

Alaska Scientific Crime Detection Laboratory

DataMaster Repair Form

Effective: 3/20/2025

Version: 2.0

Instrument #: 100345

Analyst(s): Derek Walton

Start Date: 01/08/26

Reason for Repair

filter wheel errors

Troubleshooting/Repair

Noted that the filter wheel solenoid wires are flaking. Ran filter test - zero errors in 11 cycles. Replaced filter wheel solenoid. Zero errors in 15 cycles. Adjusted chopper speed, lamp and cooler voltages. Instrument was not reliably printing. Reinstalled 3.02 software (full version). Some erratic filter readings observed. Cleaned internal standard and 3 filters with 100% isopropanol. Ran more filter wheel test cycles - multiple errors. Adjusted stepper motor tension - error in 10 cycles. Printing issue resolved. Adjusted filter wheel solenoid mounting position. Zero errors in 21 cycles.

- VOC (attached) Verify software version
- VOC Internal Standard value $\leq 3.00\%$ ~~Non-Drinking Subject Test (attached)~~
- Ready for Adjustment Ready for Calibration
- Further Repair Needed Return to Factory
- Proceed to Close Out

*Not performed
DM 01/09/26*

End Date: 01/09/26

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100345

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 01/08/2026

External Standard Test Values

EXTERNAL STANDARD INFORMATION

NOMINAL: 0.080
TARGET AT 29.37: 0.079
LOT #: AG436502
EXPIRATION: 12/30/2026
TANK PRESSURE: 1113 psi

BLANK TEST 0.000 16:44
INTERNAL STANDARD ERROR 16:44
Xq = -0.041 (143.87%)

Internal Standard Error

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 49.2°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 47.5°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.72 V PASSED
(1.02 V - 2.38 V)
Cooler Voltage = 1.59 V PASSED
(0.98 V - 2.30 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 510 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 29.4 in

PUMP INFO

Flow Rate = 4.173 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.002 V <= 0.010 V)
PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.092 2.59% (0.00% - 4.00%) PASSED

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

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Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 01/08/2026

External Standard Test Values

EXTERNAL STANDARD INFORMATION

NOMINAL: 0.080
TARGET AT 29.37: 0.079
LOT #: AG436502
EXPIRATION: 12/30/2026
TANK PRESSURE: 1115 psi

BLANK TEST 0.000 16:55
INTERNAL STANDARD ERROR 16:55
Xq = 0.007 (92.74%)

Internal Standard Error

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 48.9°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 47.9°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.72 V PASSED
(1.02 V - 2.38 V)
Cooler Voltage = 1.69 V PASSED
(0.98 V - 2.30 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 526 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 29.4 in

PUMP INFO

Flow Rate = 4.361 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.002 V <= 0.010 V)
PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.096 1.57% (0.00% - 4.00%) PASSED

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100345

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 01/08/2026

External Standard Test Values

EXTERNAL STANDARD INFORMATION

NOMINAL: 0.080
TARGET AT 29.37: 0.079
LOT #: AG436502
EXPIRATION: 12/30/2026
TANK PRESSURE: 1112 psi

BLANK TEST 0.000 17:03
INTERNAL STANDARD VERIFIED 17:04
Xq = 0.091 (3.24%)
EXTERNAL STANDARD 0.078 17:04
X[1] = 0.0776 (-0.0013) (-0.0003)
BLANK TEST 0.000 17:05
EXTERNAL STANDARD INTERFERENCE 17:05
X[1] = 0.0781 (-0.0058) (-0.1752)

Blank Error

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 48.7°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 47.4°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.72 V PASSED
(1.02 V - 2.38 V)
Cooler Voltage = 1.69 V PASSED
(0.98 V - 2.30 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 529 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 29.4 in

PUMP INFO

Flow Rate = 4.372 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.002 V <= 0.010 V)
PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.092 3.05% (0.00% - 4.00%) PASSED

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Date: 01/09/2026

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02

PIC: 3.02

Modem: 2.6

Questions: 2.2

TEMPERATURES

Sample Chamber = 48.7°C PASSED
(44.0°C - 52.0°C)

Breath Tube = 47.4°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.70 V PASSED
(1.02 V - 2.38 V)

Cooler Voltage = 1.66 V PASSED
(0.98 V - 2.30 V)

Bias Voltage = 80 V PASSED
(48 V - 112 V)

Chopper Freq = 529 Hz PASSED
(475 Hz - 575 Hz)

Barometer = 28.9 in

PUMP INFO

Flow Rate = 4.010 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.002 V <= 0.010 V)

PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED

Filter 2 PASSED

Filter 3 PASSED

INTERNAL STANDARD FAILED

Xq = 0.090 5.18% (0.00% - 4.00%)

Diagnostic Check Failed

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Date: 01/09/2026

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 48.8°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 47.1°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.70 V PASSED
(1.02 V - 2.38 V)
Cooler Voltage = 1.66 V PASSED
(0.98 V - 2.30 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 533 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 28.9 in

PUMP INFO

Flow Rate = 4.163 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.002 V <= 0.010 V)
PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.089 5.27% (0.00% - 4.00%) FAILED

Diagnostic Check Failed