

MIL-PP

Push-Pull Connectors

The new standard in push-pull connectors
Assembly Instructions



Company Profile

TT Electronics' brand AB Connectors specialises in the design, test and manufacture of high performance electronic connectors and interconnect solutions, supplying a range of global customers in aerospace, defence, rail and industrial markets.

Our broad product portfolio which includes miniature connectors, high power connectors, soldier systems, harness assemblies and box systems typically serve within key applications such as signalling, communication and power distribution.



Operating from the principle site in Abercynon, South Wales, our research and development teams have an excellent track record for developing innovative industry solutions and our engineers have extensive experience in designing a range of product configurations to meet customer specific requirements for the most demanding environments.

From plant layout to production line set-up and quick changeover processes, we offer the ideal service, with a flexible manufacturing environment and accredited facilities.

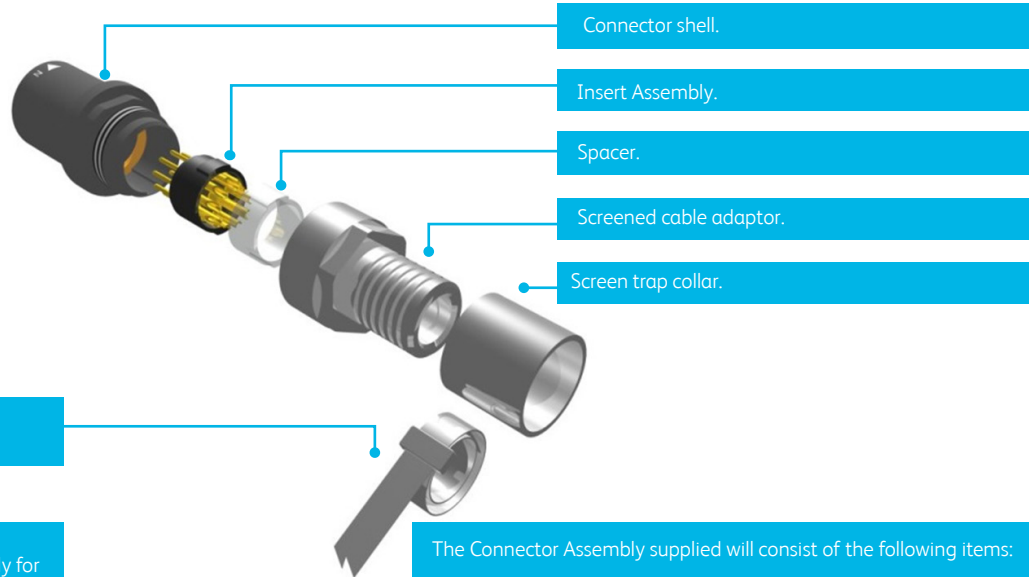
Quality systems and approvals include ISO9001 along with various product and market sector approvals including the military Mil-std 790 and mass transit IRIS certifications and environmental approval to ISO14001. As a result of these qualifications AB Connectors has been awarded several major customer approvals and accreditations.

AB Connectors total commitment to providing customers with high levels of service, cost effectiveness, quality and innovative solutions in interconnection products make it the ideal first choice supply partner.



Connector Assembly Instructions

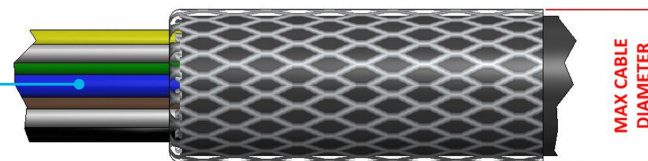
Cable Entry Size	**Max Cable Diameter
2	4.40
4	6.40
6	8.40



Note:
 Micro Band Strap to be ordered separately for terminating the screen.

