

COUNTERFEIT CURRENCY AWARENESS

Basic Techniques in Identifying
Counterfeit U.S. Currency
and
Reducing Cash Shortages for Carson City Staff

developed: January 2023

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COUNTERFEIT CURRENCY AWARENESS

- The purpose of this presentation isn't to qualify anyone as a counterfeit currency recognition expert.
- This presentation is designed to provide users with identification techniques they can use "right out-of-the-box" when handling U.S. currency.
- Counterfeit currency recognition covers many in-depth areas, and this presentation will cover only basic topics and techniques, and will bypass others such as series year, Federal Reserve indicators, front and back plate numbers, and letter and number positions.
- Having a higher awareness level will help us to recognize a larger majority of the counterfeit bills that we may encounter on a regular basis.
- Having a few layers of recognition techniques will further help us to reduce loss due to accepting counterfeit bills and then having to claim the loss.

COUNTERFEIT CURRENCY AWARENESS

This presentation will focus on:

- six (6) main recognition techniques:
 - The feel
 - Security threads
 - Watermarks
 - Color shifting ink
 - (Micro)printing
 - Use of bill counters and counterfeit detection pens
- What to do when you encounter a suspected counterfeit bill

HOW WELL CAN YOU SPOT A FAKE? (If only it were this easy!)



TECHNIQUE #1

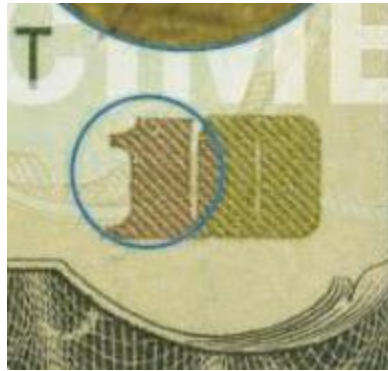
THE FEEL

- Federal Reserve Notes (U.S. paper currency) aren't actually made of paper
 - The material is a combination of 75% cotton and 25% linen.
 - This material gives U.S. paper currency a unique feel, texture, and durability that is different from other types of paper that we use or encounter on a daily basis.
 - This material is why the ink in counterfeit detection pens reacts to this type of paper differently than regular paper.
 - The “paper” has been made by Crane and Company in Dalton, Massachusetts since 1879 .
 - U.S paper currency has small red and blue security fibers that are scattered randomly throughout the bill.
 - U.S. paper currency makes use of a magnetic type of ink, and this is what bill counting machines that detect counterfeit look for.

TECHNIQUE #1

THE FEEL

- Raised printing:
 - Authentic U.S. paper currency has raised printing and features that are difficult for counterfeiters to duplicate
 - You can run your fingernail along the bill and feel these features:
 - The number amount of the bill listed in the lower left corner on the front of the bill



TECHNIQUE #2

SECURITY THREADS

- Denominations from \$5 to \$100 have a security thread woven into the fabric of the bill (this process is a highly kept secret)
- All 1990 series FRN's and later will have a security thread with the exception of the \$1 bill**
- Under ultraviolet (UV) light, these security threads will glow:
 - \$100 Pink/Red
 - \$50 Yellow
 - \$20 Green
 - \$10 Orange
 - \$5 Blue



TECHNIQUE #2

SECURITY THREADS

The security thread in the \$5 bill:

- will glow blue with UV light
- Is located to the **LEFT** of Abraham Lincoln's portrait



TECHNIQUE #2

SECURITY THREADS

The security thread in the \$10 bill:

- will glow orange with UV light
- Is located to the **RIGHT** of Alexander Hamilton's portrait



TECHNIQUE #2

SECURITY THREADS

The security thread in the \$20 bill:

- will glow green with UV light
- Is located to the **LEFT** of Andrew Jackson's portrait



TECHNIQUE #2

SECURITY THREADS

The security thread in the \$50 bill:

- will glow yellow with UV light
- Is located to the **RIGHT** of Ulysses Grant's portrait



TECHNIQUE #2

SECURITY THREADS

The security thread in the \$100 bill:

- will glow pink or red with UV light
- Is located to the **LEFT** of Benjamin Franklin's portrait



