GARMIN

Shield Block
Installation Instructions

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Section 1. Shield Block Installation Parts

CAUTION

Disclaimer: This instruction manual assumes skill and knowledge of aircraft harness fabrication techniques. DO NOT PERFORM THIS INSTALLATION IF YOU ARE UNQUALIFIED.

Table 1-1 provides a list of parts needed to install a shield block. Parts for this installation are included in the shield block installation kits along with other Garmin installation kits and some are to be provided by the OEM/installer.

Table 1-1. Parts needed for a Shield Block Installation (see Figures 1-1 and 1-2)

Figure Ref	Description	GPN or MIL spec
1, 14, 15, 16, 17, 18, 19	Backshell Installation Kit	011-00950-XX*
2, 3	Shield Block(s)	011-01169-XX*
4	Multiple Conductor Shielded Cable *(2 –conductor demonstrated here)*	Reference Installation Wiring Diagrams
5	Drain Wire Shield Termination (method optional)	Parts used depend on method chosen (see Section 2)
6	Braid, Flat *(19-20 AWG equivalent, tinned plated copper strands 36 AWG, Circular Mil Area 1000 - 1300)*	Parts used depend on method chosen
7	Floating Shield Termination (method optional)	Parts used depend on method chosen (see Section 2)
8*	Contacts	Reference Product Installation Manuals
9	Ring terminal, #8, insulated, 18-22 AWG	MS25036-149
	Ring terminal, #8, insulated, 14-16 AWG	MS25036-153
	Ring terminal, #8, insulated, 10-12 AWG	MS25036-156
10	Screw, PHP, 8-32x.312", Stainless	MS51957-42
	Screw, PHP, 8-32x.312", Cad Plated Steel	MS35206-242
11	Split Washer, #8, (.045" compressed thickness) Stainless	MS35338-137
	Split Washer, #8, (.045" compressed thickness) Cad-plated steel	MS35338-42
12	Flat Washer, Stainless, #8, .032" thick, .174"ID, .375" OD	NAS1149CN832R
	Flat washer, Cad-plated Steel, #8, .032" thick, .174"ID, .375" OD	NAS1149FN832P
13	Silicon Fusion Tape	249-00114-00
20, 21, 23	D-sub Slide Lock Kit (Reference Product Installation Manual for required usage)	330-90006-XX*
22*	D-sub Connector	Reference Product Installation Manual
	D-sub Interfacial Seal (Reference Product Installation Manual for required usage)	Part supplied with d-sub connector if required

*Indicated parts are provided by Garmin.

The following tables provide a list of parts that are included in each backshell installation kit provided by Garmin. Reference the product installation manual to determine the installation kit required for specific LRUs.

Table 1-2. 011-00950-00, Backshell Kit Contents (See Figure 1-1)

Shell Size 1 – 9/15 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00081-00
14	Clamp	1	115-00499-00
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	2	211-60234-10
16	Cover	1	115-00500-00
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06

Table 1-3. 011-00950-01, Backshell Kit Contents (See Figure 1-1)

Shell Size 2 – 15/26 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00082-00
14	Clamp	1	115-00499-01
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	2	211-60234-10
16	Cover	1	115-00500-01
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06

Table 1-4. 011-00950-02, Backshell Kit Contents (See Figure 1-1)

Shell Size 3 – 25/44 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00083-00
14	Clamp	1	115-00499-02
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	3	211-60234-10
16	Cover	1	115-00500-02
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06

Table 1-5. 011-00950-03, Backshell Kit Contents (See Figure 1-1)

Shell Size 4 – 37/62 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00084-00
14	Clamp	1	115-00499-03
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	3	211-60234-10
16	Cover	1	115-00500-03
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06

Table 1-6. 011-00950-04, Backshell Kit Contents (See Figure 1-1)

Shell Size 5 – 50/78 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00085-00

14	Clamp	1	115-00499-03
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	3	211-60234-10
16	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	1	115-00500-04
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06

Table 1-7. 011-00950-12, 90-Degree Backshell Kit Contents (See Figure 1-2)

Shell Size 3 – 25/44 Pin			
Figure Ref	Description	Qty. Included	GPN
1	Backshell	1	125-00083-00
14	Clamp	1	115-00499-02
15	Screw, 4-40x.375, PHP, SS/P, w/Nylon	3	211-60234-10
16	Cover	1	115-00500-05
17	Screw, 4-40x.187, FLHP100, SS/P, w/Nylon	2	211-63234-06
18	Adapter	1	117-00151-00
19	Screw, 4-40x1.00, FLHP100, SS/P, w/Nylon	3	211-63234-20

Table 1-8. 011-01169-00, Shield Block Kit Contents (See Figure 1-1)

Figure Ref	Description	Qty. Included	GPN
2	Ring Terminal Adapter	1	117-00147-00
3	Screw, 4-40x.250, FLHP 100, SS/P, w/Nylon	2	211-63234-08

Table 1-9. 011-01169-01, Shield Block Kit Contents (See Figure 1-1)

Figure Ref	Description	Qty. Included	GPN
2	Ring Terminal Adapter	1	117-00147-01
3	Screw, 4-40x.250, FLHP 100, SS/P, w/Nylon	4	211-63234-08

