



ASORI W. MATTHEWS 11576-H
HMS MAGNIFICENT

DAMAGE CONTROL

① Maintenance of Damage Control.

① All openings are tested, compartments are tested by air or water for water tightness.

② Watertight Discipline

This is very important to damage of a ship. All scuttles & doors & hatches closed all the time during regulations set down.

③ Damage Control in action

Efficiency of the ship will be 0 if you do not know your ship thoroughly. Know the systems & construction of your own ship.

In peacetime damage could be caused by ramming, collisions,

Types of damage

- ① FLOODING
- ② FIRE
- ③ STRUCTURAL

Large ships have long versals + wide
versals

Small ships have only have wide versals

Find a flooding barrier

RCN carriers have five sections

Cruiser have three + sometimes four sections

Destroyers + small ships have only two.

DAMAGE CONTROL ORGANIZATION

DCHQ is the nerve centre usually found central or amidships.

The 1st Lt. is the man responsible for DCHQ in action on all ships.

When ships are listing to port or starboard she is heeling.

When you flood the bow to weather a storm is called trimming.

Heeling tanks are found amidships port & starboard.
Trimming tanks are found at the bow & stern.

Ready Use Lockers (Telephone Room)

FIRE REPAIR IS PAINTED . RED

FLOODING - PUMPING - YELLOW

ELECT. REPAIR - GREEN

KINDS OF PUMPS.

Hull & Line

70 ton Portable (Electrical)

Diesel Driven

Air Driven

Supply Branch

His duty is to keep hot meals supplied to the men at work.

STATES OF READINESS

STATE comparable to:-

1. Action
2. Defense
3. Cruising
4. Harbour
5. Peacetime Harbour.

Fundamentals of D.C.

1. Preserve stability
2. Preserve watertight integrity
3. Preserve buoyancy
4. Preserve seaworthiness
5. Make rapid repairs
6. First aid to the wounded
7. Protection against fire
8. Protection against poison gas.

Organization of Watertight Integrity

1. Design
2. Maintenance - Responsibility of every man on the ship.
3. Discipline - Control of your own discipline
4. Watertight Integrity - Keep your ship watertight at all times.

Colour Areas

Red - Indicates there is a danger. It is dangerous to flooding.

Blue - Less dangerous to flooding.

Datum Deck

This is the lowest complete deck 8ft to 10ft above the water levels. It separates the Red & Blue areas.

Control Levels

- X - on red permission must be had to open.
- Y - maybe opened for passage then closed immediately.
- Z - normally left opened.
- O - closed only by order.

Loss of Watertight Integrity

1. Loose rivets & leaky seams.
2. Distortion of hatches
3. Paint or rubber.
4. Alterations in refit
5. Corrosion or rust.

MACHINERY DAMAGE CONTROL

Naval General Order #50

RED - Fire Protection - FIRE MAIN - FIRE SPRAYS (HANGER)
- STEAM SMOTHER

GREY - Physically dangerous material - STEAM -
FEED WATER - HYDRAULIC PRESSURE
HOT WATER - HIGH PRESSURE AIR - FREON GASES -

YELLOW - Inflammable material in the line - GASOLINE - DIESEL
OIL
FUEL OIL, LUBRICATING OIL.

GREEN - assist others to burn - ventilation

BLACK - no particular risk - main suction - thermoglycol

↑ The flow of the material one way.

↕ The flow of material both ways.

FIRE MAIN

Supply water for fighting fires.

MAIN SUCTION

Sucts out water from flooded compartments.

Elements of Stability

Heel is when a ship goes to one side & back.

Roll is when a ship goes from one side to another.

List is a permanent heel.

Loll is when a ship is top heavy & remains on either side of its roll for a period of time.

FREEBOARD is the distance from your weather deck to the water line.

Line of gravity is equal to total weight of the ship & what she carries.

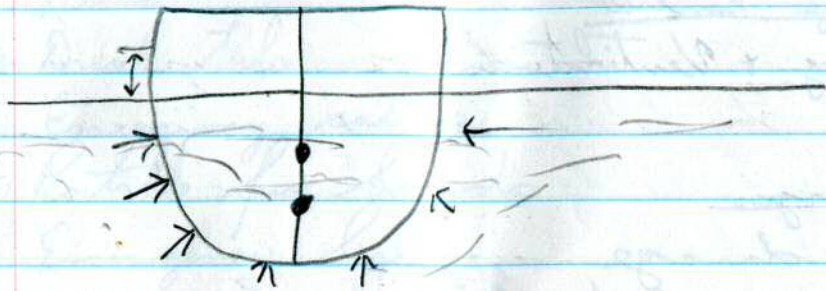
Center of gravity - is the point where the force is situated at the centre of a ship.

To find the centre of gravity is the weight times distance divided by the total weight of the ship.

$$\frac{w \times d}{w}$$

The force of buoyancy is equal to the force of gravity.

The centre of buoyancy is the geometrical centre of the portion of the ship under water.



Electrical Damage Control (Crew)

- ① Steering & Storing
- ② Armament & Communications
- ③ Damage Control
- ④ Lighting & Ventilations

Damages

- ① Heavy damage
- ② Localize & splinter damage
- ③ Shock or fire damage.

Bulk Emergency Supply Arrangements

- (A) Source of emergency
- (B) Bulk head terminals & markings.
- (C) Risers
- (D) Deck tube
- (E) Emergency cables
- (F) Portable fuse boards
- (G) Emergency lighting

General Rules

- ① Always connect from the load to the source of supply!
- ② Always disconnect the damaged supply lead!
- ③ Use as much of the permanent system as possible!
- ④ Always try to take the supply through fuses!
- ⑤ Cables should be secured up out of the way!
- ⑥ Do not break emergency cables until required!
- ⑦ Check with the switchboard that power is available!

Battle or Emergency Stations

1. All available generators running.
2. High Power System (HPS) divided.
3. Portable lamps distributed.
4. Electrical personnel at their stations.
5. Switchboard for control.

