

**TO: HOLDERS OF THE COMPONENT MAINTENANCE MANUAL SUPPLEMENT
27300-1, DATED JUL 30/98 OR LATER.**

REVISION NO. 6 DATED AUG 06/13

HIGHLIGHTS

THIS PUBLICATION HAS BEEN REPRINTED IN ITS ENTIRETY. REPLACE ALL PREVIOUSLY ISSUED COPIES OF SUPPLEMENT 27300-1.

The highlights of the revision are outlined below. The pages have been revised and maintain the format of ATA 100 and the AECMA Simplified English guidelines.

CHAPTER/SECTION & PAGE NO.	DESCRIPTION OF CHANGE	EFFECTIVITY
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Page LEP-1	Updated page revision dates, noted revised header
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Page 1	Corrected Table 1 SI conversions: Was (1,03 kg), is (1,40 kg) Was (2,04 kg), is (2.38 kg) Was (22574 kPag), is (22753 kPag)
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Page RR-1	Recorded new revision date
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FIRE EXTINGUISHER, DUAL OUTLET

60 CUBIC-INCH (0,98 LITER)

P/N 27300-1

**SUPPLEMENT TO
COMPONENT MAINTENANCE MANUAL 26-22-02
TECHNICAL PROPERTIES AND
ILLUSTRATED PARTS LIST**



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SUPPLEMENT 27300-1**

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PMA PARTS NOTICE

MASS Systems, AMETEK Ameron, LLC 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.

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LIST OF EFFECTIVE PAGES

SUBJECT	PAGE	DATE
Title Page	T-1	Apr 25/11
Notices	T-2	Apr 25/11
■ Record of Revisions	RR-1	Aug 6/13
Record of Temporary Revisions	RTR-1	Jun 01/05
Service Bulletin List	SBL-1	Jun 01/05
■ List of Effective Pages	LEP-1	Aug 6/13
■ Technical Properties	1	Aug 6/13
	2	Jul 06/11
Testing and Fault Isolation	101	Apr 25/11
	102	Apr 25/11
Assembly (Including Storage)	701	Feb 20/09
	702	Feb 20/09
Special Tools, Fixtures, and Equipment	901	Apr 25/11
Illustrated Parts List	1001	Feb 20/09
	1002	Jul 06/11
■ Header	All	Aug 6/13

TECHNICAL PROPERTIES

Table 1

PROPERTY	SPECIFICATION
Description Part Number Nomenclature Complies With	27300-1 Fire Extinguisher. Dual Outlet MIL-C-22284 and DOT-SP 10440-1100
Functional Properties Internal Volume Extinguishing Agent Pressurizing Gas	60 cubic-inches (0,98 liter) Bromotrifluoromethane (CBrF ₃) Halon 1301 Nitrogen (N ₂)
Pressure Data At 70°F (21°C) Charge Pressure Hydrostatic Test Pressure * Burst Pressure Leakage Rate Safety Relief	360 to 385 psig (2482 to 2655 kPag) 2200 psig (15169 kPag) 3300 psig (22753 kPag) minimum 1.4 x 10 ⁻⁵ scc/second maximum 255°F to 259°F (124°C to 126°C)
Ambient Temperature Range	-65°F to +245°F (-54°C to +118°C)
Weight Data Empty Fire Extinguisher ** Extinguishing Agent (full charge) Nitrogen Charge Charged Fire Extinguisher **	3.09 pounds (1,40 kg) maximum 2.00 to 2.10 pounds (0,91 to 0,95 kg) 0.06 pound (0,03 kg) 5.25 pounds (2,38 kg) maximum
Allowable weight deviation – actual weight versus weight marked on identification plate Cartridge – Two Outlet Assembly, Standard Outlet Assembly, Bypass	Minus 0.10 pound (0,05 kg) 0.20 pound (0,09 kg) [each 0.10 pound (0,04kg)] 0.16 pound (0,07 kg) 0.29 pound (0,13 kg)

