

## U.S.C.G. Merchant Marine Exam

Chief Engineer-OSV

Q682 General Subjects

(Sample Examination)

**Choose the best answer to the following Multiple Choice Questions.**

1. In accordance with 33 CFR Subchapter O (Pollution), what is the definition of a "Type I Marine Sanitation Device"?
- (A) A device that produces a fecal coliform bacteria count not greater than 200 per 100 milliliters and suspended solids not greater than 150 milligrams per liter.
  - (B) A device that produces a fecal coliform bacteria count not greater than 200 per 100 milliliters and no visible floating solids.
  - (C) A device that produces a fecal coliform bacteria count not greater than 1,000 per 100 milliliters and no visible floating solids.
  - (D) A device that is designed to prevent the overboard discharge of treated or untreated sewage or any waste derived from sewage.

*If choice C is selected set score to 1.*

2. A hydraulic cylinder is fitted with a cushioning device. The piston abruptly slows towards the end of its stroke, and then continues to creep to the completion of its stroke. Which of the following represents the probable cause?
- (A) The cushion adjustment needle valve is open too far.
  - (B) The rod wiper is jammed in the cushion spear.
  - (C) The cushion adjustment needle valve is not open sufficiently.
  - (D) The exhaust oil is flowing freely through the cushion nose.

*If choice C is selected set score to 1.*

3. While a vessel is underway in periodically unmanned engine room condition, No.2 SSDG is to be down for repairs for at least the next 24 hours. Since the vessel is nearing US navigable waters, as chief engineer you wish the bridge be immediately informed of the availability of No.2 SSDG to support the electrical power requirements of maneuvering. How would you best insure that the bridge be so informed?
- (A) The request would be written as a note posted on the No.2 SSDG panel of the main switchboard.
  - (B) The request would be written as a note posted on the first assistant engineer's stateroom door.
  - (C) The request would be made of the duty engineer orally assuming that the word shall be passed on to his or her relief.
  - (D) The request would be written as a special instruction in the Chief Engineer's night order book.

*If choice D is selected set score to 1.*

4. Elevated metal levels present in a recent sample of used diesel engine crankcase lubricating oil is indicative of a condition. What would high silicon levels indicate?
- (A) The lubricating oil has become contaminated with sand, dust, and dirt.
  - (B) The lubricating oils detergent additives have become depleted.
  - (C) The lubricating oil has become contaminated with engine coolant.
  - (D) The lubricating oil has become excessively diluted with fuel oil.

*If choice A is selected set score to 1.*

5. If the superheat value of the thermostatic expansion valve is adjusted too high, what would be the result?
- (A) the heat removal capacity of the evaporator will increase
  - (B) the suction line of the compressor will be abnormally warm
  - (C) the evaporator will be overfed with liquid refrigerant
  - (D) the suction line of the compressor will be abnormally cold

*If choice B is selected set score to 1.*

6. For planning purposes graphical charts can be a useful tool. What type of chart is good for a visual progress report and identifies work stages or activities on the vertical axis and the scheduled completion dates on the horizontal axis?
- (A) PERT chart
  - (B) Pie chart
  - (C) Scatter plot
  - (D) Gantt chart

*If choice D is selected set score to 1.*

7. The function of item "7" shown in the illustration is to \_\_\_\_\_. Illustration GS-0153
- (A) support the tank access panel
  - (B) allow the oil accumulated to exit the device, while remaining separated from the liquid
  - (C) prevent separated oil from mixing with the incoming bilge water
  - (D) direct the flow of the oily-water mixture against the coalescer bed

*If choice C is selected set score to 1.*

8. Which of the fluids listed is suitable for use as a secondary refrigerant?
- (A) Cuprous chloride
  - (B) Brine
  - (C) Methyl alcohol
  - (D) Carbon dioxide

*If choice B is selected set score to 1.*

9. While starting a hydraulic anchor windlass, you observe that hydraulic pressure does not develop in spite of the proper operation of the electric drive motor. Which of the following actions should you take FIRST to restore pressure?
- (A) Inspect the disc brake on the electric motor for proper operation.
  - (B) Check for full voltage supply to the electric motor.
  - (C) Make certain that the hydraulic reservoir is filled to the proper level.
  - (D) Check the electric motor for an open overload relay contact.

*If choice C is selected set score to 1.*

10. A horizontal electro-mechanical anchor windlass is equipped with two warping heads, two wildcats, two manual brake hand wheels, two clutch control levers, and a multipoint lever-operated pedestal-mounted controller. What statement is true as it pertains to the operation of the pedestal-mounted controller?
- (A) The pedestal-mounted controller allows the wildcats to rotate in either direction of rotation, but the warping heads in only one direction of rotation at discrete speeds from zero to maximum.
  - (B) The pedestal-mounted controller allows both the warping heads and the wildcats to rotate in only one direction of rotation at discrete speeds from zero to maximum.
  - (C) The pedestal-mounted controller allows the warping heads to rotate in either direction of rotation, but the wildcats in only one direction of rotation at discrete speeds from zero to maximum.
  - (D) The pedestal-mounted controller allows both the warping heads and the wildcats to rotate in either direction of rotation at discrete speeds from zero to maximum.

*If choice D is selected set score to 1.*

11. Which of the following maintenance criteria would be the basis of planned maintenance?
- (A) Engine mounted sensor data
  - (B) Lubricating oil analysis
  - (C) Vibration analysis
  - (D) Equipment running hours

*If choice D is selected set score to 1.*

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

*If choice B is selected set score to 1.*

**13.** Which of the following third parties utilized in alternative dispute resolution proceedings has the authority to make a binding decision?

- (A) Fact-finder
- (B) Mediator
- (C) Arbitrator
- (D) Facilitator

*If choice C is selected set score to 1.*

**14.** Machinery spaces must be designed to minimize the exposure of personnel to noise in accordance with U.S. regulations. Manned machinery space noise must not exceed which noise level?

- (A) 75 dB(A)
- (B) 85 dB(A)
- (C) 90 dB(A)
- (D) 110 dB(A)

*If choice C is selected set score to 1.*

**15.** A hydraulic system flow control circuit is shown in the illustration and is known as a \_\_\_\_\_.  
Illustration GS-0106

- (A) bleed-in circuit
- (B) bleed-off circuit
- (C) metered-in circuit
- (D) metered-out circuit

*If choice D is selected set score to 1.*

**16.** 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

*If choice D is selected set score to 1.*

**17.** In what part of 33CFR can be found the recordkeeping requirements for specific machinery space operations onboard all ships of 400 gross tons or above other than a tanker that must be entered into an Oil Record Book?

- (A) 33CFR Part 151.15
- (B) 33CFR Part 151.25
- (C) 33CFR Part 151.55
- (D) 33CFR Part 151.2070

*If choice B is selected set score to 1.*

**18.** In accordance with 46 CFR Subchapter I (Cargo and Miscellaneous Vessels), it is the duty of the chief engineer to acquire and seal a sample of fuel oil received whenever fuel oil bunkers are taken. This sample must be preserved until \_\_\_\_\_.

- (A) that particular supply of oil is exhausted
- (B) return to the first U.S. port where upon it must be sent ashore for chemical analysis and the findings submitted to the nearest officer in charge, Marine Inspection
- (C) it can be sent ashore to the proper oil company personnel for testing and the results entered in the Oil Record Book, CG-480
- (D) the voyage is completed

*If choice A is selected set score to 1.*

**19.** As a management level engineering officer, you are apt to be the primary investigator investigating the root cause of the failure of a piece of machinery. Besides collecting and preserving the physical evidence of the failure and interviewing key personnel, which of the following supplemental information should be considered?

- I) Onboard operating and maintenance procedures
- II) Historical operating and maintenance records
- III) Technical manuals and specifications
- IV) Personnel training records

- (A) I, II, and III only.
- (B) I, III, and IV only.
- (C) II, III, and IV only.
- (D) I, II, III, and IV.

*If choice D is selected set score to 1.*

**20.** What statement is true concerning a well-planned turnover procedure from one crew to another?

- (A) The relieving crew embarks as the relieved crew disembarks.
- (B) The sequence of relieving crew embarking and relieved crew disembarking is not critical.
- (C) The relieving crew embarks prior to the relieved crew disembarking.
- (D) The relieving crew embarks after the relieved crew disembarks.

*If choice C is selected set score to 1.*

**21.** While calibrating an electronic 4-20 mA or 3-15 PSI pneumatic controller, what is the value of 'Live Zero'?

- (A) '0' for input span and another value for output range.
- (B) 4 mA or 3 PSI for process output range.
- (C) '0' for span and range.
- (D) 4 mA or 3 PSI.

*If choice D is selected set score to 1.*

**22.** What is true concerning highly contaminated refrigerant recovered from burned out small appliances?

- (A) The recovered refrigerant may be blended with new refrigerant for eventual re-use.
- (B) The recovered refrigerant must be destroyed by the refrigeration technician.
- (C) The recovered refrigerant may be used to clean out systems that have suffered from a burn-out.
- (D) The recovered refrigerant should be sent to a designated reclamation facility for processing.

