Fighting the Combat-Trains Command Post in a Decisive-Action Training Environment

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During National Training Center (NTC) decisive-action (DA) Rotation 15-02, Headquarters and Headquarters Company (HHC) 1-68 Armor (part of 3rd Armored Brigade Combat Team (ABCT), 4th Infantry Division) successfully employed the combat-trains command post (CTCP). This article's purpose is to describe the doctrinal employment of a CTCP as well as the unit-specific tactics, techniques and procedures and standard operating procedures (SOPs) we employed to better sustain the fight in a DA environment.

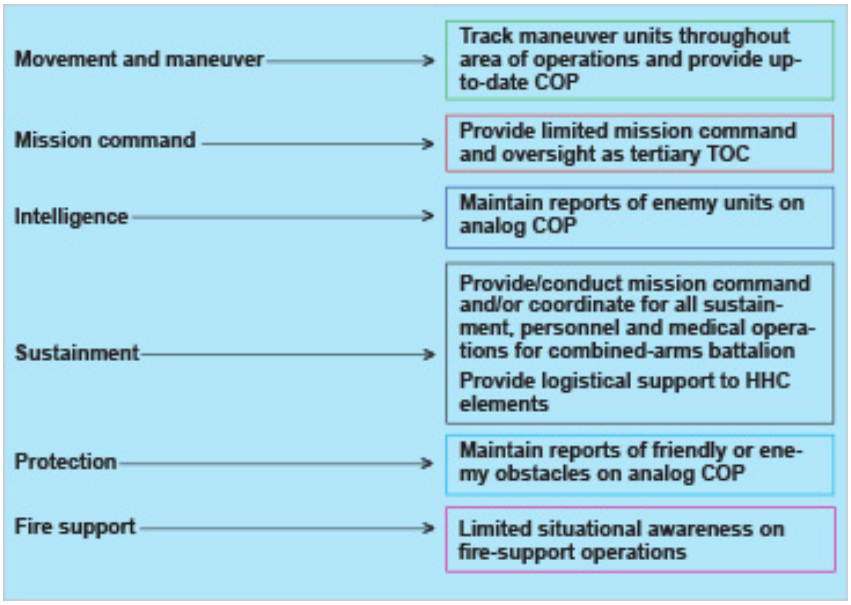


Figure 1. Breakdown of the CTCP by warfighting functions as executed during NTC Rotation 15-02.

Doctrinally, the role of the unit's combat trains are to trail from one to four kilometers behind the fighting elements and manage the Class III and V resupply. They are co-located with the unit maintenance-collection point (UMCP) and battalion aid station (BAS). The combat trains, run by the battalion S-4 officer in charge (OIC), act as a forward resupply element responsible for short-duration sustainment of the battalion.

Comparatively, the field trains, located four to 12 kilometers behind the combat element, are comprised entirely of the forward-support company (FSC), battalion S-1 and S-4 representatives, and the HHC command team. The HHC commander was responsible for coordinating sustainment support and served as OIC of the field-trains command post (FTCP), focusing on command-post (CP) operations. Also, the HHC commander understood and was responsible for security of the entire FSC element, and coordinated sustainment between the CTCP and the FSC.

The FSC commander coordinated for the battalion's logistical resupply through the brigade-support battalion while simultaneously focusing on commanding the company (U.S. Army Field Manual 3-90.5, Chapters 2-4, Paragraphs 12-1 through 12-8).

The most clearly identified flaws in executing a doctrinal CTCP are the correct distribution and placement of key personnel to most efficiently employ mission command. Through practical application, we found the S-4 OIC best served at the battalion tactical-operations center (TOC) – this allowed him to participate in logistical planning and clearly understand the fighting elements' sustainment needs. It also allowed the unit to incorporate the battalion executive officer's guidance on logistical and sustainment operations based on the contemporary operating environment.

