

INCH POUND

A-A-50598

22 May 1992

Commercial ITEM DESCRIPTION

KIT, PHOTOLUMINESCENT MARKING

The General Services Administration has authorized the use of this Commercial Item Description.

Abstract. This Commercial Item Description covers two sizes of Photoluminescent Marking Kits and two types of stencils to be used to establish an emergency egress/damage control marking/paint system (one coat of primer, two coats of photoluminescent paint, and one coat of protective top coat) on the interior of U.S. Navy surface ships and submarines. The size of kit is identified by the amount of photoluminescent paint in each kit.

Salient characteristics,

1. Two sizes of kits and two types of stencils are required as follows:
 - a. The ten gallon kit consists of the following items:
 - (1) Ten 1-gallon cans of photoluminescent paint.
 - (2) A sufficient quantity of 1-gallon cans and 1-quart cans of surface primer to cover an equivalent effective surface area covered by ten gallons of photoluminescent paint.
 - (3) A sufficient quantity of 1-gallon cans and 1-quart cans of clear protective top coat to cover an equivalent effective surface area covered by ten gallons of photoluminescent paint.
 - (4) Three 7-inch paint rollers.
 - (5) Twelve 7-inch paint roller covers.
 - (6) One stir stick for each container of photoluminescent paint, primer, and top coat.
 - b. The five gallon kit consists of the following items:
 - (1) Five 1-gallon cans of photoluminescent paint.
 - (2) A sufficient quantity of 1-gallon cans and 1-quart cans of surface primer to cover an equivalent effective surface area covered by five (5) gallons of photoluminescent paint,

Beneficial comments, recommendations, additions, deletions, clarifications, etc, and any other data which may improve this document should be sent by letter to: Commander, Naval Sea Systems Command, SEA 55Z3, Department of the Navy, Washington, DC 20362-5101.

AMSC N/A

FSC 4240

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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- (3) A sufficient quantity of 1-gallon cans and 1-quart cans of clear protective top coat to cover an equivalent effective surface area covered by five gallons of photoluminescent paint.
- (4) Three 7-inch paint rollers.
- (5) Twelve 7-inch paint roller covers.
- (6) One stir stick for each container of photoluminescent paint, primer, and top coat.

- c. Surface ship stencil package.
- d. Submarine stencil package.

2. Photoluminescent Paint

- a. Shall employ water as its solvent and have a maximum volatile organic content (VOC) of 250 grams per liter.
- b. Shall be a 1-component material.
- c. Shall exhibit a sag index of no less than 12 roils (1 mil - 1/1000 inch) wet using Federal Test Standard Number 141 Sag Test Method 4494 on a vertical surface.
- d. Shall have a flash point of no less than 100 degrees Fahrenheit (°F) using test method specified in ASTM D93.
- e. Shall be applied evenly and without streaks using a fine nap paint roller.
- f. Shall have a minimum effective surface coverage of 75 square feet per gallon, obtained in two coats with a film thickness equivalent to that obtained using the provided roller.
- g. Shall have a minimum shelf storage life of one year.

3. Primer

- a. Shall employ water as its solvent and have a maximum VOC of 250 grams per liter.
- b. Shall remain acid-free upon aging.
- c. Shall be free from heavy metals such as lead chromate or iron.
- d. Shall be a 1-component material.
- e. Shall be bright white in color.
- f. Shall not be lifted from the surface when the photoluminescent paint is being applied over it.
- g. Shall not react to either the surface being primed or the photoluminescent paint being applied over it.
- h. Shall adhere to all types of interior surfaces including wood, aluminum, steel, and thermal fibrous glass insulation board (MIL-I-742).
- i. Shall adhere to painted and unpainted surfaces.
- j. Shall have a minimum shelf storage life of one year.
- k. Shall have a minimum surface coverage of 250 square feet per gallon, obtained in one coat with a film thickness equivalent to that obtained using the provided roller.
- 1. Shall have a flash point of no less than 100°F using the test method specified in ASTM D93.

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- in. Shall exhibit a sag index of no less than 12 roils (1 mil - 1/1000 inch) wet using Federal Test Standard Number 141 Sag Test Method 4494 on a vertical surface.
 - n. Shall allow a corrosion rate of no more than nine when applied to steel using ASTM D610,-85.
4. Clear Protective Top Coat
- a. Shall employ water as its solvent and have a maximum VOC of 250 grams per liter.
 - b. Shall be transparent non-yellowing adhering compound for mechanical protective purposes.
 - c. Shall be 1-component material.
 - d. Shall not react with the Photoluminescent paint layer or stencil paint of Federal Specification TT-E-489, class A.
 - e. Shall have a minimum surface coverage of 250 square feet per gallon, obtained in one coat with a film thickness equivalent to that obtained using the provided roller.
 - f. **Shall have a flash point of no less than 100°F using the test method specified in ASTM D93.**
 - g. Shall exhibit a sag index of no less than 5 roils (1 mil - 1/1000 inch) wet using Federal Test Standard Number 141 Sag Test Method 4494 on a vertical surface.
5. Paint System
- a. It shall be guaranteed by the manufacturer that for a three year period after application of this paint system (one coat of primer, two coats of photoluminescent paint, and one coat of protective top coat) on any U.S. Naval surface ship or submarine the properties of these materials will still satisfy requirements set forth in this document. Failure to satisfy these requirements will be cause for the manufacturer to provide, at no cost to the Government, enough material to reapply the paint system to the defective areas.
 - b. The applied paint system shall have a flame spread index of no more than 10 using ASTM E162 Radiant Panel Test.
 - c. The applied paint system shall have smoke generation values of no more than 120 and 60 for flaming and non-flaming condition respectively, using ASTM E662 Smoke Chamber Test.
 - d. Using test method specified in ASTM D2248, the applied paint system shall prove to be chemically resistant to detergent solution.
 - e. Using luminance measurement method specified in MIL-L-3891, the applied paint system, when applied with the kit paint roller, shall provide the following luminance after specified periods of time after excitation of the material has ceased:
 - (1) 20 microlamberts after 2 minutes.
 - (2) .4 microlamberts after 30 minutes.
 - (3) .1 microlamberts after 2 hours.
 - (4) .04 microlamberts after 4 hours.
 - (5) .01 microlamberts after 8 hours.

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- f. Components of the paint system, when tested as specified in Method 4335 of Federal Test Standard Number 141, shall be accomplished using a paint roller system and without causing excessive drag on the roller cover.
 - g. When dry, the coated, surface shall exhibit good adhesion with a smooth, uniform appearance, and shall be free from sags, runs, wrinkles, roller marks, or any other film defects.
 - h. Components of the paint system shall be certified mercury free.
 - i. Components of the paint system shall contain no radioactive material other than that which is naturally occurring, and shall not rely on radioactive decay of any of its constituents to produce luminescence .
6. Paint Rollers, 7-Inch
- Shall be in accordance with Federal Specification H-R-550.
 - b. Shall have plastic grips.
7. Paint Roller Covers, 7-Inch
- a. Shall be fine nap, having a pile height between 1/8 inch and 3/8 inch.
 - b. Shall be slip off.
 - c. Shall be chemically resistant to all paints provided under this document.
8. Stencils
- a. The designs for stencils to be provided by the contractor shall be as specified in figure 1 (surface ship kit) and figure 2 (submarine kit).
 - b. A maximum tolerance of 1/32 inch for each dimension will be allowed for the cut stencils.
 - c. Shall be constructed of clear plastic between 1/32 and 1/16, inch thick.
 - d. Shall be chemically resistant to stencil paint TT-E-489.
 - e. Shall resist capillary action of the stencil paint.
 - f. Shall be cleaned after paint has dried on it.
 - g. Shall be resistant to cracking, tearing, and deformation for a minimum of 1000 applications of striping paint TT-E-489.
 - h. If any stencil fails to meet the requirements set forth in this document the contractor shall provide a replacement.
 - i. Stencil package shall be clearly labeled as to its content, surface ship or submarine stencils.
9. Application Instructions. The manufacturer shall provide detailed application instructions with each photoluminescent marking kit.

Quality assurance provisions None additional.

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Contractor certification. The contractor shall certify, and maintain substantiating evidence, that the product offered meets the salient characteristics of this Commercial Item Description, and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

Metric Products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within the tolerances specified using conversion tables contained in the latest revision of Federal Standard No. 376, and all other requirements of this Commercial Item Description are met.

If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable.

The contracting officer has the option of accepting or rejecting the product,

Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practical.

Preservation, packaging, Packing, labeling, and marking. The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

Notes.

Purchaser should specify size of kit and type of stencils.

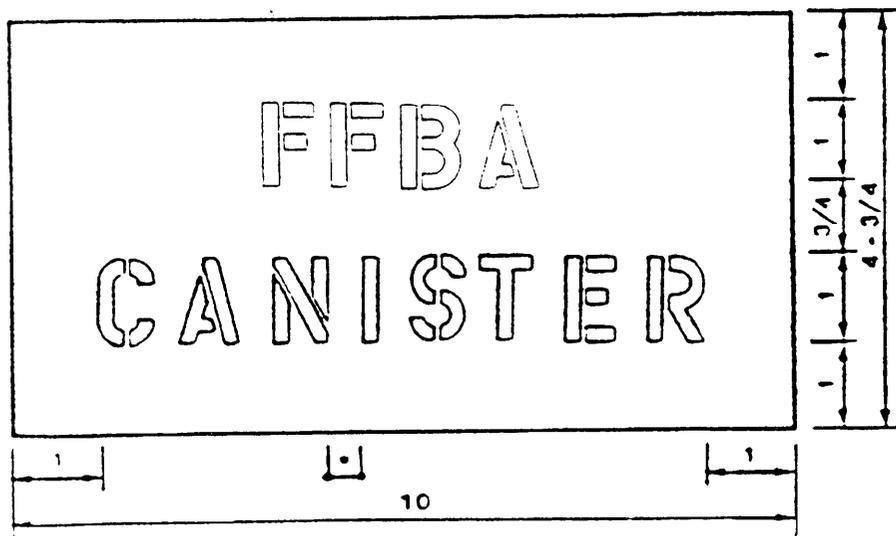
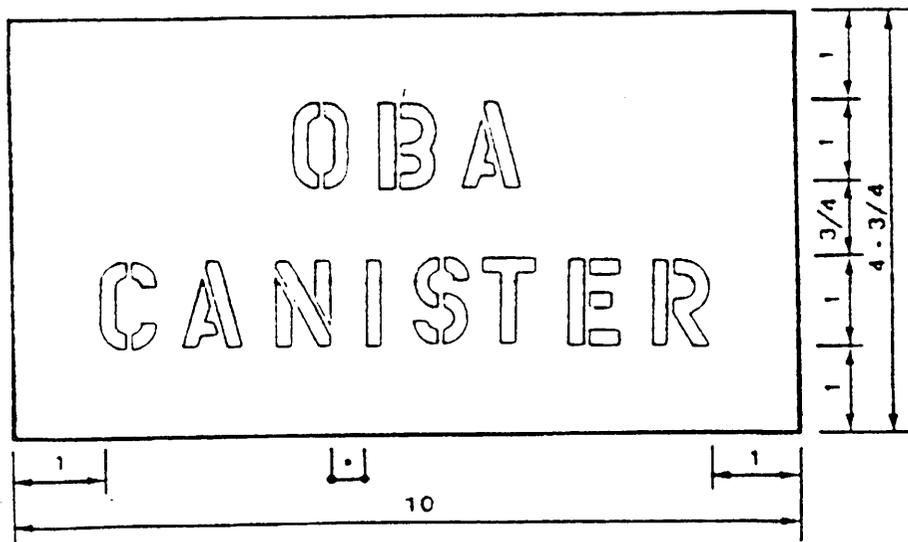
Copies of military and federal specifications and standards are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

Copies of ASTM standards may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

CIVIL AGENCY COORDINATING ACTIVITY:
GSA-FSS

Preparing activity:
Navy - SH
(Project 4240-0580)

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- NOTES : 1. All measurements are in inches .
2. Dimensions marked with an "*" mean spaces between letters and numbers shall be of uniform width. Typical spacing between letters is 3/8 inch.

FIGURE 1. Surface ship stencil package.

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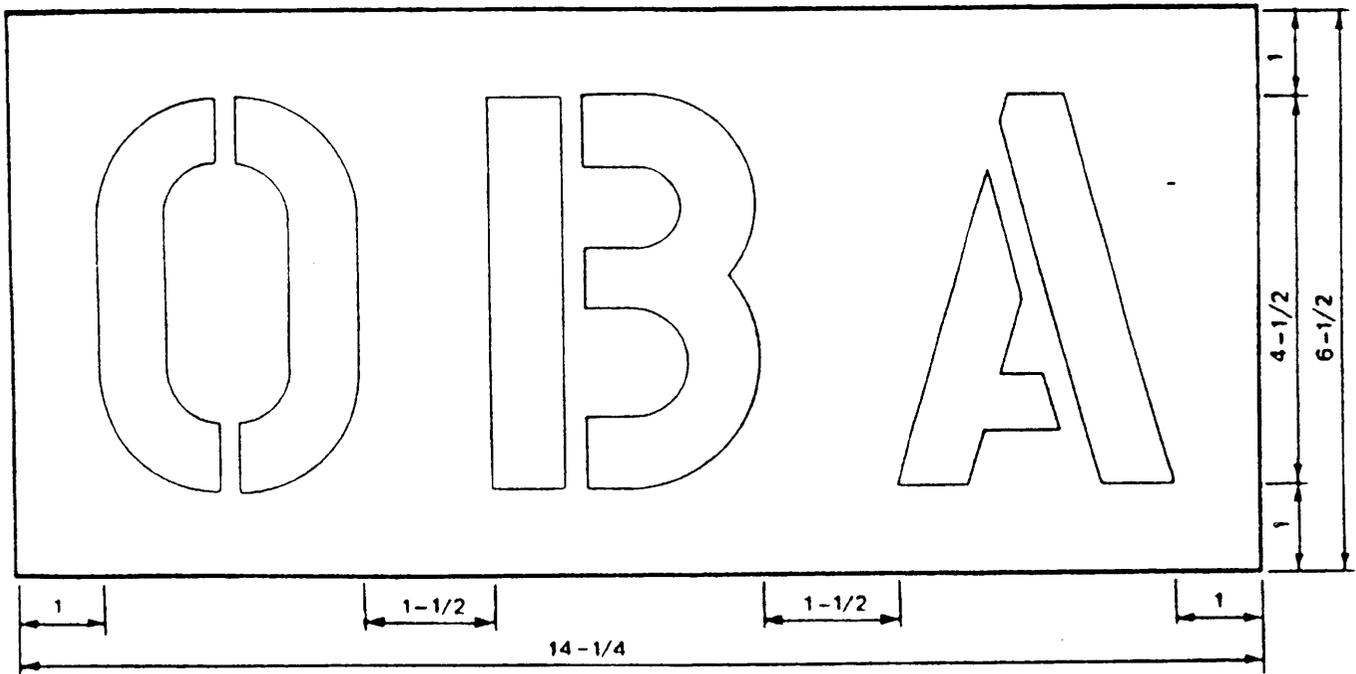


FIGURE 1. Surface ship stencil package (cont'd).

