

BULLSEYE
LEAK DETECTOR

Patent
Pending

Auto EVAP
Quick Start Guide

BULLSEYE Auto EVAP Quick Start Guide



Note: Never directly hit or drop the leak detector on the CO2 sensor tip, this will cause the sensor to become damaged! Do not get Leak Seeker Solution directly on the CO2 sensor tip!

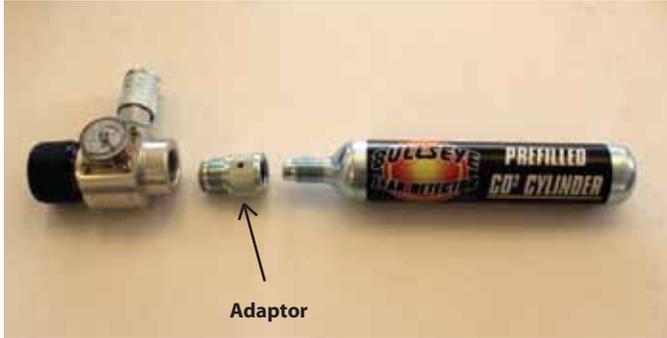


Step 1. Remove safety glasses from kit and put them on in order to protect your eyes.



Step 2. Remove electronic leak detector from kit and turn on unit, allow unit to warm up the CO2 sensor tip. When unit is ready the red light will shut off and the green ready light will turn on, this will take about 90 seconds. For best results the leak detector CO2 sensor should be allowed to fully warm up for about 5 minutes.

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Step 3. The High Pressure Regulator has an adaptor that will allow a 90 gram CO2 canister to be used.



Step 4. The High Pressure regulator will screw directly on to a 24 oz. paint ball canister. These style canisters are available at Walmart & Sporting goods stores nationwide.



Step 5. You can also use an industrial Carbon Dioxide (CO2) gas bottle (Airgas part # CD FG5) or equivalent. When using an industrial style bottle you will use the special blue adaptor to connect the ATS high pressure regulator to this style bottle. Adaptor is included in kit.

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Step 6. Remove high pressure regulator with adaptor from kit and screw CO2 cylinder to high pressure regulator.



Step 7. Remove low pressure gauge assembly from kit and attach it to the high pressure regulator, make sure the shut off valve is closed.

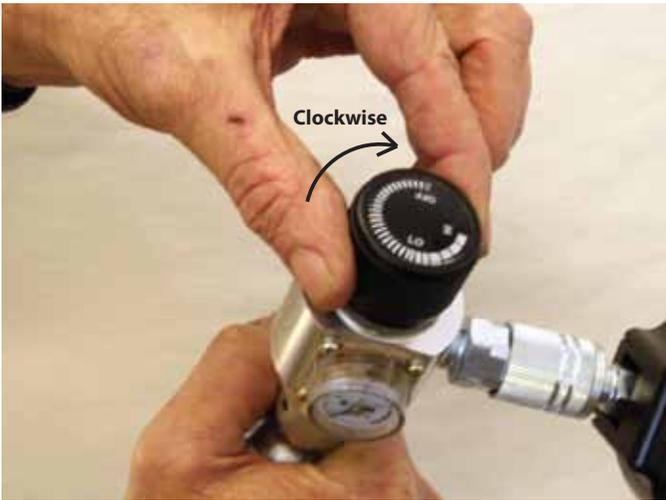


Step 8. Remove black CO2 fill hose from kit and attach it to the low pressure gauge assembly.



Step 9. Remove EVAP system adapter from kit and attach it to the black CO2 fill hose. This will allow CO2 to flow out of the black hose.

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Step 10. Turn top adjustment knob clockwise on high pressure regulator to begin adjustment.



