CABLINE®-VS

Part No. Plug: 20453-*##T-*** Receptacle: 20455-*##E-***

Instruction Manual

Rev.	ECN	Date	Prepared by	Checked by	Approved by
7	S21240	May 27, 2021	R.Morita	T.Masunaga	H.Ikari
6	S21170	April 13, 2021	R.Morita	T.Masunaga	H.Ikari
5	S19019	January 8, 2019	Y.Miyazaki	T.Masunaga	H.Ikari
4	S18402	July 2, 2018	A.Koyanagi	T.Masunaga	H.Ikari

This manual provides the mating & un-mating methods and cautions to handle CABLINE-VS connector properly.

【Connector Name, Part number】

◆Plug connector

Product Name : CABLINE-VS PLUG

Part No. : 20453-※＊＊T-※ ※

1 : With PULL BAR
2 : Without PULL BAR
3 :With INSULATION PULL BAR

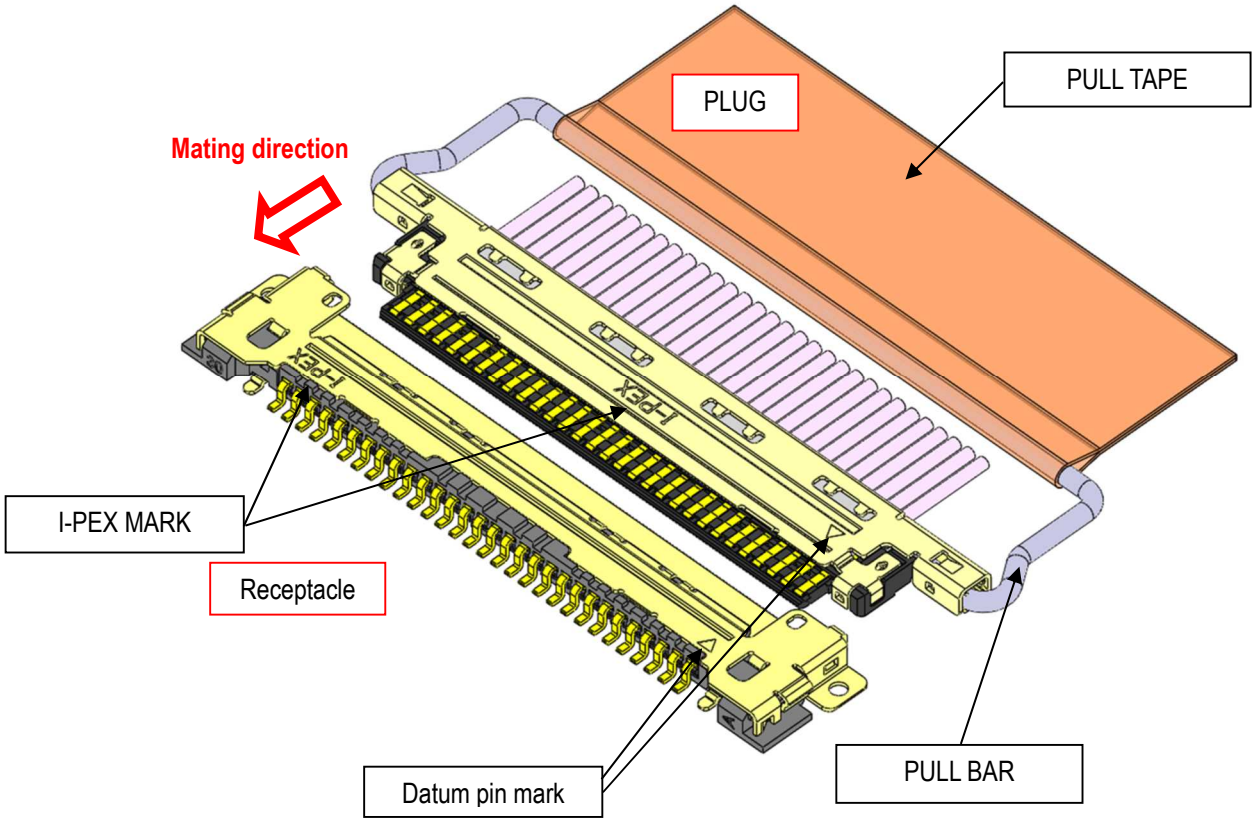
◆Receptacle connector

Product Name : CABLINE-VS RECEPTACLE

Part No. : 20455-※＊＊E-※※※

'' part shows the number of the connector position.**
'※' part shows the variation. Please refer to a drawing for the details.

【Names of each part of the connector.】



【Connector Mating Method】

1. As shown in Fig.1, please set so that the datum pin mark of the plug connector and the receptacle connector are matched.

For the connector without DATUM MARK.

Please set so that I-PEX MARK of the plug connector is upper side.

