

CABLINE®-CAL IIF

Part No. 21088-050T-01

Assembly Manual

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Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. Purpose

This manual explains how to assemble FPC to CABLINE-CAL IIF connector.

2. Connector Name and Part Number

Name: CABLINE-CAL IIF PLUG SHELL ASSEMBLY

Parts Number: 21088-050T-01

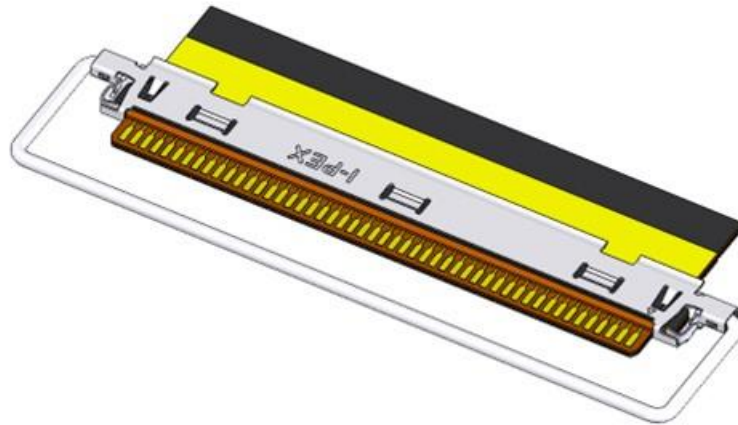


Fig 1. CABLINE-CAL IIF Shell Assembly with FPC

3. Connector Delivery Package

Carrier cut shell assemblies are delivered in a tray.



Photo. 1. Shell Assemblies in Tray

4. How to Assemble the FPC into the Shell Assembly

4-1. Ensure that the lock bar assembly is opened.

Then, position the FPC with its signal conductive side facing upward and horizontally insert into the shell.

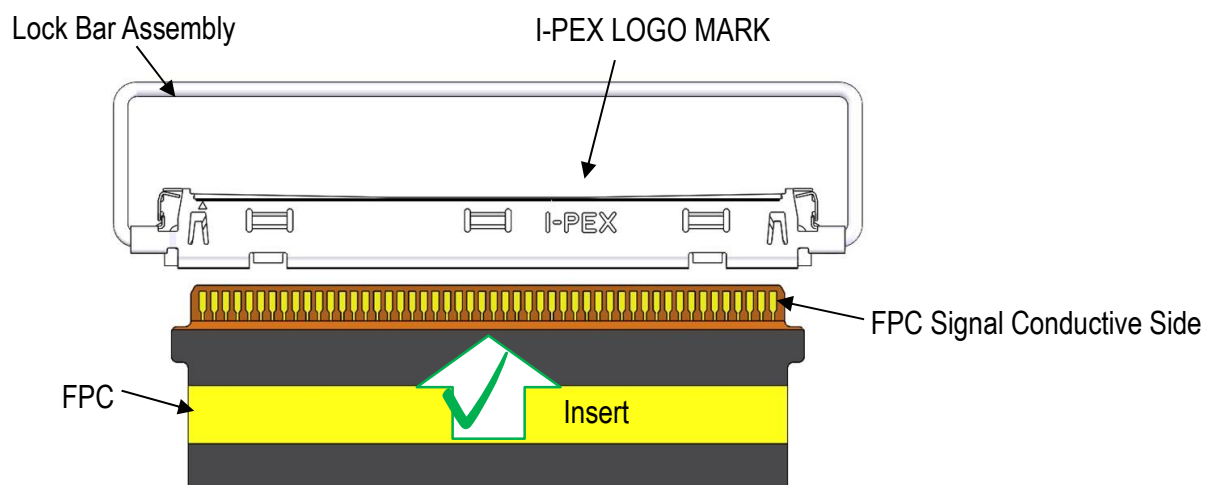


Fig. 3 FPC and Lock Bar Assembly Positions

Do not insert the FPC with the Reinforcing plate side facing upward.

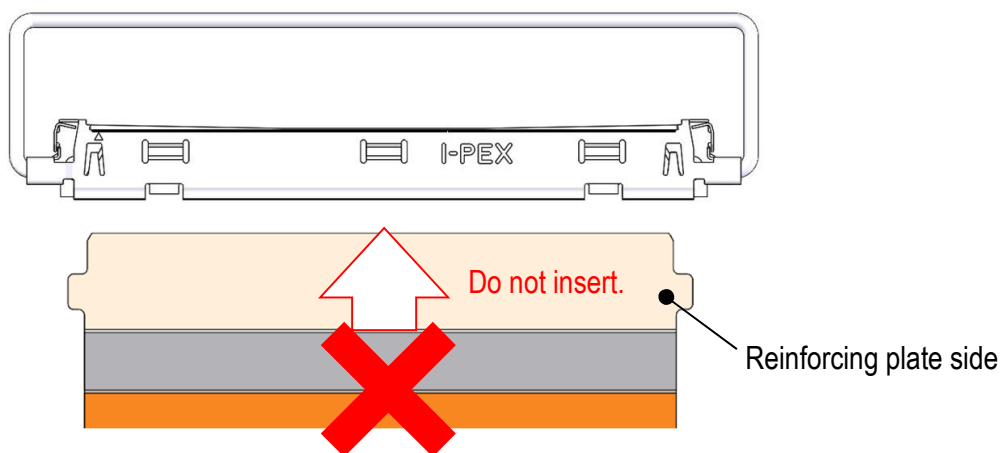


Fig. 4 Incorrect FPC Orientation

- 4-2. Pre-insert the FPC until its tabs contact the shell locks to ensure the correct insert position, then insert the FPC horizontally along the bottom side of the shell.