*If choice D is selected set score to 1.*

**23.** The minimum firefighting equipment to be maintained onboard a tank vessel, can be determined from the \_\_\_\_\_.

- (A) U.S.C.G. Firefighting Manual for Tank Vessels
- (B) U.S.C.G. Equipment List
- (C) vessel's current articles
- (D) vessel's Certificate of Inspection

*If choice D is selected set score to 1.*

**24.** A vessel you are sailing on as chief engineer had its last dry-docking survey 2 years prior and is not enrolled in an underwater survey program in lieu of dry-docking. When is the next dry-docking due?

- (A) 1 year
- (B) 6 months
- (C) 2 years
- (D) 3 years

*If choice A is selected set score to 1.*

**25.** If a refrigeration system were short of refrigerant, besides an elevated box temperature, what would be an observable symptom?

- (A) short-cycling of the compressor on the water failure switch
- (B) high suction pressure
- (C) continuous running of the compressor
- (D) high discharge pressure

*If choice C is selected set score to 1.*

**26.** How can the chance of contaminating hydraulic fluid be decreased when working on hydraulic systems?

- (A) Seal any cracks in lines with Permatex.
- (B) Place drip pans under leaky fittings.
- (C) Clean the fittings before they are disconnected.
- (D) Coat all threads with graphite oil.

*If choice C is selected set score to 1.*

**27.** When installing a mechanical shaft seal on a refrigeration compressor, extreme care must be taken to prevent what from happening?

- (A) dirt and foreign particles from coming in contact with the highly polished sealing surfaces
- (B) any lubricant from contacting the carbon surface that would cause the expulsion of the saturated Teflon film
- (C) any lubricant from contacting the stationary seal face that would cause etching of the face surface
- (D) the spring from being damaged by the corrosive effects of excessive handling

*If choice A is selected set score to 1.*

**28.** The action necessary to use the steering gear room trick wheel when transferring the steering control from the wheelhouse to local control, is to \_\_\_\_\_.

- (A) align the trick wheel to the rudder angle position before engaging
- (B) set the six-way control valve in the trick wheel position
- (C) open the power transfer switch before engaging the trick wheel
- (D) always place the rudder in the amidships position to engage the trick wheel

*If choice A is selected set score to 1.*

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

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

*If choice C is selected set score to 1.*

**30.** You are conducting an operational test of your main steering gear system. The main steering gear must be capable of moving the rudder from 35 degrees on either side to 35 degrees on the other with the vessel at its deepest load line draft and running at maximum ahead service speed, and from 35 degrees on either side to 30 degrees on the other in what minimum time frame?

- (A) 28 seconds
- (B) 45 seconds
- (C) 1 minute
- (D) 2 minutes

*If choice A is selected set score to 1.*

**31.** Using the device shown in the illustration, which of the following statements is true when adding refrigerant as a vapor to the low side of the refrigeration system? Illustration GS-RA-01

- (A) The hose labeled "H" should be connected to the suction service valve service port, the hose labeled "J" should be connected to the vapor valve on the refrigerant cylinder and the valve labeled "G" should be open.
- (B) The hose labeled "H" should be connected to the suction service valve service port, the hose labeled "J" should be connected to the vapor valve on the refrigerant cylinder and the valve labeled "G" should be closed.
- (C) The hose labeled "K" should be connected to the suction service valve service port, the hose labeled "J" should be connected to the vapor valve on the refrigerant cylinder and the valve labeled "C" should be open.
- (D) The hose labeled "K" should be connected to the suction service valve service port, the hose labeled "J" should be connected to the vapor valve on the refrigerant cylinder and the valve labeled "C" should be closed.

*If choice A is selected set score to 1.*

**32.** For safe storage, the maximum allowable temperature to which refrigerant bottles should be exposed is what temperature?

- (A) 100°F
- (B) 125°F
- (C) 150°F
- (D) 175°F

*If choice B is selected set score to 1.*

**33.** 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.

*If choice D is selected set score to 1.*

**34.** 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 "D" would normally open before valve "B".
- (B) Valve "C" would be closed.
- (C) The fixed delivery pump would be stopped automatically by a pressure switch.
- (D) Valve "B" would be open before valve "D".

*If choice A is selected set score to 1.*

**35.** Which of the following shipboard groups would be an example of an informal group?

- (A) Those officers and crew assigned to a maintenance task on a ship.
- (B) Those officers and crew assigned to the safety committee of a ship.
- (C) Those officers and crew assigned to a particular ship.
- (D) Those officers and crew assigned to the engineering department of a ship.

*If choice A is selected set score to 1.*

**36.** High suction pressure accompanied by low suction temperature to a refrigeration system compressor is caused by which of the following?

- (A) a clogged liquid-line strainer
- (B) the expansion valve is insufficiently opened
- (C) the expansion valve being open too wide
- (D) the king valve is insufficiently open

*If choice C is selected set score to 1.*

**37.** As an engineering department manager in dealing with a grievance presented by an unlicensed engine department crew and union member, what documentation spells out the grievance procedure?

- (A) Collective Bargaining Agreement between Company and Union
- (B) Shipping Articles of Agreement
- (C) Title 46 CFR U.S. Coast Guard (Shipping)
- (D) Title 29 CFR Department of Labor

*If choice A is selected set score to 1.*

**38.** If item "1" in the illustrated oily-water separator indicates an abnormally deep vacuum, which of the following conditions is the most probable cause? Illustration GS-0153

- (A) Coalescer beds are severely fouled.
- (B) Process water inlet valve, item "5", is open.
- (C) Suction line inlet strainer is obstructed.
- (D) No problem exists as a high vacuum should be maintained in the chamber whose vacuum is to be measured.

*If choice C is selected set score to 1.*

**39.** The device shown in the illustration is a/an \_\_\_\_\_. Illustration GS-0116

- (A) diesel engine motor mount
- (B) mechanical shaft seal
- (C) oil scraper ring stuffing box for a crosshead engine
- (D) vane type steering gear

*If choice D is selected set score to 1.*

**40.** The exploded drawing shown in the illustration is intended to show the \_\_\_\_\_. Illustration GS-0025

- (A) total number of parts in the assembled component
- (B) parts aligned for the correct order of reassembly
- (C) disassembled component in a one point perspective view
- (D) parts without using hidden lines

*If choice B is selected set score to 1.*

**41.** What form of communication provides the greatest information richness, which is the amount of verbal and non-verbal information that a communication channel carries?

- (A) Large-group meeting
- (B) One-on-one, face-to-face
- (C) Small-group meeting
- (D) Telephone conversation

*If choice B is selected set score to 1.*

**42.** 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

*If choice B is selected set score to 1.*

**43.** In a compression type automatic grease cup, the lubricant is forced into the bearing by \_\_\_\_\_.

- (A) a zerk fitting
- (B) spring force
- (C) gravity flow
- (D) a pressure gun

*If choice B is selected set score to 1.*

**44.** A dented race in an antifriction bearing could be caused by \_\_\_\_\_.

- (A) vibration while the bearing is not in operation
- (B) abrasives in the lubricant
- (C) dirt in the bearing
- (D) water in the bearing

*If choice A is selected set score to 1.*

**45.** A reheater in an air conditioning system performs what function?

- (A) restores the conditioned air temperature to a comfortable level
- (B) controls the inlet air volume
- (C) maintains the relative humidity at 15%
- (D) controls the inlet air temperature

*If choice A is selected set score to 1.*

**46.** Of all the individual components of a pre-fire planning package, which component contains information about emergency duty station locations and responsibilities for each crew member by position AND name?

- (A) Pre-fire plan
- (B) Station bill
- (C) Fire control plan
- (D) Muster list

*If choice D is selected set score to 1.*

**47.** As it pertains to the luffing motion limits associated with an electro-hydraulic cargo-handling pedestal-type deck crane, what statement is true?

- (A) When the hoist block is raised to a maximum permissible height with respect to the boom, the luffing pump shall be stroked to zero and the luffing winch brake set.
- (B) When the hoist block is raised to a maximum permissible height with respect to the boom, the luffing pump shall be placed on stroke and the luffing winch brake released.
- (C) When the boom is raised to a maximum permissible height or lowered to a minimum permissible height, the luffing pump shall be placed on stroke and the luffing winch brake released.
- (D) When the boom is raised to a maximum permissible height or lowered to a minimum permissible height, the luffing pump shall be stroked to zero and the luffing winch brake set.

*If choice D is selected set score to 1.*

**48.** Which of the following conditions will occur if the power element of the thermostatic expansion valve shown in the illustration loses its charge? Illustration GS-RA-07

- (A) The valve will begin to close, but the external equalizing line will assist in keeping the valve unseated.
- (B) The valve will fail closed, providing no cooling capacity.
- (C) The valve will fail open and the cooling capacity will be increased.
- (D) The valve will fail open as designed to provide continuous cooling.

