APPENDIX A

Basic Formations, Movement Techniques, and Hand-and-Arm Signals

The platoon uses a variety of mounted and dismounted formations and movement techniques to maneuver on the battlefield. This appendix gives examples of many of the basic formations, movement techniques, and hand-and-arm signals the platoon leader could use. It is not designed to be all encompassing. For more information on these topics, see *FMs 7-8, 5-34, and 71-1.*

MOUNTED MOVEMENT TECHNIQUES

The mounted engineer platoon must be proficient in moving with its maneuver counterpart. In the following paragraphs, formations, movement techniques, and actions taken during movement for the mounted engineer platoon are discussed.

WEDGE

The engineer platoon almost always maneuvers as part of another larger formation. Normally, this will either be the parent engineer company or a maneuver company/team. *Figure A-1, page A-2,* shows the formation that the platoon is most likely to use. The platoon wedge provides the most defensible formation with the easiest C^2. Ordinarily, the platoon follows a maneuver platoon if task-organized to a maneuver company/team. The platoon might lead if it is part of the engineer company formation. In either case, the wedge is the best formation to use if enemy contact is likely.

The platoon frequently receives assets from the assault and obstacle (A&O) platoon. These could include the AVLB, CEV, or armored vehicle-launched mine-clearing line charge (AVLM). These additional vehicles can strain the C^2 capability of the platoon. *Figure A-2, page A-2,* shows the technique of "tethering". The AVLB, CEV, and AVLM are tethered to individual engineer squads. Each squad leader has the responsibility of commanding and controlling an A&O platoon asset. This improves the C^2 of the platoon and provides each A&O asset with a security element as it moves across the battlefield.

Figure A-3, page A-3, shows a simple wedge formation. Note where the key leaders in the platoon are. The wedge formation uses the wingman concept. The platoon sergeant and leader are both in APCs and each has a wingman. This technique

