YPES-15-143

050　コネクタ

(格子スペーサタイプ)

取扱説明書

矢崎総業株式会社
矢崎部品株式会社
改訂年月日　2016年11月07日

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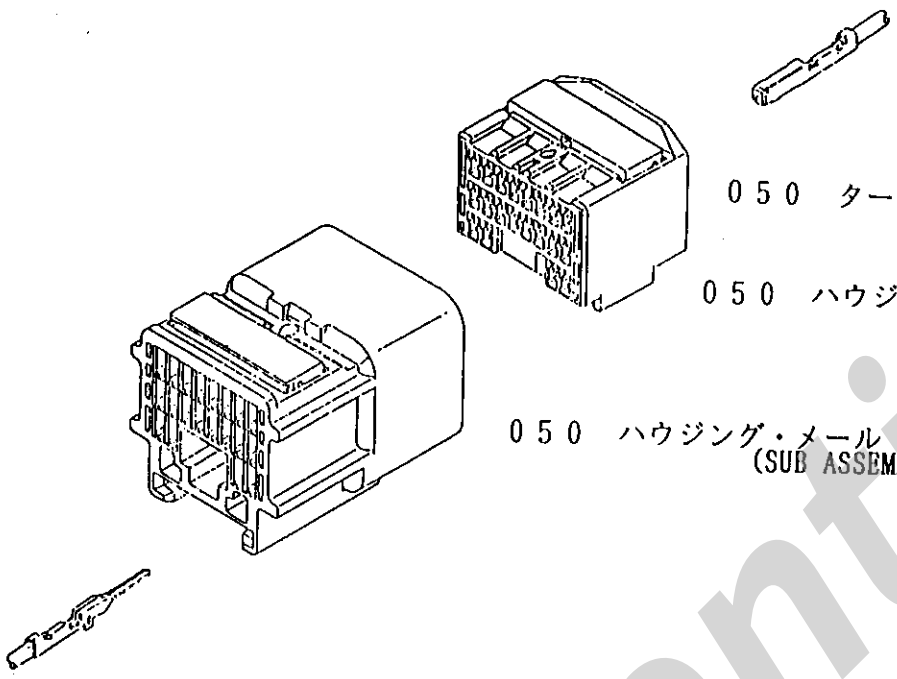
１－１．構成部品



０５０　ターミナル・フィメール

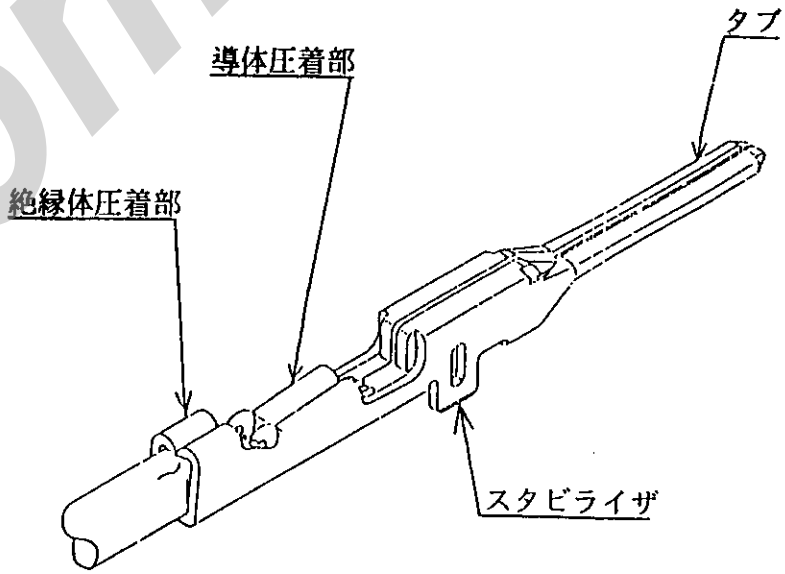
０５０　ハウジング・フィメール
(SUB ASSEMBLY)

０５０　ハウジング・メール
(SUB ASSEMBLY)

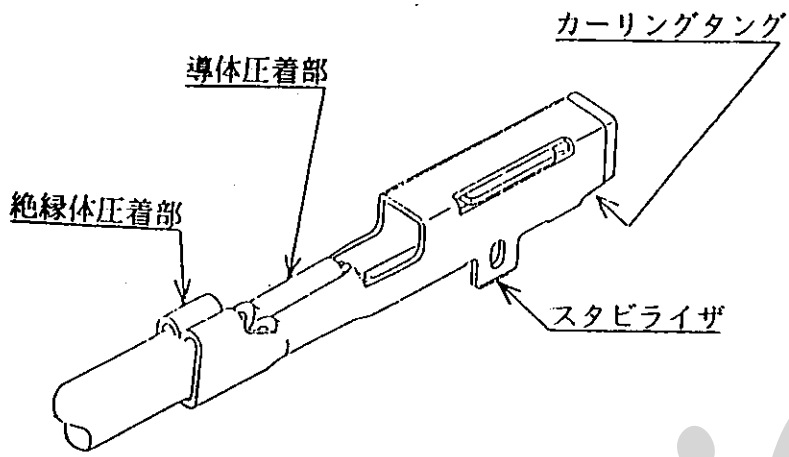
０５０　ターミナル・メール

１－２．各部名称

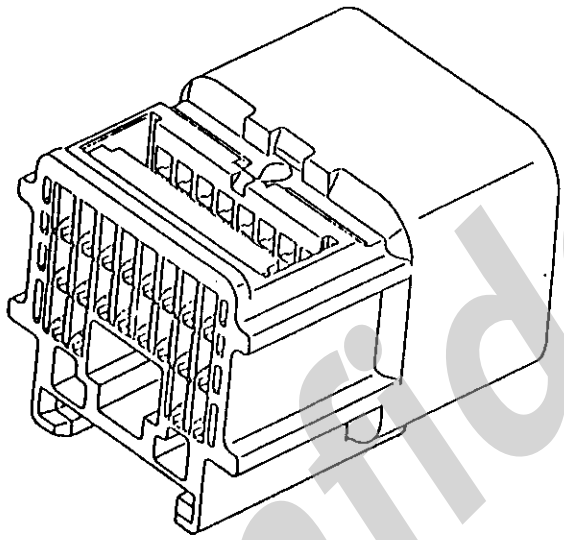
１－２－１．ターミナル・メール



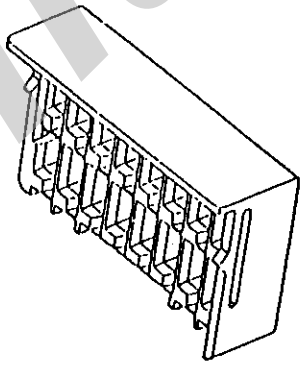
１－２－２．ターミナル・フィメール



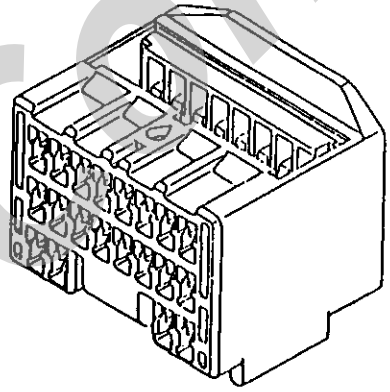
１－２－３．ハウジング・メール



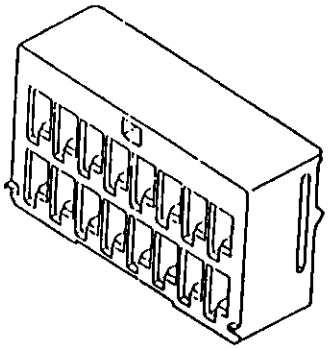
１－２－４．スペーサ・メール



１－２－５．ハウジング・フィメール



１－２－６．スペーサ・フィメール



２．ターミナル及びハウジングの検査

当社検査基準に基づき、完全な検査を行って出荷しておりますが、該当する製品の顧客用図面の内容について検査される事を望みます。

3. 圧着作業について

3-1. 保管及び運搬

①保管は、梱包箱に入れた状態にて、清浄な屋内で且つ常温常湿(5～35℃、45～85%RH) の環境下に保管願います。

②梱包箱より取り出して運搬する場合には、必ずリールセンターの金属部を持ち、リールを縦にして運搬願います。

③使用を中断するリールは、リールがほどけない様に針金等にて先端をフランジに結んでおいて下さい。

3-2. 圧着作業

圧着の仕様は必ず矢崎にて設定した値に基づき圧着をすること。尚、矢崎製以外のアプリケータを使用する場合は矢崎として責任を負いません。
(端子圧着規格は使用電線種を連絡下されば指示致します。)

注意;規格外では、加締部の固着力、電気抵抗値が維持できず、製品の機能に支障をきたします。

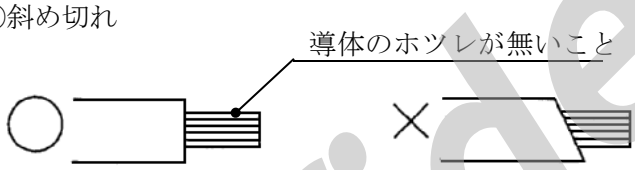
3-2-1. 適用電線

①自動車用低圧電線　　JIS-C-3406

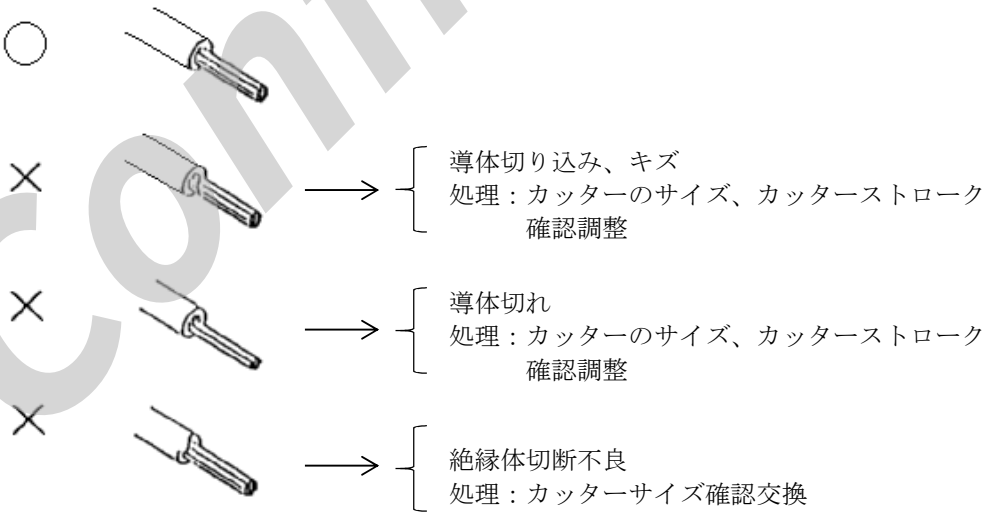
②CAVS
CAVUS　} 0.3～0.5　　及び相当品の一本圧着のみに適用します。

3-2-2. 注意事項

①斜め切れ

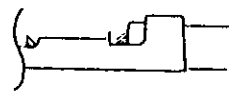
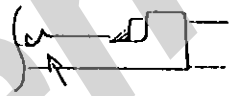
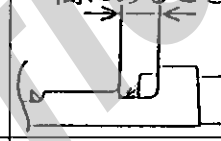
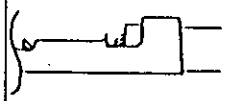
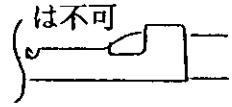
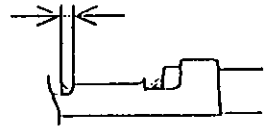
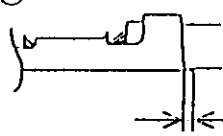