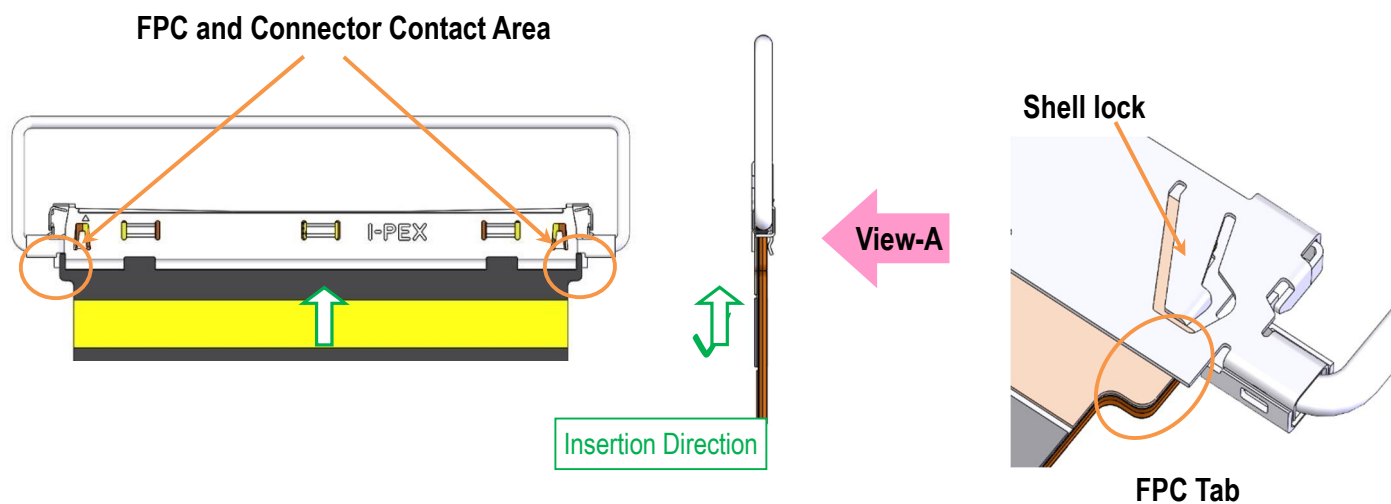


Fig. 5 FPC Insertion

Caution 2

Do not insert the FPC at an angle as it may result in the FPC deformation or damage.

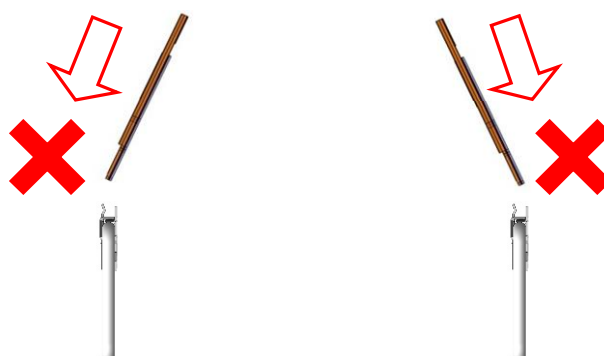


Fig. 6 Incorrect FPC Insertion

4-3. After inserting the FPC, ensure that the shell spring is correctly positioned as indicated below.

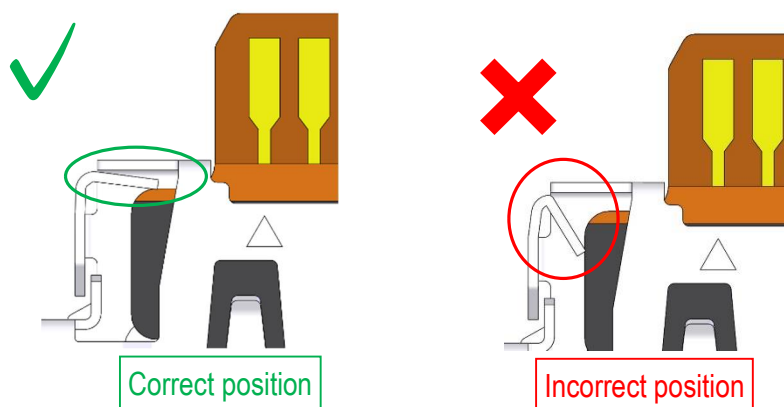
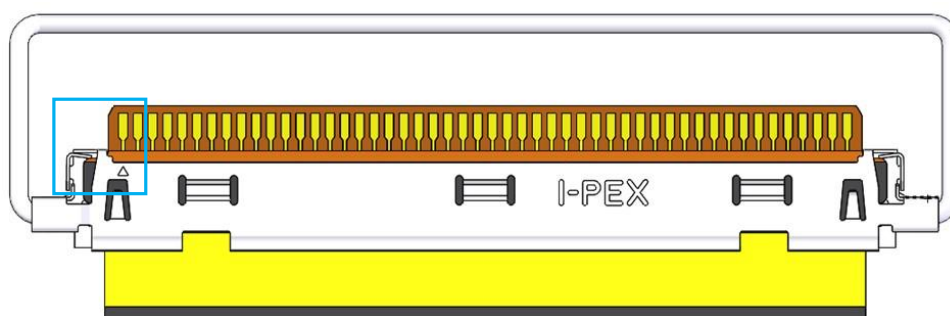
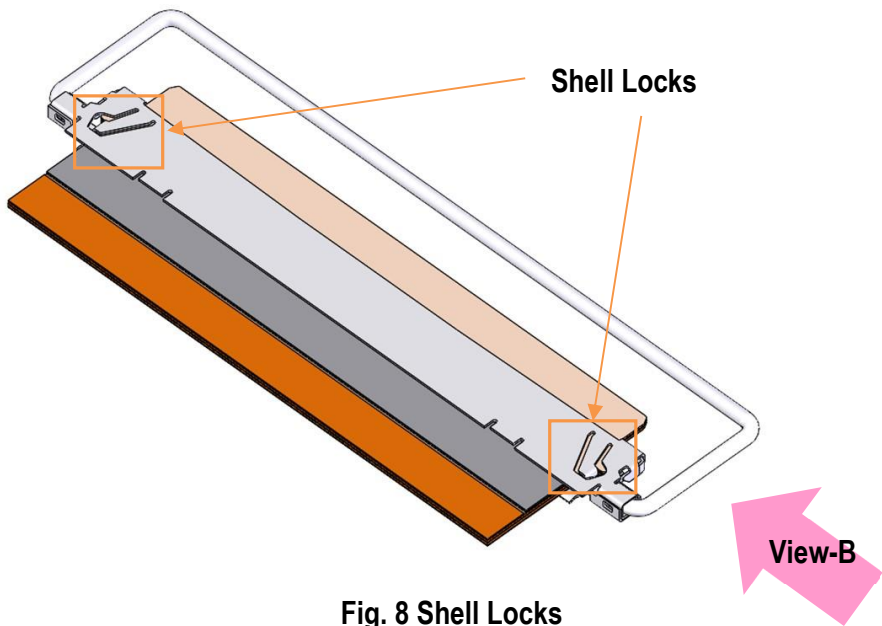


