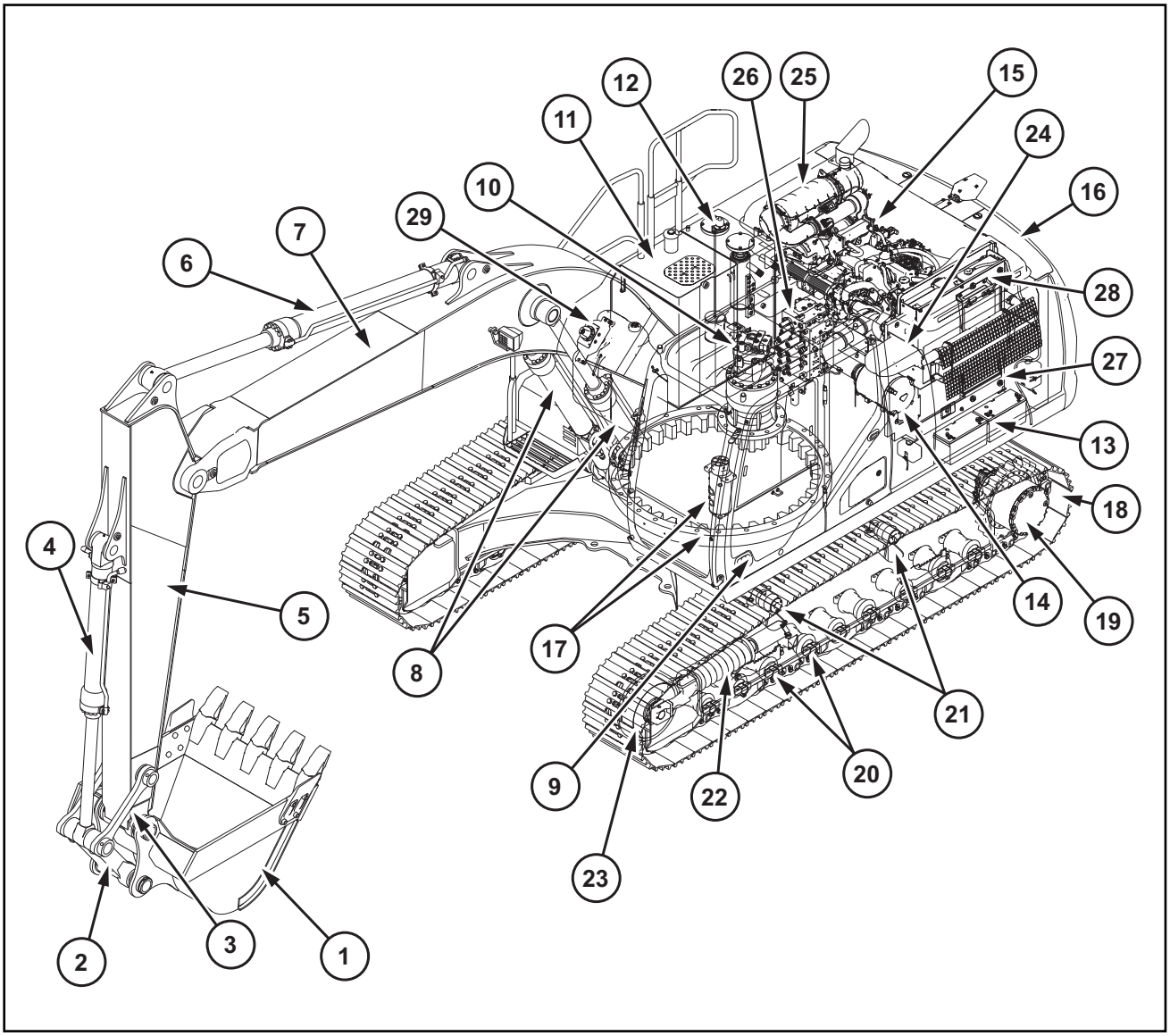
210X4
210X4 LF
HYDRAULIC EXCAVATOR
OPERATOR'S MANUAL

Book Number 210X4-OM-LXG-10

CHAPTER 2 - EXCAVATOR COMPONENTS

EXCAVATOR COMPONENTS



2AF2FBC5

Figure 1

1	BUCKET	11	FUEL TANK	21	UPPER ROLLERS
2	CONNECTING ROD	12	HYDRAULIC RESERVOIR	22	RECOIL SPRING
3	ARM LINK	13	BATTERIES	23	IDLER WHEELS
4	BUCKET CYLINDER	14	AIR FILTER	24	AIR PRECLEANER
5	ARM	15	ENGINE COMPARTMENT	25	SCR
6	ARM CYLINDER	16	COUNTERWEIGHT	26	CONTROL VALVE
7	BOOM	17	SWING COMPONENTS	27	OIL COOLER/FUEL COOLER
8	BOOM CYLINDERS	18	TRACKS	28	RADIATOR
9	CAB/OPERATOR'S COMPARTMENT	19	TRAVEL REDUCTION GEARS	29	DEF TANK
10	SWING GEARCASE	20	LOWER ROLLERS		

OPERATOR PRECAUTIONS

PERSONNEL

- Be prepared for emergencies. Always have a first aid kit and a working fire extinguisher with you and know how to use each.
- Avoid loose fitting clothing, loose or uncovered long hair, jewelry and loose personal articles.
- Know and use the protective equipment that is to be worn when operating this excavator. Hard hats, protective glasses, protective shoes, gloves, reflector type vests, respirators and ear protection are examples of types of equipment that may be required.
- Certain protective equipment should be replaced and renewed upon age and wear. Old hard hats may not afford the original users intention. Faded and soiled vests are no longer as highly visible as original intended. See the manufacturer's recommendation.
- Do not rush. Walk, do not run.
- Know and use the hand signals required for particular jobs and know who has the responsibility for signaling.

GENERAL

- It is the responsibility of the operator to read and understand the operator's manual and other information provided and use the correct operating procedure. Excavators should be operated only by qualified operators.
- Do not operate this excavator or perform maintenance work if you have not had appropriate training and have not read and fully understand the instructions and warnings in this manual.
- Wear the seat belt at all times when operating the excavator.
- Inspect the seat belt end mounting bolts on a daily basis to ensure their integrity.
- Make sure all protective guards are in place and secure.
- Remove all loose objects stored in the excavator. Remove all objects which do not belong in or on the excavator and its equipment.

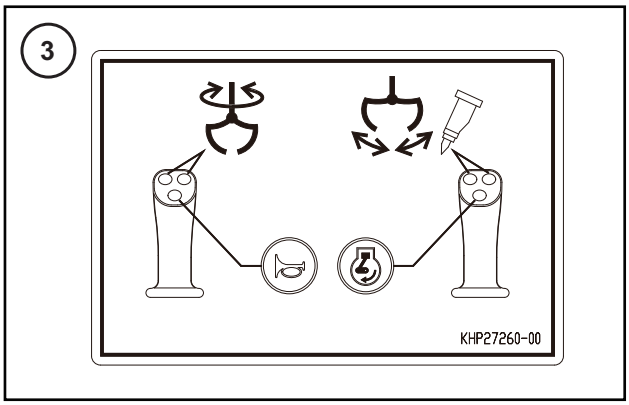
MOUNTING AND DISMOUNTING PRECAUTIONS

- Use the recommended hand holds and steps with at least three points of support when getting on and off the excavator. Keep steps and platform clean. Face the access system when climbing up and down.
- Do not jump off the excavator.
- Do not dismount while the excavator is in motion.
- Foreign material or grease on the steps and hand rails can cause an accident. Keep the steps and hand rails clean.

STARTING AND STOPPING PRECAUTIONS

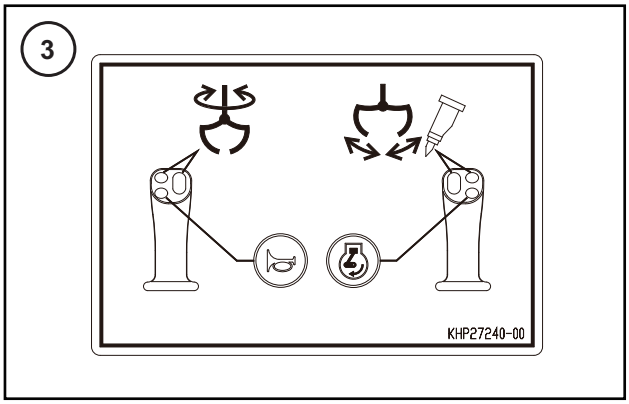
- Walk around the excavator and warn all personnel who may be servicing the excavator or are in the excavator path prior to starting. Do not start until all personnel are clearly away from the excavator. Sound the horn, before starting.
- Stones or other objects may be flying out when the machine is operating or travelling in the work site. Post "Entry prohibited" to prevent no one from entering the site. Also, take measures so that no one approaches the site.
- Walk around the excavator's tool, attachment, or furthermost contact point to view operation danger area from the worksite personnel view and angle.
- Adjust, secure and latch the seat and fasten the seat belt before starting the excavator.
- Start and operate the excavator only from the operator's seat.
- Do not bypass the excavator's gate lock system. The gate lock system must be repaired if it malfunctions.
- Use jumper cables only in the recommended manner. Improper use can result in battery explosion or unexpected excavator motion.
  Ventilate the battery area before using jumper cables. Make sure that using jumper cables will not interfere or harm electronic processing or computer devices. See Connecting One or Two Booster Batteries Chapter 9 (Page 9-6).
- Do not operate the engine in an enclosed area without adequate ventilation.
- Park the excavator on level ground whenever possible and lower the attachment to the ground. The travel brakes will automatically apply. On grades, park the excavator with the tracks securely blocked.
- Before leaving the operator's cab, lower the equipment to the ground and deactivate the hydraulic controls. Move the gate lock lever back to the raised position. See Gate Lock Chapter 4 (page 4-49) which pulls the console back to provide better egress. Shut off the engine.
- Remove the starter key when leaving the excavator parked or unattended.

