



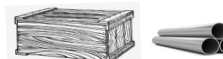
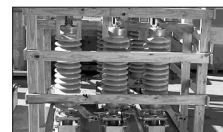
EV-2 VERTICAL BREAK DISCONNECT SWITCH INSTALLATION REFERENCE GUIDE

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**.

Publication No. QSG101-EV-2 R1 06232021

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

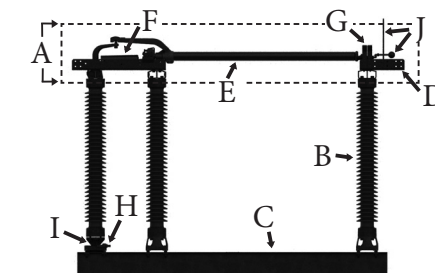
Southern States LLC - Bill of Lading / Packing List

Item No.	Description	Quantity	Unit
1	3-125 KV 2000 AMP SWITCH 3P 100K1	1	EA
2	TR-286 POST INSULATOR (GREY) (10121710)	1	EA
3	W-300 MOTOR MECHANISM (135-1603)	1	EA
4	W-1 AUXILIARY SWITCH (8 POLE) 135-1603	1	EA
5	LLS 125 KV 2000 AMP INTERRUPTER 3P	1	EA

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

J.O. NUMBER _____		BILL OF MATERIAL		ONE (1) OPERATING MECHANISM		QUANTITY	
ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
1	SPRING ARMSET ASSY 2.00	0818499	1	1	SPRING ARMSET ASSY 2.00	0818499	1
2	GROUND INSULANT ASSY NON-STD 2.00	0818499	1	2	GROUND INSULANT ASSY NON-STD 2.00	0818499	1
3	POSITION INDICATOR 0.75 2.00	0811329	1	3	POSITION INDICATOR 0.75 2.00	0811329	1
4	VERTICAL BEARING (SEE DRAW) 2.00	0811769	1	4	VERTICAL BEARING (SEE DRAW) 2.00	0811769	1
5	AUX ARM 2.00 NB 7.25-10.5 88201	08110410	1	5	AUX ARM 2.00 NB 7.25-10.5 88201	08110410	1
6	SWITCH ARM 10" 58C (72922) NB	0811769	1	6	SWITCH ARM 10" 58C (72922) NB	0811769	1
7	AUX ARM MTG 10" 58C (72920) NB	0811769	1	7	AUX ARM MTG 10" 58C (72920) NB	0811769	1
8	CLEVIS LONG 2.50 (74831) NB	08110072	1	8	CLEVIS LONG 2.50 (74831) NB	08110072	1
9	CLEVIS STD 2.50 (74830) NB	08110073	1	9	CLEVIS STD 2.50 (74830) NB	08110073	1
10	MT INTERMEDIATE 35 2.00 NB	08113301	1	10	MT INTERMEDIATE 35 2.00 NB	08113301	1
11	SP 2.0040 X 19"-0"	15037419	1	11	SP 2.0040 X 19"-0"	15037419	1
12	SP 2.0040 X 8"-0"	15037408	1	12	SP 2.0040 X 8"-0"	15037408	1
13	SP 2.0040 X 7"-0"	15037407	1	13	SP 2.0040 X 7"-0"	15037407	1
14	BASE DETAILS	15045611	1	14	BASE DETAILS	15045611	1
15	CHANNEL VERT BRG SUPPORT	15025887	1	15	CHANNEL VERT BRG SUPPORT	15025887	1
16	MISC ANGLE BRG SUPPORT	15025825	1	16	MISC ANGLE BRG SUPPORT	15025825	1
17	PLATE	15013130	1	17	PLATE	15013130	1



