

ORIGINAL INSTRUCTIONS

1021G
1121G
Tier 4B (Final)
Wheel Loader

OPERATOR'S MANUAL

Part number 4788719

1st edition English
November 2016



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Electro-Magnetic Compatibility (EMC)

Interference may arise as a result of add on equipment which may not necessarily meet the required standards. Such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine.
- The electromagnetic field generated by the add on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components.
- The add on equipment must not interfere with the functioning of the on board electronics.

Failure to comply with these rules will render the CASE CONSTRUCTION warranty null and void.

Personal safety

Most accidents involving machine operation and maintenance can be avoided by following basic safety rules and precautions. Read and understand all the safety messages in this manual, the safety manual and the safety signs on the machine before you operate or service the machine. See your dealer if you have any questions.

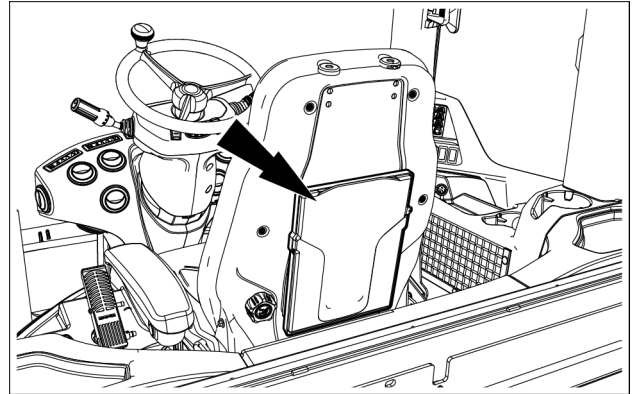
READ THIS MANUAL COMPLETELY and make sure you understand the controls. All equipment has a limit. Make sure you understand the speed, brakes, steering, stability, and load characteristics of the machine before you start to operate this machine.

DO NOT remove this manual or the safety manual from the machine. See your dealer for additional manuals. Also see the manual information on the Title pages (first and second pages in front of the Table of Contents) of this manual.

The safety information given in this manual does not replace safety codes, insurance needs, federal, state, or local laws. Make sure that your machine has the correct equipment according to these rules or laws.

Additional safety messages are used in the text of the manual to show specific safety hazards.

NOTICE: *the safety messages in this chapter point out conditions which can happen during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.*



LEIL16WHL1253AB 1

Support strut and service link

⚠ WARNING

Crushing hazard!

If you service the machine with the loader lift arms raised, always use the support strut. Remove the support strut from the storage position and place the strut onto the cylinder rod. Install the retaining bolt entirely into the strut. Lower lift arms onto the support strut.

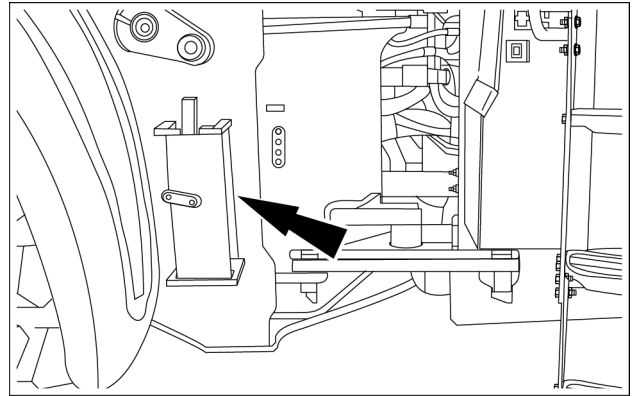
Failure to comply could result in death or serious injury.

W0140A

If you service the machine with the loader lift arms raised, always use the support strut.

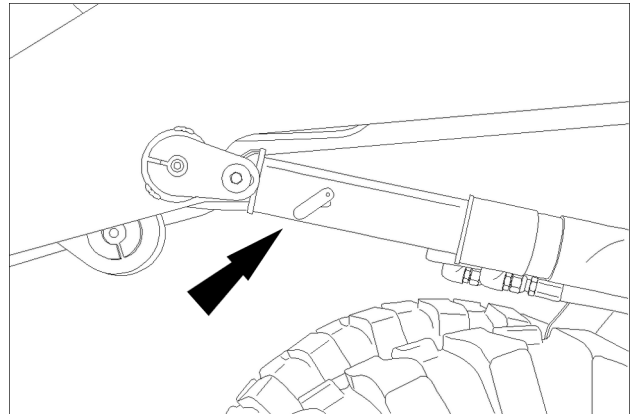
Support strut

1. Empty the loader bucket, park the machine on a level surface, raise the loader lift arms to approximately **2.1 m (7 ft)**, turn the engine off and set the parking brake before exiting the cab. Maintain the bucket in a dumped position. Remove the support strut from the storage position by removing the retaining bolt.



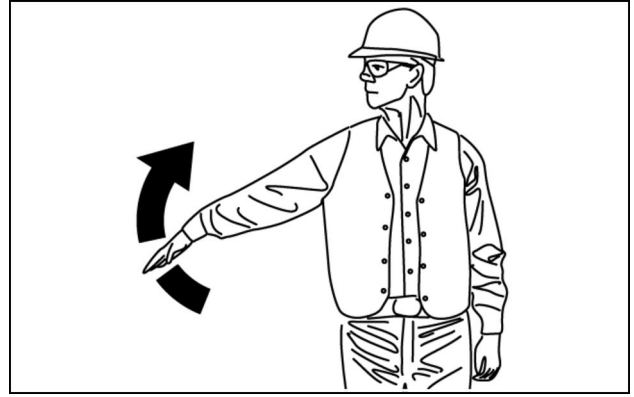
LEIL16WHL1598AB 1

2. Place the support strut onto the cylinder rod with the guide lock tab on the top of the cylinder and pointing toward the bucket. Install the retaining bolt entirely into the support strut using all threads. Slowly lower the lift arms onto the support strut. Maintain the bucket in a dumped position.

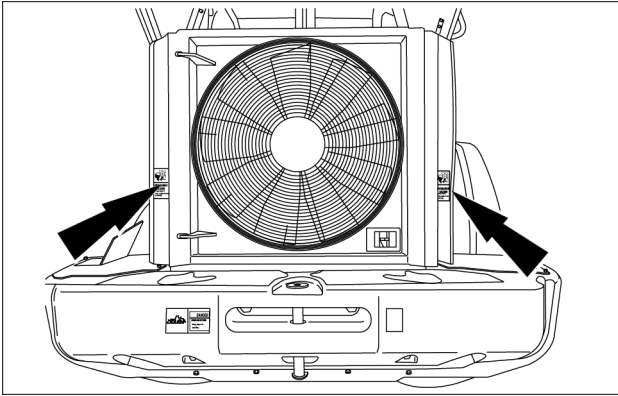


RCPH10WHL061BAL 2

Empty tool



LEEN11T0024AA 20



LEIL16WHL1004AA 35

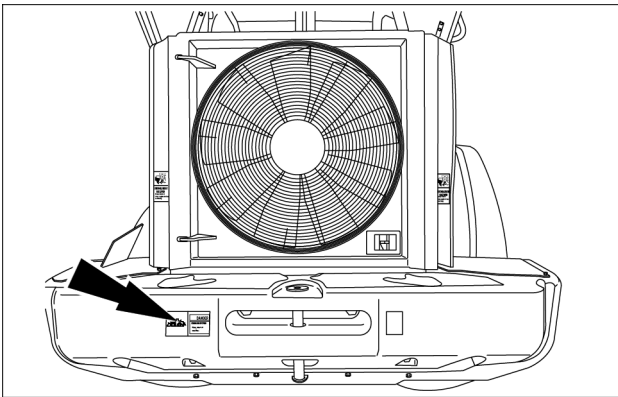
Location: on the cooling frame on the rear side of the machine.

WARNING
Entanglement hazard!
Keep clear or stop the engine before servicing.
Failure to comply with this warning could result in death or serious injury.

North American decal number: 87488606
French Canadian decal number: 87488607
Spanish decal number: 87488608



87488606_1 36



LEIL16WHL1004AA 37

Location: rear side of the machine.

WARNING
Run-over hazard!
Keep clear of the machine.
Failure to comply with this warning will result in death or serious injury.

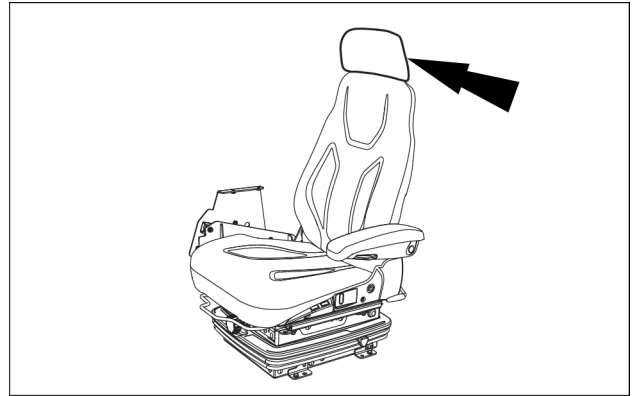
North American decal number: 328752A1
French Canadian decal number: 334686A1
Spanish decal number: 87453134



328752A1_ 38

Headrest (Optional)

The seat is equipped at the top with provisions for optional headrest.



LEIL16WHL1391AB 8

Pedal controls

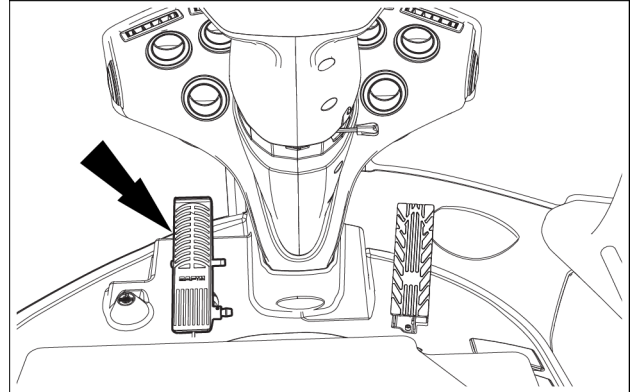
Brake pedal

When pushed, the brake pedal actuates the machine brakes.

NOTE: the pedal works in conjunction with the transmission declutch switch for more efficient braking. See "Loader functions – Declutch switch" – Chapter 4 in this manual for further information.

NOTICE: on steep slopes, use the down shift mode of the transmission to aid braking and to help prevent brake overheating and premature disc wear.

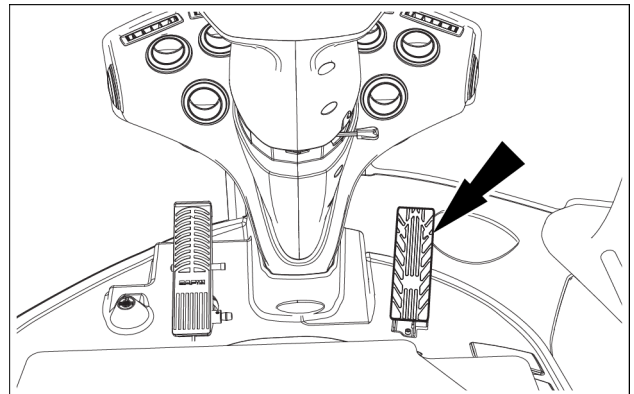
NOTE: when the machine is shut off, the parking brake is automatically set.



LEIL16WHL1556AB 1

Foot Throttle

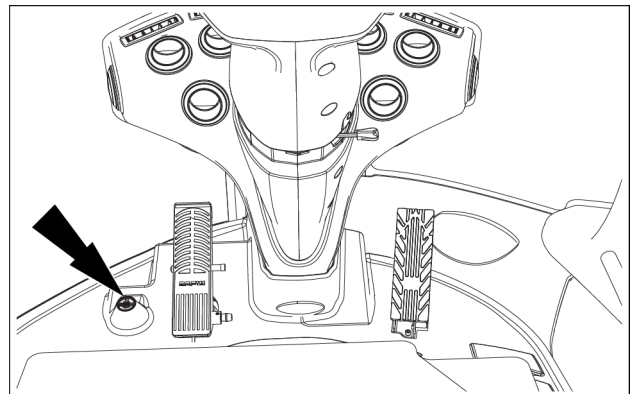
Push the foot throttle to increase the engine speed. When the pedal is released the engine runs at low idle.



