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TOP GUN™



H10Xpro

**Refrigerant
Leak
Detector**

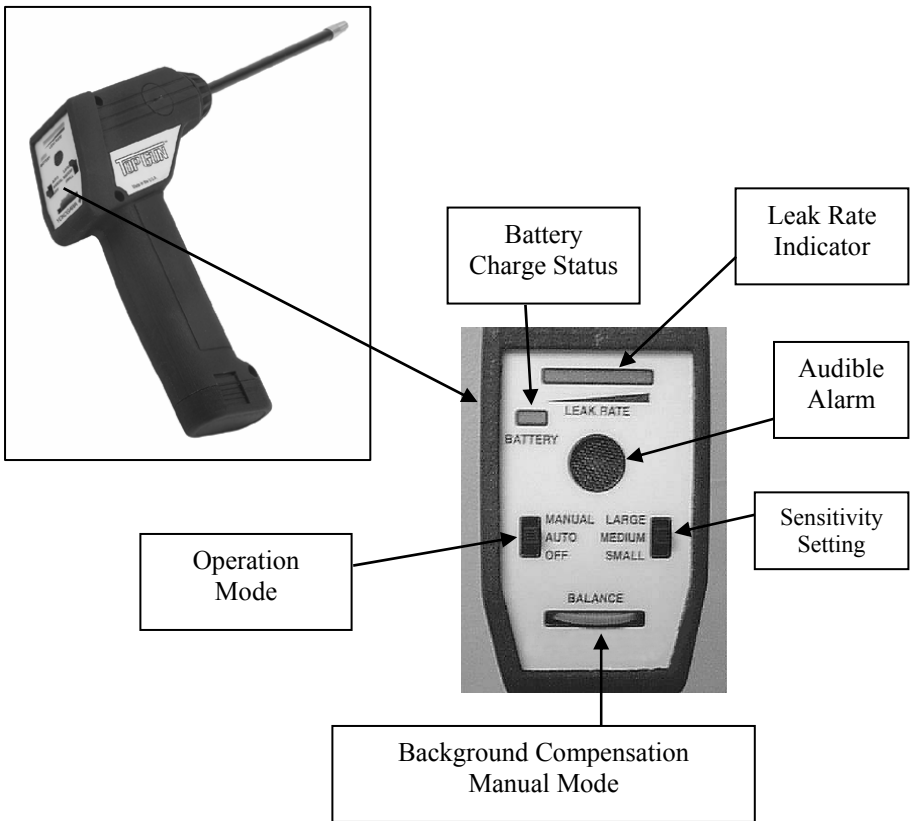
BACHARACH®
The Measurable Difference

Congratulations! You have just purchased the most unique and easy to use leak detector available in the industry today. The H10Xpro Refrigerant Leak Detector is unmatched in its technology. We encourage you to review this manual to assure satisfactory performance and a long service life.

How the H10Xpro Works

The sensor in the H10Xpro uses a heated diode, dispersed electron emission technology. It is very sensitive to only halon substances found in refrigerants. As a result it is highly resistive to false alarms on non-refrigerant substances. The sensor operates at 800 degrees centigrade in a very concentrated form to minimize battery drain. This new technology provides superior sensitivity for quickly locating both small and large leaks. Adjusting a three-position switch controls sensitivity. The sensor and airflow pump are located in the main body of the unit to minimize or eliminate false alarming with changes in airflow over the probe tip. The presence of refrigerant gas is indicated by an audible alarm and the LED display.

Product Operating Features



Adjusting the Sensitivity

The **SMALL** switch position is the highest sensitivity detection level. The unit will indicate a <0.5 ounce per year or greater leak rate in this position, which is used for fluorine based gases like R134a and most fluorine based refrigerant blends. This position also assures highest repeatability for compliance to SAE Standard J1627 moving probe test conditions.

