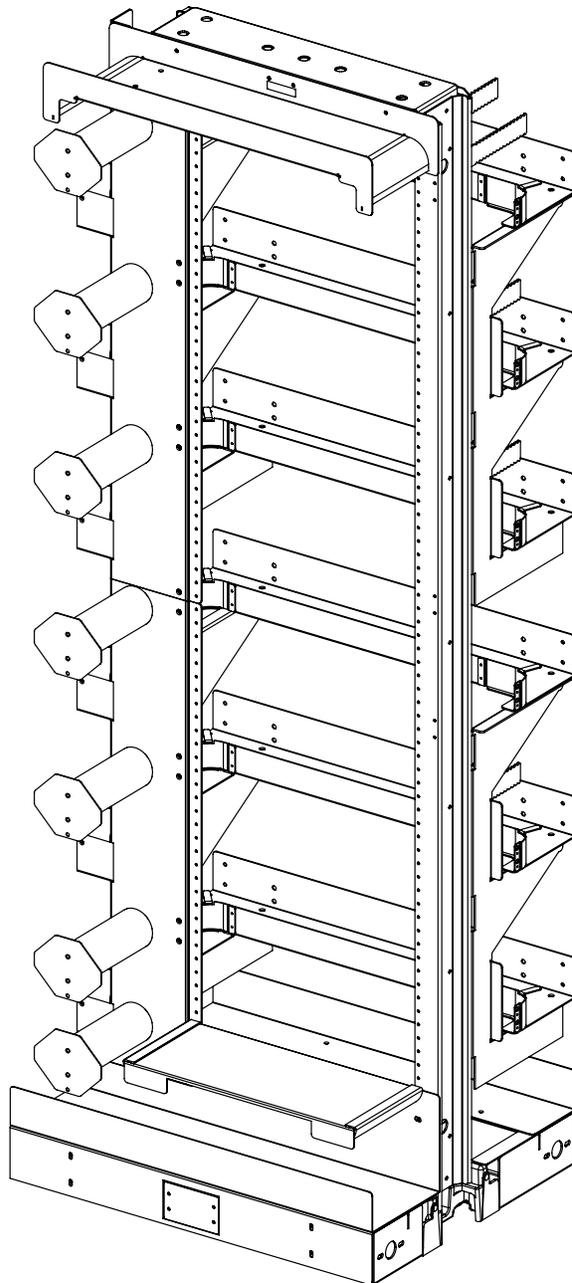




# NG3™ High-Density Fiber Distribution Frame System Rack Installation Manual: Raised Floor

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ADCP-90-295  
Issue 2  
June 2003

# **NG3™ High-Density Fiber Distribution Frame System Rack Installation Manual: Raised Floor**

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## REVISION HISTORY

ISSUE	DATE	REASON FOR CHANGE
1	2/2003	Original
2	6/2003	Add section for securing two racks

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## ABOUT THIS MANUAL

This manual provides complete instructions for installing an NG3 rack on a raised floor and grounding the rack. For instructions on installing an end guard and securing two racks, refer to ADCP-90-299, “NG3 High-Density Fiber Distribution Frame System Installation Manual: Concrete Floor.”

## RELATED PUBLICATIONS

Listed below are related manuals and their publication numbers. Copies of these publications can be ordered by contacting the ADC Technical Assistance Center at 1-800-366-3891 (in U.S.A. or Canada) or 952-917-3000, extension 73475 (outside U.S.A. and Canada).

Title/Description	ADCP Number
<p><b>NG3 High-Density Fiber Distribution Frame System Patch Cord Routing Guide</b> Provides pictorial guidelines for routing patch cords on a lineup consisting of one or more NG3 frames. This manual consists of laminated cards that hang on the lineup.</p>	<b>90-296</b>
<p><b>NG3 High-Density 72 Position Hinged Termination Panel User Manual</b> Provides installation and operation instructions for the NG3 termination panel.</p>	<b>90-297</b>
<p><b>NG3 High-Density Fiber Distribution Frame System User Manual</b> Contains an NG3 system overview and information for planning and operating the system.</p>	<b>90-298</b>
<p><b>NG3 High-Density Fiber Distribution Frame System Installation Manual: Concrete Floor</b> Provides pictorial instructions for installing an NG3 rack on a concrete floor, grounding a rack, installing an endguard and securing two racks.</p>	<b>90-299</b>

## ADMONISHMENTS

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times. These warnings are flagged by use of the triangular alert icon (seen below), and are listed in descending order of severity of injury or damage and likelihood of occurrence.



**Danger:** *Danger is used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



**Warning:** *Warning is used to indicate the presence of a hazard that **can** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



**Caution:** *Caution is used to indicate the presence of a hazard that **will** or **can** cause minor personal injury or property damage if the hazard is not avoided.*

## GENERAL SAFETY PRECAUTIONS



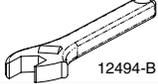
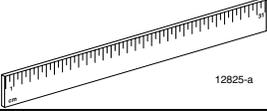
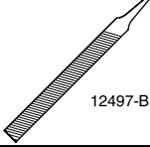
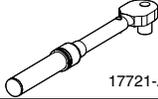
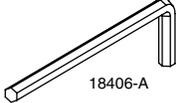
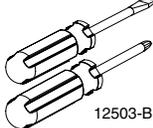
**Danger:** *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.*

## LIST OF ACRONYMS AND ABBREVIATIONS

The following acronyms are used in this manual:

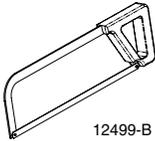
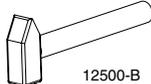
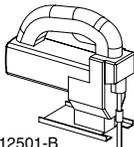
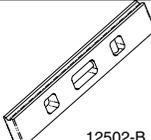
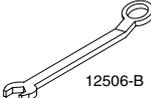
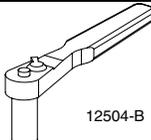
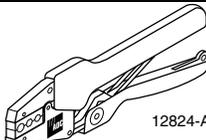
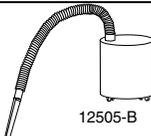
<b>FOT</b>	Fiber Optic Terminal
<b>IFC</b>	Intra Facility Cable
<b>NG3</b>	New Generation High-Density Fiber Distribution Frame
<b>OSP</b>	Outside Plant

**Table 1. Tools Required**

TOOL	PICTURE
Adjustable Wrenches (2) 0.25- to 1-inch (8mm to 25.4mm)	 <p>12494-B</p>
Crow Bar	 <p>12495-B</p>
Drill: with Metal and Concrete Drill Bits 0.25- to 1.0-inches (8mm to 25.4mm)	 <p>12496-B</p>
Ruler	 <p>12825-a</p>
File	 <p>12497-B</p>
Torque Wrench 19.9 ft-lbs. (27 NM)	 <p>17721-A</p>
Allen Wrench (5/16-inch) Note: Used for Leveling Rack	 <p>18406-A</p>
Flat Tip (-) and Phillip (+) Screwdrivers (#1, #2, and #3)	 <p>12503-B</p>

continued

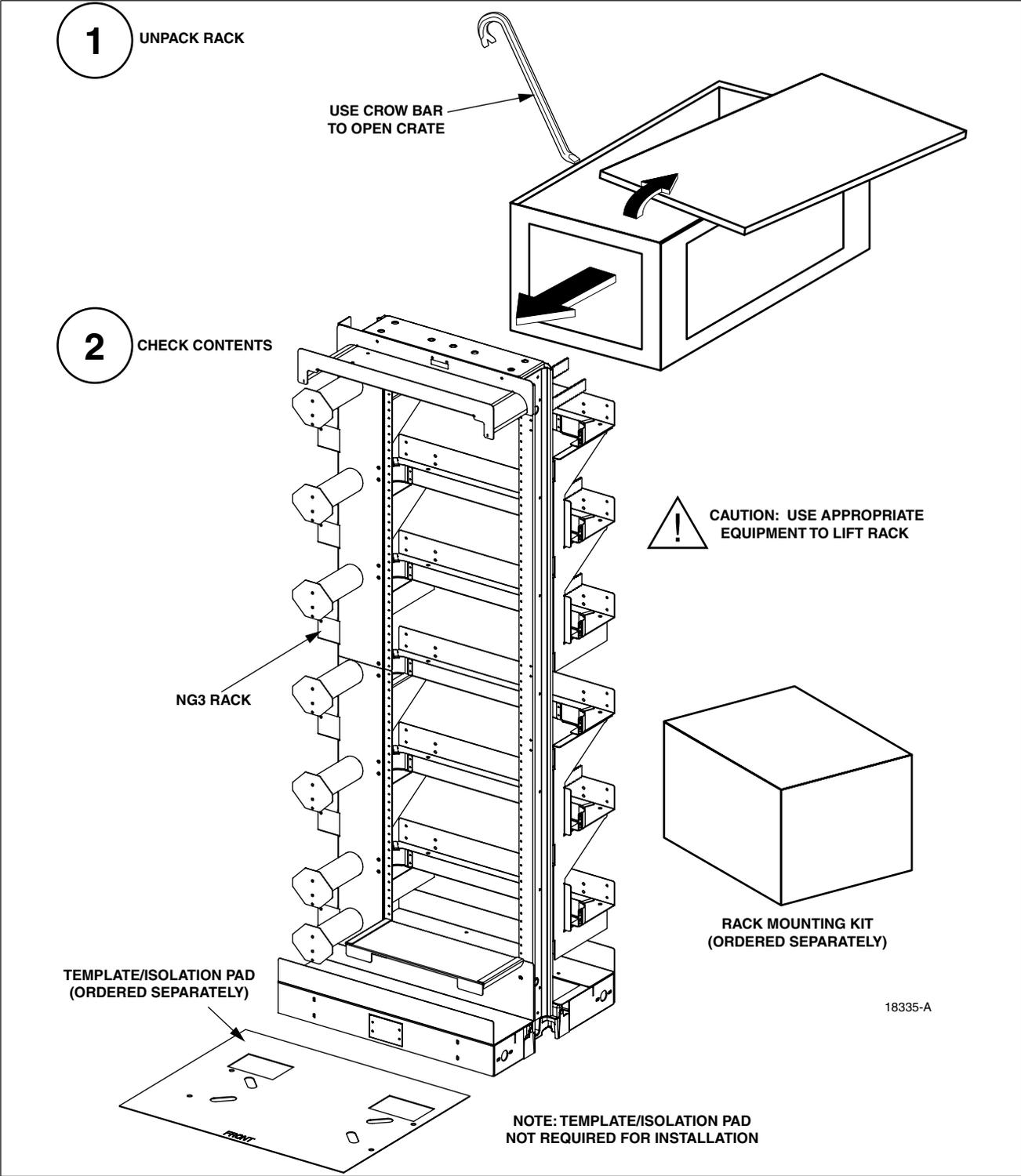
**Table 1. Tools Required, continued**

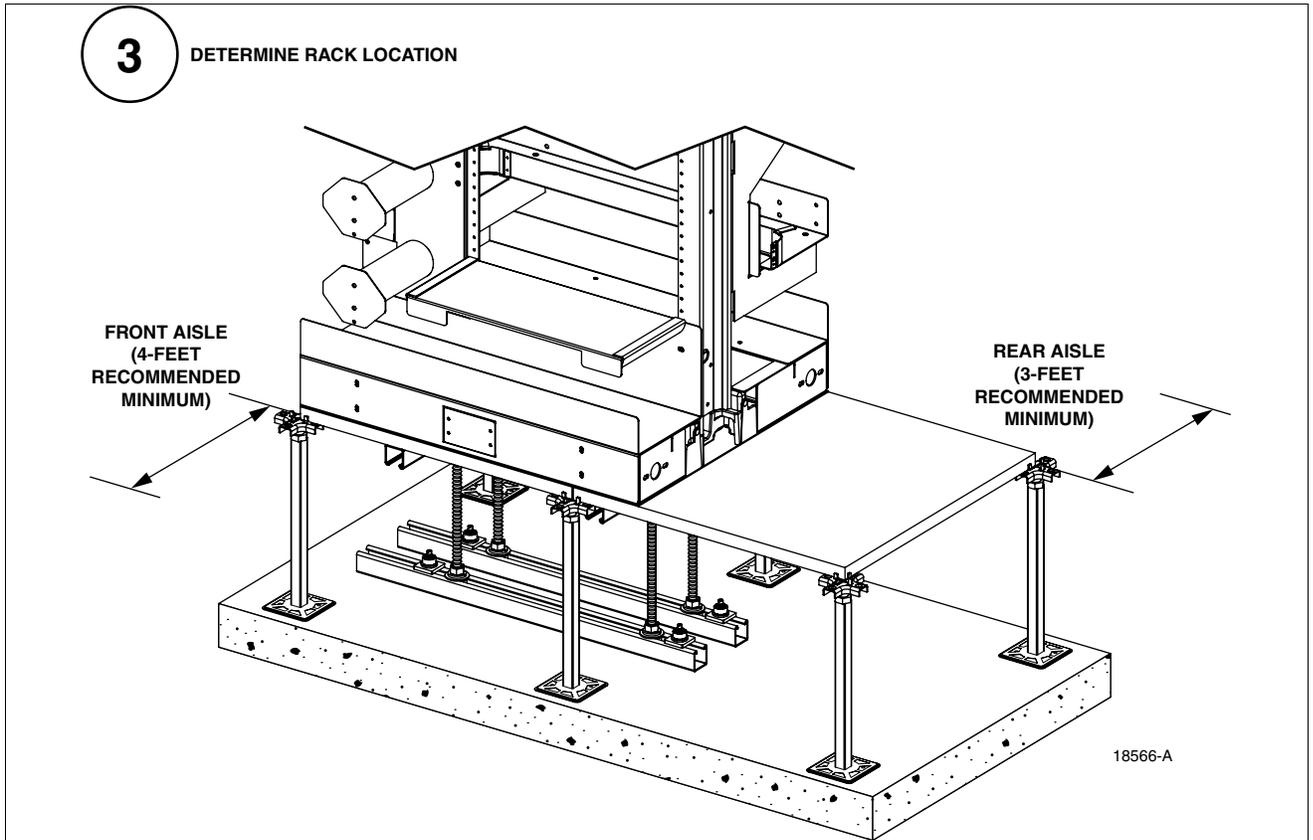
TOOLS REQUIRED (CONTINUED)	PICTURE
Hacksaw	 <p>12499-B</p>
Hammer	 <p>12500-B</p>
Jigsaw: Blades for Cutting Floor Tile and Metal	 <p>12501-B</p>
Level	 <p>12502-B</p>
Set of Open End/Box Wrenches 0.25- to 1.0-inches (8mm to 25.4mm)	 <p>12506-B</p>
Set of Sockets 0.25- to 1.0-inches (8mm to 25.4mm)	 <p>12504-B</p>
Crimping Tool 0.25- to 0.3-inches (6.35mm to 7.62mm) Note: Used for Grounding Rack	 <p>12824-A</p>
Vacuum	 <p>12505-B</p>

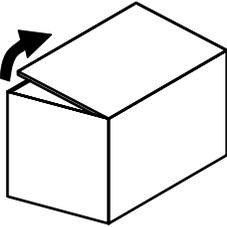
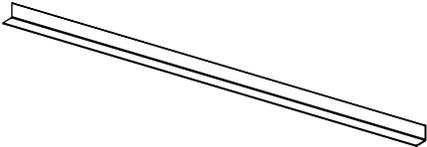
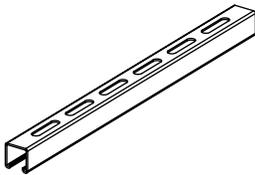
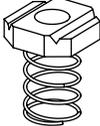
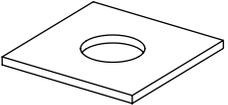
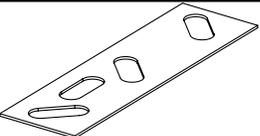
**Table 2. Ground Wire Kit**

ITEM	DESCRIPTION/PICTURE
Ground Cable (13 ft.)	#6 AWG (4.1mm) solid copper tin wire
Nylon Cable Clamps (8)	 18413-A
12-24 x 0.5-inch screws (10)	 18414-A
2 Hole Lug Copper Connector (1) (0.75-inch hole spacing) Accommodates 6 AWG wire	 12498-B

► **Note:** Raised floor installation of NG3 Rack should take approximately 2 hours.



