U.S.C.G. Merchant Marine Exam

First Assistant Engineer

Q511 General Subjects I

(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions:

1. In the pump shown in the illustration, what is the distance from the bottom of the inlet to the bottom end of the motor shaft? Illustration GS-0011

   A. 45 1/4 inches
   B. 45 5/16 inches
   C. 53 5/8 inches
   D. 57 5/8 inches

   Correct answer: D

2. What is the distance between the center of the discharge outlet and the top of the motor illustrated? Illustration GS-0011

   A. 34 5/8 inches
   B. 35 inches
   C. 35 5/8 inches
   D. 36 inches

   Correct answer: D

3. The type of thread illustrated is a/an _____. Illustration GS-0038

   A. acme thread
   B. national coarse thread
   C. square thread
   D. cannot be determined from information provided

   Correct answer: B

4. Dimension "X" indicated on the architect's scale, shown in the illustration, will be equal to _____. Illustration GS-0023

   A. 5 feet 3/4 inch
   B. 5 feet 4 inches
   C. 83 feet
   D. 93 1/4 feet

   Correct answer: B

5. Which of the tolerances listed is allowed on the outside diameter of the bushing illustrated? Illustration GS-0017

   A. 0.0005 inch
   B. 0.002 inch
   C. 0.060 inch
   D. 1.6015 inches

   Correct answer: A

6. If you attempt to tighten a leaking hydraulic fitting with pressure on the system, you will _____.

   A. find that the pressure will prevent the components from being tightened
   B. be successful every time
   C. cause the system to vibrate
   D. dislodge any scale in the tubing, and it will damage the system

   Correct answer: A

7. When new piping sections have been fabricated for installation in a hydraulic system, prior to installation the piping should be _____.

   A. descaled by using a pickling solution
   B. hydrostatically tested to 100% of maximum working pressure
   C. cleaned using a water-based detergent
   D. all of the above

   Correct answer: A

8. Before doing any work on a hydraulic system equipped with accumulators, you should _____.

   A. drain the accumulators and purge with oxygen
   B. bleed off all stored energy from the accumulators
   C. pump the hydraulic fluid into the accumulators to prevent fluid loss
   D. completely charge the accumulators to prevent system energy loss

   Correct answer: B

9. After installing a new hydraulic pump in a system, what special attention should be given to the hydraulic system?

   A. The filters and strainers should be checked frequently.
   B. All system pressure should be readjusted.
   C. The relief valves in the system should be readjusted.
   D. The system should be drained and renewed with a fluid of different operating characteristics.

   Correct answer: A

10. The bilge system has been performing well; however, the aft starboard engine room bilge well suddenly fails to be pumped out. Which of the following should be done first to determine the cause?

    A. Attempt to pump out another bilge well to determine if the entire system is affected.
    B. Remove only the manifold valve to the affected bilge well.
    C. Remove each of the manifold valves.
    D. Open the bilge pump for inspection.

    Correct answer: A

11. You are unable to pump out the aft starboard engine room bilge well that is fouled, with one foot of water over the top of the bilge well, what action should be carried out?

    A. Simultaneously operate all available bilge pumps.
    B. Remove the bilge manifold valve and attempt to back flush the line.
    C. Send the wiper into the well with only a scoop and pail.
    D. It is only necessary to transfer half the contents of a drum of degreaser into the bilge well.

    Correct answer: B

12. Referring to the illustration, suppose while in the oil separation processing mode, the oil content detector display screen shows 17.9 ppm and the oily-water separator is discharging back to the bilge water holding tank for recirculation. What is most likely the cause? Illustration GS-0175

    A. The bilge water holding tank contents is excessively contaminated with oil.
    B. The oily-water separator bilge suction strainer is excessively clogged.
    C. The oily-water separator service pump is excessively worn.
    D. The bilge water holding tank level is excessively high resulting in a high-level alarm.

    Correct answer: A

13. Referring to the illustration, suppose after initiating the oil discharge mode, the oily-water separator fails to come out of the oil discharge mode in a timely fashion. Cracking open the upper sampling valve reveals the presence of oil exiting under positive pressure. What is most likely the cause? Illustration GS-0175

    A. The lower oil/water interface detection probe fails to initiate the oil discharge mode.
    B. The clean water supply solenoid fails to open, and as a result provides no discharge pressure.
    C. The oil discharge check valve fails to open, and as a result no oil actually discharges.
    D. The upper oil/water interface detection probe fails to end the oil discharge mode.

    Correct answer: C

14. The line labeled "E", as shown in the illustration, would be identified as the _____. Illustration GS-0175

    A. processed water outlet line
    B. clean water inlet line
    C. waste oil outlet line
    D. oily bilge water inlet line

    Correct answer: D

15. When the oily-water separator, shown in the illustration, is in operation and processing clear bilge water, what should be the internal water level? Illustration GS-0153

    A. The water level should be located in the upper section of the tank.
    B. The water level should be located in the lower section of the tank as controlled by flow control valve "14".
    C. The water level in the tank should be slightly above the upper coalescer bed "9".
    D. No water level is maintained in the tank.

    Correct answer: A

16. The component labeled "A", as shown in the illustration, would be identified as the _____. Illustration GS-0175

    A. oil content monitor probe
    B. separator vessel pressure relief valve
    C. oil/water interface level sensing probe
    D. separator vessel vacuum breaker

    Correct answer: C

17. Marine sanitation devices installed on vessels must be certified by the _____.

    A. U.S. Coast Guard
    B. American Bureau of Shipping
    C. Society of Naval Architects and Marine Engineers
    D. Environmental Protection Agency

    Correct answer: A

18. A pneumatic pressure tank is installed in a sanitary system to _____.

    A. increase water flow through the system
    B. provide a higher pressure in the system than the pump can deliver
    C. prevent the sanitary pump from losing suction
    D. reduce excessive cycling of the sanitary pump

    Correct answer: D

19. Coast Guard regulations concerning marine sanitation devices may be found in _____.

    A. 33 CFR Section 159
    B. 33 CFR Section 153
    C. 33 CFR Section 155
    D. 33 CFR Section 156

    Correct answer: A

20. On most commercial cargo vessels with a relatively small crew size and few users of the potable water system, how is the potable water system pressure maintained?

    A. Cycling the potable water pump on and off by the action of the potable water hydropneumatic tank pressure switch in response to system demand changes.
    B. Allowing the potable water pump to run continuously against a shut-off head during periods of zero demand for potable water.
    C. Allowing the potable water pump to run continuously while recirculating during periods of zero demand for potable water.
    D. Cycling the potable water pump on and off by the action of potable water storage tank level switches in response to system demand changes.

    Correct answer: A

21. What are the operating characteristics of a "waterlogged" potable water system hydro-pneumatic header tank that needs to be recharged with compressed air?

    A. Very short and frequent running and idle periods for the potable water pump.
    B. Failure of the potable water pump to stop with zero demand on the system.
    C. Extremely long running and idle periods for the potable water pump.
    D. Failure of the potable water pump to start with demand on the system.

    Correct answer: A

22. On a bearing using an oiling ring as a means of static oil feed, how often should the bottom of the bearing sump be drained of impurities?

    A. Every round
    B. Daily
    C. Bimonthly
    D. Annually

    Correct answer: C

23. If the bearings of a piece of machinery are fed by a gravity feed lubricating oil system, what statement is true concerning the vertical arrangement of the lube oil tanks?

    A. The lube oil gravity tank is below the points of lubrication and the lube oil reservoir/sump is above the points of lubrication.
    B. The lube oil gravity tank is above the points of lubrication and the lube oil reservoir/sump is below the points of lubrication.
    C. The lube oil gravity tank and the lube oil reservoir/sump are both below the points of lubrication.
    D. The lube oil gravity tank and the lube oil reservoir/sump are both above the points of lubrication.

    Correct answer: B

24. In a forced-feed lubrication system, what statement is true concerning lube oil reservoir/sump residence time?

    A. The higher the oil level, the shorter the residence time, and the cooler the oil will be as delivered by the pump.
    B. The higher the oil level, the longer the residence time, and the cooler the oil will be as delivered by the pump.
    C. The higher the oil level, the longer the residence time, and the hotter the oil will be as delivered by the pump.
    D. The higher the oil level, the shorter the residence time, and the hotter the oil will be as delivered by the pump.

    Correct answer: B

25. In a closed-loop process control system, what is meant by the derivative mode of control?

    A. It is a control mode that produces a control action that is proportional to the accumulation of error over time.
    B. It is a control mode that produces a control action that is proportional to the rate at which the error is changing.
    C. It is a control mode that produces a control action that is proportional to the error.
    D. It is a control mode that produces a control action that is proportional to the gain.

    Correct answer: B

26. In a closed-loop process control system, what term is used to describe the action of measuring the difference between the actual result and the desired result and using that difference to drive the actual result toward the desired result?

    A. Instability
    B. Deadband
    C. Gain
    D. Feedback

    Correct answer: D

27. In a closed-loop process control system, what term is used to describe the undesirable characteristic in which the error of a control system oscillates with constant or increasing amplitude?

