

INCH POUND

MIL-PRF-22885/83E
17 March 2001
SUPERSEDING
MIL-S-22885/83D
27 June 1990

PERFORMANCE SPECIFICATION SHEET

SWITCH, PUSH BUTTON, ILLUMINATED,
(2.330 LONG X .750 SQUARE)

INACTIVE FOR NEW DESIGN
AFTER 27 JUNE 1990

This specification sheet is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the indicator lights described herein shall
consist of this specification sheet and MIL-PRF-22885.

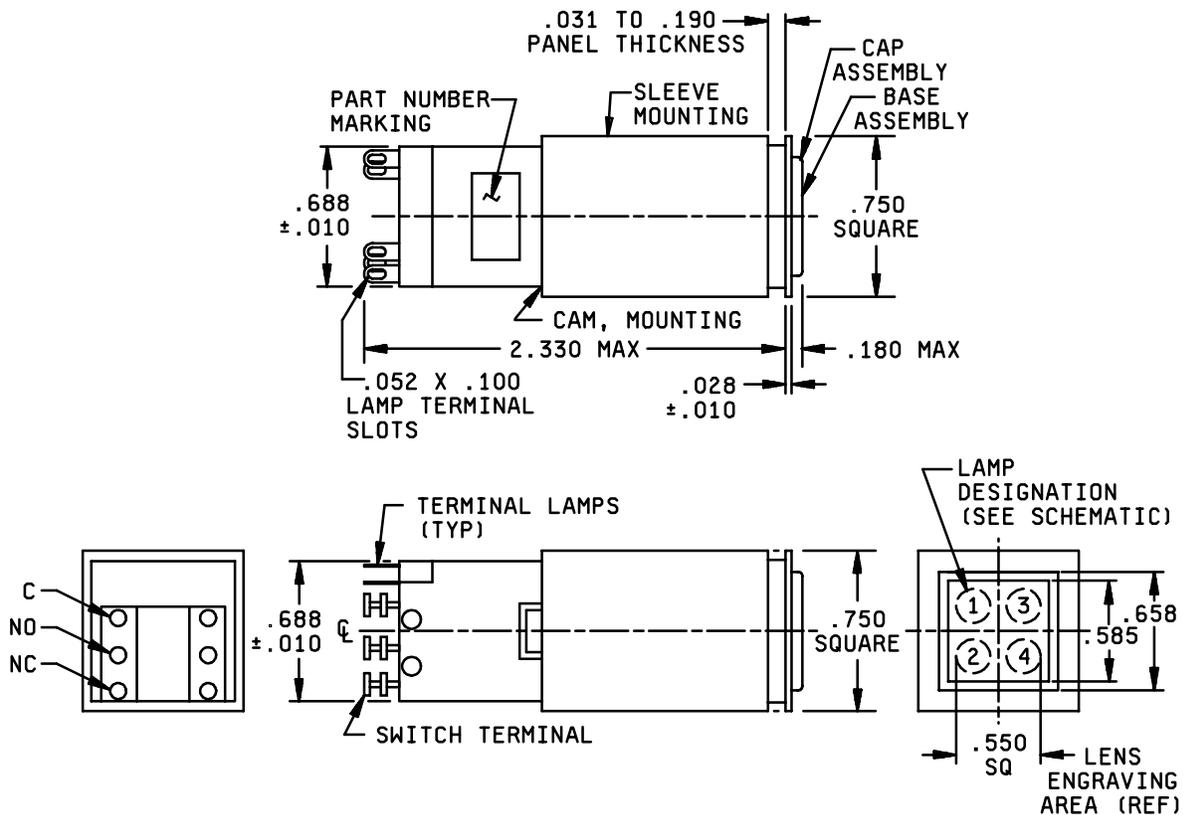
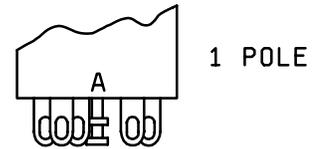
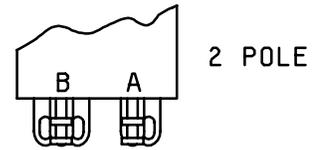
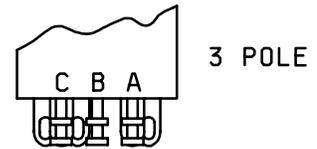
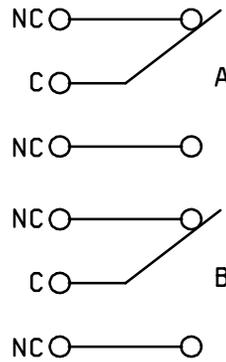
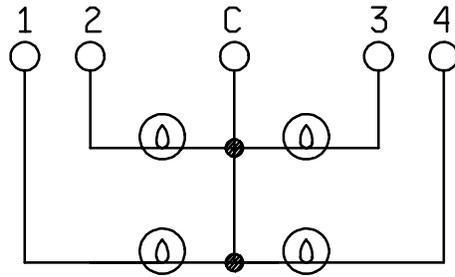


FIGURE 1. Design and construction.