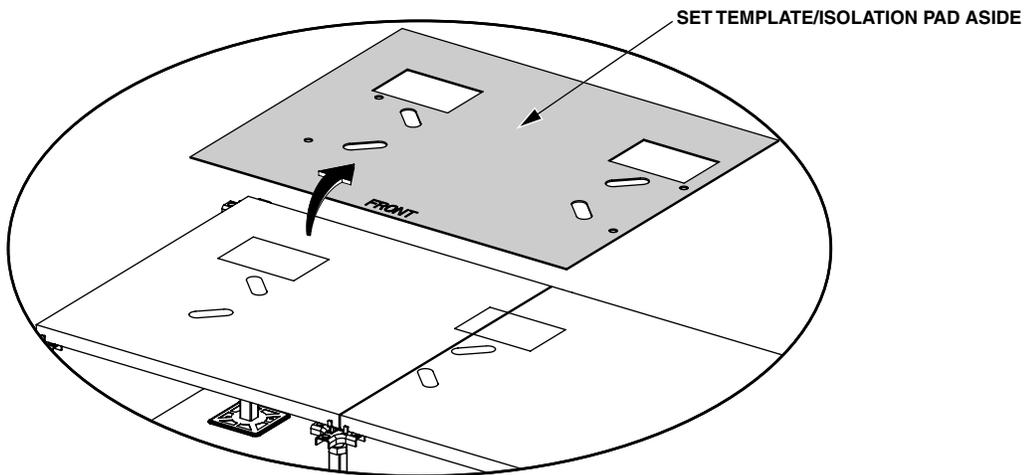
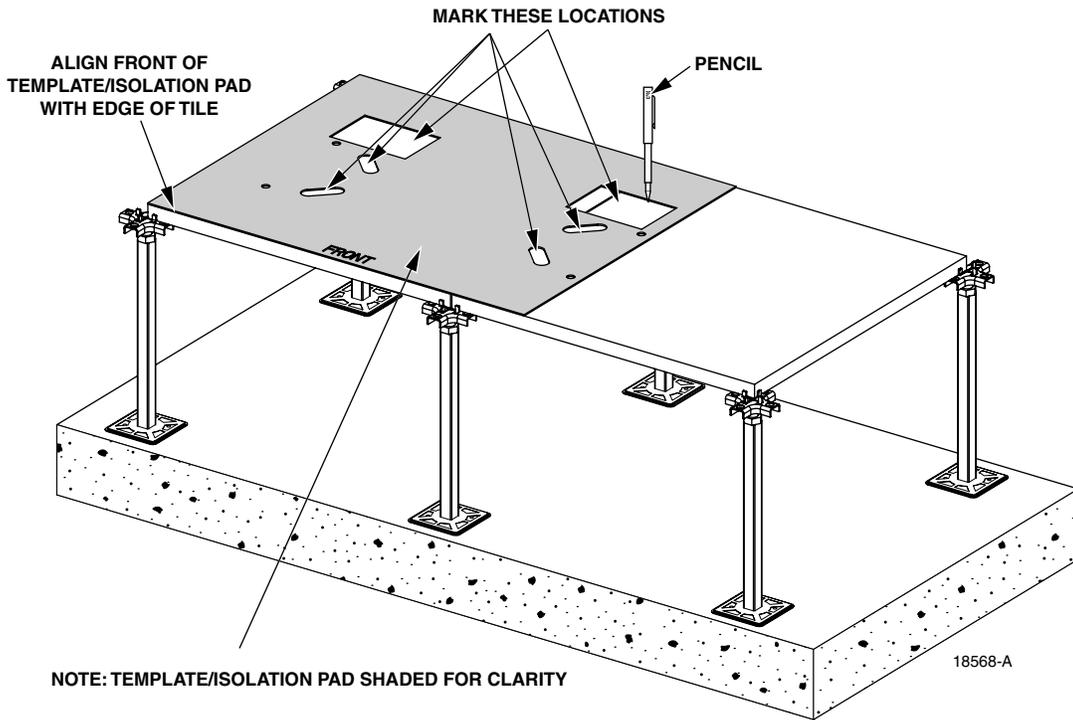


<p><b>4</b> UNPACK ZONE 2/ZONE 4 RAISED FLOOR MOUNTING KIT</p> <p>THE KIT CONTAINS THE FOLLOWING PARTS:</p>	
<p>EDGE PROTECTOR (1) 72"</p> 	<p>THREADED ROD (4) 5/8"-11 x 30" LONG</p> 
<p>UNISTRUT 10 FEET LONG</p> 	<p>EXPANDING ANCHOR BOLT (4) (PROVIDED WITH RACK)</p> 
<p>UNISTRUT NUT WITH SPRING (4)</p> 	<p>WOOD SCREW (16)</p> 
<p>HEX NUT HEAVY (12) 5/8"- x 11</p> 	<p>FLAT WASHER (12) 5/8"</p> 
<p>SPLIT LOCK WASHER (12) 5/8"</p> 	<p>ANCHOR PLATE (4) (PROVIDED WITH RACK) NOTE: NOT USED</p> 
<p>PLASTIC SHOULDER WASHER (4) (NOTE: NOT USED)</p> 	<p>HOLD DOWN PLATE (2) (NOTE: NOT USED)</p> 

18567-A

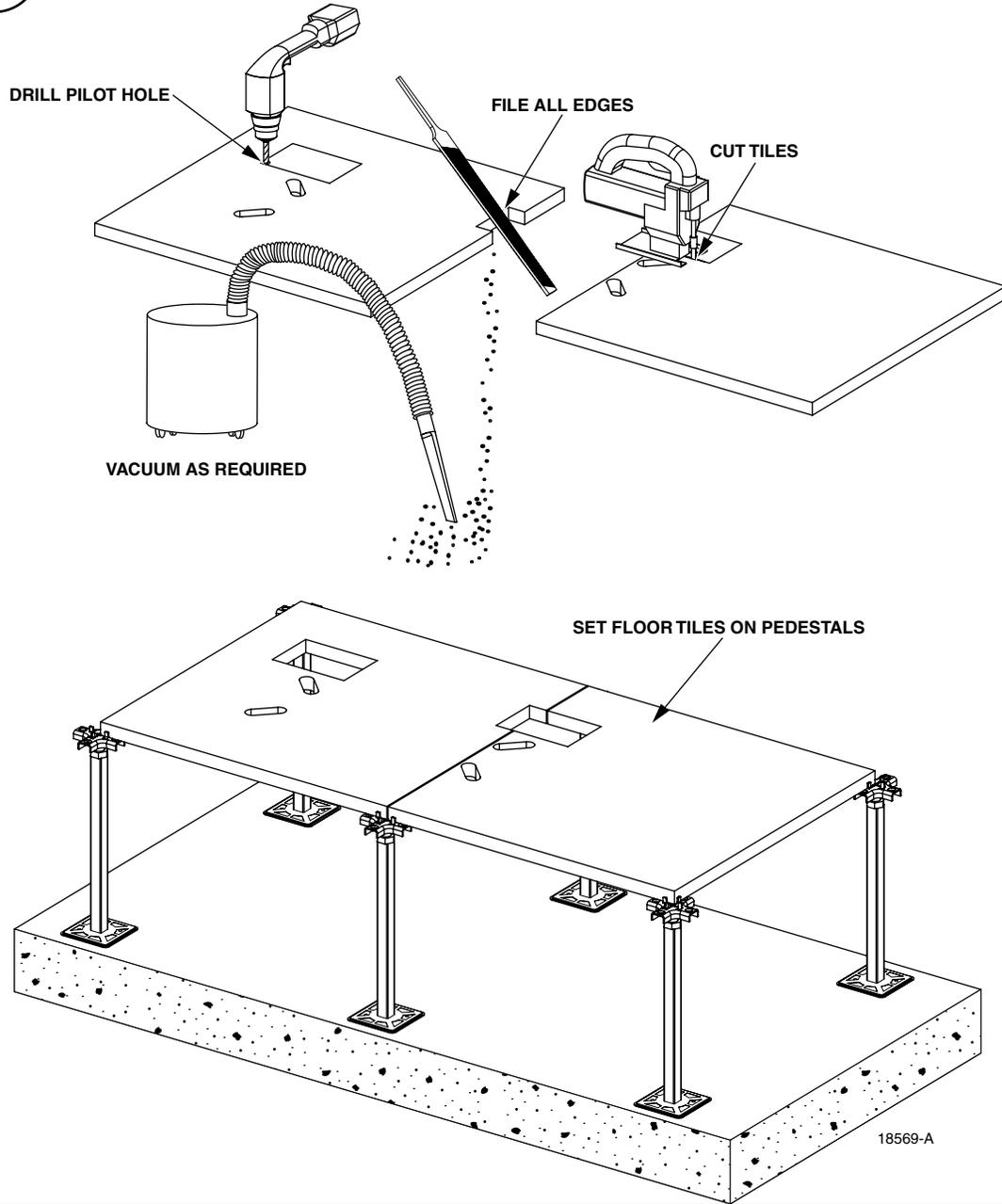
**5**

PLACE TEMPLATE/ISOLATION PAD ON FLOOR TILES AND MARK TILE AS SHOWN



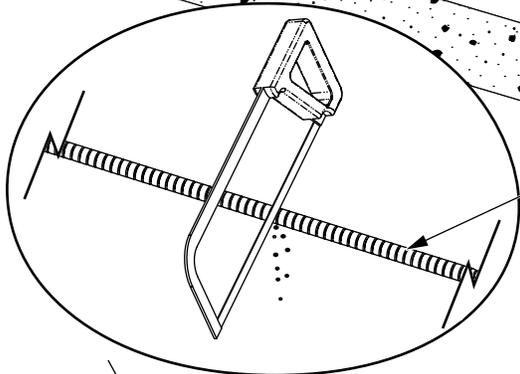
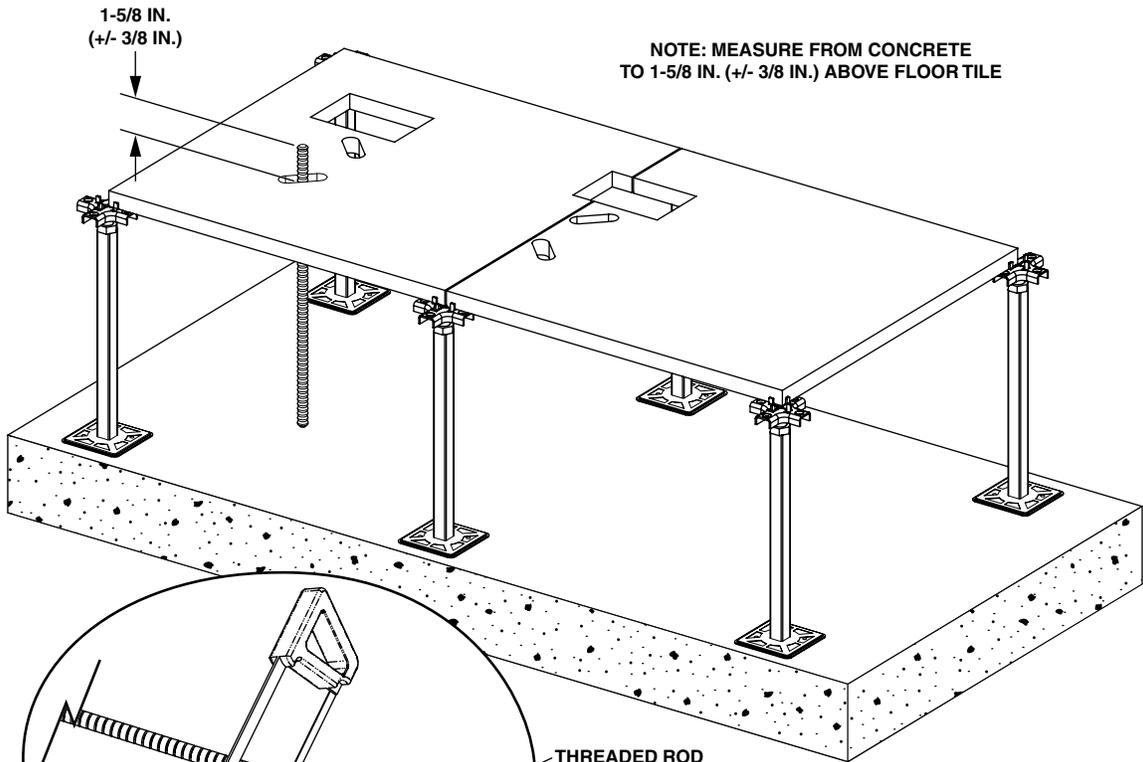
**6**

**REMOVE AND CUT TILES, FILE ALL EDGES AND SET FLOOR TILES ON PEDESTALS**

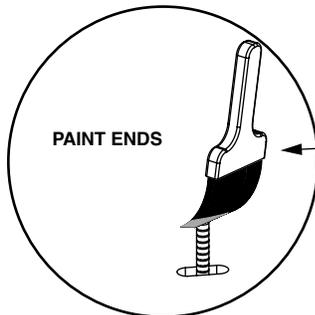
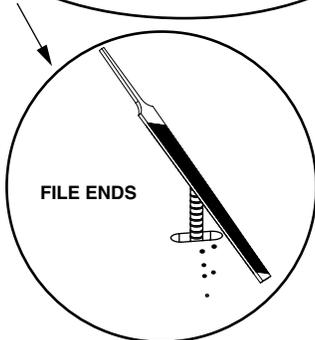