PROPERTY	SPECIFICATION
Cartridge Data, Single Bridgewire Voltage Current Rating – All-Fire No-Fire Test Current Bridgewire Resistance Actuation and Ground Terminal Size Maximum Life (from manufacture date) Classification Torque Lockwire Size	16 to 30 VDC 3.5 amps minimum for 50 milliseconds 1.0 amps or 1.0 watt for 5 minutes 20 milliamps maximum continuous 0.9 to 1.1 Ohm 8-32 UNF 15 years Total (12-years max. service) 1.4s, UN0323 90 to 100 inch-pounds (10,2 to 11,3 N·m) 0.020 inch (0,51 mm)
Temperature Compensated Pressure Switch (TCPS) Data at 70°F (21°C)*** Voltage Rating Current Rating Actuates Closed – Decreasing Pressure Connector Pins Press-To-Test Electrical Connector Electrical Connector Mates With Orientation to Horizontal Centerline	28 VDC nominal 0.5 amps nominal Below 256 psig (1765 kPag) Open between Pins 2 and 3 with pressure Closes between Pins 2 and 3 D38999/20WA35PN D38999/26WA35SN Vertical within ±15 degrees
Outlet Disc Data Burst Pressure Data at 70°F (21°C) ID Flange Length Flange Thickness	2350 to 2650 psig (16203 to 18271 kPag) 0.255 to 0.265 inch (6,48 to 6,73 mm) 0.095 to 0.105 inch (2,41 to 2,67 mm)
Filler With Safety Relief Data Thread Size Torque Lockwire Size	MS33656-4 (0.438-20 UNJF-3A) 110 to 130 inch-pounds (12,4 to 14,7 N·m) 0.020 inch (0,51 mm)
Outlet Fitting Data Thread Size Torque Lockwire Size	MS33656-12 (1.063-12 UNJ-3A) 25 to 30 foot-pounds (33,9 to 40,7 N·m) 0.020 inch (0,51 mm)

<p>* The fire extinguisher hydrostatic test interval is every 5 years. If 5 years have not elapsed, hydrostatic test can be waived Per CFR Title 49, section 180.205.</p>
<p>** Weight includes the discharge outlet valves (Item 20 & 25). Weight does <u>not</u> include the cartridges (Item 5).</p>
<p>*** The TCPS flange shall not be machined under <u>ANY</u> circumstances. Use combinations of shim(s) as necessary to obtain correct alignment.</p>



TESTING AND FAULT ISOLATION

Test the Temperature compensated pressure switch (TCPS) P/N SS00300-1 or 33000-3 using Table 101 to compare temperature versus pressure switch points requirements. Table 101 provides the pressure tolerance band (min. & max) that each TCPS is allowed to switch over from an open circuit to a closed circuit between pins 2 & 3 as pressure is decreasing. The TCPS should output an “open circuit” for pressures above the max. switch point value and a “closed circuit” for pressures below the min. switch point value at the specified temperature.

Press-to-test switch button will not provide a closed circuit between pins 2 & 3 if applied pressure to TCPS is greater than 1.5 times the max. tolerance pressure at the specified temperature.

TCPS Switch Points - Temperature versus Pressure
Table 101

TEMP °F	PRESSURE - PSIG		TEMP °C	PRESSURE KPAG	
	MIN	MAX		MIN	MAX
60	230	280	15,6	1586	1931
62	235	285	16,7	1620	1965
64	240	290	17,8	1655	2000
66	246	296	18,9	1696	2041
68	251	301	20,0	1730	2075
70	256	301	21,1	1765	2110
72	262	312	22,2	1806	2151
74	267	317	23,3	1841	2186
76	273	323	24,4	1883	2227
78	278	328	25,6	1917	2262
80	284	334	26,7	1958	2303
82	290	340	27,8	2000	2344
84	296	346	28,9	2041	2386
86	302	352	30,0	2082	2427
88	308	358	31,1	2124	2468
90	314	364	32,2	2165	2510
92	316	371	33,3	2179	2558
94	318	378	34,4	2193	2606
96	319	384	35,6	2199	2647
98	321	391	36,7	2213	2696
100	322	397	37,8	2220	2737

NOTE: If the measured temperature is not in the table, use the higher temperature listed for the required pressure.



Recommended Test Intervals:

Weight check: The recommended weight check interval for the fire extinguisher should be every 5 years.

Bridgewire check: The recommended bridgewire check interval for the cartridges should be every 3 years.

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ASSEMBLY (INCLUDING STORAGE)

The Nitrogen gas charge pressure for the actual temperature of the fire extinguisher is listed in Table 701 and Table 702.