Co-located with, and commanding, the field trains, the FSC commander ran the FTCP and UMCP, leveraging the abilities of the attached S-1 and S-4 noncommissioned officers (NCOs) in charge to coordinate sustainment, maintenance, casualty-tracking (regeneration) and major resupply operations. The HHC command team was best leveraged commanding the redefined CTCP within the area of the combat trains because of their maneuver experience and the HHC commander's seniority within the battalion.

CTCP establishment

Establishing the CTCP was conducted very similarly to patrol-base occupation. (See Figure 2 for patrol base vs. CTCP establishment characteristics.)

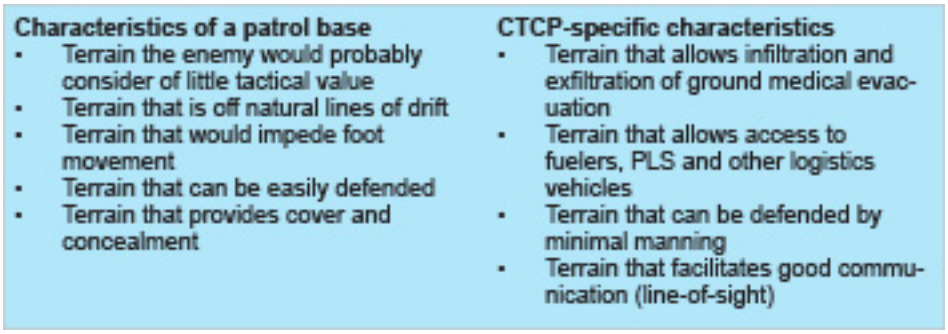


Figure 2. Characteristics of patrol base vs. characteristics of CTCP as employed during NTC Rotation 15-02.

The combat trains established a short halt before CTCP occupation, at which time the HHC executive officer was responsible for conducting the leader's reconnaissance and quartering-party operations. The quartering party consisted of the executive officer's vehicle, a humvee with Deployable Rapid-Assembly Shelter (DRASH) tent and generator attached. The supply Light-Medium Tactical Vehicle accompanied the executive officer, facilitating set-up by allowing the executive officer and supply sergeants to establish the site while the combat trains' main body moved to the newly established location.

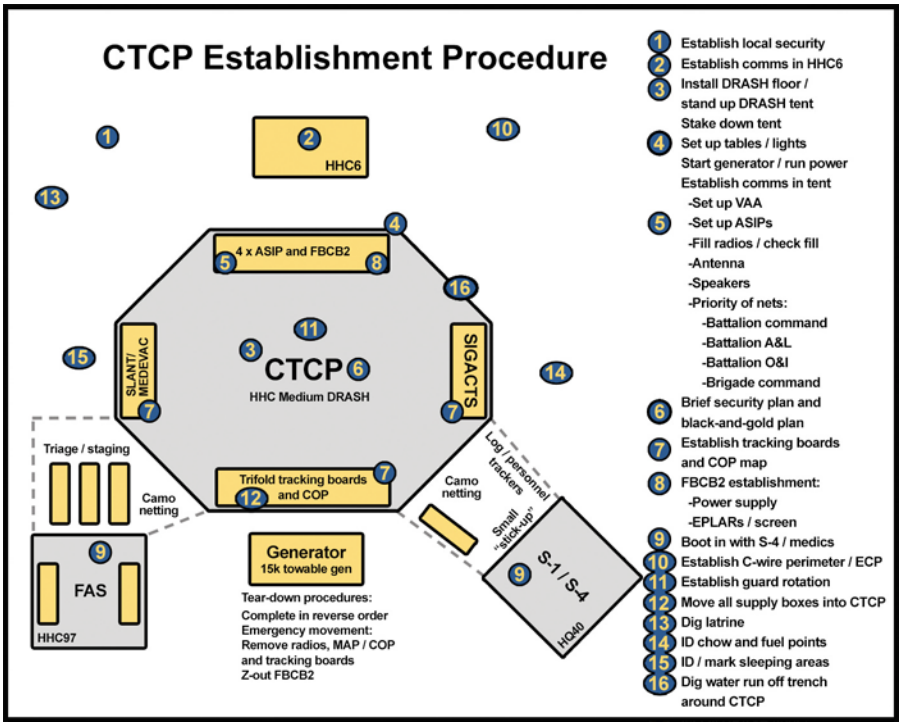


Figure 3. CTCP establishment procedures outline the priority for set-up during normal operations. Average set-up time from initial occupation of Green CTCP takes about 40 minutes.

