

Damage Control Overview



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NAVA 102 - Naval Engineering

NROTC Unit Houston Consortium

Quiz

1. *List the 3 Material Readiness Conditions*
2. *What is the purpose of DCC*
3. *List 3 fire fighting agents*
4. *Your bulkhead is weakened during a hurricane. To prevent it from collapsing and the ship flooding, WHAT WILL YOU USE TO SUPPORT THE BULKHEAD?*

Learning Objectives

- *Know (identify) the requirements for looking ahead in shipboard damage control training and preparedness.*
- *Know (identify) the typical shipboard damage control organization and the responsibilities of key personnel assigned.*
- *Know (identify) how shipboard watertight integrity is obtained through installed features to increase material conditions of readiness.*

Learning Objectives

- *Know (recall) the various conditions of readiness.*
- *Know (describe) the importance of preventive damage control.*

WHY ?



USN Official
Redden Archives Collection

Big Flick DC Overview

- *Ships at sea are isolated from shore help and usually help from other ships; therefore, the crew must be capable of handling any damage the ship may encounter.*

Damage control is a 3-phase activity:

- *Prevent the damage*
- *Minimize the effects of damage*
- *Restore the ship to an effective fighting unit*

Effective damage control requires:

- *Organization*
- *Education*
- *Training*
- *Maintenance of equipment*
 - *Ninety percent of the damage control needed to save a ship takes place before the damage occurs.*
 - *Damage control is an all-hands evolution. The crew must be capable of handling damage because there is no place to go at sea. Everyone on a ship must be general damage control qualified and train regularly.*

Damage Control Organization

POSITION/COC

CO

CHENG (DC Officer)

DC Assistant

Locker Officers/Leaders

Scene Leaders

Hose teams

LOCATION

CIC/Bridge

Main Control

DC Central

Repair Locker

Scene of damage

Scene of damage

Repair parties

- *The larger the ship the greater the number of repair parties.*

REPAIR PARTY

Repair 2

Repair 3

Repair 5

LOCATION

Forward repair

After repair

Propulsion repair

Compartmentation

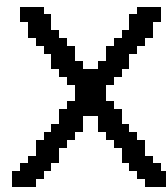
- *Navy ships are extensively compartmented. This compartmentation acts as a barrier to fires and flooding and prevents further damage. Navy ships are built to withstand the solid flooding of a certain number of compartments without sinking. This passive defense is surrendered if watertight integrity is not maintained through training and repair. Watertight doors and hatches must be maintained and closed properly.*

Material condition of readiness

- *Explains which doors, hatches and fittings are permitted open (the ship's level of watertight integrity).*

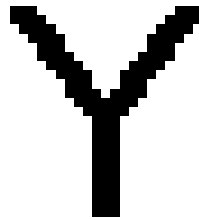
Material condition of readiness

- *X-ray (X): Provides the **least protection** and is set when there is **no danger of attack or damage**. All fittings marked with a black “X” shall be closed.*



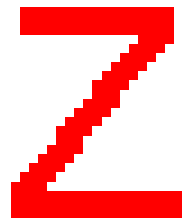
Material condition of readiness

- *Yoke (Y): Set and **maintained at sea and in port during wartime or outside normal working hours.** All fittings marked with a black “Y” shall be closed in addition to all “X” fittings.*



Material condition of readiness

- Zebra (Z): Set during **general quarters**; provides the **maximum protection** for the ship and personnel in battle and emergency situations. All fittings marked with a red “Z” shall be closed, in addition to those marked with an “X” and “Y.”



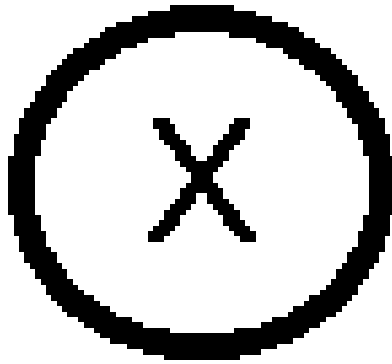
Special classifications

- *William (W): **Sea suction valves** and fittings which serve **vital systems' cooling water**, and other fittings and equipment necessary for **fire protection and mobility**. They are closed only to prevent further damage.*

W

Special classifications

- *Circle X and Circle Y: Letter within a black circle. Signifies that may be opened **without special permission**, but must be **secured immediately after use***



Special classifications

- *Circle Z: Letter within a red circle. May be opened with **permission of the CO** during general quarters for the comfort of the crew. **Guarded** when opened for immediate closure, if necessary*



Special classifications

- *Circle W: Letter within a black circle. Signifies **ventilation fittings** that are normally open and operating, but may have to be closed to prevent contamination from **CBR** attack or smoke. When closed, the habitability of the ship decreases rapidly. Should be closed for only very short periods*



Special classifications

- *Dog Z: Fittings marked with a red “Z” inside a black “D” are closed to **darken the ship**. (Accesses to weather decks not equipped with light traps or door switches; porthole covers, etc.)*



All Hands

- *It is the responsibility of all hands to maintain the material condition in effect. If it is necessary to break the condition, **permission must be obtained (from OOD or DCC)**. A DC closure log is maintained in DCC at all times.*

COMPARTMENT CHECKOFF LIST

NAVSHIPS 9880/2 (REV. 2-67) (Formerly NAVSHIPS 184) S/N 0105-530-2000

COMP'T. NO. 2-108-1-L

NAME Crew's Berthing

Compartment Checkoff List

ITEM	FITTING	NUMBER	LOCATION & PURPOSE	CLASS	DIV RESP
	<u>ACCESS</u>				
1.	QAWTD	2-108-1	Access to 2-96-1-L	Z	REP III
2.	WTD	2-108-3	Access to 2-120-1	Z	REP III
3.	WTH	2-120-3	Access to 3-108-1-L	X	S
	<u>MISCELLANEOUS CLOSURES</u>				
4.	ATC	2-109-1	in WTD 2-108	X	E
	<u>DRAINAGE</u>				
5.	DDV	2-112-1		Z	E
	<u>FIREMAIN, SPRINKLING, AND WASHDOWN</u>				
6.	FMCOV	2-109-1	Cut out to FP 2-	W	REP III
7.	FMCOV	2-109-1	Cut out to	W	REP III
	<u>FUEL OIL</u>				
8.	STC	2-118-1	Sound FO Tank	X	B
	<u>JP-5</u>				
9.	STC	2-118-1	Sound JP-5	X	B
	<u>VENTILATION</u>				
10.	EVC	2-113-1	For Exhaust	Z	REP III
	<u>MISCELLANEOUS</u>				
11.	Loud Speaker		1MC system		
12.	151b CO ₂		Portable		

Reading

- *Introduction to Naval Engineering*
 - *Chapter 26*
- *Naval Orientation*
 - *Chapter 17, pp. 9-12*
- *The Bluejackets' Manual*
 - *pp. 399-422*
- ***BRING PRINC. OF NAVAL ENG TUE!!!!***