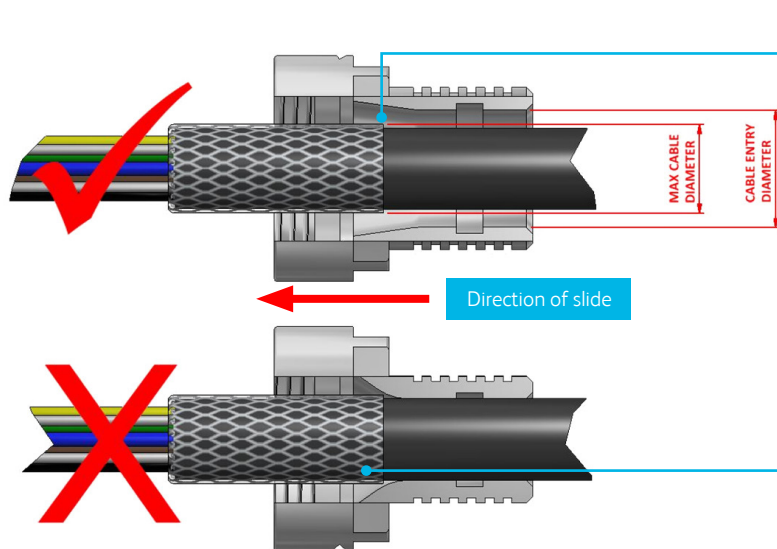
- The Connector Assembly supplied will consist of the following items:
1. Connector Shell.
 2. Insert Assembly.
 3. Spacer.
 4. Screened Cable Adaptor.
 5. Screen Trap Collar.

Important: Recommended MAX wire size is 24 AWG.



**Max Cable Diameter includes the screen when folded over the outer jacket.

Care Point: It is important that the Screened Cable Adaptor can easily slide over the screen without dragging the screen off the outer jacket.



Acceptable: Clearance between the Max Cable Diameter & Cable Entry

Unacceptable: No clearance between the Max Cable Diameter & Cable Entry Diameter.
Note: A larger Cable Entry Diameter or Smaller Cable is required.

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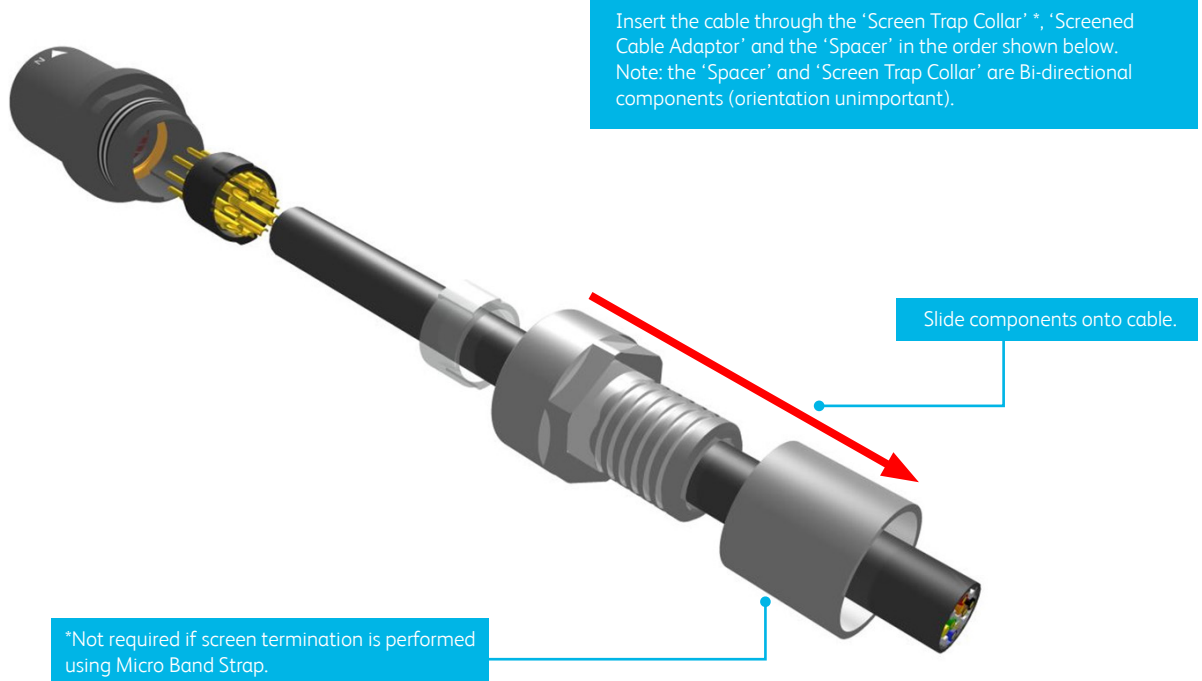
General Note

