

Appendix 2:HL-JB599 series high frequency contact assembly instructions

The following are 16# shielded contacts, 12# shielded contacts, and 12# coaxial contacts for HL-JB 599I, II, and IV connectors.8# double coaxial shielded contacts meet the requirements of HL-JB 2293-95.

1 High-frequency contacts at home and abroad model comparison and adaptation cable

Table 1 Model comparison and adaptation cable

Contact specification	National military standard model	Foreign model	Adapter conductor	
			Domestic conductor	Foreign conductor
16## Shield pin	J1216/76-424	M39029/76-424	SYV-50-2-51 SFF-50-1.5-51 SFF-75-1.6-51	M17/113-RG316
16# shielded jack	J1216/77-428	M39029/77-428		
12# shielded pin	J1216/28-211	M39029/28-211	SYV-50-2-51	M17/113-RG316
12# shielded pin	J1216/75-416	M39029/75-416	SFF-50-1.5-51	
12 # coaxial pin	J1216/102-558	M39029/102-558	SFF-50-2-51	M17/113-RG316
12 # coaxial jack	J1216/103-559	M39029/103-559	SFF-75-1.6-51	
8# double coaxial shield pin	J1216/90-529	M39029/90-529		M17/176-00002
8# double coaxial shield jack	J1216/91-530	M39029/91-530	SEFF-78-1-51	
8# Differential 2-pin 1002	CF81/211-01	-		HDP700001070
8# differential 2-core jack 1002	CF82/211-01	-		
8# differential 4-pin 1000	CF81/411-01	-		CEC-RWC-18664
8# differential 4-core jack 1000	CF82/411-01	-		ABS1503KD24

Table 2 Tensile strength after crimping

Conductor code	Maximum tensile strength (N)		
	Center contact	Intermediate contact	External contact
SYV-50-2-51	66.72	-	66.72
SFF-50-1.5-51	44.48	-	66.72
SFF-75-1.5-51	15.57	-	66.72
M17/113-RG316	66.72	-	66.72
SEFF-78-1-51	35.59	35.59	111.21
M17/176-00002	35.59	35.59	111.21

2 Contact parts matching tools and assembly

2.1 Tools for contact parts

The loading and unloading tools meet the requirements of MIL-C-81969, and the crimping tools meet the requirements of MIL-C-22520.

Table 3

Contact type	Plastic handling tool	Crimping pliers		Positioner or press die	
				Inserting pin	jack
16# Shield"	M81969/14-03	Internal contact	M22520/2-01	M22520/2-35	
		External contact	M22520/4-01	M22520/4-02	
12# shield	M81969/14-04	Internal contact	M22520/2-01	M22520/2-34	
		External contact	M22520/31-01	M22520/31-02	
12# coaxial	M81969/14-04	Internal contact	MH992	K1303S	K1304
		External contact	M22520/5-01	M22520/5-03	
		Middle contact	M22520/2-01	K709	
8# double coaxial shield	M81969/14-12	Internal contact	M22520/5-01	Y631B (press die)	
		External contact	M22520/5-01	Y631A (press die)	
8# Differential 2-core pin 100	M81969/14-12	Internal contact	M22520/2-01	K709 (press die)	
		External contact	M22520/5-01	Y631A	
8# differential 2-core jack 100	M81969/14-12	Internal contact	M22520/2-01	K709 (press die)	
		External contact	M22520/5-01	Y631A	
8# Differential 4-core pin 100	M81969/14-12	Internal contact	M22520/2-01	K709 (press die)	
		External contact	M22520/5-01	Y631A	
8# Differential 4-core jack 100	M81969/14-12	Internal contact	M22520/2-01	K709 (press die)	
		External contact	M22520/5-01	Y631A	

2.2 Contact assembly

2.2.1 Load the contacts

When assembling contact parts, use the "IN" end of the corresponding specification plastic handling tools. The operation is as follows: First, run the wire into the "IN" end of the plastic handling tool, and push the "IN" end of the tool to the tail of the contact. Insert along the hole until stopped and pull out the tool. Gently pull the wire outward with your hand, keeping the contact part intact. Just pull it out.

Appendix 2:HL-JB599 series high frequency contact assembly instructions

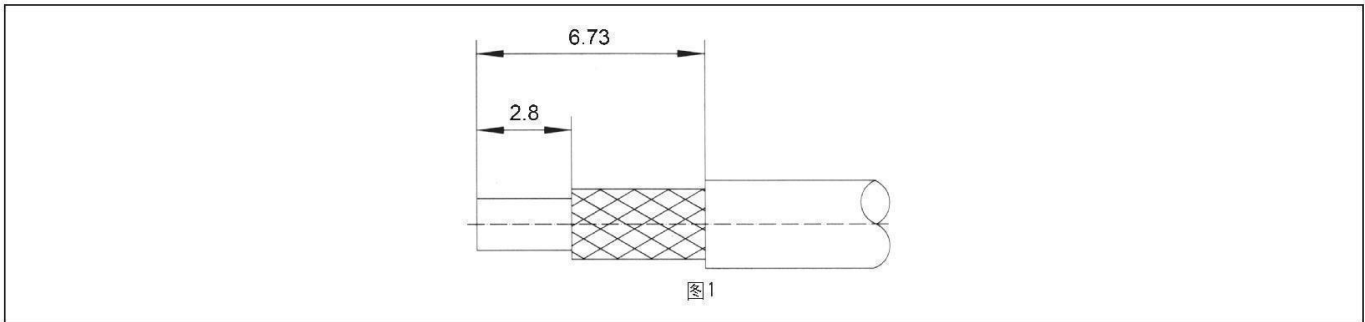
2.2.2 Remove the contacts

When removing the contact, use the "EX" end of the corresponding specification plastic handling tool. The operation is as follows: First, put the wire into the "EX" end of the plastic handling tool, and then insert the tool into the tail of the contact along the hole until it does not move, and pull the wire to remove the contact.

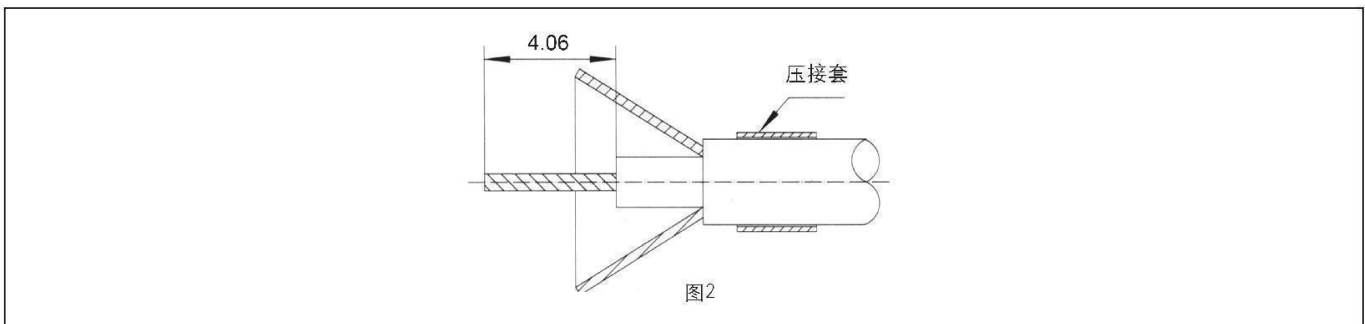
2.316# Shield contact assembly

2.3.116# Shield Pin Assembly Description (RG316)

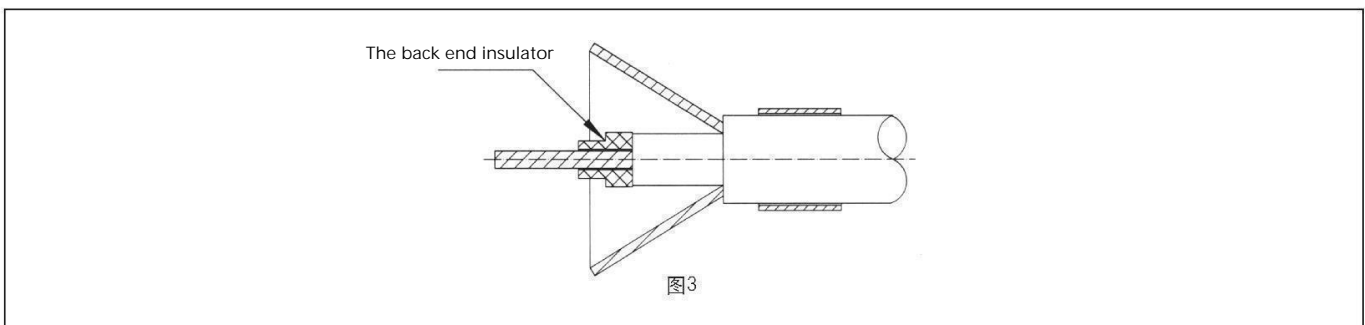
Peel off the cable as shown in Figure 1. The end surface must be cut clean and perpendicular to the axial plane of the cable. When cutting, the cable should not be deformed. Hot stripping is recommended.