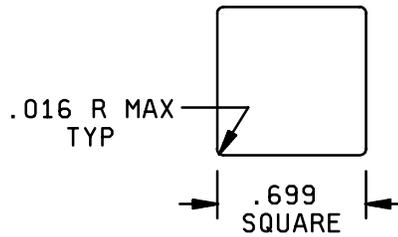
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SCHEMATIC DIAGRAM 2PDT SHOWN

BASIC SWITCH IDENTIFICATION

Inches	mm
.010	0.25
.016	0.41
.028	0.71
.031	0.79
.052	1.32
.100	2.54
.180	4.57
.190	4.83
.550	13.97
.585	14.86
.658	16.71
.688	17.48
.699	17.75
.750	19.05
2.330	59.18



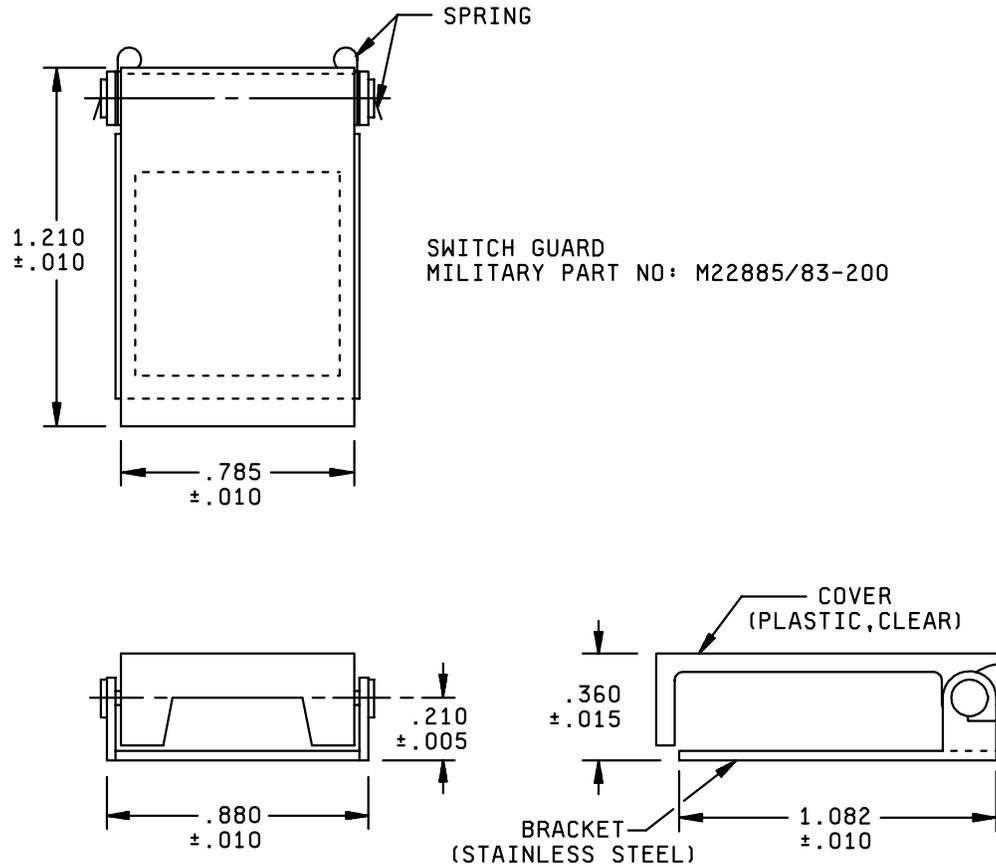
RECOMMENDED MOUNTING PANEL CUTOUT
MOMENTARY OR ALTERNATIVE ACTION

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.005 (.013 mm).
4. All terminals shall be insulated from the case.
5. All terminals and basic switches shall be permanently identified as shown.
6. Basic switch shall be MIL-PRF-8805/4 switch listed on QPL-8805.
7. Cap assemblies shall be held captive to base assemblies by retaining element to prevent accidental interchange.
8. Exact shape of switch optional provided dimensions specified are not exceeded.

