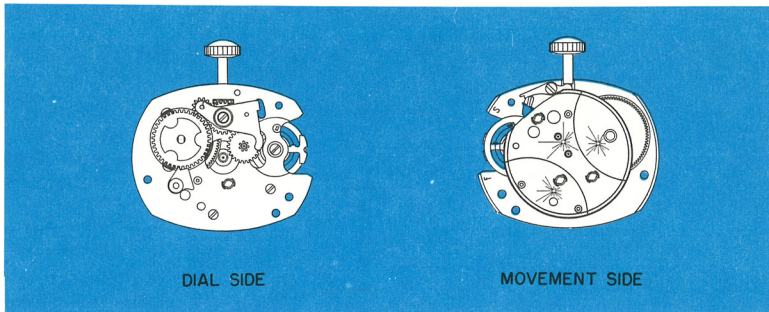


TIMEX model 72

SERVICE MANUAL
MODEL 72

9¼ by 11¼ lig.
21,08 by 25,35 mm
.998 by .830 in.

the TIMEX Model 72 Movement



The Timex Model 72 is an 11¼" x 9¼" movement featuring 21 jewels and rugged two plate construction. The Model 72 is readily distinguished from other Timex movements by the number of jewels and the small, gracefully decorated movement plate.

Whereas most watches utilize bridges, Timex has constructed the Model 72 movement with full plates to take advantage of the accuracy inherent in this type of design. This accuracy insures complete interchangeability of the escapement and gear train without the need for selective fitting and adjustments which complicate the repair of most watches.

Another important feature of the Timex Model 72 is in the escapement. Timex has developed a jeweled lever escapement which functions exactly as the conventional escapements, but eliminates the danger of loose pallet stones. In conventional jeweled club-tooth lever escapements, the pallet stones lie horizontal to the plane of the lever and are normally shellacked in place. This type of construction leads to frequent loosening of the stones during cleaning, thus requiring readjustment. The timex design, however, uses pallet stones vertical to the pallet lever which are driven permanently in place. Since they are not fixed with shellack or other adhesives they will not loosen during cleaning and will not require adjustment, thus retaining full accuracy in the escapement.

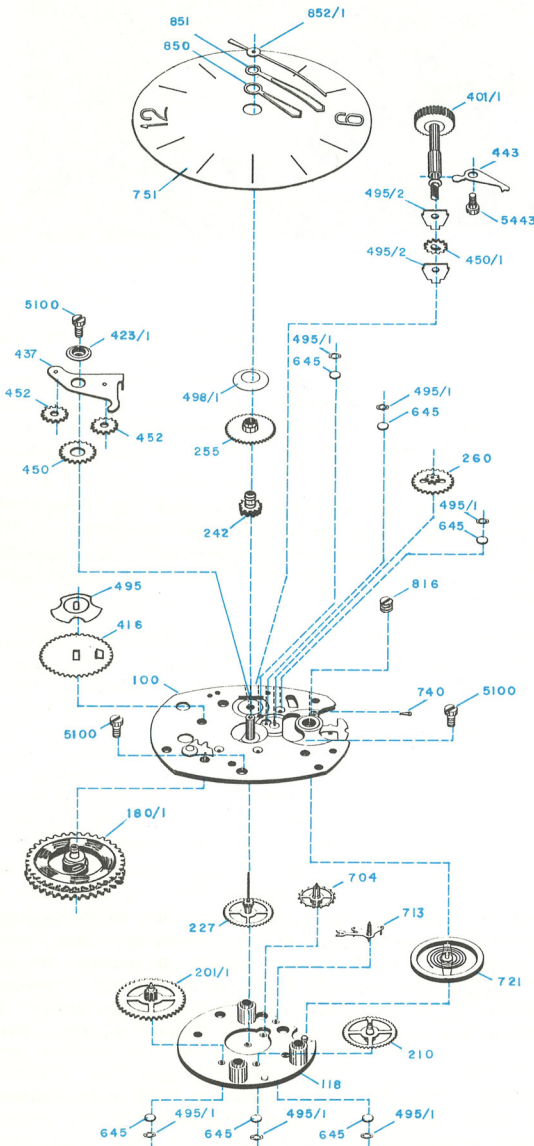
All cap jewels of the Timex Model 72 are removable.

To clean the Timex Model 72 it is necessary to remove only the sweep second hand, dial, ratchet wheel, wind and set mechanism, minute wheel, cap jewels and balance. The illustrations on pages 72.3 to 72.6 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 pivots and holes.

