REVITALIZES AND ENERGIZES AIR CONDITIONING SYSTEMS

- Quiets noisy compressors.
- Reduces energy consumption.
- Improves heat transfer in the evaporator and condenser.
- Great for new and old systems.

Refrigeration Oil

A/C Re~New

Description

A/C Re-New, formerly Zerol® Ice, has been used successfully for many years to improve the performance of air conditioning and refrigeration systems. A/C Re-New provides significant saving in energy use. It also quiets noisy systems and extends the life of the system. It is a lubricant that blends with the system's oil, lasting for the life of the equipment.

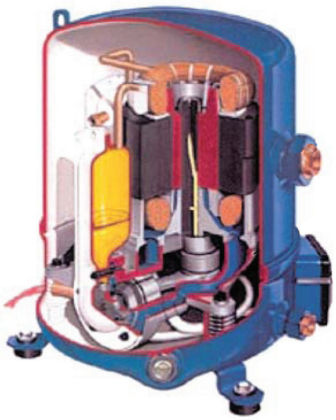
Application

A/C Re-New can be used in air conditioning and refrigeration applications. The pressurized package, 4057-50, is designed specifically for R-22 applications. This canister is pressurized with R-22 to assist in installation for systems up to 5 tons. Multiple cans should be used to treat larger commercial systems such as packaged units, split system or larger refrigeration systems. For other refrigerants such as R-410A, use the unpressurized package, 4057-55. It can be easily installed using the A/C Re-New Injector.

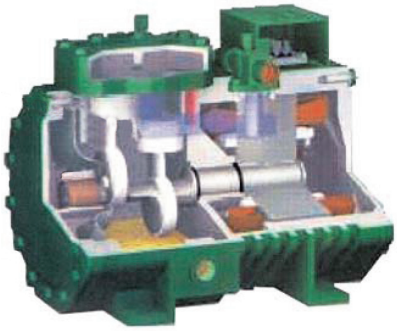
Packaging

Pressurized can	**4057-50**
"2+1" start-up kit	**4057-52**
1 quart (32 fl. oz.)	**4057-54**
4 fluid ounce can	**4057-55**
A/C Re-New Injector Tool	**4057-99**
Injection Valve	**4300-89**

A/C Re-New in the Compressor



- ✓ Improved lubricity through reduced friction drag
- ✓ Cleaner system
- ✓ Quieter Operation



A/C Re-New Technology Testing Results

Residential air conditioning systems account for up to 70% of the home's energy consumption. And when the outdoor temperature rises the system works longer and harder. Through tests on actual installations, the A/C Re-New technology has demonstrated its ability to reduce the air conditioning systems energy use on average by 11% It has also been found to improve the system's cooling performance and quiet noisy systems.

Energy Savings

Number of units tested	Outdoor Temperature	Average Running amps *Before* A/C Re-New	Average Running amps *After* A/C Re-New	% Savings
26	73.3ºF	15.8	14.1	10.8%
12	56.4ºF	17.4	16.5	5.2%

Noise Reduction

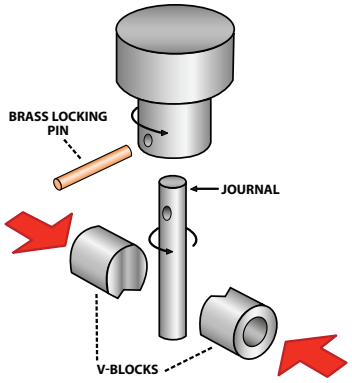
Average Decibel Before A/C Re-New	Average Decibel After A/C Re-New	Decibel Drop
77.08	75.12	1.96

