



Bulletin 1494C Cable Operated Disconnect Switch Kit (30A - 200A) Installation Instructions

(Cat 1494C- _ _ _ Series 2 : 30A, 60A, 100A and 200A)

⚠ WARNING

To prevent electrical shock, disconnect from power source before installing or servicing. Follow NFPA 70E requirements. Install in suitable enclosure. Keep free from contaminants.

⚠ WARNING

The following procedures are critical to the proper operation of the disconnect handle and switch. Failure to follow these steps can result in damage to the equipment and/or serious injury or death to the operator.

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QUICK INSTALLATION GUIDE

NOTICE

When locating the **30A, 60A and 100A** switch, verify that the minimum diameter for the loop of the cable between the switch mechanism and handle mechanism is not less than **12 inches**.

When locating the **200A** switch, verify that the minimum diameter for the loop of the cable between the switch mechanism and handle mechanism is not less than **16 inches**.

Any reduction to the diameter of the bend loop for the cable will reduce the efficiency of the cable system, and create additional drag and friction within the cable conduit.

NOTICE

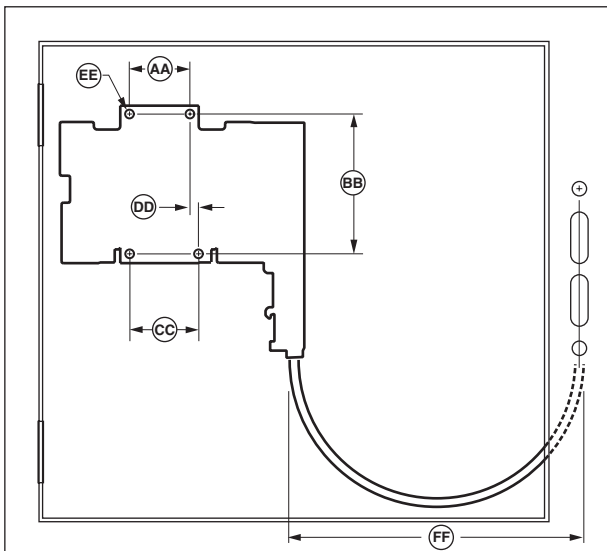
Verify that the cable assembly does not interfere with any mechanical and moving parts. Keep the cable conduit a minimum of 1/2" from all heat sources and current carrying terminals, fuses, transformers, etc.

1 Disconnect Switch Installation

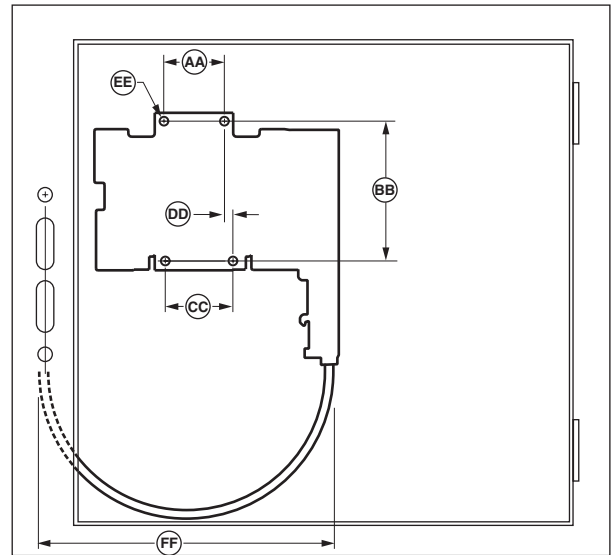
Panel Mounting Dimensions

Switch Size	AA	BB	CC	DD	EE (4) Mounting Plate Holes	FF Minimum Bend Diameter
30A, 60A, 100A	2-1/4"	5-1/4"	2-1/4"	----	11/64" Dia.	12" Dia.
200A	2"	8-1/4"	4-1/4"	1-1/8"	7/32" Dia.	16" Dia.

1a Locate switch with right hand mechanism

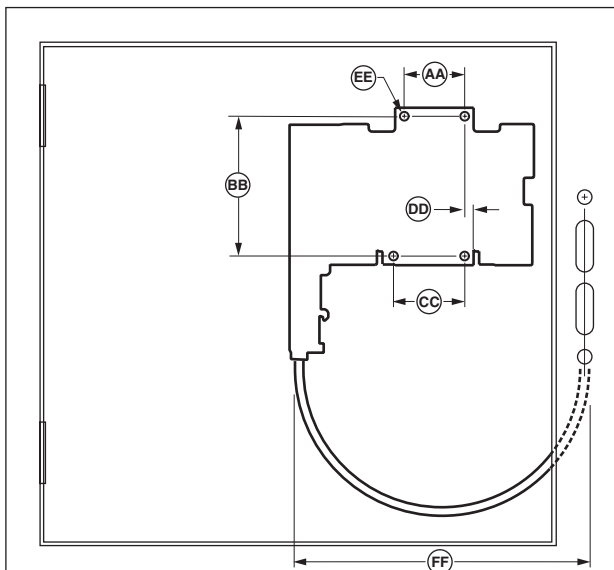


Enclosure with Right Hand Flange

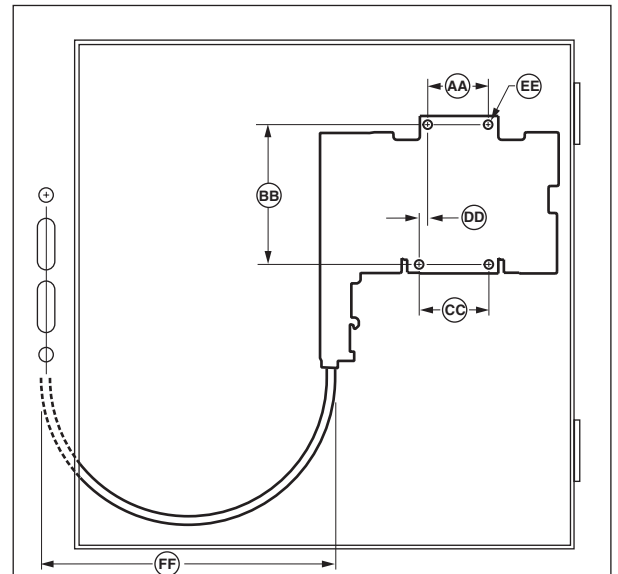


Enclosure with Left Hand Flange

1b Locate switch with left hand mechanism



Enclosure with Right Hand Flange

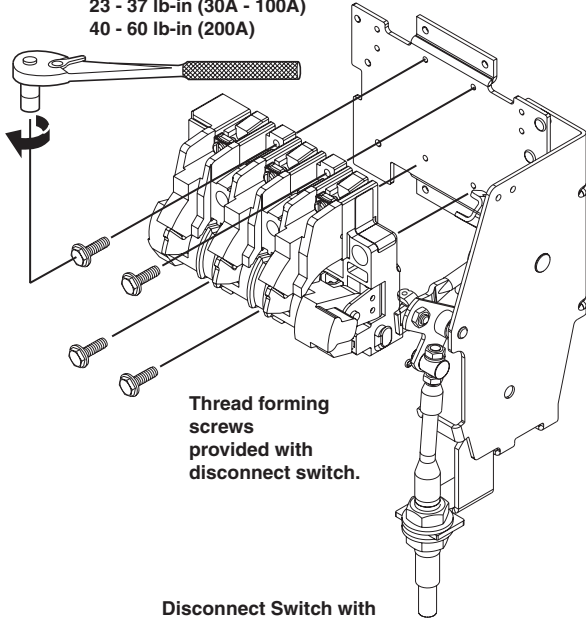


Enclosure with Left Hand Flange

1 Disconnect Switch Installation (Cont'd)

2 Assemble disconnect switch to cable switch mechanism

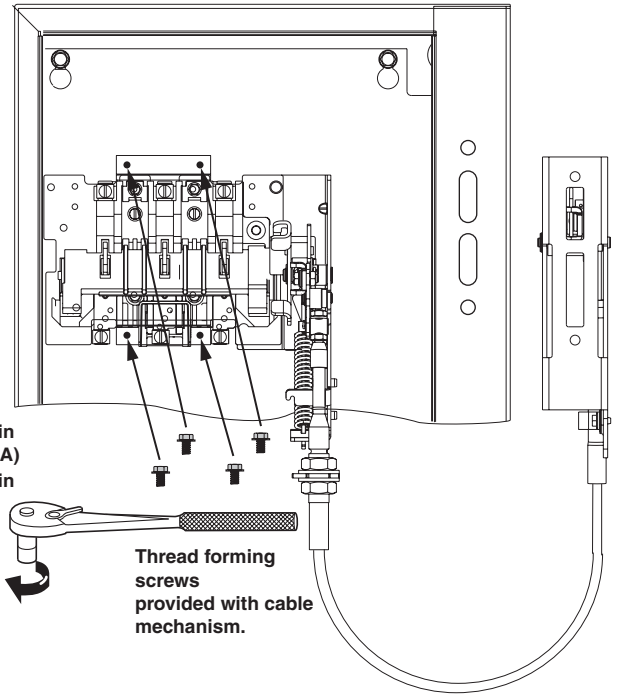
23 - 37 lb-in (30A - 100A)
40 - 60 lb-in (200A)



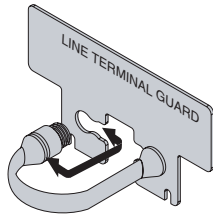
Disconnect Switch with Right Hand Cable Mechanism (shown)

