



A Unit of AMERON GLOBAL, INC.

RESERVOIR ASSEMBLY

EMERGENCY AIR

P/N PR02400-1

LEARJET SPEC. NO. 6600194-8

COMPONENT MAINTENANCE MANUAL

WITH TECHNICAL PROPERTIES AND

ILLUSTRATED PARTS LIST



**MASS SYSTEMS
A UNIT OF AMERON GLOBAL, INC.
COMPONENT MAINTENANCE MANUAL
P/N PR02400-1**

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INTRODUCTION

SCOPE

This Component Maintenance Manual covers the maintenance and overhaul procedures for the emergency air reservoir assembly P/N PR02400-1, Customer P/N 6600194-8. The emergency air reservoir assembly stores pressurized Nitrogen gas.

MANUFACTURING ENTITY & PRODUCT SUPPORT

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

USE MANUAL FOR SPECIFIC FUNCTIONS

This manual covers the following topics: Description and Operation, Technical Properties, Testing and Fault Isolation, Disassembly, Cleaning, Check, Repair, Assembly and Storage, Special Tools, Fixtures, and Equipment.

Recommended tools, equipment, 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 emergency air reservoir assembly. The revised part of the page will be identified with a change bar or capital **R** in the left margin.

VERIFICATION

Testing and Fault Isolation _____
Disassembly _____
Assembly _____



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ABBREVIATIONS AND UNIT SYMBOLS

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

Assy.	Assembly	Min	Minimum
ATA	Air Transport Association	Mm	Millimeter (1 mm = 0.0394-inch)
CAA	Civil Aviation Authority	M ³ /hr	Cubic meter per hour
CAGE	Commercial and Government Entity	N.C.	Normally Closed
Cfh	Cubic feet per hour	N·m	Newton-meter (1 N·m = 8.85 inch-pound)
CFR	Code of Federal Regulations	N.O.	Normally Open
Cm	Centimeter (1 cm = 0.394-inch)	No.	Number
DOT	Department of Transportation	OD	Outside Diameter
FAA	Federal Aviation Administration	Psig	Pounds per square inch-gauge
GN ₂	Nitrogen Gas	Rev.	Revision
ID	Inside Diameter	RJA	Regional Jet Association
IPL	Illustrated Parts List	Rpm	Revolutions per minute
JAA	Joint Aviation Authorities	SB	Service Bulletin
Kg	Kilogram (1 kg = 2.205-pounds)	TCPS	Temperature Compensated Pressure Switch
kPag	Kilo Pascal-gauge (1 kPag = 0.15-psig)	Temp	Temperature
MA	Milliamperere	VDC	Voltage-Direct Current
Max	Maximum		



