



Library & Research Center



Five-Year Plan
2026-2031

Context

The National Association of Watch & Clock Collectors, Inc. (NAWCC) is a 501(c)(3) nonprofit organization. Its Library & Research Center (LARC) contains one of the largest collections of horological materials in the United States. LARC's rich and unique collection is available to NAWCC members and the public. LARC staff members provide research assistance for horology-related inquiries and process library loan requests. LARC and the National Watch & Clock Museum enjoy a valuable relationship, with LARC able to provide historical information from its archives about the Museum's artifacts.

Overview

LARC houses the library and archives of the NAWCC. In the library, there are nearly 15,000 titles on all aspects of horology and its associated subjects. In the past few years, there has been a renewed focus to solicit new titles for the library and update the catalog to keep it current.

In collaboration with the Library Committee, we have contributed book reviews to the Bulletin to cover the new titles acquired. LARC is also reaching out to other horological libraries and research institutions to work collaboratively on advancing horological education and research. Several generous donations of personal libraries have occurred over the last few years that helped fill the collection and cover some sparse areas of foreign-language titles. Inevitably, there will be duplication of donated titles. LARC is working collaboratively with the Museum Store to develop an online store to sell these duplicate copies, as well as to continue selling them in the physical store. We continue to update our periodical holdings with domestic and international journals. In addition, LARC continues to provide top-quality research assistance and process library loans for our members.

The Mystery of the Gold Balance

By Thomas Stocker (P3)

The Hamilton Model 22 (M22) deck watch chronometer is well known among collectors of Hamilton and historical military objects (Figure 1). Hamilton records show that as of December 31, 1954, the company had produced 28,773 M22s. It's well known that the M22 and its iconic Model 21 strobemate played vital roles for the Allies in World War II. In mid-May 2025, NAWCC members began discussing their M22s and noticed something unusual with the movement. Some, especially ones with low serial numbers, had what looked to be a gold-colored balance wheel. Other members checked their M22s and saw that they had the standard silver-toned balance wheel. This had been a question

in the minds of M22 collectors for quite some time, yet the rarity of the gold wheel led some to believe this was an aftermarket change or some other undocumented occurrence. The more inquisitive among the members went to the ledgers and tried to find an explanation. The high return rate of early M22s indicated that something was amiss, but exactly what the problem was remained unknown. In his seminal *The Ship's Chronometer and Military Timepieces*, Marvin Whitney does not mention the gold versus silver balance wheel. Given everything he does mention, omitting this detail only deepened the mystery.



Figure 1. A Hamilton Model 22 deck watch chronometer, serial No. 29130, which has the original gold-colored balance wheel. These images by Paul Regan began the Forum thread this article is based on. PHOTO COURTESY OF PAUL REGAN.



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Paul Regan brought the question to the NAWCC Forums (mb.nawcc.org), and it quickly blew up with discussion and investigations. Some speculated that perhaps the gold wheels weren't original, but rather Glucydur balance wheels used in modern ETA movements, or some other post-manufacture change. Other members combed the digitized Hamilton newsletter, *Timely Topics*, to see if the company had mentioned it there. It hadn't. Could this mean the balance wheel change predated the newsletter's first issue in May 1943? Or perhaps even that Hamilton higher-ups weren't keen on discussing this topic?

Jim Haney pointed out that any changes to these chronometer watches must have been documented, as Hamilton was filling a War Department contract with strict specifications. Members' investigation of the balance wheel puzzle then produced a new unaccounted discrepancy: a difference in M22 timing screw arrangements. There was a clear (albeit only under high magnification) difference in the timing screws on the gold balance wheels versus the silver ones, but no one had found out why. Research by members on the Forums continued, and someone mentioned the collection of Hamilton documents at the Library & Research Center. This led to Burt Cifurak contacting me to explore the vast cache of Hamilton material in our archives.

When I heard about this puzzle, I was intrigued and plunged down the rabbit hole to try and help crack the case. This project would not only help find answers to questions posed on the Forums, but it would also give me the chance to become more familiar with our collections. The massive size of the Hamilton collection makes this sound like a daunting task, but the work already done by so many members allowed me to narrow my search. The information we needed would be stored with military-related documents and had to deal with a change in a part. Knowing this let me rule out more than 100 boxes at the start. I began digging through the Hamilton Collection and the Ravel Hamilton Collection but couldn't find any mention of changes to the M22s. There was plenty of correspondence related to the Model 21, including a chain of letters between Hamilton and the Naval Observatory in which the Naval Observatory inspectors said that the Hamilton marine chronometers were nowhere near what the US government expected,

but my quest was for the M22 changes. After rereading the Forum posts and discussing the M22 with Burt, I decided to check the Hamilton Change Order Collection. This comprises a lot of boxes—many of them not yet cataloged—so the first step was figuring out where exactly to start.

