

SEALED CRIMPED CONNECTORS CET

1 INTRODUCTION

The CET double locking sealed connections have been designed to provide the automotive industry with a polyvalent, reliable, compact and sealed connection system, enabling operation under severe environmental conditions.

These connectors feature a contact double locking system. They are sealed and are of the male/female, wire-to-wire or wire-to-equipment type. The contacts have been developed to prevent poor contact locking, distortion or assembly errors either during production or when assembling harnesses.

However, certain utilisation and storage recommendations must be respected to ensure correct production and harness assembly.

2 PRODUCT PART NUMBERS

PRE-ASSEMBLED CONNECTORS – MODULE + MODULE HOLDER

No. of ways Type Part No.	BLACK	BROWN	RED	YELLOW	GREEN	BLUE	GREY	WHITE
2 WAYS NP/NE 144471		-1	-2	-3	-4	-5	-6	-7
3 WAYS NP/NE 144472	-1	-2			-3	-4	-5	-6
2 WAYS P/NE 144473	-1	-2	-3	-4	-5	-6	-7	-8
3 WAYS P/NE 144474	-1	-2			-3	-4	-5	-6
4 WAYS P/NE 144475	-1	-2			-3	-4	-5	-6
5 WAYS P/NE 144476	-1	-2			-3	-4	-5	-6
7 WAYS P/NE 144477	-1	-2			-3	-4	-5	-6
2 WAYS NP/E 144478	-1							
2 WAYS P/E 144479	-1	-2	-3	-4	-5	-6	-7	-8

P = Protruding
 NP = Not Protruding
 E = Waisted
 NE = Not Waisted

Each colour has a corresponding mechanical locating system, except for the protruding 2 position for injector, N° 144479, which has no mechanical locating system because of the waisting.

CRIMPING CONTACT

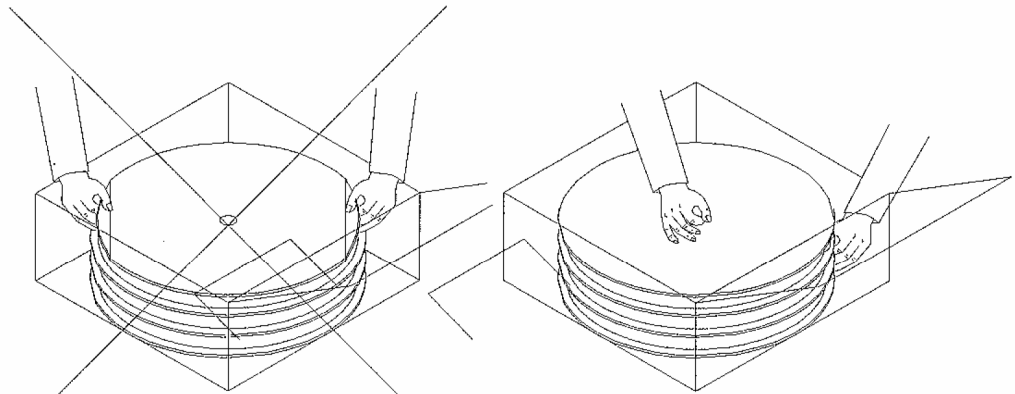
RECEPTACLE	SECTION	PART NUMBER
RECEPTACLE JPT (Junior Power Timer)	0.35 to 1 mm ²	144431-1
RECEPTACLE JPT (Junior Power Timer)	1 to 3 mm ²	144432-1

