

# **Breitling Chronomat - a short history, part 1: The Slide Rule Chronomats**

## **Breitling Chronomat**

### **A short history to aid identification**

#### **Part 1: The "slide-rule" Chronomats - 1940 to 1978**

The Breitling Chronomat with its rotating slide-rule was patented in 1941 as war raged through Europe and other parts of the world, its design offering a welcome respite from the plethora of military and military-inspired watches of the period. The Chronomat's emphasis on engineering and mathematics, science and industry seemed to offer hope for a future when the war would be over and reconstruction could begin.

Although often thought to be the first slide-rule wristwatch on the market, the Breitling Chronomat was in fact the second. The Mimo-Loga, a non-chronograph, was introduced during 1941 before the Breitling. The Mimo-Loga, including a later version sold under the Girard-Perregaux brand-name, is virtually unknown today.

In 1952, the outstanding usefulness and success of the Chronomat inspired the birth of what has since become the most famous Breitling of all, the Navitimer, a chronograph with the slide-rule redesigned for civil aviation pilots.

The Chronomat went on to be produced in many forms including a version of the first automatic chronograph watch in the late 1960s and a quartz non-chronograph during the 1970s. Then in the 1980s it was reborn in a very different form as a pilot's watch and without the slide-rule. This new incarnation was designed with input from Italian military pilots.

The Chronomat has remained one of Breitling's most successful watches for over sixty years. Contrary to general belief, it is not the Navitimer but the Chronomat that has in recent years proved to be Breitling's most popular model and biggest seller.

#### **1940**

Breitling apply for a patent for the design of a rotating watch bezel with an outer circular slide-rule scale incorporated beneath the crystal and turning with the bezel. The patent also specifies some technical aspects of the inner and outer scales and how they may be used for computations.

#### **1941**

The Chronomat is first advertised during 1941 and therefore may have been released for sale in that year - research is still on-going on this subject. Certainly a prototype is seen in 1941 but this is different in several details from the watch that would be sale to the public during the following year.

## 1942

It is generally accepted that the Chronomat made its public sales debut in 1942 and this is the date that has been quoted for many years by the Breitling company. The circular slide-rule design of the Chronomat has come to be known as the 'Type 42' to differentiate it from the 'Type 52' slide-rule first seen on the Navitimer supposedly in 1952 (NB: some Breitling experts believe the actual launch of the Navitimer was later than 1952).

The 1940's Chronomat is regarded by many collectors as one of the most attractive Breitlings ever made, a true classic.



1940's Breitling Chronomat ref 769

There is a red 0 - 100 scale near the middle of the dial which can be used for reading 1/100ths of a minute which facilitates computations using the slide-rule. The Swiss cross and the number 217012 on the dial refer to the Swiss government patent that was granted in 1940.

In common with other Breitling chronographs at this time, the minute register is marked at 3, 6 and 9 minutes as long-distance phone calls were charged in 3-minute increments in most countries. Long distance and especially international 'toll' calls were very expensive at this time; connection was via the operator; there was no direct dialling, and it was important not to go 'over' one's chosen duration and become liable for a charge of a further three minutes. The turning bezel includes an outer telemeter scale which is used for measuring the distance of a phenomenon that is both visible and audible, eg lightning/thunder.

The movement is the Venus 175, 17-jewels with a centre chronograph hand recording seconds, a minute chronograph register at 3 o'clock recording up to 45 minutes, and a running seconds hand on the sub-dial at 9 o'clock. There is no Incablock shock protection and initially the movement is not signed either 'BREITLING' or with the three-letter Breitling movement code, 'WOG'. (Note: small variations occur in the appearance of some of the components of the Venus 175 as fitted in the Chronomat).



Unsigned Venus 175 with Geneva stripes in an early Chronomat





Venus 175 movement from 1946 Chronomat signed both 'BREITLING' and 'WOG'

The ref 769 was also available with a black dial in both luminous and non-luminous versions. The non-luminous variant had thinner hands. Smaller numbers of these were manufactured and sold than the silvered dial version.



Early non-luminous black-dial Chronomat ref 769, probably from 1942



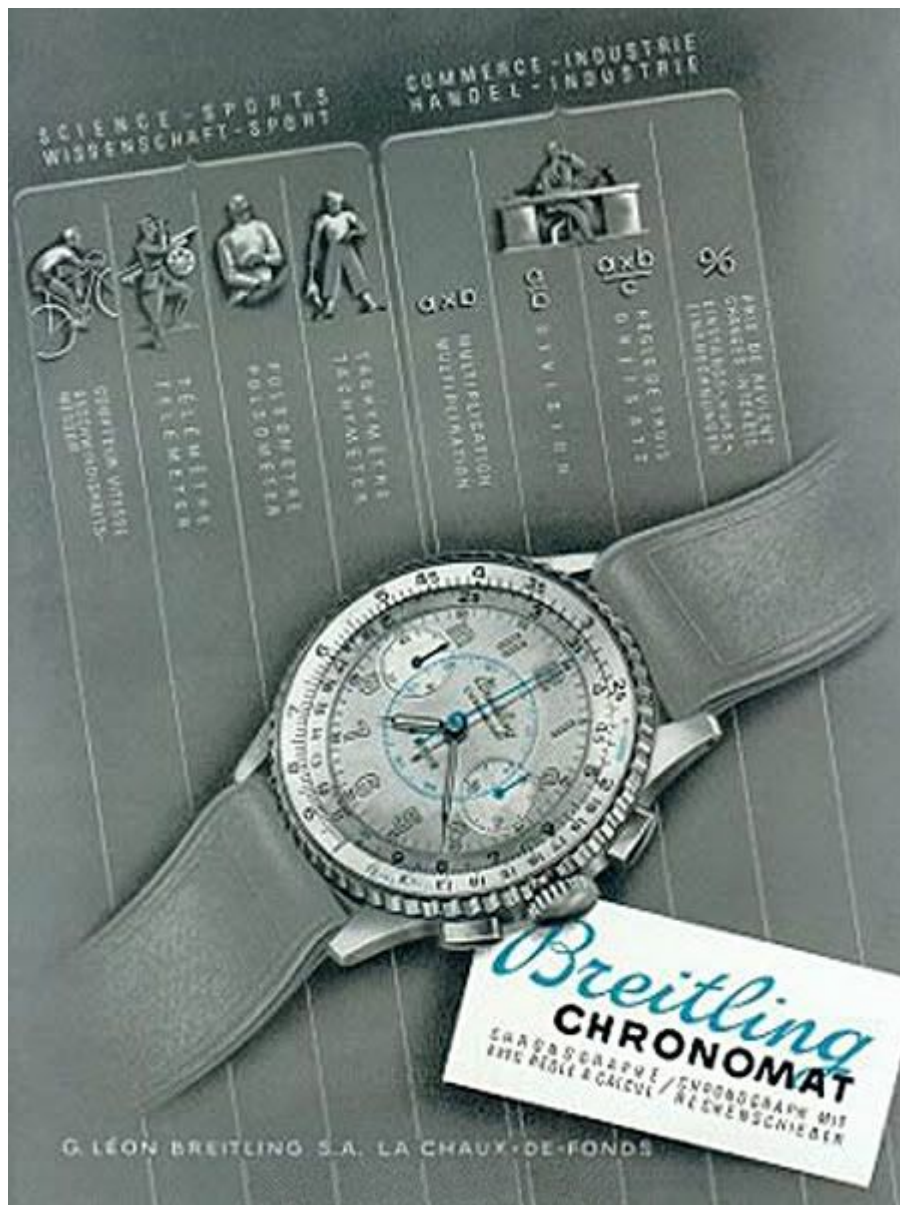
1945 Chronomat ref 769 (centre seconds hand may not be original)





The springbar holes are drilled right through the lugs of the ref 769

The Chronomat was conceived and then promoted as a watch for scientists, engineers, mathematicians; for timing and financial calculations. It was specifically not designed for military men or pilots. By the end of the war the watch was advertised with a particular emphasis that would appeal to hard-working men of achievement in the new age that beckoned after the dark days of the earlier 1940s.