Once the executive officer had determined a suitable location that met basic tactical characteristics for occupation, the HHC commander moved the main element – task-organized as himself; the HHC first sergeant; two fuel specialists; M88 "Hercules" Recovery Vehicles; Class V Palletized Load System (PLS), consisting of M1A2 Abrams main battle tank, M2 Bradley Fighting Vehicle (BFV) and infantry platoon unit basic loads – and the BAS forward to the new CTCP occupation site. (See Figure 3 for Green CTCP security perimeter and vehicle locations.) The HHC commander and first sergeant moved to the middle of the CTCP, marked by the executive officer's vehicle. The remaining vehicles in the combat trains established an initial security perimeter based on SOP and mission variables.

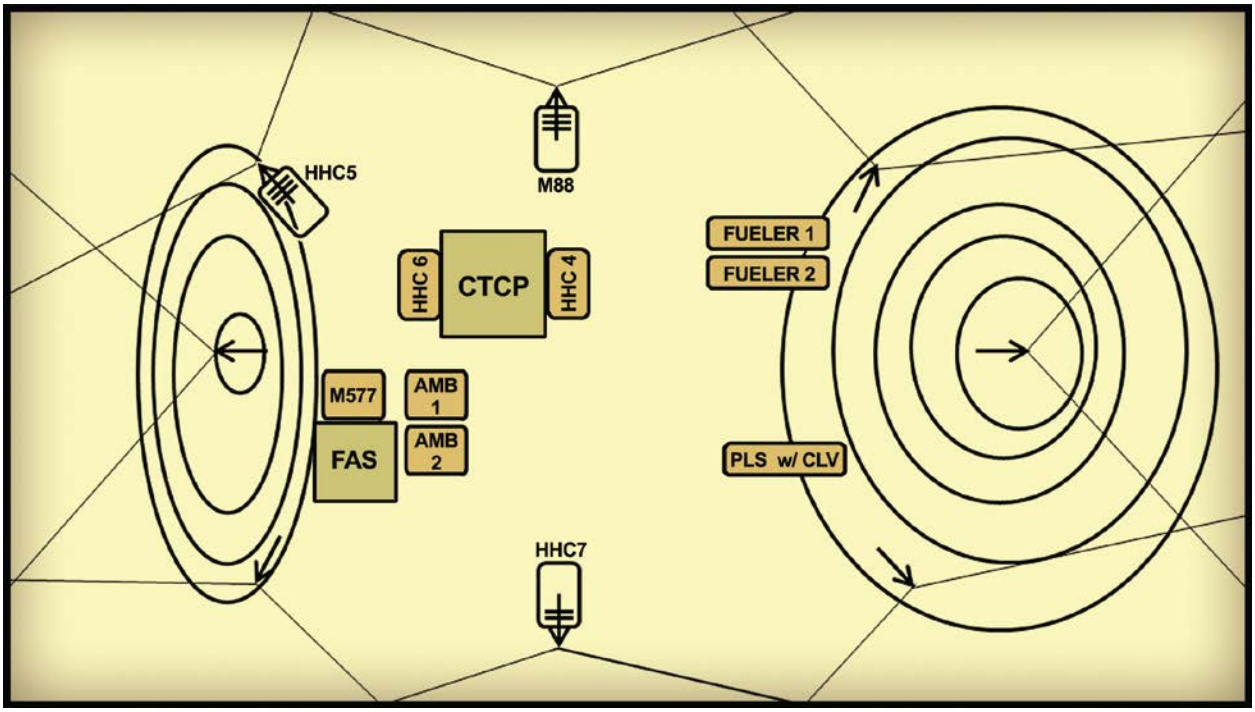


Figure 4. Typical security perimeter and placement of vehicles used for Green CTCP. Formal CTCP priorities for establishment followed the company SOP.