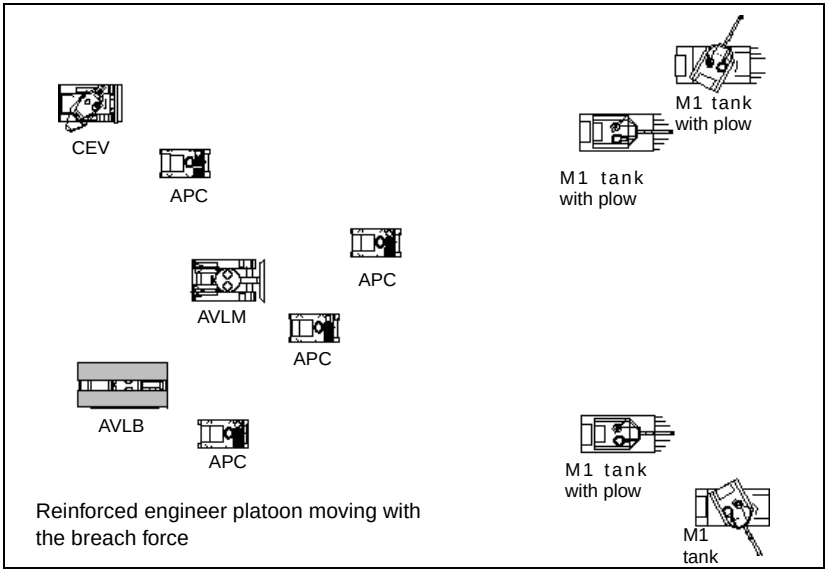


Figure A-1. Engineer platoon with the breach force

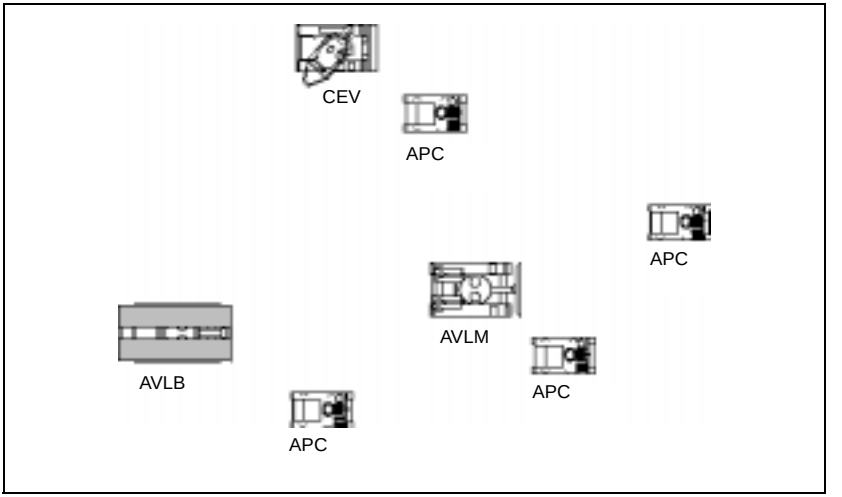


Figure A-2. Modified mounted wedge formation

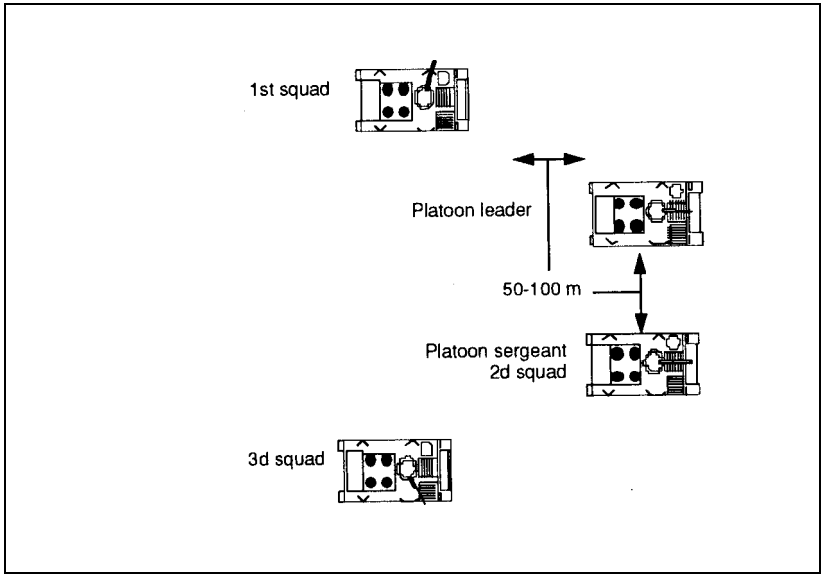


Figure A-3. Mounted wedge formation

also simplifies C^2 and movement. It has the added benefit of placing the most experienced leader in the platoon, the platoon sergeant, forward with the platoon. It also places the platoon sergeant where he can easily take over in the absence of the platoon leader.

COLUMN

Figure A-4, page A-4, depicts a column formation. This formation is used when enemy contact in not expected. This formation maximizes C^2 and the speed of the formation. Normally, the platoon transitions from the column to the wedge as enemy contact becomes more likely.

LINE

Figure A-5, page A-4, shows the platoon in a line formation. This formation is designed to maximize the forward firepower of the platoon. The platoon transitions from the wedge to the line as enemy contact becomes eminent. Engineer platoons do not generally use this formation. However, if the platoon is tasked to suppress a dismounted threat while another platoon maneuvers, this formation works well.