    A. Error
    B. Deadband
    C. Instability
    D. Saturation

    Correct answer: C

28. In a closed-loop process control system, what is meant by gain?

    A. The ratio of the amplitude of the output signal of a component divided by the amplitude of the input signal.
    B. The undesirable characteristic in which the error of a control system oscillates with constant or increasing amplitude.
    C. The progressive reduction or suppression of oscillation in a component.
    D. The signal in a controller that is obtained by subtracting the measured value of the controlled value from the setpoint.

    Correct answer: A

29. When an electricity generating plant features shaft-driven generators, what type of propulsor is generally used for main propulsion?

    A. Detachable-blade (built-up) propeller
    B. Controllable-pitch propeller
    C. Fixed-pitch propeller
    D. Tandem propellers

    Correct answer: B

30. Which of the following propulsor types represents the proper terminology for electric propulsion where the drive motors are outside the ship's hull?

    A. Azipod propulsor
    B. Azimuthing propulsor
    C. Cycloidal propeller
    D. Jet drive

    Correct answer: A

31. What type of propeller consists of a flat disc set flush with the under surface of the vessel's hull with a number of vertical, rudder-like blades projecting from it?

    A. Cycloidal propeller
    B. Helicoidal propeller
    C. Contra-rotating propeller
    D. Tandem propeller

    Correct answer: A

32. Concerning steerable internal duct thrusters, what statement is true?

    A. The thrust direction of the steerable internal duct thruster is determined by reversing the pitch angle of the pump impeller.
    B. The thrust direction of the steerable internal duct thruster is determined by the orientation of the water discharge vectoring ring.
    C. The thrust direction of the steerable internal duct thruster is determined by the direction of rotation of the pump.
    D. The thrust direction of the steerable internal duct thruster is determined by the orientation of the pump inlet guide vanes.

    Correct answer: B

33. Which set of operating conditions would be most problematic in terms of the deterioration of the insulation resistance of the drive motor of an electric motor driven transverse tunnel bow thruster?

    A. Infrequently used thrusters where the bow thruster machinery compartment is particularly warm.
    B. Infrequently used thrusters where the bow thruster machinery compartment is particularly cold.
    C. Frequently used thrusters where the bow thruster machinery compartment is particularly cold.
    D. Frequently used thrusters where the bow thruster machinery compartment is particularly warm.

    Correct answer: B

34. Of the following propulsion modes, which one would operate with a geared drive featuring a double reduction?

    A. Slow speed diesel
    B. Medium speed diesel
    C. High speed diesel
    D. Gas turbine

    Correct answer: D

35. Concerning main propulsion reduction gears, what statement is true?

    A. The reduction gear allows the prime mover to rotate efficiently at relatively high speed and low torque and allows the propeller to rotate efficiently at relatively low speed and high torque.
    B. The reduction gear allows the prime mover to rotate efficiently at relatively high speed and high torque and allows the propeller to rotate efficiently at relatively low speed and low torque.
    C. The reduction gear allows the prime mover to rotate efficiently at relatively low speed and low torque and allows the propeller to rotate efficiently at relatively high speed and high torque.
    D. The reduction gear allows the prime mover to rotate efficiently at relatively low speed and high torque and allows the propeller to rotate efficiently at relatively high speed and low torque.

    Correct answer: A

36. If a main propulsion shafting arrangement is such that a strut and strut bearing is required, what is the name of the section of shafting that passes through the hull penetration to the closest watertight bulkhead?

    A. Tail or propeller shaft
    B. Line shaft
    C. Thrust shaft
    D. Stern tube shaft

    Correct answer: D

37. What statement is true concerning the arrangement of line shaft bearing housings?

    A. Line shaft bearing housings are typically split half pedestal type bearing housings.
    B. Line shaft bearing housings are typically single-piece flange type bearing housings.
    C. Line shaft bearing housings are typically single-piece pedestal type bearing housings.
    D. Line shaft bearing housings are typically split half flange type bearing housings.

    Correct answer: A

38. A high reading at a salinity cell located in the loop seal between two stages of a flash type evaporator would indicate _____.

    A. faulty operation of the brine overboard pump
    B. carryover in the first-stage
    C. chill shocking is necessary to remove scale
    D. leakage at the second-stage condenser

    Correct answer: B

39. Irregular feeding or surging of the feedwater supply to a flash evaporator may be attributed to _____.

    A. erratic water flow through the air eductor
    B. a dirty strainer in the saltwater feed pump suction line
    C. excessive pressure in the sea water feed heater
    D. a clogged vent line from the air eductor condenser

    Correct answer: B

40. Which of the listed problems could produce a high absolute pressure within a flash type evaporator?

    A. seawater feed temperature below 165°F
    B. production of high salinity distillate
    C. a leak in the first stage demister
    D. a cracked distillate pump vent line

    Correct answer: D

41. Which of the following conditions can cause high salinity of the distillate due to sea water leakage in the illustrated device? Illustration MO-0110

    A. Improper venting during start-up.
    B. Improper venting during operation.
    C. Failure to properly tighten the bolts of the evaporator heat exchanger.
    D. Failure to properly tighten the bolts of the condenser heat exchanger.

    Correct answer: D

42. If the wearing rings of device "7" shown in the illustration become worn, how will the evaporation rate in "23" be affected? Illustration MO-0111

    A. The rate of evaporation is dependent on the level of vacuum maintained within the unit, and not the flow of water to the unit.
    B. The rate of evaporation will decrease.
    C. The rate of evaporation will not be affected as the standby pump, labeled "8" will be used instead.
    D. Device "7" does not use wearing rings, as these are normally positive displacement pumps.

    Correct answer: B

43. What would happen if valve "25" shown in the illustration, vibrated open with the unit in operation? Illustration MO-0111

    A. The absolute pressure of the unit would increase, causing a decrease in distillate output.
    B. The unit would continue to operate with no adverse effects.
    C. Jacket water would be automatically by-passed around the distiller.
    D. The unit would automatically shut down due to the closing of the low-pressure contacts.

    Correct answer: A

44. Under what conditions would the pre-treatment capabilities of a reverse osmosis freshwater generator MOST likely be overloaded, and as a result, these conditions should generally be avoided?

    A. Entering harbors
    B. Entering low temperature seas
    C. Entering high temperature seas
    D. Entering open seas

    Correct answer: A

45. If a reverse-osmosis freshwater generator has fouled membrane modules, what statement is true?

    A. The freshwater production rate would be lower than normal, and the feed pressure would be lower than normal.
    B. The freshwater production rate would be higher than normal, and the feed pressure would be lower than normal.
    C. The freshwater production rate would be higher than normal, and the feed pressure would be higher than normal.
    D. The freshwater production rate would be lower than normal, and the feed pressure would be higher than normal.

    Correct answer: D

46. Which of the following statements represents the basic principle of operation of an electrical salinity indicator?

    A. Measures the voltage of the chloride ions
    B. Measures the hydrogen ion concentration
    C. Measures the electrical resistance of the water
    D. Determines the conductivity of the dissolved oxygen

    Correct answer: C

47. A salinity indicator is used to determine the _____.

    A. chemical makeup of feedwater
    B. level of alkalinity in condensate
    C. location of saltwater contamination
    D. cause of salt contamination

    Correct answer: C

48. Referring to the illustrated motor ship freshwater cooling system drawing, which cooling system has cooling water passing through passages within components that are continuously undergoing motion? Illustration MO-0212

    A. The main engine piston cooling water system
    B. The main engine injector cooling water system
    C. The main engine jacket water cooling system
    D. The SSDG cooling water systems

    Correct answer: A

49. On deep-draft ships, what statement is true concerning high and low sea suctions for machinery space sea water cooling systems?

    A. A low sea suction is located near the turn of the bilge and is used primarily while underway, and a high sea suction is located near the bottom of the ship and is used primarily in port or when operating in shallow water.
    B. A high sea suction is located near the turn of the bilge and is used primarily while underway, and a low sea suction is located near the bottom of the ship and is used primarily in port or when operating in shallow water.
    C. A high sea suction is located near the turn of the bilge and is used primarily in port or when operating in shallow water, and a low sea suction is located near the bottom of the ship and is used primarily while underway.
    D. A low sea suction is located near the turn of the bilge and is used primarily in port or when operating in shallow water, and a high sea suction is located near the bottom of the ship and is used primarily while underway.

    Correct answer: C

50. Referring to the illustrated steam plant sea water cooling system drawing, which pump can be used to pump out the main machinery space bilge in a flooding emergency? Illustration SE-0023

    A. The two-speed main sea water circulating pump can be used for this purpose.
    B. The auxiliary sea water circulating pump can be used for this purpose.
    C. The single-speed main sea water circulating pump can be used for this purpose.
    D. Any of the sea water service pumps can be used for this purpose.

    Correct answer: A

51. Assuming valve "A" is correctly aligned in the no-flow position as shown with the system in operation, which of the following statements is true? Illustration GS-0049

    A. Valve "C" would be closed.
    B. Valve "D" would normally open before valve "B".
    C. Valve "B" would be open before valve "D".
    D. The fixed delivery pump would be stopped automatically by a pressure switch.

