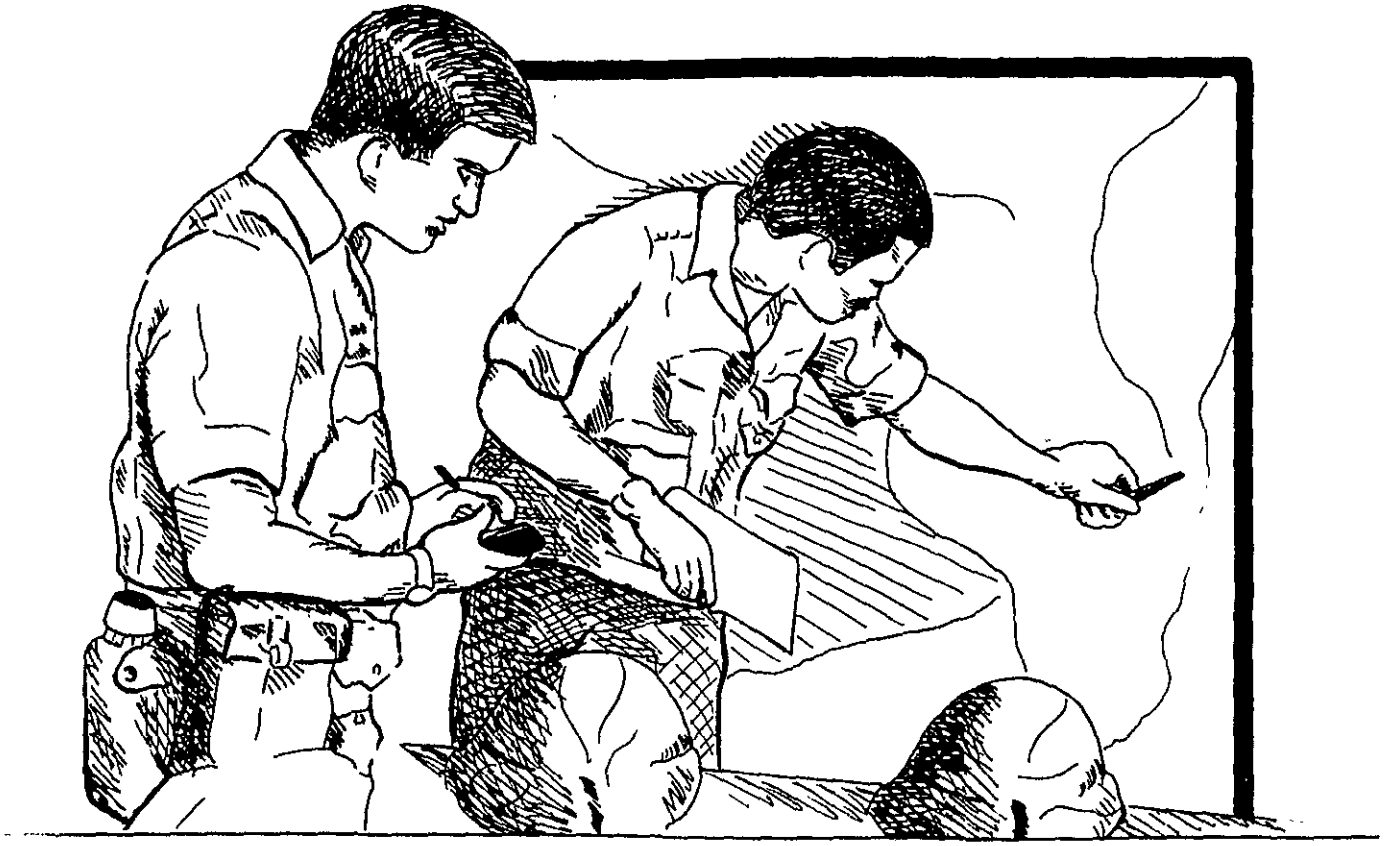

COMMAND AND CONTROL

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ng with the recently introduced AirLand Battle doctrine, arrival of the Bradley fighting vehicle and the Abrams tank, with their improved firepower and mobility, have spearheaded a resurgence of maneuver warfare in the United States Army. But these new systems in the Bradley and Abrams battalions can defeat a mechanized enemy threat only if we have a timely and aggressive system of command and control at all levels from battalion down to squad. The one element that finates the command and control effort in the battalion, besides providing the built-in organizational flexibility that is so necessary to counter any enemy on the battlefield, is the tactical operations center (TOC).

Although the TOC organization in the J-series battalions is essentially the same as that of the old H-series organization, the command and control requirements have increased. While doctrine is catching up (the revised FM 71-2 will be shed next year), the National Training Center has filled the void by providing a proving ground on which J-series battalions can completely exercise their operational systems.

The guidelines I offer here concerning the operational aspects of a command group and a TOC are based upon my experience with one Bradley battalion during unit training at home station and during a rotation at the National Training Center (NTC).

In actuality, the TOC is just one of three command and control facilities that a heavy task force uses, the other two being the tactical command post (TAC CP), which fights the battle, and the administrative logistics operations center (ALOC), which supports the battle.

The command group in the TAC CP usually consists of the battalion commander and the staff members he feels he needs to help him fight the battle. In my battalion's case, these were usually the fire support officer (FSO), the air liaison officer (ALO), and sometimes the S-2, *depending upon the mission* All three rode in the battalion commander's Bradley, which was equipped with four AN/VRC-46 radios.

The ALO rode in the Bradley because his usual vehicle — a jeep — was too vulnerable to enemy fire and it could not keep up with the tracks during cross-country movement. In the Bradley, the ALO used his back-up UHF/VHF man-pack