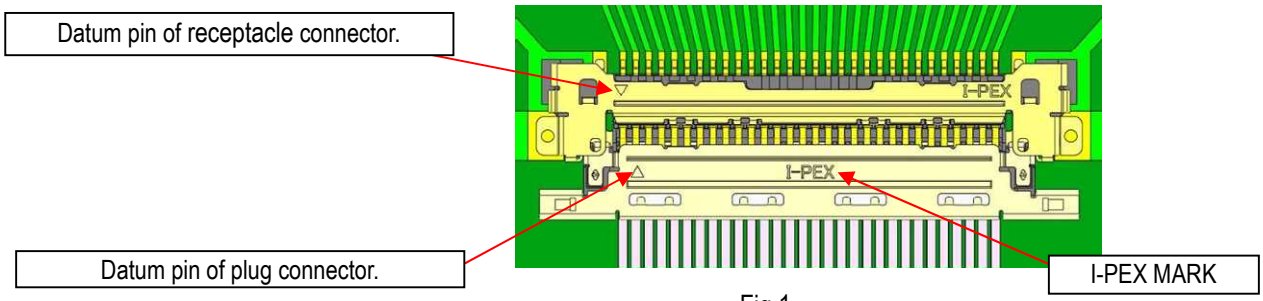


Fig.1

2. Pre-insert the plug connector into the receptacle connector.

The insertion angle in the height direction is within -5~8° as shown in Fig.2

Pre-insert until the plug connector is parallel to the receptacle connector as shown in Fig.3

※Pre-insert without applying excessive load in the insertion direction until both sides of the plug connector overlap the receptacle connector.

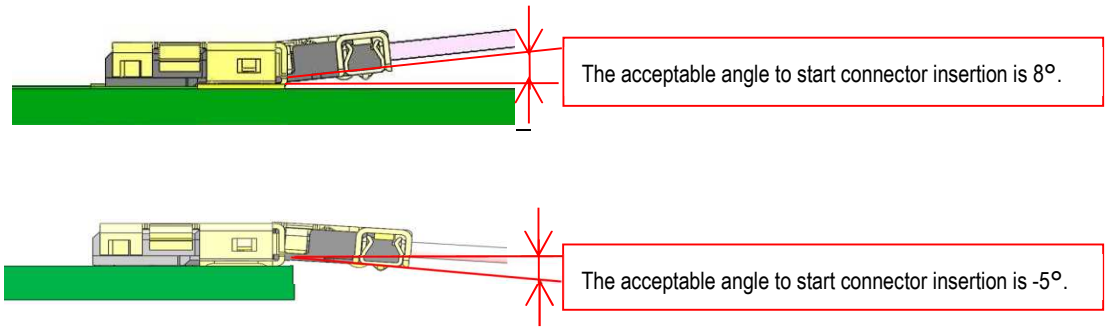


Fig.2

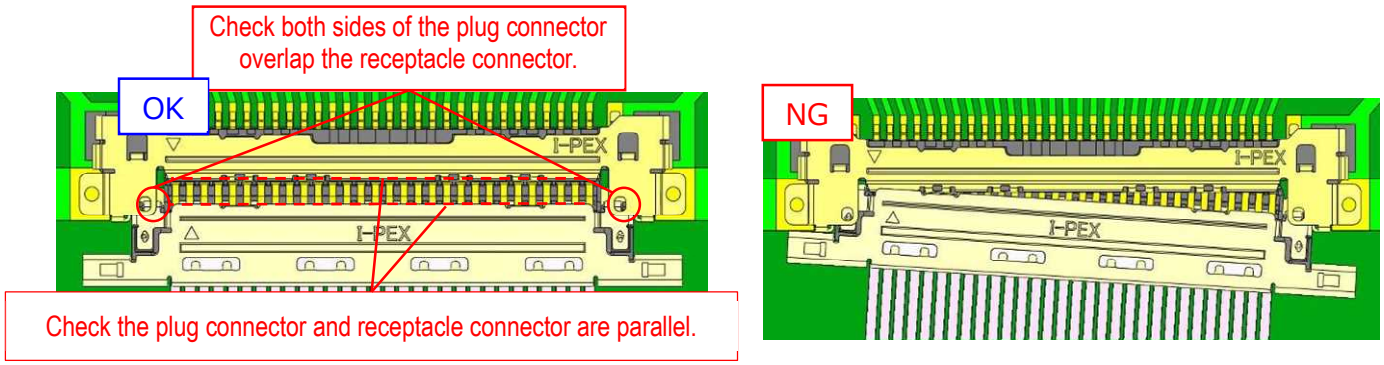


Fig.3

Caution If Pre-insert is NG, repeat step step2.

3. Insert the plug into the receptacle connector.
As shown in Fig.4, push both sides of the connector on the cable side horizontally to insert.
Check that ①it is locked, ②the Plug Shell and Receptacle Shell overlap, and ③there is no space.

