

YELLOW JACKET®

**ACCUPROBE™ UV and ACCUPROBE™ II
Refrigerant Leak Detector with Heated Sensor**



Instruction and Operation Manual

Models 69336, 69337, 69338, 69339 and 69354



Design Certified to meet
SAE J2791 for R-134a



Made in U.S.A.

Introduction

The YELLOW JACKET® ACCUPROBE™ UV and ACCUPROBE™ II Hand-held Leak Detectors detect all HCFC refrigerants such as R-22 and R-124. The ultra-sensitive long life sensor with exclusive Heated Electrochemical Sensor Technology (HES) also detects the more current, difficult-to-detect HFC refrigerants such as R-134a, R-404A, R-407C and R-410A (see page 6 for a more complete chart of detectable refrigerants).

The ACCUPROBE UV is equipped with the unique digital SmartAlarm™ LED display – the first digital leak size indicator in a hand-held heated sensor leak detector. This

feature takes the guesswork out of whether or not to repair a small leak. Unlike the more traditional LED bar graphs that copy or mimic the audio alarm signal, the SmartAlarm digital leak size indicator measures, registers and displays the leak size independently from both the audio alarm and the sensitivity level.

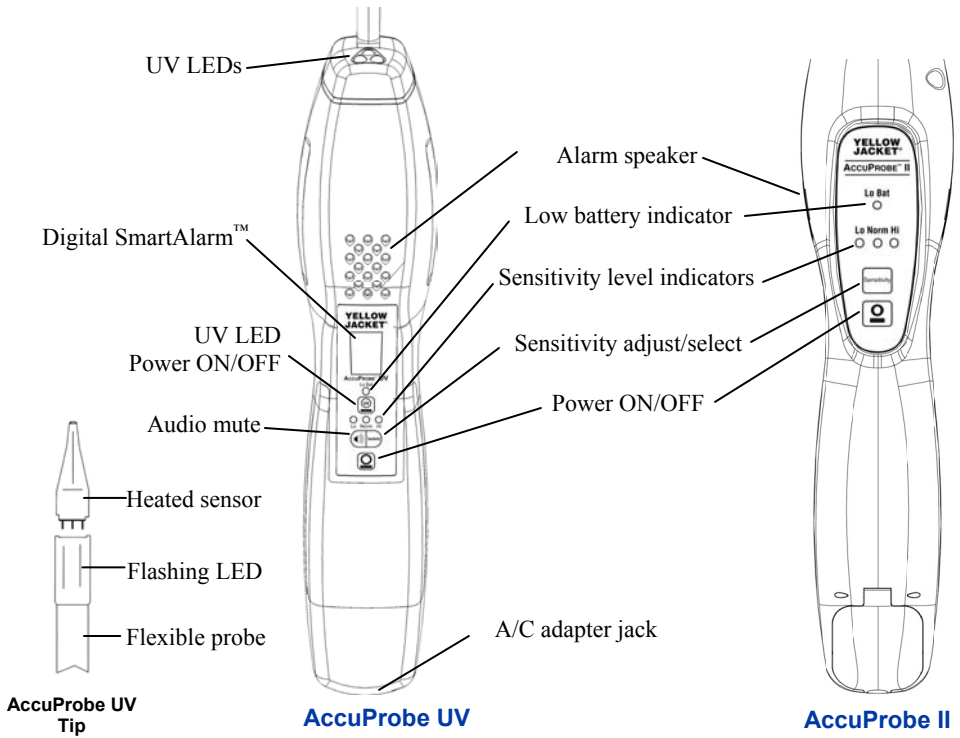
The ACCUPROBE UV also features a 3 LED UV light system that works with 395-415nm wavelength leak tracing dyes. The sleek, ergonomic design of these YELLOW JACKET leak detectors makes them easy to use in close areas and extendable into hard-to-reach areas.

