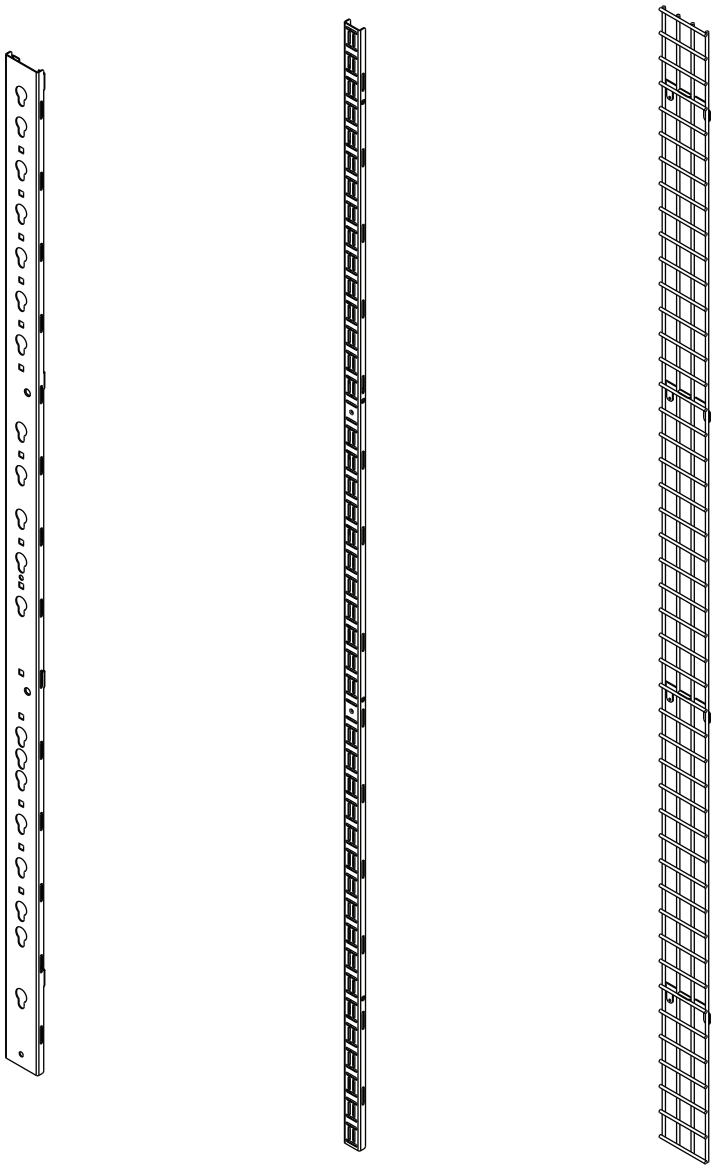
Instruction Sheet
Forward by Middle Atlantic
Power, Vertical, and Wire Mesh Lacer Bar Options



THANK YOU

Thank you for purchasing the Forward Universal Vertical Power Bracket, Vertical Lacer Bar, or Wire Mesh Lacer Bar option by Middle Atlantic Products. Please read these instructions thoroughly before installing or assembling this product.

PRODUCT FEATURES

- Drop in and secure into Lever Lock™ compatible rackrail brackets.
- Mounting flexibility front to back along multiple rackrail bracket styles.
- Includes all hardware needed for any Middle Atlantic Products rackrail bracket style.

Middle Atlantic Products

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Clean only with dry cloth.
- Only use attachments/accessories specified by the manufacturer.

WARNING: A warning alerts you to a situation that could result in serious personal injury or death.

WARNING: Middle Atlantic Products, Inc. electrical systems conform to and should be properly grounded in compliance with requirements of the current National Electrical Code or codes administered by local authorities.
All electrical products may present a possible shock or fire hazard if improperly installed or used. Middle Atlantic Products, Inc. electrical products may bear the mark of a Nationally Recognized Testing Laboratory (NRTL) and should be installed in conformance with current local and/or the National Electrical Code.

WARNING: Failure to read, understand and follow the following information can result in serious personal injury, damage to the equipment or voiding of the warranty. It is the responsibility of the Installer/User to ensure that this product is loaded according to specifications.

INSTRUCTIONS IMPORTANTES SUR LA SÉCURITÉ

- Lire ces instructions.
- Conservez ces instructions.
- Respectez tous les avertissements.
- Suivez toutes les instructions.
- Nettoyer uniquement avec un chiffon sec.
- N'utilisez que des accessoires spécifiés par le fabricant.

AVERTISSEMENT: Un avertissement vous avertit d'une situation pouvant entraîner des blessures graves ou la mort.

AVERTISSEMENT: Middle Atlantic Products, Inc. électrique systèmes conformes à devraient être mis à la terre dans conformité avec les exigences de la National actuelle ou comme les codes électrique administré par les autorités locales autorités.
Tous les produits électriques peuvent présenter un choc ou un incendie danger si elle est mal installé ou utilisé. Middle Atlantic Products, Inc. produits électriques peuvent porter la marque d'un Nationally Recognized Testing Laboratory (NRTL) et doit être installé en conformité avec courant local et/ou le National Electrical Code.

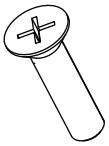
AVERTISSEMENT: Refus de lire, comprendre et suivre la renseignements suivants peut traduire par de graves blessures, des dommages à l'équipement ou invalider la garantie. Il est la responsabilité de l'installateur / utilisateur de s'assurer que ce produit est chargé conformément aux spécifications.

SUPPLIED COMPONENTS AND HARDWARE

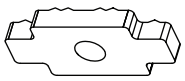
NOTE: This instuction sheet covers similar lacer bar options. Each option is sold separately; therefore, components are provided based on the specific items you purchased.

UNIVERSAL VERTICAL POWER BRACKET (MODEL NO. FWD-UVPB-XX-XX)

Universal
Vertical
Power Bracket
A



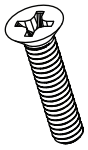
(4x)
¼-20 x 1”
Flathead Phillips Screw
(For Lever Lock™ Compatible Rackrail Bracket and Rackrail Bracket Installation)
B



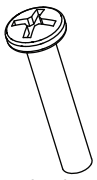
(4x)
Rackrail Nut
(For Rackrail Bracket Installation)
C

VERTICAL LACER BAR WITH UNIVERSAL HOLE PATTERN (MODEL NO. FWD-LACE-UMV-XX-XX)

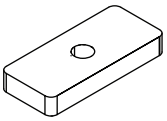
Vertical
Lacer Bar
D



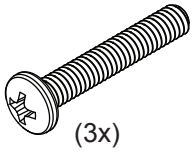
(2x)
8-32 x ¾”
Flathead Phillips Screw
(For Lever Lock Compatible Rackrail Bracket Installation)
E



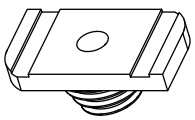
(4x)
10-32 x 1”
Panhead Phillips Screw
(For Rackrail Bracket Installation)
F



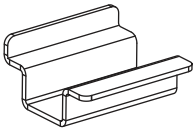
(4x)
Rackrail Nut
(For Rackrail Bracket Installation)
G



(3x)
10-32 x 1¾”
Panhead Phillips Screw
(For Unistrut Channel Installation)
H



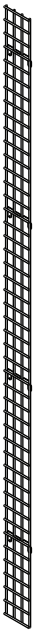
(3x)
Spring Nut
(For Unistrut Channel Installation)
J



(3x)
Offset Bracket
(For Unistrut Channel Installation)
K

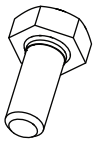
SUPPLIED COMPONENTS AND HARDWARE (CONTINUED)

WIRE MESH LACER BAR
(MODEL NO. FWD-LACE-WB3-XX-XX)

