M-PA 101

Part #7: *Some Assembly (Might Be) Required*

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OVERVIEW:

If you are not lucky enough to have found the exact model or configuration M-PA radio you want/need, then some assembly and disassembly will be required.

This installment will give you an overview of how the radios come apart and are reassembled.

As I have stated in previous installments, the front cover assembly contains the Control Logic board, digital voice board if installed, the front keypad flex, the LCD display, and the volume and channel knobs. The rear cover assembly contains the frequency band specific RF board, and the antenna connector for attaching an antenna to the top of the radio.

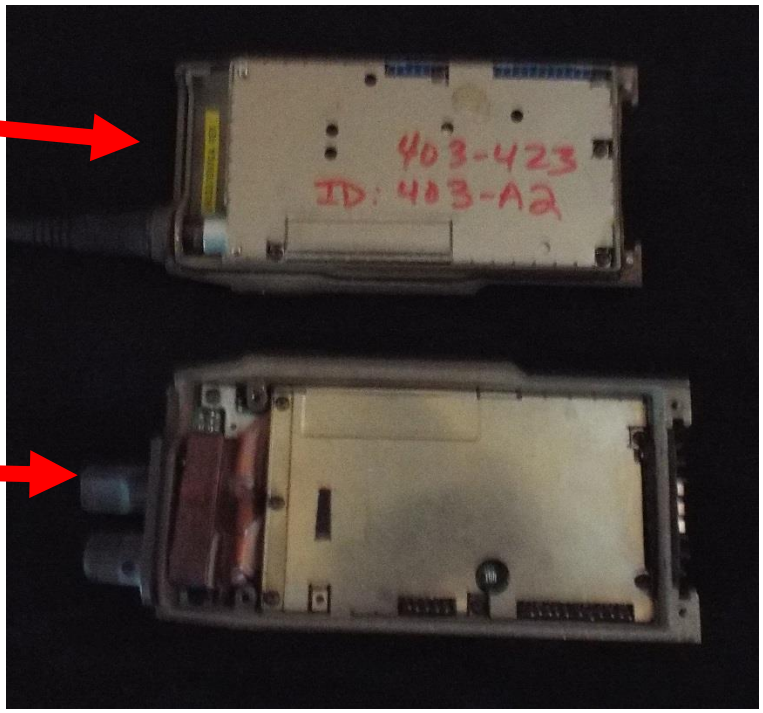
All front and rear covers, regardless of operational frequency bandsplit, can be assembled, and configured to work.

DISASSEMBLY:

Use a static safe work station if available. With a T-6 Torx driver, loosen the four (4) rear cover screws on the radio. These screws are captive, and will remain in the cover. Gently pry apart the front and rear assemblies, and set on the bench.

REAR ASSEMBLY

FRONT ASSEMBLY
(081 board shown)



REAR CASTING DIFFERENCES:

The rear assembly consists of the frequency band specific RF board, and one of two different metal castings which is the rear cover. One casting covers frequencies from 68 to 512 MHz, and the second casting covers 806 to 941 MHz.

These two different castings are NOT INTERCHANGEABLE!

If you are stripping parts off of radios, were you are removing the RF Board from the rear cover casting, I strongly suggest that you use a permanent marker, such as a ***Sharpie***, and make a notation on the inside of the rear cover casting what bandsplit originally was contained inside of it. A simple notation such as: "**VHF/UHF**" or "**800/900**" is usually sufficient to distinguish between the two versions, thereby preventing headaches later.

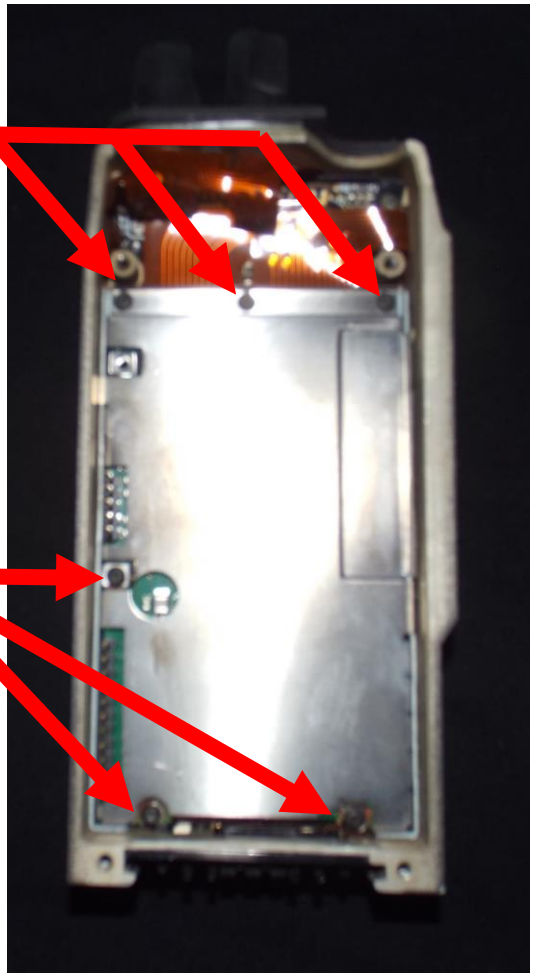
FRONT COVER DISASSEMBLY:

After separating the front and rear assemblies, you will need to disassemble the front cover if changing the control logic board (upgrade) or adding/removing a digital voice daughter board. This requires the removal of six (6) screws, a metal shield (if equipped) and unplugging one plug connector. A T-6 Torx driver also fits these screws.s

SCREW LOCATIONS:

LONG SCREWS

SHORT SCREWS

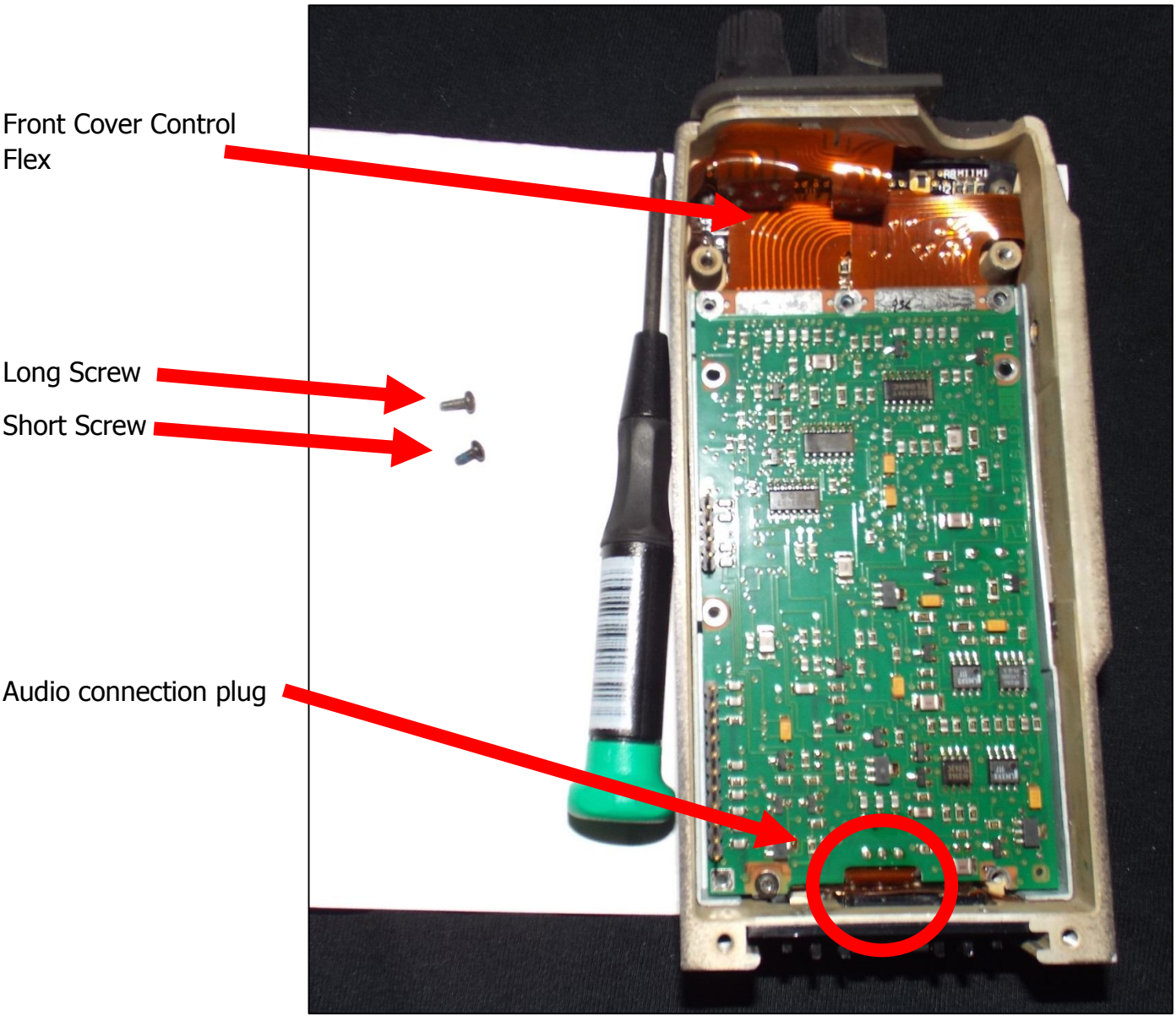


The three longer screws go through the shield, control/logic board and the flex connector.

