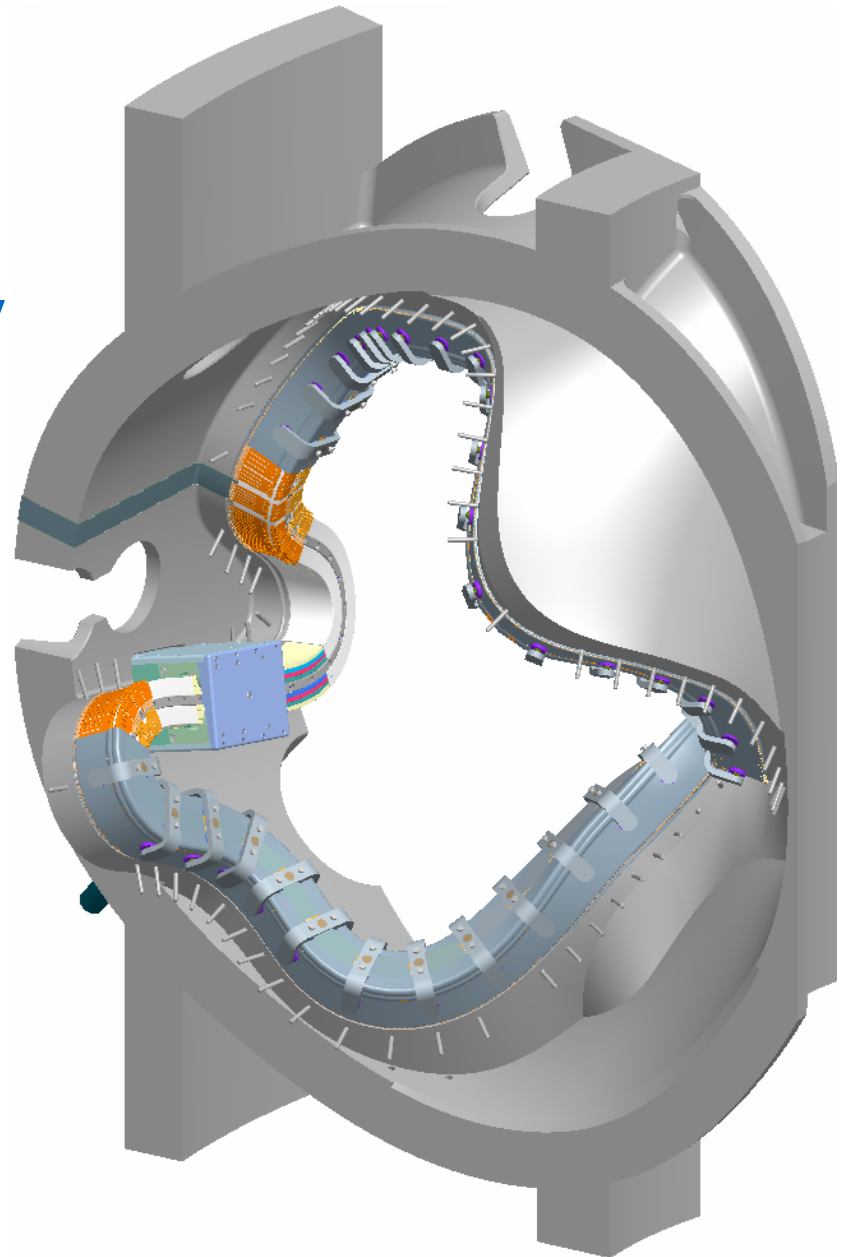


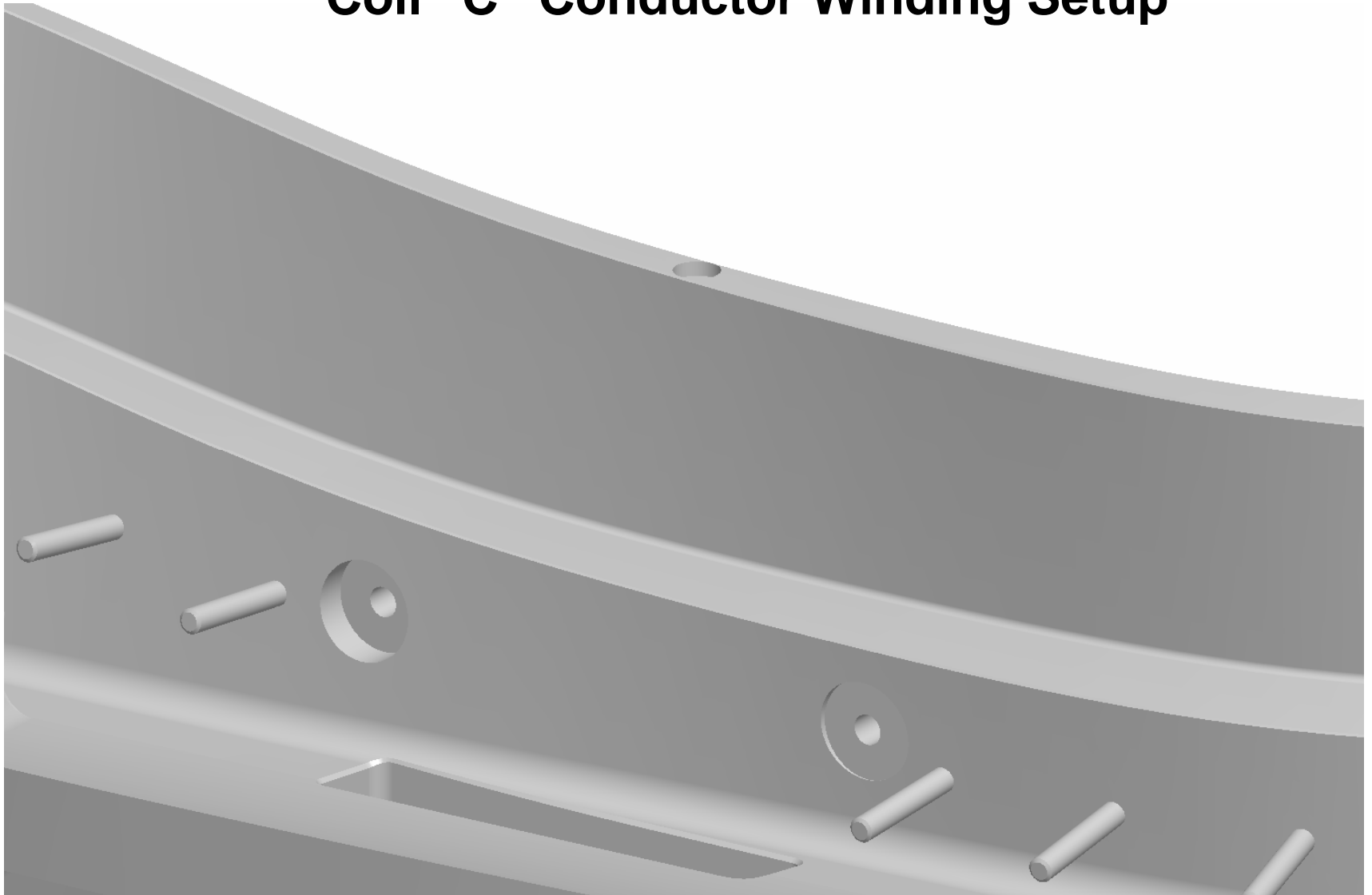
# Modular Coil Type C Assembly

## Winding Process

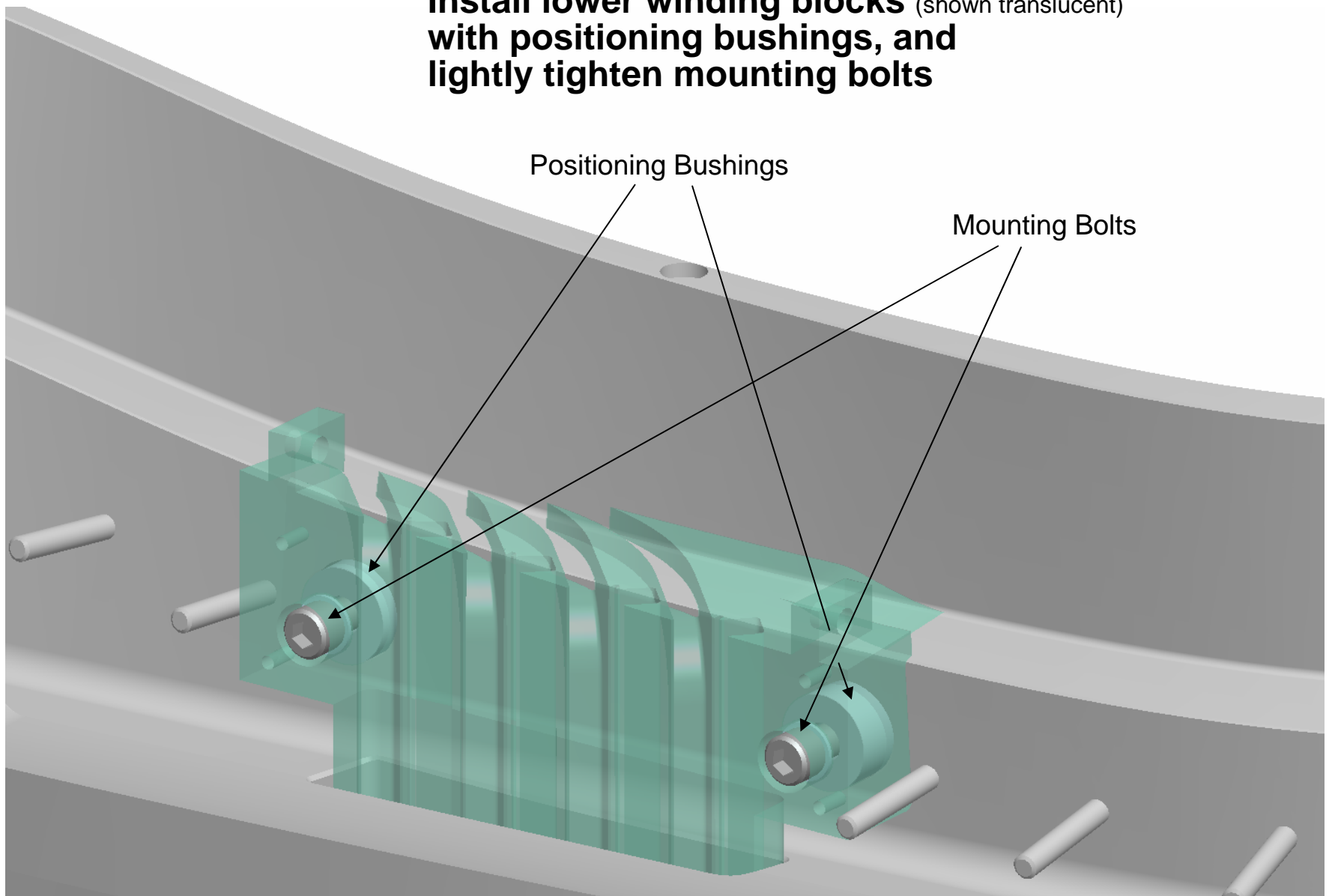
P. Fogarty, D. Williamson, B. Nelson  
M. Cole, G. Lovett, T. Hargrove

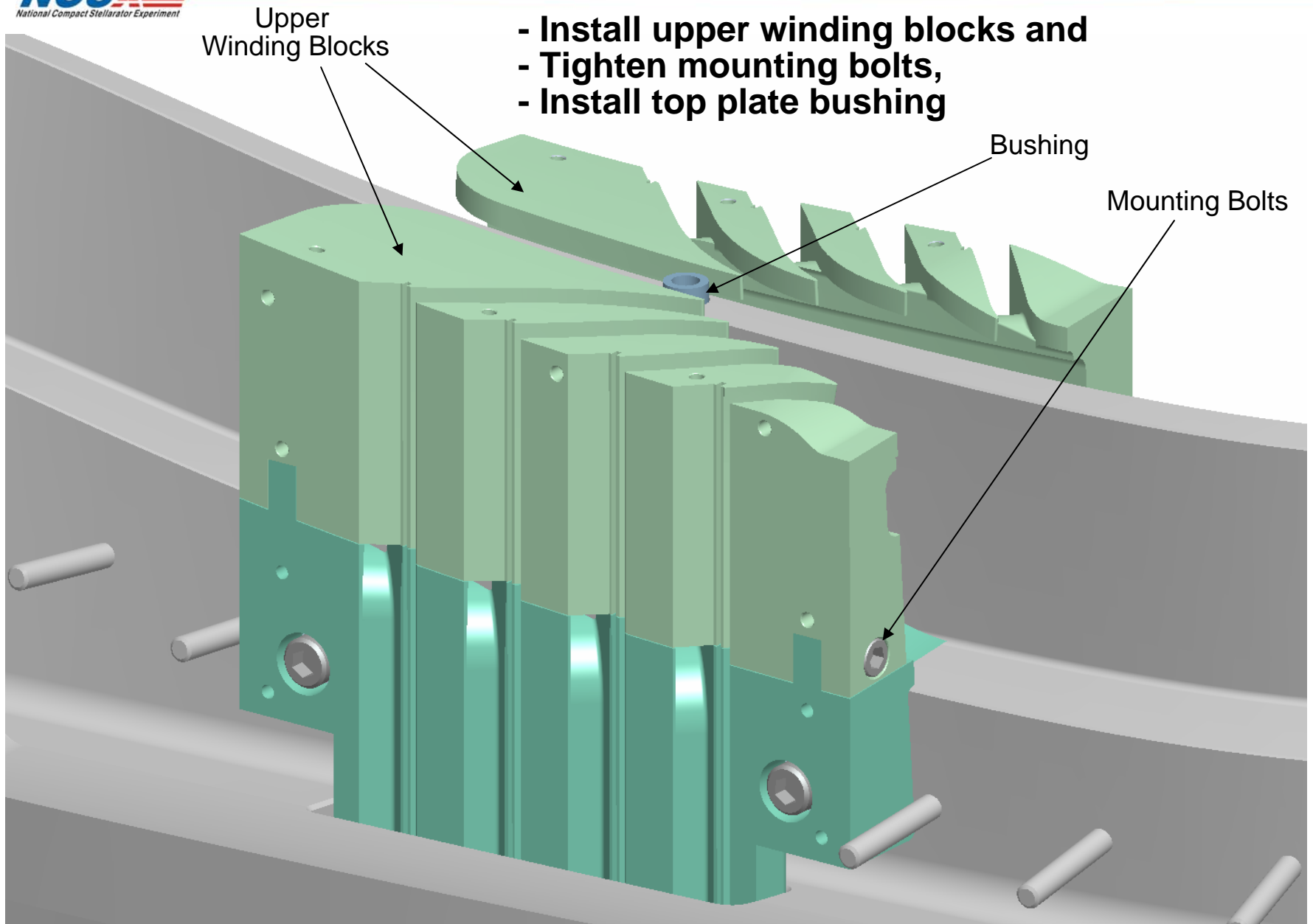


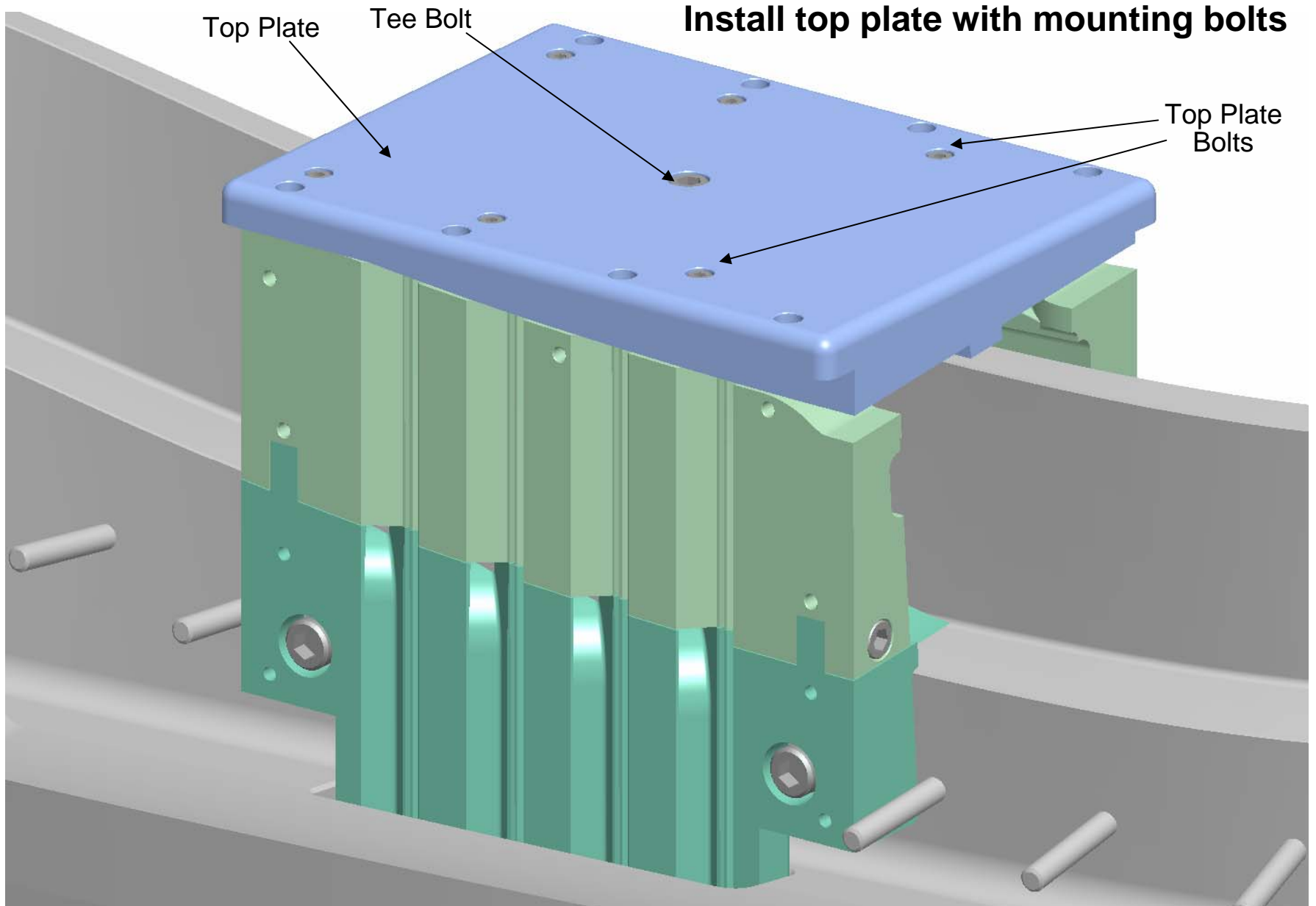
## Coil "C" Conductor Winding Setup



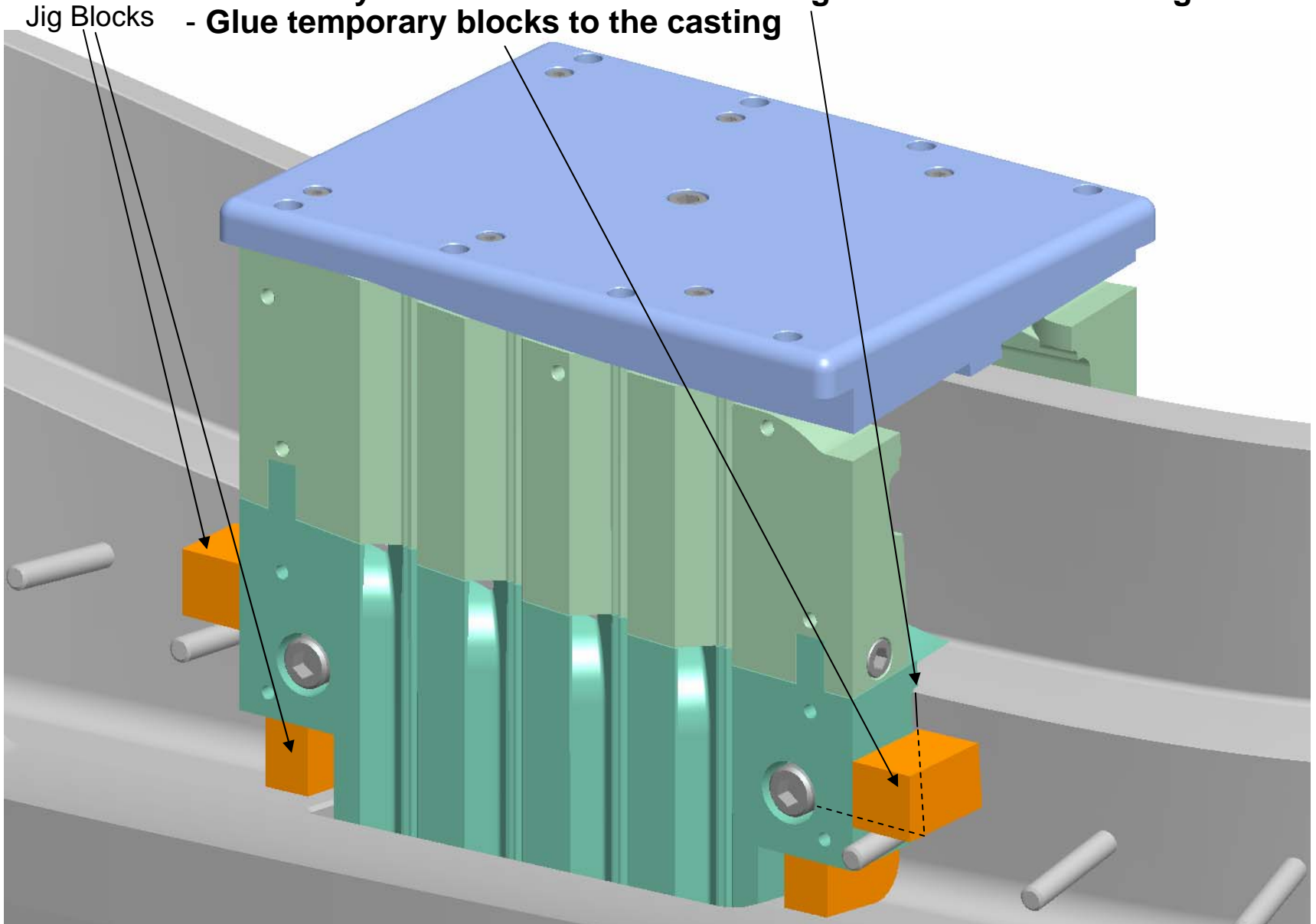
**Install lower winding blocks (shown translucent) with positioning bushings, and lightly tighten mounting bolts**



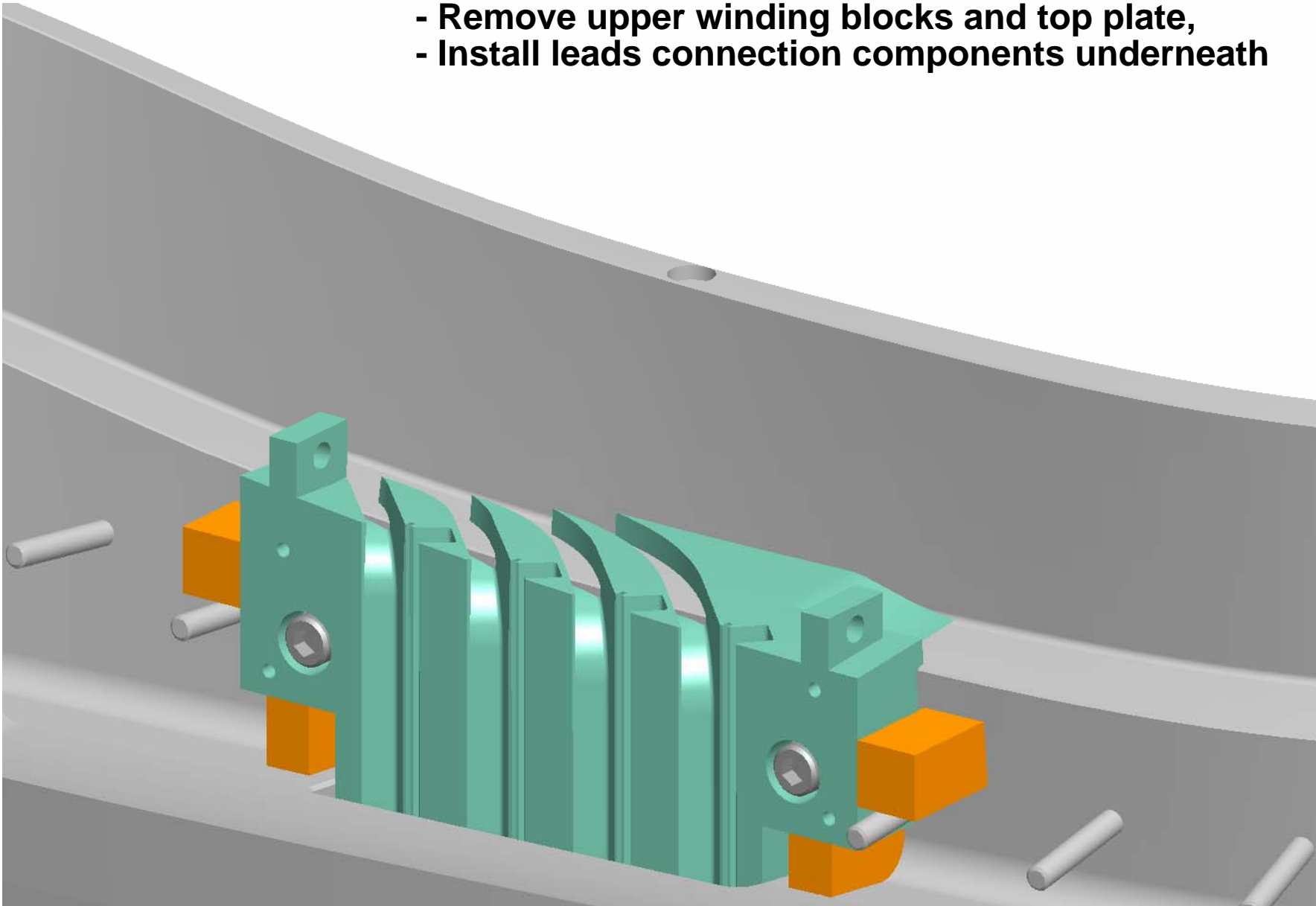




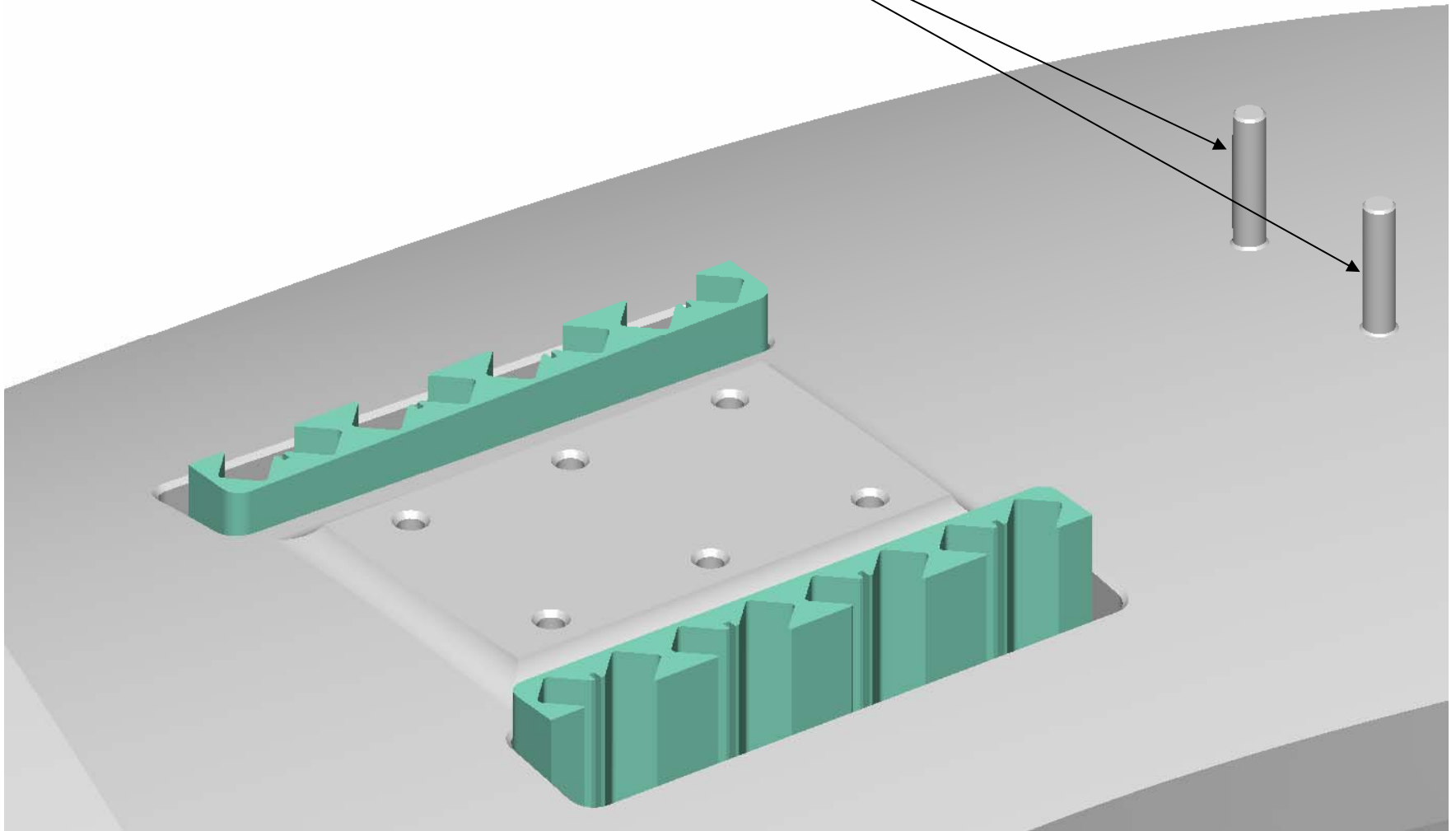
- Accurately mark the sides & bottom edges of the lower winding blocks
- Glue temporary blocks to the casting



