

REVISIONS

REV.	DESCRIPTION	DATE	APPROVAL
1.0	REL PER ER-40572		

Notes:

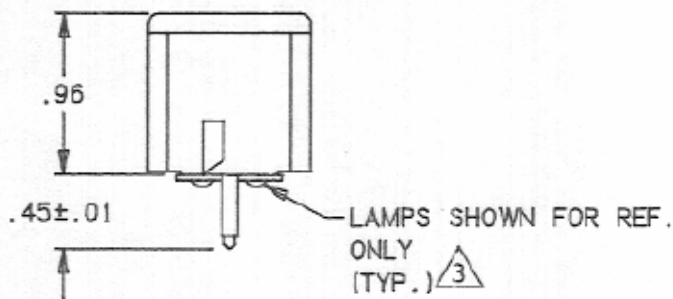
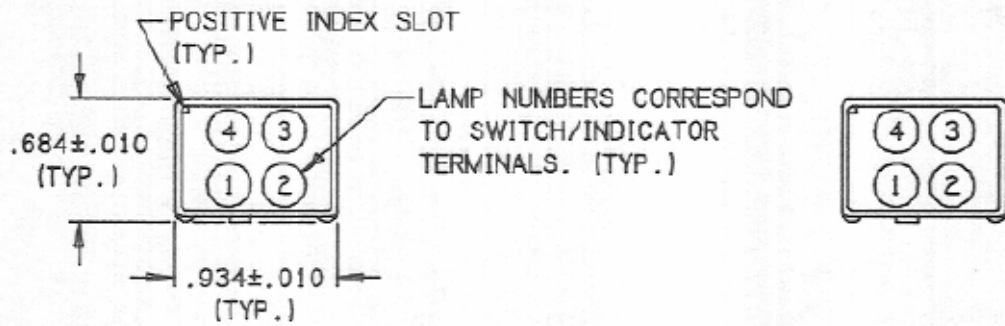
- 1. Models T, J, U, & L pushbutton mates with switch/indicator model 40R (A, B & I) and model 40MR (A, B, D, & I).
- 2. Models W & Y pushbutton mates with 40R (E) and model 40MR (E) switch modules.
- 3. Will Accept four MS25237 (T-1-3/4) lamps (not furnished).
- 4. Split lamp ground (SLG) feature and captive pushbutton feature not available on same pushbutton.

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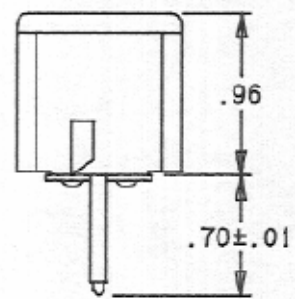


1139 Baker Street, Costa Mesa, CA 92626
 Phone: (714) 549-3041
 Fax: (714) 549-0930

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS ANGLES .XX ± ± .XXX ±		APPROVALS	DATE	TITLE			
MATERIAL N/A		DRAWN Tony Hana	4-3-08	PUSHBUTTON, RECTANGULAR-ILLUMINATED 4 LAMP			
FINISH N/A		CHECKED		SIZE A	CAGE CODE 12522	DWG NO. SERIES 40R CODED	REV 1.0
DO NOT SCALE DRAWING		PROJ. ENG.		SCALE NONE			SHEET 1 OF 14
		MGMT.					



STANDARD PUSHBUTTON $\triangle 1$
 MODELS T, U, J AND L



LATCHDOWN PUSHBUTTON $\triangle 2$
 MODELS W AND Y

	MODEL	DESCRIPTION
MATRIX AND INDIVIDUAL MOUNT USE WITH SWITCH ACTION A, B & I	T	COMMON LAMP GROUND SWITCH ACTION
	J	SPLIT LAMP GROUND $\triangle 4$
MATRIX AND INDIVIDUAL MOUNT, RFI SWITCH ACTION A, B & I	U	COMMON GROUND RFI SHIELDED
	L	SPLIT LAMP GROUND RFI SHIELDED $\triangle 4$
MATRIX AND INDIVIDUAL MOUNT LATCHDOWN SWITCH ACTION E	W	COMMON LAMP GROUND
	Y	SPLIT LAMP GROUND WITH RFI SHIELD

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12522	SERIES 40R CODED	1.0	2

