

Universal Disconnect Switch Installation Instructions (400A)

(Cat 1494U-D400; Series A)



- **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.
Installation, adjustments, putting into service, use, assembly, disassembly, and maintenance shall be carried out by suitably trained personnel in accordance with applicable code of practice. In case of malfunction or damage, no attempts at repair should be made. The product should be returned to the manufacturer for repair. Do not dismantle the product.
- **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.

Tools Needed: 1/2" Socket, 5/16" Allen Wrench, Hammer, Center Punch, File, Flat Head Screwdriver, Phillips Screwdriver, 9/32" Drill Bit, Needlenose Pliers, Hacksaw

Table of Contents	Page
Rod Operated Switch Installation.....	2
Switch Installation.....	2
Handle Installation.....	2
Cutting Connecting Rod.....	2
Connecting Rod Installation.....	3
Cable Operated Mechanism Installation.....	4
Cable Operated Switch Installation.....	5
Handle Installation.....	5
Handle Mechanism Installation.....	5
Connecting Rod Adjustment Procedure.....	6
Enclosure without Handle Cutout.....	7
Door Catch Bracket Installation.....	7
Line Terminal Guard Installation.....	8
Lug Installation.....	8
Line Terminal Adapter Installation.....	8
Trailer Fuse Block Installation.....	9
Direct Mount Fuse Installation.....	9
Fuse Clip Installation.....	10
Protective Cover Installation.....	10
Bulletin 1494U Disconnect Switch Kit Optional Accessory List.....	11

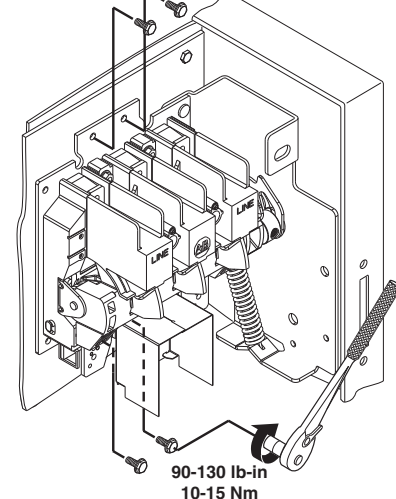
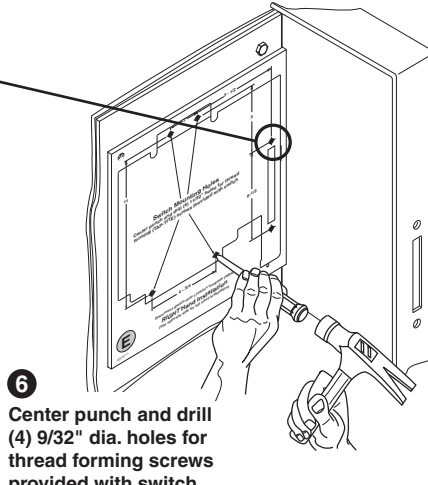
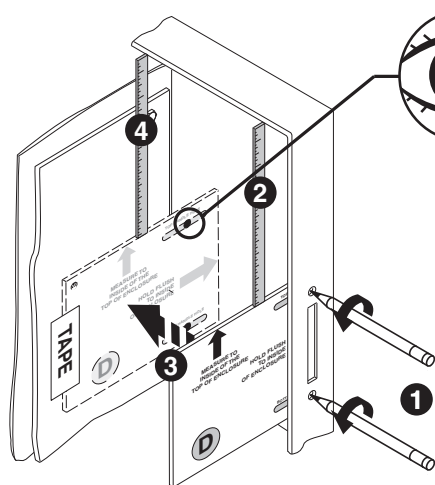
Rod Operated Switch Installation

1 Switch Installation

Use template (D) to locate handle holes on mounting plate.

5 Overlay template (E) (400 A) over (D).

7 Install disconnect switch.

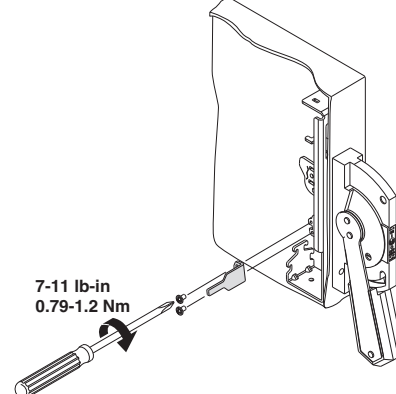
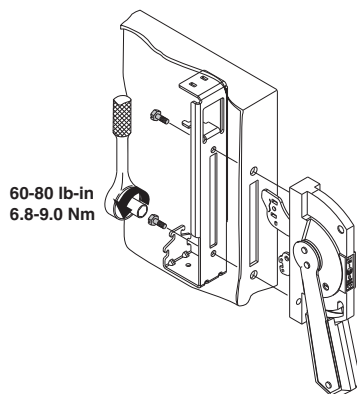
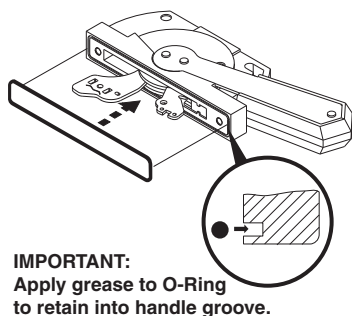


2 Handle Installation

1 Install gasket.

2 Install handle and spring bracket.

3 Install defeater lever.



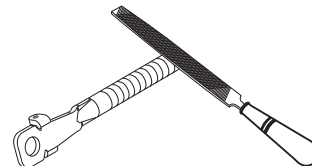
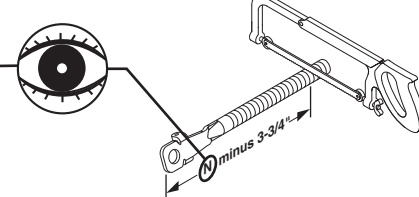
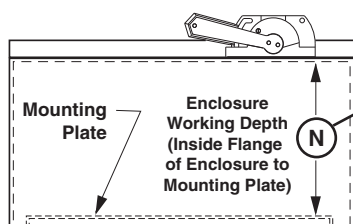
3 Cutting Connecting Rod

Cut (2) Connecting Rods; first rod connects the handle to the switch, second rod provides stiffening for the enclosure flange and mounting panel. Installation of both rods is required.

