

ALCOLOCK™ GR
ALCOHOL INTERLOCK
WIRELESS





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

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage, et
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Alcohol Countermeasure Systems Corp

60 International Boulevard
Toronto, Ontario M9W 6J2 CANADA
acs-corp.com

For service inquiries and the toll free number, refer to the Compliance Guide.

ALCOLOCK, ALCOHOL COUNTERMEASURE SYSTEMS, ACS and The Molly are trademarks of Alcohol Countermeasure Systems (International) Inc. and are used under license. Alcohol Countermeasure Systems is the trading style of Alcohol Countermeasure Systems Corp.

© Alcohol Countermeasure Systems, 2012

The information disclosed in this document is the valuable property of Alcohol Countermeasure Systems and all copyright and other proprietary rights to this document are reserved. No reproduction of this document is permitted without the prior written consent of Alcohol Countermeasure Systems.



Side View

TABLE OF CONTENTS

PRODUCT PROFILE	1
SAFETY AND PRECAUTIONS	2
GETTING STARTED	3
Alcohol Influence on Testing	3
Terms Used in This Manual	3
Display Icons.....	4
Fees.....	4
Installation.....	4
Maintenance	4
Operating Temperature	5
Battery Voltage and Unit Charging	5
Handset Sleep Mode	5
Assistance.....	6
INSERTING THE MOUTHPIECE.....	6
PERFORMING A TEST	7
Results Displayed	8
WARM-UP AND STANDBY (where applicable).....	9
RESTART WITHOUT BREATH TEST	10
PERFORMING RETESTS.....	11
MENU OPTIONS.....	13
Power down.....	13
Dates.....	13
Reset.....	14
Service.....	14



MAINTENANCE & TROUBLESHOOTING	15
Troubleshooting Table	15
Service Dates	16
Service Due	16
Service Lockout	16
Error Messages	17
TECHNICAL SPECIFICATIONS	19
Reset Codes	19
Emergency Override (where applicable)	19
Dealer Service	19
Disposal of Unit at End of Service Life	19
Replacement Parts	20
INDEX	21
SERVICE RECORD	22

PRODUCT PROFILE

ALCOLOCK GR series alcohol interlocks control the normal operation of a vehicle through connection with the power, starting and control systems. To start the vehicle, the driver must provide a proper sample of breath with an alcohol concentration (BrAC) below the preset limit. During operation of the vehicle, the driver will be requested to provide additional breath samples to ensure continued compliance with program requirements. The ALCOLOCK GR alcohol interlock will not cause the vehicle motor to stop.

ALCOLOCK GR units consist of a Handset that is the link to the driver and an Electronic Control Unit (ECU) for connection with the vehicle.

ALCOLOCK GR Handset may have a wired or wireless connection to the ECU, depending on the version.

ALCOLOCK GR units are used in alcohol interlock programs under the direction of a jurisdictional authority and are fully compliant with international regulations for alcohol interlocks being used in compliance programs.



WARNING!

- ***Do not open any enclosures. Doing so will potentially damage the components within and void the warranty***
- ***Do not attempt to tamper with the installation or circumvent the alcohol interlock. This is considered a program violation***
- ***Do not attempt to drive after consuming alcohol. This is an unsafe practice and is considered a program violation***
- ***The ALCOLOCK GR device may engage a service lockout if:***
 - a. ***The scheduled service date is past due***
 - b. ***An early/immediate recall has been triggered and the device has not been serviced prior to the lockout date indicated on the Handset***



SAFETY AND PRECAUTIONS

ALCOLOCK GR series alcohol interlocks have been designed for easy and safe operation. The device is to be used only for the purposes specified herein. To help ensure your safety, you must follow these precautions:

- Always use a clean mouthpiece for good hygiene and to trap any foreign matter or excess moisture from the breath sample
- Do not store mouthpieces in a cold area before use. This will cause condensation to form in the mouthpiece and droplets may enter the Handset during the test
- Do NOT perform a breath test while the vehicle is in motion. Complete a successful breath test before you resume driving
- Do not eat, drink or smoke for at least 15 minutes before the test. This could contaminate the breath sample. *Swish and swallow fresh water to remove any contaminants from the mouth*
- Avoid exposing the Handset to direct sunlight for extended periods of time
- If liquid spills onto the Handset, remove with a cloth and allow the Handset to dry thoroughly. If there is substantial moisture damage, do not activate the Handset. Contact your local service centre
- Keep all radio frequency transmitting devices (such as mobile phones or laptops) away from the ALCOLOCK GR unit to minimize interference, particularly when performing a test

NOTE: The alcohol interlock WILL NOT shut off your vehicle during operation.

