

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

25i



R134A 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



58160

Visit our website at: <https://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-800-444-3353 as soon as possible.

Copyright© 2023 by Harbor Freight Tools®. All rights reserved.
No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

⚠ WARNING

Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.

Specifications

Blue (Low) Gauge	0-30 inHg / 0-120 PSI
Blue Hose	M14 - 1/2 IN. ACME x 72 IN.
Red (High) Gauge	0-500 PSI
Red Hose	M14 - 1/2 IN. ACME x 72 IN.
Yellow Hose	1/2 IN. ACME - 1/2 IN. ACME x 96 IN.
Gauge Accuracy	First 1/4 of Scale: +/-2% Middle 1/2 of Scale: +/-1% Last 1/4 of Scale: +/-2%
Set includes Quick Disconnect Valves	

WARNING! TO PREVENT SERIOUS INJURY: ONLY USE R-134a REFRIGERANT WITH THIS A/C MANIFOLD GAUGE SET.

Safety Warnings



WARNING Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in serious injury.

Save all warnings and instructions for future reference.

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. Approved accessories are available from Harbor Freight Tools.
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.
15. 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.
16. **ONLY USE REFRIGERANT R-134a WITH THIS A/C MANIFOLD GAUGE SET.**
17. **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.
18. **Keep hands away from the moving parts and hot parts of vehicle's engine.**
19. **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.**
20. **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.**
21. **Refrigerant can cause severe frostbite if it comes in contact with skin.**
Follow the safety warnings and instructions provided by the refrigerant manufacturer.
22. **Do not disconnect any pressurized hose.**
Pressurized refrigerant can cause severe injury.
23. **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 Coupler Valves.
24. **Keep refrigerant away from excessive heat as pressure in the container could increase enough to rupture the can.**
25. **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.
26. **Only use refrigerant in a manner consistent with the air conditioning system's repair manual.**

