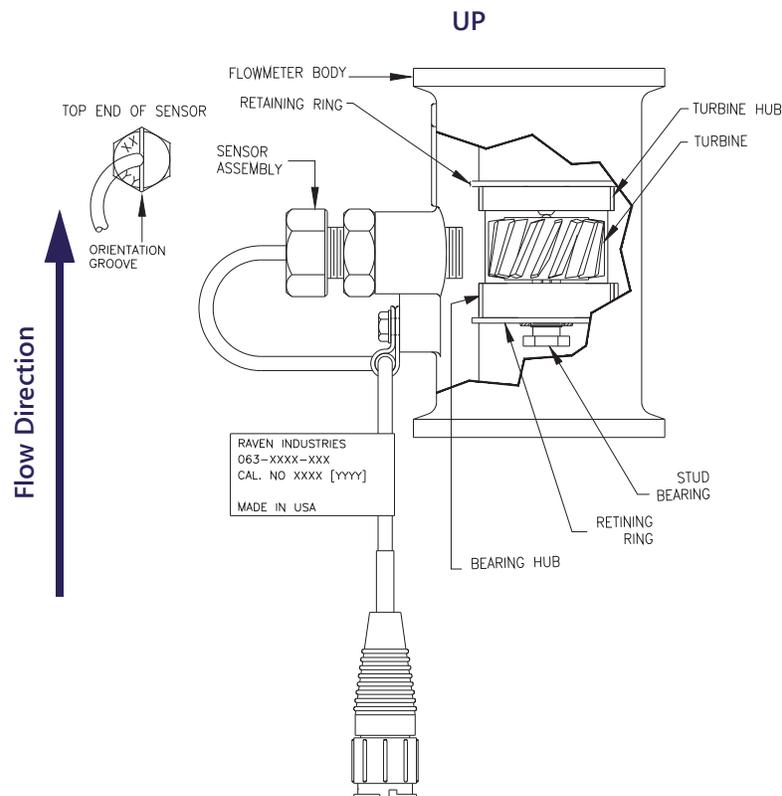

RAVEN 15 P FLOWMETER MAINTENANCE AND CALIBRATION

PLUMBING THE RFM 15 FLOWMETER

For best performance at flow rates below .9 GPM, the Raven Flowmeter (RFM) 15 must be plumbed in a vertical position with the flow arrow pointing up.

FIGURE 1. Flowmeter Orientation and Assembly



1. Remove the Flowmeter from the Sprayer. Brush away any debris and flush with clean water to remove any foreign material.
2. Carefully remove the retaining rings. Remove the bearing hub, turbine hub, and turbine from inside the Flowmeter housing.
3. Clean the turbine and hubs of metal filings and any other foreign material. Use pressurized air to blow metal filings and debris out of both hubs and the turbine. It should spin freely with very little drag.
4. If the bearing hub stud is adjusted or replaced, verify the turbine fit before reassembling. Put the turbine hub and retaining ring in place. Put the bearing hub with the turbine against the turbine hub inside the flowmeter housing.

NOTE: Make sure the keys inside the Flowmeter housing are lined up in the groove on the hub.

5. Put the retaining ring into the groove to lock the bearing in place. Spin the turbine by blowing on it. Tighten the bearing hub stud until the turbine stalls, Loosen the stud 1/3 of a turn. The turbine should spin freely.
6. Use a low pressure (5 psi) [34.5 kPa] jet of air through the flowmeter in the direction of flow and again in the opposite direction to verify that the turbine spins freely. If there is drag, loosen the stud on the bearing hub 1/6 of a turn until the turbine spins freely.

Raven 15 P Flowmeter Maintenance and Calibration Procedure

7. If the turbine spins freely and the cables have checked out but the flowmeter is not totalizing properly, verify that the sensor assembly is threaded all the way into the flowmeter body and the orientation groove on top of the sensor is parallel with the flowmeter body. If the flowmeter does not totalize, replace the sensor assembly.

FLOWMETER RE-CALIBRATION

1. Enter a METER CAL number of 10.
2. Enter a total volume of 0.
3. Turn off all booms.
4. Remove a boom hose and place in a calibrated 5 gallon [19 liter] container.
5. Turn the appropriate boom and Master switches ON. Pump exactly 10 gallons [38 liters].
6. Enter the readout in the TOTAL VOLUME as the new METER CAL number. This number should be within +/-3% of the number stamped on the flowmeter.
7. Repeat step 4 through step 6 a few times to confirm accuracy. Always zero out the TOTAL VOLUME display before retesting.

NOTE: For greatest precision, set METER CAL to 100 gallons [378 liters] and pump 100 gallons [378 liters] of water.

8. To verify flowmeter calibration, fill the applicator tank with a predetermined amount of measured liquid. Empty the applicator tank under normal operating conditions. If the number displayed under TOTAL VOLUME is different than the predetermined amount of measured liquid by more than +/- 3%, complete the following calculation:

$(\text{METER CAL} \times \text{TOTAL VOLUME}) / \text{Predetermined amount of measured liquid} = \text{Corrected METER CALIBRATION}$

FOR EXAMPLE: $(1600 \times 260) / 250 = 1644$ (This number is the corrected METER CALIBRATION)

9. Enter the corrected METER CAL before resuming application.
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