

# TIMEX model 80

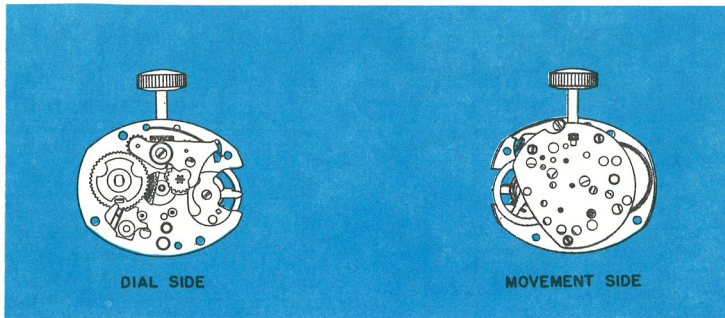


8 by 9½ lig.

18.03 by 21.44 mm

.710 by 844 in.

# the TIMEX Model 80 Movement



The TIMEX Model 80 is an 8 x 9½ ligne movement featuring "V-conic" bearings system and rugged two plate design very similar to the Timex Model 78 movement. The Model 78 has two grooved and one smooth pillar while the Model 80 has three grooved pillars. The Model 80 has five holes in the dial plate near the third wheel while the Model 78 has only three holes in the dial plate near the third wheel.

Whereas many watches utilize bridges, Timex has constructed the Model 80 movement with full plates to take advantage of the accuracy inherent in this type of design. This accuracy insures complete interchangeability for the escapement and gear train without the need for selective fitting and adjustments which complicate the repair of many watches.

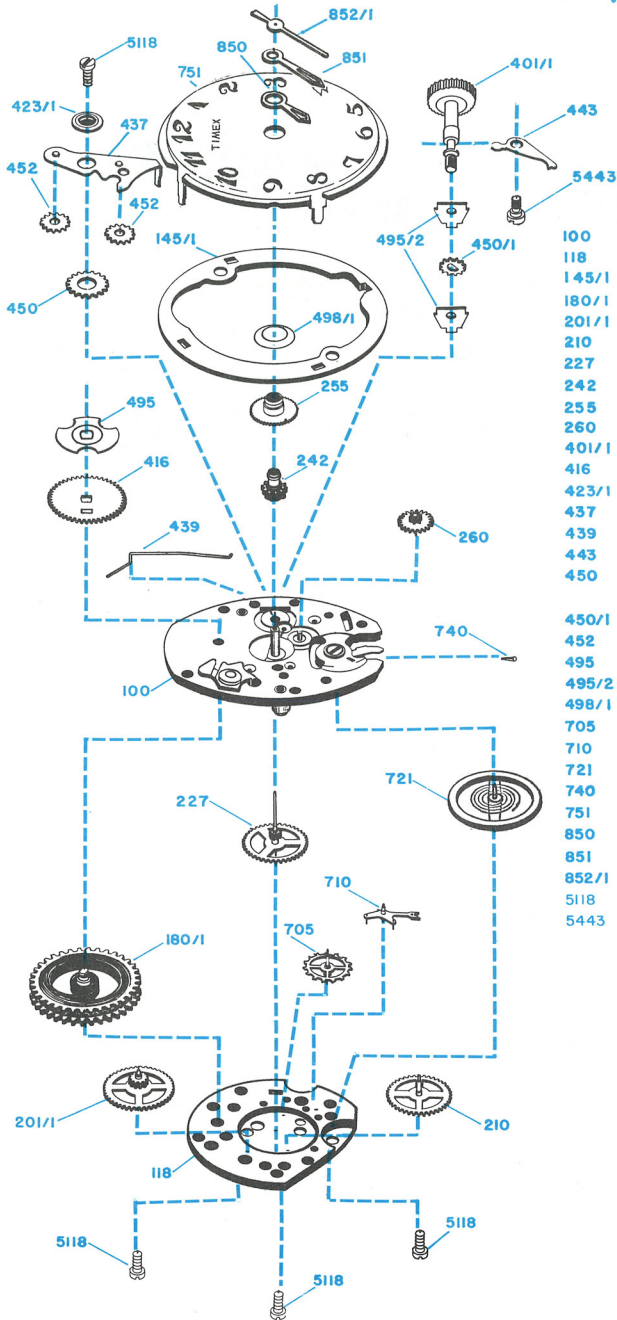
To clean the Timex Model 80, it is necessary to remove only the sweep second hand, dial stem (on water resistant watches) and the balance wheel assembly. The illustrations on Pages 80.3 and 80.4 show proper procedures. Timex has found through long and careful research that the best method of cleaning is with only the above mentioned parts removed. The cleaning fluid, while removing any contamination from the movement will also remove oil from the gear train, pivots and holes.