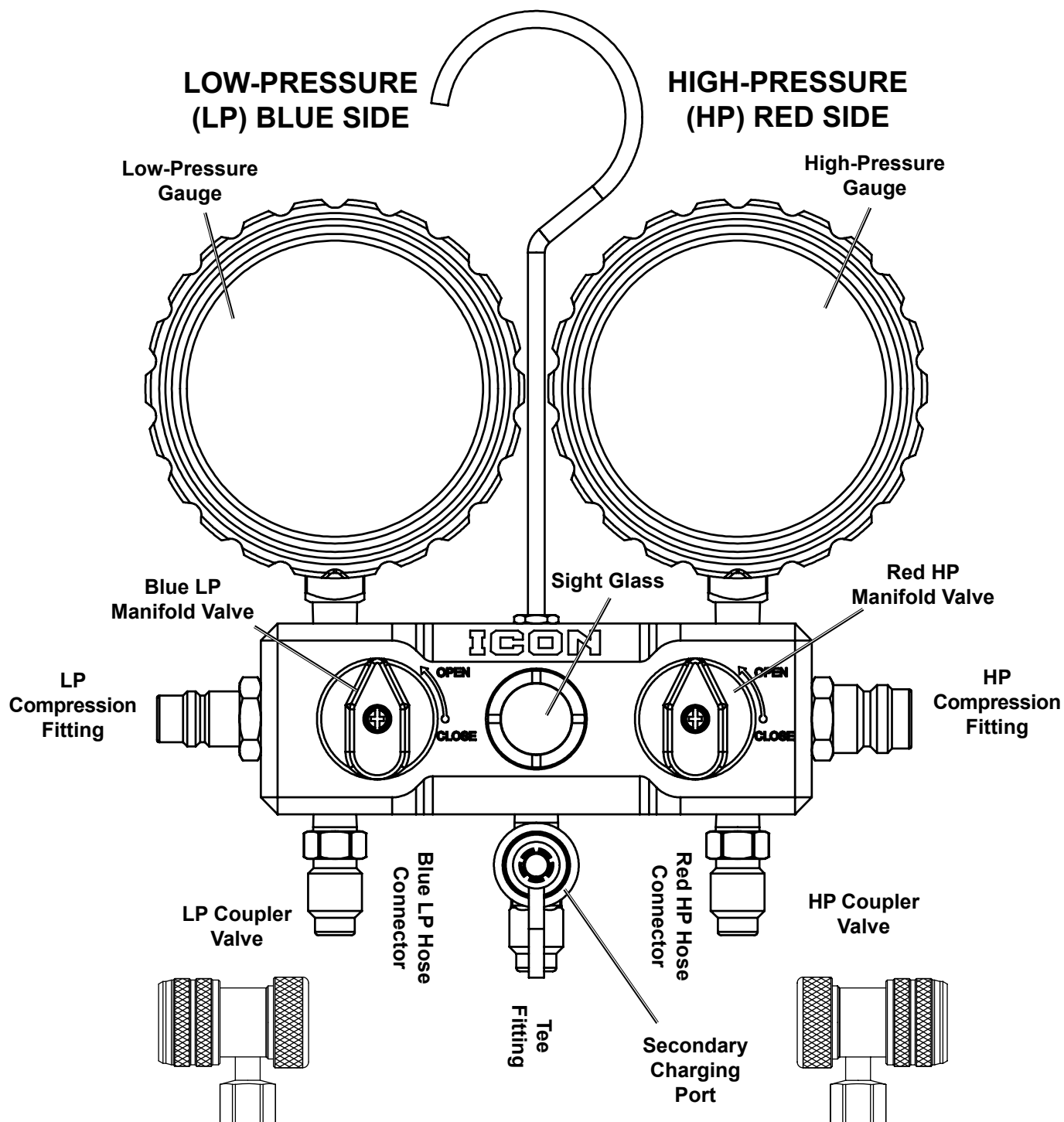


SAVE THESE INSTRUCTIONS.

Applications

1. The High Pressure-Gauge (2) is used to measure high-pressure compressor discharge side pressure.
2. The Low-Pressure Gauge (3) is used to measure low-pressure side suction or pressure.
3. The Manifold Valves (31,32) control the flow of refrigerant to and from the High-Pressure Hose Yellow (39), also called the Charge Hose.
4. The Coupler Valves (35,36) control the flow to the Gauges (2,3) from the Red and Blue Hoses (37,38).
5. The Sight Glass (24) allows checking the appearance of the refrigerant.
6. The High-Pressure Hose Yellow (39), also called Charge Hose can be used three ways:
 - a. Refrigerant recovery/evacuation.
 - b. Charging (filling) the system.
 - c. For checking, attach the High-Pressure Hose Yellow (39) to both branches of the Tee Fitting (8) 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 (31,32) operation:


 = close

 = open

Coupler Valve (35,36) operation:

 = close

 = open.

	<h2 style="margin: 0;">⚠ WARNING</h2>
	<p style="text-align: center;">To prevent SERIOUS INJURY and DEATH:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <ol style="list-style-type: none"> 1. Wear ANSI-approved safety goggles and heavy-duty work gloves during setup and use. 2. DO NOT OPEN either Manifold Valve unless directed to do so; otherwise, refrigerant leaks, A/C system contamination, and hazardous expulsion of pressurized refrigerant may occur. </div> <div style="width: 48%;"> <ol style="list-style-type: none"> 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. </div> </div>

Diagnostic Check

⚠ WARNING

TO PREVENT SERIOUS INJURY: Only hand tighten all hose connections. Do not use tools to tighten connections. Overtightening permanently damages seal causing refrigerant leak.

1. **Close both Coupler Valves (35,36) by turning CCW.** Close both Manifold Valves (31,32) by turning CW.

2. **CONNECT HOSES:**

NOTICE: These connections are to be hand tightened only; Tools like pliers or a wrench should not be used to tighten them. Overtightening will cause the o-ring seal in the hose connection to pop out and/or damage it.

- a. Hand tighten one end of the Low-Pressure Hose Blue (38) to the Blue LP Hose Connector and the other end to the Low-Pressure Coupler Valve (36).
- b. Hand tighten one end of the High-Pressure Hose Red (37) to the Red HP Hose Connector and the other end to the High-Pressure Coupler Valve (35).
- c. Hand tighten one end of the High-Pressure Hose Yellow (39) to the Tee Fitting (8) and the other end to the Secondary Charging Port on that Connector.

3. **ATTACH COUPLERS:**

- a. Attach the Low-Pressure Coupler Valve (36) to the suction LP port on the A/C system.
- b. Attach the High-Pressure Coupler Valve (35) to the discharge HP port on the A/C system.