During the NTC rotation, the unit discovered that aggressive forward positioning of the CTCP allowed maximum efficacy to facilitate forward sustainment operations. It was imperative to analyze the risk vs. reward for forward positioning of the CTCP. The closer the combat trains established to the fight, the better the ability to sustain the battalion and increase the survivability of casualties by having the Role I closer to the forward line-of-own-troops (FLOT); however, the security risks had to be continuously evaluated. Reducing the amount of time required to push emergency Class III and V resupply forward enabled continuous operations.

Also, most vehicles were able to self-recover back to the CTCP because of the forward location. Because self-recovery is inherently a slow and tedious task, reducing the distance that combat elements needed to travel before transitioning non-mission-capable vehicles to recovery assets allowed the combat power to remain closer to the fight.

The HHC commander and executive officer closely battle-tracked and forecasted emergency resupply logistical needs for combat elements. Because the resupply assets at the CTCP were not allocated for routine resupply, it was imperative that the HHC first sergeant closely manage resupply assets, determining to which element they were allocated in relation to what routine resupply assets were available within the field trains.

There were several key positions found necessary to most efficiently run CTCP operations. As in any operation, the commander is responsible for the overall success and operation of the element; in the CTCP's context, the HHC commander was responsible for ensuring continuous mission command for the battalion in case the TOC jumped location. He was also responsible for maintaining situational awareness of the fight to determine the location for

the CTCP (closer or further from the battle). Further, the commander determined at what level the CTCP would be established (green, amber, red), based on anticipated future movement, and remained forward-thinking to continuously assess the situation and anticipate the battalion's needs.

Contrary to the HHC executive officer's traditional garrison duties, there was minimal responsibility for logistical coordination of the HHC elements. Because most platoons were task-organized with a line company, resupply needs to the mortars, scouts and snipers were minimal. As part of the CTCP, the executive officer led the quartering party and determined the most viable location based on the commander's risk analysis. Once the CTCP was established, the executive officer ran day-to-day operations in the CP to allow the commander freedom of maneuver to command and refine CTCP operations. Within the CTCP, the executive officer was specifically responsible for logistical estimates and forecasting, whereas the CP NCO was responsible for battle-tracking. In conjunction with the force-protection NCO, a large aspect of the executive officer's time outside the CP was consumed by coordinating and refining the security plan.

The HHC first sergeant's primary responsibility at the CTCP consisted of managing the current levels of emergency supplies, directing resupply operations on the ground and supervising the security situation with the force-protection NCO. The first sergeant also directed the location of the BAS and, when attached, the S-1 and S-4 personnel's vehicles and equipment. The first sergeant conducted continuous coordination among those elements and the CTCP, and was responsible for the logistical sustainment of all elements at the CTCP. The HHC first sergeant also attended all battalion logistical-synchronization meetings and ensured that logistical needs and coordination was being completed for the specialty platoons.

Aside from the obvious HHC command team, it was determined that a force-protection NCO and CP NCO were necessary to maximize CTCP operations. Critical to this node was a proficient signal-support-systems specialist (Military-Occupation Specialty 25U) or radio-telephone operator; we found this position was a "make or break" position in the CTCP set-up that allowed us to establish communications and maintain mission command throughout the mission. The force-protection NCO was responsible for establishing the individual security positions, establishing the guard roster, ensuring the creation of a detailed sector sketch and acting as the sergeant of the guard. The CP NCO supervised the establishment of the CTCP at each new location, maintained and updated the common operating picture (COP) and all trackers, and ensured all mission-command platforms remained operational.