- Remove upper winding blocks and top plate,
- Install leads connection components underneath



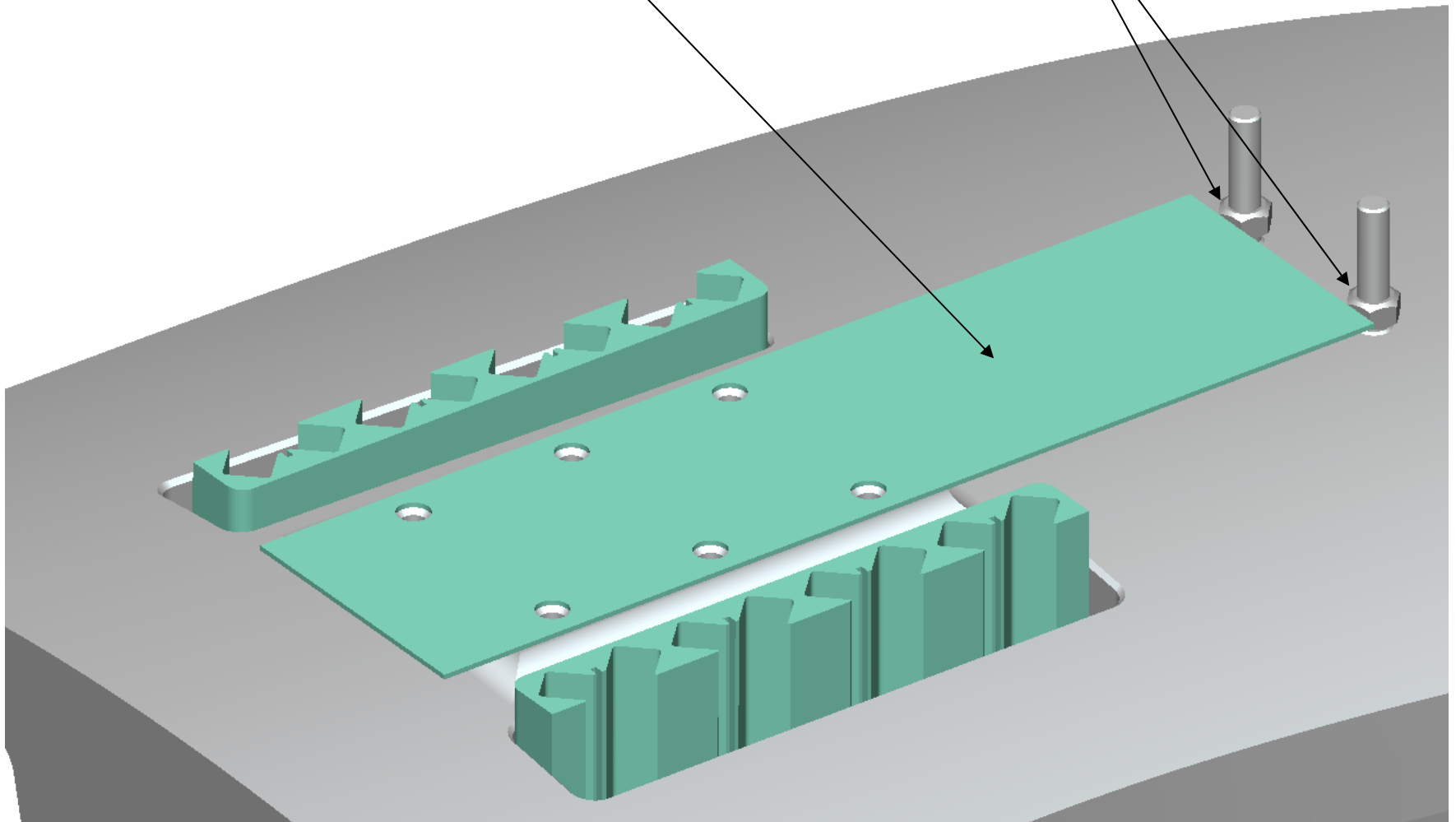
## Shoot two studs into shell for base plate support



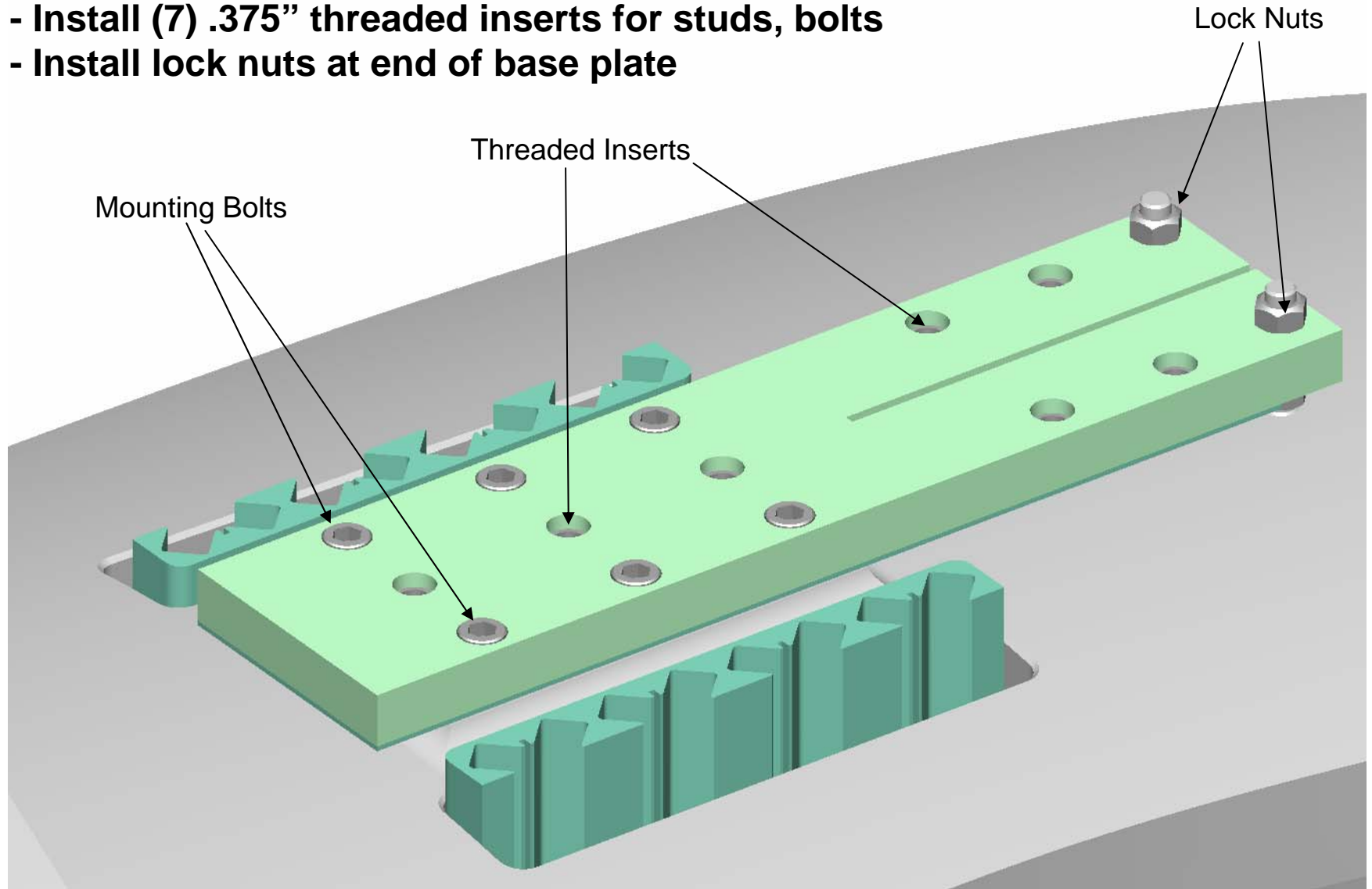


Install .0625" thick  
electrical insulator sheet

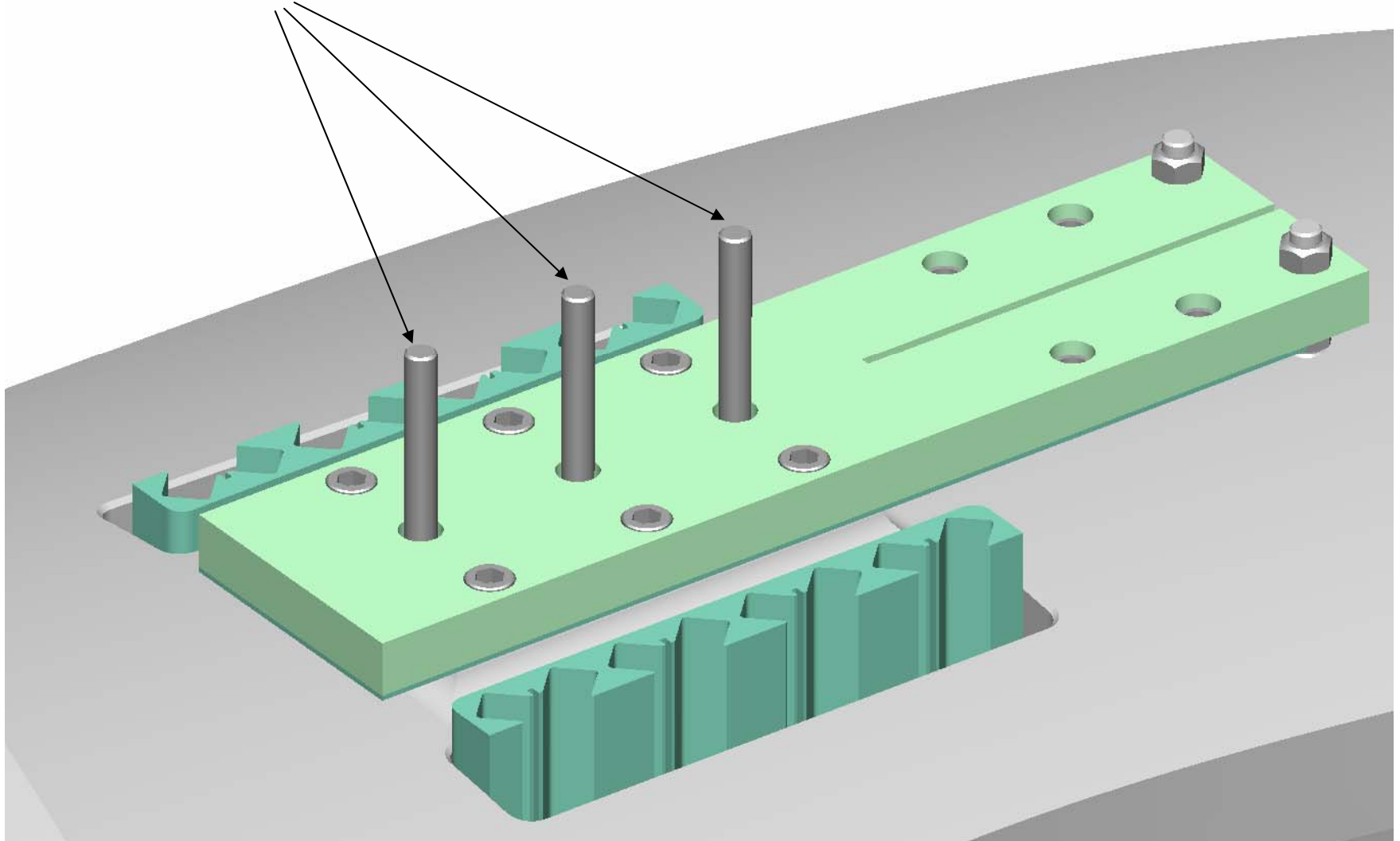
Install .375"  
height adjustment  
nuts



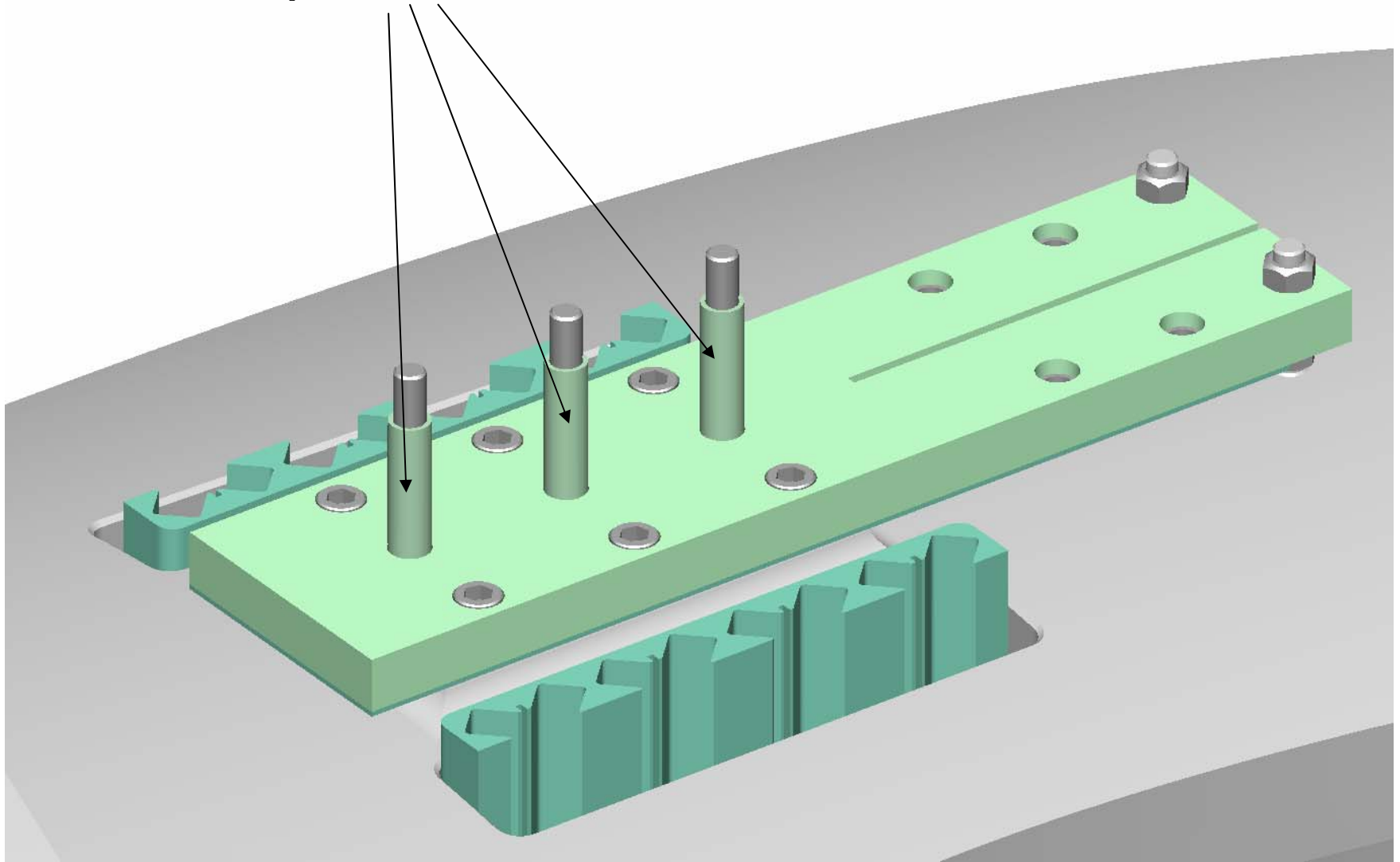
- Install base plate with (6) .375" mounting bolts
- Install (7) .375" threaded inserts for studs, bolts
- Install lock nuts at end of base plate



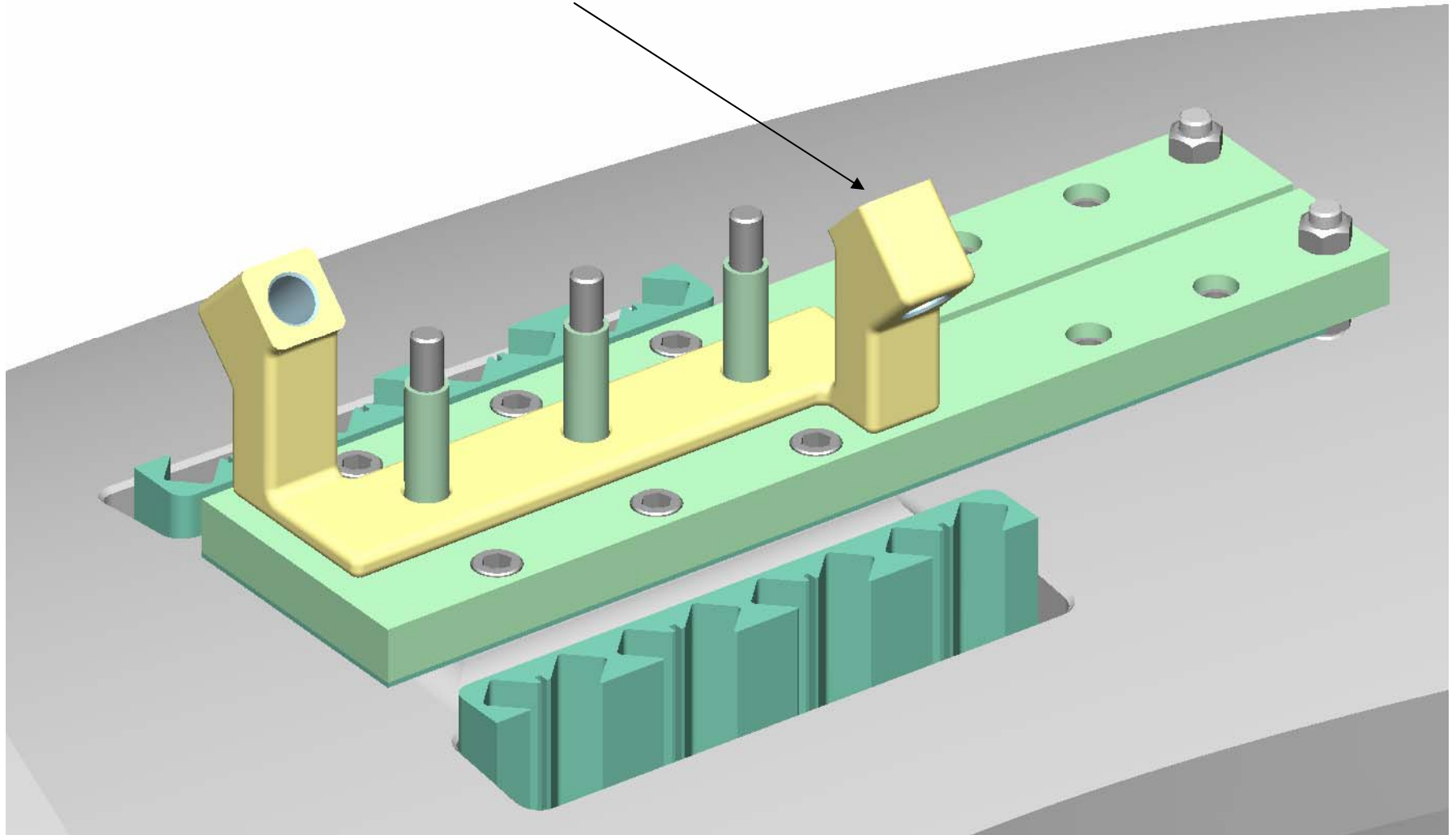
Install (3) .375" mounting studs



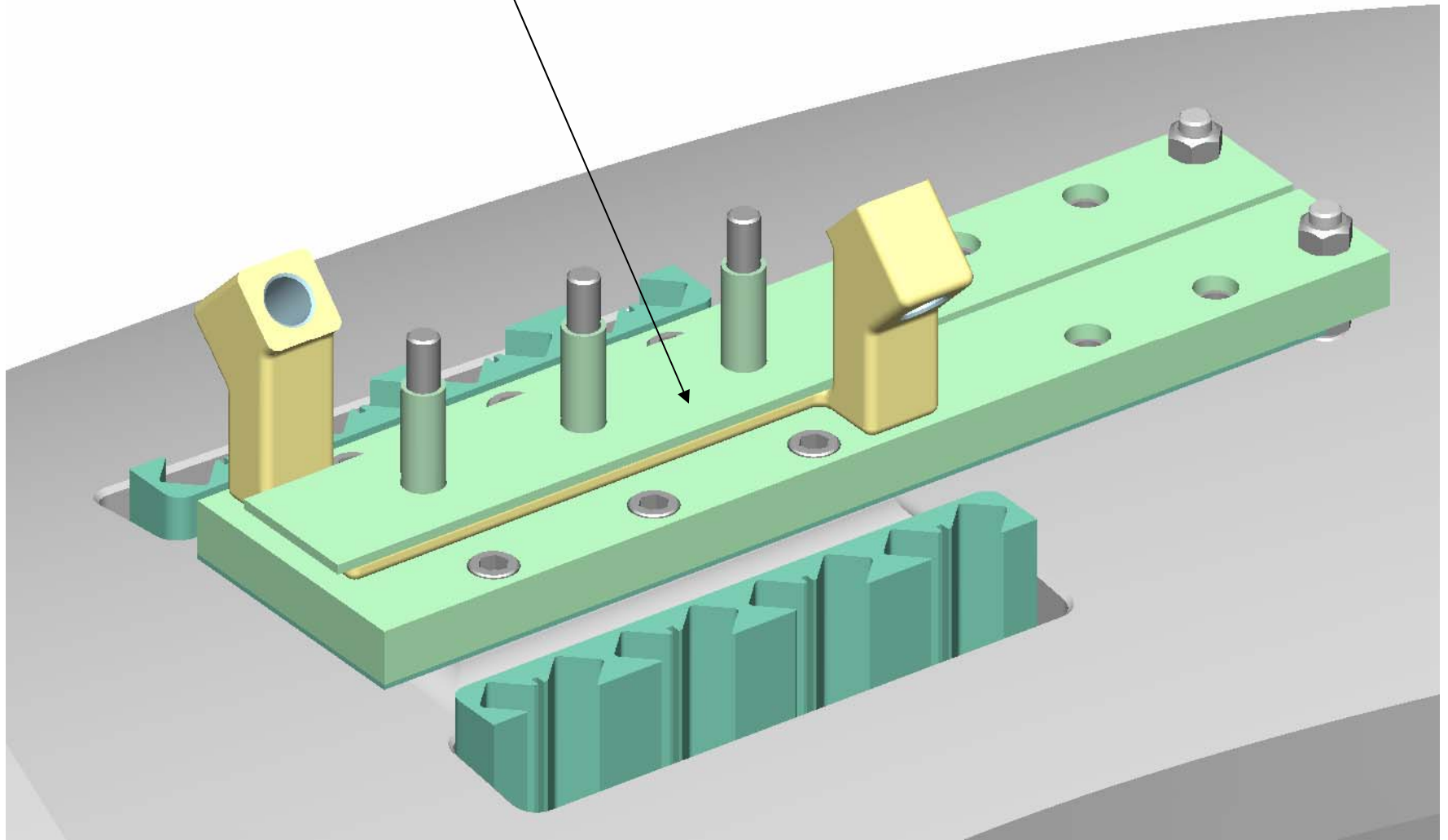
**Install insulating sleeves over studs  
and push into recessed holes**