KHP27260 (OPTION)
Right hand : Switch type /AUX
Left hand : Switch type Second AUX



A2BCE7ED Figure 19

KHP27240 (OPTION)
Right hand : Proportional type /AUX
Left hand : Proportional type Second AUX



BF184910 Figure 20

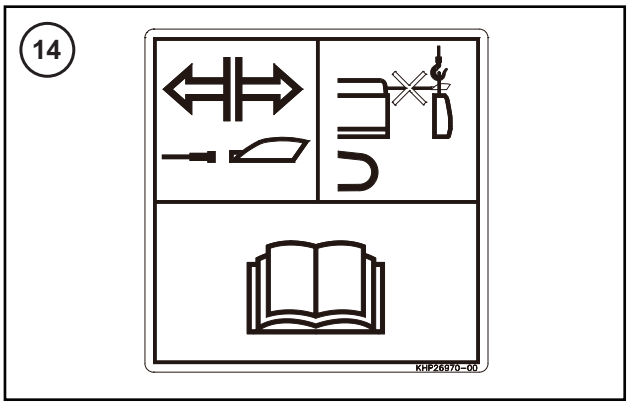
* (Lever) / (Function)
* AUX can be double-acting, single-acting or both (Multi-purpose)
* Second AUX can be grapple rotation or tilt bucket, etc...

These decals show which configuration the control levers are.

14. KHP26970

This decal instructs that the wiring harness of camera must be disconnected before removing the counterweight.

See the DISASSEMBLY BEFORE TRANSPORT section for more details (Page 10-7).



DB546EA4 Figure 50

15. KHP35770

This decal located on both tracks warns the operator to release the pressure on the track assembly before disassembly.

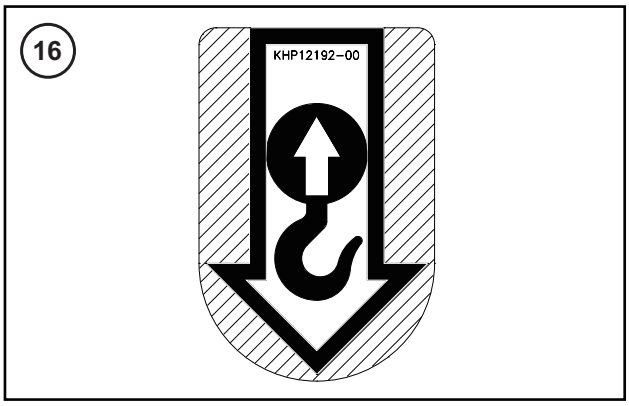
Failure to do so could result in serious injury or death.

27C97E92 Figure 51

16. KHP12192

This decal shows where to attach slings when handling the excavator.

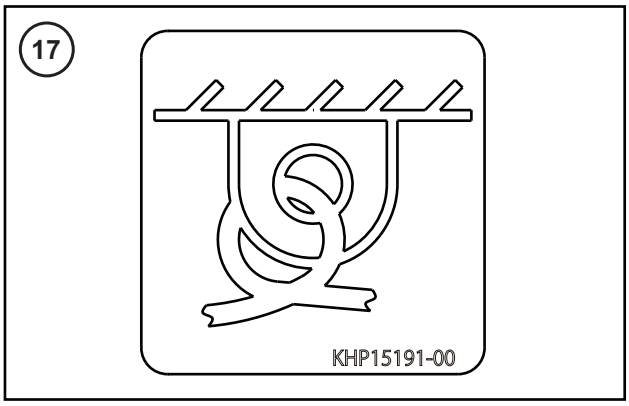
Never use any other slinging points apart from those designated by this decal.



C25EB1BA Figure 52

17. KHP15191

This decal shows the tie-down points for transporting the excavator.



67F0060A Figure 53

CHAPTER 4 - INSTRUMENTS AND CONTROLS

CAB

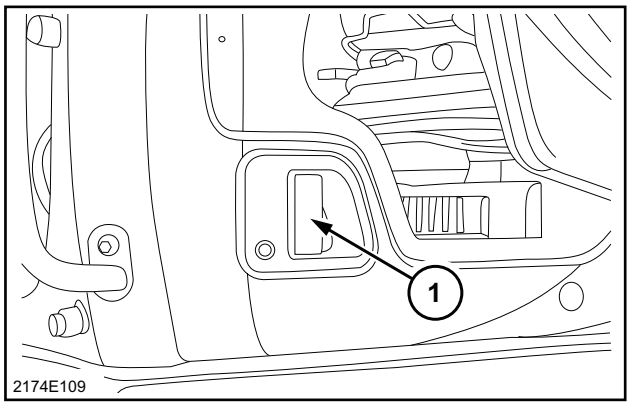
⚠ WARNING

Be careful not to get your hand or anything caught in the door when closing it.

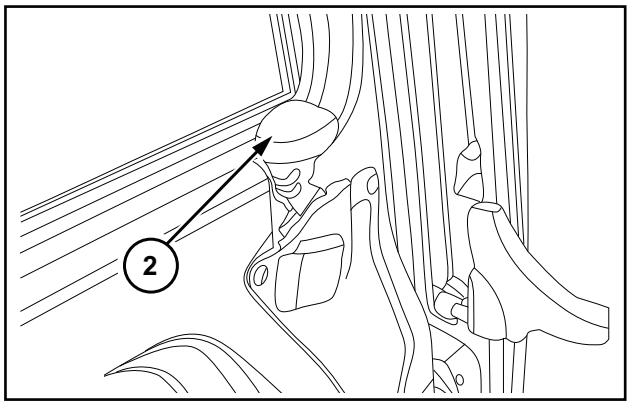
⚠ WARNING

Operating this machine, check that the door is closed firmly.
Running the machine with the door open increases the chance of an operator falling out of the cab or objects penetrating the cab and causing death or serious injury.
Also damage to the door may occur from running the machine with the door open.

To open the door, use the handle (1) from the outside and use the handle (2) from the inside.

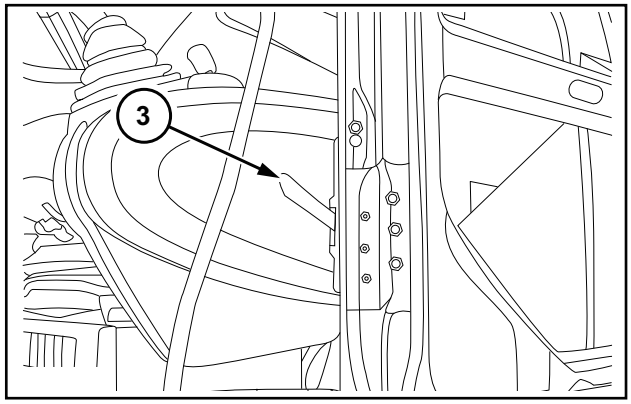


2174E109 Figure 1



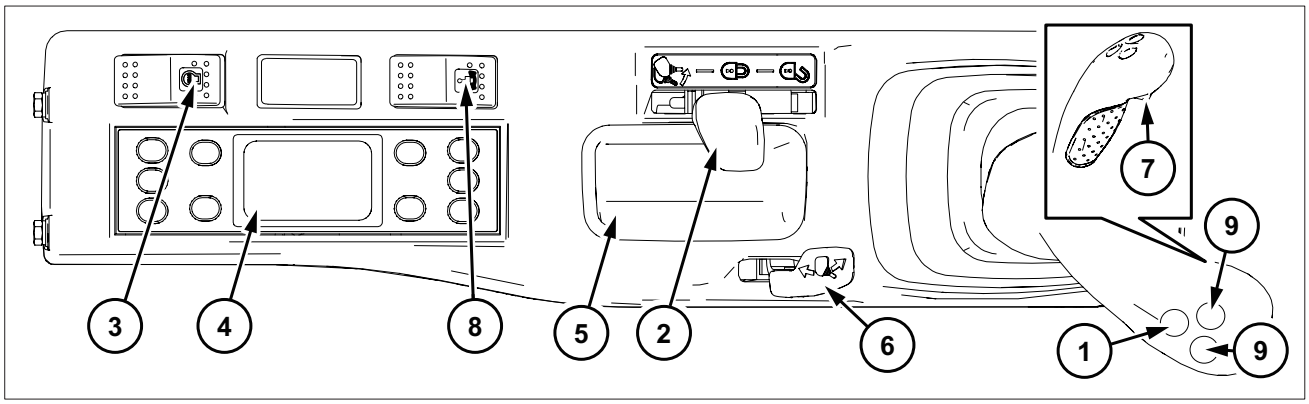
2B6F26D4 Figure 2

The door can be latched in completely open position. To unlatch the door, push the lever (3) downward.



3343EE6C Figure 3

LEFT HAND CONTROL ARM



625669F6 Figure 11

1. Horn
   To sound the horn, press at the end of the Left-hand control lever.

IMPORTANT: Always sound the horn before operating the excavator.

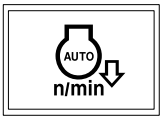
2. Gate Lock Lever
   The shape of the gate lock lever was designed to prevent the operator from leaving the cab without having raised the lever beforehand. See Gate Lock Lever (Page 4-49).

> **⚠ WARNING**
> To access or exit the cab, the gate lock lever must be in the raised position. Never try to avoid this basic requirement.

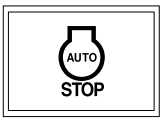
3. Engine Emergency Stop Switch
   This switch kills the engine. The "ENGINE STOP" will appear in the display window and the excavator will not start until the switch is pushed again.
4. Heating, Ventilation And Air-conditioning Control
   See Heating, Ventilation and Air-Conditioning Control for its use.
5. Ashtray
6. Control Arm Tilting Lever
   This lever controls the angle of the control arm.
7. Radio Mute Switch
   This button on the bottom side of the control lever will mute the radio. To resume listening to the radio press the button again. The radio mute will appear on the computer monitor screen.
8. Free swing
   When Free Swing is activated the icon on the switch will light up and the symbol will appear on the monitor. When Free Swing is on the mechanical swing break is turned off. Using free swing on uneven ground could cause the upper to wing or drift. When the excavator is turned off free swing will default back to off.
9. Option Control (if equipped)

IDLE MODE

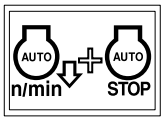
Each icon indicates the selection status of auto idle and idle shutdown.



