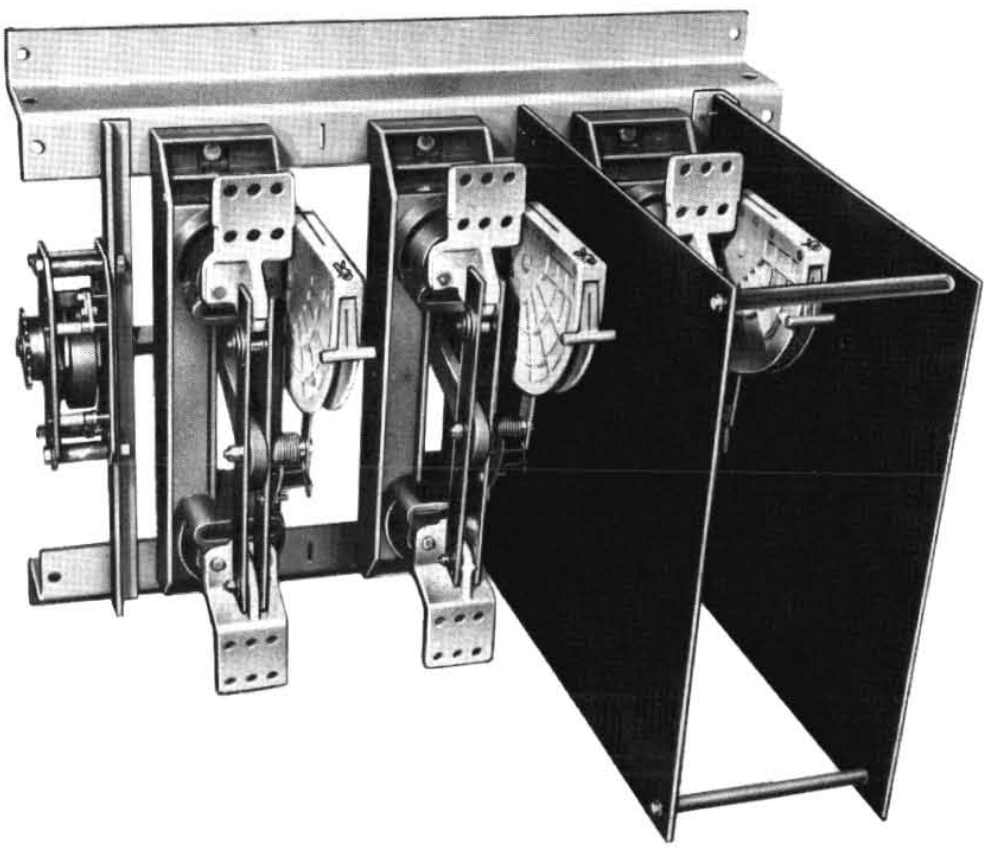
BBC
BROWN BOVERI

IB 2.1.1.7C

Installation/Maintenance Instructions and Renewal Parts

I-T-E Interrupter Switches — Indoor

VersaSwitch Interrupters
Frame Mounted 4.76 and 15 kV



IMPORTANT

Make absolutely sure applicable equipment is deenergized and properly grounded before proceeding with any installation or maintenance.

CONTENTS

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes the matter should be referred to the nearest District Office.

RECEIVING INSPECTION

Immediately upon receipt, the equipment should be checked for completeness and examined for any possible damage sustained in transit. Shortages or damages should be reported immediately to the carrier and proper claims filed.

STORAGE

Equipment which cannot be installed immediately should be stored in a clean, dry indoor environment.

INSTALLATION - GENERAL

WARNING WARNING WARNING WARNING

BEFORE ANY INSTALLATION IS STARTED, MAKE ABSOLULTELY SURE THAT APPLICABLE EQUIPMENT IS DE-ENERGIZED AND PROPERLY GROUNDED. PROTECT THE INSTALLERS ADEQUATELY FROM ADJACENT LIVE PARTS BY USING BARRIERS, SCREENS, ETC.

The frame-mounted, three-pole switch, together with the group-operating parts and stored-energy operating mechanism have been factory aligned and adjusted. For mounting dimensions, refer to contract drawings. One important dimension is the 2-1/4" minimum which must be maintained from the enclosure outline to the frame-mounting holes in order to provide adequate space for mounting a front chain-drive handle.

INSTALLATION - TYPE I

Chain Drive - Handle on Front Left

The component parts for this type of arrangement are shown in Fig. 1. The switch and frame are mounted vertically in the enclosure. The arc chute interrupter is situated above the blade hinge. The switch is chain driven with the handle located on the left front of the enclosure. Normally, the handle is in the "up" position with switch closed.

The following steps are to be followed in the installation:

a. Assemble the chain drive sprocket kit (Mk 302, Dwg. 316-557, sprocket, washer and retaining ring) on the stored-energy device of the switch at the left as shown at (X) in Fig. 1. Make sure HUB of sprocket is next to side plate of mechanism.

b. Mount the frame-mounted switch (Fig. 1) in the enclosure.

c. If not already provided, cut opening and drill or punch four 7/16" diameter mounting holes in left front of enclosure per details in Fig. 2. (This information may also be found on chain-drive operating mechanism Dwg. 316-557.)

d. Assemble chain-drive handle with four 3/8" bolts and lock-washers provided with handle assembly.

e. With switch closed and handle in corresponding position, assemble chain from drive-handle sprocket to switch stored-energy device sprocket. The sprockets should not exceed 1" misalignment. Note: The length of chain furnished is 7' - 7-1/4" and provides for the handle sprocket to be located 15" above or below the stored-energy mechanism sprocket (for 15 kV) and 2' - 5" above or below the mechanism sprocket (for 4.76 kV), with the minimum depth of switch shown on Dwg. 424-017. If the depth dimension is increased, additional chain may be required, depending on the desired elevation of the handle sprocket. (Dwg. 204-769 also gives information concerning turnbuckle chain characteristics and arrangement of parts).

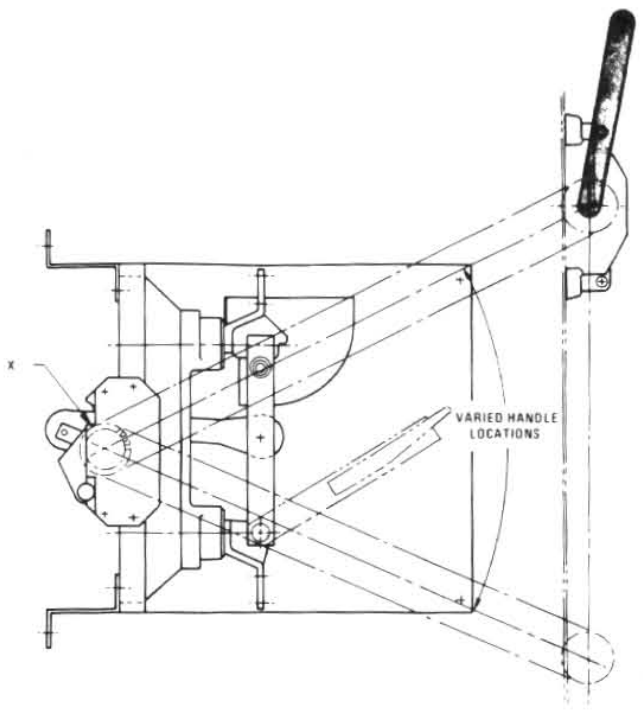


Fig. 1 Handle "UP" in switch closed position.

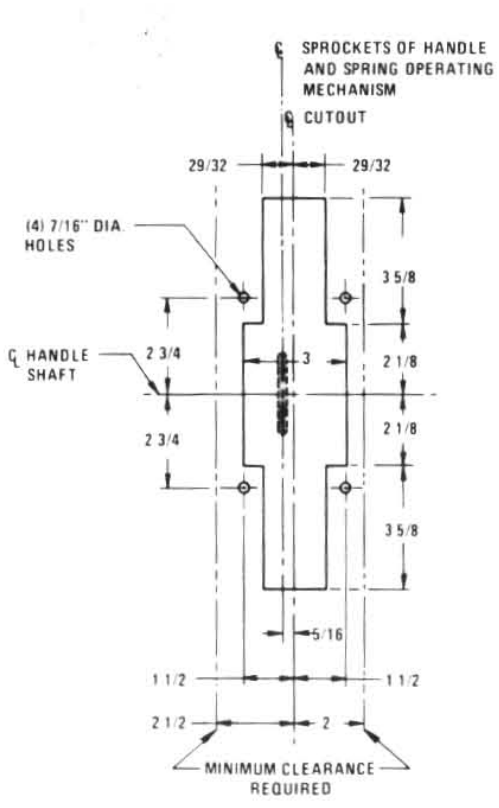


Fig. 2

f. Install CLOSED and OPEN position indicators in appropriate places on operating handle.

g. Open switch and close switch several times, using the drive handle, making any minor adjustments to chain drive as may be required.

h. For the installation of auxiliary equipment, such as interlocks, fuses and auxiliary switches, refer to appropriate section of this Instruction Bulletin.

INSTALLATION - TYPE II

Chain Drive - Handle on Front Right

The component parts for this type are arranged per Fig. 3. The arrangement is essentially the same as for Type I except the handle is at front right. The installation may be performed as follows:

a. Assemble the chain drive sprocket kit (Mk 302, Dwg. 316-557, sprocket, washer and retaining ring) on the stored-energy device of switch at the right as shown at (X) in Fig. 3.

b. Mount the frame-mounted switch (Fig. 3) in the enclosure.

c. If not already provided, cut opening and drill or punch four 7/16" diameter mounting holes in right front of enclosure per details in Fig. 4. (This information may also be found on chain-drive operating mechanism Dwg. 316-557.)

d. Proceed with installation per steps (d) through (h) as outlined above for Type I arrangement.