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Connector Assembly Instructions

For the purpose of this document a Cable Mount Receptacle, Pin version, has been used. The build method is identical for a socket version and also for a cable mounted plug.

STEP 1



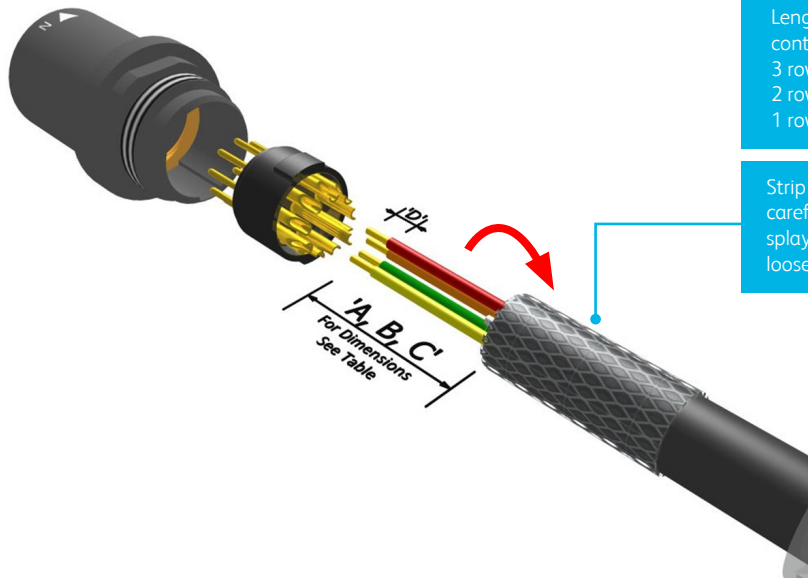
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Connector Assembly Instructions

