

A/C MANIFOLD GAUGE SET

Stock Number W89739

OWNER'S MANUAL

WARNING: USE ONLY R-1234YF REFRIGERANT WITH THE A/C MANIFOLD GAUGE SET

⚠ WARNING

TO PREVENT EXPLOSION, SERIOUS INJURY, AND DEATH:

- Service of air conditioning systems must be done only by trained and experienced technician to avoid overfilling.
 - Technicians opening refrigeration circuit in automotive air conditioning systems **MUST** be certified in refrigerant recovery and recycling procedures in compliance with section 609 of Clean Air Act Amendments of 1990.
- For additional information regarding ozone depletion and air conditioning service regulations, visit EPA's website: www.epa.gov/ozone



Performance Tool®

**IMPORTANT SAFETY INSTRUCTIONS,
READ AND UNDERSTAND ALL INSTRUCTIONS**

Failure to follow all instructions detailed in this manual may result in serious personal injury. **SAVE THESE INSTRUCTIONS**

PT®
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PRODUCT SPECIFICATIONS

Blue (Low) Gauge	0-120psi
Blue Hose	¼ in. FFL x 50 in.
Red (High) Gauge	0-500psi
Red Hose	¼ in. FFL x 50 in.
Yellow Hose	½ in. ACME x 50 in.
Gauge Accuracy	+/-2%

⚠ WARNING! Topping off/filling a vehicle system designed for R-1234YF, with any refrigerant other than R-1234YF, is considered “tampering with a vehicle emissions-control device.” This is a violation of Section 203 of the Clean Air Act.

1. Keep work area clean and well lit.
2. Keep children away. Children must never be allowed in the work area. Do not let them handle the A/C Manifold Gauge Set.
3. 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.
4. Dress properly. Do not wear loose clothing or jewelry as they can be caught in moving engine parts. Protective clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
5. Wear ANSI-approved impact safety goggles and heavy-duty work gloves at all times during setup and use.
6. Do not overreach. Keep proper footing and balance at all times.
7. Maintain gauge 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 a qualified technician.
8. Stay alert. Watch what you are doing, use common sense. Do not operate gauge when you are tired.
9. Check for damaged parts. Before using any gauge, 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.
10. 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 gauge.
11. Do not operate gauge if under the influence of alcohol or drugs. Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired

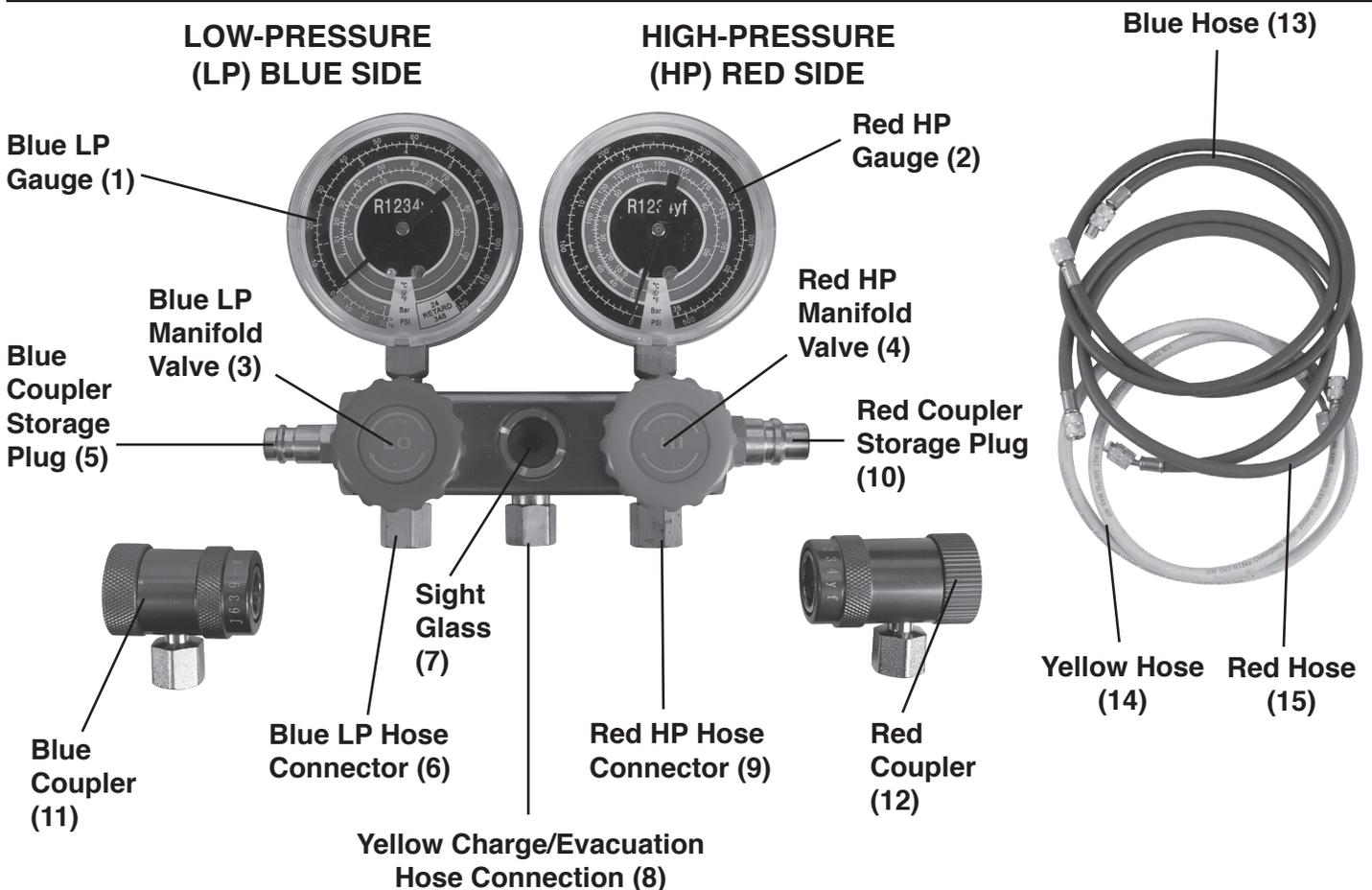
while taking drugs. If there is any doubt, do not operate the gauge.

12. Maintenance. For your safety, service and maintenance should be performed regularly by a qualified technician.
13. Industrial applications must follow OSHA requirements.
14. 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.
16. 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.
17. **ONLY USE REFRIGERANT R-1234YF WITH THIS A/C MANIFOLD GAUGE SET.**
18. Do not 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.
19. Keep hands away from the moving parts and hot parts of vehicle's engine.
20. 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.
21. When warming up an engine in preparation for checking of the A/C system, make sure the vehicle's transmission is placed in “Park” and the emergency brake is applied.
22. Refrigerant can cause severe frostbite if it comes in contact with skin. Follow the safety warnings and instructions provided by the refrigerant manufacturer.
23. Do not disconnect any pressurized hose. Pressurized refrigerant can cause severe injury.
24. Use caution when opening an air conditioning system line or can of refrigerant. When checking, always place a towel around the service valves of the air conditioning unit and Red and Blue Couplers (11 and 12).
25. Keep refrigerant away from excessive heat as pressure in the container could increase enough to rupture the can.
26. Do not discharge refrigerant into the atmosphere. Capture refrigerant into an approved recovery container (not included), and then dispose of properly. Contact your local Hazardous Waste Authority for disposal guidelines.
27. Only use refrigerant in a manner consistent with the air conditioning system's repair manual.

APPLICATIONS

1. The Red HP Gauge (2) is used to measure high pressure compressor discharge side pressure.
2. The Blue LP Gauge (1) is used to measure low-pressure side suction or pressure.
3. The Manifold Valves (3, 4) control the flow of refrigerant to and from the Yellow Hose (14), also called the Charge Hose.
4. The Coupler Valves (10, 11) control the flow to the Gauges (1, 2) from the Red and Blue Hoses (13, 15).
5. The Sight Glass (7) allows checking the appearance of the refrigerant.
6. The Yellow Hose (14), also called Charge Hose can be used three ways:
 - a. Refrigerant recovery/evacuation.
 - b. Charging (filling) the system.
 - c. For diagnosis, attach the Yellow Hose (14) to a recovery tank to reduce the risk of leaks.
7. The charge valve allows for simultaneous connection of a refrigerant recovery system.
8. General instructions for A/C service 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.
9. See Operation instructions that follow.

