MACHINERY AND EQUIPMENT

1. Ship Propulsion Engines: Those engines used aboard ship that will enable the ship to move by rotating a propelling device such as oars, paddle, wheels or propellers.

   a) Typical propulsion used in the Navy:
      1) Steam turbine gear drive
      2) Gas turbine gear drive
      3) Diesel engines (GM-6, GM-12, GM-16, GM-32 and others)

2. Auxiliary Machinery and Equipment – Provides ship’s smooth operation and personnel safety and comfort aboard ship.

   a) Refrigeration plant – primarily used for food storage, water cooling, and ice making.
   b) Air conditioning equipment – installed on naval ships for certain spaces where personnel efficiency, health, and safety on operation of equipment may be endangered by high temperatures or high humidity.
   c) Distilling plants – used to supply fresh water for shipboard uses and boiler feed water.
   d) Steering gears – there are two basic types of steering mechanisms used in the navy:
      1) Electromechanical steering gear – used extensively on small non-combatant ships.
      2) Electro-hydraulic steering gear – used extensively on large combatant ships.
   e) Anchor windlass – a piece of deck machinery used primarily for paying out and heaving in an anchor chain.
   f) Capstan – spool shaped, vertically mounted drum used for heaving in heavy mooring lines.
   g) Lube oil purifier – normally located in the engine room, used to for contaminated lube oil, water, sediments and other impurities.
   h) Air compressor – driven by electric motors commonly used for operating pneumatic tools, ejecting gas from ship’s guns, starting diesel engines, charging and firing torpedoes, operating gun counter-recoil, providing pressures for the ship’s horn.
Types:

1) Low pressure compressor – has a discharge pressure of 150 psi or less
2) Medium – has a discharge pressure of 151 psi to 1000 psi.
3) High pressure compressor – has a discharge pressure of more than 1000 psi.

i) Cranes – are used to raise a load, lower and move it in horizontal direction. Used for handling airplanes, boats, bombs, torpedoes, minesweeping gears, missiles, trucks and stores.

j) Elevator – used to raise and lower a load. The same use as the crane, except that it cannot move in horizontal direction.

k) Winches – a piece of deck machinery that has a drum or drums on a horizontal shaft for handling loads with wire rope. In addition, cargo winches may be equipped with one or two gypsy heads fitted for handling manila rope.

l) Laundry Equipment – consists of washer, extractor combinations, dryers, various types of ironing and pressing equipment plus numerous miscellaneous items such as laundry marking machine.

m) Galley Equipment – food preparation and service equipment located in the galley and messing spaces aboard ship.

Examples:

1) ranges
2) ovens
3) deep fan fryers
4) mixing machine
5) meat slicing machine
6) cube steak machine
7) coffee urns
8) toasters
9) steam jacketed kettle
10) refrigerators
11) dishwashing machine
12) cooking utensils