*If choice B is selected set score to 1.*

**49.** In the illustrated schematic, the device used to replace the six-way valve, as found on many older type steering gears, is the component labeled as \_\_\_\_\_. Illustration GS-0123

- (A) "A"
- (B) "B"
- (C) "F"
- (D) "H"

*If choice A is selected set score to 1.*

**50.** In an air conditioning system, moisture is removed from the air by what means?

- (A) separators
- (B) cooling coils
- (C) ducted traps
- (D) filters

*If choice B is selected set score to 1.*

**51.** When changing to a fire resistant hydraulic fluid in a system, it is important to check the compatibility of the new fluid with the system's \_\_\_\_\_.

- (A) seals
- (B) metals and plating
- (C) paint
- (D) all of the above

*If choice D is selected set score to 1.*

**52.** 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

*If choice A is selected set score to 1.*

**53.** In a closed-loop process control system, what is meant by error?

- (A) The progressive reduction or suppression of oscillation in a component.
- (B) The criterion of good control that permits no overshoot when the set point is changed.
- (C) The signal in a controller that is obtained by subtracting the measured value of the controlled value from the set point.
- (D) The ratio of the amplitude of the output signal of a component divided by the amplitude of the input signal.

*If choice C is selected set score to 1.*

**54.** When used together to maximize plant reliability, which of the following maintenance management schemes would be the primary tool in an integrated maintenance management system?

- (A) Planned, scheduled maintenance
- (B) Failure-based, unscheduled maintenance
- (C) Condition-based, predictive maintenance
- (D) Corrective, unscheduled maintenance

*If choice A is selected set score to 1.*

**55.** In a closed-loop process control system, what term is used to describe the progressive reduction or suppression of oscillation in a component?

- (A) Saturation
- (B) Damping
- (C) Hysteresis
- (D) Dead band

*If choice B is selected set score to 1.*

**56.** The coil temperature measured at the expansion valve sensing bulb of an operating system is 10°F. The low side pressure with the compressor running as shown on the gauge illustrated indicates 15 psig. What adjustments or changes, if any, should be made to the system? Illustration GS-RA-16

- (A) The evaporator coils need to be steam cleaned or high-pressure washed.
- (B) The liquid line strainer is obviously fouled and needs to be cleaned.
- (C) The expansion valve should not be adjusted, as the degree of superheat is within the accepted range.
- (D) The filter drier needs to be changed to increase the suction pressure.

*If choice C is selected set score to 1.*

**57.** When tuning a proportional-integral-derivative (PID) controller/loop, one should know/understand the influence of each action component on the loop. Which description of a component is correct?

- (A) Integral - component in which the input is proportional to the output.
- (B) Proportional - component in which there is a linear relationship between set point and input.
- (C) Derivative - component in which the input is proportional to the rate of change of the output.
- (D) Proportional - component in which there is a linear relationship between output and input.

*If choice D is selected set score to 1.*

**58.** The water content of fuel is easily checked on board ship to insure that serious problems do not result. What is the maximum water content of fuel that can be tolerated without serious problems resulting?

- (A) 0.01%
- (B) 0.1%
- (C) 1.0%
- (D) 10.0%

*If choice C is selected set score to 1.*

**59.** What responsibilities does a Senior Officer have while on Builder's Sea Trials of a new vessel to which one will be assigned?

- (A) Be involved operationally with shipyard operators/crew, and report any possible deficiencies to the owner's representatives.
- (B) Be involved operationally with the shipyard operating personnel, and assist in operations.
- (C) Witness/observe operations and tests, report any perceived discrepancies to regulatory bodies on board.
- (D) None operationally, observe/witness tests and document any possible discrepancies to owners' representatives.

*If choice D is selected set score to 1.*

**60.** Concerning the arrangement of equipment and associated hoses shown in the illustration, which statement is true? Illustration GS-RA-58

- (A) When recovering refrigerant from the centrifugal chiller using this method, it is possible to achieve the recovery levels required by law without any further recovery.
- (B) When recovering refrigerant from the centrifugal chiller using this method, it minimizes the risk of chiller tube freeze-up.
- (C) When recovering refrigerant from the centrifugal chiller using this method, the vent hose connection should be closed.
- (D) When recovering refrigerant from the centrifugal chiller using this method, it is permissible to exceed 90% of the weight capacity of the refrigerant drum.

*If choice B is selected set score to 1.*

**61.** Concerning the proper installation of the sensing bulb of a thermal expansion valve that is attached to the evaporator tail coil on a horizontal run, which statement is true?

- (A) the bulb should be attached so that the pinched off tubing should be oriented down and the capillary tube running to the valve diaphragm should be oriented up
- (B) the bulb should be attached so that the pinched off tubing should be oriented to one side and the capillary tube running to the valve diaphragm should be oriented to the opposite side
- (C) the bulb should be attached with no regard to the orientation of the pinched off tubing or the capillary tube running to the valve diaphragm
- (D) the bulb should be attached so that the pinched off tubing should be oriented up and the capillary tube running to the valve diaphragm should be oriented down

*If choice A is selected set score to 1.*

**62.** When analyzing trend analysis data in reference to a critical value to avoid a catastrophic failure, what statement is true?

- (A) The current data should be compared to the critical value and analyzed for the historical trend and for the rate of change over time.
- (B) The current data should be compared to the critical value without any concern for the historical trend or for the rate of change over time.
- (C) The current data should be analyzed for the historical trend and for the rate of change over time, but without any concern for the critical value.
- (D) The current data should be compared to the critical value and the historical trend, but without any concern for the rate of change over time.

*If choice A is selected set score to 1.*

**63.** It has been demonstrated that delegation can enhance employee development. To avoid a fear of failure, what must a manager avoid when delegating decision-making power to an employee?

- (A) Under-estimating the job maturity level of their employees and assigning tasks that are too easy.
- (B) Over-estimating the job maturity level of their employees and assigning tasks that are too easy.
- (C) Over-estimating the job maturity level of their employees and assigning tasks that are too difficult.
- (D) Under-estimating the job maturity level of their employees and assigning tasks that are too difficult.

*If choice C is selected set score to 1.*

**64.** On a vibration analysis report, acceleration is best described as which of the following?

- (A) The distance traveled of the vibrating part.
- (B) The frequency of the vibrating part.
- (C) The speed of the vibrating part.
- (D) The rate of change of the velocity for a vibrating part.

*If choice D is selected set score to 1.*

**65.** In accordance with 33 CFR Subchapter O (Pollution), which of the following statements is true concerning the signature of the Oil Record Book?

- (A) The officer in charge of the engineering watch signs each entry occurring on the watch, and the chief engineer signs each page.
- (B) The officer in charge of the navigational watch signs each entry occurring on the watch, and the master signs each page.
- (C) The person in charge of an operation signs for that entry, and the master signs each page.
- (D) The person in charge of an operation signs for that entry, and the chief engineer signs each page.

*If choice C is selected set score to 1.*

**66.** If a vessel is to be laid up for an extended period of time with minimal utilities provided where freezing is not a concern, boilers may be laid up wet. What statement concerning wet boiler lay-up is true?

- (A) The boiler should be completely filled with ordinary fresh water (such as potable water) until water issues from the atmospheric vent.
- (B) The boiler should be filled with deaerated and chemically treated water until the water level is brought to the top of the sight glass.
- (C) The boiler should be completely filled with deaerated and chemically treated water until water issues from the atmospheric vent.
- (D) The boiler should be filled with ordinary water (such as potable water) until the water level is brought to the top of the sight glass.

*If choice C is selected set score to 1.*

**67.** Leadership style sometimes must change with the situation faced by the manager. Which of the following situations would be best suited for adopting a structured, autocratic leadership style?

- (A) The supervision of daily operations.
- (B) The supervision of a training session.
- (C) The supervision of an emergency procedure.
- (D) The supervision of routine maintenance.

*If choice C is selected set score to 1.*

**68.** You are at a shipyard in dry-dock. New anodes for the impressed current system are being installed. The yard workers are installing the capastic layer on the hull. What is the primary function of the capastic epoxy?

- (A) It protects the anode from impact with foreign objects.
- (B) It prevents shorting of the anode current to the hull and aids in a wider current distribution to the hull.
- (C) It raises the anode off the hull so as to improve the range of the anode current.
- (D) It protects the hull coating from excessive current.

*If choice B is selected set score to 1.*

**69.** Which of the following problems may be encountered by using oil having a viscosity higher than that specified for an operating hydraulic system?

- (A) Hydraulic oil film breakdown.
- (B) Hunting due to fast response.
- (C) Increased power consumption.
- (D) External seal leakage.