LEIL16WHL1557AB 2

Differential lock (Optional)

Depress the differential lock foot switch to lock the front axle differential. Release the switch to unlock the differential.



LEIL16WHL1558AB 3

5. Auxiliary F-N-R



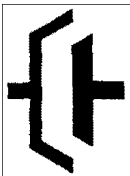
Press the auxiliary F-N-R button to enable/disable the auxiliary F-N-R switch located on the joystick or next to the single axis levers.
See Chapter 4 for further information.
LED color: green.

6. Auto shift



Press the auto shift button to enable/disable the automatic operation mode for the transmission. When the auto shift function is activated, the transmission will automatically shift up and down between 1st or 2nd and the highest speed setting on the transmission control lever.
See Chapter 4 for further information.
LED color: green.

7. De-clutch (4-speed only) / Power inch (5-speed only)



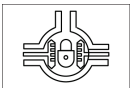
Press the de-clutch/power inch button to enable/disable the de-clutch on 4-speed transmissions or power inch on 5-speed transmissions. This feature can improve loader applications when truck loading and tight corner operations are required.
See Chapter 4 for further information.
LED color: green.

8. Torque converter lock-up (5-speed only)



Press the torque converter lock-up button to enable/disable the torque converter lock-up function. This function allows a direct mechanical connection between the engine and the transmission to eliminate torque converter loss. It allows the operator to remain locked up from the second gear upward. It allows for faster vehicle accelerations and speeds.
LED color: green.

9. Automatic differential lock (if equipped)



With the automatic differential lock button in ON position, the automatic differential lock system is enabled. The hydraulic differential lock will automatically engage when required for the wheel loader. The differential lock is activated any time the operator presses the differential lock foot switch, regardless of whether the automatic differential lock system is enabled or not.
LED color: green.

10. Return-to-dig



Press the return-to-dig button to enable/disable the return-to-dig function. This function allows the bucket to return to level with the ground for digging.
See Chapter 4 for further information.
LED color: green.

11. Height control



Press the height control button to enable/disable the height control function. This function allows the bucket to raise to the set height position when activated.
See Chapter 4 for further information.
LED color: green.

12. Return-to-travel



Press the return-to-travel button to enable/disable the return-to-travel function. This function allows the bucket to automatically return to the travel position after you have dumped the loader bucket.
See Chapter 4 for further information.
LED color: green.

Parking brake

▲ WARNING

Run-over hazard!
Apply the parking brake before leaving the cab.
Failure to comply could result in death or serious injury.

W1390A

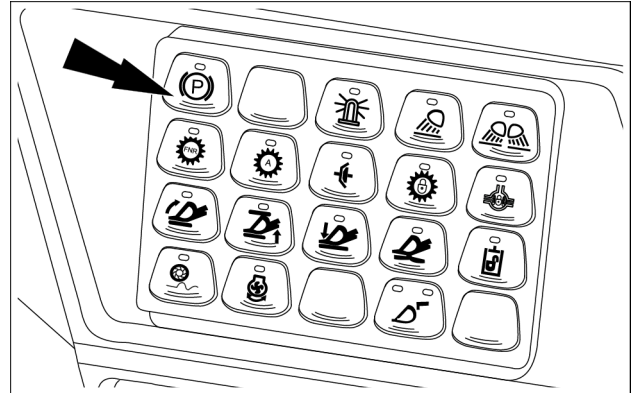
Parking brake button



Make sure the machine has come to a complete stop before applying the parking brake.

The parking brake button engages the parking brake on the transmission output shaft.

NOTICE: the parking brake is a spring applied, hydraulic released brake which is applied to the drive shaft. The parking brake will effectively hold the machine in place when used correctly.



LEIL16WHL1125AA 1

Engaging the parking brake

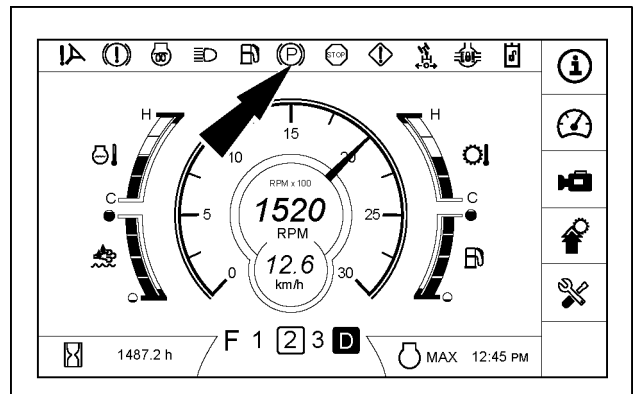
To engage the parking brake, move the transmission control lever to NEUTRAL (N), stop the machine and push the parking brake button. The parking brake will automatically engage when the machine is shut off.

NOTICE: a failure in the operating procedure or a failure in the electrical or hydraulic function can result in abrupt engagement of the parking brake. Always wear your seat belt.

NOTICE: apply the parking brake prior to leaving the cab and/or parking the machine on slopes.

Parking brake release

NOTE: the service brake must be at operating pressure before the parking brake can be released to move the machine. The brake pressure indicator lamp on multifunction display must not be illuminated when disengaging the parking brake. Attempting to move the machine prior to the service brake pressures being sufficient causing low operating pressure can result in premature parking brake pad wear.



LEIL16WHL1570AB 2

DISPLAY OPERATION

Navigation through the Liquid Crystal Display (LCD) multifunction display screens

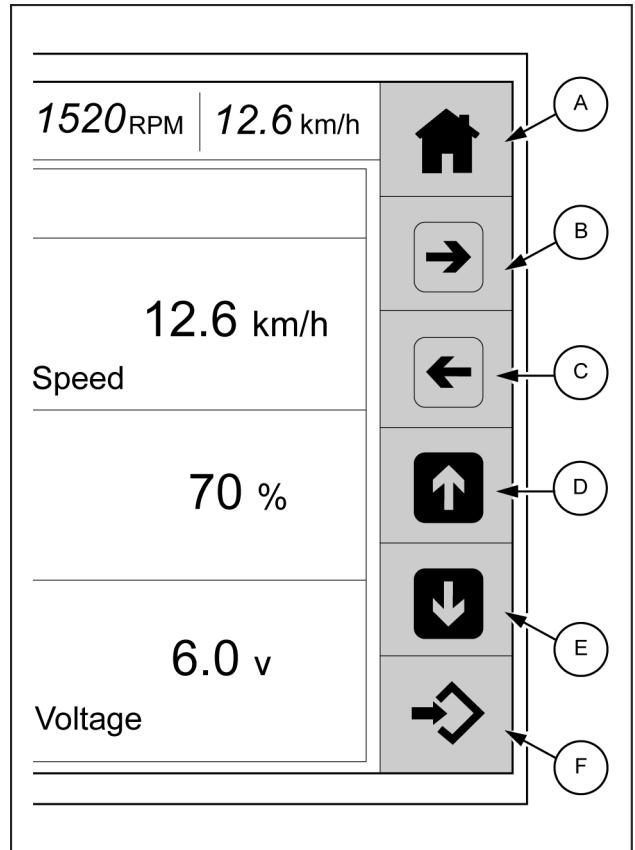
A keypad is located on the right-hand external border of the display.

Use this keypad to move from one screen to another, to choose various selections, to monitor the machine functions, and to retrieve information. All selections made with the computerized technology of the LCD screen are essentially programmed in the same manner.

Follow any screen prompts when given and use the confirm key to enter the selection. Use the home key (A) to return to the main menu. This will lock the chosen selection into memory.

You can access all functions in the same basic manner.

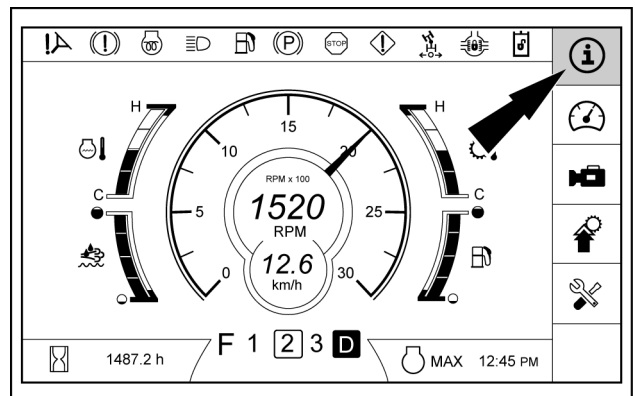
- A. Home key - Use this key to exit and return to the driving screen. You can use this key anytime to start over and begin again or to exit a field. You can also use this key to electronically check fault codes.
- B. Right arrow key - Use this key to scroll right to selections/screens.
- C. Left arrow key - Use this key to scroll left to selections/screens.
- D. Up arrow key - Use this key to scroll up to selections/screens.
- E. Down arrow key - Use this key to scroll down to selections/screens.
- F. Enter/confirm key - Use this key to confirm selections. After selections have been highlighted, use the enter/confirm key to choose selections.



LEIL15WHL0581BB 4

Machine status

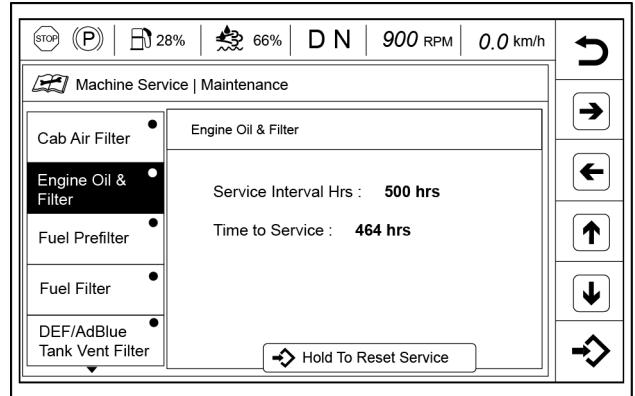
Use the keypad on the right-hand of the display to select the key to access to the "Machine status" screens.



LEIL15WHL0629AA 5

Engine Oil & Filters:

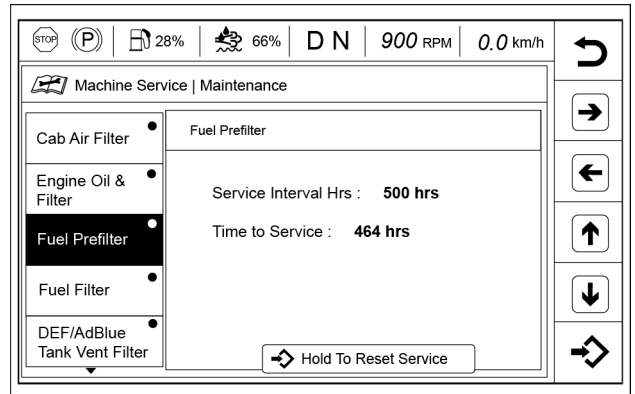
- Service Intervals Hrs: **500 h**
- Time to Service: (hours remaining until service is due)



LEIL16WHL0961AA 33

Fuel Pre-filter:

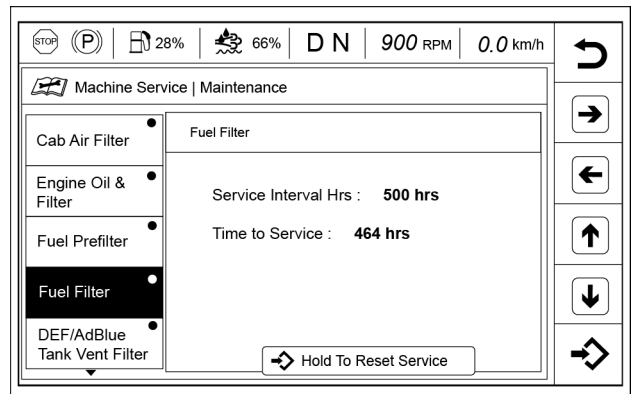
- Service Intervals Hrs: **500 h**
- Time to Service: (hours remaining until service is due)



