

# ALCOLOCK™ LR

ALCOHOL INTERLOCK



Instruction manual

## **Intellectual property**

All Intellectual Property embodied in this manual and the alcohol interlock device [“the Device”] to which it pertains including but not limited to accessories, parts, software and firmware, is proprietary to Alcohol Countermeasure Systems (ACS). Intellectual Property includes, but is not limited to patents, trade secrets, copyrights, designs and topographies.

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The manual and the device, inclusive of the software and firmware included herewith, may not be copied, modified, made the subject of a derivative work, reverse-engineered, decompiled, disassembled or used for the purpose of the creation of source code.

## **No Warranty**

Nothing contained in this manual or any other document shall be construed to create an express or implied warranty of any kind whatsoever with respect to the Device or the manual

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## **Revisions**

ACS reserves the right to make revisions to the manual and the Device, inclusive of accessories, parts, software and firmware, without notification.

## **Device**

In this document, any reference to ALCOLOCK LR alcohol interlock device, “LR device”, “alcohol interlock device”, or “device” shall be understood to be a reference to the Device.

## **Operation**

ACS breath alcohol testers are designed to provide accurate test results when used with our certified mouthpieces. Compliance with product certification is dependent upon the use of ACS parts. Using a mouthpiece that is not produced by ACS may affect the product certification by causing inaccurate readings.

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Available in Australia through:



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#### **Australian Communications Media Authority (ACMA)**

This device is classified as a low risk device in accordance with the ACMA labelling framework and as described under Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017. The ACMA only mandates performance requirements in relation to emissions therefore compliance to the listed standards is only required to the extent that relate to interference to:

1. Radiocommunications
2. Any uses or functions of devices

Accordingly, this device was tested to the UN ECE R10 standard that pertains to the uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility and was determined to meet that standard.

#### **Federal Communications Commission (FCC) Disclaimer**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with Radio Frequency (RF) exposure requirements, a separation distance of at least 20 cm must be maintained between the antenna(s) of the Electronic Control Unit (ECU) and all persons.

This device complies with Part 15 of the FCC rules. Operations are subject to the following 2 conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operations

#### **Industry Canada / Industrie Canada**

This device contains licence - exempt transmitter(s) / receiver(s) that comply with innovation. Science and Economic Development Canada's license - exempt RSS(s)