1945 advertisement for the Chronomat ref 769

Translation from french/german:

#### SCIENCE - SPORT

Tachymeter  
Pulsometer  
Telemeter  
Stop Watch

#### COMMERCE - INDUSTRY

Cost price, Interest rates  
Rule of Three  
Division  
Multiplication

**Breitling CHRONOMAT**  
Chronograph with Slide Rule



The Chronomat was also available with an 18K gold case. Mostly but perhaps not always, the Venus 175 movement in this version was more highly finished and stamped 'PREMIER'.



1946 Chronomat ref 769 in 18K

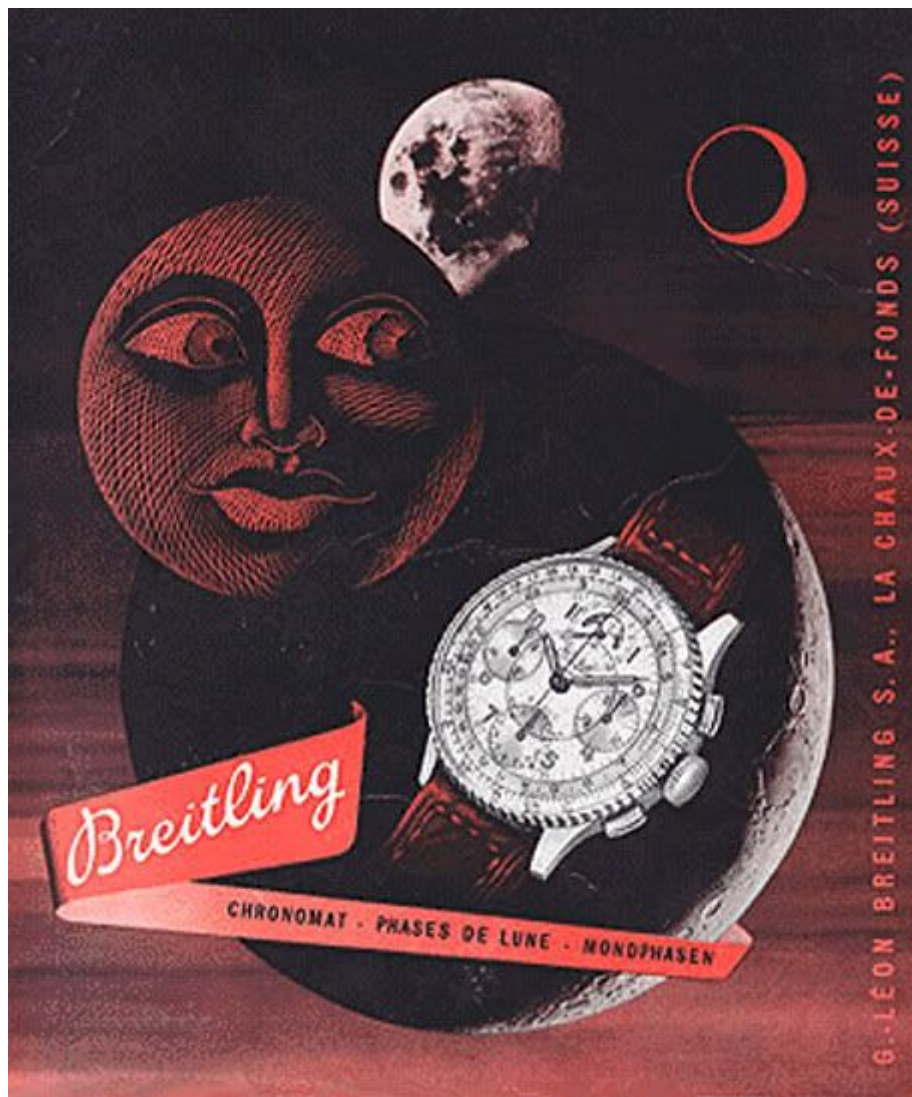
### **Three sub-register versions**

During the 1940s two very rare versions of the Chronomat were released with three sub-registers. The less-complicated of the two was powered by the Venus 178 movement.



1946 Chronomat with 12-hour subdial

The top of the range was the Chronomat Moon Phase. This was a three-registers version with additional moon phase and date complications at 12 o'clock. It was powered by the Venus 184 movement. There is a pristine example of this very rare watch in the Breitling USA museum in Connecticut.



Advertisement for the Chronomat Moon Phase, a wonderful watch - and a wonderful example of 1940s graphic design!

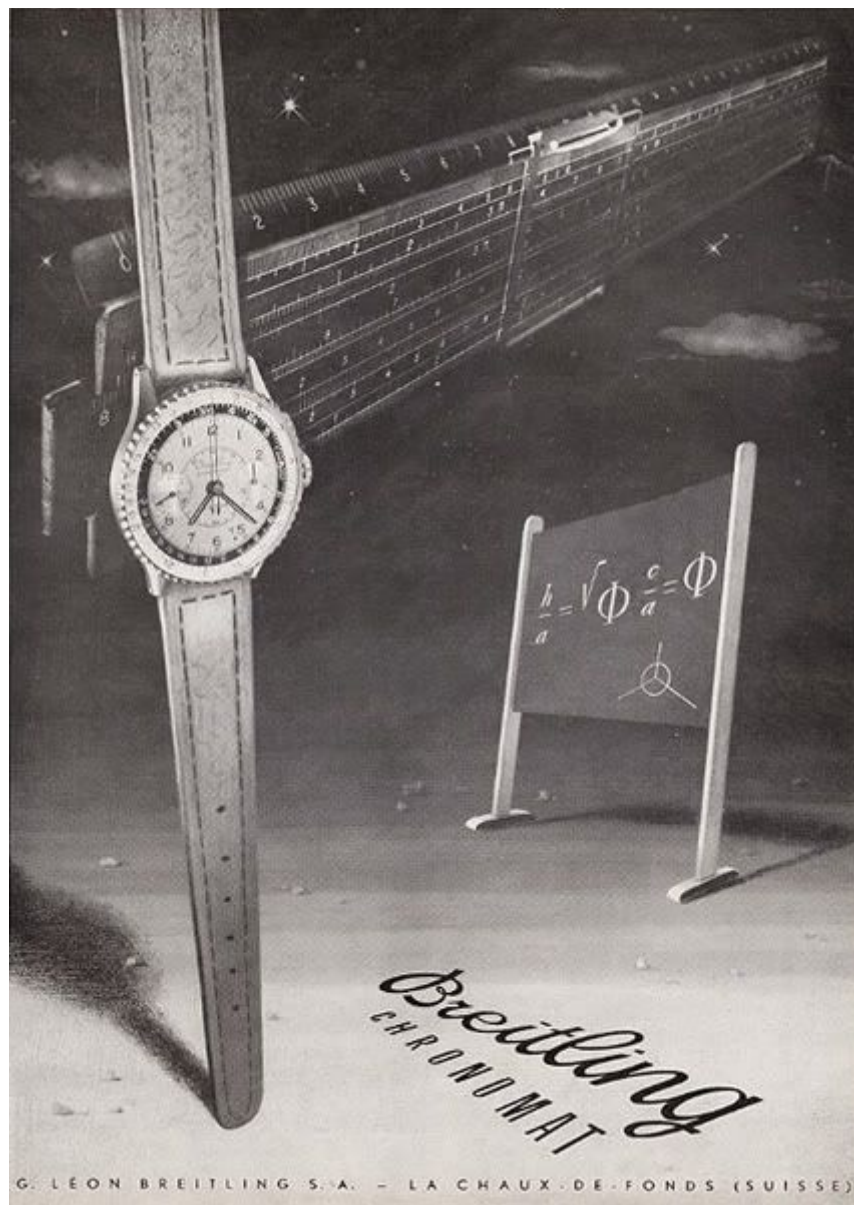




An advert from 1947 shows Cesar Romero, a Hollywood star under contract to 20th Century Fox, with a Chronomat and two other Breitlings.

