

BUS SIZING CABLE BUS SIZING
QUALITY CONTROL
D CABLE BUS MODELLING

STEP-BY-STEP
GUIDE TO
INSTALLING
CABLE BUS

 **SUPERIOR****BUS**TM 

superiortray.com Integrity, Ingenuity, Innovation



QUICK INSTALLATION LOW MAINTENANCE

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INTRODUCTION

SUPERIORBUS™ is an extremely versatile power feeder system. It can be hung from the ceiling, wall-mounted both indoors and out, and installed underground in ventilated trench. Superior Tray Systems Inc has the experience to help you specify the correct mounting, expansion, and support systems. Our systems have been rigorously tested to comply with UL, CSA, and CEC regulations. In order to achieve the highest level of system safety, it is important to thoroughly understand and follow these installation instructions.

SAFETY

Superior Tray Systems Inc. has done its best to provide a product which protects personnel from the hazards of high-power electrical systems. These systems should only be serviced by trained professionals. Before any service or installation work is done, ensure the system is safely disconnected from the power source and that any capacitive loads have been discharged. Check cables with an inductive ampmeter before service. Conduct tests according to system specifications before reconnecting power. Ground cable is essential to avoid risk of death and equipment damage.

REQUIRED TOOLS

Screwdriver #2 Phillips

3/8" Torque Wrench, 7/16" Socket

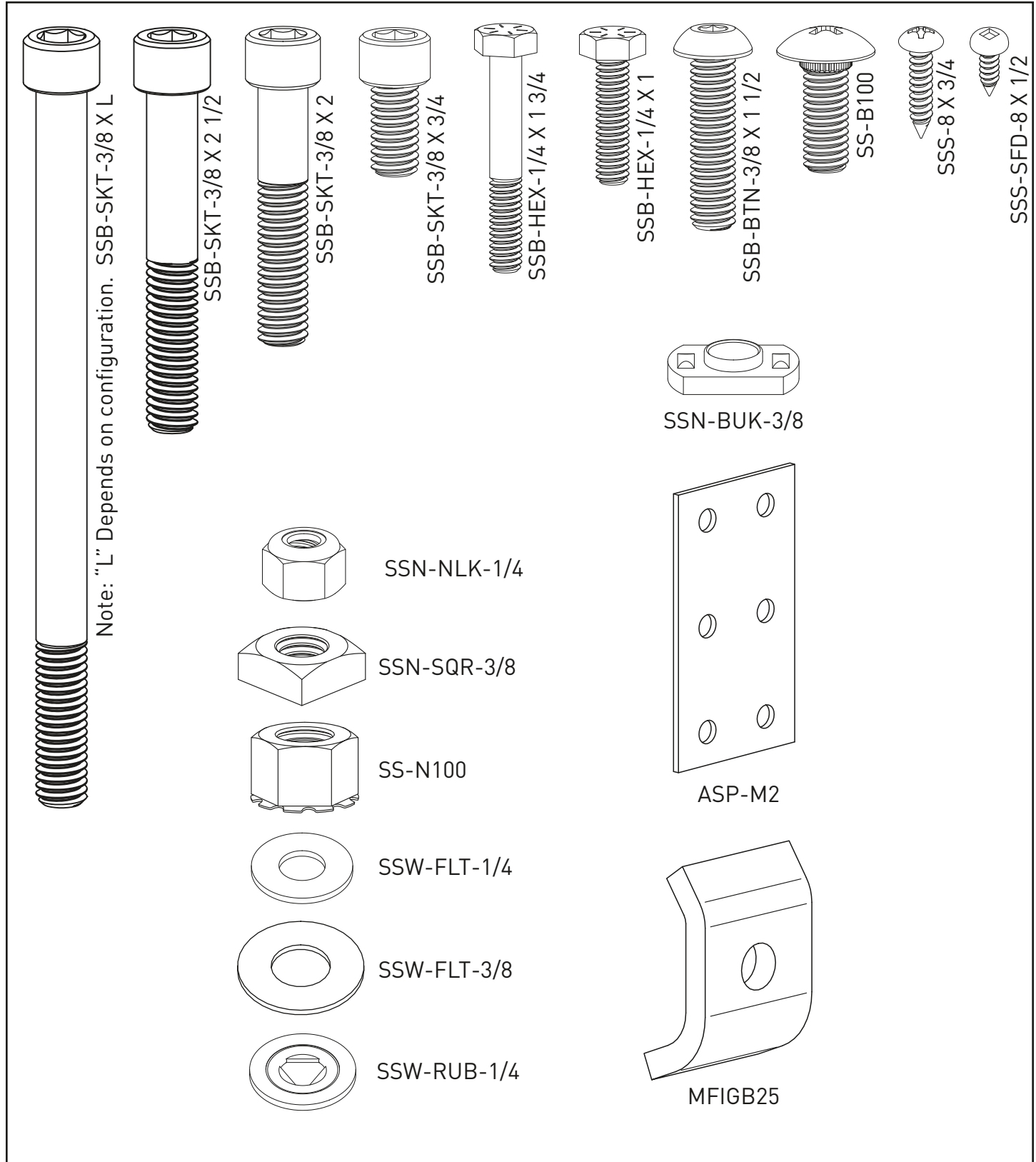
9/16" Wrench or Socket

Drill, 7/16" Drill Bit

5/16" Allen key

#2 Robertson driver bit

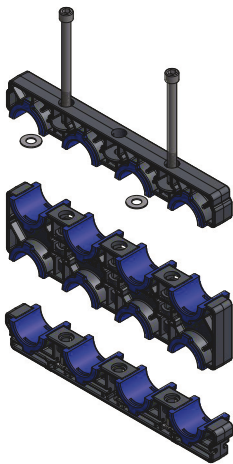
HARDWARE LEGEND



ENCLOSURE ASSEMBLY

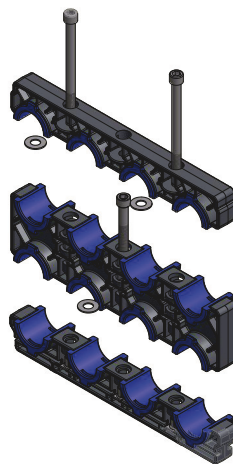
NOTE:

SuperiorBus™ Molded Support Blocks have 3 specialized bolting configurations. Configurations other than Standard will be specified on a project-by-project basis



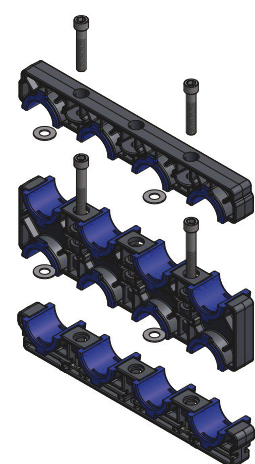
STANDARD

Perfect for horizontal installations. Minimize bolting time, and maximize strength with long bolts that tie directly through to the cable bus rungs for extra strength.



CONFIGURATION 1

Perfect for vertical installations. Each row of cables are temporarily held in place by each level of support blocks. The top support block is secured with long bolts which tie directly through to the cable bus rungs for extra strength.

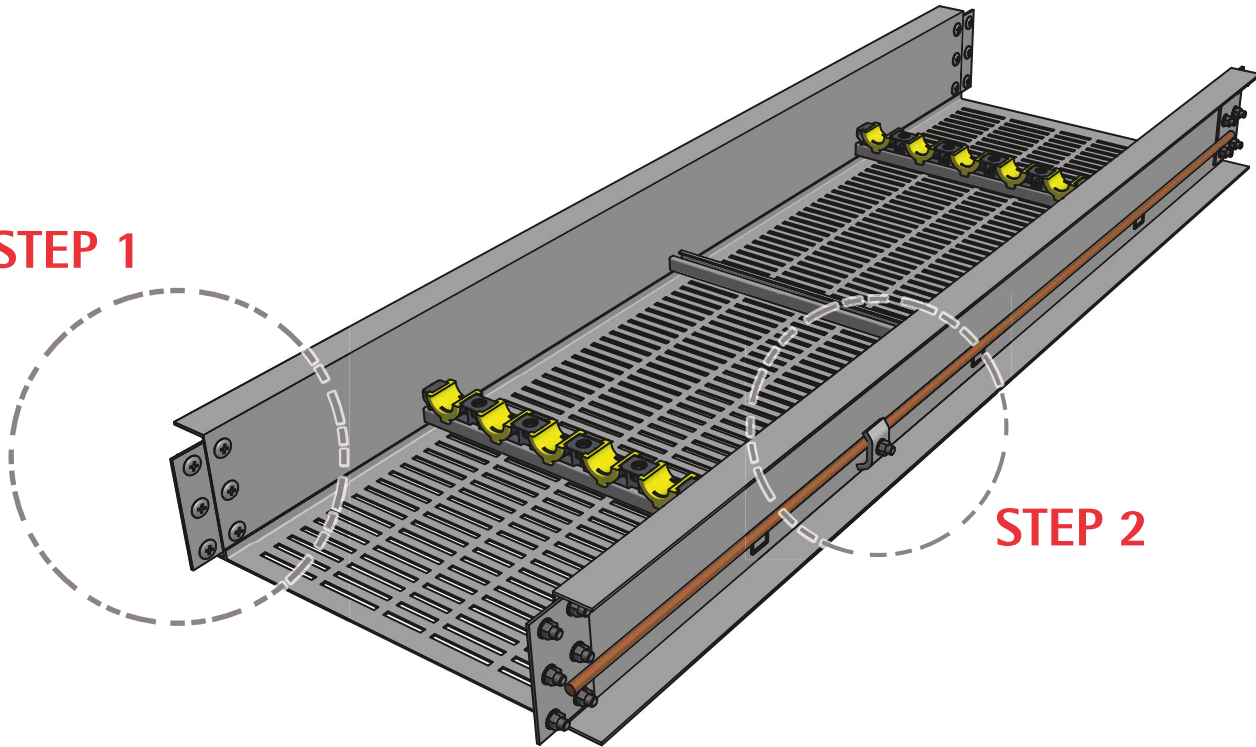


CONFIGURATION 2

Alternate bolting configuration also suitable for vertical installations.