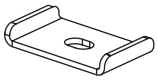


Wire Mesh Lacer Bar
L

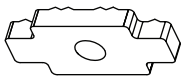
(4x)
Thead Cutting Screw
(For Lever Lock Compatible Rackrail Bracket Installation)
M



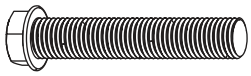
(11x)
¼-20 x 5/8”
Hex Head Bolt
(For Rackrail Bracket or Unistrut Channel Installation)
N



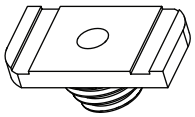
(3x)
Tray Mounting Bracket
(For Rackrail Bracket or Unistrut Channel Installation)
P



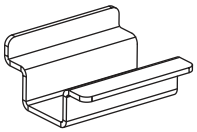
(11x)
Rackrail Nut
(For Rackrail Bracket Installation)
R



(6x)
¼-20 x 1½”
Hex Head Bolt
(For Unistrut Channel Installation)
S



(3x)
Spring Nut
(For Unistrut Channel Installation)
T



(3x)
Offset Bracket
(For Unistrut Channel Installation)
U

REQUIRED TOOLS

- #2 Phillips Screwdriver
- 7/16” Wrench
- 3/8” Wrench

WARNING: Use tools with caution and follow all necessary safety protocols.
AVERTISSEMENT: Utiliser des outils avec prudence et suivre tous les protocoles de sécurité nécessaires.

INTRODUCTION

NOTE: Depending on your enclosure, your Universal Vertical Power Bracket (UVBP), Vertical Lacer Bar With Universal Hole Pattern (UMV), or Wire Mesh Lacer Bar (WB3) option may be installed on a Lever Lock™ compatible rackrail bracket, a rackrail bracket (with two different methods), or a unistrut channel.

The following sections cover specific installation topics available for each product.

Universal Vertical Power Bracket (UVPB) Installations

INSTALLING UVPB INTO LEVER LOCK™ COMPATIBLE RACKRAIL BRACKETS

NOTE: Exact mounting position may vary based on your specific power and cabling installation.

1. Insert the hooks on your universal vertical power bracket (A) into the slots on the Lever Lock compatible rackrail brackets on one side of your enclosure's interior as shown. (**FIGURE B**)

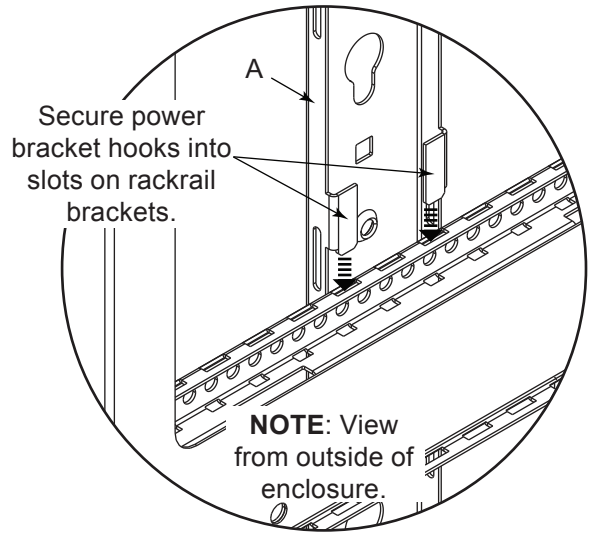


FIGURE B

Isolated BGR Lever Lock compatible rackrail bracket with slots and fixed holes left black for clarity. (**FIGURE A**)

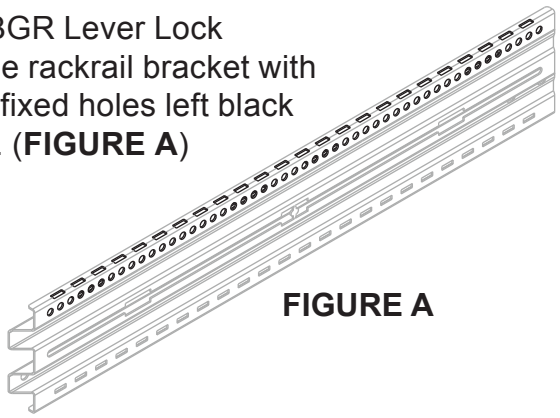


FIGURE A

2. Drop a rackrail nut (C) into the slot between the ones used for the hooks on your universal vertical power bracket (A). (**FIGURE C**)

3. Use a Phillips screwdriver and (2x) ¼-20 x 1" flathead Phillips screws (B) through mounting holes on the power bracket, fixed holes on the rackrail bracket and into the rackrail nut (C) to secure it properly. (**FIGURE D**)

TIP: Work from the top rackrail bracket down.

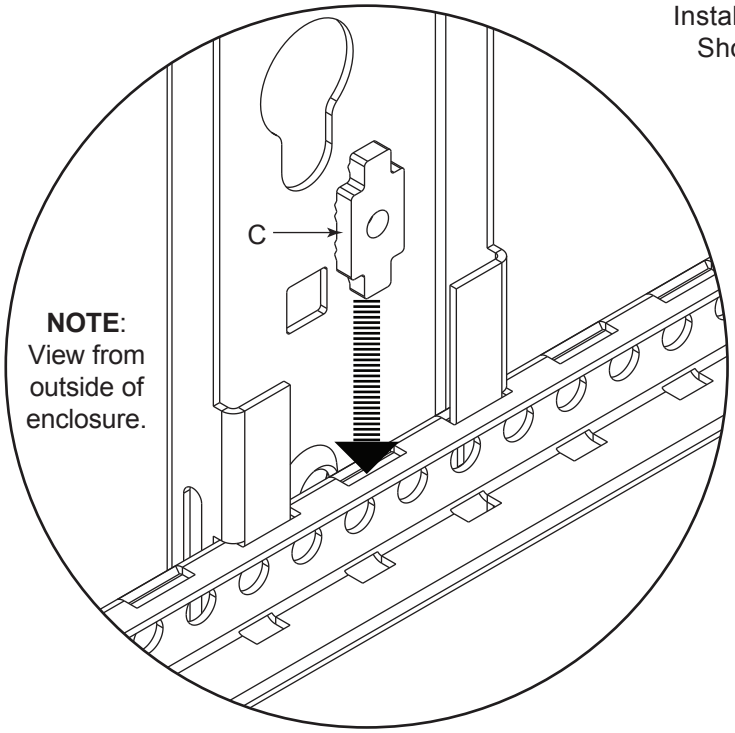


FIGURE C

BGR Installation Shown

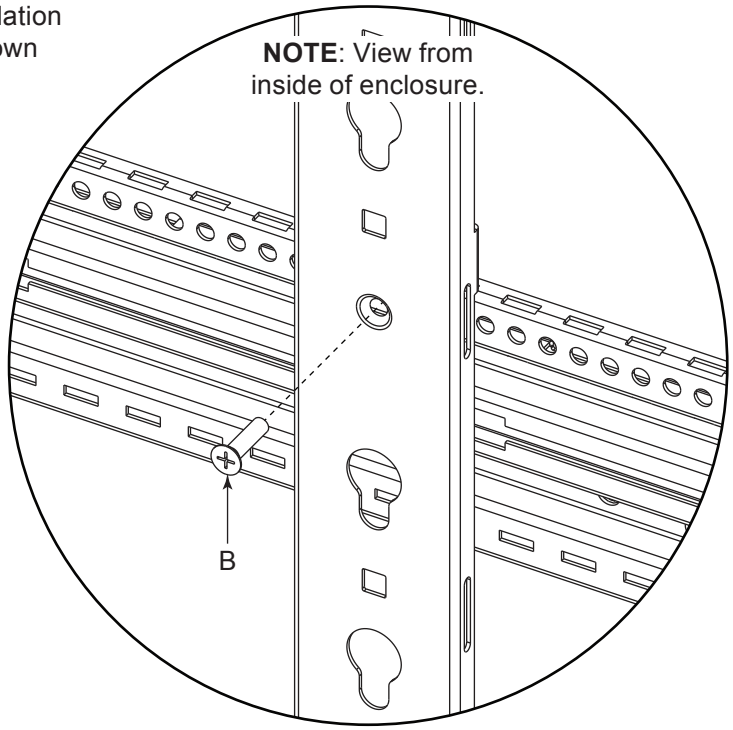


FIGURE D

INSTALLING UVPB INTO RACKRAIL BRACKETS

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your power bracket (A) remain clear of your rackrail brackets for a flush fit.

