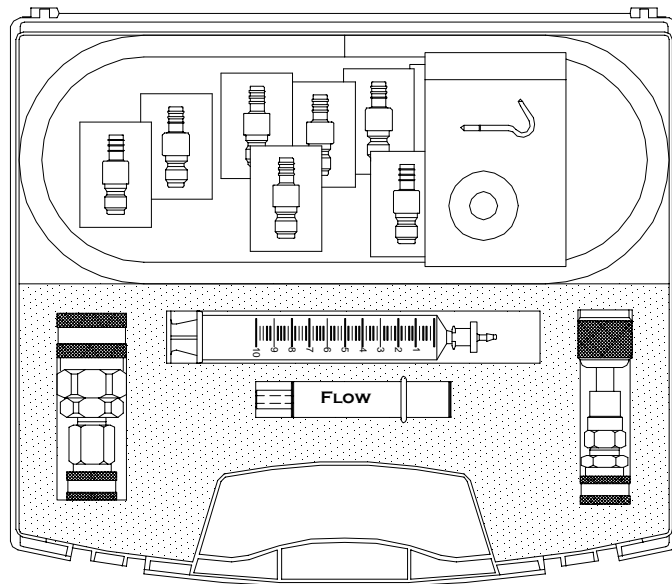




QUICK DETECT™

A/C SEALANT DETECTION KIT OPERATION MANUAL

**Manual Part Number: 5-06-7000-62-0
Manual File MN-A-0001 Rev. D**



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For Your Safety:

PLEASE READ THIS MANUAL IN ITS ENTIRETY BEFORE ATTEMPTING INSTALLATION OR OPERATION! Attempting to operate the Ultima ID without fully understanding its features and functions may result in unsafe conditions



TEST RIGS MAY CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. Contact with refrigerant may cause injury. Wear protective equipment, including safety goggles. Disconnect test rig from A/C system with extreme caution.



CAUTION: RISK OF INJURY. THIS EQUIPMENT SHOULD BE OPERATED ONLY BY CERTIFIED PERSONNEL. Operator must be familiar with A/C systems and refrigerant and dangers of pressurized components.



Avoid breathing A/C refrigerant and lubrication vapor or mist. Exposure may irritate eyes, nose and throat. Additional health and safety information may be obtained from refrigerant and lubrication manufacturers.

Use this equipment in locations with mechanical ventilation that provides at least four air changes per hour.



DO NOT OPERATE EQUIPMENT UNATTENDED. Equipment requires constant observation of flow rate for the time period specified in procedure. Unattended operation may result in excessive refrigerant discharge to the environment.



VERIFY SENSING PLUG CONNECTION INTO TEST RIG PRIOR TO TESTING. Incomplete connection of sensing plug into coupler of test rig will result in sudden ejection from test rig when connected to A/C system.



USE ONLY ORDINARY CLEAN TAP WATER IN THE WETTING OF SENSING PLUGS. Dirty water or other fluid types may cause false indications of sealant presence.



DO NOT REMOVE SENSING PLUGS FROM SHIPPING BAGS UNTIL READY FOR USE. The sensing plugs are sensitive to fouling from dirt, liquid, etc.



USE ONLY REPLACEMENT PARTS SUPPLIED BY NEUTRONICS INC. Use of non-authorized replacement parts will void all warranties and may result in false or erroneous test results.



DO NOT UTILIZE QUICK DETECT SYSTEM WITHOUT SAFETY SHIELD. Use of system without safety shield may result in accidental release of refrigerant charges.



DO NOT POSITION FLOWMETER BELOW LEVEL OF TEST PORT. Positioning of the flowmeter below the level of the A/C test port may result in flowmeter flooding with liquid refrigerant, oil, dye and sealant.

WELCOME

Thank you for purchasing the QUICK DETECT A/C Sealant Detector.

The Quick Detect is designed to detect the presence harmful Type II sealants at the High Side service port of the A/C System. The Quick Detect uses disposable cartridges in conjunction with flow measurement to determine the presence of active sealant. We recommend that all personnel who use this instrument read this manual to become more familiar with its proper operation.

