Two M4s Down the Drain

By Capt. Jason Arthaud

Some of the coolest posters in a recruiting office show Sailors and Marines emerging from the water with their rifles pointed straight ahead. You don't see what could happen next, when one of them fires his weapon and it disintegrates in his hands, and he has to transition to a pistol. Recently, two M4 carbines were destroyed in this manner when Sailors shouldered their carbines and fired as they came out of the water. In 1996, similar mishaps occurred, damaging five carbines.

The M4 special-operations peculiar-modified (SOPMOD) carbines in this case were suppressed, which reduces the noise of firing by about 30 decibels. If water is added to the suppressor, the report is further dampened. However, if water gets into the barrel, the suppressor won't dampen the sound of the weapon exploding.

A water-filled barrel first must be drained because water can block the barrel and gas tube. Firing produces tremendous pressure that may cause the weapon to explode. Some assume that water will simply blow out of the way, but this is not entirely true. If water is near the chamber end of the barrel, it can't move out of the way quickly enough, so it acts as an obstruction—similar to dirt, sand or a cleaning rod stuck in the bore. Dirt and sand are hard to remove because they stick to the bore

and chamber. Water is much easier to deal with; you don't need to break open the weapon or swab the bore as you do with dirt and sand.

Clearing magazines

If sand clogs your magazine, you will need to swap it for a clean one unless you have time to gut the sand-filled one, clean the body, and wipe off each round. If a magazine is flooded, remove it, or turn it upside down. If left in the weapon, water eventually will drain out through the hole in the floor plate.

Photo by Capt. Jason Arthaud

There are two ways to drain the M4, depending on the weapon's condition. A round in the chamber (condition one) slows draining, so more time is required for a condition-one weapon than if the chamber is empty (condition three).

To drain an M4 or M16, start with the "after fording" procedures listed in the TM under "operation in unusual conditions." These steps are for a condition-one weapon; they demonstrate pointing the weapon straight down and pulling the bolt partly to the rear. However, the procedures do not mention how long you have to hold the weapon in this position to drain.

In 1996, five M4 carbines were damaged in a similar mishap. The tests that followed the '96 mishap determined that 10 to 12 seconds are required to drain if a weapon is in condition one, and 4 to 5 seconds if in condition three. The main difference between the two cases is that suppressors were not used in the 1996 mishap, but they were used during the recent case. This raised the question of whether additional procedures are necessary. Comparison tests show that an M4 *with* suppressor drains at the same rate as one without—no additional procedures are necessary.

Testing also led to a recommendation that if you know the weapon will be submerged during an operation, you should carry the weapon in condition three. Though this is "downloaded" from condition one, it actually is faster to drain, "upload" and fire than if you start with the condition-one procedure.

Once you emerge from the water, pull the bolt to the rear, allow the weapon to drain (4 to 5 seconds), then release the bolt to transition to condition one. If draining a condition-one weapon, point the weapon down and pull the bolt partly to the rear. This breaks the seal around the cartridge and lets water drain from the barrel and gas tube.

Photo by Matthew J. Thomas

Since the barrel was blocked by water, when the carbine was fired, the high chamber pressure split the receiver.

Photo by Matthew J. Thomas

The bolt carrier split and the extractor was blown out through the ejection port.

Photo by James S. McGregor

A water-filled barrel first must be drained because water can block the barrel and gas tube. Firing produces tremendous pressure that may cause the weapon to explode.

Since it takes 10 to 12 seconds to drain with a round in the chamber, you can speed this process simply by pulling the charging handle completely to the rear. This ejects the previously chambered round, but now you need to wait only 5 seconds to drain before releasing the bolt to chamber a new round.

With either process, chambers within the suppressor will retain some water. This is not a problem as the suppressor is designed to function wet and a little water (2-5 cc) will further reduce noise and first-round flash. Testing has shown that water in the suppressor does not interfere with the weapon, unless large quantities are present and the weapon is carried level or pointed up. To avoid having to repeat the draining process, carrying the weapon muzzle down.

To control how much water is in the suppressor, the manufacturer recommends adding water from the rear just before installing the suppressor on your weapon. If this isn't practical, you can leave the suppressor mounted on your weapon and dip it into some water. Once water is added, point the weapon straight down and shake out excess water. Additional amounts don't provide any benefit.

Warning. A suppressor disrupts the direction of gases traveling behind a bullet; this process builds up higher than normal pressure and forces some gas to exhaust through the ejection port. If you are left-handed, this hot mixture of steam, oil and carbon will splatter in your face. Wear goggles, or fire with the suppressor dry.

References:

- TM9-1005-319-10
- NAVSURFWARCENDIV message, October 1996
- SW370-BP-OP1-010 Operator's/Armorer's manual, KAC M4 Model QD Sound Suppressor