FIGURE 1. Design and construction - Continued.

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Inches	mm
.005	0.13
.010	0.25
.015	0.38
.210	5.33
.360	9.14
.785	19.94
.880	22.35
1.082	27.48
1.210	30.73

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. The switch guard prevents movement of the actuating means when the guard is in a closed position. The guard shall be maintained in the closed position by a spring mechanism.

FIGURE 2. Switch guard.

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REQUIREMENTS:

Design and construction: See figure 1.

Complete switch shall consist of:

- 1 - Bas assembly - includes MIL-PRF-8805/4 basic switches and mounting sleeve.
- 1 - Cap assembly - includes necessary color filters and lenses.
- 4 - Lamps - T 1 3/4 midget flange base, incandescent not included, order separately.

Enclosure design: 1 (unsealed)

Temperature characteristic: 1 (-55°C to 85°C).

Vibration grade: 2 (10-500 Hz, 10 g peak).

Color and luminance: See table I.

Display: Translucent white, which when illuminated shows the required color (type W).

Weight: $.080 \pm 1.0$ pound.

Operating characteristics:

Actuating force: 1 to 4 pounds.

Pretravel: 0.225 inch maximum.

Cap assembly extraction force: 2.0 ± 1.0 pounds.

Shock (specified pulse): MIL-STD 202, method 213, test condition H, except 40g.

Electrical ratings: See table II.

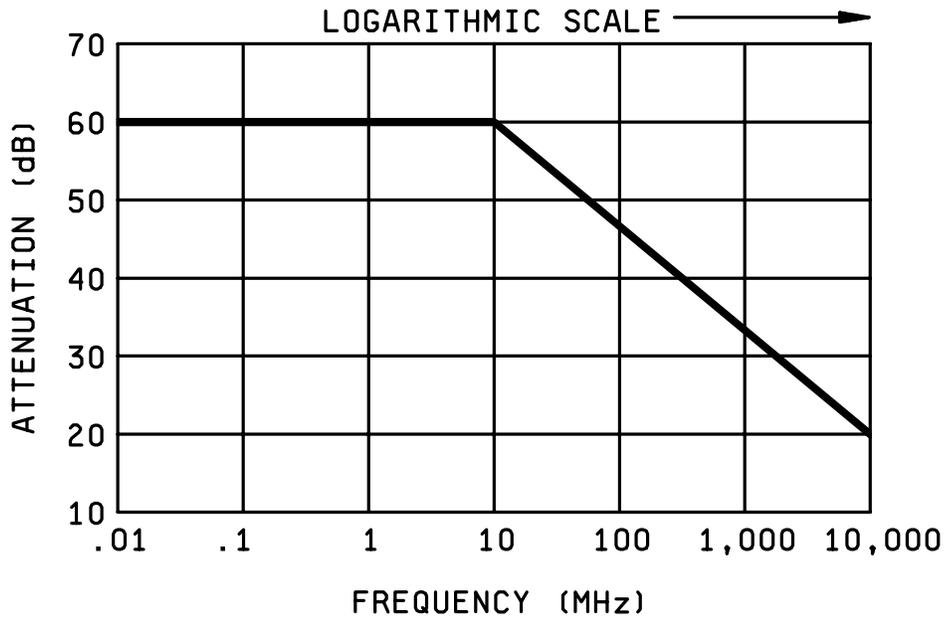
Switch guard: See figure 2.

Legends: See table III.

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EMI/RFI shielding: Cap-lampholder assembly to have screen and contact for RFI shielding. Shielding efficiency test is applicable. The test shall consist of electric field and plane wave measurements performed at the following frequencies. Attenuation shall not be less than specified below.

Electric field	Minimum attenuation	Plane wave	Minimum attenuation
15 kHz	60 dB	100 MHz	47 dB
150 kHz	60 dB	400 MHz	39 dB
500 kHz	60 dB	1 GHz	33 dB
1 MHz	60 dB	2.5 GHz	28 dB
10 MHz	60 dB	10 GHz	20 dB



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TABLE I. Color and luminance.

