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 AMERICAN COOLING TECHNOLOGY SYSTEMS ONLY***

1. **TO DETERMINE COMPARISON HEAD PRESSURE READINGS REFERENCE THE EQUALS TEMPERATURE TO THE CORRESPONDING 134A COLUMN LOCATED ON THE PRESSURE TEMPERATURE CHART.**

2. **COMPARE THE RESULTS OF THIS FORMULA TO YOUR ACTUAL GAUGE READINGS OBTAINED AT STABLE, ENGINE IDLE CONDITIONS.**

		EXAMPLE **100 °F Ambient** **75 °F Return Air**
TO SIMULATE DISCHARGE PRESSURE:		
RECORD CONDENSER AIR INLET TEMPERATURE	**_____°F**	100 °F
ADD 25 °F	**+ 25°F**	+ 25 °F
EQUALS	**=_____°F**	= 125 °F
P/T CHART CORRESPONDING PRESSURE	**_____PSI**	**= 184.5 PSI +/- 15 PSI**
TO SIMULATE SUCTION PRESSURE:		
RECORD TEMPERATURE AT EVAPORATOR RETURN AIR INLET	**_____°F**	75 °F
SUBTRACT 45°F	**- 45°F**	- 45 °F
EQUALS	**=_____°F**	= 30 °F
P/T CHART CORRESPONDING PRESSURE	**_____PSI**	**= 26.1 PSI +/- 5 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	134 PSI
12	13.2	22	19.9	32	27.8	42	37.0	60	57.4	110	146.4
13	13.8	23	20.6	33	28.6	43	38.0	65	64.0	115	158.4
14	14.4	24	21.4	34	29.5	44	39.0	70	71.1	120	171.1
15	15.1	25	22.1	35	30.4	45	40.0	75	78.7	125	184.5
16	15.7	26	22.9	36	31.3	46	41.1	80	86.7	130	198.7
17	16.4	27	23.7	37	32.2	47	42.2	85	95.2	135	213.5
18	17.1	28	24.5	38	33.1	48	43.2	90	104.3	140	229.2
19	17.7	29	25.3	39	34.1	49	44.3	95	113.9	145	245.6
20	18.4	30	26.1	40	35.0	50	45.4	100	124.1	150	262.0
21	19.2	31	26.9	41	36.0	55	51.2	105	134.9	155	281.0

FOR ADDITIONAL SERVICE SOLUTIONS PLEASE CONTACT THE AMERICAN COOLING TECHNOLOGY SERVICE DEPARTMENT AT 877-228-4247.