Fig. 7 Shell Spring Position

4-4. Ensure that both shell locks are locking FPC properly.



Enlarged View of Shell Lock

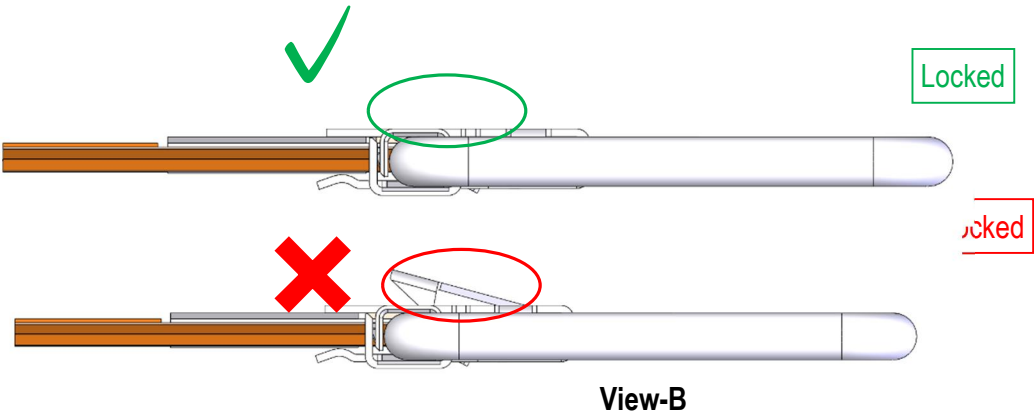
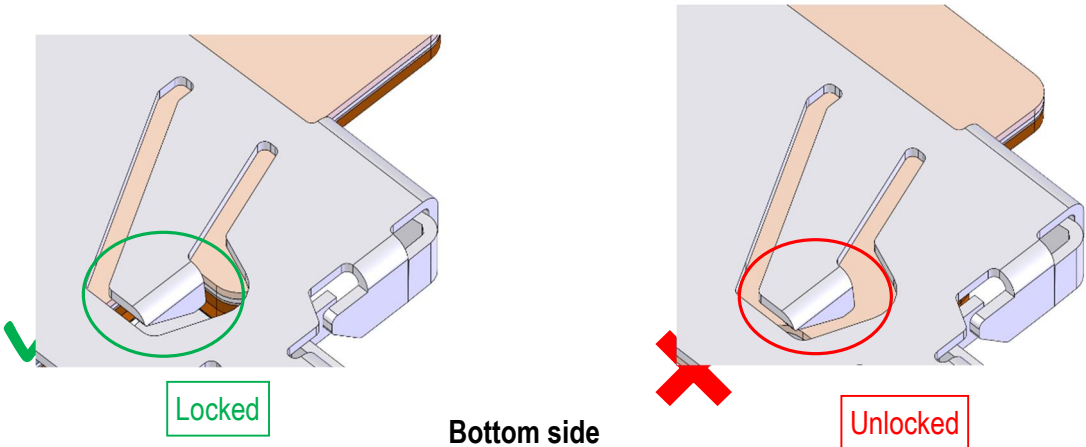


Fig. 9 Shell Lock Details

5. Soldering FPC and Shell

FPC Preparation:

Ensure that the solderable areas on both the top and bottom surfaces of the FPC are ready for soldering.

Refer to the product drawing for FPC details.