1 Measure working depth of enclosure.

2 Measure, mark and cut (2) connecting rods.

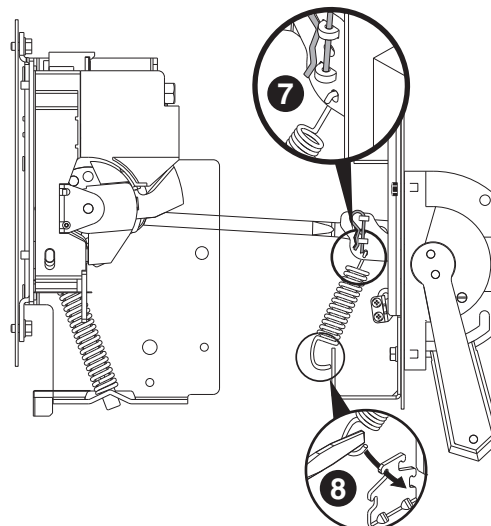
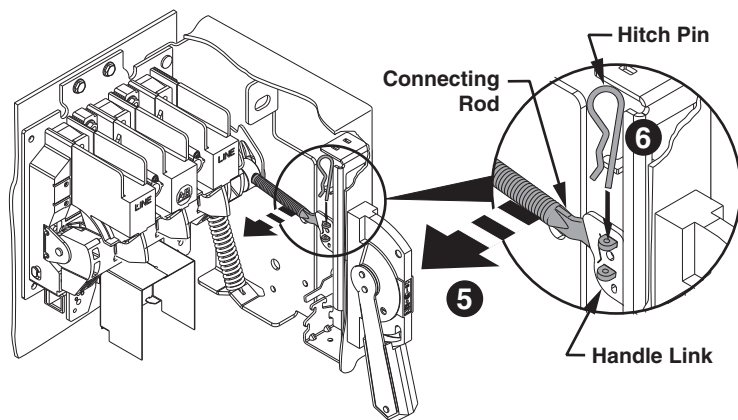
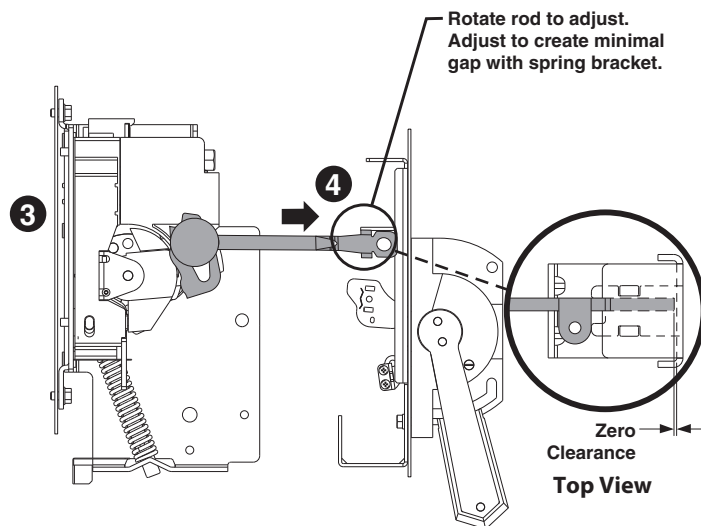
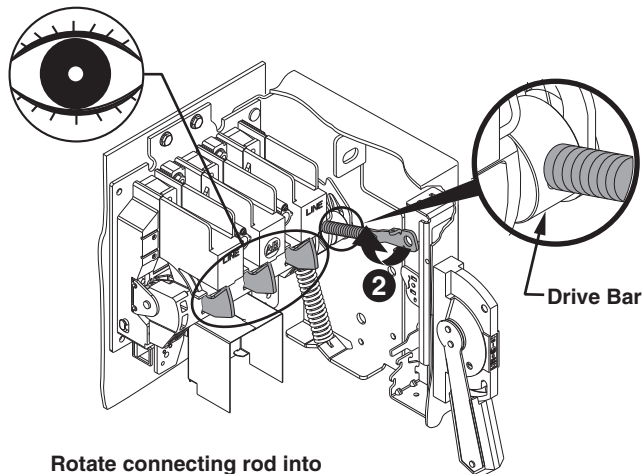
3 Remove burrs.



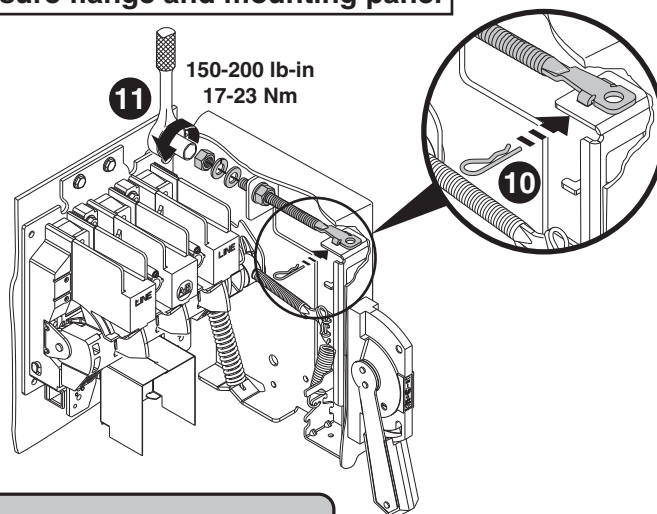
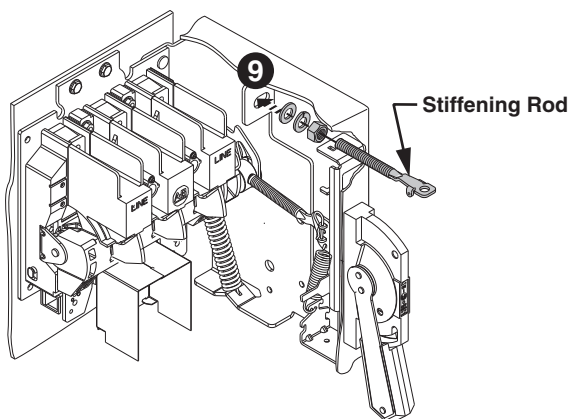
4 Connecting Rod Installation

First rod connects the handle to the switch

- 1 Verify that disconnect switch and handle are in "OFF" position. (Switch blades will be visible)



Second rod provides stiffening for the enclosure flange and mounting panel



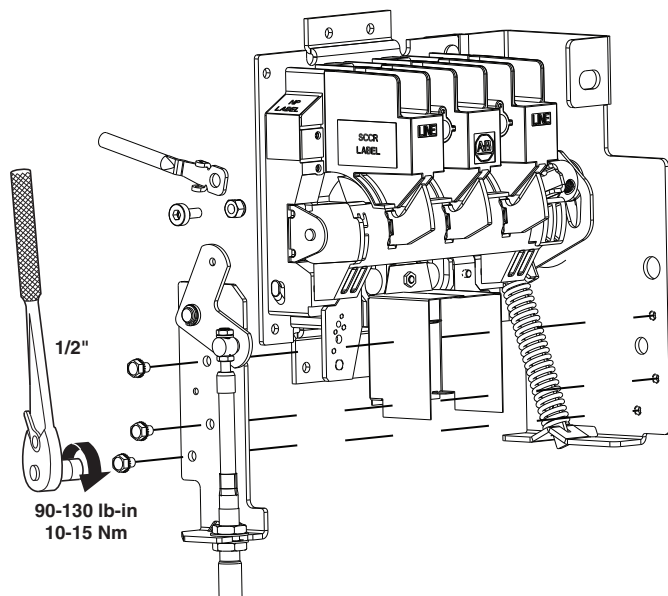
ATTENTION: CHECK FOR PROPER OPERATION.
If not operating properly, go to Connecting Rod Adjustment Procedure.