Battle-tracking

One of the CTCP's primary responsibilities is to maintain a COP. This is critical because it creates a redundant system for maintaining mission command and situational awareness in case the battalion TOC and tactical-actions center are no longer capable of doing so. Also, by maintaining a current COP, this allows the HHC commander and first sergeant the ability to continually adjust the CTCP's location in relation to the FLOT and to update logistical estimates for the line companies based on their current disposition.

To maintain a current COP, a combination of frequency modulation (FM) tactical reporting from the companies and battalion and the use of Force XXI Battle Command Brigade and Below (FBCB2) were necessary. All reports received were captured on the appropriate tracking boards, and movements of both friendly and enemy forces were displayed on an analog mapboard down to the platoon level using a system of pushpins. We found the analog-map technique updated from rapid FM reporting to be very effective and frequently more reliable than using FBCB2.

Due to the significant dispersion of battalion elements across the battlefield, specifically between the TOC and FTCP, the CTCP was further used to relay information between the FSC commander and the TOC.

Forecasting logistical needs

One of the CTCP's most beneficial aspects was the ability to accurately forecast logistical needs of the combat elements, specifically Class III and V requirements. Pulling logistical usage and needs from the companies proved to be extremely difficult based on their focus on combat operations. Therefore, a formula and way of estimating usage based on situation reports and in-house battle-tracking was developed to assist.

The formula in Figure 5 allows calculated estimation of fuel consumption based on two variables: distance traveled and time idled. Based on the line companies' differing configuration, there are four choices for the constant that best represents the task-organization.

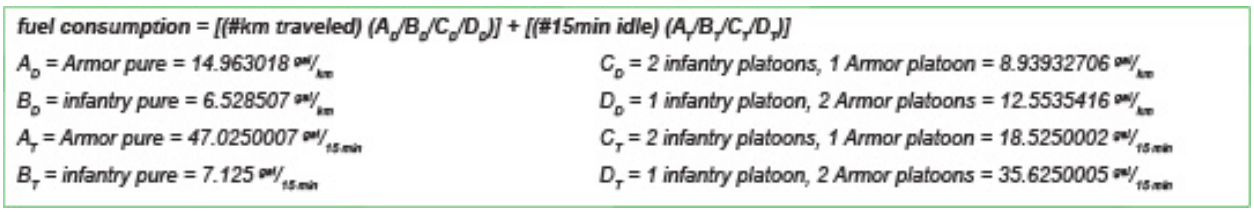


Figure 5. Formula to estimate fuel consumption based on distance traveled and time idled. A_D/A_T is for a tank-pure company with one BFIST. B_D/B_T is for a Bradley-pure company with BFIST. C_D/C_T is for a Bradley company-team (two infantry platoons, one Armor platoon) with BFIST. D_D/D_T is for a tank company-team (two Armor platoons and one infantry platoon) with BFIST.

A logistical-consumption COP was developed with notes annotating movement time vs. stationary/idle time of each company-sized element. This allowed the unit to use aggressive forward positioning to push the emergency resupply to the companies – often before they knew they needed to request it.

For example, assume that we are following Charlie Company and want to know how much fuel is remaining at any given time throughout the operation. Charlie Company has called the following reports:

4 a.m.	Ready Condition (Redcon) 1
5:10 a.m.	Cross line of departure
5:45 a.m.	Support-by-fire (SBF) at breach site established
8:20 a.m.	Moving to SBF at subsequent objective
8:50 a.m.	SBF established on main objective
10 a.m.	SBF broken down; moving into defensive positions in preparation for counterattack
10:30 a.m.	Set in defensive positions
Noon	End of mission

Based on these times, we can determine the total fuel consumption for the company. Let us assume that Charlie Company was task-organized as a company-team with two tank platoons, one mechanized-infantry platoon and one Bradley fire-support team (BFIST) – therefore, for these calculations, we will be using the constant D_D/D_T because it matches that task-organization. Based on the reports, we know that Charlie Company idled for a total of 385 minutes (4-5:10 a.m., 5:45-8:20 a.m., 8:50-10 a.m. and 10:30 a.m.-noon); we also know that Charlie Company was moving for a total of 95 minutes (5:10-5:45 a.m., 8:20-8:50 a.m., 10-10:30 a.m.). Let us also assume that we tracked them moving a total of 50 kilometers during those 95 minutes.