LEIL16WHL0962AA 34

Fuel Filter:

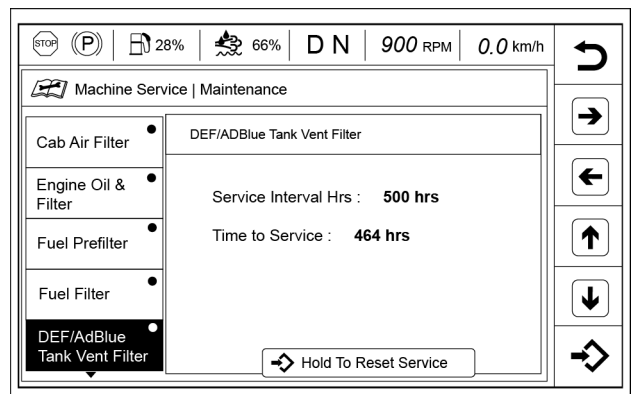
- Service Intervals Hrs: **500 h**
- Time to Service: (hours remaining until service is due)



LEIL16WHL0963AA 35

DEF/AdBLUE® Tank Vent Filter:

- Service Intervals Hrs: **500 h**
- Time to Service: (hours remaining until service is due)

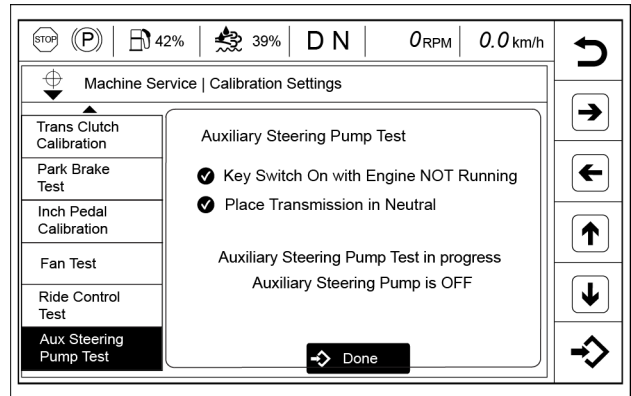


LEIL16WHL0964AA 36

Auxiliary Steering Pump Test is in Progress.

Auxiliary Steering Pump status is displayed.

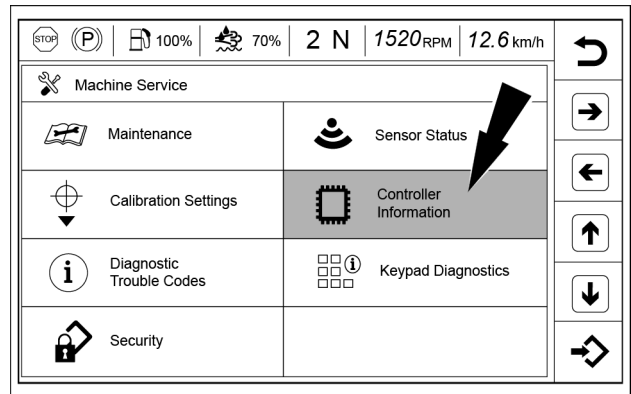
Select "Done" to exit.



LEIL16WHL0878AA 73

Controller Information

Use the keypad on the right-hand of the display to select the key to switch to the "Controller Information" screens. Screen shows hardware and software information for the selected electronic controller.

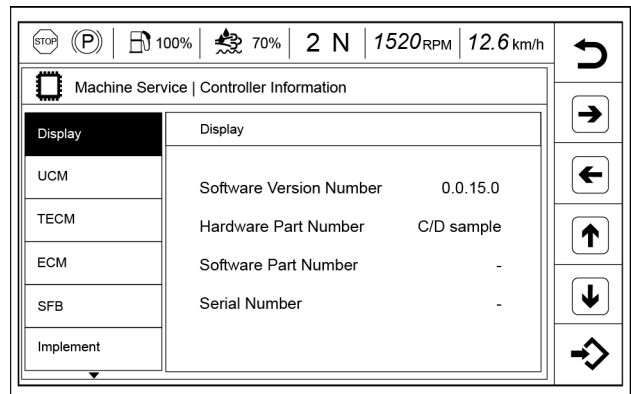


LEIL16WHL0931AA 74

→ Display (Example)

This page shows the following information regarding the display controller:

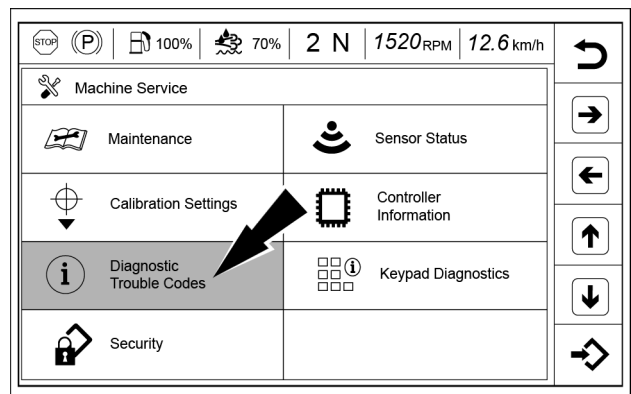
- Software Version Number
- Hardware Part Number
- Software Part Number
- Serial Number



LEIL16WHL0883AA 75

Diagnostic Trouble Codes

Use the keypad on the right-hand of the display to select the key to switch to the "Diagnostic Trouble Codes" page.



LEIL16WHL0909AA 76

Resetting the Selective Catalytic Reduction (SCR) system

After a failure or warning has been set, the SCR system must perform automatic tests to determine if failures or warnings have been resolved. There are two categories of system warnings:

1. Electrical failures which only need key cycle to heal.
2. Failures which need an active Urea Dosing System to heal:
 - Heated up SCR
 - High engine speed and torque

The system must perform the following actions in order to recognize the resolved failures or warnings and reset itself.

1. For **DEF/AdBLUE®** level warnings:
 - a. Key switch must be cycled OFF then ON.
2. For poor **DEF/AdBLUE®** quality warnings:
 - a. Key switch must be cycled OFF then ON.
3. For SCR system warnings, one of the following conditions must occur, depending on the exact cause of the warning:
 - a. Requires the machine to be operated for approximately **20 min** at a minimum of **50 %** load to operate the SCR system.
 - b. Requires starting and running the engine, but does not require the SCR system to operate.
 - c. Requires the key switch to be cycled OFF then ON.

Validation re-starts

Validation re-starts apply to the scenario “3a” of SCR system warnings (see list above). Validation re-starts allow operation of the machine for up to **30 min** without power loss after a poor **DEF/AdBLUE®** quality or SCR system fault has been detected. Up to three re-starts are permitted. Re-starts are counted if either of the following conditions are met:

1. Key off, wait **2 min** for ECU after-run.
2. Key on, wait **5 - 15 s**
3. Key off, wait **5 - 15 s**
4. Key on, wait **5 - 15 s**
5. Start

Normal operation will resume if a reset is detected within the **30 min** window.

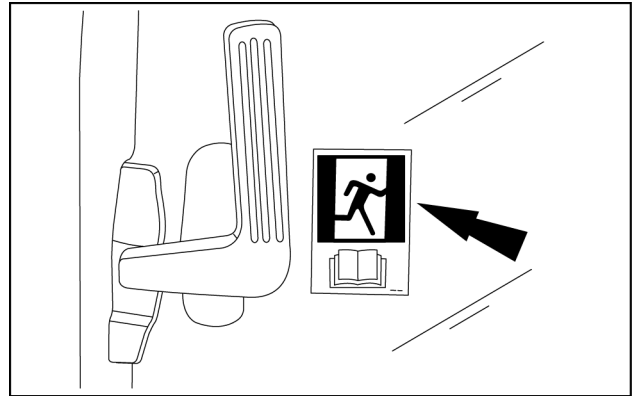
If a reset is not detected within **30 min**, power loss will occur as described in the table above.

Validation re-starts are not available **7 min** before severe inducement, or if inducement is activated a second time within **40 h** (inducements from low tank level are not considered toward validation restart availability)

If all three validation re-starts have been used and the system has not been reset, see your local authorized dealer for repair.

Emergency exit

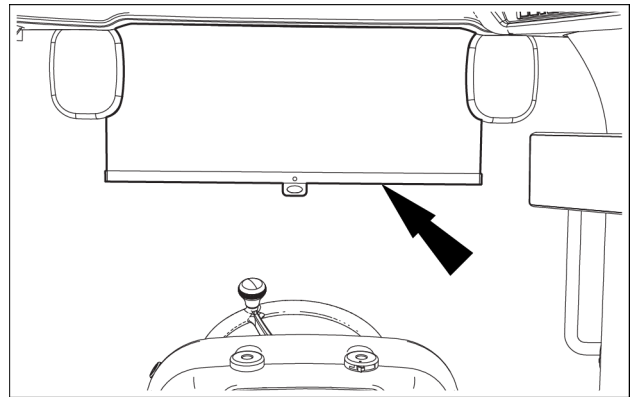
You can use the right-hand window of the cab as an emergency exit. Be proactive and open and close the emergency window exit as a safety measure to become familiar with its operation.



LEIL15WHL0500AB 4

Front sunblind

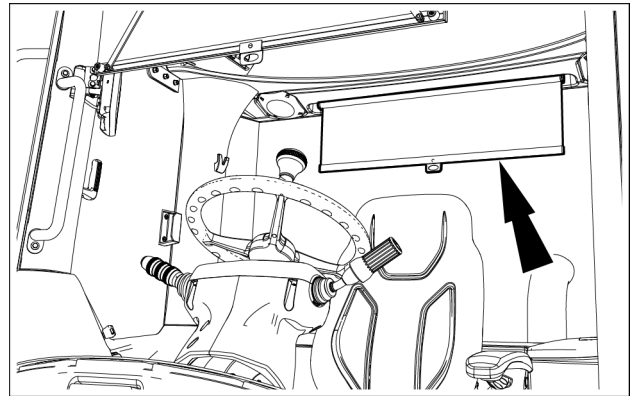
The machine is equipped with a front sunblind. Use the lower eyelet to position the sunblind at the desired height.



LEIL16WHL1329AB 5

Rear sunblind (Optional)

The machine can be equipped with a rear sunblind. Use the lower eyelet to position the sunblind at the desired height.



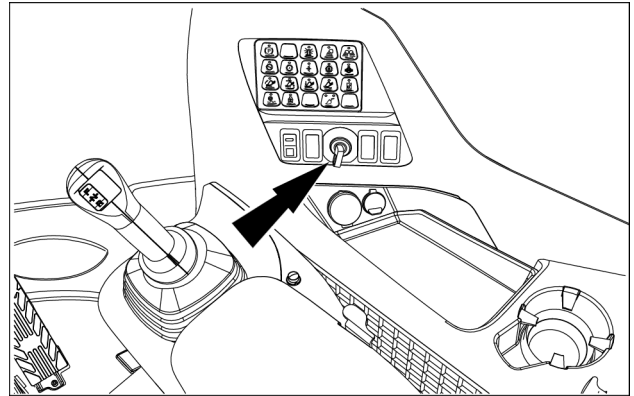
LEIL16WHL1268AB 6

6. Make certain the area is clear of all non-authorized personnel. Sound the horn to warn those around the work area of your intentions.
7. Insert the key into the ignition switch and turn it into the ON position. Monitor the console indicators. Do not attempt to start the engine until the grid heater light is out. When the grid heater light is no longer illuminated, turn the key to the START position. Once the engine starts, allow it to run at low idle until the engine coolant temperature is warm.

