



COUNTING SPEEDMASTERS

What 710 Documented Watches Tell Us — and What They Don't

SpeedyBase Research Report — June 2026

Dataset: 710 registered watches · 1,510 auction results · 56 confirmed extracts

References: CK 2915 · CK 2998 · 105.002 · 105.003 · 105.012 · 145.012 · 145.022

1. Introduction

How many original vintage Speedmasters survive? Collectors have debated this for decades, but the conversation has relied on gut estimates — "a few hundred CK 2915s," "maybe a thousand 105.012s" — rather than data.

SpeedyBase now has 710 documented watches with verified serial numbers, 1,510 auction results across seven major houses, and 56 confirmed Omega Extracts of the Archives. This report examines what that dataset can and cannot tell us about surviving populations.

We are transparent about the limitations. The dataset was not designed for population estimation — it was built to be a reference tool. Some analytical methods that initially appeared applicable (mark-recapture) turned out to be invalid with our data structure. We present what the data *does* support, explain why certain approaches don't work yet, and outline what additional data the community could contribute to make future estimates possible.

710

REGISTERED
WATCHES

1,510

AUCTION RESULTS

56

★ OMEGA
EXTRACTS

7

REFERENCES
COVERED

2. The Dataset

2.1 How the Registry Was Built

The SpeedyBase registry was compiled from multiple sources. Understanding how it was built is essential to understanding what analysis it supports:

SOURCE TYPE	COUNT	DESCRIPTION
Auction records	402	Serial numbers extracted from auction house lot descriptions
Unattributed	105	Serials mined from articles, many referencing auctions
Documented auction	56	Auction records with additional documentation
Omega Extract	54	Confirmed via Extract of the Archives
Dealer listings	38	Serial numbers from dealer inventory (non-auction)
Photographs	28	Movement serial visible in photos
Collector submissions	4	Direct owner submissions
Other	23	Forum posts, museum records, warranty cards

Critical observation: Approximately 75–90% of registry entries across all references are derived from auction data. This means the registry and the auction dataset are **not independent samples** — they largely describe the same population of watches from the same source.

2.2 Independence by Reference

For each reference, we separated entries into "auction-derived" (including articles about auctions) and "truly independent" (dealer, extract, photo, collector, forum — sources with no auction connection):

REFERENCE	TOTAL	AUCTION-DERIVED	INDEPENDENT	% INDEPENDENT
CK 2915	58	50	8	14%
CK 2998	91	73	18	20%
105.002	18	17	1	6%
105.003	69	60	9	13%
105.012	71	51	20	28%
145.012	101	79	22	22%
145.022	289	191	96	33%

2.3 Auction Data Coverage

Not all auction lots include the serial number in the description. This limits our ability to cross-reference watches across sources:

REFERENCE	TOTAL LOTS	WITH SERIAL	COVERAGE
CK 2915	72	30	41.7%
CK 2998	79	34	43.0%
105.002	26	9	34.6%
105.003	150	36	24.0%
105.012	119	33	27.7%
145.012	156	30	19.2%
145.022	578	128	22.1%

Furthermore, without a serial number, **the same watch sold at two different auctions is indistinguishable from two different watches.** This means auction lot counts overstate the number of unique watches — by an unknown amount.

3. Methods Considered

3.1 Mark-Recapture (Chapman Estimator) — Not Valid With Current Data

What it is: A method from ecology (Petersen 1896, Chapman 1951) that estimates population size from the overlap between two independent samples. If you "tag" animals in sample 1 and "recapture" some of them in sample 2, the overlap ratio estimates the total population.

$$\hat{N} = ((n_1 + 1)(n_2 + 1) / (m + 1)) - 1$$

Why it doesn't work here: The method requires the two samples to be **independent**. Our registry was largely built from auction data — the same source as our auction sample. Finding a serial number in both the registry and an auction description is not a "recapture" — it's our own data matching itself. This circularity invalidates the method entirely.

For a valid mark-recapture analysis, we would need a registry built primarily from **non-auction sources** — collector submissions, dealer inventories, extract confirmations, and movement

photographs from owners. Currently, only 8–96 entries per reference come from such sources (see §2.2).

