



BASIC OPERATION

WATER RESISTANCE

To prevent accidental moisture or water seeping in:

- Try to keep it away from water whenever possible
- Do not wear your watch when you go swimming or even when taking a shower.

MANUAL WINDING

- Wind it for 15 – 20 times clockwise as mentioned.
- NOTE: When you receive your piece, handwind the piece for about 50 rounds, so to generate enough power reserve.

AUTOMATIC WINDING

Automatic watches run on stored energy. It gains energy from human hand kinetic movement. When you do not wear it and it runs out of stored energy, it will stop. To make it tick again, you have to wind it for 10 - 12 rounds by turning the crown clockwise.

PULL-OUT CROWN POSITIONS

- There are two steps when you pull the crown out.
 - (1) The first step is for setting the date
 - (2) The second step is for setting the time
- When you need to pull the crown out softly by using your thumb's nail and first finger's nail. Please do this softly to avoid breaking the stem. You should feel a "click" here.

SETTING THE DATE

DO NOT ADJUST the date when the displayed time is between 10:00pm to 3:00am. It will damage the internal gears unknowingly if you do that (as the date changes automatically in this time frame - if you manually adjust between 10pm-3am, the date will jam or go half way.)

The BEST WAY is to manually adjust the time to 6:00 and then adjust the DATE after that.

- You can only set Date forward by turning the crown in one direction. When you are done with setting date, pull the crown out again to change the time if necessary.
- When done, push back the crown.

SETTING THE TIME

You need to softly and slowly pull the crown out a little bit. The best way to do this is to

- use first and second finger and use finger knuckle as a lever in order to pull the crown out with as little force as possible. You can feel a little "click"!
- Now you can set the time by turning it anti-clockwise. This would turn the minute-hour hands forward until you set the right time.

Adjust the hour hand manually to determine when is am/pm. See the date change - then you will know when is am/ pm. Make sure you know when is am/ pm before you proceed. After you have confirmed the am/ pm....you can adjust the crown to get to the desired date you want.

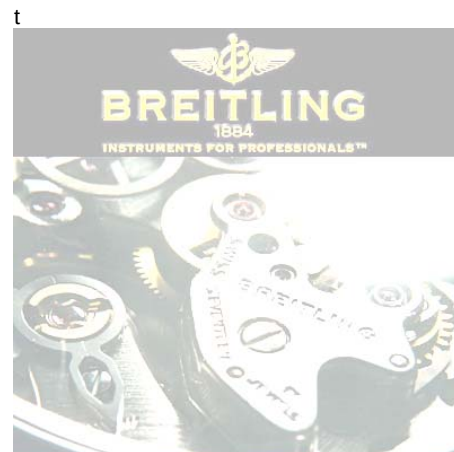
When time is set, push the button back

STOPWATCH FUNCTION

To START OR STOP the stopwatch, depress the TOP pusher button

To RESET the stopwatch function, u depress the LOWER pusher button

DO NOT DEPRESS the lower pusher button when the stopwatch function is running. ONLY Depress the lower pusher button after you STOP the chronograph.





MEASUREMENTS

MULTIPLICATION



To multiply with the Navitimer use the unit index (number «10» in red on the inner scale). Always set the multiplier (the number by which another is multiplied) opposite the unit index on the inner scale and read the answer on the outer scale opposite the multiplicand (number to be multiplied by another) appearing on the inner scale.

Example 1

To multiply 7×12 , set 12 (the multiplier) on outer scale opposite unit index («10») on the inner scale. Opposite 7 (the multiplicand) on the inner scale, read the answer 84 on the mobile dial.

DIVISION



To divide with the Navitimer also use the unit index (red 10). Place the dividend (the quantity to be divided by another number) on the outer scale opposite the divisor (quantity by which another is divided) on the inner scale. Opposite the unit index (numeral «10» on inner scale), read answer on outer scale.

Example 2

Divide 120 by 4. Place 120 on outer scale opposite 4 on the inner scale. Read answer, 30, on outer scale opposite unit index (numeral «10» on inner scale).

GROUND SPEED



The mobile outer and fixed inner scales are used for determination of ground speed problems. Two of the following quantities are available for its solution: time, distance, ground speed.

Example 3

Known: Distance and Time.

Required: Ground speed.