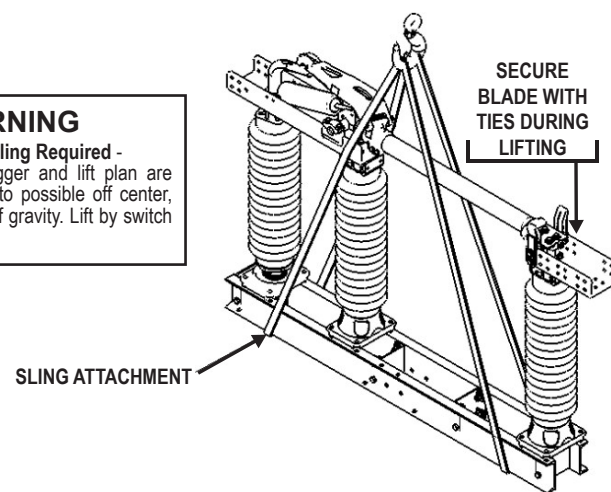
TERMINOLOGY OVERVIEW

- 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

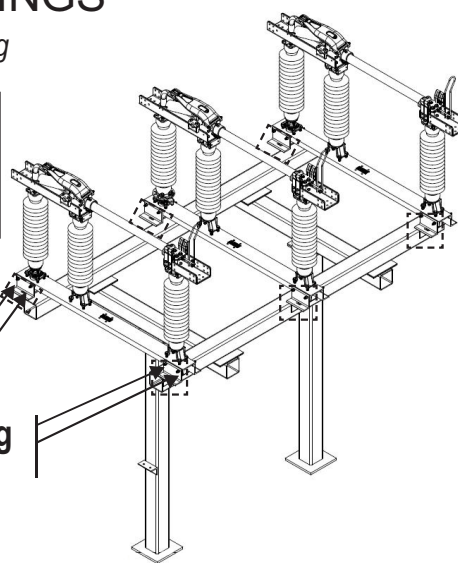
Refer to operating mechanism drawing for pole orientation and mounting

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.



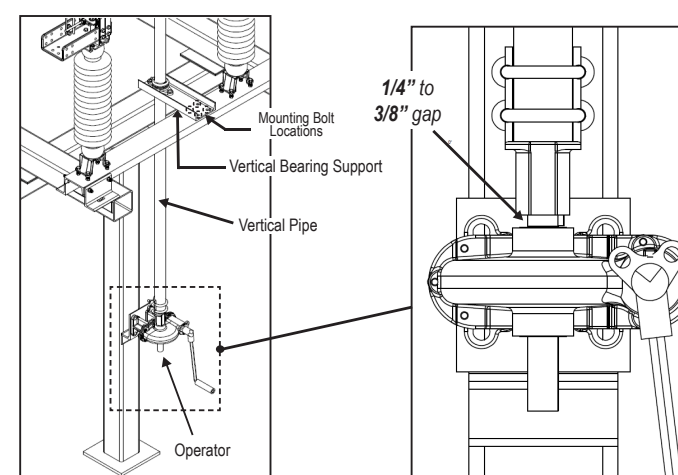
CAUTION
Because the phase is top heavy, the
base must be bolted to the structure
before removing lifting straps to
prevent tipping.

Typical Mounting
Bolt Locations



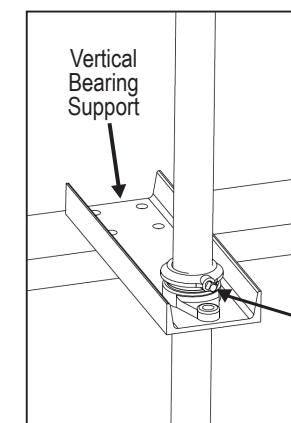
Refer To Instruction Book Section: **Installation & Adjustment Procedures**