3.2 German Tank Problem — Valid With Caveats

What it is: A WWII-era statistical method (Wald 1943) that estimates total production from the highest observed serial number in a sample. Allied statisticians used it to estimate German tank production from serial numbers on captured tanks — their estimates (~245/month) proved more accurate than human intelligence (~1,400/month) when checked against post-war records (actual: ~276/month).

$$\hat{N} = m \times (1 + 1/k) - 1$$

Where **k** = sample size, **m** = maximum observed serial.

Why it works here (partially): Serial numbers are real data points regardless of whether they came from auctions, dealers, or collectors. The maximum observed serial per batch is a genuine boundary marker.

Key limitation: Omega assigned Cal. 321 movement serial numbers sequentially across all models sharing that caliber — Speedmaster, Seamaster, and Railmaster production was interleaved within the same serial blocks. The watches in our sample are confirmed Speedmasters, but the serial gaps between them contain movements that went into other models. The German Tank method therefore estimates the **total serial range span across all Cal. 321 production**, not the Speedmaster-specific count within that range.

3.3 Census Counting — Valid, Hard Lower Bound

The simplest and most defensible measurement: count unique documented serial numbers per reference. This gives an absolute minimum on surviving population — the true number is certainly higher, but at least this many exist.

4. What the Data Shows

4.1 Documented Census: Minimum Confirmed Surviving

676

UNIQUE VERIFIED SERIAL NUMBERS ACROSS ALL SEVEN REFERENCES

REFERENCE	PERIOD	CALIBER	UNIQUE SERIALS	INTERPRETATION
CK 2915	1957–1959	321	57	At least 57 survive
CK 2998	1959–1963	321	89	At least 89 survive
105.002	1962–1964	321	18	At least 18 survive
105.003	1964–1969	321	67	At least 67 survive
105.012	1964–1968	321	68	At least 68 survive
145.012	1967–1969	321	95	At least 95 survive
145.022	1968–1981+	861	282	At least 282 survive

These are **hard lower bounds**. The true surviving populations are certainly larger — these counts represent only watches that have surfaced through auctions, dealers, forums, or collector submissions and had their serial numbers documented.

4.2 Serial Range Analysis (German Tank)

CK 2915 — Three Production Batches

CK 2915 serials cluster into three distinct batches corresponding to the three sub-references:

BATCH	SAMPLE (K)	SERIAL RANGE	OBSERVED SPAN	GT ESTIMATED SPAN
2915-1	13	15,490,012 – 15,500,866	10,854	~11,689
2915-2	25	15,996,297 – 15,997,985	1,688	~1,756
2915-3	19	16,648,134 – 16,649,982	1,848	~1,945

What this tells us: Batch 1 (2915-1) spans ~11,000 serial numbers while Batches 2 and 3 span only ~1,800 each. All watches in our sample are confirmed CK 2915 Speedmasters, but the serial gaps between them include movements that were installed in Seamasters, Railmasters, and other Cal. 321 models produced concurrently. The wider Batch 1 span suggests a greater proportion of non-Speedmaster production was interleaved during that period. The commonly cited production figure of 3,000–4,000 CK 2915s (WatchFID/Omega Museum) is consistent with Speedmasters comprising 20–30% of the total Cal. 321 movements within these serial ranges.

All References — Observed Serial Spans

REFERENCE	SAMPLE	MIN SERIAL	MAX SERIAL	SPAN
CK 2915	57	15,147,139	16,649,982	1,502,843
CK 2998	89	17,301,094	19,834,724	2,533,630
105.002	18	19,583,552	19,834,854	251,302
105.003	67	20,522,028	26,554,518	6,032,490
105.012	68	18,945,447	26,554,613	7,609,166
145.012	88	22,081,719	27,320,298	5,238,579
145.022	282	24,533,580	48,609,812	24,076,232

The serial spans confirm extensive overlap between concurrently produced references (105.003 and 105.012 share nearly identical ranges), and the 145.022's enormous 24M span reflects over a decade of production.