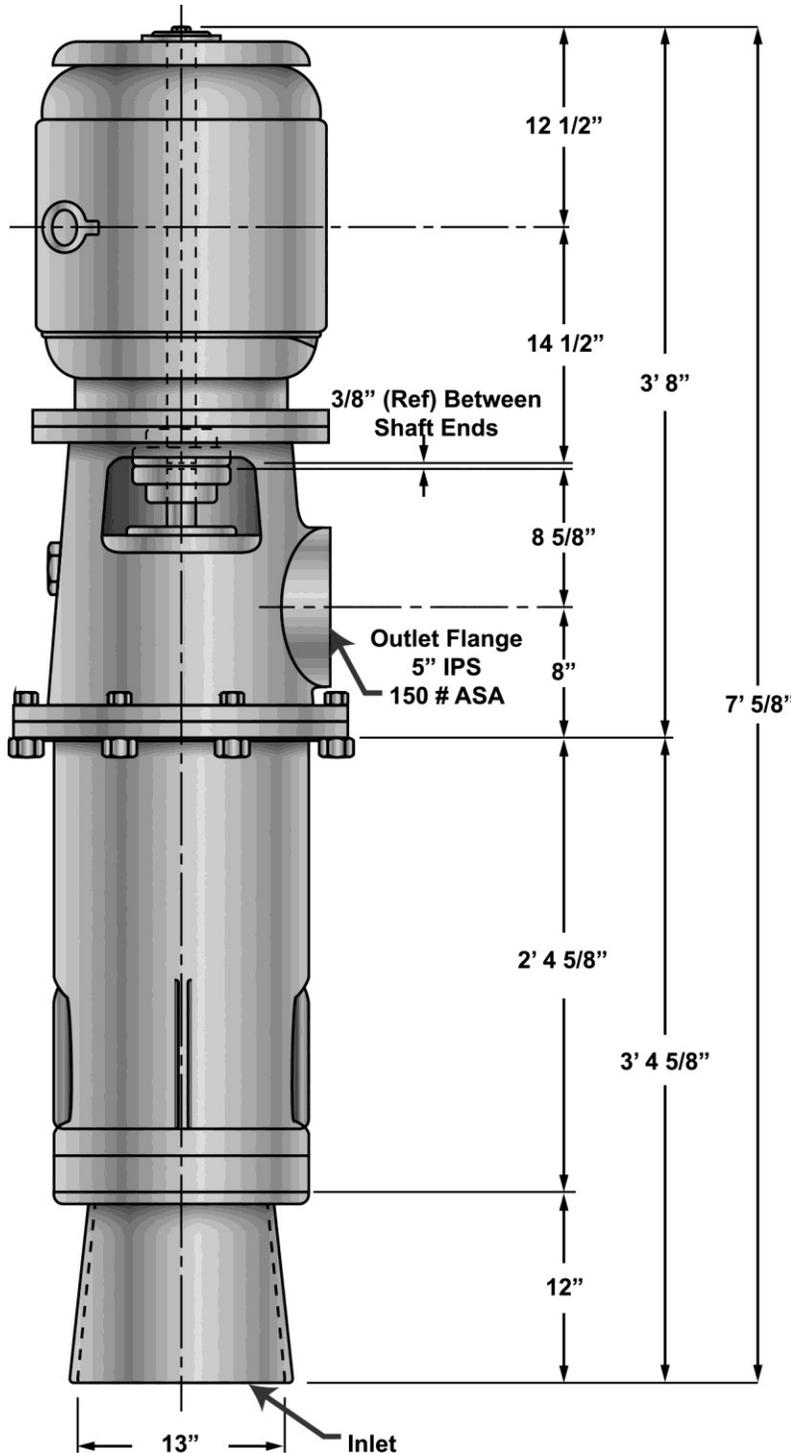
*If choice C is selected set score to 1.*

**70.** Referring to the illustration, what would be the result if the upper oil/water interface detection probe became faulty? Illustration GS-0175

- (A) The unit would not be able to transition from ending the separation processing mode to initiating the oil discharge mode.
- (B) The unit would not be able to transition from the overboard discharge mode to the recirculation mode while in the separation processing mode.
- (C) The unit would not be able to transition from ending the oil discharge mode to initiating the separation processing mode.
- (D) The unit would not be able to come out of the oily-water separator idle mode and begin processing bilge water.

*If choice C is selected set score to 1.*

## 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

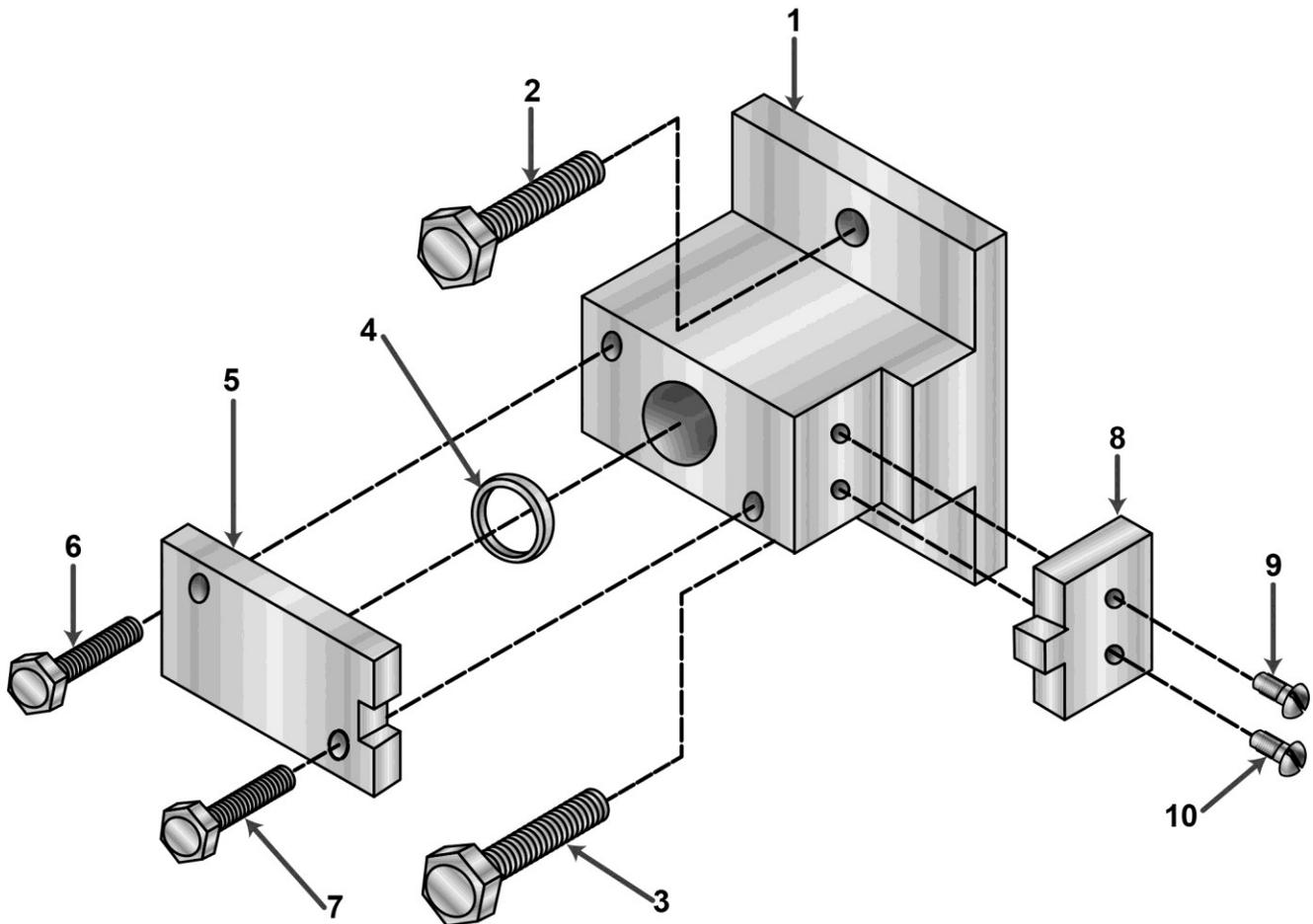
Capacity G. P. M.	400
Speed R. P. M.	1150
Suction Lift "HG	10
B, H, P. @ 1200 SSU-75° F	24.9
Oil viscosity Range, SSU	74-7000
Viscosity Normal SSU @ 140° F	155
Discharge Normal PSIG	55
Fluid Handled, Lube Oil	2190 TEP.
Navy Specification	MIL-L-17331
Oil Temperature Range ° F	40-180

Illustration scale: 1" = 1'

