

# **eL-520**

# **CLI20204**

## **Refrigerant Gas Leak Detector**

### **User's Guide**



Congratulations on the purchase of the **AccuTools™ eL-520 Refrigerant Gas Leak Detector**, the most technologically advanced of its kind. The **eL-520's** low power requirements, small size and high sensitivity combine to create a tool which is easy to handle and ultra effective at locating even the most difficult-to-find leaks.

Fully SAE J1627 compliant, the **eL-520** will detect leaks as small as 0.1 oz/yr (3g/year) in R12, R22, R134a and other halogen refrigerant systems.

The **eL-520** should not be used on systems that contain flammable refrigerants such as Propane, Isobutane, etc.

### TECHNICAL DATA

Dimensions	7.25" x 2.25" x 1.5" (19 cm x 5.7 cm x 3.8 cm)
Weight	7 oz. (190 grams)
Batteries	2 x 1.5V 'AA' Alkaline Batteries (3 VDC)
Battery Life	40 hours
Sensitivity	< 3g/year (0.1 oz/yr)
Sensor lifetime	approx. 30 hours
Operating temperature	32 – 122°F (0 – 50°C)
Warm up time	< 2 sec.
Response time	instantaneous
Reset time	instantaneous
Probe length	12" (30 cm)

It detects all HFC, CFC and HCFC refrigerants including R134A, R12, R22, R32, R1234yf as well as blends such as R404A, R408A, R 409A, R 410A, and others.

### INSTRUCTIONS

1. Press the button to turn the unit on.
2. The LED will flash orange for a short moment to indicate auto-reset, afterwards the unit will begin beeping and flashing green.
3. To reset the unit to the existing level of ambient refrigerant, press and release the button. The LED will flash orange briefly to indicate the reset. All levels of refrigerant less than the reset level will be ignored.
4. Unit turns on in the low sensitivity level, which is adequate for most leaks. Press the button twice (double-click like a computer mouse). The LED will fade from red to green and a sweeping sound effect of low to high pitch will be heard. The sensitivity is now set for 3g/year (0.1oz/yr). This mode should only be used for looking for leaks of less than 14g/year (0.5 oz/yr).
5. Double click again to change back to low sensitivity.
6. Move the probe towards a suspected refrigerant leak at a rate of less than 2 inches (50 mm) per second, no more than ¼ inch (5 mm) away from the suspected source.
7. If a leak exists, the sound will increase in rate and pitch and the LED will start flashing rapidly.
8. To turn the **eL-520** off, press and hold the button for 3 seconds.

### FEATURES

- If the sensor is damaged, a sweeping alarm and a red-green flash will indicate the problem.
- A flashing LED during normal operation also reflects the battery level:
  - Green:** batteries are fresh
  - Orange:** batteries should be changed
- If the batteries are nearly empty, the LED will turn solid red and a two-tone alarm will be noted for 5 seconds, before the **eL-520** will power itself off.
- If the unit is left on unattended, it will automatically turn off after about 5 minutes to conserve batteries.

### BATTERY INSTALLATION AND REPLACEMENT

1. Turn the power off.
2. Remove the battery cover from the back of the instrument by loosening the battery cover screw and lifting the battery cover off. Be careful not to lose the extra sensor stored in the battery compartment.
3. Insert 2 size 'AA' alkaline batteries, observing proper battery polarity.
4. Replace battery cover and tighten battery cover screw.

### SENSOR

An **eL-520** sensor will last between 25 and 30 hours of continuous use. A failed or failing sensor will be indicated in one of the following ways:

1. Unstable or erratic operation of the unit and many false alarms, even in pure air.
2. A continuous "siren" sound.

### SENSOR REPLACEMENT

In either case, replacement of the sensor is necessary:

1. Turn the power off.
2. Locate the replacement sensor in the battery compartment.
3. Unscrew (turn counter clockwise) the old sensor from the
4. end of the probe.
5. Screw (turn clockwise) the new sensor into place.

#### Replacement sensors

Part Number **ELS-5** (pack of 2)

### MAINTENANCE

The **eL-520** should provide years of service with little maintenance aside from changing batteries and sensors. The case may be cleaned with a shop towel moistened with water and a mild detergent. Do not use solvent of any kind.

### SAE J1628 RECOMMENDED PROCEDURES

For the purpose of Automotive A/C Testing with respect to the SAE J1627 standard, the following leak testing procedure applies:

1. Operate the **eL-520** in high sensitivity mode.
2. Leak test with the engine not in operation.
3. The air conditioning system shall be charged with sufficient refrigerant to have a gauge pressure of at least 340 kPa when not in operation. At temperatures below 15°C, leaks may not be measurable, since this pressure may not be reached.
4. Take care not to contaminate the detector probe tip. If the part is particularly dirty, it should be wiped off with a dry shop towel or blown off with shop air. No cleaners or solvents shall be used, since many electronic detectors are sensitive to their ingredients.
5. Visually trace the entire refrigerant system, and look for signs of air-conditioning lubricant leakage, damage, and corrosion on all lines, hoses, and components. Each questionable area shall be carefully checked with the detector probe, as well as all fittings, hose to line couplings, refrigerant controls, service ports with caps in place, brazed or welded areas, and areas around attachment points and hold-downs on lines and components.
6. Always follow the refrigerant system around in a continuous path so that no areas of potential leaks are missed. If a leak is found, always continue to test the remainder of the system.

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7. At each area checked, the probe shall be moved around the location, at a rate no more than 25-50 mm/s and no more than 5 mm from the surface completely around the position. Slower and closer movement of the probe often helps locate the exact position of the leak.
8. An apparent leak shall be verified at least once by blowing shop air into the area of the suspected leak, if necessary, and repeating the check of the area. In cases of very large leaks, blowing out the area with shop air often helps locate the exact position of the leak.
9. Leak testing of the evaporator core while in the air conditioning module shall be accomplished by turning the air conditioning blower on high for a period of 15 sec. minimum, shutting it off, then waiting for the refrigerant to accumulate in the case for time specified by paragraph 10, then inserting the leak detector probe into the blower resistor block or condensate drain hold if no water is present, or into the closest opening in the heating/ventilation/air conditioning case to the evaporator, such as the heater duct or a vent duct. If the detector alarms, a leak apparently has been found.
10. The accumulation time shall be 10 minutes.
11. Following any service to the refrigerant system of the vehicle, and any other service which disturbs the refrigerant system, a leak test of the repair and of the service ports of the refrigerant system shall be done.