REFRIGERANT CAPACITY

O.E.M. REFRIGERANT TABLE

Application	Capacity (Lbs)
Chrysler Corp.	
"B", "PB", "CB" & "MB" Models	
W/Standard System	2 7/8
W/Auxiliary Rear System	4 1/8
All Remaining Models	3 1/8
Ford Motor Co.	
All Models Exc. "E" Series	2
"E" Series Models	
W/Standard System	3 1/2
W/Auxiliary Rear System	4 1/4
General Motors	
"C" & "K" Models	3
"G" Models	3 1/4
Motor Home Chassis Models	3 1/4
GM Front Wheel Drive Motor Home	3 1/2
All Models With Overhead A/C System	5 1/4
Jeep Corp.	
"CJ" Models	2 1/2
Cherokee, Wagoneer & Trucks	2 1/4
IHC	
All Models	2 5/8

COMPRESSOR BELT TENSION

BELT TENSION TABLE

Application	New Belt	①Tension (Lbs.) Used Belt
Chrysler Corp.	1/4-1/2"②	1/4-3/16"②
Ford Motor Co.	140	90-110
General Motors	135-145	90-100
Jeep	125-155	90-115
IHC	7/16"③	7/16"③

① – Using standard strand tension gauge unless otherwise indicated.
② – Chrysler Corp. recommends adjusting belt tension using the deflection method. Deflection is measured under a 10 pound load.
③ – IHC recommends adjusting belt tension using the deflection method. Deflection is measured under a 20 pound load.

COMPONENT REPLACEMENT CAUTIONS

BEFORE OPENING THE SYSTEM

Before disconnecting any lines or fittings, the system must be completely discharged; however, if only the compressor is being removed and the compressor is equipped with stem-type service valves (York or Tecumseh) , compressor may be isolated without discharging the system.

NOTE – *See Compressor Isolation Method below.*

DISCONNECTING LINES & FITTINGS

After system is discharged, carefully clean entire area around coupling nut to prevent dirt from entering the system. Always use two wrenches to avoid twisting or distorting lines and fittings (hold fitting with one wrench while loosening coupling nut with second wrench). Cap or plug all LINES and FITTINGS immediately to prevent entry of air and moisture into system and do not remove these caps until connections are being made.

See following pages for removal and installation of each component. After replacement or repaired component is installed, connect lines as directed below.

COMPONENT REPLACEMENT

See following pages for removal and installation of each component. After replacement or repaired component installed, connect lines as directed below.

In addition to checking and adjusting the compressor oil level (see Compressor Oil Check), certain component replacement requires additional refrigeration oil. Add specified amounts of oil directly to the component prior to installation.

Application	Amount
With Frigidaire Compressor	
Evaporator	3 oz.
Condenser	1 oz.
Receiver-Dehydrator	1 oz.
Accumulator	1 oz.
With Air-Temp Compressor	
Evaporator	2 oz.
Condenser	1 oz.
Receiver-Drier	1 oz.

COMPONENT REPLACEMENT CAUTIONS (Cont.)

CAUTION – *On vehicles equipped with a Low Refrigerant Charge Protection System (Superheat Switch and Thermal Limiter), if compressor operation is required before full system refrigerant charge is obtained, disconnect the thermal limiter and connect a jumper wire between terminals "B" and "C" of the limiter. When system adjustments and repairs are complete, and full system charge is obtained, reconnect thermal limiter to its original condition. This is required in order to prevent thermal limiter from sensing the low refrigerant and stopping system operation.*

CONNECTING LINES & FITTINGS

A new "O" ring should be used in all instances when connecting lines and fittings (dip "O" ring in clean refrigeration oil and make certain it is not twisted during installation). Always use two wrenches to avoid twisting or distorting lines and fittings, tighten coupling nuts securely.

PLACING SYSTEM IN OPERATION

After component replacement and/or system servicing has been completed and all connections have been made, proceed as follows:

1) Evacuate the system using a vacuum pump.

2) Charge the system with new R-12 (refrigerant) according to each individual vehicle manufacturers procedure as outlined in this Manual.

NOTE – *Also see Refrigerant Capacity in this Section.*

3) Leak test the system, with particular attention to all new connections and components.

4) Make a performance test of the system.

COMPRESSOR REPLACEMENT

COMPRESSOR ISOLATION METHOD

On systems which have compressors equipped with stem-type service valves (York and some Tecumseh), it is possible to isolate the compressor for removal as detailed below.