If further dismantling is required, removal of the movement plate will expose the gear train and associated parts. Reassembly should start with the dial plate, exercising normal care to insure proper positioning of pivots in their respective holes. The exploded view of the movement on Page 80.2 will guide reassembly.

Cleaning instructions for the Model 80 movement are given on Page 80.5. Lubrication instructions are given on Page 80.6 and 80.7.

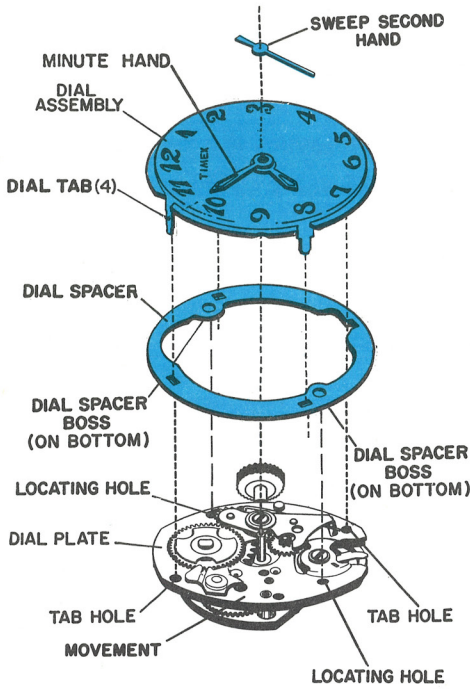
Reassembly instructions are given on Page 80.8.

# the TIMEX Model 80 Movement (exploded view)

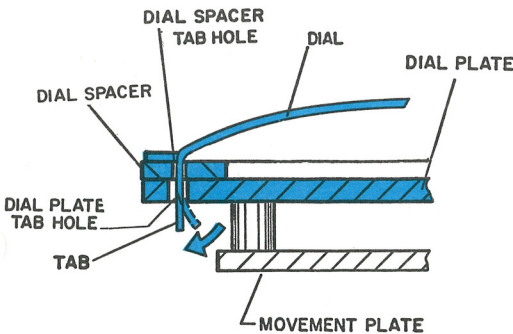


- 100 DIAL PLATE ASS'Y.
- 118 MOVEMENT PLATE ASS'Y.
- 145/1 DIAL SPACER
- 180/1 BARREL ASS'Y.
- 201/1 2ND. WHEEL ASS'Y.
- 210 3RD. WHEEL ASS'Y.
- 227 4TH. WHEEL ASS'Y.
- 242 CANNON PINION ASS'Y.
- 255 HOUR WHEEL
- 260 MINUTE WHEEL ASS'Y.
- 401/1 CROWN & STEM ASS'Y.
- 416 RATCHET WHEEL
- 423/1 ROCKING BAR BUSHING
- 437 ROCKING BAR ASS'Y.
- 439 ROCKING BAR SPRING
- 443 SET LEVER
- 450 INTERMEDIATE WIND  
PINION
- 450/1 WINDING STEM PINION
- 452 WIND & SET PINION
- 495 RATCHET WHEEL WASHER
- 495/2 WINDING BRIDGE
- 498/1 HOUR WHEEL WASHER
- 705 ESCAPE WHEEL ASS'Y.
- 710 PALLET LEVER ASS'Y.
- 721 BALANCE WHEEL ASS'Y.
- 740 HAIRSPRING WEDGE PIN
- 751 DIAL
- 850 HOUR HAND
- 851 MINUTE HAND
- 852/1 SWEEP SECOND HAND
- 5118 PILLAR SCREW
- 5443 SET LEVER SCREW

