

1. Product Name and Part Numbers:

This product line has been named as 'SQUIB CONNECTOR' consisting of the part numbers as shown in Fig.1 and Fig.2.

1.1 Housing:

AMP PART NUMBER	Descriptions
1376030	11DIA SQUIB CONNECTOR HOUSING
1376031	11DIA SQUIB CONNECTOR HOUSING LOCKING BUTTON
353379	SQUIB CONNECTOR FERRITE

1.2 Contact:

Fig.1

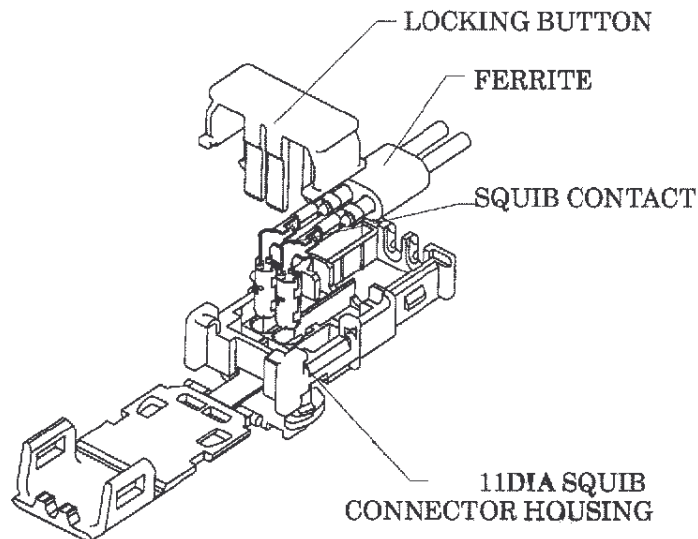
AMP PART NUMBER	Product Names	Applicable Wires		
		Wire Type	0.3	0.5
353376	SQUIB CONTACT	CAVS	○	○
		AVSS	○	○
		AVSSF	○	○

1.3 Retainer: (Mating part)

Fig.2

AMP PART NUMBER	Descriptions
699638	RETAINER ASSY FOR 11DIA SQUIB CONNECTOR

2. Product Composition:



3. Inspection of Contact, Housing and Ferrite:

Customer's Receiving Inspection:

Although, the products are thoroughly inspected before delivery, it is recommended that the customer be attentive to confirm the status of products, to check out if the products incurred any damage during transit.

Contacts:

Item	Check Points	Measuring Apparatus
Visual Inspection	(1) Configuration and Appearance	Visual
	(2) Plating Finish	Visual
	(3) Reeling Status of Strip Terminals	Visual
Dimensional Inspection	(1) Width and Height of Wire Barrel	Callipers
	(2) Width and Height of Insulation Barrel	Callipers

Fig.4

Upon Receiving, the reeled terminal products should be classified by manufacturing date codes and put under the inspection in accordance with the inspection level II of MIL-STD-105 at acceptable quality level of 4.0%, visually and dimensionally to check the first five terminals in reel.

Acceptable of the products is verified by proving the products meeting the specified requirements.

Housing:

Item		Measuring Apparatus
Appearance Inspection	(1) Burrs, Discoloration & Deformation	Visual
	(2) Cracks, Breakage & Chipping off	Visual
Functional Inspection	(1) Mating Check to see if the connector mate and un-mate smoothly with Gas Generator	Tactual

Fig.5

The product housings submitted to inspection, are classified by the manufacturing date code, and put under the inspection in accordance with the inspection level II of MIL-STD-105, at acceptance quality level of 4.0% visually, and functionally to the randomly selected five pieces out of the lot.

Acceptance of the product is verified by proving the products meeting the specified requirements.

Ferrite:

Item		Measuring Apparatus
Appearance Inspection	(1) Burrs, Discoloration & Deformation	Visual
	(2) Cracks, Breakage & Chipping off	Visual

Fig.6

The product ferrites submitted to inspection, are classified by the manufacturing date code, and put under the inspection in accordance with the inspection level II of MIL-STD-105, at acceptance quality level of 4.0% visually.

Acceptable of the products is verified by proving the products meeting the specified requirements.

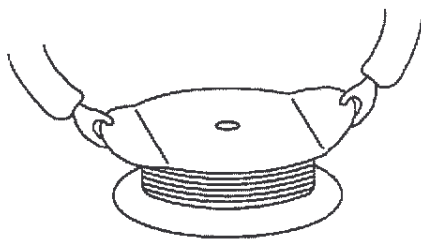
4. Control of Crimped Products:

Crimping of contacts must be done by using AMP specified application tooling in accordance with the procedure specified in applicable instruction sheet.