Recommended Soldering Places

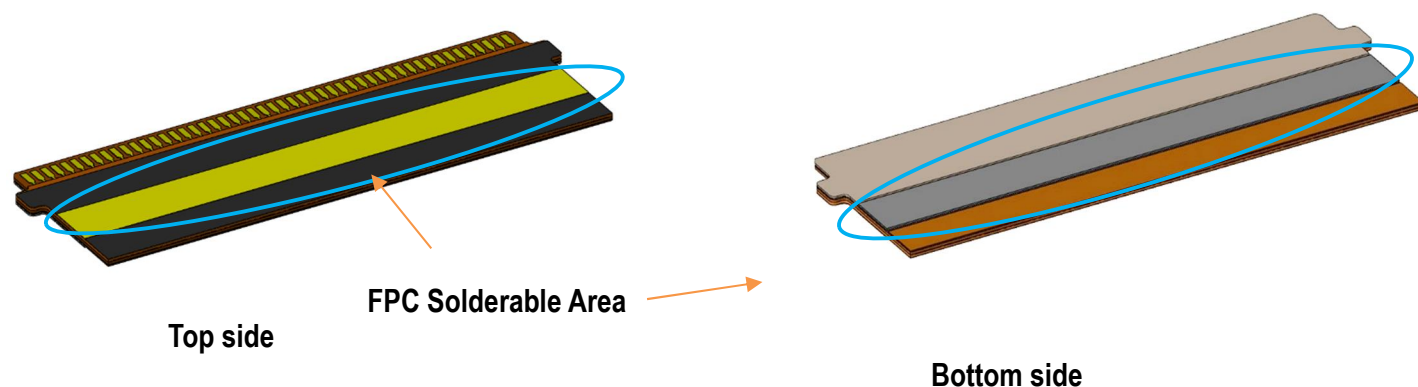
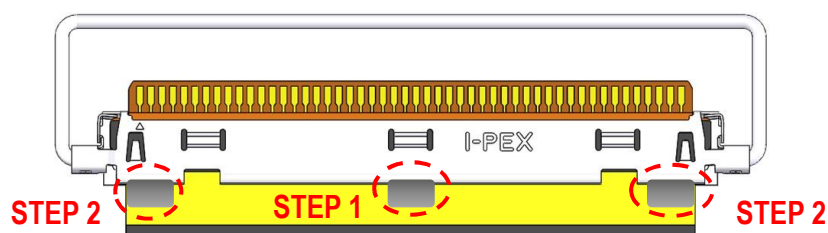


Fig. 10 FPC Soldering Area

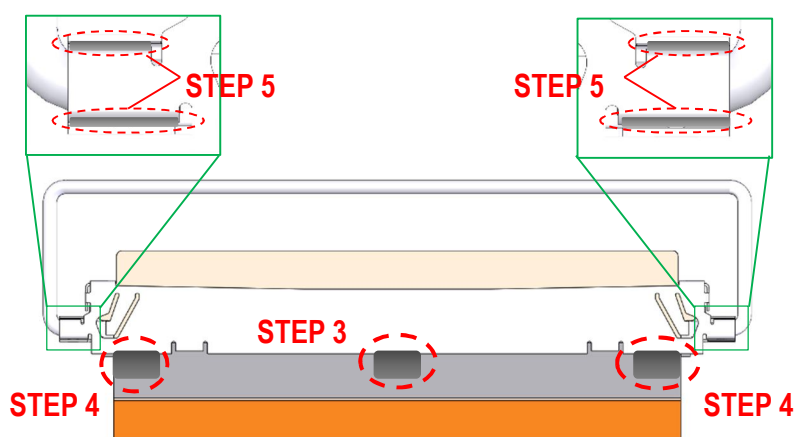
5-1. Solder the FPC and the shell. I-PEX recommends soldering at three places on the top and bottom surfaces.



Top side

Recommended soldering procedure

- STEP 1. Top side center_1 location (between Shell Assembly and FPC)
- STEP 2. Top side edge_2 locations (between Shell Assembly and FPC)
- STEP 3. Bottom side center_1 location (between Shell Assembly and FPC)
- STEP 4. Bottom side edge_2 locations (between Shell Assembly and FPC)
- STEP 5. Lock bar shaft_4 locations (shell assembly section)

