

KS-14399 CONTACT-MAKING AMPERE-MINUTE METER 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-14399 contact-making ampere-minute meter. It also covers the approved procedures for replacing these parts.

1.02 Part 2 of this section covers ordering information for those parts which it is practicable to replace in the field in the maintenance of this apparatus. No attempt should be made to replace parts not designated. Part 2 also covers explanatory figures showing the different parts. This information is called Replacement Parts.

1.03 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. REPLACEMENT PARTS

2.01 The figures included in this part show the replaceable parts in their proper relation to other parts of the apparatus together with their corresponding names.

2.02 When ordering parts for replacement purposes, give the name of the part as shown in the figures of this section and also the nameplate data of the meter for which the part is ordered. Include the manufacturer's name, type designation, serial number, and the KS number. For example: one thermocouple for the Sangamo Electric Company, KS-14399 contact-making ampere-minute meter, type N2X, serial number 9277268. Do not refer to the BSP number.

2.03 Miscellaneous parts, for instance screws, etc, which are not named in the illustrations and which cannot be obtained locally, should be ordered by describing the part.

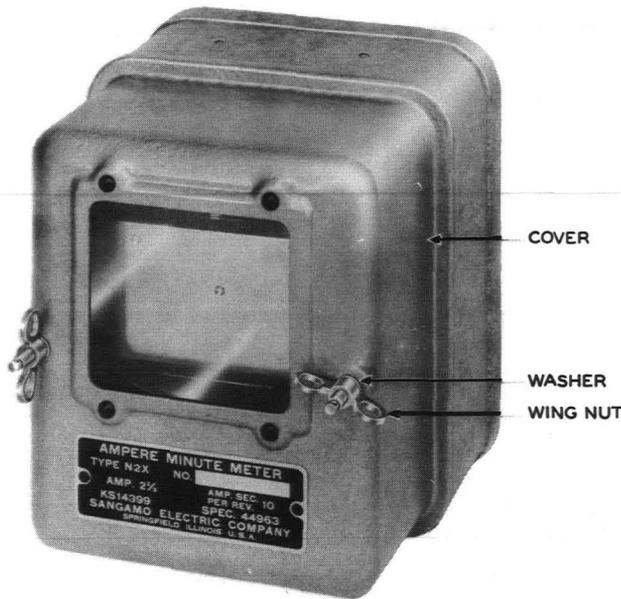


Fig. 1 - KS-14399 Ampere-Minute Meter

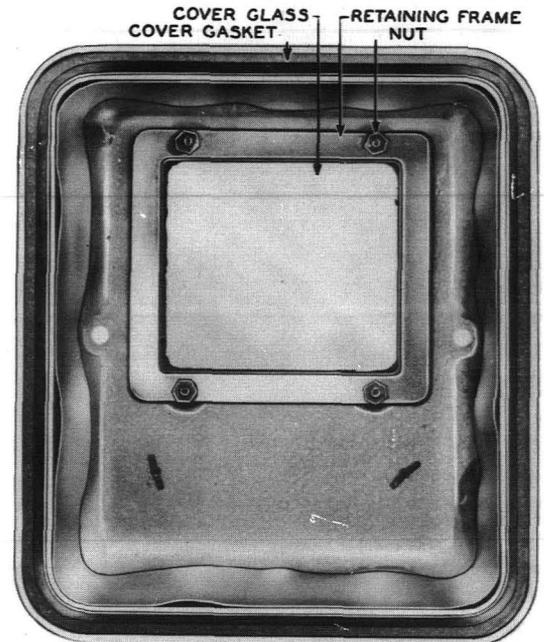


Fig. 2 - Back View of Cover

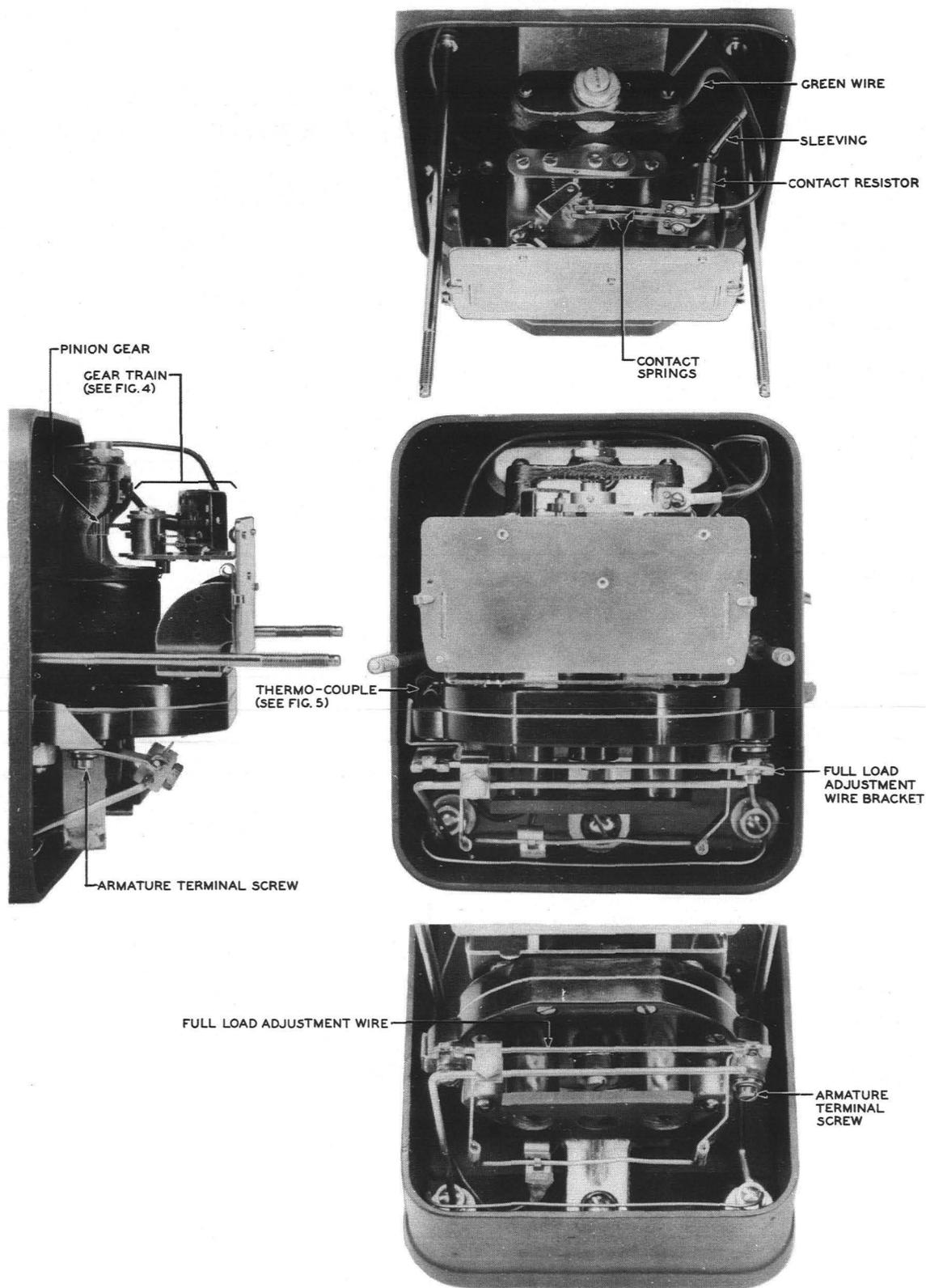


Fig. 3 - Assembly View With Cover Off

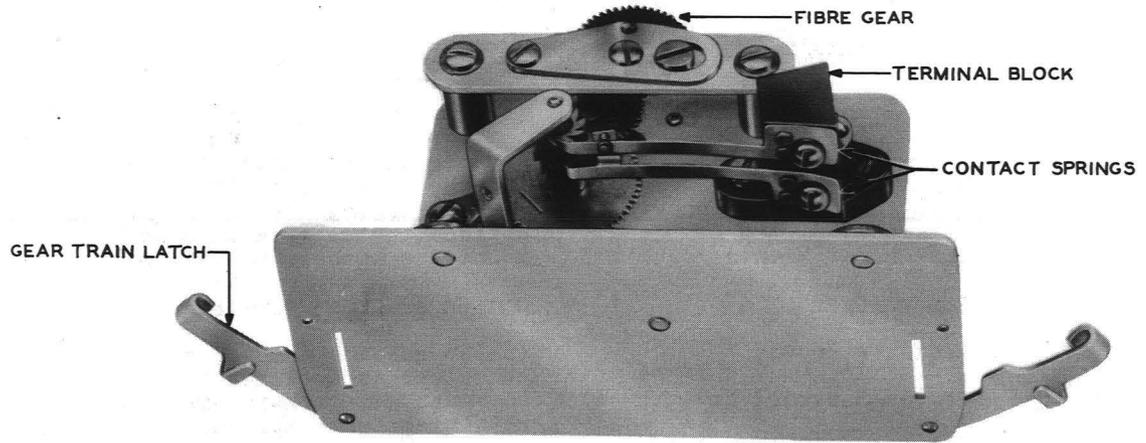


Fig. 4 - Gear Train (See Note)