STEP 2



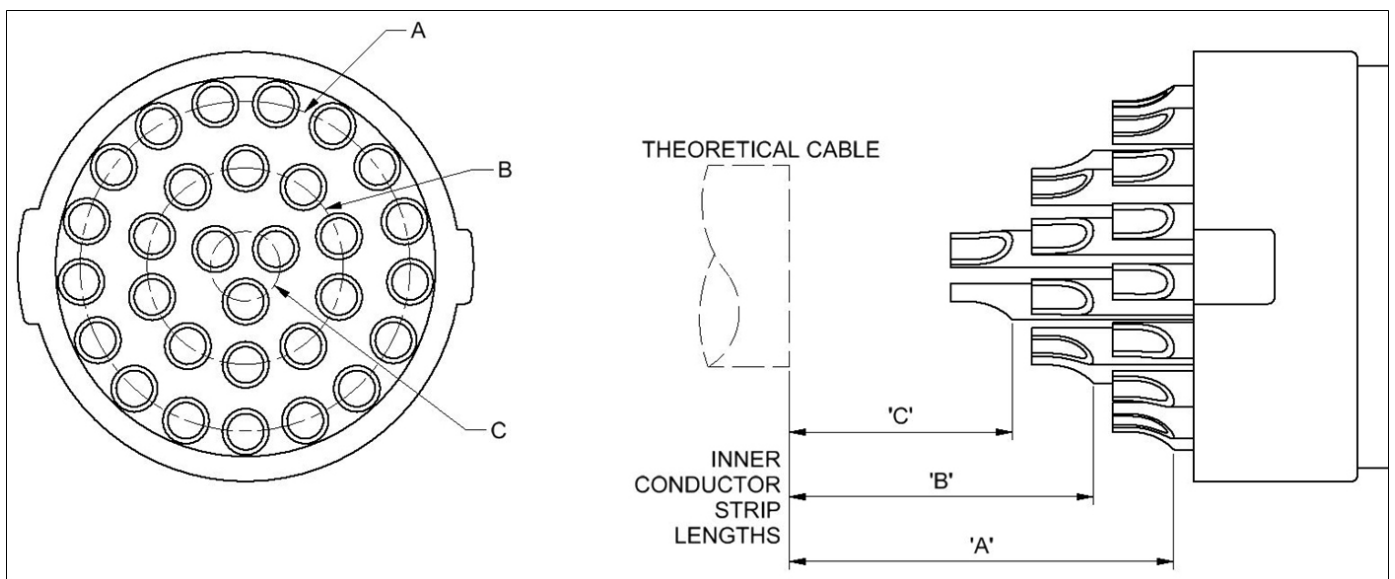
Strip the outer jacket to dimension 'A', as indicated in Table '1', being careful not to damage the screen or inner core insulation.
Fold the outer screen back over the outer jacket away from the inner conductors.

Trim the inner conductors as per Table '1'.
Lengths will depend upon the number of staggered contact rows in the insert.
3 rows; 3 different lengths – Lengths A, B & C
2 rows; 2 different lengths – Lengths A & B
1 row; Length A only

Strip the inner conductors to dimension 'D', being careful not to disturb the cable stranding. If accidentally splayed, apply a light twist to the cable to contain any loose strands.

Table '1'

Strip Length	A (mm)	B (mm)	C (mm)	D (mm)
	15 - 15.50	13 - 13.50	11 - 11.50	2 - 2.20



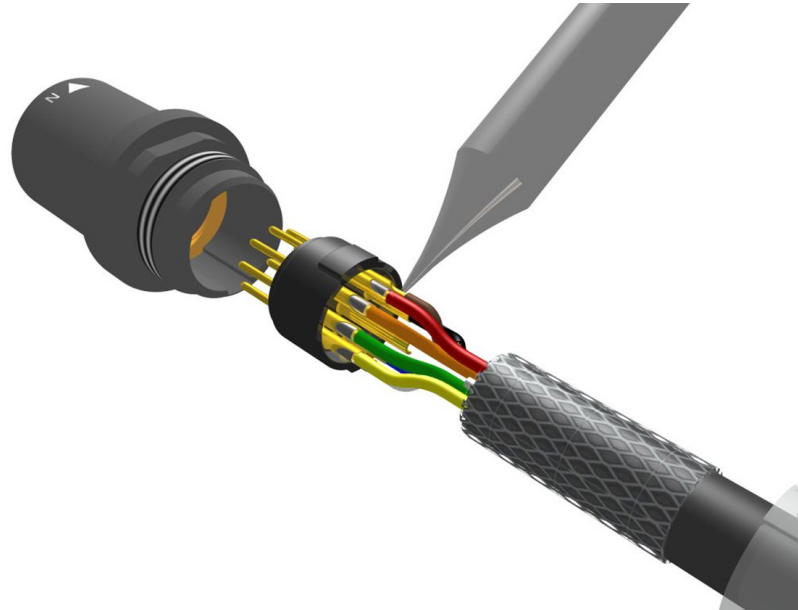
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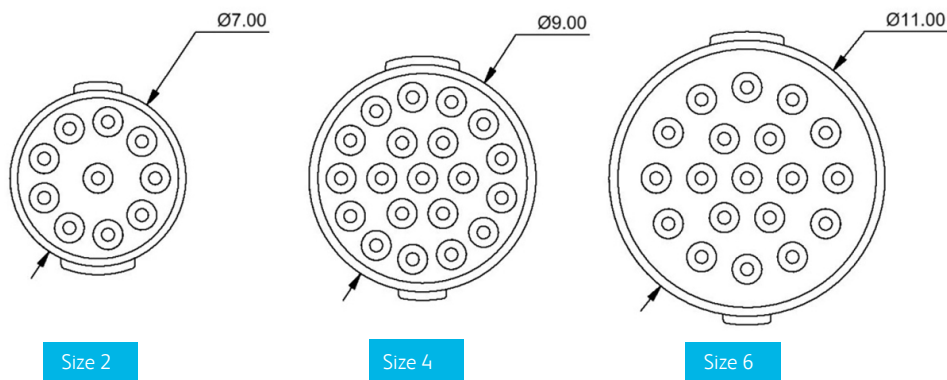
Connector Assembly Instructions

