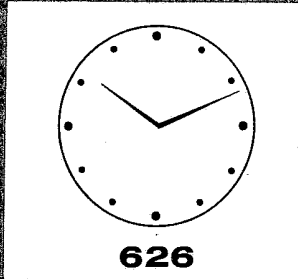
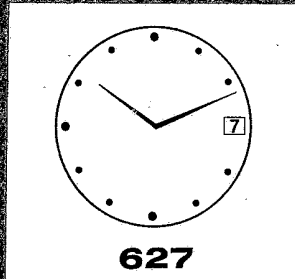


SERVICE AND REPAIR DATA

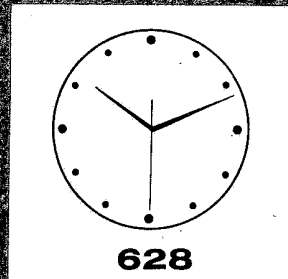
HAMILTON AUTOMATIC GRADES...



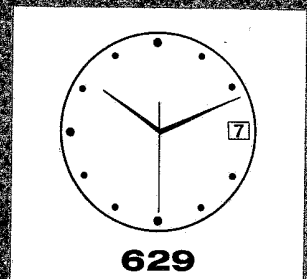
626



627



628



629

A rotor made of heavy antimagnetic alloy is recessed in the pillar plate, as are the gears of the self-winding train, making grade 626 one of the thinnest and most efficient automatic movements ever manufactured. Grades 627, 628 and 629 offer sweep second and calendar variations, as shown above, with the least possible increase in total thickness.

FEATURES:

19,800 Beat • Incabloc Shock Protection • Cam Controlled Movable Stud Holder • Cam Controlled Regulator • Screwless Type Three-Arm Balance • Unbreakable Mainspring.

SPECIAL FEATURE OF SELF-WINDING TRAIN:

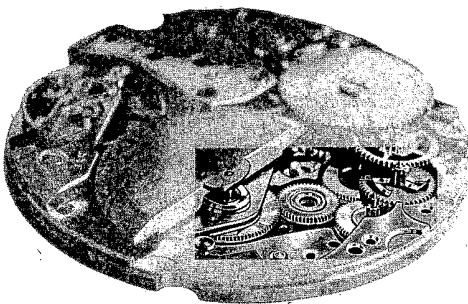


Figure 1

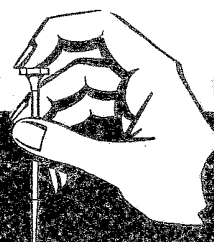
The oscillating weight gear, wig-wag pinion, winding-up wheel and reduction gear each is made with a disc on the underside of the same size as the pitch diameter. The depth of engagement is determined very accurately by the discs, creating a roller-bearing action virtually free of friction and wear. The wig-wag pinion, operating between large flat jewels, is constantly engaged with the oscillating weight gear. Assisted by the action of the stop click, it automatically shifts to engage either the winding-up wheel or reduction gear, rectifying the direction of winding force with a minimum of lost motion, each time there is a directional change in the travel of the rotor. Note: The reduction gear and winding-up wheel are identical, and may be interchanged.

HAMILTON WATCH COMPANY

LANCASTER, PENNSYLVANIA 17604

SERVICE

BULLETIN



GENERAL SERVICING INFORMATION, ALL FOUR GRADES

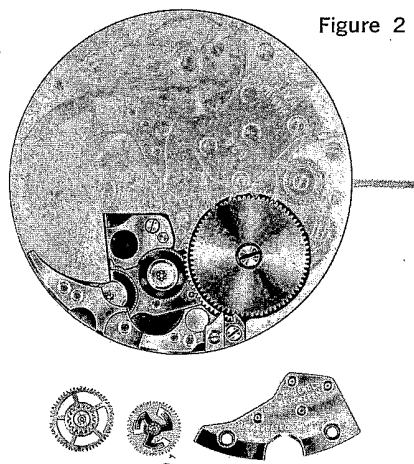
REMOVING THE DIAL.

Remove all hands, in the usual manner, to assure correct engagement of the cannon pinion upon re-assembly. **Note**—A dial washer is required between the hour wheel and dial because of the free fitting cannon pinion.

CHECKING THE SELF-WINDING MECHANISM.

