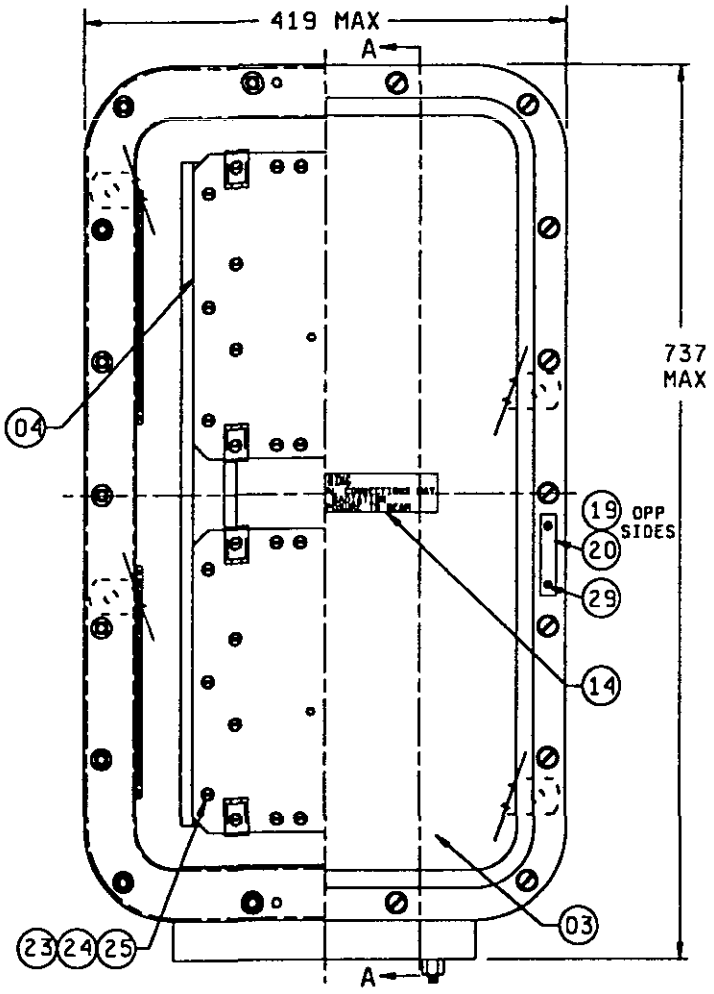
MILITARY SPECIFICATION SHEET

INTERCONNECTION BOX, FIBER OPTIC, SUBMERSIBLE, 308.4 X 609.6 MM

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

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-I-24728.



ABOVE COVER SHOWN PARTIALLY REMOVED

FIGURE 1. Enclosure assembly, M24728/2-005 and M24728/2-006.

