



CLIMATE COMFORT IN MOTION

**HEAD PRESSURE COMPARISON FORMULA R-134a**

One method of verifying optimum a/c system performance is to calculate the head pressure using the formula below. Then compare the calculated figures to the actual gauge readings. This comparison should yield similar readings, however due to the many variables that can exist, such as a/c unit size, and engine R.P.M. use caution when determining any corrective action. ***\*FOR USE WITH PROAIR SYSTEMS ONLY!***

1. To determine comparison head pressure readings, reference the equal temperature to the corresponding 134a column located on the pressure temperature (PT) chart.
2. Compare the results of this formula to your actual gauge readings obtained at stable (engine idle) conditions.

• **TO SIMULATE DISCHARGE PRESSURE:**

**RECORD CONDENSER AIR INLET TEMPERATURE**      \_\_\_\_\_ °F  
**ADD 25 °F**      **+ 25** °F  
**EQUALS**      = \_\_\_\_\_ °F  
**P/T CHART CORRESPONDING PRESSURE**      \_\_\_\_\_ PSI

**EXAMPLE**

100°F Ambient  
75°F Return Air

100°F  
+ 25°F  
= 125°F  
**= 184.5 PSI +/- 15 PSI**

75°F  
- 45°F  
= 30°F  
**= 26.1 PSI +/- 5 PSI**

• **TO SIMULATE SUCTION PRESSURE:**

**RECORD TEMPERATURE AT EVAPORATOR RETURN AIR INLET**      \_\_\_\_\_ °F  
**SUBTRACT 45°F**      **- 45** °F  
**EQUALS**      = \_\_\_\_\_ °F  
**P/T CHART CORRESPONDING PRESSURE**      \_\_\_\_\_ PSI

PRESSURE TEMPERATURE CHART R-134a

TEMP °F	134a PSI	TEMP °F	134a PSI	TEMP °F	134a PSI	TEMP °F	134a PSI	TEMP °F	134a PSI	TEMP °F	134a PSI
12.0	13.2	22.0	19.9	32.0	27.8	42.0	37.0	60.0	57.4	110.0	146.4
13.0	13.8	23.0	20.6	33.0	28.6	43.0	38.0	65.0	64.0	115.0	158.4
14.0	14.4	24.0	21.4	34.0	29.5	44.0	39.0	70.0	71.1	120.0	171.1
15.0	15.1	25.0	22.1	35.0	30.4	45.0	40.0	75.0	78.7	125.0	184.5
16.0	15.7	26.0	22.9	36.0	31.3	46.0	41.1	80.0	86.7	130.0	198.7
17.0	16.4	27.0	23.7	37.0	32.2	47.0	42.2	85.0	95.2	135.0	213.5
18.0	17.1	28.0	24.5	38.0	33.1	48.0	43.2	90.0	104.3	140.0	229.2
19.0	17.7	29.0	25.3	39.0	34.1	49.0	44.3	95.0	113.9	145.0	245.6
20.0	18.4	30.0	26.1	40.0	35.0	50.0	45.4	100.0	124.1	150.0	262.0
21.0	19.2	31.0	26.9	41.0	36.0	55.0	51.2	105.0	134.9	155.0	281.0