Isolated ERK rackrail bracket with slot openings left black for clarity. (**FIGURE E**)

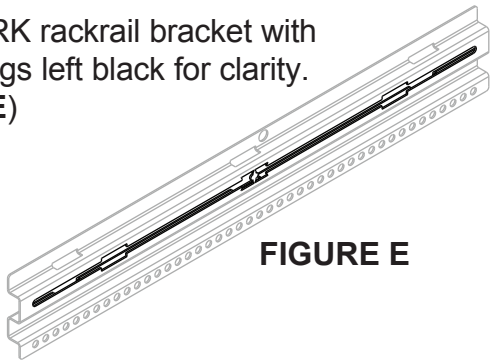


FIGURE E

1. Put a ¼-20 x 1" flathead Phillips screw (B) through the top mounting hole location on your power bracket (A) and thread the screw (approximately 2 - 3 full turns) into a rackrail nut (C) as shown. (**FIGURE F**)

2. Insert the rackrail nut (partially assembled to the power bracket via the Phillips screw from the previous step) through a nearby slot opening in your desired location along the top rackrail bracket on one side of your enclosure's interior. (**FIGURE G**)

NOTE: Hand-tighten the screw at ths point to allow for adjustments.

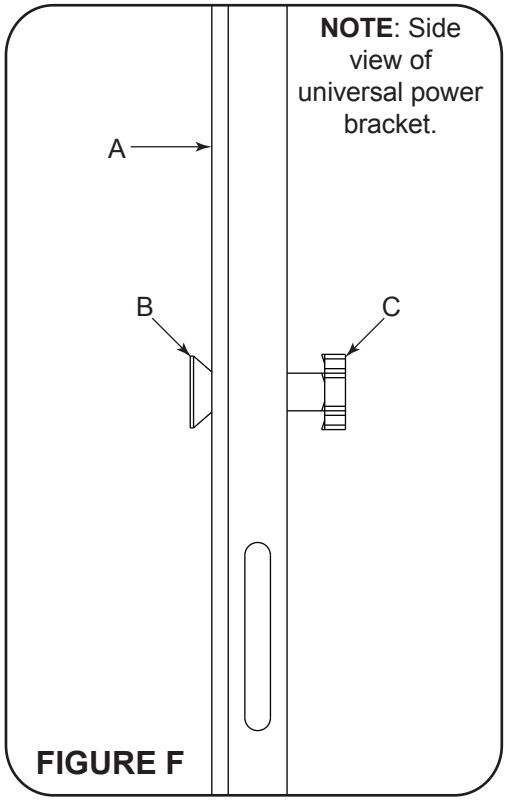


FIGURE F

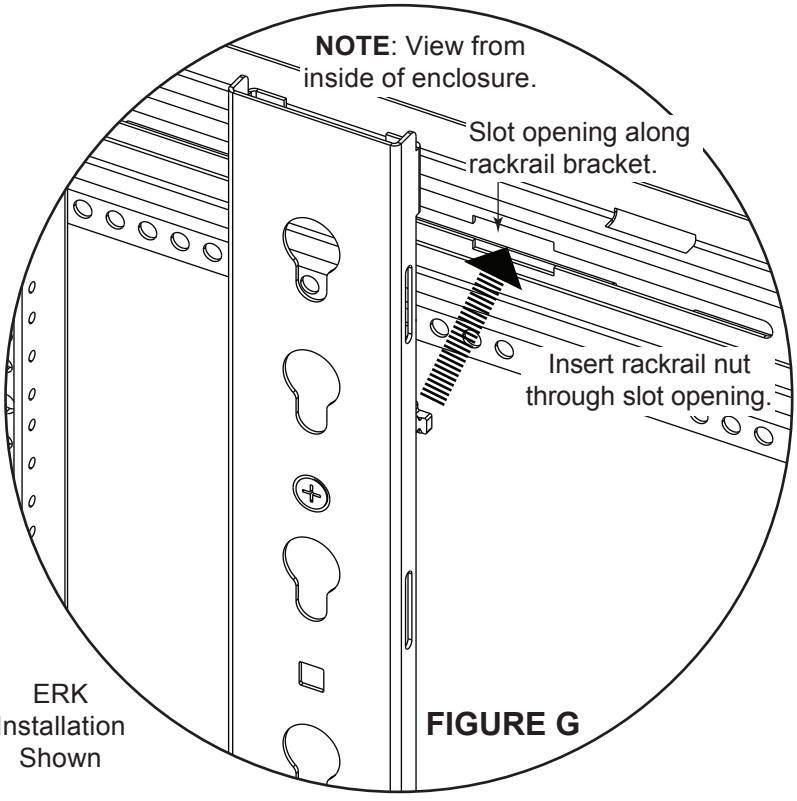


FIGURE G

3. Repeat the previous steps to match the hardware amounts (Phillips screws and rackrail nuts) to the amount of rackrail brackets in your enclosure.

TIP: Work from the top rackrail bracket down.

4. Use a #2 Phillips screwdriver to tighten all screws.

Vertical Lacer Bar With Universal Hole Pattern (UMV) Installations

INSTALLING UMV INTO LEVER LOCK COMPATIBLE RACKRAIL BRACKETS

NOTE: Exact mounting position may vary based on your specific power and cabling installation.

1. Insert the hooks on your vertical lacer bar (D) into the slots on the Lever Lock compatible rackrail brackets on one side of your enclosure's interior as shown. (**FIGURE J**)

2. Use a Phillips screwdriver and (2x) 8-32 x ¾" flathead Phillips screws (E) through mounting holes on the vertical lacer bar and into the fixed holes on the rackrail bracket to secure it properly. (**FIGURE K**)

TIP: Work from the top rackrail bracket down.

Isolated BGR Lever Lock compatible rackrail bracket with slots and fixed holes left black for clarity. (**FIGURE H**)