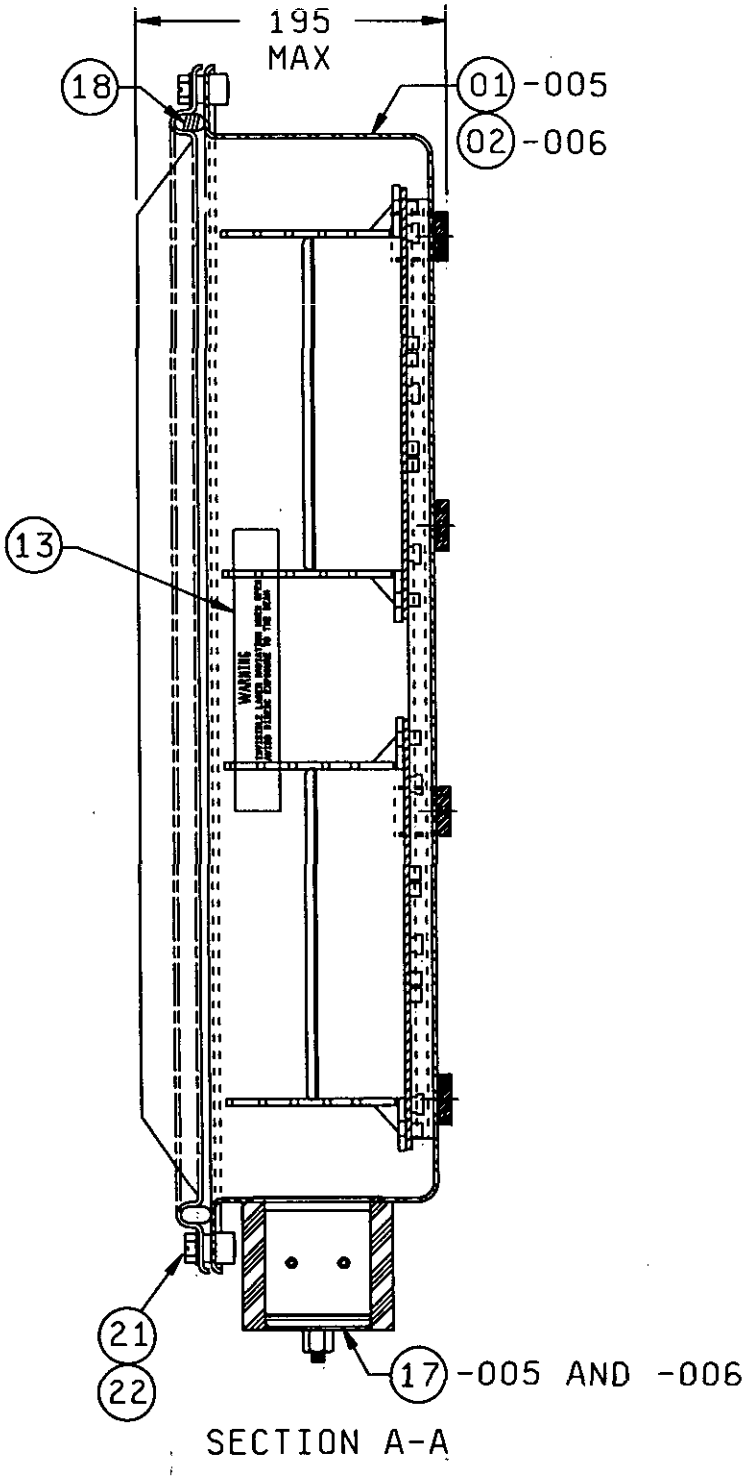
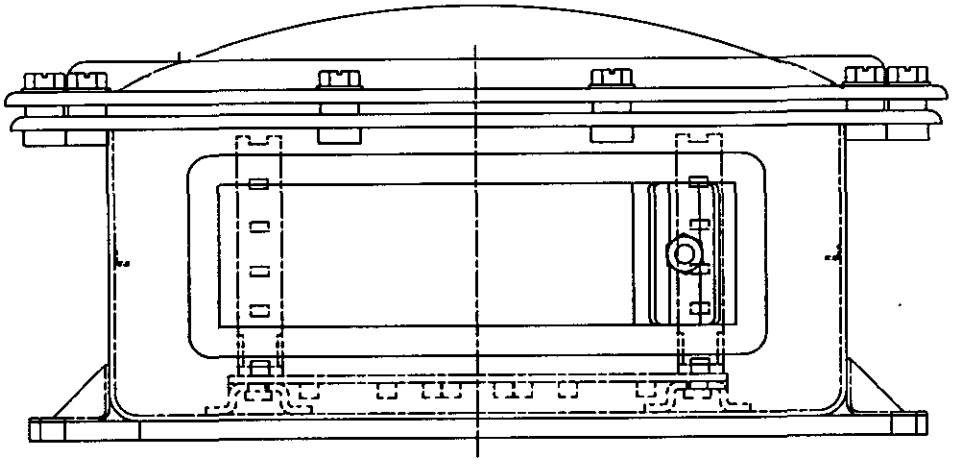


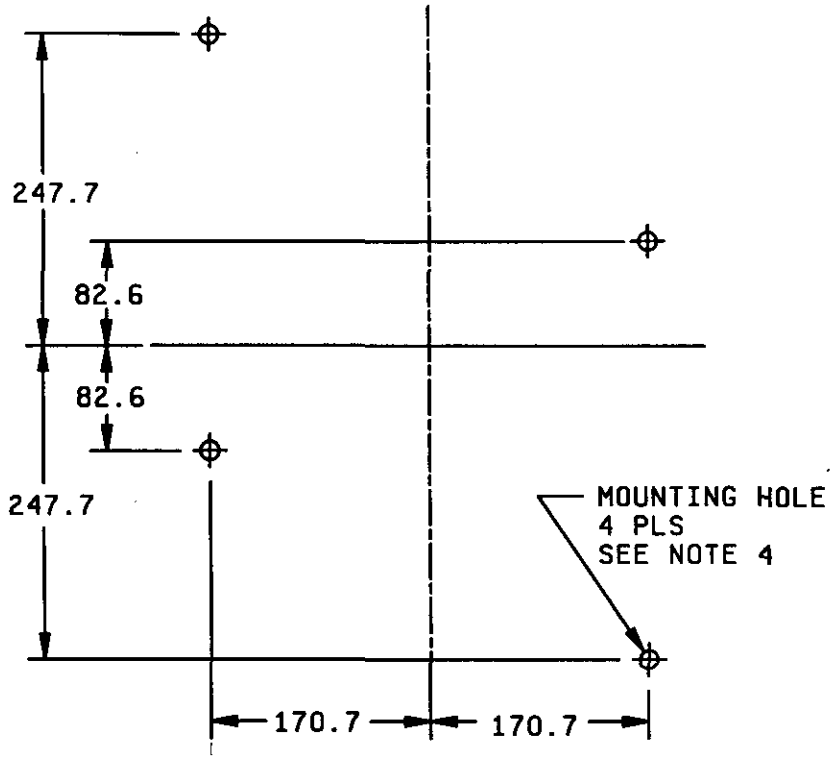
FIGURE 1. Enclosure assembly, M24728/2-005 and M24728/2-006 - Continued.



mm	Inches
195	7.7
419	16.5
737	29.0

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±3 mm (.12 inches).
4. For identification of subcomponent parts (circled numbers), see table 1.