4 MOUNT VERTICAL BEARING, PIPE, & OPERATOR



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

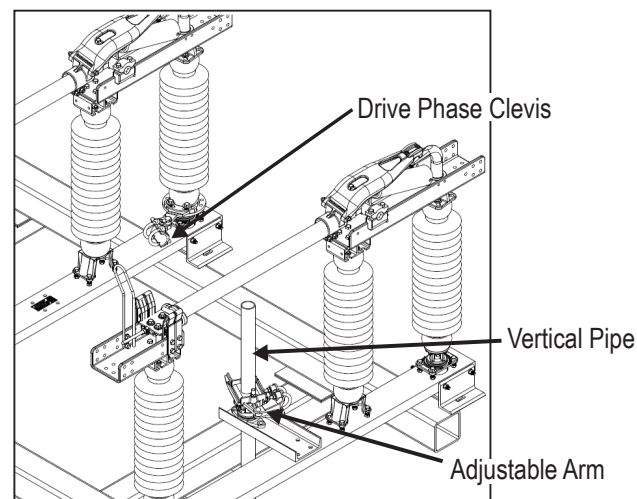
5 PIERCE VERTICAL BEARING SET-SCREW COMPLETELY



NOTE: This will be the **only** piercing
until step 13. 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.

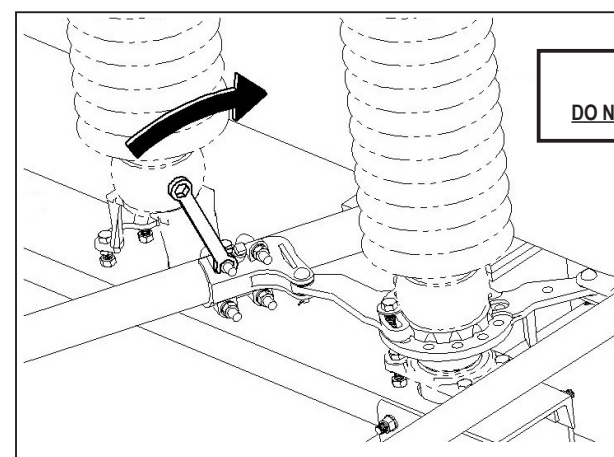
Refer To Instruction Book Section: **Installation & Adjustment Procedures**

6 INSTALL ADJUSTABLE ARM & DRIVE PHASE CLEVISSES

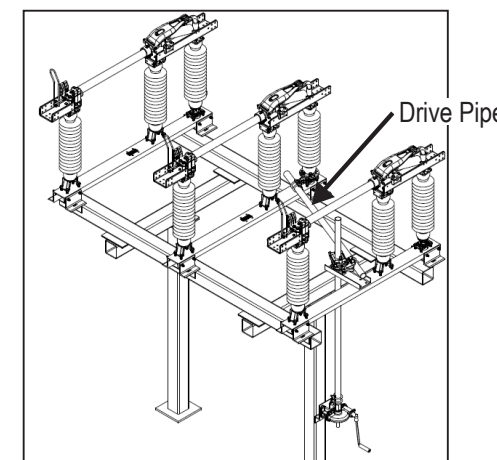


Refer To Instruction Book Section: **Installation & Adjustment Procedures**

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

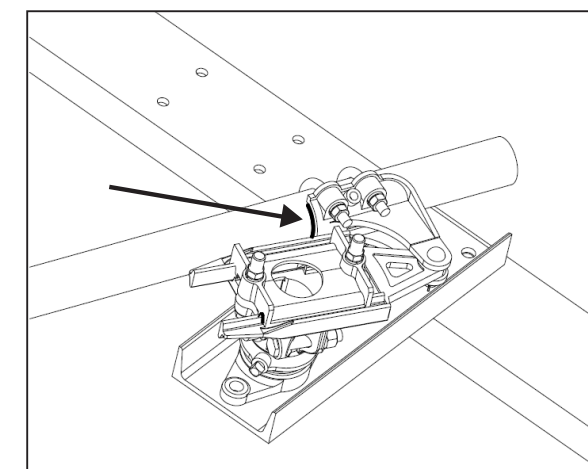


NOTE:
DO NOT PIERCE UNTIL STEP 13



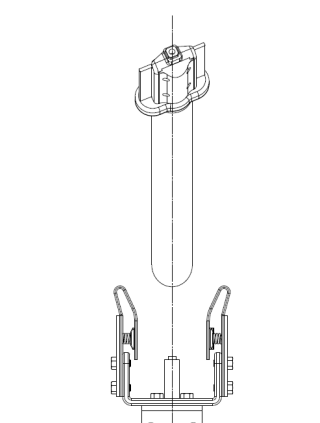
Refer To Instruction Book Section: **Installation & Adjustment Procedures**