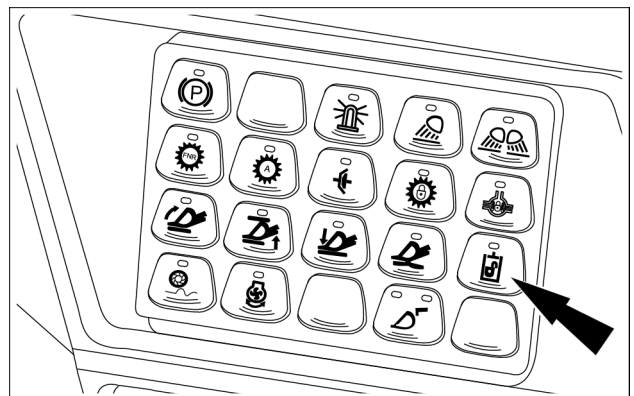
NOTE: if the engine starts and then stops, do not engage the starter motor again until the starter motor stops turning. Let the motor cool for two minutes before cranking again.

NOTICE: the starter has an automatic cut-out to protect itself. In cold weather conditions, extended cranking may be necessary.

8. Press the hydraulic functions lock-out button to power the equipment.
9. Raise the loader arm so that the equipment is raised approximately **380 mm (15 in)**.
10. To move the machine:
 - Press the parking brake button to the OFF position
 - Place the transmission control lever into the FORWARD or REVERSE position
 - Release the foot brake and accelerate smoothly

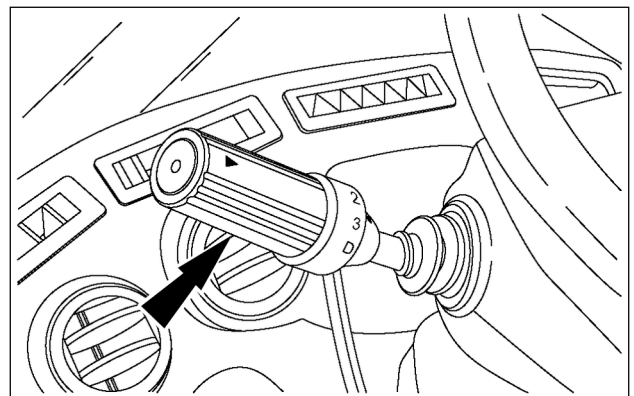


LEIL16WHL1286AA 5



LEIL16WHL1125AA 6

11. Use the transmission control lever to shift manually the transmission gears from first through fourth gear. Turn the transmission control lever away from you to select a higher gear. Turn the lever toward you to select a lower gear. Also use this control lever to put the transmission in FORWARD, NEUTRAL, and REVERSE.
 - Move the control lever away from you for FORWARD.
 - The center position of the control lever is NEUTRAL.
 - Move the control lever toward you for REVERSE.



LEIL16WHL1468AA 7

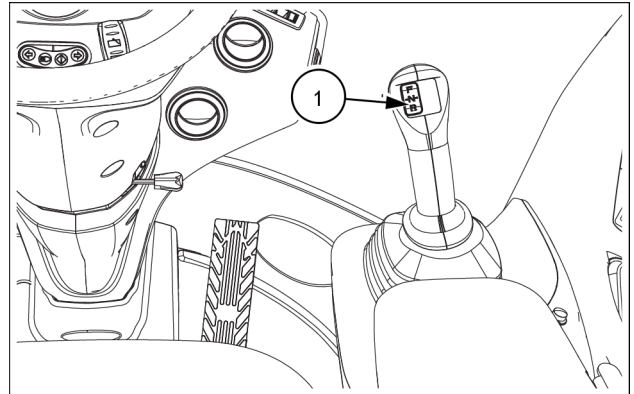
Auxiliary Forward, Neutral, Reverse (F-N-R) switch

Auxiliary F-N-R switch (1) for all joystick and single axis lever applications.

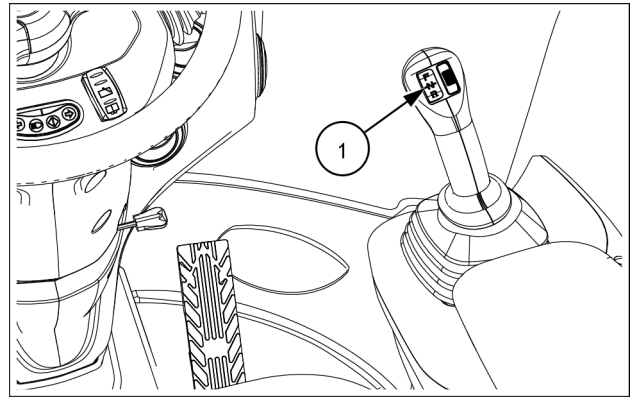
F. FORWARD

N. NEUTRAL

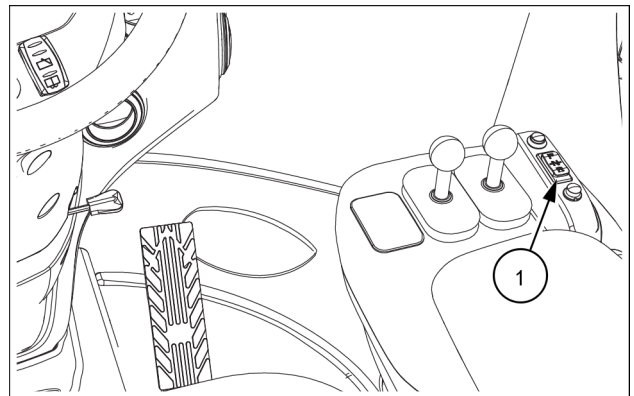
R. REVERSE



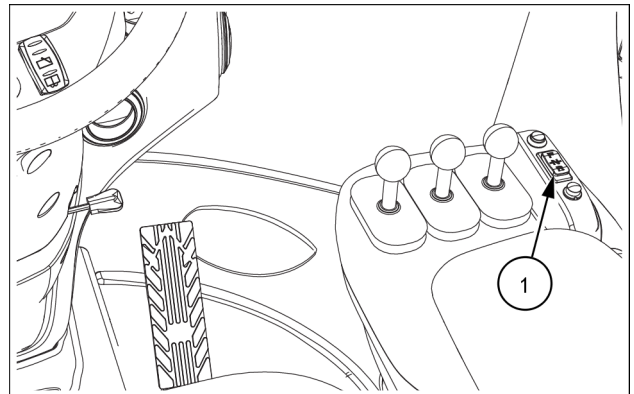
LEIL16WHL1288AB 1



LEIL16WHL1331AA 2



LEIL16WHL1303AA 3



LEIL16WHL1302AA 4

Auxiliary hydraulic connection (if equipped)

⚠ WARNING

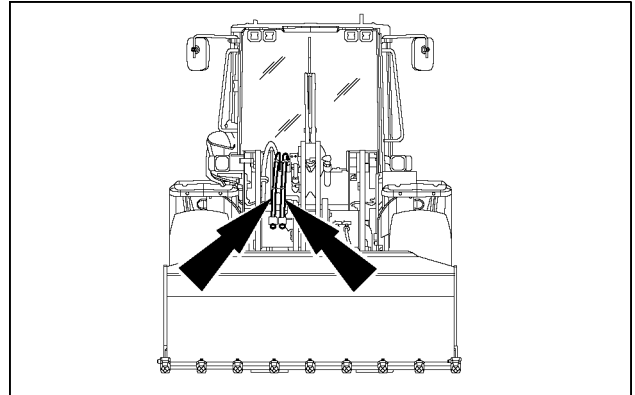
Escaping fluid!

Do not disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before disconnecting hydraulic quick coupler.

Failure to comply could result in death or serious injury.

W0095A

Your wheel loader may be equipped with an auxiliary hydraulic system.



LEIL16WHL1447AB 16

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6 - WORKING OPERATIONS

Loader operations

Operating tips

⚠ WARNING

Impact hazard!

Bucket edge or teeth can catch on frozen surfaces or buried objects during surface scraping operations. Before operation, inspect the area for hazardous objects. Operate the machine at slow speed around objects.

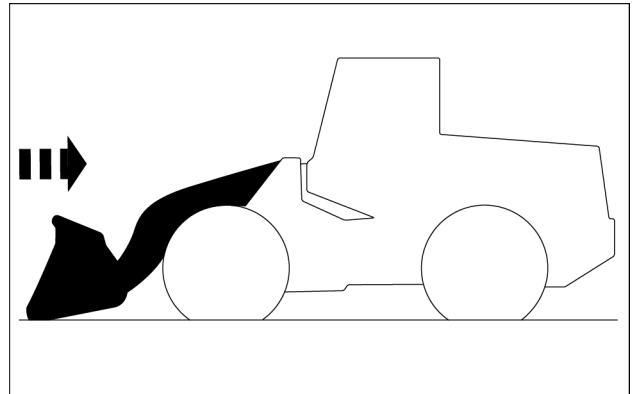
Failure to comply could result in death or serious injury.

W0459A

This wheel loader, with standard equipment and authorized attachments, is intended to be used for above ground level digging and general earth moving purpose such as land leveling, truck loading, material rehandling and ditch cleaning. If the machine is to be used for lifting objects, make sure that the machine is properly equipped and follow the instructions and safety precautions in this manual.

Leveling operation

Always operate the machine in reverse when leveling the surface.

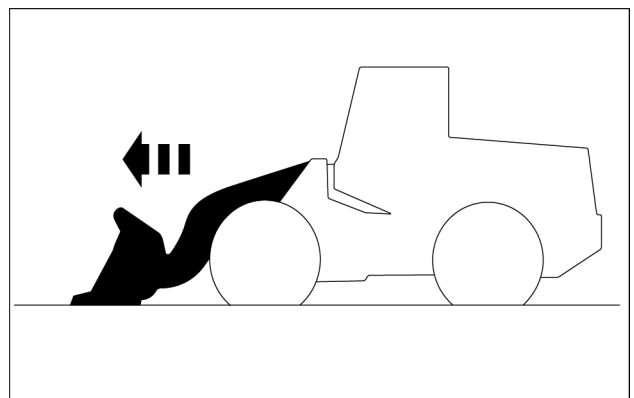


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Pushing operation

When pushing material, do not set the bucket dumping angle more than 20°.

NOTICE: the bucket **MUST NOT** be in the **FULL DUMP** position during the pushing operation.



LEIL16WHL0037AB 2

7 - MAINTENANCE

General information

Servicing

▲ WARNING

Improper operation or service of this machine can result in an accident. Read and understand the **SAFETY INFORMATION** Section before you perform any maintenance, service, or repairs. Read and understand the specific service procedures for the components you plan to work with before you start servicing the machine. Failure to comply could result in death or serious injury.

W0138A

▲ WARNING

Personal Protective Equipment (PPE) required. When assembling, operating, or servicing the machine, wear protective clothing and PPE necessary for the particular procedure. Some PPE that may be necessary includes protective shoes, eye and/or face protection, hard hat, heavy gloves, filter mask, and hearing protection. Failure to comply could result in death or serious injury.

W0353A

▲ CAUTION

Burn hazard!
Wait for all components to cool before performing any operation. Failure to comply could result in minor or moderate injury.

C0053A

NOTICE: clearly mark the connectors before unplugging. Clean the pipes and the connectors before the disassembly.

Presence of **DEF/ADBLUE®** crystallization on the pipe or on the cover of the filter is not allowed.

Remove **DEF/ADBLUE®** crystallization with water and a brush.

Usage of hammer or pincers are not allowed for the disassembly of the connector.

Follow the maintenance intervals by checking the hour meter every day. Before starting maintenance, park the machine on flat, firm ground, away from any obstacles, with the bucket/attachment on the ground. Keep all unauthorized personnel clear of the area. Unless otherwise specified, carry out all maintenance operations with:

- the engine stopped
- the machine parked on a firm, level surface
- the transport/service link locked into position to stop the machine from unexpected articulation
- the parking brake engaged
- the key removed from the key switch
- a "DO NOT OPERATE" tag on the key switch
- wheel chocks blocking the wheels
- all circuits cooled down prior to starting work

- all hydraulic pressure released in lift arm and bucket/attachment circuits
- any accumulator pressure released for the appropriate circuit

Clean the grease fittings before lubrication. Clean around plugs and filler holes before adding fluid. No dust or dirt must enter the components or the circuits. Wear suitable clothing and remember to use the necessary safety equipment.