After completion and of one crimping lot, it is desirable to record the part number, quantity and date code for the necessity of future reference.

4.1 Storage and Transfer of Reeled Products:

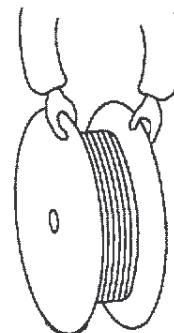
- (1) Avoid leaving terminal reel in an open area without wrapping it with proper material.
- (2) Do not lift up and carry the terminal reel by gripping it on the edge of the reel, lest it should result damage of reel, causing spoiling of terminals before using them for application.



Do not lift up laterally by holding one side only.

Not Acceptable

Fig. 7a

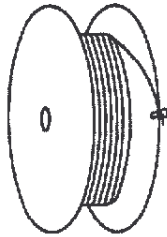


Lift up by holding both flanges vertically.

Acceptable

Fig. 7b

- (3) Avoid storing terminal reels in a moist area or dusty place. Stock contacts in a comparatively dry and clean place where the temperature of 5–35°C, with relative humidity ranging between 45–85% is maintained without keen influence of the direct sunlight.
- (4) When the terminal reel is not in use for a long time, remove it from the machine, and fasten the end of terminal strip onto the edge of reel with use of proper string or wire as shown in the figure below.



Tie strip end with a wire neatly.

Fig.8

4.2 Reference Documents for Crimping Operation:

The documents listed below should be referred to for the specific details of crimping and assembly operation.

114-5234 Application Specification for Socket Contact for Φ 1mm Pin.

- (1) Wire end must be stripped without cut nor damage of wire strands.

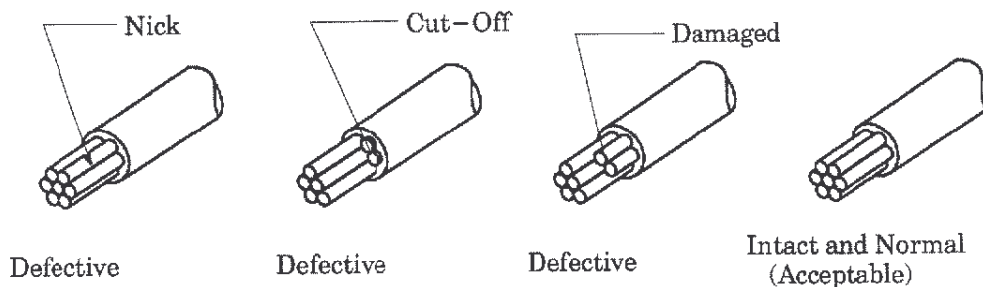


Fig.9

(2) Wire end Pre-treatment before Crimping.

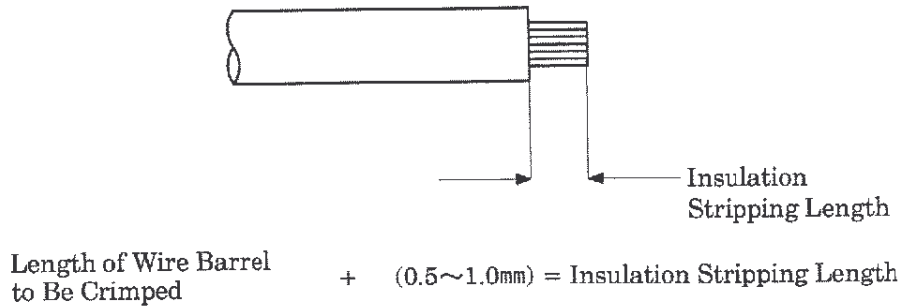


Fig.10

(3) Cross-sectional View of Wire Barrel Crimp:

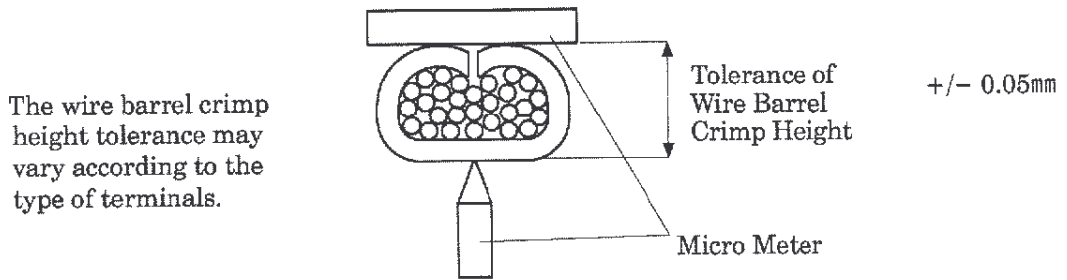


Fig. 11

(4) Modified Micrometer for Measurement of Crimp Height:

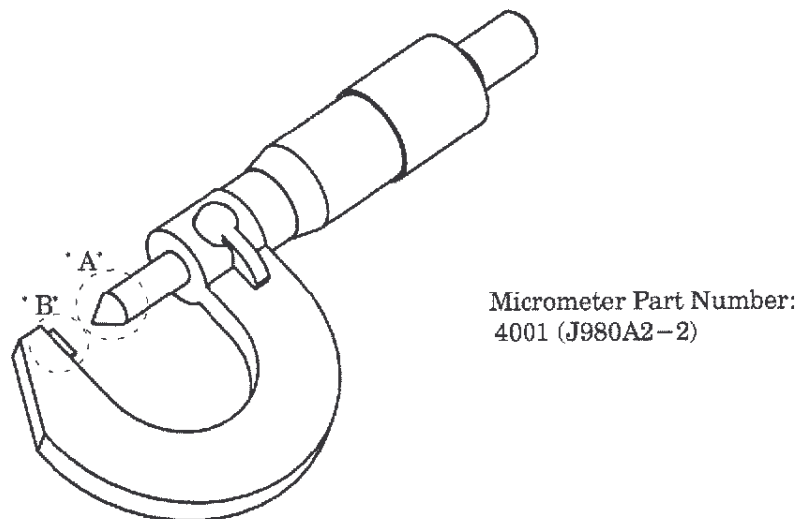


Fig. 12

4.2.1 Crimped Condition of Contact:

(For detailed features, refer to Application Specification, 114-5234, Socket Contact for \varnothing 1mm Pin)

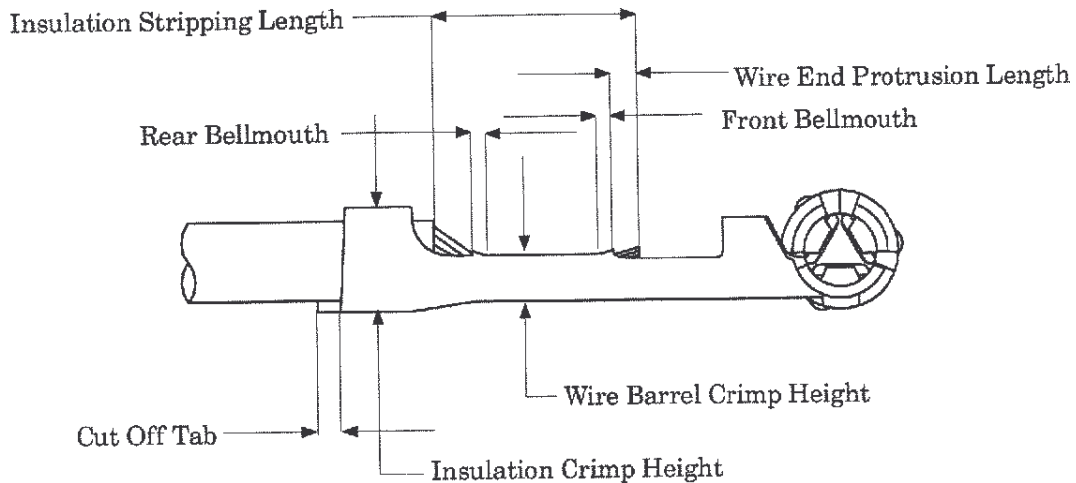
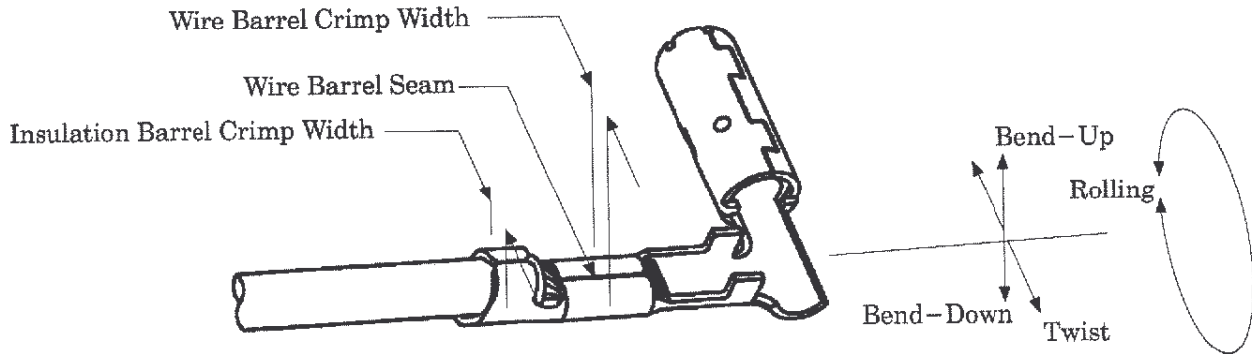


Fig.13

4.2.2 Crimp Data:

Fig.14 shows the detailed data of contact crimping by applicator. Confirm the contents before the operation.

