

Movement Cal. 31 MM

Burton

AVIATOR

STURMANSKIE

Product Manual
International Warranty

Product Manual

Movement Cal. 3105, 3133, 31679, 31681, 31682

You are now the owner of a Poljot Mechanical Watch

Cal.3105, or Cal.3133, or Cal.31679, or Cal.31681, or Cal.31682.

For best results, please read the instructions in this booklet carefully before using your Poljot Mechanical Watch.

Please keep this manual handy for ready reference.

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FEATURES

TIME

Cal. 3105/3133/31679

- Hour, minute and sub-second hands;

Cal. 31681

- Hour, minute, 24-hour sub second and sub second hands;

Cal. 31682

- Hour, minute, 24-hour sub second and sub second hands;
- Indicator “Day-night” – the stylized image of the Sun and the Starlit Sky in the dial window.

CALENDAR

Cal. 3105, 3133, 31681, 31682

- Date in the dial window

Cal. 31679

- Date in the dial window
- Age of the moon: sub hand and a special scale (optional) and moon phase – the stylized image of the Moon and Starlit Sky in the dial window.

STOPWATCH

Cal. 3133, 31679, 31681, 31682

- The stopwatch can measure up to 30 minutes in 1/3 seconds;
- Central 1/3 second hand, sub minute hand (minute counter);
- Tachymeter function (for models with tachymeter scale on the dial);
- Telemeter function (for models with telemeter scale on the dial).

DISPLAY AND CROWN/PUSHERS OPERATIONS

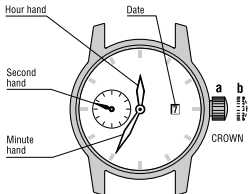
Cal. 3105

Notes: Crown has 2 positions:

- a – mainspring winding;
- b – time/date setting.

Pusher **A** – start and stop of the stopwatch;

Pusher **B** – reset of the stopwatch.

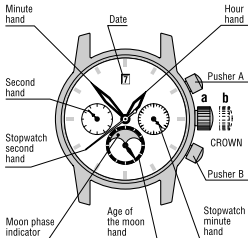


DISPLAY AND CROWN/PUSHERS OPERATIONS

Cal. 3133

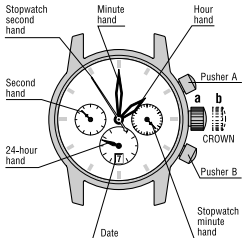


Cal. 31679

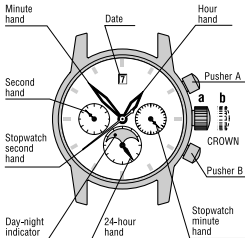


DISPLAY AND CROWN/PUSHERS OPERATIONS

Cal. 31681



Cal. 31682

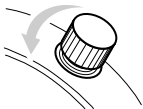


HOW TO OPERATE THE SCREW IN LOCK TYPE CROWN

(for models with screw in lock type crown)

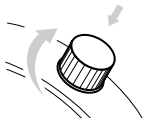
To unscrew the crown:

1. Turn it counterclockwise until tight.
2. Then you can wind the mainspring or pull crown out for time/calendar setting (Pos. "b")



To screw in the crown:

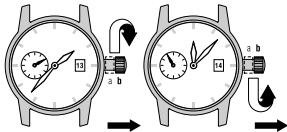
1. Return the crown in Pos. "a".
2. Turn crown clockwise while pressing it lightly until tight.



WATCH WINDING

- Turning the crown clockwise in the Pos. “a” wind up to the stop the mainspring of the watch.
- It can be allowed to wind the watch turning the crown counterclockwise and clockwise alternatively.
- Do not wind your watch with all your might, it can result in a breakage of the winding device or the mainspring.

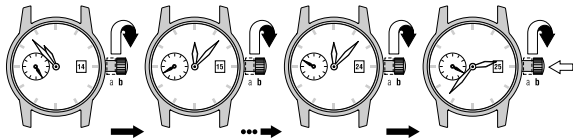
1. Pull the crown in Pos. “b”, turning it clockwise, turn hands until the next date appears. (The change of the date happens at midnight ± 15 min)



TIME/CALENDAR SETTING

2. Turn hands clockwise and counter-clockwise alternatively in the range 12h–11h-12h by the crown until the previous day's date appears.