This icon is displayed when auto idle is selected.



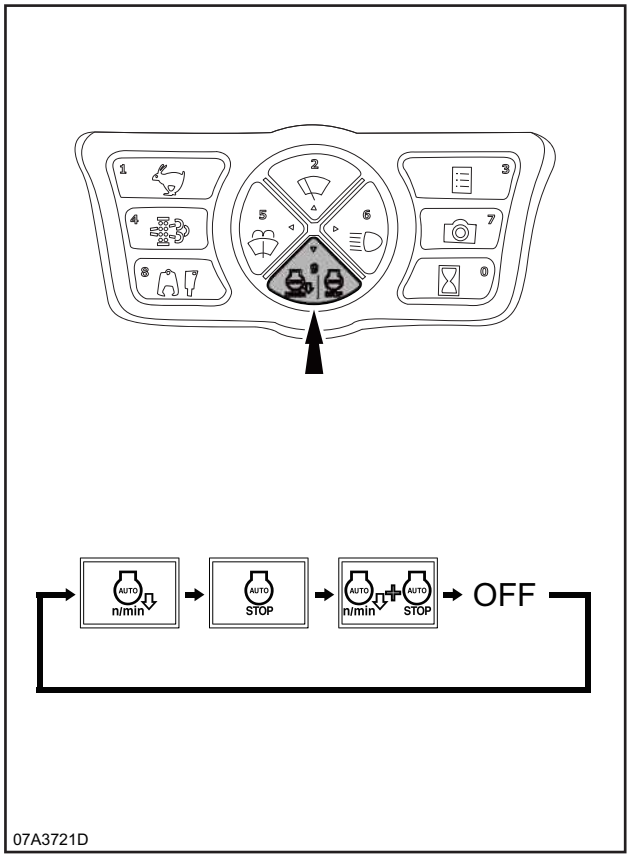
This icon is displayed when idle shutdown is selected.



This icon is displayed when auto idle and idle shutdown are selected.

[Operation]

The selection cycles as follows every time the idle mode switch on the monitor is pressed.



07A3721D Figure 21

[Information]

[Auto idle]

The engine speed will drop 5 seconds after the lever or option pedal operation is aborted.

To restore the throttle command speed, operate the operation lever or option pedal or turn the throttle volume, and the engine speed will be restored.

[Idle shutdown]

The message, "IDLE SHUT DOWN" will appear on the screen and an alarm will sound after 3 minutes of no throttle operation with the gate lock lever locked (not operated) and engine speed at 1200 rpm or below, and the engine will stop 10 seconds thereafter.

[Auto idle + Idle shutdown]

When selected, both Auto idle mode and Idle shutdown mode are set (The actuation conditions are the same as those described in the above two modes.)

IMPORTANT: To protect the engine, let idle continue for at least 3 minutes.

NOTE: To restart the engine that has stopped by idle shutdown, turn the starter switch key to the "OFF" position and then start the engine.

MESSAGE DISPLAY (RED)

Messages and icons	What is displayed	Remedial action
 0F176BF3	This message indicates that the engine oil pressure is low. When this message appears, the engine automatically stops.	Stop the engine, and contact your Link-Belt Excavator dealer immediately.
 14370877	This message indicates that the engine coolant temperature is high or hydraulic oil temperature is too high. If no action is taken after this message appears, the engine automatically goes into idle at low speed. If the high-temperature condition continues further, the engine will automatically stop.	Idle the engine to decrease the temperature of coolant and hydraulic fluid. Refill the reserve tank with coolant if its level is low. Check for coolant leaks. If any leak is found, stop the engine. If the display persists, contact your Link-Belt Excavator dealer immediately.
 20EC0627	This message indicates that the temperature of turbocharger air supplied to the engine is abnormally high. If no action is taken after this message appears, the engine will automatically go into idle at low speed. If the high-temperature condition continues further, the engine will automatically stop.	Idle the engine and stop work to decrease the temperature of the turbocharger. If the display persists, contact your Link-Belt Excavator dealer immediately.
 21FE5182	This message indicates that the battery or alternator has a problem.	Stop the engine, and contact your Link-Belt Excavator dealer immediately.
 1A555142	This message indicates that the engine's electrical system has suffered a short, disconnection, or other problem.	Stop the engine, and contact your Link-Belt Excavator dealer immediately.
 227F61D7	This message indicates a problem with the electrical system.	Stop the engine, and contact your Link-Belt Excavator dealer immediately.
 27568BEC	This message indicates that the camera or the camera wiring is abnormal.	Consult your Link-Belt Excavator dealer.
 2B2A62A3	This message indicates that coolant level is low.	Idle the engine, and refill the reserve tank with coolant. Check for coolant leaks. If any leak is found, stop the engine. If the display persists, contact your Link-Belt Excavator dealer immediately.

ENGINE PROTECTION FEATURE

This machine monitors its engine operation and, in case excessive load is applied, controls the engine output for protection.

"++++" indicates that this function has been activated, "----", not activated.

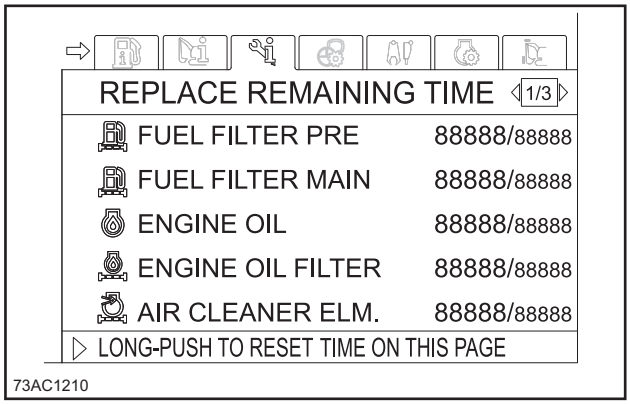
ALTITUDE COMPENSATION

This machine is equipped with barometric sensor and, under the condition of extremely low atmospheric pressure (ex. high altitude area), optimize the engine operation.

"++++" indicates that this function has been activated, "----", not activated.

MAINTENANCE INFORMATION

Information regarding the replacement intervals of periodic-replacement parts can be checked.



73AC1210 Figure 50

The following items can be checked:

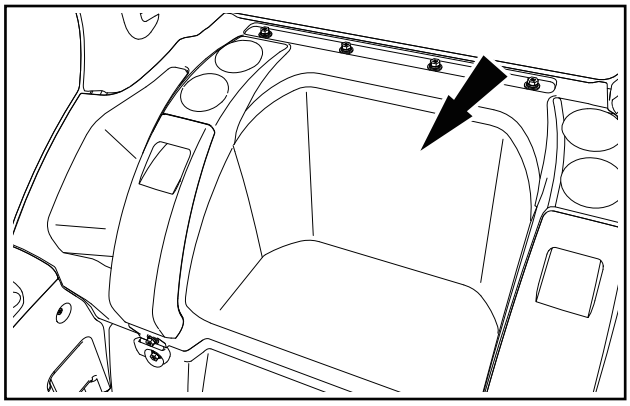
page	Item
1/3	FUEL-FILTER PRE
	FUEL-FILTER MAIN
	ENGINE-OIL
	ENGINE-OIL FILTER
	AIR-CLEANER ELEMENT
2/3	AIR-BREATHER ELEMENT
	PILOT-OIL FILTER
	RETURN FILTER
	SUCTION FILTER
	HYDRAULIC OIL
3/3	SWING REDUCTION GEAR-OIL
	TRAVEL REDUCTION GEAR-OIL
	AIR CONDITIONER FILTER
	SUPPLY MODULE FILTER

NOTE:

- If any inspection and/or maintenance (service) is due shortly, the remaining time is shown in yellow and the buzzer is sounded to give warning. If the due date has passed, the remaining time field changes to red.
  In that case, perform maintenance immediately.
- To reset the remaining time after replacement (change) of components, grease, etc., select the applicable item and then press and hold the right switch for 3 seconds. An alarm will sound and the time will be reset.
- To reset the remaining time for all the items displayed on the page, select the title on the applicable page and then press and hold the right switch for 3 seconds. An alarm will sound and the time will be reset.

STORAGE TRAY

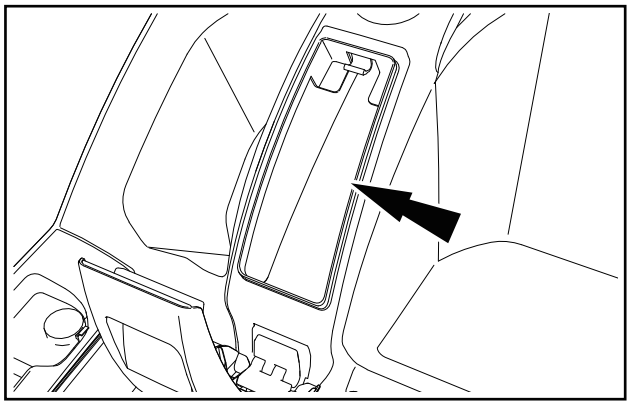
The storage tray is located behind the operator's seat. There is also a clipboard holder on the right side.