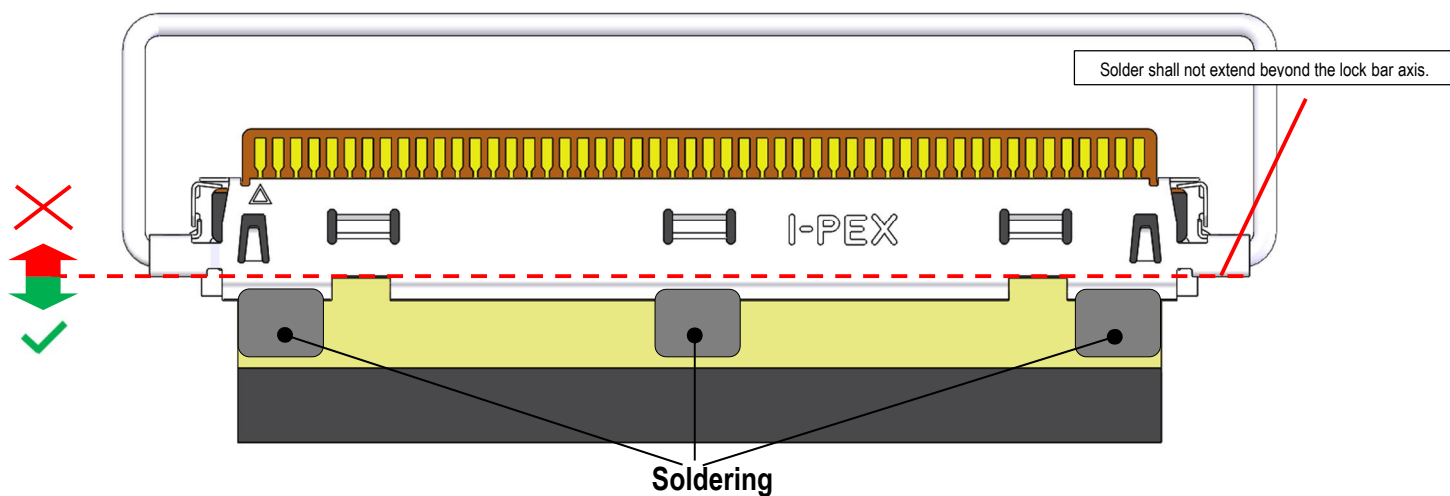


Bottom side

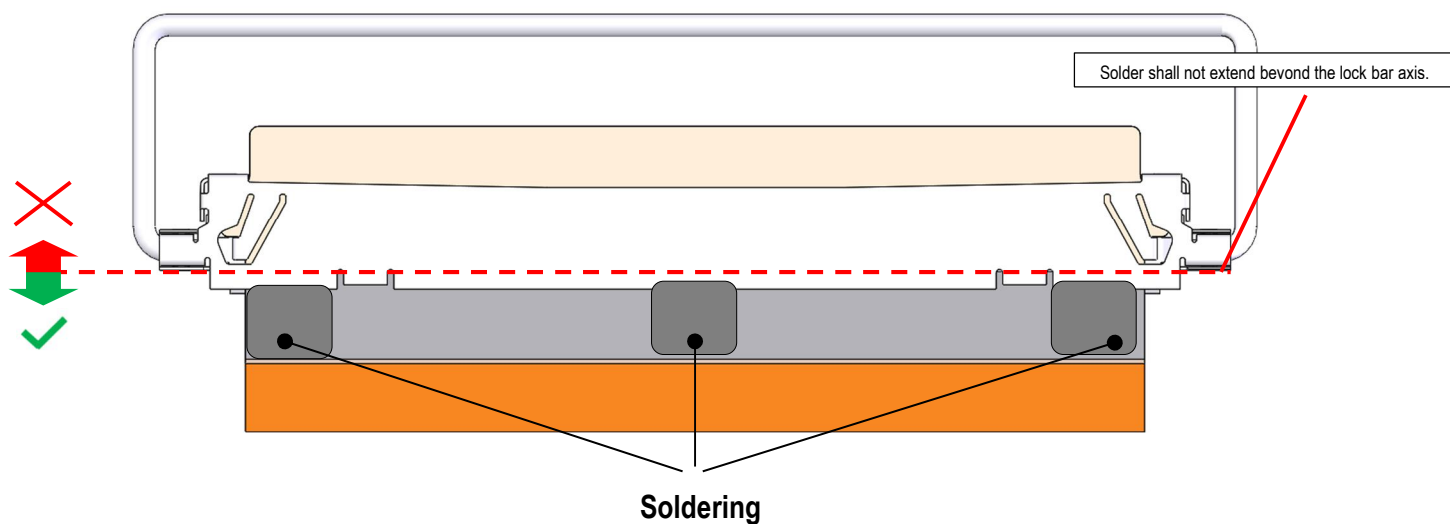
Fig. 12 FPC Soldering Examples

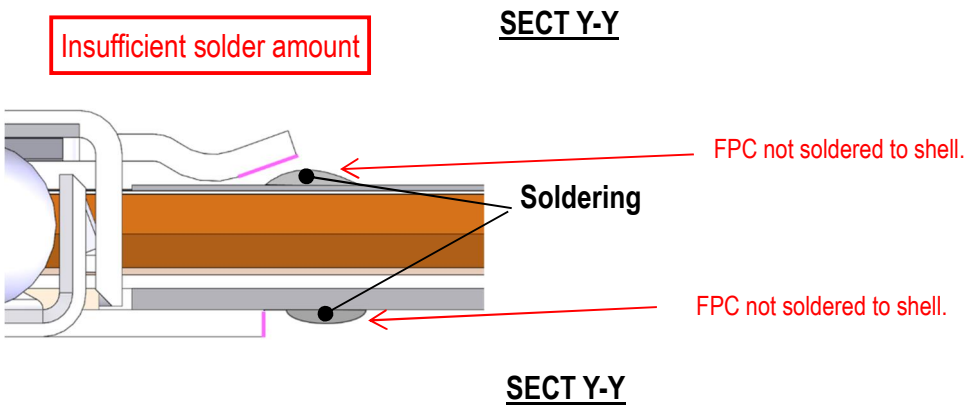
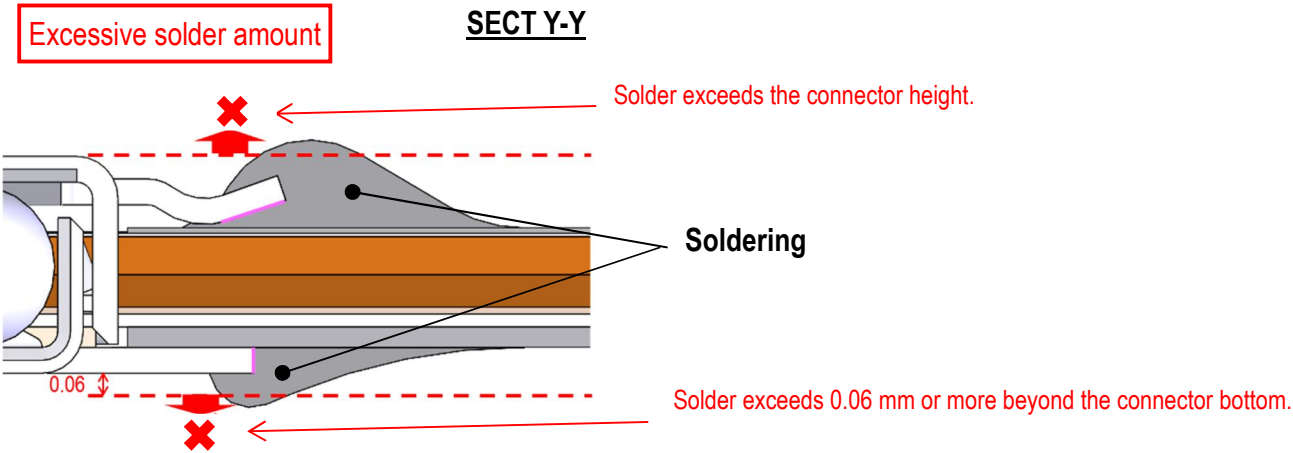
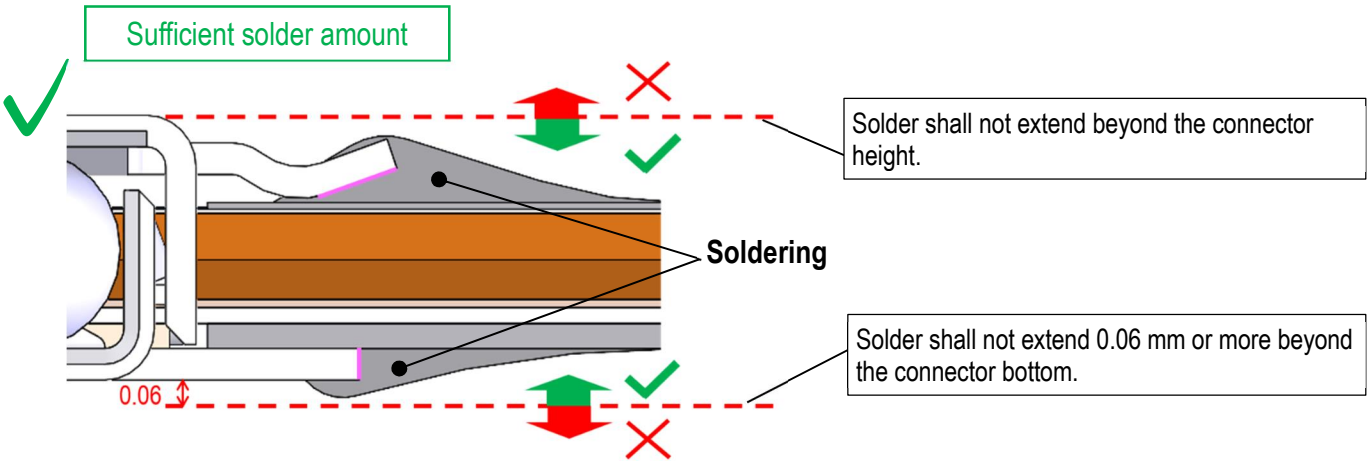
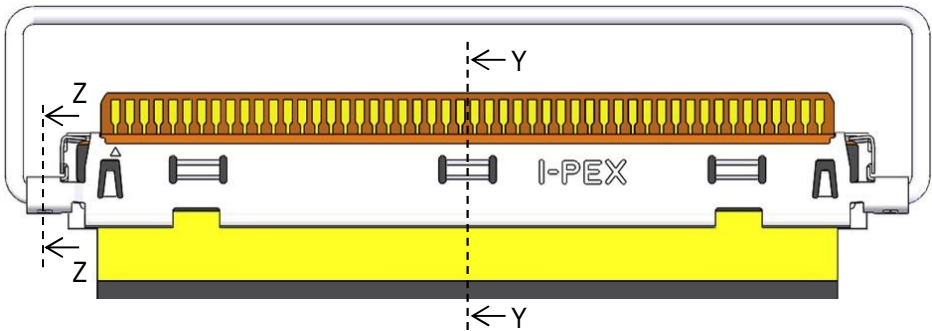
5-2. For soldering FPC and the shell, Steps 1 to 4, the solder amount shall be as shown in the figure below.

Top side



Bottom side





For soldering the lock bar and FPC, Step 5, the solder amount shall be as shown in the figure below.

