



COVER SHEET

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05604	MANUAL OWNER'S SERVICE BCF HP	3/4/98	MS	H

#	NOTES
1	THIS COVERSHEET FOR INFORMATIONAL PURPOSES ONLY - DO NOT PRINT THIS PAGE IN MANUAL.
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OWNER'S SERVICE MANUAL

INSTALLATION, OPERATING & SERVICING INSTRUCTIONS



MANUAL PN 05604

PORTABLE HALON 1211 EXTINGUISHERS

MODELS A344, C352, C354, B355, 361, B369, B371, 372

All fire extinguishers shall be installed, inspected, and maintained in accordance with the National Fire Protection Association standard titled "Portable Fire Extinguishers", NFPA 10, or the National Fire Code of Canada and the requirements of local authorities having jurisdiction.

When maintenance is indicated, it shall be performed by trained persons having proper equipment. Fire extinguishers are pressure vessels and must be treated with respect and handled with care. They are mechanical devices and require periodic maintenance to be sure that they are ready to operate properly and safely. Amerex strongly recommends that the maintenance of portable fire extinguishers be done by a trained professional – your local authorized Amerex Distributor.

Amerex Corporation makes original factory parts available to insure proper maintenance – USE OF SUBSTITUTE PARTS RELEASES AMEREX OF ITS WARRANTY OBLIGATIONS. Amerex parts have machined surfaces and threads that are manufactured to exacting tolerances. All parts meet precise specifications and are subjected to multiple in-house inspections and tests for acceptability. There are substitute parts available which are incorrectly labeled as UL component parts, some are advertised as Amerex type. None of these meet UL requirements, and all of them void the Amerex extinguisher warranty and UL listing. **DO NOT SUBSTITUTE.**

RECHARGE FIRE EXTINGUISHERS IMMEDIATELY AFTER ANY USE

REFERENCES IN THIS MAUNUAL:

NFPA 10 Portable Fire Extinguishers

CGA C-1 Methods for Pressure Testing Compressed Gas Cylinders

CGA C-6 Standard for Visual Inspection of Steel Compressed Gas Cylinders.

National Fire Code of Canada

AVAILABLE FROM:

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471

Compressed Gas Association, 14501 George Carter Way, Chantilly, VA 20151-2923

Compressed Gas Association, 14501 George Carter Way, Chantilly, VA 20151-2923

National Research Council Canada, 1200 Montreal Road, Building M-58 Ottawa, ON K1A 0R6 Canada

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INSPECTING THE EXTINGUISHER

This extinguisher must be inspected at regular intervals (monthly or more often if circumstances dictate) to insure that it is ready for use. Inspection is a "quick check" that a fire extinguisher is available and is in operating condition. It is intended to give reasonable assurance that the fire extinguisher is fully charged. This is done by verifying that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious physical damage or condition to prevent its operation.

PERIODIC INSPECTION PROCEDURES

(Monthly or more often if circumstances dictate)

Periodic inspection of fire extinguishers shall include a check of at least the following items:

1. Located in designated place.
2. No obstruction to access or visibility.
3. Pressure gauge reading or indicator in the operable range or position.
4. Operating instructions on nameplate and facing outward.
5. Tamper seal not broken or missing.
6. Examination for obvious physical damage, corrosion, leakage, or clogged nozzle.
7. Fullness determined by weighing or hefting.

MAINTENANCE

Extinguishers shall be subjected to maintenance at intervals of not more than 1 year, at the time of hydrostatic test or when specifically indicated by an inspection or electronic notification. Maintenance procedures include a thorough examination of the basic elements of a fire extinguisher:

1. Mechanical parts
2. Extinguishing agent or cartridge of cylinder operated extinguishers, pump tanks, and certain types of stored-pressure extinguishers
3. Expelling means

NOTE: Stored pressure halon 1211 extinguishers do not require an internal examination of the cylinder or examination of the agent during annual maintenance but shall receive a thorough external examination.

Maintenance is a thorough examination of the fire extinguisher. It is intended to give maximum assurance that a fire extinguisher will operate effectively and safely. It includes a thorough examination for physical damage or condition to prevent its operation and any necessary repair or replacement. It will normally reveal if hydrostatic testing or internal maintenance is required.

