As we pushed our column of four mine-resistant ambush-protected (MRAP) all-terrain vehicle (M-ATV) gun trucks, two wreckers, and an M916 line-haul truck with a flatbed trailer closer to our objective, wheels were skating dangerously close to the sheer dropoffs. The road seemed barely wide enough for the M-ATVs, and one could not help but wonder how the MaxxPro MRAP recovery vehicle (MRV) and heavy expanded-mobility tactical truck (HEMTT) wrecker were faring. As we continued on, cutting deeper into a moonscape land of hills, valleys, narrow wadis, and dry creks that verged on being considered small canyons, doubts about the feasibility of reaching the objective lingered in each Soldier’s mind.

The road to Sayed is little more than a goat trail, a trading route likely used for hundreds of years if not longer. Barely improved, its continued use is indicated by the fact that it is almost inexplicably found on contemporary military maps, including those loaded onto Blue Force Tracker. Generations of use have worn the trail deep into the lime-stone wall that dominates the Sayed landscape, and wind and water erosion has threated what little progress has been made in improving the surface.

MRAP Rollover

In August 2011, an RG–31 MRAP in a tactical patrol conducting battlefield circulation through the remote Sayed District west of the town of Sar-e-Pol drove up the steep rock face alongside the narrow trail and rolled over. The vehicle plummeted down a steep slope and settled some 25 meters below in a ditch that ran parallel to the valley floor. The nearest improved road was approximately 10 miles away. The valley itself was almost unavigable, crisscrossed by ditches and shallow wadis. The chances of recovering this expensive piece of equipment appeared slim; the dangers of staying on site for hours, if not days, became somewhat higher.

After inventoring the on-hand demolition materials and determining that he did not have nearly enough C4 to blast the vehicle in place, the onsite commander called his superiors. Thanks to the fundamentals of vehicle safety, all four crew members walked away—they had all been wearing their seatbelts and Kevlar helmets.

Seeking Help for Recovery

The patrol team members secured the site, called for the assistance of locally stationed subordinate units, and relayed the situation to their higher headquarters at Camp Marmal, just outside of Mazar-e-Sharif in northern Afghanistan. Since the supporting force headquarters had limited logistics capability in theater, it notified the 170th Infantry Brigade Combat Team of the incident; the brigade then activated its area recovery plan. B Company (Field Maintenance), 24th Brigade Support Battalion (BSB), received the mission at approximately 1100 hours.

Meanwhile, the patrol team on the ground in Sayed District was looking at what seemed to be a lost cause. With its nose dug deep into the packed earth, the 11-ton vehicle was wedged into a narrow ditch 25 meters below the road and 15 meters or so above the valley floor. The nearest improved road was approximately 10 miles away. The valley itself was almost untraversable, crisscrossed by ditches and shallow wadis. The chances of recovering this expensive piece of equipment appeared slim; the dangers of staying on site for hours, if not days, became somewhat higher.

After inventoring the on-hand demolition materials and determining that he did not have nearly enough C4 to blast the vehicle in place, the onsite commander called for an airstrike. The call was denied; recovery help was already on the way.

MRAP Recovery Challenges

The use of MRAP vehicles in the recent Iraq and Afghanistan wars has led to a number of problems for recovery teams. The size and weight of MRAPs mean that they do not fit readily within the pre-9/11 Army’s vehicle recovery procedures. MRAPs were too heavy to be lifted by a HEMTT’s crane and could not to be reached by the M88A1 or M88A2 recovery vehicles in many locations where they commonly operated.

To meet this new demand, the Army and Marine Corps turned to industry to develop a solution. In the mean-
In May 2011, units across Regional Command North in Afghanistan received their first MaxxPro MRAP recovery vehicles (MRVs), which were fielded in conjunction with an 80-hour block of instruction for recovery crews. The MRV is a massive vehicle with considerable capability, and experience in the field quickly demonstrated the unmatched potential of the MRV’s lifting and towing capability. However, some H8-qualified personnel expressed reservations about the vehicles’ utility in some of Afghanistan’s more austere terrain.

Developed based on an operational needs statement derived from combat lessons demonstrating the need for a vehicle with improved lifting and towing capability over the HEMTT, as well as improved MRAP crew survivability, the MRV was designed specifically to handle MRAP-class up-armedored vehicles and any other wheeled vehicles in the Army or Marine Corps fleets, including Strykers and light armored vehicle (LAV) 25s.

Built around a 30-ton lifting boom, the business end of the MRV includes an impressive set of 25-ton recovery winches and a 50-ton drag winch. Powered by an International DT 9.3-liter, 375-horsepower engine, the MRV weighs roughly 58,200 pounds, giving it an optimum power-to-weight ratio of 1 to 155.2 compared to the HEMTT’s 1 to 77.6.

