



**MAINTENANCE & RECHARGE
SERVICE MANUAL
NO. 05604**

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

When maintenance is indicated, it should 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. O-rings, hoses, nozzles, and all metal parts meet precise specifications and are subjected to multiple in-house inspections and tests for acceptability. There are substitute parts available that are incorrectly labeled as UL component parts, some are advertised as Amerex type. None of these meet UL requirements and all of them voids the Amerex extinguisher warranty and UL listing. DO NOT SUBSTITUTE.

RECHARGE FIRE EXTINGUISHERS IMMEDIATELY AFTER ANY USE

REFERENCES IN THIS MANUAL:
NFPA-10 Portable Fire Extinguishers

CGA C-1 Methods for Hydrostatic Testing of Compressed Gas Cylinders
CGA C-6 Standard for Visual Inspection of Compressed Gas Cylinders

AVAILABLE FROM:
National Fire Protection Association
1 Batterymarch Park, P.O. Box 9101
Quincy, MA 02269-9101

Compressed Gas Association, Inc.
4221 Walney Road, 5th Floor
Chantilly, VA 20151-2923

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AMEREX CORPORATION DOES NOT SERVICE, MAINTAIN OR RECHARGE FIRE EXTINGUISHERS. THIS MANUAL IS PUBLISHED AS A GUIDE TO ASSIST QUALIFIED SERVICE PERSONNEL IN THE INSPECTION, MAINTENANCE AND RECHARGE OF AMEREX FIRE EXTINGUISHERS ONLY. NO INSTRUCTION MANUAL CAN ANTICIPATE ALL POSSIBLE MALFUNCTIONS THAT MAY BE ENCOUNTERED IN THE SERVICE OF FIRE EXTINGUISHERS. DUE TO THE POSSIBILITY THAT PRIOR SERVICE PERFORMED ON THIS EQUIPMENT MAY HAVE BEEN IMPROPERLY DONE, IT IS EXTREMELY IMPORTANT THAT ALL WARNINGS, CAUTIONS AND NOTES IN THIS MANUAL BE CAREFULLY OBSERVED. FAILURE TO HEED THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.

AMEREX ASSUMES NO LIABILITY FOR SERVICE, MAINTENANCE OR RECHARGE OF FIRE EXTINGUISHERS BY PUBLISHING THIS MANUAL.

INSPECTING THE EXTINGUISHER

This extinguisher should 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)

[NFPA-10] Periodic inspection of fire extinguishers shall include a check of at least the following items:

1. Location 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. Safety seals and tamper indicators not broken or missing.
6. Examination for obvious physical damage, corrosion, leakage, or clogged nozzle.
7. Fullness determined by weighing or "hefting"

MAINTENANCE

[NFPA-10] Extinguishers should 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 of cartridge or 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 [NFPA 10] 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 ring (safety) pin for freedom of movement. Replacement 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 which 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 if broken 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 that require a 12 year hydrostatic test shall be emptied and subjected to the applicable maintenance procedures. When the applicable maintenance procedures are performed during periodic recharging or hydrostatic testing, the six year requirement shall begin from that date.

WARNING:

- a. Before attempting to delvalue the extinguisher for Maintenance, Hydrotest or Recharging be sure that it is completely depressurized. Halon 1211 generates a vapor pressure of 22 psi @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 should not be mixed with even the slightest amount of moisture. Prolonged exposure of a devalved cylinder to ambient air should 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 Getz HR-1 (or UL approved equal) Halon Recharge/Recovery system and a bulk Halon supply cylinder with sufficient empty capacity to accept the contents of the extinguisher.

NOTE: Every effort should be made to halt unnecessary escape of Halon 1211 to the atmosphere to prevent detrimental environmental effect. High efficiency Halon 1211 Recharge/Recovery (Vacuum Pump Type) Systems (UL Standard 2006) are commercially available. The Getz HR-1 (UL approved) unit 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 devalued 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 Visilox 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 Visilox 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 should 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 Visilox 711. Install the valve assembly in extinguisher cylinder. Hand tighten firmly.
8. Use the Getz HR-1 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-1 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 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.

