



Safety Bulletin

Bulletin No: 507047-000

Date: May 2020 Rev. A

MK-III 3 Diver Intercom: Voltage Across Microphone Terminals

Models Affected

- MK-III 3-Diver Intercom, Banana (900464-000)
- MK-III 3-Diver Intercom, MS (900464-001)
- MK-III 3-Diver Intercom, AMP (900464-002)

Summary

The ME-16R “Hot Mic,” ME-150, and any other microphone with an exposed terminal (See *Figure 1*) has a voltage difference between the terminals when used with any of the dive industry’s 2-wire intercoms. The OTS MK-III 3-Diver Intercom will cause this condition when communicating in 2-wire mode, or if the PPT button is pressed in 4-wire mode. Up to 20V AC is across the microphone terminals when the MK-III push-to-talk (PTT) button is pressed. 20V can cause mild irritation, or pain if the terminals comes in contact with the diver’s skin. OTS provides protective boots and instructions to prevent this from occurring with every MK-III.

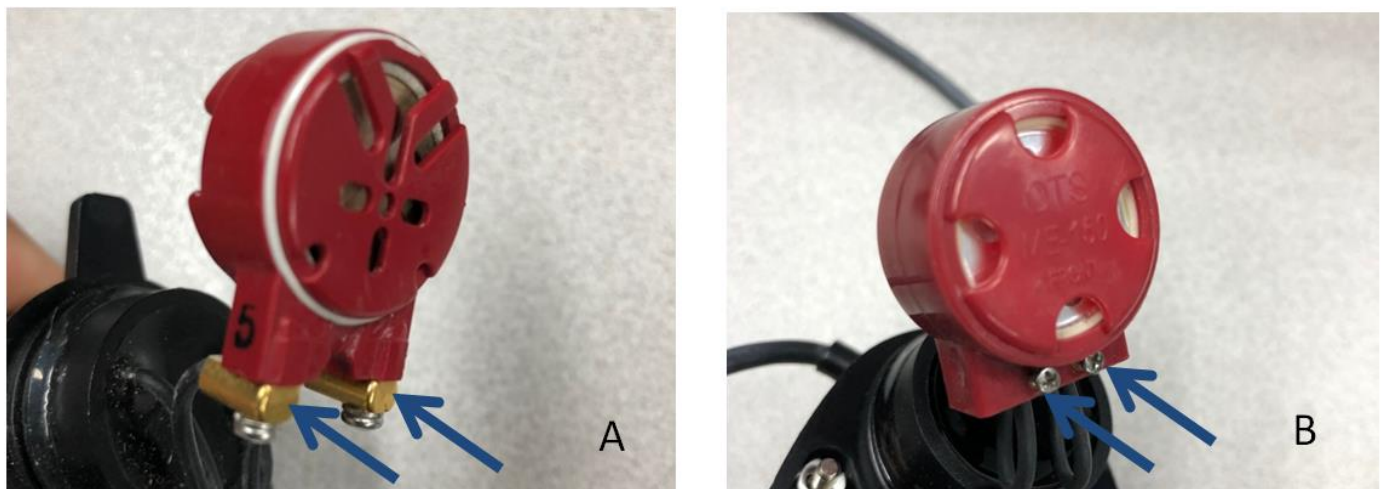


Figure 1: ME- 16R “Hot Mic” (A) and ME-150 (B) Terminal Locations

Reason

When the PTT button is pressed, the microphone input changes to an output i.e. speaker line. This causes up to 20 volts (tender to diver volume at loud setting) AC audio voltage to appear across the microphone terminals. In 2-wire mode, both the earphone and microphone are connected in parallel. The audio signals are present across the microphone when the PTT is pressed.



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Solution

OTS recommends that the user follows all instructions outline in the MK-III User Manual (506279-000 Revision A up to the current revision). The MK-III User Manual outlines the product's safety risks and actions to mitigate them. The MK-III 3-Diver Intercom includes 3 protective boots that can be installed on ME-16R and ME-150 microphones to cover the terminals as shown in *Figure 2*. Instructions on how to install the protective boots (506281-000) is included with the MK-III. Additional insulator boots can be purchased from OTS under the part number 133043-001.