Note: If any part shown above needs to be replaced, it will be necessary to order the gear train complete as shown in Fig. 4.

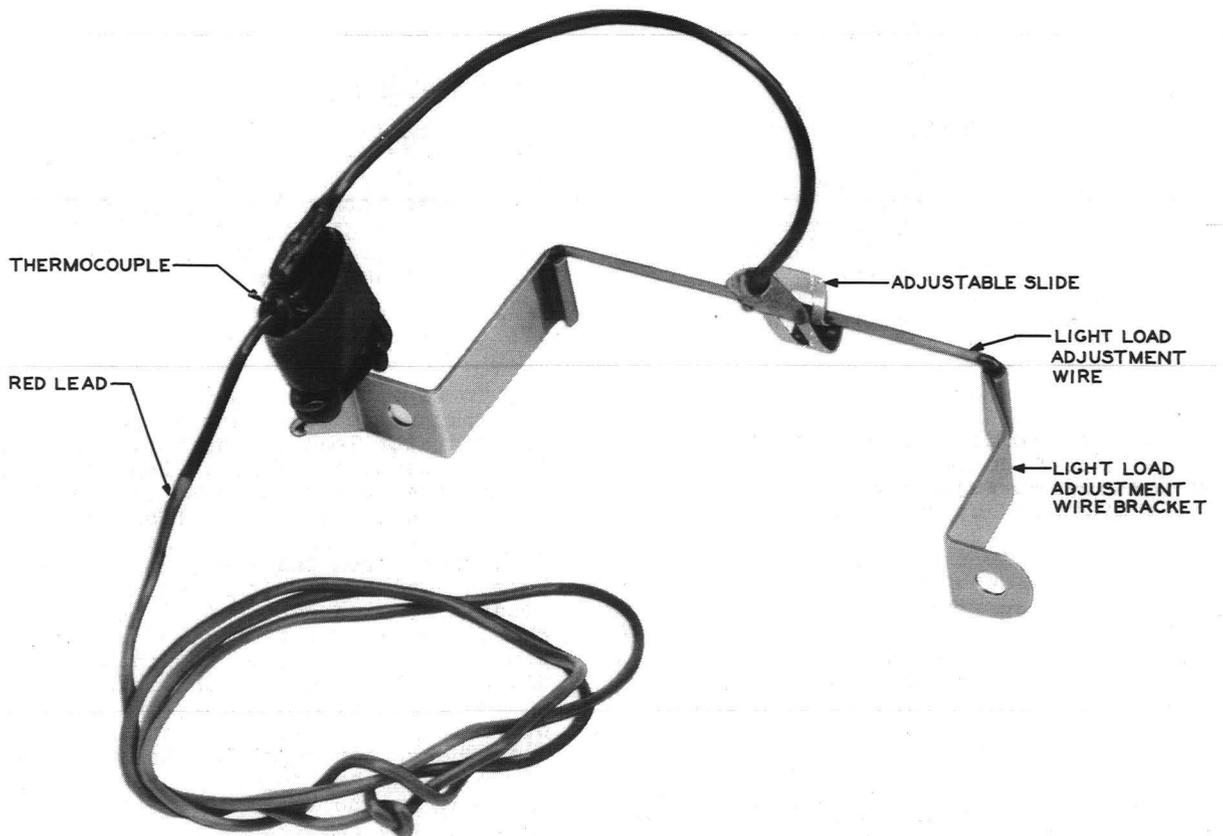


Fig. 5 - Thermocouple (See Note)

Note: If any part shown above needs to be replaced, it will be necessary to order the thermocouple which consists of the thermocouple, light load adjustment wire, adjustable slide, and two leads.