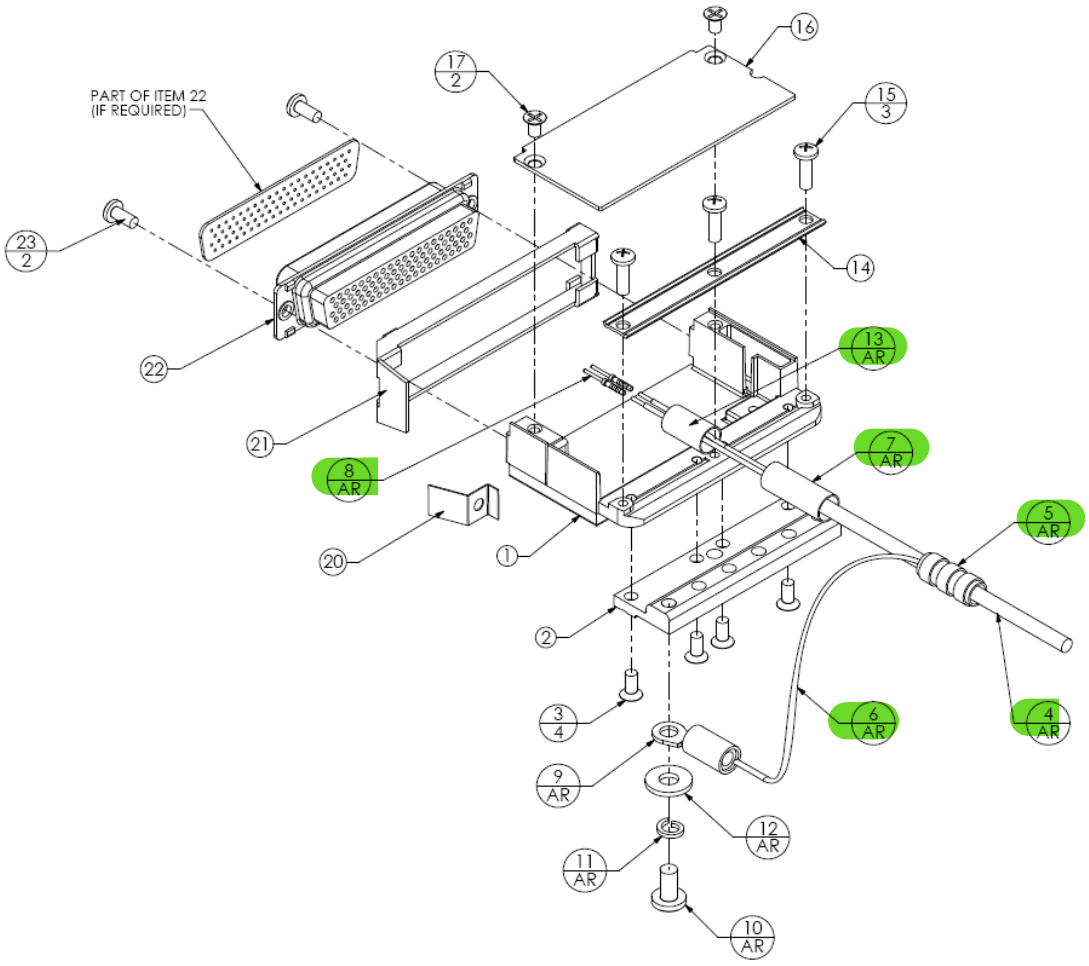

Figure 1-1. Shield Block Install onto a Backshell (78 pin example)
Note: "AR" denotes quantity "As Required" for the particular installation

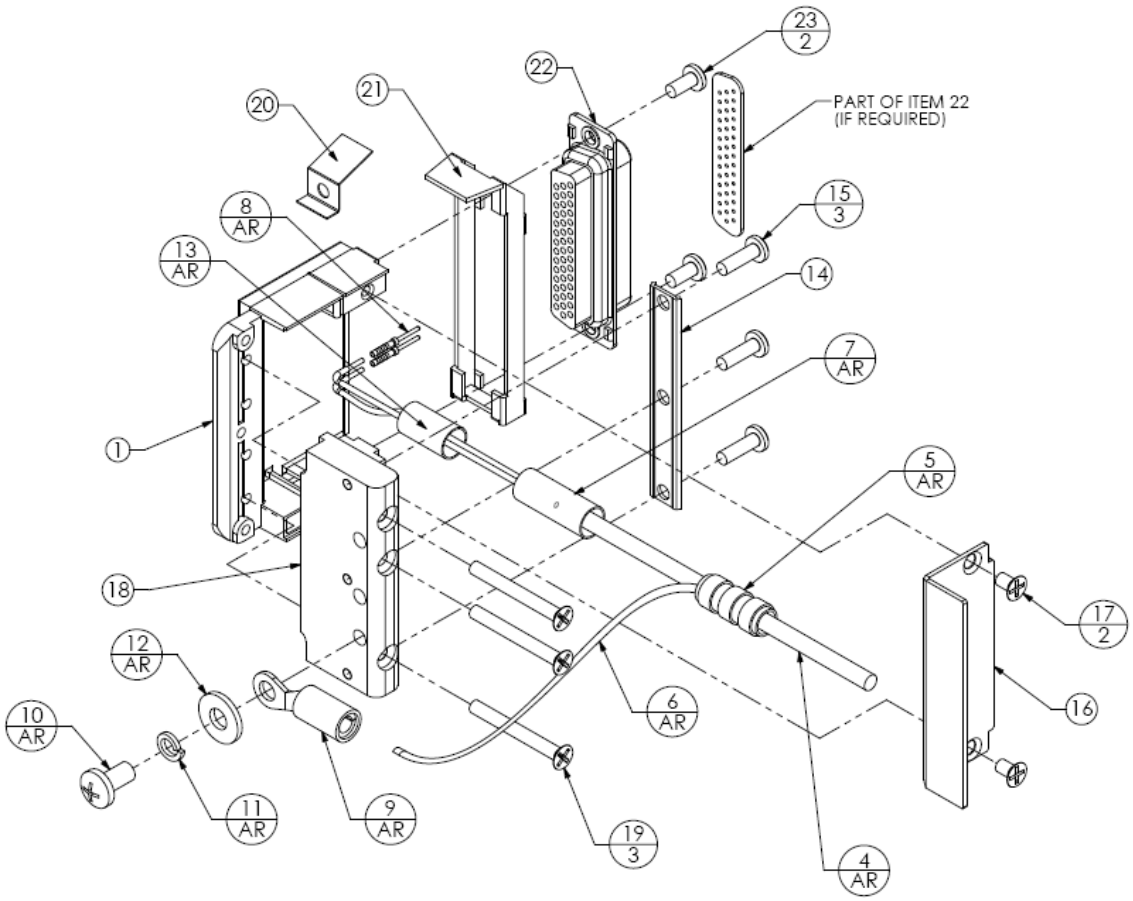

Figure 1-2. Shield Install onto a 90 Degree Backshell (44 pin example)
Note: "AR" denotes quantity "As Required" for the particular installation

Section 2. Shield Termination Technique – Method A.1 (Standard)

1. Attach the shield block(s) (item 2) to the backshell (item 1) using the screws (item 3) (see Figure 1-1). The appropriate number of shield block kits will be included in the particular LRU connector kit. Table 2-1 lists the type and quantity of shield blocks used for specific backshell kits. If using a 90-degree backshell adapter (item 19), secure the adapter to the backshell (item 1) using the screws (item 20) (see Figure 1-2).