3 CONTACT CRIMPING

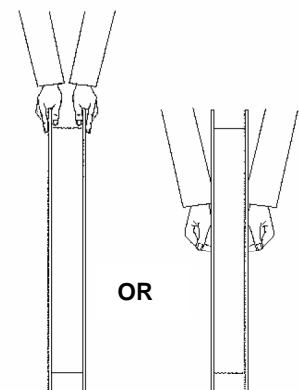
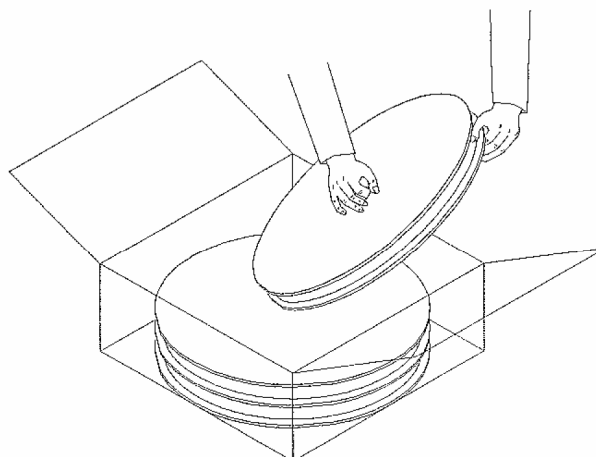
Contacts should preferably be crimped using TYCO crimping tools and using the procedures defined in crimping specifications N° 114-15050 and 114-15051.

4 STORAGE AND HANDLING OF CONTACT REELS

- 4.1. If contact reels have to be left outdoors, they should be protected by a PVC sheet or bag, for example.
- 4.2. To lift and carry the contact reels, proceed as shown in the diagrams below, to avoid damaging the reel flanges, as this could displace the contact strip, resulting in an incorrect loading of the contact into the applicator.

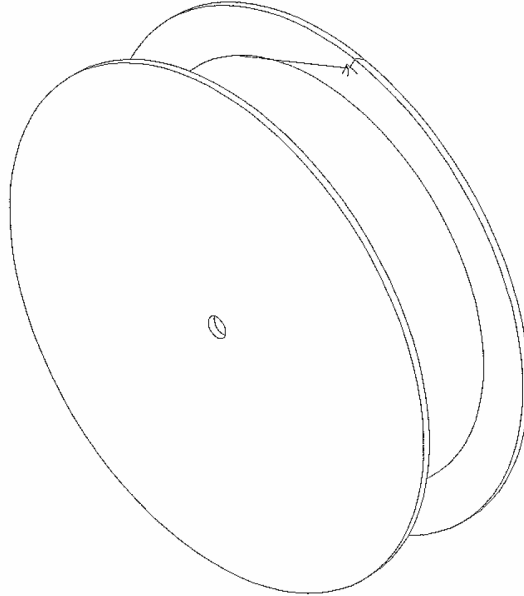


DO NOT LIFT BY THE SAME FLANGE



LIFT BY BOTH FLANGES OR BY THE CENTRE HOLE

- 4.3. Do not store the reels in a damp or dusty place. Store the reels in a dry and clean room, with an ambient temperature between +5°C and +35°C and a relative humidity between 45% and 85%. The reels should be protected against direct sunlight.
- 4.4. When the reels are not going to be used for a fairly long period, they should be removed from the machine and the end of the contact strip should be wired to the edge of the reel, as shown in the diagram below.