MAINTENANCE – SERVICE PROCEDURE

1. Clean extinguisher to remove dirt, grease, or foreign material. Check to make sure that the instruction nameplate is securely attached and legible. Inspect the cylinders for corrosion, abrasion, dents, or weld damage. If any of these conditions are found and you doubt the integrity of the cylinder, hydrostatically test to factory test pressure, using the proof-pressure method in accordance with CGA C-1 and C-6 and NFPA 10. See proper method of depressurizing and reclaiming Halon 1211 in SIX-YEAR MAINTENANCE/RECHARGE PROCEDURE.

Note: When cleaning, avoid use of solvents around the pressure gauge. They could seriously damage the plastic gauge face.

2. Inspect the extinguisher for damaged, missing, or substitute parts. Only factory-replacement parts are approved for use on Amerex fire extinguishers.

3. Remove and check pull pin for freedom of movement. Replace if bent or if removal appears difficult.
4. Check the date of manufacture printed on the extinguisher label (nameplate). All stored-pressure Halon 1211 extinguishers must be hydrostatically (proof-pressure) tested every 12 years.
5. Visually inspect the pressure gauge:
 - a. If bent, damaged, or improper gauge, depressurize and replace.
 - b. If pressure is low or high and temperature/pressure relationship has been ruled out:
 1. If pressure is low, check for leaks.
 2. If over pressurized (overcharged), depressurize the extinguisher and follow recharge instructions.
6. Inspect discharge lever for any dirt or corrosion, that might impair freedom of movement. Inspect carrying handle for proper installation. If lever, handle, or rivets are damaged, replace with proper Amerex part(s).
7. Check weight of extinguisher, and compare to proper weight specified on extinguisher nameplate. If discrepancy is noted, remove nozzle or hose assembly and follow Complete Maintenance/Recharge Procedure for recharging.
8. Remove nozzle or hose and horn assembly. Inspect nozzle, hose gasket (O-ring), hose, and horn assembly for damage – replace as necessary. Blow air through hose and horn or nozzle to insure passage is clear of foreign material, and replace component parts as necessary.
9. Inspect the valve assembly for corrosion or damage to hose thread connection. Replace valve assembly or component parts as necessary following the proper recovery and recharge procedures. If valve removal is necessary, complete all steps in the Complete Maintenance/Recharge Procedure.
10. Install nozzle or hose and horn assembly.
11. Install new tamper seal, and record service data on the extinguisher inspection tag.
12. Replace the extinguisher on the wall hanger making sure that it fits the bracket properly – replace the bracket if necessary.

COMPLETE MAINTENANCE – SIX-YEAR TEARDOWN

NFPA 10 Every six years, stored-pressure extinguishers shall be emptied and subjected to the applicable maintenance procedures. When the applicable maintenance procedures are performed during periodic recharging, the six-year requirement shall begin from that date.

WARNING:

- a. Before attempting to devalue the extinguisher for Maintenance, Hydrotest, or Recharging, be sure that it is completely depressurized. Halon 1211 generates a vapor pressure of 22 psi at 70°F. **NEVER VENT TO THE ATMOSPHERE.** Recover agent and vapor according to the instructions below.
 - b. Never have any part of your body over the extinguisher while removing the valve assembly.
 - c. Halon 1211 shall not be mixed with even the slightest amount of moisture. Prolonged exposure of a devalved cylinder to ambient air shall be avoided to prevent moisture contamination and cylinder rusting.
1. Complete items 1 through 9 in Maintenance/Service Procedure above.
 2. Attach the appropriate recharge adapter to the extinguisher operating valve. Empty the extinguisher of all pressure and Halon 1211 using a Halon 1211 recovery/recharge system and a bulk Halon 1211 supply cylinder with sufficient empty capacity to accept the contents of the extinguisher.

NOTE: Every effort shall be made to halt unnecessary escape of Halon 1211 to the atmosphere to prevent detrimental environmental effect. High-efficiency Halon 1211 Recovery/Recharge Vacuum Pump Type Systems (UL Standard 2006) are commercially available. The Getz Fire Equipment HR-1L or other UL Approved Recharge/Recovery system assures a minimum of 99% recovery efficiency. It allows a means of checking for and removing moisture or contamination during the recovery process.

3. When the extinguisher is empty of all agent and pressure, remove valve assembly and disassemble by removing downtube, spring, and valve stem assembly. Discard valve stem assembly and collar O-ring.

NOTE: Keep cylinder opening covered while devalved to minimize interior corrosion.