This device may not cause interference, and

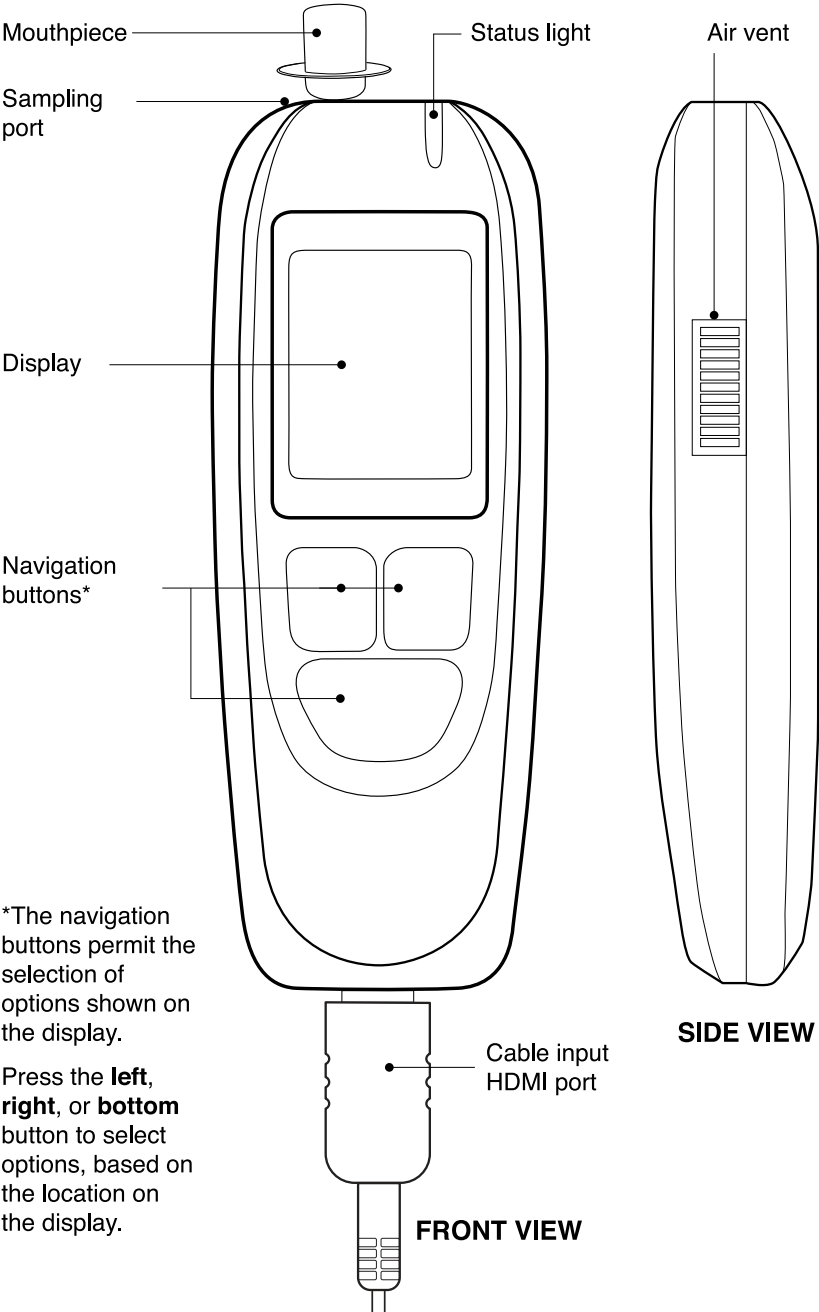
This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'appareil ne doit pas produire de brouillage, et

L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

# ALCOLOCK LR handset components



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## Safety and precautions

The ALCOLOCK LR alcohol interlock device has been designed for ease of operation. For safe, correct and effective use of the device it is essential to read and strictly follow the instructions contained in this document.

**NOTE:** *The ALCOLOCK LR device WILL NOT shut off your vehicle during operation.*

### Before providing a breath sample

- Do not eat or drink anything other than water, or smoke for at least 15 minutes before taking the test. These actions may contaminate the breath sample. Swish and swallow fresh water to remove any contaminants from the mouth and throat.
- Do not use windshield washer fluid for at least 10 minutes or use any aerosol air fresheners, disinfectants, cologne, perfume or hand sanitizer in the vehicle, as these can also contain alcohol.
- Do not perform a breath test while the vehicle is in motion. Pull over before taking the test and provide an accepted breath sample with a pass result before you resume driving.
- Keep all radio frequency transmitting devices (such as mobile phones or laptops) away from the device to minimize interference, particularly when performing a test.

### Mouthpiece hygiene

- Always use a new mouthpiece before each use for hygiene reasons and to avoid excess moisture from the breath sample. Using a contaminated mouthpiece may affect the results of the breath test.
- Never blow directly into the sampling port.

### Tampering

- Do not attempt to tamper with or circumvent the device. Any indication of tampering or attempt to remove the tamper label in place may result in a program violation.

## Device care

- Keep the device clean and dry at all times.
- You are liable for any damage from misuse, abuse or neglect of the alcohol interlock device.
- If liquid spills onto the handset remove any liquid with a cloth and allow it to dry thoroughly. If there is substantial moisture damage, do not activate the handset. Contact your service provider.

### Storage conditions

- When not in use, store the handset in a warm, dry environment. Always bring the handset indoors, especially in cold weather.
- Ensure that the device is stored away from direct sunlight and contact with water.
- Do not store mouthpieces in a cold area before use. They may collect condensation, which may increase the chance of moisture entering the handset during a test.

### Handset cleaning

- If required, clean the handset with a damp cloth and mild soap.
- Do not use abrasive cleaners or solvents on the handset.