3 Assemble disconnect switch assembly to mounting plate

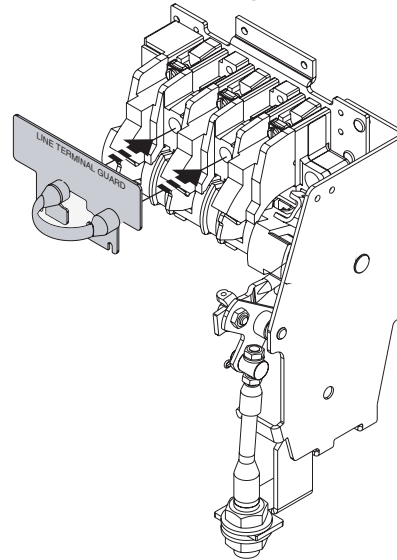
23 - 37 lb-in (30A - 100A)
40 - 60 lb-in (200A)



4 Install rubber handle on line terminal guard

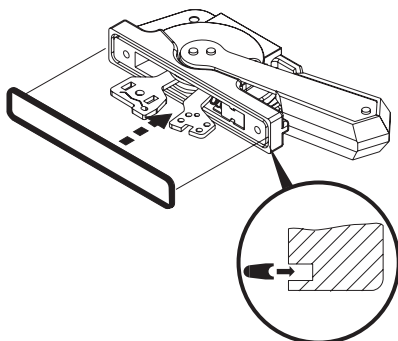


5 Install the line terminal guard on disconnect switch

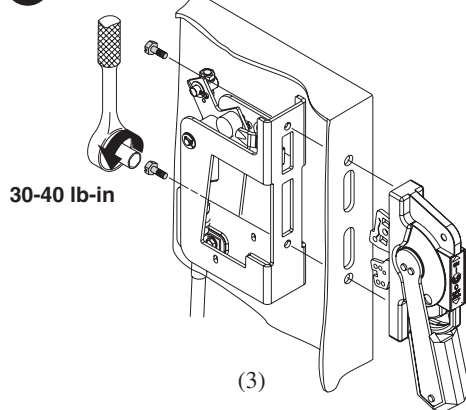


2 Disconnect Handle Installation

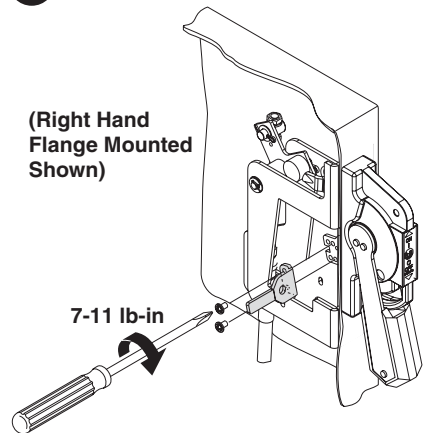
1 Install gasket



2 Install handle and mechanism bracket

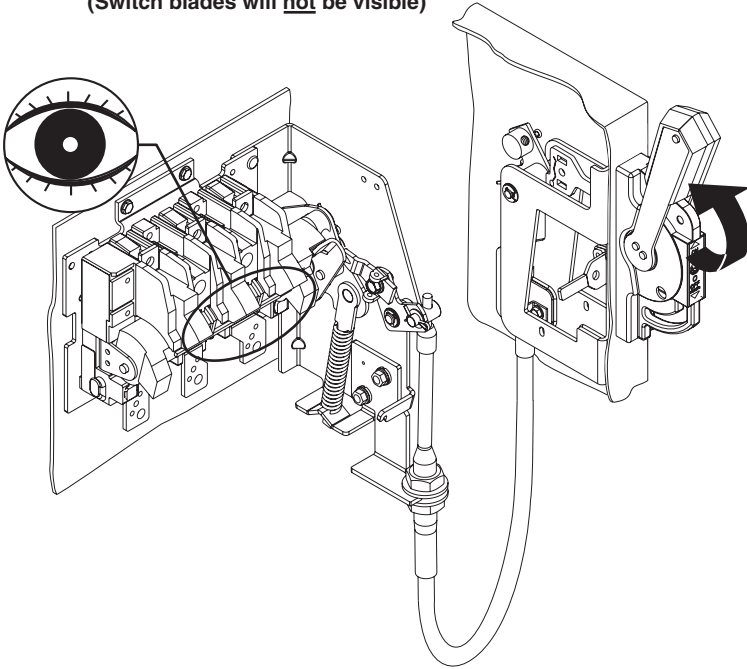


3 Install def eater lever

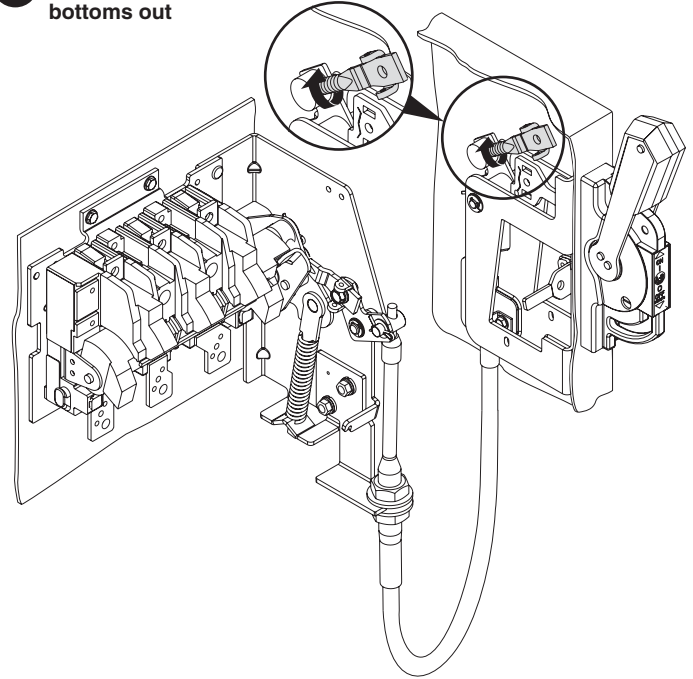


3 Cable Mechanism Installation

- 1** Verify that disconnect switch and handle are in "ON" position. (Switch blades will not be visible)

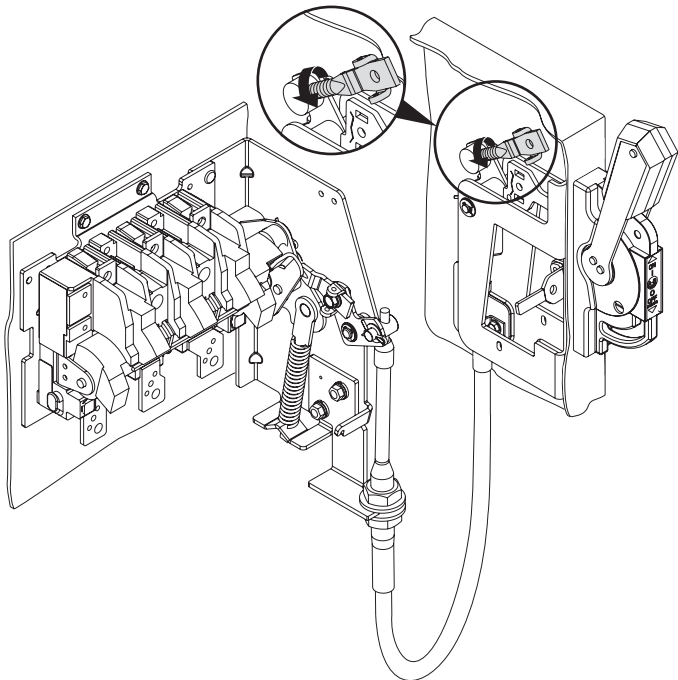


- 2** Rotate connecting rod (clockwise) into drive bar until it bottoms out

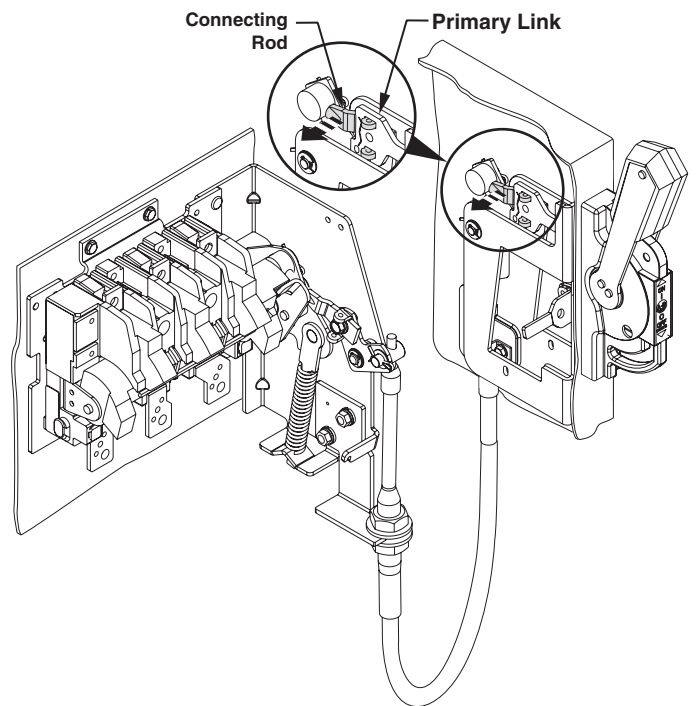


- 3** Rotate connecting rod (counter-clockwise):