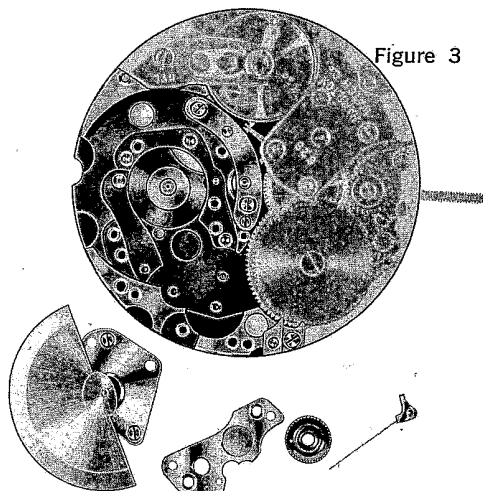
While moving the oscillating weight, make sure energy is being transmitted to the ratchet wheel. Test in both directions. If there is any irregularity, examine first the coupling wheel and then the operation of the wig-wag pinion and action of the stop click.

TO RELEASE RESERVE POWER OF MAINSPRING.



Remove bridge, shown in Figure 2, and lift out the driving gear for ratchet wheel and the coupling wheel. Disengage the click from the ratchet wheel in the usual manner and allow the winding crown to turn SLOWLY backwards. **Note**—The coupling wheel is an assembly which serves as a clutch to separate manual from automatic winding. Attached to the free-turning pinion is a spring which has three flexible arms, bent down to engage three matching holes in the wheel. The pinion turns in the wheel during manual winding, but is driven by the wheel during automatic winding. The ratchet-like action of the three-arm spring can be felt during manual winding. It also produces a particularly characteristic sound.

TAKING DOWN THE SELF-WINDING MECHANISM.

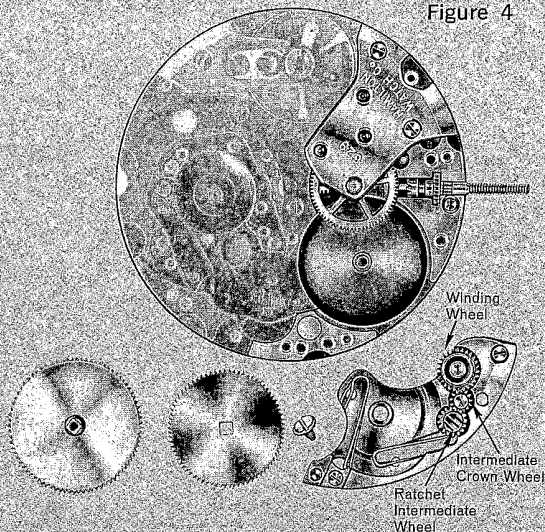


After removing the two screws of the oscillating weight bridge, lift out the bridge with the complete oscillating weight assembly. The rotor is permanently affixed to its axle. The complete assembly may be put into the machine for cleaning and, after careful drying, fresh oil should be applied to the bearing. No attempt should be made to separate the parts as replacement includes the complete assembly. With the oscillating weight assembly removed, the wig-wag pinion and stop click are readily accessible by taking off the jeweled bridge. Care should be exercised to prevent damage to the fine wire spring of the stop click. Its correct tension is very important. Also, be careful to replace the wig-wag pinion with the disc side down.

GENERAL SERVICING INFORMATION, ALL FOUR GRADES

THE BARREL ASSEMBLY.

Figure 4



Shown in Figure 4, the barrel assembly is easily removed. The mainspring is self lubricating and factory tested for sliding of the brake spring at the correct torque. In the event of difficulty, replacement of the complete barrel assembly is recommended.

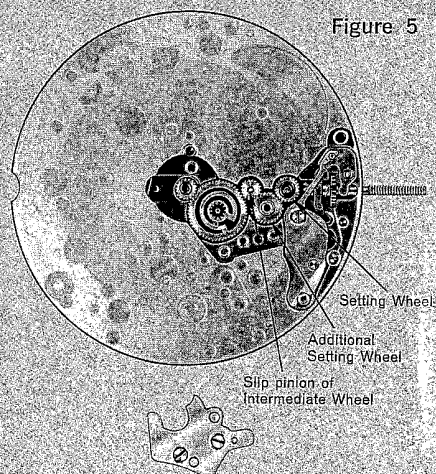
To avoid useless motion of the manual winding parts during self-winding, the winding wheel does not mesh directly with the ratchet wheel. Instead, it drives the intermediate crown wheel which in turn meshes with the ratchet intermediate wheel to drive the ratchet wheel during manual winding. The ratchet intermediate wheel pivots on an oval post which permits it to be moved out of engagement when the ratchet wheel is driven by the self-winding mechanism. A light spring pressing against the shoulder of the ratchet intermediate wheel returns it to the ratchet wheel.

