

# AT93000 Final Test Loadboard Assembly Guide

Attaching AT93000-POGO Brackets and Wiring to the AT93000-64150 Loadboard Stiffener

Revision 1.0

January 2021

# Outline

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- Introduction
- Tools Required
- BOM
- Requirements Expected from Customer
- Documents Expected from Customer
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- Step by Step Assembly Procedure

**Note:** for better visualization, a video of the loadboard assembly can be found [here](#) starting at 2:18

# Introduction

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This is a guide to help the technician assemble the AT93000-POGO brackets and wiring to the AT93000-64150 (final) (package) test loadboard. All assembly is covered, except for connecting the customer DUT loadboard installation.

# Assembly involves ESD Sensitive Products

Please observe precautions for handling electrostatic sensitive devices through this assembly

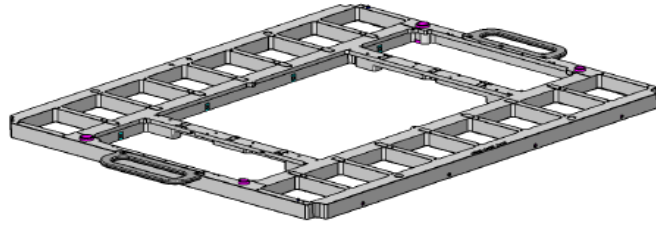


## Tools Required

- M2, M2.5, and M3 Phillips Screw Drivers
- M2, M2.5, M3, and M4 Hex Screw Drivers
- Open-End 4mm Wrench [7793A34](#)

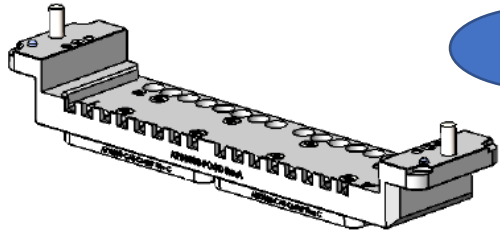


100



Package Test Loadboard Stiffener Assembly  
AT93000-64150 \*or\*  
Wafer Probe Loadboard Stiffener Assembly  
AT93000-64170

101



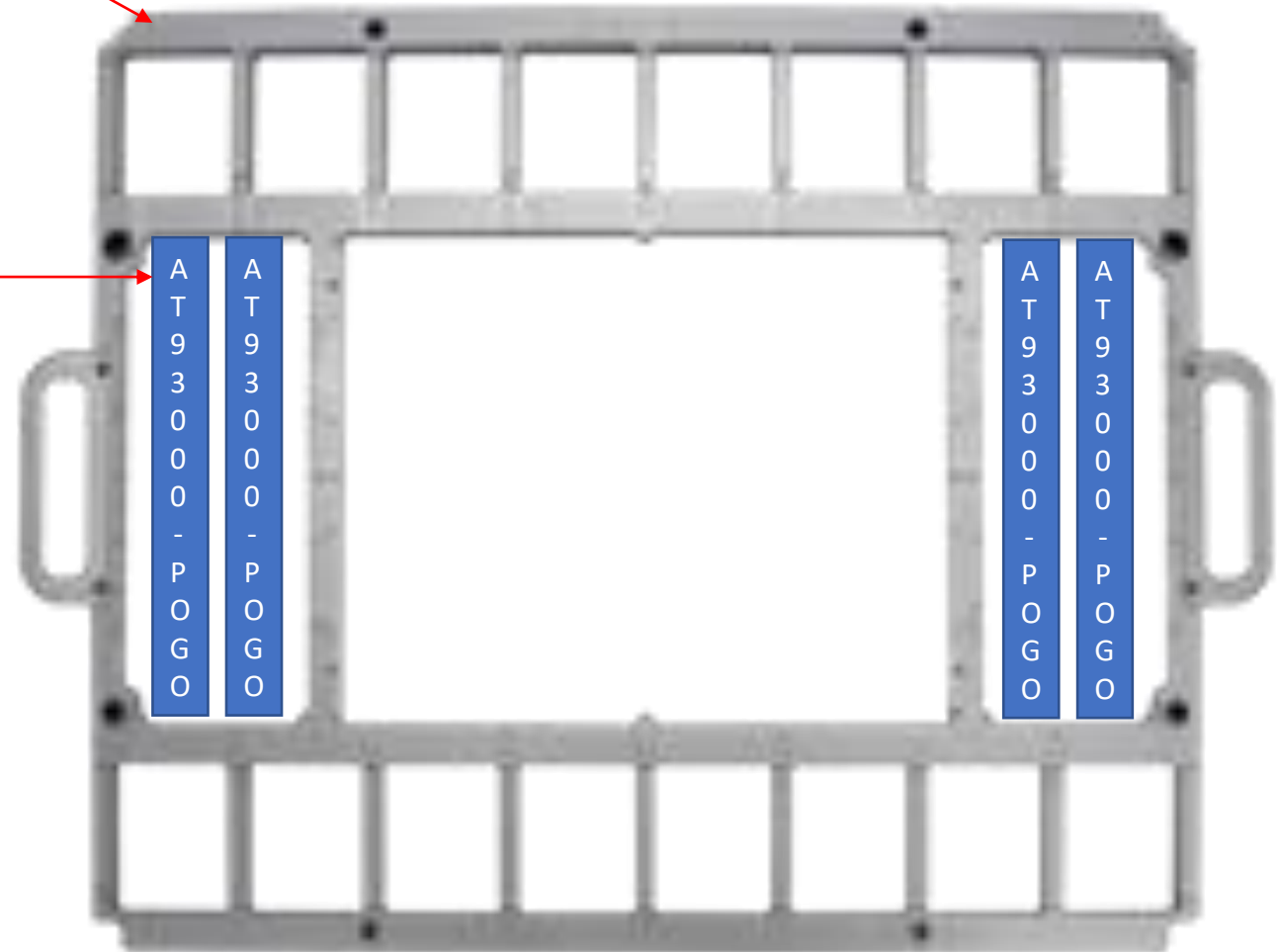
Blindmate connectors  
AT93000-POGO

102



MINI SMP BULKHEAD MTG

Cables. POGO side to be SMPM-BM(f)