30A - 60A - 100A	(1) full turn
200A	(3) full turns

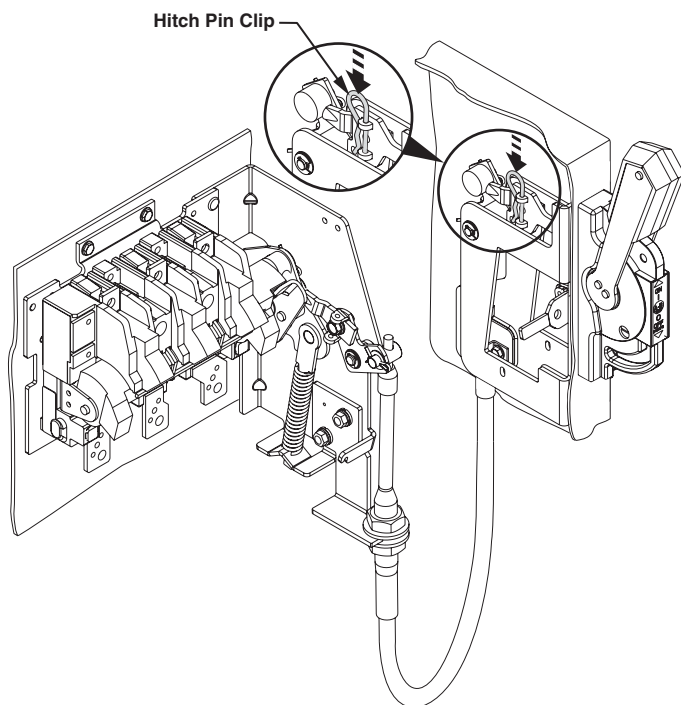


- 4** Align connecting rod with primary link

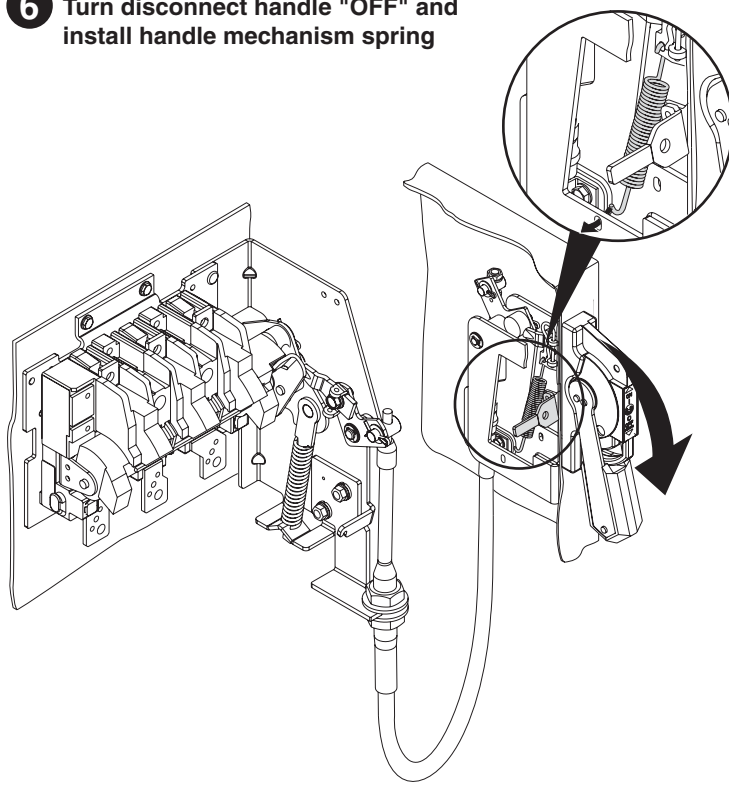


3 Cable Mechanism Installation (Cont'd)

5 Install hitch pin clip



6 Turn disconnect handle "OFF" and install handle mechanism spring



4 Connecting Rod Adjustment Procedure

"ON" Position

- 1 Move disconnect handle to the "ON" position.
- 2 If switch does not fully close, return handle to "OFF" position.
- 3 Remove link spring hitch pin and disengage the connecting rod from the primary link.
- 4 Turn connecting rod counter-clockwise (1 or more) full turns.
- 5 Re-engage connecting rod in primary link of handle, insert hitch pin and re-test
- 6 Repeat 1 - 5 as necessary.
- 7 Re-install link spring.

"OFF" Position

- 1 Move disconnect handle to the "OFF" position.
- 2 If switch does not fully open, return handle to "ON" position.
- 3 Remove hitch pin and link spring, then disengage the connecting rod from the primary link.
- 4 Turn connecting rod clockwise (1 or more) full turns.
- 5 Re-engage connecting rod in primary link of handle, insert hitch pin and re-test.
- 6 Repeat 1 - 5 as necessary.
- 7 Re-install link spring.

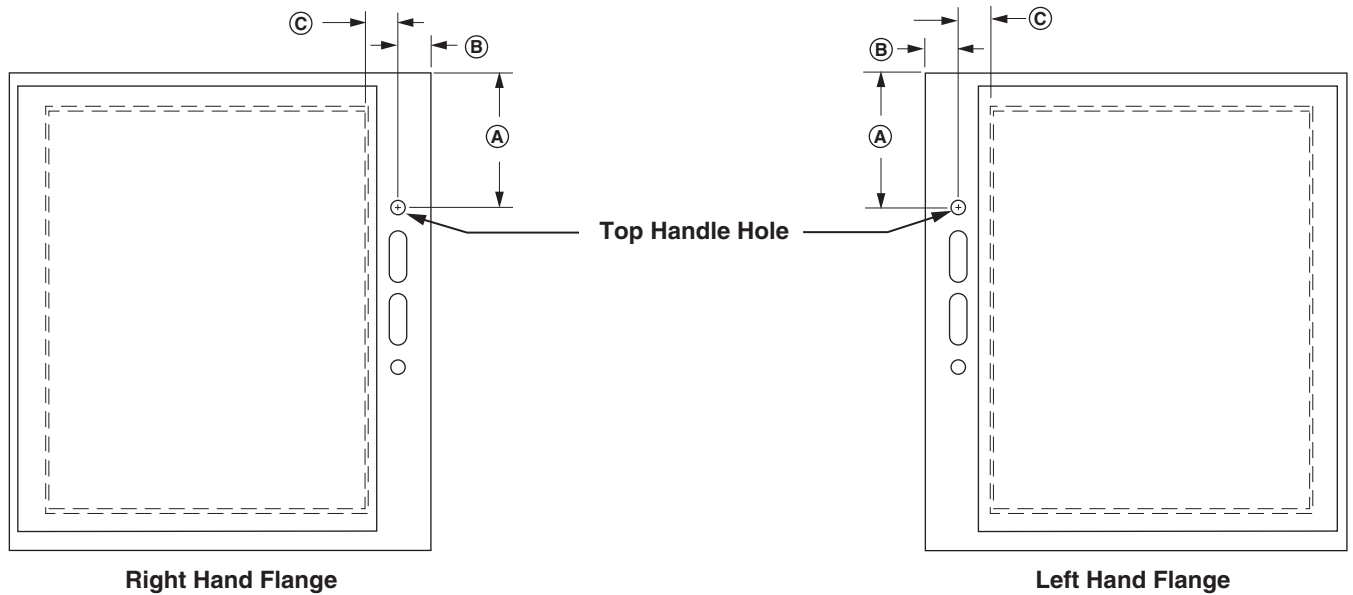


ATTENTION: CHECK FOR PROPER OPERATION. Upon completion of the installation instructions, no further adjustment of the cable mechanism is required.

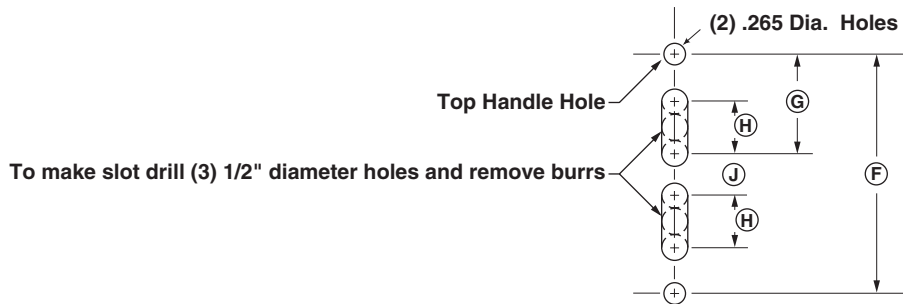
Enclosure without Handle Cutout

- Enclosures with a Flange Thickness less than 3/16" use dimensions below to install disconnect handle.
- Enclosures with a Flange Thickness 3/16" and greater use dimensions in alternate Mounting Kit 1494V-H3 to install disconnect handle.

1 Locate Handle



2 Drill Handle Holes



Enclosure Dimensions

NEMA SIZE	A (min)	B (min)	C (max)	F	G	H	J
30A, 60A	4 - 5/8"	1 - 1/8"	1 - 1/16"	4 - 11/16"	1 - 9/16"	1"	7/8"
100A	6 - 1/16"	1 - 1/8"	1 - 1/16"	4 - 11/16"	1 - 9/16"	1"	7/8"
200A	10 - 1/8"	1 - 1/8"	1 - 1/16"	4 - 11/16"	1 - 9/16"	1"	7/8"

Door Catch Bracket Installation

Right hand installation shown (for left hand installation follow similar procedures)

Door Catch Mounting Bracket:

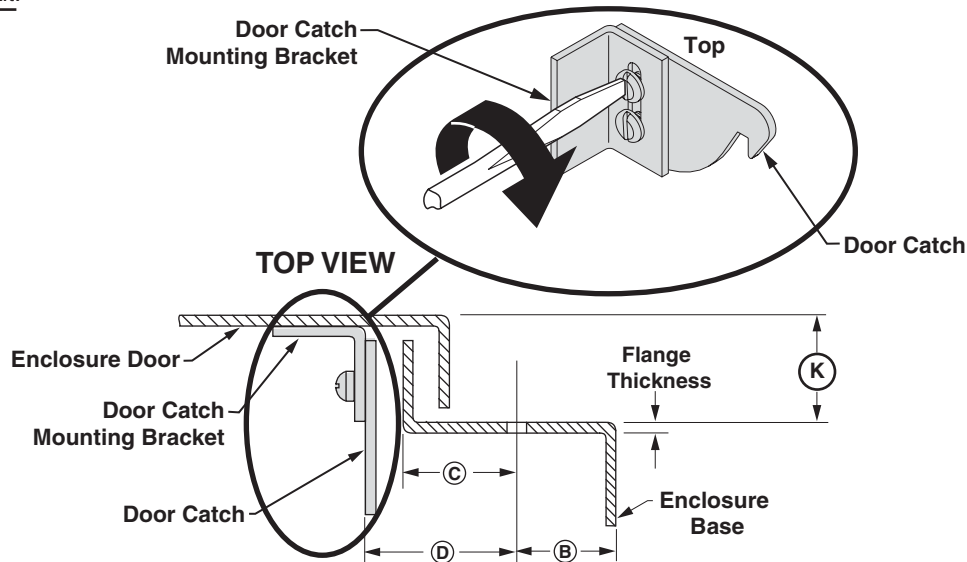
- Provided with projections for welding.
- Projections can also be used as a guide for drilling holes.
- Can be used as a template to drill corresponding holes in the enclosure door.
- User to supply the hardware for fastening the bracket.
- Fasteners must provide the degree of ingress protection for the environmental rating of the enclosure.
- The bracket hardware must be inaccessible to unauthorized personnel.

