

**Fix-in Squib Connector(Φ1mm Socket 2 Position)**

**1. PRODUCT NAME AND PART NUMBERS:**

1.1. Housing:

TE Part Number	Description
353744	FIX-IN SQUIB CONNECTOR HOUSING (MAIN)
353745	FIX-IN SQUIB CONNECTOR HOUSING (LID)
353746	FIX-IN SQUIB CONNECTOR FERRITE

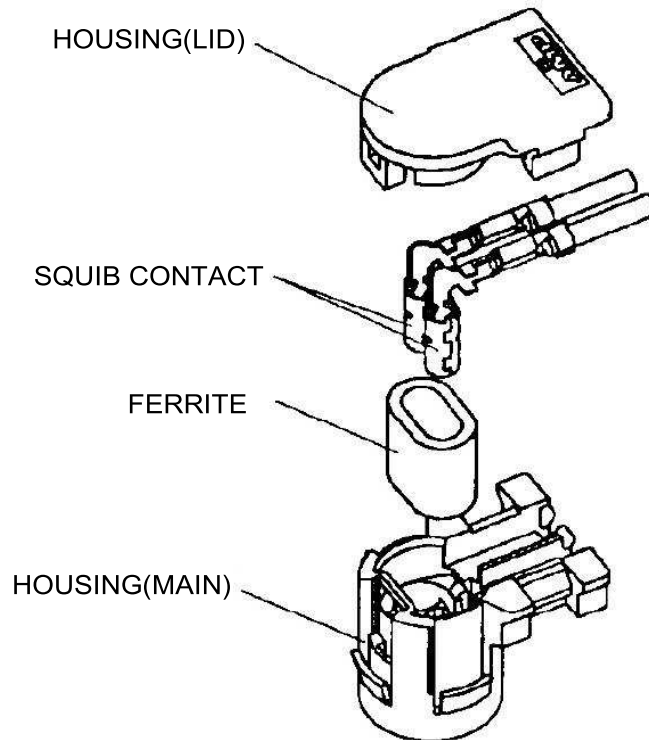
**Fig. 1**

1.2. Contact:

TE Part Number	Product Name	Application Wire	
		Wire Type	Wire Size (Nominal)
353376	SQUIB CONTACT (Φ01mm Socket)	CAVS	0.3 and 0.5mm <sup>2</sup>
		AVSS	0.3 and 0.5mm <sup>2</sup>
		AVSSF	0.3 and 0.5mm <sup>2</sup>

**Fig. 2**

**2. PRODUCT COMPOSITION:**



**Fig. 3**

**3. CUSTOMER’S RECEIVING INSPECTION:**

Although, the products are thoroughly inspected and controlled per each lots 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.

3.1. 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 of Wire Barrel	Callipers <sup>(1)</sup>
	2. Width of Insulation Barrel	Callipers <sup>(1)</sup>

**Fig. 4**



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

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.

3.2. Housing

Item	Check Points	Measuring Apparatus
Appearance Inspection	1. Burrs, Discoloration and Deformation	Visual
	2. Cracks, Breakage and Chipping off	Visual
Functional Inspection	1. Width of Wire Barrel Check to see it the connector mate smoothly with Gas Generator, and can not be extracted	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 pieced out of the lot.

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

### 3.3. Ferrite:

Item	Check Points	Measuring Apparatus
Appearance Inspection	1. Burrs, Discoloration and Deformation	Visual
	2. Cracks, Breakage and Chipping off	Visual

