

# A/C Re~New

## Revitalizes and Energizes Air Conditioning Systems



- Quiets noisy systems
- Lowers energy usage
- Improves cooling performance
- Great for new and old systems

One Can Will Treat  
R-22 Systems Up  
to 5 Tons!

Learn more at:  
[www.acrenew.com](http://www.acrenew.com)



*Your Lubricant Specialists*

# A/C Re~New

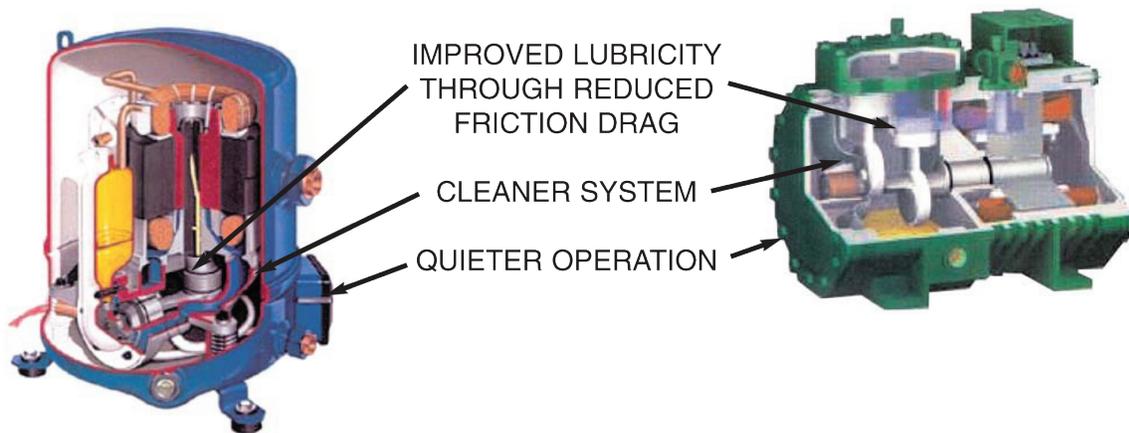


A/C Re~New is a revolutionary advancement in compressor lubrication technology. When introduced to an air conditioning, refrigeration system. A/C Re~New:

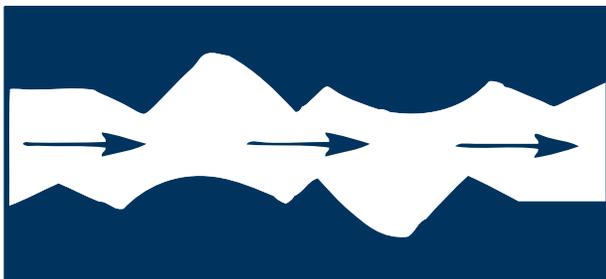
- Enhances the lubricity of all lubricants - mineral, alkylbenzene and POE
- Reduces friction drag resulting in:
  - lower energy consumption
  - longer equipment service life
- Enhances the system oil's hydrodynamic or fluid properties, resulting in improved heat transfer in evaporator
- Is soluble with CFC, HCFC and HFC refrigerants
- Is compatible with system materials such as EPR, EPDM, HNBR, polysulfates, silicones and neoprene.

***A/C Re~New is truly a remarkable breakthrough in lubrication technology.***

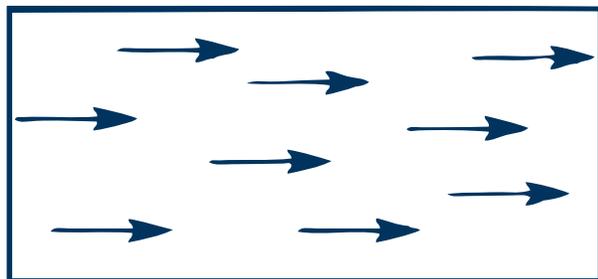
## In the Compressor



## In the Evaporator



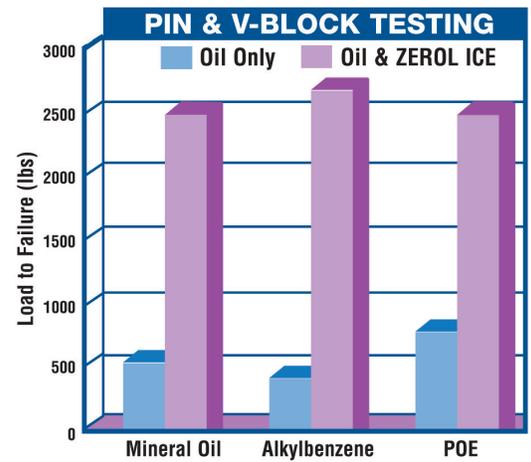
**Before A/C Re~New** – normal conditions wherein coolant flow can be restricted and heat transfer impeded by the oil layer



