



APC

C O N N E C T O R S

ASSEMBLY INSTRUCTIONS

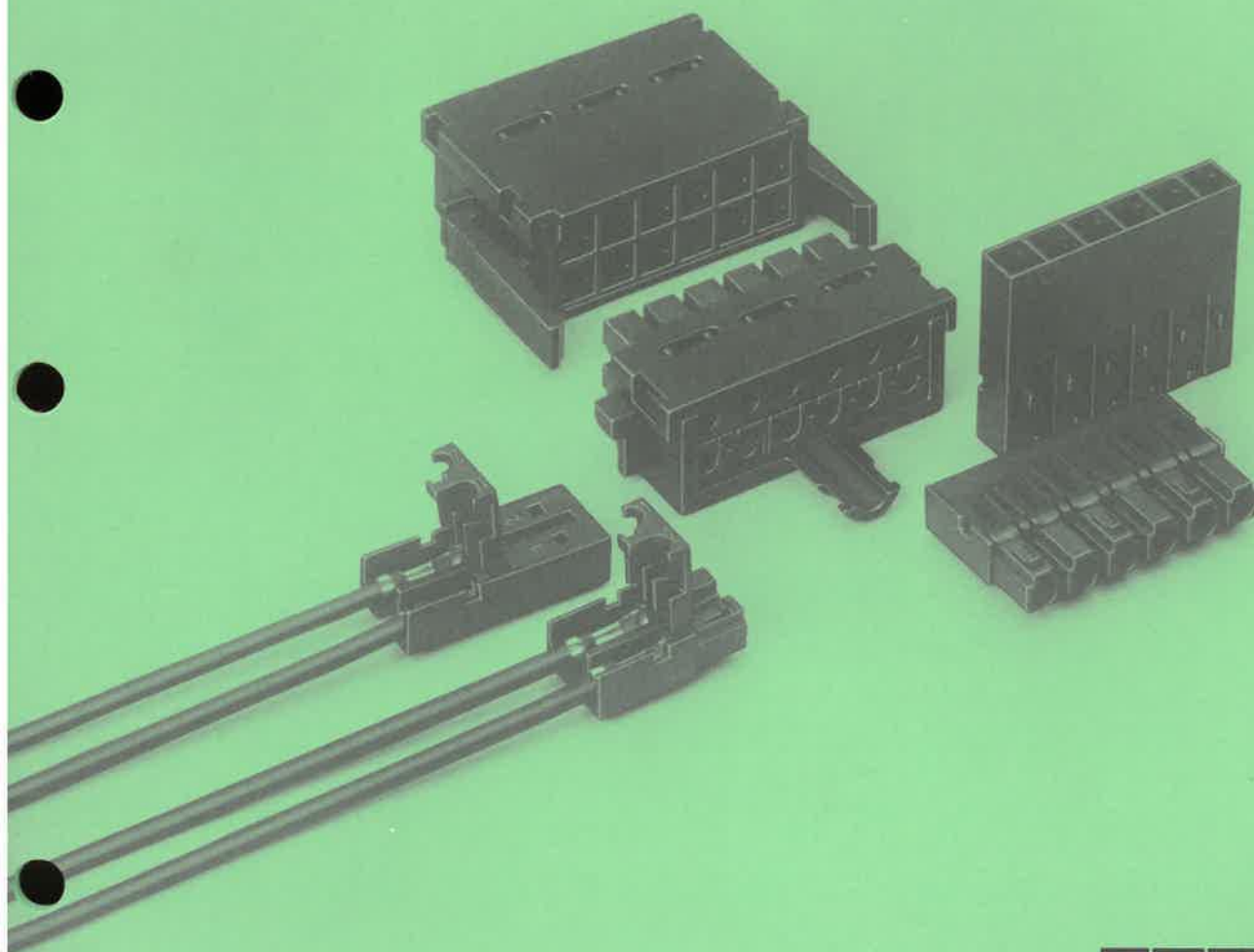
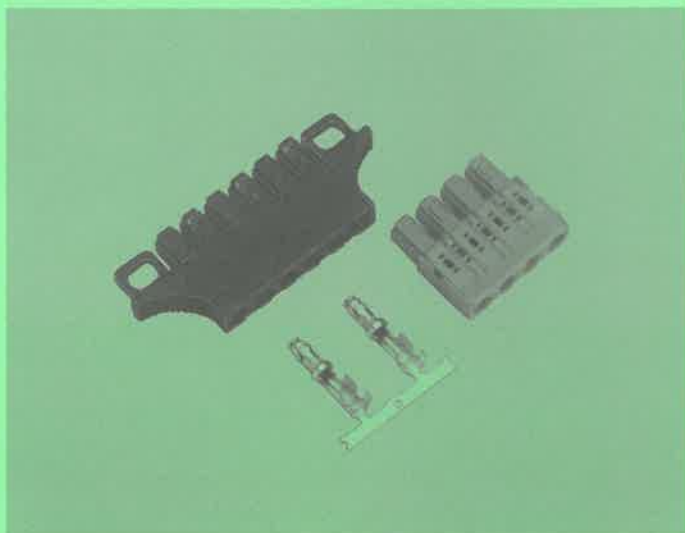


