



A Unit of AMERON GLOBAL, INC.

FIRE EXTINGUISHER & BRACKET – HALON 1211, 2 LBS

50-CUBIC INCH (0,29 LITER)

P/N FX00100-1

**COMPONENT MAINTENANCE MANUAL
USE WITH TECHNICAL PROPERTIES AND
ILLUSTRATED PARTS LIST SUPPLEMENTS**



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PMA PARTS NOTICE

MASS Systems, A Unit of Ameron Global, Inc. will provide full warranty on all fire extinguishers provided the component parts used in the repair and overhaul process have formal after market FAA-PMA authority for use on the fire extinguisher application.



RECORD OF REVISIONS

REV. NO.	ISSUE DATE	DATE FILED	BY
0	Apr 10/09	Apr 10/09	SB

REV. NO.	ISSUE DATE	DATE FILED	BY



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INTRODUCTION

SCOPE

This Component Maintenance Manual covers the maintenance and overhaul procedures for fire extinguisher P/N FX00100-1.

MANUFACTURING ENTITY & PRODUCT SUPPORT

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A Unit of Amerson Global, Inc.	FAX No: 626-337-1641
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Baldwin Park, California 91706	CAGE Code: 0FRR4
U.S.A.	

In addition to our factory Product Support, Overhaul and Recharge stations are available worldwide.

USE MANUAL WITH SUPPLEMENT FOR SPECIFIC PART NUMBERS

This Component Maintenance Manual is written to cover a range of fire extinguishers manufactured by MASS Systems, A Unit of Amerson Global, Inc. All of these fire extinguishers are common in their maintenance and overhaul procedures. A Supplement with the Technical Properties and an Illustrated Parts List related to the specific part number is provided separately and constitutes a part of this manual.

This manual covers all fire extinguishers wherein the discharge outlet disc, filler valve, and/or pressure switch are weld sealed to the container weldment. Some fire extinguishers in this category utilize a pressure gauge that is not welded, but thread sealant sealed to the container weldment.

When requesting copies of this Component Maintenance Manual, always provide the specific part number of the fire extinguisher.

USE MANUAL FOR SPECIFIC FUNCTIONS

This manual covers the following topics: Description and Operation, Testing and Fault Isolation, Disassembly, Cleaning, Check, Assembly and Storage, Special Tools, Fixtures, and Equipment. For the Technical Properties and the Illustrated Parts List refer to the Supplement for the specific part number.

Recommended tools and materials are listed in each section and in the Special Tools, Fixtures, and Equipment section. Equivalent items may be used.



REVISION SERVICE

Revised pages will be issued when necessary throughout the service life of the fire extinguisher. The revised part of the page will be identified with a change bar or capital **R** in the left margin.

ABBREVIATIONS AND UNIT SYMBOLS

Abbreviations and unit symbols used in this manual are defined below.

Amp.	Amperes	Min	Minimum
Assy.	Assembly	mm	Millimeter (1 mm = 0.0394-inch)
ATA	Air Transport Association	m ³ /hr	Cubic meter per hour
CAA	Civil Aviation Authority	N.C.	Normally Closed
CAGE	Commercial and Government Entity	N-m	Newton-meter (1 N-m = 8.3 inch-pound)
cfh	Cubic feet per hour	N.O.	Normally Open
CFR	Code of Federal Regulations	No.	Number
cm	Centimeter (1 cm = 0.394-inch)	OD	Outside Diameter
DOT	Department of Transportation	Psig	Pounds per square inch-gauge
FAA	Federal Aviation Administration	Rev.	Revision
GN ₂	Nitrogen Gas	RJA	Regional Jet Association
ID	Inside Diameter	rpm	Revolutions per minute
IPL	Illustrated Parts List	SB	Service Bulletin
JAA	Joint Aviation Authorities	scc/sec	Standard cubic-centimeter per second
Kg	Kilogram (1 kg = 2.205-pounds)	TCPS	Temperature Compensated Pressure Switch
kPag	Kilo Pascal-gauge (1 kPag = 0.15-psig)	Temp	Temperature
mA	Milliamperes	VDC	Voltage-Direct Current
Max	Maximum		



DESCRIPTION AND OPERATION

PURPOSE

The Aircraft Portable Fire Extinguisher consists of a stainless steel cylinder containing 2 lbs of Halon 1211 extinguishing agent, a valve body, nozzle, handle and lever. The valve body, nozzle, handle and lever are located on the top end of the cylinder assembly as shown in Figure 1. A locking ring pin on handle prevents the fire extinguisher from being accidentally discharged.

