ALCOLOCK™ V3

SERIES B-2

Service Guide

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GENERAL INSPECTION

- Visually inspect the handset. No damaged ordisconnected parts should be present.
- Check that none of the labels on the handset are loose.
- Check the cables for any cuts or nicks, also check thatthe cable connectors are not exposed.
- Check that the mouthpiece insertion area of the handsetis free of debris, dirt or contaminants.

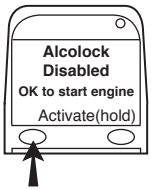
MAINTENANCE PROCEDURES

- Maintenance of the unit is insured through calibration. Please refer to the calibration procedures section of this guide for step by step instructions to calibrate the unit.
- V3's are made for field use, making them susceptible todirt and debris. The handset should be cleaned with adamp cloth and mild soap. Do not use abrasive cleaners or solvents on the unit.

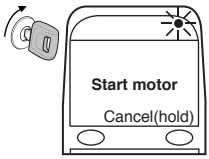
GENERAL FUNCTIONAL TEST

The following are some actions to test the functionality of the interlock system.

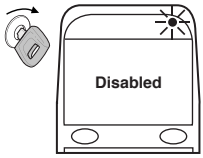
To test that all inputs to the V3 are off, and that both pushbuttons are working: if the handset is awake, hold both pushbuttons for 3 seconds. The handset should go to the lower power state, the display and all the LEDs should turn off.



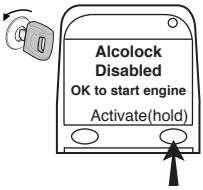
To test the display, backlights and left pushbutton: Wake the handset up by pressing the left pushbutton. The display should show, "**Alcolock Disabled, OK to start engine**".



To test the ignition input: turn the ignition to the ON position, the display should show "**Start motor**". The status LED should be green, and a series of tones should be heard.



To test the engine run input, and the green status LED: start the motor of the vehicle, the display should show "**Disabled**" and the status LED should be green



To test the right pushbutton: turn off the ignition and hold the right pushbutton for 3 seconds. The display should show, "**Alcolock Disabled, OK to start engine.**"

SERVICE PROCEDURES

In the event of an error code occurring, follow the series of actions in the following table to isolate the error. Start with action 1, if the action is not the source of error, then go through the list and carry out each subsequent action till you get to a conclusion. If a part of the interlock needs to be changed, ensure that the correct replacement ECU is used depending on the voltage of the car battery.

PART NUMBERS OF REPLACEMENT PARTS:

V3 Handset 79-009000

V3 Series B2 24V ECU 79-008847

V3 Series B2 12V ECU 79-008811

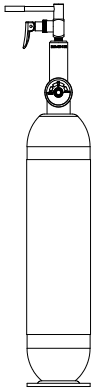
MESSAGE	CAUSE	ACTIONS TO TAKE
ADR incompatible	Handset or ECU hardware is not ADR compatible.	1. Verify handset P/N. 2. Verify ECU P/N.
Clock Error	No date/time information has been received from the tachograph over the CAN BUS.	1. Check if tachograph is functioning properly. 2. Check wiring from tachograph to ECU. 3. Replace ECU.
Communication error	Handset has lost communication with ECU.	1. Check voltage of vehicle during ignition cranking. Voltage should stay above 9V or 16V depending on ECU. 2. Replace spiral cable. 3. Replace ECU. 4. Replace Handset.
ECU voltage incorrect	ECU is connected to wrong voltage source.	1. Verify ECU P/N.
Error code 40	Sampling pump piston within the fuel cell is stuck in the rest position.	1. Replace handset.
Error code 45	Sampling pump piston within the fuel cell is stuck in the middle of the cylinder.	1. Replace handset.
Error code 50	Sampling pump piston within the fuel cell is stuck in the active position.	1. Replace handset.
Handset voltage too high	Voltage reaching handset is too high.	1. Start motor and verify that voltage supplied to ECU is not above 20V or 32V. 2. Replace ECU.

Handset voltage too low	Voltage is too low for normal operation.	1. Check voltage of vehicle during ignition cranking. 2. Replace ECU. 3. Replace handset.
RF error	High levels of RF interference detected	1. Verify if client was using a mobile phone or in an area of high RF signal interference during use. If yes no action is required. 2. Replace handset.
Software incompatible	Firmware in handset and ECU is not compatible.	1. Verify handset P/N. 2. Verify ECU P/N.
Technical error	Technical problem in the ECU. One or more fuse(s) is potentially blown.	1. Confirm that vehicle voltage reaching ECU is sufficient. 2. Replace ECU.