Table 2-1. Possible Shield Block Arrangements

Backshell Assembly		Shield Block	
Pin Count (Std./High)	**GPN**	**GPN**	**Quantity**
(9/15)	011-00950-00	011-01169-00	One
(15/26)	011-00950-01	011-01169-00	One
(25/44)	011-00950-02	011-01169-00	One
			Two (if needed)
(37/62)	011-00950-03	011-01169-01	One
(50/78)	011-00950-04	011-01169-01	One

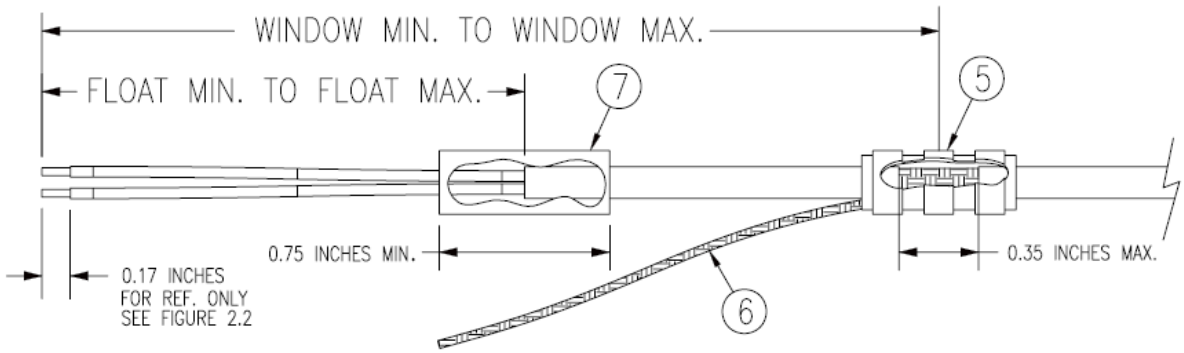

Figure 2-1. Method A.1 for Shield Termination

Table 2-2. Shielded Cable Preparations for Garmin Connectors

Backshell Size	Number of Pins Std/HD	Float Min (inches)	Float Max (inches)	Ideal Float (inches)	Window Min (inches)	Window Max (inches)	Ideal Window (inches)
1	9/15	1.25	2.25	1.75	2.75	5.25	4.25
2	15/26	1.5	2.5	2.0	3.0	5.5	4.5
3	25/44	1.5	2.5	2.0	3.0	5.5	4.5
4	37/62	1.5	2.5	2.0	3.0	5.5	4.5
5	50/78	1.5	2.5	2.0	3.0	5.5	4.5

2. At one end of a shielded cable (item 4) measure a distance between “Window Min” to “Window Max” (Table 2-2) and cut a window (max size 0.35”) in the jacket to expose the shield (see Figure 2-1). Use caution when cutting the jacket to avoid damaging the individual braids of the shield. When dealing with a densely populated connector with many cables, it may prove beneficial to stagger the windows throughout

the “Window Min” to “Window Max” range. If staggering is not needed the “Ideal Window” length is recommended.

Suggested tools to accomplish the window cut:

- Coaxial Cable Stripper
- Thermal Stripper
- Sharp Razor Blade

3. Connect a flat braid (item 6) to the shield exposed through the window of the prepared cable assembly (item 4) from step 2. The flat braid should go out the front of the termination towards the connector. It is not permitted to exit the rear of the termination and loop back towards the connector (see Figure 2-1). Make this connection using an approved shield termination technique.

NOTE

FAA AC 43.13-1B Chapter 11, Section 8 (Wiring Installation Inspection Requirements) may be a helpful reference for termination techniques.

Preferred Method:

Slide a solder sleeve (item 5) onto the prepared cable assembly (item 4) and connect the flat braid (item 6) to the shield using a heat gun approved for use with solder sleeves. It may prove beneficial to use a solder sleeve with a pre-installed flat braid versus having to cut a length of flat braid to be used. The chosen size of solder sleeve must accommodate both the number of conductors present in the cable and the flat braid to be attached.

Solder Sleeves with pre-installed flat braid

A preferred solder sleeve would be the Raychem S03 Series with the thermochromic temperature indicator (S03-02-R-9035-100, S03-03-R-9035-100, S03-04-R-9035-100). These solder sleeves come with a pre-installed braid and effectively take the place of items 5 and 6. For detailed instructions on product use, reference Raychem installation procedure RCPS 100-70.

Raychem recommended heating tools:

- HL1802E
- AA-400 Super Heater
- CV-1981
- MiniRay
- IR-1759

Individual solder sleeves and flat braid

Solder Sleeves:

Reference the following MIL-Specs for solder sleeves.
(M83519/1-1, M83519/1-2, M83519/1-3, M83519/1-4, M83519/1-5)

Flat Braid:

If the preferred Raychem sleeves are not being used, the individual flat braid selected should conform to ASTMB33 for tinned copper and be made up of 36 AWG strands to form an approximately 19-20 AWG equivalent flat braid. A circular mil area range of 1000 to 1300 is required. The number of individual strands in each braid bundle is not specified. (e.g. QQB575F36T062)

NOTE

Flat braid as opposed to insulated wire is specified in order to allow continuing air worthiness by allowing for visual inspection of the conductor.

Secondary Method:

Solder a flat braid (item 6) to the shield exposed through the window of the prepared cable assembly (item 4). Ensure a solid electrical connection through the use of acceptable soldering practices. Use care to avoid applying excessive heat that burns through the insulation of the center conductors and shorts the shield to the signal wire. Slide a minimum 0.75 inches of Teflon heat shrinkable tubing (item 5) onto the prepared wire assembly and shrink using a heat gun. The chosen size of heat shrinkage tubing must accommodate both the number of conductors present in the cable and the flat braid to be attached.

Teflon Heat Shrinkable Tubing:

Reference the following MIL-Spec for Teflon heat shrinkable tubing (M23053/5-X-Y).

4. At the same end of the shielded cable (item 4) and ahead of the previous shield termination, strip back "Float Min" to "Float Max" (Table 2-2) length of jacket and shield to expose the insulated center conductors (see Figure 2-1). The "Ideal Float" length may be best to build optimally.

   Preferred Method:

   The jacket and shield should be cut off at the same point so no shield is exposed. Slide 0.75 inches minimum of Teflon heat shrinkable tubing (item 7) onto the cable and use a heat gun to shrink the tubing. The chosen size of heat shrinkage tubing must accommodate the number of conductors present in the cable.