1 Cable Operated Mechanism Installation

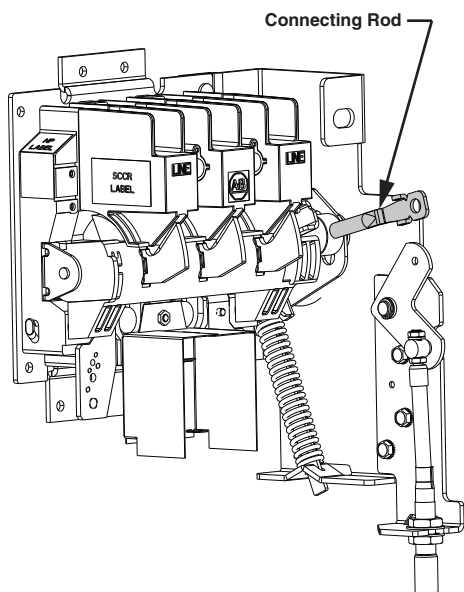
IMPORTANT: Verify that the cable assembly does not interfere with any mechanical and moving parts. Keep the cable conduit away from all heat sources and current carrying terminals, fuses, transformers, etc.

IMPORTANT: When locating the 400A switch, verify that the minimum diameter for the loop of the cable between the switch mechanism and the handle mechanism is not less than 10 inches.

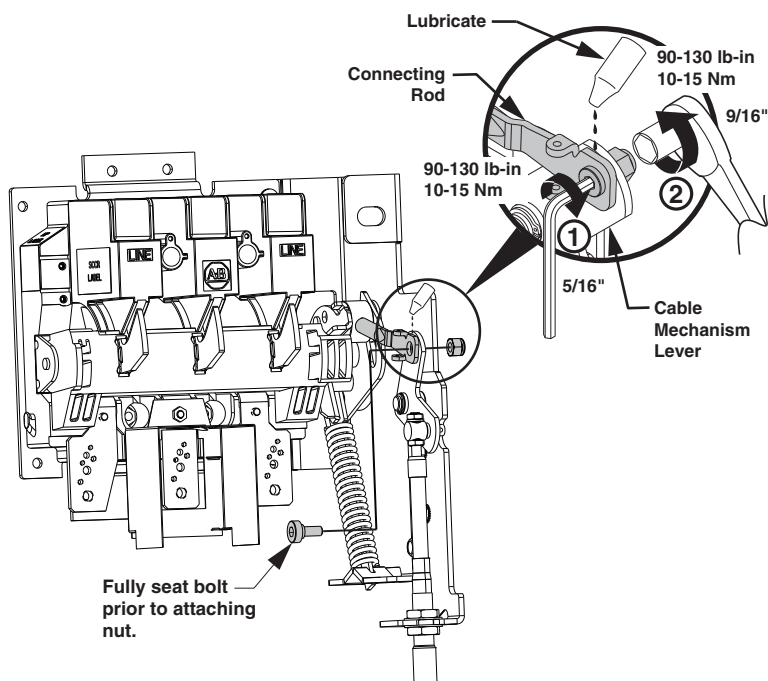
1 Assemble the cable mechanism bracket to the disconnect switch.



2 Rotate connecting rod into drive bar 9-10 turns.

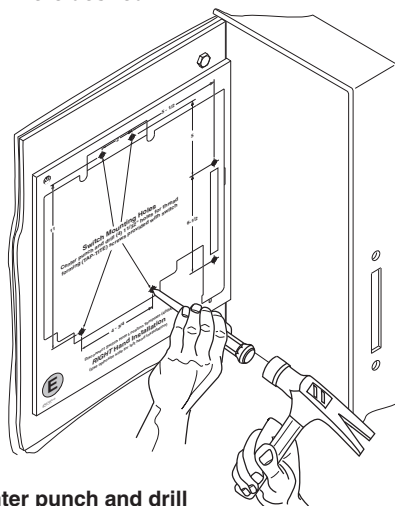


3 Attach connecting rod to cable mechanism.



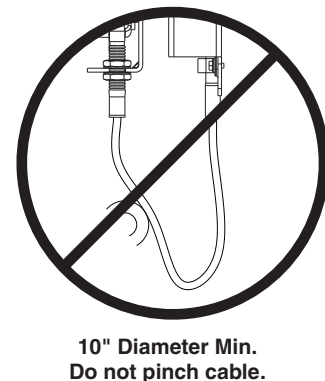
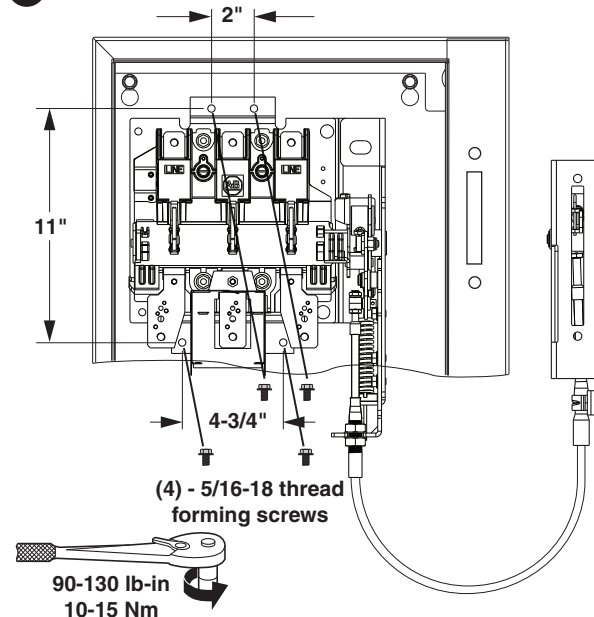
2 Cable Operated Switch Installation

- 1** Locate Switch. Use template (E) where desired.



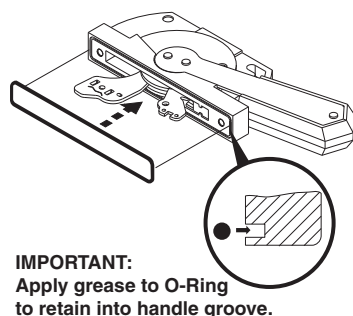
- 2** Center punch and drill (4) 9/32" dia. holes for thread forming screws provided with switch.

- 3** Assemble disconnect switch assembly to mounting plate.

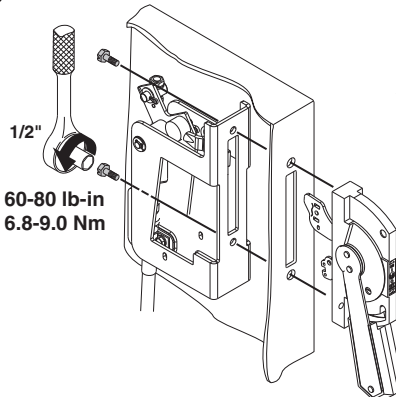


3 Handle Installation

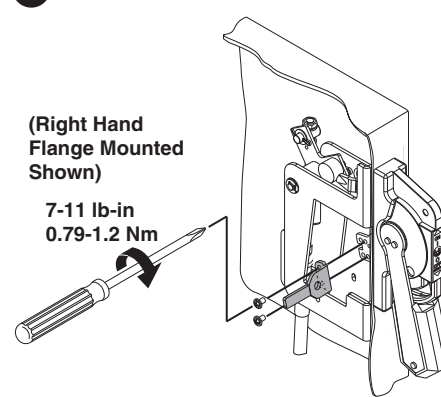
- 1** Install gasket.



- 2** Install handle and mechanism bracket.

