

## Alliance Heating & A/C Retrofit Kits & Chemicals

Alliance retrofit A/C service kits and accessories are just a few of the heating and air conditioning products available from your dealer.



### GENERAL PRODUCT INFORMATION

- R-134a Retro Kit**—Retrofitting your vehicle from Freon (R-12) to non-ozone depleting R-134a refrigerant is easier with the R-134a Retro Kit. These kits allow you to convert an A/C system from R-12 to R-134a usage in a simple and cost-effective manner. Compared to a typical R-12 service procedure, only three additional steps are needed to convert to R-134a (see chart on back).
- Retro A/C** is a synthetic polyol ester (POE) formulated with a proprietary additive package. Its unique chemistry allows it to be used in either R-12 or R-134a MVAC systems and a variety of compressor designs. It can also be used to “top off” any PAG or mineral oil system and is compatible with all typical A/C hoses, O-rings, gaskets and desiccant materials.
- A/C Flush**—An environmentally safe flushing agent for use in mobile air conditioning systems. It has been developed in cooperation with major refrigerant manufacturers, leading OEMs and prominent A/C compressor remanufacturers. Its unique formulation has excellent solvency that effectively removes burned or degraded lubricant from heat exchangers and clears debris and contaminants from the system after component failure.
- A/C PAG** (polyalkylene glycol)—Since 1993 new vehicles have had factory-installed R-134a refrigerant and PAG lubricant in the A/C system.
- R-134a Oil Charge**—A quick and easy way to charge two ounces each of premium Retro A/C synthetic lubricant and R-134a refrigerant without discharging the system. Simply connect the pressurized can to the vehicle in the same way as the R-12 oil charge, but use R134a dispensing valves or can taps with acme threads. (**Note:** Not for use with R-12 systems.)

### PRODUCT AVAILABILITY

To locate your nearest dealer, please visit [www.freightliner.com](http://www.freightliner.com).

### TOP SELLERS

Part Number	Kit Contents	Application Class 6,7 & 8
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#### R134a RETROFIT KITS

**For Climate Control & Tecumseh Compressors:**

<b>ABP/N83-325510</b>	O-rings, gaskets, R-12 eliminator port cap, retrofit charging adapters, R-134a label & 12 oz. A/C Ester oil	Autocar, Brockway, Chevy/GMC, Diamond Rio, Ford (FS-6, 6E171 use BSM/325007 Retro Kit), Freightliner, IH/Navistar, Kenworth, Mack, Marmon, Peterbilt, Volvo/White/GM, Western Star
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**For GM H.D. Compressors:**

<b>ABP/N83-325511</b>		Chevy/GMC, Navistar, Mack
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**For Sanden H.D./Seltec/Zexel/Dieselkiki Compressors:**

<b>ABP/N83-325513</b>	O-rings, gaskets, R-12 eliminator port cap, retrofit charging adapters, R-134a label & 8 oz. A/C Ester oil	Chevy/GMC, Ford (FS-6, 6E171 use BSM/325007 Retro Kit), Freightliner, Hino, Isuzu, Iveco, IH/Navistar Kenworth, Mack, Marmon, Mercedes, Peterbilt, Volvo/White/GM, Nissan U.D., Western Star, Freightliner, Hino, Isuzu
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#### RETRO A/C (Synthetic Polyol Ester Lubricant)

Part Number	Qty/Size	Application
<b>ABP/N83-326050</b>	12/2 oz.	For use in R-12 and R-134a systems
<b>ABP/N83-326051</b>	6/1 gal.	For use in R-12 and R-134a systems
<b>ABP/N83-326052</b>	12/1 qt.	For use in R-12 and R-134a systems
<b>ABP/N83-326053</b>	12/8 oz.	For use in R-12 and R-134a systems

#### RETRO A/C PAG (Polyalkylene Glycol)

Part Number	Qty/Size	Application
<b>ABP/N83-326056</b>	12/8 oz.	For use in Seltec (Zexel, DieselKiki) R-134a compressors
<b>ABP/N83-326055</b>	12/8 oz.	For use when servicing Sanden R-134a compressors
<b>ABP/N83-326056</b>	12/8 oz.	Low viscosity ISO 46, for R-134a systems other than Ford or GM

## FEATURES & BENEFITS

Upgrading a vehicle to non-ozone depleting refrigerants not only protects our atmosphere, but adds resale value to a vehicle. R-134a refrigerant has been proven to cool as effectively as R-12 when a proper conversion has been performed.

