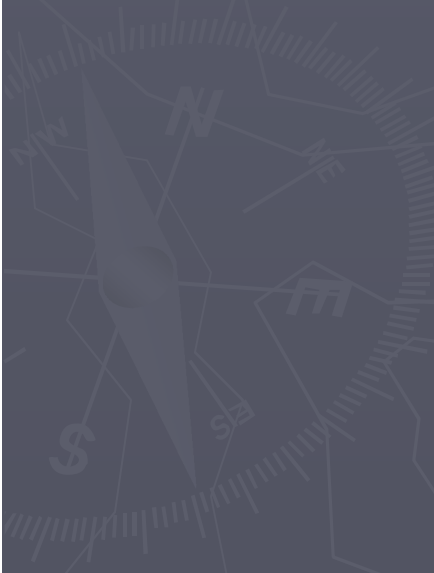


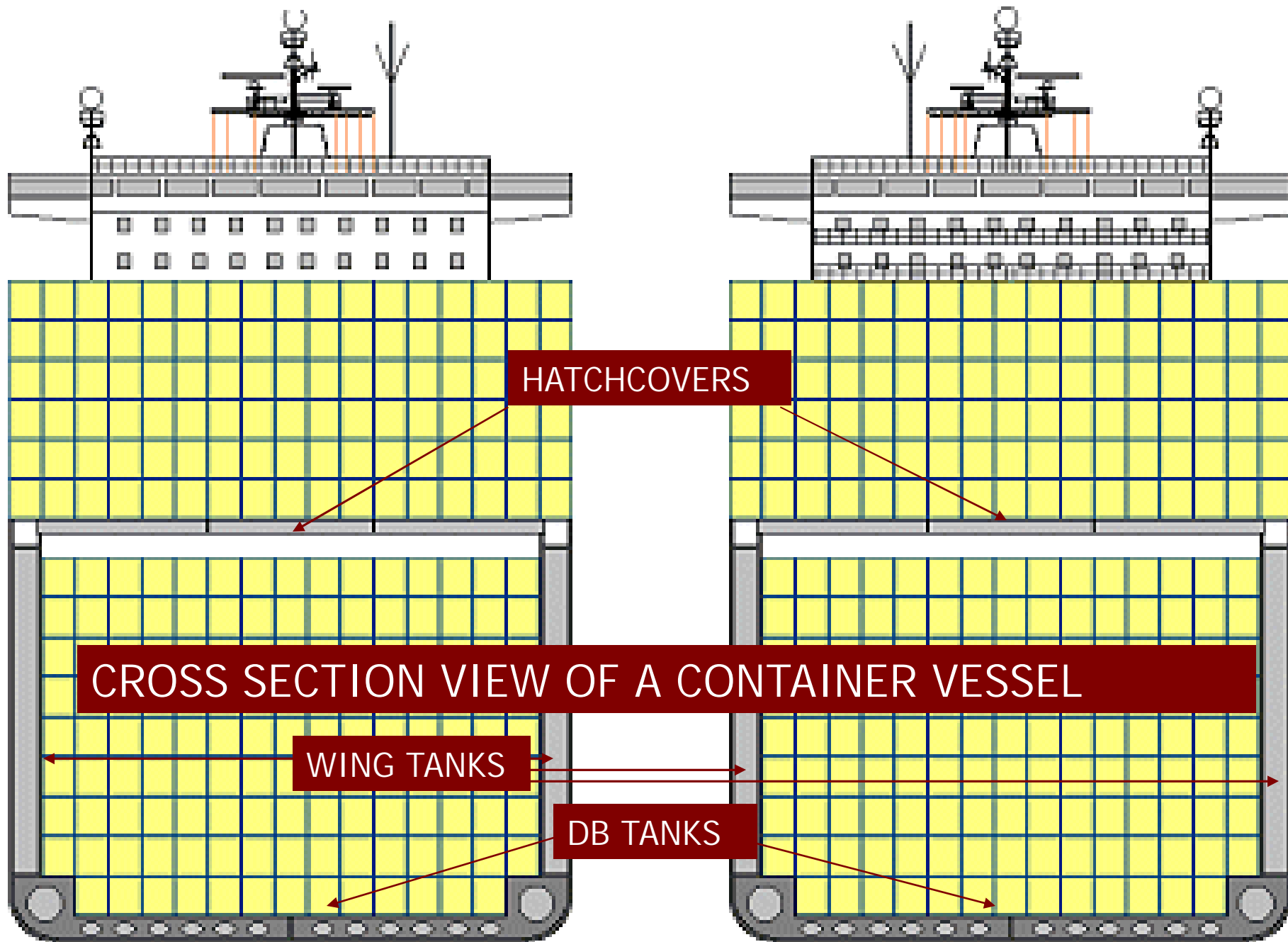
CONTFAM COURSE PART III

Container Ship Construction