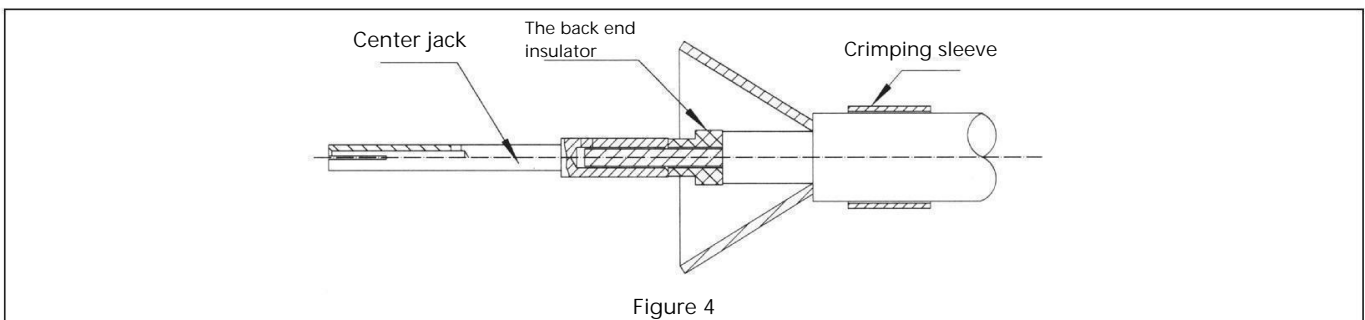
Slide the crimping sleeve backward onto the cable jacket as shown in Figure 2, open the shielding layer, and strip off the cable insulation medium.



Install the back-end insulator on the center conductor of the cable as shown in Figure 3, and the tail of the back-end insulator is tight with the insulating medium of the cable.

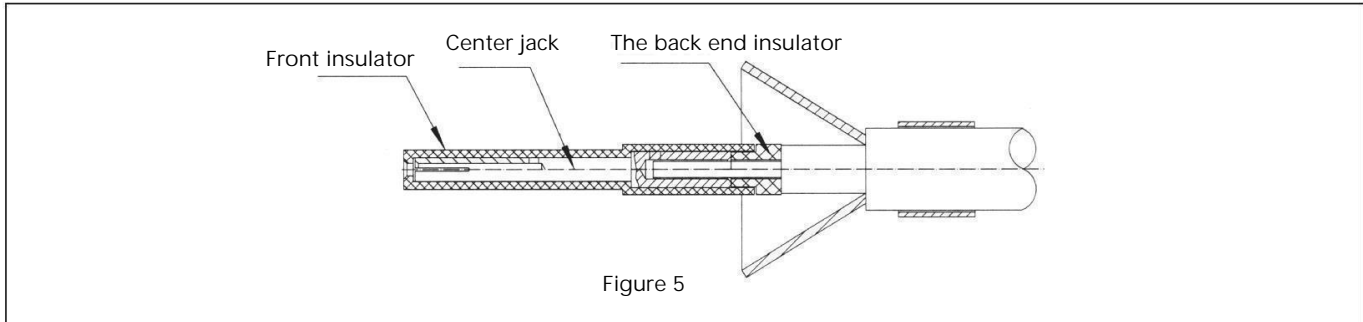


Assemble the center jack on the cable center conductor according to Figure 4. The cable center conductor can be seen through the observation hole at the end of the center jack. Crimp M22520/2-01, gear 5, and positioner M22520/2-35.

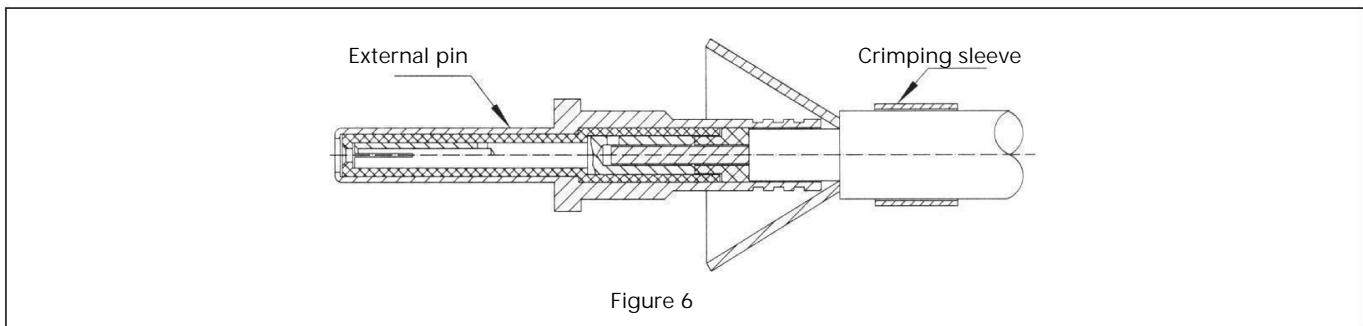


Appendix 2:HL-JB599 series high frequency contact assembly instructions

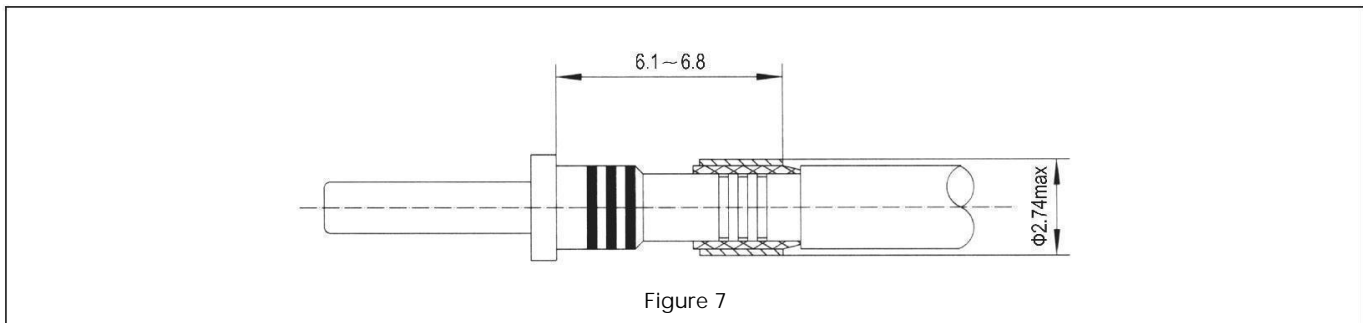
Install the front insulator in the center jack according to Figure 5. On, the tail of the front insulator is next to the step of the back insulator.



Install the external pin on the center hole of the crimped and fitted insulator, as shown in Figure 6, until the internal contact is completely close to the insulator.

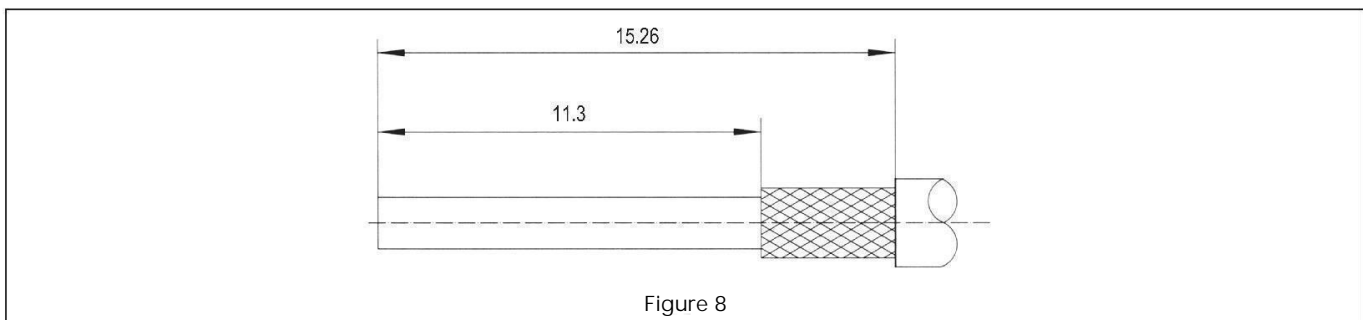


Place the crimping sleeve forward on the cable shield layer according to Figure 7, the position size is 6.1-6.8 mm, and cut off the excess shield layer that exceeds the shield crimping sleeve. Use M22520/4-01 tool and M22520/4-02 locator to crimp the crimping sleeve: crimp once, rotate the contact 45 degrees and then crimp once - times. After the second crimping, the diameter of the shield crimping sleeve must not be greater than 2.74mm.



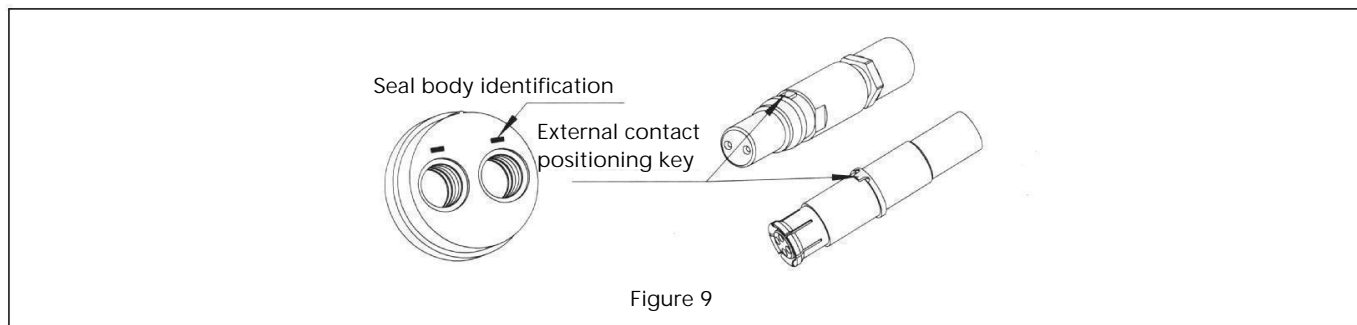
2.3.2 Assembly of 16# shield jack

Strip the cable as shown in Figure 8. The end surface of the cable must be cut clean and perpendicular to the axial plane of the cable. The cable must not be deformed during cutting. Hot stripping is recommended.