# Requirements Expected from Customer

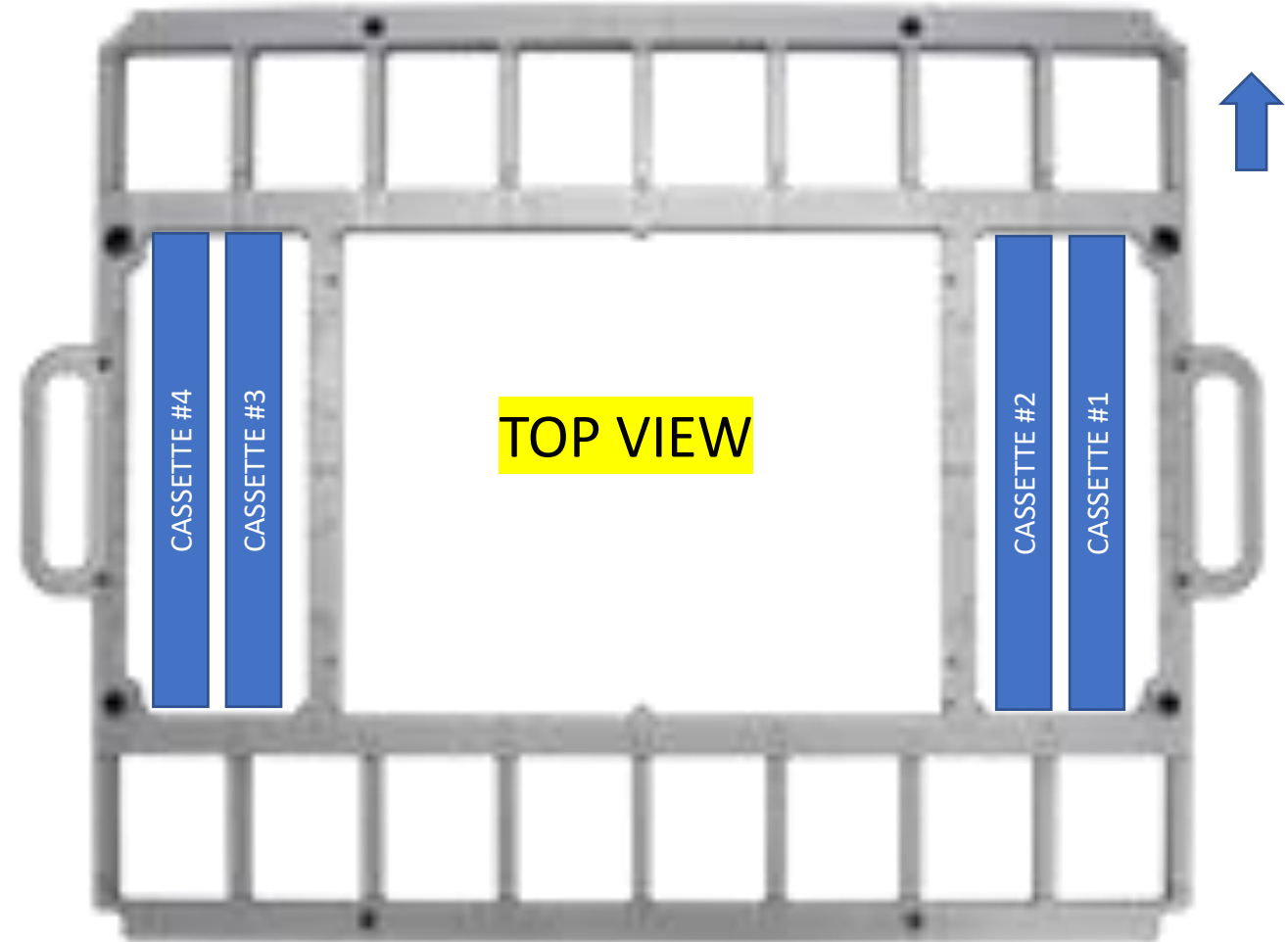
What should be ready and working

- Since loadboard assembly is done offline from the AT93000 system, there are no customer site preparations required for this loadboard assembly

# Documents Expected from Customer

What should be available at time of installation

- Documentation showing which DUT cassette locations to populate with AT93000-POGO brackets
- Documentation should also show proper orientation of each bracket





