



ITT Industries

Assembly Instruction

CAI – Connector with universal Endbell

CAS25089E

Assembly Instruction
CAI- Connector with
universal Endbell

Shell size 10 to 36 with
APK – contact / Trident T2P - contact

Illustration and assembly exemplary of CAI Layout 20-0306
with APK / Trident T2P stamped contact

Bearbeitet:
AKUGeprüft:
VM / FA

Norm:

Änd.-Stand:
B4078WÄnd.-Datum:
26.09.2011



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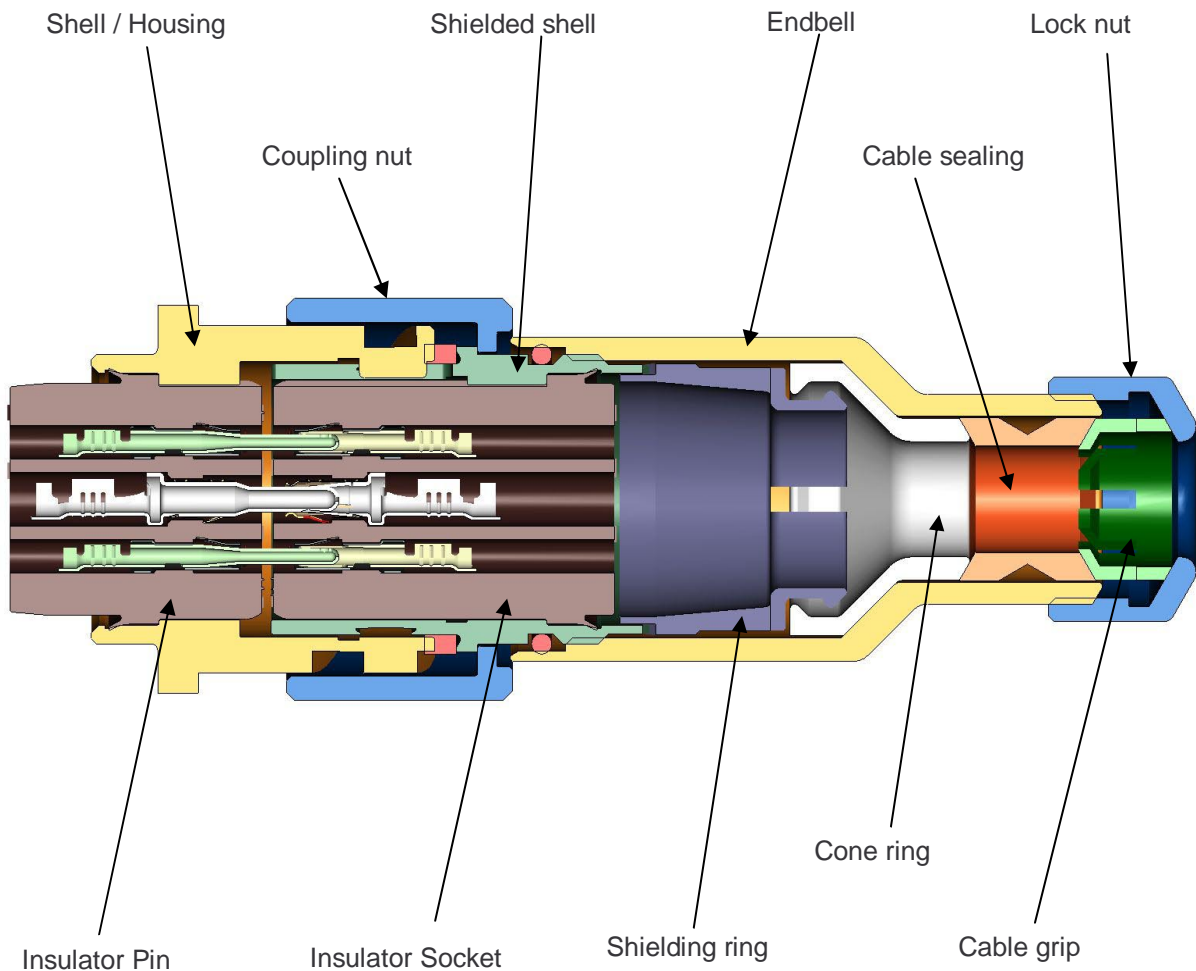
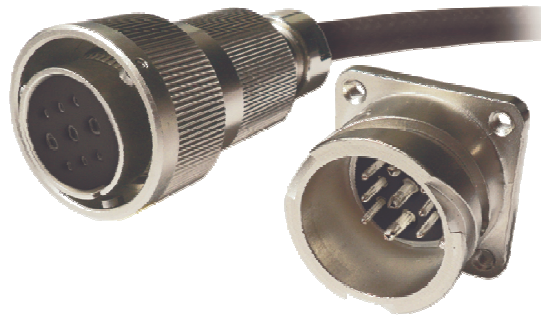
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Wiring and assembly instruction CAI