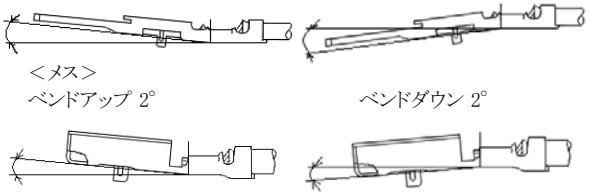
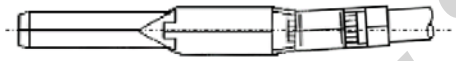
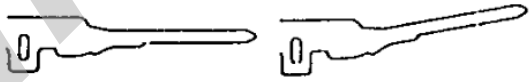
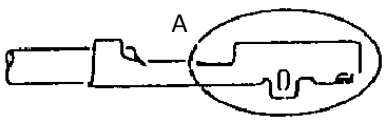
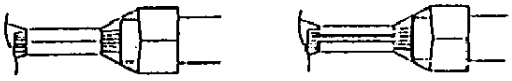
②導体切れ



３－２－３．圧着時の注意事項と判定基準

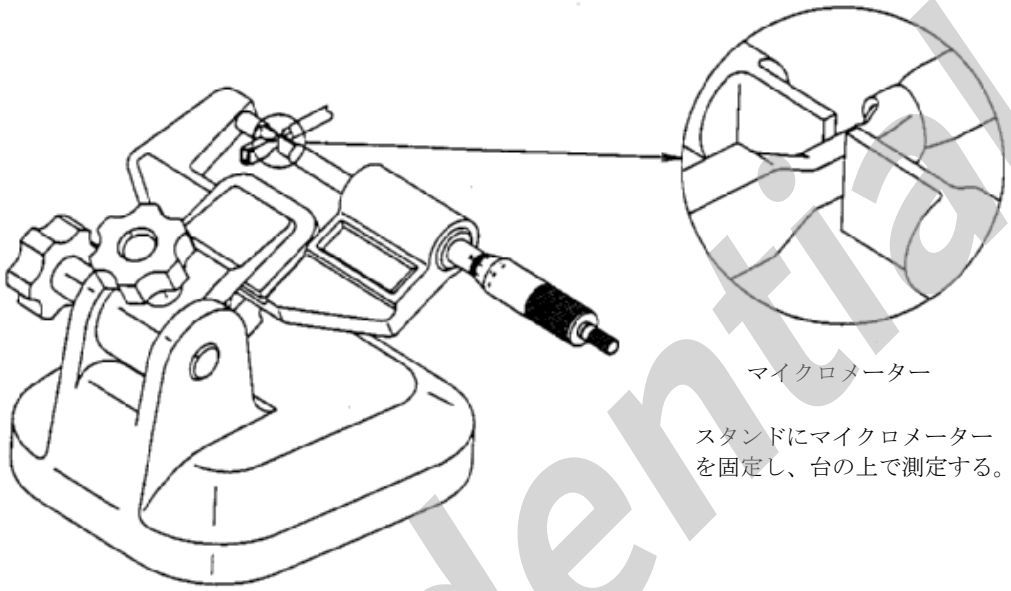
ターミナルの圧着には、下記の項目について注意をし、重点管理をして下さい。

チェック項目	チェック内容	判定基準　（例）	原因と対策
ターミナル圧着形状	導体ほつれがないかを見る。	○　  ×ほつれは不可　 	圧着位置、導体のほつれ、クリンパー変形の確認修理
	導体圧着部バリがないかを見る。	○　  ×　  この面より出ている物は不可	クリンパーワイドの幅、アンビルワイド磨耗の確認、交換
	ベルマウスの確認	○ベルマウス部を残す　  ×Rのない物は不可　  ○ベルマウス無し×ベルマウス有り	ターミナル送り位置、スペーサ、クリンパーの位置確認、調整
	絶縁体下りがないかを見る。	○絶縁体はこの間にあること　  ×絶縁下りは不可　 	圧着位置確認、調整、皮ムキ長さ確認
	絶縁体カシメがないかを見る。	○　  ×前で絶縁体を圧着しているものは不可　 	同　上
	芯線出すぎ、芯線引込みがないかを見る。	○ 芯線出 0～0.5mm　  ×左図以外の寸法は不可	同　上
ターミナルつなぎ部バリ	バリがないかを見る。	○　  ×左図以外の寸法は不可 つなぎ長さ 0～0.4mm	切断位置、シャーブレードの磨耗確認

チェック項目	チェック内容	判定基準（例）	原因と対策
上下方向ターミナル曲がり	ターミナル曲がりがないかを見る。	<オス> ベンドアップ 2°　ベンドダウン 2° <メス> ベンドアップ 2°　ベンドダウン 2° 	アンビル高さ、変形確認
横方向ターミナル曲がり	曲がりがないかを見る。	 目視で変形が確認できるものは不可	アンビル、クリンパー位置の確認
ターミナルねじれ	ねじれがないかを見る。	 ×目視でねじれの確認できるものは不可	ターミナル送りガイド、クリンパーアンビル変形位置確認
ターミナル変形	ターミナルメールの変形がないかを見る。	○　×変形は不可 	ターミナル送り面、クリンパー、アンビル、形、高さ、位置確認
	ターミナルフィメール右図A部分の変形がないかを見る。	×図A部の変形は不可 	同　上
圧着状態	導体見え	○　×導体が見えては不可 	ターミナルの足の長さ、クリンパー、ワイド確認

3-2-4. クリンプハイト、ワイドの測定方法

ターミナルと電線との固着力は適用電線毎に異なり、その管理方法としてクリンプハイト(圧着高さ)の管理がある。クリンプハイトは圧着されたターミナルの電気的、機械的性能に影響するので、クリンプハイトが指定の寸法になっているか確認する。



マイクロメーター

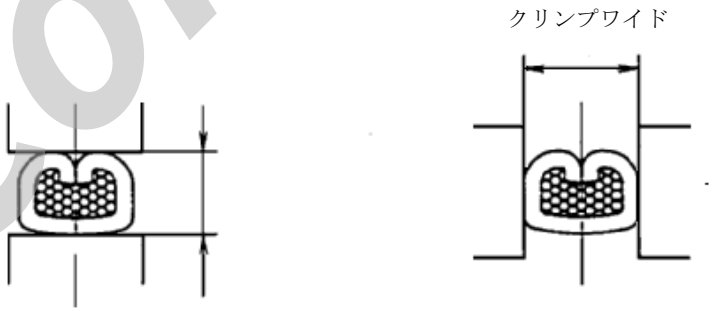
スタンドにマイクロメーターを固定し、台の上で測定する。

①クリンプハイトの測定方法

クリンプハイトは導体圧着部、絶縁体圧着部の中心を測定する。

②クリンプワイドの測定方法

クリンプワイドは、導体圧着部、絶縁体圧着部下側の一番広い所を測定する。



クリンプワイド

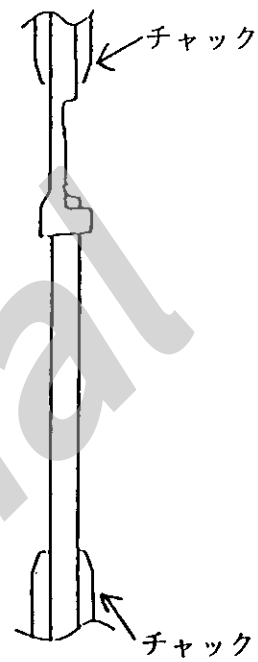
クリンプハイト

３－２－５．圧着後の確認事項

ターミナル圧着部強度（ターミナル・電線間）

約１００㎜の長さの電線を圧着したターミナルを固定し、電線を軸方向に約２００㎜/minの一定の速度で引っ張り電線の破断あるいは、圧着部から電線の引き抜ける時の荷重を測定する。