STEP 3



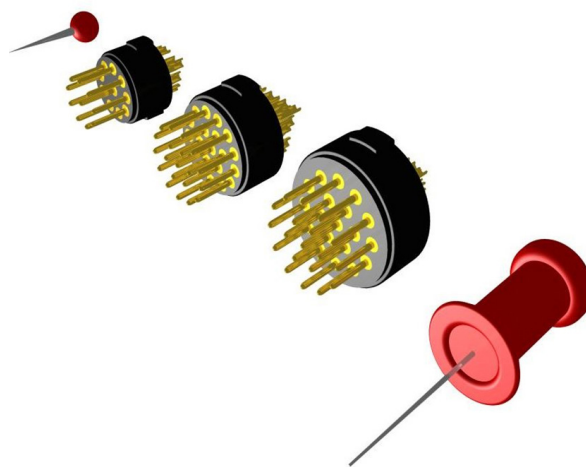
Solder the individual conductors into the contacts ensuring there are no loose strands and no solder wicks across between contacts.

Insert Reference Size Guide (mm)



The illustration compares a Medium size Map Pin (1/8" head dia. x 5/16 long) with a size 2, 4 & 6 pin insert and a standard push pin.

The illustration is aimed at giving the end user a perspective of insert size.



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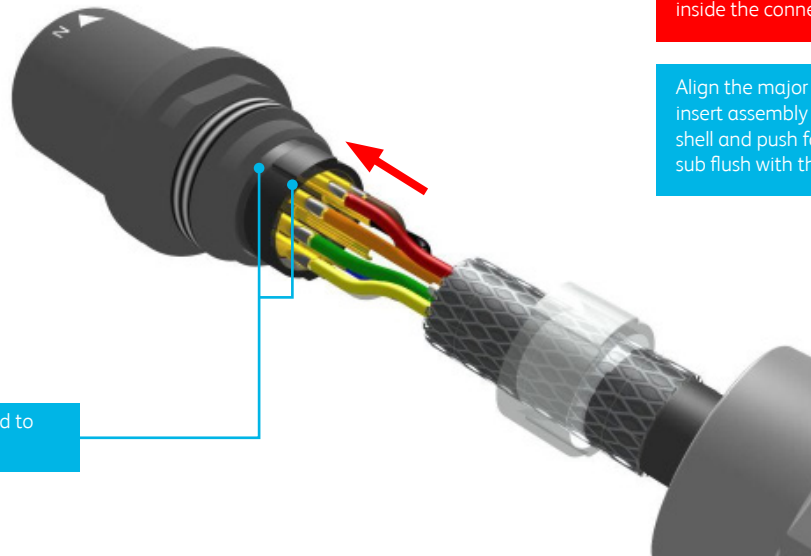
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Connector Assembly Instructions

STEP 4



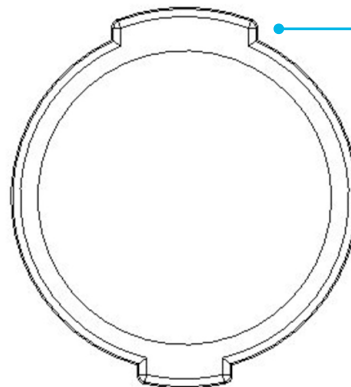
Hint:

To assist with fitting the insert assembly into the connector shell, a small amount of isopropanol can be applied onto the o'ring inside the connector shell.