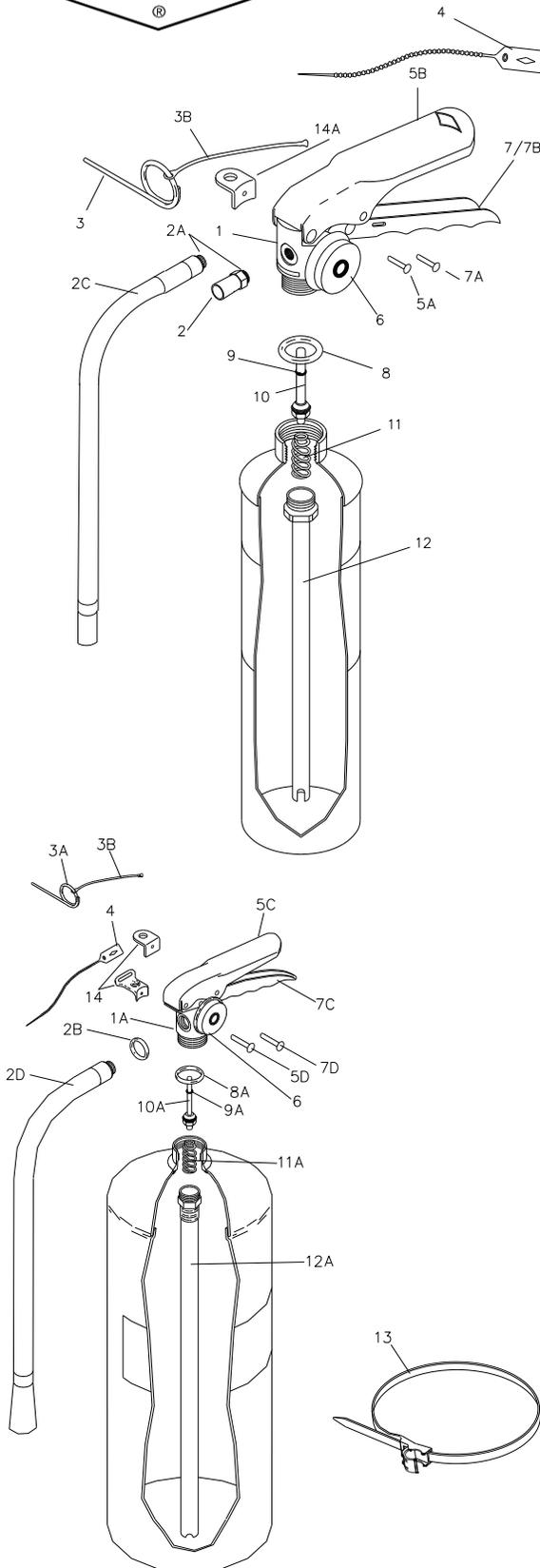
To depressurize, see instructions in the Complete Maintenance section. Halon 1211 is a liquid under nitrogen pressure. Variations in the temperature may affect gauge readings. The gauge dial has been calibrated to reflect the tested extinguisher temperature extremes (-65°F to +120°F). When in doubt about 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 Visilox 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 (see parts list) 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 temperature 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.	



PARTS LIST
for
1-1/4 - 20 lb. Halon 1211
Extinguisher Models

344	354	A355
A344T	A354	B355T
352	A354TS	369
A352	C354	B369
C352TS	355	371
		372



Item No.	Part No.	Description	Std. Pkg.
1	11953	Valve Assembly – ALL ALUMINUM MODELS	1
1A	11954	Valve Assembly – ALL BRASS MODELS	1
2	06066	Nozzle w/O-ring – 344/344T, A344T (.067)	6
	01727	Nozzle w/O-ring – 355T, A/B355T (.144)	
2A	01532	Hose/Nozzle Gasket (O-ring) – Aluminum Valve	24
	06978	Hose Gasket (O-ring)	
2C	06421	Hose & Horn Assembly – 354A, A354A, C354A (.098)	1
2D	05180	Hose & Horn Assembly – 369, B369 (.216)	1
	05178	Hose & Horn Assembly – 371, B371 (.234)	
	05176	Hose & Horn Assembly – 361 (.152)	
	05174	Hose & Horn Assembly – 372 (.177)	
3	01412	Ring Pin	24
	16353	Ring Pin 1 lb, 2-1/2 lb	
3A	00160	Ring Pin, Stainless Steel	24
3B	00532	Chain (Nylon) for Ring Pin	24
4	01387	Lockwire Seal (Yellow)	500
5A	01060	Rivet Only for Lever	24
5B	02625	Lever & Rivet	1
5C	07762	Lever & Rivet – Brass Valve	1
5D	01563	Rivet Only for Lever – Brass Valve	24
	04839	Gauge – 100 PSI – 344/344T, A344T	
6	03105	Gauge – 125 PSI – 352T, A/C352T, C352TS, 355T, A/B355T	6
	03106	Gauge – 195 PSI – 354A, A/C354A, 361, 369, B369, 371, B371, 372	
7	11826	Handle & Rivet – Brass Valve	1
7A	01064	Rivet Only for Handle – Old & "A/B" Valve	24
7B	09001	Handle & Rivet – 344/344T	24
	09002	Handle & Rivet – Old Valve 352T, A354A, 355T	24
7C	09020	Handle & Rivet – Brass Valve	1
7D	01564	Rivets for Handle (2 Required) – Brass Valve	24
8	05241	Collar O-Ring – Aluminum Valve	24
		Collar O-Ring – Aluminum Valve – Bulk Bag	
8A	05240	Collar O-Ring	24
		Collar O-Ring – Bulk Bag	
9	05235	Valve Stem O-Ring	24
9A	05243	Valve Stem O-Ring – Brass Valve	24
10	06092	Valve Stem Assembly – Aluminum Valve	6
		Valve Stem Assembly – Aluminum Valve – Bulk Bag	
10A	06093	Valve Stem Assembly – Brass Valve	6
		Valve Stem Assembly – Brass Valve – Bulk Bag	
11	01074	Spring – All Aluminum Valve	6
11A	00383	Spring – All Brass Valve	6
	06069	Downtube/Retainer Assembly – 344/344T, A344T	
12	01075	Downtube/Retainer Assembly – 352T, 354A, A/C352T, C352TS, A/C354T	1
	06212	Downtube/Retainer Assembly – 355T, A/B355T	
12A	03754	Downtube/Retainer Assembly – 369/B369	1
	02609	Downtube/Retainer Assembly – 371, B371	
13	01667	Downtube/Retainer Assembly – 361, 372	1
	17207	Strap & Clip Assembly (Black Plastic) 3/8" Hose 354, A/C354	
14	14778	Strap & Clip Assembly (Black Plastic) 1/2" Hose 361, 369, B369, 371, B371, 372	6
	15363	Hanger Loop with Screw – B371	
	16694	Hanger Loop with Screw – B369, 361, 372	
14A	14220	Hanger Loop with Screw – Aluminum Valve	6