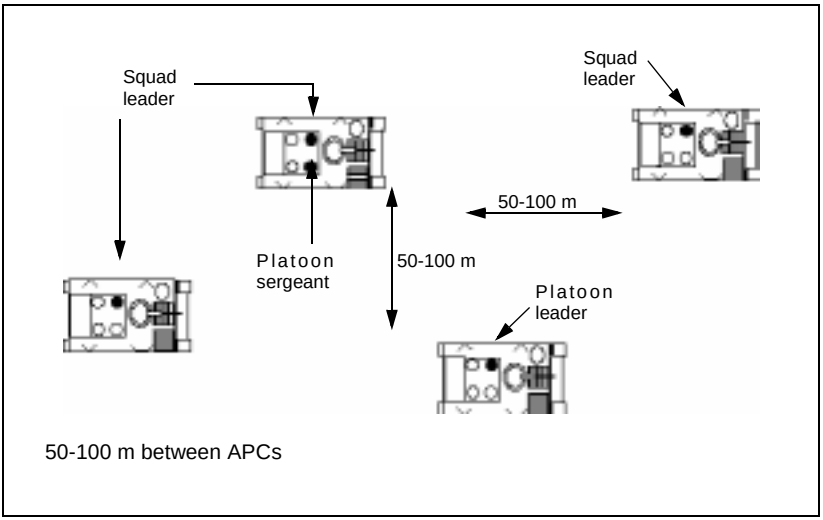


Figure A-4. Mounted column formation

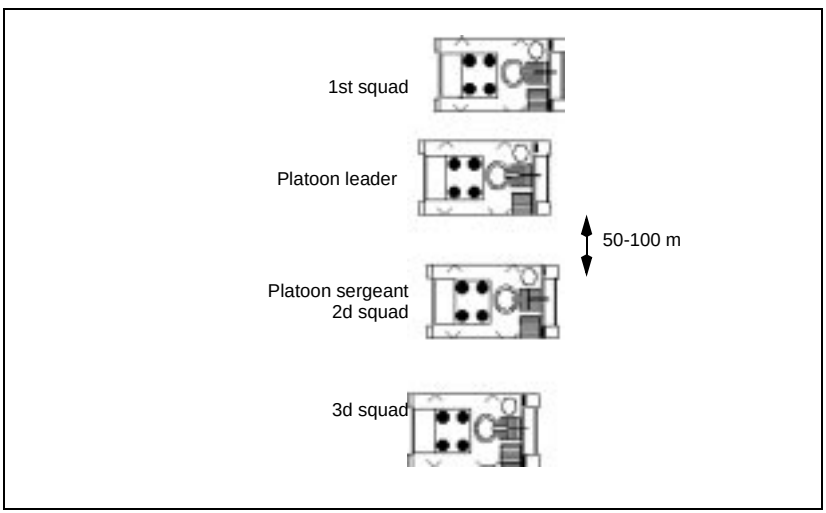


Figure A-5. Mounted line formation

ECHELON

The echelon formation is used when the platoon is on the flank of the company and the enemy threat is also from the flank. *Figure A-6* shows an echelon right formation. The echelon formation can also be used on the left flank of the company and, in that case, it would be the mirror image of *Figure A-6*. This formation maximizes the platoon's firepower to the flank.

V

The V-formation is a variation of the wedge. It is used when there is a significant threat of command-detonated mines or explosives. The formation shown in *Figure A-7, page A-6,* would be used during a route-clearance operation. It allows the platoon to secure the flanks of the road while two squads clear the route. This formation also identifies command-detonated-mine firing wires or ambushes before the enemy can attack the element on the route. It is not generally used when there is a significant enemy threat.