The cylinder assembly is filled with Halon 1211 extinguishing agent. The valve body, handle, and discharge lever assembly are attached to the outlet port on the cylinder assembly.

The fire extinguisher is provided without mounting brackets. Mounting brackets are available as separate items, and can be used to attach the fire extinguisher to the aircraft, adjacent to a hazardous area.

Holding the fire extinguisher upright and pull the ring pin. Stand back six (6) feet and aim at base of fire. The extinguishing agent is contained in the cylinder assembly until the discharge lever is manually squeezed, allowing the pressure within the cylinder assembly to force the extinguishing agent out through the valve assembly nozzle. The time of discharge is between 8 to 10 seconds at 70°F temperature.

WARNING: THE FIRE EXTINGUISHERS ARE PRESSURIZED VESSELS. EXTREME CAUTION MUST BE EXERCISED IN THE HANDLING OF THESE FIRE EXTINGUISHERS. SEVERE PERSONNEL INJURIES MAY RESULT IF NOT HANDLED PROPERLY.

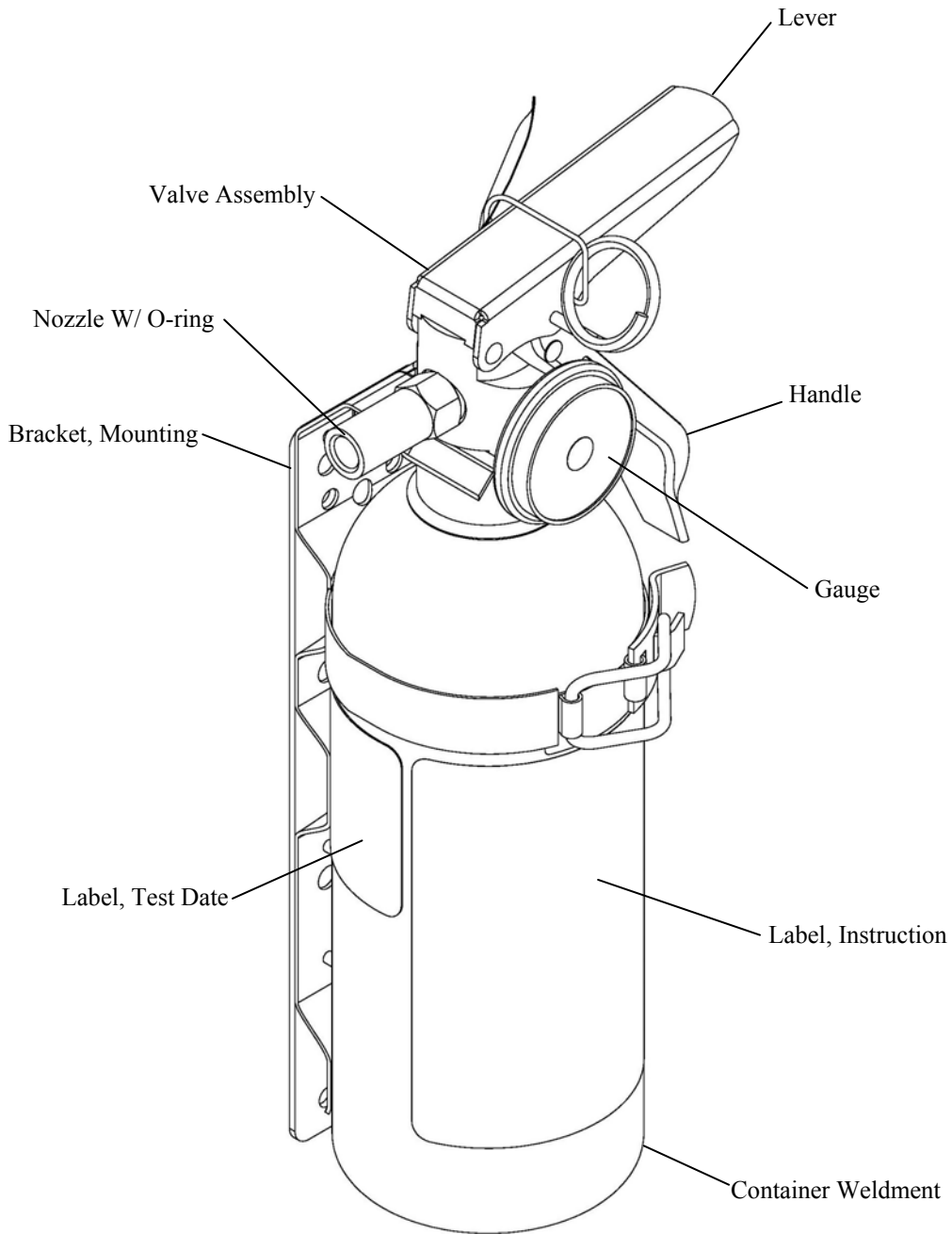
DESCRIPTION AND BREAKDOWN OF PRIMARY COMPONENTS

The fire extinguisher is cylindrical in shape and has the following components. See Figure 1.

- A. Container Weldment
- B. Bracket, Mounting
- C. Valve Assembly
- D. Nozzle W/ O-ring
- E. Extinguishing Agent Bromochlorodifluoromethane (CF₂CIBr) Halon 1211
- F. Nitrogen Gas

CONTAINER WELDMENT

The container weldment is made from 300 series stainless steel alloy.



Primary Components
Figure 1



TECHNICAL PROPERTIES

Table 1

PROPERTY	SPECIFICATION
Description Part Number Nomenclature	FX00100-1 Fire Extinguisher & Bracket-Halon 1211
Functional Properties Internal Volume Extinguishing Agent Pressuring Gas	50-cubic inches (0,82 liter) Bromochlorodifluoromethane (Halon 1211) CF ₂ CIBr Nitrogen (N ₂)
Pressure Data At 70°F (21°C) Charge Pressure Hydrostatic Test Pressure * Leakage Rate	125 to 150-psig (862 to 1034 kPag) 375-psig (11,38 MN/m ²) 1 x 10 ⁻⁵ scc/second maximum
Ambient Temperature Range	-40°F to +120°F (-40°C to +49°C)
Weight Data Extinguishing Agent (full charge) Nitrogen Charge Charged Fire Extinguisher	2.00- to 2.10-pounds (0,91 to 0,95 kg) 0.03-pound (0,01 kg) 2.00-pounds (0,91 kg) nominal