   Secondary Method:

   Leave a max 0.35 inches of shield extending past the jacket. Fold this 0.35 inches of shield back over the jacket. Slide a solder sleeve (item 7) over the end of the cable and use a heat gun approved for solder sleeves to secure the connection. The chosen size of solder sleeve must accommodate the number of conductors present in the cable.

5. Strip back approximately 0.17 inches of insulation from each wire of the shielded cable (item 4) and crimp a contact (item 8) to each conductor. It is the responsibility of the installer to determine the proper length of insulation to be removed. Wire must be visible in the inspection hole after crimping and the insulation must be 1/64 – 1/32 inches from the end of the contact as shown in Figure 2-2.

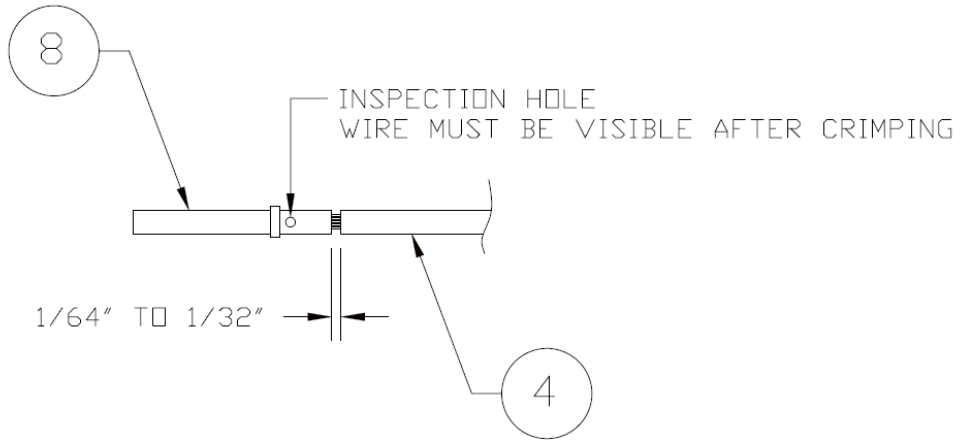

Figure 2-2. Insulation/Contact Clearance

6. Insert newly crimped pins and wires into the appropriate connector housing location as specified by the installation wiring diagrams.

7. Cut the flat braid (item 6) to a length that, with the addition of a ring terminal, will reach one of the tapped holes of the shield block (item 2) (see Figure 1-1) or if using the 90-degree backshell adapter, one of the tapped holes of the adapter (item 19) (see Figure 1-2). An appropriate amount of excess length without looping should be given to the flat braid to allow it to freely move with the wire bundle.

NOTE

Position the window splice to accommodate a flat braid (item 6) length of no more than 4 inches.

8. Guidelines for terminating the newly cutoff flat braid(s) (item 6) with insulated ring terminals (item 9):

    - Each tapped hole on the shield block (item 2) or 90-degree backshell adapter (item 19) may accommodate only two ring terminals (item 9).

    - It is preferred that only two flat braid(s) be terminated per ring terminal. Two flat braids per ring terminal will necessitate the use of a ring terminal, #8, insulated, 14-16 AWG (MS25036-153).

    - If only a single flat braid is left or if only a single flat braid is needed for this connector a ring terminal, #8, insulated, 18-22 AWG (MS25036-149) can accommodate this single flat braid.

    - If more braids exist for this connector than two per ring terminal, it is permissible to terminate three braids per ring terminal. This will necessitate the use of a ring terminal, #8, insulated, 10-12 AWG (MS25036-156).

9. Repeat steps 2 through 8 as needed for the remaining shielded cables.

10. Terminate the ring terminals to the shield block (item 2) or backshell adapter (item 19) by placing items on the pan head screw (item 10) in the following order: Split Washer (item 11), Flat Washer (item 12) first ring terminal, second ring terminal (if needed) before finally inserting the screw into the tapped holes on the shield block or backshell adapter. Do not violate the guidelines presented in Step 8 regarding ring terminals.

11. It is recommended to wrap the cable bundle with silicone fusion tape (item 13) (GPN: 249-00114-00 or a similar version) at the point where the backshell strain relief and cast housing will contact the cable bundle.

NOTE

Choosing to use this tape is the discretion of the installer.

12. Place the smooth side of the backshell strain relief (item 14) across the cable bundle and secure using the three screws (item 15). Warning: Placing the grooved side of the strain relief across the cable bundle may risk damage to wires.

13. Attach the cover (item 16) to the backshell (item 1) using the two screws (item 17).

Section 3. Shield Termination Technique - Method A.2 (Daisy Chain)

In rare situations where more braids need to be terminated for a connector than three per ring terminal it is allowable to daisy chain a maximum of two shields together before coming to the ring terminal (see Figure 3-1). All other restrictions and instructions for the shield termination technique set forth for Method A.1 are still applicable.

NOTE

The maximum length of the combined braids should be approximately 4 inches.

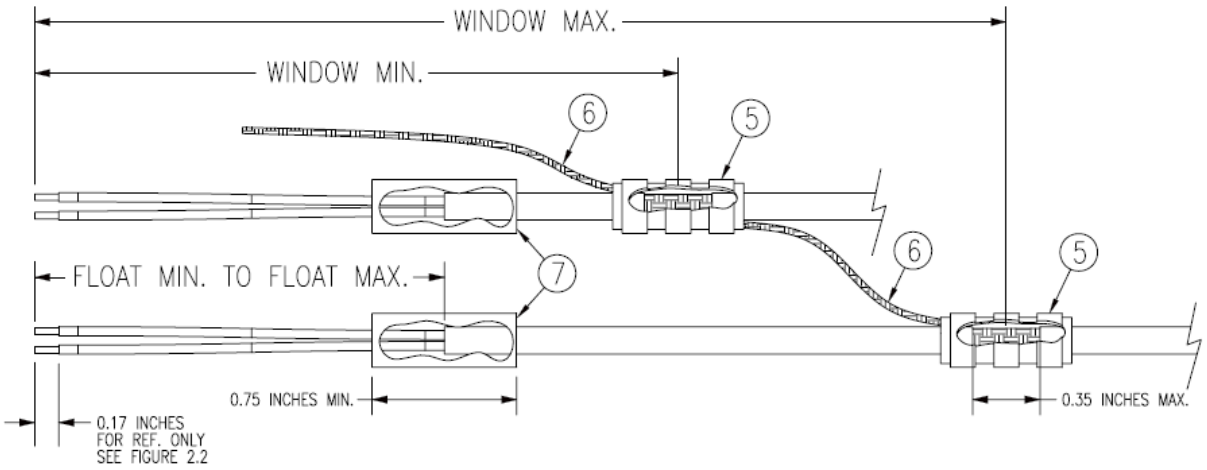

Figure 3-1. Method A.2 (Daisy Chain) for Shield Termination

Section 4. Shield Termination – Method B.1 (Quick Term)

If desired, the drain wire termination (Item 5) and the floating shield termination (Item 7) can be effectively combined into a "Quick Term". This method eliminates the float in the cable insulation and moves the placement of the window which was described by the dimensions "Window Min" and "Window Max" from Method A. This technique is depicted in Figure 4-1.