Dimension (K) (3/4" to 1")

- When using small disconnect handle kit only (1494F-P1, -M1 or -S1), use door catch provided with handle kit.
- When using small disconnect handle kit and small door hardware kits (1494V-L1, -LL1, -L2 or -LL2), use door catch provided with door hardware kit.

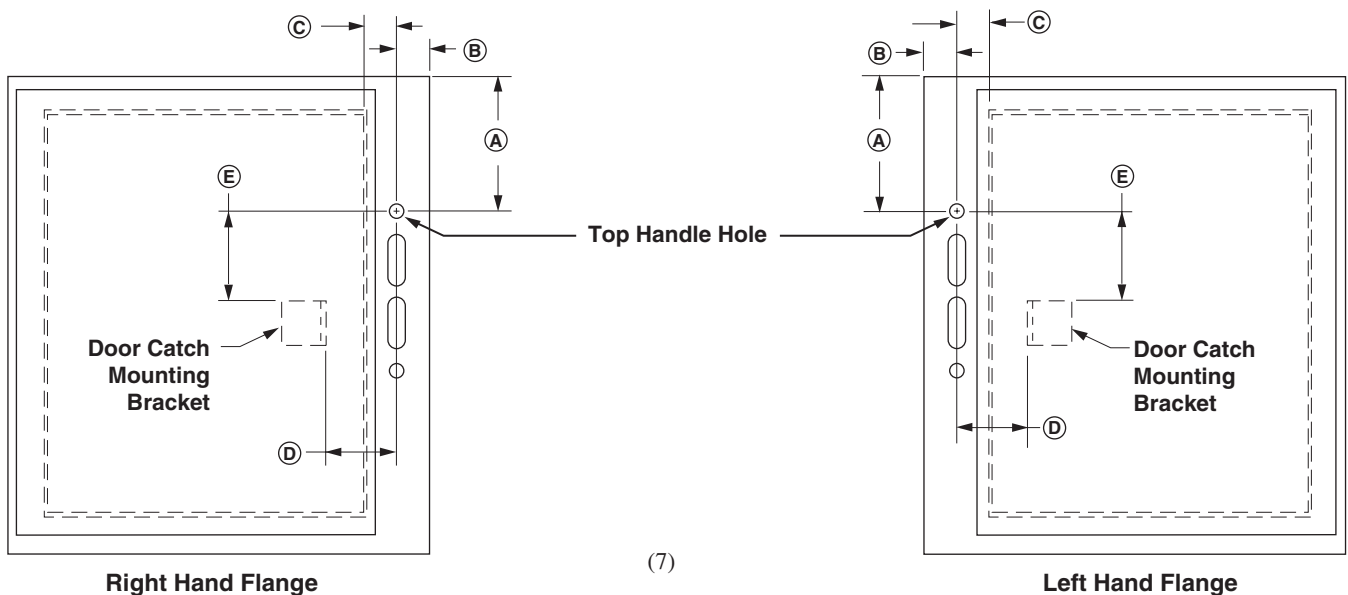
Dimension (K) (1-1/8" to 1-3/8")

- When using small disconnect handle kit only (1494F-P1, -M1 or -S1), use door catch (40492-080-02) which can be ordered from factory.
- When using small disconnect handle kit and large door hardware kits (1494V-L3 or -LL3), use door catch provided with door hardware kit.



Enclosure Dimensions

NEMA SIZE	A (min)	B (min)	C (max)	D	E	F	G	H	J
30A, 60A	4 - 5/8"	1 - 1/8"	1 - 1/16"	1 - 5/8"	2 - 3/8"	4 - 11/16"	1 - 9/16"	1"	7/8"
100A	6 - 1/16"	1 - 1/8"	1 - 1/16"	1 - 5/8"	2 - 3/8"	4 - 11/16"	1 - 9/16"	1"	7/8"
200A	10 - 1/8"	1 - 1/8"	1 - 1/16"	1 - 5/8"	2 - 3/8"	4 - 11/16"	1 - 9/16"	1"	7/8"

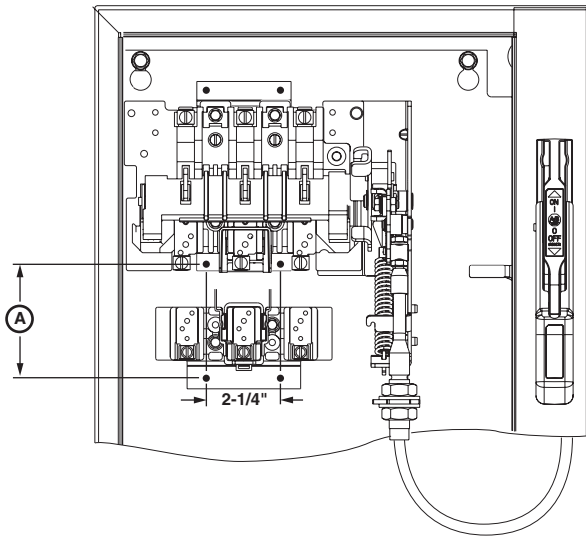


Trailer Fuse Block Installation

1 Trailer Fuse Block Location

Note: Refer to the figures and chart below to determine the **location** on the mounting plate for the trailer fuse block. (Not required for non-fusible disconnect switch applications.)

1494V-FS30, -FS60, -FS100



30 Amp Trailer Fuse Block (1494V-FS30)

Fuse			Ⓐ	Torque (lb-in)			
Amps	Voltage	Class		Fuse Block	Fuse Clip	Lug to Terminal	Wire into Lug
30	250	H/R	2-27/32"				
30	600	H/R	5-5/8"				
30	600	J	2-27/32"				
30	600	HRCII-C	4-3/16"	23-37	22-37	20-25	20-25
60	250	H/R	3-5/8"				
60	600	H/R	6-1/8"				
60	600	J	3"				
60	600	HRCII-C	4-3/16"				

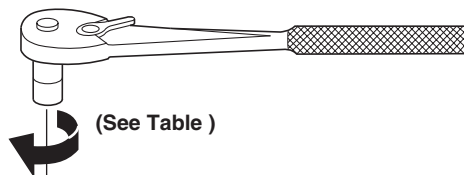
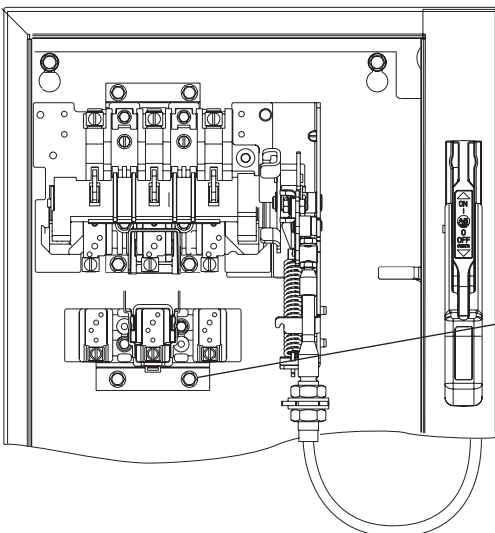
60 Amp Trailer Fuse Block (1494V-FS60)

Fuse			Ⓐ	Torque (lb-in)			
Amps	Voltage	Class		Fuse Block	Fuse Clip	Lug to Terminal	Wire into Lug
30	250	H/R	2-27/32"				
30	600	H/R	5-5/8"				
30	600	J	2-27/32"				
30	600	HRCII-C	4-3/16"	23-37	23-37	40-60	45-50
60	250	H/R	3-5/8"				
60	600	H/R	6-1/8"				
60	600	J	3"				
60	600	HRCII-C	4-3/16"				
100	600	J	4-15/16"	23-37	16-22	40-60	45-50
100	600	H/R	8-1/8"				

100 Amp Trailer Fuse Block (1494V-FS100)

Fuse			Ⓐ	Torque (lb-in)			
Amps	Voltage	Class		Fuse Block	Fuse Clip	Lug to Terminal	Wire into Lug
60	250	H/R	4-3/16"				
60	600	J	3-9/16"				
60	600	H/R	6-11/16"	23-37	22-37	90-110	150-165
60	600	HRCII-C	4-11/16"				
100	250	H/R	6-11/16"				
100	600	H/R	8-11/16"				
100	600	J	5-1/2"	23-37	16-22	90-110	150-165
100	600	HRCII-C	7-9/16"				
200	600	J	6-1/4"				