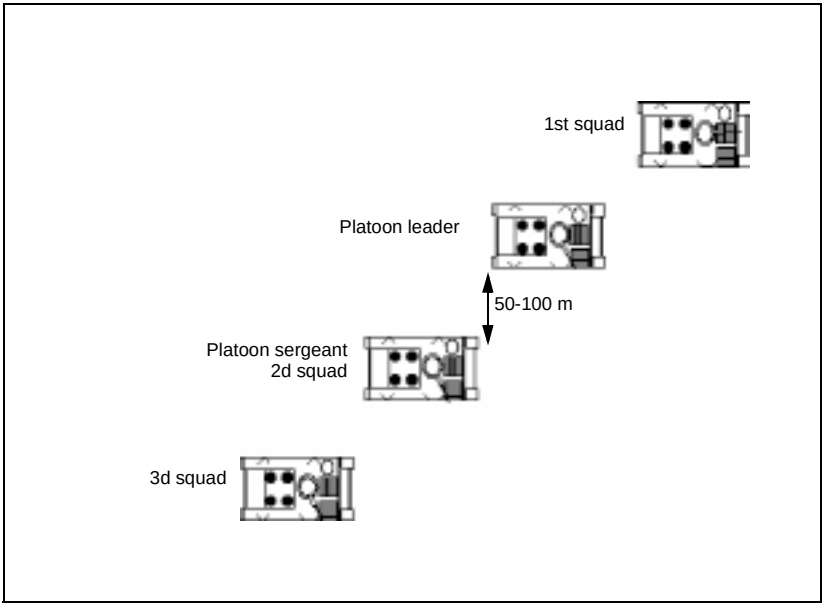


Figure A-6. Mounted echelon formation

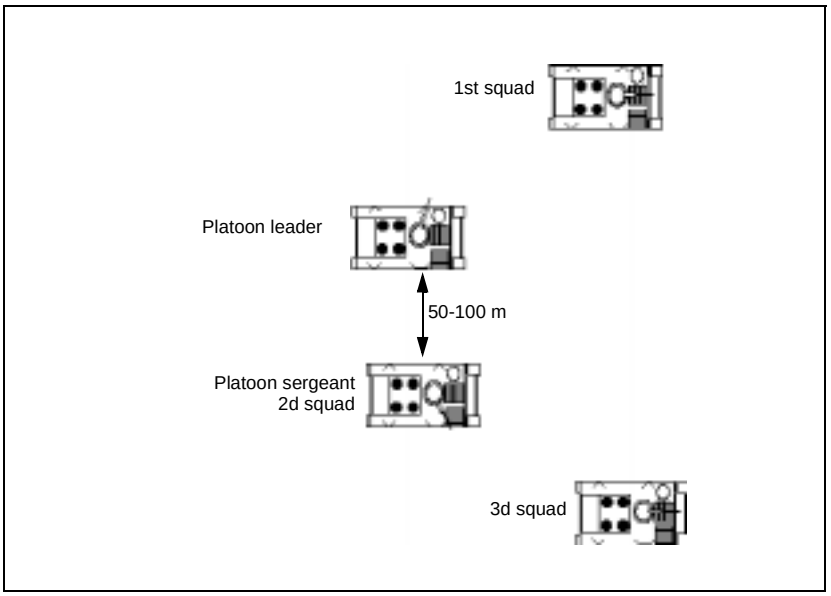


Figure A-7. Mounted V-formation

DISMOUNTED MOVEMENT TECHNIQUES

The dismounted engineer platoon must be proficient in moving with its maneuver counterpart. In the following paragraphs, formations, movement techniques, and actions taken during movement for the dismounted engineer squad and platoon are discussed.

SQUAD FORMATIONS

The squad formation is built from the fire-team wedge (see *Figure A-8).* The interval between soldiers in the wedge formation is normally 10 meters. The wedge expands and contracts depending on the terrain. When rough terrain, poor visibility, or other factors make control of the formation difficult, the squad uses the modified wedge. In this formation, the normal interval between soldiers is reduced so that all team members can still see their team leader and each team leader can see their squad leader. The sides of the wedge can contract to the point where the wedge resembles a single file. When moving in less rugged terrain, where control is easier, soldiers expand the formation or resume their original positions.

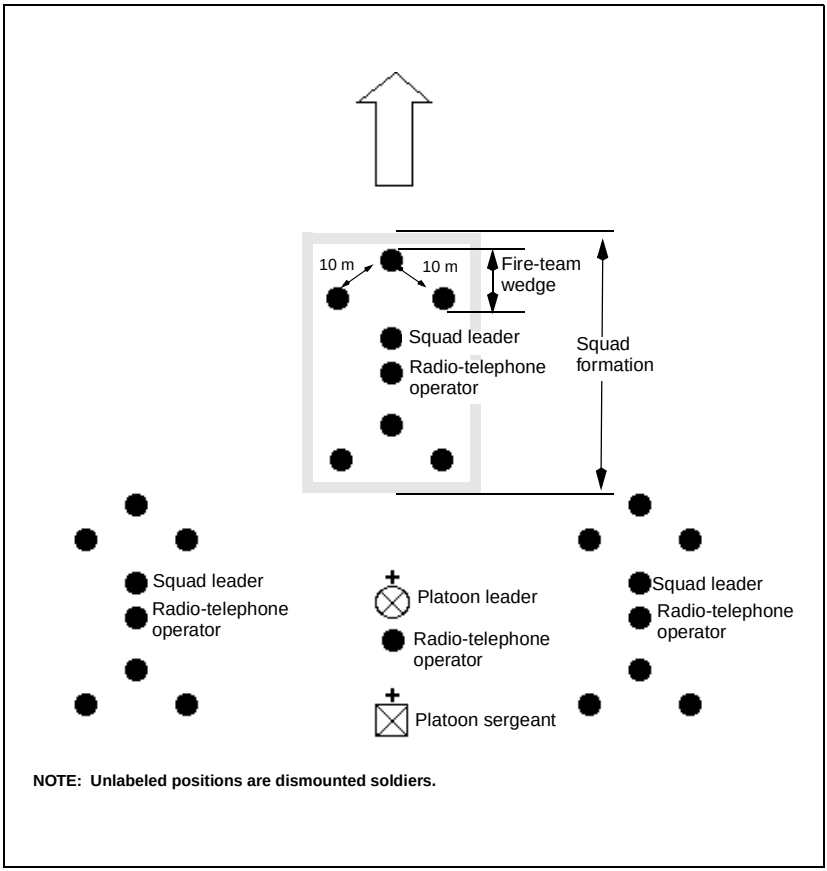


Figure A-8. Dismounted-platoon wedge formation

PLATOON FORMATIONS

Platoon formations are built from multiple squad formations. These formations include the platoon column, line, V, and wedge. The platoon leader selects the best formation based on his METT-T analysis. *Table A-1, page A-8,* shows a comparison of each formation and its use.