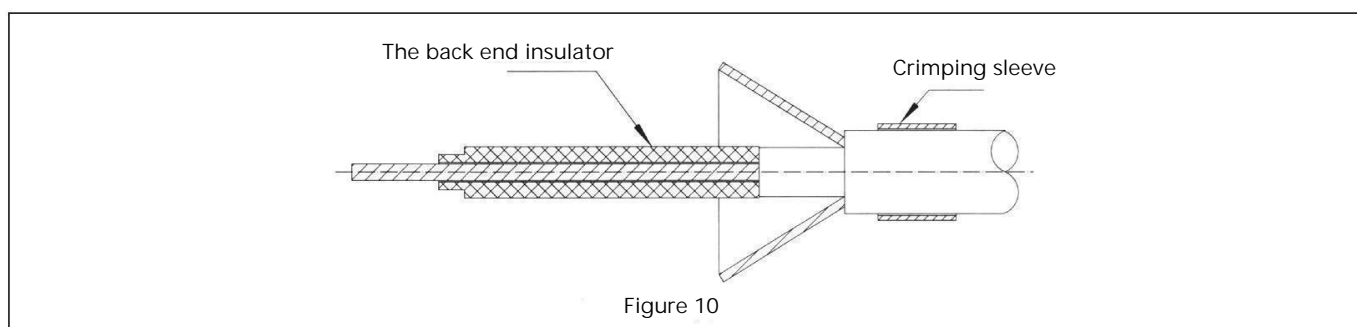


Appendix 2:HL-JB599 series high frequency contact assembly instructions

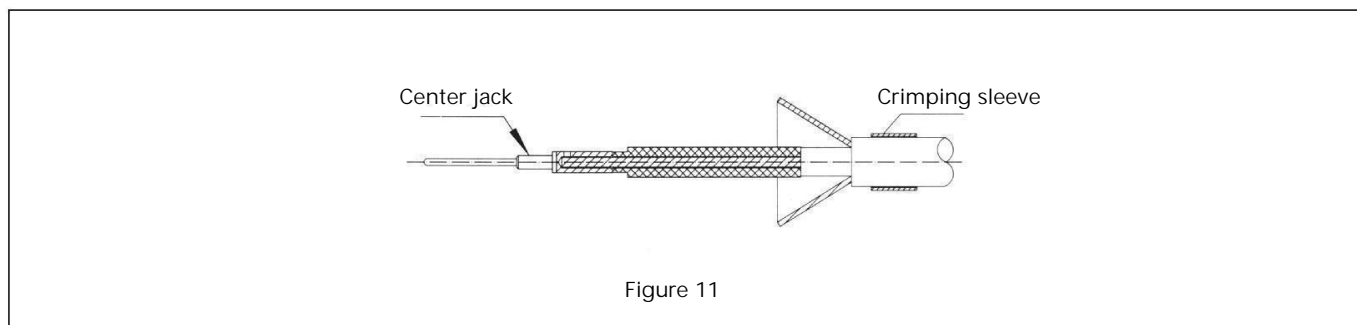
Slide the crimping sleeve back onto the cable jacket as shown in Figure 9. On, open the shielding layer and strip off the cable media.



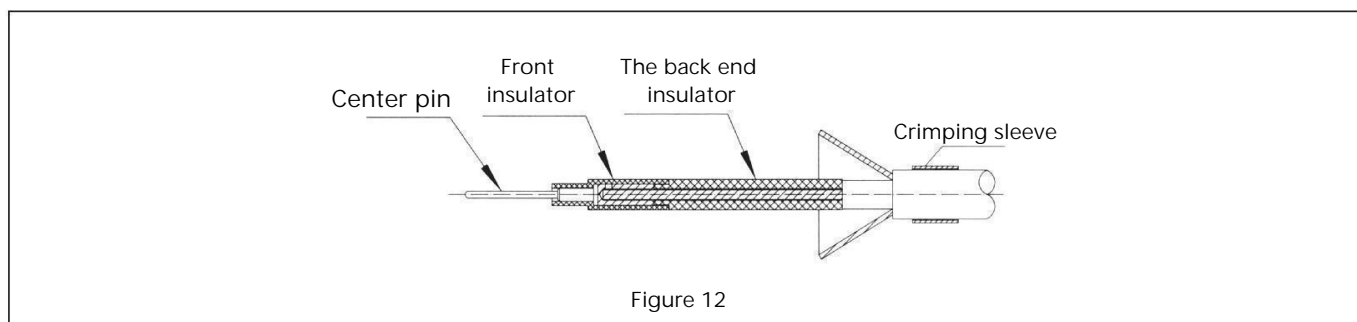
Slide the rear insulator to the center conductor of the cable as shown in Figure 10, and tighten the tail with the cable insulating medium.



Assemble the center pin to the center conductor of the cable as shown in Figure 11. The center conductor of the cable can be seen through the observation hole at the tail of the center jack. Crimp M22520/2-01, gear 5, and positioner M22520/2-35.

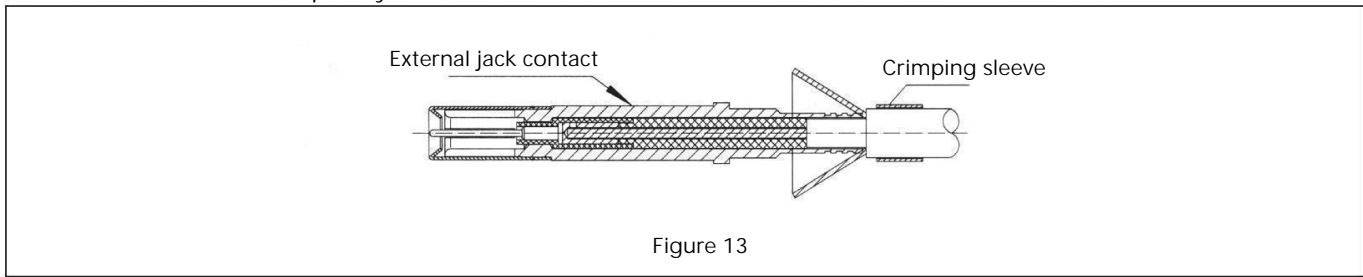


Install the front insulator in the center pin as shown in Figure 12. On, the contact parts of the two insulators should be tight.

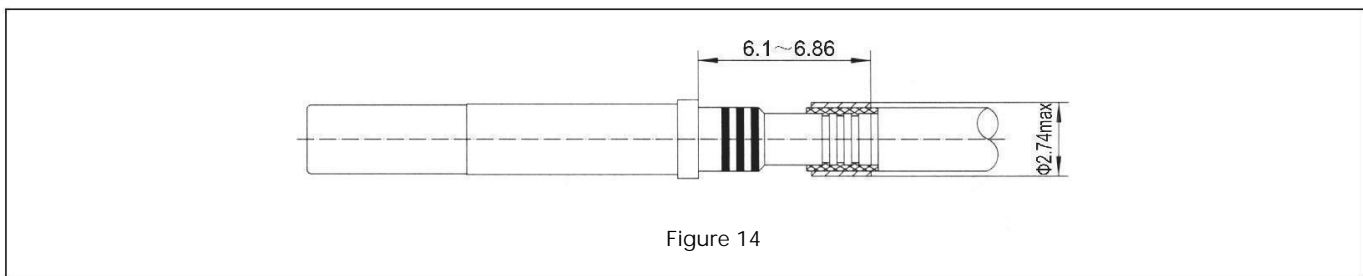


Appendix 2:HL-JB599 series high frequency contact assembly instructions

As shown in Figure 13, install the external contact on the center and under the cable shield until the center contact and the insulator are completely close.



