



TRANSPORT AIR CONDITIONING
 Carrier Transicold
 Division
 Carrier Corporation
 Syracuse, New York 13221

SPLIT SYSTEM REFRIGERANT & OIL CHARGING GUIDE

GEN IV

Evaporator	Condenser	Recommended R134a Charge	Recommended Oil Charge
EM-1, EM-2, or EM-9	CM-2	5.00 Pounds	10.0 Ounces
EM-1, EM-2, or EM-9	CM-11	5.25 Pounds	10.5 Ounces
EM-6	CM-2	4.00 Pounds	8.0 Ounces
EM-6	CM-11	4.25 Pounds	8.5 Ounces
EM-1, EM-2, or EM-9	CM-3	5.50 Pounds	11.0 Ounces
EM-1, EM-2, or EM-9	CM-7	6.50 Pounds	13.0 Ounces
EM-3 (dual loop)	(2) CM-2	4.25 Pounds Each	8.5 Ounces Each
EM-3 (dual loop)	(2) CM-11	4.25 Pounds Each	8.5 Ounces Each
EM-3 (dual loop)	(2) CM-3	5.50 Pounds Each	11.0 Ounces Each
EM-3 (dual loop)	(2) CM-7	6.25 Pounds Each	12.5 Ounces Each
EM-14	CM-2	3.50 Pounds	7.0 Ounces
EM-14	CM-11	3.75 Pounds	7.5 Ounces

GEN V

Evaporator	Condenser	Recommended R134a Charge	Recommended Oil Charge
EM-1, IW-1	CM-2 or CM-4	4.75 Pounds	9.5 Ounces
EM-1, IW-1	KR-2 or CM-11	5.00 Pounds	10.0 Ounces
EM-1, IW-1	CM-3	5.25 Pounds	10.5 Ounces
EM-1, IW-1	KR-3 or CM-7	6.25 Pounds	12.5 Ounces
EM-7, IW-14	CM-2 or CM-4	4.00 Pounds	8.0 Ounces
EM-7, IW-14	KR-2 or CM-11	4.25 Pounds	8.5 Ounces
EM-2, IW-2	CM-2 or CM-4	4.50 Pounds	9.0 Ounces
EM-2, IW-2	KR-2 or CM-11	4.75 Pounds	9.5 Ounces
EM-2, IW-2	CM-3	5.00 Pounds	10.0 Ounces
EM-2, IW-2	KR-3 or CM-7	6.00 Pounds	12.0 Ounces
EM-3 (dual loop)	(1) KR-4	7.00 Pounds	14.0 Ounces
EM-3 (dual loop)	(2) CM-3	5.25 Pounds (each)	10.5 Ounces (each)

GEN V WITH MICRO-CHANNEL CONDENSER

Evaporator	Condenser Micro-Channel	Recommended R134a Charge	Recommended Oil Charge
EM-1, EM-9, IW-1	CM-2	3.25 Pounds	6.5 Ounces
EM-1, EM-9, IW-1	CM-3	3.75 Pounds	7.5 Ounces
EM-2, IW-2	CM-2	3.00 Pounds	6.0 Ounces
EM-2, IW-2	CM-3	3.50 Pounds	7.0 Ounces
EM-7, IW-14	CM-2	2.75 Pounds	5.0 Ounces
EM-7, IW-14	CM-3	3.00 Pounds	6.0 Ounces
EM-3 (dual loop)	(2) CM-3	4.50 Pounds (each)	9.0 Ounces (each)

After determining the *approximate charge* using the above tables, refer to T-311 Installation Procedures Manual "System Performance Chart" (Section 8) to determine if the correct charge has been obtained.

NOTE

The preceding charts are based on a 20 foot liquid line. Increase the charge by 0.5 pound for each additional 10 feet of liquid line.

When an after-market evaporator or in-dash evaporator is added to a standard system the refrigerant charge will increase by approximately 1 pound.

If attempting to use a CM-2 condenser with a tie-in call Carrier Transport Air conditioning technical support for an application review (1-800-450-2211).

Use only the exact oil specified by the compressor manufacturer. Use of oil other than that specified will void the compressor warranty.

All air conditioning compressors require oil for lubrication. Oil type is specified by the compressor manufacturer.

COMPRESSOR OIL TYPE AND PART NUMBERS

Manufacturer	Oil Type	CTAC Part Number
Seltec/Valeo/ICE/Zexel	PAG	46-50006-00
Sanden	PAG	46-50006-00
General Motors	PAG	46-50004-00 (07-00333-00)
Alma (A-6)	PAG	46-50004-00
Dodge	PAG	07-00332-00
Ford	PAG	46-50005-00 (07-00334-00)
05G & 05K Bus	POE	46-50007-00 (07-00317-00)

CAUTION: USE ONLY THE THE EXACT OIL SPECIFIED BY THE COMPRESSOR MANUFACTURER.

PROCEDURE FOR CHARGING BY PRE-DETERMINED WEIGHT

Once the system has been leak checked, evacuated and the correct amount of oil added, use the following procedure to charge by refrigerant weight.

NOTE: Add oil through the discharge hose prior to evacuation.

Disconnect the center hose from the vacuum pump and attach to an upright refrigerant cylinder.

Place the refrigerant bottle (with band heater) upright on the scale (CTAC P/N 07-00315-00). Zero the scale prior to charging.

Open the valve on the refrigerant cylinder and loosen the hose connection at the manifold to purge air from the manifold gauge-line, then re-tighten connection.

Back-seat (CCW) both manifold gauge hand-valves and allow refrigerant vapor to enter the system until both sides equalize (50 to 70 PSIG).

Start the vehicle engine and turn air conditioning on. Turn evaporator fans on high speed and thermostat to cold (both switches fully CW). Make sure the compressor is engaged.

NOTE: Never add liquid refrigerant to the suction side of the system. Severe compressor damage may occur. Add refrigerant vapor (never liquid) through the suction side by opening the suction manifold gauge hand-valve (ccw).

NOTE: The refrigerant bottle pressure must be higher than the system pressure. CTAC recommends using a refrigerant bottle band heater CTAC P/N AC701-742 for 30 and 50 pound cylinders and CTAC P/N AC701-743 for 125 pound cylinder. Refer to band heaters owners manual for proper operation.

Charge the system until approximate weight of refrigerant has been added. Close suction hand-valve (CW).

Once the charge has been completed, verify the system performance by measuring the temperature differential across the air inlet and outlet of the evaporator. A properly operating system will measure an 18 degree to 20 degree F with the evaporator on medium or low speed.