Isolating – 1) Remove caps from compressor service valve stems and service ports. Connect manifold gauge set to service port connection, purge test hoses, then crack compressor service valves so that system pressures are indicated on test gauges.

2) If system has been fully discharged previously (zero high pressure gauge reading), system should be slightly charged so that high pressure gauge reading is above zero to prevent air and moisture entering when connections are broken.

3) Front-seat suction (inlet) service valve by turning valve stem in fully. Operate the compressor until low side (suction) gauge reading drops to 2 psi. Stop compressor, front-seat discharge (outlet) service valve by turning valve in fully and disconnect compressor clutch lead to prevent compressor operation with this valve front-seated. Compressor is now isolated from system.

CAUTION – *Compressor must never be operated with this discharge valve front seated (closed) as damage to compressor valves would result.*

Removal – 1) Carefully remove service valves from compressor by unscrewing the mounting bolts. Do not disturb line connections and do not turn valve stems with valve assemblies disconnected from compressor (to prevent system discharge). Cap service valves and plug compressor openings to prevent entry of dirt and moisture.

2) If compressor clutch is to be removed (for installation on replacement compressor), energize compressor clutch with engine NOT running and remove clutch mounting bolt from end of compressor shaft, then install $\frac{5}{8}$-11 bolt in driveshaft hole and tighten bolt to loosen clutch from shaft with clutch energized, disconnect clutch lead. Remove drive belt and clutch.

3) Drain and measure compressor oil level. Retain measurement to make proper oil adjustment during installation.

4) Remove compressor mounting bolts and lift compressor off engine. Remove clutch field assembly from compressor (on early compressors with rotating field, remove brush assembly).

Installation – 1) Position compressor on engine, install compressor clutch using new retaining bolt and washer (energize clutch to hold shaft while tightening nut).

2) Make necessary compressor oil level check and add oil if necessary.

NOTE – *See Compressor Oil Check in this Section.*

3) Remove service valve caps and shipping plugs from compressor valve ports and immediately install service valves on compressor using new "O" rings.

4) Without disturbing service valve positions (front-seated), use vacuum pump to evacuate compressor, then close vacuum pump valve and stop the pump.

COMPRESSOR REPLACEMENT (Cont.)

5) Back-seat service valves to cut compressor into the system, operate system for 5 minutes at fast idle.

6) Leak test compressor connections and compressor seal.

7) Recheck compressor oil level, adding or removing oil as necessary for correct oil level.

COMPRESSOR DISCHARGE METHOD

NOTE – *To help prevent the possibility of accidentally hooking up the low side to the high side when recharging, the high side fitting is changed from* 7/16"-20 thread to 3/8"-24 thread. A special hose adapter (J-25499 or equivalent) will have to be used when hooking up the high side valve.

This procedure is to be used on vehicles which have compressor equipped with Schrader service valves. In these cases, the compressor cannot be isolated and the system must be discharged prior to compressor removal.

Removal – 1) If possible, operate A/C system for 10 minutes with engine at 1500-2000 RPM and system controls set for maximum cooling and high fan speed. Stop engine.

2) If equipped with a Low Refrigerant Protection System (most GM vehicles), disconnect thermal limiter connector and install a jumper wire between terminals "B" and "C" of the limiter

3) Discharge the system. When discharge is complete, slowly loosen screw which retains compressor fitting assembly to compressor. As screw is being loosened, work fitting assembly back and forth to break the seal and carefully bleed off any remaining pressure. Now remove screw, fitting assembly, and "O" rings. Immediately cap all system openings.

4) Disconnect compressor clutch coil wire and superheat switch wire (if equipped). Remove compressor retaining bolts and lift compressor from vehicle.

5) Measure and discard compressor oil.

Installation – 1) Add oil to compressor being installed according to manufacturer's recommended procedure.

NOTE – *See Compressor Oil Check in this Section, and rotate shaft four or five times to permit proper lubrication of the compressor shaft seal. Also clean front face of compressor before installing clutch.*

2) If installing replacement compressor, remove cover plate very slowly to bleed off pressure. Attach fitting assembly, using new "O" rings.

3) Evacuate, charge, and leak test the system. Remove jumper wire from thermal limiter and reconnect limiter; then, reconnect clutch coil and superheat switch (if equipped).