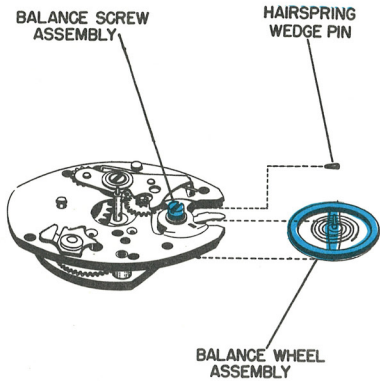
# Disassembly of movement for Cleaning (model 80)



- Remove the sweep second hand, do not remove the minute or hour hand.
- The dial is clamped to the movement by means of tabs which are inserted through dial holes located in the dial spacer and dial plate. The tabs are bent under the dial plate.
- Once the dial is off the movement, there is no need for further disassembly in the dial area unless severe contamination is present on the friction and cannon pinions. Should further disassembly be necessary, removal of the minute hand will free the friction and cannon pinion assembly. The friction pinion is held in the cannon pinion by a snap fit.



# Disassembly of movement for Cleaning Cont'd.

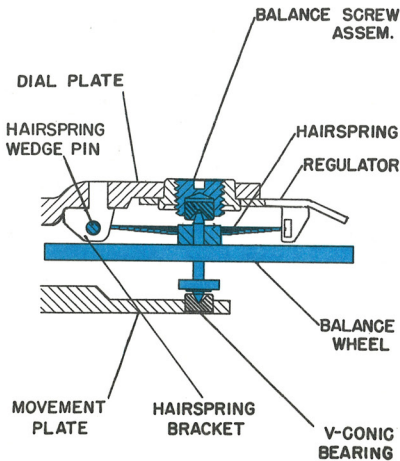


## Removing the Balance Wheel Assembly

Two "V-conic" bearings are used with the balance staff on the Timex Model 80 movement. The bearing on the dial plate is mounted in a screw so that fine endshake adjustment is possible.

Removal of the balance wheel assembly should be carried out in the following manner:

- Remove the hairspring wedge pin, being careful not to distort either the pin or the hairspring.
- Rotate the balance wheel slowly until the hairspring tail is free of the hairspring wedge pin bracket and the regulator.
- Loosen the balance screw assembly (counter-clockwise direction) using a suitable screw driver, until the end of the balance staff is free of the "V-conic" bearing. During the loosening of the screw, only minimum downward pressure should be applied with the screw driver, as excessive downward pressure could seriously damage the balance staff points.
- Carefully remove the balance assembly.



## Cleaning the Model 80 Movement

After removal of the balance wheel, and the other parts mentioned on Pages 80.3 and 80.4, the movement is ready to be cleaned.

If a cleaning machine is used, place the movement in the basket with the dial plate down to insure proper drainage of the fluid from the main-spring barrel. It should be well swirled in the cleaning fluid after which two sets of rinsing fluid should be used. The final cleaning fluid must be absolutely clean. After cleaning, the movement should be thoroughly dried.

If a cleaning machine is not available, the same procedure should be followed manually, by grasping the movement firmly and shaking it in the cleaning and rinsing fluids to insure that the fluid will pass through the entire mechanism.

The balance wheel assembly should be cleaned separately in a small jar to prevent damage to the hairspring.