Contact Part Number	Wire Size (Nominal)	Applicator Number	Wire Barrel Crimp (mm)			Insulation Barrel Crimp (mm)			Crimp Tensile Strength (N)(min.)
			Width	Height	Disc	Width	Height	Disc	
353376	0.3	409644-2	1.78	0.94	C	1.78	2.29	3	59
	0.5		'F'	1.03	B	'F'	2.87	3	88

Fig.14

4.2.3 Applicable Wires:

Applicable Wires to be Automotive Low Voltage Wires(AVSS,CAVS 0.3mm²~0.5mm²)

Wire Size (Nominal)	No. of Conductors/ Diameter of a Conductor	Cross-Sectional Area of a Conductor	AVSS/ CAVS	
			Std.	Max
0.3	7/0.26	0.37	1.4	1.5
0.5	7/0.32	0.56	1.6	1.7

Fig.15

4.3 Control of Crimped In-process Products:

4.3.1 Inspection of Products

Inspection of crimped,in-process products must be performed by the lot unit consisting of the product groups manufactured during the one continuous operation under the same set-up adjustment of the crimping machine in the identical manufacturing conditions,or the groups of the produced products during one work day operation.

The inspection should be performed according to the criteria shown in the listing below.

Inspection Types	Timing	Inspection Items
Inspection on Products made under initial set-up condition of applicator	At the time of completion of initial set-up of applicator to crimp the contact.	Visual inspection and Dimensional Inspection on all items listed in Fig.17
Lot Inspection	Before to start a routine operation each work day	Same as above
	During continuous operation	Visual inspection on all the items listed in Fig.17,and Dimensional Inspection on item No.3 only in Fig.17

Fig.16

Inspection Types	Checking Points and methods	Measuring Apparatus
Visual Inspection	1.Loose – out of the wire conductors out side the wire barrel crimp,and cut – off of conductor(s)	Visual
	2.Defective crimped form of contact(forming up of bell mouth,and wire end protrusion length)	Visual
	3.Defective wire barrel bottom area forming(burrs appearing,inclusive)	Visual
	4.Misgripping of insulation barrel crimp on wire insulation	Visual
	5.Deformation of contacting area of contact	Visual
Dimensional Inspection	1.Dimensions of Cut – off Tab Length:0.5mm Max.	Callipers
	2.Deformation of contact(bend – up,lateral bend and twisting)	Magnifying Glass
	3.Crimp Height	Micrometer
	4.Front and rear bellmouth forming Front bellmouth:0.2mm Max. Rear bellmouth:0.5mm Max.	Calliper

Fig.17

NOTE

Callipers are defined as vernier callipers or equivalent measuring tools,having the identical precision measurement level.

4.3.2 Storage

(a) Store the products in the clean,dry area,and should be covered with proper sheet or paper when placed in an open area. Product storage without placing cover sheet when placed in an open air,should be forbidden always for prevention of contamination by dust and particles.

(b) One bundle of in – process crimped leads,should be confined within 100 leads at any-time.

(c) Avoid stacking and piling up the in – process products heaping up in large volume,lest it should result in catching together or entangled on the projecting parts of the leads,causing damage and breakage of the products. Deformation of the contact will result in malfunction of contacting parts electrically.

(d) After crimping,at the time of taking into storage or transfer,beware not to have the leads entangled or caught together,and incurred to deformation of the contacts.

(e) When to separate entangled parts apart,care must be taken not to jerk and pull forcefully with cross section area.(Fig.18)

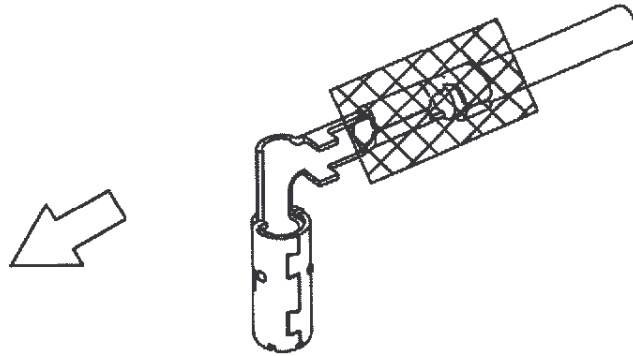


Fig. 18

5. Manufacturing Harness Assembles:

5.1 Loading Wire into Ferrite:

Before strip Insulation, thread Ferrite on a wire and crimp Contacts.

