

Building a Logistic Support Bridge in Afghanistan

By First Lieutenant Christopher A. Selleck

In mid-February 2009, the Soldiers of the 4th Engineer Battalion (Combat Effects), deployed from Fort Carson, Colorado, to Baghdad, Iraq, to provide route clearance support for Multinational Division–Baghdad. The battalion, operating from Camp Liberty, received orders within weeks of its arrival to move its efforts to southern Afghanistan to support the influx of U.S. forces heading to the region. As the Soldiers packed up their equipment, leaders at all levels shifted their focus from conducting operations in the highly congested urban streets of Baghdad to the wide-open desert and mountain passes of Afghanistan. Despite the challenges and the new tactics associated with conducting rural route clearance, the Soldiers of the 4th remained optimistic.

In Kandahar, while waiting for the arrival of its route clearance equipment, the battalion was asked to help construct a 150-foot Mabey-Johnson logistic support bridge (LSB) on an overpass that had been damaged by an improvised explosive device (IED). The bridge was located on Highway 1—known as Ring Road—2,100 kilometers of almost completely paved road that encircles Afghanistan and links the roads that lead to its international borders. Because of this, mobility along this road is critical for locals as well as coalition forces. The battalion commander decided to dedicate the Soldiers of the 576th Engineer Company (Mobility Augmentation) to the task.

The advantage of the Mabey-Johnson LSB over the more widely known Bailey bridge is its strong steel deck and transom system. The Mabey-Johnson LSB requires far less material to provide a much higher military load class (MLC). Also, because the overpass was still intact, a crane could be used to construct the entire bridge, as opposed to building a temporary launching nose and rollers and using the cantilever system, a common construction technique for both the Bailey bridge and the Mabey-Johnson LSB.

The 576th Engineer Company primarily consists of combat engineers who have little experience with military bridging beyond the small block of instruction taught in advanced individual training. Thus, the company relied on the expertise of a British Army captain and a Canadian Army warrant officer to guide the construction effort. The company was split into two elements: security and construction. The security platoon escorted vehicles and equipment 161 kilometers to the site, then provided a security cordon for the construction platoon. It also coordinated outer security cordons set by other coalition forces to control traffic. The construction platoon began work at Kandahar Airfield on 5 May, nine days before leaving for the site. The Soldiers were assisted by two coalition crane operators using a German Army crane to reinforce the frame sections of the bridge in order to support the designed MLC and to load the trucks efficiently to reduce construction time.



Afghan workers unload a truck under the eyes of American Soldiers.

The security platoon departed Kandahar Airfield for the bridge on the morning of 14 May. Movement was halted by a mechanical malfunction of the crane, which ended up delaying construction for two days. When the crane arrived at the site on a flatbed trailer, the inner cordon was established and the area was cleared using mine roller equipment and a specialized search dog from the 94th Engineer Detachment, Fort Leonard Wood, Missouri. To maintain an aggressive posture on the site while waiting for the crane to be fixed, the company conducted dismounted patrols of the area. Almost daily enemy IED activity to the west heightened the Soldiers' state of alertness.

On 17 May, a new crane arrived, and the original crane was repaired. This allowed construction to move at a pace quicker than anticipated. The heaviest and most critical piece of the bridge—the near-shore ground beam—

was placed first. At nearly 5 tons, it had to be precisely placed and centered or the entire bridge would veer off in the wrong direction. Once it was placed, the tedious process of emplacing 15 bays consisting of panels, transoms, bracing, and decks began. When the new bridging reached the middle of the damaged overpass, construction from both sides was possible. While bays were being added from the far shore, the crane on the near shore helped place decking and the near-shore ramp.

The Soldiers of the 576th worked in shifts around the clock with only a short rest period in order to reduce time on-site. Minor problems called for creative solutions, but no problems arose that halted construction for any length of time. For example, upon completion of the ninth frame, the construction platoon discovered that the bridge was 7 inches off center. Instead of removing frames to correct the problem, the platoon (with help from the crane and several Soldiers from the security platoon) used manpower to slowly move the bridge back on center. The platoon also employed building techniques using vehicle jacks, ratchet straps, and tanker bars to help get the bridge pieces assembled.

The Soldiers completed the bridge on 19 May, with a total construction time of approximately 50 hours. The security and construction platoons, along with the route clearance patrol, moved from the bridge site back to their forward operating base as night was approaching. The next morning, the company began to make its way back to Kandahar. With minimal training, the Soldiers of the 576th Engineer Company dramatically improved mobility and freedom of maneuver along Highway 1, aiding the people of Afghanistan and coalition forces. 

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