Align the major key (largest key) of the insert assembly to the major keyway of the shell and push forward until the assembly is sub flush with the rear of the shell.

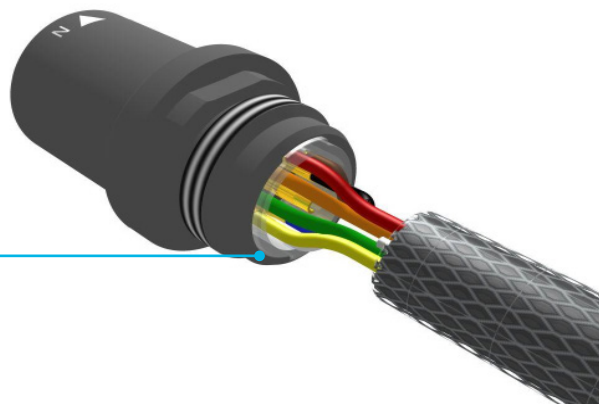
Major Key of Insert Assembly aligned to Major Keyway of shell.

STEP 5



Major Key (largest key) of the insert assembly and spacer.

Align the major key of the spacer to the major keyway of the shell and push forward until the spacer is almost flush with the rear of the shell.



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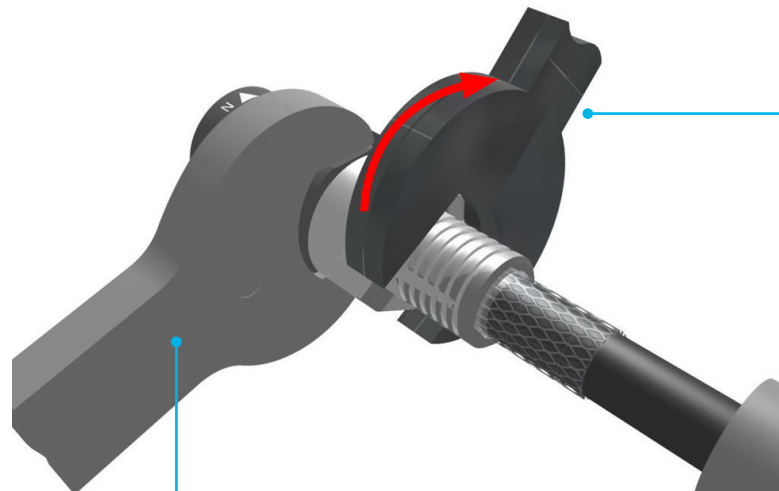
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STEP 6

Hand tighten the 'Screened Cable Adaptor' to the shell and take care not to cross thread the components. Once hand tight, place the shell into the front spanner which should be fixed or held firmly. The 'Screened Cable Adaptor' should then be tightened using a standard open jaw spanner to the torque value given in Table '2'.

Standard spanner rotated to given torque value



Front spanner: ABSCT-002-## (Refer to Table 2) fixed or held firmly in place.