INSTALLATION - TYPE III

Direct Drive - Handle on Left Side

The component parts for this type of arrangement are shown in Fig. 5. The switch and frame are mounted vertically in the enclosure. The arc chute interrupter is situated above the blade hinge. The switch has a direct drive operator and the handle is mounted on the left side of the enclosure. The handle is in the "UP" position with the switch closed for this arrangement.

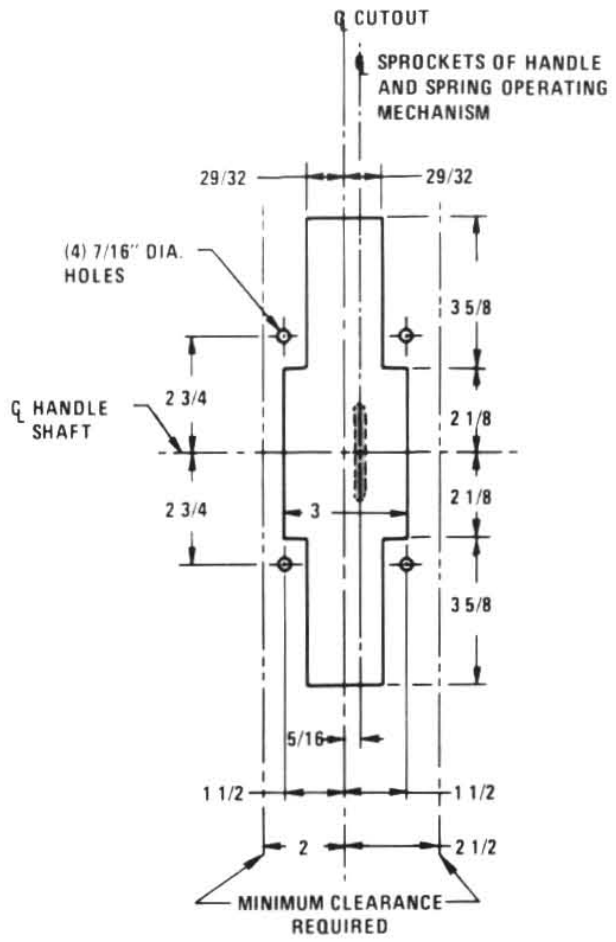


Fig. 4

The following procedure is recommended:

a. Mount the frame-mounted switch (Fig. 5) in the enclosure. Check to be sure the 2-1/4" dimension from frame-mounting holes to outside of enclosure (per Dwg. 424-014) has been maintained.

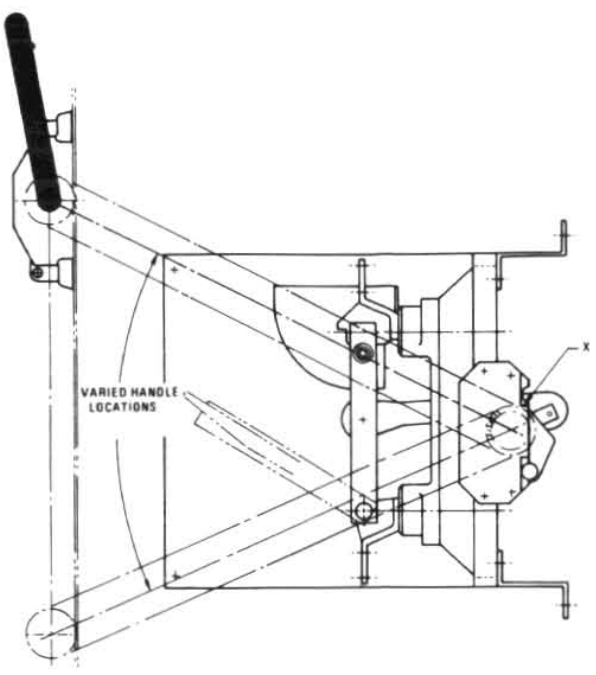


Fig. 3 Handle "UP" in switch closed position.

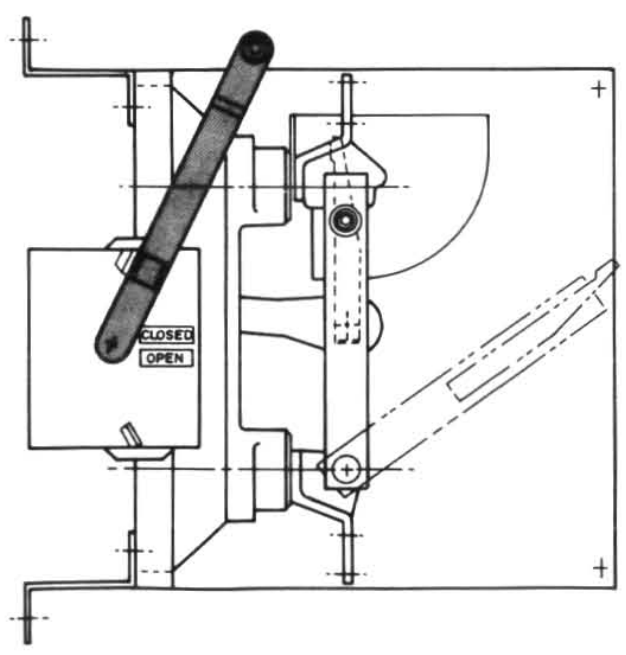


Fig. 5 Handle "UP" in switch closed position.

b. If it has not already been done, cut opening and drill or punch four 3/4" diameter holes on left side of enclosure per pattern shown in Fig. 6. (The same information appears on direct drive handle Dwg. 422-446).

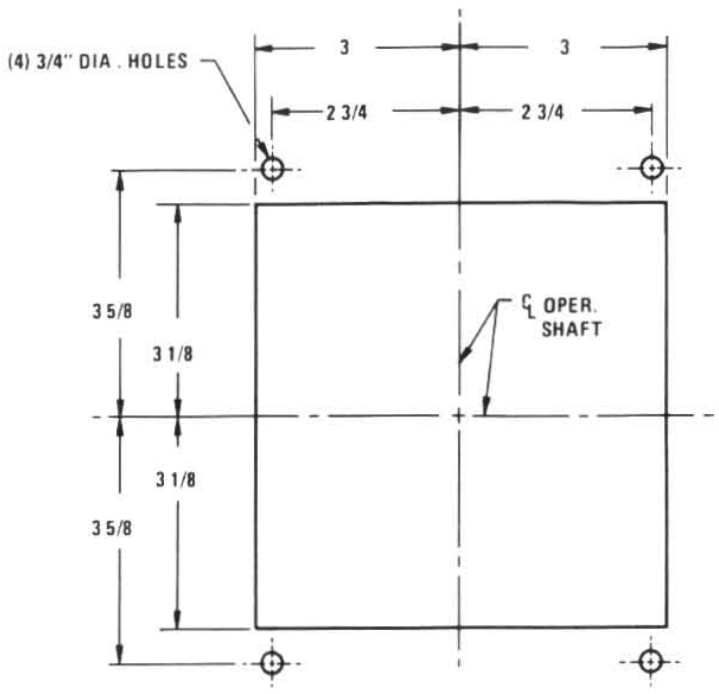


Fig. 6

c. With the switch in the closed position, insert hub end of handle assembly (Mk 301, Dwg. 422-446) through the opening in enclosure.

d. Move handle to the "UP" or closed position as shown in Fig. 5 and engage hub and key of handle with the shaft extension and keyway of the stored-energy device.

e. Attach the handle assembly to the enclosure on the inside with four 3/8" nuts and flat washers that are provided.

f. Mount OPEN and CLOSED position indicators on cover plate of handle assembly to correspond with position of switch.

g. Open and close the switch, using the direct drive handle to make certain that all parts are functioning properly.

h. For the installation of auxiliary equipment, such as, interlocks, fuses and auxiliary switches, refer to appropriate section of this instruction bulletin.

INSTALLATION - TYPE IV

Direct Drive - Handle on Right Side

The component parts for this type are arranged per Fig. 7. The arrangement is essentially the same as for Type III except the handle is on the right side of the enclosure.

The following steps apply to this installation:

a. Mount the frame-mounted switch (Fig. 7) in the enclosure. Check to be sure the 2-1/4" dimension from frame-mounting holes to outside of enclosure (per Dwg. 424-014) has been maintained.

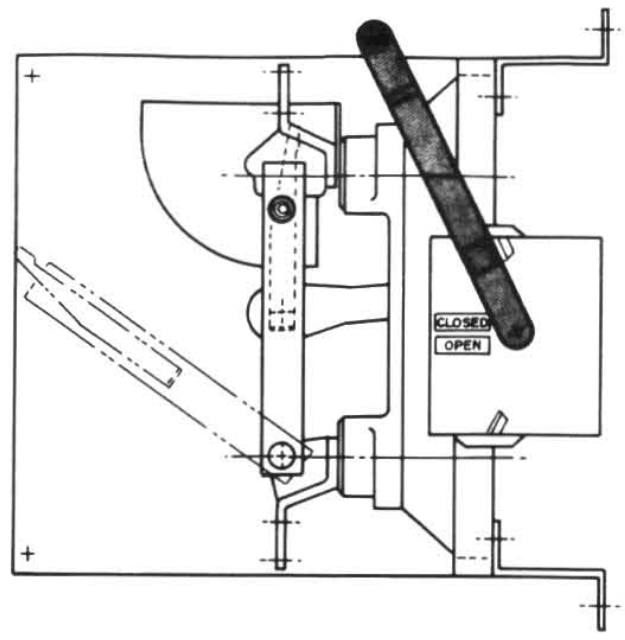


Fig. 7 Handle "UP" in switch closed position.

b. If it has not already been done, cut opening and drill or punch four 3/4" diameter holes in right side of enclosure per pattern shown in Fig. 8. (The same information appears on direct drive handle Dwg. 422-446.)