LEGEND DISPLAY OPTIONS

TYPE	NON-ILLUMINATED		ILLUMINATED	
	LEGEND	BACKGROUND	LEGEND	BACKGROUND
1.	BLACK	TRANSLUCENT COLOR	BLACK	COLOR
2.	NOT EASILY DISCERNIBLE	TRANSLUCENT WHITE	BLACK	COLOR
3.	TRANSLUCENT COLOR	BLACK	VISIBLE IN COLOR	BLACK
4.	NOT EASILY DISCERNIBLE	APPEARS TRANSLUCENT WHITE	VISIBLE IN COLOR	OPAQUE
5.	BLACK FILLED ENGRAVING ON EXTERNAL SURFACE	TRANSLUCENT WHITE FACE PLATE	BLACK	COLOR
6.	TRANSLUCENT WHITE	BLACK	VISIBLE IN COLOR	BLACK
7.	WHITE FILLED ENGRAVING ON EXTERNAL SURFACE	MATTE BLACK FACE PLATE	VISIBLE IN COLOR	BLACK
8.	BLACK	TRANSLUCENT WHITE	BLACK	COLOR

NOMINAL LUMINANCE VALUES FOR STANDARD COLOR FILTERS ARE SHOWN IN THE TABLE BELOW WHEN ILLUMINATED BY MS25237-327 LAMPS OF 0.34±.02 MEAN SPHERICAL CANDLEPOWER AT 28 VDC. THIS TABLE FOR REFERENCE ONLY.

COLOR	CODE	NOMINAL BRIGHTNESS IN FOOT LAMBERTS FOR LEGEND DISPLAY TYPES				
		1 AND 3	2 AND 4	5	6 AND 8	7
BLUE	B	25	35	20	35	3
GREEN	G	160	190	90	190	20
RED	R	160	190	90	190	20
WHITE	W	300	400	150	250	30
AMBER	A	190	220	90	220	20
YELLOW	Y	300	375	150	375	40

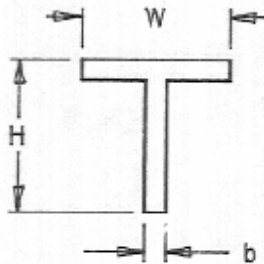
1. DISPLAY BRIGHTNESS WITH RFI SCREEN, APPROXIMATELY 60 PERCENT OF ABOVE.
2. COLORS ARE IN ACCORDANCE WITH MIL-S-22885/56; RED AND YELLOW ARE ALSO IN ACCORDANCE WITH MIL-C-25050.

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LEGENDS:

TWO DISPLAY LEGENDS ARE AVAILABLE:

1. TYPES 1 THRU 4, 6, AND 8 EMPLOY A POSITIVE OR NEGATIVE IMAGE ON MYLAR PHOTOGRAPHIC FILM, INSTALLED BEHIND THE PUSH BUTTON FACE PLATE (CLEAR).
2. TYPES 5, AND 7 EMPLOY ENGRAVING, WITH A CONTRASTING-COLLER FILL, INTO THE FRONT SURFACE OF THE PUSH BUTTON FACE PLATE.
3. THE CHARACTER FORMAT FOR LEGENDS IN PHOTOGRAPHIC ALPHA-NUMERICS IS AN ALTERNATE GOTHIC NO. 2 (SANS-SERIF) WITH THE FOLLOWING LINE RELATIONSHIPS.



LETTER HEIGHT-TO-WIDTH RATIO.
LETTER "T" = 2.5:1

LINE WEIGHT RATIO $\frac{H}{b} = 6:1$ FOR PHOTO-LEGENDS
(REFERENCE ONLY)

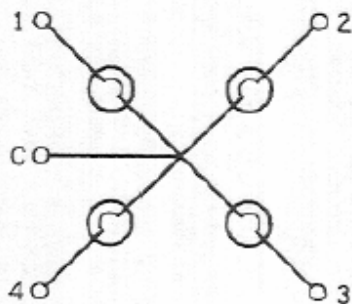
4. THE CHARACTER FORMAT FOR LEGENDS IN ENGRAVED ALPHA-NUMERICS IS GORTON CONDENSED TYPE WITH LINE WEIGHT RATIO = $8 \pm 1:1$.

CAPTIVE PUSH BUTTON:

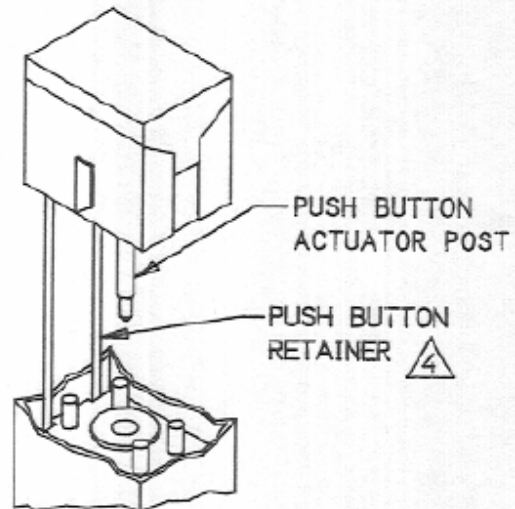
BECAUSE OF THE CAPTIVE PUSH BUTTON BEING A NON-REMOVABLE PART OF ITS INTERNAL MECHANISM, IT MAY ONLY BE SPECIFIED AS AN ASSEMBLY WITH ITS SWITCH PARTS.

