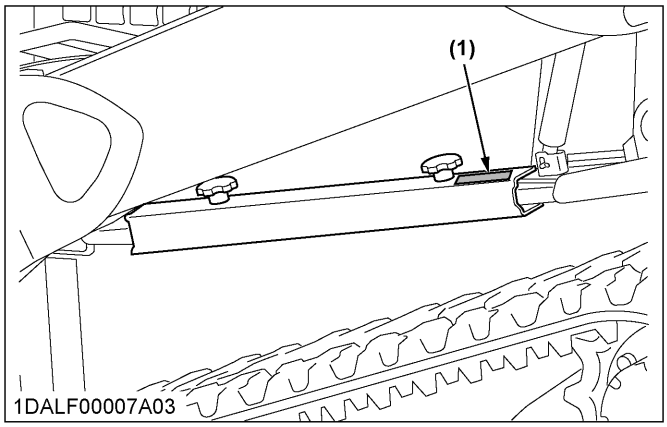


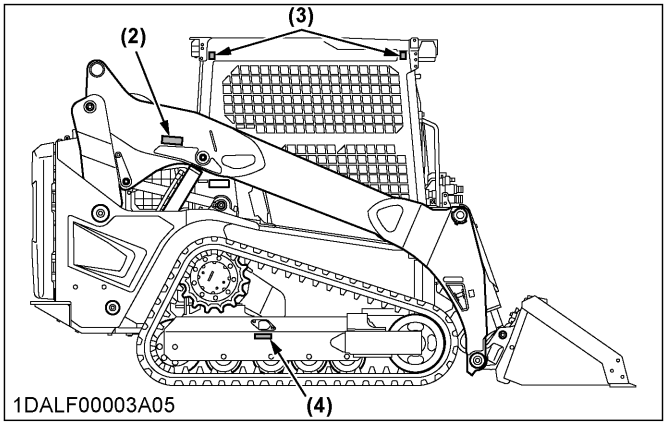
(4) Part No. V0511-5764-1 (Both sides)
Do not loosen the grease fitting completely or too quickly.

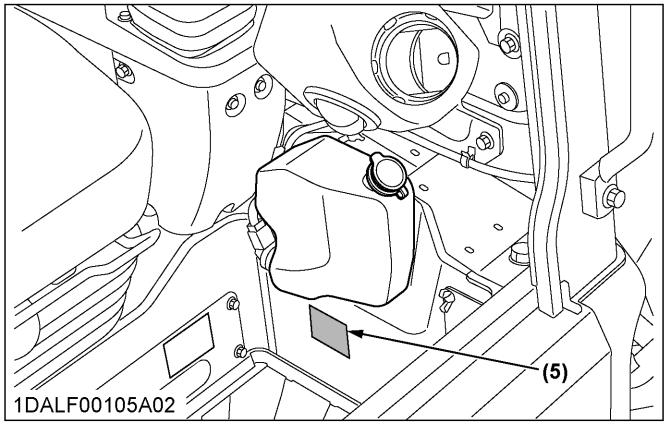


(5) Part No. V0521-5774-1



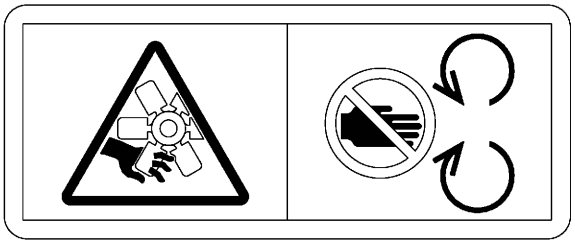




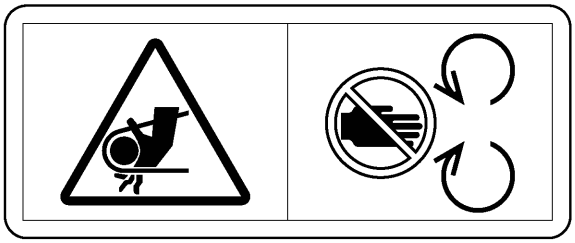


1DALF00317A01enUS

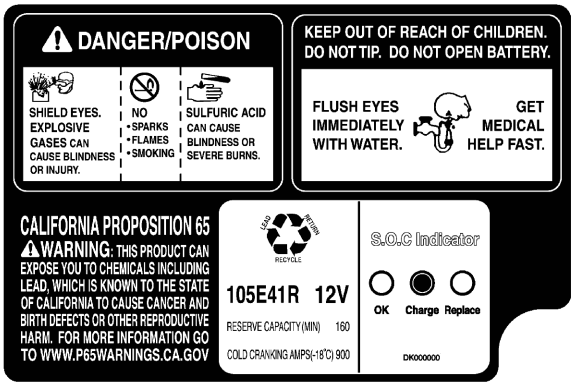
(1) Part No. V1311-5739-2
Keep away from fan.



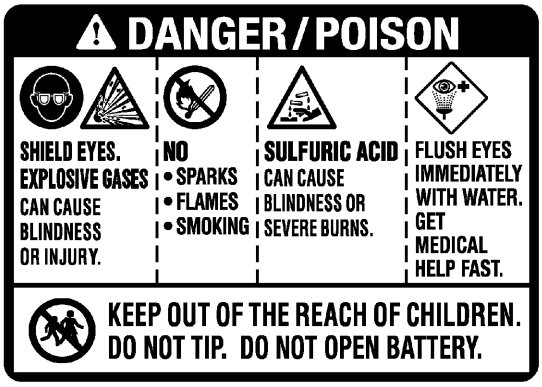
(2) Part No. V0531-5769-1
Keep away from fan and fan belt.

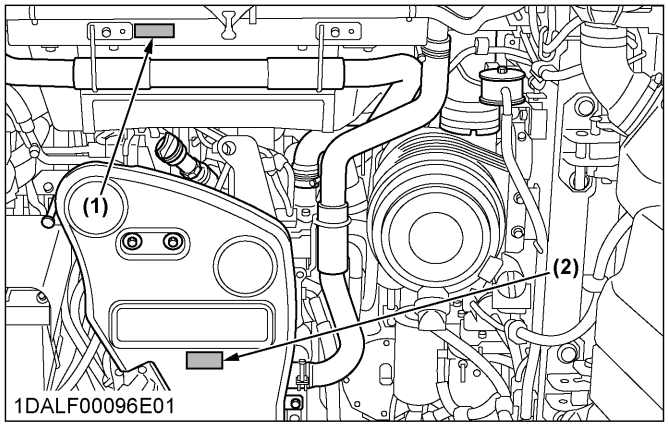


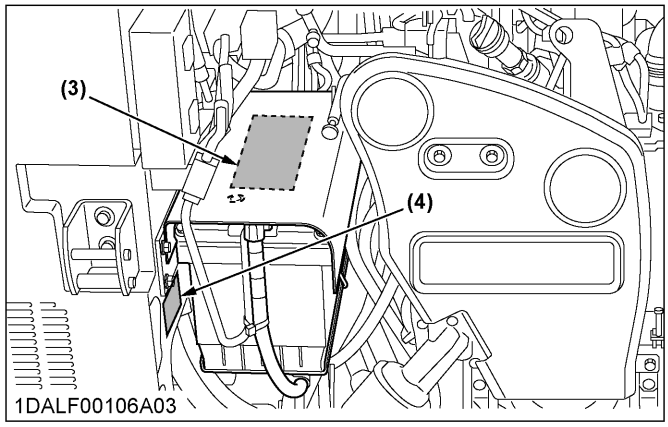
(3) Part No. V1311-5323-1



(4) Part No. V0521-5776-1

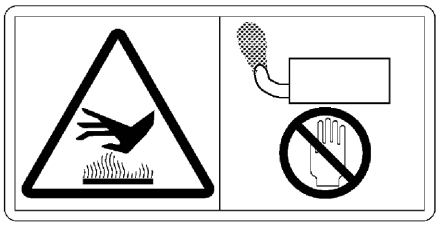




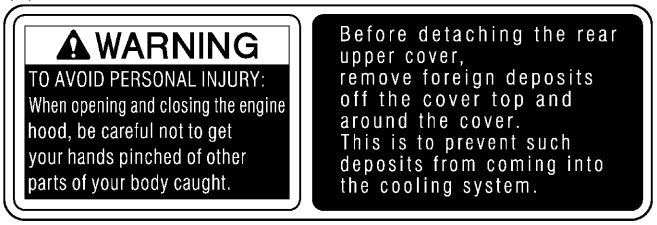


1DALF00318A01enUS

(1) Part No. V0511-5738-1
Do not touch hot parts such as exhaust, etc.



(2) Part No. V0531-5755-1



(3) Part No. V1311-5748-1
Do not open the caps when the radiator is hot.

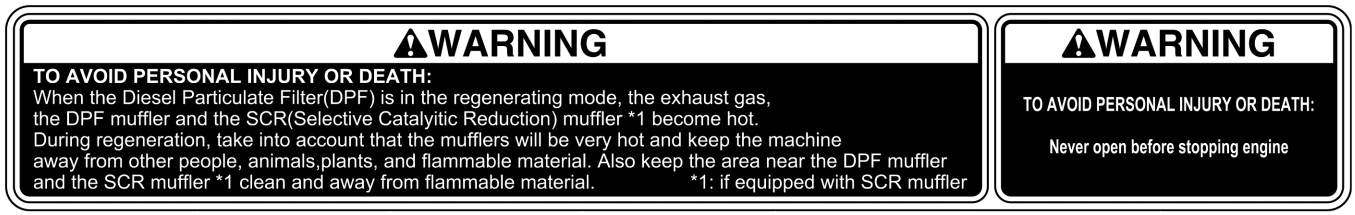


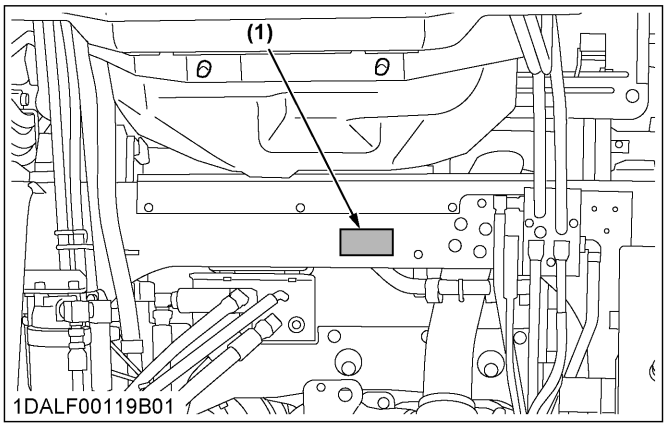
(4) Part No. RD358-5736-1

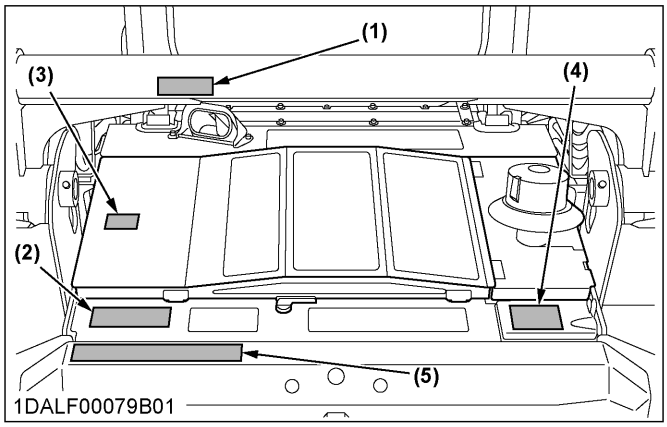
Diesel fuel only No fire



(5) Part No. V0521-5775-1

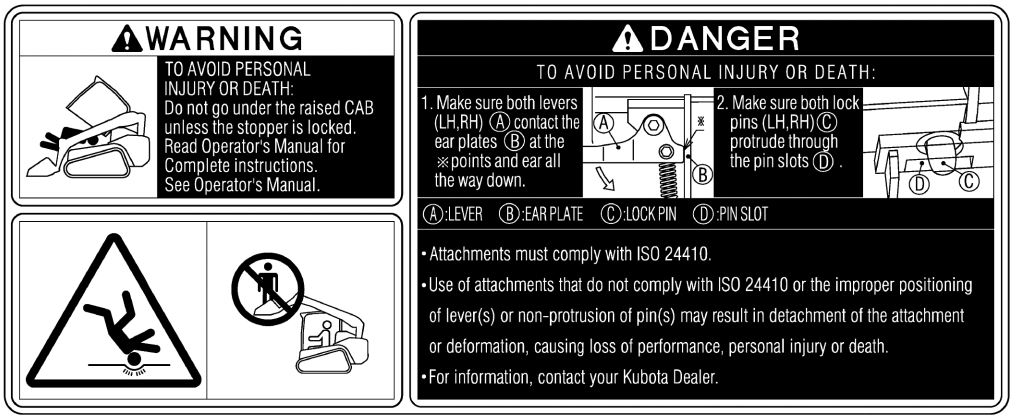






1DALF00319A01enUS

(1) Part No. V0531-5773-1



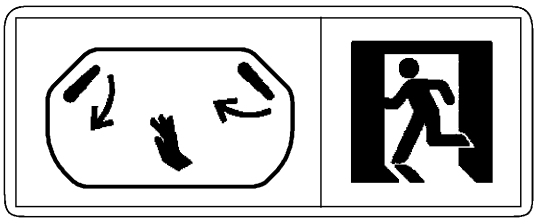
Do not allow any persons on the bucket.

(2) Part No. V1311-5754-1

EMERGENCY EXIT

This window is equipped with latches. If you should become trapped in the cab, you can open the rear window to get out.

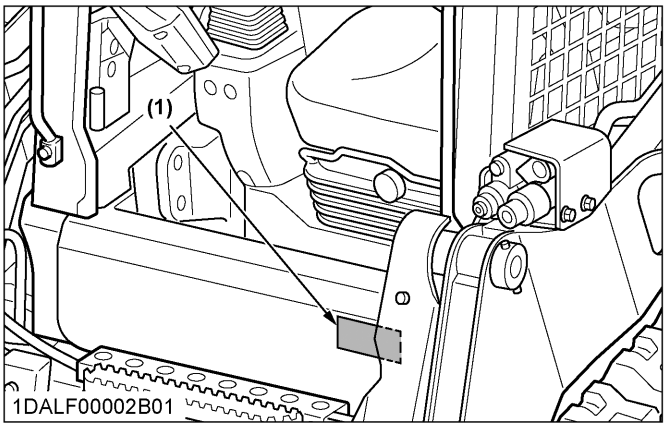
1. Turn both latches clockwise until they disengage from the window frame.
2. Push the rear window out of the rear of the operator cab.
3. Exit through the rear of the operator cab.

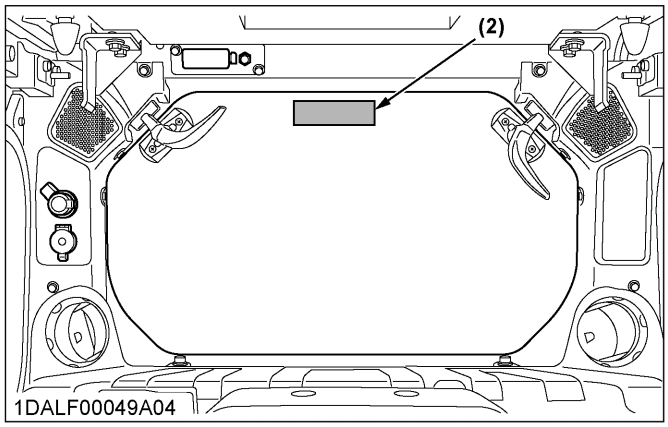


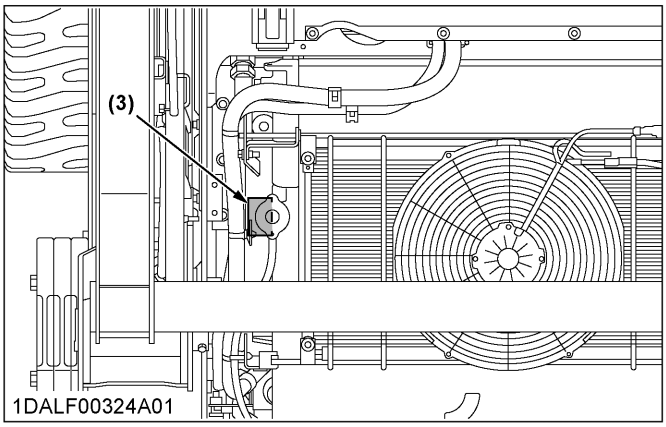
(3) Part No. V1311-5748-1

Do not open the caps when the radiator is hot.





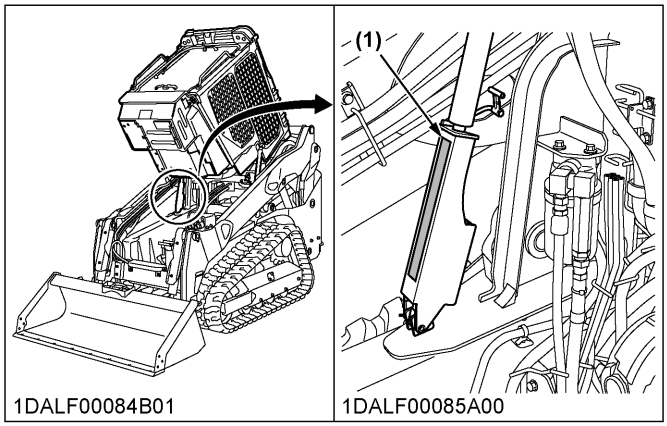




1DALF00320A01enUS

(1) Part No. V1311-5743-1

WARNING **TO AVOID PERSONAL INJURY OR DEATH:** To make sure the damper stopper at the lock position to fix the cab. See Operator's Manual



1DALF00371A01enUS

1. Care for safety labels

- Keep safety labels clean and free from obstructing material.
- Clean safety labels with soap and water, dry with a soft cloth.
- Replace damaged or missing safety labels with new safety labels from your KUBOTA dealer.
- If a component with safety label(s) affixed is replaced with new part, make sure that new safety label(s) is (are) attached in the same location(s) as the replaced component.
- Mount new safety labels by applying on a clean, dry surface and pressing any bubbles to outside edge.

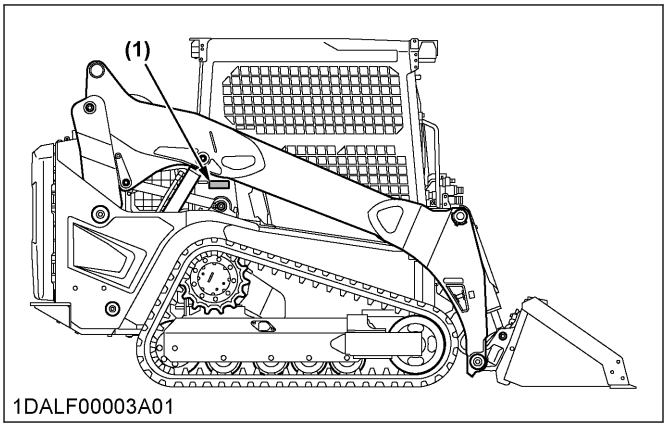
SERVICE OF THE MACHINE

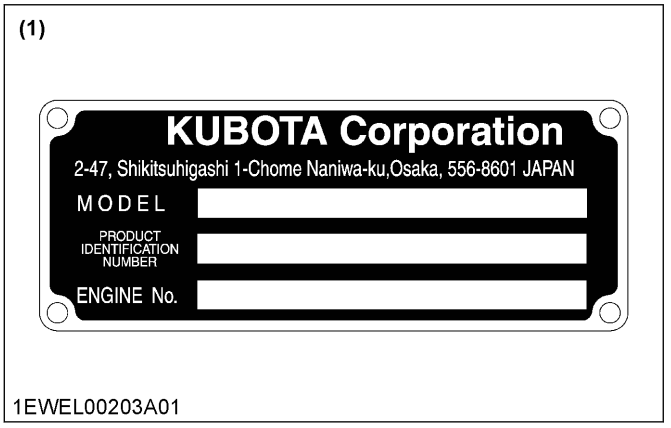
DEALER SERVICE

Your Kubota dealer is always ready to help you with problems with your machine and make sure that you get the most value from it.
After having carefully read these instructions, you will realize that you can perform much of the routine maintenance by yourself. For service, contact your local Kubota dealer.
When ordering spare parts from your Kubota dealer, always mention the product identification number of the machine and the serial number of the engine.
Note the product identification number of the machine and the serial number of the engine in the supplied lines.

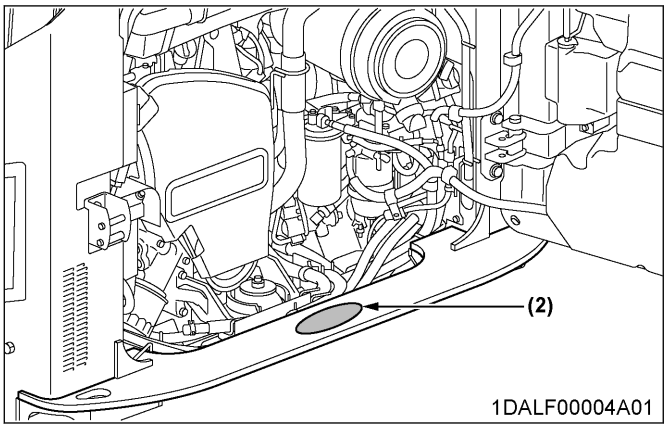
Machine Product identification number	
Dealer's name (To be filled in through the owner)	
Date of purchase	

	Model	Serial No.
Engine		

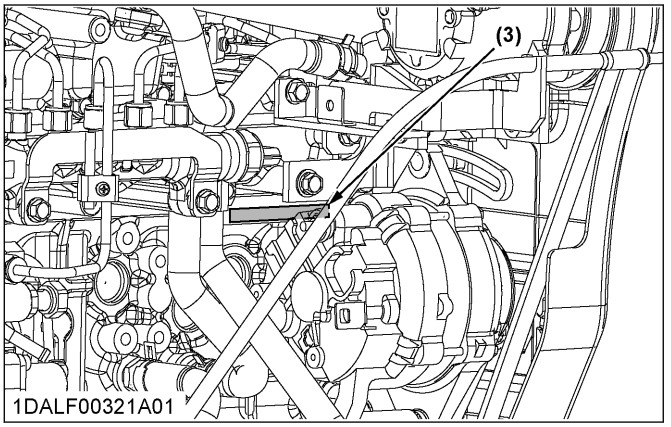




(1) Product identification number and engine number label



(2) Product identification number



(3) Engine serial no.

1. Warranty policy

This machine is warranted under the *KUBOTA Limited Express Warranty*, a copy of which may be obtained from your selling dealer. No warranty shall, however, apply if the product has not been operated and

maintained according to the instruction given in the Operator's Manual even it is within the warranty period.
The product(s) described in this operator's manual are designed and manufactured only for the country in which they are initially wholesaled by KUBOTA or one of its affiliated companies.
Neither KUBOTA Corporation nor its affiliated companies provide warranty for any product which is re-sold or retailed in any country other than the country for which the product(s) were designed or manufactured.

2. Procedure for scrapping the machine

To put the machine out of service, correctly follow the local rules and regulations of the country or territory where you reside.
If you ask questions, consult your local Kubota Dealer.

TECHNICAL DATA

SPECIFICATION TABLE

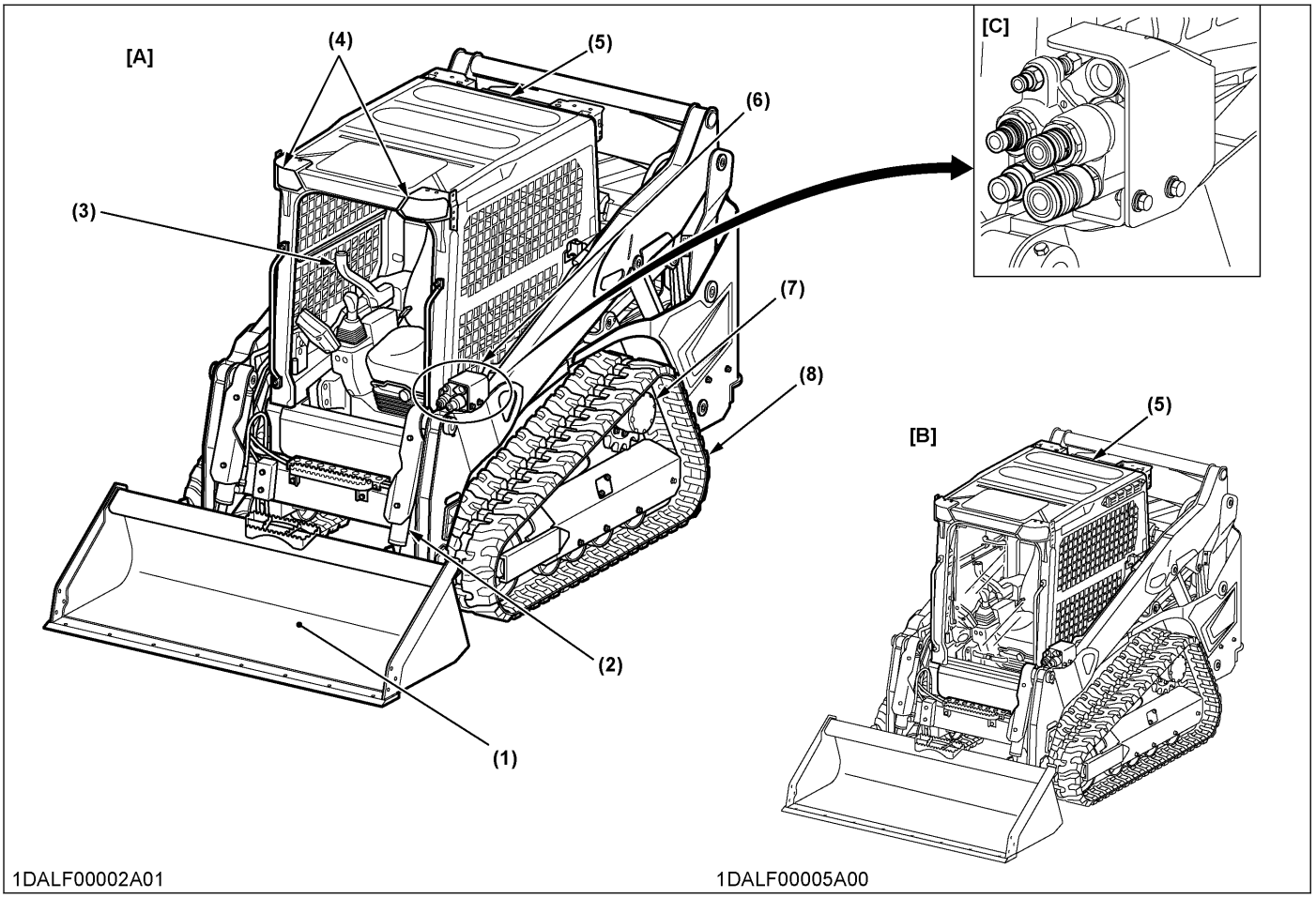
			KUBOTA CTL (Compact Track Loader)	
Model name			SVL75-3	
Type			Open Cab	Closed Cab
Operating weight including operator's weight			4169 kg (9190 lbs.)	4273 kg (9420 lbs.)
Engine	Type		Water cooled 4 cycle diesel engine with 4 cylinder	
	Model name		KUBOTA V3307-TE5A	
	Total displacement		3331 cc (203.3 cu.in)	
	Engine power	SAE J1995 gross	55.4 kW (74.3 Hp)	
		SAE J1349 net	54.6 kW (73.2 Hp)	
	Rated speed		2400 rpm	
	Low idling speed		1150 rpm	
Performance	Rated operating capacity		1129 kg (2490 lbs.)	
	Tipping load		3226 kg (7112 lbs.)	
	Breakout force	Bucket	2808 kg (6191 lbs.)	
		Lift arm	2142 kg (4723 lbs.)	
	Travel speed	Fast	13.7 km/h (8.6 mph)	
		Slow	9.0 km/h (5.6 mph)	
	Ground pressure (With operator)	Standard track (Width: 320 mm (12.6 in.))	39.8 kPa (0.41 kgf/cm^2) [5.8 psi]	40.8 kPa (0.42 kgf/cm^2) [5.9 psi]
		Wide track (Width: 400 mm (15.7 in.))	32.1 kPa (0.33 kgf/cm^2) [4.7 psi]	32.9 kPa (0.34 kgf/cm^2) [4.8 psi]
Battery capacity			12 V RC: 160 min, CCA 900 A	
Pressure connection for attachments	Max. displacement (Theoretical)		Standard Flow	High-Flow
			72.7 L/min (19.2 US gal/min)	112.8 L/min (29.8 US gal/min)
	Max. pressure		22.0 MPa (224 kgf/cm^2) [3185 psi]	
Fuel tank capacity			95 L (25.1 US gal)	

NOTE :

- **Specifications are based on the machine with KUBOTA standard bucket. (Bucket size: 1727 mm (68 in.) No teeth, side cutter nor bolt-on cutting edge)**
- **Specifications are based on the machine with KUBOTA standard rubber track. (Track width: 320 mm (12.6 in.))**
- **Specifications are subject to change without notice.**

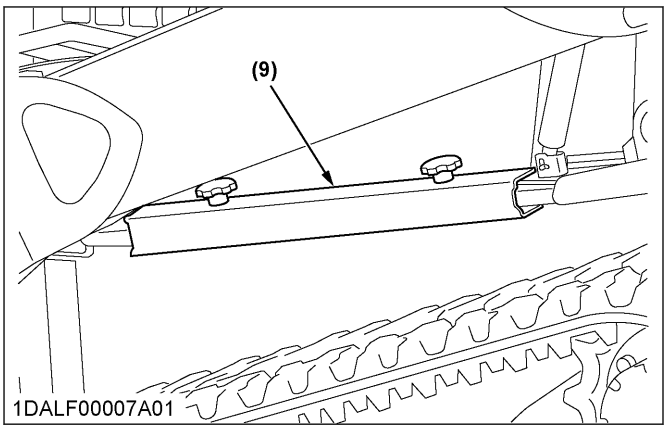
MACHINE PARTS

DESCRIPTION OF MACHINE PARTS



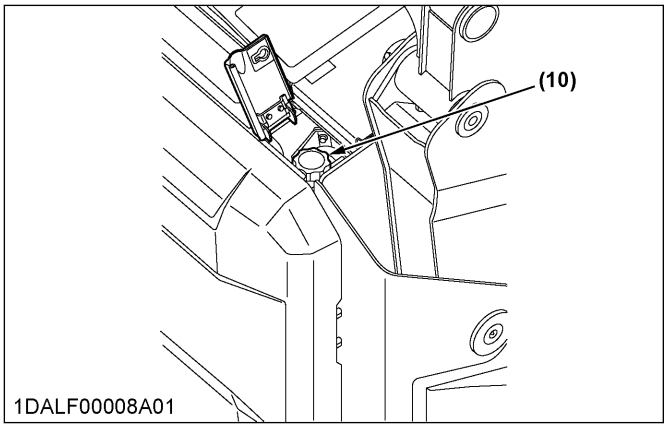
1DALF00002A01 1DALF00005A00

(1) Bucket
(2) Tilt cylinder
(3) Armrest
(4) Front working light
(5) Cab (open cab and closed cab)
(6) AUX supply port
(7) Drive motor
(8) Rubber track
[A] Open cab model
[B] Closed cab model
[C] High-Flow model

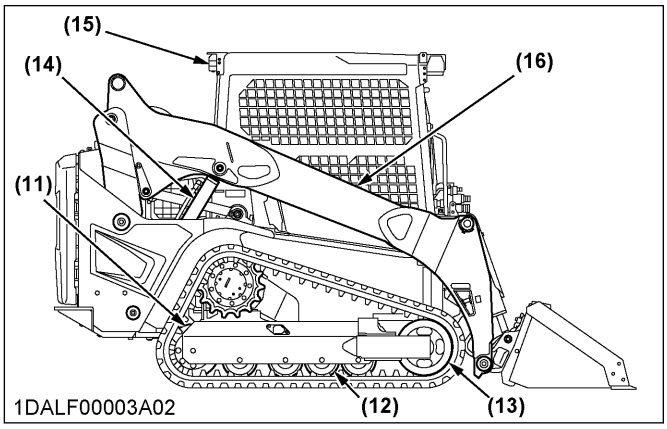


1DALF00007A01

(9) Lift arm stopper



(10) Fuel tank cap

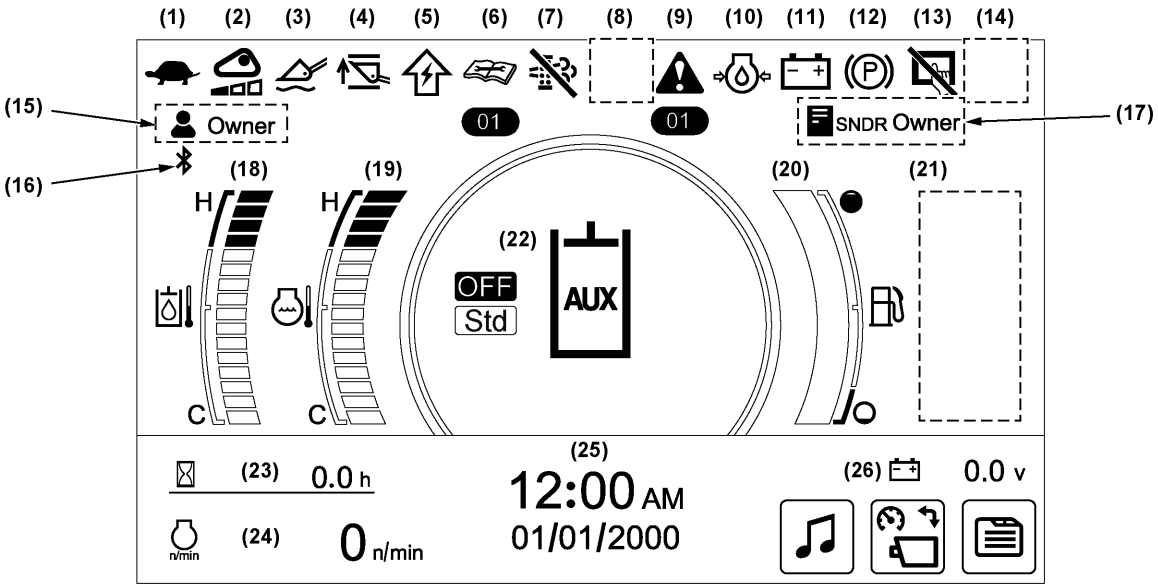


(11) Rear idler
(12) Track roller
(13) Front idler
(14) Lift arm cylinder
(15) Rear working light
(16) Lift arm

INSTRUMENT PANEL AND SWITCH

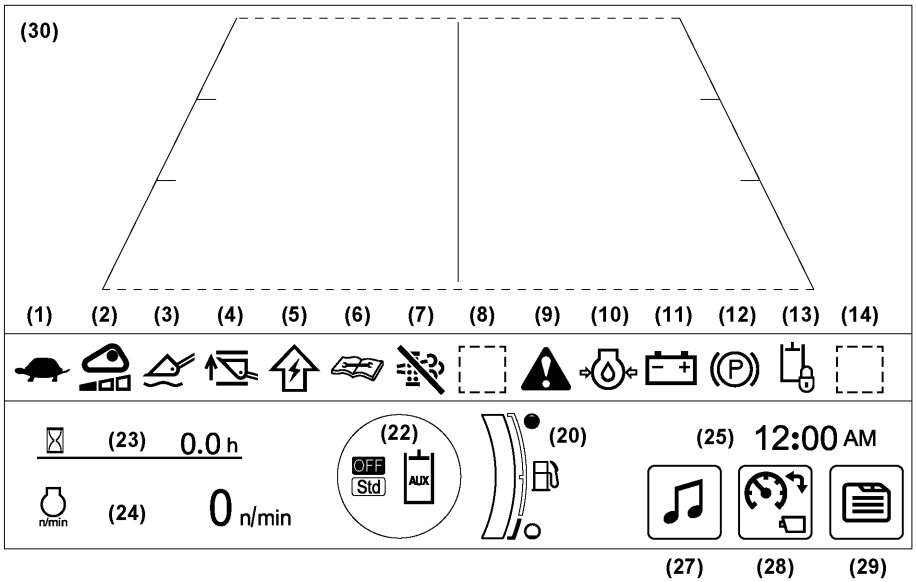
INSTRUMENT PANEL

[A]



1DALF00016A01

[B]



1DALF00017A00

(1) Speed indicator
(2) Track response indicator
(3) Bucket-floating indicator
(4) Self leveling indicator
(5) AUX electrical mode change indicator
(6) Periodic check indicator
(7) DPF inhibit indicator / DPF regeneration indicator / engine rev up indicator
(8) Blank
(9) Master warning indicator
(10) Engine oil pressure indicator
(11) Battery charge warning indicator
(12) Parking brake indicator
(13) Hydraulic lock indicator
(14) Blank
(15) User name
(16) Condition of Bluetooth connection
(17) Memo (handover)
(18) Hydraulic oil temperature gauge and hydraulic oil temperature warning indicator
(19) Coolant temperature gauge and coolant temperature warning indicator
(20) Fuel gauge and low fuel warning indicator
(21) Blank
(22) AUX operation indicator
(23) Hour meter
(24) Engine tachometer
(25) Date and time
(26) Battery voltage
(27) Audio icon
(28) Display mode change icon
(29) Menu icon
(30) Rearview camera image
[A] Home screen
[B] Rearview camera screen

1. Handling the touch panel

WARNING

To avoid personal injury or death:

- **If the screen is damaged, replace it as soon as possible. If the damaged screen is used, the fragments may cause injury.**

IMPORTANT :

- **When cleaning the display screen, wipe with a soft cloth like those used for cleaning eyeglasses.**
- **Using a coarse cloth or rubbing too hard may damage the surface.**
- **Cleaning the display screen with alkaline, acidic, or organic solvents such as alcohol or benzene can damage the screen.**
- **Do not press hard with your fingers or touch the screen with pointed objects. Not following this instruction may cause scratches or damage to the screen.**

NOTE :

- **The touch panel is designed to be operated with gloves, but operations may not be possible with some types of gloves.**
- **Adherence of water droplets or sand to the touch panel may cause malfunction or operations may not be possible.**

1.1 Basic procedure of the touch panel

Touch or tap

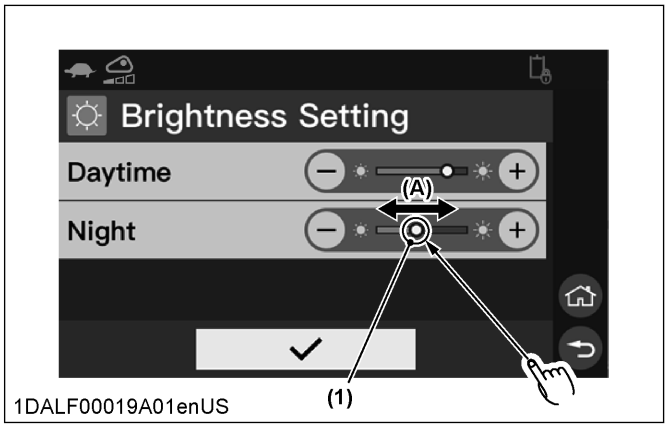
Touch or lightly tap an item on the screen. An operation is performed or the following items are displayed.



(1) Item *(A) Touch or tap*

Slide

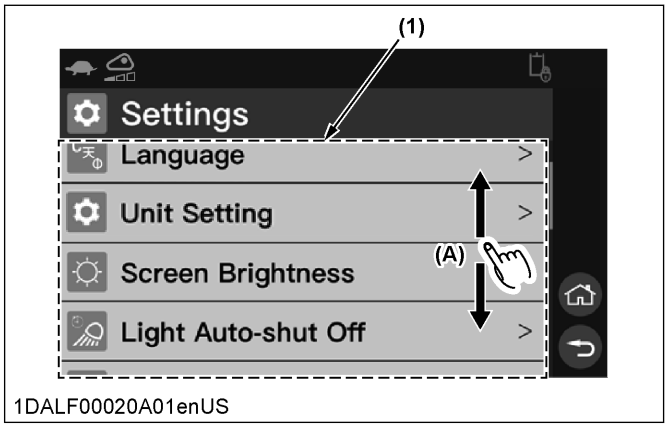
1. Touch the slider bar on the touch panel.
2. While holding down your finger on the slider, move to the required setting value.



(1) Slider bar *(A) Slide*

Scroll

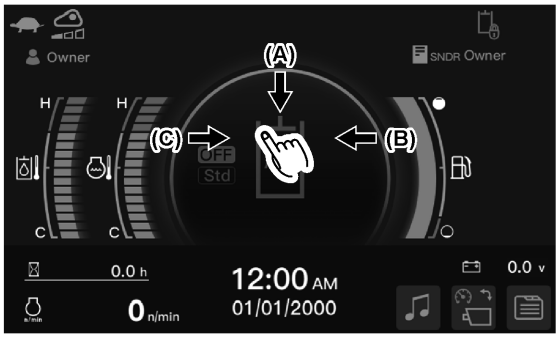
While holding down your finger on the touch panel, move up and down.
Items that are not displayed will be displayed.



(1) Screen *(A) Scroll*

Swipe

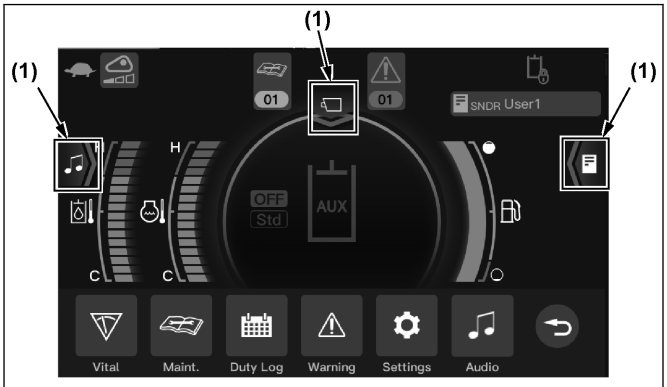
While holding down your finger on the touch panel, move up and down, left and right.
The home, rearview camera, audio and memo screens can be swiped to switch screens.
(For more information, see REARVIEW CAMERA MODE on page 81, Change to the audio screen on page 82, and Switching to the memo screen on page 93.)



1DALF00018A04

(A) To rearview camera screen (C) To audio screen
(B) To memo screen

Swipe icon
The swipe icon is displayed when you touch anywhere on the home screen or rearview camera screen beside the icon.



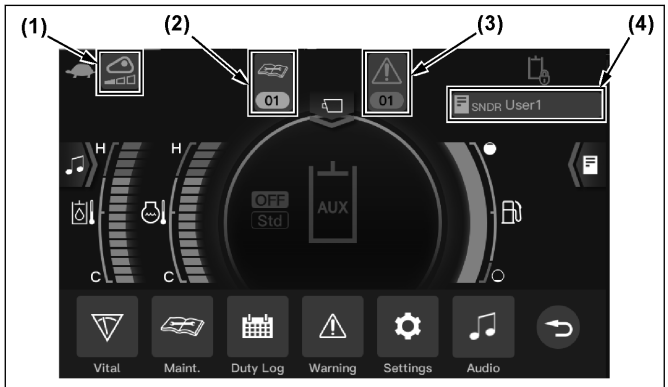
1DALF00325A01enUS

(1) Swipe icon

Swipe in the direction of the icon or touch the icon to switch screens as following.

- Home screen icon
  The home screen appears.
- Rearview camera screen icon
  The rearview camera screen appears.
- Audio screen icon
  The audio screen appears.
- Memo screen icon
  The memo screen appears.

Indicator and memo (handover) are highlighted
When the swipe icon is displayed, the indicator and memo notification are highlighted.



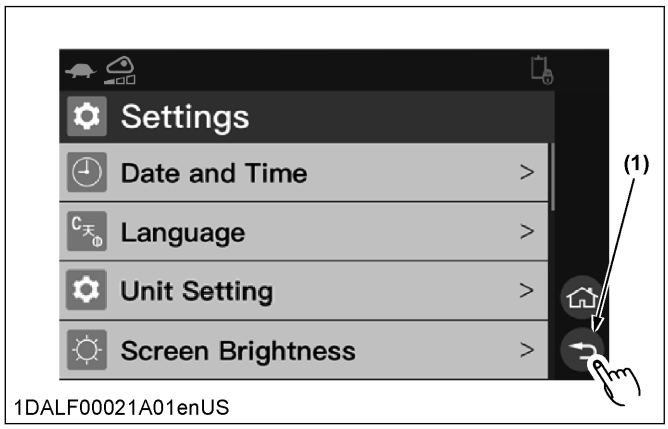
1DALF00325A02enUS

(1) Track response indicator (3) Master warning indicator
(2) Periodic check indicator (4) Memo (handover)

Touching the highlighted area switches the screen as follows.

- Track response indicator
  The track response screen appears.
  (See Setting the track response on page 58)
- Periodic check indicator
  The list of the periodic check items appears.
  (See Periodic check on page 43)
- Master warning indicator
  The message appears.
  (See LIST OF SCREEN on page 192)
- Memo (handover)
  The memo screen appears.
  (See Switching to the memo screen on page 93)

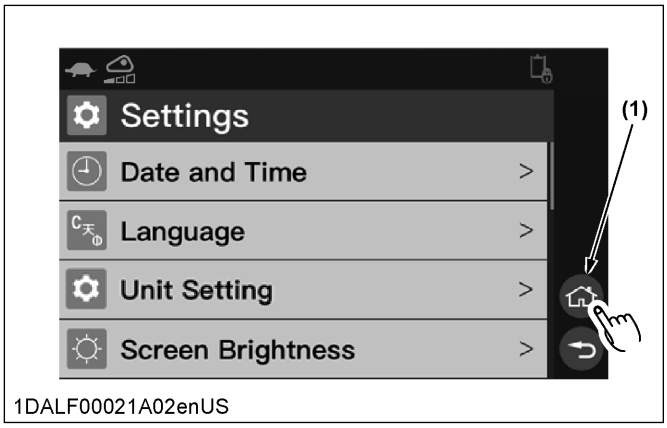
Back to previous screen
Touch the return button to return to the previous screen.



1DALF00021A01enUS

(1) Return button

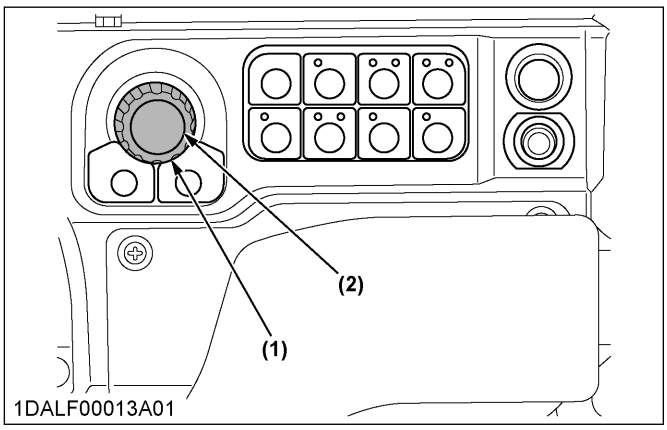
Back to home screen
Touch the home button to return to the home screen or the rearview camera screen.



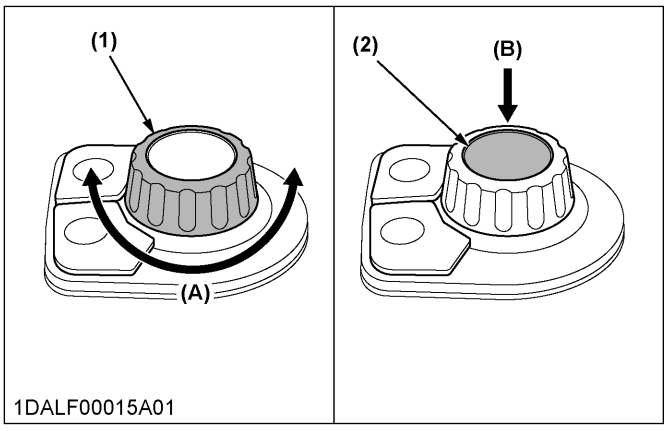
(1) Home button

2. Handling the jog dial

1. Rotate the jog dial to move the cursor on the display to the icon or item you want to select.
2. Press the jog dial switch to select an icon or item.



(1) Jog dial *(2) Jog dial switch*



(1) Jog dial *(A) Rotate*
(2) Jog dial switch *(B) Press*

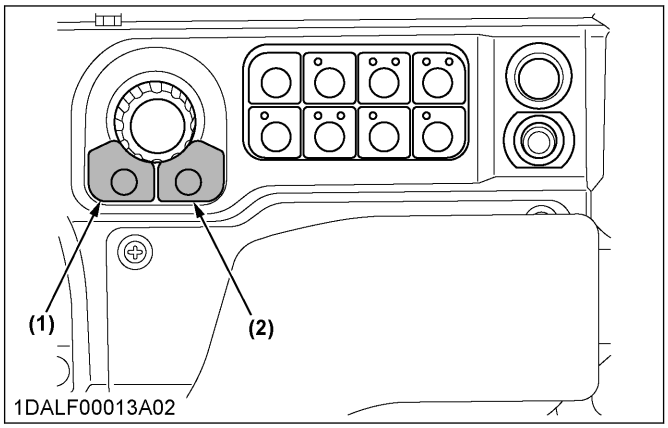
NOTE :

- **Pressing the jog dial when the starter switch is in the *"OFF"* mode will launch the touch panel in the fuel notification mode.**
  (See Fill level monitor when refuelling on page 35)

2.1 Function of the home switch and the return switch

Home switch
When pressing the home switch, the screen back to the home screen.

Return switch
When pressing the return switch, the screen back to the previous screen.



(1) Home switch *(2) Return switch*

3. Fuel gauge indicator

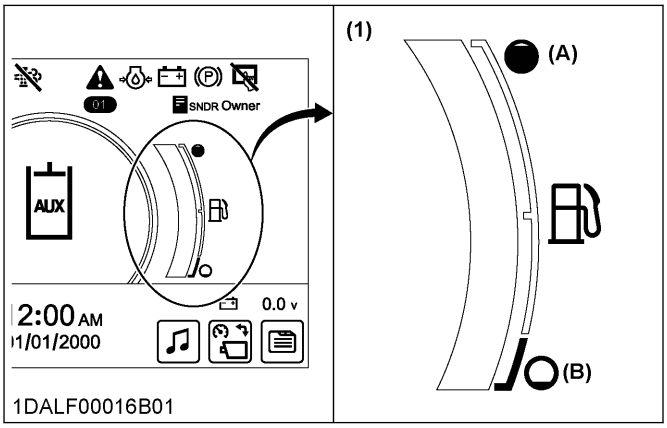
Press the start switch when the machine is off, then the fuel-gauge-indicator indicates that the fuel remains in the fuel tank.

⚠ WARNING
To avoid personal injury or death:

- **Before adding fuel, stop the engine.**
- **Keep open flame away from the machine. Otherwise a fire may result.**
- **Make sure that fuel delivery system is grounded.**

IMPORTANT :

- **If the fuel gauge indicator is near the ◯, or if the message "`Low Fuel Level`" appears, add fuel as soon as possible. If the indicator is near ◯ and the machine runs on a slope, the engine may run out of the fuel and get interrupted.**
- **Be very attentive to the remaining fuel for the engine not to stall. If the engine stalls, it may fail to get restarted for a while to protect the emission-purifying-device.**

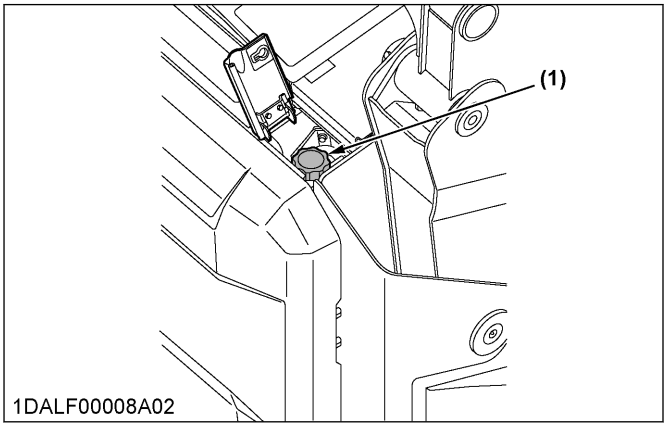


(1) Fuel gauge indicator
(A) Full
(B) Empty

If the fuel runs short, open the cap and refuel the tank.

NOTE :

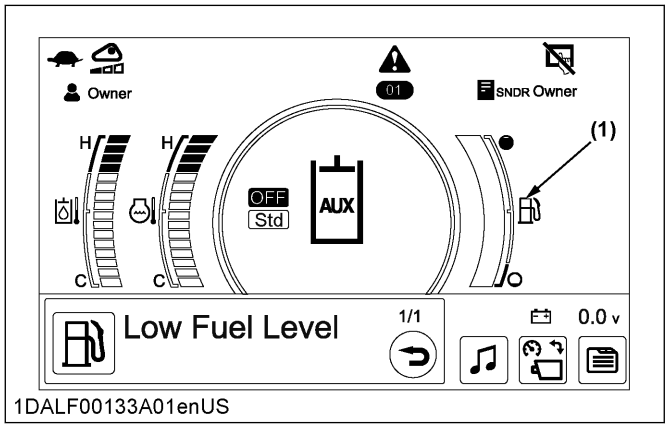
- **If the rear door can not be opened, open the tank cap cover and the cap, and refuel the tank.**
- **The fuel tank cap can be changed to the keyed cap (option).**



(1) Cap

4. Low fuel warning indicator

If the fuel in the tank goes below the prescribed level, the low-fuel-warning-indicator will blink.
If the low-fuel-warning-indicator should blink during operation of the machine, refuel as soon as possible.

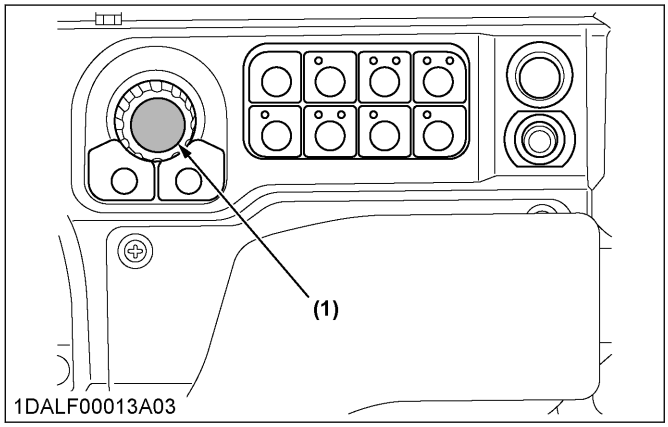


(1) Low fuel warning indicator

4.1 Fill level monitor when refuelling

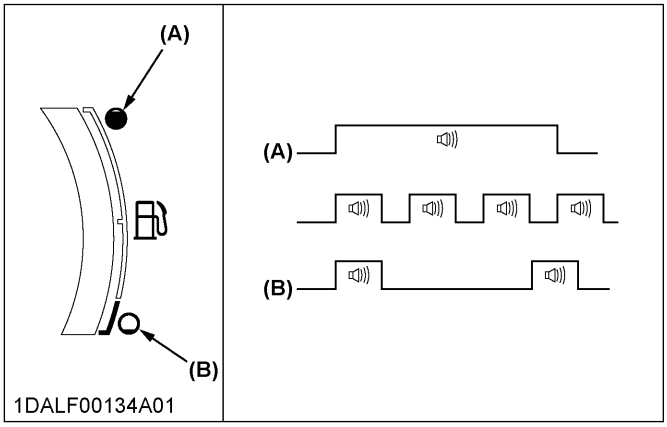
The fueling progress can be monitored by a buzzer sound.

1. Press the jog dial switch when the machine is off.



(1) Jog dial switch

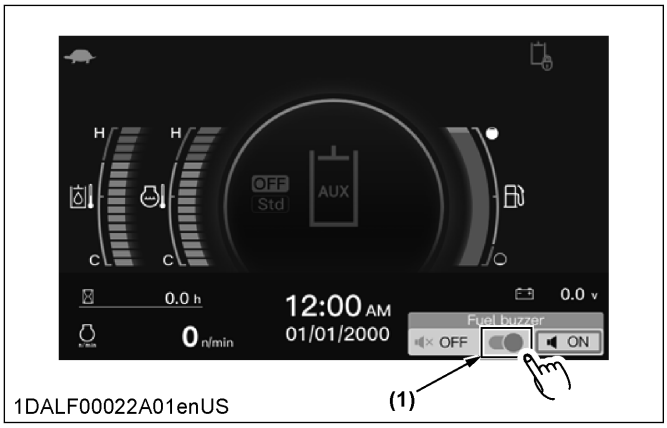
2. Start refueling the machine. The buzzer beeping intervals change according to how much fuel is poured into the tank.
   As the fuel tank is filled up, the buzzer sound becomes almost continuous. The buzzer will stop sounding.



(A) Full *(B) Empty*

NOTE :

- **If the start switch is pressed while filling the fuel, the start switch changes to the *"ACCESSORY"* mode.**
  (See Start switch on page 97)
- **To turn off the buzzer without turning off the machine, touch the Fuel buzzer mute button to the [OFF] position. Touch the Fuel buzzer mute button to the [ON] position to turn on the buzzer again.**
- **If filling the fuel is stopped for a certain period, the machine is turned off. If the machine is turned off, the function can be restarted by pressing the jog dial switch again.**



(1) Fuel buzzer mute button

3. To stop refueling halfway (before filling up), press the jog dial switch.

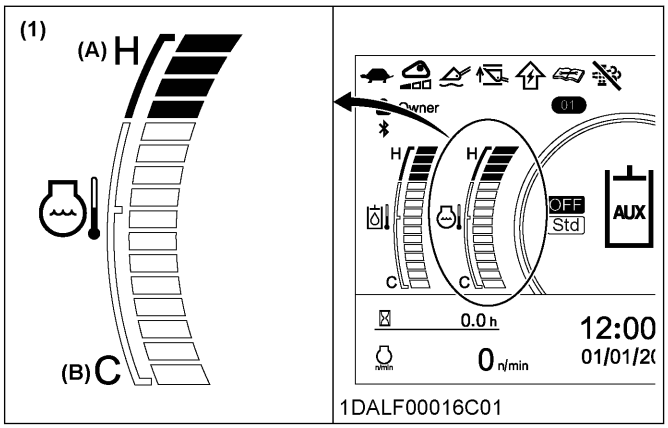
5. Coolant temperature gauge

⚠ WARNING

To avoid personal injury or death:

- **Do not open the radiator cap during or just after operation. Hot coolant may gush out and scald you. Wait for the coolant to cool down before opening the cap.**

When the engine is running or the start switch mode is *"ACCESSORY,"* the coolant-temperature-gauge indicates the coolant temperature.
If engine coolant rises above a specified temperature level, the indicator starts blinking and the buzzer starts beeping every 3 minutes for advance warning. If the coolant temperature further rises to the critical level, the blinking intervals become shorter and the buzzer keeps on beeping.
When the coolant temperature has dropped below specified temperature level or the engine has been stopped, the warning will cease.
If the coolant-temperature-gauge is near **[H]**, check the machine.
(See Checking the coolant temperature gauge on page 36)



(1) Coolant temperature gauge *(A) Hot* *(B) Cool*

IMPORTANT :

- **If the message "`Coolant temp high`" is displayed, the EGR valve will begin to close and EGR system will not function. Interrupt the work and lower the engine rpm, which will reduce the coolant temperature.**

5.1 Checking the coolant temperature gauge

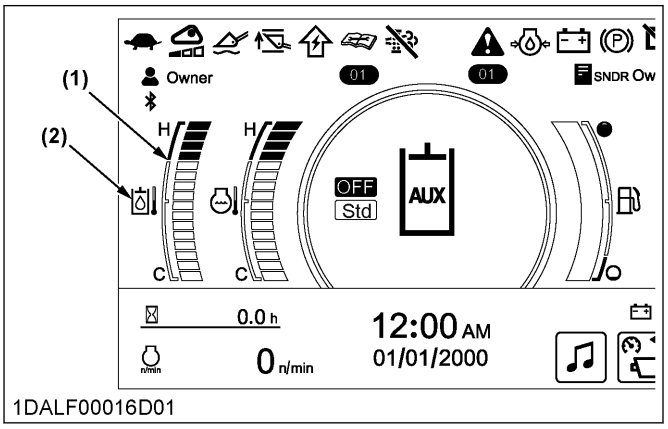
If the coolant-temperature-gauge is near **[H]**, take the following steps.

1. Discontinue the job.
2. Reduce the engine rpm to idle and keep it at idle for 5 minutes.

3. Stop the engine and check the following points.
   - Low coolant level or leak
   - Tension of the V-belt
   - Deposits of mud, dust, or chaff blocking the radiator or screen
   - Leak of the hydraulic oil

6. Hydraulic oil temperature gauge

When the engine is running or the start switch mode is *"ACCESSORY,"* the hydraulic-oil-temperature-gauge indicates the hydraulic-oil-temperature.
The hydraulic-oil-temperature-warning indicator starts blinking and the buzzer starts beeping if the hydraulic-oil-temperature has reached a specified level.
When the hydraulic-oil-temperature has dropped below the specified level or the engine has been stopped, the warning will cease.
Stop the engine and check for an unspecified level in the hydraulic tank and for leak of the hydraulic oil.



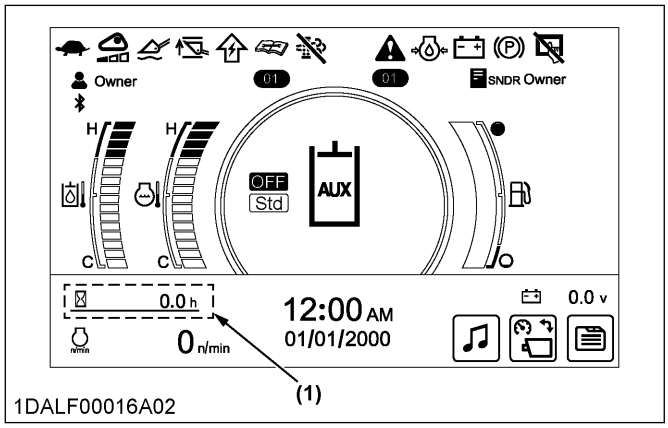
(1) Hydraulic oil temperature gauge *(2) Hydraulic oil temperature warning indicator*

7. Hour meter

The hour meter indicates the total operating hours of the machine.

How the hour meter works

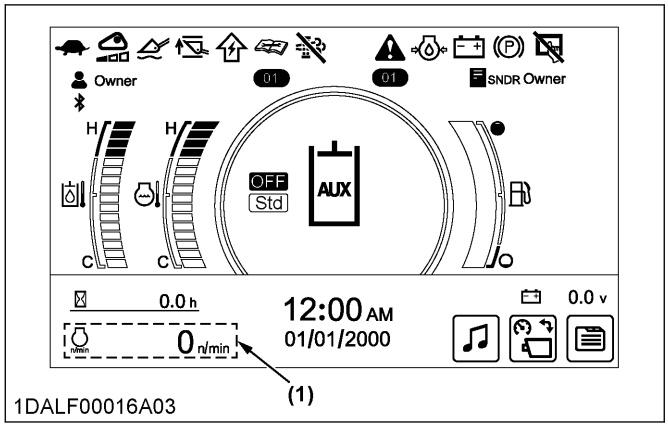
- The hour meter advances one hour after an hour of operation of the machine regardless of the engine rpm.



(1) Hour meter

8. Engine tachometer

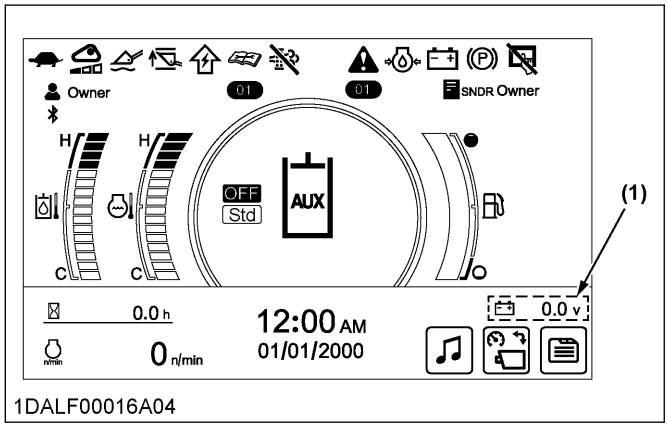
The engine tachometer indicates the current rpm of the engine.



(1) Engine tachometer

9. Battery voltmeter

The battery voltmeter indicates the current voltage of the battery.



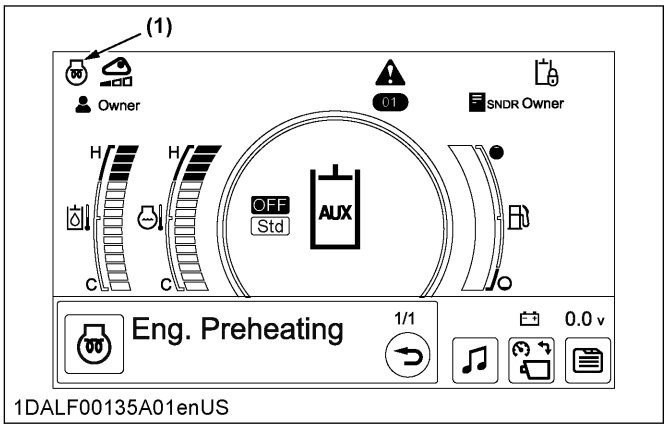
(1) Battery voltmeter

10. Glow plug indicator

The glow-plug-indicator is displayed when the engine requires preheating.
Press the start switch when the machine is off, and then the glow plug indicator lights up.
Wait until the glow plug indicator goes out, and then start the engine.

NOTE :

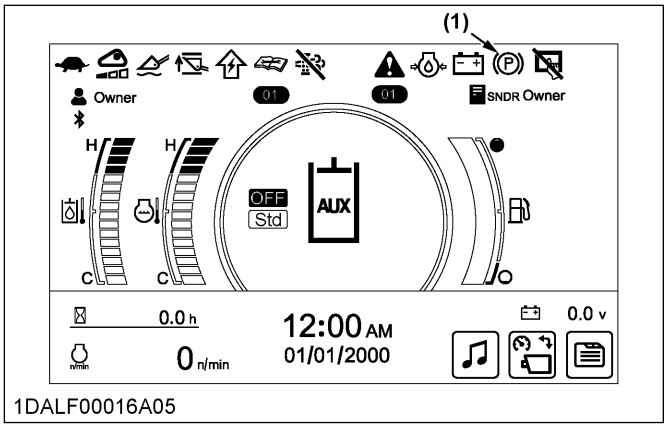
- **If the machine lockout function is enabled, the glow plug indicator lights up after password authentication is completed.**
- **When the engine is preheating, the message "`Eng. Preheating`" is displayed.**



(1) Glow plug indicator

11. Parking brake warning indicator

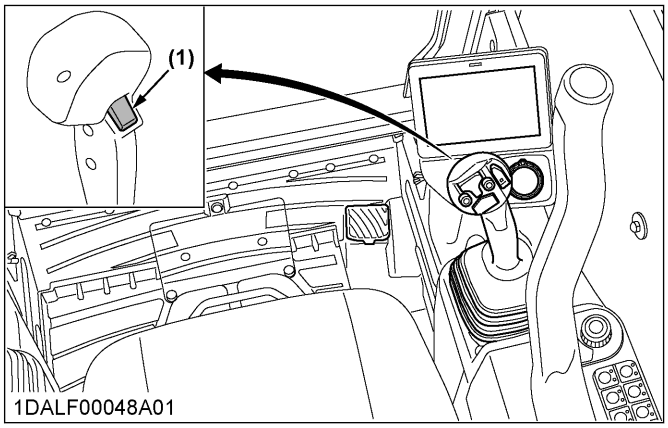
When the parking brake switch is turned on, the parking brake warning indicator on the instrument panel turns on.
(See Parking brake switch on page 97)

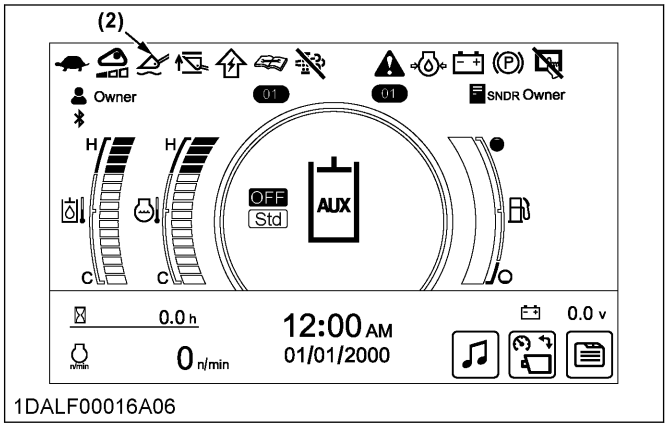


(1) Parking brake warning indicator

12. Bucket-floating indicator

While in the bucket-float mode, the [ ] mark on the instrument panel stays on.

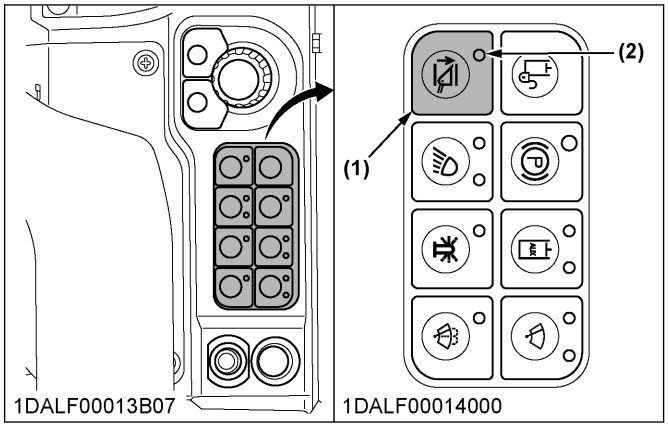




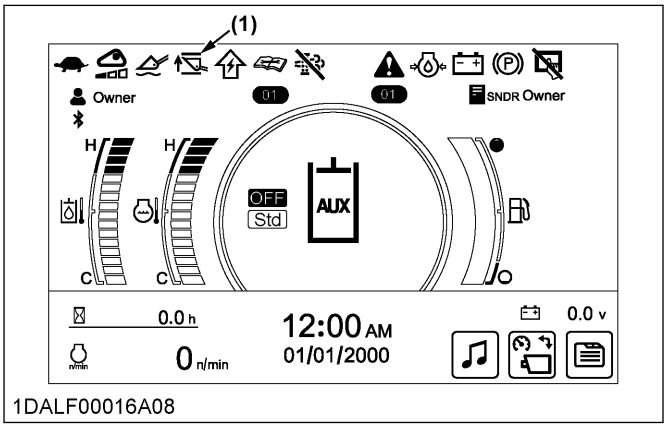
(1) Bucket-float switch *(2) Bucket-floating indicator*

13. Self leveling indicator

While in the self leveling mode, the mark on the instrument panel stays on.



(1) Self leveling switch *(2) Upper indicator*



(1) Self leveling indicator

14. Master warning indicator

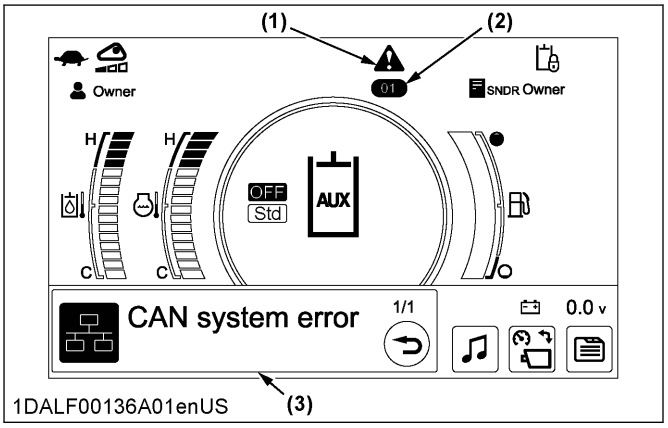
The master warning indicator is used to indicate broken wire, short-circuit, and other problems.
The master warning indicator starts blinking red if any problem occurs. If the system senses a warning signal, the master warning indicator starts blinking yellow.

IMPORTANT :

- **If the master warning indicator lights up, perform the appropriate inspection and correction accordingly.**
  (See MAINTENANCE on page 147)
- **If the master warning indicator lights up continuously after performing, consult your local Kubota dealer immediately.**

NOTE :

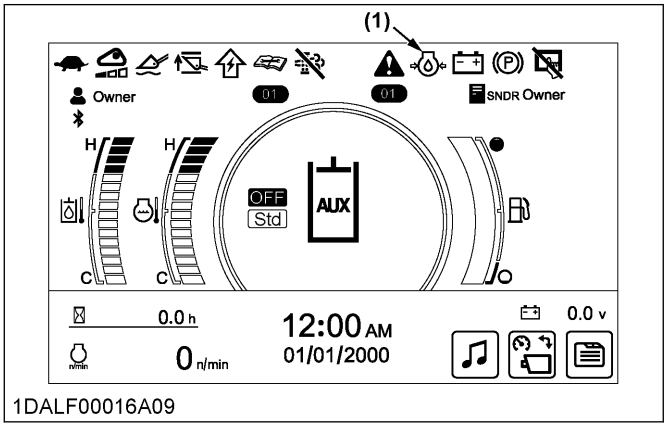
- **If any warnings and problems are displayed, an alarm buzzer will beep.**
  (See LIST OF SCREEN on page 192)



(1) Master warning indicator (red, yellow)
(2) Number of warnings
(3) Error message

15. Engine oil pressure indicator

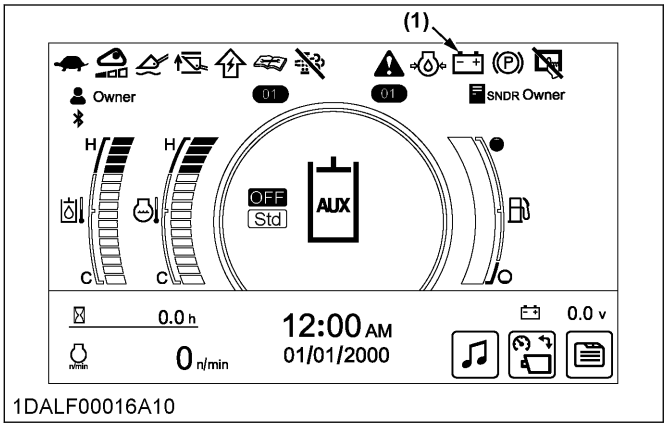
The engine-oil-pressure-indicator lights up due to failure of the lubricating system with the engine running.
When start switch mode is *"ACCESSORY,"* the engine-oil-pressure-indicator lights up.
When the engine starts, the engine-oil-pressure-indicator goes out.
If the engine-oil-pressure-indicator stays on with the engine running, stop the engine and check the engine oil level.



(1) Engine oil pressure indicator

16. Battery charge warning indicator

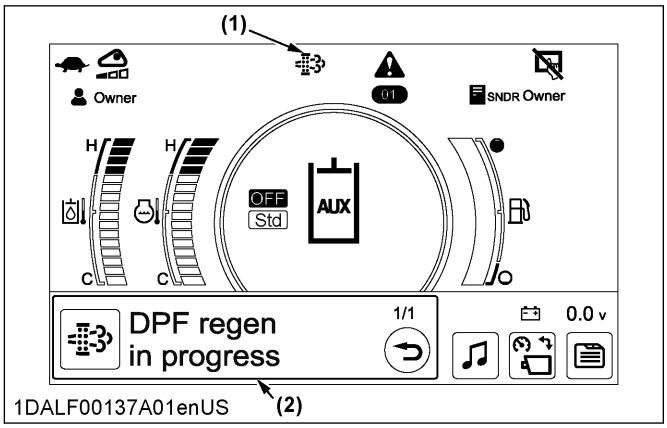
The battery-charge-warning-indicator lights up if the charging system fails with the engine running.
When start switch mode is *"ACCESSORY,"* the battery-charge-warning-indicator lights up.
When the engine starts, the battery-charge-warning-indicator goes out.
If the battery-charge-warning-indicator stays on with the engine running, stop the engine and check the V-belt.

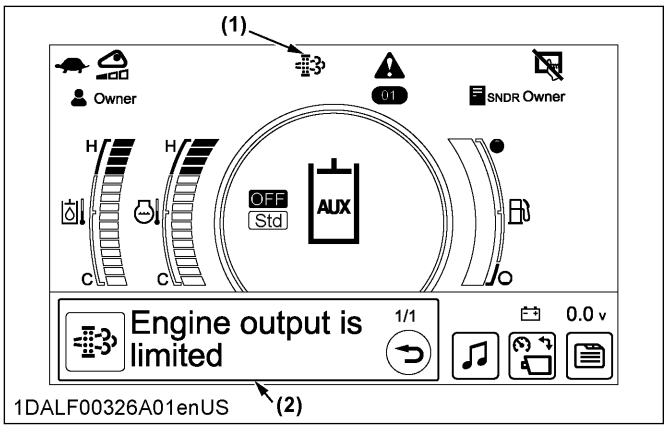


(1) Battery charge warning indicator

17. Diesel-particulate-filter (DPF) regeneration indicator

As PM (particulate-matter) build up inside the DPF, the DPF regeneration cycle starts automatically to burn away PM. During DPF regeneration, the DPF-regeneration-indicator lights up and stays on, the message "`DPF regen in progress`" or "`Engine output is limited`" appears, and the beep tone keeps sounding to warn the operator.

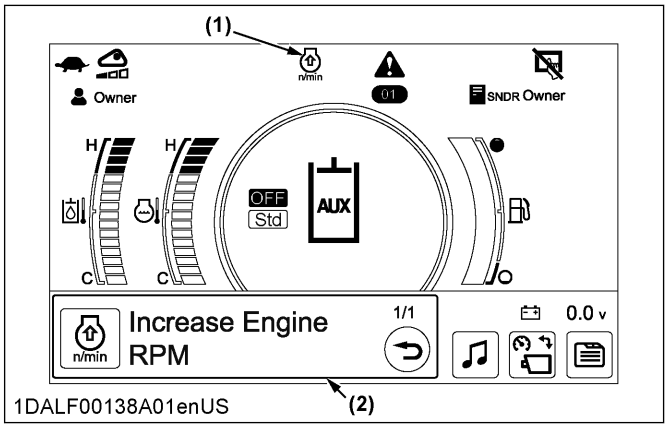


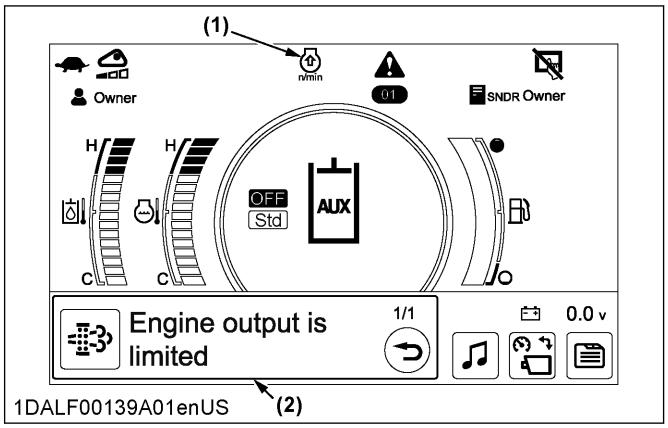


(1) DPF regeneration indicator (2) Error message

18. Engine rev up indicator

If the engine rpm is too low to start the DPF regeneration, the engine-rev-up-indicator lights up, and the message "`Increase Engine RPM`" or "`Engine output is limited`" appears. In case that the engine-rev-up-indicator lights up, and the message "`Increase Engine RPM`" or "`Engine output is limited`" appears, rev up the engine until the engine-rev-up-indicator and the message go out, the DPF regeneration will automatically start.





(1) Engine rev up indicator (2) Error message

19. CCV system freezing warning indicator [closed cab model]

NOTE :

- **[Open cab model] If the CCV internal pressure switch is installed on the machine, the CCV system freezing warning indicator will function.**

⚠ WARNING

To avoid personal injury or death:

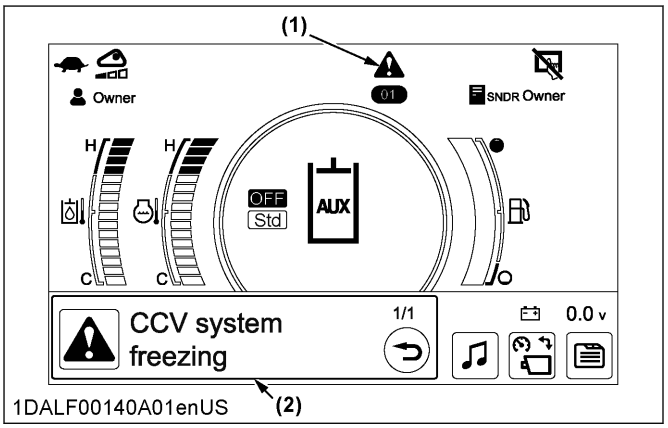
- **Do not draw out the engine oil dipstick immediately after the warning lamp has come on. Allow engine to cool sufficiently before drawing out the engine oil dipstick. Otherwise the hot engine oil may spout and make burn.**

If the CCV pipe freezes, the master warning indicator starts blinking, the message "`Engine system error`" appears on the instrument panel, and the buzzer starts sounding continuously. If you continue running the engine, the message "`CCV system freezing`" appears and the engine performance is limited. In such case, stop the engine and consult your local KUBOTA dealer immediately.

(See LIST OF SCREEN on page 192)

IMPORTANT :

- **Before and after the cold season, remove the CCV internal pressure switch cover and check the terminals, CCV internal pressure switch and others. If any of them is found corroded, do not use the machine and consult your local KUBOTA dealer for repair request.**
- **The operator shall stop the engine immediately. Otherwise the engine oil may spout and in the worst case the engine is damaged then needs to replaced.**



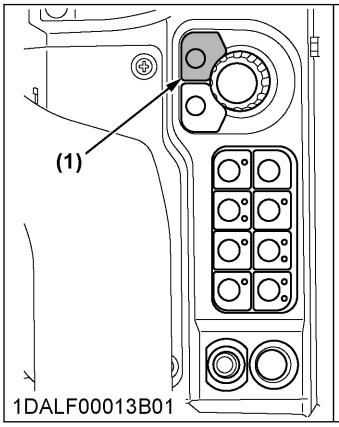
1DALF00140A01enUS

(1) Master warning indicator (2) Error message

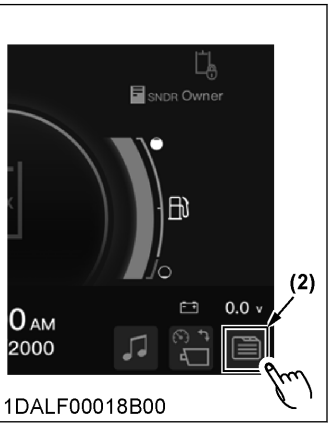
MACHINE SETTING

1. Vital display function

1. Press the home switch or touch the menu icon to make the menu bar appear on-screen.



1DALF00013B01



1DALF00018B00

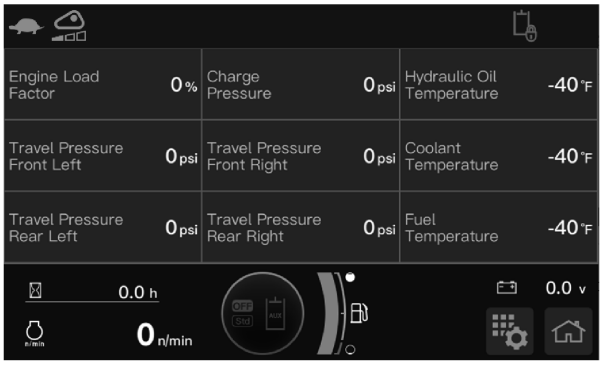
(1) Home switch (2) Menu icon

2. Rotate the jog dial to select the icon **[Vital]** and press the jog dial switch.
   For touch operation, touch the icon **[Vital]**.
   The vital screen appears.

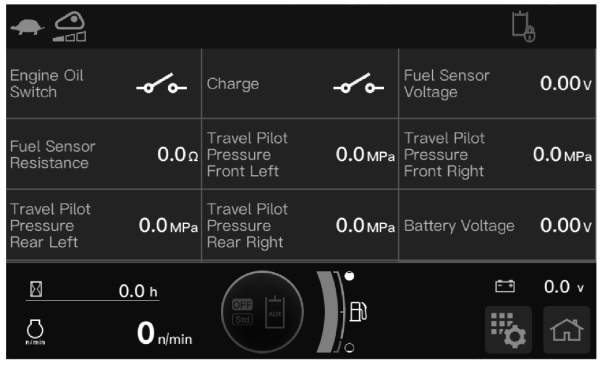


1DALF00327A01enUS

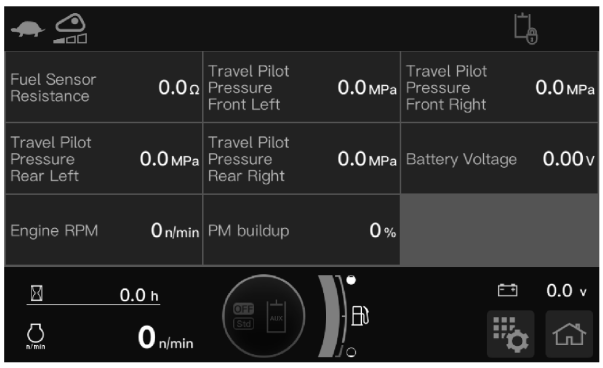
Figure of the vital screen



1DALF00328A01



1DALF00372A01enUS



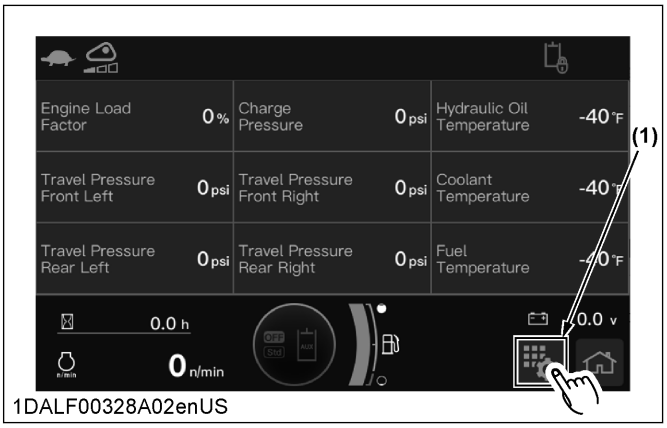
1DALF00373A01enUS

Vital screen shows the following items.

Item	Unit	Unit conversion	Remarks
Engine Load Factor	%	-	When the engine is stopped, *"0 %"* is displayed.
Charge Pressure	psi	psi ⟷ MPa	-
Hydraulic Oil Temperature	℉	℉ ⟷ ℃	-
Travel Pressure Front Left	psi	psi ⟷ MPa	-
Travel Pressure Front Right	psi	psi ⟷ MPa	-
Travel Pressure Rear Left	psi	psi ⟷ MPa	-
Travel Pressure Rear Right	psi	psi ⟷ MPa	-
Coolant Temperature	℉	℉ ⟷ ℃	-
Fuel Temperature	℉	℉ ⟷ ℃	-
Engine Oil Switch	-	-	When the engine is running, the icon is displayed. When the engine is stopped, the icon is displayed.
Charge	-	-	When the engine is running, the icon is displayed. When the engine is stopped, the icon is displayed.
Fuel Sensor Voltage	V	-	-
Fuel Sensor Resistance	Ω	-	-
Travel Pilot Pressure Front Left	psi	psi ⟷ MPa	-
Travel Pilot Pressure Front Right	psi	psi ⟷ MPa	-
Travel Pilot Pressure Rear Left	psi	psi ⟷ MPa	-
Travel Pilot Pressure Rear Right	psi	psi ⟷ MPa	-
Battery Voltage	V	-	Battery voltage ±0.5 V
Engine RPM	n/min	-	When the engine is stopped, *"0 n/min"* is displayed.
PM buildup	%	-	PM buildup displays the amount of the PM accumulated in the DPF muffler.

Sorting the items of the vital screen

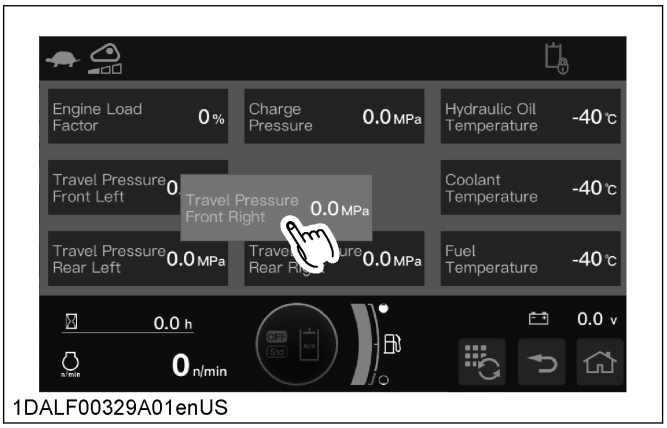
1. Rotate the jog dial to select the item sort button and press the jog dial switch.
   For touch operation, touch the item sort button.



1DALF00328A02enUS

(1) Item sort button

2. Rotate the jog dial to select the item you wish to sort, and press the jog dial switch.
   For touch operation, hold down the item you wish to sort.

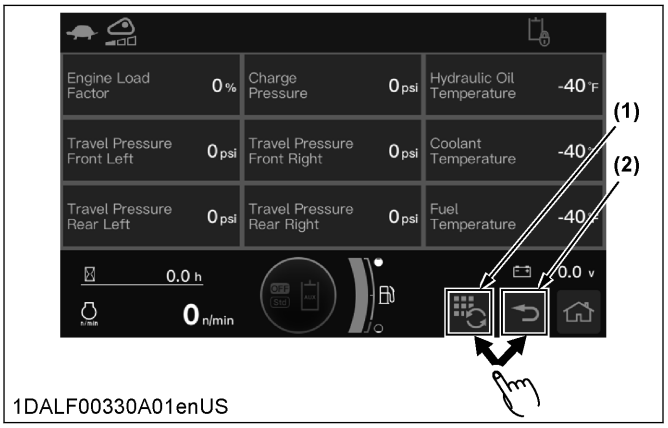


1DALF00329A01enUS

3. Rotate the jog dial to move the item to the required position.
   For touch operation, touch the point where you want to move the item.

NOTE :

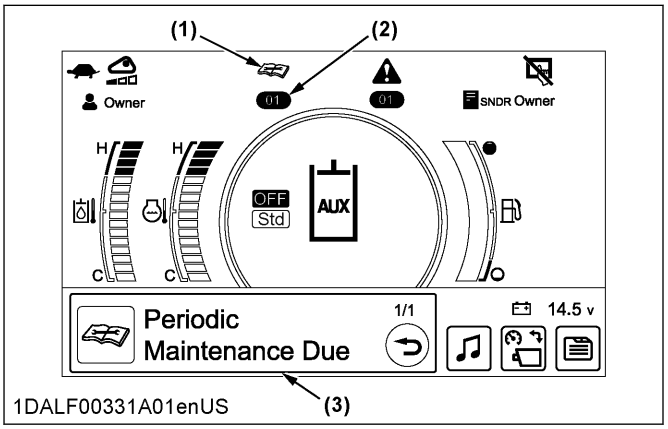
- **Rotate the jog dial to the default sort button and press the jog dial switch to reset the order of displayed items to factory default.**
  For touch operation, touch the default sort button.
- **Rotate the jog dial to the return button and press the jog dial switch to finish sorting the displayed items.**
  For touch operation, touch the return button.



(1) Default sort button *(2) Return button*

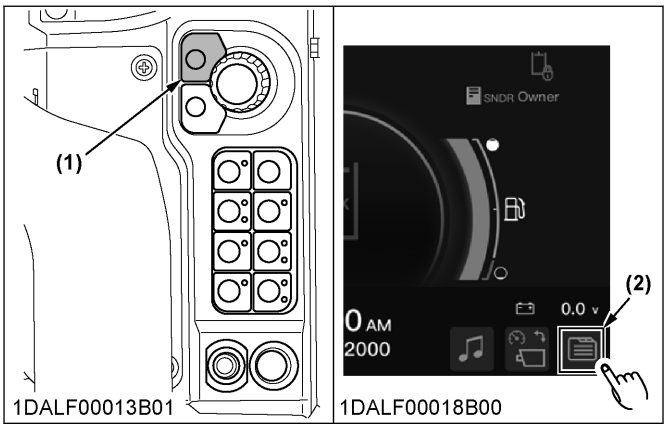
2. Periodic check

The periodic check indicator lights up and the following message appears on the display 10 hours before a periodic check.
Below the indicator shows the number of items required for maintenance.



(1) Periodic check indicator *(3) Message*
(2) Number of items

1. Press the home switch or touch the menu icon to make the menu bar appear on-screen.

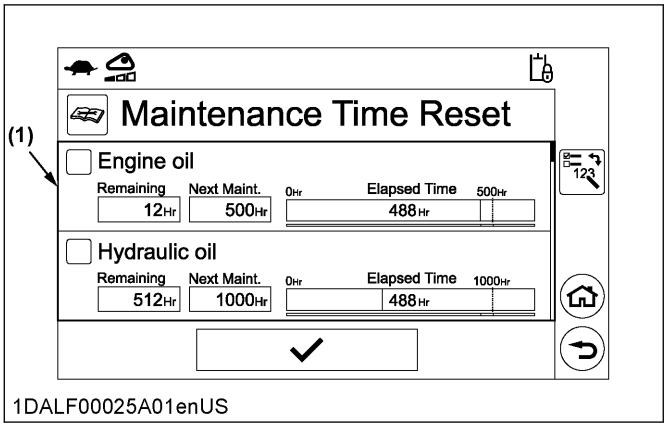


(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Maint.]** and press the jog dial switch.
   For touch operation, touch the icon **[Maint.]**.
   The list of the periodic check items appears.



(1) Icon



(1) List of periodic check items

3. Perform the servicing as listed.
4. After servicing, rotate the jog dial to the right or to the left to select the item you performed and press the jog dial switch.
   For touch operation, touch the item you performed.
5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch. For touch operation, touch the icon **[✔]**.
   The time associated with inspection such as **[Next Maint.]** in the list of periodic check items is reset.

IMPORTANT :

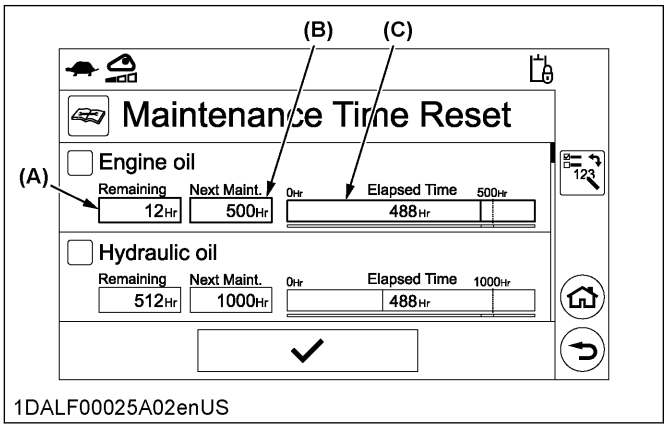
- **Press the start switch to switch the mode between *"OFF"* and *"ACCESSORY"* 10 times or more, and then the list of periodic check items disappears.**
- **When the periodic check interval has passed, the message "`Periodic check notification`" shows up. Immediately perform the specified servicing.**

NOTE :

- **If you touch the periodic check indicator on the home screen, the list of periodic check items appears.**

2.1 How to read the list of the periodic check items

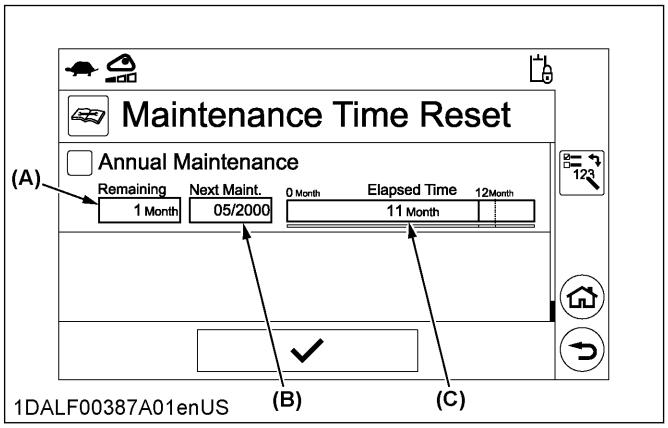
Periodic check items other than annual maintenance



No.	Item	Decsription
(A)	**[Remaining]**	**[Remaining]** displays the remaining hour meter time until the next maintenance.
(B)	**[Next Maint.]**	**[Next Maint.]** displays the hour meter time for the next maintenance.
(C)	**[Elapsed Time]**	**[Elapsed Time]** displays the elapsed hour meter time since the last maintenance.

