

Refrigerants for a 40 ft coach is only used as a baseline or starting point

One needs to remember that the AC compressors are mounted on or near the engine. So front engine powered coaches use far less hose and the other components are downsized in most cases because the area being cooled is also smaller. Whose chassis and what style

chassis were used to build you coach on?

This could change the of freon and oil required, you need to adjust things accordingly to stay within the pressure to temperature range of the chart.

A Constantly changing issue is the changing freon formulation and oils used by the different automobile and

truck industry, so never make any assumptions. Newer vehicles from around 2014 already are different in a number of cases.

This link might prove helpful

<https://www.aa1car.com/library/pagoil.htm>

Who and where to get systems serviced is turning into a need to know before getting work done?

Chemical Stability:

The air conditioning system life and efficient operations depends upon the chemical stability of the refrigeration system.

Most of the refrigeration systems are currently using Refrigerant-R134a and Polyakylene Glycol (PAG) synthetic lubricant. It is very important that all materials contained within the refrigerant system

be chemically compatible.

The only suitable compound for use with R134a is PAG. The total amount of PAG within the refrigerant system is approximately 18% of the total refrigerant in the system.

How much refrigerant is in the system? How much should be used when charging? A new system

You will need 1 oz. of PAG for each 7 feet of hose after the first 15 feet of hose. Roughly, a 40-foot motorhome will use 92 feet of refrigerant hose. Take 15 feet off the measurement and the result is 77 feet.

This 77

feet is then divided by 7 for total of 11, and represents the number of ounces of PAG oil needed for the

A/C system (11 oz.).

Carrying the formula one step further, the 11 oz. equal approximately 18% of the entire system.

The

total will equate to approximately 61 oz. or 3.8 lbs. of R134a.

High pressure readings are another way to determine the amount of charge. The ambient temperature

reading is measured one inch away from the condenser. The ambient temperature reading, plus 40° F, will equate to a value from the pressure table.

EXAMPLE:

**90° F. 1 inch from condenser + 40° F = 130° F
----- 198.90 PSIG -**

On fully charged system the expected pressure that should be seen on the

HIGH-SIDE gauge will be around 200 PSIG.

NOTE:

All Monaco systems are charged at the factory with 4.0 lbs

of R134a. A fluorescent dye has been added for leak detection.

Ambient Temperature readings relevant to Manifold gauge pressure readings chart.

TEMPERATURE	PSI GAUGE	TEMPERATURE	PSI GAUGE	TEMPERATURE	PSI GAUGE
16° F	15.69	60° F	57.47	112° F	151.30
18° F	17.04	65° F	64.10	114° F	156.10
20° F	18.43	70° F	71.19	116° F	161.10
22° F	19.73	75° F	78.75	118° F	166.10
24° F	21.35	80° F	86.80	120° F	171.30
26° F	22.88	85° F	95.40	122° F	176.60
28° F	24.47	90° F	104.40	124° F	182.00
30° F	26.10	91° F	106.30	126° F	187.50
32° F	27.79	92° F	108.20	128° F	193.10
34° F	29.52	93° F	110.20	130° F	198.90
36° F	31.32	94° F	112.10	135° F	213.70
38° F	33.17	95° F	114.10	140° F	229.40
40° F	35.07	100° F	124.30	145° F	245.80
42° F	37.03	102° F	128.50	150° F	263.00
44° F	39.05	104° F	132.90	155° F	281.00
45° F	40.09	106° F	137.30	160° F	300.10
50° F	45.48	108° F	141.90	165° F	320.00
55° F	51.27	110° F	146.50	170° F	340.80

R-134a Refrigerant:

R134a is classified non-explosive, non-flammable and non-corrosive.

R134a is ozone friendly; however, it is not technician friendly. Proper care in handling must be observed. Under normal atmospheric pressures and temperatures R134a will evaporate so quickly it will freeze anything it comes in contact with. The open container boiling point for R134a is minus 21.7° F.

This low boiling point makes for an ideal refrigerant. The tremendous amount heat transfer which occurs when a liquid boil's, or vapors condense, forms the basic principle of all A/C systems. The amount of heat required to raise or lower the temperature of one pound of water by 1° F equals one

British Thermal Unit (BTU). The BTU is the standard measurement of an air conditioner system.

Safety and Handling of 134a and Pag Oil:

Pag 100 oil is the common grade oil used in dash AC systems

- Wear eye and hand protection.
- Pag Oil irritates the skin. Flush with water immediately if in contact with any body part.
- Ensure all service work on the A/C system is performed in a well-ventilated work area.
- Keep open flame away from service area. The discharge of a refrigerant near an open flame can produce a poisonous gas.

NOTE:

O-rings required for the 134a system are Hydrogenated Nitrile Butadiene Rubber (HNBR), and are green in color.