**7**

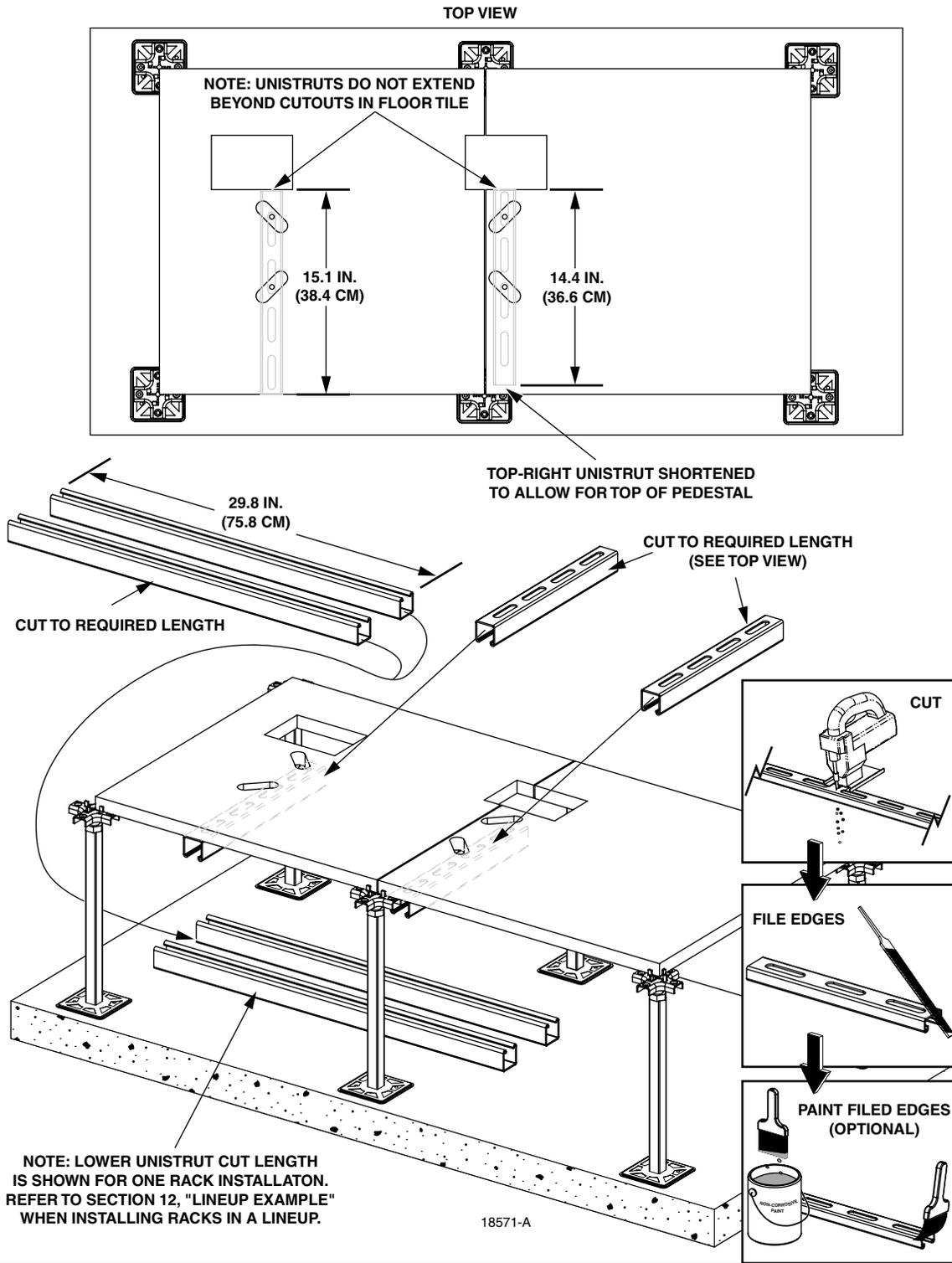
**CUT THREADED ROD TO FLOOR HEIGHT +1-5/8 IN. (+/- 3/8 IN.)  
(FOUR PLACES)**



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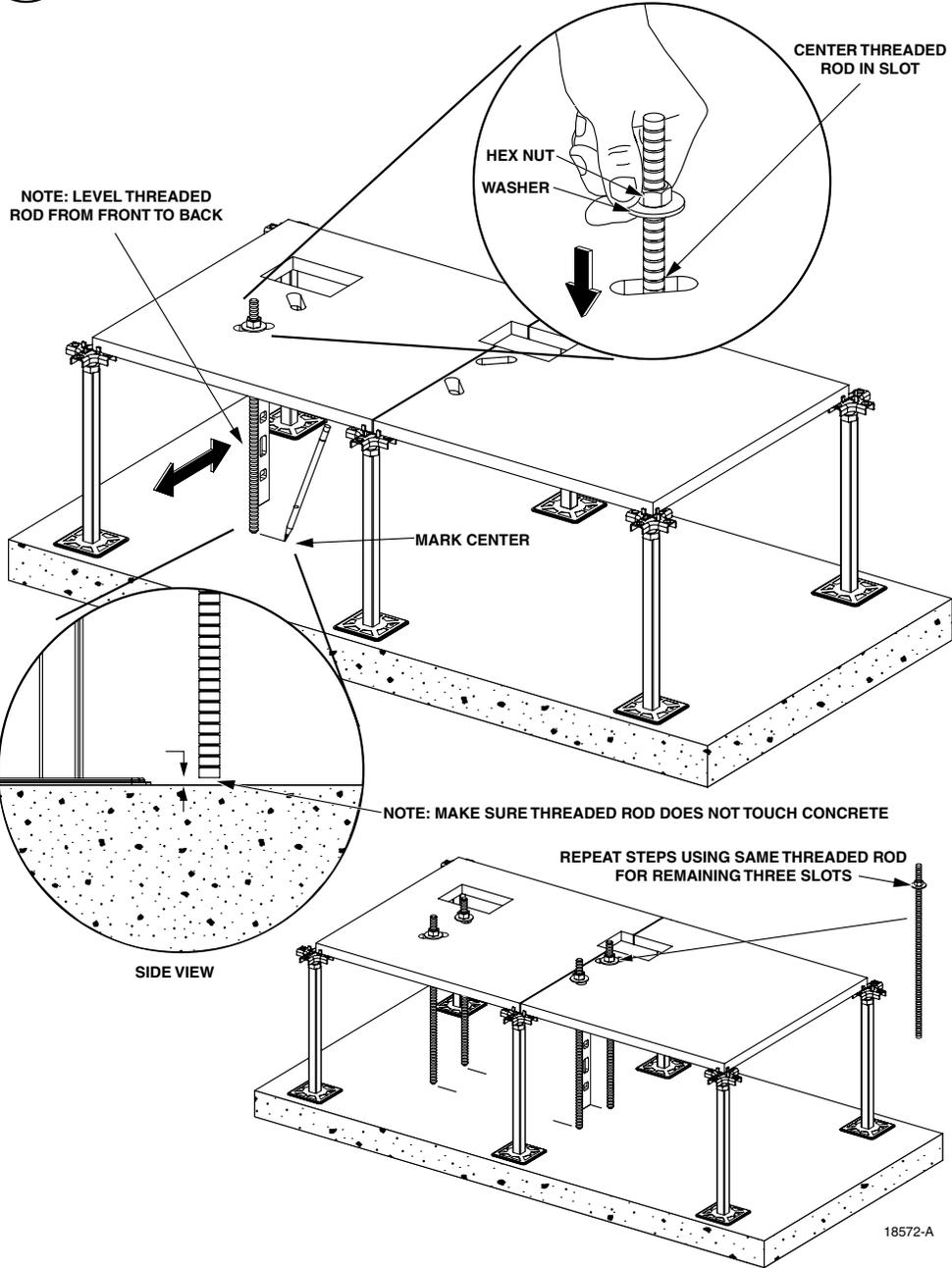


**8** CUT UNISTRUT TO REQUIRED LENGTH

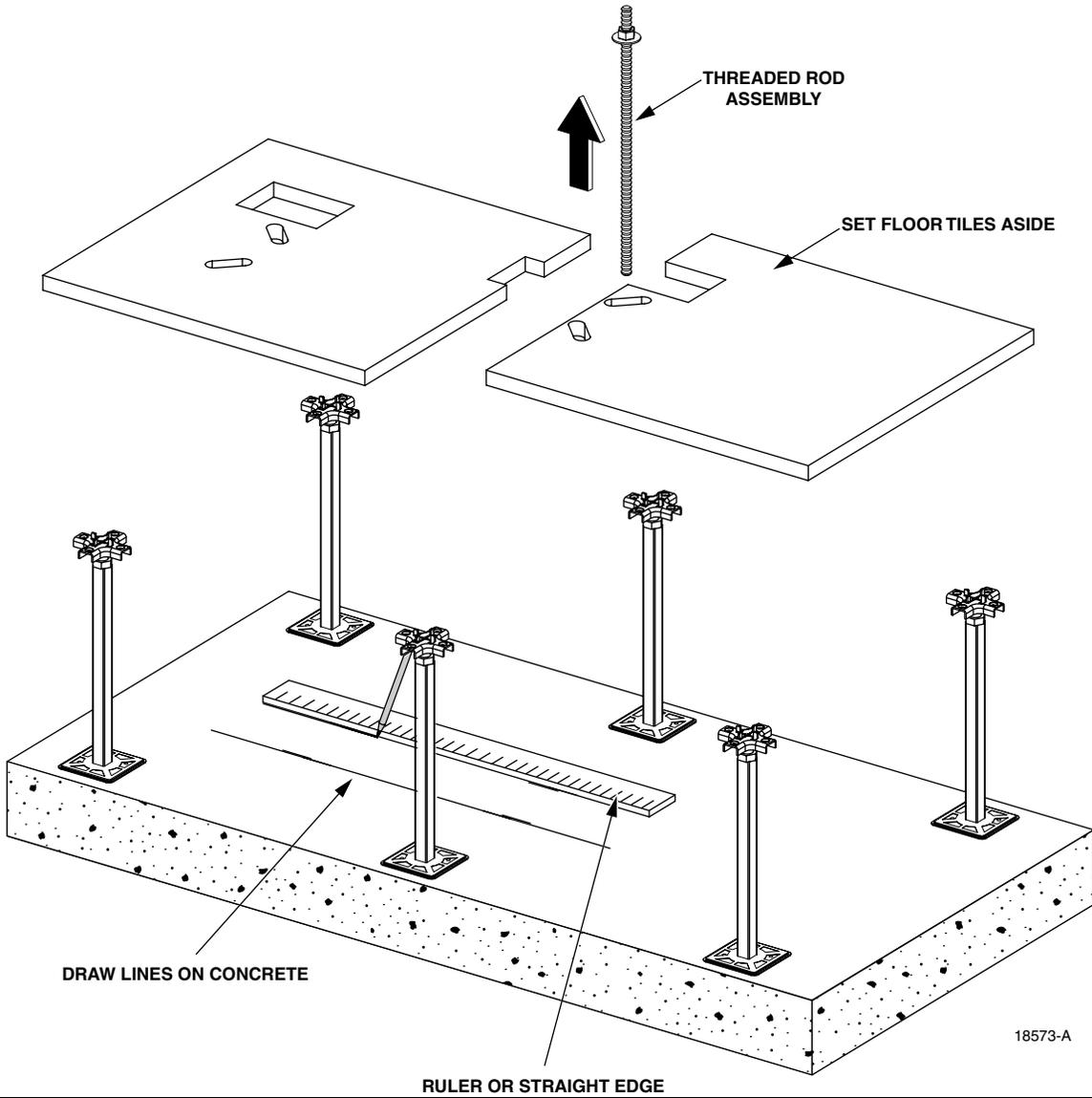


9

ASSEMBLE WASHER AND HEX NUT ONTO THREADED ROD AND INSERT THREADED ROD INTO SLOT IN FLOOR TILE, LEVEL THREADED RODS FROM FRONT TO BACK AND MARK CONCRETE, REPEAT STEPS USING SAME THREADED ROD FOR THREE REMAINING SLOTS.

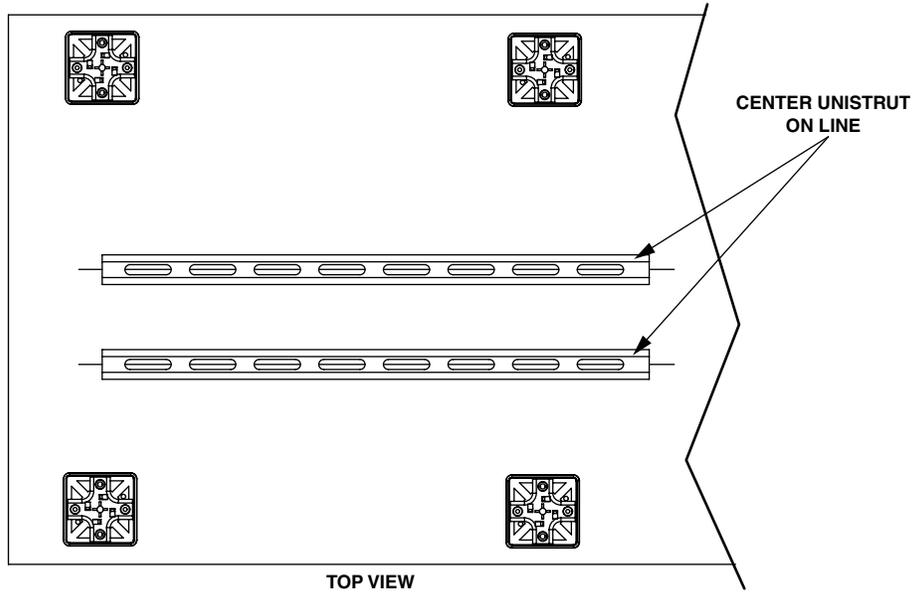


**10** REMOVE THREADED ROD ASSEMBLY AND SET FLOOR TILES ASIDE, USE RULER OR STRAIGHT EDGE TO MARK CONCRETE,



11

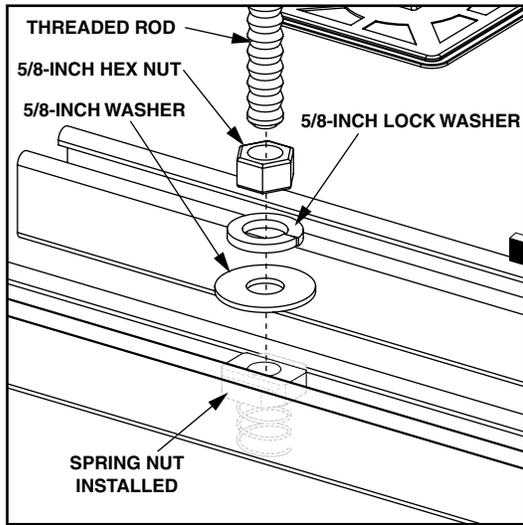
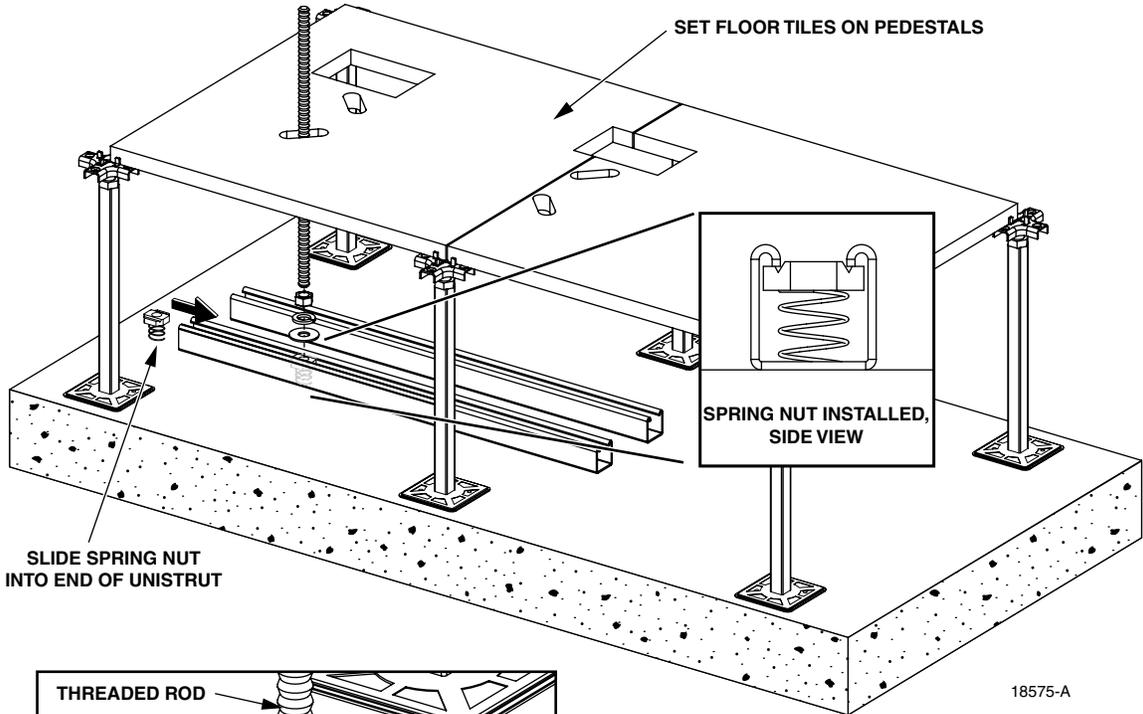
CENTER UNISTRUTS OVER LINES ON CONCRETE



18574-A

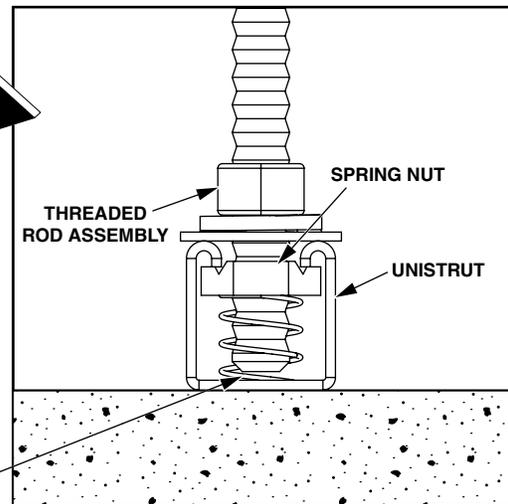
**12**

SET FLOOR TILES ON PEDESTALS AND INSTALL SPRING NUT IN UNISTRUT.  
ASSEMBLE 5/8-INCH HEX NUT, 5/8-INCH LOCK WASHER, AND 5/8-INCH WASHER ONTO THREADED ROD (12A).  
INSTALL THREADED ROD ASSEMBLY INTO SPRING NUT (12B).