BALANCE ASSEMBLY AND PALLET.

The balance and pallet can be dismantled easily at any time without disturbing other parts of the watch. The screws of the pallet bridge and minute work cock are identical and colored blue for easy identification. **Important service note:** In the Incabloc units, the upper endstone is the thicker of the two.

TRAIN CHARACTERISTICS.

Figure 5



The intermediate wheel, usually referred to in conventional type watches as the center or second wheel, is located off-center in the movement. The lower pivot has its bearing in the minute work cock. The shaft of the wheel is fitted with a slip pinion to drive the dial train by meshing with the minute wheel. The slip pinion permits turning of the dial train when setting the hands to time.

The cannon pinion fits on the center pipe **without** friction and is held in place by a spring washer between the hour wheel and dial. Backlash is taken up by the special spring-type minute wheel which exerts slight tension on the dial train.

LUBRICATION.

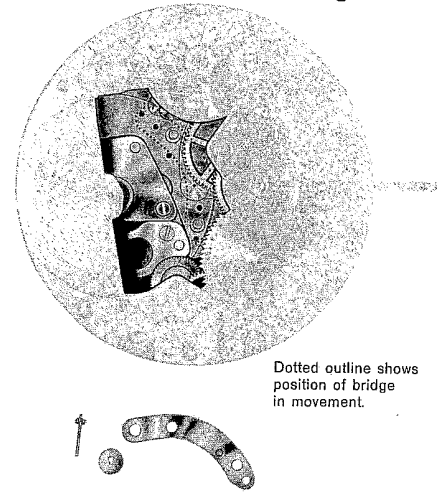
Moebius "Synt-a-Lube" is used for all train pivots and for the upper and lower pivots of the self-winding gearing train, including the wig-wag pinion and beak of the stop click. Do NOT lubricate the pivots of the stop click. Moebius "8200" is used to lubricate the winding wheel and the two idlers on the barrel bridge, and the sliding surfaces of the flexible arms of the coupling wheel. Moebius 941 is used on the pallet stones.

SWEEP SECOND FEATURE: GRADES 628 AND 629

Fig. 6 shows the additional parts for the feature. The underside of the rotor of Grades 628 and 629 is profiled to accommodate the jeweled bridge. The spring washer under the sweep-second pinion must exert only enough tension to avoid backlash. Caution: Extra care must be exercised when replacing the sweep second hand. Use support, if possible, to avoid damage to the sweep second pinion jewel and bridge.

LUBRICATION. Apply Synt-a-Lube to the sweep second pinion in center pipe and in the jewel. Also, a small drop should be applied at the edge of the hole in the spring washer.

Figure 6



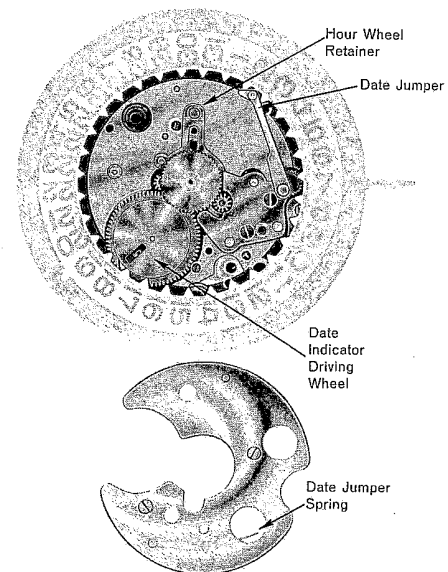
CALENDAR MECHANISM: GRADES 627 AND 629

With the dial removed, functioning of the date advancing mechanism easily can be observed if actuated by turning the crown as when setting the hands forward to midnight. At the instant of date change, it is necessary only to turn the crown in the opposite direction the approximate equivalent of forty five minutes before advancing again to make repeated observations.

