

The logo for Total Ship Systems Engineering (TSSE) features the letters 'TSSE' in a large, bold, italicized, black serif font. A thick black horizontal line extends from the top of the 'S' across the top of the page, ending in a silhouette of a ship's superstructure with several masts or antennas.

Total Ship Systems Engineering
1996 Arsenal Ship Design

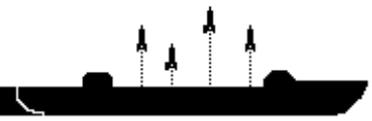
MANNING PLAN

CAPTAIN TOM LANGLOIS

USMC



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1996 Arsenal Ship Design

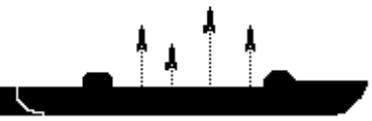


MANNING CONCEPT

- MERCHANT TANKER AS A BASELINE
- ADD PERSONNEL AS JUSTIFIED
- SPLIT ORGANIZATION
 - COMMAND FUNCTION
 - WATCHSTANDING
 - SHIP OPERATIONS
 - COMBAT SYSTEM
 - MAINTENANCE
 - CREW SUPPORT



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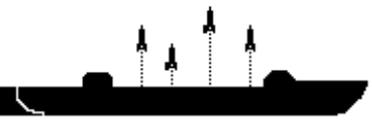


WATCHSTANDING

- SHIP OPERATIONS
 - OFFICER OF THE DECK
 - BRIDGE LOOKOUT
 - ENGINEERING OFFICER OF THE WATCH
- COMBAT SYSTEM
 - COMBAT SYSTEMS OFFICER OF THE WATCH
 - COMM SPECIALIST
 - EW SPECIALIST



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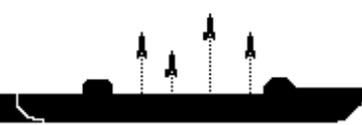


WHY A FOUR SECTION WATCH?

- FLEXIBILITY
 - EASY TO MODIFY
- WORK LOAD
 - WATCHSTANDING - 6 HOURS
 - ADMINISTRATIVE DUTIES - 6 HOURS
 - EAT/SLEEP TIME - 12 HOURS



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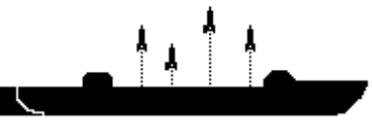


MAINTENANCE

- DIVIDED ALONG FUNCTIONAL AREAS
 - DECK FORCE
 - HM&E FORCE
 - COMBAT SYSTEMS SUPPORT FORCE
- ROUTINE AND PREVENTATIVE MAINTENANCE
 - LIMITED CORRECTIVE MAINTENANCE CAPABILITY



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A CREW FOR THE SHIP..

- **ROTATE THE CREW**
 - CREWS ROTATES AS A UNIT
 - CREW ARRIVES PRE-TRAINED & MISSION READY
- **18 MONTH CYCLE**
 - 6 MONTHS TRAINING
 - 12 MONTHS FORWARD DEPLOYED



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BUILDING A CREW

- **PERSONNEL ASSIGNED TO A CONUS BASED TRAINING COMMAND**
- **CREWMEMBERS ARE FORMED INTO CREWS AND TRAINED**
- **INTEROPERABILITY TRAINING WITH BATTLE GROUPS**

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Arsenal Ship Characteristics

LOA	667 ft
BEAM	97 ft
DRAFT	34 ft
DISPLACEMENT	39,500 LT
RANGE	75,800 NM
ENDURANCE	210 DAYS



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Arsenal Ship Characteristics

TOTAL INSTALLED HORSEPOWER

57,750 HP

FLOODABLE LENGTH

3 COMPT

KG

29.75 FT

GM

11.20 FT



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General Arrangements

- HELO DECK
- MID-BODY CROSS SECTION
- HABITABILITY ZONES
- KEEL ANCHOR