	ASSEMBLY → LD	LD → PL RED	PL RED → PL BLUE	PL BLUE → TUNA
ARTY PRIORITY OF FIRES	SCTS	TMA	D	D, TMC
4.2 PRIORITY OF FIRES	SCTS			
4.2 LOCATIONS	GRID	NEW GRID	NEW GRID	NEW GRID
CAS		GRID LOC OF TGT	GRID LOC OF TGT	GRID LOC OF TGT
PREPS				10 MIN ON OBJ TUNA
PRIORITY TGTS		1. GRID	1. GRID 2. GRID	

Figure 1. Fire Support Plan Matrix.

radio for communications. His jeep with its mounted radio was left with the TOC as a back-up system for controlling close air support (CAS).

The FSO often occupied the gunner's seat in the turret. This is consistent with the doctrine laid out in FM 71-2J and FC 21-26, but it is far from an ideal solution. When the FSO and the battalion commander are co-located, they can most efficiently coordinate the battalion fires, but they can only partially control the execution of the fires. This is so because the company fire support teams (FISTs) and forward observers (FOs) send their calls for fire digitally, using the DMD, straight to the supporting artillery battalion, bypassing the battalion fire support element (FSE). The calls are handled on a first-come, first-served basis. The fire support element at the TOC gets feedback through messages on his variable format message entry device (VFMED) from the supporting artillery battalion's fire direction center (FDC) but only after the messages have been processed by the FDC. Thus, unless the company FISTs and FOs use the voice back-up system, both the FSO and the battalion commander have trouble staying abreast of the indirect fire battle.

The use of a fire support matrix that lays out the battalion commander's scheme of fires is an effective technique for solving this problem. (This is currently being taught as a doctrinal technique at the Artillery School.) Figure 1 is an example of an offensive fire support plan matrix developed jointly by the FSO, the S-3, and the TF commander. Not only does it establish who has priority of fire during each phase, it also integrates CAS and priorities of movement for the 4.2-inch mortar platoon. Defensive fires can be planned in the same manner. The use of such a matrix also reinforces the doctrinal concept that calls for the centralized planning of fires and their decentralized execution.