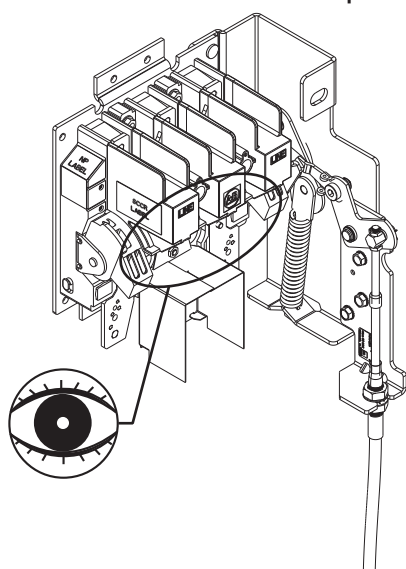


- 3** Install defeater lever.

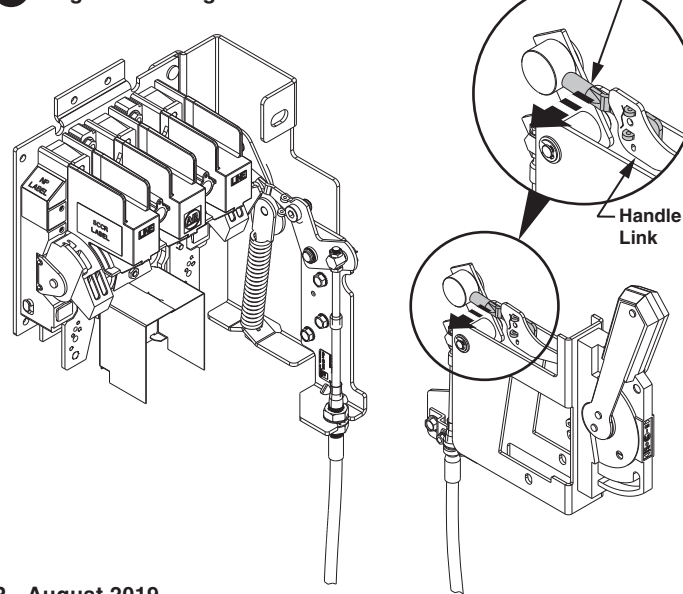


4 Handle Mechanism Installation

- 1** Operate disconnect switch and verify that the handle and switch are in the "ON" position.

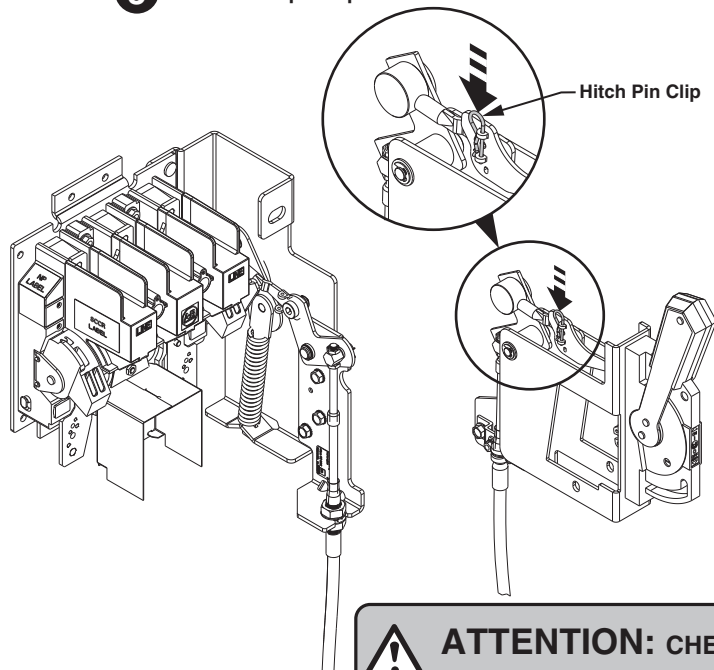


- 2** Align connecting rod with handle link.

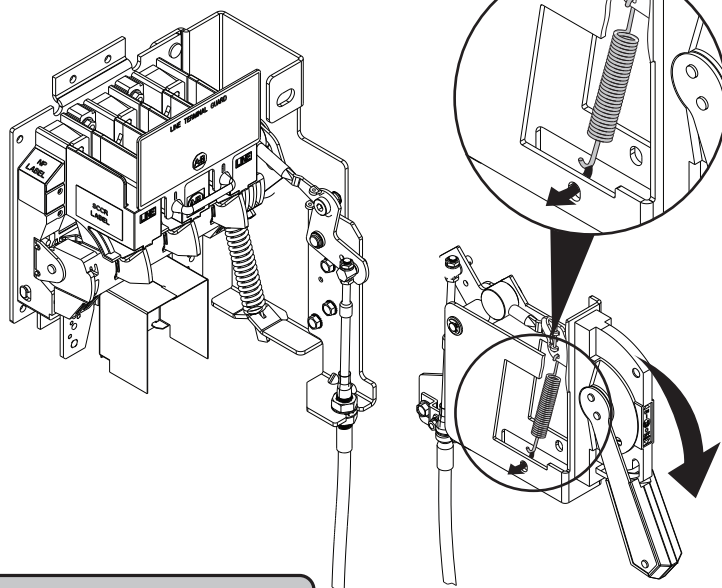


3 Handle Mechanism Installation (Cont'd)

3 Install hitch pin clip.



4 Turn disconnect handle "OFF" and install handle mechanism spring.



ATTENTION: CHECK FOR PROPER OPERATION.

Connecting Rod Adjustment Procedure

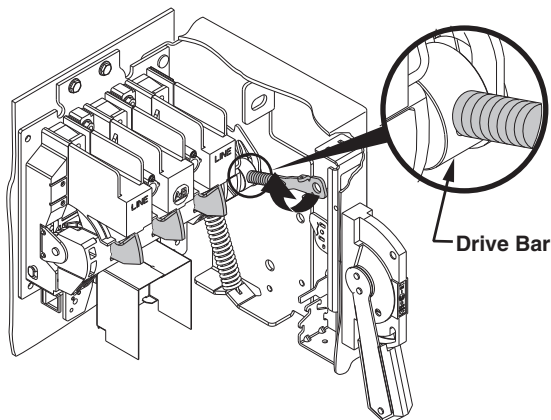
Adjustment Procedure if switch does not turn "ON".

- 1 Move disconnect handle to the "ON" position.
- 2 If switch does not fully close, return handle to "OFF" position.
- 3 Remove link spring and hitch pin to 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.

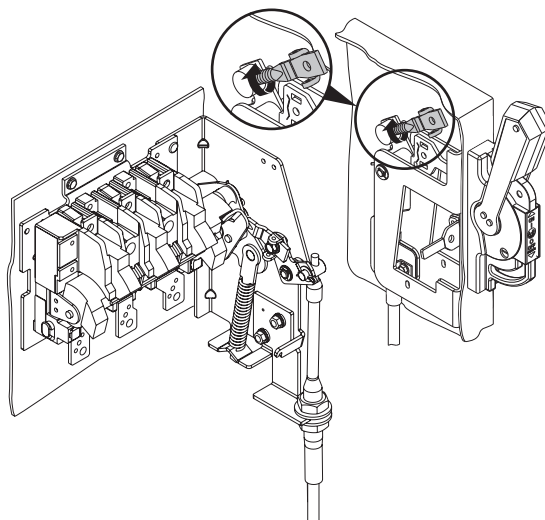
Adjustment Procedure if switch does not turn "OFF".