3. Turning the crown clockwise, turn hands until the desired date appears. Continuing turning the crown set the hands to the desired time.



TIME/CALENDAR SETTING

Notes:

- When setting the hour hand (Cal. 3105, Cal. 3133), check that **AM/PM** is correctly set. The watch is so designed that the date changes once in 24 hours. Turn the hands past the 12 o'clock marker to determine whether the watch is set for the **A.M.** or **P.M.** period. If the date changes, the time is set for the **A.M.** period. If the date does not change, the time is set for the **P.M.** period.
 - When setting the hour hand (Cal. 31681, Cal. 31682), check by the position of 24-hour hand that **AM/PM** is correctly set. The watch is so designed that the date changes once in 24 hours.
4. Return the crown in Pos. "a".

Cal. 31679

1. Pull the crown in Pos. “**b**”, turning it clockwise, turn hands until the desired age and (or) phase of the moon installs.

Note:

Check the newspapers or other source for the age or phase of the moon for today or tomorrow. Select one day before setting is made, if the listing tomorrow are used.

2. Turn hands clockwise and counterclockwise alternatively in the range 12h–11h–12h by the crown until the previous day’s date appears.

3. Turning the crown clockwise, turn hands until the desired date appears. Continuing turning crown set the hands to the desired time.

Note:

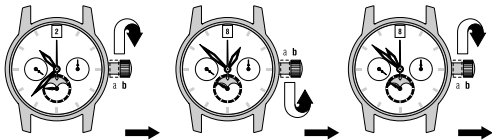
When setting the hour hand check that **AM/PM** is correctly set. The

TIME/CALENDAR SETTING

watch is so designed that the date changes once in 24 hours. Turn the hands past the 12 o'clock marker to determine whether the watch is set for the **A.M.** or **P.M.** period. If the date

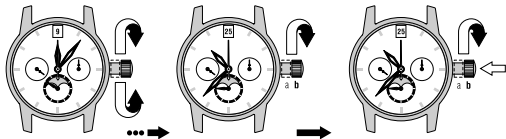
changes, the time is set for the **A.M.** period. If the date does not change, the time is set for the **P.M.** period.

4. Return the crown in Pos. "a".



ATTENTION!

- It is necessary to correct the date manually at the end of February and all short (30 days) months.
- If it is necessary to correct date in Cal. 31679, fulfill fast correction only as at 2 item. Otherwise, the age or phase of the moon can change too.



MOVEMENT Cal. 3105/79, 31679 SETTING OF MOON PHASE

To set the Moon Phase you need to put the winding crown at extreme right position and turning the crown clockwise to set the current phase of Lunar calendar corresponding to the current date of the Sun calendar (see encl.)

After setting of Moon Phase it is necessary to correct the date in the calendar window because change date change occurs automatically when passing over the midnight.

It can be done by turning hands clockwise and counterclockwise in the range 1h-10h-1h (see "Time/Calendar setting").



new moon



first quarter



full moon



last quarter

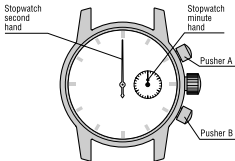
2005

	d	h	m		d	h	m		d	h	m		d	h	m
Jan.	10	12	03	Jan.	17	06	58	Jan.	25	10	33	Jan.	03	17	46
Feb.	08	22	29	Feb.	16	00	17	Feb.	24	04	54	Feb.	02	07	27
Mar.	10	09	11	Mar.	17	19	20	Mar.	25	20	59	Mar.	03	17	37
Apr.	08	20	33	Apr.	16	14	38	Apr.	24	10	07	Apr.	02	00	51
May	08	08	46	May	16	08	57	May	23	20	19	May	01	06	25
June	08	21	56	June	15	01	23	June	22	04	14	May	30	11	48
July	06	12	03	July	14	15	20	July	21	11	01	June	28	18	24
Aug.	05	03	05	Aug.	13	02	39	Aug.	19	17	53	July	28	03	20
Sep.	03	18	46	Sep.	11	11	37	Sep.	18	02	01	Aug.	26	15	19
Okt.	03	10	28	Okt.	10	19	01	Okt.	17	12	14	Sep.	25	06	41
Nov.	02	01	25	Nov.	09	01	58	Nov.	16	00	58	Okt.	25	01	17
Dec.	01	15	01	Dec.	08	09	37	Dec.	15	16	16	Nov.	23	22	12
Dec.	31	03	12									Dec.	23	19	37