The **MEDIUM** switch position is used for chlorine and chlorine based gases like R12, R22, R123, etc., and will indicate a 0.10 ounce per year or greater leak rate. This position is also useful for locating large R134a or other fluorine based refrigerant leaks of 1–2 ounces per year or larger. The medium position must always be used to verify calibration and performance when using the calibration reference bottle.

The **LARGE** switch position is used to locate very large leaks of any refrigerant. If a large leak is suspected, switch the unit to the **MANUAL** mode. Adjust the balance to 2–3 ticks per second and slowly approach the system being tested. Continue to balance the unit as necessary until the leak is found. Blowing out the test site area with shop air may enable you to locate a large leak more quickly.

Note: After a large leak has been located and repaired, blow out the area again with shop air and set the unit on the small leak sensitivity position and double check equipment for small leaks of R134a or Refrigerant Blends. Use the medium position for small leaks of chlorine based refrigerants like R12, R22, R123, etc.

Operating Instructions

- Slide switch from **OFF** to the **AUTO** mode.
- Check battery status light:
 - If red – the unit will not operate and the battery must be charged.
 - If orange – approximately 20% of the battery life is available.
 - If green – the battery has available 20-100% of it full charge life.
- Allow 10 seconds for the sensor to reach optimum operating sensitivity. The audible alarm will stabilize at 2-3 ticks per second and the far left LED will flash at each tick. The unit is now ready to locate leaks.

WARNING: Personal injury hazard – Do not use the H10Xpro in an explosive or combustible atmosphere. The ambient atmosphere is drawn through the probe and the sensor operates at approximately 700–800 degrees centigrade. **The resulting hot mixture of air and combustible gas could explode.**

Finding the leak

In Auto Mode:

This mode is preferred because the unit effectively auto zeros to block out background levels of refrigerants and changes in background contamination. It greatly reduces and/or eliminates false alarms while retaining sufficient sensitivity to quickly locate small or medium size leaks. Pinpointing leaks in this mode requires continuous probe movement. We recommend 2 inches per second as specified in SAE J1627 and J1628. If the probe remains on a leak the unit will zero out the leak, going into the idle 2–3 ticks per second condition. Moving the probe away from the leak briefly permits the fast auto zero recovery to re-establish sensitivity. Returning to the leak site, the unit will alarm again. With this method the unit will reliably and repeatedly pinpoint the leak with each pass over the leak site.

If a large leak is present, the auto zero circuit may reduce sensitivity to an unacceptable level to find small and medium size leaks. If this condition exists, the manual mode will enable you to pinpoint the large leak.

In Manual Mode:

In the manual mode the auto zero control is disabled. The unit will not zero out the leak if the probe is held at the leak site. This mode may require frequent re-adjustment of the balance control to maintain the required 2–3 ticks per second. If a large leak is present the gas concentration in the atmosphere may cause an alarm before the leak site is located. If this occurs, continue to adjust the balance knob to 2–3 ticks per second to compensate for the gas concentration around or near the leak site. At its optimum setting the balance control will “zero out” the surrounding area refrigerant level maintaining the 2–3 tick per second and alarm only on the exact leak site. In this mode you may notice sensitivity is greater than in the auto zero mode. This is normal. Always balance the unit with the probe held away from the potential leak site.

Application Notes:

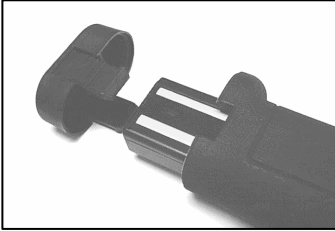
- Start leak checking anywhere and continue in a logical progression through the entire system to locate all leaks. If surfaces are particularly dirty or wet, wipe them off with a clean dry cloth to reduce filter clogging and extend sensor life. DO NOT allow the unit to ingest water or moisture. This can contribute to reducing the air flow pump life and clogs the filter. If you suspect or know the unit has been exposed to water, replace the probe filter. Water in the filter blocks the air flow and causes unreliable performance. It's best to check ports for moisture before inserting the probe.