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## GS-0025

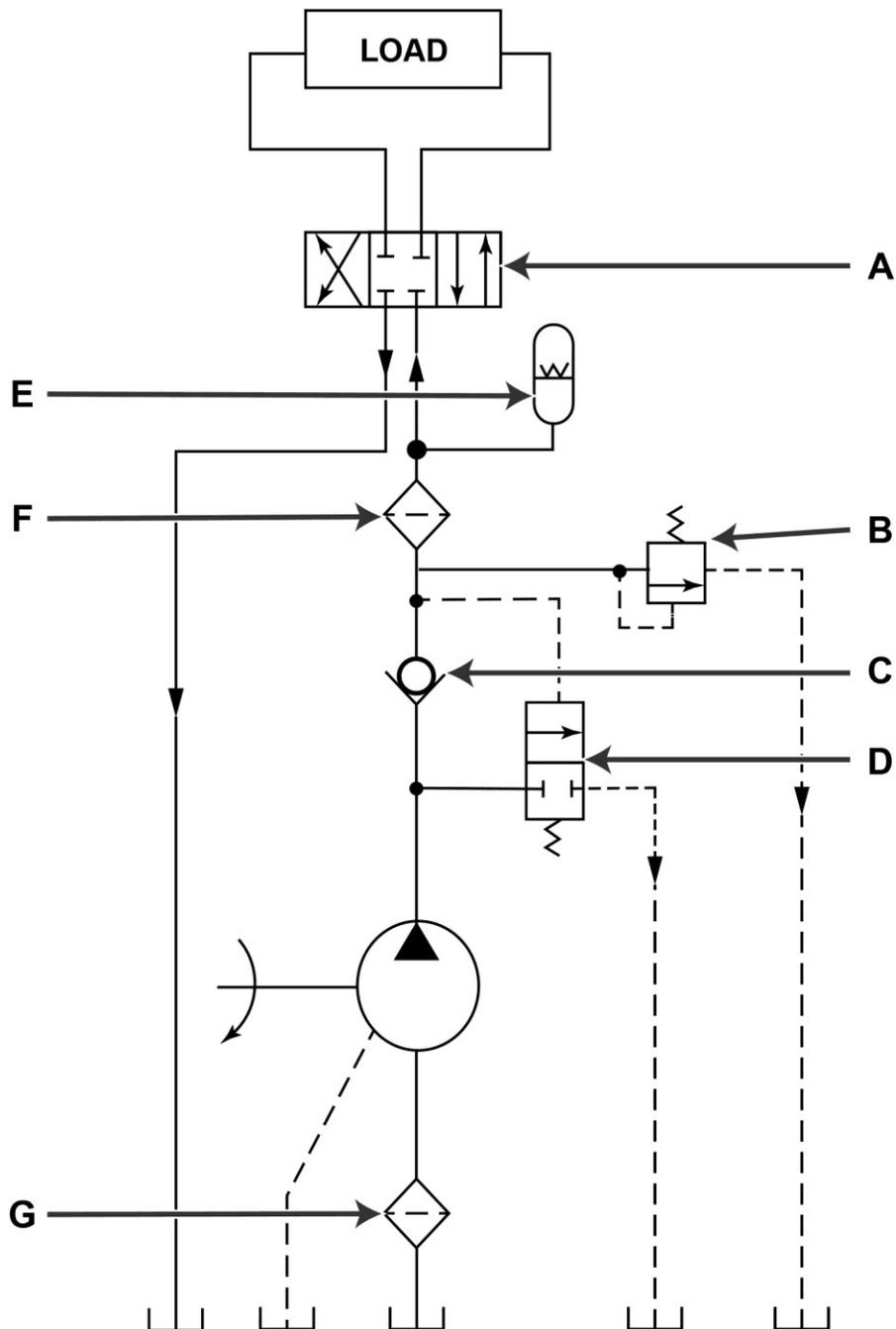


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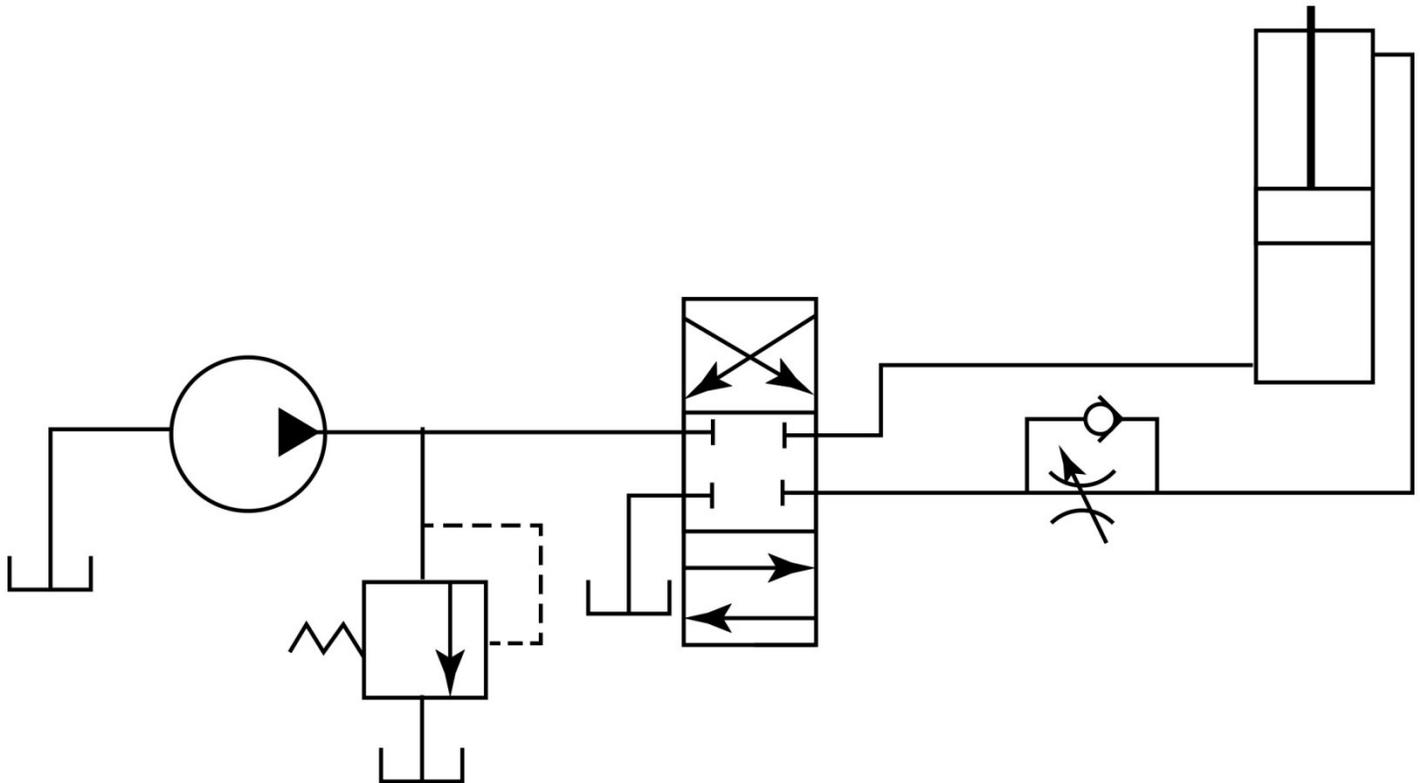
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## GS-0049



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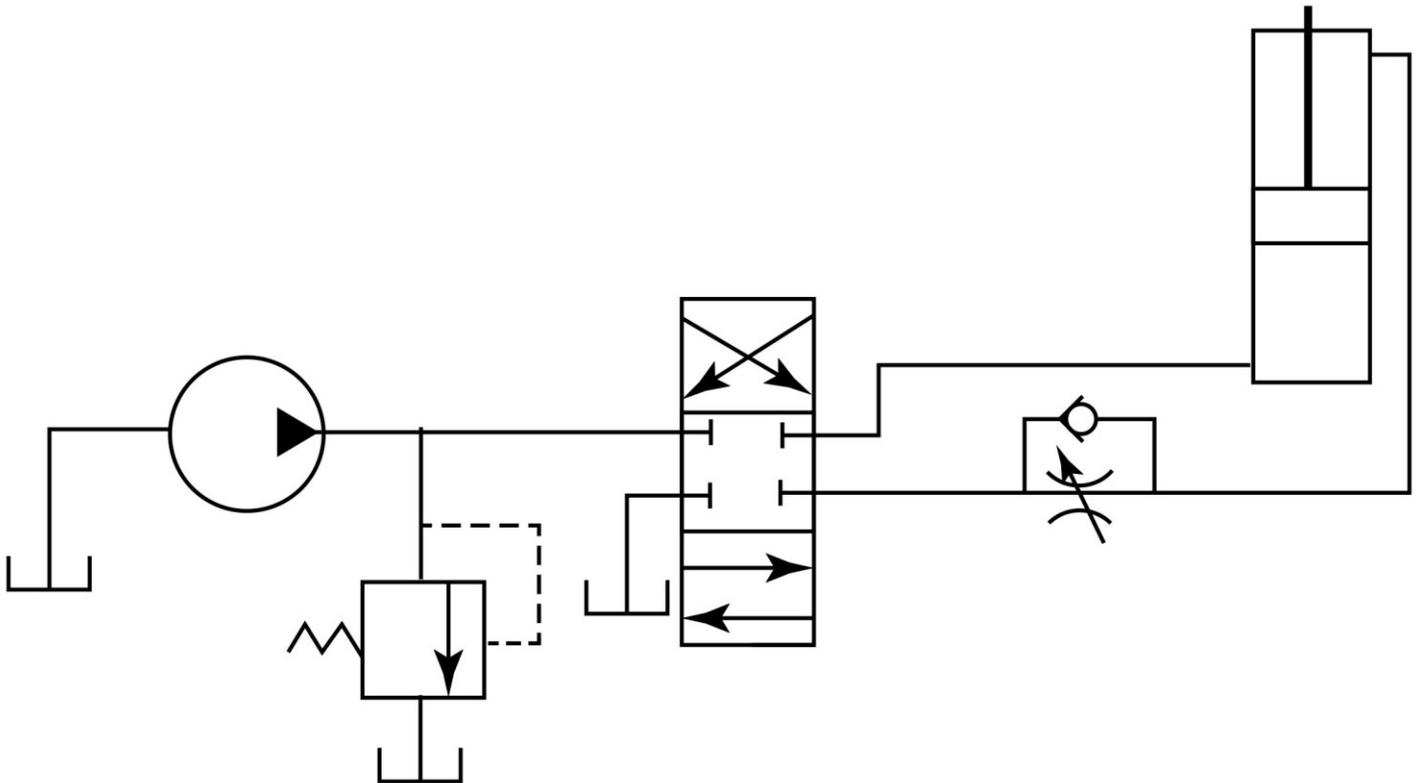