- If there are 10 or more hours until the next maintenance, a blue bar is indicated in the elapsed time displayed area.
- If there are less than 10 hours until the next maintenance, a yellow bar is indicated in the elapsed time displayed area.
  Because the maintenance time is approaching, perform servicing as listed.
- When the maintenance time has passed, a red bar is indicated in the elapsed time displayed area.
  If 20 or more hours have passed since the maintenance time, the length of the red bar will not change.
  Because the maintenance time has passed, perform servicing as listed immediately.

Periodic check items for annual maintenance



No.	Item	Decsription
(A)	**[Remaining]**	**[Remaining]** displays the remaining months until the next maintenance.
(B)	**[Next Maint.]**	**[Next Maint.]** displays the year and month for the next maintenance.
(C)	**[Elapsed Time]**	**[Elapsed Time]** displays the elapsed months since the last maintenance.

- If there is 1 or more month until the next maintenance, a blue bar is indicated in the elapsed time displayed area.
- If there is less than 1 month until the next maintenance, a yellow bar is indicated in the elapsed time displayed area.
  Because the maintenance time is approaching, perform servicing as listed.
- When the maintenance time has passed, a red bar is indicated in the elapsed time displayed area.
  If 2 or more months have passed since the maintenance time, the length of the bar will not change.
  Because the maintenance time has passed, perform servicing as listed immediately.

2.2 Service hour meter

When the hour meter reaches the hours circled in the following maintenance table, a message appears.

No.	Check points		Measures	Hour meter indicator							Intervals
				50	250	500	1000	1500	2000	3000	
1	Engine oil		change			○	○	○	○	○	every 500 hrs
2	Hydraulic oil		change				○		○	○	every 1000 hrs
3	Air cleaner element	Outer element	replace		○	○	○	○	○	○	every 250 hrs
		Inner element	replace		○	○	○	○	○	○	every 250 hrs
4	Engine oil filter cartridge		replace			○	○	○	○	○	every 500 hrs
5	Water separator filter element		replace			○	○	○	○	○	every 500 hrs
6	Fuel filter cartridge		replace			○	○	○	○	○	every 500 hrs
7	Travel motor gear oil		change		◎	○	○	○	○	○	every 500 hrs
8	Hydraulic return filter		replace		◎	○	○	○	○	○	every 500 hrs
9	Hydraulic breather filter		replace			○	○	○	○	○	every 500 hrs
10	Hydraulic oil filter		replace	◎		○	○	○	○	○	every 500 hrs
11	Hydraulic suction filter		replace				○		○	○	every 1000 hrs
12	Air filter for AC		replace				○		○	○	every 1000 hrs
13	**[Closed cab model only]** Front window roller		replace				○		○	○	every 1000 hrs
14	Fuel tank breather		replace							○	every 3000 hrs

IMPORTANT :

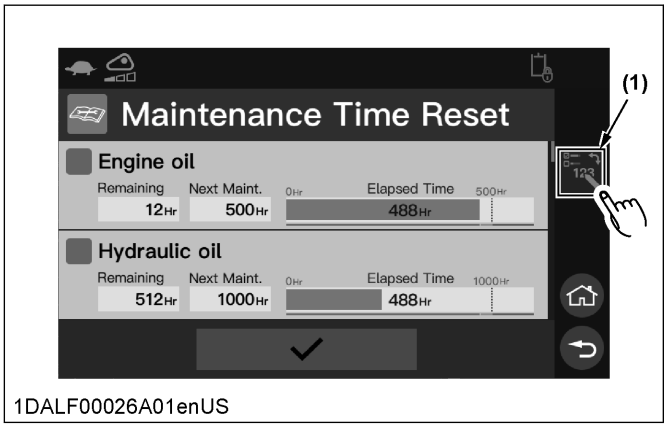
- **Perform the job indicated by ◎ at the first operation.**
- **The factory default setting is shown in the maintenance table.**
- **The message is displayed in hours of the hour meter by adding the intervals after resetting the inspection time in the list of periodic check items.**

2.3 Changing the maintenance interval

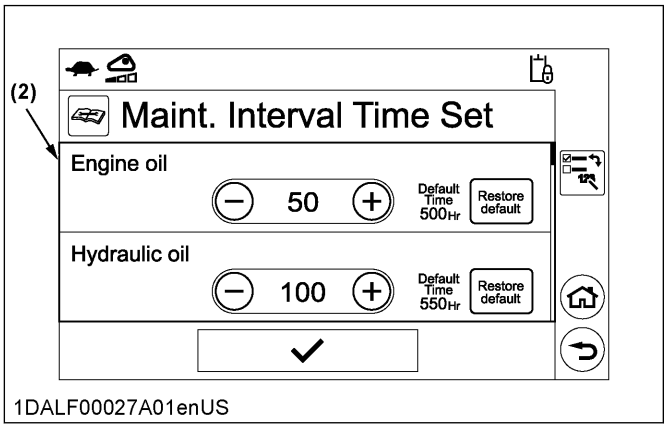
IMPORTANT :

- **The maintenance interval for each item cannot be set to intervals longer than the factory default settings.**

1. Open the list of the periodic check items.
2. Rotate the jog dial to select the display selector icon and press the jog dial switch. For touch operation, touch the display selector icon.
   The maintenance interval setting screen appears.



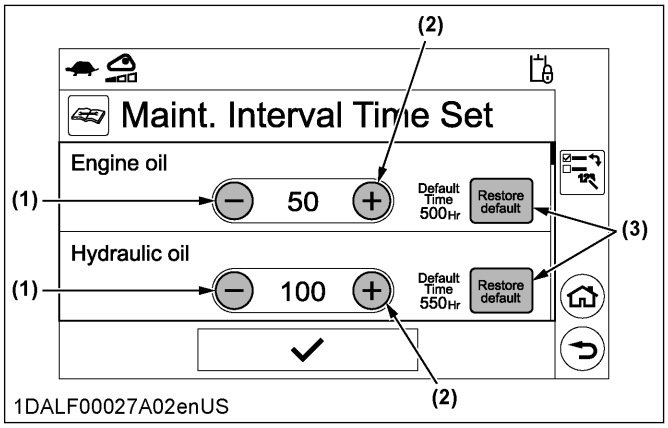
(1) Display selector icon



(2) Maintenance interval setting screen

3. Select the button with jog dial and press the jog dial switch, or touch the button to change the maintenance interval.

Button	Function
[-]	Decrease the maintenance interval.
[+]	Increase the maintenance interval.
[Restore default]	Return the maintenance interval to the factory default settings.



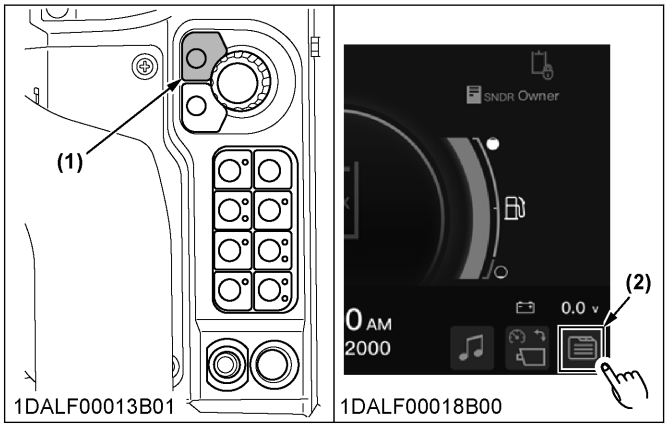
(1) Decrease button
(2) Increase button
(3) Restore button

4. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch. For touch operation, touch the icon **[✔]**.
   The maintenance interval setting is activated.

3. Log record

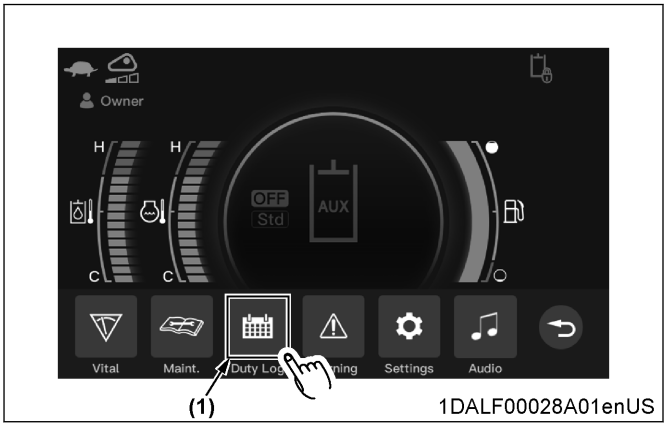
The log record helps you check the last 3 months operating record of the machine. Take the following steps:

1. Press the home switch or touch the menu icon to make the menu bar appear on-screen.

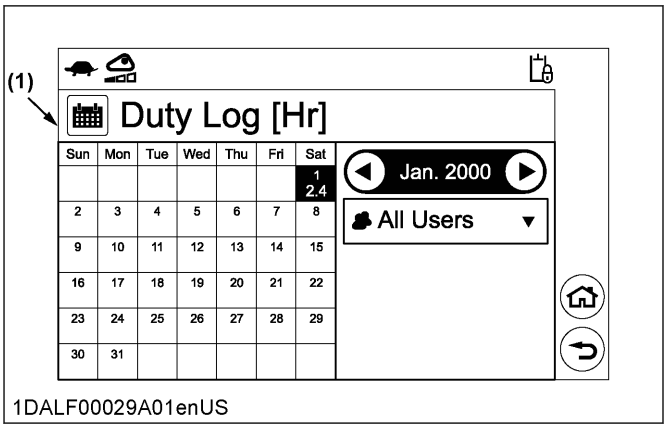


(1) Home switch
(2) Menu icon

2. Rotate the jog dial to select the icon **[Duty Log]**, and press the jog dial switch.
   For touch operation, touch the icon **[Duty Log]**.
   The the log record (the machine's operating day and operating hours) for the current month appears.



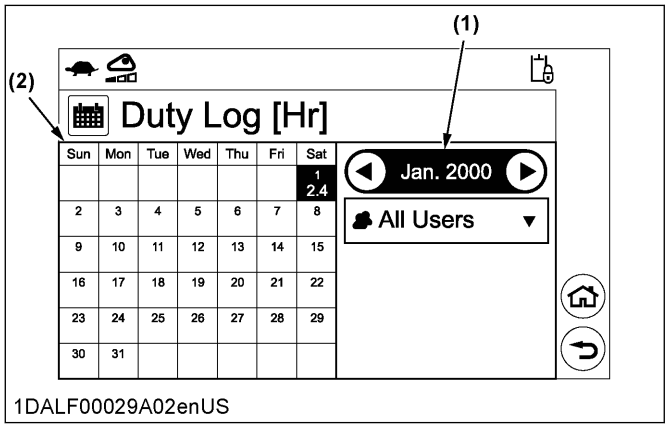
(1) Icon



(1) Log record

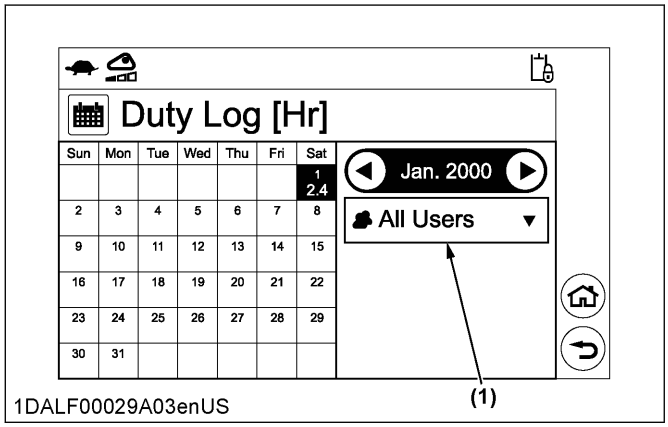
3. To view records from previous months, rotate the jog dial to select the year and month display area, press the jog dial switch, rotate the jog dial to select the desired month, and press the jog dial switch to confirm the selection.
   For touch operation, touch **[◄]** or **[►]** of the year and month display area, or swipe the calender dislay area to left or right.

   NOTE :
   - **It is possible to view records from the last three months (up to 90 days ago).**



(1) Year and month display area (2) Calender display area

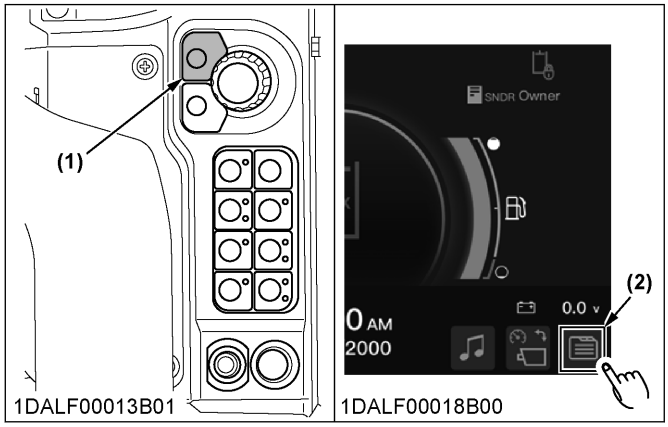
4. To view records from other users, rotate the jog dial to select the user display area, press the jog dial switch, rotate the jog dial to select the desired user, and press the jog dial switch to confirm the selection.
   For touch operation, touch **[▼]** of the user display area, and touch the desired user.



(1) User display area

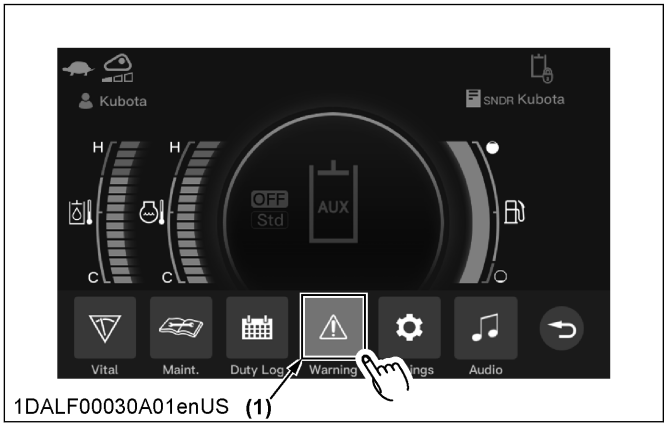
4. Checking error messages

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



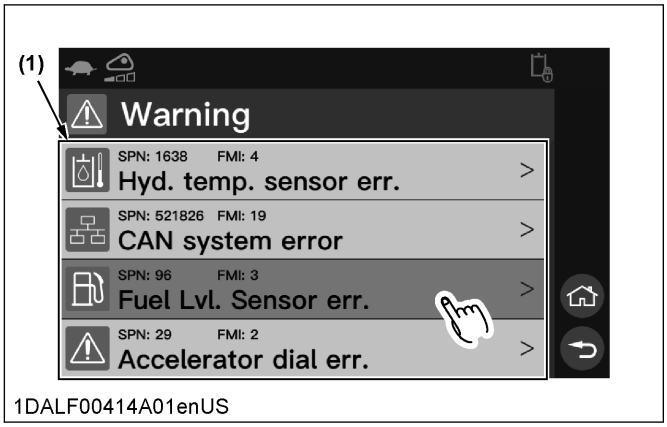
(1) Home switch (2) Menu icon

2. Rotate the jog dial to select the icon **[Warning]**, and press the jog dial switch.
   For touch operation, touch the icon **[Warning]**.
   The list of error messages appears on the display.



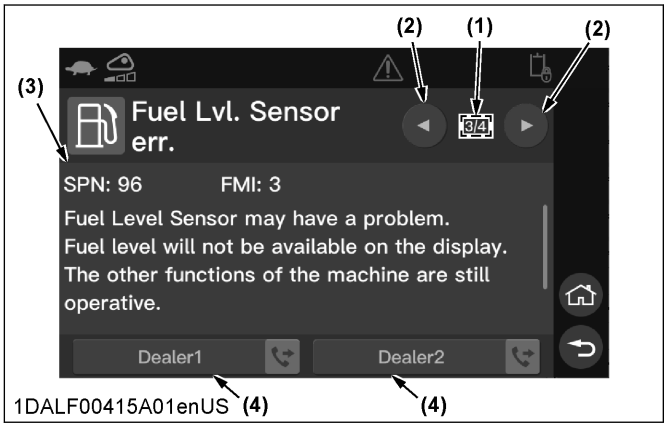
(1) Icon

3. Rotate the jog dial to select the desired item, and press the jog dial switch.
   For touch operation, touch the error message.
   A detailed message appears on the display.



(1) List of error messages

Example of detailed message



(1)	Error index/total number of errors	Displays the current index number of the error being displayed and the total number of errors that have occurred.
(2)	Change Display Error button	**[◄]** displays one previous error. **[►]** displays the next error.
(3)	Error detail display	Displays the detail information of the current error. Swipe up or down to advance or return the display.
(4)	Phone call button	Makes a call to the registered phone number.

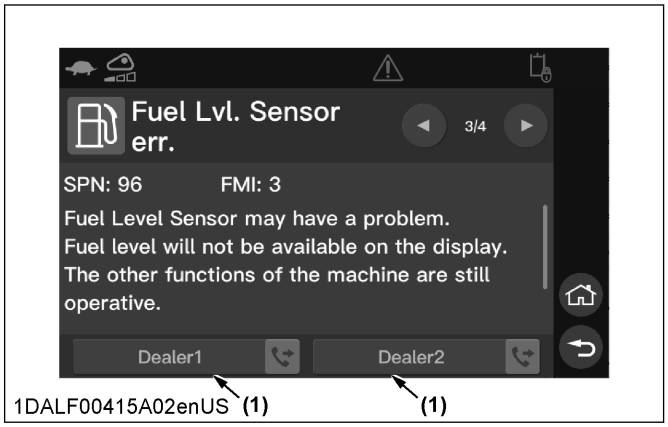
[Closed cab model]

The phone call button is displayed when there is an error that has to be notified to the dealer. If the phone call button is selected, the "`Calling`" pop-up is displayed, and selecting **[Call]** dials the displayed phone number.

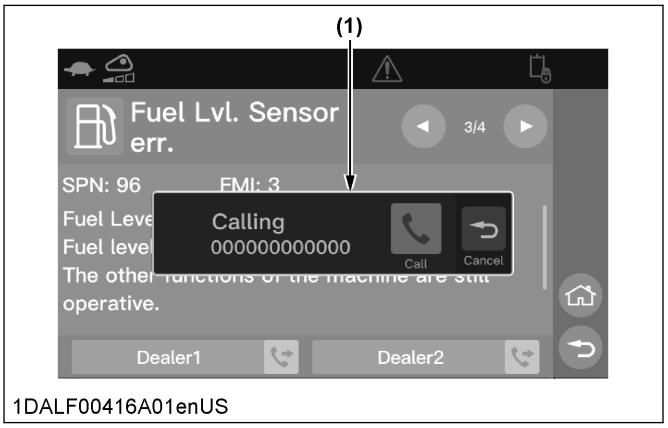
IMPORTANT :

- **The phone call button may not be displayed depending on the error message.**
- **If both the dealer name and phone number are not registered, the phone call button will not be displayed.**
- **The phone call button is grayed out and unavailable in the following cases.**
  - **When the phone number is not registered.**
  - **When the machine and the user's mobile phone are not connected via Bluetooth.**

  (See Setting the dealer phone number on page 77)



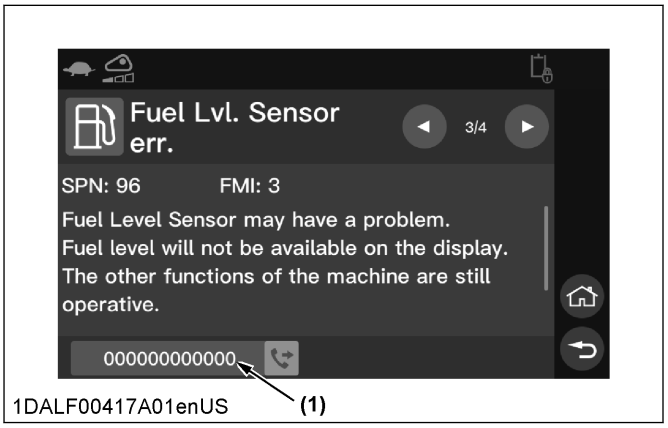
(1) Phone call button



(1) Pop-up

NOTE :

- **If the phone number is registered and dealer name is not registered, the phone number is displayed in the phone call button.**



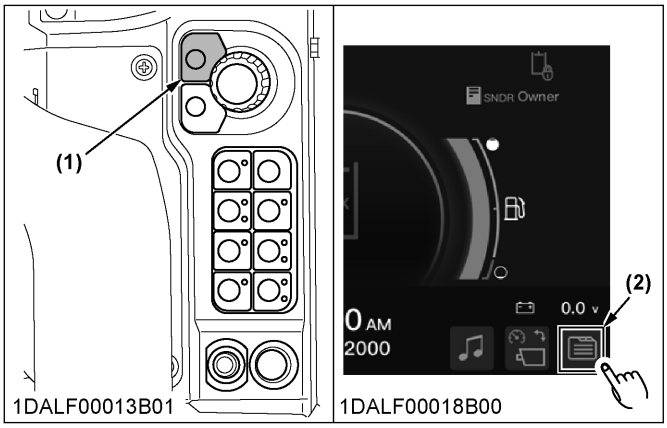
(1) Phone number

5. Setting the clock

NOTE :

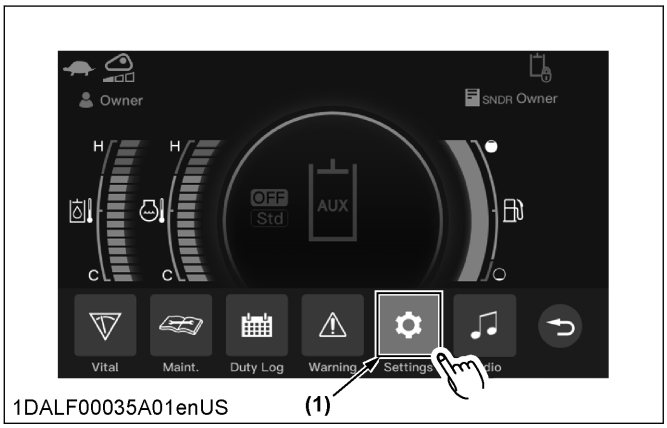
- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



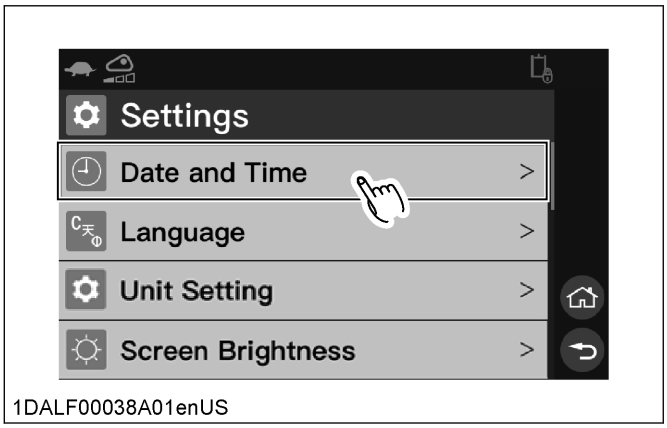
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

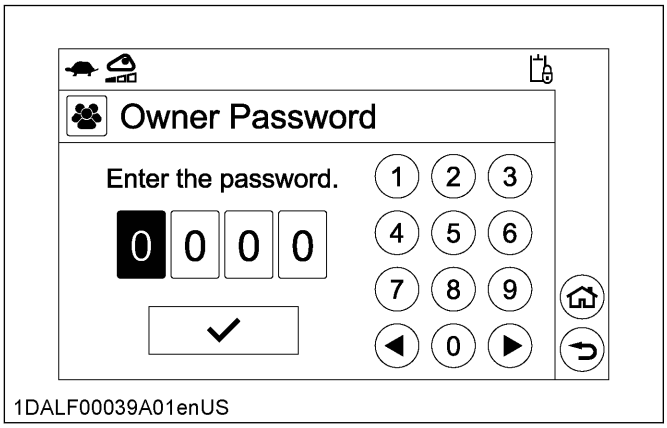


(1) Icon

3. Rotate the jog dial to select **[Date and Time]**, and press the jog dial switch.
   For touch operation, touch **[Date and Time]**.

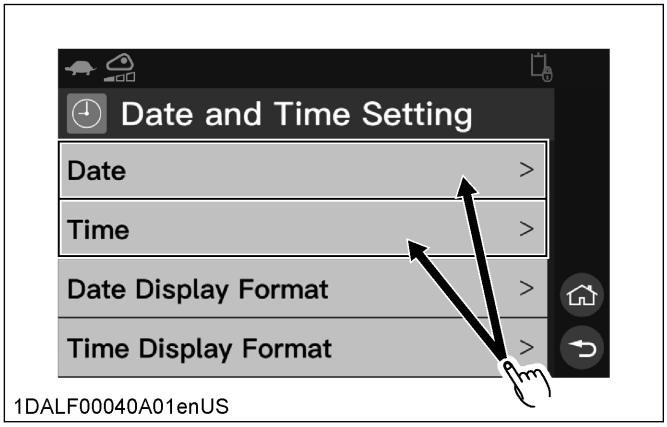


4. Enter the owner password.



1DALF00039A01enUS

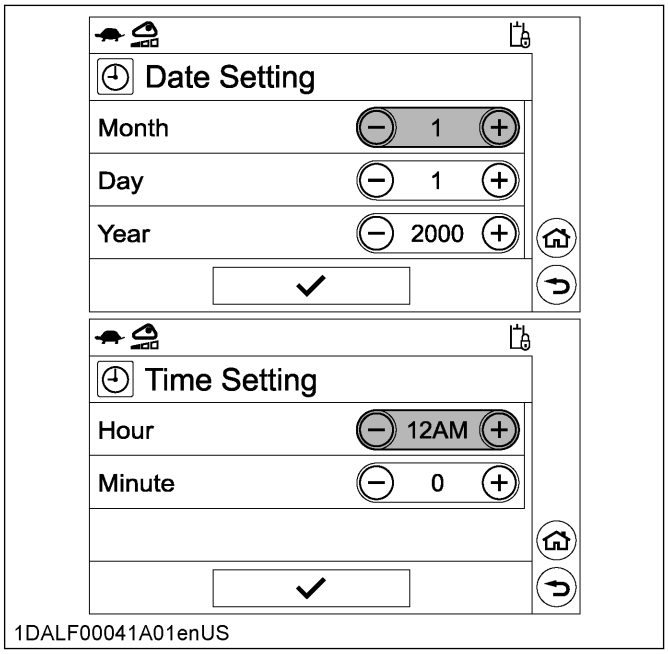
5. Rotate the jog dial to select **[Date]** or **[Time]**, and press the jog dial switch.
   For touch operation, touch **[Date]** or **[Time]**.



1DALF00040A01enUS

6. Adjust the numerical values as follows:
   a. Rotate the jog dial to the right or to the left to select the item you wish to change and press the jog dial switch.
   b. Rotate the jog dial to the right or to the left to increase or decrease the numerical value.
   c. Press the jog dial to confirm the value.

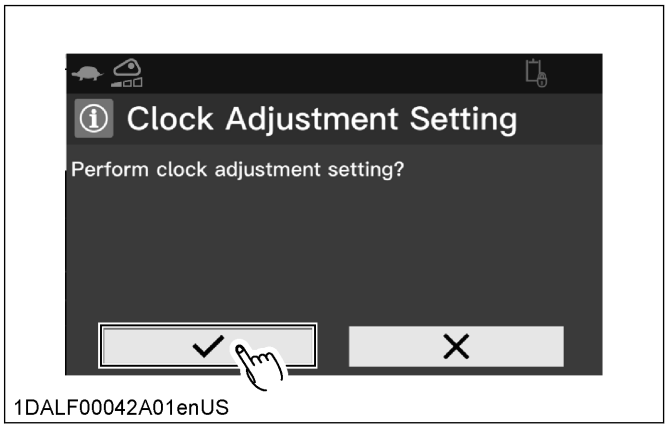
   For touch operation, touch **[+]** or **[-]** to increase or decrease the numerical value.



1DALF00041A01enUS

7. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.
   New clock settings are saved.

   NOTE :
   - **Be careful not to confirm the time at an unintended timing on the clock setting screen. Otherwise, the seconds will be set to [00] and the clock will show the wrong time.**
   - **If the clock is interrupted, for example when the battery is disconnected, the following message appears on-screen. Select [✔] to set the clock again.**



1DALF00042A01enUS

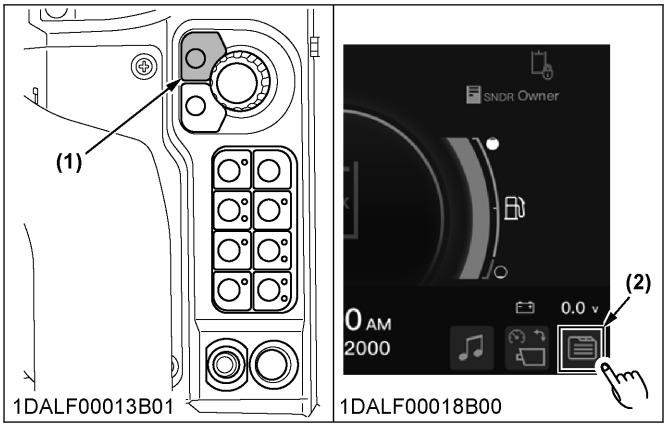
   NOTE :
   - **When the return switch is pressed on the clock setting screen, the clock is not readjusted and returns to the previous menu screen.**

6. Reordering year/month/day and selecting AM/PM or 24-hour

NOTE :

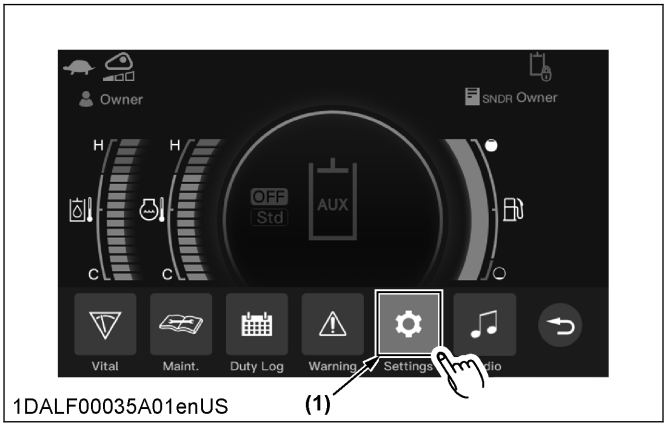
- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



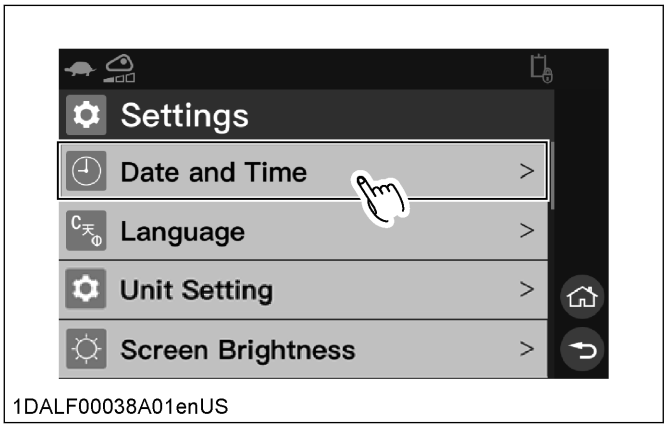
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

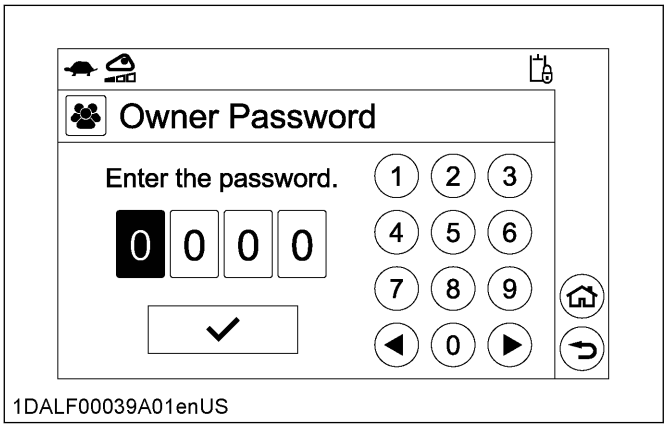


(1) Icon

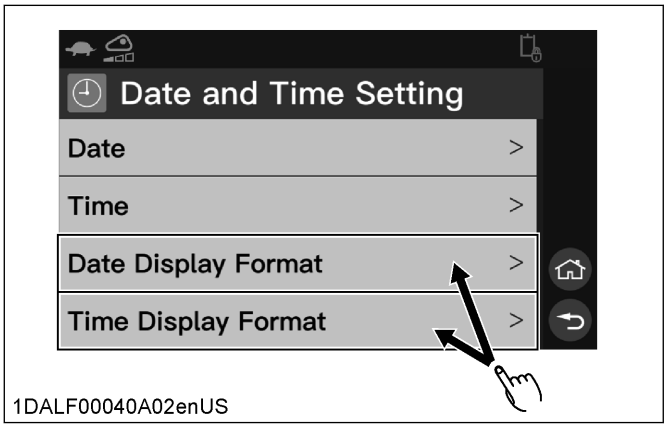
3. Rotate the jog dial to select **[Date and Time]**, and press the jog dial switch.
   For touch operation, touch **[Date and Time]**.



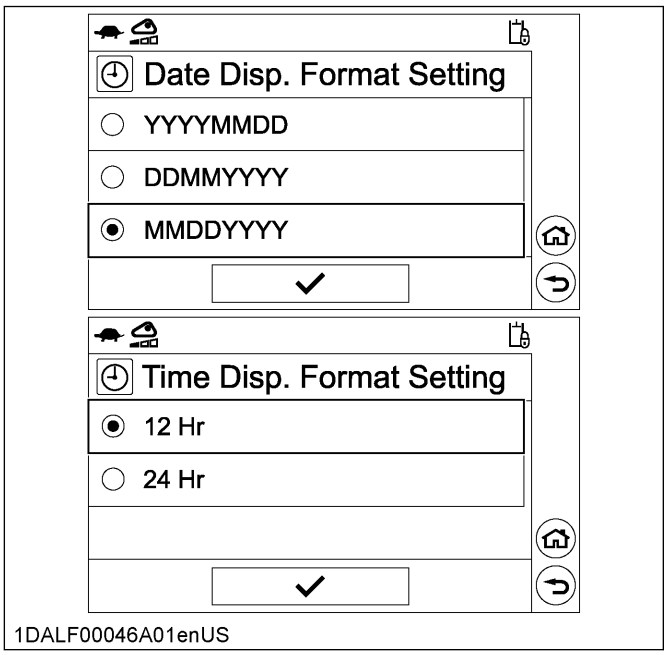
4. Enter the owner password.



5. Rotate the jog dial to select **[Time Display Format]** or **[Date Display Format]**, and press the jog dial switch.
   For touch operation, touch **[Date Display Format]** or **[Time Display Format]**.



6. Rotate the jog dial to select the desired format, and press the jog dial switch.
   For touch operation, touch the desired format.

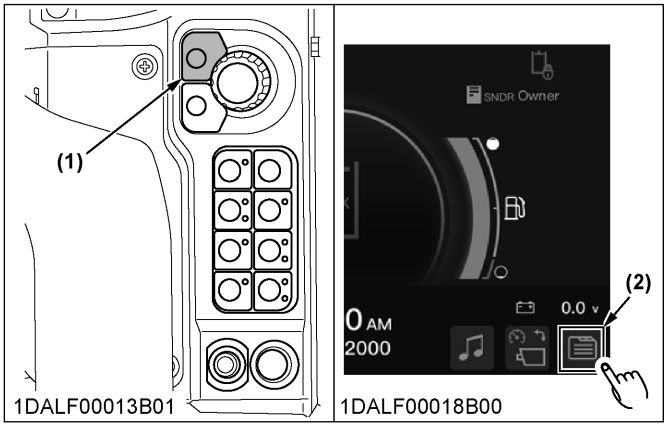


1DALF00046A01enUS

7. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.
   New settings are saved.

7. Setting the display language

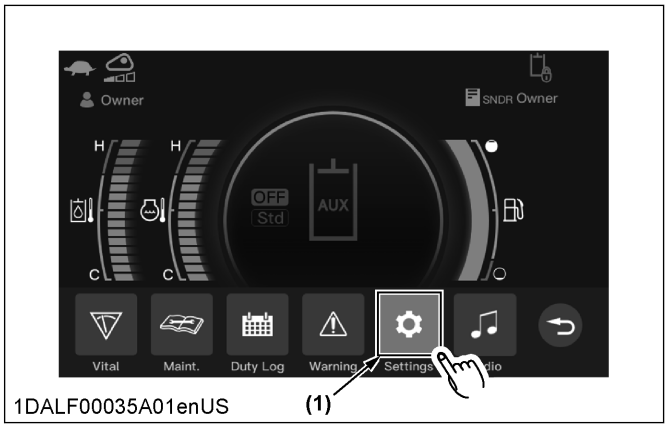
1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01 1DALF00018B00

(1) Home switch *(2) Menu icon*

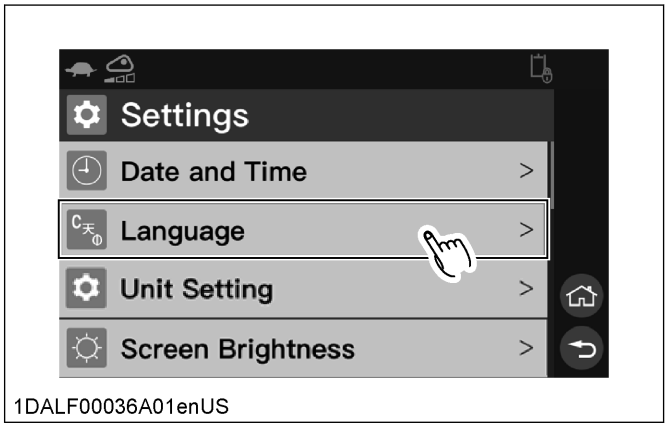
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.
   The list of settings appears on the display.



1DALF00035A01enUS

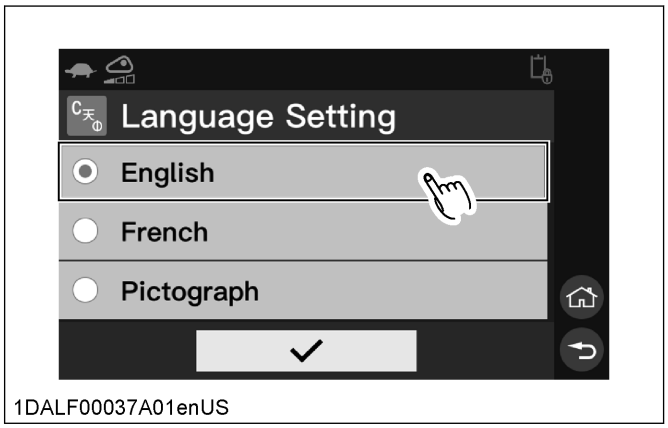
(1) Icon

3. Rotate the jog dial to select **[Language]**, and press the jog dial switch.
   For touch operation, touch **[Language]**.
   The list of languages appears on the display.



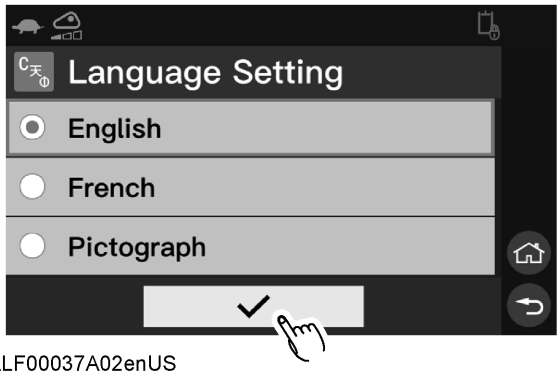
1DALF00036A01enUS

4. Rotate the jog dial to select the desired language, and press the jog dial switch.
   For touch operation, touch the desired language.



1DALF00037A01enUS

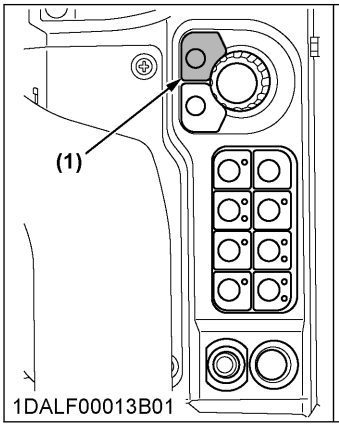
5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.
   The language setting is activated.



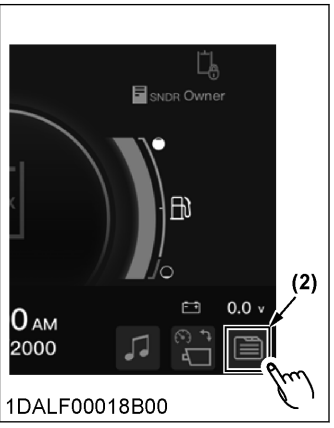
1DALF00037A02enUS

8. Unit setting

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

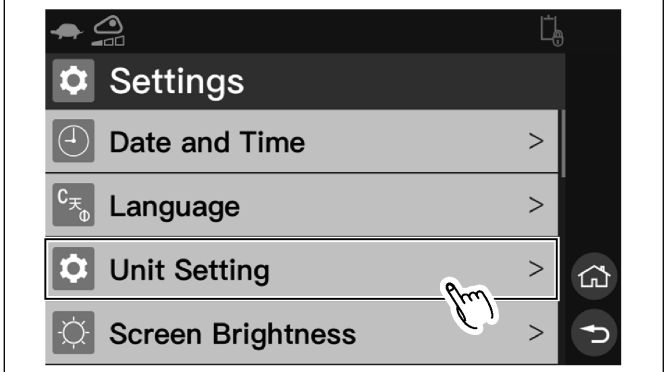
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

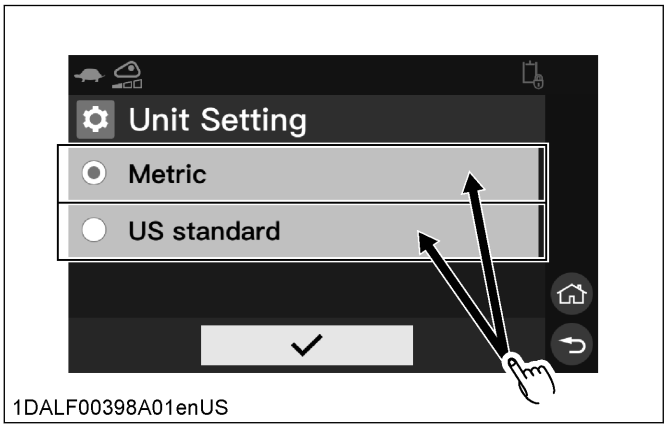
(1) Icon

3. Rotate the jog dial to select **[Unit Setting]**, and press the jog dial switch.
   For touch operation, touch **[Unit Setting]**.



1DALF00374A01enUS

4. Rotate the jog dial to select **[Metric]** or **[US standard]**, and press the jog dial switch.
   For touch operation, touch **[Metric]** or **[US standard]**.



1DALF00398A01enUS

5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.

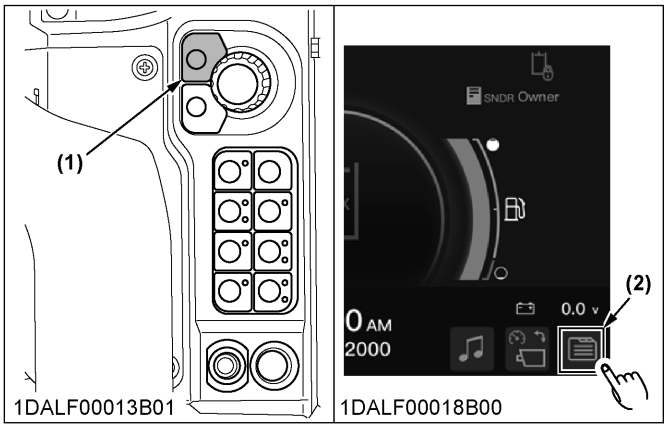
   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

9. Setting the display brightness

The display brightness can be set to one of 100 levels.

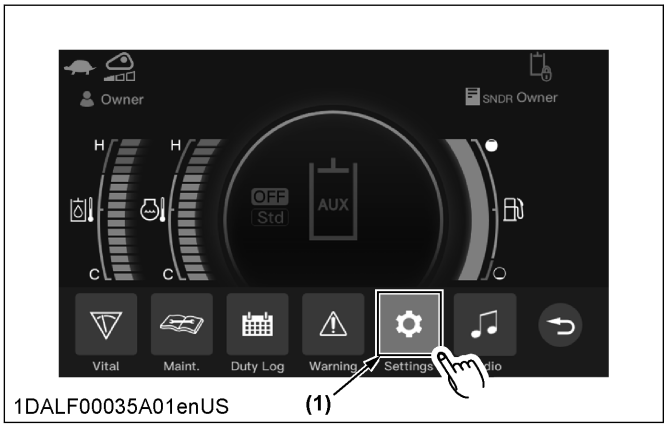
It is possible to register separate brightness settings for when the working light is on and when the working light is off.

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



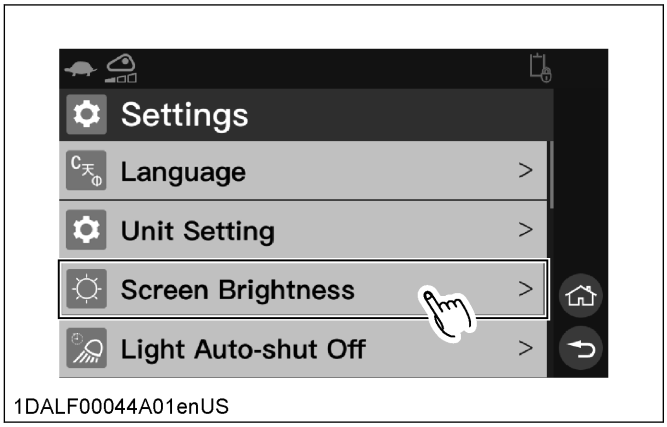
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

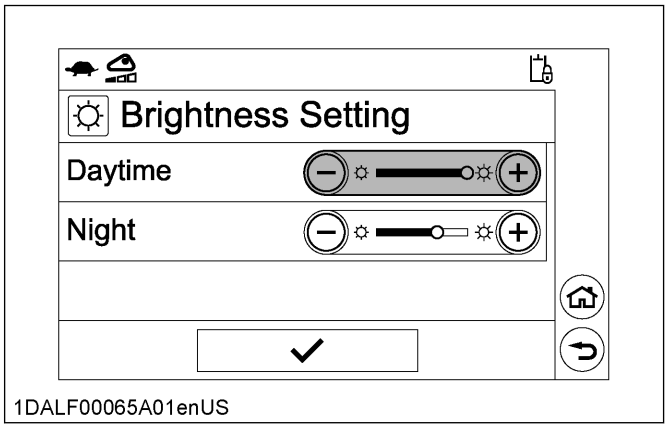


(1) Icon

3. Rotate the jog dial to select **[Screen Brightness]**, and press the jog dial switch.
   For touch operation, touch **[Screen Brightness]**.



4. Rotate the jog dial to select **[Daytime]** or **[Night]**, and press the jog dial switch.
5. Rotate the jog dial to the right or left to increase or decrease the display brightness, and press the jog dial switch to confirm the adjustment.
   For touch operation, touch **[+]** or **[-]** to increase or decrease the display brightness.



6. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

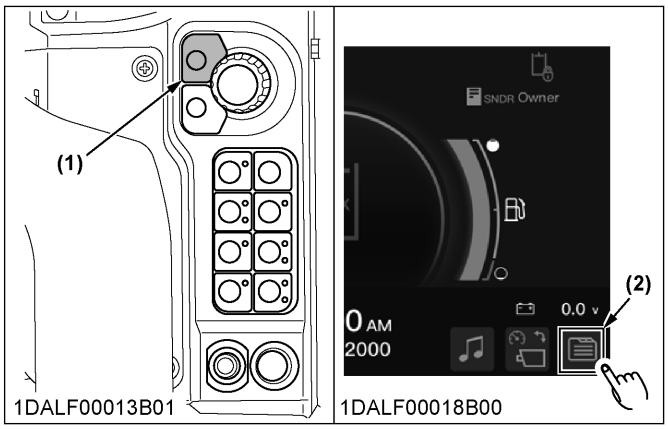
NOTE :
- **To retain the previous settings, press the return switch.**
  For touch operation, touch the return button.

10. Setting the work light turn-off delay function

NOTE :
- **This setting is available only when logged in with the owner account.**

The working light turn-off can be delayed for a given time after turning off the machine. The working light switch can be used to manually turn off the working light when the turn-off delay function is activated.

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



(1) Home switch *(2) Menu icon*

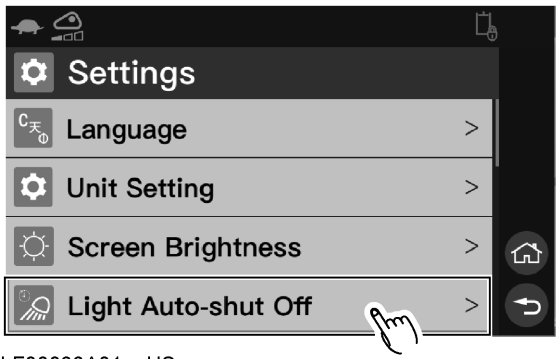
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

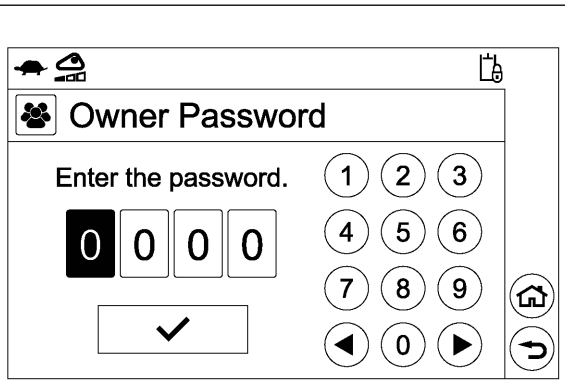
(1) Icon

3. Rotate the jog dial to select **[Light Auto-shut Off]**, and press the jog dial switch.
   For touch operation, touch **[Light Auto-shut Off]**.



1DALF00066A01enUS

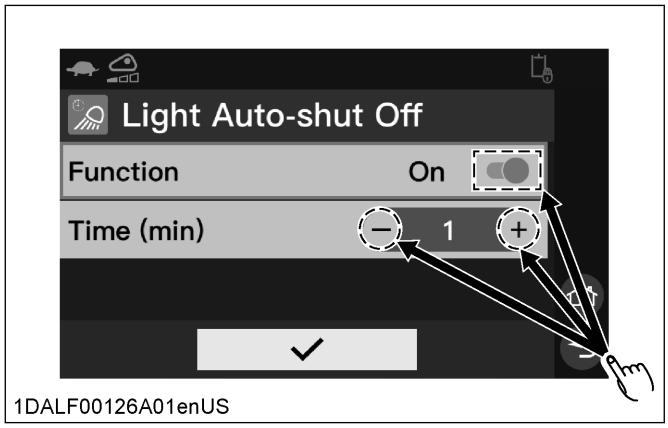
4. Enter the owner password.



1DALF00039A01enUS

5. Rotate the jog dial to select **[Function]** or **[Time (min)]**, and press the jog dial switch.
6. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the button, **[-]**, or **[+]** to select the desired setting.

NOTE :
- **[Function] must be set to [On] before the delay time can be set.**
- **If [Function] is set to [Off], you can not select [Time (min)].**
- **The delay time can be set in 1 minute increments from 1 to 20 minutes.**



1DALF00126A01enUS

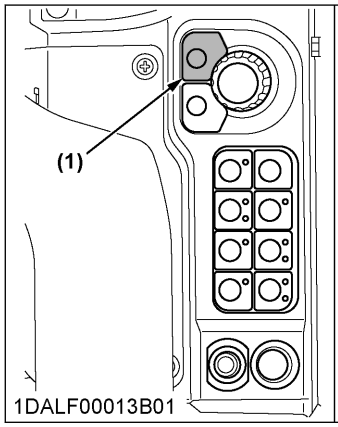
7. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

NOTE :
- **To retain the previous settings, press the return switch.**
  For touch operation, touch the return button.

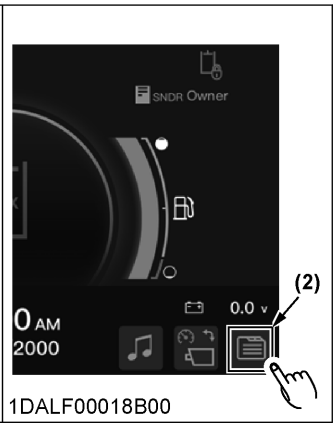
11. Setting the machine lockout

NOTE :
- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



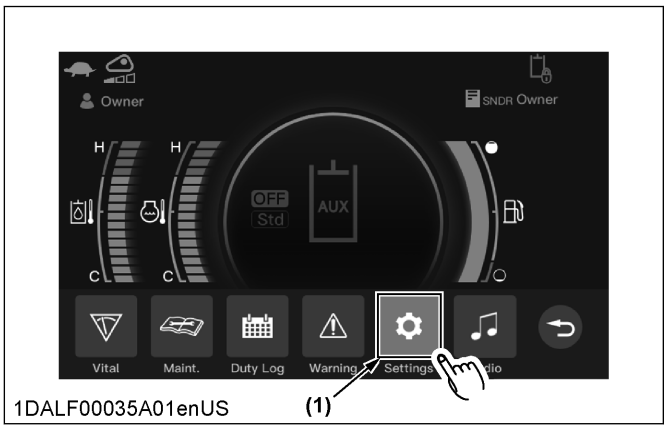
1DALF00013B01



1DALF00018B00

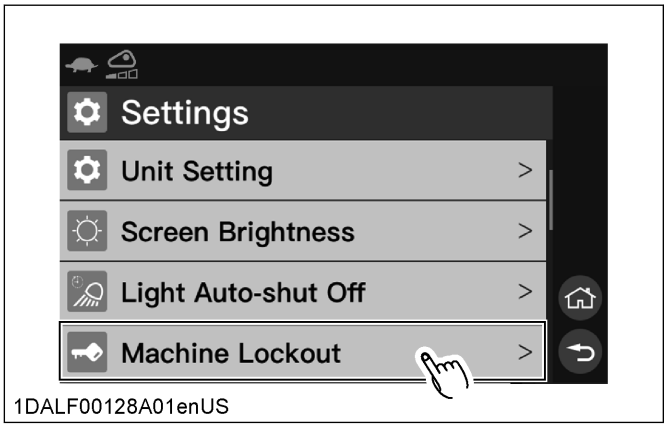
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

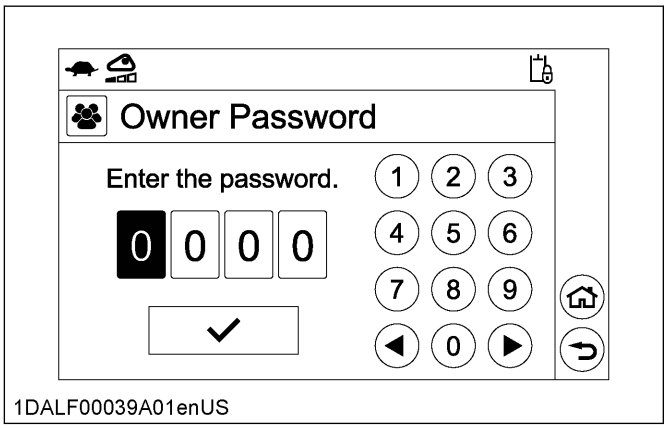


(1) Icon

3. Rotate the jog dial to select **[Machine Lockout]**, and press the jog dial switch.
   For touch operation, touch **[Machine Lockout]**.

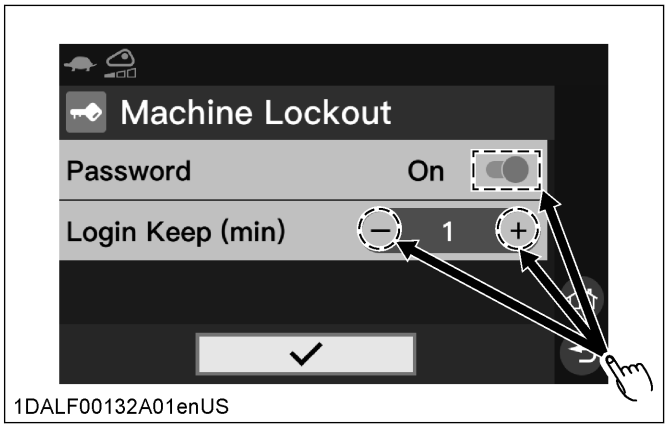


4. Enter the owner password.



5. Rotate the jog dial to select **[Password]** or **[Login Keep (min)]**, and press the jog dial switch.
6. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the button, **[-]**, or **[+]** to select the desired setting.

NOTE :
- **[Password] must be set to [On] before the login keep time can be set.**
- **If [Password] is set to [Off], you can not select [Login Keep (min)].**
- **The login keep time can be set in 1 minute increments from 0 to 20 minutes.**



7. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

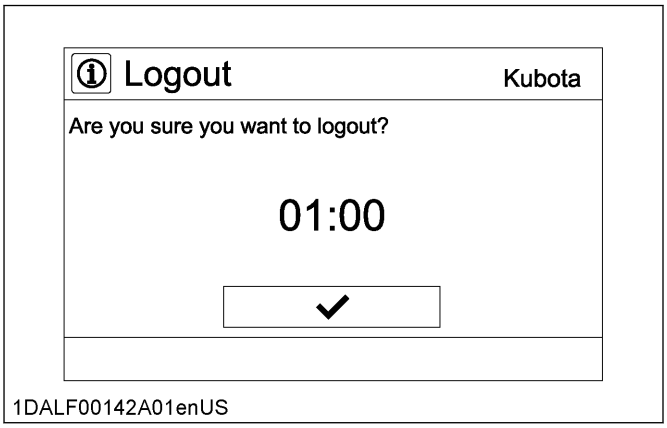
NOTE :
- **To retain the previous settings, press the return switch.**
- **For touch operation, touch the return button.**

If **[Password]** is set to **[On]**, the password entry screen is displayed when the start switch is pushed after logging out of the machine. The machine cannot be operated without entering the configured password.
(See Setting the user password on page 67)

11.1 How to use the machine lockout function

1. Press the start switch to change the start switch mode to *"OFF."*
   The login keep screen appears on the display.
2. The following operations are possible when the login keep screen is displayed.
   - When the start switch is pushed, the login status is retained and the machine can be operated again.
   - If you rotate the jog dial to select the icon **[✔]** and press the jog dial switch, you can log out of the machine immediately.
     For touch operation, touch the icon **[✔]**.

3. Log out of the machine after the set time has elapsed.

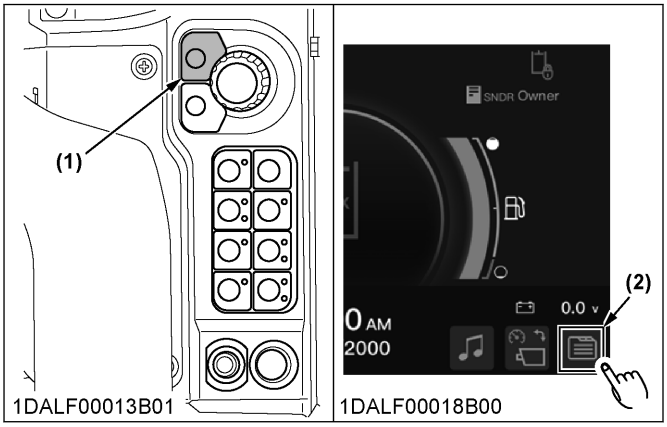


1DALF00142A01enUS

12. Setting the reversing fan (Option)

NOTE :
- **This setting is available only when logged in with the owner account.**

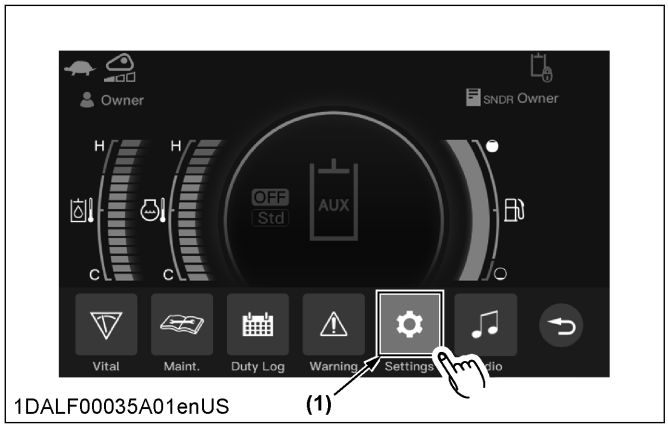
1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01 1DALF00018B00

(1) Home switch *(2) Menu icon*

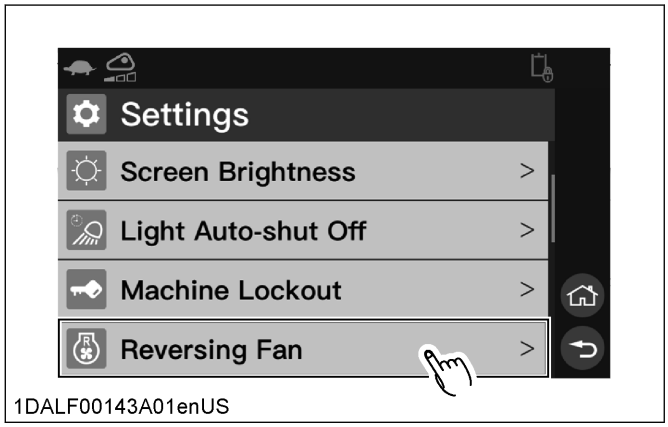
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

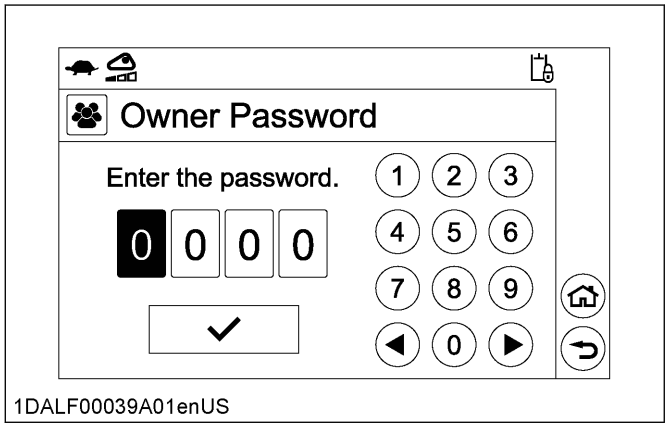
(1) Icon

3. Rotate the jog dial to select **[Reversing Fan]**, and press the jog dial switch.
   For touch operation, touch **[Reversing Fan]**.



1DALF00143A01enUS

4. Enter the owner password.

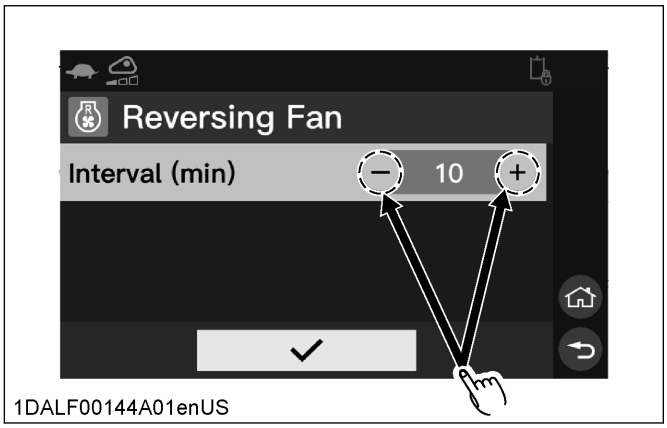


1DALF00039A01enUS

5. Rotate the jog dial to select **[Interval (min)]**, and press the jog dial switch.

6. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch **[-]**, or **[+]** to select the desired setting.

   NOTE :
   - **The interval of the reversing fan can be set in 5 minutes, 10 minutes, 20 minutes, 30 minutes, 40 minutes, 60 minutes, or 90 minutes.**
   - **As long as pressing the "manual" position of the reversing fan switch, the machine will reverse the fan regardless of the interval.**



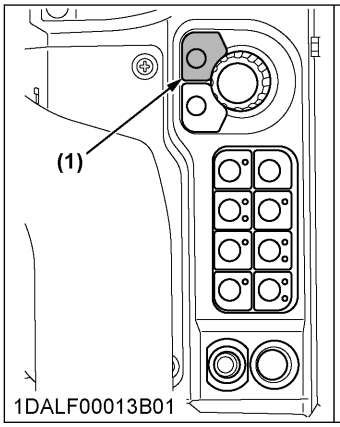
1DALF00144A01enUS

7. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting.
   For touch operation, touch the icon **[✔]**.

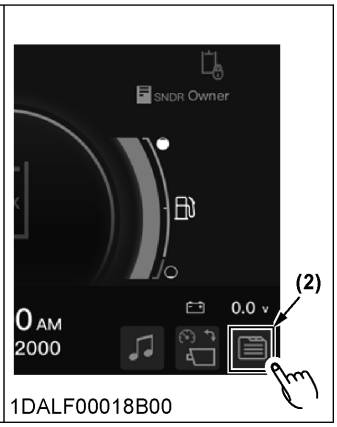
   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

13. Setting the track response

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



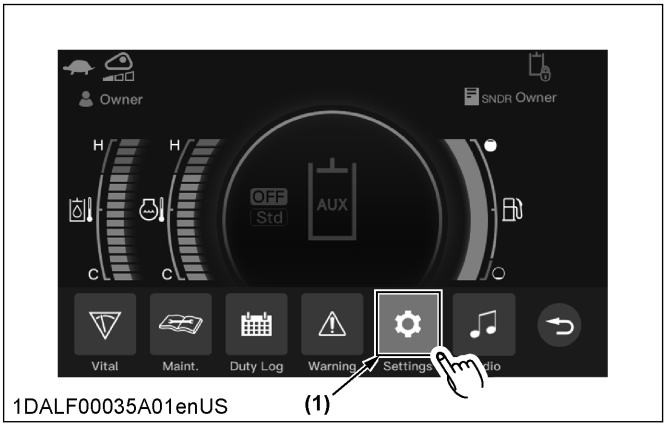
1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

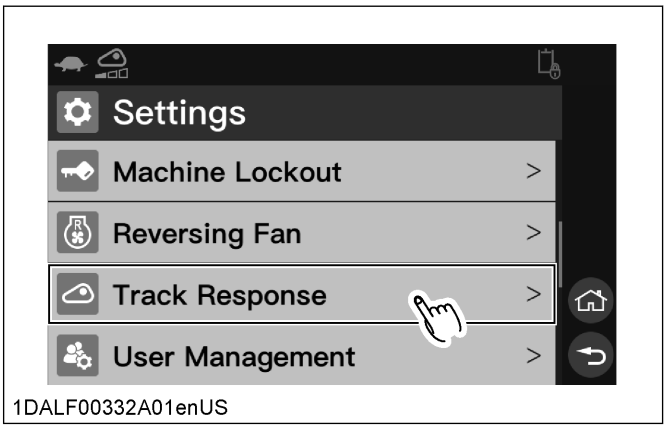
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.
   The list of settings appears on the display.



1DALF00035A01enUS

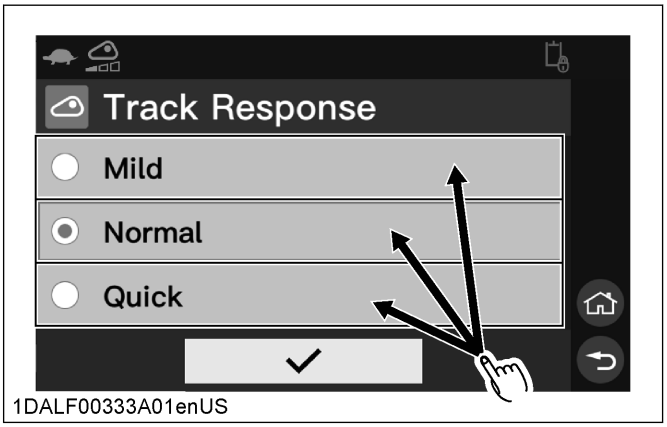
(1) Icon

3. Rotate the jog dial to select **[Track Response]**, and press the jog dial switch.
   For touch operation, touch **[Track Response]**.



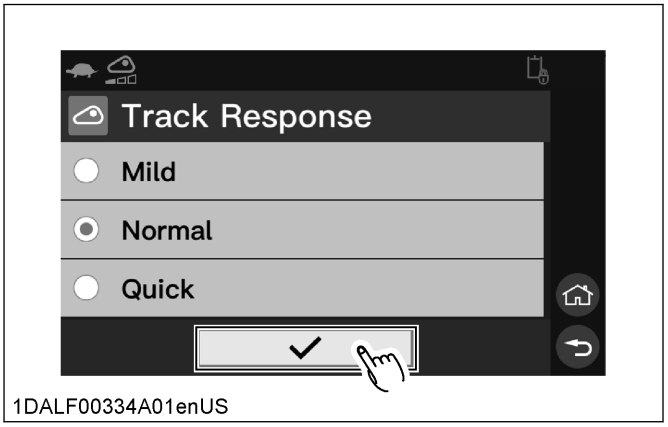
1DALF00332A01enUS

4. Rotate the jog dial to select the desired response, and press the jog dial switch.
   For touch operation, touch the desired response.

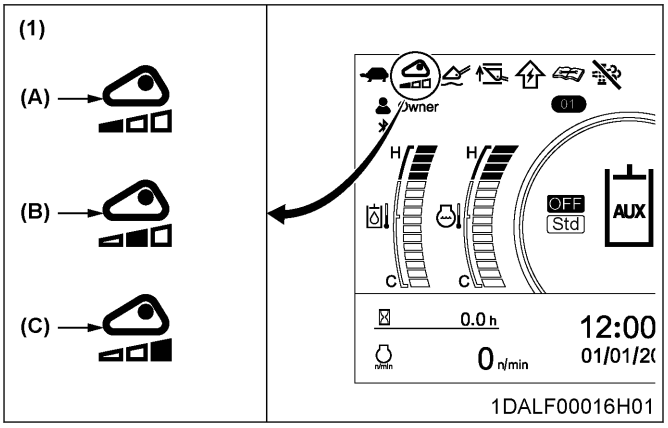


1DALF00333A01enUS

5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.
   The track response setting is activated.



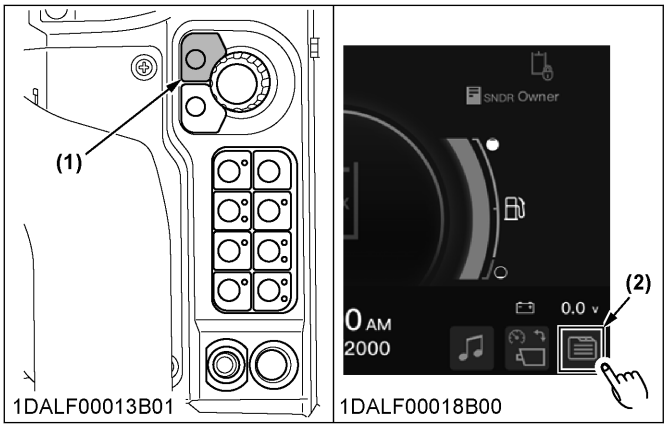
NOTE :
- **To retain the previous setting, press the return switch.**
  For touch operation, touch the return button.
- **If you touch the track response indicator on the home screen, the track response setting screen appears on the display.**
- **The track response indicator will change according to the track response setting as shown in the following figure.**



(1) Track response indicator
(A) Mild
(B) Normal
(C) Quick

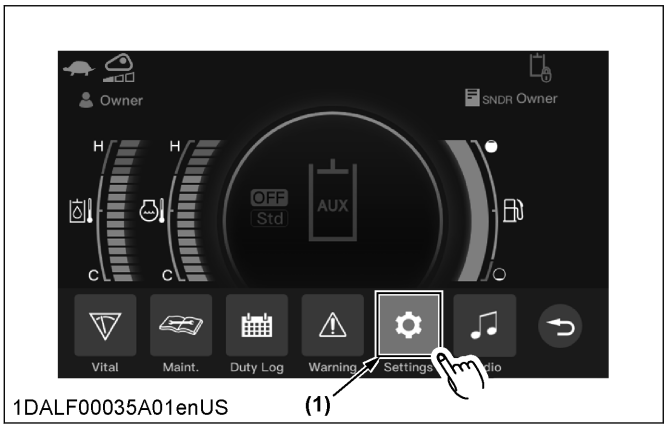
14. Setting the rearview camera

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



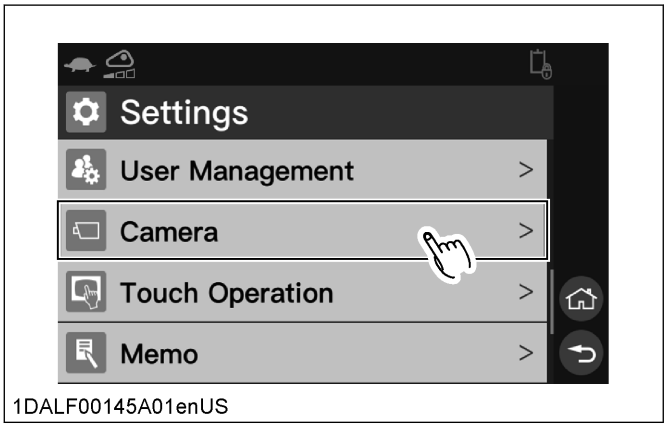
(1) Home switch
(2) Menu icon

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



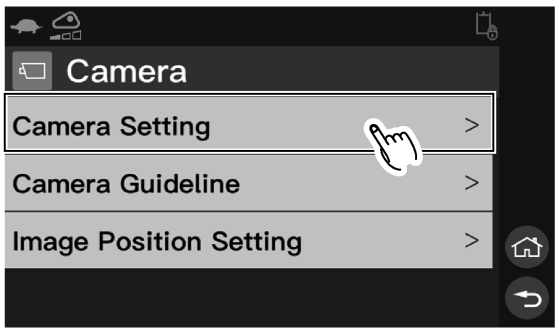
(1) Icon

3. Rotate the jog dial to select **[Camera]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[Camera]**.



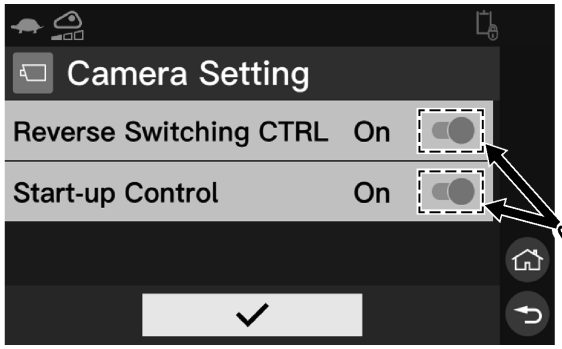
Setting for switching to the rearview camera screen

1. Rotate the jog dial to **[Camera Setting]**, and press the jog dial switch.
   For touch operation, touch **[Camera Setting]**.



1DALF00146A01enUS

2. Rotate the jog dial to select **[Reverse Switching CTRL]** or **[Start-up Control]**, and press the jog dial switch.
3. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the buttons to select the desired setting.



1DALF00147A01enUS

Function of [Reverse Switching CTRL]

[On]	The display automatically switches to the rearview camera screen when the machine moves backward.
[Off]	The display does not switch to the rear view camera screen when the machine moves backward.

Function of [Start-up Control]

[On]	If the rearview camera screen was displayed when the start switch was set to the *"OFF"* mode during the previous time, the rearview camera screen is displayed the next time when the start switch is set to the *"ACCESSORY"* mode.
[Off]	The home screen is always displayed when the start switch is set to the *"ACCESSORY"* mode.

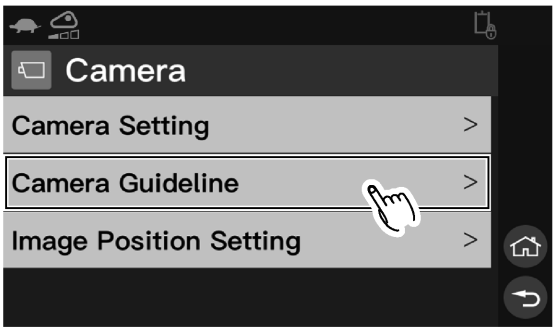
4. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting.
   For touch operation, touch the icon **[✔]**.

   NOTE :
   - **To retain the previous setting, press the return switch.**

   For touch operation, touch the return button.

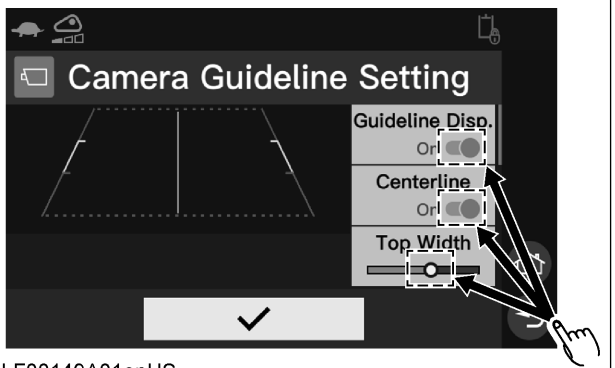
Setting of rearview camera screen

1. Rotate the jog dial to **[Camera Guideline]**, and press the jog dial switch.
   For touch operation, touch **[Camera Guideline]**.



1DALF00148A01enUS

2. Rotate the jog dial to select the item you wish to change or adjust, and press the jog dial switch.
3. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the buttons to select the desired setting, or slide the sliders to adjust the desired setting.



1DALF00149A01enUS

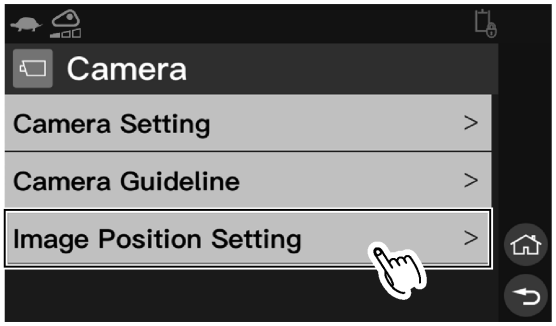
Item	Function
[Guideline Disp.]	Sets the display of guidelines to ON/OFF.
[Centerline]	Sets the display of center line of guidelines to ON/OFF.
[Top Width]	Sets the length of the top line (green dashed line) within the guidelines.
[Bottom Width]	Sets the length of the bottom line (red dashed line) within the guidelines.
[Top Hgt.]	Sets the vertical position of the top line (green dashed line) within the guidelines.
[Bottom Hgt.]	Sets the vertical position of the bottom line (red dashed line) within the guidelines.
[Yellow Hgt.]	Sets the length of the left and right lines (yellow line) within the guidelines.
[Red Hgt.]	Sets the length of the left and right lines (red line) within the guidelines.
[Restore default]	Return the camera guideline to the factory default settings.

4. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting.
   For touch operation, touch the icon **[✔]**.

   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

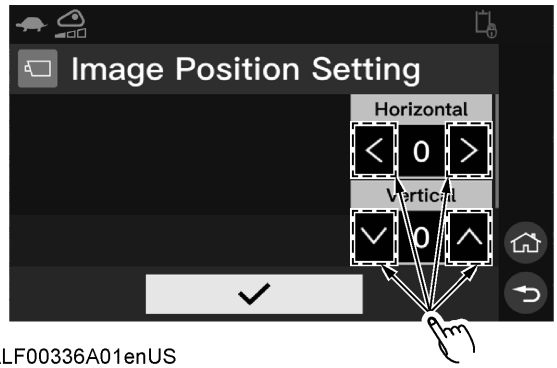
15. Setting the rearview camera image position

1. Rotate the jog dial to **[Image Position Setting]**, and press the jog dial switch.
   For touch operation, touch **[Image Position Setting]**.



1DALF00335A01enUS

2. Rotate the jog dial to select the item you wish to adjust, and press the jog dial switch.
3. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the buttons to select the desired setting, or slide the sliders to adjust the desired setting.



1DALF00336A01enUS

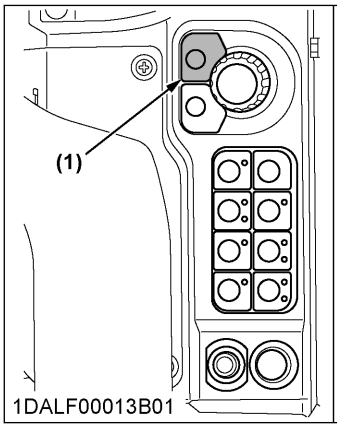
Item	Function
[Horizontal]	Sets the horizontal position of the rearview camera image.
[Vertical]	Sets the vertical position of the rearview camera image.
[Restore Default]	Return the rearview camera image position to the factory default settings.

4. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting.
   For touch operation, touch the icon **[✔]**.

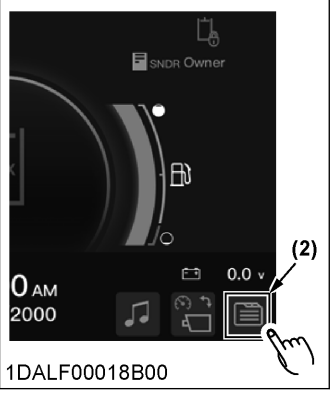
   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

16. Setting the restriction of the touch operation

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

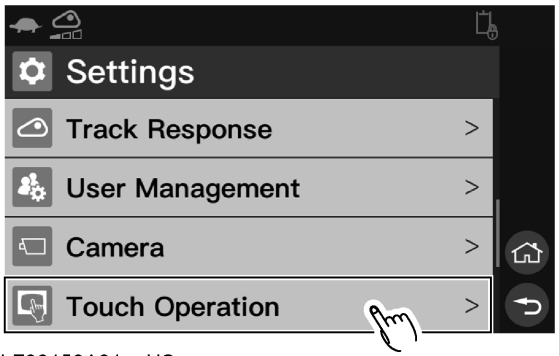
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

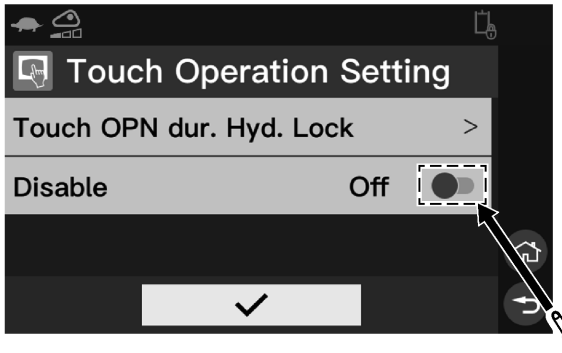
(1) Icon

3. Rotate the jog dial to select **[Touch Operation]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[Touch Operation]**.



1DALF00150A01enUS

4. Rotate the jog dial to select **[Disable]**, and press the jog dial switch.
5. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the button to select the desired setting.



1DALF00151A01enUS

Function of [Disable]

[On]	Touch operation is restricted at all times.
[Off]	Touch operation is available when the hydraulic system is locked.

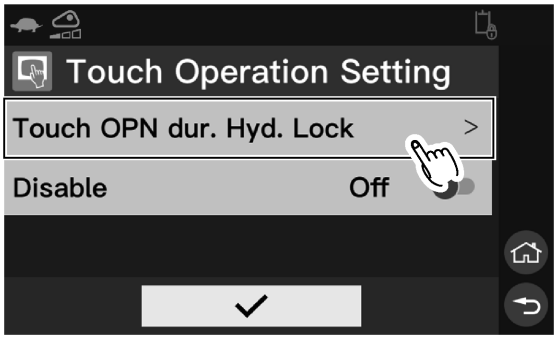
6. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting.
   For touch operation, touch the icon **[✔]**.

   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.
   - **Factory default setting of [Disable] is [Off].**

16.1 Setting the restriction of the touch operation during the hydraulic system locked

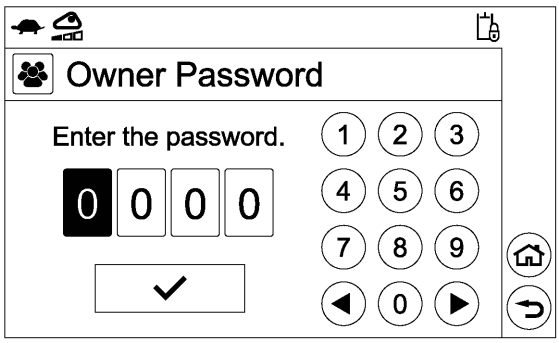
NOTE :
- **This setting is available only when logged in with the owner account.**

1. Make the touch operation setting screen appear on the display.
   (See Setting the restriction of the touch operation on page 61)
2. Rotate the jog dial to select **[Touch OPN dur. Hyd. Lock]**, and press the jog dial switch.
   For touch operation, touch **[Touch OPN dur. Hyd. Lock]**.



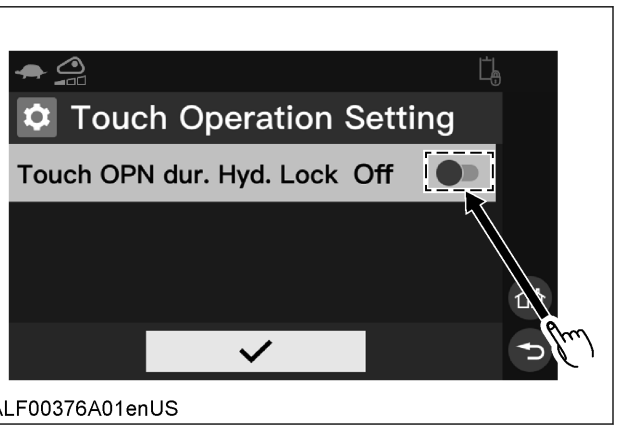
1DALF00151A02enUS

3. Enter the owner password.



1DALF00039A01enUS

4. Rotate the jog dial to select **[Touch OPN dur. Hyd. Lock]**, and press the jog dial switch.
5. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the button to select the desired setting.



1DALF00376A01enUS

Function of [Touch OPN dur. Hyd. Lock]

[On]	Touch operation is available when the hydraulic system is unlocked.
[Off]	Touch operation is restricted when the hydraulic system is unlocked.

6. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new setting. For touch operation, touch the icon **[✔]**.

   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

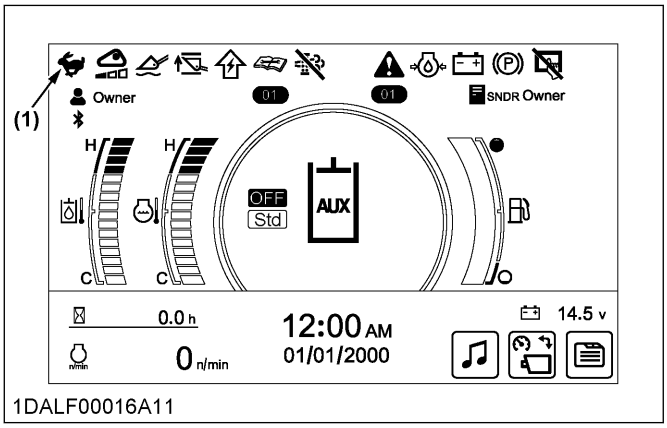
17. Auto shift adjustment

⚠ WARNING
To avoid personal injury or death:

- **If the machine moves forward or backward while setting, return the left control lever to the neutral position and stop the engine immediately.**

NOTE :
- **This setting is available only when logged in with the owner account.**

The travel speed automatically changes into first speed (low speed) when the drive resistance increases while traveling in second speed (high speed). Thereafter, when the resistance decreases, it returns to second speed. When the travel speed changes into first speed (low speed) automatically, the speed indicator blinks.

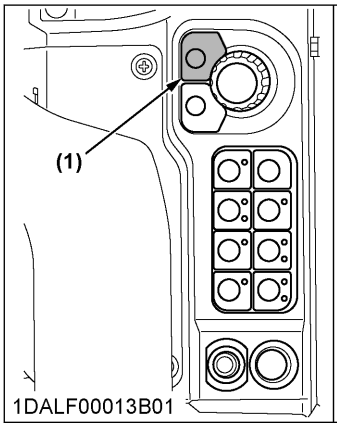


1DALF00016A11

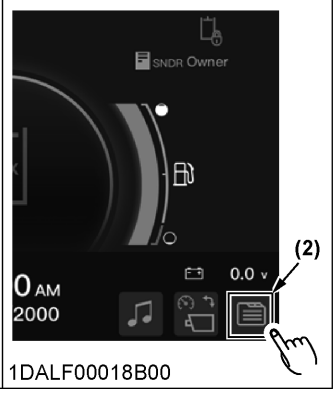
(1) Speed indicator

If you feel that the effect of automatic deceleration has become poor when the machine is in use, the machine can be returned to its original condition at the time of purchase.

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

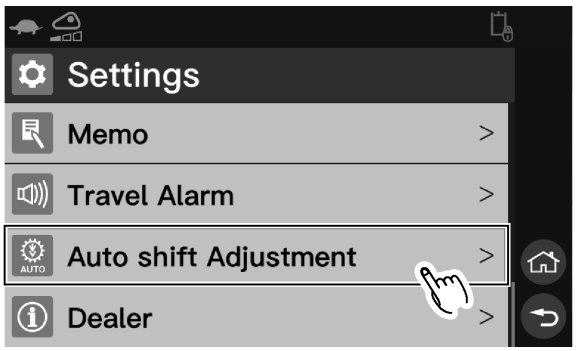
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

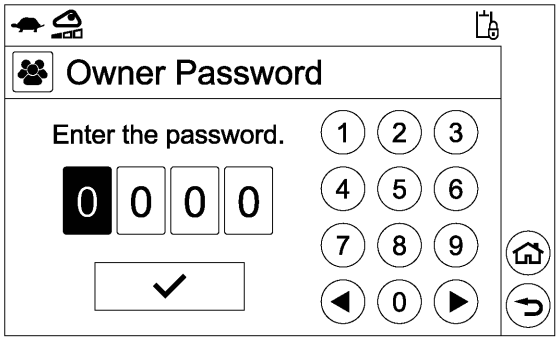
(1) Icon

3. Rotate the jog dial to select **[Auto shift Adjustment]**, and press the jog dial switch.
   For touch operation, touch **[Auto shift Adjustment]**.



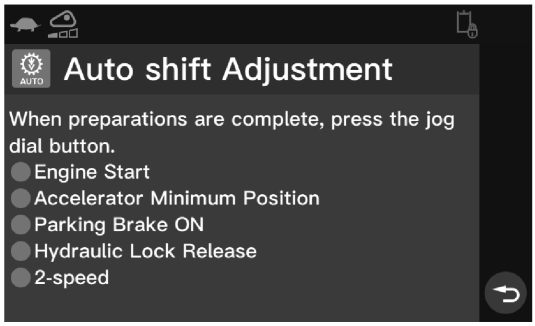
1DALF00377A01enUS

4. Enter the owner password.

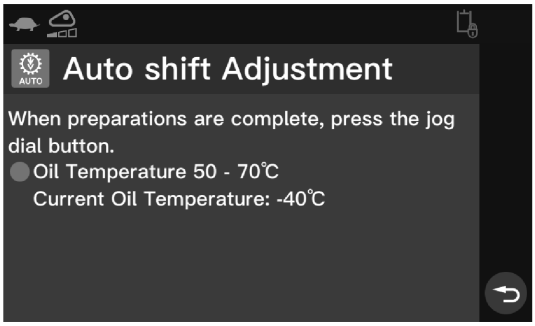


1DALF00039A01enUS

5. Perform the following operations following the instructions on the screen.
   a. Start the engine.
   b. Rotate the engine speed control dial to the leftmost (minimum) position, and release the accelerator pedal.
   c. Set the parking brake.
   d. Enable the hydraulic system.
   e. Let the engine warm up after start-up to raise the hydraulic oil temperature to 50 ℃ (122 ℉) or higher.
      After operation, press the jog dial switch.



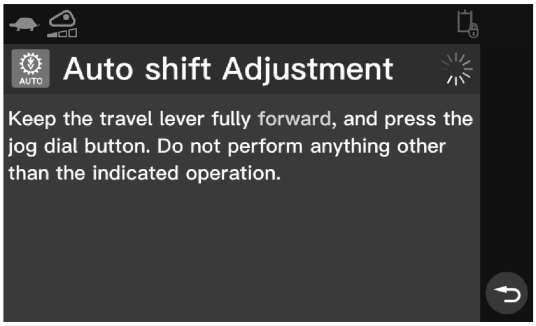
1DALF00399A01enUS



1DALF00400A01enUS

6. When the following screen is displayed, press the jog dial switch again while pushing the left control (traveling) lever to the fully forward position. The machine starts the adjustment.

   NOTE :
   - **The icon on the screen rotates while the machine is being adjusted. At this time, the engine speed increases and enters high idle state in approximately 20 seconds.**
   - **Operate the left control (traveling) lever straight forward. If the left control (traveling) lever is tilted to the left or right, it cannot be set correctly.**



1DALF00401A01enUS

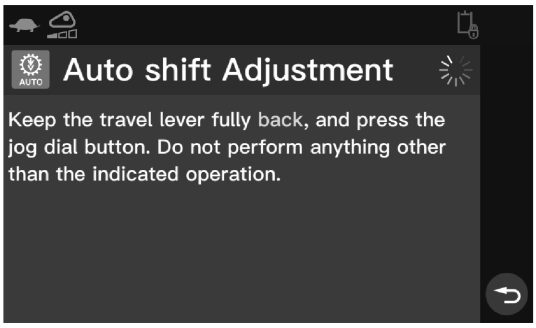
7. When the following screen is displayed, return the left control (traveling) lever to the neutral position and press the jog dial switch again.



1DALF00402A01enUS

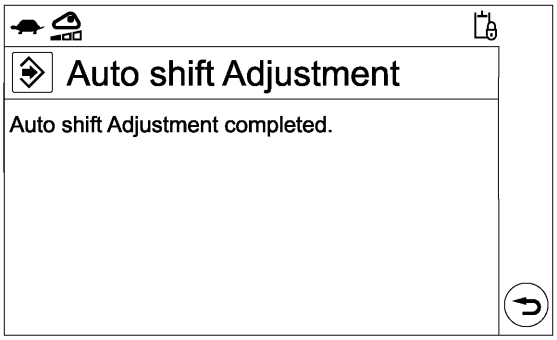
8. When the following screen is displayed, press the jog dial switch again while pulling the left control (traveling) lever to the fully backward position. The machine starts the adjustment.

