NATIONAL TRANSPORTATION SAFETY BOARD
Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594

December 17, 2015

MATERIALS LABORATORY FACTUAL REPORT Report No. 15-133

A. ACCIDENT INFORMATION

Place	:	Bloomington, Illinois
Date	:	April 7, 2015
Vehicle	:	Cessna 414A, N789UP
NTSB No.	:	CEN15FA190
Investigator	:	Andrew Todd Fox, AS-CEN

B. COMPONENTS EXAMINED

Glideslope Antenna, Glideslope Diplexer and Connecting Cable.

C. DETAILS OF THE EXAMINATION

The as-received components are labeled and displayed in figure 1. The cable connecting the diplexler and the antenna was disconnected at the antenna. The cable connector was a quarter turn twist lock BNC[1] with the male side on the coaxial cable.

Examinations of the female BNC cable connector on the antenna found it intact with some minor deformation (arrow) and light debris on the interior and exterior surfaces, see figure 2. The locking pins were intact and no corrosion was apparent. The antenna rod was straight when received but accidentally bent during examination.

The mating male BNC connector is shown in figure 3. Overall the connector was intact and undamaged except for one of six shielding / ground fingers, see arrow. The damaged finger was folded and “S” bent back into the connector. The central conductor pin was undamaged and no corrosion was apparent.

The cable to antenna connector was received disconnected but could be reconnected and twist locked with minimal difficulty.

A significant crimp was noted at about the midpoint of the cable as shown in figure 4. The electrical properties of the cable and connection were not tested.

Joe Epperson
Senior Metallurgist

[1] BNC, Bayonet Neill–Concelman for coaxial cable.