NOTE

The original purpose for separating the shield drain termination (Item 5) from the float termination (Item 7) in Method A was to allow for a variety of lengths for the drain wires so that the shield drain terminations (Item 5) would not all "bunch up" in the harness and to eliminate loops in the drain wires. If Method B is chosen, as described in this section, care must be taken to insure that all drain shield terminations can still be inspected. With connectors which require a large number of shield terminations it may be best to use Method A. This will allow the drain shield terminations (Item 5) a larger area to be dispersed across.

Instructions for Method B (Quick Term)

Using this method, the instructions from Section 2 (Method A) are followed except that:

1) Step 2 is eliminated

2) Steps 3 and 4 are replaced by the following:

At the end of the shielded cable (item 4), strip "Quick Term Min" to "Quick Term Max" (Table 4-1) length of the jacket to expose the shield. Next trim the shield so that at most 0.35 inches remains extending beyond the insulating jacket. Fold this remaining shield back over the jacket.

Connect a flat braid (Item 6) to the folded back shield of the prepared cable assembly. The flat braid should go out the front of the termination towards the connector. It is not permitted to exit the rear of the termination and loop back towards the connector. (See Figure 4-1). Make this connection using an approved shield termination technique.

NOTE

FAA AC 43.13-1B Chapter 11, Section 8 (Wiring Installation Inspection Requirements) may be a helpful reference for termination techniques.

Preferred Method:

Slide a solder sleeve (item 5) onto the prepared cable assembly (item 4) and connect the flat braid (Item 6) to the shield using a heat gun approved for use with solder sleeves. It may prove beneficial to use a solder sleeve with a pre-installed flat braid versus having to cut a length of flat braid to be used. The chosen size of solder sleeve must accommodate both the number of conductors present in the cable and the flat braid to be attached.

NOTE

Reference Section 2 for recommended solder sleeves and flat braid. The same recommendations are applicable to this technique.

Secondary Method:

Solder a flat braid (Item 6) to the folded back shield on the prepared cable assembly (Item 4). Ensure a solid electrical connection through the use of acceptable soldering practices. Use care to avoid applying excessive heat that burns through the insulation of the center conductors and shorts the shield to the signal wire. Slide a minimum of 0.75 inches of Teflon heat shrinkable tubing (Item 5) onto the prepared wire assembly and shrink using a heat gun. The chosen size of heat shrinkage tubing must accommodate both the number of conductors present in the cable as well as the flat braid to be attached.

Teflon Heat Shrinkable Tubing:

Reference the following MIL-Spec for general Teflon heat shrinkable tubing (M23053/5-X-Y)

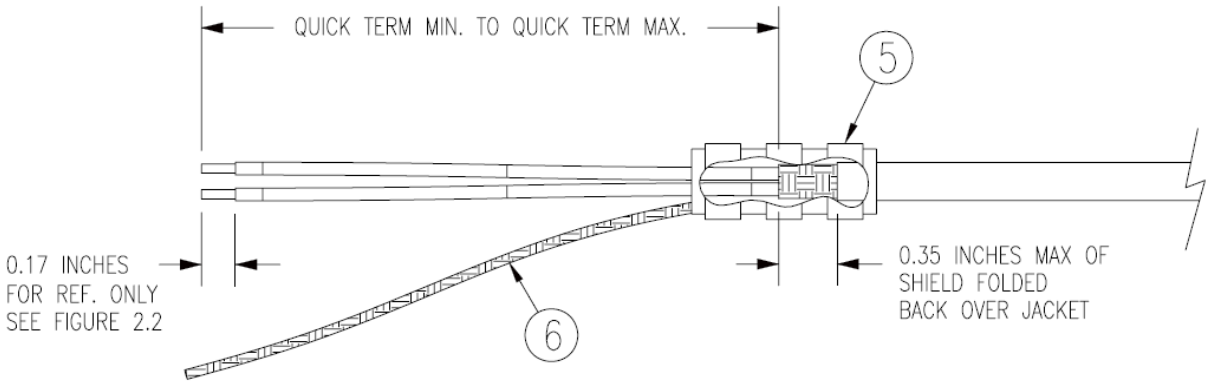

Figure 4-1. Method B.1 (Quick Term) for Shield Termination

Table 4-1. Shielded Cable Preparations – (Quick Term)

Backshell Size	Number of Pins Std/HD	Quick Term Min (inches)	Quick Term Max (inches)	Quick Term Float (inches)
1	9/15	1.25	2.25	1.75
2	15/26	1.5	2.5	2.0
3	25/44	1.5	2.5	2.0
4	37/62	1.5	2.5	2.0
5	50/78	1.5	2.5	2.0

Section 5. Shield Termination-Method B.2 (Daisy Chain-Quick Term)

In rare situations where more braids need to be terminated for a connector than three per ring terminal it is allowable to daisy chain a maximum of two shields together before coming to the ring terminal (see Figure 5-1). All other restrictions and instructions for the shield termination technique set forth for Method B.1 are still applicable.

NOTE

The maximum length of the combined braids should be approximately 4 inches.