   NOTE :
   - **The icon on the screen rotates while the machine is being adjusted. At this time, the engine speed increases and enters high idle state in approximately 20 seconds.**
   - **Operate the left control (traveling) lever straight backward. If the left control (traveling) lever is tilted to the left or right, it cannot be set correctly.**



1DALF00403A01enUS

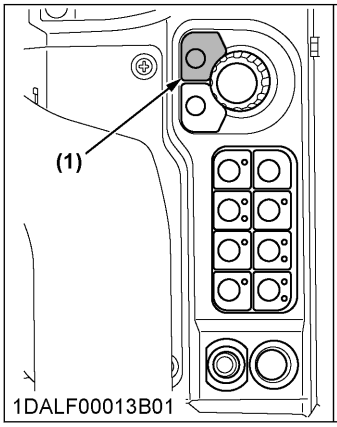
9. The adjustment is complete when the following screen is displayed.
   After setting, return left control (traveling) lever to the neutral position.



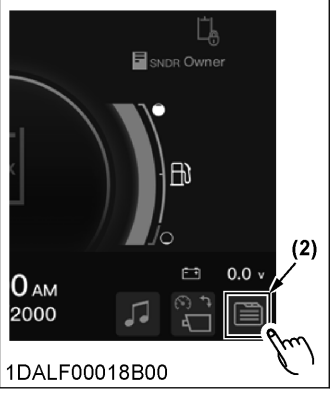
1DALF00156A01enUS

18. Setting the user name

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

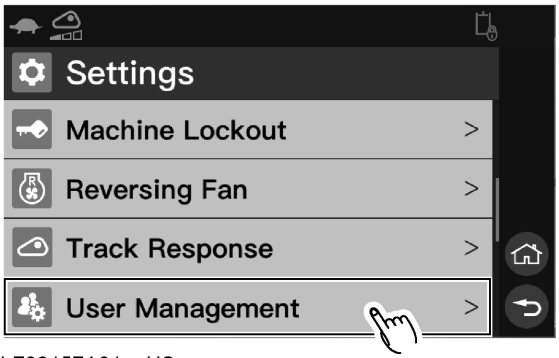
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

(1) Icon

3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.

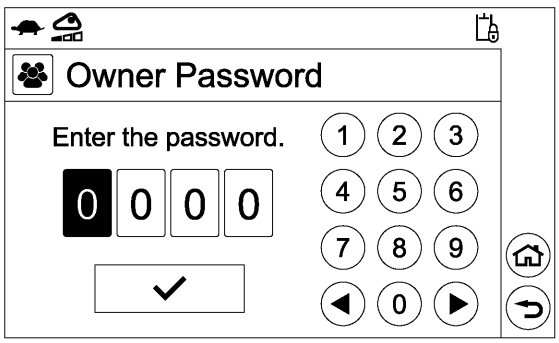


1DALF00157A01enUS

4. Enter the owner password.

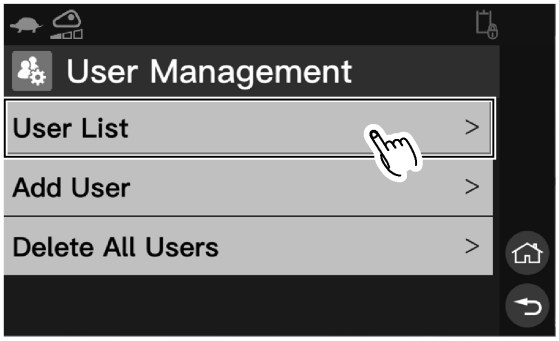
NOTE :

- **If you log in with an account other than the owner account, the [User Settings] screen will be displayed. See step 7 onwards.**



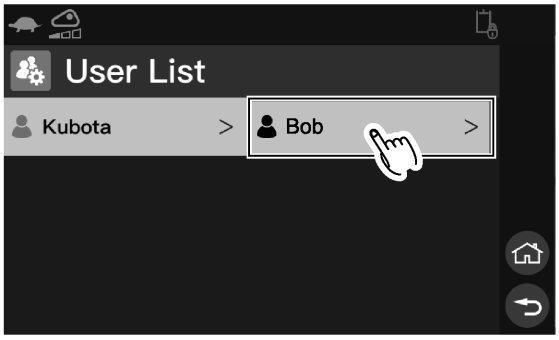
1DALF00039A01enUS

5. Rotate the jog dial to select **[User List]**, and press the jog dial switch.
   For touch operation, touch **[User List]**.



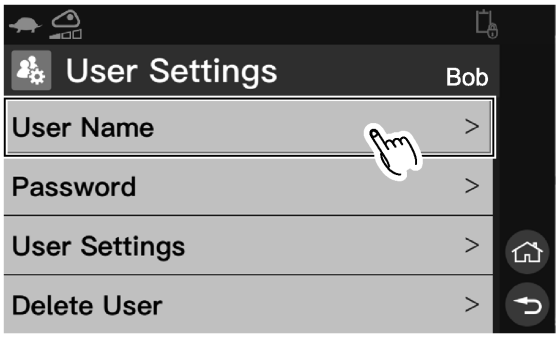
1DALF00158A01enUS

6. Rotate the jog dial to select the user you wish to change the name, and press the jog dial switch.
   For touch operation, touch the user you wish to change the name.



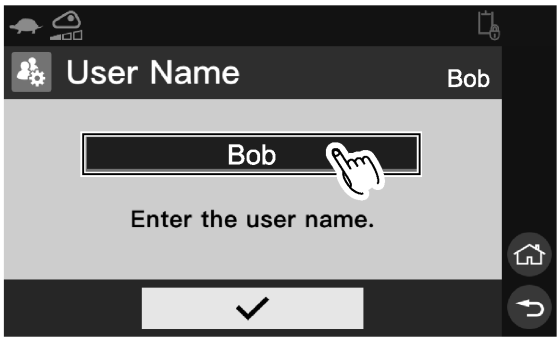
1DALF00159A01enUS

7. Rotate the jog dial to select **[User Name]**, and press the jog dial switch.
   For touch operation, touch **[User Name]**.



1DALF00160A01enUS

8. Rotate the jog dial to select the user name entry field, and press the jog dial switch. The keyboard appears on the screen.
   For touch operation, touch the user name entry field.



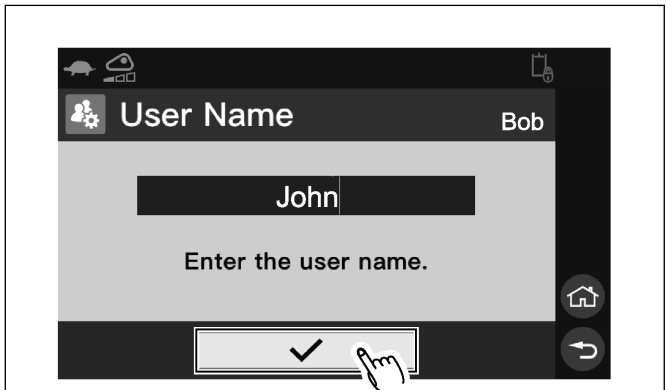
1DALF00161A01enUS

9. Rotate the jog dial left or right to select the characters you want to enter, and press the jog dial switch to enter the user name.
   For touch operation, touch the characters you want to enter.
10. Rotate the jog dial to select the icon **[⟵]**, and press the jog dial switch to save the new settings.
    For touch operation, touch the icon **[⟵]**.



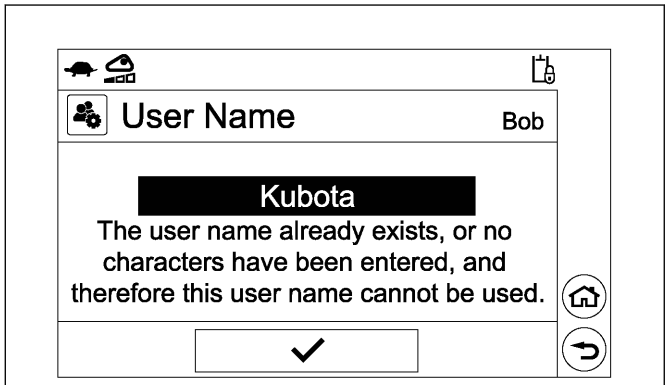
1DALF00162A01enUS

11. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
    For touch operation, touch the icon **[✔]**.



1DALF00163A01enUS

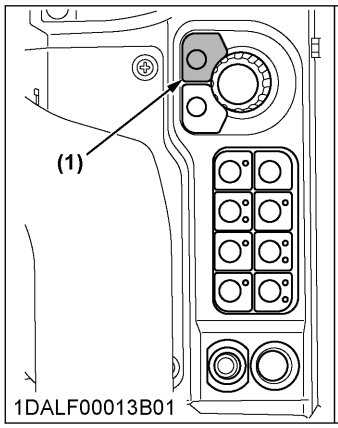
NOTE :
- **To retain the previous settings, rotate the jog dial to the return button, and press the jog dial switch.**
  For touch operation, touch the return button
- **You cannot set a user name that has already been registered. The following screen is displayed if you enter an already registered user name.**



1DALF00164A01enUS

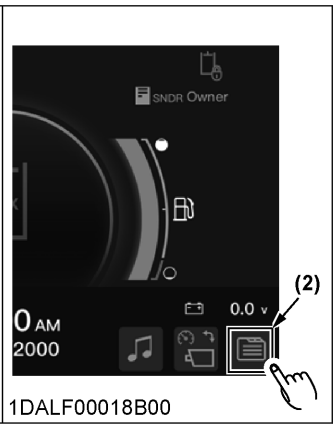
19. Setting the user password

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01

(1) Home switch



1DALF00018B00

(2) Menu icon

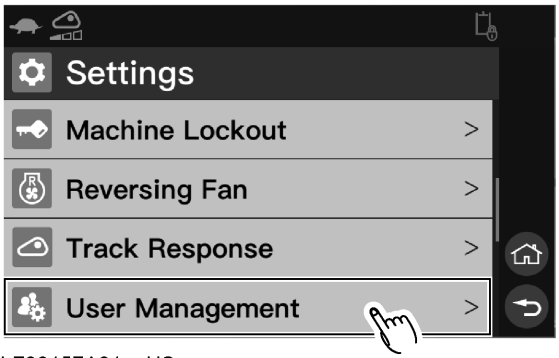
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.



1DALF00035A01enUS

(1) Icon

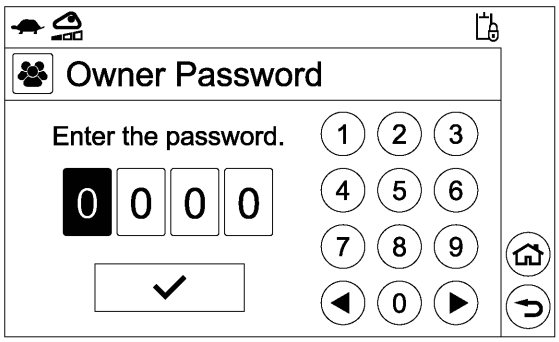
3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.



1DALF00157A01enUS

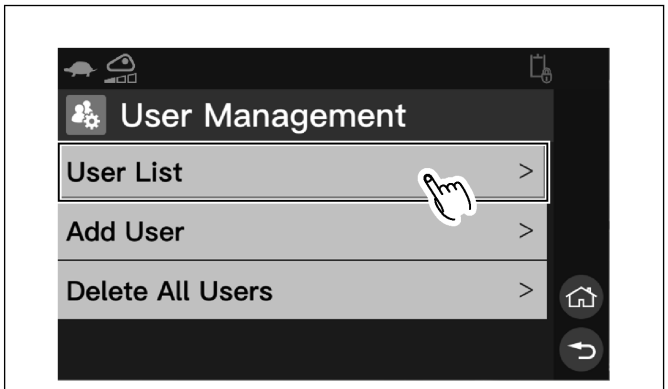
4. Enter the owner password.

   NOTE :
   - **If you log in with an account other than the owner account, the [User Settings] screen will be displayed. See step 7 onwards.**



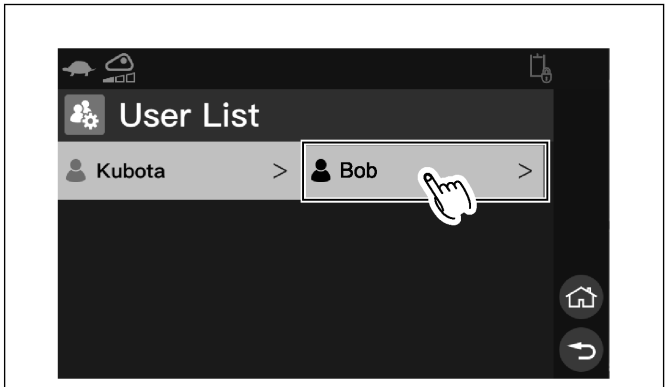
1DALF00039A01enUS

5. Rotate the jog dial to select **[User List]**, and press the jog dial switch.
   For touch operation, touch **[User List]**.



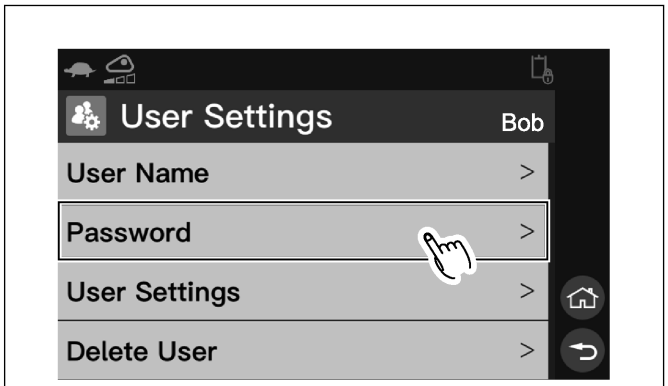
1DALF00158A01enUS

6. Rotate the jog dial to select the user you wish to change the password, and press the jog dial switch.
   For touch operation, touch the user you wish to change the password.



1DALF00159A01enUS

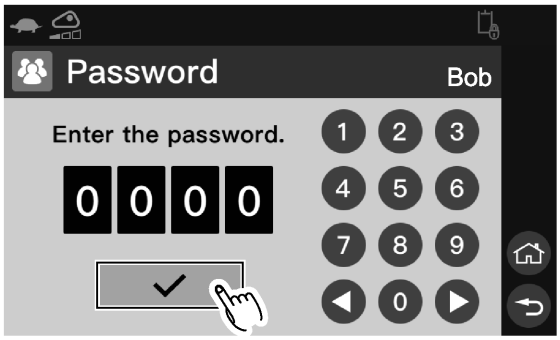
7. Rotate the jog dial to select **[Password]**, and press the jog dial switch.
   For touch operation, touch **[Password]**.



1DALF00165A01enUS

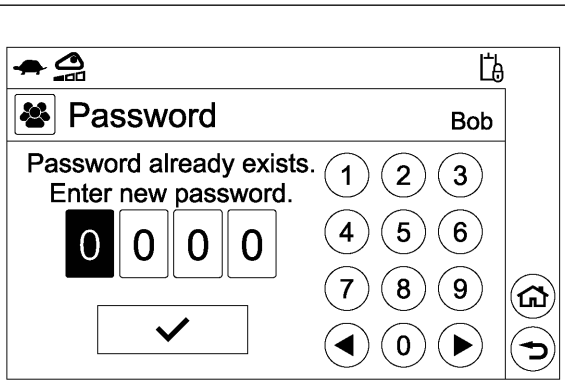
8. Rotate the jog dial left or right to select the number you want to enter, and press the jog dial switch to enter the password.
   For touch operation, touch the numbers you want to enter.

9. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.



1DALF00166A01enUS

NOTE :
- **You cannot set a password that has already been registered. The following screen is displayed if you enter an already registered password.**

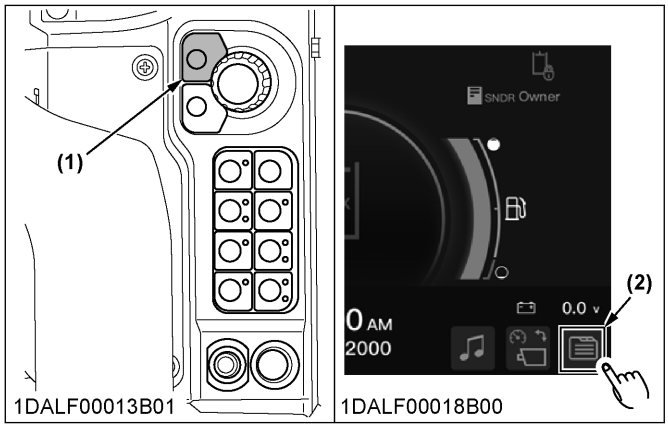


1DALF00167A01enUS

20. Setting function restrictions for each user

NOTE :
- **This setting is available only when logged in with the owner account.**

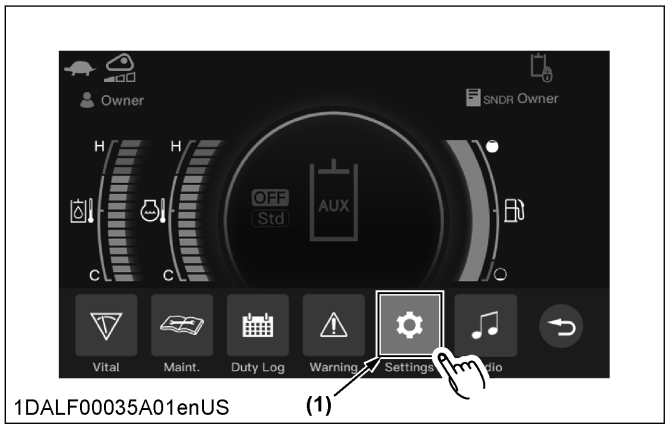
1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01 1DALF00018B00

(1) Home switch *(2) Menu icon*

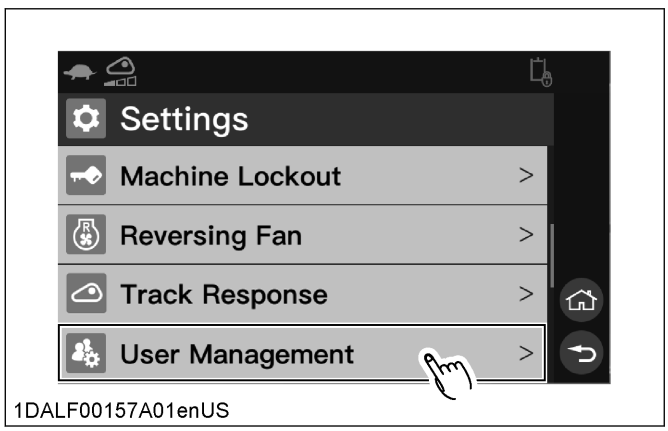
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

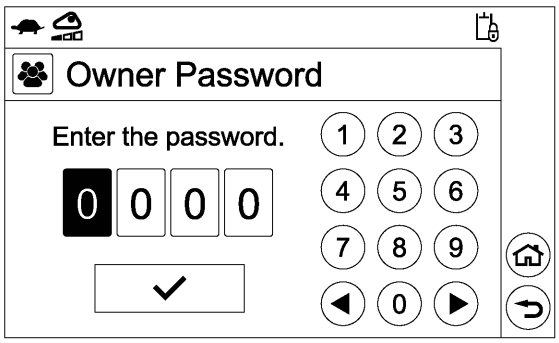
(1) Icon

3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.



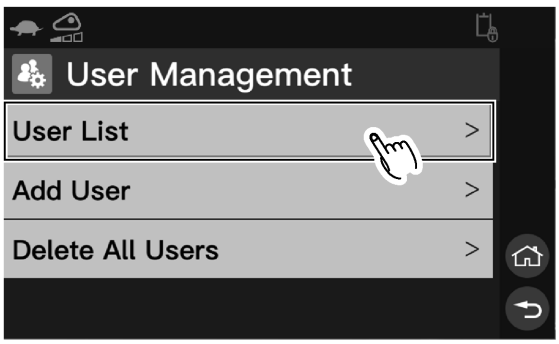
1DALF00157A01enUS

4. Enter the owner password.



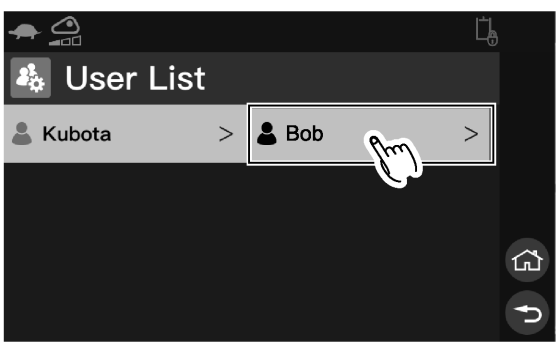
1DALF00039A01enUS

5. Rotate the jog dial to select **[User List]**, and press the jog dial switch.
   For touch operation, touch **[User List]**.



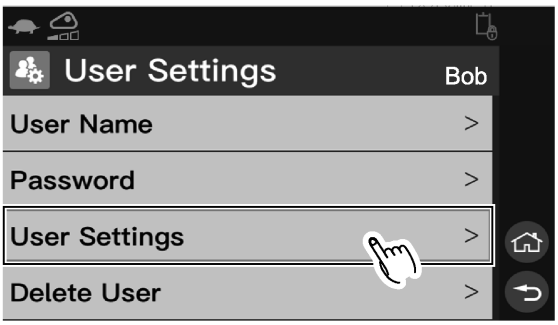
1DALF00158A01enUS

6. Rotate the jog dial to select the user you wish to set the restriction, and press the jog dial switch.
   For touch operation, touch the user you wish to set the restriction.



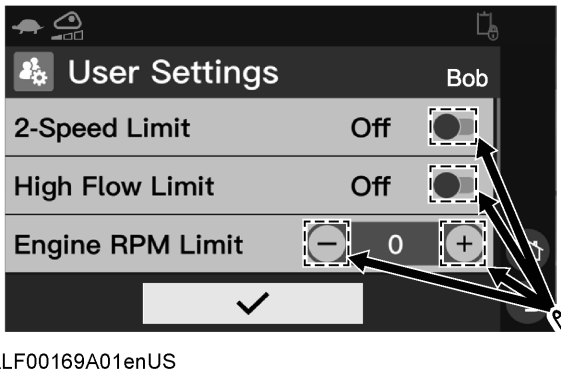
1DALF00159A01enUS

7. Rotate the jog dial to select **[User Settings]**, and press the jog dial switch.
   For touch operation, touch **[User Settings]**.



1DALF00168A01enUS

8. Rotate the jog dial to the right or left to select the desired setting, and press the jog dial switch to confirm the selection.
   For touch operation, touch the buttons, **[-]**, or **[+]** to select the desired setting.



1DALF00169A01enUS

Item	Function
[2-Speed Limit]	When set to **[On]**, shifting to 2-speed is not possible.
[High Flow Limit]	When set to **[On]**, shifting to High Flow mode is not possible.
[Engine RPM Limit]	Subtracts 0 rpm to 400 rpm from the maximum engine speed limit.
[Touch OPN dur. Hyd. Lock]	When set to **[On]**, touch operation is possible even when the hydraulic lock is released.
[Maint. Intvl. Reset Limit]	When set to **[On]**, the periodic check can be reset.

9. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

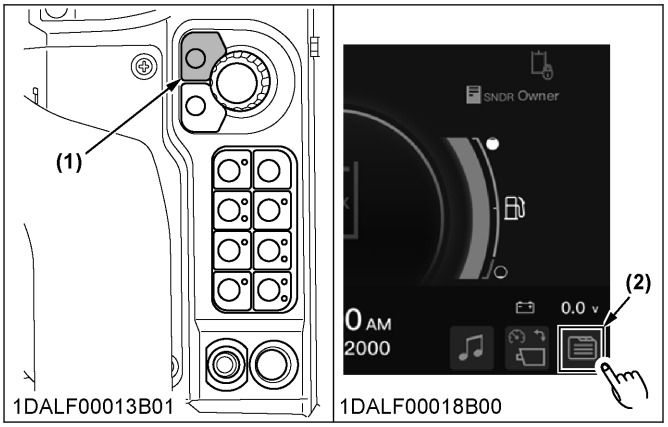
   NOTE :
   - **To retain the previous setting, press the return switch.**
     For touch operation, touch the return button.

21. Adding the user account

NOTE :

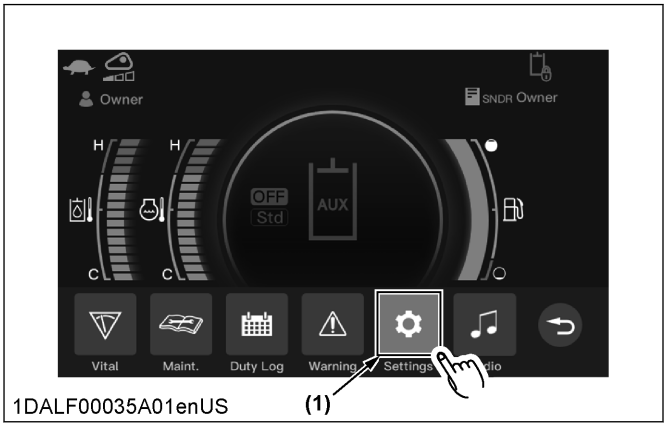
- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



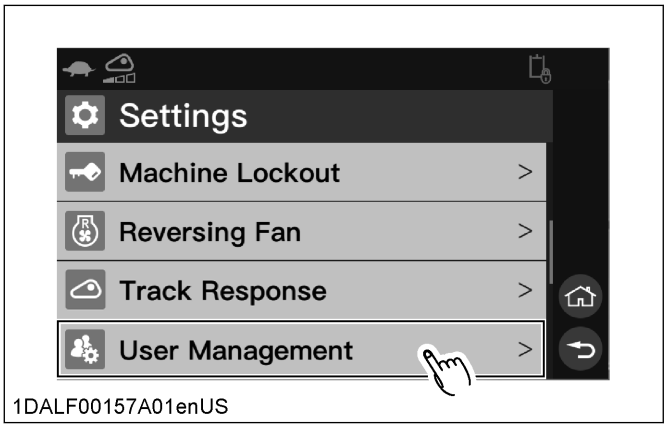
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

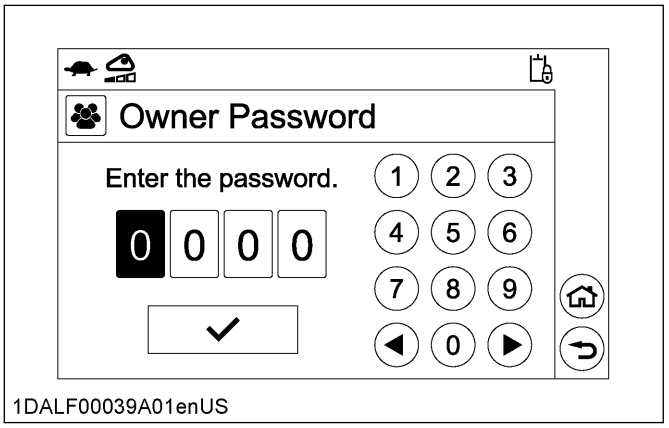


(1) Icon

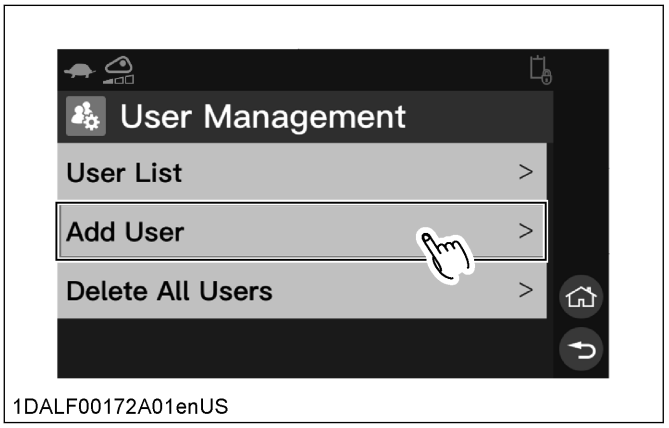
3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.



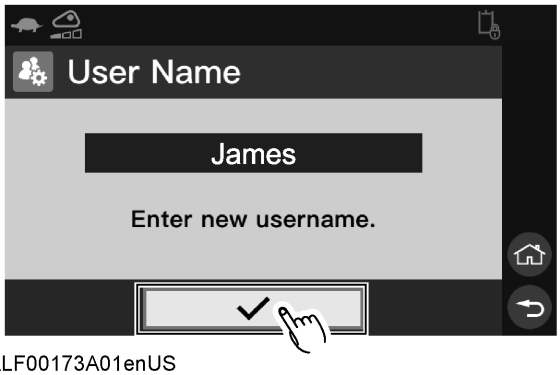
4. Enter the owner password.



5. Rotate the jog dial to select **[Add User]**, and press the jog dial switch.
   For touch operation, touch **[Add User]**.

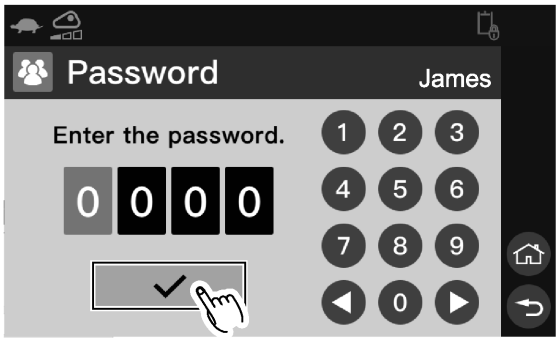


6. Enter the user name.
   (See Setting the user name on page 65)



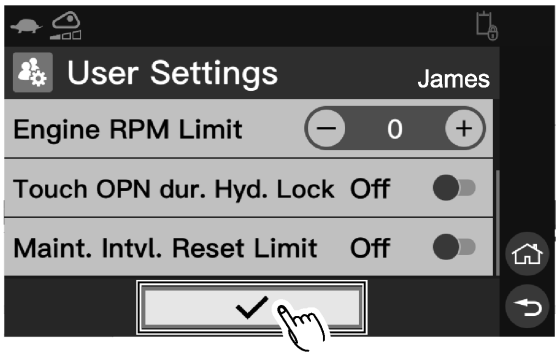
1DALF00173A01enUS

7. Set the password.
   (See Setting the user password on page 67)



1DALF00174A01enUS

8. Set the user function restrictions.
   (See Setting function restrictions for each user on page 69)
9. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

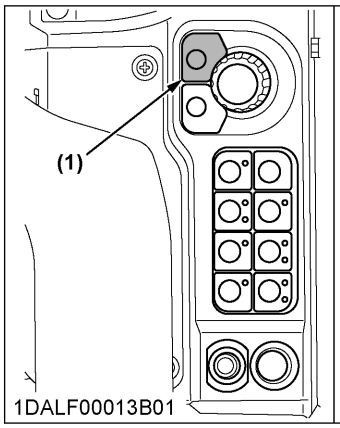


1DALF00175A01enUS

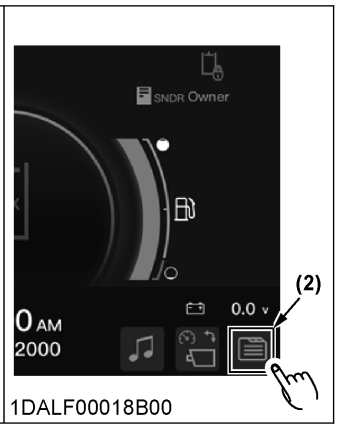
22. Deleting the user account

NOTE :
- **This setting is available only when logged in with the owner account.**
- **Deleting a user account also deletes the user's log record.**
  (See Log record on page 46)

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



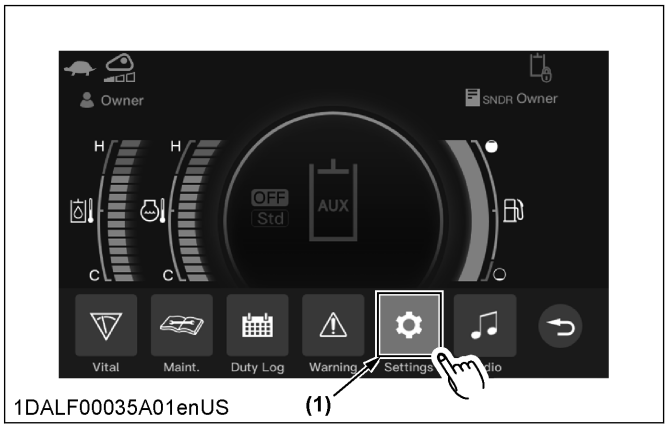
1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

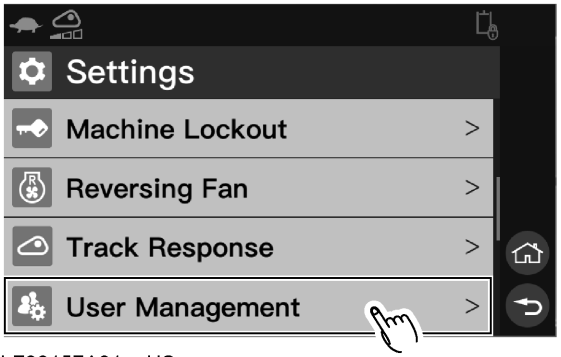
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

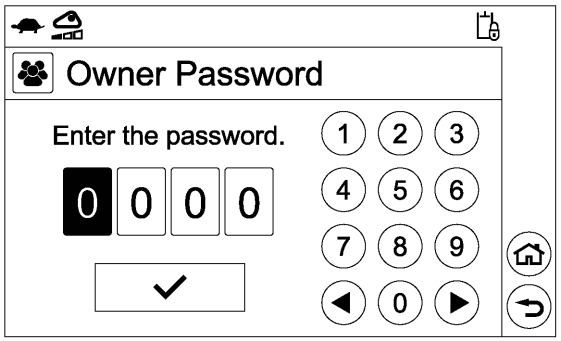
(1) Icon

3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.



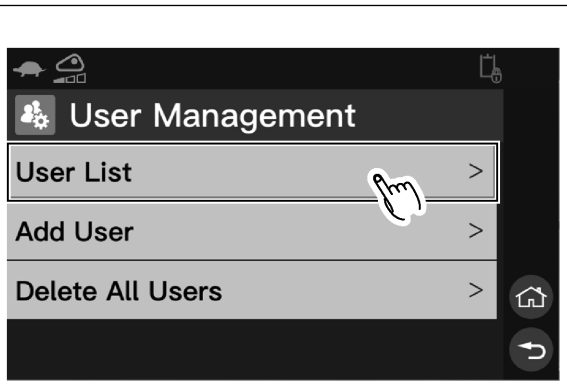
1DALF00157A01enUS

4. Enter the owner password.



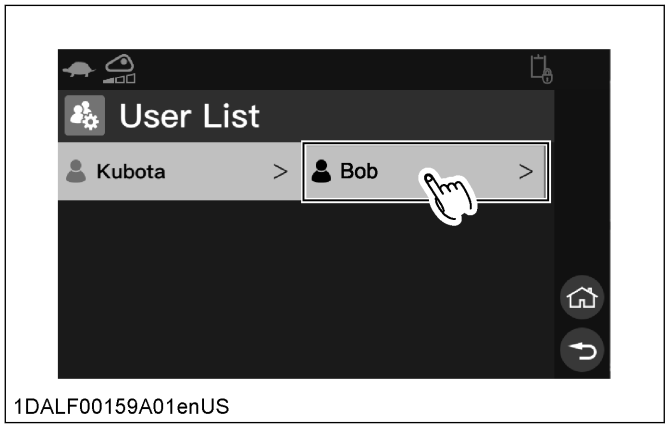
1DALF00039A01enUS

5. Rotate the jog dial to select **[User List]**, and press the jog dial switch.
   For touch operation, touch **[User List]**.



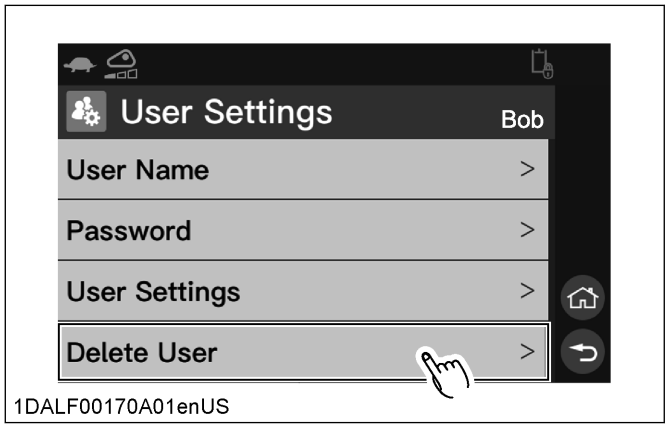
1DALF00158A01enUS

6. Rotate the jog dial to select the user account you wish to delete, and press the jog dial switch.
   For touch operation, touch the user account you wish to delete.



1DALF00159A01enUS

7. Rotate the jog dial to select **[Delete User]**, and press the jog dial switch.
   For touch operation, touch **[Delete User]**.



1DALF00170A01enUS

8. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to delete the user account.
   For touch operation, touch the icon **[✔]**.



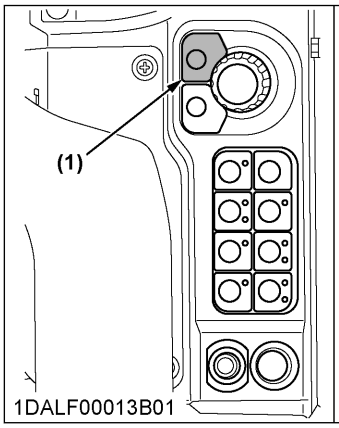
1DALF00171A01enUS

23. Deleting all user account

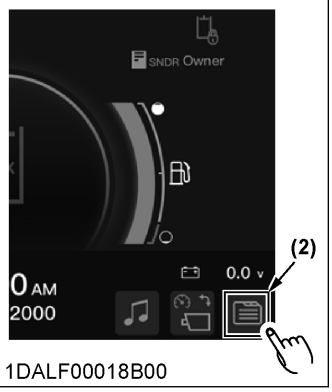
NOTE :

- **This setting is available only when logged in with the owner account.**
- **Deleting a user account also deletes the user's log record.**
  (See Log record on page 46)

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

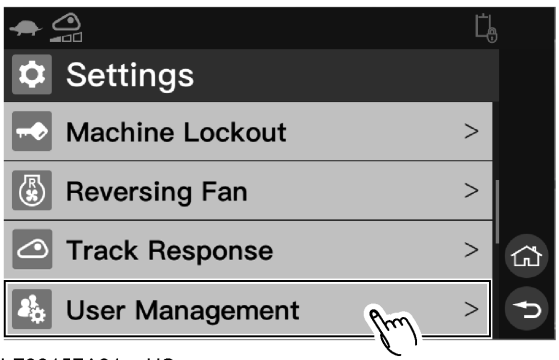
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

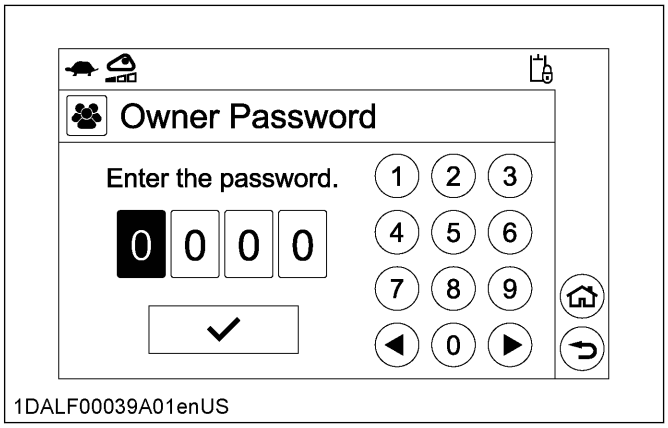
(1) Icon

3. Rotate the jog dial to select **[User Management]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[User Management]**.



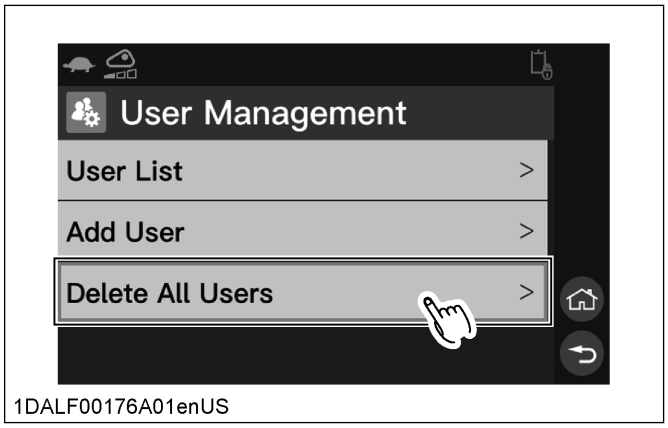
1DALF00157A01enUS

4. Enter the owner password.



1DALF00039A01enUS

5. Rotate the jog dial to select **[Delete All Users]**, and press the jog dial switch.
   For touch operation, touch **[Delete All Users]**.



1DALF00176A01enUS

6. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to delete all user account.
   For touch operation, touch the icon **[✔]**.



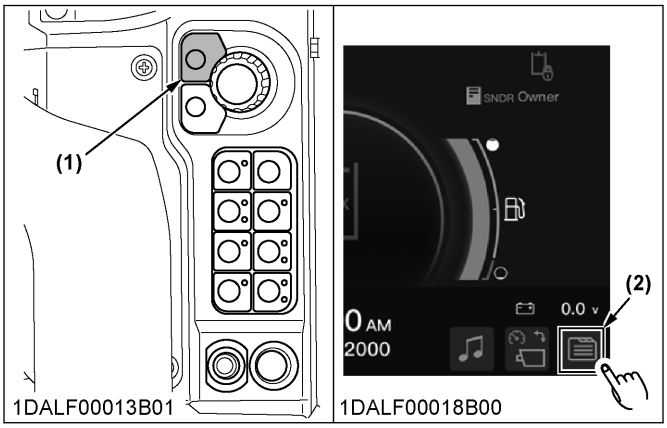
1DALF00177A01enUS

24. Setting the travel alarm

Travel alarm is a sounding function that expands the back-up alarm, which normally sounds only when backing up, to sound for traveling operation in all directions.

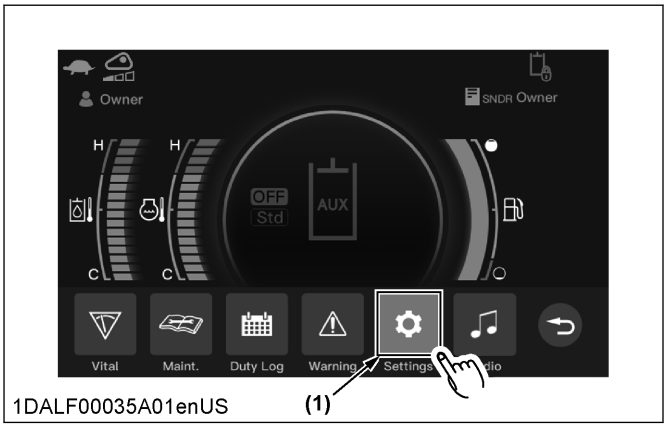
To switch the travel alarm to on and off, take the following steps.

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



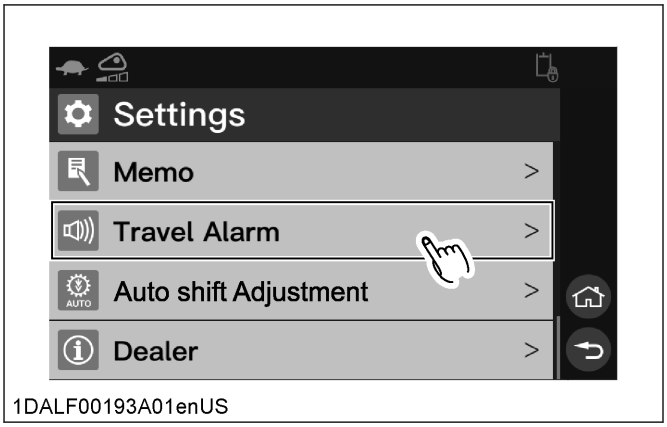
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.

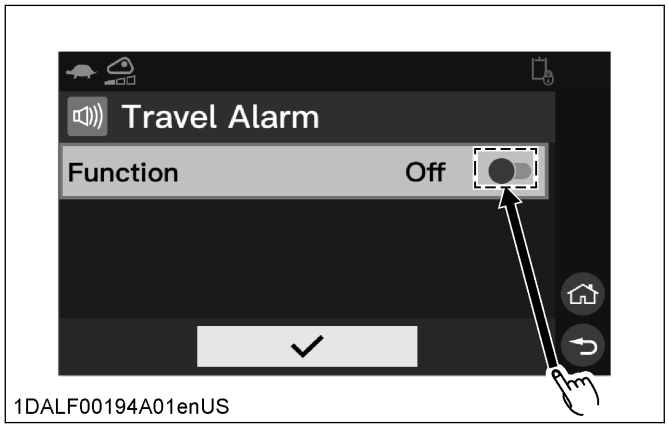


(1) Icon

3. Rotate the jog dial to select **[Travel Alarm]**, and press the jog dial switch.
   For touch operation, touch **[Travel Alarm]**.



4. Rotate the jog dial to select **[Function]**, and press the jog dial switch to select the desired setting.
   For touch operation, touch the button to select the desired setting.



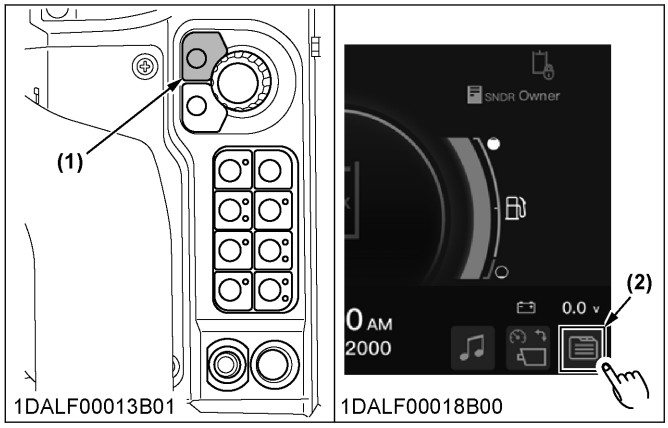
5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
   For touch operation, touch the icon **[✔]**.

   NOTE :
   - **Even if the travel alarm is set to [Off], the back-up alarm will sound when the machine starts to reverse.**
   - **To retain the previous settings, rotate the jog dial to the return button, and press the jog dial switch.**
     For touch operation, touch the return button.

25. Setting the dealer name

NOTE :
- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



(1) Home switch *(2) Menu icon*

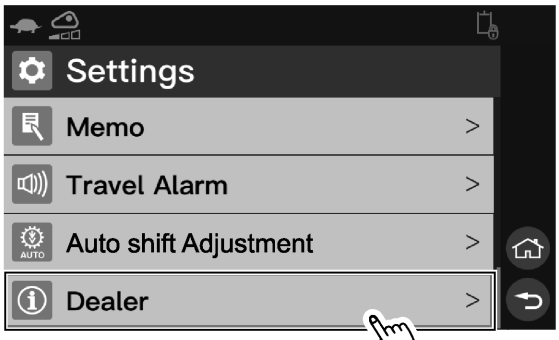
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

(1) Icon

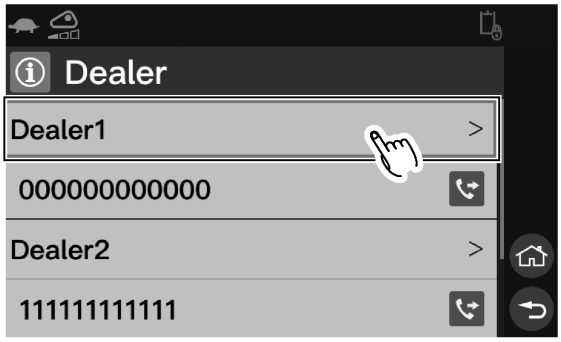
3. Rotate the jog dial to select **[Dealer]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[Dealer]**.



1DALF00178A01enUS

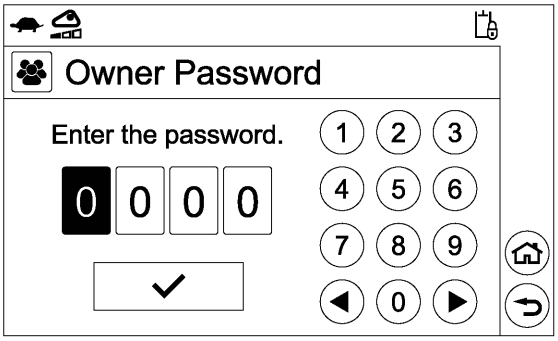
4. Rotate the jog dial to select the dealer you wish to change the name, and press the jog dial switch.
   For touch operation, touch the dealer you wish to change the name.

   NOTE :
   - **The dealer name before registration is blank.**



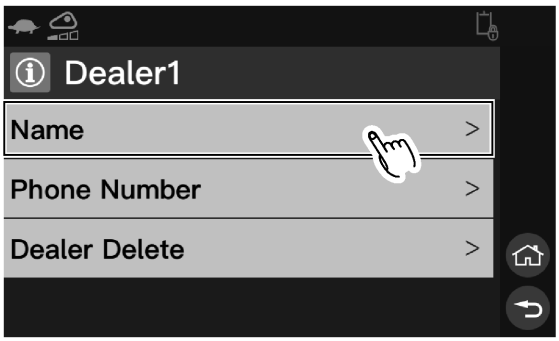
1DALF00179A01enUS

5. Enter the owner password.



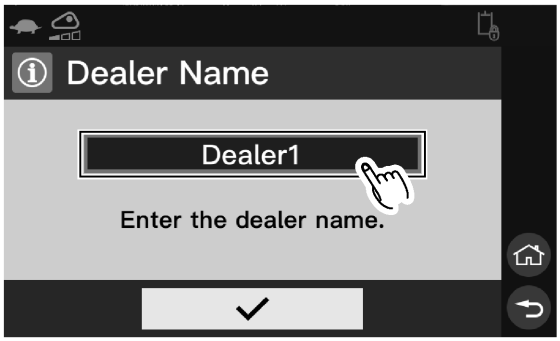
1DALF00039A01enUS

6. Rotate the jog dial to select **[Name]**, and press the jog dial switch.
   For touch operation, touch **[Name]**.

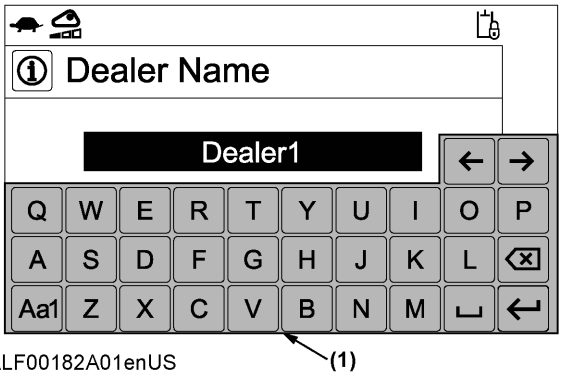


1DALF00180A01enUS

7. Rotate the jog dial to select the dealer name entry field, and press the jog dial switch. The keyboard appears on the screen.
   For touch operation, touch the dealer name entry field.



1DALF00181A01enUS



1DALF00182A01enUS

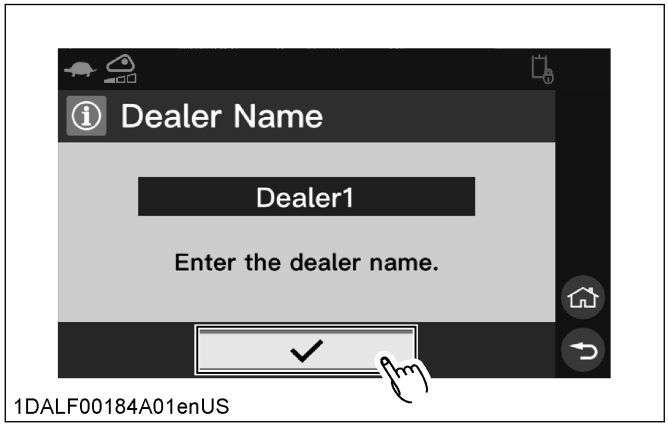
(1) Keyboard

8. Rotate the jog dial left or right to select the characters you want to enter, and press the jog dial switch to enter the dealer name.
   For touch operation, touch the characters you want to enter.
9. Rotate the jog dial to select the icon **[⟵]**, and press the jog dial switch.
   For touch operation, touch the icon **[⟵]**.



1DALF00183A01enUS

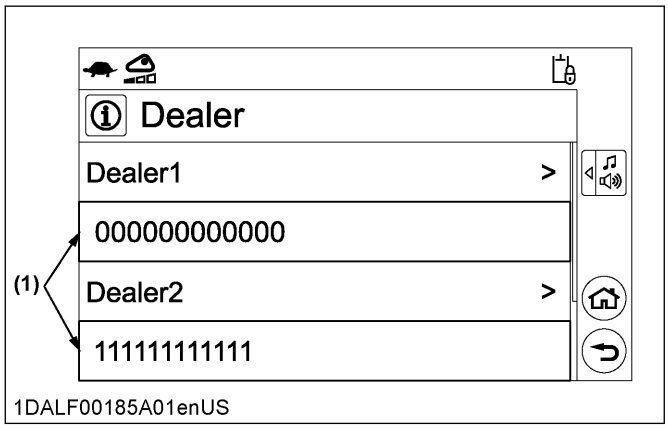
10. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
    For touch operation, touch the icon **[✔]**.



1DALF00184A01enUS

NOTE :

- **The phone number will be grayed out in the following cases.**
  - **When the phone number is not registered.**
  - **When the machine and the operator's mobile phone are not connected via Bluetooth.**



1DALF00185A01enUS

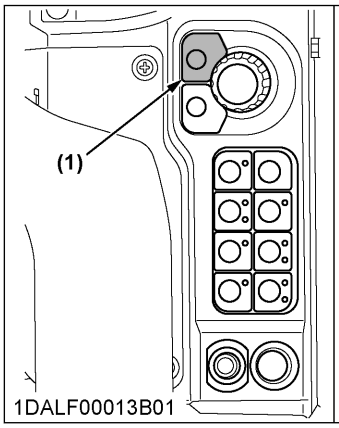
(1) Phone number

26. Setting the dealer phone number

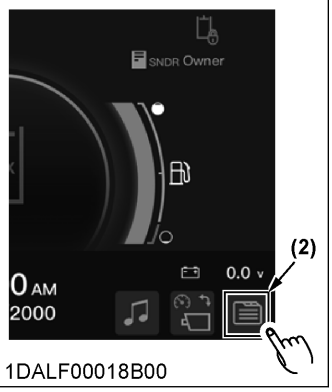
NOTE :

- **This setting is available only when logged in with the owner account.**

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



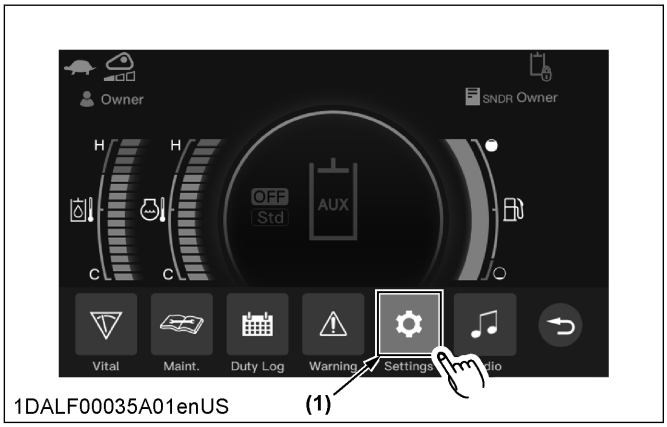
1DALF00013B01



1DALF00018B00

(1) Home switch *(2) Menu icon*

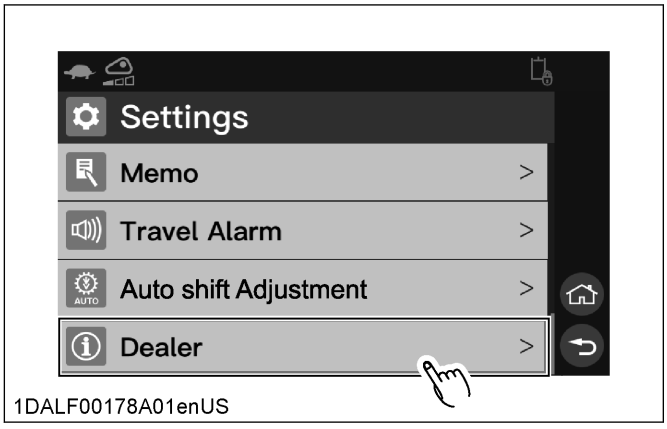
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

(1) Icon

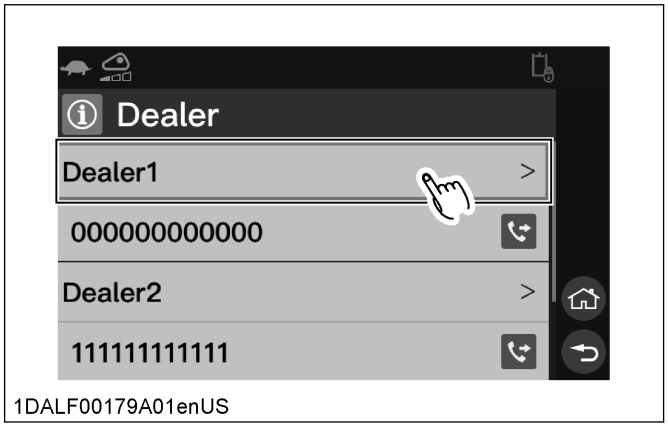
3. Rotate the jog dial to select **[Dealer]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[Dealer]**.



1DALF00178A01enUS

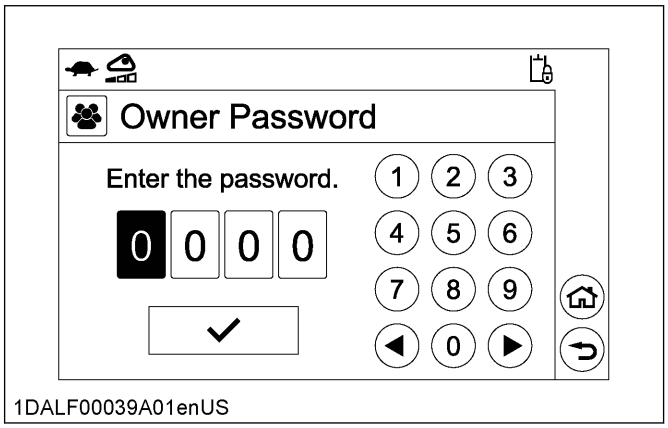
4. Rotate the jog dial to select the dealer you wish to change the phone number, and press the jog dial switch.
   For touch operation, touch the dealer you wish to change the phone number.

NOTE :
- **The dealer name before registration is blank.**



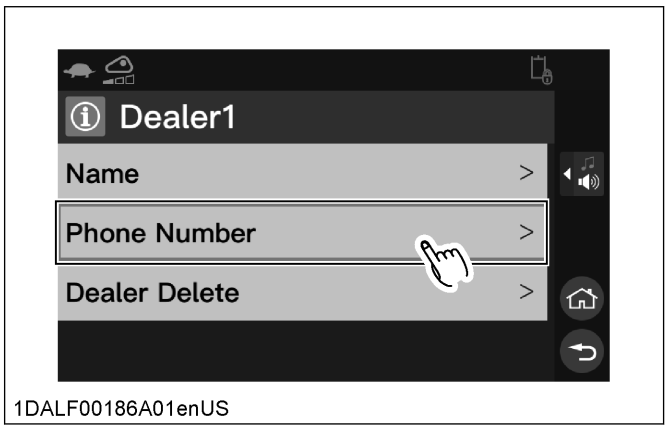
1DALF00179A01enUS

5. Enter the owner password.



1DALF00039A01enUS

6. Rotate the jog dial to select **[Phone Number]**, and press the jog dial switch.
   For touch operation, touch **[Phone Number]**.

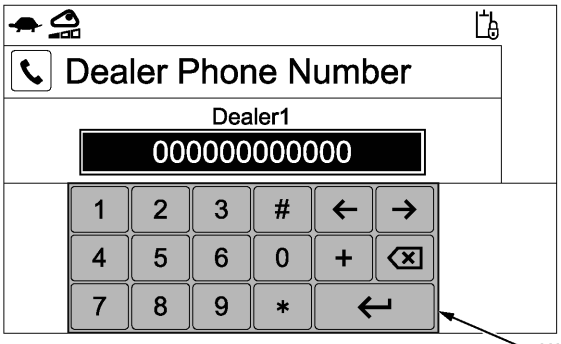


1DALF00186A01enUS

7. Rotate the jog dial to select the dealer phone number entry field, and press the jog dial switch. The keyboard appears on the screen.
   For touch operation, touch the dealer phone number entry field.



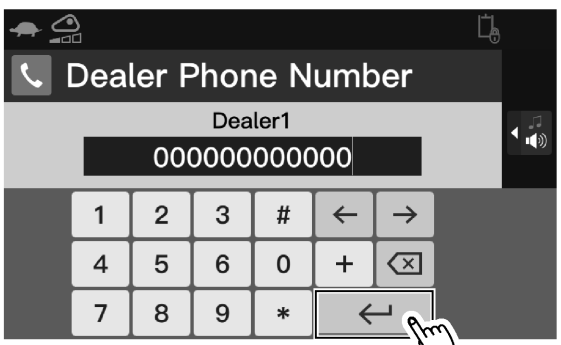
1DALF00187A01enUS



1DALF00188A01enUS

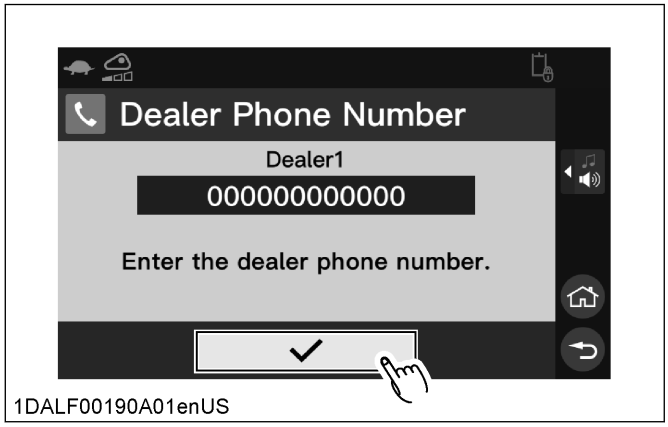
(1) Keyboard

8. Rotate the jog dial left or right to select the number you want to enter, and press the jog dial switch to enter the telephone number.
   For touch operation, touch the numbers you want to enter.
9. Rotate the jog dial to select the icon **[⟵]**, and press the jog dial switch.
   For touch operation, touch the icon **[⟵]**.



1DALF00189A01enUS

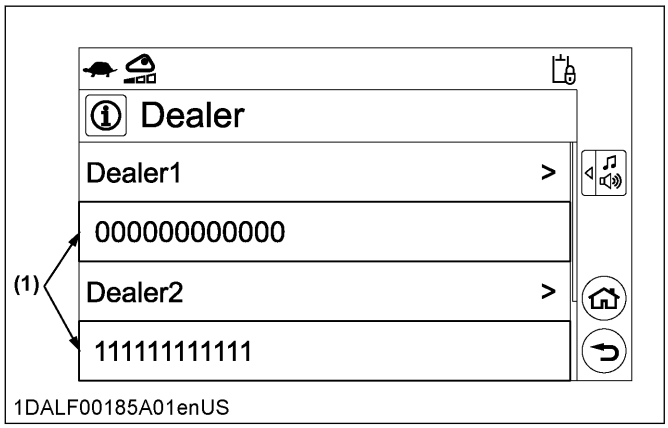
10. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings.
    For touch operation, touch the icon **[✔]**.



1DALF00190A01enUS

NOTE :

- **The phone number will be grayed out in the following cases.**
  - **When the phone number is not registered.**
  - **When the machine and the operator's mobile phone are not connected via Bluetooth.**

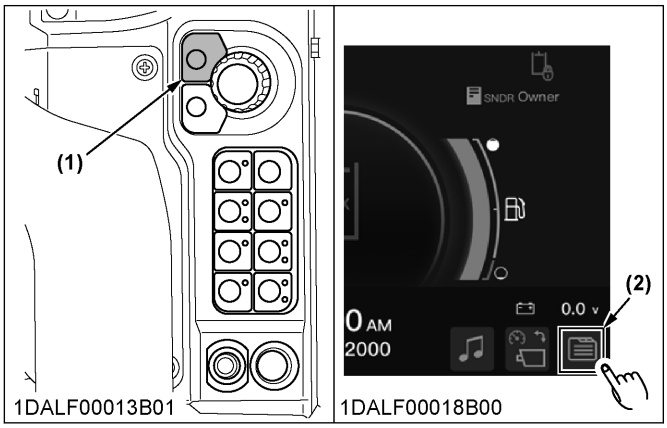


1DALF00185A01enUS

(1) Phone number

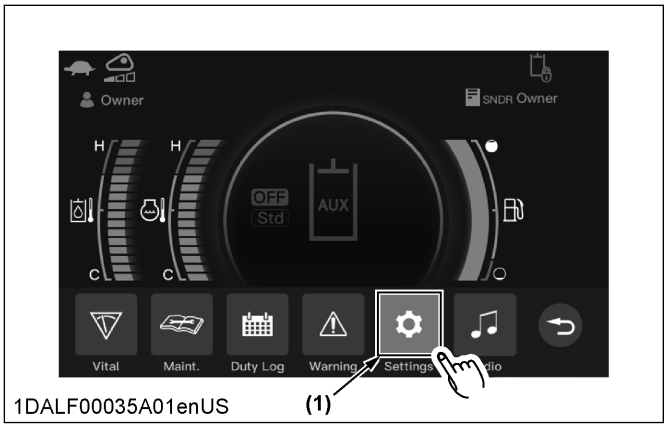
27. Calling the dealer

1. Press the home switch or touch the menu icon to make the menu bar appear on the display.



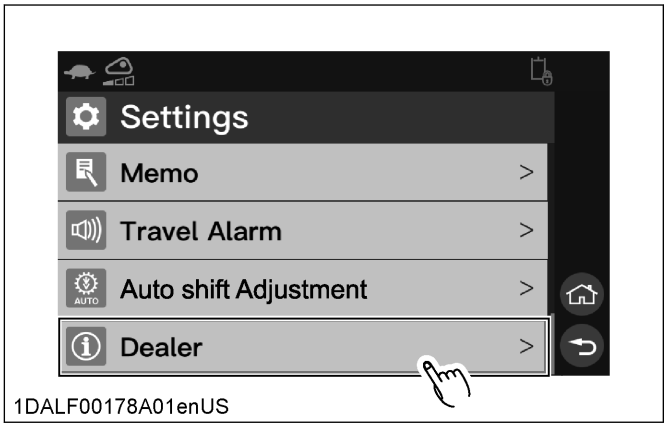
(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



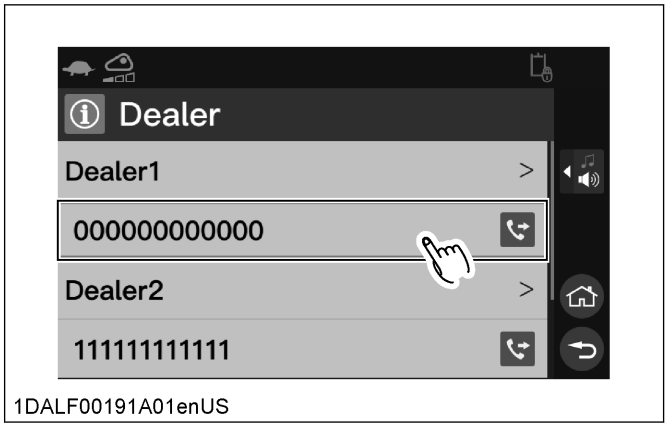
(1) Icon

3. Rotate the jog dial to select **[Dealer]**, and press the jog dial switch.
   For touch operation, scroll the display, and touch **[Dealer]**.

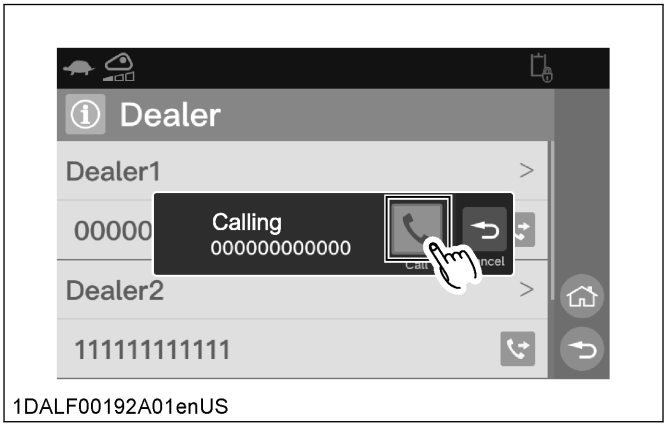


4. Rotate the jog dial to select the phone number you want to call, and press the jog dial switch.
   A pop-up "Calling" will appear.
   For touch operation, touch the phone number you want to call.

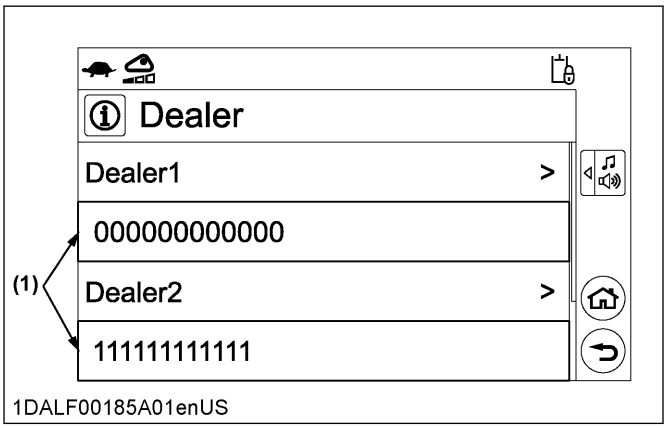
NOTE :
- **The dealer name before registration is blank.**



5. Rotate the jog dial to select **[Call]**, and press the jog dial switch.
   Calls the displayed phone number.
   For touch operation, touch **[Call]**.



NOTE :
- **The phone number will be grayed out in the following cases.**
  - **When the phone number is not registered.**
  - **When the machine and the user's mobile phone are not connected via Bluetooth.**



(1) Phone number

REARVIEW CAMERA MODE

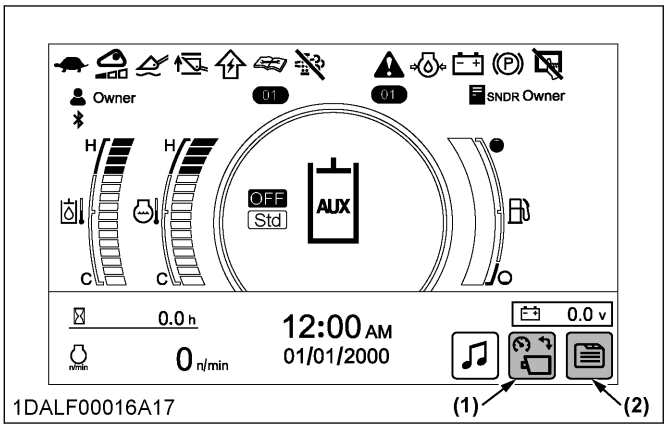
WARNING

To avoid personal injury or death:
- **Since all information does not appear on the monitor, always check the rearview camera image and also check the rearview mirror and visually check the rear of the vehicle when reversing. If the vehicle comes in contact with a person or obstacle at the blind spot of the rearview camera may cause a serious accident.**
- **Drive slowly and carefully until you become familiar with the wide-angle image from the CMOS camera displayed on the LCD panel. Reversing at a fast speed can result in misjudgment and having the vehicle come into contact with a person or obstacle, which may cause a serious accident.**

The rearview camera screen is shown on the display by selecting display mode change icon.
By default, the display will change to rearview camera screen automatically when the operator pulls the left control lever backward. Once the backward travel command is no longer applied, the screen will automatically revert to the previous screen.
Selecting display mode change icon again will return the display to the home screen.

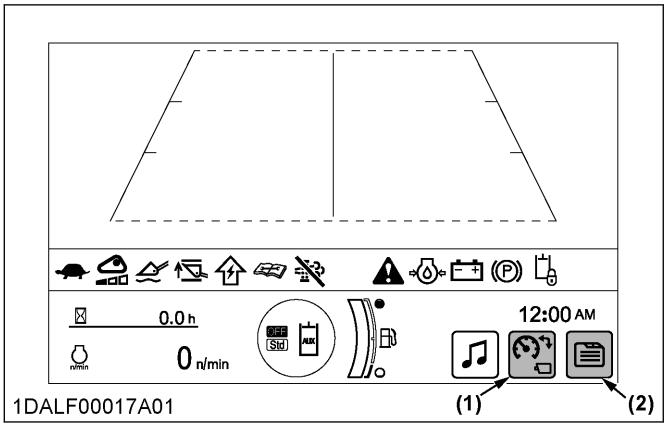
1. Rotate the jog dial to select the display mode change icon, and press the jog dial switch.
   For touch operation, touch the display mode change icon.

Home screen



(1) Display mode change icon (2) Menu icon

Reaview camera screen



(1) Display mode change icon (2) Menu icon

IMPORTANT :
- **The operator must service and maintain the camera system to ensure proper function. If the camera is dirty or steamed up, wash and wipe it dry.**
  Replace damaged or missing camera immediately with new one.

- **If structural modifications to the machine restrict the defined visibility conditions, then the operator must carry out a new risk assessment for the changed visibility conditions.**

NOTE :

- **The image may be out of sync due to camera voltage fluctuations, etc., causing the screen to scroll. Out of sync errors are corrected automatically.**
  (If the problem persists, repeat switching between *"OFF"* mode and *"ACCESSORY"* mode on the start switch.)

AUDIO MODE

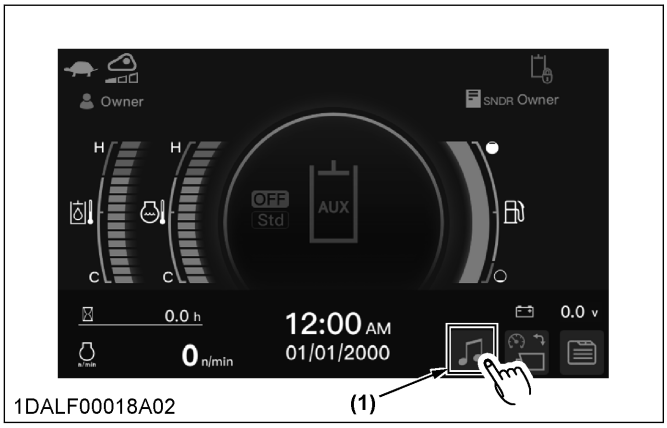
1. Change to the audio screen

You can change to the audio screen with the operation as following.

- Operation of audio icon
- Swipe
- Operation of menu bar
- Operation of audio pop-up

How to change using the audio icon operations

1. Rotate the jog dial to select the audio icon, and press the jog dial switch to make the audio screen appear on the display.
   For touch operation, touch the audio icon.



(1) Audio icon

How to change using swipe

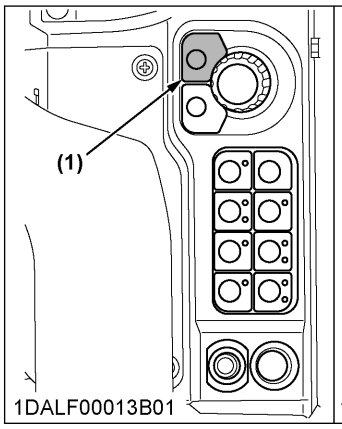
1. On the home screen, swipe the display to the right to make the audio screen appear on the display.

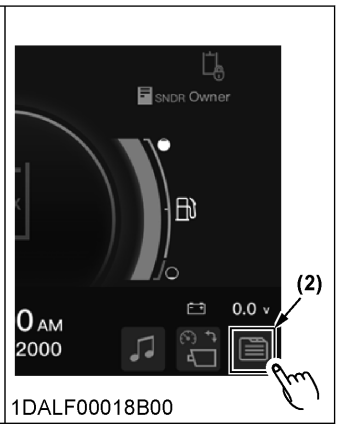


(A) Swipe

How to change from the menu bar

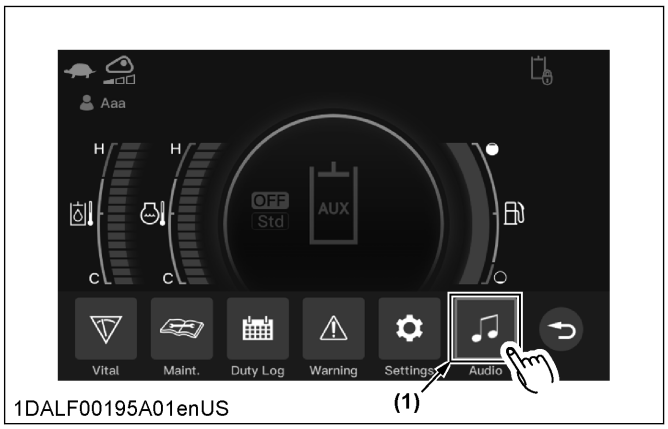
1. Press the home switch or touch the menu button to make the menu bar appear on the display.





(1) Home switch *(2) Menu icon*

2. Rotate the jog dial to select the icon **[Audio]**, and press the jog dial switch to make the audio screen appear on the display.
   For touch operation, touch the icon **[Audio]**.



(1) Icon

How to change from the audio pop-up

NOTE :

- **The audio pop-up appears only when the audio power is on.**

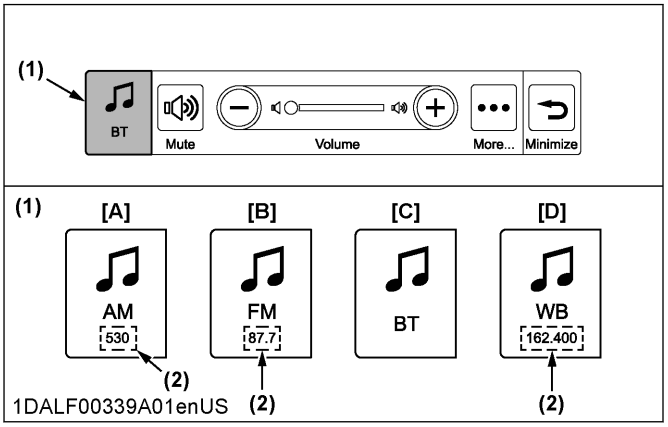
1. Rotate the jog dial to select the audio pop-up button, and press the jog dial switch to make the audio pop-up appear on the display.
   For touch operation, touch the audio pop-up button.



1DALF00196A01enUS

(1) Audio pop-up button

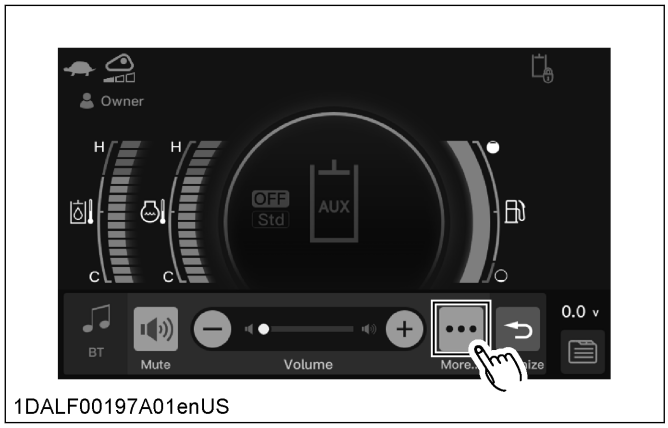
NOTE :
- **The selected source display area of the audio pop-up shows the currently selected audio source and receiving frequency.**



1DALF00339A01enUS

(1) Selected source display area
(2) Receiving frequency
[A] AM radio selected
[B] FM radio selected
[C] Bluetooth selected
[D] Weather band selected

2. Rotate the jog dial to select the icon **[More...]**, and press the jog dial switch to make the audio screen appear on the display.
   For touch operation, touch the icon **[More...]**.



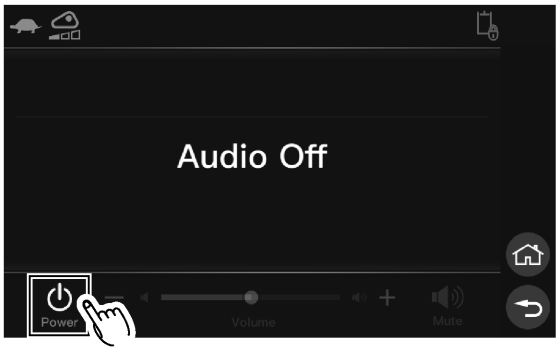
1DALF00197A01enUS

2. Switch audio power ON/OFF

1. Make the audio screen appear on the display.

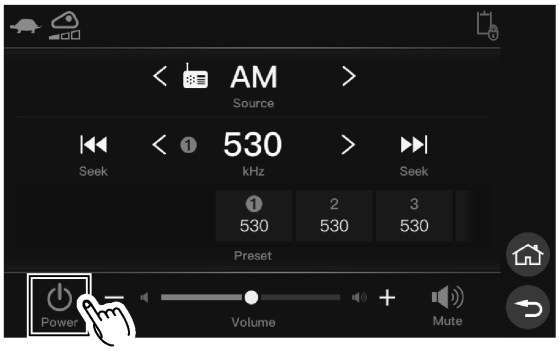
2. Rotate the jog dial to select the icon **[Power]** and press the jog dial switch to turn the power ON/OFF. For touch operation, touch the **[Power]** icon.

Power off state



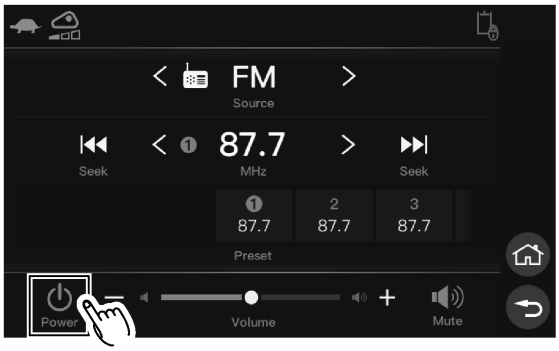
1DALF00198A01enUS

Powered on state, AM radio selected



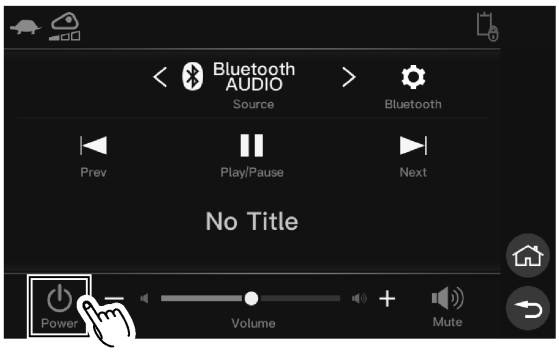
1DALF00199A01enUS

Powered on state, FM radio selected



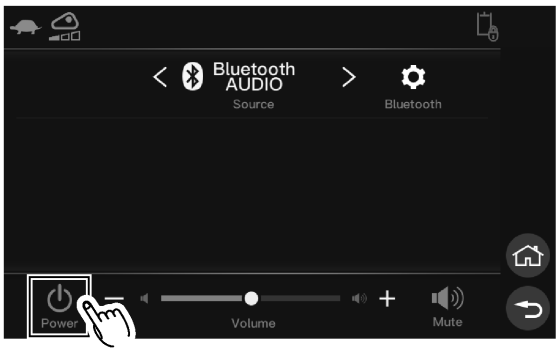
1DALF00200A01enUS

Powered on state, Bluetooth device connected



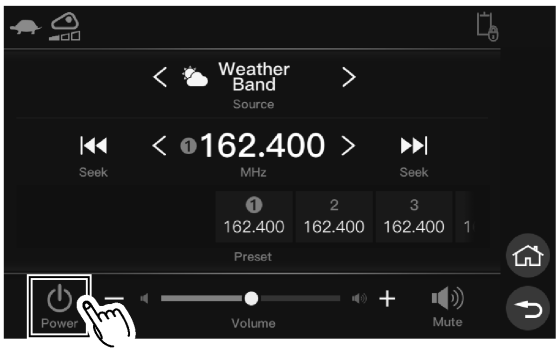
1DALF00201A01enUS

Powered on state, Bluetooth device not connected



1DALF00202A01enUS

Powered on state, weather band selected

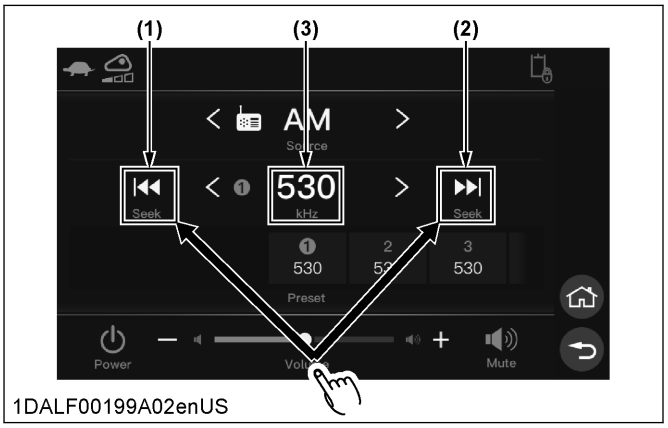


1DALF00203A01enUS

3. Operation of AM mode

Auto seek

1. Rotate the jog dial, select the auto seek down button or auto seek up button, press the jog dial switch to search for frequencies that are available for reception.
   For touch operation, touch the auto seek down button or auto seek up button

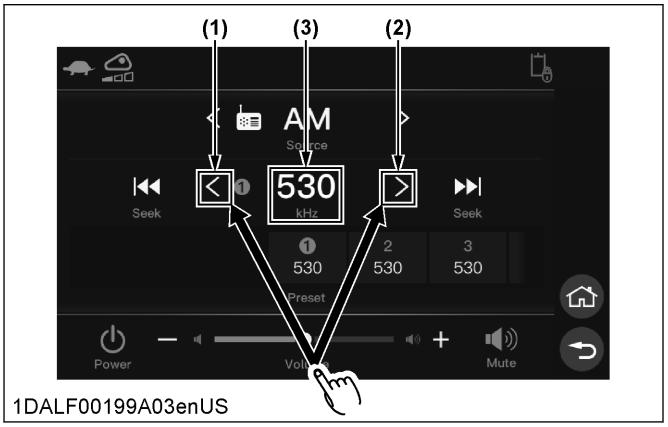


1DALF00199A02enUS

(1) Auto seek down button *(3) Receiver frequency*
(2) Auto seek up button

Increase or decrease the frequency

1. Rotate the jog dial, select the frequency decrease button or frequency increase button, press the jog dial switch to change the reception frequency.
   For touch operation, touch the frequency decrease button or frequency increase button

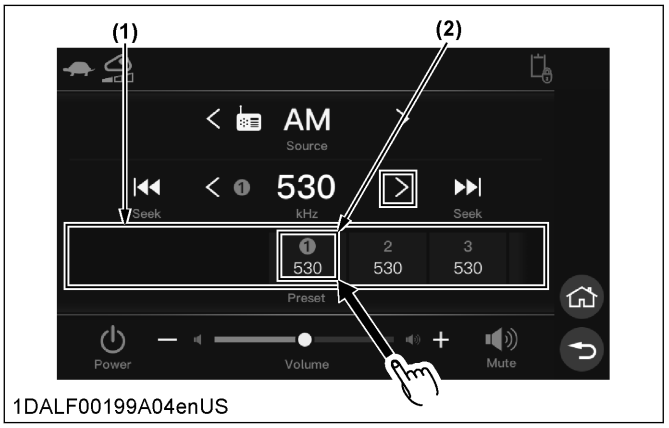


1DALF00199A03enUS

(1) Frequency down button *(3) Receiver frequency*
(2) Frequency up button

Change the channel

1. Rotate the jog dial to select the channel area and press the jog dial switch.
2. Rotate the jog dial and select the required channel, press the jog dial switch to confirm the selected channel.
   For touch operation, scroll to the left or right and touch the required channel.

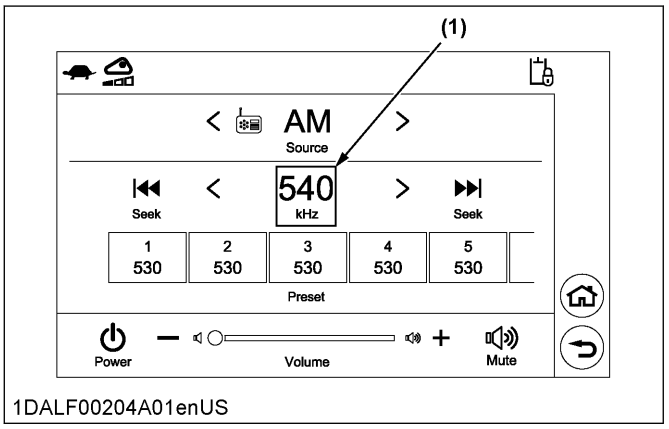


1DALF00199A04enUS

(1) Channel area *(2) Channel*

Registration of frequency

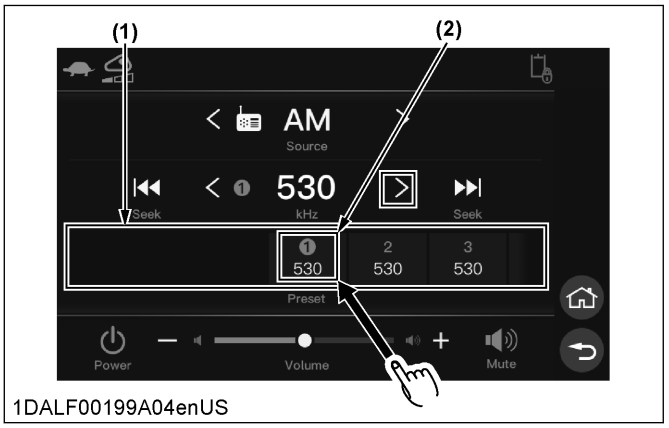
1. Changes the receive frequency to the frequency you want to register.



1DALF00204A01enUS

(1) Receiver frequency

2. Rotate the jog dial to select the channel area and press the jog dial switch.
3. Rotate the jog dial to select the channel you want to register, and press and hold the jog dial switch.
   For touch operation, scroll to the left or right and touch the channel you want to register.



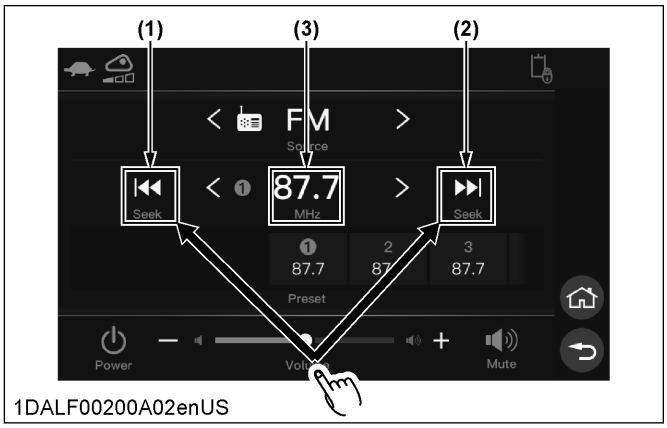
1DALF00199A04enUS

(1) Channel area *(2) Channel*

4. Operation of FM mode

Auto seek

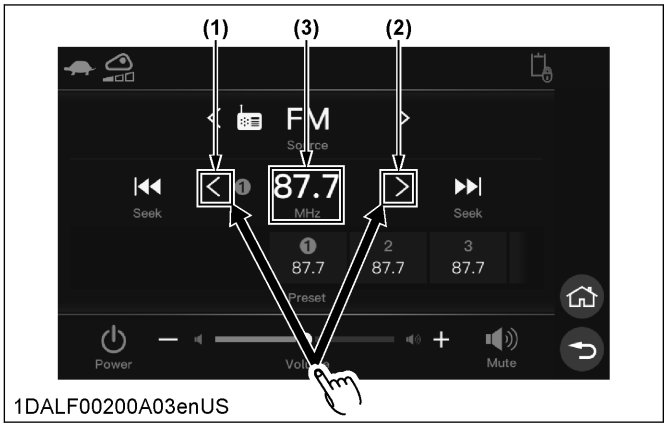
1. Rotate the jog dial, select the auto seek down button or auto seek up button, press the jog dial switch to search for frequencies that are available for reception.
   For touch operation, touch the auto seek down button or auto seek up button



(1) Auto seek down button *(3) Receiver frequency*
(2) Auto seek up button

Increase or decrease the frequency

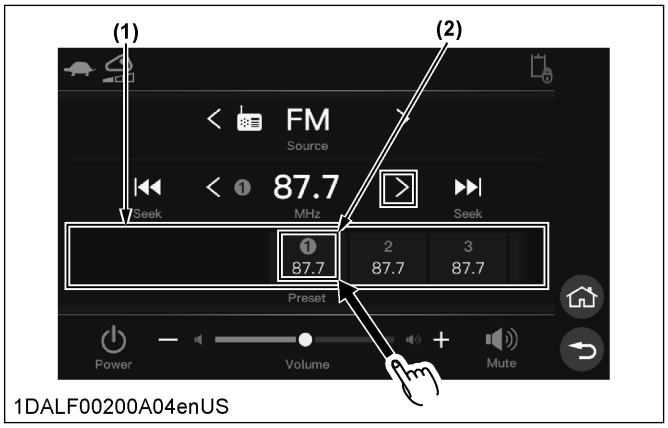
1. Rotate the jog dial, select the frequency decrease button or frequency increase button, press the jog dial switch to change the reception frequency.
   For touch operation, touch the frequency decrease button or frequency increase button



(1) Frequency down button *(3) Receiver frequency*
(2) Frequency up button

Change the channel

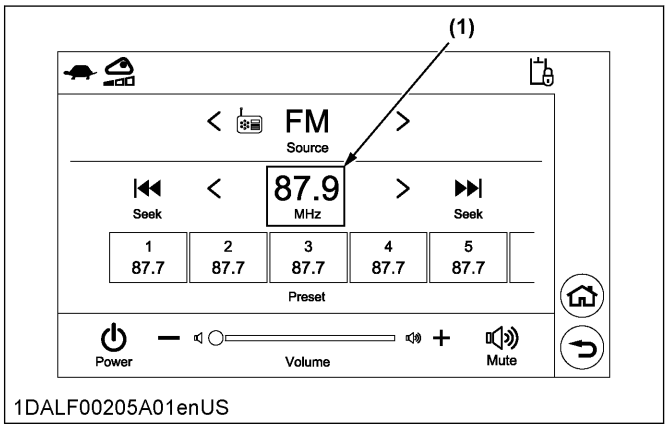
1. Rotate the jog dial to select the channel area and press the jog dial switch.
2. Rotate the jog dial and select the required channel, press the jog dial switch to confirm the selected channel.
   For touch operation, scroll to the left or right and touch the required channel.



(1) Channel area *(2) Channel*

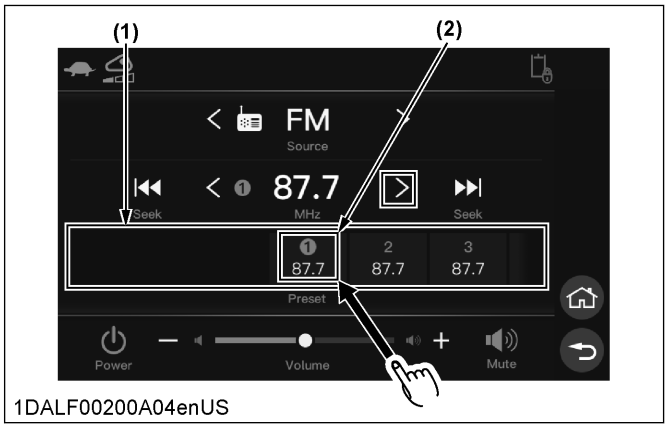
Registration of frequency

1. Changes the receive frequency to the frequency you want to register.



(1) Receiver frequency

2. Rotate the jog dial to select the channel area and press the jog dial switch.
3. Rotate the jog dial to select the channel you want to register, and press and hold the jog dial switch.
   For touch operation, scroll to the left or right and touch the channel you want to register.