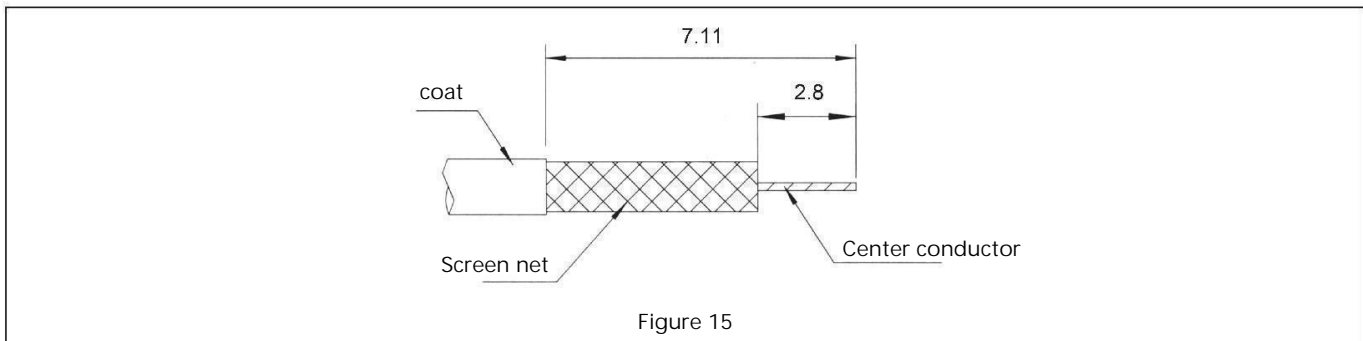
As shown in Figure 14, put the shielding crimping sleeve forward on the cable shielding layer, the position size is 6.1 ~6.8mm, the excess shielding layer exceeding the shielding crimping sleeve is cut off, use M22520/4- 01 tool and M22520/4-02 locator crimping sleeve: crimping once, rotate the contact 45 degrees and crimping once. After the second crimping, the diameter of the shield crimping sleeve must not be greater than 2.74mm.



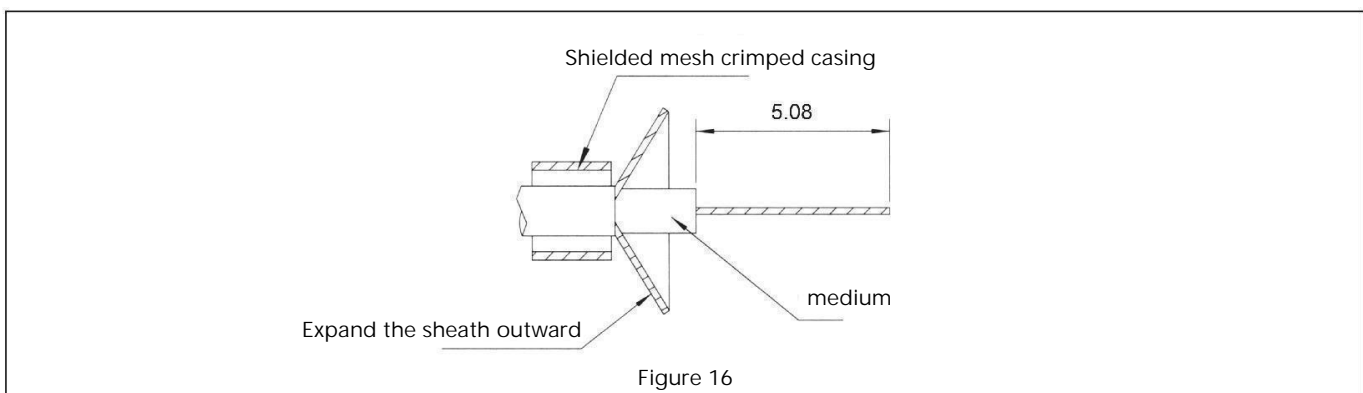
2.412# Assembly of shielded contacts

2.4.112# Assembly of shield pins

Peel off the cable as shown in Figure 15. The ends must be cut clean and at right angles to the axial plane of the cable. When cutting, the cable must not be deformed.



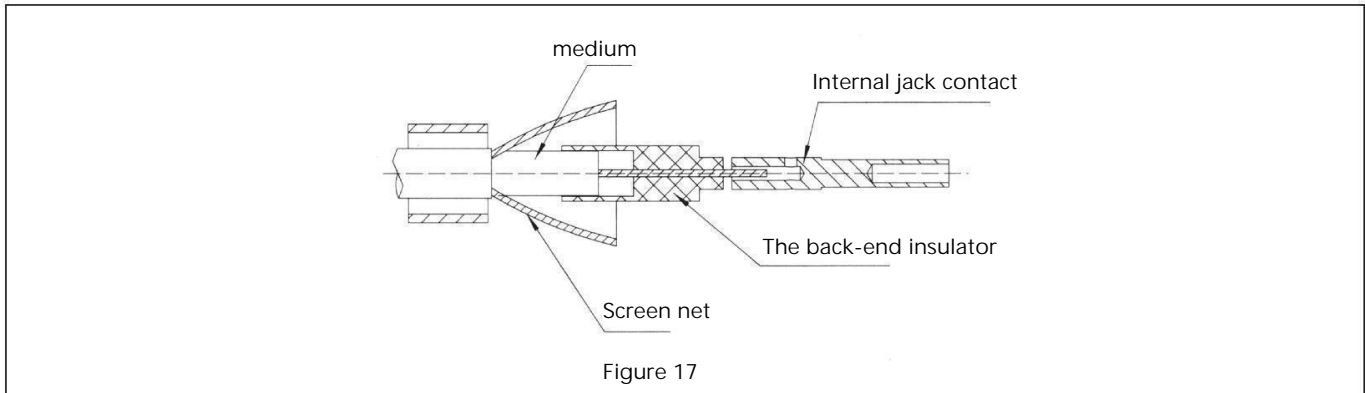
Put the shielding mesh crimping sleeve on the cable jacket as shown in Figure 16.



Appendix 2:HL-JB599 series high frequency contact assembly instructions

Open the shielding layer outwards and peel off the medium part of the cable.

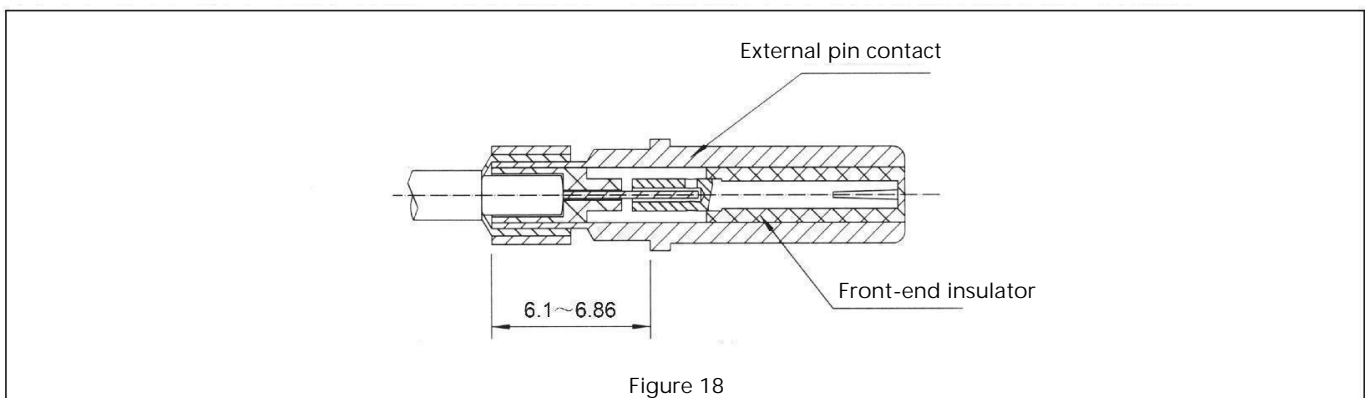
As shown in Figure 17, pass the center conductor through the insulator until the concave bottom end of the insulator tail reaches the medium and is under the cable shielding network.



Insert the center conductor of the cable into the connector. Contact parts through center jack. The viewing hole on the cable must be able to see the center conductor. The contact must be against the rear insulator.

Use the crimping tool M22520/2-01 and locator M22520/2 -- 34 to crimp the internal jack contacts.

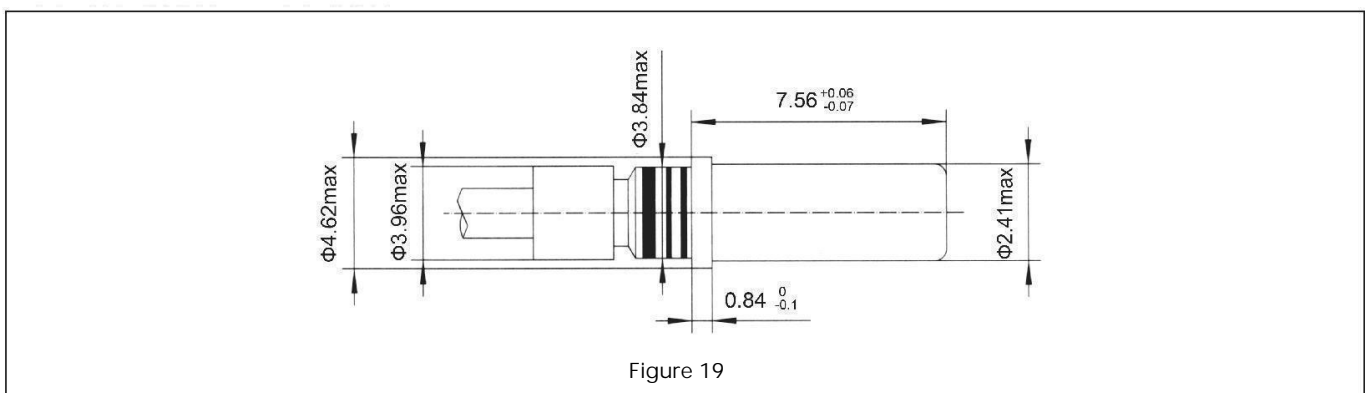
As shown in Figure 18, insert the inner component of Figure 17 into the outer pin contact under the cable shield until the inner jack contact is fully installed.