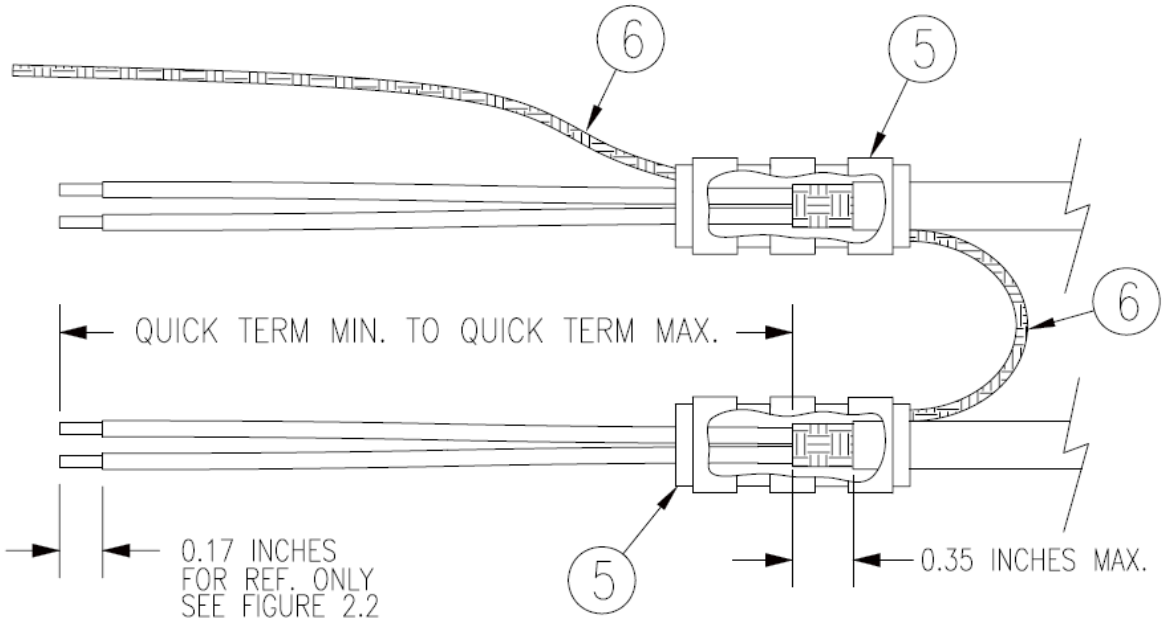

Figure 5-1. Method B.2 (Daisy Chain-Quick Term) for Shield Termination

Section 6. Daisy Chain between Methods A and B

In rare situations where more braids need to be terminated for a connector than three per ring terminal and a mixture of Methods A and B have been used, it is allowable to daisy chain a maximum of two shields together from a Method A termination to a Method B (see Figure 6-1). All other restrictions and instructions for the shield termination technique set forth for Method A and B are still applicable.

NOTE

The maximum length of the combined braids should be approximately 4 inches.

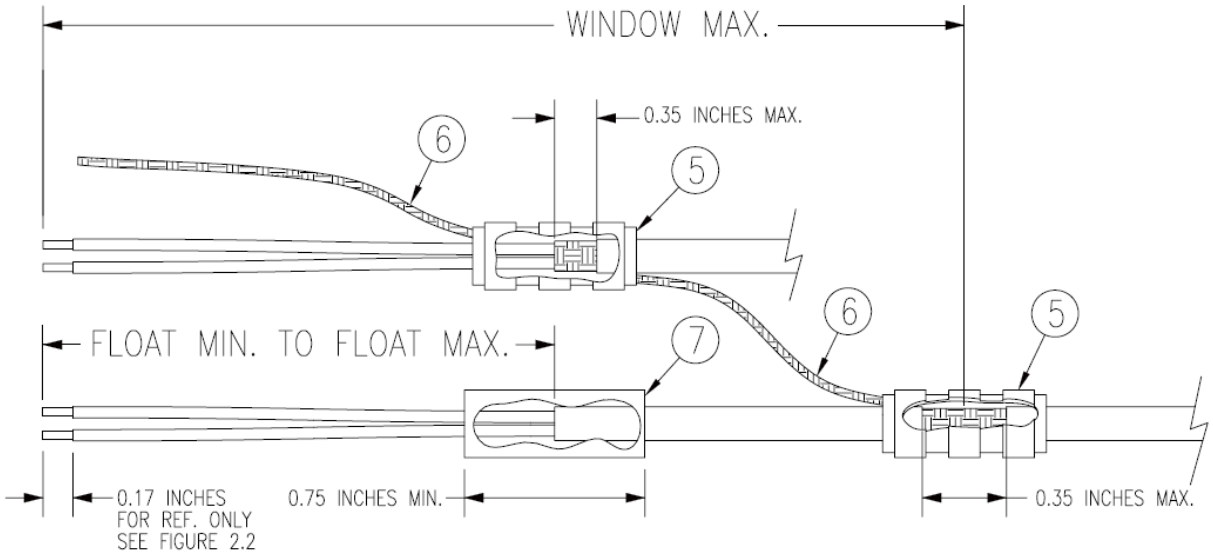

Figure 6-1. Daisy Chain between Methods A and B

Section 7. Double-Shield Termination Technique - Method C.1

In rare situations where double shielding may be necessary, the outer shield should be grounded at both ends, while the inner shield should be grounded only at one end. All other restrictions set forth for in Table 7-1 are applicable.

NOTE

The maximum length of the braids should be approximately 4 inches.

