Trunk & Distribution Connectors

GRS™ 3-Piece, QR® Series
Installation Guide

Applicable Parts
(320 MDU, 500, 540, 715, 860 and 1125)

Cable Preparation

1. To install Gilbert connectors on QR® cable, the outer jacket/armor, if any, must first be removed to expose the inner jacket. The amount of outer jacket/armor removed is dependent upon a combination of the preparation length and the preparation tool. Typically, no more than three to four inches of outer jacket/armor must be removed to install Gilbert connectors. Some preparation tools have longer guide bushings making it necessary to remove more of the outer jacket/armor than typical.

2. The removal of the outer jacket/armor must be completed without scoring the inner jacket.

   Note: Do not use tubing cutters in preparation of QR® cable. Preparation tools for QR® cable are made to core the dielectric and trim the outer conductor in the same operation.

3. Using the tool provided, prepare the cable. It is important to have a sharp coring tool. A dull coring tool will compress the dielectric creating seating problems for the connector integral sleeve. Using the built in trim gauge, verify the center conductor trim length and trim if necessary *(see center conductor trim length table)*. The coring tool will remove dielectric to a depth of 1 1/4 in. from end of outer conductor.

4. After all dielectric and precoat have been removed from the center conductor, double check the center conductor length and trim accordingly. *(A pyramid shaped trim is recommended allowing easier insertion of the center conductor into the seizing mechanism.)* After measuring the center conductor, make a cut halfway though (***figure 1***). Rotate the cutters 90° and complete the cut (***figure 2***).

   Gilbert strongly recommends usage of heat shrink tubing or equivalent product over the finished connector installation for absolute moisture integrity. Heat shrink manufacturers recommend that after the shrinking process is complete that the heat shrink tubing extend at least 2 inches [5 cm.] beyond the back nut. **Heat shrink tubing is required for all applications using flooded "QR" cable.**

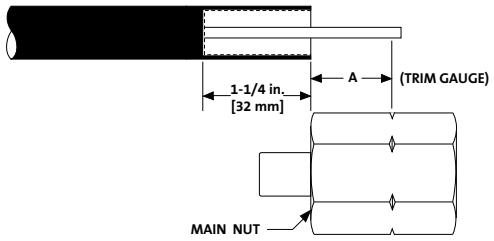
5. Slide the heat shrink tubing over cable.

6. Install **BACK NUT** onto cable

7. QR® coring tools are available with a jacket stripping tool to remove the correct amount of jacket *(see jacket trim length table)*. Do not use a knife or tubing cutters. Weakness in the structure of the outer conductor will result if it is scored.

8. Once the jacket has been trimmed it is necessary to remove flooding material (if flooded cable). Comm/Scope recommends the use of mineral spirits to remove the flooding compound from QR® cable.

   NOTE: If the outer conductor becomes disfigured during the preparation process, utilize the main nut sleeve to reform the outer conductor to its original shape.



Cable Size	CC Trim Length (A)	
320	15/16 in.	[24 mm]
540	15/16 in.	[24 mm]
715	15/16 in.	[24 mm]
860	1-1/16 in.	[27 mm]
1125	1-1/4 in.	[32 mm]

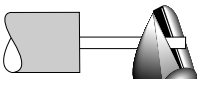


fig. 1

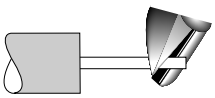
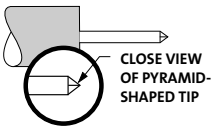
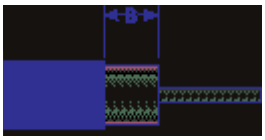


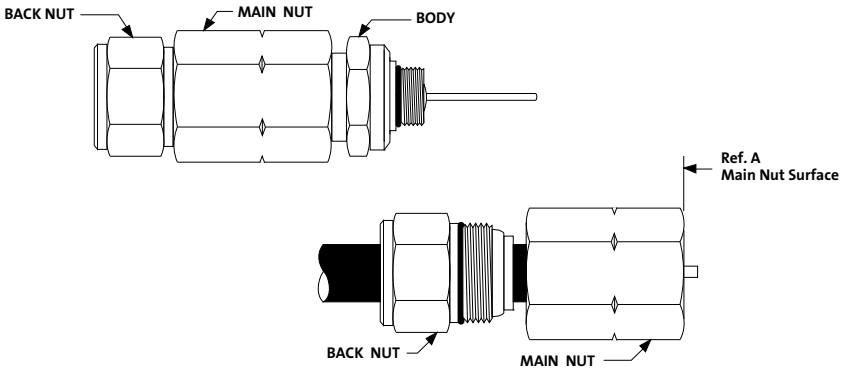
fig. 2





Cable Size	Jacket Removal Length (B)	
320	1/2 in.	[12.7 mm]
540	1/2 in.	[12.7 mm]
715	1/2 in.	[12.7 mm]
860	5/8 in.	[16 mm]
1125	5/8 in.	[16 mm]