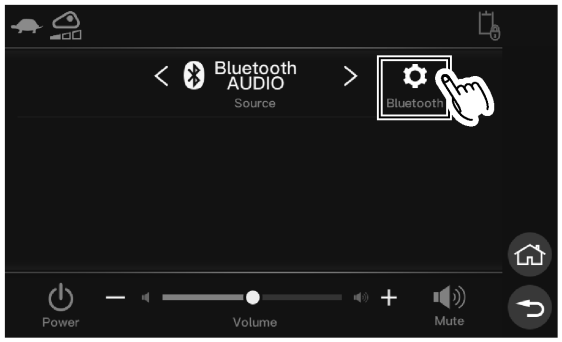


(1) Channel area *(2) Channel*

5. Bluetooth mode operation

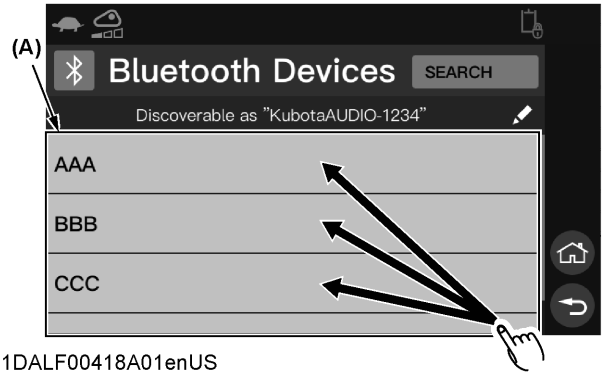
Connect to a paired Bluetooth device

1. Rotate the jog dial to select the Bluetooth connection setting button, press the jog dial switch to display the Bluetooth device selection screen.
   For touch operation, touch the Bluetooth connection settings button.



1DALF00202A02enUS

2. Rotate the jog dial to select the paired Bluetooth device you want to connect and press the jog dial switch to establish the Bluetooth connection.
   For touch operation, touch the paired Bluetooth device that you want to connect.



1DALF00418A01enUS

(A) List of paired Bluetooth devices

NOTE :

- **If you cannot connect to a Bluetooth device, restart the Bluetooth device and try connecting again.**
- **Up to 5 paired Bluetooth devices can be registered.**

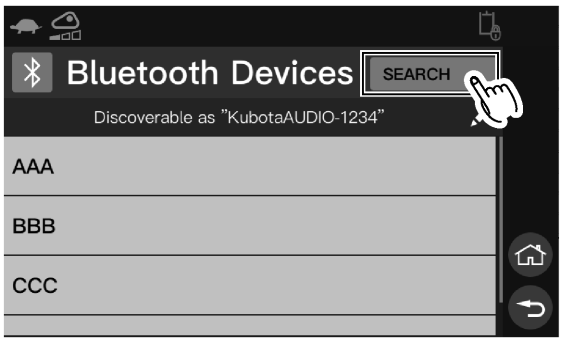
Connect to an unpaired Bluetooth device

1. Rotate the jog dial to select the Bluetooth connection setting button, press the jog dial switch to display the Bluetooth device selection screen.
   For touch operation, touch the Bluetooth connection settings button.



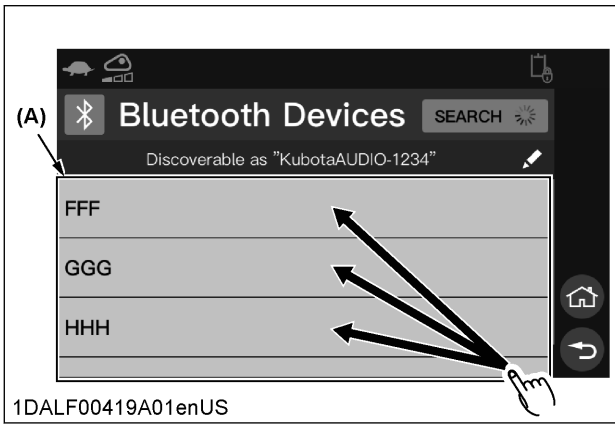
1DALF00202A02enUS

2. Rotate the jog dial to select the search button, press the jog dial switch to search the Bluetooth device.
   For touch operation, touch the search button.



1DALF00418A02enUS

3. Rotate the jog dial and select the Bluetooth device you want to connect from the list of detected Bluetooth devices and press the jog dial switch.
   For touch operation, touch the Bluetooth device you want to connect to from the list of detected Bluetooth devices.



1DALF00419A01enUS

(A) List Bluetooth devices detected

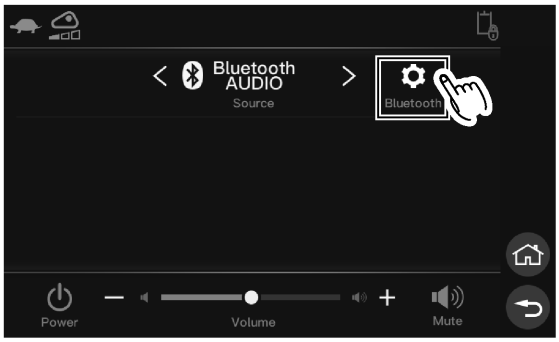
NOTE :

- **If you cannot connect to a Bluetooth device, restart the Bluetooth device and try connecting again.**

- **The Bluetooth devices that can be connected are smartphones or audio players.**
- **Up to 5 paired Bluetooth devices can be registered.**
- **After the machine is turned on and the home screen is displayed on the instrument panel, you can make a Bluetooth connection.**

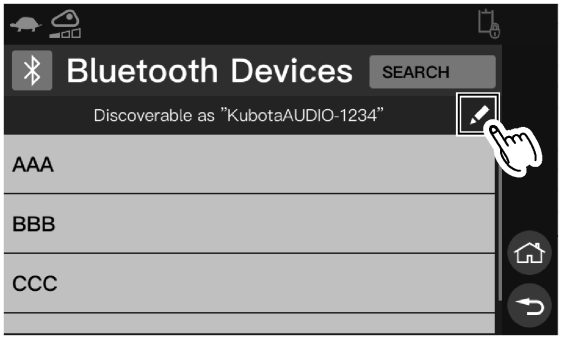
Change the name of the Bluetooth device of the Machine.

1. Rotate the jog dial to select the Bluetooth connection setting button, press the jog dial switch to display the Bluetooth device selection screen.
   For touch operation, touch the Bluetooth connection settings button.



1DALF00202A02enUS

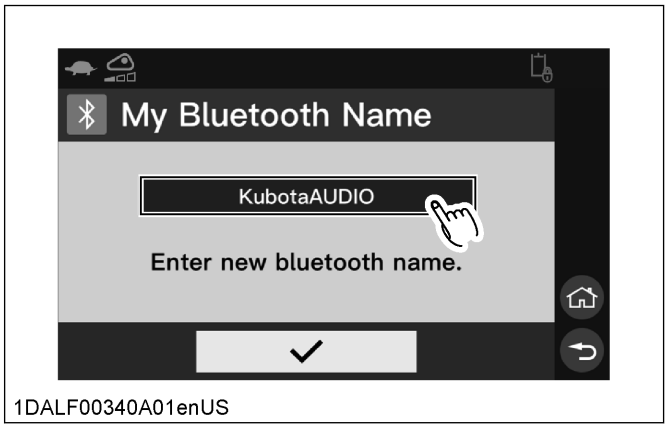
2. Rotate the jog dial to select the Bluetooth device name change button and then press the jog dial switch.
   For touch operation, touch the Bluetooth device name change button.



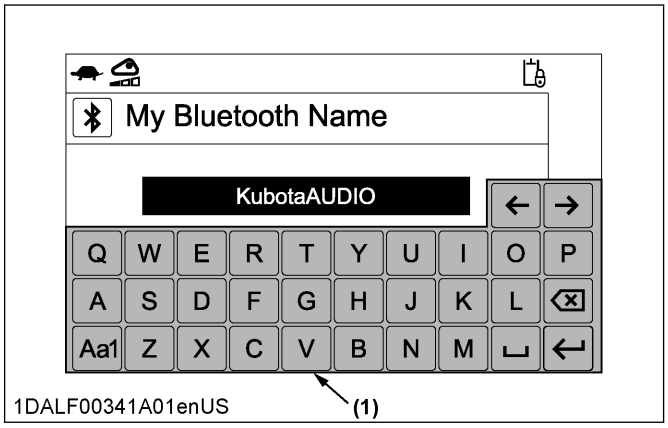
1DALF00418A03enUS

3. Rotate the jog dial to select the machine Bluetooth name entry field, and press the jog dial switch.
   The keyboard appears on the screen.
   For touch operation, touch the machine Bluetooth name entry field.

   NOTE :
   - **The text displayed after "-" (hyphen) in the Bluetooth device name of the Machine is a radio-specific number that cannot be changed.**



1DALF00340A01enUS



1DALF00341A01enUS

(1) Keyboard

4. Rotate the jog dial left or right to select the characters you want to enter, and press the jog dial switch to enter the Bluetooth device name.
   For touch operation, touch the characters you want to enter.
5. Rotate the jog dial to select the icon **[⟵]**, and press the jog dial switch. For touch operation, touch the icon **[⟵]**.

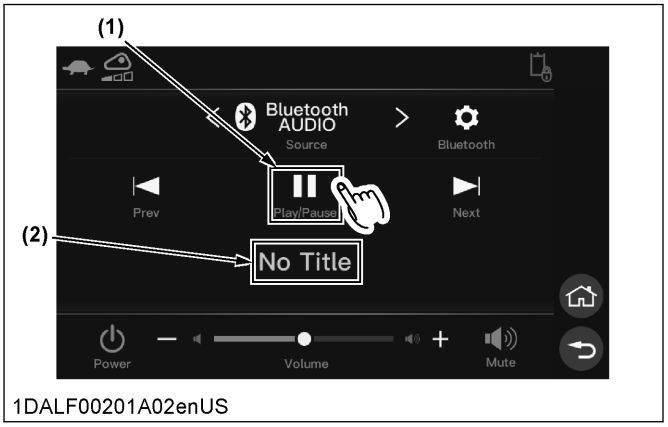


1DALF00342A01enUS

6. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch to save the new settings. For touch operation, touch the icon **[✔]**.

Play and stop music

1. Rotate the jog dial to select the Play/Pause button, and press the jog dial to toggle between music play and stop.
   For touch operation, touch the Play/Pause button.

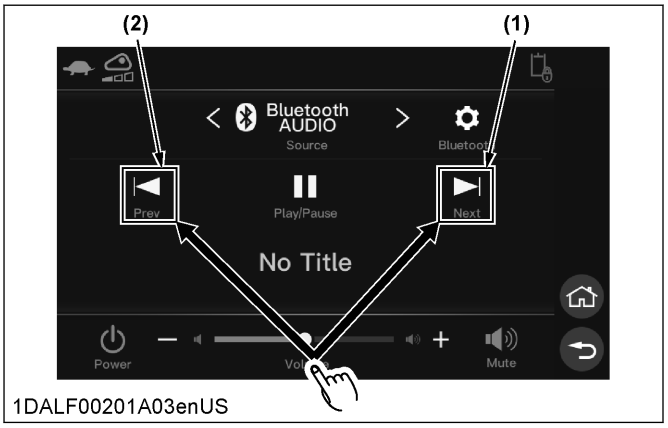


1DALF00201A02enUS

(1) Play/Pause button *(2) Singer name and song title*

Select next or previous track

1. Rotate the jog dial to select the Next button or Previous button and press the jog dial switch to change the music to be played.
   For touch operation, touch the Next button or Previous button.



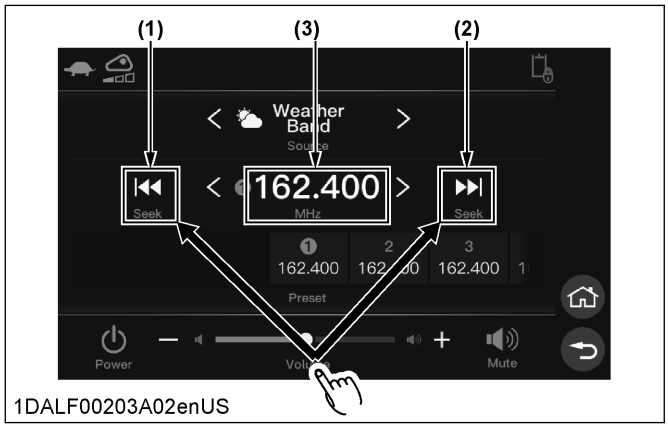
1DALF00201A03enUS

(1) Next button *(2) Previous button*

6. Operation of the weather band mode

Auto seek

1. Rotate the jog dial to select the auto seek down button or auto seek up button and press the jog dial switch to search for frequencies that are available for reception.
   For touch operation, touch the auto seek down button or auto seek up button

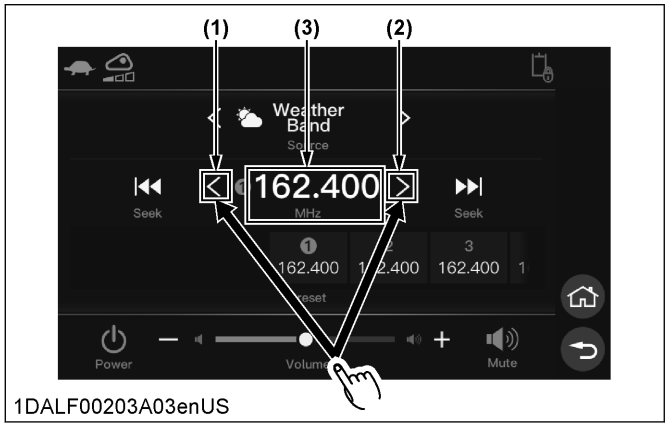


1DALF00203A02enUS

(1) Auto seek down button *(3) Receiver frequency*
(2) Auto seek up button

Increase or decrease the frequency

1. Rotate the jog dial to select the frequency increase button or frequency decrease button and press the jog dial switch to change the reception frequency.
   For touch operation, touch the frequency increase button or frequency decrease button

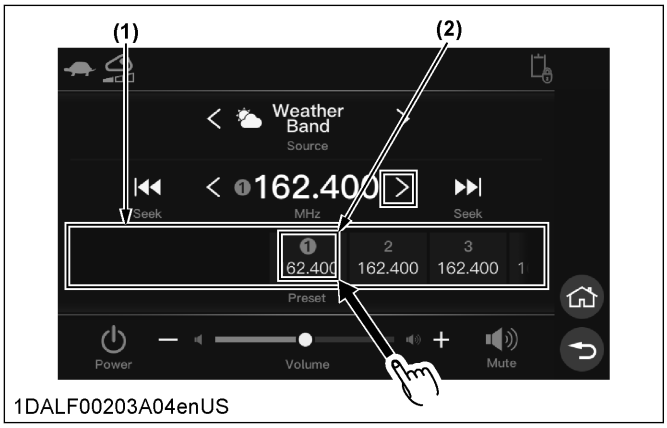


1DALF00203A03enUS

(1) Frequency up button *(3) Receiver frequency*
(2) Frequency down button

Change the channel

1. Rotate the jog dial to select the channel area and press the jog dial switch.
2. Rotate the jog dial to select the required channel and press the jog dial switch to confirm the selected channel.
   For touch operation, scroll to the left or right and touch the required channel.

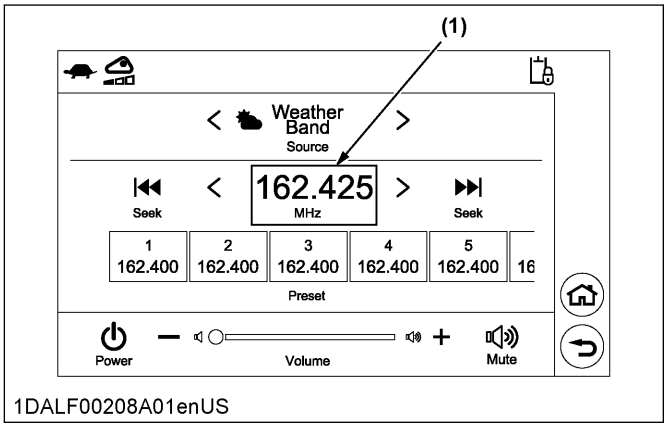


1DALF00203A04enUS

(1) Channel area (2) Channel

Registration of frequency

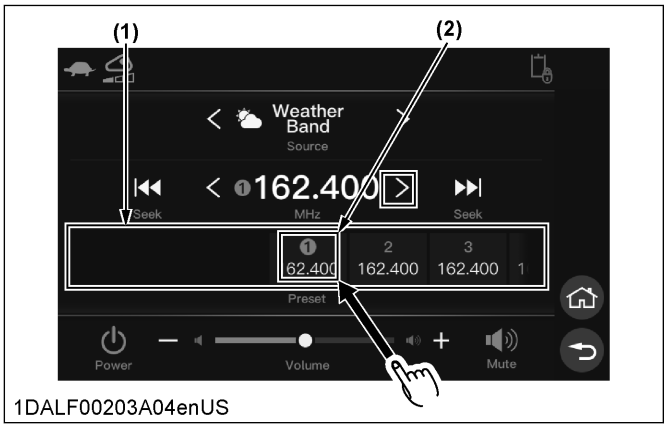
1. Changes the receive frequency to the frequency you want to register.
2. Rotate the jog dial to select the channel area and press the jog dial switch.



1DALF00208A01enUS

(1) Receiver frequency

3. Rotate the jog dial select the channel that you want to register and press and hold the jog dial switch.
   For touch operation, scroll to the left or right and touch the channel you want to register.



1DALF00203A04enUS

(1) Channel area (2) Channel

7. Call control for Bluetooth-connected cell phone

When the Bluetooth connected cell phone receives a call, an incoming call pop-up is displayed.
While talking on a Bluetooth connected cell phone, a Talking pop-up appears on the display.
While making a call on a Bluetooth connected cell phone, an outgoing call popup will appear on the display.

Incoming

1. While the Incoming Call pop-up is displayed, rotate the jog dial to select the answer button, and press the jog dial switch to connect the call. Rotate the jog dial to select the decline button, and press the jog dial switch to end without receiving the call.
   For touch operations, touch the button you want.



1DALF00209A01enUS

Mute ringtone

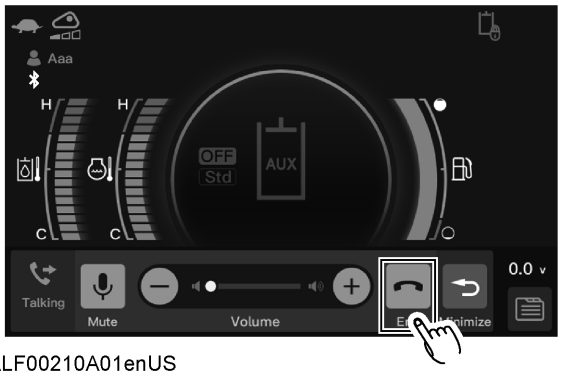
1. While the Incoming Call pop-up is displayed, rotate the jog dial to select the mute button, and press the jog dial switch to mute the ringtone.
   For touch operation, touch the mute button.



1DALF00209A02enUS

Ending a call

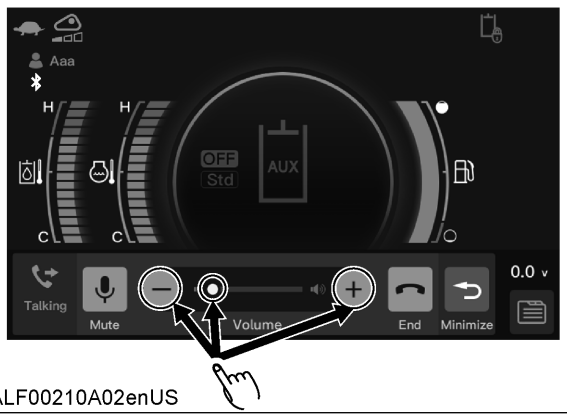
1. While the Talking pop-up is displayed, rotate the jog dial to select the end button, and press the jog dial switch to end the call.
   For touch operation, touch the end button.



1DALF00210A01enUS

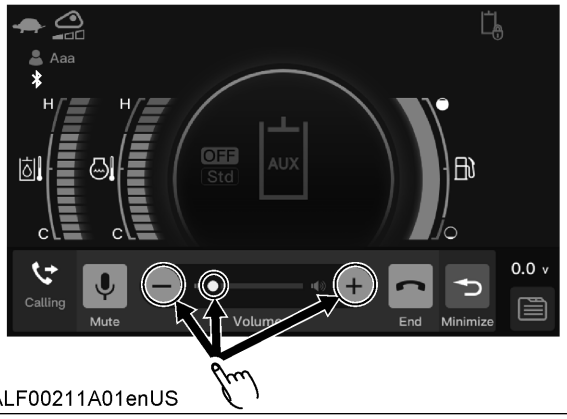
Adjustment of outgoing ring and incoming ring volume

1. While the Calling pop or Talking pop-up is displayed, rotate the jog dial to select the volume adjustment area, and press the jog dial switch.
2. Rotate the jog dial left or right to the required setting, and press the jog dial switch to confirm the setting.
   For touch operations, touch the **[-]** or **[+]** buttons or move the slider button left or right to the required setting.



1DALF00210A02enUS

(A) Telephone call in progress pop-up

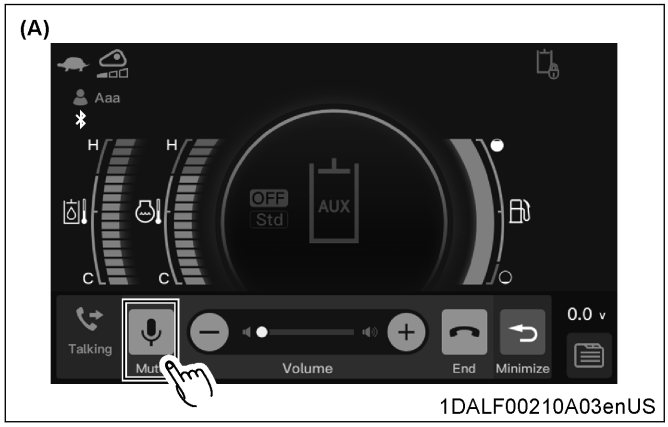


1DALF00211A01enUS

(A) Outgoing call pop-up

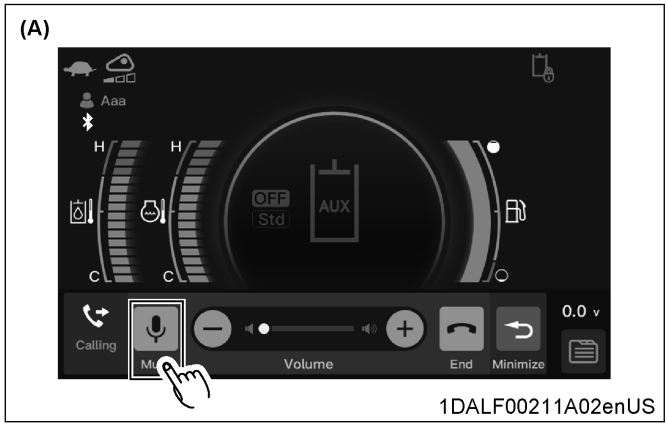
Mute the incoming call ring

1. While the Calling pop or Talking pop-up is displayed, rotate the jog dial to select the mute button, and press the jog dial switch to mute the voice input from the microphone.



1DALF00210A03enUS

(A) Telephone call in progress pop-up



1DALF00211A02enUS

(A) Outgoing call pop-up

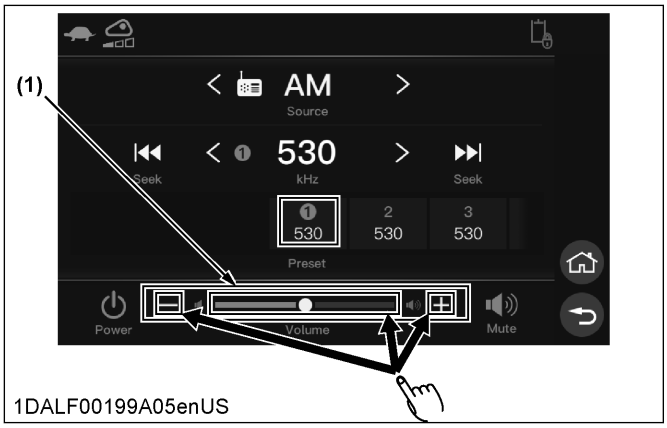
8. Adjustment of audio volume

NOTE :

- **Volume can only be adjusted when the audio is switched on.**

Volume adjustment on the audio screen

1. Rotate the jog dial to select the volume button, and press the jog dial switch.
2. Rotate the jog dial left or right to adjust to the required volume and press the jog dial switch to confirm the setting.
   For touch operations, touch the volume increase or volume decrease buttons, or slide the button on the volume adjustment slider left or right to adjust to the required volume.



(1) Volume adjustment button

Mute Setting on the audio screen

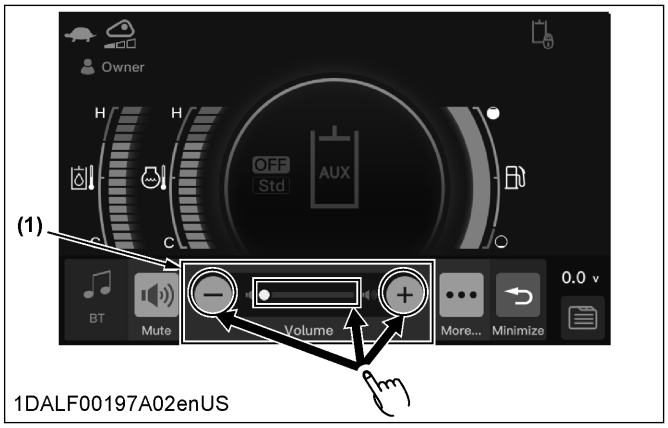
1. Rotate the jog dial to select the mute button, and press the jog dial switch.
   For touch operation, touch the mute button.



(1) Mute button

Volume adjustment on the audio pop-up

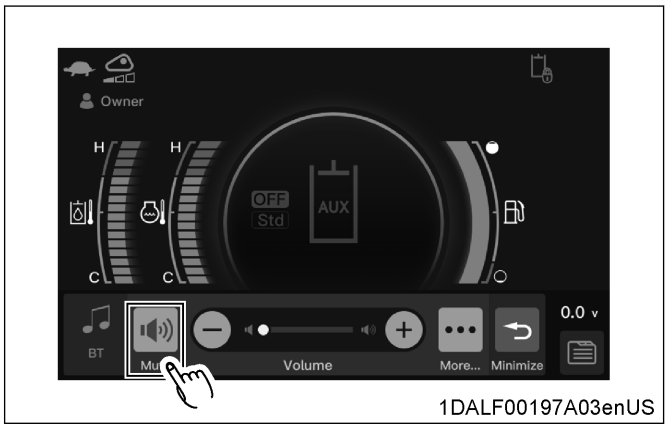
1. Rotate the jog dial to select the volume button, and press the jog dial switch.
2. Rotate the jog dial left or right to adjust to the required volume and press the jog dial switch to confirm the setting.
   For touch operations, touch the volume increase or volume decrease buttons, or slide the button on the volume adjustment slider left or right to adjust to the required volume.



(1) Volume adjustment button

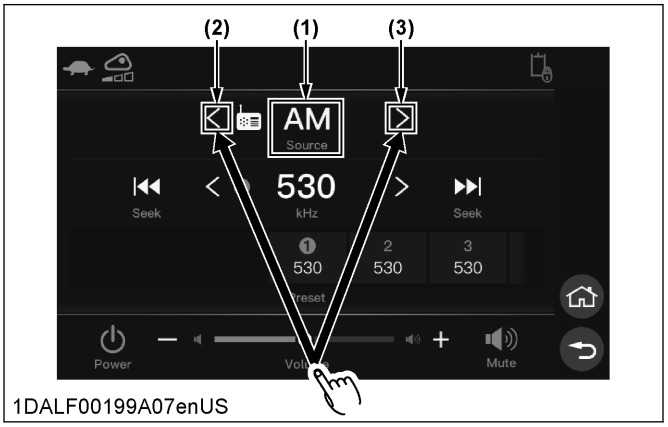
Mute setting on the audio pop-up

1. Rotate the jog dial to select the mute button, and press the jog dial switch.
   For touch operation, touch the mute button.



9. Switching audio source

1. Rotate the jog dial on the audio screen to select the audio source area, and press the jog dial switch. The audio source switches every time you press the jog dial switch.
   For touch operation, touch the next source button or previous source button.



(1) Audio source area
(2) Source down button
(3) Source up button

NOTE :
- **You can select AM, FM, Bluetooth, or Weather Band**

MEMO MODE

1. Switching to the memo screen

You can switch to the memo screen by the following operations:
- Memo screen icon operation
- Swipe
- Operation of menu bar

Switching method using the memo screen icon

1. Touch the memo screen icon on the home screen.



(1) Memo screen icon

NOTE :
- **Once you touch the memo screen icon to display the memo screen, the icon will not appear until the next time you log in.**

Switching using swipe operation

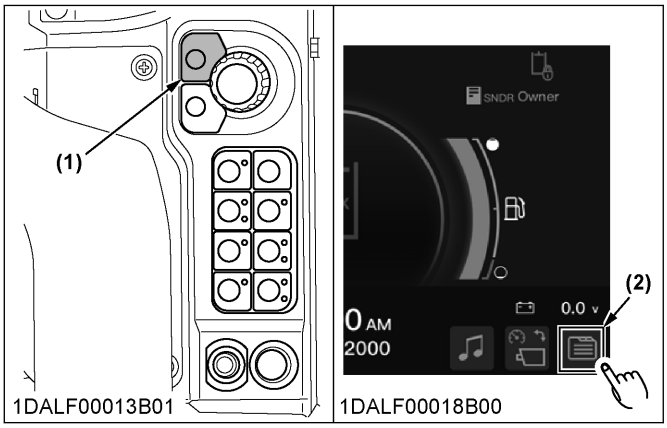
1. On the home screen, swipe the display to the left to make the memo screen appear on the display.



(1) Swipe

Switching using the menu bar

1. Press the home switch or touch the menu button to make the menu bar appear on the display.



(1) Home switch
(2) Menu icon

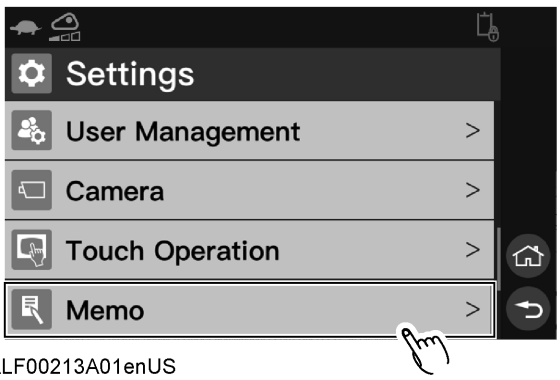
2. Rotate the jog dial to select the icon **[Settings]**, and press the jog dial switch.
   For touch operation, touch the icon **[Settings]**.



1DALF00035A01enUS

(1) Icon

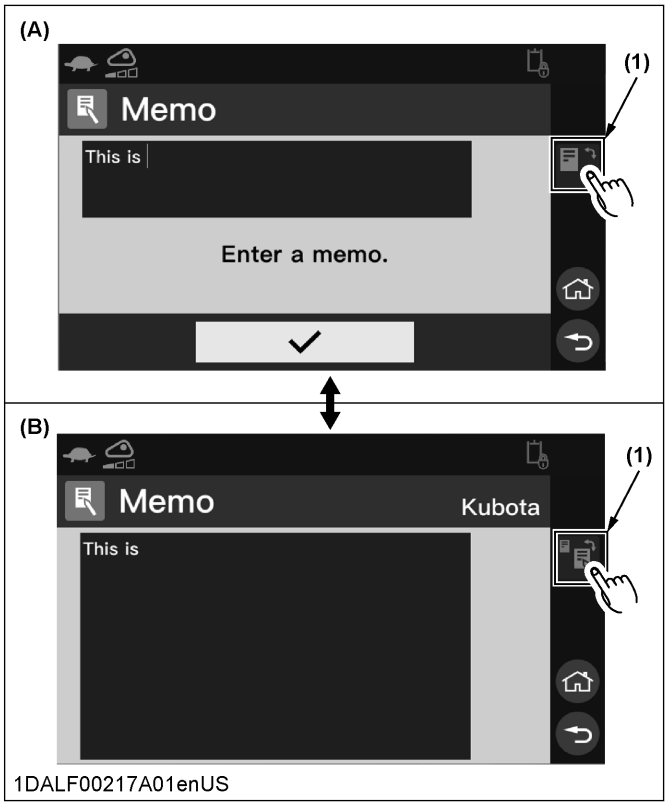
3. Rotate the jog dial to select **[Memo]**, and press the jog dial switch.
   For touch operation, touch **[Memo]**.



1DALF00213A01enUS

NOTE :

- **You can switch between the memo edit screen and the memo display screen by pressing the memo edit-display switch button.**
- **If the memo screen is displayed by using the memo screen icon or swipe operation, the memo display screen is displayed.**

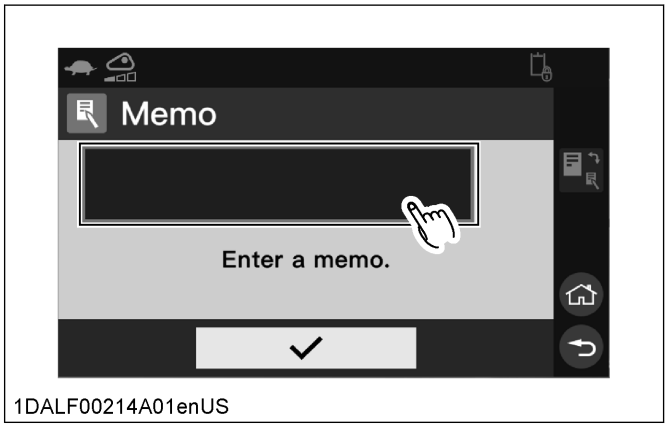


1DALF00217A01enUS

(1) Edit memo - Display switch button
(A) Memo edit screen
(B) Memo display screen

2. How to enter a memo

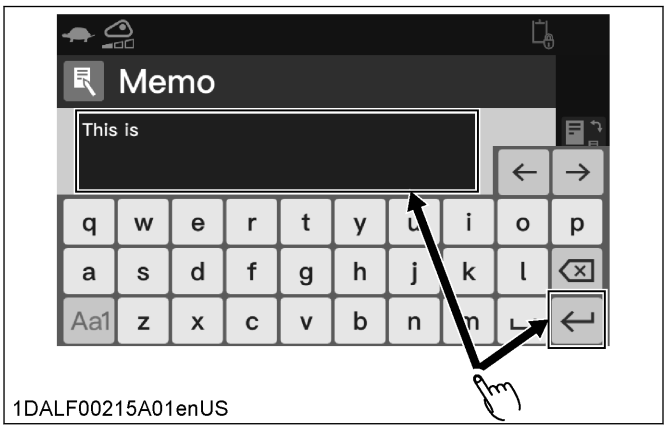
1. Make the memo edit screen appear on the display.
2. Rotate the jog dial to select the memo entry field, and press the jog dial switch. The keyboard appears on the screen.
   For touch operation, touch the memo entry field.



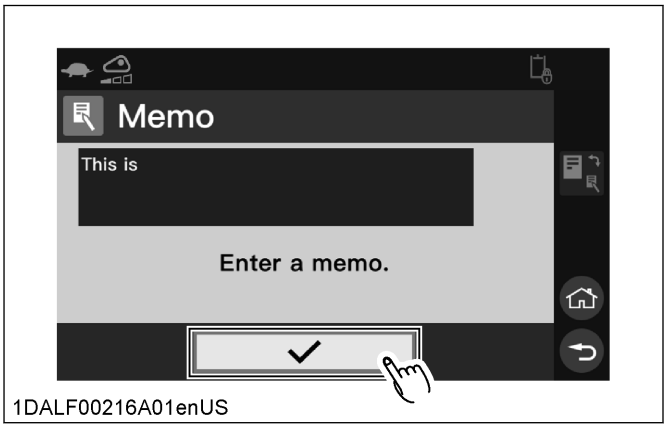
1DALF00214A01enUS

3. Rotate the jog dial left or right to select the characters you want to enter, and press the jog dial switch to enter the memo.
   For touch operation, touch the characters you want to enter.

4. Rotate the jog dial to select the icon **[⟵]**, and press the jog dial switch.
   For touch operation, touch the icon **[⟵]** or memo entry field.

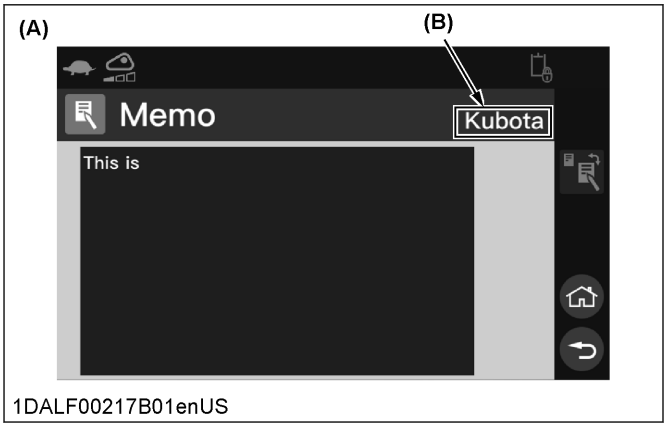


5. Rotate the jog dial to select the icon **[✔]**, and press the jog dial switch.
   For touch operation, touch the icon **[✔]**.



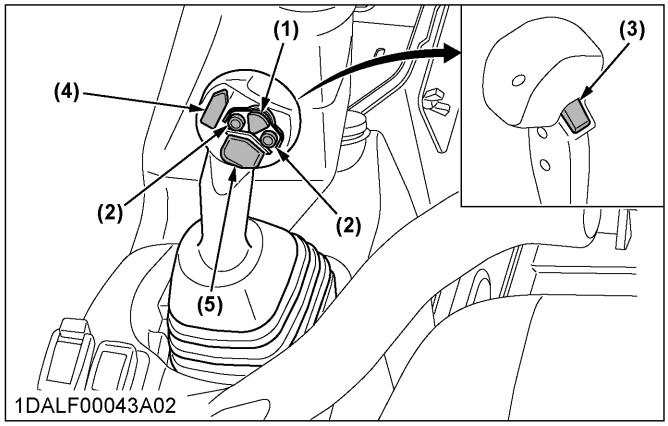
NOTE :

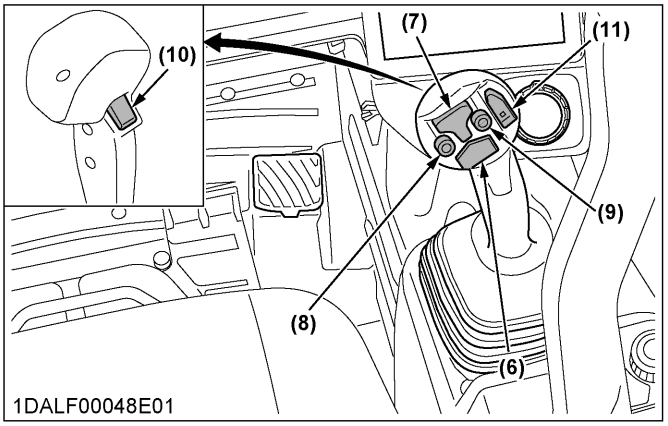
- **The user name of the user entering the memo is displayed on the memo display screen.**

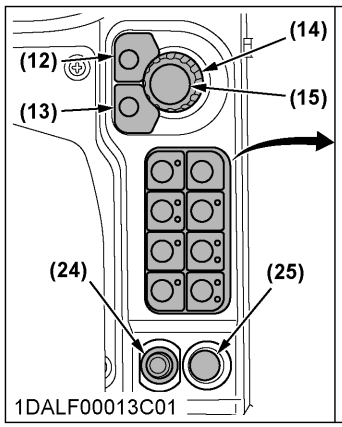


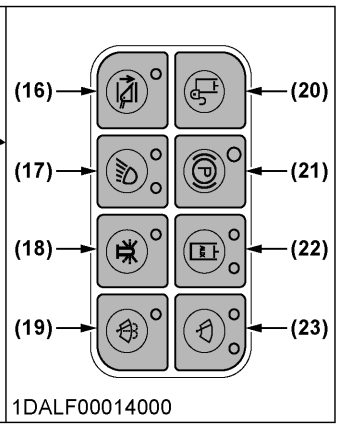
(A) Memo display screen *(B) Name of user who entered the memo*

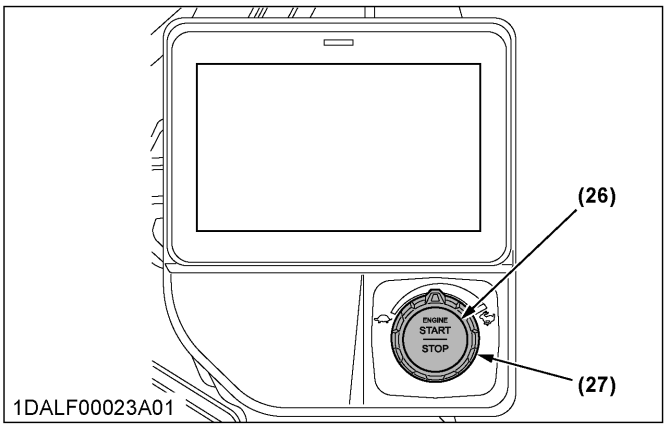
SWITCHES, ELECTRICAL OUTLET, AND USB OUTLET

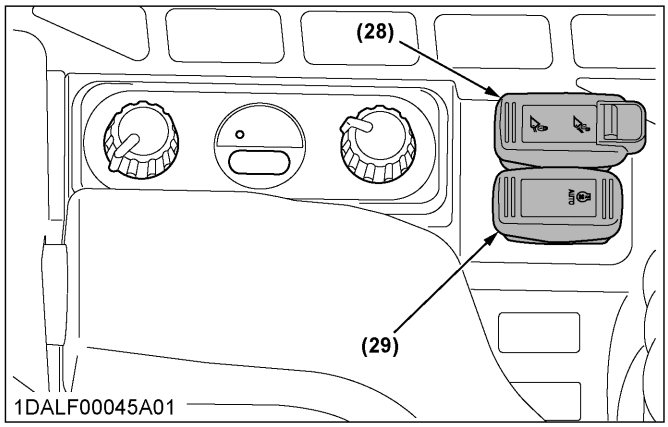


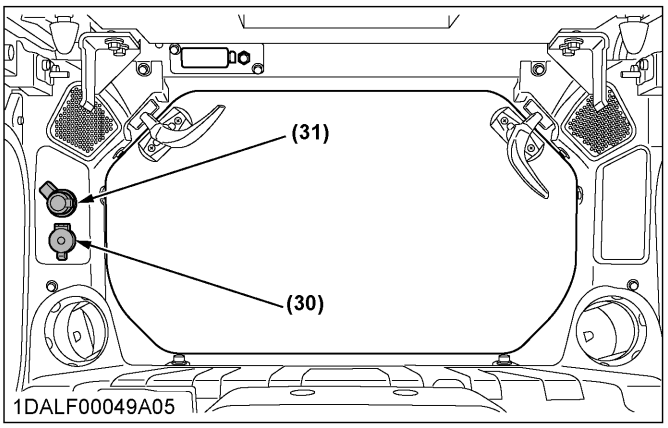












1DALF00218A01

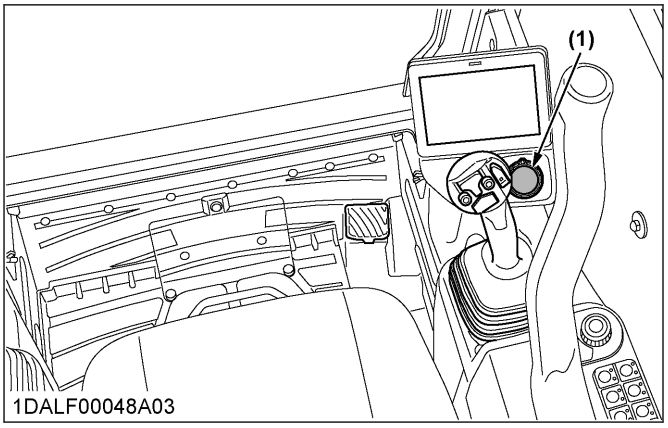
(1) Horn switch
(2) AUX electrical control switch
(3) Travel speed switch
(4) Blank
(5) AUX electrical control switch (multi function model only)
(6) AUX electrical control switch
(7) AUX port variable switch
(8) AUX hold switch (left)
(9) AUX hold switch (right)
(10) Float switch
(11) AUX electrical mode change switch (multi function model only)
(12) Home switch
(13) Return switch
(14) Jog dial
(15) Jog dial switch
(16) Self leveling switch
(17) Working light switch
(18) Beacon light switch
(19) Washer switch (closed cab model)
(20) Hydraulic unlock switch
(21) Parking brake switch
(22) AUX port switch
(23) Wiper switch (closed cab model)
(24) Inhibit diesel particulate filter (DPF) regeneration switch
(25) Emergency engine stop button
(26) Start switch
(27) Engine speed control dial
(28) Hydraulic quick-hitch switch (hydraulic quick-hitch model only)
(29) Reversing fan switch (reversing fan model only)
(30) Electrical outlet
(31) USB outlet

1. Start switch

NOTE :

- **Before pressing the start switch, make sure that the emergency engine stop button is pushed. (See Emergency engine stop button on page 104)**

- ***"OFF"***
  The engine is stopped and the electrical parts cannot be used.
- ***"ACCESSORY"***
  Press the start switch one time when the machine is off, all the circuitry gets energized to start preheating and the glow-plug-indicator is displayed. Check for breakage of any light and indicator. The light or indicator lights up and stays on for about 1 second, if they are not broken.
- ***"ON"***
  1. Press and hold the start switch in the "ACCESSORY" mode, then the starter motor is activated to get the engine started.
  2. Once the engine has started, release your finger.



(1) Start switch

Press the start switch in the *"ACCESSORY"* mode or the *"ON"* mode to change the mode to *"OFF."*

IMPORTANT :

- **When the start switch is the *"OFF"* mode, the engine will not start even if you press and hold the start switch. To start the engine, change the mode to the *"ACCESSORY,"* then press and hold the switch.**

NOTE :

- **If you press the start switch for too short a time, the machine may not recognize the operation.**
- **When pressing and holding the start switch, hold the start switch 0.5 seconds or more.**

2. Parking brake switch

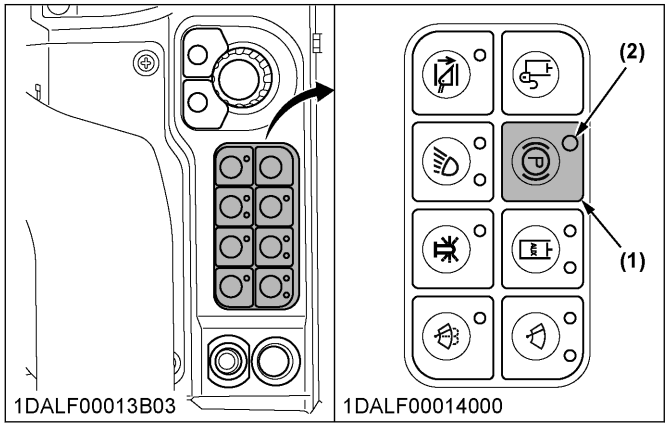
The parking brake is to be used when parking the machine.

⚠ WARNING

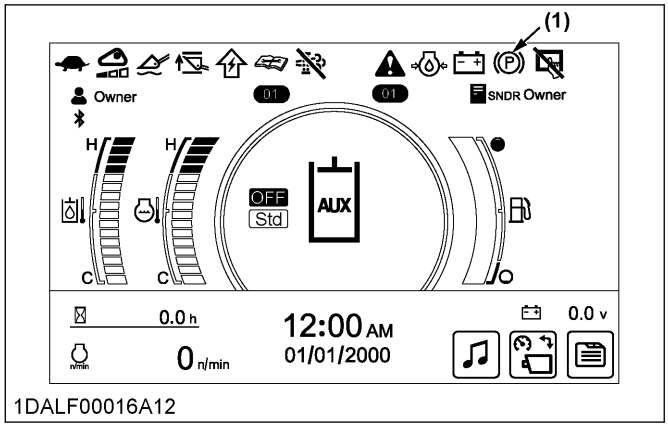
To avoid personal injury or death:

- **When dismounting the machine or when servicing or hauling, apply the parking brake.**

1. When the parking brake switch is pressed, the parking brake is applied, the indicator on the parking brake switch lights on, and the parking brake indicator on the instrument panel appears.
2. When the parking brake switch is pressed again, the parking brake is released, the indicator on the parking brake switch lights off, and the parking brake indicator on the instrument panel disappears.



(1) Parking brake switch *(2) Indicator*



(1) Parking brake indicator

NOTE :

- **Suppose that the parking brake switch is on (indicator is lit). Even if the hydraulic system gets unlocked, the travel system remains out of service and the brakes are still applied.**
  When the hydraulic system has been locked, the travel system gets locked too, and the brakes are applied.
- **The status of the parking brake is memorized, and even if the start switch is turned *"OFF"***

then turned *"ON"*, the previous status is retained.

- **If the keypad malfunctions, you can not release the parking brake by pressing the parking brake switch. In this case, press and hold the travel speed switch to release the parking brake temporarily.**

3. Hydraulic unlock switch

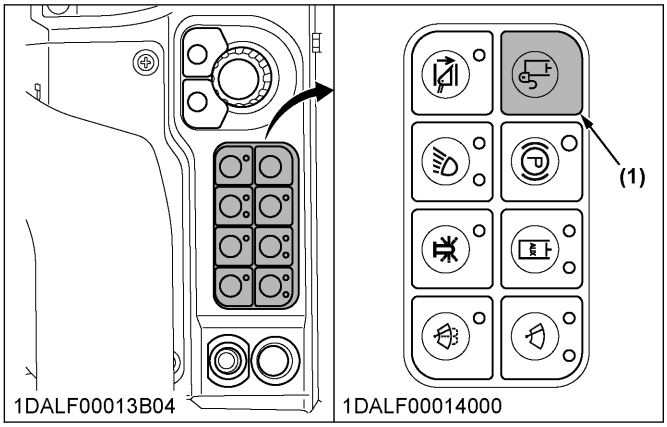
The hydraulic-unlock-switch enables the hydraulic system.
The hydraulic-unlock-switch is intended to get ready for use of the hydraulic system (traveling and attachments), but does not equip the locking function.
To unlock the hydraulic system, meet the following requirements.

- The engine is running.
- The armrests are down.
- The operator is seated on the operator's seat.

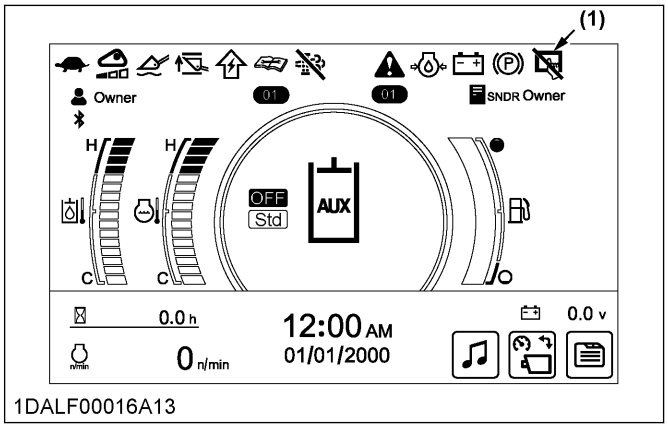
When the hydraulic system has been unlocked, the hydraulic-lock-indicator on the instrument panel disappears.
If any of the preceding conditions is not met, the hydraulic system stays locked.

NOTE :

- **When the hydraulic-lock indicator is turned off, the touch-operation restriction indicator may turn on depending on the settings.**



(1) Hydraulic unlock switch

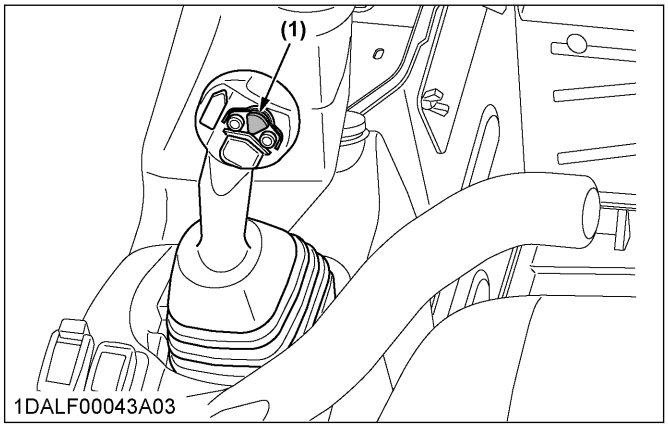


(1) Hydraulic lock indicator

- **If the keypad malfunctions, you can not release the hydraulic lock by pressing the hydraulic unlock switch. In this case, press and hold the travel speed switch to release the hydraulic lock temporarily.**

4. Horn switch

When pressing the horn switch, the horn will beep.
The horn switch is operative even when the machine is not turned on.



(1) Horn switch

5. Travel speed switch

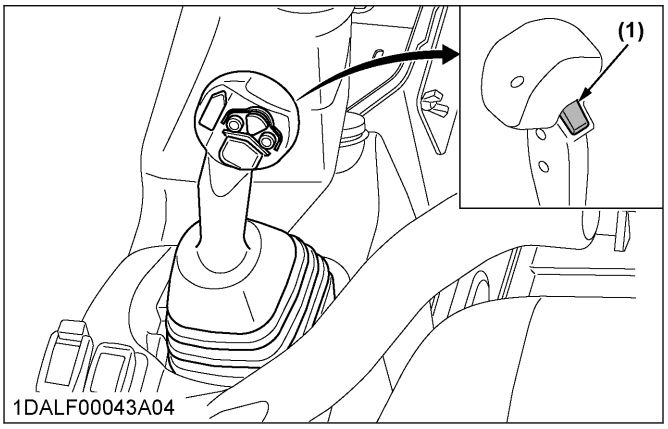
Travel speed will increase when you press down the travel-speed-switch.
Switching the dual travel speed:

1. When pressing the travel-speed-switch, the buzzer beeps twice, the travel speed changes from low to high speed, and the symbol appears.
2. When pressing the travel-speed-switch again, the buzzer beeps once, the travel speed changes from high to low speed, and the symbol appears.

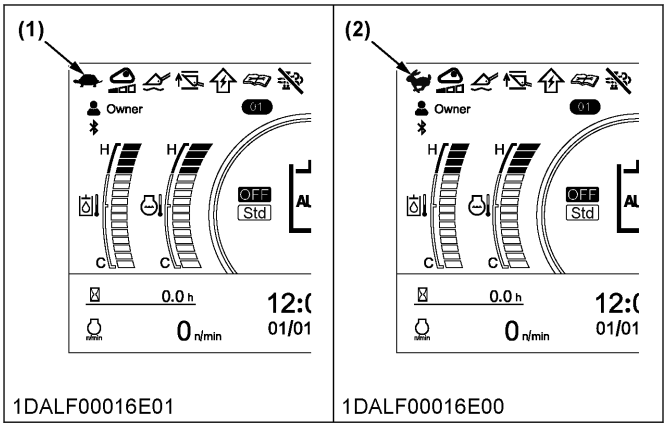
IMPORTANT :

- **The travel speed automatically changes into first speed (low speed) when the drive resistance increases while traveling in second**

speed (high speed). Thereafter, when the resistance decreases, it returns to second speed.
When the travel speed changes into first speed (low speed) automatically, the symbol blinks.



(1) Travel speed switch

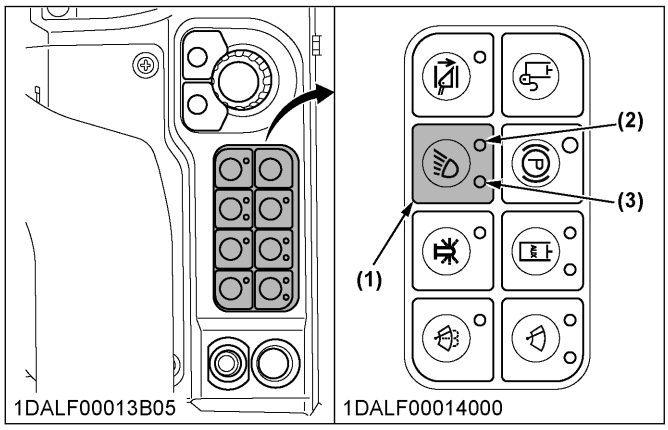


(1) Speed indicator (first speed) *(2) Speed indicator (second speed)*

NOTE :
- **When activating the travel-speed-switch, press it completely. The travel-speed-switch is operative only when the travel system is unlocked.**
- **Each time the travel-speed-switch is pressed, the travel speed is switched between high and low speed.**

6. Working light switch

The working-light-switch is operative when the engine is running, or the start switch mode is the *"ACCESSORY"* mode.
Operate the working light switch as follows:
- Press once and the front working light turns on. The upper indicator lights up.
- Press a second time and the rear working light turns on. Both the upper indicator and the lower indicator light up.
- Press a third time and both the the front working light and the rear working light turn off. Both the upper indicator and the lower indicator go out.



(1) Working light switch
(2) Upper indicator
(3) Lower indicator

Night operation

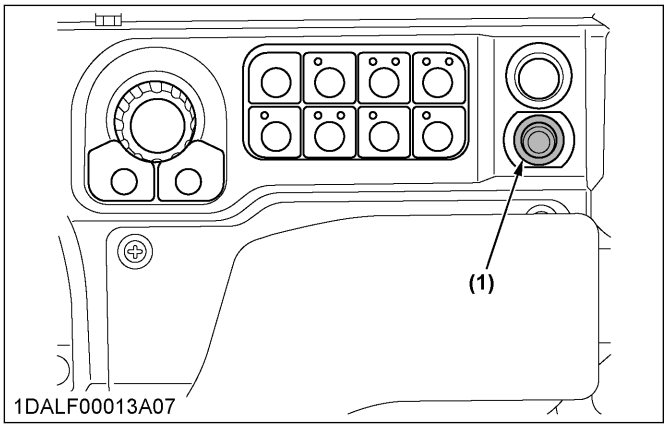
CAUTION
To avoid personal injury:
- **Visibility is reduced in darkness, therefore, in the event the working light alone does not provide sufficient visibility, use additional stationary artificial lighting. Observe all safety rules and any special regulations for night work.**

7. Seat switch

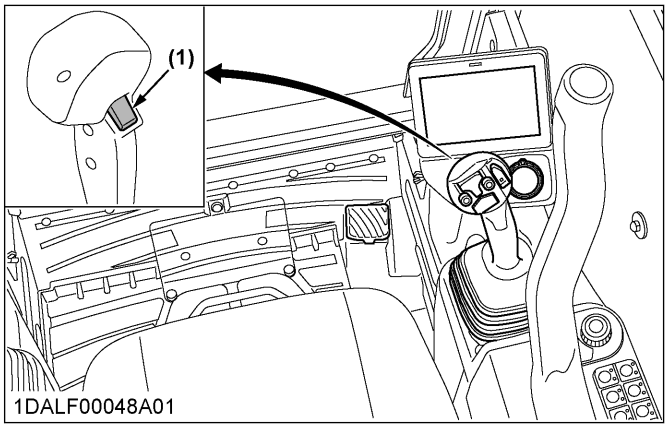
The seat switch is used to detect the operator sitting on the seat and to signal the hydraulic system that it can be unlocked.
When the operator sits on the operator's seat, the seat switch turns on and the hydraulic system can be unlocked.

8. Inhibit diesel particulate filter (DPF) regeneration switch

The inhibit-diesel-particulate-filter (DPF)-regeneration-switch (hereinafter called inhibit-DPF-regeneration-switch) disables the auto DPF regeneration cycle.
Activate the inhibit-DPF-regeneration-switch to turn off the auto DPF regeneration when working around people, animals, plants, and flammable materials. Certain work conditions may require the auto DPF regeneration cycle to be disabled.
1. When pressing the inhibit-DPF-regeneration-switch once, the automatic mode turns off.
2. When pressing the inhibit-DPF-regeneration-switch once again, the automatic mode returns from disable.



(1) Inhibit DPF regeneration switch



(1) Float switch

9. Float switch

⚠ WARNING

To avoid personal injury or death:

- **Make sure that the bucket is lowered to the ground before putting the lift arms in the float position. Putting the lift arms in the float position while they are off the ground will cause the bucket and the lift arms to fall and is extremely dangerous.**
- **Do not drive the machine forward with the lift arms in the float position.**

Entering the float mode

While moving down the lift arm by tilting the right-control-lever forward, press the float switch on the right-control-lever and release it no later than 1 second.

The float mode then turns on.

While in the float mode, the mark on the instrument panel stays on.

IMPORTANT :

- **When the hydraulic oil temperature is low, warm up the machine before entering the float mode. If you try to enter the float mode when the oil temperature is low, a warning message will be displayed on the instrument panel.**

Exiting the float mode

While the machine is in the float mode, perform either of the following methods.

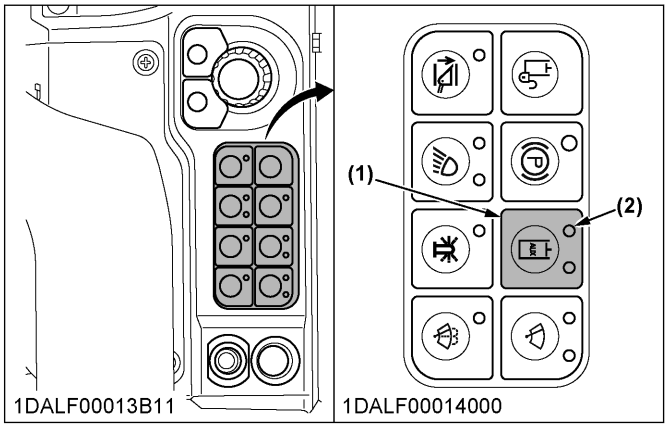
- Press the float switch on the right-control-lever.
- Move up the lift arm (pulling the right-control-lever backward).

10. AUX port switch

The AUX-port-switch is used to enable the AUX port.

The AUX-port-switch can be used only when the AUX-port-variable-switch on the right-control-lever is in the neutral position.

1. When pressing the AUX-port-switch once, the AUX port is unlocked and the AUX mark on the instrument panel lights up. In addition, the upper indicator of the AUX-port-switch lights up.
2. When pressing the AUX-port-switch again, the AUX port then gets locked and the AUX mark on the instrument panel turns off. In addition, the upper indicator of the AUX-port-switch turns off.



(1) AUX port switch *(2) Upper indicator*

11. AUX port switch [High-Flow model only]

This switch is used to enable the AUX port and also to enable the High-Flow mode.

⚠ CAUTION

[High-Flow model only]

To avoid personal injury:

- **Be careful not to use any high-flow-incompatible attachment in the High-Flow**

mode. Otherwise the attachment may be damaged.

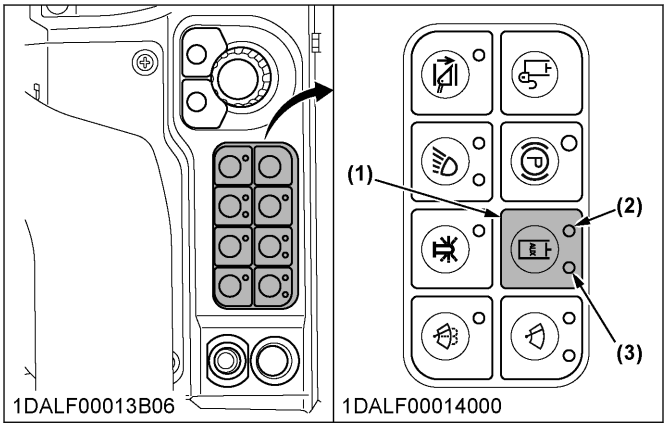
Engaging and disengaging the AUX hydraulic low-flow mode system

To engage:
Press the AUX-port-switch one time. The AUX hydraulic low-flow port turns on and the AUX mark on the instrument panel lights up. In addition, the upper indicator of the AUX-port-switch lights up.

To disengage:
Press the AUX-port-switch again. The AUX hydraulic low-flow port turns off and the AUX mark on the instrument panel turns off. In addition, the upper indicator of the AUX-port-switch turns off.

Engaging the AUX hydraulic high-flow mode system
Make sure that the high-flow attachment can be properly used in the high-flow mode of this machine.
1. Press the AUX-port-switch one time.
2. Press and hold the AUX-port-switch for 3 seconds.
   The AUX hydraulic high-flow port turns on, the AUX symbol on the instrument panel blinks, and the lower indicator of the AUX-port-switch lights up.
3. Then release the AUX-port-switch.
   The AUX hydraulic high-flow system of the machine is activated.

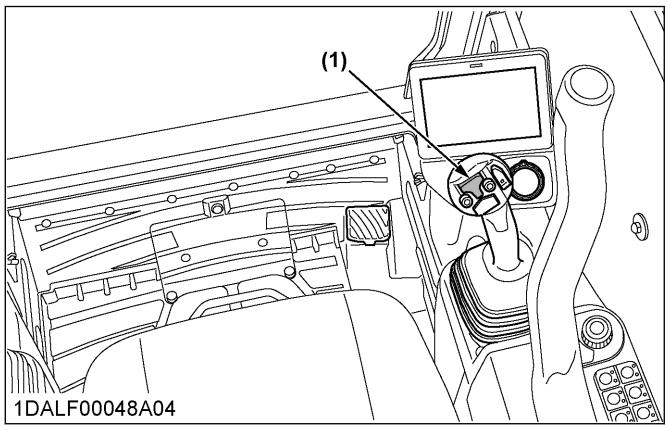
Disengaging the AUX hydraulic high-flow mode system
Press the AUX-port-switch, the AUX high-flow mode port turns off.



(1) AUX port switch
(2) Upper indicator
(3) Lower indicator

12. AUX port variable switch

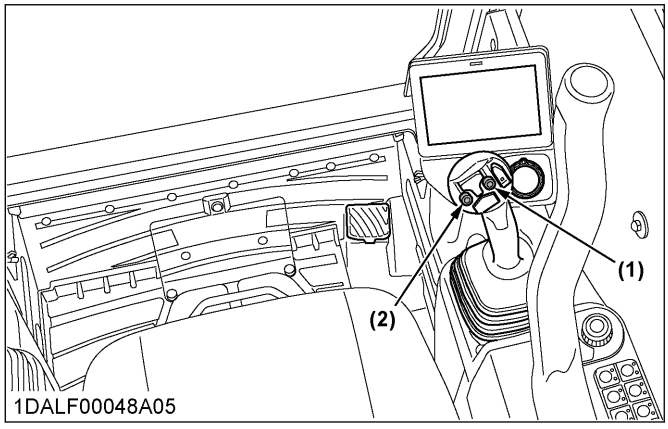
With the AUX port unlocked, the flow rate of the hydraulic oil varies depending on the tilt angle of the AUX-port-variable-switch.
- Right-hand control
  The flow rate of the hydraulic oil through the right-hand port (male) varies.
- Left-hand control
  The flow rate through the left-hand port (female) varies.



(1) AUX port variable switch

13. AUX hold switch

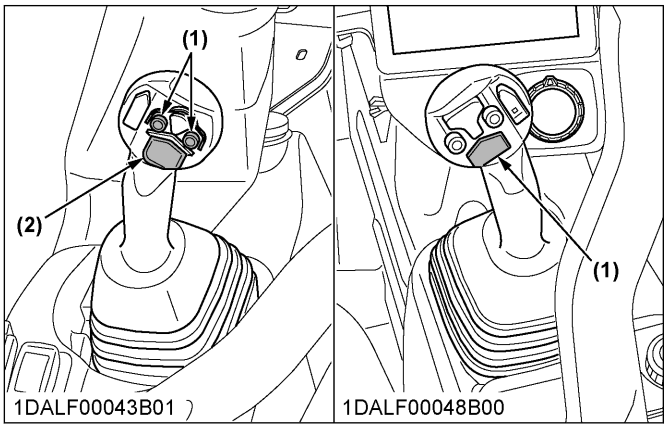
By pressing the right or left AUX-hold-switch, the flow rate of the hydraulic oil is maximized.



(1) AUX hold switch (right) *(2) AUX hold switch (left)*

14. AUX electrical control switch (option)

With the AUX port switch unlocked, the AUX-electrical-control-switch serves to feed electrical power to attachments.



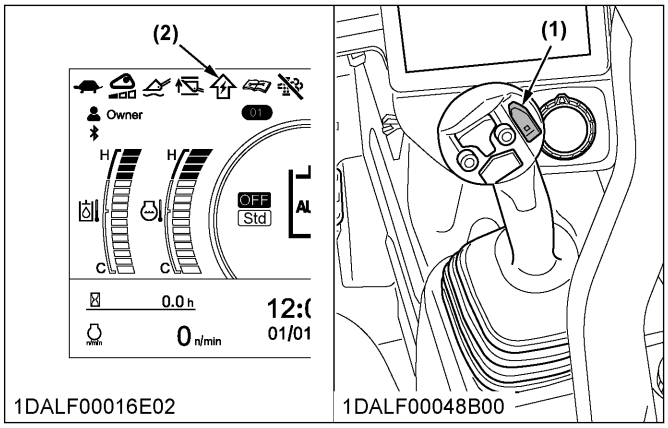
(1) AUX electrical control switch (2) AUX electrical control switch (Multi Function model only)

NOTE :

- **Using the AUX-electrical-control-switch requires the 14-pin coupler (option).**

15. AUX electrical mode change switch (option)

1. By pressing the AUX-electrical-mode-change-switch, the AUX-electrical-mode-change-function will turn on.
   The AUX-electrical-mode-change-indicator and a light on the AUX-electrical-mode-change-switch will light up.
2. By pressing the AUX-electrical-mode-switch again, the AUX-electrical-mode-change-function will turn off.
   The AUX-electrical-mode-change-indicator and the light on the AUX-electrical-mode-change-switch will go off.



(1) AUX electrical mode change switch (Multi Function model only) (2) AUX electrical mode change indicator

NOTE :

- **Using the AUX-electrical-mode-change-switch require the 14-pin coupler (option).**

16. Hydraulic quick-hitch switch [Hydraulic quick-hitch model only]

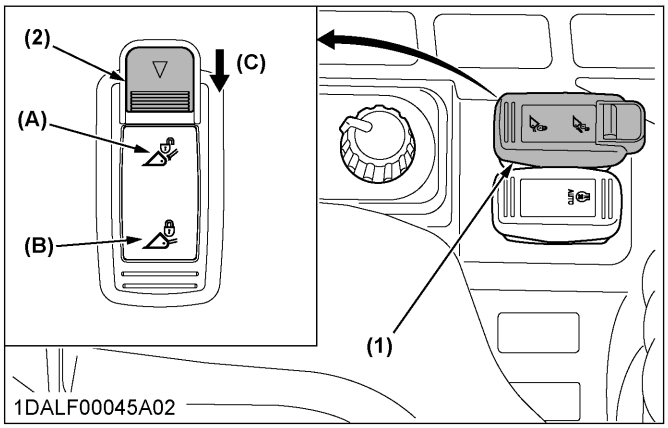
The hydraulic quick-hitch switch is used to attach and detach an attachment by activating the hydraulic quick-hitch.

Press the hydraulic quick-hitch switch. This switch has a guard to protect against inadvertent activation. To press the switch, slide the guard and unlock the attachment.

The quick coupler pin can then be retracted. After the quick coupler pins have been retracted, the release button can be let go.

NOTE :

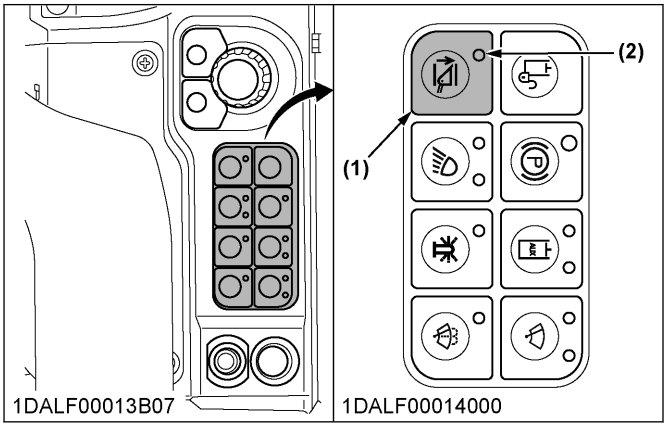
- **Unlocking is only possible while the unlock switch is pressed. After unlocking the attachment, press the hydraulic quick-hitch switch back to the lock position.**



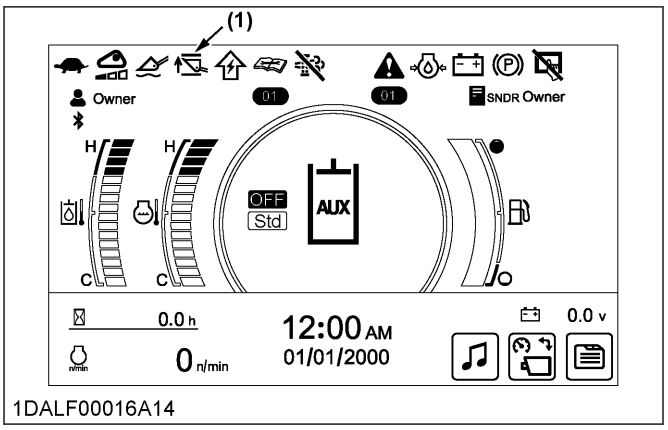
(1) Hydraulic quick-hitch switch (2) Guard (A) Unlock (B) Lock (C) Slide

17. Self leveling switch

When pressing the self-leveling-switch, the self leveling indicator on the instrument panel lights up and the upper indicator on the self-leveling-switch lights up.
When pressing the self-leveling-switch again, self leveling indicator on the instrument panel turns off and the upper indicator on the self-leveling-switch turns off.



(1) Self leveling switch *(2) Upper indicator*



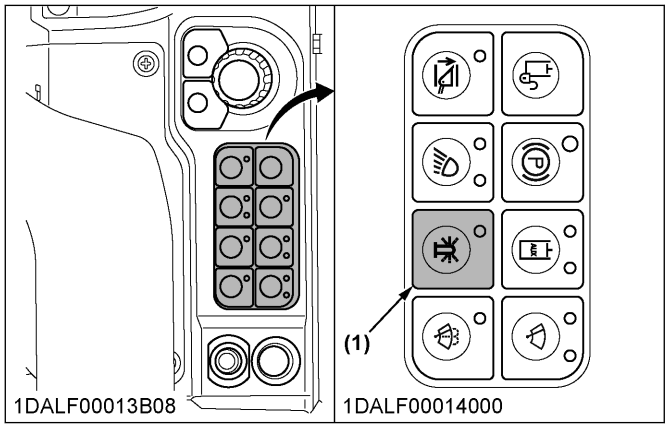
(1) Self leveling indicator

NOTE :

- **Self leveling is only operational during the lift arms raise function.**

18. Beacon light switch

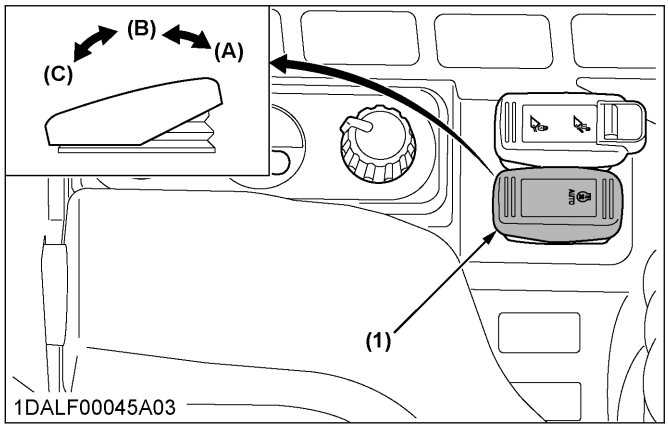
This machine is only equipped with the beacon light switch (It contains a coupler for connecting and is located in the speaker cover at the back right of the cab).
The machine is not equipped with the beacon main part. Please install the part if required.



(1) Beacon light switch

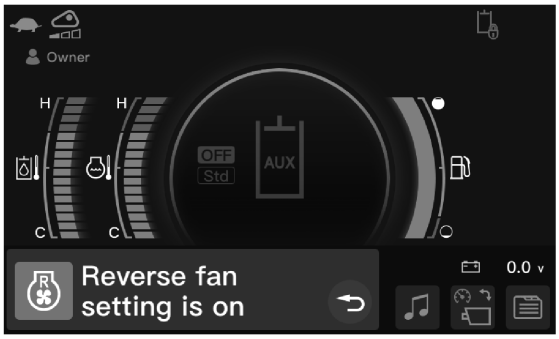
19. Reversing fan switch (Option)

This switch operation reverses the direction of the cooling fan for several seconds. The reversing fan is used to remove dirt or debris from the air-conditioner condenser and the radiator.
The operator can select automatic or manual operation of the reversing fan.

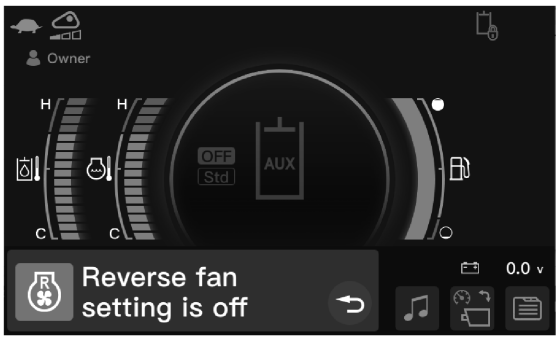


(1) Reversing fan switch
(A) Manual
(B) Auto
(C) Off

When the reversing fan setting is changed on or off, a popup will appear on the display.



1DALF00420A01enUS



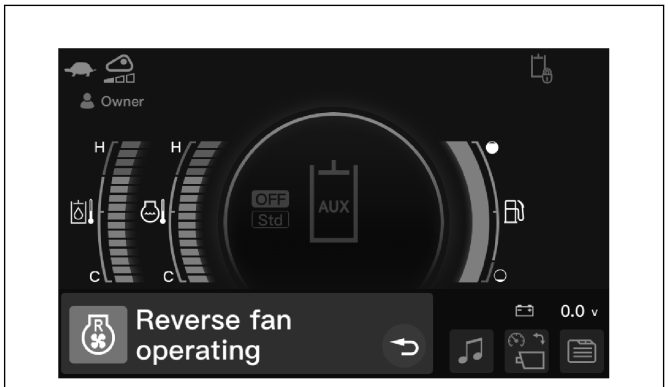
1DALF00421A01enUS

Automatic operation

1. Press the reversing fan switch on the left control panel to put the switch into *"auto"* position.
   The machine will reverse the fan automatically based on preset interval as long as automatic operation is selected.
   While the reversing fan is operating, a popup will appear on the display.

Manual operation

1. Press and hold the reversing fan switch on the left control panel to put the switch into "manual" position.
   The machine will reverse the fan while holding down the switch.
   While the reversing fan is operating, a popup will appear on the display.
2. The switch will return to automatic operation when released.



1DALF00422A01enUS

NOTE :

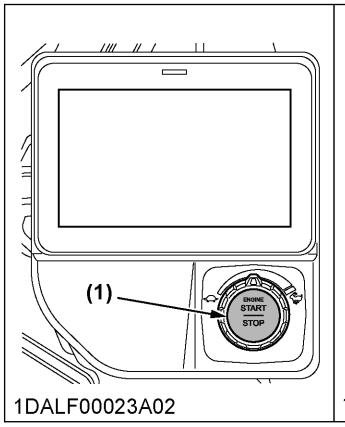
- **The fan will not reverse when fluid temperatures approach overheating conditions. Cleaning or servicing the cooling system may be required to continue operation.**
  Reversing fan is disabled when the engine coolant or hydraulic fluid temperature is too high or too low.

20. Emergency engine stop button

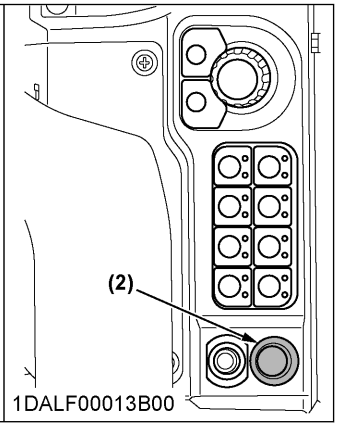
IMPORTANT :

- **Return the stop button to its original position after the engine stops.**

The engine stops when the start switch is pushed off. If the engine does not stop, pull the stop button to stop the engine.



1DALF00023A02



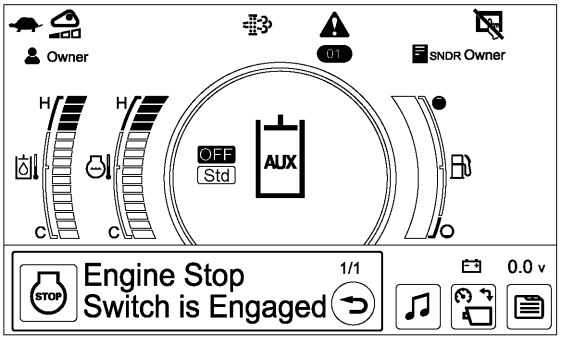
1DALF00013B00

(1) Start switch

(2) Emergency engine stop button

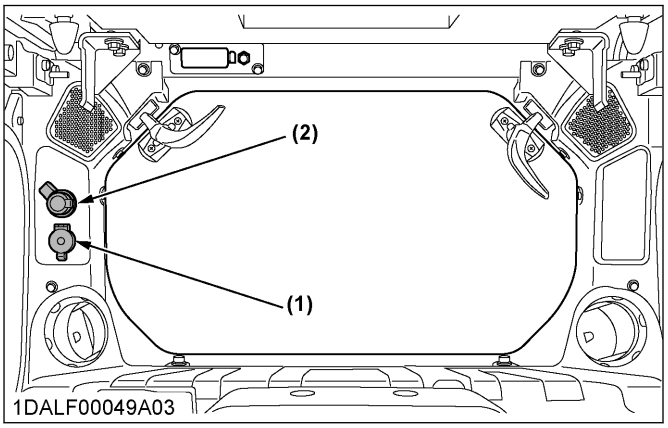
NOTE :

- **If the emergency engine stop button is activated, a message will appear on the display as shown in the following figure.**



21. Electrical outlet and USB outlet

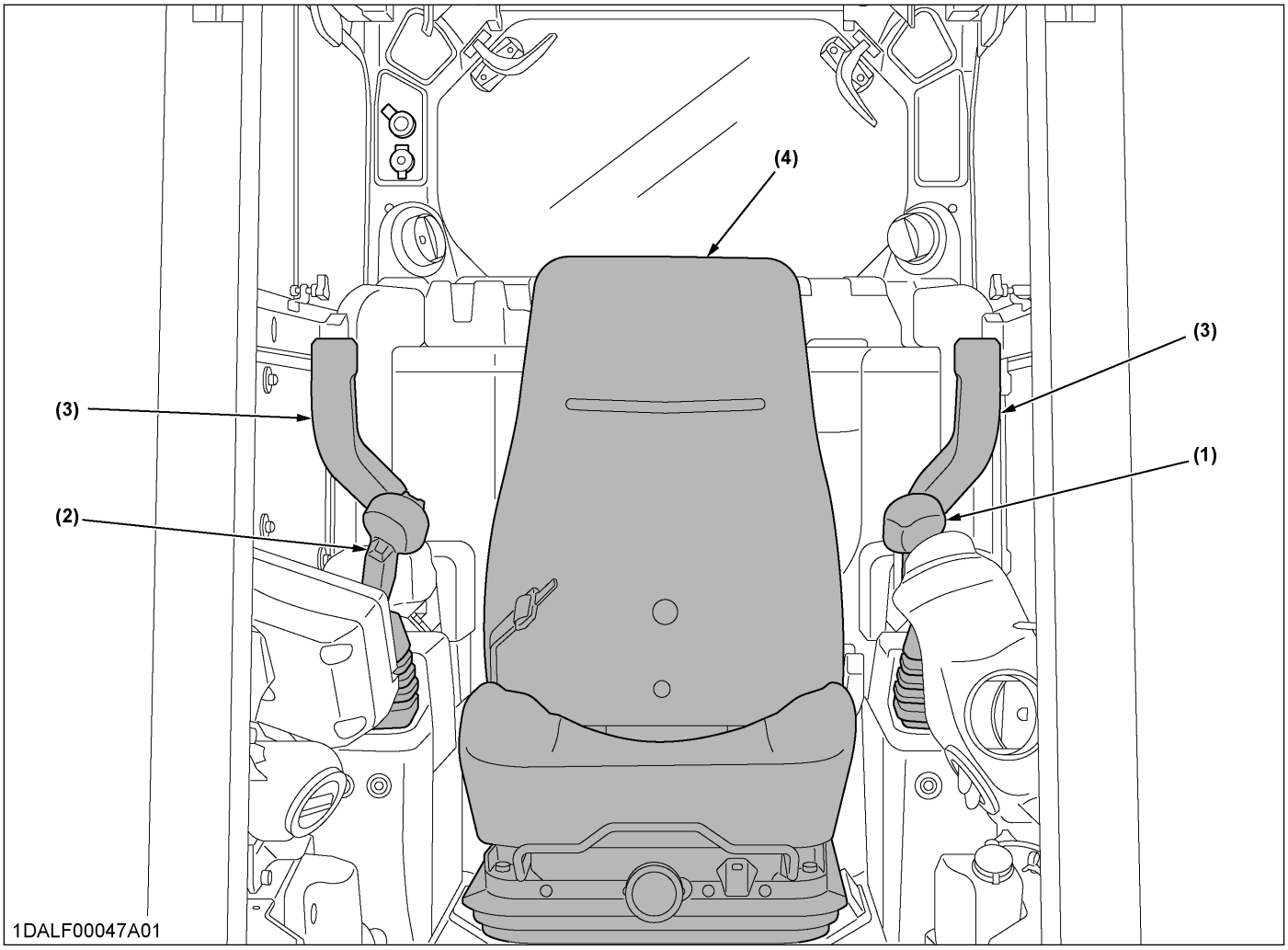
Max power of electrical outlet is less than 120 W.
If you need another auxiliary electric, contact your Kubota dealer for details.
Max output current of USB outlet is less than 2 A.

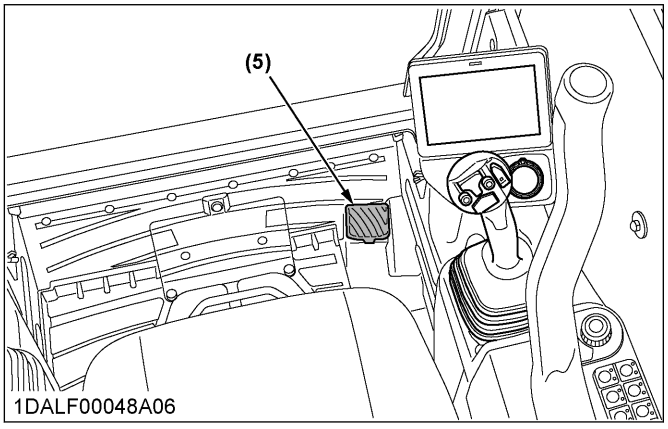


(1) Electrical outlet *(2) USB outlet*

PEDAL AND LEVERS

CONTROL PEDALS AND LEVERS





(1) Left control (traveling) lever
(2) Right control (front operating) lever
(3) Armrest
(4) Seat
(5) Accelerator pedal

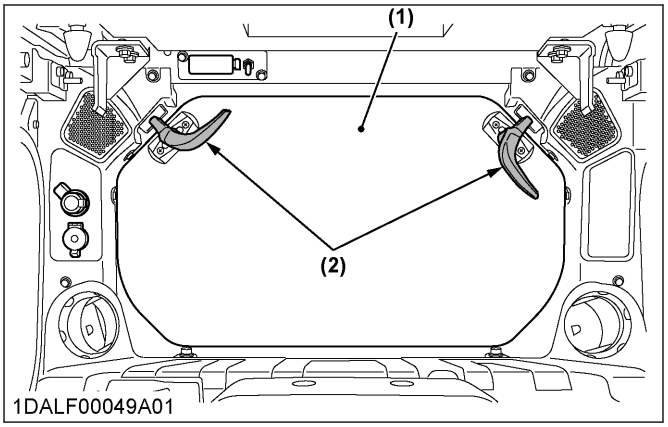
SAFETY FEATURES

⚠ WARNING
To avoid personal injury or death:
- **Place the machine on a firm, flat and level surface**
- **Before starting the engine, make sure that no one is near the machine.**

HOW TO USE THE EMERGENCY EXIT

This window is equipped with latches. If you should become trapped in the cab, you can open the rear window to get out.

1. Turn both latches clockwise until they disengage from the window frame.
2. Push the rear window out of the rear of the operator cab.
3. Exit through the rear of the operator cab.



(1) Window *(2) Latch*

OPC FUNCTION

OPC function is used to detect the operator sitting on the seat and to signal the hydraulic system that it can be unlocked.
When the operator sits on the operator's seat and lower the armrests, the hydraulic system can be unlocked.

HOW TO USE AND CHECK THE FUNCTION OF THE ARMREST

1. Sit in the operator's seat.
2. Fasten the seat belt.
3. Start the engine.
4. Push down both armrests.
5. Push on the hydraulic-unlock-switch, and make sure that the hydraulic-lock-indicator on the instrument panel goes out.
6. Move the right-control-lever (front-operating-lever) slowly, and make sure that the lift arms and bucket move slowly.
7. Raise the left armrest, and make sure that the hydraulic-lock-indicator on the instrument panel lights up.
8. Move the right-control-lever (front-operating-lever), and make sure that the lift arms and bucket do not operate.
9. Push down the left armrest.
10. Push on the hydraulic-unlock-switch, and make sure that the hydraulic-lock-indicator on the instrument panel goes out.
11. Raise the right armrest, and make sure that the hydraulic-lock-indicator on the instrument panel lights up.
12. Move the right-control-lever (front-operating-lever), and make sure that the lift arms and bucket do not operate.

When checking the function of the armrest, also check the OPC function.
(See HOW TO USE AND CHECK THE SEAT FUNCTION on page 107)

HOW TO USE AND CHECK THE SEAT FUNCTION

1. Sit in the operator's seat.
2. Start the engine.
3. Push down both the armrests.
4. Push on the hydraulic-unlock-switch, and make sure that the hydraulic-lock-indicator on the instrument panel goes out.

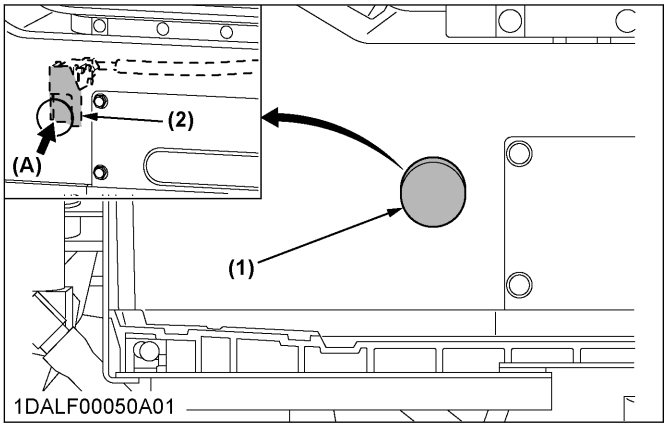
HOW TO CHECK THE BACK-UP ALARM

1. Start the engine.
2. If clear, engage hydraulics and start to reverse. Alarms should sound. If not, check by your KUBOTA dealer.

HOW TO USE THE FORCED LIFT ARMS LOWERING DEVICE

Even if the engine is stopped, you can lower the lift arms without restarting the engine.

1. Slide the operator's seat all the way backward.
2. Remove the rubber cap.
3. Push the lever to make sure that the lift arms descend.
4. Release the lever to make sure that the lift arms stop descending.
5. Place the rubber cap back to its original position.



(1) Rubber cap
(2) Lever
(A) Push

EXHAUST AFTERTREATMENT DEVICE

CATALYST-CONTAINING DIESEL-PARTICULATE-FILTER (DPF) DEVICE

The catalyst-containing-DPF-device has the following two functions.

- Reducing certain emissions, like hydrocarbon (HC) and carbon monoxide (CO), to harmless carbon dioxide (CO_2) and water.
- Trapping and eliminating PM (particulate-matter) through the filter at the same time.

To meet EPA regulations, it is necessary to service the DPF, such as renewing or cleaning the filter at regular intervals.

Carefully read the following items before using the machine. The machine owner and operator are responsible for using the catalyst-containing-DPF-device correctly to protect the environment and to prevent damage to the DPF, and comply with federal and state regulations.

Use instructions

IMPORTANT :

- **If you fail to use the specified fuel or engine oil, the cleaning interval of the DPF cannot be secured and the DPF will clog after a shorter operating time than expected.**

The cleaning interval of the DPF	3000 hours to 8000 hours

- **Regardless of the service hours, clean the DPF if the message "`DPF requires cleaning soon`" appears on the display.**
- **Fuel**
  Use the following fuel.
  Use of other diesel fuel other than the following fuel may adversely affect the engine and the emission-control-device and may damage them.

Fuel	ULTRA LOW SULFUR FUEL (S15)

- **Engine oil**
  Use the following engine oil.

Engine oil	DPF-compatible engine oil (CJ-4 or CK-4)

  Any unspecified oil may damage the DPF earlier than expected and lower fuel economy.

Prohibited unnecessary idling

Generally speaking, the lower the engine rpm is, the lower the exhaust gas temperature is. It is more difficult to burn PM (particulate-matter) in the DPF at low rpm. With this in mind, do not keep the engine idling unnecessarily.

If you leave the machine with the engine running, to protect the DPF, the engine may automatically stop.

DPF regeneration system

On the Kubota CTL, the ECU prompts the DPF-regeneration cycle. When starting the engine, auto-regeneration-mode is set by default. When all the conditions are met, regeneration automatically starts, unless the inhibit switch is engaged.

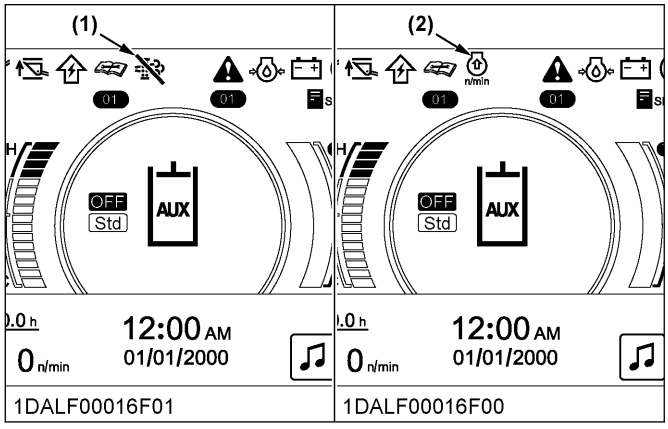
REGENERATION OF DIESEL-PARTICULATE-FILTER (DPF)

⚠ WARNING

To avoid personal injury or death:

- **When the DPF is in the regenerating mode, the exhaust gas and the DPF muffler become hot. During the DPF regeneration, take into account that the DPF muffler will be very hot and keep the machine away from other people, animals, plants, and flammable material. Also keep the area near the DPF muffler clean and away from flammable material.**
- **Do not leave the machine during DPF regeneration.**

Indicator symbol and buzzer indicate the DPF level of PM during operation of the machine.