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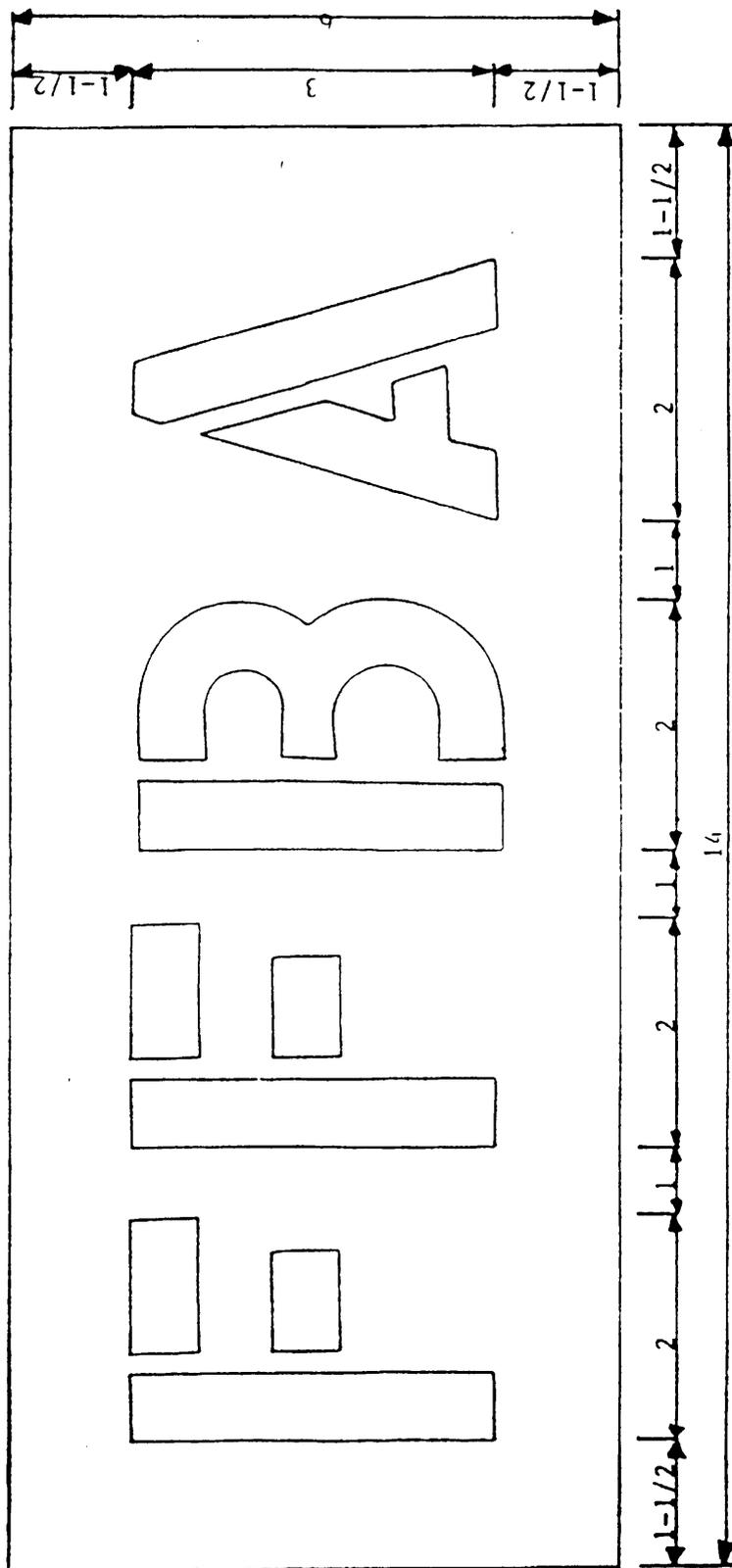


FIGURE 1. Surface ship stencil package (cont'd~.

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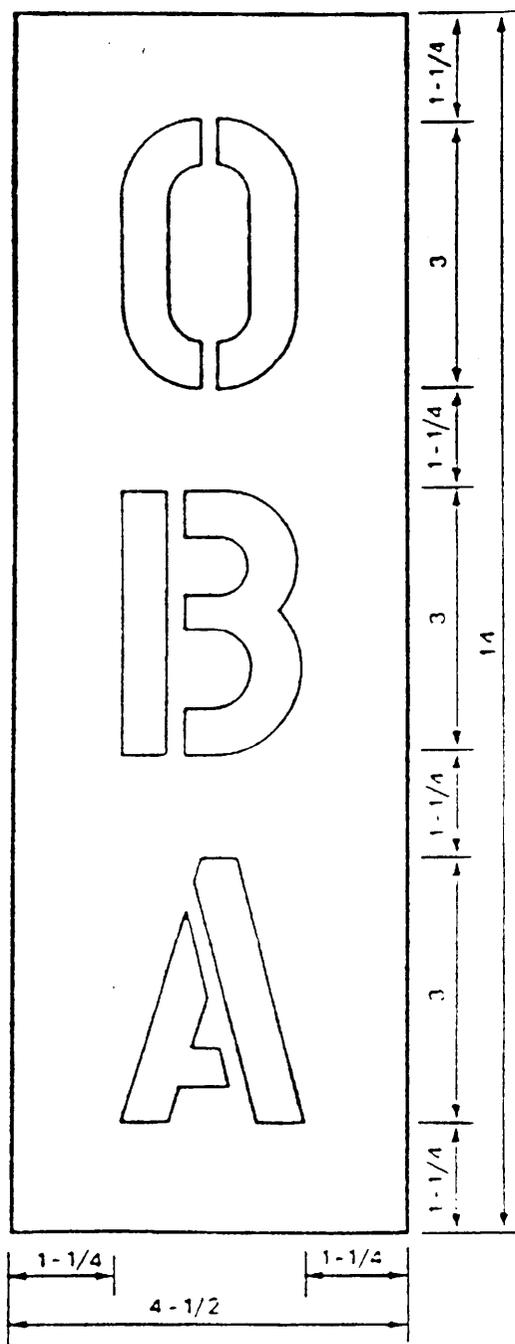


FIGURE 1. Surface ship stencil package (cont'd).

A - A - 5 0 5 9 8

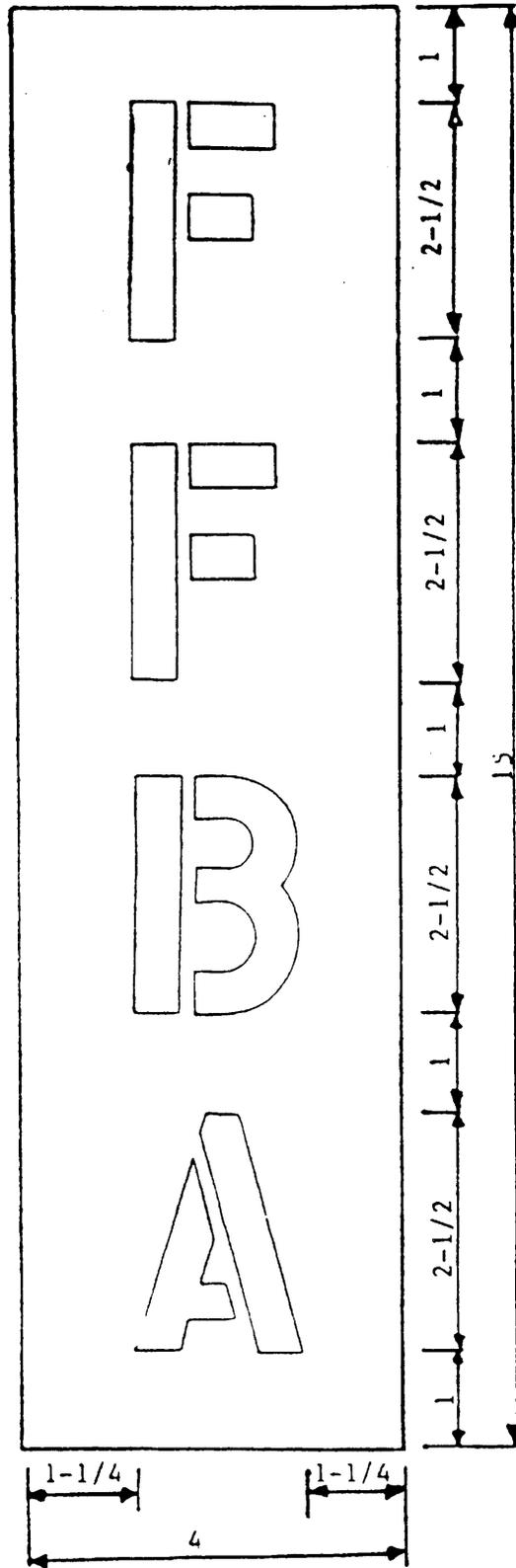


FIGURE 1. Surface ship stencil package (cont'd).

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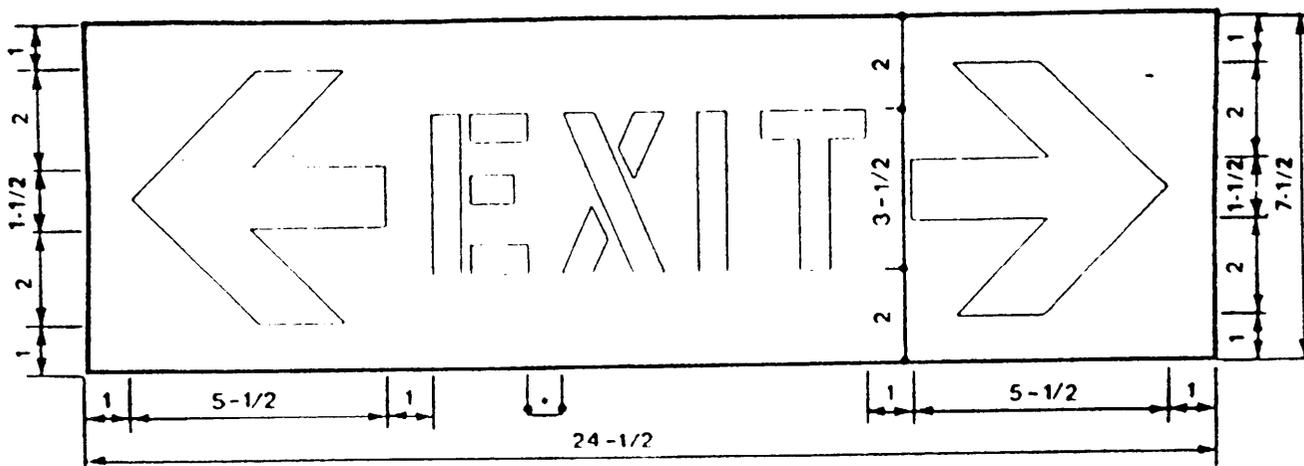


FIGURE 1. Surface ship stencil package (cent'd).

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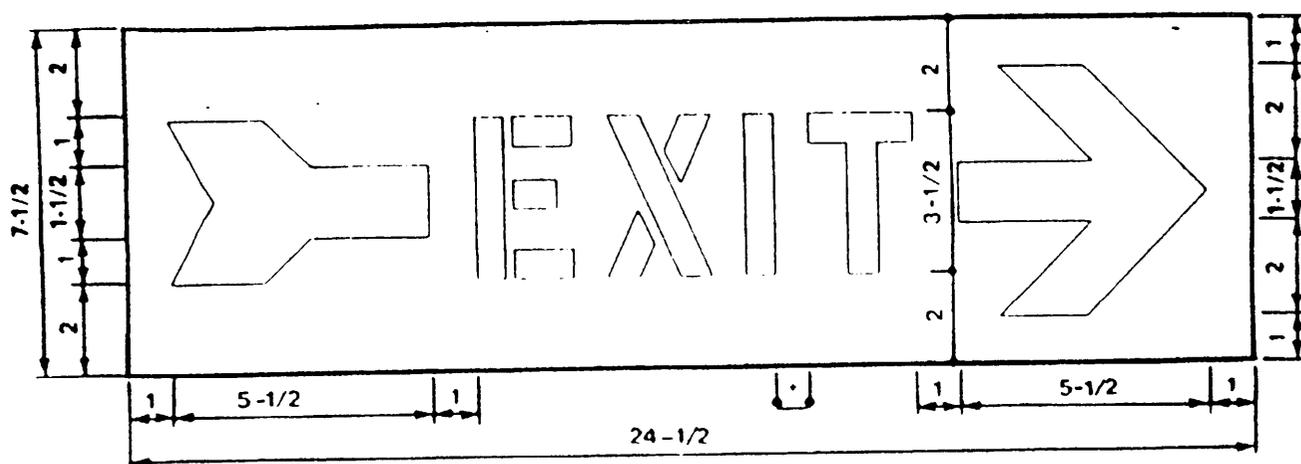


FIGURE 1. Surface ship stencil package (cont'd) .

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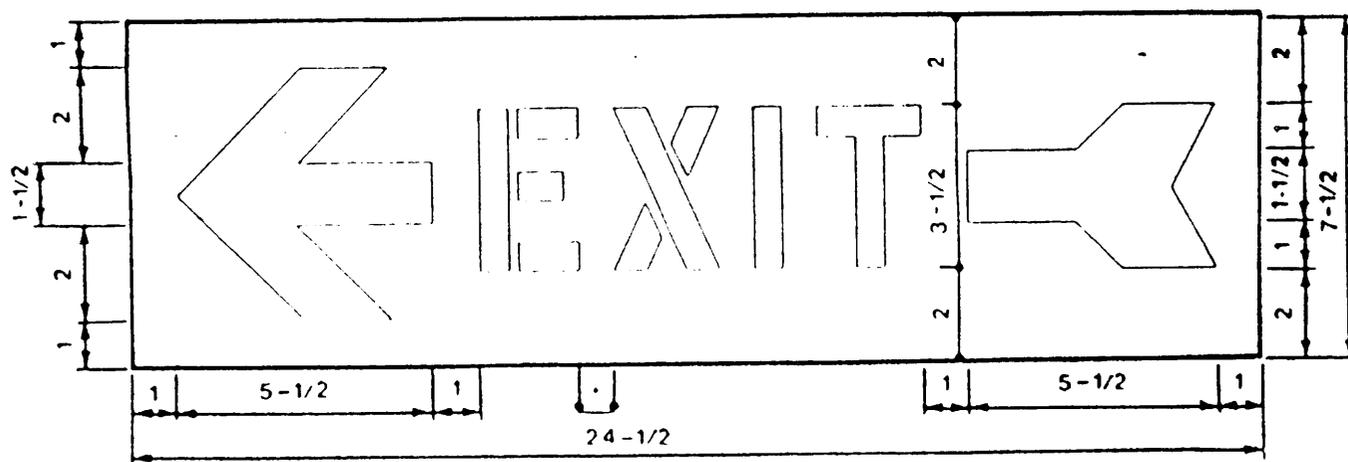


FIGURE 1. Surface ship stencil package (cont'd~).