FIGURE 1. Enclosure assembly, M24728/2-005 and M24728/2-006 - Continued.



mm	Inches
82.6	3.25
170.7	6.72
247.7	9.75

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.3 mm (.01 inch) for 1 place decimals.
4. Mounting holes shall accommodate M12.7 X 1.95 (.50-13) bolts.

FIGURE 2. Box mounting hole dimensions.

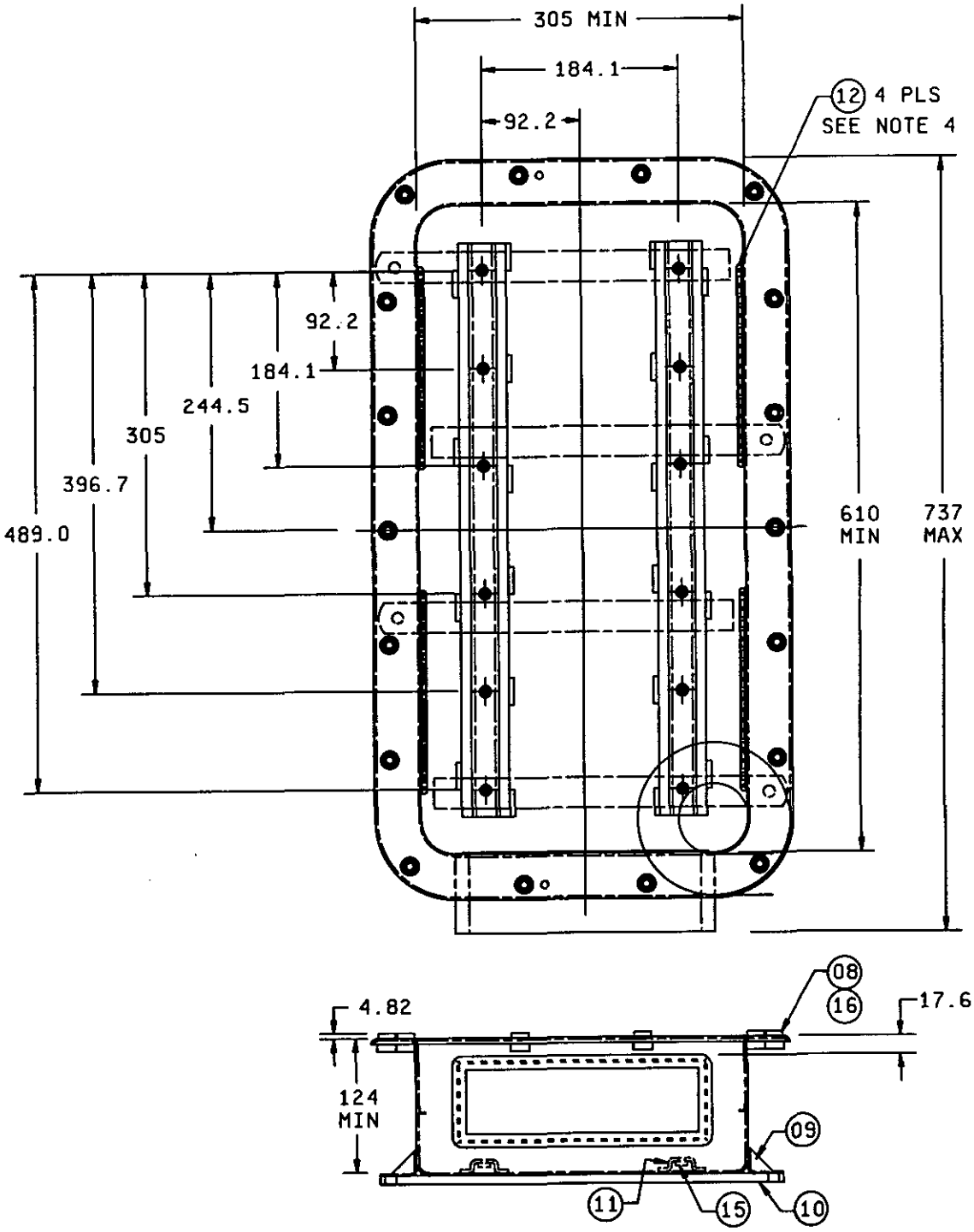
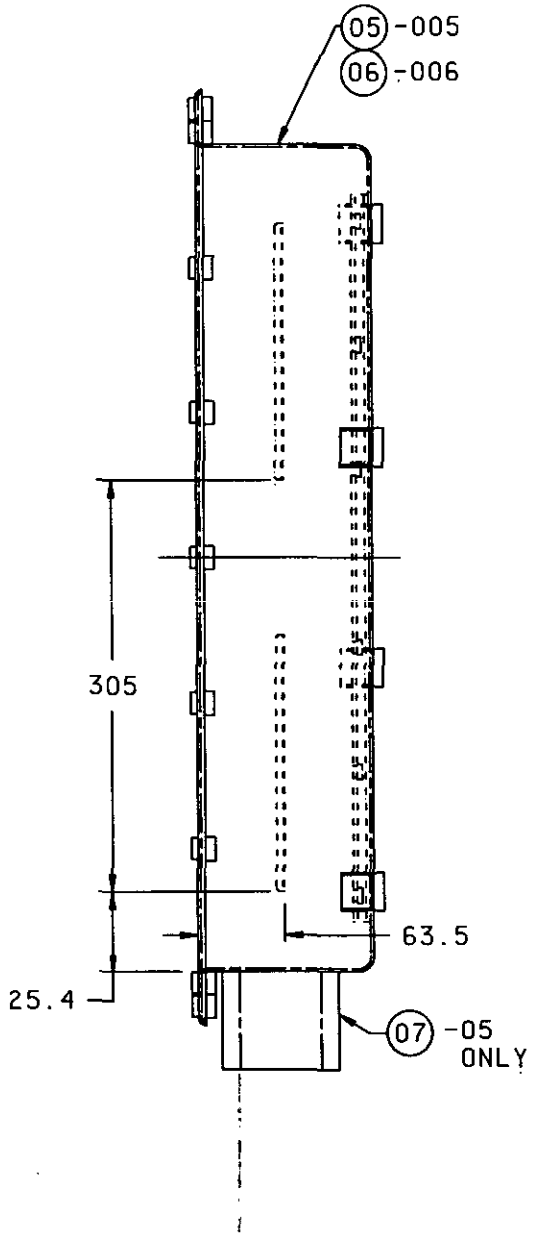


