TIMERS

KS-14799, L1, L2, AND L3

PIECE-PART DATA AND REPLACEMENT PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of the KS-14799, L1, L2, and L3 timers. It also covers approved procedures for replacing these parts.

1.02 This section is reissued to add information for the KS-14799, L3 timer and to revise the procedures for replacing switches. Detailed reasons for reissue will be found at the end of the section.

1.03 Part 2 of this section covers the various parts which may be replaced in the field in the maintenance of this apparatus. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts. This information is called Piece-Part Data.

1.04 Part 3 of this section covers the approved procedures for the replacement of the parts covered in Part 2. This information is called Replacement Procedures.

2. PIECE-PART DATA

2.01 The figures included in this part show the parts in their proper relation to the other parts of the timer. The piece-part numbers of the parts, when given, are given together with the names of the parts as listed by the Western Electric Company Merchandise Department. Where these names differ from those in general use in the field, the latter names, in some cases, are shown in parentheses.

2.02 When ordering parts for replacement purposes that have a P number, give both the number and the name of the piece part, for example, P-182949 Lockwasher. When ordering parts that have no P number, give the name and state that the part is for the KS-14799, L1, L2, or L3 timer, for example, End Plate With Bearing for the KC-14799, L1 Timer. Do not refer to the BSP number or to any information shown in parentheses following the piece-part number.

2.03 Information enclosed by parentheses ( ) is not ordering information. This information may be references to notes, parts referred

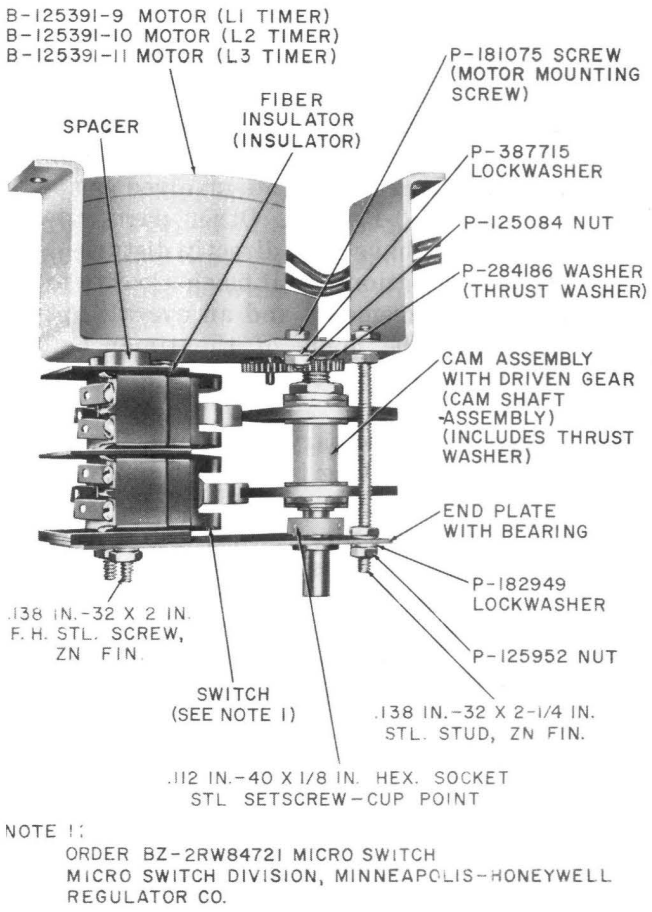

Fig. 1 — KS-14799 Timer — Top View (L1 timer shown)

to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

3. REPLACEMENT PROCEDURES

3.01 *List of Tools*

CODE OR SPEC NO.	DESCRIPTION
43	3/16- and 1/4-Inch Hexagon Open Double-Flat Wrench
—	3-Inch C Screwdriver

3.02 Before making any replacement of parts of the timer, take the associated circuit out of service in accordance with approved procedures.

3.03 No replacement procedures are specified for screws or other parts where the procedure consists of a simple operation.

3.04 After making any replacement of parts on the timer, the part or parts replaced shall meet the readjust requirements involved as specified in Section 030-158-701. Other parts whose adjustments may have been directly disturbed by the replacing operations shall be checked to meet the readjust requirements and an overall operation check shall be made of the timer before restoring the circuit to service.

3.05 When it is necessary to remove the timer from its mounting in order to gain access to parts to be replaced, proceed as follows. Tag and disconnect the timer leads. Remove the timer mounting screws using the 3-inch C screwdriver, and remove the timer from the mounting.

3.06 After replacing the end plate or the camshaft assembly, relubricate the timer as covered in Section 030-158-701.

3.07 ***End Plate:*** Remove the four outer endplate mounting nuts and lockwashers using the 43 wrench. While holding the outer insulators adjacent to switch B and the camshaft assembly in place, remove the end plate and mount the new end plate with the projecting portion of the bearing on the outside. Remount the lockwashers and securely tighten the nuts.