COMPONENTS AND FUNCTIONS



OPERATION

Read the ENTIRE SAFETY WARNINGS section at the beginning of this manual before set up or use of this product.

WARNING

TO PREVENT EXPLOSION, SERIOUS INJURY, AND DEATH:Service of air conditioning systems must be done only by trained and experienced technician to avoid overfilling. Technicians opening refrigeration circuit in automotive air conditioning systems **MUST** be certified in refrigerant recovery and recycling procedures in compliance with section 609 of Clean Air Act Amendments of 1990. For additional information regarding ozone depletion and air conditioning service regulations, visit EPA's website: www.epa.gov/ozone

WARNING

TO PREVENT SUDDEN LOSS OF CONSCIOUSNESS, AND DEATH:Connect and use in a well ventilated area **ONLY**. Refrigerant can displace air if allowed to accumulate, causing sudden loss of consciousness followed by death. This can happen **WITHOUT FEELING SHORTNESS OF BREATH**.

WARNING

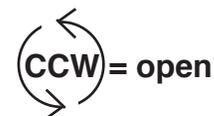
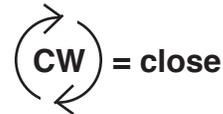
TO PREVENT EXPLOSION, SERIOUS INJURY, AND DEATH:Do not open the red HP Manifold Valve unless requested to do so during the recovery/evacuation procedure. Refrigerant is under great pressure. Attempting to add refrigerant through the HP side of the system may cause the refrigerant can to explode.

Note: Throughout this manual:
HP means High-pressure
LP means Low-pressure
CW means Clockwise
CCW means Counterclockwise

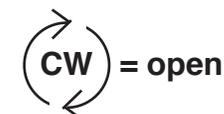
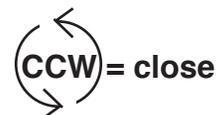
Note: Procedures such as charging refrigerant through the HP side of the system and adding lubricant to the system are beyond the scope of this manual.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Manifold Valve (3, 4) operation:



Coupler Valve (11, 12) operation:



WARNING

To prevent **SERIOUS INJURY** and **DEATH**:

1. Wear **ANSI-approved safety goggles** and **heavy-duty work gloves** during setup and use.
2. **DO NOT OPEN** either Manifold Valve (3, 4) unless directed to do so; otherwise, refrigerant leaks, A/C system contamination, and hazardous expulsion of pressurized refrigerant may occur.

DIAGNOSTIC CHECK

1. **Close both Manifold Valves (3, 4) by turning CW.** Close both Coupler Valves (11, 12) by turning **CCW**.

2. CONNECT HOSES:

- a. Connect one end of the Blue Hose (13) to the Blue LP Hose Connector and the other end to the Blue Coupler (11).
- b. Connect one end of the Red Hose (15) to the Red LP Hose Connector and the other end to the Red Coupler (12).
- c. Connect one end of the Yellow Hose (14) To the Yellow Charge/Evacuation Hose Connection (8) and the other end to a recovery tank to reduce the risk of leaks.

3. ATTACH COUPLERS:

- a. Attach the Blue Coupler (11) to the suction LP port on the A/C system.
- b. Attach the Red Coupler (12) to the discharge HP port on the A/C system.