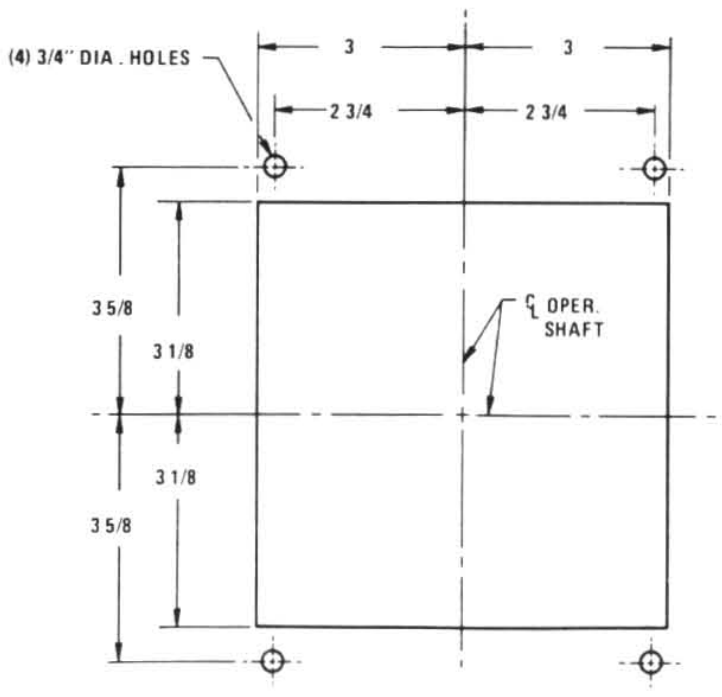


Fig. 8

c. With the switch in the closed position, insert hub end of handle assembly (Mk 302, Dwg. 422-446) through opening in enclosure.

d. Move handle to "UP" or closed position as shown in Fig. 7 and engage hub and key of handle with shaft extension and keyway of stored-energy device.

e. Proceed with the installation per steps (e) through (h) as outlined above for Type III arrangement.

INSTALLATION - TYPE V

Inverted Arrangement Chain Drive Handle - Handle on Front Left

The component parts for this type installation are shown in Fig. 9. The switch and frame are mounted vertically in the enclosure. The arc chute interrupters are situated **below** the blade hinge. The switch is chain driven with the handle located on the left front corner of the enclosure. Normally, the handle is in the "UP" position with switch closed.

The following steps are to be taken in the installation:

a. Assemble the chain drive sprocket kit (Mk 302, Dwg. 316-557, sprocket, washer and retaining ring) on the stored-energy device of the switch, at the left as shown at (X) in Fig. 9.

b. Mount the frame-mounted switch (Fig. 9) in the enclosure.

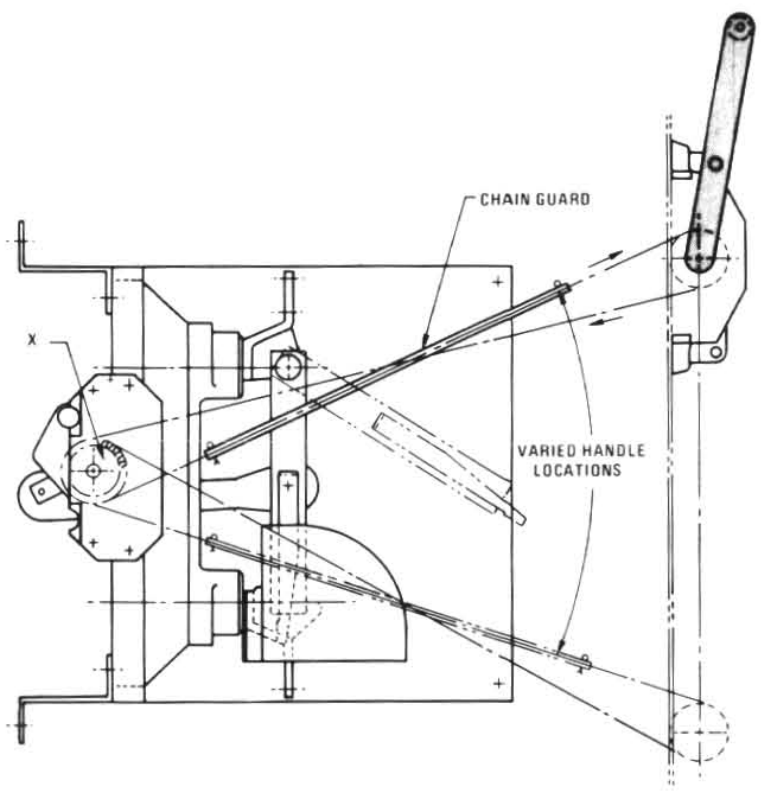


Fig. 9 Handle "UP" in switch closed position.

c. If not already provided, cut opening and drill or punch four 7/16" diameter mounting holes in left front of enclosure per details in Fig. 10. (This information is also found on chain drive operating mechanism Dwg. 316-557).

d. Assemble chain drive handle with four 3/8" bolts and lock-washers provided with handle assembly.

e. With switch closed and handle in corresponding up position, assemble chain from drive handle sprocket to switch stored-energy device sprocket, **criss-crossing** the chain and adding the **chain guard** as shown in Fig. 9.

   The sprockets should not exceed 1" misalignment. Note: The length of chain furnished is 7' - 7-1/4" and this provides for the handle sprocket to be located 15" above or below the stored-energy mechanism sprocket (for 15 kV) and 2' - 5" above or below the mechanism sprocket (for 4.76 kV), with the minimum depth of switch shown on Dwg. 424-018. If the depth dimension is increased, additional chain may be required, depending on the desired elevation of the operating handle. (Dwg. 204-769 gives additional information concerning turnbuckle, chain characteristics and arrangement of parts. Dwg. 178-829 shows the chain guard).

f. Install CLOSED and OPEN position indicators in appropriate places on operating handle.

g. Open and close switch several times, using the chain drive operating handle, making any minor adjustments to chain drive as may be required.

h. For the installation of auxiliary equipment, such as interlocks, fuses and auxiliary switches, refer to appropriate sections that appear later in this instruction bulletin.

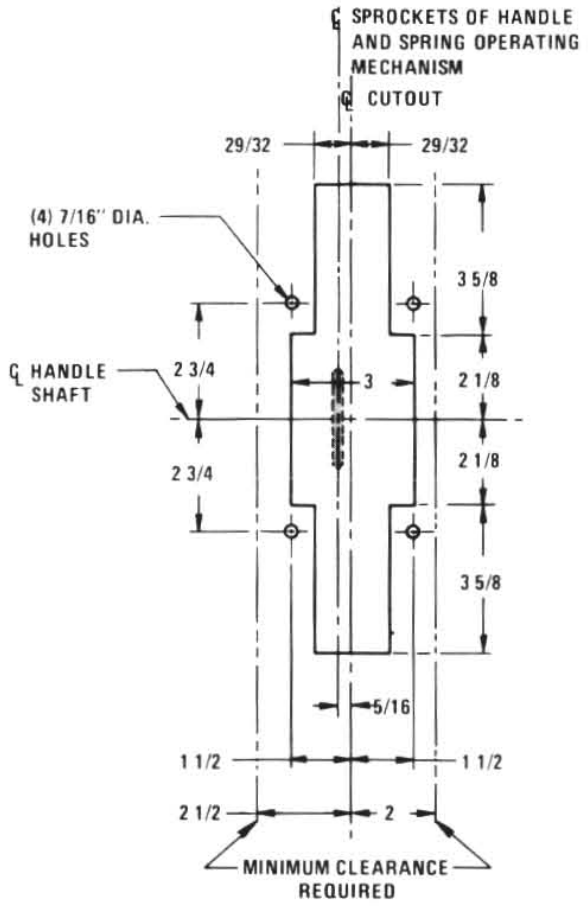


Fig. 10

INSTALLATION - TYPE VI

Inverted Arrangement - Chain Drive - Handle on Front Right

The component parts for this type installation are shown in Fig. 11. The arrangement is essentially the same as for Type V, except the handle is at the front right.

The installation is achieved using the following steps:

a. Assemble the chain drive sprocket kit (Mk 302, Dwg. 316-557, sprocket, washer and retaining ring) on the stored-energy device of the switch at the right, as shown at (X) in Fig. 11.

b. Mount the frame-mounted switch (Fig. 11) in the enclosure.