ENCLOSURE ASSEMBLY

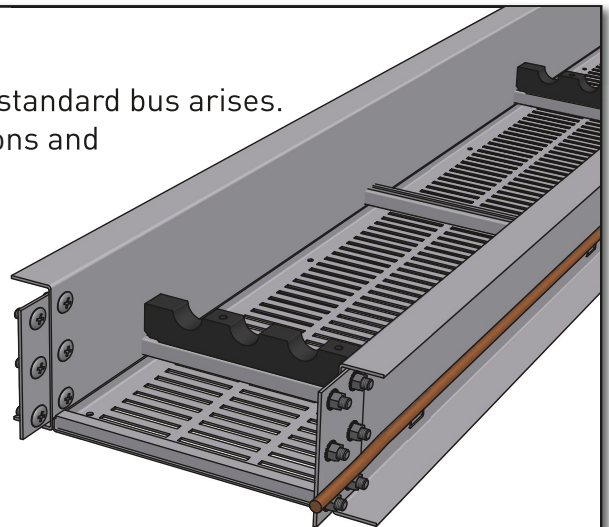
STEP 1



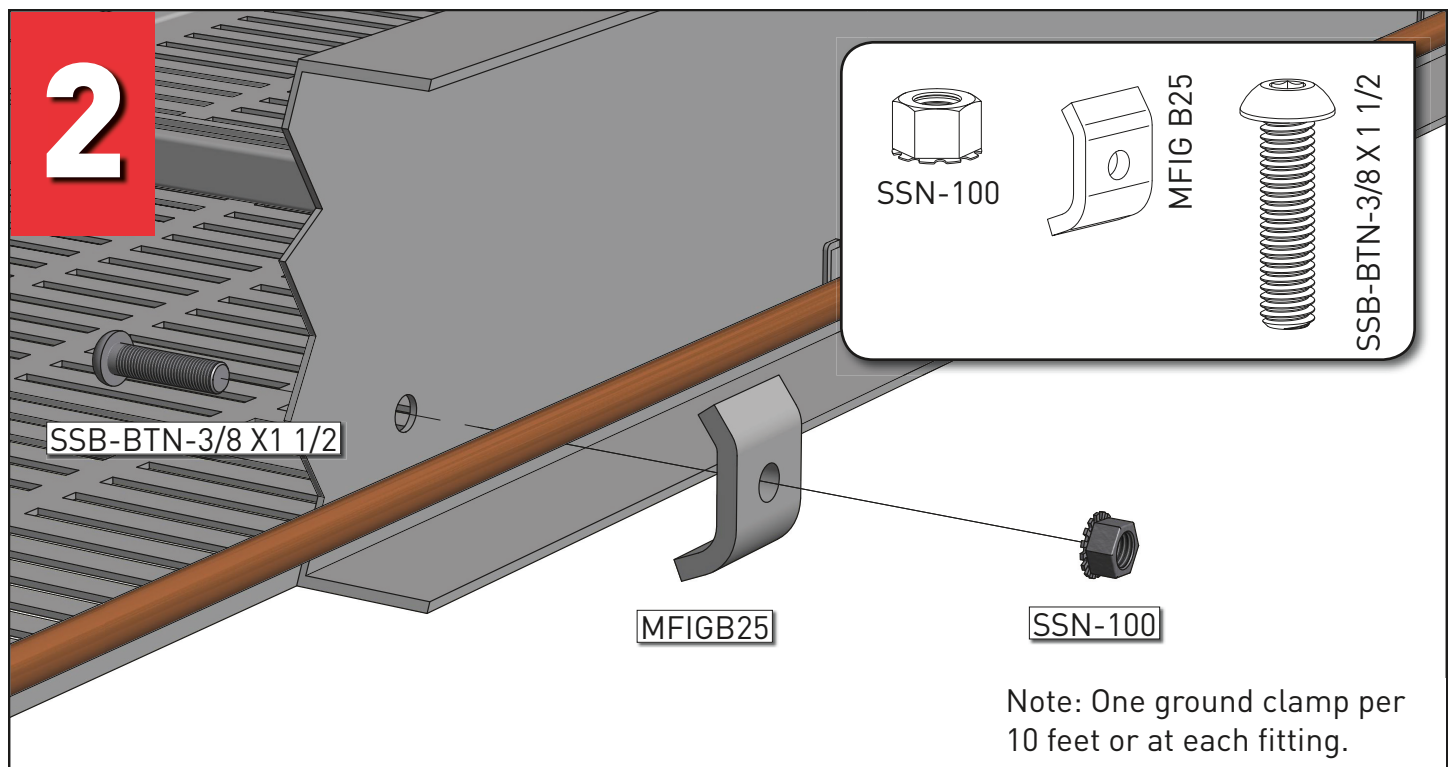
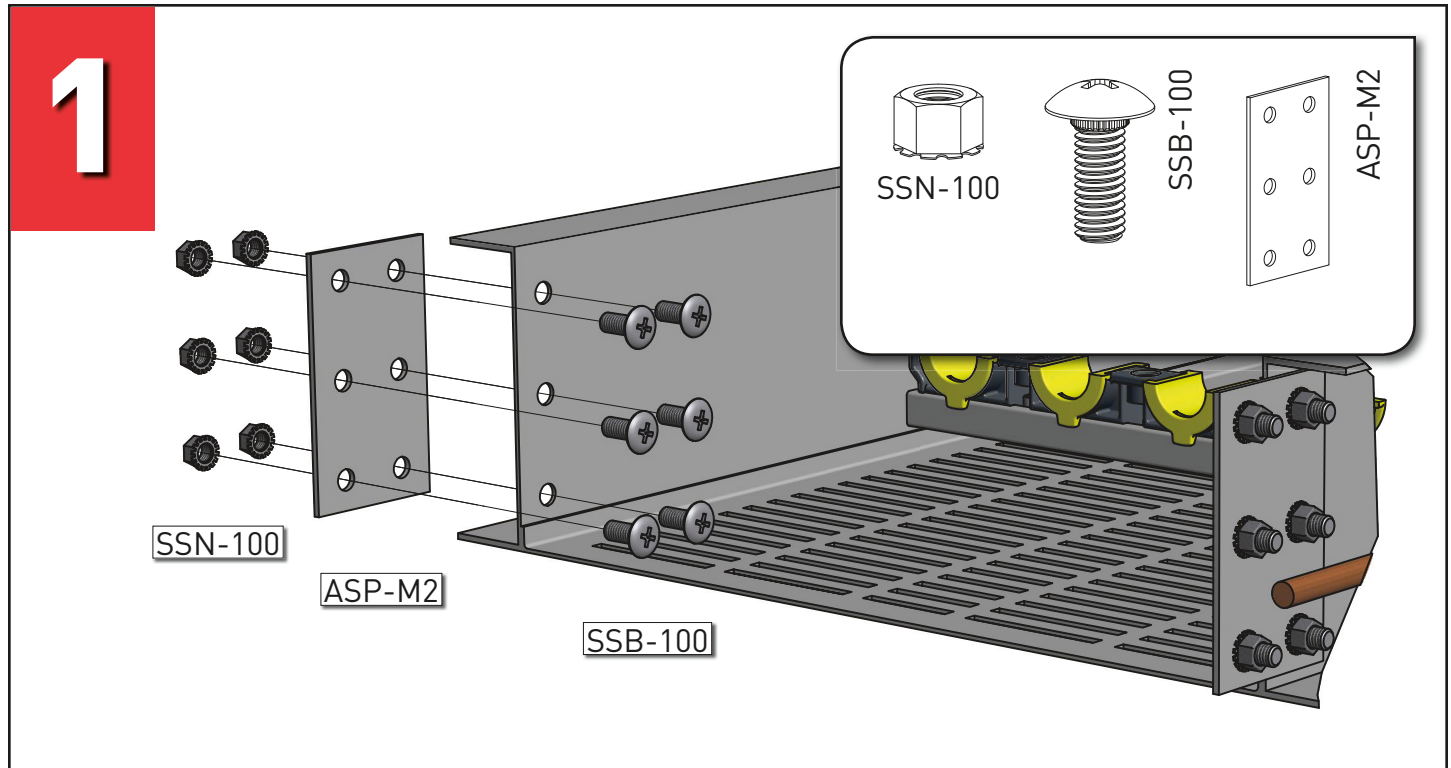
STEP 2

NOTE:

Machined blocks can be supplied if need in a non-standard bus arises. Refer to supplied drawings for assembly instructions and dimensions.



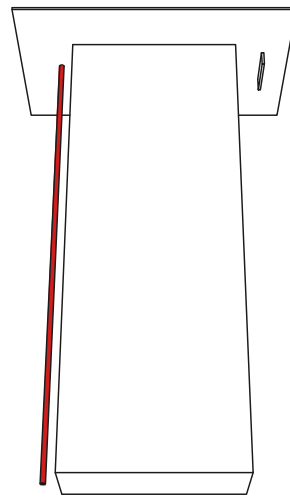
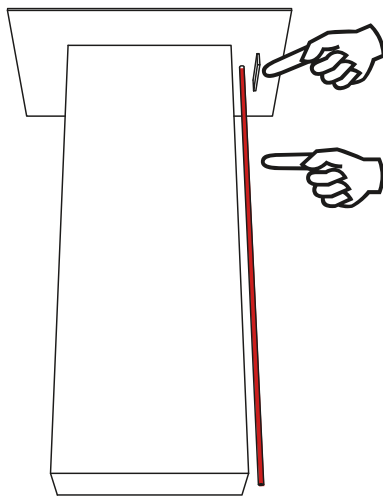
ENCLOSURE ASSEMBLY



ENCLOSURE ASSEMBLY

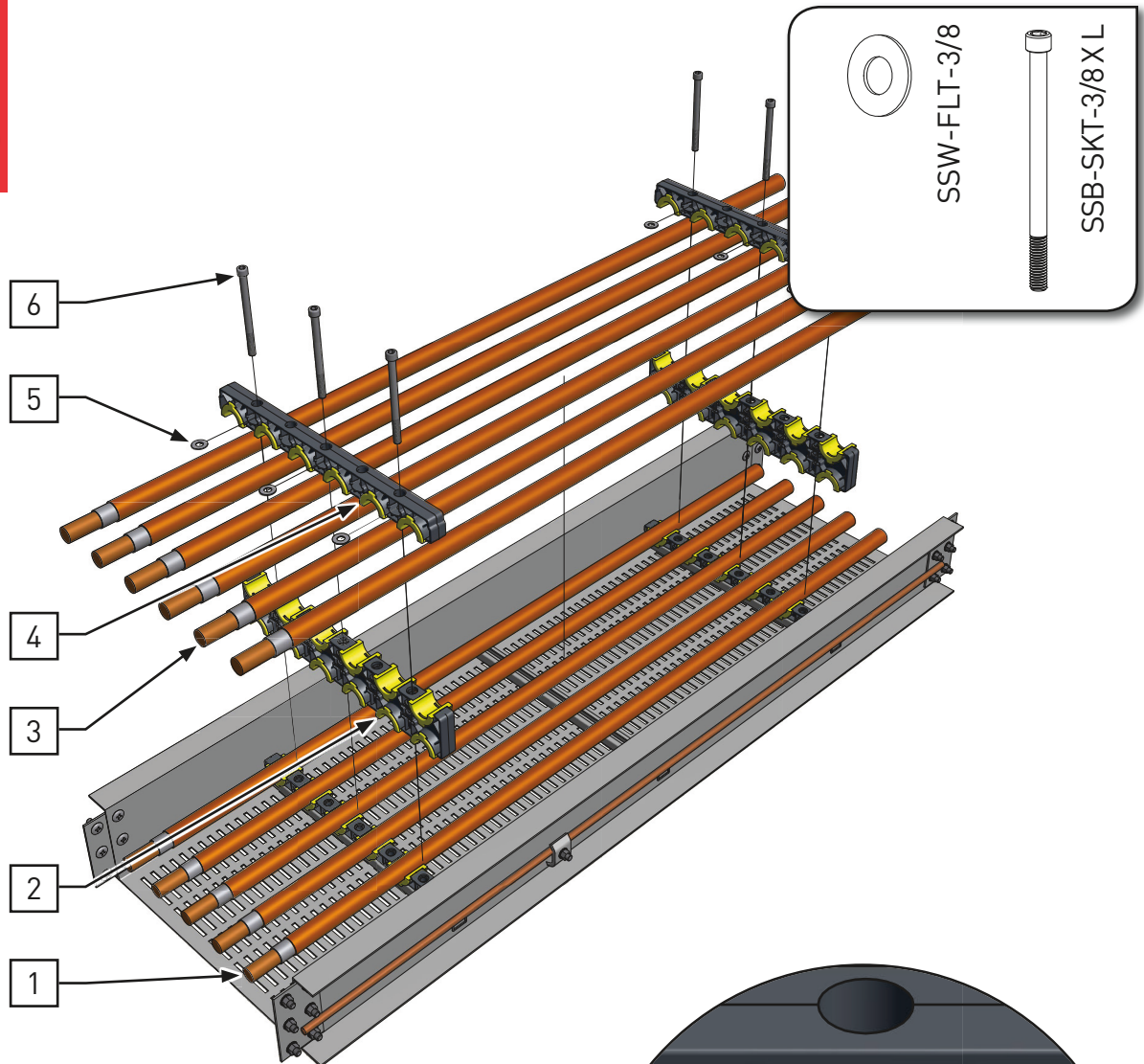
NOTE:

Ground cable and lug are on same side of enclosure.



ENCLOSURE ASSEMBLY STANDARD

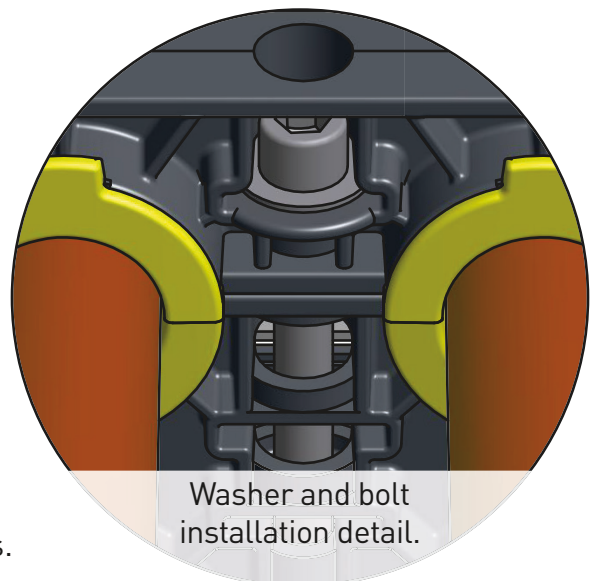
3A



INSTALLATION STEPS:

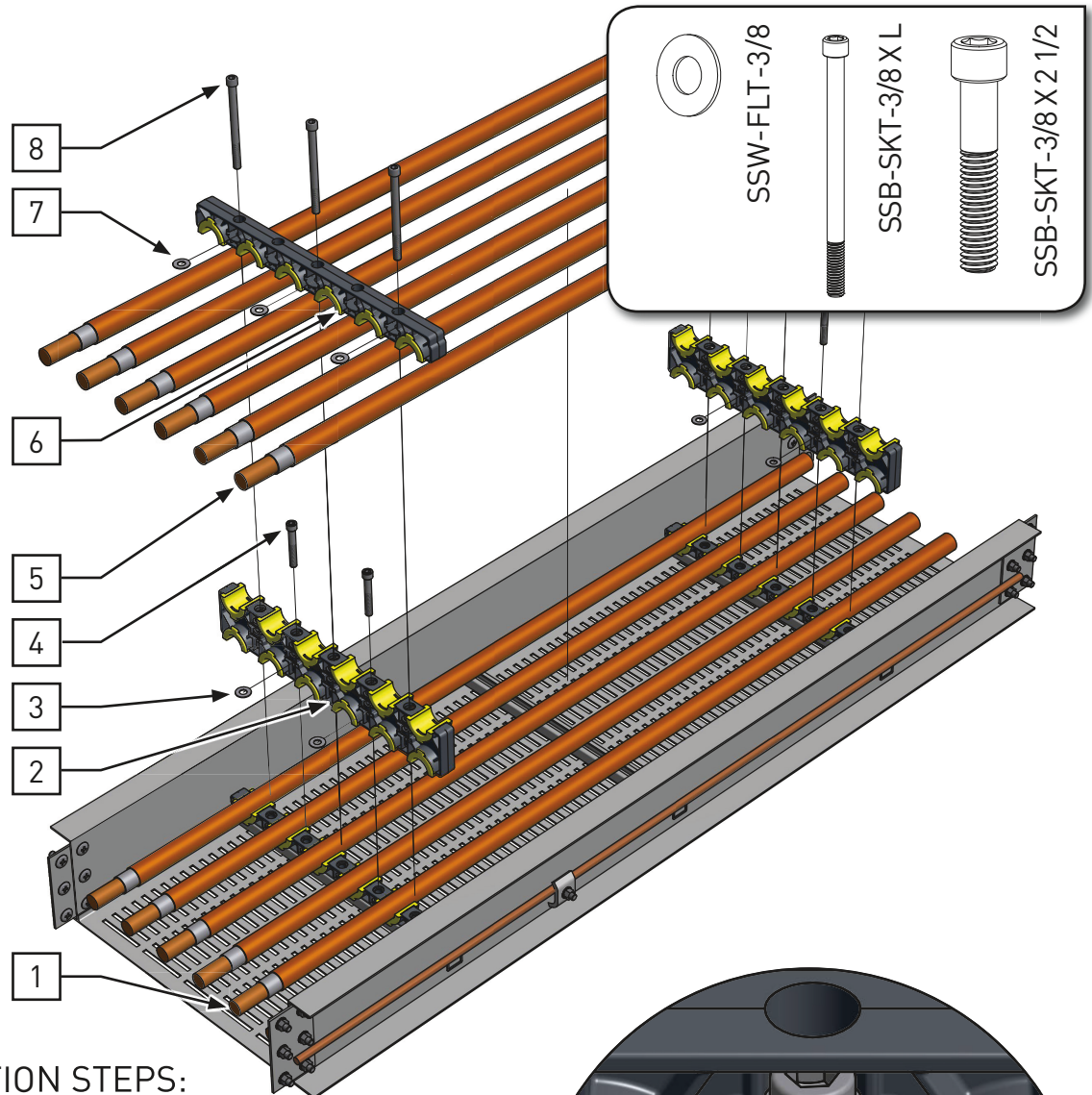
1. Pull first row of cables
2. Install middle block
3. Pull second row of cables
4. Install top block
5. Install washer SSW-FLT-3/8
6. Install bolt SSB-3/8 X L

Note:
Repeat step 2 and 3 for multi-tier systems.



