

TABLE OF CONTENTS

Section	Page	Section	Page
I INTRODUCTION	1	2. Operation Instructions	15
1. General	1	a. Winding	15
2. Definitions	1	b. Setting	16
II DESCRIPTION		c. Operating the Elapsed Time Mechanism	16
1. General Description	1	d. Operating the Chronograph Mechanism	16
a. Type of Instrument	1	e. The Civil Date Indicator	17
b. Functions	1	f. Regulating the Movement	17
2. Detailed Description	3	V SERVICE INSPECTION, MAINTENANCE AND LUBRICATION	18
a. Case	3	1. Service Tools Required	18
b. Dial and Hands	3	2. Service Inspection	18
c. Movement	3	a. Daily	18
(1) The Power, Time Train, and Winding Assemblies	3	b. 30-Hour	18
(2) The Escapement and Balance Assemblies	4	c. 500-Hour	18
(3) The Chronograph Assembly	6	3. Maintenance	18
(4) The Dial Train Assembly	6	a. Setting	18
(5) The Elapsed Time Assembly	6	b. Regulating	18
(6) The Civil Date Assembly	6	c. Adjusting, Repairing and Cleaning	18
III INSTALLATION	8	d. Replacing Crystal	18
1. Preparation	8	e. Overhaul	18
2. Mounting	8	4. Lubrication	18
3. Installing Alternate Chronograph Push Button	8	5. Service Troubles and Remedies	19
IV OPERATION	9	VI DISASSEMBLY, INSPECTION, REPAIR AND REASSEMBLY	21
1. Principles of Operation	9	1. Overhaul Tools Required	21
a. The Clock Movement	9	2. Disassembly	21
(1) Power Mechanism	9	3. Cleaning, Inspection, Testing and Repair	27
(2) Train Mechanism	9	a. Cleaning and Inspection	27
(3) Escapement and Balance Mechanisms	10	b. Adjustments and Repairs	28
(4) Dial Train and Winding Mechanisms	10	(1) Installing New Mainspring	28
b. The Special Features	11	(2) Replacing Balance Staff	28
(1) The Elapsed Time Mechanism	11	(3) Replacing jewels	29
(2) The Chronograph Mechanism	12	4. Reassembly	29
(3) The Civil Date Mechanism	14	VII TEST PROCEDURE	40
		1. Room Temperature Test	40
		2. Compensation Tests	40
		a. Plus 5 Degrees C	40
		b. Minus 35 Degrees C	40
		c. Plus 50 Degrees C	40