1.1) Description connector components



Bearbeitet:
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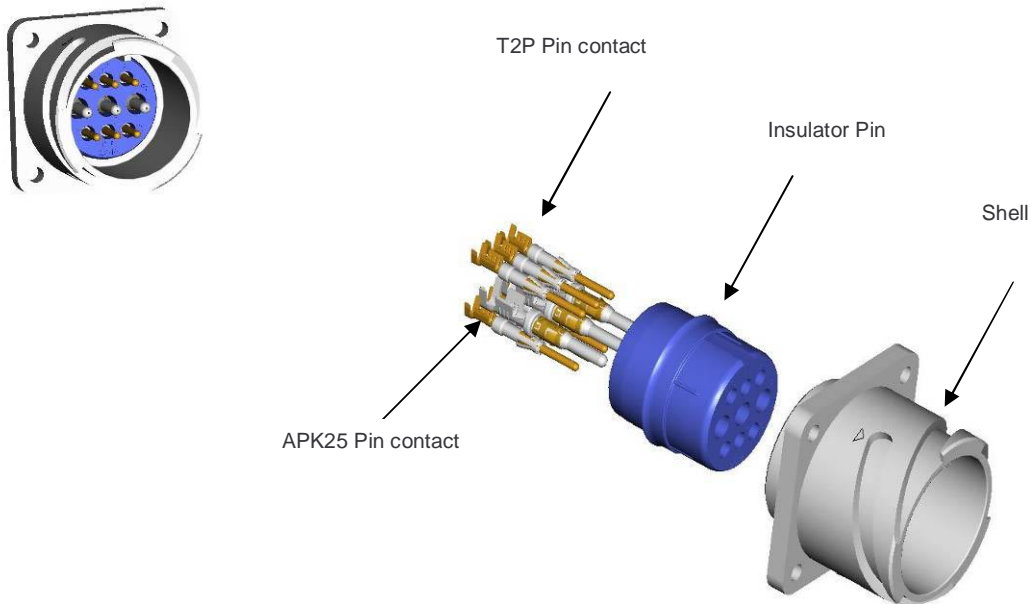
Geprüft:
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Norm:

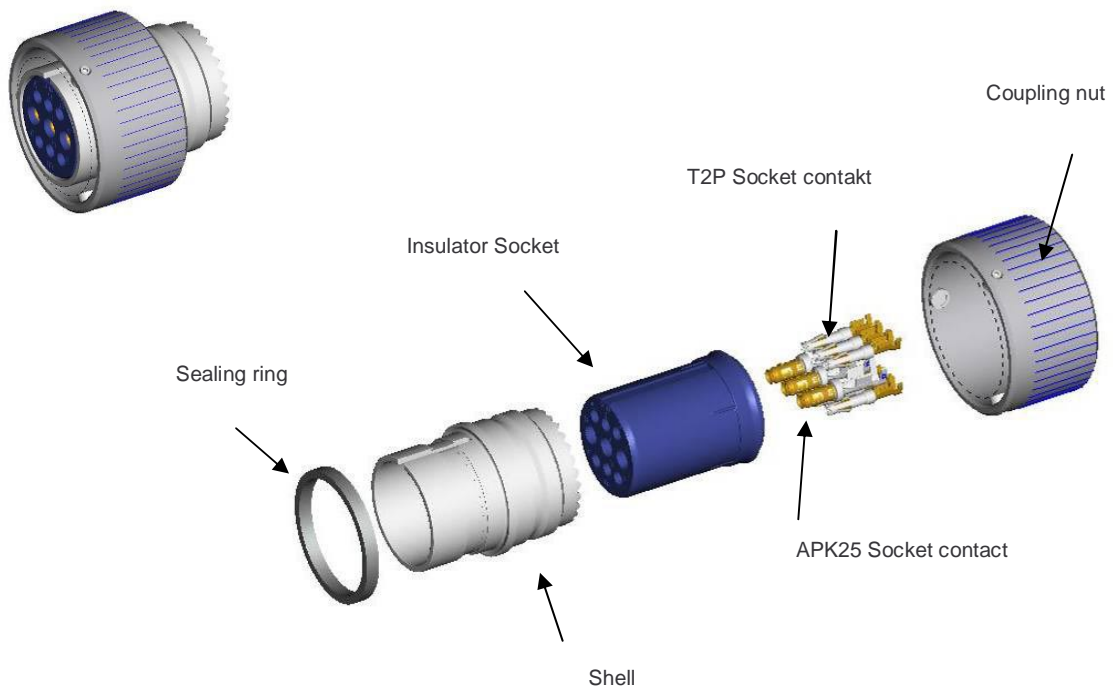
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Exploded view example of the flange housing assembly with pin contacts



Exploded view example of the shielded barrel with socket contacts



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1.2) Part overview stamped contacts:

Trident T2P:

Socket contact, crimp version



Pin contact, crimp version



Wire Size			Part Number for Reeled Contacts		
mm ²	AWG	Contact	Standard Material Tin Plating	Gold Flash	High Conductivity Material
0,14-0,25	26-24	Pin	192990-2510	192990-2650	192900-0120
0,14-0,25	26-24	Socket	192990-2550	192990-2690	192900-0121
0,32-0,50	22-20	Pin	192990-2500	192990-2640	192900-0124
0,32-0,50	22-20	Socket	192990-2540	192990-2680	192900-0125
0,75-1,50	18-16	Pin	192990-2490	192990-2630	192900-0000
0,75-1,50	18-16	Socket	192990-2530	192990-2670	192900-0001
1,50-2,50	16-14	Pin	192990-2480	192990-2620	192900-0004
1,50-2,50	16-14	Socket	192990-2520	192990-2660	192900-0006

APK 25:

Socket contact, crimp version



Pin contact, crimp version



Wire Size			Part Number for Reeled Contacts		
mm ²	AWG	Contact	Standard Material Tin		
0,50-1,00	20-18	Pin	121668-0000		
0,50-1,00	20-18	Socket	121668-0100		
1,50-2,50	16-14	Pin	121668-0001		
1,50-2,50	16-14	Socket	121668-0101		
2,50-4,00	14-12	Pin	121668-0002		
2,50-4,00	14-12	Socket	121668-0102		

The contacts are crimped with insulation crimp.

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1.3) Crimp tool overview:

Handcrimp tool



Single contacts are crimped with hand tool:

AWG / Wire size	Description / Part Number:
26-20 AWG; 0,14-0,50mm ²	CHT-Trident 121586-5236
18-16 AWG, 0,75-1,50mm ²	CHT-Trident 121586-5237
16-14 AWG, 1,50-2,50mm ²	CHT-Trident 121586-5238
20-12 AWG, 0,50-4,00mm ²	CHT-APK25-Standard 121586-5241

Crimp machine basic - press TT



Crimp machines are used for high volume production. We recommend basic press TT with mini-applicator WWZ-20.100 or WWZ-EVS.