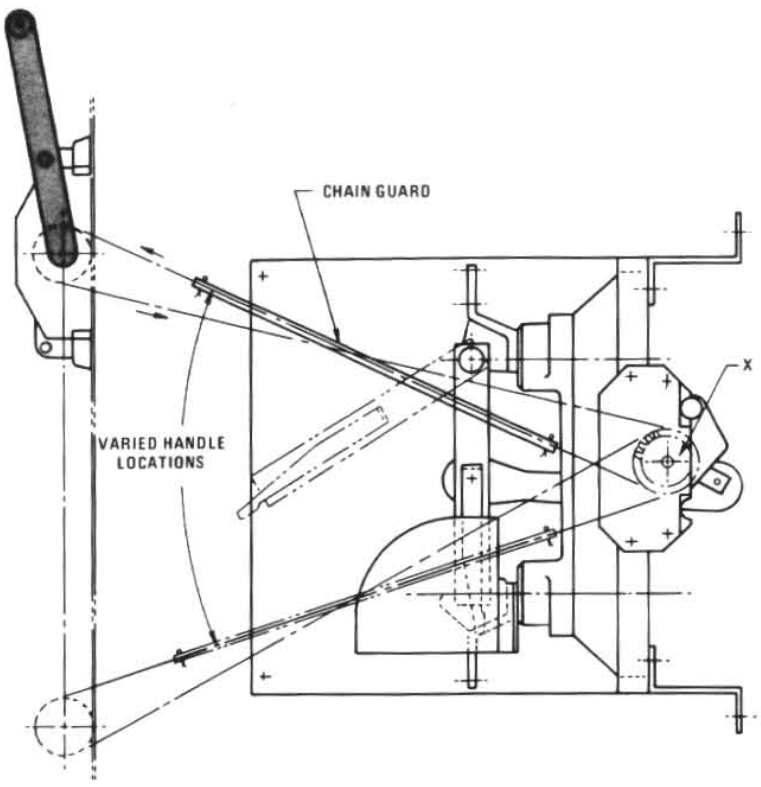


Fig. 11 Handle "UP" in switch closed position.

c. If not already provided, cut opening and drill or punch four 7/16" diameter holes at right front of enclosure per details in Fig. 12. (This information may also be found on chain drive operating mechanism Dwg. 316-557).

d. Proceed with installation per steps (d) through (h) as outlined above for Type V arrangement.

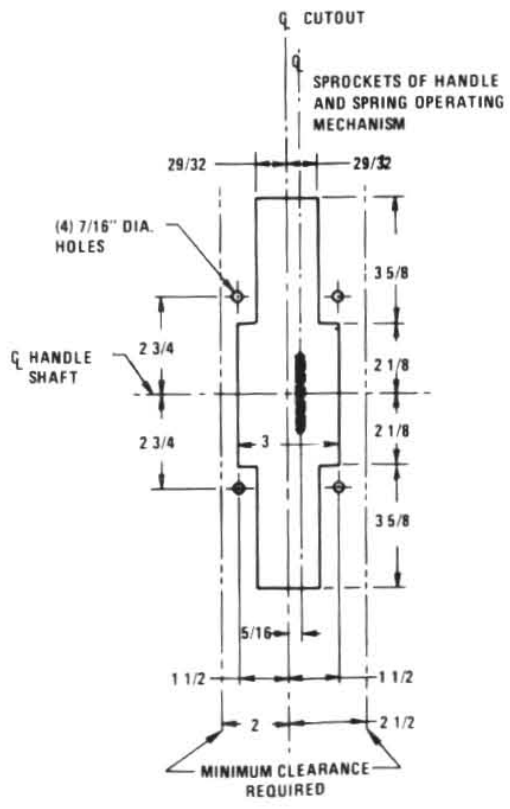


Fig. 12

INSTALLATION - TYPE VII

Inverted Arrangement - Direct Drive - Handle on Left

The component parts for this type arrangement is shown in Fig. 13. The switch and frame are mounted vertically in the enclosure. The arc chute interrupters are situated below the blade hinge. The switch has a direct drive operator and the handle is mounted on the left side of the enclosure. The handle is **down** with switch closed.

The following installation steps should be taken:

a. Mount the frame-mounted switch (Fig. 13) in the enclosure. Check to be sure the 2-1/4" dimension from frame mounting holes to outside of enclosure (per Dwg. 424-015) has been maintained.

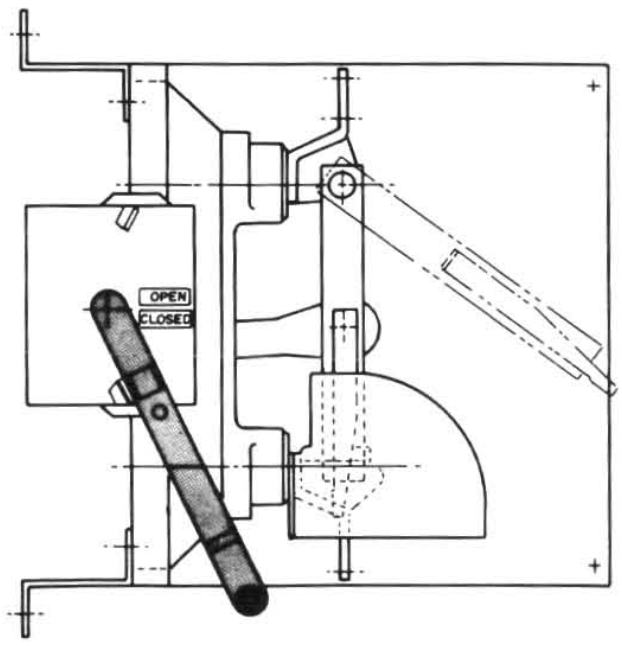


Fig. 13 Handle "DOWN" in switch closed position.

b. If it has not already been done, cut opening and drill or punch four 3/4" diameter holes in left side of enclosure per pattern shown in Fig. 14. (The same information appears on direct drive handle Dwg. 422-446).

c. With the switch in the closed position, insert hub end of handle assembly (Mk 301, Dwg. 422-446) through the opening in the enclosure.

d. Move handle to the DOWN or closed position as shown in Fig. 13 and engage hub and key of handle with the shaft extension and keyway of the stored-energy device.

e. Attach the handle assembly to the enclosure with four 3/8" nuts and flatwashers that are provided.

f. Mount OPEN and CLOSED position indicators on cover plate of handle assembly to correspond with position of switch.

g. Open and close the switch, using the direct drive handle to be sure all parts are functioning properly.

h. For the installation of auxiliary equipment, such as, interlocks, fuses and auxiliary switches, refer to appropriate section of this Instruction Bulletin.

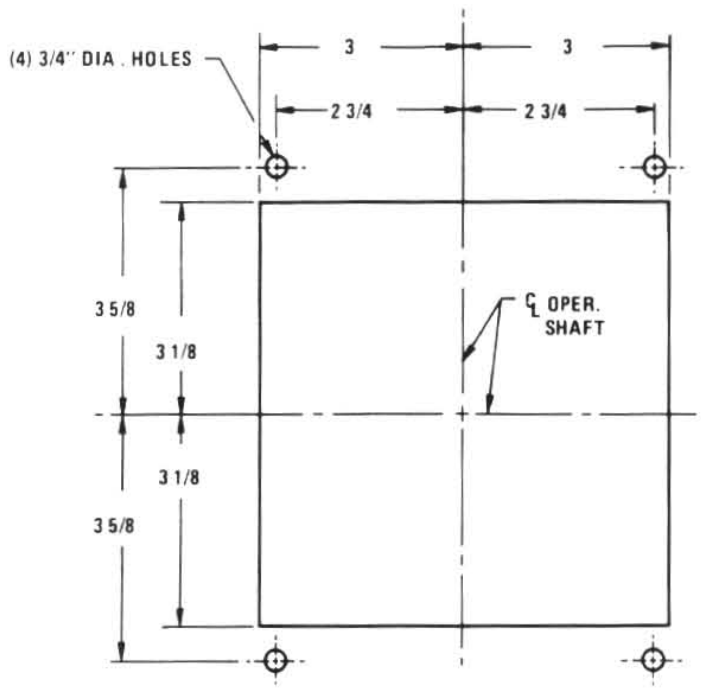


Fig. 14

INSTALLATION - TYPE VIII

Inverted Arrangement - Direct Drive - Handle on Right

The component parts for this type arrangement are shown in Fig. 15. The arrangement of parts is essentially the same as for type VII, except the handle is on the right.

For this type arrangement, proceed with the installation as follows:

a. Mount the frame-mounted switch (Fig. 15) in the enclosure. Check to be sure the 2-1/4" dimension from frame mounting holes to outside of enclosure (per Dwg. 424-015) has been maintained.

b. If it has not already been done, cut opening and drill or punch four 3/4" diameter holes in right side of enclosure per pattern shown in Fig. 16. (This same information appears on direct drive handle Dwg. 422-446).

c. With the switch in the closed position, insert hub end of handle assembly (Mk 302, Dwg. 422-446) through the opening in the enclosure.

d. Move handle to the DOWN or closed position, as shown in Fig. 15 and engage hub and key of handle with shaft extension and keyway of stored-energy device.

e. Proceed with installation per steps (e) through (h) as outlined above for Type VII arrangement.