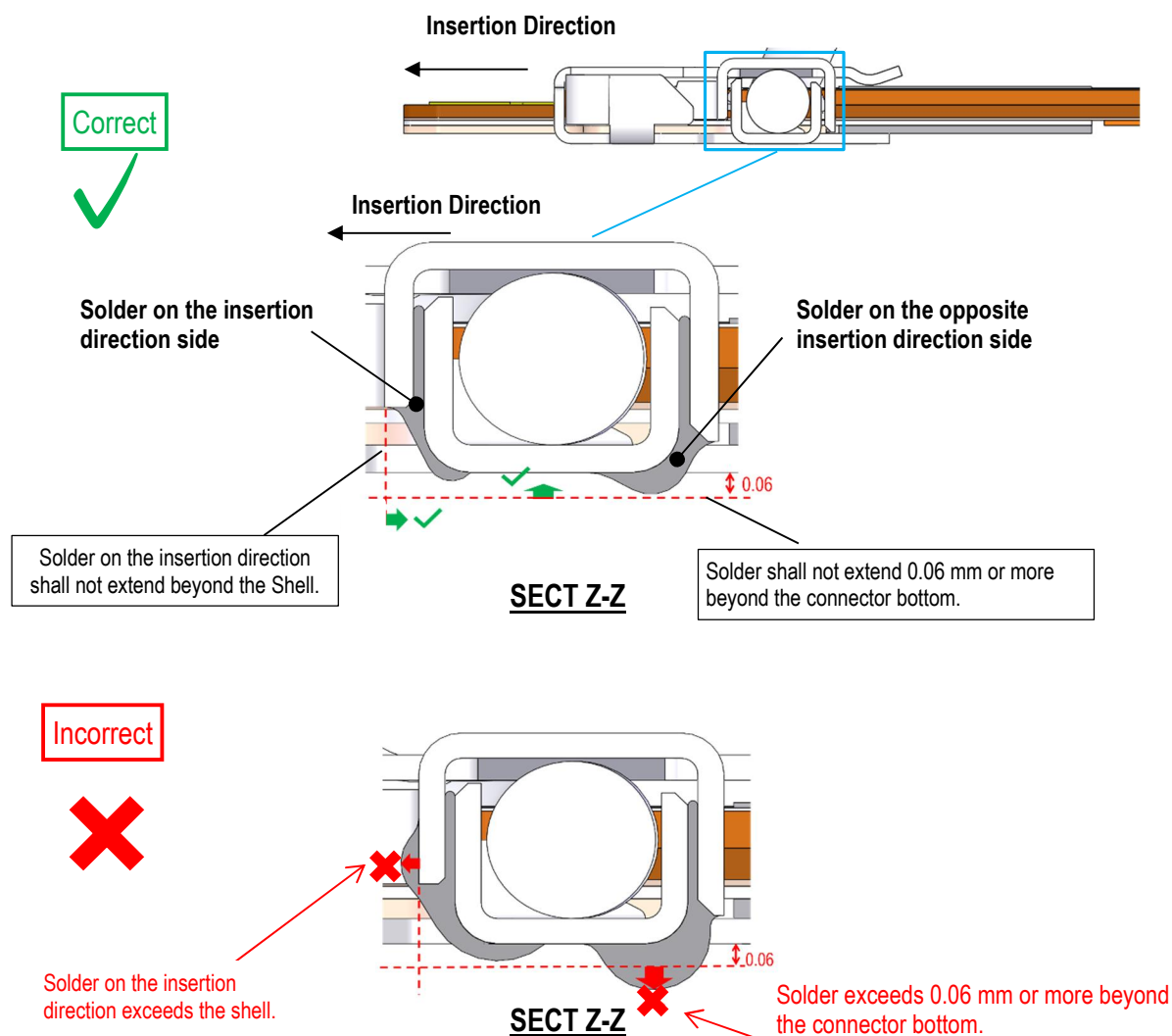


Fig.13. Solder Amount

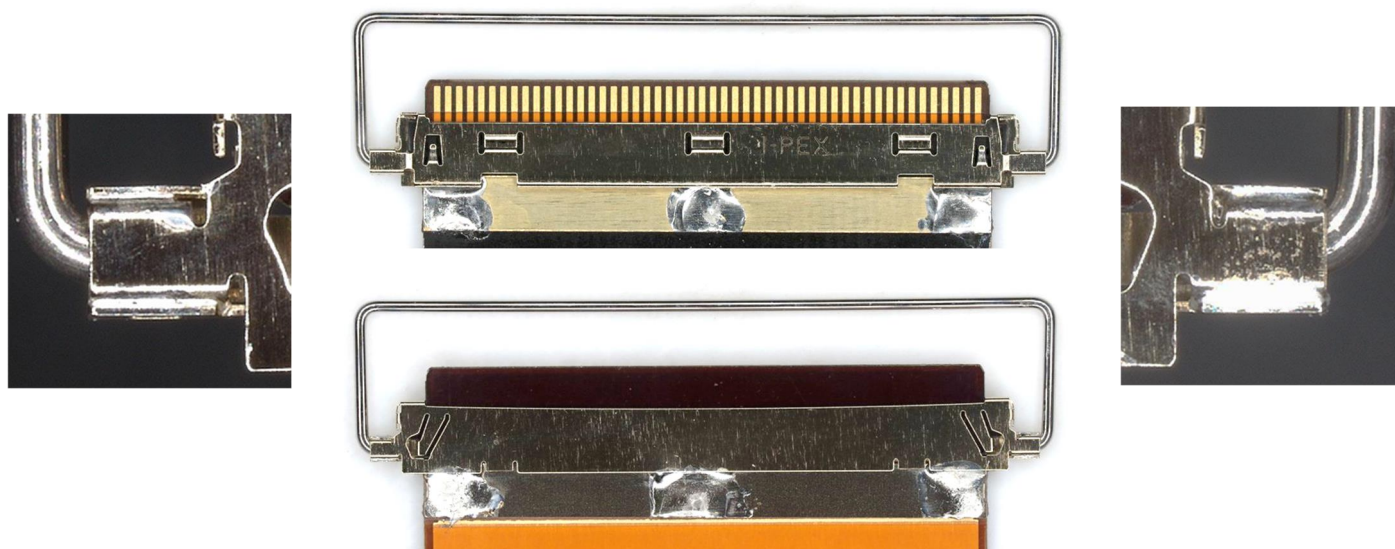


Photo 1. Soldering Reference

Cautions 2

The shell is thin and may warp during the FPC insertion.

Hold the shell top and bottom surfaces with a jig before soldering to avoid mating failure.

Please refer to the drawing for the upper limit dimension of Plug Shell warpage after soldering.