ENCLOSURE ASSEMBLY CONFIGURATION 1

3B

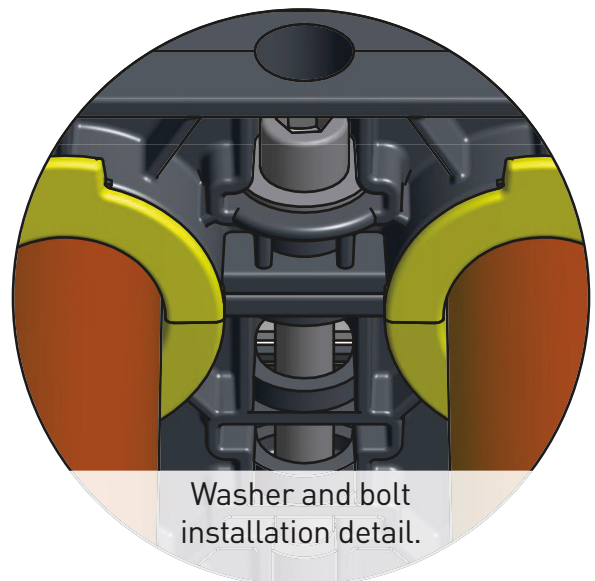


INSTALLATION STEPS:

1. Pull first row of cables
2. Install middle block
3. Install washer SSW-FLT-3/8
4. Install bolt SSB-3/8 X 2 1/2
5. Pull second row of cables
6. Install top block
7. Install washer SSW-FLT-3/8
8. Install bolt SSB-3/8 X L

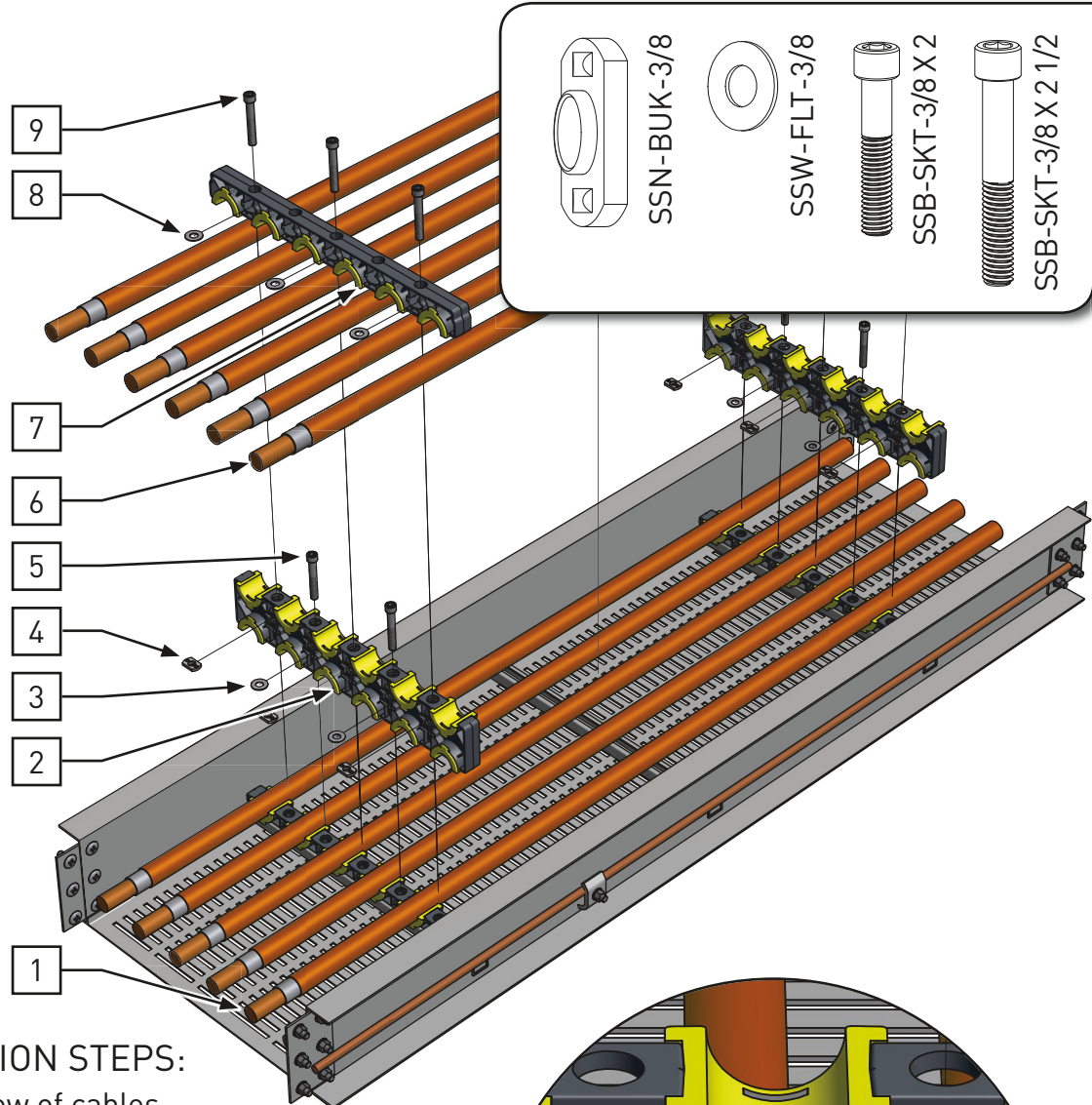
Note:

Repeat steps 2 to 5 for multi-tier systems.



ENCLOSURE ASSEMBLY CONFIGURATION 2

3C

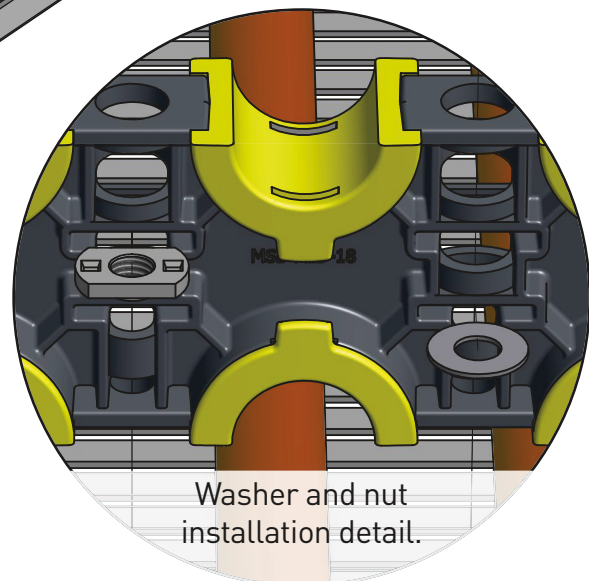


INSTALLATION STEPS:

1. Pull first row of cables
2. Install middle block
3. Install washer SSW-FLT-3/8
4. Install nut SSN-BUK-3/8
5. Install bolt SSB-3/8 X 2 1/2
6. Pull second row of cables
7. Install top block
8. Install washer SSW-FLT-3/8
9. Install bolt SSB-3/8 X 2

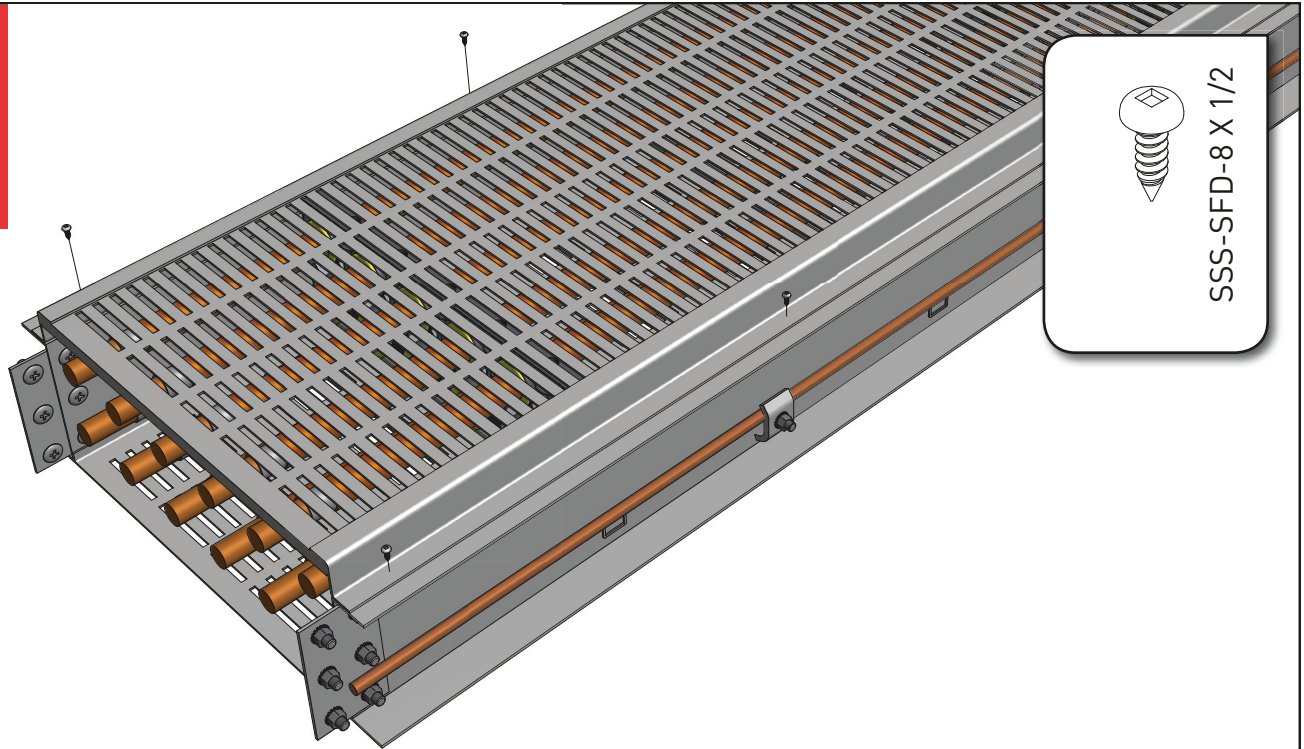
Note:

Repeat steps 2 to 6 for multi-tier systems.

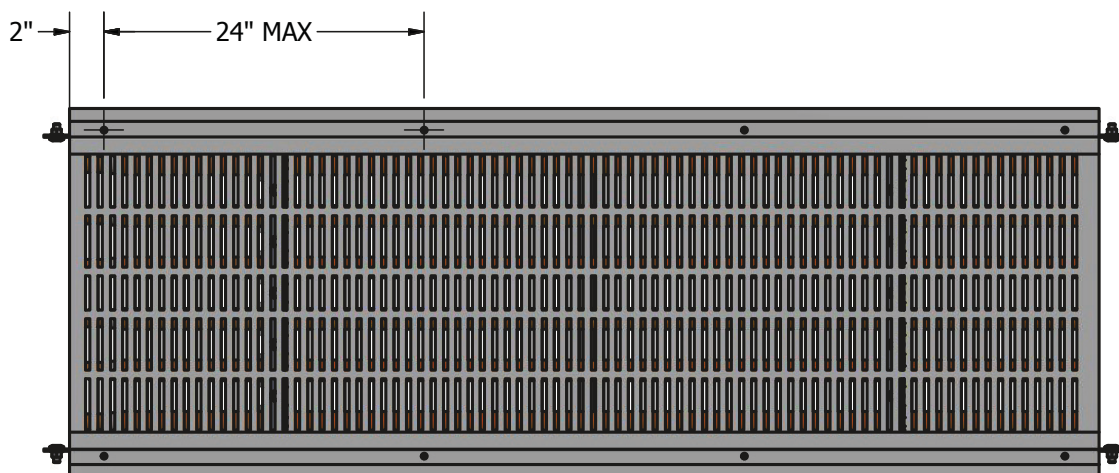


ENCLOSURE ASSEMBLY

4



NOTE:
Cover screws required every 24" and at the end of covers.