4. **PERFORM CHECK:**

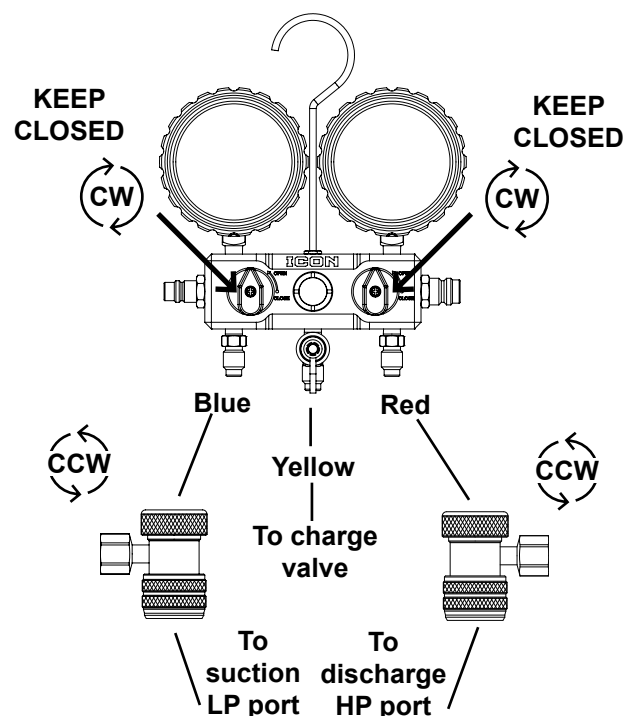
- a. To do a dynamic check:
Turn on the vehicle and allow it to reach normal operating temperature. Then, turn on the A/C system.
- b. Open the Low-Pressure Coupler Valve and High-Pressure Coupler Valve by turning CW. **DO NOT** open either manifold valve.



- c. Read the pressure on both of the Gauges (2,3) and compare to the manufacturer's recommended readings.

5. **AFTER:**

- a. Turn off the vehicle and the A/C system.
- b. Close Coupler Valves (35,36) by turning CCW.
- c. **Carefully disconnect the Coupler Valves from the A/C system, the hoses may contain residual refrigerant.** Pull back the knurled ring on each Coupler Valve.

TURN VALVES AS SHOWN BEFORE MAKING ALL CONNECTIONS.



<div data-bbox="132 141 288 280">  </div> <div data-bbox="742 107 1023 152"> ⚠ WARNING </div>	
<div data-bbox="132 405 288 562">  </div> <p>To prevent SERIOUS INJURY and DEATH:</p> <ol style="list-style-type: none"> 1. Wear ANSI-approved safety goggles and heavy-duty work gloves during setup and use. 2. DO NOT OPEN either Manifold Valve unless directed to do so; otherwise, refrigerant leaks, A/C system contamination, and hazardous expulsion of pressurized refrigerant may occur. 	<ol style="list-style-type: none"> 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

⚠ WARNING

TO PREVENT SERIOUS INJURY: Only hand tighten all hose connections. Do not use tools to tighten connections. Overtightening permanently damages seal causing refrigerant leak.

1. **Close Coupler Valves (35,36) by turning CCW.**
Close both Manifold Valves (31,32) by turning CW.

2. **CONNECT HOSES:**

NOTICE: These connections are to be hand tightened only; Tools like pliers or a wrench should not be used to tighten them. Overtightening will cause the o-ring seal in the hose connection to pop out and/or damage it.

- a. Hand tighten one end of the Low-Pressure Hose Blue (38) to the Blue LP Hose Connector and the other end to the Low-Pressure Coupler Valve (36).
- b. Hand tighten one end of the High-Pressure Hose Red (37) to the Red HP Hose Connector and the other end to the High-Pressure Coupler Valve (35).
- c. Hand tighten one end of the High-Pressure Hose Yellow (39) to the Tee Fitting (8) and the other end to the refrigerant recovery system / vacuum pump (not included).

3. **ATTACH COUPLERS:**

- a. Attach the Low-Pressure Coupler Valve (36) to the suction LP port on the A/C system.
- b. Attach the High-Pressure Coupler Valve (35) to the discharge HP port on the A/C system.

4. **PERFORM CHECK:**

NOTE: For refrigerant recovery, refer to the procedures specified in the recovery machine manual.