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## GS-0106

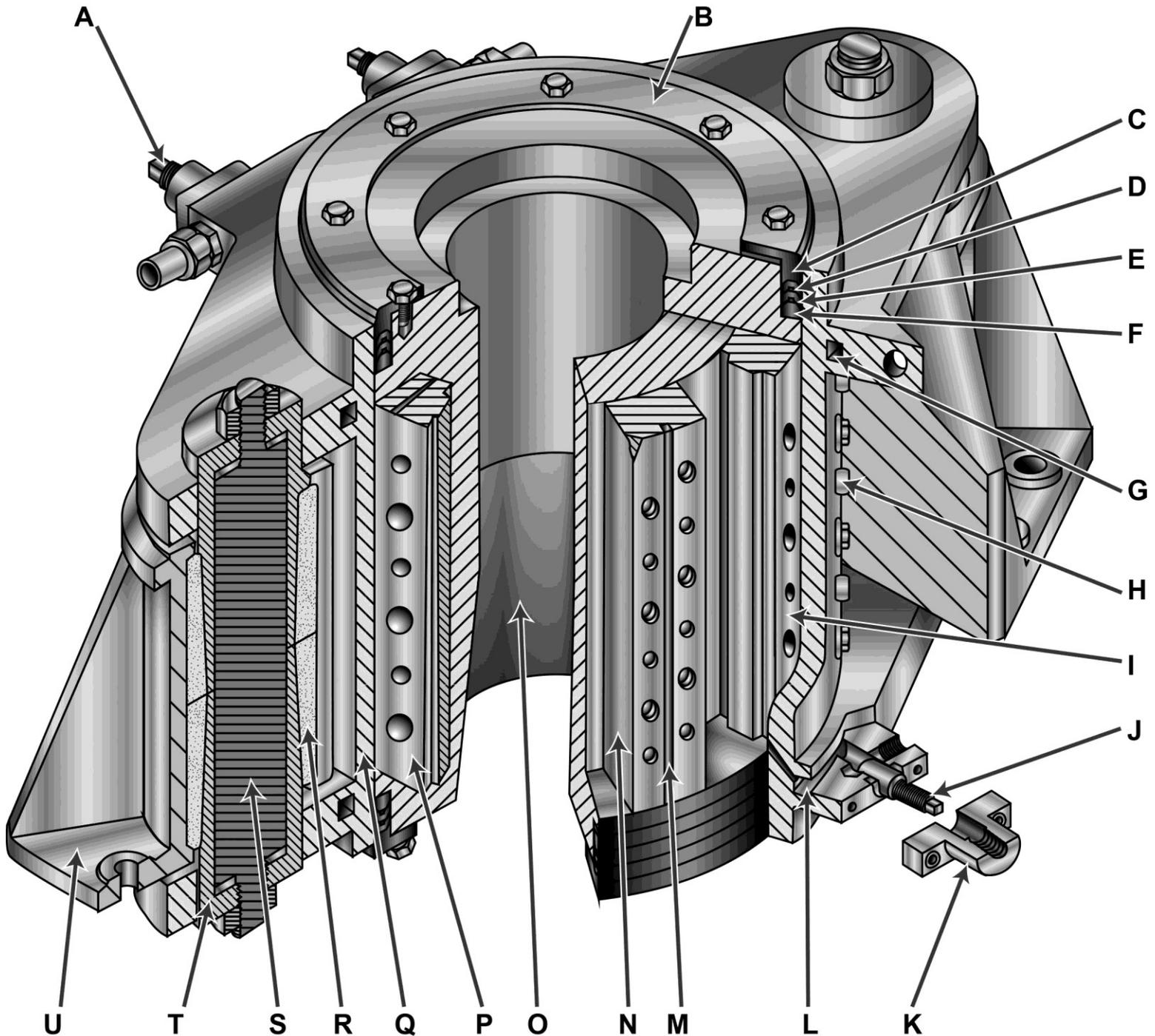


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## GS-0116

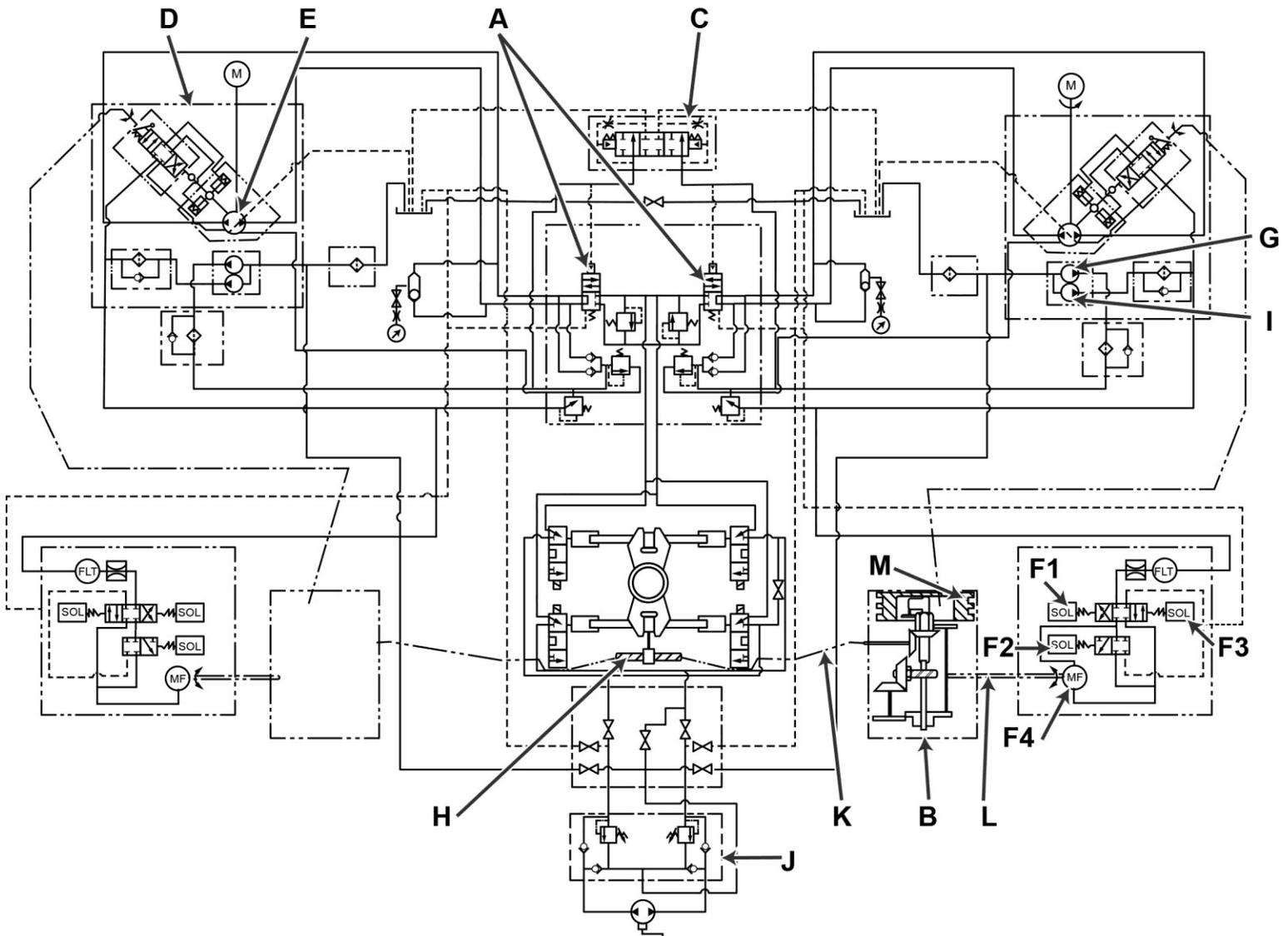


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## GS-0123



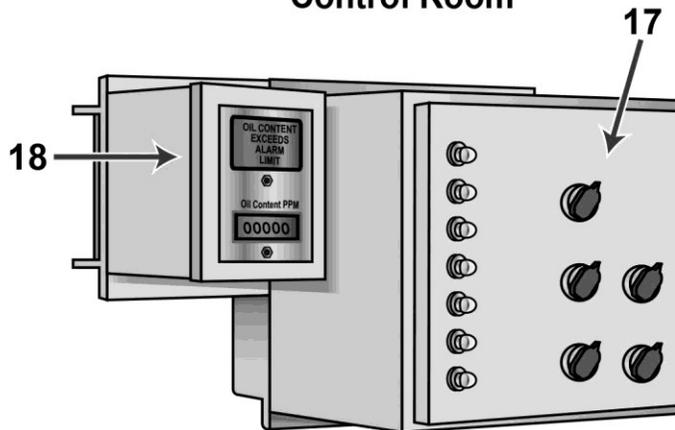
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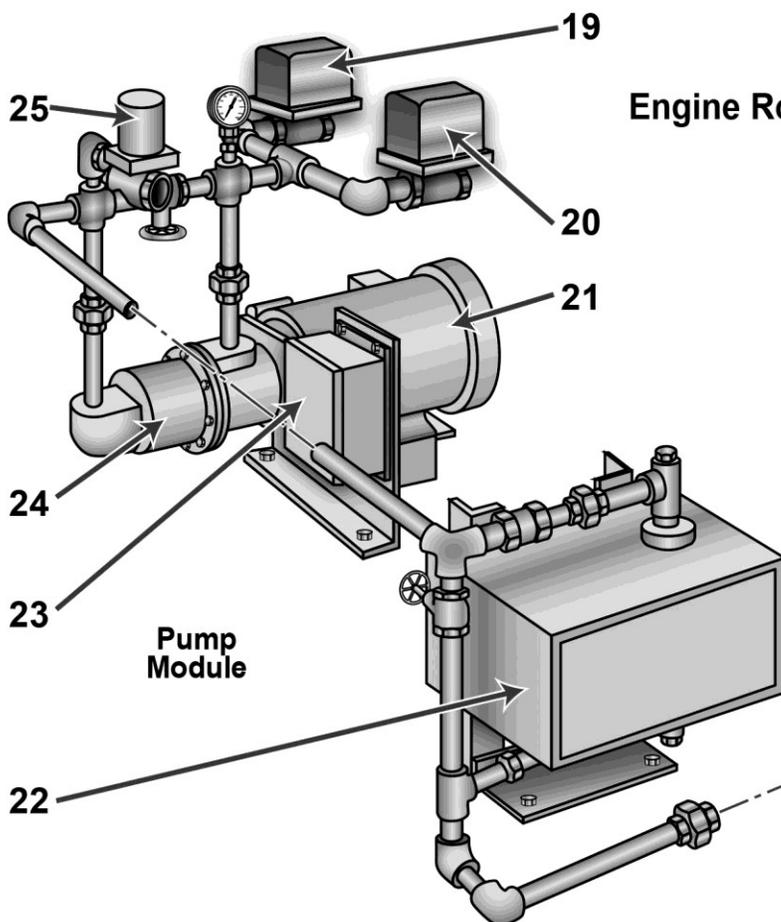
## GS-0153