3FF91E3B Figure 76

STORAGE COMPARTMENT

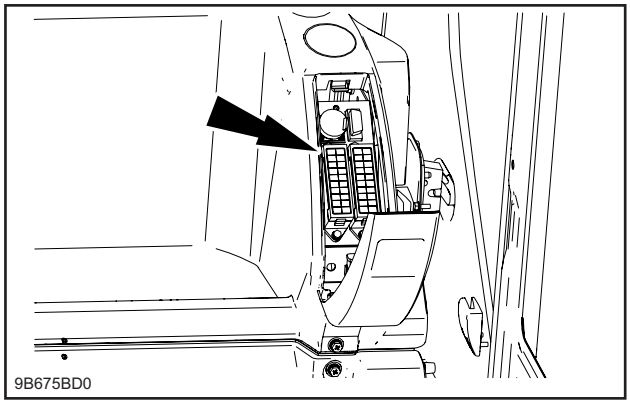
The storage compartment is located behind the seat. The compartment is a warm/cool box depending on what the temperature of the air conditioner or heater is on.



B8E06F39 Figure 77

FUSE BOX

The fuse box is located behind the operator's seat.



9B675BD0 Figure 78

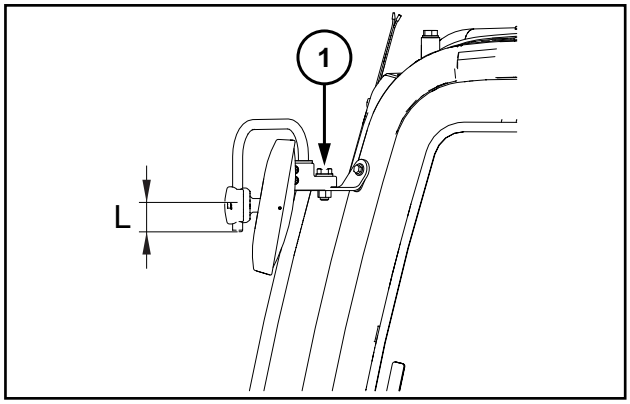
To replace a fuse, see the FUSE FUNCTION in the Electrical system section (Page 9-2).

MIRROR A (ON THE CAB: UPPER)

When installing the mirror, adjust it to see the left rear end of the machine from the operator's seat by sight.

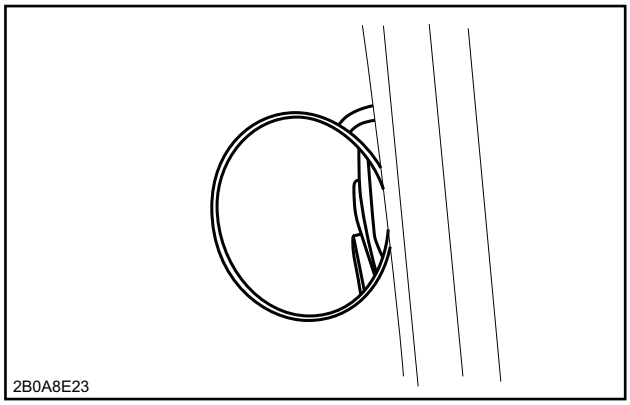
Tightening torque of bolt (1): 52.8 - 67.3 lbf・ft (71.6 - 91.2 N・m)

(L) dimension: 1.969 in. (50 mm)



E18056F7 Figure 99

Adjust the mirror to see the side of the machine by sight.
Tightening torque of bolt to tight the mirror body: 3.4 - 4.0 lbf・ft (4.5 - 5.5 N・m)



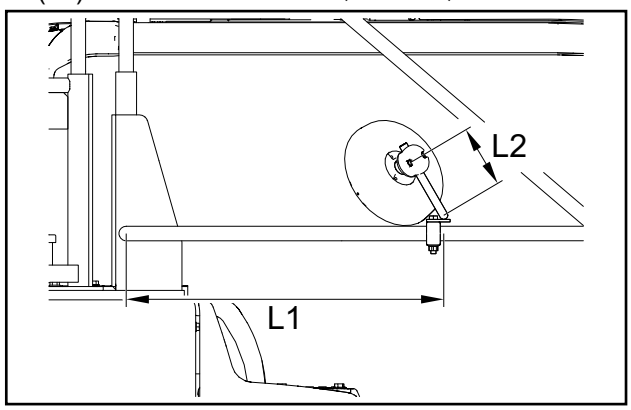
2B0A8E23 Figure 100

MIRROR B (ON THE HOUSE: RIGHT FRONT)

When installing the mirror, adjust it to see the right rear end of the machine from the operator's seat by sight.

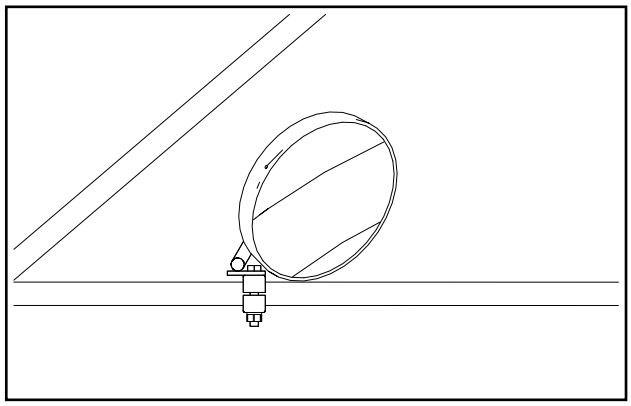
(L1) dimension:29.134 in.（740 mm）

(L2) dimension:5.709 in.（145 mm）



68CEB90C Figure 101

Adjust the mirror to see the side of the machine by sight.



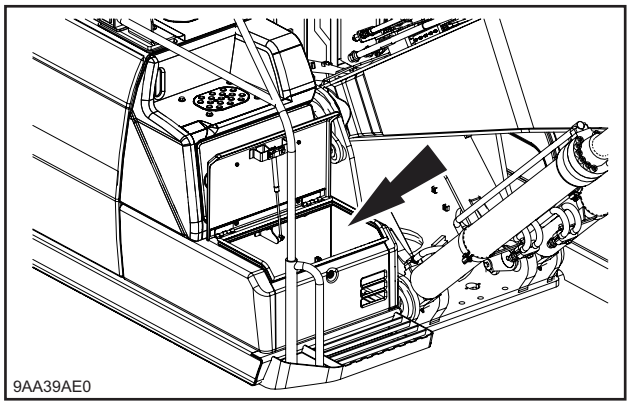
71683CAB Figure 102

FRONT STORAGE BOX

To open the box, push the button to release the cover.

The door of the box is fitted with a gas strut.

IMPORTANT: Use the starter switch key to lock the tool box cover.



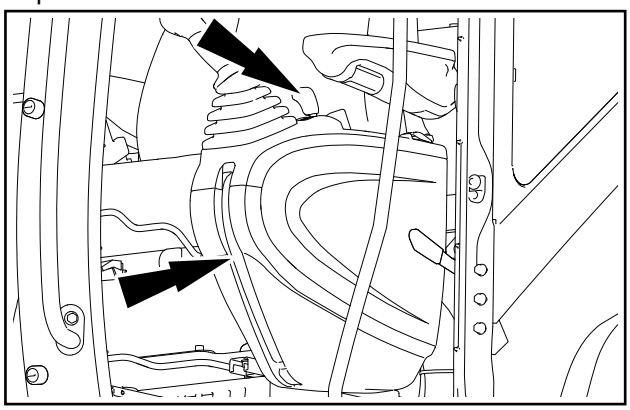
9AA39AE0 Figure 120

STARTING THE ENGINE

NOTE: If the excavator has been out of use for some time, see the STARTING UP AFTER STORAGE section in the excavator storage section (Page 10-10).

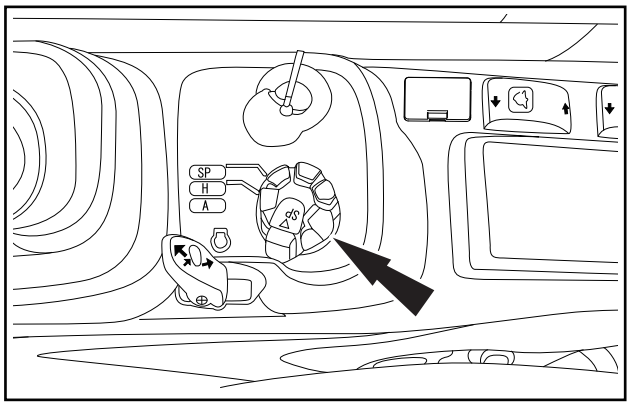
NOTE: If you need to start the engine using a booster battery, see the CONNECTING ONE OR TWO BOOSTER BATTERIES section in Chapter 9 Electrical Systems (Page 9-6).

1. Take up position correctly in the operator's seat with the seat belt correctly fastened. See the SEAT CONTROLS section in CHAPTER 4 INSTRUMENTS AND CONTROLS (Page 4-7).
2. Make sure the gate lock lever is in the locked position.



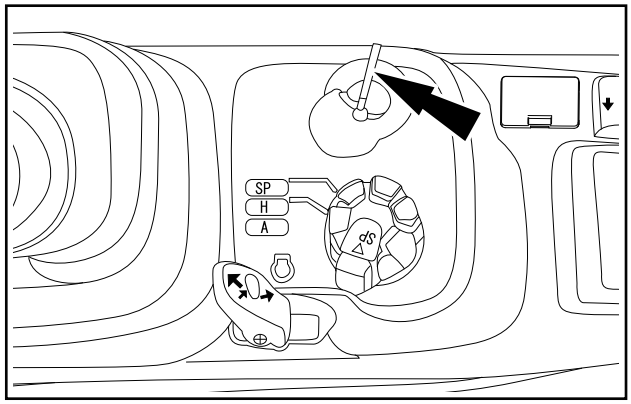
26199211 Figure 4

3. Make sure the engine throttle button is in low idle position.



9C4C9205 Figure 5

4. Insert the starter switch key, turn the key to the ON position, and check the monitor for any warning messages.



4959636C Figure 6

5. Sound the horn and then turn the starter switch key to the START position. Release the key as soon as the engine starts to turn. If the engine stops, wait about a minute and start the operation again.

