



HANDLING

• INSTALLATION

• MAINTENANCE

# INSTRUCTIONS

## PORCELAIN BUSHINGS TYPE "RJ"

"RJ" PORCELAIN BUSHINGS are used for voltages 15 KV and lower. The standard "RJ" porcelain bushing is made up of a single piece, wet process porcelain with a flange rolled into grooves

in the porcelain over Silastic gaskets. Three types of leads are used in these bushings: A solid stud which goes through the cap, a solid stud which screws into the cap, and a hollow tube with a cable conductor inside of it. For the low voltage class (5 KV), the leads are centered within the porcelains with cotton tape and for the higher voltage classes (15 KV), a Micarta tube is inserted between the leads and porcelains. The leads and the metal caps are sweated together to form a solder-sealed joint. External threading of the caps meets the ASA standard threading for these voltage classes. A gasket is cemented to the cap and porcelain to form a gas-tight seal at the top end. At the lower end a cushion gasket is placed between the porcelain and the washer against which the locknut is tightened to complete the assembly of the porcelain and the lead. See Fig. 1.

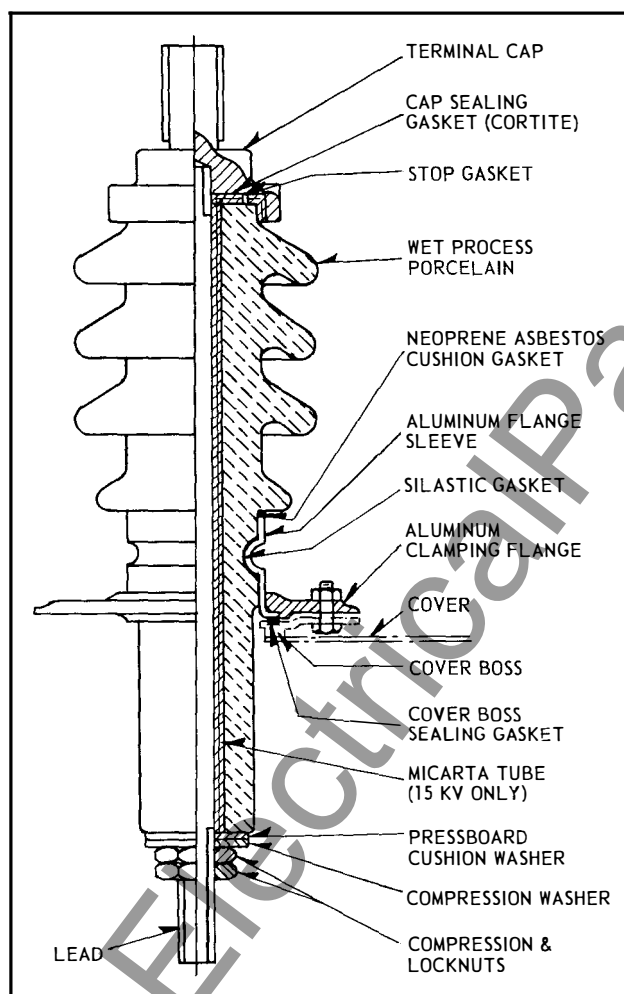


FIG. 1. Typical Cross-Section of "RJ" Porcelain Bushing.

### HANDLING AND STORAGE

Care must be taken in handling the bushing to avoid cracking the porcelain or damaging its surface.

Store spare "RJ" porcelain bushings in a clean, dry place in a vertical or horizontal position.

### INSTALLATION

"RJ" porcelain bushings are usually shipped mounted in place on the transformer. The bushing is mounted on a boss which is welded to the transformer tank cover. A gasket which fits snugly around the porcelain body is cemented to the recess in the boss and to the groove of the rolled-on flange. The flange pulls these surfaces together and compresses the gasket when the nuts are tightened on the clamping bolts thus giving a metal-to-metal gasket stop.

SUPERSEDES I.L. 46-718-2

NOVEMBER, 1960

**WESTINGHOUSE ELECTRIC CORPORATION**  
**SHARON PLANT • TRANSFORMER DIVISION • SHARON, PA**

Printed in U.S.A.



# HANDLING • INSTALLATION • MAINTENANCE INSTRUCTIONS

## "RJ" BULK TYPE BUSHINGS

"RJ" BULK TYPE BUSHINGS are used for voltages 15 KV and lower. The standard "RJ" bulk type bushing is made up of a single piece wet process porcelain with a flange sleeve rolled into grooves in the porcelain over silastic gaskets. A flange plate for clamping the bushing to the boss is made captive by this rolling and becomes an integral part of the porcelain assembly. Three types

of leads are used in these bushings: A solid stud which goes through the cap, a solid stub which screws into the cap, and a hollow tube with a cable conductor inside of it. For the low voltage class (5 KV) the leads are centered within the porcelains with cotton tape, for higher voltage classes (15 KV), a Micarta tube is inserted between the leads and porcelains. The leads and the metal caps are sweated together to form a solder-sealed joint. External threading of the caps meets the ASA standard threading for these voltage classes. A gasket is cemented to the cap and porcelain to form a gas-tight seal at the top end. At the lower end a cushion gasket is placed between the porcelain and the washer against which the locknut is tightened to complete the assembly of the porcelain and the lead.

