



Hale Products, Inc. Service Bulletins

Bulletin#: Revision#: Date:

Product Type Covered: Hale Pump ☒ Hurst Tool ☐ Lukas Tool ☐

Product Covered:

Problem Statement:

Written by: Date:

Approved by:

Product Manager:

Customer Service Designee:

Body of the Bulletin

Hale Products, Inc, in an effort to provide reliable system operation has identified a potential problem in water flow sensor (Hale P/N 102714A) used in CAFSPRO system applications. The defect may cause the water flow sensor to fail without warning causing a loss in the water flow reading. This loss in water flow reading is critical in CAFS operations.

We have experienced a very small percentage of failures but Hale is concerned about the continued safe operation and reliability of the CAFSPRO system on your apparatus. Hale has worked with the supplier to identify and correct this potential problem on new units. Since you have been identified as a CAFSPRO user, Hale is taking additional action by providing you with two new water flow sensors. We request you install the new sensors on your CAFSPRO system and return the existing sensors to Hale Products.

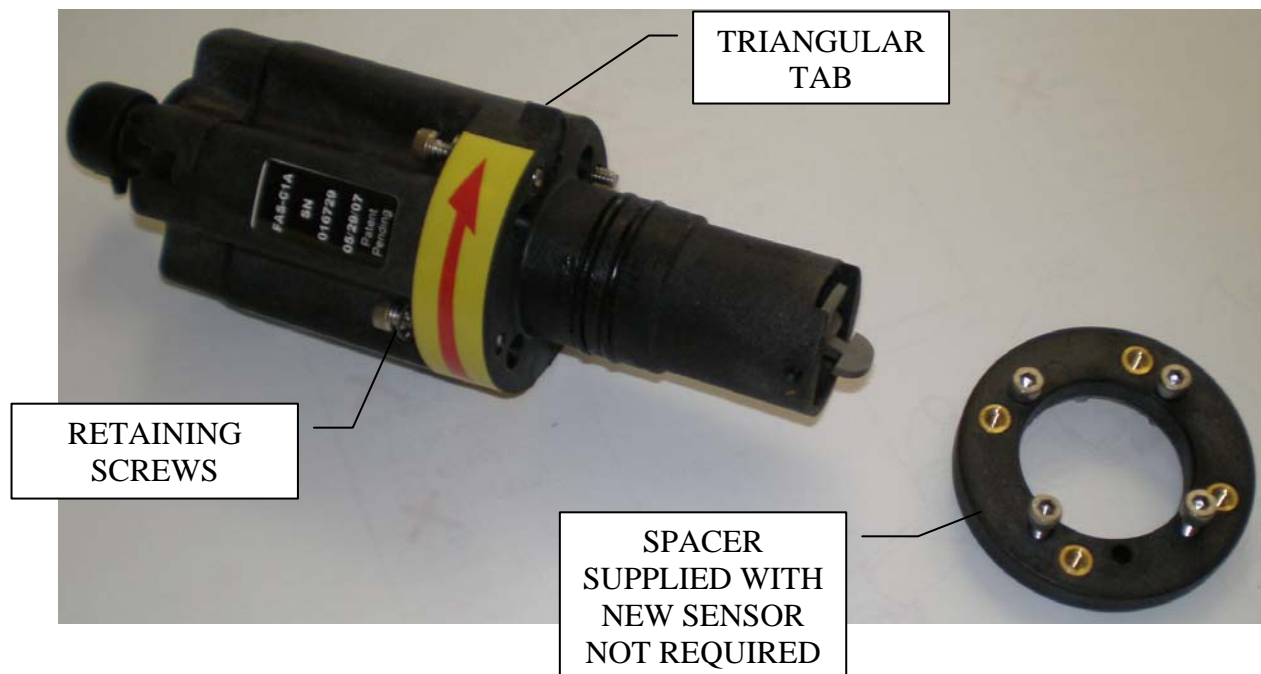
Use these instructions to assist with installation of the new sensors:

1. Place apparatus out of service in accordance with departmental procedures.
2. Make sure the drains are open and there is no residual pressure in the pump or manifold.
3. Locate the water flow sensors.
 - a. One is located on the top of the manifold between the pump connection and foam injection point.
 - b. One is located on the front portion of the manifold before the ARC valve.
4. Disconnect the wiring harness from one of the sensors.
 - a. Note the position of the triangular tab before removing the flow sensor from the manifold.
 - i. If the sensor does not have a tab note position of sensor as it is removed from the pipe.
 - b. The triangular tab points in the direction of water flow.
5. Using a 7/64" Allen wrench, remove the four 6-32 x 3/4 screws that hold the sensor in the manifold.
 - a. NOTE: Leave the spacer attached to the manifold.
6. Apply a light coating of general purpose grease to the o-rings on the new sensor.
7. Loosen the four 6-32 x 3/4 screws to remove the spacer plate from the new flow sensor. Do not allow the screws to come out of the flow sensor.
8. Insert the flow sensor into the manifold making sure the triangular tab points in the direction of flow.
 - a. NOTE: On some older systems the alignment pin in the water flow sensor may cause the sensor to install in the wrong direction. Using pliers pull the alignment pin from the sensor so it can be installed in the correct direction.
9. Using a 7/64" Allen wrench, snug the screws.
10. Using a torque wrench with 7/64" bit, torque the screws to 7.5 Lb-In (0,85 Nm).
11. Attach harness to sensor.
12. Repeat steps 4 through 11 on the second sensor.
13. Test operation of the CAFSPRO system. Operate system through all CAFS discharges noting quality of WET, MEDIUM and DRY CAFS types.
 - a. NOTE: If CAFSPRO operation is not as expected or erratic verify water flow sensor calibration using attached procedure.
14. Place apparatus back in service in accordance with departmental procedures.