With the advent of the FIST DMD in 1987, this problem should be rectified, because this device will enable the FSO to monitor and selectively override all task force FIST DMD transmissions. The important point, though, is that a battalion commander and his FSO must work closely before and during a battle to ensure timely and accurate fire support.

One of my previous battalion commanders also included the S-2 as a member of the TAC CP on some missions when he felt that early accurate intelligence from the scouts and ground support radars were a key to the success of the mission. This occurred most often in the defense and movements to contact. The S-2 rode in the back of the TF commander's vehicle and monitored the net over which the scout platoon leader passed periodic situation reports. The S-2 then relayed key critical information to the TF commander over the intercom.

This technique provides critical information to the commander much sooner than the TOC can by relaying reports. It also strengthens the command and control process, because together the TF commander and the S-2 can analyze enemy actions as they are reported.

The other key member of the command group who is usually a member of the TAC CP is the S-3, but an alternative is for the TF commander to use the split command concept. This means that instead of locating the S-3 in the TAC CP, the commander positions him elsewhere to command and control another critical sector or zone of the battle. This is a grey area in our doctrine on which little has been written. (One of my previous TF commanders chose to use a split command during all missions at the NTC.)

The effectiveness of this technique is dependent upon the relationship between the TF commander and the S-3. The commander must feel that he can trust the abilities and the tactical judgement of his S-3, and he must be able to communicate his intent clearly to the S-3. Additionally, subordinate commanders must understand the concept and readily accept guidance from either the S-3 or the TF commander.

The split command concept is especially effective in a Bradley battalion, with its increase in the span of control from three to five maneuver units. It allows the commander to go to the focal point of the battle while the S-3 is at the second most critical point. With this increased view of the battlefield, decisions can be made faster and can thus be more timely.

One drawback to this technique is that, in the heat of battle, decisions made by one member of the split command on the ground may never be communicated to the other. But that is

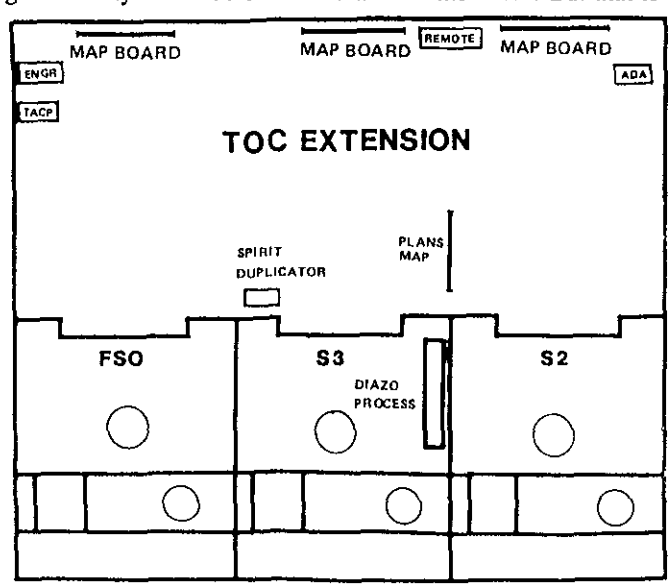


Figure 2. TOC Layout.

why trust and the commander's intent are so important. If the intent is properly understood, these breaks in the communication should not be critical. (This technique is an ideal complement to mission type orders. It is not for everyone, however.)

Another command and control consideration for the task force is the choice of an alternate TOC, which could be the ALOC, the mortar platoon, or the antitank company. The ALOC is the obvious choice. Unlike the other two elements, the ALOC already has the key job of sustaining the task force and has communications established with all of the TF maneuver units to coordinate administrative and logistic matters. By the very nature of its function, the ALOC stays abreast of the combat power of the battalion, monitors the battalion command net, and maintains an up-to-date situation map. Neither of the other two elements does any of these things (except that the AT company commander does monitor the battalion command net, although his company CP does not). Finally, the ALOC is adept at coordinating with higher headquarters and with the task force's subordinate units. (The AT company and the mortar platoon are fighters, not coordinators.) For all of these reasons, the ALOC can go from its sustainment role to that of battlefield manager more swiftly than either the mortar platoon or the AT company.

