

Warranty & Service

Contact Ferret Instruments directly if you need warranty and service help. We can be reached at (800) 627-5655. Should your unit require factory service, send the unit to us, freight prepaid at:

Ferret Instruments, inc.
Repair Department
1310 Higgins Drive
Cheboygan, MI 49721

Your unit will be in house no more than two business days. Please include a note indicating what problem you are experiencing. Any charges for service will be handled via Credit Card or C.O.D.

Please note that consumable items such as the leads, filters, NOx Sensor, and O2 Sensor, are not covered by the limited warranty.

Replacement Parts List

Exh. Probe Flex Extension	H014-74
Upper & Lower Filter	H020-57
Calibration Gas	H020-70
NOx Sensor	M022-52
O2 Sensor	M022-50
Extension Lead	W000-03
Power Lead	W004-02
Cigarette Lighter Adapter	W014-30
Temperature Probe	W022-21
Spark Pickup	X008-01
In-line Filter	X014-13
AC Power Adapter	X014-20
ComLink I/R	Ferret 114
PC Software for GasLink LT	Ferret 114PC

Routine Maintenance

The GasLink does require routine maintenance to maintain accuracy and enhance the life of the tool. Routine maintenance includes checking and replacing filters, performing gas calibrations, and replacing the NOx and O2 Sensors. The following is a list of recommended practices.

Every time you use the Unit

- Check the filters, and replace if necessary
- Empty any water found in the Sample Bowl
- Purge the unit at the conclusion of a test

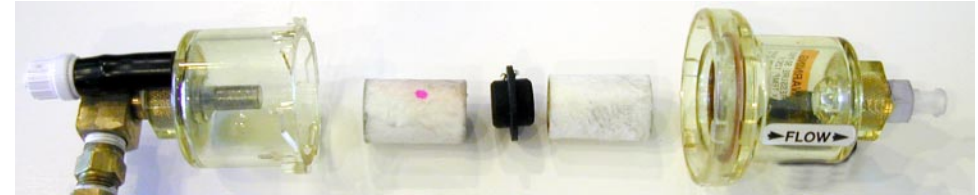
Monthly, no less than every 60 days

- Perform a Gas Calibration

Following this recommended service will maintain the accuracy of the unit and extend the life of the NOx and O2 sensors.

Filter Replacement

The in-line filter can be replaced by simply disconnecting it from the analyzer and fitting the replacement. The upper and lower filter in the water separator bowl need to be replaced as a unit. Do not lose the rubber separator that goes between the filter elements, without it, no filtering will occur. The filter with the Red Dot goes on the bottom.



The filters are sold in a set (P/N H020-57) that includes the upper and lower filter. They are available from your local distributor, or direct from Ferret Instruments (800-627-5655), or check www.ferretinstruments.com for an internet distributor.

Low Flow

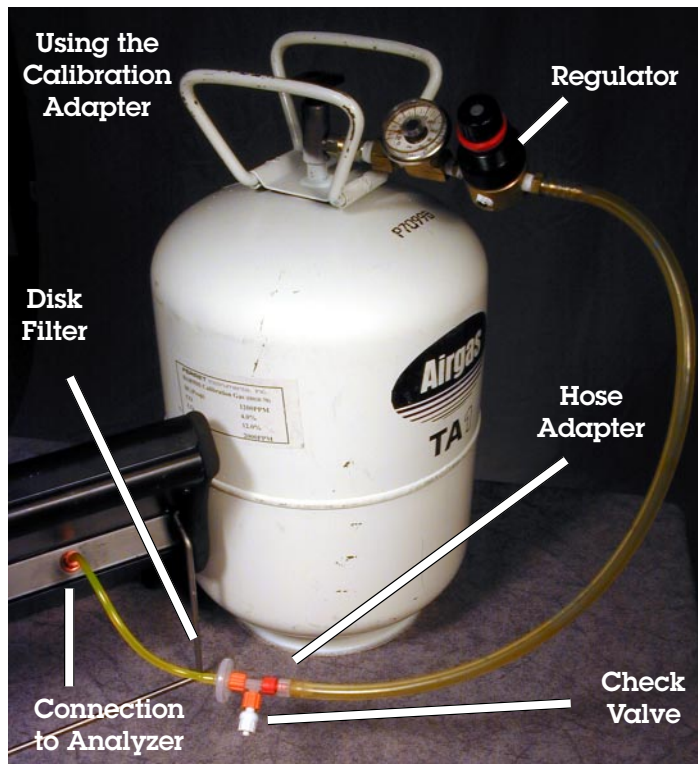
A "Low Flow message will appear if the analyzer senses a restriction in the sample hose assembly. A gradual increase in resistance, like a clogged filter will trigger the message. It is also possible that the message will appear when the unit is very cold. If the unit has been stored in a cold environment (close to or less than freezing) use the unit on a vehicle for about 20 minutes. The heat of the exhaust gas and the fact the unit is powered up should clear a temperature related Low Flow message.

