TYPE N AND ON CARRIER TELEPHONE SYSTEMS
LINE BUILD-OUT AND CROSS-CONNECTING EQUIPMENT
CHECK OF SHIELD AND SHEATH CONTINUITY
AND GROUNDING

An important feature of N2 line build-out and cross-connecting equipment is the reduced noise and crosstalk in the carrier frequency pairs. This is accomplished by minimizing the amount of unshielded cable pairs and by the particular manner in which the cable sheath grounds are connected.

The purpose of this section is to provide various checks and measurements to ensure that the aluminum sheaths in the ABAM cables and the braided shields in the individual cable pairs are properly attached and terminated on the bay and cabinet ground terminals. The purpose of this section is also to ensure that continuity exists between shields, sheaths, and ground terminals.

APPARATUS:

1 — KS-14510 Volt-Ohm-Milliammeter (VOM), or equivalent

STEP	PROCEDURE
	A. Cross-Connect Cabinet and Line Build-Out Bay with Protectors (See Fig. 1)
1	Check that each ABAM cable from the cable vault is properly tied to the line build-out (LBO) bay frame and is positioned close to the connecting block. The aluminum sheath of these cables should be exposed and connected to the grounding terminal strip located just below the connecting block. A detailed sketch of the cable sheath connection is shown in Fig. 2.
2	Individual shielded pairs are shop-wired between the connecting block and the LBO unit mounting shelves. Check that the shields of these pairs have been properly connected to the ground terminals at each end of the pair.
3	The LBO bays are connected to cross-connect cabinets with the ABAM cable. Check that each ABAM cable is properly tied to the LBO bay frame and is positioned close to the LBO unit mounting shelves to which the individual pairs connect. The aluminum sheath should be connected to the grounding strip located on the mounting shelf as shown in Fig. 1.

STEP	PROCEDURE
4	At the cross-connect cabinet the ABAM cables are positioned as shown in Fig. 1 and 2. The aluminum sheath of each cable is connected to a grounding strip located at the top of the cabinet. In double-bay width cabinets two grounding strips, one on each side of the bay at the top, are used to connect the cable sheaths of incoming and outgoing cables. Check that cable sheaths are properly connected at these points and that the two grounding strips are interconnected by cable assembly P49Q578. Single-bay width cabinets provide only one grounding strip so the cable assembly is not required. Ensure that the aluminum sheath is open just below the ground connection. (See Fig. 2.)
5	Using the VOM, measure the resistance between point A and point B of Fig. 1. ***Requirement:*** Short circuit (less than 1/2-ohm resistance).
6	Close cabinet overhead doors and if cable duct panels have been removed replace them.
	B. Cross-Connect Cabinet and Line Build-Out Bay Without Protectors (See Fig. 3)
1	When the line build-out (LBO) bay is not equipped with lightning protectors, the ABAM cable from the cable vault should be checked to ensure that it is properly tied to the LBO bay frame and positioned close to the LBO unit mounting shelves to which the individual pairs connect. The aluminum sheath on each ABAM cable should be connected to the grounding terminal strip provided at the middle of each mounting shelf.
2	The LBO bays are connected to cross-connect cabinets with the ABAM cable. Check that each ABAM cable is properly tied to the LBO bay frame and is positioned close to the LBO unit mounting shelves to which the individual pairs connect. The aluminum sheath should be connected to the grounding strip located on the mounting shelf as shown in Fig. 3.
3	At the cross-connect cabinet the ABAM cables are positioned as shown in Fig. 2 and 3. The aluminum sheath of each cable is connected to a grounding strip located at the top of the cabinet. In double-bay width cabinets two grounding strips, one on each side of the bay at the top, are used to connect the cable sheaths of incoming and outgoing cables. Check that cable sheaths are properly connected to these points and that the two grounding strips are interconnected by cable assembly P49Q578. Single-bay width cabinets provide only one grounding strip so the cable assembly is not required. Ensure that the aluminum sheath is open just below the ground connection. (See Fig. 2.)
4	Using the VOM, measure the resistance between point A and point B of Fig. 3. ***Requirement:*** Short circuit (less than 1/2-ohm resistance).
5	Close cabinet overhead doors and if cable duct panels have been removed replace them.