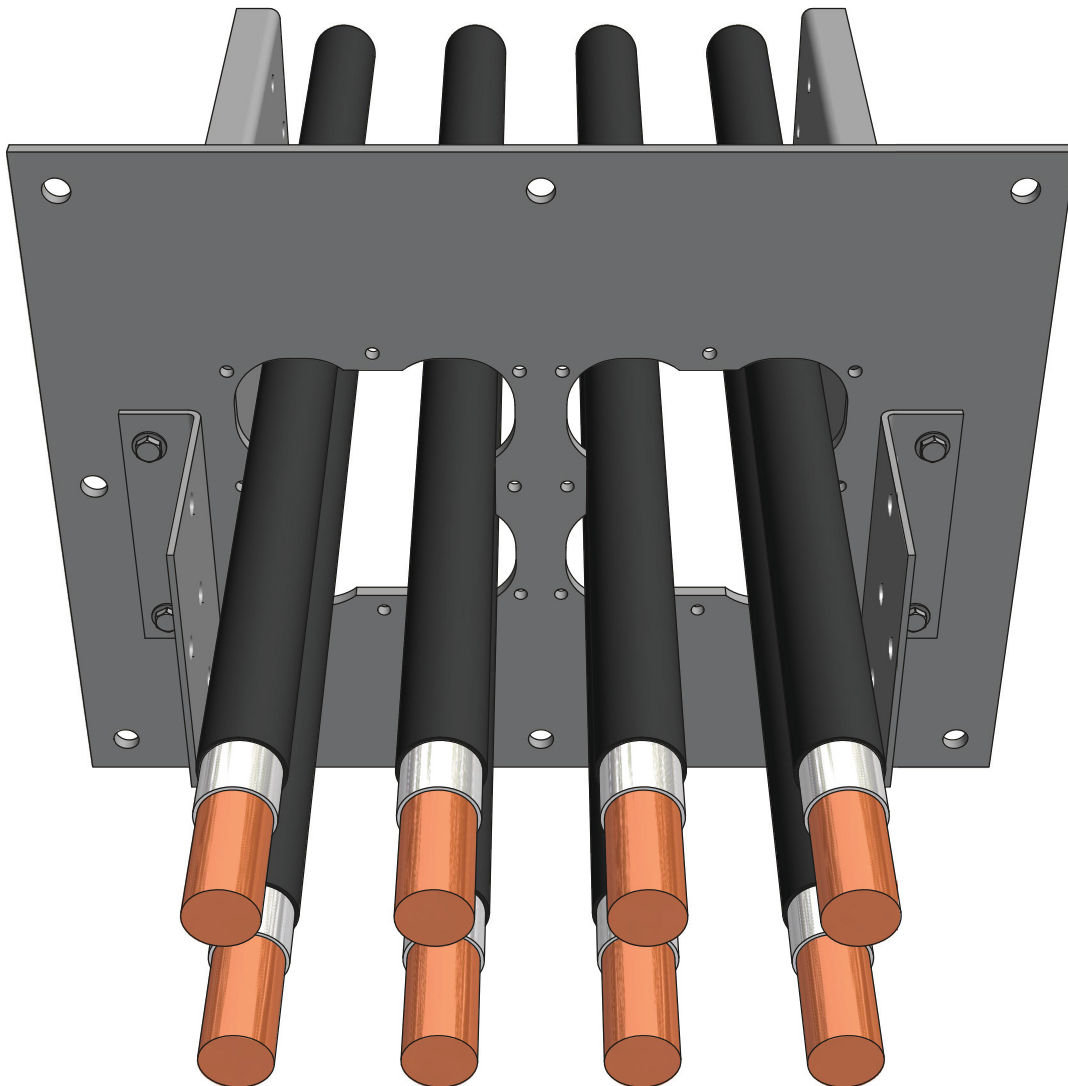


MOLDED SEAL EQUIPMENT/WALL/TRANSFORMER/FLOOR

1

NOTE:

A 4x2 system is shown for simplicity.
Repeat steps 3-4-5 for multi-tier systems.



Pull all cables through seal plate, using caution to avoid damage to insulation. Prepare cables for termination. Ensure sealant is used for mounting the plate to the wall/equipment. Note: Cable bus enclosure is omitted for clarity.

MOLDED SEAL

⚠ CAUTION

Guides may be supplied pre-lubed with dielectric silicone compound if required by project specifications.

Keep guides clean and free from debris. In case of contamination, clean the block and re-apply silicone compound.

2

SSN-NLK-1/4

SSW-RUB-1/4

SSW-FLT-1/4

SSB-HEX-1/4 x 1



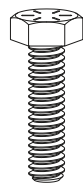
SSN-NLK-1/4



SSW-RUB-1/4



SSW-FLT-1/4



SSB-HEX-1/4 X 1

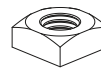
Install bottom block. Ensure PSW-1/4 is installed rubber side to plate. Tighten bolts finger tight.

MOLDED SEAL

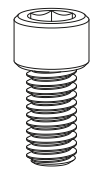
3



SSW-FLT-3/8



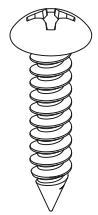
SSN-SQR-3/8



SSB-SKT-3/8 X 3/4

Suspend upper row of cables while securing the lower row. Bolt middle block to bottom block. Torque 60 in-lb (5 ft-lb). Note: upper cables hidden for clarity.

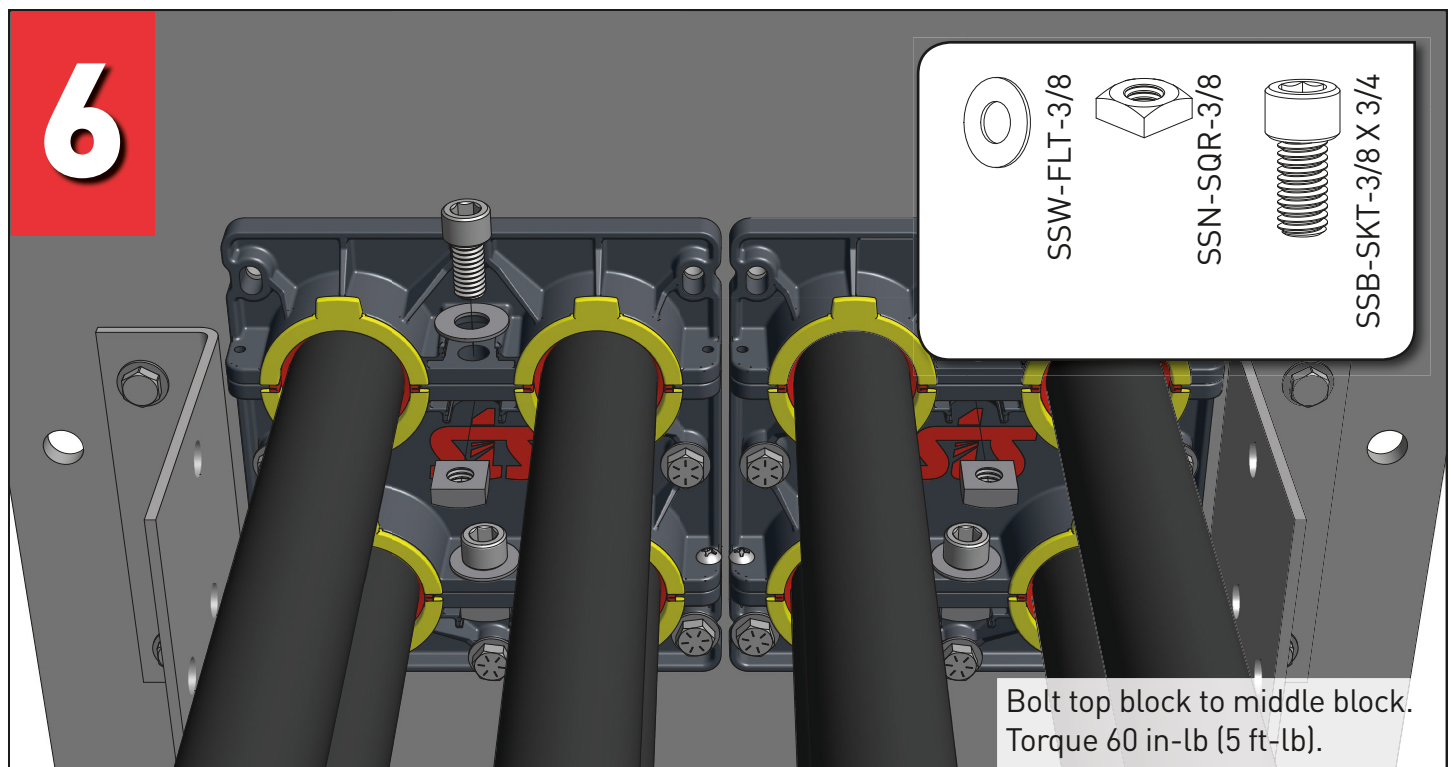
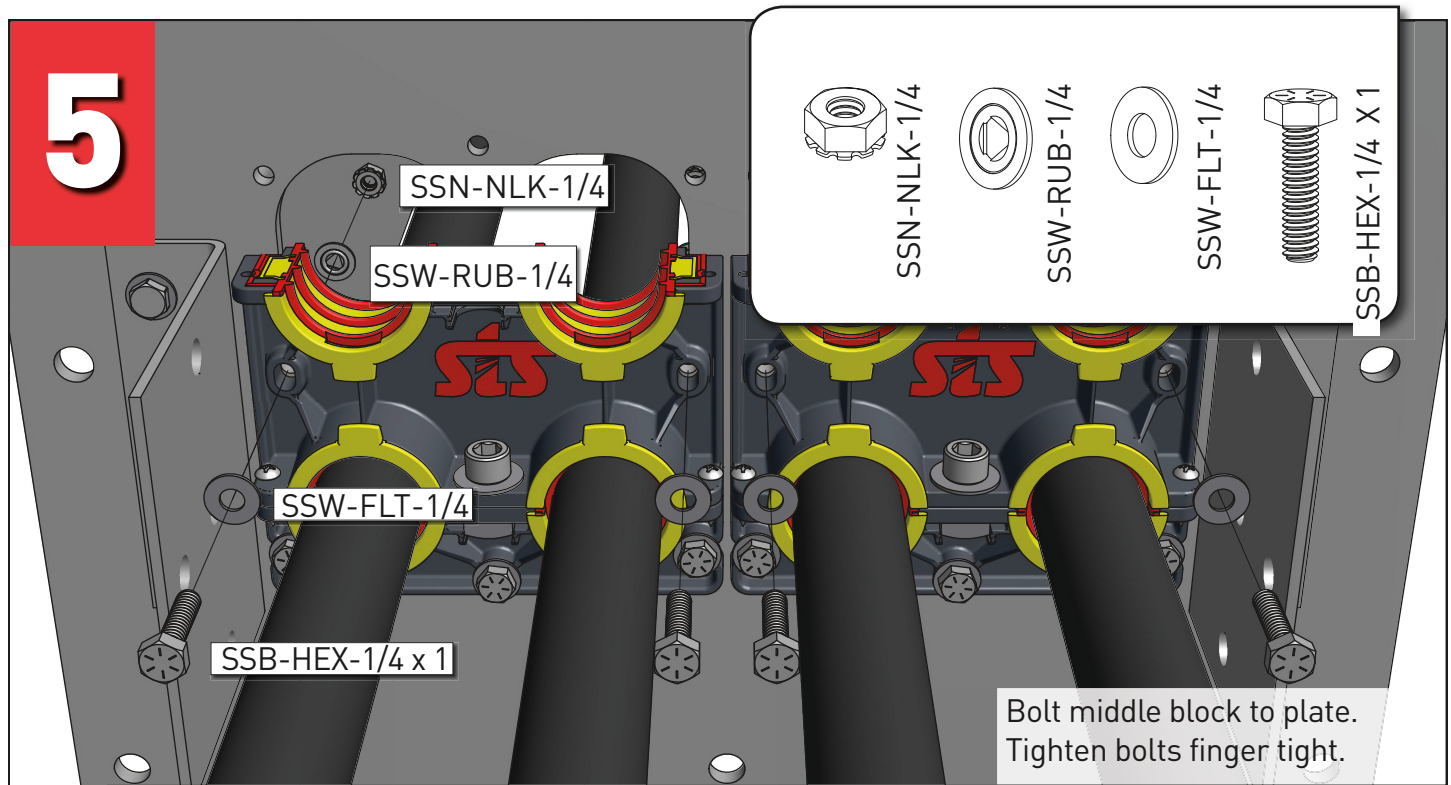
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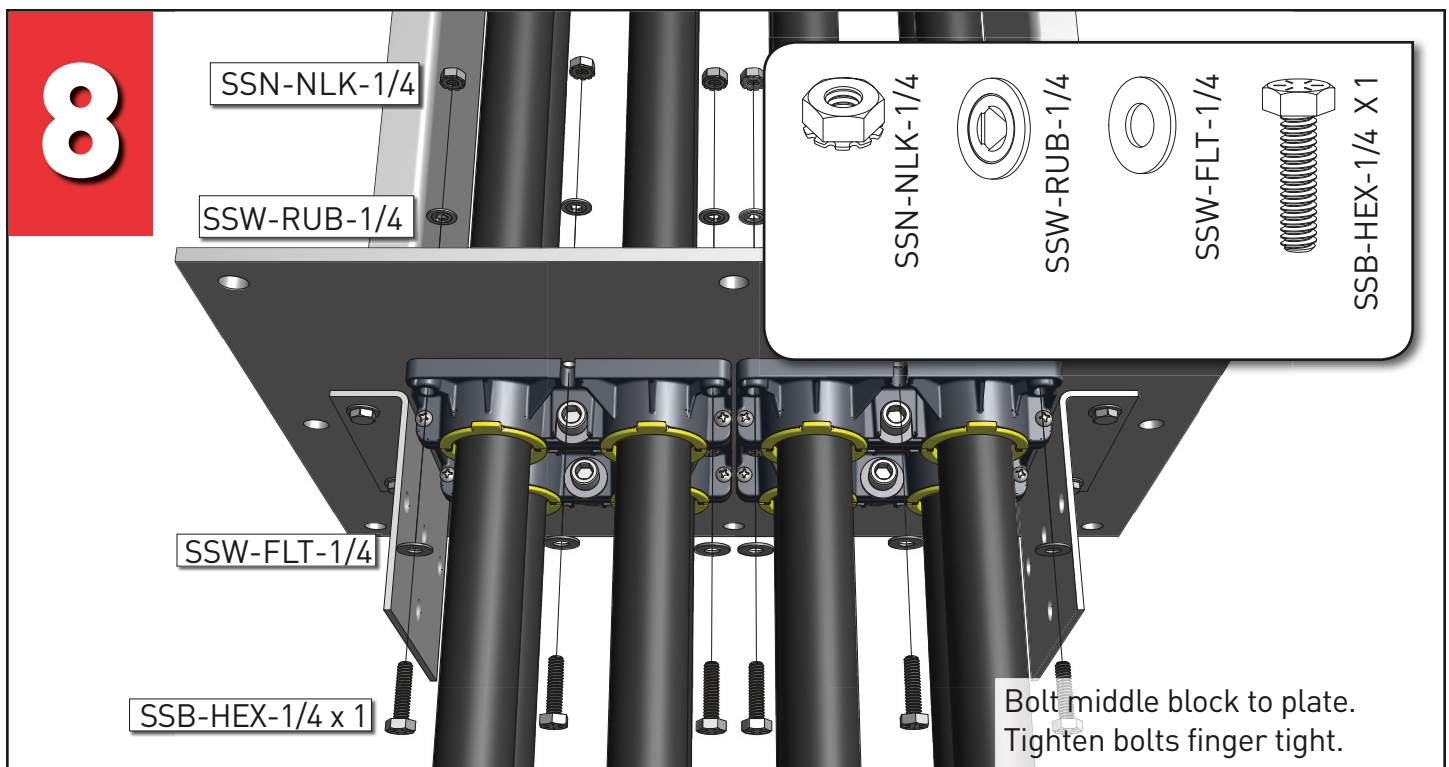
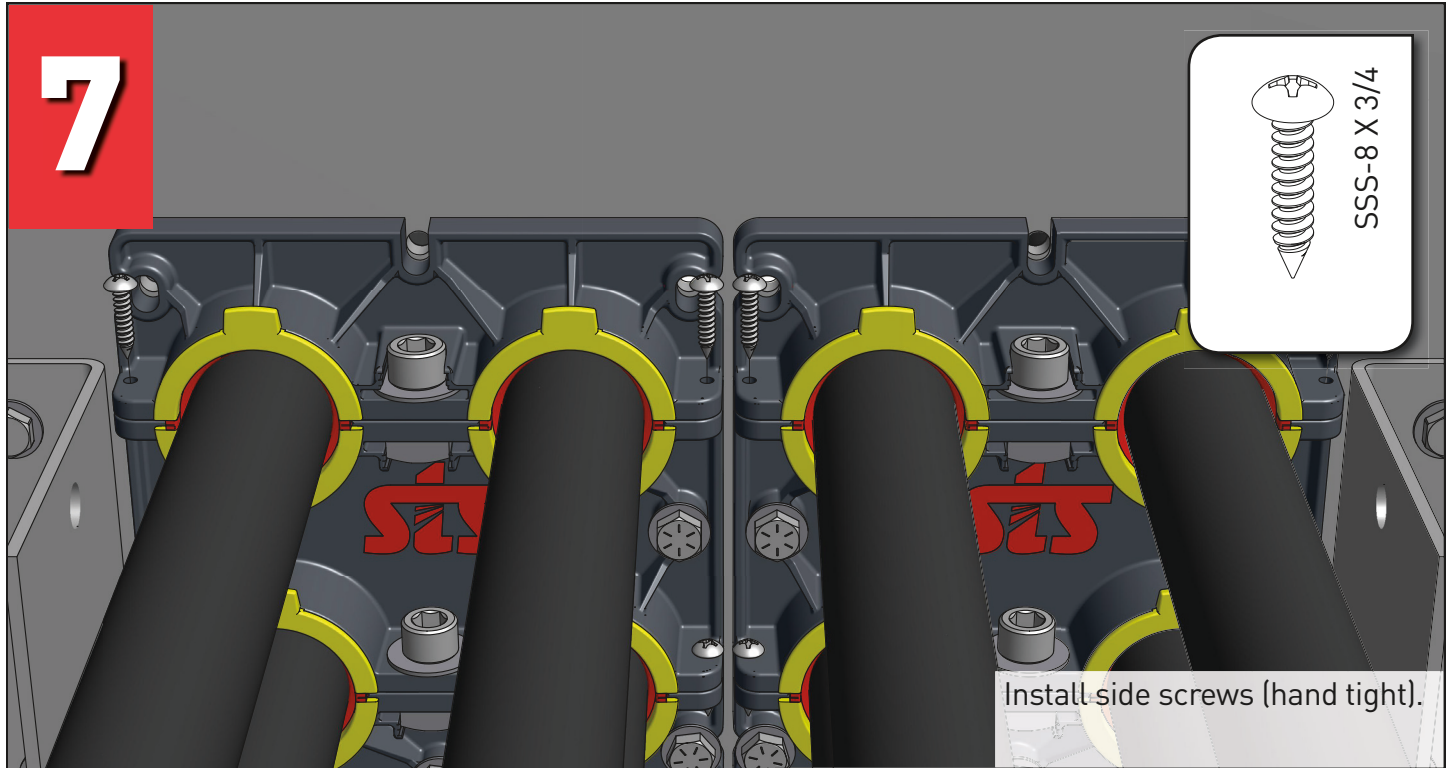
SSS-8 X 3/4