For further information regarding the application, operation or spare parts, please contact the Neutronics Inc. Customer Service Department. If you have questions or comments, we would like to hear from you.

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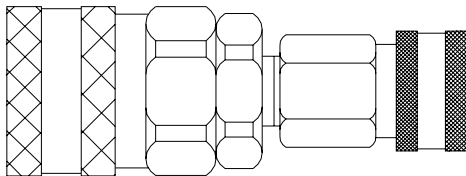
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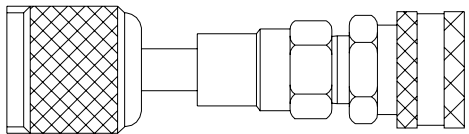
1 COMPONENT IDENTIFICATION

1.1 Test Rig

Provides connection of sensing plug to the high side or liquid service port of R134a or R12 based A/C systems.



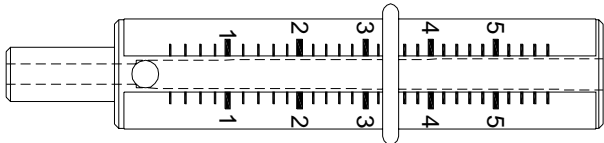
R134a Test Rig



R12 Test Rig

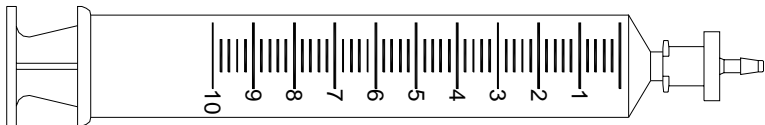
1.2 Flow Meter Assembly

Provides visual indication of refrigerant leak flow rate.



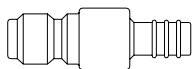
1.3 Syringe Assembly

Provides method for injection of water into sensing plugs ends

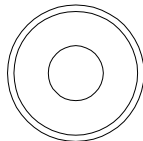


1.4 Sensing Plug & Safety Cap

Sensing Plug provides sealant detection function. Safety cap prevents accidental release of refrigerant from test rig.

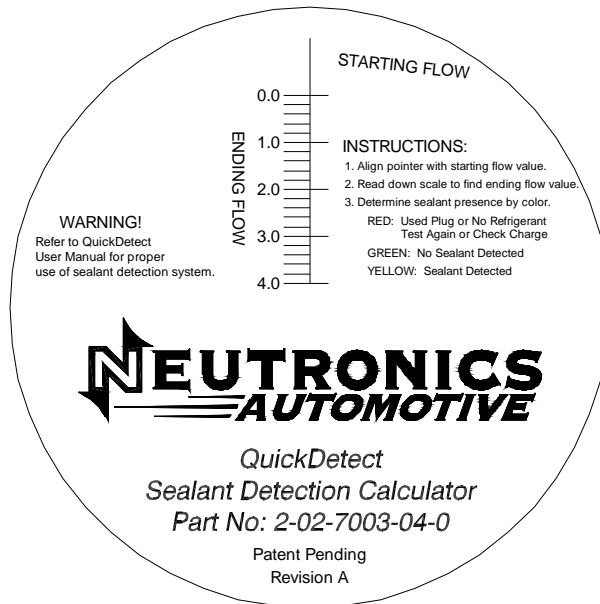


Sensing Plug (10)



Safety Cap

1.5 Sealant Detection Calculator



1.6 Additional Items

In addition to the item described in 1.1 – 1.5, the kit also includes a length of rubber tubing, a hook for hanging the flow meter, a carrying/storage case and an instruction manual.

2 ASSEMBLING THE QUICK DETECT

2.1 First Use

Prior to first use, identify each of the Quick Detect components as described in 1.1 – 1.6, locate the High Side (liquid) service port on the vehicle, and select the proper coupler for an R12 or R134a vehicle.

2.2 Step 1 – Preparing the Sensing Plug

Type II sealants react with moisture and air to form a solid substance designed to seal leaks within the A/c system. The Quick Detect uses this same principal to detect the presence of active sealant.

