AUTOMOBILE AIR CONDITIONING, HEATING & VENTILATION
USA, 1930’s-1950’s

General Motors, Oldsmobile air conditioning system (1950’s)

The first car air conditioned by C & C Kelvinator, Houston 1930

1939 Cadillac
First Air-Conditioned Auto

With all windows sealed, and a stream of fresh, filtered air at just the right temperature entering through a special duct, the world’s first air-conditioned automobile recently made its debut in a successful test run on New York City streets. It demonstrated a remarkable new system that promises all-the-year-round driving comfort, regardless of summer heat or winter cold. Air is drawn into this system through a concealed inlet, filtered to remove dirt and dust, blown over coils that chill or warm it as required, and admitted through grills to the car’s interior. Cooling is effected by a refrigerating compressor beneath the floor boards, resembling that of an electric refrigerator, which takes its power from the car’s generator or may be run from a special battery. To heat the air, hot water is circulated through the coils from the car’s radiator. The air-conditioning equipment may be turned on or off at will from the instrument board or rear seat. Since the windows of the car are kept closed, outside noise is excluded. Any closed car, new or old, may have the air-conditioning system installed, according to the New York concern sponsoring the invention, which expects to manufacture it in the near future at a sufficiently moderate cost to permit its use even in low-priced cars. The makers foresee the car of the future provided with air conditioning as standard equipment. In that event many of the inconveniences encountered at present will be removed, along with a decrease in the danger of suffering carbon-monoxide poisoning.

Popular Mechanix 1933

1939 Air conditioning system developed by Packard
The 1940’s and 50’s saw trials of window-mounted evaporative coolers

1953 Air conditioning system developed by Chrysler Airtemp
1953 System developed by Harrison Radiator and Pontiac Divisions of General Motors

1954 Nash “All Weather Eye” system
Cadillac: General Motors-Frigidaire Rotary Compressor Installation

A-Compressor
B-Drive pulley and belts
C-Flexible connector in suction line
D-Flexible connector in discharge line
E-Refrigerant condenser
F-Refrigerant receiver
G-Receiver check valve
H-Metering solenoid
Chrysler-Airtemp Reciprocating Compressor Installation

Chrysler Airtemp Condenser Installation

Automatic Bypass Valve, Chrysler Air Temp
General Motors Frigidaire System

Lincoln Mercury System
Cadillac: Cool Air Discharge & Warm Air Return Grilles and Fresh Air Scoop

A-Warm air return grille  
B-Cooled air discharge outlets  
(Air distribution ducts are attached to these when used)  
C-Fresh air scoop
Buick: Cooling Unit Assembly with Casing Removed

A-Evaporator
B-Expansion valve
C-Fans and fan motors
D-Cool air supply ducts to car
E-Warm air returns from car and filters
F-Fresh air inlets
G-Fresh air volume controls
H-Thermostat behind left fresh air inlet
I-Condenser drain pan
### Comparison of Car Air Conditioning Systems (1953)

#### Table 1. Comparative Data Auto Air Conditioning Systems (Nov., 1953)

<table>
<thead>
<tr>
<th>Make</th>
<th>Type</th>
<th>Make</th>
<th>Displacement</th>
<th>Refrigerant</th>
<th>Wet</th>
<th>Capacity</th>
<th>Air Distribution</th>
<th>Fresh Air Supply</th>
<th>Filters</th>
<th>System Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABA, Pl. W.</td>
<td>DC</td>
<td>Recip.</td>
<td>2 c. l.</td>
<td>9.76</td>
<td>5-22</td>
<td>Yes</td>
<td>B</td>
<td>Yes</td>
<td>2° T</td>
<td>15,000 Brt/HR</td>
</tr>
<tr>
<td>Chrysler—Altona</td>
<td>A</td>
<td>Recip. 4</td>
<td>6 c. l.</td>
<td>10.5</td>
<td>5-22</td>
<td>75</td>
<td>100%</td>
<td>Central</td>
<td>Yes</td>
<td>2° T</td>
</tr>
<tr>
<td>Nash—Kaiser</td>
<td>B</td>
<td>Recip. 2</td>
<td>6 c. l.</td>
<td>7.75</td>
<td>5-12</td>
<td>56.4</td>
<td>Yes</td>
<td>B</td>
<td>No</td>
<td>3° T</td>
</tr>
<tr>
<td>General Motors—Ford</td>
<td>A</td>
<td>Rotary</td>
<td>2 c. l.</td>
<td>7.14</td>
<td>5-12</td>
<td>51.5</td>
<td>Yes</td>
<td>B</td>
<td>Yes</td>
<td>2° T</td>
</tr>
</tbody>
</table>

1. A—At car weight factory; B—At system weight point; C—in the field by auto dealer or refrigeration dealer.
2. A—Automatic; B—Manual; C—Manually adjustable; D—Thermistor.
3. See manufacturer's specifications.

*Data secured from trade publications. Conditions of operation not stated.*