

CABLINE®-UA II PLUG

Part No. 20496-0**-#0

Assembly Manual

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6	S22445	October 5, 2022	K.Baba	R.Takei	H.Ikari
5	S22088	March 2, 2022	S.Yamaguchi	T.Tanigawa	H.Ikari
4	S19433	July 8, 2019	S.Yamaguchi	T.Kurachi	H.Ikari
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. Purpose

This manual provides the soldering method of the cable's center conductor and assembly method of METAL COVER to CABLINE-UA II PLUG.

2. Applicable connector

Name : CABLINE-UA II PLUG

Parts No. :

Set P/N	CABLE ASS'Y	20496-0**-#0
Discrete P/N	HOUSING ASS'Y	20497-0**T-30
	METAL COVER	2679-0**-#0

3. Pulse heat condition

3.1 Fixtures

• Pulse heater

Name	P/N	Manufacturer
Reflow head	NA-66	Nippon Avionics Co.,Ltd.
Pulse heat power supply	TCW-315	Nippon Avionics Co.,Ltd.

• Heater chip

	26P	32P	40P	50P
Thickness	0.3 ⁰ _{-0.05} mm			
Width	8.8 ⁰ _{-0.03} mm	10.6 ⁰ _{-0.03} mm	13.0 ⁰ _{-0.03} mm	16.0 ⁰ _{-0.03} mm

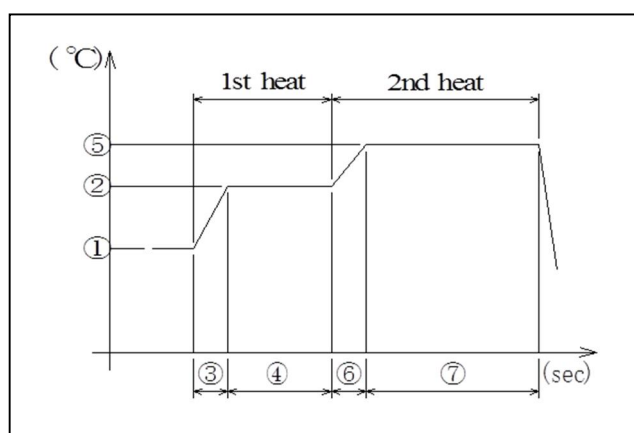
• Recommended solder bar

Resin-free solder is used.

Positions	Solder size	Length
26P	φ0.06	8.7 mm Ref.
32P		10.5 mm Ref.
40P		12.9 mm Ref.
50P		15.9 mm Ref.

3.2 Recommended pulse heat condition

① Idle temperature	150 °C
② 1 st heat temperature	220 °C
③ 1 st rise time	0.5 seconds
④ 1 st holding time	3.0 seconds
⑤ 2 nd heat temperature	340~350 °C
⑥ 2 nd rise time	0.5 seconds
⑦ 2 nd holding time	3.0 seconds
Heater tip Pressure	12~15 N



This pulse heat condition was evaluated and confirmed by our pulse heat jig and instruments.

The most optimum condition may change based on the shapes of pulse heat jig and instruments, the environments, or other reasons.

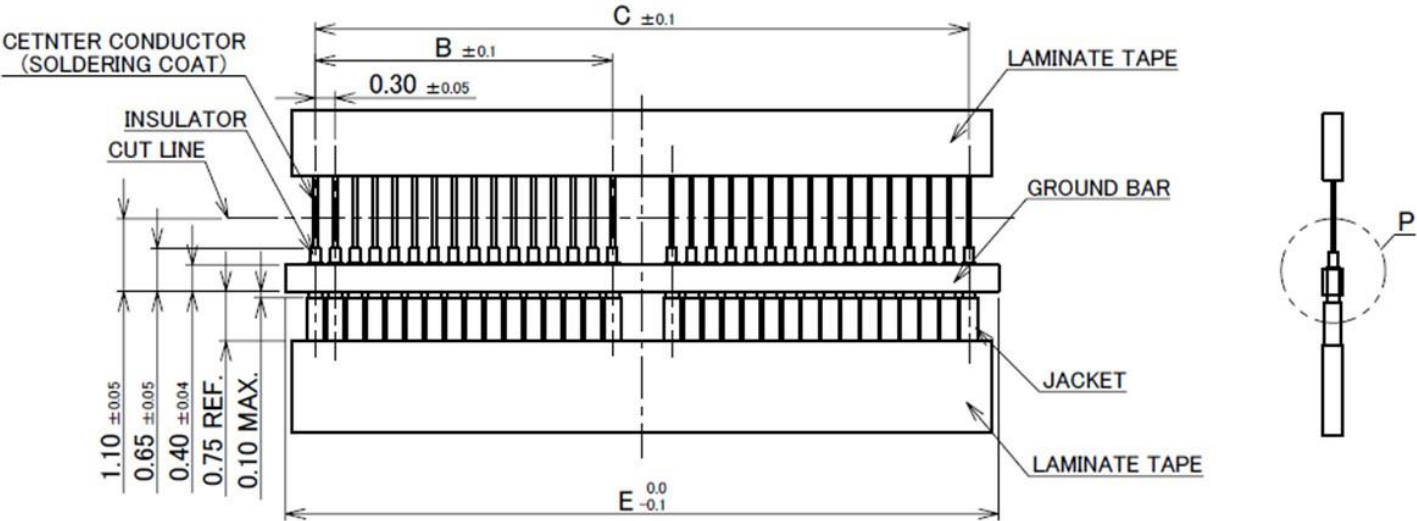
Therefore, please examine the pulse heat condition adequately in advance of use.

