

## Spare Parts Listing

<b>ACSD Kit:</b> Includes 10 sensing plugs, R134a test rig, R12 Test rig, syringe assembly, flowmeter, flowmeter hanger, 4-foot tubing and manual	360-81733-00
<b>ACSD-25 Kit:</b> Includes 25 replacement sensing plugs and manual	026-80309-00
<b>ACSD-25FL Kit:</b> Includes 25 replacement sensing plugs, manual, syringe, flowmeter and 4-foot tubing	026-80310-00
<b>R12 Test Rig:</b>	026-80311-00
<b>R134a Test Rig:</b>	026-80312-00
<b>Safety Shield (Washer):</b>	026-80315-00
<b>Flowmeter:</b>	026-80313-00
<b>Syringe:</b>	026-80314-00
<b>User Manual:</b>	035-80955-00

## Specifications:

<b>Refrigerant Types:</b>	R12, R134a
<b>Maximum Pressure:</b>	250 psig
<b>Maximum Temperature:</b>	200°F
<b>Sealant Types:</b>	All metal component sealant types (will not detect sealants designed to seal rubber components)

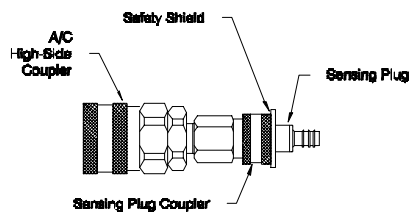


Figure 1: R134a Test Rig

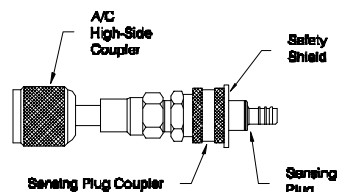


Figure 2: R12 Test Rig

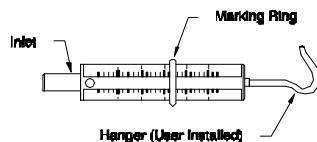


Figure 3: Flowmeter

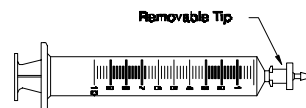


Figure 4: Syringe

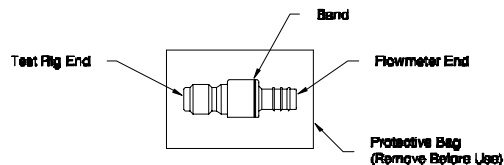


Figure 5: Sensing Plug



## QUICK DETECT™ A/C Sealant Detection System

Patent Pending

035-80955-00 (Operation Instructions)

## Cautions and Warnings



**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 time periods 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.



**DO NOT REUSE SENSING PLUGS.** The sensing plug contains a calibrated restrictor that is only suitable for a single use. Use of sensing plug for multiple test runs will dramatically increase the potential for false or erroneous test results.



**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 RTI TECHNOLOGIES.** 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.

## Equipment Description

Reference the drawings supplied with this manual.

**R134a Test Rig:** Figure 1. Provides connection of sensing plug to the high side or liquid service port of R1324a based A/C systems.

**R12 Test Rig:** Figure 2. Provides connection of sensing plug to the high side or liquid service port of R12 based A/C systems.

**Flowmeter Assembly:** Figure 3. Provides visual indication of refrigerant leak flow rate.

**Syringe:** Figure 4. Provides method for injection of water into sensing plugs ends.

**Sensing Plug:** Figure 5. Provides sealant detection function.

**Tubing:** 5/16" outside diameter x 3/16" inside diameter neoprene tubing utilized to connect the sensing plug to the flowmeter during operation.

**Safety Shield:** Provides protection against accidental release of A/C system refrigerant charge during QUICK Detect system installation.

## Test Procedure

1. Connect flowmeter hanger to flowmeter, if so desired, to enable hanging of flowmeter on vehicle hood.
2. Start vehicle engine and set A/C system to the following settings:
  - Maximum cool
  - Lowest temperature setting
  - Highest fan speed

3. Allow the vehicle A/C system to operate for a minimum of two minutes to ensure full circulation and mixing of refrigerant charge.

4. Turn off vehicle engine and allow A/C system to stabilize for three minutes.

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

5. Wet both sides of a sensing plug with ordinary water using the syringe assembly. It is crucial to inject water completely into the recesses of the sensing plug for proper operation. Shake excess water from the plug.

6. Install the wetted plug into the R134a or R12 test rig plug coupler. Verify that the sensing plug is securely connected into the coupler by tugging on the installed plug. Install the safety shield over the plug and onto the face of the coupler.

7. Connect the flowmeter inlet to the tube stub of the sensing plug using the supplied neoprene tubing. Note that tubing can be cut to any length that provides comfortable use of the test rig.

8. 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 shield only. Check A/C system high-side flow. If the flow is above 1.5 on the flow meter then proceed with step 6. If flow is below 1.5 then proceed with step 14.

### Test Procedure for System High-Side Flow Above 1.5:

9. Observe flow meter reading for three 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 three minutes.

10. At the end of the three minute period disconnect the test rig from the A/C system high side port.

11. Determine the presence of an A/C system leak sealant additive as follows:

**A/C Sealant Present:** Sealant is present if the flow rate drops 30% or more from the initial high reading during any time of the test period.

**A/C Sealant Not Present:** Sealant is not present if the flow rate remains within 70% of the initial high reading during the duration of the test period.

12. Remove the sensing plug from the test rig and discard. DO NOT REUSE.
13. Clean the test rig, tubing and flowmeter of any accumulations of oil or dye.

### Test Procedure for System High-Side Flow 1.5 or Lower:

14. Start vehicle engine and set A/C system to the following settings:
  - Maximum cool
  - Lowest temperature setting
  - Lowest fan speed
15. Wet both sides of a sensing plug with ordinary water using the syringe assembly. It is crucial to inject water completely into the recesses of the sensing plug for proper operation. Shake excess water from the plug. Install the safety shield over the plug and onto the face of the coupler
16. Install the wetted plug into the R134a or R12 test rig plug coupler. Verify that the sensing plug is securely connected into the coupler by tugging on the installed plug.
17. Connect the flowmeter inlet to the tube stub of the sensing plug using the supplied neoprene tubing. Note that tubing can be cut to any length that provides comfortable use of the test rig.
18. Connect the test rig assembly to the A/C system high side port (vehicle engine should be on and A/C system running and set as per step 14) and start timer. Installation of the test rig should be made by pressing on the safety shield only. Observe flow meter reading for three minutes. Note that during the initial 30-60 seconds the flow rate may rise due to water being pushed through the sensing plug. Flow meter readings will cycle with each engagement of the A/C compressor clutch. Note the lowest flow reading during the compressor off period during the initial 60 seconds of the test and compare to the lowest flow reading during the compressor off period at the end of three minutes.

**Note:** Connection of the test rig to the High Side port is most easily achieved during an off compressor cycle.

19. At the end of the three minute period disconnect the test rig from the A/C system high side port.
20. Determine the presence of an A/C system leak sealant additive as follows:

**A/C Sealant Present:** Sealant is present if the flow rate range drops 30% or more from the initial reading during any time of the test period.

**A/C Sealant Not Present:** Sealant is not present if the flow rate range remains within 70% of the initial reading during the duration of the test period.

21. Remove the sensing plug from the test rig and discard. DO NOT REUSE.
22. Clean the test rig, tubing and flowmeter of any accumulations of oil or dye.

## Technical Questions, Service and Spare Parts Contact

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