Table A-1. Comparison of platoon formations

Dismounted Movement Formations	Movement Use	Movement Characteristics			
		Control	Flexibility	Fire Capability/ Restriction	March Rate
Column	When the platoon performs primary movement formations	Good for maneuver (fire and movement)	Provides good dispersion laterally and in depth	Allows limited firepower to the front and rear, high volume to the flank	Good
Line	When the enemy situation is unknown and the leader wants all soldiers forward for maximum firepower to the front	Difficult	Is minimal	Allows maximum firepower to the front, little to the flanks and rear	Slow
V	When the enemy situation is vague, but contact is expected from the front	Difficult	Provides two squads up front for immediate firepower and one squad to the rear for movement upon contact from the flank	Allows an immediate heavy volume of firepower to the front or flanks	Slow
Wedge	When the enemy situation is vague, but contact is not expected	Difficult but better than the platoon V and platoon line	Enables the leader to make contact with the smallest element and still have two squads to maneuver	Provides a heavy volume of firepower to the front or flanks	Slow but faster than the platoon V
File	When visibility is poor due to terrain or light	Easiest	Is the most difficult formation from which to maneuver	Allows immediate fires to the flanks; prevents focused fires to the front and rear	Fastest

Wedge

The dismounted wedge is used when the enemy situation is vague and enemy contact is likely (see *Figure A-8, page A-7).* This formation allows a large volume of fire around the formation. Generally, at least one squad or element will be free to maneuver from the wedge after contact.

Column

The column formation is the platoon's primary movement formation (see *Figure A-9, page A-10*). It provides good dispersion both laterally and in depth and simplifies control. The lead squad is the base squad for fire control.

Line

The line formation allows the delivery of maximum fire to the front but little fire to the flanks (see *Figure A-10, page A-11).* This formation is hard to control and does not lend itself well to rapid movement. It is the basic platoon assault formation during an attack.

V

The V-formation has two squads up front to provide a heavy volume of fire on contact (see *Figure A-11, page A-12).* It also has one squad in the rear that can either overwatch or trail the other squads. This formation is hard to control, and movement is slow.

File

The file formation gives maximum control to leaders and is used for speed during movement (see *Figure A-12, page A-13).*

Traveling

The dismounted engineer platoon supporting a maneuver TF normally travels as part of one of the larger maneuver elements. When breaching assets are needed forward with the lead company, the engineer platoon travels behind the lead platoon for security (see *Figure A-13, page A-14).* If each maneuver company needs a breaching capability, the dismounted engineer platoon can be broken into squad-sized elements, where each squad travels with a maneuver company. In this case, the platoon HQ travels with either the battalion tactical operations center or the main effort for C^2.