Weight Check Interval Allowable weight deviation – actual weight versus weight marked on identification plate	Once a year is recommended Minus 0.06-pound (0,03 kg)

* The fire extinguisher should be inspected and hydrostatic tested every 5-years.



GENERAL MAINTENANCE AND RECHARGE SERVICE DATA

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. MASS Systems strongly recommends that the maintenance of portable fire extinguishers be done by a trained professional.

MASS Systems/A Unit of Ameron Global Inc. makes original factory parts available to insure proper maintenance – use of substitute parts releases MASS Systems/A Unit of Ameron Global Inc. of its warranty obligations. MASS Systems/A Unit of Ameron Global Inc. parts have machined surfaces and threads that are manufactured to exacting tolerances. O-rings, downtube, nozzles, and all metal parts meet precise specifications and are subjected to multiple in-house inspections and tests for acceptability. DO NOT SUBSTITUTE PARTS.

WARNING: THIS MANUAL IS PUBLISHED AS A GUIDE TO ASSIST SERVICE PERSONNEL IN THE INSPECTION, MAINTENANCE AND RECHARGE OF MASS SYSTEMS/A UNIT OF AMERON GLOBAL INC. FIRE EXTINGUISHERS ONLY. NO INSTRUCTION MANUAL CAN ANTICIPATE ALL POSSIBLE MALFUNCTIONS THAT MAY BE ENCOUNTERED IN THE SERVICE OF FIRE EXTINGUISHERS. MASS SYSTEMS/A UNIT OF AMERON GLOBAL INC. ASSUMES NO LIABILITY FOR SERVICE, MAINTENANCE OR RECHARGE OF FIRE EXTINGUISHERS BY PUBLISHING THIS MANUAL.

REFERENCE DOCUMENTS:

NFPA-10 Portable Fire Extinguishers	National Fire Protection Association 1 Batterymarch Park, P. O, Box 9101 Quincy, MA 02269-9101
CGA C-1 Methods for Hydrostatic Testing of Compressed Gas Association, Inc. Compressed Gas Cylinders	Compressed Gas Association, Inc. 4221 Walney Road, 5th Floor Chantilly, VA 20151-2923
CGA C-6 Standard for Visual Inspection of Compressed Gas Cylinders	



INSPECTION

Extinguishers should be **INSPECTED** when initially placed in service and at regular intervals (monthly or more often if circumstances dictate) to insure they are ready for use. Inspections may be accomplished manually or, in some cases, by electronic monitoring.