12A: ASSEMBLE 5/8-INCH HEX NUT, 5/8-INCH LOCK WASHER, AND 5/8-INCH WASHER ONTO THREADED ROD

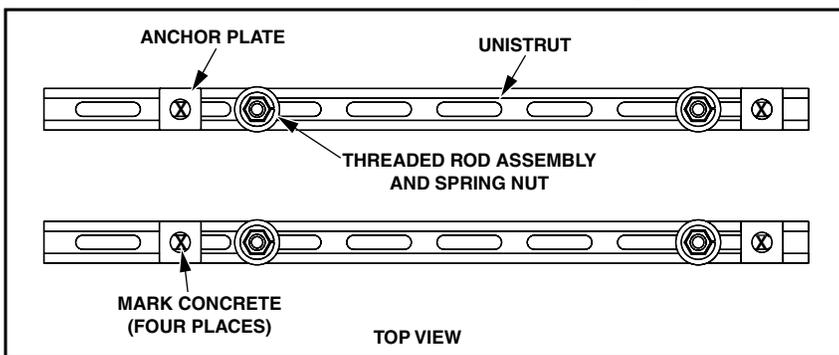
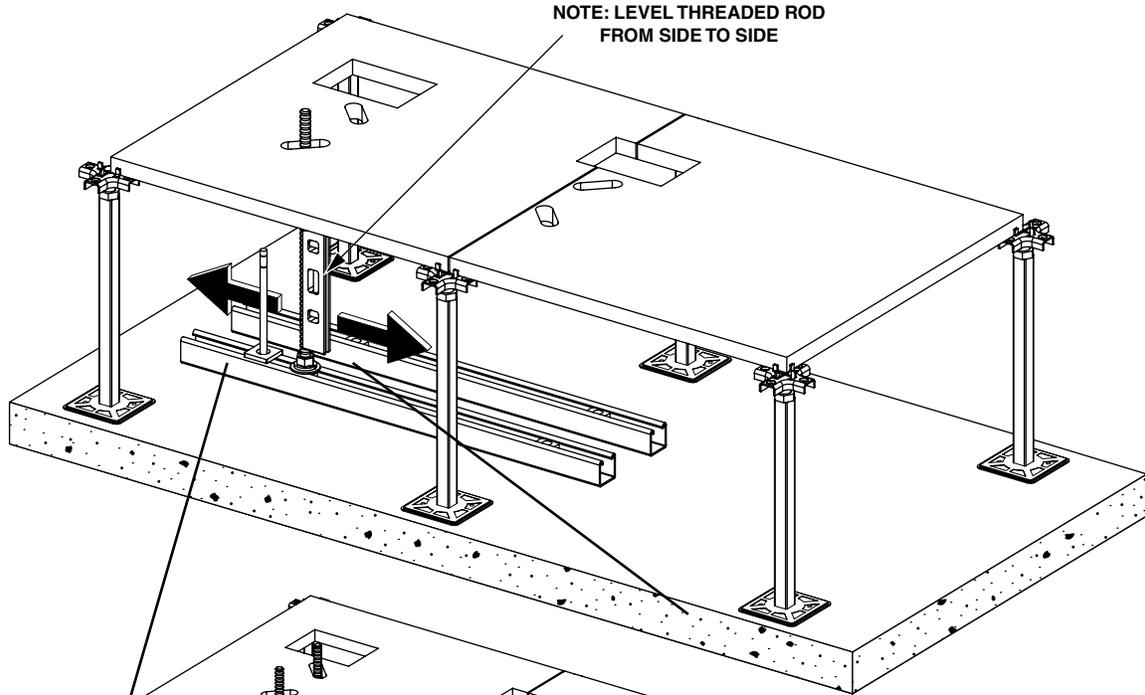
NOTE: LEAVE SPACE BETWEEN BOTTOM OF THREADED ROD AND TOP, INSIDE SURFACE OF UNISTRUT



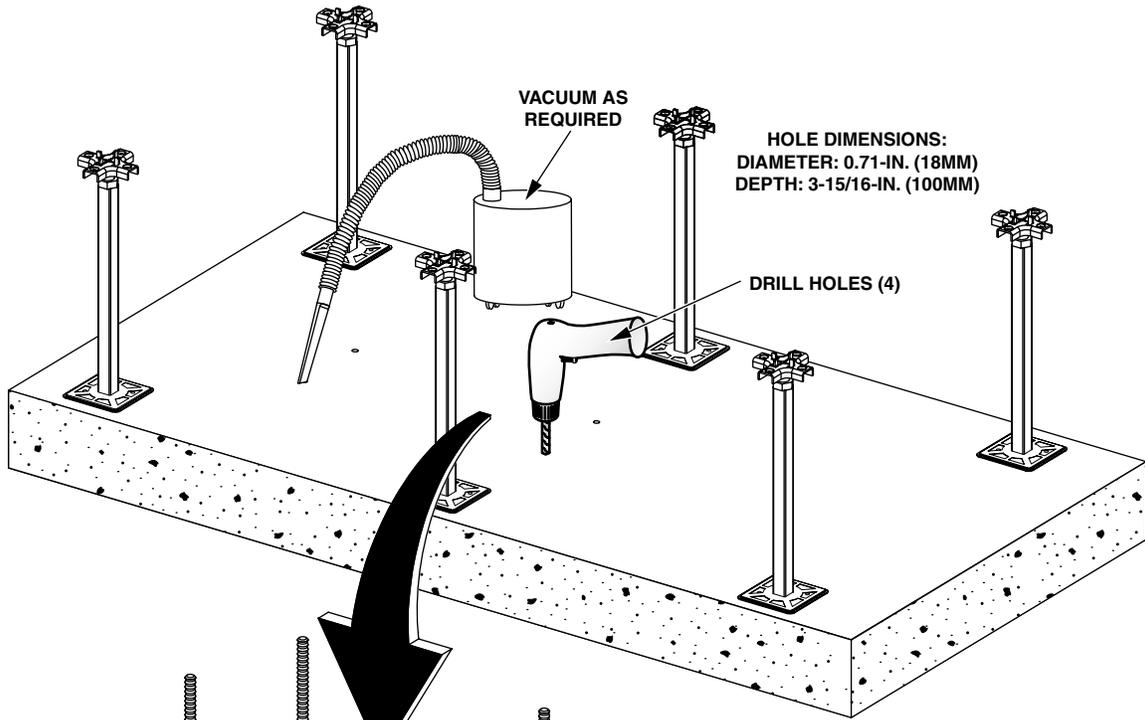
12B: INSTALL THREADED ROD ASSEMBLY INTO SPRING NUT

13

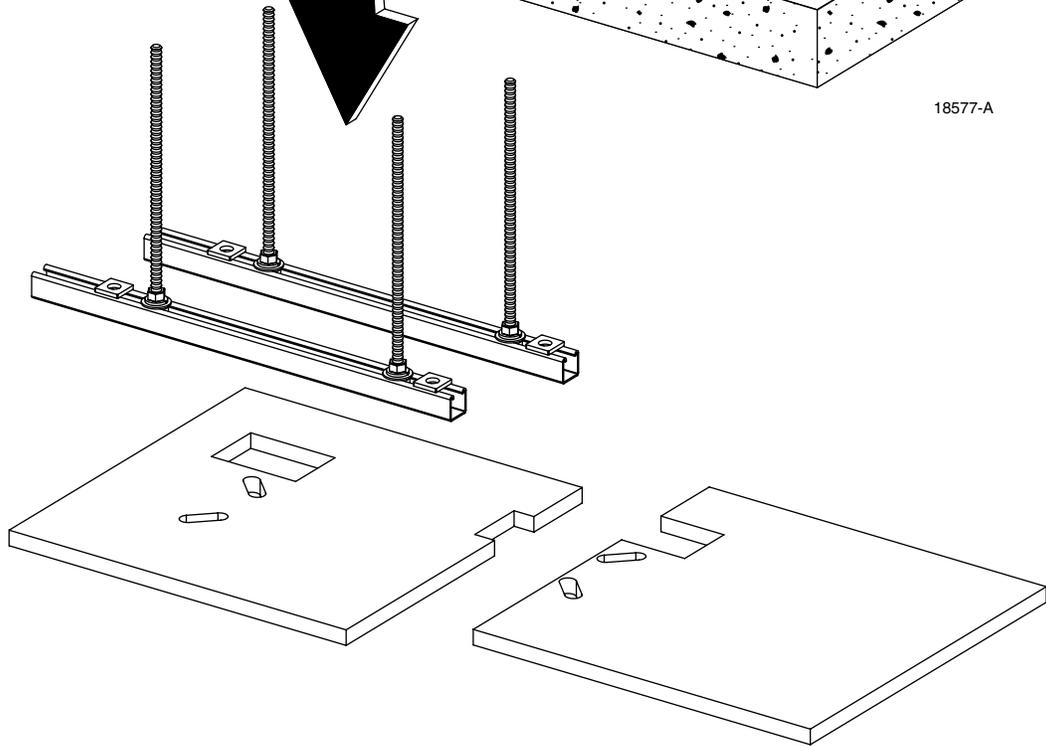
LEVEL THE THREADED ROD ASSEMBLY AND MARK THE ANCHOR PLATE LOCATION ON CONCRETE. INSTALL THREE REMAINING THREADED ROD ASSEMBLIES IN THE SAME MANNER.



**14** SET FLOOR TILES AND UNISTRUT ASSEMBLIES ASIDE AND DRILL HOLES (4)

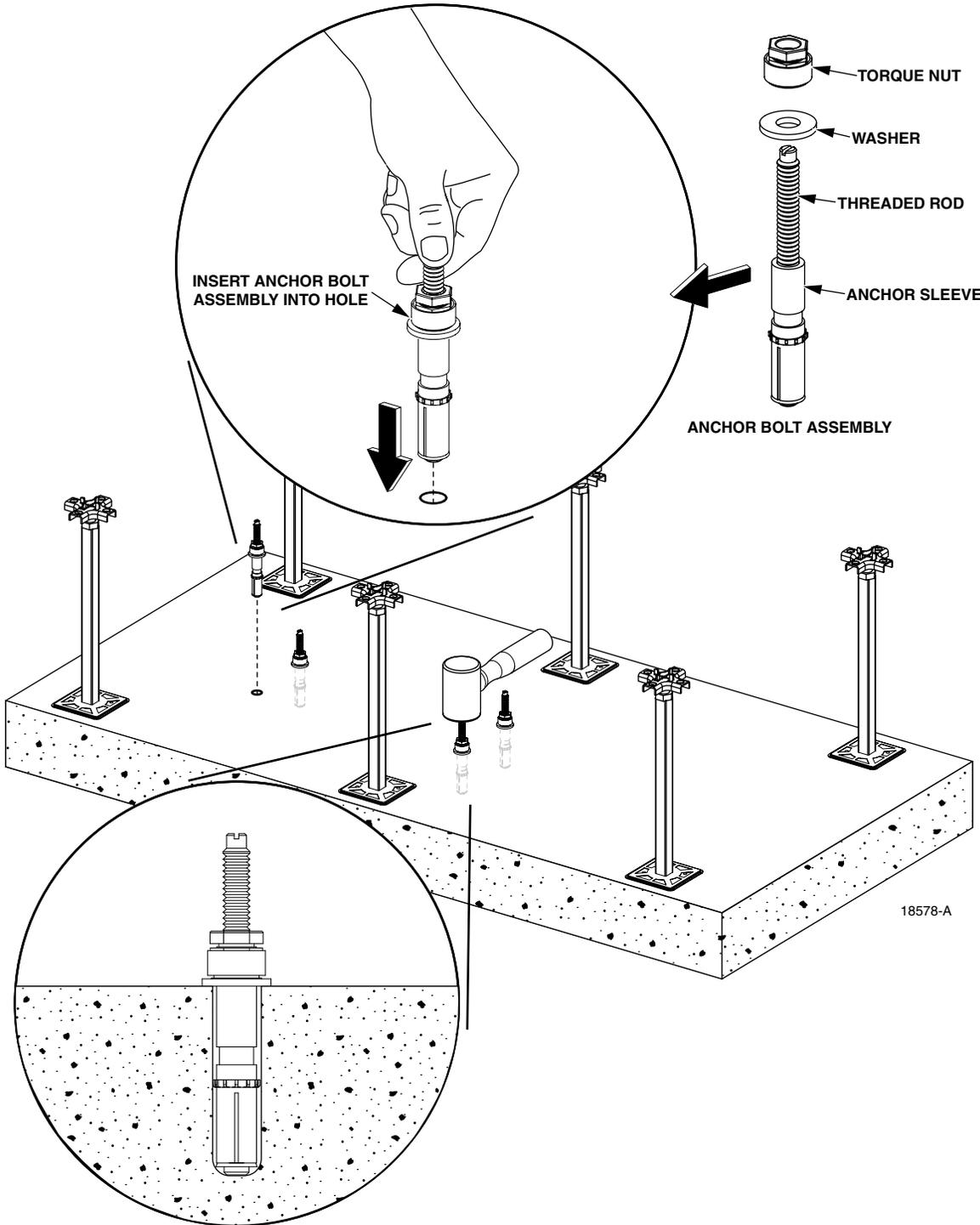


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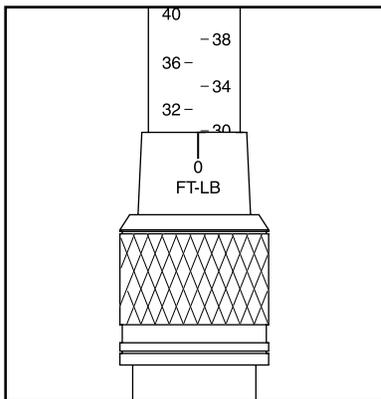
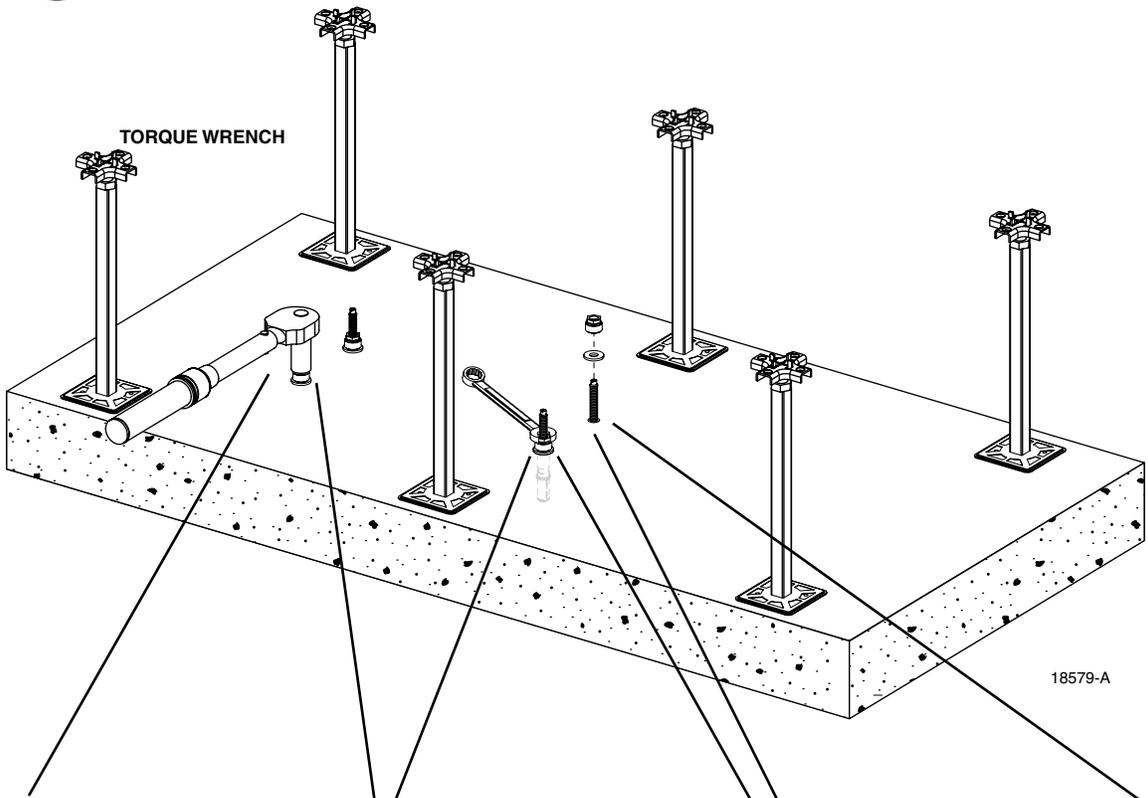