**After A/C Re~New** – improved coolant flow due to the reduction in the oil layer, resulting in improved lubricity, improved heat transfer and better system performance

## Reduced Friction Drag with Improved Lubrication:

One of the more significant features of A/C Re-New is its ability to reduce friction drag. It enhances the over-all lubrication capability of the system's oil. The Falex "Pin & V-Block" Wear Test is a graphic analysis of this. By themselves, traditional mineral, alkylbenzene and POE oils show "load to failure" of 550 lbs., 480 lbs. and 880 lbs., respectively. Introduction of A/C Re-New increased the load-failure points dramatically in all three oils, taking both the mineral oil and the POE to 2500 lbs. and the alkylbenzene even beyond that. **This improved lubrication, or reduction in friction drag, results in lower energy consumption.**



## Lower Energy Use and Improved Operating Pressures:

The lower friction drag results in the product's most significant benefit: reduction of energy use. Test results have shown that A/C Re-New can reduce running amperage from 5% to 10%, depending on ambient temperatures. As you can see, 26 systems of varying tonnage (2-5 tons) operating an average ambient of 73°F had their running amps reduced an average of 1.7 amps after the introduction of A/C Re-New...a reduction of 10.8%. Twelve additional systems of the same tonnage, operating in an average ambient of 56.4°F, experienced an average reduction of 0.9 amps, or 5.2%. A reduction in running amps of this magnitude is remarkable, and it will provide for lower energy costs and rapid pay-back of the investment in A/C Re-New.

Also, high side and low side pressures were reduced. Of 22 systems operating in 73.3°F temperature, high and low side pressures were reduced an average of 4.8% and 5.8%, respectively. And of the 12 systems operating in the cooler ambient, the pressures were reduced, 1.2% and 4.4%, respectively, again on average.

### Improved amp draw & lower pressures

Tests of running amperage as well as low and high side pressures in over 30 systems, before and after use of Zerol Ice. Systems were 2 tons to 5 tons in capacity.

	Running Amperage (Avg.)		
	Before	After	% Reduction
26 systems @ 73.3°F	15.8	14.1	10.8%
12 systems @ 56.4°F	17.4	16.5	5.2%
	High Side Pressures		
	Before	After	% Reduction
22 systems @ 73.3°F	199.5	190.0	4.8%
12 systems @ 56.4°F	170.6	168.5	1.2%
	Low Side Pressures		
	Before	After	% Reduction
22 systems @ 73.3°F	64.2	60.5	5.8%
12 systems @ 56.4°F	62.2	59.5	4.3%

## Improved Heat Transfer Through the Evaporator Tubes:

Another critical benefit of A/C Re-New is its ability to improve heat transfer in the evaporator. It is a given that a film of refrigeration oil will line the surfaces of the evaporator, and this film will restrict heat transfer to a degree. Introduction of A/C Re-New will enhance the hydrodynamic fluid properties of the oil, actually reducing the oil layer on the tubes. This will result in an improved heat transfer. In a typical air conditioning, refrigeration application, it is likely to be difficult to "sense" such an improvement from a practical standpoint, but it is taking place nonetheless.

The chart to the right demonstrates and supports this characteristic. It shows the thermal conductivity of mineral oil, POE and A/C Re-New at both 0°F and 40°F, and a higher number indicates better heat transfer. A/C Re-New is approximately 5% better than mineral oil and 10% better than POE at the respective temperatures.

Thermal Conductivity (Btu/inft <sup>2</sup> )		
Lubricant	0°F	40°F
Zerol Ice	0.89	0.75
Mineral Oil	0.84	0.71
POE	0.81	0.68

Higher Factor = Better Heat Transfer

## Application:

- 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.

## What is Required:

One can of A/C Re-New (4057-50) for every 5 tons of system capacity as well as an Rx11 Injection Valve (4300-99) and clean charging hose (use shortest hose available and consider dedicating hose for future A/C Re-New applications).

## Directions for Use:

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.

## Packaging:

- 4057-50: Individual cans, packaged six per case
- 4057-52: 2+1 Start-up kit containing two cans and one Rx11 Injection Valve for system charging, sold as complete unit
- 4057-55: 4 fluid ounce can
- 4057-99: A/C Re-New Injector Tool
- 4300-99: Injection Valve