Prepare the sensing plug by injecting tap water into both ends of the sensing plug using the included syringe. (See Figure 1) After injecting the water, shake the sensing plug once to remove excess water leaving only a few small droplets inside.



Figure 1

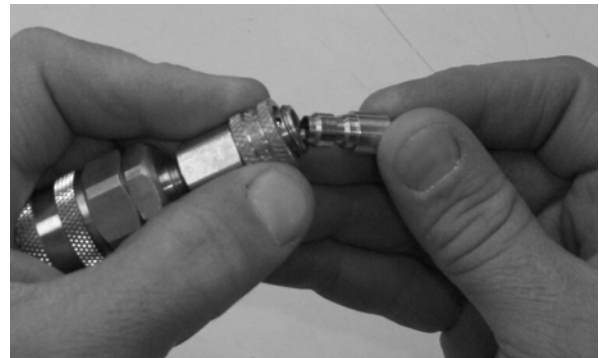


Figure 2

2.3 Step 2 – Inserting the Sensing Plug

Insert the ***non-ribbed*** end of the Sensing Plug into the appropriate test rig by pulling back on the QD sleeve and inserting the Sensing plug. (See Figure 2) Note, the Plug must be fully inserted and the sleeve must return to its original position. Tug on the plug to ensure it is properly seated.

2.4 Step 3 – Installing the Safety Cap

Slide the safety cap completely over the Sensing Plug. (See Figure 3) The safety cap prevents any accidental release of the Sensing Plug from the QD coupler during installation of the Quick Detect onto the vehicle.

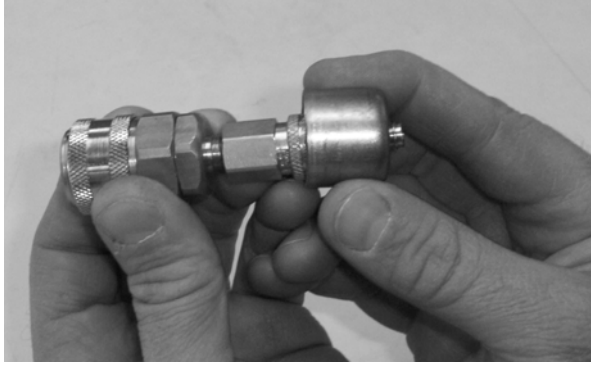


Figure 3

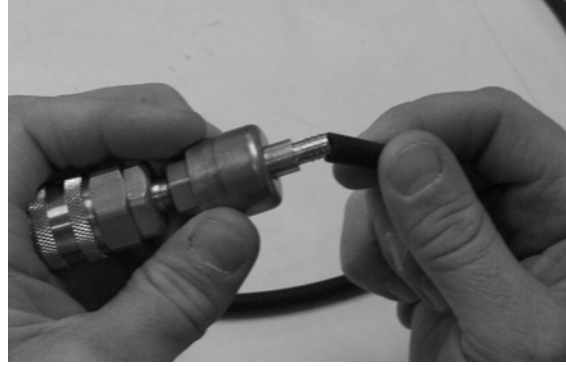


Figure 4

2.5 Step 4 – Attaching the Hose

Attach one end of the hose to the Sensing Plug. (See Figure 4) Make sure the hose is completely seated over all of the ribs on the end of the plug.

2.6 Step 5 – Attaching the Flow Meter

Attach the Flow Meter to the loose end of the hose. (See Figure 5) Make sure the hose is well seated on the Flow Meter.



Figure 5

3 TESTING FOR SEALANT

3.1 Preparing the Vehicle

Step 1: Start vehicle engine and set A/C system to the following settings:

- Maximum cool
- Lowest temperature setting
- Highest fan speed

Step 2: Allow the vehicle A/C system to operate for a minimum of 2-minutes to ensure full circulation and mixing of refrigerant charge.

Step 3: Turn off vehicle engine and allow A/C system to stabilize for 3-minutes.

Note: For large capacity and dual A/C systems, it is advised to allow a 5-minute stabilization period prior to testing.