Features

- Advanced digital SmartAlarm™ leak size indicator ([AccuProbe UV](#))
- Flashing visual alarm indicator at probe end ([AccuProbe UV](#))
- Audio mute button ([AccuProbe UV](#))
- Operates on 4 AA alkaline batteries ([AccuProbe UV](#) can also use AC power)
- 3 LED UV light system that works with 395-415nm wavelength leak tracing dyes ([AccuProbe UV](#))
- Microcontroller technology
- Ultra-high sensitivity to detect 0.06 oz (1.7g)/yr. of R-134a and 0.03 oz (0.9g)/yr. of R-22
- Automatic calibration and reset to ambient
- Detects HFC, HCFC and CFC refrigerants (see page 6)
- Long life stable sensor utilizing Heated Electrochemical Sensor (HES) technology
- 3 selectable sensitivity level settings
- Sleek ergonomic design
- Low battery indicator
- Temp Range 24° to 125°F (-4° to + 52°C)
- Humidity 0 to 95% RH noncondensing
- SAE J2791 Certified
- CE Marked
- True mechanical pump

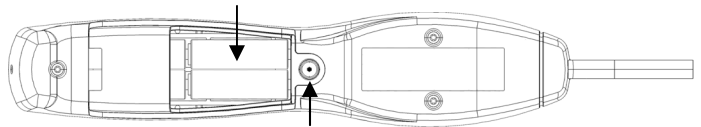
Specifications	
Sensitivity	0.06 oz (1.7g)/yr. of R-134a 0.03 oz (0.9g)/yr. of R-22
Power	4 AA alkaline batteries
Probe Length	17 inches (430mm)
Calibration	Automatic
Sensor Life	>300 hours
Length(body)	10.5 inches (270mm)
Weight	AccuProbe II - 15 ounces (430g); AccuProbe UV - 17 ounces (480g)
Battery Life	4.5 hours continuous
Response Time	Instantaneous

Parts and Controls



Battery Installation

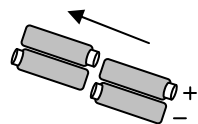
AccuProbe UV



1. Loosen battery door screw located on the bottom of the detector and remove door.
2. Install 4 AA alkaline batteries observing the proper battery polarity as labeled
3. Reinstall the battery door and tighten the screw.

AccuProbe II

1. Loosen screw located at rear end of unit and pull down hinged battery door to open as shown.
2. Always insert all four batteries with the proper polarity.



Operating Instructions

AccuProbe UV

- POWER ON:** The detector is turned ON and OFF by pressing the POWER button (see figure 1 below).
- WARM-UP:** The detector automatically starts heating the sensor to condition it for use. While in this WARM UP phase – and until ready – the instrument will signal audibly by beeping slowly and visually by flashing the sensitivity LEDs and the zero (0) in the SmartAlarm™ display window. Warm up time is usually about 20 SECONDS or less.
- SEARCH:** The detector is ready for leak searching when the sensitivity LEDs stop flashing and the beep rate increases. At this time the zero in the display window stops flashing. When a leak is detected, the beeping sound and flashing LED in the probe will increase in frequency, and the SmartAlarm digital LED display will turn on indicating the leak size. If no leak is detected go to HI sensitivity and continue searching.

SmartAlarm™ Display

The SmartAlarm LED Display is a digital leak size indicator that numerically displays the leak size on a scale of 1 to 9 for all HFC and HCFC refrigerants – regardless of the sensitivity setting. This value helps you decide whether or not the leak is large enough to require repair.

For example, when in the HI sensitivity mode, the detector may sound a full audio alarm but the SmartAlarm Display may show a low number – indicating that the leak is very small. In contrast, when in the LO sensitivity mode, a full audio alarm may not sound but the SmartAlarm may show a high number, indicating that the leak is large.


SmartAlarm™ DISPLAY	LEAK SIZE DISPLAY (OZ/YR.)*
1 TO 3	< 0.1 (2.8g)
4 TO 6	0.1 to 0.5 (2.8-14g)
7 TO 9	> 0.5 (14.1g)
*HFC and HCFC Refrigerants	

The maximum value displayed, once the source of the leak is located, indicates the leak size. This value helps you decide whether or not a leak is large enough to require repair. The table above shows the leak rates corresponding to the SmartAlarm numerical display.