2006

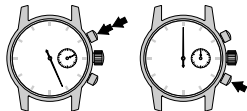
	d	h	m		d	h	m		d	h	m		d	h	m
Jan.	29	14	15	Jan.	06	18	57	Jan.	14	09	49	Jan.	22	15	14
Feb.	28	00	31	Feb.	05	06	29	Feb.	13	04	45	Feb.	21	07	17
Mar.	29	10	16	Mar.	16	20	16	Mar.	14	23	36	Mar.	22	19	11
Apr.	27	19	44	Apr.	05	12	01	Apr.	13	16	41	Apr.	21	03	29
May	27	05	26	May	05	05	14	May	13	06	52	May	20	09	21
June	25	16	06	June	03	23	06	June	11	16	04	June	18	14	09
July	25	04	32	July	03	16	37	July	11	03	02	July	17	19	13
Aug.	23	19	10	Aug.	02	08	46	Aug.	09	10	54	Aug.	16	01	51
Sep.	22	11	46	Aug.	31	22	57	Sep.	07	18	43	Sep.	14	11	16
Okt.	22	05	15	Sep.	30	11	04	Okt.	07	03	13	Okt.	14	00	26
Nov.	20	22	19	Okt.	29	21	26	Nov.	05	12	59	Nov.	12	17	46
Dec.	20	14	01	Nov.	28	06	30	Dec.	05	00	25	Dec.	12	14	32
				Dec.	27	14	48								

STOPWATCH



- The stopwatch can measure up to 30 minutes in 1/3 seconds;
- The stopwatch has sweep second hand, its minute hand moves at one-minute intervals.

- After 30 minutes, it will start counting again from "0".
- To start and to stop – press the pusher "A".
- To reset – press the pusher "B".



HOW TO USE THE TACHYMETER

Standard measurement

A > **A** > **B**
Start Stop Reset

Accumulated elapsed time measurement

A > **A** > **A** > > **A** > **B**
Start Stop Restart Stop Reset

(for the models with
a tachymeter scale on the dial)

Use the tachymeter with the stop-
watch.

Stopwatch operation (Standard measurement)

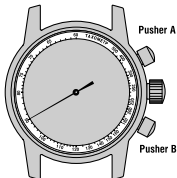
To start: Press "A"
To stop: Press "A"
To reset: Press "B"

The tachymeter can be used for the
following purposes.

HOW TO USE THE TACHYMETER

To measure the hourly average speed of a vehicle

- Use the stopwatch to determine how many seconds it takes to go one kilo-



meter (or one mile). The tachymeter scale indicated by the stopwatch second hand gives the average speed per hour.

- Please note that the tachymeter scale can be used only when the time required is less than 60 second. If it exceeds 60 seconds, shorten the measuring distance (Refer to “Ex 2” below).

Ex. 1:

If it takes 40 seconds to go one kilometer (or one mile), the stopwatch

HOW TO USE THE TACHYMETER

second hand indicates “90” on the tachymeter scale. This means that the average speed of the vehicle is 90 kilometers (or miles) per hour.

90 (Tachymeter scale figure x 1
(Kilometer or mile) = 90 km/h (mph)
at 40 second position)

Ex. 2:

If the measuring distance is extended to 2 kilometers (or miles) or short-

ened to 0.5 kilometers (miles), multiply the figure on the tachymeter scale by 2 or 0.5, respectively. We recommend that you utilize the tachymeter in a rally, speedway or circuit race.