Using the formulas from Figure 5, we multiply the appropriate constant with the number of minutes or kilometers Charlie Company moved or idled. From the time the company went Redcon 1 at 4 a.m. until the end of the mission at noon, Charlie Company used 1,542 gallons of fuel ((385/15)(D_T)=914.375 gallons; 50D_D=627.677 gallons). If each M1A2 Abrams has a fuel capacity of 500 gallons, and each BFV has a fuel capacity of 175 gallons, we know that Charlie Company started out with 5,875 gallons of fuel. Therefore, our estimate is that at noon, when Charlie Company called end-of-mission, they used about 26 percent of their fuel.

In situations where idle time or distance traveled is significantly longer, we found that companies were often too focused on the mission to accurately and frequently report logistical statuses and needs. Therefore, if a company reached a point where it was low on fuel while the mission was still ongoing (for instance, the company reaches less than 50 percent while sitting in the SBF), we would be able to determine the need to send resupply assets during the mission.

Also, the Class V consumption tracker shows infantry, tank and Bradley ammunition consumption based on time. Because there is no definitive way to determine consumption of ammunition as a constant, like fuel, our system estimated ammunition usage as a function of time based on sustained enemy contact; if battle-tracking and reporting indicated more significant or less usage of ammunition, the consumption rate was adjusted by adding or subtracting time.

Estimated ammunition consumption was subtracted from unit basic loads specific to each type of company task-organization. We assumed that a platoon, regardless of task-organization or type, could sustain a firefight for 45 minutes. However, not all elements of a company were always in contact, and a company has the ability to cross-level ammunition. Therefore we assumed the company itself can sustain continuous contact for 60 minutes before exhausting all ammunition.

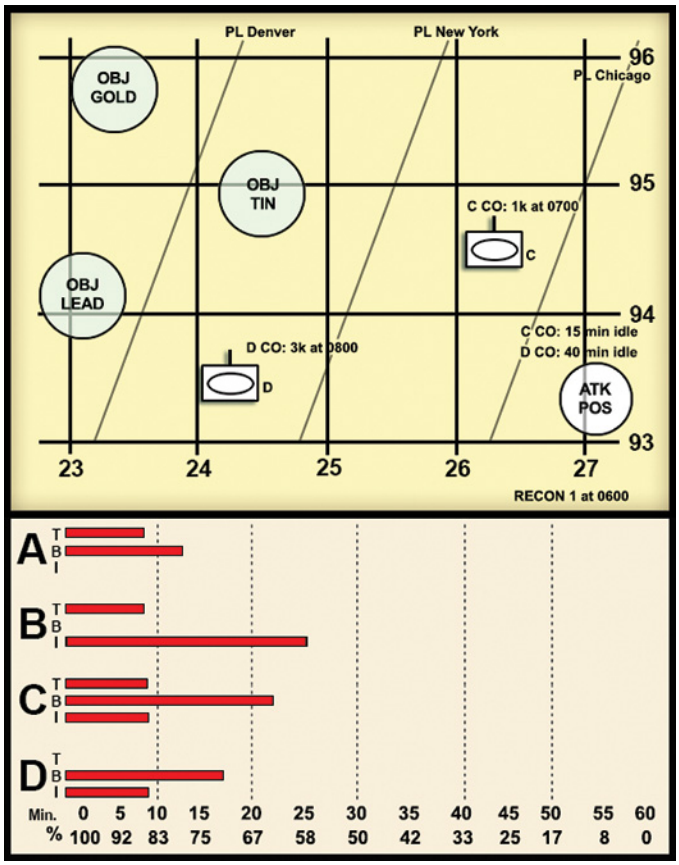


Figure 6. An example of the logistical estimate board. The top portion consists of an operational concept sketch with distances traveled, time expired since Redcon 1 and idle time. The bottom portion consists of each company's estimated ammunition expenditure based on enemy contact and tank, BFV or infantry elements. Minutes of contact vs. estimated percentage of Class V remaining are listed as the X axis.