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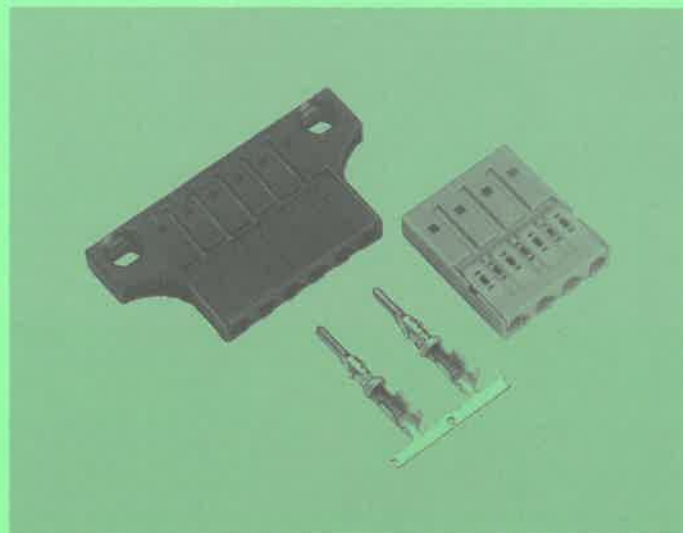
Connector design

For the assembly of APC connectors the following components must be used:



Insulator body – Plug
391-8544-***
391-8530-006

Socket contacts
APK-SB25***



Insulator body – Receptacle
391-8543-***
391-8531-006

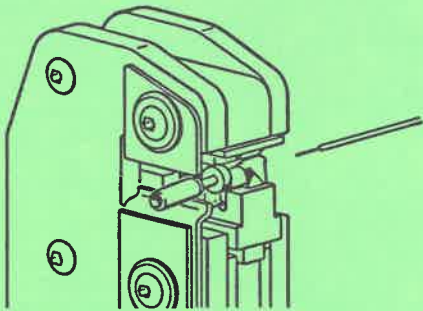
Pin contacts
APK-PB25***

Hand crimp tool

for stamped contacts

Crimp tool type	Order reference acc. to contact type ¹	Wire size mm ²	Stripping length mm	Outer wire insulation Ø mm
CCT-APK25-1	APK-PB25*10 APK-SB25*10	0,5–1,0	5,3±0,3	1,4–2,0
	APK-PB25*25 APK-SB25*25	1,5	5,3±0,3	2,0–2,9
CCT-APK25-2	APK-PB25*25 APK-SB25*25	2,5	5,3±0,3	2,0–2,9
	APK-PB25*40 APK-SB25*40	2,5	5,3±0,3	2,9–3,6
	APK-PB25*40 APK-SB25*40	4,0	5,3±0,3	2,9–3,6
	APK-PB25*40 APK-SB25*40	4,0	5,3±0,3	2,9–3,6

¹ Order references of reeled contacts are given in the table above.
For order references of single contacts, see APC catalogue, page 7.



