DANGER

All technicians opening the refrigeration circuit in automotive air conditioning systems MUST be certified in refrigerant recovery and recycling procedures in compliance with Section 609 of the Clean Air Act Amendments of 1990.

For additional information regarding ozone depletion and air conditioning service regulations, please visit EPA’s website:
http://www.epa.gov/ozone

In addition, service of air conditioning systems can result in overfilling, creating a serious EXPLOSION HAZARD, if done by an untrained or inexperienced technician.

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For technical questions and replacement parts, please call 1-800-444-3353
Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Gauge</td>
<td>Low Side - 2-1/2” diameter, 0-120 PSI, 0-40 VAC</td>
</tr>
<tr>
<td>Blue Hose</td>
<td>1/4” FFL x 4’ 9” with knurled fittings and twist valve with quick disconnect.</td>
</tr>
<tr>
<td>Red Gauge</td>
<td>High Side - 2-1/2” diameter, 0-500 PSI</td>
</tr>
<tr>
<td>Red Hose</td>
<td>1/4” FFL x 4’ 9” with knurled fittings and twist valve with quick disconnect.</td>
</tr>
<tr>
<td>Charging Hose</td>
<td>Yellow, high pressure, 1/2” ACME x 4’ 9” with knurled fittings</td>
</tr>
<tr>
<td>Materials</td>
<td>Steel, Aluminum, Brass, Acrylic Plastic, High Pressure Hose</td>
</tr>
<tr>
<td>Weight</td>
<td>4.5 Lbs.</td>
</tr>
</tbody>
</table>

Set includes two R134a adapters.

**Note:** Accuracy of the Gauge is ± 2%.

**WARNING!! ONLY USE REFRIGERANT R-134A WITH THIS A/C MANIFOLD GAUGE SET.**

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

**WARNING:** When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use tools in damp or wet locations. Do not expose to rain. Keep work area well lit.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle the A/C Manifold Gauge Set.
4. **Store idle equipment.** When not in use, the A/C Manifold Gauge Set must be stored in a dry location to inhibit rust. Always lock up this product and keep it out of reach of children.
5. **Use the right tool for the job.** There are certain applications for which this A/C Manifold Gauge Set was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this A/C Manifold Gauge Set and do not use this A/C Manifold Gauge Set for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye, ear and hand protection.** Always wear ANSI approved impact safety goggles. Wear an ANSI approved dust mask or respirator when working around chemical dusts and mists. Wear heavy duty work gloves with working with R134a refrigerant.

8. **Do not overreach.** Keep proper footing and balance at all times.

9. **Maintain tools with care.** Keep the A/C Manifold Gauge Set clean for better and safer performance. Inspect hoses periodically, and if damaged, have them repaired by an authorized technician.

10. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.

11. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.

12. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.

13. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

14. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.

15. **Industrial applications must follow OSHA requirements.**

16. **People with pacemakers should consult their physician(s) before using this product.** Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker. In addition, people with pacemakers should observe the following: Caution is necessary when near the coil, spark plug cables, or distributor of a running engine. The engine should always be off if adjustments are to be made to the distributor.

17. **WARNING:** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (California Health & Safety code § 25249.5, et seq.)

**Warning:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.
SPECIFIC PRODUCT WARNINGS AND PRECAUTIONS

WARNING!! ONLY USE REFRIGERANT R-134a WITH THIS A/C MANIFOLD GAUGE SET.

WARNING!! Never start an engine in an enclosed area (like a garage). A running gasoline engine generates Carbon Monoxide; Carbon Monoxide is a colorless, odorless gas that can cause serious injury and death, if inhaled.

1. Always keep hands and fingers away from the moving parts and hot parts of vehicle’s engine.

2. Make sure to read and understand all instructions and safety precautions as outlined in the vehicle manufacturer’s manual for air condition servicing. Only qualified mechanics that are trained in servicing air conditioning systems should use this product.

3. When warming up an engine in preparation for testing of the A/C system, make sure the vehicle’s transmission is placed in “Park” and the emergency brake is applied.

4. CAUTION! Refrigerant R-134a can cause severe frostbite if it comes in contact with the skin. Always follow the safety warnings and instructions provided by the manufacturer of R-134a refrigerant.

5. Never disconnect any hose while the hose is under pressure. Pressurized R-134a refrigerant can cause severe injury.

6. Use caution when opening an air conditioning system line or can of refrigerant. When testing, always place a towel around the service valves of the air conditioning unit and High and Low Pressure Couplers (20 and 21) of the A/C Manifold set.

7. Keep refrigerant away from excessive heat as pressure in the container could increase enough to rupture the can.

8. Never discharge refrigerant into the atmosphere. Always capture refrigerant into an approved recovery container (not included), and then dispose of properly. Contact your local Hazardous Waste Authority for disposal guidelines.

9. Only use refrigerant in a manner consistent with the air conditioning system’s repair manual.

Unpacking

When unpacking, check to make sure the parts listed on page 8 are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.
PRODUCT OVERVIEW

1. The A/C Manifold Gauge Set is designed to test automotive air conditioning systems. By comparing the high side and low side pressure reading to the vehicle manufacturer's A/C system specifications, a probable faulty condition may be determined.

2. The High Pressure Gauge (3) is used to measure compressor discharge pressure. The Low Pressure Gauge (5) is used to measure suction, or low side pressure. (See FIGURE 1 on page 6.)