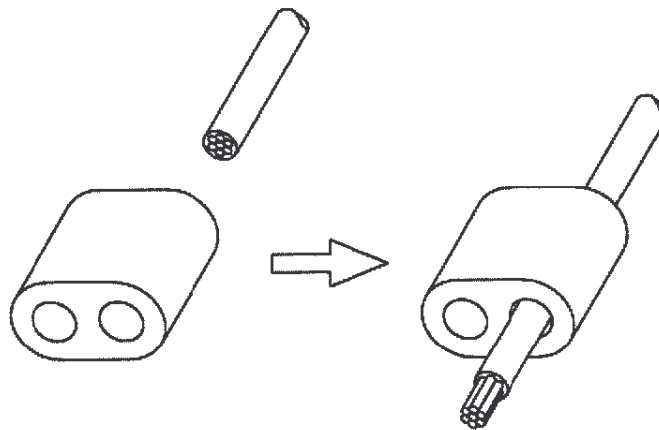


Fig. 19

5.2 Loading Contacts into Main Housing:

Insert the contact into the designated hole of the housing, until it goes to the bottom and to get engaged with the locking device, when a small clicking sound is heard at engagement of locking. Do not push part of crimping, but section area on Fig.20.

Before loading contacts into housing, insert the ferrite into the designated position. When the contact is locked, just pull back the crimped wire lightly, to make sure the condition of locking, as the contact stays in place of locking.

If not to insert contacts and ferrite into designated position, the lid housing will be allowed to get locked in position.

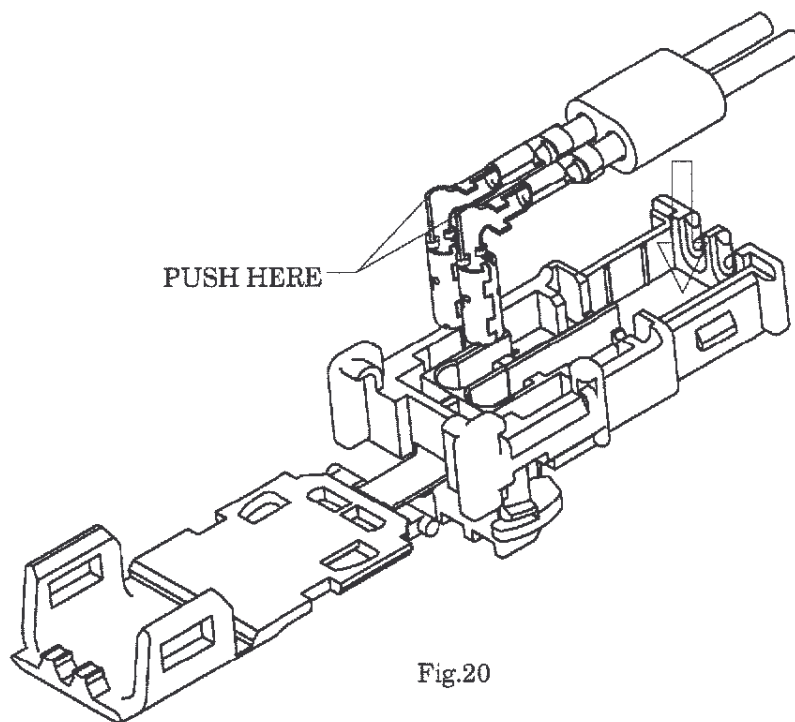


Fig.20

5.3 Loading Lid into Main Housing:

Press Cylinder "B" on Aperture "A"

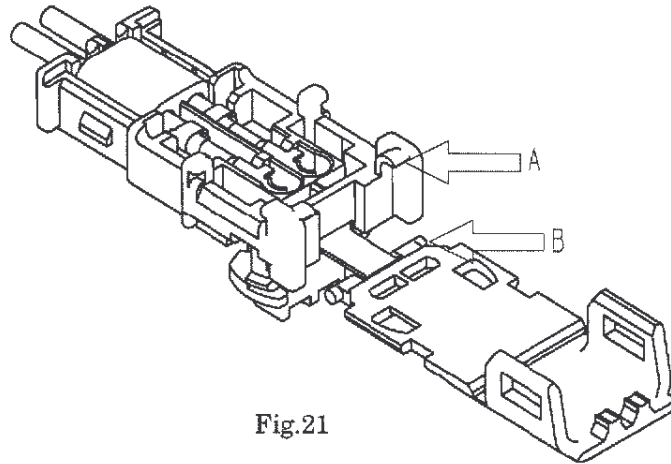


Fig.21

Be sure to revolve Lid.