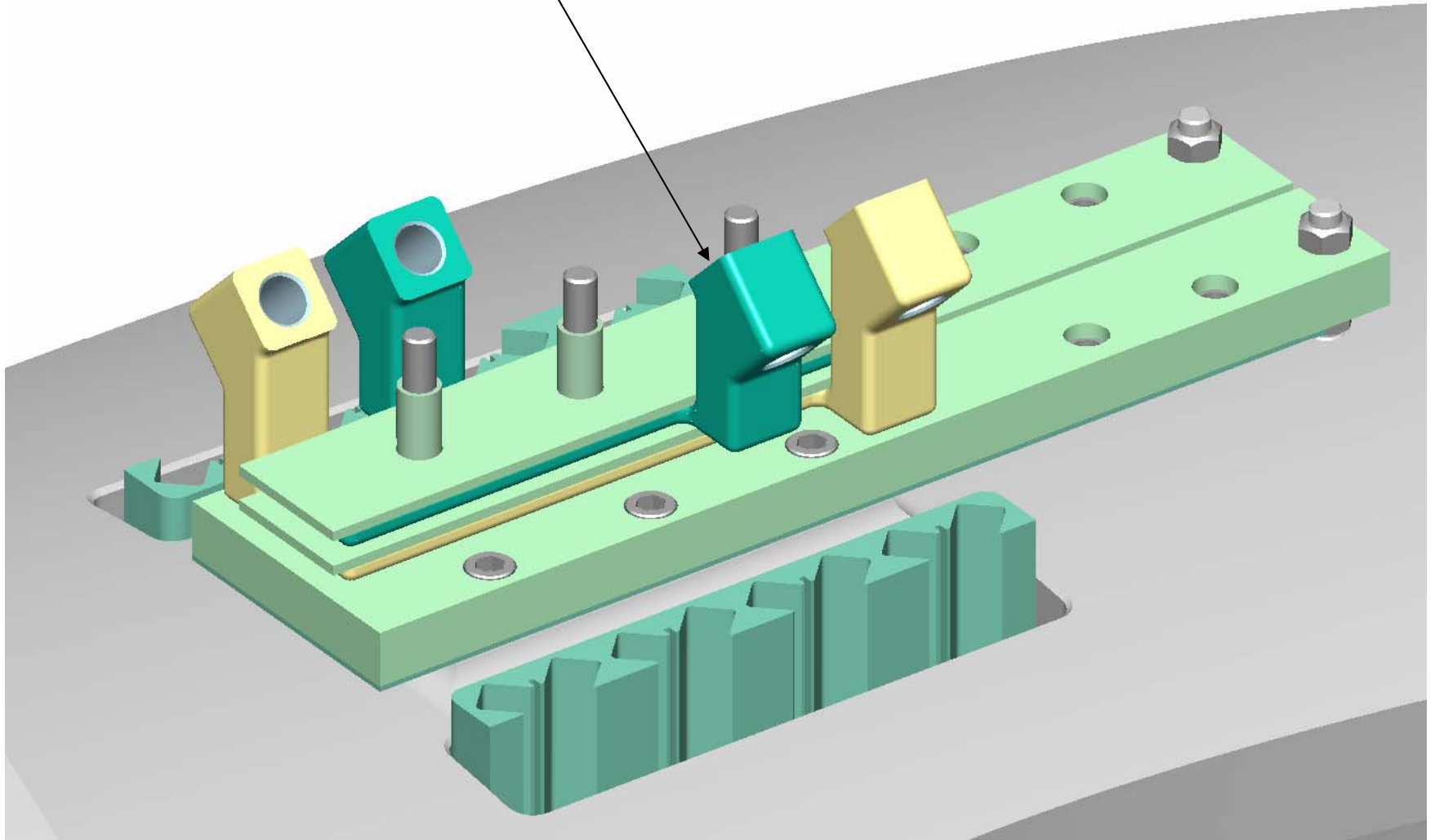
**Install jumper -1**



**Install .125" thick insulator plate**

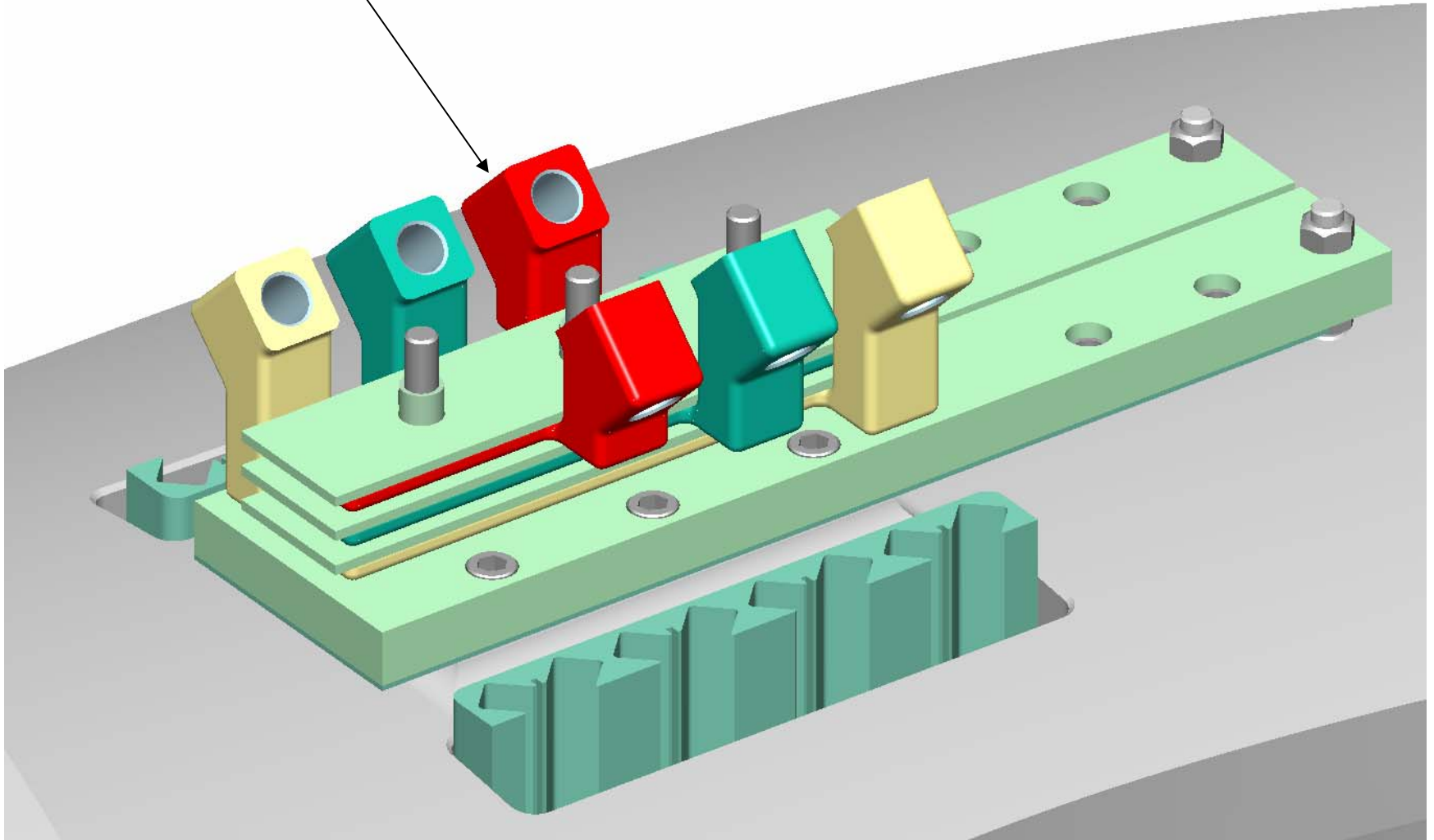


**Install jumper - 2 and insulator plate**



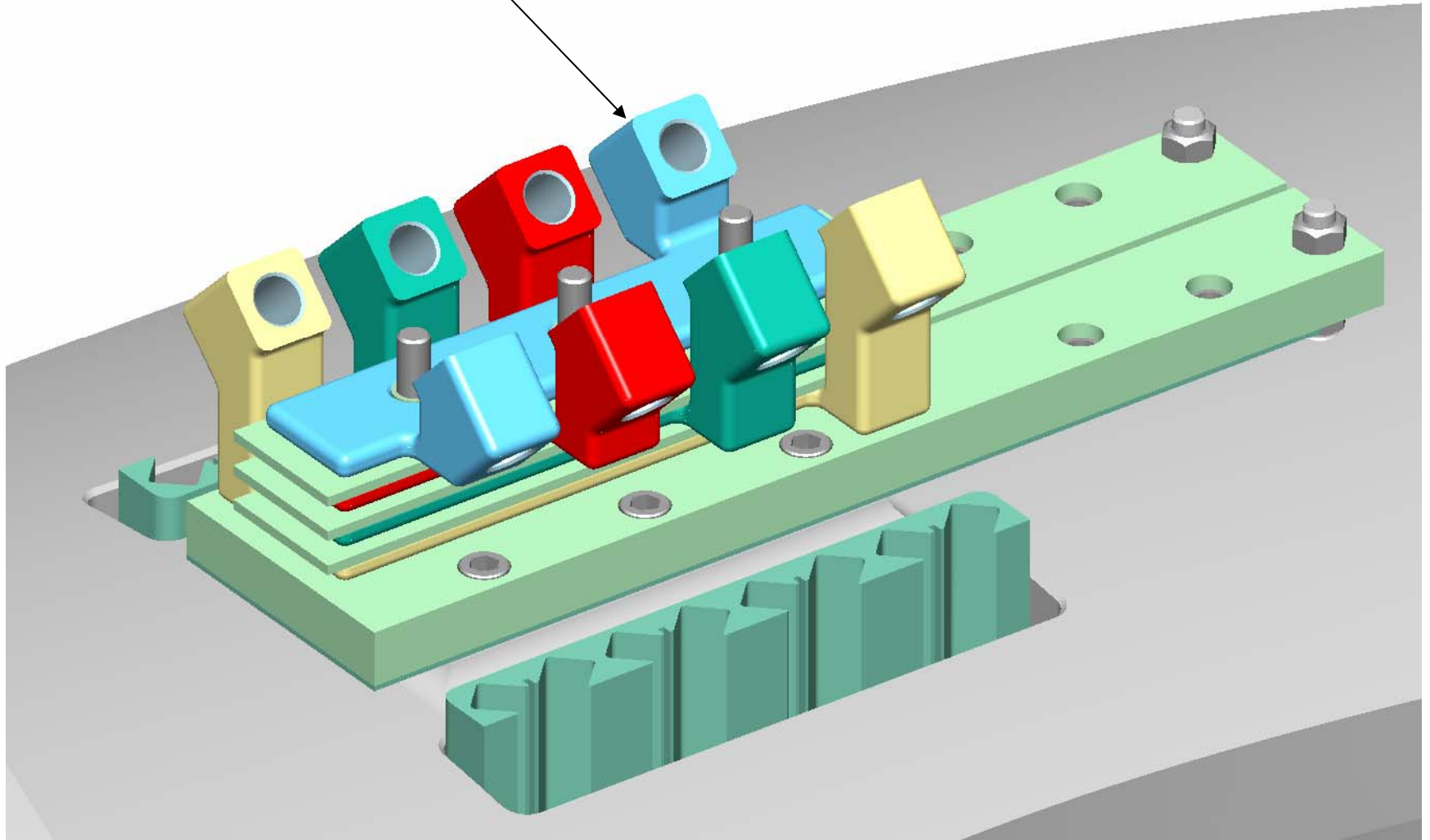


**Install jumper - 3, and insulator plate**

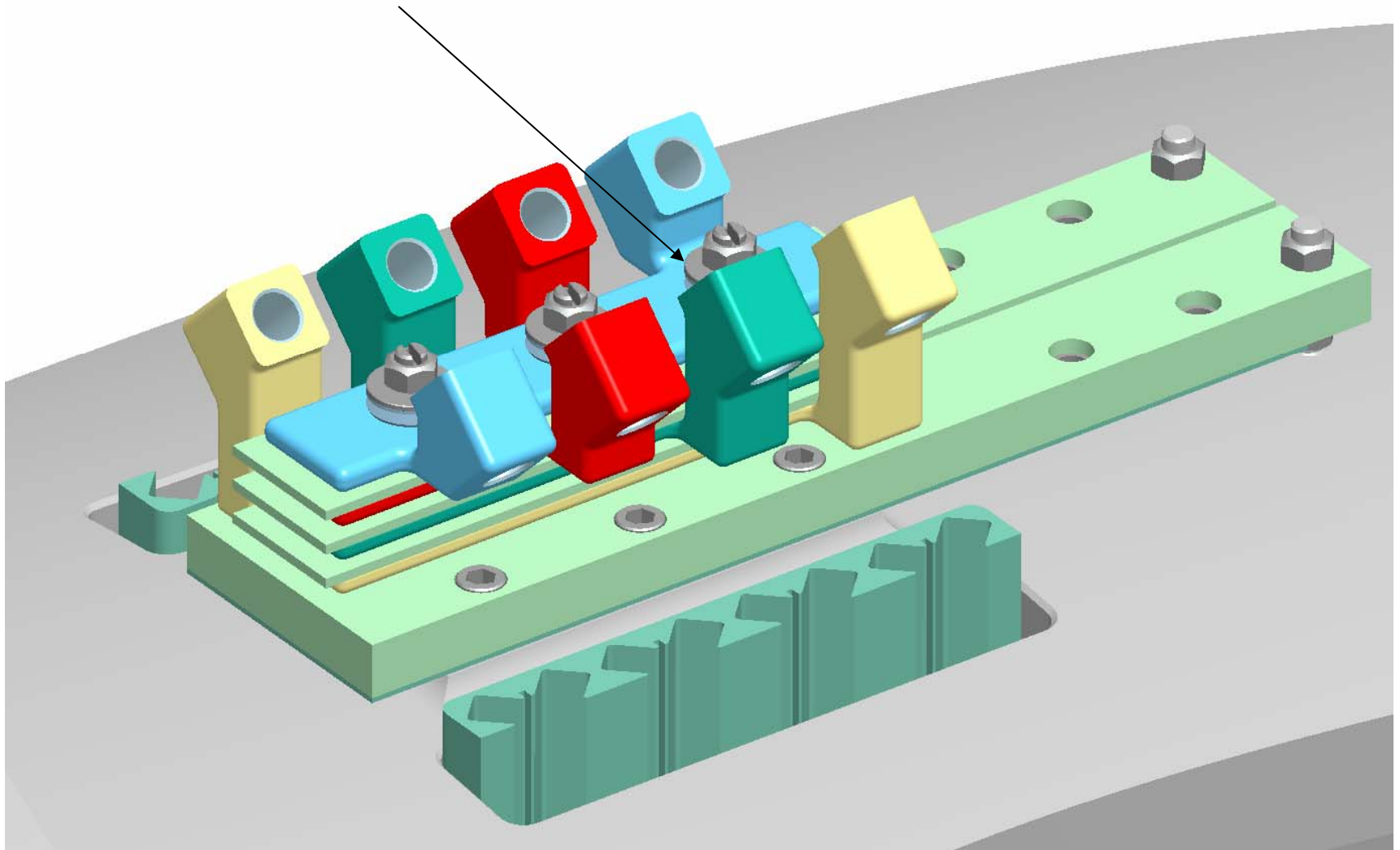




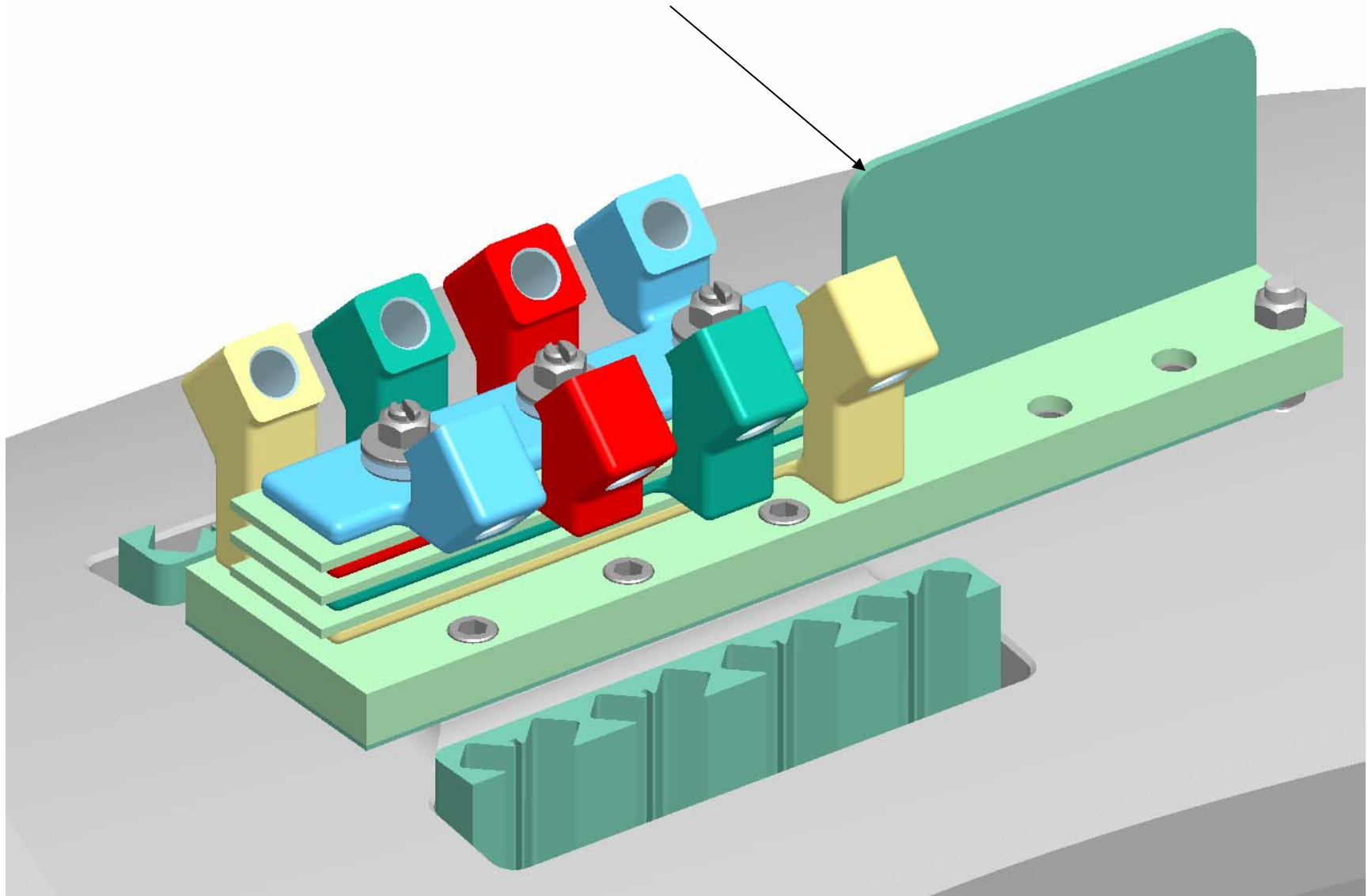
Install jumper - 4



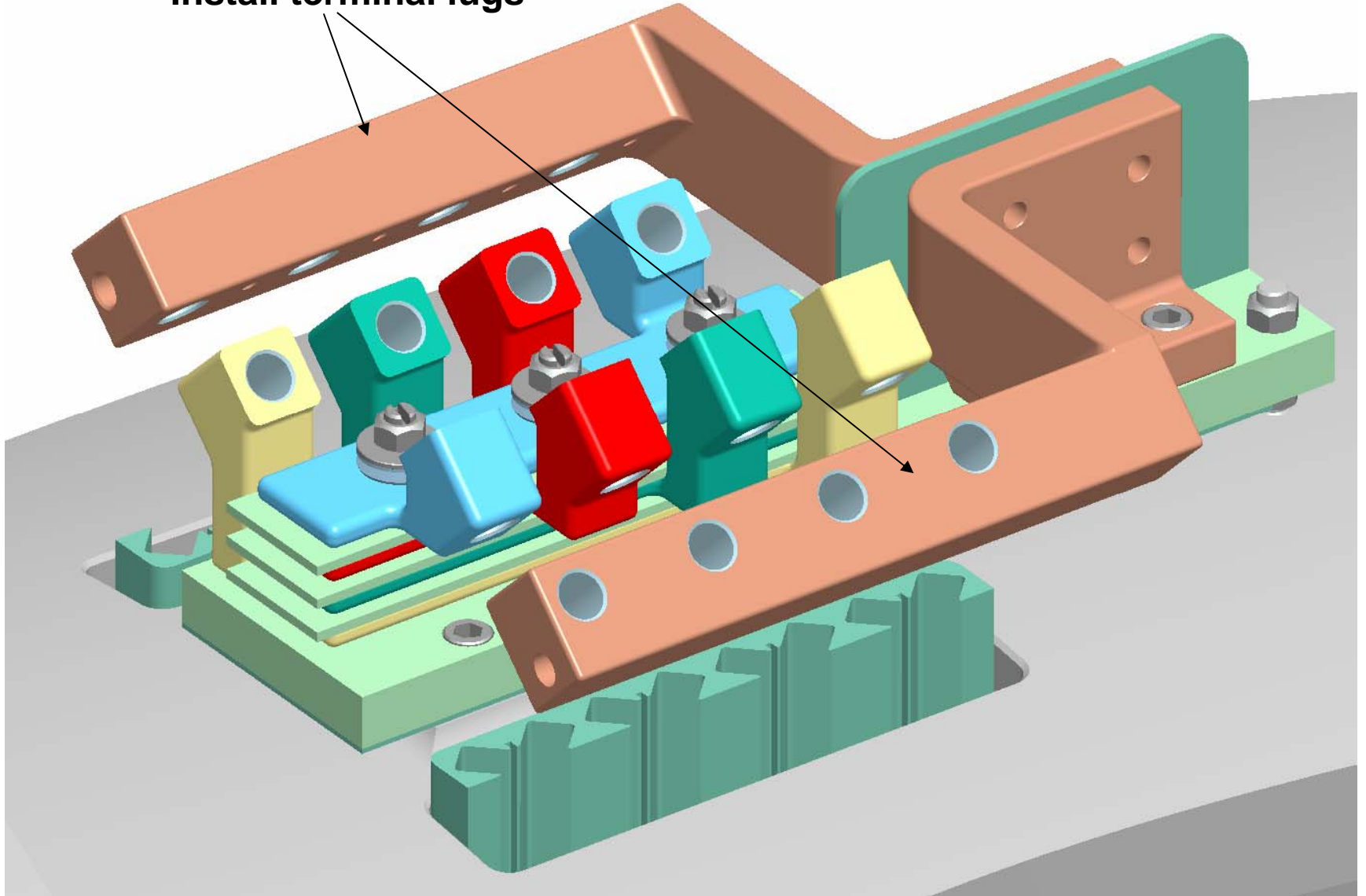
**Install (2) bellville washers, (1) flat washer, and (1) nut (each stud)**



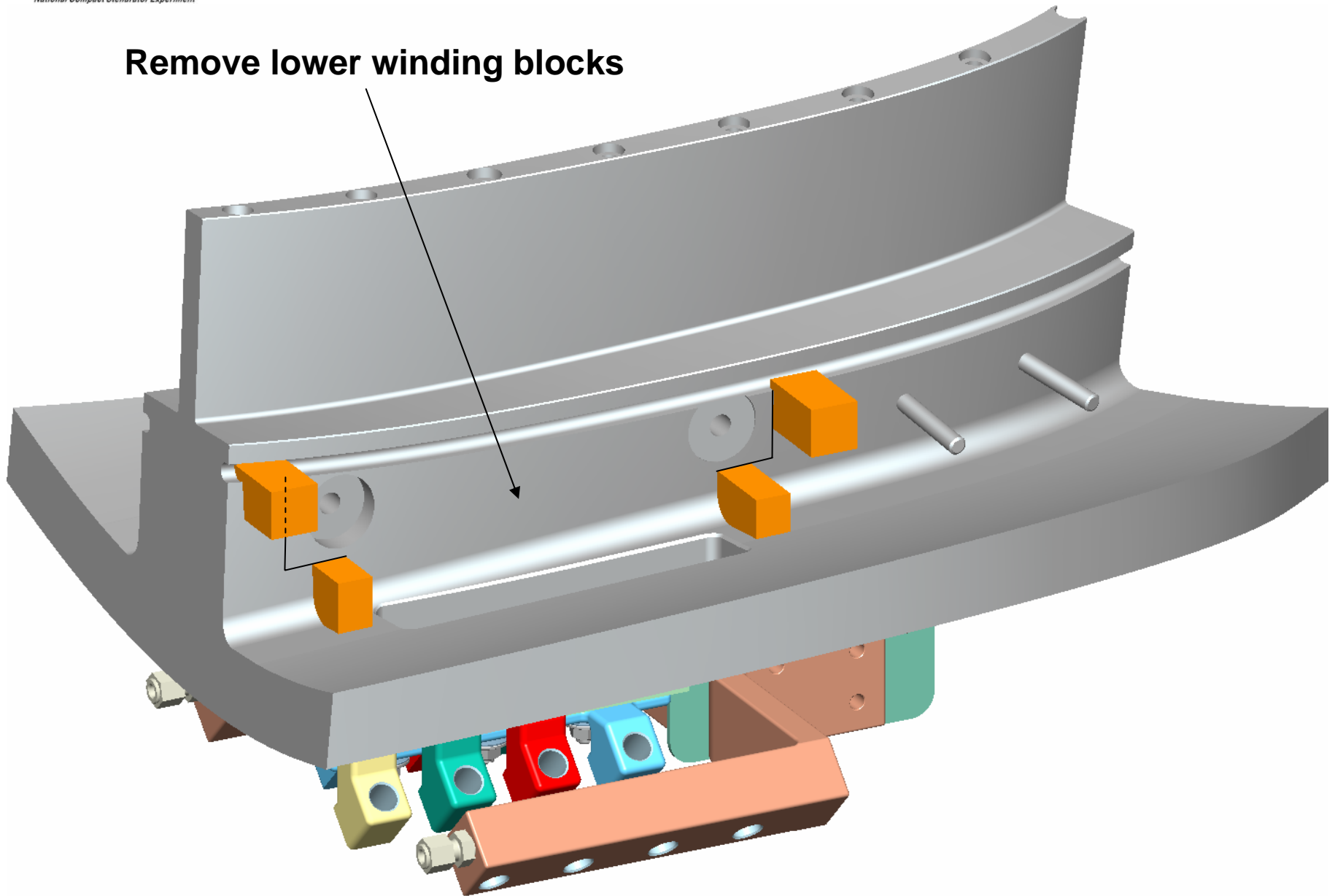
## Install insulator divider plate for terminal lugs