*Note: Cork-neoprene sealing gaskets are used between the cap and porcelain on bushings for oil-filled transformers and Buna "N" cork gaskets are used on Inerteen-filled transformers.*

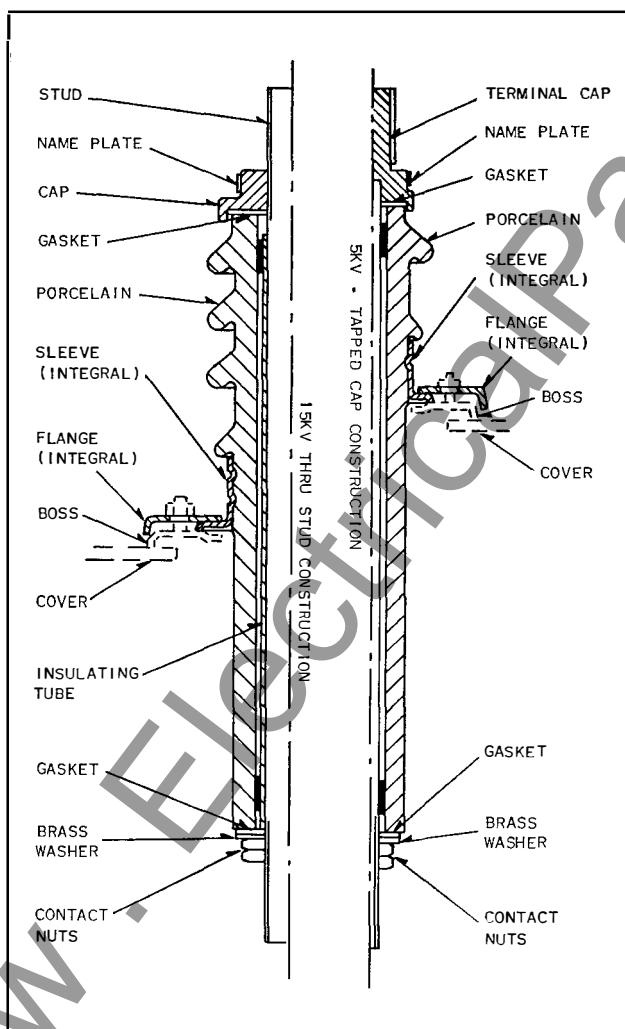


FIG. 1. Sections of Typical "RJ" Bulk Type Bushings: Right Section, 5-KV Tapped Cap Construction; Left Section, 15-KV Through Stud Construction.

### HANDLING AND STORAGE

Care must be taken in handling the bushing not to crack the porcelain or damage its surface. The clamping flange is free to move on the assembled bushing and should not be allowed to slap against the porcelain sheds in handling.

Store spare "RJ" bulk type bushings in a clean, dry place.

### INSTALLATION

"RJ" bulk type bushings are usually shipped mounted in place on the transformer. The bushing is mounted on a boss which is welded to the transformer tank cover or side. A gasket which fits snugly around the porcelain body is cemented to the recess in the boss and to the lip of the rolled-on sleeve. The clamping flange pulls these surfaces together and compresses the gasket when the nuts are tightened on the stud of the boss giving a metal-to-metal gasket stop.

## **"RJ" BULK TYPE BUSHINGS**

---

### **MAINTENANCE AND REPAIR**

Inspect the bushing periodically for broken or cracked porcelains and faulty gaskets. Power factor tests are not necessary since they will not show defects in these bushings.

For all "RJ" bulk type bushings, 6600 volts and over, the exposed metal parts below the cover should be under oil.

The porcelain, sleeve, and clamping flange are

all one component in the "RJ" bulk type bushing. Damage to any of these parts requires complete replacement of all of them as a unit from the factory. This porcelain assembly may be replaced in the field.

When there is further damage, a complete bushing should be ordered from the factory. Include the stock order, and serial number of the transformer as well as the data on the bushing name plate when ordering spare parts or complete bushings.



**WESTINGHOUSE ELECTRIC CORPORATION**  
**SHARON PLANT • TRANSFORMER DIVISION • SHARON, PA.**

(Rep. 10-58) Printed in U.S.A.