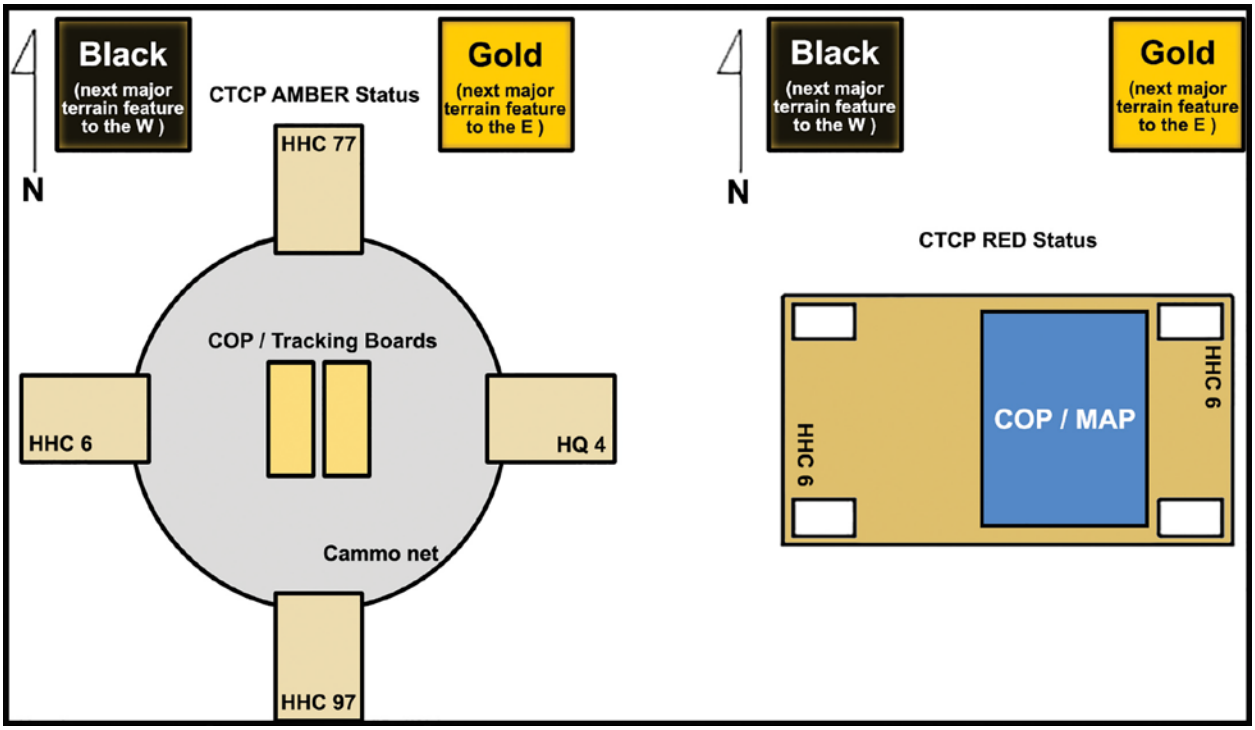
Organizational structure

Operational needs dictated what level of functionality was required for the CTCP. Before arriving at NTC, we developed a green, amber and red level of CTCP establishment. Green indicated a fully functioning CTCP with all communications systems established and the BAS integrated into the CTCP with tent. In addition, the M577 command vehicle, triage area and S-1 and S-4 tracks fully connected into HHC's DRASH tent. This set-up was used when we needed to maximize mission command; enemy contact was unlikely; and the battalion was mostly stationary. This level was primarily implemented during the live-fire as well as during defensive operations.

We also developed an amber-level CTCP which attempted to maximize both mission command and the capability to rapidly break down and move locations. We used this configuration primarily when the battalion was conducting an attack, as it allowed us to set up and break down as the fight progressed.