(1) DPF regeneration indicator (2) Engine rev up indicator

NOTE :

- **During DPF regeneration cycle, keep the surrounding environment in mind. Do not allow the ambient temperature to rise excessively due to heat from the DPF regeneration. If the**

ambient temperature rises excessively, activate the inhibit switch.

- **The DPF regeneration cycle only starts in the following conditions. If any of the conditions are not met, the DPF regeneration cycle may be interrupted.**

Coolant temperature	above 50 ℃
DPF temperature	above 250 ℃
Engine rpm	above 1800 rpm

- **The DPF regeneration usually takes about the following times.**

DPF regeneration time	15 minutes to 20 minutes

The DPF regeneration time depends, however, on the outside air temperature, exhaust gas temperature and filter PM level.

- **Do not interrupt the DPF regeneration cycle unnecessarily.**

AIR CONDITIONER

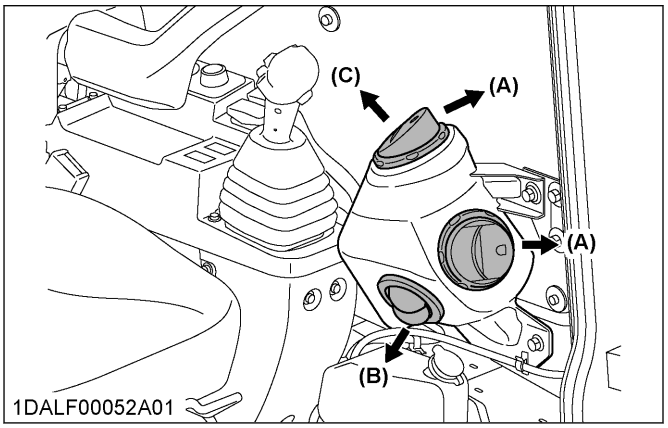
ADJUSTING THE AIR FLOW OF THE AIR CONDITIONER

IMPORTANT :

- **Do not allow water to enter the fresh-air-inlet when washing the machine.**

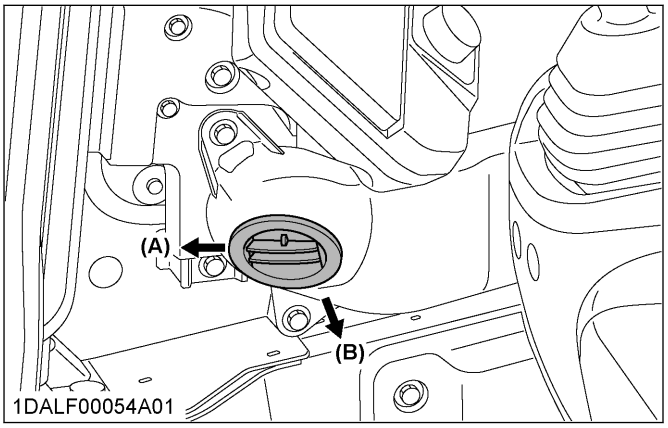
Adjust the 6 air-outlet-ports to obtain the desired air flow.
The air flow in the cab and the fresh air flow into the cab flow is shown in the following figure.

Front air outlet port (left side)



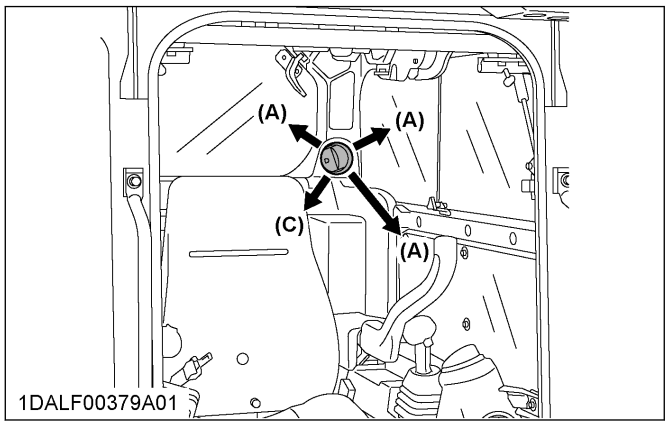
(A) Windshield *(C) Chest area*
(B) Foot area

Front air outlet port (right side)



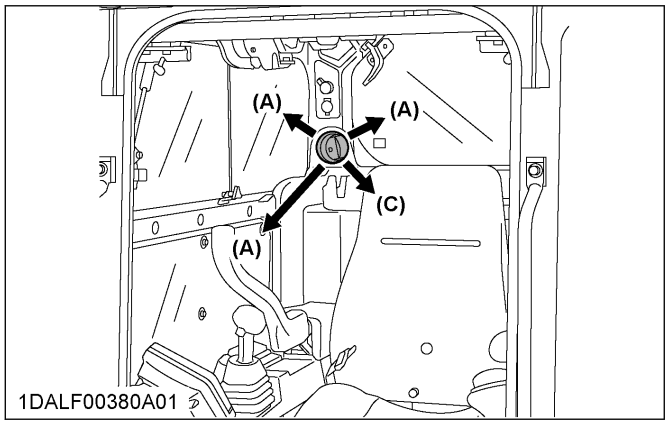
(A) Windshield *(B) Foot area*

Rear air outlet port (left side)

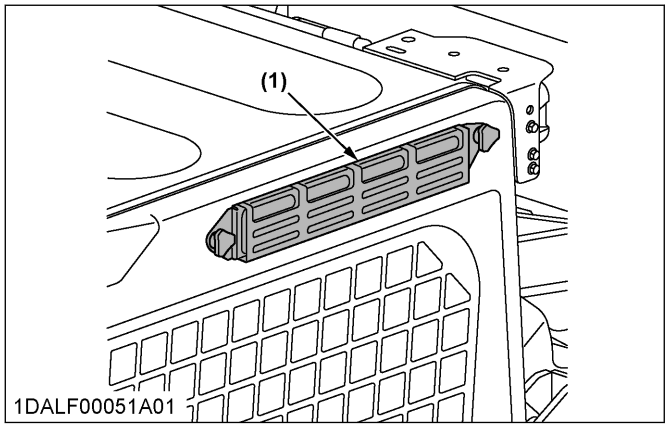


(A) Windshield *(C) Chest area*

Rear air outlet port (right side)



(A) Windshield *(C) Chest area*



(1) Fresh air inlet

AIR CONTROL VENT

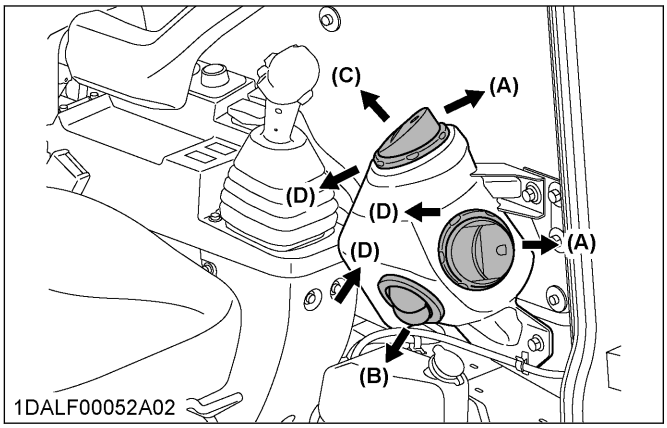
⚠ CAUTION
To avoid personal injury:

- **Replace the hoses of the air-conditioner every two years.**
- **Inspect the air control vent daily.**
  Have the machine repaired immediately if any of the following flaws are discovered.
  The following flaws may cause burns or injury, and they may also cause engine failure and serious damage.
  - **Scratches, cracks, or swelling in the hoses of the air-conditioner.**
  - **Water leaks at joints or connecting points.**
  - **Missing or damaged the hoses-protective sleeve or grommet of the air-conditioner.**
  - **Loose mounting bolt and damaged bracket.**
- **Do not touch the hoses of the air-conditioner or the heater with your hand. You may get burned.**
- **If the window fails to defrost in extreme conditions or becomes cloudy when dehumidifying the cab, remove moisture with soft cloth.**
- **Never block all of the air outlets because the system malfunction may occur.**

Air outlet

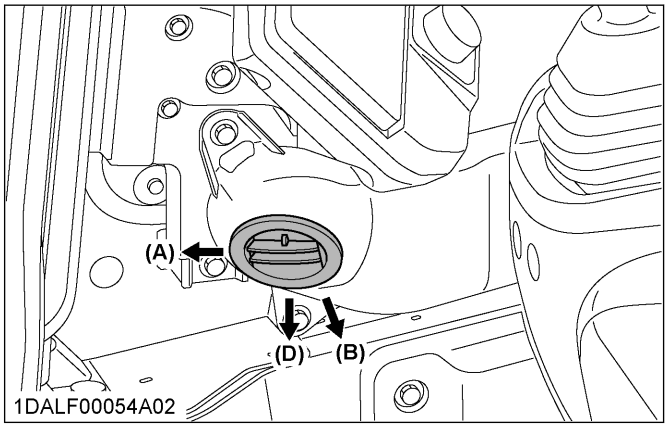
You can adjust the air-outlet-ports as required independently. To defrost the windshield, rotate the air-outlet-ports toward the windshield.

Front air outlet port (left side)



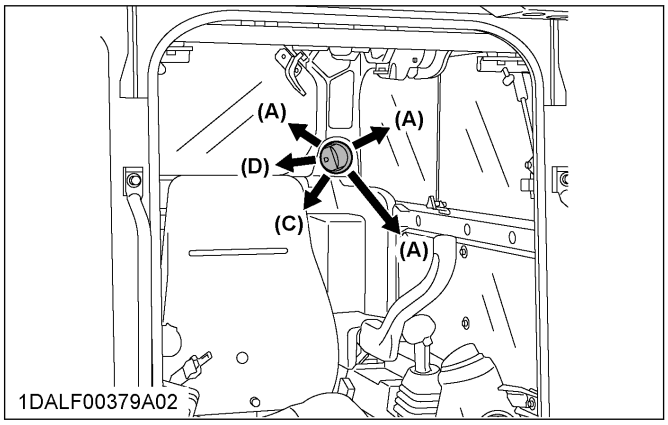
(A) Windshield
(B) Foot area
(C) Chest area
(D) Closed

Front air outlet port (right side)



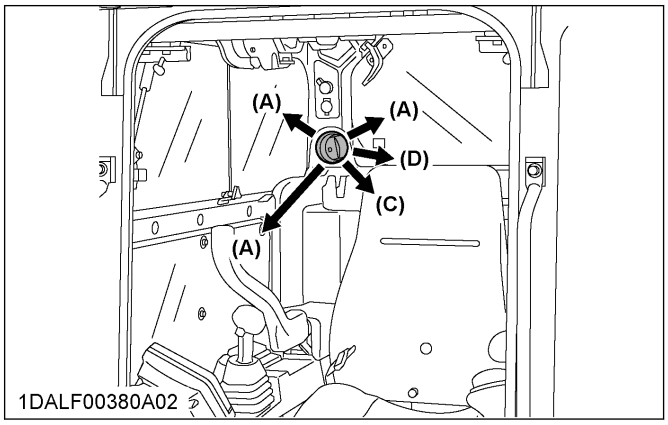
(A) Windshield
(B) Foot area
(D) Closed

Rear air outlet port (left side)



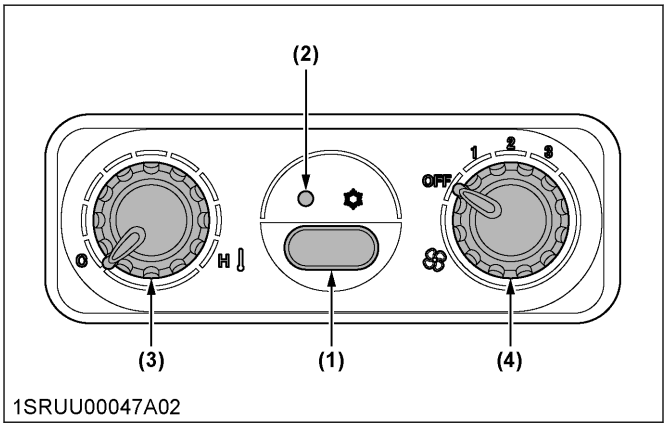
(A) Windshield
(C) Chest area
(D) Closed

Rear air outlet port (right side)



(A) Windshield
(C) Chest area
(D) Closed

HOW TO USE THE CONTROL PANEL



(1) Air conditioner switch
(2) Indicator light
(3) Temperature control dial
(4) Blower switch

Air-conditioner switch and indicator light

1. Push the air-conditioner-switch to activate the air-conditioner.
   An indicator light will light up when the air-conditioner-switch is set to on.
2. Push the air-conditioner-switch again to turn the air-conditioner off, in which case the indicator light will go off.

NOTE :

- **The air-conditioner is operable only during engine operation.**

Temperature control dial

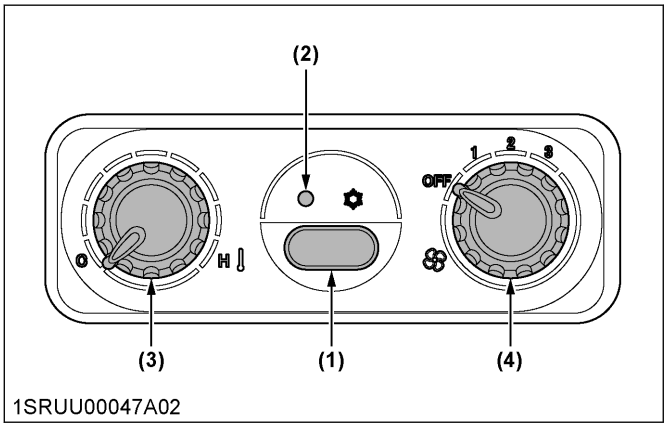
1. Set the temperature-control-dial at the desired position to obtain the desired air temperature.
   - Move the temperature-control-dial to the right to obtain warmer air.
   - Move the temperature-control-dial to the left to obtain cooler air.

Blower switch

The air flow (fan speed) equips 3 levels. At the **[3]** position, you can obtain the largest air flow.

1. Set the blower switch at the desired position to obtain the desired air flow (fan speed).

OPERATING THE CONTROL PANEL



(1) Air conditioner switch
(2) Indicator light
(3) Temperature control dial
(4) Blower switch

Heating air

1. Adjust the blower switch **[1]**, **[2]**, and **[3]** and the temperature-control-dial to achieve the desired temperature level.

NOTE :

- **In summer, when the heater is not used, keep the temperature-control-dial at the cool (leftmost) position. Otherwise, hot air will raise the temperature in the cab.**

Dehumidifying-heating

1. Press and turn on the air-conditioner-switch.
2. Turn the blower switch on **[1]**, **[2]**, or **[3]**.
3. Adjust the temperature-control-dial to the cool (leftmost) or an intermediate position to achieve the desired temperature level.

NOTE :

- **Close the door while the air-conditioner is on, otherwise you may overload the compressor.**

Cooling

1. Press and turn on the air-conditioner-switch.
2. Turn the blower switch on **[1]**, **[2]**, or **[3]**.
3. Adjust the temperature-control-dial to the cool (leftmost) or an intermediate position to achieve the desired temperature level.

NOTE :

- **Close the door while the air-conditioner is on, otherwise you may overload the compressor.**

Defrosting or demisting

To defrost or demist the windshield, take the following steps.

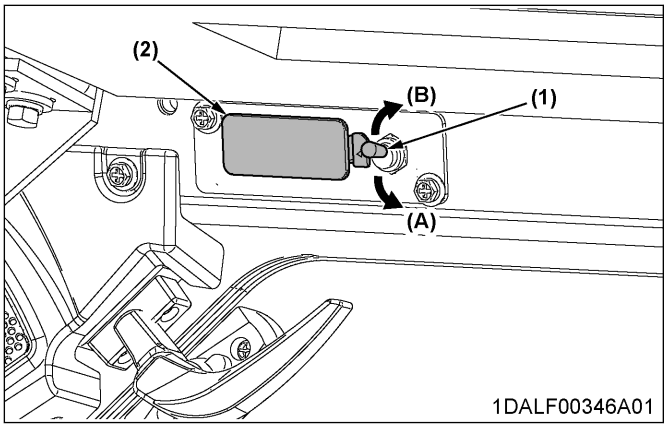
1. Open the front-air-outlet and direct it to the windshield.
2. Set the blower switch to the **[3]** position and set the temperature-control-dial to **[warm]** (rightmost) position.

OPERATION

CAB TYPE MACHINE

1. Interior lamp

The interior-lamp-switch is operative even when the machine is not turned on.



(1) Interior lamp switch
(2) Interior lamp
(A) On
(B) Off

2. How to use the wiper/washer switch [Closed cab model]

IMPORTANT :

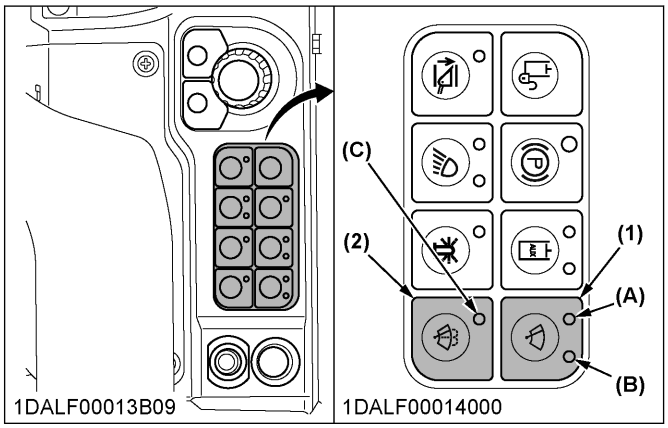
- **Do not activate the washer switch if the tank for the cleaning fluid is empty because the pump can be damaged.**
- **Do not activate the wiper switch if the window is dry. In this case, make sure that the cleaning fluid is applied to the pane before activating the wiper.**
- **In freezing conditions, make sure that the wiper blade is not frozen to the glass before switching-on of the wiper switch. The motor can be damaged if the wiper system is used under freezing conditions.**

Wiper switch

1. Press the wiper switch to activate the windscreen wiper when the engine is running, or the start switch mode is *"ACCESSORY."*
   - Press once and the wiper activates intermittently. The upper indicator lights up.
   - Press a second time and the wiper activates continuously. The lower indicator lights up.
   - Press a third time and the wiper stops. Both the upper indicator and the lower indicator go out.

Washer switch

1. Press the washer switch to activate the washer when the engine is running, or the start switch mode is *"ACCESSORY."*
   - The washer system runs for as long as the switch is held down. The indicator lights up.
   - Hold down the switch for longer, and the wiper starts.
   - Release the switch, and the wiper will swing several times before stopping.



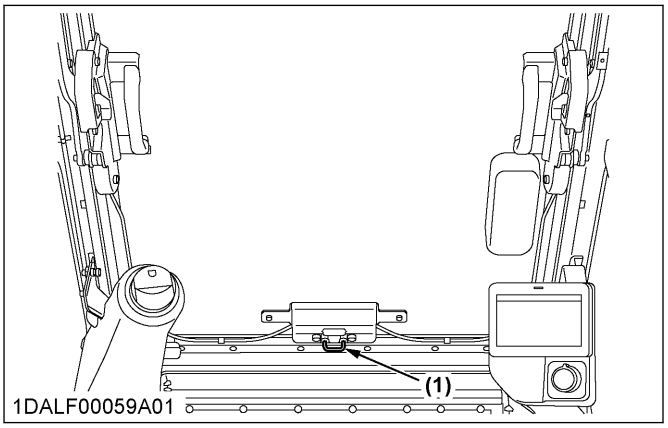
(1) Wiper switch
(2) Washer switch
(A) Upper indicator
(B) Lower indicator
(C) Indicator

3. Opening and closing the cab door [Closed cab model]

⚠ WARNING

To avoid personal injury or death:

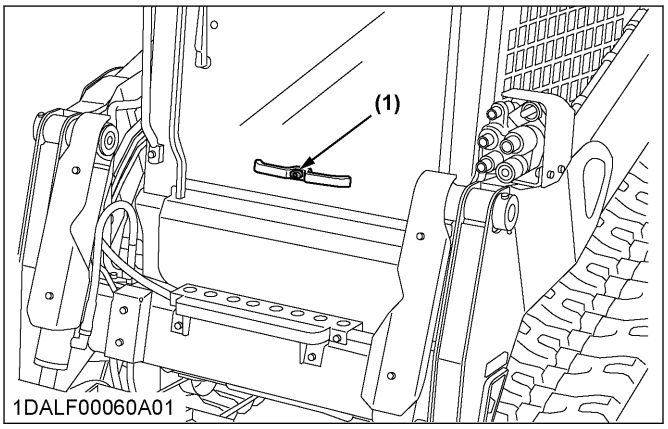
- **Keep hands and feet away from the area between the cab door and the cab frame. Otherwise the risks of serious injuries by pinching or crushing to the operator increase.**
- **Other persons should stay away when opening the cab door.**
- **Do not use the lock lever at the bottom of the cab door from inside.**
- **Use caution and both hands to open/close the cab door to avoid contact with your head.**



(1) Lock lever (bottom)

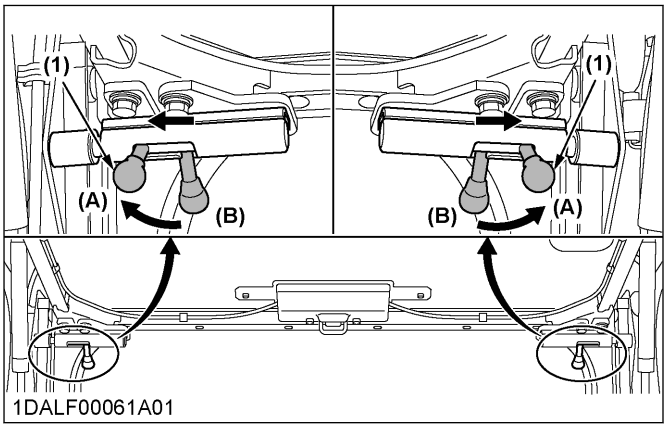
Opening the cab door from outside

1. Unlock the cab door and push the button. The cab door will open upward.



(1) Button

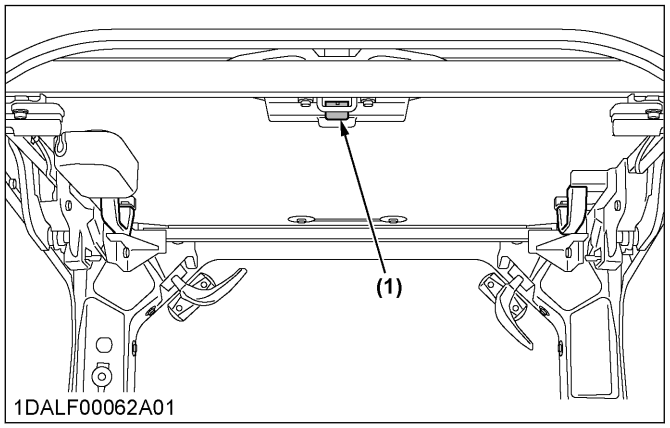
2. Push the cab door all the way up until it locks to the top of the cab.
3. After opening of the cab door, lock in place by moving both lock pins to outside to prevent the cab door from inadvertently falling.



(1) Lock pin
(A) Lock
(B) Unlock

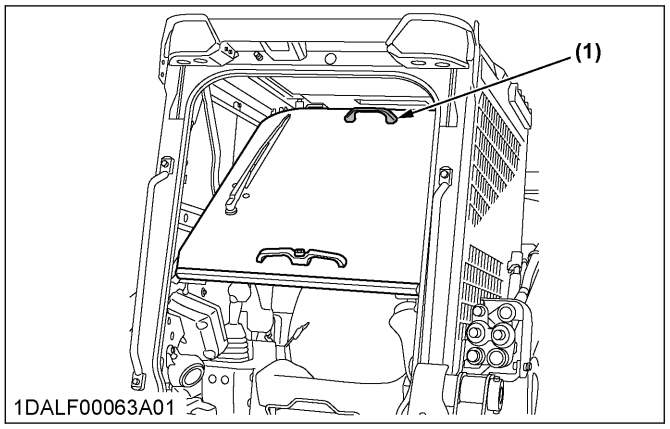
Closing the cab door from outside

1. Before closing, unlock the cab door in place by moving both lock pins to inside.
2. Push the lock lever at the bottom of the cab door, and slowly lower the cab door half way.



(1) Lock lever (bottom)

3. Grasp the top handle and pull it toward yourself to latch the cab door.

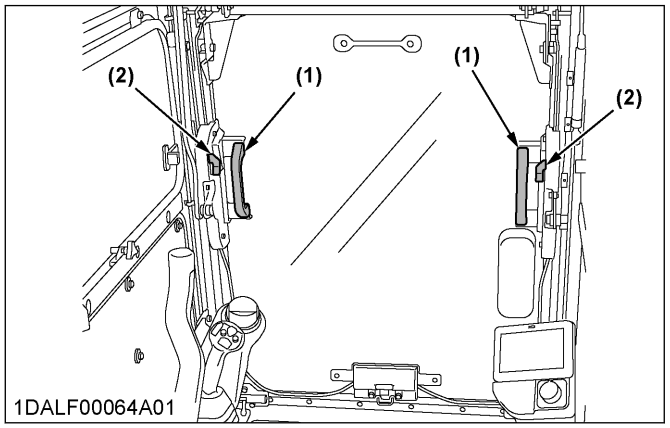


(1) Top handle

4. When leaving the machine, always lock the cab door.

Opening the cab door from inside

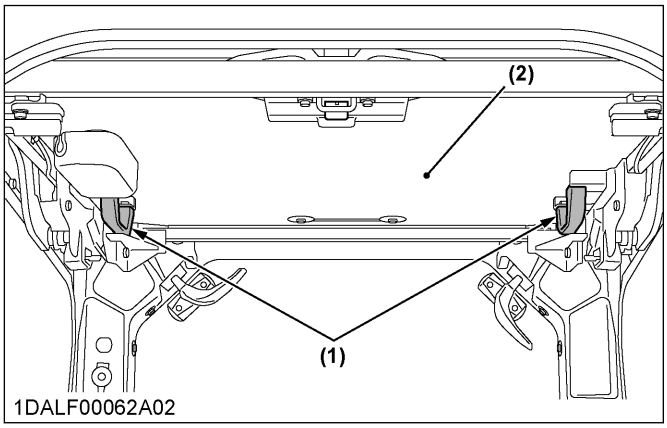
1. Hold the handles tightly with both hands, and push the lock levers beside the handles.



(1) Handle
(2) Lock lever

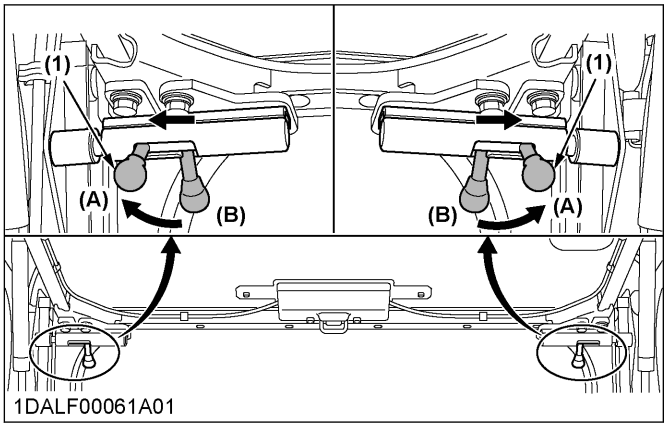
2. Pull the handles slightly upward and toward yourself to let the cab door slide inward.

3. Pull the cab door all the way to the lock at the back of cab.



(1) Handle *(2) Cab door*

4. After opening the cab door, lock it in place by moving both lock pins to outside to prevent the cab door from inadvertently falling.



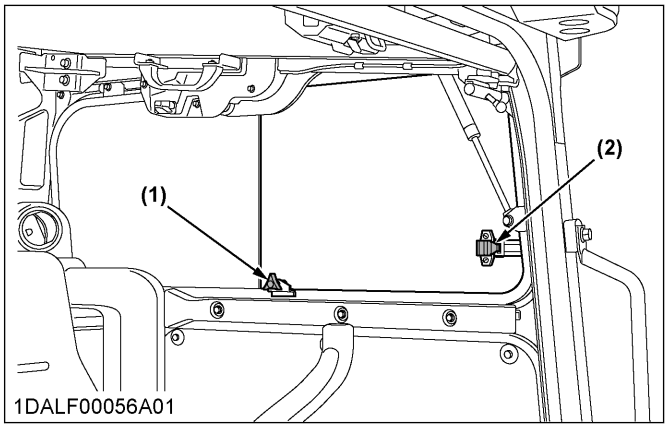
(1) Lock pin *(A) Lock* *(B) Unlock*

Closing the cab door from inside

1. Before closing the cab door, unlock it in place by moving both lock pins to inside.
2. Hold the handles tightly with both hands.
3. Pull the handles down and forward to move the cab door from the horizontal to the vertical position.
4. Push the cab door until it is latched in the cab door opening.

4. Opening and closing the side cab window [Closed cab model]

1. Turn the knob bolt before opening the window.
2. Pull the grip to release the lock, and pull side cab window to open it to the rear or to the front.
3. To close the side window, slide it forward or backward until the lock snaps into the window frame.
4. Turn the knob bolt after closing the window.



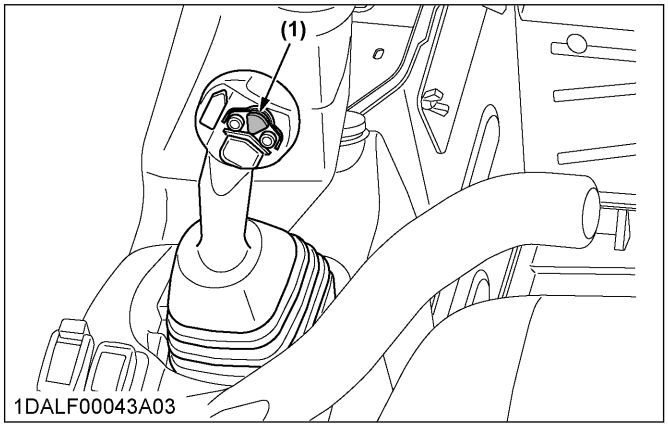
(1) Knob bolt *(2) Grip*

OPERATION OF THE ENGINE

⚠ WARNING

To avoid personal injury or death:

- **To avoid the danger of exhaust-fumes-poisoning, do not operate the machine in a closed building without proper ventilation.**
- **Always start the engine from the operator's seat. Do not start the engine while standing next to the machine. Before starting the engine, sound the horn to get the attention of persons standing nearby.**



(1) Horn switch

IMPORTANT :

- **Do not use starting fluid or ether.**
- **In order not to overload the battery and starter, avoid engaging the starter for more than 10 seconds.**
- **If the engine does not start in 10 seconds, please wait 20 seconds or more, before restarting.**

1. Starting the engine

⚠ WARNING

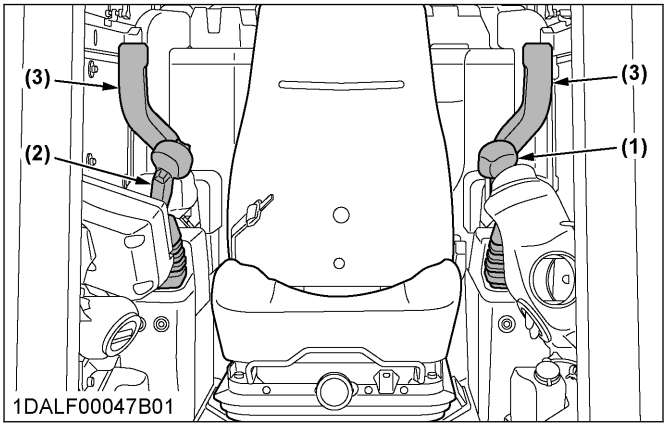
To avoid personal injury or death:

- **The operator should not depend solely on the warning lights, but should always conduct the routine checks section.**
  (See MAINTENANCE INTERVALS on page 149)
- **Make sure that the rear door is securely closed before starting the engine.**

IMPORTANT :

- **The starter motor consumes large current. Avoid running it longer than 10 seconds continuously.**
  If the engine fails to start within 10 seconds, follow the following procedure.
  1. **Make sure that the start switch is in the *"OFF"* mode.**
  2. **Wait for 20 seconds or longer.**
  3. **Repeat the following step 2. through step 5..**
- **If the battery is dead and must be connected to another battery with jumper cable, use a 12 V battery. Never use any 24 V batteries.**
- **To protect the machine, the machine is equipped with engine rpm limit control.**
  When the engine rpm is limited, the master warning light starts blinking.

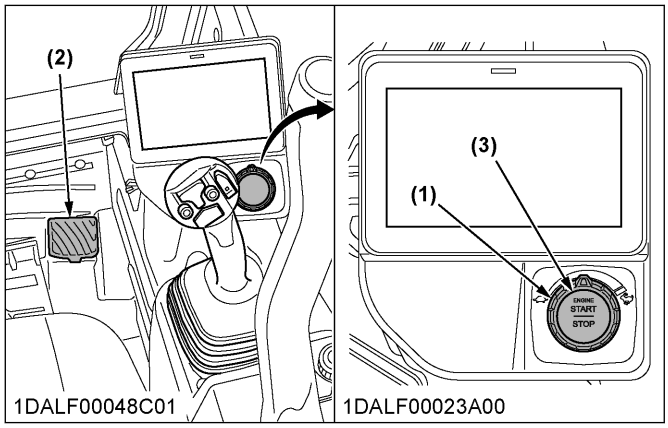
Before starting the engine, make sure that the armrests are in the raised position, the control levers are in their neutral position, and the seat belt is fastened correctly.



(1) Left control (traveling) lever
(2) Right control (front operating) lever
(3) Armrest

Start the engine in the following manner:

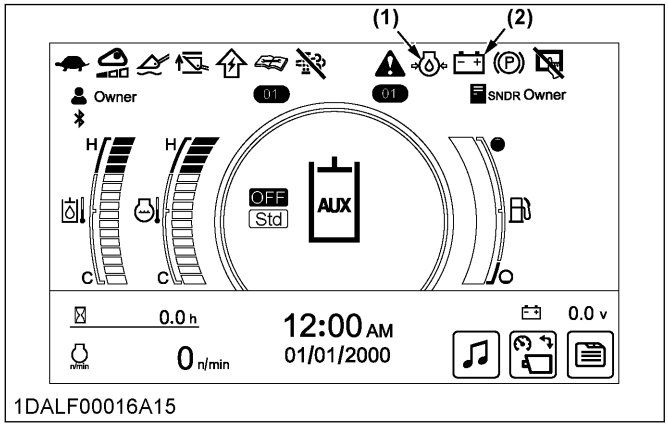
1. Set the engine-speed-control-dial to 1/2 position and keep the accelerator pedal free.
2. Press the start switch to change the mode from the *"OFF"* mode to the *"ACCESSORY"* mode.
   (See Start switch on page 97)



(1) Engine speed control dial
(2) Accelerator pedal
(3) Start switch

The glow-plug-indicator will light up while the engine is preheated and will go out automatically after preheating is finished.

3. Make sure that the and marks appear on the instrument panel.
   If not, the system is malfunctioned. Contact your local KUBOTA dealer.



(1) Engine oil pressure indicator
(2) Battery charge warning indicator

4. Press and hold the start switch, and release your finger after the engine has started.
5. Check if all warning indicators (except the hydraulic-lock-indicator and the parking-brake-warning-indicator) have gone out. If a warning indicator still be lit up, stop the engine and check for the cause.

NOTE :

- **If any screen does not appear when changing the start switch to the *"ACCESSORY"* mode, or after starting the engine, set the start switch to the *"OFF"* mode and restart the engine.**

2. Checking the machine after starting the engine

After starting the engine, but before starting operation of the machine, check the machine conditions.

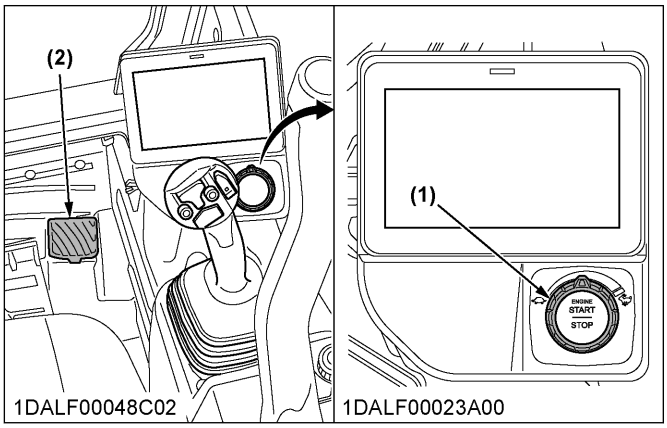
1. Idle the engine. (warm up)
   The engine idle allows the engine lubricant to warm up and penetrate every part of the engine.
2. Once the engine has warmed up, check the following items.
   - The engine-oil-pressure-indicator has gone out.
   - The battery-charge-warning-indicator goes out when engine speed is increased.
   - The color of the exhaust is normal.
   - You do not hear abnormal noises and do not feel vibrations.
   - No fluid is leaking from pipes or hoses.
3. If any following conditions occur, stop the engine immediately.
   - The engine rpm increases or decreases suddenly.
   - You hear abnormal noises suddenly.
   - Exhaust is black.
   - The engine-oil-pressure-indicator lights up during operation of the machine.

IMPORTANT :

- **If any preceding conditions occur, check the machine and consult your local KUBOTA dealer for service of the machine.**

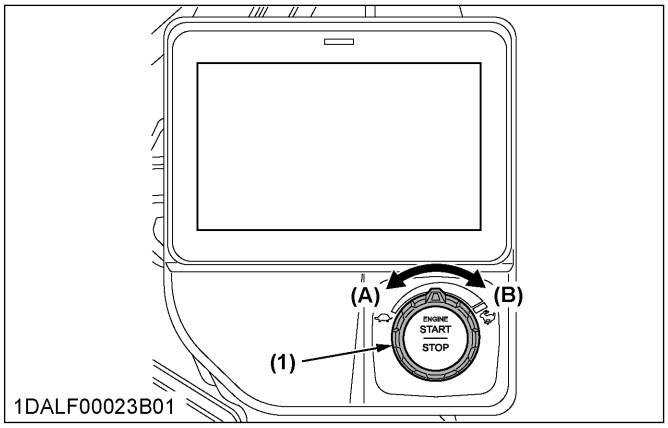
3. Adjusting the engine speed

The operator can adjust the engine speed with the engine speed control dial and the accelerator pedal.



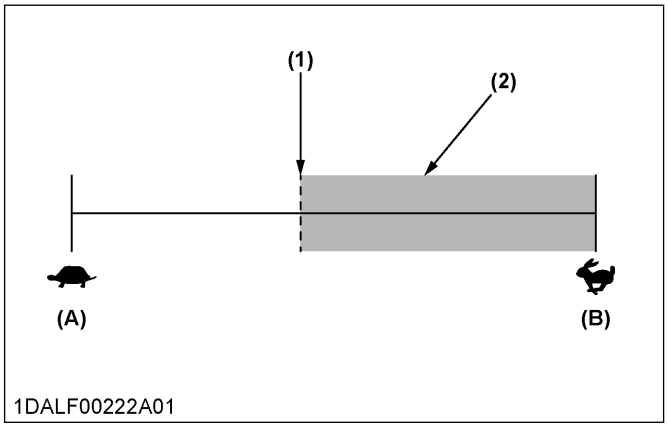
(1) Engine speed control dial *(2) Accelerator pedal*

The engine speed control dial sets the lower limit of engine speed. Turn the engine speed control dial clockwise to increase the lower limit of engine speed, and counterclockwise to decrease the lower limit of engine speed.



(1) Engine speed control dial *(A) Decrease* *(B) Increase*

The accelerator pedal adjusts the engine speed between the lower and upper limits depending on the amount of pressure applied to the accelerator pedal.



(1) Setting value of engine speed control dial *(A) Low idling engine speed* *(B) High idling engine speed*
(2) Adjustable range with accelerator pedal

STARTING THE ENGINE UNDER COLD CONDITIONS

⚠ WARNING

To avoid personal injury or death:

- **Make sure that the armrests are in the raised position during warm-up.**

Start the engine in the following manner.

1. Press the start switch to change the mode from the *"OFF"* mode to *"ACCESSORY"* mode and keep it until the glow-plug-indicator has gone out.

2. Press and hold the start switch, and release your finger after the engine has started.

IMPORTANT :
- **Let the engine warm up after start-up for approx. 15 minutes under no load conditions. If the hydraulic-fluid-temperature is too low, it will affect the operations or the function of the pressure sensors.**
  Do not operate the machine under full load before the engine has thoroughly warmed up.

STOPPING THE ENGINE

⚠ WARNING

To avoid personal injury or death:
- **Lower the bucket or attachments to avoid a person accidentally touching levers and causing a serious accident.**

1. Place the bucket or attachments on the ground.
2. After slowing the engine to idle, press the start switch to stop the engine.

IMPORTANT :
- **Do not stop the engine by shutting down the battery power directly.**
  Doing so may cause failure or malfunction.
- **When the engine does not stop even if the start switch is pressed, pull the emergency engine stop button to stop the engine.**
  See Emergency engine stop button on page 104 for more details on the emergency engine stop.

1. Starting the engine with an auxiliary battery

Follow the guidelines in this section when starting the engine with an auxiliary battery.

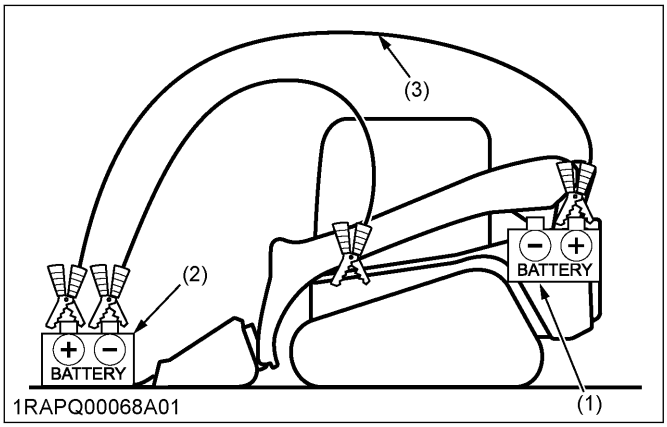
⚠ WARNING

To avoid personal injury or death:
- **Battery gases can explode.**
  Do not smoke and keep sparks and flames away.
- **Do not start the engine with an auxiliary battery if machine battery is frozen.**
- **Do not connect the black jumper cable to the negative (-) terminal of the machine battery.**

1. Bring the helping machine with the same battery voltage as near as possible to the machine.

IMPORTANT :
- **The machines must not come in contact with each other.**

2. Bring the levers and pedal of both machines in the neutral position.
3. Wear eye protection and rubber gloves.
4. Make sure that the vent caps are securely in place if equipped.
5. Connect the terminal of the red jumper cable with the plus (+) terminal of the low battery and connect the other end of the red cable to the plus (+) terminal of the auxiliary battery.
6. Connect the black negative cable to the minus (-) terminal of the auxiliary battery.
7. Connect the other end of the black cable coming from the auxiliary battery to the conductive part of the machine frame as far away as possible from the low battery.
8. Start the engine of the helping machine and let it run for a while.
9. Start the machine with the low battery.
10. Disconnect the jumper cables in the reverse sequence.



(1) Low battery
(2) Auxiliary battery
(3) Jumper cables

IMPORTANT :
- **This machine is equipped with a negative (-) ground 12 Volt starting system.**
- **Only use the same voltage when using an auxiliary battery.**
- **Using a higher voltage will cause serious damage to the electrical system. When using an auxiliary battery, only the compatible (same) voltage is permissible.**

OPERATION OF THE MACHINE

1. Running-in of the machine

It is most important to run-in your machine properly in order to achieve its full performance and longevity.
The operation and care of the new machine influence its life span. Your new machine has been carefully checked and tested before leaving the factory. In spite of careful check and test, all movable components must be run-in during the first 50 work hours. Do not work with full rpm and full loads during the first 50 work hours.
During the running-in period, adhere to the following points in all cases.

Do not work with full engine rpm or full loads during the first 50 working hours

- Let the engine warm up sufficiently in the cold season.
- Do not let the engine rev-up more than necessary.

Oil change in the run-in stage

The lubrication oil plays a specific and important role during the run-in phase of the machine.
The numerous movable parts are not yet run-in, so many fine metal particles can be generated and may cause damage and shorten the life of many components.
Pay attention to the oil-change intervals and complete them sooner than later.
See Changing the engine oil on page 172 for more details on the oil-change intervals.

2. Start of the machine

⚠ WARNING

To avoid personal injury or death:

- **Mount the machine and dismount the machine only at locations that have steps and/or handholds.**
  Before you mount the machine, clean the steps and the handholds.
- **Start the machine only from the operator's seat.**
  Never short across the starter terminals or across the batteries.
  Shorting could damage the electrical system by bypassing the engine-neutral-start-system.
- **Inspect the condition of the seat belt and the mounting hardware.**
  Replace any parts that are worn or damaged.
  Do not use a seat belt extension on a retractable seat belt.
- **Adjust the seat so that full pedal travel can be achieved with the operator's body against back of the seat.**
- **Make sure that the machine is equipped with a lighting system that is adequate for the job conditions.**
  Make sure that all machine lights are working properly.
- **Before you start the engine and before you move the machine, make sure that no one is underneath, on, or close to the machine, and the rear door is securely closed.**

2.1 Adjusting the operator's seat

⚠ WARNING

To avoid personal injury or death:

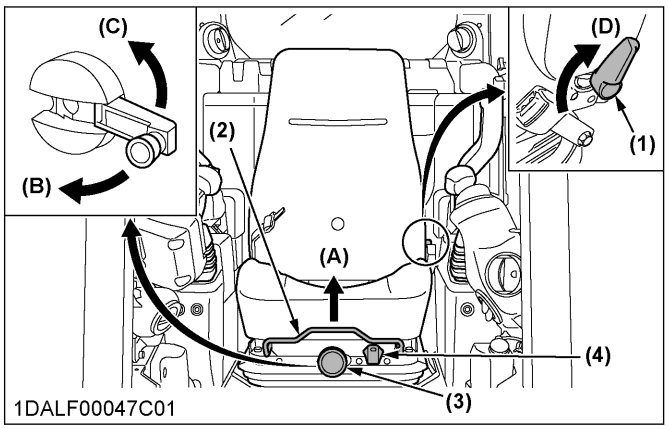
- **Replace the operator's seat with the new one if it is damaged and got holes. Water or dust could penetrate the hole and it causes the erroneous seat switch operation.**

⚠ CAUTION

To avoid personal injury:

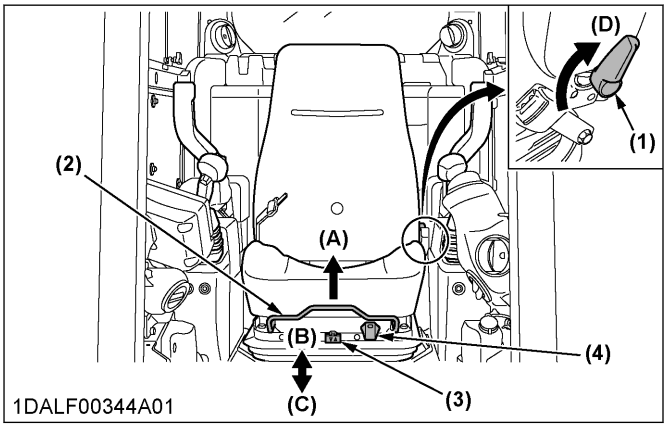
- **Make sure that the seat is completely secured after each adjustment.**

Suspension seat



(1) Backrest tilt adjust lever
(2) Travel adjust lever
(3) Weight and height adjust lever
(4) Ride indicator
(A) Unlock
(B) To raise the seat
(C) To lower the seat
(D) Unlock

Air-suspension seat



(1) Backrest tilt adjust lever
(2) Travel adjust lever
(3) Weight and height adjust lever
(4) Ride indicator
(A) Unlock
(B) To raise the seat
(C) To lower the seat
(D) Unlock

Travel adjustment

1. Pull the travel-adjust-lever in the direction of unlock (A) and slide the seat backward or forward, as required.
   The seat will lock in position when the lever is released.

Weight and height adjustment

1. Turn the weight-and-height-adjust-lever to achieve the optimum suspension setting.
2. Make sure that the ride indicator shows green. If red, readjust the suspension setting.
   Within the green band of the ride indicator, there is the following height adjustment for any operator.

Height adjustment	60 mm (2.4 in.)

Tilt adjustment

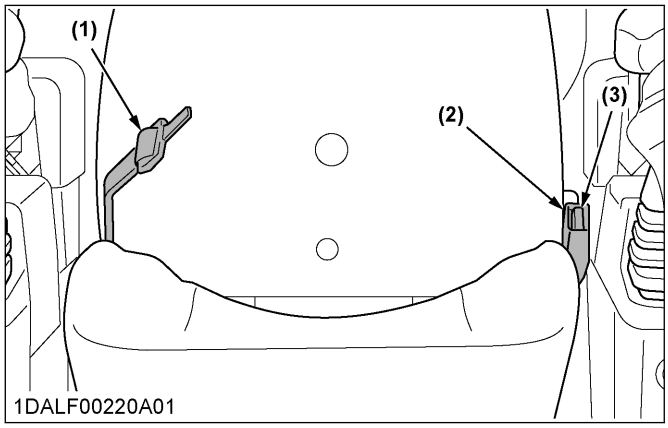
1. Pull the backrest-tilt-adjust-lever in the direction of unlock (D) and move the backrest to the desired angle.

2.2 How to use the seat belt

WARNING

To avoid personal injury or death:

- **Always use the seat belt with a ROPS and FOPS protection structure. Adjust the operator's seat to the optimal position and buckle it up.**
- **Always fasten the seat belt securely before starting the engine.**



(1) Seat belt
(2) Socket
(3) Button

Fastening the seat belt

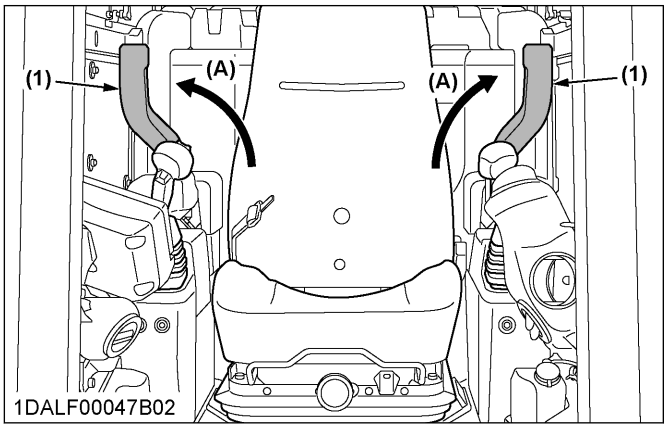
1. Pull the seat belt from the retractable (right) side of the operator's seat.
2. Insert the fixture of the seat belt into the socket at the left side of the operator's seat until the fixture clicks deep into position.

Releasing the seat belt

1. Press the red button of the socket to release the seat belt.
   The seat belt reels itself and gets retracted to the right side.

2.3 How to use the armrest

1. Move the armrests to the raised position to lock out the hydraulic and electric systems.



(1) Armrest *(A) Raise*

NOTE :

- **When the armrests are moved to the raised position, the parking brake will engage and the hydraulic and operation system will be locked.**
  Move the armrests to the lowered position and push the hydraulic-unlock-switch in order to activate the hydraulic controls.
- **When you start the engine, disengage the hydraulic lock so that the hydraulic controls are activated.**
  If the armrests are raised and then lowered during the operation, you must disengage the hydraulic lock so that the hydraulic controls are activated.

3. Driving

⚠ WARNING

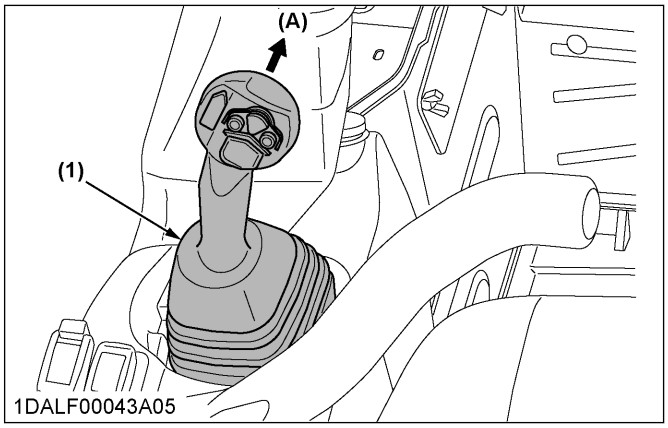
To avoid personal injury or death:

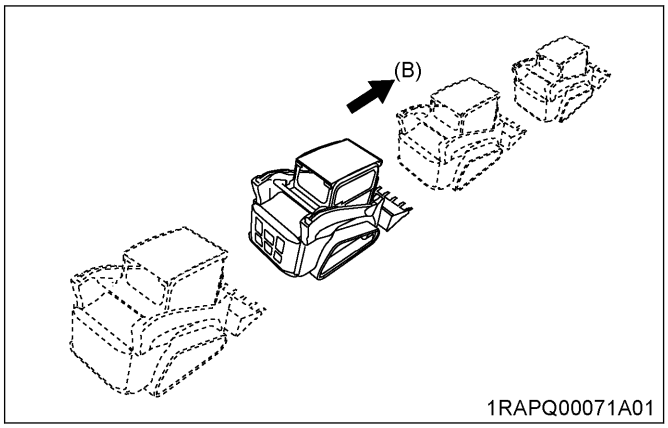
- **Before starting the engine, make sure that no one is near the machine.**

3.1 Traveling forward and backward

To move forward

1. Push the left control (traveling) lever forward.

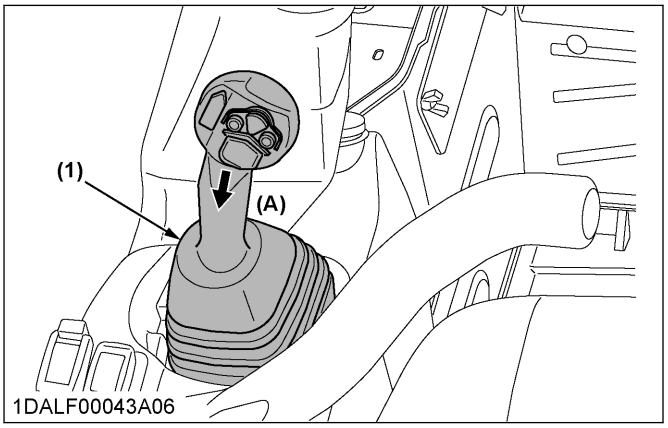


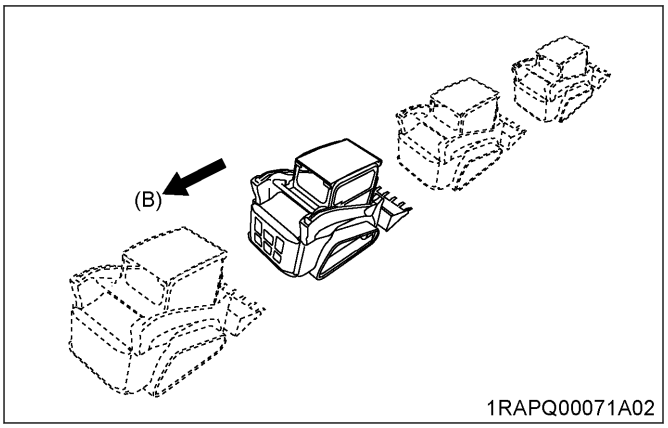


(1) Left control (traveling) lever *(A) Push* *(B) Forward*

To move backward

1. Pull the left control (traveling) lever backward.





(1) Left control (traveling) lever *(A) Pull*
(B) Backward

NOTE :

- **When the machine begins to travel backward, the back-up alarm starts sounding.**

IMPORTANT :

- **If the temperature of the hydraulic oil is too low, the back-up alarm may start sounding when switching from the backward to the forward travel. This alarm is not a problem.**
  Just run for warm-up, and then the hydraulic oil temperature rises, this will stop the alarm. If the alarm still keeps sounding, contact your local dealer.

4. Turning the machine

⚠ CAUTION

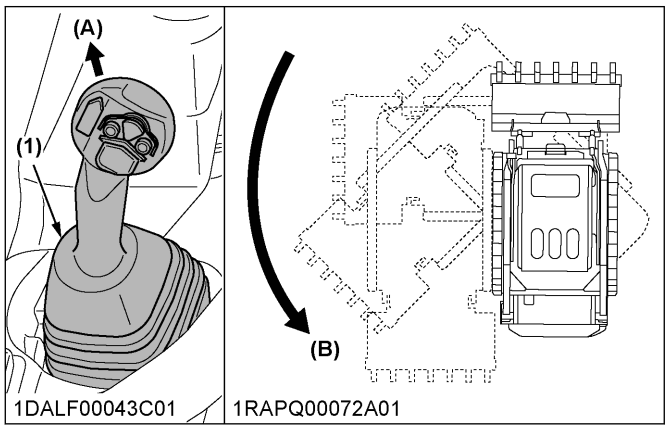
To avoid personal injury:

- **Before changing direction of the machine, beware of people in the work area.**
- **Make sure that the bucket or attachment is lowered on the ground.**

4.1 How to use pivot turn

To turn the machine forward to the left

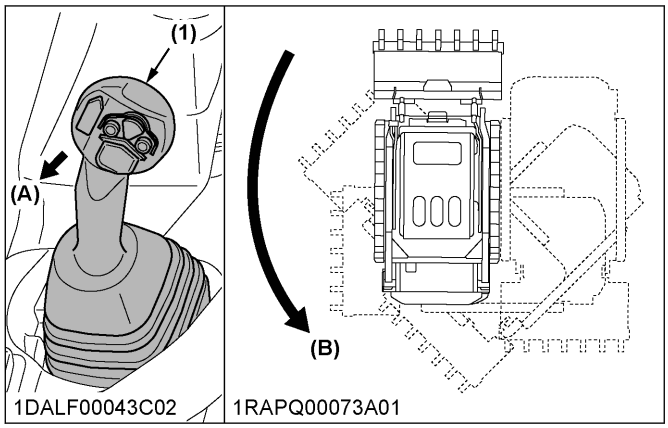
1. Tilt the left control (traveling) lever forward to the left.



(1) Left control (traveling) lever *(A) Tilt*
(B) Forward to the left

To turn machine backward to the left

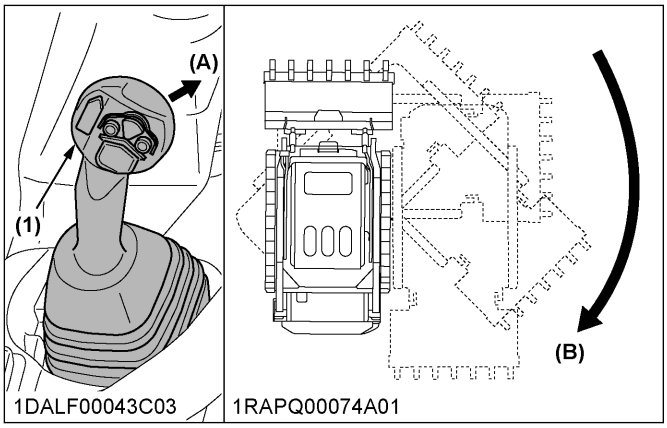
1. Tilt the left control (traveling) lever backward to the left.



(1) Left control (traveling) lever *(A) Tilt*
(B) Backward to the left

To turn machine forward to the right

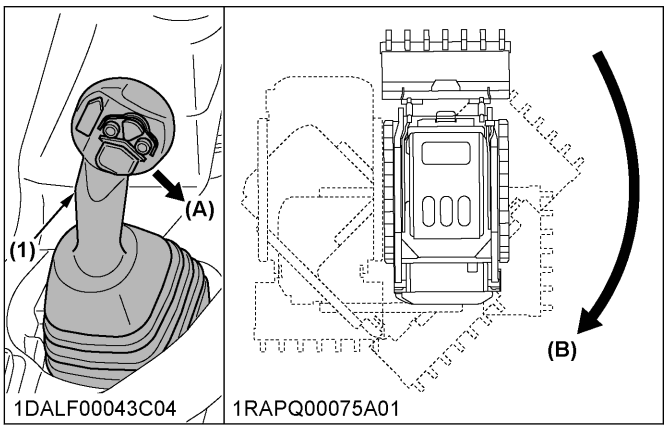
1. Tilt the left control (traveling) lever forward to the right.



(1) Left control (traveling) lever (A) Tilt
(B) Forward to the right

To turn machine backward to the right

1. Tilt the left control (traveling) lever backward to the right.

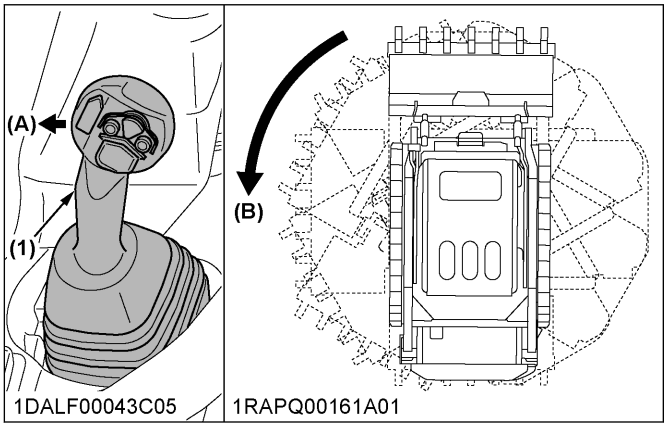


(1) Left control (traveling) lever (A) Tilt
(B) Backward to the right

4.2 How to use spin turn

To spin the machine left

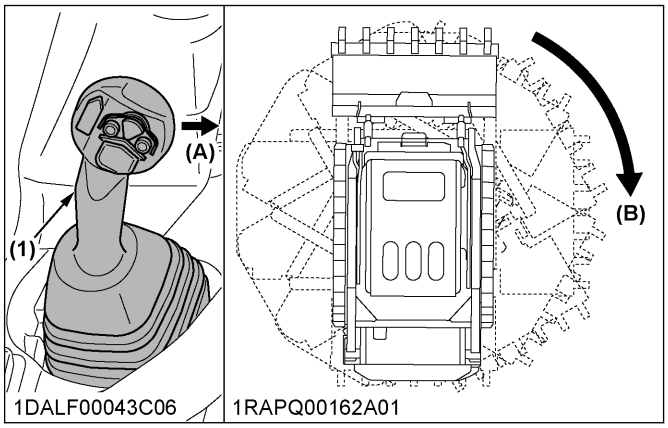
1. Tilt the left control (traveling) lever to the left.



(1) Left control (traveling) lever (A) Tilt
(B) Left

To spin the machine right

1. Tilt the left-control-lever (traveling lever) to the right.



(1) Left control (traveling) lever (A) Tilt
(B) Right

5. Operating the lift arms

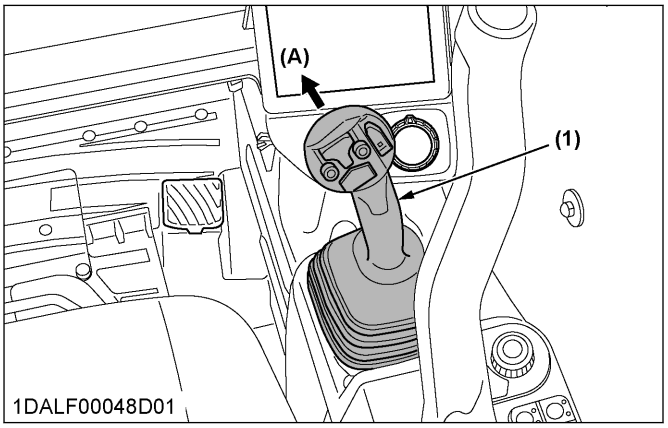
⚠ WARNING

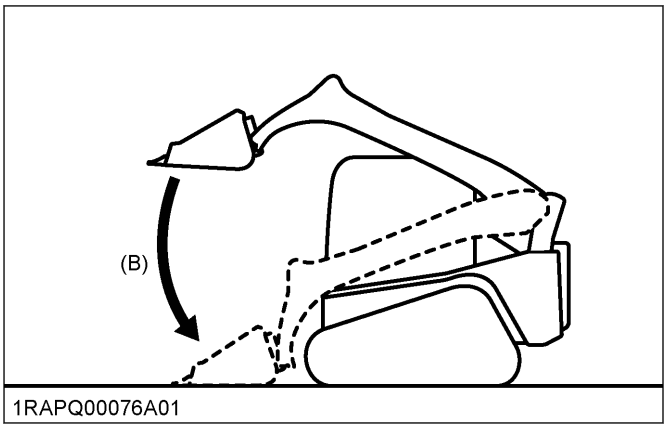
To avoid personal injury or death:

- **Do not exceed the rated operating capacity of the unit. If loads exceed the rated operating capacity, the unit can experience a hydraulic imbalance when half or medium "lift arms raise" and "bucket roll back" or "auxiliary hydraulic control" commands are input together, which can result in the lift arms lowering slowly. If you begin to experience a hydraulic imbalance, either place the lift arms control in neutral or input full raise control, and lift arms lowering will cease.**

To lower the lift arms

1. Push the right control (front operating) lever forward.

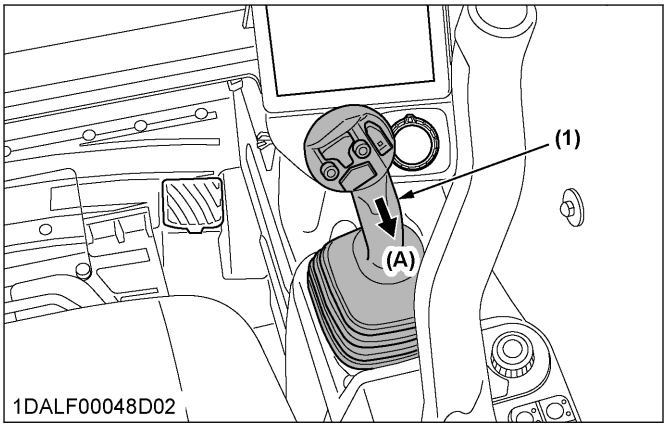


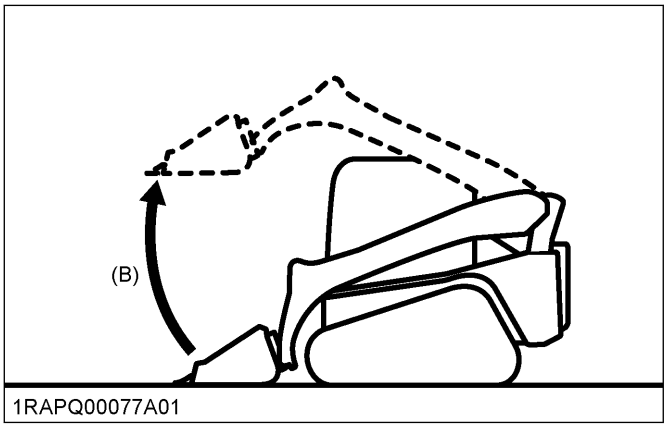


(1) Right control (front operating) lever
(A) Push
(B) Lower

To raise the lift arms

1. Pull the right control (front operating) lever backward.





(1) Right control (front operating) lever
(A) Pull
(B) Raise

NOTE :

- **To stop the lift arm operation, return the right control (front operating) lever to the neutral position.**

5.1 How to use the lift arm stopper

⚠ WARNING

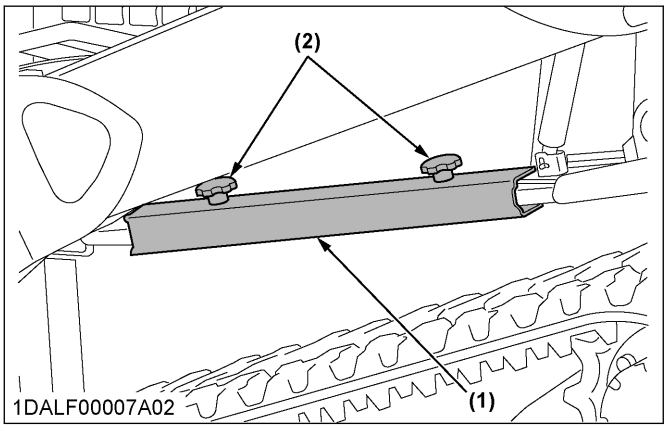
To avoid personal injury or death:

- **Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift-arm-stopper.**

The lift-arm-stopper prevents the lift arms from falling when servicing the machine.

Installing

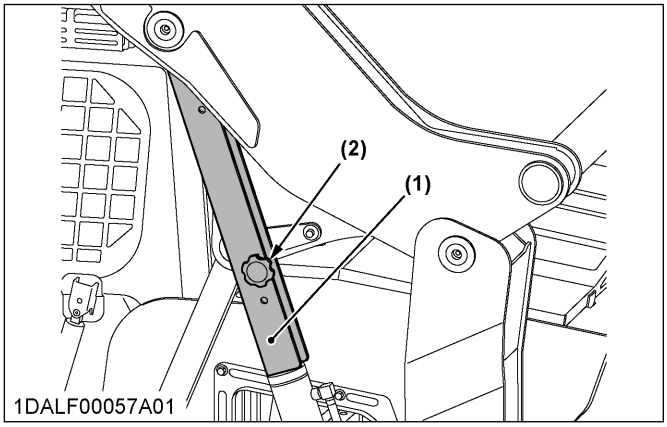
1. Park the machine on level and firm ground, and lower the lift arms fully to the ground.
2. Remove the front attachment.
3. Stop the engine.
4. Ask the second person to remove the lift-arm-stopper from the storage position.



(1) Lift arm stopper
(2) Knob bolt

5. Start the engine.
6. Set the parking-brake-switch to the parking position.

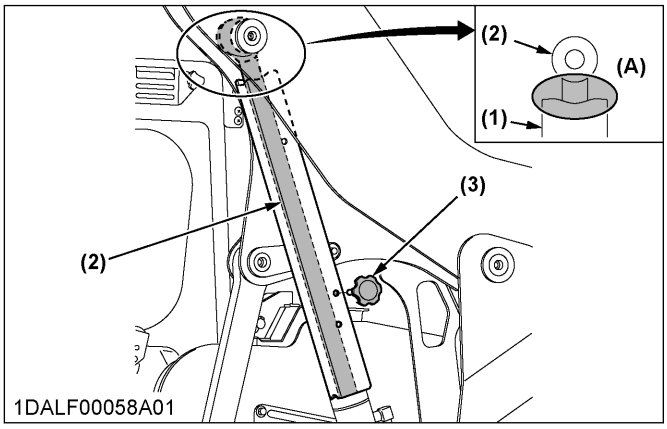
7. Slowly raise the lift arms to the maximum height.
8. Stop the engine.
   Operator must stay in the operator's seat with the seat belt fastened.
9. Ask the second person to install the lift-arm-stopper.
10. Place the top (dented) of lift-arm-stopper upward, and cover the rod with the lift-arm-stopper from front.
    Using one of the knob bolts, secure the lift-arm-stopper in position.



(1) Lift arm stopper *(2) Knob bolt*

IMPORTANT :

- **Make sure that the dent on top of the lift-arm-stopper fits the round part of the lift arm and that the flat bottom of lift-arm-stopper fits the flat top of the arm-cylinder-tube. Do not allow any gap in both locations top and bottom of the lift-arm-stopper.**



(1) Lift arm stopper *(A) Fit*
(2) Arm cylinder tube
(3) Knob bolt

11. Start the engine.
12. Set the parking brake switch to the parking position.
13. Slowly lower the lift arms against the lift-arm-stopper.

Removing

1. Sit in the operator's seat with the seat belt fastened.
2. Start the engine.
3. Set the parking-brake-switch to the parking position.
4. Slowly raise the lift arms to the maximum height.
5. Stop the engine.
6. Ask the second person to remove the lift-arm-stopper.
7. Start the engine.
8. Lower the lift arms fully to the ground.
9. Stop the engine.
10. Return the lift-arm-stopper to the storage position and secure it with two knob bolts.

6. Operating the bucket

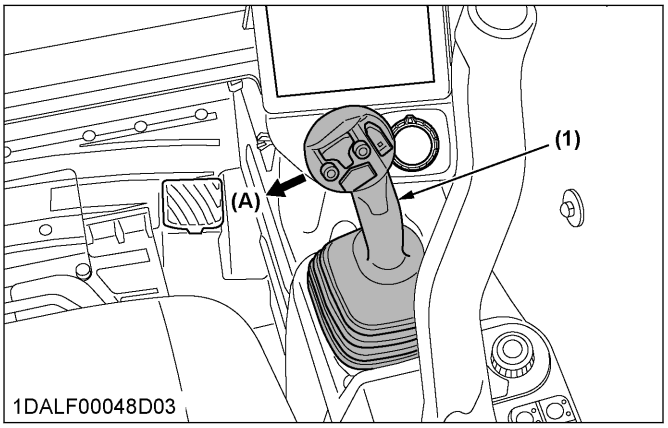
⚠ WARNING

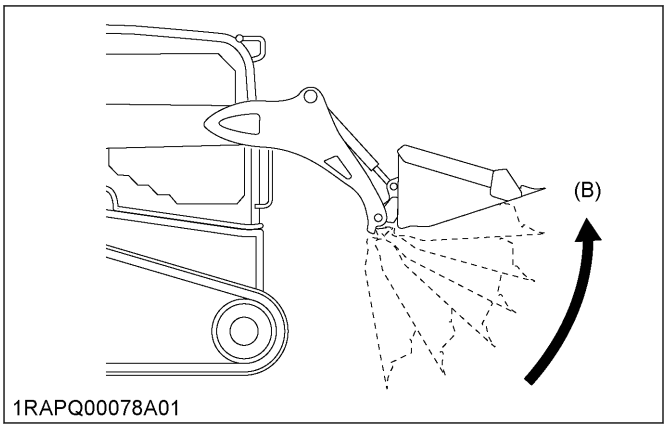
To avoid personal injury or death:

- **Do not exceed the rated operating capacity of the unit. If loads exceed the rated operating capacity, the unit can experience a hydraulic imbalance when half or medium "lift arms raise" and "bucket roll back" or "auxiliary hydraulic control" commands are input together, which can result in the lift arms lowering slowly. If you begin to experience a hydraulic imbalance, either place the lift arms control in neutral or input full raise control, and lift arms lowering will cease.**

To roll the bucket back

1. Tilt the right control (front operating) lever to the left.

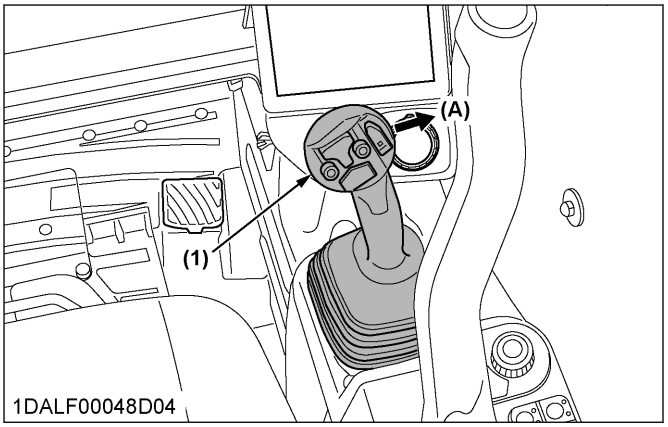


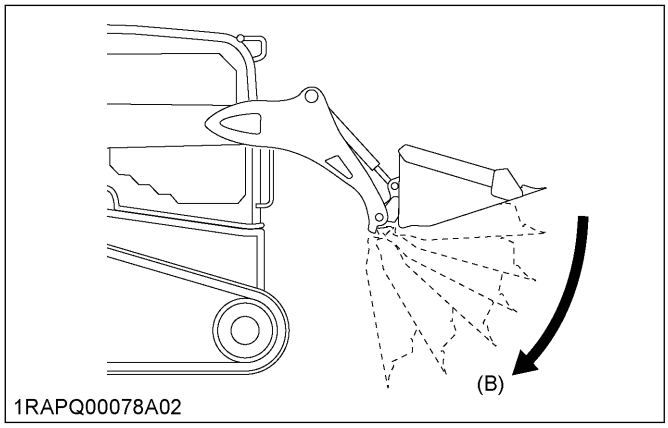


(1) Right control (front operating) lever
(A) Tilt
(B) Roll back

To dump the bucket

1. Tilt the right control (front operating) lever to the right.





(1) Right control (front operating) lever
(A) Tilt
(B) Dump

NOTE :

- **To stop the bucket operation, return the right control (front operating) lever to the neutral position.**

AUXILIARY HYDRAULIC

HOW TO USE THE AUXILIARY HYDRAULIC CONTROL

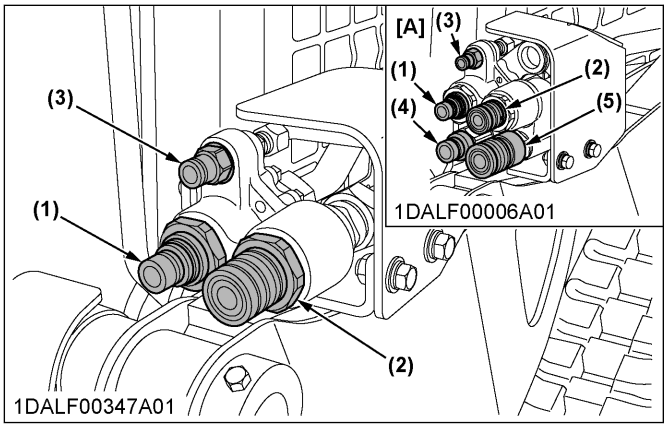
⚠ WARNING

To avoid personal injury or death:

- **Do not exceed the rated operating capacity of the unit. If loads exceed the rated operating capacity, the unit can experience a hydraulic imbalance when half or medium "lift arms raise" and "bucket roll back" or "auxiliary hydraulic control" commands are input together, which can result in the lift arms lowering slowly. If you begin to experience a hydraulic imbalance, either place the lift arms control in neutral or input full raise control, and lift arms lowering will cease.**
- **Stop the engine and relieve pressure before connecting or disconnecting lines.**
- **Do not use your hand to check for leaks.**

Connecting

1. Remove the dust caps.
2. Remove dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler.
3. Visually check the couplers for corroding, cracking, damage, or excessive wear. If any of these conditions exist, the coupler must be replaced.
4. Push the quick couplers tightly and hold for a few seconds, the pressure is relieved automatically (Pressure relief system).
5. Connect the couplers.



(1) Male coupler (small)
(2) Female coupler (small)
(3) Male case drain coupler
(4) Male coupler (large)
(5) Female coupler (large)
[A] High-Flow model

IMPORTANT :

- **When relieving pressure, use the couplers of (1) and (2) in the preceding figure.**
- **When relieving pressure, do not apply excessive shock, such as hitting the coupler with a hammer. It may cause damage to the coupler.**
- **Use long enough hoses when connecting the attachment. Otherwise the couplers could be damaged due to the frequent side load and impact to them during working.**

IMPORTANT :
[High-Flow model only]

- **Depending on the attachment coupler size and flow rate, select the proper coupler socket size, large or small in diameter.**
- **The standard-flow mode functions in a bidirectional way, whereas the High-Flow mode runs in one way.**
- **When an attachment is connected, Keep in mind that oil flows through the male port in the High-Flow mode.**

Disconnecting

1. Push the quick couplers tightly and hold it for a few seconds, the pressure is relieved automatically (Pressure relief system).
2. Detach the couplers.
3. Attach the dust caps.

1. Operating the auxiliary hydraulic control

⚠ CAUTION

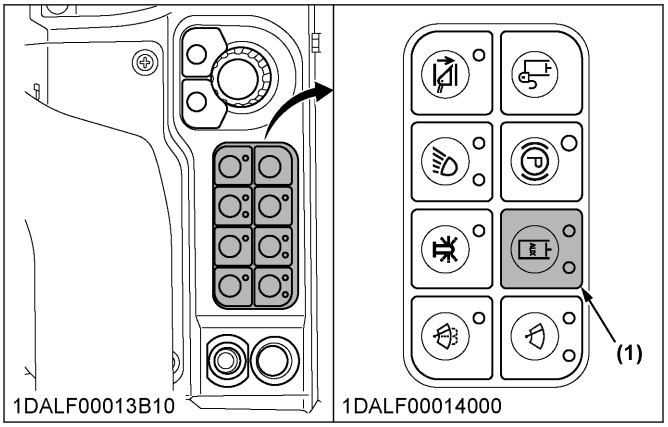
[High-Flow model only]
To avoid personal injury:

- **Be careful not to use any High-Flow-incompatible attachment in the High-Flow mode. Otherwise the attachment may be damaged.**
- **Certain high-flow attachments may require the use of a protective door (polycarbonate) such as a hammer or mulcher.**

If you use a High-Flow model, see AUX port switch [High-Flow model only] on page 100.

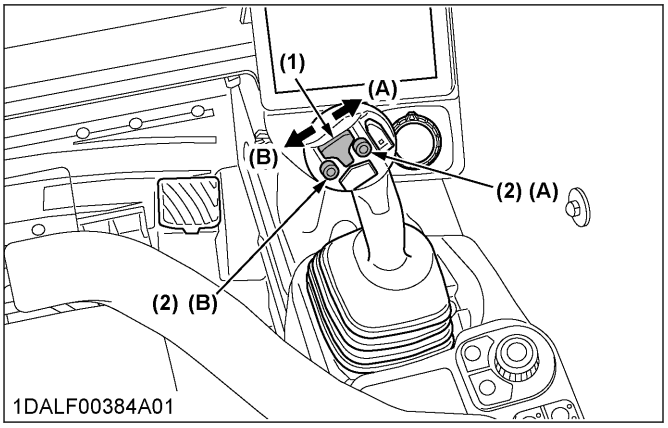
1. Start the engine.
   (See Starting the engine on page 117 and Start of the machine on page 120)

2. Press the hydraulic-unlock-switch.
3. Press the AUX port switch.



(1) AUX port switch

4. Tilt the AUX-port-variable-switch toward side (A) or press the right AUX-hold-switch.
   Oil starts flowing out of the male port.
5. Tilt the AUX-port-variable-switch toward side (B) or press the left AUX-hold-switch.
   Oil starts flowing out of the female port.



(1) AUX port variable switch
(2) AUX hold switch
(A) Male port
(B) Female port

IMPORTANT :

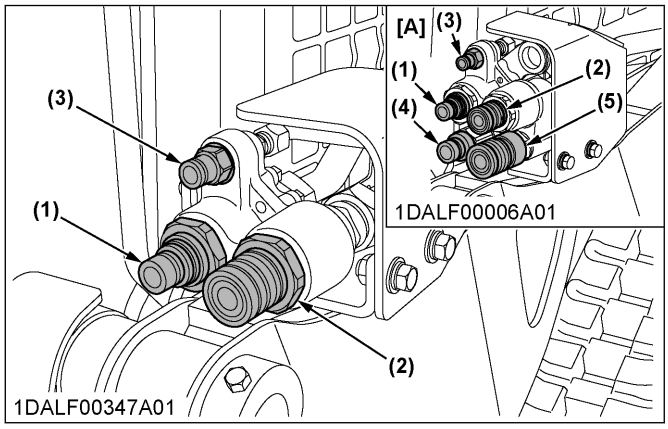
[High-Flow mode only]

- **In the High-Flow mode, operate the machine with the male-port-switch (A) of the right-control-lever.**
- **When operating the machine with the female-port-switch (B) of the right-control-lever, standard-flow oil passes through the female port.**

NOTE :

- **The oil flow rate responds to the tilt of the AUX-port-variable-switch.**
- **Press the AUX-hold-switch, and the oil continues to flow at its highest flow rate. To interrupt the oil flow, press AUX-hold-switch again.**

6. If the tank must be drained, depending on an attachment in use, use the male-case-drain-port.



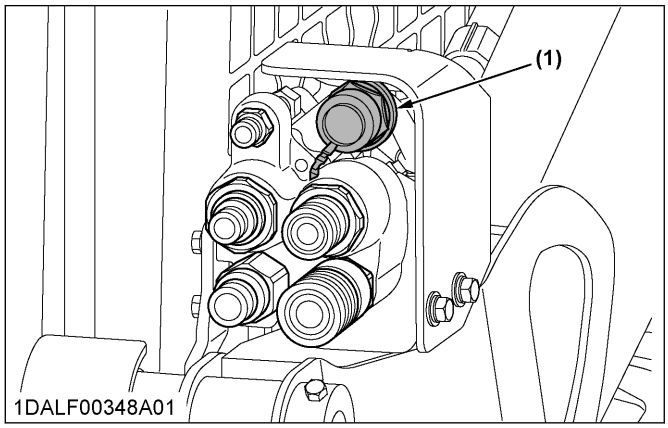
(1) Male coupler (small)
(2) Female coupler (small)
(3) Male case drain coupler
(4) Male coupler (large)
(5) Female coupler (large)
[A] High-Flow model

2. Operating the attachment control device (option)

You can use the attachment-control-device to feed electrical power for an attachment. For instance, to drive a valve.
With the AUX port ready for use, you can supply power. Use K (+12 V) and B (GND) of the 14-pin coupler attached on the arm. See the following figures and table.

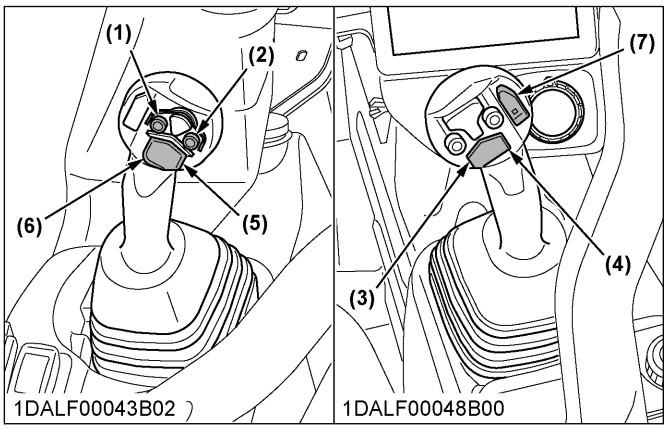
NOTE :

- **The K (+12 V) of the 14-pin coupler turns on when the start switch is in *"ACCESSORY"* position.**

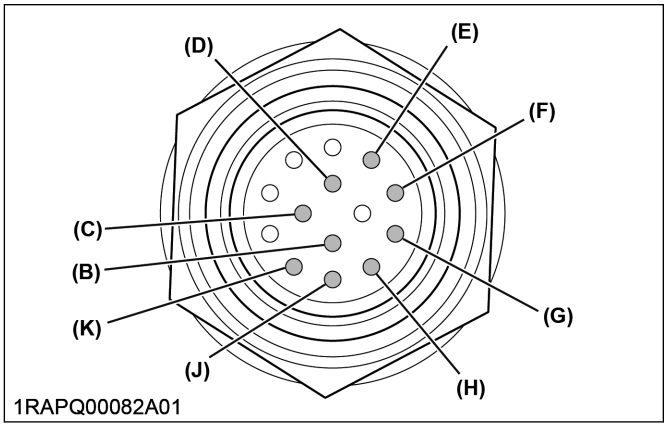


(1) 14-pin coupler

1. Press the numbered electrical control switch on the left or right lever that corresponds with the desired valve function, to be powered at +12 V.



(1) Ref. no. 1
(2) Ref. no. 2
(3) Ref. no. 3
(4) Ref. no. 4
(5) Ref. no. 5
(6) Ref. no. 6
(7) Ref. no. 7



(B) Pin port-B
(C) Pin port-C
(D) Pin port-D
(E) Pin port-E
(F) Pin port-F
(G) Pin port-G
(H) Pin port-H
(J) Pin port-J
(K) Pin port-K

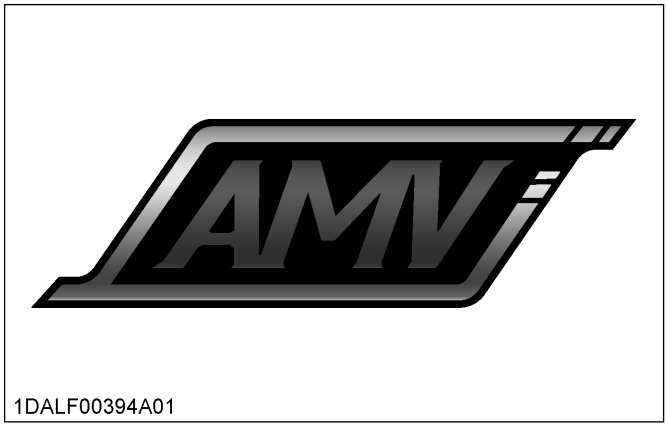
14-pin coupler harness connection chart

Ref. no.	Pin port	Remarks
-	B	GND
1	C	AUX 1st func.
2	D	AUX 1st func.
3	E	AUX 2nd func.
4	F	AUX 2nd func.
5	G	AUX 3rd func.
6	H	AUX 3rd func.
7	J	AUX electrical mode change
-	K	+12 V

NOTE :
- **AUX 3rd func. is momentary action.**
- **AUX electrical mode change is alternate action.**

ADVANCED MULTIFUNCTION VALVE (AMV)

This machine's hydraulic system features an innovative Advanced Multifunction Valve that provides smooth movements of all hydraulic functions when operated simultaneously. The AMV now allows operators to run the AUX hydraulics, bucket, and loader arm functions together without stalling.



QUICK-HITCH

HOW TO USE THE MECHANICAL QUICK-HITCH

This machine utilizes a quick-hitch for easy connection and disconnection of various attachments. By replacing the front attachments, you can use this machine in agriculture, raising stock, landscaping, gardening, and snow removal as well as general civil engineering and construction work.

⚠ DANGER

To avoid personal injury or death:

- **Use of attachments that do not comply with ISO24410, the improper positioning of lever (s), or non-protrusion of pin (s) may result in detachment of the attachment or deformation, causing loss of performance, personal injury, or death.**

⚠ WARNING

To avoid personal injury, death or machine damage:

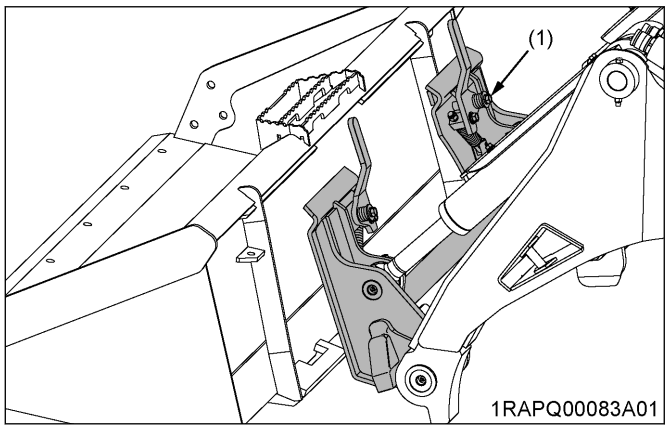
- **Never operate or transport attachments that are not attached completely.**
- **Always replace damaged hardware immediately.**

NOTE :

- **Locate the attachments on a level, firm surface when attaching and detaching them from the quick-hitch.**

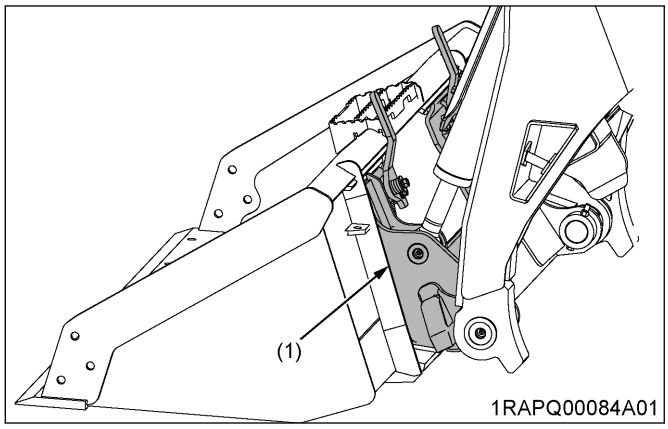
Attaching attachments

1. To mount an attachment, pull the levers of the quick-hitch lock pins to the unlocked position.
   Pull the quick-hitch levers all the way up to ensure that the lock pins are fully retracted.
2. Position the machine squarely in front of the attachment and tilt the quick-hitch forward with the tilt cylinders.



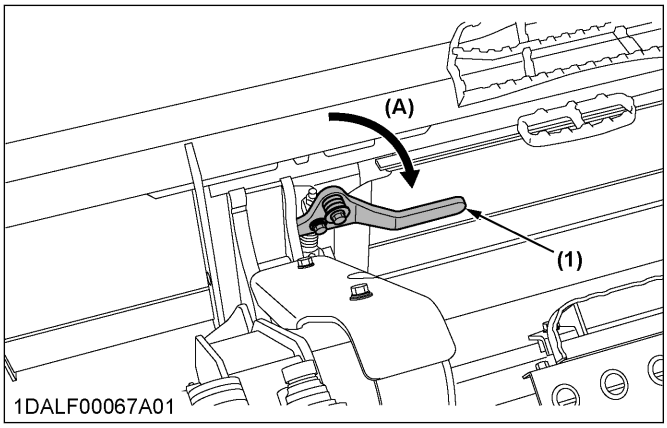
(1) Quick-hitch

3. Ease the quick-hitch mounting plate into the saddle of the attachment.
4. Roll the quick-hitch back using the tilt cylinders and raise the lift arms slightly.
   The back of the attachment should rest against the front of the quick-hitch mounting plate, and you should support the weight of the attachment by the lift arms.



(1) Quick-hitch

5. When the attachment is properly seated in the saddle of the attachment and against the front of the quick-hitch mounting plate, turn off the engine and set the parking brake.
6. Push the quick-hitch levers to the fully locked position.



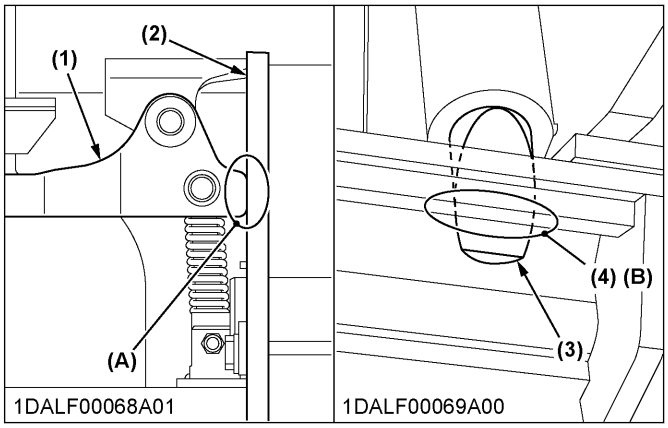
(1) Quick-hitch lever *(A) Lock*

7. Verify that both lock pins are completely engaged in the base of the attachment.
8. With an attachment in place, lift the lift arms and empty out the bucket.
9. Tilt the bucket downwards and verify that the lock pins are fully engaged.

⚠ DANGER

To avoid personal injury or death:

- **The following engagement points are critical.**
  - **The lock pins of the quick-hitch have to protrude into and through the pin slots of the attachment on both sides.**
    It is critical that the pins are in good condition and without visible signs of wear or damage and that the operator align the quick-hitch with the attachment to allow the pins to go through the pin slots.
  - **You have to push down both quick-hitch levers until the levers contact the ear plates near the points where the pin bolt goes through the lever, as (A) of the following figure.**
- **Do not operate the machine or attachment unless all of the preceding conditions are met.**



(1) Quick-hitch lever
(2) Ear plate
(3) Lock pin
(4) Pin slot
(A) The lever contacts the ear plate at the points
(B) The pin protrudes through the slot

10. When pushing the quick-hitch levers into the locked position, visually verify that the lock pins protrude through the slot.
11. When attaching different attachments, visually inspect for broken or damaged pins. If broken or damaged pins are found, replace them before using.
    Use of broken pins may result in detachment or deformation, causing loss of performance, personal injury or death.

You are now ready to use the attachment.