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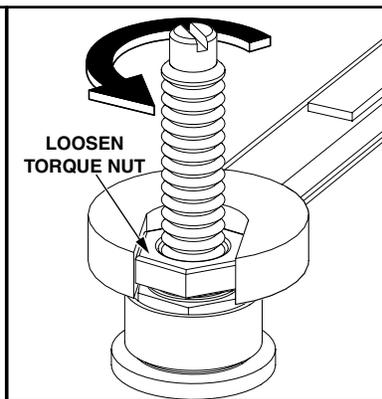
THREAD THE WASHER AND TORQUE NUT ONTO THE THEADED ROD  
(NOTE: THE WASHER SHOULD TOUCH THE TOP OF THE ANCHOR SLEEVE).  
INSERT THE ANCHOR BOLT ASSEMBLY INTO THE HOLE.  
USING A HAMMER, TAP THE ANCHOR BOLT ASSEMBLY UNTIL THE WASHER TOUCHES THE CONCRETE.



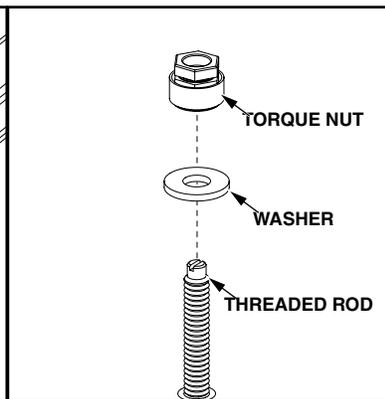
**16** PRE-TORQUE THE ANCHOR BOLTS TO APPROXIMATELY 30 FT-LBS (41 N-m). SEE 16A.  
LOOSEN THE TORQUE NUT SEVERAL TURNS (16B), THEN REMOVE THE TORQUE NUT AND WASHER (16C).



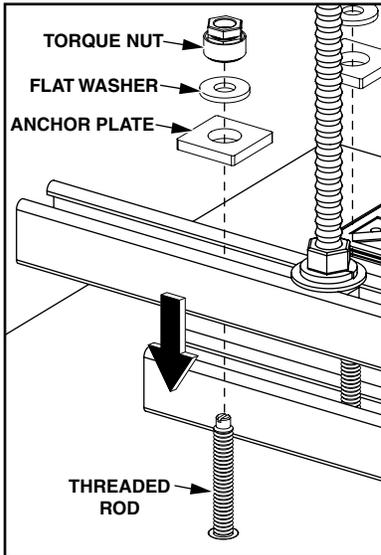
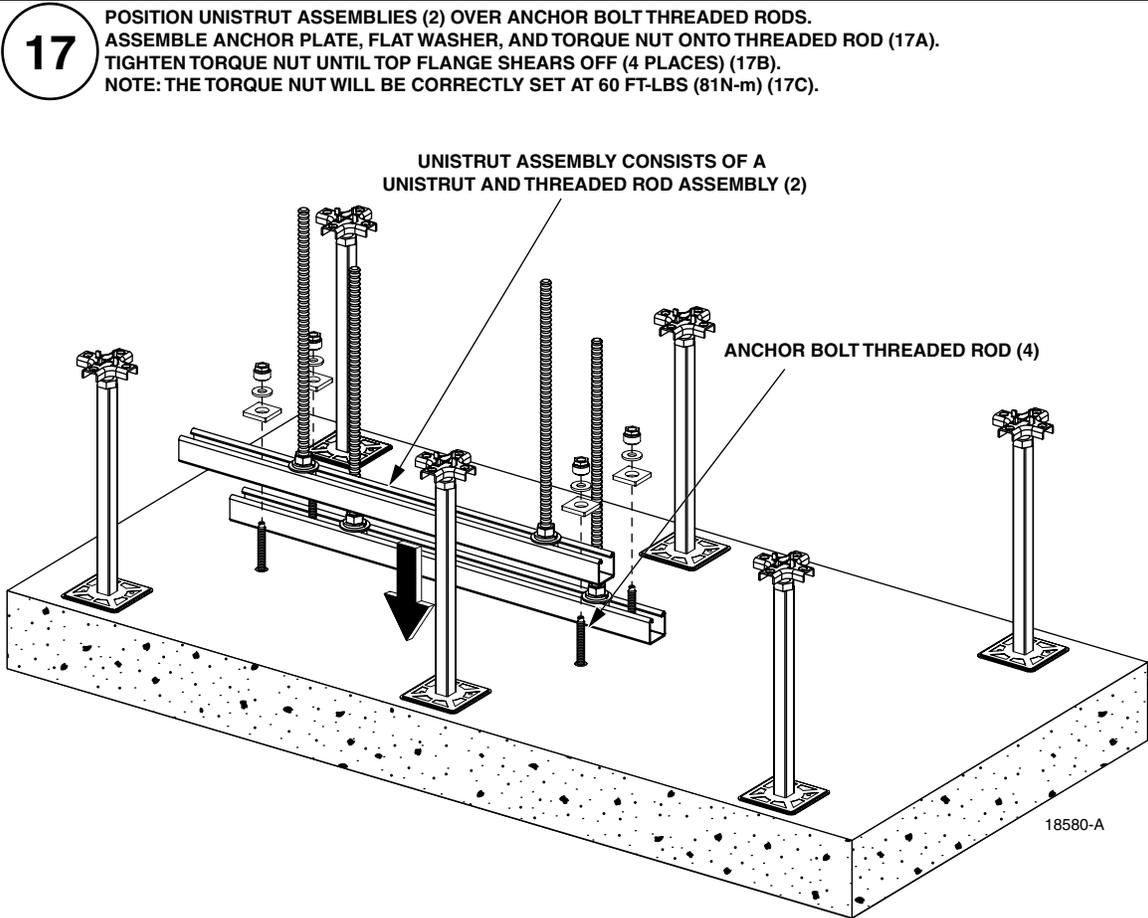
**16A: PRE-TORQUE ANCHOR BOLT TO APPROXIMATELY 30 FT-LBS (41N-m)**



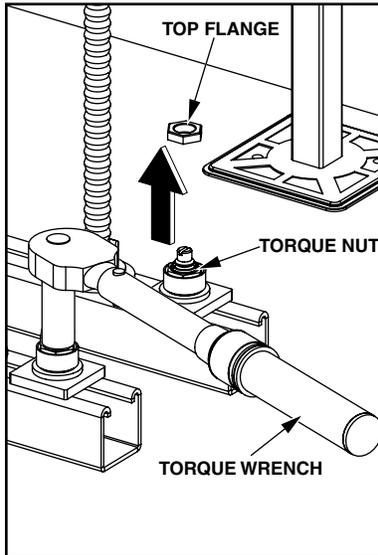
**16-B: LOOSEN TORQUE NUT**



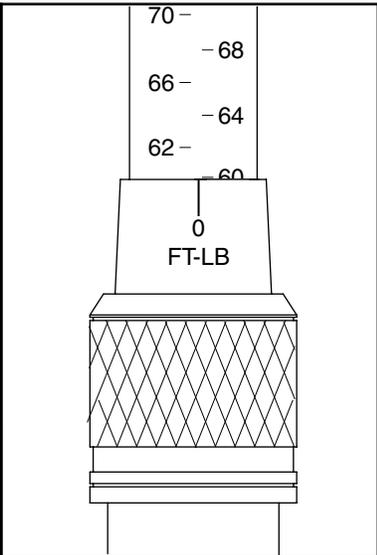
**16-C: REMOVE TORQUE NUT AND WASHER**



**17A: ASSEMBLE ANCHOR PLATE, FLAT WASHER, AND TORQUE NUT ONTO THREADED ROD**

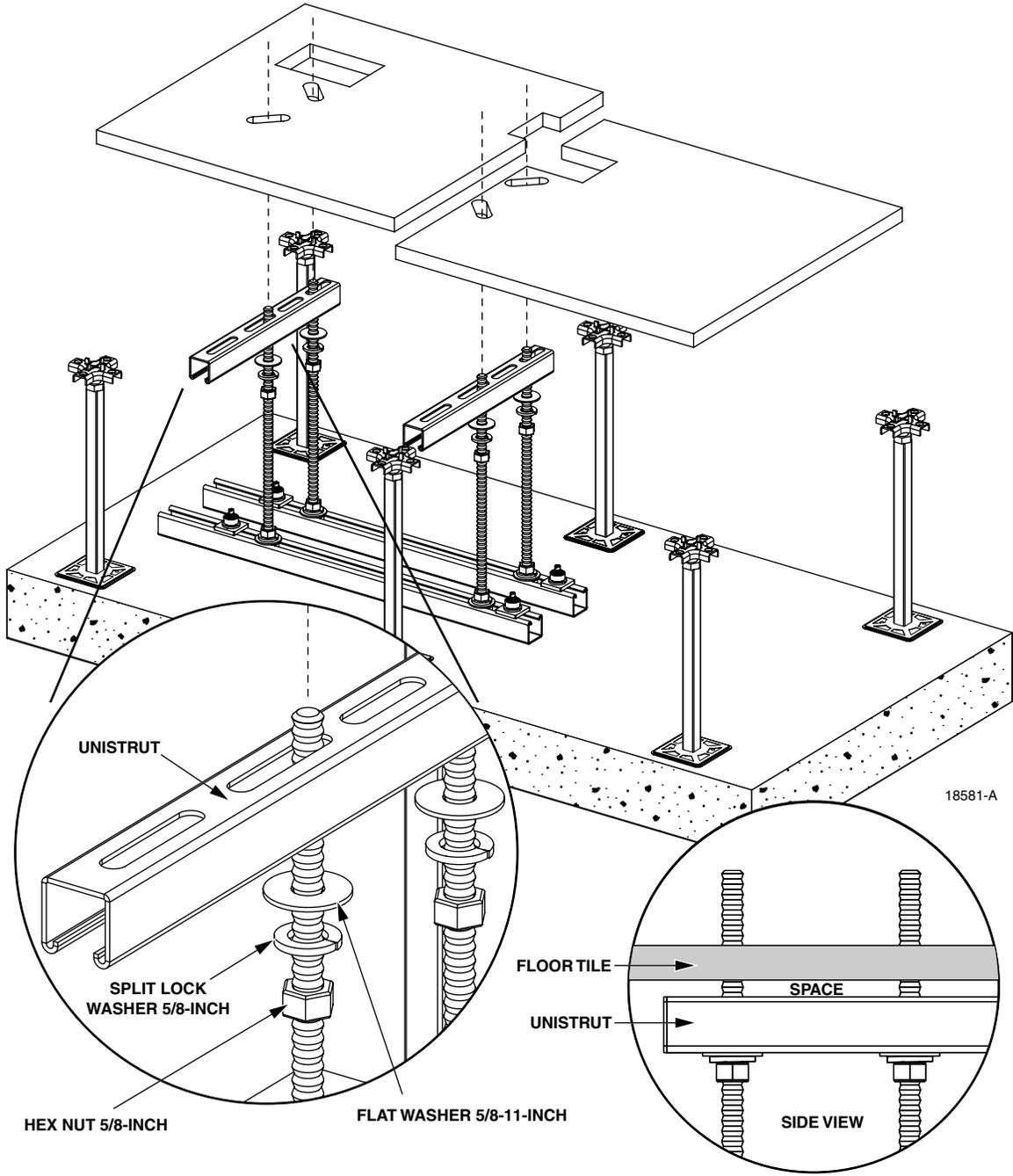


**17B: TIGHTEN TORQUE NUT UNTIL TOP FLANGE SHEARS OFF**



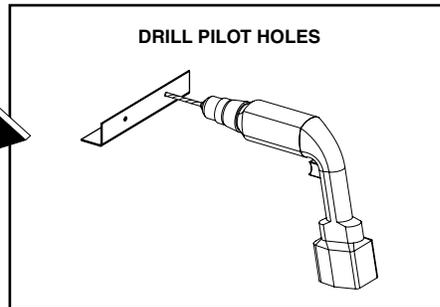
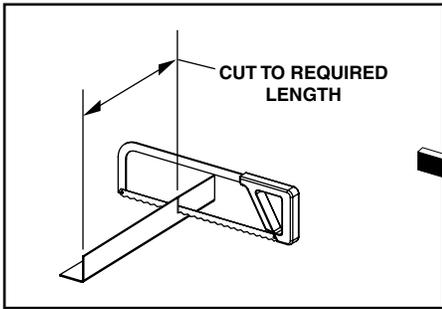
**17C: THE TORQUE NUT WILL BE CORRECTLY SET AT 60 FT-LBS (81N-m)**