- 1 Move disconnect handle to the "OFF" position.
- 2 If switch does not fully close, return handle to "ON" position.
- 3 Remove link spring and hitch pin to 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.

Rod Operated Adjustment



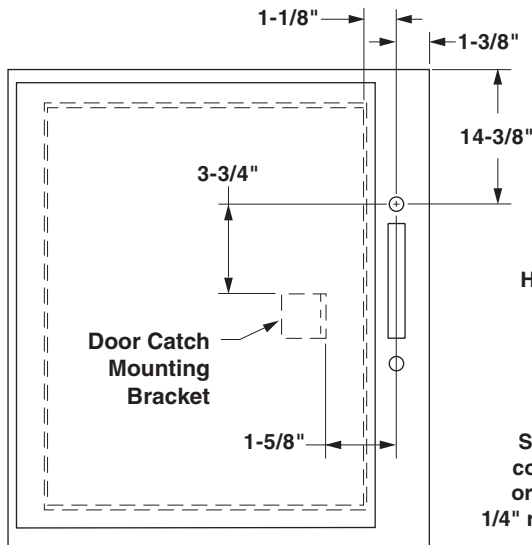
Cable Operated Adjustment



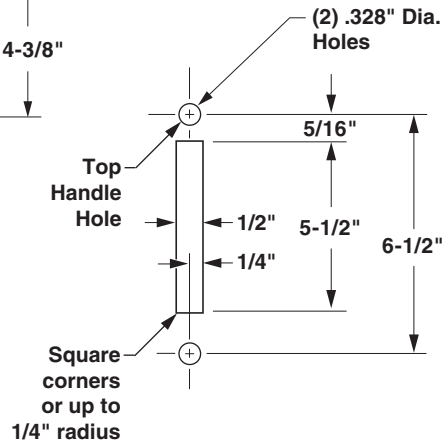
Enclosure without Handle Cutout

- Enclosures with a Flange Thickness less than 3/16" use dimensions below to install disconnect handle.

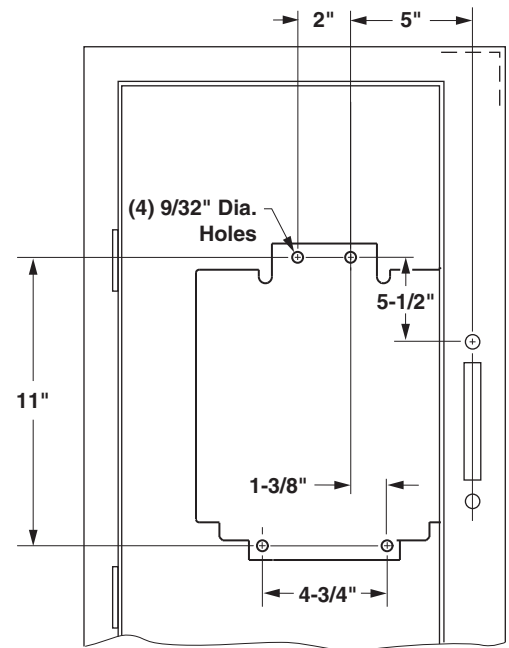
1 Locate Handle



2 Drill Handle Holes



3 Locate Disconnect Switch



Right hand flange shown. Mirror for left hand flange.

Door Catch Bracket Installation

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

Door Catch Mounting Bracket:

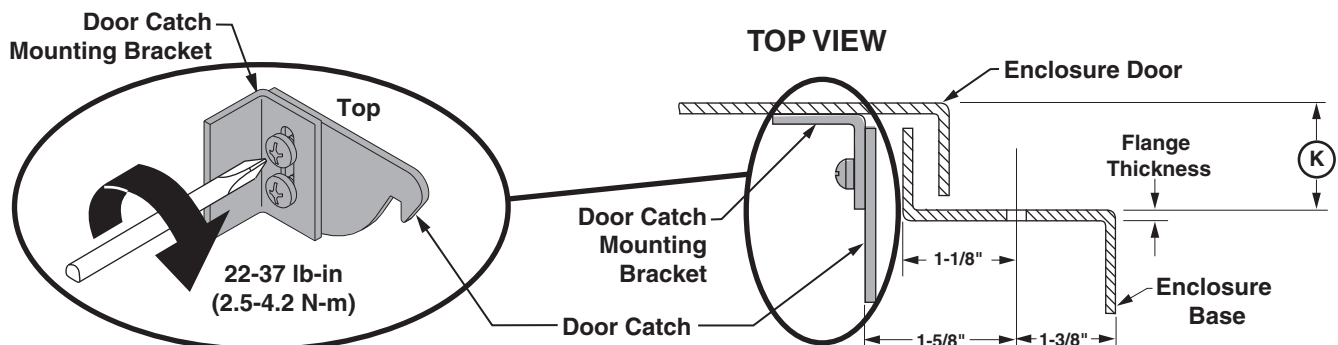
- Provided with projections for welding.
- Projections can also be used as a guide for drilling holes in the enclosure door.
- User to supply the hardware for fastening the bracket.
- The bracket hardware must be inaccessible to unauthorized personnel.
- Fasteners must provide the degree of ingress protection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

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

- When using large disconnect handle kit only (1494F-M2 or -S2), use door catch provided with handle kit.
- When using large disconnect handle kit and small door hardware kits (1494V-L1, -LL1, -L2 or -LL2), use door catch provided with door hardware kit.

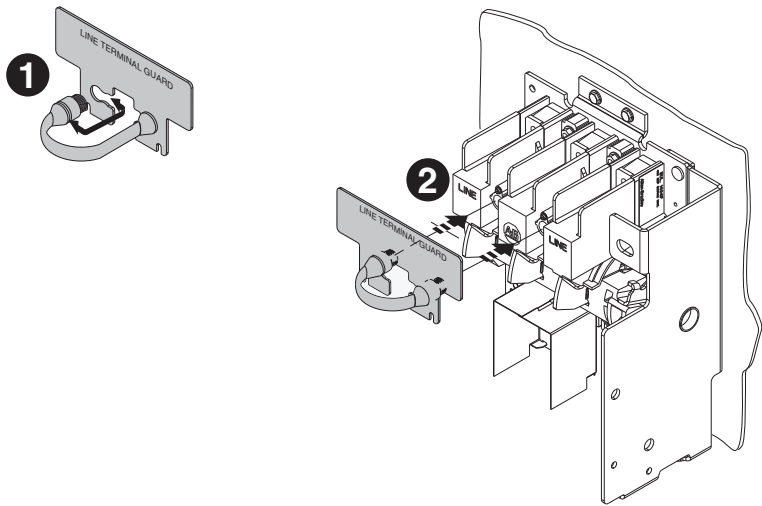
Dimension (K) (1-1/8" to 1-3/8")

- When using large disconnect handle kit and large door hardware kits (1494V-L3 or -LL3), use door catch provided with door hardware kit.