測定方法



ターミナル圧着強度

電線サイズ（㎟）	性　　能
＊　０．３	７８．４Ｎ｛８ｋｇｆ｝以上
０．５	８８．２Ｎ｛９ｋｇｆ｝以上

（＊はインシュレーションも含まれた強度）

３－３．ターミナル圧着後の製品取扱い

ターミナル圧着済品は、ターミナルの変形が発生しやすいため、運搬保管には十分注意願います。

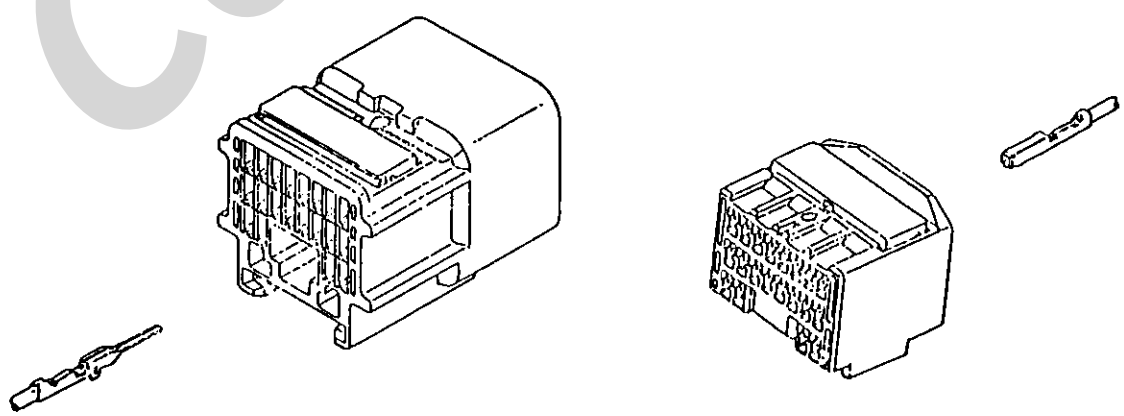
４．ハーネス製造作業

４－１．ハウジングへのターミナル挿入

①挿入は、図の様な方法で挿入します。

②ターミナルの挿入は「パチン」という音がするまで確実に挿入します。「パチン」という音がしたら、軽く電線を引っ張り、確実に掛かっていることを確認する。

ハウジング・メール　　ハウジング・フィメール

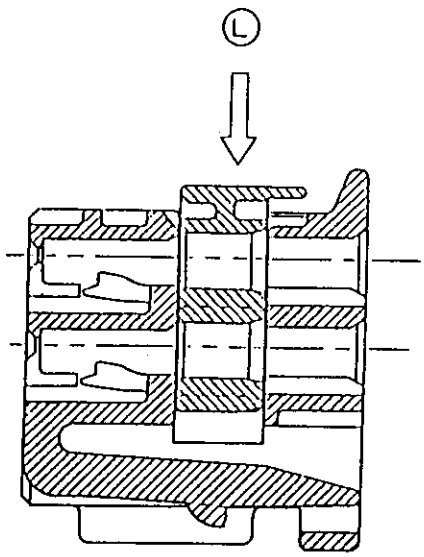


４－２．二重係止作業

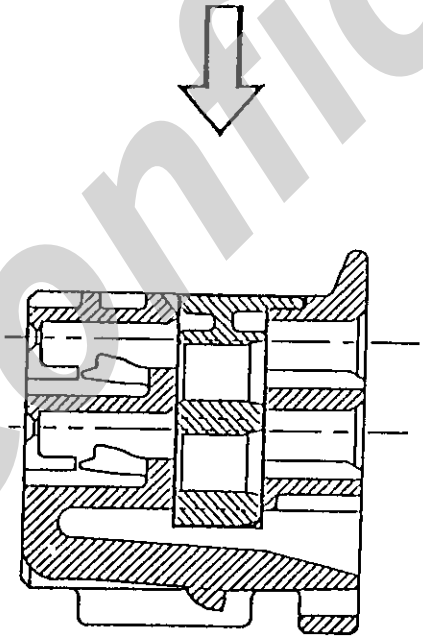
４－２－１．仮係止から本係止の作業

仮係止状態になっているか確かめ
必ず仮係止状態に戻す。

仮係止状態において、
矢印 Ⓛ 方向に「パチン」と音
がするまで、スペーサを押し込む。

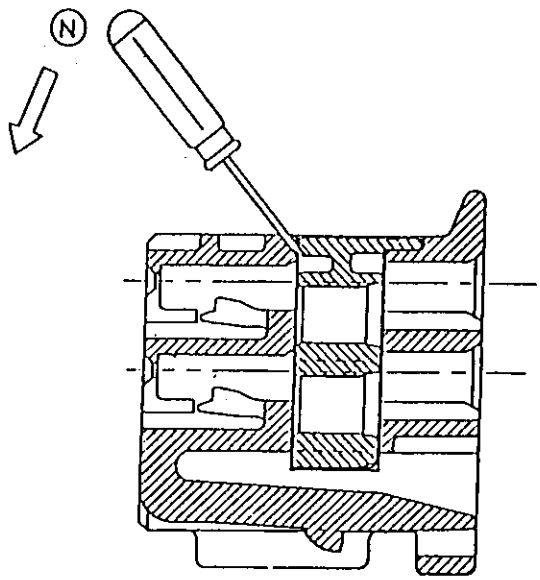


仮係止状態



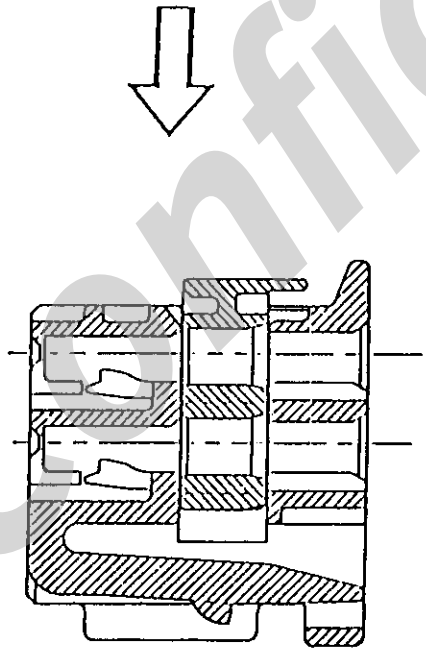
本係止状態

4－2－2．本係止から仮係止の作業



本係止状態

左図、本係止状態において、治具を用いて左図のように、治具を矢印 Ⓝ 方向に押し、仮係止状態にする。



仮係止状態

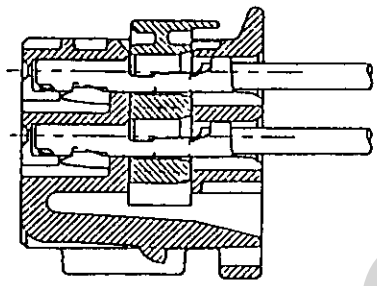
4－3．ターミナルの引き抜き作業

4－3－1．ターミナルの引き抜き治具

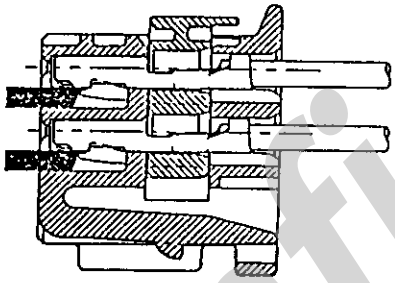
治具は、矢崎品番　1－08、1－15、1．0㎜ドライバー、
050専用抜き治具を使用し、他の治具の使用は、避けて下さい。

4－3－2．ターミナルの引き抜き方（メール・フィメール同様）

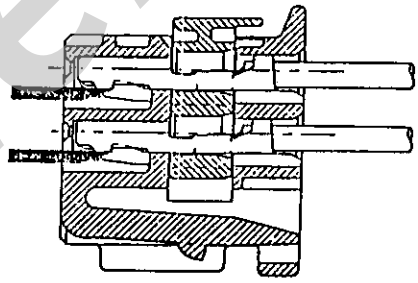
①まず始めに、スペーサを仮係止状態へ戻す。
（注：この時スペーサを上げすぎると仮係止用突起を破壊してしまうので注意すること。）



②ターミナルとランスの隙間に治具の先端をセットする。

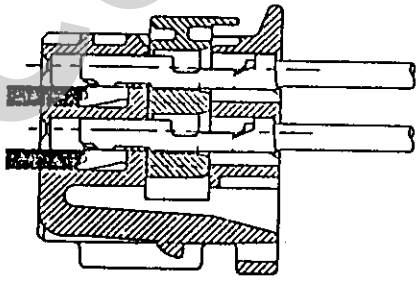


050専用抜き治具使用の場合

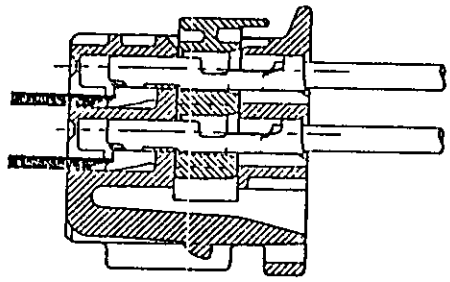


1．0㎜ドライバー等使用の場合

③治具にてランスを図の様に曲げ、ターミナルの係止孔よりビークを外し、電線を引っ張りターミナルを抜きます。



050専用抜き治具使用の場合



1．0㎜ドライバー等使用の場合

④誤って変形させたりした場合は、その多少に関係なく、新しいものと交換して下さい。

５．ハーネス製品の管理について

５－１．検査

①特定のターミナルに引っ張り荷重が加わらない様に、テープ巻き等に注意して下さい。

②配線検査や導通検査に使用する治具は、コネクタがこじられない様に精度の高いガイドを設けて下さい。

③導通検査においてメス側に治具を挿入する時は、治具の精度をオスターミナルと同程度に管理して下さい。

④コネクタ、ターミナル共、変形や損傷が有った場合は、その多少に関係なく絶対に手直しを行わないで、新しいものと交換して下さい。

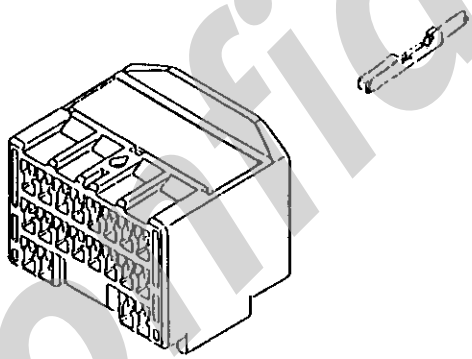
５－２．出荷・運搬・保管

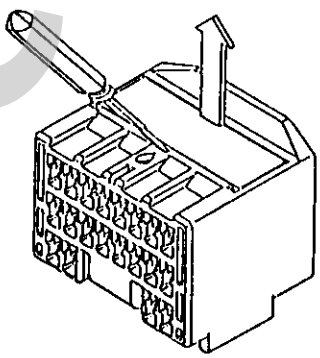
①塵芥、雨水等を防止し、丁寧に取り扱うように願います。

注意事項

部品の納入状態がもし、下図の様な場合、端子の挿入が出来ませんので恐れ入りますが、抜き治具にて仮係止状態まで戻して下さい。

スペーサ本係止状態





抜き治具にて仮係止状態迄戻す
（４－２－２
本係止から仮係止の作業を参照）

注意：スペーサについて爪の変形、
破損した物は交換して下さい。

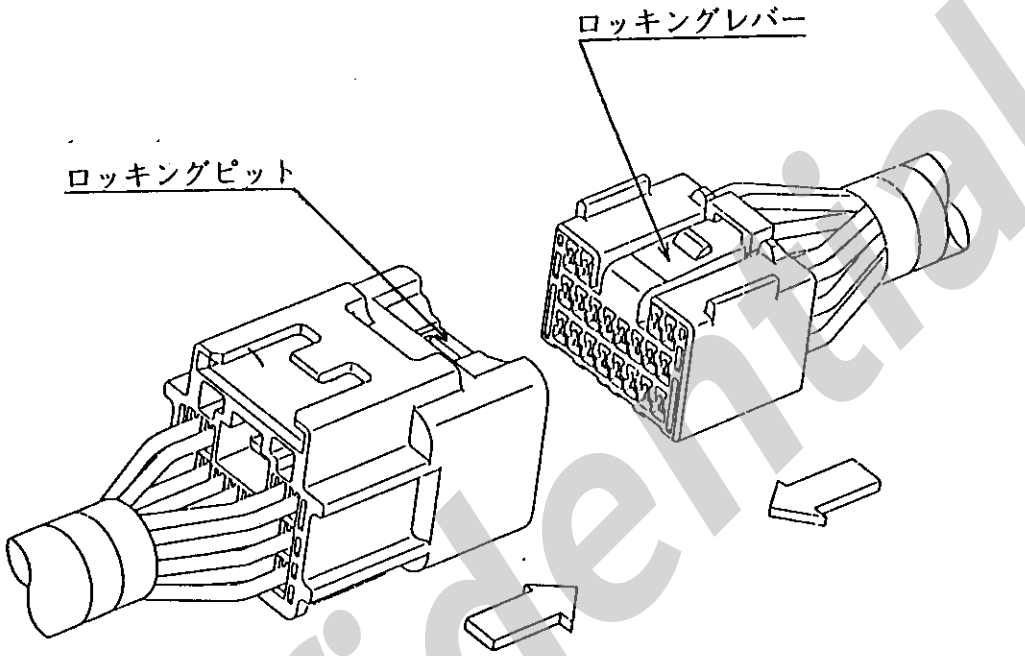
（M．F同様）

6．コネクタの嵌合及び取りはずし

6－1．コネクタの嵌合

①図の様にロッキングレバーとロッキングピットを同方向に合わせこじらない様に嵌合します。

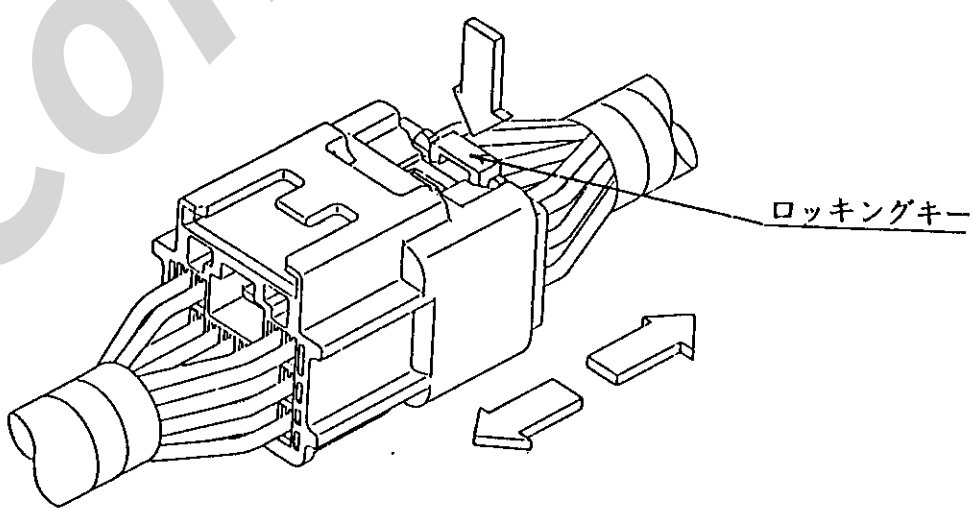
②必ずロックの掛かるまで確実に挿入し嵌合後は、軽く引っ張ってロックが掛かっている事を確認願います。



6－2．コネクタの取りはずし

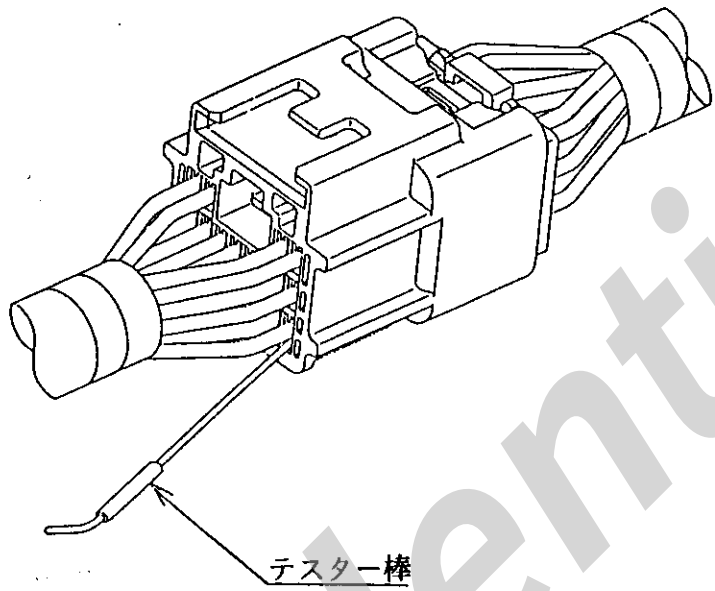
①ロッキングキーを押してロックを解除してから、引っ張って取りはずして下さい。

②電線を持って引っ張る事は、避けて下さい。



6－3．コネクタの嵌合後の回路チェック

テスター等で、導通や電圧等を調べる時、テスター棒は必ず図の様に、電線側から差し込んで下さい。差し込めない場合には、同一の種類のコネクタを用意し、それを使用してチェックして下さい。