Table '2'

Connector Size	Front Spanner	Rear Spanner (A/F)	Torque Nm
02	ABSCT-002-02	3/8" AF	3.0 - 3.5
04	ABSCT-002-04	1/4" BSF	3.5 - 4.0
06	ABSCT-002-06	5/16" BSF	4.0 - 4.5

Note: Rear Spanner (A/F) values are based upon standard wrench sizes as follows:
 Size 02 in accordance with BS 7586 1992
 Size 04 in accordance with BS 192-2: 1998
 Size 06 in accordance with BS 192-2: 1998

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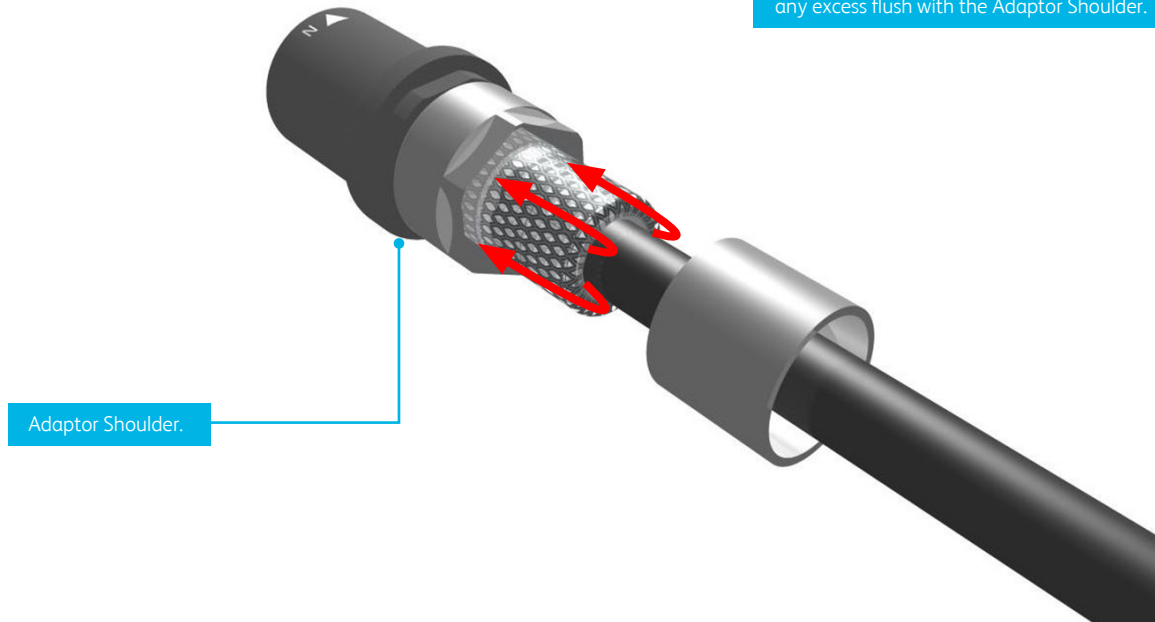
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Connector Assembly Instructions

STEP 7

Wrap the screen neatly around the 'Screened Cable Adaptor' and trim any excess flush with the Adaptor Shoulder.



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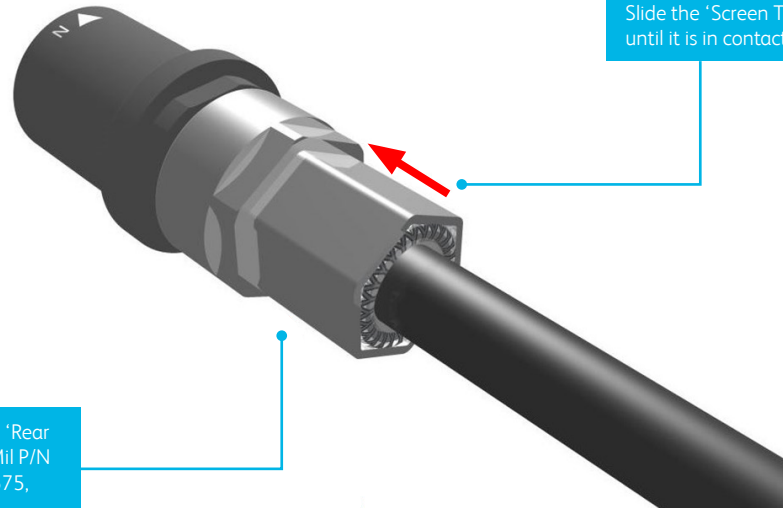
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AB Connectors