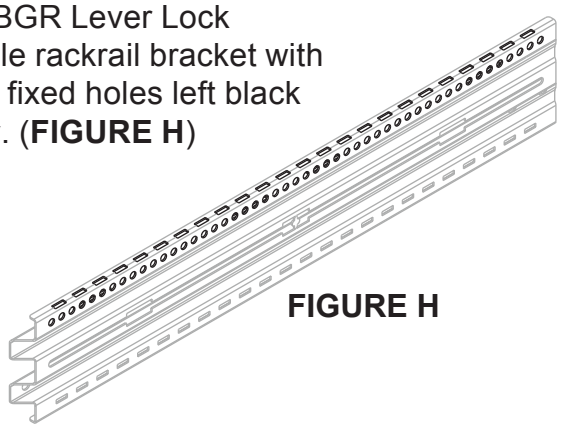


FIGURE H

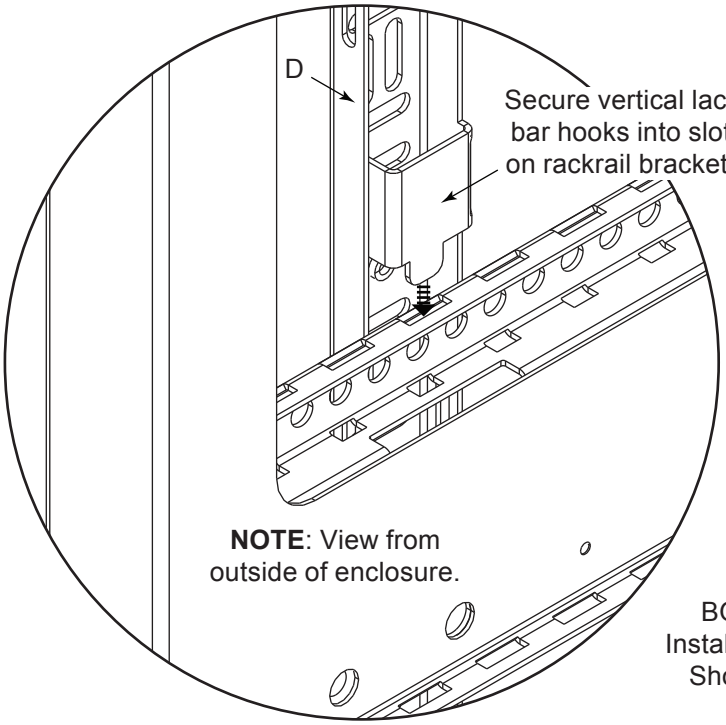


FIGURE J

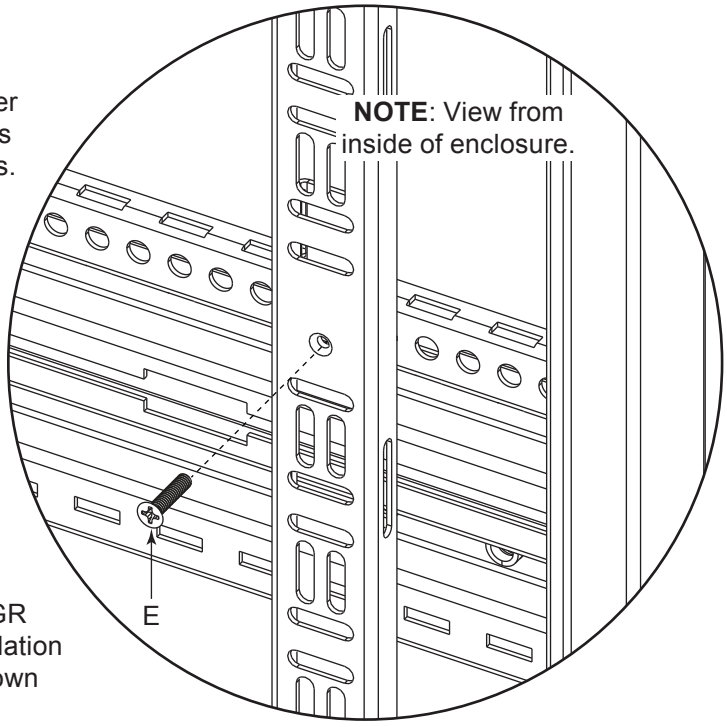


FIGURE K

BGR Installation Shown

INSTALLING UMV INTO RACKRAIL BRACKETS - METHOD #1

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your vertical lacer bar (D) remain clear of your rackrail brackets for a flush fit.

Isolated ERK rackrail bracket with slot openings left black for clarity. (**FIGURE L**)

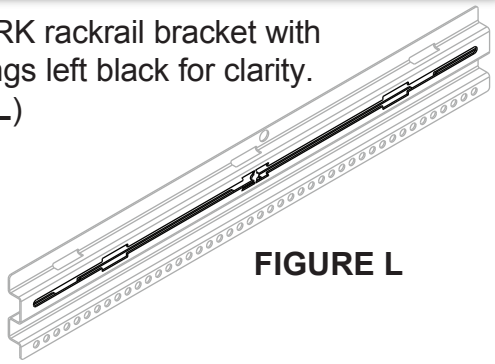


FIGURE L

1. Line up your vertical lacer bar (D) against the rackrail bracket slot openings inside of your enclosure to determine which obround holes on the vertical lacer bar will be used for your hardware (10-32 x 1" panhead Phillips screws and rackrail nuts).

2. Put a 10-32 x 1" panhead Phillips screw (F) through the top obround hole location (determined from the previous step) on your lacer bar (D) and thread the screw (approximately 2 - 3 full turns) into a rackrail nut (G) as shown. (**FIGURE M**)

3. Insert the rackrail nut (partially assembled to the lacer bar via the Phillips screw from the previous step) through a nearby slot opening in your desired location along the top rackrail bracket on one side of your enclosure's interior. (**FIGURE N**)

NOTE: Hand-tighten the screw at ths point to allow for adjustments.

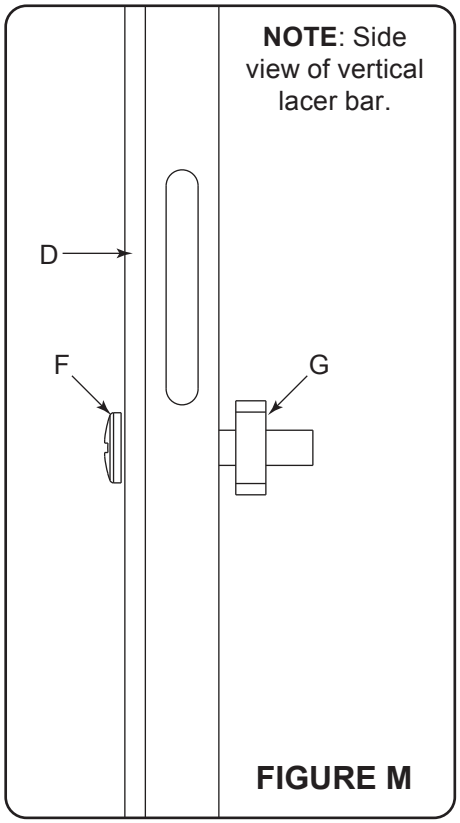


FIGURE M

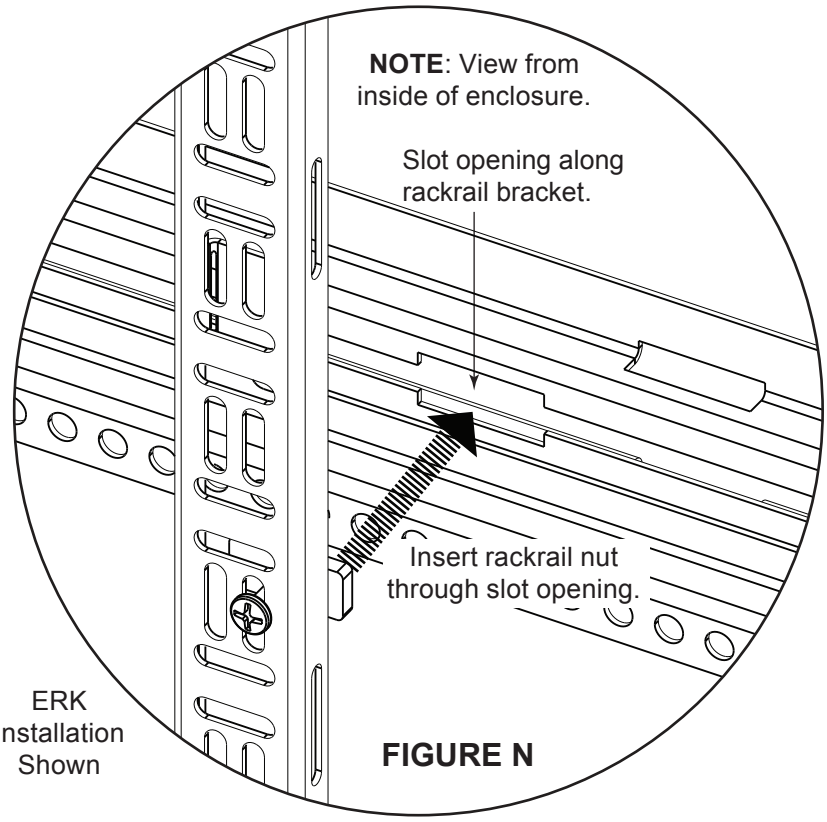


FIGURE N

4. Repeat the previous steps to match the hardware amounts (Phillips screws and rackrail nuts) to the amount of rackrail brackets in your enclosure.