TOC ORGANIZATION

The TOC is responsible for actual battlefield management, including collecting information, reporting it, and planning and coordinating the operations.

As in the old H-series TOC organization, the J-series TOC is composed of the S-2 section, the S-3 section, the fire support element (FSE), part of the tactical air control party (TACP), and some members of the communications platoon. At times, engineer and air defense representatives will also be present in the TOC.

The main vehicles in the TOC, besides four or five jeeps, are the three M577s belonging to the S-2 section, the S-3 section, and the FSE. A good TOC crew will know and use several different configurations of these M577s, but there is one configuration that best facilitates planning and information flow within the TOC — a side-by-side arrangement as shown in Figure 2.

This configuration provides several advantages over the others, including the standard one shown in FM 71-2J. First, it offers a much larger work area for producing operation orders and conducting briefings. It also increases the survivability of the S-3's M577, sandwiched as it is between the other two vehicles. But most important, this arrangment eases the information flow between the sections.

With the map boards side-by-side, information can be exchanged rapidly between the FSE, the S-3, and the S-2. This information flow can be improved further if the size of the map boards is standardized so that each element uses the same size overlays. This can be done by having the local training aids center build three boards to TF specifications (Figure 3). Each of these boards is covered with plexiglass that can be removed easily. The boards are protected during movement by the two outside flaps, which fold in. When open, these two flaps contain critical combat information. (Annex G in FC 21-26 has some excellent formats for this type of information.) Overlays are cut to fit the plexiglass, and the bolts to hold the overlays are identically spaced on all the boards so that the S-2 and the FSO can quickly place their overlays on the operations map for coordination.

The keys to effective TOC operations are a detailed TOC SOP and a TOC training plan. A TOC SOP should detail the duties and responsibilities of TOC personnel. This is especially important with the high turnover that many units experience. An SOP may also include, among other things, set-up and teardown procedures, displacement procedures, eating and sleeping plans, shift guidelines, physical security plans, priorities of work, cross-loading plans and checklists, inspection checklists, vehicle parking lists, and checklists for the officer and NCO in charge. The SOP should be a living document that is used and then changed when improved procedures or techniques are adopted.

The SOP is actually the task force's institutional memory for TOC operations so that when a new S-3 or operations sergeant walks in the door he is not faced with starting from scratch, as is so often the case.

Once the key procedures have been captured on paper, they must be practiced until they become mechanical, and that's where a training plan comes in.

All too often, TOC personnel practice their procedures only when their battalion rolls out the gates of the motor pool to begin a field training exercise (FTX). The TOC may have been in the field once in the previous four to six weeks, perhaps to support a gunnery exercise where the S-3's M577 was used on one range and the S-2's M577 on another. Also during this period the S-3 section probably lost two or three soldiers to normal rotations and gained a like number.

Because of this lack of practice and this turnover of personnel, the TOC usually must spend the first couple of days of an exercise shaking out the cobwebs and retraining itself on displacement procedures. The staff must reestablish priorities of work and produce operation orders. Near the end of the FTX, the TOC will be fairly productive but still won't be running smoothly. The net result is that the companies usually end up acting as training aids for the battalion staff, while the staff struggles to get its act together. When the operations section returns to garrison, day-to-day operations will again consume its time, and TOC operations will revert to their usual low training priority.

It is a real challenge to overcome this garrison-to-field pendulum swing. A first step is to realize that the staff needs a training plan to follow just as much as the maneuver units and that it is a waste of training time and money to take an entire battalion to the field just to train the battalion staff.