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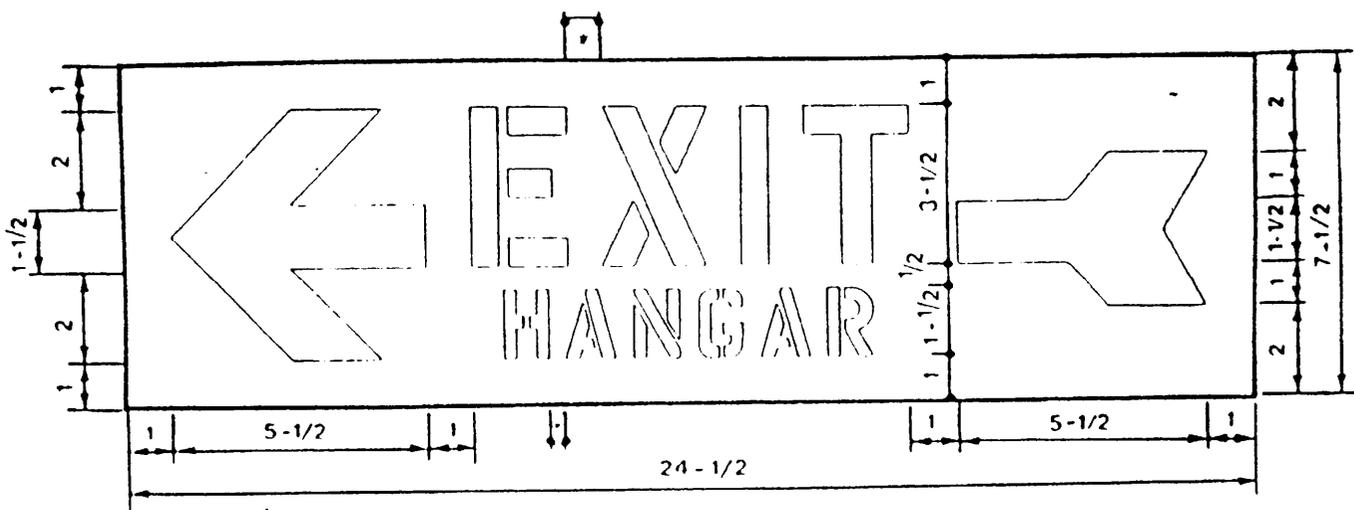


FIGURE 1. Surface ship stencil package (cont'd).

A - A - 5 0 5 9 8

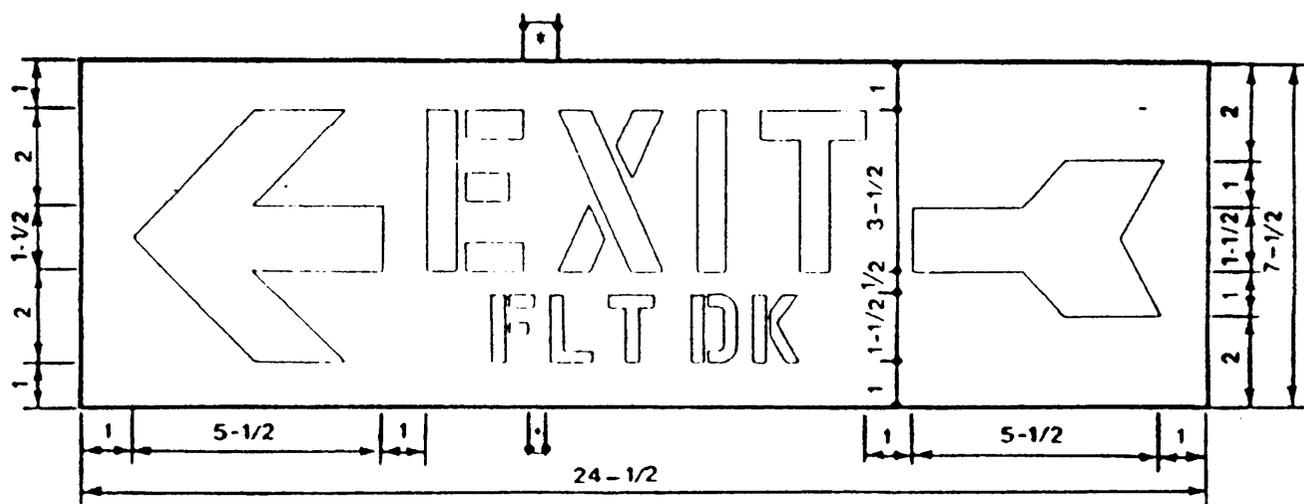


FIGURE 1. Surface ship stencil package (cont'd).

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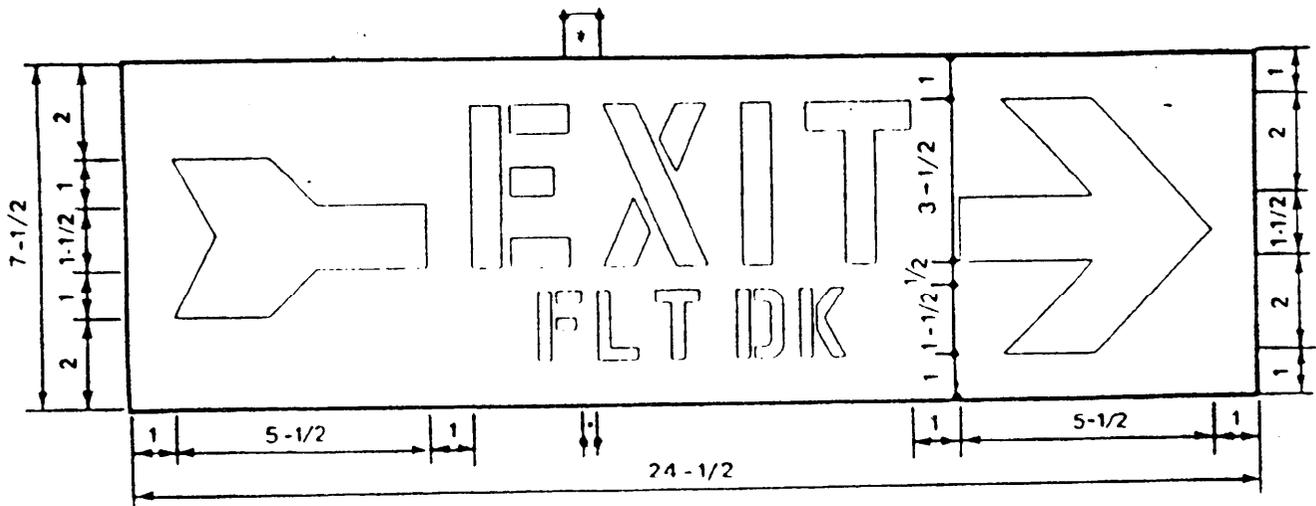


FIGURE 1. Surface ship stencil package (cont'dl.

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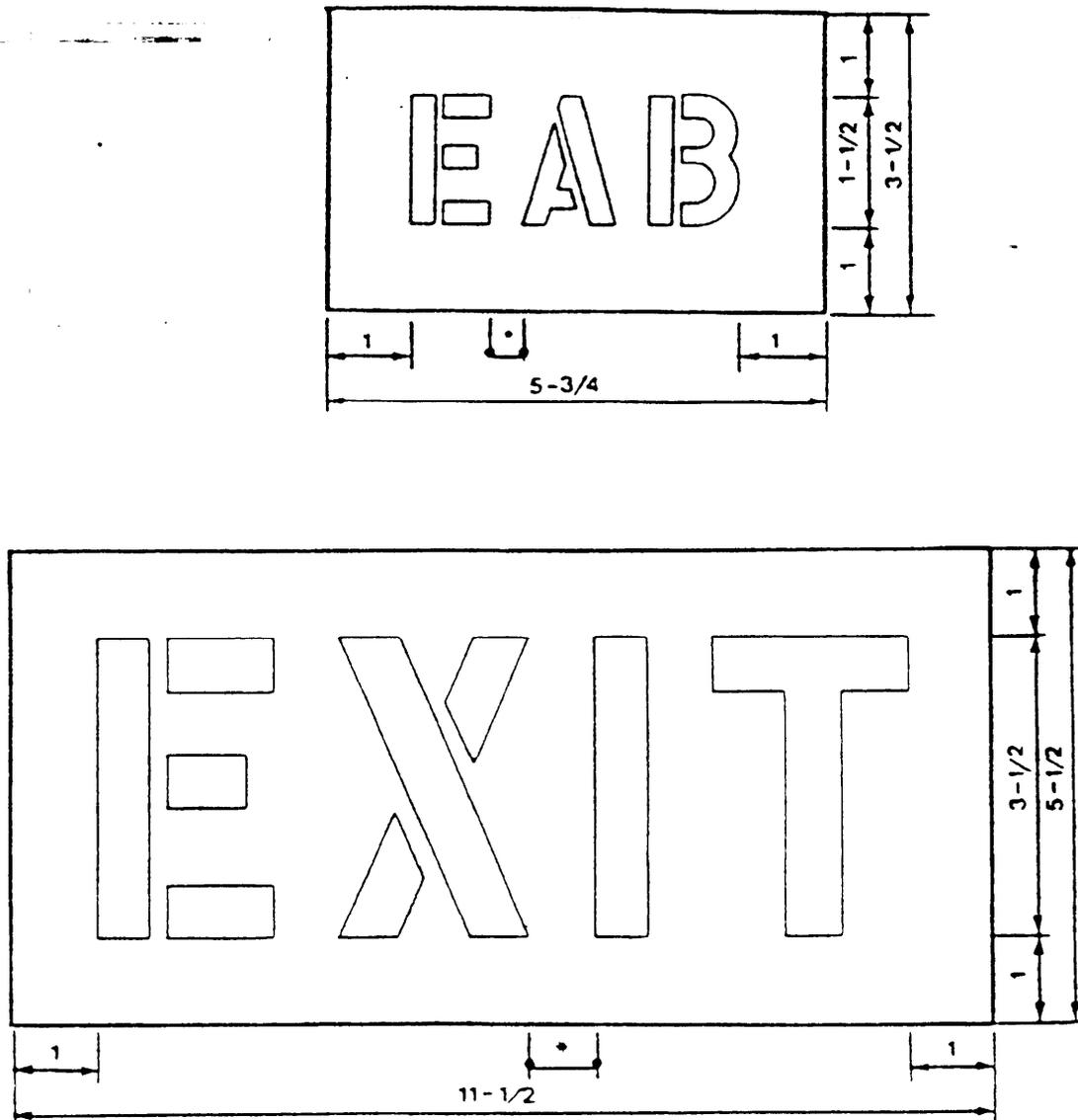


FIGURE 1. Surface ship stencil package (cont'd)..

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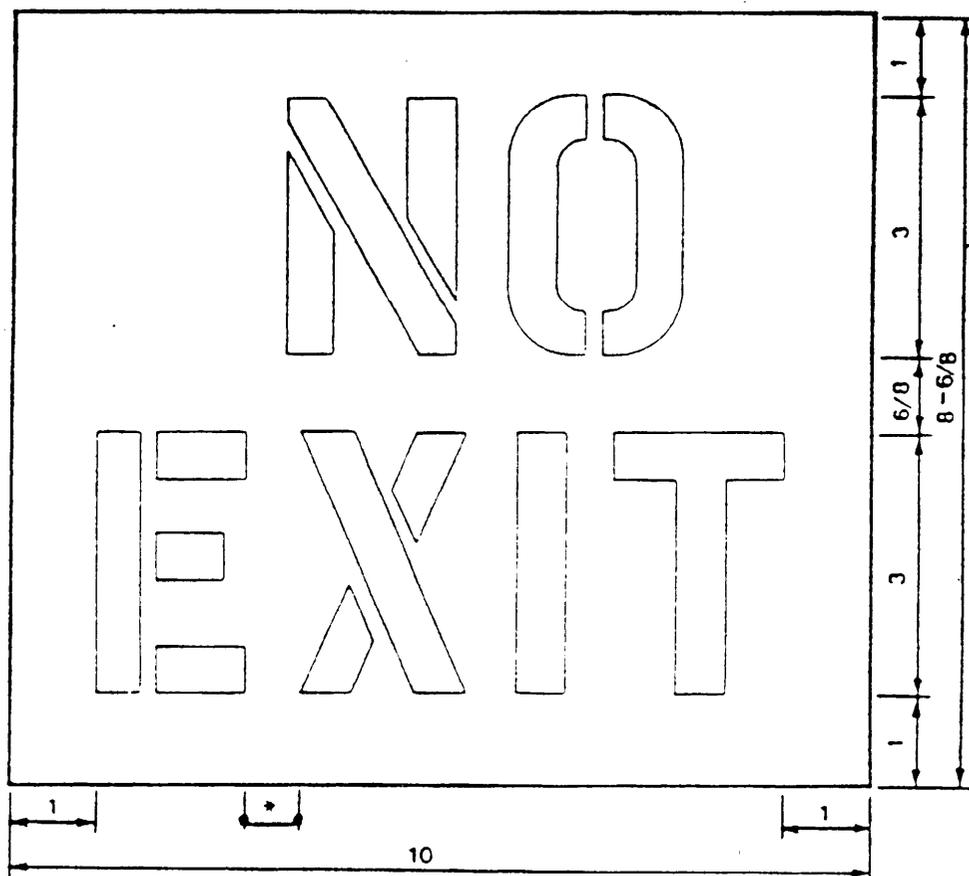


FIGURE 1. Surface ship stencil package (cont'd).