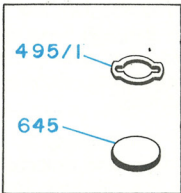
If further dismantling is required, removal of the movement plate will expose the gear train and associated parts. Reassembly should start with the dial plate, exercising normal care to insure proper positioning of pivots in their respective holes. The exploded view of the movement on page 72.2 will guide reassembly.

Cleaning and re-oiling instructions for the Model 72 movement are given on page 72.7. Reassembly techniques are shown on page 72.8.

the TIMEX model 72 movement (exploded view)

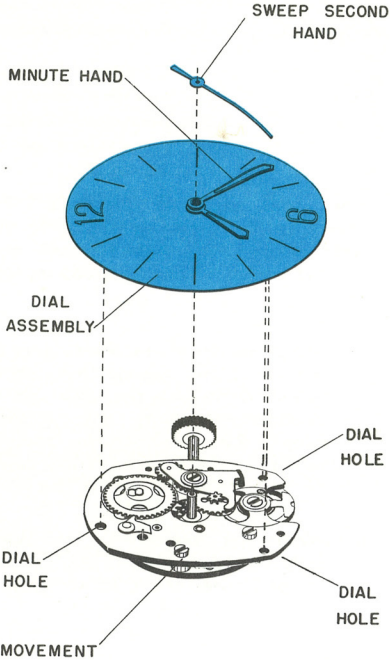


- 100 Dial Plate Assembly
- 118 Movement Plate Assembly
- 180/1 Barrel Complete (with Mainspring)
- 201/1 Second Wheel Assembly
- 210 Third Wheel Assembly
- 227 Seconds Wheel Assembly
- 242 Cannon Pinion Assembly
- 255 Hour Wheel
- 260 Minute Wheel Assembly
- 401/1 Winding Stem with Crown
- 416 Ratchet Wheel
- 423/1 Rocking Bar Bushing
- 437 Rocking Bar
- 443 Setting Lever
- 450 Setting Wheel
- 450/1 Stem Wind Pinion
- 452 Wind and Set Pinion
- 495 Ratchet Wheel Washer
- 495/1 Retaining Ring (Cap Jewel)
- 495/2 Winding Bridge
- 498/1 Hour Wheel Washer
- 645 Cap Jewel
- 704 Escape Wheel Assembly
- 713 Pallet Lever Assembly
- 721 Balance Assembly
- 740 Hairspring Wedge Pin
- 751 Dial Assembly
- 816 Balance Screw Assembly
- 850 Hour Hand
- 851 Minute Hand
- 852/1 Sweep Second Hand
- 5100 Pillar Screw
- 5443 Set Lever Screw



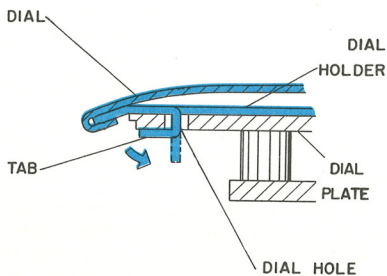
Disassembly of movement for Cleaning (Model 72)

Removing the Dial and Hands



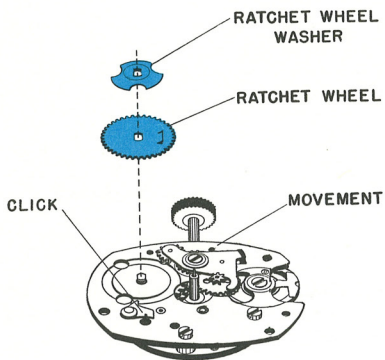
- Remove sweep second hand. Do not remove the minute or hour hand.
- The dial holder, to which the dial is clamped, is held on the movement by means of three tabs which are bent, through dial holes, onto the dial plate.

Note: On some models a dial holder is not used. On these models, three tabs are formed on the dial and are used in the same manner as those on the dial holder.



- Once the dial is removed from the movement, there is no need for further disassembly of the dial assembly for cleaning 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.

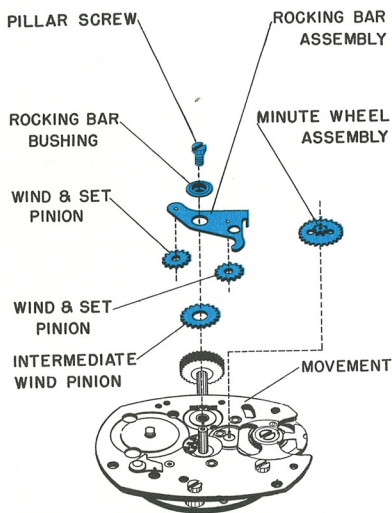
Disassembly of movement for Cleaning Cont'd.



