



OFFICE OF HOUSING

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-8000

DEC - 5 2014

MEMORANDUM FOR: All Manufacturers, PIAs, and SAAs

FROM: Pamela Beck Danner
Administrator
Office of Manufactured Housing Programs

A handwritten signature in black ink, appearing to read "Pamela Beck Danner".

SUBJECT: Electrical Connections Workmanship

This memorandum is being issued in order to bring attention and focus to ensuring electrical connections for manufactured homes are completed in an approved manner. Based on findings from a recent on-site investigation that was conducted in follow-up to an electrical fire in a manufactured home, we recognize the need to reinforce various aspects of good workmanship.

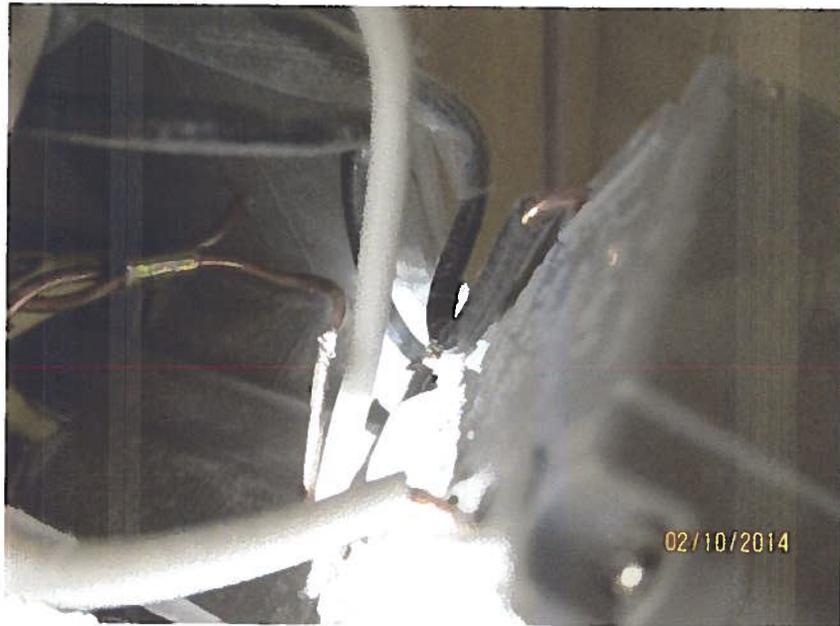
As you are all aware, the Standards set out the requirements for electrical connections. Specifically 24 CFR 3280.801(d) states:

All electrical materials, devices, appliances, fittings and other equipment shall be listed or labeled by a nationally recognized testing agency and shall be connected in an approved manner when in service.

The NEC 2005 also lists references to the below workmanship items. Please refer to:

- NEC, Article 110.7 (Insulation integrity)
- NEC, Article 110.12 (Mechanical Execution of Work)
- NEC, Article 110.14 (Electrical Connections)

In the photograph below, the ground conductor was in contact with the lower hot conductor (where the insulation has been over stripped) at the push point connection. This has resulted in arcing between the two conductors and therefore, a potential source for over-heating and fire.



The specific workmanship-related observations identified during recent investigations have indicated that numerous connections in the side of junction boxes have not been made in an approved manner. Many of the specific issues were found in connections at receptacle outlets and switches where the gauge of the wire was thick, such as 12 gauge wire on 20 ampere circuits. We are bringing the following aspects of workmanship to your attention:

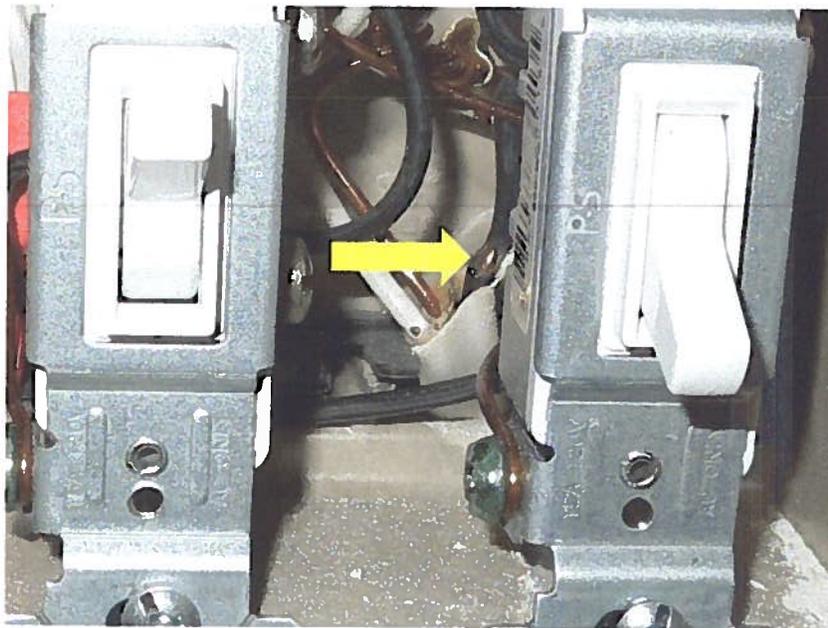
- Damaged conductor insulation (nicked and sliced insulation on conductors inside junction boxes) in close proximity of other metal parts
- Conductor under wire nuts not fully engaged, loose
- Insulation on conductors at push point connections over-stripped
- Wire connections around the binding post of a device
 - Wire not fully engaged under the head of the binding screw terminal
 - Insulation under the head of the binding screw conductor
 - Conductor on the shoulder of the terminal
 - Wire around binding post wrapped over itself

Examples of these issues and conditions that are not considered by HUD to be completed in an approved manner are illustrated in the attached photographs.

Please forward this memorandum to your manufacturer clients and ensure they understand the importance of ensuring good workmanship. If you have any questions regarding this issue, please contact your agency's HUD liaison of this office at (202) 708-6423.

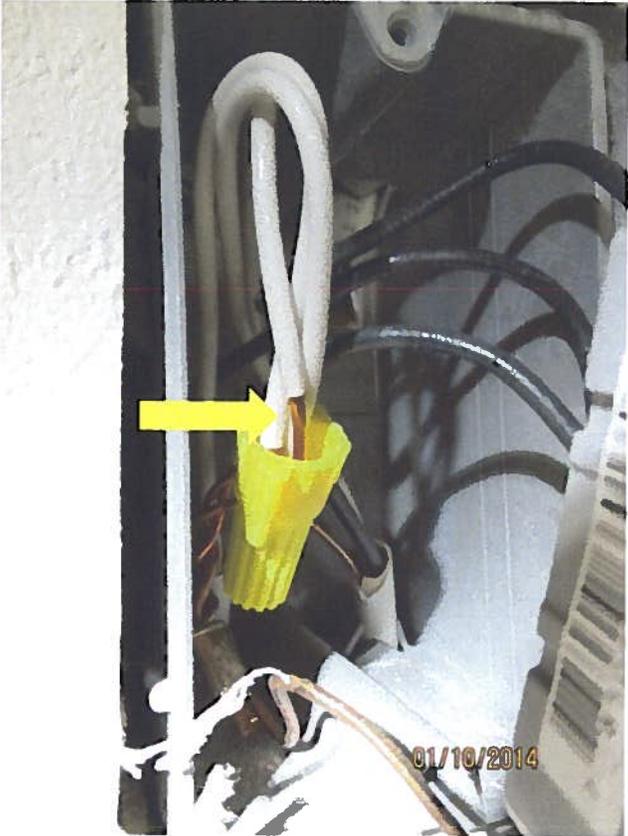
Sample Photographs:

Damaged conductor insulation (nicked and sliced insulation on conductors inside junction boxes) in close proximity of other metal parts