Only standard watch cleaning solutions should be used throughout.

# Lubrication of (Model 80)

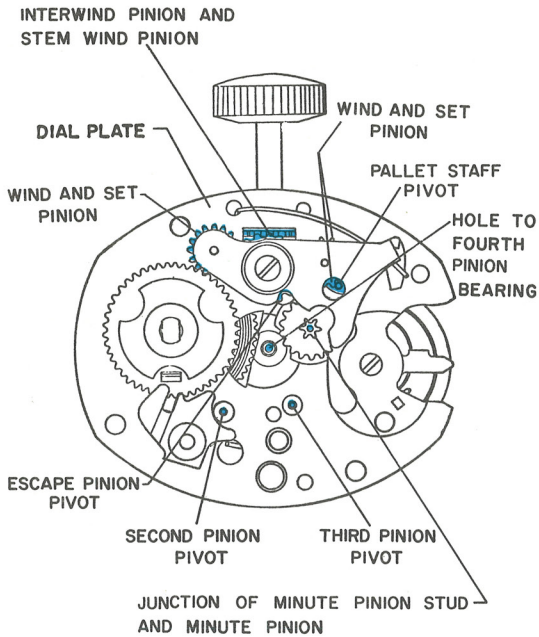


FIGURE A

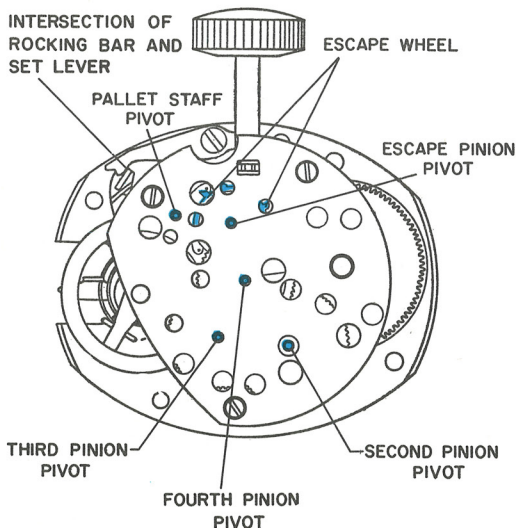


FIGURE B

The Model 80 movement should be lubricated using only high grade watch lubricants. The mainspring is permanently lubricated with a solid film coating which is not affected by normal cleaning solutions.

The mainspring should not require lubrication.

Apply fine watch oil ([Elgin M56b oil is used in the factory](#)) to the pivots, pinions and other in bearing surfaces in the movement as noted on Figure A (Front view) and Figure B (Rear view). The watch oil should be put on the working surfaces of two full escape wheel teeth.

# Lubrication of Model 80

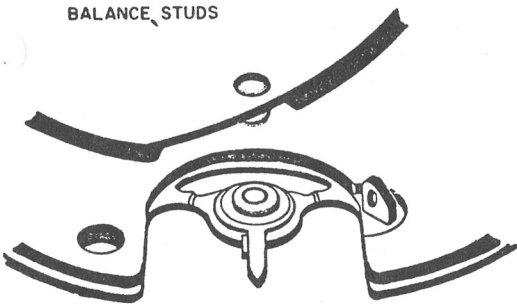


FIGURE C

Both balance studs (see Figure C) should be filled  $\frac{3}{4}$  full with fine watch oil (Elgin M56b oil is used in the factory).

Oil both edges of the impulse pin (see Figure D) where contact is made with the pallet lever (Elgin M56b oil is used in the factory).

Apply a spreading type oil (Woods AAAA oil is used in the factory) to the ends of the main arbor (mainspring arbor) by putting oil in the counter-sink in the back frame and at two points at the side of the main arbor where the flat has the greater gap with the ratchet wheel washer.

Apply fine watch oil between the cannon pinion and the friction pinion if they have been cleaned (Elgin M56b oil is used in the factory).