4. PERFORM CHECK:

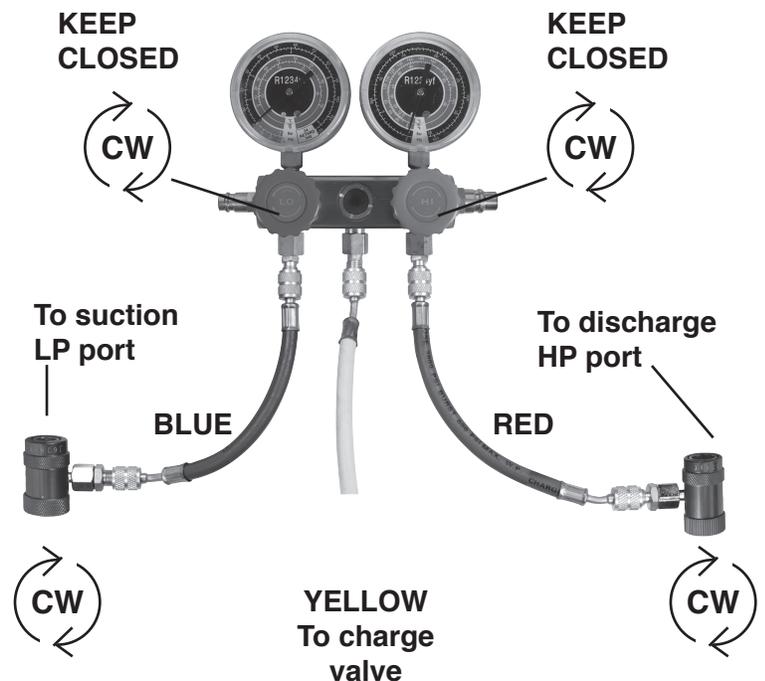
- a. To do a dynamic check: Turn on the vehicle and allow it to reach normal operating temperature. Then, turn on the A/C system.
- b. Open both Coupler Valves (11, 12) by turning **CW**.
- c. Read the pressure on both of the Gauges (1, 2) and compare to the

3. Use in well-ventilated area only.
4. Keep gauge and hoses away from moving engine parts.
5. Turn off vehicle's engine and A/C system before attaching gauge.
6. The following procedure is to be performed only by a technician certified in refrigerant recovery and recycling procedures, as explained previously.

manufacturer's recommended readings.

5. AFTER:

- a. **Close both Coupler Valves (11, 12) by turning CCW.**
- b. Turn off the vehicle and the A/C system if dynamic check was done.
- c. **Carefully disconnect the Couplers (11, 12), the hoses may contain residual refrigerant.** Pull back the knurled ring on each Coupler (11, 12) and store it on its Coupler Storage Plug (5, 10).



WARNING

To prevent **SERIOUS INJURY** and **DEATH**:

1. Wear **ANSI-approved safety goggles** and **heavy-duty work gloves** during setup and use.
2. **DO NOT OPEN** either **Manifold Valve (3, 4)** unless directed to do so; otherwise, refrigerant leaks, **A/C system contamination**, and hazardous expulsion of pressurized refrigerant may occur.

3. Use in **well-ventilated area only**.
4. Keep gauge and hoses away from moving engine parts.
5. Turn off vehicle's engine and **A/C system** before attaching gauge.
6. The following procedure is to be performed only by a technician certified in refrigerant recovery and recycling procedures, as explained previously.

RECOVERY / EVACUATION

1. Close both **Manifold Valves (3, 4)** by turning **CW**. Close both **Coupler Valves (11, 12)** by turning **CCW**.

2. **CONNECT HOSES:**

- a. Connect one end of the **Blue Hose (13)** to the **Blue LP Hose Connector** and the other end to the **Blue Coupler (11)**.
- b. Connect one end of the **Red Hose (15)** to the **Red LP Hose Connector** and the other end to the **Red Coupler (12)**.
- c. Connect one end of the **Yellow Hose (14)** to the **Yellow Charge/Evacuation Hose Connection (8)** and the other end to the refrigerant recovery system / vacuum pump.

3. **ATTACH COUPLERS:**

- a. Attach the **Blue Coupler (11)** to the suction LP port on the **A/C system**.
- b. Attach the **Red Coupler (12)** to the discharge HP port on the **A/C system**.