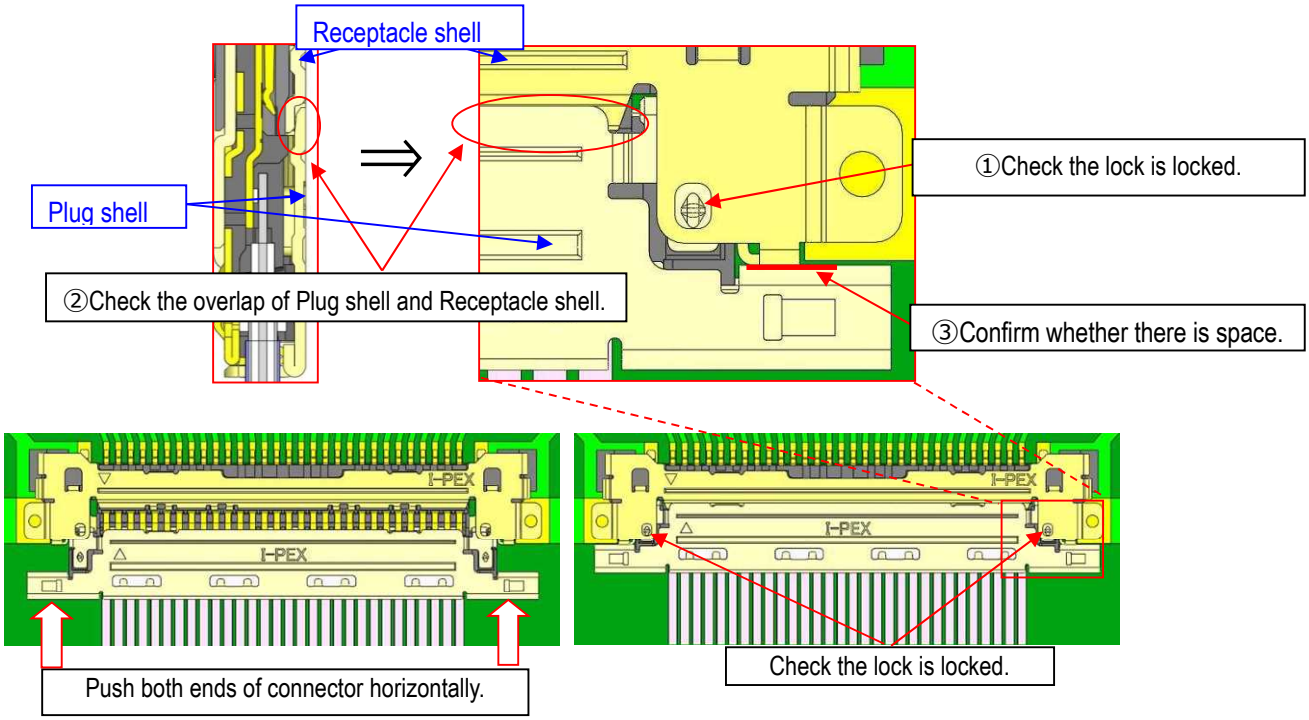


Fig.4

For the connector with PULL BAR.

From temporary inserting condition as shown in Fig.5, turn PULL BAR to the receptacle connector side and push both ends of plug connector horizontally. Then, confirm whether there is space between mating confirmation surfaces.

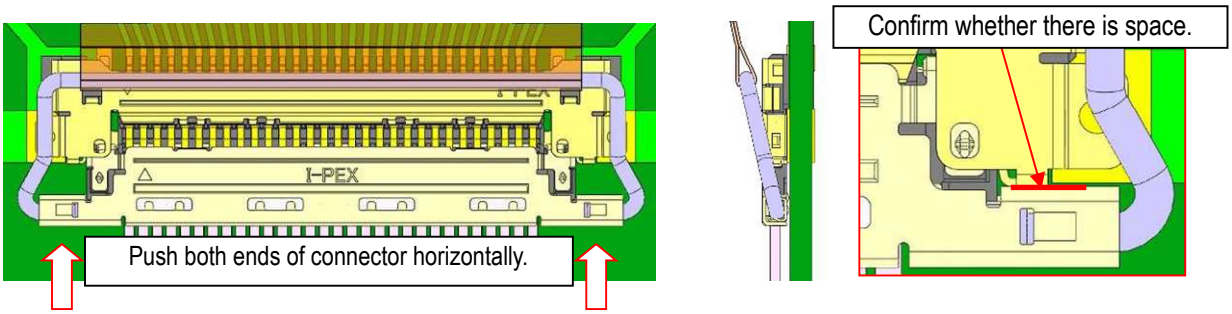


Fig.5

Cautions.

When you push one end by one end, there is possibility to cause a gap. (Fig.6)

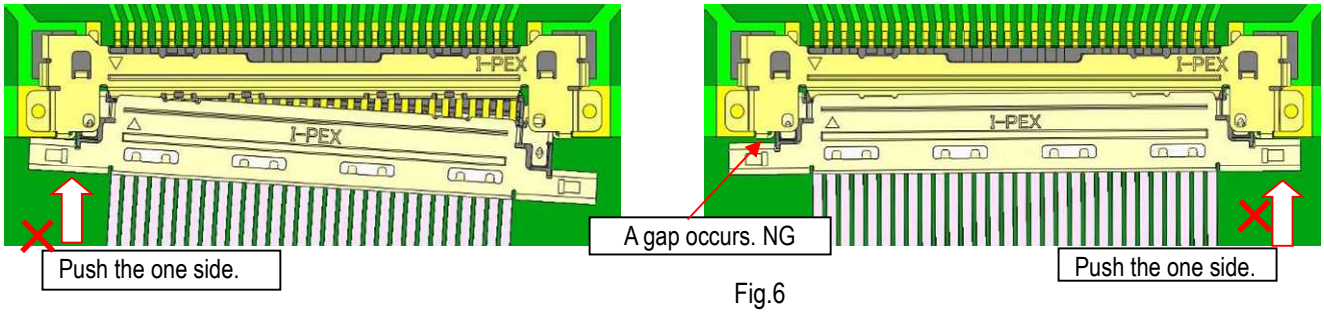
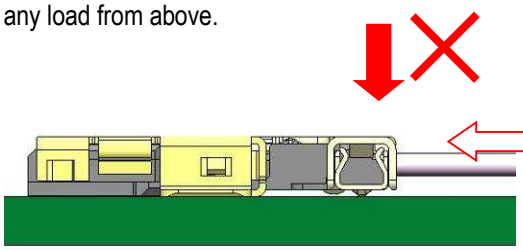
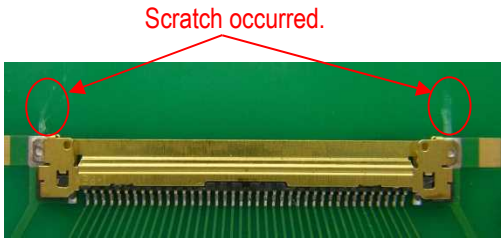


Fig.6

If you apply downward force from connector above especially edge of pull bar when you insert plug into receptacle, there is a possibility to damage PCB like picture below. This downward force on edge of pull bar will be cause of short and circuit and disconnection of PCB Layout. Therefore, please do not apply any load from above.