<u>Description:</u>	<u>Part number:</u>
Basic - press -TT	121586-5225

Crimp tool, Mini Applicator WWZ-EVS



Technical specification (CAS) for crimp tools (mini – applicator) are included.

Support and training for crimp tools and machines by the crimp service of ITT-Cannon GmbH

Wire size	Contacts	Description	Part Number
0,14-0,50 mm ²	Trident	WWZ – EVS	121586-5239
0,75-1,50 mm ²	Trident	WWZ – EVS	121586-5217
1,50-2,50 mm ²	Trident	WWZ – EVS	121586-5240
0,50-1,00 mm ²	APK 25	WWZ – 20.100	121586-5128
1,50-2,50 mm ²	APK 25	WWZ – 20.100	121586-5129
2,50-4,00 mm ²	APK 25	WWZ – 20.100	121586-5130

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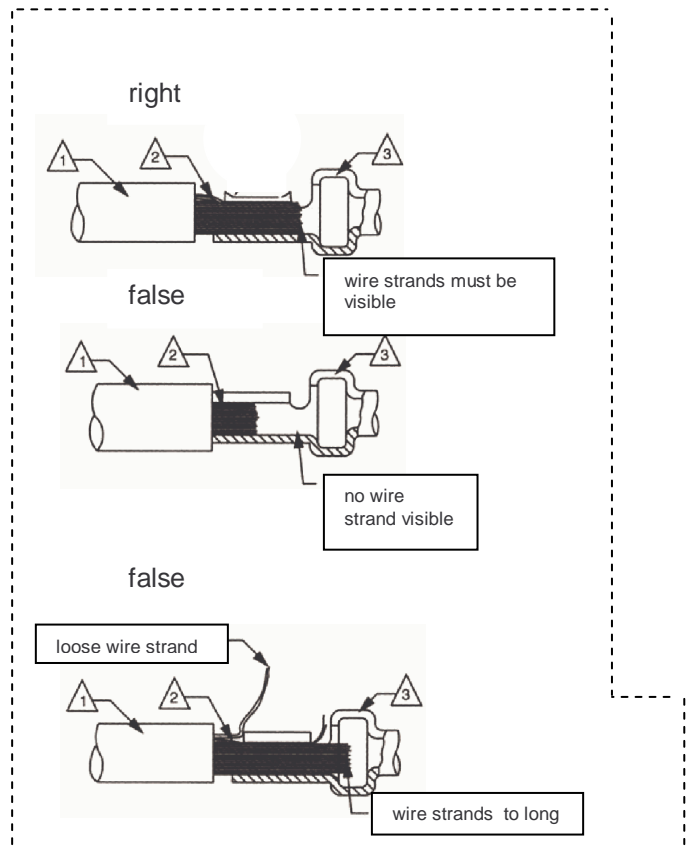
1.4) Operating instructions stamped contacts:

- 1.) Strip wires to length, for stripping details see 2.1 and 2.2)
- 2.) Open hand tool and insert the contact in the selected crimp profile
- 3.) Position the stripped cable in the contact
- 4.) Press hand tool to end position
- 5.) Open hand tool and extract the contact, check the contact visually

- there shall be no loose strands out of the crimp section
- the contact must be crimped straight to the cable
- deformed contacts must not be used. Crimp again

-comments:

- 1 Insulation of cable
- 2 Wire strands
- 3 Contact



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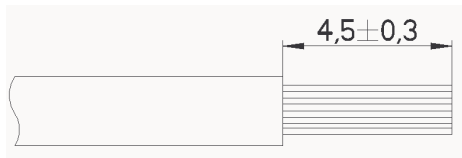
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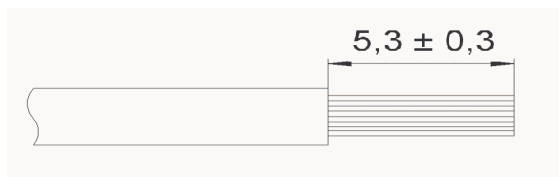
2.0) Assembly / preparation of cable

2.1) Stripping cable for T2P pin contact



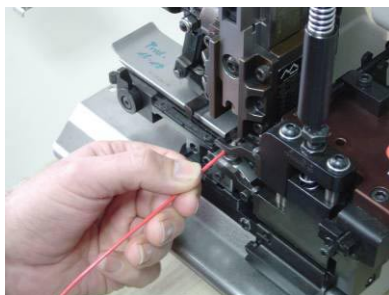
The recommended stripping length of the stamped pin and socket contact is 4, 5+/- 0,3mm. The stripping of cable is carried out with relevant stripping unit. Thereby the wire strands must not be damaged.

2.2) stripping cable for APK pin contact



The recommended stripping length of the stamped pin and socket contact is 5, 3+/- 0,3mm. The stripping of cable is carried out with relevant stripping unit. Thereby the wire strands must not be damaged.

2.3) Crimping single wire T2P and APK 25 contacts



The stamped contacts can be crimped with Hand tool or Mini-applicator (see 1.3) Crimp tool overview



The picture shows crimping process with Mini-applicator

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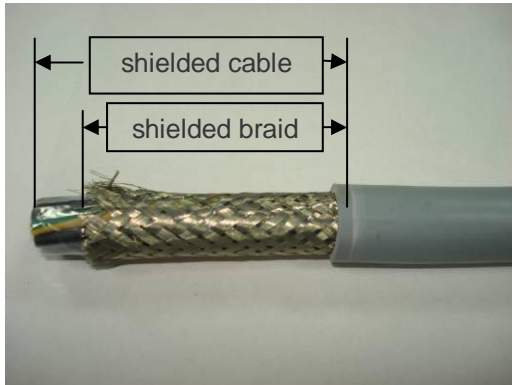
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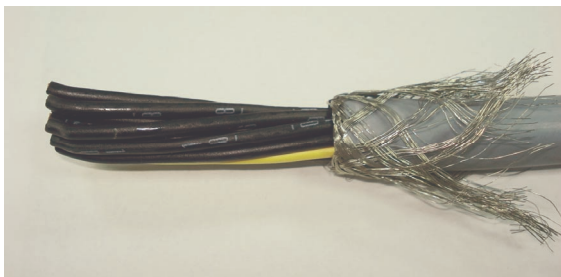
2.4) Stripping, shielded cable system



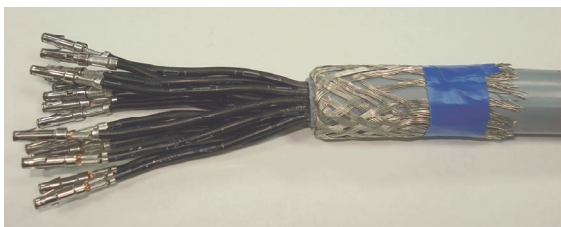
The stripping length for shielded cable has to be determined that the shielded cable is inside of the grounding ring after assembly. The stripping of cable is carried out with relevant stripping unit. Thereby the shielding braid must not be damaged.

The recommended stripping length for shielded braid is 40mm. Stripping length for single wires see 2.1) + 2.2).

2.5) Crimping contacts to shielded cable system



turn over braid and remove the protective foil if available



fix the shielding braid with tape for easier assembly

stripping single cables and crimp the contacts see 2.1) + 2.2)

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3.0) Assembly of connector

3.1) Insert of pin and socket contacts:

PIN:



SOCKET:



Insertion:

An insertion tool is not required. The stamped contacts are pushed by hand into the cavity from the rear side of the connector. A “click” indicates that the contact is in the final position.