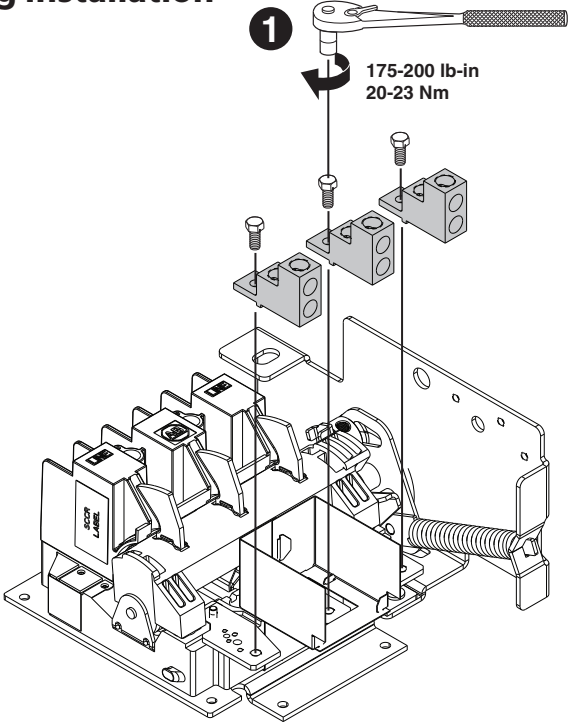


Line Terminal Guard Installation

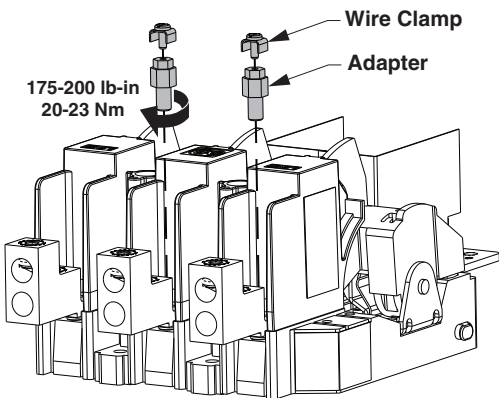
Assemble and Install Line Terminal Guard



Lug Installation



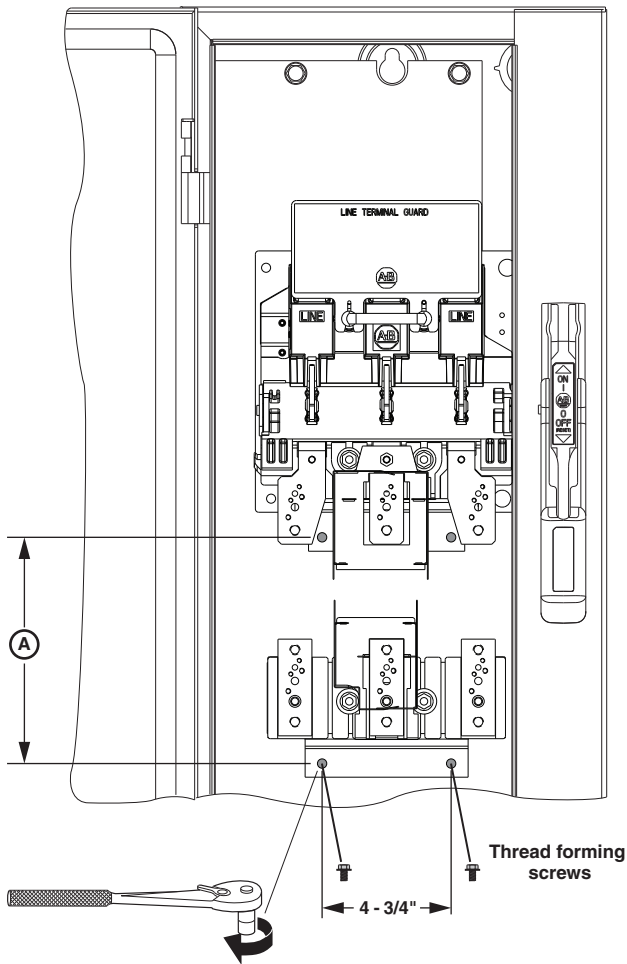
Line Terminal Adapter Installation



Lug Adapter Kit		
Catalog Number	Torque	Wire
		Range
1494R-N19	25 lb-in (2.8 N-m)	(1) 14-10 STR/SOL
		(1) 8 STR
		(2) 14 SOL/SOL
		(2) 14 STR/STR
		(2) 12 SOL/SOL
		(2) 12 STR/STR
		(2) 10 SOL/SOL
		(2) 10 STR/STR
		(2) 8 STR/STR

Trailer Fuse Block Installation

Trailer Fuse Block Location (400A Class H, J, R Fuses)



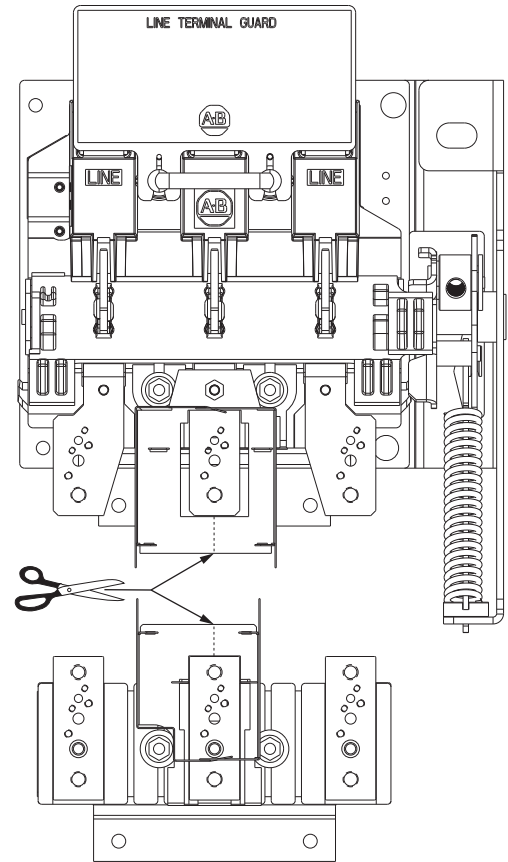
400 Amp Trailer Fuse Block (1494U-F400)

Fuse			A	Torque lb-in (Nm)			
Amps	Voltage	Class		Fuse Clip	Fuse Block	Lug to Terminal	Wire into Lug
200	250	H/R	7-11/16"	16-22 (1.8-2.5)	90-130 (10-15)	175-200 (20-23)	275-305 (31-34)
200	600	H/R	10-3/16"				
200	600	J	6-3/8"				
200	600	HRCII-C	6-3/8"				
400	600	J*	10"	22-37 (2.5-4.2)			
400	250	H/R	8-11/16"				
400	600	H/R	11-11/16"				
400	600	J	7-3/16"				
400	600	HRCII-C	8-11/16"				

