ALCOLOCK™ LR

ALCOHOL INTERLOCK

Troubleshooting manual

CONTENTS

INTRODUCTION

This manual describes recall and error messages that may display on the handset (HS) of the ALCOLOCK™ LR alcohol interlock device. It will also provide troubleshooting steps for incidents related to the vehicle battery, Electronic Control Unit (ECU) and the HS – as well as ECU and HS exchange procedures.

ATTENTION!

- ***This manual is intended for authorized service technicians only***
- ***If any vehicle components are not functioning, it is the client's responsibility to have the vehicle repaired before an alcohol interlock service appointment***

OTHER REQUIRED MANUALS

- The ALCOLOCK LR device Instruction Manual provides information about the general usage of the device
- The ALCOLOCK LR device Compliance Manual provides specific program requirements
- The INTERTRACK™ Enterprise (ITE) application manual provides procedures for ITE transactions and is for authorized technicians only
- The ALCOLOCK LR device Installation Manual provides install, monitoring and removal procedures and is for authorized technicians only

RECALL CODES

The ALCOLOCK LR device enters a recall as a result of a program violation or a technical / service incident. The HS will display **Early Recall** or **Immediate Recall**, along with a recall code and the permanent lockout date. The client must return to an authorized Service Centre before the permanent lockout date.

NOTE: Not all recalls will apply to every jurisdiction. Refer to the Compliance Guide.

CODE	NAME	DESCRIPTION
0	Failed stopped test	Failed a breath test before starting the vehicle engine
1	Failed running test	Failed a retest
2	Tach fault	An acceptable breath test was provided and the vehicle engine started, but the device did not detect a tach signal or An acceptable breath test was provided and the vehicle ignition key turned to the on position without starting the engine
3	Sanction failed test	Failed a breath test (high breath-alcohol content)
4	Consecutive failed tests	Failed multiple breath tests in a row

5	Missed retest	Failure to comply to a retest request
6	Retest time-lapse fail	Failure to comply to a pull over request (after failing a breath test)
7	Start violation	Vehicle engine started without providing an accepted test (tampering)
8	Power disconnect (short)	Vehicle battery disconnected once, over the set time limit
9	Consecutive hum aborts	Multiple breath test aborts, due to incorrect hum or a technical incident
10	Log full (90%)	Event log download required
11	Emergency override	Emergency override feature activated
12	Ignition fault	Vehicle engine was running, but the device did not detect an ignition signal
13	Emergency override (no code)	Emergency override feature activated
14	Power disconnect (long)	The vehicle battery was disconnected multiple times, over the set time limit
15	Third party maintenance (TPM) code	TPM feature activated
16	Key violation	The ignition key was left in the on position before providing an accepted test
17	Combined failed test	Failed a breath test (of any type)
18	Restricted driving	The vehicle was operated during a restrictive driving period
19	OBD2 technical error	OBD II communication error
20	HS technical error	Handset fault. Replace handset
21	ECU technical error	ECU fault. Replace ECU
23	Multiple timed sanction BAC fails	Several sanction fail tests provided within a certain period of time
24	Multiple timed standing BAC fails	Several standing fail tests provided within a certain period of time
25	Combined power interrupt	Total number of short and long power interruptions exceeds the limit
26	Log memory almost full 95%	Even log download required
27	Failed required test	The result of the required test is above the threshold
28	Missed required test	The required test has not been provided
29	Combined violations	Combination of any 5 violations / occurrences
30	Camera error	Camera fault. Replace camera

PERMANENT LOCKOUT CODES

A permanent lockout blocks the vehicle engine from being started until the ALCOLOCK LR device is reset by the Service Centre. A permanent lockout results from a failure to return to a Service Centre before the permanent lockout date displayed on the HS. The HS will display **Permanent Lockout**, along with a recall code and the permanent lockout date.

NOTE: In the event of a permanent lockout, contact the Program Service Coordinator for instructions.

CODE	DESCRIPTION
0 to 18	Failure to comply with an **Immediate** or **Early Recall** (refer to the "Recall codes" section)
64	Missed a service date and the grace period to reschedule a service date
65 to 71	The reset / sub code **91:XX** to **97:XX** was entered and the lockout date expired
72	The reset / sub code **98:XX** was entered and the lockout date expired
80	The reset / sub code **01:XX** to **90:XX** was entered and the lockout date expired

ERROR MESSAGE TROUBLESHOOTING TABLES

Error messages appear when the HS is unable to process a breath sample, or when there is a device hardware or vehicle battery incident. The following tables list error messages, their causes and possible solutions.

