

Safe Crossings

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at a hard-stand crossing site not normally associated with high water. The earlier heavy rainfall and higher water levels filled the surrounding area and created the appearance of a semi-calm, low-velocity crossing.

The FMTV entered the site without the driver or VC verifying the water's depth or velocity. They were unaware the creek had swollen to a depth of more than seven feet with a water velocity over 5 mph. The FMTV almost immediately became buoyant and, with over 9,000 pounds of applied force from the current, was abruptly turned and carried downstream more than 70 meters. Three Soldiers in the vehicle's cab and six Soldiers riding in the rear lost their lives.

As the winter snow melts and the spring thaw begins, river banks will increasingly swell as rushing waters make the long journey to the ocean. The spring months bring crucial waters that revitalize plants and animals, bringing renewed life after the long winter slumber. Yet, with all of the beauty these waters bring, there is a lurking hazard Soldiers must consider.

Each year lives are lost when drivers and vehicle commanders neglect to consider the hazards involved with water crossings. This often comes from overconfidence in a vehicle's ability to safely cross a river or flooded area. Sure, your tactical vehicle may weigh more than 10 tons and be able to resist an improvised explosive device blast, but that does not mean it is capable of driving through several feet of rushing water.

For instance, the mine-resistant ambush-protected all-terrain vehicle (M-ATV) hull is built to protect crews from IEDs and is very similar to the design of a boat. However, boats have low centers of gravity, enabling them to safely float in the water. Tactical vehicles typically have high centers of gravity due to required ground clearance. High centers of gravity coupled with sealed hulls, aluminum bodies and large cargo beds create unsuspecting buoyancy, enabling tactical vehicles to quickly overturn in deeper waters. Take note of the following five tips to ensure you are able to assess the hazards and make appropriate risk decisions related to water crossings.

1. Each vehicle is different

Read and understand the water fording procedures in the operator technical manual. The operator -10 TM provides vital instruction for determining the acceptable water depth in which vehicles

Stopping careless water crossings and preventable drownings

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During sergeant's time training, an FMTV crew's mission was to participate in a driver's training convoy. Prior to the event, the training area received a significant amount of rainfall over a short period of time. After beginning the training, the convoy commander, who was also the FMTV vehicle commander, deviated from the planned hardball road onto an unimproved tank trail in an effort to provide new Soldiers an opportunity to gain wet-weather and off-road experience.

The lead vehicle, carrying 12 Soldiers, navigated two significant, yet stagnant, water obstacles. The convoy then encountered a third obstacle

may travel. This includes assessing the ground beneath the water to see if it is hard enough to support the weight of the vehicle. Many of the heavier vehicles recommend operators add an extra foot to the water depth when the ground is soft to account for the vehicle sinking in mud. Neglecting to comply with maximum water fording depths in the TM may cause water to enter the air intake, resulting in costly engine damage. Even worse, ignoring TM instructions may result in an overturned vehicle, endangering the crewmembers' lives.

2. Assess the strength of the current

Even if the depth seems relatively shallow, a strong current may make a crossing impassable. The best way to assess if the current is too strong is to mark out a 100-foot path along the side of the river. Use a water bottle or something else recognizable that will float and throw it into the strongest part of the current at the beginning of the 100-foot path. Time how long it takes the bottle to travel the entire distance. A time greater than 20 seconds indicates the water is traveling less than 5 feet per second and should be safe for crossing. Times less than 20 seconds indicate a very strong current that is unsafe to cross.

3. Do not assume the water level is constant

Rivers and water crossings rise with storms and winter thaws. Just because you safely passed the water crossing during the dry season last year does not mean you can pass it now. Conduct a recon of the depth before driving vehicles into the water.

4. Someone may get wet

To assess how deep the water is, a Soldier may have to recon it using a depth gauge or stick. Ensure the water current is safe (see tip No. 2 above) before sending a Soldier in to recon the depth. In addition, ensure the Soldier is a strong swimmer and is wearing a life vest (when available). Make sure you tie a safety rope to the Soldier to safely pull him to shore in the event of an emergency. Tactical situation permitting, ensure the Soldier is not wearing any constrictive or heavy gear such as body armor that may weigh him down and inhibit his ability to swim to shore safely.

5. Conduct a risk assessment prior to every water crossing

This step applies equally to mission planners that direct Soldiers to use known water crossings as it does to hasty risk management when crews unexpectedly encounter a water crossing during torrential rains and flash floods. As with all risk management, leaders must know and use ATP 5-19 to identify and assess hazards, develop controls and make decisions. When the residual risk exceeds the risk acceptance authority of leaders on the ground, the chain of command must be notified for approval before any movements begin. This may result in a change of mission using an alternate route to bypass the hazardous water crossing. Remember, commanders get paid to make these types of decisions. Do not take unnecessary risks and jeopardize Soldiers' lives in an attempt to make the mission happen by conducting an unsafe water crossing.

Conclusion

Knowing and following these five steps will ensure Soldiers are not placed in unnecessary risk during water crossings. Include these steps during initial driver training and annual sustainment training to make sure we put a stop to careless water crossings and preventable drownings.

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