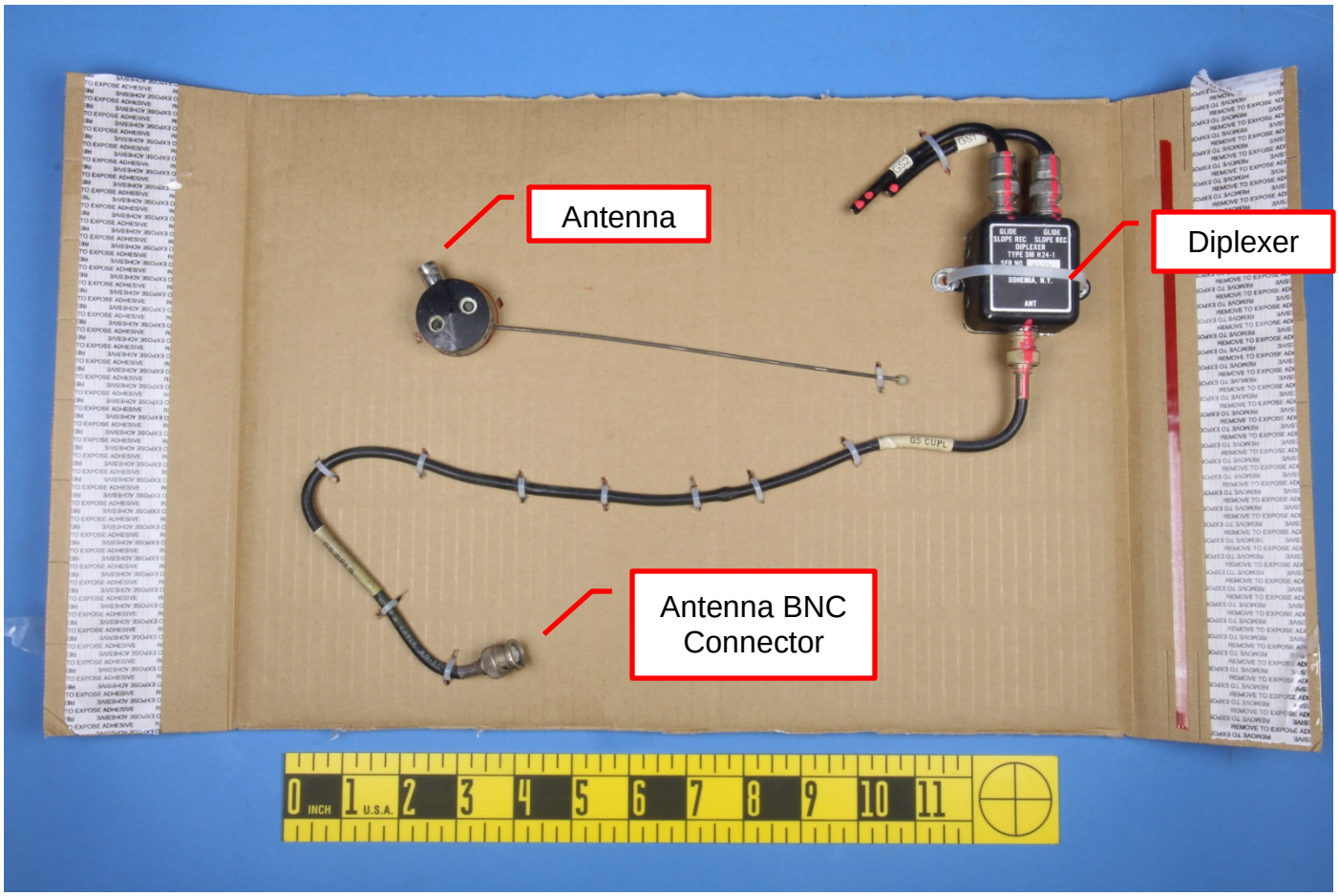


Figure 1. Overall view of the as-received glideslope