⚠ WARNING

To avoid personal injury or death:

- **After attaching the attachments of quick-hitch, make sure that the attachment is securely attached to the quick-hitch, or the attachment may be detached.**
- **When handling the control lever, you should make sure that the attachment is securely attached to the quick-hitch after setting the parking-brake-switch to the parking position, lowering the lift arm, and making sure that all control levers are in their neutral positions.**

Detaching the attachments

1. Lower the attachment to ground level with the attachment slightly in the rolled back position.
2. Stop the engine.
   The parking brake automatically engages.
3. Disconnect the electrical harness and hydraulic lines of the attachment from the lift arms if equipped.
4. Pull the quick-hitch lever up to the unlocked position to release the lock pins.
5. While sitting in the machine operator's seat, start the engine and slowly move the right-control-lever (front-operating-lever) to the dump position until the attachment is pushed away from the quick-hitch.

6. Lower the lift arms so that the quick-hitch mounting plate clears the saddle of the attachment.
7. Back the machine away from the attachment slowly.
8. If an attachment is not going to be attached to the quick-hitch immediately, push the lever of the quick-hitch to the locked position to prevent damage to the lever assembly.

HOW TO USE THE HYDRAULIC QUICK-HITCH

⚠ WARNING

To avoid personal injury, death or machine damage:

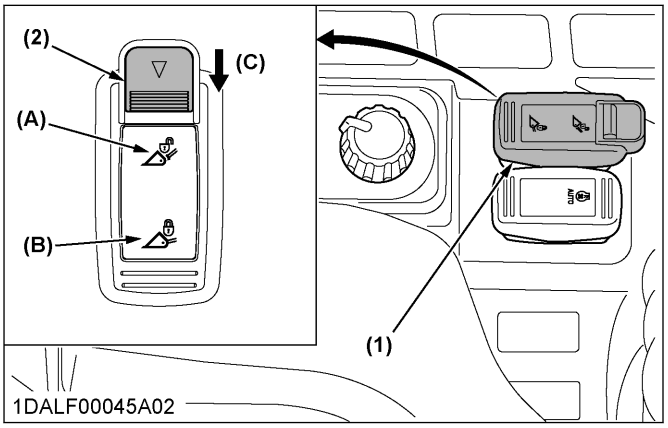
- **Never operate or transport attachments that are not attached completely.**
- **Always replace damaged hardware immediately.**

NOTE :

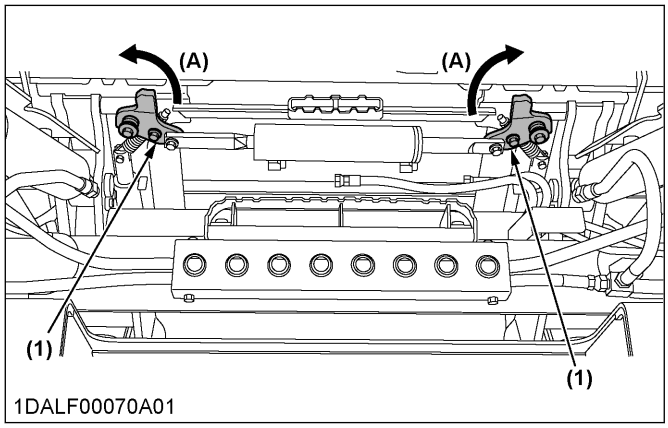
- **Locate the attachments on a level, firm surface when attaching and detaching them from the quick-hitch.**

Attaching attachments

1. Push the hydraulic quick-hitch switch in the unlocked position and hold it to make sure that the quick-hitch levers are up (unlocked position).

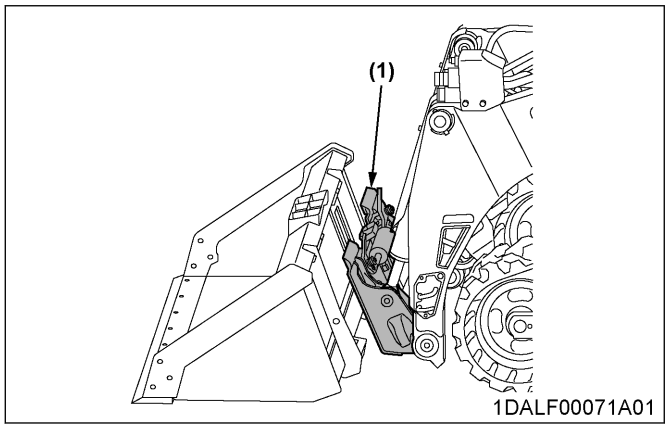


(1) Hydraulic quick-hitch switch *(A) Unlock*
(2) Guard *(B) Lock*
(C) Slide



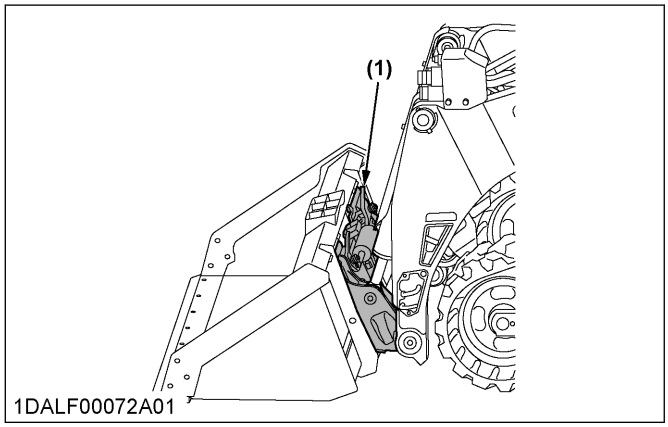
(1) Quick-hitch lever *(A) Unlock*

2. Position the machine squarely in front of the attachment and tilt the quick-hitch forward with the tilt cylinders.



(1) Quick-hitch

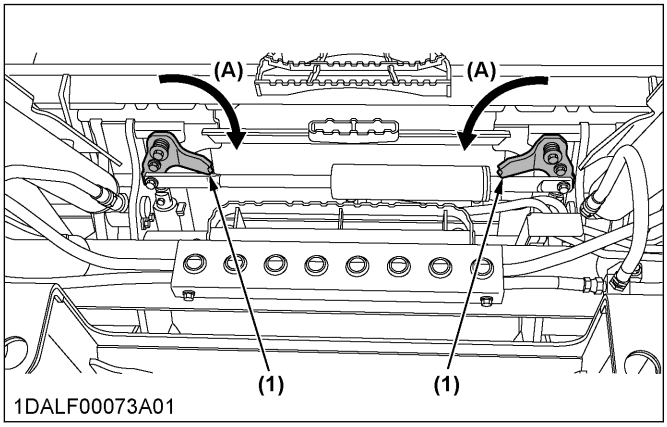
3. Ease the quick-hitch mounting plate into the saddle of the attachment.
4. Roll the quick-hitch back using the tilt cylinders and raise the lift arms slightly.
   The back of the attachment should rest against the front of the quick-hitch mounting plate and you should support the weight of the attachment by the lift arms.



(1) Quick-hitch

5. When the attachment is properly seated in the saddle of the attachment and against the front of

the quick-hitch mounting plate, push and hold the hydraulic quick-hitch switch in the locked position until the quick-hitch levers are fully in locked position.



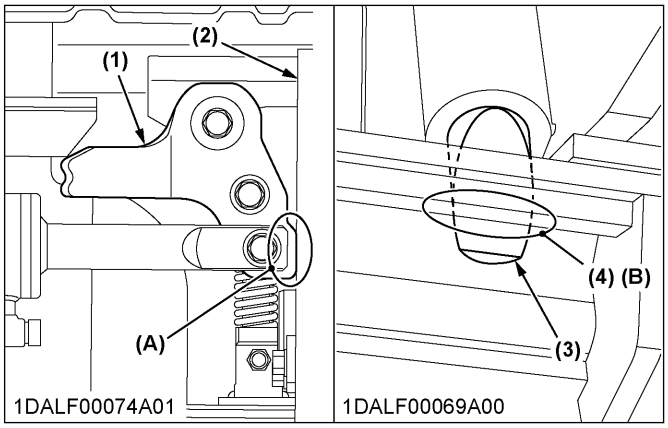
(1) Quick-hitch lever *(A) Lock*

6. Verify that both lock pins are completely engaged in the base of the attachment.
7. With an attachment in place, lift the lift arms and empty out the bucket.
8. Tilt the bucket downwards and verify that the lock pins are fully engaged.

DANGER

To avoid personal injury or death:

- **The following engagement points are critical.**
  - **The lock pins of the quick-hitch have to protrude into and through the pin slots of the attachment on both sides.**
    It is critical that the pins are in good condition and without visible signs of wear or damage and that the operator align the quick-hitch with the attachment to allow the pins to go through the pin slots.
  - **Both quick-hitch levers have to be pushed down until the levers contact the ear plates near the points where the pin bolt goes through the lever, as (A) of the following figure.**
- **Do not operate the machine or attachment unless all of the preceding conditions are met.**



(1) Quick-hitch lever
(2) Ear plate
(3) Lock pin
(4) Pin slot
(A) The lever contacts the ear plate at the points.
(B) The pin protrudes through the slot.

9. When pushing the quick-hitch levers into the locked position, visually verify that the lock pins protrude through the slot.
10. When attaching different attachments, visually inspect for broken or damaged pins. If broken or damaged pins are found, replace them before using.
    Use of broken pins may result in detachment or deformation, causing loss of performance, personal injury or death.

You are now ready to use the attachment.

WARNING

To avoid personal injury or death:

- **After attaching the attachments of quick-hitch, make sure that the attachment is securely attached to the quick-hitch, or the attachment may be detached.**

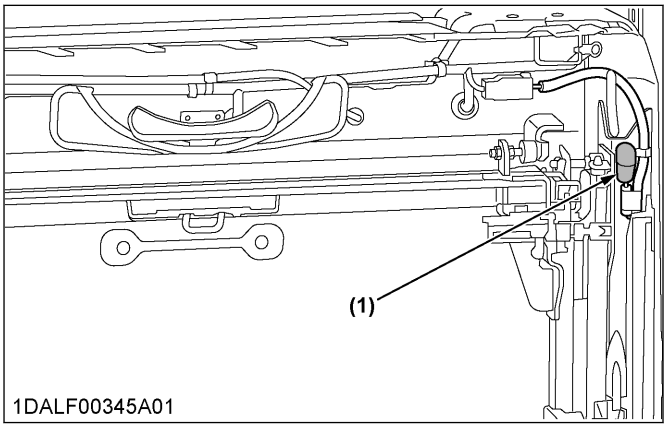
Detaching attachments

1. Lower the attachment to ground level with the attachment slightly in the rolled back position.
2. Stop the engine.
   The parking brake automatically engages.
3. Disconnect the electrical harness and hydraulic lines of the attachment from the lift arms if equipped.
4. Start the engine and push the hydraulic quick-hitch switch in the unlocked position. Hold the hydraulic quick-hitch switch in the unlocked position to make sure that the quick-hitch levers are up.
5. While sitting in the operator's seat, slowly move the right-control-lever (front-operating-lever) to the dump position until the attachment is pushed away from the quick-hitch.
6. Lower the lift arms so that the quick-hitch mounting plate clears the saddle of the attachment.
7. Back the machine away from the attachment slowly.

RADIO

BLUETOOTH MICROPHONE

The Bluetooth microphone is used to make hands-free calls.
(See Bluetooth mode operation on page 87 for instructions on how to use the hands-free phone)



(1) Bluetooth microphone

NOTE :

- **To use the Bluetooth microphone, settings on your mobile phone may be required. See the operating manual of your mobile phone for details of connecting the device.**

IMPACT OF BLUETOOTH

Bluetooth specifications and supported profiles

Supported Bluetooth specifications
Version : 5.0
Class : 1
Supported profiles: A2DP, AVRCP, HFP
Number of registered pairings allowed: Maximum 8

NOTE :

- **We do not guarantee that all Bluetooth devices can be operated with this machine.**
- **In case the Bluetooth of the connected device is older than recommended version or incompatible, the Bluetooth functions may not work properly.**
- **This product complies with the standards of the Radio Act and the Telecommunications Business Act. The sticker affixed on the products is the proof. Do not remove the sticker.**
- **Disassembling or modification of this product is punishable by law.**

IMPORTANT :

- **Do not use Bluetooth-connected mobile devices near the radio unit. If the Bluetooth-connected mobile device gets too near, the sound quality and connection will deteriorate.**

Persons using a pacemaker or other electrical device for medical treatment,
note of the following points regarding radio waves in Bluetooth communication.

⚠ WARNING
To avoid personal injury or death:

- **The antenna for Bluetooth communication is built in the radio unit.**
  With the exception of an implantable cardiac pacemaker, implantable biventricular pacing pulse generator, and implantable cardioverter defibrillator, if you are using an electrical device for medical treatment, check in advance with your physician and the manufacturer of the medical device about the impact of radio waves. Radio waves may affect the operation of electrical devices for medical treatment.

Bluetooth connected mobile devices
A Bluetooth connected mobile device is used for wireless (Bluetooth) communication with this machine.
For example, hands-free mobile use is possible even when your device is in your pocket.

NOTE :

- **If the Bluetooth connected mobile device is used simultaneously with other radio devices, it can adversely impact their communication.**
- **If Wi-Fi®, Miracast® and Bluetooth-connected mobile devices using the 2.4 GHz band radio communication are used simultaneously with this machine, it can adversely impact their communication.**
- **Batteries of Bluetooth-connected mobile devices will drain faster due to Bluetooth connection.**
- **The frequency band used by Bluetooth-connected mobile devices are used for industrial use such as microwave ovens, scientific use, and use in medical devices, in addition to the following radio stations.**
  - **On-site radio stations for moving object identification used in factory production lines, etc. (radio stations that require a license)**

  - **Specified low-power radio stations (radio stations that do not require a license)**
  - **Amateur radio stations (radio stations that require a license)**

  (The three types of radio stations mentioned above are hereinafter abbreviated as "other radio stations")

  Before using a Bluetooth-connected mobile device, ensure there are no "other radio stations" operating nearby.

  In the unlikely event of hazardous radio interference from a Bluetooth-connected mobile device to "other radio stations", immediately change the location of use to avoid radio interference.
- **The frequency band used by Bluetooth-connected mobile devices is the 2.4 GHz band.**

  FH-SS modulation is used as the modulation method.

  The expected giving interference distance is 10 m or less.

  Bluetooth-connected mobile devices use the entire bandwidth and can evade the bandwidth of moving object identification equipment.

Hands-free

By connecting an operation-confirmed Bluetooth-connected mobile device* (hereinafter referred to as "mobile phone") to this machine, you can use the phone functions of "calling" and "receiving calls" without directly operating the mobile phone. This is called the hands-free function.

To connect to this machine, use a mobile phone that is compatible with the specifications of this machine. However, some functionality may be limited depending on the mobile phone model.

⚠ WARNING

To avoid personal injury or death:

- **For safety reasons, when using a mobile phone in hands-free mode, the driver should not operate the mobile phone while driving.**
- **Stop the vehicle at a safe place and make your call. If you receive a phone call while driving, drive carefully and keep the call brief.**

IMPORTANT :

- **Do not leave behind mobile phones in the cab. The temperature inside the cab will increase under the blazing sun, etc., which may cause failure.**

Situations when the hands-free function cannot be used

- Hands-free operation is not possible in the following cases:
  - When outside the calling area
  - When outgoing calls are restricted, such as when the line is busy
  - When on an emergency call
  - When the mobile phone is dial-locked
  - When the mobile phone is in use, such as when data communication is in progress
  - When the mobile phone is malfunctioning
  - When the mobile phone is not connected to this machine
  - When the mobile phone battery is low
  - When the mobile phone is switched off
  - When the mobile phone is not set to hands-free mode
  - And also, when the mobile phone is not usable

NOTE :

- **If there is a contract for three-way calling, deactivate three-way calling on the mobile phone before use.**

Calls

Use the microphone for calls.

- Audio such as incoming call notifications and on-call voice is output from the speaker.
- Audio sounds are muted (silenced) when voice, ring tone, etc. are output in hands-free mode.

NOTE :

- **When on a call, speak alternately with the other person. If you and the person talk simultaneously, it may be difficult for the other person to hear your voice and vice-versa.**
- **Adjust the receiving volume as low as possible. If the volume is too loud, the other person's voice may be heard outside the vehicle or they might hear an echo during the call.**
- **Speak in an audible and clear manner.**
- **In the following cases, it may be difficult for the other party to hear your voice.**
  - **When driving on rough roads**
  - **When the window is open**
  - **When the air conditioner is noisy**
  - **When a cell phone is placed close to the microphone**
- **The sound quality may deteriorate (noise, echoes, etc.) due to the cell phone or network used.**

IMPORTANT :

- **Do not touch the microphone or put sharp objects. This may cause the microphone to malfunction.**

COMPLIANCE STATEMENT

1. FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1)

This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

U.S.A. : KUBOTA TRACTOR CORPORATION
1000 Kubota Drive, Grapevine, TX 76051
Telephone : (817)756-1171

2. ISED Canada Statement

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Canada : KUBOTA CANADA LTD.
1155 Kubota Drive, Pickering, Ontario L 1X 0H4, Canada
Telephone : (905)294-7477

MACHINE PRECAUTION

IMPORTANT INFORMATION ON MACHINE OPERATION

- Do not operate the machine on loose rock or gravel (hard or soft).
- Avoid moving the machine when the lift arms and the bucket are in the raised position. If you must move the machine when the lift arms and the bucket are raised, travel at low speeds in order to maintain control of the machine at all times.
- Always avoid working on an incline as the machine can become unstable and rollover, causing serious injury or death.
- Whenever the machine is in motion, keep the bucket as close to the ground as possible.
  Never change directions when the bucket is in the raised position.
- Always move the machine at speeds that are appropriate to the conditions.
  Take particular care if you are ever moving through areas where view may be obstructed or when transporting hazardous material.
- Never operate the machine in the vicinity of explosive gases. Always keep exhaust from machine away from any combustible material.
- Never turn or spin the machine at high speed.
- Never approach an incline horizontally, which can cause the track to slide off and cause excessive wearing of tracks.
- Never exceed the operating capacity of the machine.
- Never use the machine to move material or perform work that exceeds the capacity of the bucket or attachments.
- Never use the bucket as a hammer to drive poles or studs into the ground.
- Never dig too deeply with the bucket, which can damage the bucket or the lift arms.
- Avoid hitting the bucket against rocks or similar solid material, which will damage the bucket or the bucket cylinder.
- Never fully extend cylinders to perform an operation. Working while cylinders are fully extended can cause damage from excessive force.
- Never scoop or grade areas while the tilt cylinders are fully extended.
  Extremely heavy loads apply excessive traction force to the bucket cylinders and can cause damage. Avoid loads that are too heavy.

1. Caution while traveling

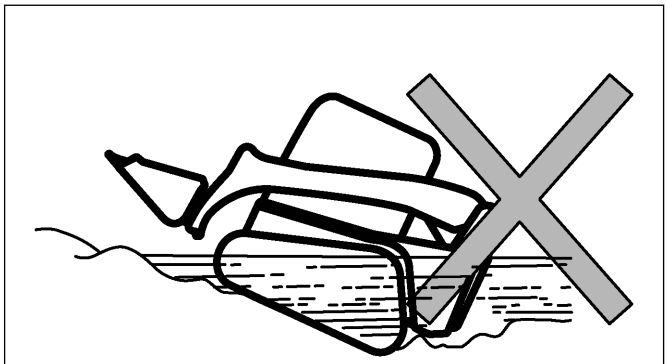
- Running over large debris as rocks, stumps, blocks, and so on may cause such debris to fly up and damage the machine. Avoid debris whenever possible.
- If obstacles cannot be avoided, travel slowly over them with the bucket in the lowered position. Approach the obstacles so that it is at the center of the tracks.

2. Precaution when traveling in high speed

- Whenever traveling over uneven ground surfaces, travel at low speed. Avoid any sudden movements with the machine such as accelerating, stopping, or turning quickly.

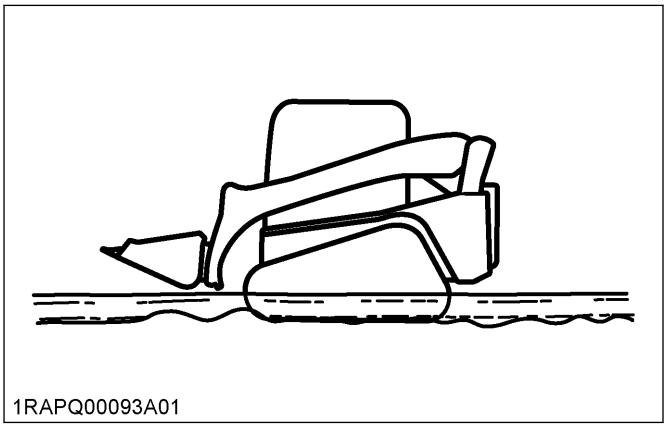
3. Precautions for use of machine near water

- Whenever working near water, pay particular attention not to submerge any part of the machine. Always keep working machine parts out of water, especially when coming out of a shoreline, for example, at a sharp angle.



1RAPQ00092A01

- **Permissible water depth**
  Never allow the machine to become submerged in water above the bottom of the body.


1RAPQ00093A01

- If parts that require lubrication are exposed to water for long periods of time, make sure that they are re-lubricated with grease to remove old grease.
- After working in the mud and in the water, make sure that there is no invasion of the soil inside the frame. If soil is deposited, clean the internal frame. (See Cleaning inside of the main frame on page 171)
- Never allow the main body of the machine to become submerged in water or sand. Contact your KUBOTA Dealer or Service Outlet if the main body of the machine is exposed to water.

4. Precautions when traveling on inclines

⚠ WARNING

To avoid personal injury or death:

- **Know and understand the machine capabilities and operating conditions, and never exceed any of these conditions. Keep in mind that poor or difficult working conditions may reduce the capability of the machine, requiring a reduction in speed to maintain stability.**

- Always lower the bucket to the following height from the ground whenever traveling on an incline. Lower the bucket completely to the ground and stop the machine in case of emergency.

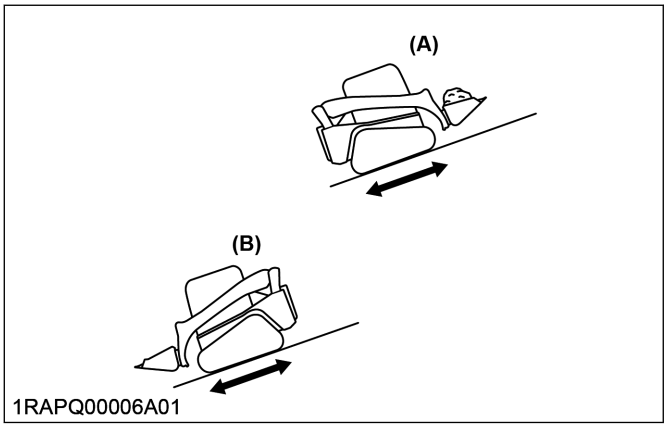
Bucket height	20 cm to 30 cm (8 in. to 12 in.)

- Always travel at low speed when moving on an incline. When moving down a incline, reduce the engine speed (rpm) and set the engine stroke to half or less using the left control lever.
  Traveling too fast down an incline can lead to loss of control and accident or injury.
- Always make sure that the heavy end of the machine is facing up the incline when traveling either direction on a hill inclined at the following angle or more.

Gradient of a hill	15 degrees

- Whenever traveling over uneven ground surfaces, travel at low speed. Avoid any sudden movements with the machine such as accelerating, stopping, or turning quickly.
- Never travel down an incline in reverse.
- Never approach an incline horizontally or diagonally. Always return to a flat surface and redirect the machine.
- Beware of unstable and slippery surfaces such as grass, leaves, wet metal, or ice. The machine can slide very easily even on low grade inclines.

Orientation of machine when traveling on an incline



1RAPQ00006A01

(A) With bucket full *(B) With bucket empty*

- Braking is automatic with the HST system when the left-control-lever is in the neutral position. Raise the armrests for parking brake.

What to do when engine stops suddenly

- If the engine stops suddenly when moving down an incline, follow the following procedure.

1. Put the control levers into the neutral position.
2. Stop the machine.
3. Then restart the machine in the normal manner.

5. Parking on an incline

- It is best to park the machine on firm, level ground using the parking brake. But if you must park the machine on an incline, make sure that you block the tracks to prevent any movement.
- Make sure that the machine is highly visible when parking near streets by using barriers, appropriate caution signs, lights, and so on to avoid any accident or collision with other vehicles.
- Always raise the armrests to the raised position and stop the engine before leaving the operator's seat.
- Never leave the machine running unattended or with the lift arms raised. Whenever the lift arms are raised, always restrain them using the lift-arm-stopper.

Whenever leaving the machine, perform the following procedure.

1. Put the control levers into the neutral position.
2. Reduce the engine speed using the engine-speed-control-dial.
3. Lower the bucket to the ground.
4. Move the armrest in the raised position.
5. Stop the engine.

6. Prohibited actions for the machine

⚠ CAUTION

To avoid personal injury:

- **Whenever operating the machine, adhere to the following:**
  - **Always avoid sudden changes in direction or spinning on concrete surfaces. Excessive friction on the tracks will cause them to wear out or become damaged.**
  - **Always avoid sudden impact to the tracks such as allowing the machine to drop down or hit objects.**
  - **Chemical such as salt, potassium chloride, ammonium sulfate, potassium sulfate, triple-super phosphate of lime, and so on can damage the track belts. If the tracks are exposed to any of chemical such as salt, potassium chloride, ammonium sulfate, potassium sulfate, triple-super phosphate of lime, and so on, immediately wash thoroughly with water.**
  - **Avoid scraping the rubber tracks along concrete and other rough surfaces.**
  - **Take particular care when operating, transporting material, or traveling in snowy conditions or on ice because tracks may slip.**
  - **Operate the machine between the following temperature for proper functioning of rubber track belts.**
  - **If machine must be stored for three months or longer, keep it indoors and out of direct sunlight and prevent exposure to the elements to prevent wear on the rubber tracks.**

Temperature for proper functioning of rubber track belts	-20 ℃ to +50 ℃ (-4 ℉ to +122 ℉)

Actions that must not be performed with the machine

- Never move, transport material, or operate the machine in the following places: mud, broken stone, jagged or unstable base rock, iron beams, iron scrapes, iron sheets, and so on.
  Navigating, turning, and moving the machine over sharp material may damage or break the tracks.
- When traveling on riverbeds and other areas where loose gravel can get into the tracks, gravel can cause the tracks to slip off or become damaged.
- Do not use near the oceanfront where salt water can corrode the various parts of the machine.
- Always prevent fuel, oil, salt, or other chemical agents from getting into the tracks, which can cause corrosion to the metal track cores. If the track and its parts are exposed to such material, immediately remove by using water.
- Always avoid traveling on roads directly after they have been resurfaced or on other hot surfaces such fire or metal surfaces under direct sunlight. Excessive heat can cause irregular wear and damage to tracks.
- Do not move material where the surface is unstable and could cause slippage in the tracks. Unnecessary and excessive slipping of tracks will damage and cause abnormal wearing of the tracks.

7. Prevention of slippage of rubber tracks

Always follow the following to prevent slippage of rubber tracks.

- Make sure that the tracks are kept at the proper tension.
  Never change directions when there is excessive slack in the track belts.
- When ascending an incline, never change direction at the base of the incline.
- Always avoid operating the machine with one track on a different surface than the other track, or with one track partially on an incline. Make sure that both tracks are on stable, firm surfaces when in motion.

LIFTING

LIFTING THE MACHINE

⚠ DANGER

To avoid personal injury or death:

- **The instructions for safe lifting are described in the *Lifting the machine* section. Read instructions in the *Lifting the machine* section carefully before lifting the machine. Make sure that the operating personnel read the operator's manual carefully before lifting.**

⚠ WARNING

To avoid personal injury or death:

- **Do not use damaged chains and lifting hardware.**

IMPORTANT :

- **Follow the procedure so the unit cannot roll.**
  1. **Select a firm, level surface.**
  2. **Lower the working equipment to the ground.**
  3. **Stop the engine.**
  4. **Set the armrest to the locked position.**
  5. **Apply the parking brake switch.**
- **Do not lift loads that exceed the maximum rated capacity of the hoist and attaching hardware.**
- **Refer to the specifications for attaching hardware and choose hardware suitable for the weight, size, and configuration of the load.**
- **Assess the center of gravity of the load, position the hook directly over the load, and lift the load so that it remains horizontal.**
- **Do not enter and do not allow others to enter the working area under the suspended load, and do not move the load over people. Only move the load in an area where the equilibrium can be maintained.**
- **Always inspect the attaching hardware, including chains, hooks, and master links before each use. Do not use any worn or damaged attaching hardware or if the safety latch is missing.**
- **Do not use attaching hardware, including chains, hooks, and master links, in extreme temperature or other environmental conditions that exceed the manufacturer's specifications.**
- **Disengagement of the load can cause severe injury or death. The use of a hook with a safety latch or other master link device does not preclude inadvertent detachment of a slack sling load from the hook or master link. Visually verify proper engagement of hook or shackle in all instances.**
- **Comply with all federal, state, and local regulations and safety standards before lifting the machine.**
- **Do not use the holes on the roof structure to lift the machine.**
- **Make sure that the lifting chains, hooks, and master links are strong enough to withstand the load being lifted.**
- **Be sure that the hooks have safety latch.**
- **Before lifting the machine, be sure that attachments are properly attached.**

Preparations

- Lifting chains (with hook at each end)

Approximate overall length	3.43 m (135 in.)
	2 pc.
Approximate overall length	8.84 m (348 in.)
	1 pc.

- Pads (to protect the machine and lifting chain)
- Master links, 2pc.

Model name	SVL75-3	
Model type	Open Cab	Closed Cab
Machine weight*1	4094 kg*2 (9026 lbs.)	4198 kg*2 (9255 lbs.)
Recommended chain working load limit > 2565 kg (5655 lbs.)*3	3/8 in. lifting grade 80 alloy	
Recommended master link working load limit > 5125 kg (11300 lbs.)*3	Size not specified	
Recommended attachment hardware working load limit > 2565 kg (5655 lbs.)*3	Size not specified	

*1 CTL weight with standard (non-hydraulic) bucket

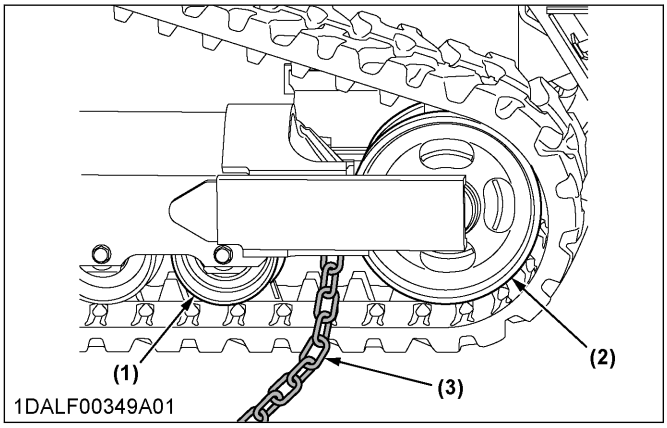
*2 CTL weight shown with standard track (320 mm) [12.6 in.]

*3 Recommended chain, master link, and attachment hardware shall meet OSHA regulations and applicable ANSI (American-national-standards-institute), NACM (national-association-of-chain-manufacturers), and federal standards.

Procedure for connecting chains

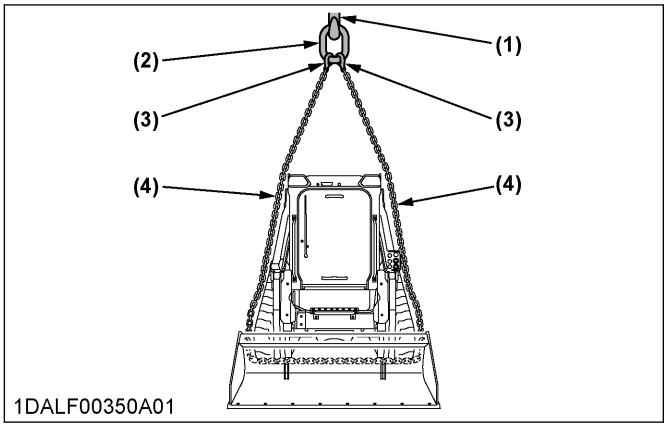
1. **Locate the chain and position the hook.**
   - **Front of the machine**
     Pass the chain between the front idler and the front track roller, under the machine on each side, as shown in Fig. 1 and Fig. 2.

Fig. 1 (Chain location at front of the machine)



(1) Front track roller
(2) Front idler
(3) Front lifting chain

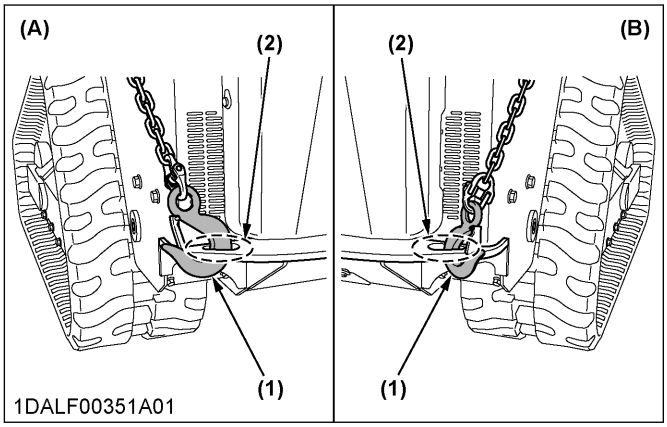
Fig. 2 (Front view)



(1) Hoist hook
(2) Front master link
(3) Hook
(4) Front lifting chain

- **Hook positions at rear of the machine**
  Lifting fixture mount at rear corners of the machine.

Fig. 3 (Hook positions at rear of the machine)



(1) Hook
(2) Lifting fixture mount (Rear tie down point)
(A) LH
(B) RH

2. **Connect the hook.**
   - At the front of the machine, use the following chain length.

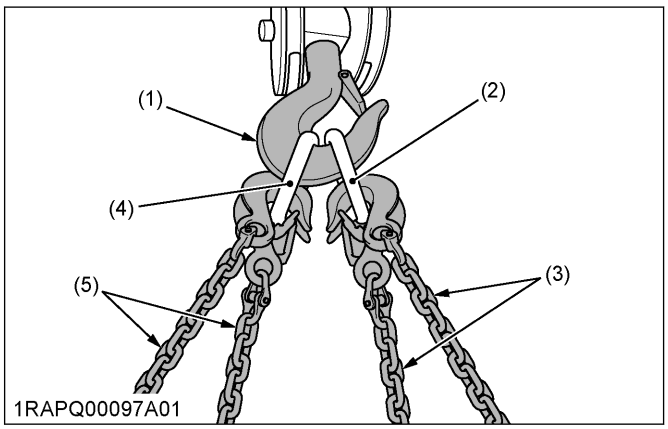
Chain length	8.84 m (348 in.)

   a. Pass the lifting chain and the hook between the front-track-roller and the front idler under machine.
   b. Pass the lifting chain and the hook again between front track roller and front idler at other side.
   - Connect both hooks to the front-master-link, and connect the master link to the hoist hook as shown in Fig. 4.
   - At the rear of the machine, use the following chain length.

Chain length	3.43 m (135 in.)

   a. Attach one end at the rear-lifting-fixture-mount and attach the other hook to master link.
   b. Then connect the master link to the hoist hook as shown in Fig. 3 and Fig. 4.

Fig. 4 (Hoist hook and master links)



(1) Hoist hook
(2) Front master link
(3) Front lifting chain
(4) Rear master link
(5) Rear lifting chain

IMPORTANT :
- **Pass the rear-lifting-chains to the sides of the machine body as shown in Fig. 3 and Fig. 5.**

3. **Apply the pads.**
   Apply the pads at locations shown in Fig. 5 and Fig. 6, where the chains come in contact with the machine to reduce damage of the machine and the chains.
   - **Locations to apply the pads**
     – Cab top
     – Lift arm
     – Track

– Track frames
– Rear lifting chains contact locations (frame and lift arm)

Fig. 5 (Lifting chain with pads)

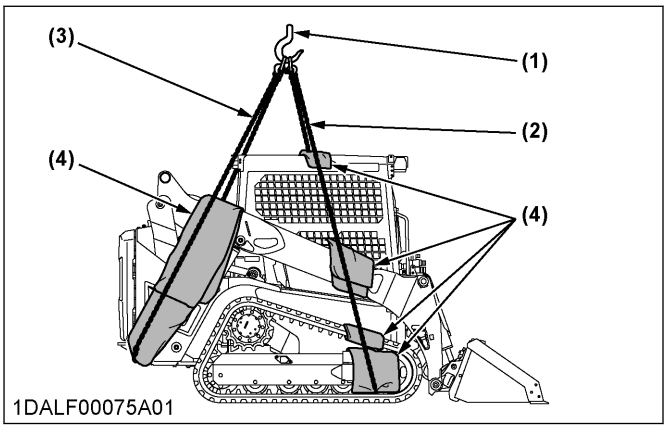
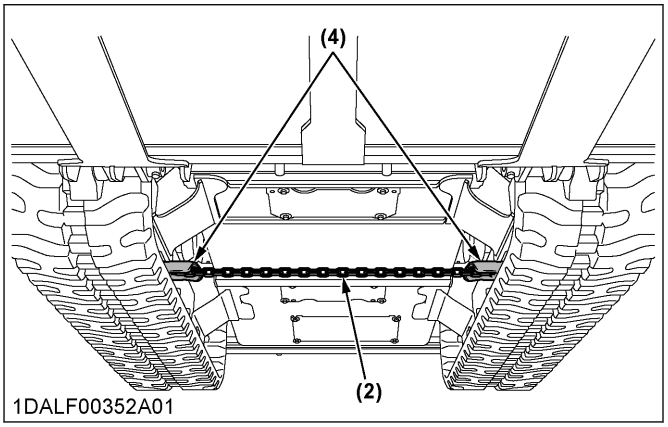


Fig. 6 (Front lifting chain location)



(1) Hoist hook
(2) Front lifting chain
(3) Rear lifting chain
(4) Pads

Front lifting chain (2)	8.84 m (348 in.)
Rear lifting chain (3)	3.43 m (135 in.)

4. Before lifting the machine, locate the hoist hook at the point which is shown in Fig. 5 and Fig. 6.

IMPORTANT :
- **Never put yourself around the machine when it is lifted.**
- **Never lift the machine with person in operator station or on the attachment.**

Procedure for lifting the machine
1. Lift the machine slowly and vertically.
2. Move the machine slowly into place.

TRANSPORTING

DANGER

To avoid personal injury or death:

- **Make sure that the load capacity of the ramps is greater than the machine and attachment weight.**
- **Make sure that the ramps are clean, not damaged, and properly secured to the transport bed.**
- **Position the machine so that the heaviest end of the machine is going up the ramps first.**
- **Do not change directions when the machine is on the ramp. If a change of direction be necessary, drive off the ramp completely and turn the machine.**
- **When the machine reaches the point between the ramps and the bed, move the machine very slowly until it reaches the horizontal position on the bed.**

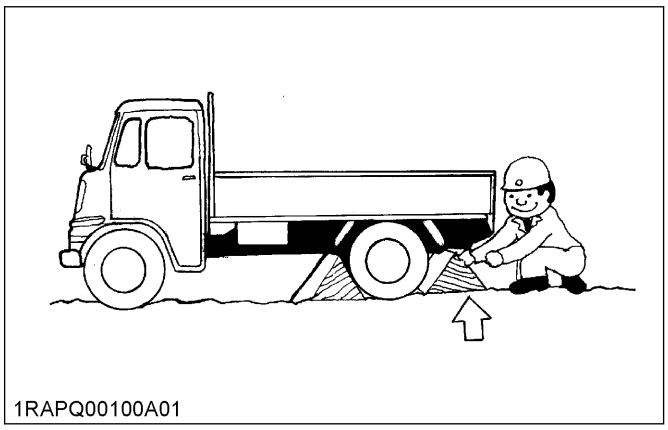
LOADING THE MACHINE ON A TRANSPORT VEHICLE

WARNING

To avoid personal injury or death:

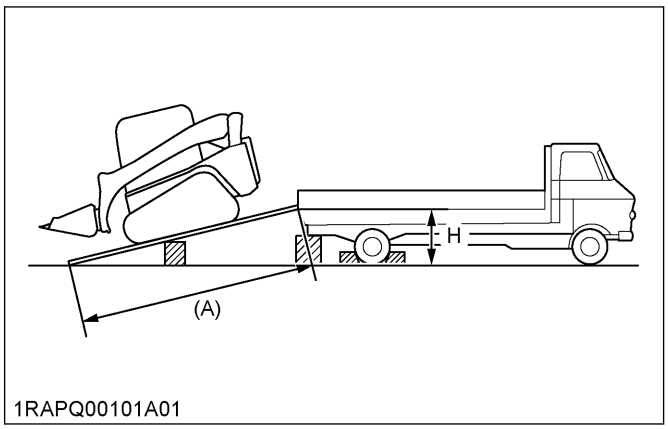
- **When preparing to load or unload the machine, follow the steps in the *"Loading the machine on a transport vehicle"* section.**
- **Use a truck or trailer with sufficient size and weight capacity to transport the machine with attachment. Use of truck or trailer with an underrated capacity can cause unpredictable handling and loss of control. Always comply with government transportation laws and regulations.**

1. Apply the parking brakes on the truck, and block the drive wheels both sides as shown in the following figure.



1RAPQ00100A01

2. Use the mounting brackets to secure the ramps properly to the truck or the trailer.
3. Determine and use the correct length of the ramps to avoid a steep angle of approach as shown in the following figure.

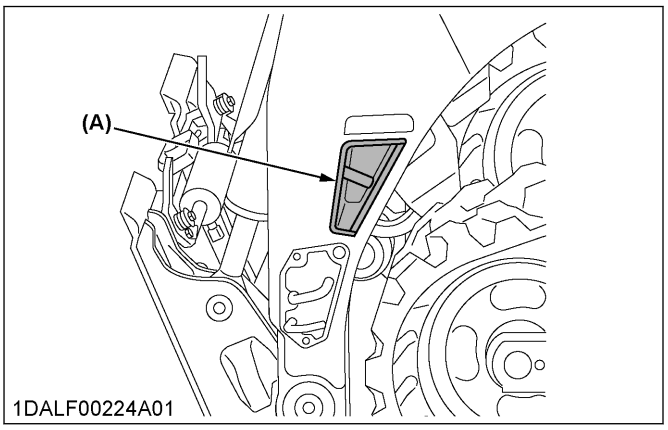


1RAPQ00101A01

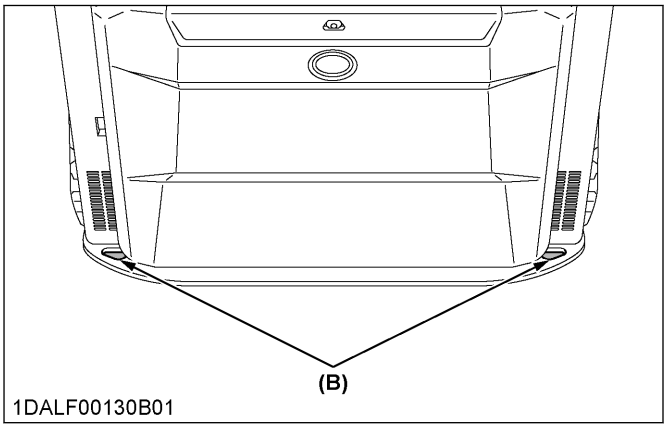
(A) 4×H or more

4. If necessary, support the rear end of the bed to prevent front of the truck or trailer from rising.
5. Align the machine with the ramps before traveling on ramps. If the ramps are wet, use caution during loading the machine.
6. Load the machine with empty bucket or no attachment installed, and with the rear of machine going up the ramp first.
7. If the bucket or attachment is installed, avoid the bucket or attachment contact with ramps during travel.
8. Once the machine is loaded, lower the bucket or attachment completely.
9. Stop the engine, and set the parking brake.

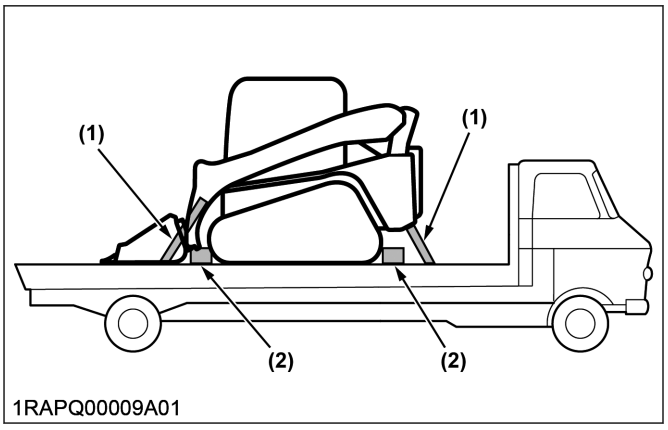
10. Block the tracks and tie down the machine using two tie-downs at the front and two tie-downs at the rear.



(A) Front tie-down locations (both sides)

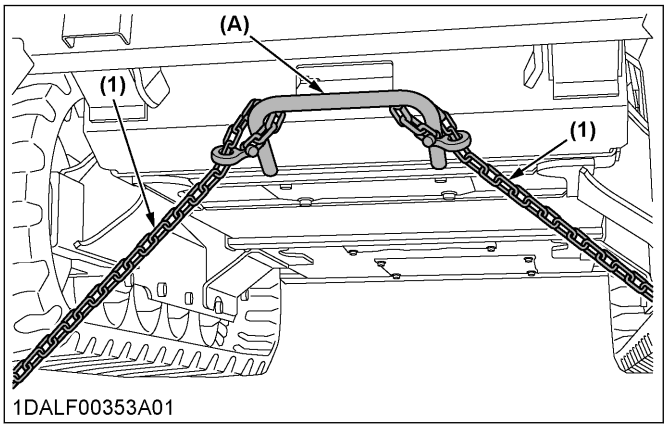


(B) Rear tie-down locations



(1) Chain or strap (2) Blocks

11. Depending on the attachment installed, the loader arms may not come in contact with rest stop. Therefore it may be necessary to use the alternate front center tie-down for securement of the machine. Use two separate straps or chains as shown in the following figure and secure the attachment with a separate strap or chain. Consult your government transportation laws and regulations.



(1) Chain or strap (A) Alternate front tie-down

12. When installing the chains or the strap from tie-down location of the machine to tie-down points of the truck or trailer, maintain proper angles to provide lateral and downward securement.
13. When using alternate or standard tie-down points, also tie-down the attachment in addition to the machine.

TOWING AN OPERABLE MACHINE

⚠ WARNING

To avoid personal injury or death:

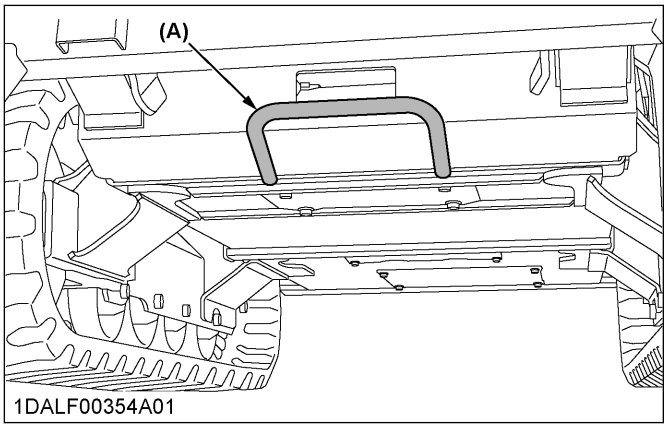
- **Tow only from both rear tie-downs as shown in the figure.**
- **Towing is only allowed for a short distance at walking speed.**
- **Use a tow chain or rope and hardware that is rated at least 1.5 times the machine weight. See the *Technical data* section in this operator's manual to find machine weight.**

(See SPECIFICATION TABLE on page 27)

⚠ CAUTION

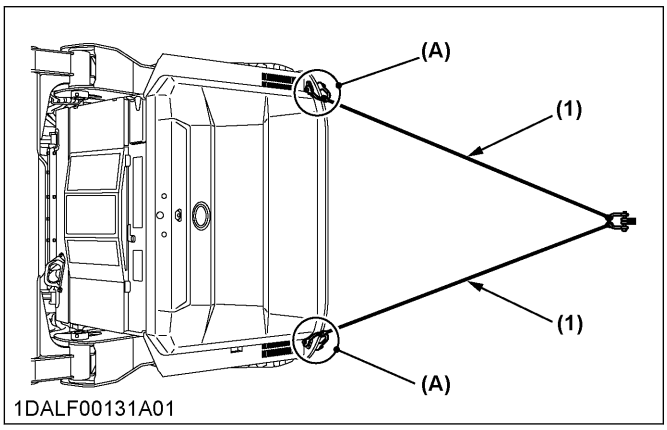
To avoid personal injury:

- **Do not tow the machine using the front tie-down points of the attachment located on each side of the lift arms or tie-down point at center of machine.**



(A) Tie-down point (Do not tow here.)

1. Attach towing hardware using both rear tow points and to the towing machine as shown in the following figure.



(1) Chain or strap

(A) Rear tow and tie-down points

2. Sit on the operator's seated in the towed machine with the seat belt connected during the recovery process, and assist when towed using the machine movement in the direction of towing. Keep the parking brake released while towing.
3. Tow slowly at a walking pace with recovery machine and towed machine, avoid abrupt loads while towing.

TOWING AN INOPERABLE MACHINE

WARNING

To avoid personal injury or death:

- **Towing an inoperable machine will damage the hydraulic drive or track system. Contact your local KUBOTA dealer for towing an inoperable machine.**

MAINTENANCE

WARNING

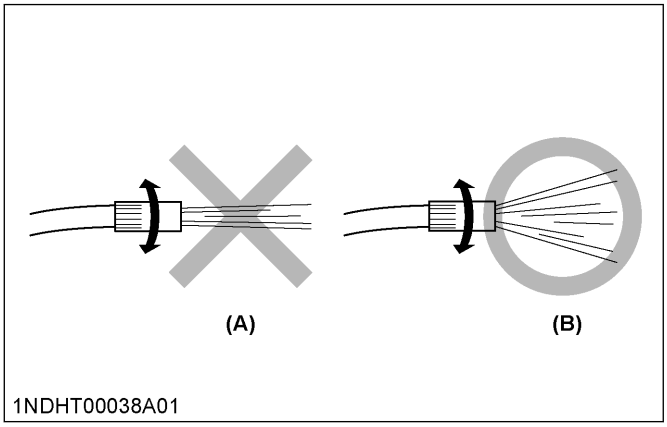
To avoid personal injury or death:

- **Before performing maintenance on the machine, place the machine on a firm, flat, and level surface, lower the lift arms slowly to the ground, and stop the engine.**
- **When performing maintenance on the machine, do not allow any persons within the cab.**
- **To prevent the machine from being damaged, set the washing nozzle to spreading water, and keep the distance 2 m away from the machine to clean it. When the water is directed at a pin point area, or when the machine is washed from too close a position with a high pressure flow:**
  - **The cover of the wiring may be damaged or the wiring may be cut off, causing fire.**
  - **The hydraulic hose may be damaged, causing a high pressure oil blow out. This may cause injury.**

IMPORTANT :

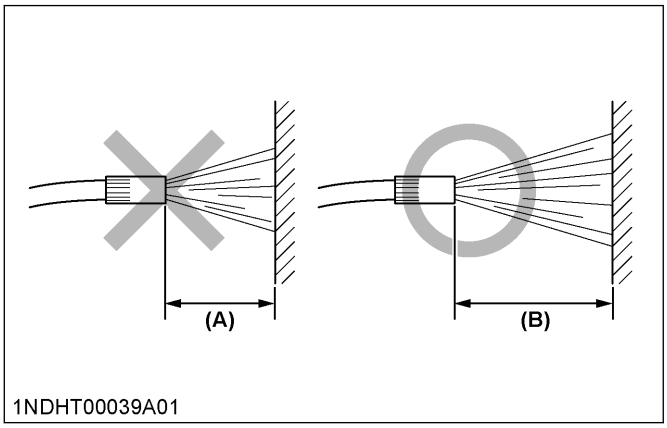
- **If the machine is not washed as specified, the following peel-off, damage or malfunction may result.**
  Examples:
  - **The stickers or labels may peel away.**
  - **The electronic components, engine compartment, cab and others may get wet inside and adversely affected.**
  - **The tracks, oil seals and other rubber-based components, the decorative covers and other plastic-based components, and the windows and other glass-based components may get damaged.**
  - **The paint, coating, and plating may peel away.**

No high pressure-washer



(A) High pressure *(B) Low pressure*

No pressure-washer at short range

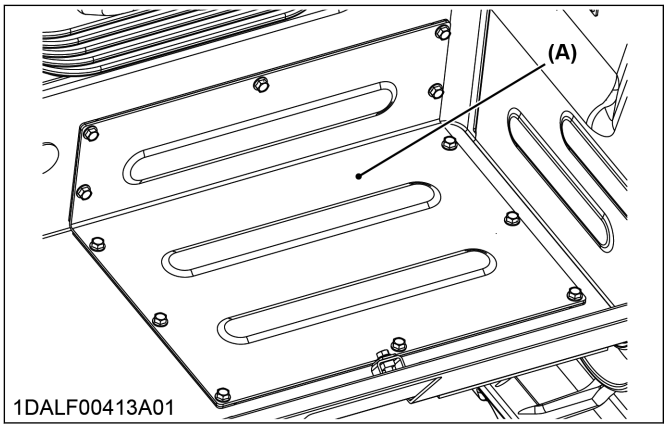


(A) Less than 2 m *(B) 2 m or more*

Whether the machine is properly lubricated and maintained directly determines the trouble frequency and service life of the machine. Periodically check and maintain your machine, and you will find in the long run that the jobs can be finished earlier and more economically.

IMPORTANT :

- **Do not remove the plate (step). Once this plate is removed, the airtightness of the cab will degrade.**



(1) Plate (step)

MAINTENANCE INTERVALS

When hours indicated on the hour meter or operating intervals reach the hours or the intervals shown in the following chart, perform relevant inspection and maintenance. If the machine is used in harder-than-usual working conditions, check and maintain the machine at shorter intervals.

No.	Check points		Measures	Hour meter indicator							Interval	Ref. page		
				50	250	500	1000	1500	2000	3000				
1	Coolant		check	Daily check							(every 10 hrs)	158		
			change								every 2 years	180		
2	Fuel		check	Daily check							(every 10 hrs)	158		
3	Engine oil		check	Daily check							(every 10 hrs)	159		
			change			○	○	○	○	○	every 1 year or 500 hrs	172		
4	Hydraulic oil		check	Daily check							(every 10 hrs)	159		
			change				○		○	○	every 1000 hrs	176	*1	
5	Greasing		grease	Daily check							(every 10 hrs)	160		
6	Radiator and oil cooler		check	Daily check							(every 10 hrs)	161		
7	Engine and electrical wiring		check	Daily check							(every 10 hrs)	161		
8	V-belt tension		check	Daily check							(every 10 hrs)	161		
			adjust		○	○	○	○	○	○	every 250 hrs	170		
9	Water separator		drain	Daily check							(every 10 hrs)	161		
10	Evacuator valve		check	Daily check							(every 10 hrs)	162		
			clean	○	○	○	○	○	○	○	every 50 hrs	168		
11	DPF muffler		check	Daily check							(every 10 hrs)	162		
12	Washer liquid		check	Daily check							(every 10 hrs)	163		
13	Battery condition		check	Daily check							(every 10 hrs)	163		
14	**[Reversing fan model only]** Reverse fan		check	Daily check							(every 10 hrs)	164		
15	Fuel tank cap		clean	Daily check							(every 10 hrs)	165		
16	Fuel tank		drain	○	○	○	○	○	○	○	every 50 hrs	165		
17	Track tension		check	○	○	○	○	○	○	○	every 50 hrs	166		
18	Air cleaner element	Outer element	clean	○	○	○	○	○	○	○	every 50 hrs	166	*2	
			replace		○	○	○	○	○	○	every 250 hrs	172	*2	@
		Inner element	replace		○	○	○	○	○	○	every 250 hrs	172	*2	
19	Radiator hoses and clamps		check		○	○	○	○	○	○	every 250 hrs	169		
			replace								every 2 years or 4000 hrs	182 208		
20	Fuel line and intake air line		check		○	○	○	○	○	○	every 250 hrs	170		
			replace								every 2 years or 4000 hrs	182 208		
21	Inside of main frame		clean		○	○	○	○	○	○	every 250 hrs	171		
22	Engine oil filter cartridge		replace			○	○	○	○	○	every 500 hrs	173		
23	Water separator filter element		replace			○	○	○	○	○	every 500 hrs	173		
24	Fuel filter cartridge		replace			○	○	○	○	○	every 500 hrs	174		@
25	Travel motor gear oil		change		◎	○	○	○	○	○	every 500 hrs	174		
26	Hydraulic return filter		replace		◎	○	○	○	○	○	every 500 hrs	175		
27	Hydraulic breather filter of the hydraulic tank		replace			○	○	○	○	○	every 500 hrs	175		
28	Hydraulic oil filter		replace	◎		○	○	○	○	○	every 500 hrs	175		
29	**[Closed cab model only]**		clean			○	○	○	○	○	every 500 hrs	175	*3	

(Continued)

No.	Check points	Measures	Hour meter indicator							Interval	Ref. page		
			50	250	500	1000	1500	2000	3000				
29	Front window roller	replace				○		○	○	every 1000 hrs	178	*3	
30	Hydraulic suction filter	replace				○		○	○	every 1000 hrs	176		
31	Engine valve clearance	adjust				○		○	○	every 1000 hrs	177	*3	
32	Injector tip	check					○		○	every 1500 hrs	178	*3	@
33	EGR cooler	check					○		○	every 1500 hrs	178	*3	@
34	Alternator and starter motor	check						○		every 2000 hrs	178		
35	EGR system	check							○	every 3000 hrs	178	*3	@
36	Turbo charger	check							○	every 3000 hrs	178	*3	@
37	Fuel tank breather	replace							○	every 3000 hrs	178		
38	DPF	clean								every 3000 to 8000 hrs	178	*3	@
39	Exhaust manifold (crack, gas, leakage and mounting screw)	check								every 1 year	179	*3	
40	Intake air line for air leaks	check								every 1 year	179	*3	
41	Boost sensor	check								every 1 year	179	*3	
42	Condition of DPF muffler	check								every 1 year	179	*3	
43	DPF differential pressure sensor and piping for gas leak	check								every 1 year	179	*3	
44	DPF exhaust gas temperature sensor	check								every 1 year	179	*3	
45	EGR and piping for gas leak	check								every 1 year	179	*3	
46	Antifrost heater for oil separator (CCV heater)	check								every 1 year	179	*3	
47	**[Closed cab model only]** CCV internal pressure switch	check								every 1 year	179	*3	
48	Relief valve	check								every 1 year	180	*3	
49	Hydraulic hose	replace								every 2 years or 4000 hrs	180 208	*3	
50	Radiator system	rinse								every 2 years	180		
51	Coolant rubber piping	replace								every 2 years	182	*3	
52	CCV rubber piping	replace								every 2 years or 4000 hrs	182 208	*3	
53	DPF differential pressure sensor rubber piping (Front and back)	replace								every 2 years or 4000 hrs	183 208	*3	
54	Suction hoses upstream and downstream the turbocharger	replace								every 2 years or 4000 hrs	183 208	*3	
55	Boost sensor pressure rubber piping	replace								every 2 years or 4000 hrs	183 208	*3	
56	EGR differential pressure sensor rubber piping (Front and back)	replace								every 2 years or 4000 hrs	183 208	*3	
57	EGR cooler hose	replace								every 2 years	183	*3	
58	Plastic parts and synthetic leather	clean								service as required	184		

IMPORTANT :

- **Perform the job indicated by ● at the first operation.**
- **The listed items (@ marked) are registered as emission related critical parts by Kubota in the U.S.EPA non-road emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the preceding instruction.**
  Please see the *Warranty Statement* in detail.
- **When using biodiesel, check the maintenance requirements of biodiesel fuel as the intervals will change in some of the items.**

*1 When using a hydraulic hammer, change hydraulic oil and return filter. See Changing the hydraulic oil including the suction filter in the hydraulic tank and the return filter on page 176.

*2 Clean and replace the air cleaner element more frequently if used under dusty conditions. When the filter is very dirty from dusty conditions, replace the filter.

*3 Consult your local Kubota dealer for this service.

Air-conditioner

No.	Check points	Measures	Hour meter indicator							Interval	Ref. page		
			50	250	500	1000	1500	2000	3000				
1	Air-conditioner belt tension	check	Daily check							(every 10 hrs)	161		
		adjust		○	○	○	○	○	○	every 250 hrs	171		
2	Air-conditioner condenser	check	Daily check							(every 10 hrs)	164		
3	Air filter	clean	○	○	○	○	○	○	○	every 50 hrs	168	*1	
		replace				○		○	○	every 1000 hrs	-	*1	
4	Air-conditioner drain	check			○	○	○	○	○	every 500 hrs	176		
5	Air-conditioner pipes and hose	check								every 1 year	179		
		replace								every 2 years	182		
6	Refrigerant (gas)	check								service as required	183		

*1 Clean and replace the air filter more frequently if used under dusty conditions. When the filter is very dirty from dusty conditions, replace the filter.

OPENING AND CLOSING OF COMPONENTS

1. Opening and closing the rear door

⚠ WARNING

To avoid personal injury or death:

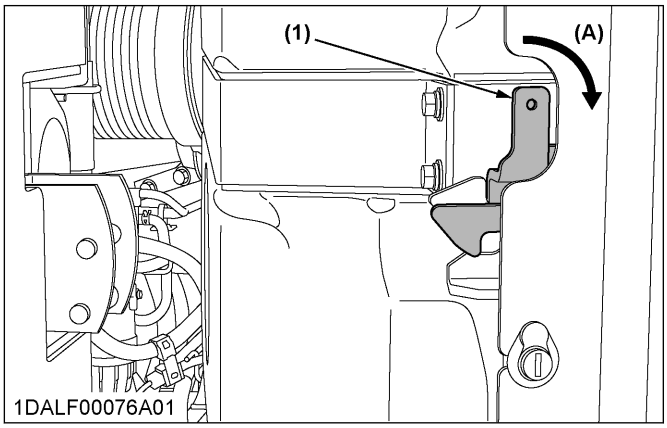
- **When opening the rear door, open it firmly to the locked position.**
- **When opening and closing the rear door, be careful not to get your hands or other parts of your body caught.**

Opening

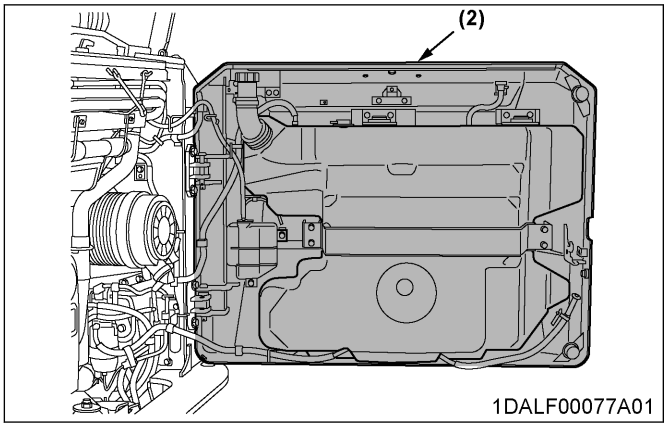
1. Pull the lever and open the rear door.
2. Insert the pin into the locked position to fix the rear door.

Closing

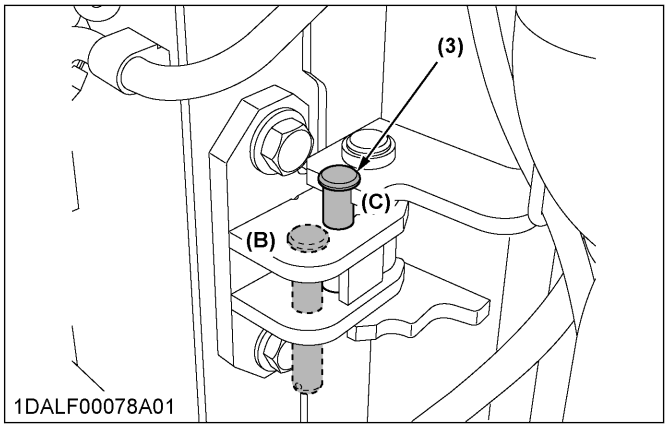
1. Support the rear door by hand, remove the pin from the locked position, and insert it into original position.
2. Close the rear door firmly until the lever is fully returned.



(1) Lever *(A) Pull*



(2) Rear door



(3) Pin *(B) Original position* *(C) Locked position*

NOTE :

- **Be careful, the rear door gets heavy when the fuel tank is full.**

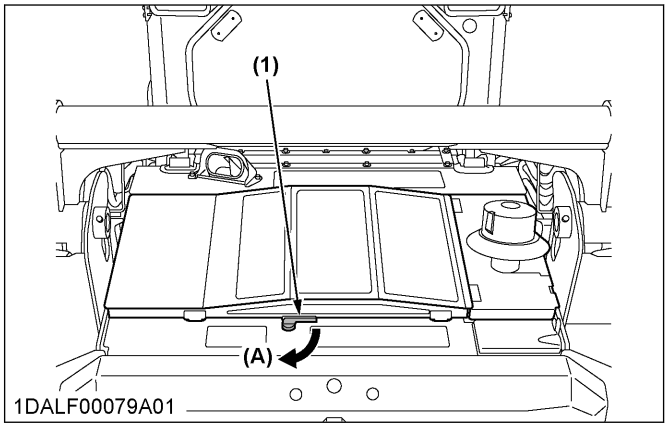
2. Opening the rear upper cover

⚠ WARNING

To avoid personal injury or death from contact with moving parts:

- **Never open the rear upper cover while the engine is running.**
- **When opening and closing the upper cover, be careful not to get your hands other parts of your body caught.**

1. Turn the lever.

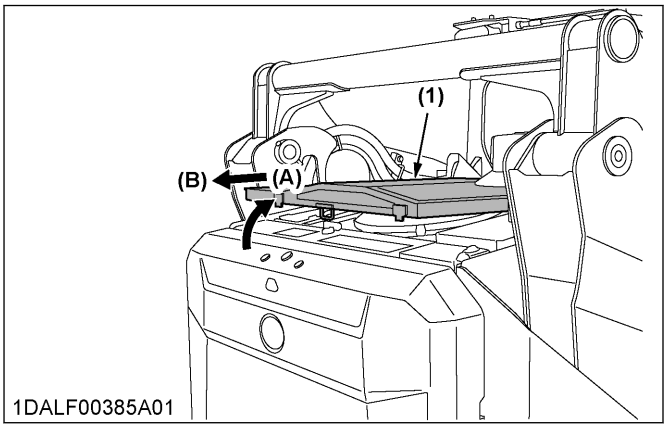


(1) Lever *(A) Turn*

NOTE :

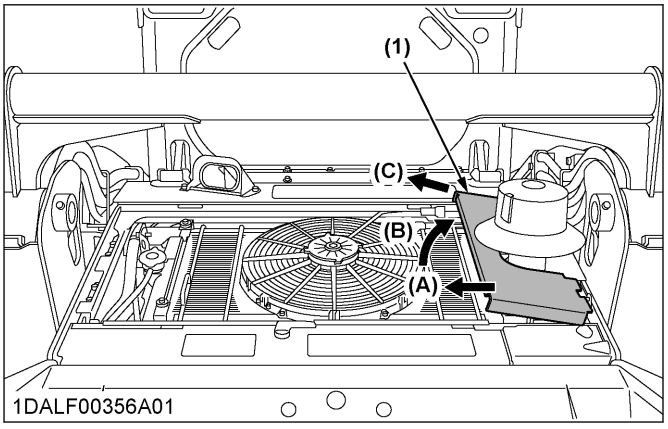
- **Before detaching the rear upper covers, remove dirt or debris off the cover top and around the covers. This is to prevent such deposits from coming into the cooling system.**

2. Raise the rear upper cover 1, and pull it off to backward.



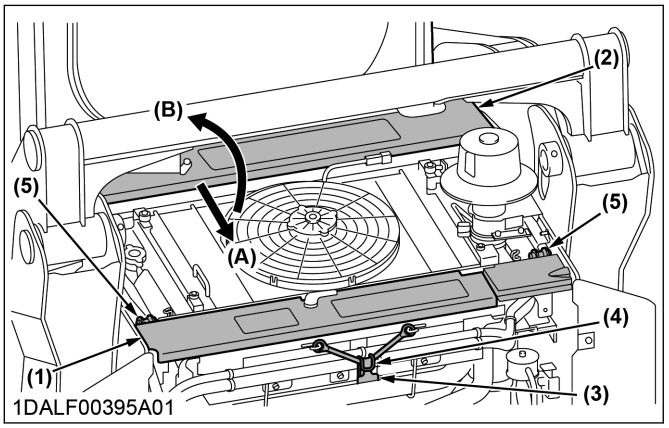
(1) Rear upper cover 1
(A) Raise
(B) Pull off

3. Pull the rear upper cover 2 slightly to the left, and pull it off to the left while raising.



(1) Rear upper cover 2
(A) Pull
(B) Raise
(C) Pull off

4. Remove the rubber band from the hook 1, release the front pins of the rear upper cover 3 from the hook 2, and remove the rear upper cover 3.
5. While pulling the rear upper cover 4 backward, raise the back side of the rear upper cover 4 and open it.



(1) Rear upper cover 3
(2) Rear upper cover 4
(3) Rubber band
(4) Hook 1
(5) Pin and hook 2
(A) Pull
(B) Raise

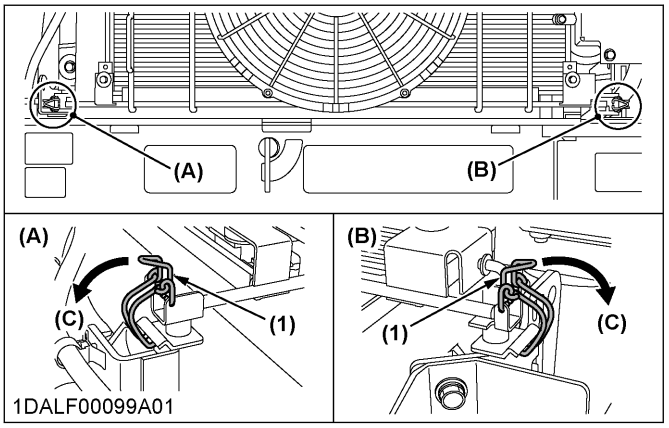
3. Opening the air-conditioner condenser

⚠ WARNING

To avoid personal injury or death from contact with moving parts:

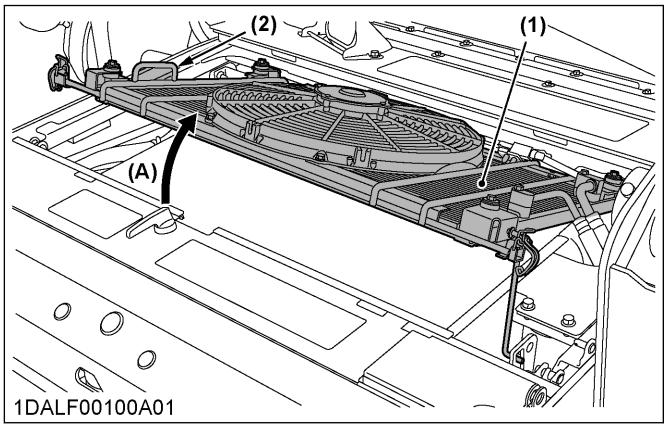
- **Never open the air-conditioner condenser while the engine is running.**
- **When opening and closing the air-conditioner condenser, hold the grip. If not, there is a risk of getting your hands or other parts of your body caught.**

1. Lower the lever to unlock the air-conditioner condenser.



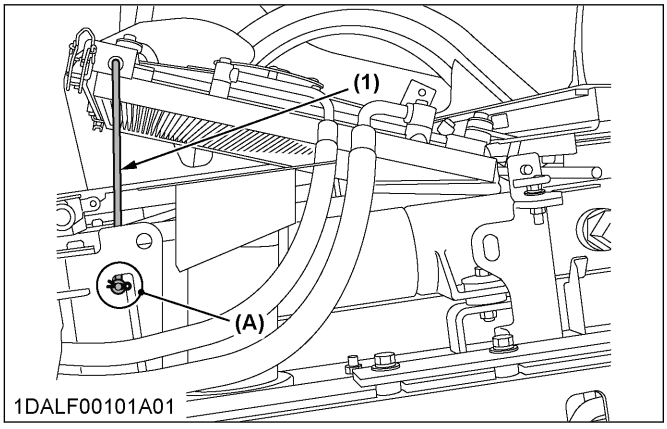
(1) Lever
(C) Unlock

2. With holding the grip, raise the air-conditioner condenser.



(1) Condenser *(A) Raise*
(2) Grip

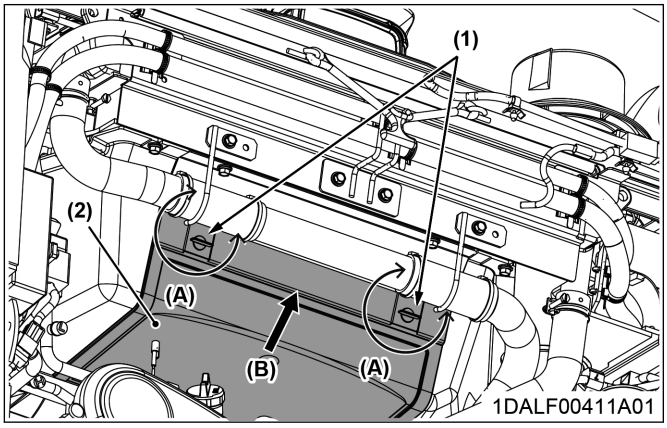
3. Set the rod on the right side of the air-conditioner condenser to the fixed position.



(1) Rod *(A) Fixed position*

4. Opening the fan motor cover

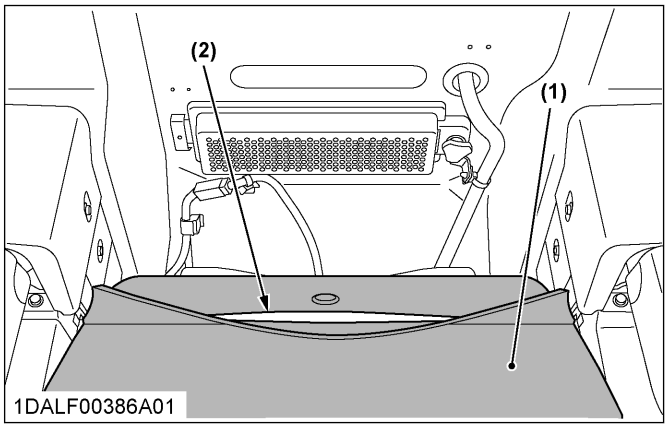
1. Turn the retainers and remove them.
2. Pull off the fan motor cover.



(1) Retainer *(A) Turn*
(2) Fan motor cover *(B) Pull off*

5. Where to keep the operator's manual

Keep the operator's manual in the operator's-manual-storage-box at the back of the operator's seat.



(1) Seat *(2) Storage space*

6. Tilting up the cab

⚠ WARNING

To avoid personal injury or death:

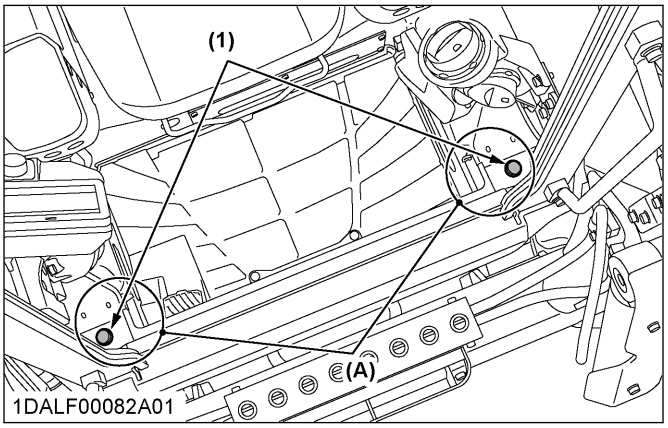
- **Raising or lowering the cab while the engine is running may cause the machine to move, and cause personal injury or death. Place the machine on a firm, flat and level surface, lower the lift arms slowly to the ground and stop the engine before raising the cab or with the cab raised.**
- **When tilting up the cab, use the stopper lock not to be released the stopper suddenly.**
- **Do not enter beneath the cab, while raising or lowering the cab.**
- **More than one person may be needed to tilt the cab.**
- **Do not tilt up the cab at temperatures below -30 ℃ (-22 ℉).**
- **Be careful not to pinch your hands between the cab and the frame while raising and lowering the cab.**
- **When tilting up the cab, do not allow any persons within the cab. The stopper may be damaged.**

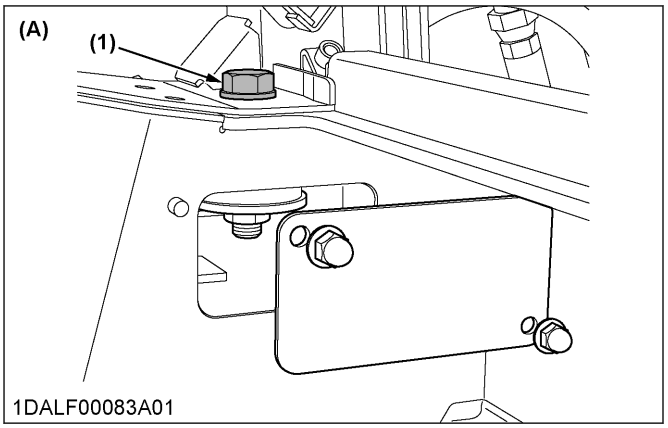
For inspection and maintenance, the cab is designed so that you can tilt up it.

Raising (Tilt up)

Select a firm, level surface, lower the lift arms fully to the ground, and stop the engine.

1. Clean the cab tilt fulcrums before tilting the cab.
2. Set the armrest to the raised position.
3. Remove the lock bolts from the front of the machine.

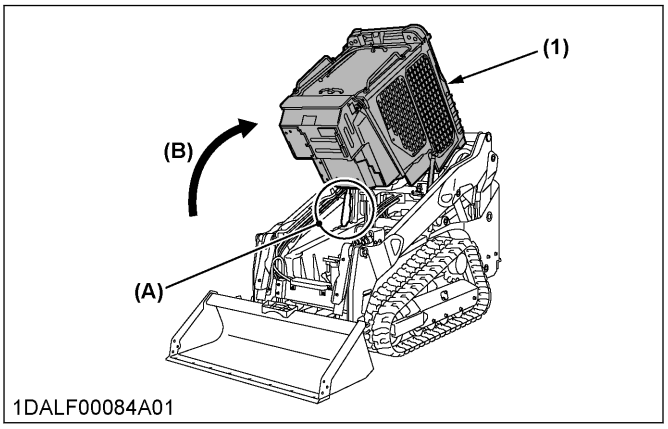




(1) Lock bolt

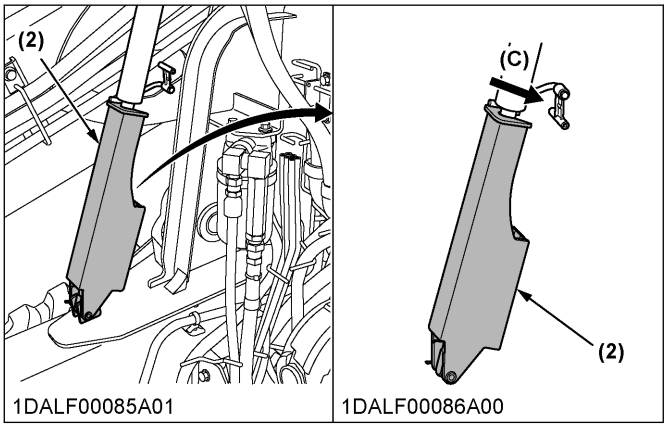
4. Stand on the ground when tilting the cab up. Slowly raise the cab until the cab is all the way up and the stopper latching in engages.

   NOTE :
   - **The required force to lift the cab is affected by the temperature.**



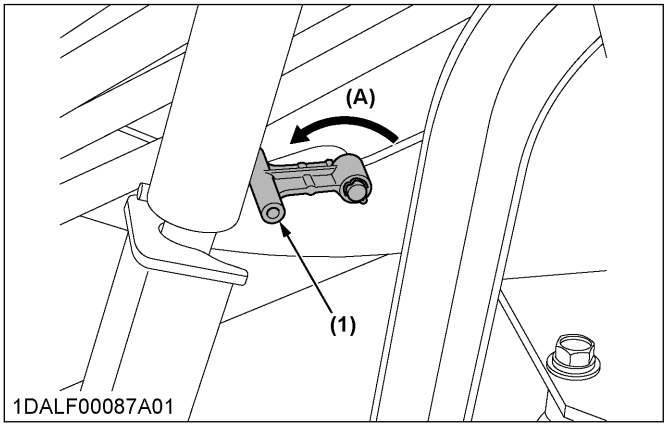
(1) Cab
(A) Fig [A]
(B) Raise

Fig [A]



(2) Stopper
(C) Engage

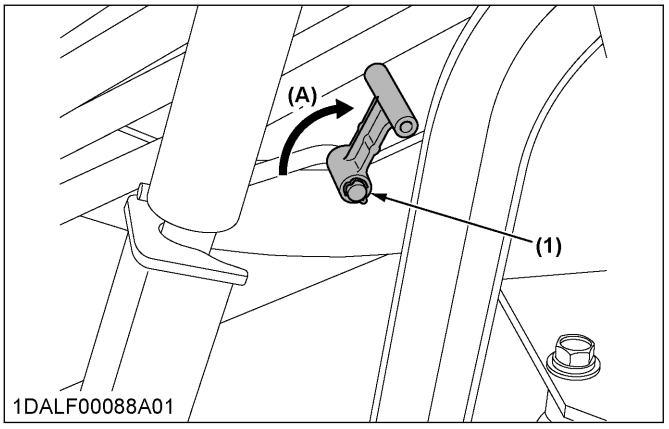
5. Set the stopper lock to the locked position.



(1) Stopper lock
(A) Locked position

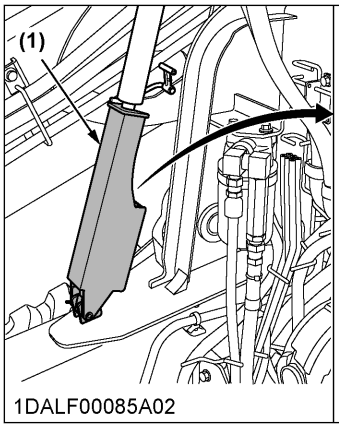
Lowering (Tilt down)

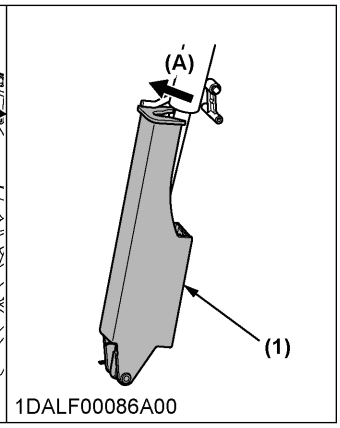
1. Set the stopper lock to the release position.



(1) Stopper lock
(A) Release

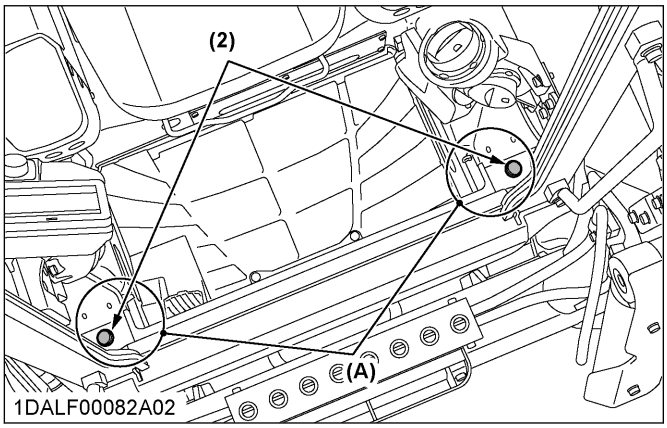
2. Support the cab and release the latching mechanism.

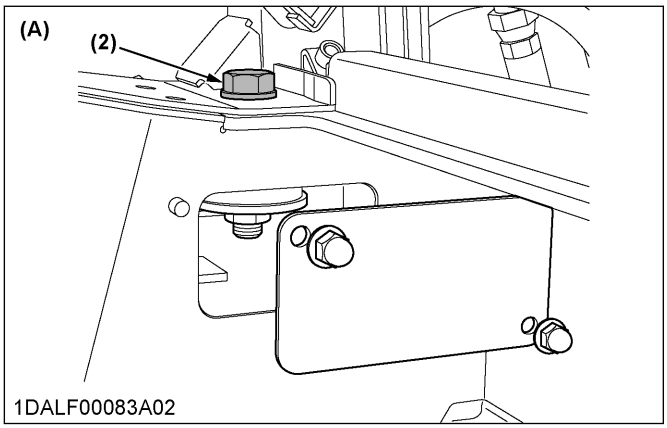




(1) Stopper *(A) Release*

3. Stand on the ground when tilting the cab. Lower the cab slowly all the way down.
4. Tighten the lock bolts with correct tightening torque.





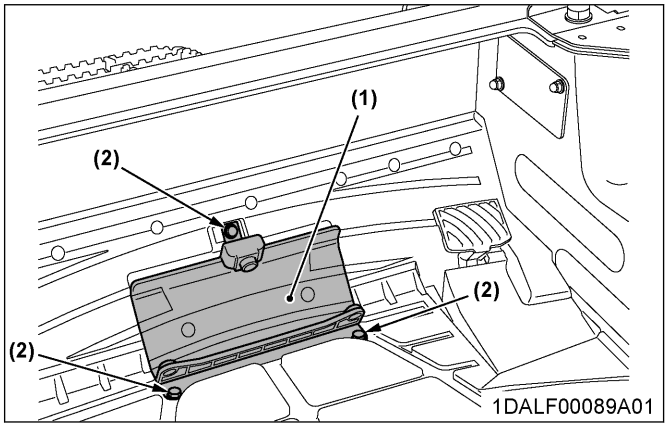
(2) Lock bolt

Tightening torque	77.5 N·m to 90.2 N·m (57.2 ft·lbf to 66.5 ft·lbf)

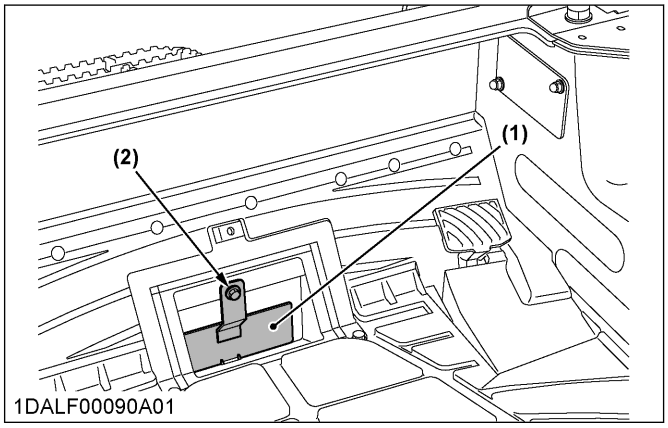
DISCHARGING MUD FROM OPERATOR CAB AND MAIN FRAME

1. Discharging mud from the operator cab

1. With removing the bolts, remove the floor outlets.

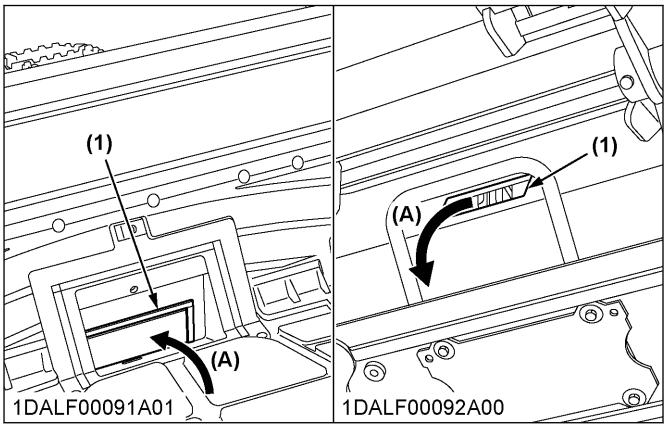


(1) Floor outlet *(2) Bolts*



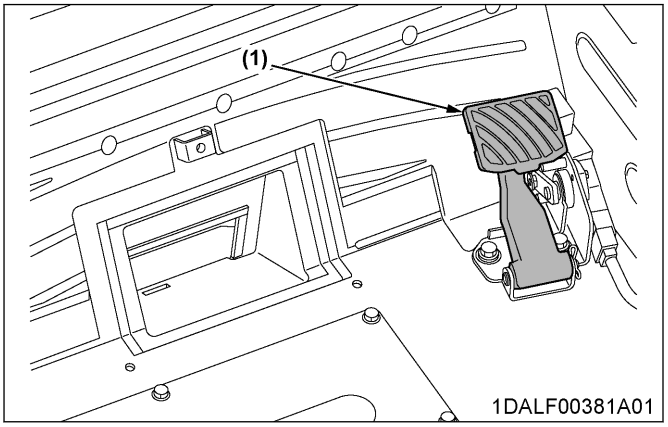
(1) Floor outlet *(2) Bolts*

2. Discharge mud on the floor through the hole.



(1) Hole *(A) Discharge*

NOTE :
- **If the engine speed does not increase to the maximum even with depressing the accelerator pedal fully, mud may accumulate under the pedal. In this case, remove the mat and discharge the mud from under the pedal.**

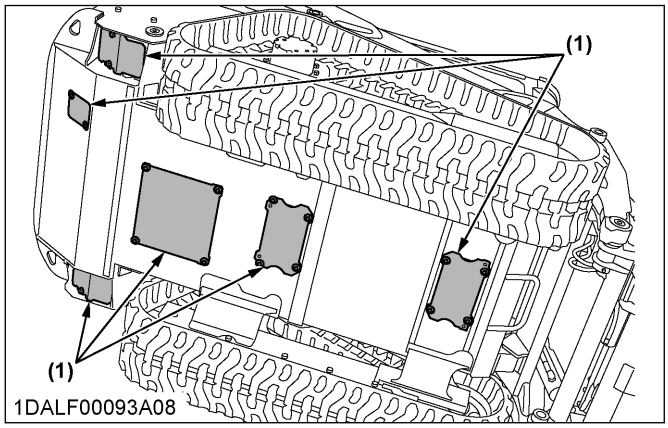


(1) Accelerator pedal

2. Discharging mud from the main frame

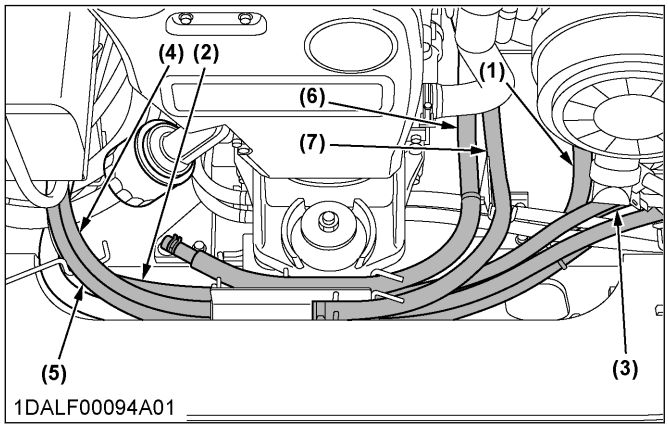
⚠ WARNING
To avoid personal injury or death:
- **Before entering underneath the machine, stop the engine, check your surroundings, and ensure its safety.**
- **The plate on the bottom of the main frame may get heavy with accumulated mud. In case plate of the bottom of the main frame suddenly falls, do not get under the plate and remove with much care.**

1. Tilt the cab.
2. Open the rear door.
3. Open the plates on the bottom of the main frame.



(1) Plates

4. Discharge mud on the main frame to the hole.
5. Return the hoses at rear frame as illustrated bellow.



(1) Hydraulic hose (wheel motor (LH))
(2) Hydraulic hose (bucket rod)
(3) Hydraulic hose (arm cylinder rod (RH))
(4) Hydraulic hose (bucket bottom)
(5) Hydraulic hose (arm cylinder bottom (RH))
(6) Coolant drain hose
(7) Oil drain hose

NOTE :
- **Make sure that the hoses do not appear above the bumper surface.**

DAILY CHECKS

For your own safety and to assure the long life of your machine, carry out a careful check before each operation.

1. Daily check items before starting the machine

In order to avoid damage, it is important to check the condition of the machine before starting.

⚠ WARNING
To avoid personal injury or death:

- **Perform the maintenance work on the machine only on level ground with the engine off and the armrest in the raised position.**

Checks

- Go around the machine and check for visual damage and wear.
- Check the coolant level.
  (See Checking the coolant level on page 158)
- Check the fuel level.
- Check the engine oil level.
- Check the hydraulic fluid level.
- Check all control lamps, indicators, and the hour meter.
- Check the light system.
- Check the seat belt and the ROPS and FOPS safety device.
- Check the diesel-particulate-filter (DPF) muffler.
- Check the condition of the safety labels.
  (See Care for safety labels on page 23)
- Check around moving parts such as quick hitch, bucket cylinder, arm cylinder for sand, mud, or debris accumulation. Remove them as required.

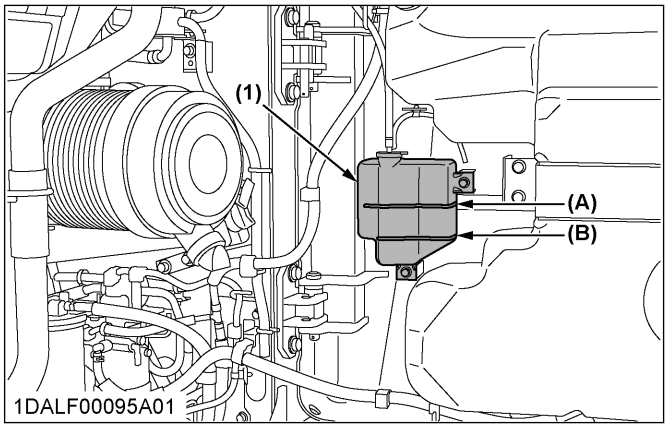
2. Checking the coolant level

⚠ WARNING

To avoid personal injury or death:

- **Place the machine on a firm, flat, and level surface, lower the lift arms slowly to the ground, and stop the engine.**
- **Do not open the radiator cap right after the engine has been stopped. Serious burns can occur from contact with escaping hot coolant fluid.**
- **Check the coolant level in the coolant-recovery tank only after the engine has cooled down.**
- **Remove the radiator cap only if absolutely necessary.**

1. Check to see that the coolant level is between the **[FULL]** and **[LOW]** marks of coolant-recovery tank.
   When the coolant level drops due to evaporation, add water only up to the full level.
   In case of leakage, add antifreeze and water in the specified mixing ratio up to the full level.