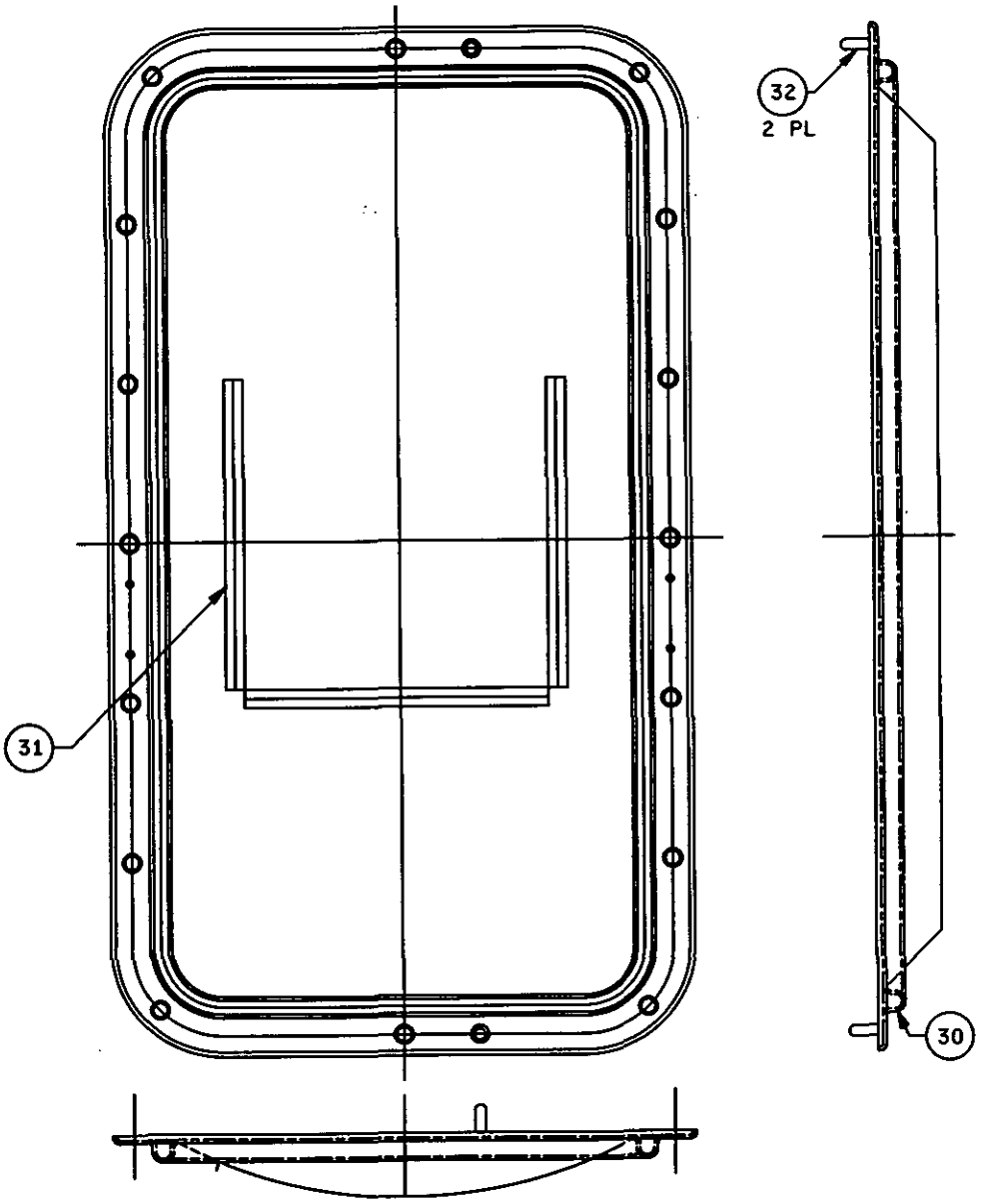
FIGURE 3. Box assembly.