3.2 Testing the Vehicle with the Engine Off

Connect the test rig assembly to the A/C system high side port (vehicle engine should be off) and start timer. **Installation of the test rig should be made by pressing on the safety cap only.**

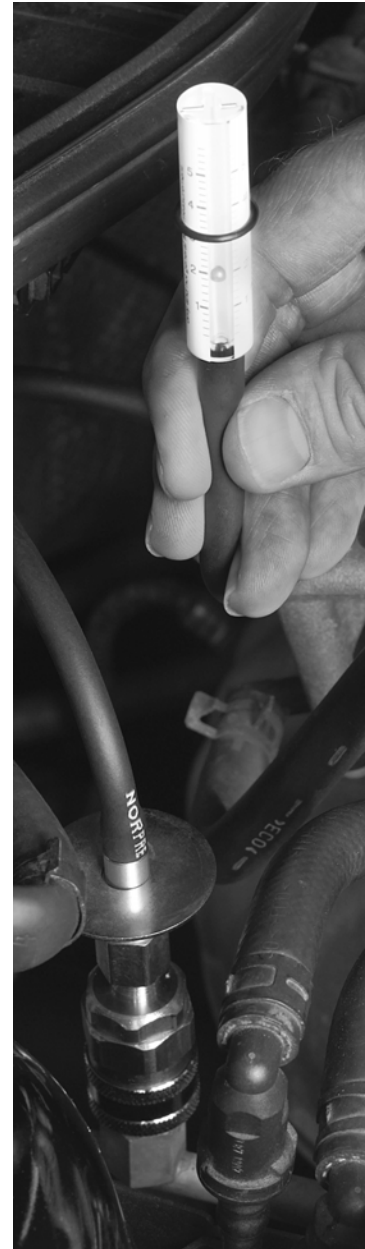
Check A/C system high-side flow rate as measured by the flow meter. If the flow is above 1.5 on the flow meter then proceed to step 3.4. If flow is below 1.5 then proceed to step 3.3.

3.3 Testing the Vehicle with the Engine On

Complete section 3.1 “Preparing the Vehicle” before proceeding
Start vehicle engine and set A/C system to the following settings:

- Maximum cool
- Lowest temperature setting
- Lowest fan speed

Connect the test rig assembly to the A/C system high side port (vehicle engine should be on and A/C system running) and start timer. **Installation of the test rig should be made by pressing on the safety cap only.** Check A/C system high-side flow rate as measured by the flow meter. If flow is still below 1.5 then proceed to section four (4) for trouble shooting tips.



3.4 Monitoring the Test

Observe flow meter reading for 3 minutes. Note that during the initial 30-60 seconds the flow rate may rise due to water being pushed through the sensing plug. Note the highest reading obtained during the initial 60-seconds and compare to the reading obtained at the end of 3-minutes.

At the end of the 3-minute period, disconnect the test rig from the A/C system high side port.

3.5 Checking the Test Results

Use the Sealant Detection Calculator to determine if sealant is present.

3.5.1 Sealant Detection Calculation

The Sealant Detection Calculator is a convenient tool for determining the results of the Quick Detect Test. To use the Calculator, rotate the dial until the number at the top, labelled "Starting Flow", matches the highest reading obtained during the initial 60-seconds. At the end of the 3-minute test cycle, if flow reading on the left side labelled "Ending Flow", is in the Green shaded area there is no active sealant present. If the "Ending Flow" is in the Yellow shaded area, sealant is present.

3.6 Cleaning the System

After completion of the test, remove the flow meter from the system and allow any residual oil to drain from the hose assembly.

4 APPENDICES

4.1 Appendix A - Spare Parts List

PART NUMBER	DESCRIPTION
7-08-1000-51-0	Quick Detect Kit
7-08-1000-52-0	Quick Detect Spare Sensing Plugs (25)
7-08-1000-53-0	Quick Detect Spare Parts Kit Items 1.2 thru 1.5

4.2 Appendix B - Specifications

REFRIGERANT TYPES:	R12, R134a
PRESSURE:	250 PSIG Max.
TEMPERATURE:	200° F
SEALANT TYPES:	Type II

4.3 Appendix C - Troubleshooting

4.3.1 Low Flow Readings

Low flow readings can be caused by several factors including low refrigerant charge, inoperable service port, reusing a sensing plug or clogged tubes. If you encounter low flow readings after attempting to conduct the test with a new sensing plug and the compressor and engine running, add a small charge of refrigerant to the system and retest.