DESCRIPTION AND OPERATION

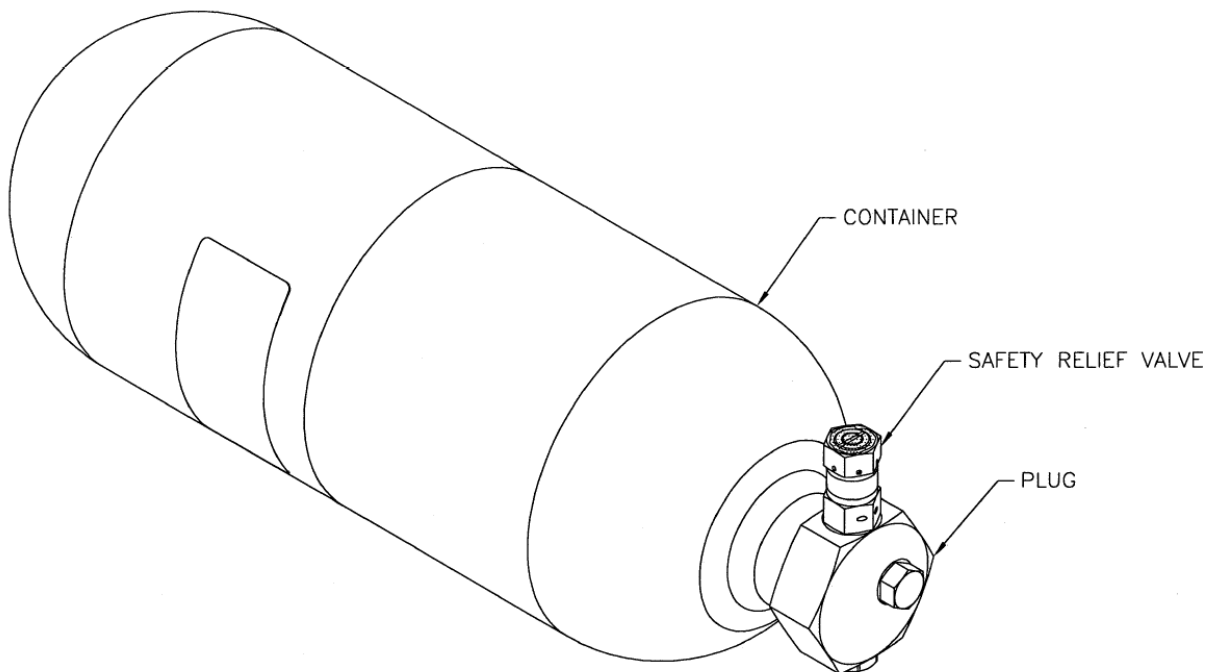
DESCRIPTION

The emergency air reservoir assembly stores pressurized Nitrogen gas and consists of the following components. See Figure 1.

Bottle Weldment (Container)
Safety Relief Valve
Plug Assembly

OPERATION

In an emergency condition the emergency air reservoir assembly bypasses the hydraulic system and the reservoir gas pressure is used to lower the landing gear.



Primary Components
Figure 1



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TECHNICAL PROPERTIES

Table 1

PROPERTY	SPECIFICATION
Description Part Number Customer Part Number Nomenclature Complies with Length, Overall Width, Diameter Over Girth	PR02400-1 6600194-8 Reservoir Assembly, Emergency Air Learjet Specification 6600194 14.51-inches (36,86 cm) maximum 4.61-inches (11,71 cm) maximum (excluding weld)
Properties Internal Volume Weight – Empty Pressurizing Gas	165-cubic inches (2,7 liter) minimum 6.75-pounds (3,06 kg) maximum Nitrogen (N ₂) per BB-N-411C
Pressure Data At 70°F (21°C) Operating Pressure Hydrostatic (Proof) Test Pressure Burst Pressure Safety Relief Pressure Relief Reseat Pressure Leakage Rate	3000-psig (20685 kPag) 4500-psig (31028 kPag) 9000-psig (62055 kPag) minimum 3300- to 3500-psig (22754 to 24133 kPag) 3050-psig (21030 kPag) minimum 5 x 10 ⁻⁷ scc/second of Helium maximum
Ambient Temperature Range	-65°F to +165°F (-54°C to +74°C)
Outlet Port Data Thread Size	MS33649-4 (0.4375-20 UNJF-3A)
Bleed Drain Port Data Thread Size	MS33649-2 (0.3125-24 UNJF-3A)
Hydrostatic (Proof) Test Interval	5-years recommended
Life Limit – None	30,000 cycles minimum



1.0 TESTING AND FAULT ISOLATION

TEST EQUIPMENT AND MATERIALS

The recommended test equipment and materials are listed in Table 101. Equivalent items may be used.

Test Equipment and Materials
Table 101

Nomenclature	Part or Specification Number	Source (CAGE)*
Fill Tool	91200-1	MASS Systems, A Unit of Ameron Global, Inc. (0FRR4)
Fitting, Test	---	Customer supply
Helium Gas (He)	6000-psig (0 to 41370 kPag)	Commercially available
Hydrostatic (Proof) Test Setup	---	DOT approved hydrostatic test facility
Leak Detector, Helium	HLD 3000	Leybold Inficon, Inc. (56507)
Nitrogen Gas (GN ₂) or Dry Air	6000-psig (0 to 41370 kPag)	Commercially available
Oven or Heater, 250°F (121°C)	---	Commercially available

* Refer to the IPL, paragraph 2, for the address.

GENERAL

1. Conduct the testing and fault isolation procedures in a clean, well-lighted area.
2. The testing shall be conducted at temperatures between 59°F to 95°F (15°C to 35°C).
3. The relative humidity shall be 20% to 80 %.
4. The atmospheric pressure shall be 28.5 to 30.5 inches Hg.
5. The bottle weldment (35) shall be checked for cleanliness before and after testing.