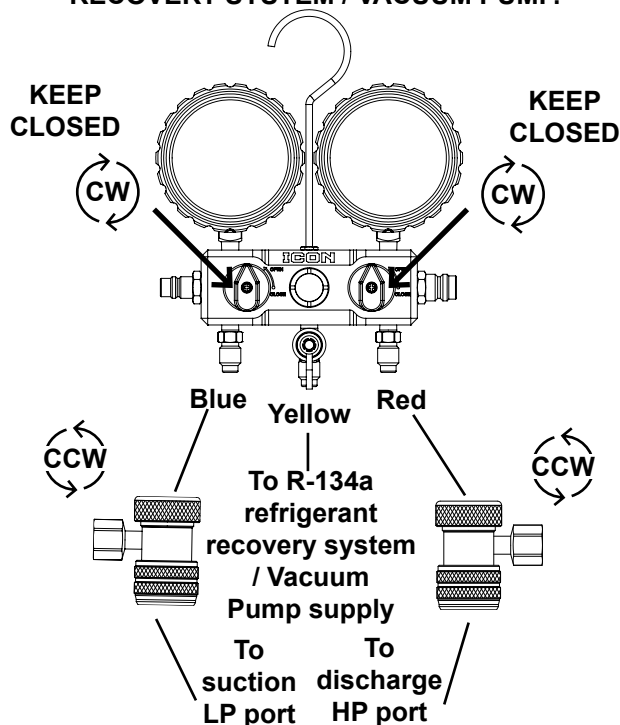
- a. Turn on the refrigerant recovery system / vacuum pump.
- b. Open both Manifold Valves (31,32) by turning CCW and both Coupler valves, turning them CW.

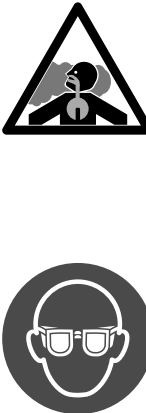
- c. Run the vacuum pump until the desired vacuum level and evacuation time is achieved per the vehicle manufacturer's guidelines. Read the amount of vacuum on the Low-Pressure Gauge (3).

5. **AFTER:**

- a. Close all valves then shut off the refrigerant recovery system/vacuum pump.
- b. **Carefully disconnect the Coupler Valves from the A/C system.** Pull back the knurled ring on each Coupler Valve.

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



	<div style="text-align: center; background-color: #cccccc; padding: 5px;">⚠ WARNING</div> <div> <p>To prevent SERIOUS INJURY and DEATH:</p> <ol style="list-style-type: none"> 1. Wear ANSI-approved safety goggles and heavy-duty work gloves during setup and use. 2. DO NOT OPEN either Manifold Valve 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. </div>
---	--

Charging

⚠ WARNING

TO PREVENT SERIOUS INJURY: Only hand tighten all hose connections. Do not use tools to tighten connections. Overtightening permanently damages seal causing refrigerant leak.

1. **Close both Coupler Valves (35,36) by turning CCW. Close both Manifold Valves (31,32) by turning CW.**

2. **CONNECT HOSES:**

NOTE: These connections are to be hand tightened only; Tools like pliers or a wrench should not be used to tighten them. Overtightening will cause the o-ring seal in the hose connection to pop out and/or damage it.

- a. Hand tighten one end of the Low-Pressure Hose Blue (38) to the Blue LP Hose Connector and the other end to the Low Pressure Coupler Valve (36).
- b. Hand tighten one end of the High Pressure Hose Red (37) to the Red HP Hose Connector and the other end to the High Pressure Coupler Valve (35).
- c. Hand tighten one end of the High Pressure Hose Yellow (39) to the Tee Fitting (8) and the other end to refrigerant supply. **KEEP THE CAN/CYLINDER UPRIGHT.**

3. **ATTACH COUPLERS:**

- a. Attach the Low-Pressure Coupler Valve (36) to the suction LP port on the A/C system.
- b. Attach the High-Pressure Coupler Valve (35) to the discharge HP port on the A/C system.

4. **PERFORM CHARGING:**

NOTE: The following instructions are intended for charging through the low/suction side only. Refer to the vehicle's service manual for guidance on recommended charging procedure.

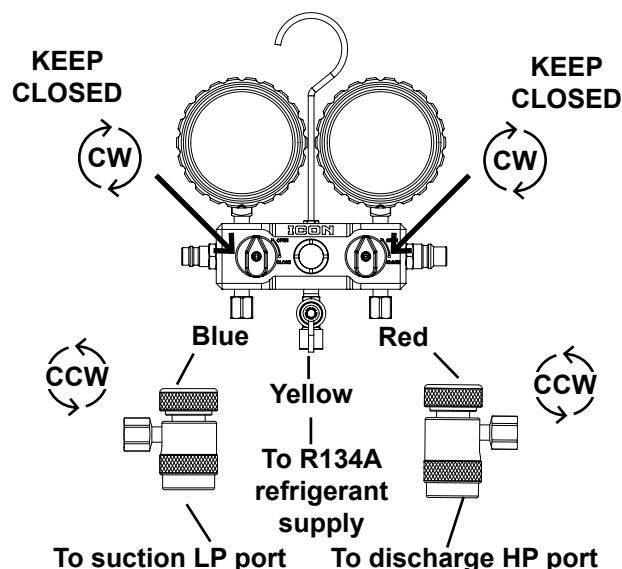
- a. Turn on the vehicle and allow it to come up to normal operating temperature. Then, turn on the A/C system.