The contact can not be pulled back. Forwards the contact position is defined by a shoulder inside the insulator.

PIN:



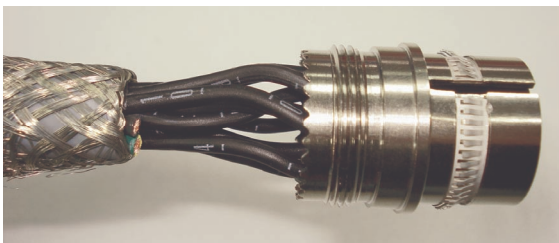
SOCKET:



ATTENTION !!!

After assembling the contacts must be checked if safely locked into position in the insulator.

Do not use contacts if they are not locked.



component assembly after insert of contacts

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Geprüft:
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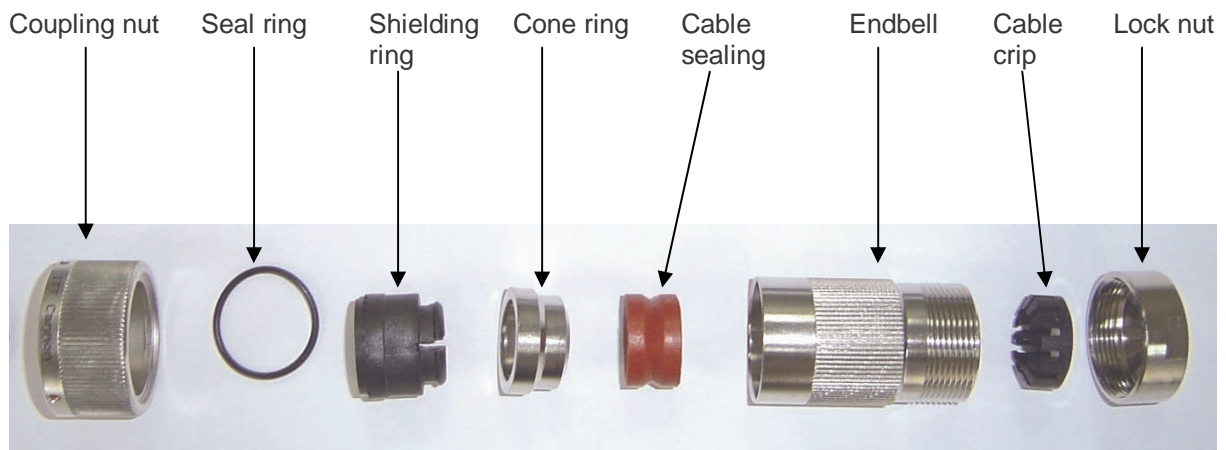


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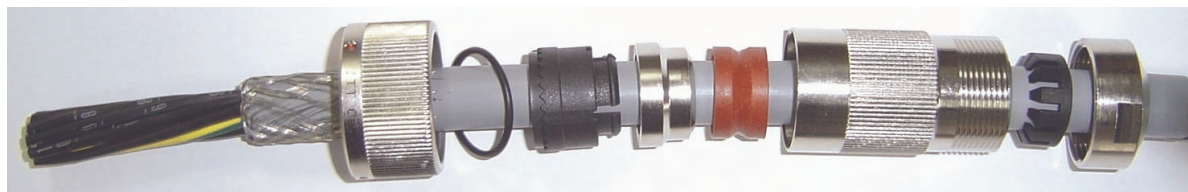
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3.2) Overview of parts to be assembled

CAI connector socket with shielded cable system




For longer cable lengths or for applications with already connected cables, slide all parts on the cable before assembling contacts into barrel and insulator. Pay attention to the correct order of all parts, as pictured.