90 (Tachymeter scale figure x 2
(Kilometers or miles) = 180 km/h
(mph) at 40 second position)

90 (Tachymeter scale figure x 0.5
(Kilometers or miles) = 45 km/h
(mph) at 40 second position)

HOW TO USE THE TACHYMETER

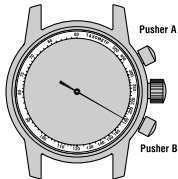
To measure the hourly rate of operation

The tachymeter is extremely useful in calculating factory operation efficiency or machine production amount.

Ex. 1:

Use the stopwatch to measure the time required to complete one job.

If it takes 20 second, the stopwatch second hand indicates "180" on the tachymeter scale. This means that 180 jobs will be completed in one hour.



180 (Tachymeter scale figure x 1 job =
180 jobs at 20 second position)

HOW TO USE TELEMETER

Ex. 2:

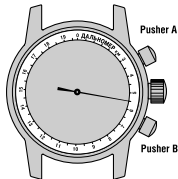
Use the stopwatch to determine how many jobs are completed in a specific period of time.

If 15 jobs are completed in 20 seconds, multiply "180", the figure on the tachymeter scale indicated by the stopwatch second hand, by 15. Thus, it is estimated that 2,700 jobs will be completed in one hour.

180 (Tachymeter scale figure x 15 jobs = 2,700 jobs per hour at 20 second position)

(for models with
telemeter scale on the dial)

1. Use the stopwatch to measure the time since the moment when you have seen the outburst of the forked



HOW TO USE TELEMETER

lightning or the shot, till the moment when you have heard the thunder or the sound of the shot.

2. The telemeter scale indicated by the stopwatch second hand gives the distance as far as the epicentre of the thunderstorm or the place of the shot.

Note: Please note that telemeter scale can be used when the time period is less than 60 seconds.

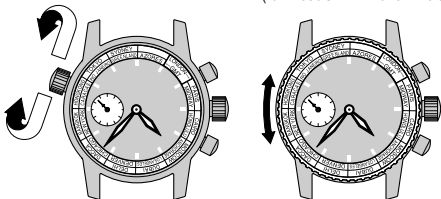
The revolving World time scale on the dial or on the rotating bezel enables you to find the time of 24 cities in different time zones throughout the world.

1. Turning the crown “C” or bezel clockwise or counterclockwise set the name of the city with the local time in front of the hour hand arrow.

2. Current hour in the desired city will indicate opposite its name or the name of the city, which is at the same time zone.

HOW TO USE THE WORLD TIME FUNCTION

(for models with World time scale)



Note: Cities of the 12 time zones easterly GMT are at the external scale. Cities of the 12 time zones westerly GMT are at the internal scale. The time of day of cities at the external scale is in opposition the time of day of cities at the internal scale.

HOW TO USE THE WORLD TIME FUNCTION

Ex.:

1. You are in Moscow. The local time of Moscow is 4 : 37 P. M. Set the name of the city – Moscow in front of the arrow of the hour hand. Current hour in the desired city is read opposite its name or the name of the city, which is at the same time zone.

- PARIS is at the same scale as MOSCOW – PARIS time is 2 : 37 P. M.;
- TOKYO is at the same scale as MOSCOW – TOKYO time is 10 : 37 P. M.;
- NEW YORK is at the internal scale – NEW YORK time is 8 : 37 A. M.;
- HONOLULU is at the internal scale – HONOLULU time is 3 : 37 A. M.

TIME DIFFERENCES

(GMT) = Greenwich Mean Time

GMT

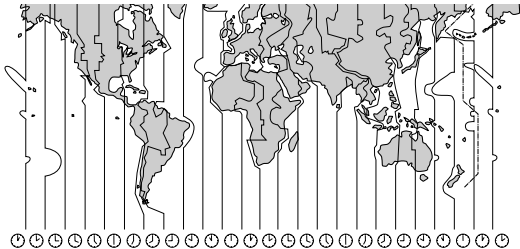
K	Name of the main cities		
hours	of the time zone		
0	London*, Casablanca, Dakar		
+1	Paris*, Рим Rome*, Amsterdam*, Frankfurt*, Berlin*		
+2	Cairo*, Athens*, Istanbul*, Kiev*, Cape Town, Tripoli		
+3	Moscow*, Mecca, Nairobi		
		+4	Volgograd*, Dubai
		+5	Ekaterinburg*, Tashkent*, Karachi
		+6	Novosibirsk*, Dacca
		+7	Irkutsk*, Bangkok, Phnom Penh, Jakarta
		+8	Hong Kong, Manila, Beijing*, Singapore
		+9	Iakutsk*, Tokyo, Seoul
		+10	Khabarovsk*, Sydney*, Guam