- b. Open the Low-Pressure Coupler Valve (36) and High-Pressure Coupler Valve (35) by turning CW. Open the refrigerant supply valve. Slowly open blue/low manifold valve by turning CCW. DO NOT open red/high manifold valve.

5. **AFTER:**

- a. After charging manufacturer recommended amount of R134A, close low/blue manifold valve by turning CW and close refrigerant supply valve.
- b. Turn off vehicle A/C and close both coupler valves by turning CCW.
- c. **Carefully disconnect the Coupler Valves from the A/C system, the hoses may contain residual refrigerant.** Pull back the knurled ring on each Coupler Valve.

TURN VALVES AS SHOWN BEFORE CONNECTING AND AFTER CHARGING



Inspection, Maintenance and Cleaning



Procedures not specifically explained in this manual must be performed only by a qualified technician.

!WARNING

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise, vibration, or leaking air/refrigerant 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 High-Pressure Coupler Valve and the Low-Pressure Coupler Valve to their corresponding Manifold Connectors to prevent contamination.

Parts List

Part	Description	Qty.
1	Ball Valve Manifold Body	1
2	80mm Gauge R134A (High)	1
3	80mm Gauge R134A (Low)	1
4	Gauge Boot (Red)	1
5	Gauge Boot (Blue)	1
6	Hook Assembly	1
6.1	Hook	1
6.2	Hook Screw	1
7	Fitting 1/8" NPT x M12 x 1.5 Female	2
8	T-Fitting 1/8"-27 NPT x 1/2"-16 ACME LH x M12 x 1.5 Female	1
9	Valve Core	1
10	Cap	1
11	Strap	1
12	Gasket	1
13	Washer	1
14	PTFE Seat	4
15	Ball Valve	2
16	Gasket Washer	2
17	Spring	2
18	O-Ring	2
19	O-Ring	2
20	Fitting (High)	1
21	Fitting (Low)	1
22	Sight Glass Fitting	1

Part	Description	Qty.
23	Sight Glass Fitting	1
24	Sight Glass	1
25	O-Ring	1
26	Screw	2
27	O-Ring	4
28	Valve Stem	2
29	O-Ring	2
30	Brass Bonnet	2
31	Manifold Valve (High)	1
32	Manifold Valve (Low)	1
33	Spring Washer	2
34	Screw	2
35	Coupler Valve (High)	1
36	Coupler Valve (Low)	1
37	Red Hose (High) (Not Shown)	1
38	Blue Hose (Low) (Not Shown)	1
39	Yellow Hose (High) (Not Shown)	1
40	Spare Parts: 3 x hose to manifold seal 2 x O-ring - hose to coupler 1 x O-ring - high coupler internal 1 x O-ring - low coupler internal	1