**Fig. 6**

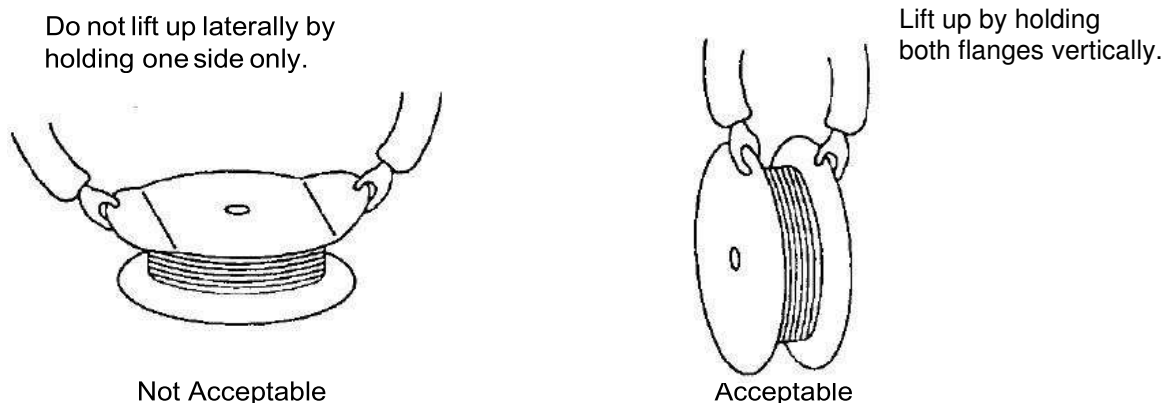
The product ferrites submitted to inspection are classified by the manufacturing date code, and put under the inspection in accordance with the inspection level II of MIL-STD-105, at acceptance quality level of 4.0% visually.

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

## 4. STORAGE AND TRANSFER OF PRODUCTS:

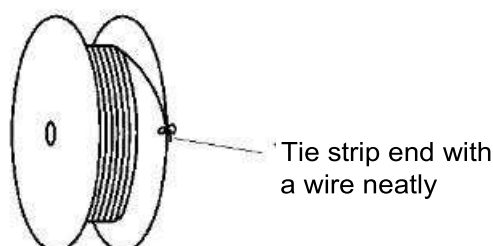
### 4.1. Reeled Contacts:

- (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 one the edge of reel, lest it should result damage of reel, causing spoiling of terminals before using them for application.



**Fig. 7**

- (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 Fig. 8.



**Fig. 8**

#### 4.2. Housing

- (1) 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%.
- (2) 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.

#### 4.3. Ferrite:

- (1) 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%.
- (2) Do not hit fellow ferrite.
- (3) Do not drop ferrite.

### 5. CRIMPING OPERATION:

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

#### 5.1. Control of Crimping Operation:

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

- 114-5234; Application Specification for Squib Contact
- CM-022J; Operation and Maintenance of Auto-machine

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

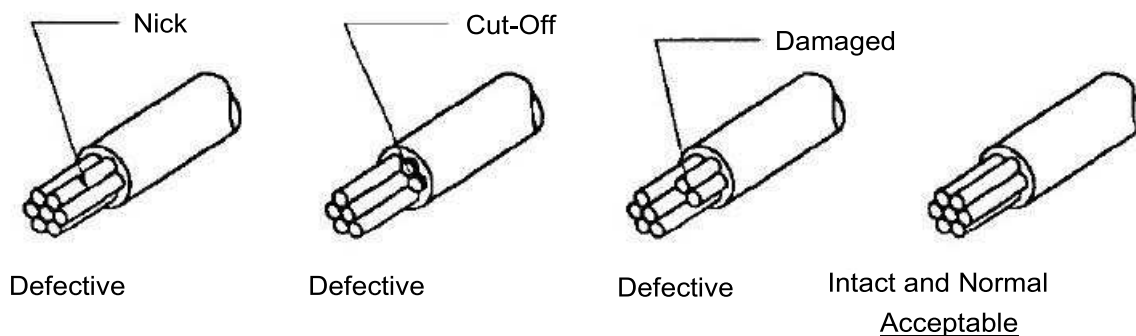


Fig. 9

(2) Wire end Pre-treatment before Crimping.