View from bow

View from stern

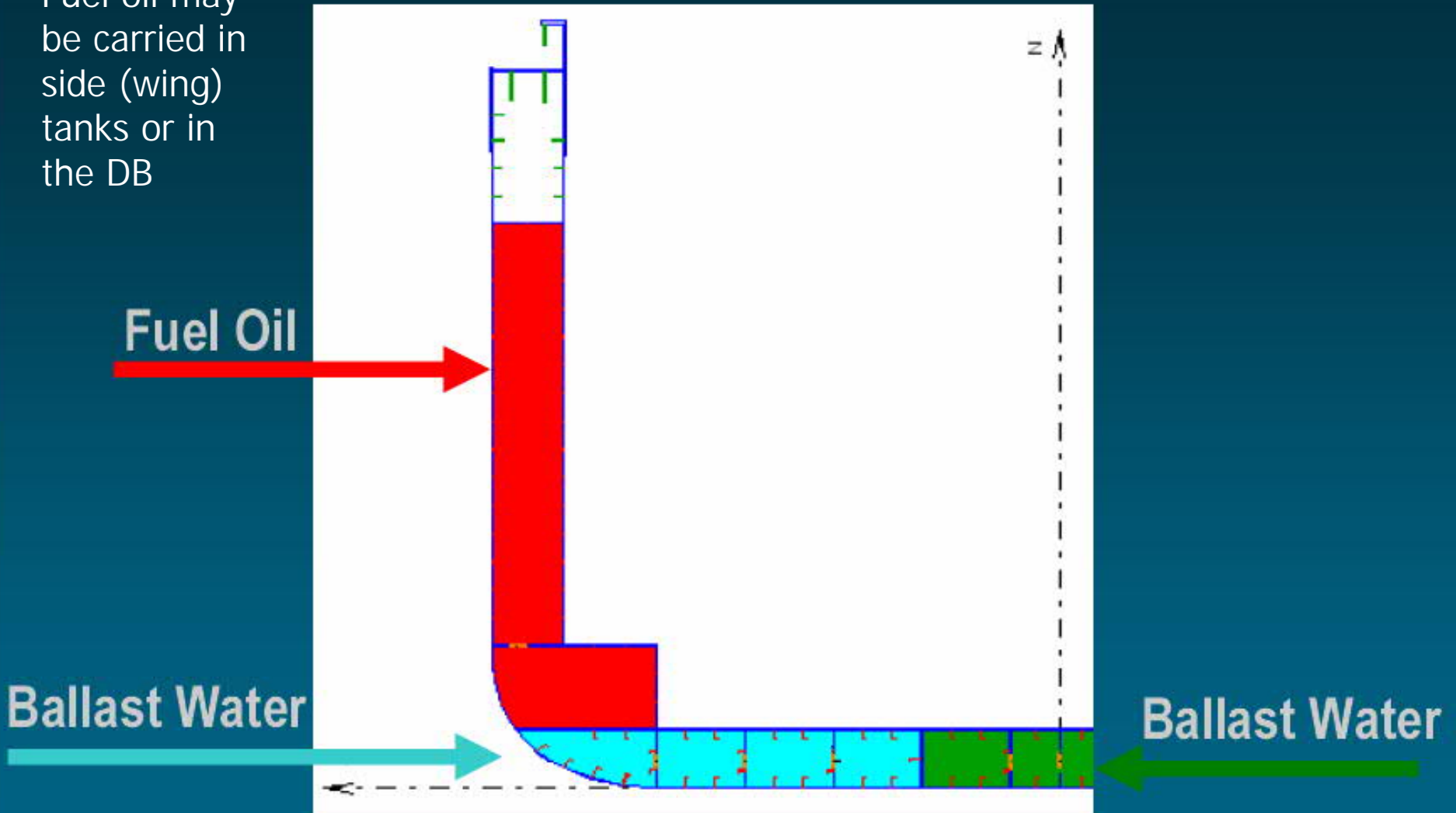


CROSS SECTION VIEW OF A CONTAINER VESSEL

Cross section view of container hull