mm	Inches	mm	Inches
4.82	.190	184.1	7.25
17.6	.69	305	12.01
25.4	1.00	396.7	15.62
63.5	2.50	489	19.25
92.2	3.63	610	24.0
124.0	4.9	737	29.0

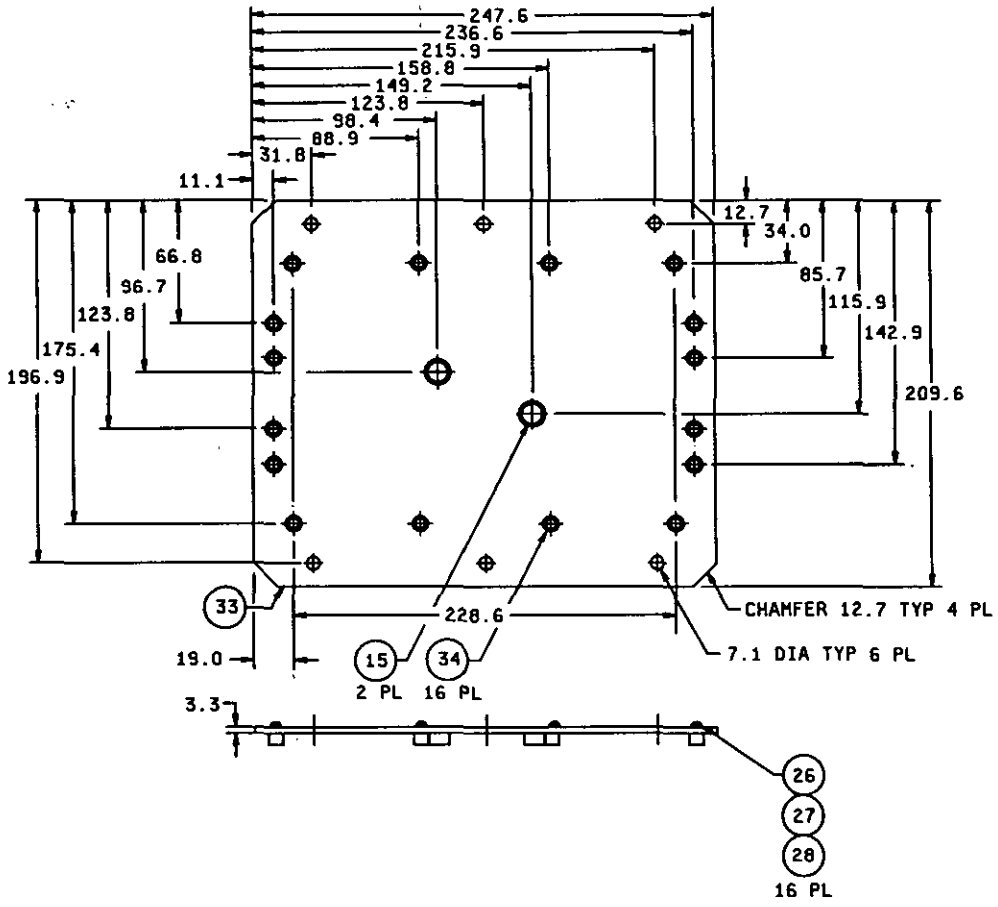
NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±3.0 mm (.12 inch), ±.3 mm (.01 inch) for whole numbers for 1 place decimals, and ±.13 mm (.005 inch) for 2 place decimals. A tolerance of ±.8 mm (.03 inch) is acceptable on dimensions controlled by welding or brazing, providing that this tolerance does not interfere with the interchangeability of assemblies or parts.
4. Circled numbers are subcomponent identification numbers, see table I.

