

Wind Direction Vane and Wind Speed Cup Assembly Skirt Clearance

GENERAL

This note provides directions for use of a test fixture to verify the concentricity of the skirt on ASOS Wind Direction Vane and Wind Speed Cup assemblies. This test fixture will identify early production vane and cup assemblies which suffer from skirts which are not concentric with the neck of the bottle. It has been determined that these early production units may not provide sufficient clearance to be used on the MOD 2 bottle. All sites should have the Wind Direction Vane and Wind Speed Cup assemblies checked for concentricity and clearance prior to installation of MOD 2 bottles.

If a Wind Vane and/or Wind Speed Cup Assembly fail this test, they must not be used on MOD 2 bottles. The Electronics Technician should identify the units as having failed the concentricity test and return the units to NRC. Additionally, all Wind Vane and Wind Speed Cup assemblies which are part of the spares kits should be tested.

This test fixture, S100-TE329, can be ordered through NLSC and consists of two hardware components; a 0.374 inch dowel and a sliding clearance gauge. The dowel is secured to the hub of the vane or cup assembly using the set screw which normally holds the assembly to the bottle shaft. The sliding clearance gauge is then allowed to "slide" down the dowel until it contacts the inside top surface of the skirt. If the gauge contacts the sides of the skirt before seating on the hub surface, the assembly does not pass the test and must be returned to NRC. If the assembly passes the sliding gauge test, then it is fitted to a MOD 2 bottle and spun by hand while verifying visually that there is no contact between the MOD 2 bottle neck and the inside of the skirt.

PROCEDURE

Before performing this maintenance test, follow all procedures normally performed before beginning a maintenance action.

The following instructions use the fixture to test the skirt eccentricity. Read all instructions before using the fixture.

1. Lower tower per ASOS Site Technical Manual S-100 (page 4-44, Table 4.5.10).
2. After the wind tower is secured, remove the wind vane.
3. Attach the 0.374 inch (9.5 mm) drill blank (dowel) to the wind vane hub by sliding the dowel into the hole in the center of the hub and tightening the set screw. Note that the set screw should not be over-tightened. It is sufficient to "snug" the set screw until it holds the dowel without allowing the dowel to move in the hole.
4. Slide the clearance gauge onto the dowel.

5. With the wind vane inverted so that gravity causes the clearance gauge to fall into the skirt, observe that the clearance gauge freely falls to the bottom of the skirt and is fully seated on the hub. Repeat the test several times and if the clearance gauge contacts the side walls of the skirt and does not contact the hub, the wind vane assembly should be rejected and cannot be used on the MOD 2 wind bottle.
6. Remove the fixture from the wind vane. If the wind vane passed, attach the wind direction vane to the Mod 2 bottle and spin the vane assembly by hand. Look up under the skirt while the assembly is spinning and verify that no contact between the skirt and bottle neck is evident.
7. Remove the wind speed cup assembly.
8. Attach the 0.374 inch (9.5 mm) drill blank (dowel) to the wind speed cup hub by sliding the dowel into the hole in the center of the hub and tightening the set screw. Note that the set screw should not be over-tightened. It is sufficient to "snug" the set screw until it holds the dowel without allowing the dowel to move in the hole.
9. Slide the clearance gauge onto the dowel.
10. With the wind speed cup assembly inverted so that gravity causes the clearance gauge to fall into the skirt, observe that the clearance gauge freely falls to the bottom of the skirt and is fully seated on the hub. Repeat the test several times and if the clearance gauge contacts the side walls of the skirt and does not contact the hub, the wind speed cup assembly can not be used on the MOD 2 wind bottle.
11. Remove the fixture from the wind speed cup assembly. If the wind speed cup passed, attach the wind speed cup to the Mod 2 bottle and spin the cup assembly by hand. Look up under the skirt while the assembly is spinning and verify that no contact between the skirt and bottle neck is evident.
12. Raise the tower per ASOS Site Technical Manual.
13. Return the ASOS to its normal operating condition.
14. If either the wind vane assembly or the wind speed cup assembly fails this test, it cannot be used on the MOD 2 bottle. The failed assembly should be identified as having failed the concentricity test and returned to the NRC. Please contact John Monte with comment or questions about this procedure.

EFFECT ON OTHER INSTRUCTIONS

None.

REPORT MAINTENANCE ACTION

None.

Original Signed

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