TIP: Work from the top rackrail bracket down.

5. Use a #2 Phillips screwdriver to tighten all screws.

INSTALLING UMV INTO RACKRAIL BRACKETS - METHOD #2

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your vertical lacer bar (D) remain clear of your rackrail brackets for a flush fit.

Isolated DWR/SR rackrail bracket with top holes and slot openings left black for clarity. (**FIGURE P**)

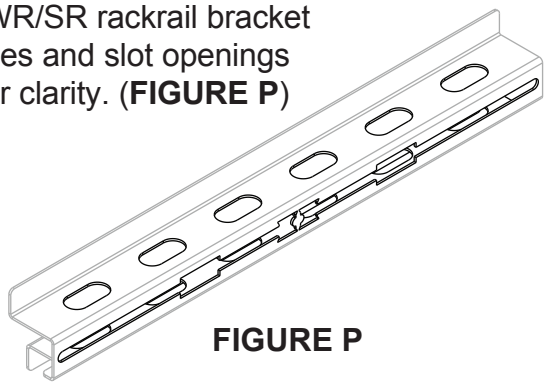


FIGURE P

1. Slide a rackrail nut (G) into a nearby opening on the top rackrail bracket on one side of your enclosure's interior as shown. (**FIGURE R**)

2. Use a 10-32 x 1" panhead Phillips screw (F) through an obround hole in the top location on your vertical lacer bar (D) and into the rackrail nut (G).

TIP: Use holes along top of rackrail bracket to hold the rackrail nut in the bracket with one hand while threading the Phillips screw through the obround hole on one of your lacer bars and into the nut with the other.

NOTE: Hand-tighten the screw at ths point to allow for adjustments.

3. Repeat the previous steps to match the hardware amounts (Phillips screws and rackrail nuts) to the amount of rackrail brackets in your enclosure.

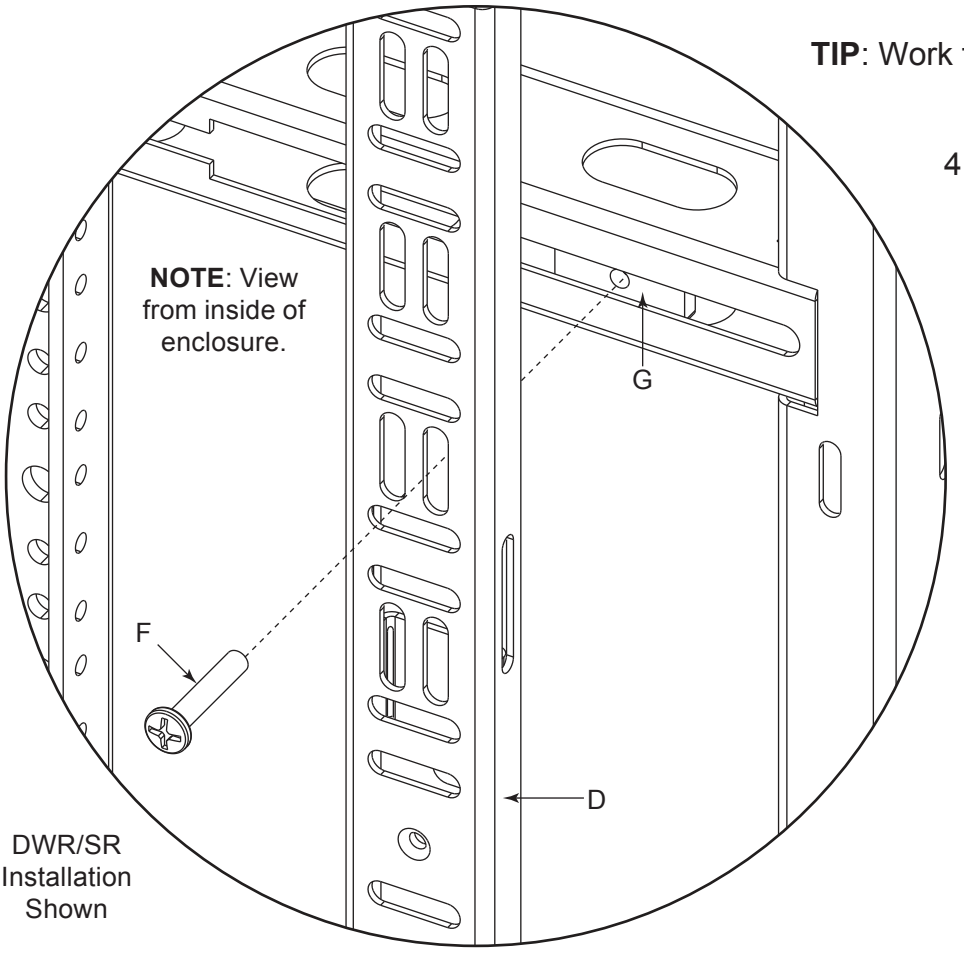


FIGURE R

TIP: Work from the top rackrail bracket down.

4. Use a #2 Phillips screwdriver to tighten all screws.

INSTALLING UMV INTO UNISTRUT CHANNELS

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your vertical lacer bar (D) remain clear of your rackrail brackets for a flush fit.

1. Slide a spring nut (J) into the top unistrut channel on one side of your enclosure's interior as shown. (**FIGURE T**)

Isolated SNE unistrut channel for clarity. (**FIGURE S**)

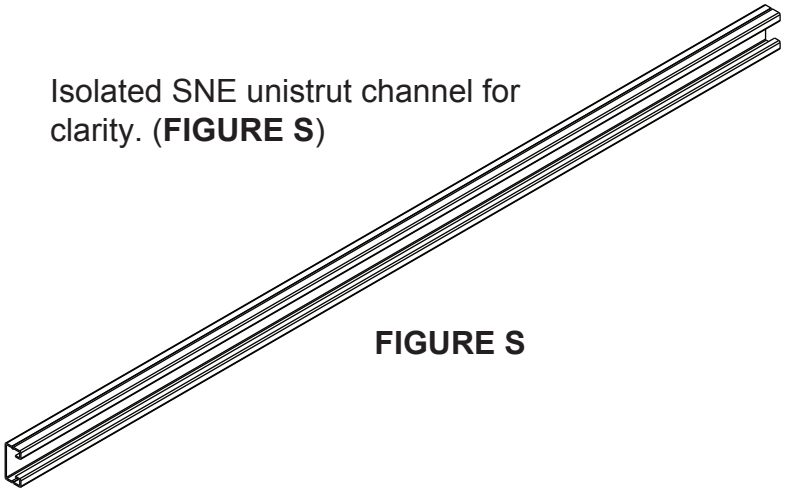


FIGURE S

2. Use a 10-32 x 1¾" panhead Phillips screw (H) through an obround hole in the top location on your vertical lacer bar (D), through an offset bracket (K), and into the spring nut (J).

NOTE: Hand-tighten the screw at ths point to allow for adjustments.

3. Repeat the previous steps to match the hardware amounts (panhead Phillips screws, offset brackets, and spring nuts) to the amount of unistrut channels in your enclosure.