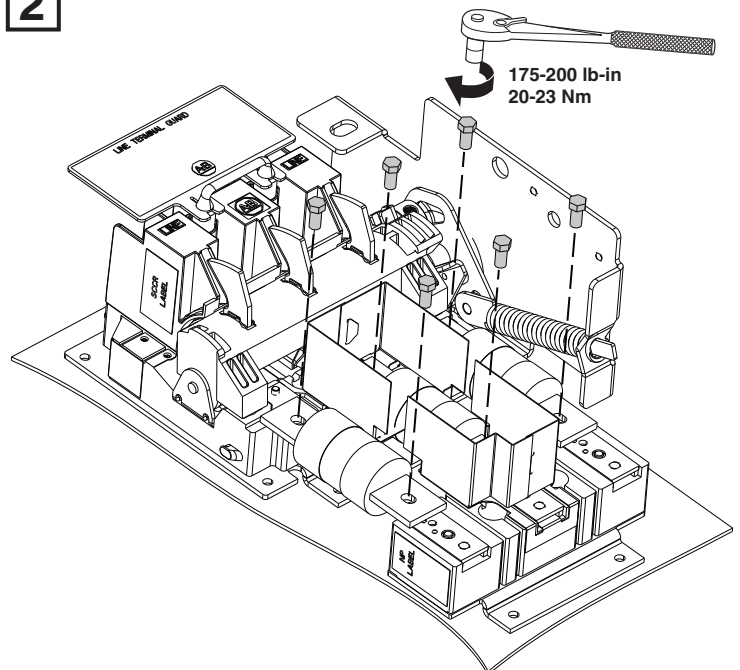
*Direct Mount

Direct Mount Fuse Installation 400A Fuses (Class J Only)

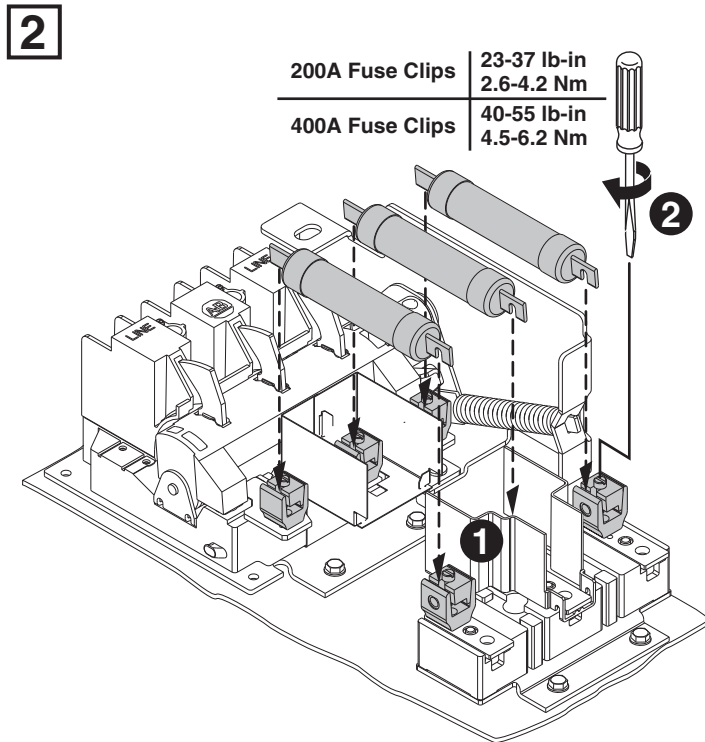
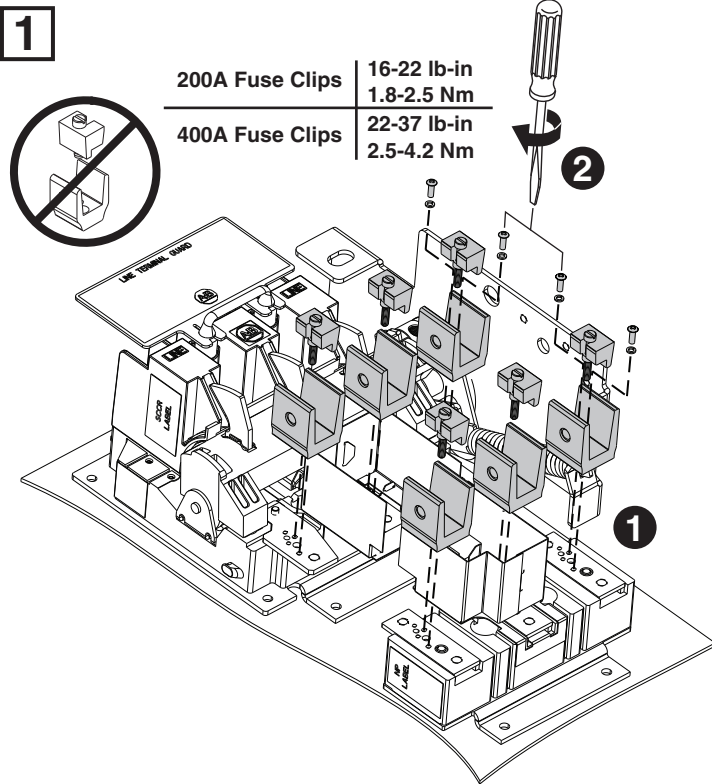
1 Cut phase barriers along line.



2

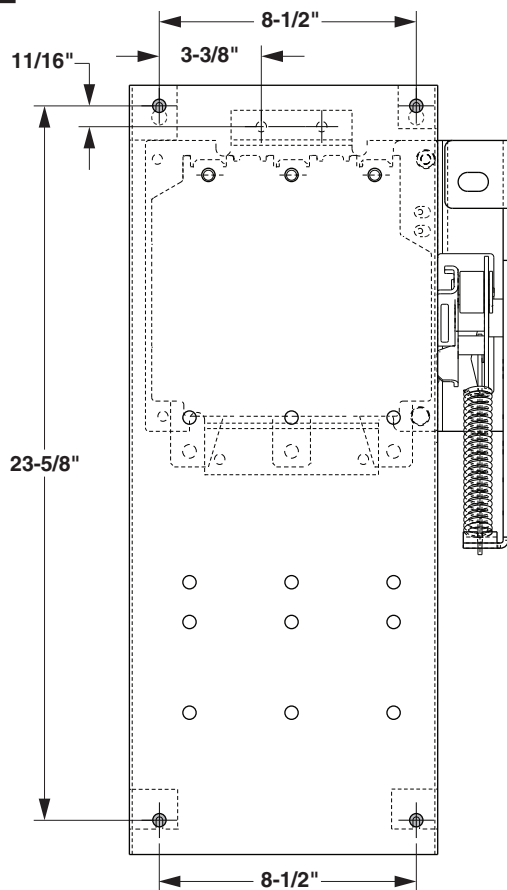


Fuse Clip Installation 400A Fuses (Class H, J, R)