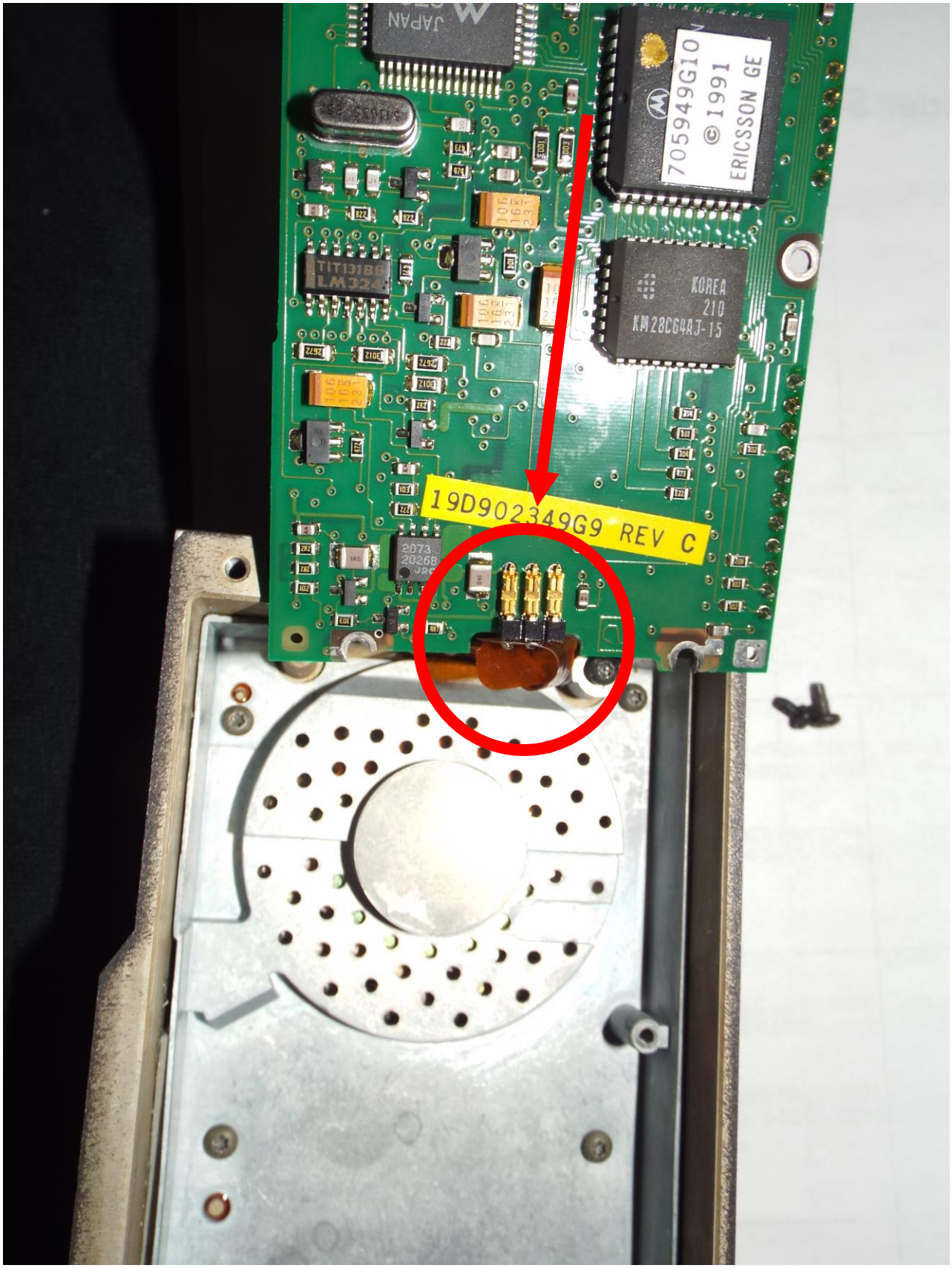
DO NOT USE SHORTER SCREWS FOR THESE LOCATIONS.

The length difference between the short and long screws is only a few millimeters. The shorter screws will not securely connect the control/logic board to the front cover control flex, causing intermittent operation of the radio, and strip-out the female threads on the front cover casting.

Once the six screws and the metal shield are removed, you will be able to access the radio's control/logic board. (A "hard-coded" board shown in this photo)



With the screws removed, you can now pivot up the control/logic board and disconnect the audio plug at the bottom of the board.



Now you can perform whatever changes or replacements are needed to the audio/logic board, such as swapping out a hard-coded board for a flash upgradable board. Or adding a digital voice board, etc.

REASSEMBLY:

Reassembly of the front cover assembly and radio is a simple process of reversing the steps used to disassemble the radio.

- Pay special attention to the long vs. short screws.
- Do not overtighten the screws, or damage can result in the casting threads.
- The use of a thread locking compound (IE: *Loctite*) is not recommended.
    - For our purposes, this is not required.
    - Yes, you might see some light blue colored thread compound residue on the screws. But remember, these were installed at the factory, with the correct formulation of Loctite, and using a precision air powered tool calibrated to a specific torque level.