For the connector with PULL BAR.

4. After mated, push PULL BAR to the PCB side and lock it to SHELL of the receptacle connector.

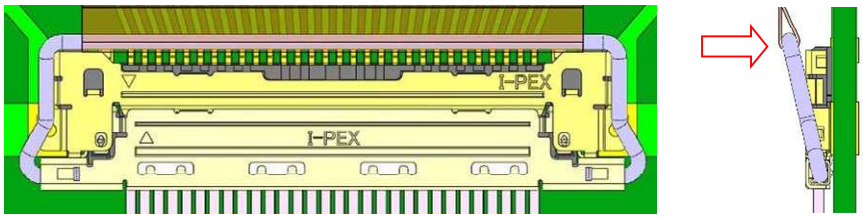


Fig.7

Contents of confirmation.

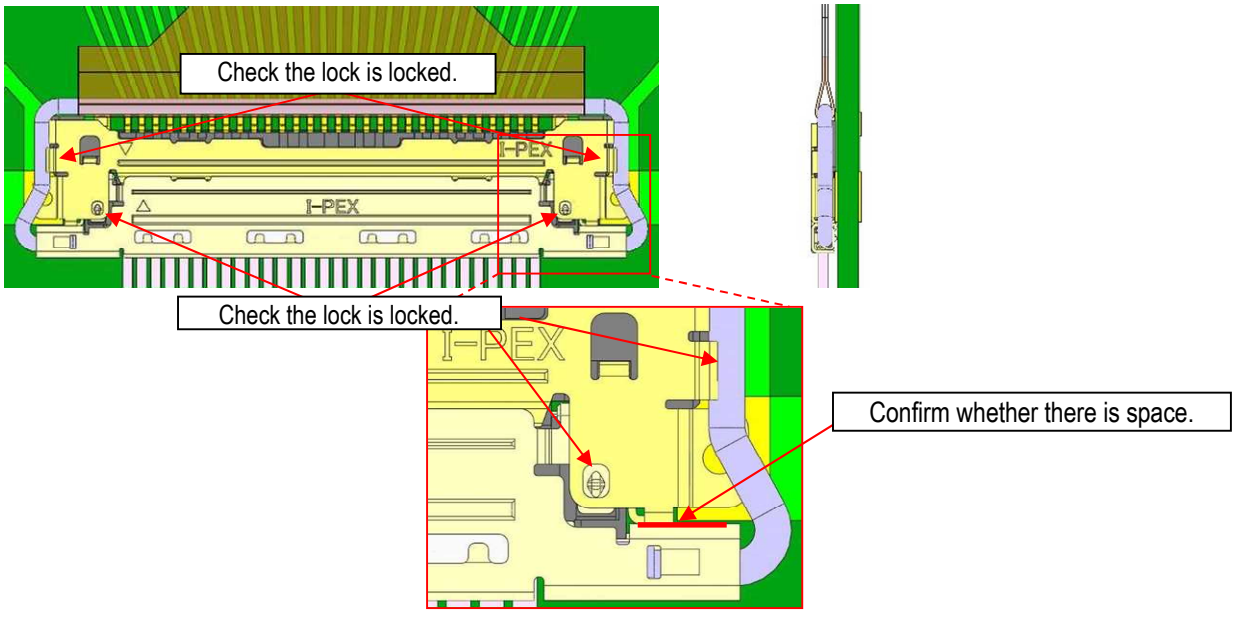


Fig.8

Cautions. **For the connector with PULL BAR.**

When mating, in case you mate the connector pushing PULL BAR as shown in Fig.9-1, there are possibilities to cause PULL BAR deformation or the rotation axis dropping out from the connector. Please don't push PULL BAR.

Please don't use PULL BAR for insertion of connector.

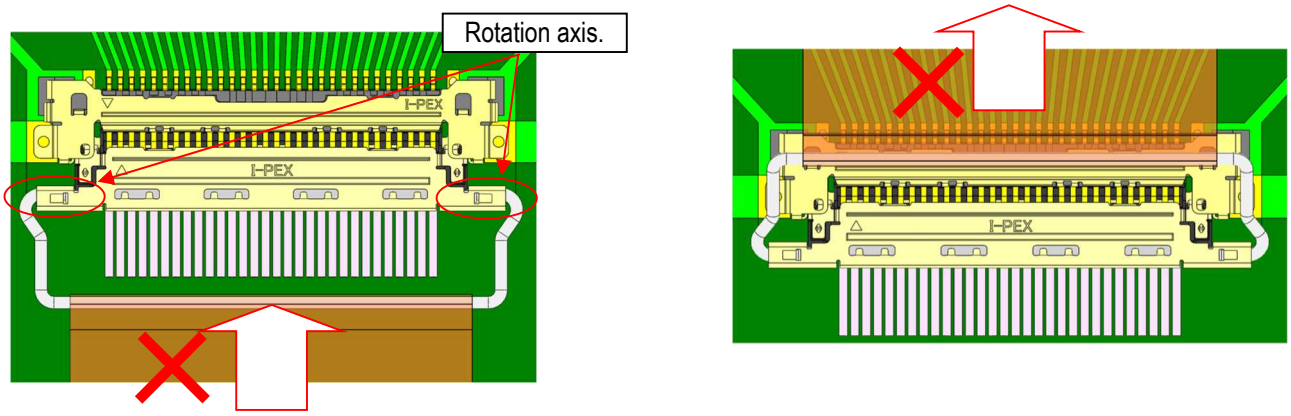


Fig.9-1

Do not extract the pull-tape forcedly toward mating direction. It may deform the pull bar or rotation axis may come off from the connector.