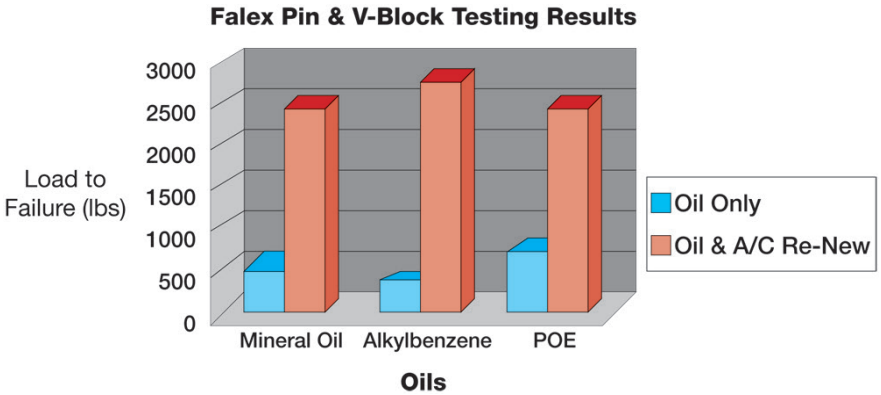
Cooling Performance

Average Air Duct Temp. Before A/C Re-New	Average Air Duct Temp. After A/C Re-New	Temperature Drop
57.4ºF	54.2ºF	3.2ºF

Falex Pin Test

This test is used to evaluate wear and tear, friction and extreme pressure properties of materials and lubricants. A rotating pin, also referred to as a journal, is lubricated with the test product and is compressed between two V-shaped blocks. Pressure (depicted by the red arrows) is added at increasing levels until the pin fails. The goal is to determine how much load or force the lubricant can withstand before it fails. Therefore, the higher the load, the better the lubricant. Three typical industry oils (Mineral Oil, Alkylbenzene and POE) were tested, both alone and then mixed appropriately with A/C Re-New. A/C Re-New significantly improved the oil's load-to-failure points.

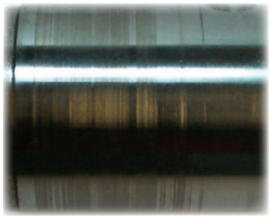




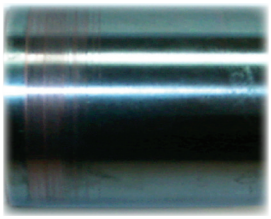
Compressor Wear Test

This test evaluated how well A/C Re-New reduced metal wear in operating compressors. Six reciprocating compressors were tested with R-22 refrigerant and mineral oil for a period of 500 hours. A/C Re-New was applied to half of the compressors. As shown in the pictures to the right, the bearing wear on the compressors was significantly reduced in those compressors containing A/C Re-New. Less wear means the equipment will last longer and reduced friction results in lower energy consumption. Similar results were achieved in scroll compressors (photos available).

Reciprocating - Upper Journal



Without A/C Re-New



With A/C Re-New
Fewer Scars

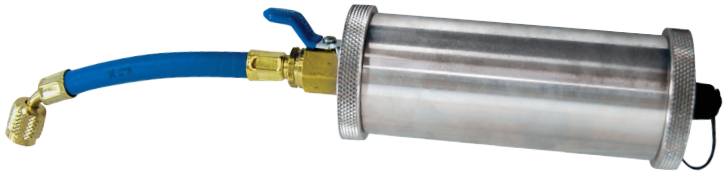
Directions for Use

For R-22 systems, use the pressurized product, 4057-50.

- A/C Re-New, packaged as 4057-50, is designed specifically for R-22 systems
- One can will treat systems up to 5 tons
- Multiple cans should be used to treat larger commercial systems such as packaged units, split systems, etc