Finally, we also had the ability to establish a red CTCP; this most basic mode was used by battle-tracking on the move out of the HHC commander's humvee and, when stopped, was tied into a simple table and chair set-up under a camouflage net to understand the COP primarily using the humvee's communications platform as the

main means of mission command. This set-up was used mainly during the movement-to-contact where the speed, security and mission were generally unknown and we had to move with the battalion as they developed the fight.



CTCP amber status:

- Speed of battalion movement requires rapid breakdown
- Possibility of indirect fire/chemical, biological, radiological or nuclear threat high
- Unclear mission set that may require CTCP jump
- Unsecure rear area
- Movement of FTCP assets

CTCP red status:

- Situation requires battle-tracking on the move
- Enemy maneuvering in rear area/direct-fire contact
- Insufficient personnel to man CTCP
- Emergency retrograde of battalion rear area
- Limited reporting/battle-tracking requirements

Figure 7. Amber and red CTCP configurations shown. Refer to Figure 3 for CTCP green configuration.

BAS integration with CTCP

One of the CTCP's critical elements is the BAS. The BAS accompanied the CTCP throughout the NTC rotation. Our frequent forward-positioning in the fight was advantageous to the rapid treatment of casualties as the time from the company casualty-collection point to the BAS was reduced due to the CTCP's/BAS' proximity on the battlefield. By having a higher level of care available to the injured Soldiers, we increased survivability for our casualties in the battalion.

Another advantage to having the BAS positioned further forward was that the unit was able to receive casualties from other battalions, particularly the reconnaissance battalion. Due to the nature of its mission, they were often too far away from their squadron BAS and, through battalion and brigade coordination, we were able to provide aid to their casualties and improve the brigade's overall survivability.

As always, the battalion and HHC commanders must do risk analysis on how close to the FLOT the CTCP and BAS are positioned to avoid one of the battalion's critical nodes from being destroyed.

Field-trains integration and coordination

Doctrine specifies that the CTCP is established as an aspect of the FTCP, integrating the CP as a joint operation running the combat and field trains for the battalion. However, after attempting to implement this type of logistical support, we found it extremely difficult to aptly track, coordinate and control the combat trains as a separate forward-logistics element (FLE). Combining the combat trains and field trains, and only maintaining a small FLE for emergency resupply, did not support the way the commander wanted to use and integrate the combat trains into the fight. The field trains were significantly larger and much more difficult to move, and were slower and less reactive, making it a necessity for them to be further from the FLOT. As previously discussed, the concept we used was a forward-deployed emergency resupply node that was flexible and could rapidly move across the battlefield.

Communication between the CTCP and FTCP was still critical to the battalion's logistical support. The HHC commander and executive officer consistently communicated with the FSC commander regarding the status of the emergency Class III and V package to determine quantity on hand and when another push would be required. The CTCP also used the FSC's organic assets to move the resupply package as well as the M88 Hercules for recovery. Also, constant coordination was required for recovery assets to move destroyed or deadlined vehicles back to the UMCP for repair and reconstitution.

Conclusion

Although our methods of CTCP implementation on the battlefield differed from doctrine, we found that pushing the combat trains further forward not only increased our ability to provide logistical support to the combat elements, but also increased survivability of our casualties while assisting the reconnaissance battalion with intra-battalion needs. A significant benefit the CTCP provided the battalion was the ability to provide continuous logistical estimates, aiding the commander in providing timely and accurate logistical recommendations to the battalion commander in stride. The ability to forecast the company's needs and begin pushing resupply before requested significantly enabled our ability to continuously remain in the fight. The CTCP was found to be better able to support the battalion-enabler platoons; provide forward and emergency resupply; coordinate with the FSC; and battle-track when pushed forward into the fight.

The most significant lesson-learned during the NTC rotation for us was that to get the most effective and efficient use out of the headquarters element, the battalion commander must place trust in his headquarters command team and allow them to fight the CTCP.

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