TIME DIFFERENCES

+11	Magadan*, New Caledonia, Solomon Islands	-7	Denver*, Edmonton*
+12	Petropavlovsk Kamchatskiy*, Wellington, Fiji Islands	-6	Chicago*, Mexico City
-11	Midway Islands	-5	New York*, Washington, Montreal*
-10	Honolulu	-4	Caracas, Santiago*
-9	Anchorage*	-3	Rio de Janeiro*, Buenos Aires*
-8	Los Angeles*, San Francisco*, Vancouver*	-2	
		-1	Azores Islands*

The asterisk ("*") indicates a city which uses daylight saving time (summer time).

TIME DIFFERENCES



HOW TO USE THE “SOUNDLESS” TIMER FUNCTION

(for models with the rotating timer scale on the dial or on the bezel)

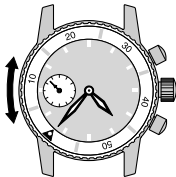
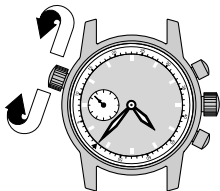
1. Turn the rotating scale by the crown “C” or rotating bezel manually clockwise or counterclockwise to align its “▼” mark with the minute hand.

Note: For some models, the rotating bezel rotates only counterclockwise.

2. When the minute hand points to the number of the desired interval fulfill the necessary operation.

* The rotating scale or bezel can show up to 60 minutes of elapsed time.

HOW TO USE THE “SOUNDLESS” TIMER FUNCTION



Ex. :

You were given 15 minutes for your speech. Beginning it at 4 : 37 P. M. you align “▼” mark with the minute

hand and you must finish your speech when the minute hand points to “15” at the timer scale.

SPECIFICATIONS

1. Manual winding
2. Frequency21600 vph (3Hz)
3. Daily rate - 20 to + 40 s/day
4. Power reserve minimum
 - Cal. 310542 h
 - Cal. 3133, 31679, 31681, 31682
 - chronograph is not running.42 h
 - chronograph is running37 h
5. Display system
 - a) *Time*
 - Cal. 3105, 3133, 316793 hands
(hour, minute and sub-second)

- Cal. 31681 4 hands
(hour, minute sub-second and 24-hour sub hand)
- Cal. 31682 4 hands
(hour, minute, sub-second and 24-hour sub hand)
Day-night indicator in the dial window
- b) Calendar*
- Cal. 3105, 3133, 31681, 31682 Date calendar in the dial window
- Cal. 31679 Date calendar in the dial window
- Age of the moon Moon phase in the dial window,
optional special scale and sub-hand
- c) Stopwatch (except Cal. 3105) 2 hands
(1/3 second and sub-minute hand)*

SPECIFICATIONS

- 6.** Type of the stopwatchsumming up action
- 7.** Counter30 minutes
- 8.** Shock protection
- 9.** Jewels number
 - Cal. 310517
 - Cal. 313323
 - Cal. 31679, 31681, 31 68225
- 10.** Calendar typenot instantaneous
- 11.** Calendar correctionfast date correction
by the turning the crown
in the time setting position (12h-11h-12h)

TO PRESERVE THE QUALITY OF YOUR WATCH

WATER RESISTANCE

Non- water resistance

If “WATER RESISTANT” is not inscribed on the case back, your watch is not water resistant, and care should be taken not to get wet as water may damage the movement. If the watch become wet, we suggest that you have it checked by the AUTHORIZED POLJOT DEALER or SERVICE CENTER.