Instructions

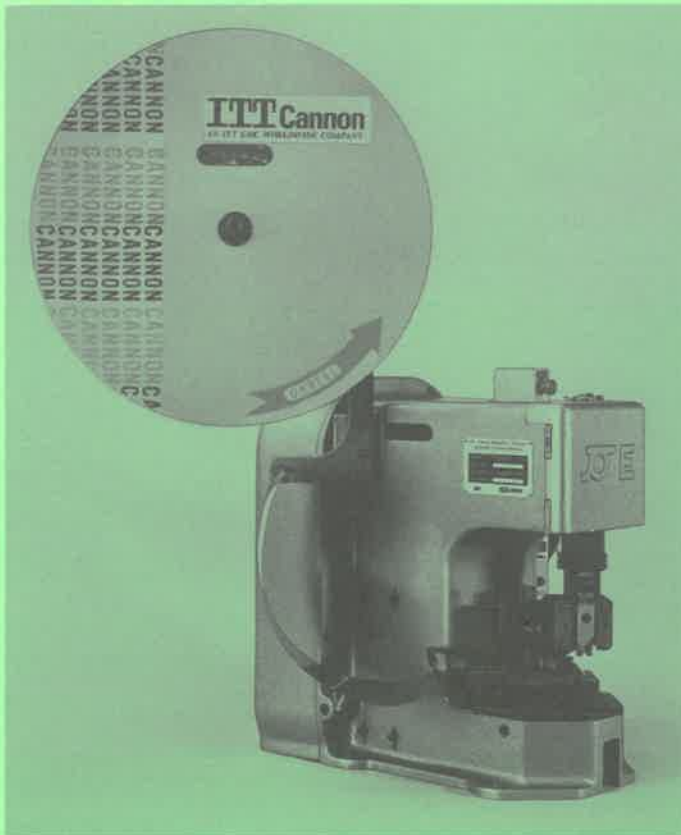
- Open hand crimp tool completely.
- Select correct crimp profile (the suitable wire size is given on the crimp head).
- Insert contact with its crimp area downwards into profile until contact shoulder touches the positive crimp stop.



- Close hand crimp tool until it holds contact in place.
- Insert prestripped cable into crimp area until cable touches wire stop.



- Close hand crimp tool completely until ratchet allows opening of crimp tool. While crimping, wire must be hold in right position.
- Remove crimped contact.



Semi-Automatic Crimp Machine 94-4510

for stamped reeled contacts

Description

Stamped reeled contacts are terminated quickly and efficiently with the ITT Cannon crimp machine 94-4510. Before starting the crimp machine pay attention to the operating instructions.

Parts subject to wear

Spare crimp jaws

	94-4510-APK25-10	94-4510-APK25-25	94-4510-APK25-40
Insulation punch	CT274-8694-195	CT274-8694-199	CT274-8694-203
Conductor punch	CT274-8694-196	CT274-8694-200	CT274-8694-204
Lower front (insulation)	CT274-8694-197	CT274-8694-201	CT274-8694-205
Lower rear (wire)	CT274-8694-198	CT274-8694-202	CT274-8694-206

Spare contact cutter (for all contacts)