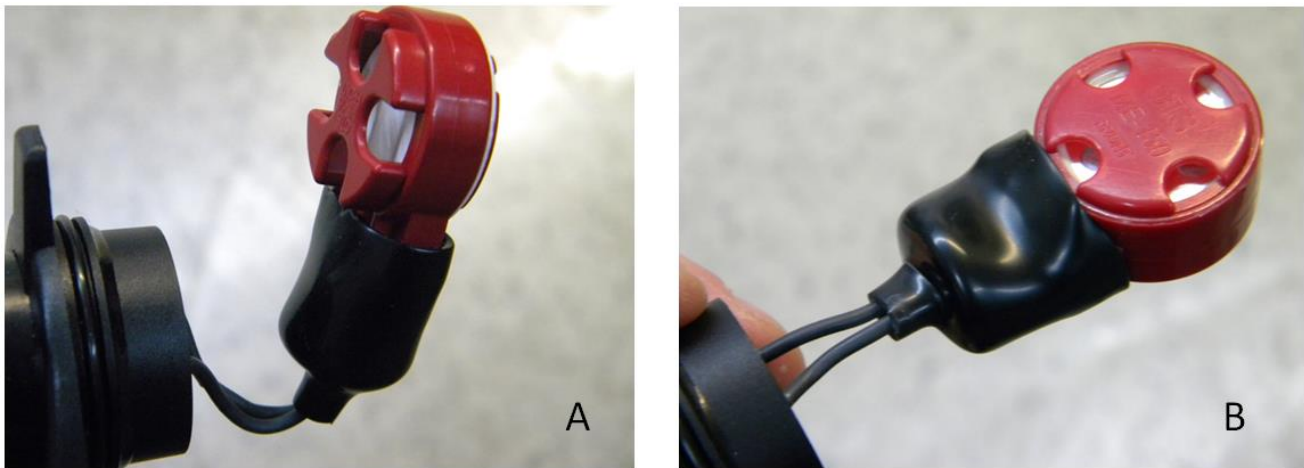


Figure 2: ME- 16R "Hot Mic" (A) and ME-150 (B) with Protective Boot Installed

Some dive masks and helmets; such as the KM 37 and KM 97, have shorter microphone wires which require additional modifications to the insulator boots. Insulator boots can be cut-to-size to fit most microphone configurations as shown in *Figure 3*.

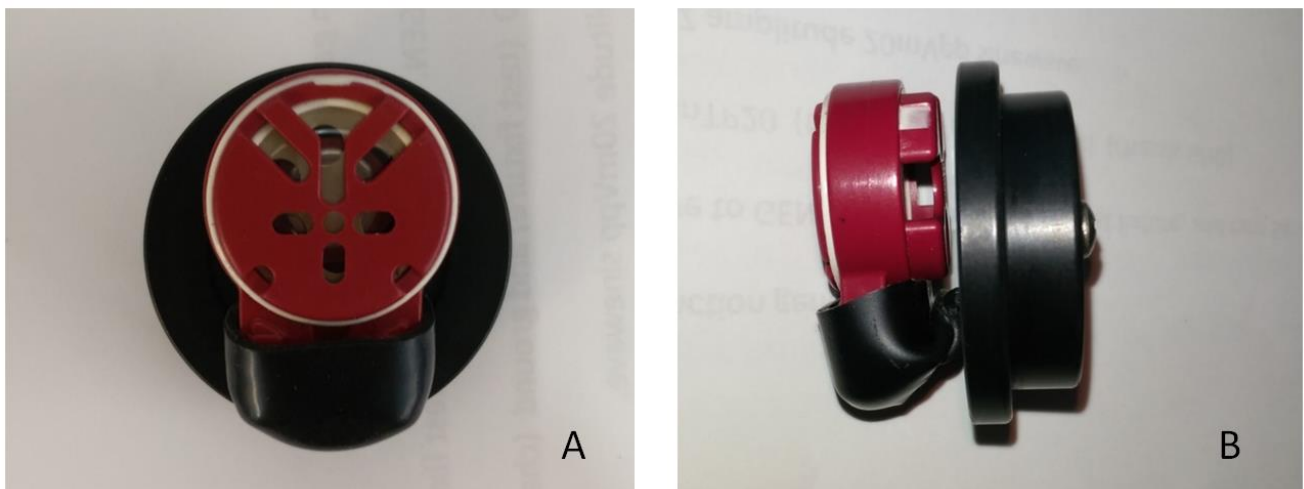


Figure 3: Insulator Boot Installed on ME16-SL



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It is also acceptable to cover the entire microphone and terminals with a finger cot made of a material capable of insulating 20V; such as latex (See Figure 4).



Figure 4: ME16-SL Covered in Latex Finger Cot