
Q697 - General Subjects

1. Consider the following training objective for a training session designed for training your crew how to pump bilges: "Using the engine room bilge system of the M/V Underway where a bilge pocket requires pumping out and the automated bilge pumping controls have been disabled, by the end of the training session the participants will be able to pump an engine room bilge pocket dry manually to the bilge water holding tank in conformance with the vessel's engine room bilge pumping procedure checklist. There shall be no violations of the domestic and international pollution prevention regulations." What role does the phrase "where a bilge pocket requires pumping out" serve in the objective statement?

- It states one of the standards of performance to be achieved.
- It specifies the single outcome to be achieved.
- **It specifies a performance input condition.**
- It states a performance by using action words.

Note:
The phrase 'where a bilge pocket requires pumping out' establishes the scenario under which the task is performed, defining a performance input condition rather than a standard, outcome, or action.

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2. Hidden edges in objects are represented in blueprints by _____.

- a thin solid line
- a thick solid line
- dashed lines having alternating long and short dashes
- **dashed lines having approximately equal length dashes**

Note:
Hidden edges in blueprints are represented by dashed lines having approximately equal length dashes. This convention distinguishes hidden features from visible ones, using a specific line type to indicate edges not directly visible in the drawing.

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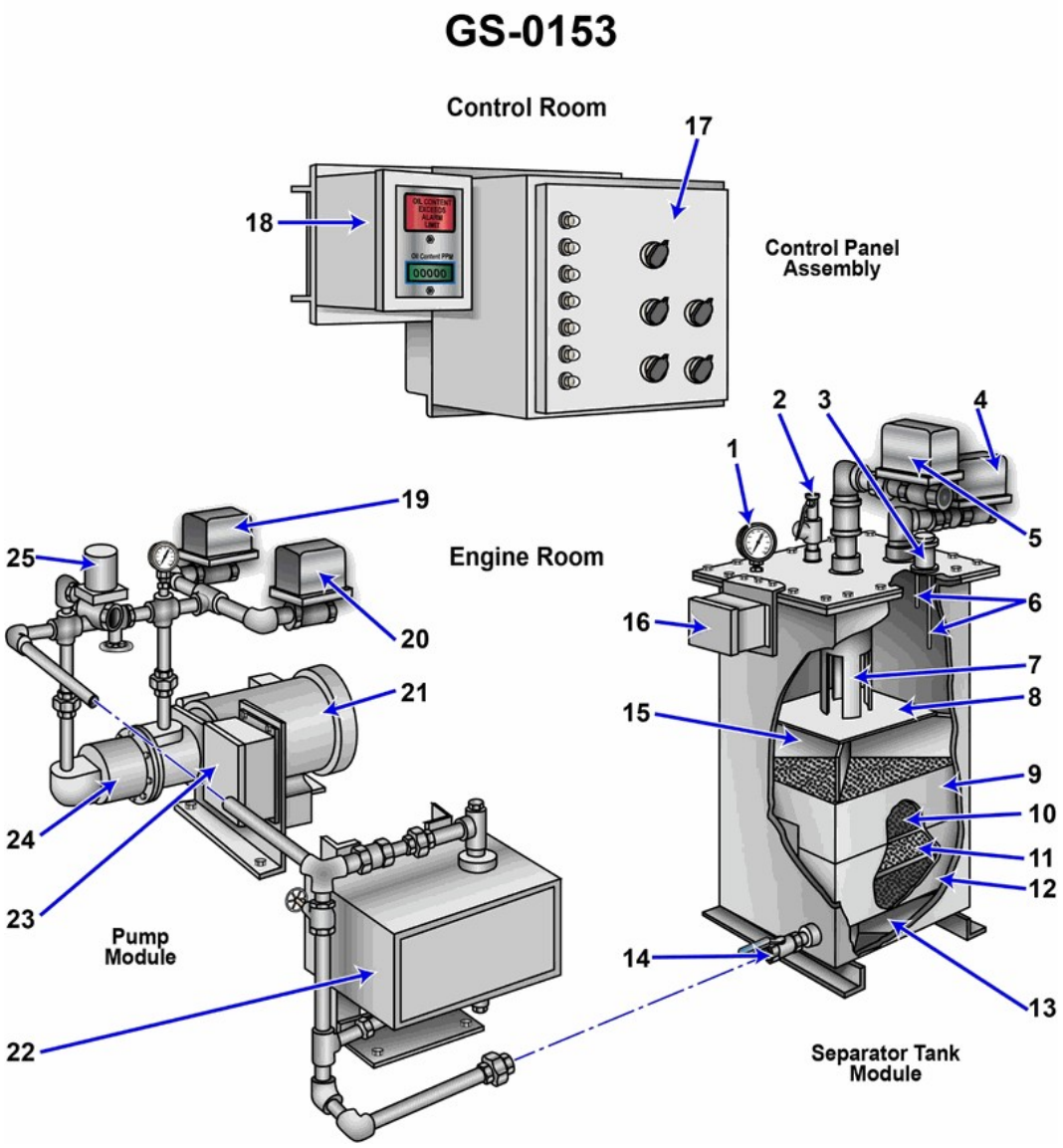
3. If item "1" in the illustrated oily-water separator indicates an abnormally deep vacuum, which of the following conditions is the most probable cause