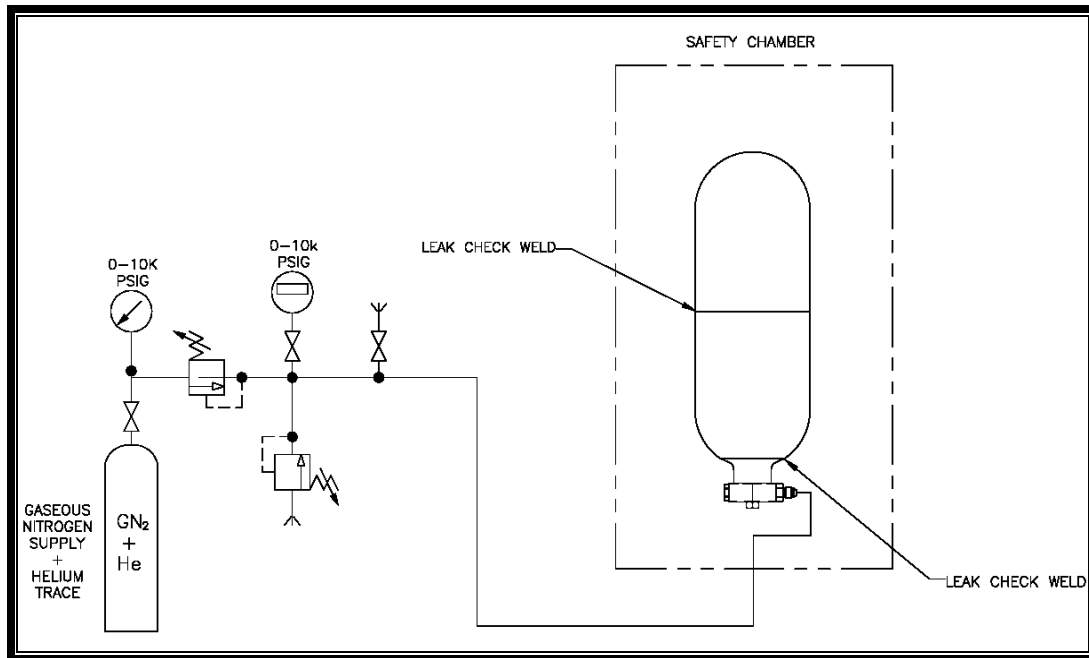
LEAKAGE TEST (See Figure 101)

1. Plug the discharge port using a threaded cap capable of sustaining the required test pressure.
2. Connect the pressure source to the relief valve test fitting or discharge port on the bottle weldment (35).



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3. Slowly pressurize the bottle weldment (35) using 95% Nitrogen gas and 5% Helium gas mixture between 3125- to 3175-psig at 70°F (21547 to 21892 kPag at 21°C).
4. Hold the pressure for a minimum period of one-minute and test for leaks.
5. Verify no leaks are present by using the Helium Leak Detector (Table 101) probe to test all girth welds and weld joints.
6. The leakage rate shall not exceed 5×10^{-7} scc/second of Helium gas.
7. Record the result in the Test Report Table 102.
8. Depressurize and thoroughly clean and dry the interior and exterior of the bottle weldment (35) as necessary, refer to section 4.0 Cleaning.



Leak Test Setup
Figure 101

HYDROSTATIC (PROOF) PRESSURE TEST

Hydrostatic (proof) testing of the bottle weldment (35) in an approved facility is recommended. The approved method of testing is by water jacket volumetric expansion, which uses an internal water pressure (proof pressure) to determine total volumetric expansion. The pressure is then removed and the permanent volumetric expansion of the bottle weldment (35) is determined. The percent of total expansion that is permanent is then calculated to determine if the bottle weldment (35) can be reused or must be replaced.



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Five-years is the recommended interval.

HYDROSTATIC (PROOF) TEST PROCEDURE

1. Use DOT approved hydrostatic (proof) test equipment or a DOT approved outside facility.
2. Verify the hydrostatic (proof) test water jacket calibration dates.
3. Prepare the bottle weldment (35) for hydrostatic (proof) test, as follows:
4. Disassemble the emergency air reservoir assembly (-1) to remove the relief valve (5), plug fitting (10), and plug assembly (20) from the bottle weldment (35).
5. Completely fill the bottle weldment (35) with water. Install a test fitting into the fill boss.
6. Place the filled bottle weldment (35) into the water jacket of the hydrostatic (proof) test equipment and connect to the pressure source through the test fitting in the fill boss.
7. Close the lid to the water jacket and pressurize to seal the lid to the water jacket.
8. Adjust the burette to the reference level.
9. Pressurize the bottle weldment (35) 4500- to 4525-psig (31028 to 31200 kPag) and maintain at this pressure for a minimum of three-minutes.
10. After stabilization read the water level in the burette. This reading is the total expansion of the bottle weldment (35).
11. Depressurize the bottle weldment (35) and record water level in burette. This reading is the permanent expansion of the bottle weldment (35).
12. Calculate and record the permanent volumetric expansion as percentage of total expansion.

$$\frac{\text{Permanent volumetric expansion in cubic centimeters}}{\text{Total volumetric expansion in cubic centimeters}} \times 100 = \text{Percent (\%)}$$

REQUIREMENT: The permanent volumetric expansion must not exceed ten-percent of the total volumetric expansion.