    Correct answer: B

52. A hydraulic flow control circuit is shown in the illustration and is known as a _____. Illustration GS-0107

    A. bleed-in circuit
    B. metered-in circuit
    C. bleed-off circuit
    D. metered-out circuit

    Correct answer: C

53. A hydraulic system flow control circuit is shown in the illustration and is known as a _____. Illustration GS-0105

    A. metered-out circuit
    B. metered-in circuit
    C. bleed-off circuit
    D. bleed-in circuit

    Correct answer: B

54. In the illustrated schematic, which component is the device that was used to replace the six-way valve, as found on many older type steering gears? Illustration GS-0123

    A. "A"
    B. "B"
    C. "F"
    D. "H"

    Correct answer: A

55. When the helm angle position is changed, the series of corresponding events of the steering gear will include _____.

    I. rate of steering gear ram movement will be proportional to amount of helm angle input
    II. degree of tilting plate (box) angle will be proportional to the amount of helm angle input

    A. I only
    B. II only
    C. Both I and II
    D. Neither I nor II

    Correct answer: C

56. A command signal input to the steering gear has initiated rudder movement for 20° right rudder. The follow-up mechanism at the beginning of the rudder movement will _____. Illustration GS-0123

    A. be in motion with a null input
    B. not be in motion, thus a null input
    C. be in motion providing an input to place the variable stroke pump on maximum stroke
    D. be in motion providing an input to place the variable stroke pump at null stroke

    Correct answer: A

57. A horizontal electro-mechanical anchor windlass is equipped with two warping heads, two wildcats, two manual brake handwheels, two clutch control levers, and a multipoint lever-operated pedestal-mounted controller. What statement is true as it pertains to the operation of the windlass clutch control levers?

    A. The clutch control levers are used to engage and disengage the warping heads only. They have no control over the wildcats.
    B. The clutch control levers are used to engage and disengage both the warping heads and the wildcats.
    C. The clutch control levers are used to engage and disengage the wildcats only. They have no control over the warping heads.
    D. The clutch control levers are used to engage and disengage either the warping heads or the wildcats, depending upon the windlass design.

    Correct answer: C

58. A horizontal electro-mechanical anchor windlass is equipped with two warping heads, two wildcats, two manual brake handwheels, two clutch control levers, and a multipoint lever-operated, pedestal-mounted controller. What statement is true as it pertains to the operation of the warping heads and wildcats?

    A. The warping heads can be rotated in either direction of rotation without rotating the wildcats by disengaging the wildcat clutches. As long as electric power is applied to the electric drive motor, the wildcats will rotate.
    B. The warping heads can be rotated in either direction of rotation without rotating the wildcats by disengaging the wildcat clutches. As long as electric power is applied to the electric drive motor, the warping heads will rotate.
    C. The wildcats can be rotated in either direction of rotation without rotating the warping heads by disengaging the warping head clutches. As long as electric power is applied to the electric drive motor, the wildcats will rotate.
    D. The wildcats can be rotated in either direction of rotation without rotating the warping heads by disengaging the warping head clutches. As long as electric power is applied to the electric drive motor, the warping heads will rotate.

    Correct answer: B

59. As it pertains to raising and lowering an anchor with a horizontal electro-hydraulic or electro-mechanical anchor windlass, what statement is true?

    A. The anchor can only be raised (and not lowered) under power with the windlass by disengaging the wildcat clutch. The anchor can be lowered by gravity by controlling the anchor chain payout with the wildcat manual brake with the wildcat clutch engaged.
    B. The anchor can be either raised or lowered under power with the windlass by engaging the wildcat clutch. The anchor can be lowered by gravity by controlling the anchor chain payout with the wildcat manual brake with the wildcat clutch disengaged.
    C. The anchor can only be raised (and not lowered) under power with the windlass by engaging the wildcat clutch. The anchor can be lowered by gravity by controlling the anchor chain payout with the wildcat manual brake with the wildcat clutch disengaged.
    D. The anchor can be either raised or lowered under power with the windlass by disengaging the wildcat clutch. The anchor can be lowered by gravity by controlling the anchor chain payout with the wildcat manual brake with the wildcat clutch engaged.

    Correct answer: B

60. Which capstan drive arrangement requires a flexible coupling between the reduction gear output shaft and the capstan head input shaft?

    A. The drive arrangement where the drive motor, electric brake, gear reducer are hung from the underside of the weather deck, and only the capstan head is located on the weather deck.
    B. The drive arrangement where the drive motor, electric brake, gear reducer, and capstan head are all located on the weather deck.
    C. The drive arrangement where the drive motor, electric brake, gear reducer are mounted on the deck below the weather deck, and only the capstan head is located on the weather deck.
    D. A flexible coupling is required on all three drive arrangements listed above.

    Correct answer: C

61. What statement is true concerning the door interlock devices associated with a winding drum or traction drive passenger elevator onboard ship?

    A. Door interlocks are used to prevent elevator operation if the doors are still open and only allow elevator operation if the doors are proved closed.
    B. Door interlocks are used to prevent elevator operation if the doors are still closed and only allow elevator operation if the doors are proved open.
    C. Door interlocks are used to over-ride elevator emergency status in a shipboard emergency when elevators are required to be used.
    D. Door interlocks are used to prevent elevator operation in a shipboard emergency when elevators are not to be used.

    Correct answer: A

62. As it pertains to the automatic hoist winch brake of an electro-hydraulic cargo-handling pedestal-type deck crane, what statement is true?

    A. The brake is spring set and hydraulically released, and the brake automatically sets when the hoist pump is brought to zero stroke or there is a loss of servo power hydraulic pressure.
    B. The brake is hydraulically set and spring released, and the brake automatically sets when the hoist pump is brought to zero stroke or there is a loss of servo power hydraulic pressure.
    C. The brake is spring set and hydraulically released, and the brake automatically releases when the hoist pump is brought to zero stroke or there is a loss of servo power hydraulic pressure.
    D. The brake is hydraulically set and spring released, and the brake automatically releases when the hoist pump is brought to zero stroke or there is a loss of servo power hydraulic pressure.

    Correct answer: A

63. Antifriction bearings can be removed undamaged from a shaft by using an arbor press, or wheel puller with a _____.

    A. split die
    B. ring gage
    C. split washer or backup ring
    D. jack screw

    Correct answer: C

64. Which of the following statements best describes the filtering ability of a fine mesh metal lube oil strainer?

    A. A 200 wire mesh screen will prevent passage of smaller particles than a 100 wire mesh screen.
    B. A 200 mesh screen has larger wires than a 100 mesh screen.
    C. A 200 wire mesh screen and a 100 wire mesh screen both prevent passage of the same size particles, but each allows a different number of particles to pass through.
    D. A 100 wire mesh screen will prevent passage of smaller particles than a 200 wire mesh screen.

    Correct answer: A

65. The greatest difference between absorbent and adsorbent filters is that absorbent filters _____.

    A. attract or have liquid contaminants stick to the surface of the filter media
    B. will remove additives from the lube oil
    C. soak up liquid contaminants directly into the filter media
    D. do not create pressure drops in the lube oil system

    Correct answer: C

66. If a bilge pump is able to develop vacuum, but is unable to sufficiently pump out the bilges, you would check for all of the following EXCEPT _____.

    A. for leaks in the suction piping
    B. the suction strainer
    C. relief valve is not properly seated
    D. the circuit breaker

    Correct answer: D

67. A hydraulic system gear pump being fed from a reservoir frequently indicates signs of excessive pitting after two months of service. Which of the following would most likely contribute to this condition?

    A. Operating oil temperature is determined to be below normal.
    B. A vacuum condition has developed in the reservoir.
    C. A partial restriction in the return line has developed.
    D. Abnormal pressurization is occurring in the reservoir.

    Correct answer: B

68. If dirt is allowed to contaminate the sump of a hydraulic deck crane, which of the following problems will occur?

    A. The lifting capacity of the crane will be immediately reduced by 70%.
    B. The sheathing on the hydraulic lines will fracture.
    C. All the seals in the hydraulic lines will immediately blow out.
    D. The internal parts of the pump and hydraulic motor will wear excessively.

    Correct answer: D

69. A gradual decrease in the discharge pressure of an operating hydraulic pump can be caused by _____.

    A. a clogged air vent filter on the oil reservoir
    B. cold hydraulic fluid
    C. the four-way control valve failing to shift
    D. the bleeder valve sticking in the open position

