



TECHNICAL SERVICE BULLETIN

Bulletin Number: DC- 2259

Date: 7/7/2009

Affected Model(s): All PMV Pumps

Subject: 275408 Power Valve Module-Air Leakage

If air leakage is suspected on a PMV pump air motor or power valve module, it is important Service Distributors and user customers to understand what is normal exhaust and, and what may be a leak. PMV's operate on pneumatic logic and are of modular construction. They have no shrouds or covers to mask any exhaust that the pump expels.

A PMV pump is operating normally if:

---Pump is quiet and there are no signs of any air leakage while the pump is stalled,
---Small pulses of air or bubbles of moisture are noticed anywhere around the Power Valve Module while the pump is cycling (pump efficiency is not affected). These pulses are typical pulses of exhaust that is being vented between the Power Valve and air motor body. **(See Fig. 1 Below)**

A PMV pump requires attention if:

---A constant stream of air, better described as a "Hiss" is felt or heard while the pump is cycling (normal air leakage while cycling would be short or small pulses of air which would be common to normal pump exhaust),
---Air leakage is felt or heard while the pump is stalled (when stalled there should be zero air leakage anywhere on the air motor). **(See Fig. 2 Below)**

The exhaust port on a PMV pump runs along the entire length of the cylinder head. During operation the primary exhaust ports on the power valve module transfer normal exhaust to the exhaust passage. While most of the exhaust is directed to bottom of the exhaust passage due to the fact that the passage extends the length of the cylinder head, there may be some exhaust directed to the top of the air motor. This is the primary reason that users may report air leakage, or moisture from around the top, or along the sides of the power valve module.

If excessive air leaks while the pump is running or while stalled there are only a couple things that can be checked. First, use the appropriate hex wrench and tighten the four hex head screws on the front of the power valve module. Secondly, remove the power valve module and confirm that all o-rings are in place. Adjustments to the o-rings may

be required if they are turned and twisted. If any o-rings are missing they should be replaced to eliminate leakage.

As mentioned above, knowing the difference between normal exhaust air and a leak is important when troubleshooting a suspect PMV pump. For a better understanding, please refer to the short video on the attached link:

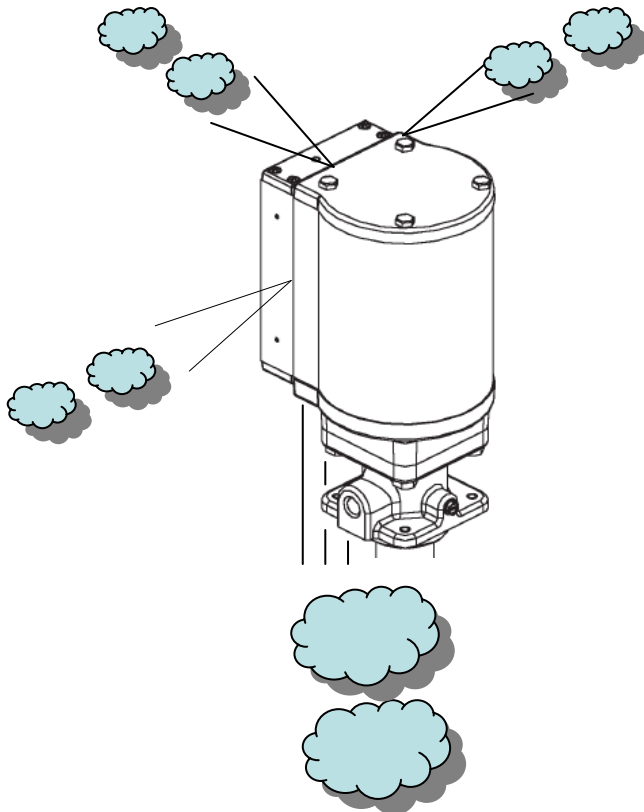
http://www.lincolnindustrial.com/video/pmv_air.wmv

As always, if you have questions or concerns, please do not hesitate to call Lincoln Technical Services at 314/679-4200, Ext. 4782 or fax us at 314/679-HELP (4357).

Regards,

Barry Frankum

Normal Operation-small “pulses” of exhaust air when pump is cycling



Normal Exhaust Operation

- Primary exhaust is through ports in base
- Small pulses of air felt or heard around the Power Valve Module
- This is exhaust that is vented before reaching the primary exhaust passage
- Bubbles may be visible if there is oil or water in the air.
- This is exhaust air only
- Does not reduce efficiency or increase air consumption

Fig.1

The pump needs attention if a continuous air stream is present when cycling

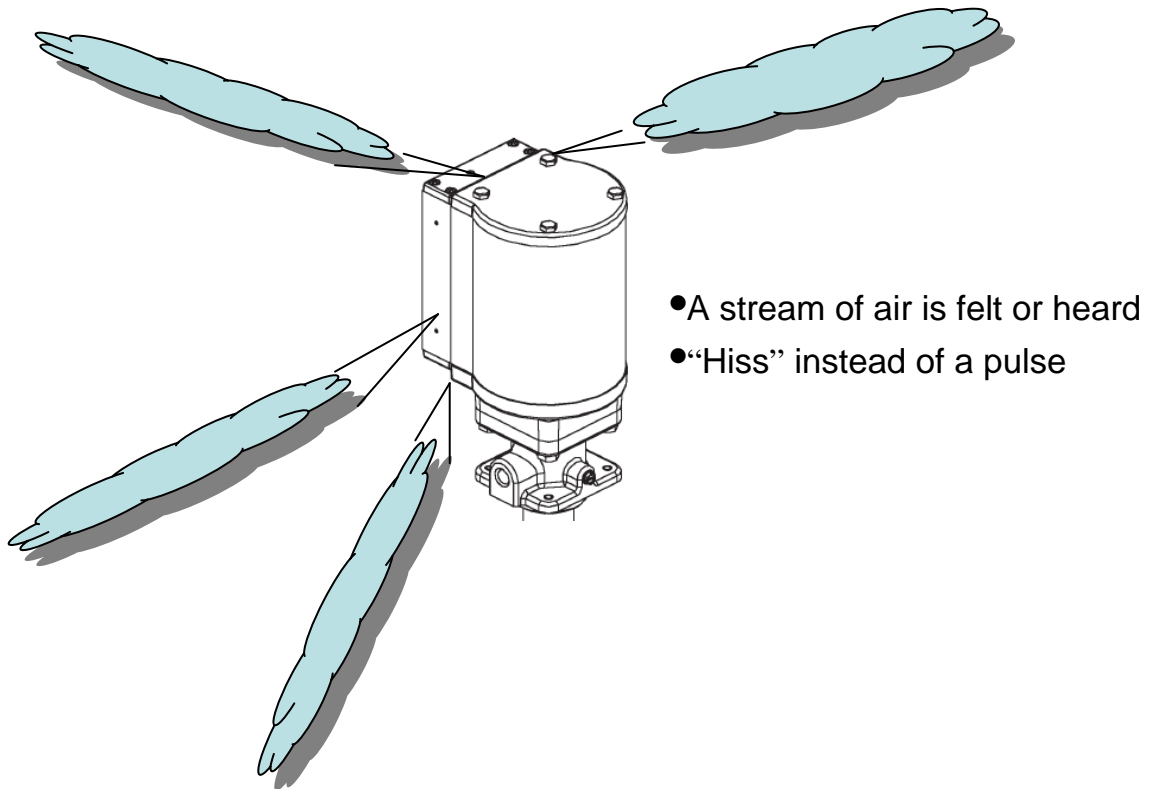


Fig. 2