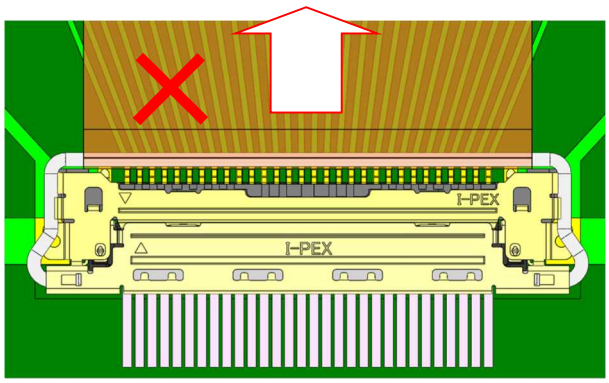


Fig.9-2

Do not pull the pull-bar toward arrowed direction. It may deform the pull bar or rotation axis may come from the connector.

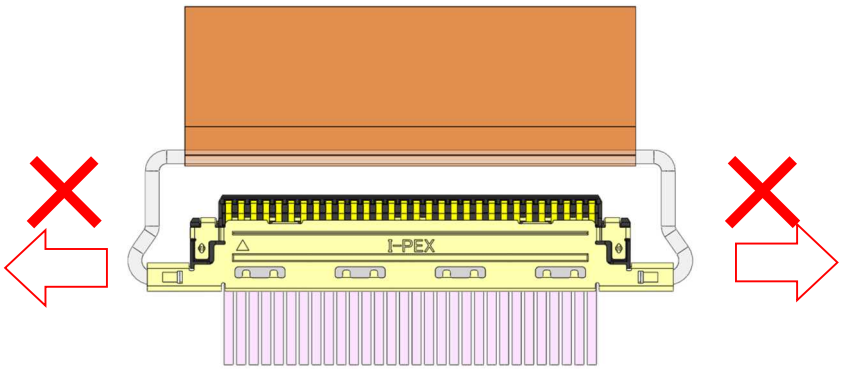
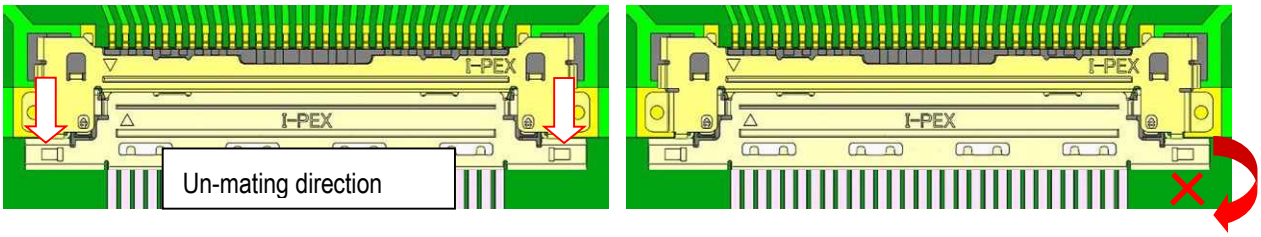


Fig.9-3

【Connector Un-mating Method.】

・Un-mating the connector.

As shown in Fig.10, hold both ends of the plug connector and un-mating it parallel to the arrowed direction from the receptacle connector.



Parallel un-mating OK condition Slanted un-mating NG condition

Fig.10

For the connector with PULL BAR with PULL TAPE.

First, pull PULL-TAPE to the direction ① and release the lock with the receptacle connector. Then, turn PULL BAR to the direction ② and pull it to the direction ③ in parallel with PCB to un-mate the connector.

Caution: In pulling PULL-TAPE to the direction × mark, there are possibilities to cause the receptacle connector deformation