INSPECTION [NFPA-10 3.3.10 (2002)] 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 6.2.2 (2002)] 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. Operating instructions on nameplate legible and facing outward.
4. Safety seals and tamper indicators not broken or missing.
5. Fullness determined by weighing or "hefting".
6. Examination for obvious physical damage, corrosion, leakage, or clogged nozzle.
7. Pressure gauge reading or indicator in the operable range or position.
8. Condition of nozzle check.
9. Instruction label in place.



MAINTENANCE

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 by electronic notification. Maintenance procedures include a thorough examination of the basic elements of a fire extinguisher:

1. Mechanical parts.
2. Extinguishing agent of cylinder operated extinguishers.
3. Expelling means.

NOTE: Stored pressure Halon 1211 extinguishers do not require an internal examination of the cylinder nor examination of the agent during annual maintenance, but shall receive a thorough external examination.

Maintenance [NFPA 10 3.3.18 (2002)] 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 label (35), test date label (45), and warning label (40) are securely fastened and legible. Inspect the cylinder 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-6 and NFPA 10. **See proper method of depressurizing and reclaiming Halon 1211 in FIVE-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 MASS Systems/A Unit of Ameron Global Inc. fire extinguishers.
3. Remove and check ring (safety) 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 5 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. low pressure – check for leaks
 2. high pressure (over pressurized or over charged) depressurize and recharge extinguisher following instructions listed below
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 or distorted, replace with proper MASS Systems/A Unit of Ameron Global Inc. part(s).
7. Check weight of extinguisher and compare to proper weight specified on extinguisher nameplate. If discrepancy is noted, remove nozzle (15) assembly and follow COMPLETE MAINTENANCE/RECHARGE PROCEDURE for recharging.
8. Remove nozzle (15). Inspect nozzle o-ring 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 (55) for corrosion or damage to nozzle thread connections. 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.
11. Install new tamper seal (30).
12. Rehang the extinguisher on the wall hanger bracket (5) making sure that it fits the hanger bracket properly – replace the bracket if necessary.



COMPLETE MAINTENANCE (FIVE YEAR MAINTENANCE)/RECHARGE

Every 5 years, stored-pressure fire extinguishers that require a 5 year hydrostatic test shall be emptied and subjected to the applicable maintenance procedures. The removal of agent from Halon agent fire extinguishers shall only be done using a listed Halon closed recovery system. When the applicable maintenance procedures are performed during the periodic recharging or hydrostatic testing, the 5 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 @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,

COMPLETE MAINTENANCE (FIVE YEAR MAINTENANCE)/RECHARGE PROCEDURE

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 STD. 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 extinguisher is empty of all agent and pressure, remove valve assembly and disassemble by removing downtube (59), spring (58) and valve stem assembly (56). **Discard valve stem assembly (56) and collar oring (10).**

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 valve stem assembly (56) after lightly lubricating the valve stem o-ring with Visilox 728 (do not lubricate the valve stem seal). Reassemble the spring and downtube. Carefully install a NEW collar o-ring (10) which has been lightly lubricated with Visilox 728. Set the valve assembly aside.
6. Inspect the cylinder interior following CGA Visual Inspection Standard C-6 and NFPA 10 guidelines [Chapter 7 (2002)]. 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 728. 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. Use Table 401 fill chart record and nitrogen gas temperature versus pressure Table 402 or Table 403.
10. Follow all recharging instructions on Getz HR-1 or other UL Approved Recharge/Recovery system.
11. Weigh the charged fire extinguisher. Enter the weight on the fill chart. The final charged weight should not be entered on the identification plate until the fire extinguisher is leak checked.