LAMP CIRCUIT SCHEMATIC:

LAMP CIRCUIT CODE "1"



SCHEMATIC, AS VIEWED FROM BOTTOM OF SWITCH



CAGE CODE:

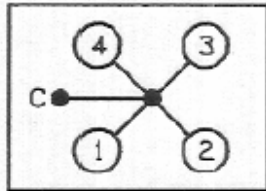
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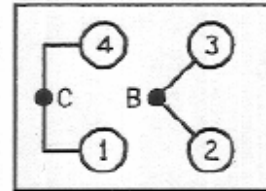
SERIES 40R CODED

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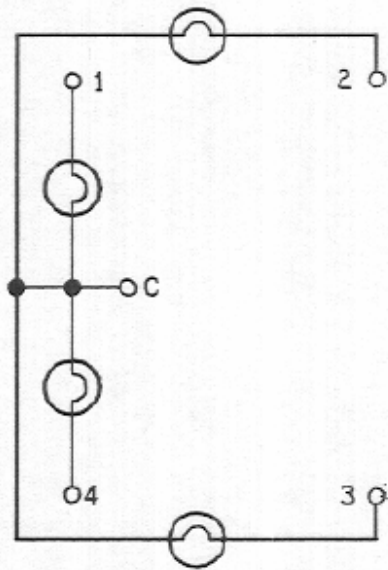
1.0 4



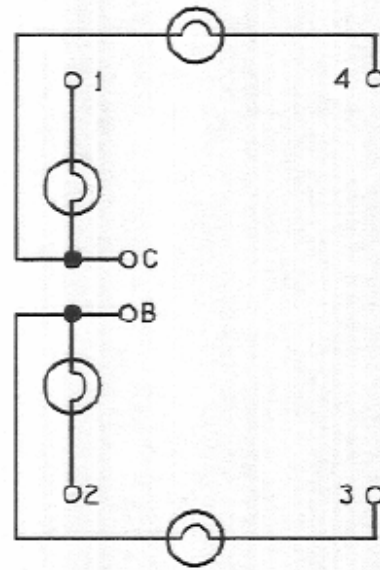
FRONT VIEW
LAMP POSITION



FRONT VIEW
LAMP POSITION



1 = COMMON LAMP GROUND



2 = SPLIT LAMP GROUND, VERTICAL
LAMPS 1 AND 4 ON ONE GROUND
LAMPS 2 AND 3 ON SECOND GROUND 4

CAGE CODE:

12522

DRAWING NO.

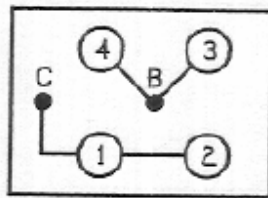
SERIES 40R CODED


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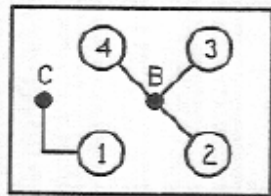
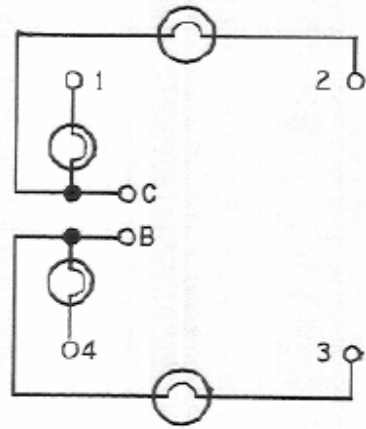
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
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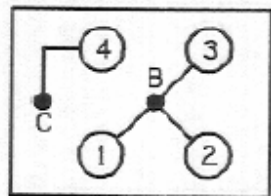
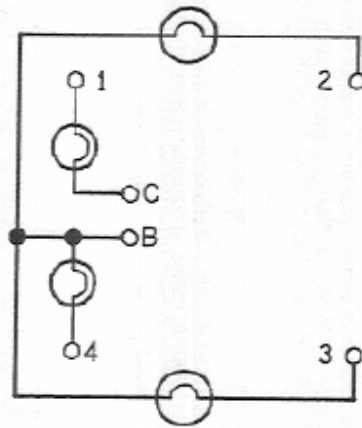
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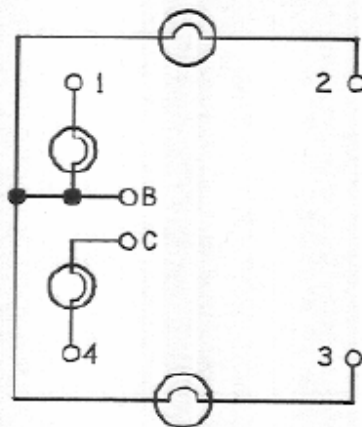
3 = SPLIT LAMP GROUND, HORIZONTAL
LAMPS 1 AND 2 ON ONE GROUND
LAMPS 3 AND 4 ON SECOND GROUND 



4 = SPLIT LAMP GROUND. LAMP 1
ON ONE GROUND LAMPS 2, 3
AND 4 ON SECOND GROUND 



5 = SPLIT LAMP GROUND. LAMP 4
ON ONE GROUND LAMPS 1, 2
AND 3 ON SECOND GROUND 



CAGE CODE:

12522

DRAWING NO.