The shielding mesh is pressed forward to ensure the size of 6.1~6.8mm. Cut off excess screen mesh at the front end of the crimped casing.

Use the crimping tool M22520/31-01 and the positioner M22520/31 -- 02 as specified in Table 3 to crimp the shielding mesh crimp sleeve; Crimping once, rotate the contact assembly 45 degrees, and crimping a second time. After the second crimping, the outer diameter of the screen crimping sleeve - must be less than 3.96mm.

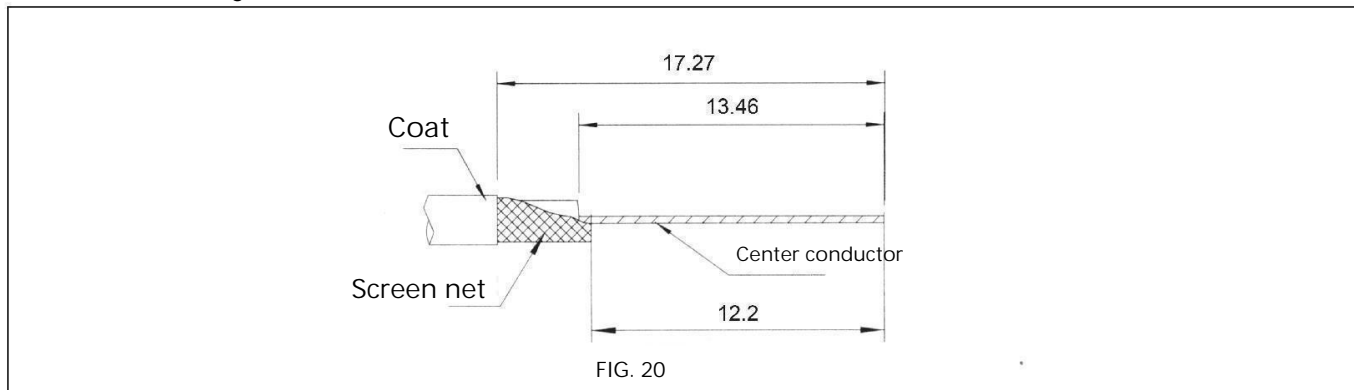
Figure. 19 shows the crimped 12# shielded pin.



Appendix 2:HL-JB599 series high frequency contact assembly instructions

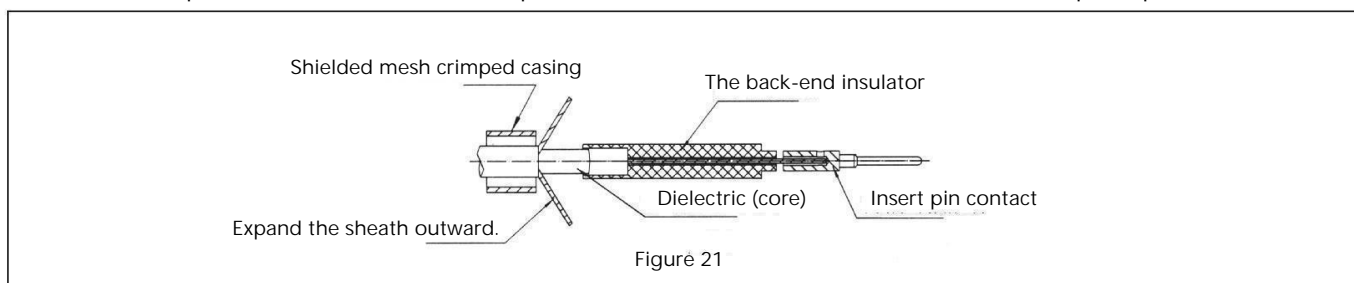
2.4.212# Assembly of shield jack

Strip the cable as shown in Figure 20, and the end must be cut clean and at a right Angle to the axial plane of the cable. When cutting, the cable must not be deformed.



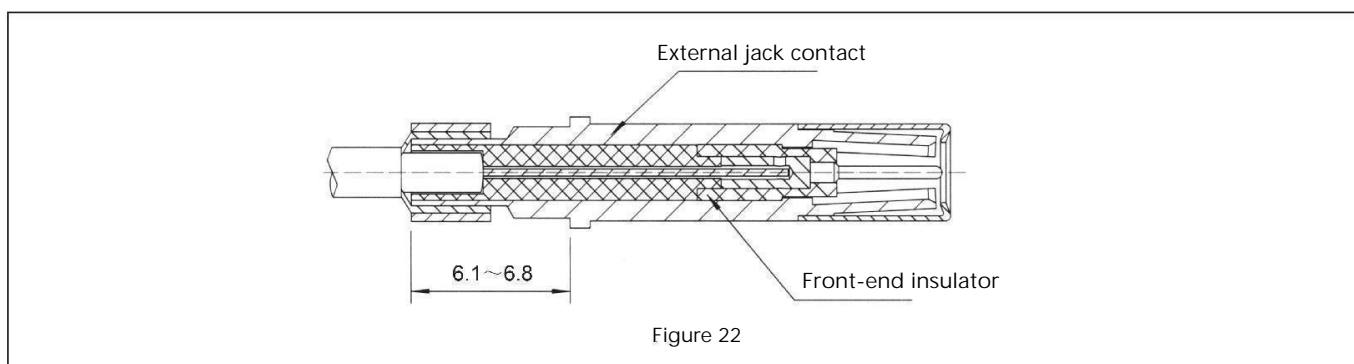
As shown in Figure 21, proceed as follows:

- Crimp the shielding mesh casing to the cable sheath.
- Gradually open the shielding layer outward and peel the dielectric layer of the cable as shown in the figure.
- Pass the center conductor through the insulator until the bottom of the medium touches the back end of the insulator.
- Insert the cable center conductor into the pin contact. The inner conductor must be visible through the viewing hole on the insert pin contact. The contact must be against the front end of the insulator.
- Use the crimp tool M22520/2-01 and the positioner M22520/2-34 listed in Table 3 to crimp the pin contacts.



As shown in Figure 22, proceed as follows:

- Insert the inner assembly in Figure 7 into the outer jack contact assembly until the inner pin contacts are fully installed.
- The shielding mesh is pressed forward to ensure the size of 6.1~6.8mm. Cut the excess screen at the front end of the screen crimping sleeve.
- Use the crimping tools and positioners listed in Table 3 to crimp the shielding mesh crimp sleeve; Crimping once, rotate the contact assembly 45 degrees, and crimping a second time. After the second crimping, the outer diameter of the sheath crimping casing must not exceed 3.96mm.



Appendix 2:HL-JB599 series high frequency contact assembly instructions

Figure 23 shows the crimped 12# shielded jack.

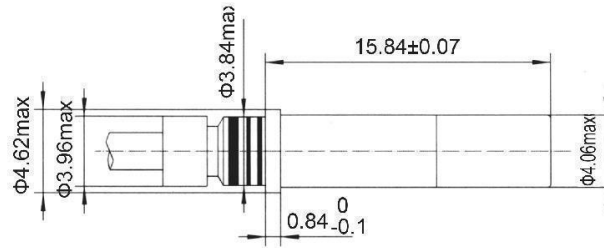


FIG. 23

2.512# Assembly of coaxial contacts

2.5.12# Assembly of coaxial pins

Peel off the cable as shown in Figure 24. The ends must be cut clean and at right angles to the axial plane of the cable. When cutting, the cable must not be deformed.

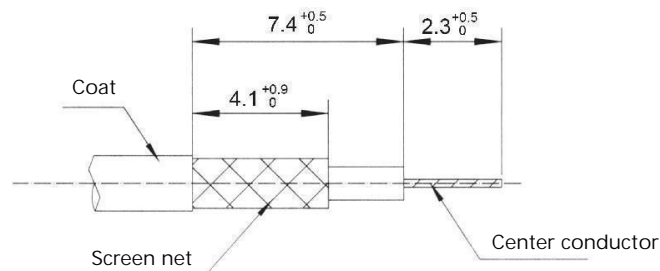


FIG. 24

Put the screen crimping sleeve on the cable jacket as shown in Figure 25.