TECHNIQUE #3

WATERMARKS

- According to statista.com, approximately 298 million Americans—or approximately 85% of the U.S. population—own a smartphone as of February 2021
 - What does this mean for you?
 - It means (statistically speaking) you have an excellent tool to help detect counterfeit U.S. currency:
 - Use of the flashlight feature on your smartphone to highlight and view watermarks imprinted on U.S. currency bills
 - Use of the camera feature on your smartphone to magnify and view some of the security features such as microprinting on U.S. currency bills



TECHNIQUE #3

WATERMARKS

- The 2004 style of Federal Reserve Notes have a watermark imprinted on the bill
- This watermark is visible from either side of the bill when held against a light (think about the flashlight feature on your cell phone)
- These watermarks resemble the same portrait of the individual listed on the respective bill, with the exception of the \$5 bill
- This feature is difficult for counterfeiters to produce, and most often lacks the watermark features found on a legitimate bill
- Example: a counterfeit watermark on a \$100 bill will be a vague outline of the head and face silhouette of Benjamin Franklin

TECHNIQUE #3

WATERMARKS

- 2004 series and newer have a watermark of the number “5”
- 1996-2004 series have a watermark of Abraham Lincoln



TECHNIQUE #3

WATERMARKS

For the \$10 bill:

- On the 2004 style, the watermark of Alexander Hamilton's image is located along the right side of the front of the bill.



TECHNIQUE #3

WATERMARKS

For the \$20 bill:

- On the 2004 style, the watermark of Andrew Jackson's image is located along the right side of the front of the bill.



TECHNIQUE #3

WATERMARKS

\$50 bill:

- On the 2004 style, the watermark of Ulysses Grant's image is located along the right side of the front of the bill.



TECHNIQUE #3

WATERMARKS

For the \$100 bill:

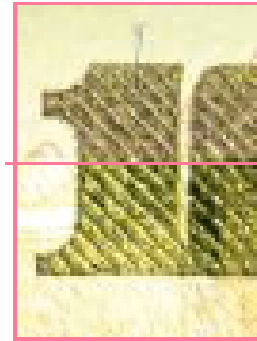
- On the 2004 style, the watermark of Benjamin Franklin's image is located along the lower right side of the front of the bill.



TECHNIQUE #4

COLOR SHIFTING INK

- Locate the number of the bill's denomination (10, 20, 50, 100) in the lower right corner of the front of the bill.
- Tilt the bill back and forth, and notice the color change from a copper color to a green color.



Copper to green
color-shifting ink



Copper to green
color-shifting ink




Copper to green
color-shifting ink



Copper to green
color-shifting ink

TECHNIQUE #5 (MICRO)PRINTING

- Authentic U.S. currency bills have various microprinting features on the bills.
- These features vary from bill to bill, and are located on various parts of the bills themselves.

Microprinting	Other Microprinting 
<p>"THE UNITED STATES OF AMERICA" along Franklin's collar; small "100" in the note's vertical borders; "USA" along bottom of Franklin's portrait</p>	<p>"ONE HUNDRED USA" along the golden quill; "USA 100" around the blank space containing the portrait watermark</p>
<p>"THE UNITED STATES OF AMERICA" along Grant's collar</p>	<p>"50", "USA" and "FIFTY" in two blue stars to the left of the portrait; "FIFTY" along side borders</p>
<p>"THE UNITED STATES OF AMERICA 20 USA" in the border below Treasurer's signature</p>	<p>"USA20" borders beginning part of text ribbon "USA TWENTY", right of portrait</p>
<p>"THE UNITED STATES OF AMERICA" below portrait</p>	<p>"USA10" beneath torch to the left of the portrait; "TEN DOLLARS" along side borders</p>
<p>"E Pluribus Unum" at top of eagle's shield to the right of the portrait; "USA" between columns of eagle's shield; "FIVE DOLLARS" along side borders.</p>	<p>On back, "USA FIVE" on edge of purple 5.</p>

TECHNIQUE #5 (MICRO)PRINTING

- On the 2004 style of the \$10 bill, microprinting along the right side of the torch reads: “USA10.”
- Can be magnified and viewed with a smartphone camera



TECHNIQUE #5 (MICRO)PRINTING

- On the 2004 style of \$20 bill, the border below the Treasurer's signature reads: "The United States of America20USA20USA."
- Can be magnified and viewed with a smartphone camera



TECHNIQUE #5 (MICRO)PRINTING

- On the 2004 style of \$20 bill, the border below the Treasurer's signature reads: "The United States of America20USA20USA."
- Can be magnified and viewed with a smartphone camera