GETTING STARTED

ALCOHOL INFLUENCE ON TESTING



WARNING! *Drinking alcohol and eating foods containing alcohol may cause a failed alcohol test.*

Some factors that may affect the results of a test (because of possible residual alcohol in the mouth) are consumption of medicines, drops, gum, smoking, and using mouthwash or mouth spray. Rinsing the mouth with water and swallowing after consumption of these products will remove possible alcohol contamination.

Do not eat, smoke or drink for at least 15 minutes before taking a test. Also, before taking a test, refrain from using windshield washer fluid for at least 10 minutes or using any aerosol air fresheners, disinfectants, cologne, or, perfume in the vehicle, as these can also contain alcohol.

NOTE: *The above list of factors that may affect the results of a breath test is not exhaustive. There are additional items that also may affect the results. Follow this guide carefully to avoid incorrect results and consult the service centre.*

Terms Used in This Manual

- BrAC = Breath Alcohol Concentration
- BAC = Blood Alcohol Concentration
- Preset Limit = Set according to local regulations
- ECU = Electronic Control Unit



Display Icons



The Handset is in communication with the ECU.



There is no communication between the Handset and ECU.



The power indicator is illuminated by 5 power bars. When only one power bar is present, charge the Handset.

Fees

Drivers who are subject to an alcohol interlock program are responsible for all installation and maintenance costs.

Installation

ALCOLOCK service centres are conveniently located, and an alcohol interlock may be installed while you wait by a qualified installer in accordance with national regulations. Installation must be done at an ALCOLOCK service centre. You will receive full training on site, by qualified technicians.

Maintenance

You must visit the service centre 30 days after installation. You must also visit at monthly intervals thereafter, for maintenance and data download. Monitoring appointments typically take less than 20 minutes.



Operating Temperature

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

NOTE: The Handset will warm up in about 15 seconds at +20°C, close to 1 minute at 0°C and up to 3 minutes at extreme cold temperatures (-20°C) to be operational. It would be beneficial to keep the Handset in a warm environment, before use.

Battery Voltage and Unit Charging

The vehicle battery supplies power to the ECU. The ALCOLOCK GR ECU is suited for 12V and 24V batteries. The vehicle battery voltage can range from 9V to 36V. The Handset can be charged using the DC Car Adapter. It can also be charged at home, using the optional AC Power Adapter. At very low temperatures, the Handset should remain connected to power with the DC Car Adapter.

Handset Sleep Mode

The Handset will automatically enter sleep mode shortly after the ignition is switched off to conserve battery power.

To return the Handset to an active mode:

1. Press the centre of the navigation button (hold for 4 seconds): the display will indicate **Press UP button to unlock**.
2. Press upward on the navigation button: the display will indicate **Press DOWN to unlock**.
3. Press downward on the navigation button to complete activation.



Assistance

Contact your Service Centre or toll free line whenever you require assistance.

Inserting the Mouthpiece



When the Handset is ready for a breath test, remove the mouthpiece from the bag and insert it as shown below:

- Insert a mouthpiece into the sampling port on the upper left side of the Handset.
- Slide the mouthpiece into place and turn it slightly to secure.
- Do a visual check to ensure mouthpiece is fitting properly.



WARNING! Using a contaminated mouthpiece could affect the results of the breath test.

USING THE ALCOLOCK GR

Performing a Test

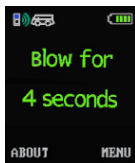


WARNING! DO NOT turn on the ignition. You must provide a breath test first. Turning the ignition key to the on position will cause a "Turn off key" message on the Handset display and may result in a violation.



To activate the alcohol interlock, press the centre of the navigation button (Enter): (hold for 4 seconds) the display will indicate **Wait**. This message will remain on the display until the Handset warms up.

If the alcohol interlock is connected to power, but is in sleep mode, activate the Handset by pressing the **navigation button**.



The display will indicate **Blow for 4 seconds** and the indicator light will glow green when the Handset is ready for a breath test. The warm-up time may be longer in cold temperatures.

NOTE: Do not store the mouthpiece in a cold area before use.

Insert a clean mouthpiece.



NOTE: Do not eat, drink or smoke for at least 15 minutes before the test. Swish and swallow fresh water to remove any contaminants from mouth.

Blow moderately and continuously into the mouthpiece for three seconds, then hum simultaneously. The Handset makes a tone to indicate proper airflow and hum. If you are not blowing or

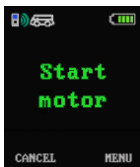


humming correctly, a message will appear on the display indicating the necessary corrective action.

Stop blowing and humming when the tone ends. The display will indicate **Wait** as the breath sample is being analyzed.

Results Displayed

A beep tone sounds and the display indicates one of the following messages:



1. Start motor - You have passed the breath test, and no alcohol has been detected. You can start the vehicle engine.

NOTE: You may start the engine within a permitted time.