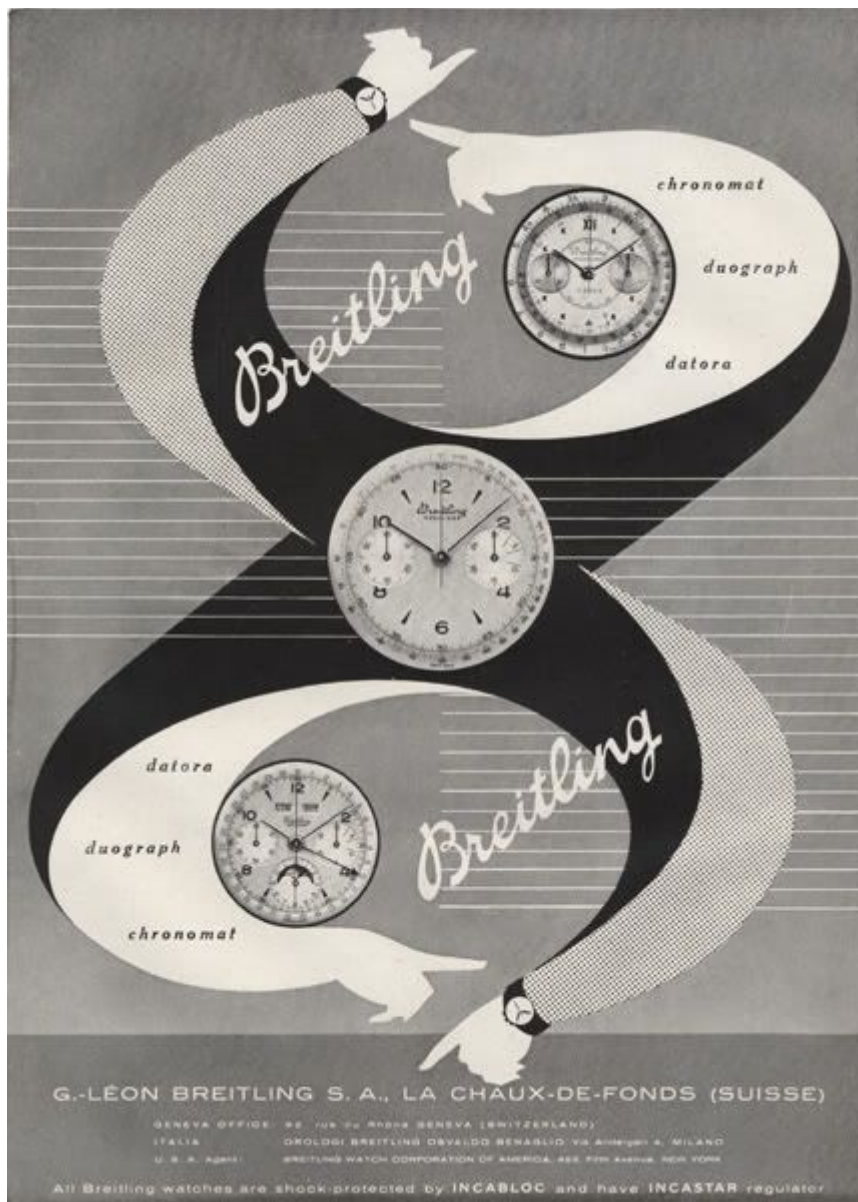


Detail from the 1947 advertisement. Hour and minute hands of this shape are rarer than other designs.

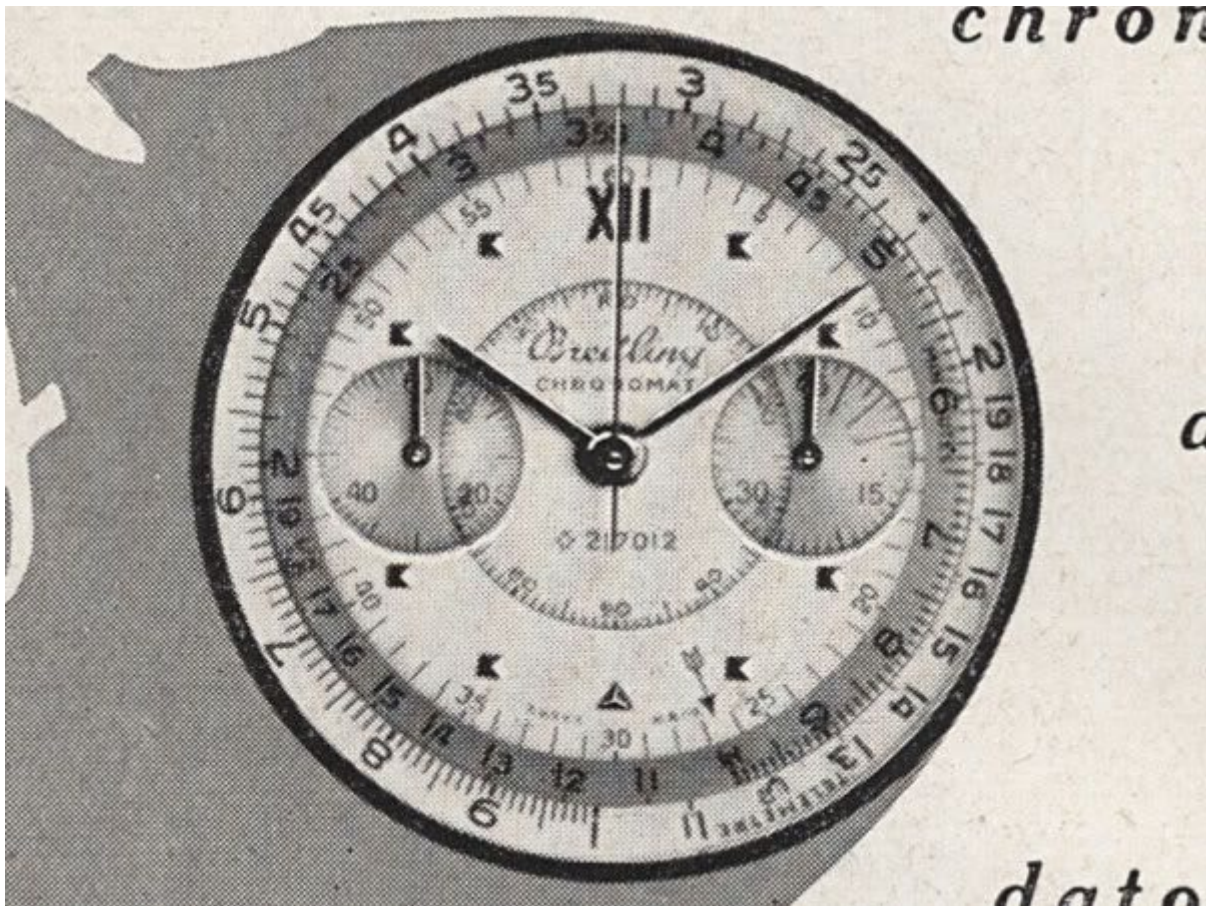


1948 advertisement showing a Chronomat ref 769 and a slide-rule





A 1950 advertisement for the Chronomat, Duograph and Datora shows only the dials and hands



Detail of the Chronomat dial in the 1950 advert. This dial variant, if indeed it was ever produced, is very rare

**ca. 1950's Chronomat ref 769**

The Chronomat dial was redesigned with the arabic hour markers being replaced by applied polished batons with double batons at 12 o'clock. The Swiss patent number +217012 on the dial was now curved. The model ref was still 769 and the movement remained the Venus 175.



ca 1950's Chronomat ref 769 (crown may be later)



The lugs are drilled through like the earlier version of the ref 769





ca 1950's Chronomat: Venus 175 with swan-neck fine regulator



ca 1950's Chronomat ref 769, non-luminous with gold batons, hands and crown



ca 1950's Chronomat ref 769, 18K rose gold with luminous dial and hands.



ca 1950's Chronomat ref 769, non-luminous in rolled gold





Back of ca 1950's Chronomat ref 769, non-luminous in rolled gold

**ca late 1950's to ca 1962 - Chronomat ref 808**

The dial is again redesigned and the previously rectangular pushers are now round. The crown is the new thicker type also found on other Breitling models. The Swiss cross and patent number for the slide-rule are moved from the dial to the case back.