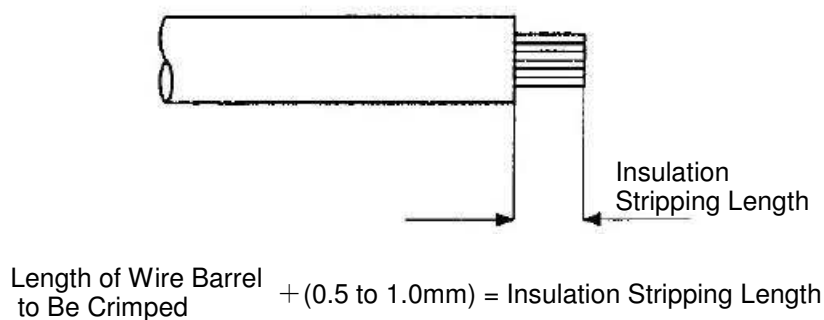


Fig. 10

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

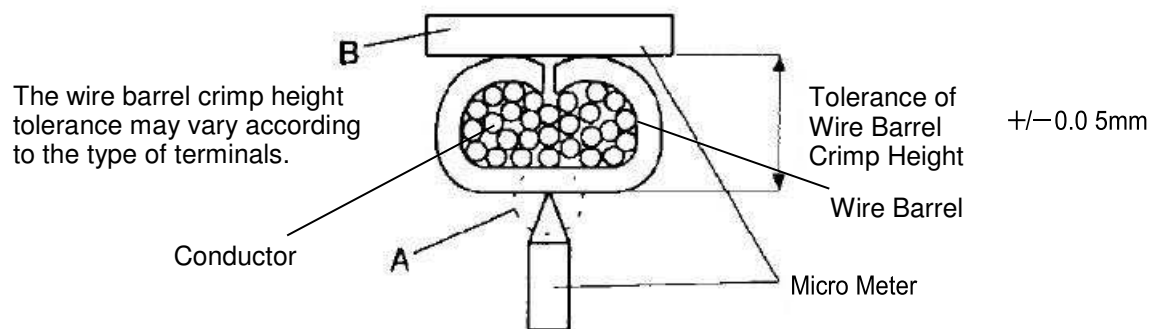


Fig. 11

(4) Modified Micrometer for Measurement of Crimp Height:

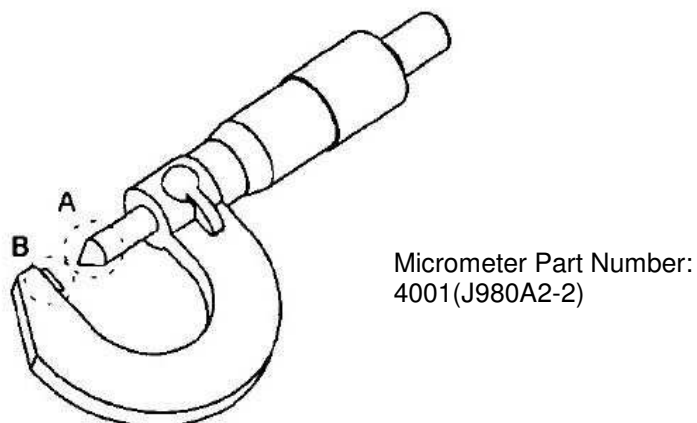


Fig. 12

5.1.1. Crimped Condition of Contact:

Refer to Application Specification 114-5234 for detailed features.