- After locating and repairing any leaks requiring the use of the large sensitivity setting, switch to the medium setting and verify the system is free of leaks. For HFC refrigerants only such as R134a you also must verify the system is leak free using the small setting. For CFC and HCFC systems using refrigerants like R11, R12, R22, R123, etc., the medium range is sufficient to verify that the system is free of leaks that require repair.
- If the unit is turned upside down or dropped during operation, upscale deviations may occur. Should this happen, allow the unit to re-zero before continuing to leak check.
- If the unit has been idle for a long period of time, several additional seconds may be required for sensor warm-up.

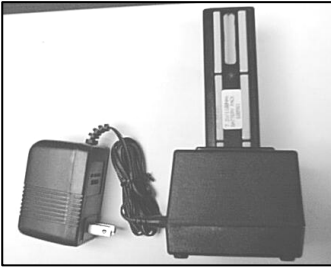
Caution: Equipment Damage Hazard - Submerging the probe in liquid will damage the air flow pump. Exposing the probe to a stream of refrigerant coming out of a Schrader valve or gas bottle will severely reduce sensor life or destroy the sensor. Life of the sensor is indirectly proportional to the amount of refrigerant that passes through it. With normal use the sensor should last for one year or longer.

Maintenance

Charging the battery



- Squeeze finger pads on base of handle and pull off battery cap.
- Remove battery by pulling out of the unit.



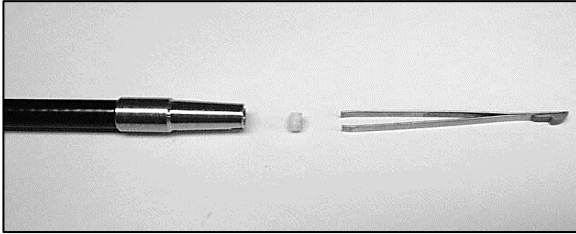
- Insert battery in charging stand.
Note: Battery can only be inserted in one position to connect with charge terminals.
- Plug wall power adapter into the power outlet and the connector to the charger.
- Charge time – 3 hours

Note: The red light will indicate battery charging. A fully discharged battery will fully charge in three hours. The red light will extinguish when charging is complete. The charger has over voltage protection. Leaving the battery in the charger will not damage the battery. Run time of the standard NiCad battery pack is 3–4 hours depending on use.

Note: NiCad batteries have a memory effect which can shorten the run time and rechargeable life of the battery. Running the unit until the orange or red status light comes on before charging will extend the rechargeable service life of the battery.

Replacing the probe filter

To protect the air flow pump from damage due to foreign particles and moisture, replace the filter as it becomes dirty. With moderate use (15–30 minutes a day) the filter should be replaced once a month. Use in a dirty environment or with heavy use, replace the filter more frequently. Always replace the filter when it is visibly dirty or when it becomes wet or is suspected of being wet.



- Pick out filter with pin or tweezers. A fine mesh screen will remain in the probe behind the filter.
- Insert the new filter (supplied in the maintenance kit included with unit) making sure it is firmly seated against the fine screen.

Exchanging the probe assembly

- The probe assembly is screwed clockwise into the end of the barrel assembly. Grasping the probe and turning counter clockwise will remove the probe. It is not necessary to loosen or remove the large knurled nut at the end of the barrel.
- Some product kits include an optional 8" probe assembly. The part number for this assembly is 3015-1491 and is available from your local distributor.
- A rubber O-ring is installed at the base of the threaded assembly for an air tight seal. If it appears to be damaged or is suspected of being damaged, replace it with a spare from the maintenance kit.
- Finger tight assembly is all that is required.