1．ターミナル一覧表

品　番	品　名	メッキ	適用電線サイズ
7114－1257－02	050 ﾀｰﾐﾅﾙ ﾒｰﾙ	Sn	CAVUS 0.3 ～ CAVS 0.5
7116－1257－02	050 ﾀｰﾐﾅﾙ ﾌｨﾒｰﾙ	Sn	CAVUS 0.3 ～ CAVS 0.5
7116－1257－08	050 ﾀｰﾐﾅﾙ ﾌｨﾒｰﾙ	Pd-Ni	CAVUS 0.3 ～ CAVS 0.5

◎圧着規格については、各機電事業部へ問い合せして下さい。

2．品番一覧表

NO.	極　数	SUB ASS'Y 品番 (ASS'Y)	ﾊｳｼﾞﾝｸﾞ 単品　品番 ｽﾍﾟｰｻ 単品　品番 (ﾀｰﾐﾅﾙ)
1	050 2P (M)	7282-7623	7182-7623 7157-4456
2	050 2P (F)	7283-7623	7183-7623 7157-4457
3	050 14P (F)	7283-7644	7183-7644 7157-4578
4	050 16P (M)	7282-1269	7182-1269 7157-4386
5	050 16P (F)	7283-1269	7183-1269 7157-4387
6	050 19P (M)	7282-1290	7182-1290 7157-4388
7	050 19P (F)	7283-1290	7183-1290 7157-4389
8	050 H/B 6+10P(M)	7382-4361	7182-4361 7114-1598 7114-1875
9	050 +090Ⅱ H/B 70P (M)	7382-4200	7182-4200 (050) 7114-1900-02 7114-1901-02 7114-1902-02 (090Ⅱ) 7114-1877-02 7114-1878-02 7114-1879-02

NO.	極　数	SUB ASS'Y 品番 (ASS'Y)	ﾊｳｼﾞﾝｸﾞ 単品　品番 ｽﾍﾟｰｻ 単品　品番 (ﾀｰﾐﾅﾙ)
10	050 14P (M)	7382-1748	7182-1748 7114-1900-02 7114-1901-02
11	050 6P (M)	7283-1468	7183-1468 7157-4283
12	050 +090Ⅱ H/B 36+16P (M)	7382-5060	7182-5060 (050) 7114-1900-02 7114-1901-02 (090Ⅱ) 7114-1877-02 7114-1878-02
13	050 +090Ⅱ H/B 20+16P (M)	7382-4362	7182-4362 (050) 7114-1900-02 7114-1901-02 (090Ⅱ) 7114-1877-02 7114-1878-02
14	050 16P (F)	7283-4560	7183-4560 7157-6885
15	050 14P (M)	7282-7644	7182-7644 7157-4287
16	050 10P (F)	7283-7602	7183-7602 7157-4286

YPES-15-143E

Handling Manual

For

050 Connector

(Lattice spacer type)

<NOTE>
Please be informed that the contents in this handing manual may be revised without any notice.

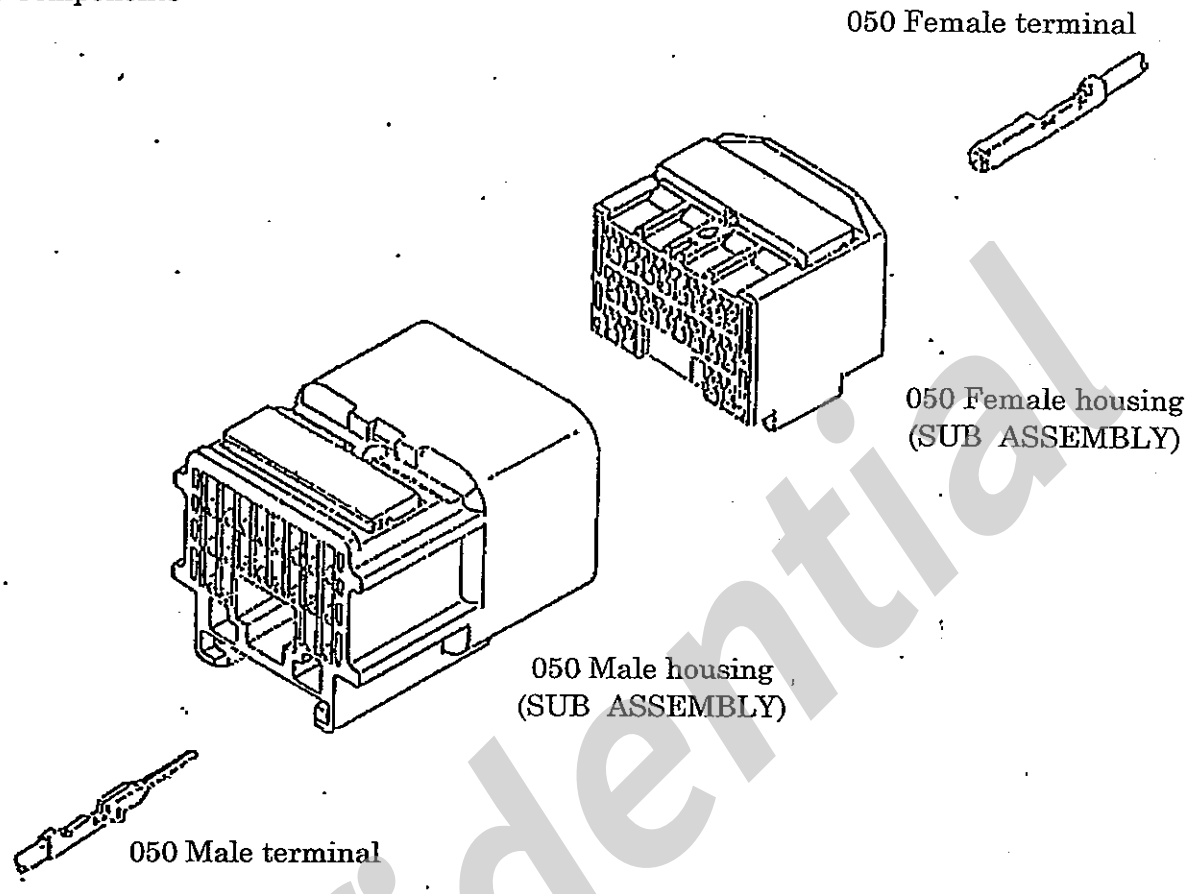
YAZAKI CORPORATION
YAZAKI PARTS CO.,LTD
Nov. 07,2016

This handling manual mentions the minimum items necessary on using this product. Please observe these written contents when handling.
We shall not be liable for any damages resulting from misuse or failure to follow this manual.

Table of Contents

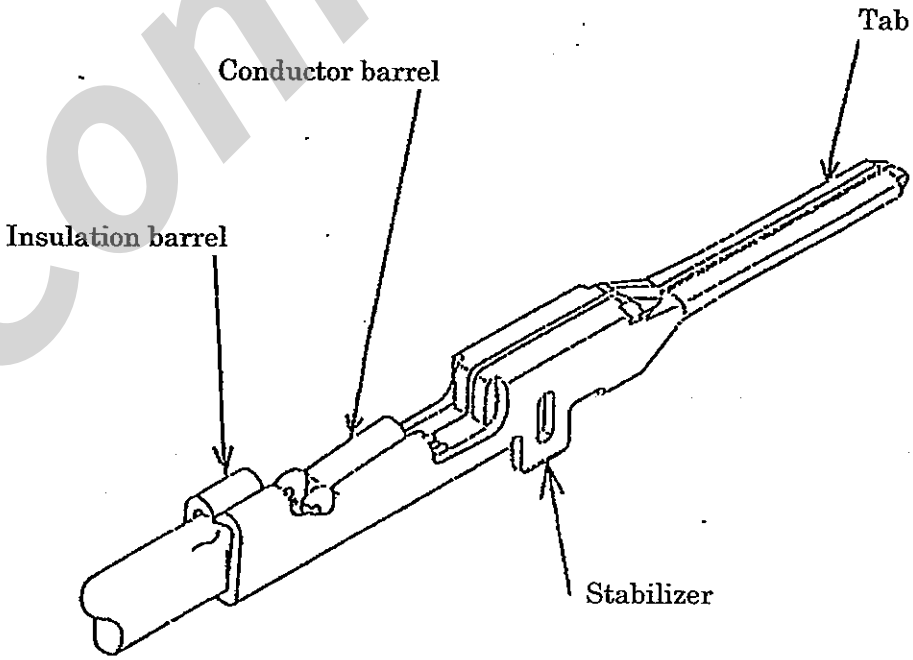
1. Components and Parts name

1-1. Components

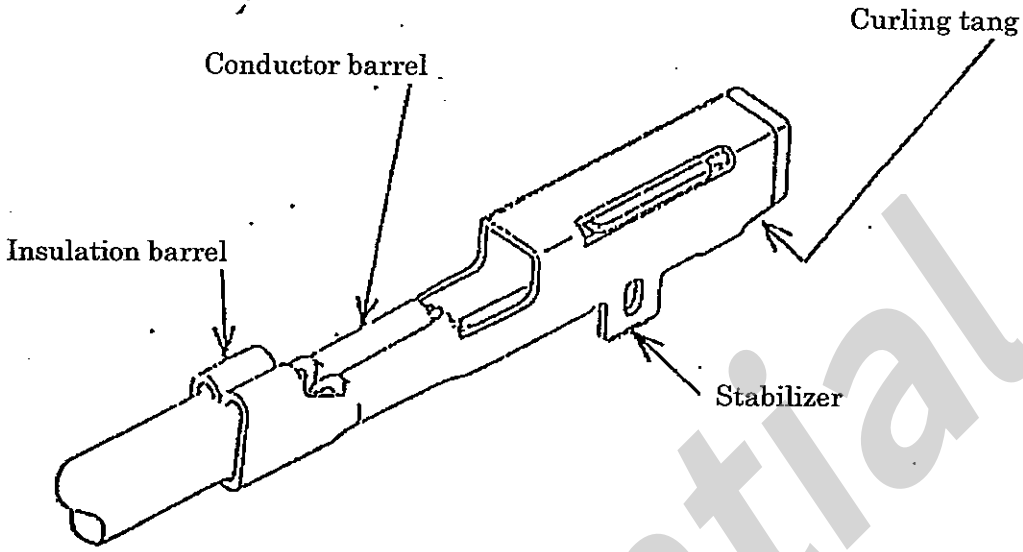


1-2. Parts name

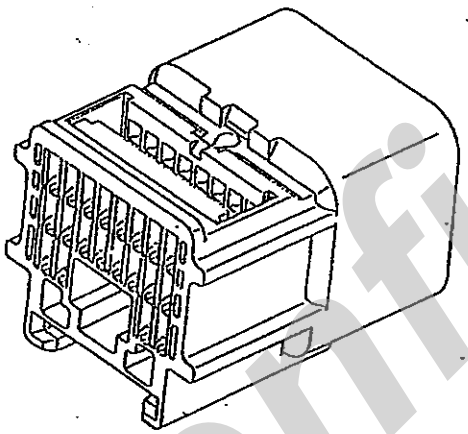
1-2-1. Male terminal



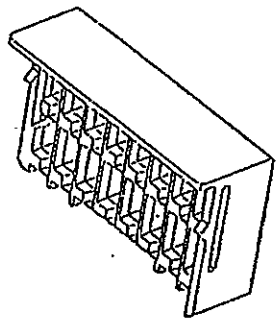
1-2-2. Female terminal



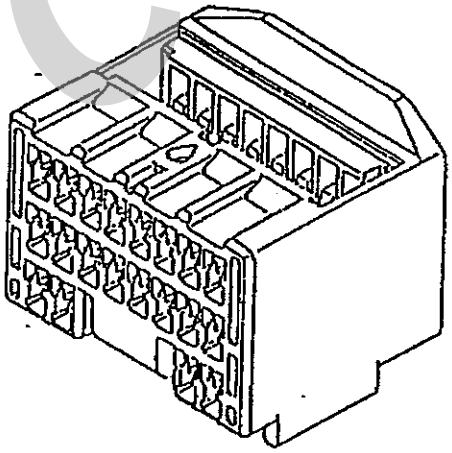
1-2-3. Male housing



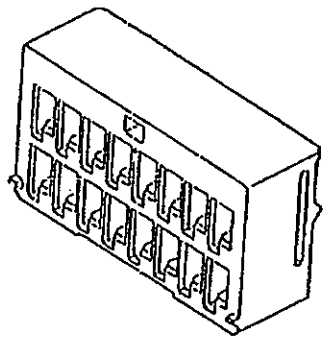
1-2-4. Male spacer



1-2-5. Female housing



1-2-6. Female spacer



2. Handling of components

2-1. Inspection items at receiving

At the receiving of the parts, the inspection for the following items shall be conducted:

1) For Terminal

- Foreign object or inappropriate product
- Burr, crack, deformation or flaw
- Discoloration, rust, unclean parts or peeling

2) For housing and spacer

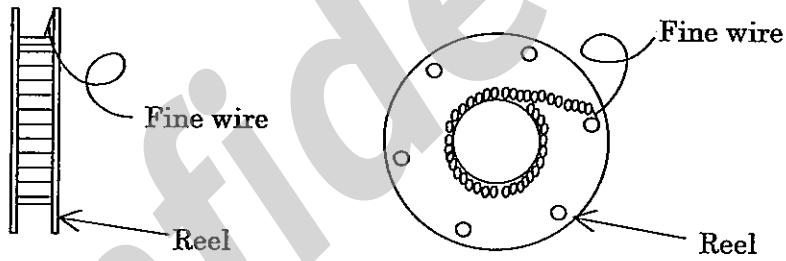
- Foreign object or inappropriate product
- Flash, sink mark, drooping, chipping, crack, short shot, deformations or flaw.

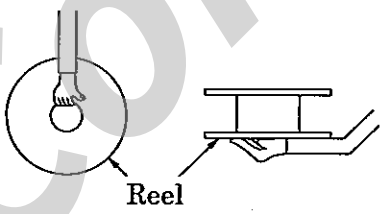
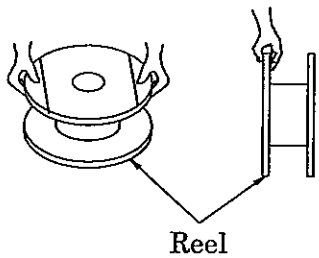
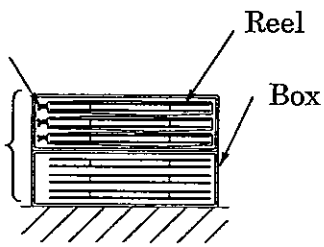
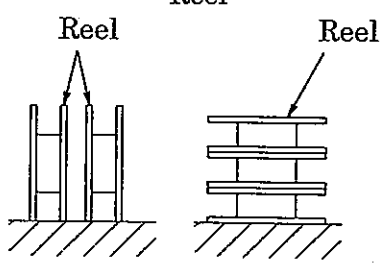
2-2. Parts transportation, storage and handling precautions

Recommend the following for transportation, storage and handling in order to avoid deformation or damage. The values to define the optimum environment and assembly conditions are available at our sales department.

1) For Terminal

Fasten the terminal to the reel with a fine wire securely in order to prevent loosening. Method for transportation and storage of terminal reels are shown below.



Recommended method	Poor practice
	
 Maximum loading up to 2 boxes.	 Unprotected storage

Transportation

- Pay attention to handle paper-made reels not to damage.
- Packaging should prevent the impact on the components during transportation Care shall be taken not to deform or damage the components during packing.
- Care shall be taken to avoid any harsh impact by dropping.

Storage

- Terminals (reels) should be stored in the box or the packaging in which they were shipped.
  Specifically, parts should be protected from water, oil, dust and poisonous gas.
  Do not store in an unprotected condition.
- Terminals (reels) should be stored indoors away from direct sunlight.
  (temperature/humidity: 5 to 35 degree C/ 45 to 85%RH)
- Terminals (reels) should be stored in an area avoiding high temperature and humidity.

2) For housing and spacer

Transportation

- Packaging should prevent the impact on the components during transportation.
  Care shall be taken not to deform or damage the components during packing.
- Care shall be taken to avoid any harsh impact by dropping.

Storage

- Parts should be stored in the box or the packaging in which they were shipped.
  Specifically, parts should be protected from water, oil, dust and poisonous gas.
  Do not store in an unprotected condition.
- Parts should be stored indoors, away from direct sunlight.
  (temperature/humidity: 5 to 35 degree C/ 45 to 85%RH)
- Parts should be stored in an area avoiding high temperature and humidity.

3. Terminal crimping specification

3-1. Crimping standards

Contact our sales department for the official crimping standard.

<NOTE>

・Pay attention to crimp within the limit of the crimping standard.
If it is out of the standard, the function of the part may be affected because retention force of the crimping area and electrical resistance may not be satisfied.

・The above is limited to the case when Yazaki's crimping tool is used.

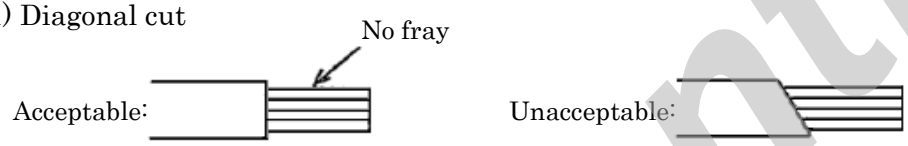
3-2. Applicable wire

1) Low voltage wire for automobile — JIS-C-3406

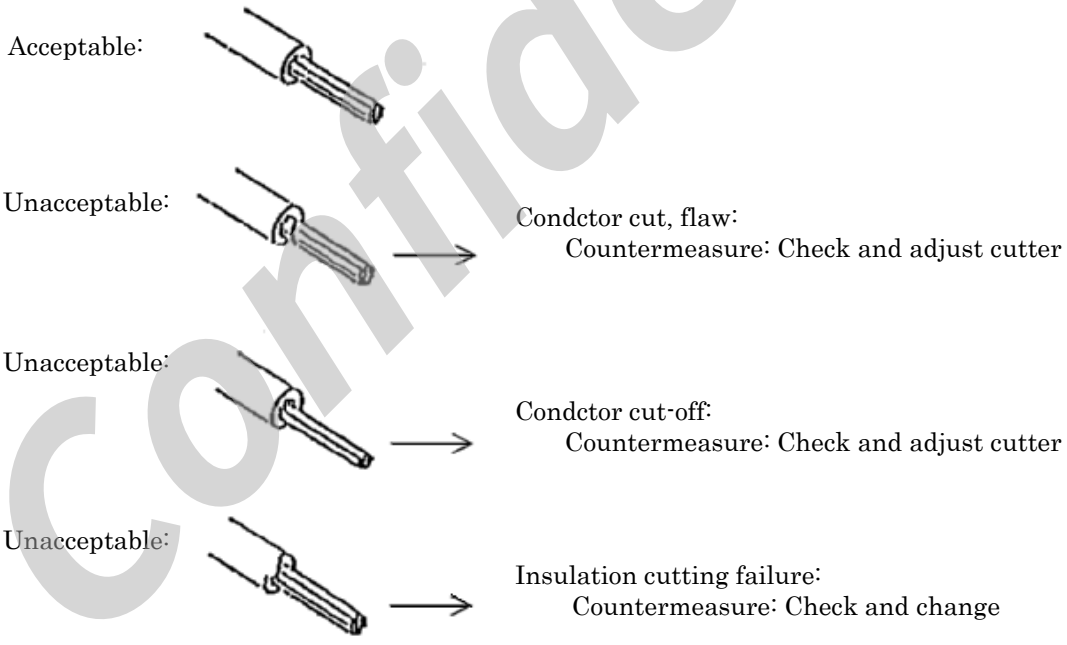
2) CAVS, CAVUS — 0.3 to 0.5 or an equivalent wire — Applied to single crimp

<Precautions>

1) Diagonal cut

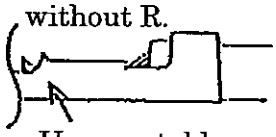
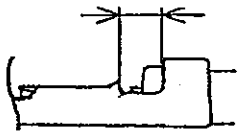
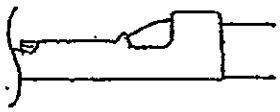
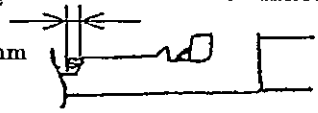


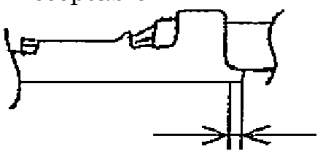
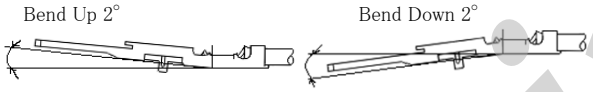
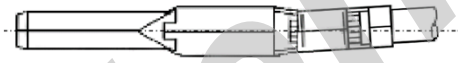
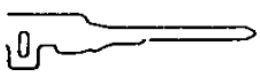
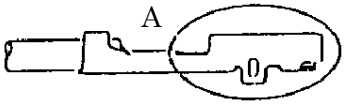
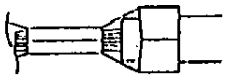
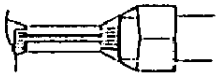
2) Conductor cut



3-3. Crimping process description and check items

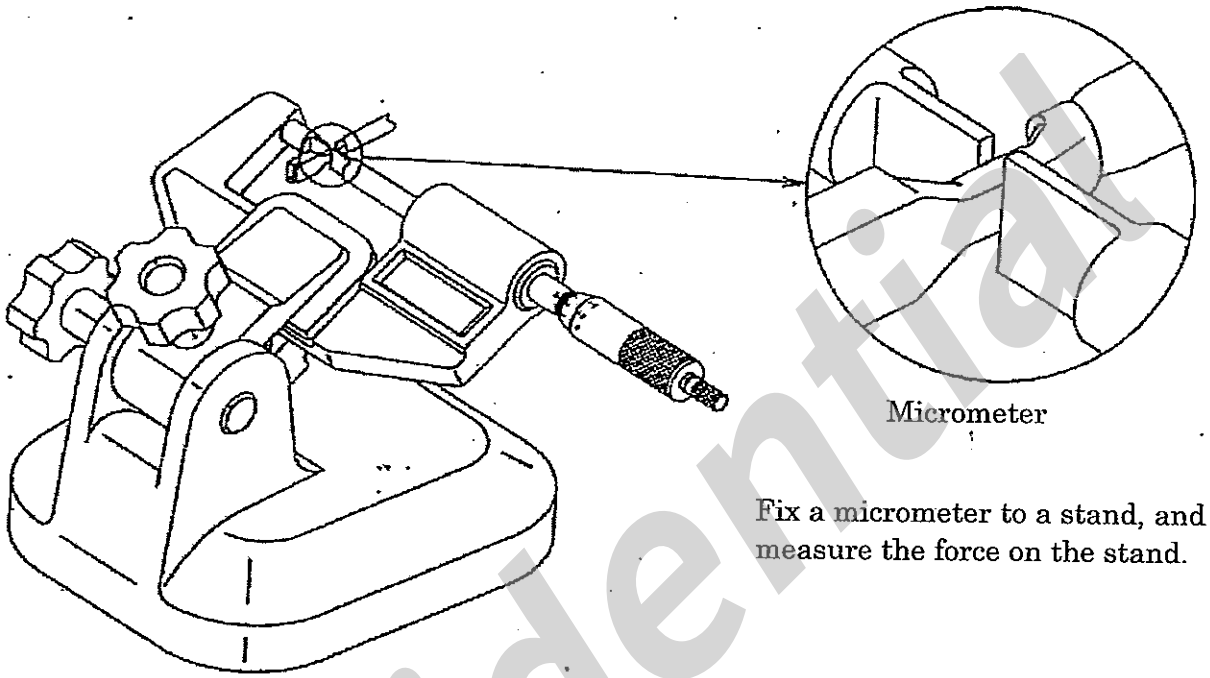
- Stripped wires should be crimped at once to avoid deformation of wire strands. Storing and transportation of stripped wires shall not be allowed.
- Do not use terminals that have been deformed or damaged.
- Assemble the terminals to housing after crimping. If immediate assembly is not available, protect the terminals with a clean plastic bag or a similar means.
- During the crimping process, check the following items listed in the table. Crimp within indicated dimension in the table.