The soon-to-be-published ARTEP Mission Training Plan (AMTP) 71-2 (Coordinating Draft) discusses this very issue. It presents a logical methodology for a TF to use in developing staff training plans that parallel and complement the battalion training plan.

Staff training can be conducted using a series of low-cost

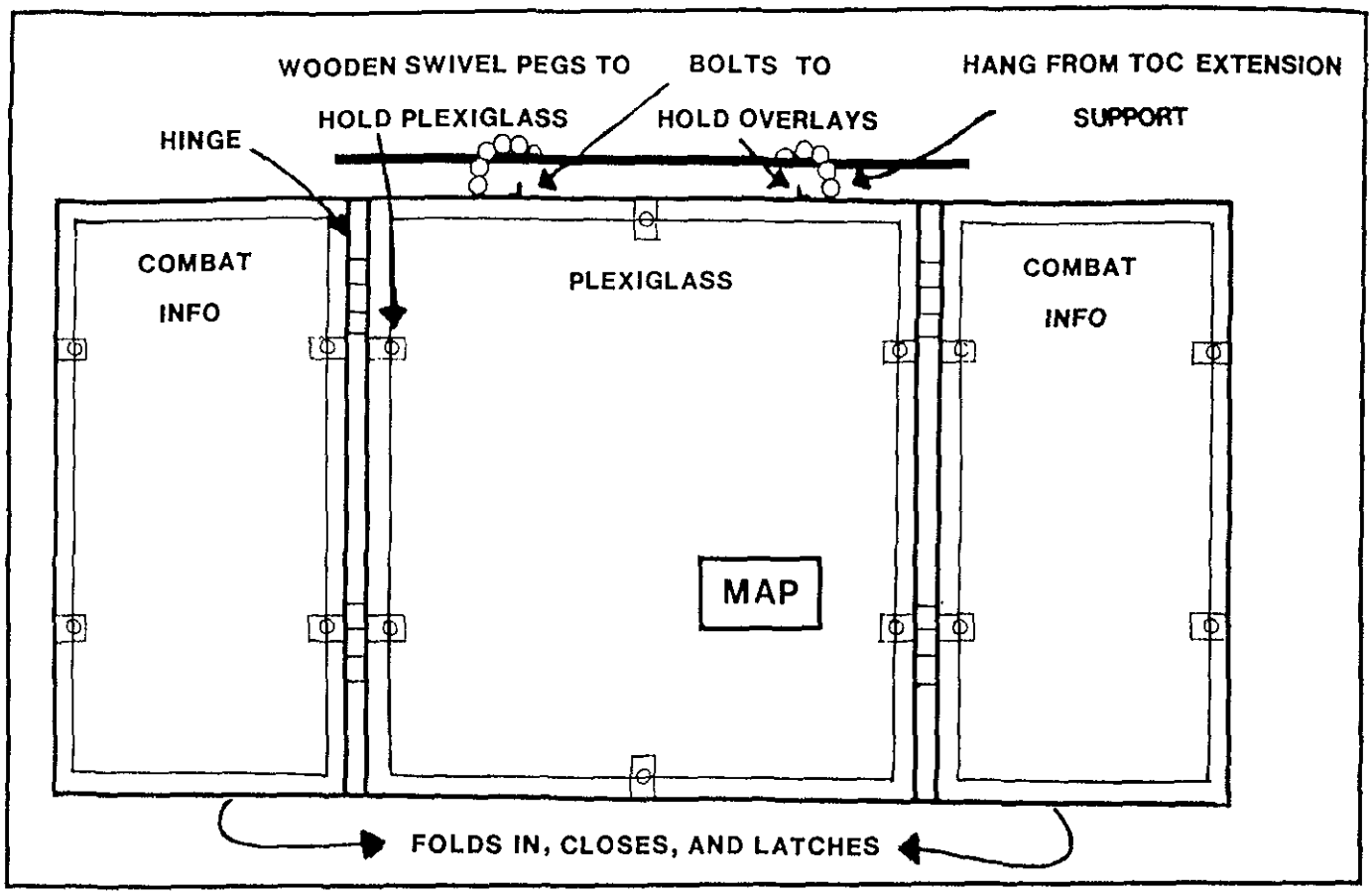


Figure 3. TOC Map Board.