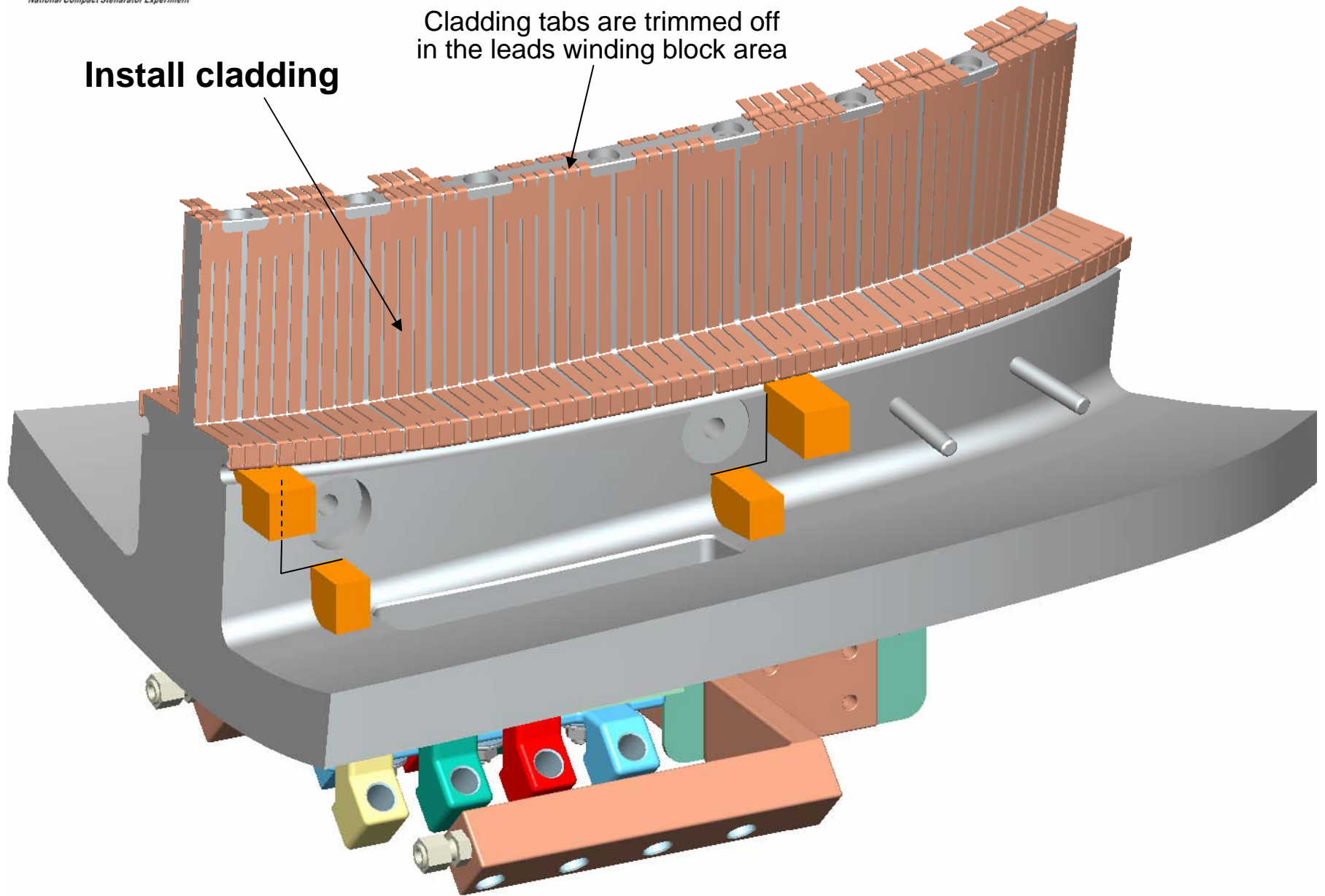
**Install terminal lugs**



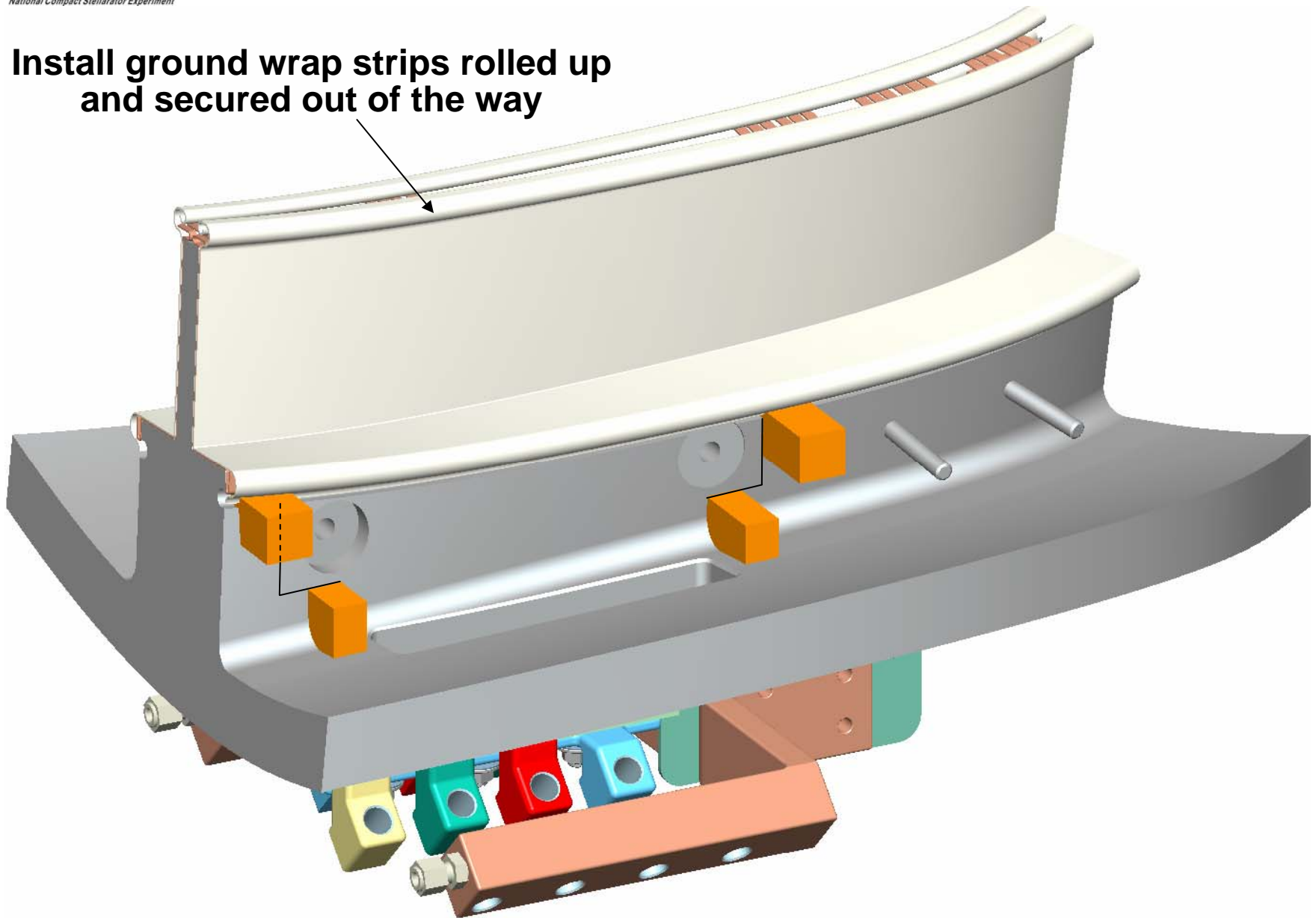
**Remove lower winding blocks**



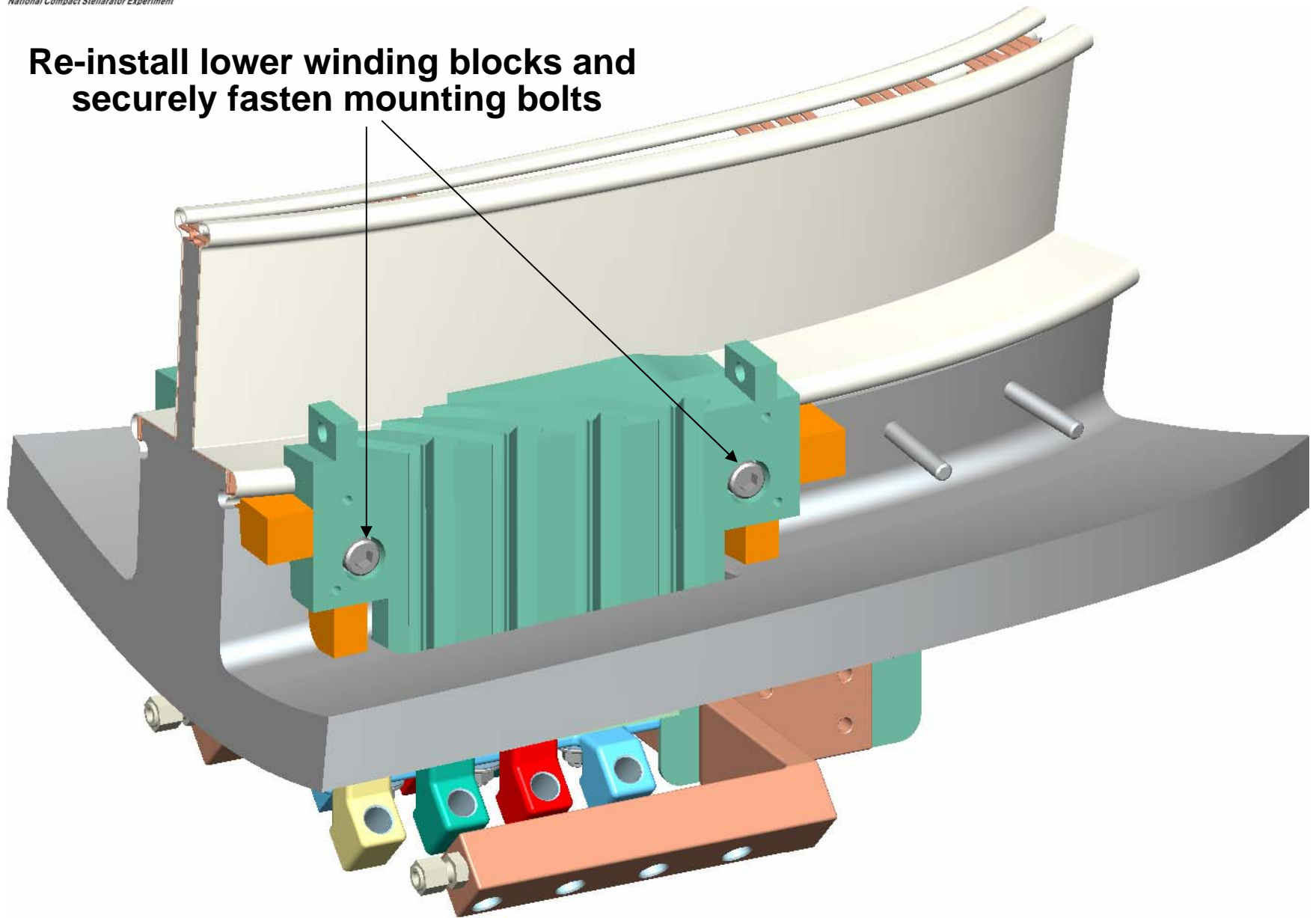




**Install ground wrap strips rolled up  
and secured out of the way**

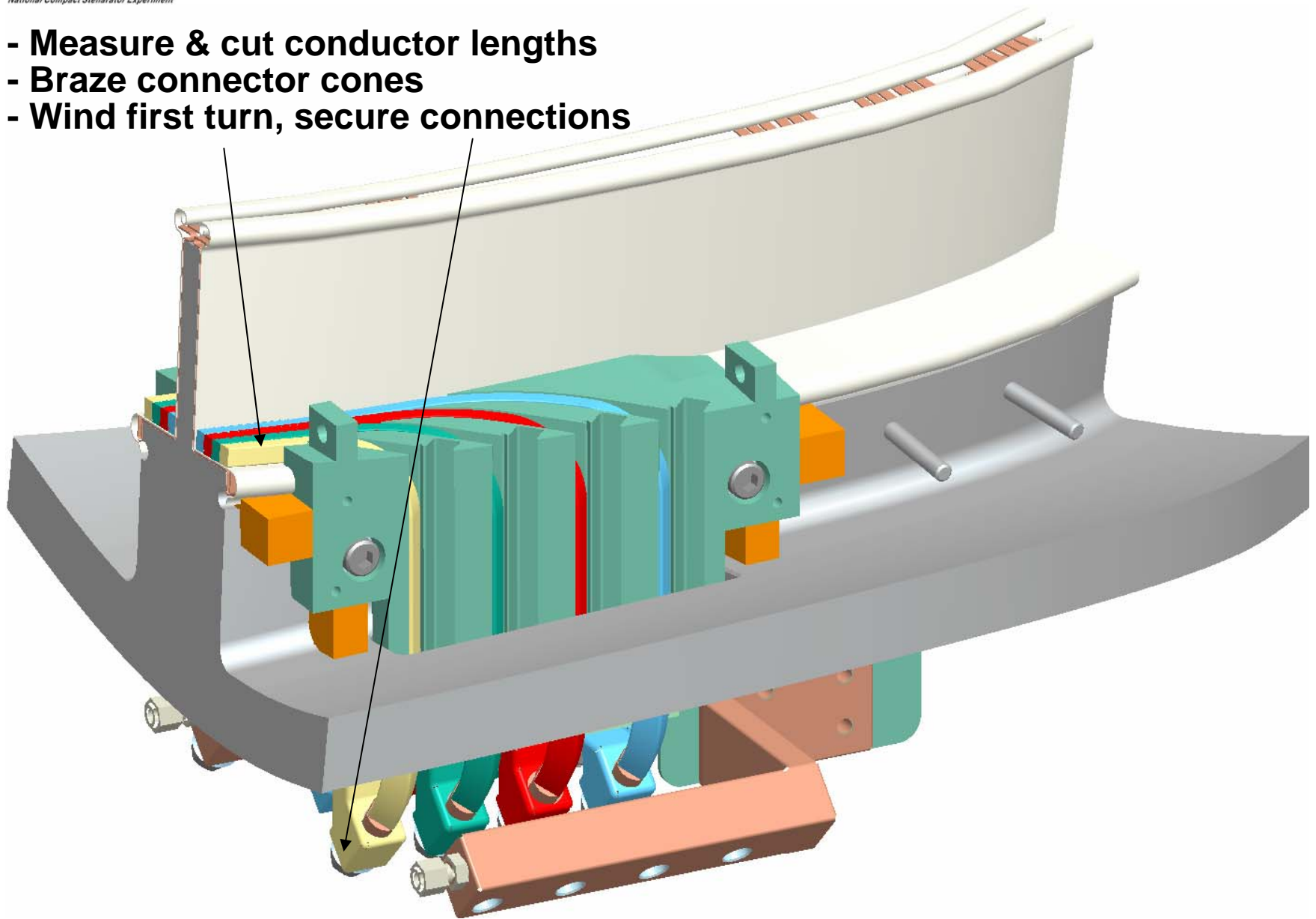


**Re-install lower winding blocks and  
securely fasten mounting bolts**

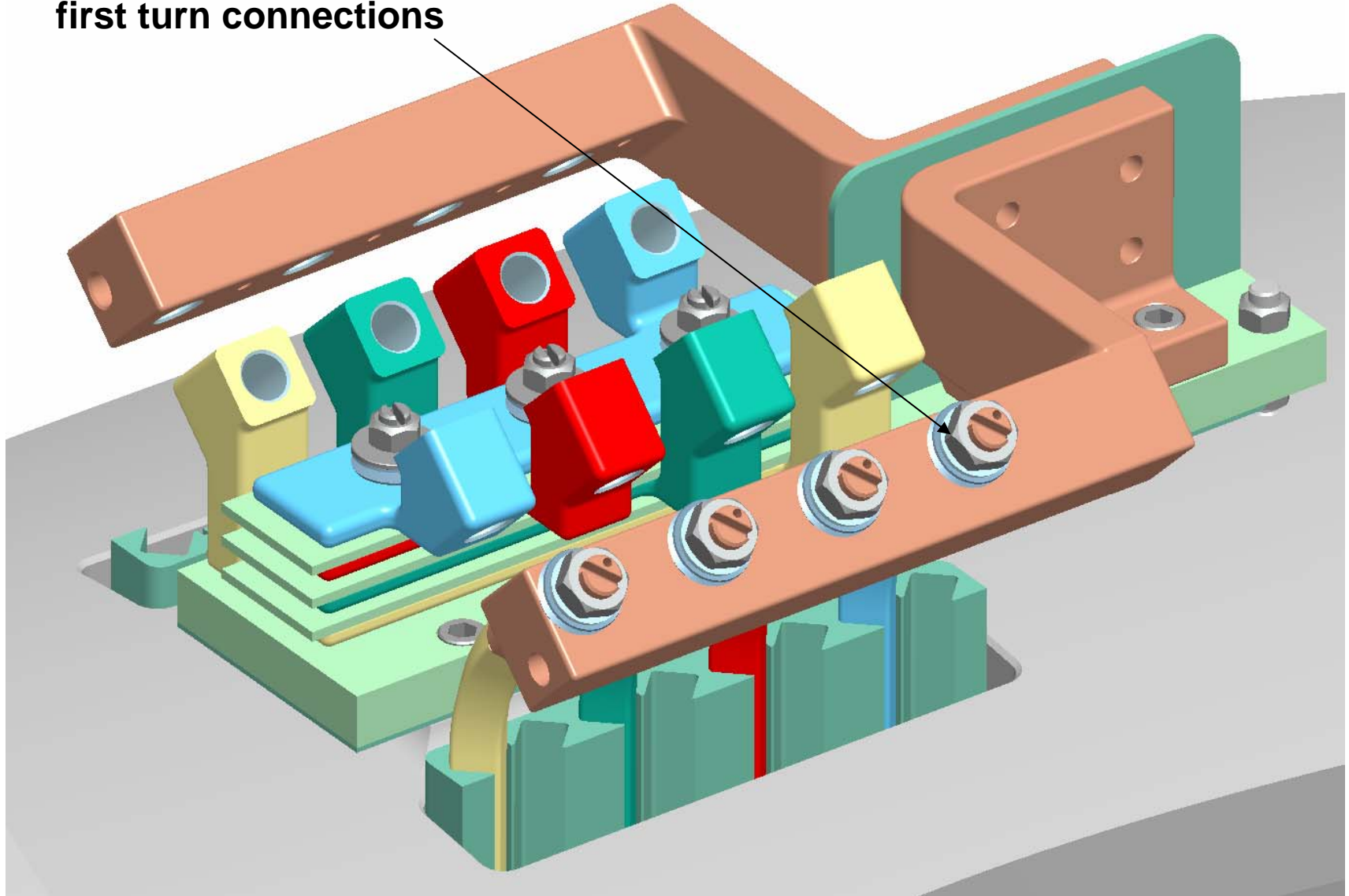




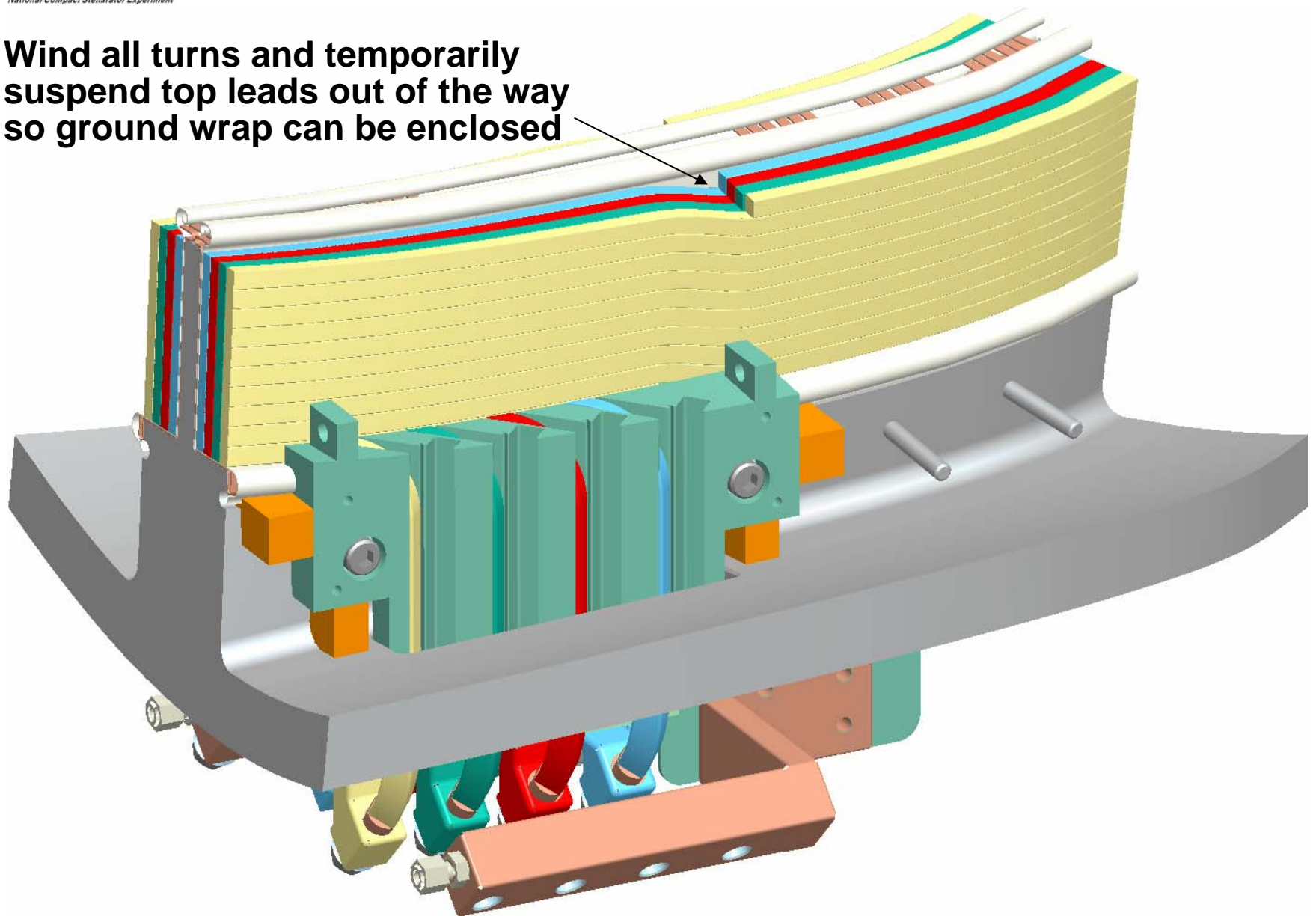
- Measure & cut conductor lengths
- Braze connector cones
- Wind first turn, secure connections



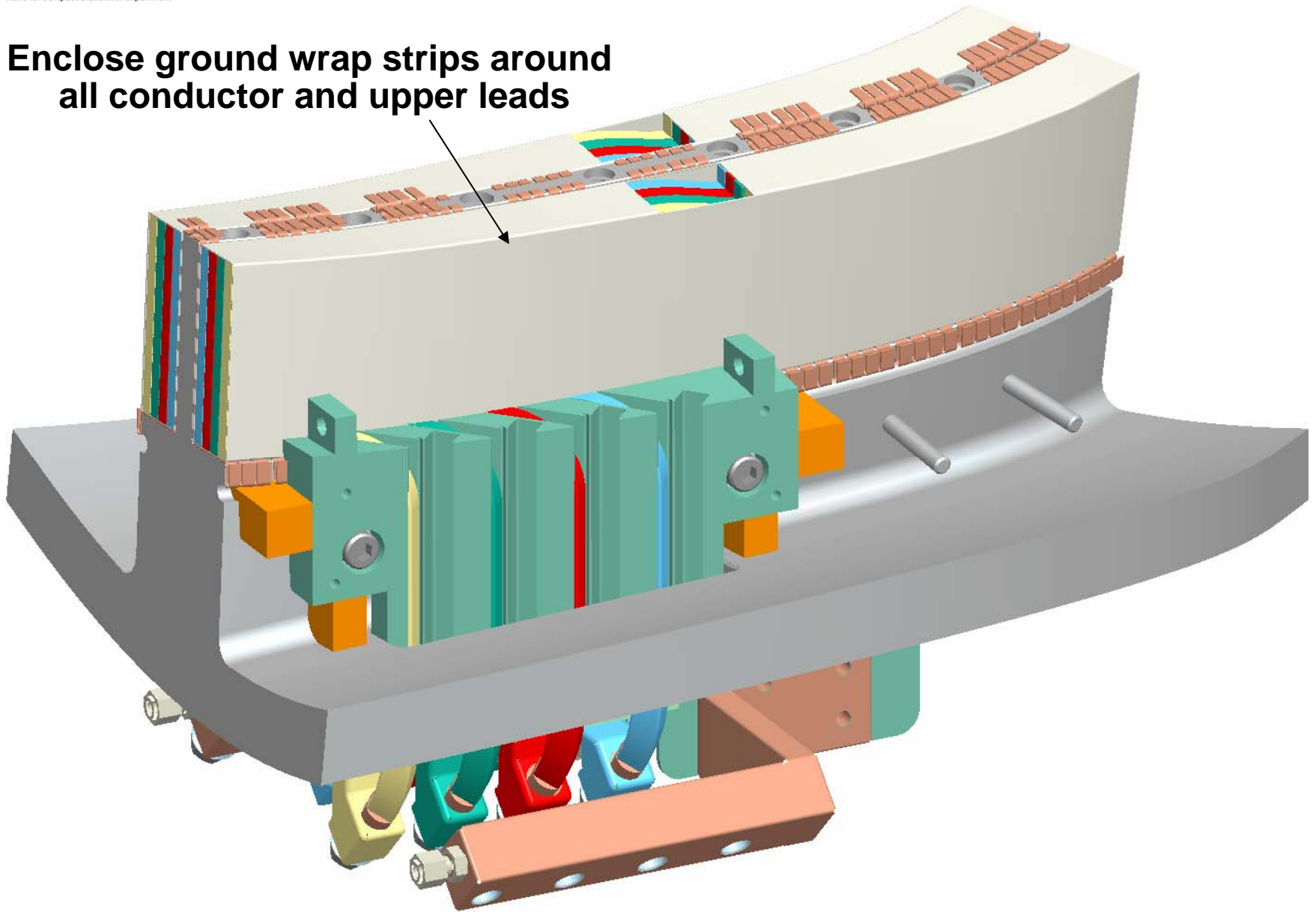
**Underneath view showing  
first turn connections**



**Wind all turns and temporarily suspend top leads out of the way so ground wrap can be enclosed**

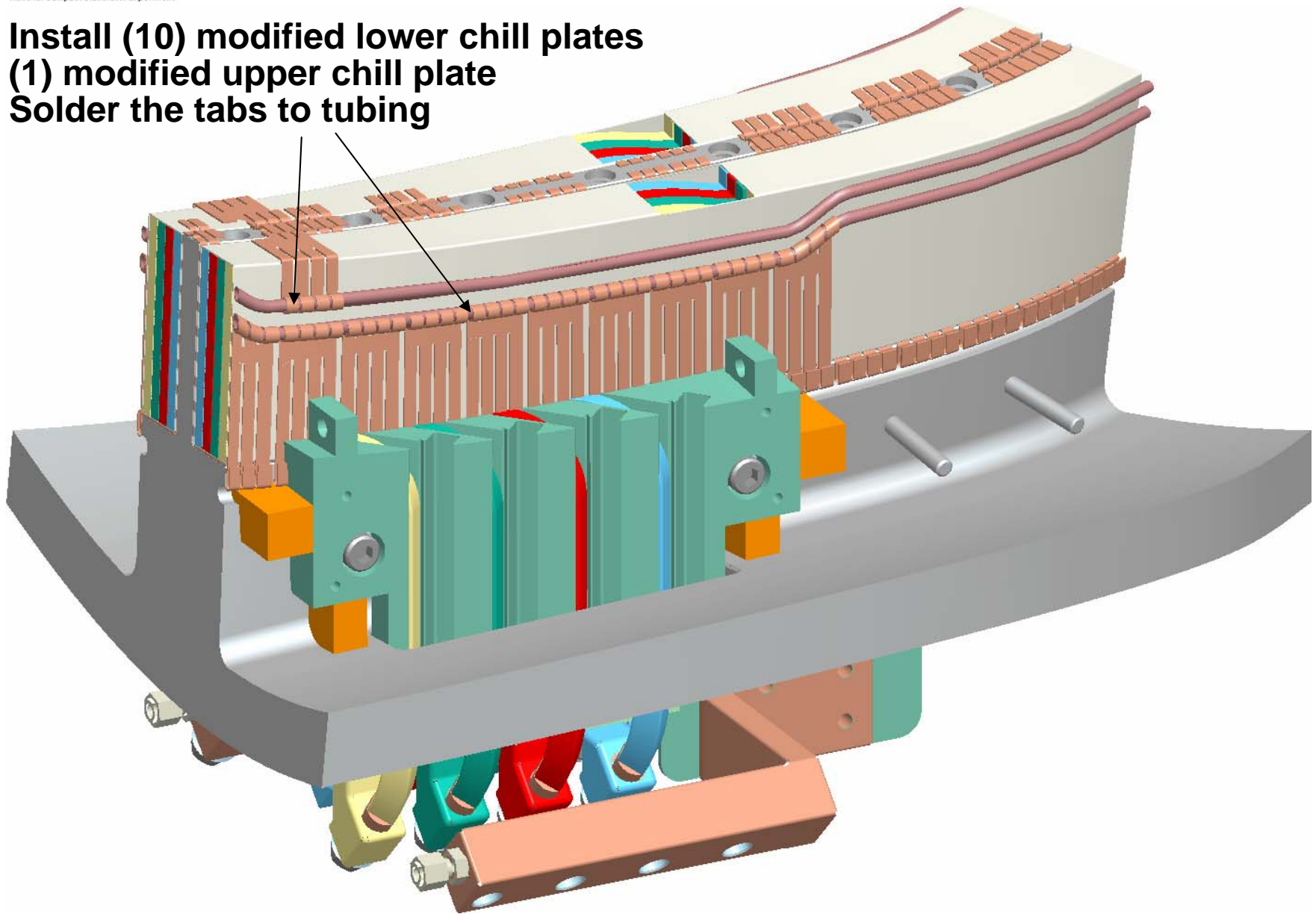


**Enclose ground wrap strips around  
all conductor and upper leads**

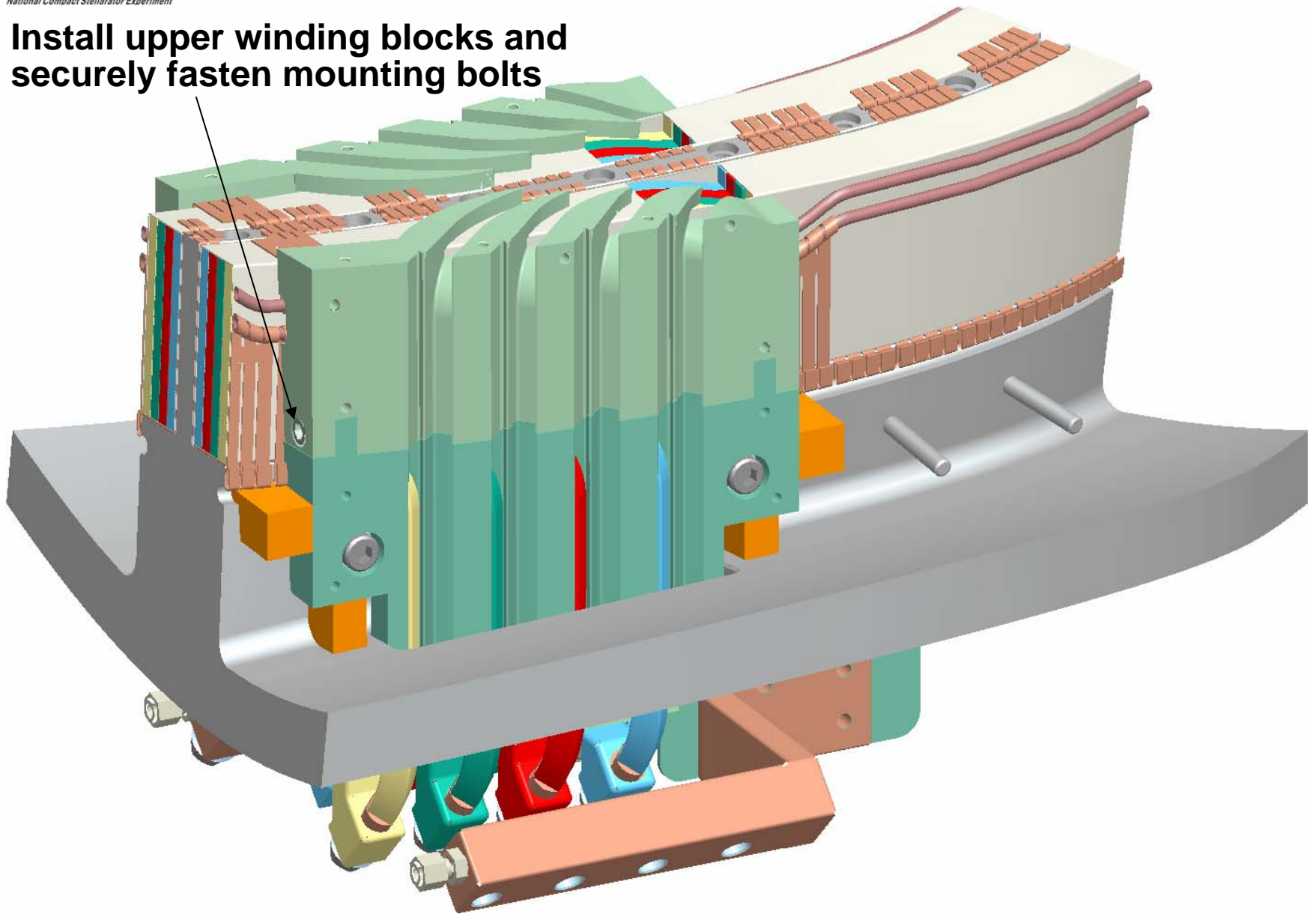




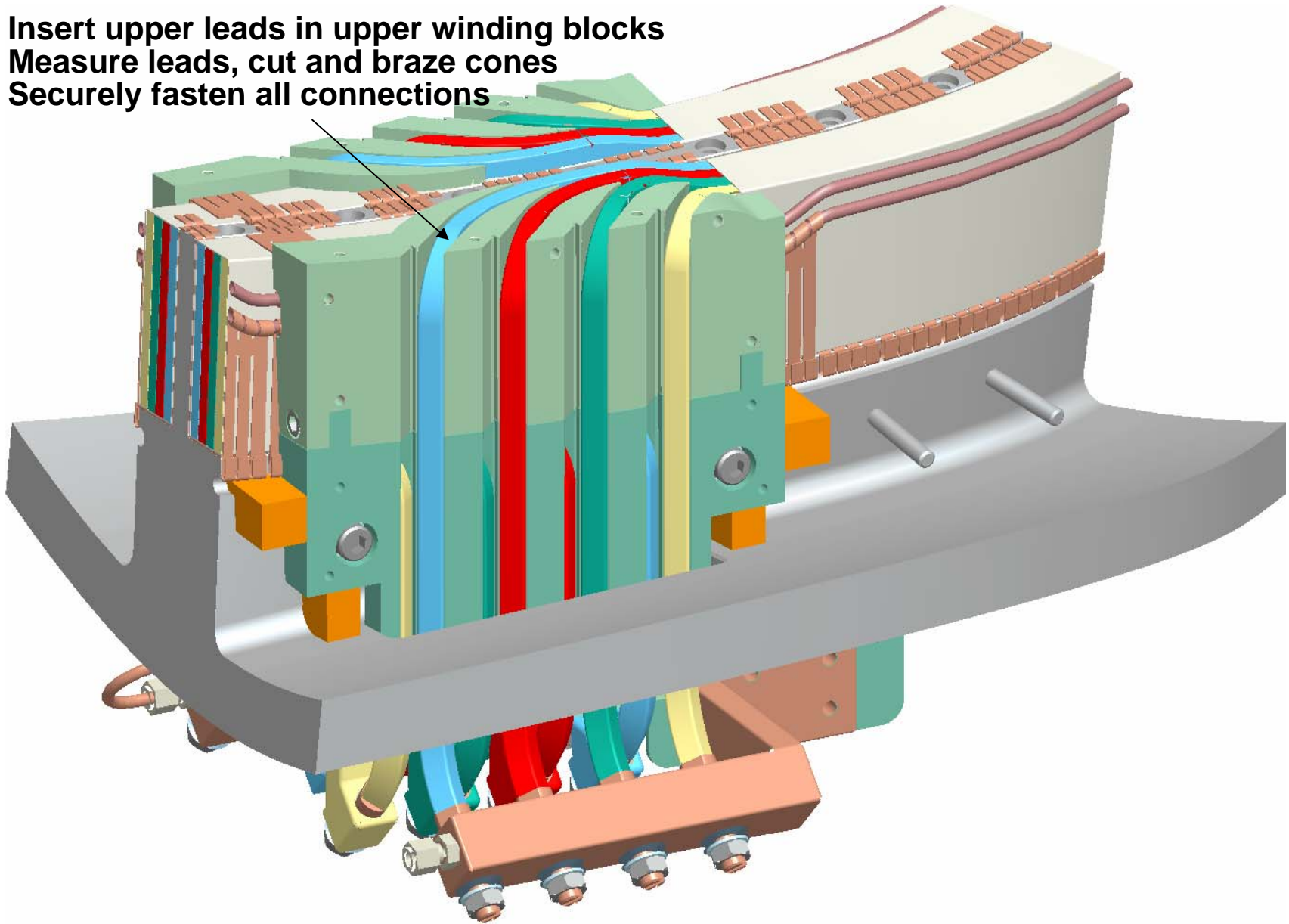
**Install (10) modified lower chill plates  
(1) modified upper chill plate  
Solder the tabs to tubing**



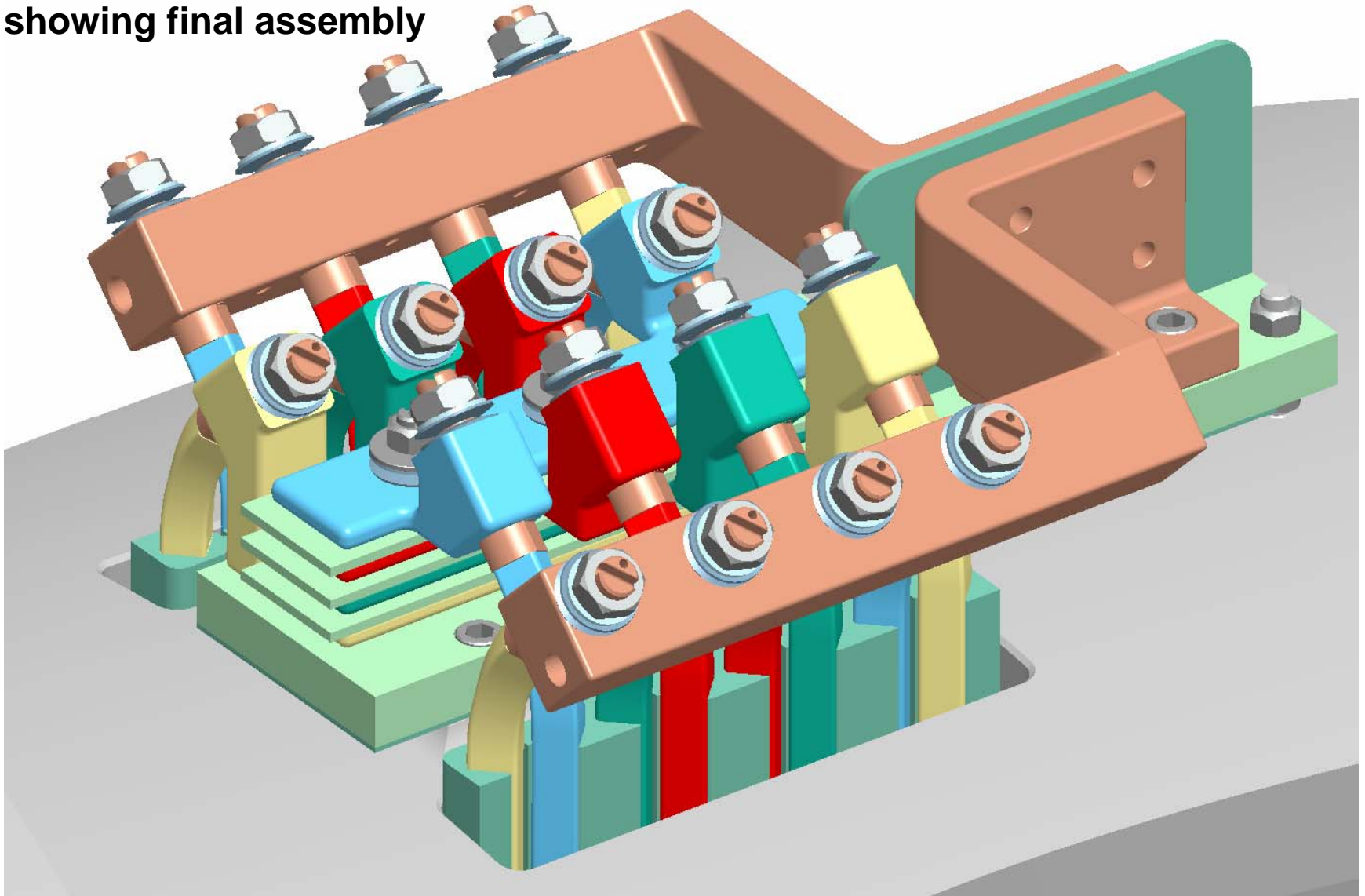
**Install upper winding blocks and  
securely fasten mounting bolts**