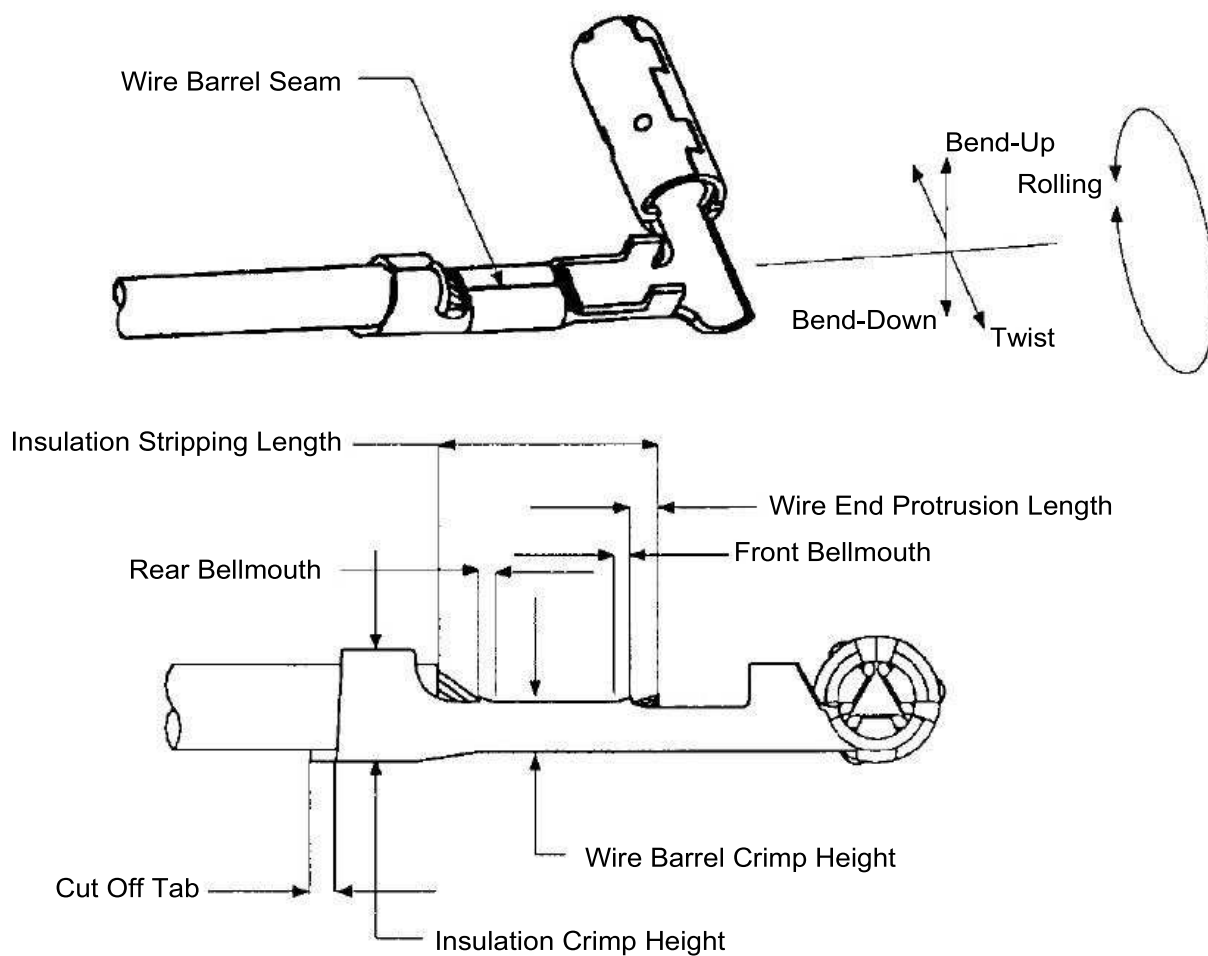


Fig. 13

5.1.2. Crimp Data:

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

Contract Part Number (Strip)	Wire Size (Nominal)	Applicator Number	Wire Barrel Crimp (mm)			Insulation Barrel Crimp (mm)			Crimp Tensile Strength (N)
			Width <sup>(1)</sup>	Height	Disk	Width <sup>(1)</sup>	Height	Disk	
353376	0.3	409644-2	1.78'F'	0.94	C	1.78'F'	2.29	3(Ref)	69MIN <sup>(2)</sup>
	0.5			1.03	B		2.37	3(Ref)	88MIN

Fig. 14



(1):Given by the width of the crimper slot for reference.

(2):Included the insulation grip.

5.1.3. Applicable Wires:

Wire Size (Nominal)	No. of Conductors/ Diameter of a Conductor (mm)	Cross- Sectional Area of a Conductor (mm <sup>2</sup> )	Insulation Diameter (mm)	
			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

5.2. Control of Crimped In- process Products:

5.2.1. 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	
	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 conductors	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 (burr appearing, inclusive)	Visual
	4.Misgripping of insulation barrel crimp on wire insulation	Visual
	5.Defromation of contacting area of contact	Visual
Dimensional Inspection	1.Dimensions of Cut-off Tab Length	Calliper <sup>(1)</sup>
	2.Deformation of contact (bend-up, lateral bend and twisting)	Magnifying Glass
	3.Crimp Height	Micrometer <sup>(2)</sup>
	4.Front and rear bellmouth forming	Calliper <sup>(1)</sup>

**Fig. 17**

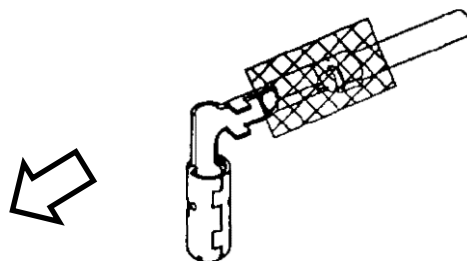


(1):Calipers are defined as vernier calipers or equivalent measuring tools, having the identical precision measurement level.

(2):Refer to Fig. 12

**5.2.2. Storage**

- (1) 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.
- (2) One bundle of in-process crimped leads, should be confined within 100 leads at anytime.
- (3) 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
- (4) 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.
- (5) When to separate entangled parts apart, care must be taken not to jerk and pull forcefully with cross section area (Fig. 18).