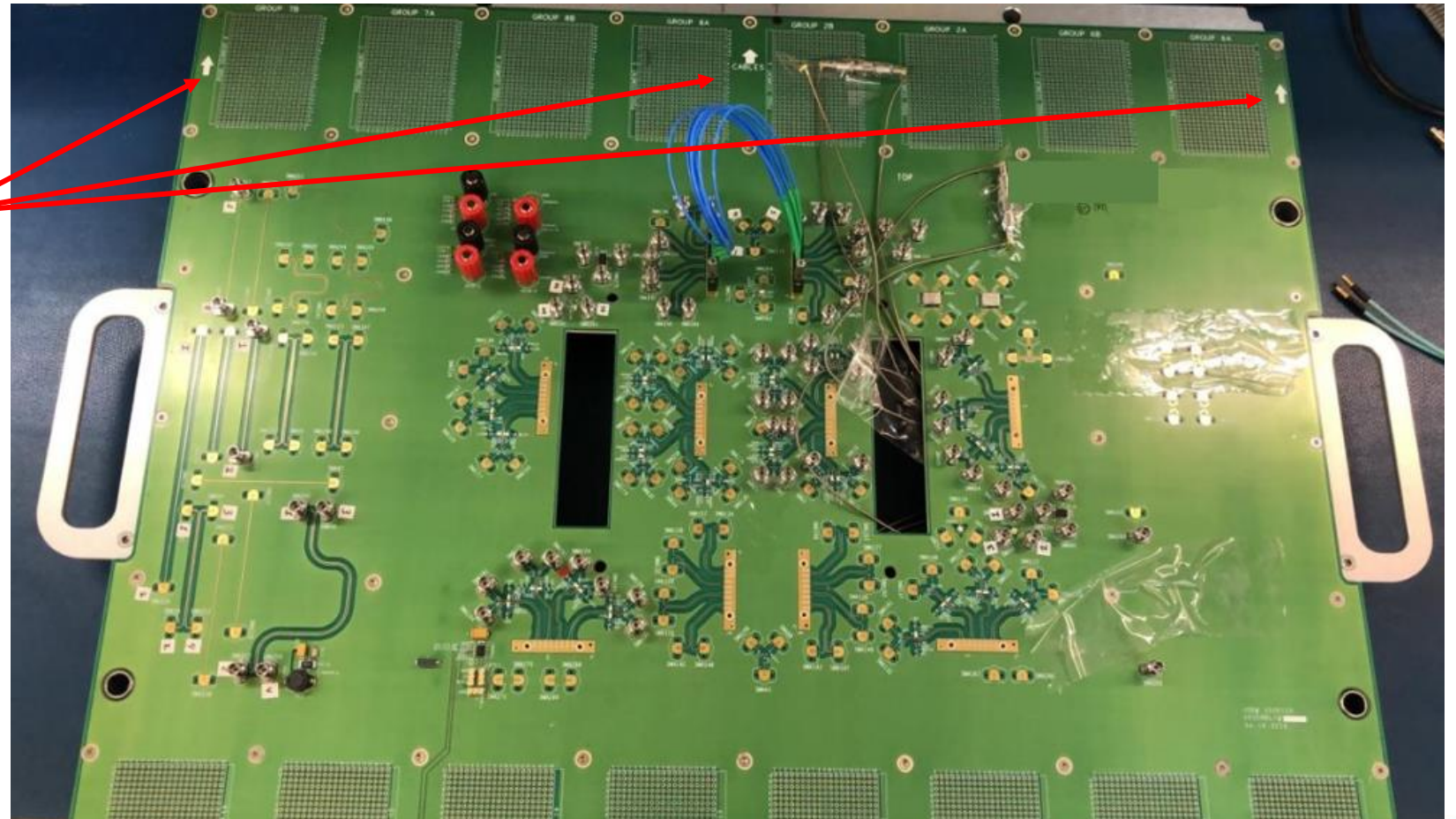
# Example Customer Documentation

- Customer documentation has to address the following:
  - Wiring diagrams for each AT93000-POGO bracket that will be attached to the loadboard stiffener. Because of the POGO guide pins, the brackets on the left and right sides of the stiffener are rotated 180° with respect to each other. So, the same cassette installed on the left vs right side will need the POGO wired differently
  - The location for each POGO bracket.

# Example DUT loadboard

Loadboard top view. Already attached to stiffener

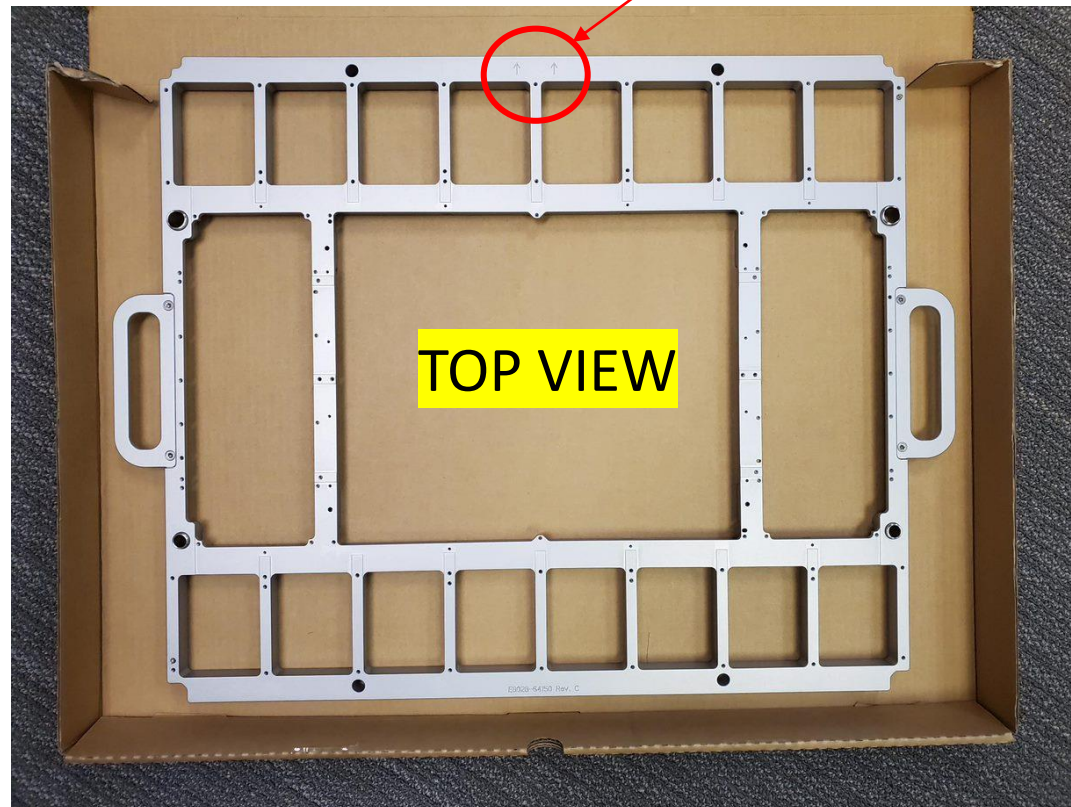
It is suggested that the PCB have “UP” arrows, like the Loadboard stiffener and Twinning Frame.