4. Work procedures :

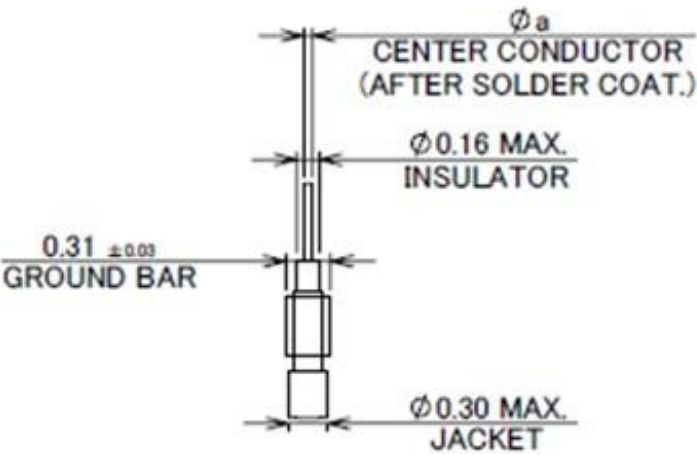
4-1. Soldering of center-conductor

- ① First, process the cable end as shown below.

【Micro-coaxial cable】



RECOMMENDED MICRO-COAXIAL CABLE DIM

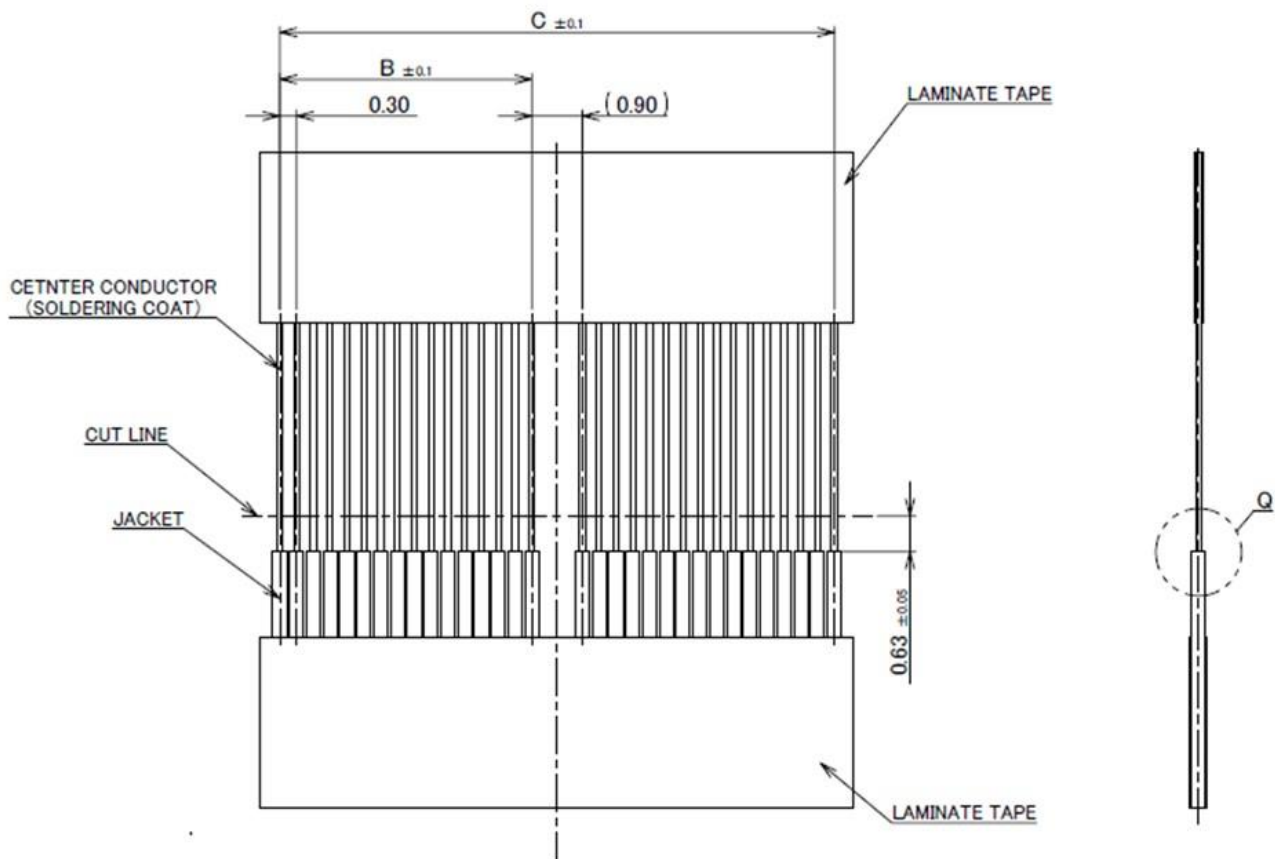


• Cable Dimension Unit: mm

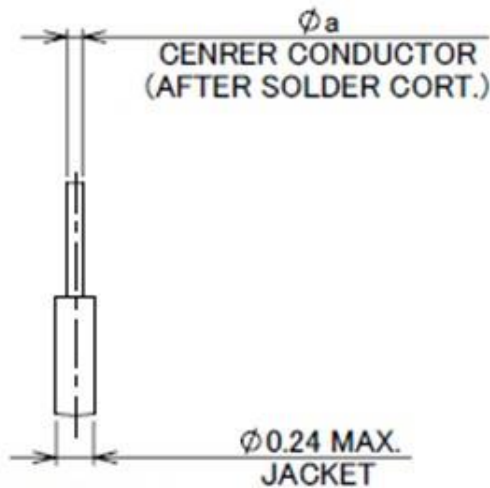
Part No.	B	C	E
20496-026-#0	3.6	8.1	9.0
20496-032-#0	4.5	9.9	10.8
20496-040-#0	5.7	12.3	13.2
20496-050-#0	7.2	15.3	16.2

	a
AWG#42	0.075
AWG#44	0.063
AWG#46	0.048

【Discrete wire】



RECOMMENDED DISCRETE WIRE DIM



• Cable Dimension Unit: mm

Part No.	B	C	E
20496-026-#0	3.6	8.1	9.0
20496-032-#0	4.5	9.9	10.8
20496-040-#0	5.7	12.3	13.2
20496-050-#0	7.2	15.3	16.2

	a
AWG#39	0.102

- ② Apply flux to contact.