TECHNIQUE #5 (MICRO)PRINTING

- On the \$50 bill, “The United States of America” is microprinted on the right side collar of Ulysses Grant.
- Can be magnified and viewed with a smartphone camera



TECHNIQUE #5 (MICRO)PRINTING

- On the 2004 style of the \$100 bill has microprinting that reads:
 - “The United States of America” along the right side lapel/collar of Benjamin Franklin
- Can be magnified and viewed with a smartphone camera



TECHNIQUE #6

BILL COUNTERS AND COUNTERFEIT DETECTION PENS



- Counterfeit detection pens are 100%
 - They do need replacing as the ink can go bad
 - Sometimes, they will leave dark marks on legitimate bills
 - Average about \$11 for a pack of three pens
 - Average about \$16 for one with a UV light (these are more recommended).

TECHNIQUE #6

BILL COUNTERS AND COUNTERFEIT DETECTION PENS

- A good counterfeit detection pen will:
- Produce a gold-colored mark on a legitimate U.S. bill
- Leave a dark to black marking on a regular piece of paper or counterfeit bill



PASS

Light or yellow mark



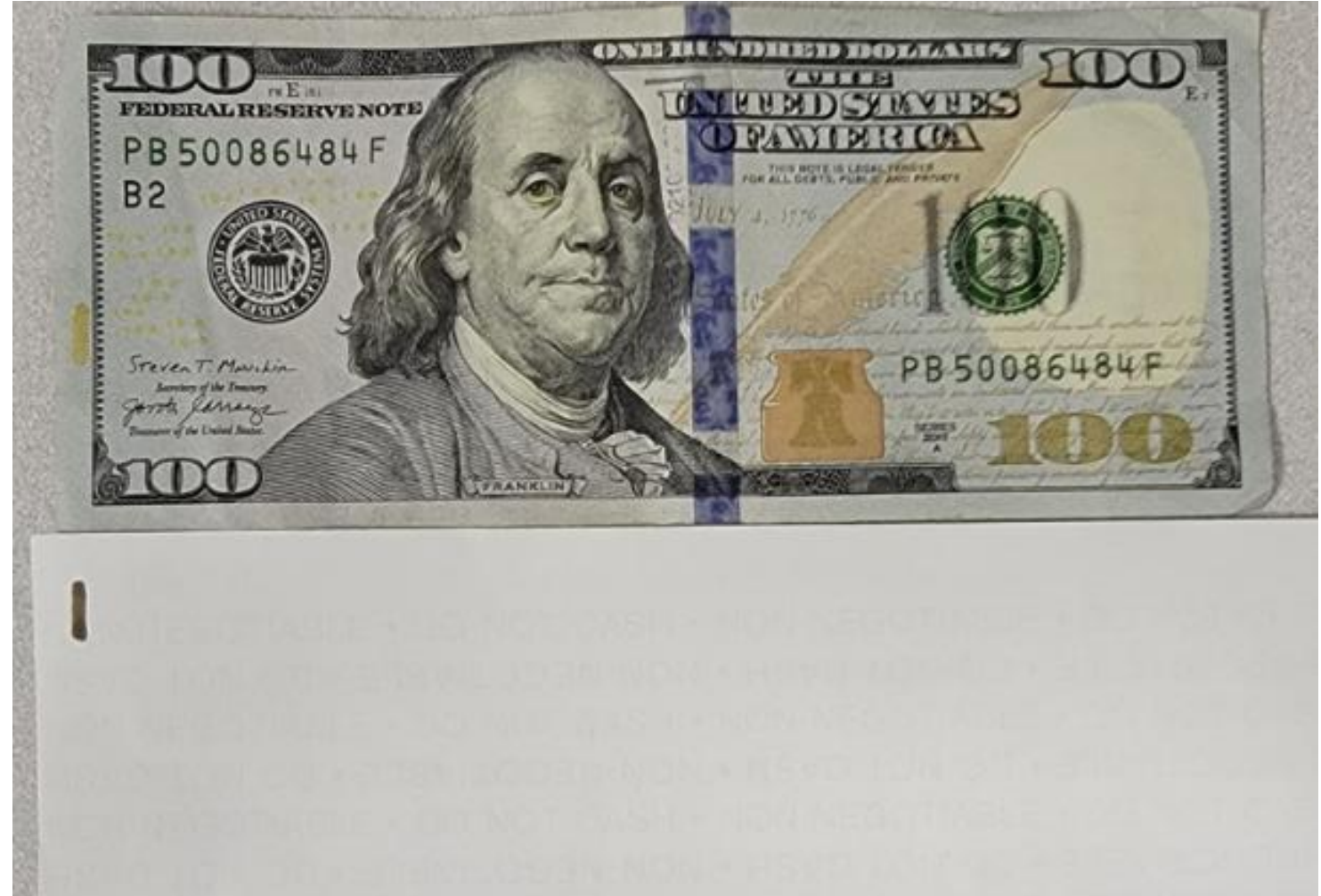
FAIL

Dark mark

TECHNIQUE #6

BILL COUNTERS AND COUNTERFEIT DETECTION PENS

- When using a counterfeit detector pen:
 - Do a test on a regular piece of paper to look for differences in color between the counterfeit pen marking on the bill vs. the counterfeit pen marking on regular paper



TECHNIQUE #6

BILL COUNTERS AND COUNTERFEIT DETECTION PENS

- Bill counters vary on their function:
 - Ability to count and sort bills by denomination and quantity
 - Provide total count of all money sorted
 - Ability to detect counterfeit bills
 - Many bill counters don't detect counterfeit currency, and just count bills
 - It is the magnetic ink in U.S. currency that a bill scanner detects



TECHNIQUE #6

BILL COUNTERS AND COUNTERFEIT DETECTION PENS

- Bill counters require weekly cleaning to ensure they are working properly
- Review manufacturer's instructions on how to clean and what cleaning products to use
- Cleaning also includes using a can of cleaning duster (keyboard air spray) to blow out debris and dirt



WHAT TO DO IF YOU RECEIVE A COUNTERFEIT BILL

- If a customer provides you with a counterfeit bill:
 - First: attempt to verify if the bill shows immediately identifiable signs of being counterfeit:
 - The Feel:
 - does the paper feel right?
 - can you feel the raised features of the bill?
 - Pen: does the pen leave a light gold color (legitimate) or a dark color (counterfeit)?
 - Bill counter: does the bill counter “chirp” and signal that the bill is suspect?