UV LIGHT OPERATION

**⚠ CAUTION:
EMITS ULTRAVIOLET RADIATION**

CAUTION



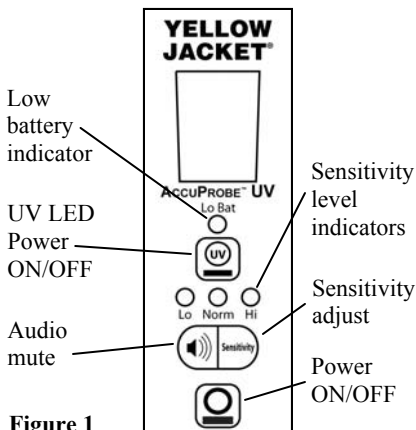
ULTRAVIOLET LIGHT HAZARD
Use with UV shield or wear eye and face protection.

- This UV LED during operation radiates UV light
- Avoid direct eye and skin exposure to UV light
- If viewing the UV light is necessary, please use UV filtered glasses to avoid damage by the UV light

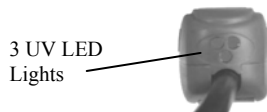
Before leak checking with the UV light:

- Make sure the A/C system is properly charged with sufficient dye (see manufacturer's specifications for proper dye charge.)
- Run the A/C system long enough to thoroughly mix and circulate the dye with the refrigerant and lubricating oil.

- Turn on UV light by pressing the UV light ON/OFF button (see diagram on left).
- Holding the leak detector approximately 10" to 14" away, shine the UV light beam slowly over the components, hoses, and metal lines that make up the A/C system.
- When the UV light shines on the fluorescent dye that has escaped from the system, the dye will glow a bright yellow green.
- The UV LEDs will automatically turn off after five minutes.



4 **Figure 1**

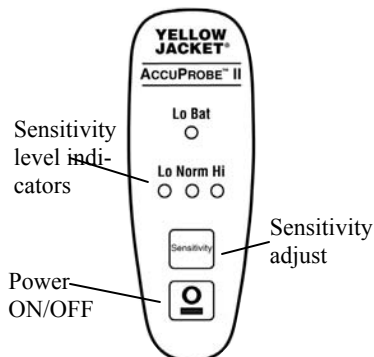


Using the SmartAlarm Display

1. The SmartAlarm will not display a number (1 through 9) until a leak is sensed. Once a leak is sensed, the numbers on the display will gradually increase.
2. Use the SmartAlarm display to "zero in" on the leak source by watching the numbers climb higher as the leak source is approached.
3. Once the leak source has been located, always wait for the maximum number to be displayed to determine the size of the leak.
4. Lower numbers (approximately 1 to 3) indicate that the leak size is less than 0.1 oz/yr. and may not require repairing at this time – depending on the amount of gas in system. NOTE: Multiple small leaks in a system are cumulative and may require that all system leaks should be repaired.

AccuProbe II

1. **TURN ON:** Press the ON/OFF button once to turn on and again to turn off.
2. **WARM UP:** The detector automatically starts heating the sensor. During the heating cycle, the detector will sound a slow "beep." Warm up is generally less than 20 seconds.
3. **READY:** The detector is ready to begin searching for leaks when the green sensitivity LED turns on. The audio "beep" increases in frequency.



AccuProbe II Keypad

Adjusting the sensitivity levels

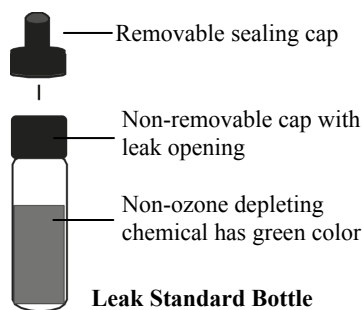
To choose another sensitivity level, press the Sensitivity button. The LED below each level will change indicating the new setting.

The leak detector will default to the NORM sensitivity level automatically once the unit comes out of the warm-up cycle and the green LED turns on.

Using the Leak Standard

Use the leak standard to determine that the leak detector performs to specifications.