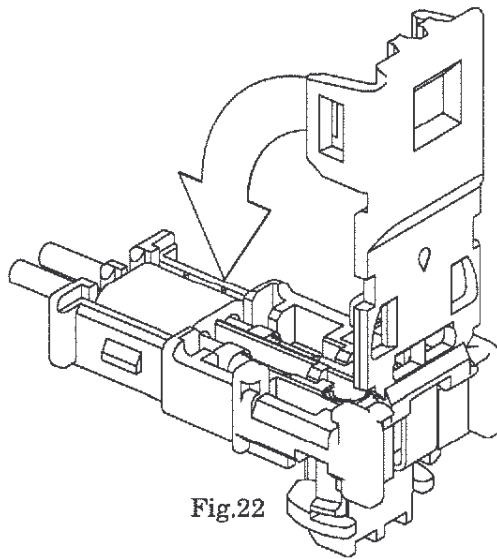
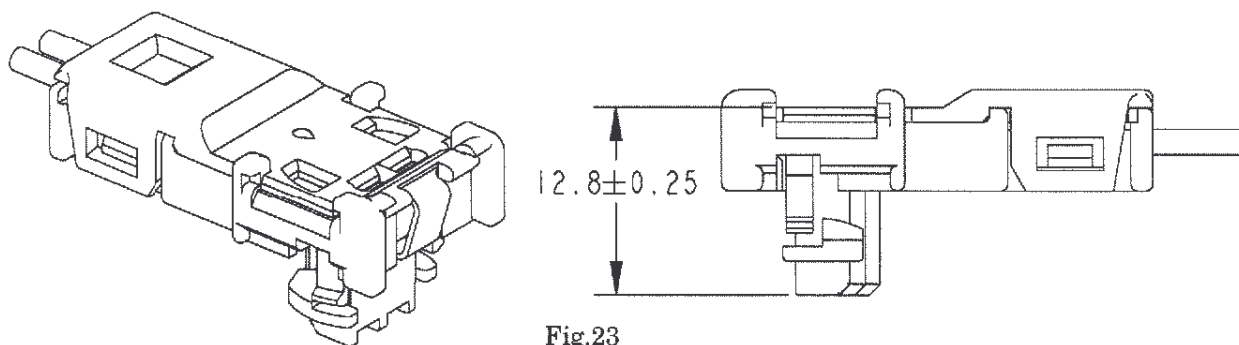


Fig.22

It is finish when Lid is locked.

**NOTE**

To make sure the cylinder get into aperture. If the cylinder not get into aperture , try again. If you will control final assemblage use of dimension , to make sure as above.

NOTE

If hinge break during revolve Lid , must cut remnant part by nipper.

5.4 Assemble locking button into a connector housing.

Insert stick of Locking Button into a connector housing hole.

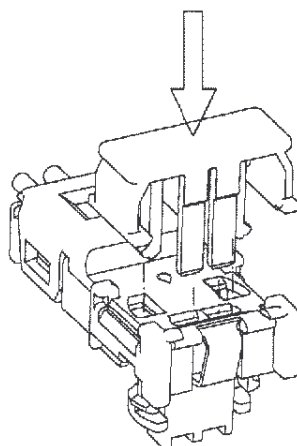
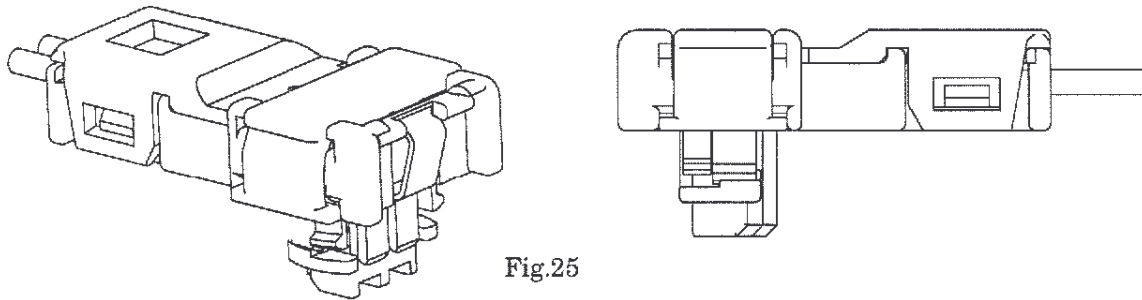


Fig.24

Be sure to confirm assembly condition as follows.