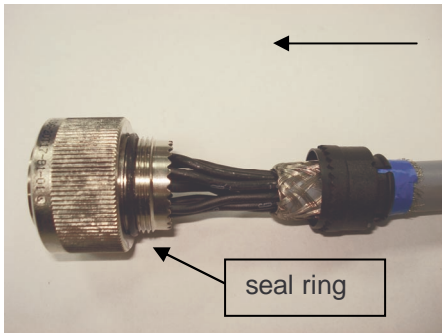


ASSEMBLY DIRECTION
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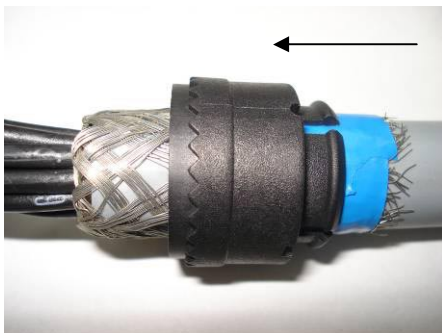
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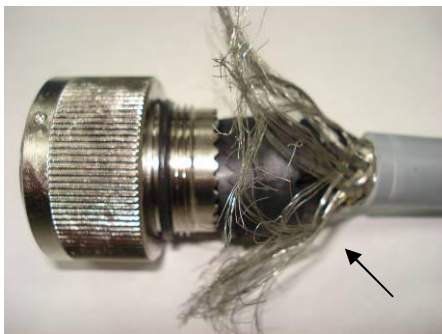
3.3) Assembly Universal Endbell



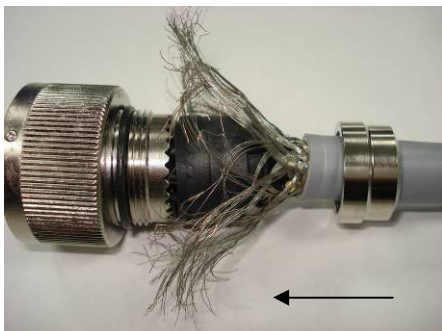
3.3.1) Move coupling nut over the shell and mount the seal ring



3.3.2) Move the support sleeve to the shell and remove the tape. Make sure that the tothing shows to shell.



3.3.3) Weave shielding and arrange evenly over the support sleeve



3.3.4) Move grounding ring to the support sleeve

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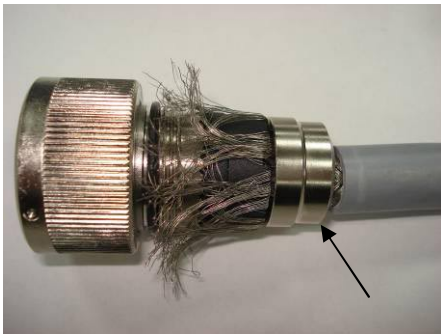
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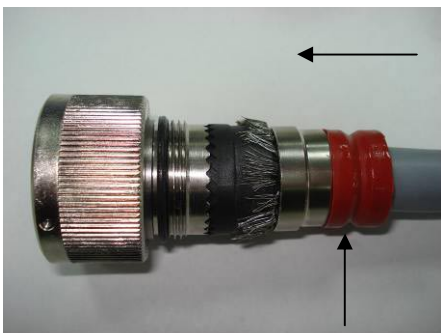
3.3) Assembly Universal Endbell



3.3.5) Mount grounding ring on the support sleeve (snap on connection)



3.3.6) Cut shielding braid (according to picture)