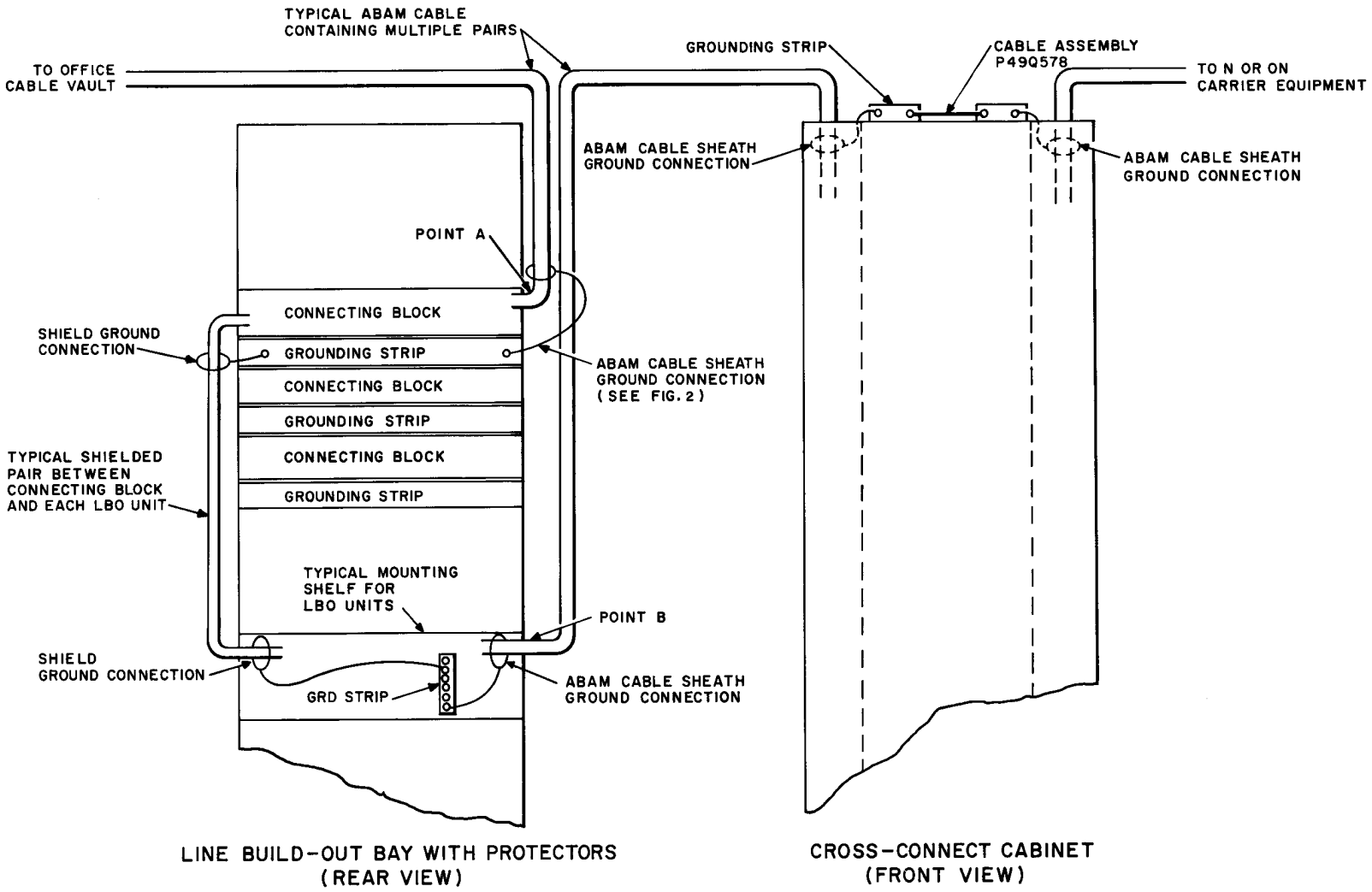

Fig. 1 — Shield and Sheath Connections in LBO Bays With Protectors and Cross-Connect Cabinet