3. The Red and Blue Thumb Handles (11) control the flow of refrigerant to and from the Yellow Refrigeration Charging Hose (18), also called the Service Hose. The actual use of these Thumb Handles will not be explained in this manual. (See FIGURE 1.)

4. The valves on the Red High Pressure Coupler (22) and Blue Low Pressure Coupler (23) control the input to the High Pressure Gauge (3) and Low Pressure Gauge (5) from the Red High Pressure Hose (17) and Blue Low Pressure Hose (19). (See FIGURE 1.)

5. The Yellow Refrigeration Charging Hose (18), also called Service Hose, is connected to a vacuum pump for purging the system (cleaning or evacuating). The Yellow Refrigeration Charging Hose (18) also is connected to a container of R-134A Refrigerant for charging (filling) the system. For testing, the Yellow Hose (18) not used and is attached to both branches of the T-fitting (16) on the Manifold Body (2) (see FIGURE 1).

6. General instructions for testing an A/C system are outlined in this manual. Specific procedures for each individual system type and model should be referenced in the vehicle manufacturer's specific A/C system service manual.

7. Although this kit may have some utility in these procedures, instruction is NOT provided for the evacuation and recovery of the system. All technicians opening the refrigeration circuit in automotive air conditioning systems MUST be certified in refrigerant recovery and recycling procedures - see box on front cover.

Operation

Refer to the Assembly Drawing on page 8.

To Conduct a Static A/C Pressure Reading:

1. Make sure the vehicle's engine is NOT running, and the A/C system is OFF.

2. Turn the Red Thumb Handle (11) and Blue Thumb Handle (11) clockwise, to the CLOSED position. See FIGURE 1 on page 6.

WARNING: DO NOT, AT ANY TIME, OPEN the Thumb Handles (11) or refrigerant will be leaked to the atmosphere and the A/C system may become contaminated.

3. Connect the Red High Pressure Coupler (22) to the A/C system high side line. See FIGURE 1 on page 6.

4. Connect the Blue Low Pressure Coupler (23) to the A/C system low side line. See FIGURE 1 on page 6.

5. Connect the both ends of the Yellow Refrigeration Charging Hose (18) to both branches of the T-fitting (16) on the Manifold Body (2). See FIGURE 1 on page 6.

6. Turn the Control Valves of the Red High Pressure Coupler (22) and Blue Low Pressure Coupler (23) counterclockwise to open.
To Conduct a Performance A/C System Test:

1. A performance test indicates air conditioning system condition by measuring system pressures with the engine running.

2. Turn the Red Thumb Handle (11) and Blue Thumb Handle (11) clockwise to the CLOSED positions. See FIGURE 1, above.

**WARNING:** DO NOT, AT ANY TIME, OPEN the Thumb Handles (11) or refrigerant will be leaked to the atmosphere and the A/C system may become contaminated.

3. Turn the Red Control Valve (22) and Blue Control (23) clockwise, to the CLOSED position. See FIGURE 1 on page 6.

4. Connect the Red High Pressure Coupler (22) to the A/C system high side line. Connect the Blue Low Pressure Coupler (23) to the A/C system on the low side line. See FIGURE 1, above.

5. Connect both ends of the Yellow Refrigeration Charging Hose (18) to the T-fitting (16) on the Manifold Body (2). See FIGURE 1, above.
Maintenance

1. **Before each use**, inspect the general condition of the A/C Manifold Set. Check for cracked or broken parts, damaged Hoses (17,18,19), and any other condition that may affect safe operation. If a problem with the Set occurs, have it corrected before further use. **Do not use damaged equipment.**

2. Periodically, clean with a damp cloth using a mild detergent or solvent.

3. When storing, keep the Set clean and dry. Also, connect the High Pressure Coupler (22) and the Low Pressure Coupler (23) to its corresponding Connector (6,7) to prevent contamination from entering the Set when not in use. See **FIGURE 1** on page 6 and the Assembly Drawing on page 8.
Parts List

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rubber Cover</td>
<td>1</td>
<td>13</td>
<td>Window Glass</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Manifold Body</td>
<td>1</td>
<td>14</td>
<td>Ring Nut</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>High Pressure Gauge</td>
<td>1</td>
<td>15</td>
<td>Connector</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Hook Set</td>
<td>1</td>
<td>16</td>
<td>Tee Fitting</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Low Pressure Gauge</td>
<td>1</td>
<td>17</td>
<td>Ref. High Pressure Hose Red</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Connector (Low Pressure)</td>
<td>1</td>
<td>18</td>
<td>Ref. High Pressure Hose Yellow</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Connector (High Pressure)</td>
<td>1</td>
<td>19</td>
<td>Ref. Low Pressure Hose Blue</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Valve Seat</td>
<td>2</td>
<td>20</td>
<td>Connector</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Valve Stem</td>
<td>2</td>
<td>21</td>
<td>O-Ring</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Valve Nut</td>
<td>2</td>
<td>22</td>
<td>High Pressure Coupler &amp; Valve (Red)</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Thumb Handle</td>
<td>2</td>
<td>23</td>
<td>Low Pressure Coupler &amp; Valve (Blue)</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>O-Ring</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assembly Diagram

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

SKU 92649     For technical questions, please call 1-800-444-3353