Demo PDF file. This file includes questions: 10 from 302. Full version of file looks the same as demo, but full version includes all questions. You may download file with all questions by link on bottom of this page

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Q514 - Motor Plants

1. In accordance with 46 CFR Subchapter F, steel tubing connections and fittings used with diesel fuel oil systems are to be either flared or _____.

- **of the flareless nonbite type**
- silver soldered
- have welded flanges
- have seal-welded threads

Note:
46 CFR Subchapter F requires steel tubing connections and fittings in diesel fuel oil systems to be either flared or of the flareless nonbite type to ensure a mechanically secure, vibration-resistant, leak-tight joint.

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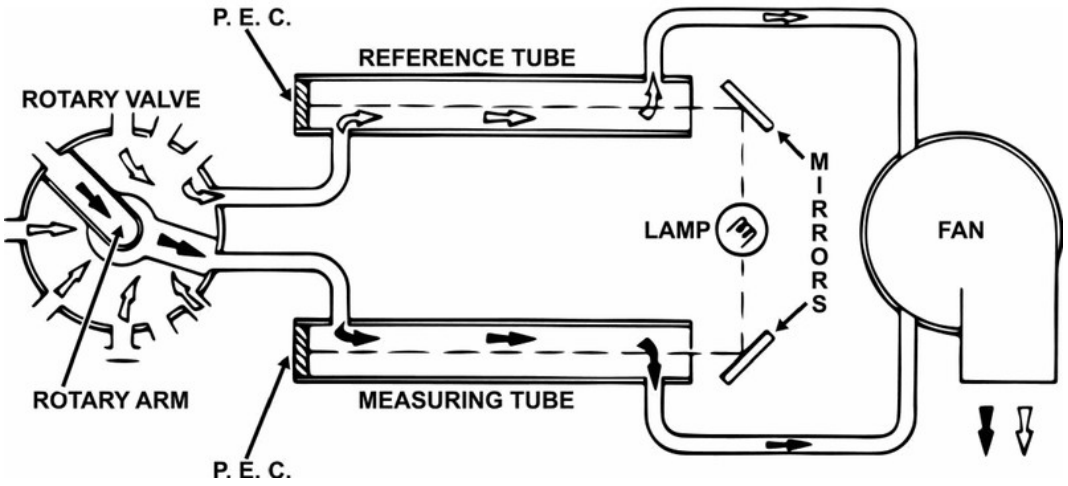
2. The device shown in the illustration is a _____

MO-0008



- photoelectric, explosive gas indicator, for use in high-speed, two-stroke, trunk type piston engines
- **comparator type mist detector for large low-speed, crosshead type engines**
- rotary type mist detector, designed for use in four-stroke, high-speed diesel engines
- level type explosimeter, for small medium-speed, trunk type piston engines

Note:
The illustration depicts a comparator type mist detector, characterized by its use of reference and measuring tubes to compare air streams, a design specific to large, low-speed, crosshead engines.

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3. Before any work is done on a burner in an automatically fired auxiliary boiler, you should always _____.

- block all control valves
- allow the boiler to cool completely
- lock all safety interlock switches closed
- **close all manually operated fuel valves**

Note:
To prevent accidental burner ignition during maintenance on an automatically fired auxiliary boiler, the primary safety measure is to close all manually operated fuel valves, ensuring no fuel supply reaches the burner.

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4. A safety valve on an auxiliary boiler simmers constantly and cannot be stopped by several quick blow-offs using the hand-relieving gear. The problem may be _____.

- loose dirt on the seat
- exposed valve springs
- a clogged drain line
- **a damaged seat**

Note:
A damaged seat prevents proper sealing, resulting in continuous leakage that persists despite attempts to clear the valve with quick blow-offs; this distinguishes it from issues like dirt, drain line clogs, or spring exposure, which would typically be resolved by such actions.

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5. A variable capacity, pressure atomizing, fuel oil burner functions to _____.

- maintain a constant fuel temperature
- **provide a wide range of combustion**
- provide a constant fuel return pressure
- maintain smokeless fuel oil atomization

Note:
A variable capacity, pressure-atomizing burner enables efficient fuel combustion across a range of firing rates by maintaining proper atomization and flame stability.

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6. When preparing to light off a cold boiler equipped with a return flow fuel oil system, the recirculating valve directs the flow of oil _____.

- **back to the suction side of the service pump**
- directly to the fuel oil heater inlet for further warm-up
- directly to the deep tanks
- back to the fuel oil settler for further filtration

Note:
The recirculating valve in a return-flow fuel oil system directs excess fuel back to the service pump's suction side to maintain pump circulation and temperature, preventing pressure surges and ensuring stable burner operation.

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7. Which of the following statements describes how the fuel oil enters the whirling chambers of the sprayer plates used in an auxiliary boiler return flow fuel oil system?

- Through the outer barrel tube
- Through the sprayer plate drilled passages
- **Through tangential slots in the sprayer plate**
- Through baffles in the orifice plate

Note:
Fuel oil enters the whirling chambers through tangential slots in the sprayer plate to induce a swirling motion for atomization.

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8. If the bowl of a disk-type centrifugal purifier when operated as a separator is not primed, the _____.

- purifier will act as a clarifier at the discharge ring
- oil solids will be deposited only at the intermediate top disk
- **oil will be lost through the water discharge ports**
- oil has a tendency to emulsify in the bowl

Note:
Without priming, the centrifugal purifier lacks a water seal, causing oil to be discharged through the water discharge ports and resulting in oil loss.

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9. Poor combustion in a diesel engine can be caused by _____.

- **low compression temperature**
- high compression pressure
- high scavenge air pressure
- low exhaust pressure

Note:
Low compression temperature prevents adequate fuel ignition due to insufficient air temperature at the end of compression, resulting in poor combustion.

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10. On a diesel-propelled vessel operating with constant slip what is the effect on fuel consumption with an increase in shaft RPM?

- **fuel consumption varies as the cube of the shaft RPM**
- fuel consumption varies directly proportional to the shaft RPM
- fuel consumption varies as the square of the shaft RPM
- fuel consumption varies inversely with the shaft RPM

Note:
Fuel consumption increases as the cube of shaft RPM because power required to drive a displacement vessel rises proportionally to the cube of its speed, and ship speed is directly related to shaft RPM when propeller slip is constant.

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