(1) Coolant recovery tank *(A) FULL* *(B) LOW*

IMPORTANT :

- **Do not fill the coolant-recovery tank over the [FULL] marking.**
- **Do not fill with dirty or salty water.**

3. Checking the fuel level

⚠ WARNING

To avoid personal injury or death:

- **Stop the engine before fueling.**
- **Do not smoke while fueling.**
- **Tighten the fuel cap after refueling.**

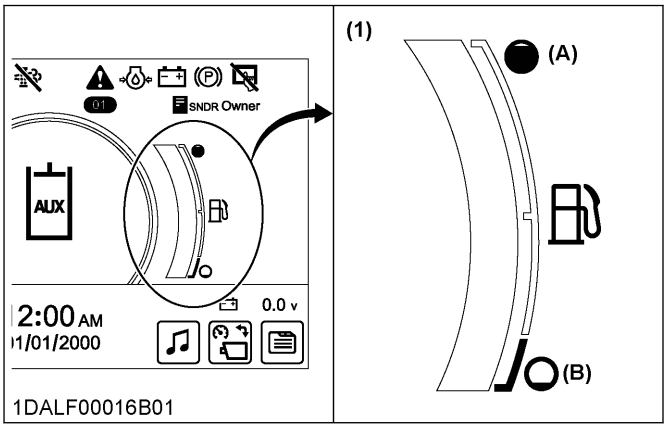
IMPORTANT :

- **According to the temperatures, use the proper diesel fuel as follows.**

Temperatures	Diesel fuel
Over -5 ℃ (+23 ℉)	No.2-D diesel fuel
Under -5 ℃ (+23 ℉)	No.1-D diesel fuel

- **Make sure that the fuel tank will not run empty. Air will enter the fuel system, and must be purged before restarting engine.**
- **Be very attentive to the remaining fuel for the engine not to stall. If the engine stalls, it may not restart for some time to protect the emission purifying device.**
- **See Purging of the fuel system on page 183.**
- **To prevent condensation (water) accumulations in the fuel tank, fill the fuel tank full before parking overnight.**

1. Check the fuel level by the fuel gauge indicator.



(1) Fuel gauge indicator
(A) Full
(B) Empty

2. If necessary, open the rear door or the filler cover. Open the fuel tank cap and fill the fuel.
(See Fuel gauge indicator on page 34)

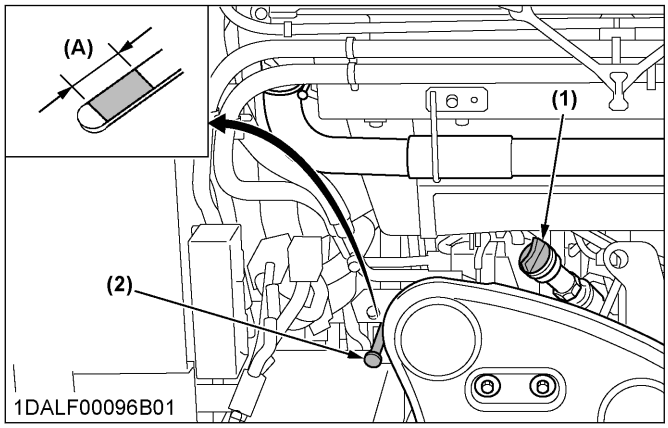
Fuel tank capacity	95 L (25.1 US gal)

4. Checking the engine oil level

WARNING
To avoid personal injury or death:
- **Stop the engine before checking the oil level.**

IMPORTANT :
- **Use the engine oil with the correct viscosity according to the outside temperature.**
- **After stopping the engine, wait 5 minutes, then check the oil level. Park the machine on level ground.**
- **A small amount of fuel that is used for the DPF-regeneration may get mixed with the engine oil, which can increase the oil level slightly.**
- **Do not repeat or interrupt the DPF-regeneration process unnecessarily. Repetition and interruption of the process may increase the small amount of fuel that gets mixed with the engine oil, thereby degrading it.**
- **If the oil rises above the oil level gauge upper limit, it means that the oil has been diluted too much, resulting in a trouble. In such case, immediately change the oil for new one.**

To check the oil level, follow the following procedure.
1. Draw out the dipstick.
2. Wipe the dipstick clean.
3. Replace the dipstick.
4. Draw the dipstick out again.
5. Check to see that the oil level lies between the two notches.
6. If the level is too low, add new oil to the prescribed level at the oil filling port.



(1) Oil filling port
(2) Engine oil dipstick
(A) Required oil level range

5. Checking the hydraulic oil level

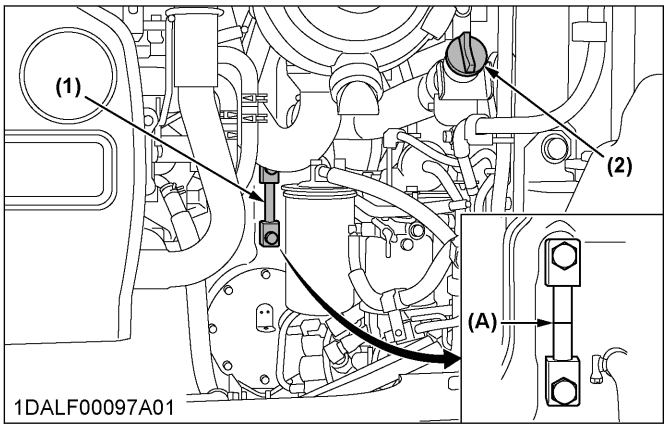
WARNING
To avoid personal injury or death:
- **Stop the engine before checking the oil level.**

IMPORTANT :
- **Before filling oil, wipe away all sand and dust from around the oil port. Make sure to use an identical type of hydraulic fluid.**
- **The machine has been filled with hydraulic fluid before delivery.**
  (See RECOMMENDED OILS, GREASES, AND FUELS on page 210)
  Do not mix different oils.

1. Park the machine on a firm, flat, and level surface.
2. Lower the lift arms slowly to the ground.
3. Tilt down the attachments.
4. Stop the engine.

5. Check the oil level as to whether it lies on the center of the gauge at normal temperature.

Normal temperature	10 ℃ to 30 ℃ (50 ℉ to 86 ℉)



(1) Gauge
(2) Hydraulic tank cap (Oil filling port)
(A) Center of the gauge

Enough oil is present if the oil level lies near the center of the gauge.

6. If the oil level is not within the gauge, fill or drain the oil.
   If the oil level is too low, fill up with oil through the oil port before starting the engine. If the oil level is too high, the oil may overflow the hydraulic tank.
   This step is important for the protection of the hydraulic system.

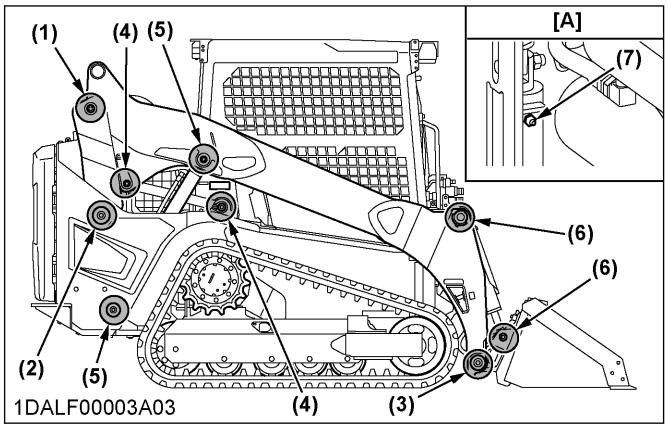
6. Lubrication points of the machine

⚠ WARNING
To avoid personal injury or death:
- **First lower all attachments on the ground, and then stop the engine.**

IMPORTANT :
- **When using the loader in water, generously grease the following points. After ending work with the loader, grease again.**

Grease the marked grease fittings (both sides) shown by arrows in the following illustration.

Lubrication points



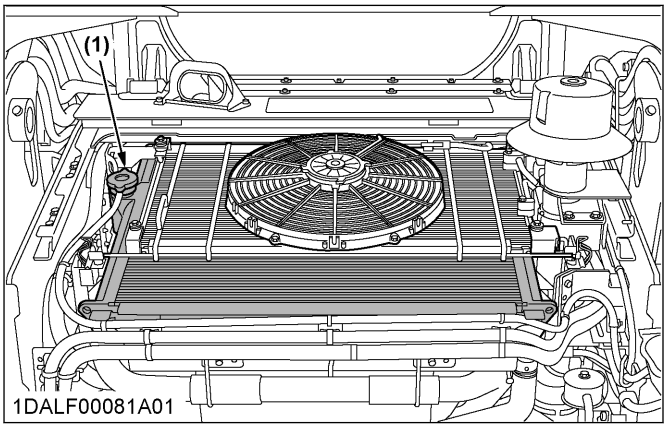
[A] Quick-hitch model

(1)	Lift arm linkage	1 place
(2)	Link 1	1 place
(3)	Bucket link pin	1 place
(4)	Control link	2 places
(5)	Lift arm cylinder boss	2 places
(6)	Tilt cylinder boss	2 places
(7)	Quick-hitch pin	1 place

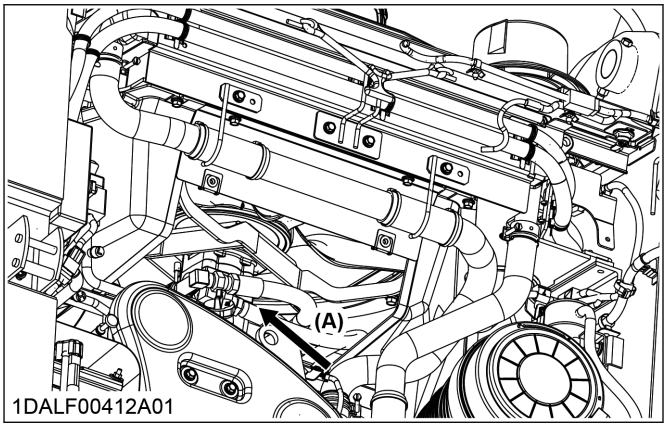
7. Checking the radiator and the oil cooler

⚠ WARNING
To avoid personal injury or death:
- **Always stop the engine before checking the radiator and the oil cooler.**
- **Wear eye protection when cleaning the radiator and the oil cooler with compressed air.**
- **Allow the engine and radiator to cool down completely before attempting maintenance on the radiator or oil cooler. A hot radiator can cause severe burns and injury.**

- Check if the fins and ribs of the radiator and oil cooler are clogged.
  If the fins and ribs of the radiator and oil cooler are clogged, clean them with compressed air or steam from under them by removing the fan motor cover.
- Check the rubber hoses for damage and replace them if they are cracked or old. Check if the hose clamps are tight enough.



(1) Radiator and oil cooler



(A) Clean from under the radiator and the oil cooler

IMPORTANT :

- **– Keep the fins and ribs of the radiator and oil cooler clean in order not to overheat the engine and not to allow free flow of air through the cooling elements.**
- **– Keep the pressure of compressed air under the following values.**

Pressure of compressed air	205 kPa (2.1 kgf/cm^2) [30 psi]

- **– When cleaning the radiator and oil cooler with compressed air, the fins can be damaged. Pay attention not to damage the fins of the radiator and oil cooler.**

8. Checking and cleaning the engine and the electrical wiring

⚠ WARNING

To avoid personal injury or death:

- **Always stop the engine before cleaning the wiring, the cables, and the engine.**
- Before starting the machine, check whether flammable substances have gathered on the battery, the cables and wiring, the muffler, or the engine. Remove the flammable substances thoroughly.
- Check the electrical circuitry for disconnections, shorts, or loose terminals.

9. Precautions for checking the V-belt

⚠ WARNING

To avoid personal injury or death:

- **Stop the engine before checking the V-belt.**
- **Check the V-belt for cracks and proper tension. See the *Adjusting the V-belt tension* section.**

(See Checking and adjusting the V-belt tension on page 170)

10. Precautions for washing whole machine

IMPORTANT :

- **Do not wash the machine with the engine running. Water could enter the air cleaner and damage the engine.**
  Make sure that the air cleaner is kept dry.
- **Remove the mud before washing the machine.**

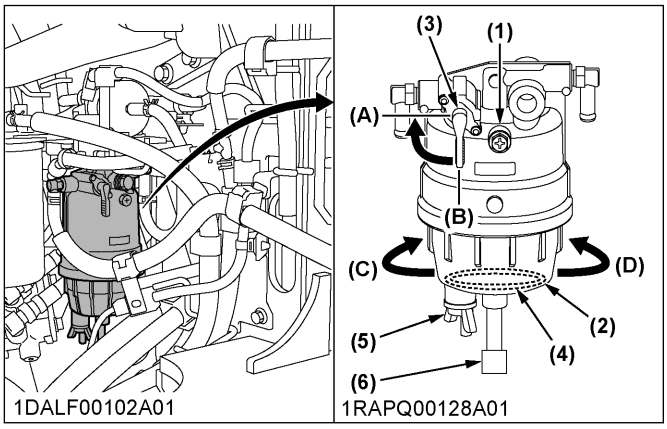
11. Draining the water separator

IMPORTANT :

- **When water is collected, the red float goes up. When the float has reached the specified line, immediately drain the water separator.**
- **If the water-separator-error-code (“E:9120”) appears on the meter panel, immediately drain the water separator.**

1. Open the rear door.
2. When the separated water is entering the sediment cup, the red float moves upwards. If the float is 1 inch above the bottom, close the shutoff-valve so that no fuel can run out.
3. Place a container underneath the water separator to catch the water.
4. Then loosen the drain plug and let out water until the float drops down to the bottom.

5. Finally, tighten the drain plug and turn the shutoff-valve back to its original position.



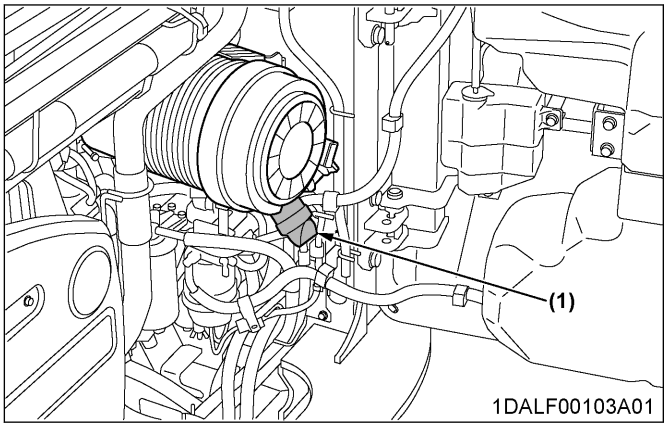
(1) Screw
(2) Cup
(3) Shutoff-valve
(4) Float
(5) Drain plug
(6) Connector of water level sensor

(A) Close
(B) Open
(C) Loosen
(D) Tighten

IMPORTANT :
- **In reattaching the water separator, be careful to keep off dust and dirt.**
- **Purge the fuel system before getting the machine restarted.**
  (See Purging of the fuel system on page 183)

12. Checking the evacuator valve

1. Open the evacuator valve.
2. Get rid of large particles of dust and dirt.

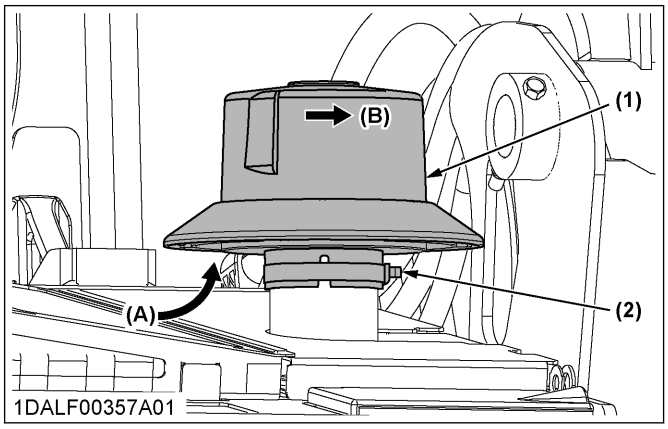


(1) Evacuator valve

NOTE :
- **If the evacuator valve is missing or damaged, the air cleaner does not function properly. Accordingly, its element's service life will get shorter.**

13. Checking the pre-cleaner

1. Check to see if the clamp is loose.
   If loose, retighten it up.
2. Check the appearance of the pre-cleaner for noticeable damage or cracks.
   In such a case, replace the pre-cleaner with new one.
3. Check to see if the pre-cleaner's suction and discharge ports are blocked with foreign matters.
   If so, remove such matters.
4. Check around the pre-cleaner for sand, mud, dust, snow and such deposits.
   Remove them as required.



(1) Pre-cleaner
(2) Clamp

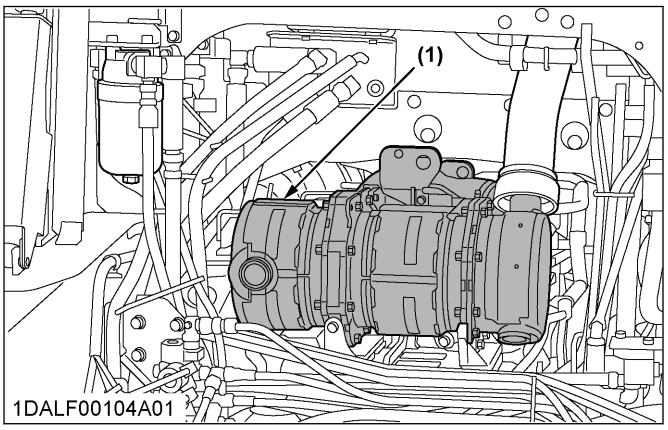
(A) Suction port
(B) Discharge port

14. Checking the DPF (diesel-particulate-filter) muffler

⚠ WARNING

To avoid personal injury or death:
- **Before checking or cleaning the DPF muffler, stop the engine and wait long enough until it is cooled down.**

1. Check to see if flammable material is deposited around the DPF muffler.
   If so, clean it out, otherwise a fire may result.

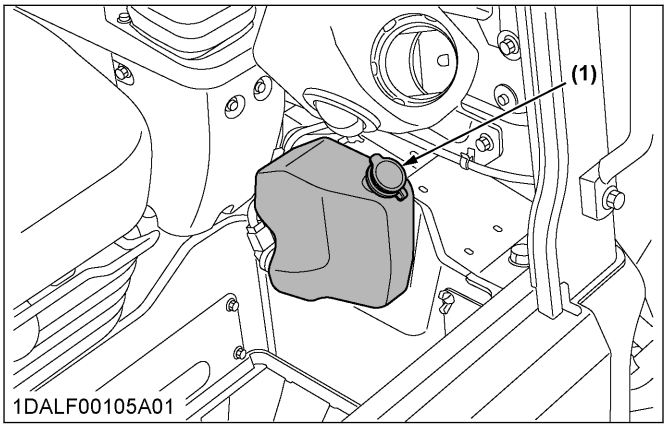


(1) DPF muffler

2. Check the insulation of the DPF. If oil adheres to the insulation of the DPF, replace the insulation.

15. Checking the washer liquid [Closed cab model]

If the window washer is switched on with the washer liquid tank empty, the motor may be damaged. Always keep the tank filled.



(1) Washer liquid tank

IMPORTANT :

- **The washer-liquid-tank should be half filled before working on a slope or a rough ground, otherwise the liquid may leak out when the machine bounces.**

Half filled of the washer-liquid-tank	about 0.8 liter

16. Checking the battery condition

⚠ DANGER

To avoid the possibility of a battery explosion: For refillable type battery, follow the following instructions.

- **Do not use or charge the refillable type battery if the fluid level is below the [LOWER] (lower limit level) mark. Otherwise, the component parts of the battery may prematurely deteriorate, which may shorten the service life of the battery or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the [UPPER] and [LOWER] levels.**

⚠ WARNING

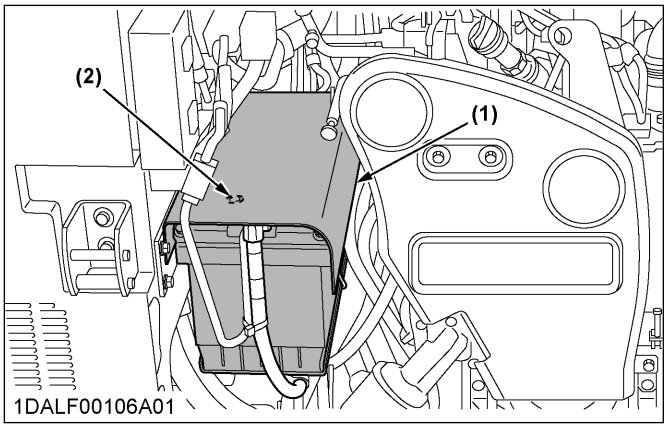
To avoid personal injury or death:

- **Never remove the vent caps while the engine is running.**
- **Keep electrolyte away from eyes, hands, and clothes. If you are spattered with electrolyte, wash it away completely with water immediately and get medical attention.**
- **Wear eye protection and rubber gloves when working around the battery.**
- **Before inspection or dismounting the battery, stop the engine and turn off the machine.**
- **When removing the battery, always disconnect the negative ground cable first. When installing a battery, always connect the ground cable last. Connecting and disconnecting the cables in proper order prevents a possible explosion caused by sparks.**
- **Always wear eye protection when working with the battery.**

IMPORTANT :

- **The battery of non-refillable type is factory-installed. If the indicator turns white, do not quick charge the battery but replace it with new one.**

Mishandling the battery shortens the service life of it and adds to maintenance costs.
The original battery is maintenance free, but must be checked periodically.
If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.



(1) Battery *(2) Indicator*

How to read the indicator

Check the battery condition by reading the indicator.

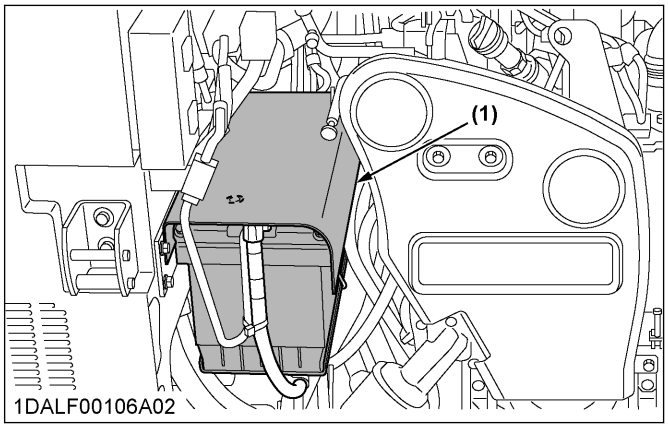
State of indicator display	
Green	Specific gravity of electrolyte and quality of electrolyte are both in good condition.
Black	Needs charging battery.
White	Needs replacing battery.

Battery charging

⚠ WARNING

To avoid personal injury or death:

- **When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.**
- **When charging the battery, ensure that the vent caps are securely in place if equipped.**
- **When disconnecting the cable from the battery, start with the negative terminal first.**
  When connecting the cable to the battery, start with the positive terminal first.
- **Never check the battery charge by placing a metal object across the posts.**
  Use a voltmeter or hydrometer.



(1) Battery

- To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
- A boost charge is only for emergencies. The boost charge will partially charge the battery at a high rate and in a short time.
  When using a boost-charged battery, it is necessary to recharge the battery as early as possible.
  Failure to recharge may shorten the battery's service life.
- The battery is charged if the display of the indicator turns green from black.
- When exchanging an old battery for a new one, use a battery of equal specification.

Battery Type	Volts	Capacity
GP31 (105E41R)	12 V	80 AH (at 5 HR)

Battery Type	Reserve capacity	Cold cranking amps	Normal charging rate
GP31 (105E41R)	160 min	900 A	11 A

Direction for storage

- When storing the machine for long periods of time, follow the following procedure.
  1. Remove the battery from machine.
  2. Adjust the electrolyte to the proper level.
     Store the battery in a dry place out of direct sunlight.
- The battery self-discharges while it is stored.
  Recharge the battery once every three months in hot seasons and once every six months in cold seasons.

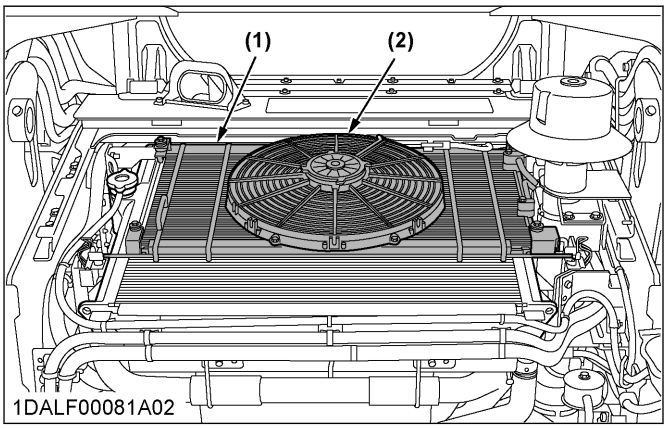
17. Checking the air-conditioner condenser and the reverse fan

⚠ WARNING

To avoid personal injury or death:

- **Stop the engine.**
- **Allow the engine and radiator to cool down completely before attempting maintenance on the radiator or oil cooler. A hot radiator can cause severe burns and/or injury.**

1. Check air-conditioner condenser and the reverse fan to be sure it is clean from debris.



(1) Air-conditioner condenser (2) Reverse fan

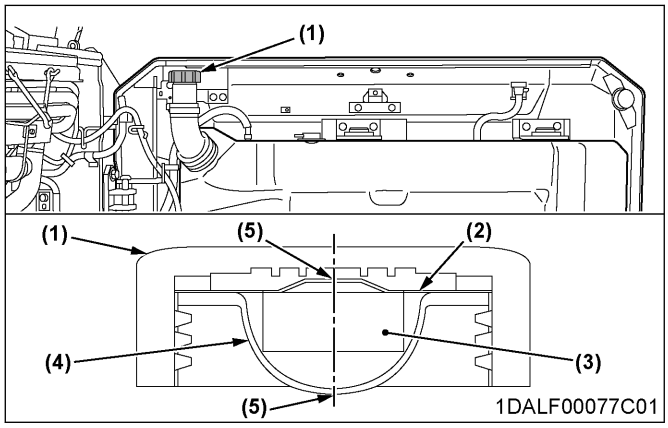
NOTE :
- **Air flows through the condenser, entering through the top and exiting out the bottom. As such debris may accumulate on the top side. Remove the outside cover to gain better access for cleaning.**

18. Cleaning the fuel tank cap

⚠ WARNING

To avoid personal injury or death:
- **Stop the engine before cleaning.**
- **Do not smoke while cleaning.**

1. Remove the fuel tank cap, gasket and tank cap filter.
2. Blow air through the vent holes to remove dust or dirt in the vent path.
3. Clean if the tank cap filter becomes dirty.
4. Assemble the fuel tank cap, gasket and tank cap filter.



(1) Fuel tank cap
(2) Fuel tank cap plate
(3) Tank cap filter
(4) Gasket
(5) Vent hole

IMPORTANT :
- **If dust or dirt is stuck in the fuel tank cap, the fuel tank may fail to allow in air, possibly getting deformed.**
- **While cleaning, be careful not to allow dust or dirt into the fuel tank.**

EVERY 50 SERVICE HOURS

1. Draining the water from the fuel tank

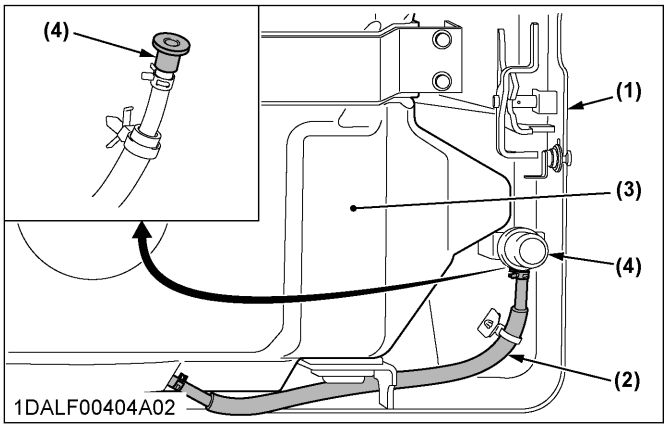
⚠ WARNING

To avoid personal injury or death:
- **Before draining the water from the fuel tank, stop the engine.**
- **Do not smoke during inspection.**

The water drain hose storage location is at the bottom of the fuel tank.

1. Open the rear door.
2. Remove the drain cap from the water drain hose and drain water into a container.
3. Reinstall the drain cap.

4. Return the water drain hose to the storage location at the bottom of the fuel tank.



(1) Rear door
(2) Water drain hose
(3) Fuel tank
(4) Drain cap

IMPORTANT :
- **Store the end of the water drain hose behind the sheet metal member of the hood. Otherwise, there is a possibility of pinching when opening and closing the hood.**

2. Checking the track tension

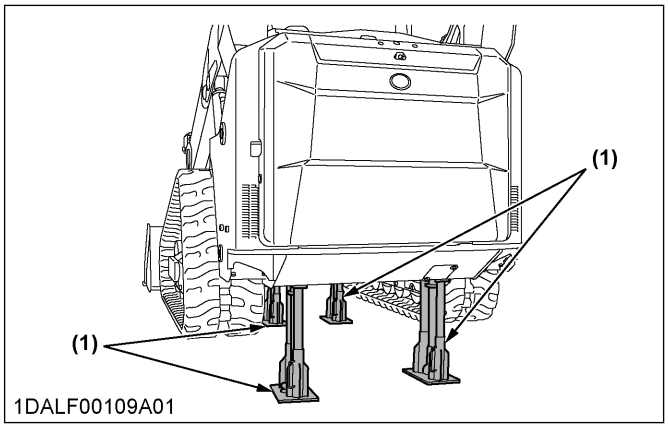
⚠ WARNING
To avoid personal injury or death:
- **When lifting the machine itself with an attachment, place the jack stands under the main frame to prevent the machine from turning over.**

IMPORTANT :
- **Make sure that no obstacles such as stones are caught in the track. Remove obstacles such as stones before adjusting the track tension.**
  (See ADJUSTING THE TRACKS on page 185)

1. To check the track tension, put the machine on the jack stand.

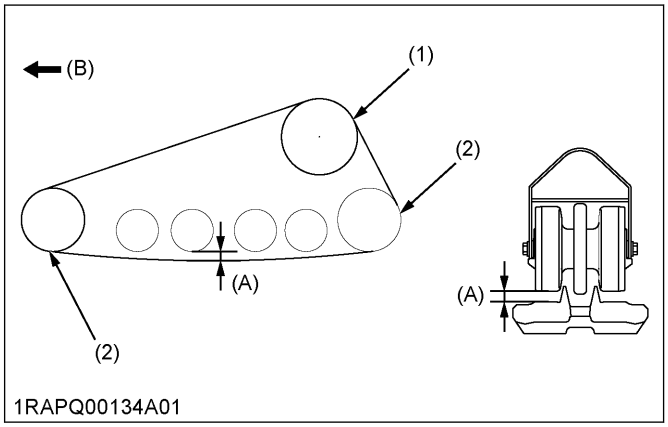
⚠ DANGER
To avoid personal injury or death:
- **Do not work under the machine when putting the machine on the jack stand.**
- **For your safety, do not rely on hydraulically supported devices. They may leak down and suddenly drop or be accidentally lowered.**

2. Lift the track from the ground as shown.



(1) Jack stand

3. If necessary, adjust the track tension.
   The track tension is correct if the distance of clearance between the outer end of the track roller and the track interior surface (A) corresponds to the dimension specified in the following table.



(1) Drive sprocket
(2) Idler
(A) Clearance between outer end of track roller and track interior surface
(B) Front

Clearance between outer end of track roller and track interior surface (A)	20 mm to 30 mm (0.8 in. to 1.2 in.)

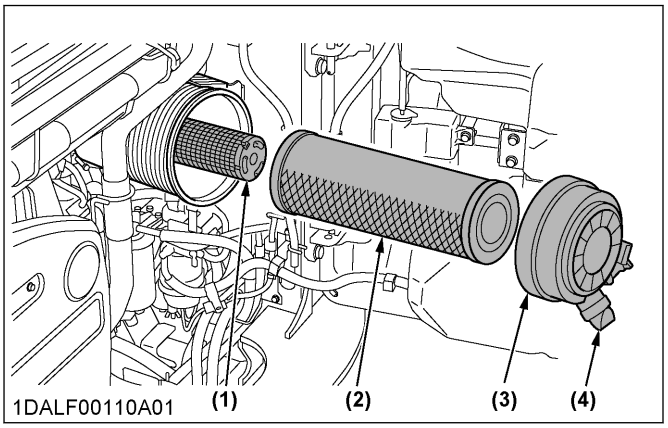
3. Checking the air cleaner element

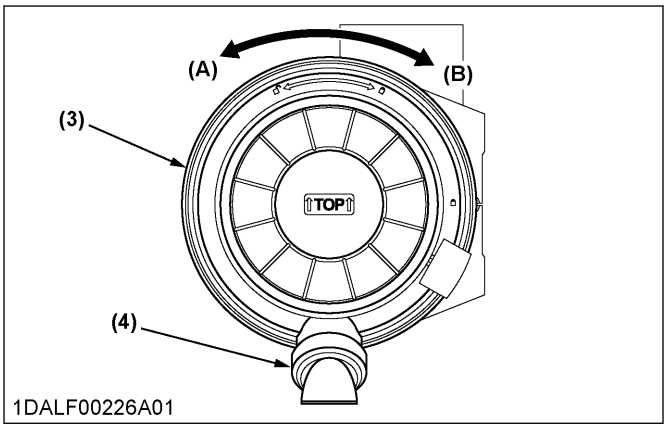
IMPORTANT :
- **If the machine is used in extremely dusty areas, inspect and clean the air-cleaner-element more frequently than in the specified maintenance periods.**
- **As some elements of air cleaner must be dry, keep them free from oil.**
- **Do not run the engine without the air cleaner.**
- **Once every 250 hours or after every sixth cleaning, whichever comes first, replace the air cleaner elements.**
- **Do not remove the inner element. If removed, replace it with new one.**

(See Replacing the air cleaner element on page 172)

- **Clean up the case inside with clean wet cloth. After cleaning, wipe it dry with clean dry cloth.**
- **Do not blow air to clean the case inside. It allows dust come into the inner element.**

1. Open the rear door and remove the dust-cover.
2. Remove only outer element.
   Do not remove the inner element.
3. Clean the outer element, the case inside and the evacuator valve.
4. Wipe the case inside.
5. Reassemble the outer element.
   During reassembly, install the dust-cover so that its top-indicating-mark (arrow) faces up-wards.

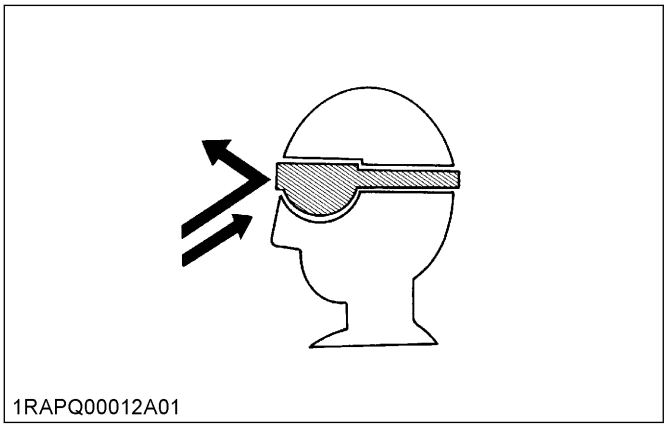




(1) Inner element
(2) Outer element
(3) Dust-cover
(4) Evacuator valve
(A) Unlock
(B) Lock

4. Cleaning the air cleaner element

⚠ WARNING
To avoid personal injury or death:
- **Wear eye protection.**



IMPORTANT :
- **Clean the air cleaner element regularly or foreign materials will accumulate, which will shorten the DPF filter cleaning interval (8000 hours or service as required).**

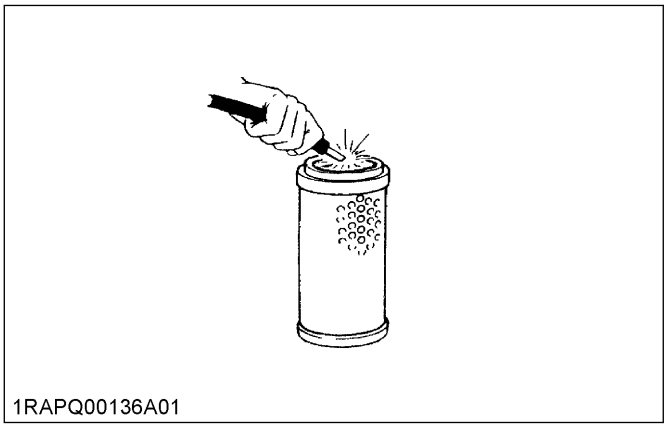
The quickest and safest method of maintenance is the exchange of the element. However, there are different methods for cleaning the element.

Cleaning with compressed air

1. Blow the element clean from the inside to the outside until the dust deposits are noticeably reduced.

Keep the pressure of compressed air as follows.

Pressure of compressed air	Under 205 kPa (2.1 kgf/ cm^2) [30 psi]



IMPORTANT :
- **If the air suction is still inadequate or the color of the exhaust gases is abnormal even after the cleaning, replace the air-cleaner-element.**
- **Do not tap-clean the element. The element may get deformed, which may adversely affect the air cleaner performance.**

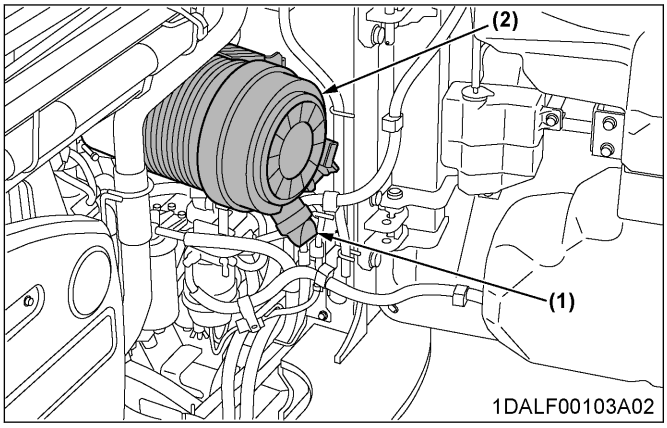
5. Cleaning the evacuator valve

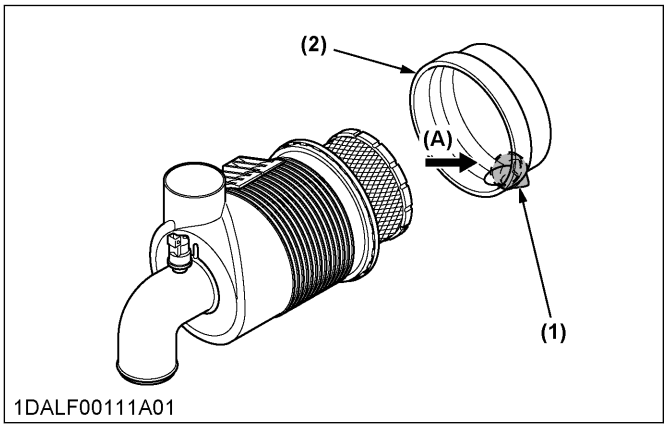
⚠ WARNING

To avoid personal injury or death:

- **Wear eye protection.**
- **While cleaning, foreign matters may drop out of the evacuator valve.**

1. Open the rear door and engine hood.
2. Remove the dust-cover.
3. From behind the dust-cover, remove foreign matter from the evacuator valve.





(1) Evacuator valve
(2) Dust cover
(A) Clean from behind

IMPORTANT :

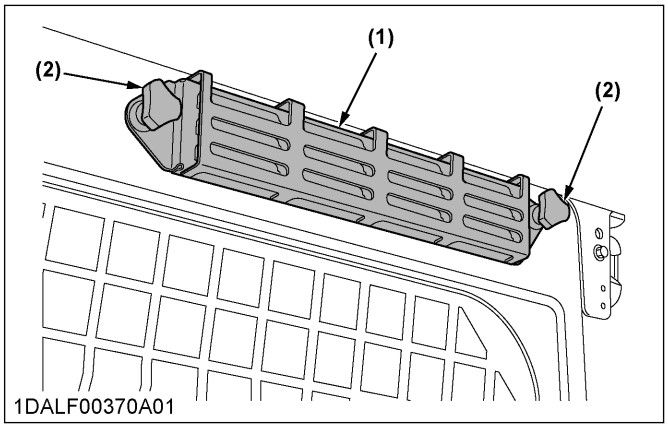
- **Failure to clean the evacuator valve may shorten the air cleaner element's service life.**

6. Cleaning the fresh air filter

IMPORTANT :

- **If the machine is used in extremely dusty areas, clean the fresh-air-filter more frequently than in the specified maintenance periods.**

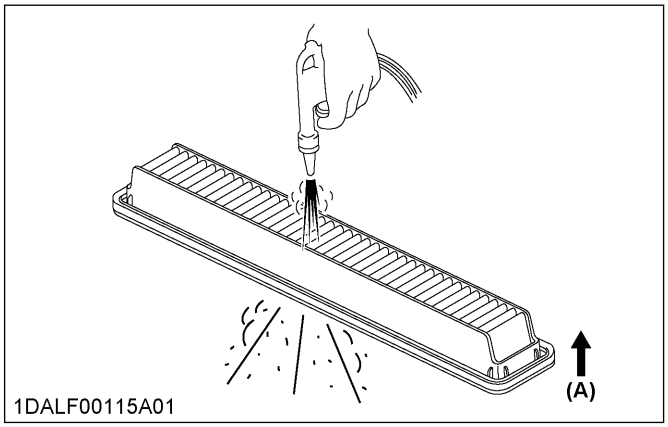
1. Remove the thumbscrews and cover, and pull out the fresh-air-filter.



(1) Cover
(2) Thumbscrew

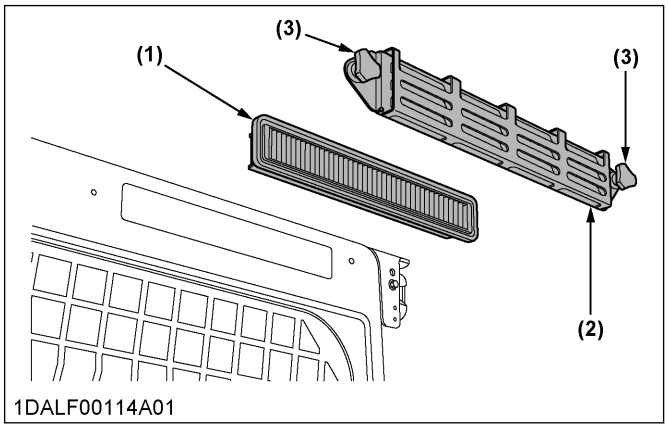
2. Blow air from the opposite direction to the normal air flow of the fresh-air-filter.
   Keep pressure of compressed air as follows.

Pressure of compressed air	Under 205 kPa (2.1 kgf/ cm^2) [30 psi]



(A) Airflow of air conditioner

3. Attach the filter and the cover as the following illustration.



(1) Fresh air filter
(2) Cover
(3) Thumbscrew

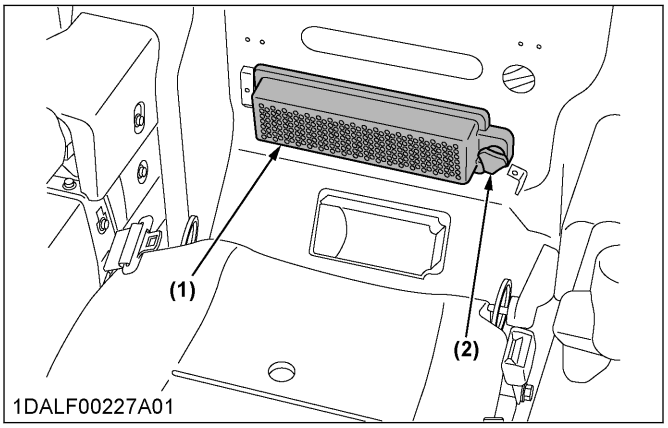
IMPORTANT :
- **Do not hit the fresh-air-filter. If the fresh-air-filter becomes deformed, dust may enter into the air-conditioner, which may cause damage and malfunction for the machine.**
- **Do not use gasoline, thinner, or similar chemicals to clean the fresh-air-filter because damage to it may occur.**
- **Using gasoline, thinner, or similar chemicals to clean the fresh-air-filter may also cause an unpleasant odor in the cab when the system is used next time.**

7. Cleaning the recirculation air filter

WARNING
To avoid personal injury or death:
- **When removing and attaching the recirculation-air-filter, apply parking brake, and stop the engine.**

IMPORTANT :
- **If the machine is used in extremely dusty areas, clean the recirculation-air-filter more frequently than in the specified maintenance periods.**

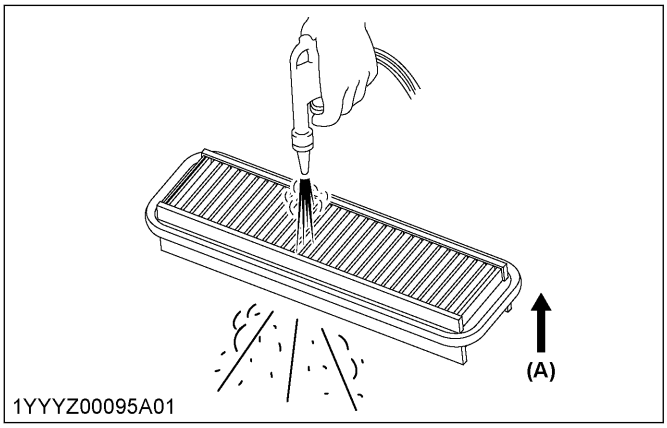
1. Remove the thumbscrews and pull out the recirculation-air-filter.



(1) Cover *(2) Thumbscrew*

2. Blow air from the opposite direction to the normal air flow of the recirculation-air-filter.
   Keep pressure of compressed air as follows.

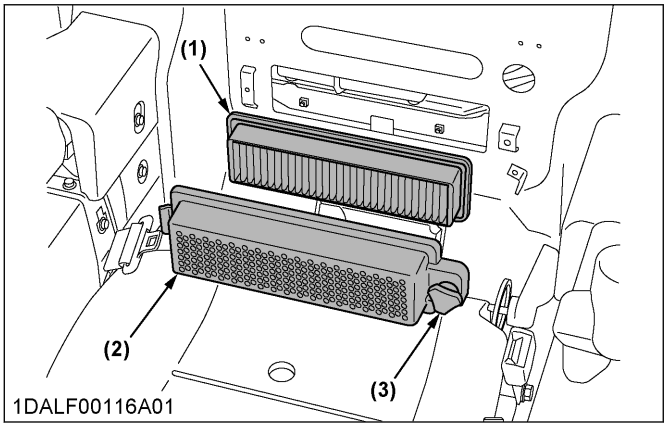
Pressure of compressed air	Under 205 kPa (2.1 kgf/ cm^2) [30 psi]



(A) Airflow of air conditioner

IMPORTANT :
- **Do not hit the recirculation-air-filter. If the recirculation-air-filter becomes deformed, dust may enter into the air-conditioner, which may cause damage and malfunction for the machine.**
- **Do not use gasoline, thinner, or similar chemicals to clean the recirculation-air-filter because damage to it may occur.**
- **Using gasoline, thinner, or similar chemicals to clean the recirculation-air-filter may also cause an unpleasant odor in the cab when the system is used next time.**

3. Attach the filter and the cover as the following illustration.



(1) Recirculation air filter *(3) Thumbscrew*
(2) Cover

EVERY 250 SERVICE HOURS

Carry out all 50 hour servicings at the same time.

1. Checking the radiator hoses and the clamps

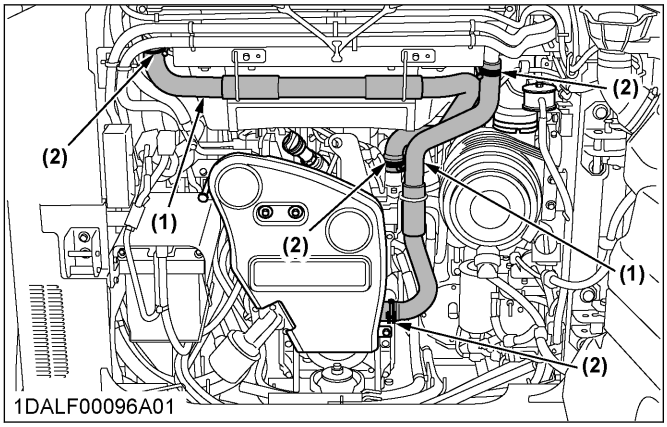
Check the water hoses for proper connection.

WARNING
To avoid personal injury or death:

- **Wait long enough for the radiator coolant to cool down.**

Carry out the check of the radiator hoses and the clamps of every 250 hours or every six months, whichever comes first.

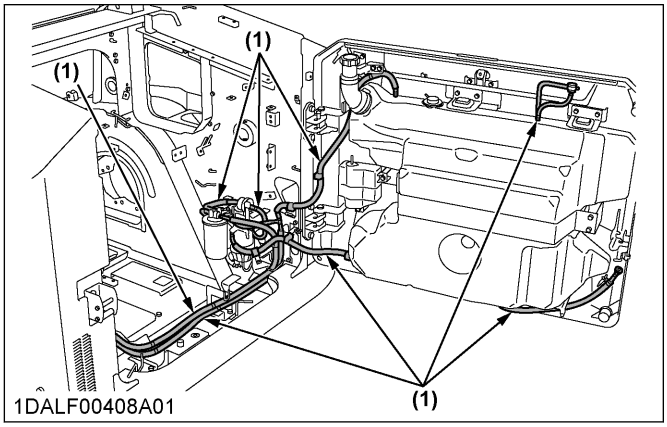
1. If the hose clamps become loose or water leaks, tighten the hose clamps properly.
2. If the radiator hoses become swollen, aged, or cracked, replace the radiator hoses and re-tighten the hose clamps properly.



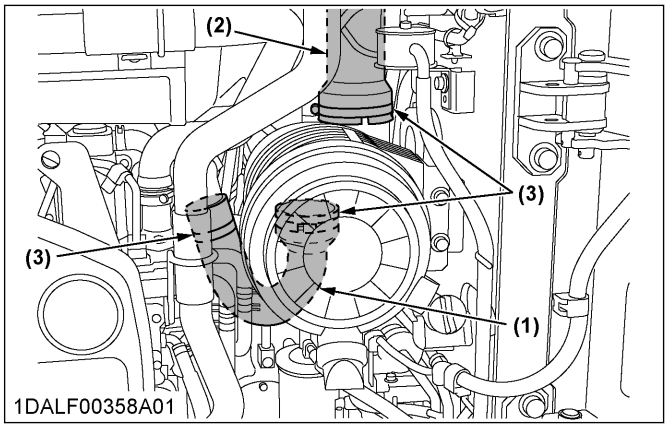
(1) Radiator hose *(2) Hose clamps*

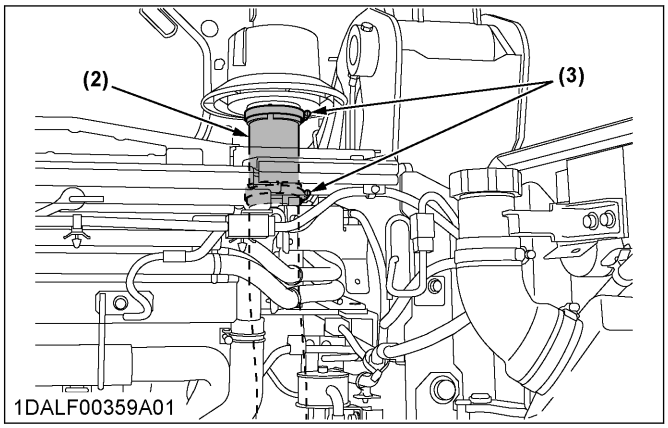
2. Checking the fuel line and the intake air line

1. Check to see that all fuel lines and hose clamps are tightened and not damaged.
2. If hose, pipes, and clamps are found worn or damaged, replace or repair them at once.



(1) Fuel lines





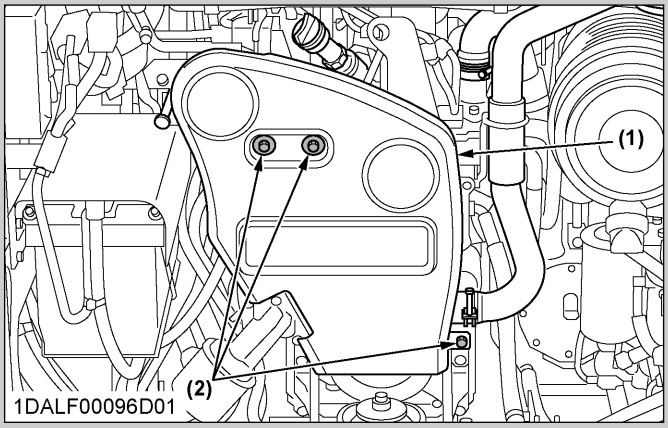
(1) Hose *(3) Clamps*
(2) Pipes

3. Checking and adjusting the V-belt tension

⚠ WARNING

To avoid personal injury or death:

- **First stop the engine.**
- **After servicing, make sure to replace the belt cover in its original position.**



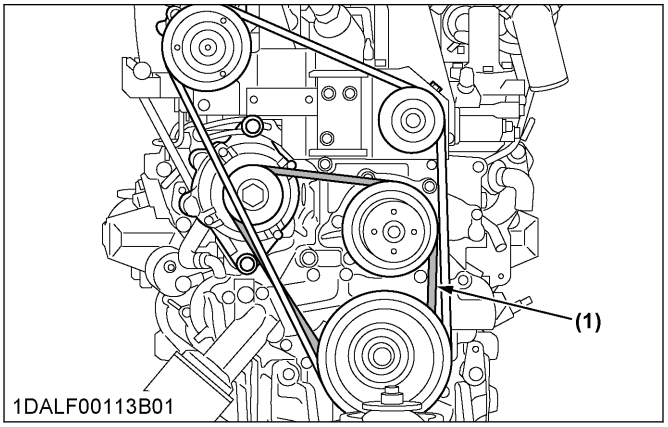
(1) Belt cover *(2) Bolt*

- **Fastening with more than the specified tightening torque may cause the cover to crack.**

(2) Bolt	Tightening torque	23.5 N·m to 27.5 N·m (2.4 kgf·m to 2.8 kgf·m)

IMPORTANT :

- **If the engine is run with a loose alternator belt, the belt could slip and cause insufficient battery charging. Check V-belt tension regularly.**
- **If the alternator belt breaks or jumps off, the indicator light for battery charge will light up. Stop the engine immediately.**



(1) V-belt

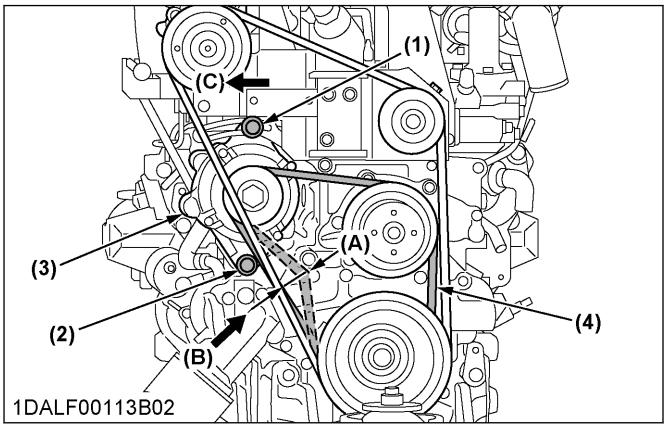
1. Press the V-belt down in the middle, with the following force.

Pressing force (B)	Approx. 98.0 N (10 kgf) [22.0 lbf]

The belt tension is correct if it deflects the following length.

Belt deflection (A)	About 10 mm to 12 mm (0.39 in. to 0.47 in.)

2. If the tension of fan belt is improper, adjust the tension of fan belt by loosening the bolts and shifting the alternator.



(1) Bolt
(2) Bolt
(3) Alternator
(4) V-belt
(A) Belt deflection
(B) Pressing force
(C) Shift

3. After adjustment of the V-belt tension, tighten all the bolts.
4. Replace the V-belt if worn out, cracked, or torn.

3.1 Checking and adjusting the air-conditioner belt tension [Closed cab model]

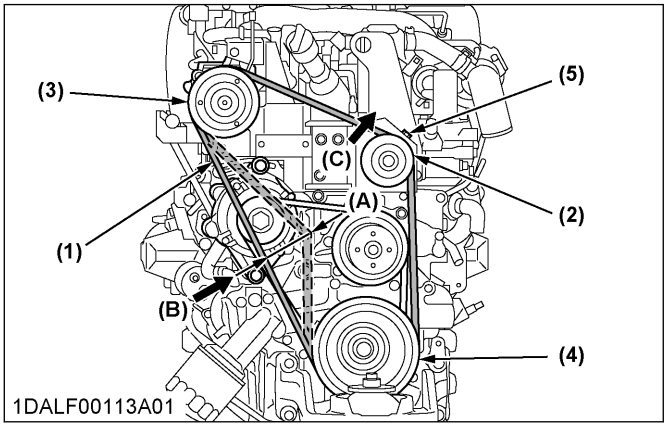
1. Press the air-conditioner belt down in the middle, with the following force.

Pressing force	Approx. 98.0 N (10 kgf) [22.0 lbf]

The belt tension is correct if it deflects the following length.

Belt deflection (A)	About 11 mm to 12 mm (0.44 in. to 0.47 in.)

2. If the belt tension is not correct, loosen bolt of the tension pulley and shift the tension pulley in the direction shown by the arrow (C) in the following figure.



(1) Air-conditioner belt
(2) Tension pulley
(3) Air-conditioner compressor
(4) Pulley
(5) Bolt
(A) Belt deflection
(B) Press
(C) Shift

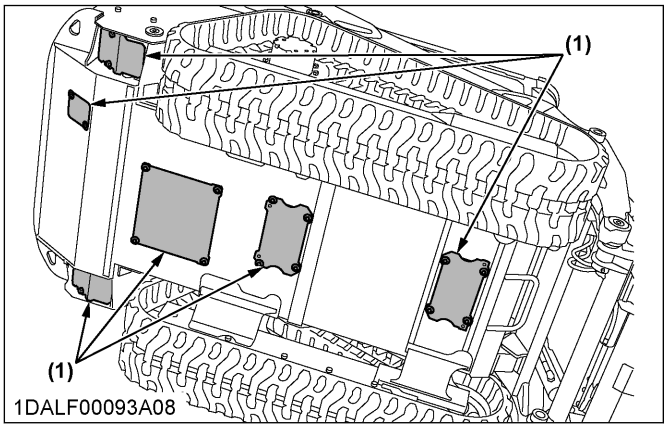
3. Replace the air-conditioner belt if worn out, cracked, or torn.

4. Cleaning inside of the main frame

If mud, leaves, or any debris are accumulated inside of the main frame, it may cause damage on parts of the main frame.

1. Open the plates of the bottom of the main frame. (See Discharging mud from the main frame on page 157 for detail procedure)
2. Remove mud, leaves, and any debris from the inside of the main frame.

3. After removing mud, leaves, and any debris, close the plates of the bottom of the main frame.



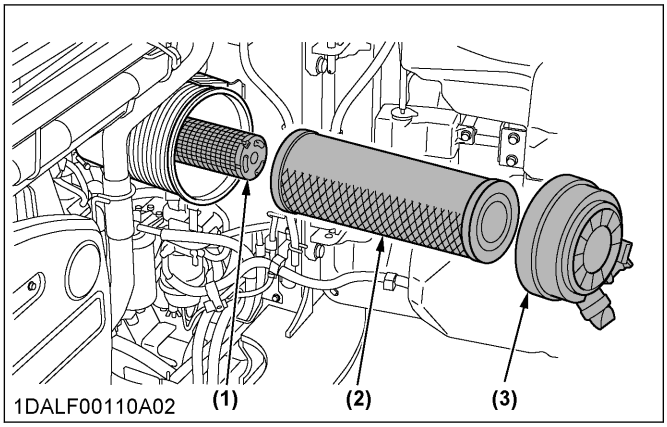
(1) Plate

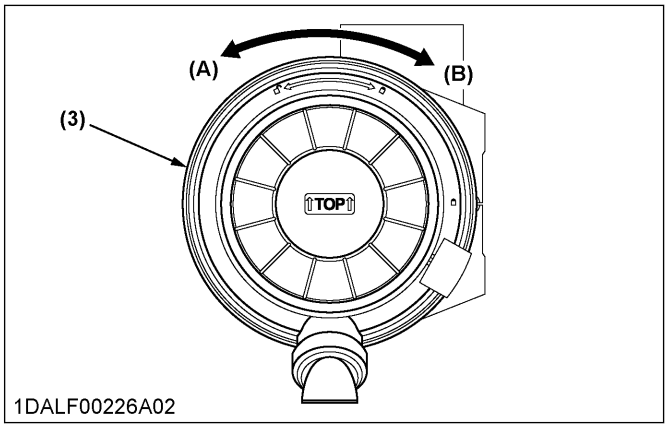
5. Replacing the air cleaner element

IMPORTANT :

- **Shorten the replacement period if the machine is used in dusty or sandy areas.**
- **Replace the air cleaner element regularly or foreign materials will accumulate, which will shorten the DPF filter cleaning interval (8000 hours or service as required).**
- **Use KUBOTA genuine inner and outer element.**
- **Do not blow air to clean the case inside. It allows dust come into the inner element.**
- **Clean up the case inside with clean wet cloth. After cleaning, wipe it dry with clean dry cloth.**

1. Open the rear door.
2. Remove the dust-cover.
3. Remove and replace the outer element and the inner element with new them.
   When reassembling, install the dust-cover so that its top-indicating-mark (arrow) faces up-wards.





(1) Inner element
(2) Outer element
(3) Dust-cover
(A) Unlock
(B) Lock

EVERY 500 SERVICE HOURS

Carry out all 50, 100, and 250 hour servicing at the same time.

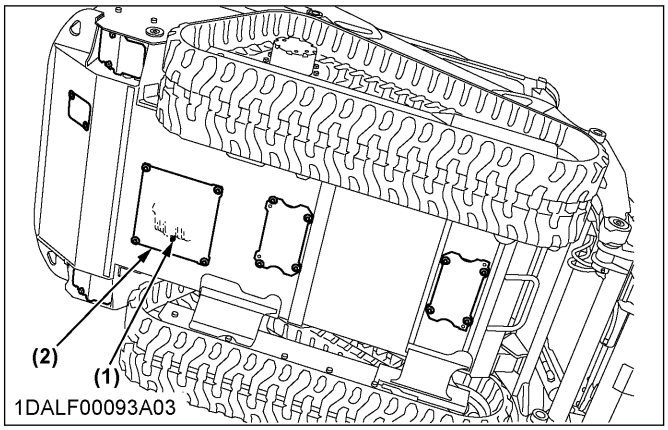
1. Changing the engine oil

⚠ WARNING

To avoid personal injury or death:

- **First stop the engine, and wait long enough for the oil to cool down.**

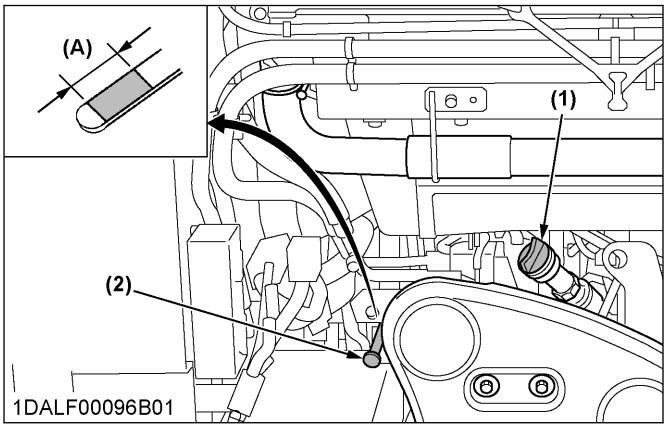
1. Remove the under cover on the bottom of the frame.
2. Remove the drain plug on the underside of the engine and drain all oil.



(1) Drain plug
(2) Under cover

3. Re-tighten the drain plug, and attach the under cover.

4. Fill up with new oil through the filling port to the specified level.



(1) Oil filling port
(2) Engine oil dipstick
(A) Required oil level range

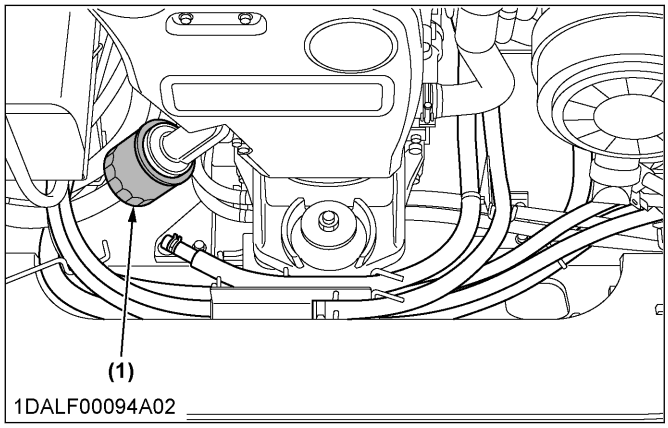
Engine oil volumes (with engine oil filter)	9.0 L (2.4 US gal)

IMPORTANT :

- **When the annual operating hours are below 500 hours, change the engine oil every year.**

2. Replacing the engine oil filter cartridge

1. Place a container underneath the engine-oil-filter-cartridge to catch the spilled engine oil.
2. Replace the engine-oil-filter-cartridge at the same time as changing the engine oil.
   a. Remove the engine-oil-filter-cartridge with the filter wrench.
   b. Oil the O-ring of the new engine-oil-filter-cartridge lightly.
   c. Then tighten the engine-oil-filter-cartridge by hand.
   d. Fill engine oil to the specified level.
   e. Let the engine run for approx. five min. and make sure that the low-fuel-warning-light does not light up.
      The engine oil level is reduced by the amount of the filter capacity after the engine is started. It is necessary to add the engine oil.
   f. Then stop the engine.



(1) Engine oil filter cartridge

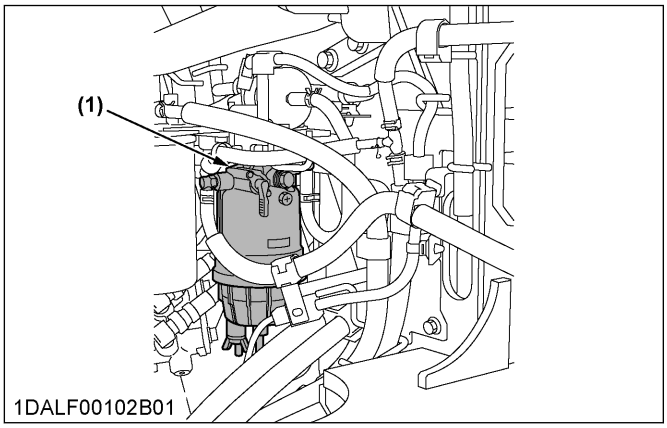
IMPORTANT :

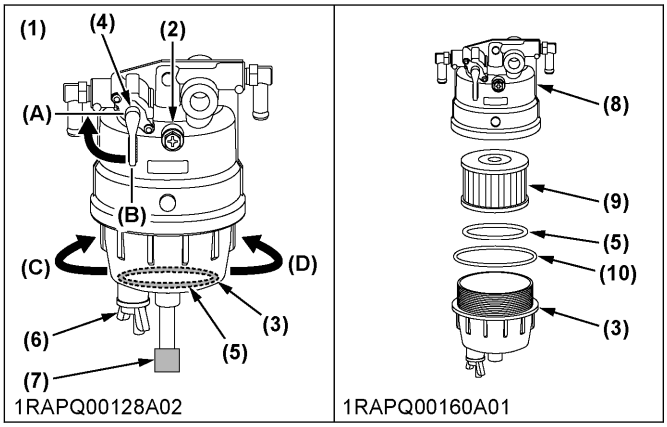
- **Always check the engine oil level after having exchanged the filter.**

3. Replacing the water separator filter element

1. Set the shutoff-valve of the water separator to the close position.
2. Loosen and remove the cup properly and replace the filter element.
3. Check the condition of the O-ring and replace if necessary.
4. Tighten up the cup properly.

5. Set the shutoff-valve to the open position.





(1) Water separator
(2) Screw
(3) Cup
(4) Shutoff-valve
(5) Float
(6) Drain plug
(7) Connector of water level sensor
(8) Head cover
(9) Filter element
(10) O-ring
(11) Hose

(A) Close
(B) Open
(C) Loosen
(D) Tighten

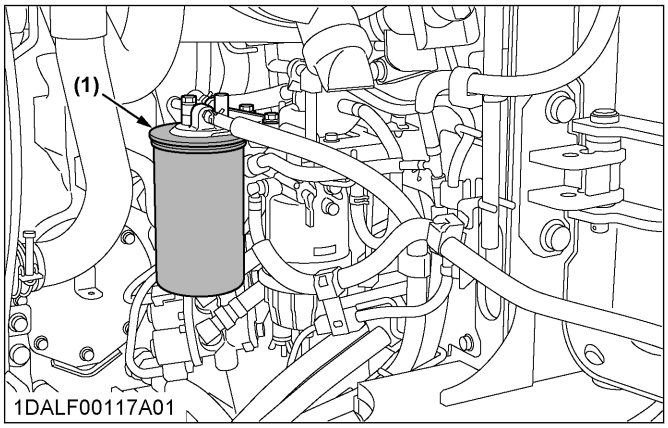
IMPORTANT :
- **In reattaching the water separator, be careful to keep off dust and dirt.**
- **Purge the fuel system before getting the machine restarted.**
  (See Purging of the fuel system on page 183)

4. Replacing the fuel filter cartridge

⚠ WARNING
To avoid personal injury or death:
- **Keep fire away.**

IMPORTANT :
- **If you do not replace the fuel-filter-cartridge regularly, the cleaning efficiency of the DPF (8000 hours or service as required) will be reduced and the DPF longevity will be shorter than expected.**

1. Remove the fuel-filter-cartridge with the filter wrench.
2. Apply a small amount of fuel on the gasket of the replacement filter and tighten the gasket by hand.



(1) Fuel filter cartridge

IMPORTANT :
- **After exchange of the filter, purge the fuel system of air.**

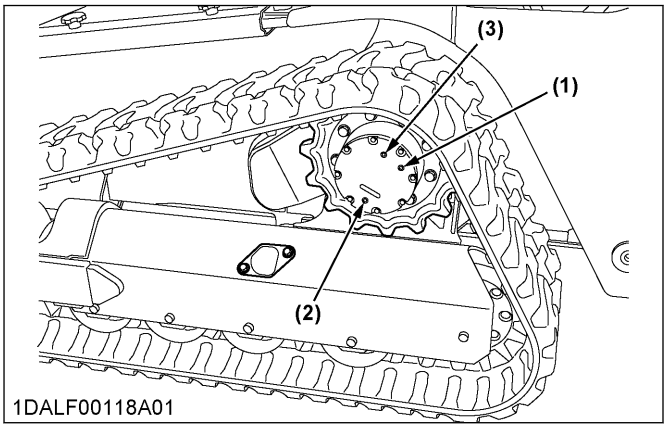
5. Changing the travel motor gear oil

⚠ WARNING
To avoid personal injury or death:
- **Lower the lift arms to the ground, and stop the engine before undertaking the gear oil change of the travel motor.**

First change of the gear oil of the travel motor is 250 service hours.

1. Rotate the track so that the drain plug of the travel motor is in the bottom position.
2. Remove the drain plug to let the gear oil run out.
3. Screw in and tighten the drain plug again.
4. Fill the travel motor with the gear oil through the oil-filler-port.
   Fill the gear oil until it overflows out of the oil inspection port.
   Use prescribed gear oil SAE 90.

5. After changing the travel motor gear oil, tighten the plugs with following torque.



(1) Oil inspection port *(3) Oil filler port*
(2) Drain plug

(2) Drain plug	Tightening torque	22.0 N·m to 32.0 N·m (2.2 kgf·m to 3.3 kgf·m) [16.2 lbf·ft to 23.6 lbf·ft]

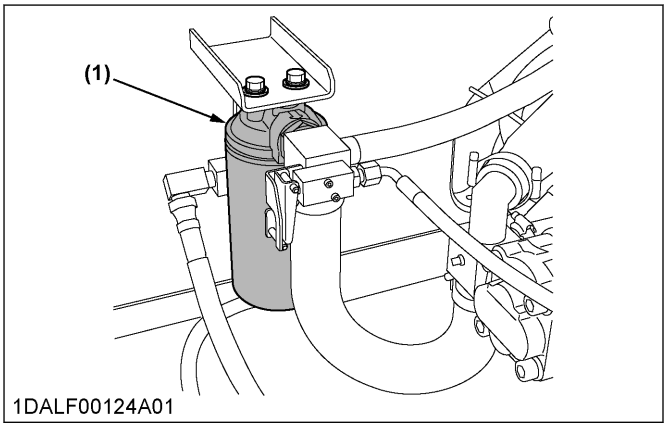
Gear oil volume	Approx. 1.0 L (0.3 US gal.)

IMPORTANT :
- **Wrap the plugs with silicone tape.**

6. Changing the return filter

First change of the return filter is 250 service hours.

1. Change the return filter according to Changing the hydraulic oil including the suction filter in the hydraulic tank and the return filter on page 176.

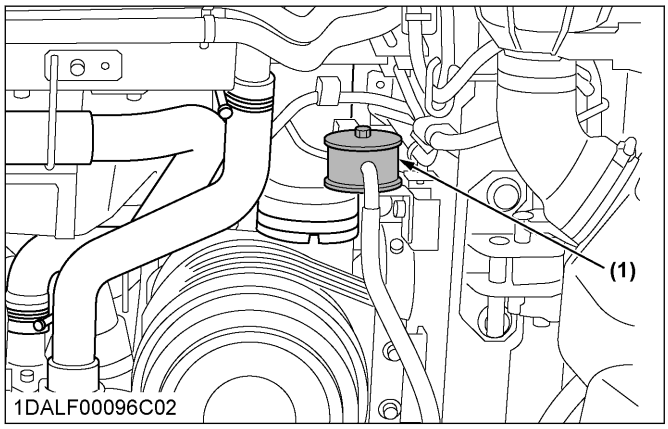


(1) Return filter

7. Replacing the hydraulic breather filter

The breather filter for the hydraulic tank is located above the hydraulic tank.

1. Open the rear door.
2. Open the cap of the filter cover.
3. Remove the hydraulic breather filter and replace with the new one.
4. Tighten the cap of the filter cover.

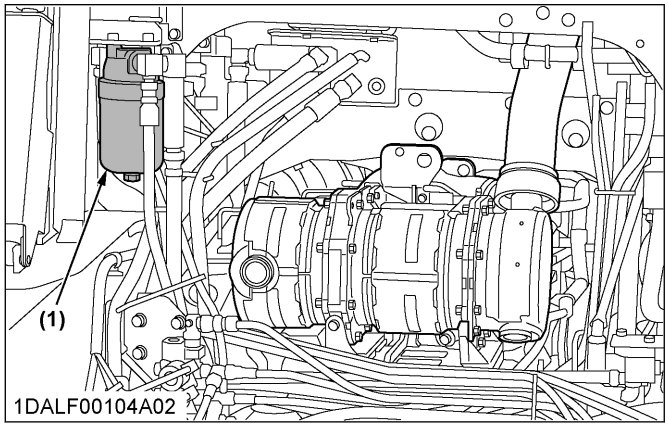


(1) Hydraulic breather filter

8. Replacing the hydraulic oil filter

First change of the hydraulic-oil-filter is 50 service hours.

1. Raise the cab.
(See Tilting up the cab on page 154 for detail)
2. Remove the hydraulic-oil-filter with the wrench and replace with the new one.
3. Oil the O-ring of the new hydraulic filter cartridge lightly. Then tighten the hydraulic filter cartridge.



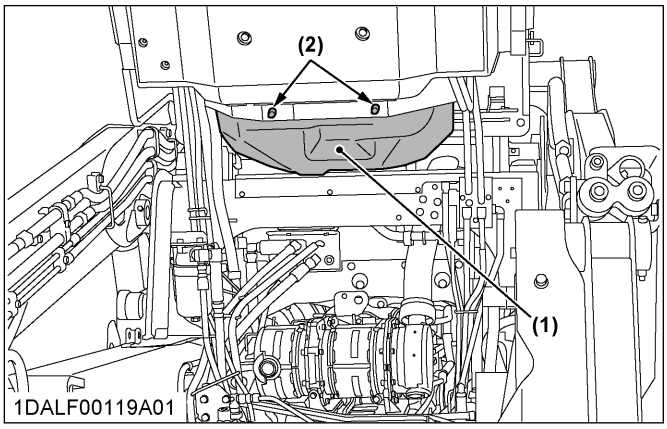
(1) Hydraulic oil filter

9. Cleaning the front window roller [Closed cab model only]

Consult your local KUBOTA dealer for cleaning the front window roller.

10. Checking the air-conditioner drain

1. Check the air-conditioner unit cover to see if its drain hose end is clogged with dust and other foreign matters.



(1) Air-conditioner unit cover (2) Air-conditioner drain

EVERY 1000 SERVICE HOURS

Carry out all 50, 100, 200, 250, and 500 hour servicing at the same time.

1. Changing the hydraulic oil including the suction filter in the hydraulic tank and the return filter

⚠ WARNING

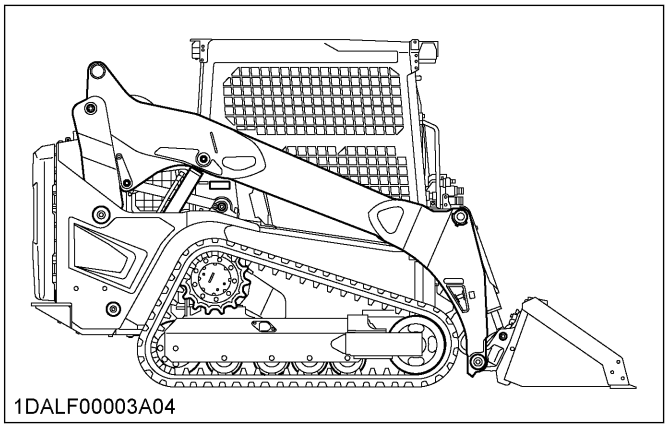
To avoid personal injury or death:

- **Wait long enough for the hydraulic oil to cool down. Then change the hydraulic oil.**

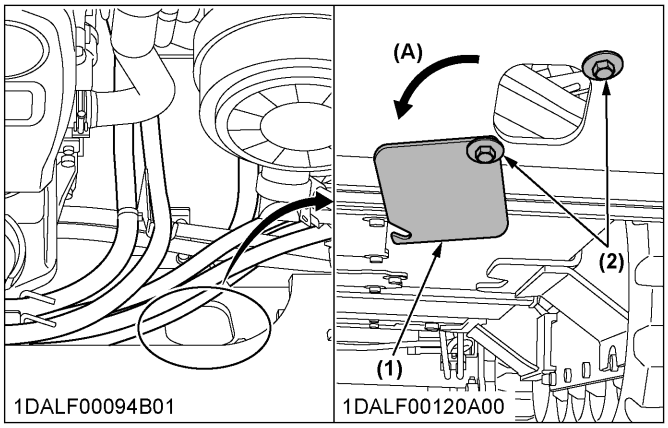
IMPORTANT :

- **Before filling oil, wipe away all sand and dust from around the oil port. Make sure to use an identical type of hydraulic fluid.**
- **The machine has been filled with hydraulic fluid before delivery. See RECOMMENDED OILS on page 210 section. Do not mix different oils.**

1. Park the machine on a firm, flat, and level surface.
2. Lower the lift arms to the ground, and stop the engine.

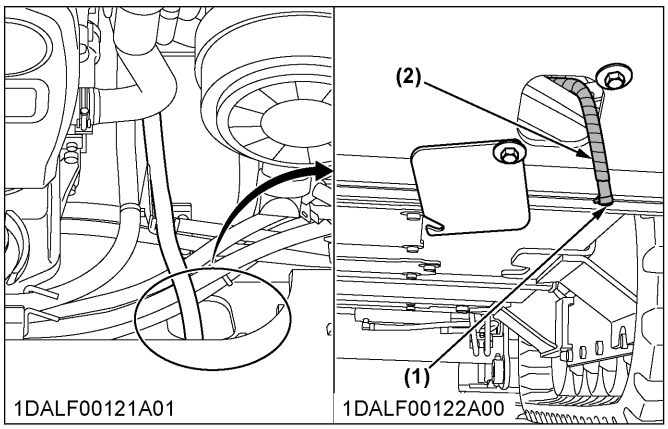


3. Loosen the bolts and slide the under cover on the bottom of the frame.



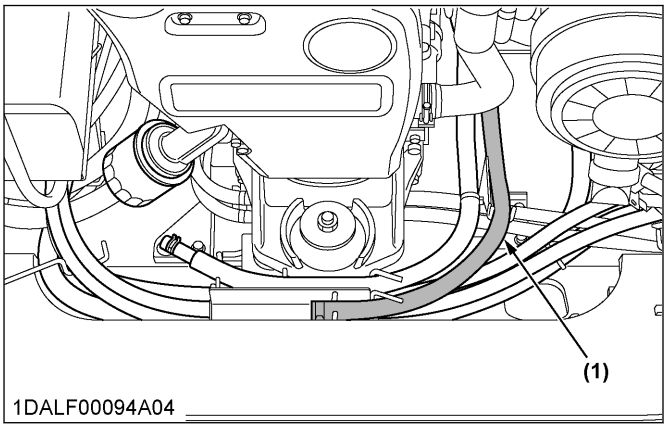
(1) Under cover (A) Slide
(2) Bolt

4. Remove the drain plug from the oil-drain hose and drain all oil.



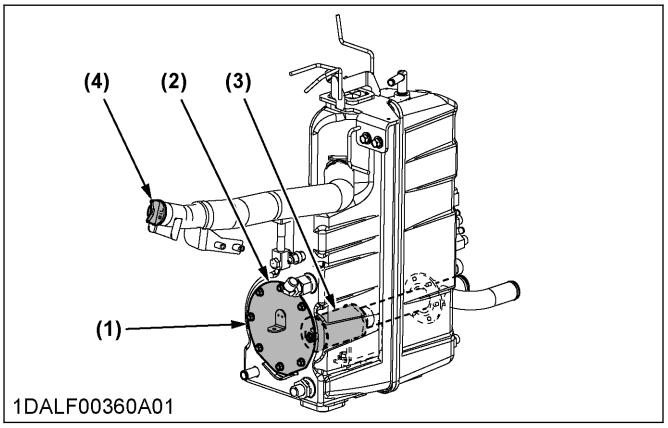
(1) Drain plug (2) Oil drain hose

5. Return the oil-drain hose to its original position as following figure.



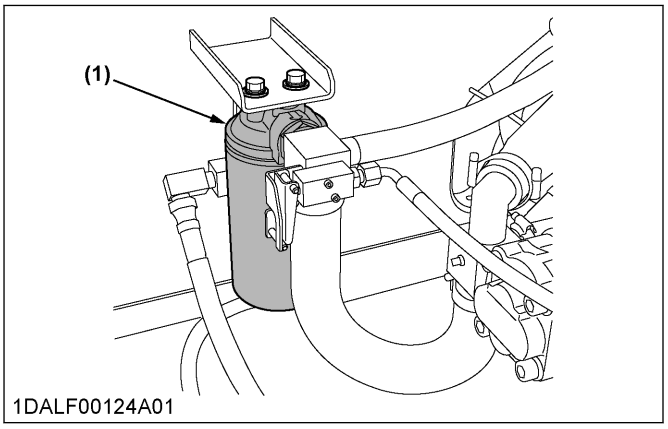
(1) Oil drain hose

6. Loosen the bolt, and remove the tank cover.



(1) Bolt
(2) Cover
(3) Suction filter
(4) Oil filling port

7. Remove the suction filter and replace with new one.
8. Then remove the return filter and replace with new one.



(1) Return filter

9. Install the tank cover.
10. Retighten the drain plug.
11. Fill the hydraulic oil through the oil-filling port.
12. Let the engine run, and operate the lift arm and the bucket.
13. Then lower the lift arms slowly to the ground, and stop the engine.
14. Fill the hydraulic oil again up to the center of the gauge.

Hydraulic oil volumes	Hydraulic tank	16.1 L (4.3 US gal)
	Whole oil volumes	46 L (12.2 US gal)

15. Tighten the oil-filling port.

2. Hydraulic oil check with the hydraulic hammers

Changing the hydraulic oil after 1000 operating hours in the operator's manual is based on normal work. The following inspection measures are valid when using the hydraulic hammers.

- Changing and filling up of the hydraulic oil
  - Change the hydraulic oil more often when using the hydraulic hammers because the machine is subject to harder conditions than normal work.
  - Use only the recommended hydraulic oils that are mentioned in the operator's manual when changing or filling with the hydraulic oil.
  - When adding the hydraulic oil, do not mix oils of different makes
- Changing the return filter and the hydraulic oil
  - Change the return filter more often because of contamination resulting from the frequent assembly and disassembly of the hoses.
  - Use the correct replacement filter.
  - Change oil according to operating hours.

		Hydraulic oil	Return filter	Suction filter
Normal work		every 1000 Hrs.	every 500 Hrs. (250 Hrs. after first operation)	every 1000 Hrs.
Hammer work portion	20 %	every 800 Hrs.	every 300 Hrs.	
	40 %	every 400 Hrs.		
	60 %	every 300 Hrs.	every 100 Hrs.	
	more	every 200 Hrs.		

3. Adjusting the engine valve clearance

Consult your local KUBOTA dealer for adjusting the engine valve clearance.

4. Replacing the front window roller [Closed cab model only]

Consult your local KUBOTA dealer for replacing the front window roller.

EVERY 1500 SERVICE HOURS

Carry out all 50, 100, 250, and 500 hour servicing at the same time.

1. Checking the injector tip

Consult your local KUBOTA dealer for checking the injector tip.

2. Checking the EGR cooler

Consult your local KUBOTA dealer for checking the EGR cooler.

EVERY 2000 SERVICE HOURS

Carry out all 50, 100. 200, 250, 500, and 1000 hour servicing at the same time.

1. Checking the alternator and the starter motor

Consult your local KUBOTA dealer for checking the alternator and the starter motor.

EVERY 3000 SERVICE HOURS

Carry out all 50, 100, 200, 250, 500, 1000, and 1500 hour servicing at the same time.

1. Checking the EGR system

Consult your local KUBOTA dealer for checking the EGR system.

2. Checking the turbocharger

Consult your local KUBOTA dealer for checking the turbocharger.

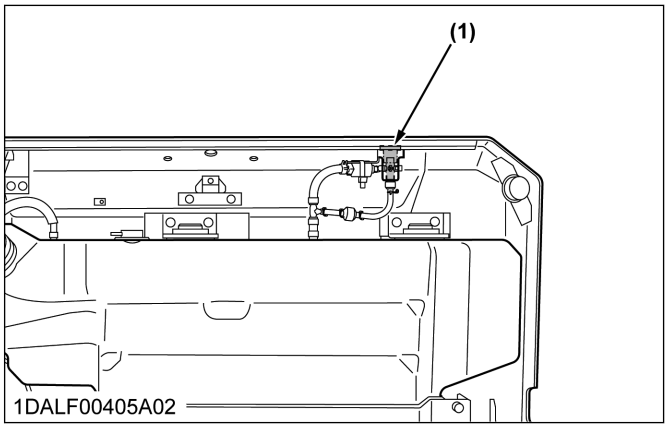
3. Replacing the fuel tank breather

⚠ WARNING

To avoid personal injury or death:

- **Keep fire away.**

1. Remove the fuel tank breather.
2. Replace the fuel tank breather with new ones.



(1) Fuel tank breather

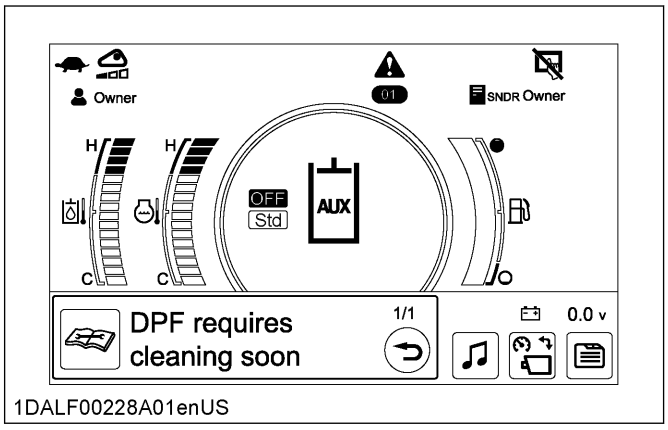
IMPORTANT :

- **Do not clean the fuel tank breather. Cleaning the fuel tank breather with compressed air especially may damage the internal filter.**
- **If the fuel tank breather becomes clogged, the fuel tank may get deformed.**

EVERY 3000 TO 8000 SERVICE HOURS

1. Cleaning the diesel particulate filter (DPF)

The longer the DPF operates, the more ash (burnt residue) is collected in the filter. Too much ash build-up adversely affects the DPF performance.
When the DPF cleaning time draws near, the message "`DPF requires cleaning soon`" appears on the display. When this message appears or every 8000hrs, consult your local Kubota dealer to clean the DPF.



IMPORTANT :

- **To clean up the DPF, a specific machine is required.**
  Do not attempt to clean it in any other way, such as disassembling, shaking and heating as toxic chemicals may be present inside of the DPF.

- **Regardless of the service hours, clean the DPF if the message "DPF requires cleaning soon" appears on the display.**

ANNUAL SERVICING

1. Checking the air-conditioner pipes and hoses

⚠ WARNING
To avoid personal injury or death:
- **Do not touch the air-conditioner hoses or the heater with your hand. You may get burned.**

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.
   Consult your local KUBOTA dealer for checking the air-conditioner pipes and hoses.

2. Checking the exhaust manifold for cracks, gas leakage, and mounting screw

Consult your local KUBOTA dealer for checking the exhaust manifold for cracks, gas leakage, and mounting screw.

3. Checking the intake air line for air leaks

Consult your local KUBOTA dealer for checking the intake air line for air leaks.

4. Checking the boost sensor

Consult your local KUBOTA dealer for checking the boost sensor.

5. Checking the condition of the diesel-particulate-filter (DPF) muffler

Consult your local KUBOTA dealer for checking the condition of the DPF muffler.

6. Checking the diesel-particulate-filter (DPF) differential pressure sensor and piping for gas leak

Consult your local KUBOTA dealer for checking the DPF differential pressure sensor and the DPF piping for gas leak.

7. Checking the diesel-particulate-filter (DPF) exhaust gas temperature sensor

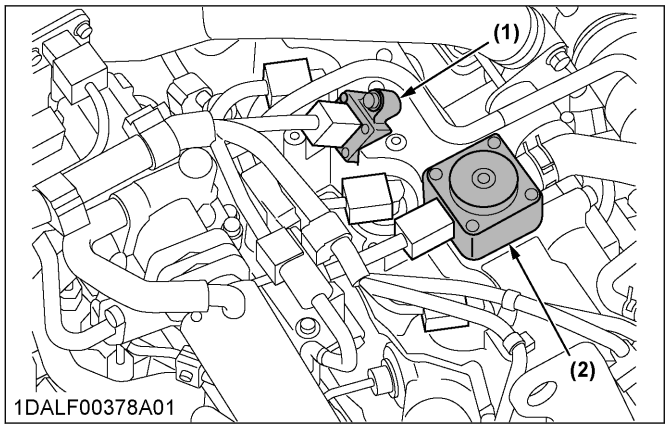
Consult your local KUBOTA dealer for checking the DPF exhaust gas temperature sensor.

8. Checking the EGR piping for gas leak

Consult your local KUBOTA dealer for checking the EGR piping for gas leak.

9. Checking the antifrost heater for oil separator (CCV heater)

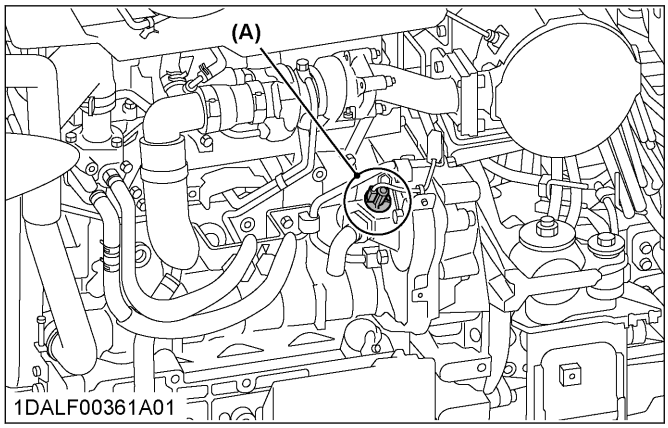
Consult your local KUBOTA Dealer for checking the antifrost heater for oil separator (CCV heater).



(1) CCV heater *(2) CCV heater [Cold climate model only]*

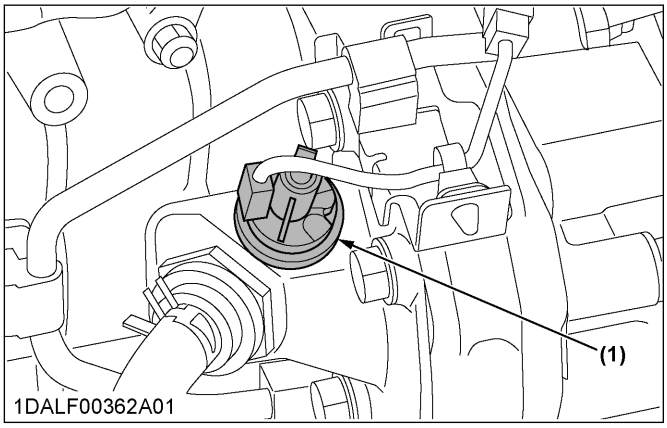
10. Checking the CCV internal pressure switch [Closed cab model only]

Consult your local KUBOTA dealer for checking the CCV internal pressure switch.



(A) Fig [A]

Fig [A]



(1) CCV internal pressure switch

11. Checking the relief valve

Consult your local KUBOTA dealer for checking the relief valve.

BIENNIAL SERVICING

1. Replacing the hydraulic hose

Consult your local KUBOTA dealer for replacing the hydraulic hoses.

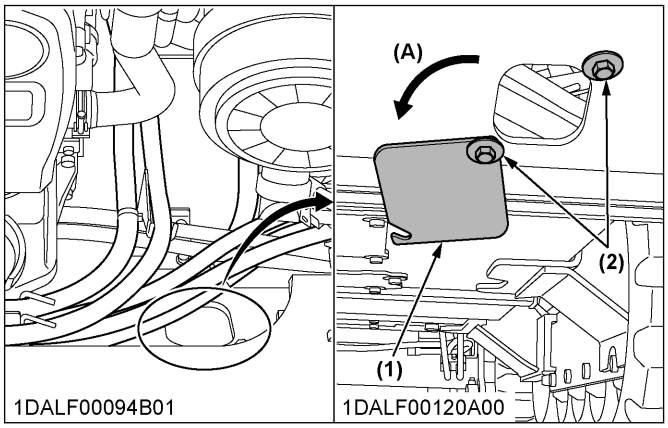
2. Changing the radiator coolant

⚠ WARNING

To avoid personal injury or death:

- **Do not open the radiator cap right after the engine has been stopped. Serious burns can occur from contact with escaping hot coolant fluid.**
- **When using the antifreeze, use protective clothing such as rubber gloves (antifreeze contains poison).**
- **If you have swallowed the antifreeze, seek medical attention at once.**
- **When the antifreeze comes in contact with the skin or clothing, wash it off immediately.**
- **Do not mix different types of antifreeze. The mixture can produce a chemical reaction causing harmful substances or vapors.**
- **Antifreeze is extremely flammable and explosive under certain conditions. Keep fire and children away from the antifreeze.**
- **When draining fluids from the engine, collect fluids with a some container underneath the engine body.**
- **Do not pour waste onto the grounds, down a drain, or into any water source.**
- **Follow the relevant environmental-protection-regulations when disposing of the antifreeze.**
- **Antifreeze if swallowed is poisonous to people, animals, and birds.**

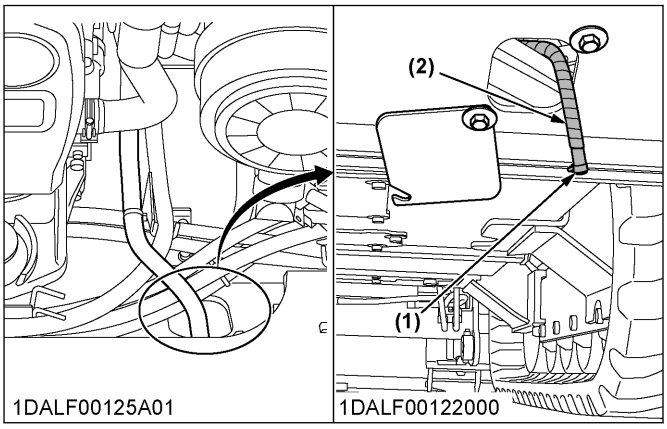
1. Park the machine on a firm, flat and level surface.
2. Lower the lift arms to the ground.
3. Stop the engine.
4. Wait until the engine has cooled down completely.
5. Loosen the bolts and slide the under cover on the bottom of the frame.