SERIES 40R CODED

REV. SHT.

1.0

6

SPECIFICATIONS, SERIES 40R PUSH BUTTON

THE PUSH BUTTONS DEFINED BY THIS SPECIFICATION CONTROL DRAWING MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF MIL-S-22885.

1. MECHANICAL:

- A. WEIGHT .024 POUND, INCLUDING LAMPS. \triangle 3
- B. FACEPLATE WILL WITHSTAND 40 POUND DISTRIBUTED LOAD.
- C. RELAMPING MAY BE ACCOMPLISHED WITHOUT TOOLS.
- D. LAMP RETENTION FORCE = 4 GRAMS MINIMUM.
- E. MATERIALS POLY SULFONE: SELF- EXTINGUISHING PER ASTM D635
POLY CARBONATE; SELF-EXTINGUISHING PER ASTM D635.
BLACK ANODIZED ALUMINUM; QQ-A-318 & MIL-A-8625.
GOLD PLATED BRASS; QQ-B-626 & MIL-G-45204.
GOLD PLATED BERYLLIUM COPPER; ASTM-B-197-52 &
MIL-G-45204.

2. ELECTRICAL:

- A. DIELECTRIC STRENGTH
- | | |
|-------------|---------------------|
| SEA LEVEL | 1,000 VRMS, MINIMUM |
| 70,000 FEET | 450 VRMS, MINIMUM |
- B. INSULATION RESISTANCE 1,000 MEGOHMS @ 500 VDC

3. ENVIRONMENTAL: (TO BE MET INSTALLED IN MATING SERIES 40R SWITCH/INDICATOR)

- A. TEMPERATURE - OPERATING -65°C TO +85°C.
- B. THERMAL SHOCK -55°C TO +85°C, PER MIL-STD-292, METHOD 107, TEST CONDITION A.
- C. ALTITUDE SEA LEVEL TO 70,000 FEET.
- D. VIBRATION .06 D.A. OR 15 G'S 10 TO 2,000 HZ PER MIL-STD-202, METHOD 204, TEST CONDITION B.
- E. SHOCK 50 G'S 11±1 MILLISECOND; PER MIL-STD-202, METHOD 202.
- F. SAND AND DUST PER MIL-STD-202, METHOD 110, TEST CONDITION B.

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SPECIFICATIONS: (CONT.)

- G. HUMIDITY 10 DAYS, WITH 10 CYCLES AT 90-98 PERCENT RELATIVE HUMIDITY AT +65°C PER MIL-STD-202, METHOD 106D.
- H. SALT SPRAY 48 HR., PER MIL-STD-202, METHOD 101 TEST CONDITION B, WITH PUSH BUTTON INSTALLED IN A MATING SWITCH/INDICATOR.
- I. FUNGUS NONE OF THE MATERIALS OR FINISHES USED IN THE CONSTRUCTION OF THIS ASSEMBLY WILL SUPPORT ANY FUNGUS ENCOUNTERED IN TROPICAL CLIMATES.
- J. EXPLOSION SWITCHES OR INDICATORS COMPLETE WITH THESE PUSH BUTTONS CAN BE SAFELY OPERATED UNDER LOAD IN AN EXPLOSIVE ATOMOSPHERE WITHOUT DANGER OF EXPLOSION PER MIL-STD-202, METHOD 109.

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PART NUMBER CODE:

40RC - U 1 A 501 BRGA 2 (X)() () ()

PUSH BUTTON PREFIX:

- △ 40RC - CAPTIVE PUSHBUTTON
- △ 40RN = NON-CAPTIVE PUSHBUTTON

PUSHBUTTON MODEL:

T, J, U, L, W OR Y (SEE SHEET 2)

LAMP CIRCUIT CODE:

- 1 - COMMON LAMP GROUND
- △ 4 2 - SLG, VERTICAL, LAMPS 1 & 4 ON ONE GND. LAMPS 2 & 3 ON SECOND GND.
- △ 4 3 = SLG, HORIZONTAL, LAMPS 1 & 2 ON ONE GND. 3 & 4 ON SECOND GND.
- △ 4 4 = SLG, LAMP 1 ON ONE GND. 2, 3 & 4 ON SECOND GND.
- △ 4 5 = SLG, LAMP 4 ON ONE GND. 1, 2, 3 ON SECOND GND.
- △ 4 SLG = SPLIT LAMP GROUND (SEE SHEETS 5 & 6)