**18** ASSEMBLE HEX NUTS, SPLIT LOCK WASHERS, FLAT WASHERS, UNISTRUTS, AND FLOOR TILES ONTO THREADED RODS.



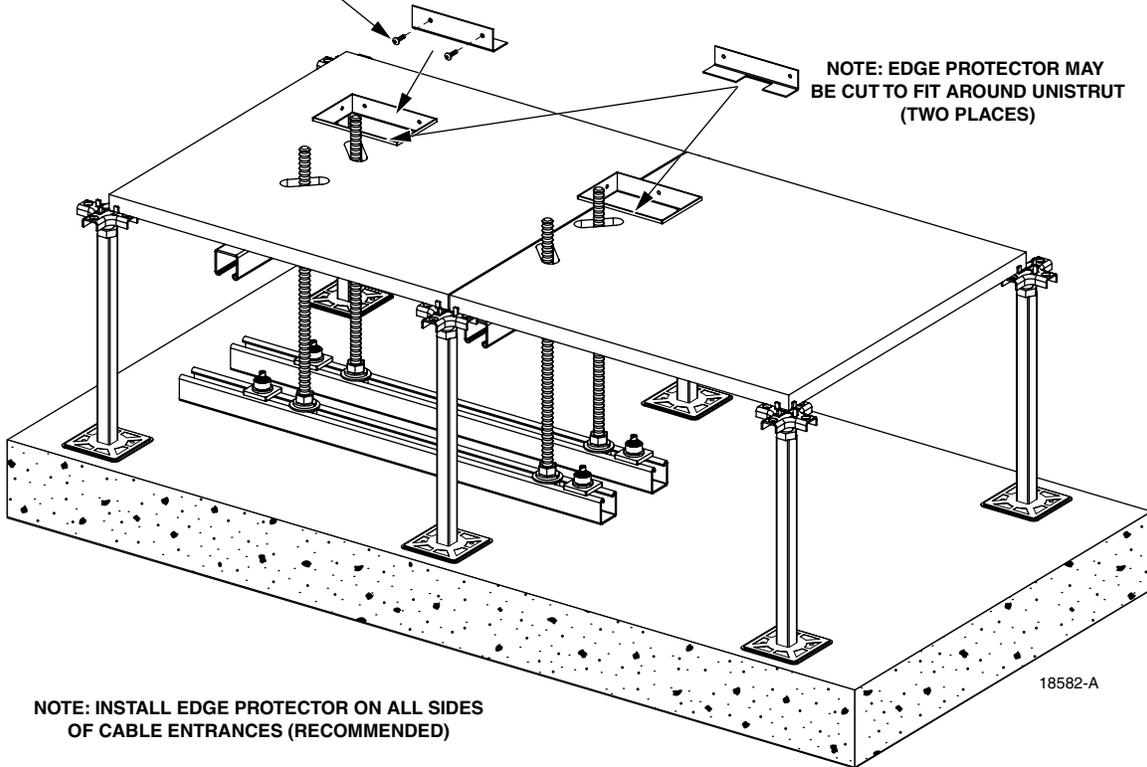
**NOTE: ALLOW SPACE BETWEEN UNISTRUT AND FLOOR TILE TO MAKE SURE FLOOR TILE IS NOT RAISED OFF PEDESTALS.**

**19** CUT EDGE PROTECTOR TO REQUIRED LENGTH AND SECURE TO FLOOR TILES USING SELF-DRILLING SCREWS (PROVIDED)

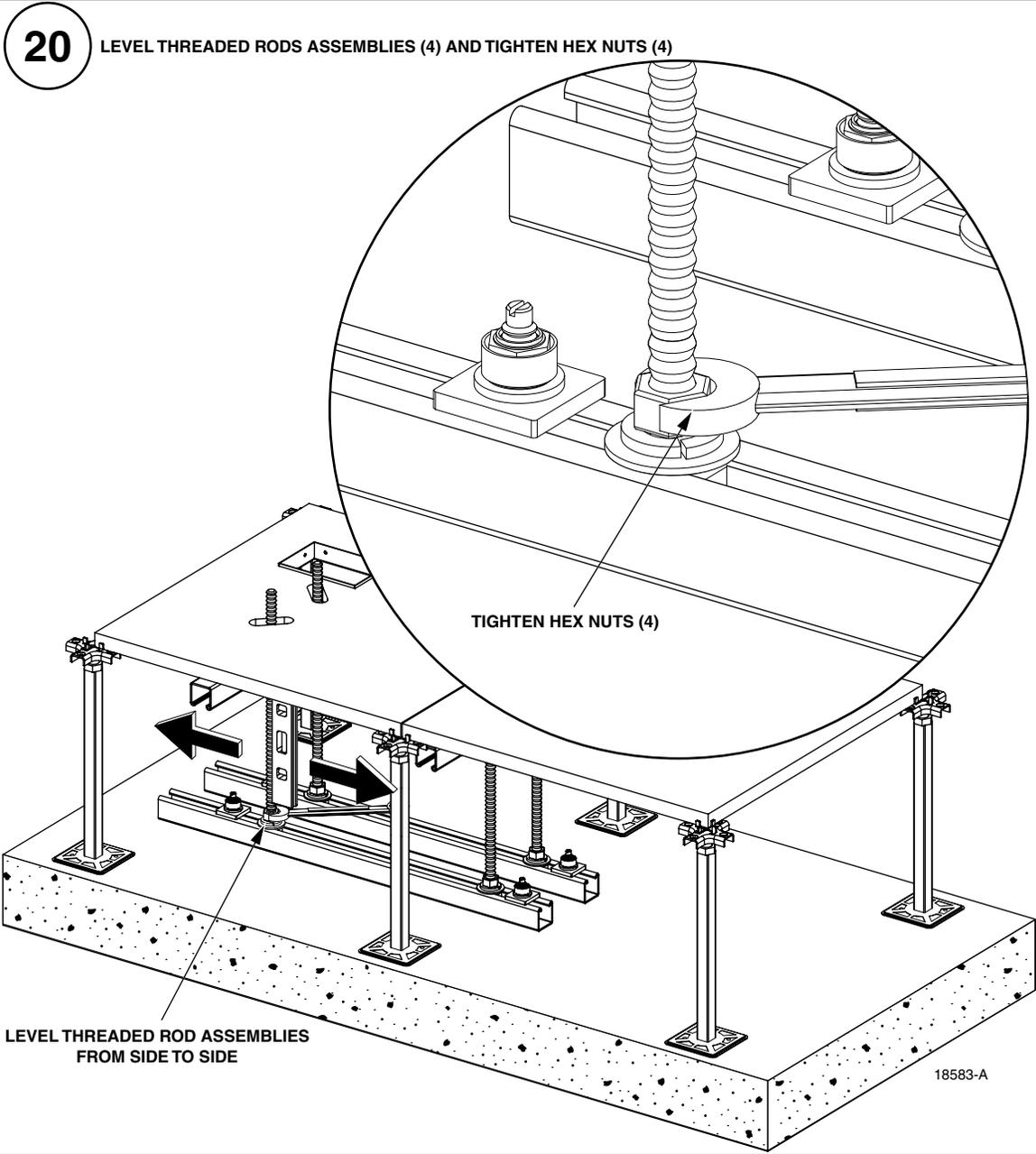


SELF-DRILLING SCREWS (PROVIDED)

NOTE: EDGE PROTECTOR MAY BE CUT TO FIT AROUND UNISTRUT (TWO PLACES)

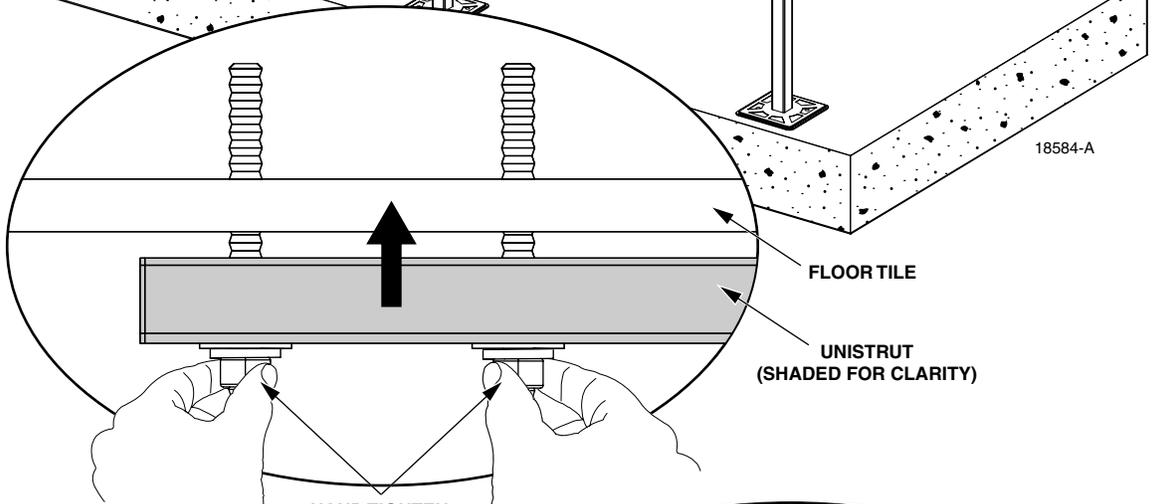
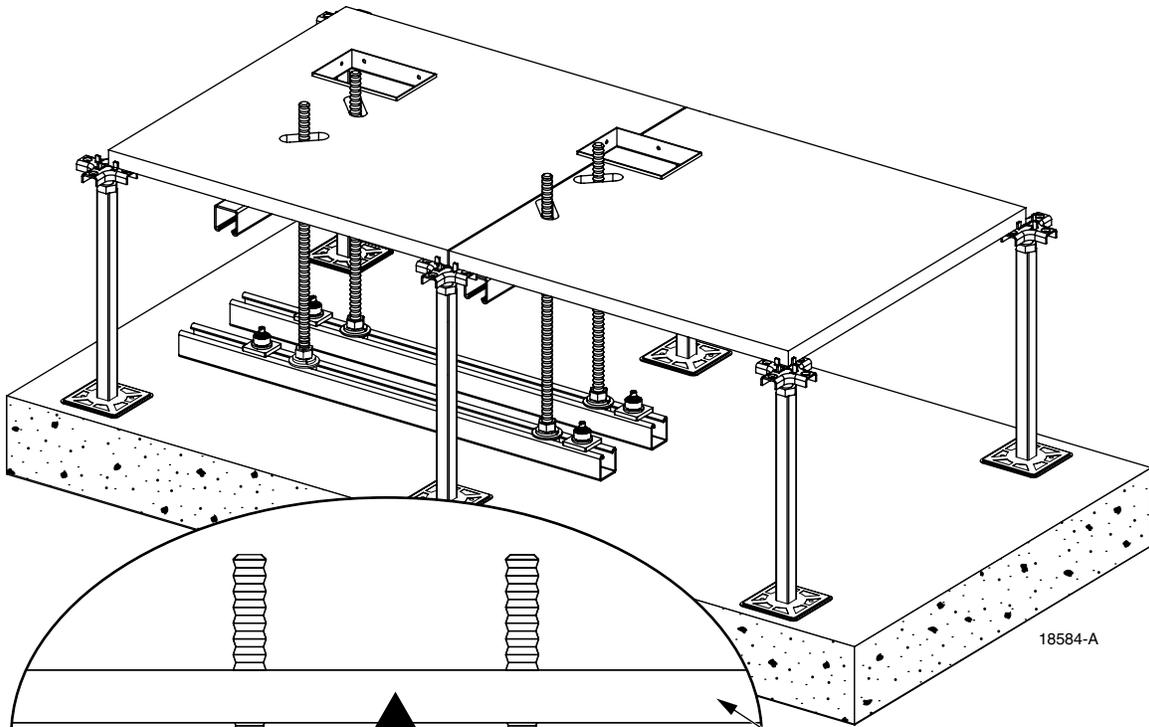


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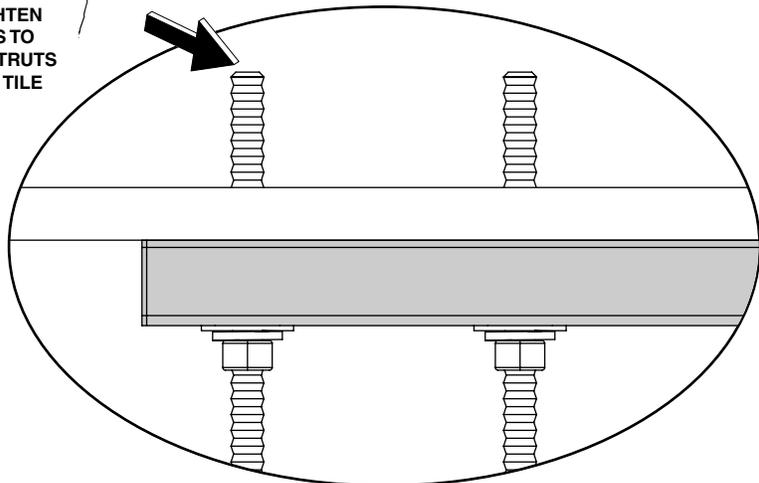


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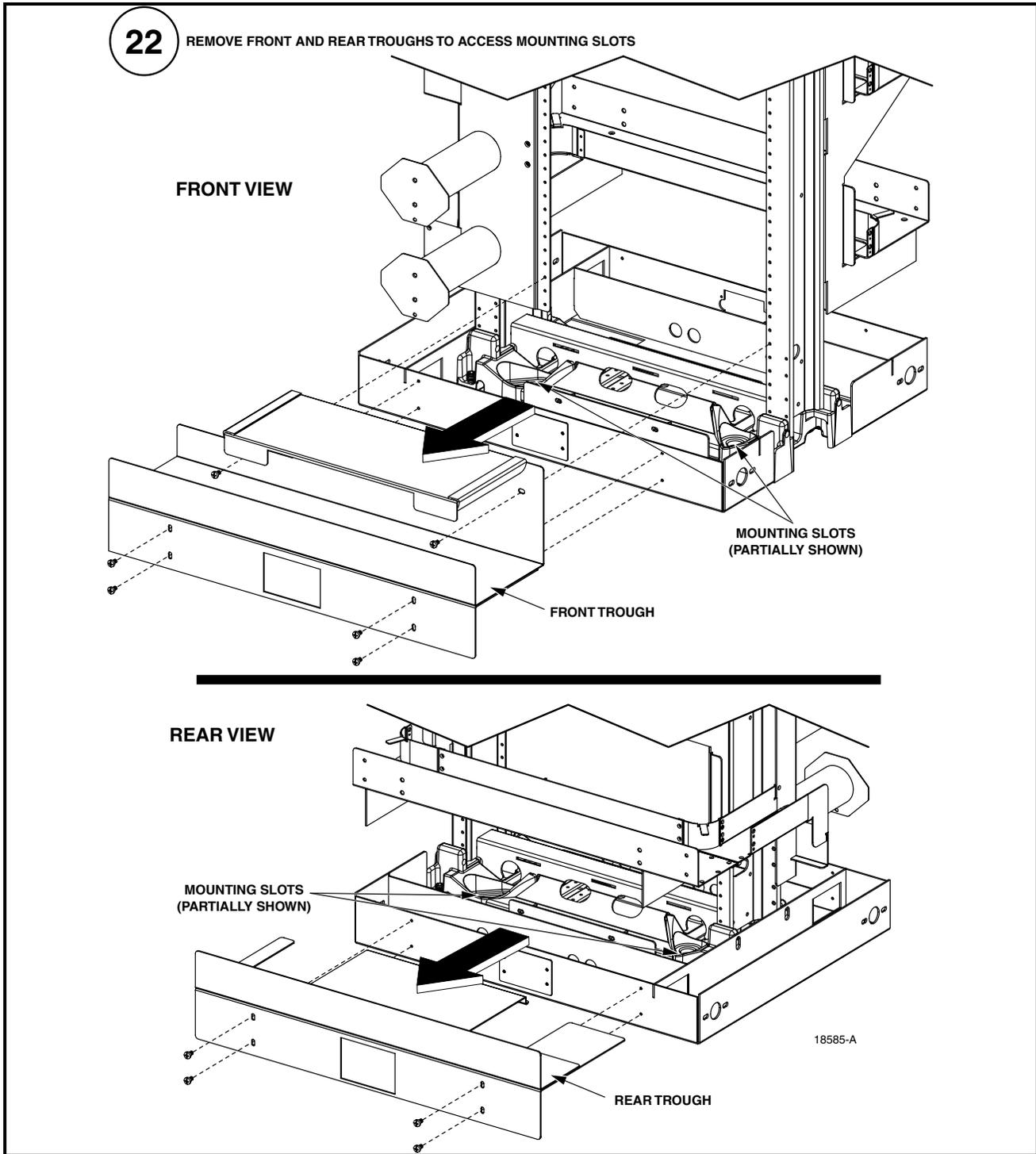
HAND TIGHTEN HEX NUTS TO RAISE UNISTRUTS TO FLOOR TILE



