# AccuProbe™ IR Leak Detector

YELLOW JACKET®

# Operation and Maintenance Manual

## Model: 69320

Design certified by Intertek to meet SAE J2913 & EN 14624

Made in the USA
with Globally Sourced Parts

## OPERATING INSTRUCTIONS

**POWER ON:** Turn on or off by long pressing the ON/OFF button. The power LED will illuminate green unless battery is low.

**WARM-UP:** During warm-up, the unit will beep slowly and the signal LEDs will continuously scroll from left to right until warm-up is complete. Warm-up time is 45 to 90 seconds.

**SEARCH:** Detector is ready for use when signal LEDs stop scrolling from left to right and a different beep rate can be heard.

If a leak is detected, the signal LEDs will illuminate from left to right and the beep rate will increase. The number of LEDs illuminated indicates the strength of the leak.

The default mode is Standard mode. In Standard mode, the detector automatically zeros to the background refrigerant. Once it zeros, the alarm will stop and it will only alarm to a higher concentration of refrigerant. To reset the zero point, hold the probe in clean air for a few seconds to allow the detector to re-zero.

**ADJUSTING THE SENSITIVITY LEVELS:** Short press the ON/OFF button to toggle sensitivity from high to low. The HIGH or LOW LED will illuminate to indicate the current sensitivity setting. High is the default setting during power on.

**MANUAL MODE:** Short pressing the MODE button toggles between Standard mode and Manual mode. Manual mode is indicated by the 1st signal LED slow blinking and both HIGH and LOW LEDs being off.

In manual mode, if a leak is detected, the detector will alarm until the MODE button is long pressed. The HIGH and LOW LEDs will blink for 1 second to indicate the detector is zeroing. At this point, the detector will only alarm if a high concentration of refrigerant is detected.

You can also reset the zero point in clean air by holding the detector in clean air and long pressing the MODE button again.

**BATTERY AND CHARGING:** The power LED will slow blink red when the battery is 10% or less. If the battery is depleted completely, the power LED will illuminate solid red and the unit will not operate.

To charge the unit, plug the supplied micro USB cable into an appropriate USB charging port per the input specifications (see specifications).

When charging, the power LED will slow blink green until fully charged, then remain solid green.

**ERRORS:** If the battery is above or below charge temperature, the unit will not charge and the power LED will alternate red and green. In this case, let the battery cool or warm up. The unit will charge once the battery is within the safe operating temperature.

Other faults or internal errors are indicated when all LEDs blink. Contact Ritchie Engineering Company, Inc. for service in this case.

**FILTER REPLACEMENT:** Accuprobe™ IR has an integrated filter and probe tip. To replace the filter/probe tip assembly, simply unscrew the probe tip and screw on the new filter/probe tip assembly. Do not attempt to clean the filter.

**SENSOR/BATTERY REPLACEMENT:** The sensor and battery in Accuprobe™ IR are not field replaceable. For instrument service, contact Ritchie Engineering Company, Inc.

## LEAK TESTING OF MOBILE A/C SYSTEMS

Make sure the AccuProbe™ IR leak detector is in SAE mode by holding the "MODE" button for 5 seconds during startup. This sets the sensitivity levels outlined in the table below:

| R-1234yf Leak Rate (g/yr) | Sensitivity Setting |
|---|---|
| 14 | Low |
| 7 | Medium |
| 4 | High |

1. Leak test with the engine off.
2. Charge the system with sufficient refrigerant to have a gauge pressure of at least 340 kPa (50 psi) with the system off. At ambient temperatures below 15 °C (59 °F) leaks may not be measurable because the pressure may not be reached.
3. Visually trace the entire refrigerant system, and look for signs of air conditioning lubricant leakage, damage and corrosion on all lines, hoses and components. Check each questionable area with the detector probe, as well as all fittings, hose-to-line couplings, refrigerant controls, service valves with caps in place, brazed or welded areas, and areas around attachment points and hold-downs on lines and components. If looking for an apparently larger leak, check first at the 7 g/yr Medium or 14 g/yr Low position.
4. 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.
5. Recheck service valves with caps removed. Blow shop air over service valve to clear immediate area, and then check with detector on 7 g/yr Medium setting.
6. Move the detector at a rate of no more than 75 mm/sec (3 in/sec) and as close as possible to 9.5 mm (3/8 in) from the surface, completely encircling each test position (switch, sensor, refrigerant tubing connection, etc).
7. Slower movement and closer approach of the probe normally improves the likelihood of finding a leak. However, detectors made to meet this standard are based on air sampling from the 9.5 mm (3/8 in) distance. So retest is advisable when a leak appears to be found at the most sensitive settings, particularly if the probe was in a static position on a joint, or making physical contact with a joint, as it was moving. Repeat with a moving probe test at that location, taking care to maintain the small gap (9.5 mm or 3/8 in) to confirm that the leak is of repairable size. Use of the 7 g/yr (0.25 oz/yr) Medium position of the detector, after finding an apparent leak with the 4 g/yr (0.15 oz/yr) High setting, also may be helpful.