LEGEND HEIGHT:

- A = .100 HIGH LETTERS
- B = .125 HIGH LETTERS
- C = .187 HIGH LETTERS
- X = NO LEGEND

LEGEND ARRANGEMENT:

SEE SHEETS 10 & 11

COLOR CODE (SEE CODE SHEET 3; X FOR EACH AREA UNUSED:)

- AREA #1 = B, G, R, W, A, Y OR X
- AREA #2 = B, G, R, W, A, Y OR X
- AREA #3 = B, G, R, W, A, Y OR X
- AREA #4 = B, G, R, W, A, Y OR X

DISPLAY TYPE (SEE OPTIONS, SHEET 3):

1, 2, 3, 4, 5, 6, 7 OR 8

LEGEND NOMENCLATURE (X FOR EACH AREA UNUSED):

- AREA #1 = (PRINT YOUR LEGEND)
- AREA #2 = (PRINT YOUR LEGEND)
- AREA #3 = (PRINT YOUR LEGEND)
- AREA #4 = (PRINT YOUR LEGEND)

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MAXIMUM LEGEND CAPABILITY TABLE*

NOTE: PICTORIAL REPRESENTATIONS BELOW ARE SHOWN IN .100 HEIGHT ONLY, AND SHOULD BE LIMITED TO THE TOTAL CAPABILITIES SHOWN IN THIS TABLE.

.100 HIGH CHARACTERS:

HORIZONTAL ROWS OF LETTERS -	11 LETTERS OR SPACES -	PER FULL ROW
HORIZONTAL ROWS OF LETTERS -	5 LETTERS OR SPACES -	PER 1/2 ROW
VERTICAL COLUMN OF LETTERS -	5 LETTERS OR SPACES -	PER FULL COLUMN
VERTICAL COLUMN OF LETTERS -	2 LETTERS OR SPACES -	PER 1/2 COLUMN

.125 HIGH CHARACTERS:

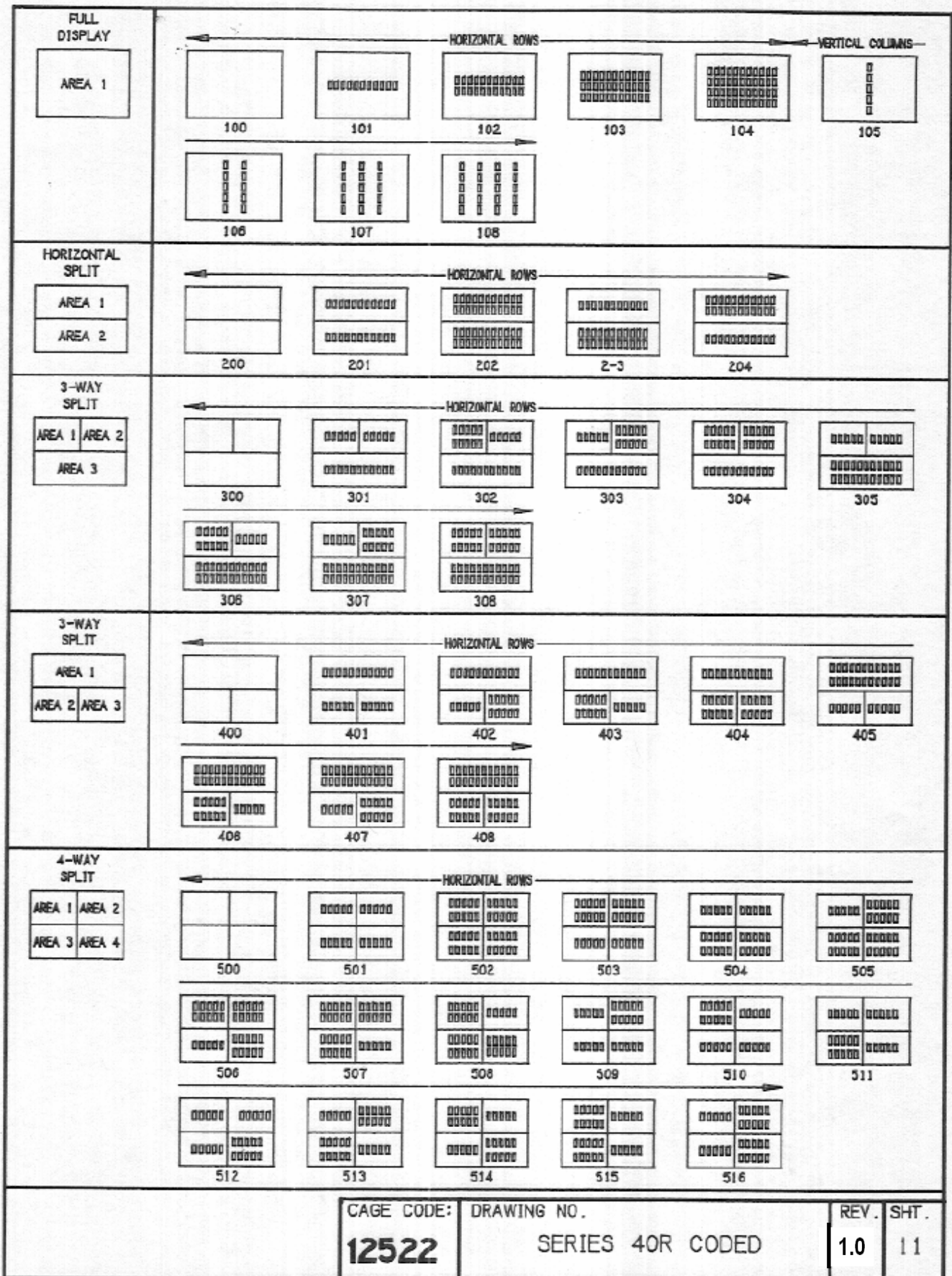
HORIZONTAL ROWS OF LETTERS -	9 LETTERS OR SPACES -	PER FULL ROW
HORIZONTAL ROWS OF LETTERS -	4 LETTERS OR SPACES -	PER 1/2 ROW
VERTICAL COLUMN OF LETTERS -	4 LETTERS OR SPACES -	PER FULL COLUMN
VERTICAL COLUMN OF LETTERS -	2 LETTERS OR SPACES -	PER 1/2 COLUMN