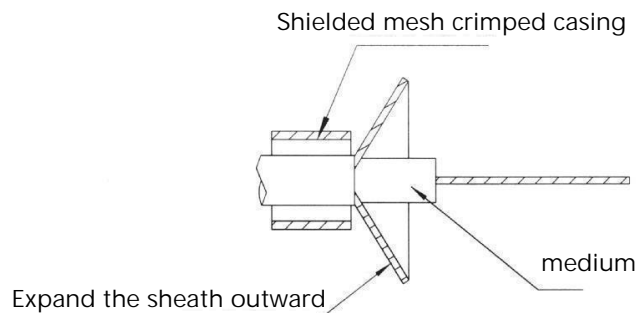
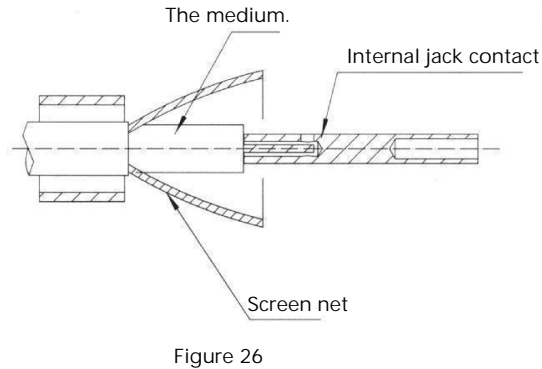


FIG. 25

Appendix 2:HL-JB599 series high frequency contact assembly instructions

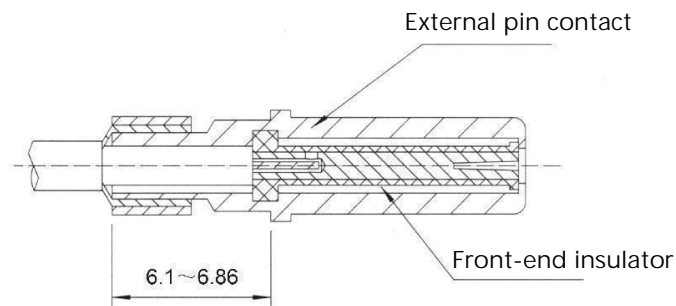
Open the shielding layer outwards and peel off the medium part of the cable.

Figure 26 Insert the center conductor of the cable into the jack contact. The center conductor of the cable must be visible through the viewing hole on the center jack contact. The contact must be against the rear insulator.



Use the crimping tool MH992 and the positioner K1303S to crimp the internal jack contacts.

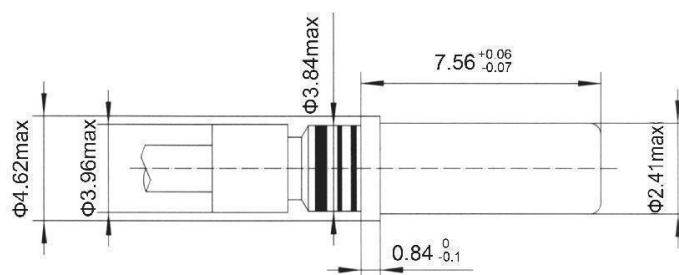
As shown in Figure 27, install the inner component in Figure 26 into the outer pin contact under the cable shield until the inner jack contact is fully installed.



Screen mesh crimping sleeve forward to ensure the size of 6.1-6.8mm. Cut off excess screen mesh at the front end of the crimped casing.

Use the crimping tool M22520/5-01 described in Table 3 and locate M22520/5-03 to crimp the shielding mesh crimp sleeve. The outer diameter of the shielding mesh crimp sleeve must be less than 3.96mm.

FIG. 28 shows the crimped 12# coaxial pin.



Appendix 2:HL-JB599 series high frequency contact assembly instructions

2.5.212# Assembly of coaxial jack

Strip the cable as shown in Figure 29, and the end must be cut clean and at a right Angle to the axial plane of the cable. When cutting, the cable must not be deformed.

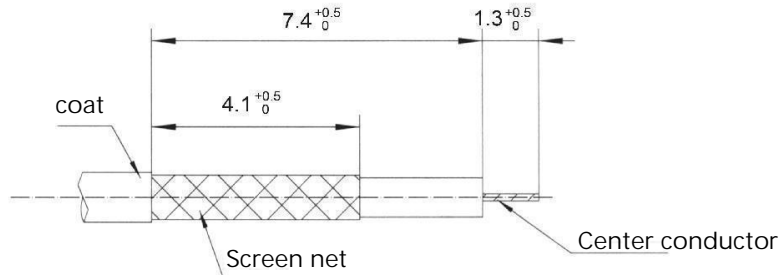
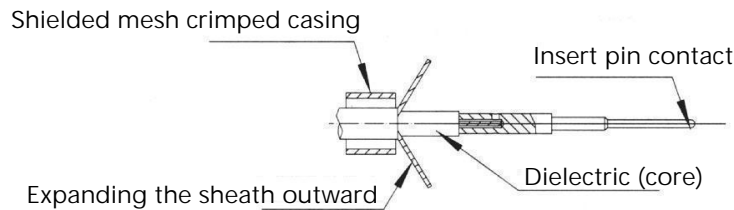


Figure 29

As shown in Figure 30, proceed as follows:

- Crimp the shielding mesh casing to the cable sheath.
- Gradually open the shielding layer outward as shown in the figure.
- Insert the cable center conductor into the pin contact. The inner conductor must be visible through the viewing hole on the insert pin contact. The contact must be against the front end of the medium.
- Use the crimp tool MH992 and the positioner K1304 listed in Table 3 to crimp the pin contacts.



As shown in Figure 31, proceed as follows:

- Insert the inner assembly in Figure 30 into the outer jack contact assembly until the inner pin contact is fully installed.
- The shielding mesh is pressed forward to ensure the size of 6.1~6.8mm. Cut the excess screen at the front end of the screen crimping sleeve.
- Use the crimping tool M22520/5-01 listed in Table 3 and locator M22520/5-03 to crimp the shielding mesh crimp sleeve. The outer diameter of the sheath crimp sleeve is less than 3.96mm.

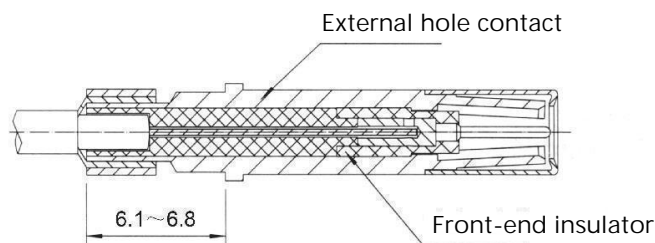
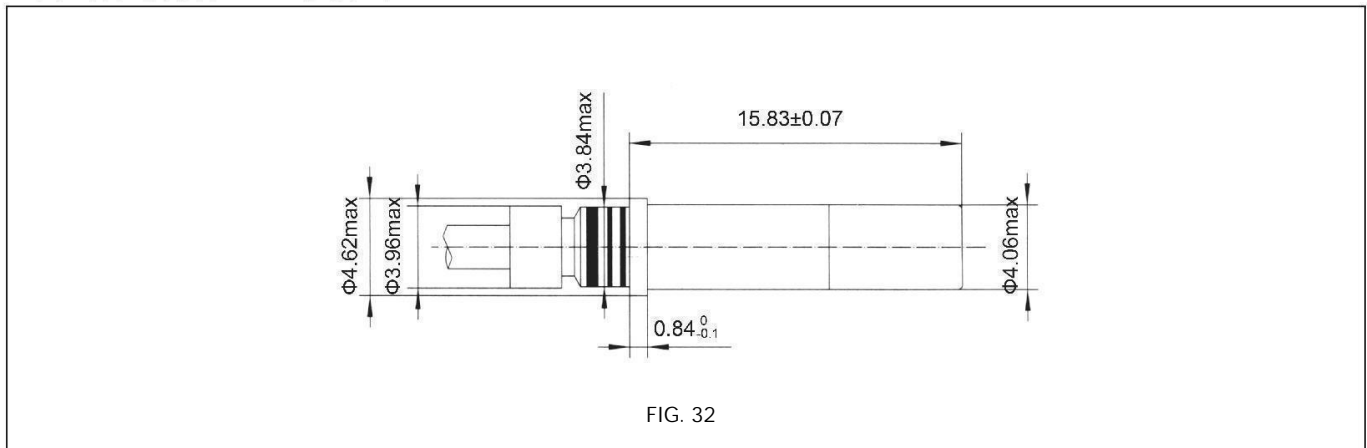


FIG. 31

Appendix 2:HL-JB599 series high frequency contact assembly instructions

Figure 32 shows the crimped 12# coaxial jack.

