

KS-7495 AND KS-14359 MAGNETIC COUNTERS REQUIREMENTS AND ADJUSTING PROCEDURES

1. GENERAL

1.01 This section covers the KS-7495 and KS-14359 magnetic counters.

1.02 This section is reissued to change the title of the section to include the KS-14359 magnetic counter; to add a requirement and procedure for cleaning the KS-14359 counter. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted. Detailed reasons for reissue will be found at the end of the section.

1.03 Reference shall be made to Section 020-010-711 covering general requirements and definitions for additional information necessary for the proper application of the requirements listed herein.

1.04 **Make-busy Information:** Before checking or adjusting for any requirement on the magnetic counter, make the associated circuit busy in accordance with approved methods.

1.05 Local instructions should be followed for recording and reporting any magnetic counter operations caused by maintenance operations covered in this section.

1.06 **Caution:** Before resetting number wheels, disconnect the current from the coil windings.

1.07 **Operate:** A magnetic counter is said to operate, if, when current is connected to the windings, the armature arm or armature moves sufficiently to touch the frontstop or core and cause the units wheel to advance to the next position.

1.08 **Release:** A magnetic counter is said to release if, when current is disconnected from the windings, the armature arm or armature moves from the frontstop or core to the backstop.

1.09 **One Drop of Oil:** For the purpose of this section, one drop of oil is the amount of oil released from the nozzle of the No. 401A oil gun when the plunger is turned in (clockwise) until the spring pawl drops into the next notch.

2. REQUIREMENTS

2.01 *Cleaning*

(a) The exterior of the magnetic counter shall be cleaned when necessary.

Gauge by eye.

(b) **KS-14359 Magnetic Counter:** The number wheels shall be cleaned when necessary.

Gauge by eye.

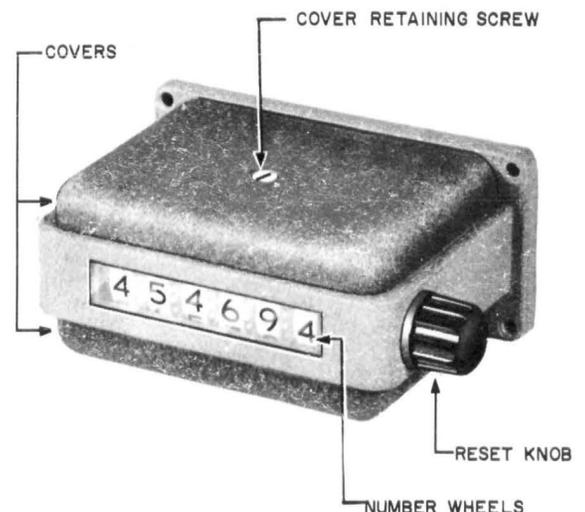


Fig. 1 - KS-14359 Magnetic Counter

2.02 Lubrication

(a) **KS-14359 Magnetic Counter:** No lubrication is required.

(b) **KS-7495 Magnetic Counter:** The following parts of the KS-7495 magnetic counter shall be lubricated with KS-6232 oil. When lubrication is required, oil shall be applied as follows.

(1) **Linkage Pins — Fig 2(A):** One drop of oil to the ends of each pin connecting the linkage to the armature arm and the counter arm.

(2) **Armature Shaft Bearing — Fig. 3(A):** Two drops of oil to the shaft bearing oil hole.