FIGURE 3. Box assembly - Continued.



NOTES:
1. Detailed layout and placement of diagram holder is not specified.
2. Circled numbers are subcomponent identification numbers, see table I.

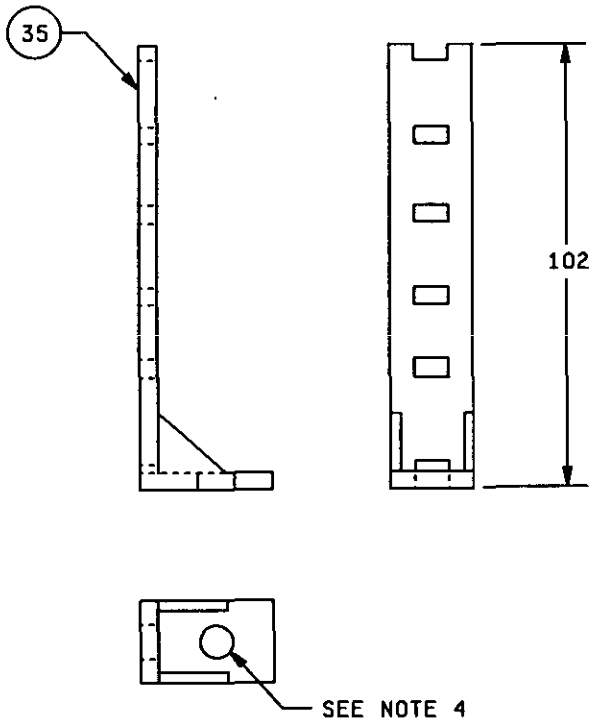
FIGURE 4. Cover assembly.



mm	Inches	mm	Inches	mm	Inches
3.3	.13	88.9	3.50	175.4	6.91
7.1	.28	96.7	3.69	196.9	7.75
11.2	.44	98.4	3.88	209.6	8.25
12.7	.50	115.9	4.56	215.9	8.50
19.0	.75	123.8	4.88	228.6	9.00
31.8	1.25	142.9	5.63	236.6	9.31
34.0	1.34	149.2	5.88	247.6	9.75
64.1	2.53	158.8	6.25		
85.7	3.38				

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.3 mm (.01 inch) for 1 place decimals.
4. Circled numbers are subcomponent identification numbers, see table I.

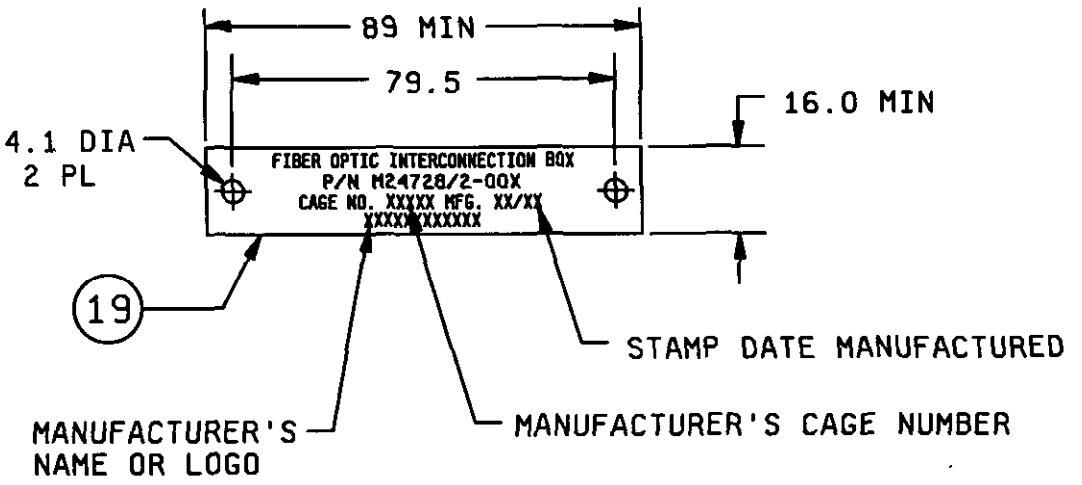
FIGURE 5. Mounting plate assembly.



mm	Inches
102	4.0

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±3 mm (.12 inch).
4. Hole is 5.6 mm (.22 inch) diameter.
5. Circled number is subcomponent identification number, see table I.

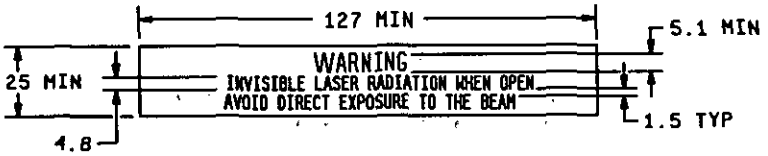
FIGURE 6. Tie wrap post.



mm	Inches
4.1	.16
16.0	.63
79.5	3.13
89	3.5

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±3 mm (.12 inch) for whole numbers and ±.3 mm (.01 inch) for 1 place decimals.
4. Circled number is subcomponent identification number, see table I.