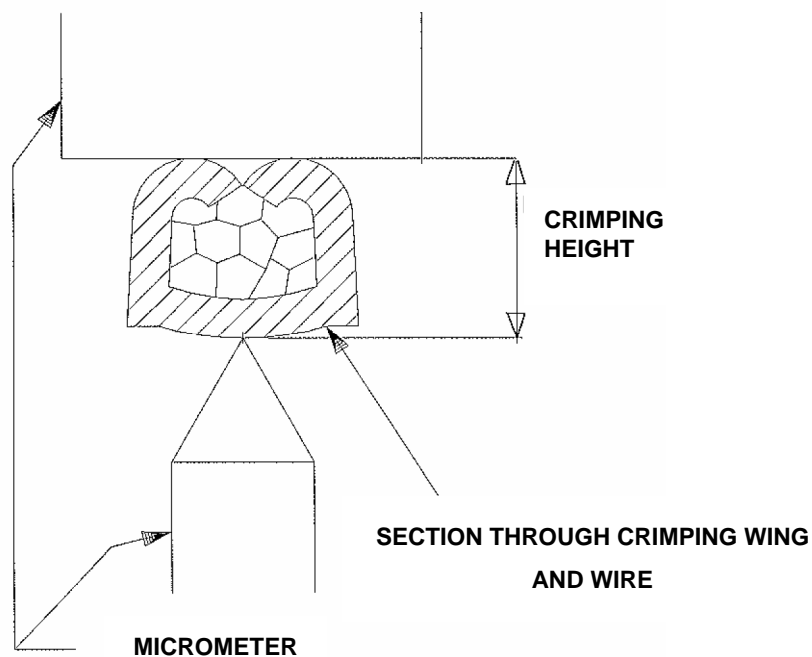


5 STRIPPING THE WIRES

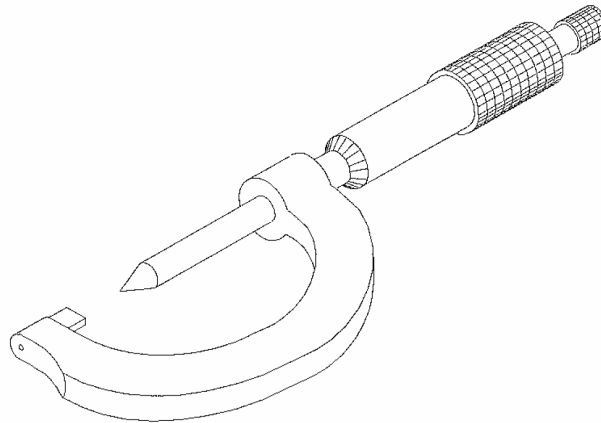
When stripping the wires, take care not to mark, distort or cut individual strands. Stripping lengths are given in the crimping specifications.

6 MEASUREMENT OF CRIMPING HEIGHT

- 6.1. Crimping height is measured using a specific micrometer, as shown in the diagram below.



6.2. Specific micrometer for measuring crimping height.



7 STORAGE OF PRODUCTS AFTER CRIMPING

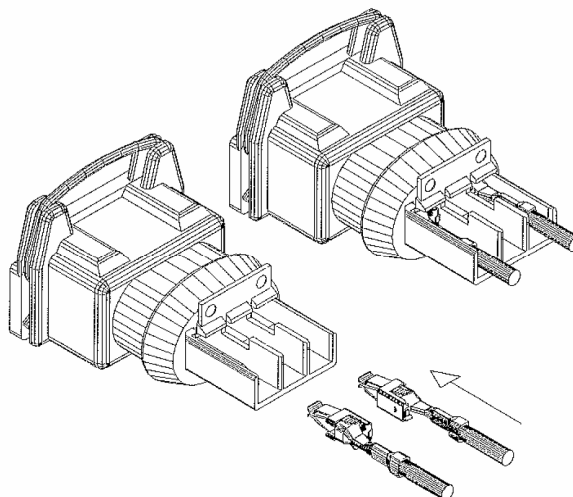
- 7.1. After crimping, products should be stored in a clean, dry room. They should be covered with a sheet of plastic, to protect them from external pollution, or should be stored in containers until required for use.
- 7.2. The crimped wires should be grouped into bundles of not more than around one hundred wires. It is recommended that the contact end of each bundle be protected by a plastic bag.
- 7.3. Do not stack too many crimped wires, as this can distort the contact and adversely affect operation.
- 7.4. Do not plug contact together when they are not in connector housing, as this can damage the contact.

8 ASSEMBLY OF CONNECTORS

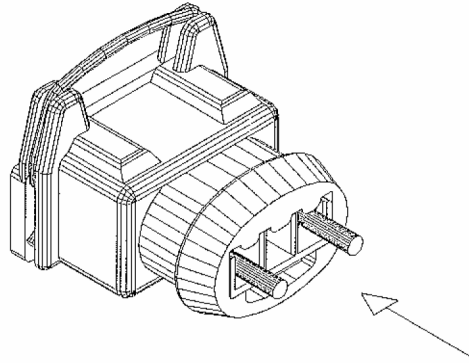
8.1. INSERTING THE CONTACTS INTO THE HOUSING

- 8.1.1. Orient the housing so that the violet module is facing upwards.
Insert the contact with the crimping wings facing to the left or to the right, up to the stop, when the locking contact locates, with an audible click.
If a contact is difficult to insert, remove it and check that it is properly oriented.

