Technical Service Bulletin 150820
Procedure for Changing the Oil Pump
in Paragon Transmitters

Service Bulletin 150820 applies to all Comark Paragon transmitters and details the replacement of the Grundfos pump in the primary cooling system — the oil pump of the Paragon HPA.

Tools and materials required for installation are, but not limited to;

- 6mm hex tool (Allen type)
- ½ inch flat and/or socket wrench
- ¾ inch flat and/or socket wrench
- Wire cutters (for wire ties)
- T20 Torx+ screwdriver
- Adsorbent pads, 608570-01 or similar, or a roll of paper towels
- Wire ties with mounting hole for #10 screw, 603087-01
- A clean pan to rest the pump in while it drains

1. Preparation:

- Put HPA in STOP mode (it does not need to be powered down). You may need to wait for the 3-minute collector cooling cycle to complete.
- Turn off CB4 (HVPS) and CB3 (pump).
- Unplug pump power cord at rear of circuit breaker panel.
- Cut wire ties holding the power cord and pull cord back to the pump.
- For systems with a valve adjacent to the pump outlet, close this valve.
- Disconnect both of the hoses from the collector of the IOT to close a valve (self-sealing disconnect). Be sure that CB4 (HVPS) stays off while the collector hoses are disconnected from the collector.
- On systems with a Donaldson oil filter, remove the hex head plug on the face of the filter head to let air into the hose down to the pump.
- Remove the breather cap – lift straight up – to have more room to work.
- Thoroughly clean the top of the tank so that spilled oil can drain into the fill plug without carrying in dirt.

2. Removal of old pump:

- Remove the screws that hold the pipe flange on the right side of the pump (don't lose the o-ring). Oil remaining in the pipe/hose up to the filter will drain out onto the tank top.
- Remove 4 hex head bolts that hold the pump onto the tank. Lift the pump from the tank being careful not to scratch or ding the pipe flange face.

CAUTION: The pump is heavy and awkward to handle.

- Place a clean pan to put on the floor so you can rest the pump there while it drains (part of the pump was immersed and will hold a fair amount of oil). Hold pump upright so that it cannot fall while draining.

3. Installation of replacement pump

- Unpack replacement pump and save packing materials for the old pump. Turn pipe outlet to face down and rock slightly to drain any fluid from the pump housing. Be sure that there is no packing material or debris on the impeller area, mounting face or pipe outlet.
- Remove flange adaptor (don't lose the o-ring) and put it on the old pump.
- Lower the impeller of the pump into the tank and ease the pump down onto the tank top. Verify the proper orientation and secure with the four bolts that held the old pump in place.
- After making sure the flange faces are clean and the o-ring is in place, screw the flange faces together with the screws from the old pump.
- Route the power cord to its outlet, plug in and secure with wire ties.

4. Start up

- At the collector of the IOT, couple both hoses to each other. This will temporarily bypass the collector for the next several steps. Be sure that CB4 (HVPS) stays off while the collector hoses are disconnected from the collector.
- You may leave the plug on the filter head (Donaldson filter) out for a few moments after starting the pump to bleed some air out of the system.
- Turn on CB3 and make sure that the pump doesn't start running. Turn off CB3 immediately if pump starts. The HPA should be in STOP mode at this time.
- Control of the pump is with the yellow button on the lower edge of the I/O module (to the left and above the pump motor). Press to start and press again to stop. On the I/O module, the lower of the three LEDs will be green with the pump off and blue when the pump is on.
- "Bump" the pump motor to check rotation. Looking at the top of the motor, rotation is counter-clockwise.

- There is a vent valve on the left side base of the pump. This vent must be open when first starting the pump. This will spray some oil when the pump starts so have adsorbent pad to catch the spray. Once it appears that there is no more air escaping from the vent, it may be closed. If present, the valve at the pump outlet should be opened now.
- If removed, at the first sign of oil at the vent plug on the filter head, replace the plug. Once the pump primes, oil may come quickly out of the plug hole.
- After verifying flow, run the pump for 30 minutes to clear all air bubbles from the system and give the filter a chance to remove debris or moisture. Watch for leaks during this time. Also verify that oil level in the tank is within one inch of the top of the tank.
- Stop the pump and reconnect the hoses to the collector of the IOT. DO NOT forget this step as the IOT will be destroyed when operated without coolant flow.

CAUTION: It is imperative that hoses get reconnected to the collector of the IOT. The IOT will be destroyed if operated without coolant flow.

- Put the HPA in STANDBY mode and while the IOT is warming up, check for leaks at the collector hose couplings.
- After verifying that the collector hoses are reconnected, turn CB4 back on and return the HPA to normal operation.

5. Wrap-up:

- Finish cleaning up and pack to old pump for shipment. Wrap some adsorbent pads and/or plastic around the impeller and outlet port to reduce the mess in the box while in shipment (sometimes shippers get worried when boxes appear to leak).

Here at Comark, we are constantly striving to improve the satisfaction of both our new and existing customers. Continually working to improve the reliability of the installed fleet of Comark transmitters in the field is another way in which we demonstrate our commitment to you, our valued customer.

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