Southern States

EV-2 VERTICAL BREAK DISCONNECT SWITCH INSTALLATION REFERENCE GUIDE

This guide is intended to be used as a ***recommended*** sequence of work steps but does not supersede the instruction manual (**IB-101-EV2**) or assembly drawings. For assistance, contact the Southern States Service Division (available 24/7) at **770-946-4565**.

Scan for full instruction manual

Publication No. QSG101-EV-2 R5 09082023

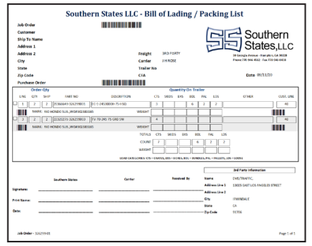
1 REVIEW BILL OF LADING (BOL)

A. Check the materials received against the packing list

B. Report any shortages or damaged equipment to Southern States

C. A typical shipment will include:

- *3 phase switch (base, insulators, & live parts)*
- *Operating mechanism box*
- *Operating pipe*

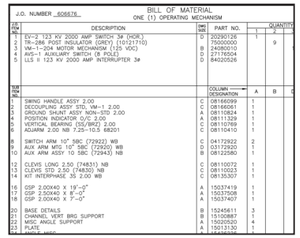


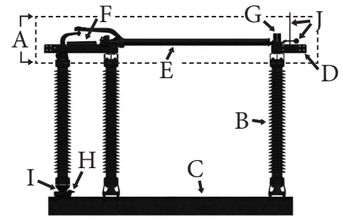
Note: All material is marked with JO number

2 REVIEW BILL OF MATERIAL (BOM)

A. Inventory all parts against the BOM found on the op-mech sheet inside the drawing package

B. Report any missing or damaged parts to Southern States





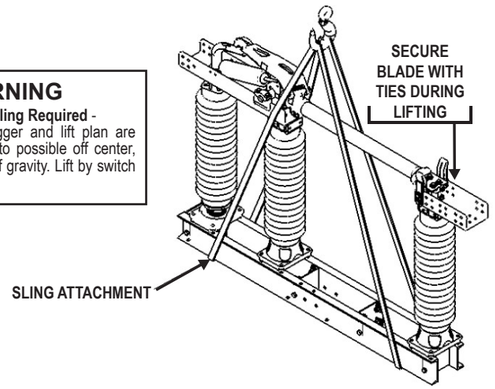
TERMINOLOGY OVERVIEW

A: Live Parts
B: Insulator
C: Base
D: Jaw
E: Blade
F: Counterbalance
G: Contact Fingers
H: Switch Operating Arm
I: Bearing
J: Arcing Horns

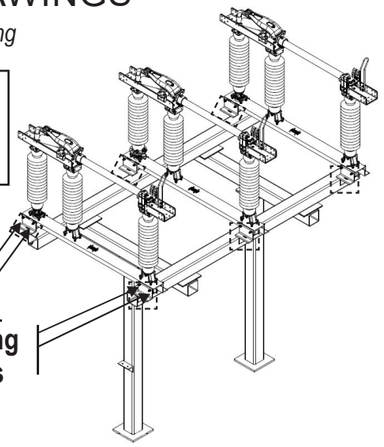
3 MOUNT PHASES PER ENGINEERING DRAWINGS

Refer to operating mechanism drawing for pole orientation and mounting

⚠ WARNING
Special Handling Required -
A qualified rigger and lift plan are required due to possible off center, high, center of gravity. Lift by switch base only.

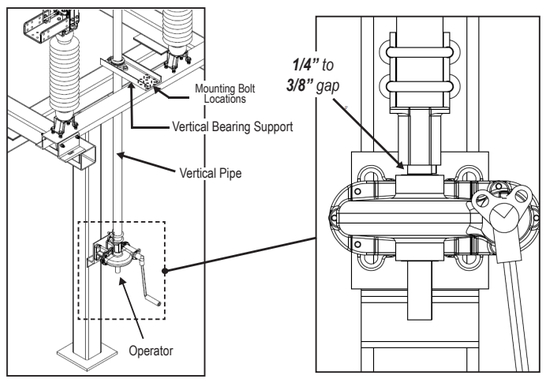


⚠ CAUTION
Because the phase is top heavy, the base must be bolted to the structure before removing lifting straps to prevent tipping.