This Chronomat ref 808 has a serial number from 1966. Yet the later 'arrow' at 12 o'clock design was apparently released by mid-1962. This apparent lengthy crossover is a mystery to the author and research is continuing.



Chronomat ref 808 case back





Venus 175 movement in a Chronomat ref 808

**ca 1962 - Chronomat ref 808 with 'arrow' marker at 12 o'clock**

By mid-1962 a Chronomat ref 808 with an updated dial was being advertised. It had an "arrow" marker at 12 o'clock and some other smaller changes.

Pilots! Engineers! Mathematicians!

*About the only thing  
this watch can't do  
is sign your name!*



*Breitling*  
**17-JEWEL CHRONOMAT**

A precision chronograph unsurpassed—  
with 30-minute register and exclusive  
slide rule feature that calculates time,  
distance and fuel problems, multiplies,  
divides, computes ratios, interest, aver-  
ages, percentages.

Wearing a Breitling CHRONOMAT is  
like having a "genie" sitting lightly on  
your wrist, ready to solve for you even  
the most complicated navigational, engi-  
neering and mathematical problems!

Exceptional value at SPECIAL PRICE  
FOR AOPA MEMBERS ONLY—In  
stainless steel, \$74.95. Gold filled, \$87.50.  
18 K gold, \$169.75.

The 17-jewel CHRONOMAT is made  
by Breitling, manufacturers of the famous  
AOPA Navitimer—is sold only by exclu-  
sive U.S. Distributors:

**THE WAKMANN WATCH CO**  
15 W. 47th Street  
New York 36, N. Y.

Circle no. 123 on reader service card

An advert in the July 1962 edition of the AOPA Pilot magazine shows the new design for the ref 808. The Chronomat is now being promoted as suitable for pilots - which seems odd as it is in direct competition with Breitling's Navitimer.



This Chronomat ref 808 purchased in 1967 has a beaded bezel like the one in the AOPA advertisement.





This Chronomat ref 808 was manufactured in 1967 according to its serial number. It has the later bezel design.



Circa late 1960's Chronomat ref 808 with dial in black colour option  
(running seconds hand not original)



1969 Chronomat ref 808 with silvered dial (note luminous dots in outer position)

### 1968 - The "big case" Chronomats

A completely new type of case with a patented geared bezel mechanism is developed for the Chronomat (and the Navitimer and Cosmonaute chronographs). The first Chronomat to be released for sale is the manual version, the ref 818. The ref 808 also continues in production and initially the 818 is powered by the Venus 175 like the 808 and the previous ref 769. It is thought that later 1970's examples of the ref 818 have the Valjoux 7733 movement.

The ref 818 is specified in Breitling's publicity black or white dial options although the "white" is really an ivory colour. The only available case option is stainless steel.





Chronomat ref 818, black dial



Chronomat ref 818, white dial with same-color sub-registers



Chronomat ref 818, white dial with black sub-registers





The ref 818 bezel inspection/servicing plug is in the side of the case



The Swiss patent number 11525 was granted in 1967 for the geared bezel mechanism of the ref 818.

The patent for the slide-rule no longer appears anywhere on the watch.

### **1969**

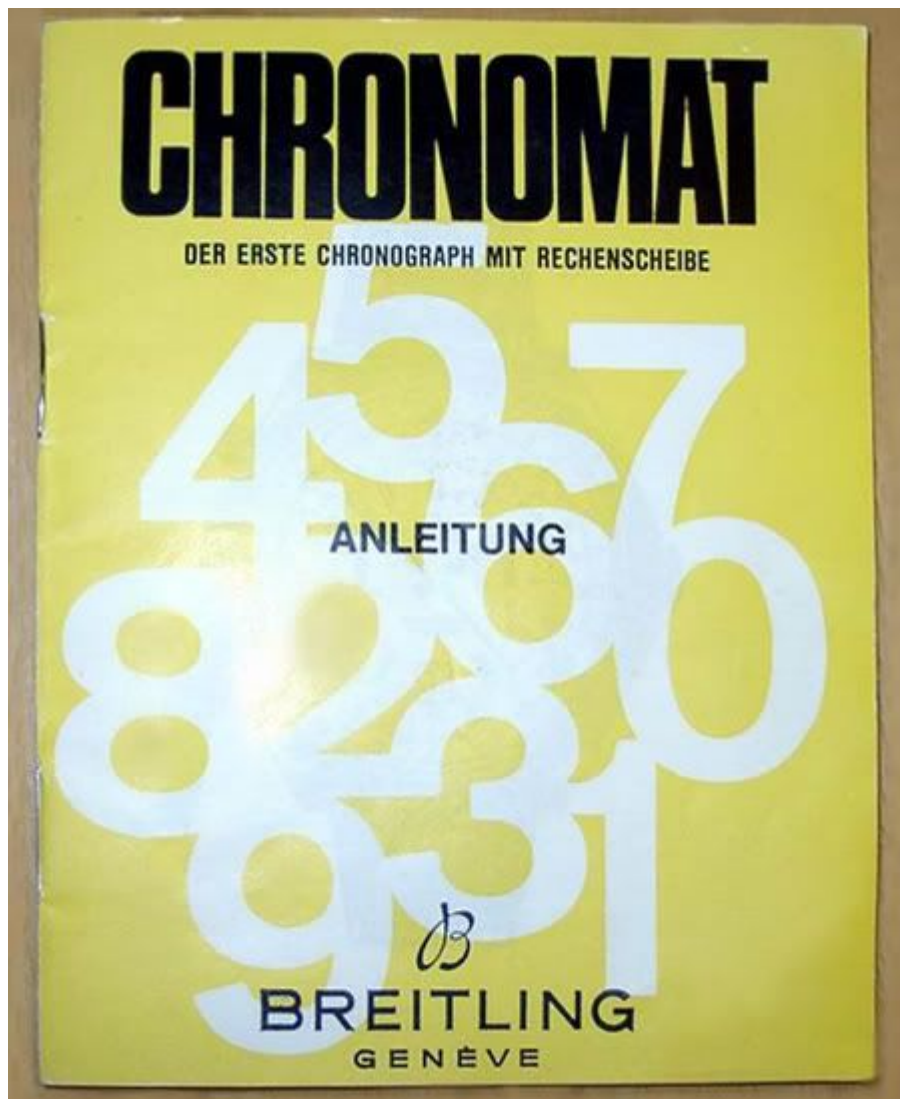
It is thought the first automatic version of the "big case" Chronomats may have been made available to the public in late 1968, but certainly it is for sale by 1969. The automatic ref 1808 is powered by the newly developed "Chrono-matic" microrotor movement with the crown on the left. Initially this movement is known as the calibre 11 but after a year or so it is slightly altered and called the calibre 12.



Chronomat ref 1808

The ref 1808 is available with a black dial (with silvered/white sub-registers and outer scale) or with a "white" dial (including outer scale) with black sub-registers.





German language manual supplied with ref 1808 in 1973.  
The cover proclaims "CHRONOMAT THE FIRST SLIDE-RULE CHRONOGRAPH"

**1970's - refs 7808 and 8808**

Around 1973 the ref 7808, a hand-wound watch with a date window, is added to the Chronomat range as well as the ref 8808, an automatic in a conventional-sized case. The "big case" refs 818 and 1808 also continue in production. It is thought the ref 808 is discontinued by now.



1973 Chronomat ref 7808 has the manual Valjoux 7740 movement



Chronomat ref 8808 with cal 12 automatic movement

### **1970's non-chronograph Chronomats**

During the 1970's, for the first time, non-chronograph Chronomats are produced. There are three models all of which have the Chronomat slide-rule but lack the chronograph function. Two are quartz-powered, the 9108 in a "big case" like the ref 818, and the 9808 in a "normal" case like the ref 7808. Both have a date window at 3 o'clock. There is also an automatic non-chronograph, the ref 108, in a similar case to the ref 8808 but with the crown on the right. This auto non-chrono has a date window at 6 o'clock like the ref 8808.