13. Retest if the bottle weldment (35) decreases in size. Repeat the test once if system error is suspected. Replace the bottle weldment (35) if the bottle weldment (35) fails.
14. Remove the bottle weldment (35) from the water jacket.
15. Remove the test fitting, and drain the water from the bottle weldment (35).



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CAUTION: IT IS EXTREMELY IMPORTANT TO COMPLETELY DRY THE BOTTLE WELDMENT (35), ANY WATER LEFT INSIDE DEGRADES PERFORMANCE OF THE BOTTLE WELDMENT (35).

16. Place the bottle weldment (35) in an oven or dryer heated at 225°F to 250°F (107°C to 121°C), until completely dry and all traces of moisture are removed.
17. Inspect the bottle weldment (35) for any signs of damage.
18. Impression stamp the test date and inspection stamp on the bottle weldment (35) boss.

NOTE: Alternate marking method, electro-etch the test date and inspection stamp next to the bottle weldment (35) boss.

FINAL ASSEMBLY LEAKAGE CHECK TEST AND PRESSURE TEST OF RELIEF VALVE (5)

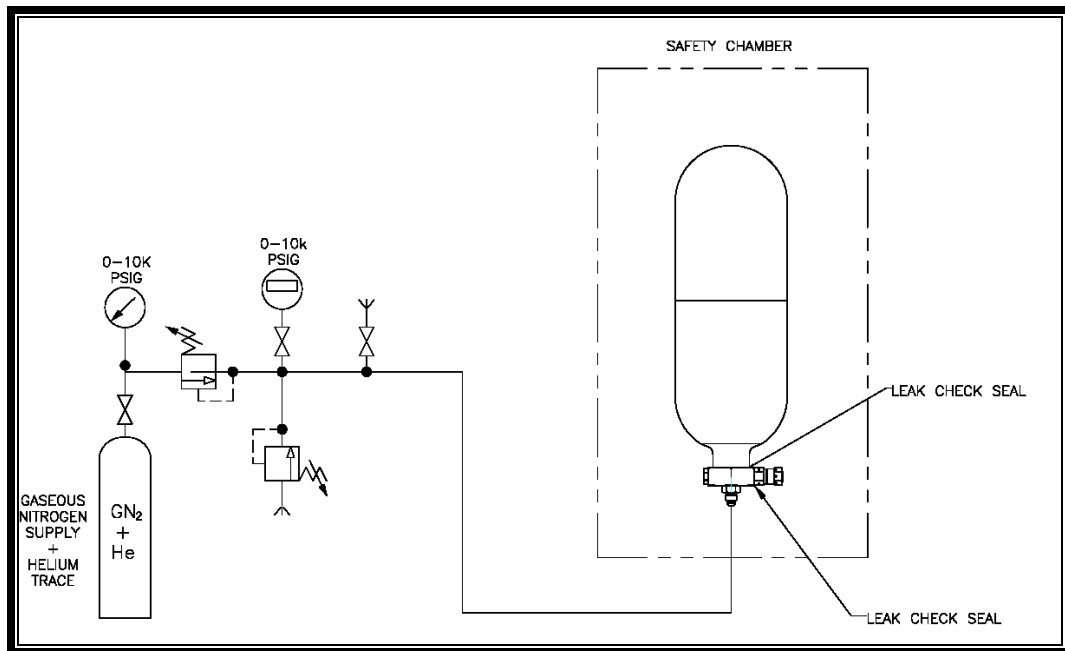
1. See the leak test setup Figure 102 for the emergency air reservoir assembly (-1) and the relief valve (5) tests.
2. Connect the pressure source to the discharge port of the plug assembly (20).
3. Slowly pressurize bottle weldment (35) using 95% Nitrogen gas and 5% Helium gas mixture between 3125- to 3175-psig (21547 to 21892 kPag).
4. Hold the pressure for a minimum period of one-minute and then test for leaks.
5. Verify no leaks are present by using the Helium Leak Detector (Table 101) probe to test all O-ring seals and ports.
6. Leakage rate shall not exceed 5×10^{-7} scc/sec of Helium gas.
7. Record results in the Test Report Table 102.
8. Maintain the 3125- to 3175-psig (21547 to 21892 kPag) pressure in the bottle weldment (35).
9. Set and turn on the Helium Leak Detector (Table 101) and place the leak detector nozzle over and around the relief valve vent holes.
10. Slowly increase the pressure in the bottle weldment (35) using 95% Nitrogen gas and 5% Helium gas mixture until a Helium gas leak is detected at the relief valve. Record the relief pressure (pressure at the first leak) in the Test Report Table 102.
11. While the Helium Leak Detector (Table 101) is still on, slowly decrease the pressure in the bottle weldment (35) until a Helium gas leak is no longer detected (reseat pressure). Record the reseal pressure in the Test Report Table 102.
12. Depressurize and thoroughly clean the exterior of the bottle weldment (35) as necessary, refer to section 4.0 Cleaning.