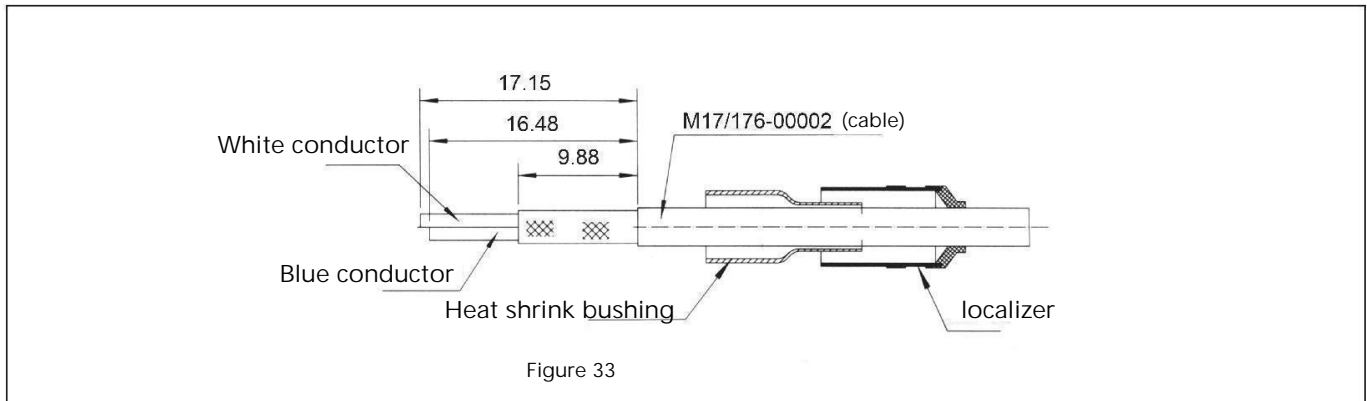


2.68# Assembly of double coaxial shield contacts

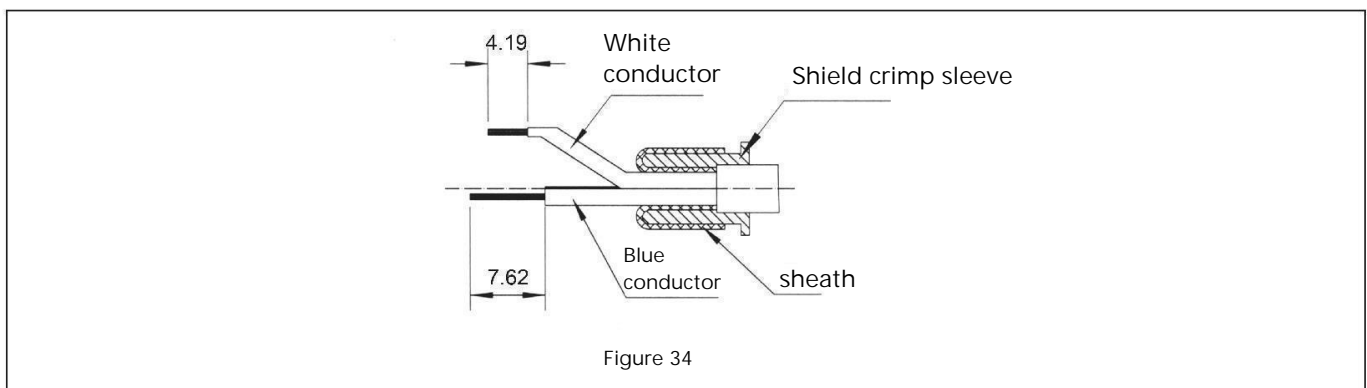
2.6.18# Assembly of double coaxial shield pin

As shown in Figure 33, proceed according to the following requirements:

- Put the heat shrink sleeve on the cable as shown.
- Peel off the cable sheath to the position shown in the figure. The end must be cut clean and at a right angle to the axial plane of the cable. When cutting, the cable must not be deformed and damaged.
- Use the crimping tool M22520/5-01 listed in Table 3 and locator M22520/5-03 to crimp the shielding mesh crimping sleeve. Ensure that the outer diameter of the crimping sleeve is less than 3.96mm.



As shown in Figure 34, put the shielding crimping sleeve on the cable sheath, put the shielding layer on the shielding crimping sleeve, and peel the internal wire according to the figure (you can cut off the filler near the shielding layer).



Appendix 2:HL-JB599 series high frequency contact assembly instructions

As shown in Figure 35, bend the white wire outward into the slot of the insulator, and pass the blue wire through the insulator. The tail of the insulator must be against the shielding layer.

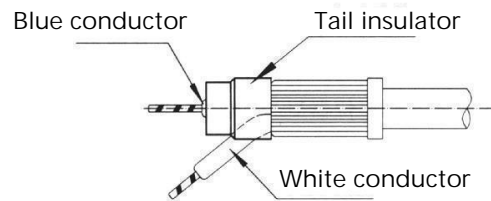


Figure 35

As shown in Figure 36, proceed according to the following requirements:

- A. Insert the inner conductor of the blue wire into the center pin contact. The conductor must be seen through the observation hole. The contact should be against the tail of the insulator, and the tail of the insulator should be against the metal collar.
- B. Use the crimp tool M22520/2-01 and locator K709 as shown in Table 3 to crimp the center pin contact to the blue wire.

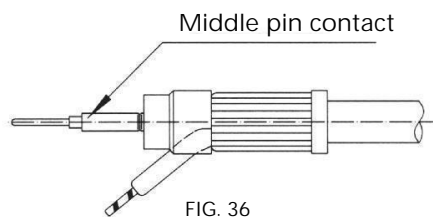


FIG. 36

As shown in Figure 37, proceed according to the following requirements:

- A. Put the middle pin contact and the insulator within it on the center pin contact.
- B. Insert the inner conductor of the white wire into the hole on the tail surface of the middle contact. The conductor should be visible through the wire viewing hole. The middle contact must be against the insulator.
- C. Use the crimping tool M22520/5-01 shown in Table 3 and the press die Y631B to press the middle contact to the white wire.

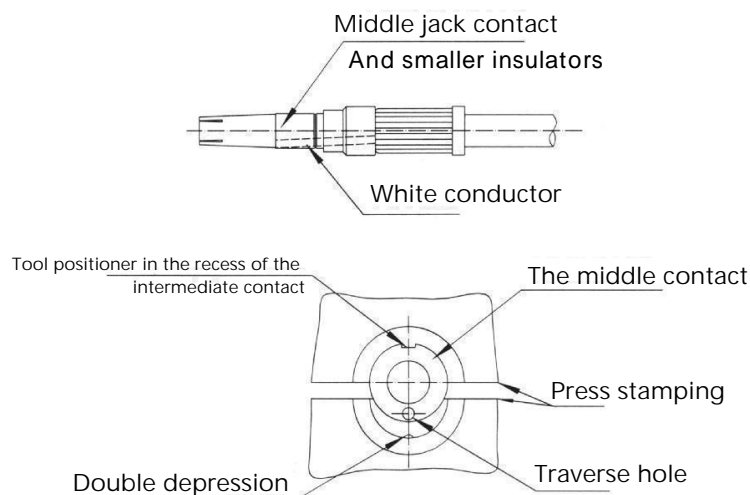
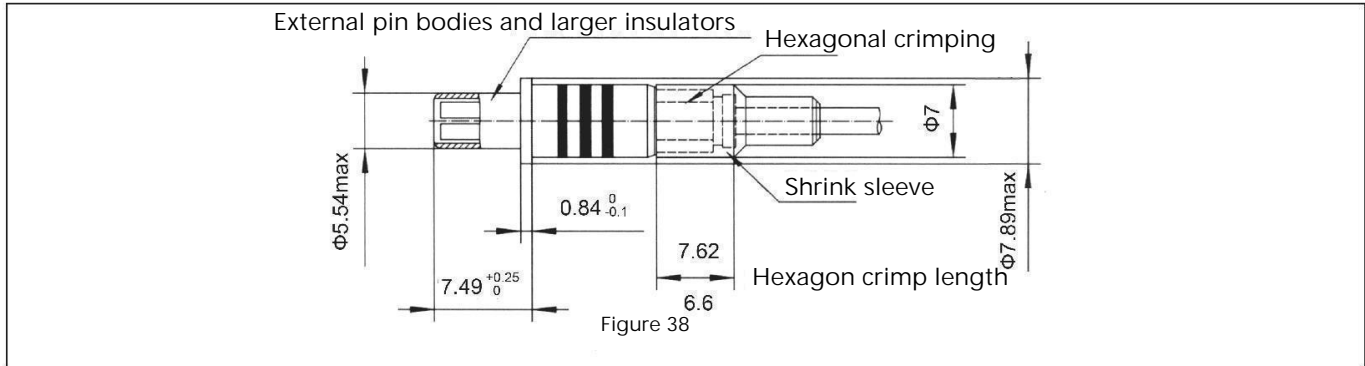


Figure 37

Appendix 2:HL-JB599 series high frequency contact assembly instructions

As shown in Figure 38, proceed according to the following requirements:

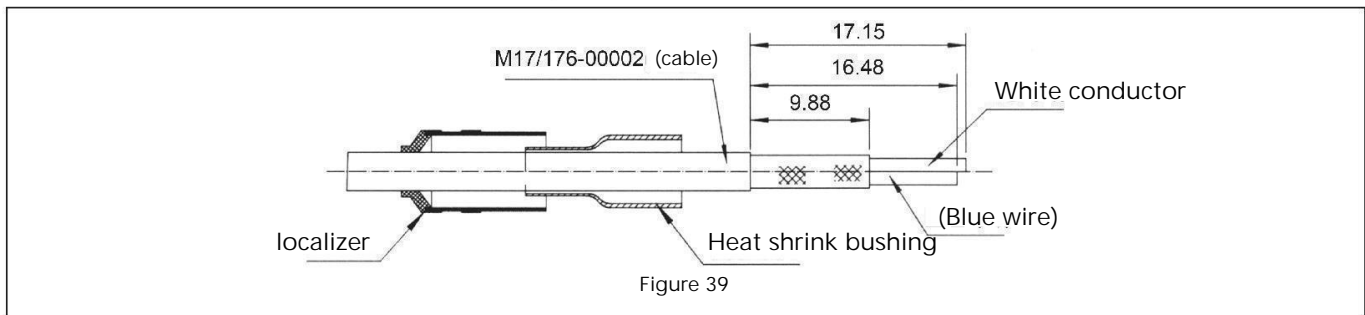
- A. Place the external pin and insulator over the middle jack contact assembly until completely to the bottom.
- B. When the assembly is completely at the bottom, use the crimping tool M22520/5-01 shown in Table 3 and the crimping die Y631A to hexagonally crimp the end part of the outer housing.
- C. Slide the heat shrink tubing to the crimped part of the contact and heat the heat shrink tubing on the contact and cable.