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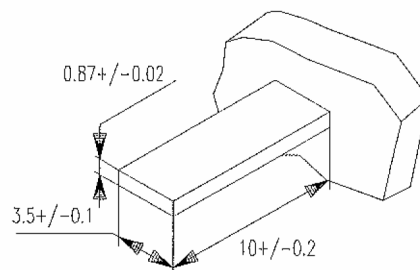
- 8.1.2.** When the contact is inserted into its slot, pull gently on the wire to check that it is properly locked.
Always check that each contact is properly inserted, immediately after insertion.
- 8.1.3.** Before inserting a contact, always check that it is not distorted, as this can prevent a proper connection. The crimping specifications define contact distortion tolerances.
- 8.1.4.** If a contact is inserted into the wrong slot, it must be removed using the correct extractor tool. See Job Card N° 15039.
- 8.1.5.** When all the contacts have been inserted into the violet module, push it into the module holder. This will generate an audible click.



- 8.1.6.** If inserting the violet module into the module holder is difficult, check that all the contact are properly positioned and locked.
If a contact is not locked, the module hinged cover, that provides the double locking, is in contact with the contact and prevents insertion into the module holder.
- 8.1.7.** When the module is properly inserted into the module holder, pull gently on the wires to check proper locking. Always check that a module is properly locked immediately after insertion.

8.2. APPLYING THE REAR SEALING PRODUCT

- 8.2.1.** The receptacle must not be damaged by the application of the sealing product.
- 8.2.2.** If one or more slots do not have a contact, install a false contact (see below) in the free slot(s). This will prevent the sealing product from filling the free slots and will thus enable a male connector, with all contact installed, to be inserted.



9 INSPECTION AND STORAGE OF ASSEMBLED CONNECTORS

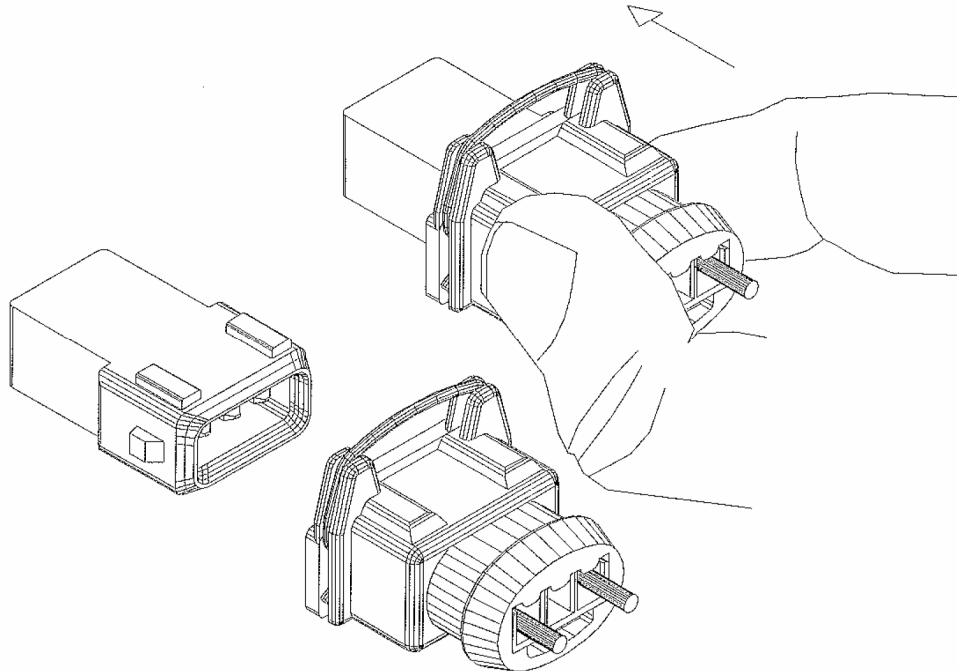
9.1. INSPECTING ASSEMBLED HARNESSSES

- 9.1.1.** Continuity must not be checked using a male connector.
- 9.1.2.** Check continuity using specific spring-loaded contact.
- 9.1.3.** Never try to insert a test contact into an housing for continuity testing, as this could damage the housing.