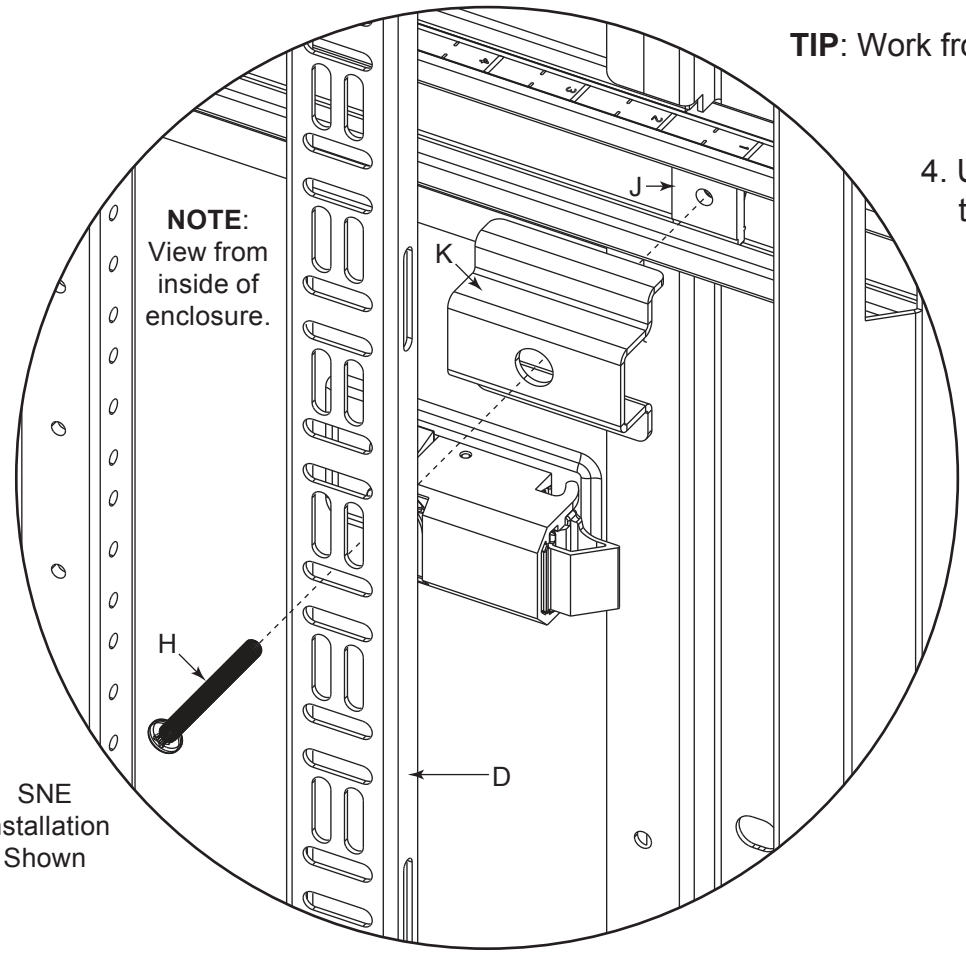


FIGURE T

TIP: Work from the top unistrut channel down.

4. Use a #2 Phillips screwdriver to tighten all screws.

Wire Mesh Lacer Bar (WB3) Installations

INSTALLING WB3 INTO LEVER LOCK COMPATIBLE RACKRAIL BRACKETS

NOTE: Exact mounting position may vary based on your specific power and cabling installation.

1. Insert the hooks on your wire mesh lacer bar (L) into the slots on the Lever Lock compatible rackrail brackets on one side of your enclosure's interior as shown. (**FIGURE V**)

2. Use a Phillips screwdriver and (2x) thread cutting screws (M) to secure the wire mesh lacer bar (L) to the rackrail bracket. (**FIGURE W**)

Isolated BGR Lever Lock compatible rackrail bracket with slots and fixed holes left black for clarity. (**FIGURE U**)

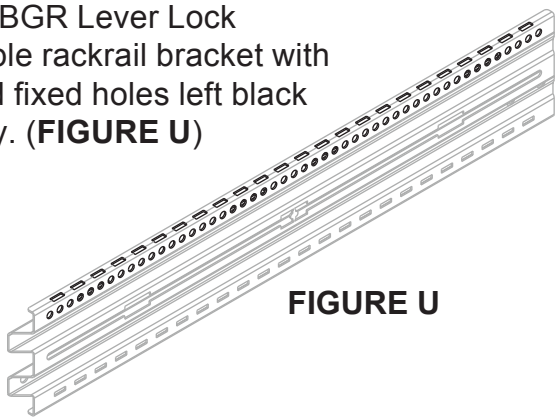


FIGURE U

NOTE: Only (2x) thread cutting screws need to be used on the top bracket of the wire mesh lacer bar to secure it in place.

TIP: Work from the top rackrail bracket down.

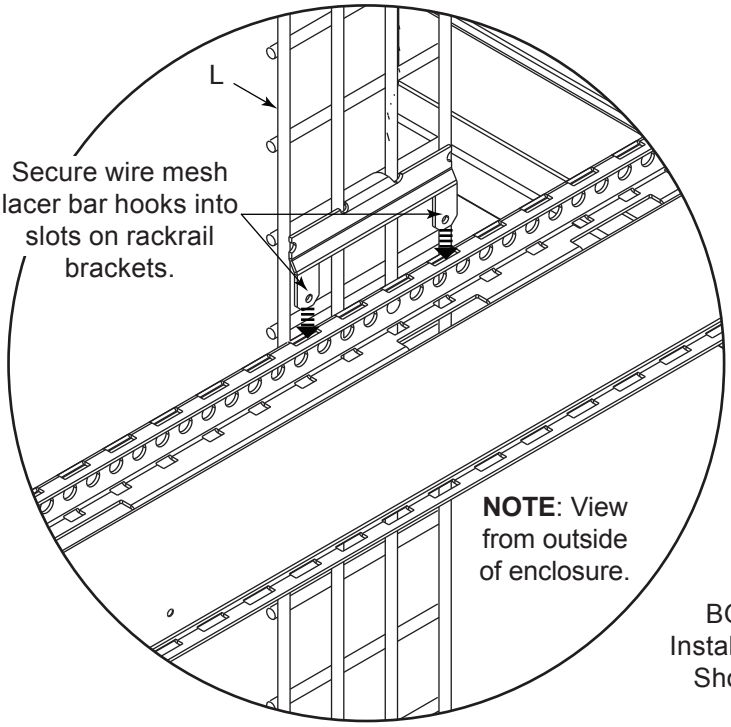


FIGURE V

BGR Installation Shown

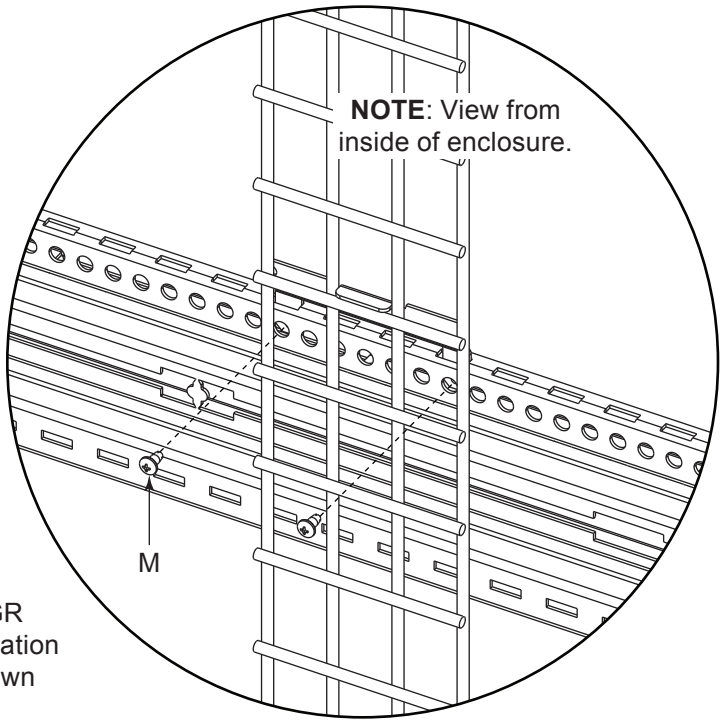


FIGURE W

INSTALLING WB3 INTO RACKRAIL BRACKETS - METHOD #1

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your wire mesh lacer bar (L) remain clear of your rackrail brackets for a flush fit.