Install side screws (hand tight).

MOLDED SEAL

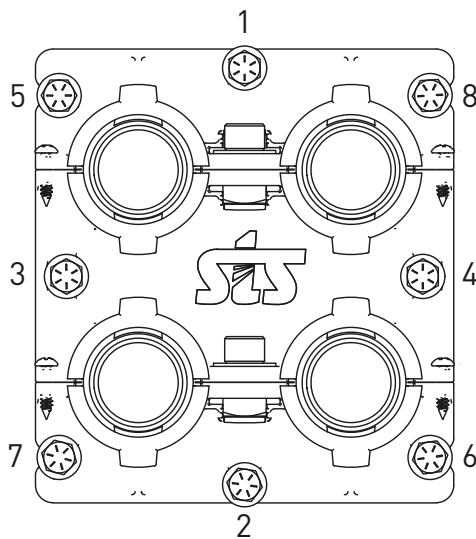
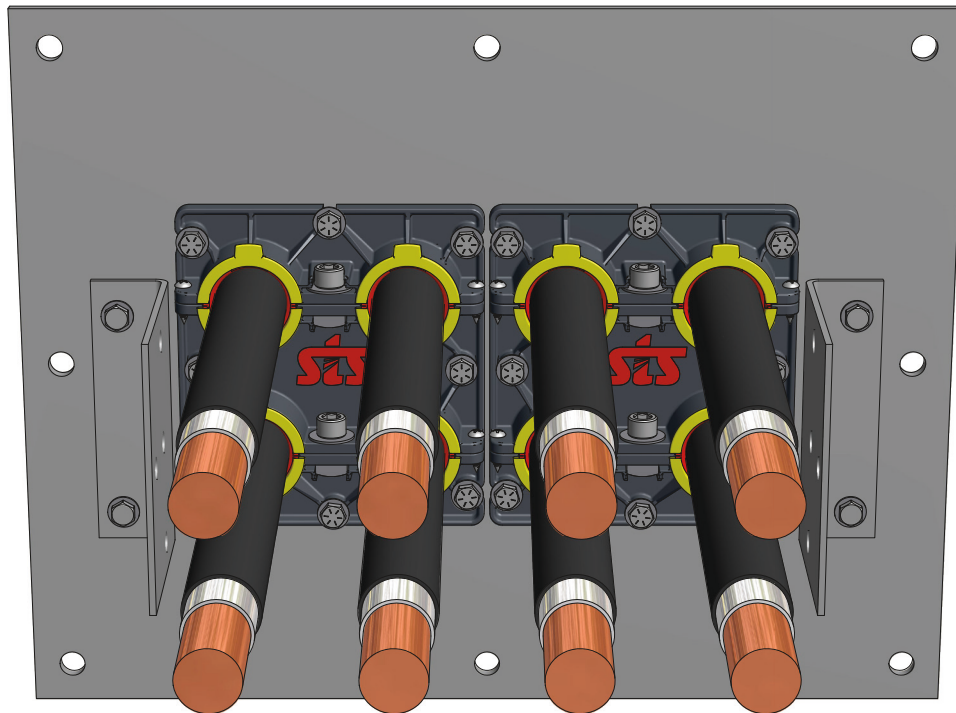


MOLDED SEAL



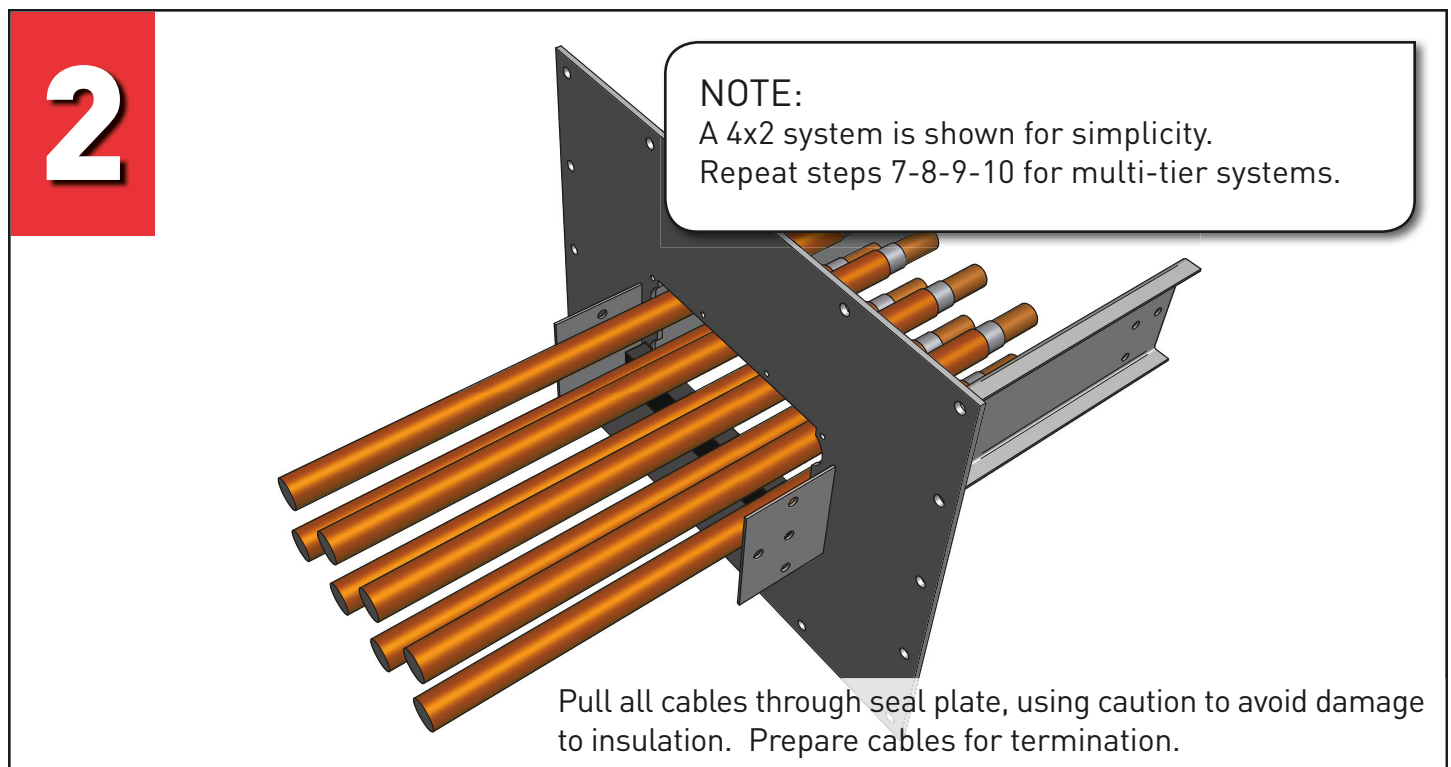
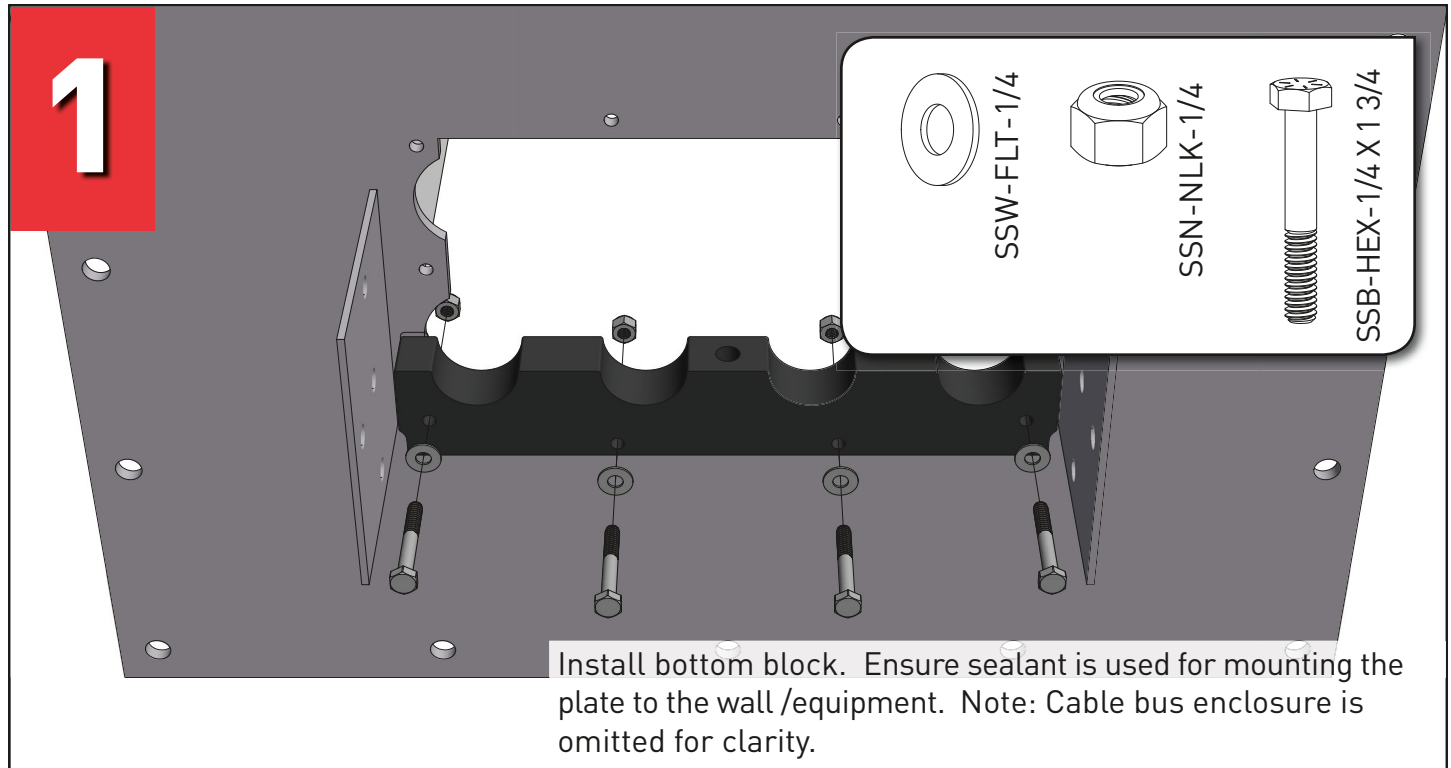
MOLDED SEAL

