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. 23h

ICON™

COOLING SYSTEM FILLER AND TESTER



58001

Visit our website at: http://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 1-888-866-5797 as soon as possible.

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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.

Important Safety Information

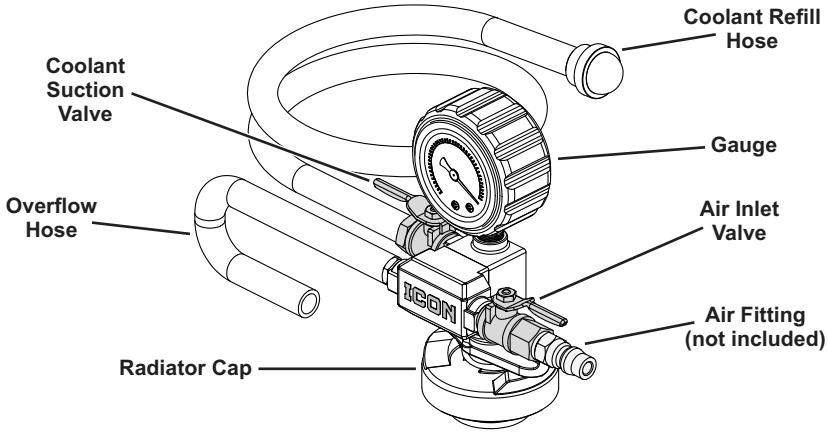
1. **TO PREVENT STEAM BURNS, DO NOT OPEN CAP OF HOT OR WARM RADIATOR.**
2. Loosen the radiator cap slowly.
3. Keep away from hot engine parts and fluids.
4. Use this product only according to these instructions. Improper use can create hazards.
5. Wear ANSI-approved safety goggles and heat resistant work gloves during product assembly and use.
6. Refer to the vehicle's service manual for specific pressurized cooling system testing instructions before use.
7. Clean up coolant spills immediately. Dispose of fluids according to local, state, and federal codes and regulations.
8. Keep work area clean and well lit.
9. Do not exceed 90 PSI maximum air pressure.
10. Do not overreach. Keep proper footing and balance at all times. This enables better control of the product in unexpected situations.
11. Keep bystanders out of the area during assembly and use.
12. Do not assemble or operate when tired or when under the influence of drugs or medication.
13. This product is not a toy. Do not allow children to play with or near this product.
14. Use as intended only.
15. Inspect before every use. Do not use if parts missing or damaged.
16. Maintain product labels and nameplates. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.



SAVE THESE INSTRUCTIONS.

Setup - Before Use

1. Install a 1/4″ NPT air fitting (not included) into the inlet port on the Air Inlet Valve.
2. Connect the Coolant Refill Hose and Overflow Hose to the tool.



3. Empty radiator of coolant and dispose of or recycle old coolant properly.
4. Set the heater controls on the vehicle to the highest heat position to ensure achieving a vacuum on the entire cooling system.

Note: On some vehicles it may be necessary to turn the ignition ON with the engine OFF to open the heater control valves.

5. Loosen the vehicle's radiator or coolant bottle cap slowly to relieve any excess pressure before removing the cap completely. **TO PREVENT STEAM BURNS, DO NOT OPEN CAP OF HOT OR WARM RADIATOR.**
6. The tool's Radiator Cap will connect directly to many older radiator filler necks. If it does not, an adapter is needed. Use a universal radiator adapter that relies on a tight fit or an individual adapter designed for your vehicle's radiator or coolant bottle.
7. Wet the gasket with coolant before installing the adapter on the tool. Align the adapter ears with the opening on the tool's Radiator Cap. Press down on the adapter and rotate until it stops.

Representative adapter example



Adapter installed on tool



Operating Instructions

1. Refer to vehicle's service manual for specific pressurized cooling system testing instructions.
2. Connect tool (with adapter if needed) to radiator or coolant bottle.
3. Close Coolant Suction Valve and Air Inlet Valve, then attach the compressor air line to the air fitting. Compressor must be capable of supplying a constant 90 PSI to the tool.
4. Route the Overflow Hose to a bucket to catch any residual coolant.
5. Route filter end of Coolant Refill Hose down and away from vehicle's electrical components.
6. Make sure Coolant Suction Valve remains closed. Start compressor and open Air Inlet Valve to start drawing a vacuum. The reading on the Gauge should start to rise.

Note: It may be necessary to close off the overflow hose on some radiators or expansion tanks to obtain a vacuum in the cooling system.

7. When Gauge reading stabilizes, continue to draw vacuum for 30 seconds to obtain maximum vacuum, typically -24 to -26 inHg depending on coolant system size.

Note: Radiator and heater hoses may collapse which is normal due to vacuum created.

8. Close Air Inlet Valve and monitor Gauge reading for 1–2 minutes. If vacuum drops, the cooling system has a leak and is not sealed. Disconnect tool and make necessary repairs.
9. Insert filter end of Coolant Refill Hose into a container of premixed coolant.
10. Slowly open Coolant Suction Valve to purge the Refill Hose of air — this will cause a drop in vacuum. Close Coolant Suction Valve once Refill Hose is filled with coolant.
11. Open Air Inlet Valve to increase vacuum back to maximum level in the system. Close Air Inlet Valve once achieved.
12. Open Coolant Suction Valve slowly. The vacuum created will pull coolant into the cooling system. Keep coolant container as close as possible to same height as tool.