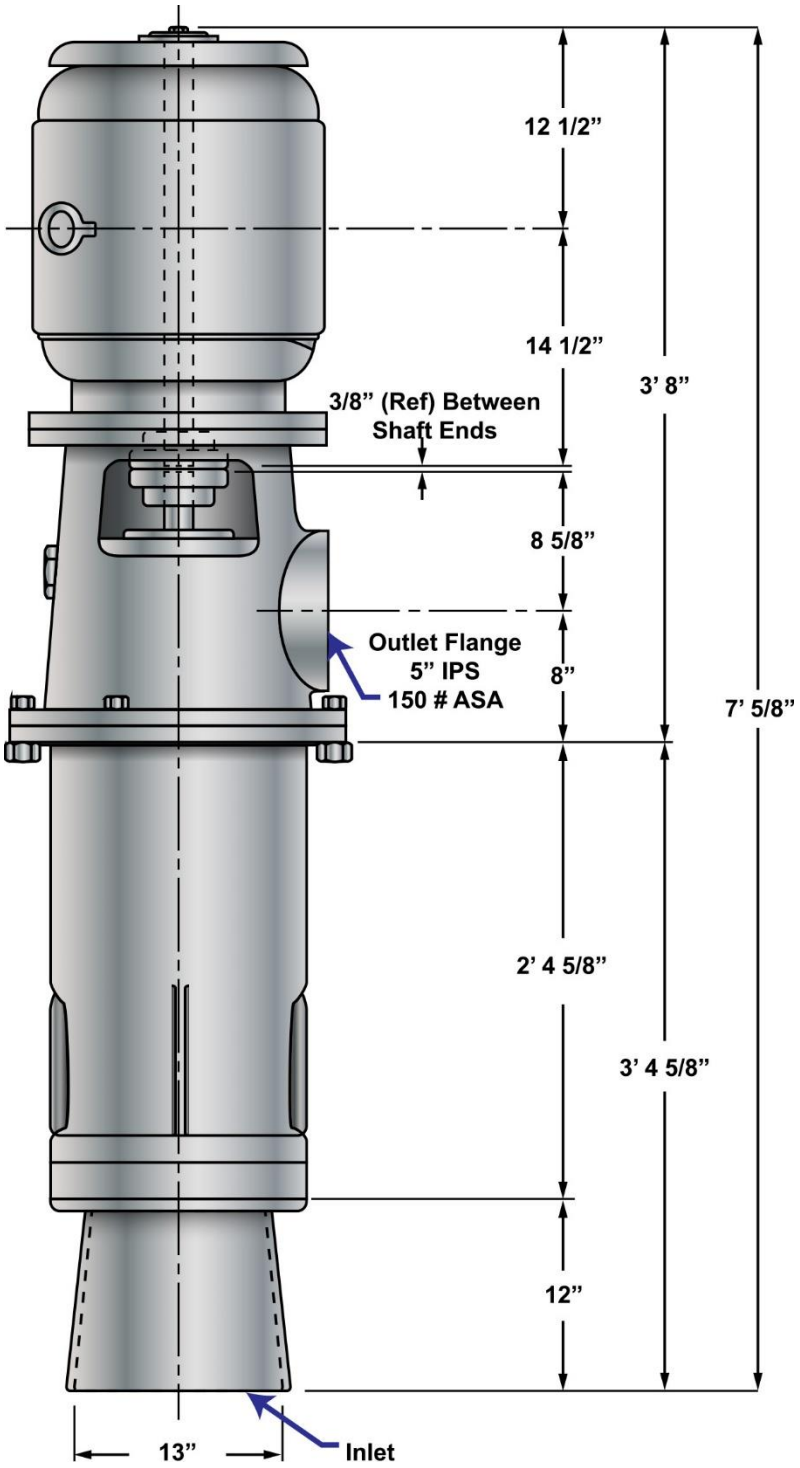
    Correct answer: A

70. Which of the following statements is true concerning the application for an isochronous governor?

    A. An isochronous governor is ideally suited for a ship's geared propulsion drive driving through a fixed pitch propeller.
    B. An isochronous governor is ideally suited for a pump drive associated with maintaining a constant pump discharge pressure.
    C. An isochronous governor is ideally suited for a ship's direct-reversible propulsion drive driving through a fixed pitch propeller.
    D. An isochronous governor is ideally suited for a ship's service alternator drive associated with maintaining a constant system frequency.

    Correct answer: D

GS-0011



MOTOR CHARACTERISTICS

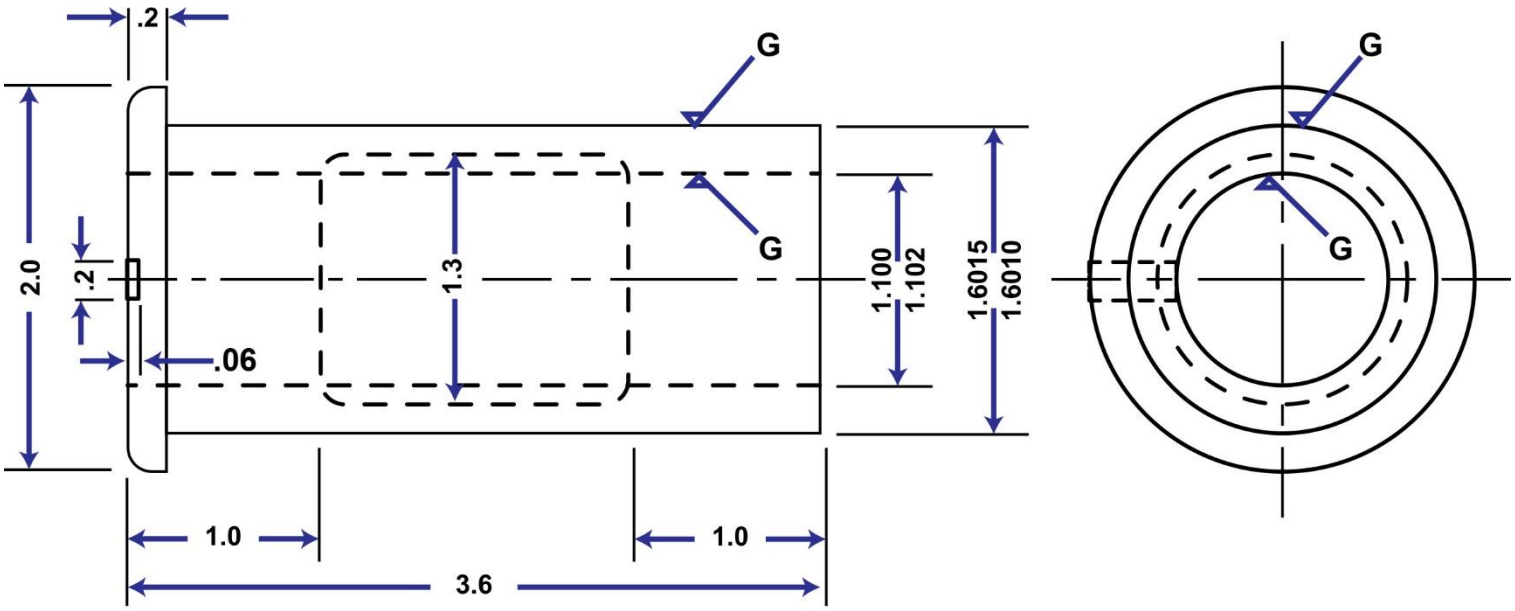
Motor (A. C.)	Electro Dynamic
Rating H. P.	25
Speed R. P. M. (SYN.)	1200
Frame	365 VY
Type	TN
Volts	440
Cycles	60
Phase	3

PUMP CHARACTERISTICS

Capacity G. P. M.	400
Speed R. P. M.	1150
Suction Lift “HG	10
B, H, P. @ 1200 SSU-75° F	24.9
Oil viscosity Range, SSU	74-7000
Viscosity Normal SSU @ 140° F	155
Discharge Normal PSIG	55
Fluid Handled, Lube Oil	2190 TEP.
Navy Specification	MIL-L-17331
Oil Temperature Range ° F	40-180

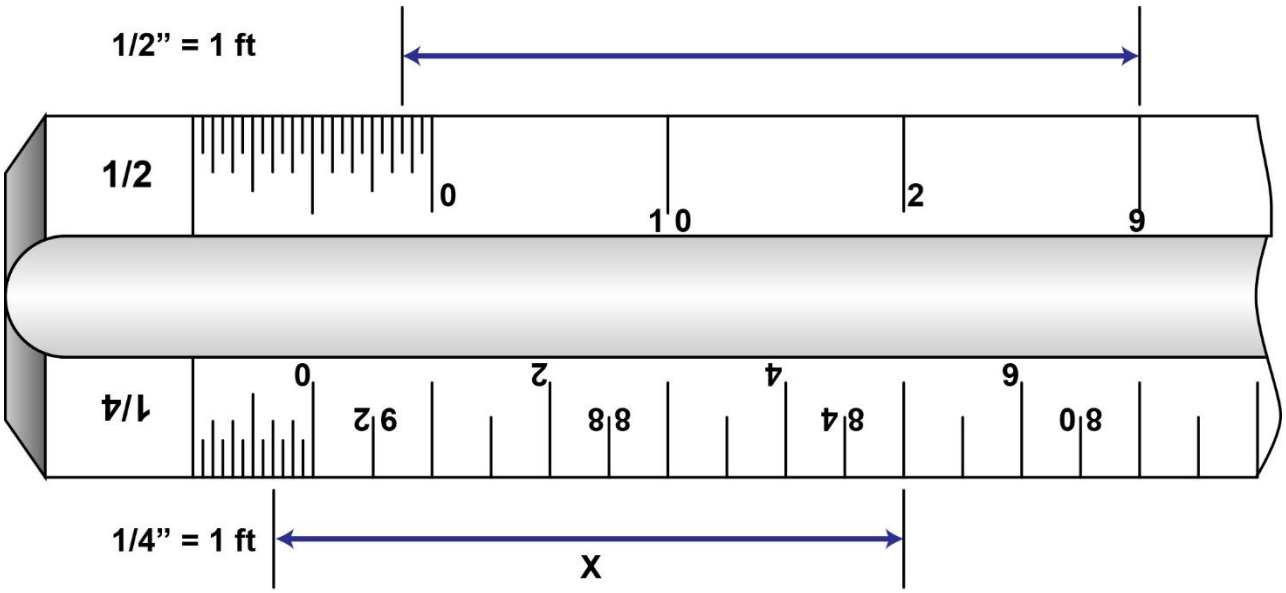
Illustration scale: 1” = 1’