When performing service work on the machine, place a "DO NOT OPERATE" tag on the instrument panel or the key switch. Turn off the engine and remove the key before leaving the operator's compartment.

Any modification to this machine without prior authorization could cause serious injury. Do not make any modifications without authorization. Consult your dealer.

The service intervals in this chapter refer to normal operating conditions. During the first operation period of a new machine (100 initial hours) or rebuilt component and under particularly severe conditions, carry out the service intervals more frequently.

NOTICE: take particular care to replace all filters regularly. Clean filters mean longer engine running life.

NOTICE: oils and fluids must be disposed of properly.

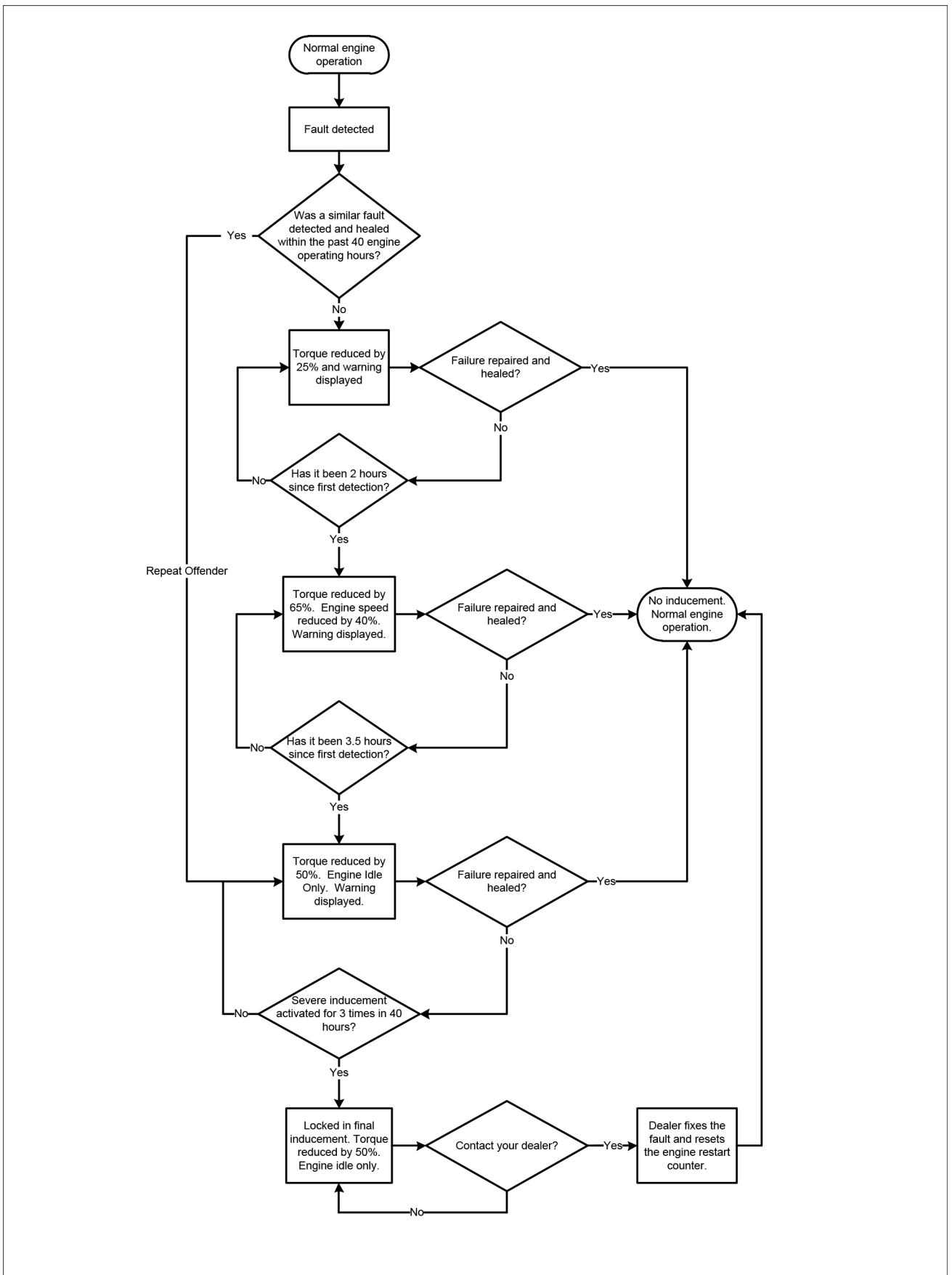
Front and rear axle oil viscosity/Temperature range

CASE AKCELA TRANSAXLE FLUID 80W-140										
-40 °C -40 °F	-30 °C -22 °F	-20 °C -4 °F	-10 °C 14 °F	0 °C 32 °F	10 °C 50 °F	20 °C 68 °F	30 °C 86 °F	40 °C 104 °F	50 °C 122 °F	

Hydraulic oil – Brake oil viscosity/Temperature range

CASE AKCELA HY-TRAN® ULTRACTION										
CASE AKCELA HY-TRAN® ULTRACTION SSL										
-40 °C -40 °F	-30 °C -22 °F	-20 °C -4 °F	-10 °C 14 °F	0 °C 32 °F	10 °C 50 °F	20 °C 68 °F	30 °C 86 °F	40 °C 104 °F	50 °C 122 °F	

DEF/AdBlue® technical faults

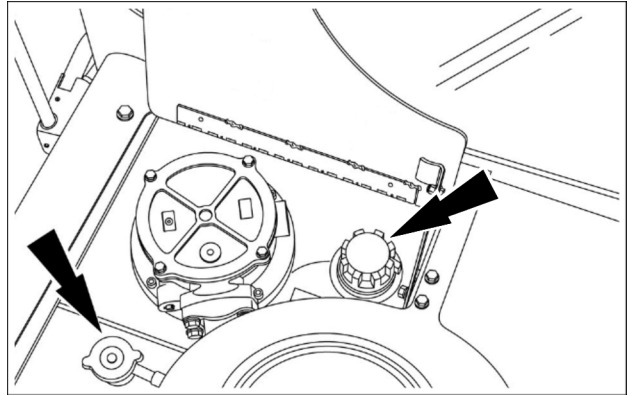


LEIL14WHL0392HA 4

Emissions warranty does not cover

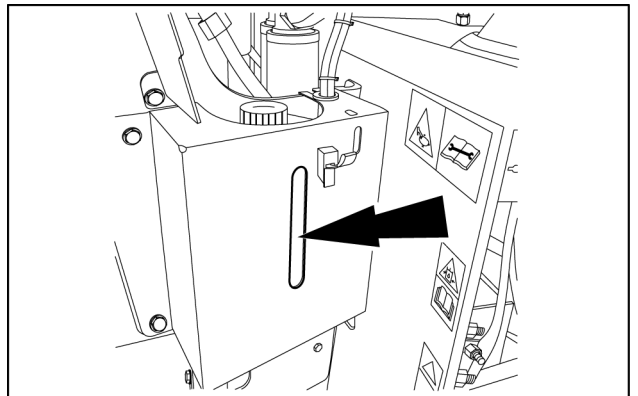
- Repairs arising from storage deterioration, failure to maintain the equipment, negligence, alteration, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond rated capacity or specification.
- Repairs arising from abuse or neglect, including but not limited to: operation without adequate coolant or lubricants, adjustments to the fuel system outside equipment specifications, over-speeding, improper storage, starting, warm-up, or shutdown practices, incorrect fuel or contaminated fuel, oil or other fluids.
- Normal maintenance services, such as engine tune-ups, engine fuel system cleaning, checks, adjustments, shimming, etc.
- Items replaced due to customer demand.
- Labor charges performed by anyone except a dealer authorized by contract to repair the equipment, unless they qualify under special provisions (i.e. outside labor).
- Any and all travel costs for items such as towing, service calls, or transporting a unit to and from the place where the warranty service is performed.
- Normal maintenance costs, including but not limited to: lubricants, coolants, fluids, fuel, filters, and associated labor. Lubricants, filters, and coolants may qualify for warranty reimbursement if they require replacement as a DIRECT RESULT of a defect in material or workmanship.
- Claims involving the inspection or reconditioning of units after storage or prior use.
- Repairs arising from service performed by agents not approved by CASE CONSTRUCTION.
- Repairs arising from any unauthorized modification to the product or the use of non- CASE CONSTRUCTION parts, implements or attachments.
- Removal, replacement, or installation of non- CASE CONSTRUCTION optional equipment, attachments or components.
- Premiums charged for overtime labor costs or out of shop expenses.
- Economic loss including lost profits, crop loss, equipment rental, or other expense.
- Unauthorized modification or updating machines without a warrantable failure.
- Any and all costs of dealer shop supplies incurred with repairs, including but not limited to: solvents, cleaners, anti-seize lubricants, **LOCTITE®**, sealant, adhesive, oil-dry, shop towels, etc.
- Failure of the machine, its implements or attachments caused by improper field application or loading.
- Any and all costs for coolant, fuel, or lube (oil) analysis including supplies and lab recommendations.
- Cost associated with cleaning of machine in preparation for servicing.

8. Coolant and hydraulic oil fills – hydraulic oil tank



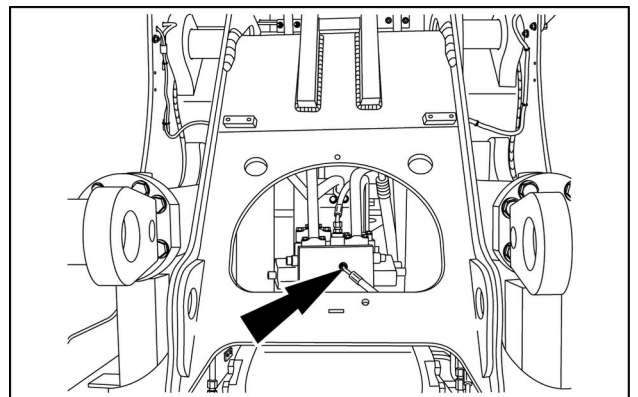
LEIL15WHL0720AB 8

9. Windshield fluid bottle access – right-hand side



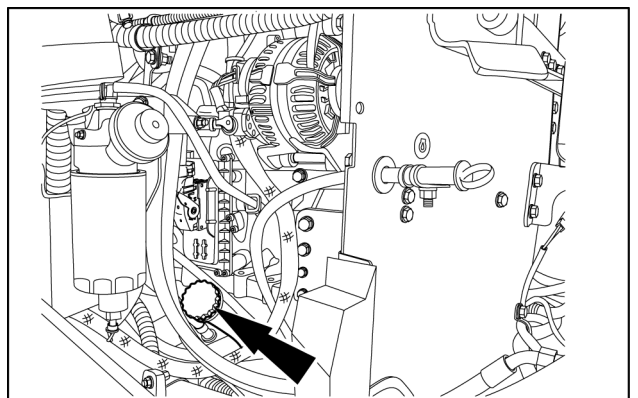
LEIL15WHL0685AB 9

10. Hydraulic main control valve – front frame



LEIL15WHL0760AA 10

11. Engine oil fill location – engine compartment, right-hand side



LEIL15WHL0688AB 11

Axle cooler filters (if equipped) - Change

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries. Hydraulic fluid is under extreme pressure. Rest the bucket or attachment on the ground. Shut the engine off, turn the key on, and move the hydraulic control lever through all movements several times to relieve residual pressure in the system. Failure to comply could result in death or serious injury.

W0161A

⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries. Keep hands and body away from any pressurized leak. **DO NOT** use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately. Failure to comply could result in death or serious injury.