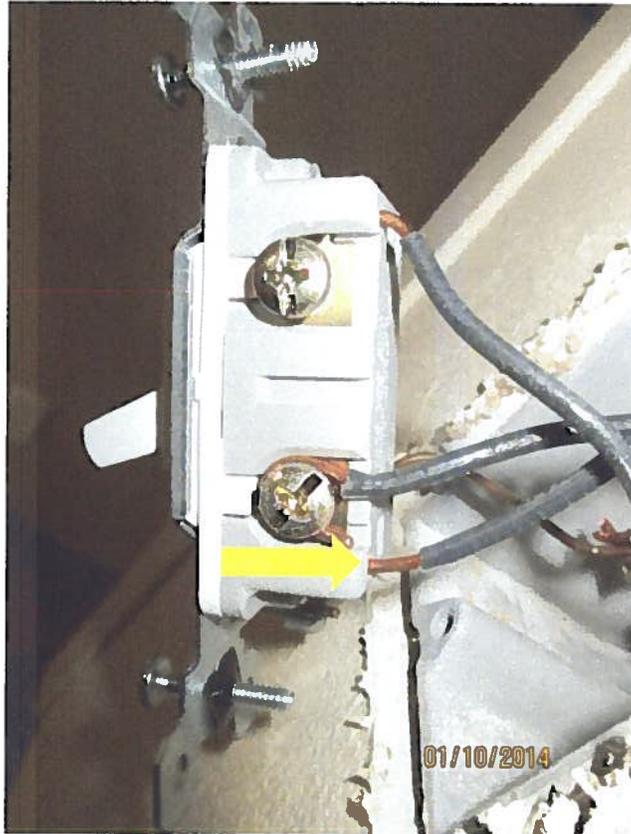
Sample Photograph:

Conductor under wire nuts not fully engaged, loose



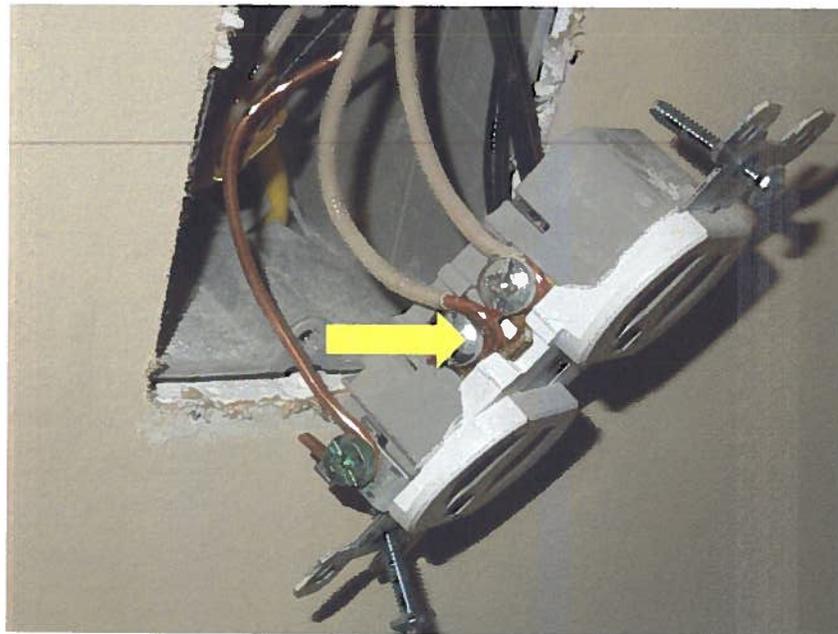
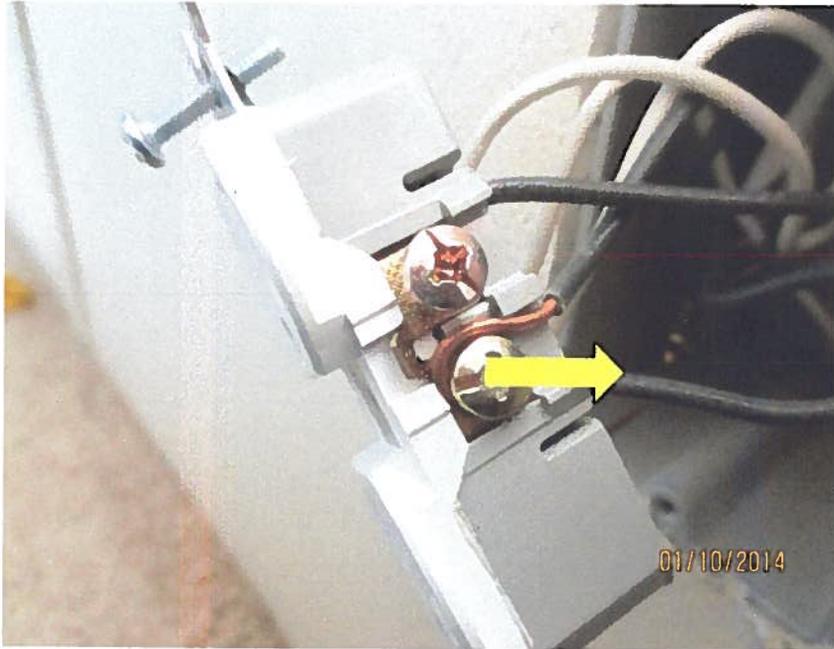
Sample Photograph:

Insulation on conductors at push point connections over stripped



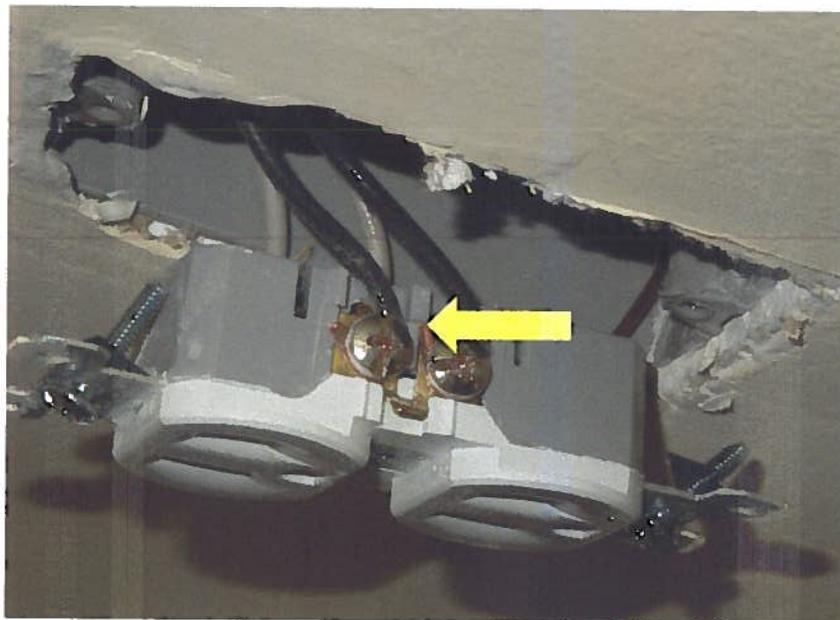
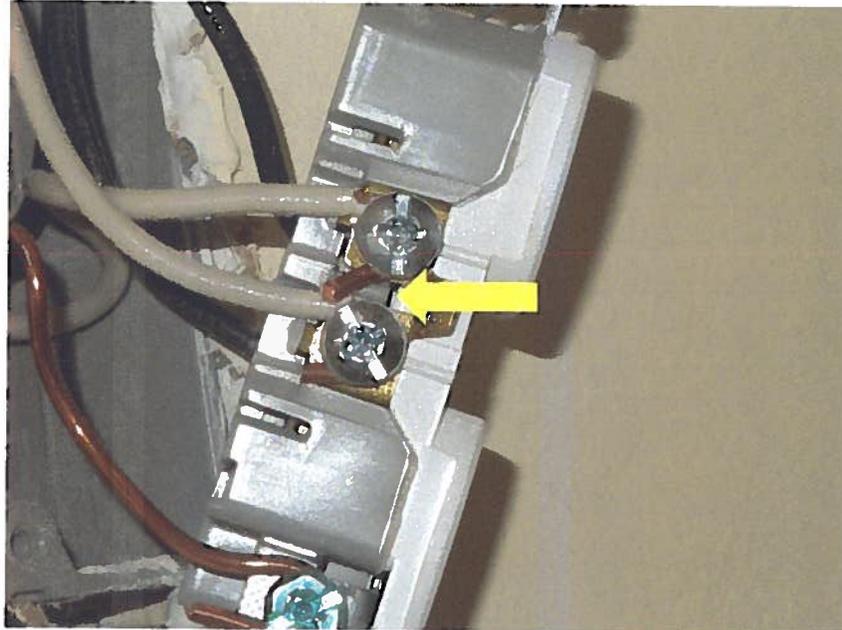
Sample Photographs:

Wire connections around the binding post of a device. - Wire not fully engaged under the head of the binding screw terminal



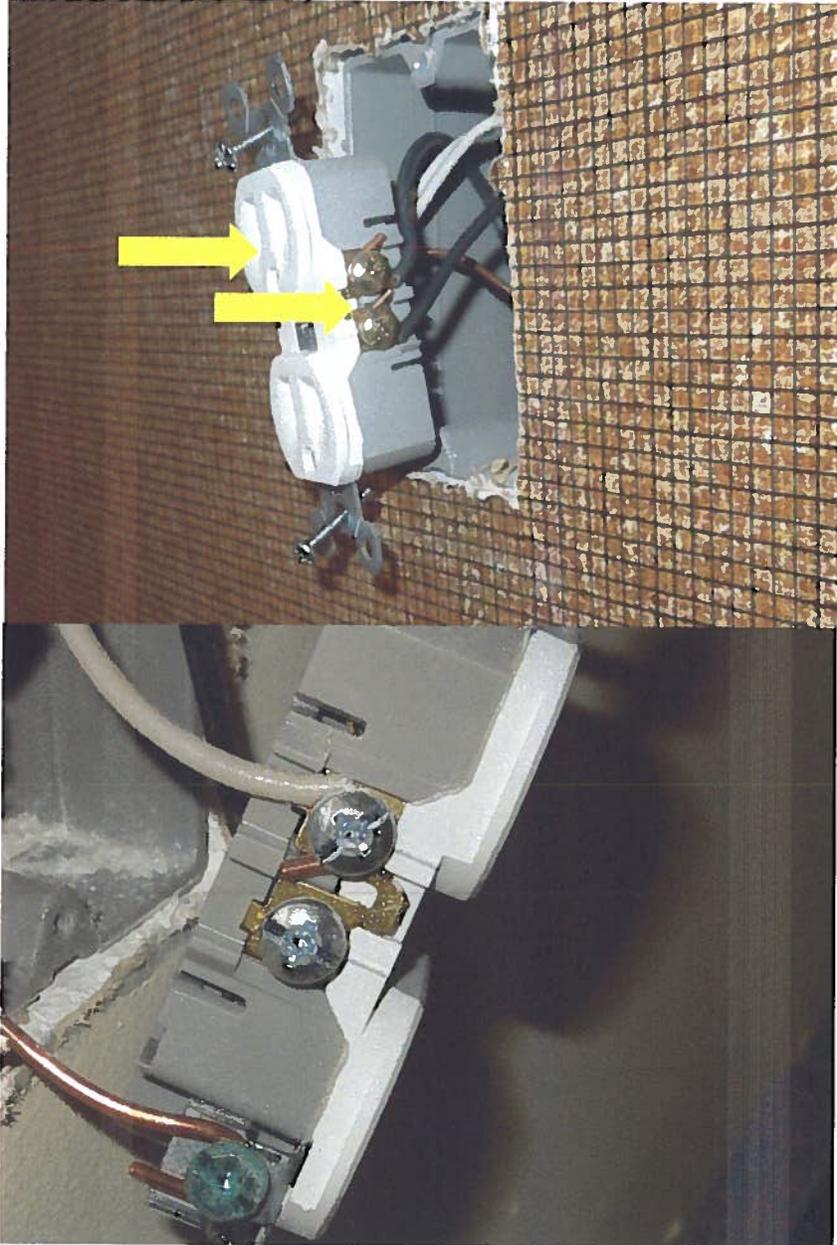
Sample Photographs:

Wire connections around the binding post of a device. - Insulation under the head of the binding screw conductor



Sample Photographs:

Wire connections around the binding post of a device. Conductor on the shoulder of the terminal.



Sample Photograph:

Wire connections around the binding post of a device. - Wire around binding post wrapped over itself.