Gas Calibration

The Gas Calibration procedure is built into the analyzer. It is found under the Calibration & Maintenance Menu.

The regulator is necessary to regulate the flow of gas and reduce the pressure from the Cal Gas bottle to the analyzer. Do not attempt to use a calibration gas bottle without a proper regulator.

Do not attempt a calibration without a regulator and a calibration adapter. It is very important that the check valve is not missing and the Calibration adapter is assembled as pictured.



The bottle provides a large quantity of gas at a high pressure. The regulator reduces the flow of gas to the low level required for calibration. The red restrictor protects the analyzer from high pressure, which may be present momentarily when the regulator or bottle valve are adjusted. The check valve and filter reduce the pressure in the input hose to near zero, as required for proper operation. The connection to the analyzer is made in place of the sample hose. When used properly, you will hear calibration gas escaping from the check valve during the calibration process.

The ideal calibration gas to be used with the analyzer contains the following concentrations of gas: Propane - 1,200 PPM, CO - 4.0%, CO₂ - 12.0%, NO_x - 1000 PPM. Other concentrations of gas can be used, but be sure the NO_x concentration is above 500 ppm and less than 3000 ppm.

Purging

The analyzer will purge itself for 2 minutes whenever you apply power to the unit. It is best to have the sample hose in the tailpipe and connected to the analyzer before applying power. If you see water in the filter assembly, run a purge. The purge function is found under the Calibration & Maintenance Menu. If you would rather not wait for the purge, simply open the filter assembly, dump out the water, and wipe with a clean petroleum free cloth. When replacing the filter elements, don't forget the rubber spacer between the filters. Without the spacer, the filters don't work.

Ferret 14 Gas Analyzer Error Messages and Suggested Actions

Error Message	Suggested Action
HC-CO Zero not Successful, Retry Zero from Maintenance menu. Contact Factory if this message persists.	First, try the zero function again, if the message persists, the analyzer needs to be returned to the factory for service. Most likely cause is water in the I/R bench due to incorrect filter installation, or failure to purge frequently.
Warning O ₂ -NO Zero not successful, Retry Zero from Maintenance menu. Contact Factory if this message persists.	First, try the zero function again. If this message persists contact the factory for further assistance
O ₂ Sensor nearing end-of life. Check manual and replace	Replace the O ₂ Sensor.
Warning Calibration not successful. NO _x reading failed: Check cal gas setup, Gas Bottle and repeat test.	First, make absolutely sure that the calibration adapter is properly used. If this message persists, replace the NO _x sensor according to Ferret's NO _x sensor policy.
Warning Calibration not successful, HC readings bad: check Gas Setup, Gas Bottle and repeat test.	The most likely situation here is the calibration adapter was not used properly, or the gas concentration of the Cal Gas Bottle was incorrectly set during the calibration process.
Warning Calibration not successful, CO readings bad: Check Gas Setup, Gas Bottle and repeat test.	The most likely situation here is the calibration adapter was not used properly, or the gas concentration of the Cal Gas Bottle was incorrectly set during the calibration process.

Cleaning the Sample Hose

If it becomes necessary to clean the sample hose and handle, use clean, dry compressed air. Do not blow compressed air through the filter elements!

How to Extend the life of the NO_x and O₂ Sensor

The best way to extend the life of your NO_x and O₂ sensor is to simply use the analyzer. Leaving it plugged in continually does not extend the life. The units that are experiencing longer sensor life are used several time a week. Usage of less than once per month will shorten the life of the sensors.