
Q750 - 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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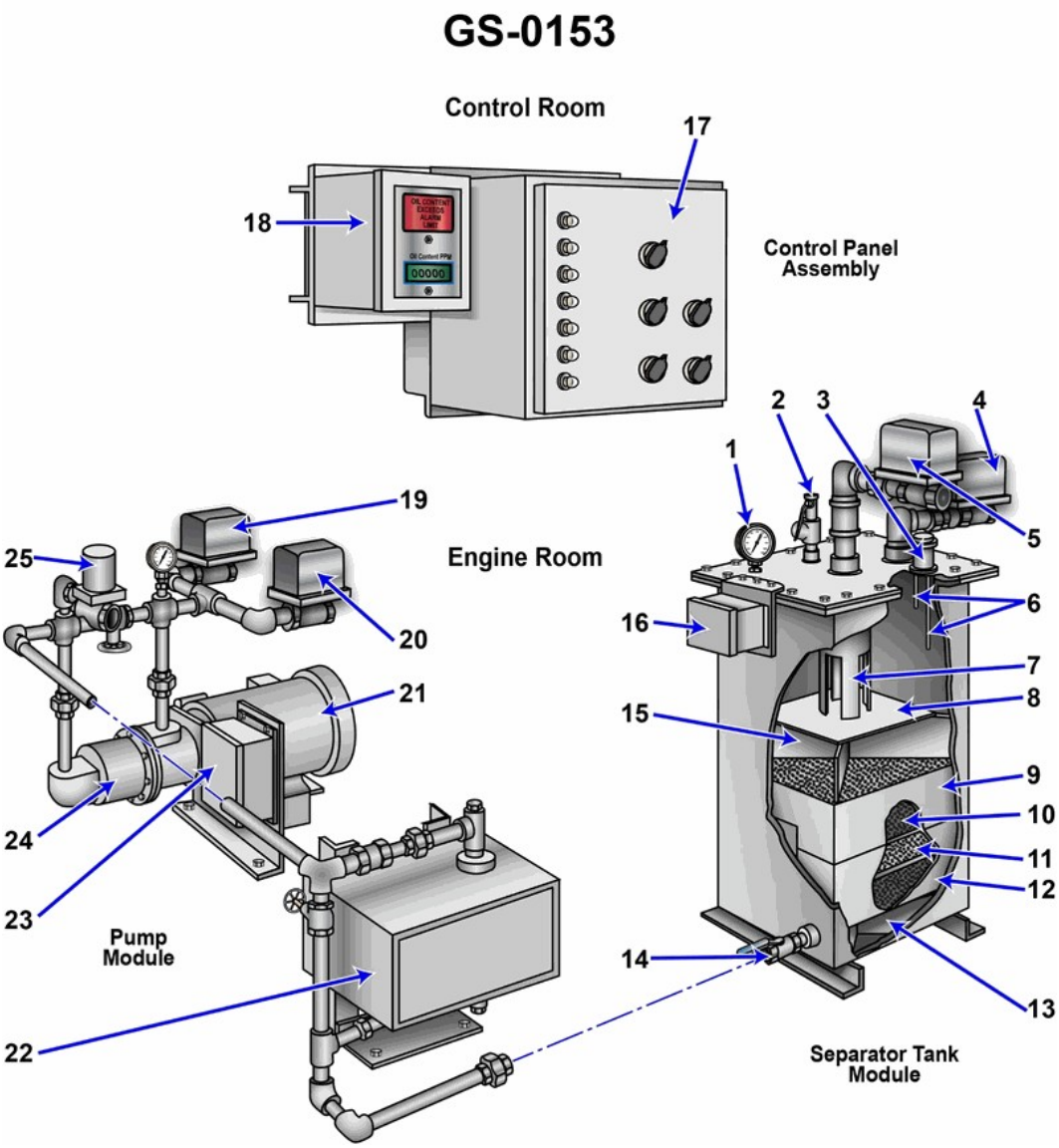
2. If item "1" in the illustrated oily-water separator indicates an abnormally deep vacuum, which of the following conditions is the most probable cause



- 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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3. 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.

4. 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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5. A hydraulic fluid flow control circuit, used to control linear actuator speed during retraction, with the pump operating at above maximum pressure, is known as a _____.

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

Note:
A metered-out circuit controls actuator retraction speed by restricting fluid flow from the cylinder, a standard method when the pump operates at or above relief pressure, particularly with overrunning loads.

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

- hydrostatically tested to 100% of maximum working pressure
- **descaled by using a pickling solution**
- cleaned using a water-based detergent
- all of the above

Note:
New hydraulic piping must be chemically descaled to remove mill scale, rust, and welding residues before installation.

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

- **Clean the fittings before they are disconnected.**
- Place drip pans under leaky fittings.
- Coat all threads with graphite oil.
- Seal any cracks in lines with Permatex.

Note:
Cleaning fittings before disconnection removes external contaminants, directly reducing the risk of hydraulic fluid contamination. Other options address leakage or are inappropriate and could introduce new contaminants, while cracked lines require repair or replacement, not sealant.

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9. When normal operating pressure is applied to the hydraulic oil in a high-pressure system, the oil _____.

- viscosity will decrease
- **viscosity will increase**
- volume will increase
- floc point will increase

Note:
Increased pressure in a hydraulic system causes a slight increase in oil viscosity, making it more resistant to flow. Hydraulic oils are nearly incompressible, so volume changes minimally under pressure, and floc point is a temperature-dependent property unrelated to normal operating pressure.

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10. Overheating of a hydraulic system may be a result of _____.

- continued slow recirculation of the oil
- changing pump discharge pressure in response to normal load variations
- **incorrect fluid viscosity**
- a high oil level

Note:
Incorrect fluid viscosity increases friction and leakage, converting energy into heat and causing overheating. Hydraulic oil must maintain the manufacturer's specified viscosity range to ensure proper flow and minimize energy loss. Viscosity that is too high increases friction, while viscosity that is too low increases leakage, both resulting in wasted energy and increased oil temperature. Options related to recirculation, pressure variations, and oil level do not directly cause overheating.