Chromaticity coordinates 2360°K			Luminance minimum Light output (foot lamberts)
Colors	X	Y	
Red	.695	.285	60
	.703	SL 1/	
	.655	.325	
	.660	SL 1/	
Green	.150	.450	50
	.150	.580	
	.300	.580	
	.300	.450	
Yellow	.562	.415	250
	.570	SL 1/	
	.596	.382	
	.605	SL 1/	
Blue	.200	.260	10
	.120	.222	
	.085	.280	
	.175	.315	
White	.445 Ref.	.425 Ref.	175

1/ SL - Spectrum locus.

TABLE II. Electrical ratings.

Load	Sea level		50,000 feet 28 V dc amperes
	28 V dc amperes	115 V ac (amperes)	
Resistive	7.0	7.0	4.0
Inductive	4.0	7.0	2.5
Lamp	2.5	2.0	2.5

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 TABLE III. Legends.

CLR 1	CLR 2	CLR 3	CLR 4	CLR 5
001	002	003	004	005
CLR 6	CLR 7	CLR 8	CLR 9	CLR 10
006	007	008	009	010
CLR 11	CLR 12	CLR 13	CLR 14	CLR 15
011	012	013	014	015
CLR 16	CLR 17	CLR 18	SEC 1	SEC 2
016	017	018	019	020
SEC 3	SEC 4	SEC 5	SEC 6	SEC 7
021	022	023	024	025
SEC 8	SEC 9	SEC 10	SEC 11	SEC 12
026	027	028	029	030
SEC 13	DA	MAIN ICS	TALK MON	INTPH 1
031	032	033	034	035
INTPH 2	SVCE ICS SNLG	SVCE ICS	CLR SEC	DA1 SEC CLR
036	037	038	039	040
DA2 SEC CLR	DA3 SEC CLR	DA4 SEC CLR	TEST SEC CLR	INTPH ALL CALL
041	042	043	044	045

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 TABLE III. Legends. - Continued.

PA ALERT	PA TALK	START	STOP	RESET	
046	047	048	049	050	
PUSH	PUSH TO RESET	PUSH TO CLEAR	DIR O MNI	MOD 1 DEMOM 2	
051	052	053	054	055	
MOD 3 DEMOM 4	MOD 5 DEMOM 6	LAMP TEST	CPLR TUNE	HF 1 VHF 1	
056	057	058	059	060	
1 2 CONFLICT	HF1 HF2	OVERHEAT	SHUTDOWN	OPEN	
061	062	063	064	065	
OFF	COOLING AIR OFF	R R S E	R R 1 E	R R 2 E	
066	067	068	069	070	
R R 3 E	R R 4 E	R R 5 E	R R 6 E	R R 7 E	
071	072	073	074	075	
R R 8 E	R R 9 E	R R 10 E	R R 11 E		
076	077	078	079		
1 2 3 CON- FLICT	BITE ON FAULT	LOCAL CPS	HF CPS	POWER ON	SAFE NORM
080	081	082	083	084	085
WBSV 9 ERV 2	WBSV 10 ERV 3	GUARD ADF	HF1 HF2	ON OFF	ALERT CALL
086	087	088	089	090	091

NOTE: Character height and type shall be 1/8 inch Gorton extra condensed Gothic. Unless otherwise specified in table VII, legends shall be opaque black letters visible at all times on a white background which when illuminated shows the required color.

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PIN: M22885/83- (dash numbers 07 through 97 from table VII). Dash numbers 01 through 06 and any switches without legends shall be assigned as follows:

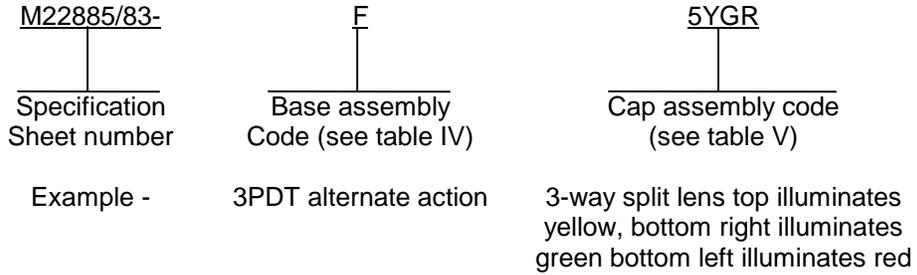


TABLE IV. Base assembly code (circuit and operation).