<http://www.ttelectronics.com/connectors>

Connector Assembly Instructions

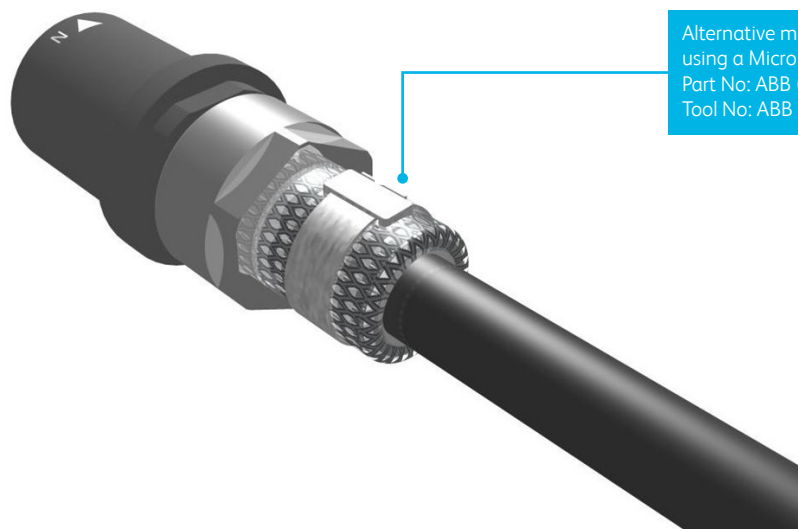
STEP 8 - Using Screen Trap Collar



Crimp the 'Screen Trap Collar' onto the 'Rear Adaptor' using Crimp Tool DMC HX4, Mil P/N M22520/5-01 or NSN 5120-01-335-8575, using die set ABCST-0003-##.

Connector Size	Die Set No:
02	ABCST-0003-02
04	ABCST-0003-04
06	ABCST-0003-06

Alternative with Micro Band Strap



Alternative method is to terminate the screen using a Micro Band Strap.
Part No: ABB 600 057
Tool No: ABB 600 061

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Receptacle Connector Panel Nut Assembly



Table '3'

Connector Size	Slotted Nut Driver	Torque $\pm 10\%$ (Nm)
02	ABSCT-0001-02	1.4
04	ABSCT-0001-04	1.7
06	ABSCT-0001-06	2.0

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2. Cable interface

TT Electronics offer the complete solution from connector manufacture to final cable assembly. As part of the final assembly, two offerings are available in the form of over moulding (2a) and heat shrink boot (2b) solutions as illustrated below.

2a. Over moulding

TT Electronics can offer two over mould solutions:

i) Polyamide – Low pressure so ideal for sensitive electronic components solutions, prototype/ demonstration purposes.

ii) Thermoplastic Polyurethane (recommended) – Ideal for high volume and harsh environments.

Example of a straight over moulded cable plug:



2a. Heat shrink boot – Ideal for demonstration builds

Example of a straight heatshrink boot cable plug:



Please consult the factory on further information on how TT Electronics can support you and your requirements.

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Global Presence

The world's demand for electronics is increasing as new technologies, with a higher dependence on complex components, are being adopted by a broader customer base. This growth provides TT electronics an assured future as we focus our efforts to deliver excellence in customer service and quality products to these markets.

From our strong UK base, the company has achieved truly global reach. We have established technical and manufacturing facilities in strategic countries maintaining the successful formula of close liaison with our customers in all major overseas markets. In addition, through strategic relationships with Original Equipment Manufacturers around the world, we are now in the enviable position where we gain double benefit - from the growth in their markets and from the increase in the electronic content of end products.

Information on TT companies can be found by contacting:-

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