Applying flux area

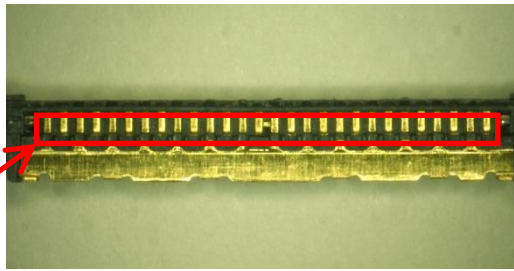


Photo 1 Applying flux area

※Please confirm all contacts were applied flux.

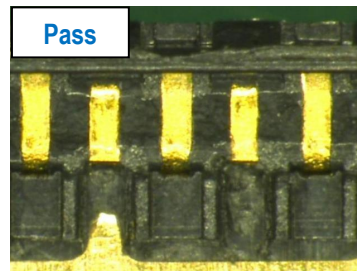


Photo 2 After applying flux

※Please do not apply flux too much like Photo 3. It can cause flux splash or leak to the mating area.

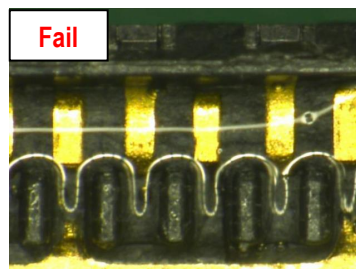


Photo 3 Extra flux

※Washer must not be used to take flux off because it may cause flux attached to mating area.

- ③ Place a solder bar at center of connector (HOUSING ASS'Y).

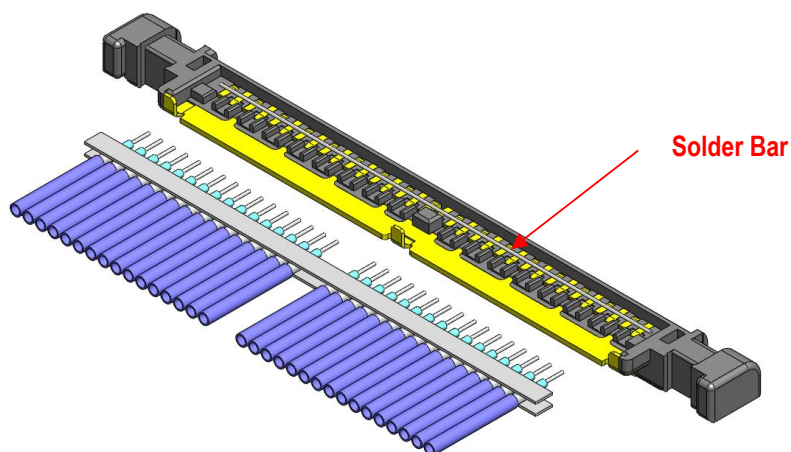


Fig. 1 Placing solder bar

- ④ Set the cable.

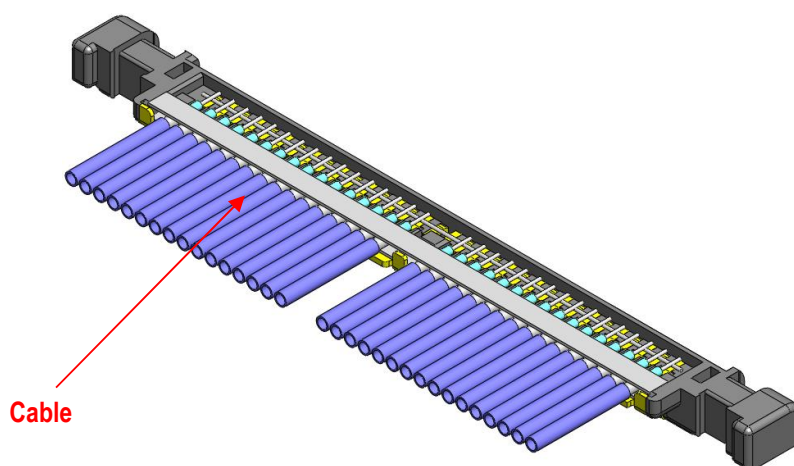


Fig. 2 Setting cable (Micro-coaxial cable)

※When using a discrete wire, set it so that the end of the jacket and the end of the product rib match.