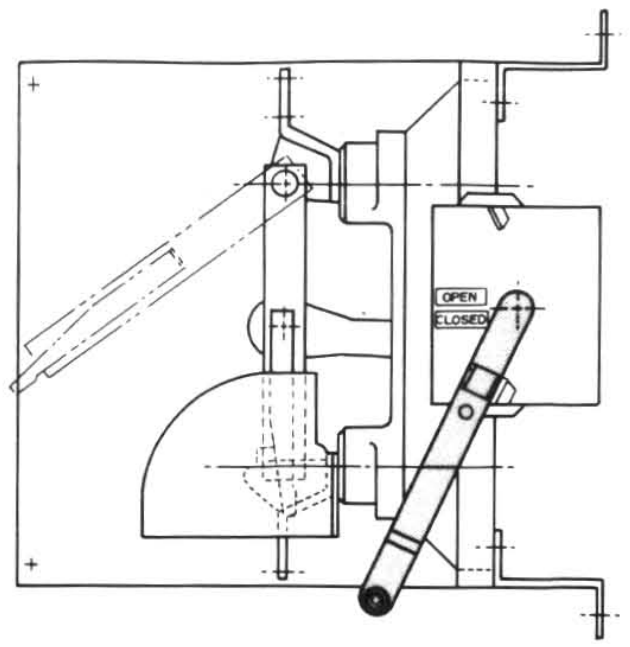


Fig. 15 Handle "DOWN" in switch closed position.

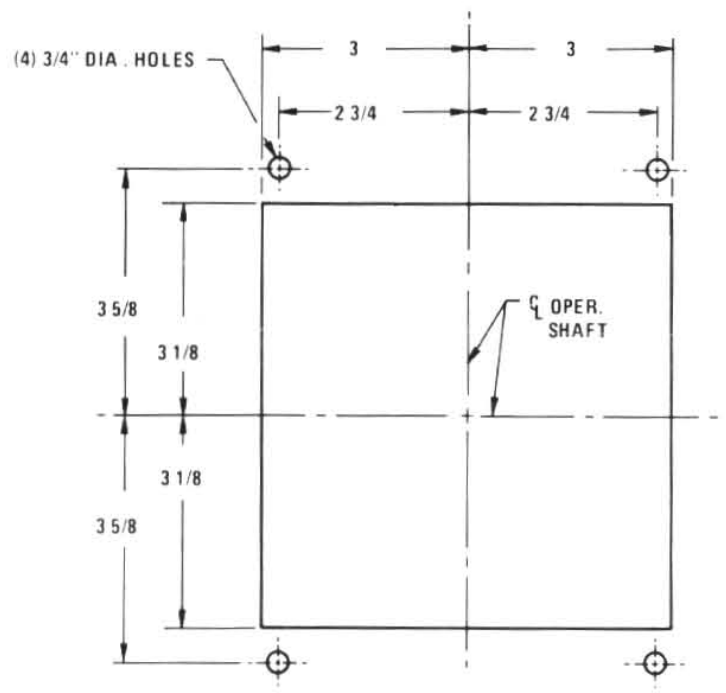


Fig. 16

INSTALLATION

Back-Connected Bus Bars

Back-connected bus bars may be added to the jaw end of the hinge end of the VersaSwitch by use of the back-connected conversion kit. A single-phase set of unassembled parts is shown in Fig. 17 for identification purposes. Fig. 18 shows a 3-phase assembly and how the bus bar mounting legs hook over jaw base and are attached with longer holding-down bolts. Fig. 19 shows a rear view of a 3-phase jaw end assembly.

Installation instructions for field assembly of back-connected bus bars per Dwg. 315-731 follow:

a. Open switch.

b. Match mark jaw or hinge casting with top of base.

c. Remove the two bolts holding the jaw (or hinge) to switch base.

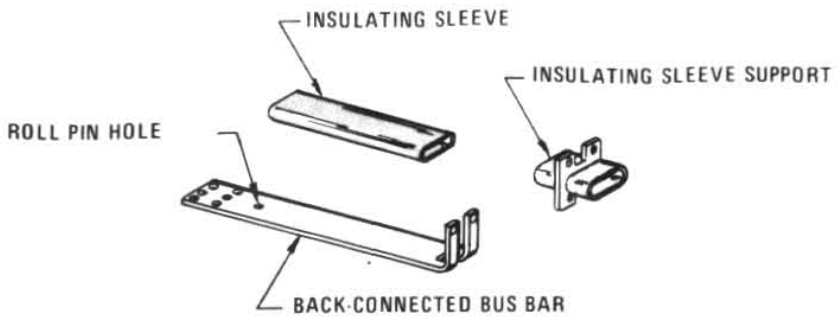


Fig. 17 Detail parts back-connected conversion kit

d. From front end of switch, insert the back-connected bus bar into the base slot at the jaw (or hinge) as shown in Fig. 18. Note when assembling bus bar at hinge end of switch, it may be necessary to disconnect the blade connecting link at the back of switch on 15 kV or at base end on 5 kV, to obtain sufficient blade travel to clear the bus bar. This is accomplished by removing the Tru-arc ring from the 3/8" pin that fastens the connecting link to the shaft or base. (Replace after assembling bus).

e. Using the two 3/8" x 1-1/4" long bolts that are provided with the kit, mount bus bar and jaw (or hinge) to the switch base, making sure match marks are in line. Tighten the bolts slightly with wrench.

f. Close the switch, then loosen bolts again to align the jaw (or hinge) and then retighten the two 3/8" x 1-1/4" long bolts with a wrench to secure jaw and bus bar **firmly** to switch base.

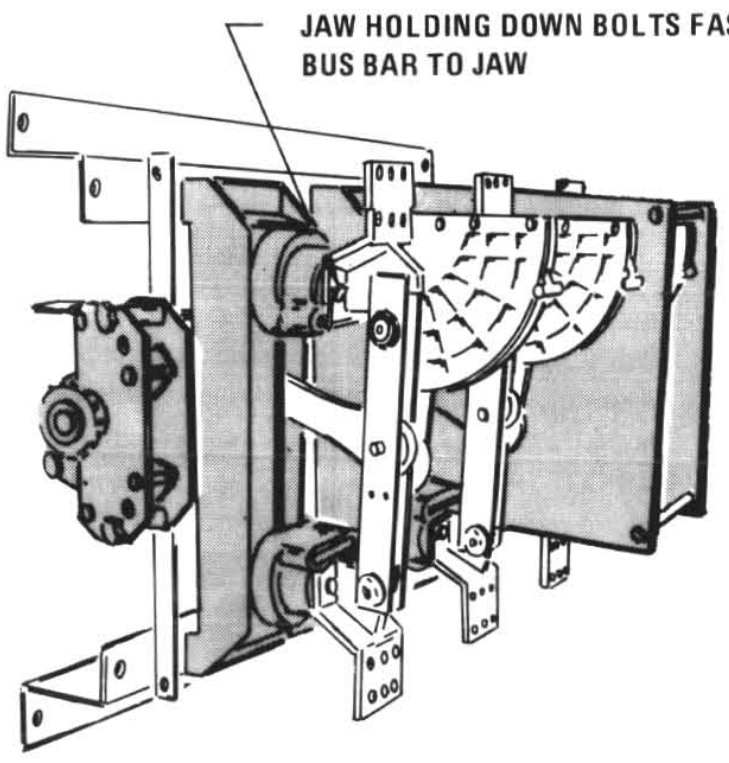


Fig. 18

g. From rear end of switch, slip insulating sleeve (shown in Fig. 16) over the bus bar and into the recessed area of switch base until roll pin hole of bus bar is in full view at the end of the insulating sleeve. If necessary to loosen bolts of jaw or hinge to allow clearance for this sleeve to completely enter the recessed area, make sure switch is in closed position.

h. Drive roll pin, that is provided, into the bus bar to hold sleeve in position.

i. Assemble insulating sleeve support (shown in Fig. 17) over the insulating sleeve, sliding it along the sleeve until it rests against switch base, see Fig. 19.

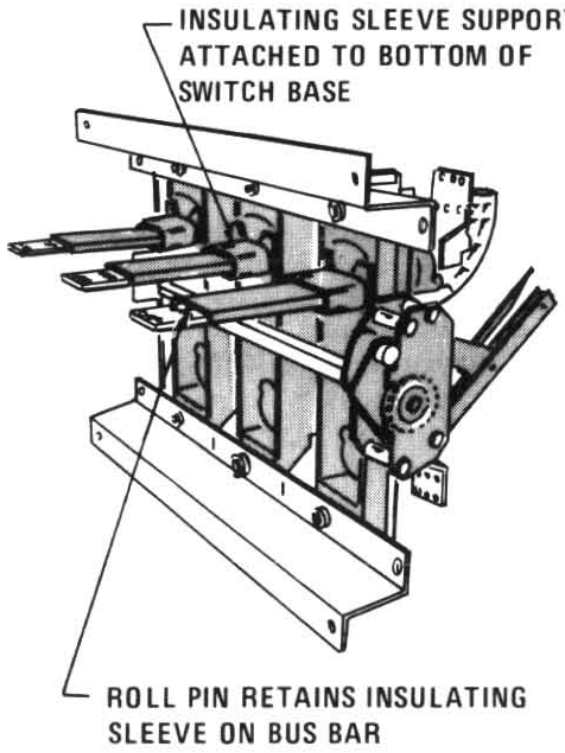


Fig. 19

j. Fasten insulating sleeve support to the switch base with four 1/4" - 20 x 7/8" long self-tapping screws that are provided.

k. Repeat each of the above steps for the other switch phases.

l. For 15-kV installations and back-connected jaw only, mount the phase crank shield (shown in Fig. 20) over the phase crank shaft assembly at rear end of switch with two 1/4" - 20 x 3/4" long round head machine screws and lockwashers, into tapped holes on switch frame.