A pilot finds by the use of check point that he has travelled 104 miles in 35 minutes. What is the ground speed?

Solution: Move the mobile scale until 104 on the mobile scale is set opposite 35 on the fixed scale. Opposite the hour index (the arrow marked «MPH» directly over the hour 12) read 178 miles per hour on the mobile scale.

Example 4

Known: Distance and speed.

Required: Time.

A pilot wants to know how long it will take to go 486 miles at a ground speed of 156 miles per hour.

Solution: On the mobile scale set 156 opposite the hour index on the fixed scale. On the inner scale opposite 486 on the mobile scale read 187 minutes (or 3 hours and 7 minutes).

MPH PER MINUTE

This may be read after the speed in miles per hour has been obtained. The speed given in miles per hour on the mobile scale when set opposite the hour index on the fixed scale can be readily converted into miles per minute by reading the number on the mobile scale appearing opposite the figure «10» on the fixed scale. The figure «10» is often referred to as the unit index.

Example 5

In Example 4, the ground speed was 156 miles per hour. With the 156 on the mobile scale set opposite the hour index, what is the speed in miles per minute?

Solution: With 156 miles on the mobile scale set opposite the hour index read the speed in miles per minute, or the figure on the mobile scale which appears above the figure «10» on the fixed scale which is 2.6 miles per minute.

There are times when a pilot may want to know the time required to travel a short distance, such as the distance from the cone of silence to the edge of an airport, or between the inner marker and range station. Since the distance is short, the time required may be less than a minute, in which case the time has more significance when expressed in seconds. In such cases the «second» index is used. This is the figure «36» on the inner scale (there are 3600 seconds in an hour).

GAS CONSUMPTION



Two of the following quantities are available for gasoline consumption problems: Total gallons used, time, rate of consumption.

Example 6

Known: Time and rate of consumption. **Required:** Total gallons used. A pilot wishes to know how many gallons are necessary to fly $3\frac{1}{2}$ hours at an average rate of consumption of $11\frac{1}{2}$ gallons per hour. **Solution:** Opposite the «hour index» set 11.5 on the mobile scale. Then, opposite 210 minutes on inner scale on the mobile scale read 41 gallons.

RATE OF CLIMB AND DESCENT



Two of the following quantities are available for solution: total altitude of descent, time and rate of descent (or climb).

Example 7

Known: Rate of ascent and total elevation in ascent. **Required:** Time. A pilot climbs to 7400 feet above his starting point at the average rate of 500 feet per minute. How long will this require?

Solution: Set 500 on the mobile scale opposite the «unit index» («10» on the fixed scale). Opposite 7400 on the mobile scale, read answer, 14.8 minutes on the fixed scale.

DISTANCE OF CLIMB AND DESCENT



Two of the following quantities are available: Distance, time, speed. The method used in examples 4 and 5 should be used.

Example 8

The pilot in example 7 wishes to know how far he will have travelled when his climb is finished. His average true air speed is 120 miles per hour and he is aided by a tail wind of 20 miles per hour.

Solution: Set 140 miles per hour (120 + 20) on mobile scale opposite «hour index» on fixed scale. Opposite 14.8 minutes (computed from example 7) on fixed scale read 34.5 miles on mobile scale.

NAUTICAL AND STATUTE MILE CONVERSION



On the fixed scale both nautical (Naut) and statute (Stat) miles are shown, also kilometers (KM) (red mark just to the right of MPH). The conversion from statute to nautical or nautical to statute miles is read directly on the mobile scale.

Example 9

Known: 60 statute miles.

Required: Nautical miles.

Solution: Set 60 on mobile scale opposite «Stat» on fixed scale. Opposite «Naut» on fixed scale, read 52 nautical miles on mobile scale.

Example 10

Known: 60 statute miles.

Required: Kilometers.

Solution: Set 60 on mobile scale opposite «Stat». Opposite the «KM» mark (— the red mark, just to the right of «MPH» on the fixed scale), read 96.5 kilometers on mobile scale.

NOTE: TACHYMETER

In conjunction with the second hand, it gives the speed of a moving object. A tachymeter takes a value determined in less than a minute and converts it into miles per hour.

For example, a wearer could measure the time it takes a car to pass between mile markers on the highway. When the car passes the second marker, the second hand will be pointing to the cars speed in miles per hour on the tachymetric scale.