PARTS CATALOG

VIII	INTRODUCTION	41
IX	GROUP ASSEMBLY PARTS LIST	42
X	NUMERICAL PARTS LIST	59

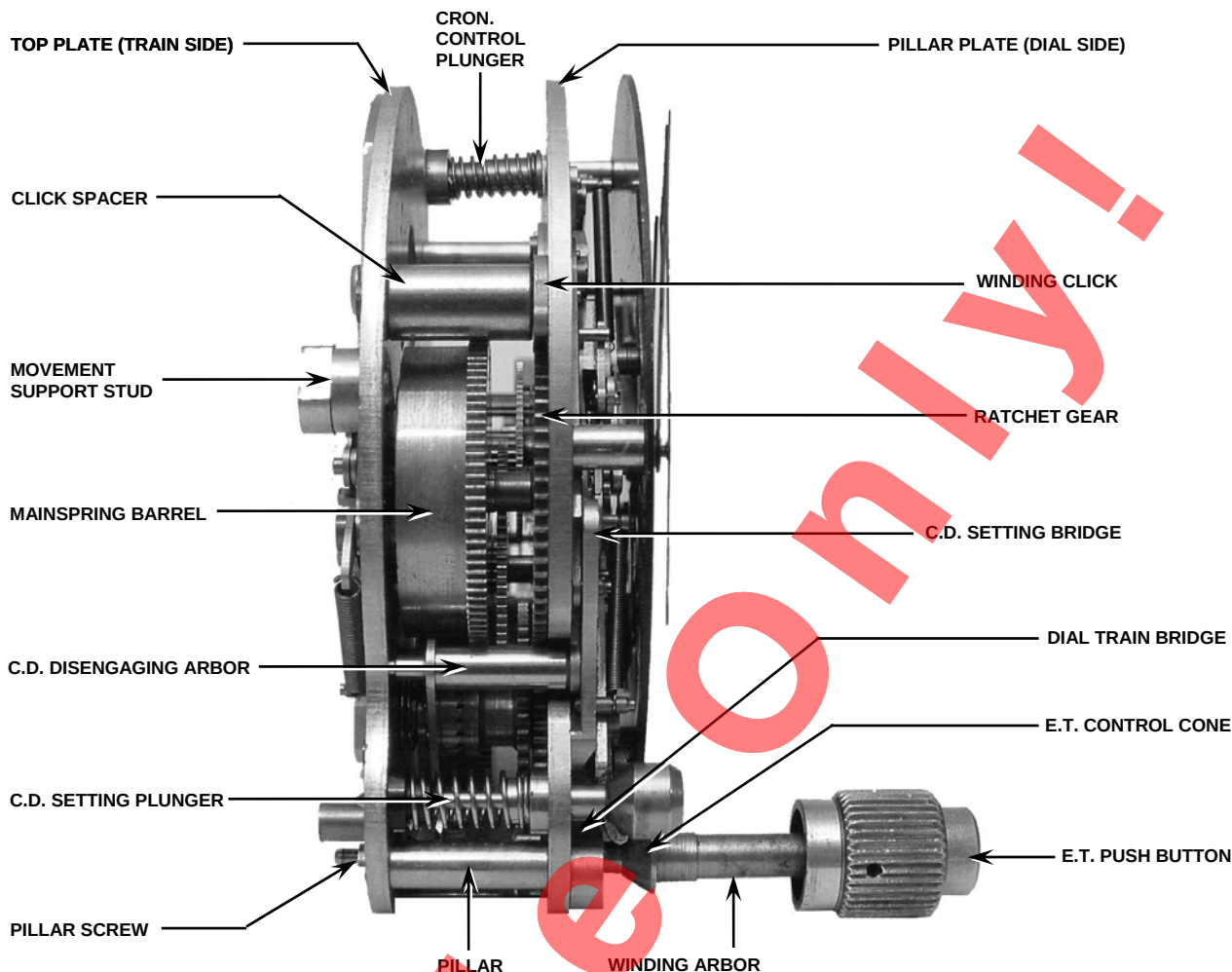


Figure 3 - Left Side View of Movement

which transmit the rotation of the winding knob to the mainspring barrel arbors. A winding click rides on the pillar nearest to the left ratchet gear, and is held in position next to the gear behind the pillar place by a spacer on the pillar. An Elapsed Time control sleeve and cone are located on the winding arbor between the knob and the dial train bridge.

(c) To the left, above the winding arbor, a Civil Date setting plunger extends through the pillar plate to the top plate and carries a compression spring which serves to return the plunger to its original position after it has been depressed.

(d) A Civil Date disengaging arbor is supported above the setting plunger in such a position that its rear arm extends downward to contact the winding arbor near the top plate and its front arm extends upward to contact a disengaging lever between the pillar place and the setting bridge.

(e) The movement carries 16 jewels, consisting of the usual ones found in a 15 jewel watch, including four balance, one roller, two pallet, two escape wheel, two pallet arbor, two fourth wheel and two third wheel jewels, plus an additional hole jewel in the center seconds bridge which is located

on the train side of the top plate to pivot the center seconds staff (see figure 4).

(2) THE ESCAPEMENT AND BALANCE ASSEMBLIES.

(a) The escape wheel, pallet, and balance wheel, which are jeweled, and the regulator of the escapement and balance assemblies are located on the rear train side of the pillar plate and are supported by typical escapement and balance cocks. These assemblies are clearly visible and easily accessible through a similarly shaped cut-out section of the top plate (see figure 4).

(3) THE CHRONOGRAPH ASSEMBLY (See figure 4.)

(a) The actuating mechanisms of the Chronograph assembly, with the exception of the control push button and hands, are located on the top side of the top plate. The Chronograph train consists of:

1. A rotating Chronograph turret, the posts of which control the positions of the various actuating devices. The turret is fastened to the plate with a left-handed screw and is provided with ratchet teeth.