(High) = High-pressure

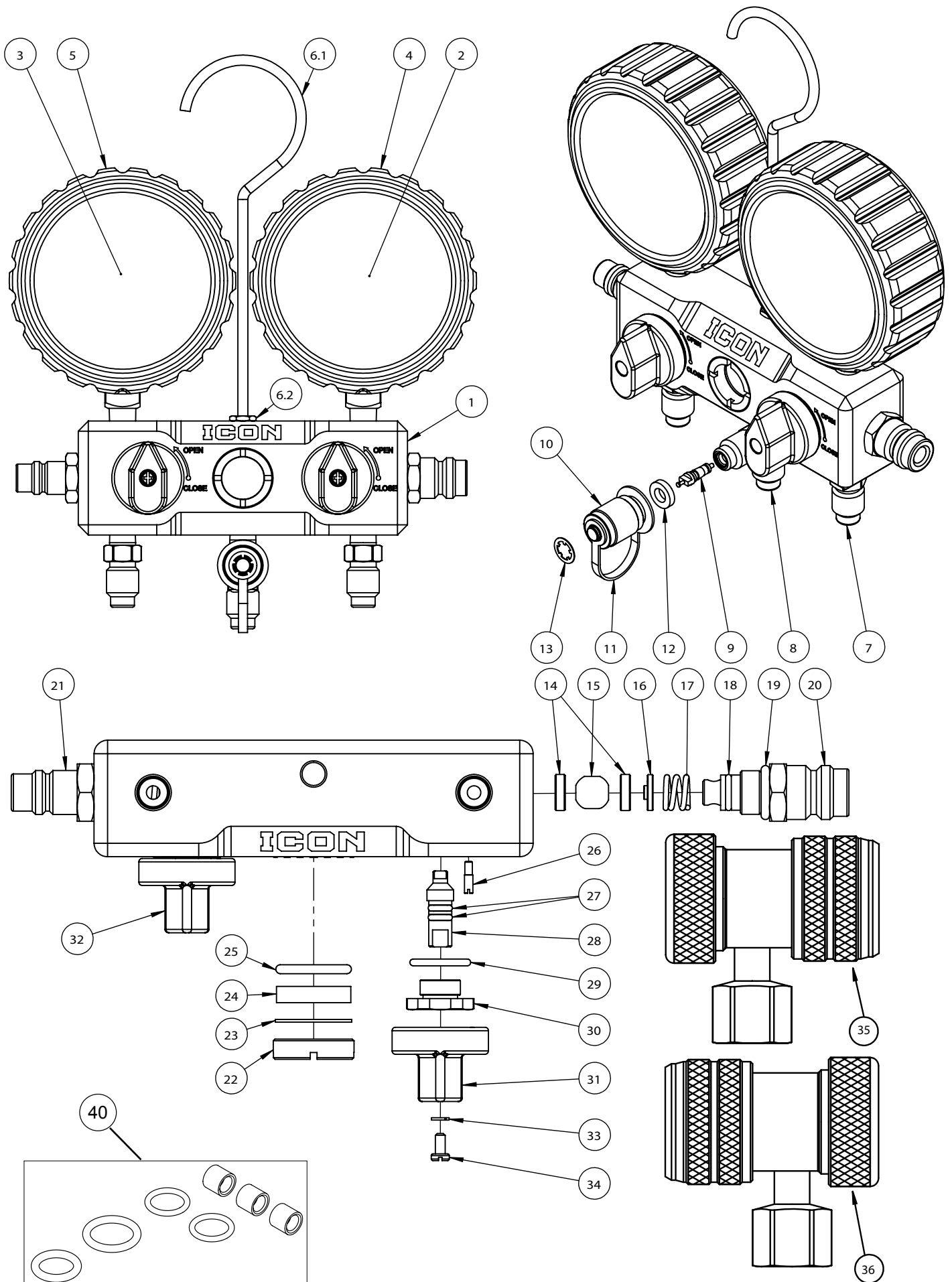
(Low) = Low-pressure

Record Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175433183 when ordering parts.

Assembly Diagram



PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS DOCUMENT AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR 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.

Limited Warranty

This ICON product is warranted to the original purchaser to be free from defects in materials and workmanship for a period of one (1) year beginning on the date of purchase (or product receipt, if later). To obtain warranty service, the product or part must be returned to us with proof of purchase (e.g. in-store receipt or packing slip/invoice) and may require shipment by purchaser to a service center at purchaser's expense. If our inspection verifies a covered defect in materials or workmanship during the warranty period, we will, at our option, repair or replace the defective product. We will return repaired products within a reasonable time at our expense, but if we determine that there is no defect, or that the defect resulted from causes not within the scope of our warranty, then we will return the product to you if you pay return shipping costs.

This warranty does not cover any failure or damage that we determine is due directly or indirectly to normal wear and tear, misuse, use not for the intended purpose or not in accordance with the product manual, abuse, accident, rental, modification or alteration, unauthorized repair, improper installation, neglect, lack of maintenance, or any other failure not arising from defective materials or workmanship. Fraudulent returns or claims will be denied. The repair or replacement described in this warranty shall be your sole and exclusive remedy. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES, WRITTEN OR ORAL, AND ANY IMPLIED WARRANTIES ARE DISCLAIMED TO THE EXTENT PERMITTED BY LAW AND OTHERWISE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. HARBOR FREIGHT SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR ANY INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR COSTS ARISING FROM THIS WARRANTY OR THE USE OF THIS PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THESE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