Water resistance (3 bar)

If “WATER RESISTANT” is inscribed on the case back, your watch is designed and manufactured to withstand up to 3 bar, such as accidental contact with splashes of water or rain, but it is not designed for swimming or diving.

Water resistance (5 bar)

If “WATER RESISTANT 5 bar” is inscribed on the case back, your watch is designed and manufactured

TO PRESERVE THE QUALITY OF YOUR WATCH

to withstand up to 5 bar and is suitable for swimming, yachting and taking a shower.

Water resistance (10 bar/15 bar)

If “WATER RESISTANT 10 bar” or “WATER RESISTANT 15 bar” is inscribed on the case back, your watch is designed and manufactured to withstand up to 10/15 bar and is suitable for taking the bath and shallow water diving, but not for deep water diving. We recommend that you wear a special Diver’s watch for deep water diving.

- Before using the water resistance 5, 10, or 15 bar watch in water, be sure the crown is pushed in completely.
- Do not operate the crowns and pushers when the watch is wet or in water.
- If used in sea water, rinse the watch in fresh water and dry it completely.
- When taking the shower with the water resistance 5 bar watch, or taking the bath with the water resistance

TO PRESERVE THE QUALITY OF YOUR WATCH

10 or 15 bar watch, be sure to observe the following:

- Do not operate the crowns or push the pushers when the watch is wet with soapy water or shampoo.
- If the watch is left in warm water, a slight time loss or gain may be caused. This condition, however, will be corrected when the watch returns to normal temperature.

Note:

Pressure in bar is a test pressure and should not be considered as corre-

sponding to actual diving depth since swimming movement tends to increase the pressure at a given depth. Care should also be taken on diving into water.

MAGNETISM

Your watch will be adversely affected by strong magnetism. Keep away from close contact with magnetic objects.

SHOCK & VIBRATION

Light activities will not affect your

TO PRESERVE THE QUALITY OF YOUR WATCH

watch, but be careful not to drop your watch or hit it against hard surface, as this may cause damage.

CHAMICALS

Be careful not to expose the watch to solvents (e.g., alcohol and gasoline), mercury(i.e. from the broken thermometer), cosmetic spray, detergents, adhesives or paints. Otherwise, the case, bracelet etc. may become discolored, deteriorated or damaged.

CARE OF CASE AND BRACELET

To prevent possible rusting of the case and bracelet caused by dust, moisture and perspiration, wipe them periodically with the soft dry cloth.

PRECAUTION RECARDING CASE BACK PROTECTIVE FILM

If your watch has a protective and/or a sticker on the case back, be sure to peel them off before using your watch. Otherwise, perspiration getting in under them may rust the case back.

PERIODIC CHECK

It is recommended that the watch be checked once every 2 to 3 years. Have your watch checked by an AUTHORIZED POLJOT DEALER or SERVICE CENTER to ensure that the case, crowns, buttons, gaskets and crystal sealing remain intact.

Guarantee period is 1 year from the date of purchase.

Guarantee period can be increased for concrete model. The mark of real Guarantee period is done in Guarantee Card.

Within Guarantee period regulation, adjustment, repair or replacement of parts or movement will be performed without charge except the case of damage caused by accidents or lack of care.

GUARANTEE

IMPORTANT

- 1.** This GUARANTEE does not cover the glass crystal, bracelet, strap and attachment.
- 2.** This GUARANTEE does not cover scratches on the case caused by using.
- 3.** This GUARANTEE is valid only if properly filled in and dated by the authorized and appointed POLJOT dealer from whom watch was purchased.
- 4.** We bear no responsibility under this GUARANTEE for repairs if the watch is tampered with or damaged by other than POLJOT AUTHORIZED SERVICE facilities.
- 5.** Altered or tampered GUARANTEE CARD or PHOTOCOPIES of the GUARANTEE CARD are not valid and not acceptable.
- 6.** We bear no responsibility for any trouble with or damage to watches due to natural disaster, such as fire, flood or earthquake.



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Fax: (095) 911-6874.
E-mail: Volmax@sovintel.ru
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