GS-0017

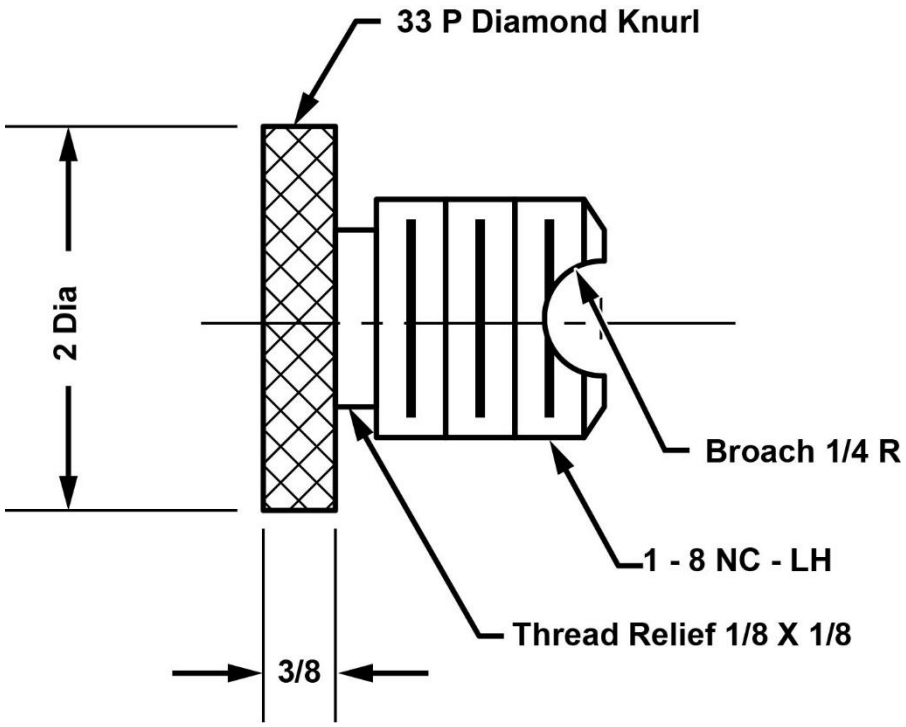


Bushing
AISI 1095 SAE Carbon Steel
Hardened and Tempered
Designated Surfaces Ground
To Specified Tolerances