### Etes-vous un spécialiste en calculs?

Destiné au chronométrage industriel ou sportif, vivement recommandé aux hommes d'affaires, le CHRONOMAT BREITLING se charge de tous les calculs : multiplications, divisions, règles de trois, intérêts et escomptes, parités monétaires, etc. . . . Equipé d'échelles logarithmiques, il est en fait la règle à calculs de l'ingénieur et du commerçant. Le CHRONOMAT est livré avec un mode d'emploi illustré d'exemples.

A CHRONOMAT, exclusivité révolutionnaire avec mouvement électronique à quartz avec calendrier.

Boîtier acier inoxydable, non étanche.  
Réf. 9808, avec bracelet acier No. 10

B CHRONOMAT en version automatique avec calendrier. Boîtier acier inoxydable, non étanche.  
Réf. 108

C CHRONOMAT, mouvement électronique à quartz avec calendrier. Boîtier acier inoxydable étanche 5 atm.  
Réf. 9108 avec bracelet acier No. 14

Non-chronograph Chronomats in a 1970's brochure

Translation:



**"Are you a specialist in calculations?"**

Designed for industrial or sports timing,  
enthusiastically recommended by businessmen,  
the BREITLING CHRONOMAT can do all calculations:  
multiplication, division, rules of three, interest and  
discount rates, exchange rates, etc...  
Equipped with logarithmic scales it is **the slide rule**  
of the engineer and man of commerce."

A. ref 9808 quartz small case, date at 3, non-water proof

B. ref 108 auto small case, date at 6, non-water proof

C. ref 9108 quartz big case, date at 3, water resistant to 5ATM



1975 Chronomat Automatic, ref 108



1975 Chronomat Quartz, ref 9108

## 1978

All production ceases at Breitling. The company is put up for sale and is bought by Mr Ernest Schneider. From 1980 new Breitling models will begin to be released but it will not be until 1984 that the Chronomat will reappear - as a completely different pilot's watch. This will be the forerunner of all modern Chronomats.

## Part 2: The Pilot's Chronomats - 1984 to the present day

The life of the Breitling Chronomat began in 1940 with the application for a Swiss government patent for an innovative circular slide rule to be used in conjunction with a wrist chronograph. The first Chronomats were then manufactured and sold in 1941/42. Later, in the 1950's, the outstanding success of the Chronomat inspired the birth of the Navitimer, a chronograph with its slide rule modelled after the E6B circular slide rule used by pilots.

The Chronomat went on to be produced in many forms including a version of the first-ever automatic chronograph watch in the late 1960's and even a quartz non-chronograph during the 1970's.

In 1978 all watch production ceased at Breitling. The company was put up for sale and bought by Mr Ernest Schneider in 1979. From 1980 new Breitling models began to be released but it was not

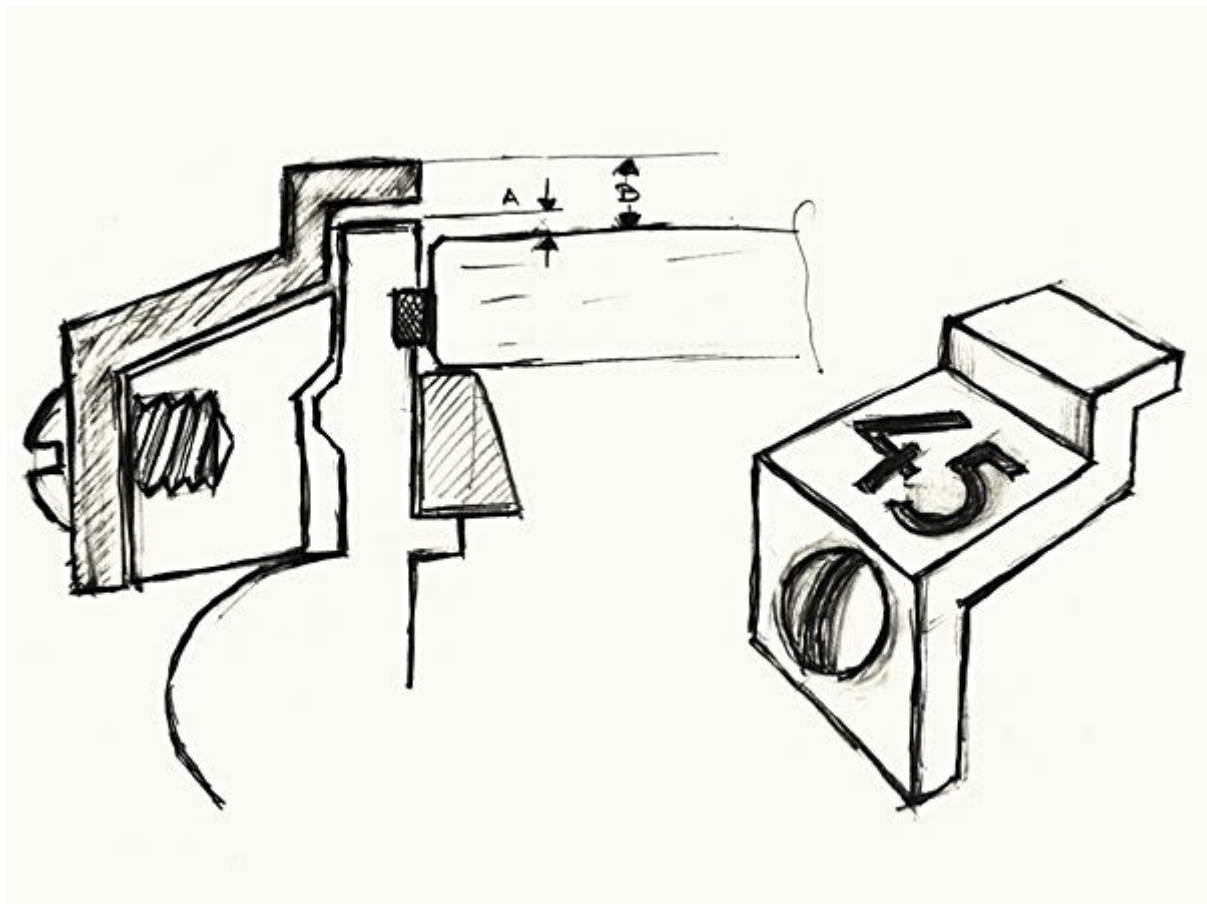
until 1984 that the Chronomat reappeared - as a completely different watch, now designed for pilots. This was the forerunner of all modern Chronomats up to the present day.

The Chronomat has remained one of Breitling's most successful watches for over sixty years and has in recent years proved to be Breitling's biggest seller.

(Note: during the 1980's Breitling model references were written in a variety of ways; the Chronomat was referred to as ref 81950, 81 950 or 81.950. For convenience the form 81950 will be used in this article).

### **Chronomat ref 81950 - 1984 to 1990**

Although the advent of electronic watches played a large part in the demise of many Swiss watch firms including the old Breitling company, by the early to mid-1980's it is becoming apparent that there is a growing market again for mechanical watches. Many owners do not want LED, LCD or quartz watches which in their eyes lack the appeal and technical attraction of watches with a traditional movement. They prefer mechanical movements and are prepared to pay a premium for them. While continuing their strong presence in the evolution of quartz watches, Breitling have also begun developing innovative mechanical models one of which is an automatic pilot's watch, completely new in design in every aspect. The now famous "rider tab" was invented by the head of the company in 1982 and he also made the decision to use the mechanical Valjoux 7750 movement for the first time by Breitling. Both of these features are still in use today in many Breitlings although the movement has undergone enormous improvements since then.



Original rider tab design by Ernest Schneider, 23/10/82. *Photo Breitling S.A.*

This new watch is modified with the advice and comments of the elite Italian air force aerobatic

team, the *Pattuglia Acrobatica Nazionale Frece Tricolori* (National Aerobatic Patrol Tricolour Arrows).