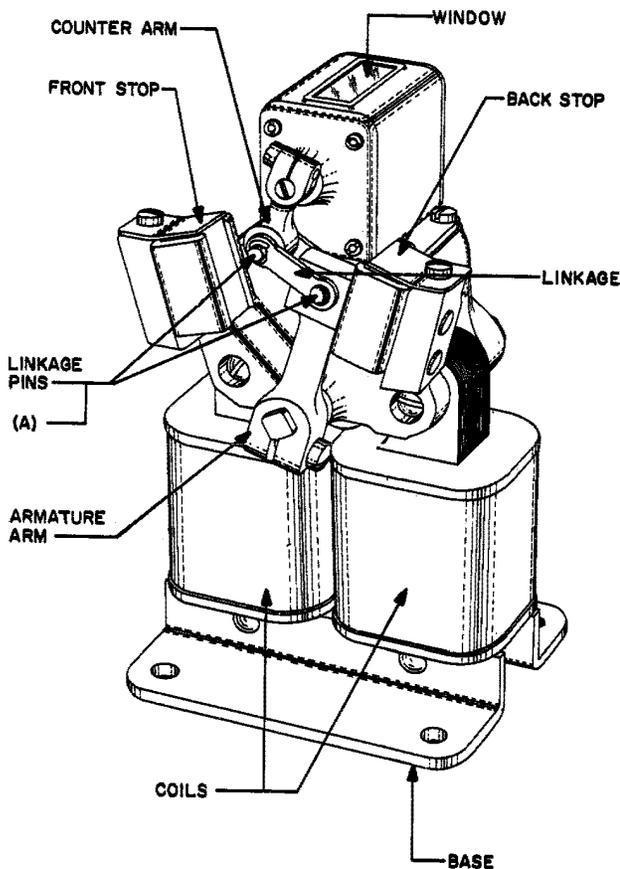


Fig. 2 — KS-7495 Magnetic Counter

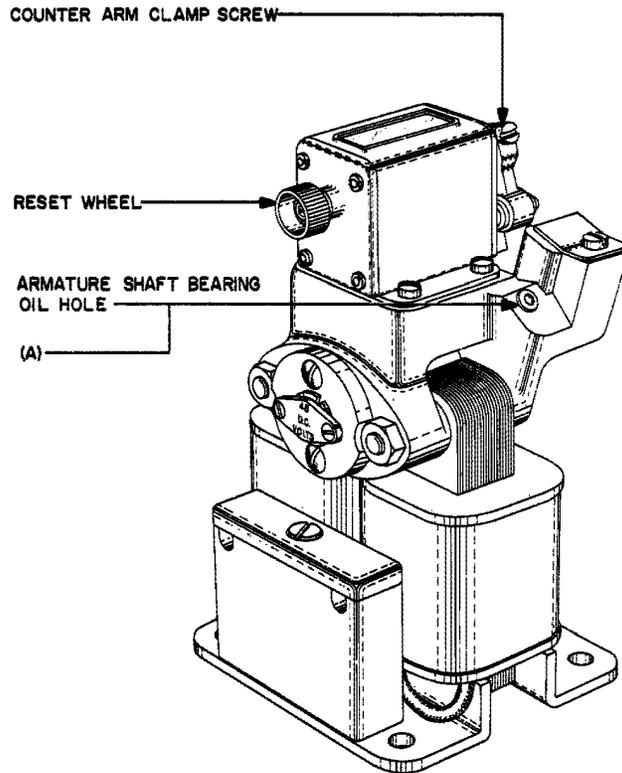


Fig. 3 — KS-7495 Magnetic Counter

(c) **Recommended Lubrication Intervals:**

After turnover it is recommended that the above parts be lubricated at intervals of 2 months. The lubrication intervals may be extended if periodic inspections have indicated that local conditions are such as to insure that the requirements will be met during the extended intervals.

2.03 Record of Lubrication: During the period of installation, a record shall be kept by date of the lubrication of the counter and this record shall be turned over to the telephone company with the equipment. If no lubrication has been done, the record shall so state.

2.04 Mounting of Magnetic Counter: The magnetic counter shall be fastened securely to its mounting.

Gauge by feel.

2.05 Electrical Requirements: The magnetic counter shall meet the following electrical requirements.

Operate — 45 volts
Release — open circuit

Use 35-type test set

To check this requirement, use a 35-type test set having a voltmeter. If a test set with voltmeter is not available, use the external voltmeter in conjunction with the test set. If test set preparation is not specified on the Circuit Requirement Table, disconnect the counter from the circuit and furnish battery and ground through the test set with B/G/V preparation.