# Loadboard stiffener TOP VIEW

Smooth side is TOP VIEW. DUT PCB connects to TOP VIEW side

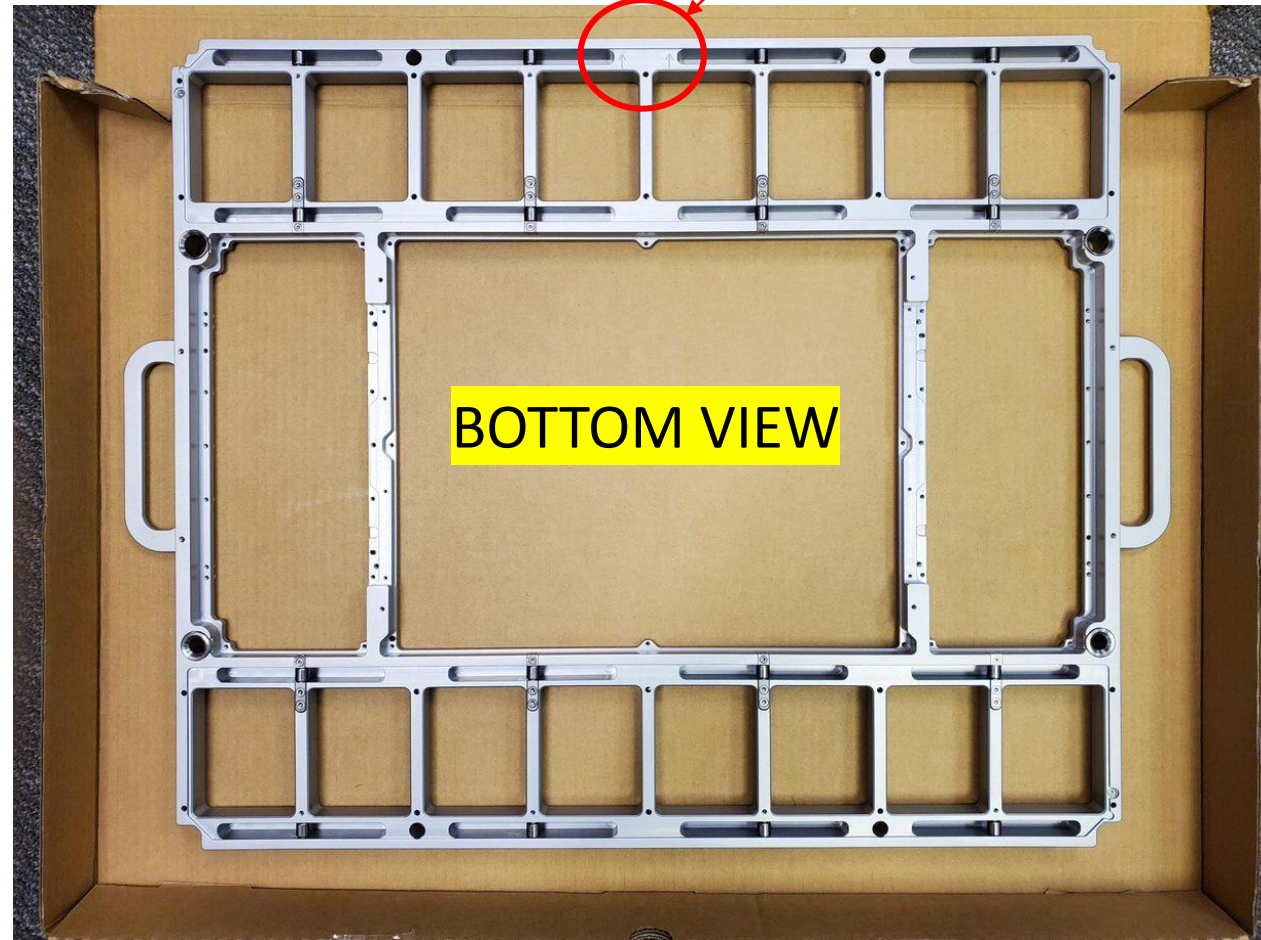
“UP” arrows to align with AT93000 twinning frame “UP” arrows



# Loadboard stiffener BOTTOM VIEW

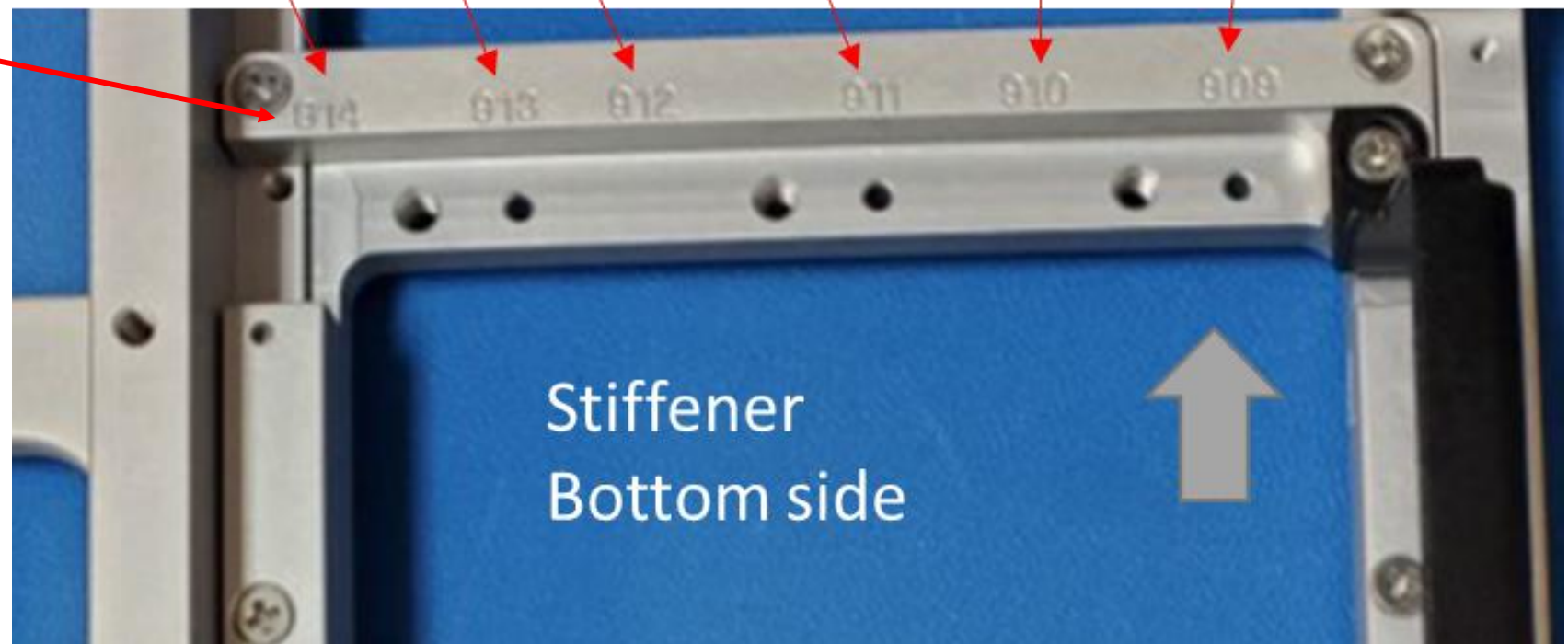
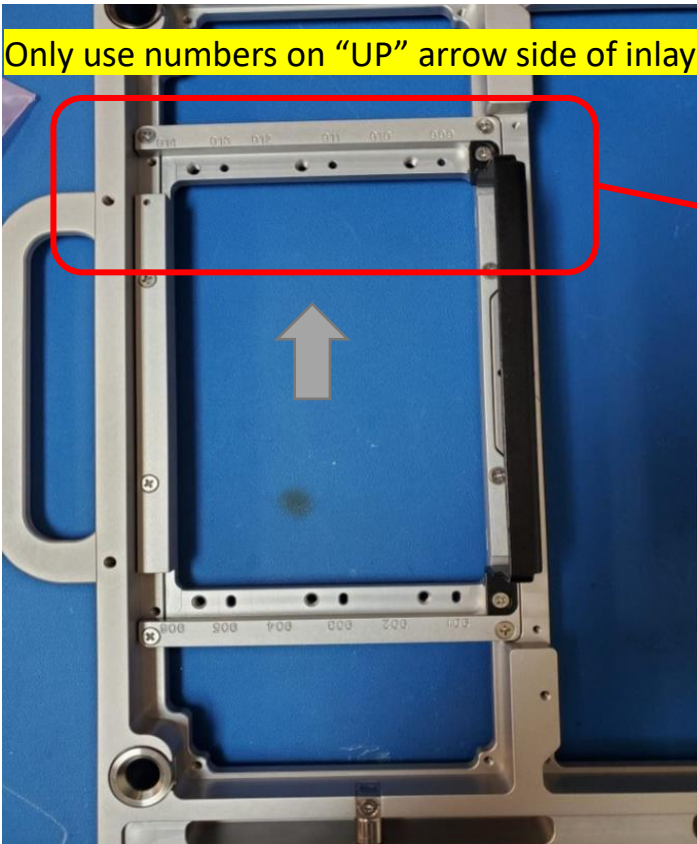
AT93000-POGO brackets connect to this side