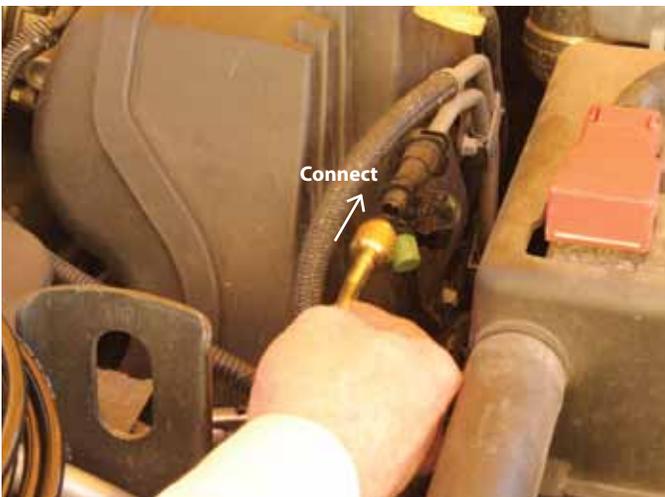
Step 11. Adjust high pressure regulator to 80 PSI by turning adjustment knob and watching high pressure gauge.



Step 12. Check and adjust low pressure regulator, red knob on low pressure gauge assembly, to 25" H₂O.



Step 13. Open and close shut off valve twice, now check low pressure on gauge. **Note:** When valve is open CO₂ must be able to flow out of CO₂ fill hose thus dropping the pressure on gauge. This will require having the EVAP Service Port Tap or the EVAP Hose Connection connected to the CO₂ fill hose. Once the shut off valve is closed the low pressure gauge must read 25" H₂O, if gauge does not read 25" H₂O adjust low pressure regulator until this reads 25" H₂O. Now open and close shut off valve twice and re-check low pressure setting. Repeat step if needed.



Step 14. Connect EVAP system adapter to vehicle service port. If the vehicle does not have a dedicated service port you will need to adapt into the system so that the CO₂ fill hose can be connected to the vehicles system. **NOTE:** Many of the fuel PSI gauge kits have adapters that will work for this.

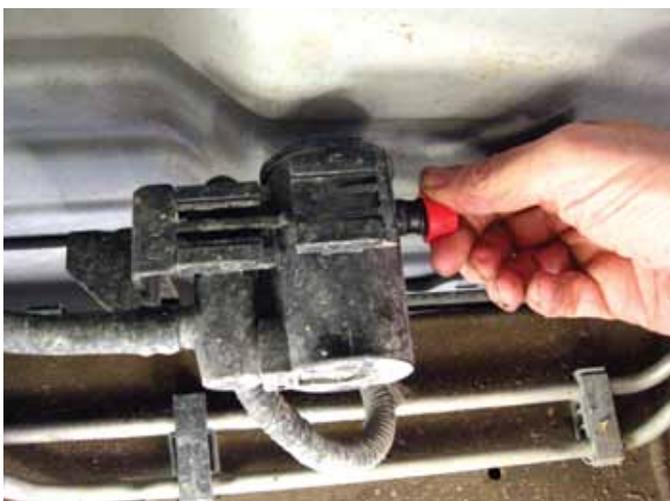
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Step 15. Now that the Bullseye CO₂ system is connected to the vehicle open the shut off valve that is located on the low pressure gauge assembly, this will allow CO₂ to flow into the vehicle.



Step 16. Watch the low pressure gauge for about 20 seconds and make sure that the pressure does not start to increase. If the pressure starts to rise up this indicates that there is a restriction in the system that you will need to repair before going to the next step. **After the 30 second time make sure to close the CO₂ shut off valve.** If there was no restriction in the system go to the next step.



Step 17. Now that CO₂ can be put into the vehicles fuel containment and handling system the vent valve must be closed or the vent plugged (if you have the Bullseye Smart Control (LDT 1030) see quick start guide for smart control). This will seal the system so it can build pressure in order to test the system for leakage. **NOTE: The vent valve will usually be located very close to the carbon canister under the vehicle.**



Step 18. Open the shut off valve on the low pressure gauge assembly and watch for about a minute or two to make sure the pressure is building. If no or very little pressure is building in the system you have a gross leak in the system. In the case of a large or gross leak shut off the CO₂. Now take the electronic CO₂ leak detector and adjust the sensitivity by turning it until a light humming noise is made (this is just below the beeping tone). Take the electronic leak detector and go around the system to identify the leak site area. (This is just like looking for a leak with an electronic refrigerant detector on an air conditioning system.)