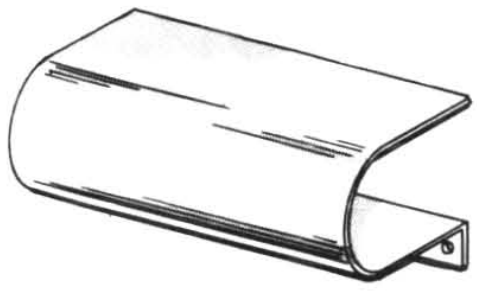


Fig. 20 Phase Crank Shield for 15kV back-connected jaw.

INSTALLATION

Barriers

Barriers are not assembled to the frame-mounted switch for shipment because of vulnerability to shipping damage. For identification of parts and for reference in these instructions, Fig. 21 is being included from Dwg. 234-598.

Referring to Fig. 21, the barriers may be assembled to switch as follows:

a. Assemble the phase-to-ground barrier to switch frame angle with two 1/4" - 3/4" long bolts, nuts and lock-washers.

b. Slide the clips of the interphase barrier into the slots of the "Z" bar mounting frame.

c. Install barrier spacers, one at top and one at bottom of these two barriers and secure each spacer with 1/4" - 14 x 7/8" long hex washer head self-tapping screws provided with the barriers.

d. This will complete the installation of the right hand pair of barriers as shown in Fig. 20. Repeat steps (a) thru (c) and install the left hand pair of barriers. This will complete the assembly of the four barriers. Note - no spacers are required between the two interphase barriers.

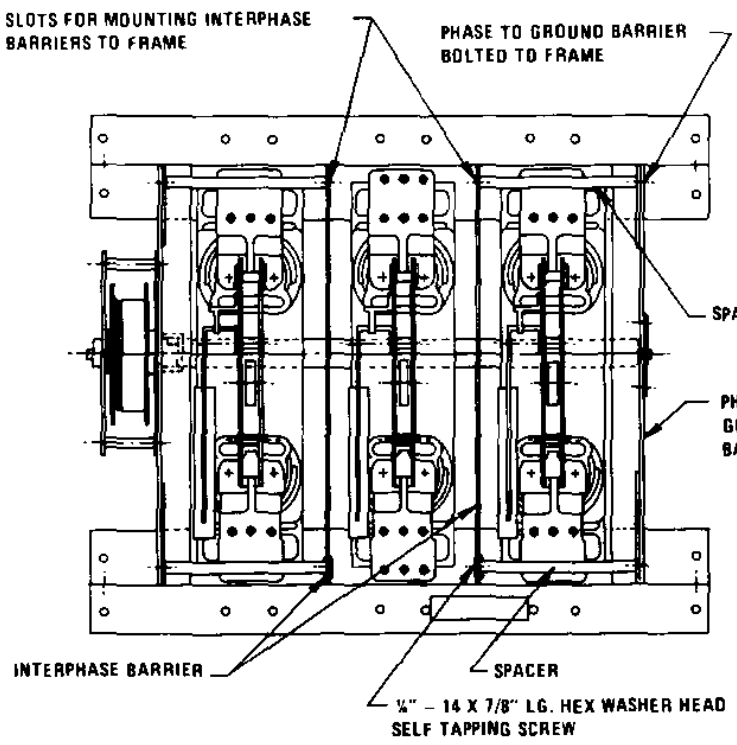


Fig. 21

INSTALLATION - INTERLOCKS on Chain Drive Handles

For addition of key interlocks to chain drive mechanisms of Type I, Type II, Type V and Type VI of this instruction bulletin, reference will be made to mechanism Dwg. 316-557. The installation instructions are applicable to both front left and front right handle positions.

The chain drive handle as shown on the drawing will accommodate three interlock systems:

1. L.O. which will require F-2-E interlock.
2. L.O./L.C. will require F-2-E interlock.
3. L.C. will require F-2-E interlock.

For L.O./L.O.C. system, when the chain drive handle is on left front, it will be necessary to remove the stop (Item 18, Dwg. 316-557) from the disc nearest the chain drive sprocket, Disc #1 in Fig. 22.

For L.O./L.O.C. system, when the chain drive handle is on the right front, it will be necessary to remove the stop (Item 18, Dwg. 316-557) from the disc farthest from sprocket, Disc #2 in Fig. 22.

All L.O. locks mount on top of the handle housing. All L.C. and L.O.C. locks mount at bottom position of the handle housing.

When mounting the interlocks to the handle housing, remove plastic protection plugs prior to assembling the interlocks.

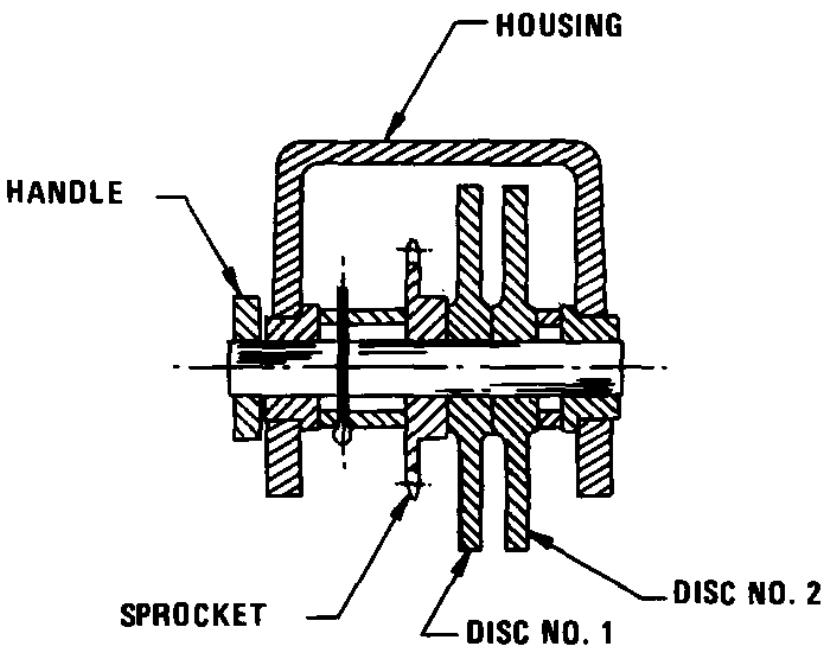


Fig. 22 Section through Chain Drive handle

INSTALLATION - INTERLOCKS on Direct Drive Handles

For Type III or Type IV arrangements described previously, the handle on left arrangement requires a B-3/8-E O.H. interlock. The handle on the right arrangement requires the B-3/8-E interlock.

Referring to handle Dwg. 422-446, for left side mounting arrangement, "Position 1" is for lock open and closed. "Position 2" is for lock open. The same is true for the right side mounting arrangement. For installation of interlocks, remove the interlock cover plates (Item 14, Dwg. 422-446) as required and assemble the interlocks at the desired positions.

For the Type VII and Type VIII switch arrangements, the inverted arrangement of parts gives no choice with the direct drive handle than to have the handle "DOWN" with the switch closed. The L.O.C. interlock stays with the closed position of the switch, therefore, the L.O.C. interlock will be located below the L.O. interlock because the handle is **down** when the switch is closed.

INSTALLATION - FUSES (Front connected)

Dwg. 317-380 specifies the fuse kit that may be added to a frame-mounted VersaSwitch. Page 9 of Bulletin 2.1.1-1 describes the fuse mounting kit. The drawing and bulletin are useful guides for reference when installing the fuses.

The fuse switch live parts are mounted on the switch terminal pads. Bolts, nuts, flat washers and lock washers are provided for making this assembly. A fuse base mounting for the bottom fuse live parts is provided with the kit for fuse mounting. This base should be assembled in the enclosure in accordance with dimensions given on Dwg. 317-380. This base is identified in Fig. 23.

After the fuse base mounting has been assembled in the enclosure, the fuse base moldings should be secured to the base mounting, each with two 3/8" x 1-1/2" long bolts, nuts, lockwashers and flatwashers that are provided with the kit.

The fuse bottom live parts (see Fig. 23) may then be bolted to the fuse base moldings, by threading two 3/8" x 3/4" long bolts into each fuse base molding. Flat washers and lockwashers are also provided.

After this is completed, the fuse barriers may be added as shown in Fig. 24 and in drawings supplied. First, the eye bolts are installed on the fuse base mounting with flat washers and elastic stop nuts indicated in Section "AA".

The top of the fuse barriers are marked with the letter "J".

The **top rear** corners of both the phase to ground barriers and the interphase barriers are attached to the switch barriers with 1/4" x 20 x 3/4" long hex head bolts, nuts and flatwashers.

The **top front** corners of all barriers are attached to the switch barriers and spacer with the self tapping screws supplied with the switch barriers.

