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SAFETY NOTICES

Safety notices are one of the primary ways to call attention to potential hazards.



This Safety Alert Symbol identifies important safety messages in this manual. When you see this symbol, carefully read the message that follows. Be alert to the possibility of personal injury or death.

WARNING

Use of the word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Use of the word **CAUTION** with the Safety Alert Symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Use of the word **CAUTION** without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in equipment damage.

OPERATOR'S MANUAL





INTRODUCTION

A moisture tester is a valuable tool during the ginning process and when buying or selling cotton. Cotton ginned at the appropriate level of moisture produces the longest and strongest fibers.

The newly designed Dj C-2000 Cotton Moisture Meter utilizes the relationship between moisture content and electrical resistance to effectively measure the moisture content of cotton fibers. Its functionally-designed case with built-in handle puts controls at your fingertips.

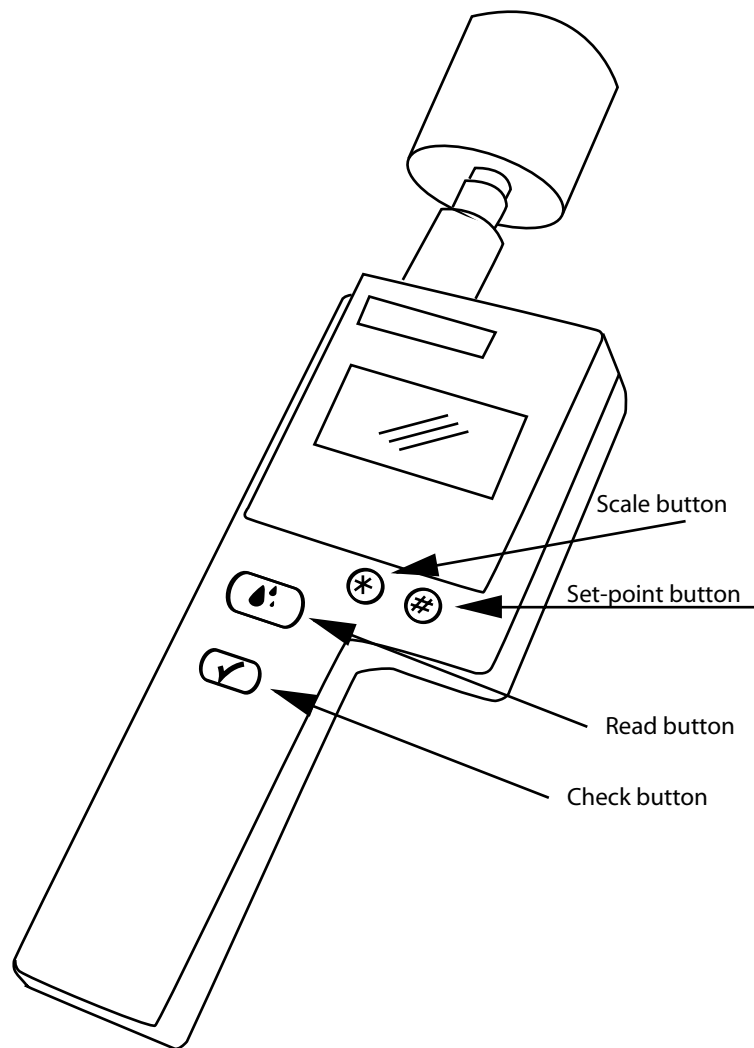
FEATURES

The Dj C-2000 offers the following features:

- Designed to check the moisture content in lint cotton and seed.
- Resistance technology recognized around the world as the most accurate method for measuring moisture.
- Averages up to 100 accumulated readings.
- 4-16% moisture range on lint cotton.
- 6-20% moisture range on seed cotton.
- Digital readout.
- Includes (1) 9-volt battery.
- Proven microcontroller circuit.
- One year warranty.



Figure 1
Dj C-2000 Cotton Moisture Meter





OPERATION

CHANGING SET-POINT



Set-point button



Scale button

To change the set-point value, press the **Set-Point** button. The meter will display the current set-point. To scroll forward to a higher value, hold the **Set-Point** button while the current value is displayed and scroll to the set-point value desired.

To scroll backward through the set-point values, press and release the **Set-Point** button. Within one second, press and hold the **Scale** button. Continue to hold the **Scale** button and the set-point will decrease.

