Installation Instructions

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, Needle Nose Pliers, Hacksaw

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Rod Operated Switch Installation

1 Switch Installation

Use template D to locate handle holes on mounting plate. Overlay template E (400 A) over D.

Install handle and spring bracket. Use template D to locate handle holes on mounting plate. Overlay template E (400 A) over D.

Install defeater lever.

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.

N minus 3-3/4” Enclosure Working Depth
Mounting Plate

2 Handle Installation

Install gasket.

Install handle and spring bracket.

Install defeater lever.

IMPORTANT:
Apply grease to O-Ring to retain into handle groove.

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)

Rotate connecting rod into drive bar 9-10 turns.

2. Drive Bar

3. Hitch Pin

4. Handle Link

5. Connecting Rod

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

Second rod provides stiffening for the enclosure flange and mounting panel

6. Stiffening Rod

7. 150-200 lb-in

8. 17-23 Nm

9. Top View

10. Zero Clearance

11. Publication 1494U-IN006C-EN-P - August 2019
1 Cable Operated Mechanism Installation

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.

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.

Fully seat bolt prior to attaching nut.
Universal Disconnect Switch Installation Instructions (400A)

2 Cable Operated Switch Installation

1 Locate Switch. Use template 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.

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 Install defeater lever.

Handle Installation

1 Install gasket.

2 Install handle and mechanism bracket.

3 Install defeater lever.

Cable Operated Switch Installation

Locate Switch. Use template where desired.

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

Assemble disconnect switch assembly to mounting plate.

Install gasket.

Install handle and mechanism bracket.

Install defeater lever.

Connecting Rod

Handle Link

IMPORTANT:
Apply grease to O-Ring to retain into handle groove.

IMPORTANT:
Do not pinch cable.

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.

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**Handle Mechanism Installation (Cont'd)**

3 Install hitch pin clip.

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

**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**
   - 1-1/8"
   - 1-3/8"
   - 3-3/4"
   - 1-5/8" 

2. **Drill Handle Holes**
   - (2) 3/16" Dia. Holes
   - 5/16"
   - 1/2"
   - 1/4"  

3. **Locate Disconnect Switch**
   - 2"
   - 5"
   - 11"
   - 5-1/2"
   - 4-3/4"

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

1. 175-200 lb-in
   20-23 Nm

Line Terminal Adapter Installation

- Torque Range
  - 1494R-N19
  - 25 lb-in
  - 25 lb-in (2.8 N-m)

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Wire</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>1494R-N19</td>
<td>25 lb-in</td>
<td></td>
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</tbody>
</table>

(1) 14-10 STR/SOL
(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

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Trailer Fuse Block Installation

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

<table>
<thead>
<tr>
<th>Amps</th>
<th>Voltage</th>
<th>Fuse</th>
<th>Torque (lb-in/Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>250</td>
<td>H/R</td>
<td>10-3/16&quot;/1.8-2.5</td>
</tr>
<tr>
<td>200</td>
<td>600</td>
<td>H/R</td>
<td>6-3/8&quot;/1.5-2.0</td>
</tr>
<tr>
<td>200</td>
<td>600</td>
<td>J</td>
<td>6-3/8&quot;/1.8-2.5</td>
</tr>
<tr>
<td>200</td>
<td>600</td>
<td>HRCII-C</td>
<td>90-130/10-15</td>
</tr>
<tr>
<td>400</td>
<td>600</td>
<td>J*</td>
<td>10°/N/A</td>
</tr>
<tr>
<td>400</td>
<td>250</td>
<td>H/R</td>
<td>8-11/16&quot;/2.5-4.2</td>
</tr>
<tr>
<td>400</td>
<td>600</td>
<td>H/R</td>
<td>11-11/16&quot;/20-23</td>
</tr>
<tr>
<td>400</td>
<td>600</td>
<td>J</td>
<td>7-3/16&quot;/20-23</td>
</tr>
<tr>
<td>400</td>
<td>600</td>
<td>HRCII-C</td>
<td>8-11/16&quot;/31-34</td>
</tr>
</tbody>
</table>

Direct Mount Fuse Installation

400A Fuses (Class J Only)

1. Cut phase barriers along line.

2. 4-3/4"

Thread forming screws

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

1. 200A Fuse Clips
   16-22 lb-in
   1.8-2.5 Nm
2. 400A Fuse Clips
   22-37 lb-in
   2.5-4.2 Nm

Protective Cover Installation

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

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

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## Bulletin 1494U Disconnect Switch Kit Optional Accessory List

<table>
<thead>
<tr>
<th>Disconnect Switch Kit</th>
<th>Catalog Number and Description</th>
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<tr>
<td>Switch</td>
<td>1494U-D400</td>
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</table>
| 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"  
                       | Set of (2) rods  
                       | 1494V-RB4 (Extended) (400A / 600A)  
                       | Enclosure Working Depth: 9-1/2" to 23" |
| 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

<table>
<thead>
<tr>
<th>Optional Accessories</th>
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| **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**        | **Wire**                      |
|                       | LUGS (Pkg Qty 3)              |
|                       | TYPE | TORQUE | GAUGE (AWG) |
|                       | 1494R-N14 | CU ONLY | 275 LB-IN |
|                       |     | (2) 1/0…250 MCM |
| **Aluminum Lugs**      | **Wire**                      |
|                       | LUGS (Pkg Qty 3)              |
|                       | TYPE | TORQUE | GAUGE (AWG) |
|                       | 1494U-LA400 | AL / CU | 275 LB-IN |
|                       |     | (2) 1/0…300 MCM |
| **Multiport Lugs**     | **Wire**                      |
|                       | LUGS (Pkg Qty 3)              |
|                       | TYPE | TORQUE | GAUGE (AWG) |
|                       | 1494U-LM400* | AL / CU | 35 LB-IN |
|                       |     | (12) 8…4 |
|                       |     | FOR LOAD |
|                       |     | SIDE ONLY |
|                       |     | 25 LB-IN |
|                       |     | (12) 8 |
|                       |     | 20 LB-IN |
|                       |     | (12) 14…10 |
| **Line Terminal Adapters** | 1494R-N19 | (Pkg Qty 6) |
| **Protective Cover**   | 1494U-PC400 |

*Special Purpose Not for General Use*