The PAN Frece Tricolori aerobatic team. *Photo PAN Frece Tricolori*

The most important design change made to the new watch is that the pushers and crown are made more prominent and therefore easier to use while wearing gloves in the cockpit. While this detracts from the smooth outline of the case design it does make the watch more functional. There is also a small redesign of the bezel and of the rider tab at 0/60 minutes. This new watch is named the Navitimer Chronomat and is very different from earlier Chronomats.





1984 Navitimer Chronomat, reference 81950

In the place of the old type 42 slide rule it has a rotating timing bezel with four projecting "rider tabs", easy to grip while wearing gloves in the cockpit. They also provide a measure of protection for the crystal. The 15 and 45 minute rider tabs can easily be changed over to create a countdown bezel if that is preferred. The large white hour indices and wide hands provide easy visibility at a glance. There is a 0-100 scale for the decimal minutes so useful in computations, and a tachymetre scale for various timing uses involving speed and distance.

The wings logo on the dial of the Chronomat is the same as that already found on early 1980's quartz Navitimers. It consists of a design derived from (but not associated with) the wings motif of the Aircraft Owners and Pilots Association (AOPA) but in the centre, instead of the initials "AOPA", is the letter "B" for Breitling. Below the wings a wavy line signifies water to show Breitling's continuing strong interest in designing and marketing watches for yachtsmen and divers. On the case back a motif of the Aermacchi MB-339A aircraft used by the Frecce Tricolori team echoes the shape of the old 1960's B/BREITLING logo below it while reinforcing the idea that the Chronomat is indeed now a pilot's watch.



Case back of the ref 81950, the first modern Chronomat

The visual design of the new Chronomat is an interesting blend of ultra-modern and traditional, perhaps an early form of "post-modern" design that became so popular in architecture during the 1980's and 90's. The "onion" style of the crown and pushers harks back to the crowns of pilot's watches of the 1930's and 40's designed to be easy to grip while wearing gloves. Unusually, the case lugs are straight and it is the ends of the bracelet or strap that provide for the curve of the wearer's wrist.



Side view of the ref 81950 case

As well as being water resistant to a depth of 100 M the Navitimer Chronomat has been tested to accelerative forces of 20G, far in excess of what any pilot could endure. It is powered by the 17-jewel Valjoux 7750 automatic chronograph movement. Although when first used by Breitling, this movement is unmodified and unadorned, it is robust and has excellent reliability and accuracy.



Valjoux cal. 7750 17-jewel movement used in the first ref 81950's

During 1984 a special version of the Chronomat with the Freccie Tricolori logo on the dial is issued to members of the aerobatic team.





Navitimer Chronomat, Frecce Tricolori version. (This example dates from the 1990's) *Photo Breitling S.A.*

Within a short time the Breitling wings logo is revised and the marine influence of the wave is now more clearly depicted as an anchor. This becomes the new Breitling logo for all models.





Chronomat ref 81950 with revised dial incorporating the new Breitling wings

Little did Breitling realise it then, but this watch was to become the company's biggest seller and the most important watch in the astonishing success enjoyed by Breitling ever since. There is something wonderfully refreshing and honest about this early version of the elegant tool-watch that aesthetically, in spite of all the more recent developments and enhancements, has perhaps never been surpassed. (However, the movement does undergo many improvements.)

Initially the existing Aermacchi MB-339A case back is used on watches with the new dial. Later higher serial number watches have the letter "A" stamped after "81950". Still later a case back incorporating the new Breitling wings logo is used for the ref 81950.



Redesigned case back on an early Chronomat with the new dial

### **1985 - Chronomat Moon Phase**

Breitling quickly realise that the new Navitimer Chronomat is proving popular with many buyers who are not pilots and they begin widening the model with further emphasis on the appeal of mechanical movements; and what better than a reference to the top-of the-range of the very first Chronomat in the 1940s, the Chronomat Moon Phase?

In 1985 a special version is prepared where the elapsed-hours register of the Valjoux 7750 movement is replaced by a 29-day moon-phase complication (not a 'simplified' moon-phase locked to the date as found in some lesser watches). However, the Chronomat Moon Phase was not manufactureed in large numbers and consequently is quite rare and sought-after today.



Chronomat Moon Phase, ref 81950





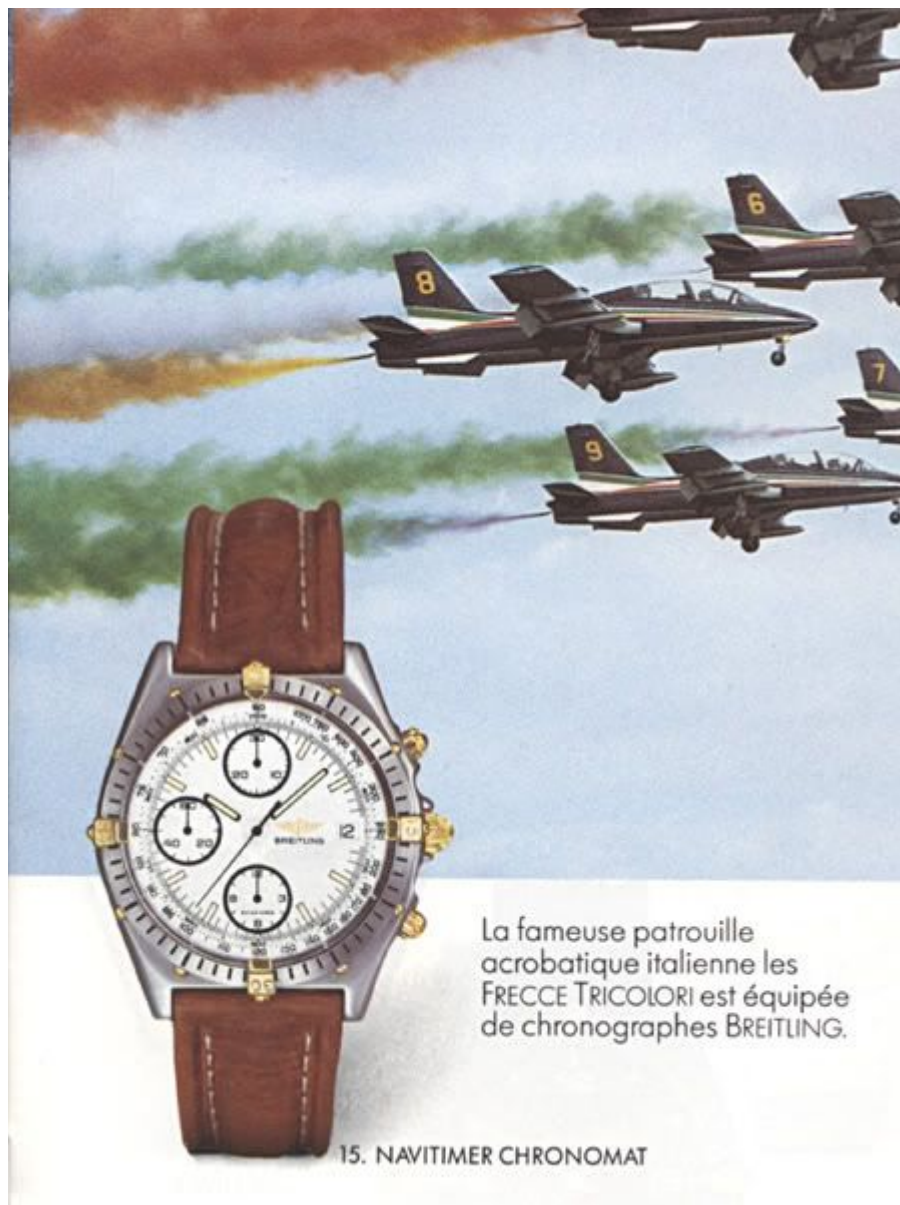
Case back of the Moon Phase (shown here) is identical  
to that of the standard Chronomat

### **1986**

Within two years of the introduction of the modern Chronomat, the variations of the dial and case materials are beginning to multiply. (Eventually, in the 1990s, the number of options will mean that there are well over a thousand different Chronomats available!).

1986 was the last year the Chronomat was a member of the Navitimer family and so the last year the watch could be called the "Navitimer Chronomat".