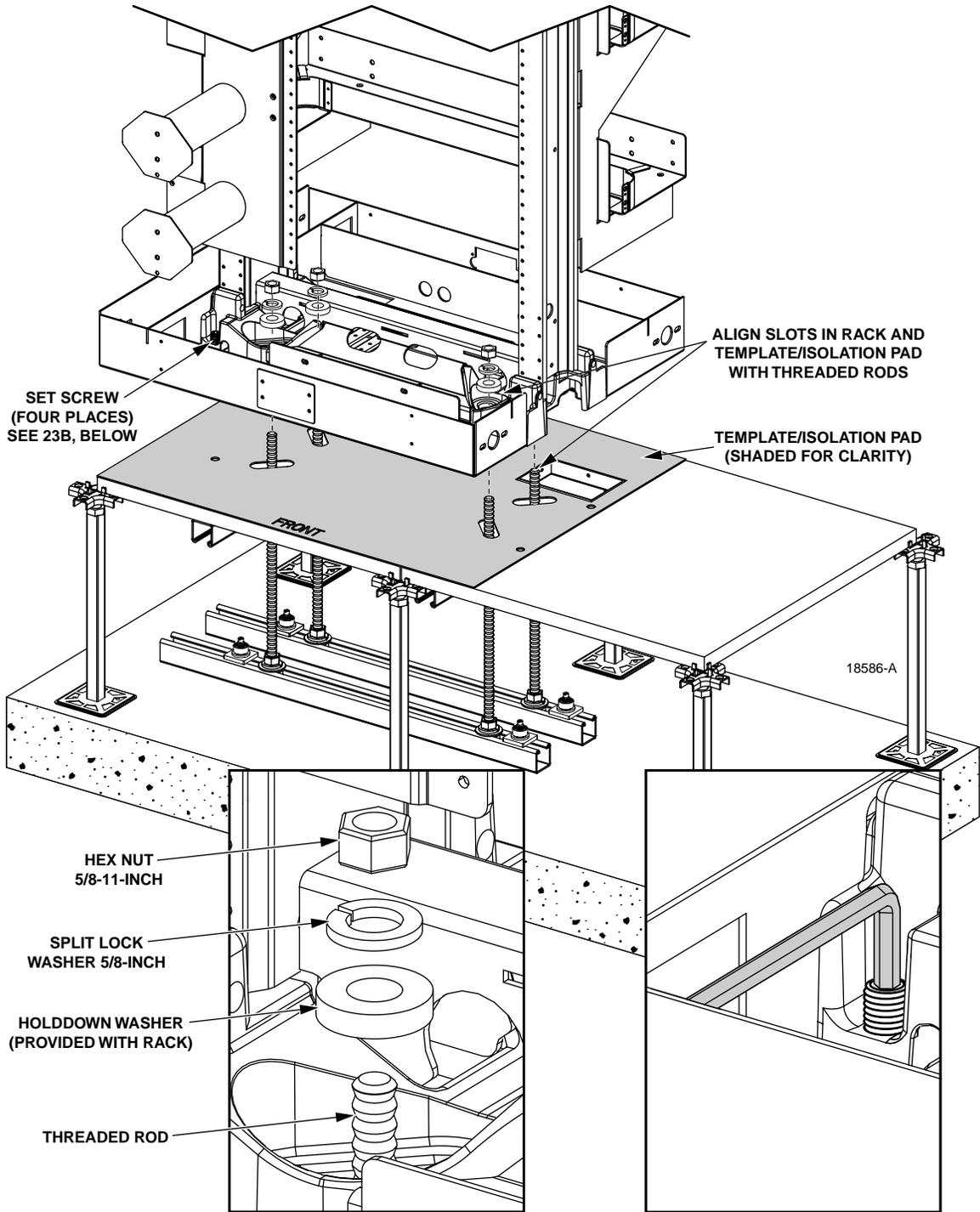
 MAKE SURE FLOOR TILES ARE NOT RAISED OFF PEDESTALS



**⚠ Caution:** An NG3 Rack weighs approximately 300 lbs (136 kilos). Do not attempt to lift or move the rack without using appropriate equipment.



**23** POSITION TEMPLATE/ISOLATION PAD AND RACK ON FLOOR TILE.  
 INSTALL HARDWARE (FOUR PLACES), DO NOT FULLY TIGHTEN (23A).  
 USE 5/16-INCH ALLEN WRENCH AND ADJUST SET SCREWS (4) TO LEVEL RACK (23B).



SET SCREW  
 (FOUR PLACES)  
 SEE 23B, BELOW

ALIGN SLOTS IN RACK AND  
 TEMPLATE/ISOLATION PAD  
 WITH THREADED RODS

TEMPLATE/ISOLATION PAD  
 (SHADED FOR CLARITY)

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HEX NUT  
 5/8-11-INCH

SPLIT LOCK  
 WASHER 5/8-INCH

HOLDDOWN WASHER  
 (PROVIDED WITH RACK)

THREADED ROD

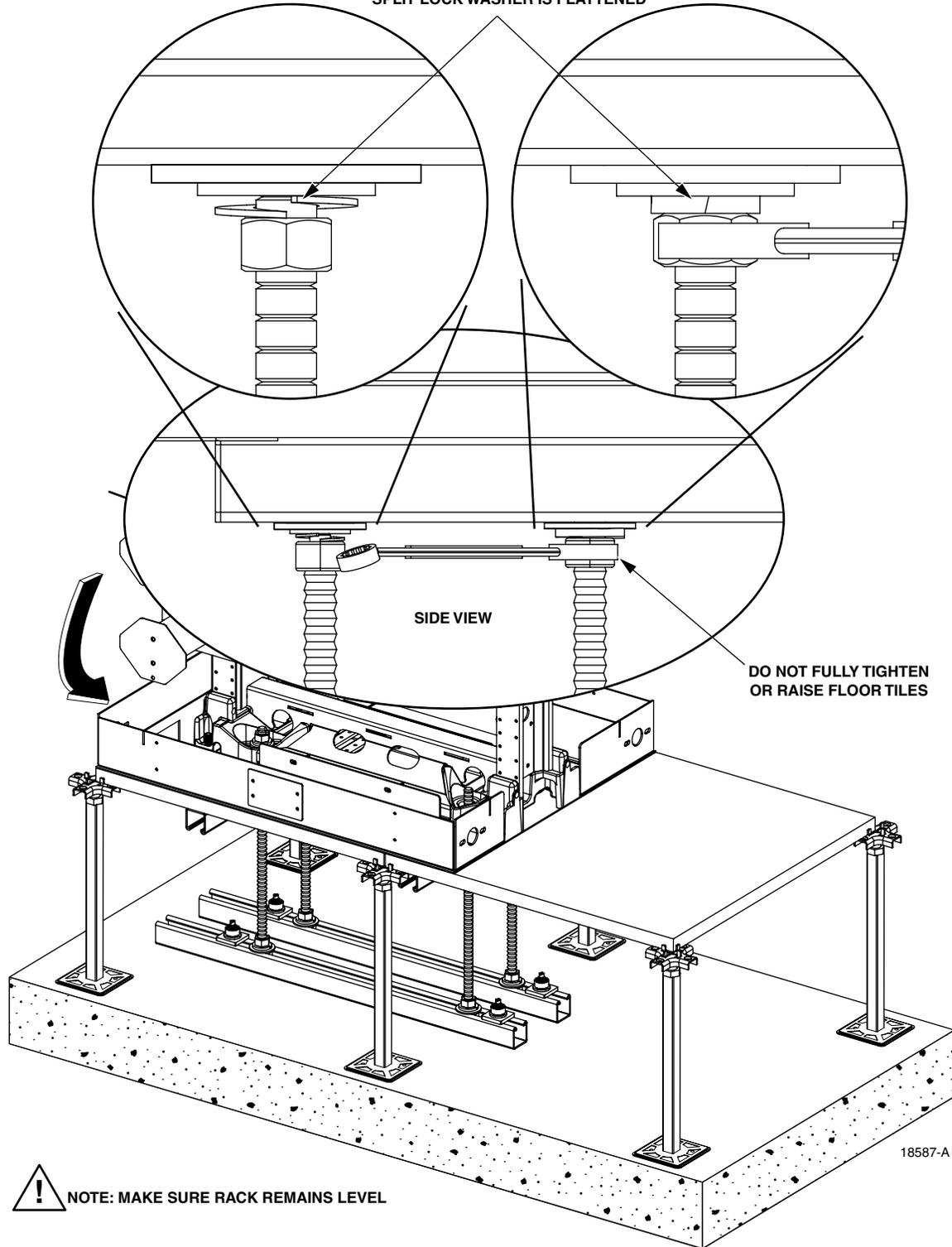
23A: INSTALL HOLDDOWN WASHER,  
 SPLIT WASHER 5/8-INCH AND HEX NUT 5/8-11 INCH  
 (DO NOT FULLY TIGHTEN)

23B: USE 5/16-INCH ALLEN WRENCH  
 AND ADJUST SET SCREW TO  
 LEVEL RACK

**24**

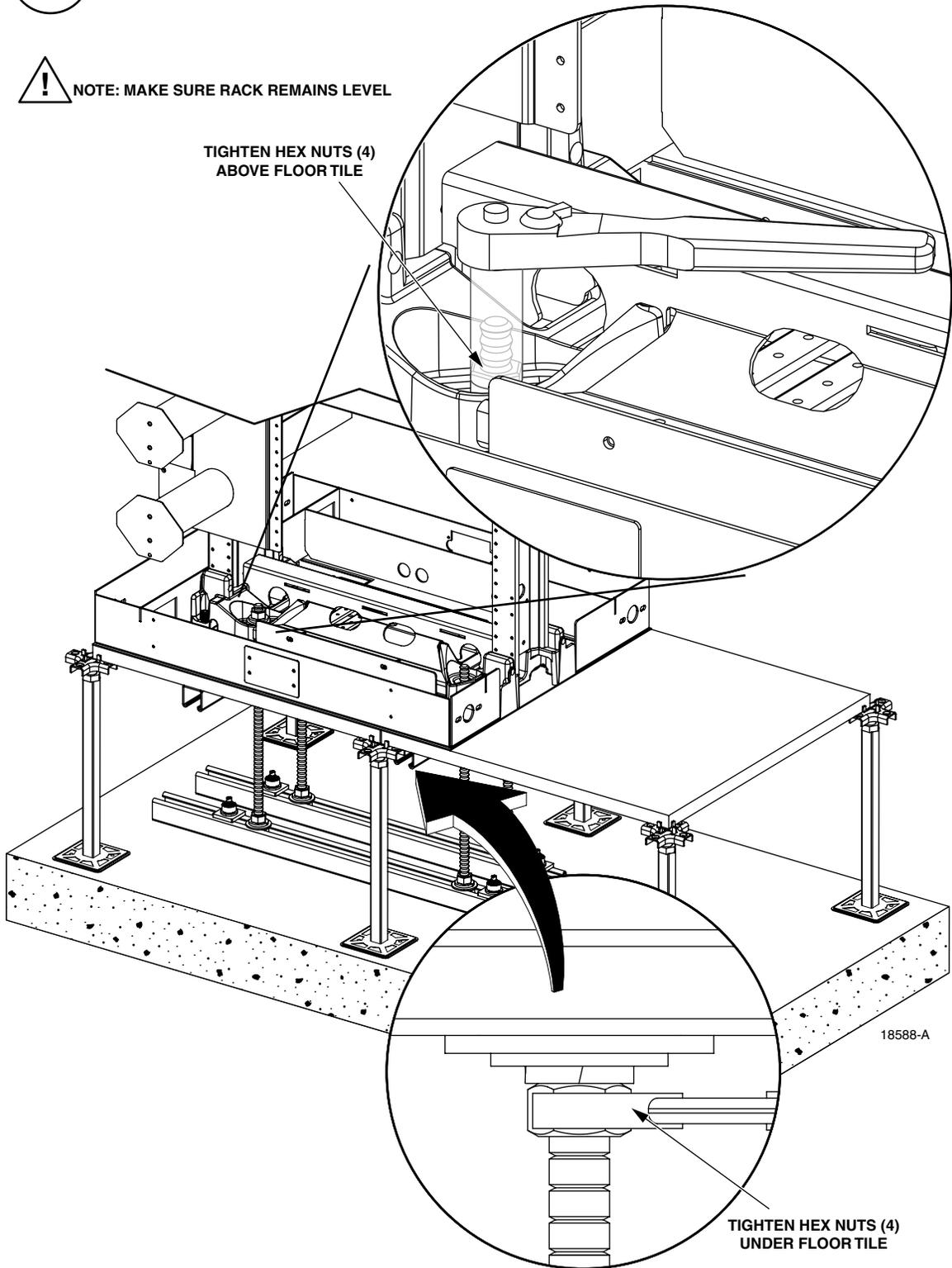
USE WRENCH TO TIGHTEN HEX NUTS UNDER FLOOR TILE (DO NOT FULLY TIGHTEN)

TIGHTEN HEX NUTS UNTIL  
SPLIT LOCK WASHER IS FLATTENED

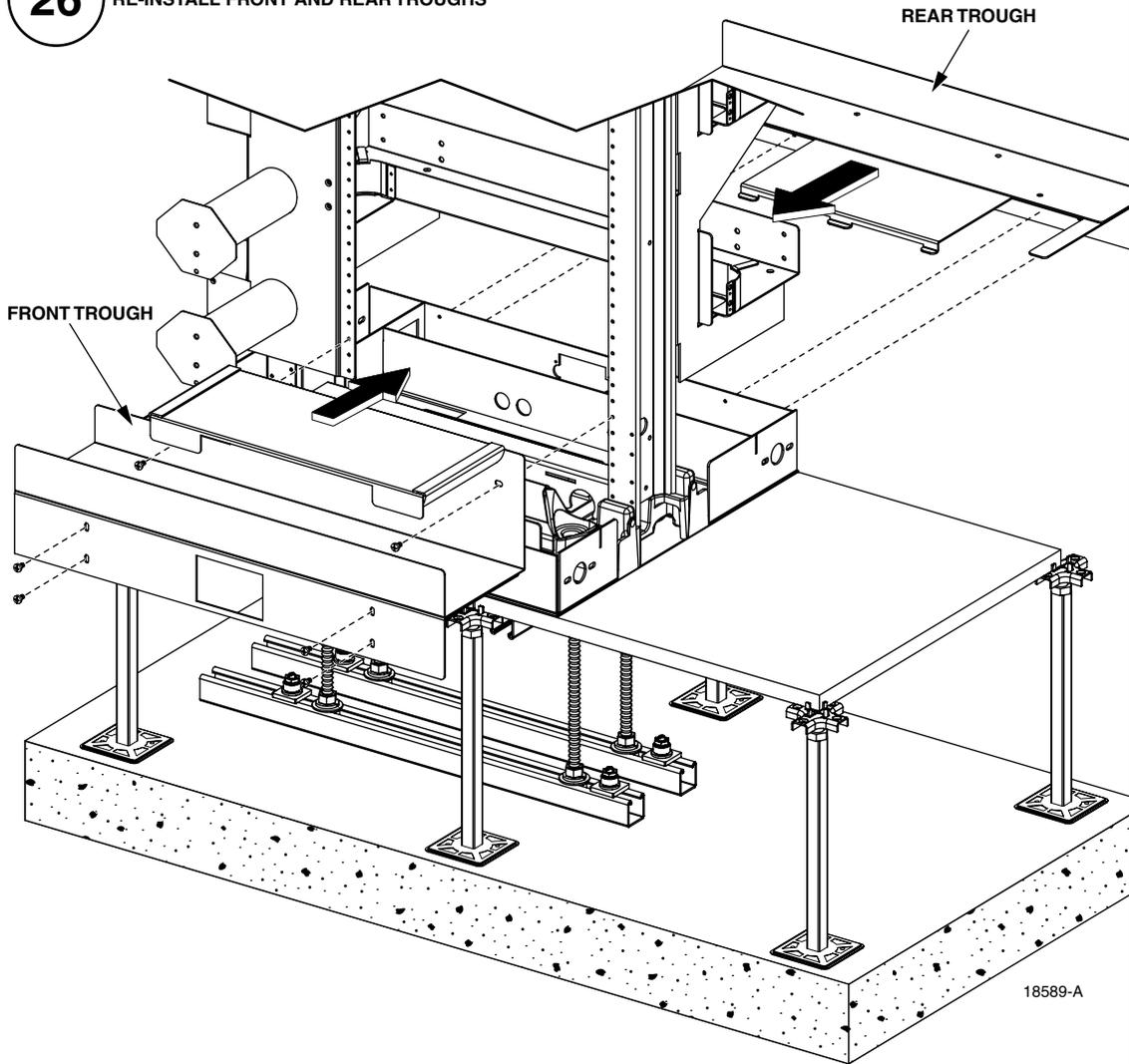


**25** USE WRENCH (5/8-INCH) TO TIGHTEN HEX NUTS ABOVE FLOOR TILE (4 PLACES), THEN FULLY TIGHTEN HEX NUTS UNDER FLOOR TILE

