

FORKLIFT VAPORIZERS

PROPANE SERVICE BULLETIN

Vaporizers use engine heat to convert liquid propane to propane vapor. This process also tends to separate the fuel into lighter and heavier compounds. Any heavier compounds that remain behind may collect in the vaporizer body and need to be drained periodically.

As propane changes from liquid to vapor, it expands and absorbs heat (i.e., “makes cold”). Propane’s temperature can drop as low as -44°F during expansion. To supply vapor continuously without freezing up, hot engine coolant circulates through passageways in the vaporizer. Light compounds like propane tend to vaporize fully and pass through the vaporizer. Heavier compounds may not vaporize fully and remain in the vaporizer as an oily, greasy, or in some cases a hard, waxy residue. The longer the vaporizer is allowed to heat these remaining products, the heavier and darker the residue.

Residue buildup may occur, and service may be required, more frequently in newer, low-emission forklifts designed to operate at higher coolant temperatures. Operators should consult their forklift dealer for a recommended maintenance schedule.

Most manufacturers provide a means for draining the vaporizer. Remember that the engine must be at operating temperature to ensure the compounds are in the liquid phase.

Always follow proper safety procedures when performing any repairs on a propane fuel system.

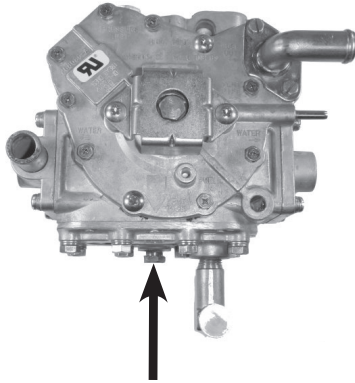
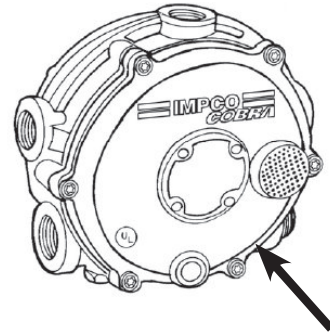
- Consult your company’s Standard Operating Procedure for draining vaporizers if available.
- Only technicians who are familiar with propane fuel systems should attempt to drain a vaporizer.
- Personal protective equipment is required when servicing a propane system. Such equipment may include, but not be limited to, gloves and eye protection.
- Service propane systems in a well-ventilated area away from any external sources of ignition.
- Always close the service valve on the fuel tank when servicing a propane vaporizer. Propane vapor may be present in the vaporizer even with the engine off.
- When the vaporizer drain is opened, some propane may be vented to the atmosphere.
- Dispose of residue in an engine oil recycling container, never in a trash can, water drain, or on the ground. Dispose of shop towels and rags in a proper container.
- Use a rigid plastic or metal cup to collect residue. Soft plastic cups may react chemically with drained residue. Never reuse a residue cup for drinking.
- Do not spray any cleaning solvents inside a vaporizer drain. Solvents may harm the internal diaphragms or valve seats.



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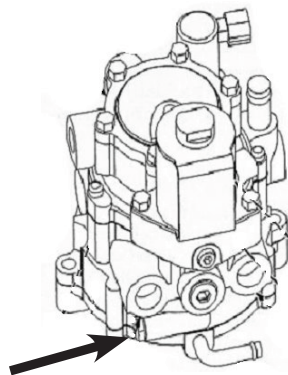
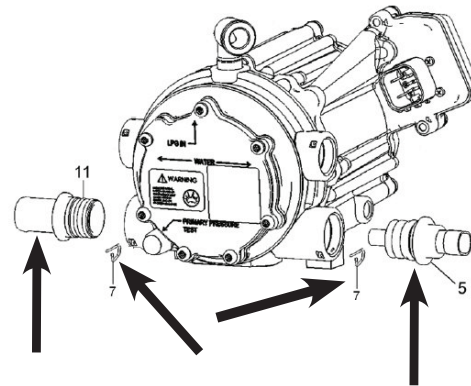
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On the Impco® model J and Cobra, remove one of the ½" NPT unused vapor outlets and drain the accumulated oil.



On the NIKKI®, remove the 12mm hex drain located at the very bottom of the vaporizer.

On the Impco® Spectrum EPR (above), remove one of the retaining clips (#7) and either the vapor outlet or the fuel temp sensor (#'s 5 or 11).



On the Aisan®, remove the 12mm head drain. Some applications have an extended drain fitting for easier access.

After any remaining compounds are drained, reassemble the parts that were removed for service.

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