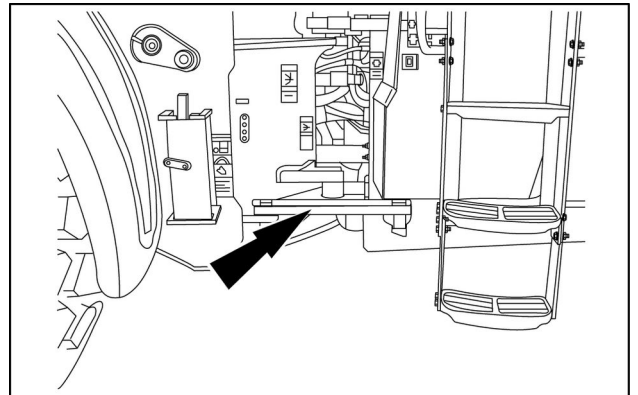
W0158A

Replace the axle cooler filters when the hour meter registers 100 hours for a new machine during the initial run-in period. Change the filters every 1000 hours thereafter or more frequently when operating conditions are severe.

Prior operation:

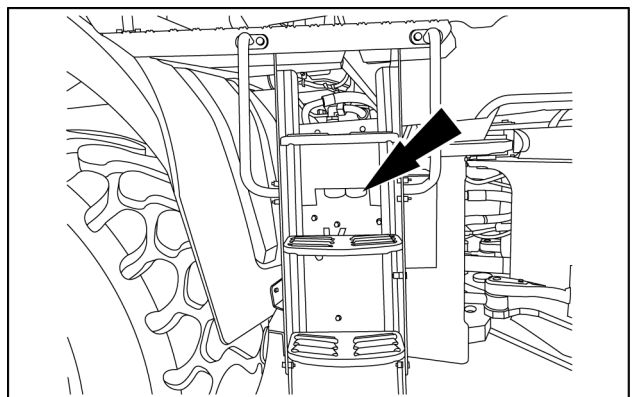
Keep all non-authorized personnel clear of the area. Park the machine on level ground in neutral with the parking brake applied and the attachment lowered to the ground. Turn the engine off.

1. Install the transport/service link into the lock position.



LEIL15WHL1782AA 1

2. Locate the axle cooler filters on the right-hand side of the machine under the steps. Remove the cover for easier access to the filters, if desired.



LEIL16WHL0673AB 2

Change the hydraulic oil filter

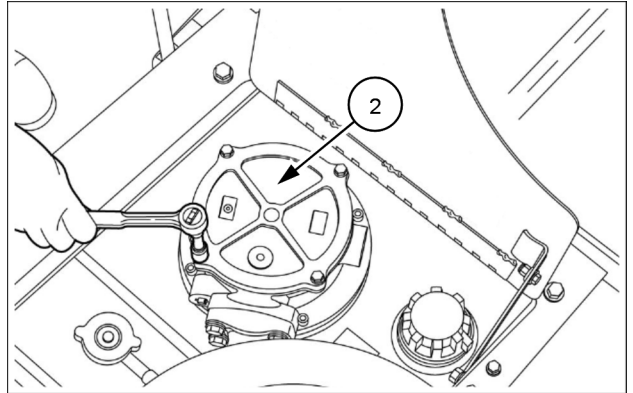
⚠ CAUTION

Spring under tension!

In the following steps, the high tension spring must be carefully unloaded. Maintain hands-on control of the breaker bar for the entire procedure. Wear eye protection. Failure to comply could result in minor or moderate injury.

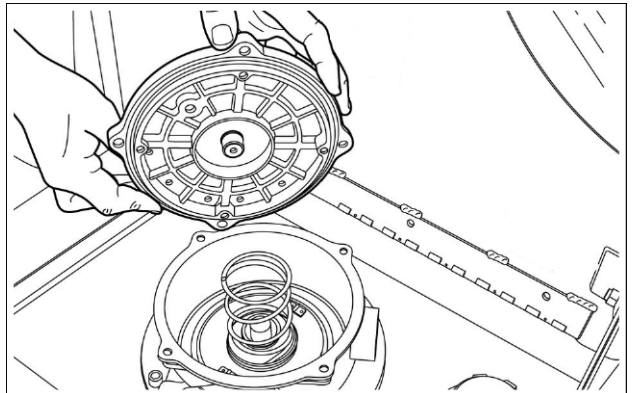
C0072A

8. Remove and replace the hydraulic oil filter when replacing the hydraulic oil. The hydraulic oil filter is located under the reservoir cover (2). Remove the four bolts from the cover.



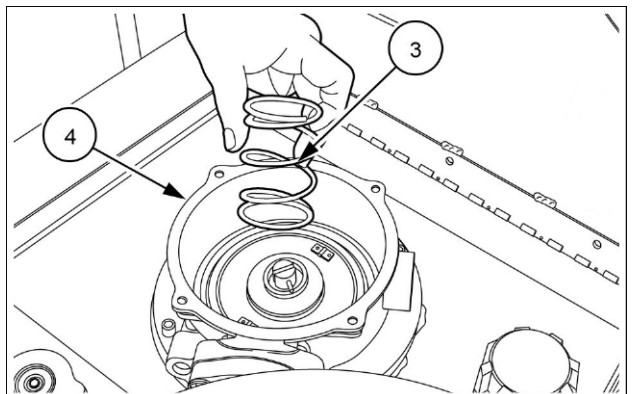
LEIL15WHL0717AA 3

9. Remove the cover carefully.



LEIL15WHL0713AA 4

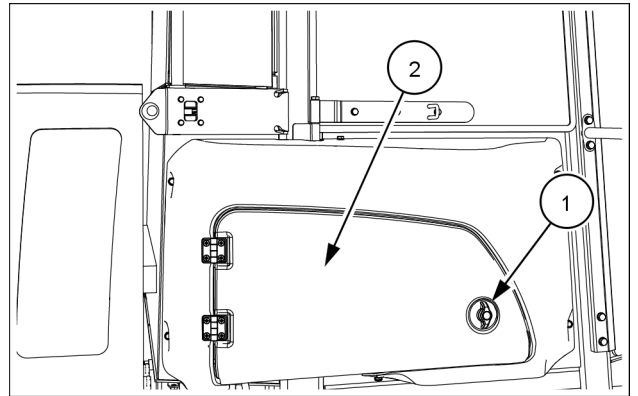
10. Remove the spring (3) and the O-ring (4).



LEIL15WHL0714AB 5

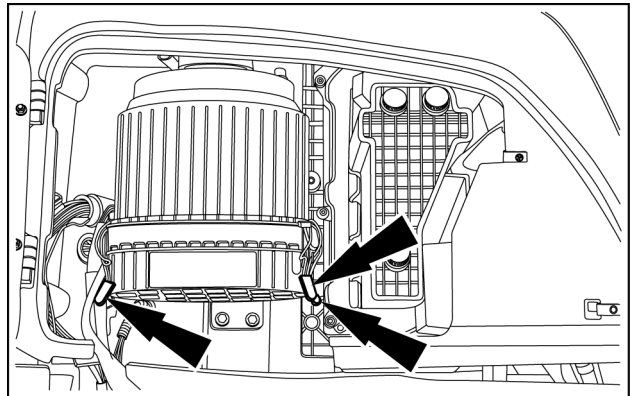
Cab air filter

1. Turn the latch (1) to open the right-hand door (2).



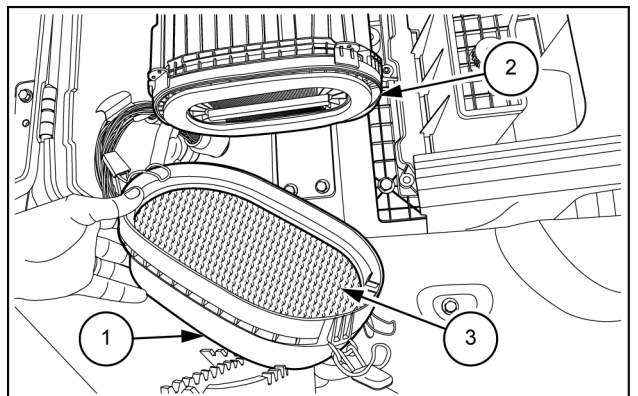
LEIL16WHL1352AA 4

2. Unhook the three clips securing the cab air filter cover.



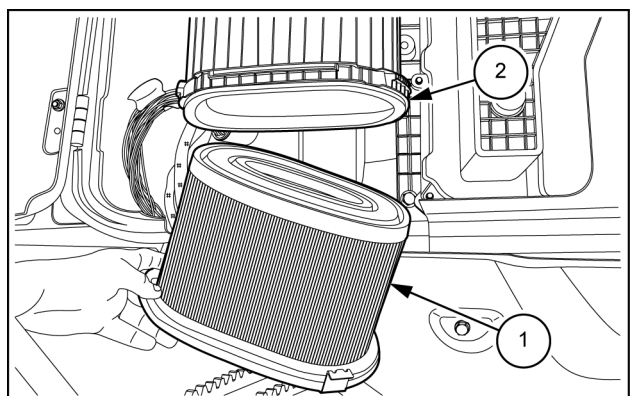
LEIL15WHL0637AA 5

3. Remove the cover (1) from the filter housing (2).
4. Remove the sponge filter (3). Clean the sponge filter (3) with soap and water.



LEIL15WHL0566AB 6

5. Extract the cab air filter (1) from the filter housing (2).
6. Check the filter for debris or tears. Wipe the inside of the filter housing. Clean dust from filter, using compressed air if necessary.
7. Reinstall the filter and air filter cover.



LEIL15WHL0567AB 7

Fuel tank sediment - Drain

⚠ WARNING

Hot liquid under pressure!

Fuel in the high pressure fuel line is still under pressure immediately after you shut down the engine. Before performing any maintenance or inspection, wait for 2 minutes after engine shutdown to allow the pressure to drop.

Failure to comply could result in death or serious injury.

W0249A

⚠ WARNING

Chemical hazard!

When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.

Failure to comply could result in death or serious injury.

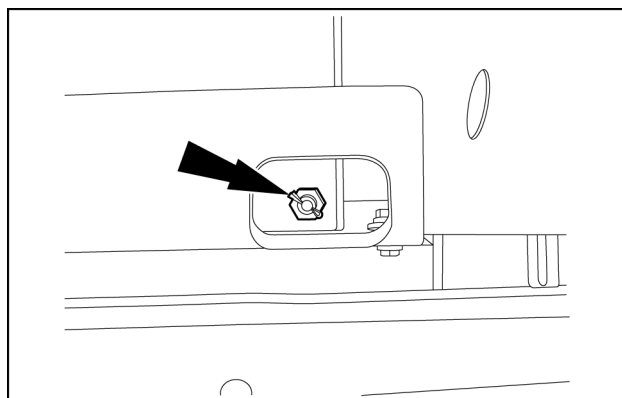
W0371A

Prior operation:

Keep all non-authorized personnel clear of the area. Park the machine on level ground, in neutral with the parking brake applied and the attachment lowered to the ground. Install the transport/service link into the lock position.

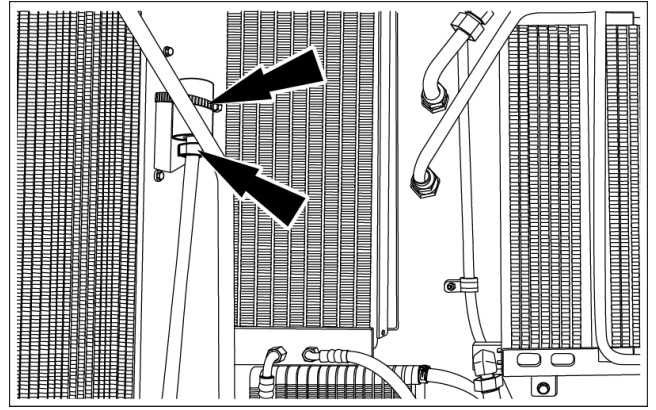
Drain condensation from the fuel tank when the hour meter registers 500 hours of operation or more frequently if conditions so require. The drain is on the lower rear of the machine.

1. Have a suitable container ready to collect the condensation and fuel. Dispose of the waste following local regulations.
2. Remove the cover to access the fuel tank drain.
3. Open the fuel tank drain slowly, remove the tank drain plug, and allow the condensation to flow until only fuel is discharged.
4. Turn the drain handle and close the drain. Replace the tank drain plug.