Water Ballast & Fuel Oil I

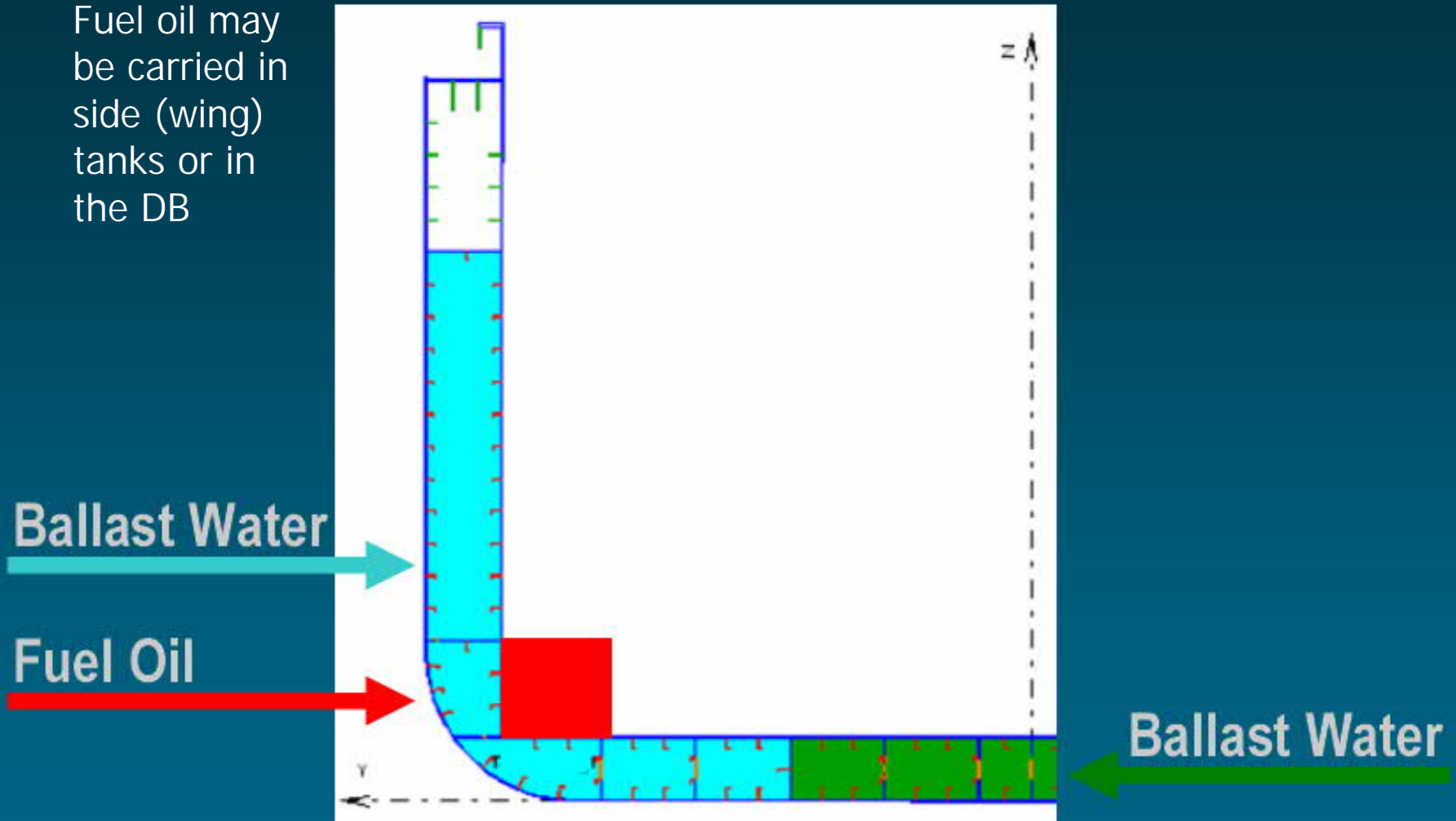
Fuel oil may be carried in side (wing) tanks or in the DB