When scrolling in either direction, release the button to stop at the desired set-point. If the meter reads a %MC (percent moisture content value) higher than that of the set-point, a buzzer will sound.

CHECKING ACCUMULATED READINGS

This feature allows the user to view the total number of all accumulated readings, the average of those readings, and the highest stored reading.

To add a reading to the sum of all previously stored readings, press and release the **Read** button within 2 seconds. When taking and storing readings for a specific material, be sure to clear the meter before moving on to the next scale if you do not want to group all of the readings together.

To view the readings, press and release the **Check** button. The meter will display the number of accumulated readings for one second, then the average of those readings for two seconds. It will then display the highest stored reading for two seconds. The total cycle time is five seconds.

To erase all accumulated readings, hold the **Check** button for more than five seconds until the meter displays "0".

To keep the accumulated readings in memory, release the **Check** button before the total cycle time is complete. The meter will accumulate up to 100 readings. After all 100 readings are stored, the meter will not add new readings until the memory has been cleared. It will also continue to display the average of all 100 readings as a reminder that the memory is full.

CHECKING CALIBRATION

Press and hold the **Read** button and **Check** button simultaneously. The meter is in calibration if it displays "11.1%" (+/- .2) on the scale, regardless of the scale setting.

If the calibration is checked and the display does not read "11.1", it is likely an indication of a low battery. If this occurs, change the battery immediately. **Continued use with a low battery may cause the meter to go out of calibration.** If a fresh battery is installed and the meter still does not indicate an acceptable calibration, contact the DICKEY-john Service Department.



Read button



Check button



Read button



Check button



When the battery is replaced, the meter will display its software version for one second and then power off. After replacing the battery, the meter must be reset as described in **RESETTING THE METER**.

RESETTING THE METER



Check button

Press and release the **Check** button. Within one second, press and hold the **Scale** button. The meter will display a reset sequence of "121" followed by "8", "1.1", "11.1". The last number, "11.1", is a calibration check. Resetting the meter clears the memory and restores default settings.

SETTING THE SCALE



Scale button

Set the scale for #1 Lint Cotton or #2 Seed Cotton. To change the scale, press the **Scale** button. The meter will display the current scale for one second. Press and hold the **Scale** button to toggle between the two scales. Release the **Scale** button to stop at the desired scale. Changing the scale will automatically reset the set-point value to the default setting for that particular scale. Default settings are as follows:

- Lint Cotton - 7.0%
- Seed Cotton - 12.0%

TESTING LINT COTTON



Read button

Attach the 467912000 Sample Cup Electrode to the connector on top of the meter. Set the scale for LINT COTTON and select a set point. Place a small quantity of lint cotton in the sample cup. Press the cotton firmly into the cup with your finger. The cotton sample in the cup should be overflowing during the test, even while you are pressing it with your finger.

Press the **Read** button and read the moisture content on the display. The meter will display the %MC (percent moisture content value) for two seconds. Readings below 4% lint cotton will be displayed as a negative number. Readings above 16% lint cotton will be displayed as a blinking 16.2%. Both the underrange and overrange readings should be disregarded. They will not be added to the accumulated readings or used in the calculation of the average or highest reading.

TESTING SEED COTTON

Attach the 467912000 Sample Cup Electrode to the connector on top of the meter. Set the scale for SEED COTTON and select a set-point. Place a small quantity of cotton in the sample cup. Press the cotton firmly into the cup with your finger. The cotton sample in the cup should be overflowing during the test, even while you are pressing it with your finger.

Press the **Read** button and read the moisture content on the display. The meter will display the %MC (percent moisture content value) for two seconds. Readings below 6% seed cotton will be displayed as a negative number. Readings above 20% seed cotton will be displayed as a blinking 20.2%. Both the extreme low and extreme high readings should be disregarded. They will not be added to the accumulated readings or used in calculation of the average or highest readings.



Read button

Tests made on seed cotton may not be as accurate as those made on lint cotton. This is due to the fact that the seed cotton sample is obviously made up of lint and seed, and the quantity of seed may vary from sample to sample. Also, the moisture content of the seed is usually higher than that of the lint.