5.5 Storage of Housing and Ferrite:

5.5.1 Housing

(a) It is desired that the products are placed where the temperature is ranging between 5~35°C with the relative humidity ranging between 45~85%.

(b) It is advised that leaving the products in open air for a long time tends to get contaminated by dust and particles.

Leaving under the open air for a long time should be forbidden from this point of view.

5.5.2 Ferrite:

(a) It is desired that the products are placed where the temperature is ranging between 5~35°C with the relative humidity ranging between 45~85%.

(b) Do not hit fellow ferrite.

(c) Do not drop ferrite.

6. Contact Extraction from Housing:

When extract contact from housing, put a screwdriver (1.0mm) to the place of Fig.23, and pull back it.

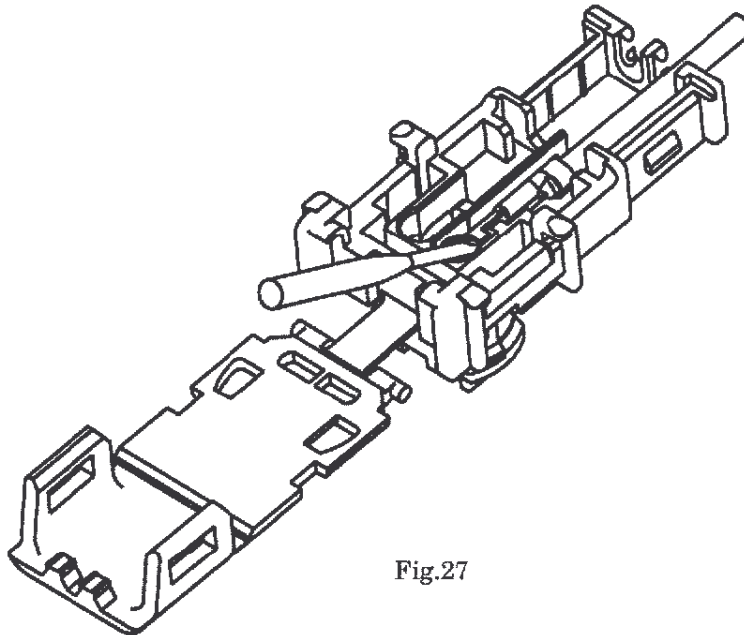


Fig.27

NOTE

(a) During removal operation of contact, care must be taken not to cause deformation of contact, housing, ferrite. If you find deformations, do not attempt to reuse them.

(b) When you assemble them, see Para. 5.2 and 5.3.

(c) Confirm to insert ferrite into designated position.

7. Inspection, Storage and Transit of the Products:

7.1 Inspection of Products:

Inspection is performed by taking a harness assembly as a unit usually, to inspect all the circuit continuity and product normality.

During the inspection of the product harnesses, the following practice should be observed rightly.

(A) Use the counter part contact tab or equivalent part for checking circuit continuity of the harnesses, as a probing contact.

(B) NEVER INSERT INSPECTION PROBE INSIDE THE CONTACTS. In any time, inserting probe of the circuit tester will invite danger of deforming of contacts in housing, especially doing it by contact side. If the use of probing is required, insert it from the WIRE SIDE of housing.

7.2 Storage of Products:

(A) For storage of the products, place them in clean, dry place without fear of contamination. It is advised that leaving the products in open air for long time tends to get contaminated by dust and particles. Leaving under the open air for a long time should be forbidden from this point of view.

7.3 Delivery Transit and Carrying:

(A) Use proper carton box or container for delivery transit and carrying, to protect the product harnesses from contamination by dust and rain water etc. Try to handle moderately without shock, weighty load and impact.

(B) For the correct and normal control, the product part number, quantity and product code etc. must be clearly marked on the container legibly.

8. Final Assembly on Vehicles:

8.1 Receiving Inspection:

For final receiving inspection, the following items are required for confirmation of assembly normality:

(A) The bundling positions of leading wires bundle out of the connector should be not less than 20mm when the bundle is not bent, and 10mm when the bundle is bent.

(B) Condition checking of contact loading on housing.

(C) Checking on condition of contact surfaces for presence of remarkable discoloration, flaws and deformation of the contact.

(D) Check for presence of cracks, defects and discoloration of housing.

(E) Check for any abnormalities existing in the contained products and the delivery dates.

