

## CHAPTER 8

### SPECIAL CLOSURES

#### 8-1. GENERAL.

In addition to the more common closures described in [chapter 1](#), several ships are fitted with special closures which qualify as watertight. This chapter includes these special closures, along with the associated inspection, repair, and maintenance procedures required. The maintenance procedures are essentially the same as those for other watertight closures. The only unique procedures apply to manholes which are secured by bolts rather than dogs.

#### 8-2. MANHOLES.

Manholes are openings into unmanned spaces, usually tanks and voids, for the purposes of inspection and maintenance (painting or coating). Manholes are fitted with covers that are designed to maintain watertight integrity and security from hazardous fluid encroachment. Manholes range in size and shape of the clear opening from 18-inch diameter circular to 15-inch by 23-inch oval (most common size). Most manholes are raised to prevent inadvertent shipping of water into the space. Flush-deck manholes are used in ammunition storage areas and in working, walking, and operating areas where a raised manhole would be a hazard to personnel. Gaskets are of the same material as for other closures, except in locations where potential contact with fuel or other petroleum products exists. In those locations, gaskets shall be in accordance with MIL-R-15624, Class 3. A manhole that is installed in other than a horizontal structure, and with a cover that weighs over 20 pounds, must have a hinge at the top. See [figure 8-1](#).

#### 8-3. HATCHES WITHIN HATCHES.

Trunks and routes for shipping large items of equipment, machinery, or load items require hatches larger than normal size to be provided in certain situations. These hatches can be found on CG-47 Class cruisers. In locations such as weather and damage control decks where these routes penetrate watertight boundaries, the oversized hatches must be watertight. Personnel access through such a hatchway can be difficult due to the size and weight of the hatch cover and the number of dogs required to loosen and tighten. To allow easier access, the panel of the large hatch cover has a smaller size hatch which may be individually dogged or quick-acting, depending on the traffic needs. The larger hatch is always individually dogged. Inspection and maintenance for these specialized hatches are the same as for single hatches.

#### 8-4. DOORS WITHIN DOORS.

Trunks and routes for shipping large items also require doors larger than normal size to be provided in certain situations. Wherever an oversize door is located in a watertight boundary bulkhead, the door must be watertight. As in the case with hatches, the panel of the door is fitted with a standard personnel door if frequent access through the door is required. Inspection and maintenance for these specialized doors are the same as for normal watertight doors. See [figure 8-2](#).

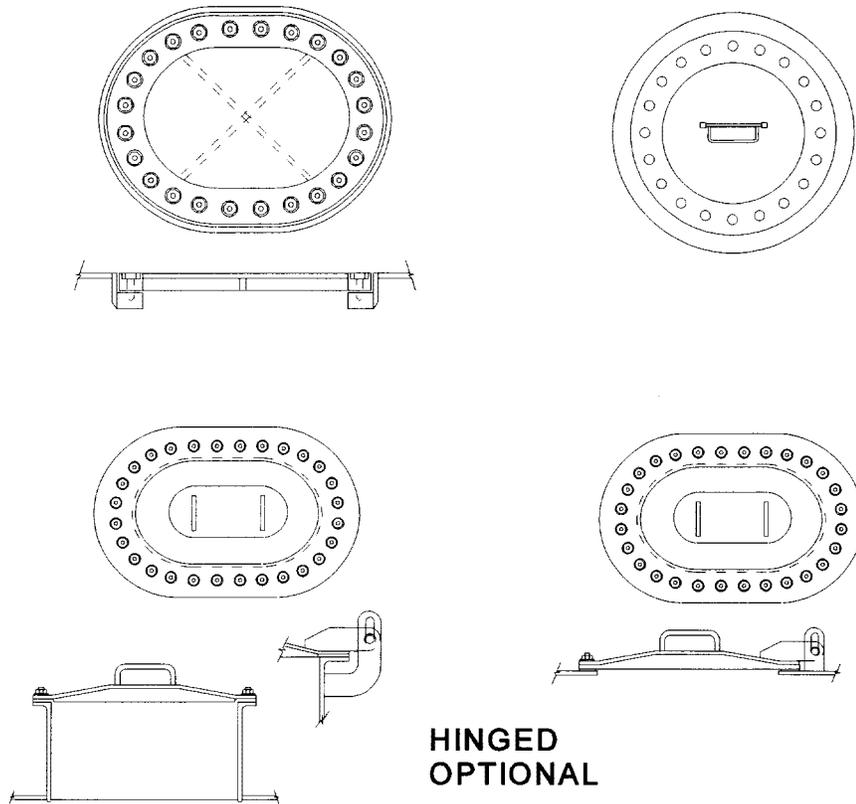


Figure 8-1. Manholes

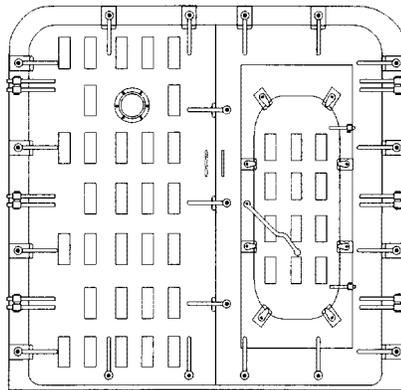


Figure 8-2. Doors Within Doors

**8-5. OTHER.**

There are several other types of closures that require watertightness. Due to their specialized nature and the fact that personnel traffic is not a primary consideration, these closures are considered beyond the scope of this booklet. Examples of such closures are sideport doors, roller curtain doors for aircraft elevator openings, doors or hatches at terminals of cargo handling equipment (conveyors, transporters, and dumbwaiters), and ammunition elevator sliding doors.