Wind Monitor Replacement

I. Purpose:

This document describes the steps necessary to replace a wind monitor.

II. Cautions and Hazards:

- Before starting the following procedure, make sure that the datalogger data was recently uploaded to ADaM. Accessing the ZENO software configuration can lead to deletion of all old data.

III. Requirements:

- Wind Monitor.
- Wind Monitor Calibration Report.
- Notebook PC with RS232/EIA422/Impulse adapter cable.
- Anemometer Motor Drive.
- Vane Angle Fixture.

IV. Procedure:

A. Steps:

While conducting this procedure, log serial numbers and configuration differences on Excel-formatted replacement record forms (examples attached).

1. Remove the defective Wind Monitor and place the Vane Angle Fixture on the orientation ring.
2. Place the replacement Wind Monitor on the Vane Angle Fixture.
3. Engage the indexing pins in the notches and tighten the clamps.
4. Connect the replacement Wind Monitor to the datalogger.
5. Connect a notebook PC to the SMET datalogger using the RS232/EIA422/Impulse adapter.
6. Use the Vane Angle Fixture to position the vane at 30 degree increments.
7. The ZENO reports wind directions within ±5 degrees of the Vane Angle Fixture settings.
8. Remove the Wind Monitor and Vane Angle Fixture.

9. Place the Wind Monitor on the orientation ring and engage the orientation ring indexing pin in the notch at the instrument base.
10. Tighten the mounting post band clamp.
11. Connect the Anemometer Motor Drive to the propeller shaft.
12. Turn on the Motor Drive and set the speed to 100 RPM. The ZENO Test Menu Raw Sensor Data should report a 5 Hz signal.
13. Set the speed to 400 RPM; the ZENO reports a 20 Hz signal.
14. Set the speed to 800 RPM; the ZENO reports a 40 Hz signal.
15. Set the speed to 1600 RPM; the ZENO reports a 80 Hz signal.
16. Set the speed to 3200 RPM; the ZENO reports a 160 Hz signal.
17. If replacing Wind Monitor #1 (Input connector 3), change the calibration values for Sensor #1 for conversion from Hz to meters/sec.
18. If replacing Wind Monitor #2 (Input connector 4), change the calibration values for Sensor #3 for conversion from Hz to meters/sec.
19. Change the Configuration Version Number in the Data Output Menu to include the current date.
20. Save the changes to EEPROM.
21. Download the new configuration to the notebook computer using the file naming convention SMETsssn.txt, where "**sss**" is the datalogger serial number and "**n**" is an alphabetic version number.
22. Terminate the connection by selecting Quit.
23. Disconnect the notebook computer and connect the logger to ADaM.
24. Download the new SMET ZENO configuration to ADaM.
25. Record the date, start-time, end-time, and any comments in the site data log.
26. Send the sensor serial number and a copy or a listing of the SMET configuration file to the SMET mentor.

V. References:

1. Hart, Dick.

VI. Attachments:

1. Replacement Record Form