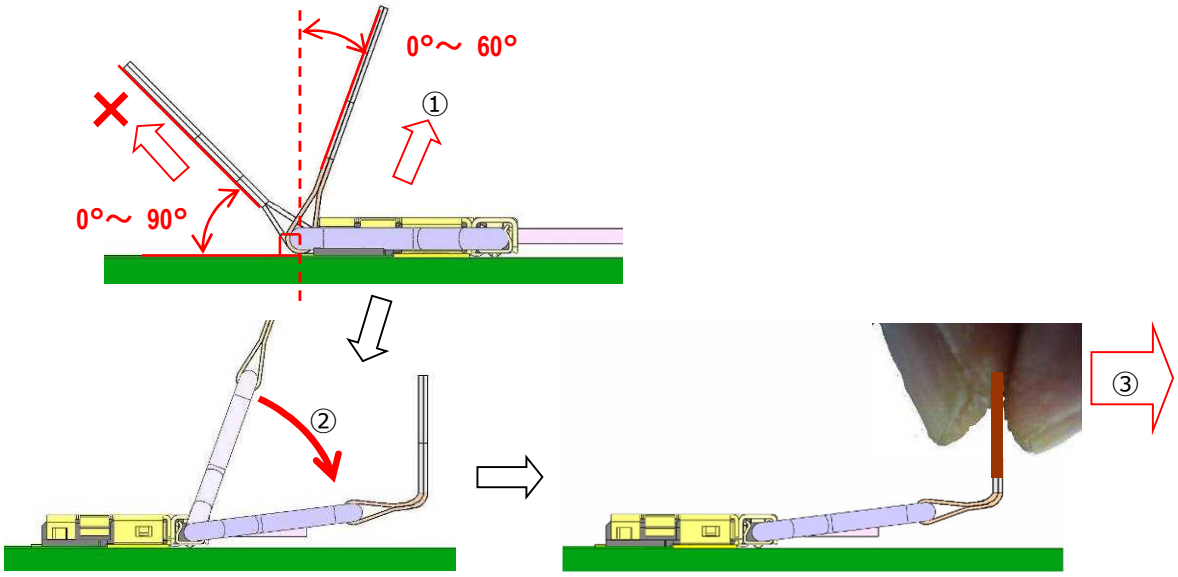


Fig.11

For the connector with INSULATION PULL BAR

Un-mating method Ⅰ

Raise one of ① points of PULL BAR in Fig.12 to the ② direction to release the lock with the receptacle connector, then, turn PULL BAR to ③ direction. Un-mating method is same as described in Fig.10.

Caution: Except for ① part, if you pull up the PULL-BAR towards direction ②, PULL BAR would have deformation or the connector would have damage. Also, if you use Insulated part of INSULATION PULL BAR for Un-mating, PULL BAR may deform. Please do not use it for Un-mating. Moreover, if you hit the metal or hard material onto the insulating part, the coating have possibility to peel off so that please understand to handle it carefully.

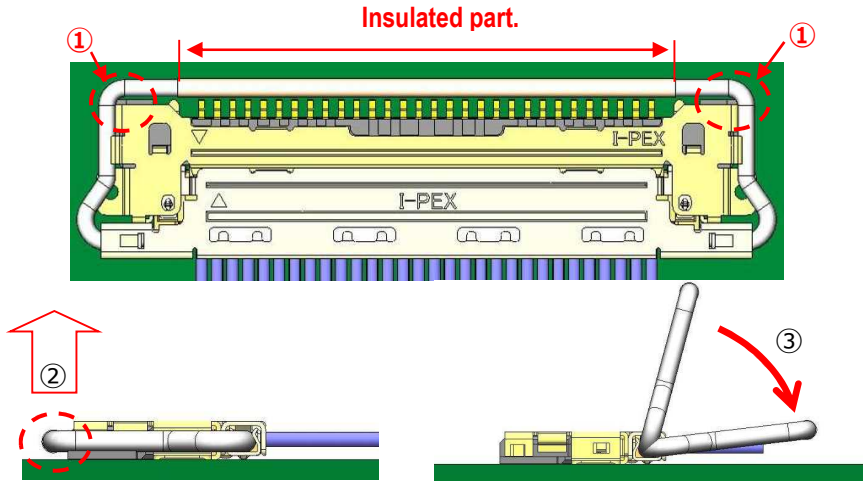


Fig.12

Un-mating method Ⅱ

As Fig 12, ①, pull the one of ① points of PULL BAR up towards ② direction to release the lock from the receptacle connector and turn PULL BAR up to horizontal as Fig 13. As Fig 14, please make un-mating by pulling the horizontal part ③ in parallel to PCB.

Caution: Except for ① part, if you pull up the PULL-BAR towards direction ②, PULL BAR would have deformation or the connector would have damage. Also, if you use Insulated part of INSULATION PULL BAR for Un-mating, PULL BAR may deform. Please do not use it for Un-mating. Moreover, if you hit the metal or hard material onto the insulating part, the coating have possibility to peel off so that please understand to handle it carefully.

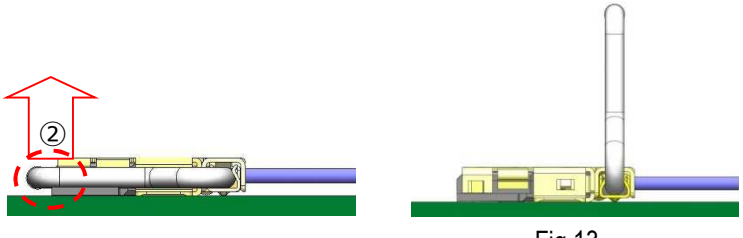


Fig.13

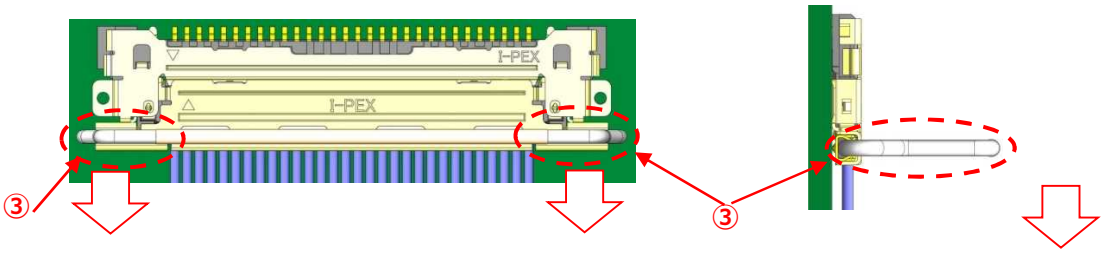
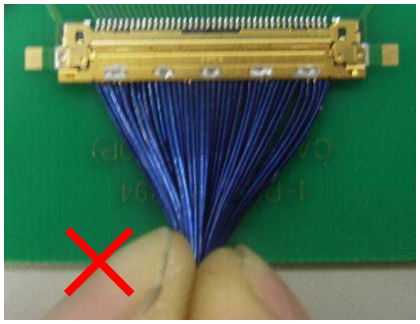


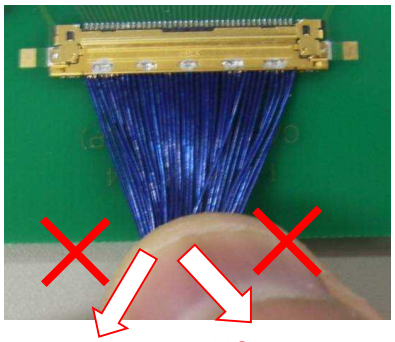
Fig.14

Cautions.