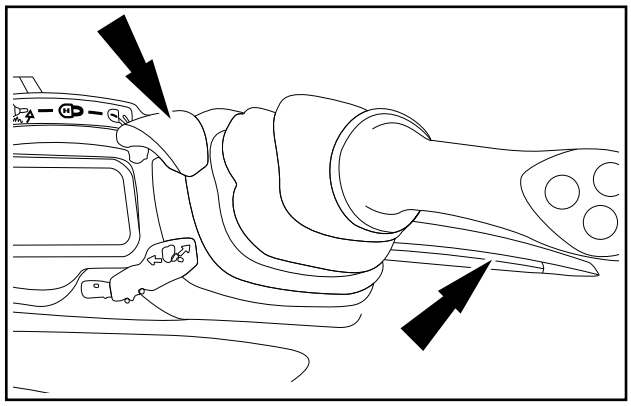
IMPORTANT: The engine is equipped with a high pressure fuel system to comply with Tier 4 engine emissions. Due to this it may take more time to start the engine.

IMPORTANT: Do not operate the starter motor for more than 10 seconds at one time. Do not operate the starter motor when the engine is running.

IMPORTANT: When the engine is running, let the engine warm up until the low idle mode for about 10 minutes.

IMPORTANT: When the engine is running, check the monitor for any problems.

6. Ensure joysticks and foot pedals are in neutral position then unlock the gate lock lever to activate hydraulic controls.



F9C302B0 Figure 7

SCR RE-GEN (SCR regeneration)

The SCR system is equipped with a function to automatically remove the deposits that accumulate in the system.

Otherwise, the deposits cause poor performance and/or damage in SCR system.

To ensure the cleaning capacity of the system, observe the following:

- Always use the recommended engine oil.
- Always use the recommended fuel.
- Always use the recommended DEF.

During AUTO SCR RE-GEN or MANUAL SCR RE-GEN, the operating characteristics of the engine and hydraulic systems will change and may sound different. This is normal. During AUTO or MANUAL SCR RE-GEN, make sure that the excavator is in a well-ventilated area.

IMPORTANT:
Be sure the engine hood is closed properly.
Otherwise, the exhaust gas generated during AUTO SCR RE-GEN could melt the insulation and other material inside the engine hood, causing damage to the excavator.

SCR RE-GEN icon

During AUTO SCR RE-GEN, an SCR RE-GEN icon is displayed to indicate the status of the operation.

According to the SCR RE-GEN status, the color and display pattern will be changed. (Refer to 4-28)

> **⚠ WARNING**
> SCR regeneration should be done in a well ventilated area to avoid accumulation of poisonous gases.
> Keep away from and do not touch the SCR component, exhaust pipe, tail pipe and the exhaust gas when the engine is running, during SCR RE-GEN and immediately after the SCR RE-GEN process. Their temperatures may get high enough to burn people, ignite or melt materials.
> During AUTO SCR RE-GEN, make sure that the machine is not near any flammable and explosive. Those flammables such as dried grass, paper scraps and any easily burned material near the machine could cause a fire.
> Stop the engine while inspecting and carrying out maintenance on machine. Those activities during AUTO SCR RE-GEN can result in serious personal injury.

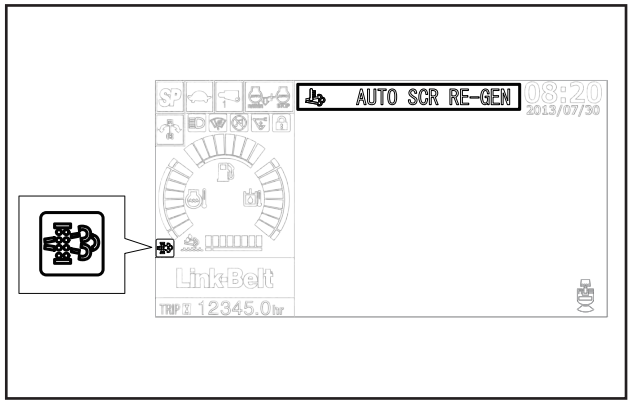
AUTO SCR RE-GEN

During AUTO SCR RE-GEN, the excavator can and should be operated. By applying a load of a working excavator, the duration of AUTO SCR RE-GEN is reduced. The operating characteristics of the engine and hydraulic systems including attachment speed may change and sound different, and white smoke may be seen from the tail pipe, but this is not an indication anything is wrong with your excavator -this is normal.

AUTO SCR RE-GEN occurs automatically about every 30 hours and does not require any operator interaction.

The text message ("AUTO SCR RE-GEN") and SCR RE-GEN icon (green) are displayed and an alarm sounds for approx. 2 seconds. AUTO SCR RE-GEN starts if the machine meets the following criteria;

- The coolant temperature is above 158 °F.
- The coolant temperature is below 194 °F.



A7F2612B Figure 16

AUTO SCR RE-GEN takes approx. 10 minutes. The amount of time for AUTO SCR RE-GEN depends on the outside temperature, engine coolant temperature and engine load. Colder temperature will increase the amount of time to complete AUTO SCR RE-GEN.
When AUTO SCR RE-GEN completes, the SCR RE-GEN icon (green) and the text message ("AUTO SCR RE-GEN") disappears.
AUTO SCR RE-GEN will be stopped if any of the following occurs:

- Pressing the SCR RE-GEN switch will suspend AUTO SCR RE-GEN process. SCR RE-GEN icon disappears and a text message ("PUSH SCR SWITCH TO ACTIVATE") is displayed.
  Pressing the SCR RE-GEN switch again will resume the process.
- The coolant temperature drops below 149 °F. The SCR RE-GEN icon starts to flash in green and an alarm sounds for approx. 2 seconds.
  When the engine coolant temperature is above the 158 °F, AUTO SCR RE-GEN will be resumed.

LOAD HANDLING

⚠ WARNING

During load handling operations, it is very important to adhere strictly to the instructions given in this manual and local legislation.
Failure to comply could result in death or serious injury.

When handling loads, be sure to do the following:

- Park the excavator on a flat, firm, level surface.
- It is forbidden to weld hooks or lugs on the bottom plate of buckets.
- Use slings and chains which are in perfect condition, suitable for lifting the load to be handled and fitted with safety type hooks that will not accidentally open.
- Check that the safety valves function correctly.
  The pressure setting must be checked every 6 months, in conformance with prevailing regulations and/or the maker's instructions.
  Contact your Link-Belt Dealer.
- Select the "H" work mode. Refer to page 4-9.
- Do not exceed the limits shown on the lifting capacities chart.
  To obtain a lifting capacities chart, contact your Link-Belt Dealer, giving full particulars of the excavator model number, the weight of the counterweight, plus the length and type of boom and arm.
- Do not allow anyone within the excavator's operating radius.
- Operate the controls smoothly to ensure precise movement of the attachment and the excavator.
- Stabilize the load a few centimeters above the ground to make sure it is perfectly balanced before trying to move it.
- All movements must be sure and smooth.

When travelling with a load, make sure you do the following: Place the upperstructure in line with the undercarriage.

- Bring the load as close as possible to the undercarriage and the ground.
- Be sure all travel is undertaken in slow speed only.

LIFTING CAPACITIES CHART

The lifting capacities chart (located in the cab) shows the different permitted loads which can be lifted, depending on the reach and the type of attachment on the excavator.

The excavator must be on a flat, level, hard surface.

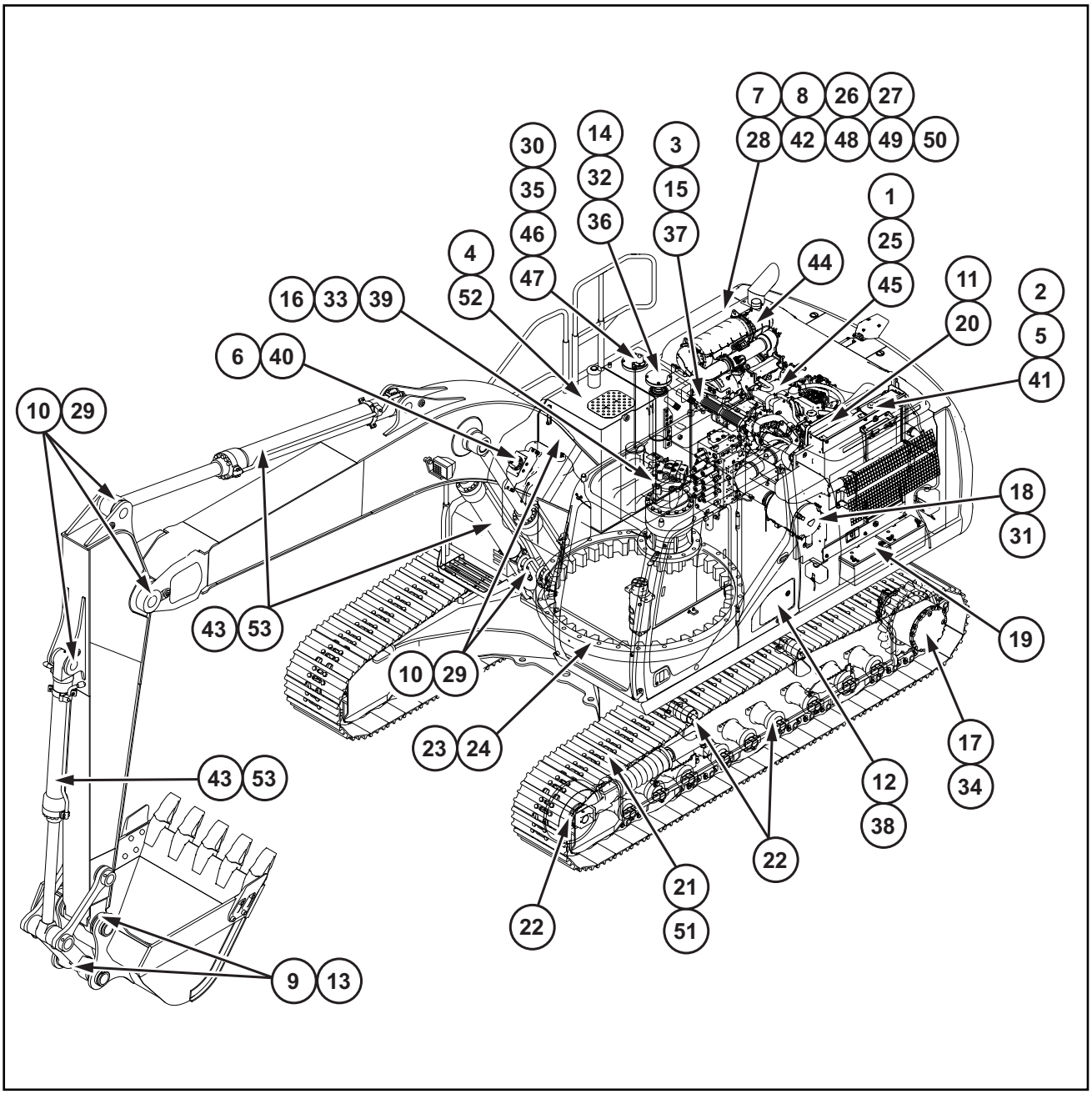
Loads are in daN (1 daN = 2.25 lb) for an excavator with bucket, bucket cylinder rod completely extended and for full upperstructure swing, with a built-in safety margin factor of:

- 33% on stability,
- 15% on hydraulic limits,

taking the connecting rod eye as the load fixing point.