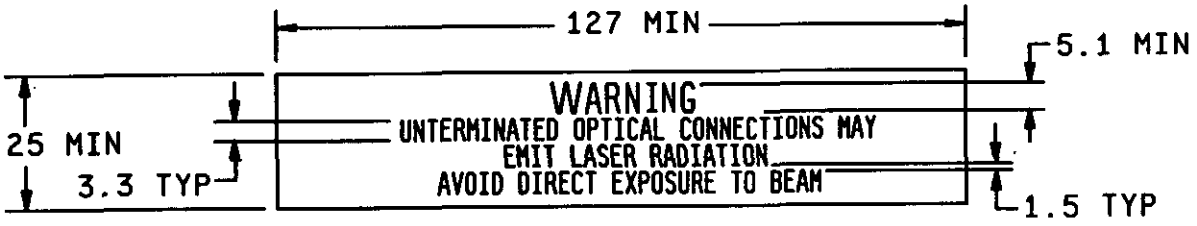
FIGURE 7. Identification plate.



mm	Inches
1.5	.06
4.8	.19
5.1	.20
25	1.0
127	5.0

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound are given for general information only.
3. The signal word "WARNING" shall be in yellow on a black background in the upper panel. The lower panel shall consist of black letters on a yellow background.
4. Unless otherwise specified, tolerance is ±3 mm (.12 inch) for whole numbers and ±.3 mm (.01 inch) for 1 place decimals.

FIGURE 8. Inside warning label.



mm	inches
1.5	.06
3.3	.13
5.1	.20
25	1.0
127	5.0

NOTES:
1. Dimensions are in millimeters.
2. Inch-pound equivalents are given for general information only.
3. The signal word "WARNING" shall be in yellow on a black background in the upper panel. The lower panel shall consist of black letters on a yellow background.
4. Unless otherwise specified, tolerance is ±3 mm (.12 inch) for 1 whole numbers and ±.3 mm (.01 inch) for 1 place decimals.

FIGURE 9. Outside warning label.

TABLE I. Parts list.

Subcomponent identification numbers, circled. (see figures 1 through 9)	Part name	PIN M24728/2-		Subassembly number				Remarks and reference figures
		005	006	01	02	03	04	
01	Box assembly with MCT frame	1		1				1 and 3
02	Box assembly without MCT frame		1		1			1 and 3
03	Cover assembly	1	1			1		1 and 4
04	Mounting plate assembly	2	2				1	5
05 1/ 2/	308.4 X 609.6 Box with MCT frame			1				3
06 1/ 2/	308.4 X 609.6 Box without MCT frame				1			3
07 3/ 4/	MCT frame			1				3
08 3/ 2/	Flange pad			18	18			3
09 2/ 5/	Gusset			4	4			3
10 3/	Mounting leg			4	4			3
11 3/	Mounting channel			2	2			3
12 3/	Tie wrap bracket			4	4			3
13 6/	Inside warning label	1	1					1 and 8
14 6/	Outside warning label	1	1					1 and 9
15 7/	M6.35 x 1.27 (.25-20) insert			12	12		2	3 and 5
16 7/	M9.53 x 1.59 (.375-16) helicoil			18	18			3
17 4/	MCT wedge pack	1	1					1
18 2/	Gasket	1	1					1
19 8/	Identification plate	1	1					1 and 7
20 9/	Blank nameplate	1	1					1
21 7/ 2/	M9.53 x 1.59 (.375-16) hex bolt	18	18					1
22 7/	9.53 (.375) flat washer	18	18					1

See footnotes at end of table.

TABLE I. Parts list - Continued.

Subcomponent identification numbers, circled. (see figures 1 through 9)	Part name	PIN M24728/2-		Subassembly number				Remarks and reference figures
		005	006	01	02	03	04	
23 7/	M6.35 x 1.27 (.25-20) X 15.9 PHMS	12	12					1
24 7/	6.35 (.25) flat washer	12	12					1
25 7/	6.35 (.25) split lock washer	12	12					1
26 7/	M4.0 x .79 (8-32) X 12.7 PHMS						12	5
27 7/	4.0 (#8) flat washer						12	5
28 7/	4.0 (#8) split lock washer						12	5
29 7/	M3.5 x .79 (6-32) X 6.35 PHMS	4	4					1
30 1/ 2/	308.4 X 609.6 cover	1	1					4
31 2/ 9/ 9/	Diagram holder					1		4
32 2/ 9/	Dowel pin					2		4
33 9/	Mounting plate						1	5
34 7/	M4.0 x .79 (8-32) insert						16	5
35	Tie wrap post	8	8					5