**Temperature versus Charge Pressure - PSIG
Table 701**

TEMP °F	PRESSURE - PSIG		TEMP °F	PRESSURE PSIG	
	MIN	MAX		MIN	MAX
60	330	355	80	393	418
61	333	358	81	397	422
62	336	361	82	400	425
63	339	364	83	404	429
64	342	367	84	408	433
65	345	370	85	412	437
66	348	373	86	415	440
67	351	376	87	419	444
68	354	379	88	423	448
69	357	382	89	427	452
70	360	385	90	430	455
71	363	388	91	434	459
72	367	392	92	438	463
73	370	395	93	442	467
74	373	398	94	445	470
75	377	402	95	449	474
76	380	405	96	453	478
77	383	408	97	456	481
78	386	411	98	460	485
79	390	415	99	464	489
			100	468	493

Temperature versus Charge Pressure - KPAG
Table 702

TEMP °C	PRESSURE - KPAG		TEMP °C	PRESSURE KPAG	
	MIN	MAX		MIN	MAX
15,6	2275	2448	26,7	2710	2882
16,1	2296	2468	27,2	2737	2910
16,7	2317	2489	27,8	2758	2930
17,2	2337	2510	28,3	2785	2958
17,8	2358	2530	28,9	2813	2985
18,3	2379	2551	29,4	2841	3013
18,9	2399	2572	30,0	2861	3034
19,4	2420	2592	30,6	2889	3061
20,0	2441	2613	31,1	2916	3089
20,6	2461	2634	31,7	2944	3116
21,1	2482	2654	32,2	2965	3137
21,7	2503	2675	32,8	2992	3165
22,2	2530	2703	33,3	3020	3192
22,8	2551	2723	33,9	3047	3220
23,3	2572	2744	34,4	3068	3241
23,9	2599	2772	35,0	3096	3268
24,4	2620	2792	35,6	3123	3296
25,0	2641	2813	36,1	3144	3316
25,6	2661	2834	36,7	3172	3344
26,1	2689	2861	37,2	3199	3372
			37,8	3227	3399

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

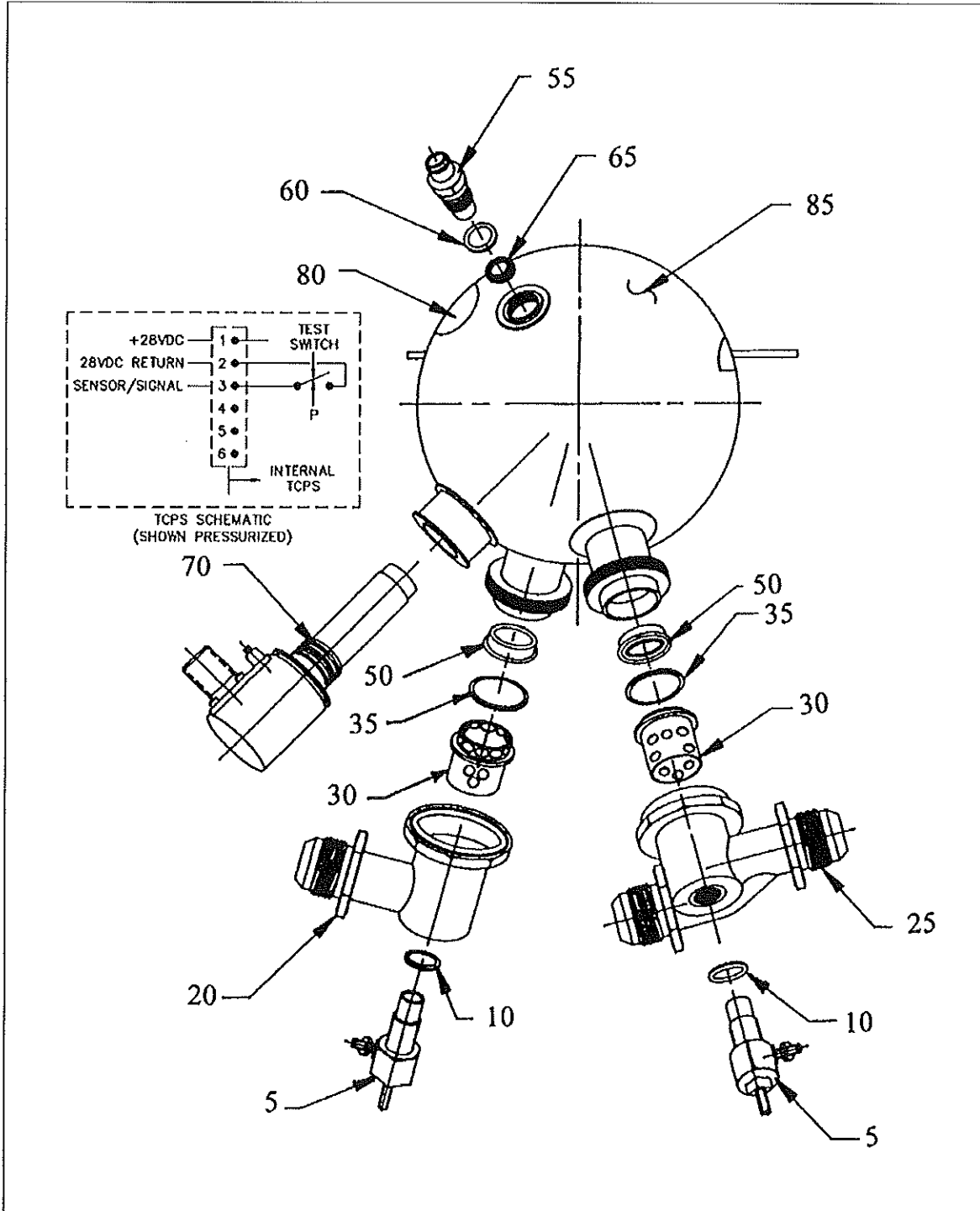
Special tools, fixtures, and test equipment required for maintenance of the fire extinguisher are listed in Table 901. Equivalent items may be substituted.