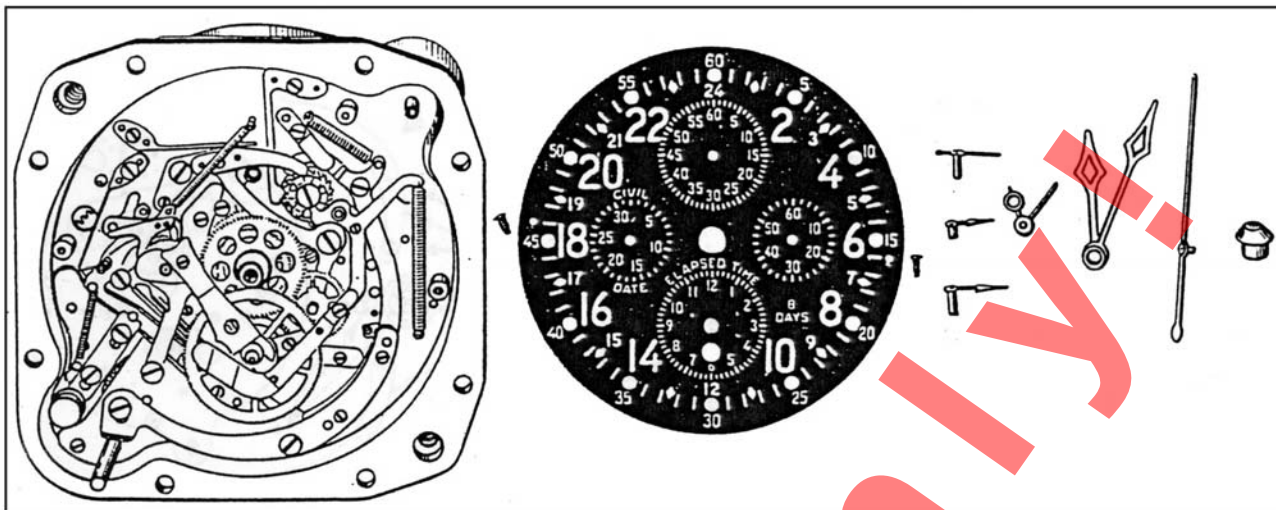


Figure 21 – Hands and Dial Removed

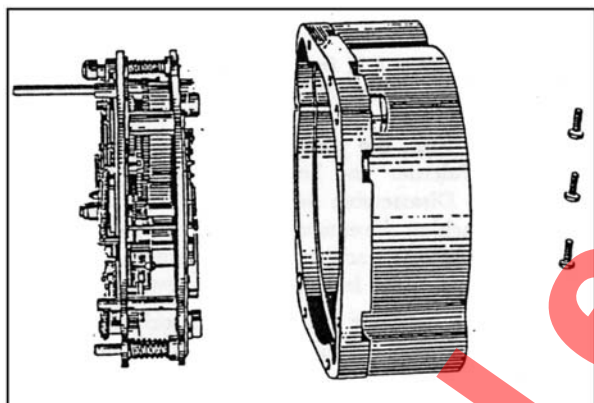


Figure 22 – Movement Removed from Case

b. C.D. SETTING PLUNGER AND DISENGAGING ARBOR (See figure 25.)

(1) Detach the hour wheel from the cannon pinion, then turn the movement on its side and unfasten the setscrew in the upper spring seat of the C.D. setting plunger next to the winding arbor. The setting plunger and upper spring seat, spiral compression spring, and lower spring seat may now be removed.

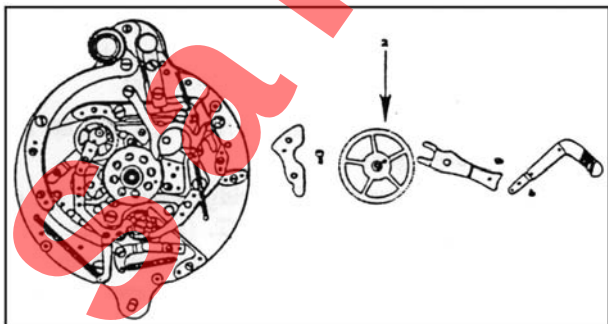


Figure 23 – E.T. Signal Flag and Hour Gear Removed

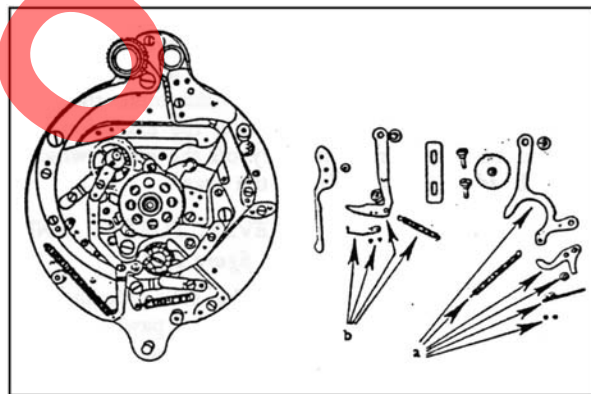


Figure 24 – C.D. Indexing and Setting Levers, Setting Slide and Ratchet Wheel Removed

(2) Turn the movement over to the train side and unscrew the C.D. disengaging arm support screw from the plate and remove the support from the dial side of the plate.

(3) Turn the movement back over to the dial side and unscrew the C.D. setting bridge screw and bridge which hold the disengaging arbor in position. Withdraw the disengaging arbor, unscrew the disengaging lever spring screw and flat spring and remove the disengaging lever from the fulcrum screw on the plate.

i. E.T. FLYBACK LEVER AND IDLER LEVER.
(See figure 26.)

(1) Unfasten the end of the E.T. flyback lever spiral extension spring from the anchor screw on the plate, then gently pry off the flyback lever collet which secures the lever to the pivoc post on the plate and withdraw the lever. Disassemble the flyback lever subassembly (a) by removing the extension spring, spring bracket screw, bracket, flyback lever shoe screw and shoe from the lever.