When testing seed cotton, direct contact is still made with the cotton fiber only and not with the seed of the sample. Variables in quantities and moisture content of the seed, during calibration and in field tests, may affect the accuracy and repeatability of the meter readings. The seed cotton scale gives an indication of total moisture content (the moisture content of the seed and the lint in a sample as determined by oven tests) in the seed cotton sample. This may be of interest only in buying and selling seed cotton where some consideration may be given to the weight relationship between moisture content and dry matter.

TESTING BALED COTTON

Slide the plastic spacer over the 467912010 contact pins from the bottom of the pins. Mount the pins in the chucks and tighten the set screws. (The 467912010 contact pins are not inserted into the chucks for shipping purposes.)

Attach the Type 467912010 Electrode to the connector on top of the meter. Set the scale to LINT COTTON and select a set-point. Insert the electrode pins into the bale and press the **Read** button. Place the pin spacers near the tips of the pins when contact is first made with the bale. This helps to keep the pins parallel as they are forced into the bale.

The 467912010 contact pins are insulated, except for 1-3/4" at the tip. The insulation helps to identify the area of moisture, since the reading is obtained from the tip of the pin. Keeping track of moisture readings as the pins are pushed into the bale will give an idea of the uniformity of moisture distribution in the bale. Higher moisture readings near the surface are an indication that the cotton has been exposed to higher moisture after baling.

The Dj C-2000 provides accurate results on normally compressed bales. If the bale is loosely packed, the meter will read lower than the actual moisture content. If the bale is very tightly packed, the readings will be only slightly higher than normal, and as a rule, no correction needs to be made.

Well-conditioned material will provide uniform readings. However, material that is baled before it is dry will show a wide range of moisture content. Several tests should be performed on each bale, and the average and highest readings should be noted.

TESTING YARN

Connect the 467912020 Multi-Pin Electrode to the connector on top of the meter. Set the scale to LINT COTTON and select a set-point. Insert the electrode pins into the yarn and press the **Read** button.

OPERATOR'S MANUAL





FACTORS AFFECTING READINGS

Moisture content of the samples is the primary factor affecting meter readings. However, readings are also affected by the following:

- Type of cotton.
- Area where it is grown.
- Impurities.
- Compaction (density) around the electrode surfaces.
- Temperature of the sample.

In order to minimize the effect of these factors and improve the repeatability of the meter readings, it is recommended to keep in mind the following points:

- Use samples with minimum of impurities.
- Optimal accuracy may be obtained if meter readings are checked against %MC (percent moisture content value) by means of a properly run oven test on the particular product being tested.

TEMPERATURE CORRECTION

The basic calibration assumes the cotton temperature to be 70°F. For best accuracy, apply a temperature correction if the cotton temperature is outside the range of 60°F to 80°F. Make a correction of approximately 1.0% for every 20°F. The meter will read higher than the actual moisture content as cotton temperature increases, and will read lower as cotton temperature decreases.

Example:

At 70°F, a reading of 7% indicates actual %MC (percent moisture content value) of 7%. At varied temperatures, meter readings will vary as follows:

Cotton temperature = 110°F	Meter reading = 9.0%	Actual %MC = 7%
Cotton temperature = 50°F	Meter reading = 6.0%	Actual %MC = 7%

OPERATOR'S MANUAL





METER CARE

To keep your new moisture meter in good working order, it is recommended that you:

- Store your meter in a clean, dry place. The protective carrying case is an ideal storage place when the meter is not in use.
- Change the 9-volt battery as needed. **Continued use with a low battery may cause the meter to go out of calibration.**
- Clean the meter and probe with any biodegradable cleaner. Use the cleaner sparingly and on external parts only.
- Remove the battery if the meter will not be used for one month or longer.



Do not immerse the meter or any prod in water.

OPERATOR'S MANUAL



Dealers have the responsibility of calling to the attention of their customers the following warranty prior to acceptance of an order from their customer for any DICKY-john product.

DICKY-john[®] WARRANTY

DICKY-john warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from date of original installation, and is returned to DICKY-john within 30 days after such defect is discovered, DICKY-john will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident, or improper installation or maintenance. Said part will not be considered defective if it substantially fulfills the performance expectations. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE, AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. DICKY-john neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.

**For DICKY-john Service Department,
call 1-800-637-3302 in either the U.S.A. or Canada**



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