10 MATING FEMALE AND MALE CONNECTORS

To mate a female connector onto a male connector or a male socket, proceed as shown in the diagrams below. Push together until they click into place. Never press the spring to obtain the mating, this prevents the proper locking of the connectors and can also prevent the assembly from being sealed.

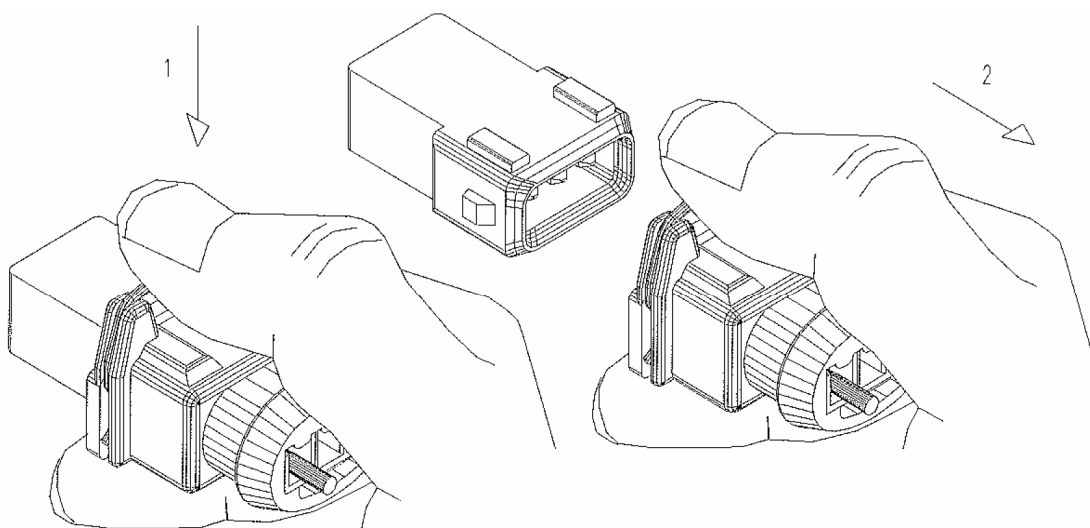
Check proper locking by pulling on the connectors without pressing on the locking spring.



