Chapter 46

TIME SWITCH, VENNER, TYPE PTA/HAW

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Time switch, Type PTA/HAW ...	*Stores Ref. 5CW/5501*
Operating voltage	*24 d.c.*
Current rating	*5 amp.*
Timing period	*8 min.*
Overall dimensions—	
Length	$3\frac{5}{32}$ *in.*
Diameter	$2\frac{5}{32}$ *in.*
Weight	*8 oz.*

Introduction

1. The time switch, Type PTA/HAW (*fig.*1) is a clockwork-driven switch in which the action of setting the pointer winds the spring and starts the timing period of 8 minutes. ◄It differs from the earlier Type PTA/HA (Stores Ref. 5CW/4733), which it supersedes, in having redesigned and more robust stop pins.►

DESCRIPTION

2. A cutaway drawing of the switch is shown in fig. 2. The mechanism is contained in a black plastic case, with a dial marked with white lines at the OFF and ON positions. As the operating pointer is turned to set the switch, this winds the mainspring and starts the clockwork mechanism.

3. The escapement in this mechanism is a balance operating directly off a specially formed escape wheel without the usual intermediate lever. The impulse pin, receiving impulses from the escape wheel tooth, turns the balance against the hairspring and provides a lock for the escape wheel by the balance staff. On the return of the balance the escape wheel is released via a cutaway in the balance staff.

4. The switch is provided with a set of change-over contacts, as shown in fig. 3, taken to terminals 1, C, and 2. In the normal application of this switch for pressure refuelling, terminal 1 is not used. Contacts C and 2 are closed by the setting of the pointer, and open at the end of the 8-minute period, when the cam follower drops off the step on the operating cam.

5. Stops on the top plate prevent travel of the pointer beyond the appropriate limits.

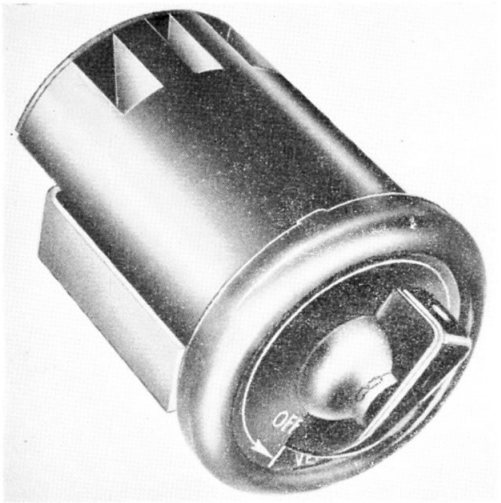

Fig. 1. Time switch, Type PTA/HAW

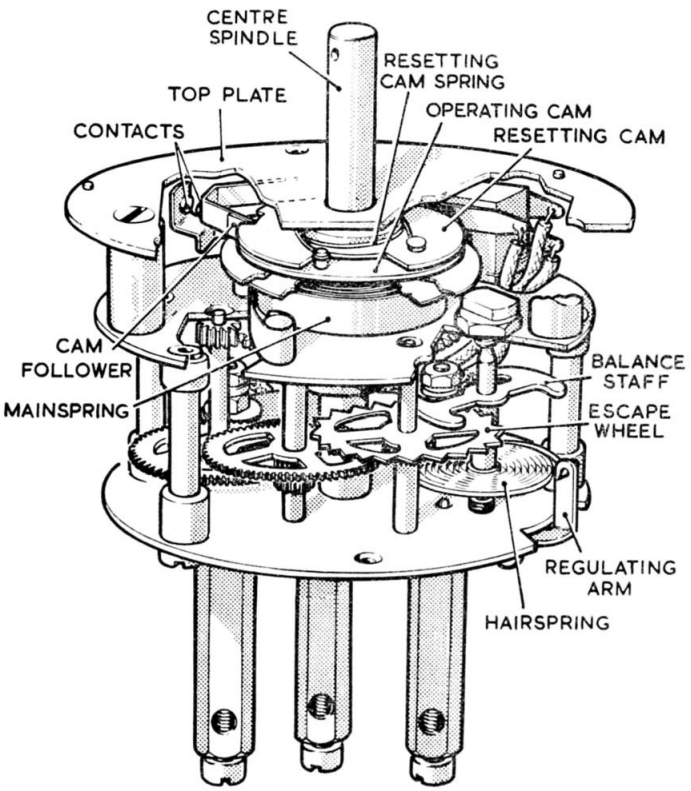

Fig. 2. Cutaway view of mechanism

The dial is protected by a transparent shield, and is located by three dowels on the top plate.

INSTALLATION

6. This switch is designed for panel mounting, being held between the bezel and fixing strap, which is secured to the terminal end of the switch by two 2 B.A. studs and lock-nuts.

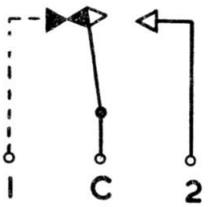

Fig. 3. Wiring diagram

SERVICING

7. This switch is sealed by a rubber gasket around the bezel, and should require little servicing beyond occasional oiling of the moving parts and cleaning of the contacts.

8. To gain access to the mechanism, unscrew the bezel in an anti-clockwise direction, when the mechanism can be withdrawn from the case. The following points should be lightly oiled, using oil OX–14 (Stores Ref. 34B/9100589):—

(1) All pivots, including balance staff.

(2) Apply a spot of oil to the impulse pin and the staff where the escape wheel engages.

9. If necessary, ensure that the contacts are clean by wiping with a cloth moistened with lead-free gasoline.

Note . . .

The outer contacts only are used in the normal application of this switch.

10. Turn the operating pointer to its extreme clockwise position, and check that the mechanism runs for eight minutes. When re-fitting the bezel and bezel gasket, ensure that the dial is correctly seated on its dowels before screwing on the bezel.