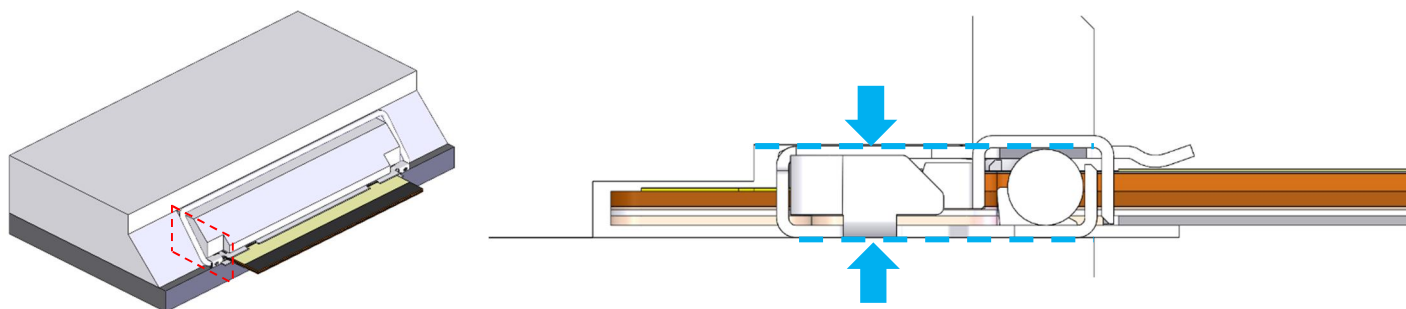


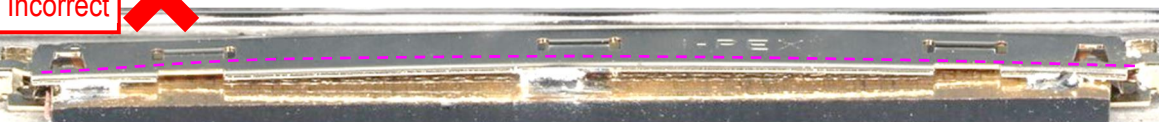
Fig. 14 Jig Image

Top surface : No bulge on the top surface of the SHELL

Correct

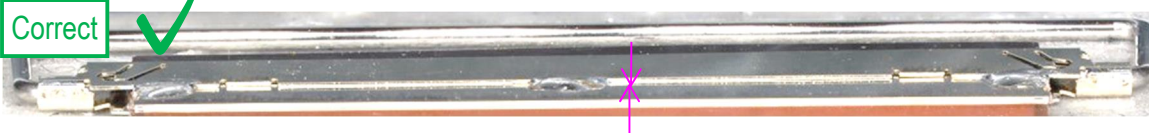


Incorrect

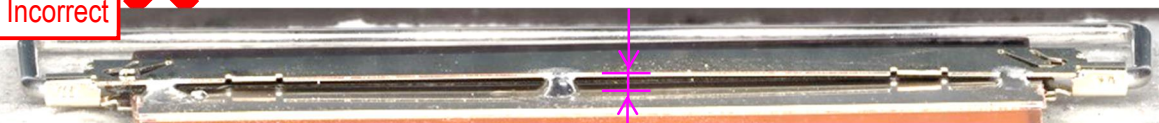


Bottom side: No gap between FPC soldering area and SHELL

Correct



Incorrect



Cautions 3

Do not open the lock bar sideways or push it toward the shell. Doing so may cause the lock bar to detach.

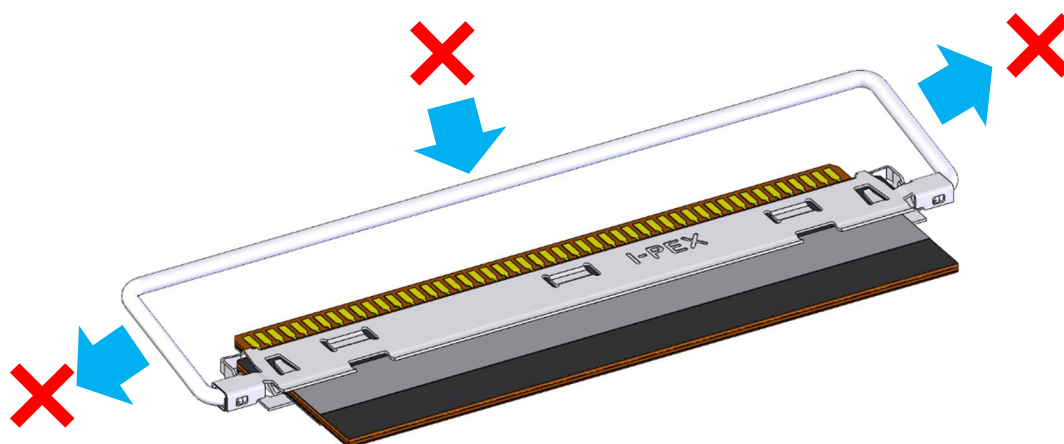


Fig. 15 Incorrect Lock bar Handling

Cautions 4

Do not reinstall or use the lock bar once it has detached, as it may result in deformation of the lock bar.

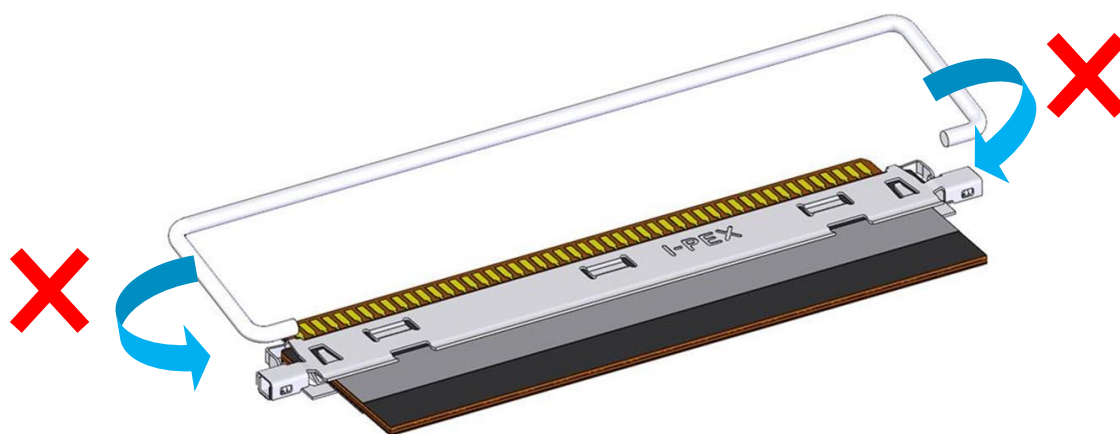


Fig. 16 Prohibition to Reinstall Lock bar