### Control Room

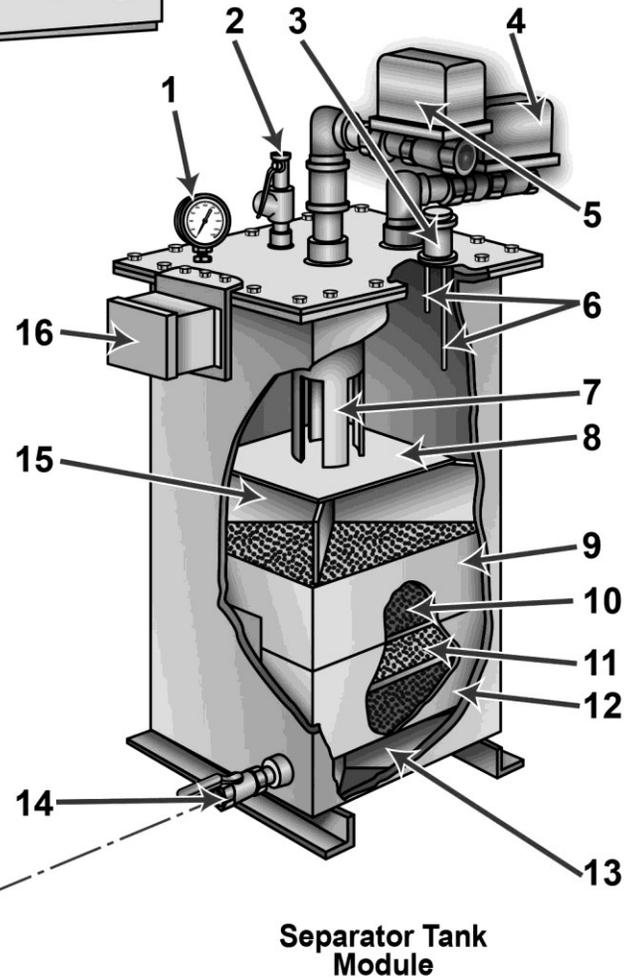


### Control Panel Assembly

### Engine Room



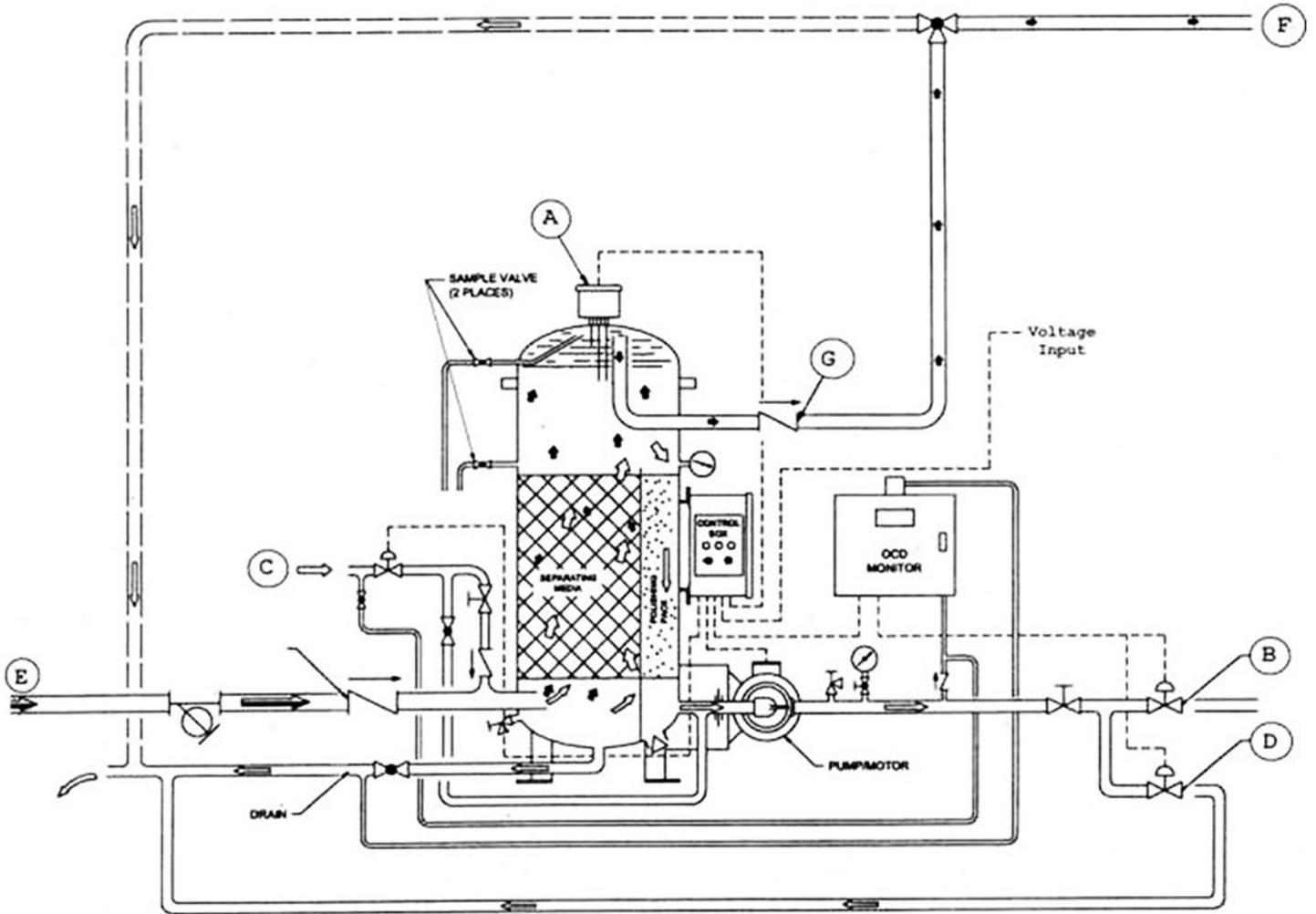
### Pump Module



### Separator Tank Module

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

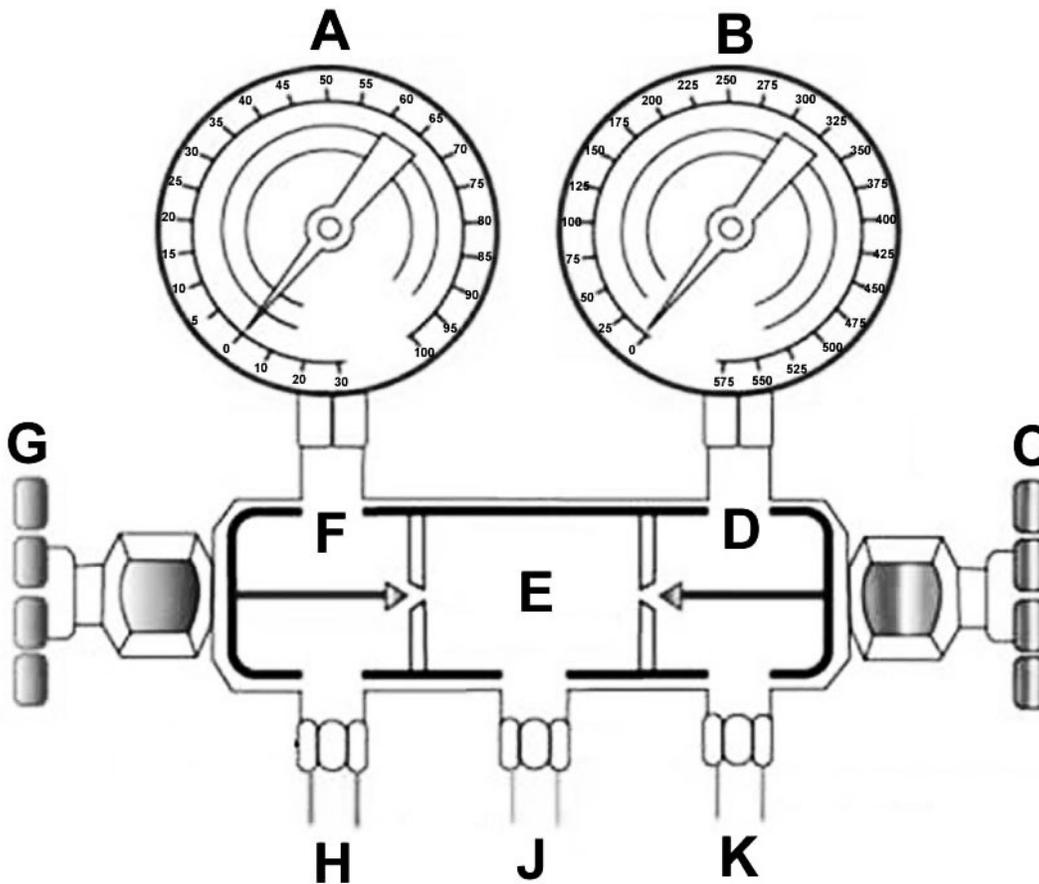


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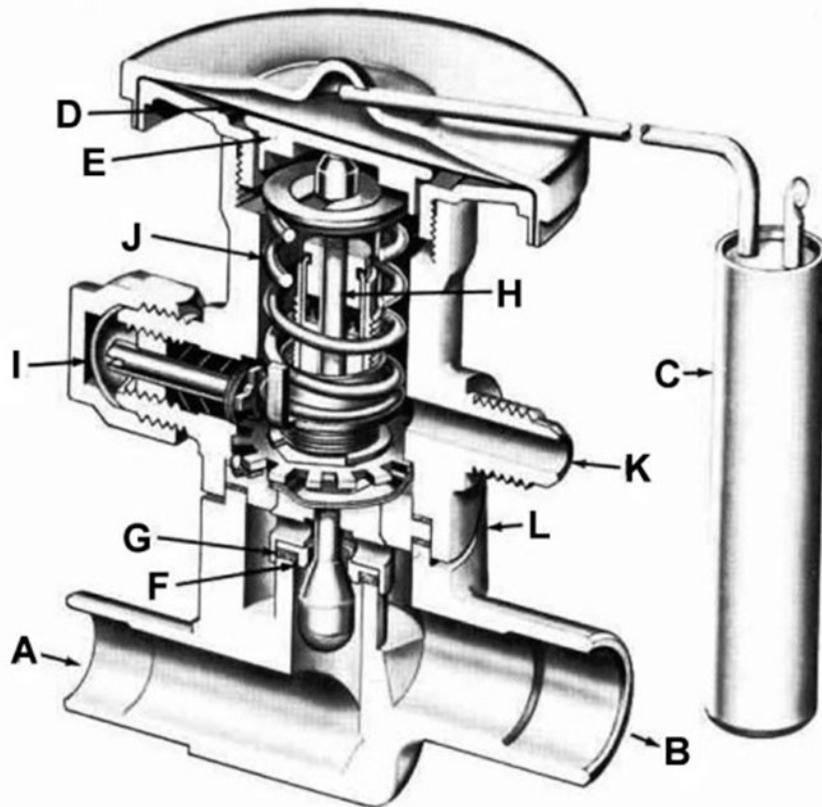