Refer To Instruction Book Section: ***Installation & Adjustment Procedures***

4 MOUNT VERTICAL BEARING, PIPE, & OPERATOR



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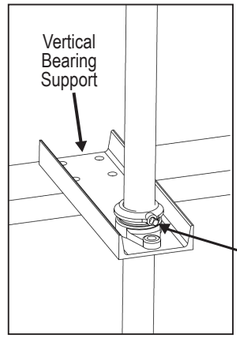
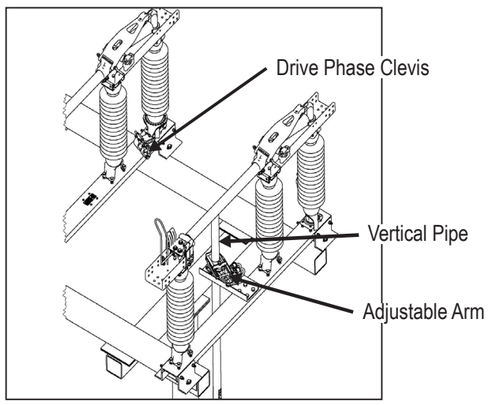
5 PIERCE VERTICAL BEARING SET-SCREW COMPLETELY



NOTE: *Ensure the full weight of the vertical pipe is supported by the vertical bearing and maintain the gap required between the coupling and gear operator. Then pierce collar. Also, confirm auxiliary arm assembly is correctly mounted per the operating mechanism drawing.*

Refer To Instruction Book Section: ***Installation & Adjustment Procedures***

6 INSTALL ADJUSTABLE ARM & DRIVE PHASE CLEVISES



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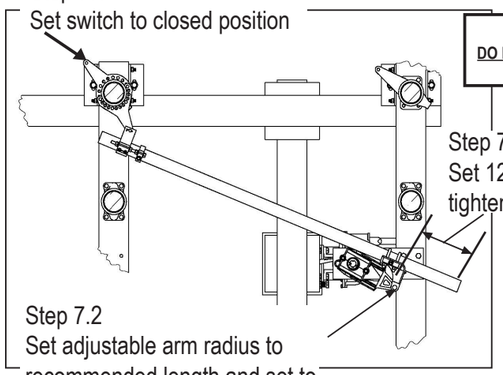
7 CONNECT & TIGHTEN DRIVE PIPE BETWEEN ADJUSTABLE ARM & AUXILIARY ARM WITH APPROPRIATE CLEVISES

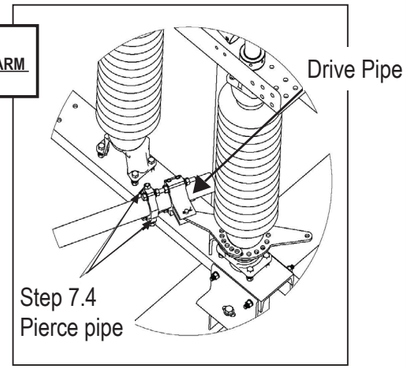
Step 7.1
Set switch to closed position



NOTE:
DO NOT PIERCE ADJUSTABLE ARM CLEVIS.

Step 7.3
Set 12" DIM. and tighten Clevis

Step 7.2
Set adjustable arm radius to recommended length and set to closed position



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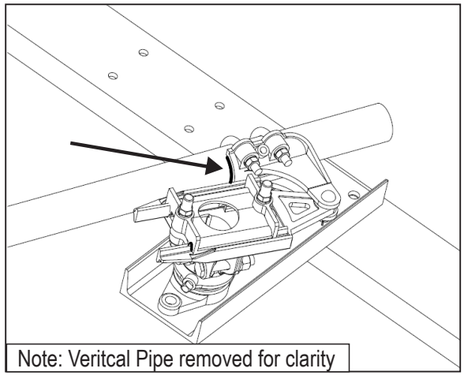
8 MATCH-MARK CLEVIS CONNECTIONS, ADJUSTABLE ARM, & OPERATOR COUPLING TO MONITOR SLIPPAGE



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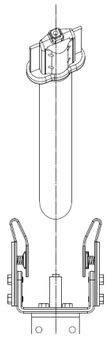
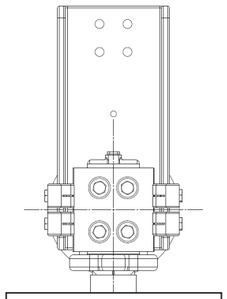
9 TEST-OPERATE THE DRIVE PHASE TO VERIFY ALL CRITERIA BELOW ARE MET.

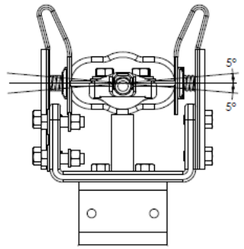
NOTES:
- **THERE MAY BE VARIATIONS ON CONTACT PLACEMENT AT DIFFERENT AMPERAGE CLASSES.**
- **FOR ARCING HORN ADJUSTMENTS, REFER TO INSTRUCTION MANUAL.**



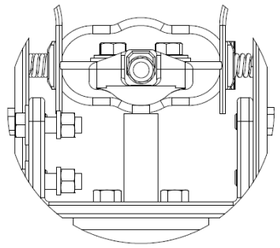
A.
The blade tips should enter the jaw centrally, without dragging on either contact surface. To correct alignment, adjust stationary insulators as necessary.