Code	Circuit	Operation
A	1PDT	Momentary
B	1PDT	Alternate
C	2PDT	Momentary
D	2PDT	Alternate
E	3PDT	Momentary
F	3PDT	Alternate
G	Indicator	----
H ^{1/}	None	----

^{1/} Use code H to specify cap assembly portion of switch only.

TABLE V. Cap assembly code (lens style and color).

Code ^{1/}	Lens style ^{2/}				
1X	1				
2XX	1 2				
3XXX	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%;">1</td> <td style="width: 50%;">2</td> </tr> <tr> <td colspan="2">3</td> </tr> </table>	1	2	3	
1	2				
3					
4XXXX	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%;">1</td> <td style="width: 50%;">2</td> </tr> <tr> <td>3</td> <td>4</td> </tr> </table>	1	2	3	4
1	2				
3	4				
5XXX	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td colspan="2">1</td> </tr> <tr> <td>3</td> <td>2</td> </tr> </table>	1		3	2
1					
3	2				
6 ^{3/}	None				

^{1/} Substitute appropriate color symbol for each "X" in proper sequence.

^{2/} Numbers indicate color symbol sequence for PIN.

^{3/} Use code 6 to specify base assembly portion of switch only.

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Qualification inspection: All applicants for qualification approval shall demonstrate that each of their items conforms to all the requirements specified in the applicable documents singularly and in combination with all other previously qualified items, regardless of manufacturer.

Group submission:

- a. When the basic sensitive switches are qualified to MIL-PRF-8805, switches shall be tested in accordance with table VI.
- b. When the basic sensitive switches are not qualified to MIL-PRF-8805, the switch type for which qualification is sought, shall be submitted to the complete test in accordance with the qualification inspection table of MIL-PRF-22885.
- c. The following applies when the momentary and the alternate action switches are submitted for qualification at the same time.

TABLE VI. Extent of qualification.

Switch	Test of MIL-PRF-22885 qualification inspection table	Extent of approval
M22885/83-F1W (all sample units)	Groups I, II, III, VI, VII, and VIII <u>1/</u> <u>2/</u>	All
M22885/83-E1W (2 sample units)	Group I and vibration and shock	

1/ Cap assemblies containing green, red, blue and yellow filters shall be utilized with M22885/83-FG base assembly for group VIII tests.

2/ Electrical endurance, dc resistive load only.

Group B inspection: Not applicable.

TABLE VII. Dash number and characteristics.

Dash number <u>1/</u>	Legends (see table III code)	Circuit characteristics	Operation	illuminated color
07	001	3PDT	Alternate	Green
08	002	3PDT	Alternate	"
09	003	3PDT	Alternate	"
10	004	3PDT	Alternate	"
11	005	3PDT	Alternate	"
12	006	3PDT	Alternate	"
13	007	3PDT	Alternate	"
14	008	3PDT	Alternate	"
15	009	3PDT	Alternate	"
16	010	3PDT	Alternate	"
17	011	3PDT	Alternate	"
18	012	3PDT	Alternate	"
19	013	3PDT	Alternate	"

See footnotes at end of table.

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Dash number <u>1/</u>	Legends (see table III code)	Circuit characteristics	Operation	illuminated color
20	014	3PDT	Alternate	Green
21	015	3PDT	Alternate	"
22	016	3PDT	Alternate	"
23	017	3PDT	Alternate	"
24	018	3PDT	Alternate	"
25	019	3PDT	Alternate	Red
26	020	3PDT	Alternate	"
27	021	3PDT	Alternate	"
28	022	3PDT	Alternate	"
29	023	3PDT	Alternate	"
30	024	3PDT	Alternate	"
31	025	3PDT	Alternate	"
32	026	3PDT	Alternate	"
33	027	3PDT	Alternate	"
34	028	3PDT	Alternate	"
35	029	3PDT	Alternate	"
36	030	3PDT	Alternate	"
37	031	3PDT	Alternate	"
38	032	3PDT	Alternate	White
39	033	3PDT	Alternate	"
40	034	3PDT	Alternate	"
41	035	3PDT	Alternate	"
42	036	3PDT	Alternate	"
43	037	3PDT	Alternate	"
44	038	3PDT	Alternate	"
45	039	3PDT	Alternate	<u>2/</u>
46	040	3PDT	Alternate	"
47	041	3PDT	Alternate	"
48	042	3PDT	Alternate	"
49	043	3PDT	Alternate	"
50	044	3PDT	Alternate	"
51	045	3PDT	Alternate	White
52	046	3PDT	Momentary	"
53	047	3PDT	Momentary	"
54	048	2PDT	Momentary	Blue <u>3/</u>
55 <u>4/</u>	049	2PDT	Momentary	"
56	050	2PDT	Momentary	"
57 <u>4/</u>	051	1PDT	Momentary	White <u>3/</u>
59	053	1PDT	Momentary	"
60	052	1PDT	Momentary	Yellow
61	054	1PDT	Alternate	Green
65	058	3PDT	Momentary	White
66	059	Indicator	---	"
67	060	Indicator	---	"

See footnotes at end of table.