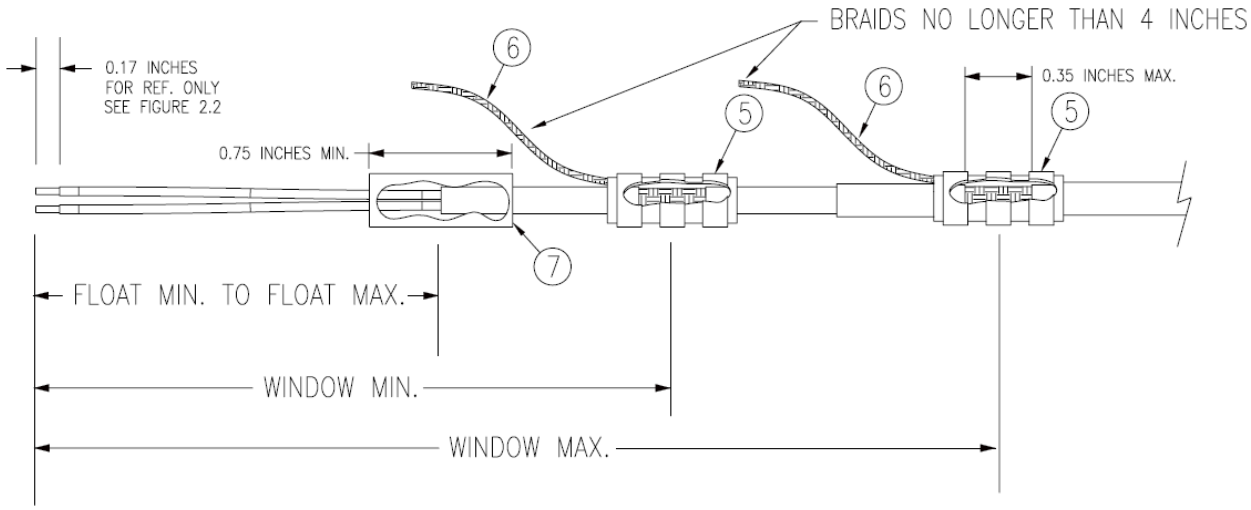

Figure 7-1. Method C.1 Double-Shield Termination

Table 7-1. Shielded Cable Preparations for Garmin Connectors

Backshell Size	Number of Pins Std/HD	Float Min (inches)	Float Max (inches)	Ideal Float (inches)	Window Min (inches)	Window Max (inches)
1	9/15	1.25	2.25	1.75	2.75	5.25
2	15/26	1.5	2.5	2.0	3.0	5.5
3	25/44	1.5	2.5	2.0	3.0	5.5
4	37/62	1.5	2.5	2.0	3.0	5.5
5	50/78	1.5	2.5	2.0	3.0	5.5

Section 8. Double-Shield Termination Technique (Quick Term) - Method C.2

In addition to Method C.1, described previously, another suitable method for double-shielding wires is presented in Figure 8-1. All restrictions set forth for Method C.1 (Table 7-1) are still applicable.

NOTE

The maximum length of the braids should be approximately 4 inches.

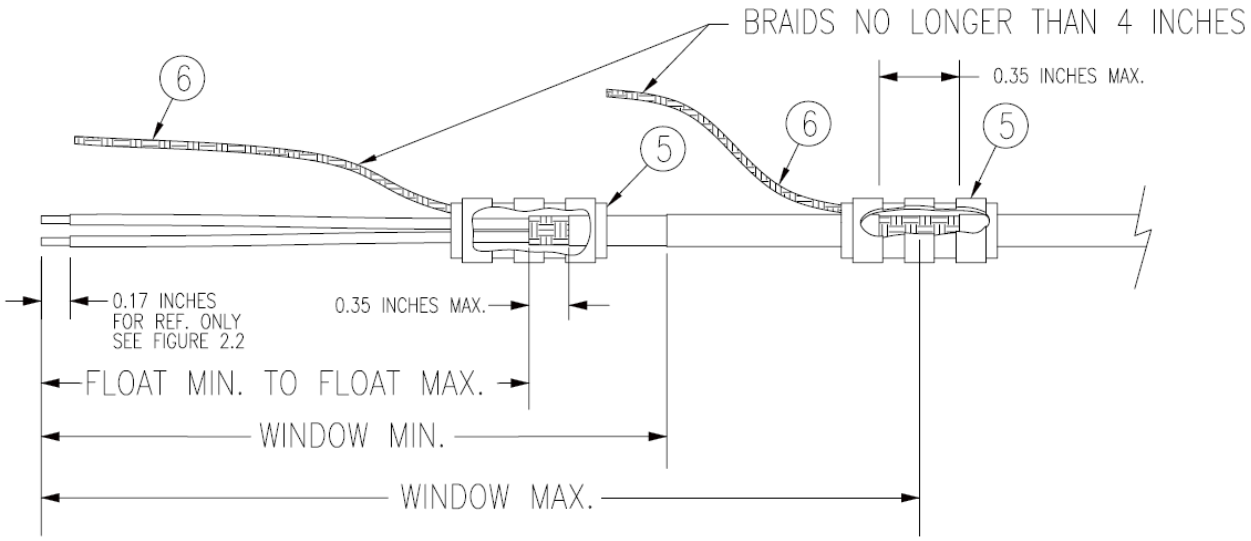

Figure 8-1. Method C.2 Double-Shield Termination

Section 9. Sealed D-Sub Gasket Installation Instructions

If a sealed d-sub connector is required (reference product installation manual), insert the d-sub gasket (included with item 22) over the contacts (item 8) into the harness d-sub connector (item 22). Ensure the flat side of the gasket is inserted into the harness d-sub connector so that it contacts the d-sub dielectric material (see Figure 9-1).

CAUTION

Caution should be used to ensure that the d-sub gasket is not torn during installation and is fully seated against the d-sub connector.

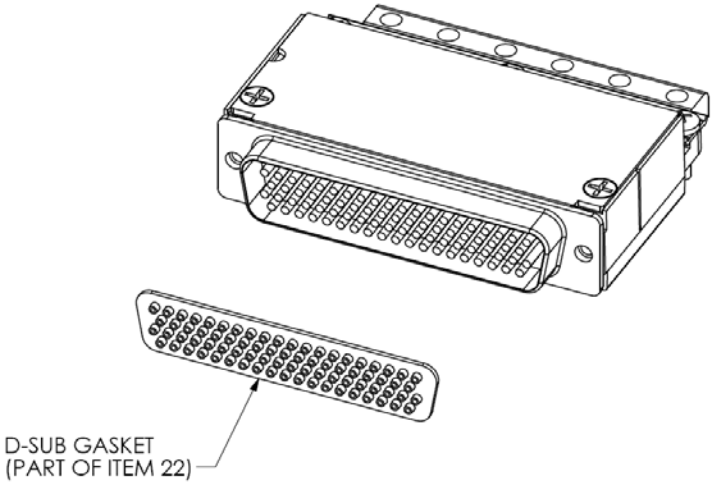

Figure 9-1. D-sub Gasket Installation (78 Pin Example)

Appendix A: ID Program Pins (Strapping)

ID program pins provide a ground reference used by the hardware as a means of configuration for system identification. The following instructions will illustrate how this ground strapping should be accomplished with the shield blocks:

A1. Cut a 4 inch length of 22 AWG insulated wire.

WARNING

Flat braid is not permitted for this purpose. Use only insulated wire to avoid inadvertent ground issues that could occur from exposed conductors.

A2. Strip back 0.17 inches of insulation and crimp a contact (item 8) to the 4" length of 22 AWG insulated wire. It is the responsibility of the installer to determine the proper length of insulation to be removed. Wire must be visible in the inspection hole after crimping and the insulation must be 1/64 – 1/32 inches from the end of the contact as shown in Figure 2-2.

A3. Insert newly crimped pins and wires into the appropriate connector housing location as specified by the installation wiring diagrams.

A4. At the end opposite the pin on the 22 AWG insulated wire strip back 0.2 inches of insulation.

A5. Terminate this end via the ring terminals with the other flat braid per Steps 8 and 11 pertaining to shield termination.