“UP” arrows

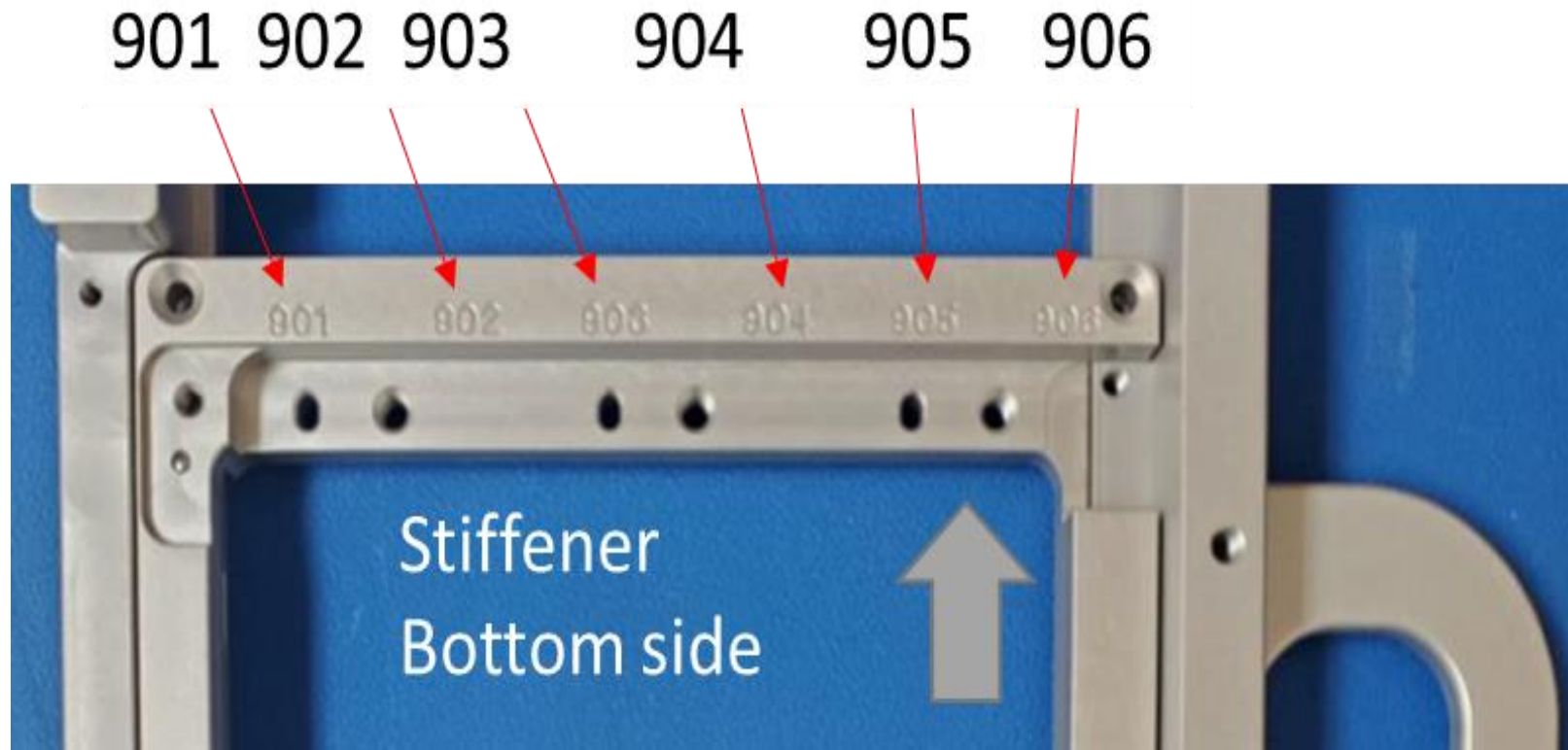


## Loadboard inlay numbering for POGO brackets over cassettes 1 and 2

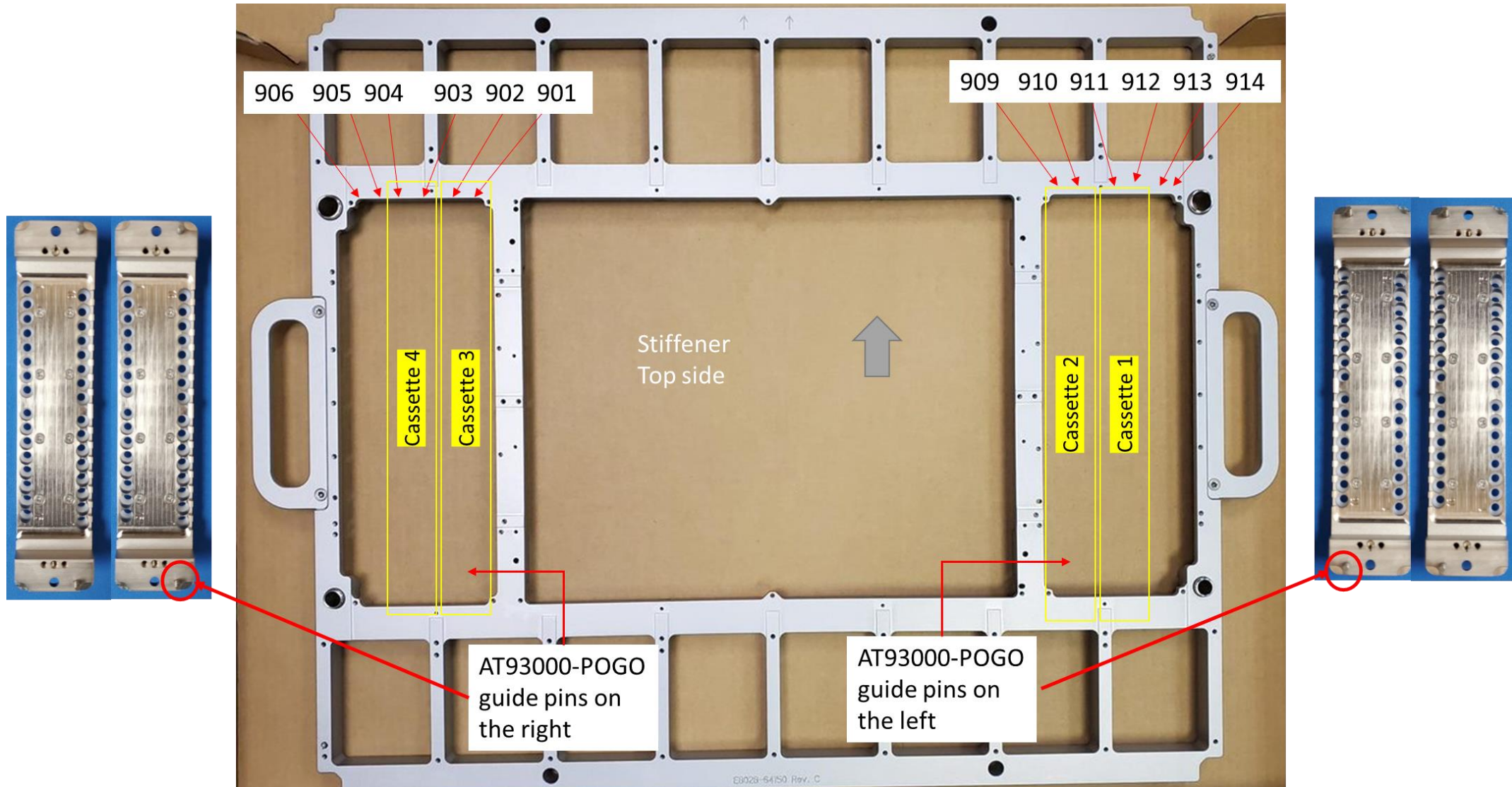
914 913 912 911 910 909