Fill Chart Record Table 401

Part Number _____	Serial Number _____
Date of Refill _____	Hydrostatic Test Date _____
Certified By _____	

1. Weight – Empty Fire Extinguisher without Bracket Assembly	_____	Pounds (kgs)
2. Weight – Empty Fire Extinguisher without Bracket Assembly With Charging Fixture Attached	_____	Pounds (kgs)
3. Weight – Charged Fire Extinguisher without Bracket Assembly With Charging Fixture Attached	_____	Pounds (kgs)
4. Weight of Halon Line 3 minus Line 2	_____	Pounds (kgs)
5. Nitrogen Gas Charge Pressure Reference Table 402 (403)	_____	Psig (kPag) °F (°C)
6. Final Charged Weight of Fire Extinguisher	_____	Pounds (kgs)



Temperature Versus Charge Pressure – (PSIG)
Table 402

TEMP °F	PRESSURE – (PSIG)		TEMP °F	PRESSURE (PSIG)	
	MIN	MAX		MIN	MAX
60	119	144	78	135	160
61	119	144	79	136	161
62	120	145	80	137	162
63	121	146	81	138	163
64	122	147	82	139	164
65	123	148	83	140	165
66	124	149	84	141	166
67	124	149	85	142	167
68	125	150	86	143	168
69	126	151	87	144	169
70	127	152	88	145	170
71	128	153	89	146	171
72	129	154	90	147	172
73	130	155	91	149	174
74	131	156	92	150	175
75	132	157	93	151	176
76	133	158	94	152	177
77	134	159	95	153	178



Temperature Versus Charge Pressure – (KPAG)
Table 403

TEMP °C	PRESSURE – (KPAG)		TEMP °C	PRESSURE (KPAG)	
	MIN	MAX		MIN	MAX
15,6	820	993	25,6	931	1103
16,1	820	993	26,1	938	1110
16,7	827	999	26,7	945	1117
17,2	834	1007	27,2	951	1124
17,8	841	1014	27,8	958	1130
18,3	848	1020	28,3	965	1138
18,9	855	1027	28,9	972	1144
19,4	855	1027	29,4	979	1151
20,0	862	1034	30,0	986	1158
20,6	869	1041	30,6	993	1165
21,1	875	1048	31,1	999	1172
21,7	883	1055	31,7	1007	1179
22,2	889	1062	32,2	1014	1186
22,8	896	1069	32,8	1027	1199
23,3	903	1076	33,3	1034	1207
23,9	910	1082	33,9	1041	1213
24,4	917	1089	34,4	1048	1220
25,0	924	1096	35,0	1055	1227

12. 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 the following methods:

PREFERRED METHOD

1. Using a portable halogen leak detector, set the sensitivity to 1×10^{-5} standard cubic centimeter per second and using the probe, leak check the valve outlet, around the collar seal, cylinder welds and gauge.

REQUIREMENT: 1×10^{-5} standard cubic centimeter per second



NOTE: After charging, use an air hose to blow out all areas of the fire extinguisher because the extinguishing agent tends to accumulate in certain areas of the fill valve immediately after charging.

ALTERNATE METHOD:

Alternate method is to apply leak detecting fluid or a solution of soapy water to valve outlet, around the collar seal, cylinder welds and gauge areas. Use dry nitrogen to blow all liquid residue out of the valve and wipe the xtinguisher to dry the exterior. DO NOT LEAVE ANY LIQUID INSIDE THE VALVE BODY.

13. Install nozzle assembly (15) to the extinguisher discharge valve.
14. Weigh extinguisher to confirm that the total weight is within the tolerances indicated in the Maintenance section on the extinguisher nameplate.
15. Record service date on test date label (45) in accordance with the requirements of the "Authority Having Jurisdiction".



TRUBLE SHOOTING 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 (-40°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, clean collar thoroughly and install new collar o-ring. Lubricate o-ring with Visilox V-728.
2	Leak through valve	Install new valve stem assembly. Check valve seat for scratches or foreign matter.
3	Leak around gauge threads	Remove gauge* 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 cylinder	Contact MASS Systems/A Unit of Ameron Global Inc. if under warranty, otherwise mark "REJECTED" and 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.
<p>*Pressure gauge threads are coated with a special epoxy at the factory. For easy removal soak the valve assembly (minus the downtube assembly) in hot water (180° F/82°C) for two to four minutes. Remove gauge with a 7/16" open end wrench.</p>		



ILLUSTRATED PARTS LIST

INTRODUCTION

1. Purpose

This IPL illustrates and lists the spare parts with attaching hardware.

2. Manufacturer Name and Address

CAGE CODE	NAME AND ADDRESS	TELEPHONE FAX
0FRR4	MASS Systems, Inc. 4601 Littlejohn Street Baldwin Park, CA 91706-2285 U.S.A.	626-337-4640 FAX 626-337-1641 service@mass- systems.com



EXPLANATION OF PARTS LIST COLUMN

The Detail Parts List is arranged in general sequence of disassembly. The parts are illustrated in an exploded-view illustration and listed in the related parts list.