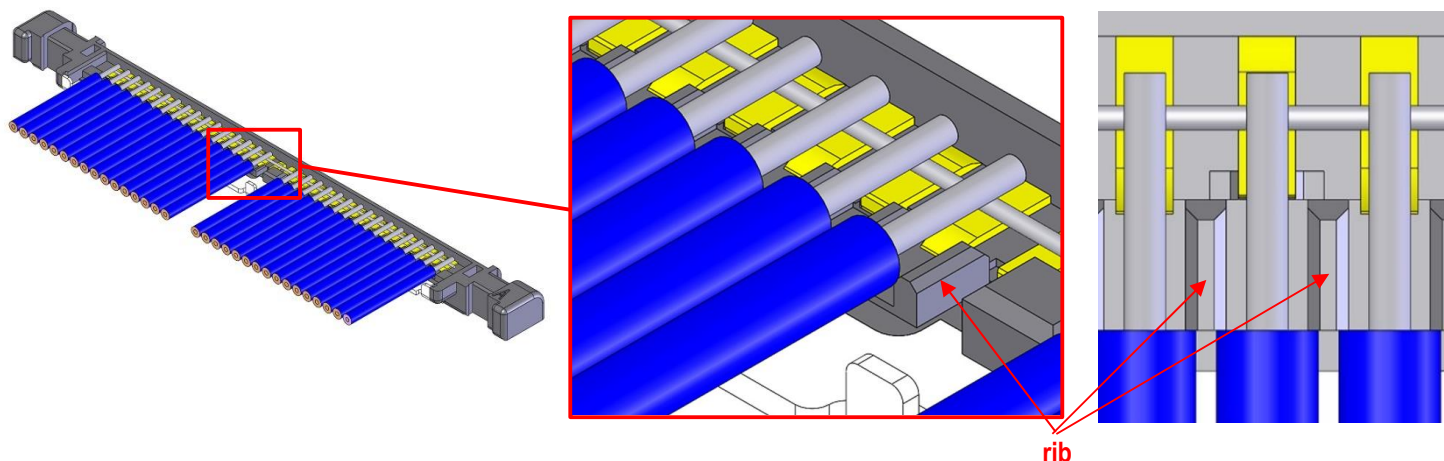


Fig. 3 Setting cable (Discrete wire)

- ⑤ Solder center conductors with a pulse heater. For soldering condition, see photo 4 and 5.

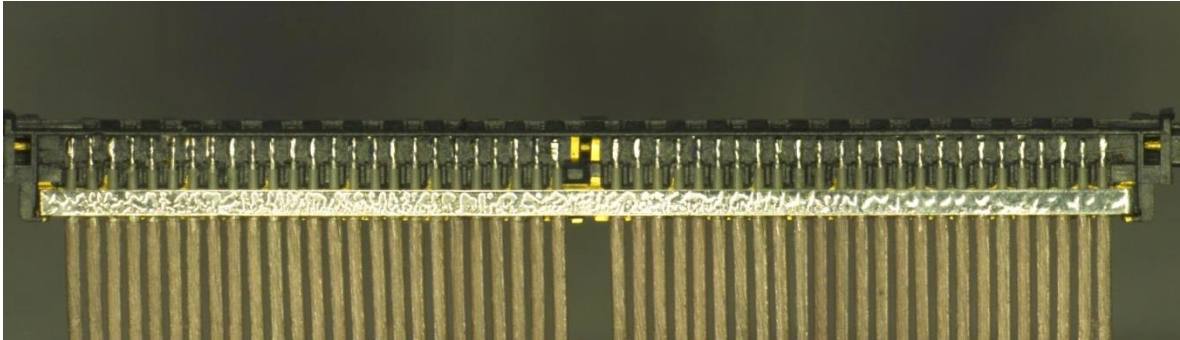


Photo 4 AWG#44

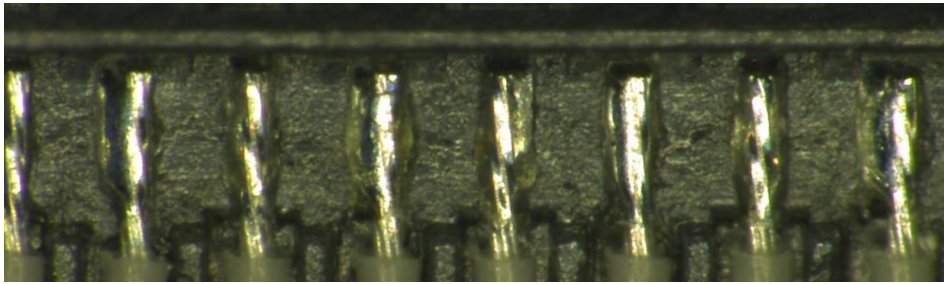


Photo 5 Expansion part

※In case short circuit occurred or there was any unmelted solder (See photo 7 below),
wash the heater tip and heat again with pulse heater only one time. (Several heating can damage the product.)
If the short circuit can't be repaired, use the soldering iron and repair it (Failed point only).

Condition of Soldering iron : 50 W
Operating temperature : 350 °C~380 °C
Application time of soldering iron : Within 5 seconds

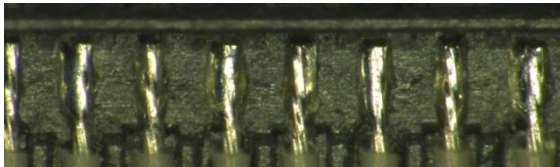


Photo 6 Melted solder

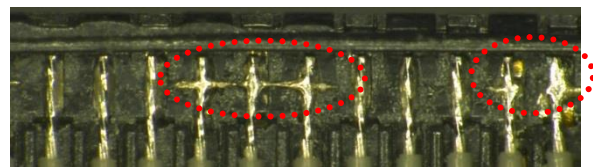


Photo 7 Unmelted solder

※The setting temperature of 2'nd heat and the pressure shall not be too high.
There is possibility of melting of Housing. Please refer to Photo 9.

