

RE: Installation of Mystery Electronics Backboxes into existing concrete floor

Note: It is strongly recommended that an Architect or Engineer be consulted before performing the work outlined below;

- To determine if the work will affect the structural integrity of the floor
- To define how thick the new concrete must be, below the backbox, to maintain the fire rating of the existing floor. Pre-stressed or post-stressed concrete and similar reinforcement systems require extra caution.

- 1) Cut opening in existing concrete at least 2" larger than size of backbox. Cut sides of hole on a slant or stepped to provide greater "hold" and to support the new concrete.

Where rebar is present in the existing floor, it is recommended that the concrete be removed from the cutout, the rebar cut and bent down into the opening. This will join the new concrete to the existing concrete.

If no rebar is present, it is recommended that a substantial connection between the existing concrete floor and the new "pour" be made by installing bolts through the existing floor near the cut opening and extending them into the form. Large washers as shown will further help to support the pour. Alternately, place masonry or concrete anchor screws (ITW/TapCon or equal) or powder actuated (Hilti, Desa/Remington, Ramset, etc.) type fasteners in the existing concrete to provide strong attachment of the new concrete. Hard cut masonry nails are not acceptable for this purpose.

- 2) Construct a temporary concrete form and attach it securely below the existing floor deck, supporting it from the floor below if necessary. Keep in mind that the fresh concrete weighs a substantial amount. If the floor has been poured on corrugated metal, it may be necessary to wedge foam rubber strips where the wood form box makes contact to prevent concrete from escaping out of the form.
- 3) Secure a ½" piece of plywood to the top of the backbox as per TechNote TN12 (this positions the backbox at the proper depth when completed). Position the backbox in the form with a wood strip extending out over the existing floor, and attached to the plywood top. This will hold the backbox in place while the concrete is being poured.
- 4) Connect the conduit(s) to the backbox. In most situations the conduit may be brought into the side or bottom of the box. If the FMCA Floor box will be installed with the R option feature, it is preferred that the power conduit enters the side of the box. Consult TechNote TN12 for full details.
- 5) Close all openings (cracks, etc.) to seal the form. This can be done with foam strips or duct tape.
- 6) Pour the concrete. Machinery setting compound or any suitable grouting material can be used, so long as it provides the strength to support the plug as an integral part of the existing floor. If concrete bag mix or any material with large aggregate in it is used, it may be necessary to "shake down" the pour to remove air pockets and completely fill the form. This can be done using a rod or stick to vibrate the concrete while it is being poured. Alternately, from below, tap the bottom of the form with a rubber hammer while the concrete is being poured. Care must be taken to provide sufficient support for the form if this method is used.
- 7) After the concrete sets, remove the form and the plywood fastened to the top of the backbox per TN12. The resulting installation is now ready to receive the FMCA series floor box (trim out kit).