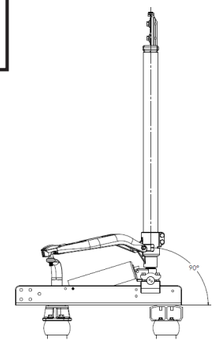
B.
Blade contacts should be centered front to back



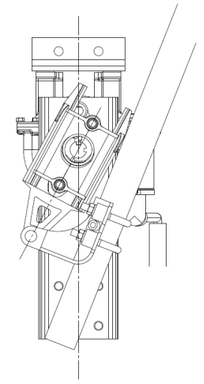
C.
Contact bar must be within "+" or "-" 5 degrees from flat in the full closed position



D.
Blade must fully rest on the blade stop inside the jaw in the full closed position



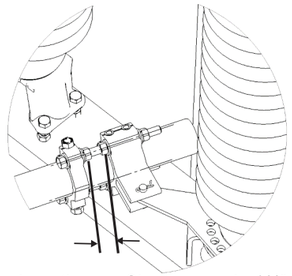
E.
Blade angle must be at least **90°** in the full open position if horizontally mounted
(70° for vertical and underhung mounting)



F.
Drive pipe on op-mech should be toggled (snapped in) when it reaches the full closed position
(toggle in full open position also preferred if possible)

Refer To Instruction Book Section: ***Installation & Adjustment Procedures***

10 IF CONTACT BAR IS NOT FLAT AT FULL CLOSED POSITION, EXTEND THE RAPID-SET CLEVIS TO ADVANCE IT.



Note: Lengthen or Shorten gap in 1/4" increments as needed.

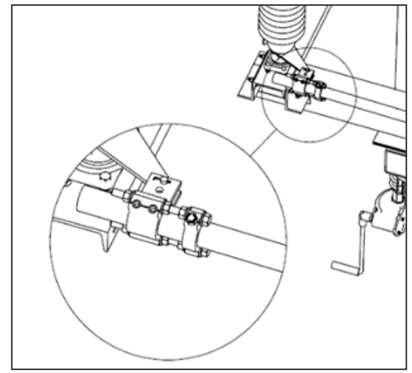
<u>IF Operator Reaches Full Open Position & Switch Is Not Fully Opened:</u>
- Check the match-marks of the adjustable arm and pipe clevis for signs of slippage.
- Return switch to almost closed but not toggled
- Lengthen both the adjustable arm radius by 1/4" increments and at the same time shorten the Rapid-Set clevis length by the same amount. Do this until full switch opening and operator rotation is achieved.

<u>IF Switch Is Fully Opened Before Operator Reaches Full Open Position:</u>
- Check for slippage
- Return switch to almost closed but not toggled
- Shorten the adjustable arm radius by 1/4" increments and at the same time lengthen the Rapid-Set clevis by the same amount. Do this until full switch opening and operator rotation is achieved.

Refer To Instruction Book Section: ***Installation & Adjustment Procedures***

11 INSTALL INTERPHASE PIPE, CONNECTING DRIVE PHASE WITH OTHER TWO PHASES

1. Set all phases to full closed position and install the Rapid-Set clevises and interphase pipe.
2. Pierce the pipe at all locations, and test operate.
3. If the other two phases are out of time, adjust the Rapid-Set clevises.



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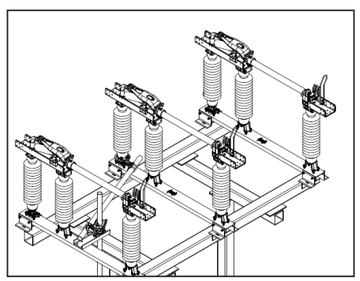
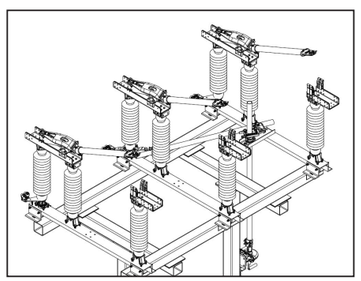
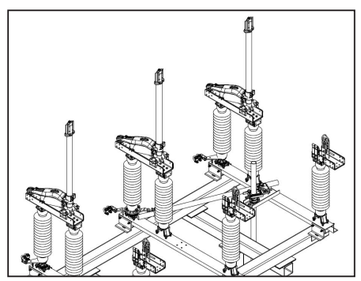
12 TEST OPERATE TO ENSURE ALL PHASES FULLY OPEN / CLOSE & MEET STEP 9 GUIDELINES







Refer To Instruction Book Section: ***Installation & Adjustment Procedures***

13 FINAL CHECK & ASSEMBLY

A. Install any and all switch accessories (*whips, interrupters,* ***MACI®****, arcing horns, etc.*) per their assembly drawings.

B. Test operate to ensure specification is met.

C. Land conductors to terminal pads and retest switch. Readjust switch *if necessary*.

D. Pierce all set-screws.

E. If motor operator is being used, ensure limit switches are set.

F. Ensure all accessories from the op-mech package are installed (*ground shunt, VM-1 swing handle, etc.*).

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