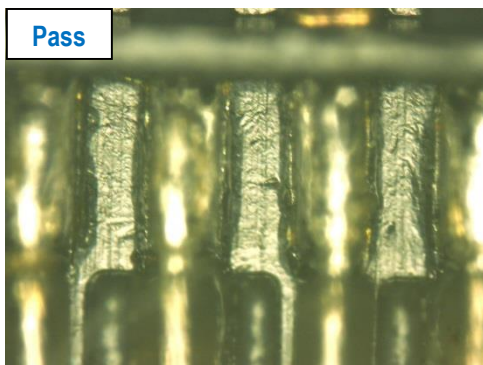
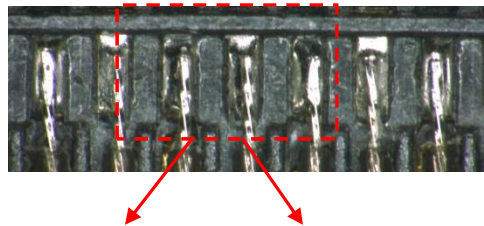


Photo 8 Unmelted Housing

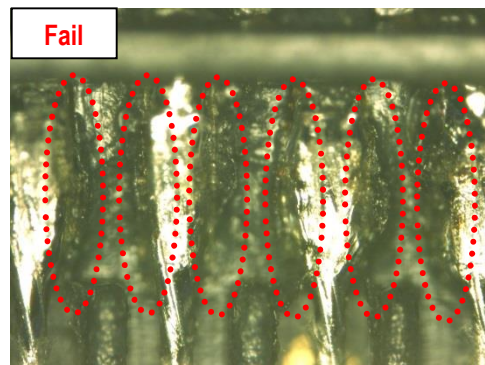


Photo 9 Melted Housing

4-2. Cautions in treating METAL COVER

METAL COVER is delivered in the reel with a carrier.

The following is the method to cut Metal Cover from carrier.

- ① Cut carrier on the cut line of a lower left picture (green line) by a scissor for metal.

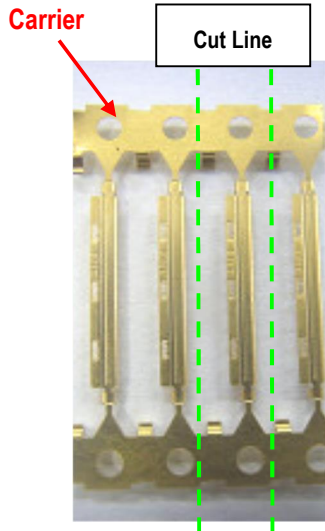


Photo 10 Before cut

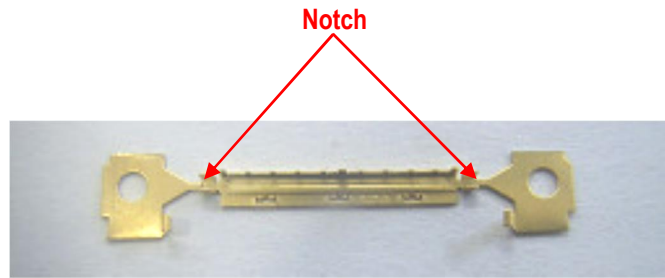


Photo 11 After cut

- ② Hold the center of METAL COVER and bend it 45 degrees back and forth to cut it from Notch.
If it is not separated, bend it again. (Photo 12)
After separated, check if there is no burr around the cut part. (Photo 13)