Isolated ERK rackrail bracket with slot openings left black for clarity. (**FIGURE X**)

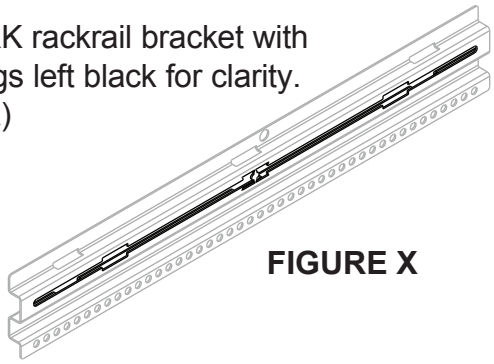


FIGURE X

1. Line up your wire mesh lacer bar (L) against the rackrail bracket slot openings inside of your enclosure to determine which locations on the lacer bar will be used for your hardware (¼-20 x 5/8" hex head bolts, tray mounting brackets, and rackrail nuts).

2. Put a ¼-20 x 5/8" hex head bolt (N) through a tray mounting bracket (P) held against the desired top mounting location (determined from the previous step) on your lacer bar (L) and thread the bolt (approximately 2 - 3 full turns) into a rackrail nut (R) as shown. (**FIGURE Y**)

3. Insert the rackrail nut (partially assembled to the lacer bar via the tray mounting bracket and hex head bolt from the previous step) through a nearby slot opening in your desired location along the top rackrail bracket on one side of your enclosure's interior. (**FIGURE Z**)

NOTE: Hand-tighten the bolt at ths point to allow for adjustments.

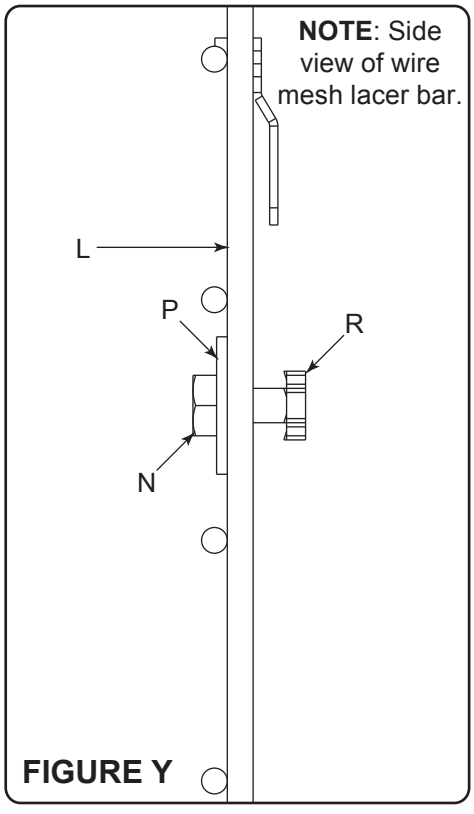


FIGURE Y

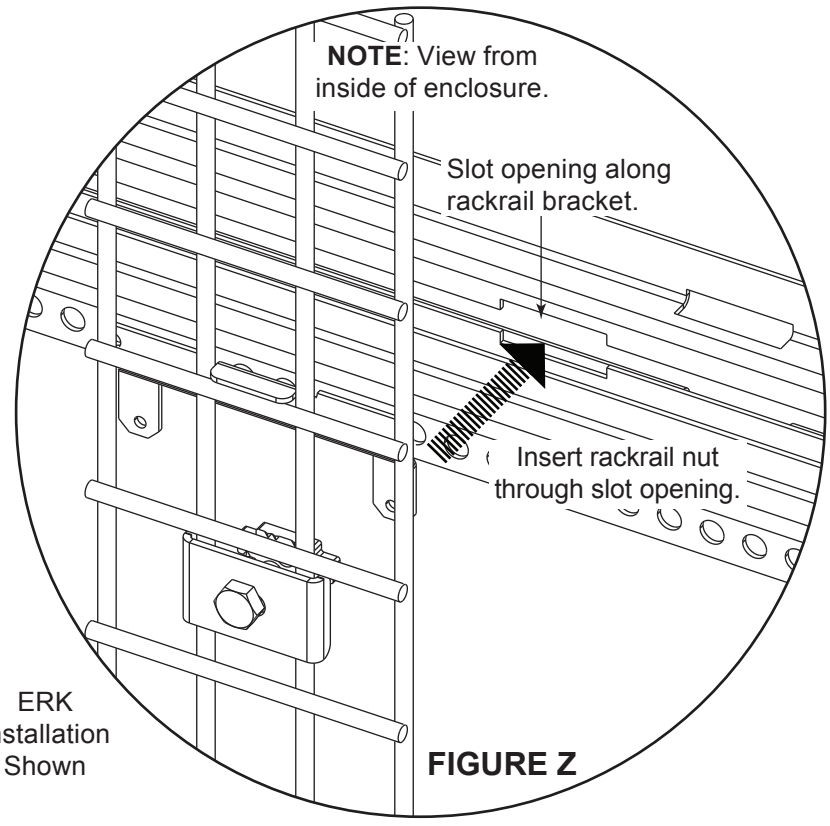


FIGURE Z

4. Repeat the previous steps to match the hardware amounts (hex head bolts, tray mounting brackets, and rackrail nuts) to the amount of rackrail brackets in your enclosure.

TIP: Work from the top rackrail bracket down.

5. Use a 7/16" wrench to tighten all bolts.

INSTALLING WB3 INTO RACKRAIL BRACKETS - METHOD #2

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your wire mesh lacer bar (L) remain clear of your rackrail brackets for a flush fit.

Isolated DWR/SR rackrail bracket with top holes and slot openings left black for clarity. (**FIGURE AA**)

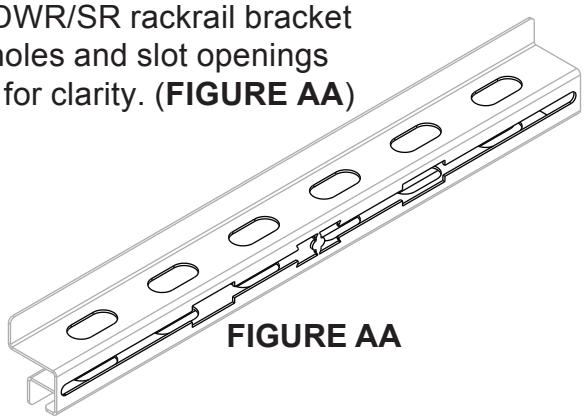


FIGURE AA

1. Slide a rackrail nut (R) into a nearby opening on the top rackrail bracket on one side of your enclosure's interior as shown. (**FIGURE AB**)

2. Use a ¼-20 x 5/8" hex head bolt (N) through a tray mounting bracket (P) and held against the desired top mounting location on your lacer bar (L) and into the rackrail nut (R).

TIP: Use holes along top of rackrail bracket to hold the rackrail nut in the bracket with one hand while threading the bolt through the tray mounting bracket against your lacer bar and into the nut with the other.

NOTE: Hand-tighten the bolt at ths point to allow for adjustments.

3. Repeat the previous steps to match the hardware amounts (hex head bolts, tray mounting brackets, and rackrail nuts) to the amount of rackrail brackets in your enclosure.

TIP: Work from the top rackrail bracket down.