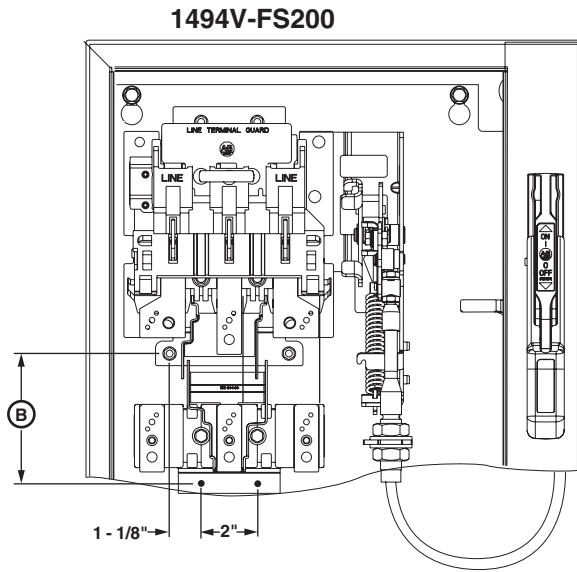
2 Install Trailer Fuse Block



Trailer Fuse Block Installation (Switch Rating 200A)

1 Trailer Fuse Block Location

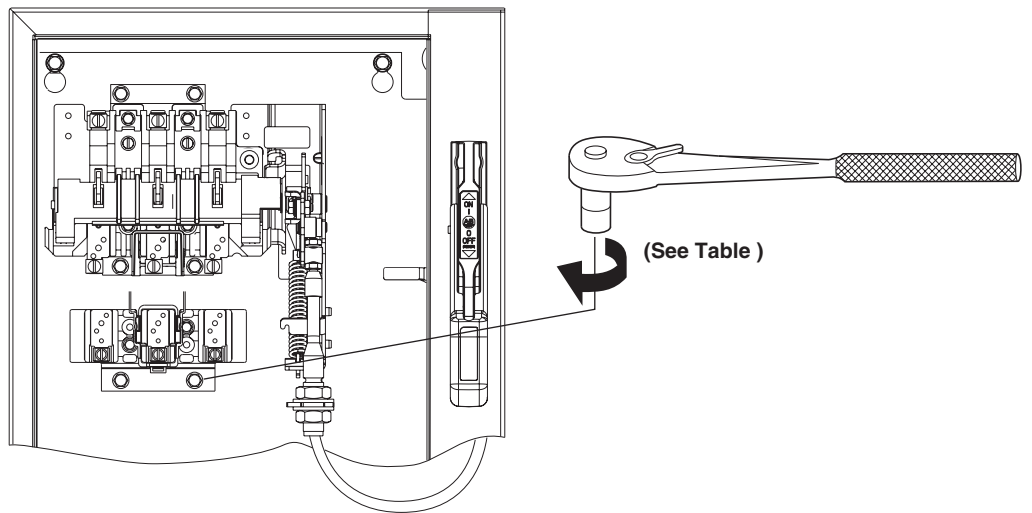
Note: Refer to the figures and chart below to determine the **location** on the mounting plate for the trailer fuse block. (Not required for non-fusible disconnect switch applications.)



200 Amp Trailer Fuse Block (1494V-FS200)

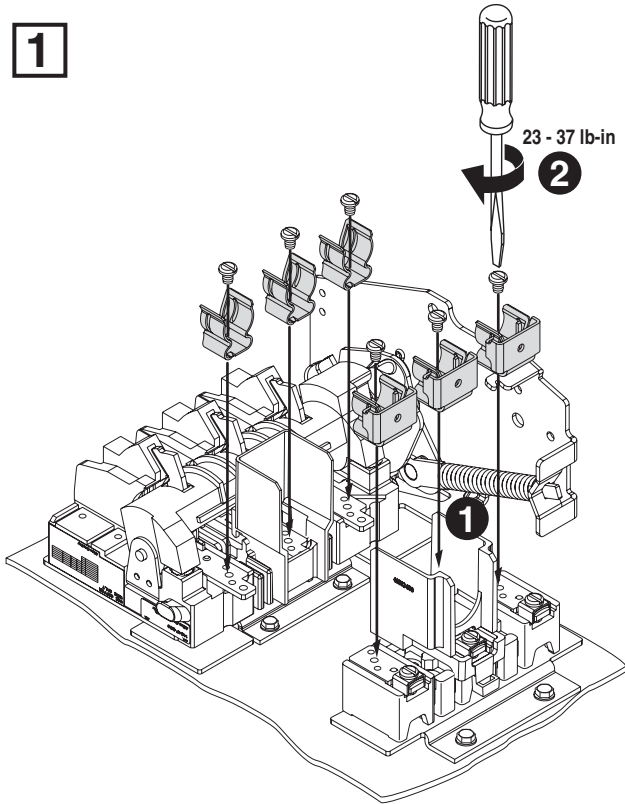
Fuse			ⓑ	Torque (lb-in)						
Amps	Voltage	Class		Fuse Block	Fuse Clip	Lug to Terminal	Wire into Lug			
100	250	H/R	5-7/8"	40-60	16-22	175-200	275-305			
100	600	H/R	7-7/8"							
100	600	J	4-5/8"							
100	600	HRCII-C	4-5/8"							
200	250	H/R	6-3/4"							
200	600	H/R	9-1/4"							
200	600	J	5-3/8"							
200	600	HRCII-C	5-3/8"							
400	600	J	6-1/4"					16-22		

2 Install Trailer Fuse Block

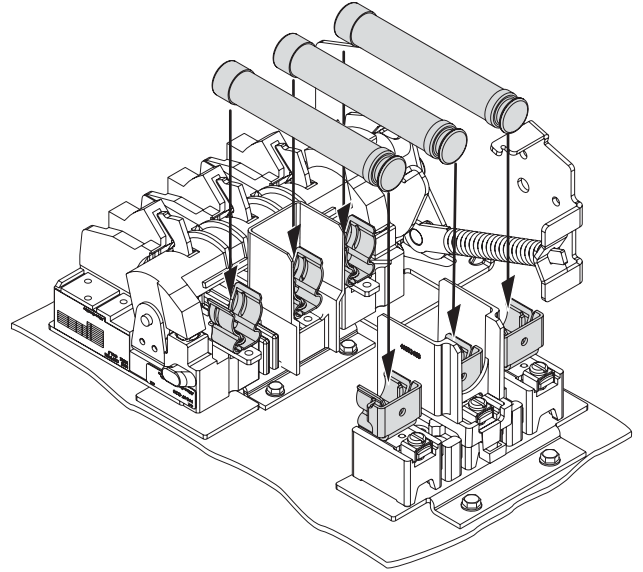


Switch Rating (30A, 60A Rating) Fuse Clip Installation

1



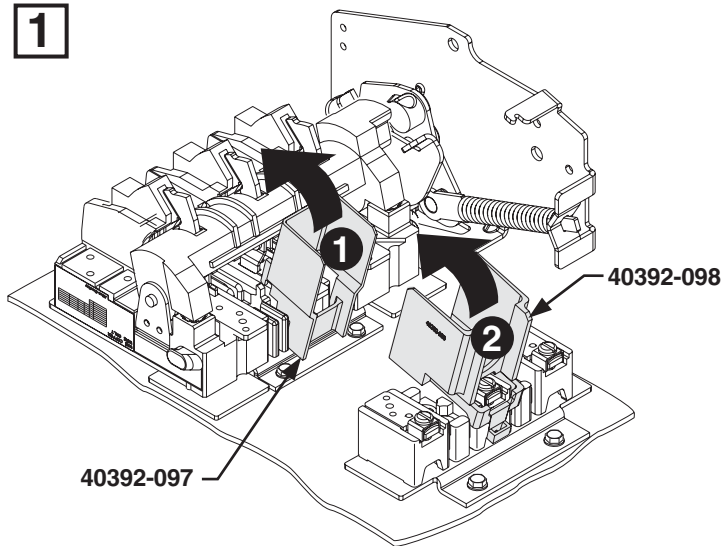
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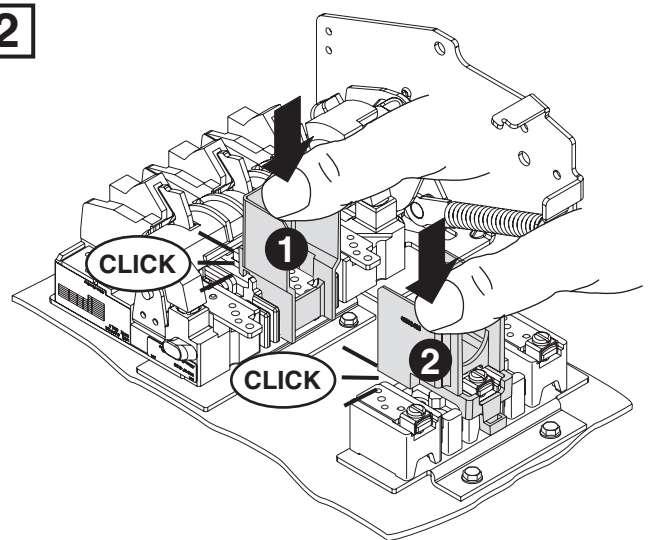
Phase Barrier Replacement Kit 1494F-PH2

NOTE: Fuse clips and lugs must be removed to add or replace phase barriers.