1. Lift off the plastic sealing cap on the top of the LEAK STANDARD.
2. **POWER ON** the unit. After **WARM UP** and when **READY** expose the sensor directly to the small hole in the top of the bottle cap. The beep rate should increase to an alarm. For the **AccuProbe**, the SmartAlarm should display a number greater than 2. If the SmartAlarm fails to display 2 or above, leave the detector on for approximately 15 to 30 seconds longer and retest. This indicates that the sensor and electronic circuit are functioning properly.
3. Replace plastic cap seal after leak test. Note: Replace the leak standard when the green color is no longer visible.



Low battery indication

Replace the batteries when the red low battery LED comes on (see page 3). Follow instructions under section titled "BATTERY INSTALLATION" on page 3.

Audio alarm mute (AccuProbe UV)

To silence the audio alarm, press the MUTE button. Press the MUTE button again to restore the audio alarm.



Sensor failure mode

If the sensor is not working correctly, the AccuProbe Leak Detector will not come out of the warm-up mode. (Some competitive units without this function will not alert you that the sensor is malfunctioning or has failed.)

If the AccuProbe detector does not come out of warm-up, first be sure the sensor is plugged in all the way. If that does not correct the situation, replace the sensor.

Maintenance

Batteries: Replace the batteries when the red low battery LED turns on. See "BATTERY INSTALLATION" on page 3.

Sensor filter replacement: Unscrew the sensor tip as shown to replace the filter. For optimum performance, replace filter whenever it becomes visibly dirty with grease or oil or every 2-3 months (depending on use).

Note: Never clean dirty filters with a solvent or soap and water. Always replace with a new filter supplied with the leak detector or they can be re-ordered from your supplier or distributor.

Sensor replacement: Remove sensor by pulling out of socket. Install the new sensor by aligning the notch in the sensor cover with the raised keyway on the sensor socket holder (see Figure 2).

Note: Do not force sensor into socket. Misalignment can damage the sensor pins.

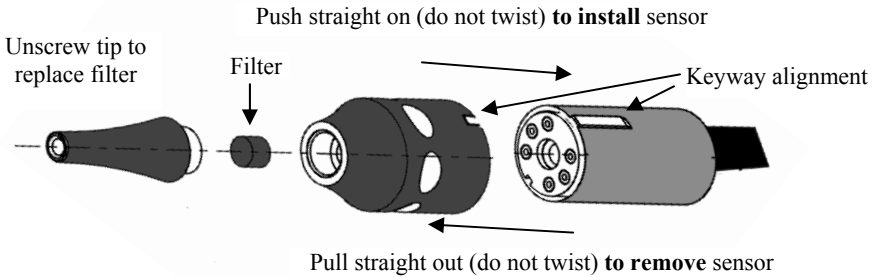


Figure 2

Partial list of detectable SNAP* listed refrigerants	
R-12 ALTERNATIVES	R-22 ALTERNATIVES
R-134a, R-401A (MP-39), R-401B (MP-66), R-401C (MP-52), R-406A (GHG)	R-407C, R-410A, R-410B, R-507
R-414A (GHG-X4), R-414B (Hot Shot), R-416A (Frig C, FR-12)	R-113, R-13B & R-503 ALTERNATIVES
R-409A (FX-56), Freeze 12, Free Zone, GHG-X5, GHG-HP, IKON 12	R-403B, R-508A, R-508B
R-502, R-500 ALTERNATIVES	HC REFRIGERANTS (not SNAP approved)
R-402A&B, R-404A, R-407A, R-408A, R-411A&B, R-507	R-290, R-600A, R-170/R-290, R-600A/R-290
* SNAP (Significant New Alternatives Program) an EPA program for ozone depleting refrigerants for mobile and stationary A/C systems	

Replacement Parts		
AccuProbe UV and AccuProbe II	Parts kit (sensor, filters and leak standard bottle)	69383
	Sensor and filter	69384
	Sensor filters (package of 5)	69385
	Leak standard bottle	69386
AccuProbe UV	A/C Adapter Input: 115V 60Hz UL listed	69380
	A/C Adapter—EU/UK Plug Input: 230V 50Hz CE & TÜV Approved	69381
	A/C Adapter—AU/NZ Plug Input: 230V 50Hz CE & TÜV Approved	69378
	Battery cover and screw	69388
	Carrying case - blow molded with inserts	69387
AccuProbe II	Carrying pouch	69361