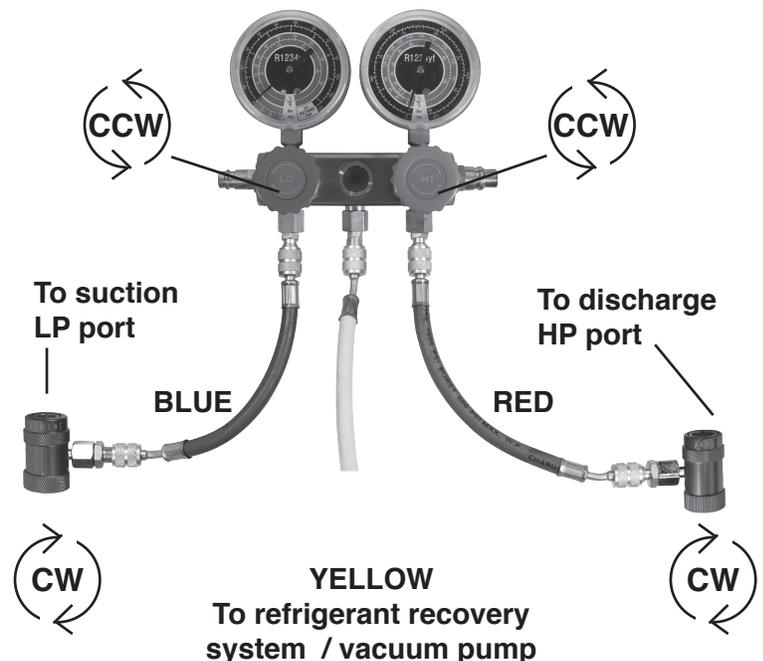
4. **PERFORM RECOVERY / EVACUATION:**

- a. Turn on the refrigerant recovery system / vacuum pump.
- b. Open both **Coupler Valves (11, 12)** by turning **CW** and both **Manifold Valves (3, 4)**, turning them **CCW**.
- c. Read the amount of vacuum on the **Blue LP Gauge (3)**.

5. **AFTER:**

- a. Shut off the refrigerant recovery system / vacuum pump when the vacuum level reaches the manufacturer's recommended level.
- b. Close both **Coupler Valves (11, 12)** by turning **CCW**.
- c. Disconnect the **Couplers (11, 12)** from the **A/C system**. Pull back the knurled ring on each **Coupler (11, 12)** and store it on its **Coupler Storage Plug (5 & 10, respectively)**.

TURN VALVES AS SHOWN ONLY AFTER MAKING ALL CONNECTIONS AND TURNING ON REFRIGERANT RECOVERY SYSTEM / VACUUM PUMP



WARNING

To prevent **SERIOUS INJURY** and **DEATH**:

1. Wear **ANSI-approved safety goggles** and **heavy-duty work gloves** during setup and use.
2. **DO NOT OPEN** either Manifold Valve (3, 4) unless directed to do so; otherwise, refrigerant leaks, A/C system contamination, and hazardous expulsion of pressurized refrigerant may occur.

CHARGING

1. Close both Manifold Valves (3, 4) by turning **CW**. Close both Coupler Valves (11, 12) by turning **CCW**.

2. **CONNECT HOSES:**

- a. Connect one end of the Blue Hose (13) to the Blue LP Hose Connector and the other end to the Blue Coupler (11).
- b. Connect one end of the Red Hose (15) to the Red LP Hose Connector and the other end to the Red Coupler (12).
- c. Connect one end of the Yellow Hose (14) to the Yellow Charge/Evacuation Hose Connection (8) and the other end to R1234YF refrigerant supply.

KEEP THE CAN/CYLINDER UPRIGHT.

3. **ATTACH COUPLERS:**

- a. Attach the Blue Coupler (11) to the suction LP port on the A/C system.
- b. Attach the Red Coupler (12) to the discharge HP port on the A/C system.