3.3.7) Move the grommet to the grounding ring

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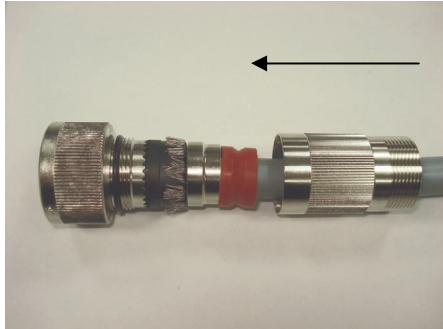
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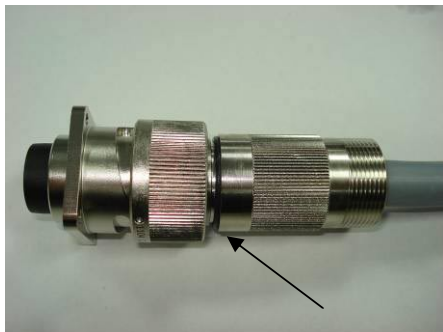
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3.3) Assembly Universal Endbell



3.3.8) Move Universal Endbell to the connector



3.3.9) Move Universal Endbell to position to seal ring



Permitted torque	
Shell size	Nm
10	3
14	5,1
16	7
18	8
20	9
22	10,6
24	12,9
28	16,7
32	18,1
36	23,9

3.3.10) Tighten Endbell and note the permitted torque

TIP: as installation support the right flange shell can be used

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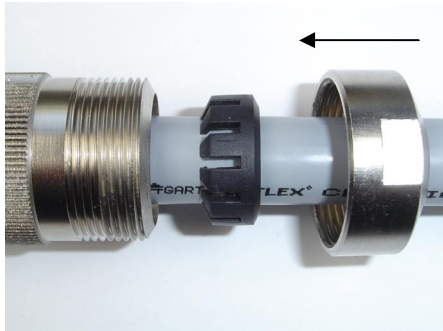
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3.3) Assembly Universal Endbell



3.3.11) Move the cable grip (according to picture) to the Universal Endbell and screw the clamp nut



3.3.12) Mount the clamp nut and pull tight with an open end wrench. Recommended torque is 3+/-1Nm



3.3.13) Connector is assembled completely.

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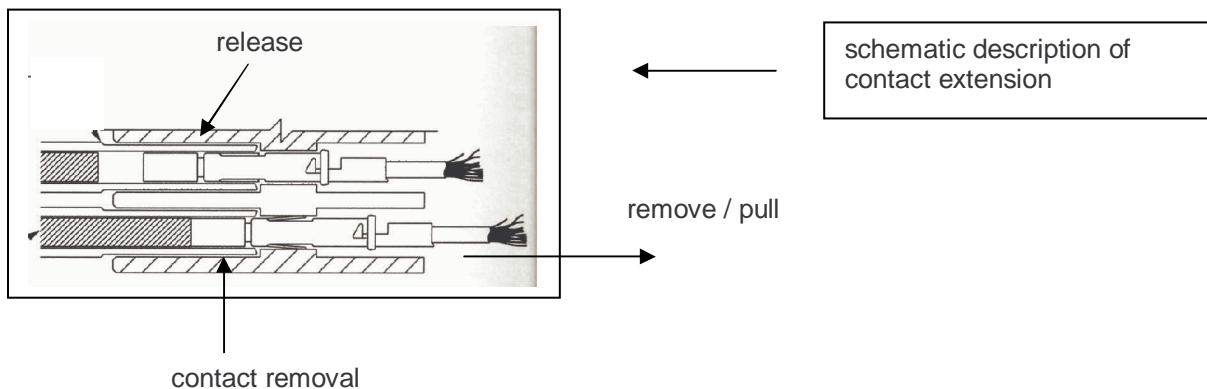
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4.0) Removal of contacts



4.1) Removal of APK and T2P contacts

Removal of the stamped contacts, pin and socket is done from the front of the housing / shell with the extraction tool. The extraction tool is inserted from the front side of the connector. The locking springs are compressed and the contact can be pulled out on the cable side.



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4.0) Removal of contacts

4.2) ITT – Cannon Extraction tools



Extraction tool Trident:
P/n.: 192922-1450



Extraction tool APK 25:
P/n.: 121086-3278



Extraction tool APK 25:
P/n.: 192900-0176

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