Important: Keep Coolant Refill Hose completely submerged in coolant or air will be pulled into the cooling system. If additional coolant is needed, close Coolant Suction Valve and refill container.

13. When Gauge reaches zero, cooling system is full. Disconnect compressor air line from air fitting and remove tool from filler neck.
14. Check coolant level and top off if necessary. Fill expansion tanks to proper level.
15. Store the Cooling System Filler and Tester in its Case in a clean, dry, safe location out of reach of children.

Maintenance and Servicing

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

⚠WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Detach the tool from the vehicle being tested before performing any inspection, maintenance, or cleaning procedures.

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

1. **BEFORE EACH USE,** inspect the general condition of the tool. Check for:
   - loose fittings
   - misalignment or binding of moving parts
   - cracked or broken parts
   - any other condition that may affect its safe operation.
2. **AFTER USE,** clean external surfaces of the tool with clean cloth and flush with clean water. Allow the tool to air dry, then store the Cooling System Filler and Tester in its Case in a clean, dry, safe location out of reach of children.

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.

Parts List and Diagram

Parts List

Part	Description	Qty
1	Storage Case	1
2	Gauge Boot	1
3	Vacuum Gauge	1
4	Coolant Suction Valve	1
5	Hex Socket Head Cap Screw	2
6	Valve Body – Back	1
7	Piston	1
8	Release Valve Spring	1
9	Seal	1
10	Valve Body – Front	1
11	Inner Shaft	1
12	O-Ring	2
13	Barbed Fitting	1
14	Gasket	1

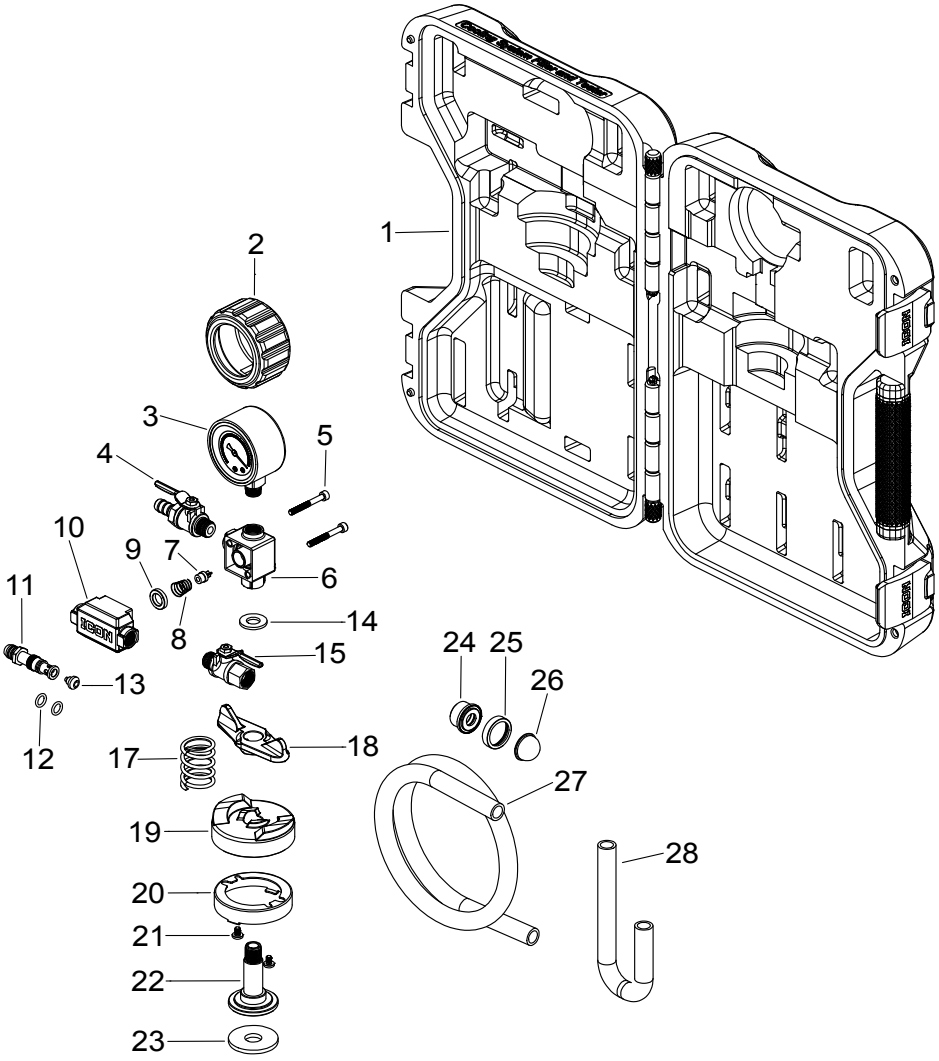
Part	Description	Qty
15	Air Inlet Valve	1
17	Spring	1
18	Radiator Cap Handle	1
19	Radiator Cap	1
20	Radiator Cap Inner Sleeve	1
21	Round Head Screw	2
22	Valve Body Screw	1
23	Washer	1
24	Filter Adaptor	1
25	Attachment Ring	1
26	Filter	1
27	Hose–1500mm	1
28	Hose–1000mm	1

Record Product's 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 193175430618 when ordering parts.

Assembly Diagram



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.

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