VOLVO
Construction Equipment

Service Information

Document Title: **Leak detector 951 1207, description**	Function Group: **080**	Information Type: **Service Information**	Date: **5/29/2020**
Profile: **L110H Volvo**			

Leak detector 951 1207, description

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L110H Volvo			

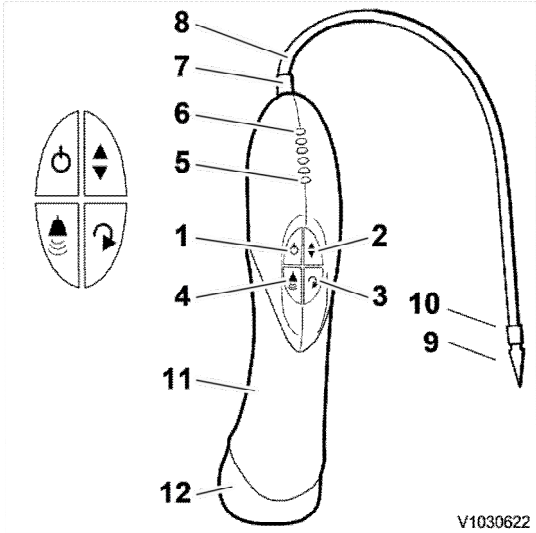

Figure 1
Leak detector 951 1207

1. Start/Stop
2. Sensitivity High/Low
3. Reset
4. Alarm
5. LED–indicator 1, lit when the leak detector is on
6. LED–indicator 2–6 for visual leak size
7. Sensor
8. Flexible probe
9. End of probe
10. Filter
11. Outlet for charger
12. Battery

WARNING

Explosion risk when using leak detector in explosive environments.

Leak detector 951 1207 shall be used to check sealing of the AC unit. The leak detector indicates refrigerant leakage with audible signal and visual signal, the audible signal can be disconnected.

The instrument is designed around a microcomputer, and a sensor part. The sensor current is affected by the content of refrigerant gas in the surrounding air.

Battery

The LED–indicator closest to the buttons is always lit when the leak detector is on.

- The battery is fully charged when the LED–indicator is activated with a green light.
- The battery should be recharged after use when the LED–indicator is orange.
- The battery should be recharged immediately when the LED–indicator is red.

Charging of battery

NOTE!

To avoid damaging the battery, it should only be charged in temperatures between 10 °C – 40 °C (50 °F – 104 °F).

Connect the charger on the back of the leak detector and plug in to a wall outlet.

- Fast flashing orange = battery is being charged.
- Slow flashing green = battery fully charged.
- Slow flashing red = battery cannot be charged.

The leak detector can be connected to the charger when it is not in use. When the battery is fully charged, the charger will only provide the battery with a trickle-charge.

Sensor

The sensor needs to be replaced every once in awhile. The first LED–indicator will flash when it is time to replace it. If the sensor is missing or is completely defective LED–indicator 2 – 6 will flash red quickly.

Sensor, changing

- Carefully turn the flexible probe counter-clockwise at the connection on the leak detector, to expose the sensor.
- Remove the sensor by carefully gripping under the flange to pull the sensor straight out.
- Install the new sensor so that the pins fit in the contact. Carefully press in the sensor in the contact until the orange seal is half as big as its original size.
- Screw the flexible probe into place clockwise.

NOTE!

Never use the leak detector without the flexible probe.

Probe

The end of the flexible probe can be removed for cleaning and filter change.

- Loosen the end of the probe to check if the filter is discoloured or dirty. Change if needed.
- The end of the probe can be cleaned with a mild cleaning agent. Let it dry completely before it is reinstalled.

Button functions

1. **Start/Stop = Button 1** Always start the leak detector in fresh air.
2. **Setting sensitivity = Button 2**The leak detector has two modes for sensitivity High/Low. When the unit is started it is set to high sensitivity. To change sensitivity, press in button 2. Then the LED–indicator will be activated with orange light starting from the upper light to go to the lowest. To change from low to high, the orange signal will run from the lowest to the uppermost light. An audible signal will also be activated to confirm the selection.
   In the high sensitivity mode, the unit will beep quickly approx. 2 times every other second in fresh air.
   In the low sensitivity mode, the unit will beep approx. 1 time every other second in fresh air.
3. **Reset function = Button 3.** This button can also be used during leak detection. By pressing in button 3 the sensor will search for a higher concentration of refrigerant than the previous value. In this way, the leakage area can be pinpointed. To set a more sensitive mode, press in button 3 in fresh air. Every time that the reset button is pressed in the LED–indicator will flash, to confirm the activation.

NOTE!
When checking for major leaks it is better to set the leak detector to low sensitivity.

4. **Audible alarm = Knapp 4**Activate/deactivate button 4 for audible alarm and visual alarm, or only visual alarm.