9



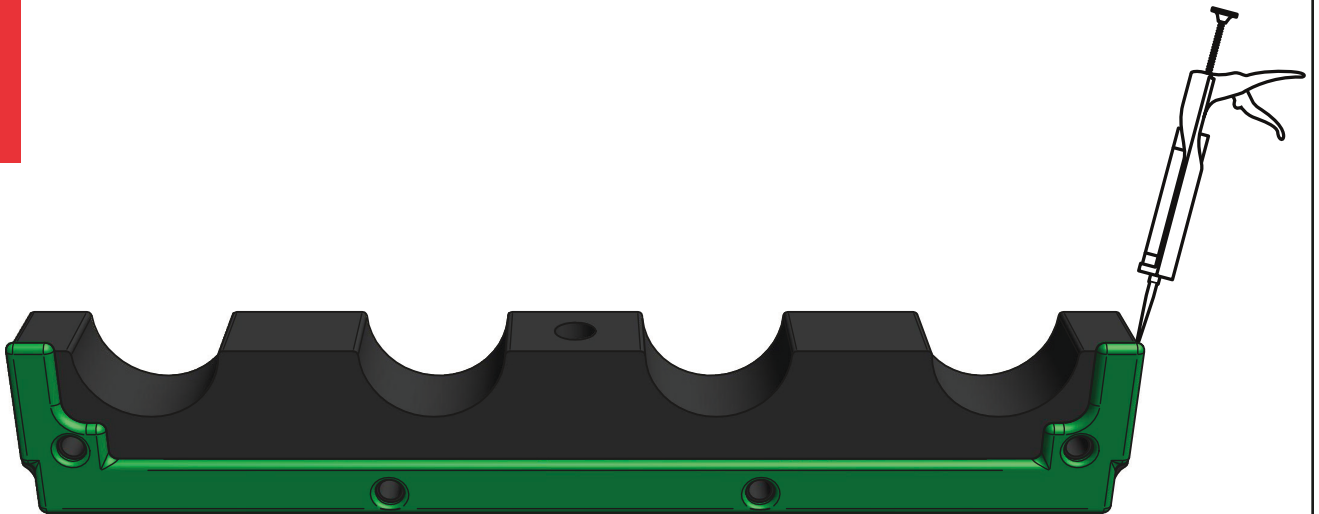
Tighten blocks to plate using cross pattern.
Torque 60 in-lb (5 ft-lb).