### Ordering mouthpieces

Contact your service provider to order additional mouthpieces.

### Disposal of device at end of service life

Return to your service provider for removal of the device from your vehicle. Following the removal, proper disposal of the device (ECU, handset and cables) at the end of its service life will be done by the manufacturer.

## Installation

Installation and service of the alcohol interlock device must be done at an authorized ALCOLOCK service centre by certified personnel. Unqualified installation may affect the safety and reliability of the vehicle.

Service centres are conveniently located, the ALCOLOCK LR device will be installed while you wait. You will receive full training on site on the use of the device and compliance with the program.

## Service

You must visit your local service centre on a prescribed schedule specified by your jurisdiction for monitoring and calibration. The alcohol interlock device will remind you of your next scheduled service appointment several days prior. If you do not attend your service appointment the device will lock out and you will not be able to start the vehicle.

Monitoring appointments are completed while you wait.

For scheduling assistance and support contact your service provider, Affordable Interlock Systems at 1 800 252 656.

## Product overview

The ALCOLOCK LR controls the normal operation of a vehicle through connections with the power, starting and control systems. To start the vehicle, the driver must provide an accepted breath sample with an alcohol concentration below the preset limit. During the operation of a vehicle, the driver will need to provide additional breath samples to ensure continued compliance with program requirements.

## Operating temperature

The ambient operational temperature range is -45 °C to +85 °C.

**NOTE:** *The handset will show “Ready for Test” in :*

- 15 seconds at +20 °C
- 60 seconds at 0 °C; and
- up to 3 minutes at -20 °C

*It would be beneficial to keep the handset in a warm environment prior to use.*

## Power down

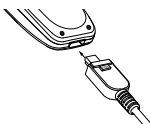
To manually power down the device, press and hold the left and right buttons until the screen is blank.

To re-activate the handset, press any button.

# Using the ALCOLOCK LR

## Connecting the handset

1. Make certain the vehicle engine is off.
2. With the back of the handset facing you, hold the cable connector with the "PUSH" button facing you. Align the cable connector with the receptacle on the handset and carefully insert.

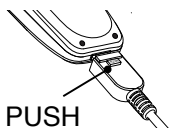


3. The connector will latch if the pins are properly aligned.

**WARNING!** Do not force a misaligned connector, pull on the cord, or turn the connector, as doing so may damage the device.

## Disconnecting the handset

1. Make certain the vehicle engine is off.
2. With the back of the handset facing you, hold the connector by the plug, then press and hold the "PUSH" button.



3. Gently pull the cable connector to disengage from the handset.

**WARNING!** The handset should never be removed while the vehicle engine is running. If the handset is disconnected for any reason while the engine is running, bring the vehicle to a safe stop off the roadway before attempting to reconnect the handset.

## Performing a breath test

**WARNING!** DO NOT attempt to switch on the ignition before providing an accepted breath sample. Turning the key to the ignition ON position will cause the handset to display **Turn Key Off** and sound a tone which may result in a violation.



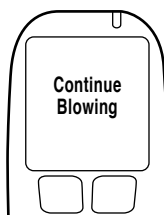
1. Power up the device by pressing any navigation button. The status light will flash amber. The handset will display **Wait...** until the device warms up.



2. The status light will flash green and the handset will display **Ready for Test**. The warm-up time may be longer in cold temperatures.

3. When the handset is ready for a breath test, insert a new mouthpiece into the sampling port on the top of the handset.

Slide the mouthpiece into place and turn it slightly to secure.



4. Blow moderately and continuously into the mouthpiece. The handset will emit a continuous tone to indicate adequate airflow and will display **Continue Blowing**.

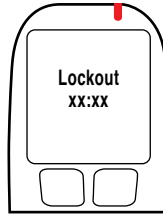
If you are not blowing correctly, a message will appear on the display indicating the necessary corrective actions.

DO NOT ATTEMPT another breath test until the handset displays **Ready for test**.