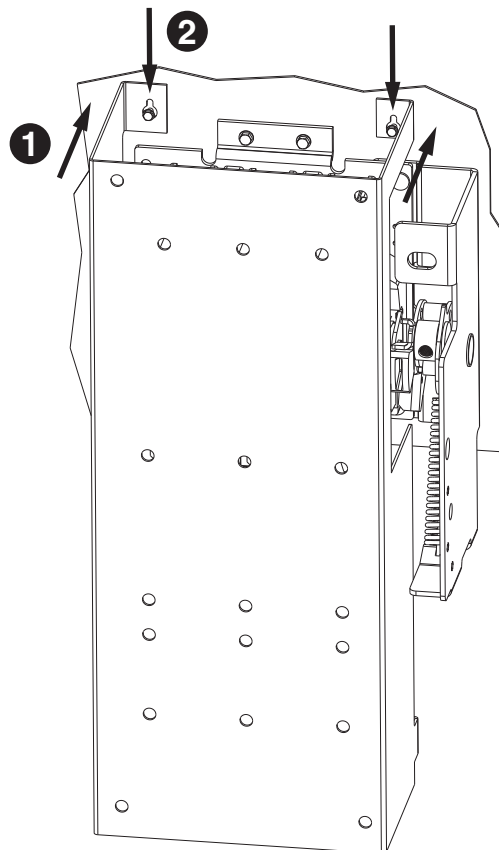


Protective Cover Installation

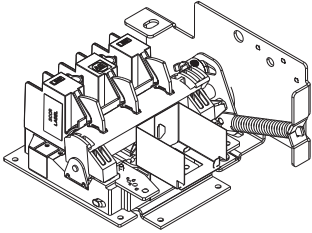
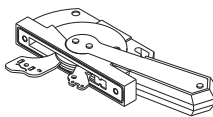
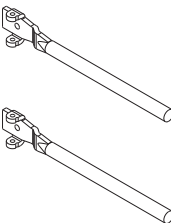
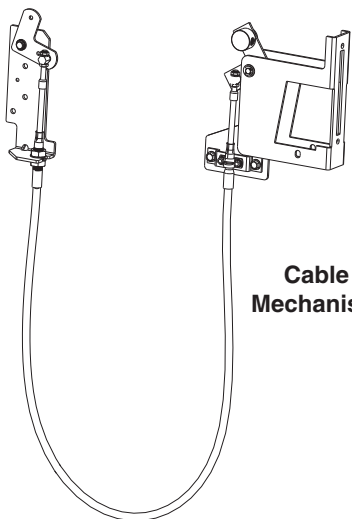
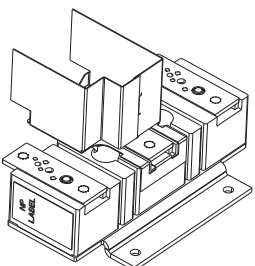
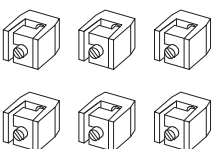
1 Punch and drill (4) 11/64" pilot holes.



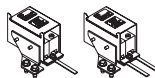
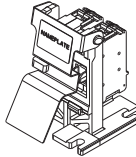
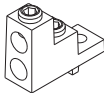
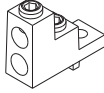
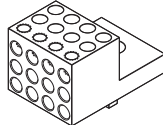
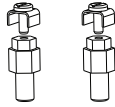
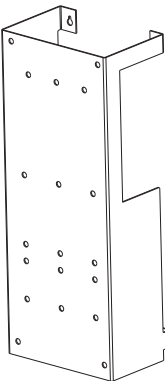
2 Install (4) mounting screws to hang cover. Fasten cover screws.



Bulletin 1494U Disconnect Switch Kit Optional Accessory List

Disconnect Switch Kit	Catalog Number and Description
 Switch	1494U-D400
 Handle	1494F-M2 (7-1/2" Painted Metal) (400A / 600A) 1494F-S2 (7-1/2" Stainless Steel) (400A / 600A)
 Connecting Rod	1494V-RB3 (Standard) (400A / 600A) Enclosure Working Depth: 9-1/2" to 10" 1494V-RB4 (Extended) (400A / 600A) Enclosure Working Depth: 9-1/2" to 23" Set of (2) rods
 Cable Mechanism	1494U-C44: 4 Ft Cable 1494U-C45: 5 Ft Cable 1494U-C46: 6 Ft Cable
 Fuse Block	1494U-F400
 Fuse Clips	1401-N45 (Class H,J, 200A - 250V, 200A - 600V) 1401-N46 (Class H,J, 400A - 250V, 400A - 600V) 1401-N54 (Class R, 200A - 250V, 200A - 600V) 1401-N55 (Class R, 400A - 250V, 400A - 600V)

Bulletin 1494U Disconnect Switch Kit Optional Accessory List

Optional Accessories	Catalog Number and Description																			
 Electrical Interlock	1495-N43 (1-N.O./N.C.) 1495-N44 (2-N.O./N.C.)																			
 Auxiliary Contact	1495-N8 (1-N.O.) 1495-N9 (1-N.C.)																			
 Copper Lugs	<table><tr><td></td><td colspan="3">Wire</td></tr><tr><td>LUGS (Pkg Qty 3)</td><td>TYPE</td><td>TORQUE</td><td>GAUGE (AWG)</td></tr><tr><td>1494R-N14</td><td>CU ONLY</td><td>275 LB-IN</td><td>(2) 1/0...250 MCM</td></tr></table>					Wire			LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)	1494R-N14	CU ONLY	275 LB-IN	(2) 1/0...250 MCM				
	Wire																			
LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)																	
1494R-N14	CU ONLY	275 LB-IN	(2) 1/0...250 MCM																	
 Aluminum Lugs	<table><tr><td></td><td colspan="3">Wire</td></tr><tr><td>LUGS (Pkg Qty 3)</td><td>TYPE</td><td>TORQUE</td><td>GAUGE (AWG)</td></tr><tr><td>1494U-LA400</td><td>AL / CU</td><td>275 LB-IN</td><td>(2) 1/0...300 MCM</td></tr></table>					Wire			LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)	1494U-LA400	AL / CU	275 LB-IN	(2) 1/0...300 MCM				
	Wire																			
LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)																	
1494U-LA400	AL / CU	275 LB-IN	(2) 1/0...300 MCM																	
 Multiport Lugs	<table><tr><td></td><td colspan="3">Wire</td></tr><tr><td>LUGS (Pkg Qty 3)</td><td>TYPE</td><td>TORQUE</td><td>GAUGE (AWG)</td></tr><tr><td rowspan="3">1494U-LM400* FOR LOAD SIDE ONLY</td><td rowspan="3">AL / CU</td><td>35 LB-IN</td><td>(12) 8...4</td></tr><tr><td>25 LB-IN</td><td>(12) 8</td></tr><tr><td>20 LB-IN</td><td>(12) 14...10</td></tr></table> *Special Purpose Not For General Use					Wire			LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)	1494U-LM400* FOR LOAD SIDE ONLY	AL / CU	35 LB-IN	(12) 8...4	25 LB-IN	(12) 8	20 LB-IN	(12) 14...10
	Wire																			
LUGS (Pkg Qty 3)	TYPE	TORQUE	GAUGE (AWG)																	
1494U-LM400* FOR LOAD SIDE ONLY	AL / CU	35 LB-IN	(12) 8...4																	
		25 LB-IN	(12) 8																	
		20 LB-IN	(12) 14...10																	
 Line Terminal Adapters	1494R-N19 (Pkg Qty 6)																			
 Protective Cover	1494U-PC400																			

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

Allen-Bradley, Rockwell Software, and Rockwell Automation are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

EEE Yönetmeliğine Uygundur.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
 Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
 Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846



PN-475448

Publication 1494U-IN006C-EN-P - August 2019

DIR 10003527458 (Version 02)
 Copyright © 2019 Rockwell Automation, Inc. All Rights Reserved. Printed in USA.