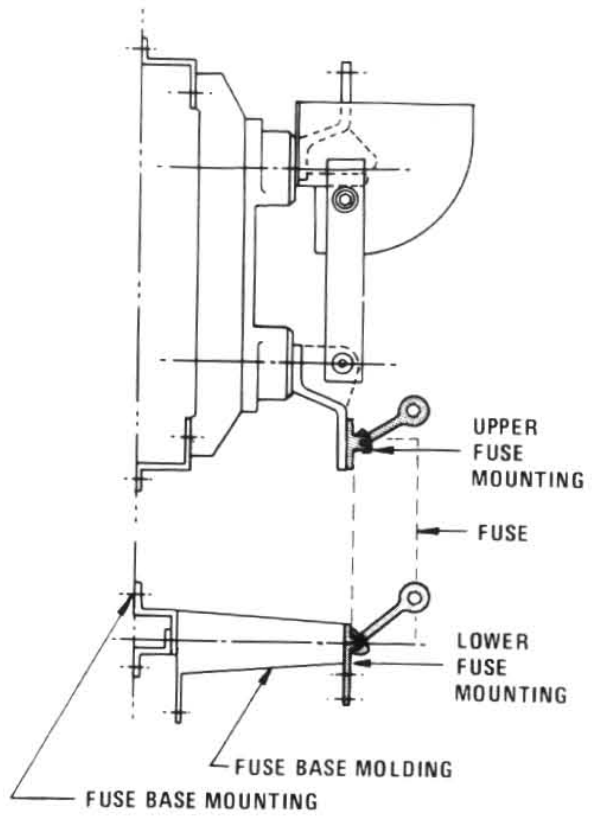


Fig. 23

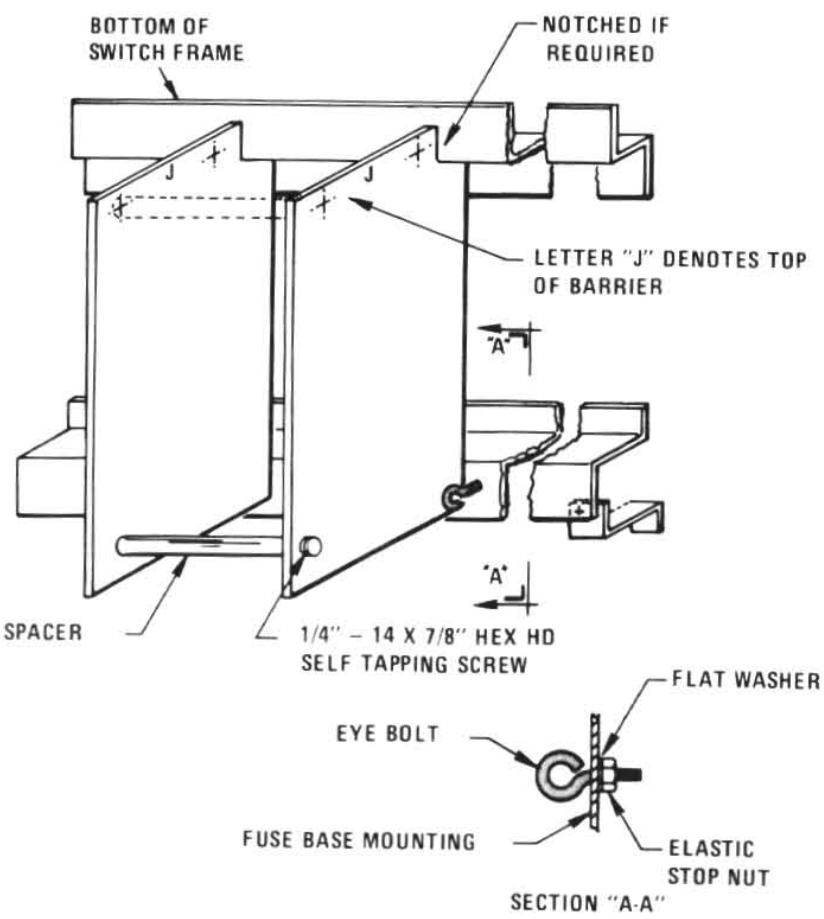


Fig. 24

The **bottom rear** corners of all barriers are attached to the eyebolts that were previously assembled on the fuse base mounting.

The **bottom front** corners of all barriers are attached to spacer provided with 1/4" - 14 x 7/8" long hex washer head self tapping screws.

INSTALLATION - Back-Connected Fuses (Dwg. 317-381)

The installation of bus bars for back-connected fuses (Fig. 25) is almost self-explanatory. For each phase, slide insulated bus bar through the opening in the fuse base molding support. Seat the short end of the "L" shaped bus bar on or under fuse terminal pad (it makes no difference) and bolt the bus bar securely to the fuse terminal pad with bolts that are provided.

INSTALLATION - Auxiliary Switch

The auxiliary switch may be mounted on the left side of the VersaSwitch (as shown in Fig. 26), or it may be mounted on the right side. However the auxiliary switch must mount on the opposite end of the operating shaft from the spring mechanism. A crank is secured to the VersaSwitch shaft with a roll pin 1/8" diameter x 1-1/8" long. This crank travels 130° as shown.

The auxiliary switch and its mounting support are assembled to the Versa Switch "Z" bar with 1/4" - 20 x 3/4" long bolt, nuts and lockwashers as shown in Fig. 26 and also on Dwg. supplied. The auxiliary switch lever travels 90° as shown.

With crank on main switch shaft and lever on auxiliary switch in same relative position, install the connecting rod as shown with fasteners that are provided.

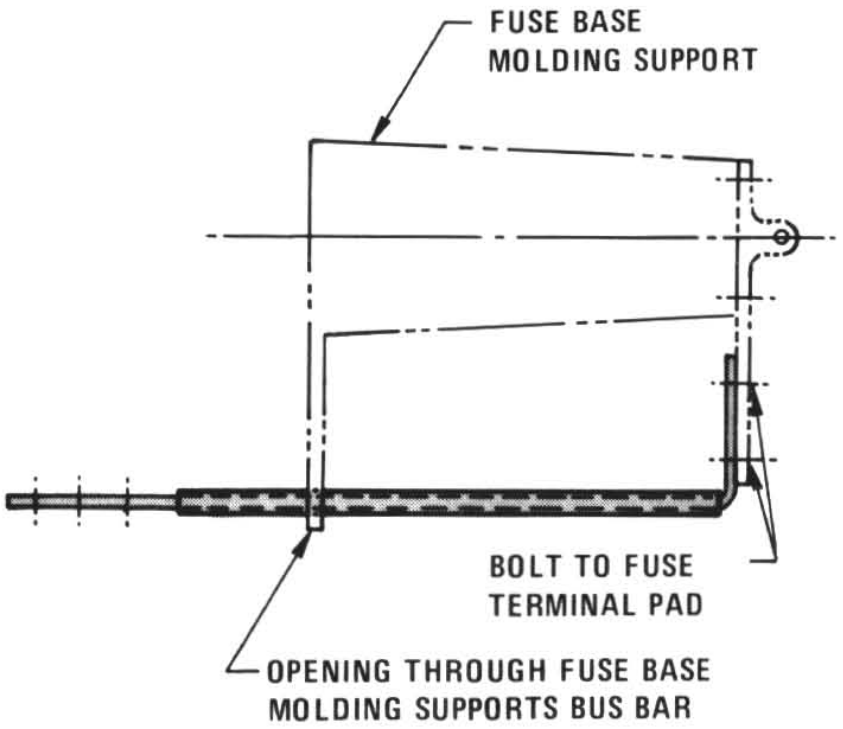


Fig. 25

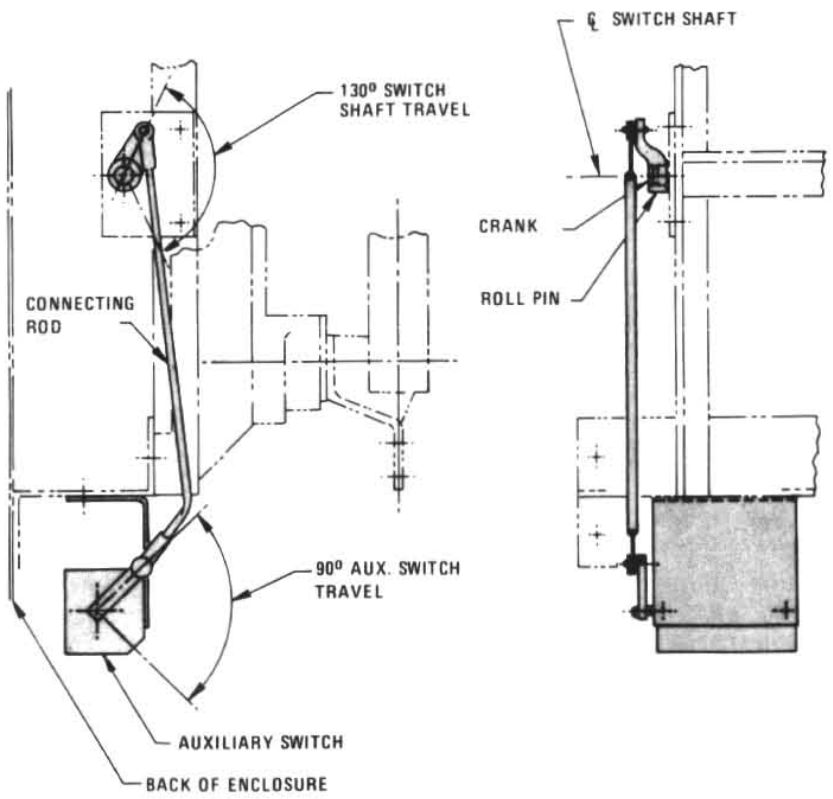


Fig. 26

LUBRICATION

Switches that are normally closed, only require lubrication of jaw contacts approximately every 500 open-close operations.

Switches that are open long periods of time should have jaw contacts cleaned and greased lightly as service conditions dictate.

Suggested lubricants are Darina #2 Grease or No-Ox-Id Grade A Special.

Darina #2 is a Shell Oil Company product. No-Ox-Id is made by Dearborn Chemical Company, 310 South Michigan Ave., Chicago, Ill.