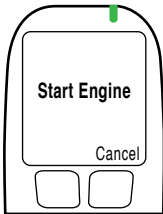


5. While blowing you will hear a click, DO NOT stop blowing, continue until the tone ends. The handset will display **Wait...** as the breath sample is being analyzed.

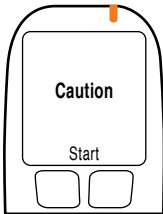


- c. If alcohol is detected at or above the FAIL set point, the status light will be solid red and the handset will display **Lockout xx:xx (min)** to indicate the wait time before attempting another breath test.

6. The result of the breath alcohol test will be indicated in three ranges with messages and actions as outlined below:



- a. If no alcohol is detected, the status light will be solid green to indicate PASS result and the handset will display **Start Engine**. You may start the vehicle engine within the prescribed time period, otherwise the handset will revert to **Ready for Test**.



- b. If alcohol is detected below the FAIL set point, the status light will be solid amber and the handset will display **Caution**.  
  
You must acknowledge that alcohol has been detected by pressing the bottom navigation button before starting the vehicle engine.

*[This is an optional feature to be set by the jurisdiction.]*



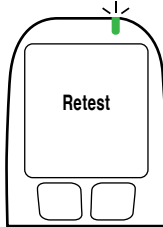
When the device detects the engine running, the status light will be solid green and the handset will display **Drive Safely**. You may now drive the vehicle.

You may NOT start the vehicle engine. Wait for countdown timer to end and the handset to display **Ready for Test**.

**WARNING!** Do not attempt another breath test until you are certain that your breath alcohol concentration is below the FAIL set point. A second or subsequent FAIL test result will cause another lockout period and may be a program violation.

## Performing a retest

Additional breath tests are required at random time intervals to ensure that the driver has not consumed alcohol since the vehicle was started.



1. The status light will be flashing green and the handset will display **Retest**.

You must provide an accepted breath sample within the prescribed time period.

**WARNING!** Failure to provide a retest breath sample may cause a recall for service and a program violation.

2. Perform the breath test (refer to the section *Performing a test*).
3. Observe the message displayed on the handset:



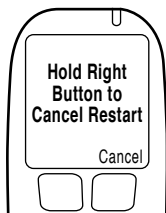
- a. If the status light is solid green and the handset displays **Drive Safely**, no alcohol was detected and you may continue to drive the vehicle.



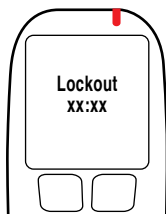
- b. If the status light is solid amber and the handset displays **Drive Safely**, alcohol was detected below the FAIL set point. You may continue to drive the vehicle.



- c. If the status light flashes red, the handset displays **Pull Over, Turn Off Engine** and a tone is heard, the device has detected alcohol at or above the FAIL set point.



You must safely park the vehicle and turn the ignition off. **Hold Right Button to Cancel Restart** will display on the handset. Press the right navigation button to cancel the restart option.



4. The status light will be solid red and the handset will display **Lockout xx:xx (min)** to indicate the wait time before attempting another breath test.

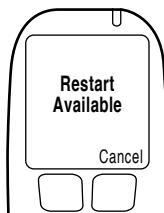
You may NOT start the vehicle engine. Wait for the countdown timer to end and the handset to display **Ready for Test**.

**WARNING!** Do not attempt another breath test until you are certain that your breath alcohol concentration is below the FAIL set point. A second or subsequent FAIL test result will cause another lockout period and may be a program violation.

## Restarting the vehicle

If the vehicle engine stalls or is turned off for a short time, it may be restarted without providing another breath sample. This safety feature permits a quick restart of the engine.

Observe the messages displayed on the handset:



- a. If **Restart Available** is displayed, the vehicle engine may be restarted without providing a breath sample.

Otherwise, press and hold the right navigation button to cancel the restart option, or it will end after a prescribed time period.

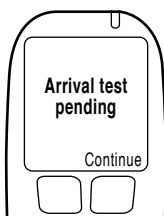


- b. If **Ready for Test** is displayed, provide an accepted breath sample with an alcohol concentration below the preset limit before attempting to start the vehicle engine.

