Fischer 1436R-12 6 1/2" Open Face Wood and Brass Barometer User Manual

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1. Introduction

Thank you for your purchase of the Fischer 1436R-12 6 1/2" Open Face Wood and Brass Barometer. The following is a guide for preparation, care and operation of your marine weather instrument.

Note: Some of the images are generic and may not match your exact model.

2. Care and Cleaning

Avoid use of harsh household cleaners and coarse paper towels, which can scratch the bezel or lens. Fingerprints and dirt may be removed the lenses and bezels with a soft cloth lightly dampened with a mixture of water and mild dishwashing liquid. Be sure to dry the lens and bezel with a soft cloth after cleaning.

3. Barometer Operation

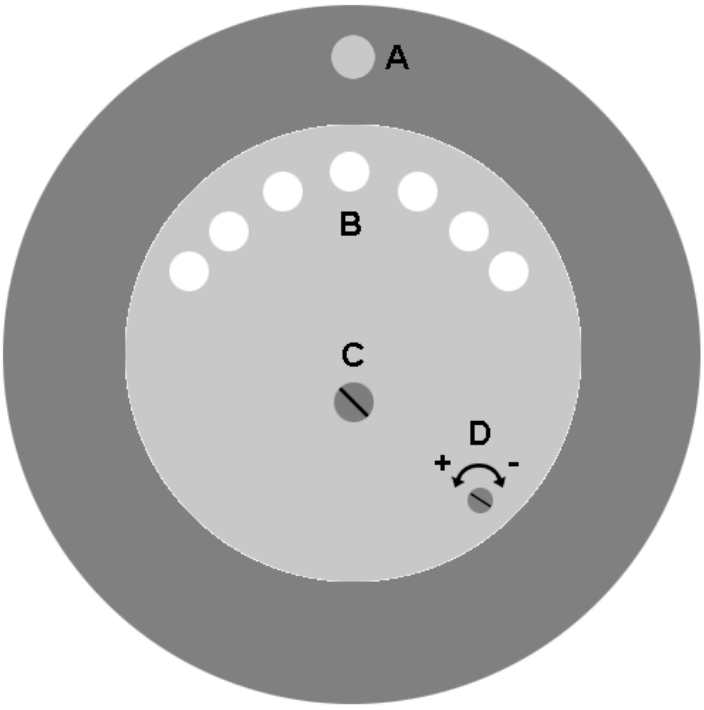

Figure 1

A Mounting hole for attaching to wall
B Breathing holes for accurate barometer
C Mounting screw for plaque mount
D Barometer calibration set screw

3.1 How the aneroid barometer works

An aneroid barometer uses a small, flexible metal box called an aneroid cell. This aneroid capsule (cell) is made from an alloy of beryllium and copper. The evacuated capsule is prevented from collapsing by a strong spring. Small changes in external air pressure cause the cell to expand or

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contract. This expansion and contraction drives mechanical levers such that the tiny movements of the capsule are amplified and displayed on the face of the aneroid barometer. This model includes a manually set gold needle which is used to mark the current measurement so a change can be seen. It was invented by Blaise Pascal.

3.2 Reading the barometer

The ability if the barometer to indicate changes in barometric pressure makes it a useful instrument in weather forecasting.

The weather forecast or pressure tendency is based on the rate of change of barometric pressure. In general, when the pressure increases, the weather improves (sunny to partly cloudy) and when the pressure decreases, the weather degrades (cloudy to rain).

The weather forecast is an estimation or generalization of weather changes in the next 24 to 48 hours, and varies from location to location. The tendency is simply a tool for projecting weather conditions and is never to be relied upon as an accurate method to predict the weather.

The barometer includes a manually set gold needle, which is used to mark the current measurement so a change can be seen. Barometric readings should be taken daily. Remember that the rate of change of barometric pressure is important in determining weather changes. You may want to take multiple readings each day during periods of unstable weather conditions.

The following basic rule of thumb will hold true in using the barometer to predict weather conditions.

- A fast rise in barometric pressure means good weather of short duration.
- A rapid drop in barometric pressure means disturbances nearby, showers of short duration.
- Regular elevation in barometric pressure usually will indicate a clear, dry weather conditions (cold and dry in the winter).
- A slow but continuous drop in barometric pressure will indicate persistent, bad weather.
- Slow drops of 2-3 tenths mbar per 24 hours a depression of some distance away.
- Drops of 1-2 tenths mbar per hour means disturbances nearby of short duration.
- Steep drops of 6-10 tenths mbar within 4-5 hours period indicates coming rain and/or storm with strong winds.

3.3 Absolute vs. Relative Pressure

To compare pressure conditions from one location to another, meteorologists correct pressure to sea-level conditions. Because the air pressure decreases as you rise in altitude, the sea-level corrected pressure (the pressure your location would be at if located at sea-level) is generally higher than your measured pressure.

Thus, your absolute pressure (measured at your location) may read 28.62 inHg (969 mb) at an altitude of 1000 feet (305 m), but the relative pressure (sea-level) is 30.00 inHg (1016 mb).

The standard sea-level pressure is 29.92 in Hg (1013 mb). This is the average sea-level pressure around the world. Relative pressure measurements greater than 29.92 inHg (1013 mb) are considered high pressure and relative pressure measurements less than 29.92 inHg are considered low pressure.

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3.4 Barometer Calibration

Your barometer can not be pre-calibrated at the factory for your altitude, so you must calibrate the barometer for your specific location.

To determine the relative pressure for your location, locate an official reporting station near you (the internet is the best source for real time barometer conditions, such as Weather.com or Wunderground.com), and set your weather station to match the official reporting station.

Your barometer will operate from -100 to 3,000 feet with reliable accuracy. Aneroid barometers have a small screw on the back for sea-level calibration (reference Figure 1, D).

With a flat blade screwdriver, turn this screw in either direction slightly while looking at the indicator needle. Turn counter-clockwise (+) to increase the barometer and clockwise (-) to decrease the barometer.

Continue this procedure until the proper pressure reading is obtained. Do not turn the screw counter-clockwise (to the left) too far, since the screw can fall out. If the barometer needle exceeds the measurement range, do not continue to turn the set screw. This is likely occurring because you live outside the barometer operating range.

After the initial calibration, no further adjustment will be required unless the barometer is moved to a new geographic location.

4. Warranty Information

Ambient, LLC provides a 5-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and only to the original purchaser of this product. To receive warranty service, the purchaser must contact Ambient, LLC for problem determination and service procedures.

Warranty service can only be performed by a Ambient, LLC. The original dated bill of sale must be presented upon request as proof of purchase to Ambient, LLC.

Your Ambient, LLC warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (lack of reasonable and necessary maintenance); (2) damage resulting from failure to follow instructions contained in your owner's manual; (3) damage resulting from the performance of repairs or alterations by someone other than an authorized Ambient, LLC authorized service center; (4) units used for other than home use (5) applications and uses that this product was not intended, such as outdoor use.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

5. Liability Disclaimer

Reading the "User manual" is highly recommended. The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.

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The specifications of this product may change without prior notice.

This product is not a toy. Keep out of the reach of children.

No part of this manual may be reproduced without written authorization of the manufacturer.

Ambient, LLC WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT.

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