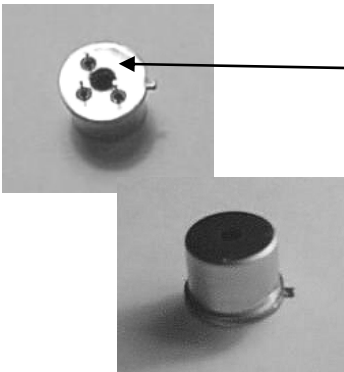
Replacing the Sensor



- Remove sensor access cover
- Sensor Retaining Spring



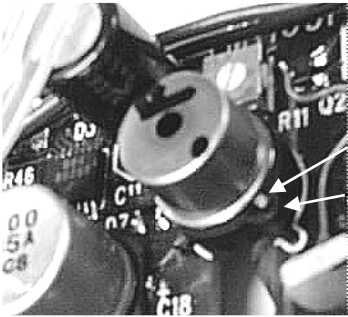
- Grasp sensor with needle nose pliers and remove pulling straight out.



- There is a gap between sensor pins that correlate with the sensor socket.
- Note: Sensor has a tab on the side.



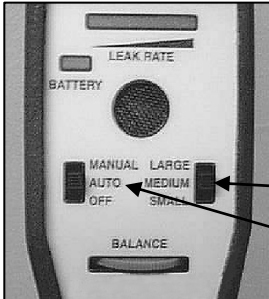
- Grasp sensor with needle nose pliers and without force, align the sensor tab with the socket tab and slowly slide the sensor into the socket with a small amount of pressure. If misaligned, the pins will bend, requiring straightening before the sensor can be correctly inserted.



- Sensor Tab
- Socket Tab

Check for Correct Sensor Installation

Place switch in the **AUTO** mode and sensitivity switch in the **MEDIUM** position. If unit alarms and then stabilizes at 2–3 ticks per second the sensor is properly installed.



- You can also visually observe the heater element glowing orange through the air hole on the top.
- Medium Position
- Auto Mode



- Momentarily touch the probe tip to the calibration reference bottle. The unit tick rate should speed up significantly.



- Replace sensor access cover making sure the sensor retaining spring seats on top of the sensor.
- Retaining Spring
- Return unit to service

Warranty

The purchaser is warranted that this leak detector will be free of defects in material and workmanship for 1 year from date of purchase except for consumables (sensor, reference bottle, battery, etc.). Damages caused by the user will not be covered. If during the warranty period any defects are discovered, a Bacharach factory authorized service center will repair or replace the unit at their option.

To obtain in or out of warranty service, please return the unit to the point of purchase and they will arrange for the required service. In the event your local distributor/point of purchase does not handle product service issues, please call your nearest Service Center. Refer to page 12 for a listing of all Service Centers.

Note: The foregoing limited warranty is exclusive and in lieu of any other warranties whether written or implied, and no warranty of merchantability or fitness for purpose is implied.

Other Environmental Products:

- Stationary Refrigerant Gas Monitoring Systems
- Automotive Refrigerant Gas Analyzers
- HVAC Liquid Gas Analyzers
- Automotive/HVAC Service Leak Detectors
- Industrial Leak Detectors
- NIST Traceable Refrigerant Leak Standards
- Hand Held Test Instruments



Accessories:

Part No.	Description
3015-1216	Carry/Storage Case
3015-1481	End Cap (battery compartment)
3015-1896	Maintenance Kit (filter & O-ring)
3015-1476	NiCad Battery
3015-1901	Operation Manual
3015-1491	Probe, short – 8 inch
3015-1486	Probe, long – 16 inch
3015-0864	Reference Bottle
3015-1416	Battery Charger Kit (120 VAC adapter & stand)
3015-1821	Single Slot AC Adapter (120 VAC)
3015-1806	Single Slot AC Adapter (220 VAC)
3015-1731	Single Slot Charging Stand
3015-1721	Sensor Assembly
3015-1566	Sensor Access Cover
3015-1891	Tune-Up Kit (maintenance kit, sensor, reference bottle)

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SAE J1627



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