After scouring the technical data sheets, I found the part number of the M22 balance wheel: 37113. Thankfully, the boxes have their part number range on the outside, so I was able to go to the exact box immediately. The earliest mention of a change was in a Design Change Memorandum dated December 22, 1941, written by Ernest W. Drescher, Watch Design Supervisor (Figure 2). In the memo, Drescher says that the M22 balance wheel material was to be changed from beryllium copper to 12% nickel silver, and the plating changed from gold to rhodium. The reason for this change was "reported difficulties" in obtaining beryllium copper and Hamilton's own metallurgy advancements for hairsprings. A few months later, Drescher sent another memorandum redefining the specification for the M22 balance wheel (Figure 3). The number of balance screws was to change from 12 to 14, along with various other changes to jewel settings. These two documents helped solve part of the questions: why the change in color from gold to silver, and why the change in timing screws. But new questions arose: why the change from monometallic to bimetallic balance wheels?

About a year later, Drescher sent a Specification Change Memorandum about the M22 balance wheel (Figure 4). The US Navy Bureau of Ships' strict chronometer watch requirements meant that Hamilton still had some work

FUN FIND IN THE ARCHIVE

We have an October 16, 1943, letter addressed to Captain J. F. Hellweg, superintendent at the Naval Observatory. There is a handwritten note at the end of it from a Hamilton employee (likely E. W. Drescher) stating, "We can now appreciate what Harrison went thru!"

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Article in the September/October 2025 issue of the Watch & Clock Bulletin.

LARC publishes a list of new titles biannually in the Bulletin. Along with the continual stream of book reviews, these lists establish our presence and show members the breadth of our collections. We also contribute articles to the Bulletin to highlight findings in our collection; a recent article was "The Mystery of the Gold Balance," published in the September/October 2025 issue. In the NAWCC's monthly e-newsletter, we prepare the "This Month in Horological History" piece for each issue.

The archive contains nearly 200 individual collections. These collections include personal collections and research, institutional collections, historic documents, and many other materials. In the last three years, we have acquired several donations that have been or are in the process of being cataloged. The largest of these donations is the personal papers and research of Marty Ruddock.

LARC currently has a full-time Librarian/Archivist, a full-time museum assistant, and two interns. This team is working tirelessly on digitizing the Hamilton Watch Company materials in our archive. The Hamilton materials alone comprise the majority of the total archival holdings. LARC received a federal grant to help cover the expenses of this massive undertaking. This grant required match funding from our organization, which was provided by a generous donation; this donation helps fund the interns brought on for this project.

Year 1: Short-Term Project



A Context IQ Quattro X 4450 44 scanner used for scanning large documents.

Hamilton Digitization Project (2025-2026, updated thereafter)

- The digitization of the Hamilton Watch Co. materials is of prime importance. Not only will LARC be preserving years of company-related documents, but these materials will be accessible online in our customized database.
- The projected total cost of the digitization project is \$70,000. We received a federal Institute of Museum and Library Services (IMLS) grant toward this project with a total award of \$78,354: half of this amount comes from the IMLS funding and the other half from organizational match-funding. Generous donations helped fulfill our match-funding.
 - This funding allowed us to bring on two interns to assist with the project, and to acquire the equipment necessary for the project. We also were able to use expert vendors to digitize our aging Hamilton microfilm materials.

- The Hamilton collection consists of paper materials and microfilm reels, much of which is over 60 years old. Age takes its toll on these delicate materials, and digitization will ensure that future generations will have access to them.
 - The microfilm reels show signs of deterioration, which has destroyed some of the information stored on the film. Thankfully, the presence of paper originals will allow us to fill in gaps lost to decay.
 - There are 272 16mm reels containing business ledgers and cash books (for which we also have the physical ledgers). These films show no signs of deterioration and are safe for an outside vendor to digitize.
 - There are 72 35mm reels containing technical drawings and data sheets for parts, tools, and other materials for Hamilton Watch Co. employees. Unfortunately, these reels show their age and have deteriorated so much that the images can no longer be seen. Thankfully, LARC's holding of paper originals will allow us to cover the loss of the film.
 - In addition to the microfilm reels and several thousand pages of paper drawings, there are more than 40 boxes of change orders. These change orders show the stages of technical drawings and parts before final approval for production was given by the company.
- As more information is assessed and digitized, it will be added to the database for researchers to browse and search by keywords. This database will be continually updated with Hamilton Watch Co. historical material.



The home page for our bespoke Hamilton Resources database.

Years 2-4: Mid-Term Projects



Top Left: Looking down an aisle of our archives. Bottom Left: A view of one aisle of periodical storage. Right: One of our interns diligently scanning material from the Hamilton collections.

- Digitize the catalog collection in the archives
 - LARC has hundreds of original catalogs for various watch and clock companies. Many of these catalogs are not available online through other digitized collections.
- Upload digitized LARC videos
 - In the summer of 2025, library materials on DVDs were digitized to extend their lifespan. The digitization of VHS tapes is ongoing and will also be uploaded. This material will be available for members via a member-only resource page on our website.

Long-Term Ambitions and Ongoing Projects



- Conserve and protect LARC material
- Update the library catalog regularly to reflect current book and periodical holdings
- Expand the collections and spread knowledge of this huge resource to members and the public

We invite you to join us in preserving and sharing horological material by contributing financially or in-kind to the crucial work being done at LARC.

- Volunteer to assist us in these and future projects.
 - Our deep archive of horological material offers opportunities for multiple digitization projects, from large-scale to small.
- Donate your collection of research materials, historical papers, or horological library.
- Donate critical funds to support LARC's work.
- Connect with us to learn if your horological material might find a safe home in our archival collection.