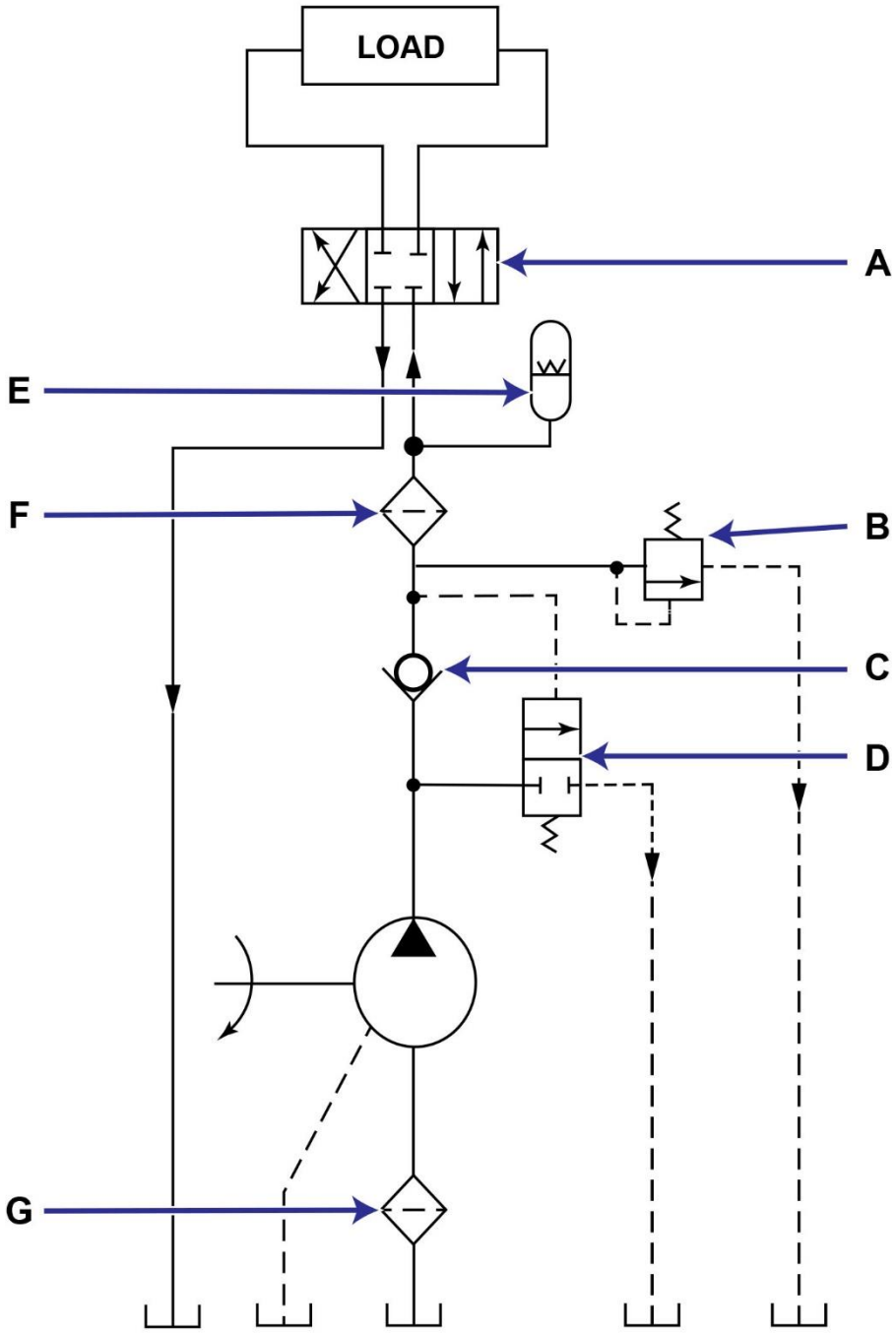
GS-0023



GS-0038



GS-0049



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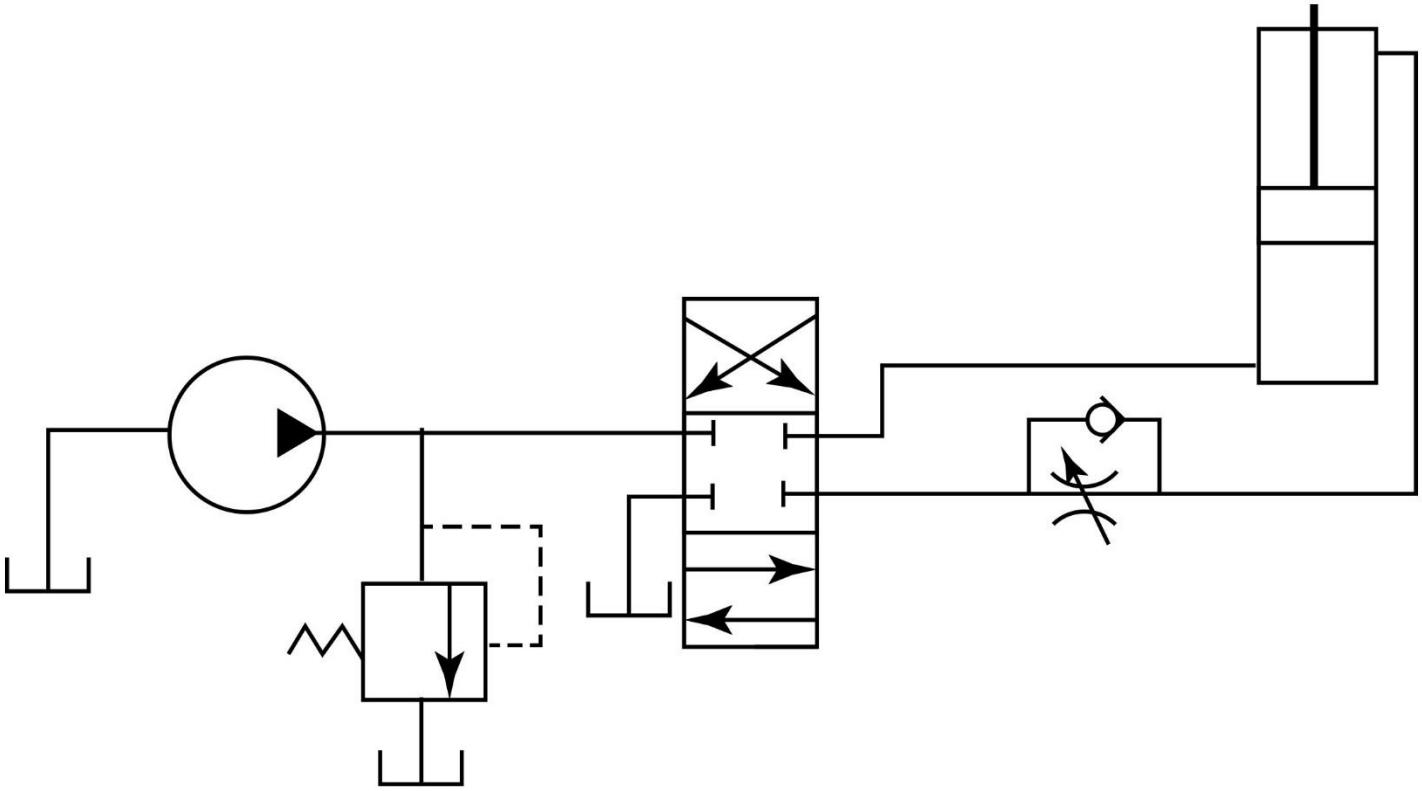
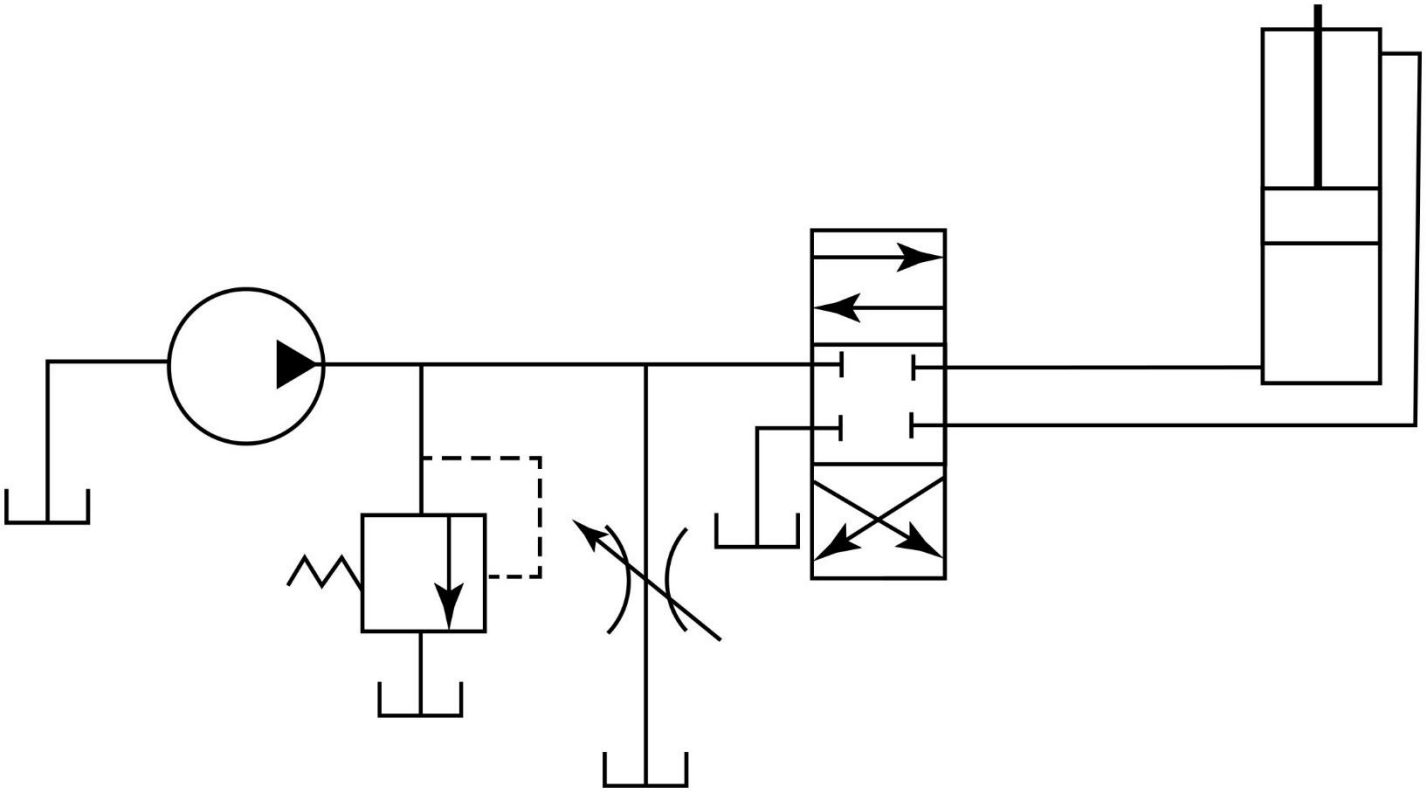


