



ERECTION • TESTING • MAINTENANCE INSTRUCTIONS

TYPE SV SUSPENDED ARRESTERS

A-C Circuits

Station Type for Outdoor Service

145000 through 195000 Volts

THE TYPE SV SUSPENDED ARRESTERS, 145 through 195 kv, consists of a series of arrester units mounted in a zig-zag pattern in the vertical plane. The arrester rating determines the number of units comprising a single arrester assembly. Each arrester assembly is a single pole unit. For three phase installations three arrester assemblies must be used.

All assemblies are provided with both upper and ground grading rings.

The standard arrester assembly rated 145 kv consists of four arrester units and both grading rings. All arrester units are rated 37 kv.

The standard arrester assembly rated 169 kv consists of five arrester units and both grading rings. Four arrester units are rated 37 kv; one is rated 25 kv.

The standard arrester assembly rated 195 kv consists of six arrester units and both grading rings. Five arrester units are rated 37 kv; one is rated 12 kv.

The entire arrester structure is suspended by suspension insulators attached to the tower by means of a steel strain yoke as shown in Fig. 1. The structure may be suspended without the strain yoke by attaching the two insulator strings to the tower by the ball clevis fittings. The components of the arrester assembly are connected by universal joints. The universal joints permit the entire assembly to sway in any direction without placing stress on the arrester units.

The structure is tied to the foundation by a semi-enclosed compression spring. The spring is tightened down by the turn buckle and cable. Due to its construction the structure will not sway sidewise if the spring fails.

RECEIVING

Main Components. The arrester units and other attachments of the assembly will be packaged separately. The components consist of the following:

1. Arrester units. Described and illustrated in Instruction Leaflet 38-120-1.

2. Upper grading ring assembly. This consists of an upper and lower ring, pipe supports, pipe end clevis, line terminals and hardware.

3. Ground grading ring assembly. This consists of one ring.

4. Insulators for suspension of the structure and spacing of the arrester units.

5. Top, middle and end links. The top and end links have three drilled holes, the top link is the longer of the two. The middle link has four drilled holes.

6. Spring assembly, turn buckle and guy clamp for tying down the structure.

7. Clevis fittings and assorted hardware.

ASSEMBLY

Upper Grading Ring. The pipe end clevis fittings are clamped to the pipe supports of the upper grading ring assembly. These fittings are bolted to the lugs on the upper and lower rings. The line terminals are bolted to the steel support plate at the holes provided. (See Fig. 2).

Ground Grading Ring. Bolt the long support plate to the ring assembly links as shown in Fig. 5. The long support plate will have the dress and arrester nameplates attached.

ERECTION

1. The arrester should be assembled from the top down. Start with the steel strain yoke (See Fig. 1). The parts of the assembly can be raised by lifting equipment as they are needed.

2. Attach the suspension insulator strings to the steel yoke by means of the ball clevis fittings (Fig. 1).

3. Add the upper grading ring assembly to the suspension insulator strings by means of the socket clevis fittings. (See Figs. 2 and 3).