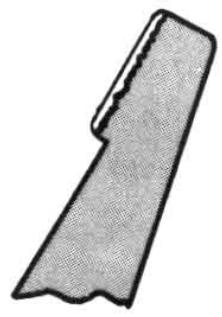


Fig. 27 End of auxiliary quick-break blade showing erosion at acring tip

MAINTENANCE

WARNING WARNING WARNING WARNING

BEFORE SERVICING THE SWITCH, BE SURE IT IS DISCONNECTED FROM ALL ELECTRIC POWER SOURCES AND IS PROPERLY GROUNDED.

The interrupting contacts, quick-break blade and arc chute erode when interrupting current, and should be visually inspected after approximately 100 normal load-interrupting operatings.

This inspection can best be performed with the switch in the open position and noting the condition of the quick-break blade (F), Fig. 30.

If the quick-break blade shows bad erosion, Fig. 27, the arc chute and quick-break blade should be replaced. To replace arc chute, loosen locknuts holding arc chute to support, (Fig. 29), pull arc chute away from switch base, rotating away from hinge and remove. Discard and replace with new unit. To replace quick-break blade, remove bolt (P) (Fig. 30).

Operate switch to check on opening. To do this, disconnect the plastic drive link from the blade on 5 kV and at back drive shaft on 15 kV. On opening, the quick-break blade should not release until its hinge end makes contact with latch hook (O) (Fig. 28). On closing, the quick-break blade should not leave Flipper (C) (Fig. 30) until the jaw and blade have made contact at (R).

Ensure that the quick-break blade is aligned with the entry slot in the arc chute. If necessary, bend the quick-break blade to do this. Also at this time ensure that the blade will make a square and uniform contact with the jaw. This is best done by loosening the bolts on the jaw, closing the blade into the jaw and then tightening the jaw bolts.

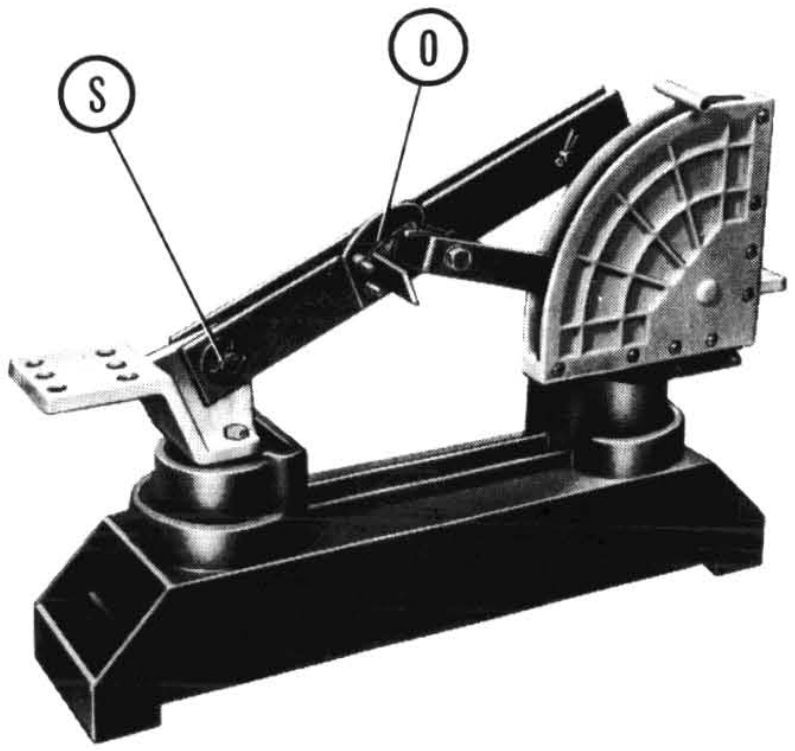


Fig. 28

CONTACT ADJUSTMENT

Should it ever be necessary to adjust the hinge contact pressure, open switch, then tighten pressure adjusting nut (S), Fig. 28 one-half turn at a time. Move blade back and forth 90° to centerline of base to observe its contact with the hinge. The blade should be moderately snug against both sides of hinge at all times. Use thin shim to check for blade contact. No adjustment is required on jaw contact.

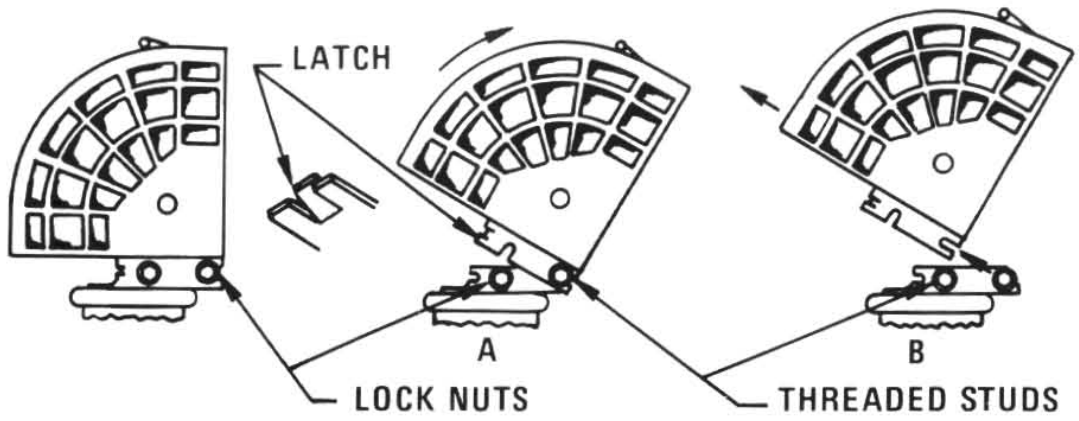


Fig. 29 Progressive steps in arc-chute removal

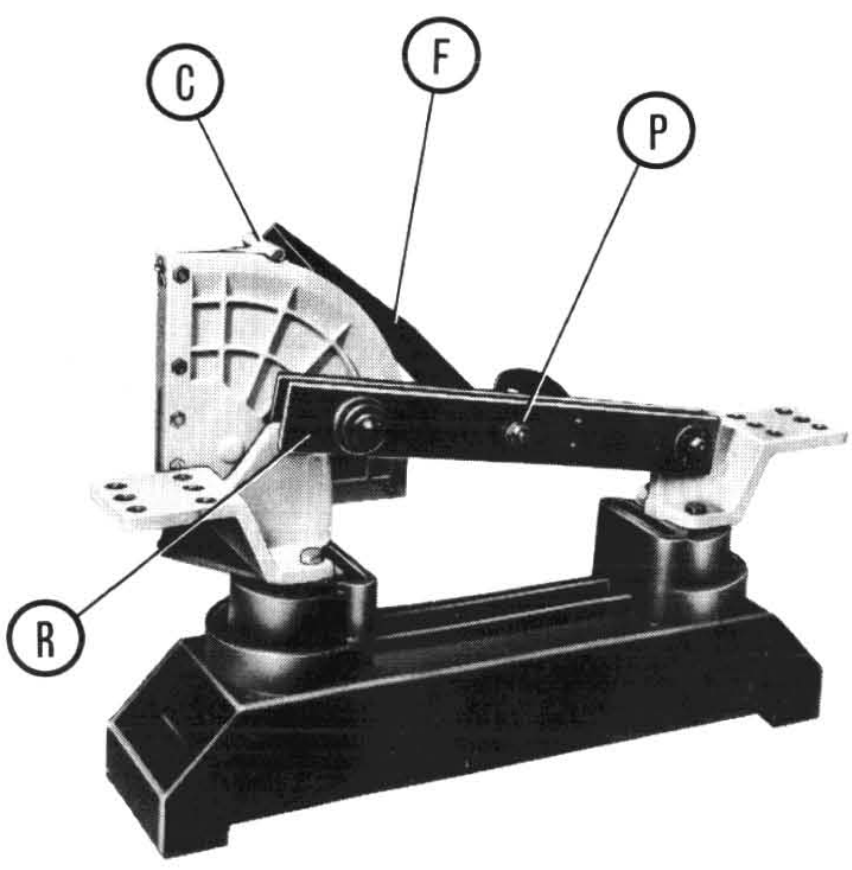


Fig. 30

RENEWAL PARTS

Name of Part**	Style Number
Complete arc chute assembly, with flipper	315-706-301
Flipper, for arc chute	159-797-001
Quick-break auxiliary blade	234-594-002
Main blade assembly, 600 amperes, 4.76 kV	315-720-303
Main blade assembly, 600 amperes, 15 kV	315-703-301
Main blade assembly, 1200 amperes, 4.76 kV	315-720-304
Main blade assembly, 1200 amperes, 15 kV	315-703-302
Hinge casting	315-702-001
Jaw casting	314-849-001
Base molding 4.76 kV	315-708-501
Base molding 15 kV	315-705-501
Connecting link 4.76 kV	225-074-001
Connecting link 15 kV	225-067-001

**Parts not listed with current rating are common to 600- and 1200 ampere switches.

Contact the nearest District office for any other parts not listed.

REFERENCES

Drawing Number	Drawing Title
178-829	Chain Guard Assembly
204-769	Chain Assembly
234-598	Barrier Assembly
315-731	Back Connected Conversion Kit
316-557	Chain Drive Operating Mechanism
317-380	Fuse Kit Frame Mounted
317-381	Fuse Kit Frame Mounted Back-Connected
422-446	Direct Drive Side Handle with Interlock Plate
424-014	Direct Drive Side Handle (Upright) Three-Pole Frame Mounted
424-015	Direct Drive Side Handle (Inverted) Three-Pole Frame Assembly
424-017	Chain Drive Front Handle (Upright)
424-018	Chain Drive Front Handle (Inverted)

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