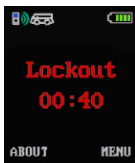


2. Caution - (i.e., BAC limit warning) You have passed the breath test, but alcohol (below the preset limit) has been detected. You have two options:

1. Press **CANCEL**, wait five minutes and try the test again if you are certain there is no alcohol in your system.

2. Press **CONFIRM** to acknowledge that you intend to drive with alcohol in your system. The vehicle engine may be started within the permitted time.

NOTE: You may proceed to drive, with the knowledge that alcohol has been detected.



3. Lockout - The alcohol level detected is at or over the preset limit. You may NOT start the vehicle engine.

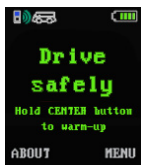
Lockout and a **countdown timer** are displayed. Wait for the countdown to finish before attempting another breath test.

WARNING! Do not attempt another breath test until you are certain that your alcohol level is under the preset limit. A second failed test may result in a longer lockout time. Refer to your Compliance Guide for actual program requirements and details specifying program violations.

All breath test results are recorded in memory and are downloaded during routine monitoring appointments. Any instance of alcohol detected in the breath samples may be considered a program violation. Refer to your Compliance Guide for program conditions.

When you have started the vehicle engine, **Drive safely** is displayed.

Warm-up and Standby (where applicable)



If applicable, you can place the ALCOLOCK GR device in warm-up mode by pressing the centre navigation button. **Warm-up** is displayed, and the vehicle engine can remain idle without requiring another breath test for an allotted time (refer to your Compliance Guide – default is 30 minutes). After the allotted time, the Warm-up mode automatically terminates or you can manually exit warm-up mode by pressing the centre navigation button

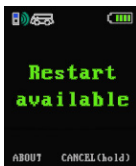


or pressing the gas pedal. A Retest is then required. Depending on the jurisdictions, a Standby feature is similarly available.

Restart Without Breath Test

If the vehicle engine is turned off for a short time, you can restart it without providing another breath test. This safety feature is helpful if the motor stalls. Refer to your Compliance Guide for the restart time limit.

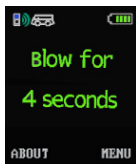
Before restarting the vehicle engine, observe one of the following messages on the Handset:



Restart available

You can restart the vehicle engine without providing another breath test.

To cancel the restart, select **CANCEL** by pressing right on the navigation button.

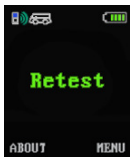


Blow for 4 seconds

The restart period has expired. You will need to provide a proper breath sample to start the vehicle engine.

Performing Retests

Additional breath tests are required at random times to ensure that the driver has not consumed alcohol since the vehicle engine was started. Refer to your Compliance Guide for more information.



The Handset beeps and displays **Retest**.

Do NOT perform a breath test while the vehicle is in motion. Complete a successful breath test before you resume driving.

NOTE: The retest request timer provides sufficient time for you to stop in a safe location.

Observe one of the following messages on the Handset as they apply:



Drive safely

You have passed the breath test. You can continue driving.



Pull over, turn off motor

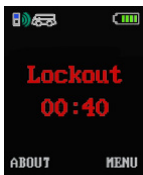
The indicator light glows red.

You have failed the breath test. The alcohol level detected is at or over the preset limit. Park in a safe location and turn off the vehicle engine.

When the vehicle engine is turned off, the **Restart available** message will be displayed. This will permit the vehicle engine to be restarted if the vehicle must be moved



to a safer location. When the vehicle is parked in a safe location the **Restart available** message may be cleared by pressing right on the navigation button to select **CANCEL**.



Lockout and a **countdown timer** are displayed. Wait for the countdown to finish before attempting another breath test. You cannot start the vehicle engine until a proper breath sample has been provided.

NOTE: Refer to Compliance Guide for lockout times.



WARNING! Do not attempt another breath test until you are sure that your alcohol level is under the preset limit. A second failed test may result in a longer lockout time. Refer to your Compliance Guide for actual program requirements and details specifying program violations.



MENU OPTIONS

To access menu options, press right on the navigation button. The Main Menu contains the following menu options:

- Power down
- Dates
- Reset
- Service

NOTE: *Not all options will be accessible.*

Power down

This menu option is used to manually power down the Handset. Select **MENU** and press the centre of the navigation button (Enter). A 3 second countdown will be displayed as the Handset powers down. If you do not wish to shut down the Handset at this time, select **BACK** by pressing left on the navigation button.

To re-activate the Handset, press Enter on the Navigation button and hold for 3 seconds.