Optional Leak Check Method (Bubble Check)



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1. Fill a see through glass/cup with alcohol.
2. Turn the emergency air reservoir assembly (-1) so that the relief valve sits comfortably in the cup with alcohol.
3. Slowly increase the pressure in the bottle weldment (35) until a bubble is detected at the relief valve vent holes. Record cracking pressure (pressure at first bubble) in the Test Report Table 102.
4. While the relief valve is still in the see through alcohol cup, slowly decrease the pressure in the bottle weldment (35) until no bubbles are seen exiting the relief valve vent holes (reseat pressure). Record the reseal pressure in the Test Report Table 102.
5. Depressurize and thoroughly clean the exterior of the bottle weldment (35) as necessary, refer to section 4.0 Cleaning.



Leak Test And Relief Valve Test Setup For Emergency Air Reservoir Assembly
Figure 102

FAULT ISOLATION

NOTE: Detailed fault isolation procedures are not required.

1. If excessive leakage is detected during the above Leak Test for the Emergency Air Reservoir Assembly (-1), repair or replace the components, as required.
2. If the increase in permanent volumetric expansion exceeds ten-percent during the Hydrostatic (Proof) Pressure Test, replace the bottle weldment (35).



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Test Report
Table 102

MASS SYSTEMS PART NO.: PR02400-1	DESCRIPTION: Reservoir Assembly – Emergency Air	SERIAL NO.:
CUSTOMER PART NO.: 6600194-8	WORK ORDER NO.:	MFG DATE:
TEST PERFORMED BY:	DATE:	QA APPROVAL: DATE:

DESCRIPTION	LIMITS / SPECS	ACTUAL VALUES	PASS / FAIL	DATE	INSPECTOR APPROVAL
Hydrostatic (Proof) Test of Empty Bottle Weldment (35)	Volumetric Expansion not to exceed 10%	_____	<input type="checkbox"/> P / <input type="checkbox"/> F	_____	
Leakage Check of Bottle Weldment (35)	Leakage not to exceed 5×10^{-7} scc/sec of Helium	scc/sec He _____	<input type="checkbox"/> P / <input type="checkbox"/> F	_____	
Leakage Check of Emergency Air Reservoir Assembly (-1)	Leakage not to exceed 5×10^{-7} scc/sec of Helium	scc/sec He _____	<input type="checkbox"/> P / <input type="checkbox"/> F	_____	
Relief Valve (5) Functional Test	<u>Relief Valve Data:</u> A. Relief Pressure: B. Reseat Pressure: 3300- to 3500-psig (22754 to 24133 kPag) ≥ 3050 psig (21030 kPag)	_____ Psig (kPag) _____ Psig (kPag)	<input type="checkbox"/> P / <input type="checkbox"/> F <input type="checkbox"/> P / <input type="checkbox"/> F	_____ _____	



3.0 DISASSEMBLY

GENERAL

Perform the Testing and Fault Isolation or the Check procedures, as applicable, to determine probable cause of malfunction. Then use the appropriate procedure listed below to remove the component part. Before proceeding with any removal or disassembly, personnel must familiarize themselves with the various components, their locations, and terminology.

DISASSEMBLY TOOLS

The recommended disassembly tools are listed in Table 301. Equivalent items may be used.

Disassembly Tools
Table 301

Nomenclature	Part or Specification Number	Source (CAGE)*
Hand Tools	---	Commercially available

* Refer to the IPL, paragraph 2, for the address.