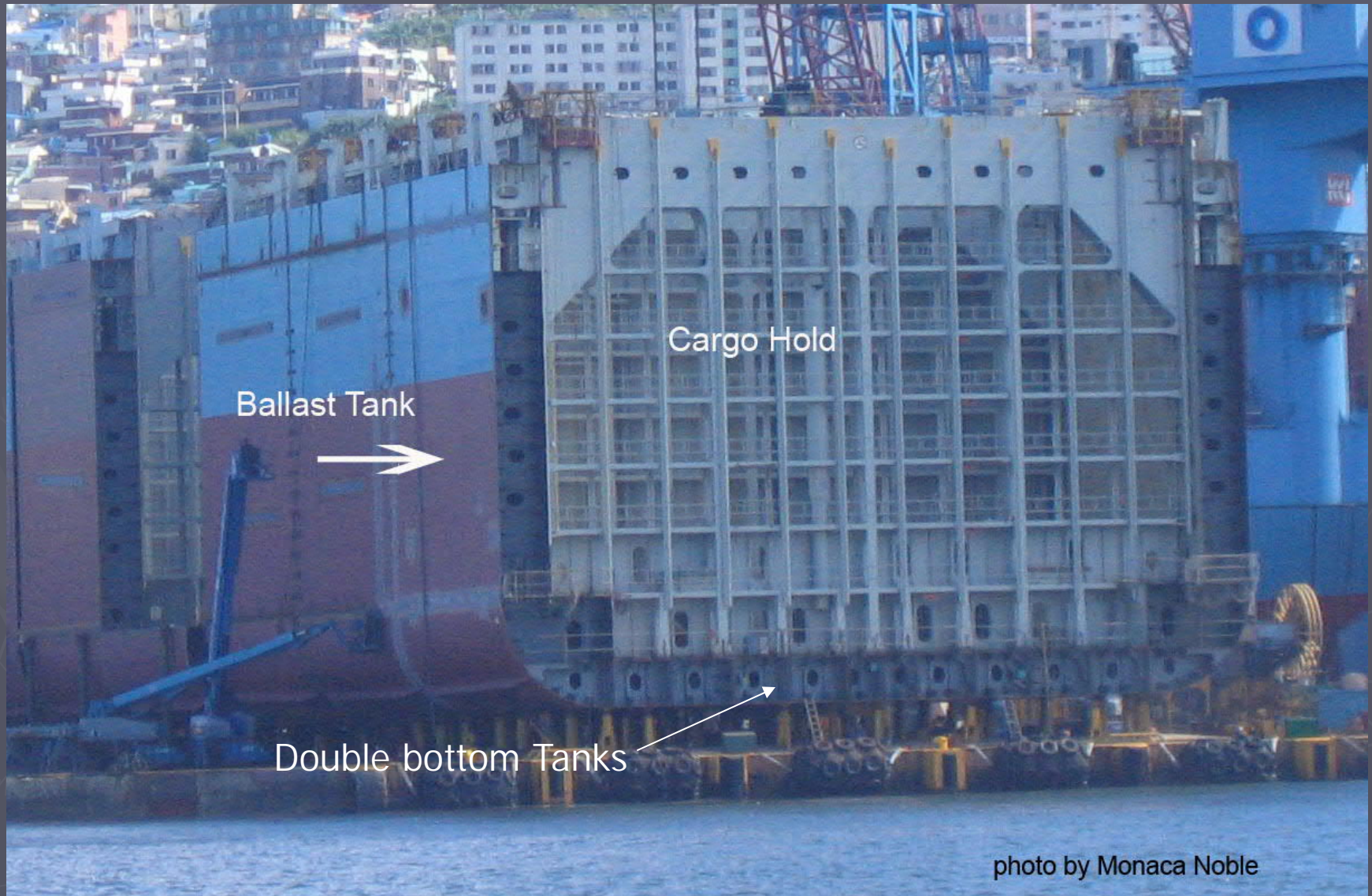
Cross section view of container hull

Water Ballast & Fuel Oil III

Fuel oil may be carried in side (wing) tanks or in the DB



Actual View of Cont ship x-section