# Loadboard inlay numbering over cassettes 3 and 4

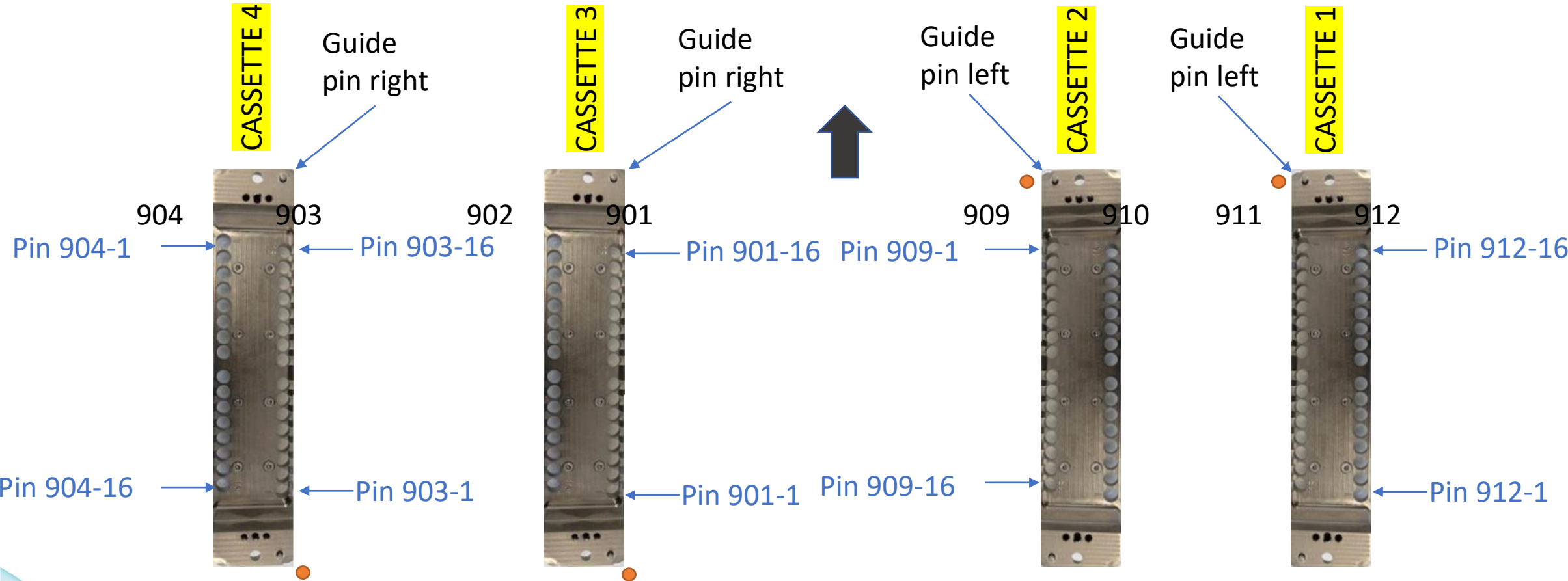


# Stiffener relationships – cassettes, POGO guide pins



# Loadboard (Top View)

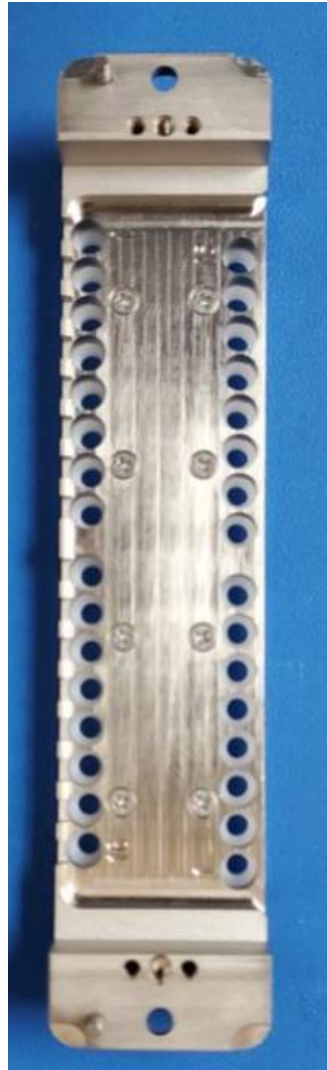
(now all pins labeled)