training exercises (map and command post exercises and simulations) in garrison and close-in training areas. The idea is to move from low-cost training exercises to high-cost exercises without wasting time or manpower. Because the staff and the units in the task force are following parallel training programs, both will become gradually more proficient so that they will get the greatest possible benefit from a full-blown FTX.

Another part of TOC operations that gives rise to emotional debate in some units is the TF executive officer's role as second in command (2IC). Our doctrine clearly defines that role and states that during the battle he is "normally" located in the TOC. (Having been in a battalion where the XO was strictly involved in coordinating the combat service support, and then having evaluated a task force on an ARTEP in which the XO as 2IC ran the TOC during the battle, there is no doubt in my mind that the doctrine is correct.) Combat support and service support activities should not suffer while the XO is in the TOC, since he has radio and wire contact with the ALOC.

The TOC provides the best vantage point from which the XO can take over should the TF commander become a casualty. Even though the XO at that point will no doubt be well-versed on the tactical situation, the command and control of the units in contact should pass first to the S-3, who is in the best position to continue the battle. Command should pass to the XO only when he is in a position on the battlefield that allows him to see the fight and effectively control it.

Another key aspect of TOC operations is the TOC's physical security plan. Two approaches can be taken, neither of which is totally satisfactory.

The first approach is to augment the TOC by taking a squad from one of the line units. This is only partially satisfactory as it provides a six-man squad, but the squad does come with a Bradley that can be used to cover the main mounted avenue of approach into the TOC's area of operations when the S-3 and the TF commander are forward. The main problem with this approach is that it takes away riflemen from a maneuver element that is already short of them.

The alternative is to use personnel from the TOC, along with the soldiers who work in the CP area. The problem here is that there are just not enough soldiers to man an adequate defensive perimeter. In addition, the TOC NCO in charge must closely coordinate his soldiers' schedules to make sure they all get at least three or four hours of sleep.

Regardless of this fact, for the defense of the TOC to succeed, the principal mounted and dismounted avenues of approach must be identified and covered. Dismounted avenues should be covered by soldiers from the TOC. Positions should be designated for the TF commander's and the S-3's Bradleys when they are in the TOC area. These positions should cover the high-speed avenues of approach into the TOC area.

A readily identifiable audio signal such as an air horn should be used to signal an enemy attack. At the sound of the alarm, everyone in the TOC, except for the minimum number required to operate the radios, should move to prepared fighting positions. (This procedure must be rehearsed in both daylight and darkness at each new TOC location.)

A good way to brief everyone in the TOC on the defensive plan is to use a blank acetate-covered board on which the defensive positions can be sketched. Other features that should be added include the sleeping, eating, parking, latrine, and dismount areas.