CALIBRATION PROCEDURES

It is recommended calibration be done indoors in a service facility, using an ACS download station.

The calibration procedures are intended for use by trained technicians only.



EQUIPMENT NEEDED

- 130PPM (0.05 %BAC) Alcohol gas standard ACS #95-000425
- Regulator valve assembly (6L/min. flow rate) ACS #94-000225
- V3 Download station ACS #79-006111

⚠ COMPRESSED GAS SAFETY

Calibration should be performed indoors in a service facility, where the gas standard cylinder can be properly stored.

Transportation and storage of compressed gases in vehicles is dangerous and should be avoided. Other precautions:

- Never remove or alter canister labels.
- Remove the valve and install the protective cap on cylinders when not in use.
- Store cylinders in a cool, well ventilated area, away from sources of heat.

CYLINDER SETUP

1. Examine the canister and valve for any damage, and check the expiration date on the label. Observe all cautions and safety warnings found on the canister.
2. Remove the protective cap and screw the regulator valve to the canister. Attach the rigid delivery tube. Never modify the delivery tube in any way.

CAUTION! Damaged or broken valves can turn a canister into an unguided missile. Attach the valve in a safe location.

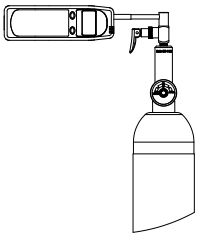
CALIBRATING A HANDSET

1. Power the handset on by holding down either the right or left button.
2. Access the Menu by pressing and holding the left button. Scroll through the menu and select **System Maintenance**. The four digit code which is provided with the V3 accesses this menu.
3. Enter the code and move the cursor to **OK**? when finished. Push the right button to Select. This enters the Service menu.
4. Scroll through the Service menu and press select **Calibration**.
5. The current handset Date/Time is displayed. To proceed select OK with the right button. This enters the Select Type menu.

   NOTE! If a tachograph is installed the date/time cannot be changed.

6. The Select type menu contains the calibration options. Scroll to **Dry Gas** and push the right button to Select. This enters the Select value menu.
7. The Select value menu contains the gas standard concentration options. Verify that 130PPM is on the canister label, and use the left button to scroll to **130PPM**. Push the right button to Select. This enters the Altitude menu.
8. The Altitude menu contains the altitude correction factor. Verify the altitude value using the altitude reference guide, which is on the last page of this guide. The left button increases in increments of **200** meters. Press the right button to Accept.
9. A **Wait** message is displayed followed by a 2:00 minute warm-up. The handset is ready for calibration when the **Turn on** gas message is displayed.
10. Insert the delivery tube from the regulator valve into the mouthpiece port. Keep hold of the handset as the delivery tube is rigid.
11. Press the valve down to release the gas while keeping hold of the handset (see figure). The handset analyzes the gas standard and displays a **Blowing…** message followed by **Analyzing** message.

    Continue holding the valve down until the handset clicks and then beeps, indicating that the test is complete.



12. The handset analyzes the test, which is followed by a **Wait** message and 0:45 second countdown. The handset is ready for the second sample when the **Turn on Gas** message is displayed.

Depending on the sensor calibration drift, up to 4 samples may be required.

- If only 2 tests are required, a **Verification OK** message is displayed when thecalibration is complete.
- If 3 or 4 tests are required, a **Calibration OK** message is displayed when calibration is complete.

13. Press the right button to Finish (there is also the option to retry by pressing the left button).

Calibration is complete.

The V3 handset returns to ready state and Blow for 5 seconds is displayed.

NOTE! If the calibration fails on numerous attempts, the sensor may need replacement. Contact ACS for return instructions.

TROUBLESHOOTING

In the event of a calibration failure, first check these common causes of errors:

- Plastic tubing has been overused, or has condensation present.
- The alcohol gas standard value is not 130PPM, or the value has been incorrectly entered in the Select Value menu.
- The alcohol gas standard is expired.
- A connection to or from the gas valve is not secured properly (check all connections).
- The value entered in Altitude menu is incorrect.

ALTITUDE REFERENCE GUIDE

The altitude adjustment is in increments of 200 meters. Choose the closest city elevation and round the altitude up or down to the closest value accordingly.

EXAPMLE		
CITY	**ALTITUDE (M)**	**SETTING**
Amsterdam	0	0
Berlin	34	0
Brussels	48	0
Geneva	373	400
Madrid	654	600
Moscow	189	200
Ottawa	79	0
Paris	34	0
Rome	14	0
Washington	7	0

ACS
ALCOHOL COUNTERMEASURE SYSTEMS

SG-ENG-60-000130-D