4.3.2 No High Side Service Port

A limited number of vehicles are produced without a traditional High Side Service Port. The Quick Detect cannot be used on these vehicles.

4.4 Appendix D – Intended Use

This product is designed for use on Mobile A/C Systems for the express purpose of detecting the presence of active, Type II sealants at the High Side (Liquid) port of the A/C system.

4.5 APPENDIX E - Warranty

NEUTRONICS warrants, subject to the terms listed below, that the goods will be free from defects in design, materials, and workmanship for a period of (1) one year from the date that the goods are shipped to the buyer.

THE SOLE LIABILITY OF NEUTRONICS FOR ALL PURPOSES SHALL BE TO REPAIR OR REPLACE, AT THE SOLE OPTION OF NEUTRONICS, DEFECTS APPEARING WITHIN THE (1) ONE YEAR PERIOD. NEUTRONICS SHALL HAVE NO OBLIGATION FOR REPAIR OR REPLACEMENT UNLESS NEUTRONICS HAS RECEIVED WRITTEN NOTICE OF THE ALLEGED DEFECT WITHIN THE (1) ONE YEAR PERIOD AND THE DEFECTIVE GOODS ARE PROMPTLY RETURNED BY THE BUYER, AT THEIR EXPENSE, TO NEUTRONICS AT: 456 CREAMERY WAY EXTON, PA 19341 USA, AND THE DEFECT OCCURS UNDER THE CIRCUMSTANCES OR PROPER USE IN ACCORDANCE WITH ALL INSTRUCTIONS AND MANUALS PROVIDED TO THE BUYER. NEUTRONICS WILL DELIVER THE REPAIRED OR NEW GOODS TO THE BUYER AT NEUTRONICS EXPENSE. IN NO EVENT WILL NEUTRONICS BE LIABLE FOR ANY LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE DEFECTS OR FROM THE USE OF THE GOODS OR FROM CONSEQUENTIAL OR INCIDENTAL DAMAGES, WHETHER IN CONTRACT, TORT, OR OTHERWISE, FOR PERSONAL INJURY OR PROPERTY DAMAGE OR ANY FINANCIAL LOSS.

Buyer shall be responsible for insuring that the goods are functioning properly at all times and shall not use any goods which are not functioning properly. Buyer, therefore, agrees to indemnify NEUTRONICS from and against all losses and claims to or by any person or property caused in any manner by the goods or the use of the goods, including any expenses and attorney's fees in connection with all claims, demands, proceedings, or other expenses.

Any description of the goods contained in any documents to which these warranty provisions relate, including any quotations or purchase orders relating to the goods being delivered to the buyer, are for the sole purpose of identifying the goods, and any such description, as well as any sample or model which may have been displayed to or seen by the buyer at any time, have not been made part of the basis of the bargain and have not created or amounted to any express warranty that the goods would conform to any such description or any such sample or model.

NEUTRONICS DOES NOT WARRANT THAT THE GOODS ARE FREE OF THE RIGHTFUL CLAIM OF ANY THIRD PERSON BY WAY OF INFRINGEMENT OF PATENT OR OTHER PROPRIETARY INFORMATION AND DISCLAIMS ANY WARRANTY AGAINST SUCH INFRINGEMENT.

It shall be the responsibility of the buyer to read carefully and abide by all instructions provided to the buyer in the instruction manual or elsewhere. If the buyer, or the employees of the buyer, did not abide by such instructions, then the alleged defect shall not be deemed to have arisen under circumstances of proper use.

The terms of these warranty provisions shall apply to all products sold by Neutronics, except sensing plugs, which are considered "consumable items", and as such are covered by the terms of these warranties for a single use or a period of (1) year, whichever comes first. No waiver, alteration or modification of the terms of these provisions shall be valid unless in writing and signed by an executive officer of NEUTRONICS.

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