### R-134a Oil Charge

- Performance tested, OEM approved
- "Universal" for all R-134a systems
- Quiets noisy compressors
- Ideal for R-134a system "top-off"
- Quick, easy, economical
- Environmentally friendly

### A/C Flush

- Solvency action dissolves deposits from surfaces and carries away particles and debris.
- User Friendly—Flash point 400 degrees F., virtually non-toxic and is readily biodegradable.
- Ozone safe—Contains no CFCs or hazardous ingredients.
- Ideal for use with closed-loop flushing machines or flush guns.
- Stable to CFC, HFC and HCFC refrigerants.
- Soluble with mineral oil, PAG and ester lubricants
- Compatible with system components, O-rings, seals, gaskets and hoses.

### A/C PAG

- Meets or exceeds OEM specifications.
- Maximum protection against compressor wear.
- Excellent thermal and oxidative stability.
- Moisture tolerant.
- Compatible with R-134a A/C system components.

## FREQUENTLY ASKED QUESTIONS

### "Is it necessary to flush my truck's air conditioning system?"

"R-134a and mineral oil are not miscible. If mineral oil is left in the system, recharging with R-134a refrigerant will adversely affect the efficiency of the vehicle's A/C system. Oil plugs will separate from the liquefied refrigerant within the condenser of the system, impeding the flow and causing sputtering as they pass through the expansion valve into the evaporator. Once transferred to the evaporator of the system, the mineral oil settles at the bottom of the tubes causing further impedance to the refrigerant flow and reducing heat transfer efficiency. In a severe case, lack of oil return to the compressor can promote component wear and eventual failure through lubricant starvation."

### "How does one determine how much polyol ester to put back in the system? Two, four, six ounces?"

"Principles of lubrication dictate that if a system is designed for x amount of oil, you can't put 2x or 3x amount of oil back in. Excess oil in the system would cause decreased cooling efficiency, and premature system failure could occur due to "oil slugging" in the compressor."

## CONSIDER THE FOLLOWING RELATED ITEMS FOR YOUR AIR CONDITIONING NEEDS:

Part Number	Description
ABP/N83-326053	R-134a, 14oz. Ester oil for (CCI) York Retro Fix II
ABP/N83-326025	6x1 gal. A/C Flush
ABP/N83-326045	12x1 qt. A/C Flush
ABP/N83-313130	#10 Refrigerant hose 100 ft.
ABP/N83-313135	#12 Refrigerant hose 100 ft.
ABP/N83-313125	#8 Refrigerant hose 100 ft.
ABP/N83-325021	Refrigerant tape

## RECHARGE VS. UPGRADE

The column on the left lists the steps needed to repair and recharge a system with R-12 parts. A similar repair, plus modification of components for R-134a usage, appears in the column on the right.

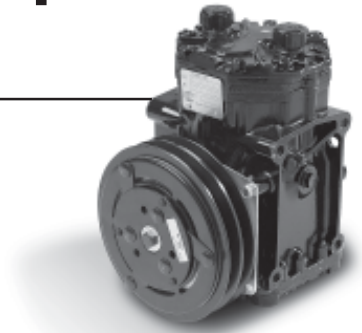
Repair + Recharge with R-12	Repair + Upgrade to R-134a
Visual Inspection	Visual Inspection
Performance/Leak-Check	Performance/Leak-Check
Recover any R-12 Used	Recover any R-12 Used
—	Remove the Mineral Oil*
Flush the System with A/C Flush**	Flush the System with A/C Flush**
Replace the R-12 Accumulator/Receiver-Drier	Replace the R-12 Accumulator/Receiver-Drier
Repair with R-12 Parts	Repair with R-134a Parts
—	Use R-134a Service parts
Add Retro A/C	Add Retro A/C
Evacuate the System	Evacuate the System
Charge with R-12	Charge with R-134a
Performance/Leak-Check	Performance/Leak-Check
—	Apply R-134a Labels

*\*R-134a is not miscible with mineral oil. Flushing must be done to remove as much mineral oil as possible from the A/C system.*

*\*\* System flushing is mandatory, especially when a major failure occurs such as compressor lock-up, desiccant breakdown, orifice tube failure, etc.*

## Alliance Heavy-Duty A/C Compressors by Climate Control (CCI).

*Alliance compressors, manufactured by Climate Control, meet the demands for longer life, reduced downtime and lower maintenance costs.*



### GENERAL PRODUCT INFORMATION

- All wear surfaces are cast iron (including permanent cast iron cylinder liners, cast iron piston rings, a cast iron crankshaft and a cast iron shaft seal plate).
- High load ball bearings (no needle bearings or sleeve bushings are utilized).
- High strength aluminum alloy pistons and connecting rods are permanently secured by steel wrist and dowel pins.
- Swedish steel reed valve assemblies, highly finished for maximum performance as well as maximized orifice porting to reduce the effects of liquid slugging.
- Value added features like a generously lubricated shaft seal area, high quality steel head gaskets and widest selection of compressor service valves available.
- Large oil sump produces a unique splash lubrication system that allows the compressor to be self-lubricating regardless of the amount of oil mixed with refrigerant.