4. Use a 3/8" wrench to tighten all bolts.

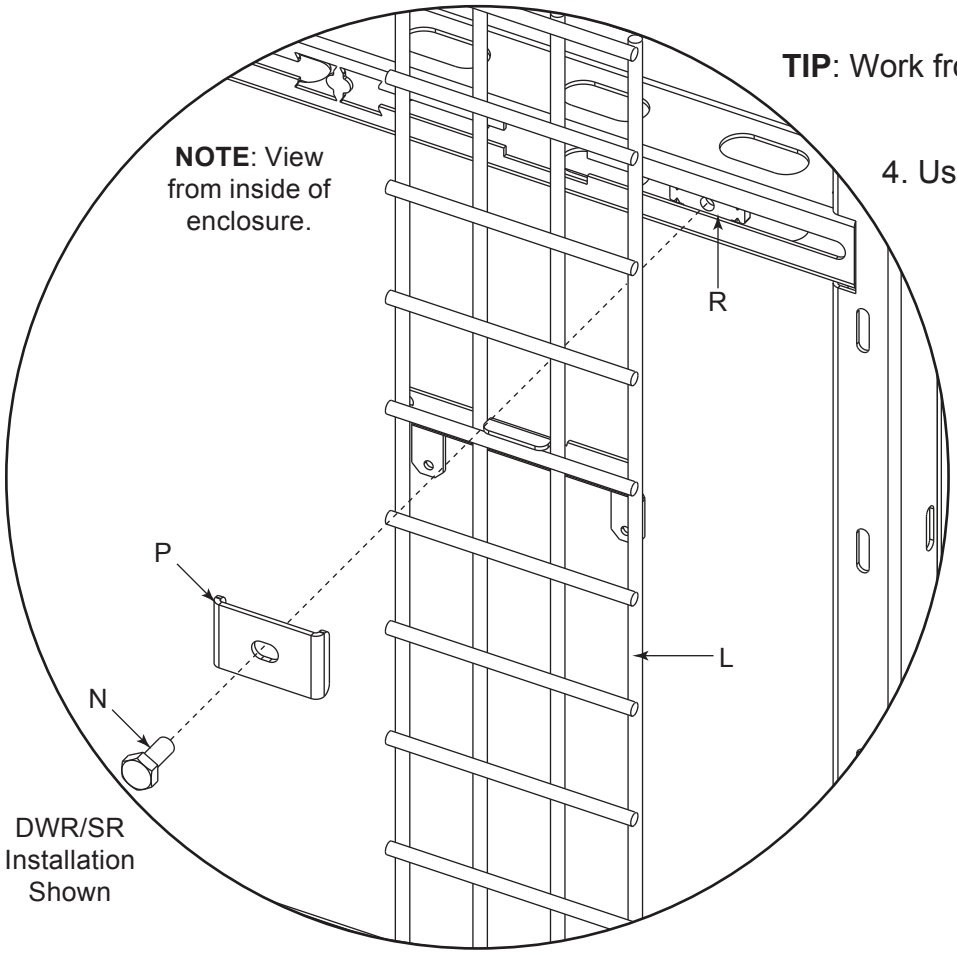


FIGURE AB

INSTALLING WB3 INTO UNISTRUT CHANNELS

NOTE:
- Exact mounting position may vary based on your specific power and cabling installation.
- Ensure any hooks on the back of your wire mesh lacer bar (L) remain clear of your rackrail brackets for a flush fit.

Isolated SNE unistrut channel for clarity. (**FIGURE AC**)

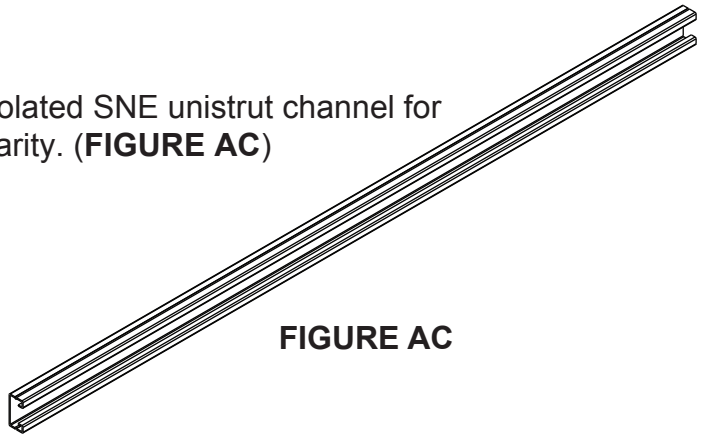


FIGURE AC

1. Slide a spring nut (T) into the top unistrut channel on one side of your enclosure's interior as shown. (**FIGURE AD**)

2. Hold an offset bracket (U) over the location of the spring nut (T) along the unistrut channel.

3. Use a ¼-20 x 1½" hex head bolt (N) through a tray mounting bracket (P) held against the desired top mounting location on your lacer bar (L) while putting it through the offset bracket (U) and into the spring nut (T).

NOTE: Hand-tighten the bolt at ths point to allow for adjustments.

4. Repeat the previous steps to match the hardware amounts (hex head bolts, tray mounting brackets, offset brackets, and spring nuts) to the amount of unistrut channels in your enclosure.

TIP: Work from the top unistrut channel down.

5. Use a 3/8" wrench to tighten all bolts.

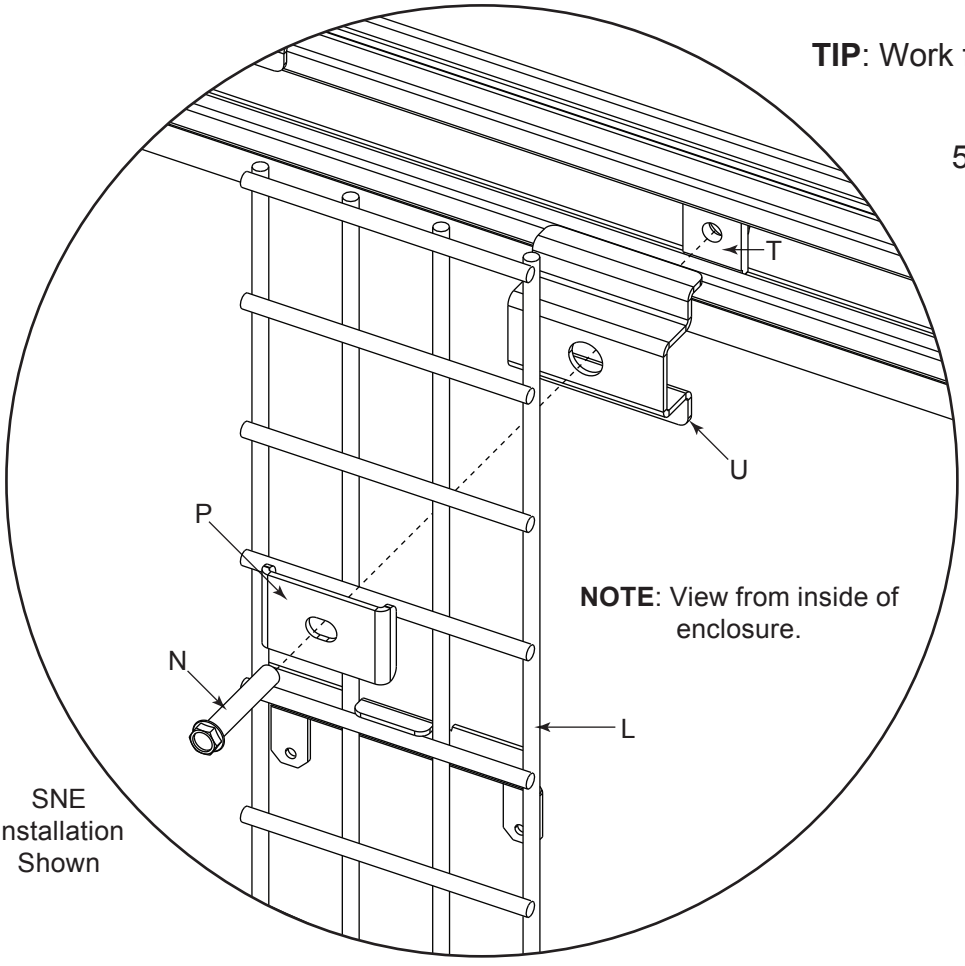


FIGURE AD

WARRANTY

For warranty information, refer to http://www.middleatlantic.com/company/about-us.aspx#warranty

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