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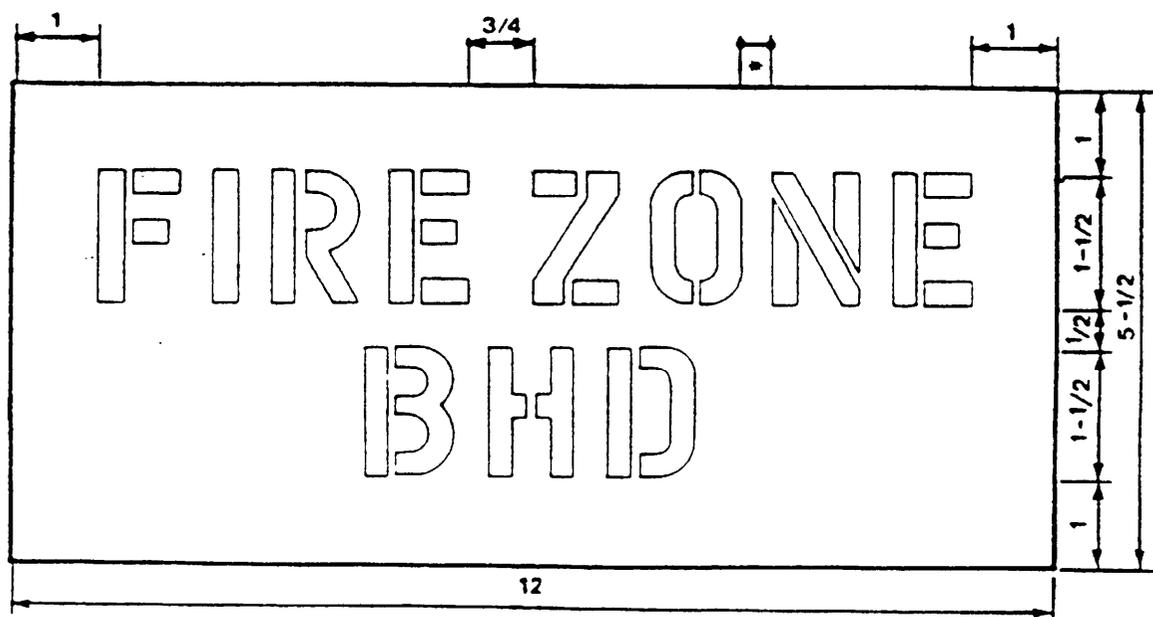


FIGURE 1. Surface ship stencil package (cont'd~.

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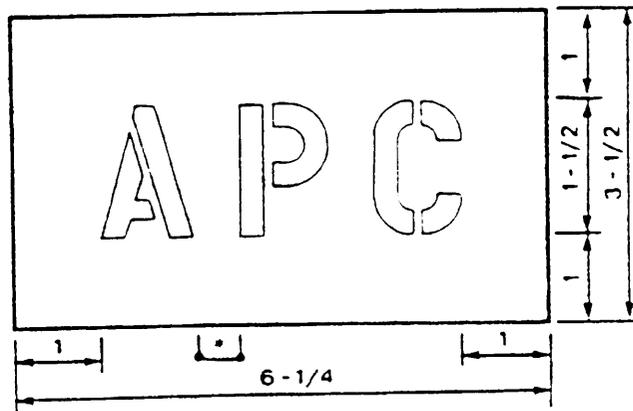
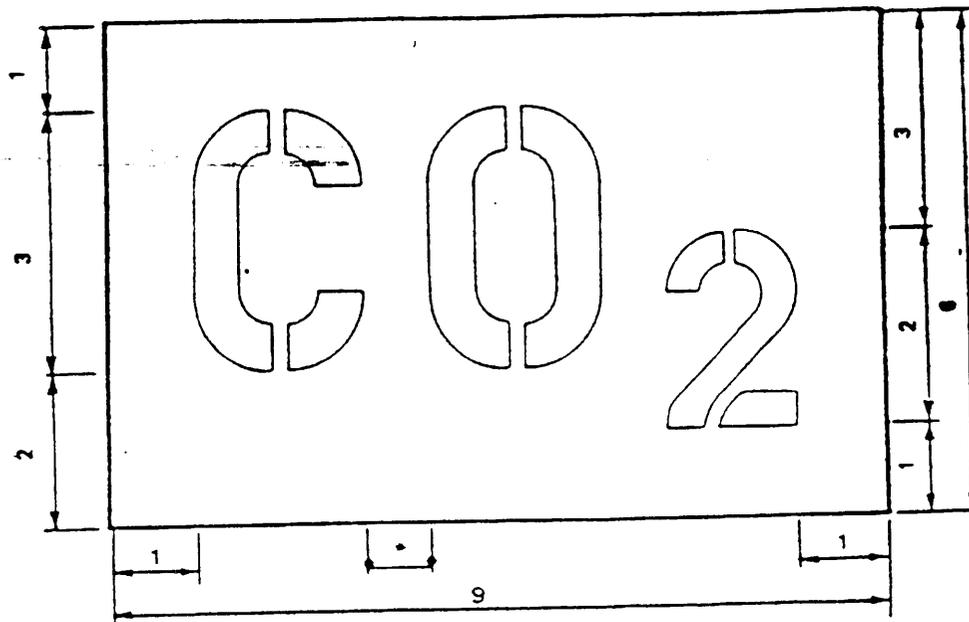


FIGURE 1. Surface ship stencil package (cent'd).

A - A - 5 0 5 9 8

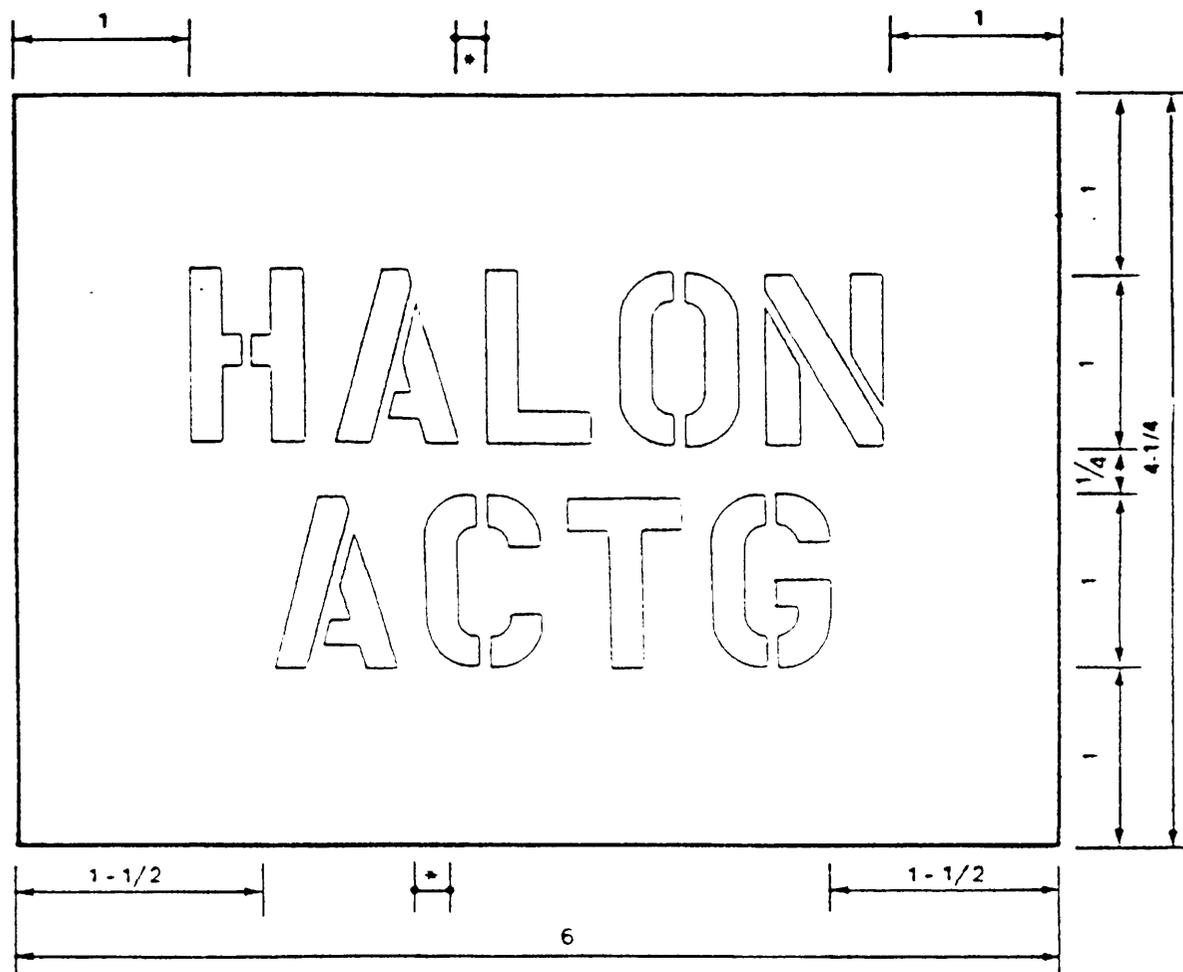


FIGURE 1. Surface ship stencil package (cont'd).

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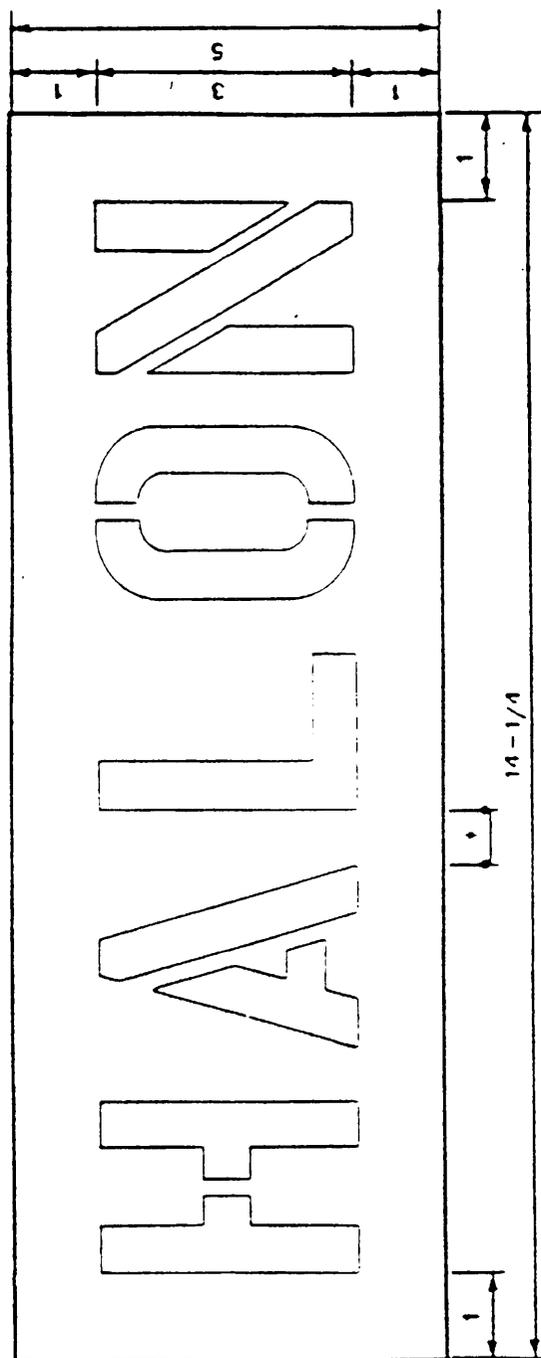


FIGURE 1. Surface ship stencil package (cont'd.).

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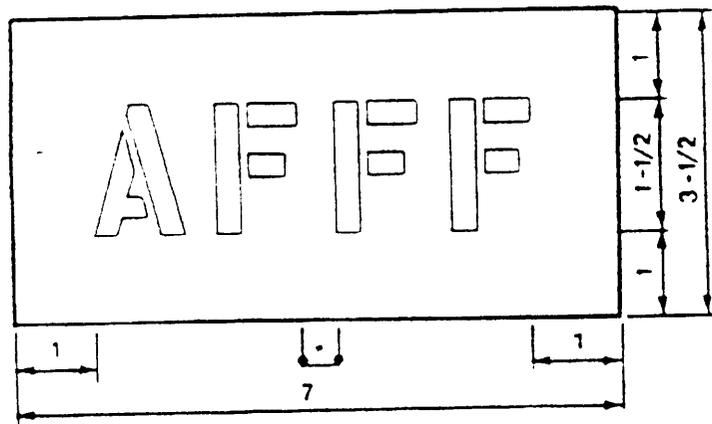
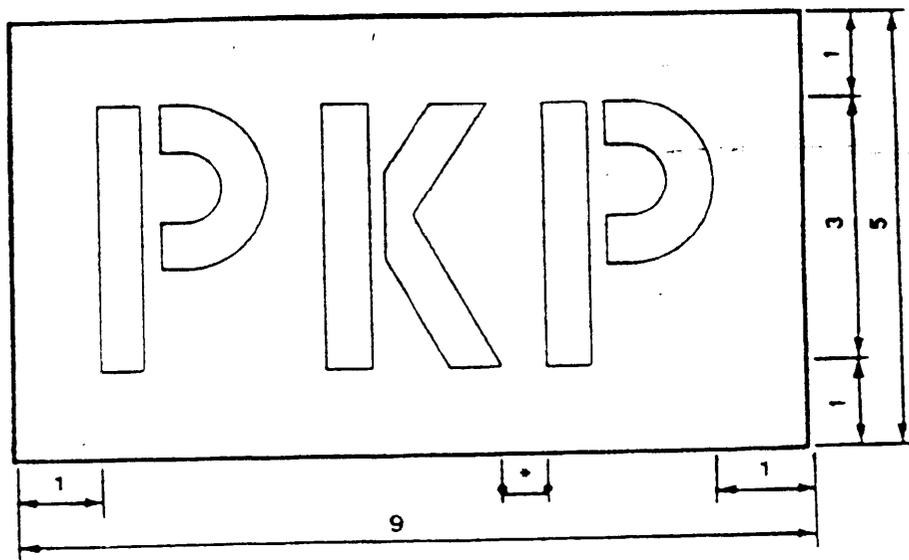


FIGURE 1. Surface ship stencil package (cent'd~.