- Insert upper leads in upper winding blocks
- Measure leads, cut and braze cones
- Securely fasten all connections

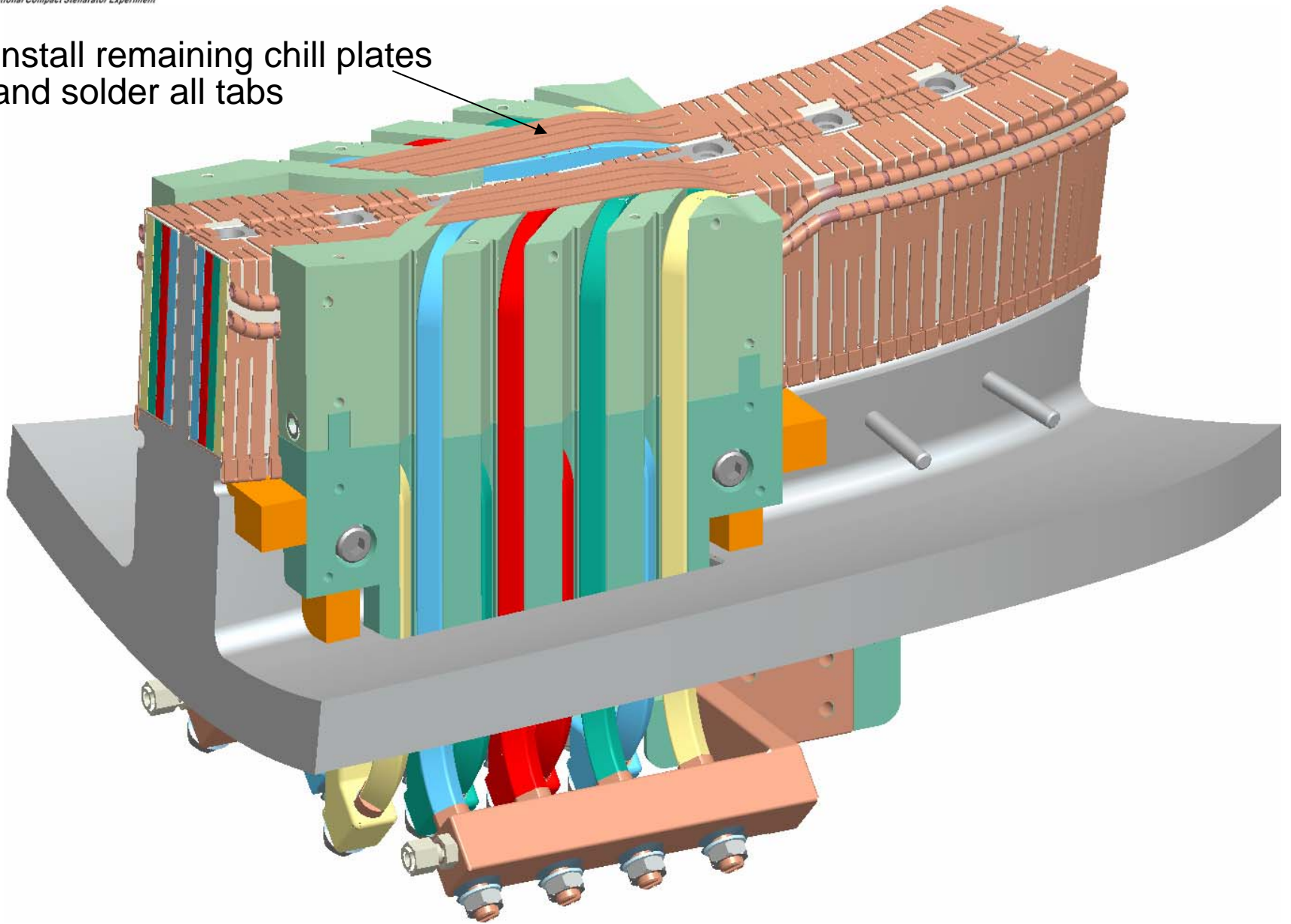


## Underneath view showing final assembly

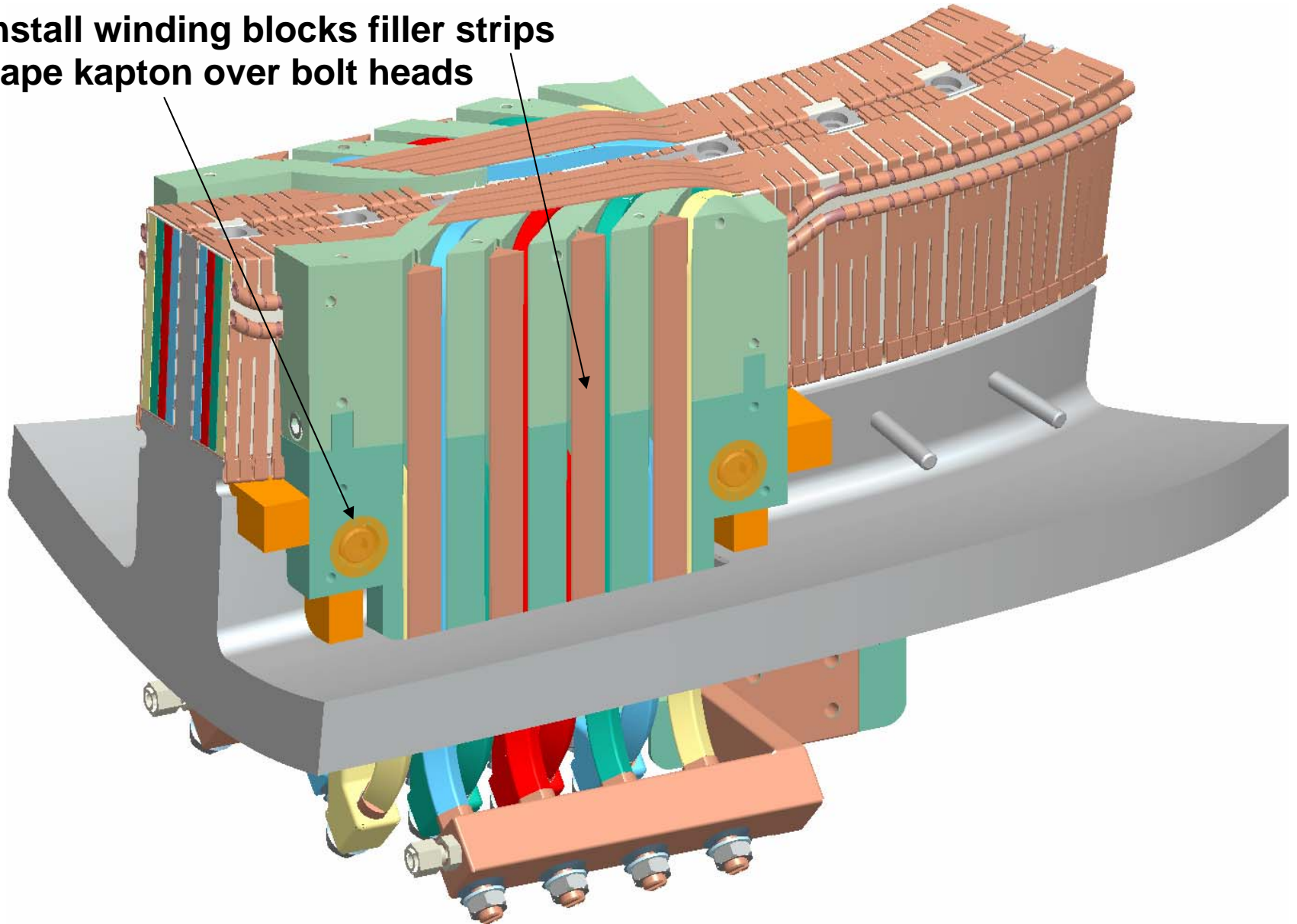




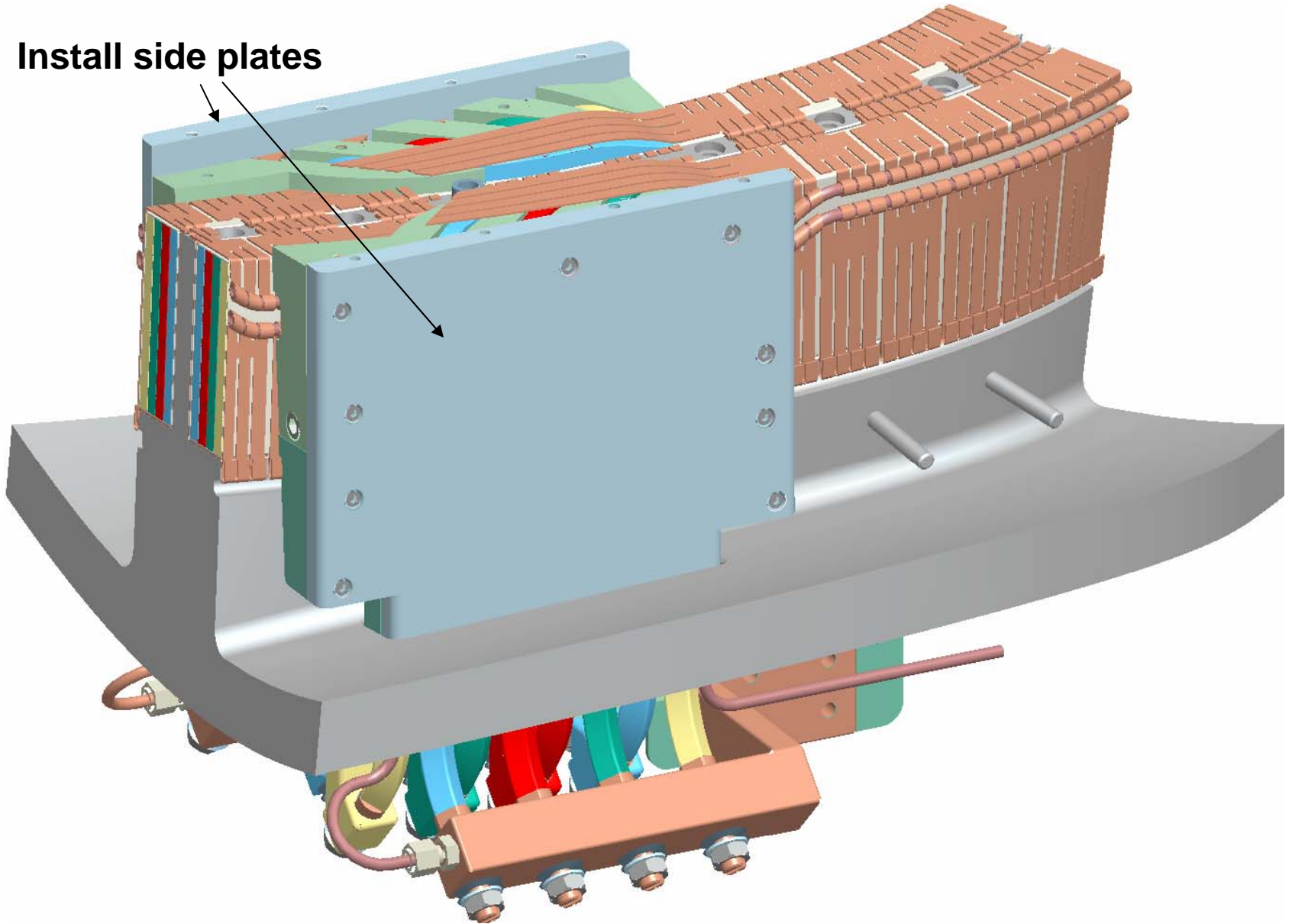
Install remaining chill plates  
and solder all tabs



**Install winding blocks filler strips**  
**Tape kapton over bolt heads**

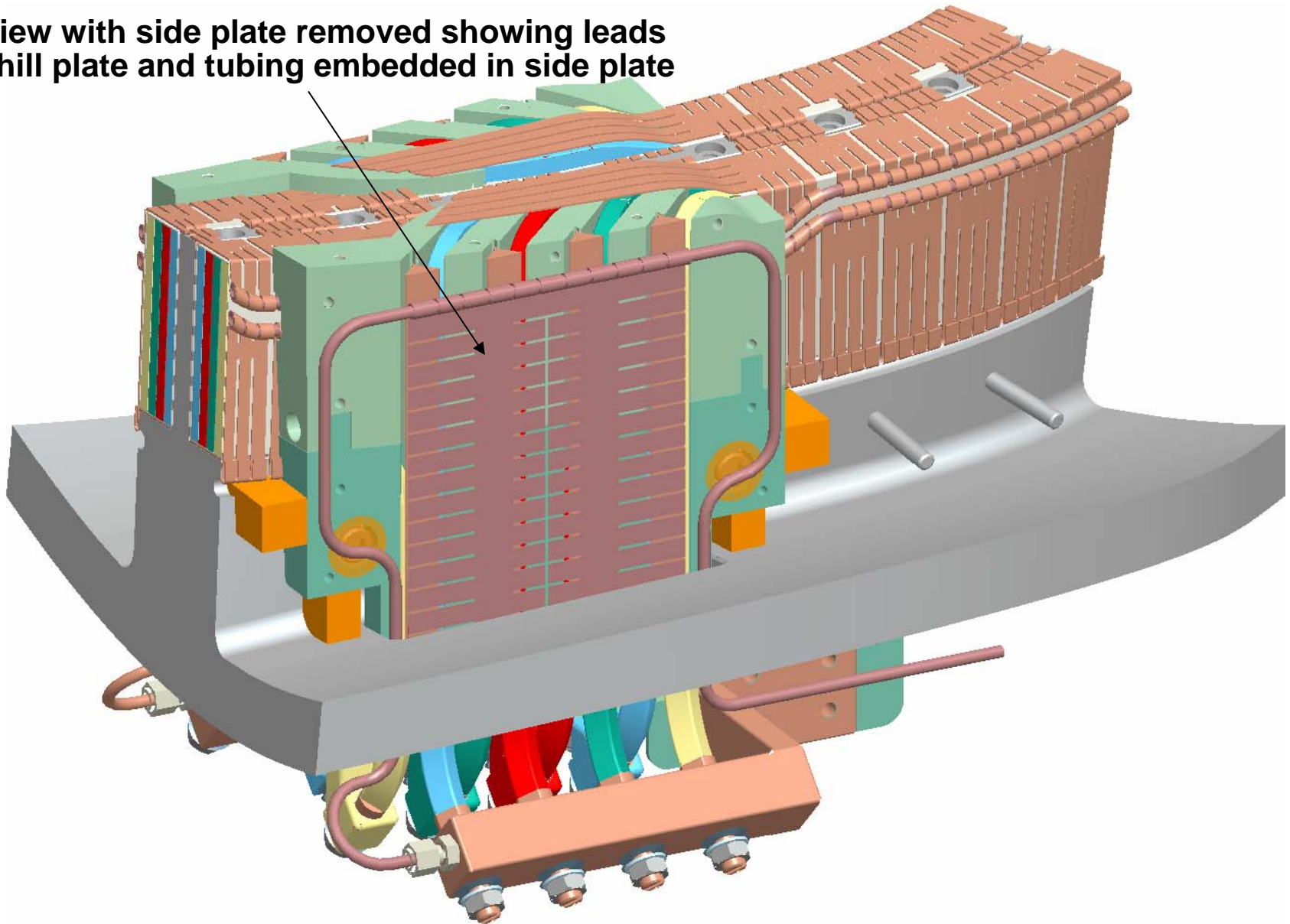


**Install side plates**

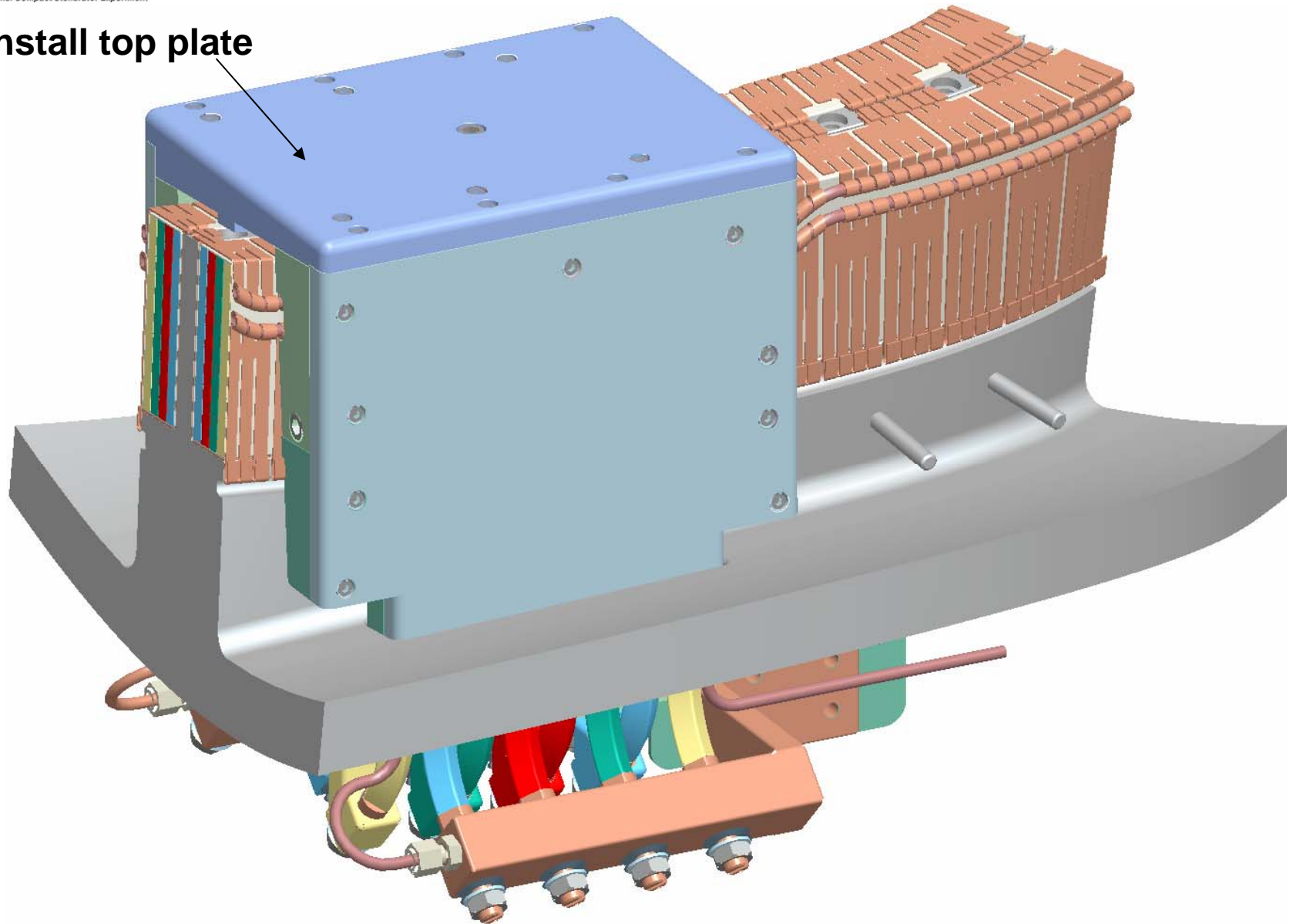


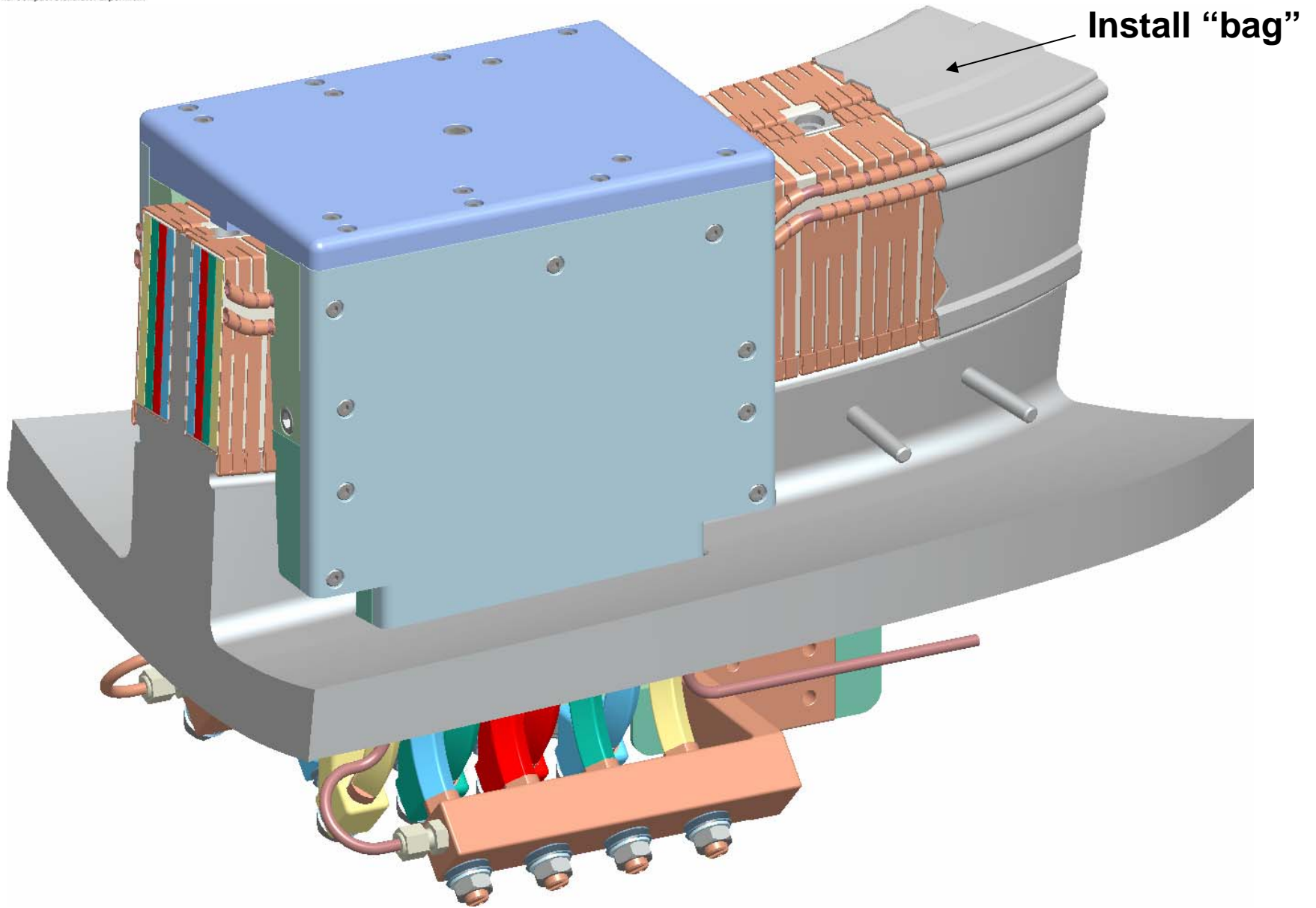


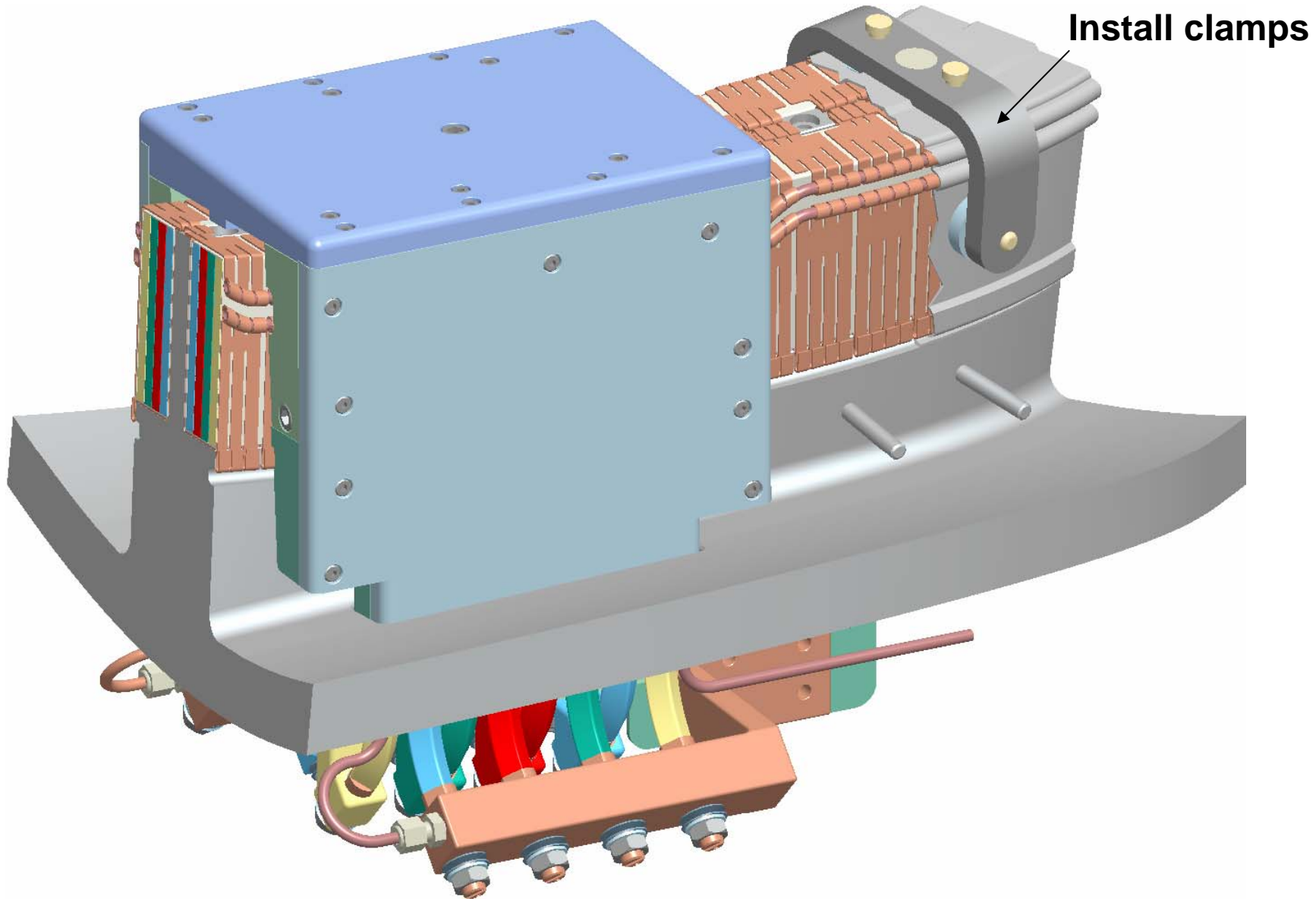
**View with side plate removed showing leads  
chill plate and tubing embedded in side plate**