8.2 Check and Control Assembly Operation

(A) Mating of connectors shall be done along the connector mating axis straight, until the full mating stroke is completed by bottoming each other. Confirm the full engagement of the connectors, by pulling the connectors lightly by hands. After Locking Button assembly are as follows.

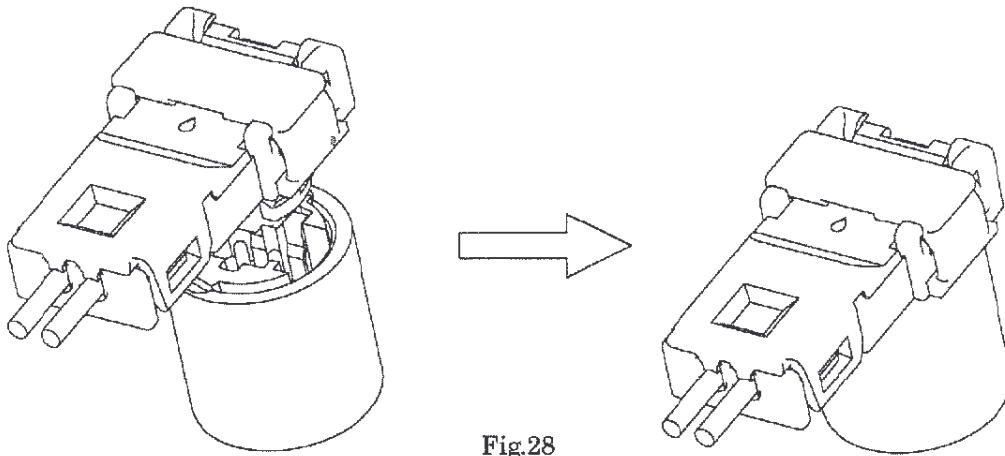


Fig.28

(B) When unmating connector, pull up Locking Button by the use of screwdriver (Width is about 4mm) or hand.

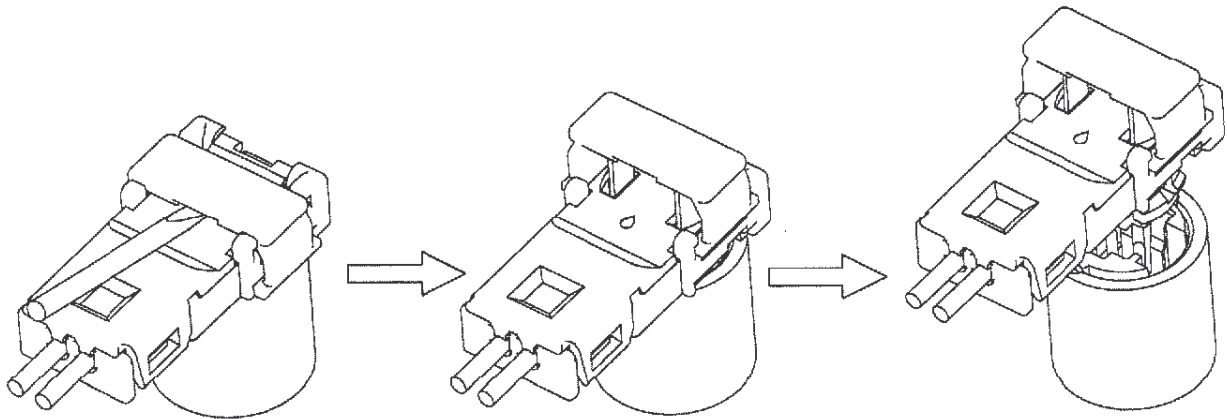


Fig.30

(C) Avid repetition of mating and unmating unnecessarily. This will cause wear of deteriorating connectors.

(D) When to remove loaded contact from housing, use the extraction tool of specified designation for the purpose. Perform according to Para. 6.

(E) Use the counterpart contact tab or equivalent for checking circuit continuity.

(E) Harness assemblies must be handled moderately, eliminating the inadequate manners as follows:

- (1) Rough handling so as to throw the products over the floor.
- (2) Careless handling so as to let the connector touch or draw on the floor.
- (3) Improper handling like carrying the harness assemblies by holding connector.
- (4) Rough handling as to jerk the wires, that may incur damage of the connectors.

8.3 Taping on the Wire Bundles:

When to apply taping over the wire bundles, the following care should be taken:

The crimped wire leads running out of housing must be properly bundled and taped accordingly to the length apart from wire run-out of connector so as to bundle up or bend due to harness assembly layout, lest it should affect forcing stress to the wires and then to the loaded contacts, causing defective mating of connectors and the defective circuit connection.

The bend of the wire bundle should be given with the allowance of slaking to the length of 30mm minimum as shown below.