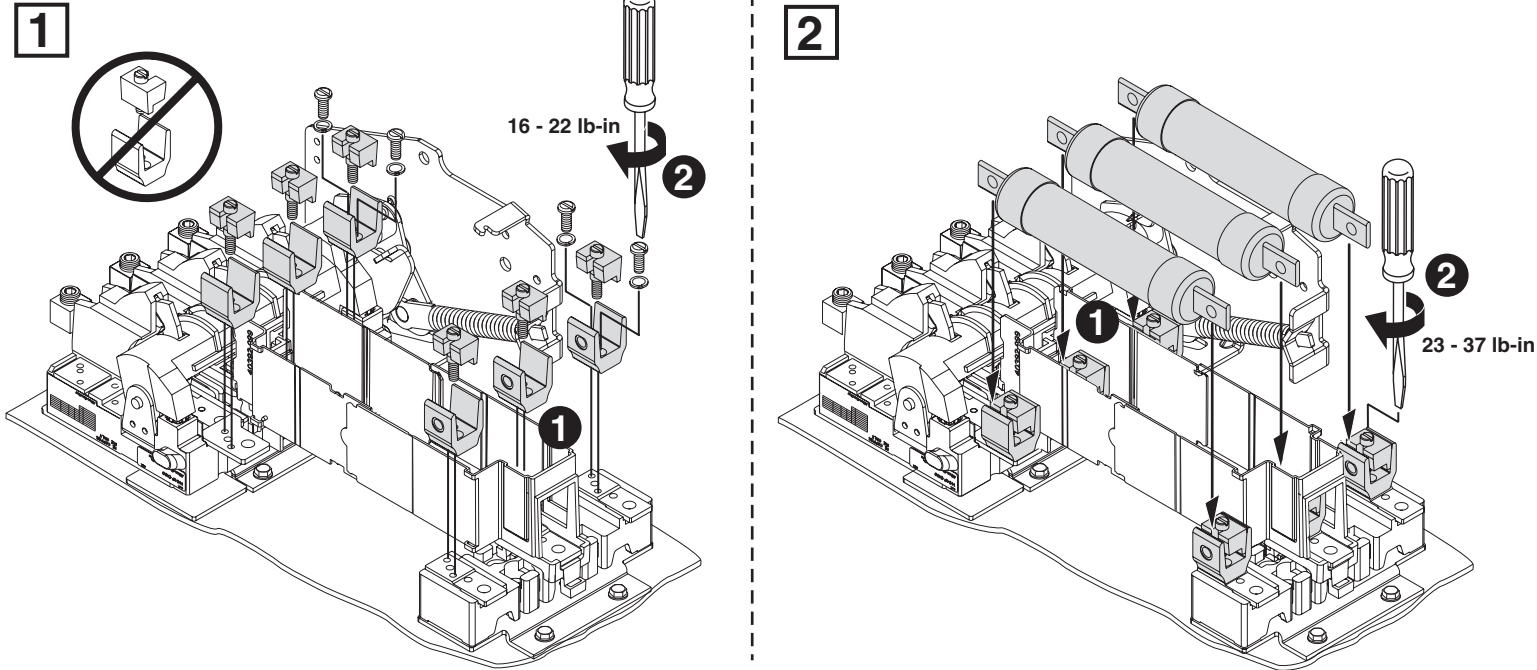
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2



Fuse Clip Installation (Switch Rating 100 Amp)



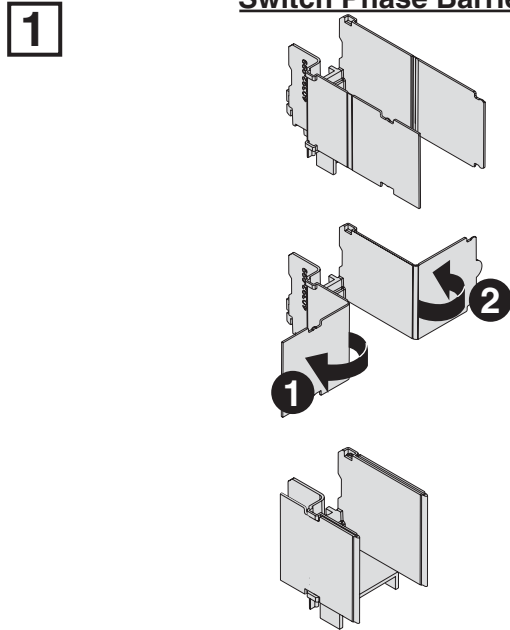
Phase Barrier Replacement Kit

1494F-PH3

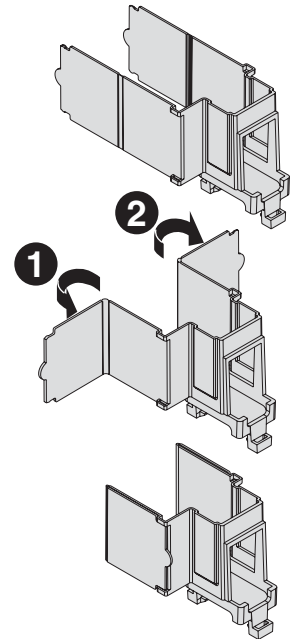
NOTE: Fuse clips and lugs must be removed to add or replace phase barriers.

Switch Phase Barrier

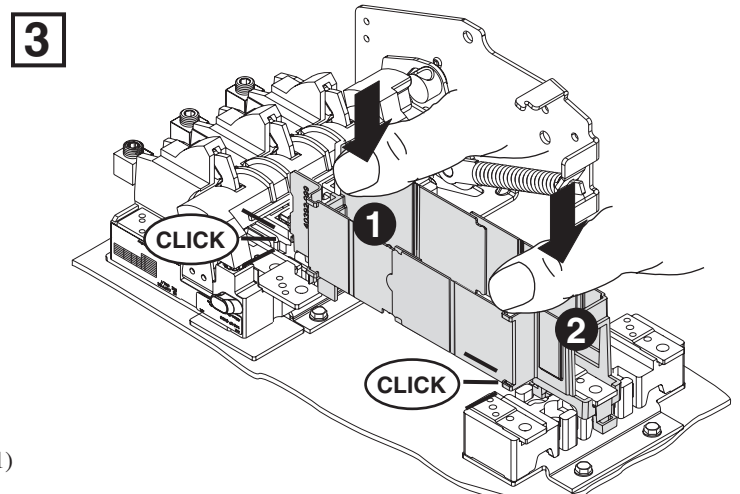
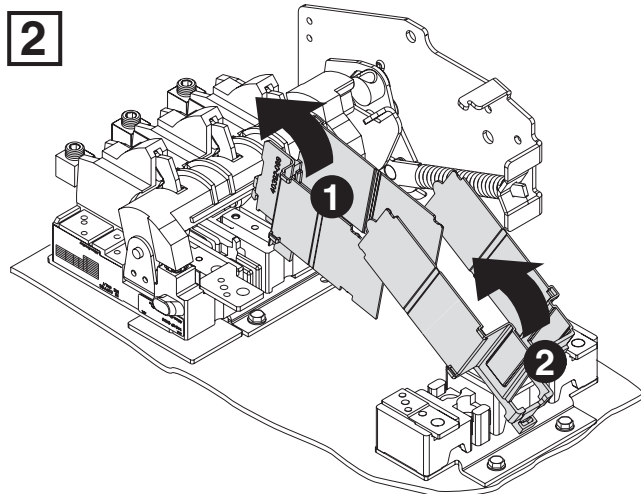
Trailer Block Phase Barrier



Fuse Clip Size and Class		
60 A	600V	H-R
100 A	600V	H-R
200 A	600V	H-R
200 A	250V	H-R

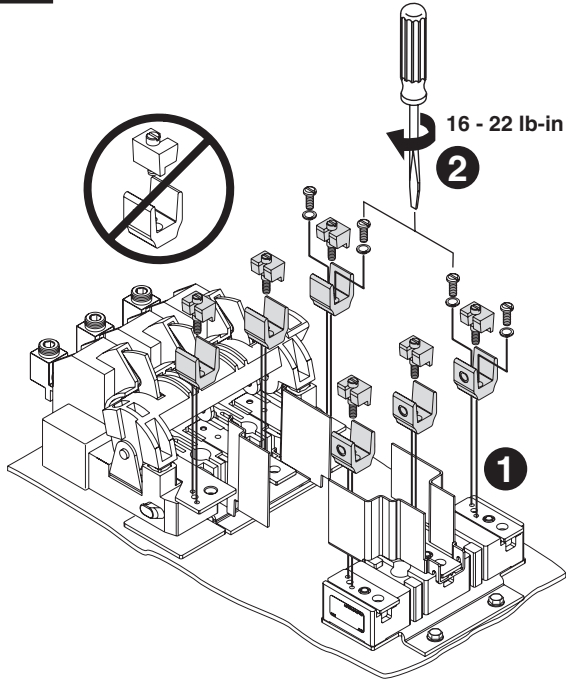


Fuse Clip Size and Class		
60 A	250V	H-R
60 A	600V	J
100 A	250V	H-R
100 A	600V	J
200 A	600V	J

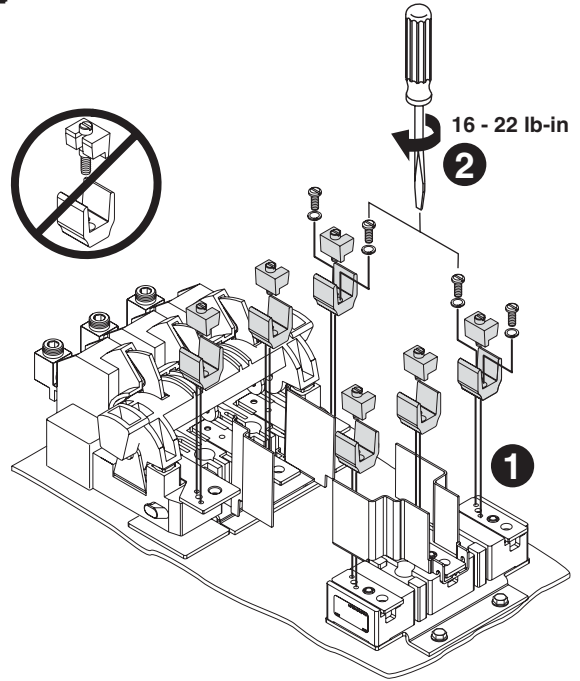


Fuse Clip Installation (Switch Rating 200A)