**Install top plate**

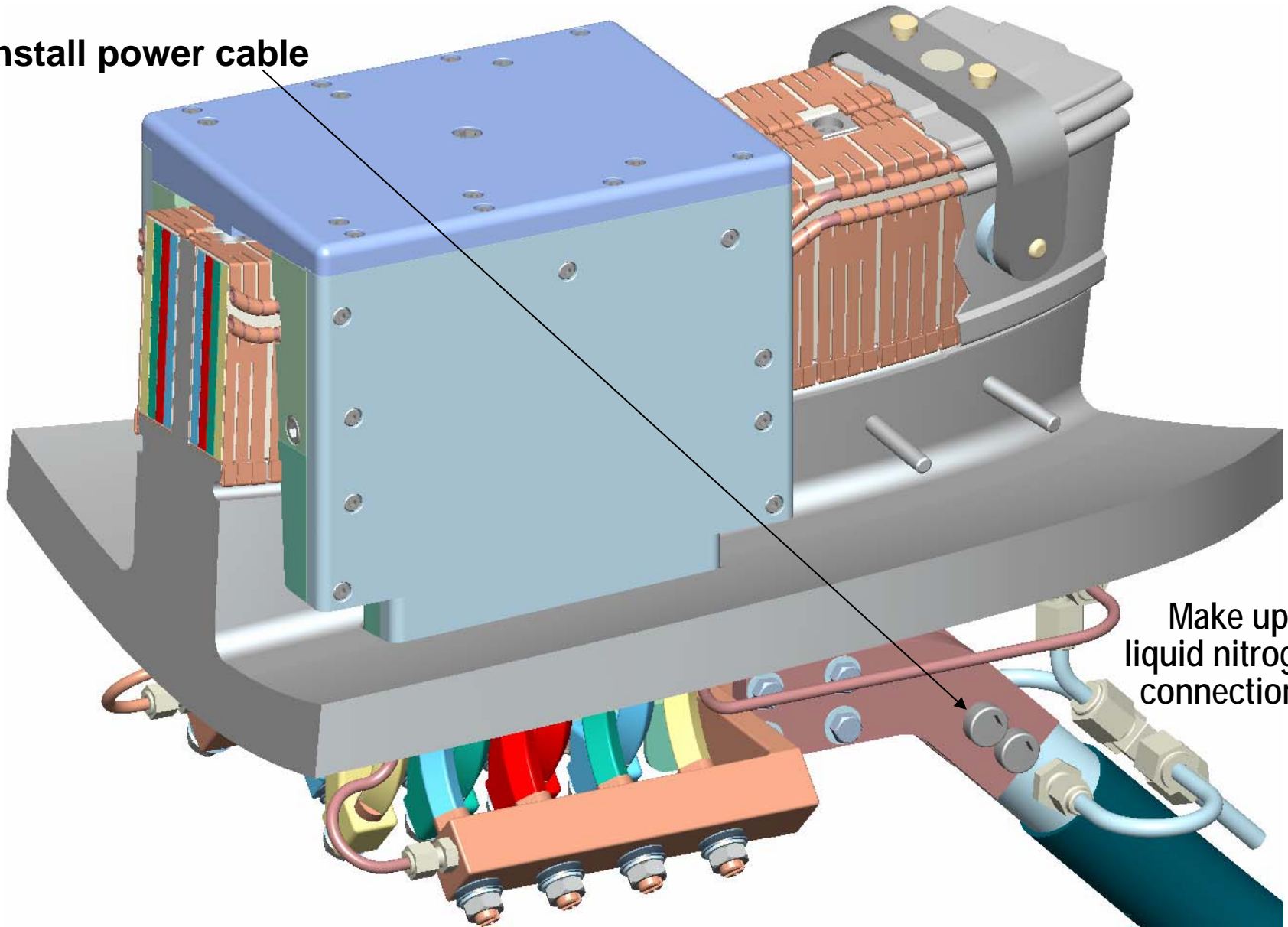








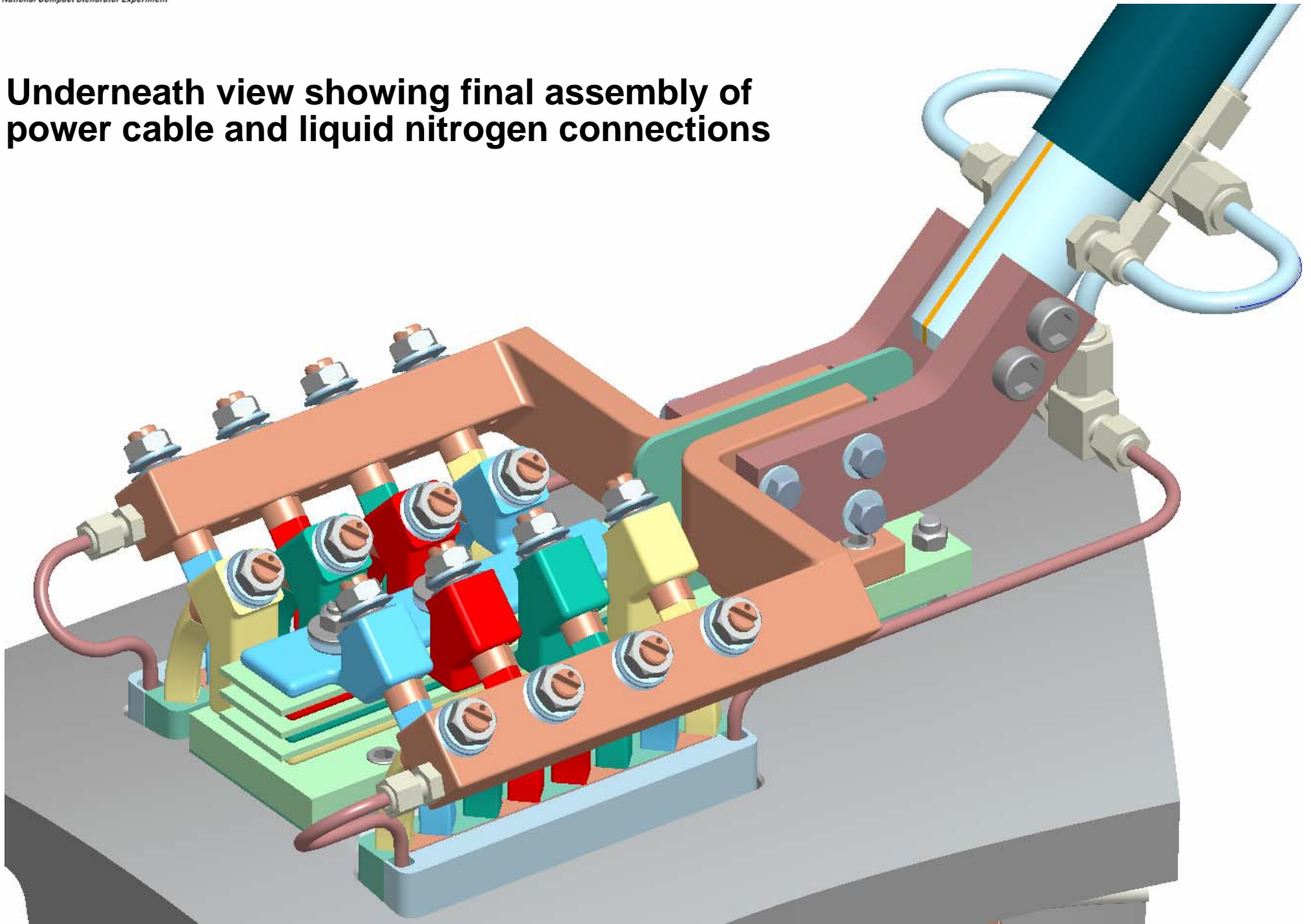
**Install power cable**

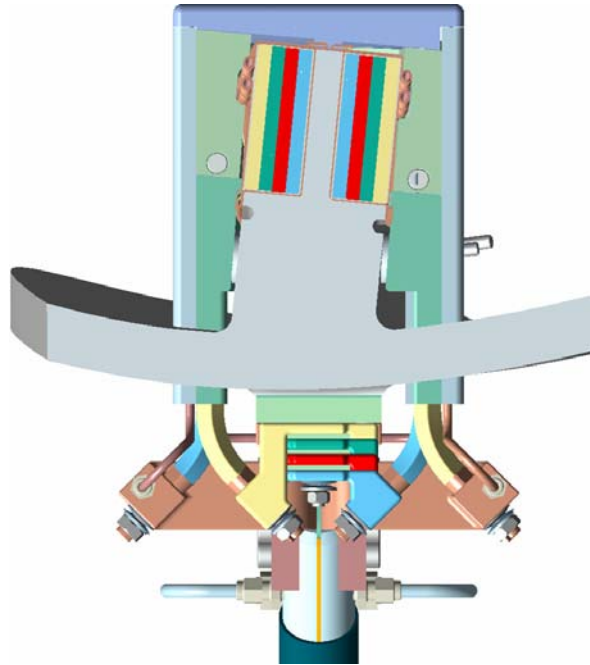


**Make up  
liquid nitrogen  
connections**

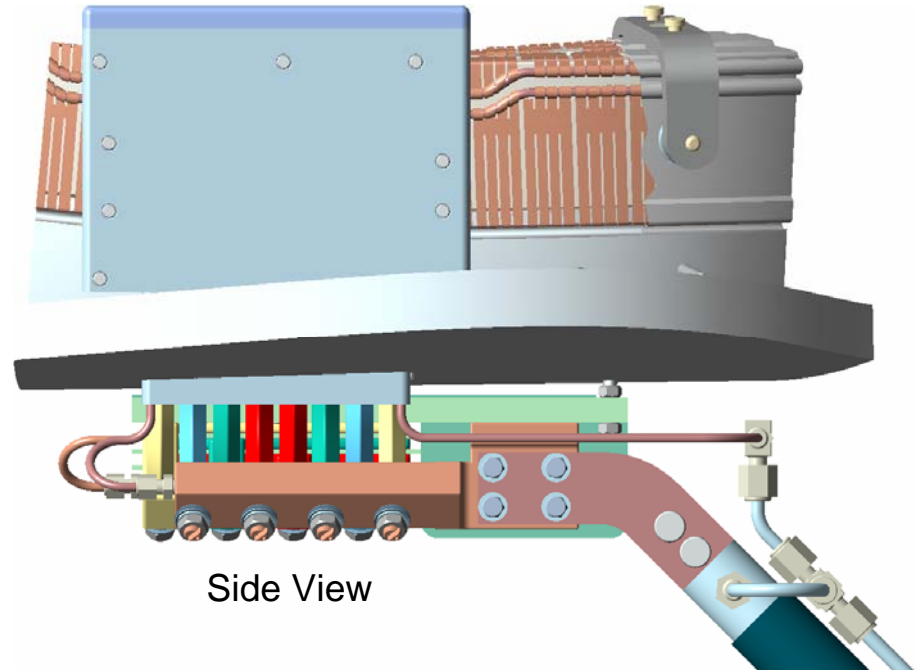


**Underneath view showing final assembly of power cable and liquid nitrogen connections**

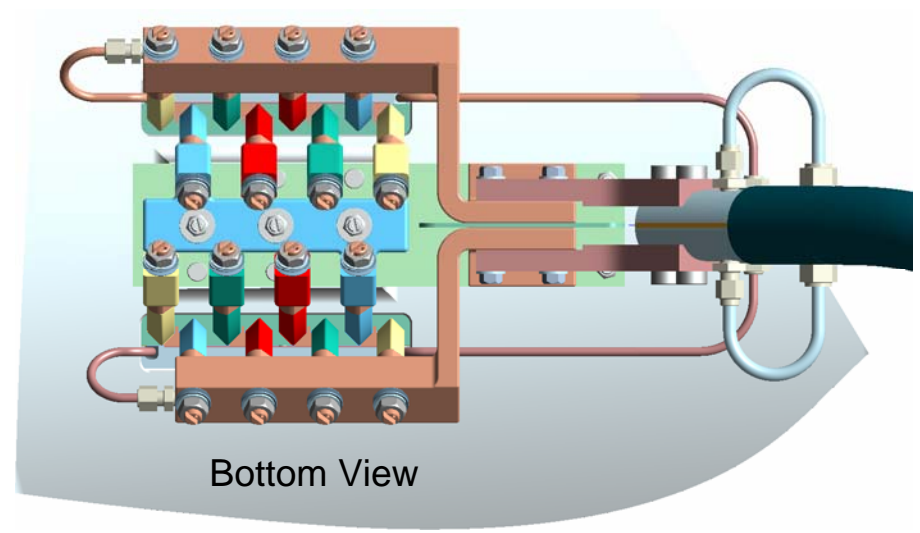




End View



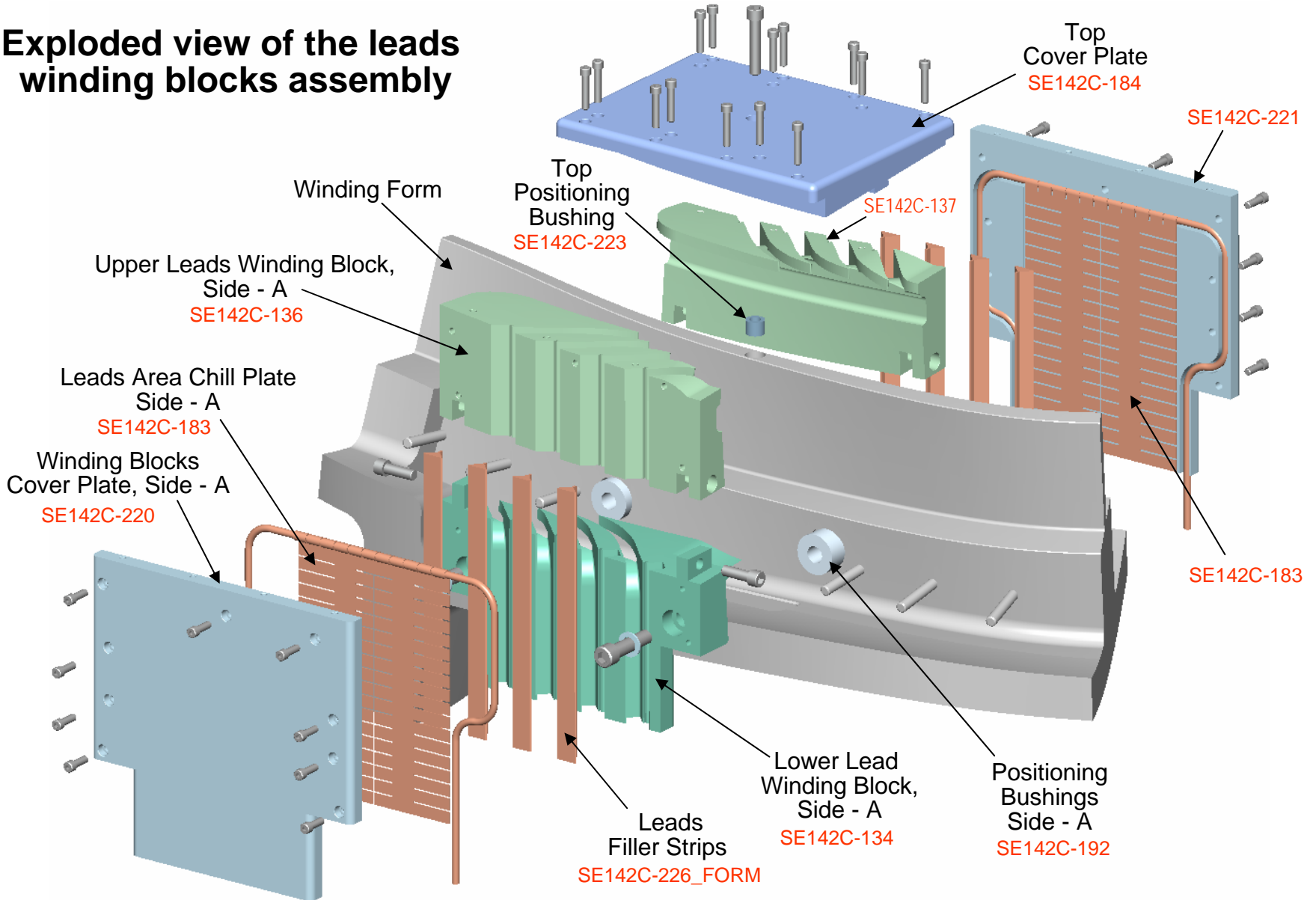
Side View



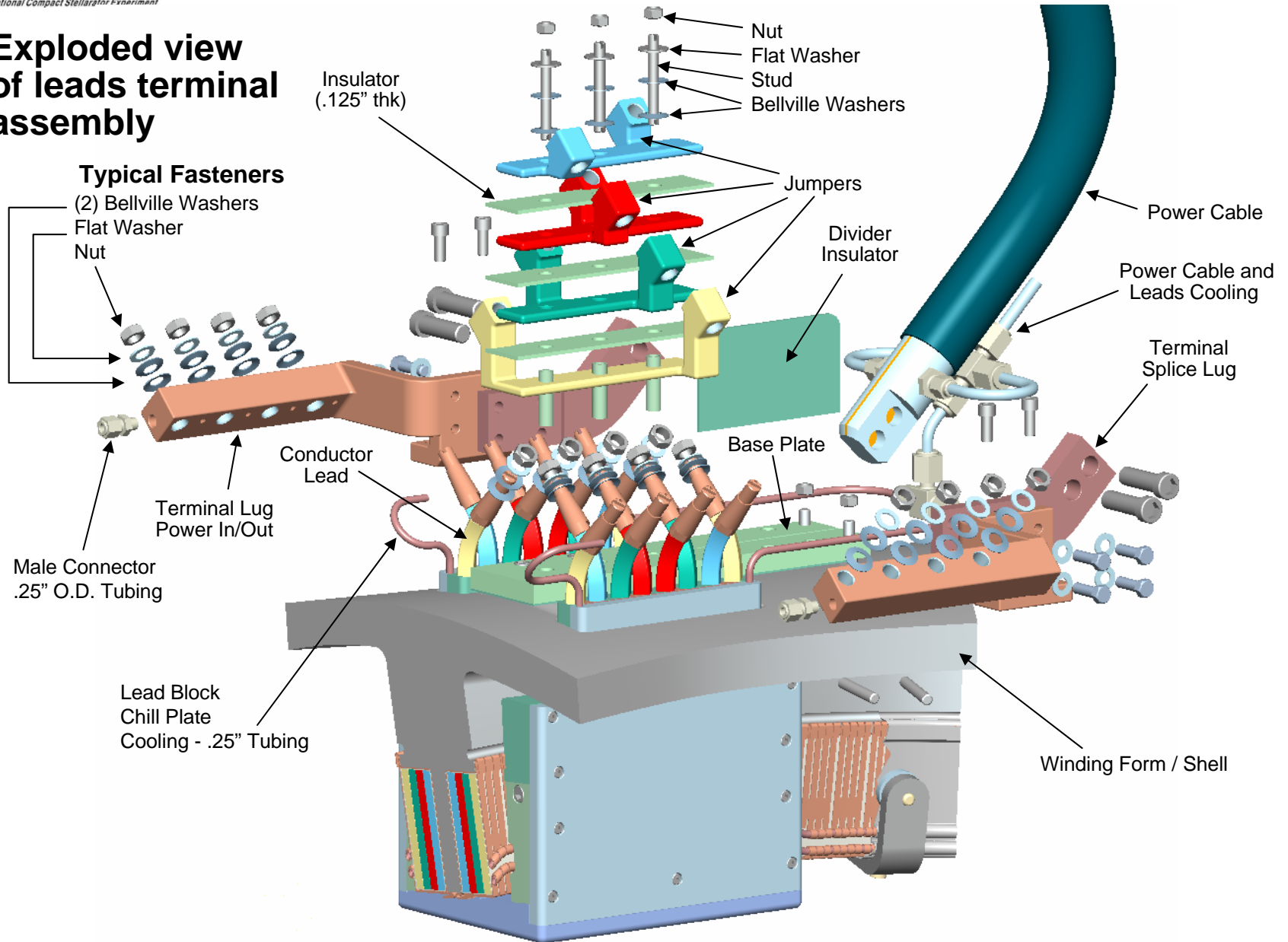
Bottom View

**3 views of the leads winding blocks assembly**

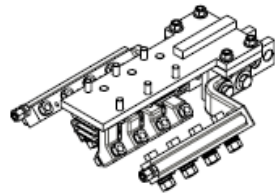
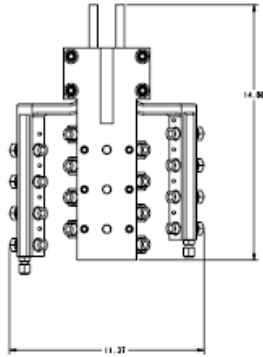
# Exploded view of the leads winding blocks assembly



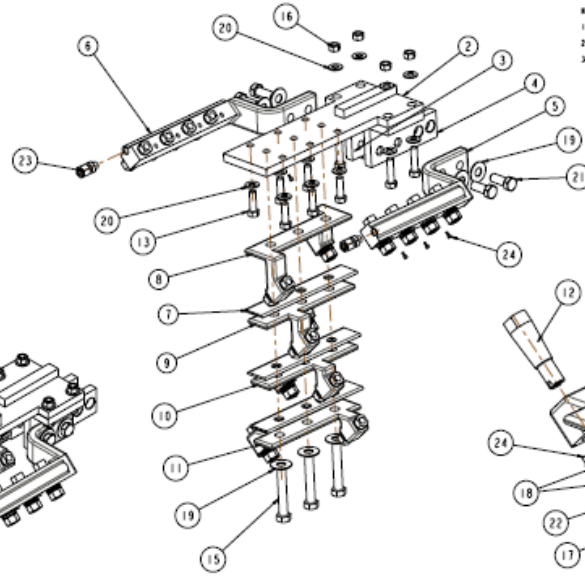
# Exploded view of leads terminal assembly



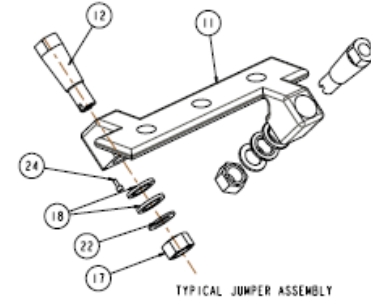
# SE-142C-050



ISOMETRIC VIEW  
SCALE 0.500



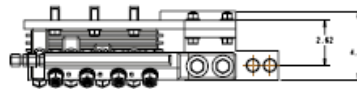
EXPLODED ISOMETRIC VIEW  
SCALE 0.500



TYPICAL JUMPER ASSEMBLY  
SCALE 1.000



①  
SCALE 0.500



- NOTES:  
1. INTERPRET DIMENSIONS AND TOLERANCES FOR ANSI Y14.5M  
2. DIMENSIONS ARE IN INCHES  
3. DIMENSIONS APPLY AT ROOM TEMPERATURE, OPERATING TEMP OF K.

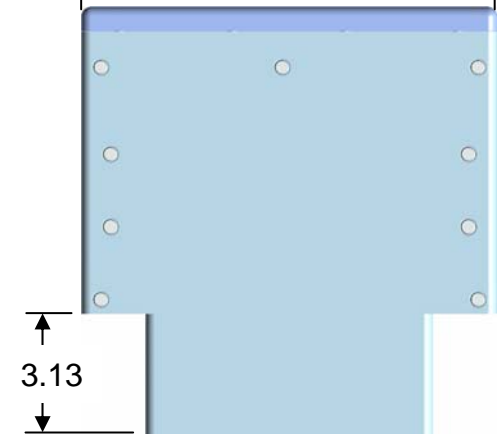
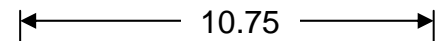
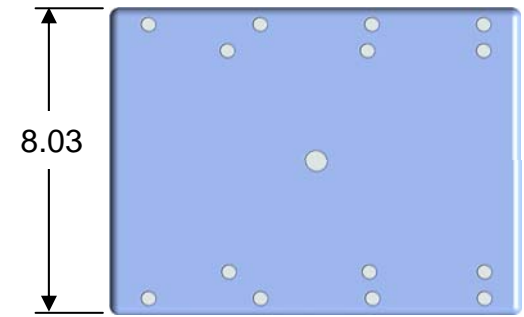
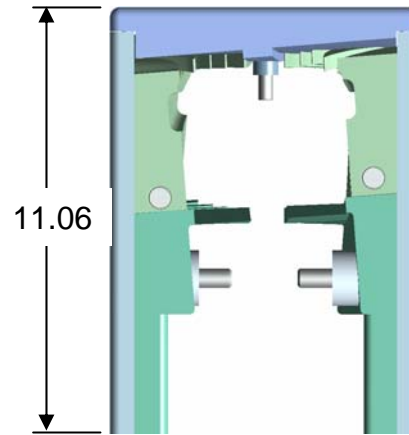
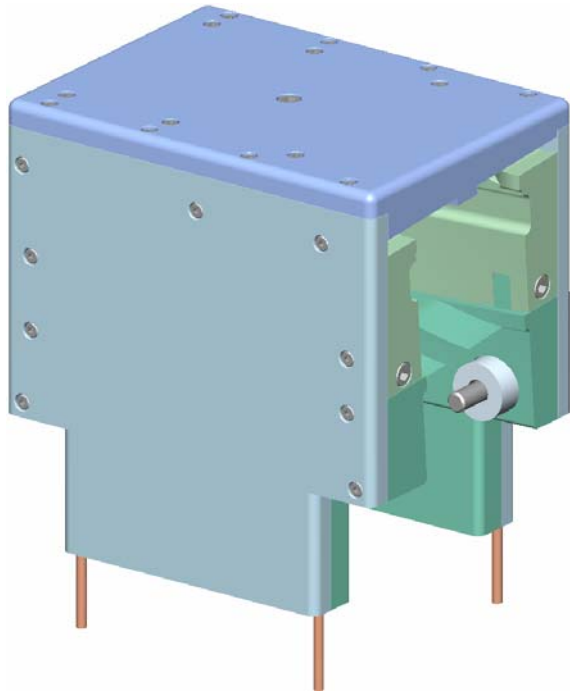
QTY	PART OR IDENTIFYING NO	DESCRIPTION	MATERIAL	SPECIFICATION	NO
22	SE142C-047	4.000 IN BUSH	STN STL		24
2	SE142C-048	WHL CONNECTION			23
18	SE142C-053	50 IN DIA 304 SST TYP FLAT W/SLIP			22
4	SE142C-049	100 IN DIA 1.125 IN DIA W/SLIP			21
18	SE142C-054	40 IN DIA 304 SST TYP FLAT W/SLIP			20
1	SE142C-060	WASHER 50 IN DIA 1.125 DIA 3/16 THK			19
252	WASHER 50 IN DIA 1.125 DIA 3/16 THK				18
1	SE142C-055	100 IN DIA 304 SST TYP FLAT W/SLIP	INCONEL 718		17
4	SE142C-056	200 IN DIA 304 SST TYP FLAT W/SLIP	STN STL		16
1	SE142C-057	100 IN DIA 1.125 DIA 3/16 THK	STN STL		15
4	SE142C-058	200 IN DIA 1.125 DIA 3/16 THK	STN STL		14
1	SE142C-059	200 IN DIA 1.125 DIA 3/16 THK	STN STL		13
1	SE142C-050	WHL CONNECTION			12
1	SE142C-054	TYPE "C" JUMPER A			11
1	SE142C-053	TYPE "C" JUMPER B			10
1	SE142C-052	TYPE "C" JUMPER C			9
1	SE142C-051	TYPE "C" JUMPER D			8
1	SE142C-049	TERMINAL TERMINATION			7
1	SE142C-050	TYPE "C" TERMINAL, 1/8 IN "C"			6
1	SE142C-053	TYPE "C" TERMINAL, 1/8 IN "C"			5
1	SE142C-050	TYPE "C" TERMINAL CONNECTION "C"			4
1	SE142C-051	TYPE "C" TERMINAL CONNECTION "B"			3
1	SE142C-047	LEAD TERMINAL BUSH			2
1	SE142C-050	LEAD TERMINAL BUSH			1