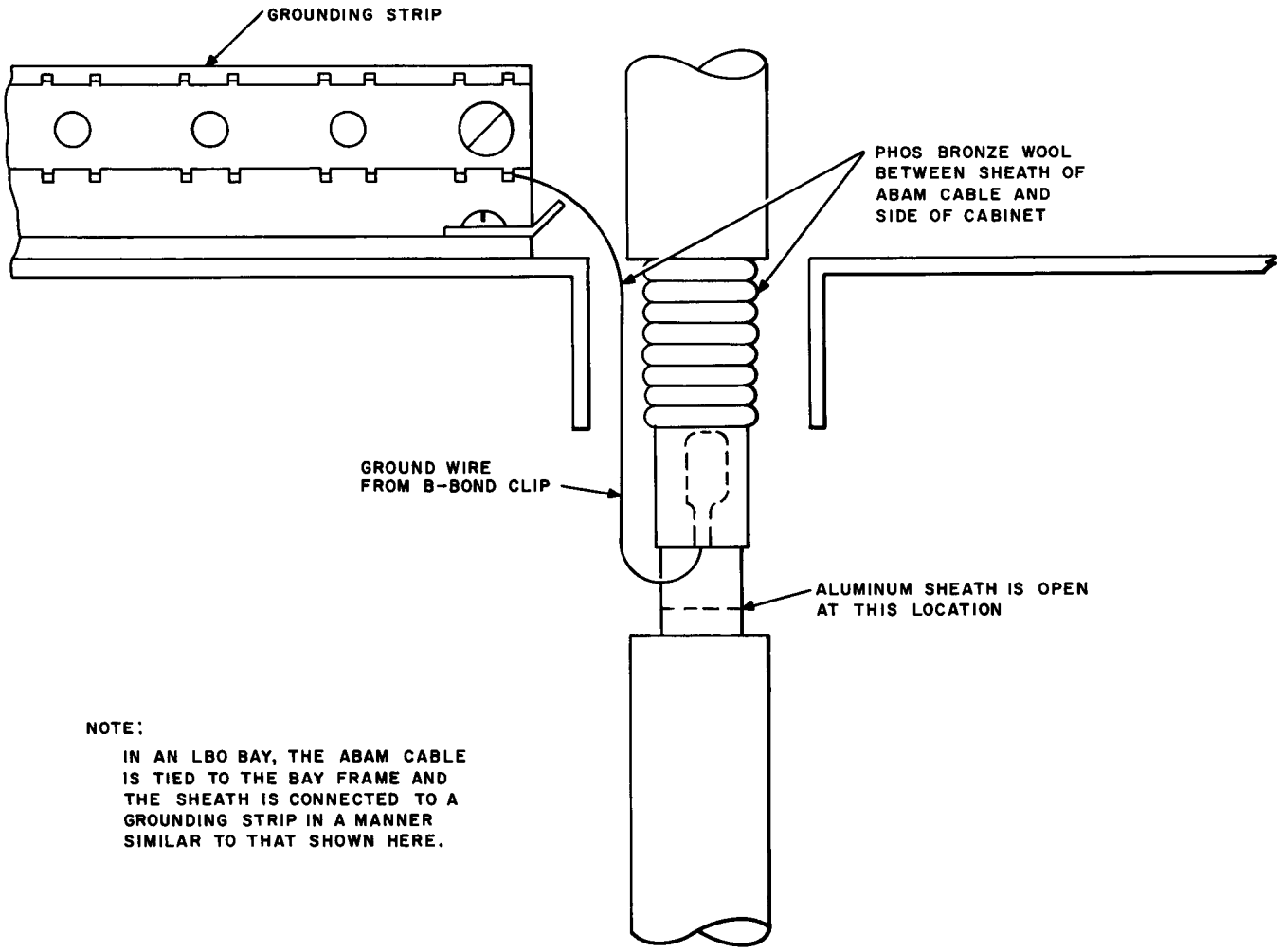

Fig. 2 — Connection of ABAM Cable Sheath at Top of Cross-Connect Cabinet