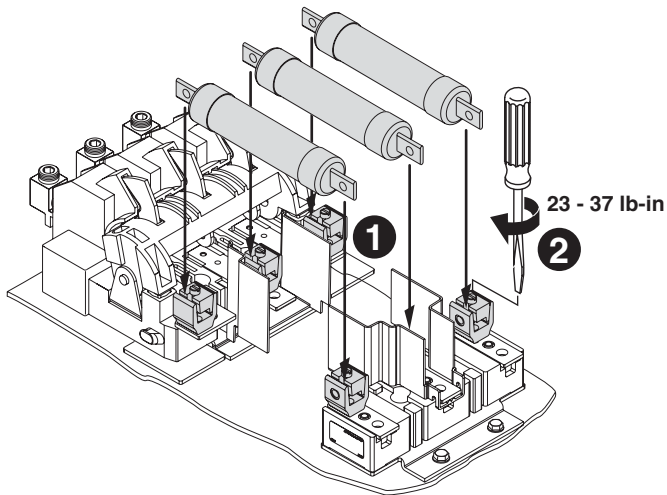
1 Switch with Right Hand Mechanism



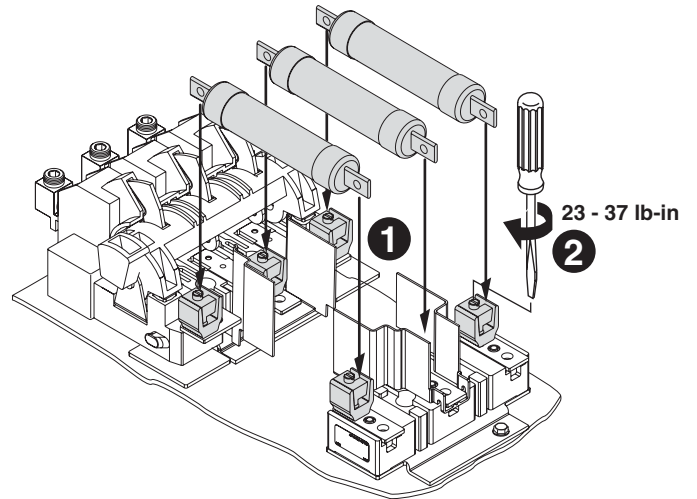
1 Switch with Left Hand Mechanism



2 Switch with Right Hand Mechanism



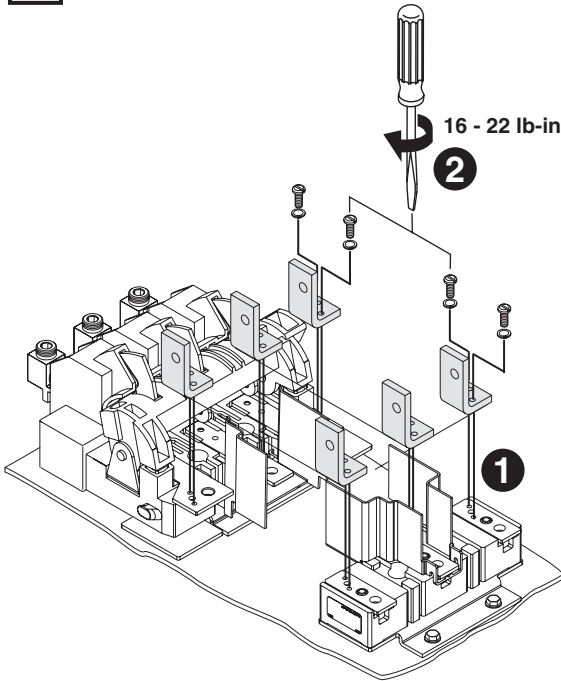
2 Switch with Left Hand Mechanism



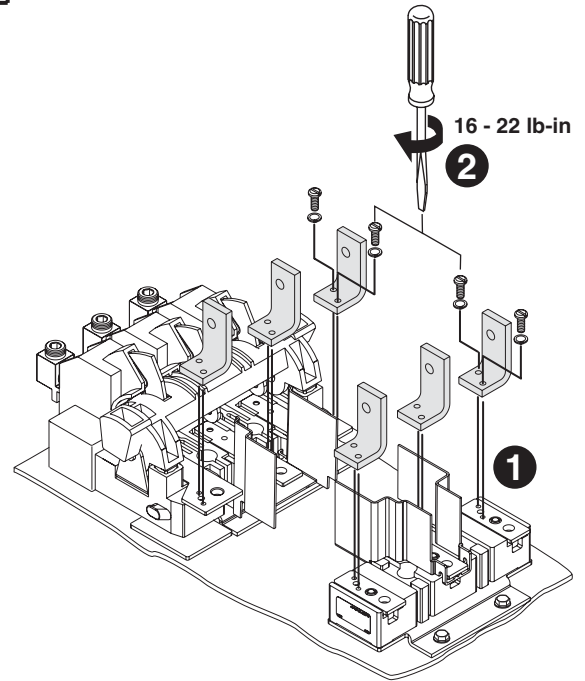
Fuse Clip Installation (Switch Rating 200A) for 400A Class J Fuses (Cat. No. 1401-N171)

NOTICE Use of 400A fuses will void the UL listing of this product.