diplexer, antenna and cable.

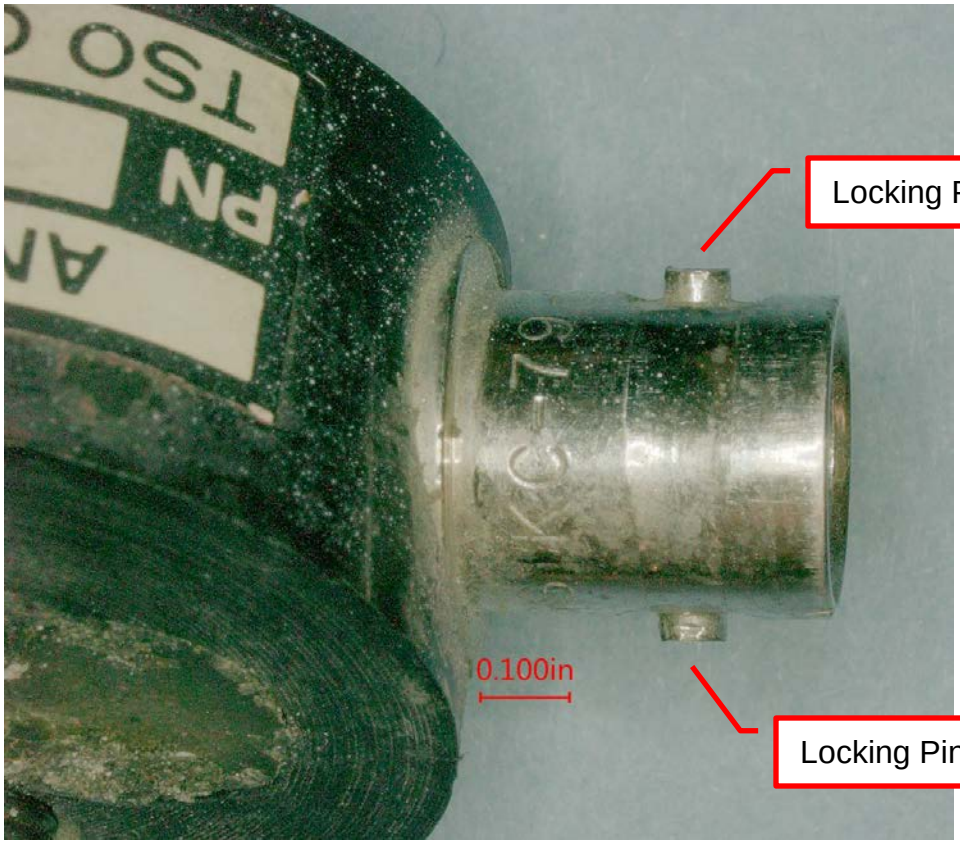
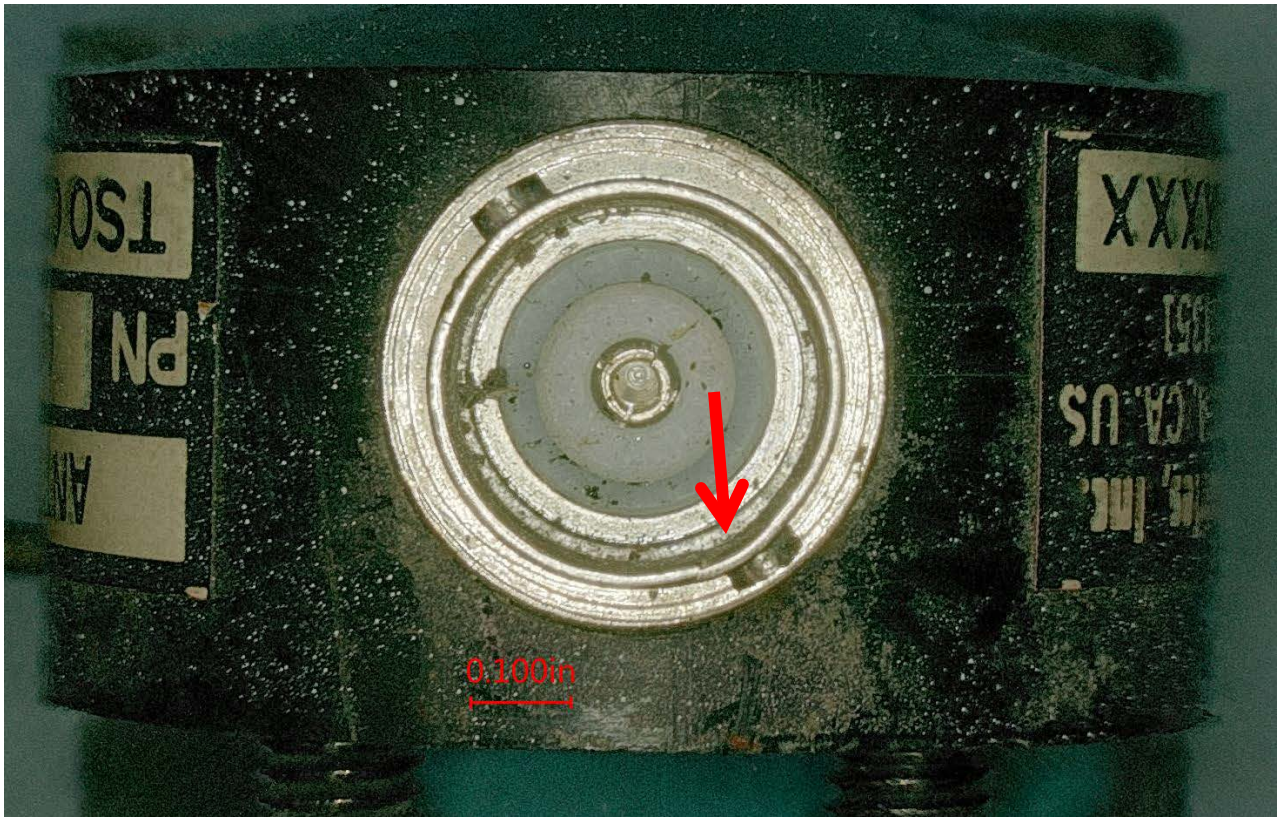