FIG. ITEM Column

1. The first number at the top of each FIG. Item column is the figure number of the corresponding illustration. The number given opposite each part number is the item number assigned to the part in the illustration.
2. A dash (-) in front of an item means the part is not illustrated.
3. Alpha-variants A through Z (except I and O) are assigned to item numbers, when necessary to identify:



- Added parts
- Alternate parts
- Service bulletin modified parts

PART NUMBER column

This column contains the manufacturer's part number for each part, as modified to meet the requirements of ATA 200/2000. These modifications can include.

1. Removal of blank spaces and special characters, with the possible exception of dashes. Dashes are permitted only between numeric characters.
2. Insertion of a reference part number compatible with ATA 200 if the manufacturer's part number exceeds 15 characters. In these cases, the manufacturer's part number is listed in the NOMENCLATURE column.

NOMENCLATURE Column

1. This column contains descriptive nomenclature for each part, the manufacturer's CAGE code (if the part is not manufactured or modified by MASS Systems, Inc.), part number (if longer than 15 digits), service bulletins affecting the part, and obsolete part numbers.
2. The indenture system used in the NOMENCLATURE column indicates the relationship of one part to another, as follows:

1 2 3
End Item or Major Assembly
ATTACHING PARTS
Attaching Parts for End Item or Major Assembly
* * *
. Detail Parts for End Item or Major Assembly
. Subassemblies
ATTACHING PARTS
Attaching Parts of Subassemblies
* * *
. . Detail parts for Subassemblies
3. Assemblies, subassemblies, and detail parts subject to modification, deletion, addition, or replacement by an issued Service Bulletin are annotated to indicate both pre- and post-Service Bulletin configurations. The term (PRE SB XXXX) in designates the original configuration, and the term (POST SB XXXX) identifies assemblies and parts after the modification has been completed.
4. The terms listed below are used when applicable to indicate the interchangeability of parts.



<u>TERM</u>	<u>ABBREVIATION</u>	<u>DEFINITION</u>
Optional	OPT	The listed part is optional to and interchangeable with other parts with the same item number variant group or other item numbers if designated.
Superseded By	SUSPD BY	The part is replaced by and is not interchangeable with the item number shown in the notation.
Supersedes	SUPSDS	The part replaces and is not interchangeable with the item number shown in the notation.
Replaced By	REPLD BY	The part is replaced by and interchangeable with the item number shown in the notation.
Replaces	REPLS	The part replaces and is interchangeable with the item number shown in the notation.

EFF CODE Column

This column contains letter codes (A, B, etc.) to indicate the alternate models or configurations of the end item to which the listed parts apply. Where this column has been left blank, the listed parts apply to all models or configurations included in the parts list.