GS-0107



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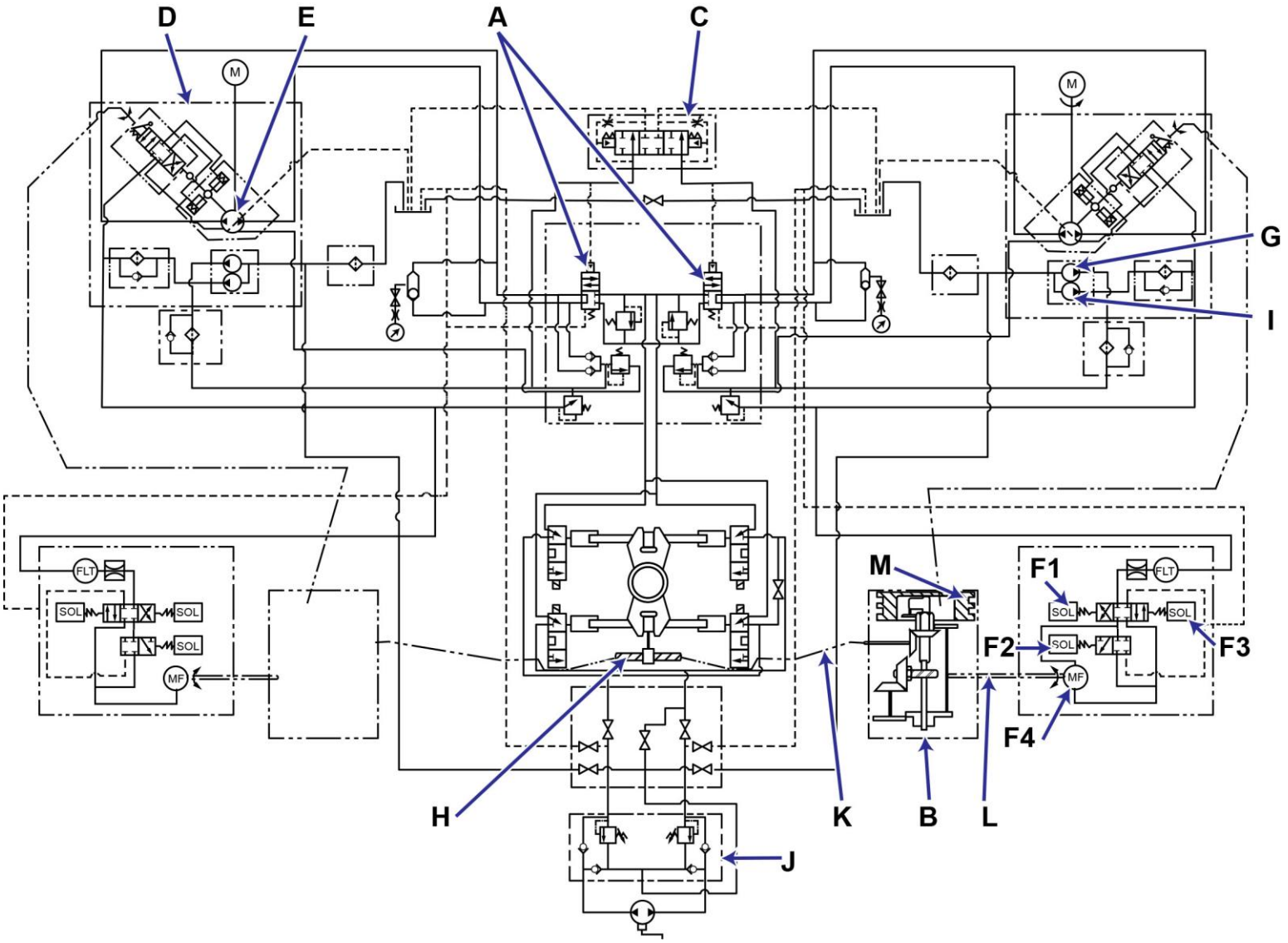
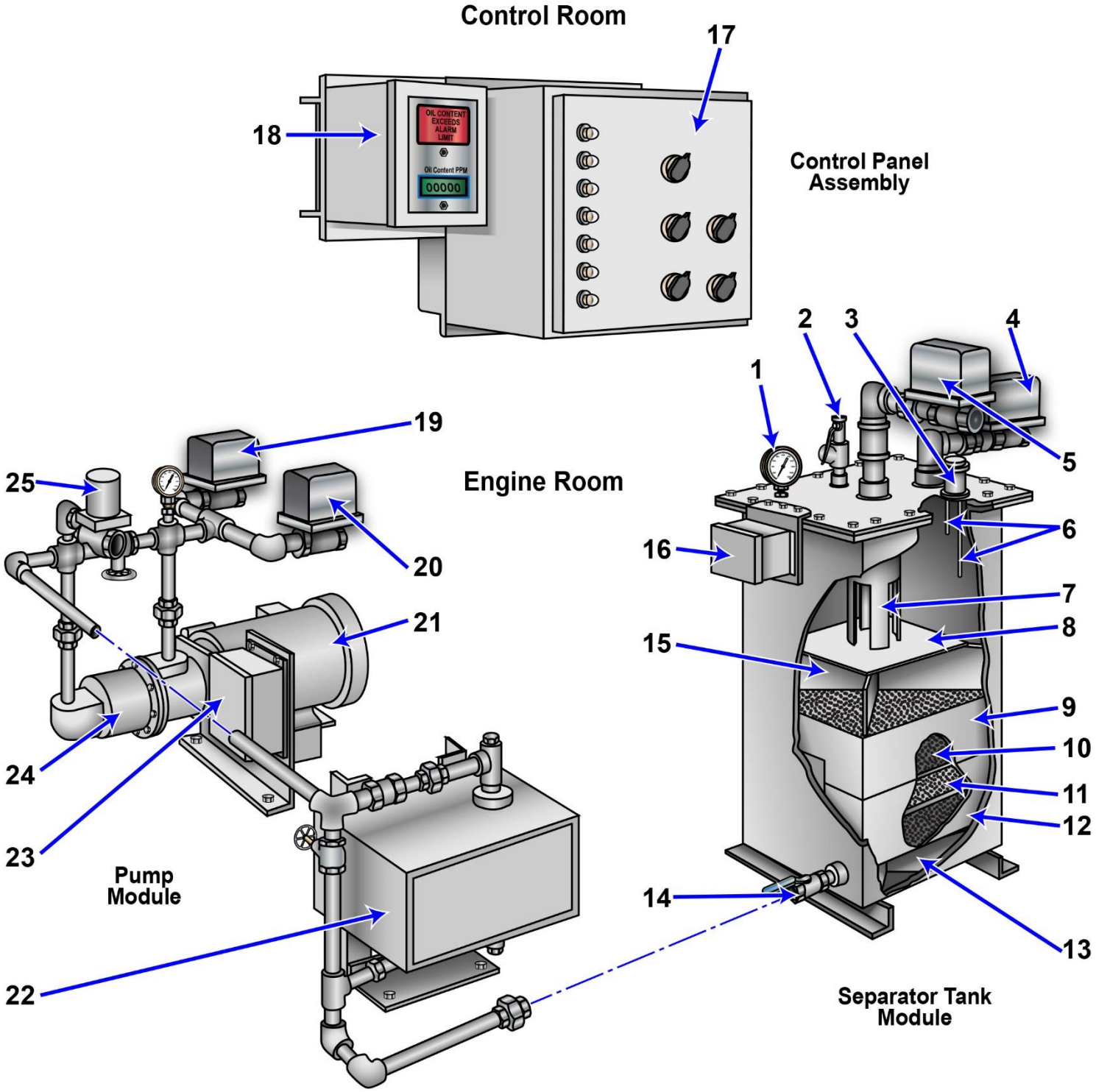
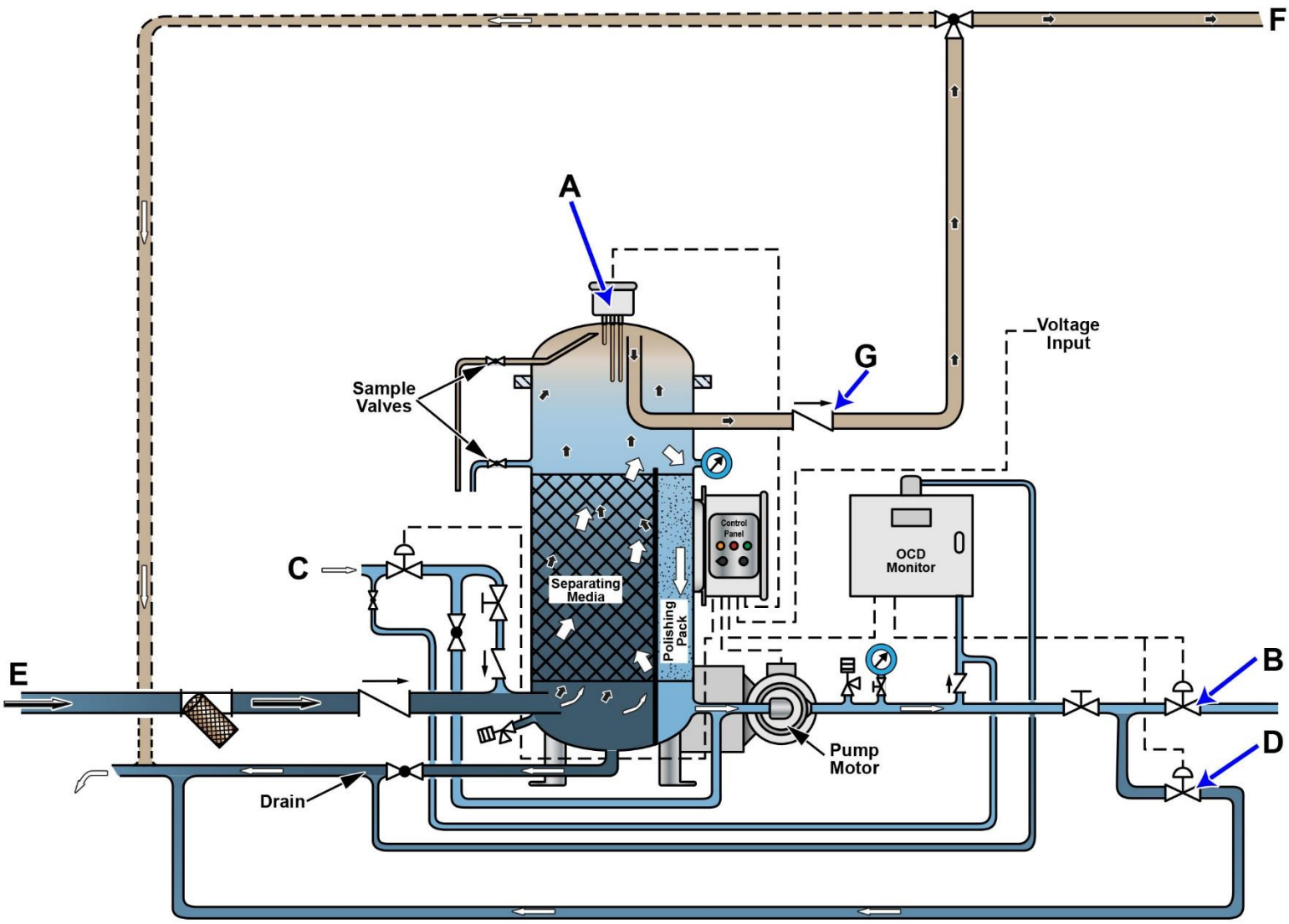


GS-0153



Adapted for testing purposes only from Operator, Unit and Direct Support Maintenance Manual Including Repair Parts and Special Tools List for Oil Water Separator
TM 55-1925-285-13 & P

GS-0175



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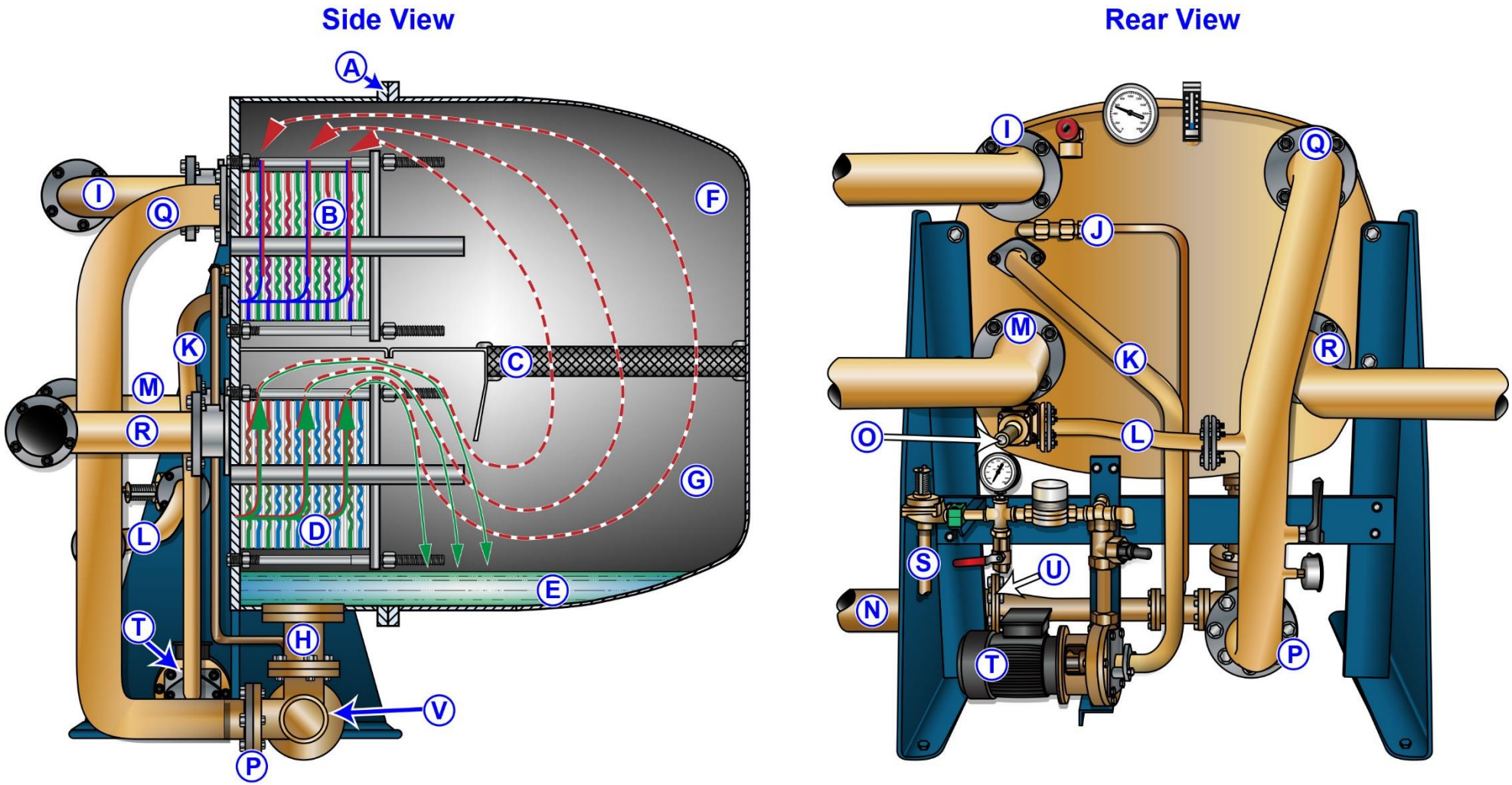