MACHINED SEAL EQUIPMENT/WALL/TRANSFORMER/FLOOR

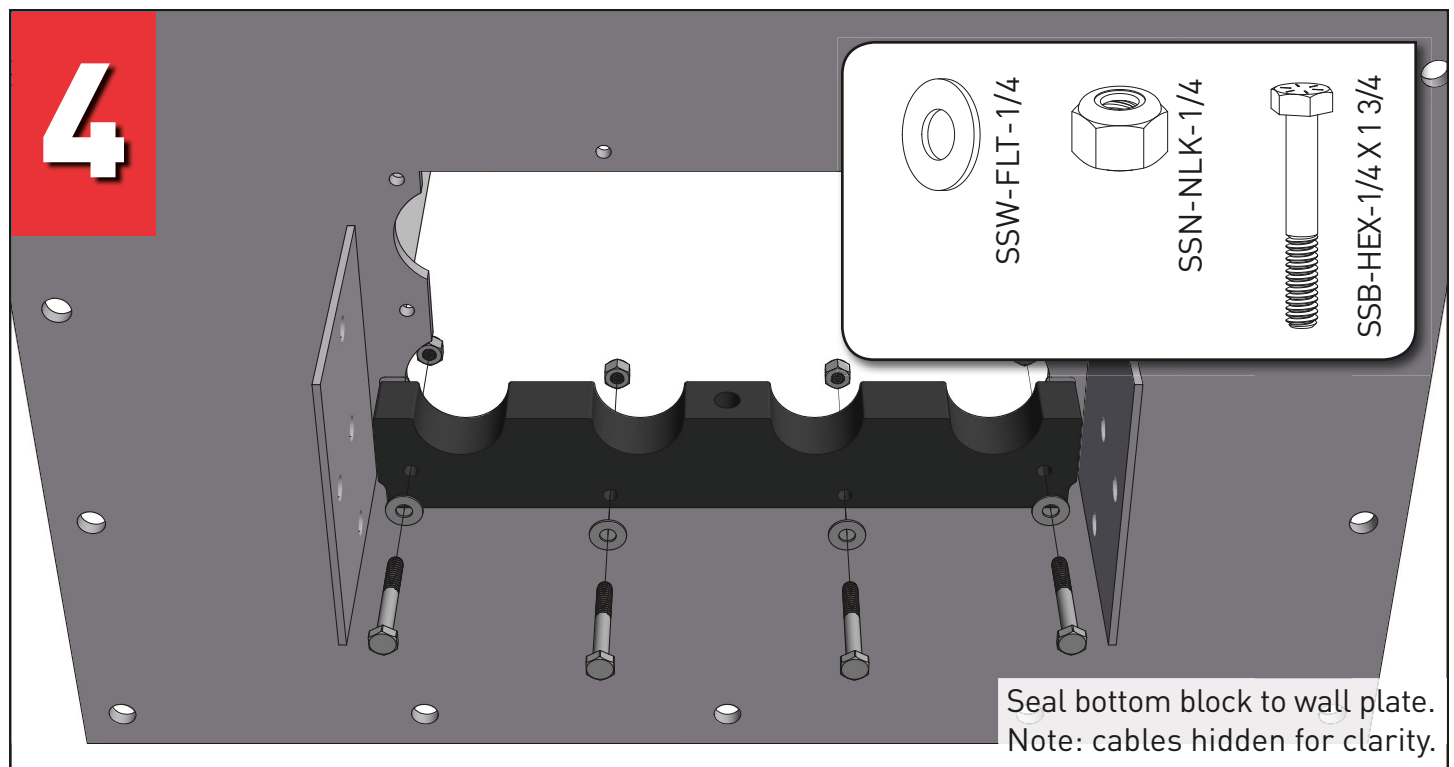


MACHINED SEAL

3

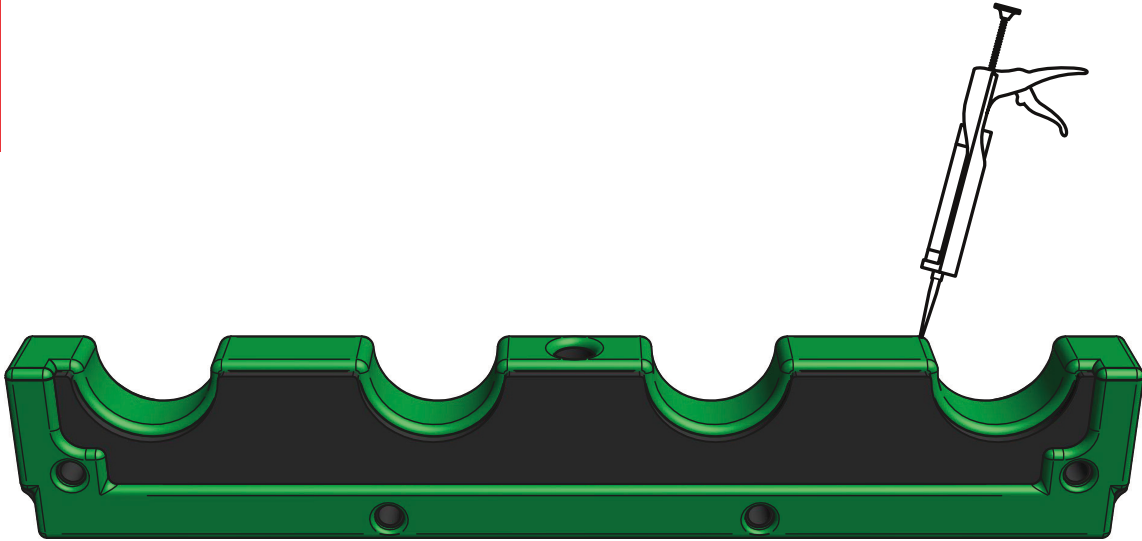


4

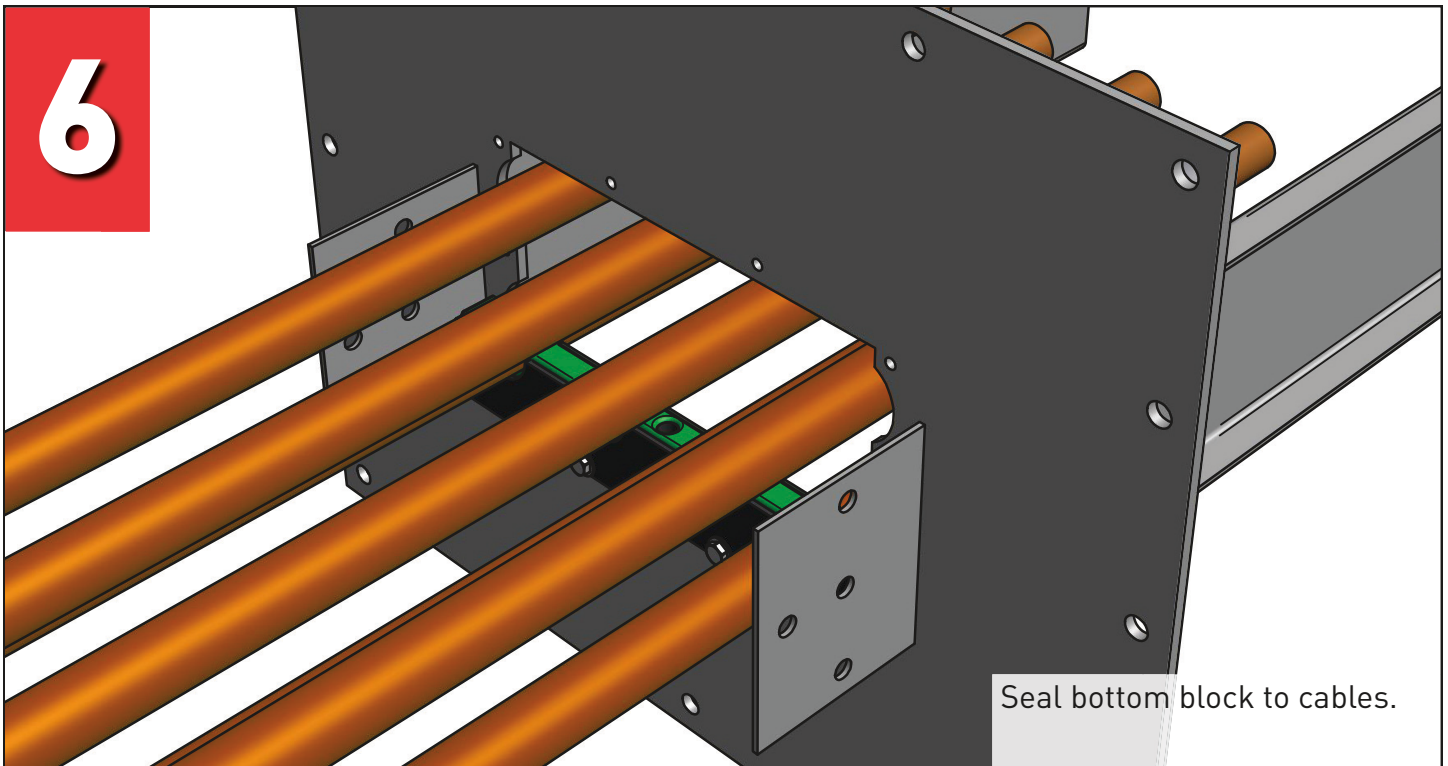


MACHINED SEAL

5



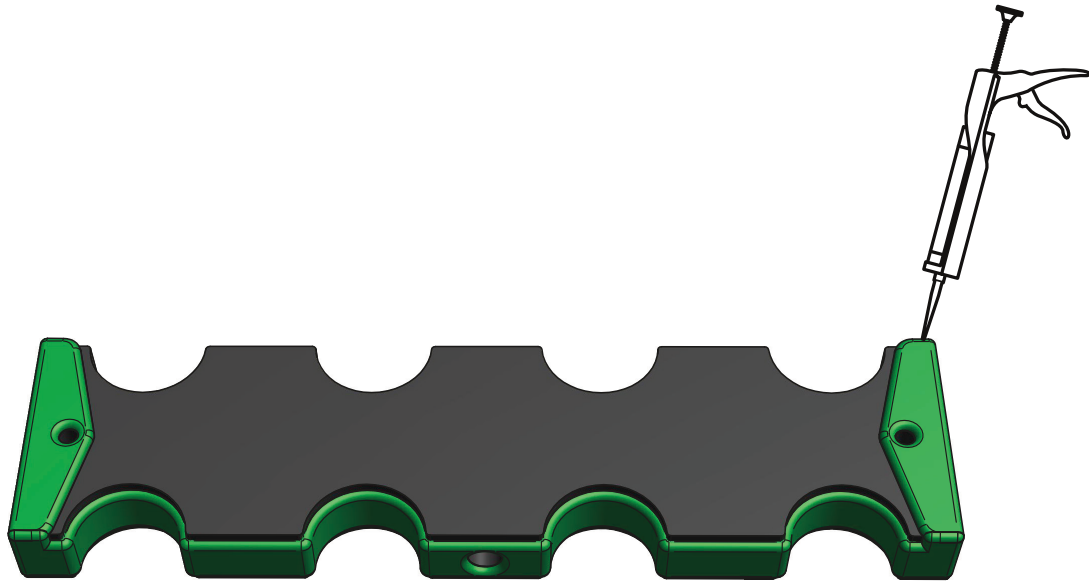
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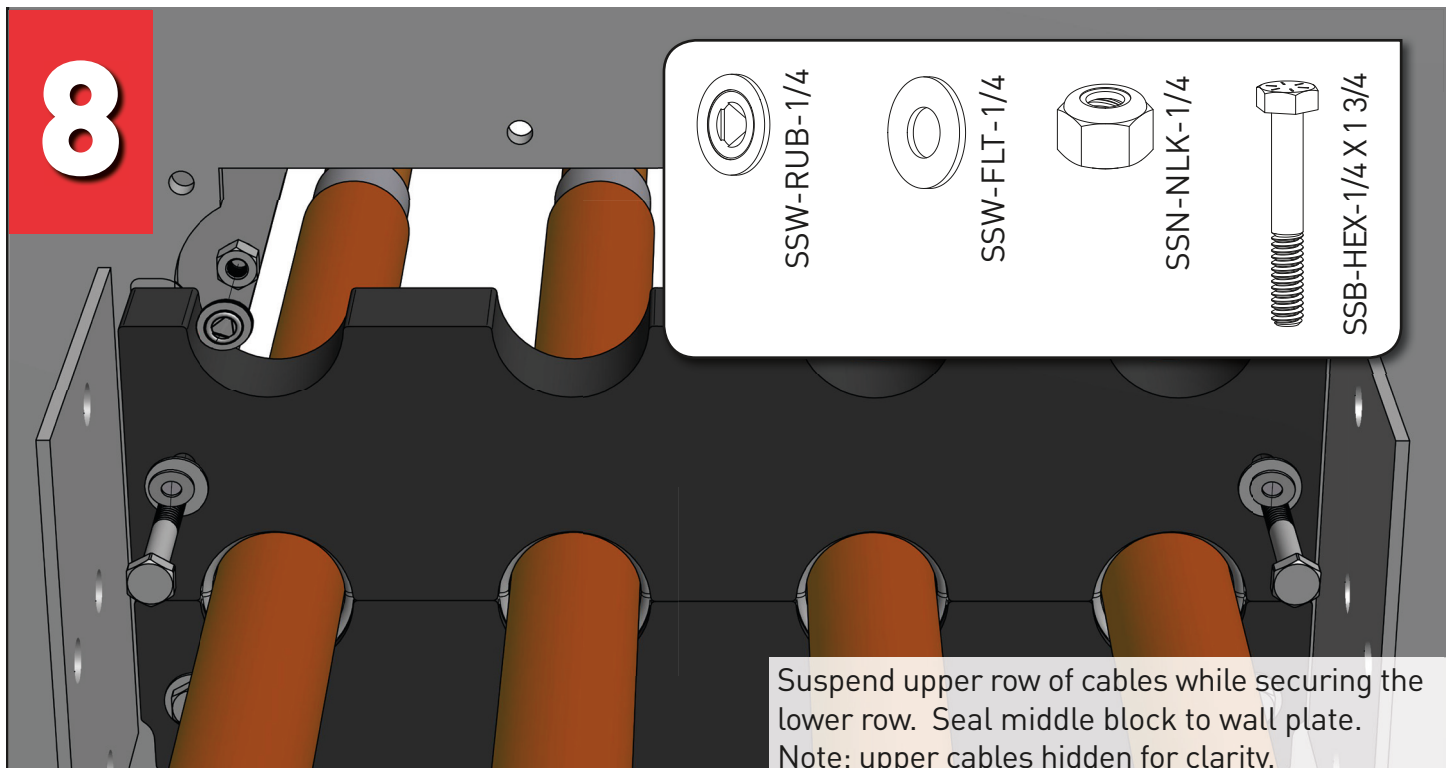
Seal bottom block to cables.

MACHINED SEAL

7

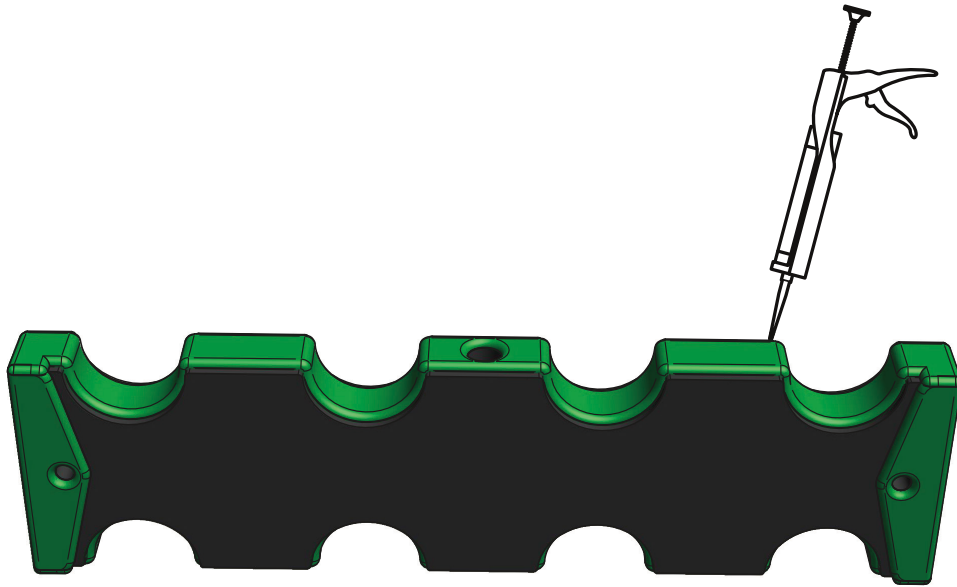


8

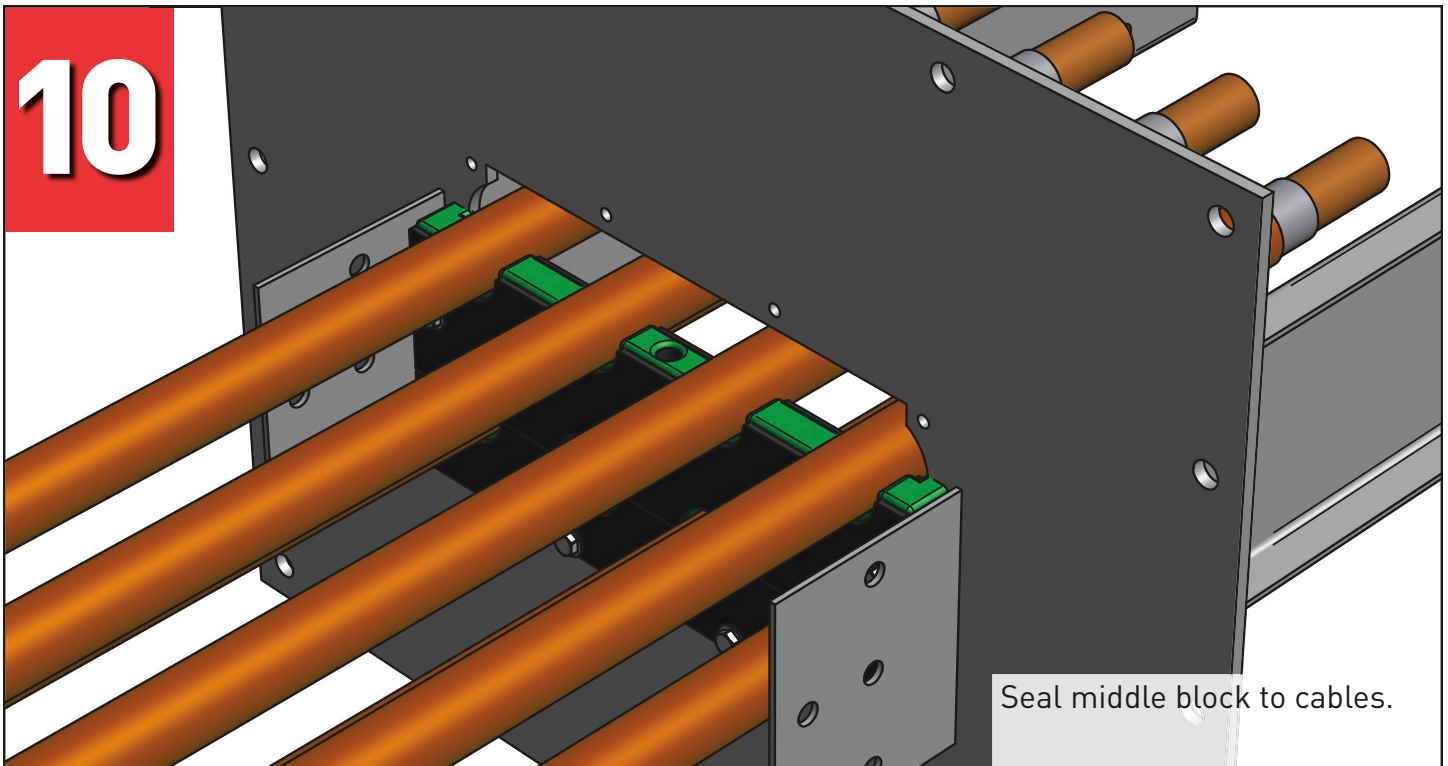


MACHINED SEAL

9

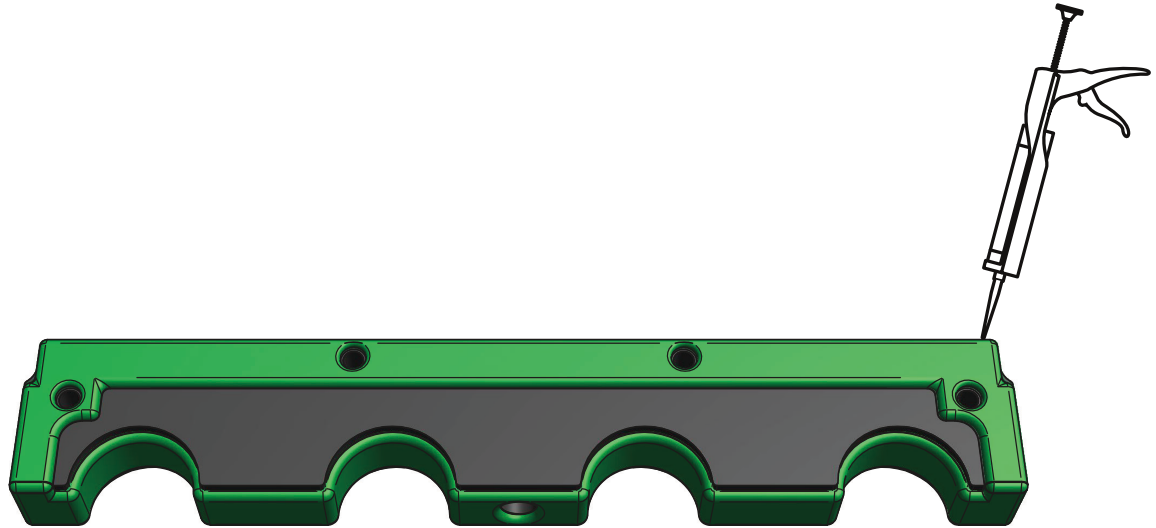


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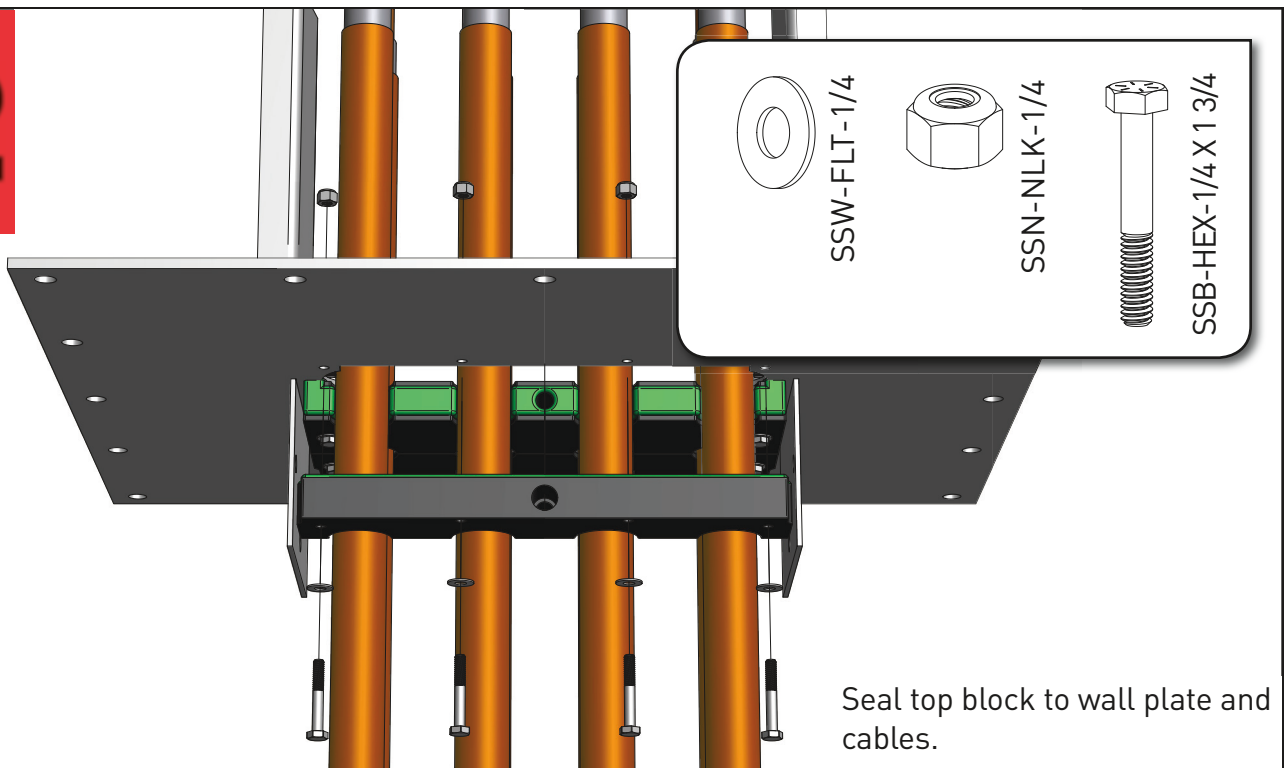