3.08 ***Camshaft Assembly:*** Remove the four outer nuts and lockwashers using the 43 wrench. While holding the outer insulators adjacent to switch B in place, remove the end plate and the camshaft assembly with its thrust washer. The thrust washer may adhere to the rear bearing. Mount the new camshaft assembly, making sure its thrust washer is in place, and remount the end plate with the projecting portion of the bearing on the outside. Remount the lockwashers and securely tighten the nuts.

Switches

3.09 To replace a switch, remove the four outer nuts and lockwashers using the 43 wrench. Grasp the outer end of the camshaft and remove the end plate and the camshaft assembly. Take care not to lose the thrust washer at the inner end of the camshaft. This washer may adhere to the rear bearing. Remove the lockwasher remaining on each stud. Note the position of the insulators and switch terminals with respect to the mounting bracket in order to ensure that the parts will be properly mounted during reassembly. Remove the outer insulators adjacent to switch B.

3.10 To replace switch A, first remove switch B from the mounting screws. If there is insufficient slack in the leads to permit removal of switch B, tag and disconnect the leads by removing the switch terminal mounting screws with the 3-inch C screwdriver and removing the terminals. Remove insulators from in front of switch A. Tag and disconnect the leads with terminals from switch A, and remove the switch from the mounting screws. Remove the terminals from the new switch and position the switch on the mounting screws. Mount the terminals with leads in the proper positions on the switch. Remount the → other parts in reverse order of removal and pro- → ceed as covered in 3.12.

3.11 To replace switch B, tag and disconnect the leads by removing the terminal mounting screws with the 3-inch C screwdriver and removing the terminals. Remove the switch from the switch mounting screws. Remove the terminals from the new switch and position the switch on the mounting screws. Mount the terminals with leads in the proper positions on the → switch. Remount the other parts in reverse order → of removal and proceed as covered in 3.12.

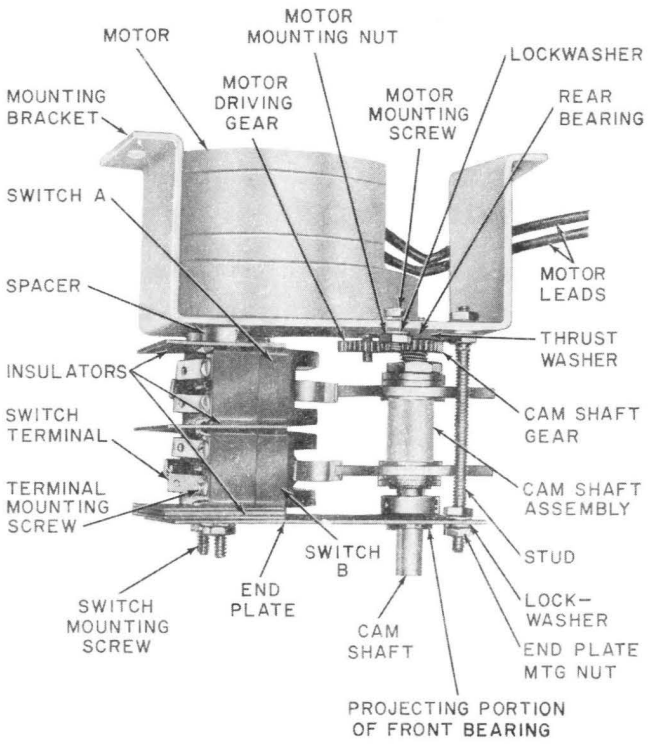

Fig. 2 — KS-14799 Timer — Top View

3.12 Before tightening the nuts on the switch mounting screws, firmly press the fingers against both switches toward the cam shaft to reduce clearance between each switch mounting screw and the edge of its clearance hole in the end plate. This will move the actuating levers slightly toward the cams and ensure maximum travel of the actuating levers. With the switches held in this position, tighten the nuts on the mounting switch with the 43 wrench. Then check that each switch operates when its actuating lever rests on the lobe of the associated cam.

3.13 ***Motor:*** To replace the motor, remove the timer from its mounting as covered in 3.05. Then remove the motor mounting screws, nuts, and lockwashers using the 43 wrench and the 3-inch C screwdriver. Remove the motor. Mount the new motor on the mounting bracket making sure that the lockwashers are under the nuts. Partially tighten the screws and position the motor so that the gears have slight backlash. Securely tighten the screws. Remount the timer and reconnect the leads.

3.14 ***Switch Mounting Screws:*** When replacing both switch mounting screws, replace them one at a time. To replace a screw, remove the timer from its mounting as covered in 3.05 and the motor as covered in 3.12. Then hold the timer with the end plate down to prevent the spacer between the mounting bracket and switch A from dropping out when the screw is removed. Holding the nut with the 43 wrench, remove the screw with the 3-inch C screwdriver. Substitute the new screw, make sure the lockwasher is under the nut, and tighten the screw securely. Remount the motor as covered in 3.12. Remount the timer on the mounting panel and resolder all leads which were disconnected at the terminal strips.

REASONS FOR REISSUE

1. To revise the piece-part data (Fig. 1).
2. To revise the list of tools (3.01).
3. To revise the procedure for replacing the switches (3.10, 3.11, and 3.12).