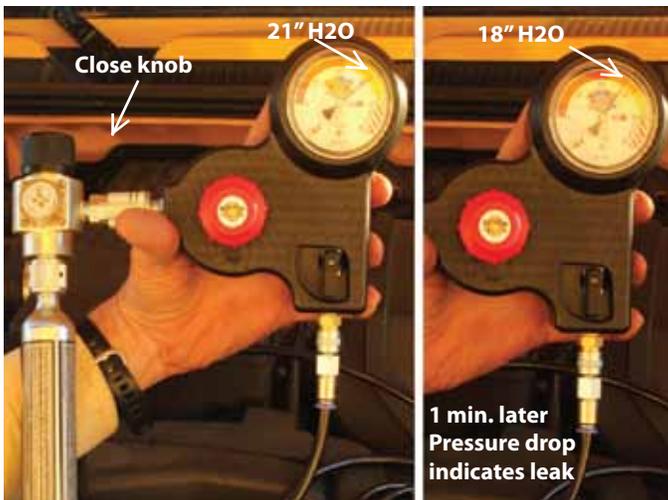
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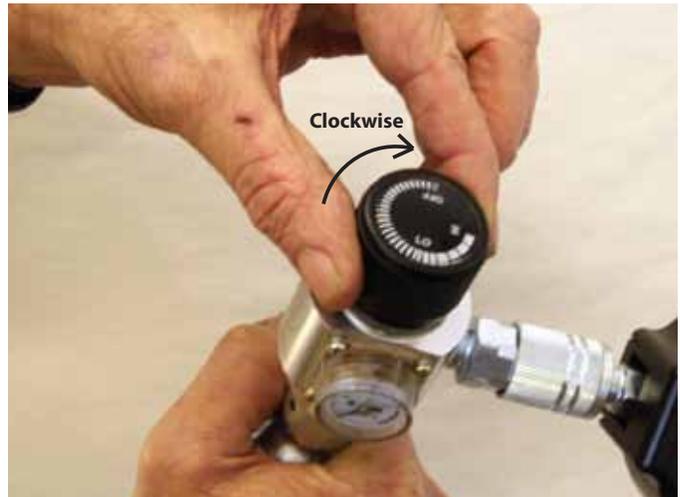
Step 19. If there is not a large or gross leak present, allow the system to fill with pressure for about 4-6 minutes.



Step 20. Now check the low pressure gauge reading; if the gauge needle is in the **green** it indicates there is no leak at this time; if the needle is in the **yellow** you have a leak that is approximately .005-.015 in leak size; if the needle is in the **light orange** you have a leak that is approximately .015-.025 in leak size; if the needle is in the **orange** you have a leak that is approximately .025-.040 in leak size; if the needle is in the **red** you have a leak that is greater than .040 in leak size.



Step 21. Now to verify there is a leak present in the system turn off the high pressure regulator CO₂ knob (counter clockwise). This will shut off the CO₂ to the vehicle, but will allow the gauge to stay connected to the vehicles system. If the pressure drops greater than 1" H₂O in 1 minute there is a leak present in the system that will set a Diagnostic Trouble Code (DTC). If no pressure is lost over the 1 minute time there is no leak present at this time.



Step 22. If a leak is present turn the high pressure CO₂ regulator back on (clockwise) to 80 PSI this will allow CO₂ to flow into the system.