Water resistant watches require special lubricants to maintain proper sealing. (Dow Corning 200 Silicone Fluid, 200 Cs viscosity is used in the factory). The silicone fluid is applied to at least one half ( $\frac{1}{2}$ ) of the exposed gasket surface inside the crown assembly (before assembling to the case) and the fluid is applied to the exposed surface of the gasket (three equally spaced strips each about  $\frac{1}{4}$  inch long is suggested) before closing the case.

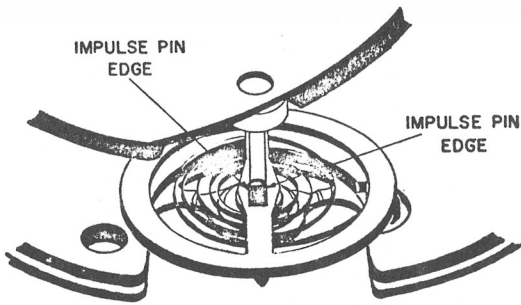
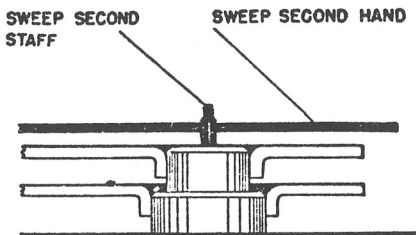
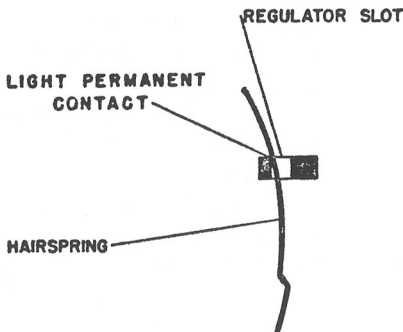
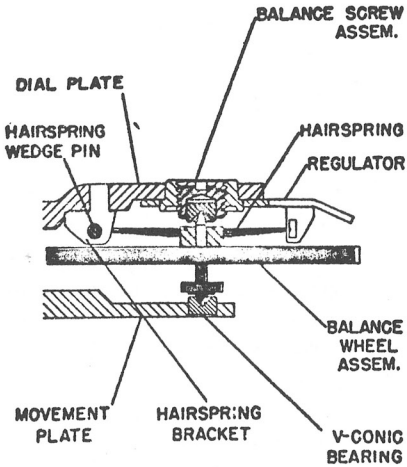


FIGURE D



# Reassembly of the model 80 movement



Replace the balance wheel assembly carefully into the movement by tilting the wheel and inserting first, the dial side pivot (hairspring side) then, the movement side pivot into the "V-conic" bearing. Adjust the balance screw assembly enough to hold the balance in place. By rotating the balance wheel, insert the hairspring into the regulator slot and hairspring bracket.

Before repinning the hairspring, make certain the impulse pin is within the slot in the fork of the pallet lever. Repin the hairspring making sure that the wedge pin is straight and true, as any distortion to the pin could interfere with the normal "breathing" of the hairspring. The endshake is now finally adjusted using caution to apply only minimum downward pressure to the balance screw as excessive pressure could damage the points of the balance staff.

Inspect the hairspring to be certain that it is properly adjusted. As shown by the diagram, the hairspring should be in light, permanent contact with the inside edge of the regulator slot. The hairspring should not leave the inside edge of the regulator slot at any time during the complete maximum oscillation of the balance.

Insert the tabs on the Dial Assembly into the holes in the Dial Spacer and into the two tab holes in the Dial Plate (see illustrations on Page 80.3). Apply light pressure and move Dial Assembly and Dial Spacer until the two bosses on the spacer are in the locating holes in the Dial Plate. Bend the four dial tabs under the Dial Plate to secure the assembly.

Replace the sweep second hand. Be certain the sweep hand is set below the chamfer on the top of the staff as shown.