Dates

This menu option lets you view service dates and other important dates and times. To view, in the **Main Menu**, press downward on the navigation button to select **Dates** and press centre (enter) on the navigation button. The following dates are displayed:

- **Current**
- **Last calibration**
- **Calibration expiry**
- **Service** (*your next scheduled service appointment*)
- **Service lockout** (*the date at which the unit will enter Service lockout*)



Reset

This menu option is used by authorized service personnel only; a service code is required to use this option.

Service

This menu option is used by authorized service personnel only; a service code is required to use this option.



MAINTENANCE & TROUBLESHOOTING

Troubleshooting Table

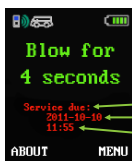
The following table lists basic problems that can occur, along with their solutions. For other problems, contact your service provider.

IF THE ALCOLOCK GR DEVICE...	YOU SHOULD...
Will not turn on	Charge the Handset
Displays an error code	Refer to the Error Messages table
Displays an Early or Immediate recall	Contact your service provider
Aborts a breath test	Retry the test, or contact your service provider
Is in Service lockout	Contact your service provider
Requires service	Contact your service provider

Service Dates

After installation of the ALCOLOCK GR unit, you will need to return for follow-up appointments. Service appointments are scheduled at regular intervals to verify accuracy and download the events log. See your Compliance Guide for the interval dates.

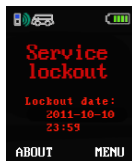
SERVICE DUE



A Service Due message is displayed when you have missed your scheduled service or have an unscheduled recall service.

Service due
Lockout date
Lockout time

SERVICE LOCKOUT



If you did not return to a service centre by the Lockout date/time displayed, the system will enter into Service lockout.



WARNING! If your system enters Service Lockout, the vehicle must be towed and you will be liable for the expenses and service call.

Error Messages

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

MESSAGES	DESCRIPTION	WHAT TO DO
Early recall	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.
Immediate recall	A service reminder is displayed for five days, followed by a Service lockout. Immediate recall messages result from failed tests, missed retests, failure to pull over on a failed retest, a start violation, and/or the use of emergency override (where applicable).	Call your service provider to schedule an appointment.
Missed retest	Retest was not completed within the 3 minute time period. The horn will sound for 3 minutes, and an Early Recall follows.	Complete the test as required.

Missed service	A service request was not observed. Refer to your Compliance Guide for details.	Call your service provider to schedule an appointment.
Service lockout	The service request and grace periods have expired. The vehicle engine cannot be started until the interlock is reset by the service provider.	Contact your service provider immediately to schedule an appointment. The vehicle engine cannot be started, so towing may be required.
Pull over, turn off motor	Occurs in response to a failed retest.	The driver has 3 minutes to safely stop and shut off the vehicle engine.
Service due	Reminder that a service appointment is coming up.	Arrive at the scheduled time to avoid any program violations.
Start violation	If you start the vehicle engine without passing a breath test, the Start violation message is displayed and a retest request occurs.	Take the breath test and contact your service provider.
Analysis time out	There is a problem with the test.	Try the test again. Call your service provider if the problem persists.
Turn off key	The ignition key is in the On position.	Turn the key to the Off position and wait for the Start motor message to display.



TECHNICAL SPECIFICATIONS

Reset Codes

Reset codes are used by service personnel to change the service dates, early recall dates, lockout dates, and in emergency situations, to override the interlock. These codes are randomly generated and changed daily. Attempting to circumvent these codes will result in a program violation.

Emergency Override (where applicable)

The Emergency Override code is available for true emergency situations. Using this code for any other reason results in a Program Violation.

Dealer Service

The repair shop enters a Third Party Maintenance code when work needs to be done on your vehicle.

Disposal of Unit at End of Service Life

Return to your service centre for removal of the alcohol interlock at the end of your program. Following the removal, proper disposal of the alcohol interlock (ECU, Handset, or both) at the end of its service life will be done by the manufacturer.



Replacement Parts

ACS PART NUMBER	DESCRIPTION
95-000145	Mouthpieces (Bag of 25)
13-001103	GR USB AC Power Adapter
13-001107	GR USB DC Car Adapter

Contact your service centre to obtain these parts.

INDEX

A

Alcohol influence 3

B

Battery voltage 5

D

Dates 13

E

Error messages 17

F

Fees 4

I

Installation 4

L

Lockout 9, 12

M

Maintenance 4

Menu options 13

Mouthpiece 2, 6, 7, 20

R

Replacement parts 20

Reset Codes 19

Restart 10

Retests 11

S

Safety 2

Service Dates 13, 16

Service Lockout 16

Service Record 22

Sleep 5

Standby mode 9

Start motor 8

Starting the vehicle 7

T

Temperature 5

Terms 3

Troubleshooting 15

W

Warm-up 7

[illegible]



IRM-ENG-60-000435-A
Copyright © 2012