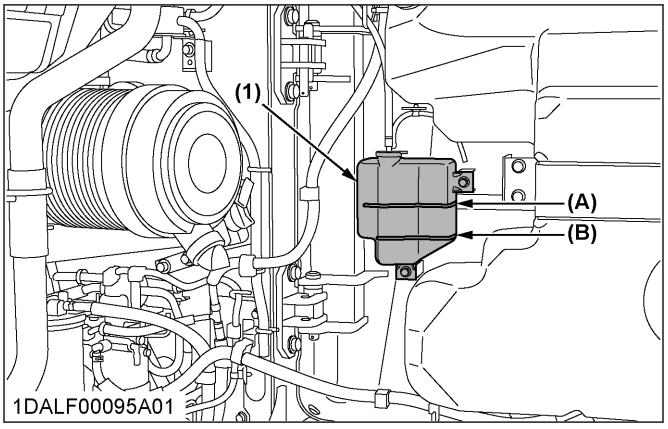
(1) Under cover
(2) Bolt
(A) Slide

6. Slowly loosen the radiator cap to relieve the pressure in the radiator system, and then remove the radiator cap.

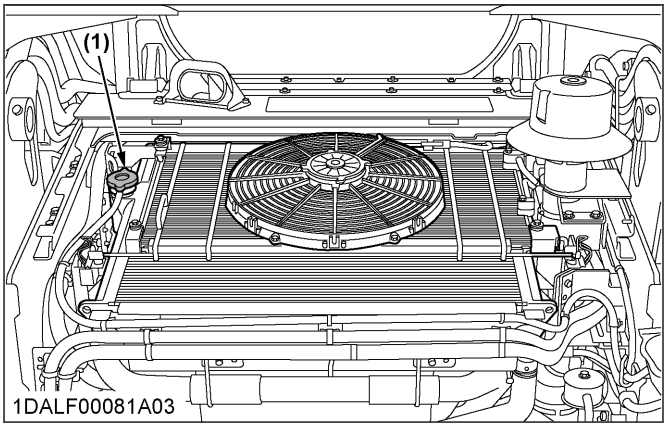
7. Remove the drain plug from the coolant drain hose and drain the coolant completely.



(1) Drain plug *(2) Coolant drain hose*

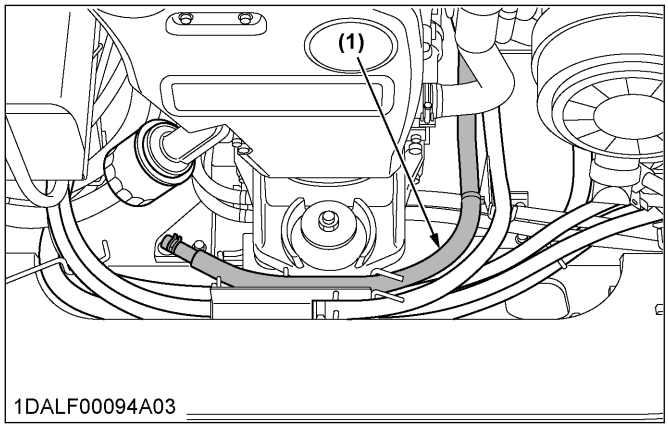


(1) Coolant recovery tank *(A) FULL* *(B) LOW*



(1) Radiator cap

8. To clean, rinse the radiator with water.
9. Close the drain plug and return the coolant drain hose to its original position as following figure.



(1) Coolant drain hose

10. Fill the radiator and the coolant-recovery tank with coolant fluid.
11. Let the engine idle for about 5 min.
12. Stop the engine.
13. Check the coolant level of coolant-recovery tank and add the coolant if necessary.
    The machine has been shipped filled with 50 % antifreeze solution.

Coolant volumes

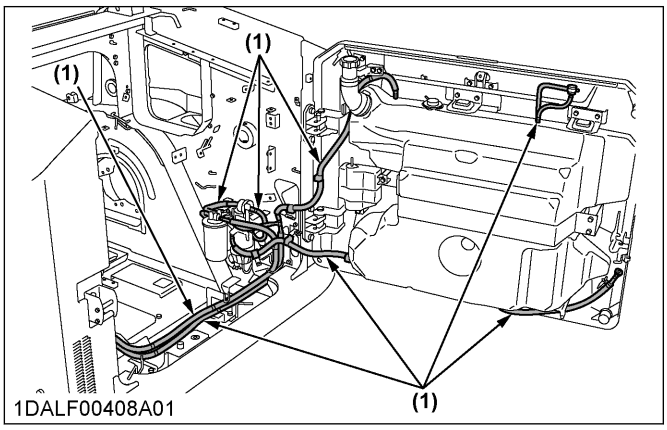
Radiator	Open cab	9.0 L (2.4 US gal.)
	Closed cab	10.0 L (2.6 US gal.)
Coolant recovery tank		1.0 L (0.3 US gal.)

IMPORTANT :

- **Do not operate the engine without coolant.**
- **To fill the radiator system and the coolant-recovery tank, use fresh water and antifreeze fluid.**
- **When the antifreeze is mixed with water, the antifreeze mixing ratio must be less than 50 %.**
- **Tighten the radiator cap properly. If the cap is loosely or not properly fitted, overheating of the engine can result due to coolant fluid loss.**

3. Replacing the fuel hose

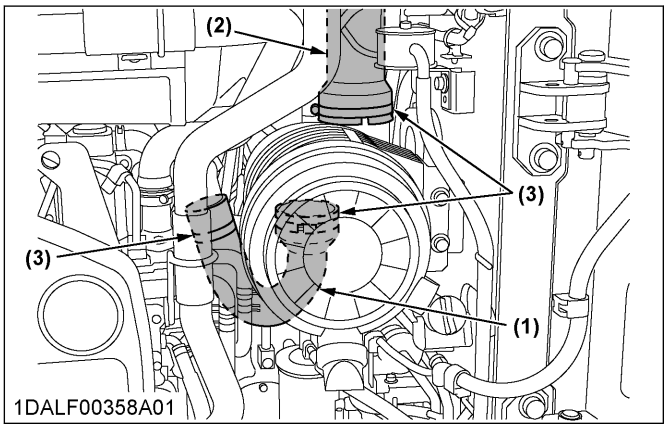
1. Replace the hoses and clamps according to Checking the fuel line and the intake air line on page 170.

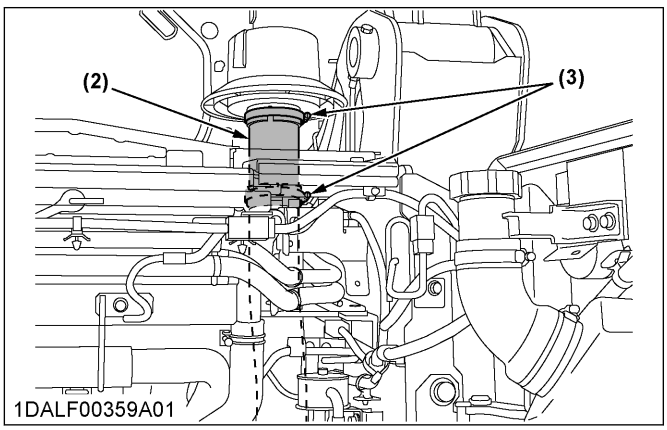


(1) Fuel lines

4. Replacing the intake air line

1. Replace the hose, pipes, and clamps according to Checking the fuel line and the intake air line on page 170.





(1) Hose
(2) Pipes
(3) Clamps

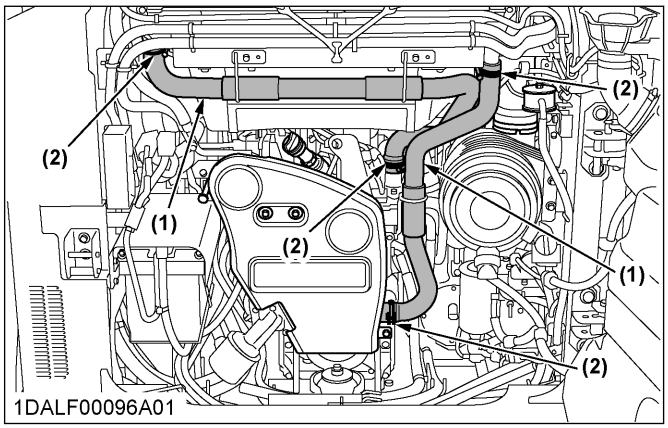
5. Replacing the radiator hoses

⚠ WARNING

To avoid personal injury or death:

- **Replace the radiator hoses and the hose clamps every two years. If the hoses are swollen, hard, or cracked, you must replace them earlier than specified (earlier than 2 years).**

1. Replace the radiator hoses according to the following figure.



(1) Radiator hose
(2) Hose clamps

6. Replacing the coolant rubber piping

Consult your local Kubota dealer for replacing the coolant rubber piping.

7. Replacing the air-conditioner pipes and hoses

⚠ WARNING

To avoid personal injury or death:

- **Do not touch the water hoses or the heater with your hand. You may get burned.**

Replace air-conditioner pipes and hoses every two years.

1. If the hoses or pipes of the air-conditioner are swollen, hard or cracked, replace them.
   Consult your local KUBOTA dealer for replacing the pipes and hoses of the air-conditioner.

8. Replacing the CCV rubber piping

Consult your local KUBOTA dealer for replacing the CCV-rubber-piping.

9. Replacing the diesel-particulate-filter (DPF) differential pressure sensor rubber piping (front and back)

Consult your local KUBOTA dealer for the DPF-differential-pressure-sensor-rubber-piping (front and back).

10. Replacing the suction hoses upstream and downstream the turbocharger

Consult your local KUBOTA dealer for replacing the suction hoses upstream and downstream the turbocharger.

11. Replacing the boost sensor pressure rubber piping

Consult your local KUBOTA dealer for replacing the boost-sensor-pressure-rubber-piping.

12. Replacing the EGR differential pressure sensor rubber piping (Front and back)

Consult your local KUBOTA dealer for replacing the EGR-differential-pressure-sensor-rubber-piping (front and back).

13. Replacing the EGR cooler hose

Consult your local KUBOTA dealer for replacing the EGR-cooler-hose.

SERVICING AS REQUIRED

1. Checking the amount of refrigerant gas

⚠ WARNING

To avoid personal injury or death:

- **Liquid contact with eyes or skin may cause frostbite.**
- **In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to eyes.**
- **In contact with a flame, R134a refrigerant emits a toxic gas.**
- **Do not disconnect any part of the refrigeration circuit of the air-conditioning system. Consult your local KUBOTA dealer for assistance and service of refrigerant.**

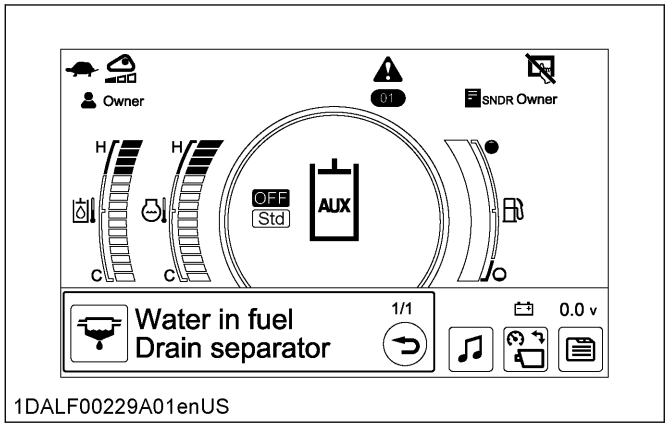
If the air-conditioner performance is reduced, check the following points 1.-2.

1. Air-conditioner condenser is clogged.
2. Air-conditioner belt is loosened.

If there is nothing unusual with the above points, a shortage of refrigerant is possible. Too short refrigerant may cause a poor performance of the air-conditioner. Consult your local KUBOTA dealer for servicing and replenishment.

2. Draining the water separator in case warning against water of the fuel filter

1. If the error message of the water separator appears on the meter panel, immediately drain the water separator.
   (See Draining the water separator on page 161)



1DALF00229A01enUS

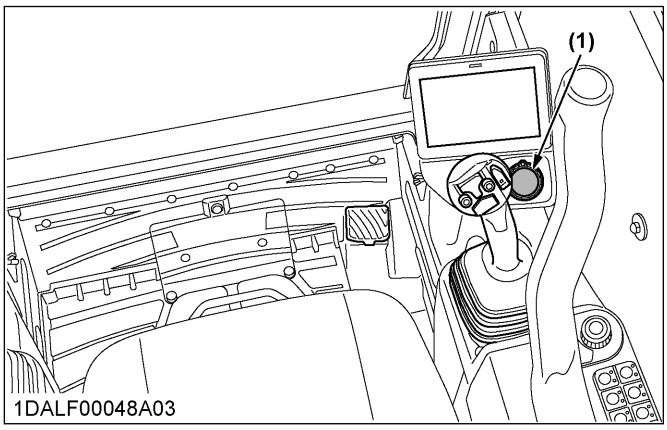
IMPORTANT :

- **If you do not drain the water separator immediately after the error message appears, the engine may be seriously damaged.**
- **Without the water separator drained, the cleaning efficiency of the DPF (8000 hours or service as required) will be reduced and the DPF longevity will be shorter than expected.**

3. Purging of the fuel system

1. Fill up the machine with fuel.

2. Press the start switch when the machine is off.
   The fuel system will automatically be purged of air within one minute.



(1) Start switch

IMPORTANT :

- **If the purging was insufficient, the engine dies after starting. In this case repeat step 2. again.**

4. Cleaning the plastic parts and synthetic leather

- Use a soft cloth when wiping plastic parts or synthetic leather.
- If the plastic or synthetic leather is very dirty, use a soft cloth dipped in a mild detergent that has been diluted with water.
- Wipe off any remaining moisture or detergent with a soft cloth that has been moistened with water and then thoroughly wrung out.
- Cleaning the plastic parts with alkaline, acidic, or organic solvents such as alcohol or benzene can damage them.

TRACK

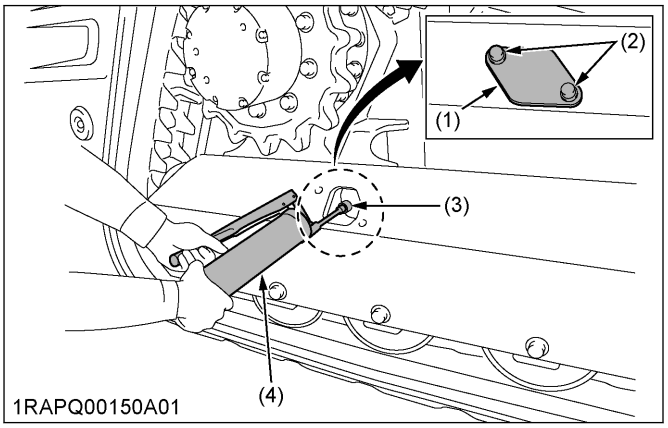
ADJUSTING THE TRACKS

IMPORTANT :
- **Make sure that no obstacles such as stones are caught in the track. Remove obstacles such as stones before adjusting the track tension.**

1. Adjust the track tension properly.
   - **To loosen the tracks**

     ⚠ WARNING
     To avoid personal injury or death:
     - **– Do not loosen the grease fitting completely or too quickly. Otherwise grease under high pressure in the tension cylinder could squirt out.**
     - **– Do not work under the machine.**

     a. Loosen the bolts, and remove the cover.
     b. Using a socket wrench, loosen the grease fitting a few turns.
   - **To tension the tracks**
     a. Loosen the bolt, and remove the cover.
     b. Apply grease into the grease fitting.



(1) Cover
(2) Bolt
(3) Grease fitting
(4) Grease gun

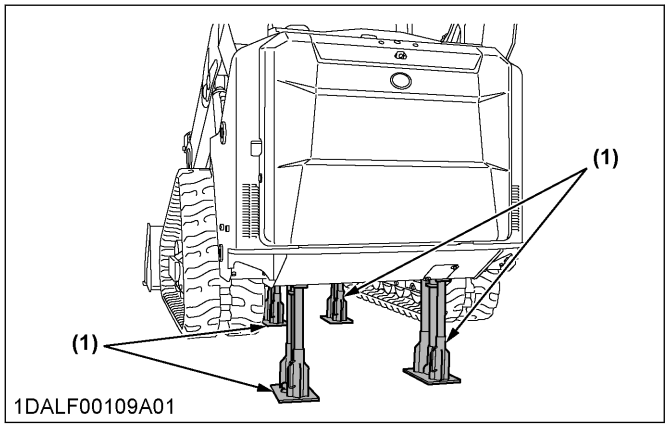
2. Check the track tension.

   ⚠ WARNING
   To avoid personal injury or death:
   - **When lifting the machine itself with an attachment, place the jack stands under the main frame to prevent the machine from turning over.**

   a. Put the machine on the jack stand.

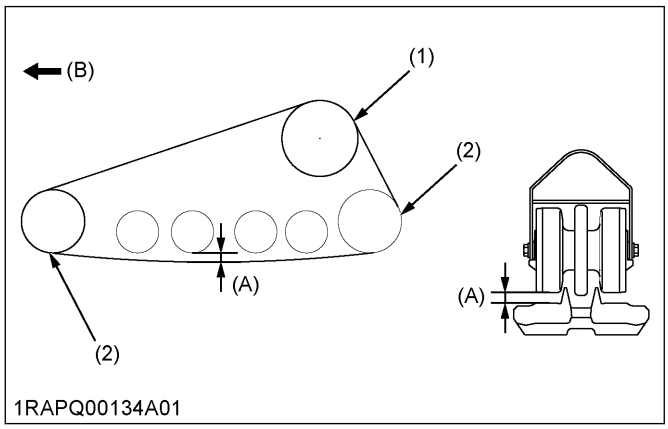
   ⚠ DANGER
   To avoid personal injury or death:
   - **Do not work under the machine when putting the machine on the jack stand.**
   - **For your safety, do not rely on hydraulically supported devices. They may leak down and suddenly drop or be accidentally lowered.**

   b. Lift the track from the ground as shown in the following figure.



(1) Jack stand

   c. The track tension is correct if the distance of clearance between the outer end of the track roller and the track interior surface (A) corresponds to the dimension specified in the following table.



(1) Drive sprocket
(2) Idler
(A) Clearance between outer end of track roller and track interior surface
(B) Front

Clearance between outer end of track roller and track interior surface (A)	20 mm to 30 mm (0.8 in. to 1.2 in.)

IMPORTANT :
- **If the tracks are too tight, wear is increased.**
- **If the tracks are too loose, the track pads may collide with the sprocket and wear is increased.**
  The track may dislocate or come off.
- **If the track tension is high due to sticking mud, remove mud from the track.**

3. After adjustment is completed, tighten the grease fitting using the socket wrench.
   You must keep the tightening torque as follows.

Tightening torque	Between 98 N·m to 108 N·m (72.3 ft·lbf to 79.7 ft·lbf)

IMPORTANT :
If the seam of the track is positioned incorrectly, the tracks will be tensioned too loosely, and a further readjustment will be necessary.

1. **Rotate the track after adjustment one to two times to check the tension.**
2. **Additionally follow the following points when adjusting rubber tracks.**
   - **Check track tension 50 hours after initial use and readjust if necessary.**
   - **Check and adjust thereafter every 50 service hours.**

IMPORTANT :
- **Clean the track after every use.**

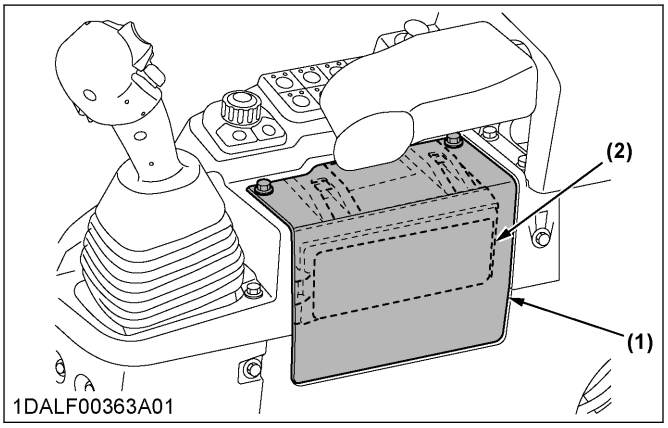
FUSE

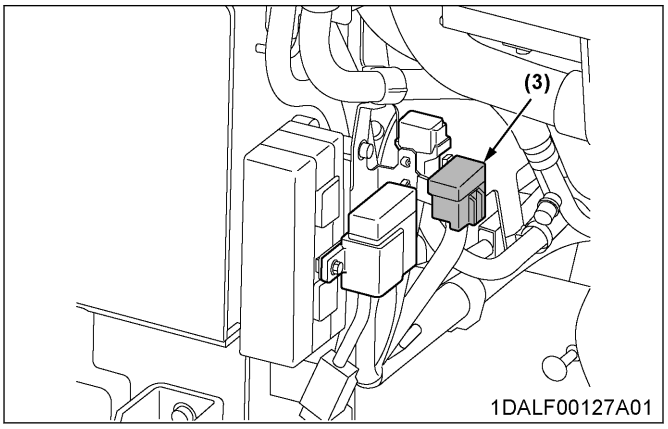
FUSES

⚠ WARNING
To avoid personal injury or death:
- **When changing fuse, stop the engine and turn off the machine.**

1. Replacing the fuse

1. Detach the cover, and remove the cover of the fuse box.
2. Replace the burnt out fuse with a fuse of the same capacity.





(1) Cover
(2) Fuse and relay box
(3) Fuse box

2. Fuse capacities and circuits

[A]

14	15	16	17	18	19	20	21	22	23	24	25	26
1	2	3	4	5	6	7	8	9	10	11	12	13

1RAPQ00152A04

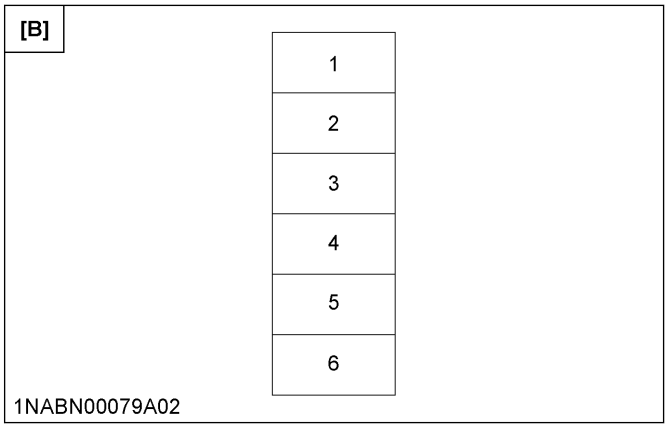
[A] Fuse and relay box

No.	Protected circuit	Capacity
1	Room light	5 A
2	Front working light	15 A
3	Rear working light	10 A
4	Starter SW/ACC	5 A
5	Horn	5 A
6	-	Blank
7	Meter (+B)	5 A
8	KOBD ACE (+B)	5 A
9	ECU Main (+B)	10 A
10*1	Blower motor	25 A
11*1	Compressor clutch	10 A
12*1	AC controller	5 A
13	ECU (Main power)	30 A
14	Back buzzer	5 A
15	Switch (ACC)	5 A
16	Engine auxiliaries	10 A
17	AUX electrical power	15 A
18	Beacon	10 A
19*1	Wiper/Washer	15 A
20	Arm harness	10 A
21	Attachment - 2	20 A
22	Attachment - 1	Blank
23	Air ride seat	20 A
24	Electric outlet	15 A
25	Control elements	5 A
26	Service tool	5 A

*1 Closed cab model only

NOTE :

- **The fuse of No.22 is not set at the factory. When using the attachments-1, contact your KUBOTA dealer.**

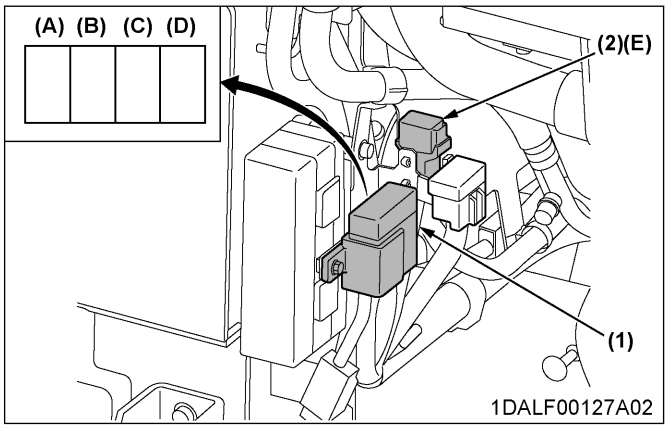


[B] Fuse box

No.	Protected circuit	Capacity
1	-	Blank
2	Engine elements	5 A
3	CCV heater	20 A
4	Starter signal power	5 A
5	Alternator	10 A
6	Fuel pump	5 A

3. Slow blow fuse

Slow-blow-fuse protects the electrical circuits.
If the slow-blow-fuse is blown, check the electrical circuits for trouble and then replace with a new compatible slow-blow-fuse.
(See Replacing the bolted slow blow fuse on page 189)



(1) Slow blow fuse A (2) Slow blow fuse B

Slow blow fuse A

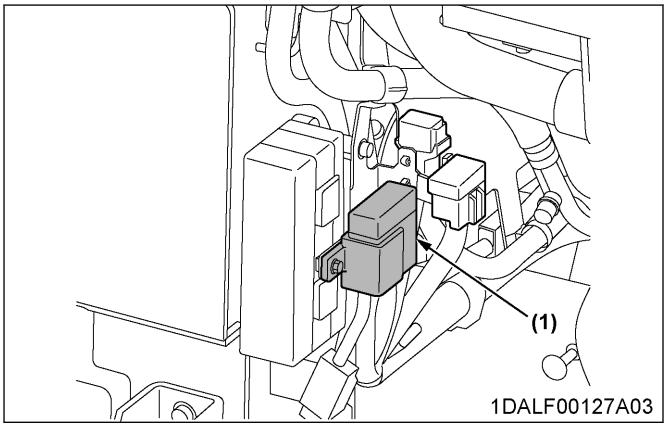
No.	Protected circuit	Capacity	Fuse type
(A)	Main	60 A	Bolted
(B)	Alternator	100 A	Bolted
(C)	Engine	30 A	Plug-in
(D)	Glow/CAB	60 A	Plug-in

Slow blow fuse B
Slow blow fuse B is for reversing fan model only.

No.	Protected circuit	Capacity	Fuse type
(E)	Reversing aided fan	20 A	Plug-in

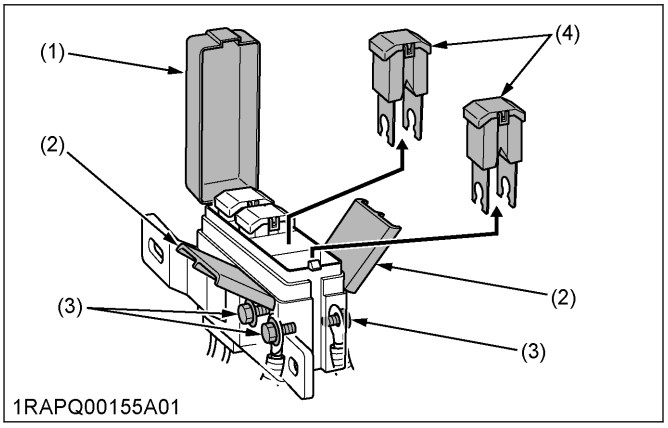
4. Replacing the bolted slow blow fuse

1. Disconnect the negative cord of the battery.
2. Remove the slow-blow-fuse-case.



(1) Slow blow fuse case

3. Open the slow-blow-fuse-case-cap and the cover, and then remove the bolts and draw out the bolted-slow-blow-fuse.



(1) Slow blow fuse case cap
(2) Cover
(3) Bolt
(4) Bolted slow blow fuse

Tightening torque	M5 bolt	2.94 N·m to 3.92 N·m (0.30 kgf·m to 0.40 kgf·m) [2.17 lbf·ft to 2.89 lbf·ft]
	M6 bolt	4.90 N·m to 5.88 N·m (0.50 kgf·m to 0.60 kgf·m) [3.61 lbf·ft to 4.34 lbf·ft]

TROUBLESHOOTING

TROUBLESHOOTING OF THE ENGINE AND OTHER SYSTEMS

If the machine does not perform as expected, or if trouble arises, see the following table and undertake appropriate measures.

Trouble		Cause	Countermeasure
Engine	Starting difficulties	Fuel is too viscous.	• Check the fuel tank and the filter. • Remove the impurities and the water. • If necessary, replace the filter.
		Air or water in the fuel system	• Remove the water from the fuel tank. • Check the fuel-pipe-joint-bolts and nuts for looseness. • Purging of the fuel system as the fuel filter and the supply pump. See Purging of the fuel system on page 183.
		Fuse is blown out.	• Check the fuse and replace it with a same-capacity one as required.
		Oil viscosity is too high the engine runs sluggishly in winter.	• Use the engine block heater (option).
		Battery is almost dead causing insufficient compression.	• Recharge the battery.
	Insufficient engine power	Low fuel level	• Check the fuel and add it if necessary.
		Clogged air cleaner	• Clean the air-cleaner-element.
	Engine suddenly stops.	Low fuel level	• Check the fuel and add it if necessary. • Purge the fuel system.
	Abnormal exhaust gas color	Use of poor fuel	• Use the prescribed fuel.
		Too much engine oil	• Drain engine oil to prescribed level.
	Water temperature in red zone (Overheating)	Flawed seal of the water pump	• Replace the seal of the water pump.
		Worn or torn V-belt	• Adjust or replace the V-belt.
		Thermostat is flawed.	• Replace the thermostat.
		Coolant level too low	• Fill the coolant-recovery tank with the coolant to prescribed level.
		Radiator grill or fins are clogged.	• Clean the radiator grill or fins.
		Coolant is contaminated with rust from the cylinder head or crankcase.	• Replace coolant fluid and add anti-rust.
		Flawed radiator cap (Evaporation)	• Replace the radiator cap.
		Corroded coolant pipes	• Clean or replace the coolant pipes.
		Continuous operation under full load	• Reduce the load.
		Cylinder-head-gasket is damaged (Coolant loss).	• Replace the cylinder-head-gasket.
		Engine oil level too low	• Fill the engine with the engine oil to prescribed level.
		Maladjustment of the fuel injection	• Readjust the fuel injection in ignition timing.
		Use of poor fuel	• Use the prescribed fuel.
Hydraulic System	Lift arms, bucket, or travel motor power is too low.	Hydraulic oil level too low	• Add the hydraulic oil to the prescribed level.
		Leakages of the hoses and / or the joints	• Replace the hose and/or the joint.
		Clogged oil filter	• Replace the oil filter.
	Lift arms, bucket, or travel motor can not move.	Armrest is in the raised position.	• Lower the armrests.
		Operator is not in the operator's seat.	• Sit in the operator's seat.

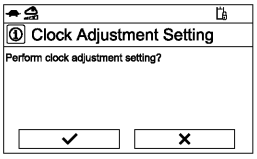
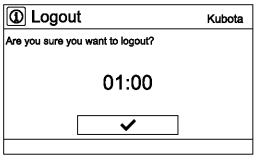
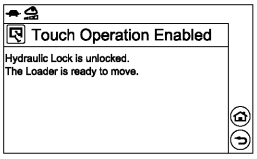
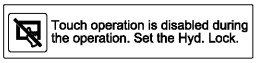
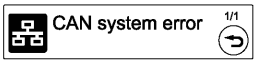
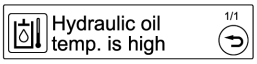
(Continued)

Trouble		Cause	Countermeasure
Hydraulic System	Lift arms, bucket, or travel motor can not move.	Hydraulic-unlock-switch is not pressed.	• Press the hydraulic-unlock-switch.
Drive System	Deviation of drive direction	Blocked through the stones	• Remove the stones.
		Track too loose or too tight	• Adjust the track accordingly.
Electric system	⚠ mark appears in the instrument panel.	Electric system is malfunctioning.	• Check the error code number of NAVIGATION SCREENS on page 192 and contact your local dealer.

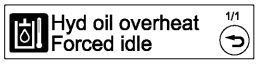
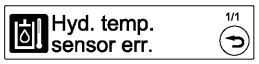
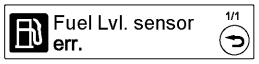
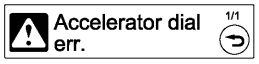
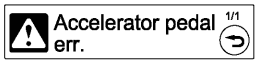
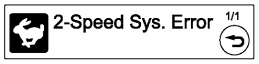
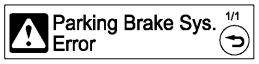
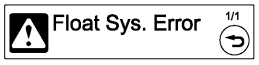
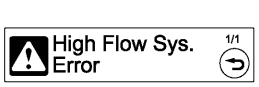
LIST OF SCREEN

NAVIGATION SCREENS

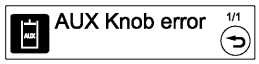
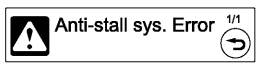
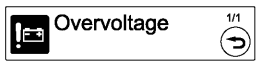
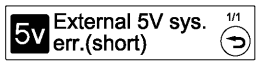
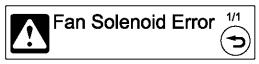
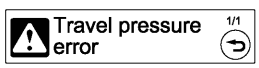
If an error occurs in the machine, one of the following messages appears on the display.
In case of trouble, immediately contact your local Kubota dealer for inspection and repair.
To view detailed information, rotate and press the jog dial, or touch the error message (does not apply to numbers 1 through 4).
Notify your local Kubota dealer of this information.

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
1	 1DALF00230A01	Clock needs to be set (due to factors such as battery disconnection, etc.).	Select "✔" to set the clock.	-
2	 1DALF00142B01	During user login retention period immediately before turning off the machine. If turning on the machine during the login retention period, the password request is not executed.	[Only when logging out immediately] Select "✔"	-
3	 1DALF00231A01	Touch operation is possible even when the hydraulic lock is released. (Normally, touch operation is not possible when the hydraulic lock is released)	-	-
4	 1DALF00232A01	Touch operation is not possible due to hydraulic lock release.	Touch operation is not possible	Move the armrests to the raised position to lock out the hydraulic and electric system.
5	 1DALF00233A01	CAN communication system may have a problem. Some of the display readings or some of the switches may malfunction.	The engine may start and the machine may move. However do not try any operations. Must move the machine to a safe place.	Contact your local dealer.
6	 1DALF00234A01	Fuel level is low.	-	Check the fuel and add it if necessary.
7	 1DALF00396A01	Hydraulic oil temperature is higher than usual.	Operate with the load a little lessened. Stop the engine and check the level of the hydraulic oil, and check for a hydraulic oil leak. Ensure the cooling package is clear of any debris.	If the error still appears, contact your local dealer.

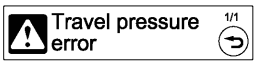
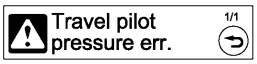
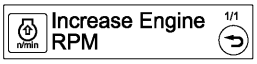
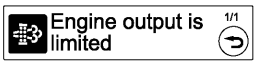
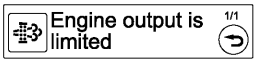
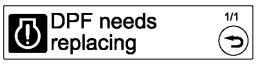
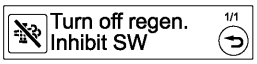
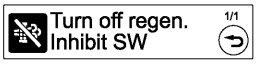
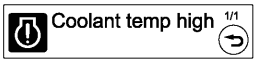
(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
8	 1DALF00236A01	Hydraulic oil temperature is too high. The engine RPM will be reduced automatically for cooling.	Stop the engine and check the level of the hydraulic oil, and check for a hydraulic oil leak. Ensure the cooling package is clear of any debris.	If the error still appears, contact your local dealer.
9	 1DALF00237A01	Hydraulic Oil Temperature Sensor may have a problem.	Hydraulic Oil Temperature cannot be monitored and will not be able to detect an overheat.	Contact your local dealer.
10	 1DALF00423A01	Fuel Level Sensor may have a problem.	Fuel level will not be available on the display. The other functions of the machine are still operative.	Contact your local dealer.
11	 1DALF00239A01	The Accelerator Dial Sensor may have a problem.	The machine will operate at idle RPM.	Move the machine to a safe place and contact your local dealer.
12	 1DALF00240A01	The Accelerator Pedal Sensor may have a problem.	The machine will operate at idle RPM.	Move the machine to a safe place and contact your local dealer.
13	 1DALF00241A01	Open Circuit detected on the 2-Speed Solenoid circuit.	The machine can be ran in low speed, but not in High Speed. The other functions of the machine are still operative.	Contact your local dealer.
14		Short Circuit detected on the 2-Speed Solenoid circuit.	The machine can be ran in low speed, but not in High Speed. The other functions of the machine are still operative.	Contact your local dealer.
15	 1DALF00243A01	Open Circuit detected on the Parking Brake Release Solenoid circuit.	The engine may run, but the machine may not move.	Contact your local dealer.
16		Short Circuit detected on the Parking Brake Release Solenoid circuit.	The engine may run, but the machine may not move.	Contact your local dealer.
17	 1DALF00245A01	Open Circuit detected on the Float Solenoid circuit.	Float cannot be activated. The other functions of the machine are still operative.	Contact your local dealer.
18		Short Circuit detected on the Float Solenoid circuit.	Float cannot be activated. The other functions of the machine are still operative.	Contact your local dealer.
19	 1DALF00247A01	Open Circuit detected on the Hydraulic Lock Release Solenoid circuit.	The front attachments may not work, but the machine can still move.	Check your surroundings and move the machine to a safe place. Contact your local dealer.
20		Short Circuit detected on the Hydraulic Lock Release Solenoid circuit.	The front attachments may not work, but the machine can still move.	Check your surroundings and move the machine to a safe place. Contact your local dealer.
21	 1DALF00249A01	Open Circuit detected on the High Flow Solenoid circuit.	High Flow operation may not work. The other functions of the machine are still operative.	Contact your local dealer.
22		Short Circuit detected on the High Flow Solenoid circuit.	High Flow operation may not work. The other functions of the machine are still operative.	Contact your local dealer.

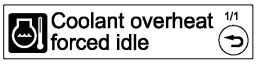
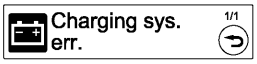
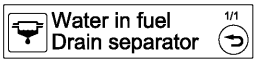
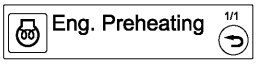
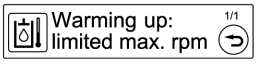
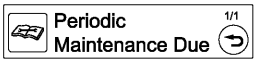
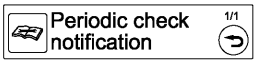
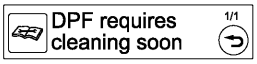
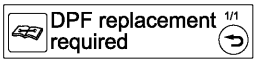
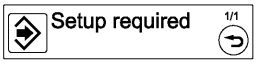
(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
23	 1DALF00251A01	Open Circuit detected on the Hydraulic Hitch Solenoid circuit.	Hydraulic Hitch will not work. The other functions of the machine are still operative.	Contact your local dealer.
24		Short Circuit detected on the Hydraulic Hitch Solenoid circuit.	Hydraulic Hitch will not work. The other functions of the machine are still operative.	Contact your local dealer.
25	 1DALF00253A01	AUX Knob may have a problem.	AUX System does not work. The other functions of the machine are still operative.	Contact your local dealer.
26	 1DALF00254A01	Open Circuit detected on the Right AUX Solenoid circuit.	AUX System will not work. The other functions of the machine are still operative.	Contact your local dealer.
27	 1DALF00255A01	Open Circuit detected on the Left AUX Solenoid circuit.	AUX System will not work. The other functions of the machine are still operative.	Contact your local dealer.
28	 1DALF00256A01	Anti-Stall solenoid may have a problem.	The machine will not move.	Contact your local dealer.
29	 1DALF00257A01	The supply voltage of the battery is too high. Wrong battery may be installed. When the engine is restarted and running without error, the problem is resolved.	The majority of systems fail. Immediately stop using the connected devices and disconnect the current battery.	When the engine is restarted and running with no-error, it means there is no problem. If the error is still detected, stop using the machine and contact your local dealer.
30	 1DALF00258A01	Sensor of 5 V Power Supply may be shorted.	Sensor of 5 V Power Supply may be shorted. The majority of the system may be inoperative. The engine may be able to start and the machine may be able to move, but do not work the machine.	Move the machine to a safe place and contact your local dealer.
31	 1DALF00259A01	Open circuit detected on the Self-Leveling solenoid circuit.	The Self-Leveling System may not work. The other functions of the machine are still operative.	Contact your local dealer.
32		Short circuit detected on the Self-Leveling solenoid circuit.	The Self-Leveling System may not work. The other functions of the machine are still operative.	Contact your local dealer.
33	 1DALF00263A01	Fan solenoid circuit may have a problem.	If the engine is running continuously,overheating may occur or the reverse fan may not operate normally.	Stop the engine immediately and contact your dealer.
34	 1DALF00264A01	Open circuit detected on the fan direction solenoid circuit.	If the engine is running continuously, overheating may occur or the reverse fan may not operate normally.	Stop the engine immediately and contact your dealer.
35		Short circuit detected on the fan direction solenoid circuit.	If the engine is running continuously, overheating may occur or the reverse fan may not operate normally.	Stop the engine immediately and contact your dealer.
36	 1DALF00265A01	Open circuit detected on main travel pressure sensor.	Both machine operation and traveling are possible, but machine performance may be reduced.	Contact your local dealer.

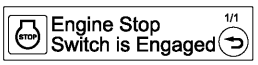
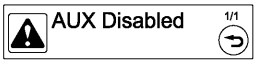
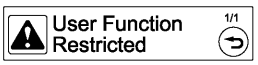
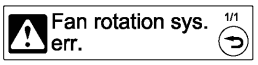
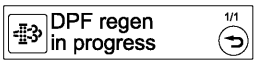
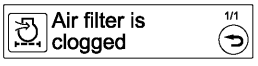
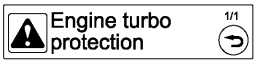
(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
37	 1DALF00265A01	Short circuit detected on main travel pressure sensor.	Both machine operation and traveling are possible, but machine performance may be reduced.	Contact your local dealer.
38		Data error detected on main travel pressure sensor.	Both machine operation and traveling are possible, but machine performance may be reduced.	Contact your local dealer.
39	 1DALF00267A01	Open circuit detected on travel pilot pressure sensor.	Both machine operation and traveling are possible, but machine performance may be reduced. In addition, the back-up alarm and the buzzer of the travel alarm function may not sound.	Contact your local dealer.
40		Short circuit detected on travel pilot pressure sensor.	Both machine operation and traveling are possible, but machine performance may be reduced. In addition, the back-up alarm and the buzzer of the travel alarm function may not sound.	Contact your local dealer.
41	 1DALF00269A01	DPF regeneration is required.	For low engine rpm, the machine cannot start DPF regeneration.	Increase the Engine RPM to start diesel-particulate-filter (DPF) regeneration. If the error still appears, contact your local dealer.
42	 1DALF00270A01	DPF Regeneration is required immediately.	For low engine rpm, the machine cannot start DPF regeneration. Engine Output is limited to prevent Engine Failure.	Increase the Engine RPM to start diesel-particulate-filter (DPF) regeneration. If the error still appears, contact your local dealer.
43	 1DALF00271A01	DPF Regeneration is in progress.	The exhaust gas temperature rises. Engine Output is limited to prevent Engine Failure.	-
44	 1DALF00393A01	The machine can not start DPF regeneration.	DPF must be repaired.	Contact your local dealer.
45	 1DALF00273A01	The machine can not start DPF regeneration.	DPF must be replaced.	Contact your local dealer.
46	 1DALF00274A01	DPF Regeneration is required.	DPF Regeneration is required, but unable to start regeneration because the inhibited switch is activated.	Move the machine to a safe place and make sure that the DPF inhibit switch lamp is *"OFF."* Increase the Engine RPM to start DPF Regeneration. If the error still appears, contact your local dealer.
47	 1DALF00275A01	DPF Regeneration is required immediately but the inhibit button is engaged.	DPF Regeneration is required, but unable to start regeneration because the inhibited switch is activated. If the machine is kept with Hydraulic Lock engaged, the engine will stop automatically. The engine output is limited.	Move the machine to a safe place and turn off the DPF inhibit switch to begin DPF regeneration. If the error still appears, contact your local dealer.
48	 1DALF00277A01	Engine Coolant Temperature is elevated.	-	Stop the Engine and check for debris in the cooling package. If the error still appears, contact your local dealer.

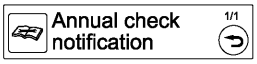
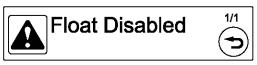
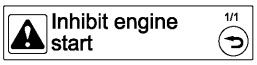
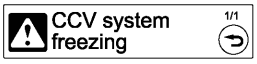
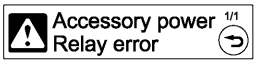
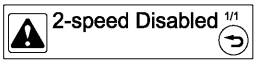
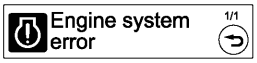
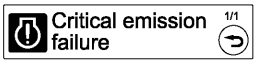
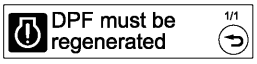
(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
49	 1DALF00278A01	Engine Coolant Temperature is extremely high and engine is overheated.	Engine RPM will be decreased to allow the engine to cool down. Do not stop the Engine.	After the cool down is completed, check the cooling package. If this error still appears, contact your local dealer.
50	 1DALF00279A01	The engine lubricating system oil pressure is too low.	The engine may get burnt out. Stop the Engine and check the Engine Oil Level.	If this error still appears, discontinue machine use and contact your local dealer.
51	 1DALF00280A01	The Charging System may have a problem. The battery is not charging.	The machine works until the battery goes dead.	Stop the Engine and check the engine belts and alternator performance.
52	 1DALF00281A01	Water may be mixed with fuel. There is a risk of serious Engine Damage.	Stop the Engine, check the Fuel Filter and drain any water from the water separator.	If this error still appears, contact your local dealer.
53	 1DALF00282A01	The Engine is Preheating. (Glow)	-	The Engine is Preheating. Wait until this message disappears, and then start the Engine.
54	 1DALF00397A01	Hydraulic oil temperature is too low.	While the hydraulic system is warming up, engine speed will be limited.	-
55	 1DALF00141B01	Periodic Maintenance is due. This message appears 10 hours before the periodic check interval. Please check the Periodic Check Screen to see the required maintenance. (See MAINTENANCE INTERVALS on page 149)	Start the engine as usual.	Contact your local dealer for supplies or to schedule maintenance. After replacement, this message will disappear once you reset the time of the relevant part from the Periodic Check Screen.
56	 1DALF00285A01	Periodic Maintenance is passed due. Please check the Periodic Check Screen to see the required maintenance. (See MAINTENANCE INTERVALS on page 149)	The engine can still start, but immediately ask your local Kubota dealer for replacement.	Contact your local dealer for supplies or to schedule maintenance. After replacement, this message will disappear once you reset the time of the relevant part from the Periodic Check Screen.
57	 1DALF00286A01	DPF cleaning is required soon.	Operate the machine as usual.	Contact your local dealer to have the DPF cleaned.
58	 1DALF00287A01	DPF reaching end of usable life, consider cleaning soon.	The engine can still start, but you must immediately contact your local Kubota dealer for cleaning.	Contact your local dealer for cleaning options.
59	 1DALF00288A01	Model Setup is required.	Functions may not work properly.	Complete the model setup.

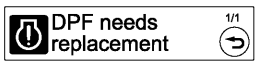
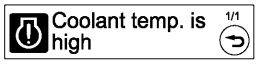
(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
60	 1DALF00289A01	The emergency engine stop button is pulled up.	The engine cannot be started when the engine stop switch is engaged.	Disengage the engine stop switch before starting engine.
61	 1DALF00291A01	AUX cannot be turned on while AUX knob is pushed.	AUX cannot be turned on.	Return the AUX knob to the neutral position.
62	 1DALF00292A01	User restricted function was executed.	User restricted function cannot be executed.	To use the relevant function, release the function restrictions. (See Setting the restriction of the touch operation on page 61)
63	 1DALF00293A01	Open circuit detected on the Unload Valve solenoid.	If the engine is running continuously, the machine may overheat or the reverse fan may not operate normally.	Stop the engine immediately and contact your dealer.
64		Short circuit detected on the Unload Valve solenoid.	If the engine is running continuously, the machine may overheat or the reverse fan may not operate normally.	Stop the engine immediately and contact your dealer.
65	 1DALF00294A01	AUX Hiflow mode was turned on when the AUX Hiflow mode cannot be turned on. • AUX Hiflow mode is on when the hydraulic oil temperature is low	AUX Hiflow mode cannot be turned on.	Clear the condition that prevents the AUX Hiflow mode from being turned on.
66	 1DALF00295A01	Attempted to operate the reverse fan in a condition where reverse fan cannot be performed. • Reverse fan operation when the hydraulic oil temperature is too high or too low. • Reverse fan operation when the coolant temperature is too high or too low. • When the reverse fan operation is continuously performed during DPF regeneration.	The reverse fan cannot be started.	Clear the not working condition of the reverse fan.
67	 1DALF00296A01	For the process of DPF regeneration, the exhaust gas temperature rises.	Normal operation is possible.	-
68	 1DALF00299A01	To protect the DPF, the engine stopped automatically.	The engine stopped automatically.	Start switch OFF position and restart the engine. Move the machine to a safe place immediately and rev up the engine rpm to start the DPF regeneration.
69	 1DALF00300A01	Air filter is clogged. It may cause the serious damage on the Engine.	-	Clean the air filter element.
70	 1DALF00301A01	The coolant temperature is too low.	During engine warm up, the engine RPM will be limited.	-

(Continued)

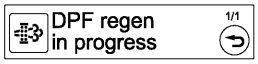
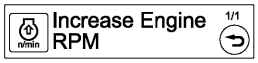
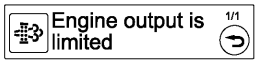
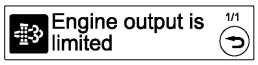
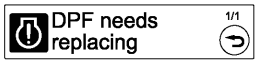
No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
71	 1DALF00302A01	Attempted to release the hydraulic lock in the condition where the hydraulic lock cannot be released.	The hydraulic lock cannot be released.	Fully sit down in seat then lower both the armrests.
72	 1DALF00303A01	The annual maintenance is required this month.	-	Contact your local dealer and perform the necessary Maintenance.
73	 1DALF00304A01	Float switch was turned in the condition where the float mode cannot be turned on. • Float mode is on when the hydraulic oil temperature is too low	Float mode cannot be turned on.	Release the hydraulic lock and warm up the engine
74	 1DALF00305A01	The engine cannot be started because it has been disabled by KubotaNOW.	The engine cannot be started.	The machine owner can re-enable the engine to start by using myKubota app. Once it has been re-enabled, please cycle the ignition key off and on then wait for 30 seconds before attempting to start. If this message still appears, contact your local dealer.
75	 1DALF00306A01	The engine has ran for a certain period of time with high crankcase pressure.	If you continue running the engine while this message appears, the engine performance will be limited.	Stop the engine and immediately contact your local dealer.
76	 1DALF00364A01	The Accessory power Relay is experiencing trouble. In low ambient temperature, the relay may be frozen.	The engine does not start.	Turn on and off the machine several times. If this message still appears, immediately contact your local dealer
77	 1DALF00365A01	Two speed travel operation is disabled until the hydraulic oil temperature increases to operating temperature.	Two speed travel operation is disabled.	Continue to operate the machine to allow it to warm up.
78	 1DALF00307A01	An error occurred in the engine system.	See ENGINE SYSTEM ERROR on page 203.	See ENGINE SYSTEM ERROR on page 203.
79	 1DALF00308A01	An error occurred in the exhaust system.	The engine output may be limited.	Contact your local dealer.
80	 1DALF00388A01	DPF Regeneration is required immediately.	The Engine Output is limited to prevent the Engine Failures.	-
81	 1DALF00389A01	DPF Regeneration is required immediately and must be performed by your local dealer.	The Engine Output is limited to prevent the Engine Failures.	Contact your local dealer.

(Continued)

No.	Message	Problem of failure (details)	Machine behavior (provisional measure)	Correction
82	 1DALF00390A01	DPF must be replaced.	Regeneration can no longer be performed.	Contact your local dealer.
83	 1DALF00391A01	The Coolant Temperature seems to be high.	-	Stop the Engine and check whether the Grill or Radiator is clogged.
84	 1DALF00406A01	Continuous operation of reversing fan during DPF regeneration is prohibited.	Operation of reversing fan is prohibited.	Please wait for the regeneration to complete.

AUTOMATIC DIESEL PARTICULATE FILTER (DPF) REGENERATION

Automatic regeneration is a normal maintenance activity that a machine performs automatically.
The diesel particulate filter (DPF) serves to trap particulate matters (PM) that are contained in exhaust gases and to automatically burn (DPF-regenerate) these matters. During the regeneration, buzzer sounds and warning lamp blinks and display shows messages.
The following is an explanation and required operator action.

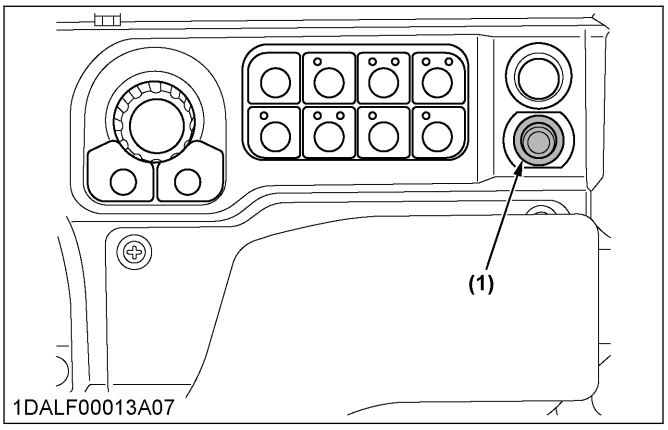
Warning lamp	Display	Meaning	Required operator action
 Blinking (yellow)	 1DALF00296A01	Auto regeneration starts. Continue operating the machine.	Operate the machine until the warning lamp stops blinking. Make sure that no people, animals, plants and flammable materials are within the immediate working area.
 Blinking (yellow)	 1DALF00269A01	When the message "Increase Engine RPM" appears on the display, increase Engine RPM until the message disappears.	Increase Engine RPM until the engine rev up indicator goes out. Auto regeneration starts. Operate the machine until the warning lamp stops blinking. Make sure that no people, animals, plants and flammable materials are within the immediate working area. (Refer to No. 41 in Navigation list of screens section)
 Blinking (yellow)	 1DALF00271A01	DPF Regeneration is in progress. Engine Output is limited to prevent Engine Failure.	Keep Engine RPM elevated until regeneration process is complete. Make sure that no people, animals, plants and flammable materials are within the immediate working area.
 Blinking (red)	 1DALF00270A01	DPF Regeneration is required immediately. Engine Output is limited to prevent Engine Failure. When the hydraulic system is locked, the engine will stop after 60 seconds in order to protect DPF. When the hydraulic system is unlocked, the engine will not stop while the engine output is limited.	Increase the Engine RPM until the engine rev up indicator goes out. Auto regeneration starts. Make sure that no people, animals, plants and flammable materials are within the immediate working area. (Refer to No. 42 in Navigation list of screens section) If the error still appears, contact your local dealer.
 Blinking (red)	 1DALF00299A02	To protect the DPF, the engine stopped automatically.	Restart the engine and raise its speed until the machine starts DPF regeneration. Unless the auto regeneration starts, consult your local Kubota dealer.
 Blinking (red)	 1DALF00393A02	DPF must be repaired. To protect the DPF, the engine output is limited. When the hydraulic system is locked, the engine will stop after 60 seconds in order to protect DPF. When the hydraulic system is unlocked, the engine will not stop while the engine output is limited.	Immediately contact your local Kubota dealer. (Refer to No. 44 in Navigation list of screens section)
 Blinking (red)	 1DALF00273A01	Exchange the DPF. To protect the DPF, the engine output is limited.	Immediately contact your local Kubota dealer. (Refer to No. 45 in Navigation list of screens section)

NOTE :

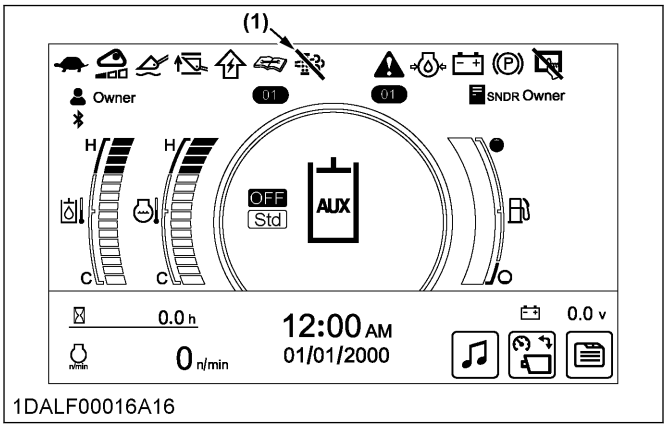
- **Stopping the engine or pressing the inhibit switch during the automatic regeneration cycle stops the automatic regeneration process.**
  After restarting the engine, automatic regeneration starts.

LOCKING AND RELEASING THE DIESEL PARTICULATE FILTER (DPF) REGENERATION

1. Press the inhibit switch (1).
   The automatic DPF regeneration is locked and the inhibit lamp on the display lights up.

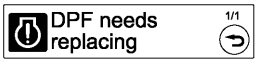


(1) Inhibit switch



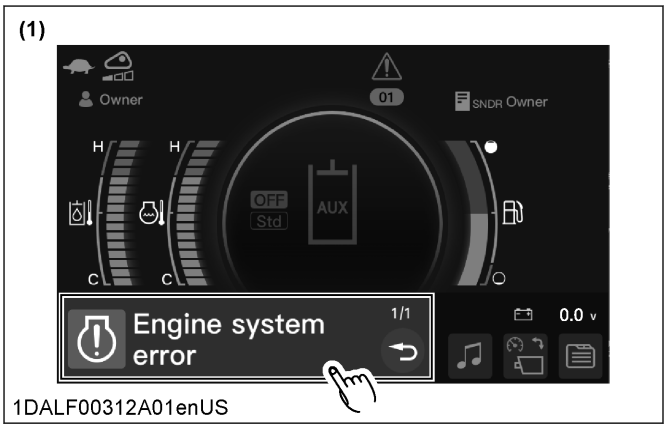
(1) Inhibit lamp

2. Take the appropriate action based on the following table.

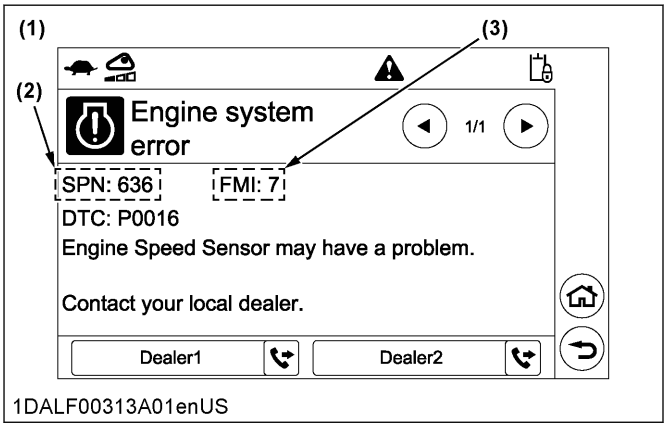
Inhibit lamp	Warning lamp	Display	Meaning	Required operator action
Lights up (yellow)	Unlit	–	• Auto regeneration process is locked. • The state is before requirement of regeneration. • When inhibit switch turns into blinking, it requires regeneration.	• Operate the machine as usual.
Blinking (yellow)	Blinking (yellow)	 1DALF00274A01	• Auto regeneration process is locked. • Operator needs preparation of DPF regeneration.	• Move the machine to a safe place and turn off the DPF inhibit switch. • Increase the Engine RPM until the machine starts DPF regeneration. • Make sure that no people, animals, plants and flammable materials are within the immediate working area. (Refer to No. 46 in Navigation list of screens section)
Blinking (yellow)	Blinking (red)	 1DALF00275A01  1DALF00299A02	• Auto regeneration process is locked. • Operator needs to prepare for DPF regeneration immediately. • To protect the DPF, engine output is limited. When the hydraulic system is locked, the engine will stop after 60 seconds in order to protect DPF. • When the hydraulic system is unlocked, the engine will not stop while the engine output is limited.	• Move the machine to a safe place and turn off the DPF inhibit switch. • Increase the Engine RPM until the machine starts DPF regeneration. • Make sure that no people, animals, plants and flammable materials are within the immediate working area. (Refer to No. 47 and 68 in Navigation list of screens section)
Blinking (yellow)	Blinking (red)	 1DALF00407A01  1DALF00299A02	• DPF must be repaired. • To protect the DPF, engine output is limited. • When the hydraulic system is locked, the engine will stop after 60 seconds in order to protect DPF. • When the hydraulic system is unlocked, the engine will not stop while the engine output is limited.	Immediately contact your local Kubota dealer. (Refer to No. 44 and 68 in Navigation list of screens section)
Blinking (yellow)	Blinking (red)	 1DALF00273A01	• DPF must be exchanged. • To protect the DPF, engine output is limited.	Immediately contact your local Kubota dealer. (Refer to No. 45 in Navigation list of screens section)

ENGINE SYSTEM ERROR

Engine system errors are managed by codes called SPN and FMI.
SPN and FMI are listed at the top of the error detaisl screen, so look for the error in the engine error list table based on the above two codes. (See Engine error list on page 203)
If "`Engine system error`" pops up as shown in the following screen, touch the pop-up or select using the jog dial to display the error detail screen in the following screen.



(1) Home screen



(1) Error details screen
(2) SPN
(3) FMI

1. Engine error list

◎ : Sure to happen
○ : May happen

SPN	FMI	Problem of failure	Engine performance			Provisional measure and correction
			Acceleration limited	Engine output limited	Engine stopped	
636	7	Engine Speed Sensor System	-	-	-	Immediately contact your local dealer.
636	8		○	○		
636	2					
723	8		-	-		
723	2					

(Continued)

SPN	FMI	Problem of failure	Engine performance			Provisional measure and correction
			Acceleration limited	Engine output limited	Engine stopped	
190	0	Engine Speed Sensor System	○	○	-	Immediately contact your local dealer.
157	4	Engine Fuel/Rail Pressure Sensor System	◎	◎	◎	Immediately contact your local dealer.
157	3					
1347	4	Engine Suction Control Valve (SCV) System	◎	◎	-	Immediately contact your local dealer.
1347	3					
172	4	Engine Intake Temperature Sensor System	-	-	-	Immediately contact your local dealer.
172	3					
110	4	Engine Coolant Temperature Sensor System	◎	◎	-	Immediately contact your local dealer.
110	3					
174	4	Engine Fuel Temperature Sensor System	-	-	-	Immediately contact your local dealer.
174	3					
523535	0	Engine Injector System	◎	◎	○	Immediately contact your local dealer.
651	3					
653	3					
654	3					
652	3					
523525	1					
523523	2					
523523	4					
523524	4					
523523	3					
523524	3					
523524	2					
102	4	Engine Intake Pressure Sensor System	-	○	-	Immediately contact your local dealer.
102	3					
168	4	Battery Voltage System	◎	◎	○	Immediately contact your local dealer.
168	3					
3509	4	Sensor Voltage System	◎	◎	○	Immediately contact your local dealer.
3509	3					
3510	4					
3510	3					
1485	2	Main Relay System	-	-	-	Immediately contact your local dealer.
108	4	Engine Atmospheric Pressure Sensor System	-	○	-	Immediately contact your local dealer.
108	3					
523572	4	Engine EGR Valve System	-	◎	-	Immediately contact your local dealer.
523574	3					
523574	4					
523575	7					
523576	2					
523577	2					
523578	2					

(Continued)

SPN	FMI	Problem of failure	Engine performance			Provisional measure and correction
			Acceleration limited	Engine output limited	Engine stopped	
110	0	Engine overheat warning and Emission level caution	-	◎	-	For correction, see Coolant temperature gauge on page 36. If the message "Engine system error" still appears, immediately contact your local dealer.
523538	2	Engine ECU System	○	○	○	Immediately contact your local dealer.
523538	7					
628	2					
1077	2					
523527	2					
523543	2					
523604	2	Engine Communication System	○	○	-	Immediately contact your local dealer.
523547	2					
523548	2					
523591	2					
523592	2					
523580	2	Engine Intake Throttle	-	-	-	Immediately contact your local dealer.
523582	3					
523582	4					
3251	3	Engine Differential Pressure Sensor System	-	-	-	Immediately contact your local dealer.
3251	4					
4765	3	Engine Exhaust Gas Temperature Sensor (DOC Inlet side)	-	-	-	Immediately contact your local dealer.
4765	4					
3242	3	Engine Exhaust Gas Temperature Sensor (DOC Outlet side)	-	-	-	Immediately contact your local dealer.
3242	4					
3246	3	The Engine Exhaust Gas Temperature Sensor (DPF Outlet side)	-	-	-	Immediately contact your local dealer.
3246	4					
523599	0	All of Engine Exhaust Gas Temperature Sensor	-	-	-	Immediately contact your local dealer.
3252	0	DOC Reaction System	◎	◎	-	Immediately contact your local dealer.
523590	16	DPF Regeneration has timed out.	-	-	-	Immediately contact your local dealer.
523589	17	The Coolant Temperature is too low to perform the DPF Regeneration.	-	-	-	Immediately contact your local dealer.
523602	0	Frequency of DPF Regeneration is too much.	-	◎	-	Immediately contact your local dealer.
633	7	Engine Fuel System (Pressure Limit Valve)	◎	◎	-	Immediately contact your local dealer.
157	0	Engine Fuel System (Rail Pressure)	◎	◎	-	Immediately contact your local dealer.
1239	1	Engine Fuel System (Fuel Leakage)	◎	◎	-	Immediately contact your local dealer.
1347	7	Engine Fuel System (SCV)	◎	◎	-	Immediately contact your local dealer.
523539	2	Engine Fuel System (Supply Pump)	◎	◎	-	Immediately contact your local dealer.
523540	2					

(Continued)

SPN	FMI	Problem of failure	Engine performance			Provisional measure and correction
			Acceleration limited	Engine output limited	Engine stopped	
132	15	Engine Air Intake System (Insufficient Boost Pressure)	◎	◎	-	Immediately contact your local dealer.
4765	0	The Engine Exhaust Gas Temperature is too high (DOC Inlet side).	-	-	◎	Check the fuel level and see if the fuel filter is clogged. Check to see if any air-intake hose is disconnected and if the air-cleaner-element is clogged. If the message "Engine system error" still appears, immediately contact your local dealer.
3242	0	The Engine Exhaust Gas Temperature is too high (DOC Outlet side).	-	-	◎	Check the fuel level and see if the fuel filter is clogged. Check to see if any air-intake hose is disconnected and if the air-cleaner-element is clogged. If the message "Engine system error" still appears, immediately contact your local dealer.
3246	0	The Engine Exhaust Gas Temperature is too high (DPF Outlet side).	-	-	◎	Check the fuel level and see if the fuel filter is clogged. Check to see if any air-intake hose is disconnected and if the air-cleaner-element is clogged. If the message "Engine system error" still appears, immediately contact your local dealer.
523601	0	Engine Starter Relay may have a problem.	-	-	◎	The starter is limited for its activation in response to any other error
172	0	Engine Intake Air Temperature is too high.	-	-	-	Immediately contact your local dealer.
523700	13	Engine System	-	-	-	Immediately contact your local dealer.
523600	0	Engine System	-	-	-	Immediately contact your local dealer.
411	4	Engine Differential Pressure Sensor System	-	○	○	Immediately contact your local dealer. This error is determined after the engine is warmed up.
411	3					
523634	2	Engine ECU System	-	○	-	Immediately contact your local dealer.
523635	2					
523636	2					
168	1	Battery Voltage System	-	-	◎	Immediately contact your local dealer.

COLD WEATHER

PREPARATION FOR OPERATION OF THE MACHINE IN COLD WEATHER

- Replace the engine oil and hydraulic oil with those of viscosity suitable for cold weather.
- In cold weather, the battery power drops, and the battery fluid may freeze if the battery is not sufficiently charged. To prevent the battery fluid from freezing, keep the battery charged at least 80 % or more of its capacity after operation of the machine.
  To ease next start of the machine, it is recommended to keep the battery stored in closed or heated rooms.
- Add antifreeze to coolant in the radiator and coolant-recovery tank, if the ambient temperature is expected to drop as follows.

Ambient temperature	below 0 ℃ (32 ℉)

  Mixing ratio of water and antifreeze depends on the expected ambient temperature.
  When mixing, stir antifreeze up well, and then fill it into the radiator.

Mixing ratio between water and antifreeze

Ambient temperature	℃ (℉)	-5 (+23)	-10 (+14)	-15 (+5)	-20 (-4)	-25 (-13)	-30 (-22)	-35 (-31)
Antifreeze	%	30	30	30	35	40	45	50
Water	%	70	70	70	65	60	55	50

IMPORTANT :

- **Use permanent antifreeze or long-life coolant.**
- **Drain the coolant completely and clean the inside of the radiator, then fill with the water and antifreeze mixture.**
- **The antifreeze acts as an anti-corrosive, it is not necessary to add an additive to the water and antifreeze mixture.**
- **See Checking the coolant level on page 158 for radiator fill volumes.**
- **See STARTING THE ENGINE UNDER COLD CONDITIONS on page 118.**

STORING THE MACHINE AFTER COMPLETION OF WORK IN COLD WEATHER

1. Clean the machine thoroughly after work, and wipe dry.
   Otherwise mud and earth on the tracks could freeze if the ambient temperature drops as follows. Operation of the machine is then not possible.

Ambient temperature	below 0 ℃ (32 ℉)

2. Store the machine in a dry place. If you can not store the machine in a dry place, store it on wooden planks or on mats.
   If the machine is kept on damp or muddy ground, the tracks could freeze overnight. Operation of the machine is then not possible. Furthermore the reduction gear may be damaged.
3. Additionally, rub the piston rods of the hydraulic cylinders to dry them.
   Otherwise severe damage could occur to the piston rods of the hydraulic cylinders if dirty water seeps through the seals.

LONG STORAGE

⚠ WARNING

To avoid personal injury or death:

- **Do not clean the machine with the engine running.**
- **To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building or any areas without proper ventilation.**
- **Bring the machine on a firm, flat, and level surface. Lower the lift arms on the ground.**

STORING THE MACHINE FOR A LONG PERIOD OF TIME

If the machine will be stored for a long period of time, follow the following procedures.

1. Clean the whole machine thoroughly and in all cases store it indoors.
   If you have to keep the machine outdoors, follow the following procedure.
   a. Lay out wooden planks on even ground.
   b. Place the machine on the planks.
   c. Cover the machine completely.
2. Change the oil and grease the machine.
3. Heavily grease the visible section of the cylinder rods.
4. Remove the battery and store it indoors.
5. If it is expected that the ambient temperature will drop as follows, add the antifreeze or drain coolant completely.

Ambient temperature	below 0 ℃ (32 ℉)

IMPORTANT :

- **Wash the machine after stopping the engine.**
  If you wash the machine while running the engine, splashing water gets into the air cleaner through its intake and cause engine damage.
  Carefully, wash and do not splash water over the air cleaner while the engine is running.

OPERATING THE MACHINE AFTER STORING FOR A LONG PERIOD OF TIME

Follow the following procedures when operating the machine storing for a long period of time.

1. Wipe off the grease from the hydraulic cylinder rods.
2. Turn on the engine, and operate the attachments and the drive mechanisms under no load in order to circulate the hydraulic oil.

If the machine is stored for longer than one month, perform steps 1. and 2. once every month.

1. Periodic replacement of important component parts

To ensure safety in operation, inspect and service the machine at regular intervals. For added safety, ask your KUBOTA dealer to replace the following important component parts.
The following important component parts are prone to degradation in material or subject to wear and tear with time. It is difficult to judge how much they have been affected at regular inspection. It is therefore necessary to replace the following component parts with new ones, whether wear is visible or not after a specified time of use.
If any parts are found worn even before the specified use, repair or replace them in the same way as other parts.
If any of the hose clamps is found deformed or cracked, also replace the hose clamp.
For the hydraulic hoses other than the ones to be replaced periodically, inspect them for the following points. If needed, tighten them up or replace them.
When replacing the hydraulic hoses, change their O rings and sealings with new ones.
For replacement of the important parts, contact your KUBOTA dealer.

NOTE :

- **At the following periodic inspections, check the fuel hoses and hydraulic hoses as well.**

Inspection Interval	Check points
Daily Checks	Oil leak at the fuel and hydraulic hose connections and points
Every month	Oil leak at the fuel and hydraulic hose connections and points Damages at the fuel and the hydraulic hose (cracks, chafing)
Every year	Oil leak at the fuel and hydraulic hose connections and points Interference, deformation, degradation, twist, and other damages (cracks, chafing) of the fuel and hydraulic hoses

List of important component parts

No.	Component parts	Period
1	Fuel hose	Every 2 years or 4000 hours
2	Hydraulic hose	
3	Radiator hose	
4	CCV rubber piping	
5	DPF differential pressure sensor rubber piping (front and back)	
6	EGR differential pressure sensor rubber piping (front and back)	
7	Suction hoses upstream and downstream the turbocharger	
8	Boost sensor pressure rubber piping	
9	Intake air line	

To prevent serious damage to the hydraulic system, use only a KUBOTA genuine hydraulic hose.

IMPORTANT :

- **When the biennial operating hours are below 4000 hours, change the important component parts every 2 years.**

RECOMMENDED OILS

RECOMMENDED OILS, GREASES, AND FUELS

IMPORTANT :

- **At the time of shipment, Idemitsu Daphne Super Hydro 46ST is used for the hydraulic oil.**
- **Use the engine oil API service classification CJ-4 or CK-4.**
- **Use SAE 90 (API, GL-4, GL-5) as the travel motor gear oil for all seasons.**

	Application	Viscosity	KTC*1 recommends	Shell	ExxonMobil
Gear oil	All-weather gear oil	SAE 90	Excavator Gear Oil 90	Shell Spirax HD80W-90	Mobilize HD Plus 80W-90
Hydraulic oil			Kubota Hydraulic Fluid 46HD		
Grease				Shell Alvania EP2	Mobilux EP2
Fuel				Diesel Fuel No.2-D S15	
Fuel under -5 ℃ (23 ℉)				Diesel Fuel No.1-D S15	

*1 KTC is an abbreviation for Kubota Tractor Corporation.

	Application	Viscosity	KCL*1 recommends	Shell	Esso
Gear oil	All-weather gear oil	SAE 90		Shell Spirax HD75W-90	Mobilube HD 80W-90
Hydraulic oil			Kubota Hydraulic Fluid 46HD		
Grease				Shell Alvania EP2	Mobilux EP2
Fuel				Diesel Fuel No.2-D S15	
Fuel under -5 ℃ (23 ℉)				Diesel Fuel No.1-D S15	

*1 KCL is an abbreviation for Kubota Canada Ltd.

NOTE :

- **Engine oil**
  - **Use the engine oil of suitable American-petroleum-institute (API) service classification and with proper SAE Engine oil standards according to the ambient temperatures.**

Above 25 ℃ (77 ℉)	SAE 30 or SAE 10W-30, SAE 15W-40
0 ℃ to 25 ℃ (32 ℉ to 77 ℉)	SAE 20 or SAE 10W-30, SAE 15W-40
Below 0 ℃ (32 ℉)	SAE 10W or SAE 10W-30

  - **See the following table for the suitable API classification engine oil and the fuel.**

Fuel used	Engine oil classification (API classification)
	Oil class of engines with DPF
Ultra Low Sulfur Fuel [＜ 0.0015 % (15 ppm)]	CJ-4 or CK-4

- **Fuel**
  - **Use the ultra low sulfur diesel fuel only for these engines.**

Ultra low sulfur diesel fuel	Below 0.0015 % (15 ppm)

  - **Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for the following temperatures or elevations.**

Temperatures	Below -20 ℃ (-4 ℉)
Elevations	Above 1500 m (5000 ft)

  - **– Diesel fuels that are specified to EN 590 or ASTM D975 are recommended.**
  - **– No. 2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service (SAE J313 JUN87).**
- **Indicated capacities of water and oil are manufacture's estimate.**

IMPORTANT :

- **If you use different fuel or engine oil, the cleaning efficiency of the DPF (8000 hours or service as required) will be reduced and the DPF longevity will be shorter than expected.**
- **Filters must trap fuel and lubricant sulfate additives (Zn, Pb, Na, K, Ca, Mg, Cu, Ba, P, etc.) as ash during combustion.**
  You must control the fuel carefully to prevent the additives being mixed into fuel such as the fuel tank anti-oxidants, the water remover, the antifreeze, and so on.

BIODIESEL FUEL (BDF)

B0-B20 Biodiesel fuels (BDF): mixed diesel fuels containing 20% or less biodiesel can be utilized under the following conditions.

IMPORTANT :

- **Refueling and handling fuel should be done with caution in order to avoid contact with the fuel and spillage that could create a potential environmental or fire hazard. Wear appropriate protective equipment when refueling.**

Applicable BDF:

1. Blended diesel fuels containing 6% thru 20% BDF (B6 - B20) which comply with American Society for Testing and Materials (ASTM) D7467 Standard, as revised, can be used without adversely affecting the performance and durability of the engine and fuel system components.
2. Any mineral oil diesel fuel, if used, must conform to ASTM D975 (or the European EN590) Standard, as revised. B100 fuel used to make Biodiesel blended fuels must meet ASTM D6751 (or EN14214) Standard, as revised. The final blended fuel B20 must conform to ASTM D7467 Standard, as revised. Straight vegetable oil is NOT allowed in any blended fuel.
3. Allowable blended fuel is mineral oil diesel fuel blended with B100 (i.e. 100% BDF). The blended fuel ratio shall be less than 20% B100 and 80% or more diesel fuel. The B100 source used for Biodiesel blends must be purchased from an accredited BQ-9000 marketer or producer. More information about qualified marketer(s) and producer(s) can be found at http:// www.bq-9000.org .

Preparation:

1. Before using BDF concentrations greater than B5, you are advised to replace the engine oil, engine oil filter and fuel filter with new oil and filters. For replacement procedures, refer to the "MAINTENANCE" section.

Product Warranty, Emission and Other Precautions:

1. The engine emission control system was certified according to current regulations based on the use of non-BDF. When using BDF, the owner is advised to check applicable local and federal emission regulations and comply with all of them.
2. BDF may cause restricted or clogged fuel filters during cold weather conditions, resulting in the engine not operating properly.
3. BDF encourages the growth of microorganisms which may cause degradation of the fuel. This in turn may cause fuel line corrosion or reduce fuel filter flow earlier than expected.
4. BDF inherently absorbs moisture which may cause degradation of the fuel earlier than expected. To avoid this, drain the water separator and fuel filter port often.
5. Do not use Biodiesel concentrations higher than 20% (i.e. greater than B20). Engine performance and fuel consumption will be affected, and degradation of the fuel system components may occur.
6. Do not readjust the engine fuel control system as this will violate emission control levels for which the equipment was approved.
7. Compared with soybean-based and rapeseed-based feedstock, palm oil-based feedstock has a thicker consistency (i.e. higher viscosity) at lower temperatures. Consequently, fuel filter performance may be reduced, particularly during cold weather conditions.
8. The Kubota Warranty, as specified in the Owner's Warranty Information Guide, only covers defects in product materials and workmanship. Accordingly, any problems that may arise due to the use of poor quality fuels that fail to meet the above requirements, whether biodiesel or mineral oil based, are not covered by the Kubota Warranty.

Routine handling:

1. Avoid spilling BDF onto painted surfaces as this may damage the finish. If fuel is spilled immediately wipe clean and flush with soapy water to avoid permanent damage.
2. When using BDF, you are advised to maintain a full tank of fuel, especially overnight and during short term storage, to reduce condensation within the tank. Be sure to tighten the fuel cap after refueling to prevent moisture build up within the tank. Water in the Biodiesel mixture will damage fuel filters and may damage engine components.

Maintenance Requirements when using BDF B0 thru B5:

Follow the oil change intervals recommended by referring to the "MAINTENANCE" section. Extended oil change intervals may result in premature wear or engine damage.

Maintenance Requirements when using BDF B6 thru B20:

The maintenance interval for fuel related parts changes.
See the table below for the new maintenance interval.

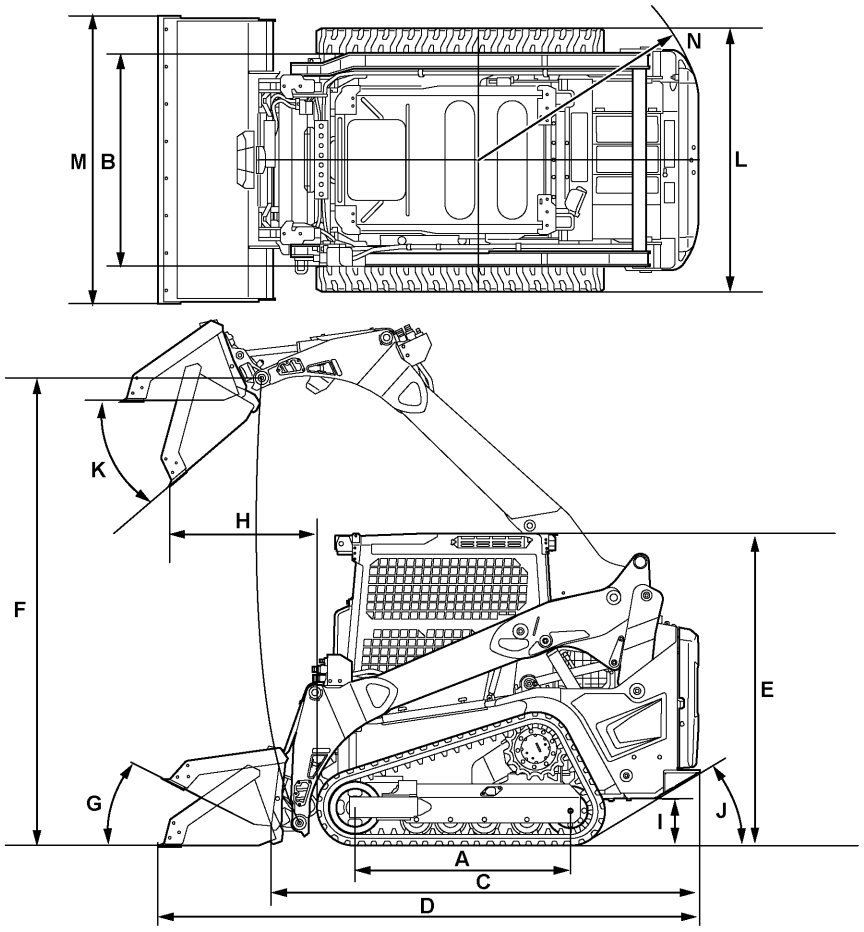
Items		Interval	Remarks
Water separator filter element	Replace	Every 250 hrs	
Fuel filter cartridge	Replace	Every 250 hrs	
Fuel line	Check	Every 125 hrs	
	Replace	Every 1 year	Consult your local KUBOTA Dealer for this service.

Long Term Storage:

1. BDF easily deteriorates due to oxygen, water, heat and foreign substances. Do not store B6 thru B20 longer than 1 month and B5 longer than 3 months.
2. When using B6 thru B20 and storing the machine longer than 1 month, drain the fuel from the tanks and replace with light mineral oil diesel fuel. Subsequently, run the engine at least 30 minutes to remove all of the Biodiesel from the fuel lines.
3. When using B5 fuel and storing machine longer than 3 months, drain the fuel from the tanks and replace with light mineral oil diesel fuel. Subsequently, run the engine at least 30 minutes to remove all of the Biodiesel from the fuel lines.

APPENDICES

MAIN DIMENSIONS OF THE MACHINE



1DALF00129A01

Model		SVL75-3
A	Length of track on ground	1436 mm (56.5 in.)
B	Track gauge	1355 mm (53.3 in.)
C	Length w/o bucket	2844 mm (112.0 in.)
D	Length w/bucket on ground	3609 mm (142.1 in.)
E	Height to top of cab	2078 mm (81.8 in.)
F	Bucket hinge pin height at max. lift	3117 mm (122.7 in.)
G	Rollback angle at carry position	27 degree
H	Reach at max. lift and dump	1007 mm (39.6 in.)

(Continued)

Model		SVL75-3
I	Ground clearance	296 mm (11.7 in.)
J	Departure angle	31.1 degree
K	Max. dump angle	38.5 degree
L	Vehicle width	1675 mm (65.9 in.)
M	Width with bucket	1727 mm (68.0 in.)
N	Turning radius from center-machine rear	1468 mm (57.8 in.)

NOTE :

- **Dimensions are based on the machine with Kubota standard bucket.**

Bucket size	1727 mm (68 in.) No teeth, side cutter nor bolt-on cutting edge

- **Dimensions are based on the machine with Kubota standard rubber track.**

Track width	320 mm (12.6 in.)

- **Specifications are subject to change without notice.**

SOFTWARE INFORMATION

- This product includes *“Open Source Software”* (OSS). The OSS license and source code is available at the following URL: https://www.kubota.com/products/opensource/index.html
- You must comply with the terms and conditions of each license.
- If you purchase this product, you may obtain, copy, modify and distribute the applicable source code under the OSS licenses.

Disclaimer

This product includes *“Open Source Software”*, which is provided *“as is”* and Kubota shall not be liable for any damages arising out of this software and its use or the inability to use it.

INDEX

A

advanced multifunction valve....130
air cleaner element
checking....166
cleaning....167
replacing....172
air conditioner
adjusting the air flow....111
air conditioner switch....113
operating....113
air control vent....111
air-conditioner belt [closed cab model]
checking and adjusting tension....171
air-conditioner condenser
checking....164
opening....153
air-conditioner drain
checking....176
air-conditioner hoses
checking....179
replacing....182
air-conditioner pipes
checking....179
replacing....182
alternator
checking....178
AM mode
operation....84
AM/PM or 24-hour
selecting....51
AMV....130
antifrost heater....179
armrest....107,122
attachment control device (option)
operating....129
audio
switching the power supply....83
audio screen....82
audio source
switching....93
audio volume
adjustment....91
automatic diesel particulate filter (DPF) regeneration....200
AUX electrical control switch (option)....102
AUX hold switch....101
AUX port switch....100
AUX port switch [High-Flow model only]....100
AUX port variable switch....101
auxiliary hydraulic control....128
operating....128

B

back-up alarm
checking....107
battery charge warning indicator....39
battery condition....163
battery voltmeter....37
BDF (biodiesel fuel)....212
beacon light switch....103
biodiesel fuel (BDF)....212
blower switch....113
operating....113
bluetooth microphone....135
Bluetooth mode
operation....87
boost sensor
checking....179
boost sensor pressure rubber piping
replacing....183
bucket....126
bucket-floating indicator....38

C

cab
tilting up....154
cab door [closed cab model]
closing....114
opening....114
call control
Bluetooth-connected cell phone....90
camera mode
rearview....81
catalyst-containing diesel-particulate-filter (DPF) device....109
catalyst-containing DPF (diesel-particulate-filter) device....109
caution while traveling....138
CCV heater....179
CCV internal pressure switch
checking....179
CCV rubber piping
replacing....182
checkpoints after starting the engine....118
clamps
checking....169
clock
setting....49
closed cab model
air-conditioner belt....171
cab door....114
side cab window....116
wiper/washer switch....114
control panel....113
operating....113

control pedals....106
coolant level
checking....158
coolant rubber piping
replacing....182
coolant temperature gauge....36
checking....36
crystalline silica (quartz) dust
avoiding....10

D

daily check item
before starting the machine....157
dealer
making a call....80
setting dealer name....75
setting phone number....77
dealer service....25
diesel particulate filter (DPF)
cleaning....178
diesel particulate filter (DPF) differential pressure sensor
checking for gas leak....179
diesel particulate filter (DPF) exhaust gas temperature sensor
checking....179
diesel particulate filter (DPF) muffler
checking condition....179
diesel particulate filter (DPF) piping
checking for gas leak....179
diesel particulate filter (DPF) regeneration
locking....201
releasing....201
diesel-particulate-filter (DPF) differential pressure sensor rubber piping (front and back)
replacing....183
diesel-particulate-filter (DPF) muffler
checking....162
diesel-particulate-filter (DPF) regeneration indicator...40
display brightness
setting....53
display language
setting....52
DPF (diesel particulate filter) differential pressure sensor
checking for gas leak....179
DPF (diesel particulate filter) exhaust gas temperature sensor
checking....179
DPF (diesel particulate filter) muffler
checking condition....179
DPF (diesel particulate filter) piping
checking for gas leak....179
DPF (diesel-particulate-filter) differential pressure sensor rubber piping (front and back)
replacing....183
DPF (diesel-particulate-filter) muffler
checking....162
DPF (diesel-particulate-filter) regeneration indicator...40
driving....122

E

EGR cooler
checking....178
EGR cooler hose
replacing....183
EGR differential pressure sensor rubber piping (front and back)
replacing....183
EGR piping
checking for gas leak....179
EGR system
checking....178
electrical outelt....96
electrical outlet....105
electrical wiring
checking and cleaning....161
emergency engine stop button....104
emergency exit....107
engine
checking and cleaning....161
error list....203
operation....116
starting....117
starting under cold conditions....118
starting with auxiliary battery....119
stopping....119
system error....203
engine oil
changing....172
engine oil filter cartridge
replacing....173
engine oil level
checking....159
engine oil pressure indicator....39
engine rev up indicator....40
engine speed
adjusting....118
engine tachometer....37
engine valve clearance
adjusting....177
error messages....47
evacuator valve
checking....162
cleaning....168
exhaust manifold
checking....179

F

fan motor cover
opening....154
FCC Statement....136

fill level monitor
refuelling....35
float switch....100
FM mode
Operation....86
fresh air filter
cleaning....168
front window roller [closed cab model only]
cleaning....175
replacing....178
fuel filter cartridge
replacing....174
fuel gauge indicator....34
fuel hose
replacing....182
fuel level
check....158
fuel line
checking....170
fuel system
purging....183
fuel tank
draining the water....165
fuel tank breather
replacing....178
fuel tank cap
cleaning....165
function restriction
setting....69
fuse....187
replacing....187
fuse capacities....187
fuse circuits....187

G

glow plug indicator....38

H

hands-free phone
impact of Bluetooth....135
High-Flow model
AUX port switch....100
home switch....34
horn switch....98
hour meter....37
hydraulic breather filter
replacing....175
hydraulic hose
replacing....180
hydraulic oil
changing....176
checking with hydraulic hammers....177
hydraulic oil filter
replacing....175
hydraulic oil level
checking....159
hydraulic oil temperature gauge....37
hydraulic quick-hitch....133
hydraulic quick-hitch model only
hydraulic quick-hitch switch....102
hydraulic quick-hitch switch [hydraulic quick-hitch model only]....102
hydraulic tank
suction filter and return filter....176
hydraulic unlock switch....98

I

important component parts
periodic replacement....208
important information on machine operation....138
indicator
self leveling....38
indicator light....113
operating....113
inhibit diesel particulate filter (DPF) regeneration switch
....99
injector tip
checking....178
instrument panel....31
intake air line
checking....170
checking for air leaks....179
replacing....182
interior lamp....114
ISED Canada Statement....137

J

jog dial
handling....34

L

levers....106
lift arm
lowering....108
lift arm stopper....125
lift arms
operating....124
lifting the machine....141
loading on a transport vehicle....144
log record....46
low fuel warning indicator....35
lubrication point....160

M

machine lockout
setting....55
machine lockout function....56
machine parts....29
main dimensions of the machine....214
main frame
cleaning inside....171
discharging mud....157

maintenance
checking items....11
preparing.... 11
maintenance interval
changing....46
maintenance intervals.... 149
master warning indicator.... 39
mechanical quick-hitch....131
memo
procedure for entering....94
Memo screen
Switch....93

O

oil cooler
checking....160
OPC function....107
operating the machine
after storing for a long period of time.... 208
operation of the machine in cold weather
preparation....207
operator cab
discharging mud....156
operator's manual
where to keep....154
operator's seat
adjusting....120
option
attachment control device.... 129
AUX electrical control switch....102

P

parking brake switch.... 97
parking brake warning indicator.... 38
parking on an incline.... 139
parking the machine.... 11
periodic check.... 43
periodic check item.... 44
pivot turn.... 123
plastic parts
cleaning....184
pre-cleaner
checking....162
precaution
CCV system freezing warning lamp [closed cab model].... 40
checking the battery condition....163
checking the V-belt....161
checking the washer liquid....163
FOPS.... 8
general.... 7
operating the machine....8
ROPS....8
safely loading the machine....11
safely transporting the machine.... 11
safety for children....10
traveling in high speed.... 138
traveling on inclines....139
use of machine near water....138
washing whole machine....161
prevention of slippage of rubber tracks.... 140
prohibited actions.... 140

R

radiator
checking....160
radiator coolant
changing....180
radiator hoses
checking....169
replacing....182
rear door....152
rear upper cover
opening.... 152
rear window
emergency exit....107
rearview camera
setting....59
rearview camera image position
setting....61
recirculation air filter
cleaning....169
recommended fuel.... 210
recommended grease.... 210
recommended oil....210
refrigerant gas
checking....183
regeneration of diesel-particulate-filter (DPF).... 109
regeneration of DPF (diesel-particulate-filter).... 109
relief valve
checking....180
restriction
setting....61
restriction of the touch operation
setting....62
return filter
changing....175
suction and return filter....176
return switch....34
reverse fan
checking....164
reversing fan
setting....57
reversing fan switch (option).... 103
running-in of the machine....120

S

safety label....17
care....23
scrapping....26
screen list
navigation screen....192
seat belt....121
seat switch.... 99

self leveling switch..... 103
service hour meter..... 45
side cab window [closed cab model]..... 116
slow blow fuse..... 188
replacing..... 189
Software information..... 216
specification table..... 27
spin turn..... 124
start of the machine..... 120
start switch..... 97
starter motor
checking..... 178
storing the machine
after completion of work in cold weather..... 207
for a long period of time..... 208
suction filter
replacing..... 176
suction hoses upstream and downstream the turbocharger
replacing..... 183
switches..... 96
synthetic leather
cleaning..... 184

T

temperature control dial..... 113
operating..... 113
touch operation
setting..... 61
touch panel
basic procedure..... 32
Handling..... 32
towing an inoperable machine..... 146
towing an operable machine..... 145
track response
setting..... 58
track tension
checking..... 166
tracks
adjust..... 185
travel alarm
setting..... 74
travel motor gear oil
change..... 174
travel speed switch
use..... 98
travel system
setting..... 63
traveling..... 122
troubleshooting
engine and other systems..... 190
turbocharger
checking..... 178

U

unit
setting..... 53
USB outlet..... 96,105
user account
adding..... 71
deleting..... 72
deleting all..... 73
user name
setting..... 65
user password
setting..... 67

V

V-belt tension
checking and adjusting tension..... 170
vital display function..... 41

W

warranty policy..... 25
washer liquid [closed cab model]
checking..... 163
water separator
drain..... 161
draining in case warning against water of the fuel filter..... 183
water separator filter element
replacing..... 173
weather band mode
operation..... 89
wiper/washer switch [closed cab model]..... 114
work light turn-off delay function
setting..... 54
working light switch..... 99

Y

year/month/day
reordering..... 51