Removing the Ratchet Wheel

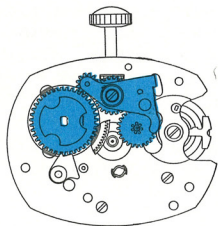
The next step in preparing the movement for cleaning should be the removal of the ratchet wheel and ratchet wheel washer. Proceed as follows:

- Grasp the crown in the fingers of one hand and release the ratchet wheel by holding the click out of engagement with the ratchet wheel. Let the crown revolve slowly in the fingers, being careful not to let the crown slip.
- When the mainspring has been fully let down, remove the ratchet wheel washer and ratchet wheel.

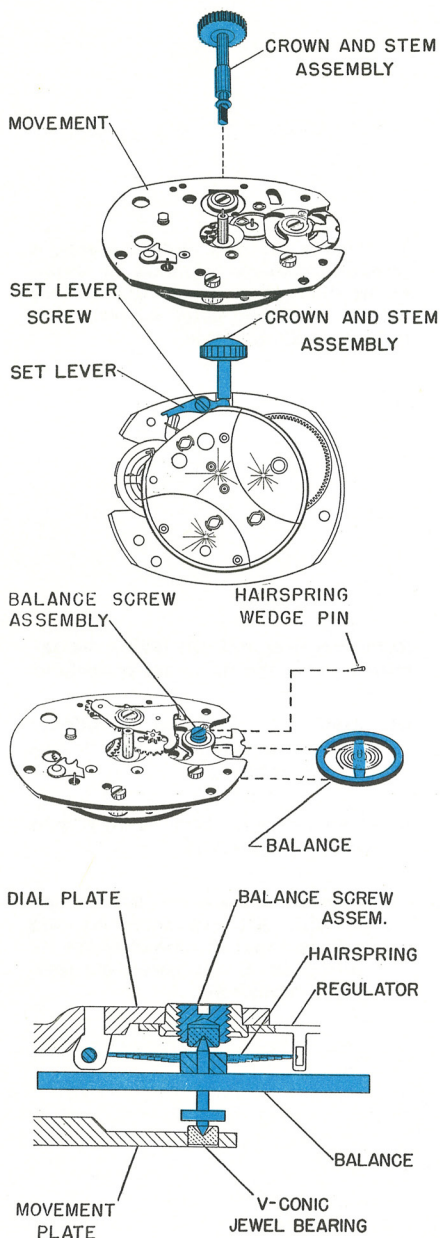


Removing the Wind & Set Mechanism

To remove the wind and set mechanism, start by removing pillar screw. Rocking bar, bushing, wind and set pinions, intermediate wind pinion and minute wheel assembly are then taken off from the dial plate.



Disassembly of movement for Cleaning Cont'd.



Removing the Crown and Stem

To remove the crown and stem assembly, invert the movement so that the movement plate is facing you. Turn the set lever screw approximately one turn and lift the tail of the set lever out of engagement with the stem. The crown and stem assembly can now be removed.

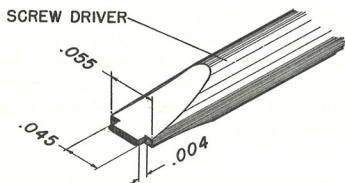
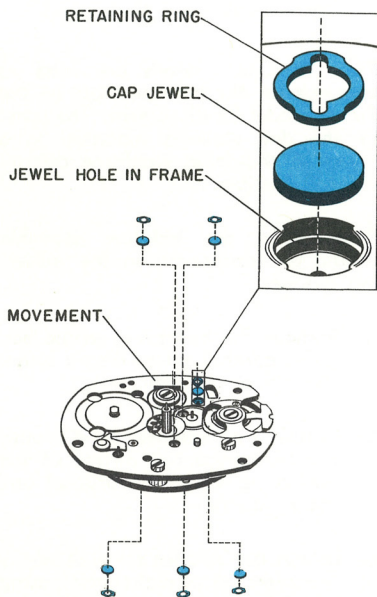
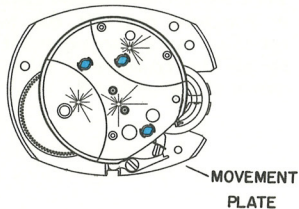
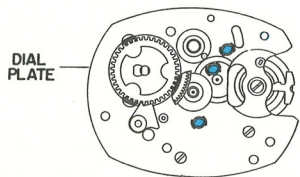
Removing the Balance

Two "V-conic" jewels are used as bearings for the balance staff on the Timex Model 72 movement. The jewel in the dial plate is mounted in a screw so that fine endshake adjustment is possible.