The MRV’s wheelbase, an early concern for recovery crews, spans 408 inches between front and rear axles, with only 10 inches of differential ground clearance, making the possibility for bottoming out on uneven terrain seem high. However, for highway operations supporting logistics convoys and route clearance packages along Afghanistan’s arterial lines of communication, where improvised explosive device strikes have been a constant threat, nothing could feasibly match the capability and survivability of the MRV.

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"Sure We Will"

Upon arrival at the recovery site, the recovery team linked up with the ground command element, discussed security, and then discussed their plan of action for extracting the vehicle. “Do you really think you can recover it?” the onsite commander asked. “Sure we will,” the recovery team commander responded, not bothering to add that getting it out of the valley would be the biggest challenge.

It was immediately evident that the RG–31 would not be able to travel safely out of Sayed on the back of a flat-bed trailer. This meant it had to be recovered in good enough condition to be towed behind the HEMTT or MRV. The vehicle had extensive damage, but although the front axle was bent, the rear axle appeared to be intact. The team conducted a 360-degree assessment of the vehicle, evaluated various connection points, and then developed an initial course of action.

The basic plan called for using the MRV’s boom to lift the RG–31 out of the ditch where it was wedged, while the HEMTT winched it forward from a lower position. They would then work it laterally along the hillside until it eventually made it back onto the road. The plan may very well have worked, but the team never got a chance to try.

The MRV suffered a total power takeoff failure, leaving anything attached to the internal hydraulics system, including the lifting boom, inoperable. [Power takeoff refers to using power from an operating power source, such as a running engine, to operate an attachment, such as the MRV’s boom.] Rather than lifting the RG–31 out of its trap, the MRV became a 29-ton roadblock, guarding the hill against the meandering trail of herders and nomads who passed by at frequent intervals.

Plan A

Without the benefit of the MRV, the recovery team hooked up the HEMTT to see what could be achieved with that asset alone. The original plan was modified to use the HEMTT’s drag winch to pull the RG–31 up and out of the ditch along the side of the road. The HEMTT was powerful enough to pull the RG–31 up the incline. However, the HEMTT’s angle above the ditch created a complex geometric problem; the mechanical force of the winch served only to dig the RG–31 deeper and deeper into the earth, thus increasing resistance and risking severe damage to the RG–31. After attempting to use a variety of hook-up points, a process that took hours, the RG–31 had moved perhaps 5 meters of a required 50.

Plan B

The RG–31 was hooked up to the HEMTT, with the drag winch cable looped through the snatch block theoretically doubling the winching capacity. Slowly and steadily, the HEMTT pulled on the RG–31. Rock and soil began to shake loose, and the MRAP began to move forward, breeching the top of the ditch in a plume of dust as hundreds of pounds of earth gave way. Cresting the ditch, the RG–31 pitched nose down and slid into the valley, surprisingly enough still on its side.

The recovery team next deliberately tipped the RG–31 as gently as possible, using both the HEMTT and the winch of an M–ATV to stabilize it. Resting awkwardly on 3 wheels, the RG–31 was at last free. The mechanics of hooking up the HEMTT and getting it out of the valley would take another hour or so, but the balance of the problem had been overcome. With a final low-level pass from the guardian Apaches, the patrol would soon be on the road away from Sayed and toward Sar-e-Pol.

The reliability of the MRV, like many new Army systems, came into question. Weeks later, after hours of troubleshooting by Army mechanics and field representatives, the source of the power takeoff failure was found to be a simple fuse, which had been knocked loose in the rough drive into the Sayed valley.

The importance of a backup plan in recovery operations cannot be overemphasized because unexpected factors nearly always come into play during a dedicated recovery mission. Recovery plans, like any other operation, should be categorized into primary, alternate, contingency, and emergency courses of action.

Intelligence preparation of the battlefield is a factor that is not often emphasized with sustainment operations, is more important than ever in a recovery operation. If limited assets are available, intelligence preparation of the battlefield is that much more critical because it can help commanders make decisions with minimum risk.

Assigning HS-qualified personnel to a recovery section is important, but equally important is practical field training in a complex and realistic environment that replicates the chaos and unexpected nature of combat operations. B Company’s crews were lucky enough to receive a very high level of predereplenishment training while at the Hohenfels Training Area in Germany. The recovery experiences there, as well as the institutional experience brought by the NCOIC onsite, proved invaluable. Throughout combat operations in Regional Command North, the 24th IBCT also benefited from individual and group training activities for all vehicle crews conducting operations outside the wire.

Finally, the Warrior Ethos, a never quit, never accept defeat mentality, is absolutely vital. Recovery operations can be daunting, dangerous, exhausting, and frustrating. Discipline, mental fortitude, and physical toughness are often at a premium and should never be discounted. **CAPTAIN ANDREW J. FAIR is the commander of B Company, 24th Infantry Brigade Support Battalion, 177th Infantry Brigade Combat Team, in Baumholder, Germany. He holds a B.A. degree in history from Texas A&M University and is a graduate of the Ordnance Basic Officer Leader Course and the Combined Logistics Captains Career Course.**

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