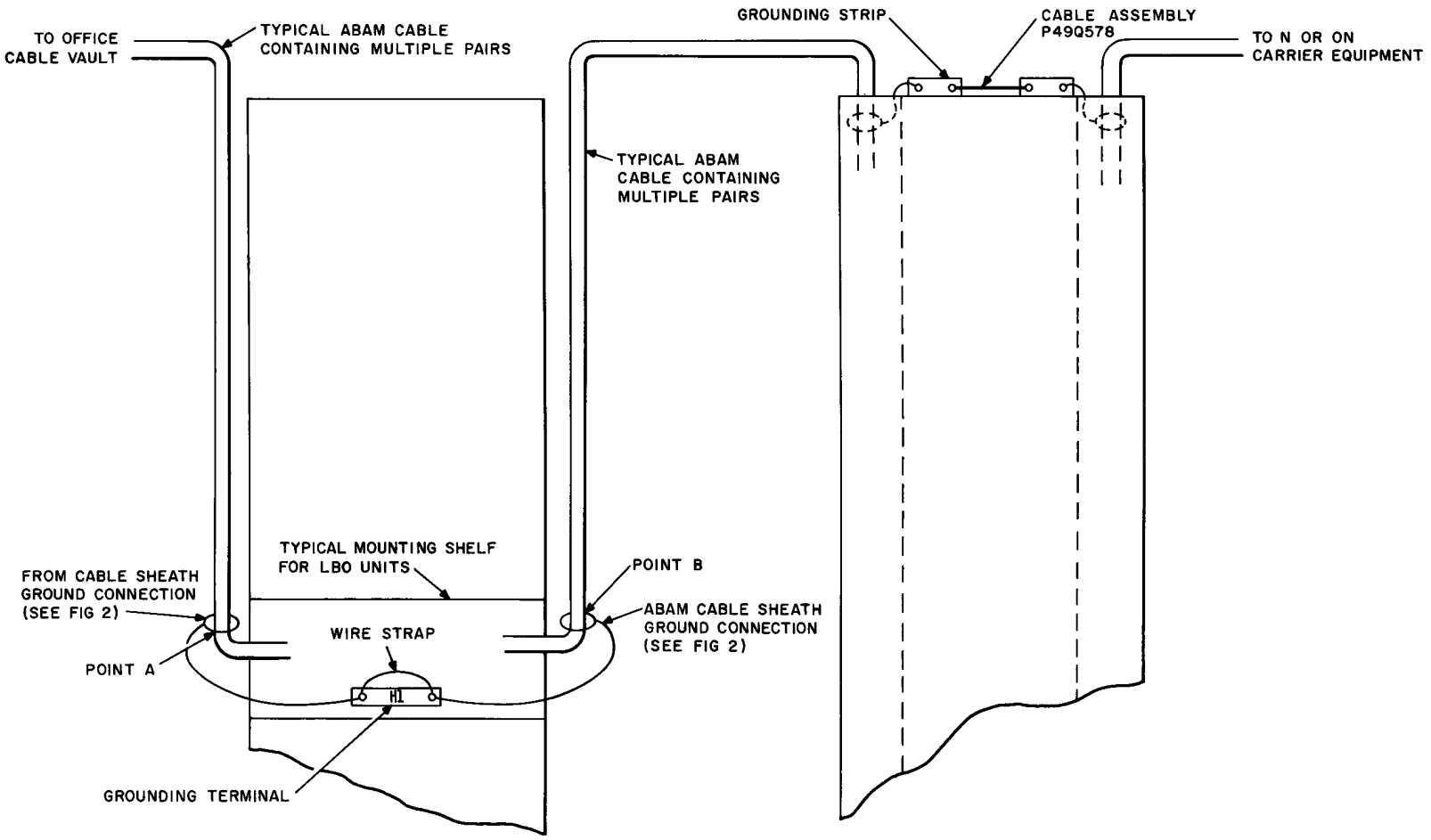

Fig. 3 — Shield and Sheath Connections in LBO Bays Without Protectors and Cross-Connect Cabinet