Figure 2. Closer views of the female BNC cable connector on the antenna with intact pins and slight deformation at arrow.



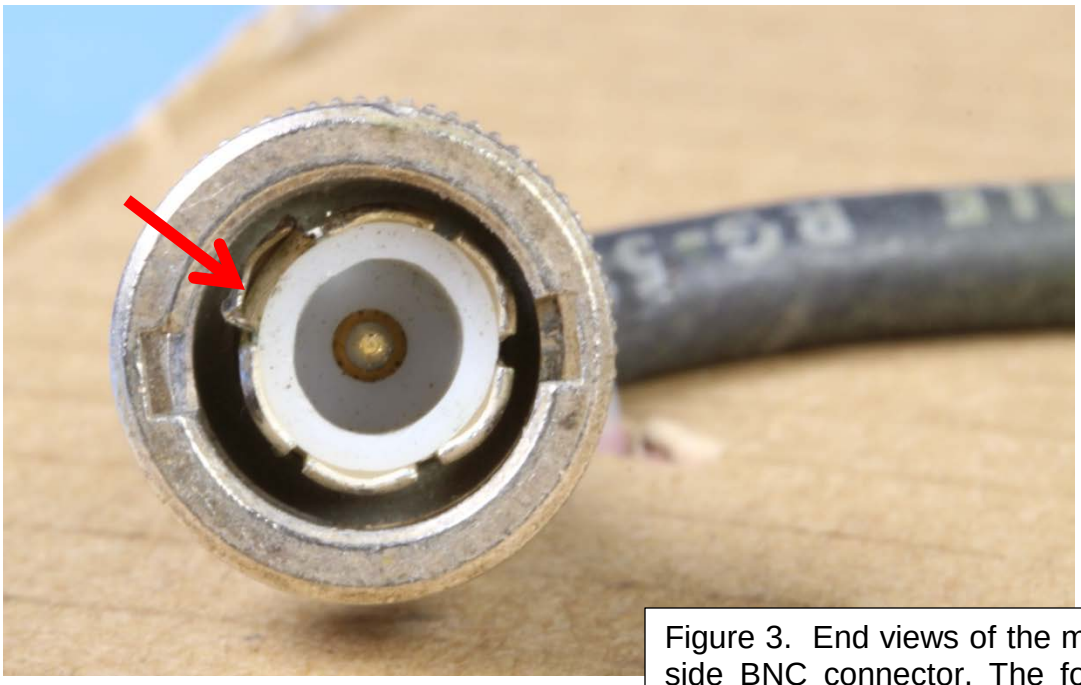
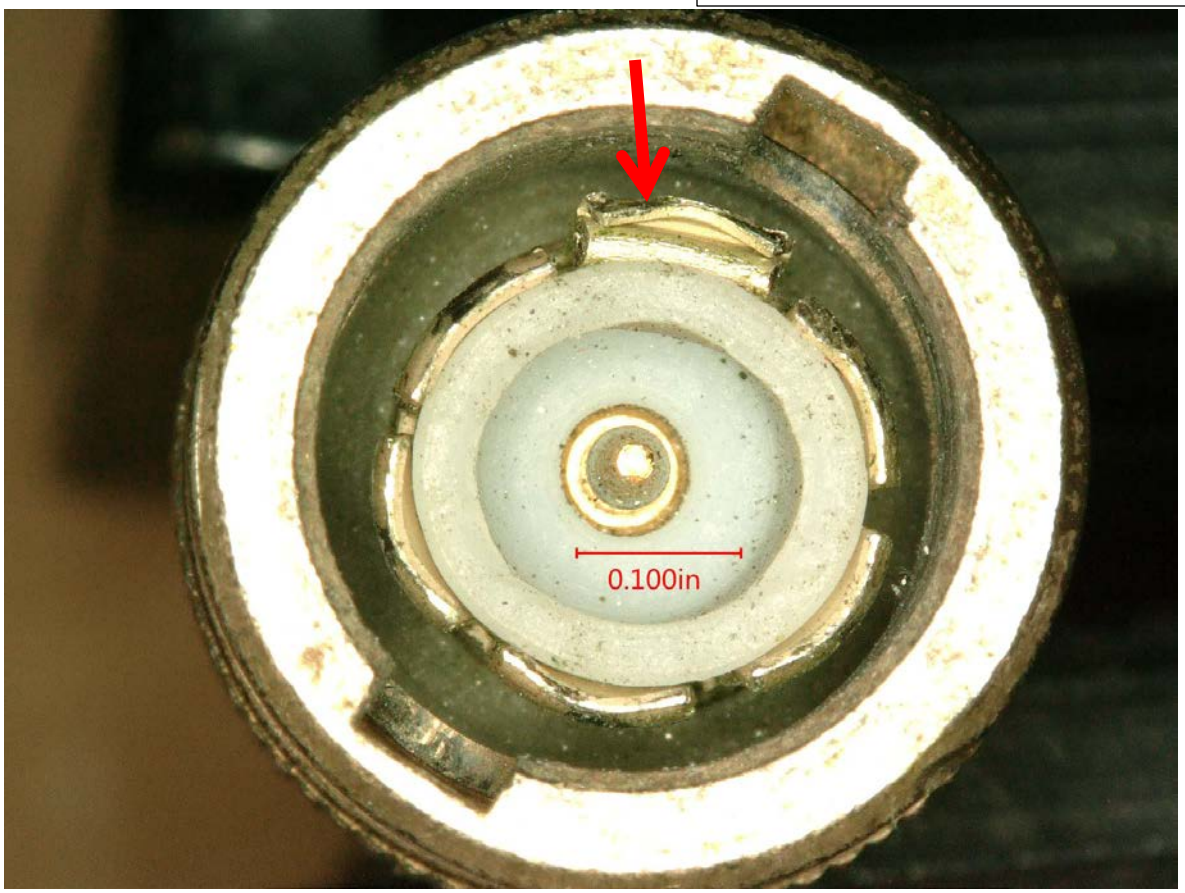


Figure 3. End views of the male cable side BNC connector. The folded and "S" bent shield finger is denoted by the red arrows in both views.