The hour wheel is held in place by a retainer which fits in a groove between the two gears of the hour wheel. After loosening the date indicator guard screw which passes through the elongated hole in the retainer, the hour wheel can be released by sliding back the retainer. One other screw and two steady pins secure the date indicator guard.

The date jumper positively locates the date indicator by exerting slight pressure against the internally cut triangular teeth. It pivots on a post mounted on the minute work cock and is actuated by a spring which fits in a recess in the underside of the date indicator guard.

Figure 7



GENUINE PARTS FOR HAMILTON GRADES 626, 627, 628 AND 629

Parts and material orders should always be directed to authorized Hamilton materials wholesalers. A list of the wholesalers will be furnished, on request, by the Material Sales Department, Hamilton Watch Company, Lancaster, Pa. 17604. When referring to the table below, be sure a (✓) appears in the column under the correct grade number, opposite the part required, and use the appropriate number to order.

PART NO.	PART NAME	626	627	628	629	PART NO.	PART NAME	626	627	628	629
103752	Arbor, pallet.	✓	✓	✓	✓	342752	Regulator	✓	✓	✓	✓
113752	Balance complete	✓	✓	✓	✓	343750	Retainer, hour wheel	✓	✓	✓	✓
117750	Barrel complete with arbor and mainspring	✓	✓	✓	✓	350752	Roller, combination, with jewel	✓	✓	✓	✓
117751	Barrel complete with arbor and mainspring	✓	✓	✓	✓	359751	Screw, balance cock	✓	✓	✓	✓
126752	Bridge, automatic device, lower, jeweled	✓	✓	✓	✓	359751	Screw, bridge	✓	✓	✓	✓
126753	Bridge, automatic device, upper	✓	✓	✓	✓	371752	Screw, automatic device bridge, lower	✓	✓	✓	✓
135750	Bushing, barrel arbor, upper	✓	✓	✓	✓	371753	Screw, automatic device bridge, upper	✓	✓	✓	✓
138750	Bushing, coupling wheel, lower or upper	✓	✓	✓	✓	376752	Screw, pallet bridge	✓	✓	✓	✓
139751	Bushing, driving gear for ratchet wheel, lower or upper	✓	✓	✓	✓	379750	Screw, sweep second bridge	✓	✓	✓	✓
143750	Bushing, intermediate wheel, lower	✓	✓	✓	✓	402751	Screw, click	✓	✓	✓	✓
143751	Bushing, intermediate wheel, upper	✓	✓	✓	✓	418753	Screw, dial foot	✓	✓	✓	✓
140752	Bushing, oscillating weight, lower	✓	✓	✓	✓	434751	Screw, date indicator guard	✓	✓	✓	✓
141751	Bushing, reduction gear, lower or upper	✓	✓	✓	✓	446750	Screw, intermediate crown wheel	✓	✓	✓	✓
142751	Bushing, stop click, lower or upper	✓	✓	✓	✓	376752	Screw, minute work cock	✓	✓	✓	✓
144750	Bushing, third wheel, lower	✓	✓	✓	✓	468752	Screw, setting lever	✓	✓	✓	✓
145750	Bushing, winding-up wheel, lower or upper	✓	✓	✓	✓	506752	Screw, setting cap spring	✓	✓	✓	✓
149750	Cam, for movable stud holder	✓	✓	✓	✓	318750	Screw, calendar idler wheel	✓	✓	✓	✓
167751	Click	✓	✓	✓	✓	521752	Screw, ratchet wheel	✓	✓	✓	✓
