KS-7677 UNIT TYPE PROTECTOR

INSTALLATION AND MAINTENANCE

Contents

1. GENERAL

1.01 This section describes the installation and maintenance procedures for the KS-7677 Unit Type Relay Protector.

2. FIELD OF USE

2.01 The unit type relay protector is designed for use on open wire telephone lines for the purpose of limiting the voltage-to-ground when the circuits are exposed to high induced voltages at time of fault on neighboring power lines and where it is indicated that carbon block protectors normally installed may become permanently grounded by discharge current, thus rendering the circuit inoperative until the blocks are replaced.

2.02 This protector is to be mounted adjacent to a standard protector. When operated, it shunts the blocks in the standard protector, thus reducing the probability of permanent grounding.

2.03 The unit type relay protector shall not be installed unless specifically called for on the detail plans.

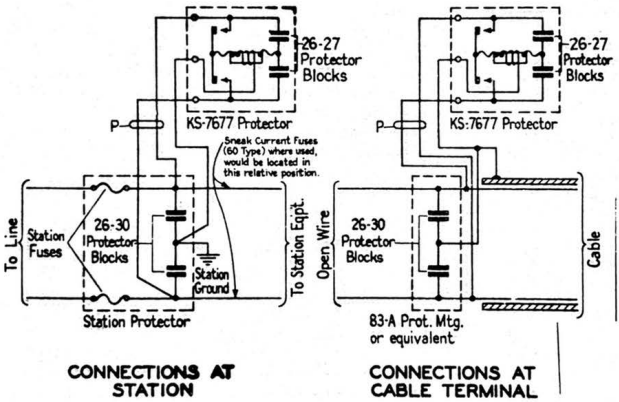
3. METHOD OF INSTALLATION

3.01 The protector should, in all cases, be mounted with the axis of the relay winding in a horizon-

tal plane. This insures that the gaps of the protector blocks will be in a vertical plane and that the operating characteristics of the relay will not be affected by the action of gravity on the armature.

3.02 The unit should be mounted in a weatherproof box for protection against rain, dust and mechanical injury. It will be satisfactory to use an 86-A protector mounting to house one of these units, if the extra holes are plugged to make the box weatherproof.

3.03 The following drawing shows the methods of connecting the KS-7677 protector when associated with a station protector at the subscriber's premises or when installed at the junction between open wire and cable. The locations for mounting the protector housings on poles must be so chosen as to avoid impairing the climbing space.



CONNECTIONS AT STATION

CONNECTIONS AT CABLE TERMINAL

3.04 The line connections between the KS-7677 protector and the standard protector shall be made with 20-gauge paired Bridle Wire or 22-gauge DU Station Wire.

3.05 The ground connection from the KS-7677 protector to the ground post of a station protector shall be a single, 14-gauge ground wire.

3.06 The ground connection from a KS-7677 protector located at the junction of open wire and cable

shall be made, with No. 6 ground wire, to the ground post of the 83A Protector, to the sheath of the cable, and to an auxiliary ground rod near the base of the pole. An 8-foot Copperweld ground rod should be used if available.

4. MAINTENANCE

4.01 The 26- and the 27-type blocks in the KS-7677 protectors should be replaced after each six months of service, unless reported operation of protectors necessitates more frequent inspection and replacement.

4.02 Inspection of relay contacts will be required to see if it is necessary to file their surfaces to eliminate pits or burned spots. The frequency of such inspections will depend on the frequency of relay operation. However, unless line or station trouble necessitates calls at lesser intervals, it will be satisfactory to inspect the relay contacts twice yearly.

4.03 Contact clearance with the armature in its unoperated position should be approximately .030 inch (about 1/32 inch). The contact follow should be about .005 inch, that is, it should be easily perceptible to the eye. These dimensions can be judged satisfactorily by eye and should not require the use of a gauge.

4.04 If adjustments are necessary, they can be made in one or both of the following ways:

(a) By bending the stationary contact springs with a pair of pliers applied near the base of the spring supports.

(b) By changing the armature travel by means of the screw located on the armature back stop near the base of the relay.

4.05 The armature back tension is adjusted by bending the support carrying the coil spring. This adjustment is not to be made, however, except under supervision of the technical group, in order to maintain the proper electrical operating requirements noted in Paragraph 4.06.

4.06 The protector should operate on about 1.5 amperes a.c., and should release on about .45 amperes d.c.