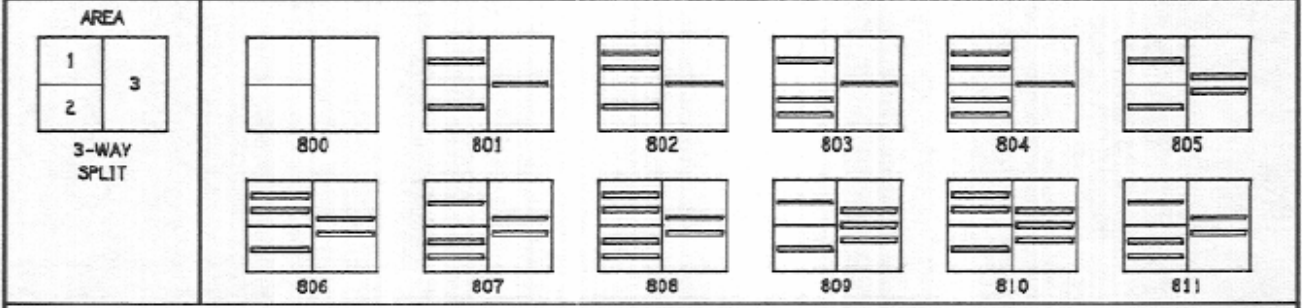
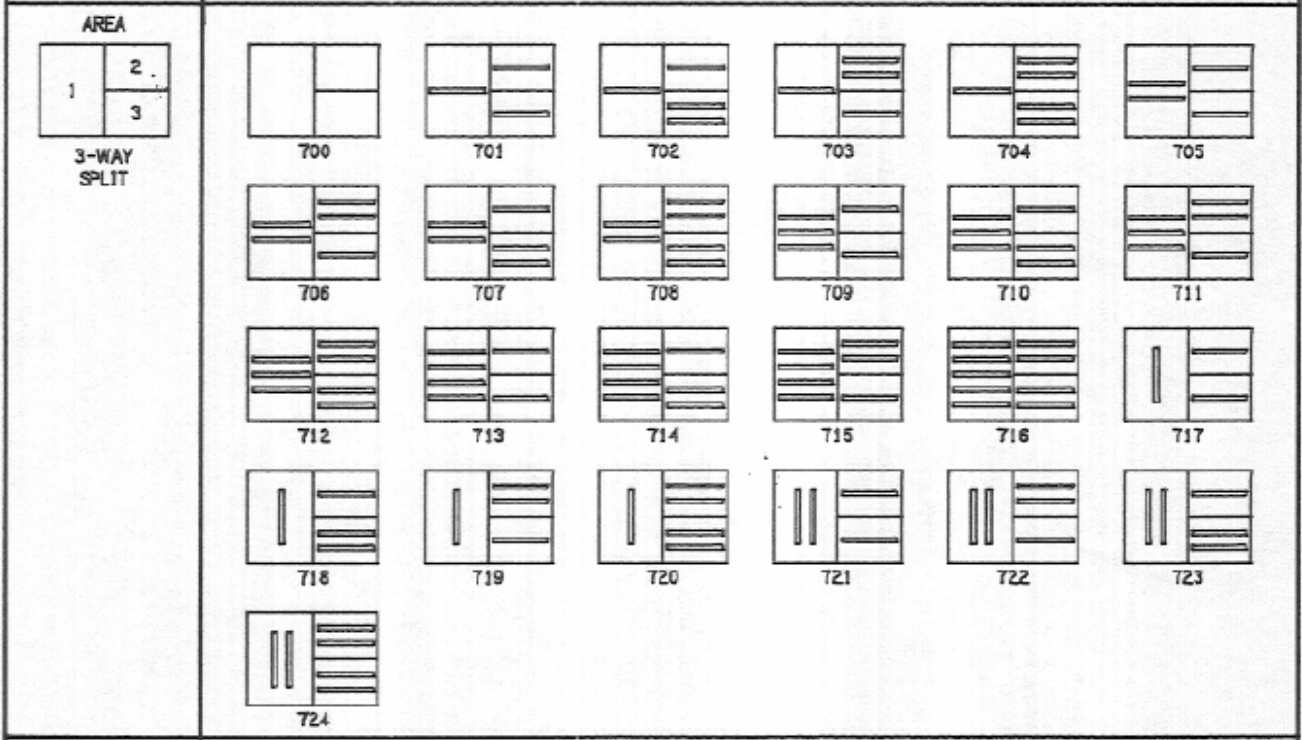