※In case you un-mate connector by pulling cable, there is possibility to break the cable. Please avoid such an un-mating method. In addition, such an un-mating can cause locally-force to cable and the inner conductor can be damaged. Especially, slanted un-mating by holding some cables is more dangerous. Please be careful.

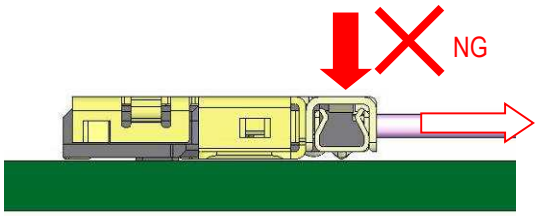


NG

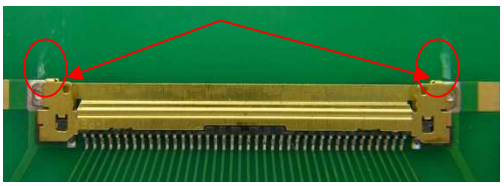


NG

If you apply downward force from connector above especially edge of pull bar when you un-plug from Receptacle, there is a possibility to damage PCB like picture below. This downward force on edge of pull bar will be cause of short and circuit and disconnection of PCB Layout. Therefore, please do not apply any load from above.

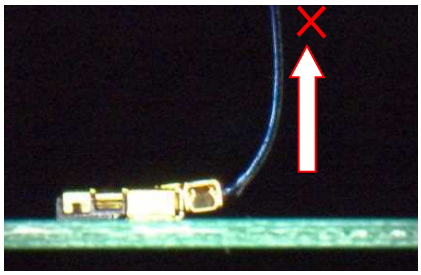


Scratch occurred.

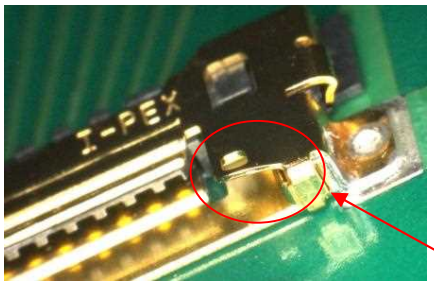


【CAUTION IN CABLE CONNECTOR HANDLING.】

In case the cable is pulled to the vertical direction, SHELL of the receptacle connector can deform. Please don't pull vertically. Similarly, PULL BAR should not be pulled to the vertical direction.

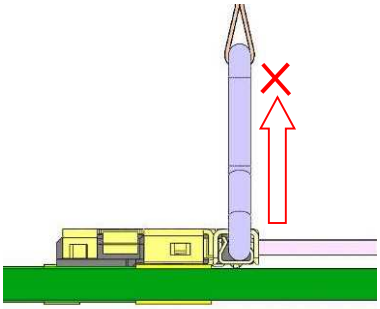


Vertical load



Shell turns up

Shell deformation.



・In a cable harnessing work, be careful NOT to apply the pulling force to specific cables.

・Be careful NOT to apply the pulling force or repeated bending force to the cable attachment part of a plug connector.

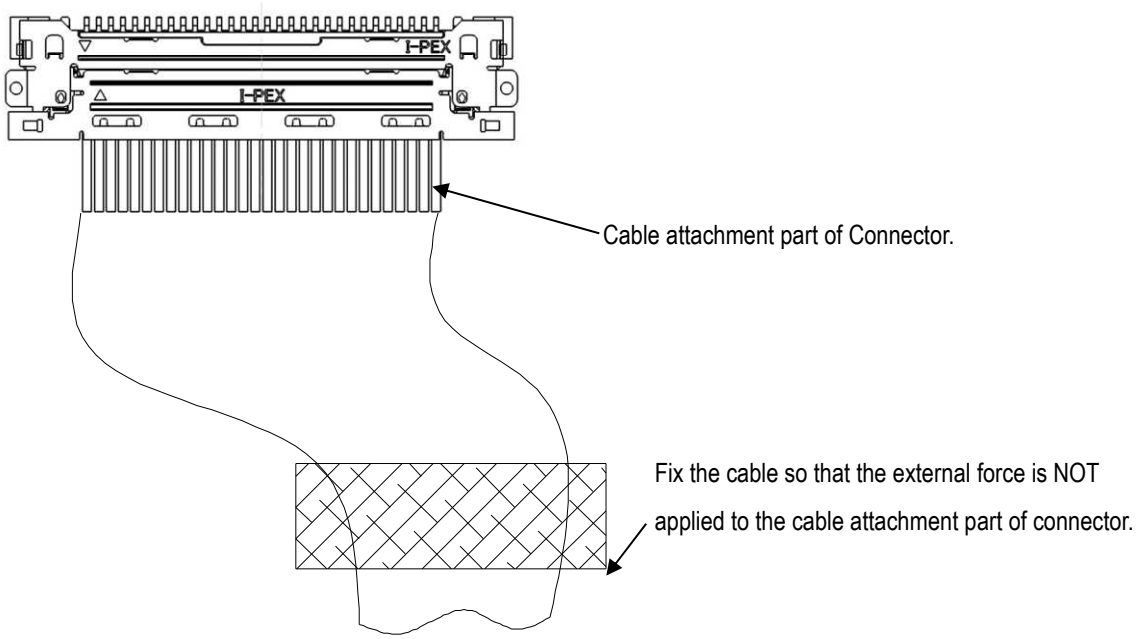


Fig.15

・Continuous force of the direction shown in black arrow in Fig. 16 can damage connectors or cause the coming off from receptacle connector. Please be careful NOT to apply such force.