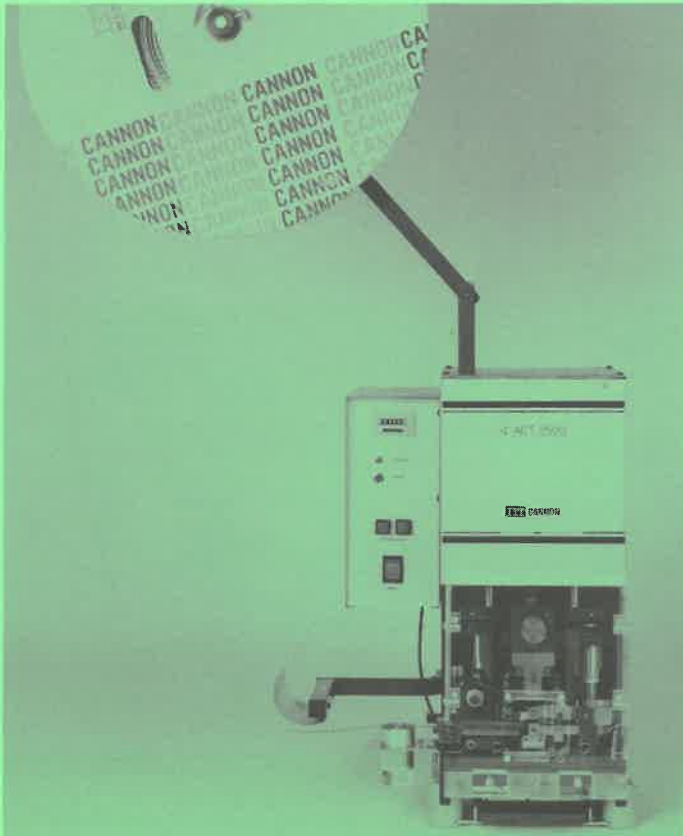
Carrier cutter	CT274-8623-008
Carrier cutter housing	CT274-8623-009

Attention:

Crimp jaws and contact cutting devices are subject to wear. We recommend stocking up at least one spare part of each.

Order references

Basic machine incl. tool	Exchangeable tool	Pin contact	Socket contact	Stripping length mm
94-4510-APK25-10	94-4506-APK25-10	APK-PB25*10	APK-SB25*10	5,3±0,3
94-4510-APK25-25	94-4506-APK25-25	APK-PB25*25	APK-SB25*25	5,3±0,3
94-4510-APK25-40	94-4506-APK25-40	APK-PB25*40	APK-SB25*40	5,3±0,3



Semi-Automatic ACT-2500/3500

for stripping and crimping of stamped reeled contacts

Description

Stamped reeled contacts are terminated quickly and efficiently with the semi-automatic stripper/crimper ACT-2500/3500 from ITT Cannon.

Before starting the crimp machine pay attention to the operating instructions.

Parts subject to wear

	ACT-2500/3500-APK25-10	ACT-2500/3500-APK25-25	ACT-2500/3500-APK25-40
Insulation punch	CT274-8694-183	CT274-8694-187	CT274-8694-191
Conductor punch	CT274-8694-184	CT274-8694-188	CT274-8694-192
Insulation punch	CT274-8694-185	CT274-8694-189	CT274-8694-193
Conductor punch	CT274-8694-186	CT274-8694-190	CT274-8694-194

Spare contact cutter (for all contacts)

Carrier cutter	CT274-8606-160
Carrier cutter housing	CT274-8606-162

Insulation stripping blade

left	CT274-8694-181
right	CT274-8694-182

Note:

Crimp jaws and contact cutting devices are subject to wear. We recommend stocking up at least one spare part of each.

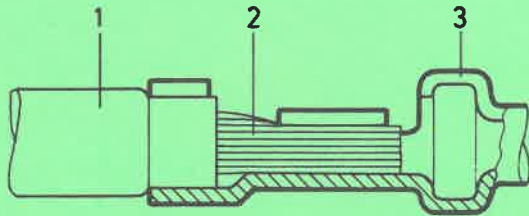
Order references

Basic machine incl. tool	Exchangeable tool	Pin contact	Socket contact
ACT-2500/3500-APK25-10	WWZ-ACT-2500/3500-APK25-10	APK-PB25*10	APK-SB25*10
ACT-2500/3500-APK25-25	WWZ-ACT-2500/3500-APK25-25	APK-PB25*25	APK-SB25*25
ACT-2500/3500-APK25-40	WWZ-ACT-2500/3500-APK25-40	APK-PB25*40	APK-SB25*40