169753	Click, stop	✓	✓	✓	✓	521753	Screw, ratchet intermediate wheel	✓	✓	✓	✓
174752	Clutch	✓	✓	✓	✓	522752	Screw, winding wheel	✓	✓	✓	✓
179751	Cock, minute work	✓	✓	✓	✓	SHOCK RESIST PARTS					
179752	Cock, minute work	✓	✓	✓	✓	538751	Endstone, lower	✓	✓	✓	✓
196752	Gear, driving, for ratchet wheel	✓	✓	✓	✓	538752	Endstone, upper	✓	✓	✓	✓
198753	Gear, reduction	✓	✓	✓	✓	539751	Jewel in setting, lower or upper	✓	✓	✓	✓
203751	Guard, date indicator	✓	✓	✓	✓	541751	Spring, lower or upper	✓	✓	✓	✓
552750	Holder, movable stud	✓	✓	✓	✓	542754	Unit complete, lower	✓	✓	✓	✓
219752	Hub, winding wheel	✓	✓	✓	✓	542755	Unit complete, upper	✓	✓	✓	✓
224753	Indicator, date	✓	✓	✓	✓	565751	Spring, click	✓	✓	✓	✓
251754	Jewel, escape lower	✓	✓	✓	✓	568752	Spring, clutch lever	✓	✓	✓	✓
251755	Jewel, escape upper	✓	✓	✓	✓	570751	Spring, date jumper	✓	✓	✓	✓
255753	Jewel, fourth lower	✓	✓	✓	✓	582750	Spring, ratchet intermediate wheel	✓	✓	✓	✓
255754	Jewel, fourth upper	✓	✓	✓	✓	591752	Spring, setting cap	✓	✓	✓	✓
262753	Jewel, pallet lower or upper	✓	✓	✓	✓	607752	Staff, balance	✓	✓	✓	✓
263754	Jewel, pallet stone, discharging	✓	✓	✓	✓	614752	Stem, winding	✓	✓	✓	✓
263755	Jewel, pallet stone, receiving	✓	✓	✓	✓	615752	Stem, winding, 2 pc. female half	✓	✓	✓	✓
274751	Jewel, sweep second pinion, upper	✓	✓	✓	✓	615753	Stem, winding, 2 pc. male half	✓	✓	✓	✓
276752	Jewel, third lower	✓	✓	✓	✓	622750	Washer, center second	✓	✓	✓	✓
276753	Jewel, third upper	✓	✓	✓	✓	626750	Wheel, additional setting	✓	✓	✓	✓
278751	Jewel, wig-wag pinion, lower	✓	✓	✓	✓	637750	Wheel, calendar idler	✓	✓	✓	✓
280751	Jumper, date	✓	✓	✓	✓	653750	Wheel, coupling	✓	✓	✓	✓
284752	Lever, clutch	✓	✓	✓	✓	655751	Wheel, date indicator driving	✓	✓	✓	✓
290752	Lever, setting	✓	✓	✓	✓	657752	Wheel, escape and pinion	✓	✓	✓	✓
305751	Oscillating weight assembly, with bridge	✓	✓	✓	✓	661751	Wheel, fourth and pinion	✓	✓	✓	✓
305752	Oscillating weight assembly, with bridge	✓	✓	✓	✓	663753	Wheel, hour	✓	✓	✓	✓
307752	Pallet fork and arbor	✓	✓	✓	✓	663754	Wheel, hour	✓	✓	✓	✓
318750	Pinion, calendar idler	✓	✓	✓	✓	663755	Wheel, hour	✓	✓	✓	✓
319754	Pinion, cannon	✓	✓	✓	✓	663756	Wheel, hour	✓	✓	✓	✓
319755	Pinion, cannon	✓	✓	✓	✓	669750	Wheel, intermediate and pinion, with slip pinion	✓	✓	✓	✓
319756	Pinion, cannon	✓	✓	✓	✓	675750	Wheel, intermediate crown	✓	✓	✓	✓
319757	Pinion, cannon	✓	✓	✓	✓	677752	Wheel, minute	✓	✓	✓	✓
328753	Pinion, sweep second	✓	✓	✓	✓	677753	Wheel, minute	✓	✓	✓	✓
328754	Pinion, sweep second	✓	✓	✓	✓	683753	Wheel, ratchet	✓	✓	✓	✓
331752	Pinion, winding	✓	✓	✓	✓	684750	Wheel, ratchet intermediate	✓	✓	✓	✓
333750	Pipe, center	✓	✓	✓	✓	686752	Wheel, setting	✓	✓	✓	✓
333751	Pipe, center	✓	✓	✓	✓	690751	Wheel, third and pinion	✓	✓	✓	✓
338750	Post, date indicator driving wheel	✓	✓	✓	✓	695752	Wheel, winding	✓	✓	✓	✓
						198753	Wheel, winding-up	✓	✓	✓	✓