# POGO BLOCK

TOP VIEW



GUIDE  
PIN ON LEFT

PIN 1  
ENGRAVING

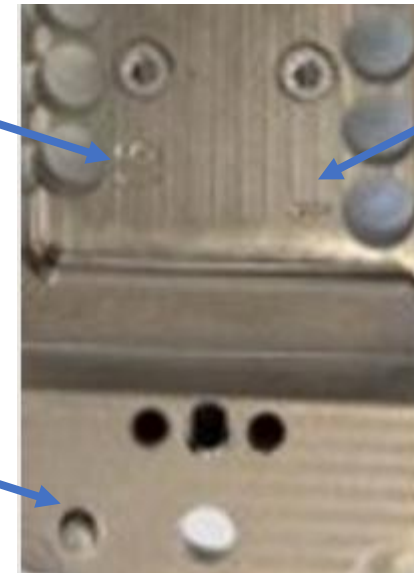
PIN 16  
ENGRAVING

GUIDE  
PIN

multiLane 



PIN 16  
ENGRAVING



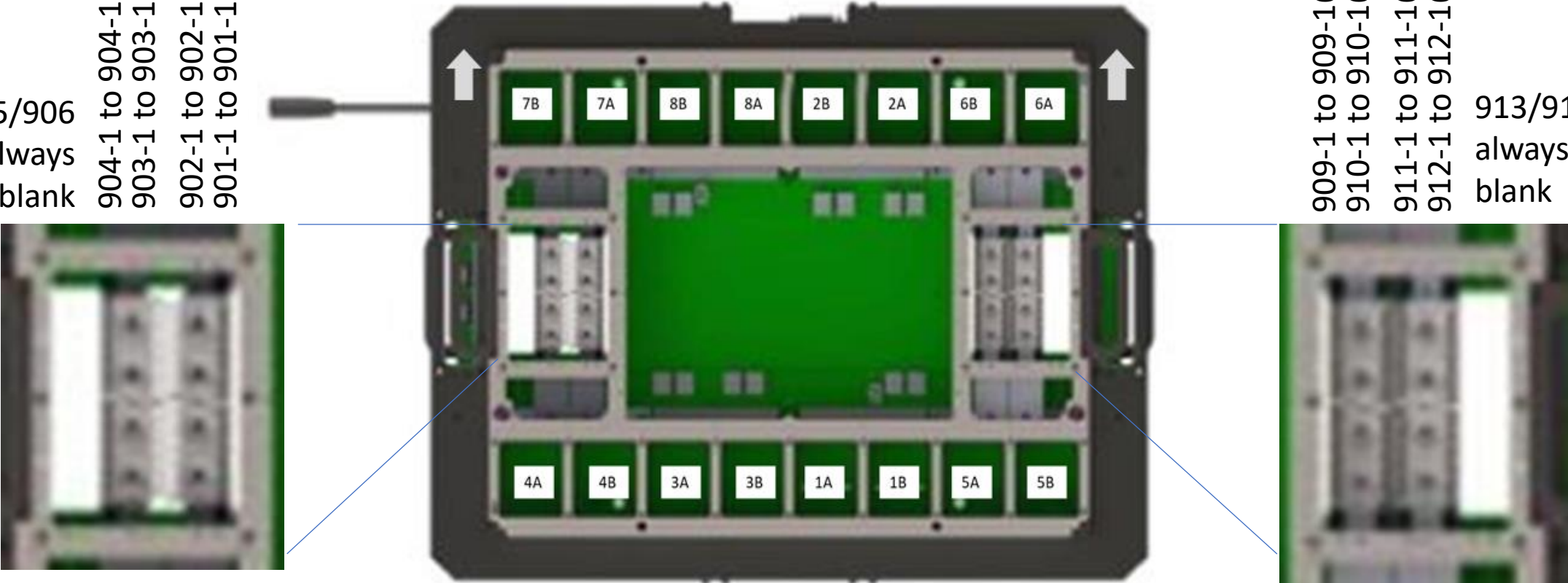
PIN 1  
ENGRAVING

# Loadboard relationship to twinning frame

TOP VIEW

905/906  
always  
blank  
904-1 to 904-16  
903-1 to 903-16  
902-1 to 902-16  
901-1 to 901-16

909-1 to 909-16  
910-1 to 910-16  
911-1 to 911-16  
912-1 to 912-16  
913/914  
always  
blank



# AT93000-POGO to wire connections

Attach SMPM side of cables to AT93000-POGO blocks according to customer documentation.

The 4mm open wrench can be used to speed up the process of attaching the 4mm wire nuts; however, only finger tighten wire nuts. Do not overtighten.