4. Thoroughly clean all parts of the disassembled valve with a soft bristle brush or soft cloth. Blow the valve out with dry nitrogen.
5. Install a new Amerex valve stem assembly after lightly lubricating the valve stem O-ring with V-711 (do not lubricate the valve stem seal). Reassemble the spring and downtube. Carefully install a new collar O-ring, which has been lightly lubricated with V-711. Set the valve assembly aside.
6. Inspect the cylinder interior following CGA Visual Inspection Standard C-6 and current NFPA 10 guidelines. If a hydrotest has been performed or any moisture is evident, the cylinder shall be immediately warm-air dried.
7. Clean the O-ring seating groove in the cylinder neck. If any rust is evident, remove by using a fine emery cloth (200 grit). Clean the surface, and lubricate the entire sealing area with a thin film of V-711. Install the valve assembly in extinguisher cylinder. Hand tighten firmly.
8. Use the Getz HR-1L or other UL Approved Recharge/Recovery system to purge the residual air from the extinguisher cylinder.
9. Stand the extinguisher upright on a scale of sufficient size and capacity. Tare weight extinguisher, or record empty weight.
10. Follow all recharging instructions on Getz HR-1L or other UL Approved Recharge/Recovery system.
11. Remove the recharge adapter. Some residual Halon vapor may remain in the valve outlet as a result of the charging procedure. Before attempting to leak detect, vacuum or blow the vapor away from the areas to be checked. Check extinguisher for leaks at the valve outlet, around the collar seal, cylinder welds, and gauge using a Halogen Leak Detector (Preferred Method). The alternate method is to apply leak detecting fluid or a solution of soapy water to these areas. Use dry nitrogen to blow all liquid residue out of the valve and wipe the extinguisher to dry the exterior. **DO NOT LEAVE ANY LIQUID INSIDE THE VALVE BODY.**
12. Install pull pin, new tamper seal, nozzle, or hose and horn assembly to the extinguisher discharge valve.
13. Weigh extinguisher to confirm that the total weight is within the tolerances indicated in the Maintenance section on the extinguisher nameplate.
14. Record service date, and attach new tag in accordance with the requirements of the "Authority Having Jurisdiction".

TROUBLESHOOTING GUIDE

WARNING: ANY HALON 1211 EXTINGUISHER MUST BE COMPLETELY DEPRESSURIZED BEFORE ANY ATTEMPT IS MADE TO REMOVE THE VALVE AND CORRECT A LEAKAGE PROBLEM.

To depressurize, see instructions in the Complete Maintenance section. Halon 1211 is a liquid under nitrogen pressure. Variations in the temperature may affect gauge readings. The gauge dial has been calibrated to reflect the tested extinguisher temperature extremes (-65°F to +120°F). When in doubt about a gauge reading, place the extinguisher at room temperature (70°F) for several hours to obtain a true reading.

	PROBLEM	CORRECTIVE ACTION
1.	Leak at collar O-ring	Remove valve assembly, remove and discard O-ring, clean collar thoroughly. Install new collar O-ring. Lubricate O-ring with V-711.
2.	Leak through valve	Check valve stem seating area for scratches or foreign matter. Clean seating area with a tooth brush and soft cloth. Install new valve stem assembly.
3.	Leak around gauge	Remove gauge*, clean threads, and reinstall using Teflon tape on the gauge threads.
4.	Defective gauge	Remove defective gauge*, and install a new Halon 1211 gauge using Teflon tape on the gauge threads.
5.	Leak in the cylinder	Contact Amerex if under warranty, otherwise mark "REJECTED" and remove from service or return to owner.
6.	Leak under operating lever during discharge	Replace valve stem assembly.
7.	Gauge indicator high or low in green operable area, no detectable leakage	Extinguisher may have been subjected to extreme heat or cold. Condition the extinguisher to room temperature (70°F) overnight and check gauge reading.
	* Pressure gauge threads are coated with a special epoxy at the factory. For easy removal, soak the valve assembly in hot water (180°F) for two to four minutes. Remove gauge with a thin 7/16" open-end wrench.	

FOR REPLACEMENT PARTS SEE THE AMEREX PORTABLE AND WHEELED PARTS BOOK PN 27277 AVAILABLE AT <http://www.amerex-fire.com> UNDER MANUALS OF THE RESOURCE SELECTION.