OUTLET VALVE ASSEMBLY

1. Unthread the relief valve (5) from the plug assembly (20).
2. Unthread the plug fitting (10) from the plug assembly (20), remove the o-ring (15) from the plug fitting (10) and discard.
3. Unthread the plug assembly (20) from the bottle weldment (35), remove the o-ring (25) and discard.



4.0 CLEANING

CLEANING MATERIALS

The recommended cleaning materials and equipment are listed in Table 401. Equivalent items may be used.

Cleaning Materials and Equipment
Table 401

Nomenclature	Part or Specification Number	Source (CAGE)*
Alcohol, Isopropyl	Federal Specification TT-I-735	Commercially available
Cloth, Lint-Free	---	Commercially available
Detergent Solution	---	Commercially available
Light Probe	---	Commercially available
Oven or Heater, 250°F (121°C)	---	Commercially available
Tape	---	Commercially available

* Refer to the IPL, paragraph 2, for the address.

METAL PARTS

WARNING: USE CLEANING SOLVENT IN A WELL-VENTILATED AREA. AVOID PROLONGED INHALATION OF FUMES. KEEP THE CLEANING SOLVENT AWAY FROM OPEN FLAMES.

1. Clean all metal parts, except by wiping parts with a lint-free cloth moistened with a detergent solution.
2. Dry the parts thoroughly using a clean, lint-free cloth.



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BOTTLE WELDMENT (35)

1. Clean the interior of the bottle weldment (35) after removal of the relief valve (5), the plug fitting (10), and the plug assembly (20) as follows:
2. Pour a small amount (1/4-to 1/2-cup) of the detergent solution (Table 401) into the bottle weldment (35).
3. Shake the bottle weldment (35) in a circular motion, and drain into a disposal container.
4. Repeat steps 2 and 3 using isopropyl alcohol (Table 401) until no further contamination is evident in the drained alcohol. Use a light probe; inspect the interior of the bottle weldment (35).
5. Glass bead hone the exterior of the bottle weldment (35), if necessary.
6. Plug and protect the boss threads. Cover the identification plate (30) with tape (Table 401).
7. Glass bead hone the exterior of the bottle weldment (35) (wet or dry glass bead), except the threads of the fill boss.
8. Remove the plug and thoroughly clean the bottle weldment (35).

CAUTION: IT IS EXTREMELY IMPORTANT TO COMPLETELY DRY THE BOTTLE WELDMENT (35), ANY WATER LEFT INSIDE DEGRADES PERFORMANCE OF THE BOTTLE WELDMENT (35).

9. Insert the bottle weldment (35) in an oven or place on a dryer heated (Table 401) at 225°F to 250°F (107°C to 121°C), until completely dry and all traces of moisture are removed.



5.0 CHECK

CHECK TOOLS AND EQUIPMENT

The recommended check tools and equipment are listed in Table 501. Equivalent items may be used.

Check Tools and Equipment
Table 501

Nomenclature	Part or Specification Number	Source (CAGE)*
Light Probe	---	Commercially available

* Refer to the IPL, paragraph 2, for the address.

BOTTLE WELDMENT (35)

1. Inspect the bottle weldment (35) for scratches or dents that could reduce its strength as a pressure vessel. Dents deeper than 0.030-inch per inch (0,76 mm per mm) of average dent diameter, or scratches deeper than 0.005-inch (0,13 mm) or longer than 2-inches (50,8 mm) shall be cause for rejection.
2. Inspect all welded joints, external and internal, for fine cracks, or other irregularities, per CGA C-6.
3. Verify the hydrostatic (proof) test date is within the DOT regulation requirement and the bottle weldment (35) is properly marked with the required DOT data. Refer to the Testing and Fault Isolation section.
4. Check the fill boss for stripped or damaged threads.

RELIEF VALVE (5), PLUG FITTING (10), AND PLUG ASSEMBLY (20)

Check the relief valve (5), the plug fitting (10), and the plug assembly (25) for stripped or damaged threads.



6.0 REPAIR

GENERAL

The repair instructions are limited. Refer to the Disassembly and Assembly sections to replace component parts.

REPAIR TOOLS AND MATERIALS

The recommended repair tools and materials are listed in Table 601. Equivalent items can be used.

Repair Tools and Materials
Table 601

Nomenclature	Part or Specification Number	Source (CAGE)*
Alcohol, Isopropyl	Federal Specification TT-I-735	Commercially available
Cloth, Crocus	P-C-458	Commercially available
Cloth, Lint-Free	---	Commercially available

* Refer to the IPL, paragraph 2, for the address.

