

1. If an oil burner system is experiencing intermittent heating issues, how would you assess the functionality of the stack switch's hot and cold contacts?
 - (A) Ensure the cold contacts remain closed regardless of temperature.
 - (B) Replace the stack switch without testing the contacts.
 - (C) Check if the hot contacts are opening when the burner is off.
 - (D) Test if the hot contacts close as the temperature rises and the cold contacts open.
2. Explain why covered copper oil lines are preferred for installations where the lines are buried in concrete.
 - (A) They are less expensive than other materials.
 - (B) They resist corrosion and provide structural integrity.
 - (C) They provide better insulation against heat loss.
 - (D) They are easier to install than other types.
3. Describe the relationship between air supply and flame stability in oil burning systems.
 - (A) An excessive air supply can destabilize the flame, potentially causing it to blow out.
 - (B) An excessive air supply has no effect on flame stability.
 - (C) An excessive air supply ensures complete combustion and stabilizes the flame.
 - (D) An excessive air supply increases the flame temperature.
4. For oil burner systems, _____ must be installed to monitor the pressure levels and ensure safe operation, and they should be positioned in a location that is easily _____ and _____ for maintenance checks.
 - (A) Pressure gauges, visible, accessible
 - (B) Safety valves, hidden, secure
 - (C) Flow meters, difficult, remote
 - (D) Thermostats, obscure, unreachable

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5. Describe how using additives or kerosene can help in reducing combustion issues in heating oil systems.
- (A) Additives increase the temperature of the oil, making it easier to ignite.
 - (B) Additives enhance the color of the oil for better visibility during inspection.
 - (C) Additives or kerosene lower the viscosity of the oil, improving its flow and combustion efficiency.
 - (D) Kerosene acts as a fuel stabilizer, preventing oil from clogging the lines.
6. If a new municipal by-law is introduced that conflicts with the Fuel Oil Regulation, what should an oil burner technician do to ensure compliance with the law?
- (A) Consult with legal counsel to understand the implications.
 - (B) Ignore the by-law since it cannot revoke the Fuel Oil Regulation.
 - (C) Report the by-law to the Fuel Oil Regulation authority for clarification.
 - (D) Follow the municipal by-law as it takes precedence.
7. If the operating temperature of an indoor mechanical ventilation system is found to be outside the recommended range, what should be the immediate course of action?
- (A) Schedule a fire safety inspection immediately.
 - (B) Ignore the reading and continue operation as normal.
 - (C) Increase the fuel flow to compensate for the temperature.
 - (D) Adjust the system to bring the temperature within the recommended range.
8. If an oil burner system is experiencing frequent operational failures, and you suspect water in the oil tank, what steps would you take to diagnose and resolve the issue based on the common causes of water accumulation?
- (A) Replace the fuel pump and ignition transformer immediately without checking the tank.
 - (B) Ignore the issue, as water in the tank does not affect burner performance.
 - (C) Increase the temperature of the oil to evaporate any water present.
 - (D) Inspect the oil tank for condensation, check the vent caps for tightness, and ensure the tank was drained before installation.

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999. If a newly-installed steam boiler is experiencing heating issues, what troubleshooting step should be taken related to oil and dirt removal?
- (A) Increase the fuel flow rate to the burner. (B) Adjust the thermostat settings to a higher temperature.
- (C) Replace the oil tank with a new one. (D) Skim the boiler through the nipple at the water level to remove accumulated oil and dirt.
1000. Boiler CO₂ readings of 12.5% over the fire, 11.5% in the second pass, and 8% at the damper indicate ____.
- (A) excess air at the burner (B) too much primary air
- (C) too much secondary air (D) leaks through the boiler side wall
1001. What is the recommended piping configuration for an oil burner when the supply tank is situated below the burner?
- (A) Dual stage with a bypass plug (B) Single stage with a direct connection
- (C) High-pressure system (D) Gravity feed system
1002. Where is the best location for an expansion tank to be mounted in a hydronic system?
- (A) As close as possible to the outlet of the circulator pump (B) As close as possible to the middle of the boiler system
- (C) As close as possible to the inlet of the circulator pump (D) All of the above
1003. Explain why it is important for oil heating systems to be wired on their own separate circuit.
- (A) To reduce energy consumption (B) To increase the heating efficiency
- (C) To ensure safety and prevent overload (D) To allow for easier maintenance

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1004. In a scenario where the heaters in the return line fail, what impact might this have on the oil burning system's performance?

- A It would enhance the combustion efficiency by increasing oil pressure.
- B It would improve the atomization of the oil for better burning.
- C It could lead to poor oil circulation and inefficient combustion.
- D It would have no effect on the system's performance.

1005. What device is specifically mentioned as being installable in the supply line but not in the return line of an oil-burning appliance?

- A Flow Meter
- B Check Valve/Back flow Preventer
- C Oil Filter
- D Pressure Regulator

1006. Explain the process of putting a stack switch 'in step' and its significance in the operation of an oil burner.

- A It involves adjusting the fuel pressure to ensure proper combustion.
- B It entails checking the voltage circuits for any discrepancies.
- C It is the process of calibrating the temperature settings for optimal performance.
- D It requires aligning the operating contacts to ensure the correct functioning of the burner.

1007. If an oil burner system is experiencing a whining sound from the pump, and you have confirmed that the oil levels are adequate, what troubleshooting step should you take next to resolve the issue?

- A Replace the pump immediately.
- B Increase the oil pressure settings.
- C Bleed the line to remove excess air.
- D Check for clogs in the fuel line.

1008. Explain why it is necessary for multiple oil tanks to be installed on a common slab and at the same height.

- A To prevent uneven pressure and potential leaks.
- B To allow for easier access for maintenance.
- C To comply with local building codes.
- D To ensure that the tanks can be filled simultaneously.

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1009. What are the three key placement considerations for an outdoor temperature sensor in a hydronic heating system?

- A Near water bodies, in shaded areas, and at ground level
- B In a ventilated area, near windows, and on the roof
- C In direct sunlight, near heat sources, and close to a shielding structure
- D Away from direct sunlight, away from other heat sources, and away from a shielding structure

1010. What is the primary function of the oil burner nozzle in the combustion process?

- A To vaporize the oil droplets
- B To ignite the oil vapor
- C To maintain draft pressure
- D To regulate fuel flow