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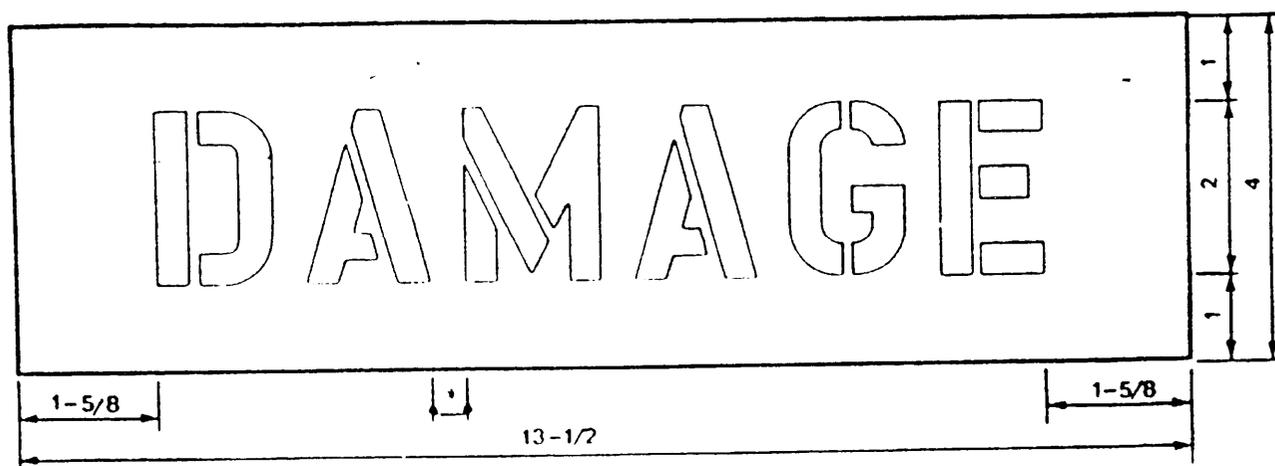


FIGURE 1. Surface ship stencil package (cent'd) ,

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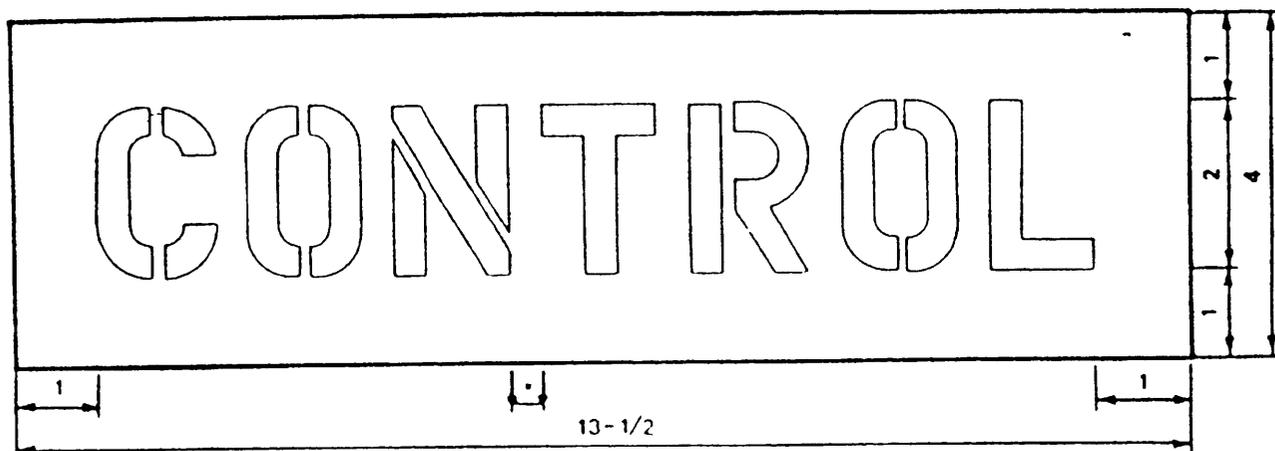


FIGURE 1. Surface ship stencil package (cent'd~).

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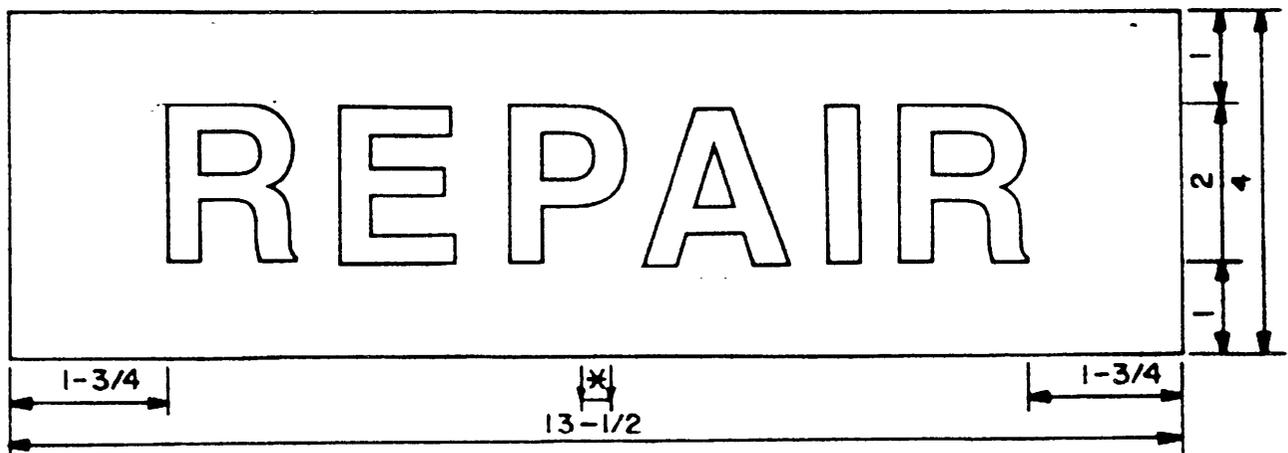


FIGURE 1. Surface ship stencil package (cont'd).

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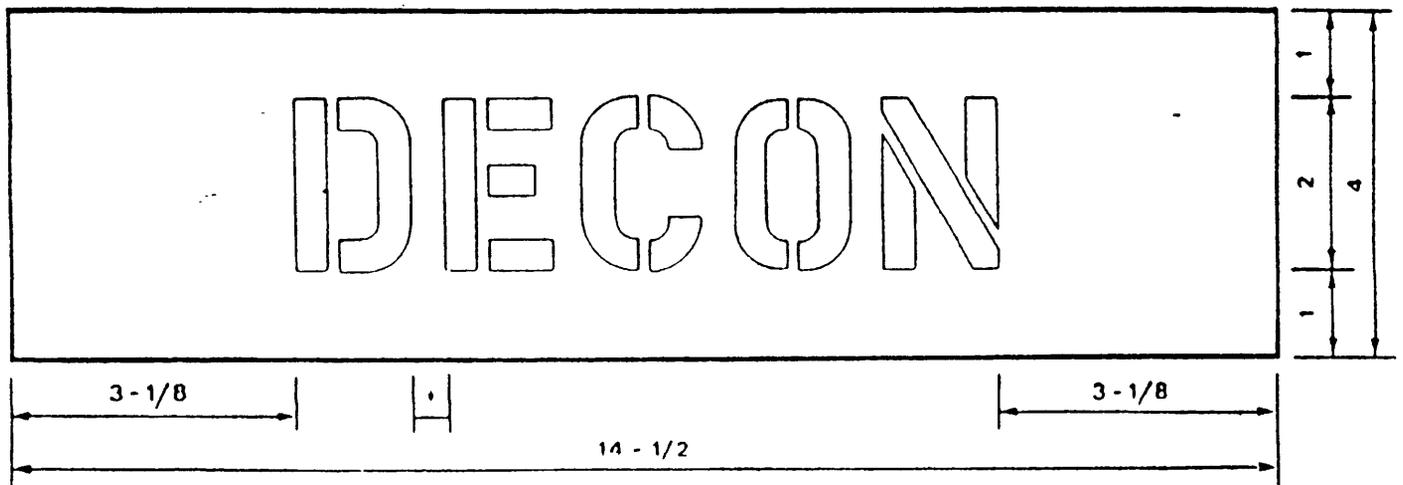


FIGURE 1. Surface ship stencil package (cent'd) .

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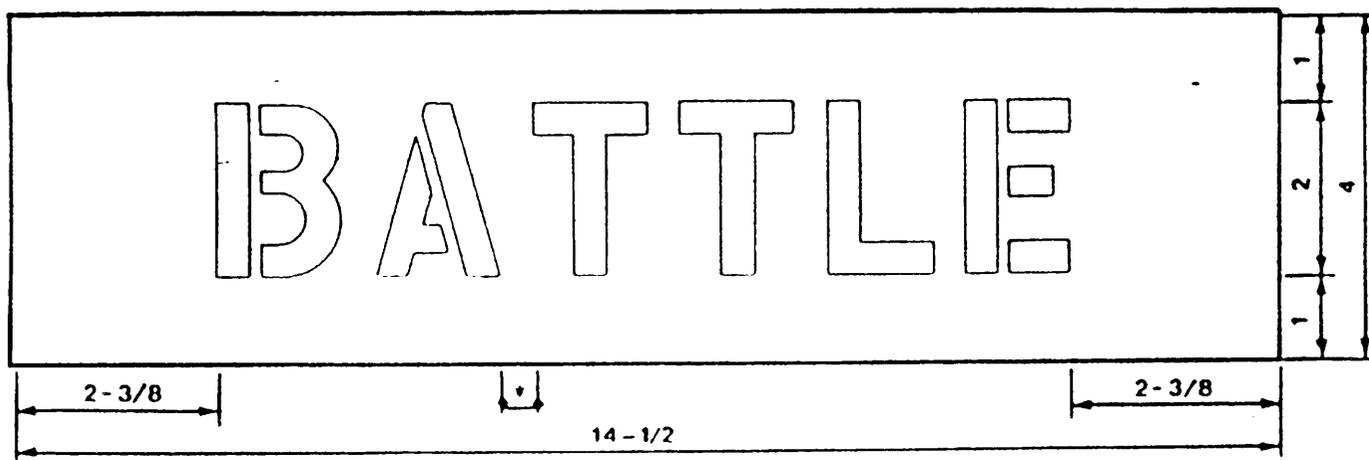


FIGURE 1. Surface ship stencil Package (cont'd).

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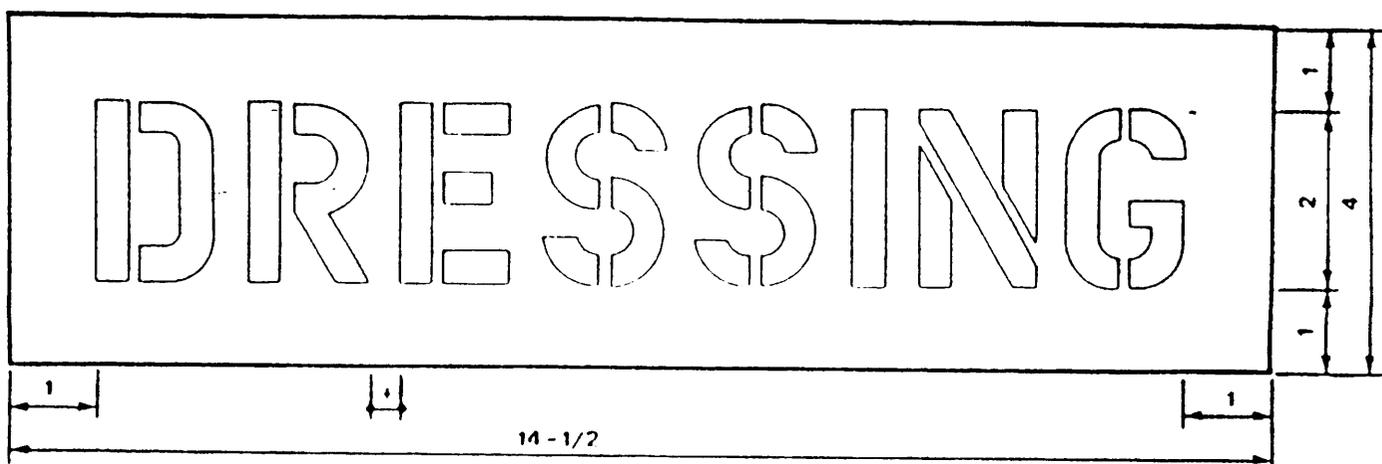


FIGURE 1. Surface ship stencil package (cent'd~.

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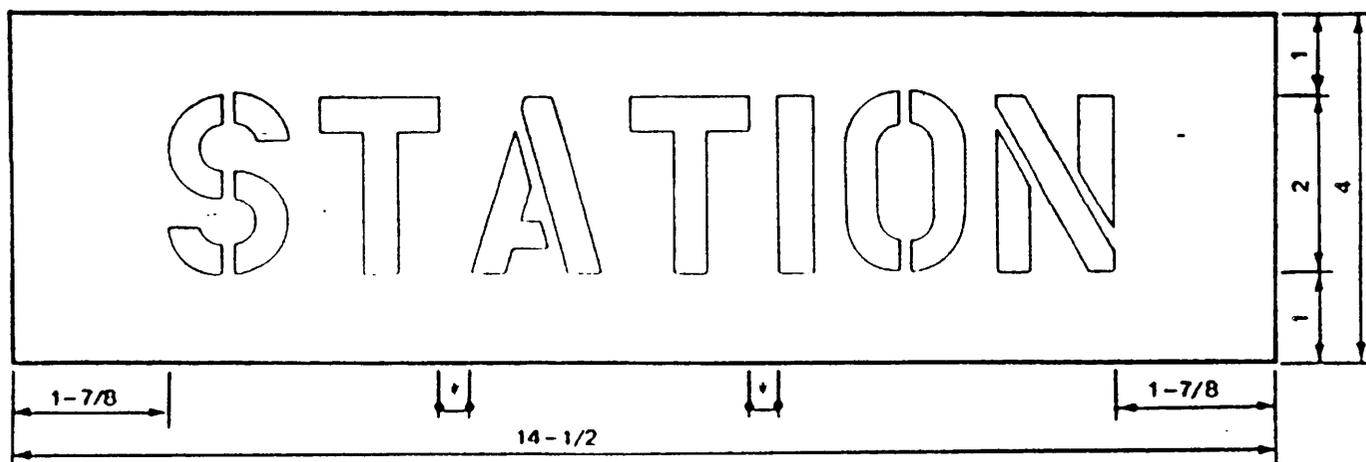


FIGURE 1. Surface ship stencil package (cent'd).

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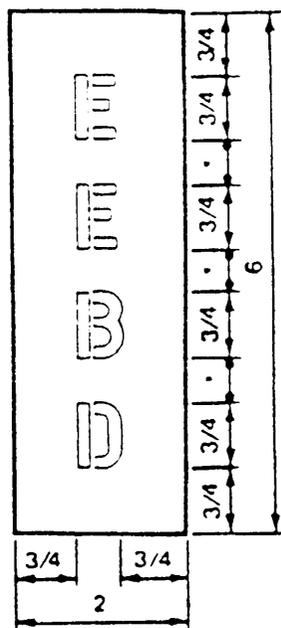
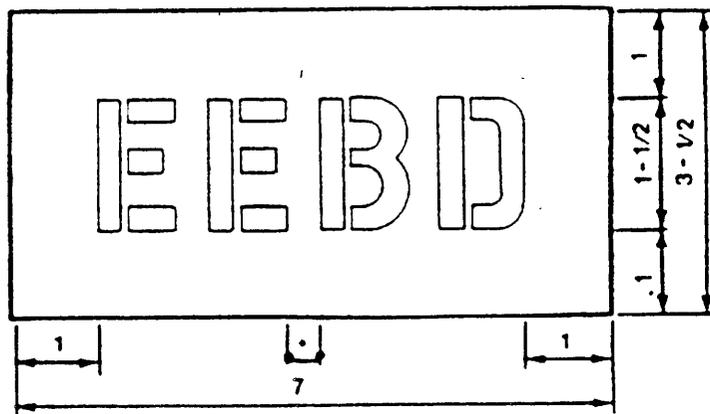


FIGURE 1. Surface ship stencil package (cent'd).