In this example, SMPM-BM(f) <-> 1.85mm(m) (xx)  
 Cable 4mm wire nuts

Item 102  
 Cables  
 Item 101  
 AT93000-POGO



# Attaching POGO blocks to Stiffener (Bottom View)

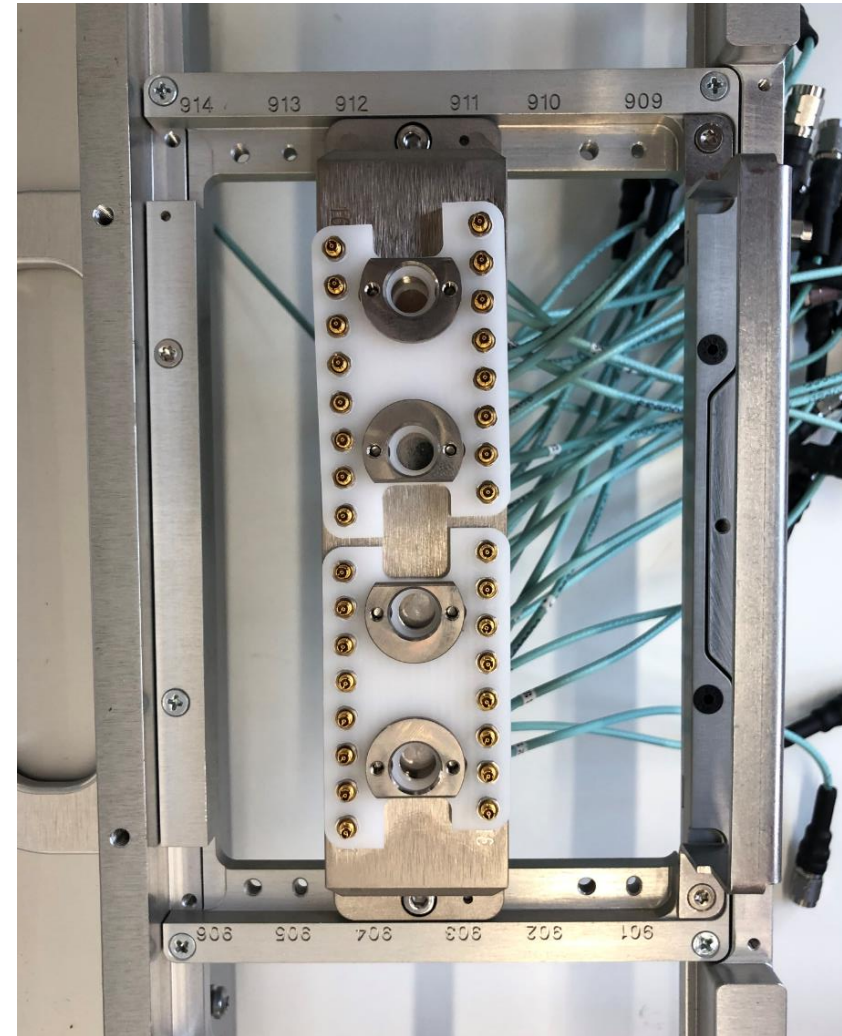
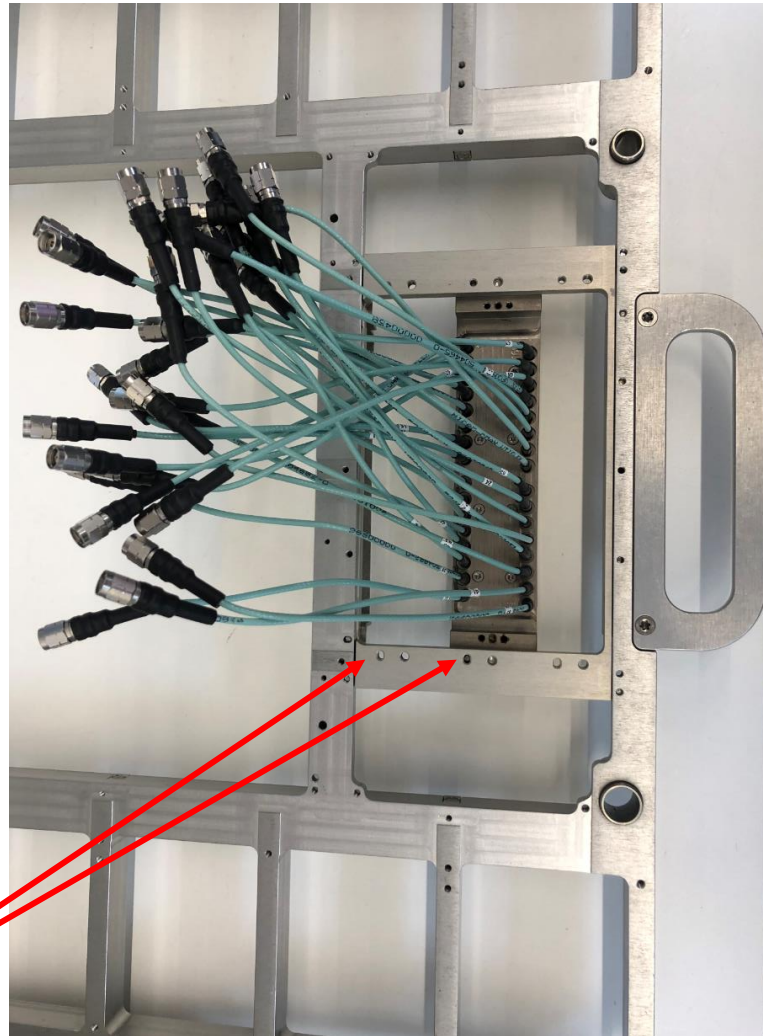
AT93000-64150 (item 100) stiffener comes pre-assembled as shown here (BOTTOM VIEW)

Line up each assembled POGO block according to customer documentation and attach to stiffener using two M4x6 screws

Item 100  
AT93000-64150  
Bottom side view



# Wiring Perspective



Guide pins on left

Stiffener – Top Side View  
Loadboard PCB attaches to Top Side

Stiffener – Bottom Side View  
This side blind mates to the Multilane Instruments

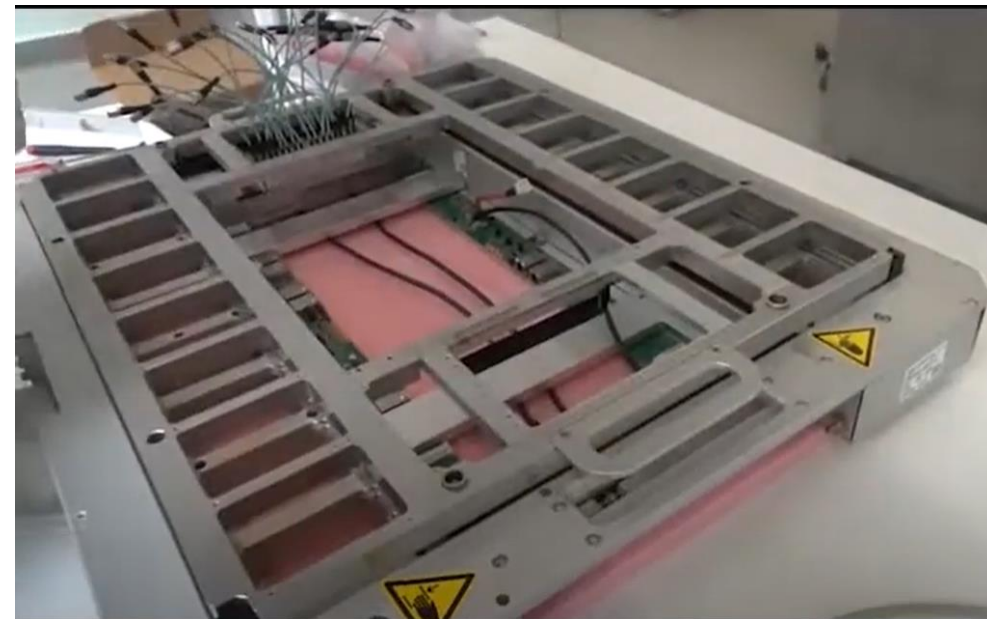
## Finished loadboard

DUT PCB not attached

Loadboard stiffener assembly  
without loadboard PCB attached

Picture here shows the assembly  
sitting on top of the twinning  
assembly

POGO blocks will line up with  
cassette blindmates



# Manual Docking

Docking lever can be attached to one of two optional corners of the twinning frame.

Place the loadboard stiffener on the twinning frame and pull twinning frame lever. Loadboard stiffener will be pulled down onto the blindmate connectors

Remote control docking can also be accomplished once the twinning frame is docked to the V93K testhead





THANK YOU

**Innovation for the next generation**

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