4. Mount the end support plates on the arrester units. Use the hardware in the sack tied to one

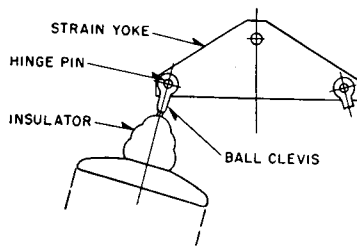


FIG. 1. STRAIN YOKE ASSEMBLY

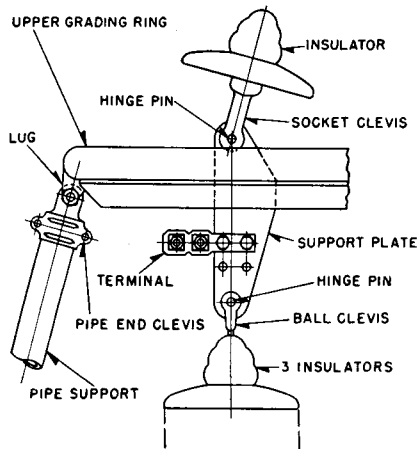


FIG. 2. UPPER GRADING RING ASSEMBLY

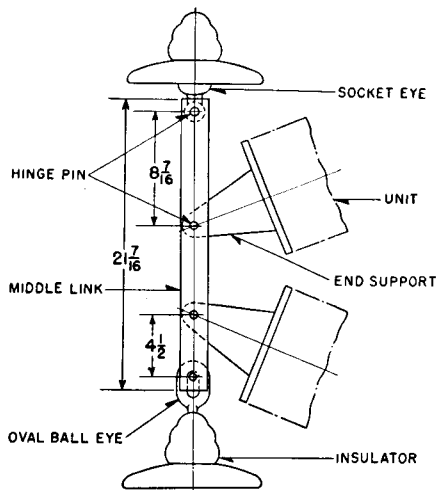


FIG. 4. MIDDLE LINK ASSEMBLY

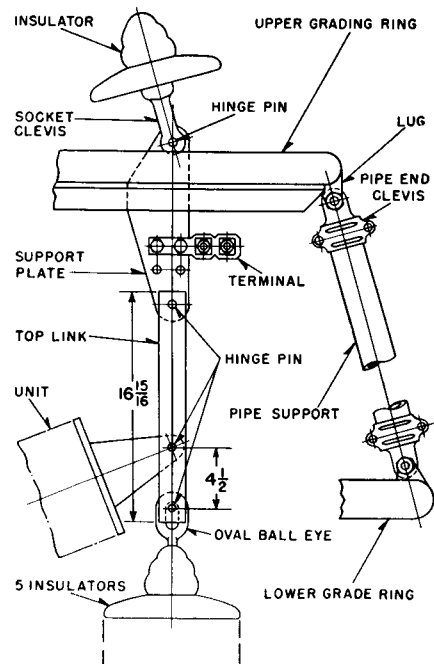


FIG. 3. UPPER GRADING RING ASSEMBLY

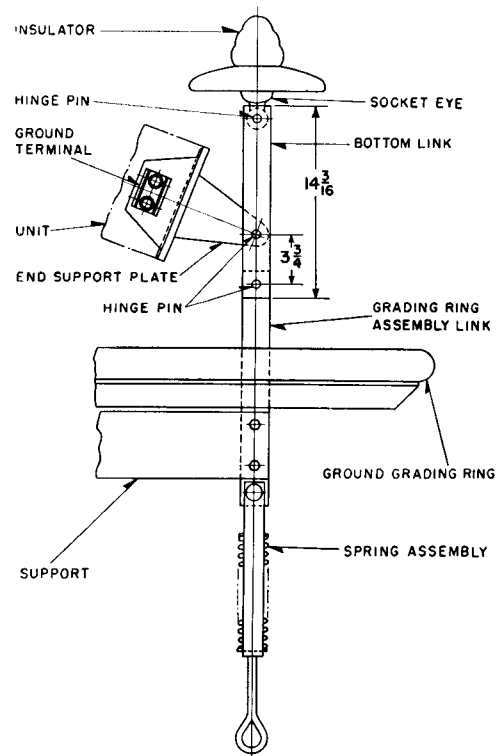


FIG. 5. GROUND GRADING RING AND SPRING ASSEMBLY

FIGS. 1 through 5. Sequence of Assembly Operations for Erection.