## AUTOMOTIVE CHEMICAL FALSE TRIGGERING

Due to similarities between the composition of refrigerants and some common automotive chemicals, the detector may alarm when in the presence these chemicals, which can make it more difficult to pinpoint a refrigerant leak. Do not use cleaning agents or solvents on or near refrigerant lines and wipe away dirt or potential false-triggering chemicals using a dry shop towel or shop air. Make sure the chemicals listed are not in close proximity to the suspected leak location to avoid false-triggers during leak detection.

| Brand or Chemical Name | Response | Clear in 20 Seconds |
|---|---|---|
| Windshield washer solvent | Y | Y |
| Ford spot and stain remover | Y | Y |
| Ford rust penetrant and inhibitor | Y | Y |
| Ford gasket and trim adhesive | Y | Y |
| Permatex natural blue cleaner & degreaser | Y | Y |
| Ford brake parts cleaner | Y | Y |
| Ford clear silicone rubber | Y | Y |
| Motorcraft G-05 antifreeze / coolant | N | N/A |
| Gunk liquid wrench | Y | Y |
| Ford pumice / lotion hand cleaner | N | N/A |
| Ford motorcraft DOT3 brake fluid | N | N/A |
| Ford spray carburetor tune-up cleaner | Y | Y |
| Ford silicone lubricant | N | N/A |
| Dexron ATF | N | N/A |
| Mineral engine oil (Valvoline 5W30) | N | N/A |

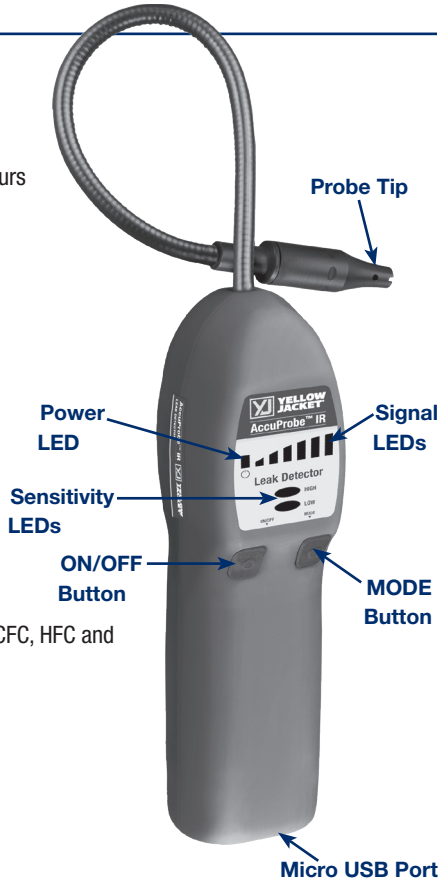
## CAUTIONS

- Only use a certified charger/cord with an output of 5 V (dc) ±5%, 1 A ±5%
- Keep the device out of extremely high or low temperature locations
- Do not expose the battery to liquid
- Do not use the device if you notice any damage to the battery
- Do not disassemble or modify the battery
- Handle and dispose of the battery per local regulations
- If the recharging operation fails to complete, even when the specified recharging time has elapsed, immediately stop further recharging
- Do not leave the battery unattended while charging
- Unplug the charger when the battery is fully charged
- Improper use or disposal of lithium ion batteries can cause a fire
- This instrument is not intended for use in flammable environments

## SPECIFICATIONS

- Sensor Type: Infrared
- Battery Type: Lithium Ion
- Charging Input Type: Micro USB
- Charging Time (starting at 0%): Approx 3 hours
- Battery Life: 8 hours
- Input Voltage: 5 V (dc) ±5%
- Input Current: 1 A ±5%
- Temperature Ranges and Humidity:
  - Storage: -20–60°C (-4–140°F)
  - Operating*: -20–50°C (-4–122°F)
  - Charging: 0–45°C (32–113°F)
  - Humidity: 95% RH NC maximum
- Altitude: 2000 m (6500 ft.)
- Pollution Degree: 2
- Overvoltage Category: 2
- Weight: 0.84 lb. (0.38 kg)
- Refrigerant Compatibility: Detects all CFC, HCFC, HFC and HFO refrigerants, including blends

* Use below 0°C (32°F) should be limited




| EN 14624:2020 Test Results | R-1234yf |
|---|---|
| Static lower detection limit (g/a) | 1 |
| Dynamic lower detection limit (g/a) | 1 |
| Dynamic lower detection limit in a contaminated environment (g/a) | 2 |
| Response time (s) | 0.5 |
| Recovery time for 50 g/yr exposure** (s) | 4 |
| Calibration Frequency | Check annually with calibrated leak standard |

** As no 50 g/yr leak standard was available during testing, a 35 g/yr leak was substituted

## 24 MONTH LIMITED WARRANTY

Ritchie Engineering Company, Inc. guarantees YELLOW JACKET® Accu-Probe™ IR 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 has a one year warranty.

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 24 months of the date of sale. AccuProbe™ IR 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.

See www.yellowjacket.com to register your product or contact Customer Service for full warranty details.

Contact the Ritchie Engineering Customer Service Department:

Phone: (952) 943-1300 or
(800) 769-8370

Fax: (952) 943-1605 or
(800) 322-8684

E-mail: custserv@yellowjacket.com

You will receive personal help to determine if the problem can be solved without sending your leak detector to the factory and taking it out of service.

## HOW TO OBTAIN SERVICE

Most returned AccuProbe™ IR Leak Detectors are merely in need of normal field service maintenance, such as making minor adjustments. In many instances, the information in this manual can save you the time and effort of returning your AccuProbe™ IR Leak Detector. If the information contained in this manual does not solve the problem, please call for service.

Ritchie Engineering Company, Inc.
YELLOW JACKET® Products Division
10950 Hampshire Avenue South
Bloomington, MN 55438-2623 USA

E-mail: custserv@yellowjacket.com
Website: www.yellowjacket.com

Phone: (800) 769-8370
(952) 943-1333 INTL

Fax: (800) 322-8684
(952) 943-1605 INTL

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