 - Security threads:
 - can you see the security thread?
 - does the security thread have the correct glow with a UV light?
 - (Micro)Printing:
 - does the printing on the bill look crisp?
 - can you see distortions with the microprinting under magnification?

WHAT TO DO IF YOU RECEIVE A COUNTERFEIT BILL

- Second:
 - **Politely** inform the customer that the bill is suspected counterfeit, and that by law, you cannot return the counterfeit bill to him and must now turn it over to law enforcement as it is a federal crime to utter a counterfeit U.S. bill (18 USC Chap. 25 ss472):
 - Explain to the customer that:
 - you must contact the Carson City Sheriff's Office (CCSO), and turn the counterfeit bill over to them
 - he is not under arrest
 - CCSO will issue a case number for the event and will seize the counterfeit bill as evidence
 - he can contact CCSO for a copy of the incident report
 - you **cannot** exchange a real U.S. bill for the counterfeit bill

WHAT TO DO IF YOU RECEIVE A COUNTERFEIT BILL

- Third:
 - Remember as many details about the incident as you can as you will need to contact CCSO and submit a statement about your involvement in locating a suspected counterfeit bill:
 - Customer's name and reason for attempting to make payment with a counterfeit bill
 - Any statements or actions the customer made
 - Date/time/location
 - What steps you took that reasonably led you to suspect that the item is a suspected counterfeit bill
 - Use the steps in this presentation to help you write your statement
 - Advise the Carson City Treasurer's Office about the incident once you have reported it to CCSO.

WHAT TO DO IF YOU RECEIVE A COUNTERFEIT BILL

- The customer may become angry or frustrated that he has just lost money.
- Don't engage in an argument with the customer about:
 - his loss of money
 - not being able to keep the suspected counterfeit bill(s).
- Don't offer any legal advice on what he should do to be paid back
 - You can even advise the customer that NRS 7.285 prohibits you from providing any legal advice
 - Advise the customer that he can obtain an incident report with the Carson City Sheriff's Office after your office has filed a report with CCSO

The information in this presentation should help participants to better recognize suspected counterfeit bills which they may encounter when handling cash, and is not intended to certify anyone as an expert. If you have questions, or need more information, please contact the Carson City Treasurer's Office at:

775-882-2092

treasurer@carson.org