WARNING: DO NOT ATTEMPT ANY REPAIRS TO THE RESERVOIR WELDMENT (35)
UNTIL THE HIGH PRESSURE GAS HAS BEEN DISCHARGED.

REPAIRS

1. Replace all the component parts that fail to meet the Check requirements, or the Test requirements, or are damaged beyond minor repair.
2. Repair minor damage to threads, not exceeding one complete thread, by carefully tapping or chasing the thread. If more than one thread is affected, replace the component part.
3. Polish out minor nicks, scratches, and corrosion with a crocus cloth.



7.0 ASSEMBLY (INCLUDING STORAGE)

ASSEMBLY TOOLS AND MATERIALS

The recommended assembly tools and materials are listed in Table 701. Equivalent items may be used.

Assembly Tools and Materials
Table 701

Nomenclature	Part or Specification Number	Source (CAGE)*
Lubricant, Grease	DC55 (SCD SU00357-2)	Dow Corning Corp. (71984)
Wrench, Torque	0 to 50 foot-pounds	Commercially available

* Refer to the IPL, paragraph 2, for the address.

RESERVOIR WELDMENT

1. Apply the lubricant (Table 701) to the threads of the plug assembly (20), the plug fitting (10), and the relief valve (5). Apply the lubricant (Table 701) to the o-rings (15 and 25).
2. Install o-ring (25) onto the plug assembly (20) and thread into the bottle weldment (35). Torque the plug assembly (20) 40 to 45 foot-pounds (54,2 to 61,0 N·m), using torque wrench (Table 701).
3. Install the o-ring (15) onto the plug fitting (10) and thread into the plug assembly (20).
4. Thread the relief valve (5) into the plug assembly (20).



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STORAGE INSTRUCTIONS

The recommended storage materials are given in Table 702. Equivalent items may be used.

**Storage Materials
Table 702**

Nomenclature	Part or Specification Number	Source (CAGE)*
Cardboard Carton	18- x 8- x 8-inch (46 x 20 x 20 cm)	Commercially available
Packing Material	---	Commercially available
Plastic Bag	Suitably sized	Commercially available
Protective Cap	PD-40 (SCD SU00864-3)	Commercially available

1. Install the protective caps on all threaded ports.
2. Place the emergency air reservoir assembly (-1) in a suitable sized storage container. Seal the storage container.
3. Mark the storage container.
 - a. Part number
 - b. Serial number
 - c. Last hydrostatic test date
 - d. Overhaul date
 - e. UN1066
 - f. Class 2.2
 - g. Emergency Air Reservoir Assembly
4. The storage temperature is +40°F to +100°F (+4°C to +38°C).



8.0 FITS AND CLEARANCES

TORQUE LIMITS

The torque limits for the emergency air reservoir assembly are listed in Table 801.

Torque Limits
Table 801

Nomenclature	Torque Range
Plug Assembly (20)	40 to 45 foot-pounds (54,2 to 61,0 N·m)



9.0 SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

Special tools, fixtures, and equipment required for maintenance of the reservoir assembly are listed in Table 901. Equivalent items may be used.

Special Tools, Fixtures, and Equipment
Table 901

Nomenclature	Part or Specification Number	Source (CAGE)*
Alcohol, Isopropyl	Federal Specification TT-I-735	Commercially available
Cardboard Carton	18 x 8 x 8 (46 x 20 x 20 cm)	
Cloth, Crocus	P-C-458	Commercially available
Cloth, Lint-Free	---	Commercially available
Detergent Solution	---	Commercially available
Fill Tool	91200-1	MASS Systems, A Unit of Ameron Global, Inc. (0FRR4)
Fitting, Test	---	Commercially available
Hand Tools	---	Commercially available
Helium Gas (He)	6000-psig (41370 kPag)	Commercially available
Hydrostatic (Proof) Test Setup	---	DOT approved hydrostatic test facility
Leak Detector, Helium	HLD 3000	Leybold Inficon, Inc. (56507)
Light Probe	---	Commercially available
Lubricant, Grease	DC 55 (SCD SU00357-2)	Dow Corning Co. (71984)
Nitrogen Gas (GN ₂)	6000-psig (41370 kPag)	Commercially available
Oven or Heater	250°F (121°C)	Commercially available
Packing Material	---	Commercially available
Plastic Bag	Suitably sized	Commercially available
Protective Cap	PD-4D (SCD SU00864-3)	Commercially available
Tape	---	Commercially available
Wrench, Torque	0 to 50 foot-pounds	Commercially available

* Refer to IPL, paragraph 2, for the address.