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

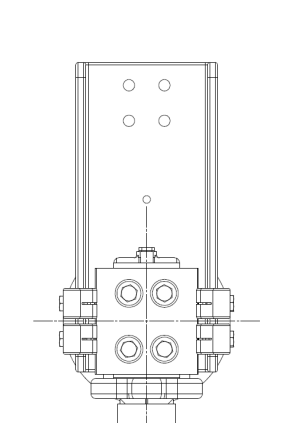


Refer To Instruction Book Section: **Installation & Adjustment Procedures**

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



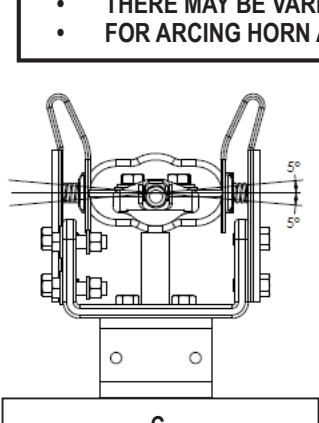
A.
Blade must enter center of jaw



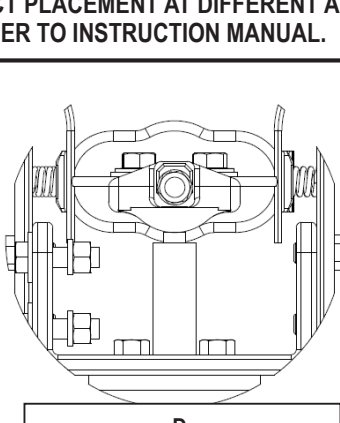
B.
Blade contacts should be centered front to back

NOTES:

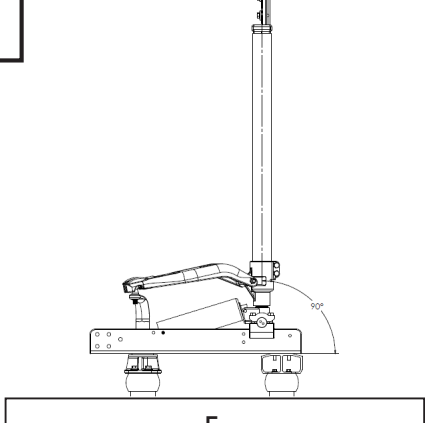
- THERE MAY BE VARIATIONS ON CONTACT PLACEMENT AT DIFFERENT AMPERAGE CLASSES.
- FOR ARCING HORN ADJUSTMENTS, REFER TO INSTRUCTION MANUAL.



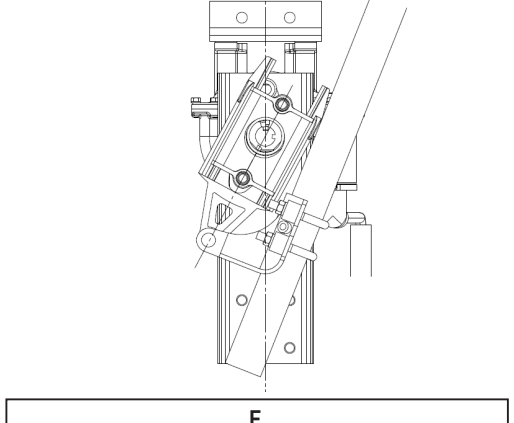
C.
Contact bar must be within "+ or - 5 degrees from flat in the full closed position



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



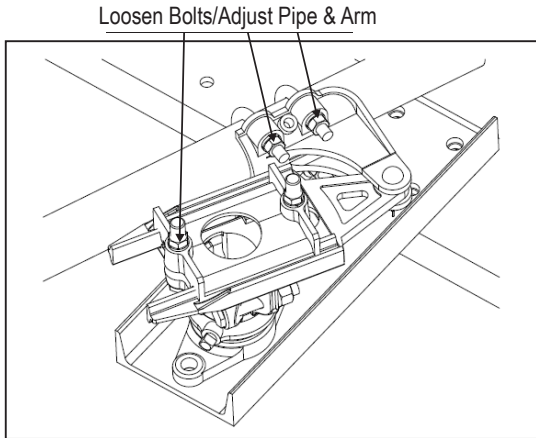
E.
Blade angle must be at least 90° in the full open position if horizontally mounted (70° for vertical and underhung mounting)