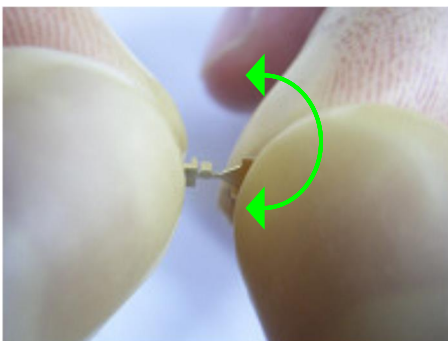
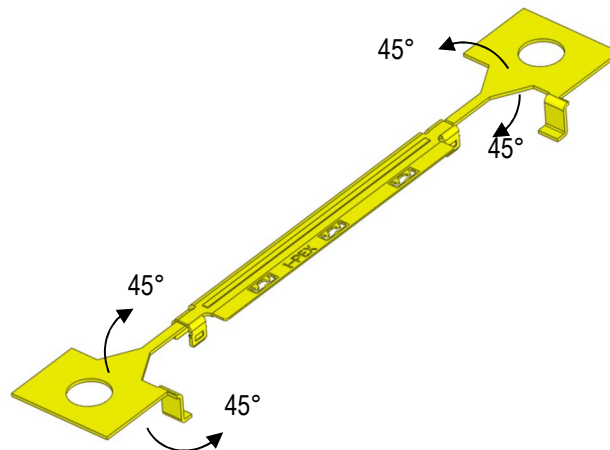
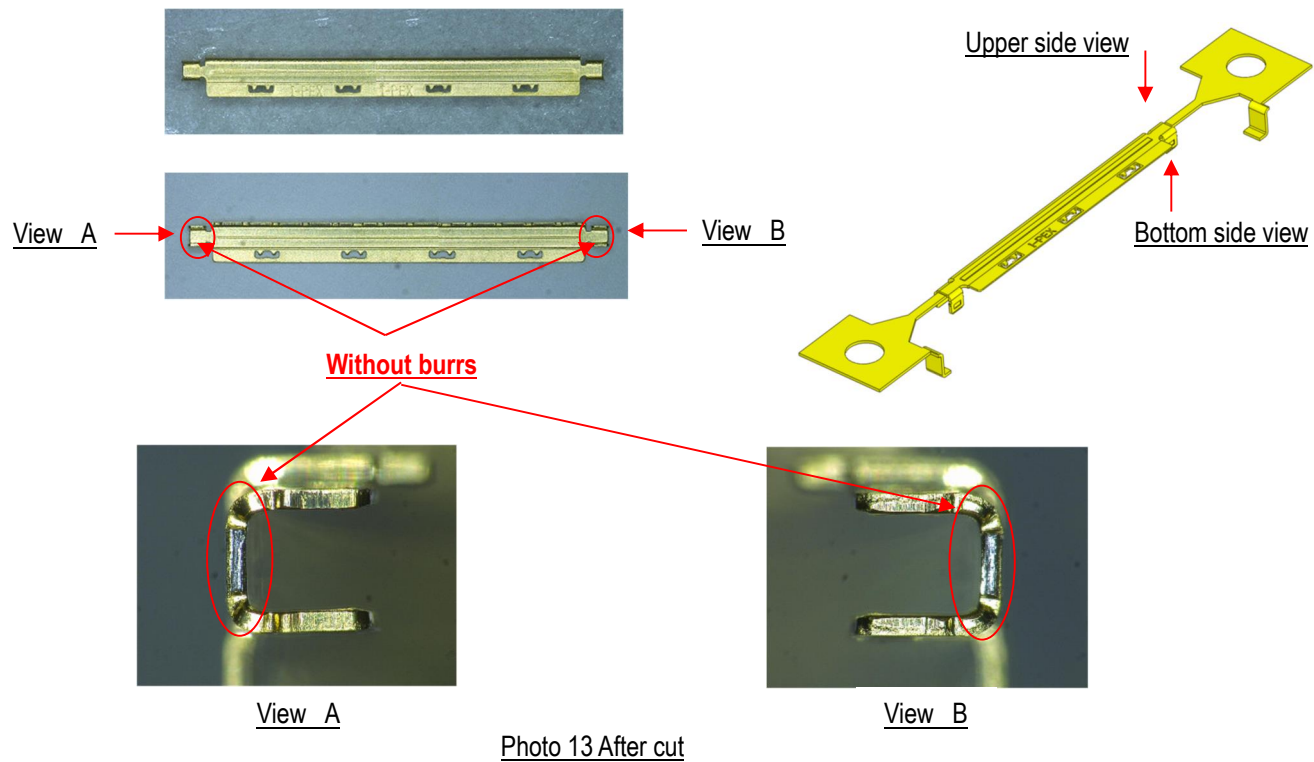


Photo 12 Cut condition





Detail of Notch

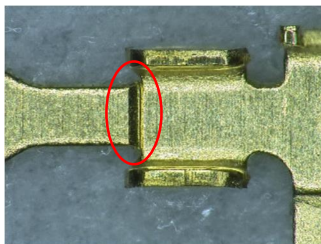


Photo 14 Bottom side view

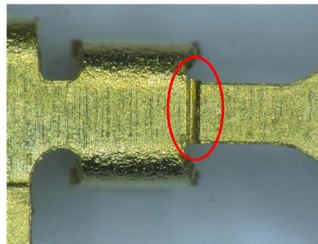


Photo 15 Upper side view

Caution: By pulling like photo below to cut off by force (Red arrow direction), burrs and transformation can be caused.

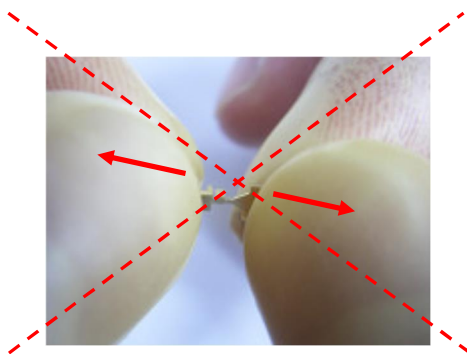


Photo 16 Cut by force (Bad example)

4-3. Assembly of METAL COVER

- ① Assemble METAL COVER by inserting four nails of Metal Cover into four slits of Housing from the upper side of the connector.