The Navitimer Chronomat in the 1986 Breitling catalogue

The available dial colours for 1986 are: black, white/gold borders on subs, black with gold subs, white with gold subs. The case is available in "bi-colour" or plain steel. Padded/stitched leather strap or roulleaux bracelet.



Navitimer Chronomat ref 81950, bi-colour



The bi-colour has gold plated and gold filled details.

### **1989**

Throughout the 1980s Breitling have taken a strong interest in manufacturing watches for yachtsmen but since the new Breitling company was formed in 1979 they have all been quartz. A complication is developed that enables the Valjoux 7750 movement to be modified to include a yachting timer which will allow Breitling to cater for the demand from yacht owners for a mechanical rather than quartz watch.

Like the previous Chronomat with the moon phase complication, the Chronomat Yachting retains the same model reference, 81950.

The Chronomat Yachting has a modified Valjoux 7750 movement with a special countdown timer in the place of the usual minutes counter at 12 o'clock. Breitling describe this as "a 10 minute countdown aperture and double indication of the final minute before the start of the race".





Chronomat Yachting ref 81950





The back of the Yachting is stamped with model ref 81950



Documentation supplied with the Yachting

The advertisement features a Breitling Chronomat Yachting watch with a white dial, three sub-dials, and a red leather strap. The watch is set against a blue background with a white cloud-like shape. The Breitling logo and "1884" are in the top right. The text "The Yachting Chronomat Limited Availability" is in the top right. The text "The Breitling watch remains unsurpassed, its 'perpetual motion' relies on human energy so it needs no battery. Breitling watchmakers remain past masters of the vanishing art of hand craftsmanship. Come in today and see our vast selection of fine watches." is in the bottom left. The text "aaron M jewelers" is in the bottom left. The text "526 7th Ave. (at 38th Street) New York, N.Y. 1-800-AARON-M-1 ■ 212-302-1457 ■ Mon-Fri 8:30-7 PM" is in the bottom right.

**BREITLING**  
1884

The  
Yachting  
Chronomat  
Limited  
Availability

The Breitling  
watch remains  
unsurpassed, its "perpetual motion" relies  
on human energy so it needs no battery.  
Breitling watchmakers remain past masters  
of the vanishing art of hand craftsmanship.  
Come in today and see our vast selection  
of fine watches.

**aaron  
M  
jewelers**

526 7th Ave. (at 38th Street) New York, N.Y.  
1-800-AARON-M-1 ■ 212-302-1457 ■ Mon-Fri 8:30-7 PM

An advertisement for the Yachting from circa 1989-1993 shows the white dial variant

The yachting version will continue to be made until the mid-1990's:

81950 1989 Chronomat Yachting

B13047, previous ref 81.950 also stamped on back 1990

A13047 ca 1991 Chronomat Yachting

A13048 1993/94 Chronomat Yachting

A13050 1995 Chronomat Yachting

### **Chronomat ref 13047 - 1990 to 1993**

In 1990/91 the model references of all Breitling watches are updated to a new system. The Chronomat changes from 81950 to 13047 with a prefix for the case metal. "A" stands for "acier", french for steel; B for "bi-colour" ie steel with gold details. The 18K version becomes the K13047.

Initially watches are produced with both the old and the new model references stamped into the case back.



Early ref 13047 Chronomat has both refs 81950 and B13047 on the case back





The case back of an early ref 13047 with both model references  
(the number below the wings and "BREITLING" is the serial number of the individual watch)

**Chronomat ref 13048 - ca. 1993 to 1994**

Revised hour and minute hands.

"B" on short end of sweep seconds hand.

"1884" on dial.





The Chronomat ref D13048 has an 18K bezel

**Chronomat ref 13050 - ca. 1994 to 1999**

"TACHYMETER" on dial flange.

18K yellow or white gold Breitling wings.

Arabics or batons hour markers.

Guilloche (textured) dial option available.

Wider date aperture with border.



Chronomat ref B13050, guilloché dial with baton hour markers and 18K yellow gold Breitling wings,



Chronomat ref A13050 with arabics hour markers and 18K white gold Breitling wings

A limited edition of 1994 watches is released to celebrate the 10th anniversary of the modern Chronomat. It has an 18K yellow gold Breitling wings logo on the dial although it does not have the other later dial updates. It has a special engraved back with a relief image of the Aermacchi MB-339A used by the Freccie Tricolori that appeared on the case back in 1984.





1994 Chronomat 10th Anniversary, ref A13050





Case back of the 1994 Chronomat 10th Anniversary

### 1995

A special edition of the ref 13050 is released to mark the 40th anniversary of the Freccie Tricolori, 1955-1995. However a search on the Italian Air Force's website reveals that the Freccie Tricolori was formed in 1961, so for the moment this "40th Anniversary" model remains a mystery!



1995 Chronomat ref 13050 Freccette Tricolori 40th Anniversary



Back of the Frecce Tricolori 40th Anniversary

A special edition of the ref 13050 with BREITLING FOR AMERICA on the yellow dial and "NOT FOR SALE" on the case back is given to chosen American dealers. It is believed these were handed out between ca. 1995 and 2000 but available information is sketchy.



Chronomat Breitling for America ref A13050





Breitling for America case back



Breitling for America case back

### **1996**

As the Chronomat continues to proliferate with over 1000 different possibilities (in combinations of case metals, dials, straps/bracelet etc) Breitling create a special version, the Blackbird, that is true to the original Navitimer Chronomat of 1984. This is a watch which is unashamedly a tool watch, a watch for pilots. It is named after the aeronautical designer Kelly Johnson's aircraft, the Blackbird SR-71.



The Blackbird SR-71 high-altitude reconnaissance aircraft - this particular one is involved in research for NASA. *Photo NASA.*

The Breitling Blackbird with its matt case has some similarities to the first modern Chronomats from 1984. Although named Blackbird on the dial it is a Chronomat with the usual Chronomat model reference. Later a blue-dialled limited edition version of 250 watches called the Bluebird is produced. Then after this, the Blackbird is available with either a black or a blue dial.



Chronomat Blackbird ref A13050





Blackbird ref A13050 case back



The brushed case of the Blackbird ref A13050 minimises unwanted reflection

Some differences from the standard Chronomat are:

Completely brushed matt finish includes all metal parts; case, crown, pushers, bracelet.

"SERIE SPECIALE" in red over the 12-hour sub-dial.

"BLACKBIRD" on the dial instead of "CHRONOMAT".

### **1997**

A limited series of 500 watches is released to celebrate the 50th anniversary of the founding of the US Air Force (USAF) in 1947. Before that date it was known as the US Army Air Force (USAAF).



1997 ref A13050, USAF 50th anniversary

During 1997 updated dials and hands as well as new names are announced for the standard versions of the Chronomat although the model reference remains 13050. The sweep seconds hand now has a luminised arrow-head tip and the hour and minute hands are straighter and more pointed. The numerals within the subdials are now italic.