THIS DRAWING PRODUCED BY PRO-ENGINEER

REV	DESCRIPTION	BY	DATE	APP'D	DATE	SCALE	NOTES



## Views of the leads winding blocks assembly



## Side – A, Lower Winding Block

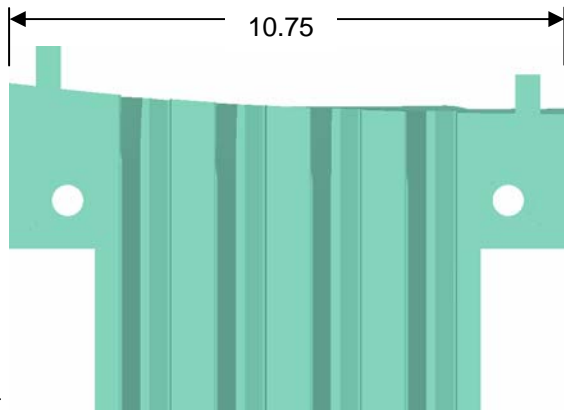
Side – A Dwg # SE142C-134

Side – B Dwg # SE142C-135



Top View

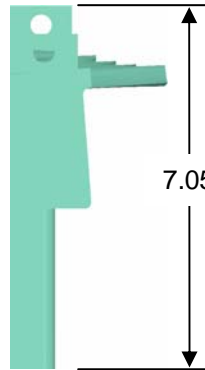
10.75



Side View



Left View



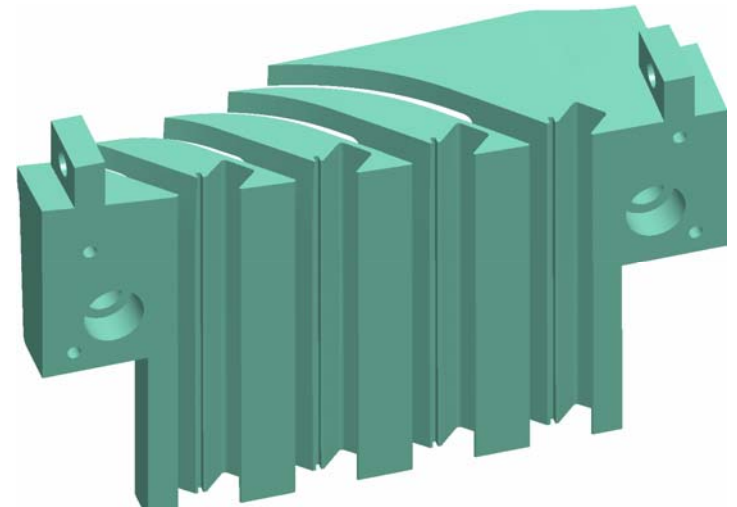
Right View

7.05

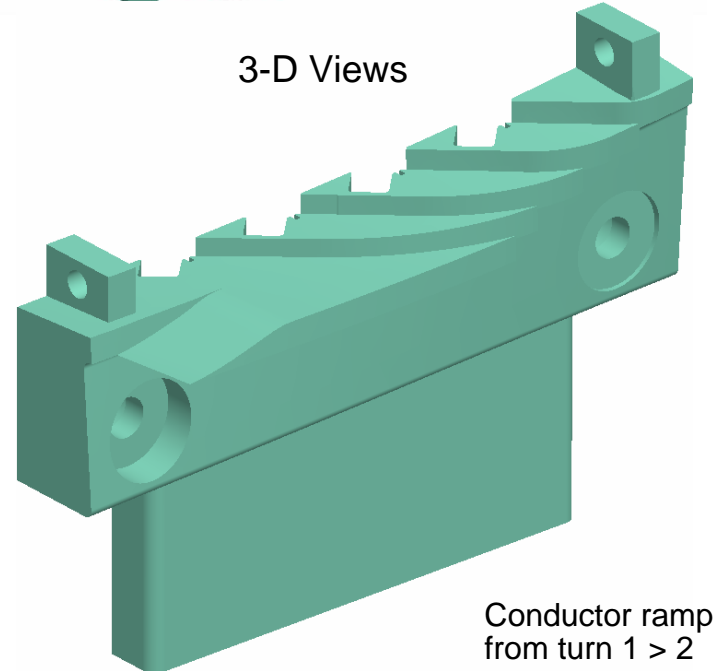


Bottom View

3.01

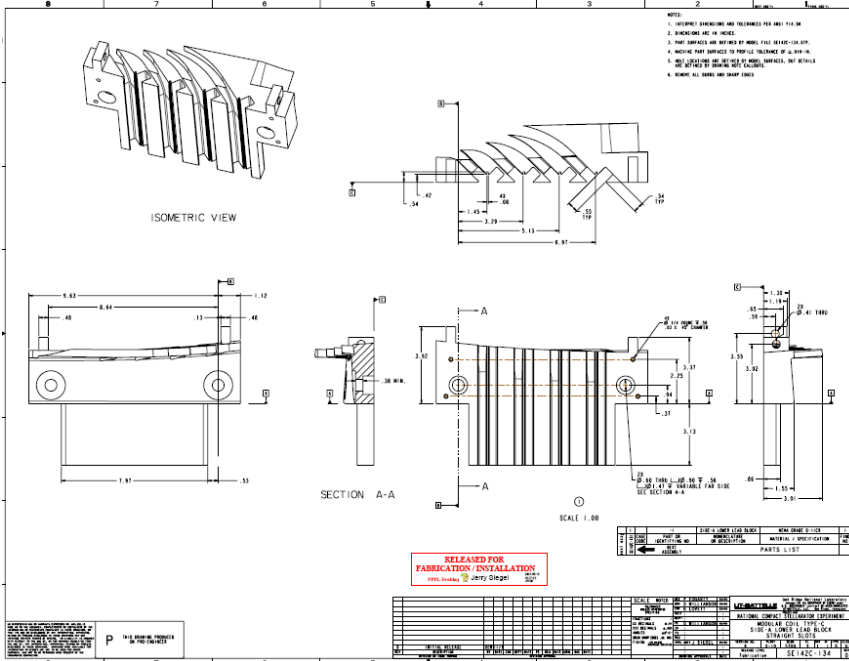


3-D Views



Conductor ramp  
from turn 1 > 2

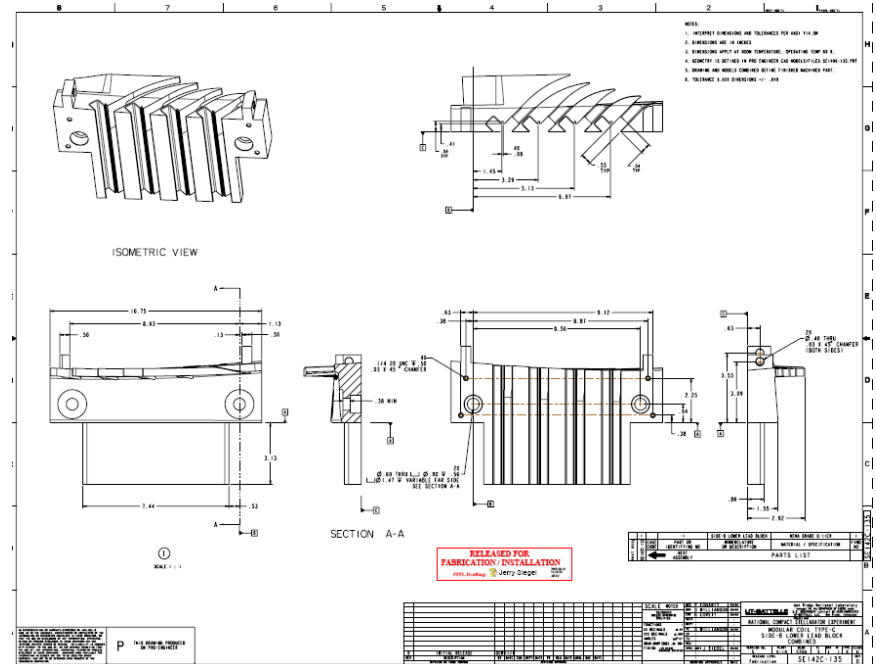




SE-142C-134

# Lower Winding Blocks

SE-142C-135

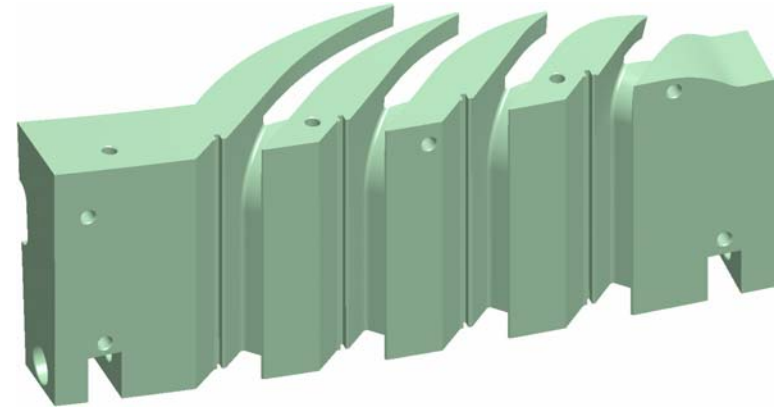


## Side – A, Upper Winding Block

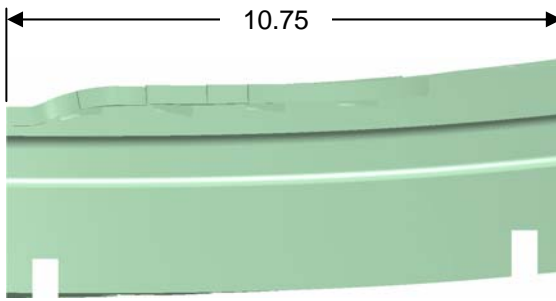
Side – A Dwg # SE142C-136

Side – B Dwg # SE142C-137

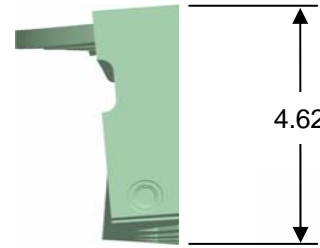
Top View



Left View



Side View

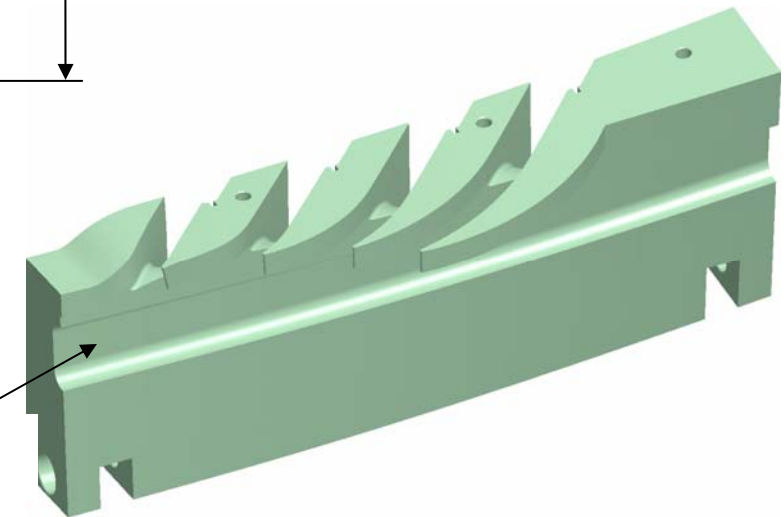


Right View

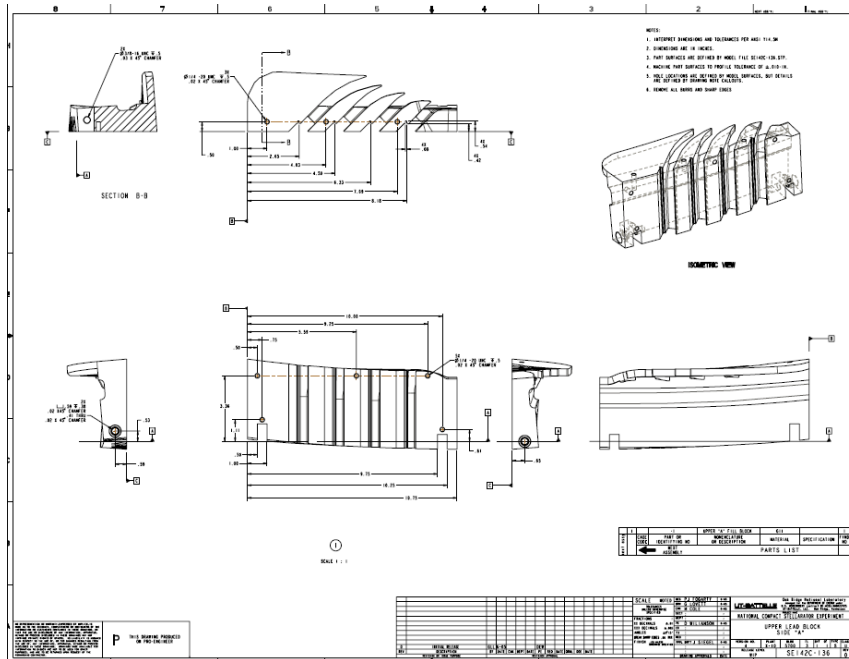
3-D Views



Bottom View



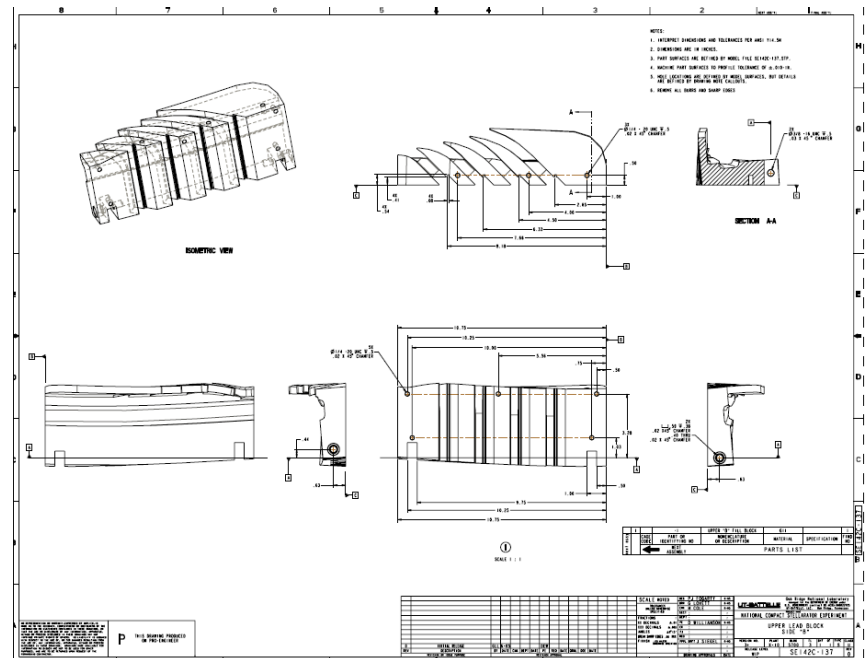
Groove for  
chill plates tubing



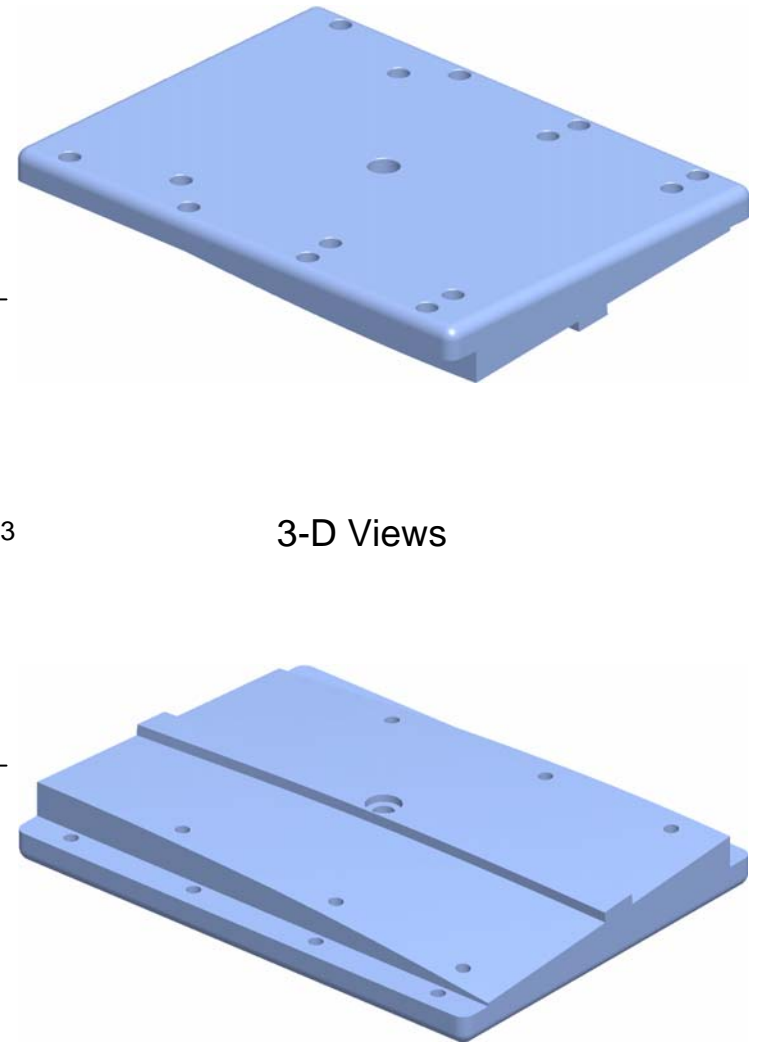
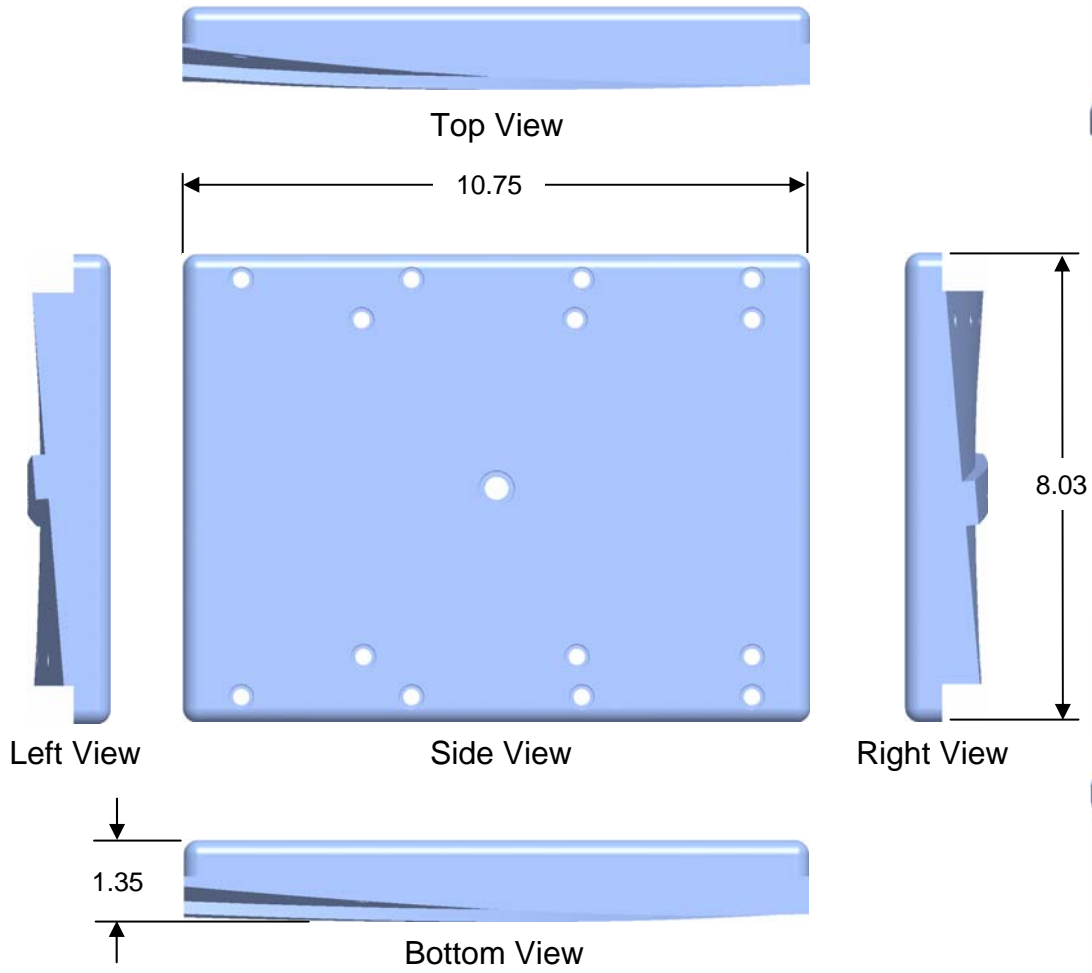
SE-142C-136

# Upper Winding Blocks

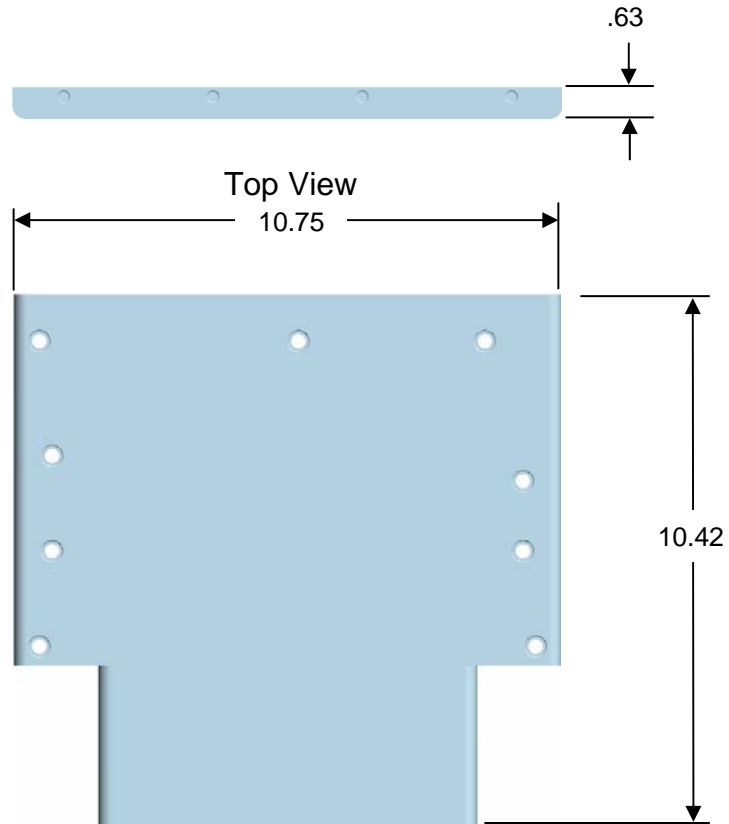
SE-142C-137



# Top Plate

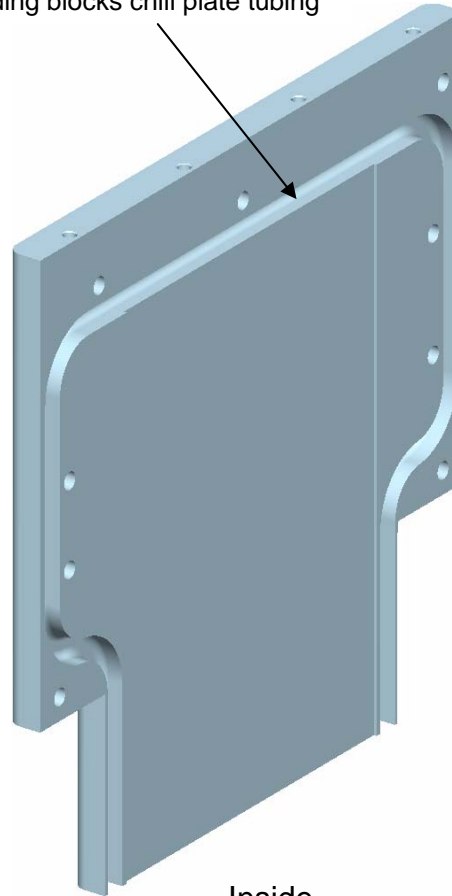


## Side Plate

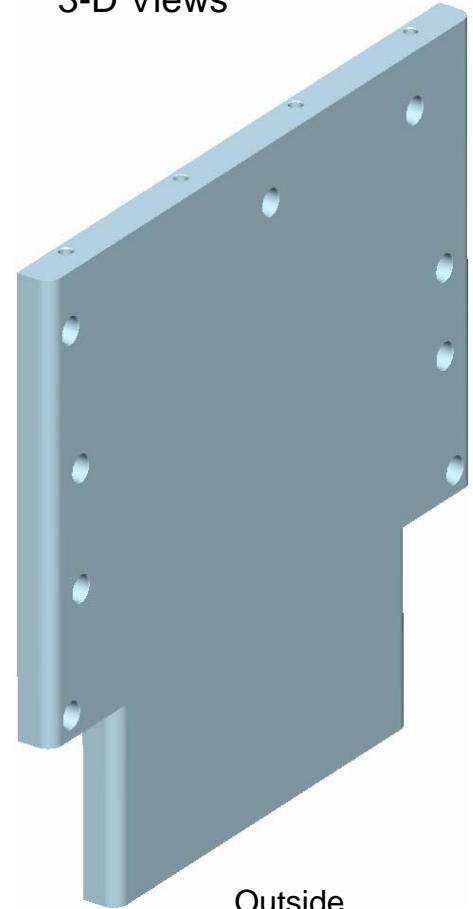


Recessed groove for winding blocks chill plate tubing

3-D Views



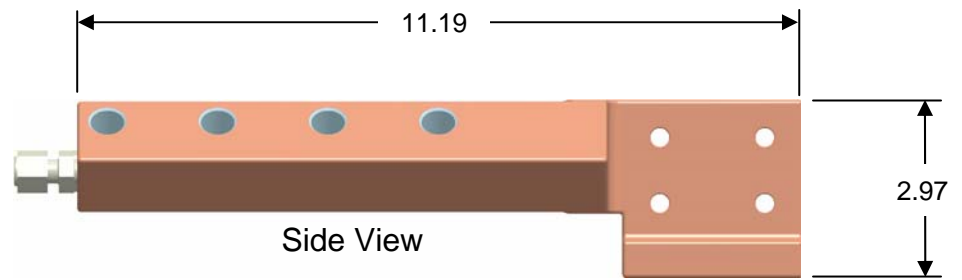
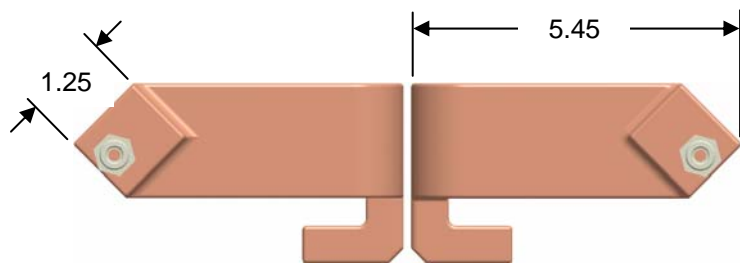
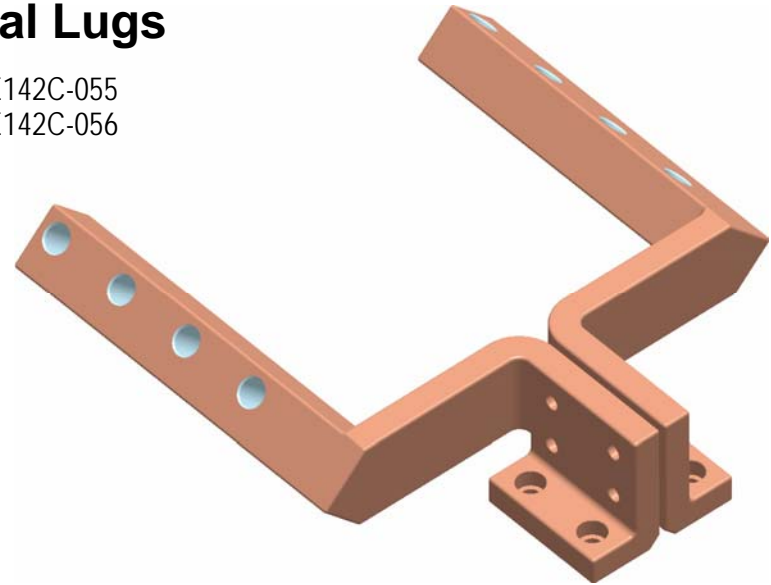
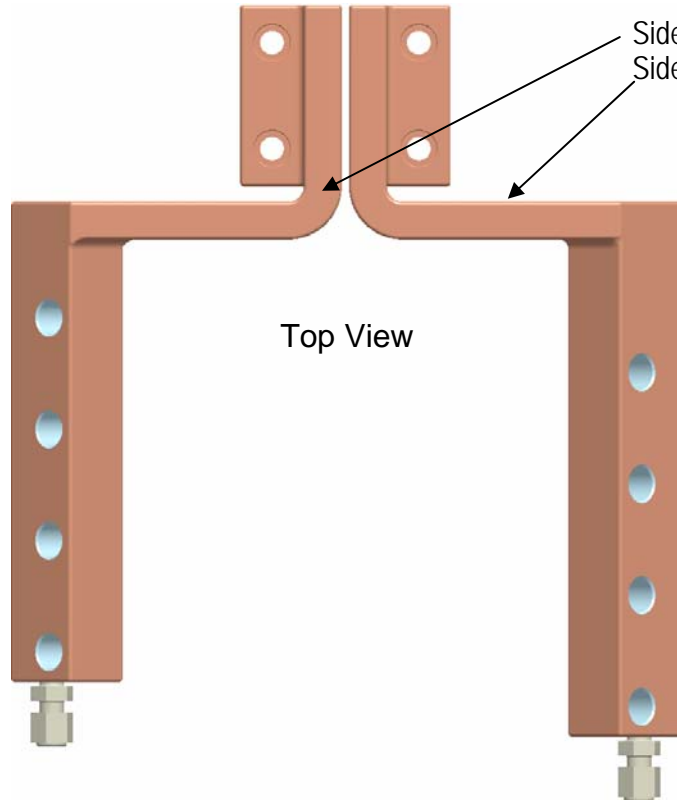
Inside

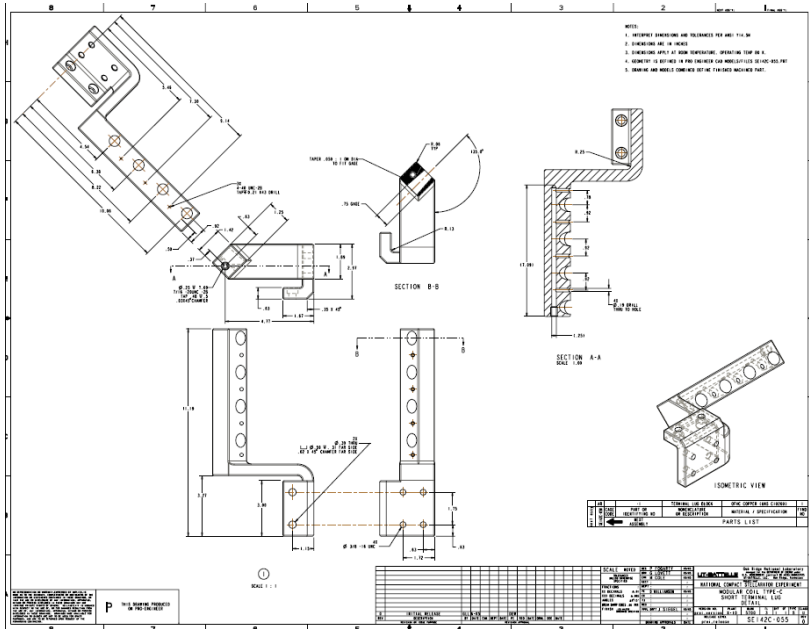


Outside

# Terminal Lugs

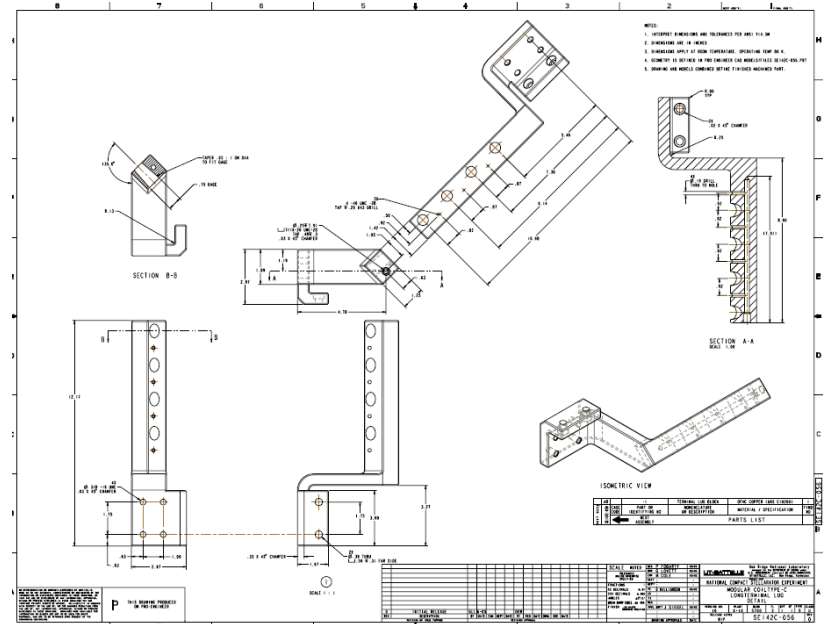
Side - A Dwg # SE142C-055  
Side - B Dwg # SE142C-056