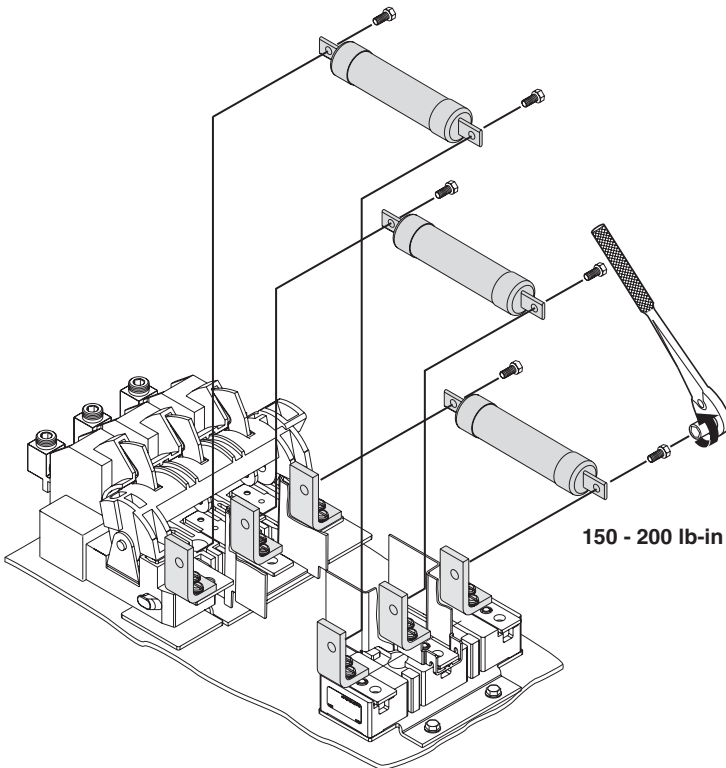
1 Switch with Right Hand Mechanism



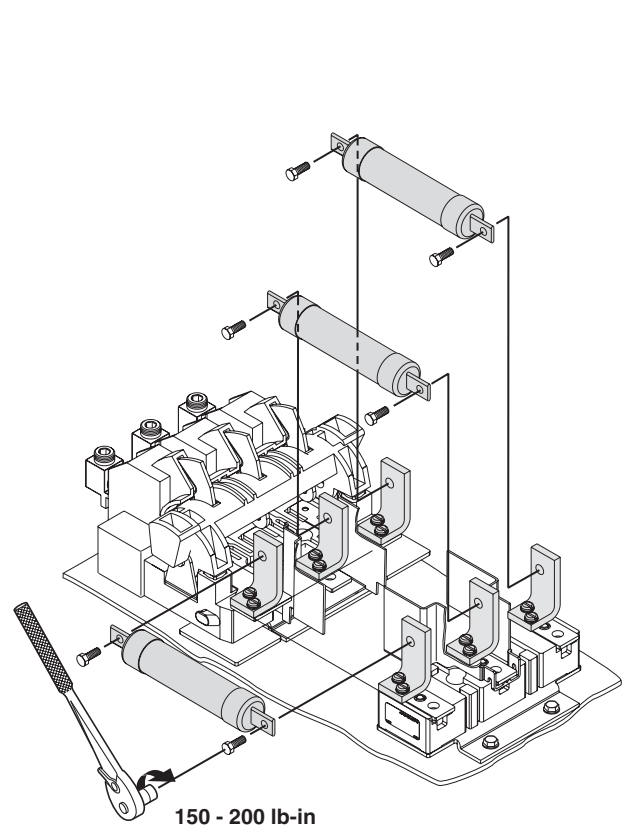
1 Switch with Left Hand Mechanism



2 Switch with Right Hand Mechanism



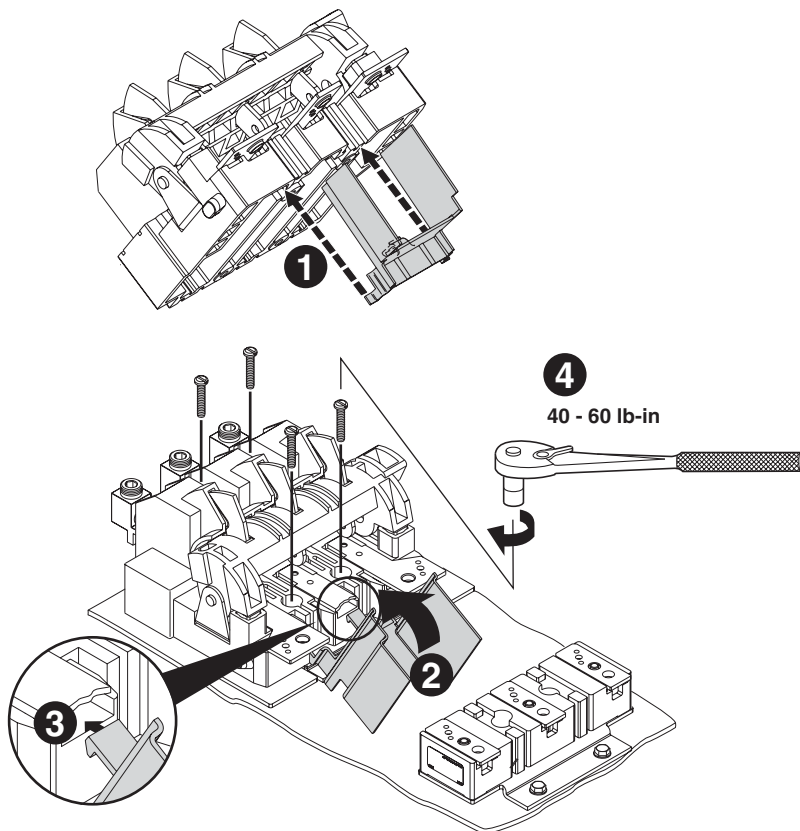
2 Switch with Left Hand Mechanism



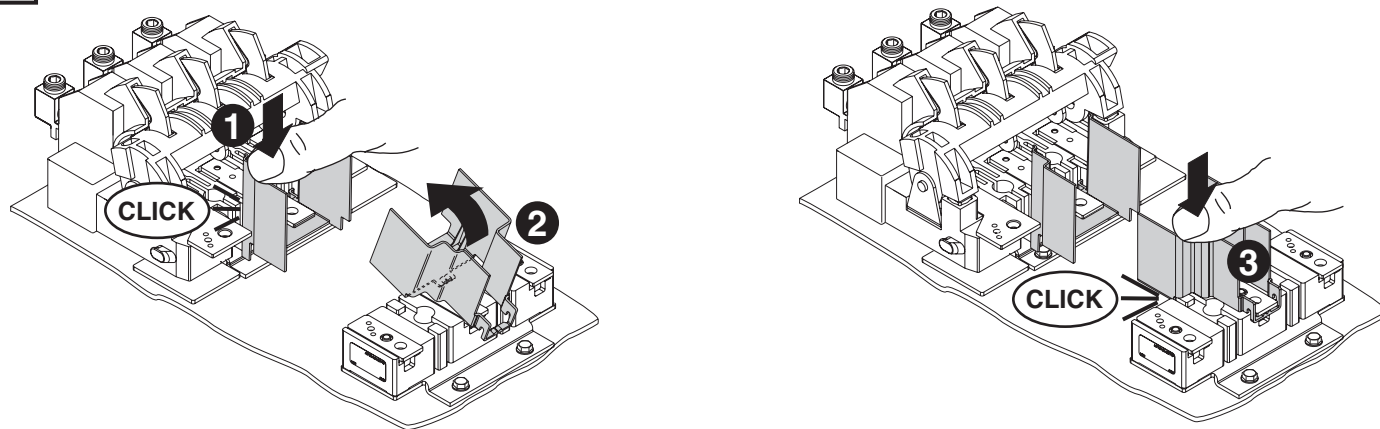
Phase Barrier Replacement Kit (Switch Rating 200A) 1494F-PH4

NOTE: Fuse clips and lugs must be removed to add or replace phase barriers.

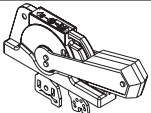
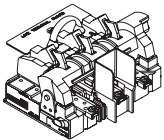
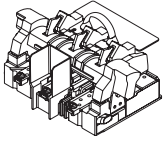
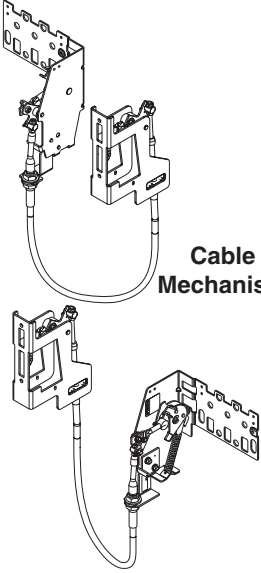
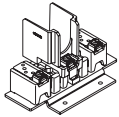
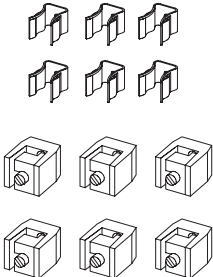
1



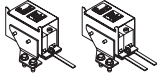

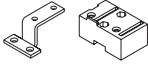
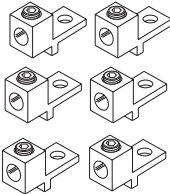
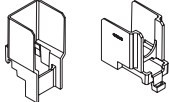
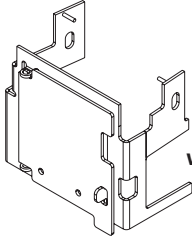
2



Bulletin 1494C Cable Operated Disconnect Switch Kit Components

Disconnect Switch Kit	Cat No.
 <p>Handle</p>	1494F-M1 (5-1/2" Painted Metal) (30A - 200A) 1494F-P1 (5-1/2" Molded) (30A - 200A) 1494F-S1 (5-1/2" Stainless Steel) (30A - 200A)
 <p>Switch</p> 	Switch for <u>Right Hand</u> Mechanism 1494F-D30 (30A) 1494F-D60 (60A) 1494F-D100 (100A) 1494F-D200 (200A) Switch for <u>Left Hand</u> Mechanism 1494F-DX30 (30A) 1494F-DX60 (60A) 1494F-DX100 (100A) 1494F-DX200 (200A)
 <p>Cable Mechanism</p>	Cable with <u>Right Hand</u> Mechanism 1494C-CM1: 30A - 100A (3 Ft Cable) 1494C-CM2: 30A - 100A (4 Ft Cable) 1494C-CM3: 30A - 100A (5 Ft Cable) 1494C-CM4: 30A - 100A (10 Ft Cable) 1494C-CM5: 200A (4 Ft Cable) 1494C-CM6: 200A (5 Ft Cable) 1494C-CM7: 200A (6 Ft Cable) 1494C-CM8: 200A (10 Ft Cable) Cable with <u>Left Hand</u> Mechanism 1494C-CMX1: 30A - 100A (3 Ft Cable) 1494C-CMX2: 30A - 100A (4 Ft Cable) 1494C-CMX3: 30A - 100A (5 Ft Cable) 1494C-CMX4: 30A - 100A (10 Ft Cable) 1494C-CMX5: 200A (4 Ft Cable) 1494C-CMX6: 200A (5 Ft Cable) 1494C-CMX7: 200A (6 Ft Cable) 1494C-CMX8: 200A (10 Ft Cable)
 <p>Fuse Block</p>	1494V-FS30 (30A) 1494V-FS60 (60A) 1494V-FS100 (100A) 1494V-FS200 (200A)
 <p>Fuse Clips</p>	1401-N41 (Class H, 30A - 250V) 1401-N42 (Class H,J, 30A - 600V, Class H, 60A-250V) 1401-N43 (Class H,J, 60A - 600V) 1401-N44 (Class H,J, 100A-250V, 100A-600V) 1401-N45 (Class H,J, 200A-250V, 200A-600V) 1401-N50 (Class R, 30A - 250V) 1401-N51 (Class R, 30A - 600V, 60A-250V) 1401-N52 (Class R, 60A - 600V) 1401-N53 (Class R, 100A - 250V, 100A-600V) 1401-N54 (Class R, 200A-250V, 200A-600V) 1401-N171 (Class J, 400A-250V / 600V)

Bulletin 1494C Cable Operated Disconnect Switch Kit Optional Accessory List

Optional Accessories (Installation Instructions Not Included)	Cat No.						
 <p>Electrical Interlock</p>	<p>Switch with <u>Right Hand</u> Mechanism 1495-N34 (1-N.O./N.C.) (30A - 100A) 1495-N35 (2-N.O./N.C.) (30A - 100A) 1495-N43 (1-N.O./N.C.) (200A) 1495-N44 (2-N.O./N.C.) (200A)</p> <p>Switch with <u>Left Hand</u> Mechanism 1495-N37 (1-N.O./N.C.) (30A - 100A) 1495-N38 (2-N.O./N.C.) (30A - 100A) 1495-N39 (1-N.O./N.C.) (200A) 1495-N40 (2-N.O./N.C.) (200A)</p>						
 <p>Auxiliary Contact</p>	<p>1495-N8 (1-N.O.) (30A - 200A) 1495-N9 (1-N.C.) (30A - 200A)</p>						
 <p>Auxiliary Contact Adapter Kit</p>	<p>1495-N24 (30A - 100A) (Required only for switch with <u>Left Hand</u> Mechanism)</p> <p>1495-N25 (200A - 400A) (Required only for switch with <u>Left Hand</u> Mechanism)</p>						
 <p>Wire Lug Connectors</p>	<p>Included (30A) (CU Wire Size #14 . . #8 AWG) 1494R-N1 (60A) (CU Wire Size #14 . . #4 AWG) 1494R-N2 (100A) (CU Wire Size #8 . . #1/0 AWG) 1494R-N3 (200A) (CU Wire Size #6 . . #4/0 AWG)</p>						
 <p>Phase Barrier</p>	<p>1494F-PH2 (30A / 60A) 1494F-PH3 (100A) 1494F-PH4 (200A)</p>						
 <p>Fuse Cover with Door</p>	Switch Rating	Fuse Class	Fuse Clip Rating		Cat No.		
			250V	600V			
30A			Non-Fusible	----	----		
30A			H, R	30A	----	1495-N64 or 1495-N56	
60A			H, R	60A	----		
30A			J	30A	30A		
60A			J	60A	60A		
60A			Non-Fusible	----	----		
100A			Non-Fusible	----	----		
30A			H, R	----	30A	1495-N65 or 1495-N56	
60A			H, R	----	60A		
100A			J	100A	100A		
100A			H, R	100A	100A	1495-N66	
200A			H, J, R	200A	200A	1495-N67 ^①	
			Non-Fusible	----	----		
200A			H, J, R	200A	200A	1495-N62 ^②	
			Non-Fusible	----	----		

① Switch with right hand mechanism

② Switch with left hand mechanism