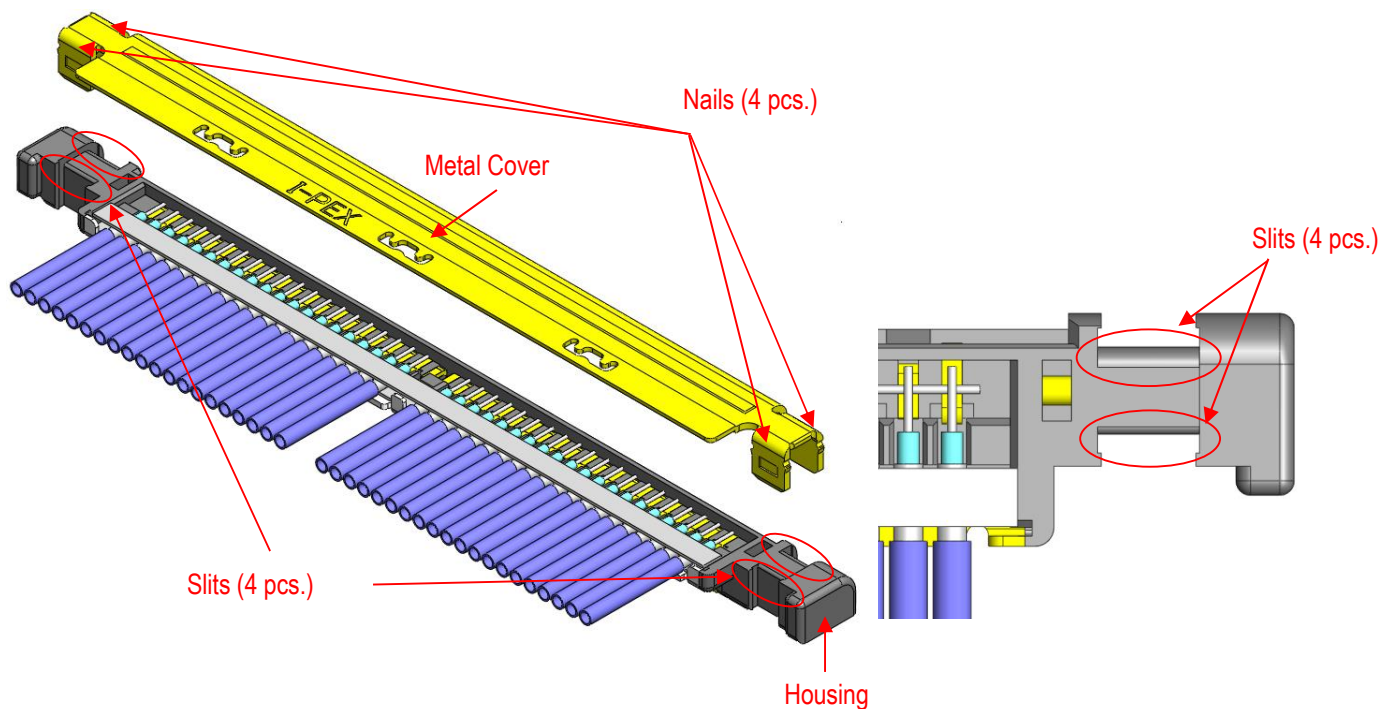


Fig. 4 Assembly of METAL COVER

※When using a discrete wire, please Apply an insulating tape to the connection before assemble METAL COVER

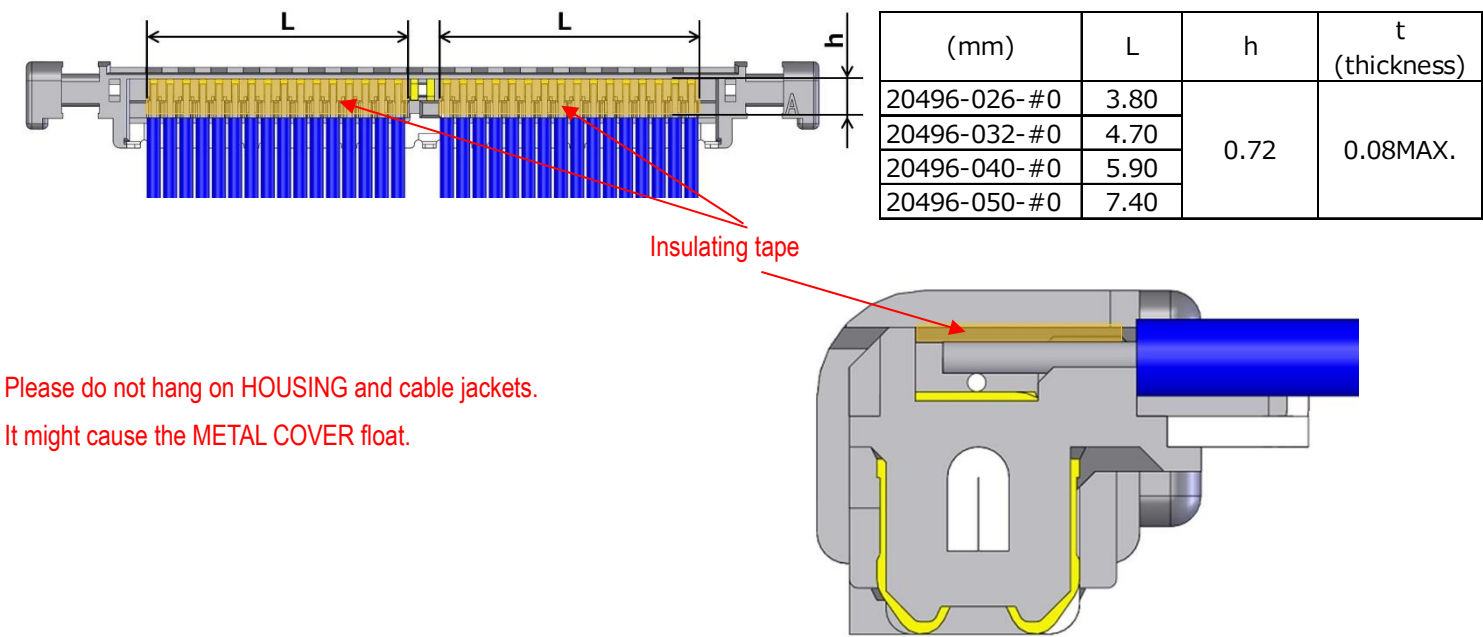


Fig. 5 Assembly of METAL COVER

- ② Confirm whether METAL COVER is assembled properly or not.

Confirm whether METAL COVER is inserted into Housing. (See Fig. 6★ point and Photo 17)

Check point:

- (1)The amount of floats from housing surface : 0.05 mm Max.
- (2)Four nails of METAL COVER have fitted into four slits of housing certainly.