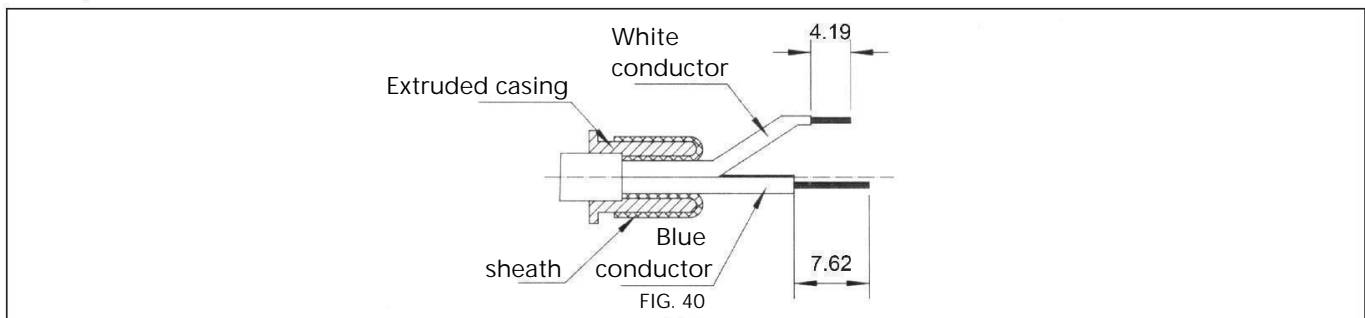
2.6.28# Assembly of double coaxial shield jack

As shown in Figure 39, the heat shrink sleeve and positioner slide onto the cable sheath (starting from the small diameter end).

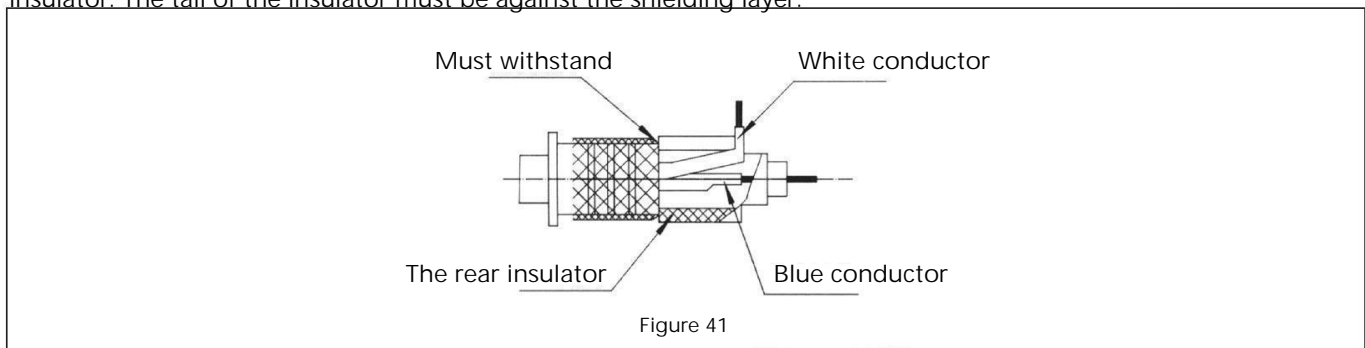
Peel off the cable sheath to the position shown in the figure. The ends must be cut clean and at right angles to the axial plane of the cable. When cutting, the cable must not be deformed and damaged.



Put the shielding crimping sleeve on the cable sheath, as shown in Figure 40, put the shielding layer on the shielding crimping sleeve, and peel the internal wire according to the figure (you can cut off the filler near the shielding layer).



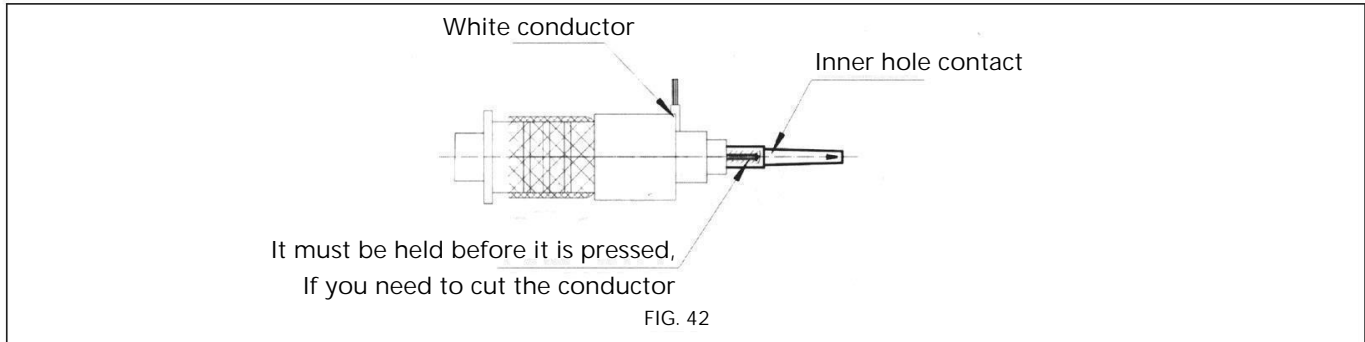
Bend the white wire outward into the slot of the insulator according to Figure 41. The blue wire passes through the insulator. The tail of the insulator must be against the shielding layer.



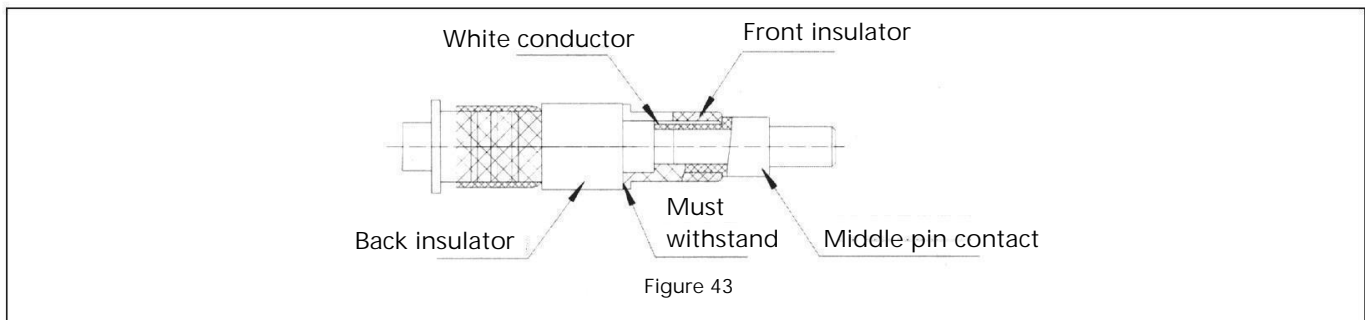
Appendix 2:HL-JB599 series high frequency contact assembly instructions

As shown in Figure 42, follow the following requirements:

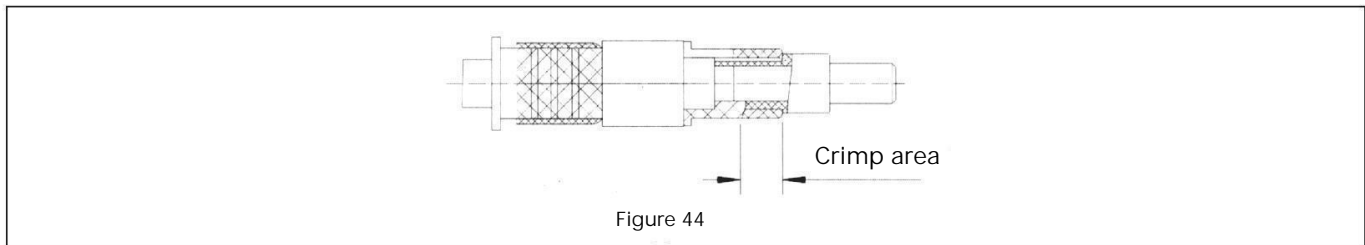
- A. Slide the jack contact onto the blue wire. Contact parts through internal jacks. The viewing hole must be able to see the conductor.
- B. Crimp the contact with M22520/2-01 tool and positioner K709.



As shown in Figure 43, connect the middle pin contact and the insulator assembly to the inner hole contact. Up. The conductor must be visible through the viewing hole in the contact. The intermediate contact must be against the tail of the insulator.



As shown in Figure 44, use the M22520/5-01 tool to crimp the middle pin contact, and use the die Y631B (crimp the middle contact to the white wire).



As shown in Figure 45, the external jack contact and the front insulator secondary assembly slide onto the internal assembly until they are held. There will be a small gap in the casing.

- A. Use the M22520/5-01 tool and Y631A punch to press the external components (casing and external contacts).
- B. Slide the preformed heat shrink sleeve onto the contact, and shrink the heat shrink sleeve with the hot gas device.