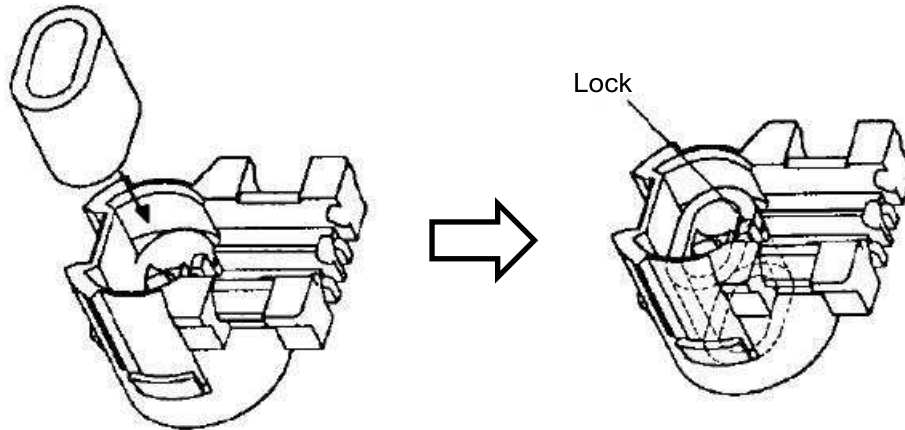
**Fig. 18**



**6. MANUFACTURING HARNESS ASSEMBLES:**

**6.1. Loading Ferrite into Main Housing:**

Insert the ferrite into the designated hole of the main housing, and make sure the condition of locking.



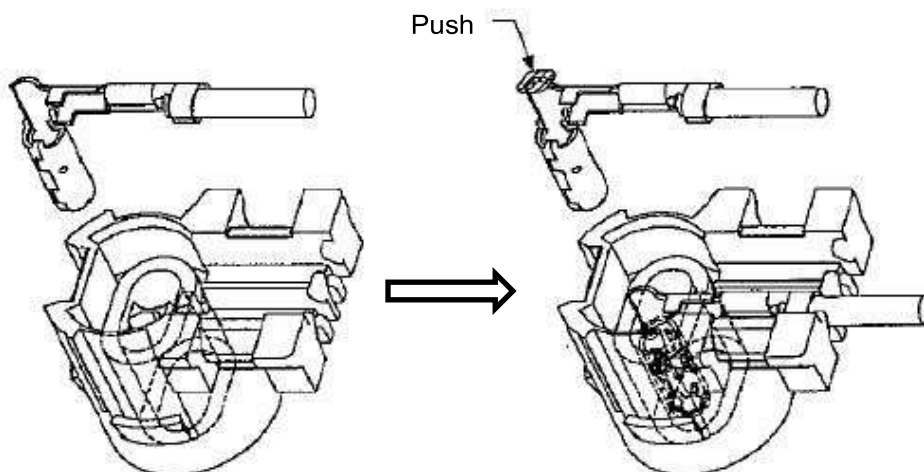
**Fig. 19**

**6.2. Loading Contacts into Main Housing**

- (1) Before loading the contacts, confirm to insert the ferrite into the designated position.
- (2) Insert the contact into the designated hole of the ferrite. and put the wire into the designated slit of the main housing.  
Do not push part of crimping, but section area on Fig. 20.



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



**Fig. 20**

6.3. Loading Lid into Housing Main Housing:

- (1) Before loading the lid housing, confirm to insert the contacts and ferrite into the designated position.

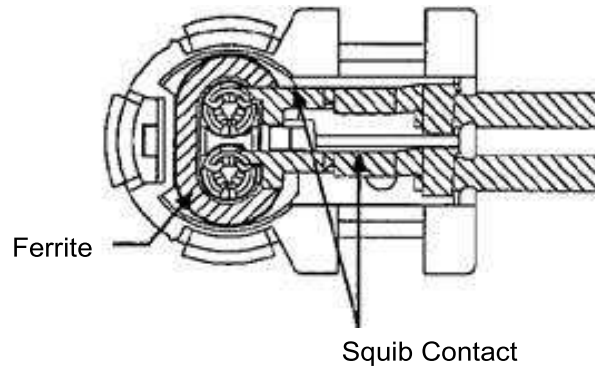


Fig. 21

- (2) Put and push the lid housing into the main housing.

