Termination Instructions for PIC P/N 110980 - QMA 90° Plug Connectors

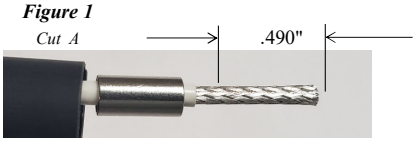
(for S31601 Coax Cable)

Recommended Hand Tools :	X-acto Knife, Sharp Razor, Wire Cutters
Required Cable Tools :	Fixture F-30 (Ø .180" punch), Fixture F-15a (cable-connector clamp/vise) Fine Tip Soldering Iron ***OR*** American Beauty # 105A3 Resistance soldering tweezers Luma # 551 Resistance Soldering unit w/ .093" or .070" electrodes Soldering Iron, Arbor Press Heat Gun, Loctite # 271 Recommended: Schleuniger # MP8015 Automatic Cable Stripper
Required Tooling:	M22520/ 5-01 Hex Crimp Tool, w/ M22520/ 5-08 Hex Crimp Die Set, Cavity A (.128" hex)

Dimensions in Inches (NOT to Scale)

1) Cut cable end squarely, re-form to concentric shape. Install ATUM 8/2 shrink tube and crimp ferrule onto the cable as shown (Fig. 1). Make Cut A @ .590" from cable end, scoring the jacket only (Fig. 1). Do Not nick or cut into wire braids. Remove jacket (Fig. 1).

Figure 1



2) Flare the braid ends out, keeping at least half the braid weave intact (Fig. 2a). Fold all braids back to expose foil, maintaining braid weave as intact as possible (Fig. 2b).

Figure 2a flare braid **ends** out

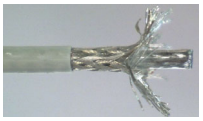
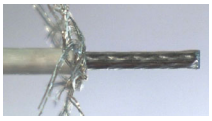
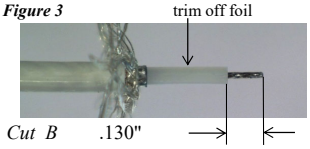


Figure 2b fold braids back



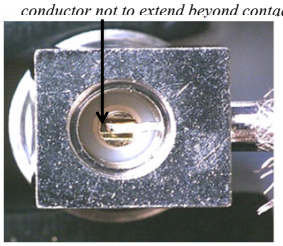
3) Score foil around the circumference of the cable just past the flared braids and lengthwise to the end of the cable. Use caution to avoid nicking or cutting any braids. Do not cut into the dielectric. Remove foil to expose the dielectric (Fig. 3). Apply heat with heatgun as necessary to weaken the bond of the foil to the dielectric. Do not exceed 500° F, and apply heat for 10 seconds maximum. Inspect the dielectric to ensure all foil was removed. There may be a blue residue left on the surface of the dielectric.

Figure 3 trim off foil



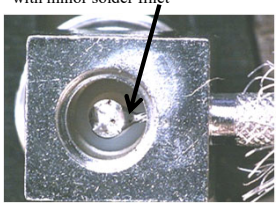
4) Flare the wire braids to approximately 45° and install the connector & cable into the F-15a connector/cable clamp/vise fixture. Gently tighten the cable clamp screw to secure the cable in place making sure conductor does not extend beyond contact end (Fig. 4). Verify 90° connector orientation if applicable, before soldering.

Figure 4 *conductor not to extend beyond contact end*



5) Solder the center conductor to the center contact, using the American Beauty soldering tweezers, or a fine tip soldering iron. The solder must be well bonded to the contact and the conductor, without excess solder on the sides of the contact, with a minor solder fillet (Fig. 5). Inspect the internal cavity of the connector for debris or flux, clean the exposed dielectric as needed, using Isopropanol and compressed air.

Figure 5 solder to center contact (minimal solder bead), with minor solder fillet

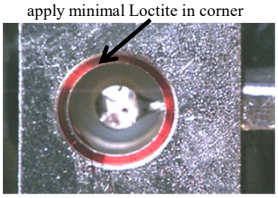


6) Remove cable assembly from the F-15a connector/cable clamp/vise fixture. Smooth all braids down over the rear of the connector body, covering the knurl. Pull the crimp ferrule up onto the connector body. Secure the body while positioning the ferrule. Trim any stray braids at the shoulder prior to seating the ferrule against the connector body.

7) Crimp the ferrule with M22520/5-01 Crimp Tool and M22520/5-08 crimp die set, cavity A (.128" hex).

8) Apply a minimal layer of Loctite 271 in the corner of the end cap counterbore on the connector body, clean off any excess Loctite (Fig. 6).

Figure 6 apply minimal Loctite in corner

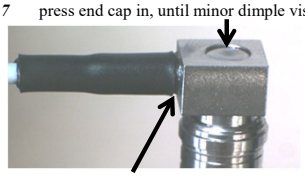


9) Install the end cap into the counterbore, curved middle facing up. Using the arbor press with tool F-30 Ø.180" punch (centered over the end cap), press end cap into position, just until a minor dimple in the end cap is visible (Fig. 7). Avoid using excess pressure, to maintain functional integrity of QMA outer contact. With end cap installed, clean off any excess Loctite.

10) Verify that the QMA coupling nut travels freely, to allow the connector to engage and disengage mating connectors. Refer any problems to the supervisor.

11) Locate the ATUM shrink tube up to the cube body on the connector, use the heat gun to shrink into place (Fig 7).

Figure 7 press end cap in, until minor dimple visible



shrink ATUM, start at cube body

Note : Connector Length added to cable = + .135" nominal to end of connector body
Connector Length added to cable = + .170" nominal to end of QMA coupling nut
Connector Length added to cable = - .035" nominal to centerline of connector interface