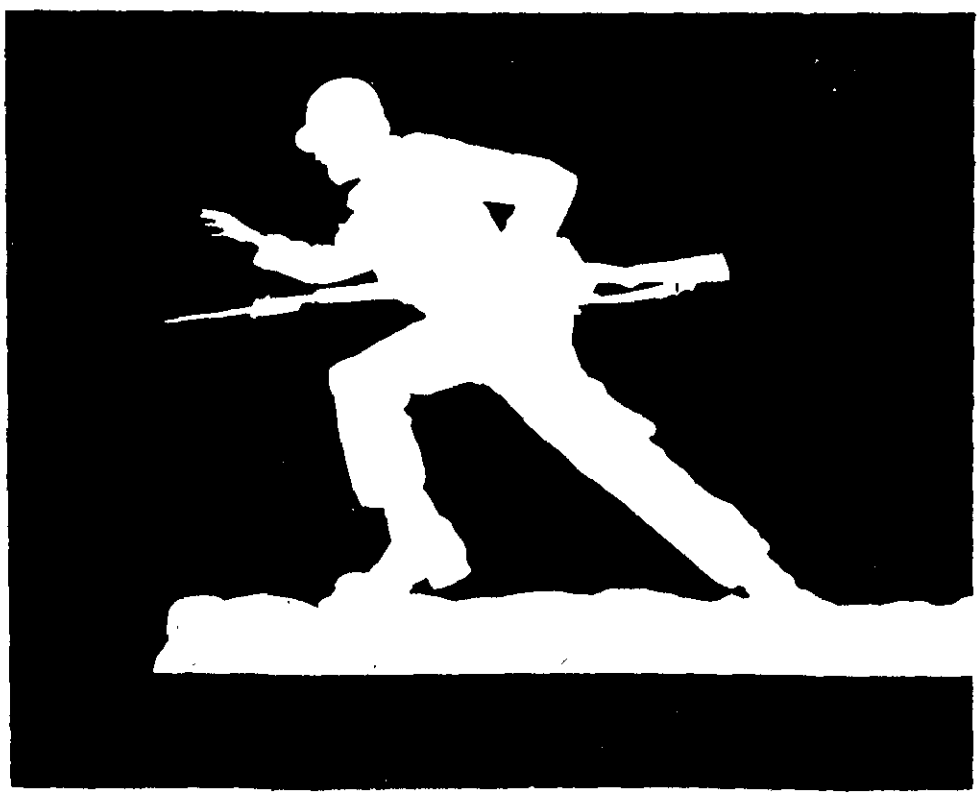
The key to the successful defense of the TOC is the coordination between the headquarters company's first sergeant or XO, who is responsible for selecting the defensive positions, and the operations sergeant, who is responsible for scheduling soldiers to man them. Both tasks should be completed and all TOC personnel briefed on them within two hours after the TOC arrives in a new location. Then someone in the TOC organization needs to be specifically charged with seeing that the positions are properly sited and dug and that the defensive plan is followed.

Another challenge in the field is to produce orders and overlays in a timely manner and in sufficient quantities that all the members of the TF who have a need to know get the information. The methods I have seen used for this range from jelly roll devices to reproduction machines to field facsimiles to spirit duplicators to mimeograph machines to plain old elbow grease and carbon paper. My preference is a manual spirit duplicator used with an operation order format preprinted on spirit-duplicator stencils. TOC officers write the order on the pre-printed forms and then reproduce the order and its annexes on the spirit duplicator.

A spirit duplicator is much faster than a field facsimile or reproduction machine, and it doesn't rely on electric current as the others do. It is much cleaner to use than a mimeograph machine and requires less upkeep. The stencils are also much easier to write on.

Overlays are another story. Jelly rolls are hard to come by, and they make only a few copies per roll (about ten). The only other technique is to have a crew in the TOC copy the needed quantity off of a master copy, but quality control is a constant problem, and accuracy also suffers.

Recently, I saw a task force reproduce clear acetate overlays using a photographic process called diazo. The reproduction set (Diazo Process NSN 3610-01-123-7782) can be ordered through the supply system. The only problem is that the film is expensive, hard to get, and often must be locally purchased. Nevertheless, for units than can afford it, this seems to be a good solution to the problem of reproducing overlays.

Command and control and the role of the TOC and the command group in this process have not changed greatly as the Army has moved from H-series to J-series organizations. The command group must still fight the battle, and the TOC must ensure that battlefield management is being accomplished — that orders are being followed; that the plan is working; and that the information flow is maintained. The roles of some staff members have been redefined, most notably that of the battalion executive officer and, to a lesser degree, that of the battalion S-3. Still, the doctrine laid out in FM 71-2J and FC 21-26 provides a solid framework for fighting and winning on future battlefields.

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