# Terminal Lugs

## SE-142C-056

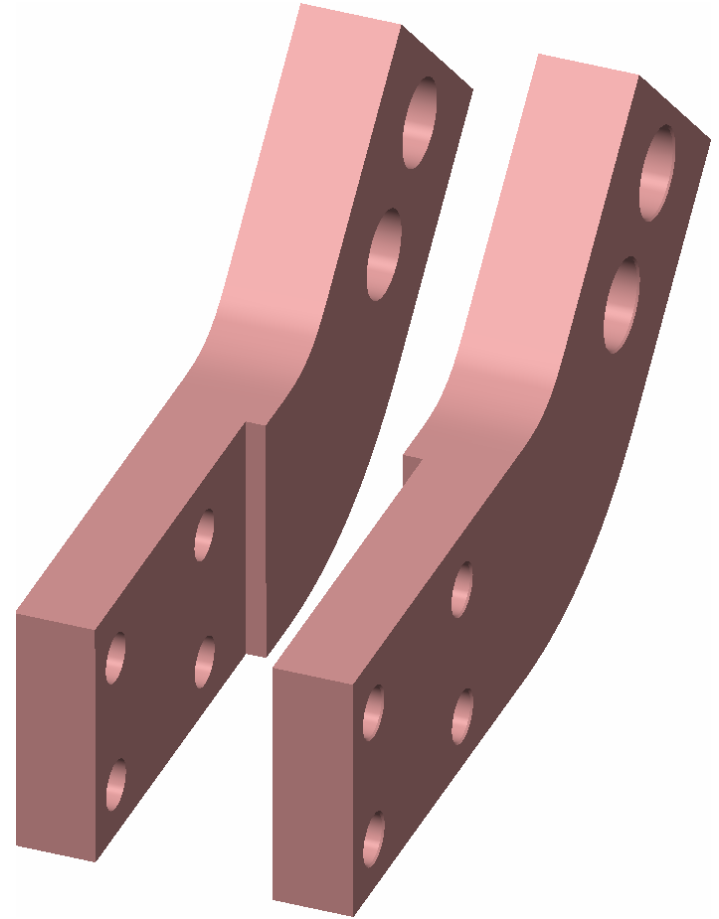
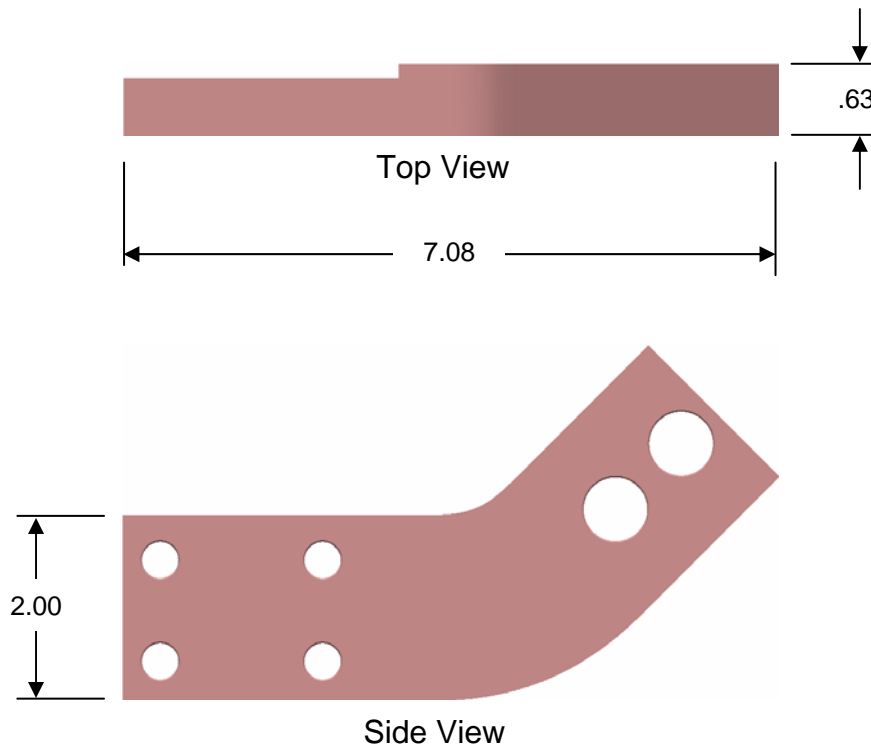




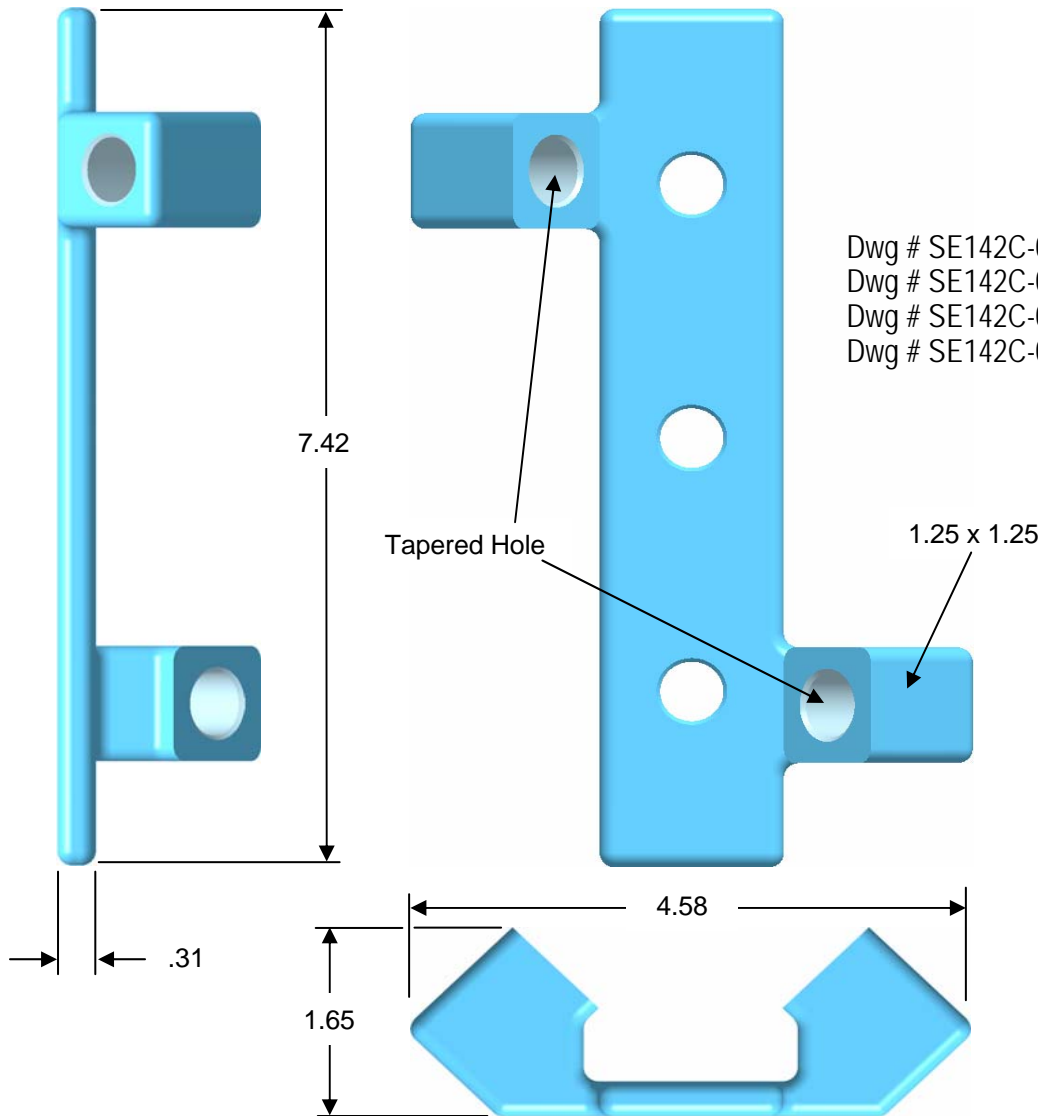
## Terminal Splice Lugs

Side - A Dwg # SE142C-263

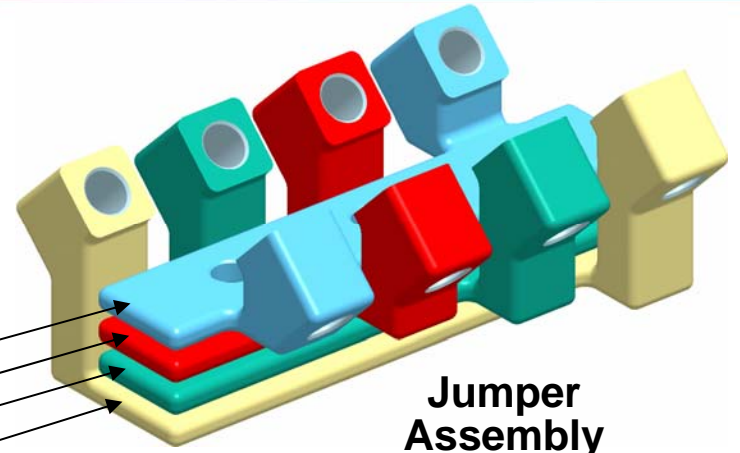
Side - B Dwg # SE142C-264



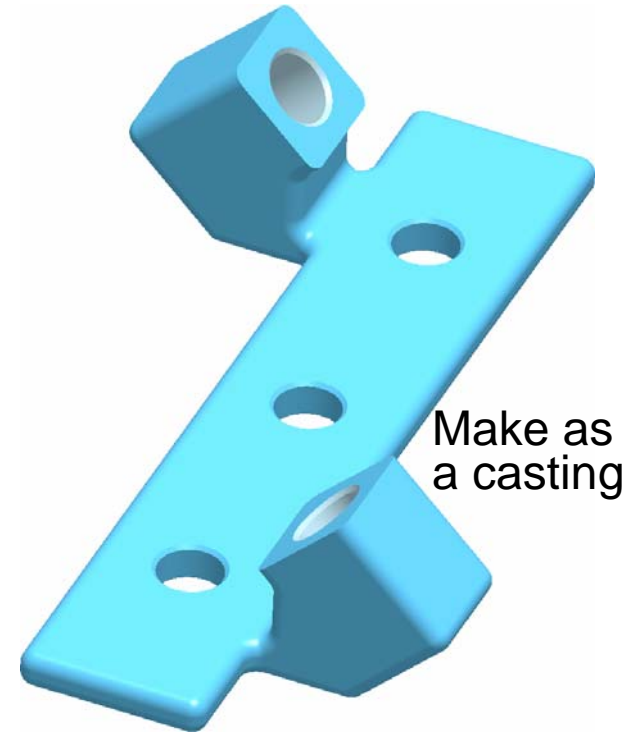
# Jumper - 4



- Dwg # SE142C-054
- Dwg # SE142C-053
- Dwg # SE142C-052
- Dwg # SE142C-051

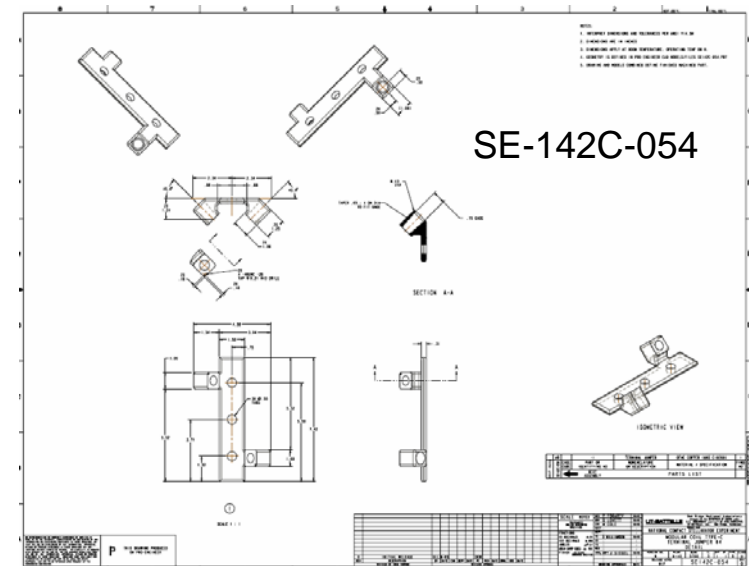
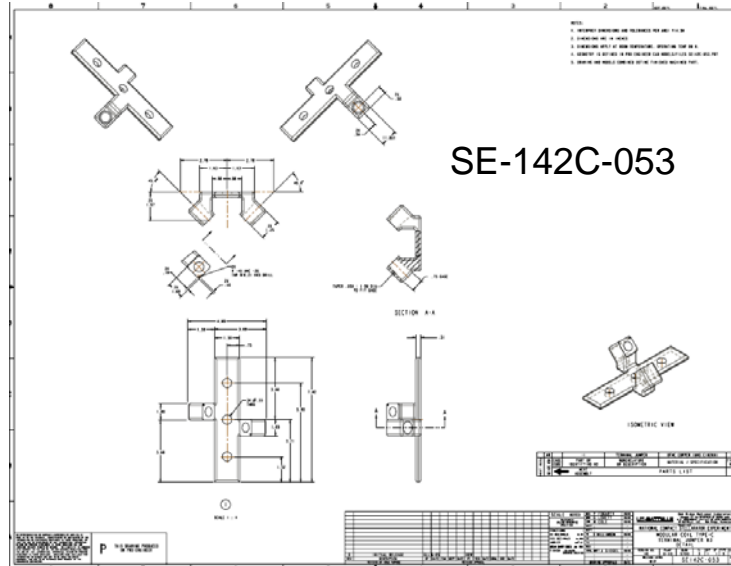
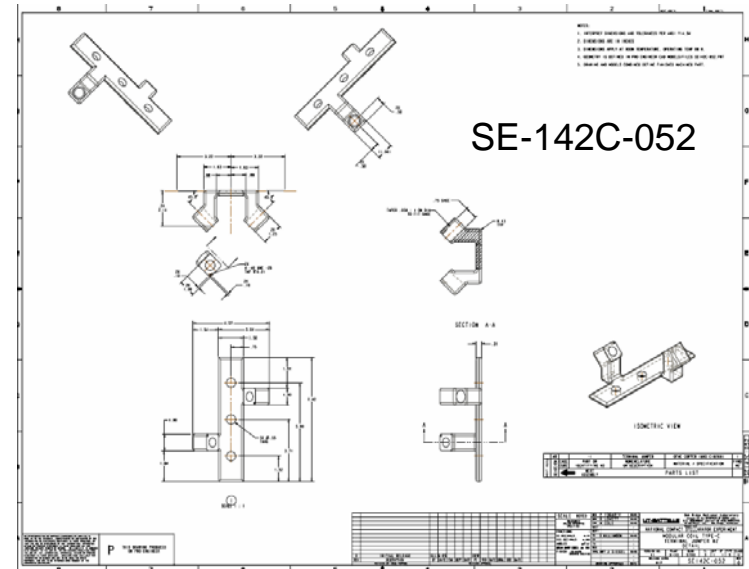
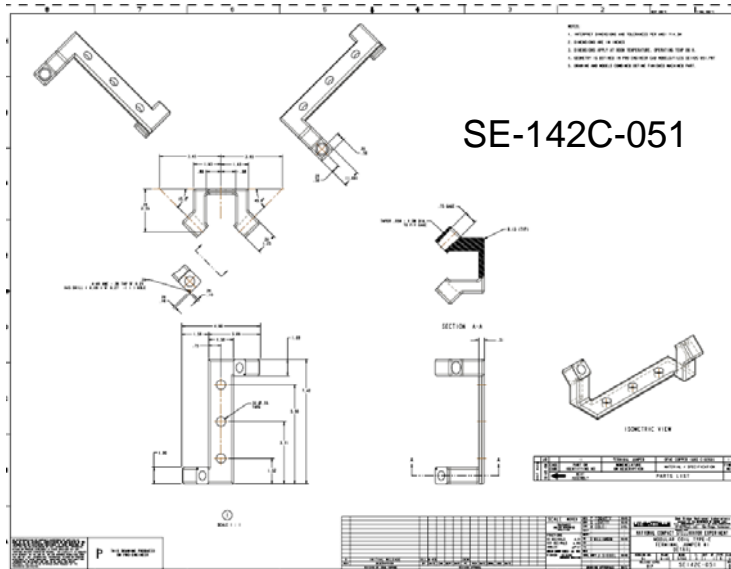


## Jumper Assembly

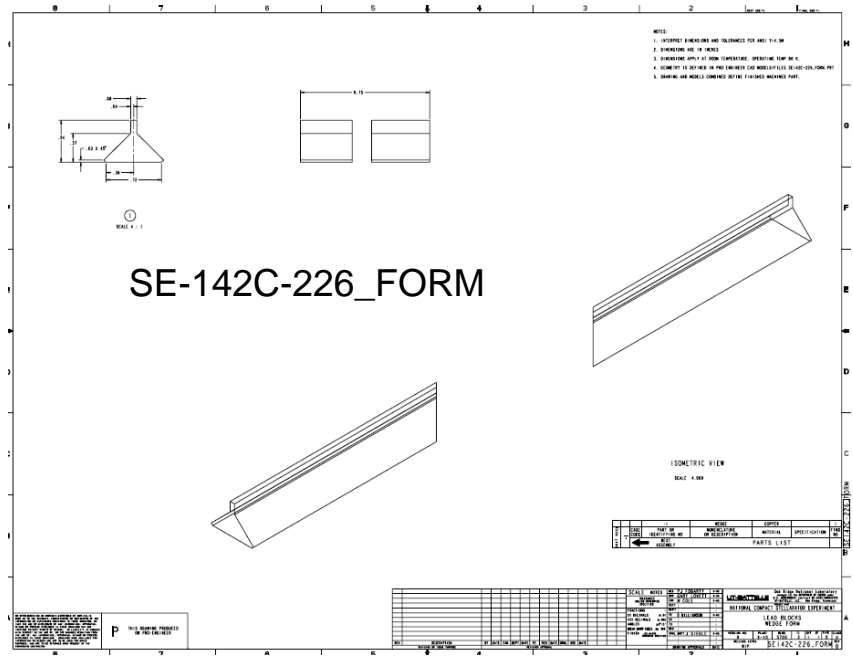
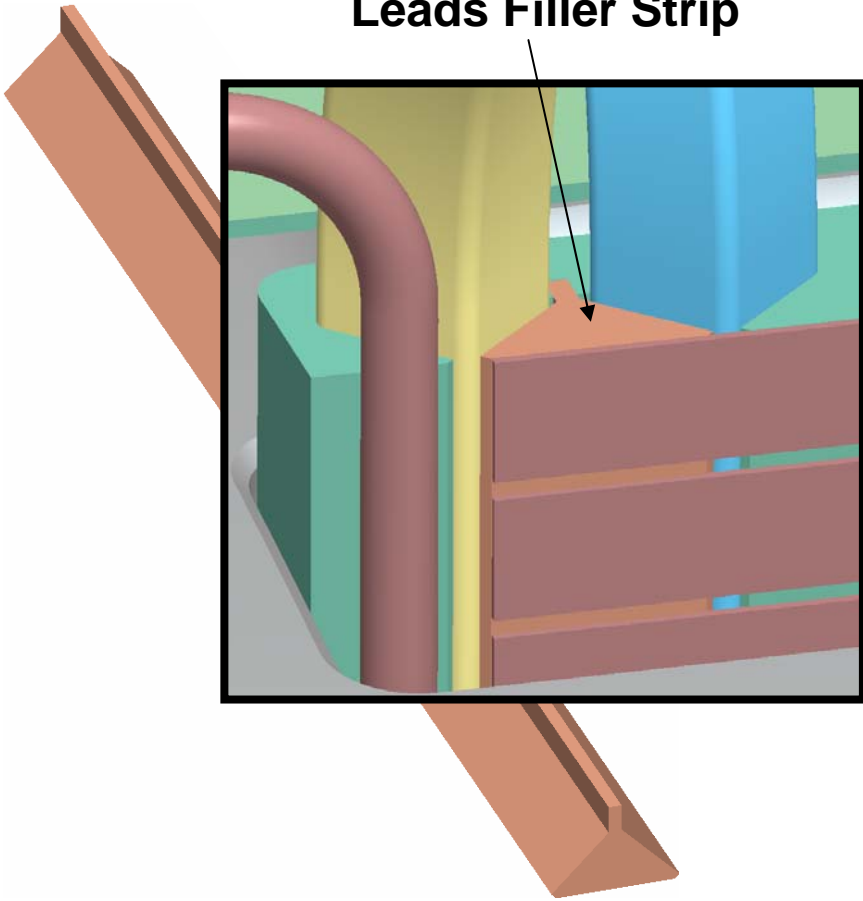


Make as a casting

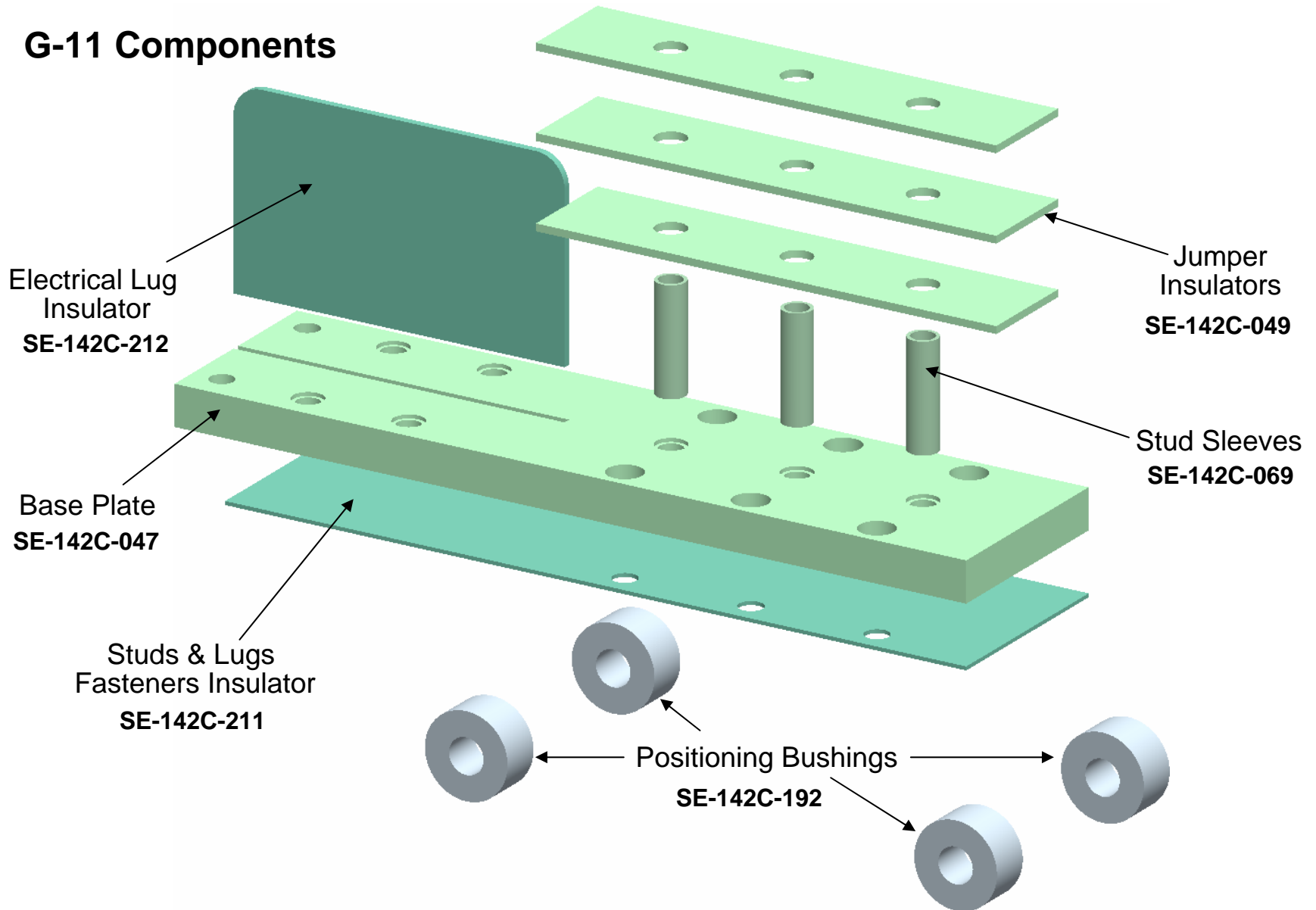
# Terminal Jumpers



# Leads Filler Strip

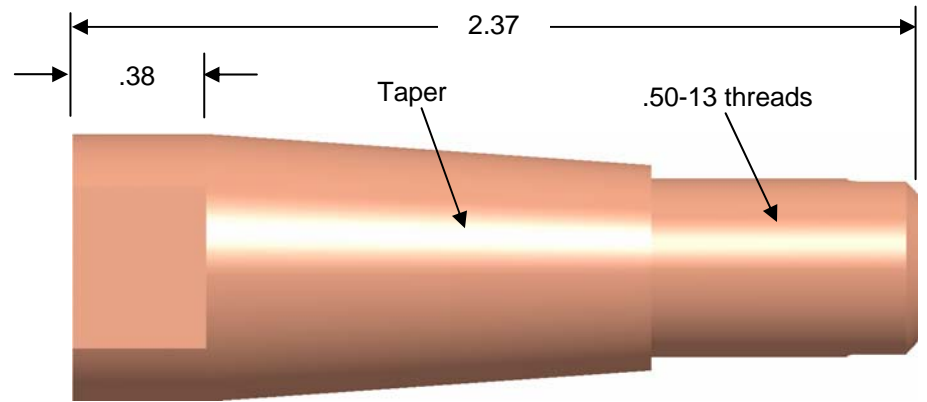
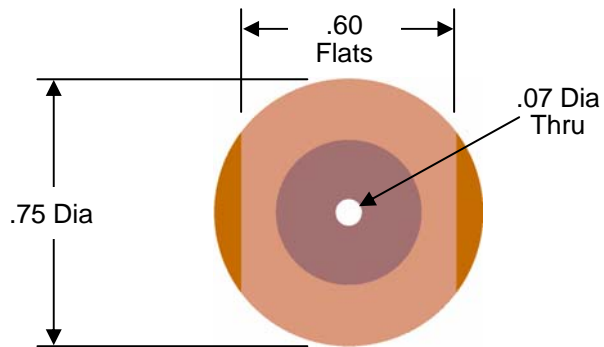
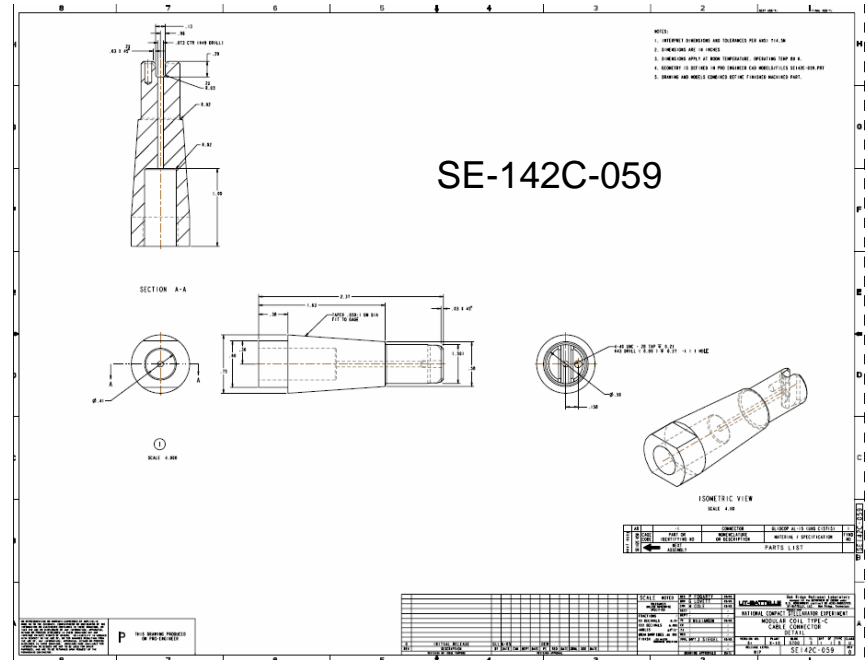
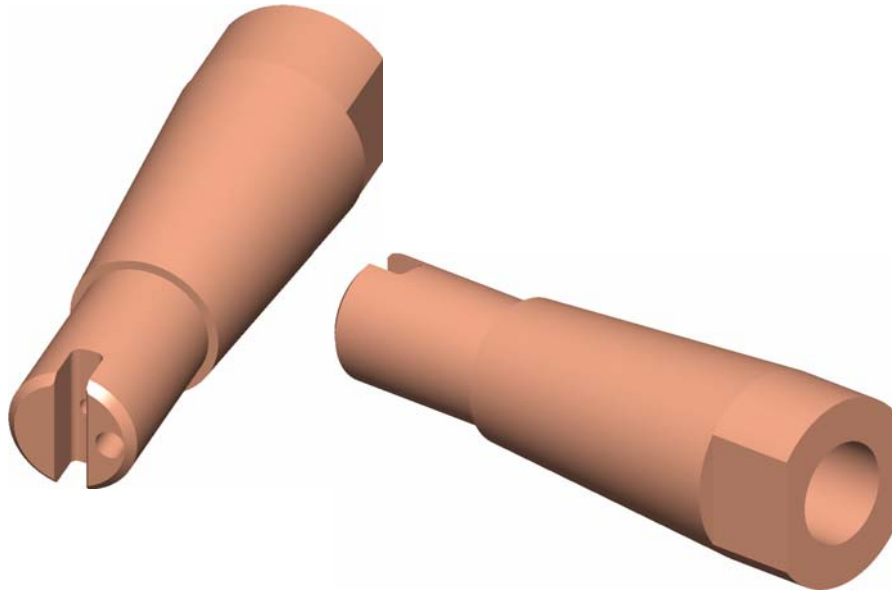


## G-11 Components





# Conductor Lead Nosecone



Da END