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Dash number <u>1/</u>	Legends (see table III code)	Circuit characteristics	Operation	illuminated color
68	061	Indicator	---	White
69 <u>5/</u>	048	2PDT	Momentary	---
70 <u>5/</u>	049	2PDT	Momentary	---
71	050	2PDT	Momentary	---
72 <u>5/</u>	053	1PDT	Momentary	---
73 <u>6/</u>	062	1PDT	Momentary	Yellow
78	067	2PDT	Momentary	Red
79 <u>6/</u>	055	2PDT	Momentary	Green
80 <u>6/</u>	056	2PDT	Momentary	Green
81 <u>6/</u>	057	2PDT	Momentary	Green
82 <u>6/</u>	063	1PDT	Momentary	Yellow
83 <u>7/</u>	064	1PDT	Momentary	Red
84 <u>7/</u>	065	Indicator	---	White
85 <u>7/</u>	066	Indicator	---	Yellow
86	068	2PDT	Alternate	<u>8/</u>
87	069	2PDT	Alternate	<u>8/</u>
88	070	2PDT	Alternate	<u>8/</u>
89	071	2PDT	Alternate	<u>8/</u>
90	072	2PDT	Alternate	<u>8/</u>
91	073	2PDT	Alternate	<u>8/</u>
92	074	2PDT	Alternate	<u>8/</u>
93	075	2PDT	Alternate	<u>8/</u>
94	076	2PDT	Alternate	<u>8/</u>
95	077	2PDT	Alternate	<u>8/</u>
96	078	2PDT	Alternate	<u>8/</u>
97	079	2PDT	Alternate	<u>8/</u>
98	080	Indicator	---	White
99	081	2PDT	Alternate	<u>9/</u>
100	082	Indicator	---	White
101	083	Indicator	---	White
102	084	2PDT	Alternate	Green
103	085	2PDT	Alternate	<u>10/</u>
104 <u>6/</u>	086	1PDT	Alternate	Green
105 <u>6/</u>	087	1PDT	Alternate	Green
106 <u>13/</u>	088	2PDT	Alternate	Green
107 <u>13/</u>	089	2PDT	Alternate	Green
108	090	2PDT	Alternate	<u>11/</u>
109	091	2PDT	Momentary	<u>12/</u>

See footnotes on next page.

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- 1/ Dash numbers 01 through 06 (switches without legends) from MIL-PRF-22885/83B have been replaced by A1W through F1W, respectively.
- 2/ Areas marked CLR will illuminate green when activated.
Areas marked SEC will illuminate red when activated.
All other areas will illuminate with when activated.
- 3/ Visible letters on a black opaque background. Letters show color when illuminated.
- 4/ These dash numbers are for switches with switch guards.
- 5/ These dash numbers are for nonilluminated switches (lamp terminals are not supplied).
- 6/ Terminal C is common for lamps 2 and 3 and terminal D is common for lamps 1 and 4.
- 7/ Luminance value is 15 ± 5 foot lamberts.
- 8/ Areas marked R will illuminate green when activated. Areas marked E will illuminate yellow when activated. All other areas will illuminate white when activated.
- 9/ Area marked 'BITE ON' illuminates white when activated. Area marked 'FAULT' illuminates red when activated.
- 10/ Hidden legend on black opaque background. Letters show color when illuminated. 'SAFE' illuminates yellow when activated. 'NORM' illuminates green when activated.
- 11/ Area marked 'ON' illuminates green when activated. Area marked 'OFF' illuminates white when activated.
- 12/ Area marked 'ALERT' illuminates yellow when activated. Area marked 'CALL' illuminates white when activated.
- 13/ Shall be 150 foot lamberts luminance minimum and shall be readable in 10,000 foot candles ambient.
Hidden legend on black opaque background.

Custodians:
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5930-1131)