MACHINED SEAL

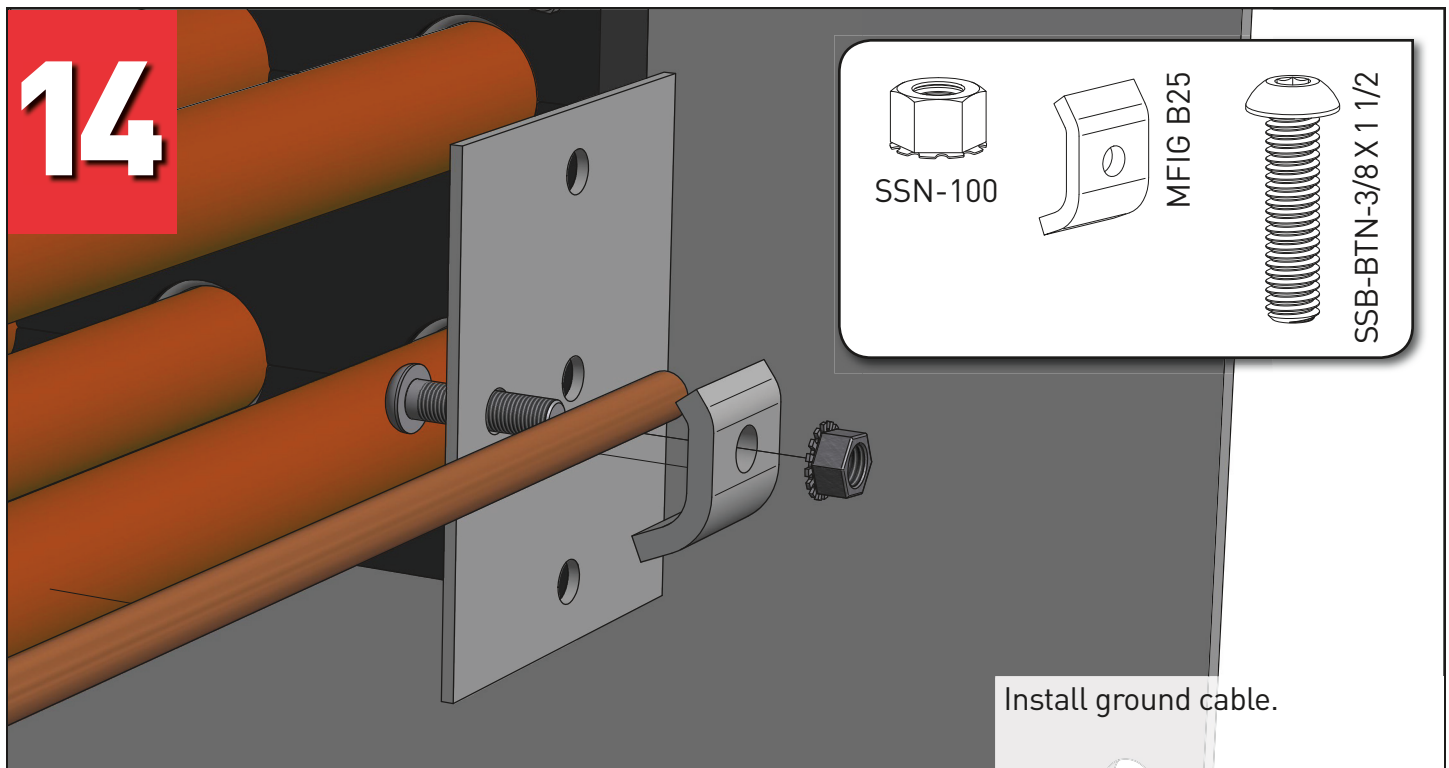
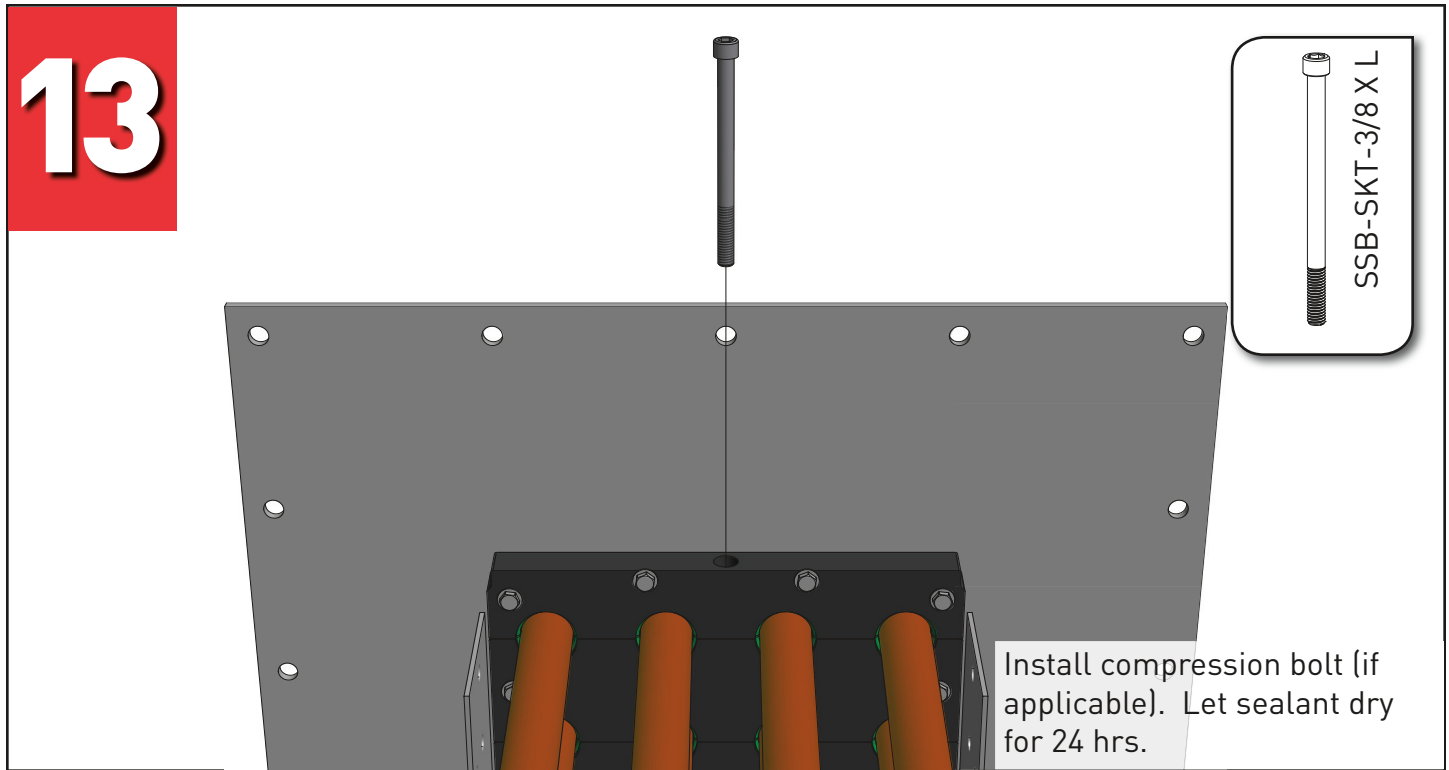
11



12



MACHINED SEAL



COMPRESSION LUGS



- 1 Strip Cable:** Strip the length of insulation according to the dimension defined in Table 1.
- 2 Crimp:** Crimp connections are UL and CSA certified when the correct crimping tool is used. Crimping tools from ILSCO, Anderson, Burndy, T&B, or Greenline can be used, as long as the tool and lugs have been tested together. For ILSCO brand crimping tools, use dies as defined in table 1. Refer to ILSCO Form 158 for complete definition of the number of crimps and information for other brand crimping tools.
- 3 Bar Connection:** Clean parts with a solvent if they are dirty. For terminations to copper bus, use silicon bronze hardware and tighten to 40 ft-lbs. It is necessary that the correct nut, bolt, and washer combination is used. Refer to ILSCO Torque Index for details.

TABLE: 1

LUG	COLOUR CODE	ILSCO TOOL DIE	STRIP LENGTH
CLND-350-12-134	Red	I-71	2-1/16"
CLND-500-12-134	Brown	I-87	2-5/16"
CLND-600-12-134	Green	I-94	2-3/4"
CLND-700-12-134	Pink	I-99	2-3/4"
CLND-750-12-134	Black	I-106	2-15/16"
CLND-1000-12-134	White	I-125	3-1/16"

HEAT SHRINK TERMINATIONS



IMPORTANT FACTS

Used in 600V cable bus systems to insulate cable terminations.

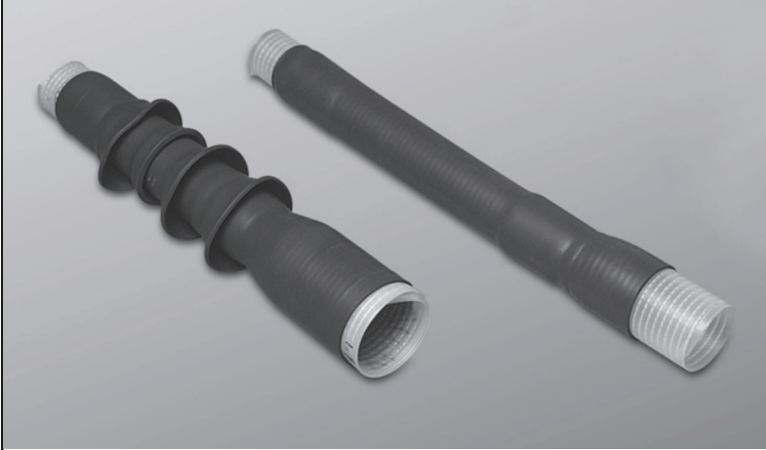
UV Resistant, Fungus Resistant, Self-Extinguishing (UL VW-1)

Operating temperature -55°C to 125°C (UL and CSA)

INSTALLATION

- 1 Position:** Slip heat shrink over lugs so it covers the crimp connection (9" of heat shrink is supplied per lug).
- 2 Apply heat:** Terminations will shrink 2:1 with heat gun set to 121 °C. Minimum temperature setting to achieve shrink is 90 °C

COLD SHRINK TERMINATIONS



IMPORTANT FACTS

Used in 5kV and 15kV cable bus systems to insulate cable terminations.

Long term reliability, and outstanding UV stability

Built in sealing and stress controlling compounds.

INSTALLATION

- 1 Please refer to the installation instructions that are supplied with your termination kit package.

SYSTEM ACCESSORIES

NOTE:

System Accessories are supplied in accordance with project requirements. Installation instructions for the following materials will be provided on a project specific basis.



MCT FIRESTOP

Allows cables to pass through building walls and floors, while maintaining the highest level of fire, smoke, and water protection. Protects against cable pullout due to shock and vibration.



FIRESTOP PILLOWS

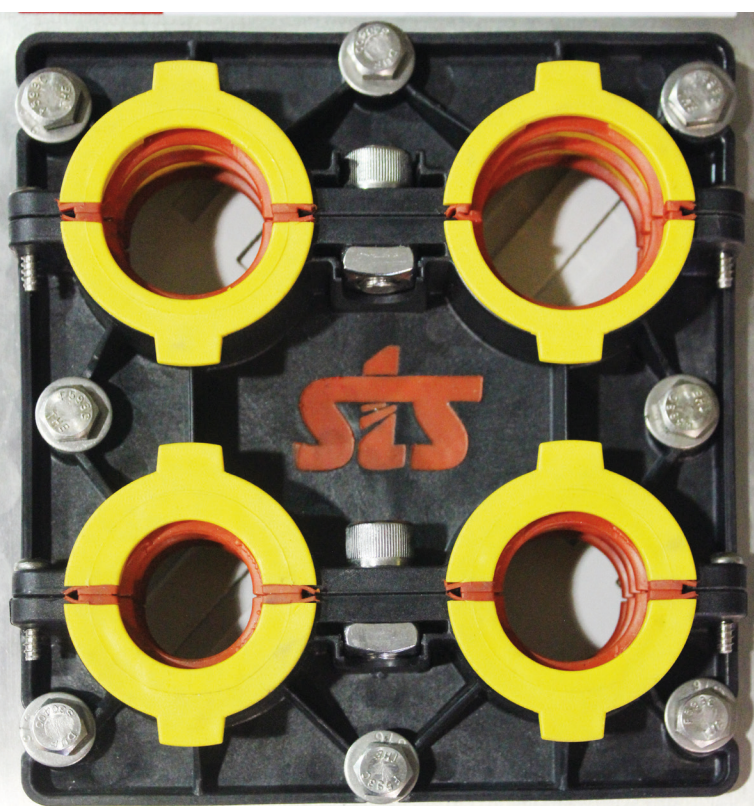
Designed to provide a 2 hour firestop rating in building wall penetrations. Easily installed by compressing and stacking into the opening.



ENCLOSURES

Supplied up to NEMA Type 4X and designed to suit system specific requirements.

NOTES





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