Check item	Check point	Judging criterion	Cause/ Countermeasure
Terminal Crimping Shape	Fray	Acceptable  Unacceptable with fray 	Check and repair crimping position, fray of conductors and crimper deformation.
	Burr	Acceptable  Unacceptable  Protrudes over this line.	Check and change crimper width and abrasion of anvil.
	Bell-mouth	Bell-mouth exists  No bell-mouth Unacceptable without R.  Unacceptable with bell-mouth	Check and adjust the position of terminal feeding, spacer and crimper.
	Insulation falls short of insulation barrel	Acceptable: Insul. should be in this space  Unacceptable: Insulation falls short. 	Check and adjust crimp position. Check stripping length.
	Insulation crimping	Acceptable  Unacceptable: Insulation crimped by conductor barrel. 	Check and adjust crimp position. Check stripping length.
	Wire exposure	Acceptable Wire exposure 0 to 0.5mm  Other dimensions are unacceptable.	Check and adjust crimp position. Check stripping length.

Check item	Check point	Judging criterion	Cause/ Countermeasur
Burr on terminal joint area	Cutting tab	Acceptable  Other dimensions are unacceptable. Cutting tab length: 0 to 0.4mm	Check cutting position and abrasion of shear blade.
Terminal Bend	Up/Down	<Male> Bend Up 2° Bend Down 2°  <Female> Bend Up 2° Bend Down 2° 	Check anvil height and deformation.
Twisted terminal	Right/Left	 Twisting that can be seen with naked eyes is not allowed.	Check position of the anvil and the crimper.
Twisted terminal	Twist	 Terminals with any twist detected by visual inspection are unacceptable.	Check terminal feeding guide, crimper and anvil deformation.
Terminal Deformation	Tab Deformation	Acceptable  Unacceptable with deformation 	Check terminal feeding face,crimper, the anvil,shape, height and position.
	Deformation of the area A	 Any deformation in area 'A' is unacceptable.	
Crimped shape	Conductor seen	 Acceptable Conductor should not be seen between barrels.  Unacceptable	Check barrel length, crimper and width.

3-4. Measurement of crimp height and width

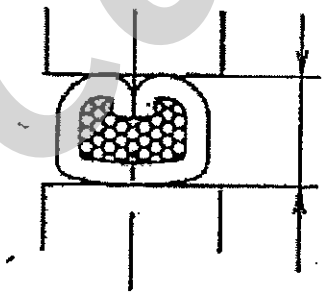
Retention force between terminals and wires depends upon the applicable wire size. Retention force can be controlled by measuring crimp height. As a crimp height influences electrical and mechanical performance of a crimped terminal, a crimp height is checked if it satisfies the specification or not.



Fix a micrometer to a stand, and measure the force on the stand.

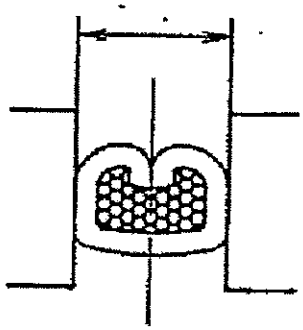
1) Measurement of crimp height
Measure the center of conductor crimp and insulation crimp.

2) Measurement of crimp width
Measure the widest point of the conductor crimp and insulation crimp (bottom side).



Crimp height

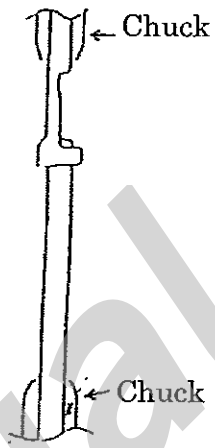
Crimp width



3-5. Check item after crimping

Terminal crimp strength (between terminal and wire):
Fix the terminal, crimped with a wire of about 100mm long.
Pull the wire in the axial direction constantly at about 200mm per min..
Measure the load when the wire is cut or pulled out of the crimp.

How to set up



TERMINAL CRIMP STRENGTH

Wire size (mm^2)	Performance
* 0.3	78.4N {8kgf} MIN.
0.5	88.2N {9kgf} MIN.

(*Wire barrel and insulation barrel are crimped for 0.3 of wire size.)

4. Handling of terminated wires
Insert the terminated wire to housing (SUB-ASSEMBLY) immediately after crimping. The following care must be taken not to deform or damage the terminated wires during storage and transportation.

- The terminated wires should be bundled.
  Do not tap on the tips of the terminals when they are bundled.

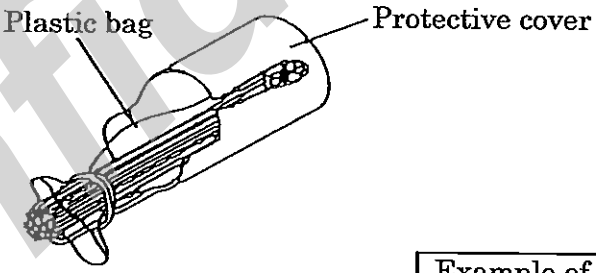
- The terminated wires should be covered with a plastic bag to protect them from water, dust, oil and poisonous gas, etc.
  During transportation and storage, use a protective cover over the plastic bag.
  Do not take the plastic bag or the protective cover off until right before insert to the housing.

- The terminated wires should be transported by a wire hanging stand or a covered container.
  Do not stack up the terminated wires.

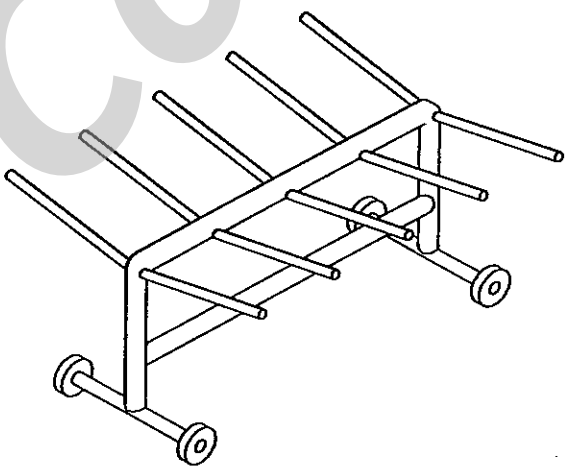
- When hang up terminated wires on the wire hanging stand, care shall be taken not terminal tips to touch the ground.

- Do not throw the terminated wires during transportation.

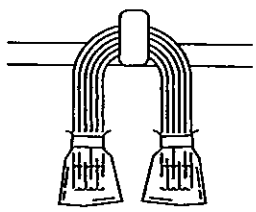
Example for handling of terminated wires



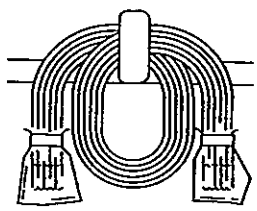
Example of wire hanging



<Wire hanging stand>



<Short wires>



<Long wires>

5. Connector assembly

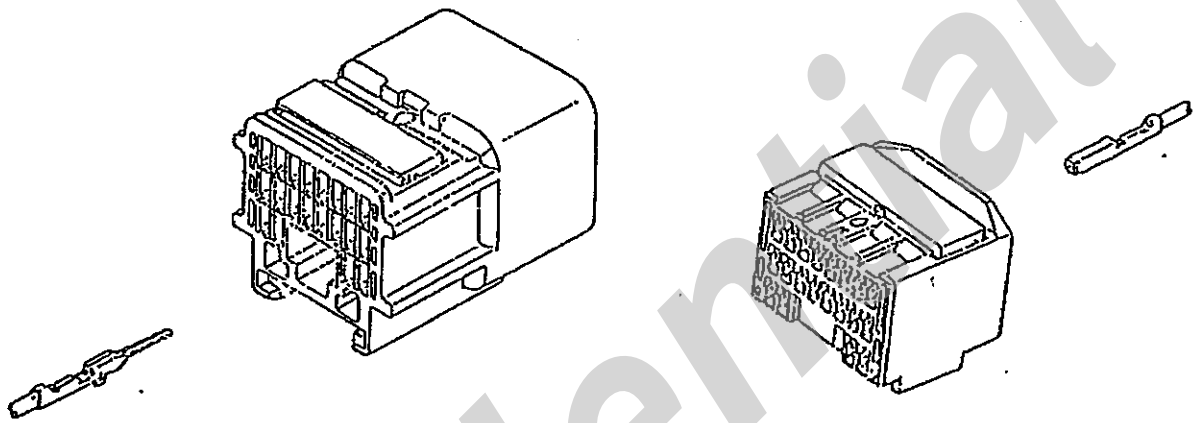
5-1. Male/Female terminal insertion to housing

1) Insert the terminal into the housing as shown in the illustration below.

2) An audible 'clicking' sound indicates that the terminal is full locked to the housing. After hearing the audible 'clicking' sound, pull the wire lightly to confirm a secure locking.

Male housing

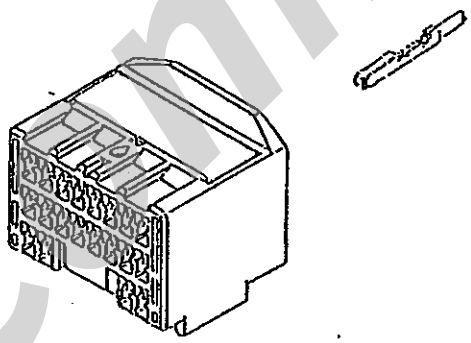
Female housing

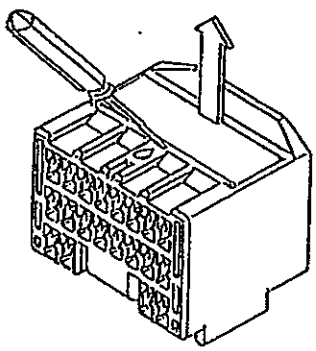


<Precaution>

- If the spacer is in full-lock position (as shown below) when parts are delivered, terminal can not be inserted.
  Move the spacer to pre-set position by the tool (both male and female).

Spacer is in full-lock position





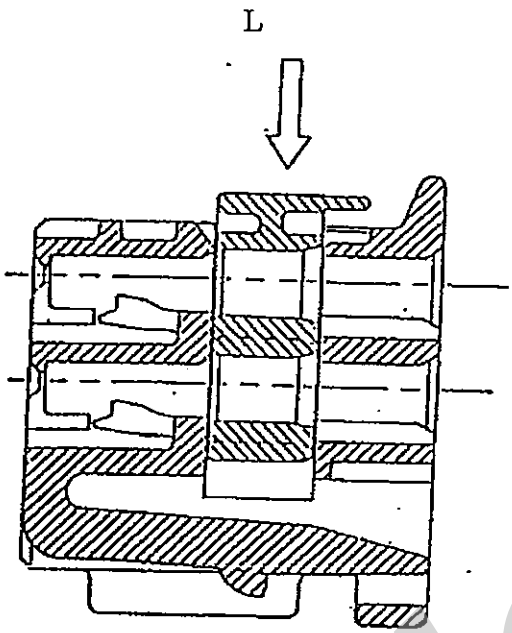
Move the spacer to pre-set position by the tool.
(See P14, 5-2-2.)

<Precaution>
Replace any damaged/deformed spacer with new one.