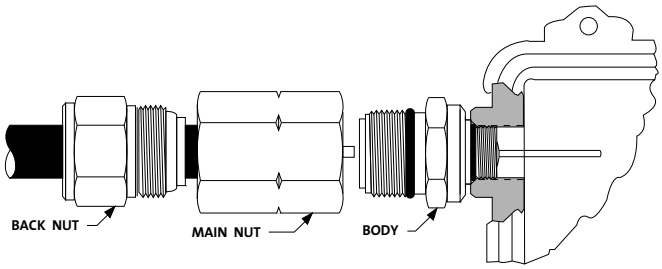
Pin Type Connector



Cable Size	Approximate Center Conductor Protrusion
320	1/8 in. [3.2 mm] Ref. A.
500	1/8 in. [3.2 mm] Ref A.
540	1/8 in. [3.2 mm] Ref A.
715	1/8 in. [3.2 mm] Ref A.
860	1/16 in. [1.6 mm] Ref A.
1125	1/16 in [1.6 mm] Ref A.

9. As a final check on both coring depth and center conductor length, install the main nut onto the cable. The center conductor will protrude 1/16" to 1/8" past the end of the main nut. Use the reference table to verify correct center conductor length according to each cable size. The center conductor once cut to length should protrude from end of main nut surface **[Ref A] .**

   Verify that the cable is fully inserted into the connector so that the jacket butts up against the outer conductor seizing mechanism.



10. Verify the connector pin length and, if necessary, trim the pin to the appropriate length for the equipment being used. Install the connector **BODY** into the housing and tighten to housing manufacturer's specification.

11. Bring the **MAIN NUT** and cable to the **BODY.** Hand-tighten **MAIN NUT** to **BODY** continually keeping pressure on cable towards the **BODY** so that the center conductor will be properly seized.

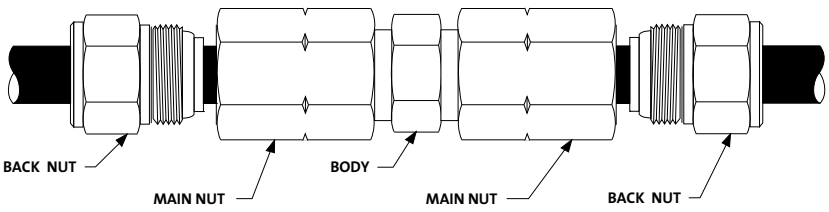
12. Using two wrenches *(GRS-1125 series requires two hook spanners, P/N SW-2)*, one wrench to hold the **BODY** from rotation, continue tightening **MAIN NUT** to **BODY** until a firm stop is reached. Tighten **BACK NUT** by hand, then, using two wrenches, one on the **MAIN NUT**, complete installation by tightening **BACK NUT** firmly to secure the cable *(approximately 15 lbs. ft. [20 Nm] for 320, approximately 35 lbs. ft. [50 Nm] for 500/540/715; approximately 50 lbs. ft. [70 Nm] for 860/1125)*.

13. Secure the center conductor into equipment housing with the seizing screw provided by the equipment manufacturer.

14. Slide the heat shrink tubing over the connector against the port housing of the equipment. Shrink in accordance with manufacturer's recommendation.

Splice Connector

Splice connectors employ the same method of cable installation as pin type connectors with the important exception that both cables being joined ***MUST*** be fully inserted into the connector before tightening. **IMPORTANT-** it is essential that the body of the splice connector ***NOT*** be allowed to rotate with respect to the cables being joined.



While restraining the body from rotation, tighten both main nuts evenly by hand. If the correct tightening procedure is not followed, the center conductor may not be correctly seized. Rotation of the body may cause damage to splice center conductor seizing mechanisms and/or to the cable.

Using two wrenches *(GRS-1125 series requires two hook spanners, P/N SW-2)*, one wrench to hold the **BODY** from rotation, continue tightening **MAIN NUTS** to the **BODY** until a firm stop is reached. Tighten **BACK NUTS** by hand, then, using two wrenches, one on the **MAIN NUT**, complete the installation by tightening **BACK NUTS** firmly to secure the cable and repeat process for second **BACK NUT** *(approximately 15 lbs. ft. [20 Nm] for 320; approximately 35 lbs. ft. [50 Nm] for 500/540/715; approximately 50 lbs. ft. [70 Nm] for 860/1125)*.

Slide heat shrink tubing over splice connector and center. Shrink in accordance with manufacturer's recommendation.

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