Troubleshooting Guide		
PROBLEM	CHECK	REPAIR OR REPLACE
No power	<ul style="list-style-type: none"> Check for weak or reversed batteries 	<ul style="list-style-type: none"> Replace batteries
Stays in "warm up" mode	<ul style="list-style-type: none"> Sensor not plugged into socket correctly Sensor open/defective 	<ul style="list-style-type: none"> Make sure sensor is pushed all the way down into socket Replace sensor
No detection	<ul style="list-style-type: none"> Check sensor with leak standard bottle Check if the filter is dirty or sensor opening is plugged 	<ul style="list-style-type: none"> Replace sensor Replace filter or clean out opening
Slow recovery after detection	<ul style="list-style-type: none"> Check if filter is dirty or sensor opening is plugged 	<ul style="list-style-type: none"> Replace filter or clean out opening
No beeping	<ul style="list-style-type: none"> Nothing 	<ul style="list-style-type: none"> Press mute button (if equipped) to turn speaker back on

Certified to the European Standard EN 14624 (Section 13)	
Minimum sensitivity R-134a fixed position	1 gram/year
Maximum sensitivity R-134a fixed position	>50 gram/year
Minimum sensitivity R-134a in motion	3 gram/year
Maximum sensitivity R-134a in motion	>50 gram/year
Minimum time for detection 1 gram/yr R-134a	1 second
Zeroing time for 50 grams/yr exposure	Approximately 12 seconds
Minimum sensitivity in polluted ambience	1 gram/year fixed; 3 grams/year moving
Calibration frequency	Check annually with calibrated leak source

18 MONTH LIMITED WARRANTY

Ritchie Engineering guarantees YELLOW JACKET AccuProbe Leak Detectors to be free of defective material and workmanship that would affect the life of the product under normal use for the purpose for which it was designed. This warranty does not cover items that have been altered, abused, misused, improperly maintained or returned solely in need of field service maintenance. This warranty excludes the sensor, which is warranted for one year.

If found defective, we will upon compliance with the following instructions, credit, replace or repair at our option, the defective leak detector provided it is returned within 18 months of the

date of sale. ACCUPROBE leak detectors have a date of manufacture serial number located on the label on the bottom of the unit.

Correction in the manner provided above shall constitute a fulfillment of all liabilities with respect to the quality, material and workmanship of the product.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF QUALITY, WHETHER WRITTEN, ORAL OR IMPLIED.

Cross Sensitivity to Automotive Chemicals

Some automotive solvents and chemicals have similar hydrocarbon properties as R-134a and may elicit a positive response (<30 seconds) from the AccuProbe. Before leak checking, clean up any chemicals in the list below that elicit a positive response.

Brand/Chemical Name	Response	Clears <30 seconds
Dextron Transmission Fluid heated to 160° F	N	N/A
Quaker State Motor Oil heated to 160° F	N	N/A
Rain-X Windshield Wash Fluid	N	N/A
Ford Silicone Lubricant	N	N/A
Ford Rust Inhibitor (when wet)	Y	Yes
Ford Gasket Adhesive (when wet)	Y	Yes
Loctite Natural Blue Degreaser (undiluted)	Y	Yes
Ford Brake Parts Cleaner (when wet)	Y	Yes
Ford Silicon Rubber (when uncured)	Y	Yes
Motorcraft Antifreeze heated to 160° F	Y	Yes
Gunk Liquid Wrench (when wet)	Y	Yes
Ford Spot Remover (when wet)	Y	Yes
Ford Pumice Lotion (with mineral solvent)	Y	Yes
Ford Motorcraft Brake Fluid	Y	Yes
Ford Carburetor Cleaner (when wet)	Y	Yes

For tips on searching
for leaks, visit
www.yellowjacket.com

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