## GS-RA-01



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## GS-RA-07



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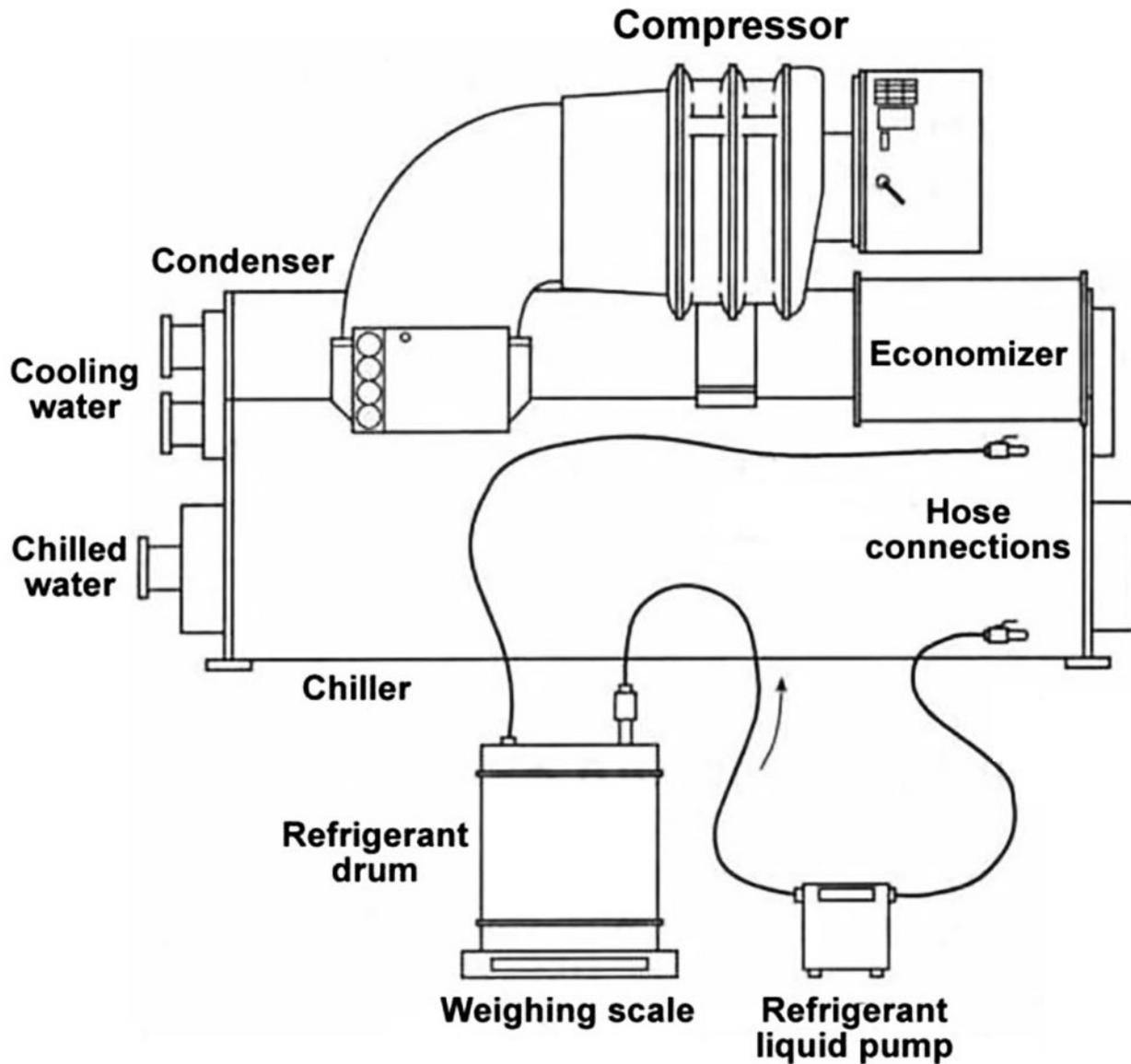
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## GS-RA-16



## GS-RA-58



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