Under Deck guides



View of hold-note walkway

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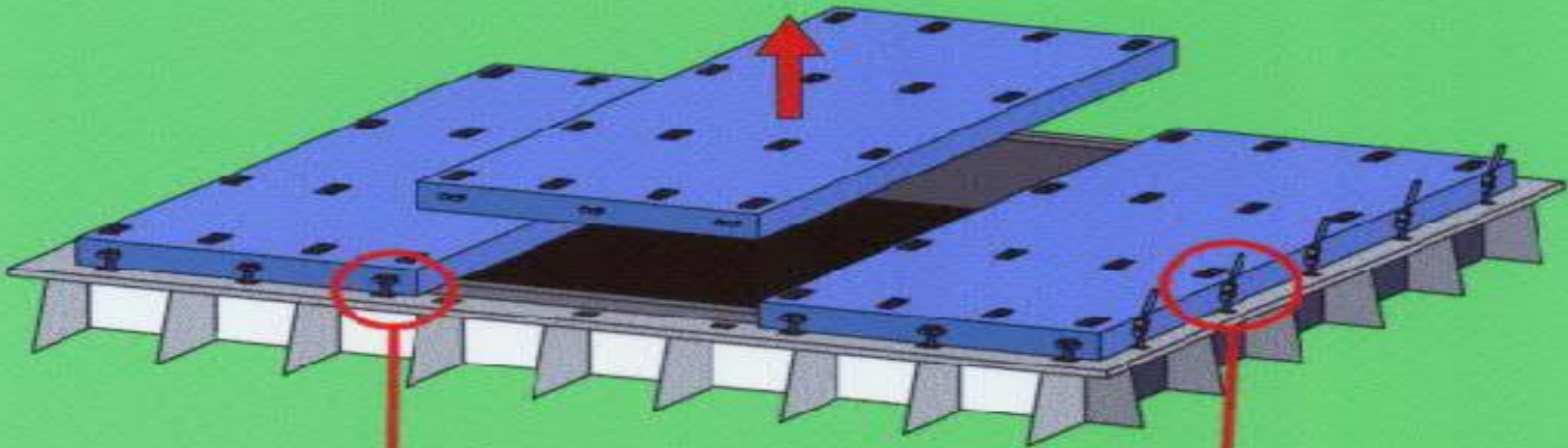
View of Hold – note main deck on stbd side