4.3 The 145.022 — Sub-Reference Breakdown

The 145.022 is the only reference that spans the Cal. 321 to Cal. 861 transition. It also has the most documented examples, making it the best candidate for detailed sub-reference analysis:

SUB-REF	CALIBER	COUNT	SERIAL RANGE	NOTES
-68 (transitional)	321→861	13	24.5M – 32.2M	First 861-powered Speedmaster. Applied logo.
-69	861	89	27.3M – 48.3M	Largest sub-ref. Includes Straight Writing casebacks.
-70	861	1	30.5M	Extremely rare sub-reference.
-71	861	3	32.2M – 32.8M	Step to flat dial transition.
-74	861	12	27.7M – 39.2M	Unusually wide serial range.
-76	861	8	39.2M – 39.9M	
-78	861	4	39.2M – 44.8M	Last date-stamped caseback.
Unspecified	various	152	26.5M – 48.6M	Sub-reference not recorded in source data.

Data quality note: 152 of 289 entries (53%) lack a sub-reference designation. This is a significant gap that limits sub-reference-level analysis. The -69 dominance (89 entries) may partly reflect documentation bias — the -69 Straight Writing caseback is the most researched and collected sub-ref.

5. Production Estimates From Published Sources

The following figures come from WatchFID's Moonwatch Production Overview, compiled in collaboration with the Omega Museum. These are the most authoritative estimates available, though WatchFID states they "do not represent definitive or official numbers."

Cal. 321 References (1957–1969)

Total Cal. 321 movements produced (all Omega models): ~127,500. Of these, ~114,600 fall within the Speedmaster era (post-1957). Estimated Cal. 321 Speedmasters specifically: **80,000–83,000** across all references.

REFERENCE	PERIOD	EST. PRODUCED	SOURCE
CK 2915	1957–1959	3,000 – 4,000	WatchFID / Omega Museum
CK 2998	1959–1963	~8,000	WatchFID
105.002	1962–1964	2,200 – 2,600	WatchFID
105.003	1964–1969	~16,000	WatchFID
105.012	1964–1968	24,000 – 24,500	WatchFID
145.012	1967–1969	27,000 – 28,000	WatchFID

Cal. 861 / 145.022 (1968–1981+)

No published production figure exists for the 145.022. Unlike the Cal. 321 references, where total caliber production constrains the estimates, the Cal. 861 was produced in far higher volumes over a much longer period. The 145.022 spans sub-references -68 through -78 and was manufactured for at least 13 years (1968–1981, continuing as 145.0022 into the late 1980s).

What we know: Cal. 861 production massively exceeded Cal. 321. At the production rates suggested by serial number progression (~1–2 million Omega serials per year by the 1970s, shared across all models), and given the Speedmaster's prominence in Omega's lineup after the Moon landing, total 145.022 production is almost certainly in the **hundreds of thousands**.

6. What We Can't Yet Measure — And How to Fix It

6.1 Why Mark-Recapture Can't Be Applied Yet

Mark-recapture (Chapman 1951) is the **right method** for estimating the unknown surviving population — how many watches are still out there waiting to be found. The question is not whether it applies conceptually, but whether our current data meets the method's requirements.

The core requirement is **two independent samples**. In our case, both should be independent ways of "sighting" a watch: for example, (1) watches documented in a collector registry and (2) watches appearing at auction. If the same watch shows up in both, that's a genuine recapture — and the recapture rate estimates total population.

The problem with our current dataset is that the registry was largely **built from** auction data. Approximately 75–90% of registry entries across all references were derived from auction lot

descriptions, auction review articles, or auction house catalogues. This means finding a serial in both the registry and the auction records is not a recapture — it's our own data matching itself.

REFERENCE	% AUCTION-DERIVED	INDEPENDENT ENTRIES	STATUS
CK 2915	86%	8	Not enough independent data
CK 2998	80%	18	Not enough independent data
105.002	94%	1	Not enough independent data
105.003	87%	9	Not enough independent data
105.012	72%	20	Marginal
145.012	78%	22	Marginal
145.022	66%	96	Growing — needs more time

An additional complication is **non-random movement**. Watches that appear at auction are not a random sample of surviving watches — they skew toward high-value, well-known examples. Similarly, watches submitted to a registry skew toward documented, actively collected pieces. This "trap-happy" bias is well-understood in ecology and can be corrected with heterogeneity models (e.g., Jolly-Seber), but only once the underlying independence requirement is met.