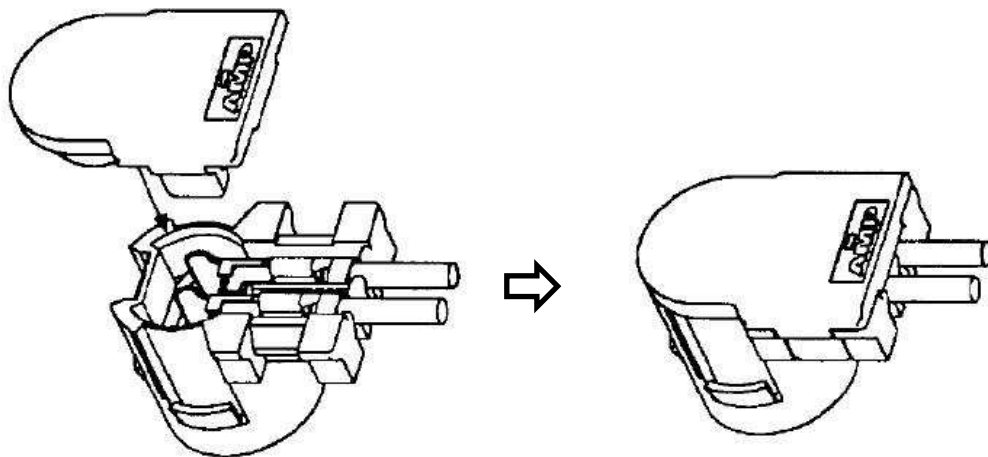


Fig. 22

- (3) When the lid housing is locked, make sure the condition of locking.

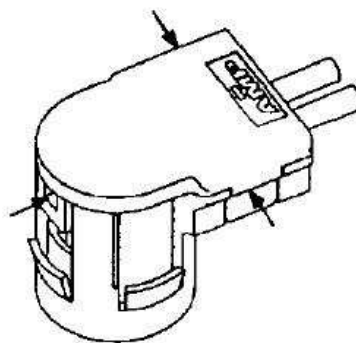


Fig. 23

#### 6.4. Extraction:

##### (1) Extraction of Lid Housing

Remove the 3 locks (Fig. 23) by such as the screwdriver, and extract the lid housing from the main housing.



**NEVER REUSE THOSE EXTRACTED MAIN HOUSING AND LID HOUSING**

##### (2) Extraction of Contacts:

Remove the wire from slit of the main housing (Fig. 20).and extract the contacts from the main housing.



During removal operation of the contacts, care must be taken not to cause deformation of the contacts, housing, and ferrite. If you find deformations, never attempt to reuse them.

##### (3) Extraction of Ferrite:

Remove the lock (Fig. 19), moreover snatch the ferrite away from the main housing.



During removal operation of the contacts, care must be taken not to cause deformation of the contacts, housing, and ferrite. If you find deformations, never attempt to reuse them.

#### 6.5. Wire Bundles :

The bundle and bend of the wire bundle should be given with the allowance of slaking to the length of 20mm minimum apart from wire run-out of the connector, lest it should be causing the defective mating of contacts and the defective circuit connection.

#### 6.6. Inspection, Storage and Transit of the Products:

##### 6.6.1. 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.

- (1) Use the counter part contact pin or equivalent part for checking circuit continuity of the harnesses, as a probing contact.
- (2) **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 SDE of housing.

##### 6.6.2. Storage of Products:

For storage of the products, keep them in clean and dry place without fear of contamination. Do not leave the products under the open air for long time.

##### 6.6.3. Delivery Transit and Carrying:

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.

## 7. FINAL ASSEMBLY ON SQUIB:



This connector can not be extracted from the squib holder after insertion. During mating operation of connector, take care not to make error in operation.

### 7.1. Receiving Inspection:

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

- (1) The bundling positions of leading wires bundle out of the connector should be not less than 20mm.
- (2) Condition checking of contact loading on housing.
- (3) Checking on condition of contact surfaces for presence of remarkable discoloration, flaws and deformation of the contact.
- (4) Check for presence of cracks, defects and discoloration of housing.
- (5) Check for any abnormalities existing in the contained products and the delivery dates.