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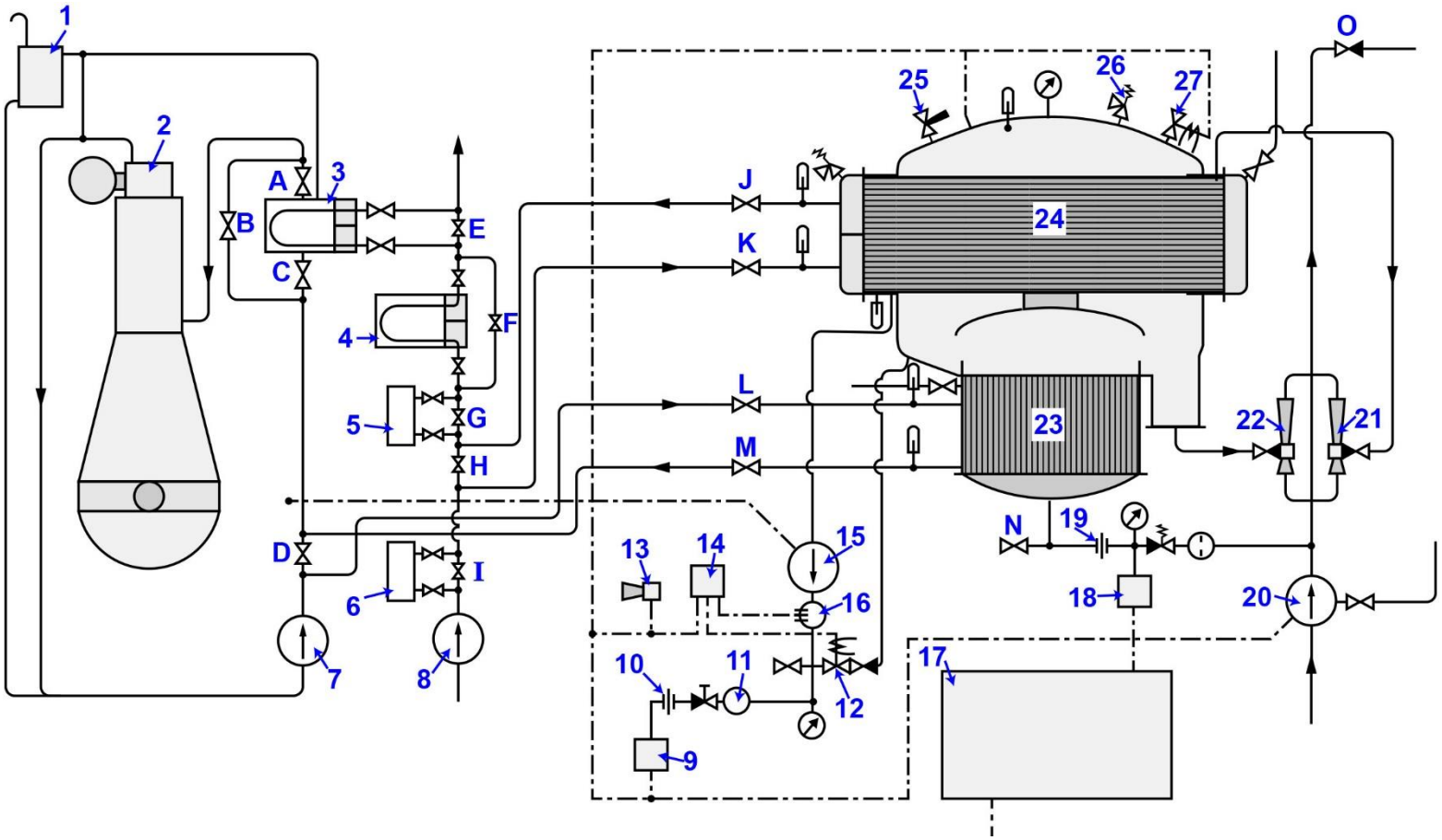

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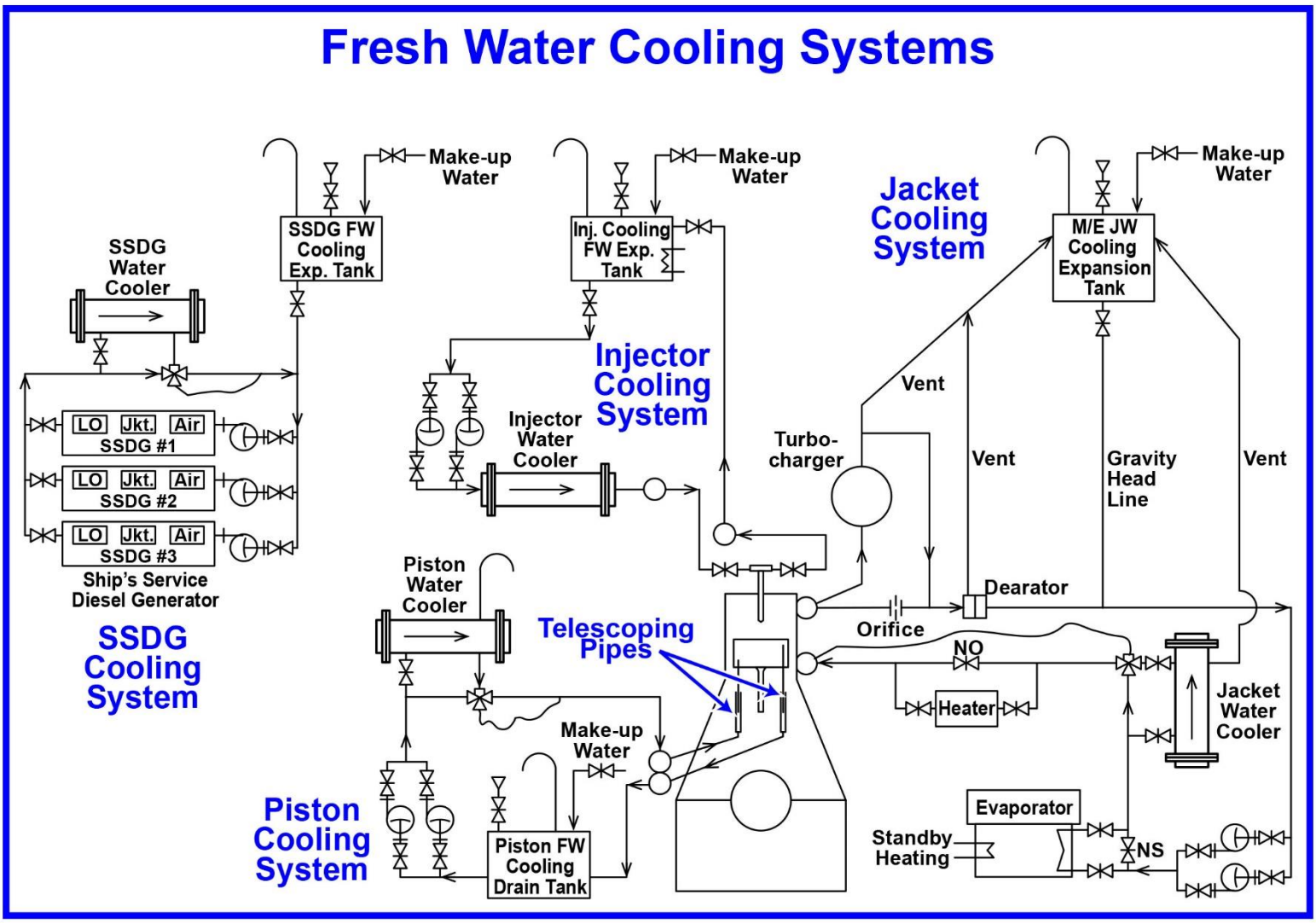

SE-0023

Sea Water Cooling Systems