NOTE: The loads given are valid for the total working range height at the reach point indicated.

MAINTENANCE CHART
SERVICE POINTS



F9BFA006

Figure 2

See next page for description and intervals of items.

ENGINE

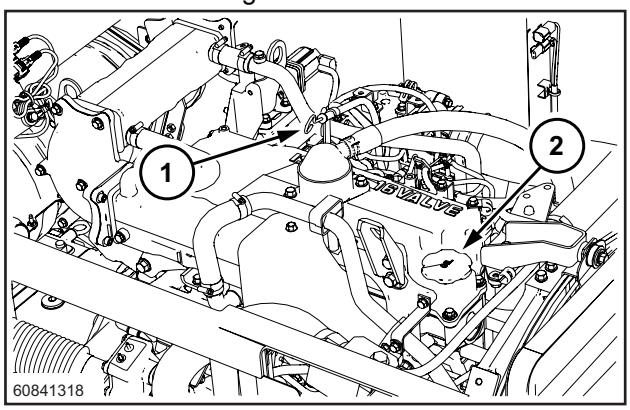
SERVICE SPECIFICATIONS

Engine oil level check	Every 10 hours or every day
Oil change	Every 500 hours
Oil filter replacement	Every 500 hours
Oil capacity	6.1 gal. (23.1 liters)
Oil type	See Fluids and Lubricants

IMPORTANT: Do not walk or climb on the engine. The head cover and various connectors may be damaged, leading to an engine failure.

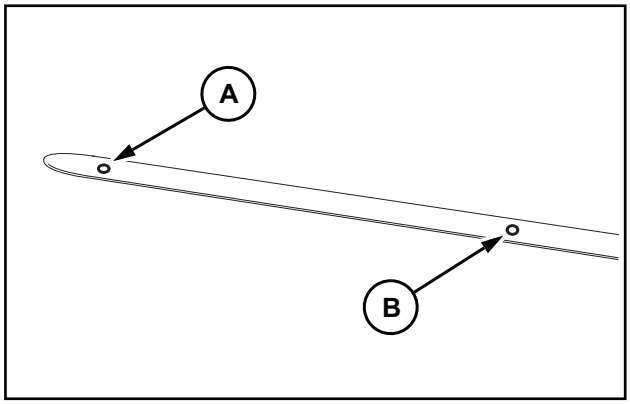
ENGINE OIL LEVEL

1. Park the excavator on flat, horizontal ground. Shut down the engine and remove the starter switch key.
2. When the engine has been stopped for 15 minutes, remove the dipstick (1), wipe it with a clean cloth and replace it in the guide tube as far as it will go. Then take it out again.



60841318 Figure 31

If the level is situated between the marks (A) (minimum) and (B) (maximum) of the dipstick, the level is correct.



0CEBA925 Figure 32

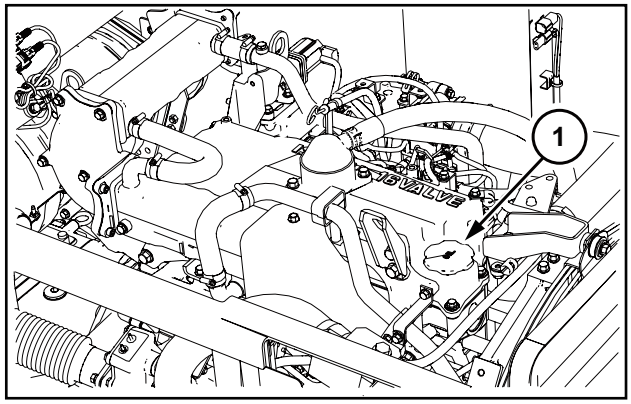
3. If the oil level is at the mark (A) (minimum) or below, remove the filler cap (2) and add oil up to the mark (B) (maximum) of the dipstick and install the cap.

NOTE: The level should not be higher than the mark (B) (maximum on the dipstick).

DRAINING, REPLACING THE OIL FILTER, AND FILLING

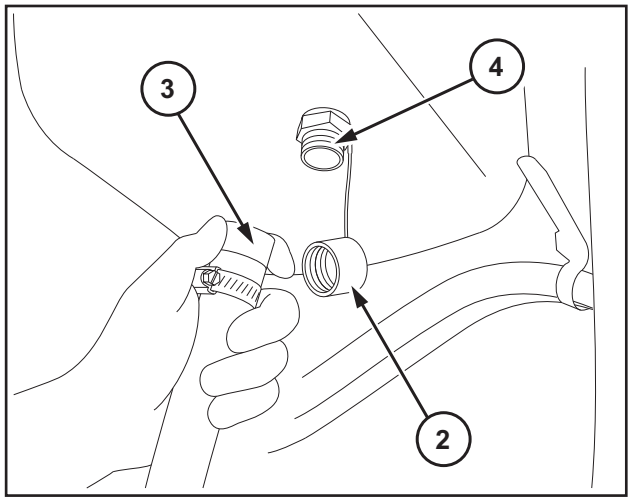
NOTE: Change the oil while the engine is still warm. The oil will flow more easily.

1. Park the excavator on flat, horizontal ground. Shut down the engine and remove the starter switch key.
2. Remove the oil filler cap (1).



A8EEEE29 Figure 33

3. Remove the cover under the rear of the excavator.
4. Remove the cap (2) and place a receptacle under the excavator, connect the oil drain hose (3) to the green plug (4). When the hose is connected the oil will start to flow out the oil drain hose.

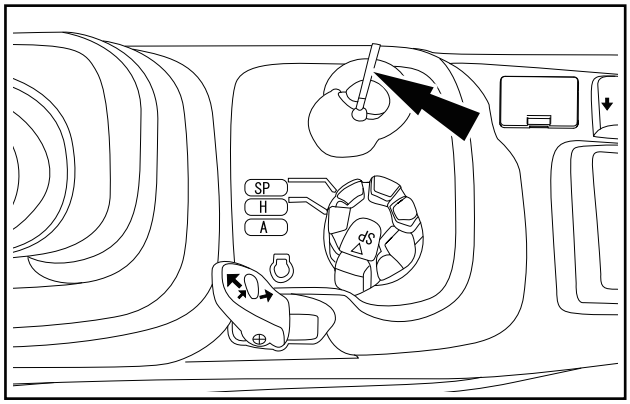


CD2A0E09 Figure 34

RELEASING PRESSURE IN THE HYDRAULIC SYSTEM

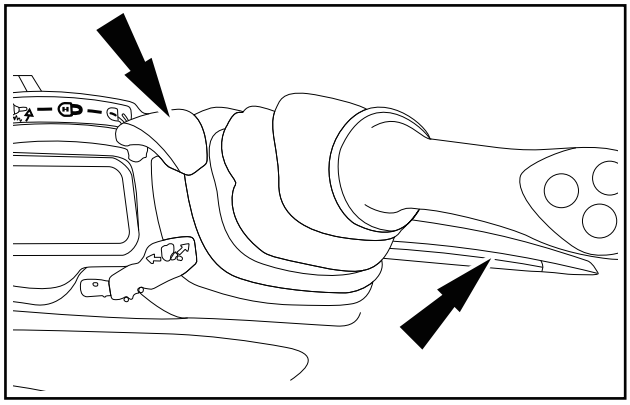
IMPORTANT: Before carrying out any work on the hydraulic system, there should be no pressure in any of the circuits.

1. Place the excavator on flat, level ground, lower the attachment to the ground and stop the engine.
2. Turn the starter switch key to the ON position.



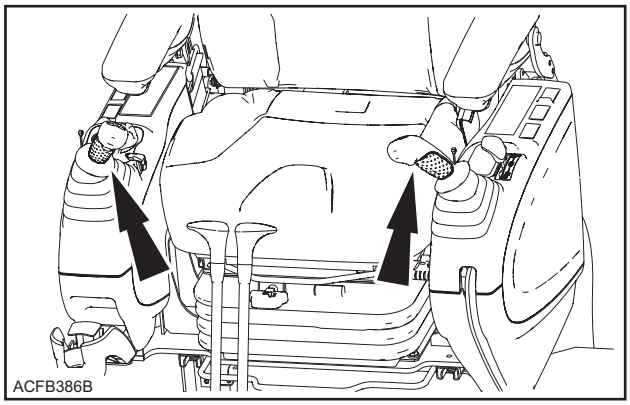
4959636C Figure 60

3. Lower the gate lock lever.



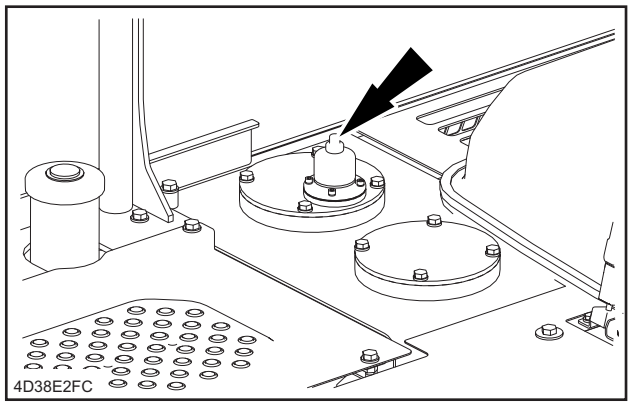
2FBB99A9 Figure 61

4. Operate the control levers from right to left and front to rear a dozen times approximately.



ACFB386B Figure 62

5. Turn the starter switch key to the OFF position.
6. Press the button to release any possible pressure.



4D38E2FC Figure 63

⚠ WARNING

Stop the engine, press the pressure release button and completely bleed air from the reservoir.