WARNING

Explosion risk when using leak detector in explosive environments.

Leak detection

1. Press in button 1 to start the unit.
2. The LED–indicator will flash from below and upward during the time that it warms up (approx. 20 seconds).
3. Select sensitivity with button 2. Start leak detection.
4. If a leak is detected, the unit will emit an audible signal and a light signal. The signals will increase in intensity the higher the refrigerant concentration.

- Green = minor leak
- Orange = medium leak
- Red = major leak

Leak detection tips

When the engine is off the air conditioning system should be charged with refrigerant that gives a value of at least 340 kPa (50 PSI) on the pressure gauge. At temperatures below 15 °C (59 °F), it is difficult to detect leaks if the system does not have that pressure.

Keep the end of the sensor and probe clean. Clean with a dry rag. Do not use cleaning agents on the sensor as it may react to it.

Check the entire AC system visually and look for signs of refrigerant leaks, e.g., damage and rust on pipes, defective hoses and components.

Follow the system in one direction to not miss areas with potential leaks. Do not move the leak detector too fast.

The refrigerant gas may be heavier than the air and may collect under the leakage area itself. That is why leak detection should also be performed under possible leakage areas.

In spaces where there have been major refrigerant leaks, it is possible to reset the leak detector in fresh air to prevent it from reacting to the surrounding air which contains refrigerant.

Avoid leak detection in a windy environment. Try to provide wind protection for the area to be checked.

Keep in mind that a leak is an even flow of refrigerant, that is why the leak detector will emit a repeated signal at the leak itself every time that the leak detector closes in on it. Not repeated signal is often a sign that you are close to the leak.

When the leak has been found, it can be verified by:

1. Blowing clean with compressed air at the suspected leakage.
2. Moving the leak detector to fresh air and then resetting it. Then hold it as close as possible to the suspected leak and move it slowly around the area to verify the leak.

Document Title: **Service**	Function Group: **170**	Information Type: **Service Information**	Date: **5/29/2020**
Profile: **L110H Volvo**			

Service

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Model	**Production site**	**Serial number start**	**Serial number stop**
L110H Volvo			

For the machine to operate safely and at the lowest possible cost, it must receive thorough and complete maintenance. Intervals for maintenance and lubrication refer to normal operating and environmental conditions. Maintenance work is described in the Operator's Manual and the manual "Service and maintenance" as well as the Service Programme.

Service Programme

The checking boxes in the Service Programme show what type of service should be done for intervals from every 10 hours up to and incl. 4000 hours. The service intervals from and incl. 4500 hours only contain the additional service points that are to be done at each interval.

The additional service points that are to be done at the first 100 hours and 1000 hours are presented in the same way.

Time Guide

The Time Guide for service intervals for every 10 hours up to and incl. 4000 hours shows time for the total service. Intervals from and incl. 4500 hours only show time for the additional service points.
Example, 4500 hour interval:
Do all maintenance according to the standard interval every 500 hours and also do the extra interval 4500 hours.
Follow the same example at the first 100 and first 1000 hours.

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Service Information

Document Title: **AdBlue®/DEF pump unit diagnostics, description**	Function Group: **254**	Information Type: **Service Information**	Date: **5/29/2020**
Profile: **L110H Volvo**			

AdBlue®/DEF pump unit diagnostics, description

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L110H Volvo			

Introduction

The purpose of this description is to provide an in-depth explanation of diagnosis and defrosting of the AdBlue®/DEF pump unit and shall only be used as a supplement to the other related descriptions.

For more information, see:

- Exhaust Aftertreatment System, description

NOTE!
All pressure values in this description are relative pressure values.

NOTE!
Relative pressure does not include the atmospheric pressure. At sea level, relative pressure is approximately 101 kPa lower than absolute pressure.

Defrosting

The coolant valve is open for defrosting until the AdBlue®/DEF tank and the AdBlue®/DEF pump unit temperatures reach 0 °C (32 °F).

When the AdBlue®/DEF tank temperature is between 0 °C (32 °F) and 12 °C (54 °F), the coolant valve is open in intervals, depending on ambient temperature, to heat the AdBlue®/DEF tank and the AdBlue®/DEF pump unit.

When the ambient temperature is below 5 °C (41 °F), the AdBlue®/DEF hose is defrosted with full duty cycle for two minutes. After that, defrosting is active when needed to keep the system defrosted. There is no hose defrosting when the ambient temperature is above 5 °C (41 °F).

The time limit for defrosting is 100 minutes. If defrosting is not finished within that time, two diagnostic fault codes can be triggered: P20C563 and/or P202A63

Diagnostics

The normal start-up sequence for the AdBlue®/DEF pump unit is:

1	**2**	**3**	**4**	**5**
Initial check	Fill lines	Component check	Running modes: Standby or Dosing or Reduced dosing	Afterrun (draining)

Initial check