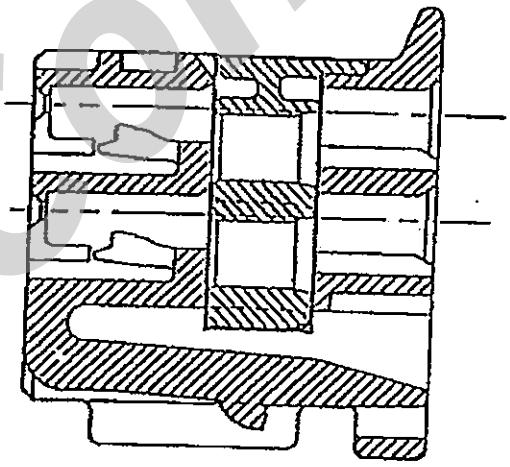
5-2. Spacer operation
5-2-1. Pre-set to Full-lock

Confirm that the spacer is in pre-set position.
If the spacer is in full-lock position, move the spacer to pre-set position.

In pre-set position, push the spacer in the direction of the arrow L until an audible 'clicking' sound is heard.

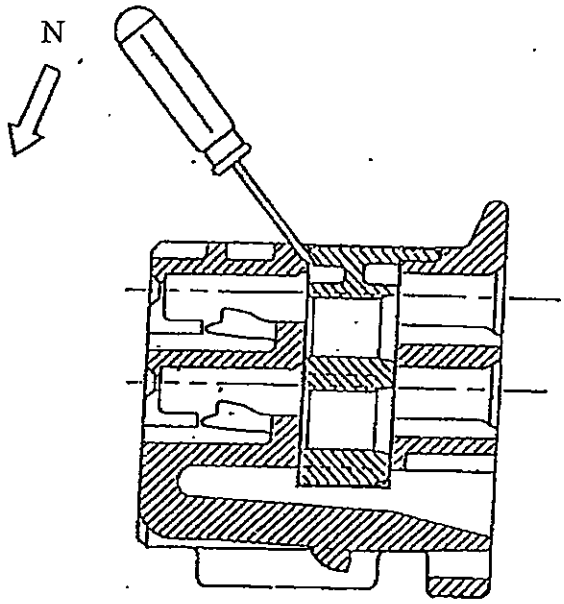


Pre-set condition



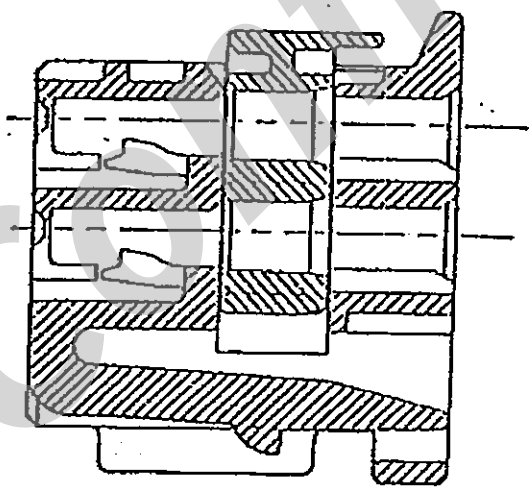
Full-lock condition

5-2-2. Full-lock to Pre-set



As shown in the illustration left, in full-lock position, push the removal tool in the direction of the arrow N to move the spacer to pre-set position.

Full-lock condition



Pre-set condition

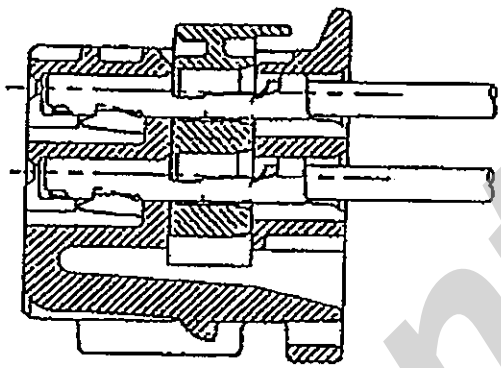
5-3. Terminal removal

5-3-1. Tool for terminal removal

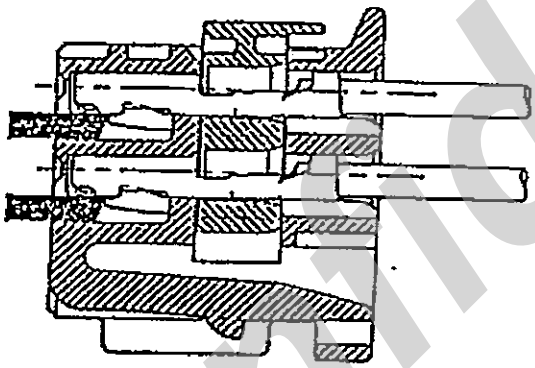
Use designated tools: YAZAKI part No. 1-08, 1-15 and/or 1.0mm driver
Do not use other tools.

5-3-2. Male/Female terminal removal

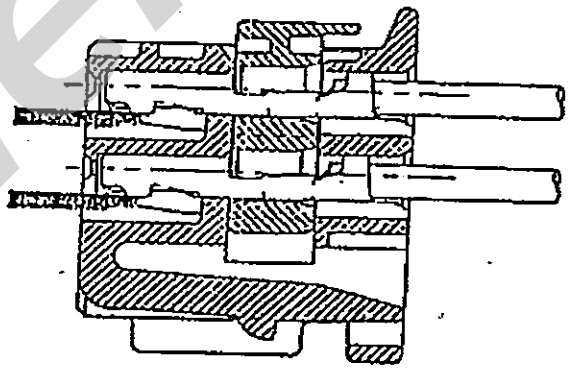
1) Move the spacer to pre-set position.
(Care shall be taken not to break the beak for locking by moving up the spacer too much.)



2) Place the tip of the tool between the terminal and the lance.

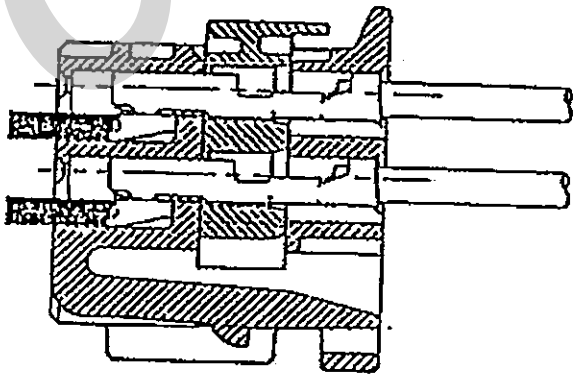


Using of tool for 050

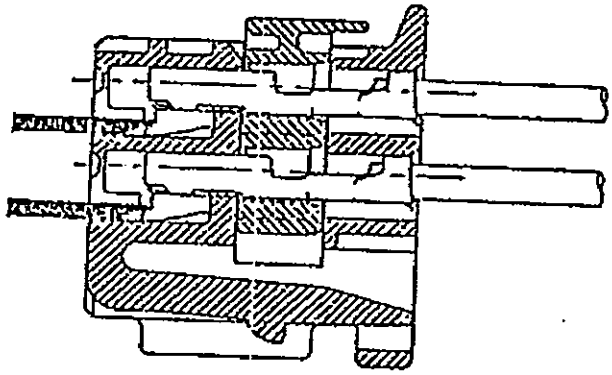


Using of 1.0mm driver

3) Insert the tool and deflect the lance by the tool as shown below to release terminal lock.
Pull the wire to remove the terminal from the cavity.
(Care shall be taken not to deform the terminal by the tool.)



Using of tool for 050



Using of 1.0mm driver

4) Replace any deformed terminal with new one.

6. Precautions during wiring harness assembly

1) Apply tape in such a manner that every individual wire is subjected to an equal amount of tensile force.

2) Any checker used for wiring and continuity inspections shall have high-precision guide to prevent connector damage/deformation.

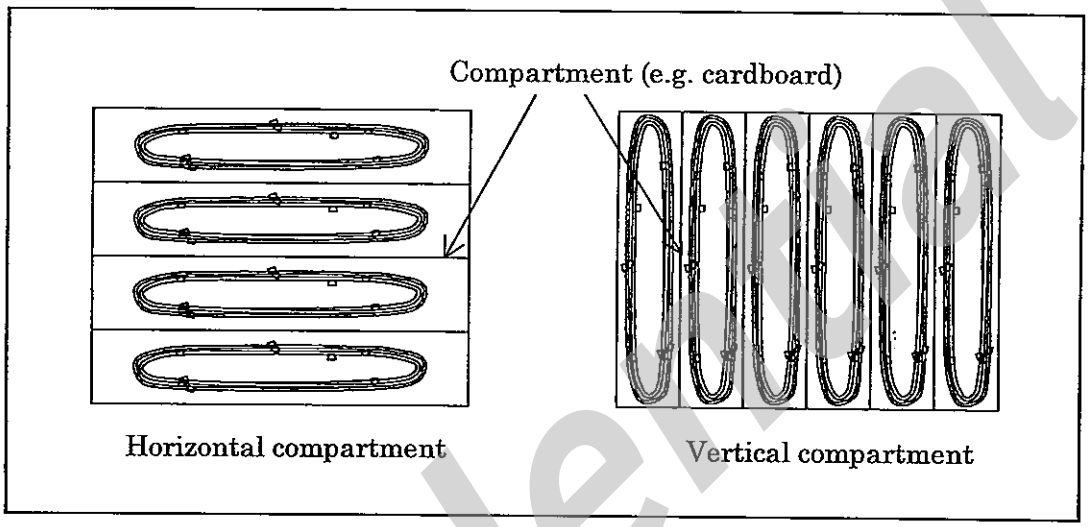
3) When inserting the checker to female side for continuity inspections, the accuracy of the checker shall be equivalent to male terminal.

4) Replace any damaged/deformed connector and terminal with new parts. Do not modify them by hand.

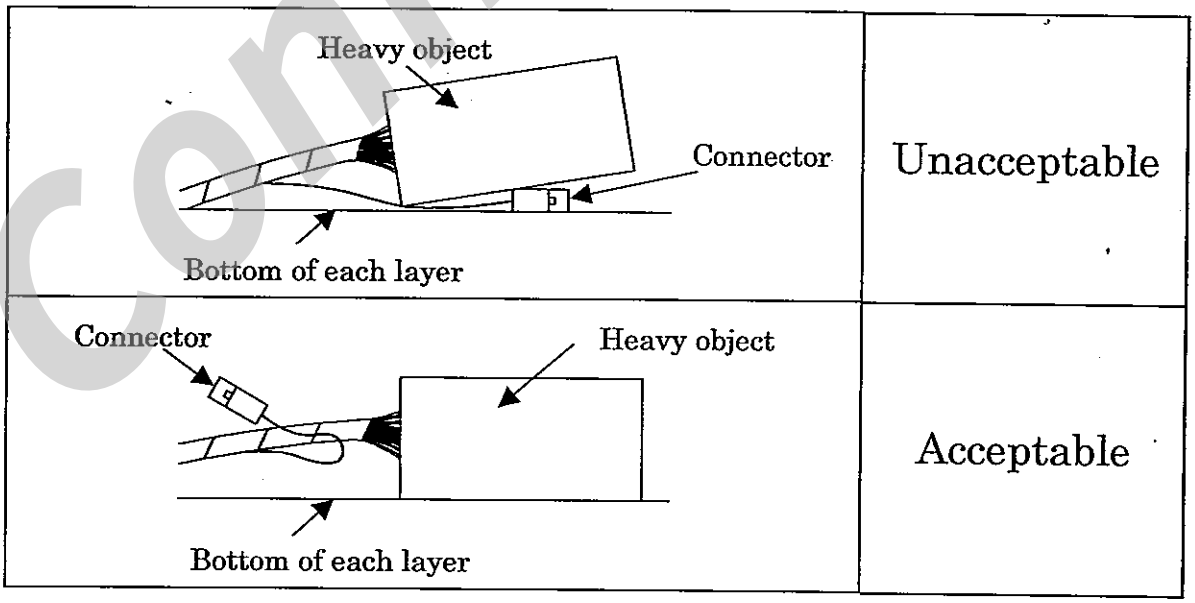
7. Notice for packaging of wiring harness

As with many plastic parts, the connector may be damaged if external force is applied during transportation or storage. To prevent damages, please take the following actions as well as the standard packaging and handling procedures:

1) When packing wiring harness in layers, force of each wiring harness may deform/damage connectors. Use cardboard compartment (horizontally, vertically) and internal supports, to equally distribute weights to prevent connectors from deforming/damaging, as shown below.