After replacing the sensors pack them in the boxes and return to Hale Products, Inc according to the instructions enclosed.

If you have additional questions or require technical assistance with replacing the water flow sensors please contact Hale Products customer service department at 610-825-6300.

Thank you for your attention in this matter.



CAFSP^{ro} WATERFLOW SENSOR CALIBRATION

NOTE: USE A 7/8 INCH PITOT NOZZLE FOR FLOWSSENSOR CALIBRATION. PRIME PUMP AND ESTABLISH DISCHARGE FLOW.

- A. AFTER PUMP IS PLACED IN GEAR PRESS AND HOLD THE **ON** BUTTON TO DISENGAGE THE COMPRESSOR. THE DISPLAY WILL SHOW "**OFF3, OFF2, OFF1**" WITH THE ALARM BEEPING. ONCE THE CAFSPRO SYSTEM IS OFF THE CAFSPRO DISPLAY WILL SHOW **OFF**.

ENTER WATER FLOW CALIBRATION MODE ON FOAMLOGIX DISPLAY:

- A. PRESS AND HOLD **DISPLAY** BUTTON. DISPLAY WILL SHOW "**PASS**" THEN GO BLANK. CONTINUE TO HOLD DISPLAY BUTTON.
- B. WHILE HOLDING DISPLAY BUTTON, ENTER CALIBRATION PASSWORD (**↑↑↑↑**). DISPLAY WILL SHOW "**CAL**" FOLLOWED BY "**C 0**" WITH FLOW LED LIGHTED.

ENTER WATER FLOW CALIBRATION MODE ON CAFSPRO DISPLAY:

- A. PRESS AND HOLD THE **DISPLAY** BUTTON. THE DISPLAY WILL SHOW "**PASS**" THEN GO BACK TO **OFF**. WHILE CONTINUING TO HOLD THE DISPLAY BUTTON ENTER THE CALIBRATION PASSWORD (**↑↑↑↑**).

- B. THE DISPLAY WILL SHOW “CAL” FOR SEVERAL SECONDS FOLLOWED BY "P25.0" WITH THE **FLOW** LED LIGHTED (AIRFLOW PWM VALUE).
- C. PRESS THE DISPLAY BUTTON THREE (3) TIMES UNTIL THE **RATIO** LED LIGHTS AND THE DISPLAY SHOWS "F0" (THE WATERFLOW VALUE).

PROCEED WITH WATER FLOWSensor CALIBRATION.

- A. INCREASE THROTTLE UNTIL PUMP DISCHARGE PRESSURE ON DUPLEX GAUGE IS 75 PSI.
- B. READ PITOT PRESSURE AND OBTAIN FLOW VALUE FROM PITOT NOZZLE CHART.
- C. PRESS THE **↑** OR **↓** BUTTONS ON BOTH THE FOAMLOGIX AND CAFSPRO DISPLAYS TO SET THE READING ON EACH DISPLAY TO MATCH THE ACTUAL FLOW VALUE.
- D. DECREASE THROTTLE AND STOP WATER FLOW WHEN THE READING ADJUSTMENTS ARE COMPLETE.

RECORD WATER FLOWSensor CALIBRATION FACTORS

- A. ON THE FOAMLOGIX DISPLAY DEPRESS AND RELEASE THE DISPLAY BUTTON. THE DISPLAY WILL SHOW "F XX.X" WHICH IS THE WATER FLOWSensor CALIBRATION FACTOR. RECORD THIS VALUE FOR FUTURE REFERENCE.
FOAMLOGIX WATER FLOW CALIBRATION FACTOR: _____
- B. ON THE CAFSPRO DISPLAY DEPRESS AND RELEASE THE DISPLAY BUTTON. THE DISPLAY WILL SHOW "F XX.X" WHICH IS THE WATER FLOWSensor CALIBRATION FACTOR. RECORD THIS VALUE FOR FUTURE REFERENCE.
CAFSPRO WATER FLOW CALIBRATION FACTOR: _____

EXITING AND SAVING CALIBRATION

- A. SHIFT APPARATUS TRANSMISSION FROM **D** TO **N**.
- B. ON THE CAFSPRO DISPLAY PRESS AND HOLD THE **DISPLAY** BUTTON. THE DISPLAY WILL SHOW "PASS" THEN GO BLANK. WHILE CONTINUING TO HOLD THE DISPLAY BUTTON ENTER THE PASSWORD (**↑↑↑↑**) THEN RELEASE THE DISPLAY BUTTON.
- C. THE CAFSPRODISPLAY WILL SHOW “SCAL” FOR SEVERAL SECONDS FOLLOWED BY THE STANDBY CAFS DISPLAY.
- D. ON THE FOAMLOGIX DISPLAY PRESS AND HOLD THE **DISPLAY** BUTTON. THE DISPLAY WILL SHOW “PASS” THEN GO BLANK. WHILE CONTINUING TO HOLD THE **DISPLAY** BUTTON ENTER THE PASSWORD (**↑↑↑↑**) THEN RELEASE THE **DISPLAY** BUTTON.
- E. THE FOAMLOGIX DISPLAY WILL SHOW “SCAL” FOLLOWED BY THE CURRENT WATER FLOW VALUE WITH FLOW LED LIGHTED.
- F. SHIFT PUMP OUT OF GEAR AND TEST RUN CAFS SYSTEM.