F.
Reach rod 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 ADJUSTMENTS ARE NEEDED, REFER TO THE STEPS BELOW BASED ON THE SWITCH AND OPERATOR POSITION:



IF Operator Reaches Full Open Position & Switch Is Not Fully Opened:

- Check for slippage
- Return switch to almost closed but not toggled
- Match-mark adjustable arm and pipe clevis
- Lengthen both the adjustable arm radius & pipe clevis by 1/4" increments until full switch opening and operator rotation is achieved

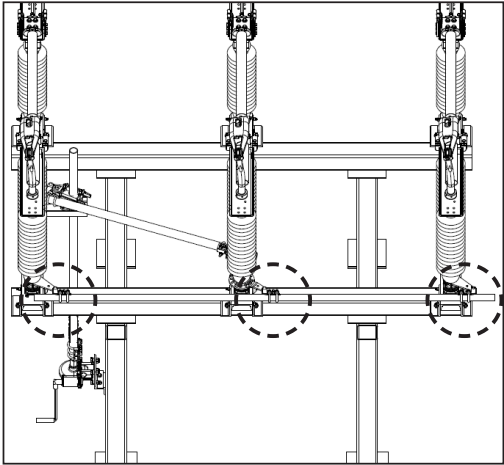
IF Switch Is Fully Opened Before Operator Reaches Full Open Position:

- Check for slippage
- Return switch to almost closed but not toggled
- Match-mark adjustable arm and pipe clevis
- Shorten both the adjustable arm radius & pipe clevis by 1/4" increments until full switch opening and operator rotation is achieved

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

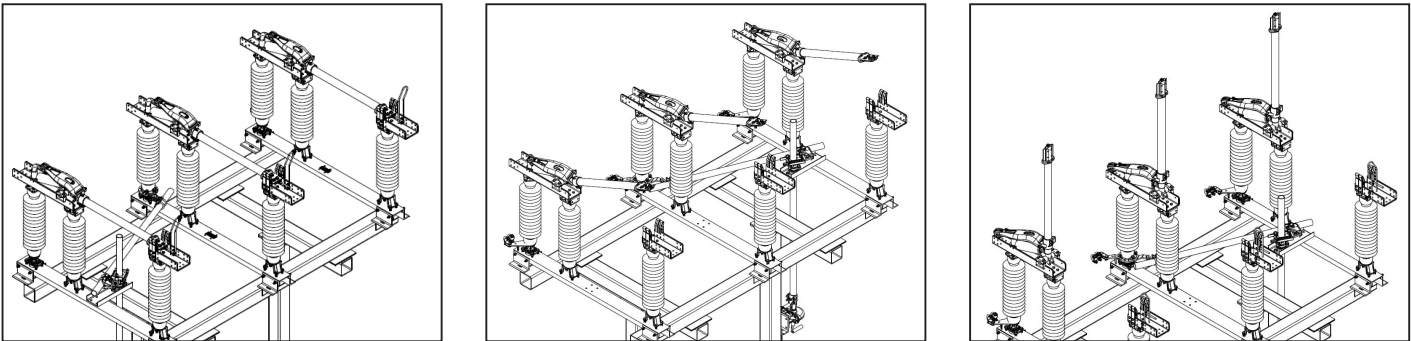
11 INSTALL INTERPHASE PIPE, CONNECTING DRIVE PHASE WITH OTHER TWO PHASES - SECURE WITH CLEVIS BOLTS & ADJUST

Once the interphase pipe is installed, test operate. **If step 9 criteria are not met**, loosen interphase clevis and adjust by 1/4" increments as needed. Ensure the switch is fully closed by pushing on the lever arm, then re-tighten the clevises. Apply slight pressure to piercing bolts to prevent slippage.



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

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.*).

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