11 UNMATING FEMALE CONNECTORS

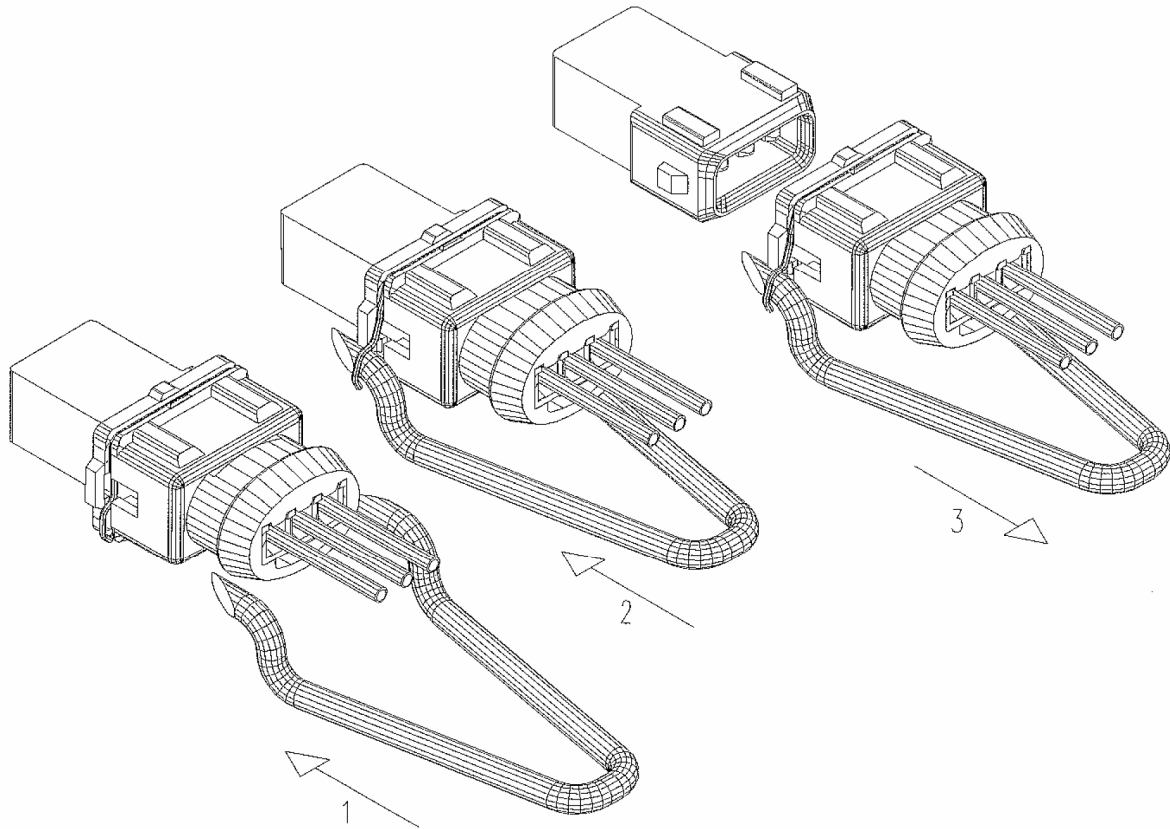
11.2. CONNECTOR WITH PROTRUDING SPRING

To unmate female connector, proceed as shown in the diagram below. Press on the locking spring while pulling on the connector.

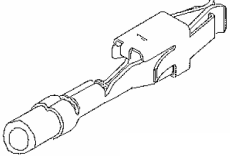
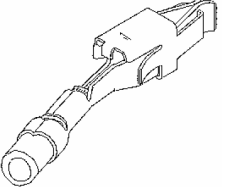
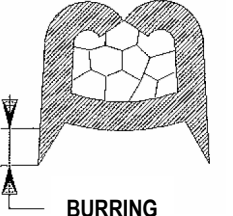
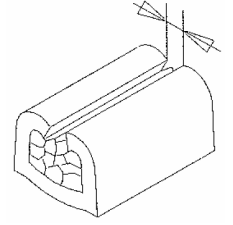


11.2. CONNECTOR WITH NON-PROTRUDING SPRING

To unmate a female connector, proceed as shown in the diagram below. Insert extractor tool P/N 950607-1 into the two recesses on the spring and then pull on the connector and extractor tool.



VISUAL INSPECTION
OF CONTACT CRIMPING
JUNIOR POWER TIMER

INSPECTION	APPEARANCE	DESCRIPTION	CAUSES	CORRECTIVE ACTION
CRIMPING		Characteristics are defined in the specifications: P/N 114.15050 P/N 114.15051		
DISTORTED CONTACT		Contact bent in one of the three axes	<ul style="list-style-type: none"> - Tools not properly adjusted - Parts worn 	<ul style="list-style-type: none"> - Adjust tools - Change defective parts
OPEN CRIMPING	 <p style="text-align: center;">BURRING</p>	Wire strands visible between the crimped wings	<ul style="list-style-type: none"> - Incorrect crimping tool - Crimping height not properly adjusted - Incorrect wire section - Crimping tool or anvil worn 	<ul style="list-style-type: none"> - Check P/N - Check and adjust height - Check wire section - Change worn part
BURRING OR DISTORTION		Metal distorted Tolerances: <ul style="list-style-type: none"> - No cracking - Crimping closed - Good resistance to traction - Contact not distorted 	<ul style="list-style-type: none"> - Incorrect crimping parts - Incorrect crimping height - Contact surface condition - Crimping parts worn 	<ul style="list-style-type: none"> - Check part numbers - Check and adjust crimping height - Change reel - Change crimping parts