**!** NOTE: MAKE SURE RACK REMAINS LEVEL



**26** RE-INSTALL FRONT AND REAR TROUGHS



**27** GROUND RACK  
REAR VIEW

NOTE: GROUND KIT  
INCLUDED WITH RACK

FRAME GROUND

OFFICE GROUND

TO OFFICE  
GROUND

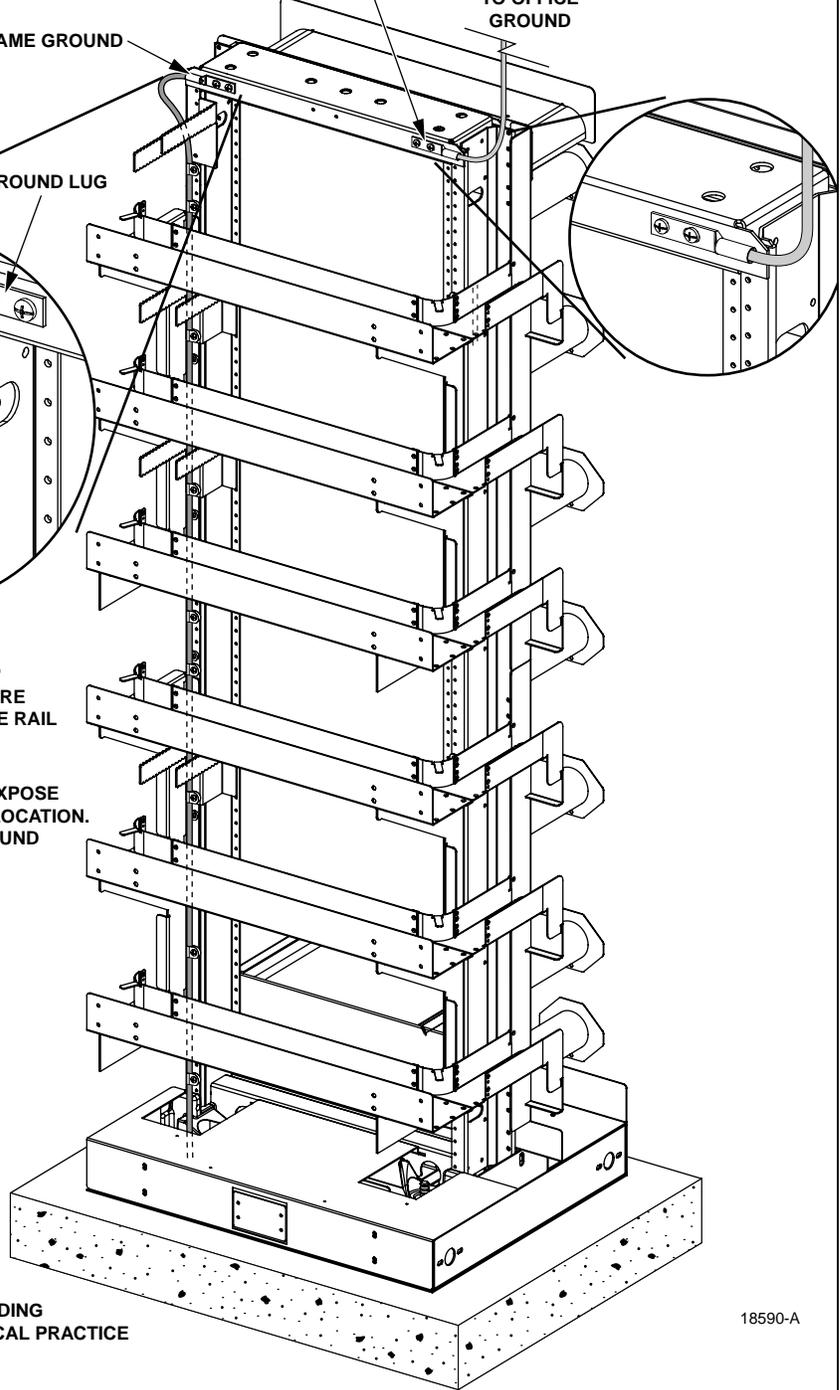
GROUND LUG

USE  
ONLY 6  
AWG OR  
THICKER  
COPPER  
WIRE

USE PLASTIC CLIP  
(PROVIDED) TO SECURE  
GROUND WIRE TO FRAME RAIL

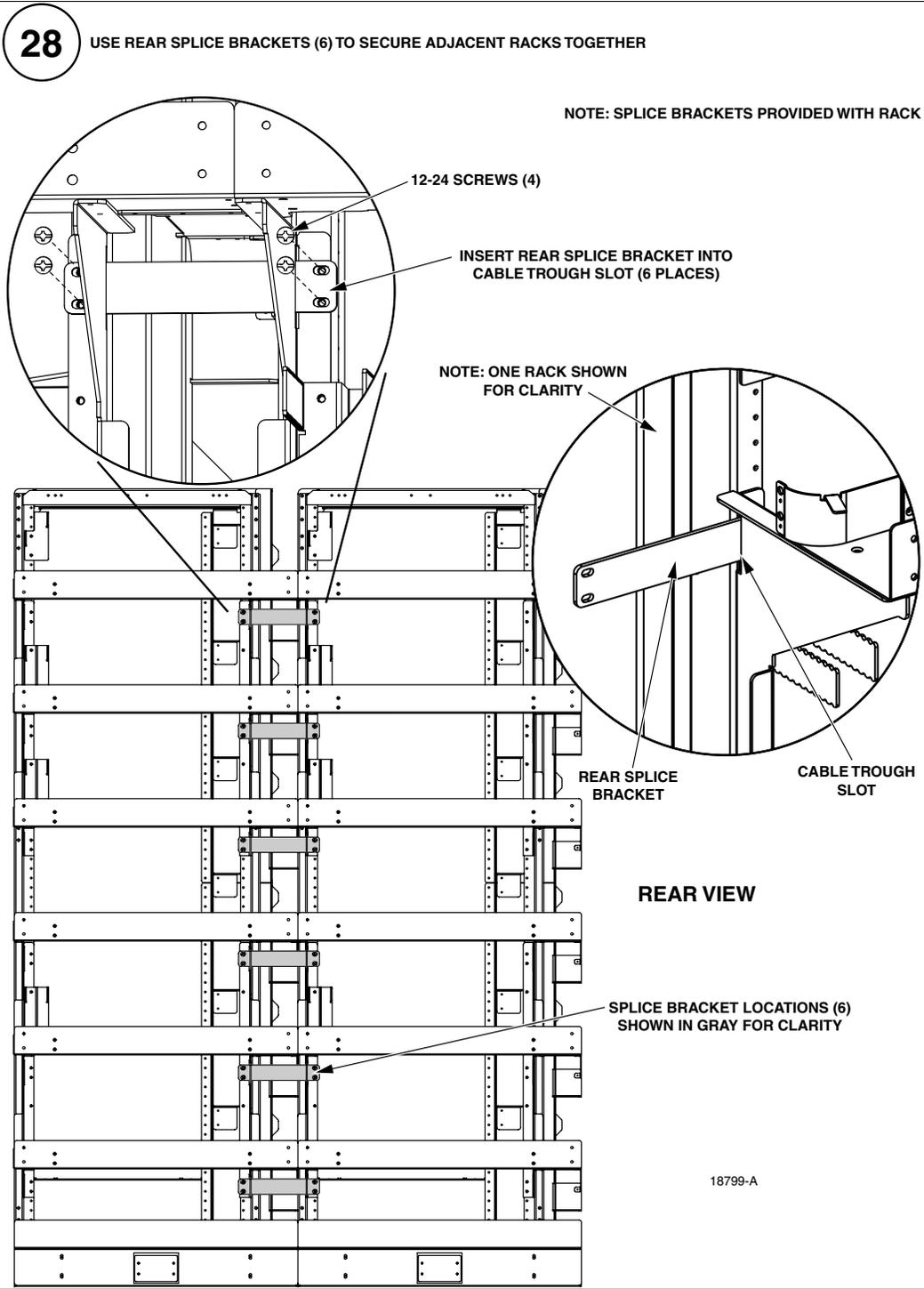
NOTE: SCRAPE PAINT TO EXPOSE  
BARE METAL IN GROUNDING LOCATION.  
APPLY BONDING COMPOUND  
TO BARE METAL.

NOTE: FINISH GROUNDING  
THE RACK ACCORDING TO LOCAL PRACTICE

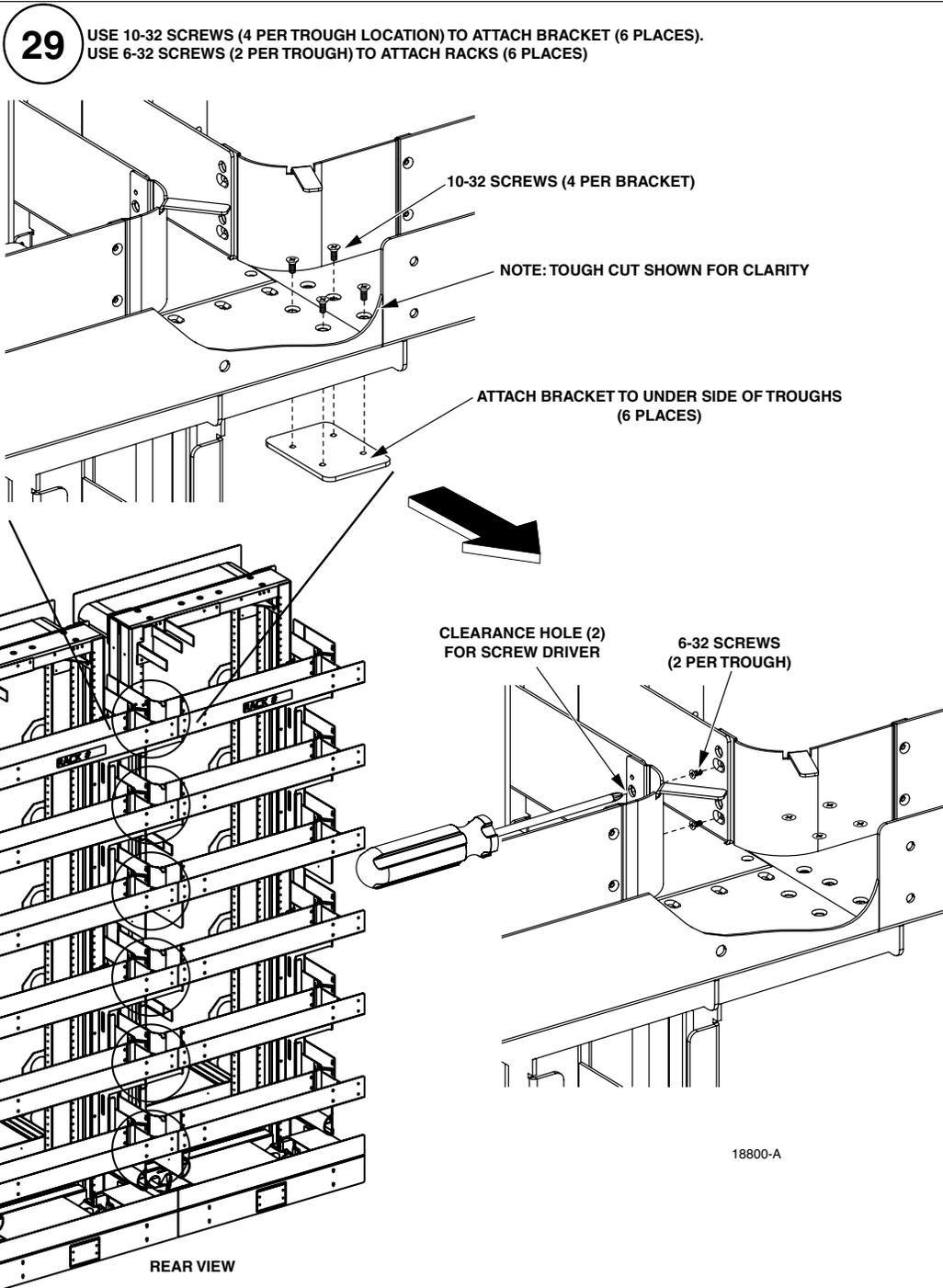


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## SECURING TWO RACKS



## SECURING TWO RACKS



## CUSTOMER INFORMATION AND ASSISTANCE

### PHONE:

#### EUROPE

Sales Administration: +32-2-712-65 00

Technical Assistance: +32-2-712-65 42

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UK: 0800 960236

Spain: 900 983291

France: 0800 914032

#### U.S.A. OR CANADA

Sales: 1-800-366-3891 Extension 73000

Technical Assistance: 1-800-366-3891 Extension 73475

#### ASIA/PACIFIC

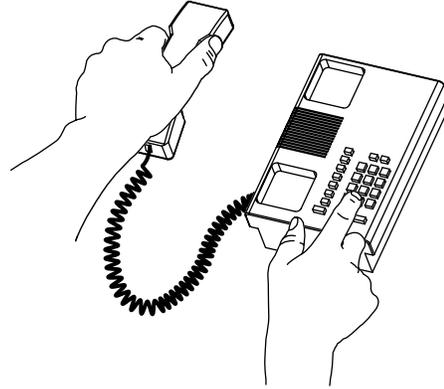
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Technical Assistance: +1-952-917-3475

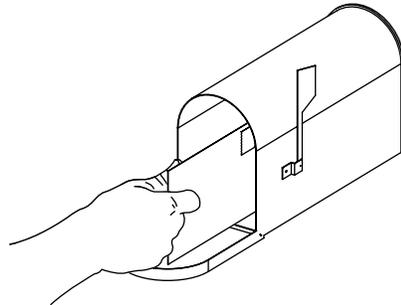


### WRITE:

**ADC TELECOMMUNICATIONS, INC**  
PO BOX 1101,  
MINNEAPOLIS, MN 55440-1101, USA

**ADC TELECOMMUNICATIONS (S'PORE) PTE. LTD.**  
100 BEACH ROAD, #18-01, SHAW TOWERS.  
SINGAPORE 189702.

**ADC EUROPEAN CUSTOMER SERVICE, INC**  
BELGICASTRAAT 2,  
1930 ZAVENTEM, BELGIUM

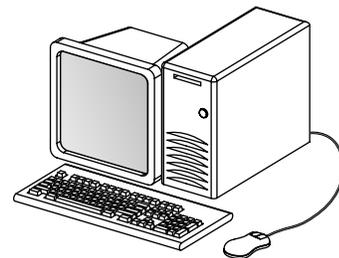


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