NOTE: HS and ECU exchange procedures are provided at the end of this manual.

TEST ABORTS

NOTE: If a test abort persists, perform an HS exchange procedure.

MESSAGE	DESCRIPTION	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Abort 30	Invalid blow-tube temperature	Possible attempt to circumvent the device Signal drop abort	Take another test
Abort 40	Piston stuck in the rest position	Dirty pump Weak vehicle battery	Unplug the HS and carefully shake it to loosen the piston Boost or charge the vehicle battery

Abort 50	Piston stuck in the fired position	Dirty pump Weak vehicle battery	Unplug the HS and carefully shake it to loosen the piston Boost or charge the vehicle battery
Invalid Sample 01	Invalid humidity reading	Excessive moisture in the HS Possible attempt to circumvent the device	Take another test
Invalid Sample 04	Humidity temperature error	Excessive moisture in the HS Possible attempt to circumvent the device	Take another test
Try Again	Unstable baseline	Excessive breath-alcohol content	Take another test

BATTERY AND REAL TIME CLOCK (RTC)

MESSAGE	SOLUTIONS
ECU Lithium Battery Error	Perform an ECU exchange procedure
HS Lithium Battery Error	Perform an HS exchange procedure
ECU RTC Error	Perform an ECU exchange procedure
HS RTC Error	Perform an HS exchange procedure

COMMUNICATION AND VOLTAGE

MESSAGE	DESCRIPTION	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Communication Error	No communication between HS and ECU	Damaged or defective HS cable Damaged HDMI port on HS or ECU	Change HS cable (13001100) Perform an HS or ECU exchange procedure
ECU Voltage Incorrect	ECU voltage above or below limit	Bad ground connection Bad vehicle battery Defective ECU	Check the ground source Boost or charge the vehicle battery Perform an ECU exchange procedure
Handset Voltage Too High	HS voltage over limit	Problem with the vehicle alternator	Start the vehicle engine and check the alternator voltage

IF THE ALCOLOCK LR DEVICE IS NOT POWERING ON

NOTE: If the battery has been discharged more than twice, its integrity has decreased.

1. Inspect the battery posts for corrosion or loose terminal connections.

2. Using an automotive battery load tester, verify that the vehicle battery is around 12.66V. If the tester displays 10V or below, the vehicle battery must be replaced.

3. Check all wiring connections between the ALCOLOCK LR device and the vehicle, including the ground connection.

VEHICLE BATTERY AND HARDWARE – TROUBLESHOOTING TABLE

IF	THEN
After **Start Motor** appears, the engine cranks but will not start	Boost or charge the vehicle battery
	The client must visit a mechanic
The HS display is blank	The HS is in sleep mode; press any button to activate
	Unplug the HS from the connector and plug it in again
	Perform an HS exchange procedure
The HS display is blank (or **Battery Voltage Too Low** is displayed) with no LED flash	Boost or charge the vehicle battery
The HS is stuck in the **Wait** screen	Boost or charge the vehicle battery
	Change the HS cable
	Perform an HS exchange procedure
Relay Error is displayed	Boost or charge the vehicle battery (there may not be enough battery voltage to latch the ECU relay)
	Perform an ECU exchange procedure

EXCHANGE PROCEDURES

To determine if an ECU or HS exchange procedure may be performed, refer to the troubleshooting steps in this manual.

NOTE: During an HS or ECU exchange procedure, refer to the following manuals:

- *The ITE application manual for ITE transaction procedures*
- *The ALCOLOCK LR Installation Manual for HS install procedure, completed on the HS display*

HS EXCHANGE PROCEDURE

1. Plug a new HS into the Calibration / Download Station, calibrate the new HS and complete an HS exchange transaction under the client's name.
2. Connect and activate the new HS in the client's vehicle.
3. Do one of the following:
   - If the original HS is still working, connect it to the Calibration / Download Station and complete an HS return transaction under the client's name
   - If the original HS is not working, send it back to ACS. Label the HS: "DATA IN"

ECU EXCHANGE PROCEDURE

1. With a new ECU in the client's vehicle (using either a new or original HS) connect the HS to the vehicle and perform an HS install procedure (on the HS display).
2. When the HS install procedure is complete, plug the HS back into the Calibration / Download Station and complete an interlock exchange transaction.
3. Activate the HS in the client's vehicle.
4. With the original HS connected, select **Service**, enter the service code, then in the **Service** menu, select **Maintenance**.
5. When **Maintenance Completed** appears, disconnect the HS.
6. Plug the HS into the Calibration / Download Station and perform an interlock maintenance transaction.