3. ADJUSTING PROCEDURES

3.001 List of Tools, Materials, and Test Apparatus

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
401A	Oil Gun
—	3-inch Cabinet Screwdriver
—	4-inch Regular Screwdriver
MATERIALS	
KS-2423	Cloth
KS-6232	Oil
KS-16601, List 1	Paper
TEST APPARATUS	
35 Type	Test Set
—	Voltmeter, dc, Weston Model 931, ranges 300/150/75/30 volts, or equivalent (if 35-type test set having voltmeter is not available)

3.01 Cleaning (Reqt 2.01)

(1) **Exterior of Magnetic Counter:** Clean the exterior of the magnetic counter by wiping it with a clean, dry KS-2423 cloth. Clean the window of the counter with a clean KS-2423 cloth moistened with water. Then wipe the window with a clean, dry cloth.

(2) **KS-14359 Magnetic Counter:** To clean the number wheels of the KS-14359 magnetic counter, remove the counter from its mounting as covered in (a); remove the covers from the counter as covered in (b); prepare the KS-16601, List 1 paper as covered in (c); and then, clean the number wheels as covered in (d).

(a) **Removing Counter From Mounting:**

Unsolder and disconnect the counter leads from the terminals on the terminal block to which they are connected and tag these terminals. Using the 3-inch cabinet screwdriver, remove the counter mounting screws and remove the counter.

(b) **Removing Covers:** Using the 3-inch cabinet screwdriver, remove the cover retaining screw located in the center of the upper cover. Remove the covers.

(c) **Preparation of KS-16601, List 1 Paper:**

The KS-16601, List 1 paper used for cleaning the number wheels is furnished in sheets 18 inches square. Cut the sheet into four 9-inch squares. For procedures specifying the use of moistened paper, fold the 9-inch square sheet twice to provide four thicknesses of paper 4-1/2 by 4-1/2 inches. In these cases, immerse the four thicknesses of paper in water and, then, squeeze the paper to remove excess moisture. In using dry paper, it is not necessary to fold the 9-inch square sheet.

(d) **Cleaning Number Wheels:** Clean each number wheel individually, using the moistened KS-16601, List 1 paper as follows. Hold the paper lightly against the surface of the number wheel at the bottom

of the counter, and rotate the cyclometer manually by means of the reset knob. After cleaning, wipe each number wheel with clean, dry, KS-16601, List 1 paper.

(e) Remount the covers on the counter. Remount the counter on its mounting and securely tighten the mounting screws. Connect and solder the counter leads to the terminals from which they were removed. Dress the leads to conform with the associated wiring.

3.02 Lubrication (Reqt 2.02)

- (1) *KS-14359 Magnetic Counter*: No lubrication.
- (2) *KS-7495 Magnetic Counter*: When lubrication is required, apply the KS-6332 oil to the points requiring lubrication using the No. 401A oil gun. After the oil has been applied, operate the counter several times to work the oil into the bearings. Then wipe off any excess oil using a clean, dry KS-2423 cloth.

3.03 Record of Lubrication (Reqt 2.03)
(No procedure)

3.04 Mounting of Magnetic Counter (Reqt 2.04)

- (1) If the requirement is not met, securely tighten the mounting screws using the 4-inch regular screwdriver.

3.05 Electrical Requirements (Reqt 2.05)

- (1) *KS-7495 Magnetic Counter*: If the requirements are not met, clean and lubricate the counter as covered in 3.01 and 3.02. If the counter still fails to operate properly, replace the counter.
- (2) *KS-14359 Magnetic Counter*: If the requirement is not met, replace the counter.

REASONS FOR REISSUE

1. To revise the title to include the KS-14359 magnetic counter.
2. To revise the cleaning requirement and procedure to include KS-14359 Magnetic Counter (2.01 and 3.01).
3. To revise the list of tools, materials and test apparatus (3.001).
4. To add figure showing KS-14359 magnetic counter (Fig. 1).