The method will become viable as the registry accumulates more entries from **non-auction sources** — collector submissions, dealer inventories, extract confirmations, and movement photographs. This is a matter of time and community participation, not a fundamental flaw in the approach.

6.2 The Duplicate Problem

Without a serial number, the same watch appearing at Antiquorum in 2015 and Phillips in 2022 is indistinguishable from two different watches. Only 19–43% of auction lots include the serial in the description (see §2.3). This means:

- Auction lot counts overstate the number of unique watches
- The same watch may appear multiple times across houses and years
- We cannot determine the true number of unique watches that have appeared at auction

6.3 What Would Fix This

The Path to Valid Population Estimates

Mark-recapture becomes viable when the registry has enough entries from **non-auction sources**. Specifically, we need:

- **Collector submissions:** Owners photographing their movement serial numbers and submitting to the registry. This is the single highest-value data contribution.
- **Dealer inventory data:** Serial numbers from dealer stock, particularly watches that were sold privately rather than at auction.
- **Extract confirmations:** Omega Extract of the Archives documents, which confirm serial, reference, production date, and delivery destination.
- **Forum documentation:** Identification threads where serial numbers are visible in movement photos.

If even 50 independent submissions were added per reference, the method would become statistically meaningful. Every serial number submitted from a non-auction source increases the power of future analysis.

Submit your watch: speedybase.org/registry

7. Conclusions

What we know for certain:

- At least **676 unique vintage Speedmasters** across seven references have been documented with verified serial numbers.
- CK 2915 production was approximately **3,000–4,000** units (WatchFID/Omega Museum).
- Total Cal. 321 Speedmaster production was approximately **80,000–83,000** units.
- The 145.022 was produced in volumes that dwarf all Cal. 321 references combined, but no published production figure exists.
- Serial ranges confirm extensive concurrent production of multiple references in the 1963–1968 period.

What we can estimate:

- The true surviving population for each reference is **certainly larger** than our documented census — by a factor we cannot yet determine.
- Serial range analysis (German Tank) gives production-era span estimates consistent with published sources, though serial blocks were shared across Omega models.

What we cannot yet determine:

- Total surviving population by reference — mark-recapture is invalid with our current data structure.
- True number of unique watches at auction — the duplicate problem (§6.2) prevents accurate counts.
- Total 145.022 production — no published estimate exists.

7.1 For Collectors

The confirmed census of 57 CK 2915 serial numbers, against a production run of 3,000–4,000, means we have documented roughly **1.5% of all CK 2915s ever made**. Most that survive are undocumented. Every watch you submit to the registry — with a movement serial photo — adds to our collective knowledge and brings population estimates closer to reality.

7.2 For Researchers

The SpeedyBase dataset is openly accessible at speedybase.org/registry. We welcome methodological critique and collaboration. The key constraint for population estimation is **sample independence** — future research designs should ensure observation sources are genuinely distinct from the auction-record backbone of the database.

SUMMARY

REFERENCE	DOCUMENTED	EST. PRODUCED	DOCUMENTED %
CK 2915	57	3,000–4,000	~1.5%
CK 2998	89	~8,000	~1.1%
105.002	18	2,200–2,600	~0.7%
105.003	67	~16,000	~0.4%
105.012	68	24,000–24,500	~0.3%
145.012	95	27,000–28,000	~0.3%
145.022	282	Unknown (very high)	—

We've documented less than 2% of known production across all Cal. 321 references.
The registry is a starting point, not an endpoint.

Data: speedybase.org/registry · 710 watches · 56 extracts · 1,510 auction results

Serial sources: Hartmann, Maddox (2004), Moonwatch Only (Rossier & Marquié), Speedmaster101 (with permission), OmegaForums

Production figures: WatchFID Moonwatch Production Overview (Omega Museum collaboration)

Statistical methods referenced: Chapman (1951), Seber (1982), Wald (1943)

Ω SpeedyBase — speedybase.org