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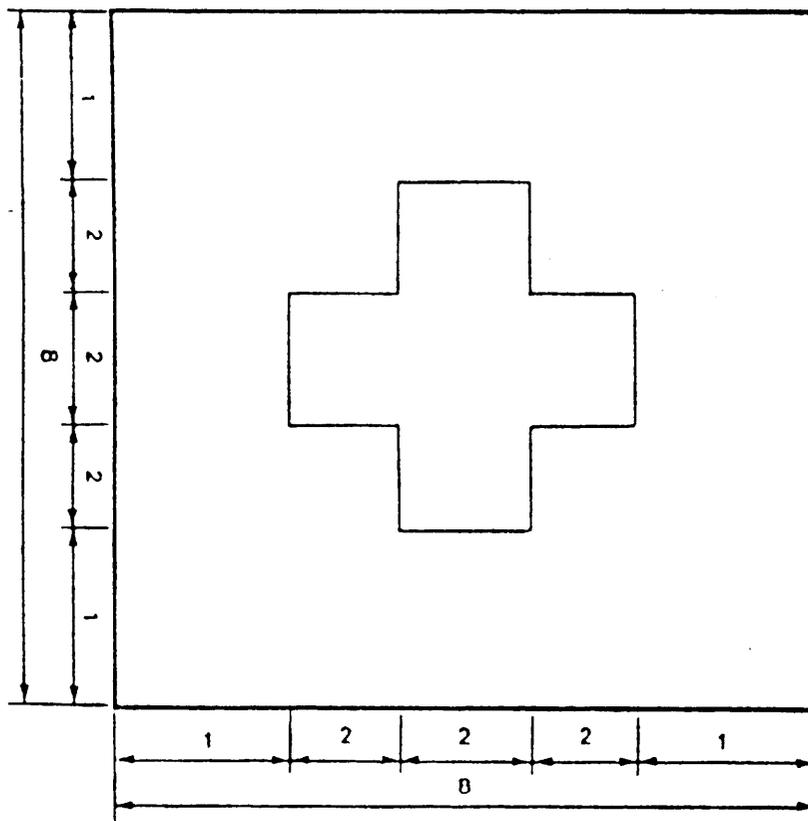


FIGURE 1. Surface ship stencil package (cent'd~).

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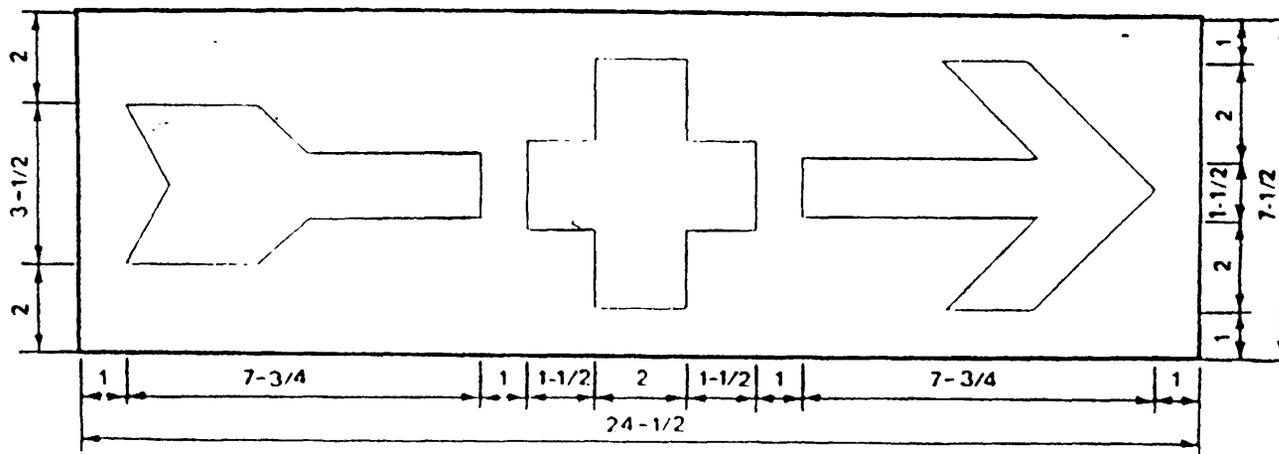


FIGURE 1. Surface ship stencil package (cont' d)-.

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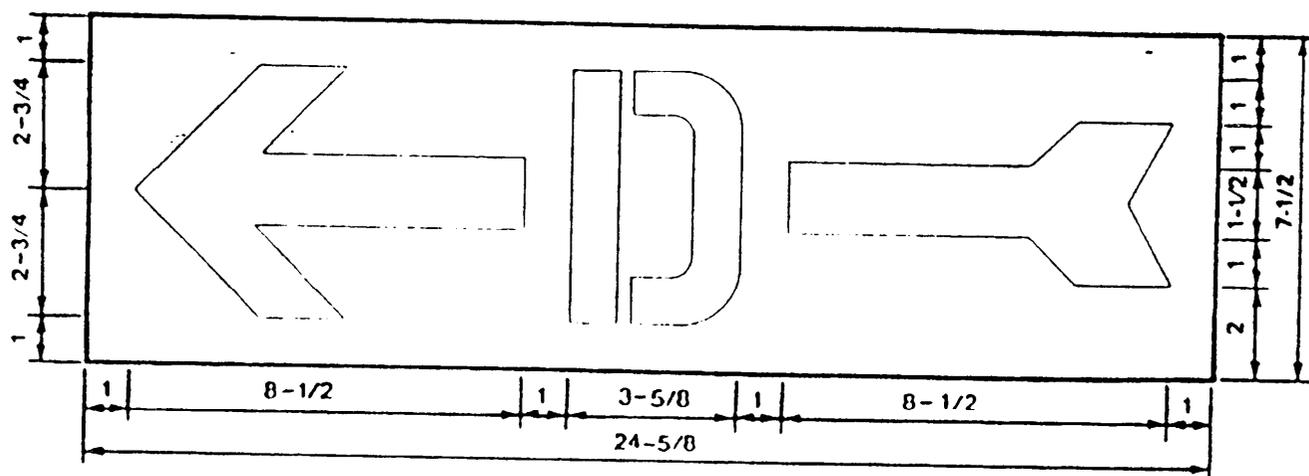


FIGURE 1. Surface ship stencil package (cont'd).

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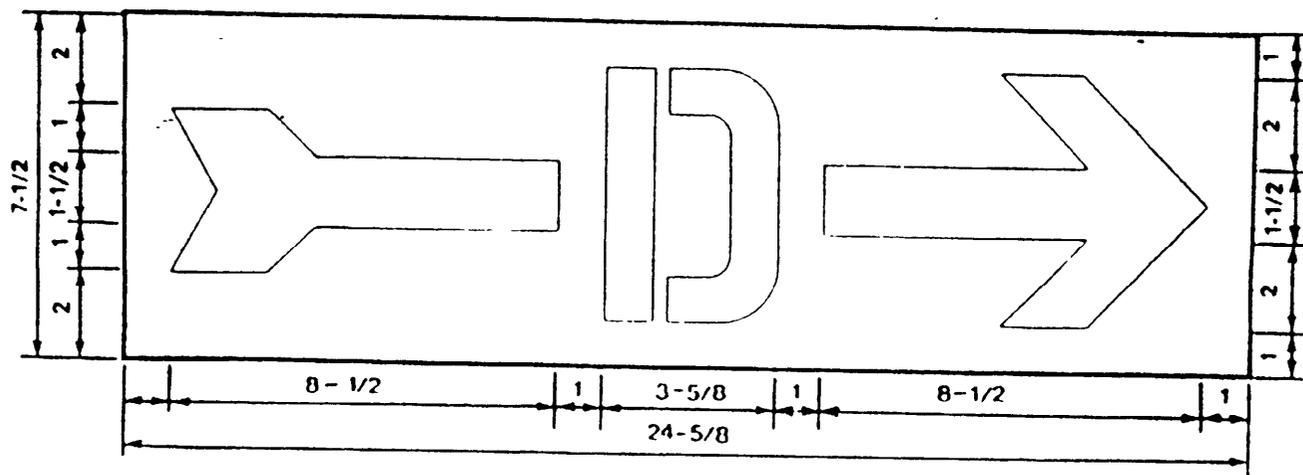


FIGURE 1. Surface ship stencil package (cont'd~.

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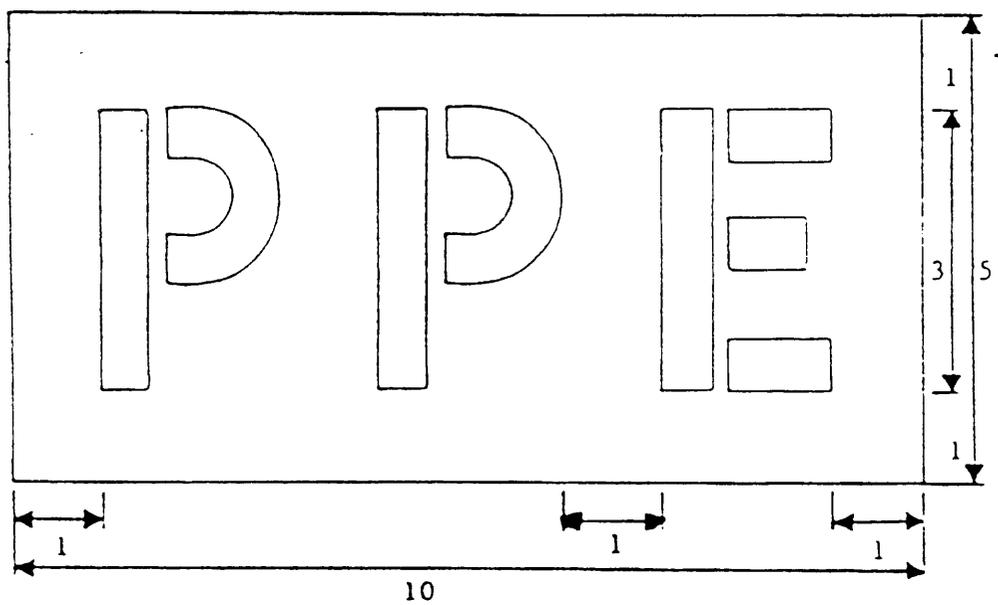
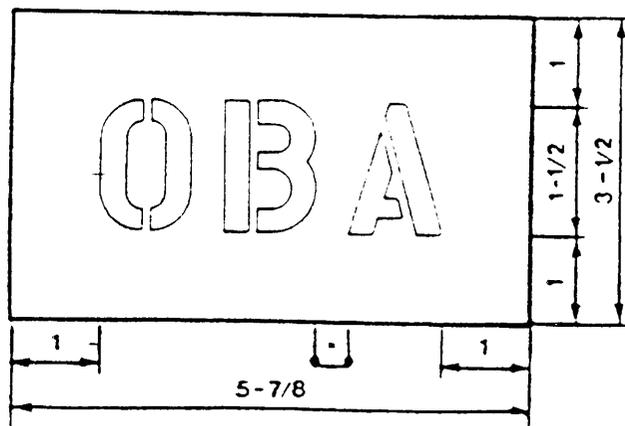
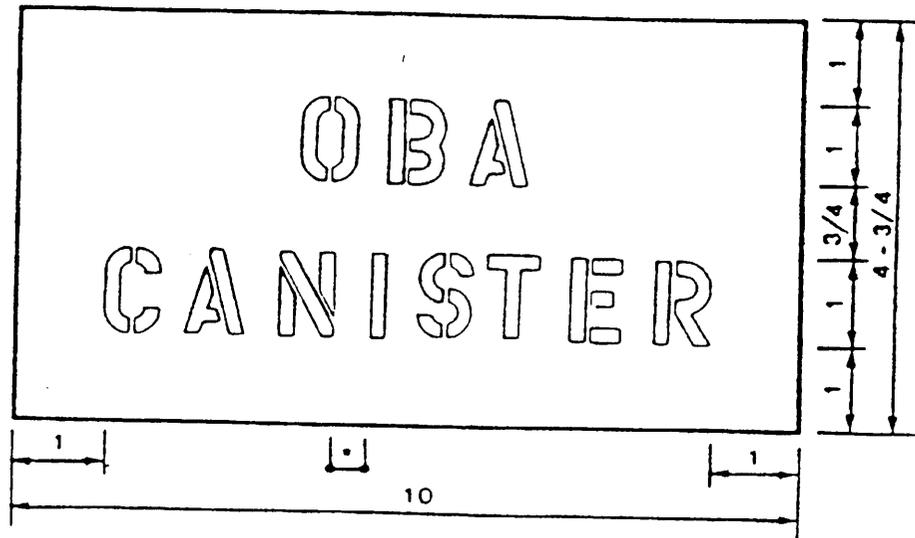


FIGURE 1. Surface ship stencil package (cont'd).

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FIGURE 2. Submarine stencil package.

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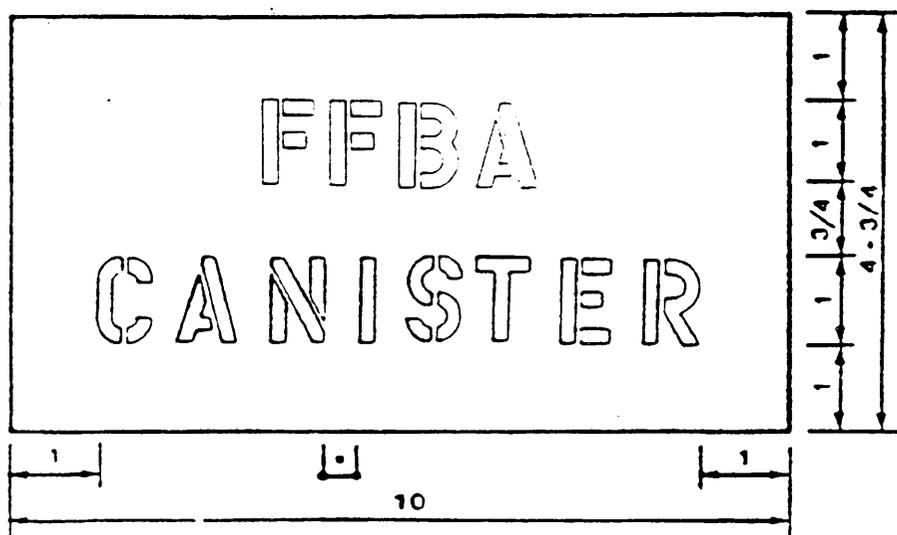


FIGURE 2. Submarine stencil package (cent'd) .