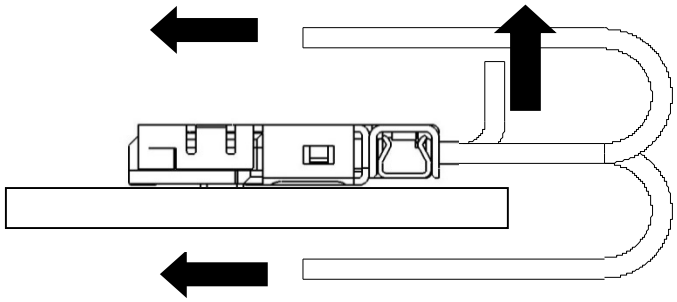


Fig.16

【Cautions for electrical inspection when using plug】
Please note that damage, buckling and offset will occur on the receptacle when the receptacle is inserted into the damaged or distorted plug housing, and it may cause short circuit.

Plug for electrical inspection (Part No. 20490-0**T) is recommended in case of electrical inspections.

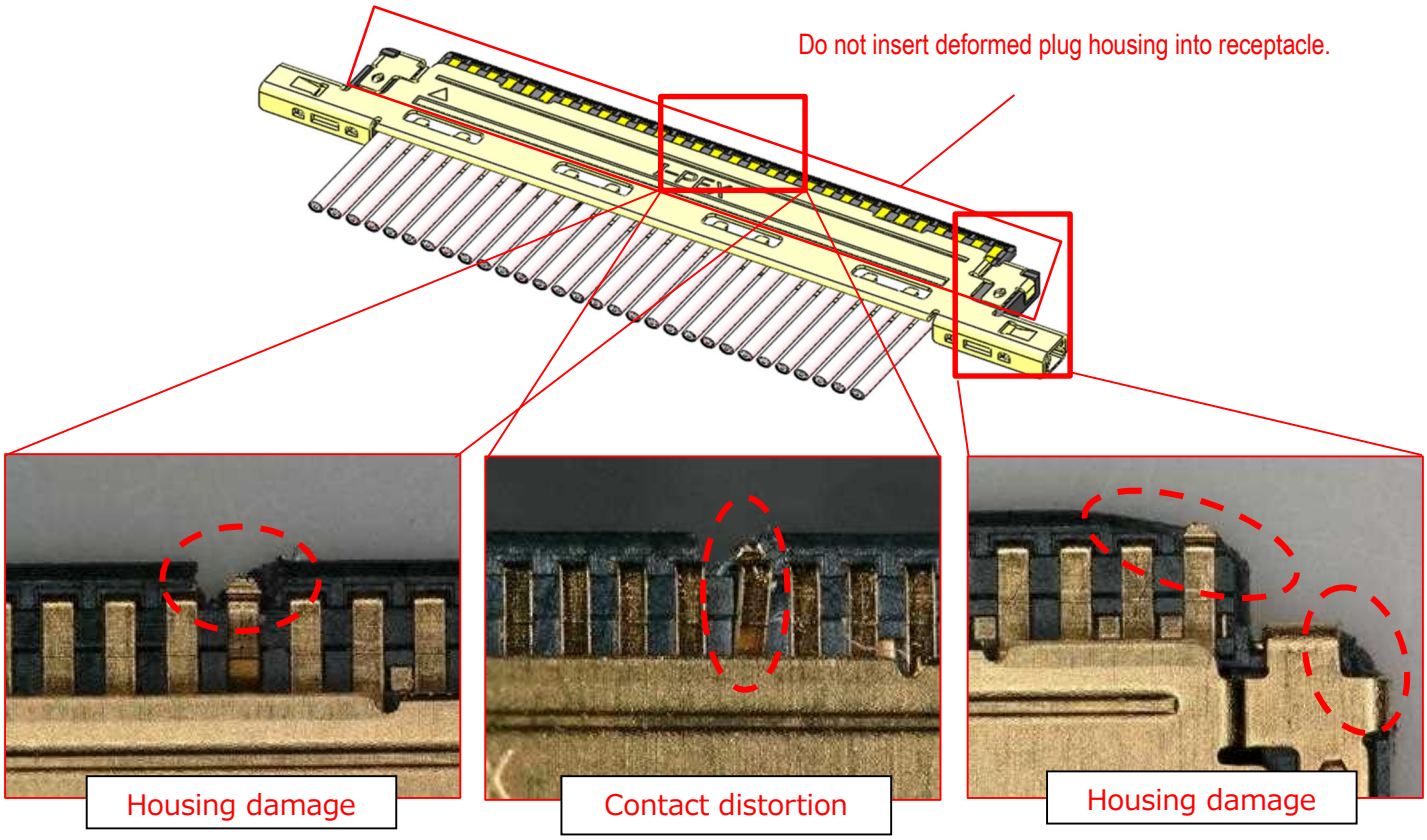


Fig.17