## 7.2. Mating operation:

### 7.2.1. Insertion

- (1) Before insertion, align the connector with the contact pins and the form at bottom of the squib holder (Fig. 24, Fig. 25).  
If the inserted connector is turned 180 deg, it can not be completely locked, and it can be extracted.



Never insert by main force, lest the contacts are deformed, and the connector is damaged.

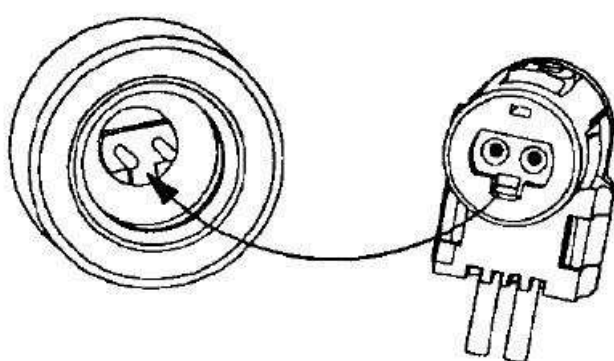


Fig. 24

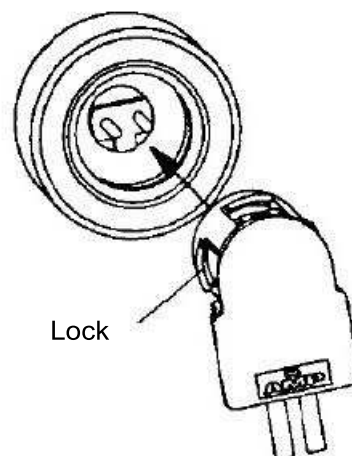


Fig. 25

- (2) Insert the connector straight along the mating axis of it, until it is completely locked

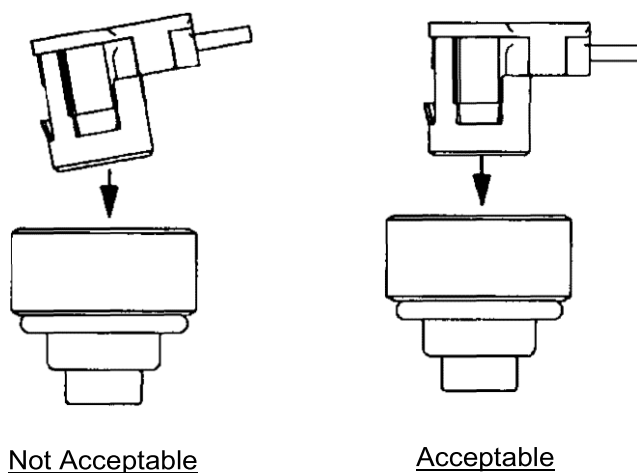


Fig. 26



Never twist the connector inserting into the squib holder, lest the contacts are deformed, and the connector is damaged.

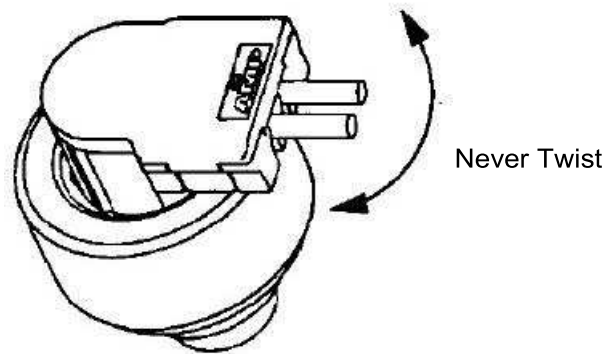


Fig. 27

### 7.2.2. After insertion

Pull the connector lightly, and confirm that it can not be extracted.

It that is operated by the jig, put it at the position "A", "B" and "C" on Fig. 28, and pull at 10N to 15N

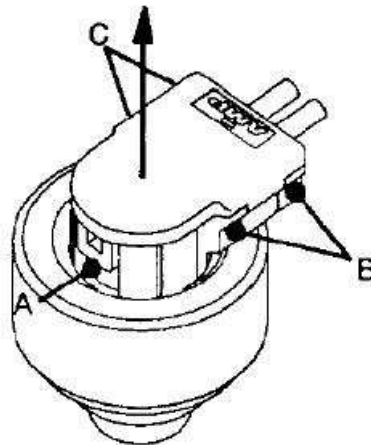


Fig. 28

### 7.3. Handling of Harness Assemblies:

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

- (1) Rough handling so as 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.