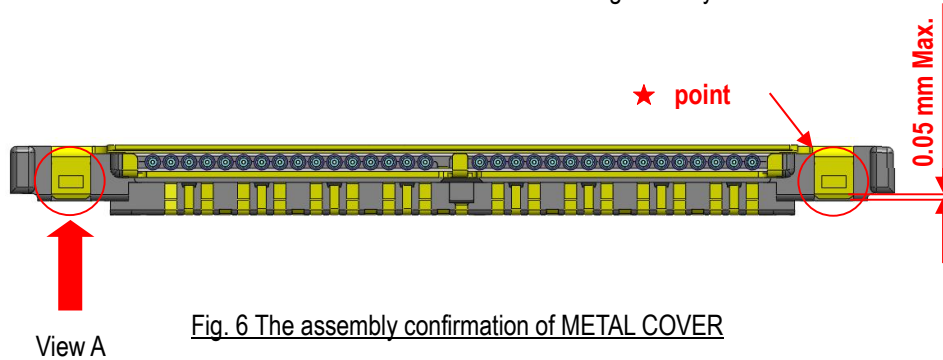
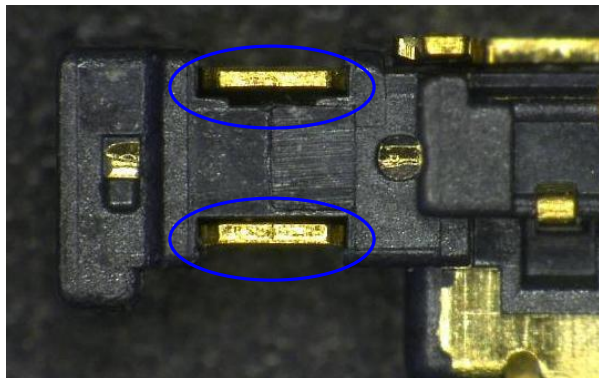
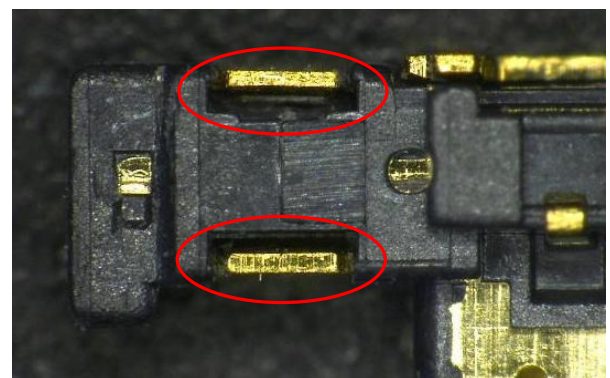


Fig. 6 The assembly confirmation of METAL COVER



Pass



Fail

Photo 17 View A

From the connector bottom side, confirm whether the nail has fitted into the slit or not.

- For conditions of soldering iron, refer to sheet 8.

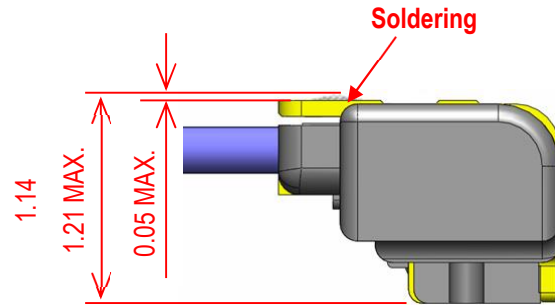


Fig. 8 Soldering height

Recommended bond: LOCTITE 352

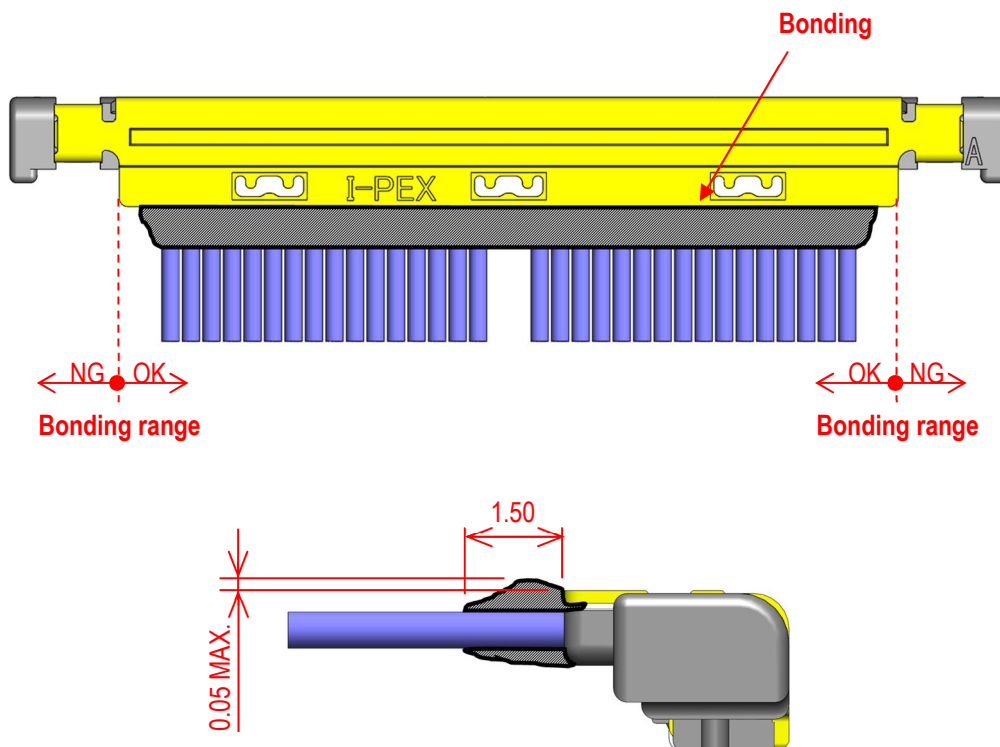


Fig. 9 Soldering