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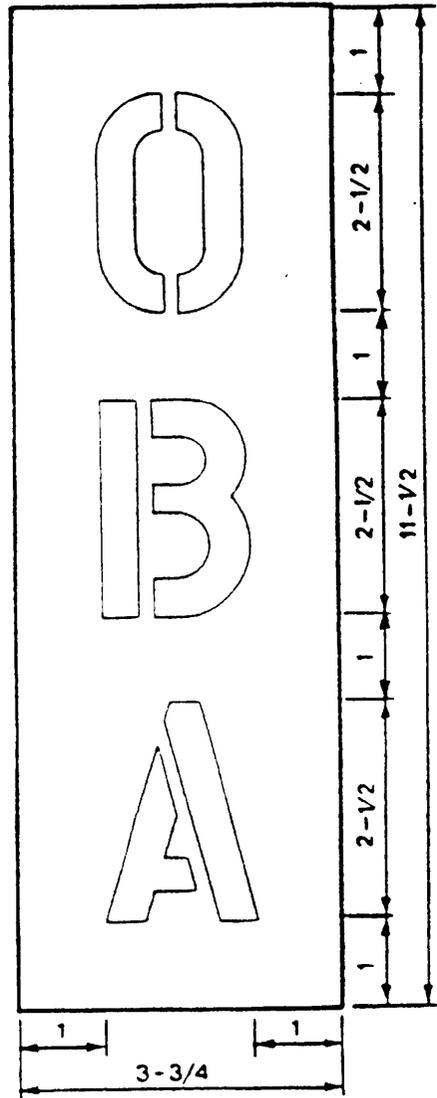


FIGURE 2. Submarine stencil package (cont'd) .

A - A - 5 0 5 9 8

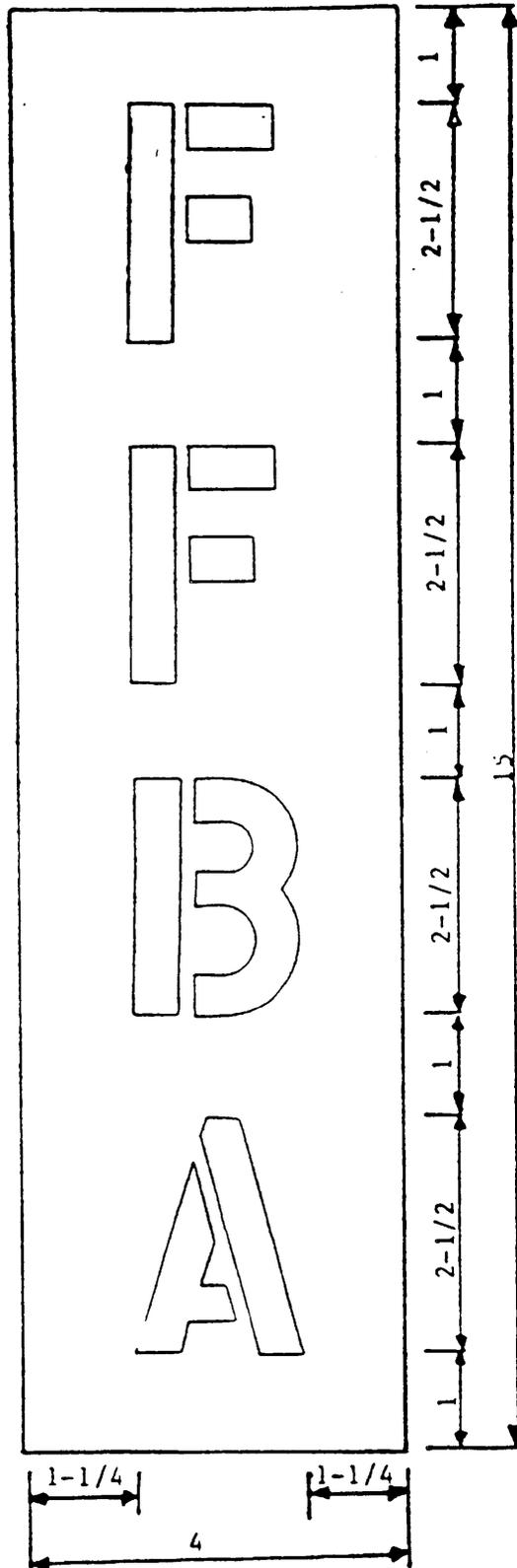


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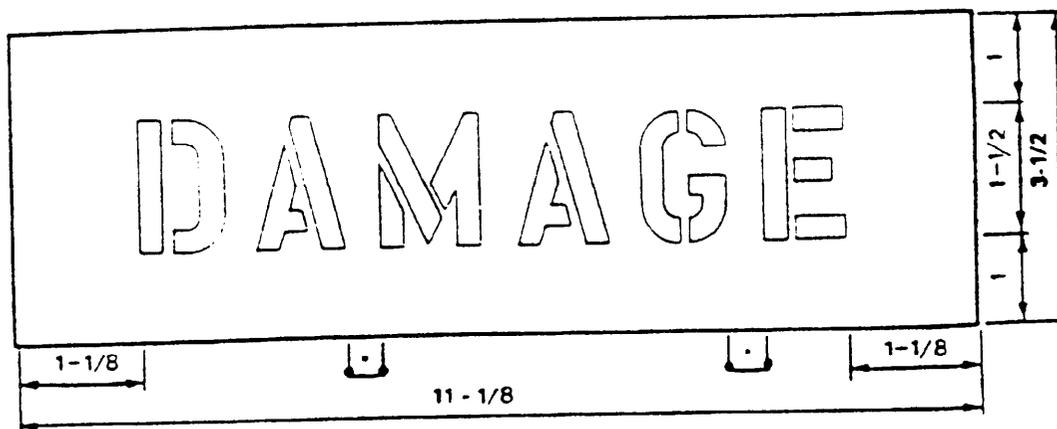
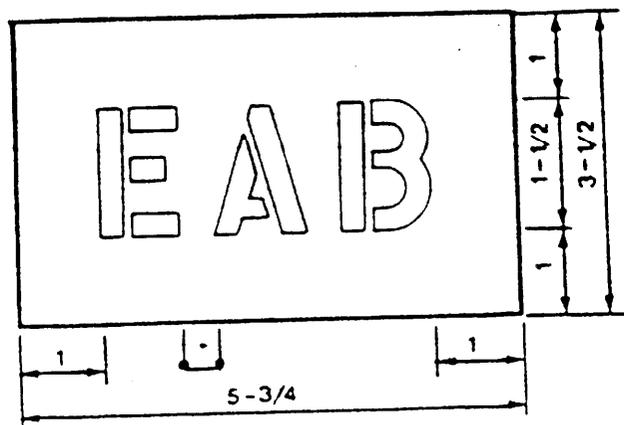


FIGURE 2. Submarine stencil (cent'd).

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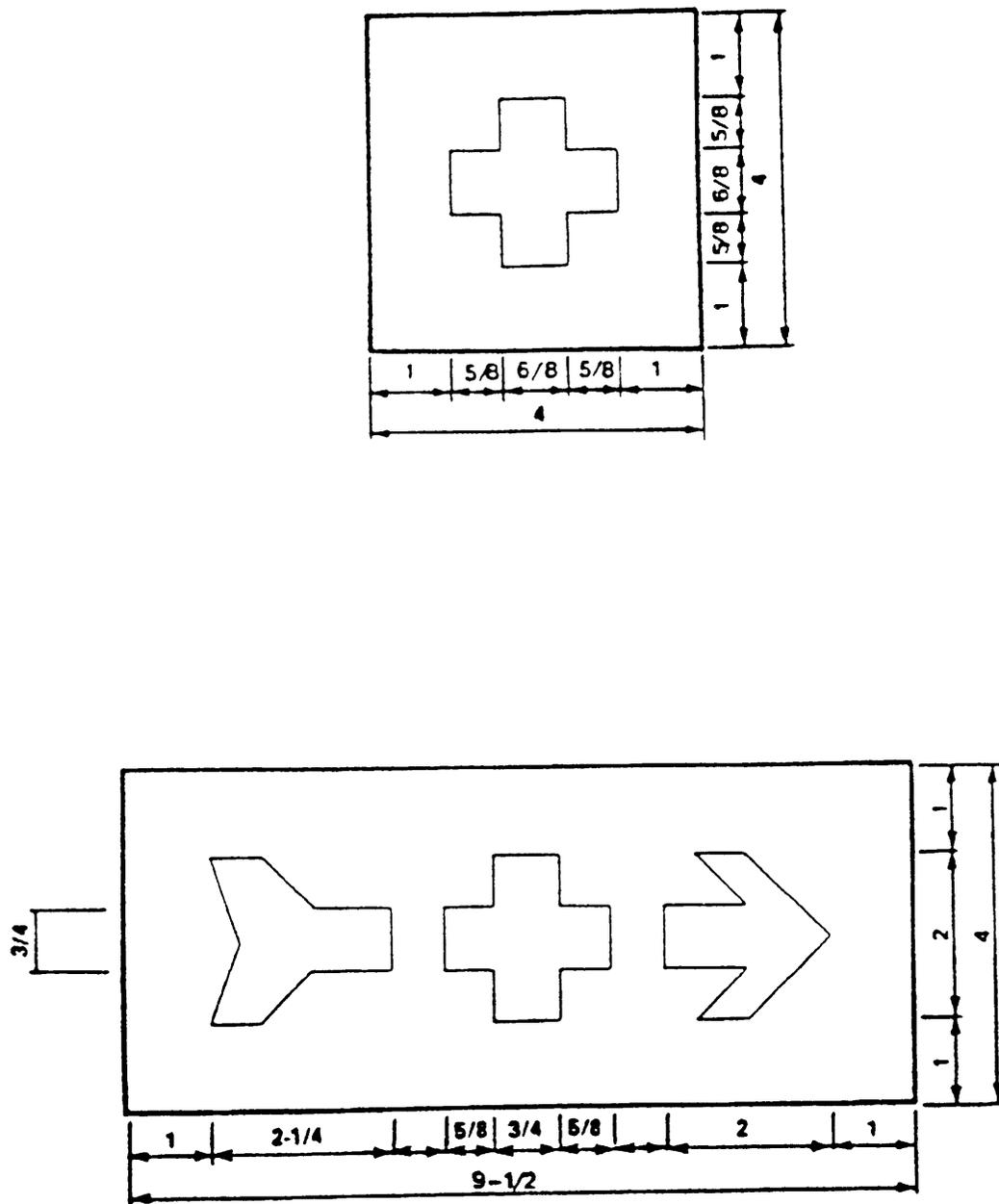


FIGURE 2. Submarine stencil package (cont'd).

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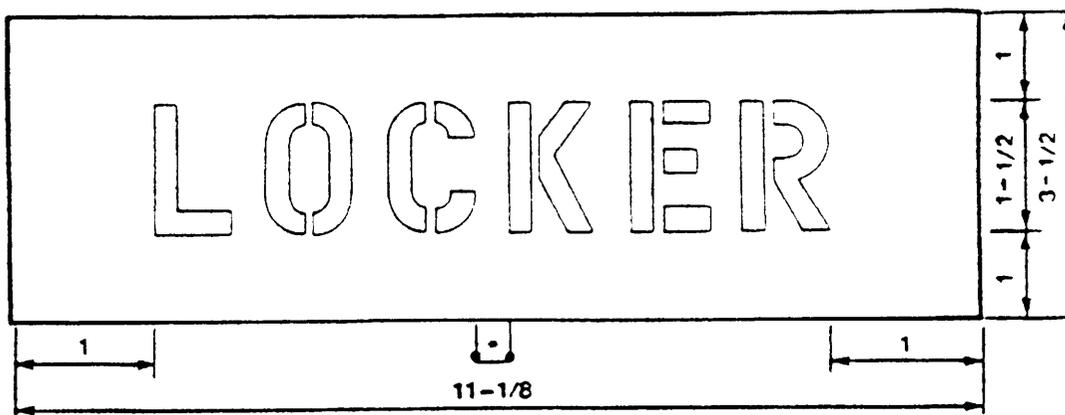
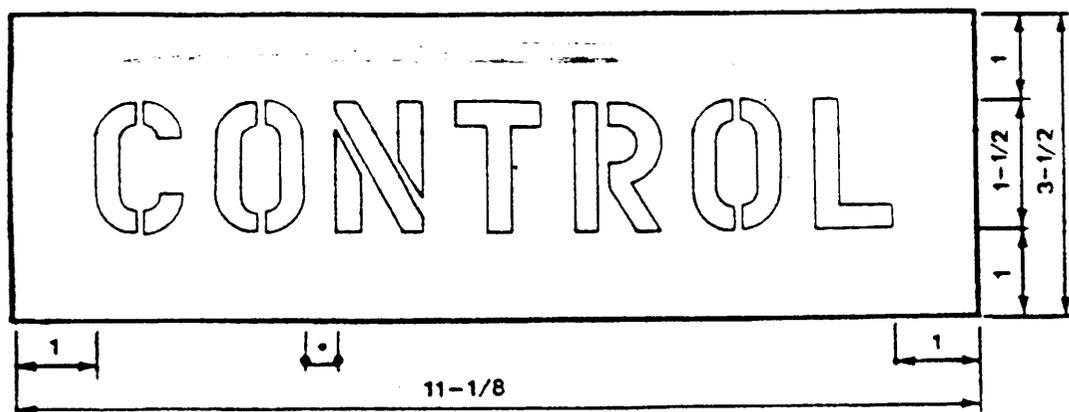


FIGURE 2. Submarine stencil package (cont'd).