Appendix B: Thermocouple (K-type, J-type) Lo Grounding

If ungrounded temperature probes are used with the Garmin Integrated Avionics System, the GEA requires a ground reference for the negative side of the thermocouple wire. The thermocouple types supported by the GEA are K-type and J-type. The K-type negative lead is made of Alumel material and can typically be identified in the U.S. by RED insulation. The J-type negative lead is made of Constantan material and also can be identified in the U.S. by RED insulation.

B1. Before inserting the contact of the negative lead of the thermocouple wire into the D-sub, cut a 0.25 to 0.3125 inch window in the negative lead (Alumel, Constantan) of the thermocouple wire. If many thermocouples are used it may prove beneficial to stagger the windows over a few inches.

B2. Cut a 4 inch length of 22 AWG insulated wire.

WARNING

Flat braid is not permitted for this purpose. Use only insulated wire to avoid inadvertent ground issues that could occur from exposed conductors.

B3. Strip back 0.25 inches of insulation on one end of the 22 AWG insulated wire.

B4. Connect a 22 AWG insulated wire to the thermocouple material (Alumel or Constantan) exposed through the window of the prepared thermocouple wire. Make this connection using an approved termination technique.

NOTE

FAA AC 43.13-1B Chapter 11, Section 8 (Wiring Installation Inspection Requirements) may be a helpful reference for termination techniques.

Preferred Method:

Slide a solder sleeve onto the prepared negative lead of the thermocouple wire and connect the 22 AWG wire to the thermocouple wire (Alumel or Constantan) wire using a heat gun approved for use with solder sleeves. The chosen size of solder sleeve must accommodate the size of the termination. Reference the following MIL-Specs for solder sleeves (M83519/1-1, M83519/1-2, M83519/1-3, M83519/1-4, M83519/1-5).

Secondary Method:

Solder the 22 AWG length of wire to the thermocouple material (Alumel or Constantan) exposed through the window of the prepared negative lead on the thermocouple wire. Ensure a solid electrical connection through the use of acceptable soldering practices. Slide a minimum 0.75 inches of Teflon heat shrinkable tubing onto the prepared wire assembly and shrink using a heat gun. The chosen size of shrink tube must accommodate the size of the termination.

B5. Insert the contact from the negative lead of the thermocouple wire into the appropriate connector housing location as specified by the installation wiring diagrams.

B6. At the end of the 22 AWG insulated wire, opposite the backshell, strip back 0.2 inches of insulation.

B7. Terminate the ring terminal much like the flat braids (Item 6) per Steps 8 and 11 pertaining to shield termination.

Appendix C: Splicing Signal Wires

NOTES

C1. Figure C-1 illustrates that a splice must be made within a 3 inch window from outside the edge of strain relief to the end of the 3 inch max mark.

WARNING

1) Keep splice out of backshell for pin extraction.
2) Keep splice outside of strain relief to avoid preloading.

C2. Figure C-1 shows a two wire splice, but a maximum of three wires can be spliced. If a third wire is spliced, it is located out front of splice along with signal wire going to pin.

C3. Splice part numbers:
Raychem D-436-36/37/38
MIL Spec MIL-S-81824/1

C4. This technique may be used with shield termination methods: A.1, A.2, B.1, B.2, C.1 and C.2.

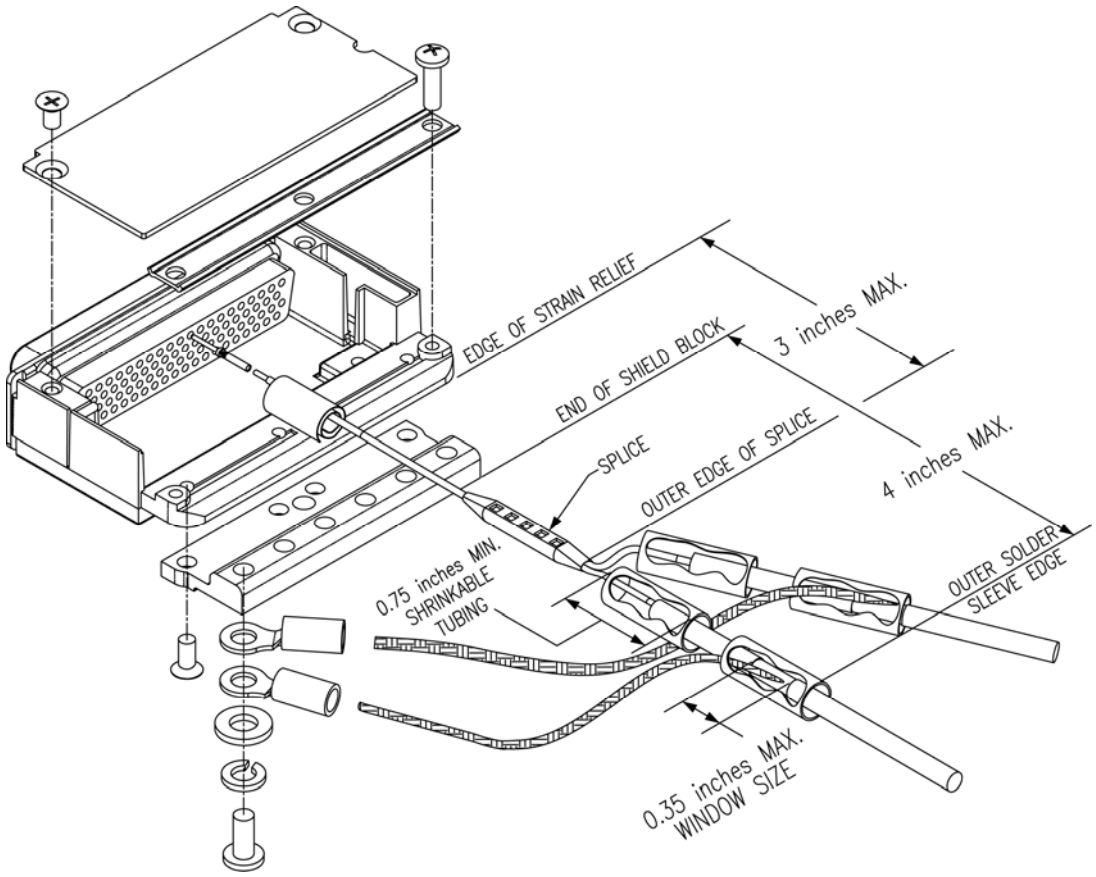

Figure C-1. D-Sub Spliced Signal Wire Illustration