4. **PERFORM CHARGING:**

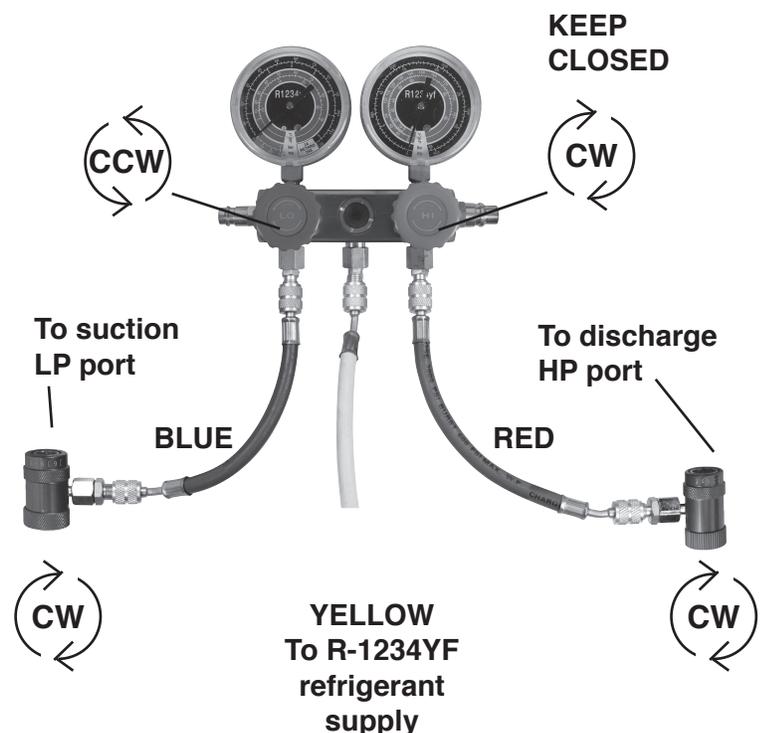
- a. Turn on the vehicle and allow it to come up to normal operating temperature. Then, turn on the A/C system.
- b. Open the Blue Coupler Valve (11) only by turning **CW** and Blue Manifold Valve (3), turning it **CCW**.

3. Use in well-ventilated area only.
4. Keep gauge and hoses away from moving engine parts.
5. Turn off vehicle's engine and A/C system before attaching gauge.
6. The following procedure is to be performed only by a technician certified in refrigerant recovery and recycling procedures, as explained previously.

5. **AFTER:**

- a. After charging manufacturer recommended amount of R-1234YF, **close both Coupler Valves (11, 12) by turning CCW**.
- b. Turn off the vehicle and the A/C system.
- c. **Carefully disconnect the Couplers (11, 12) from the A/C system, the hoses may contain residual refrigerant.** Pull back the knurled ring on each Coupler (11, 12) and store it on its Coupler Storage Plug (5 & 10, respectively).

TURN VALVES AS SHOWN ONLY AFTER MAKING ALL CONNECTIONS



INSPECTION, MAINTENANCE AND CLEANING



WARNING

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE: Do not use damaged equipment. If abnormal noise, vibration, or leaking air occurs, have the problem corrected before further use.

1. **Before each use**, inspect the general condition of the A/C Manifold Set. Check for cracked or broken parts, damaged Hoses 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 Red Coupler and the Blue Coupler to its corresponding Coupler Storage Plug to prevent contamination.

LIMITED WARRANTY

PERFORMANCE TOOL® extends only the following warranties, and only to original retail purchasers. These warranties give specific legal rights. Except where prohibited by local law, the law of the State of Washington governs all warranties and all exclusions and limitations of warranties and remedies. There may be other rights which vary from state to state.

PERFORMANCE TOOL® warrants the product to be free from defects in materials and workmanship under normal use and service. A defective product may be returned for a free replacement within 90 days from the date of purchase, provided that product is returned to place of purchase immediately after discovery of defect. After 90 days and up to one year from date of purchase, PERFORMANCE TOOL® will replace at no charge any parts which our examination shall disclose to be defective and under warranty. These warranties shall be valid only when a sales receipt showing the date of purchase accompanies the defective product or defective part (s) being returned. For part (s) after 90 days, please remit your request, postage prepaid to:

PERFORMANCE TOOL, P.O. Box 88259 Tukwila, WA 98138

These warranties exclude blades, bits, punches, dies, bulbs, fuses, hoses, and other consumables which must be replaced under normal use and service. These warranties shall not apply to any product or part which is used for a purpose for which it is not designed, or which has been repaired or altered in any way so as to affect adversely its performance or reliability, nor shall these warranties apply to any product or part which has been subject to misuse, neglect, accident or wear and tear incident to normal use and service.

PERFORMANCE TOOL® does not authorize any other person to make any warranty or to assume any liability in connection with its products.

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