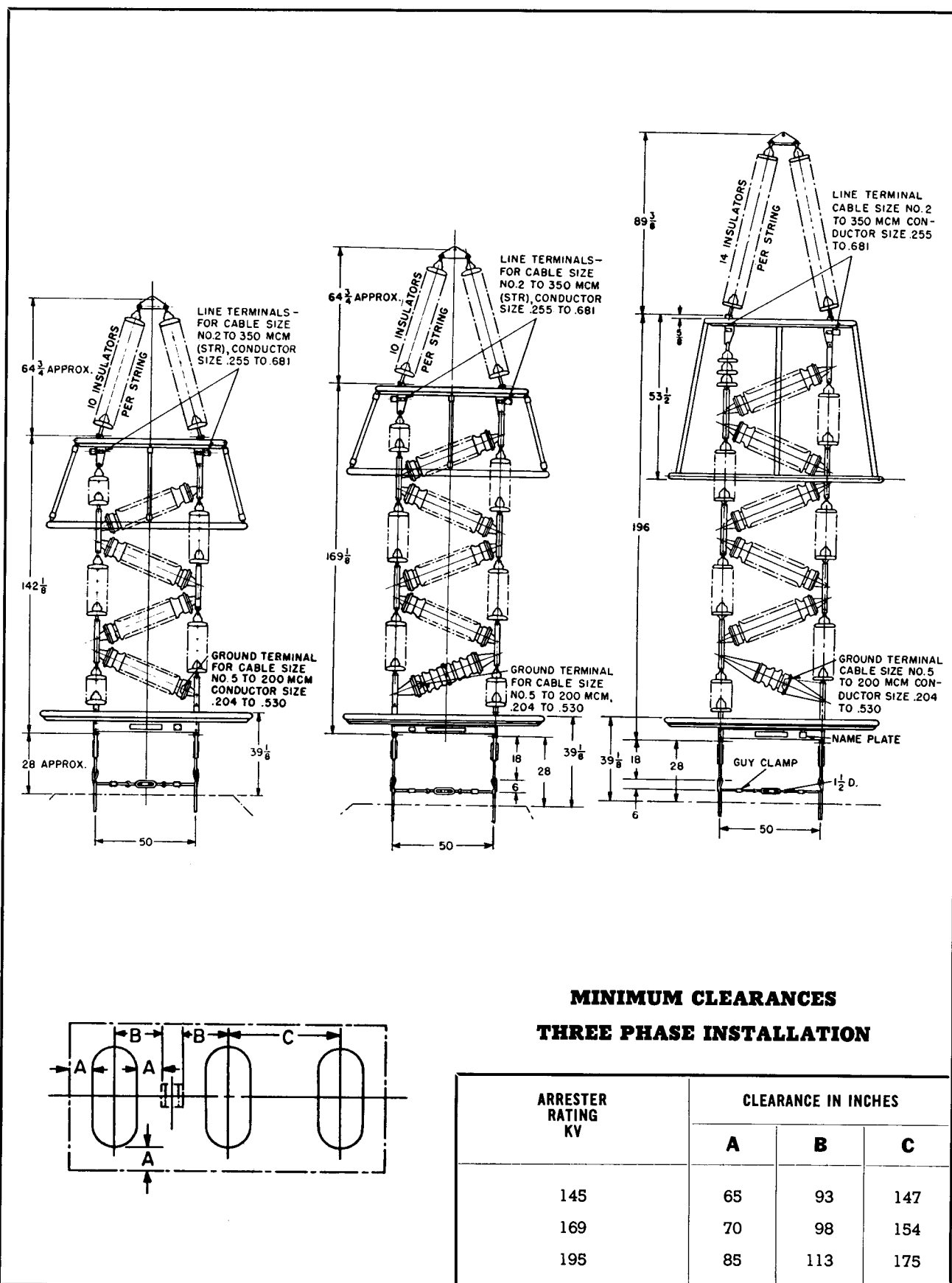


FIG. 6. Outline Dimensions and Clearances for Type SV Suspended Arresters.

SV SUSPENDED ARRESTERS

end casting for mounting the support to the base of the unit. The smaller hardware provided is used for the top support (Fig. 4).

5. One leg of the arrester assembly must start with a string of three suspension insulators directly below the upper grading ring. A ball clevis fitting is used to attach the insulator string to the steel support plate (Fig. 2). By means of a hinge pin attach two top links to the other support plate (Fig. 3).

6. To the bottom of the first insulator string add two middle links by means of a socket eye. These are mounted as shown in Fig. 4.

7. To the bottom of the top link add a string of five insulators by means of an oval ball eye. (See Fig. 3).

8. The first arrester unit is attached by hinge pins to the top and middle links at the holes provided. (See Figs. 3 and 4).

9. Add arrester units, links and suspension insulator strings as indicated on the assembly drawing until arrester assembly is completed.

10. Care must be exercised that the end of the arrester unit with the nameplate attached be mounted nearer ground.

11. One leg of the assembly will terminate with a string of three insulators. The opposite leg will terminate with the end link. The three insulators, for all except the 169 kv arrester, will be in the same leg as the initial string of three

insulators. The 169 kv arrester has the bottom string of three insulators in the opposite leg.

12. Attach the insulator string and end link to the ground grading ring support links (Fig. 5). The longer of the support links is attached to the end link.

13. To the bottom of the support links add the spring and tie down assembly. (See Fig. 5).

Discharge Counter. If recording or measuring equipment is to be used, additional suspension insulators and links are required. One insulator is mounted in each leg, with the necessary links, under the ground grading ring. These insulators are not part of the standard assembly.

MAINTENANCE

The arrester requires no regular maintenance other than an occasional inspection. In locations where dirt and soot collect, it is recommended that the arresters be cleaned periodically.

Caution: Do not wash lightning arresters by hosing while they are energized.

Correspondence. Direct any inquiries pertaining to the lightning arrester to the nearest Westinghouse Sales Office giving the type, voltage rating, and style number of the complete arrester as stated on the main lightning arrester nameplate.



WESTINGHOUSE ELECTRIC CORPORATION
EAST PITTSBURGH PLANT • SWITCHGEAR DIVISION • EAST PITTSBURGH, PA.

Printed in U.S.A.