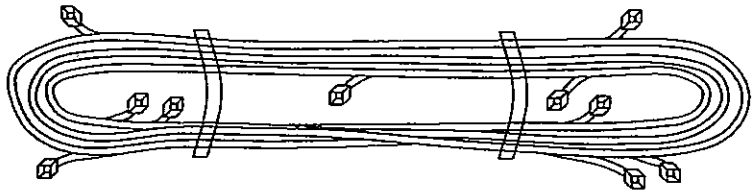
2) Junction block, relay box, protectors, brackets, and any heavy and/or bulky item must be placed on the bottom of the carton or the divider to prevent weight of such item from being applied to the connector as shown below.



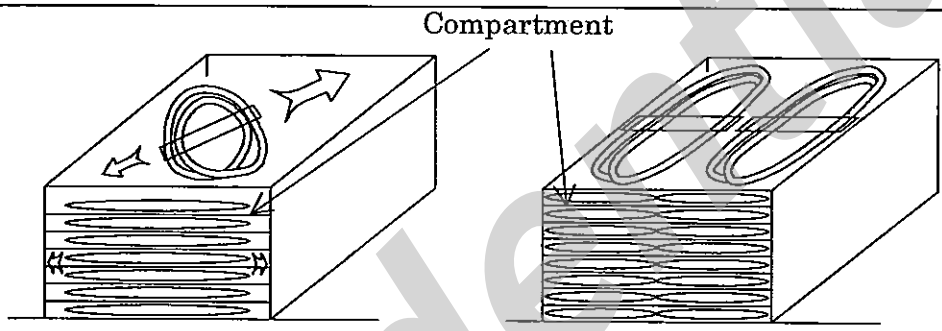
3) The connector must be positioned outside or in the center of the wiring harness bundle to prevent the weight of the wiring harness from being applied to the connector.

Sample harness sketch

Place connectors inside or outside of bundled wiring harness to protect connectors from weight of the wiring harness.



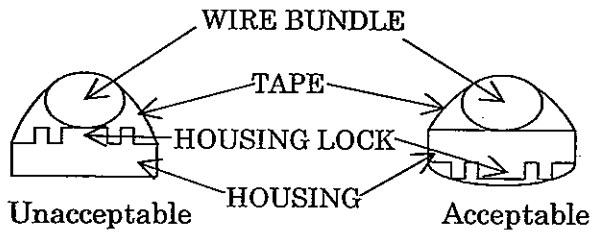
4) Wiring harness bundle size must fit the carton to prevent shifting of wiring harness during transportation or storage. See below illustration.



Unacceptable:
Wiring harness can shift in carton in transit.

Acceptable:
Wiring harness bundling configuration fits firmly side by side in carton to minimize shifting in transit.

5) If the connector housing is 'tapped back' on the wire harness bundle, assure that the housing lock or other flexible member of the connector is positioned away from the wiring harness bundle. See reference illustration below.



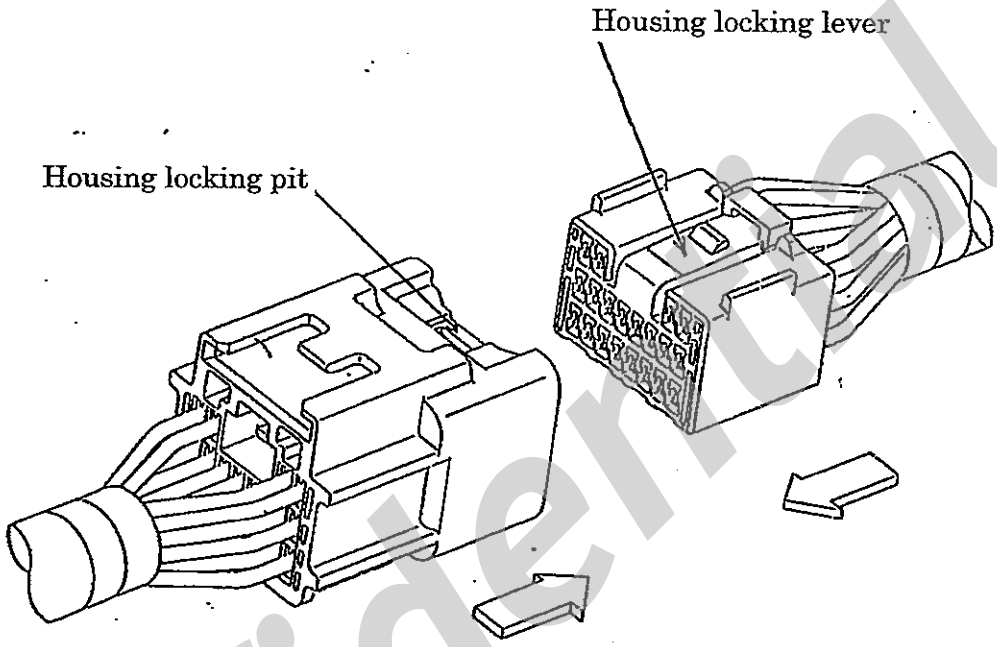
6) Extra care must be taken to prevent wiring harnesses tangling which causes damages to the connector when the wiring harness is removed from the carton at the vehicle assembly.

7) After transportation or storage, the connector must be checked for damages.

8. Connector mating and removal

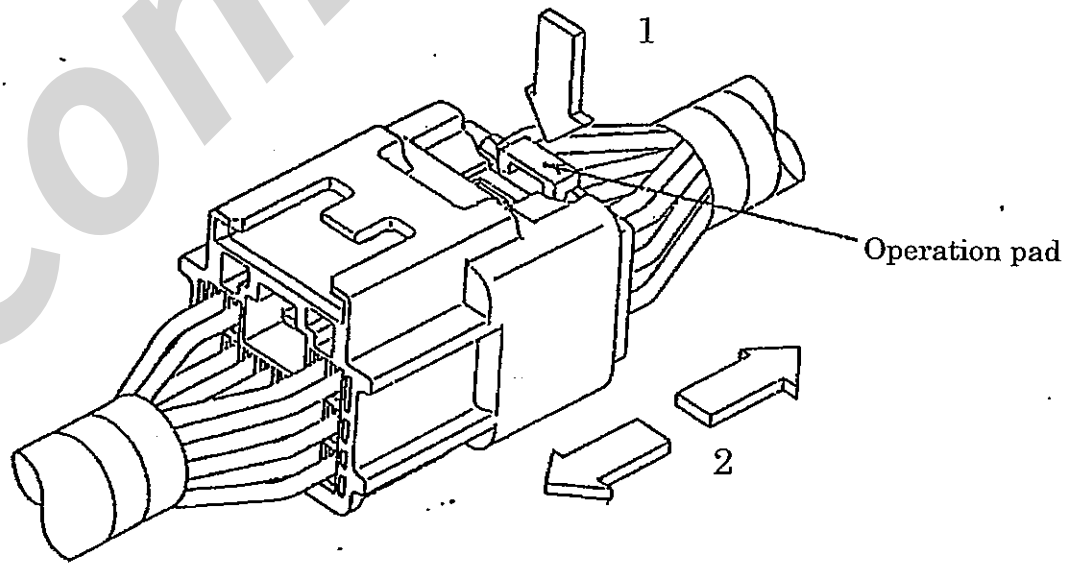
8-1. Connector mating

1) As in the orientation shown in the illustration below, face the housing locking pit and housing locking lever.
   Mate them with no wrenching.
2) Mate them until lock works, and then pull the connectors lightly to confirm a secure locking.



8-2. Connector removal

Release the housing lock by pushing the operation pad of housing lock (arrow 1), and remove connectors by pulling each other (arrow 2).

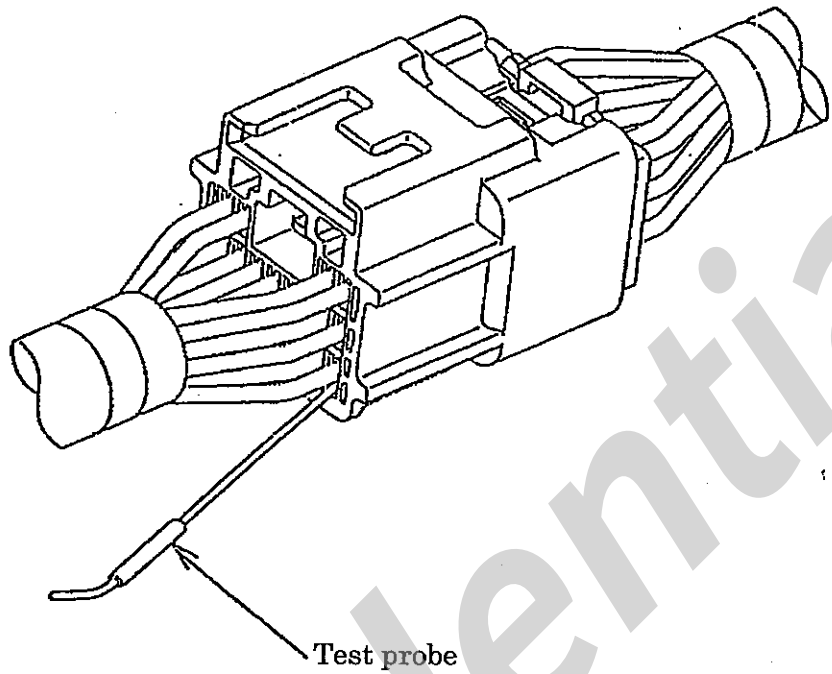


<Precaution>

- Do not pull by the wire.

8-3. Continuity inspection, performed after mating

When inspecting such continuity and/or voltage by using the test probe, insert the test probe from wire side as shown below.
If the test probe can not be inserted, use mating part to check.



Attached sheet-1

Components list

1. Terminal list

PART NUMBER	PART NAME	PLATING	APPLICABLE WIRE SIZE
7114-1257-02	050 MALE TERMINAL	Sn	CAVUS 0.3 to CAVS 0.5
7116-1257-02	050 FEMALE TERMINAL	Sn	CAVUS 0.3 to CAVS 0.5
7116-1257-08	050 FEMALE TERMINAL	Pd-Ni	CAVUS 0.3 to CAVS 0.5

* Contact our Compornent Sales Division for the crimping standard.

2. Part No. list

No.	Pole	SUB ASSEMBLY PART NUMBER (ASS'Y)	HOUSING PART NUMBER SPACER PART NUMBER (TERMINAL)
1	050 2P (M)	7282-7623	7182-7623 7157-4456
2	050 2P (F)	7283-7623	7183-7623 7157-4457
3	050 14P (F)	7283-7644	7183-7644 7157-4578
4	050 16P (M)	7282-1269	7182-1269 7157-4386
5	050 16P (F)	7283-1269	7183-1269 7157-4387
6	050 19P (M)	7282-1290	7182-1290 7157-4388
7	050 19P (F)	7283-1290	7183-1290 7157-4389
8	050 H/B 6 + 10P (M)	7382-4361	7182-4361 7114-1598 7114-1875
9	050 +090 II H/B 70P (M)	7382-4200	7182-4200 (050) 7114-1900-02 7114-1901-02 7114-1902-02 (090 II) 7114-1877-02 7114-1878-02 7114-1879-02

Attached sheet-2

No.	Pole	SUB ASSEMBLY PART NUMBER (ASS'Y)	HOUSING PART NUMBER SPACER PART NUMBER (TERMINAL)
10	050 14P (M)	7382-1748	7182-1748 7114-1900-02 7114-1901-02
11	050 6P (M)	7283-1468	7183-1468 7157-4283
12	050 +090 II H/B 36 + 16P (M)	7382-5060	7182-5060 (050) 7114-1900-02 7114-1901-02 (090 II) 7114-1877-02 7114-1878-02
13	050 +090 II H/B 20 + 16P (M)	7382-4362	7182-4362 (050) 7114-1900-02 7114-1901-02 (090 II) 7114-1877-02 7114-1878-02
14	050 16P (F)	7283-4560	7183-4560 7157-6885
15	050 14P (M)	7282-7644	7182-7644 7157-4287
16	050 10P (F)	7283-7602	7183-7602 7157-4286