**Special Tools, Fixtures, and Equipment
Table 901**

NOMENCLATURE	PART OR SPECIFICATION NUMBER	SOURCE (CAGE)
Cap, Hydrostatic Test, Discharge Boss	91021	MASS Systems, AMETEK
Cradle, Fire Extinguisher	91033-1	Ameron, LLC (0FRR4)
Outlet Safety Cap	27319-1	
Resurfacing Tool, Discharge Boss	91044-1, -2	
Safety Chamber, Cartridge	91035-2	
TCPS Test Box	91900-1	
Welding Fixture	91100-1	MASS Systems, AMETEK Ameron, LLC (0FRR4)



ILLUSTRATED PARTS LIST



Fire Extinguisher Exploded View
IPL Figure 1001

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ILLUSTRATED PARTS LIST

**Fire Extinguisher P/N 27300-1
IPL Table 1001**

FIG. ITEM NO.	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE							EFF	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-1	27300-1		FIRE EXTINGUISHER, 60-CUBIC INCH								RF
5	30600-22		. CARTRIDGE								2
10	MS29513-016		. . O-RING (SCD SU01251-16)								2
-15	24626-1		. TAG, CAUTION								2
20	27370-1		. OUTLET ASSEMBLY, STD (BLACK)								1
25	27380-1		. OUTLET ASSEMBLY, BY-PASS (RED)								1
30	22740-1		. . SCREEN WELDMENT (NHA ITEMS 20 AND 25)								2
35	MS29513-023		. . O-RING (SCD SU01251-23) (NHA ITEMS 20 AND 25)								2
40	27310-1		. EXTINGUISHER, CHARGED								1
-45	27319-1		. . CAP, OUTLET SAFETY								2
50	22720-1		. . DISC, OUTLET								2
55	20440-2		. . FILLER WITH SAFETY RELIEF								1
60	MS29513-013		. . O-RING (SCD SU01251-13)								1
65	20432-1		. . SEAL, FILLER (COPPER)								1
70	SS00300-1 OR 33000-3		. . SWITCH, TEMPERATURE COMPENSATED PRESSURE								1
-75	33019-1, -2, -3, -4		. . SHIM(S) (VARIOUS THICKNESSES)								A/R
80	27314-1		. . PLATE, IDENTIFICATION								1
85	27320-1		. . WELDMENT, CONTAINER								1

- Item not illustrated

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