⚠ WARNING

Make sure you don't get scalded with the hydraulic fluid under high pressure. The temperature should not exceed 104.0 °F (40°C).

SWING REDUCTION GEAR

SERVICE SPECIFICATIONS

Oil level check	Every 250 hours
Draining	Every 1000 hours (after the first 250 hours during the run-in period)
Grease	Every 2000 hours
Oil capacity	1.3 gal. (5 liters)
Oil type	See Fluids and Lubricants

⚠ WARNING

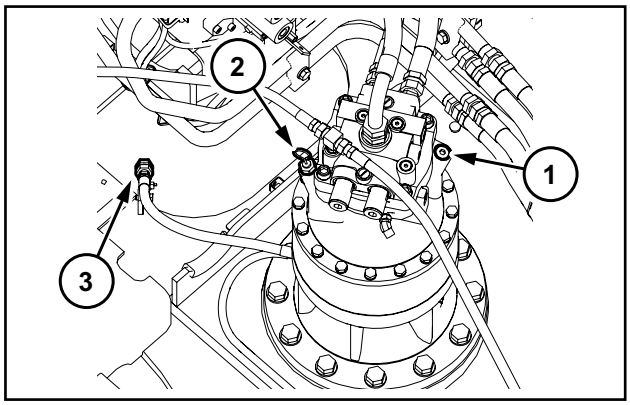
Wait until all components have cooled down before carrying out any operation.

⚠ WARNING

Loosen the dipstick slowly to release pressure, otherwise there is a risk of oil spurting out.

LEVEL

1. Remove the dipstick (2). The level should come up to the hatched area. If necessary, top off through the filler port (1).



33AFB6E2 Figure 86

DRAINING AND REFILLING

1. Park the excavator on flat, horizontal ground. Stop the engine and remove the starter switch key.
2. Remove the dipstick (2).
3. Place a receptacle of a suitable capacity under the upperstructure and remove the drain plug (3).
4. After draining the oil, reinstall the drain plug (3).

NOTE: The oil takes a relatively long time to drain.

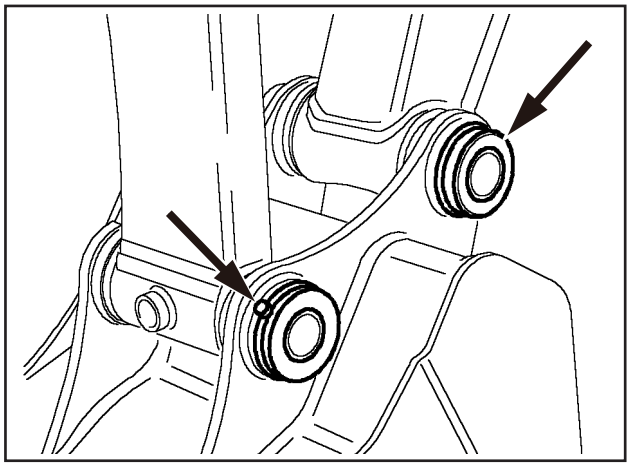
IMPORTANT: Check the condition of the drained oil. If it contains metal filings or foreign matter, contact your Link-Belt Dealer.

5. Remove the filler plug (1) and add the oil.
6. After about 10 minutes check the oil level, if the oil is satisfactory then install the filler plug (1).

REPLACING A BUCKET

REMOVAL - BUCKET

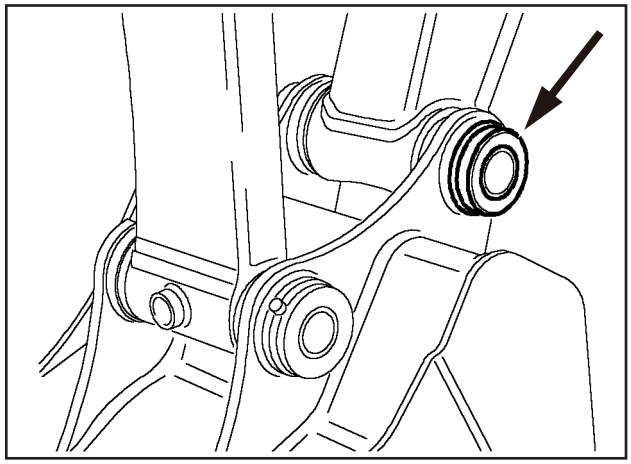
1. Place the bucket on flat, horizontal ground. Operate the attachment controls so the arm to bucket linkage pin is not gripped by the weight of the arm.
2. Stop the engine and remove the starter switch key.
3. Remove the snap rings and retaining pins and then remove the pins from the bucket.
4. Start the engine.
5. Disengage the attachment from the bucket and save the O-ring seals.



08D9983A Figure 14

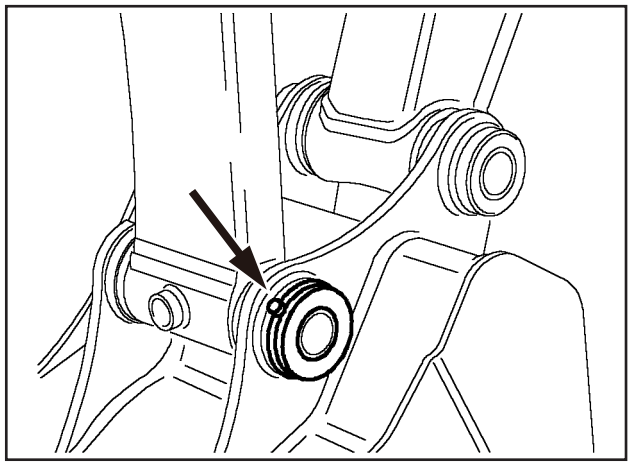
INSTALLATION - BUCKET

1. Install the O-ring seals on the arm bushing shoulders. Replace them if necessary.
2. Start the engine. Extend the bucket cylinder rod to bring it into its housing. Stop the engine and remove the starter switch key.
3. Install the arm to bucket linkage pin, and then the retaining pins and the rings.



3DAFF2ED Figure 15

4. Start the engine. Remove the bucket cylinder rod to bring it in its housing. Shut down the engine and remove the starter switch key.
5. Install the connecting rod to bucket linkage pin and then the retaining pins and the snap rings.
6. Push the seals back into their housings.
7. Grease the linkage pins.



6572E4A5 Figure 16

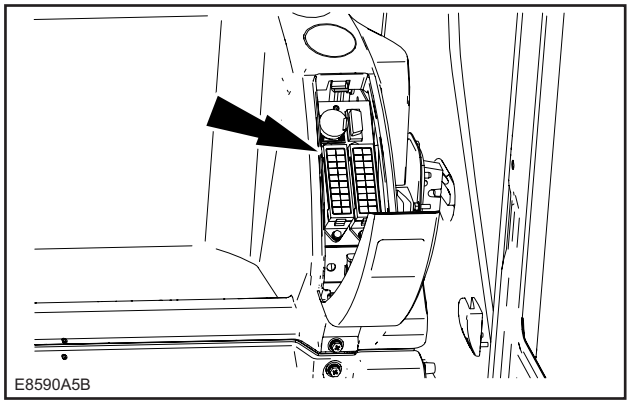
CHAPTER 9 - ELECTRICAL SYSTEMS

FUSES

NOTE: Before replacing fuses or relays, set the starter switch key to the "STOP" position.

NOTE: Never confuse the amperages during replacement.

When opening the cover in the rear of the operator's seat, you will find a fuse box.

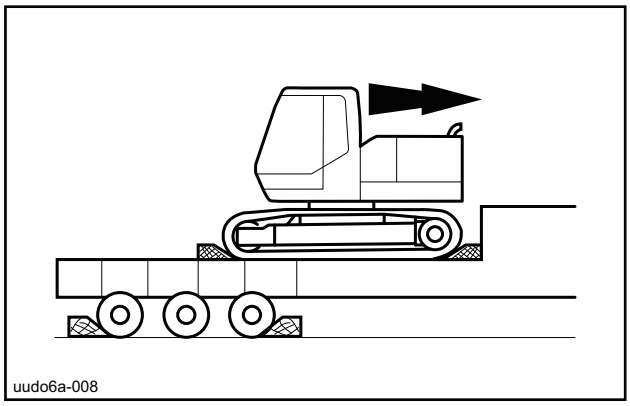


E8590A5B Figure 1

When opening the cover of the fuse box, you will find fuses.
The role, name, and amperage of each fuse are indicated on the cover.

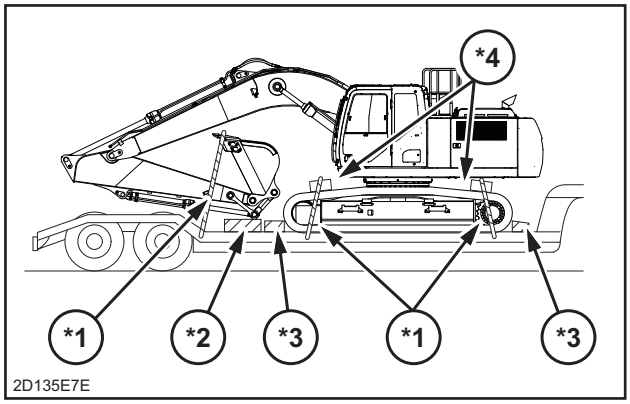
NOTE: Dedicated jigs are provided for attachment and removal of fuses. Use the dedicated jigs during work.

