



Mastercool[®]
"World Class Quality"

**OPERATING INSTRUCTIONS
PROFESSIONAL R134a MANIFOLD GAUGE SET
PART #89660**



WARNING

**Wear Safety Goggles
Avoid Contact with Refrigerant**



R134a TEMPERATURE PRESSURE CHART

Ambient Temp (°F)	Low Side Gauge	High Side Gauge
65°	25-35 psi	135-155 psi
70°	35-40 psi	145-160 psi
75°	35-45 psi	150-170 psi
80°	40-50 psi	175-210 psi
85°	45-55 psi	225-250 psi
90°	45-55 psi	250-270 psi
95°	50-55 psi	275-300 psi
100°	50-55 psi	315-325 psi
105°	50-55 psi	340-345 psi

TROUBLESHOOTING TIPS

- Low side and high side pressure are low.
Usually indicates a low charge.
- Low side pressure is low and high side pressure is high.
Usually indicates a blockage in the system. (i.e. expansion of valve or orifice tube.)
- Low side pressure is high and high side pressure is low.
When accompanied by a vibrating gauge needle, usually indicates faulty reed valves in compressor.
- Low side and high side pressures are high.
Usually indicates an over charged system.

HOOK-UP FOR SYSTEM DIAGNOSIS:

- Verify that service ports are clean and free of metal shavings.
- Verify that both valves on the manifold are shut completely.
- Connect blue adapter to low side service port (5).
- Connect red adapter to high side service port (4).
- Start engine. Turn A/C mode selector to HIGH and fan to HIGH.
- Observe pressure on the manifold gauges and refer to your automotive manual for proper diagnosis.

CHARGING REFRIGERANT:

- a. Verify that both valves on the manifold are shut completely.
- b. Turn on car and A/C system, (this will aid in charging of the refrigerant.)

- c. Connect the other end of the yellow hose (3) to Refrigerant Gas supply. (Follow refrigerant manufacturer's instructions for proper dispensing.)
- d. Open manifold low side (blue) valve slowly until pressure reaches 40 psi. Do not exceed 40 psi during the recharging process. Exceeding 40 psi could damage the compressor.
- e. When charging is finished, close low side (blue) valve.

EVACUATION OF SYSTEM WITH VACUUM PUMP AND LEAK TESTING:

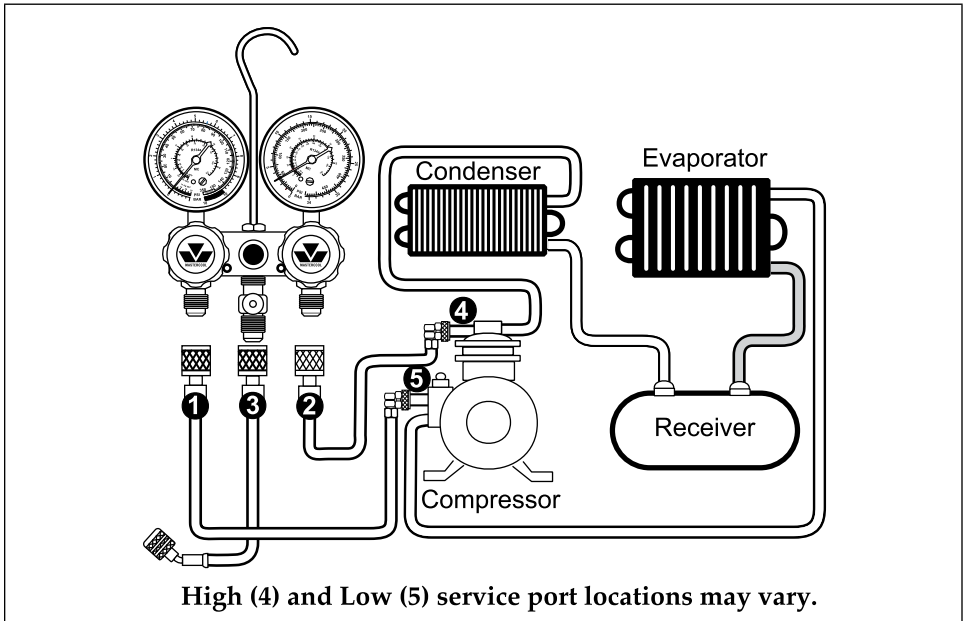
- a. Verify that there is no refrigerant in the A/C system.
- b. Attached blue and red adapter to A/C system.
- c. Connect yellow hose to vacuum pump, turn on pump.
- d. Open manifold low side (blue) valve.
- e. Open manifold high side (red) valve.

*After system had been evacuated to a gauge reading of 29" Hg (inches of vacuum), run vacuum pump for 20 minutes.

- f. Close both high and low side manifold valves.
- g. Allow system to sit and check gauges to verify vacuum remains.

SYSTEM SCHEMATIC:

- 1. Low side (blue) hose/adapter.
- 2. High side (red) hose/adapter.
- 3. Service (yellow) hose.
- 4. Compressor discharge service valve (16mm diameter.)
- 5. Compressor suction service valve (13mm diameter.)



⚠ WARNING: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.