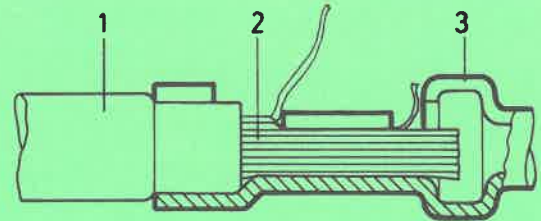
Visual inspection

of contacts

*Correct crimp
strands must be visible*



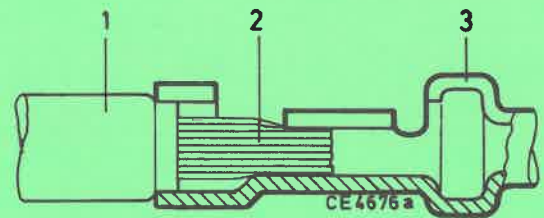
*Incorrect crimp
single strand
strands reach too far into contact*



1 Insulation
2 Strands
3 Contact

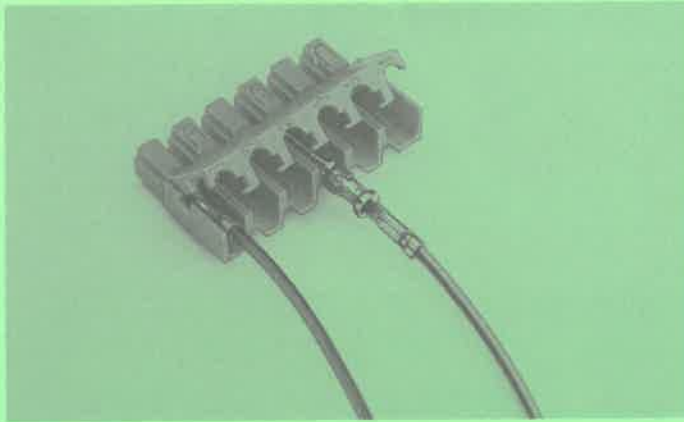
Tensile strength test according to DIN IEC 48 (sec.) 290

*Incorrect crimp
strands not visible*



Micro sections

Enlarged cross section allows judging of crimp quality definitely. This test is recommended whenever new tools or new types of wire are being used.



Insertion of contacts into insulator

Insertion tools are not necessary.

Insert contact into the insulator until the contact clip snaps in audibly.

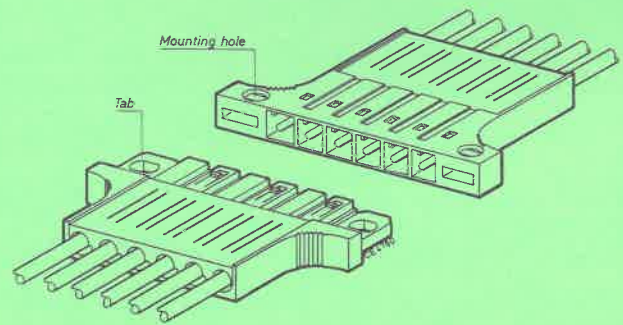
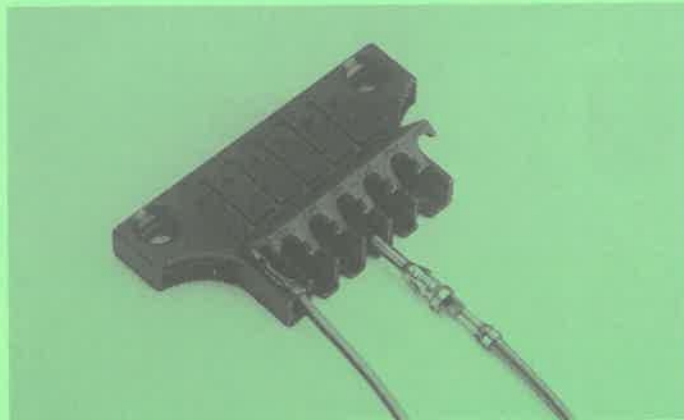
Check correct fit and position of contact in insulator by pulling the cable.

After all contacts are inserted close crimp insulator cover with an audible click.