## Arrival test

*[This is an optional feature subject to jurisdiction requirements.]*

A final breath test is required when you have completed your journey and turned off the vehicle engine.



1. The handset will sound a tone and the display will indicate **Arrival test pending**. Press and hold the right navigation button to continue.



2. The status light will flash green and the handset will display **Breath test required**. Provide an accepted breath sample.

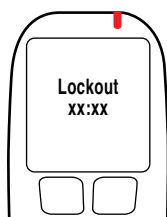
**WARNING!** Failure to complete the arrival test may result in recall and a program violation.



- a. If no alcohol is detected, the status light will be solid green to indicate PASS result and the handset will display **Arrival test completed**.



- b. If alcohol is detected below the FAIL set point, the status light will be solid amber to indicate caution and the handset will display **Arrival test completed**.



- c. If alcohol is detected at or above the FAIL set point, the status light will be solid red and the handset will display **Lockout xx:xx (min)** to indicate the wait time before attempting another breath test.

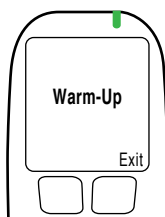
**WARNING!** A subsequent FAIL test result will cause another lockout period and may result in recall and a program violation.

## Warm-Up and Standby

*[These are optional features subject to jurisdiction approval.]*



1. If applicable, the ALCOLOCK LR device may be placed in *Warm-Up* mode by pressing and holding the left navigation button when the engine is running after an initial breath test and while the vehicle remains parked.



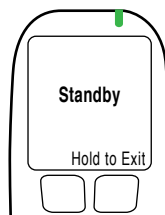
2. **Warm-up** is displayed and the vehicle engine can remain idling without requiring another breath test for the prescribed time period (default is 30 minutes).

After the prescribed time period, the *Warm-Up* mode automatically ends, or manually exit *Warm-Up* mode by pressing and holding the right button or pressing the accelerator pedal.

Upon exit from *Warm-up*, a *Retest* is required.



The *Standby* mode is similarly available. When the vehicle is safely parked and idling, press and hold the left navigation button to enter the *Standby* mode.

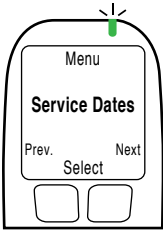


**Standby** is displayed and the vehicle engine can remain idling without requiring another breath test for a prescribed time period (default is 30 minutes).

Exit *Standby* in the same manner as for *Warm-up*, after which a retest is required.

## Service Dates

1. To view important service dates and times, press and hold the left navigation button to access the main menu.



2. Press the left or right navigation button to scroll to **Service Dates**. To select, press the bottom navigation button.

3. Press the left or right navigation button to scroll through all the dates.
4. Press the bottom navigation button to exit this menu.

## Reset

In the event of a *Recall* or *Permanent Lockout* the device may be reset by service personnel using a reset code. Contact your service provider for assistance.

Attempting to circumvent these codes will result in a program violation.

## Troubleshooting

The following table lists occurrences, along with possible solutions. For other occurrences, contact your service provider.

IF THE ALCOLOCK LR DEVICE ...	YOU SHOULD ...
Will not turn on	Check the vehicle battery
Handset displays an error code	Refer to the "Error Messages" section of this manual
Handset displays an <b>Early Recall</b> or <b>Immediate Recall</b>	Contact your service provider
Aborts a breath test	Retry the test, or contact your service provider
Is in <b>Permanent Lockout</b>	Contact your service provider
Requires service	Contact your service provider

## Error messages

The ALCOLOCK LR device may not accept a breath test (and may display error messages instead). To minimize errors, make sure the handset is connected properly, the vehicle battery is in good condition and mobile phones are not in use during breath tests.

The following table lists and describes error messages displayed on the handset along with required actions.