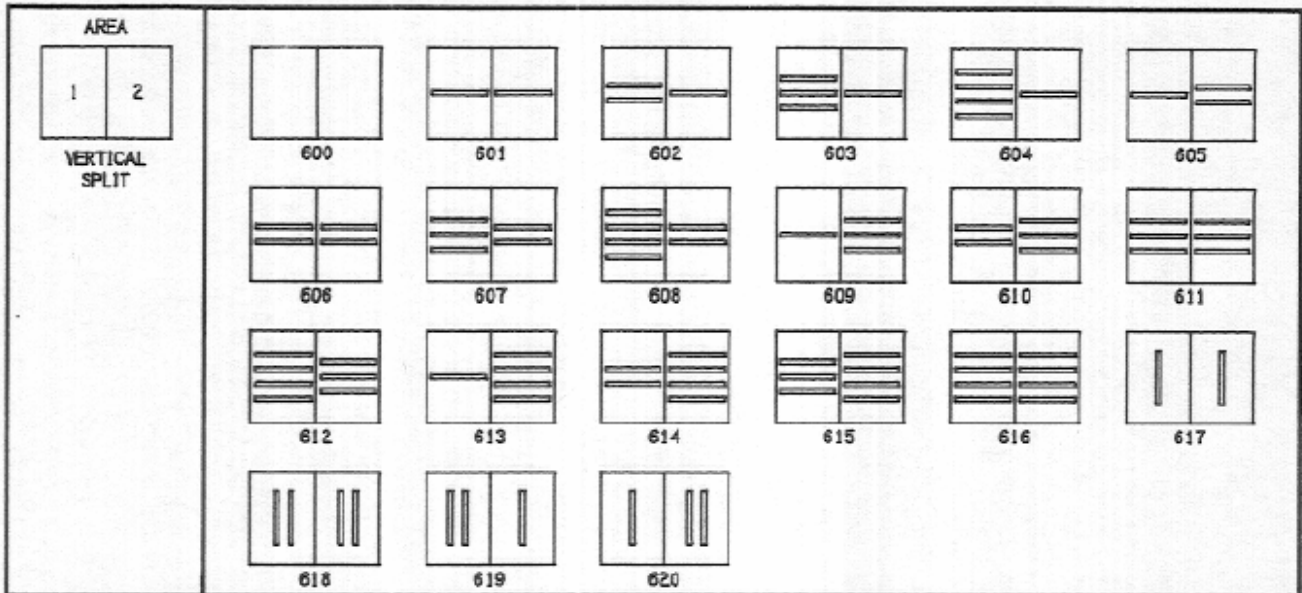
.187 HIGH CHARACTERS:

HORIZONTAL ROWS OF LETTERS -	6 LETTERS OR SPACES -	PER FULL ROW
HORIZONTAL ROWS OF LETTERS -	3 LETTERS OR SPACES -	PER 1/2 ROW
VERTICAL COLUMNS OR LETTERS -	2 LETTERS OR SPACES -	PER FULL COLUMN
VERTICAL COLUMNS OR LETTERS -	1 LETTER OR SPACE -	PER 1/2 COLUMN

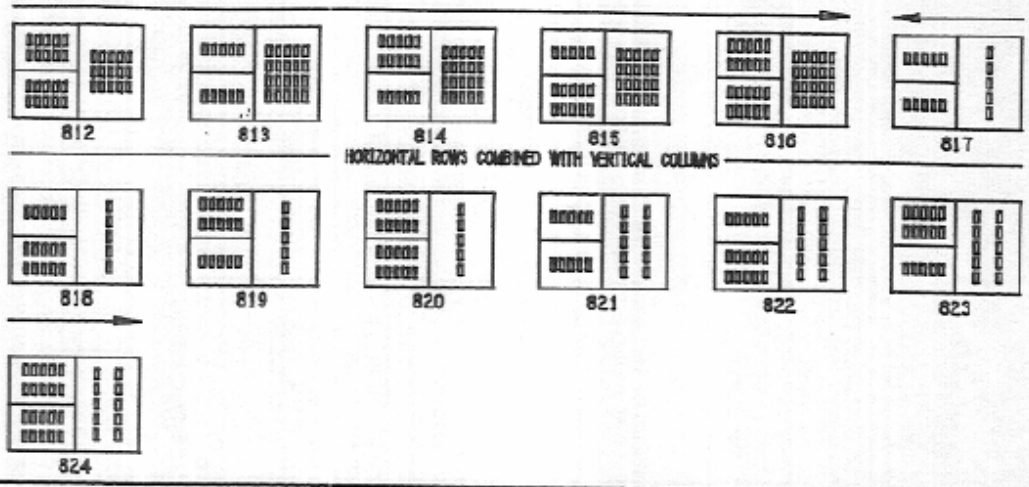
* TABLE ABOVE IS FOR PHOTO LEGENDS, FOR TYPE 5 AND 7 ENGRAVING USE SPECIFICATION NO. 70023.

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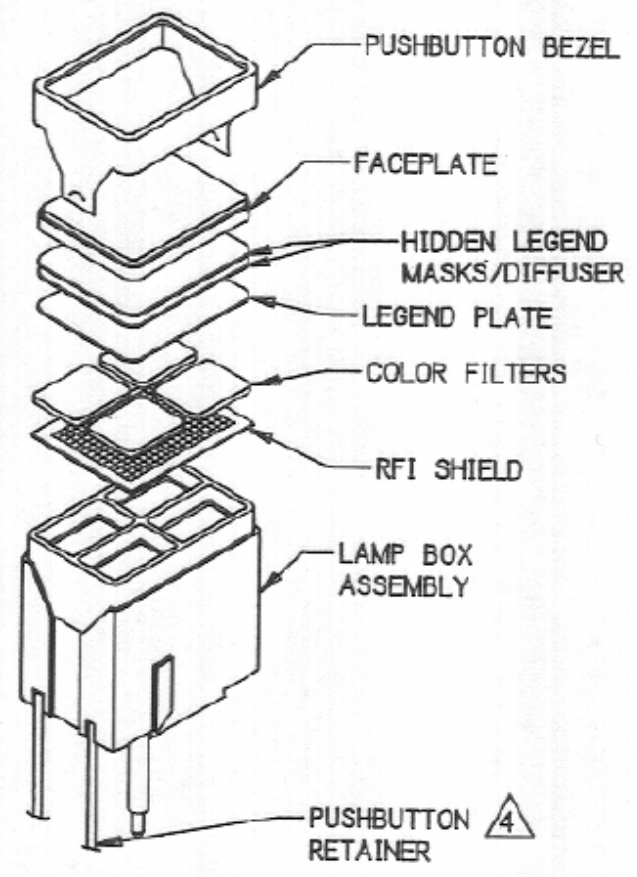




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TYPICAL PUSH BUTTON ASSEMBLY



CAGE CODE:	DRAWING NO.	REV.	SHT.
12522	SERIES 40R CODED	1.0	13

Appendix A RoHS (Restriction of certain Hazardous Substance) Compliance requirement per EU Directive 2002/95/EC.

No Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr⁺⁶), PBB or PBDE is intentionally added to these devices. Any traces impurities of these substances contained in the parts are below RoHS specified threshold levels:

Substance	RoHS (Max allowed)
Cd (Cadmium)	100ppm or 0.01% by weight
Pb (Lead)	1000ppm or 0.1% by weight
Hg (Mercury)	1000ppm or 0.1% by weight
Cr6+ (Hexavelant Chromium)	1000ppm or 0.1% by weight
PBBs (Polybrominated Biphenyls)	1000ppm or 0.1% by weight
PBDEs (Polybrominated Dipheny Ethers)	1000ppm or 0.1% by weight

Exemptions to the RoHS Directive:

Lead as an alloying element in steel containing up to 0.35 % lead by weight, aluminum containing up to 0.4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.

Note1: Incandescent lamps are not included.

Note2: The product does not contain printed circuit board (PCB).

CAGE CODE	DRAWING NO	REV.	SHEET
12522	SERIES 40R CODED	1.0	14