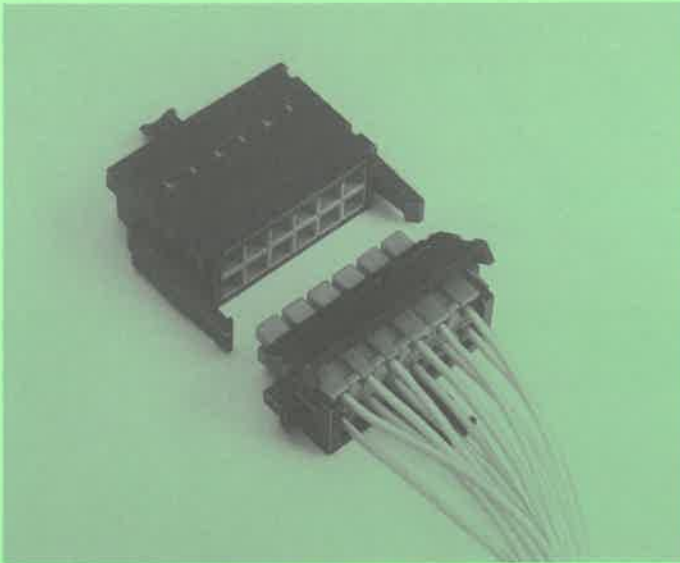
Attention:

If insulator cover cannot be closed properly check for correct contact positioning in insulator.

The loading of the insulators is now completed.



Mounting and locking of the mated 6-way connectors (black insulator, part number 391-8530-006 and 391-8531-006) with mounting hole and tab.



Clamps for coloured insulators

Order references

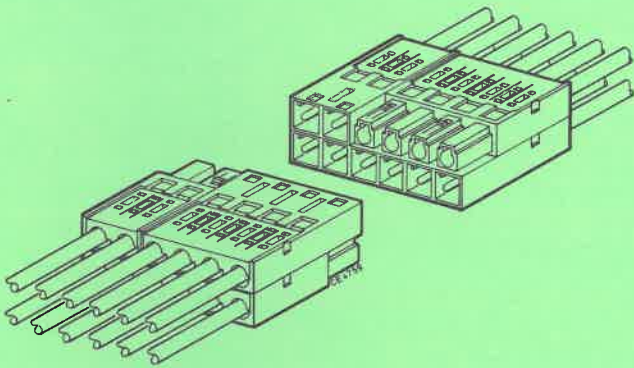
- Clamp for connector body receptacle **029-8514-005**
- Clamp for connector body plug **029-8514-006**

Loaded 2-, 4- and 6-way coloured insulators can be stacked parallel or staggered to connector blocks (see pictures below).

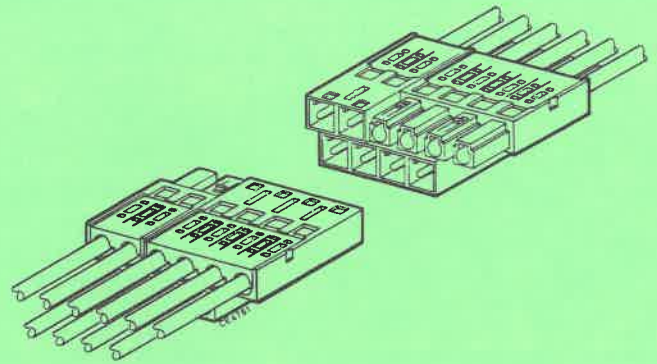
Place connector body in clamp, so that cable and strain relief are both on the same side. Close cover until it snaps in audibly. Being mated it is now possible to fix connectors onto mounting points.