SECTION 100-501-801

3. REPLACEMENT PROCEDURES

3.01 List of Tools and Materials

<u>Code or Spec No.</u>	<u>Description</u>
<u>Tools</u>	
474A	3/16-inch by 1/4-inch Hexagonal Closed Double-end Offset Wrench
KS-6854	Screwdriver
R-2966	Artist's Brush
AEC0 H21766	Offset Screwdriver
-	6-1/2-inch P-Long-Nose Pliers
-	5-inch Diagonal Pliers - V Notch
<u>Materials</u> (See Sections 065-370-101 and 065-330-101)	
KS-14666	Cleaning Cloth
-	Petroleum Spirits
-	1-inch long 1/8-inch Diameter Sleeving
-	Shellac

3.02 Before making any replacements, be sure that service will be maintained by wiring in a substitute meter while making replacements. It is also satisfactory to insert a make-busy plug into the jack where the meter is plugged in.

3.03 After making any replacement of parts of a meter, the part or parts replaced shall meet the readjust requirements involved as specified in Section 100-501-701. Other parts whose adjustments may have been directly disturbed by the replacing operations, shall be checked to the readjust requirements and an over-all operation check shall be made of the meter before restoring it to service.

3.04 No replacement procedures are specified for screws and other parts where the replacement consists of a simple operation.

3.05 In order to make any replacements, it will be necessary to remove the cover as outlined in 3.07. The cover shall be remounted as outlined in 3.07 when replacements and adjustments are completed.

3.06 The meter should not be disassembled. If bearings or any part of the armature, including the magnetic circuit, mercury, or chamber, are suspected causes

of inaccuracy in the meter, it should be replaced.

3.07 Cover (See Fig. 1)

(1) To replace the cover, unscrew the two wing nuts, remove the washers, and remove the cover. Use care in removing the cover since it is seated in a gasket, making the meter dust tight. Replace the cover with a new one and remount the washers and the wing nuts.

3.08 Cover Glass (See Fig. 2)

(1) To replace a cover glass, remove the cover as outlined in 3.07. Remove the nuts and lockwashers holding the retaining frame against the glass. Remove the retaining frame and any broken glass. Clean the portion of the cover and retaining frame where the glass rests with petroleum spirits. Apply a thin coat of shellac on both surfaces of the new glass which will be between the retaining frame and cover. Place glass and retaining frame in proper positions. Remount lockwashers and nuts, tighten nuts evenly. Apply shellac to nuts and ends of screws.

3.09 Cover Gasket (See Fig. 2)

(1) To replace a cover gasket, clean out the old gasket from the recess. Wipe recess with petroleum spirits. Shellac the recess with a light coat of shellac. Fit in a new gasket, pressing it in contact with the cover at all points. Remove any excess shellac and allow to dry.

3.10 Contact Resistor (See Fig. 3)

(1) To replace the contact resistor, remove the screw and washer holding the resistor lead to the terminal block for the contact springs. Unsolder the green wire or cut it close to the sleeving on the other lead to the resistor. If the wire is cut, skin back a short length (3/8 inch) from the end of the wire. Form a small eye on the end of one of the leads of the replacement resistor. This should be similar to that on the old resistor. Push a 1-inch length of 1/8-inch diameter sleeving over the skinned end of the green wire. Solder the wire to the other resistor lead. Force the sleeving over the soldered joint. Remount the screw and washer to hold the resistor lead with the eye to the contact spring from which it was removed.

3.11 Contact Springs (See Fig. 3 and 4)

(1) If contacts or contact springs require replacing, the entire gear train must be replaced as described in 3.12.

3.12 Gear Train (See Fig. 3 and 4)

(1) To replace a gear train, note the positions and remove the two leads on the contact springs. Release both gear train latches by moving them down to a horizontal position, thereby releasing the gear train. Place the new gear train in position making sure that the fibre gear of the train is properly meshed with the pinion gear. Lock the latches in position and reconnect the wires to their respective contact springs.

3.13 Thermocouple (See Fig. 3 and 5)

(1) To replace the thermocouple, it is necessary to replace the thermocouple,

light-load adjustment wire, adjustable slide, and two leads as a unit. Remove the two armature terminal screws. Observe the order of placement of lock-washers, insulating washers, and bushing on the right-hand armature terminal screw so that they may be replaced in the proper order. The full-load adjustment wire bracket is insulated from the light-load adjustment wire bracket at this terminal. Remove the thermocouple. Replace with a new assembled thermocouple in the reverse order.