### TOP SELLERS

Alliance Part Number	Climate Control Part Number	Description
ABP/G83-304061	CFC/T210-25428	Generic Tube-o compressor
ABP/G83-304081	CFC/R210L-25427	Generic Rotolock compressor
ABP/N83-304061	CFC/ET210L-25150	Tube-o compressor
ABP/N83-304081	CFC/ER210L-25149	Rotolock compressor
ABP/N83-304101	CFC/ET210L-25073C	Tube-o compressor with 2-groove, 1-wire clutch
ABP/N83-304211	CFC/ER210L-25248C	Rotolock compressor with 2-groove, 1-wire clutch
ABP/N83-303002	CFC/024-21590	Clutch, 2-groove, 1-wire
ABP/N83-303063	CFC/024-25238	Clutch, 2-groove, 2-wire
ABP/N83-304141	CFC/ET2101-25237C	Tube-o compressor with 2-groove, 2-wire clutch
ABP/N83-304201	CFC/ET210L-25246C	Tube-o compressor with 8-groove, 2-wire clutch
ABP/N83-303123	CFC/024-25247	8-groove, 2-wire clutch

### PRODUCT AVAILABILITY

To locate your nearest dealer, please visit [www.freightliner.com](http://www.freightliner.com).

### WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

## FEATURES & BENEFITS

- **True Universal Mount**—can be installed and operated in any position from horizontal left to horizontal right as received. No field adjustments are necessary. If the compressor is mounted horizontally, the suction side should be on top.
- **Universal Rotation**—Compressor rotation can be clockwise or counterclockwise. No field adjustments are necessary.
- **Lubrication System**—A splash lubrication system provides more than adequate lubrication to the front and rear crankshaft bearings, connecting rods and cylinder walls. Positive pressure differential between the crankcase permits easy checking of crankcase oil level regardless of mounting position.
- **Two Oil Plugs**—One on each side of the crankcase, permits easy checking of crankcase oil level regardless of mounting position.
- **Serviceability**—All components are readily accessible and removable with standard tools.
- **Crankcase**—Lightweight die cast noncorrosive aluminum.
- **Cylinder Liners**—Cast iron, permanently cast into crankcase body. Precision honed finish.
- **Head**—Die cast aluminum.
- **Base**—Die cast aluminum.
- **Piston**—Die cast aluminum fitted with cast iron piston rings for optimum wear.
- **Connecting Rods**—Die cast aluminum, heavy cross section, super-finished surfaces, assembly doweled for positive alignment.
- **Crankshaft**—Cast ductile iron. Large connecting rod and main bearing areas.
- **Bearings**—High load capacity ball type bearings for longer life at heavy loads and high speed.
- **Valves**—Swedish steel suction and discharge valves mounted on ground valve plate.
- **Shaft Seal**—Carbon face seal specially designed for high speed operation.
- **Gaskets**—Neoprene composite fiber gaskets used to seal base plate and valve plate. Rubber-coated metal gaskets used to seal cylinder head.

## WHEN REPLACING A COMPRESSOR, CONSIDER THESE RELATED PARTS:

- Receiver Driers
- Blower Motors and Wheels
- Expansion Valves
- Fittings and Hoses
- Refrigerant
- Condensers
- Evaporators
- Switches

## WHEN YOU NEED MORE INFORMATION...

Ask your local dealer for the Alliance All Makes Heavy Duty Heating and Air Conditioning Parts Catalog for information on the following:

- Part Numbers
- Descriptions
- Crossover Information
- General Air Conditioning Information

## CROSS REFERENCE INFORMATION

Old Climate Control Part Number	New Climate Control Part Number*	Alliance Part Number
CFC/ER210L-20300	CFC/ER210L-25149	ABP/N83-304081
CFC/ER210L-21001	CFC/ER210L-25149	ABP/N83-304081
CFC/ER210L-21562	CFC/ER210L-25149	ABP/N83-304081
CFC/ER210L-21549	CFS/ER210L-25149	ABP/N83-304081
CFC/ER210L-21907	CFC/ER210L-25149	ABP/N83-304081
CFC/ER210L-21741C	CFC/ER210L-25248C	ABP/N83-304211
CFC/ET210L-21097	CFC/ET210L-25150	ABP/N83-304061
CFC/ET210L-25063	CFC/ET210L-25150	ABP/N83-304061
	CFC/T210-25428	ABP/G83-304061
	CFC/R210L-25427	ABP/G83-304081

\*Effective January 1998.