1/ Aluminum, 3003 or 6061 in accordance with ASTM-B-209.
2/ See MIL-E-24142/6 for guidance.
3/ Aluminum, 5052 H-32 or 6061 in accordance with ASTM-B-209.
4/ See MIL-P-24705/1 for guidance.
5/ Aluminum, 5052 H-32 or 6061 in accordance with ASTM-B-209, 2.39 mm (.09 inch) thick.
6/ In accordance with MIL-P-15024, type G, adhesive-backed, metal foil.
7/ CRES.
8/ Constructed to hold an 216 mm (8.5 inch) by 279 mm (11.0 inch) diagram.
9/ Aluminum, 5052 H-32 in accordance with ASTM-B-209.

REQUIREMENTS:

Design and construction: See figures 1 through 9, and table I.

The interconnection box shall be constructed using MIL-E-24142/6-010 as guidance.

The MCT shall be constructed using MIL-P-24705/1 as guidance. The MCT interior dimensions shall be 217.4 X 60.0 mm (8.56 X 2.36 inch).

The enclosure assembly shall be constructed using the following combinations of materials:

a. The box, MCT frame, flange pads, gussets, mounting legs, mounting channels, tie wrap bracket, and cover are aluminum, 6061 in accordance with ASTM-B-209.

b. The box and cover are aluminum, 3003 in accordance with ASTM-B-209 and the MCT frame, flange pads, gussets, mounting legs, mounting channels, and tie wrap bracket are aluminum, 5052 H-32 in accordance with ASTM-B-209.

Enclosure assemblies constructed using 6061 aluminum shall not be welded.

Enclosure assemblies constructed using 6061 aluminum shall be dip-brazed in accordance with MIL-B-7883, type V, grade B.

Enclosure assemblies constructed using 6061 aluminum shall be artificially aged at 177°C for 12 hours to a 6061-T4 condition.

Enclosure assemblies shall be class 1A conversion coated in accordance with MIL-C-5541 before being epoxy powder coated.

Cable interconnection interface: The cable feed-through shall be in accordance with MIL-P-24705 and shall accept cables having outer diameters between 6.1 mm (.24 inch) and 25.4 mm (1.00 inch) constructed in accordance with MIL-C-85045.

Enclosure assemblies shall be stress relieved in accordance with MIL-E-24142.

Mass: M24728/2-005: 11.3 Kg (maximum).
M24728/2-006: 9.1 Kg (maximum).

Interconnection box mounting: See figure 2.

Interconnect organization:

Fiber optic diagram holders: See figure 4.

Fiber optic cable tie posts: 8 (see figure 6).

Fiber optic splice tray holder: 4 max (see MIL-I-24728/7).

Fiber optic connector module: 2 max (see MIL-I-24728/6).

Fiber optic splices: When outfitted with two MIL-I-24728/7 splice tray holders per splice module, the interconnection box shall organize up to 72 MIL-S-24623/4 fiber optic splices per splice module (maximum of two splice modules).

Fiber optic connector adapters: When outfitted with MIL-I-24728/6 connector modules, the interconnection box shall organize up to 48 MIL-C-83522/17 connector adapters (maximum of two connector modules).

Cable retention: Not applicable.

Cable seal flexing: Not applicable.

Cable twist: Not applicable.

Compression resistance: Not applicable.

Impact: Not applicable.

Water pressure: The applied pressure shall be 44.8 kilopascals (6.5 PSI) (equivalent to a depth of 15 ft). The interconnection cover bolts and the MCT wedge pack nut shall be tightened to a minimum torque of 16.94 N-m (150 in-lbs) during this test.

Flammability: Not applicable.

Salt spray: Not applicable.

Flame spread: Not applicable.

Fungus test shall be conducted only on polymeric materials.

The operating temperature range shall be -54°C to +65°C and the storage range shall be -62°C to +85°C.

Part or Identifying Number (PIN): See table I.

M24728/1-005, box, mounting plates, and lid, with cable entrance and wedge pack.

M24728/1-006, box, mounting plates, and lid, without cable entrance.

M24728/2-001, M24728/2-002, M24728/2-003 and M24728/2-004 have been cancelled without replacement.

The gasket size shall be 314.3 mm (12.375 inch) wide X 619.12 mm (24.375 inch) long. This corresponds to PIN M24142/6-010 of MIL-E-24142/6.

Insert blocks compatible with the MCT frame are specified in MIL-P-24705/1.

The US Government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound units, the inch-pound units shall take precedence.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - SH
Air Force - 85
NASA - NA

Review activities:
Army - MI
Navy - AS, EC, YD
Air Force - 17, 19, 80, 99
DLA - ES

Preparing activity:
Navy - SH

Agent:
DLA - ES

(Project 6099-0004-02)