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Step 23. Using the electronic leak detector go around the system to identify the leak site area. While moving the CO2 probe tip around the system it is best to keep the CO2 sensor face perpendicular to the surface being tested. **Note: If tip is bumped against the surface being tested the detector may momentarily go off, this false alert will go off right away. If the leak detector senses CO2 gas the alert will stay on for 10 to 40 seconds.**

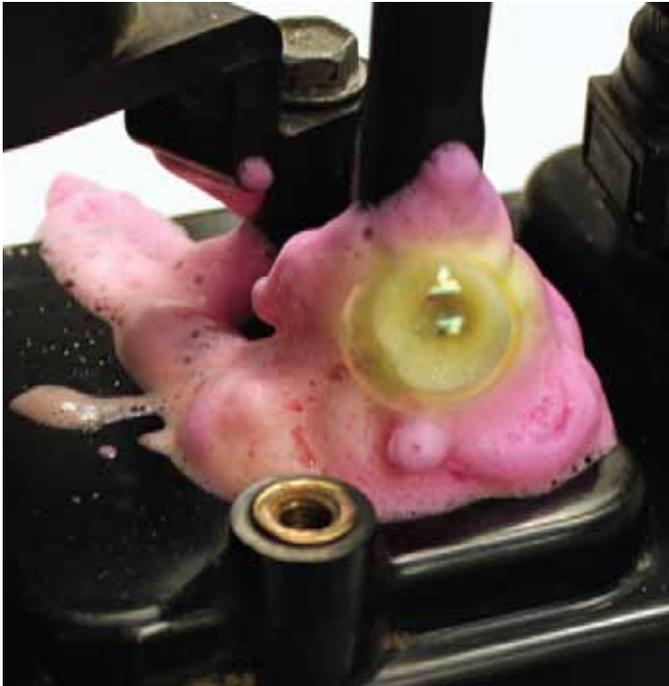


Step 24. When CO2 gas is detected the LED display bar is activated along with the audio alert (loud beeping noise). Once the detector has sensed CO2 the alerts will continue for about 10 to 40 seconds; **Note: Remove sensor from leak site area and let the unit stop beeping on its own.** Once the detector has stopped beeping you can now retest the leak site area with the CO2 detector.



Step 25. Once the area of the leak site is identified, take the Bullseye Leak Seeker Solution and **shake it well**, take the red tube off the can side and install it in the discharge nozzle. Now aim the red discharge tube at the leak site area and apply the leak seeker foam over the area. Note: if all the foam changes from a red color to a yellow color right away, wash the area with the Bullseye distilled water wash thoroughly. Then reapply the Bullseye Leak Seeker Solution foam. **Note: The consistency of the foam can be controlled by how much the can has been shaken; less shaken will result in a liquid consistency, and more shaken will result in a foam consistency.**

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Step 26. The Bullseye Leak Seeker Solution foam will turn from red to yellow in color at the leak site and may also bubble. This will make it very easy to identify the exact location of the leak site.



WARNING! Do not allow leak seeker foam to get on CO₂ sensor at end of yellow flex tube! This will damage CO₂ sensor and will require the CO₂ sensor to be replaced.

Note: Never directly hit or drop the leak detector on the CO₂ sensor tip, this will cause the sensor to become damaged!



Step 27. Disconnect the high pressure regulator from the low pressure regulator.



Step 28. With the EVAP Hose connection installed on the low pressure regulator open the check valve and drain all remaining pressure from low pressure regulator.

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Step 29. Once the pressure has been drained turn the low pressure adjustment knob counterclockwise until it hits it's stop. Now unit is ready for storage.



Step 30. Unscrew the high pressure regulator from the 90 gram CO2 cartridge and adaptor.
Note: The High pressure 90 gram adaptor has a check valve that will keep the CO2 contained in the cartridge. Simply put cartridge & adaptor in case for storage.

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Re-Filling The BULLSEYE Distilled Water Wash Aerosol Bottle



1. Depress schrader valve and release any air pressure remaining in bottle.
2. Unscrew top counter clockwise from bottle.
3. Fill bottle with 8 oz. of distilled water maximum.
4. Make sure container top is securely tightened.
5. Pressurize container with 70-80 psi air pressure. **WARNING!** Do not exceed 90 PSI air pressure.
6. See warning label on back of distilled water wash can for additional instructions.

Note: Do not charge bottle with CO2 gas.