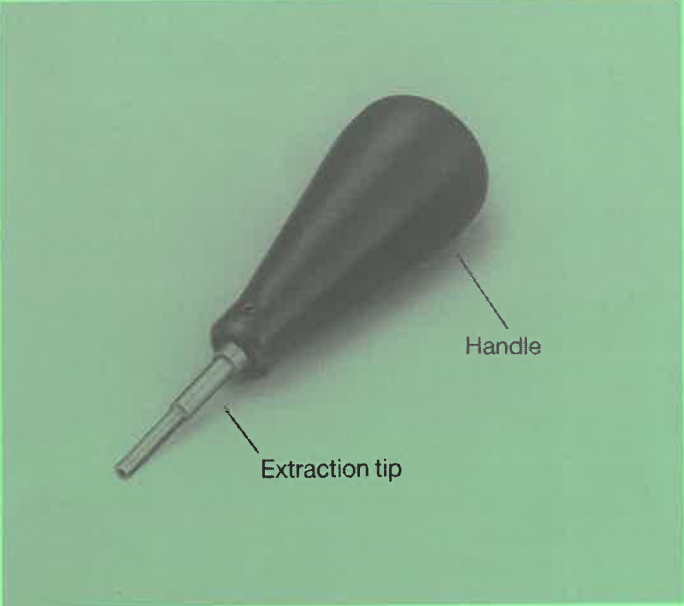
12-way version is available from stock.

Parallel stacking



Staggered stacking





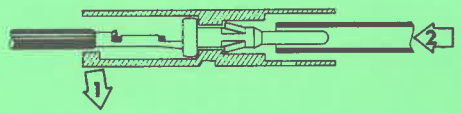
Extraction of contacts

To extract contacts use extraction tool CET-APK25.

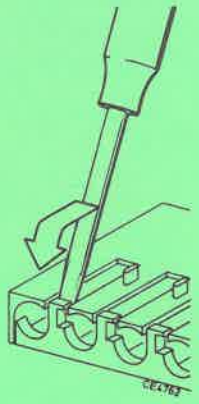
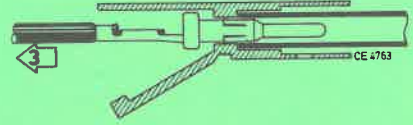
Order references for spare parts

Tip **CET-APK25-TIP**
Handle **CT204-8501-002**

Correct position of snapped-in contact in insulator



Extraction of contact



The insulator cover must be opened before extracting contacts with a screw driver (2 mm blade max.).

Release the cover at the first and last contact cavity (4- and 6-way connector only).

Insert extraction tool from mating side into the contact cavity all the way to the stop.

Remove contacts by pulling the cable.

Product Safety Information

This note should be read in conjunction with the Product Data Sheet/Catalogue. Failure to observe the advice in this information sheet and the operating conditions specified in the Product Data Sheet/Catalogue could result in hazardous situations.

1 MATERIAL CONTENT AND PHYSICAL FORM

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.

- a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.*
- b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials.*

Contact materials vary with type of connector and also application and are usually manufactured from either:

Copper, alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

2 FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD

There is no fire hazard when the connector is correctly wired and used within the specified parameters.

Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionisation and burning.

Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the Product Data Sheet/Catalogue are exceeded and can cause breakdown of insulation and hence electric shock.

If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires, and leakage currents through carbonisation of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

3 HANDLING

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers.

Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

4 DISPOSAL

Incineration of certain materials may release noxious or even oxid fumes.

5 APPLICATION

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V.A.C. or 42.5 V.D.C. are potentially hazardous and care should be taken to ensure that such voltages can not be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles. Circuit resistance and continuity check should be made to make certain that there are no low resistance joints or spurious conducting paths. Always use the correct application tools as specified in the Data Sheet/Catalogue.

Do not permit untrained personnel to wire, assemble or tamper with connectors.

For operation voltage please see appropriate national regulations.

IMPORTANT GENERAL INFORMATION

- 1. Air and creepage paths/Operating voltage**

The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations.
For this reason the air and creepage path data are only reference values.
Observe reduction of air and creepage paths due to PC board and/or harnessing.
 - 2. Temperature**

All information given are temperature limits. The operation temperature depends on the individual application.
 - 3. Other important information**

Cannon continuously endeavours to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalogue and data sheets.
 - 4. Harnessing and Assembly Instructions**

If applicable, our special harnessing and/or assembly instruction has to be adhered to. – This is provided at request.
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