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

Note:
A deep vacuum at item '1' indicates restricted flow on the suction side. An obstructed suction line inlet strainer restricts water flow, forcing the pump to work harder and creating an abnormally deep vacuum. This is the most probable cause.

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

- prevent the sanitary pump from losing suction
- provide a higher pressure in the system than the pump can deliver
- **reduce excessive cycling of the sanitary pump**
- increase water flow through the system

Note:
A pneumatic pressure tank reduces excessive cycling of the sanitary pump by storing pressurized water, allowing the pump to remain off during small demands and extending its lifespan.

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5. The process of grinding, shredding, or reducing the size of sewage particles is known as _____.

- detention
- **maceration**
- bulking
- chlorinating

Note:
Maceration is the process of grinding or shredding sewage particles to reduce their size, facilitating pumping, treatment, or discharge. This process, often performed by a macerator pump in marine sanitation devices, distinguishes it from detention (holding time), bulking (sludge characteristics), and chlorinating (disinfection).

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

- **33 CFR Section 159**
- 33 CFR Section 153
- 33 CFR Section 155
- 33 CFR Section 156

Note:
Coast Guard regulations for marine sanitation devices are found in 33 CFR Section 159, which specifically addresses marine sanitation device standards; other sections cover oil and hazardous substance pollution or transfer operations.

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7. A hydraulic fluid flow control circuit, controlling linear actuator speed during extension, with the pump operating at system pressure, is known as a _____.

- bleed-in circuit
- metered-out circuit
- bleed-off circuit
- **metered-in circuit**

Note:
The circuit controls actuator speed during extension while the pump maintains system pressure, indicating flow is metered into the actuator; this configuration is a metered-in circuit.

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8. A hydraulic fluid flow control circuit, controlling linear actuator speed, with the pump operating below maximum operating pressure is known as the _____.

- bleed-in circuit
- metered-in circuit
- **bleed-off circuit**
- metered-out circuit

Note:
A bleed-off circuit controls linear actuator speed while maintaining pump pressure below maximum by diverting excess flow back to the reservoir.

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9. Setting the relief valve opening pressure in a hydraulic system lower than the required operating pressure will result in _____.

- extended system life
- overspeeding of the hydraulic pump
- **overheating of the system**
- accelerated action of the system components

Note:
Setting the relief valve opening pressure below the required operating pressure causes fluid to recirculate, converting pump power into heat and resulting in system overheating.

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10. Hydraulic system reservoirs are often fitted with a combined filler/breather cap. If the breather element becomes fouled, the _____.

- reservoir will become pressurized
- flow through the return lines will be stopped
- actuator response time will be halved
- **reservoir will be subjected to a partial vacuum**

Note:
A blocked breather prevents air from entering the reservoir as fluid is drawn out, creating a partial vacuum.