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10.0 ILLUSTRATED PARTS LIST

INTRODUCTION

1. Purpose

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

2. Manufacturer Name and Address

<u>Cage Code</u>	<u>Name and Address</u>	<u>Telephone</u> <u>TeleFAX</u>
0FRR4	MASS Systems A Unit of Ameron Global, Inc. 4601 Littlejohn Street Baldwin Park, CA 91706-2285 U.S.A.	626-337-4640 FAX 626-337-1641 service@mass-systems.com
56507	Leybold Inficon, Inc. Two Technology Place East Syracuse, New York 13057-9714 U.S.A.	315-434-1129 FAX 315-437-3803
71984	Dow Corning Corporation 2200 West Salzburg Road P. O. Box 997 Midland, Michigan 48640 U.S.A.	800-248-2481 FAX 517-496-4586

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.



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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), 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.



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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

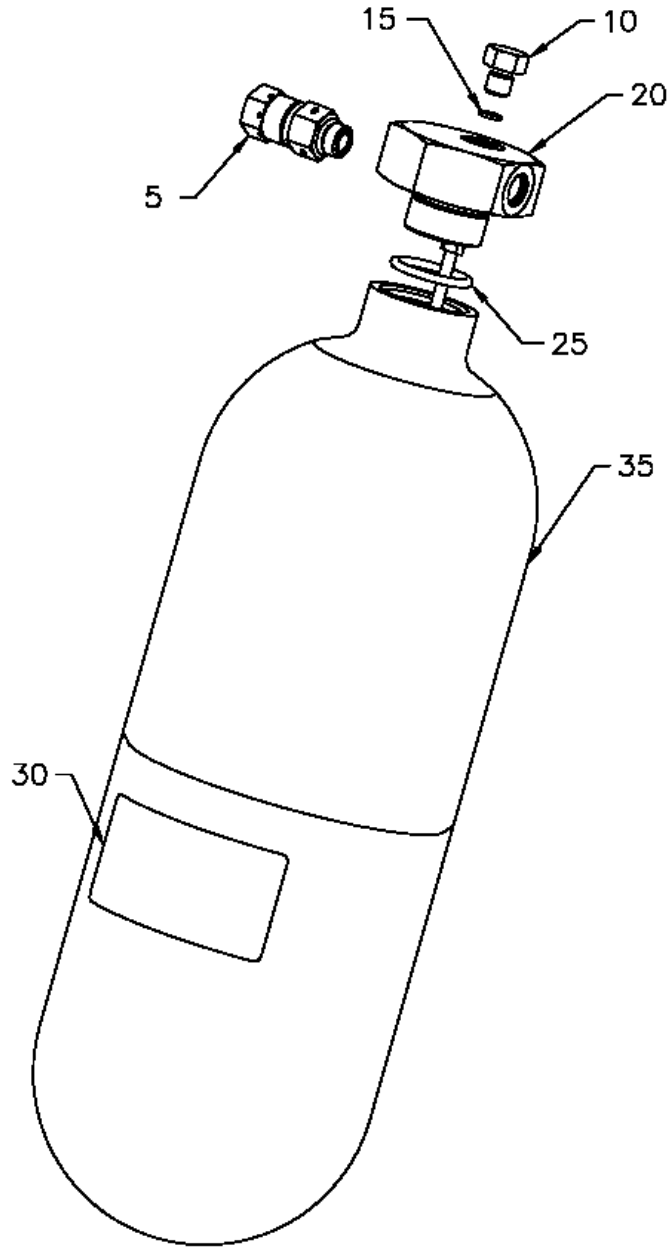
This column contains letter codes (A, B, etc.) to indicate the alternate models or configurations of the end item to which the listed parts apply. Where this column has been left blank, the listed parts apply to all models or configurations included in the parts list.

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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**IPL FIGURE 1. EMERGENCY AIR RESERVOIR ASSEMBLY
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	PR02400-1		RESERVOIR ASSEMBLY, EMERGENCY AIR								RF
5	PR02410-1		. VALVE, RELIEF								1
10	TL00805-3		. FITTING, PLUG								1
15	MS28775-10		. O-RING (SCD SU01251-10)								1
20	PR02415-1		. PLUG ASSEMBLY								1
25	MS28775-119		. O-RING (SCD SU01251-119)								1
30	PR02416-1		. PLATE, IDENTIFICATION								1
35	PR02405-1		. WELDMENT, BOTTLE								1

- Item not illustrated



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