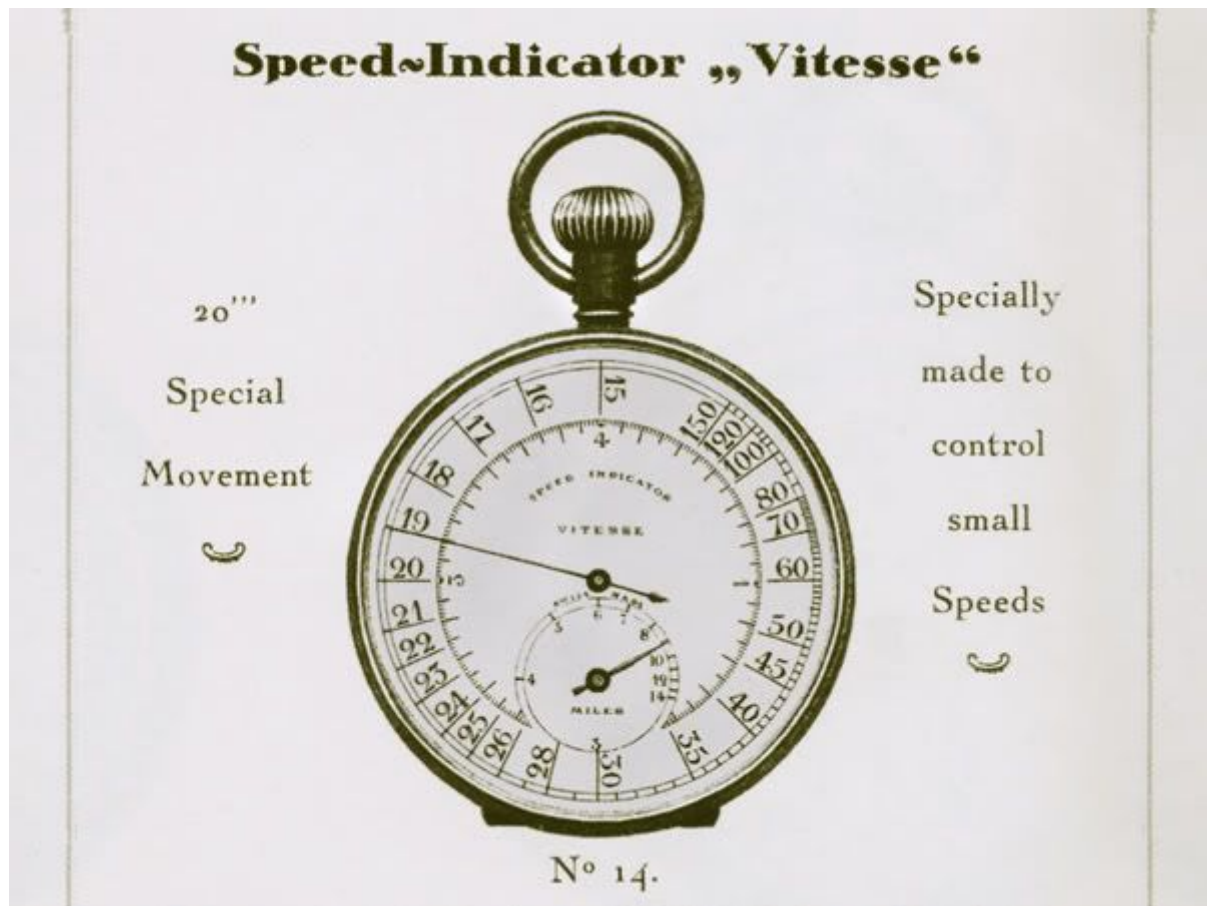
Depending on the hour markers, Chronomats now fit into either of two categories. The batons dial version is called the Chronomat GT (Grand Totaliser). It has raised frames around the subdials to help the eye focus on timings.



Close up of a Chronomat GT ref A13050

The arabics dial version is now called the Chronomat Vitesse. This is a name that was previously used for a specialist Breitling stopwatch designed in the early 20th century for timings associated with motor cars.





The English (miles) version of the Breitling "Vitesse" in the 1928 catalogue -  
there was also a Continental (kilometres) version

The Chronomat Vitesse has italic hour numerals to give a dynamic feeling of speed ("vitesse" is french for "speed").



Chronomat Vitesse ref B13050 has applied italic numeral hour markers with inset luminous compound



Vitesse ref B13050 case back with the plastic protector used to protect the case back from slight scratches in the showroom



Chronomat Vitesse 18K ref K13050





The Vitesse 18K case and back have small hallmarks as well as the 18K mark on the back

**Chronomat ref 13350 - ca. 1999 to 2000**

This is the same as the ref 13050 but is certified as a chronometer and comes with a numbered COSC certificate that provides the serial number stamped into the redesigned caseback.



Chronomat GT ref B13350



Case back and bracelet of Chronomat GT ref B13350

**Chronomat 2000 ref 13352 - ca. 2000 to 2004**

The word CHRONOMAT on the dial is replaced by CHRONOMETRE. The bezel is altered with wider incised 5-minute marks and a different font for the numbers on the rider tabs.

The previous GT and Vitesse names/versions have been dropped; Chronomats have baton hour markers in a new dial design with wide flat surrounds around the subdials.



Chronomat ref A13352

**2002**

Arabics dial version of the ref 13352 now available. It has thin edges around the subdials.





Chronomat ref A13352 with arabic numerals hour markers



A cross-section shows some of the complexity and precision of the ref A13352. Breitling is noted for the high quality of its engineering and manufacturing. *Photo Breitling S.A.*

#### **Blackbird ref 13353 - 2002 to 2004**

For the first time the Blackbird has a different model reference than the standard Chronomat; the new Blackbird for the model year 2003 is the ref A13353. And the Blackbird is no longer listed in the catalogue as the "Chronomat Blackbird" but as a separate model within the Windrider line (that includes the Chronomat and several other models). The Blackbird has begun to diversify from the Chronomat (a move that will in years to come see it complete the split from its parentage with a different movement from the Chronomat). For the moment, although essentially still the same watch, it has a slightly wider 39.8mm case with a different bezel from the standard Chronomat.

The Blackbird bezel is updated with rebates cut all the way across at each 5-minute mark. The Blackbird ref A13353 is available with either baton or arabic numeral hour markers.



Blackbird ref A13353 with arabics dial

### **Chronomat Evolution ref 13356 - 2004 onwards**

The Chronomat Evolution is shown at Basel in April, 2004 but is not generally available in the shops for several months. Its first catalogue appearance is in the 2005 Breitling Chronolog issued from October 2004.

The Evolution is bigger in diameter, thickness and weight than the previous models and is quite a departure from the original 1984 Chronomat. One previously iconic feature, the straight case sides has been dropped; the Evolution has conventional lugs.





2004 Chronomat Evolution, ref B13356

Like many updates to Breitling watches that have a loyal following, initially the new watch is unpopular with some Breitling owners but this is really a reflection of the esteem that is held for the existing model. Within a year or so the Evolution is much more accepted with most potential owners now enthusiastic about this latest version of the Chronomat. One thing that was never in doubt is the quality; it is a superbly designed and built watch with an extremely accurate, reliable and sturdy movement.

**Movement:**

Automatic, Breitling calibre 13 (based on Valjoux 7750)  
COSC-certified chronometer  
28,800 vph  
25 jewels  
Chronograph to 1/4 of a second

**Case:**

Steel, bi-colour; yellow or white 18K  
43.7mm diameter, 17.1mm thick, 22mm between lugs  
Screw-down crown and safety pushers  
Unidirectional rotating ratcheted bezel  
Cambered sapphire crystal with antiglare both sides  
Water resistant to 300 M (previously 100 M)

**Dial:**

Engine-turned



Baton hour markers with big numerals on subdials angled from centre; or arabic hour markers with small conventional subdials numerals.

Bracelet/strap options:

PILOT bracelet to match watch case metal(s)

Baronia or crocodile leather strap

DIVER PRO rubber strap

There is also a Chronomat Evolution Freccie Tricolori Limited Edition of 1000 watches.



Chronomat Evolution Freccie Tricolori ref A13356. *Photo Breitling S.A.*



Frecce Tricolori ref A13356 case back. *Photo Breitling S.A.*

## 2006

The Chronomat continues to be called the "Chronomat Evolution". As well as the existing batons and Arabics dials, there is a new Romans dial version no doubt in response customers who regretted the loss of the previous Crosswind model when the Evolution was first introduced.

The new Blackbird from late 2006 has a different movement, the B44, and consequently a different dial layout than the Chronomat. The Blackbird can probably no longer be considered a version of the Chronomat although the case looks the same as the Evolution and has the same width of 43.7mm.

## Breitling B01 - 2009 onwards

The first watch to be announced with the new in-house Breitling B01 movement is the Chronomat. This model is called the "Chronomat B01" and has a number of stylistic differences from the the Evolution but is very recognisably a Chronomat - in fact an evolution of the Evolution.



2009 Breitling B01. *Photo Breitling S.A.*



The in-house Breitling B01 chronograph movement is automatic and has 47 jewels. *Photo Breitling S.A.*