MESSAGE	DESCRIPTION	WHAT TO DO
<b>Abort 30, 40, 50</b>	There is a problem with the handset.	Try the test again. If the message persists, call your service provider.
<b>Early Recall or Immediate Recall</b>	A service reminder is displayed, followed by a service lockout. Refer to your Compliance guide for details.	Call your service provider to schedule an appointment.
<b>Missed Retest</b>	A retest was not completed within the set time. A recall may follow.	Complete the test as required.
<b>Missed Service</b>	A service request was not observed within the set time (refer to your Compliance guide).	Call your service provider to schedule an appointment.
<b>Permanent Lockout</b>	The service request time and grace periods have expired. The engine cannot be started until the device is reset by the service centre.	Call your service provider to schedule an appointment. Towing may be required.
<b>Pull Over, Turn Off Engine</b>	Occurs in response to a failed retest.	The driver has a set time to safely stop and turn the engine off.
<b>Service Due</b>	A reminder that a service appointment is coming up.	Arrive at the scheduled time to avoid any program violations.
<b>Start Violation</b>	If the engine is started without first providing an accepted breath test, <b>Start Violation</b> is displayed and a retest request occurs.	Take the breath test and contact your service provider.
<b>Try Again</b>	There is a problem with the test.	Try the test again. Call your service provider if the problem persists.
<b>Turn Key Off</b>	The ignition key is in the ON position before first providing an accepted breath test.	Turn the key to the OFF position and provide an accepted breath test. Not turning the key off may result in a violation.

# Glossary

**Administering authority:** the court, driver licensing, or other government department that is responsible for administration of the alcohol interlock program.

**Alcohol interlock:** a device that controls the operation of the vehicle in relation to the BAC of the driver.

**Accepted breath sample:** a forced expiration of breath into the device fulfilling the requirements of pressure and flow.

**BAC:** blood alcohol concentration.

**BAC limit:** a limit for blood alcohol concentration set by the administering authority, at or above which a fail breath test will be registered.

**Circumvention:** an attempt to bypass an alcohol interlock, whether by providing samples other than the natural unfiltered breath of the driver, starting the vehicle engine without using the ignition switch, or any other act intended to start the vehicle without first providing an accepted breath sample.

**Electronic Control Unit (ECU):** part of the ALCOLOCK device, connected with the vehicle power and control circuits and to the handset.

**Fail breath test:** an accepted breath sample with a blood alcohol concentration at or above the BAC limit.

**Handset:** part of the ALCOLOCK device that is used to conduct breath alcohol tests and communicate with the driver.

**Lockout:** an event which causes the device to prompt the participant to return the vehicle to the service centre within a prescribed period of time to perform a violation reset on the alcohol interlock device.

**Missed breath test:** the absence of an accepted breath sample within the breath test time interval.

**Participant:** the driver who is participating in the program subject to the conditions of the administering authority.

**PASS breath test:** an accepted breath sample with a blood alcohol concentration below the BAC limit.

**Program:** the requirement to operate only a vehicle equipped with an approved alcohol interlock device during a period of driver licence restriction including monitoring and compliance with conditions.

**Recall (immediate or early):** a condition entered by the alcohol interlock. The device must be reset at an authorized service centre before the set date or the device will enter a permanent lockout. Recalls arise from program violations or service matters.

**Retest:** additional breath tests that are requested at random time intervals after starting the engine and while the vehicle is in operation.

**Service:** the installation, periodic monitoring, violation reset, calibration, data retrieval and removal of the alcohol interlock.

**Service centre:** a facility that provides program services for participants, including: training of participants, installation, monitoring, calibration and removal of the device.

**Service provider:** Affordable Interlock Systems, as authorized by ACS to provide program services to participants.

**Tampering:** an unauthorized change to, or interference with, the function of the alcohol interlock or its installation in the vehicle.

**Program violation:** events designated by the administering authority, such as FAIL breath tests, missed or FAIL retests, failure to observe the scheduled monitoring service appointment, and starting the engine without first providing an accepted breath sample with a PASS result.

**Stand-by:** a device feature that allows commercial vehicles to leave the vehicle idling for a period of time without a retest request.

**Warm-up:** a device feature that allows the user to warm-up the vehicle for a period of time after providing a pass breath test without a retest request.

## Compliance guide

See jurisdiction leaflet for more information regarding program requirements.