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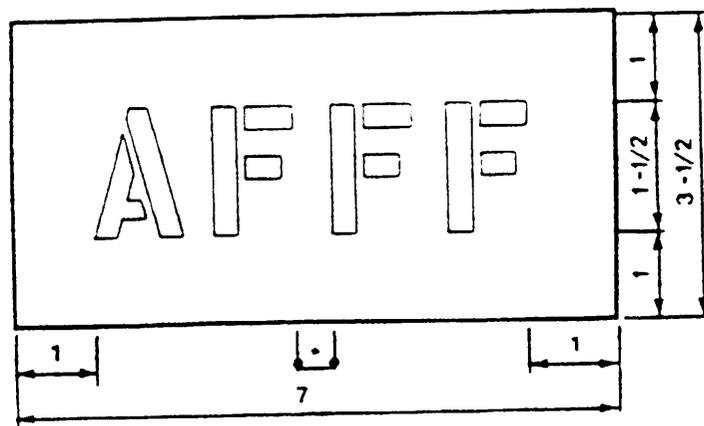
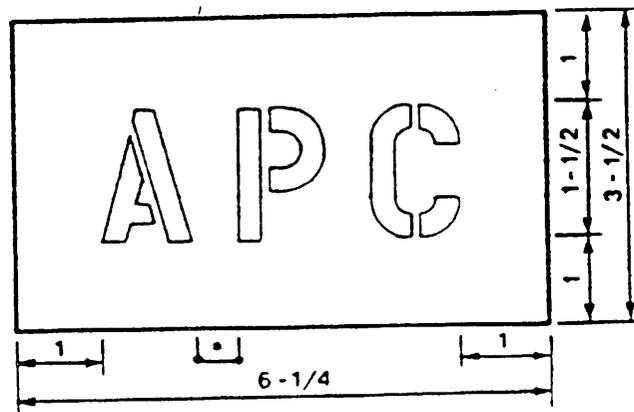


FIGURE 2. Submarine stencil Package (cent'd).

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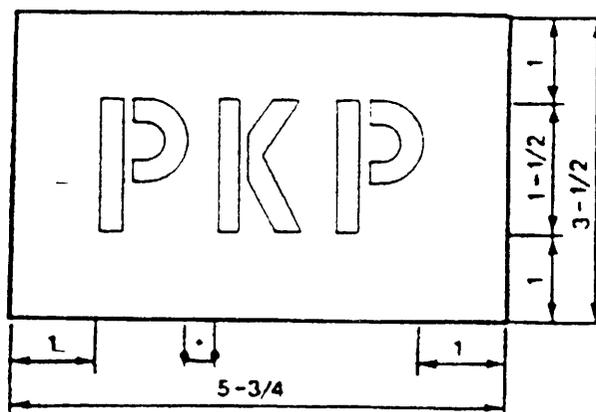
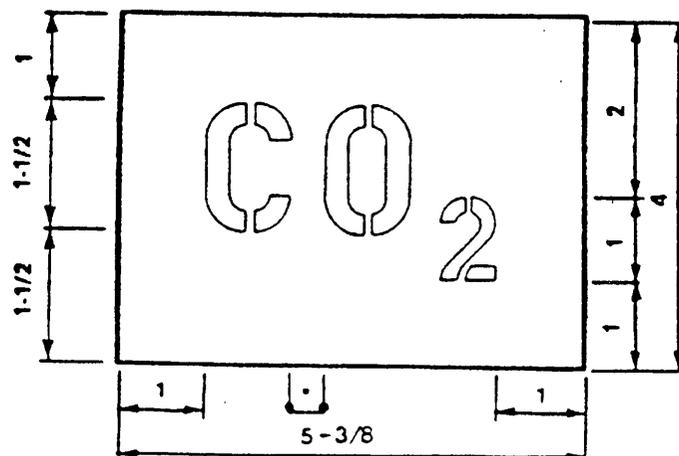


FIGURE 2. Submarine stencil package (cont'd).

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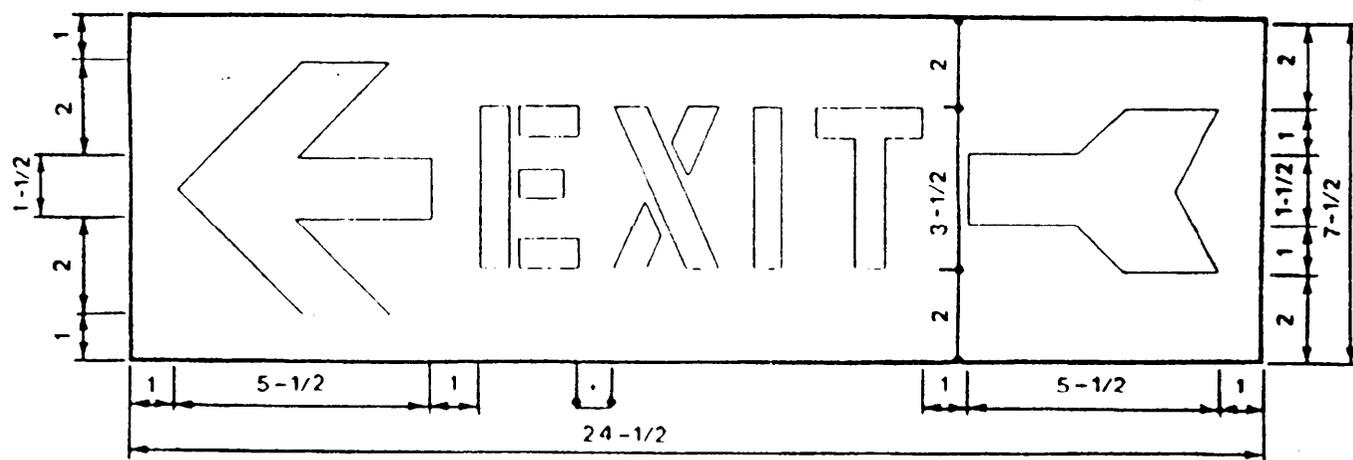


FIGURE 2. Submarine stencil package (cont'd) .

A - A - 5 0 5 9 8

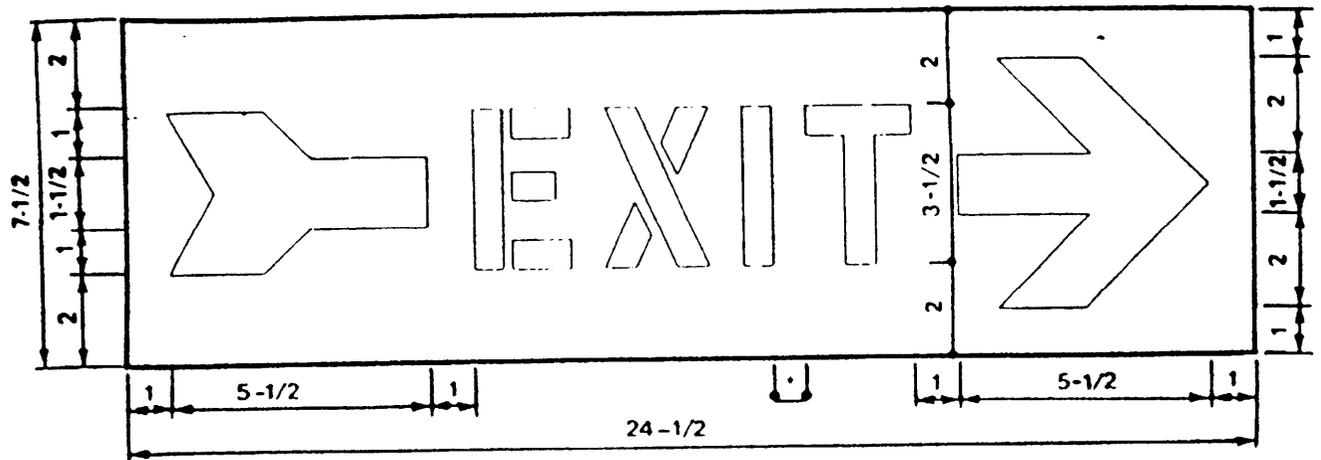


FIGURE 2. Submarine stencil package (cont'd) .

A - A - 50598

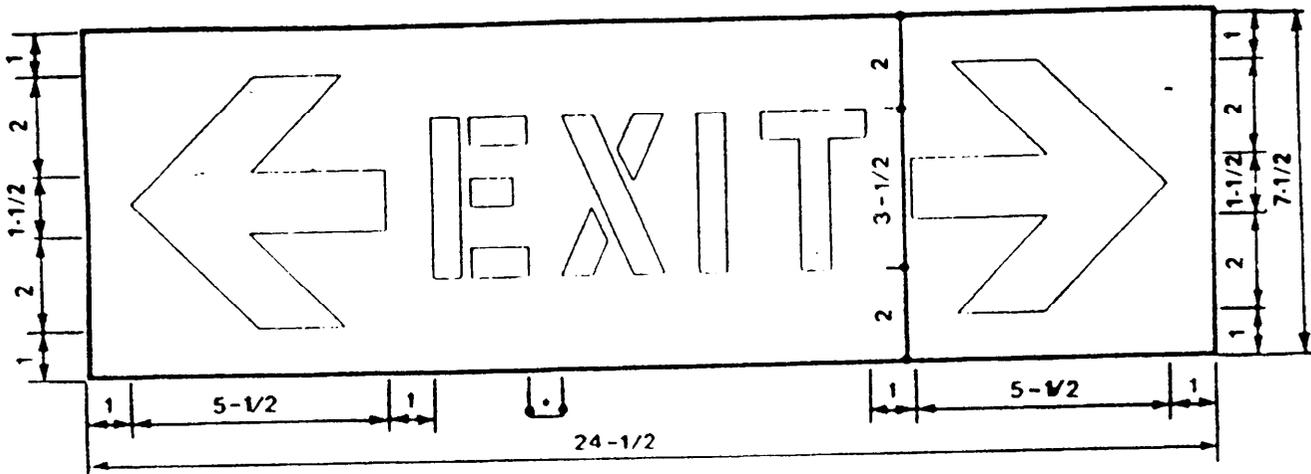


FIGURE 2. Submarine stencil package (cont'd) .

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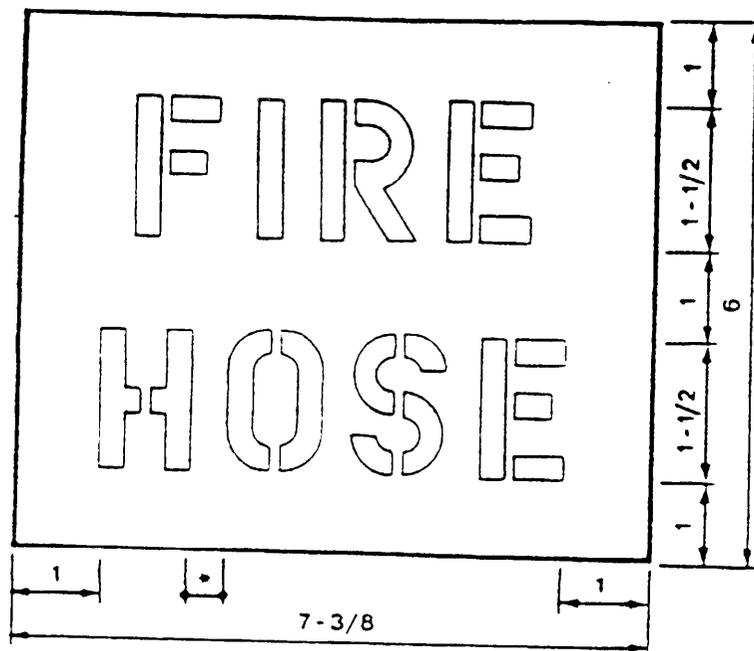


FIGURE 2. Submarine stencil package (cont'd).

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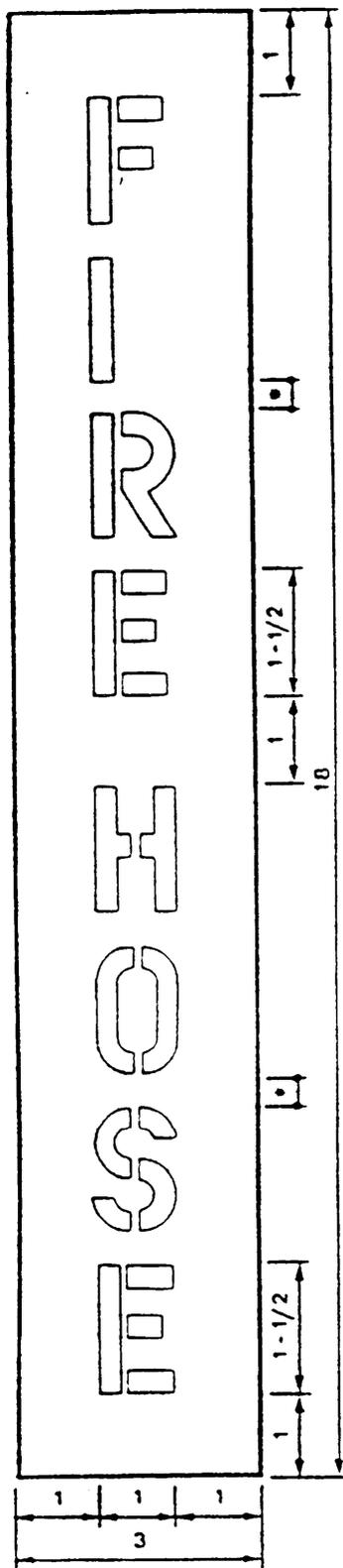


FIGURE 2. Submarine stencil package (cent'd) .

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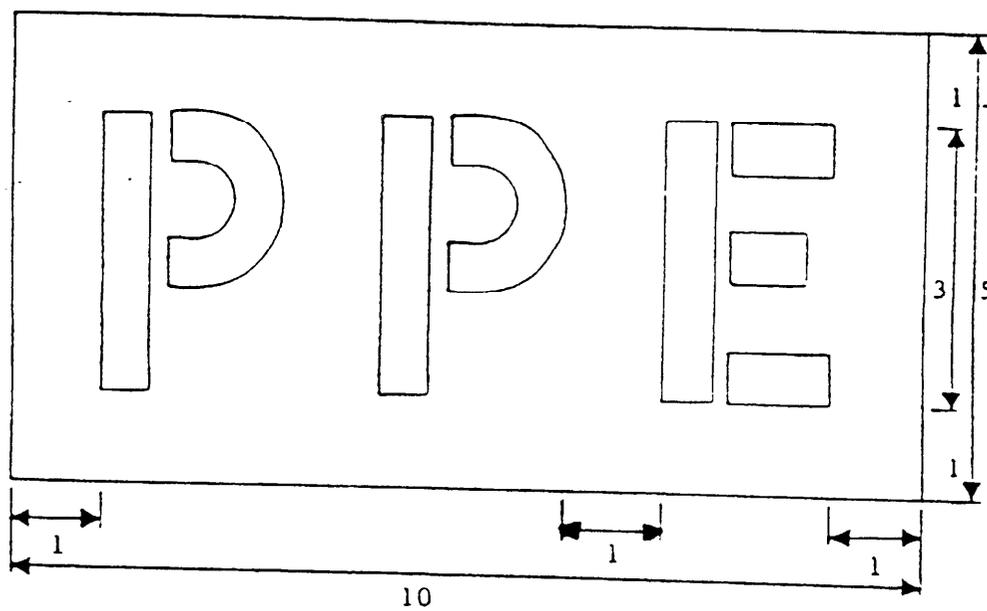


FIGURE 2. Submarine stencil package (cent'd) .