

CABLINE®-UY PLUG

Part No. 20857

Assembly Manual

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1. Purpose :

This manual is to explain the soldering method / process of the CABLINE-UY PLUG with cable, and assembly of SHELL A.

2. Applicable connector :

Name: CABLINE-UY PLUG

Parts No. :

Set P/N	CABLE ASS'Y	20857-0**T-##	
Discrete D/N	HOUSING ASS'Y	20907-0**E-##	
Discrete P/N	SHELL A	3568-0**1	

** : 05 = 5P , 10 = 10P ## : variation

3. Fixtures :

3.1 Components and Instruments used in the condition confirmation

Pulse heater

Name	P/N	Manufacturer
Reflow head	NA-66	Nippon Avionics Co., Ltd
Pulse heat power supply	TCW-215	Nippon Avionics Co., Ltd

·Heater chip

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Positions	5P	10P
Thickness	0.3±0.05	0.3±0.05
Width	2.0 ±0.05	4.0±0.05

Recommended solder bar

Resin-free solder is used.

Unit: mm

Positions	5P	10P
Solder size	φ0.06	φ0.06
Length	1.6mm Ref.	3.4mm Ref.

Recommended solder flux

ES-Z-15 / Senju Metal Industry Co., Ltd.

※ ∙ UV irradiator

※ ∙ bond: LOCTITE 352 (UV glue)

4. Recommended pulse heat condition

	MICRO-COAX
1)Idle temp.	150℃
21 st heat temp.	220℃
③ " rise time	0.5sec.
④ " holding time	3.0sec.
⑤2 nd heat temp.	240℃
⑥ " rise time	0.5sec.
⑦ " holding time	1.5sec.
Heater tip Pressure	0N



% 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 reason.

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

5.Work procedures :

5-1. Soldering of center-conductor

①The cables have to be fabricated as shown below in advance of soldering.





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②Apply flux to contact by the dispenser etc., and please confirm all contacts were applied flux.





Photo. 1 After applying flux

% Please do not apply flux too much as shown in Photo.2. It may cause flux splash or leak to the mating area.



Photo. 2 Extra flux

×If flux applied too much and modification is needed, please remove excessive flux so that flux does not adhere to mating area.



③Pre-set and locate solder bar at center of connector (HOUSING ASS'Y).



Fig. 1 Set of solder bar

④Set the cable.

<Caution>

Center conductor must be fit on Pad. (The tip of cable should be exceed the center of pad)

Ground Bar should be contained in housing part.





Fig. 2-1 Set of cable (Micro coax cable)



Fig. 2-2 Set of cable (Discrete cable)



If the length of center conductor is not the length indicated in 5-1, pulse heat may not be performed normally.



Fig. 3 The length of center conductor NG

⑤Center-conductors are soldered with pulse heater. See Photo.3 for soldering condition.



Photo. 3 AWG#42



Photo. Short-circuit NG

%When solder bridge is appeared between the terminal, try heating again with pulse heater only one time.

Do not rework more than two times to avoid causing damage on product.

If the bridge isn't repaired, use the soldering iron only for error points.

Condition of Soldering iron : 50W Operating temperature : 350°C Application time of soldering iron : Within 5sec.

%Moving cable with excessive force after soldering, center conductor may peel soldering part.



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6 For Discrete cable specifications, it is recommended to apply UV resin to the soldered part



Photo.5 Discrete UV Apply resin





6.SHELL A crimping procedure

6-1. Cautions in treating SHELL A

SHELL A is delivered in the reel with a carrier. The following is the method to cut SHELL A from Carrier.



Photo. 8 SHELL A from Carrier.

Hold the center of SHELL A and cut it off from Notch by ± 45 deg of reciprocating work.

When it does not be cut, try again this reciprocating work. After separated, check there is no burr around the cut part. (Photo.10)





Photo.11 背面側



Photo.12 上面側

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



Photo. 13 Cut by force (Bad example)



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6-2 SHELL A Crimping JIG



	91159-005 ··· 5pin
JIG F/N	91159-010 ··· 10pin
Outline dimension	: (W) 150[mm] × (D) 180[mm] ×(H) 310[mm]
Weight	約 6.8[kg]

Photo. 14 Crimping JIG

6-3. SHELL A crimping procedure

Set the SHELL A that cut it off in 6-1 on receive JIG of crimping Jig as shown in photo15.
 Back surface side (Refer to photo.12) shall be below and carrier cut side shall be front.



Photo. 15 Setting SHELL A

2 Assemble the HSG ASS'Y to SHELL A so that crimping side shall be below and cable shall be front. (Photo 16)



Photo. 16 Setting HSG ASS'Y

Insert the HSG ASS'Y TO the slit part of SHELL A.





Fig.5 Setting HSG ASS'Y

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Photo. 19 crimping NG

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③Pull down the lever of crimping machine and crimp the product.(Photo.20)



Photo.20 Crimping

④Up the lever and pull out the product.

- 6-4. Cautions and Maintenances
 - This Semi Auto machine is a jig for harnessing I-PEX CABLINE-UY(P/N:3568-0**1) to a specially processed coaxial cable. Therefore, non-specified connectors and cables are not allowed. Failure to do so may damage the jig.
 - With the exception of the specified replacement area, loosen or removing bolts are prohibited.
 Modifying is prohibited to avoid the defect of the jig. Failure to do so may affect the quality of the product.
 - For the jig maintenance, use brushes and air pressure regularly to remove cable chips and dusts on the jig. Apply sewing machine oil or the rust preventing oil (store-bought) to the sliding surfaces regularly.

7. Appearance inspection

Make sure that the product is properly wired and crimped.



Photo.21 crimping appearance OK



7-2. HSG ASS'Y Setting NG

Crimped in the condition that crimping side of HSG ASS'Y was set to top.



7-3 Dimension of crimping height
Measure both end of the barrel at a time.
Crimp height: 0.69~0.73mm

Photo. 26 Dimension of crimping height

Photo. 27 View A

If the crimp height is not appropriate, it may not be able to mate normally with Receptacle <Crimping height OK>

 <Crimping height OK>





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Photo. 29 Crimping height NG

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8. SHELL A and GND BAR are soldered with the soldering iron at designated points. (Fig.8 + point)

For conditions of Soldering iron refer to sheet 8.





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9. Cable fixation

Fixing the cable terminal part with the bond is recommended.

Bond: LOCTITE 352



• Bonding shall not exceed the limit criteria.

Immediately after application of Bonding, expose and solidify.
 If left unattended, the adhesive will penetrate into the connector and cause malfunctions.



10. Finished product appearance example.