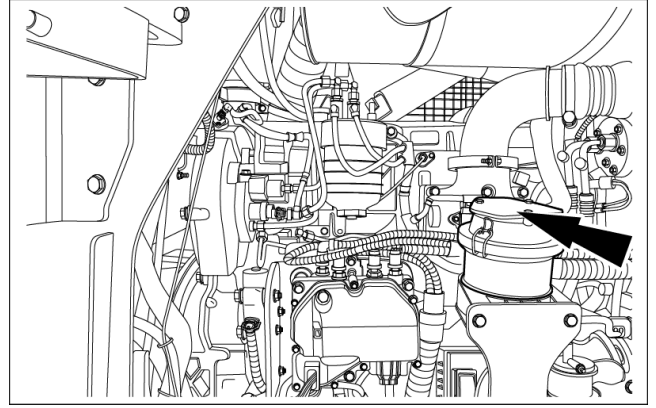
LEIL15WHL1793AB 1

4. Loosen the clamps from the breather body and remove from hose.
5. Discard appropriately and reinstall a new filter.



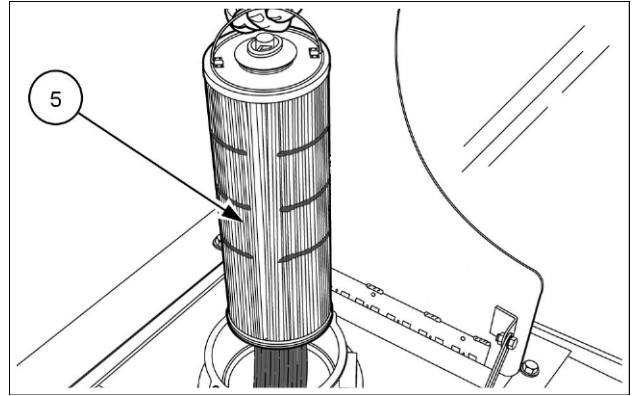
LEIL15WHL0756AB 4

4. Replace the filter. Make sure that filter is correctly seated. Replace the housing cover and secure the clips.



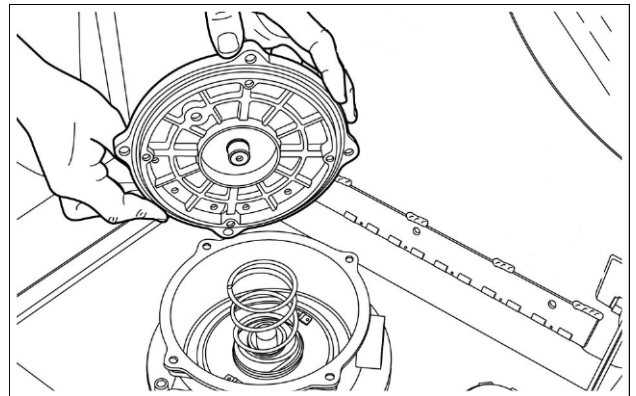
LEIL15WHL0733AB 4

12. Remove the filter **(5)** and replace with a new one. Make sure that grommet is removed with the filter.



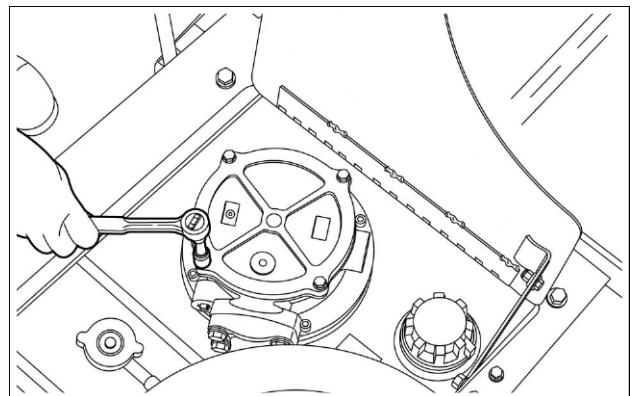
LEIL15WHL0715AB 7

13. Replace the O-ring with a new O-ring. Install the spring. Put cover in place.



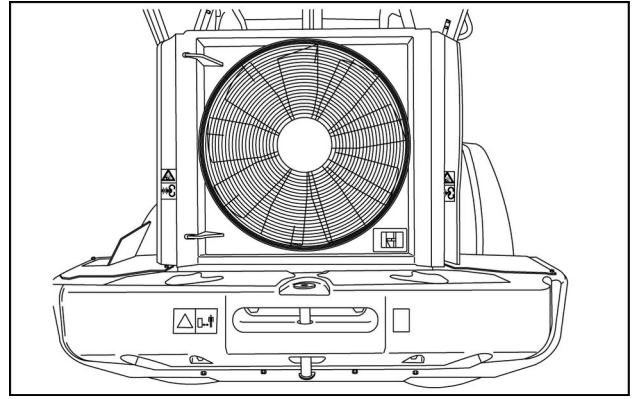
LEIL15WHL0716AA 8

14. Replace the four bolts, tightening alternately.
15. Close the drain. Refill reservoir with correct fluid and correct capacity. Install the reservoir fill cap.
16. Start the engine and run at **1000 RPM**. Check for leakage around the drain.
17. Operate the loader controls several times to remove any air in the lines.
18. Place the loader bucket/attachment on the ground and stop the engine. Check the hydraulic oil level.
19. If it is necessary to top off with more oil, remove the fill cap slowly to release pressure in the reservoir and add required **CASE AKCELA HY-TRAN® ULTRACTION**.



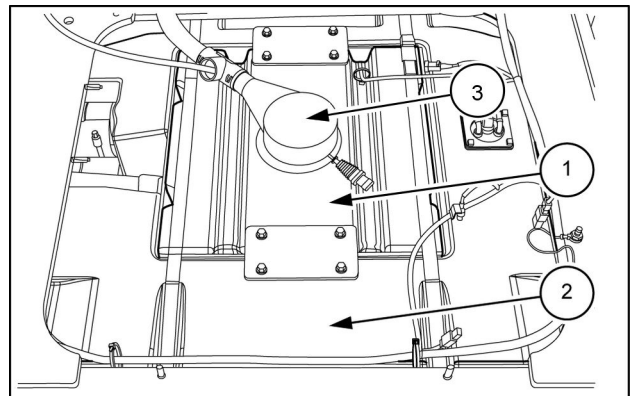
LEIL15WHL0717AA 9

4. The **DEF/AdBLUE®** level/temperature sensor is located inside the cooling box. To access the cooling box, use the latch to open fan door.



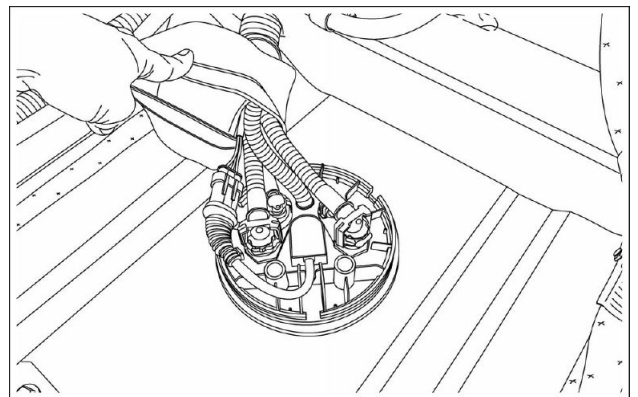
LEIL15WHL0698AB 4

5. Locate the **DEF/AdBLUE®** level/temperature sensor (3) inside the **DEF/AdBLUE®** supply tank (1) and near the fuel tank (2). Use compressed air or water to clean dirt and debris from the top of the **DEF/AdBLUE®** supply tank and around the level/temperature sensor pickup heater element (3).



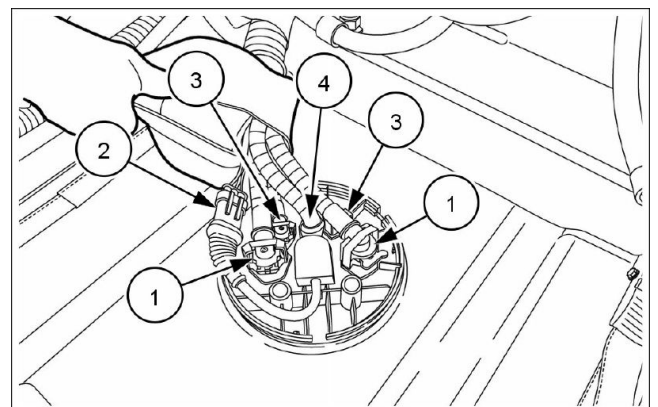
LEIL15WHL0765AA 5

6. Remove the rubber cover from the **DEF/AdBLUE®** level/temperature sensor pickup heater wires and supply/return lines. Mark wire and hose connection positions.



LEIL15WHL1143AB 6

7. Tag and disconnect the wire harness (2). Disconnect the engine coolant lines (1) and the **DEF/AdBLUE®** lines (3) by pushing coupling together, squeezing the tabs and then pulling the connection apart. Remove the purge line (4) by pushing collar down with screwdriver and pulling up on the purge line (4).



LEIL15WHL1175A 7

NOTE: plug all lines to prevent debris from entering the system.

Parking brake - Check

⚠ WARNING

Improper operation or service of this machine can result in an accident. Make sure you perform the required service and adjustments correctly to avoid injury and machine damage. Failure to comply could result in death or serious injury.

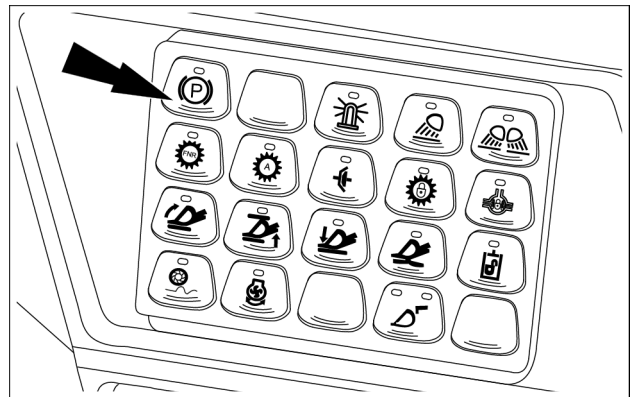
W0352A

Prior operation:

Keep all non-authorized personnel clear of the area when performing the parking brake test. Park the machine with the bucket in the travel position on a firm, level surface clear of any obstructions and any non-authorized personnel or vehicles.

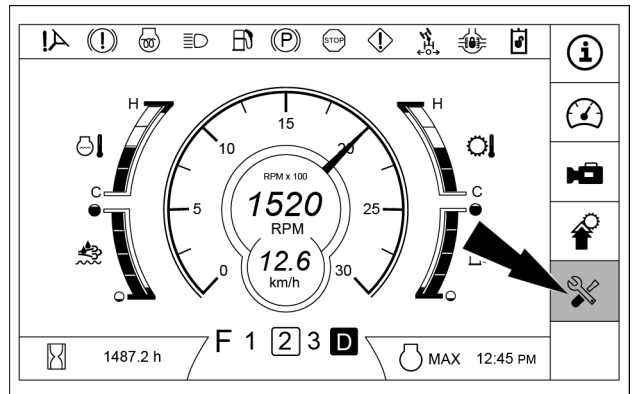
Periodically test the parking brake functions (at a maximum of every **250 h**).

1. Start the machine. Move the transmission control lever to NEUTRAL. Push the parking brake button on the multifunction keypad.



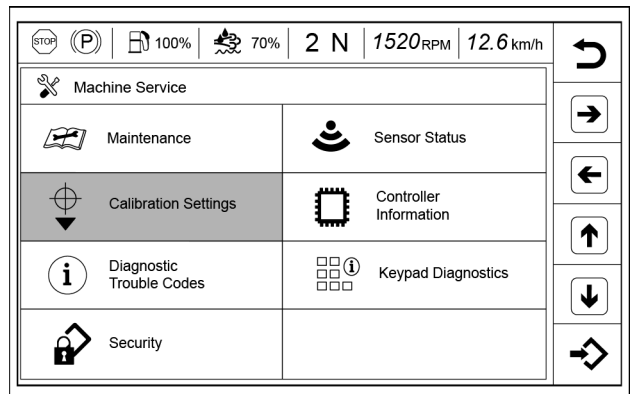
LEIL16WHL1125AA 1

2. The display is ON and shows the main menu.
3. Use the keypad on the right-hand of the display to select the key to access to the "Machine service" screens.