8. Store the rear view mirror inside.



uudo6a-008 Figure 7

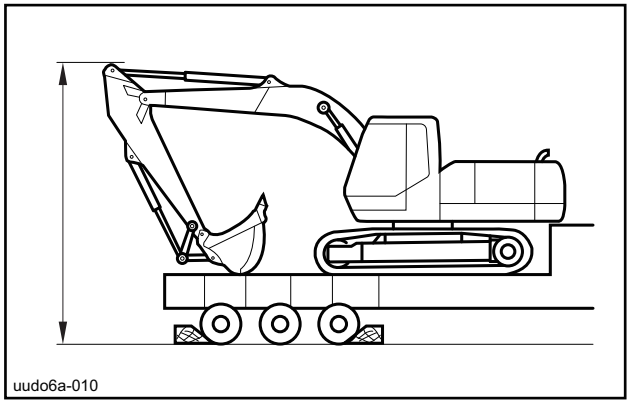
9. Use blocks and chains to fix the machine and the attachment (if equipped) onto the trailer. (Refer to page 10-3.)



2D135E7E Figure 8

*1	Wire rope
*2	Block
*3	Chock
*4	Padding

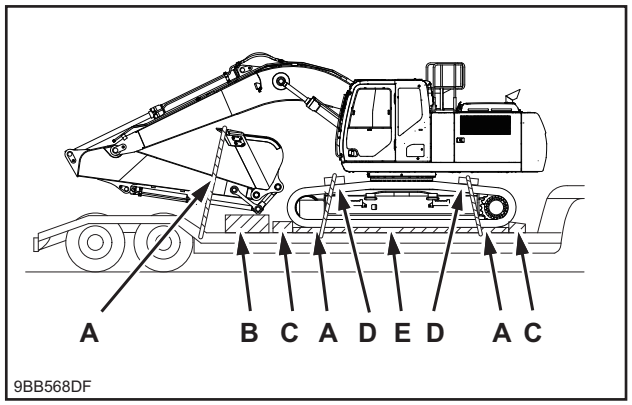
10. Measure the height between the ground and the highest point of the machine.
You need to understand all heights.



uudo6a-010 Figure 9

TIE DOWN ON TRANSPORT VEHICLE

[Example 1]



9BB568DF Figure 10

A	Wire rope
B	Block
C	Chock
D	Padding
E	Rubber mat

[1] Check if the machine is correctly loaded on the trailer, etc., at the specified position, or if the trailer, etc., is not tilted.

[2] Curl the bucket and then retract the arm. Place block B on the trailer floor, and finally, lower the boom slowly. Adjust the position of block B so that the rests bucket on block B.

[3] Stop the engine.

- Be sure to retract the antenna of the vehicle radio beforehand.
- Adjust the mirrors so that they will not bump against the surrounding structures and objects during transport.

[4] Lock the doors (operator's station, both sides of the housing).

[5] After confirming absence of abnormality in the trailer, etc., secure the machine onto the trailer, etc., using chocks (C), padding (D), wire ropes (A), etc., to prevent the machine from swaying (oscillation) during transport.

[6] Finally, check if the machine has been loaded and secured completely.

⚠ CAUTION

It will be dangerous if the machine moves during transport.
Firmly secure the machine using wire ropes, etc., to prevent it from swaying.

210X4 LF

Number of upper rollers	2
Number of lower rollers	8
Number of track pads	49 per side
Type of track pads	Triple grouser
Width of standard track pads	31.5" (800 mm)
Ground Pressure	5.37 psi (0.037 MPa)
Gradeability	70 %

CAPACITY OF SYSTEMS AND COMPONENTS

Hydraulic tank	39 gal. (147.0 liters)
Hydraulic system	66 gal. (250.0 liters)
Final drive (each)	1.3 gal. (5.0 liters)
Swing Drive	1.3 gal. (5.0 liters)
Engine oil (with filter change)	6.1 gal. (23.1 liters)
Fuel tank	108 gal. (410.0 liters)
Cooling system	8.3 gal. (31.4 liters)
DEF tank	31.7 gal. (120.0 litters)

ATTACHMENT

210X4

Boom	18' 8" (5.70 m)
Arms	7' 10" (2.40 m), 9' 8" (2.94 m)

210X4 LF

Boom	28' 7" (8.70 m)
Arm	21' 0" (6.40 m)

DIGGING FORCE

NOTE: Digging force ratings are based on ISO 6015, "Earthmoving Machinery - Hydraulic Excavators - Tool Forces".

210X4

9' 8" (2.94 m)	23,100 lbf (103 kN)
with auto power boost mode applied	25,100 lbf (112 kN)
7' 10" (2.40 m)	27,600 lbf (123 kN)
with auto power boost mode applied	30,000 lbf (133 kN)
Bucket digging force	31,800 lbf (142 kN)
with auto power boost mode applied	34,600 lbf (154 kN)

210X4 LF

Arm digging force	10,300 lbf (46 kN)
Bucket Digging Force	14,600 lbf (65 kN)

RemoteCARE

This machine can be equipped with RemoteCARE. This is a Machine management system based on GPS technologies. Please refer to "RemoteCARE global navigation system operation manual" for the operational guide of your RemoteCARE system.

621ADD6B Figure 8

Regarding RemoteCARE equipment, NEVER disassemble, repair, modify or move the controllers, antenna, or wire harnesses. This may cause failure or fire on the RemoteCARE equipment or the machine itself. Your Link-Belt Dealer will install, remove, and repair the RemoteCARE equipment.

Do not damage or pull wire harnesses by force. Do not allow wire harnesses to become caught. Short circuit or disconnected wire harnesses may cause failure or fire on the RemoteCARE equipment or the machine itself.

For anyone wearing a pacemaker, make sure that the communication antenna is at least 22 cm (8.7 in) away from the pacemaker. The radio waves may have an adverse effect on the operation of the pacemaker.

In a vicinity of a blast site, the two-way radio communication equipment of RemoteCARE may be in danger of causing accidental blast, resulting in a serious personal injury. Be sure to operate the machine away from a blast site.

If you have to operate the machine in an area less than 12 m (39.4 ft) from a blast site or a remote controlled explosive device, ask your Link-Belt Dealer for disconnecting power cable of RemoteCARE in advance.

If there are requirements or regulations concerning the operation of this machine in your area or country, be sure to observe them in priority to this warning.

The specification of RemoteCARE areas follows;

Rated output: 5 – 10 W

Service frequency: 137.00 – 150.05 MHz

- Refroidisseur EGR
- Système de réacteur thermique
  - Collecteur d'échappement
  - Silencieux et tuyaux d'échappement*
- Contrôles des particules
  - Filtre à particules diesel (DPF)
  - Catalyseur d'oxydation diesel (DOC)
- Unités de commande électronique
  - Module de commande du moteur (ECM)
  - Module de contrôle du dosage de l'agent réducteur (RDCM)
  - Contrôleur du turbocompresseur
- Système de réduction catalytique sélective (SCR)
  - Catalyseur de réduction catalytique sélective (SCR)
  - Module de dosage d'agent réducteur
  - Module d'alimentation en agent réducteur
  - Récipient et tuyauterie de l'agent réducteur*
  - Soupape régulatrice de liquide de refroidissement du moteur SCR
  - Conduites de liquide de refroidissiement du moteur SCR*
- Système d'aspiration des gaz du carter (PCV)
  - PCV
- Label de contrôle des gaz d'échappement
- Capteurs
  - Capteur de température du réfrigérant du moteur (ETC)
  - Capteur de température du collecteur d'admission (IMT)
  - Capteur de pression de suralimentation
  - Capteur de pression barométrique
  - Capteur de température de l'admission d'air (IAT)
  - Sonde de débit d'air de masse (MAF)
  - Capteur du niveau et de la qualité de l'agent réducteur*
  - Capteurs de température des gaz d'échappement (tous)
  - Palpeur du régime du moteur (Ne)
  - Capteur de pression différentielle du filtre à particules diesel (DPF)
  - Capteur de pression de rail commun de carburant
  - Capteur de détection de cylindre
  - Capteur de température du carburant
  - Capteur de NOx

- Pièces diverses utilisées dans les systèmes ci-dessus*
  - Faisceaux de câbles, tuyaux, courroies, connecteurs, assemblages, brides, raccords, tubes, joints ou dispositifs d'étanchéité et matériel de montage.
  - Toute autre pièce ayant pour but principal de réduire les émissions ou pouvant augmenter les émissions au cours d'un dysfonctionnement sans dégrader significativement la performance du moteur

* Pièces marquées: Le fabricant de l'équipement/de la machine peut être responsable de la garantie antipollution de ces pièces. Si l'une de ces pièces tombe en panne au cours de la période de garantie, veuillez contacter votre fabricant de l'équipement/de la machine ou Isuzu Motors America LLC. PowerTrain Division, 46401 Commerce Center Drive Plymouth, MI 48170 (Tél. 734-582-9470) afin de déterminer la responsabilité des pièces.

Si un défaut d'un de ces composants a comme conséquence le défaut d'une autre pièce, tous les deux seront couverts par cette garantie.
N'importe quelle pièce de rechange peut être utilisée pour l'entretien ou les réparations. Le propriétaire devrait s'assurer que de telles pièces sont équivalentes, quant à la conception et durée de service, aux pièces d'origine Isuzu. L'utilisation des pièces non authentiques Isuzu n'invalidera pas la garantie. Cependant, Isuzu Motors America LLC. n'est pas responsable des pièces qui ne sont pas d'origine Isuzu.

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Figure 17