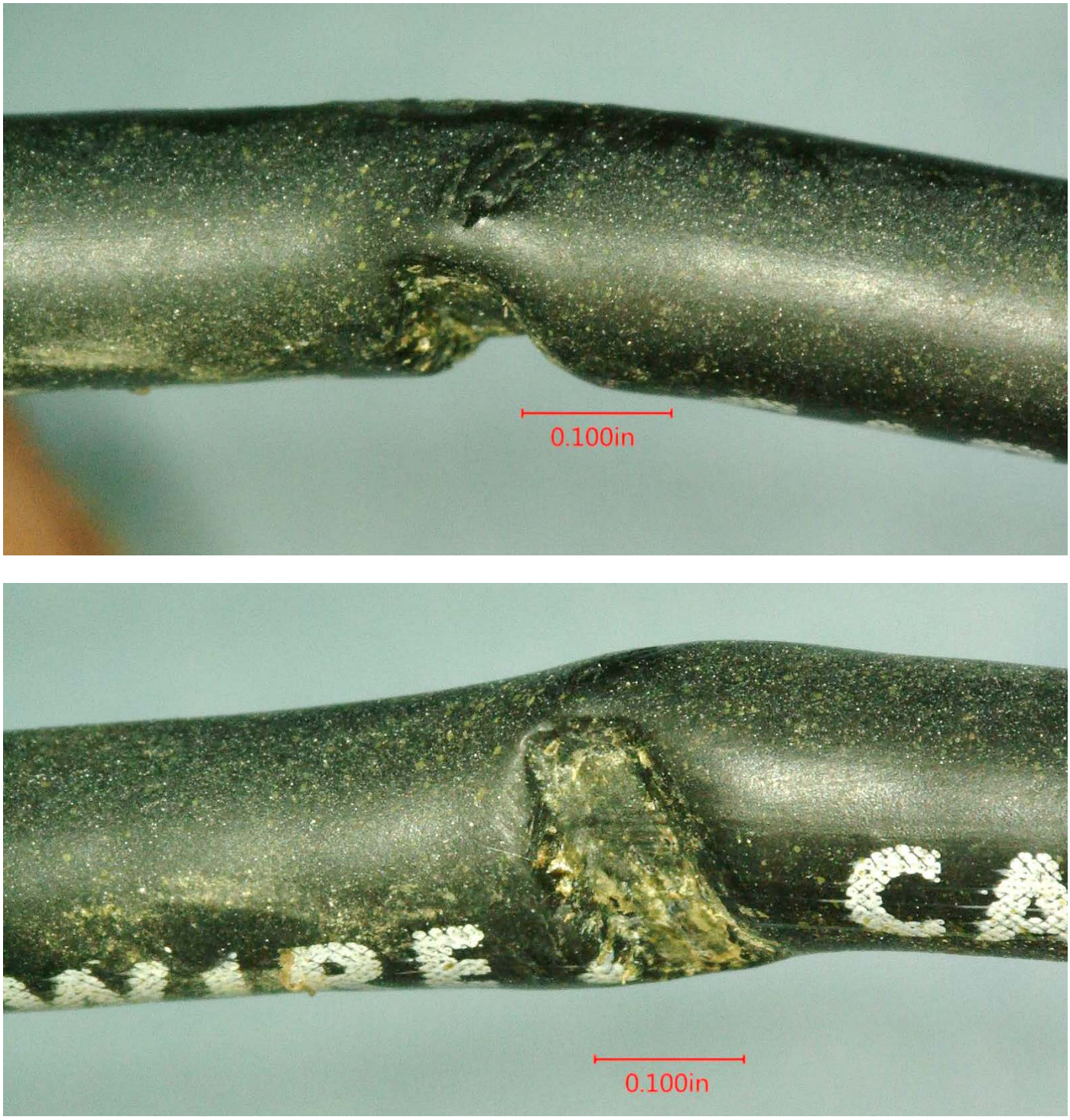


Figure 4. Two views of the crimping damage to the coaxial antenna cable.