LEIL16WHL0908AA 2

4. Use the keypad on the right-hand of the display to select the key to switch to the "Calibration Settings" screens.



LEIL16WHL0874AA 3

⚠ WARNING

Chemical hazard!

Battery posts, terminals, and related accessories contain lead and lead compounds. Wash hands after handling.

Failure to comply could result in death or serious injury.

W0349A

⚠ WARNING

Improper operation or service of this machine can result in an accident.

Welding sparks can cause battery gases to explode. When welding on the machine, always disconnect the B+ and D+ wires from the alternator. Check the wire markings before reconnecting to ensure a correct connection.

Failure to comply could result in death or serious injury.

W0253A

Battery service

Before you service components of the electrical system, always disconnect the NEGATIVE (-) battery cable.

Dirt, moisture, and corrosion on the battery will discharge the battery. Clean the battery with CASE CONSTRUCTION Battery Saver and Cleaner. Follow the instructions on the container.

Before you use an electric welder, disconnect the alternator wires, instrument cluster, and turn the timed disconnect switch to OFF.

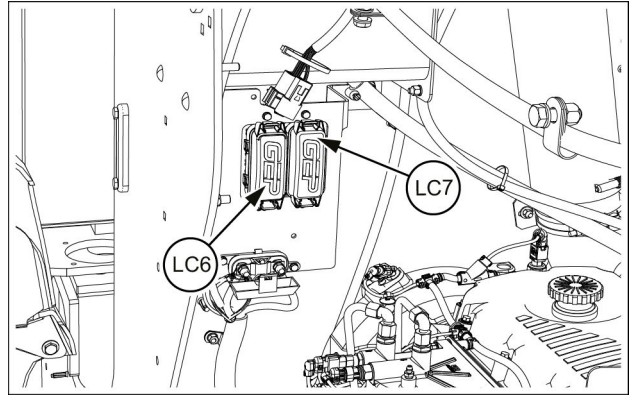
Do not use a steam cleaner or cleaning solvent to clean the alternator.

Battery vents

If equipped, keep the battery vents clean, make sure the vents are not restricted.

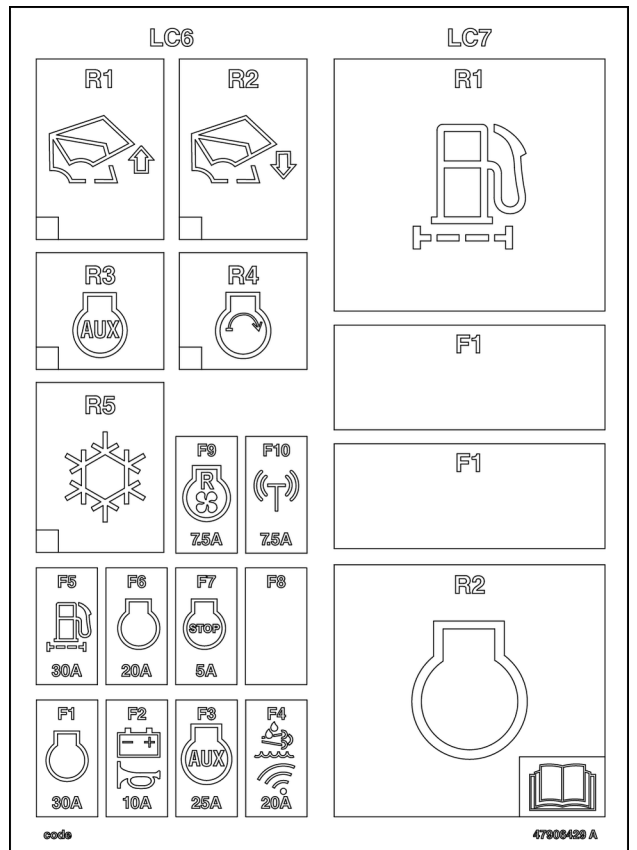
Additional fuses and relay

Additional fuses and relays (**LC6**) and (**LC7**) are located in the engine compartment area, on the rear side of the hydraulic tank, as indicated by the decal.



LEIL16WHL0690AB 4

Never replace a fuse with a fuse of a different amperage. Before changing fuses or relays, turn the ignition key switch to the OFF (Shut Down) position.



47906429 5

8 - SPECIFICATIONS

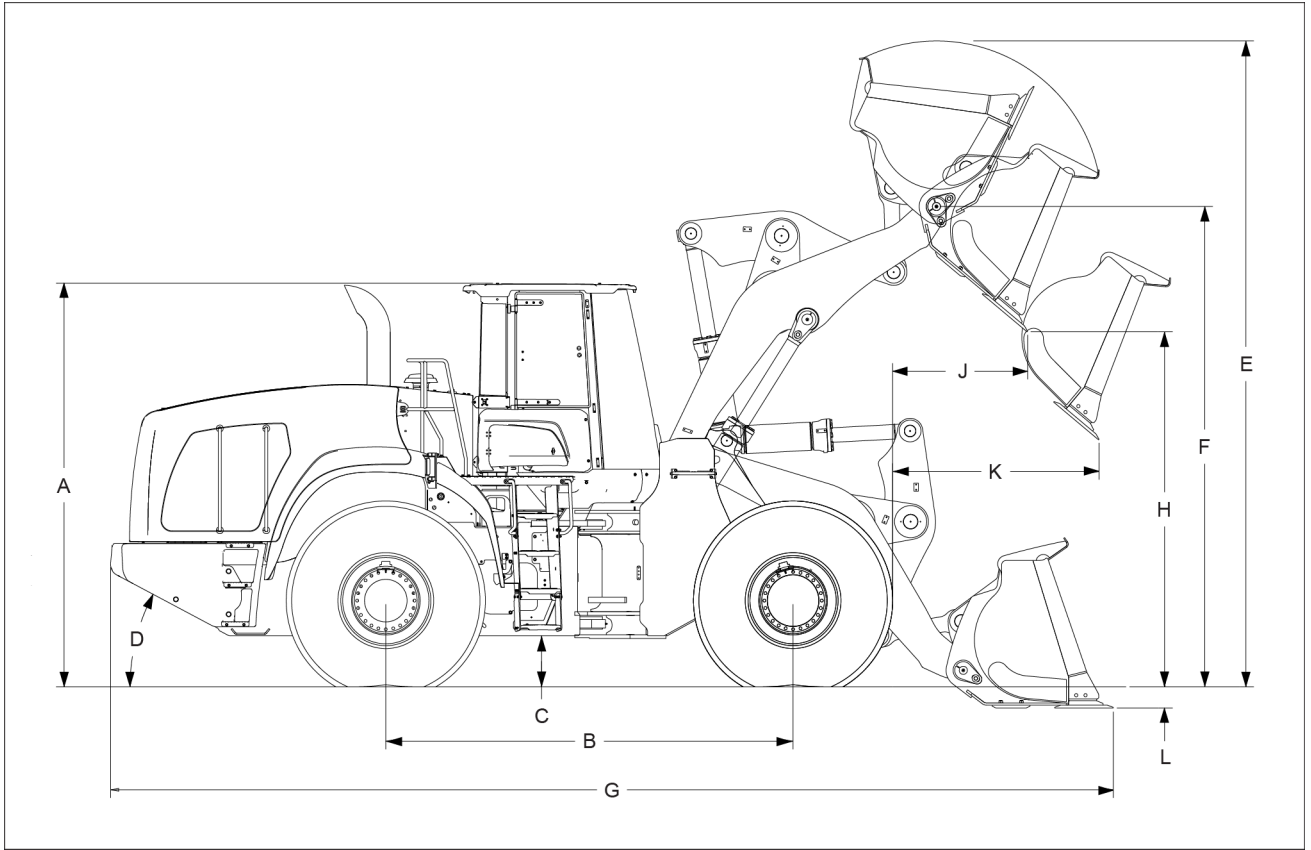
General specifications

1021G Model

1021G Engine Specifications

Model	FPT F2CFE614H, Tier 4b certified
Type	4-stroke, turbocharged, air-to-air cooled
Cylinders	6
Bore / Stroke	117 mm (4.61 in) x 135 mm (5.31 in)
Displacement	8.7 l (531 in³)
Fuel Injection	Electronic
Horsepower	
Maximum power (rated/peak)	
Gross	239 kW (320 Hp) @ 1800 RPM
Net	221 kW (296 Hp) @ 1800 RPM
Standard power (peak)	
Gross	222 kW (297 Hp) @ 1800 RPM
Net	204 kW (273 Hp) @ 1800 RPM
Economy power (peak)	
Gross	188 kW (253 Hp) @ 1400 RPM
Net	180 kW (241 Hp) @ 1400 RPM
Torque (maximum)	
Maximum power range	
Gross	1479 N·m (1091 lb ft) @ 1100 RPM
Net	1442 N·m (1064 lb ft) @ 1100 RPM
Standard power range	
Gross	1374 N·m (1013 lb ft) @ 1100 RPM
Net	1337 N·m (986 lb ft) @ 1100 RPM
Economy power range	
Gross	1285 N·m (948 lb ft) @ 1300 RPM
Net	1234 N·m (910 lb ft) @ 1300 RPM
Economy engine speeds	
Machine idled (alternate low idle)	670 - 730 RPM
Machine idled (cold weather alternate accelerated low idle)	1170 - 1230 RPM
Electrical	
Batteries	Two - 12 V
Alternator	120 A
Voltage	24 V

8 - SPECIFICATIONS



LEIL16WHL0674FA 4

1021G XR Specifications - 4.2 m³ (5.5 yd³) Blade / 4.1 m³ (5.3 yd³) Teeth - Pin On

	Bucket with Bolt-on Edge	Bucket with Teeth
Bucket Specifications		
Capacity (heaped)	4.21 m³ (5.50 yd³)	4.05 m³ (5.30 yd³)
Bucket width (maximum outer)	3195 mm (125.8 in)	3223 mm (126.9 in)
Dimensional Outline Specifications		
A (top of cab height)	3574 mm (140.7 in)	3574 mm (140.7 in)
B (wheelbase)	3550 mm (139.8 in)	3550 mm (139.8 in)
C (ground clearance)	437 mm (17.2 in)	437 mm (17.2 in)
D (rear angle of departure)	23 °	23 °
Overall width with bucket guard	2978 mm (117.2 in)	2978 mm (117.2 in)
Centerline tread width	2300 mm (90.6 in)	2300 mm (90.6 in)
Turning radius (outside of tires)	6366 mm (250.6 in)	6366 mm (250.6 in)
Turning angle from center	40 °	40 °
Total turning angle	80 °	80 °
E (fully raised with spillguard)	6405 mm (252.2 in)	6405 mm (252.2 in)
F (hinge pin - fully raised)	4827 mm (190.0 in)	4827 mm (190.0 in)
G (overall - bucket level on ground)	9467 mm (372.7 in)	9648 mm (379.8 in)
H (dump - fully raised, 45 ° dump)	3659 mm (144.1 in)	3541 mm (139.4 in)
J (reach - fully raised, 45 ° dump)	1278 mm (50.3 in)	1411 mm (55.6 in)
K (reach - 2.13 m (7.0 ft), 45 ° dump)	2358 mm (92.8 in)	2446 mm (96.3 in)
L (dig depth)	127 mm (5.0 in)	131 mm (5.2 in)
ISO Load Specifications		
Operating Weight (without load)	26631 kg (58711 lb)	26629 kg (58707 lb)
Operating load	6921 kg (15259 lb)	6961 kg (15346 lb)
Tipping load		
Machine straight	17153 kg (37816 lb)	17258 kg (38047 lb)
40 ° turn	13843 kg (30518 lb)	13922 kg (30692 lb)

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