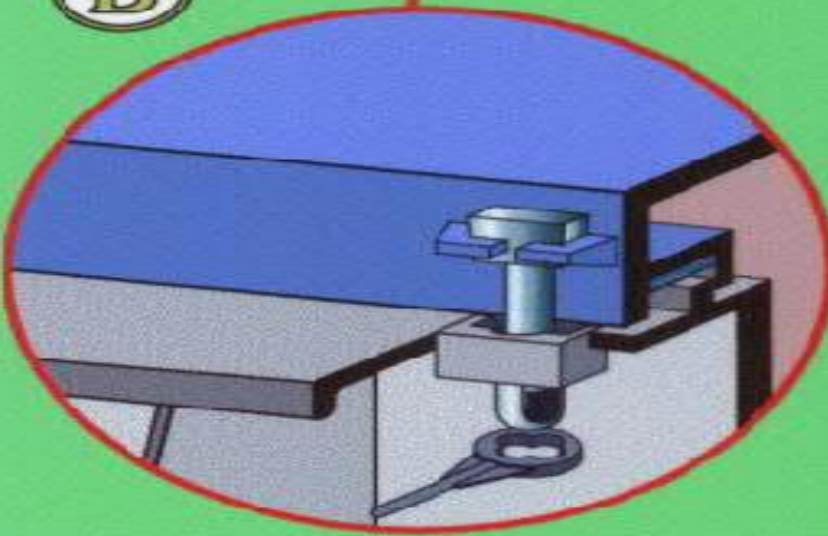
Hatch Pontoons



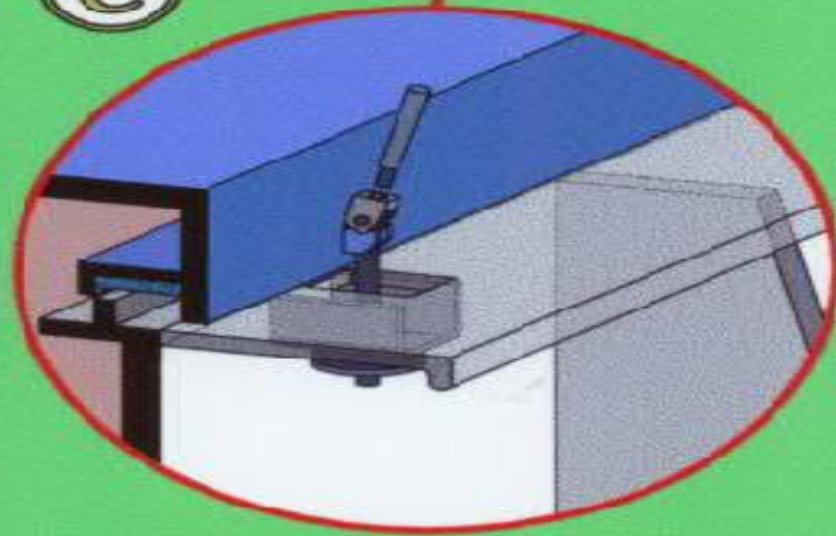
A Pontoon hatch cover



B



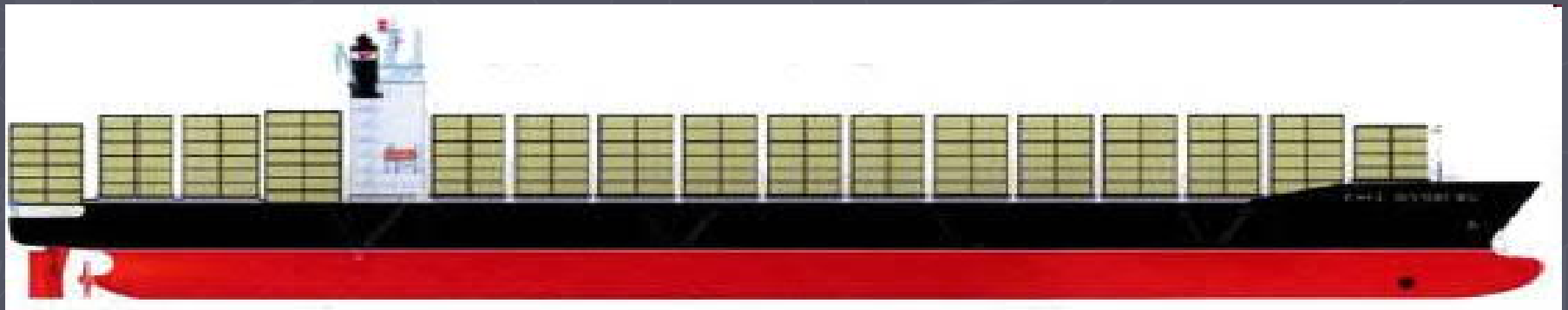
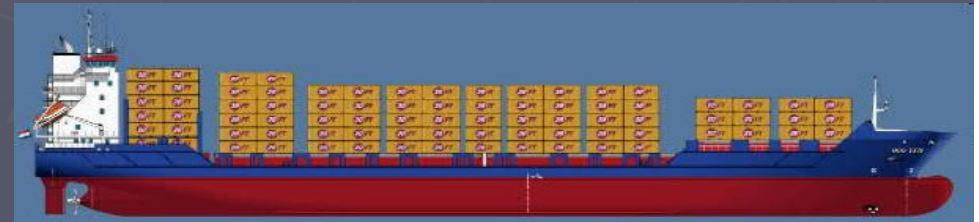
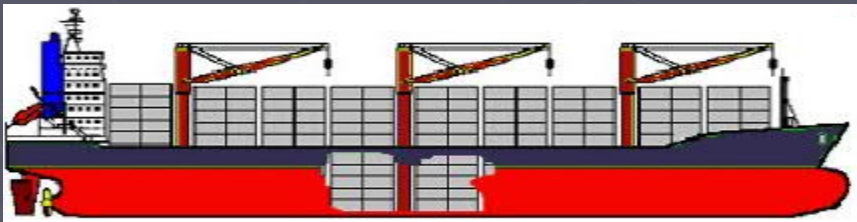
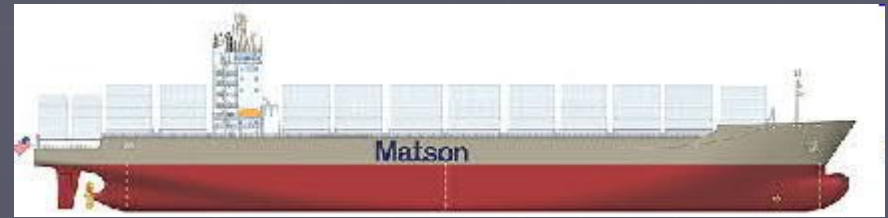
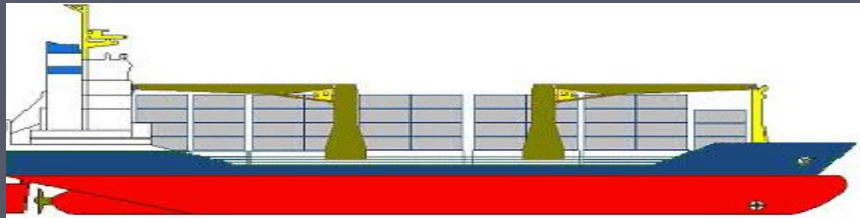
C



Pontoon type cover lifted by Gantry



Container ship types



Container ship-type – general dimensions

Vessel type	Dimensions	Number of containers
Small Feeder Ship breadth up to	approx. 23.0 m	Up to 1,000 teu
Feeder Ship breadth	approx. 23-30 m	1,000 – 2,500 teu
Panamax Ship breadth equal to Ship draught for passing canal, up to Overall ship length	max.: 32.2 / 32.3 m (106ft) 12.0 m (39,5 ft) 294.1 m (965 ft)	2,500 – 4,500/5,000 teu
Post-Panamax Ship breadth larger than	max.: 32.3 m	4,500/5,000 – 10,000 teu
Suezmax Ship breadth up to Ship draught up to Draught x breadth up to Overall ship length up to	max.: 70 m 21.3 m (70 ft) Approx. 820 m ² 500 m	10,000 – 12,000 teu
Post-Suezmax One or more Suezmax dimensions are not met		More than 12,000 teu

The Panama Canal:	<p>The lock chambers are 305 m long and 33.5 m wide, and the largest depth of the canal is 12.5 – 13.7 m. The canal is about 86 km long, and passage takes eight hours.</p> <p>At present, the canal has two lanes, but a possible third lane with an increased lock chamber size is under consideration in order to capture the next generation of container ships of up to about 12,000 teu.</p>
The Suez Canal:	<p>The canal is about 163 km long and 80 – 135 m wide, and has no lock chambers. Most of the canal has a single traffic lane only with several passing bays.</p> <p>It is intended to increase the depth of the canal before 2010 in order to capture the largest container ships to be built.</p>