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

- a) Remove the hairspring wedge pin, being careful not to distort either the pin or the hairspring.
- b) Rotate the balance slowly until the hairspring tail is free of the hairspring wedge pin bracket and the regulator.
- c) Loosen the balance screw assembly (counterclockwise direction) using suitable screwdriver, 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 screwdriver as excessive downward pressure could seriously damage the balance staff points.
- d) Carefully remove the balance assembly.

Disassembly of movement for Cleaning Cont'd.



Removing the Cap Jewels

To remove cap and replace jewels, a screwdriver blade reground as shown in the illustration is very useful. This tool is available upon request from U. S. Time Corporation.

Retaining ring and cap jewels are removed using the following procedure:

- Insert tip of revised screwdriver blade into elongated slot on retaining ring.
- Turn retaining ring $\frac{1}{4}$ turn in a clockwise direction.
- Remove screwdriver blade and carefully lift out retaining ring and cap jewel. As shown in the illustrations, 6 cap jewels are used in the movement.

Cleaning the Model 72 Movement

After removal of the balance, and the other parts mentioned in pages 72.3 through 72.6, 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 mainspring barrel. It should be well swirled in the cleaning fluid after which two sets of rinsing fluids 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 re-inserting the stem, grasping the movement firmly around the the area of the stem and shaking it in the cleaning and rinsing fluids to insure that the fluid will pass through the entire mechanism.

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

Only standard watch cleaning solutions should be used throughout.

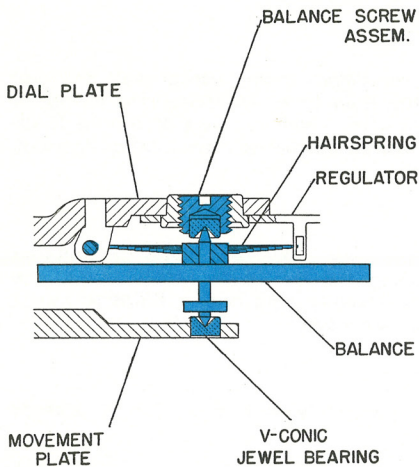
Lubricating the Model 72 Movement

The "V-conic" bearings should be oiled no less than $\frac{3}{4}$ full before replacing the balance.

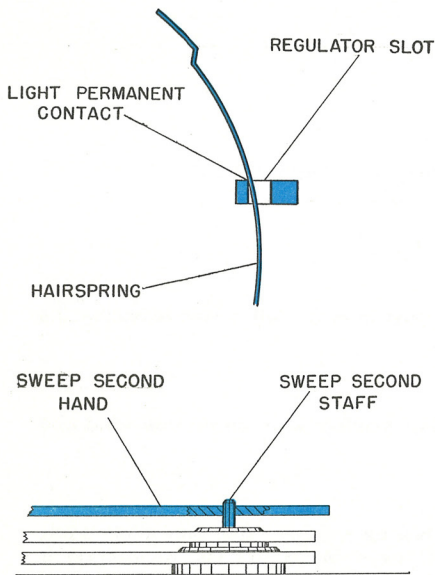
Oil both the top and bottom sides of the intermediate wind pinion and wind and set pinion.

The movement should be re-oiled in the normal manner using only high grade watch oils (oil used in factory assembly is Elgin M 56 b). The mainspring is permanently lubricated with a solid coating which is not affected by normal cleaning solutions and should, therefore, not be oiled.

Reassembly of the model 72 movement



Replace the balance carefully into the movement by tilting the wheel and inserting first, the top pivot (hairspring side) then, the lower pivot into the "V-conic" bearings. Adjust the balance screw enough to hold the balance, insert the hairspring into the regulator slot and hairspring wedge pin bracket. Before repinning the hairspring, make certain the impulse pin is within the slot of the pallet fork. 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 can now be 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.

When replacing the dial assembly, position the hour and minute hands to 12:00 before inserting the tabs on the dial holder into the holes on the dial plate. Bend tabs to secure dial. If the minute hand has been removed, replace it on the dial assembly together with the friction and cannon pinions before the dial assembly is put on the movement.

Replace the sweep second hand by driving it just below the end of the sweep second staff as shown in the diagram. Be certain the sweep hand is set below the chamfer on the top of the staff.