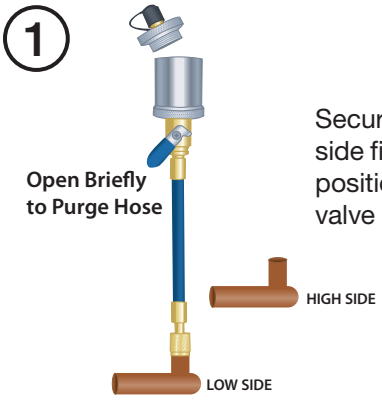
1. Confirm that you have all the required items for the application.
2. Use one can of A/C Re-New for up to 5 tons of system capacity. For larger systems, multiple cans should be used. And for system capacities that fall between multiples of 5 tons (3 tons, 7 1/2 tons, etc.), round up to the next multiple of 5 tons to determine the required charge of A/C Re-New. For example, use two cans to treat 7 1/2 tons. The slightly higher dose of A/C Re-New is nominal and considered acceptable.
3. Oil removal. For systems over 10 tons, it is recommended that 4 fluid ounces of system oil be removed for every 5 tons of capacity. For example, remove 12 fluid ounces of oil from a 15 ton system, and install three cans of A/C Re-New.
4. Be sure to exercise and use good air conditioning, refrigeration service practices at all times.
5. Close Injection Valve, and attach it to the can of A/C Re-New.
6. Connect one end of the charging hose to the Injection Valve, and then connect the other end of the hose to an access port on the low pressure side.
7. Slightly crack the hose fitting connected to the Injection Valve in order to purge air from the hose. Then, quickly re-tighten fitting.
8. With can upright, open the Injection Valve and allow the A/C Re-New/R-22 mixture to charge into the system. The A/C Re-New/R-22 mixture is pressurized sufficiently to overcome typical R-22 low side system pressures. Charging will take 2-3 minutes.
9. If additional cans are to be added, leave hose connected but close Injection Valve. With Injection Valve closed, remove it from the spent can. (Be careful as can will be under some pressure.) Attach new can of A/C Re-New and open Injection Valve to inject product. Repeat for all additional cans.
10. Close Injection Valve, then follow by disconnecting both ends of hose. Remove Injection Valve.
11. Retain hose and Injection Valve for future A/C Re-New applications.
12. Properly discard the empty A/C Re-New can.

For R-410A as well as other systems, including R-22, the unpressurized packages may be used. This includes the 4 fluid ounce bottle (4057-55) and the quart (4057-54). Use of the A/C Re-New Injector Tool (4057-99) is recommended for installation. Directions for use of the Injector Tool can be found on the following page.



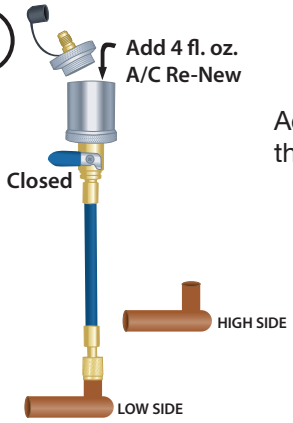
Instructions for Using the A/C Re-New Injector Tool

1



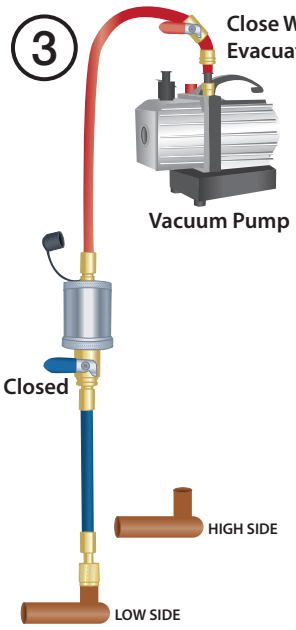
Secure hose-end to suction side fitting, with valve in closed position. Once attached, crack valve quickly to purge.

2



Add 4 fl. oz. to cylinder and the close cylinder lid to seal.

3

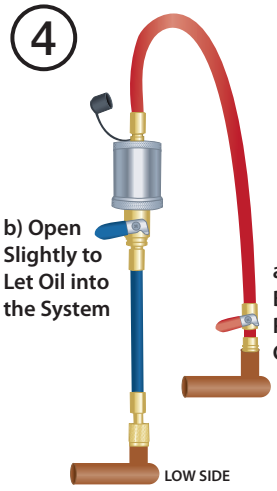


Installing A/C Re-New

a) Attach a vacuum pump to the other end, as shown, using another short hose with a shut-off valve. Draw vacuum on extra hose, then close its valve. Proceed to step 4.

b) As an alternative method without the vacuum pump, use a clean manifold hose set and proper service techniques to push the A/C Re-New into the low side with high side pressure. Be sure to purge or "burp" all lines.

4



a) Attach to high side and then briefly open valve on second hose to pressurize the cylinder of product. **Close valve.**

b) Slightly open valve on cylinder to push product into system low side.

5 Once installed, close this valve and disconnect from low side fitting.

6 Close up cylinder to prevent any contamination from entering it.

Read and understand the product's label and Material Safety Data Sheet ("MSDS") for precautionary and first aid information.

The MSDS is available on the Nu-Calgon website at www.nucalgon.com.

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