Container ship "generation"



First Generation (1956-1970)

	Length	Draft	TEU
 Converted Cargo Vessel	135 m	< 9 m	500
 Converted Tanker	200 m		800

Second Generation (1970-1980)

 Cellular Containership	215 m	10 m	1,000 – 2,500
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Third Generation (1980-1988)

 Panamax Class	250 m	11-12 m	3,000
	290 m		4,000

Fourth Generation (1988-2000)

 Post Panamax	275 – 305 m	11-13 m	4,000 – 5,000
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Fifth Generation (2000-?)

 Post Panamax Plus	335 m	13-14 m	5,000 – 8,000
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Container Ship Dimensions by Capacity (averages)

Capacity (TEUs)	Draft (m)	LOA (m)	Beam (m)
2,000-2,999	11.6	239	31.5
3,000-3,999	12.1	259	32.4
4,000-4,999	13.0	284	33.2
5,000-5,999	13.7	281	39.0
6,000-6,999	13.9	302	40.6
7,000-7,999	14.6	343	42.6
8,000-8,999	14.3	329	42.8
9,000-9,999	14.7	344	44.0
>10,000	15.5	398	56.4

View from the bridge of a container ship



Note that visibility immediately forward of the vessel is restricted by the presence of containers

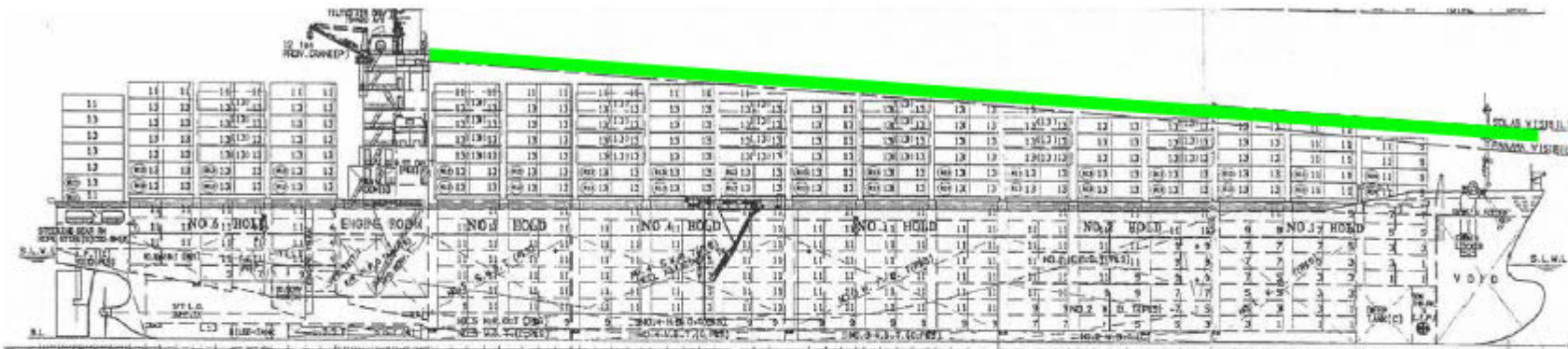
Coming alongside



During manoeuvres, visibility on the sides is also restricted by the presence of containers

Forward Visibility is sometimes a problem

Close to 60% of Containers are stowed on Deck



How well can you see from the bridge?

FORWARD VISIBILITY CRITERIA

- ▶ IMO visibility criteria (SOLAS Ch.V section 6.2) specifies visibility requirements
- ▶ Most important criteria is the FORWARD VISIBILITY which must be 500m to the waterline from the bridge or 2 ship's lengths *whichever is less*
- ▶ For PANAMA CANAL fwd visibility criteria is ONE ships length

End of Part III of CONTFAM course

Now please proceed to Part IV of the
CONTFAM course