UNITS PER ASSY Column

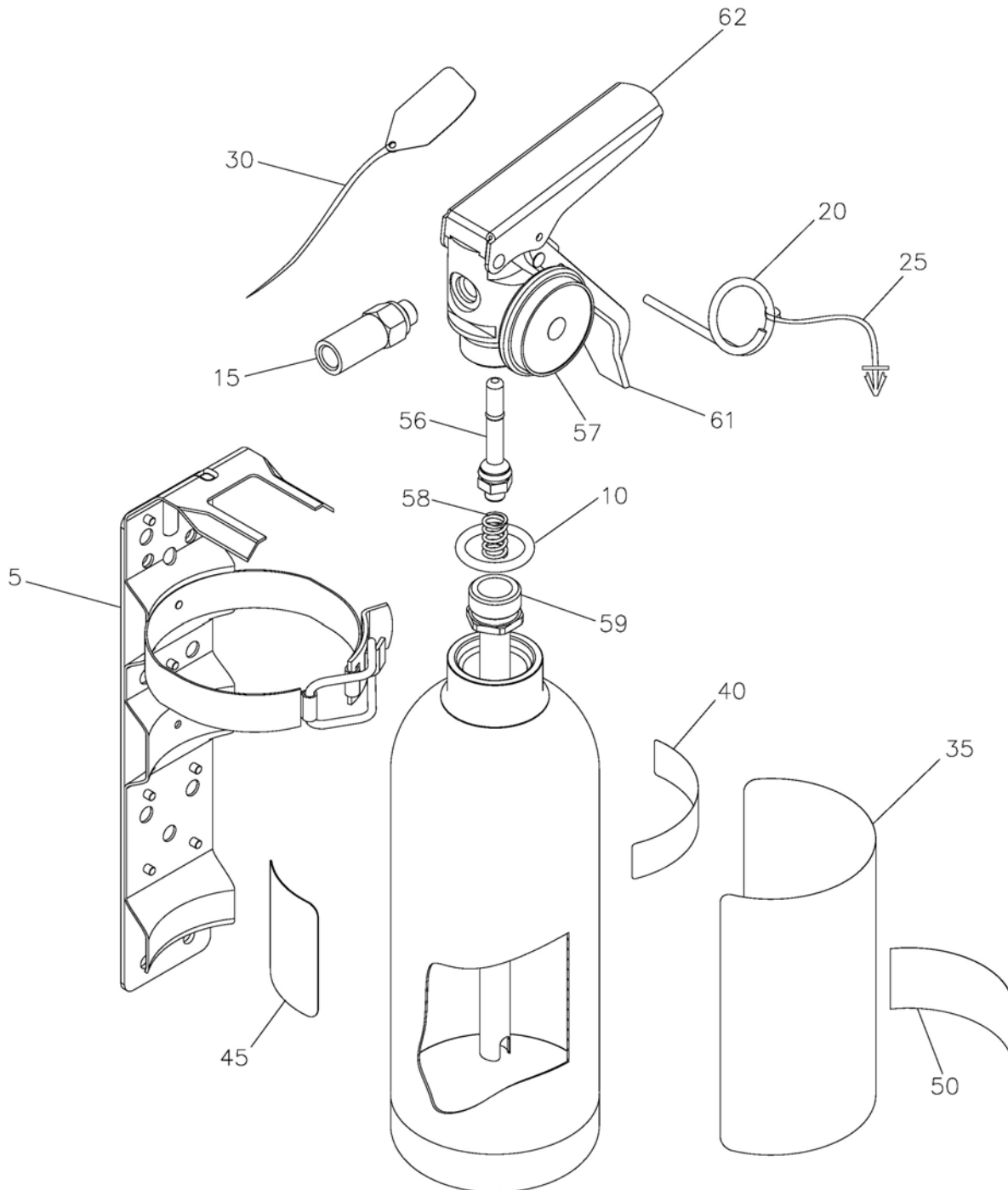
The quantity shown in this column represents the units required for one NHA or, when referring to attaching parts, the quantity to attach one such item. The abbreviation RF (reference) indicates that the end item or assembly is shown completely assembled on the illustration referenced in the NOMENCLATURE column.



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ILLUSTRATED PARTS LIST



IPL FIGURE 1. FIRE EXTINGUISHER EXPLODED VIEW



ILLUSTRATED PARTS LIST

FIG. ITEM NO.	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE							EFF	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-1	FX00100-1		FIRE EXTINGUISHER, 50-CUBIC INCH								RF
5	FX00105-1		. BRACKET ASSEMBLY								1
10	FX00116-1		. O-RING								1
15	FX00103-1		. NOZZLE W/ O-RING								1
20	FX00104-1		. RING PIN								1
25	FX00113-1		. CHAIN, NYLON								1
30	FX00114-1		. LOCKWIRE SEAL								1
35	FX00111-1		. LABEL, INSTRUCTION								1
40	FX00109-1		. LABEL, WARNING								1
45	FX00112-1		. LABEL, TEST DATE								1
50	FX00108-1		. LABEL, CLEAR COVER								1
55	FX00102-1		. VALVE ASSEMBLY, MODIFIED*								1
56	FX00102-2		. . VALVE STEM								1
57	FX00102-3		. . GAUGE								1
58	FX00102-4		. . SPRING								1
59			. . DOWNTUBE (NOT PROCURABLE, ORDER NHA ITEM)								1
61			. . HANDLE (NOT PROCURABLE, ORDER NHA ITEM)								1
62			. . LEVER (NOT PROCURABLE, ORDER NHA ITEM)								1

- ITEM NOT ILLUSTRATED

*THE MODIFIED VALVE ASSEMBLY(55) INCLUDES GAUGE(57), LEVER(62), HANDLE(61), VALVE STEM(56), SPRING(58) AND DOWNTUBE(59).