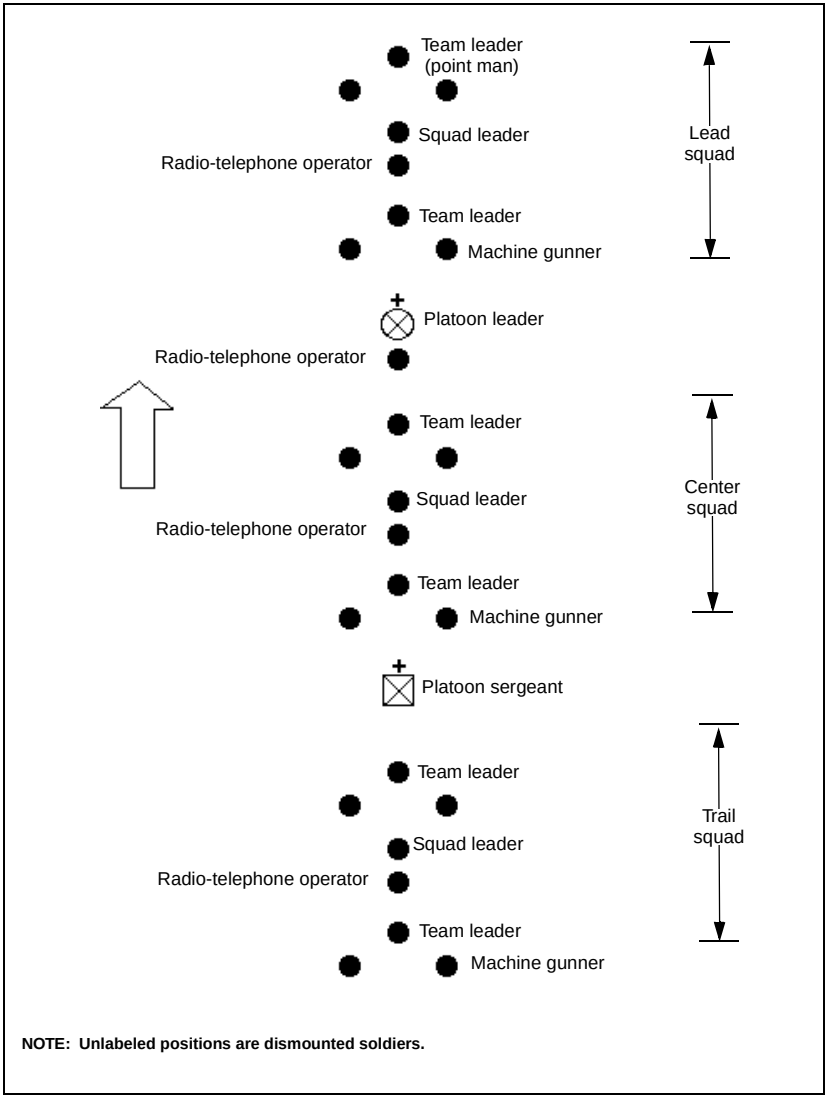


Figure A-9. Dismounted column formation

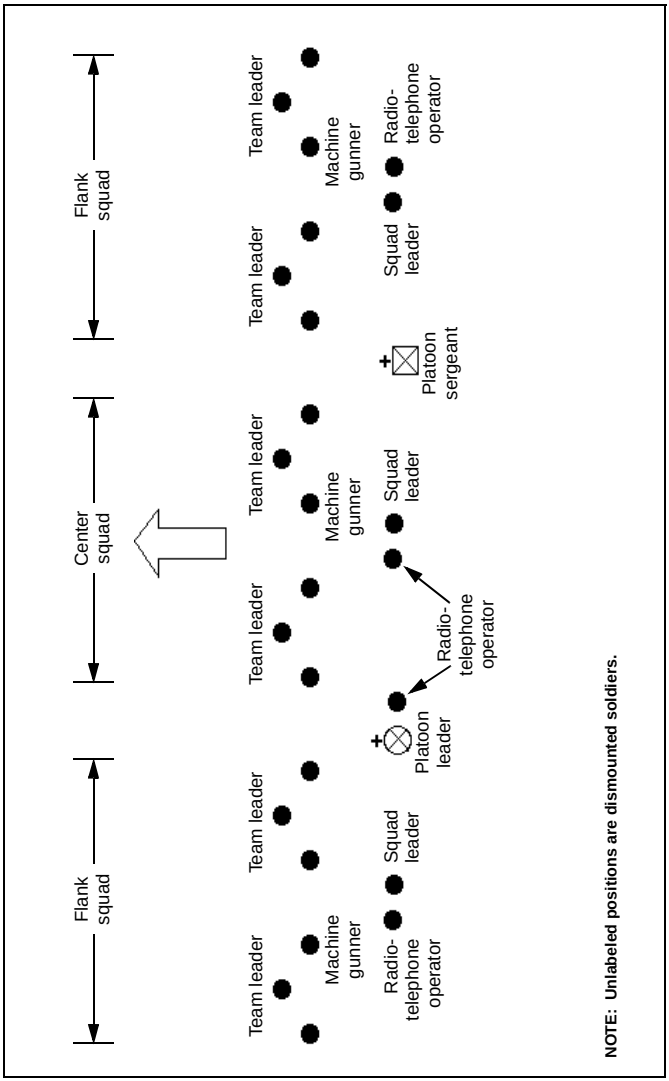


Figure A-10. Dismounted line formation

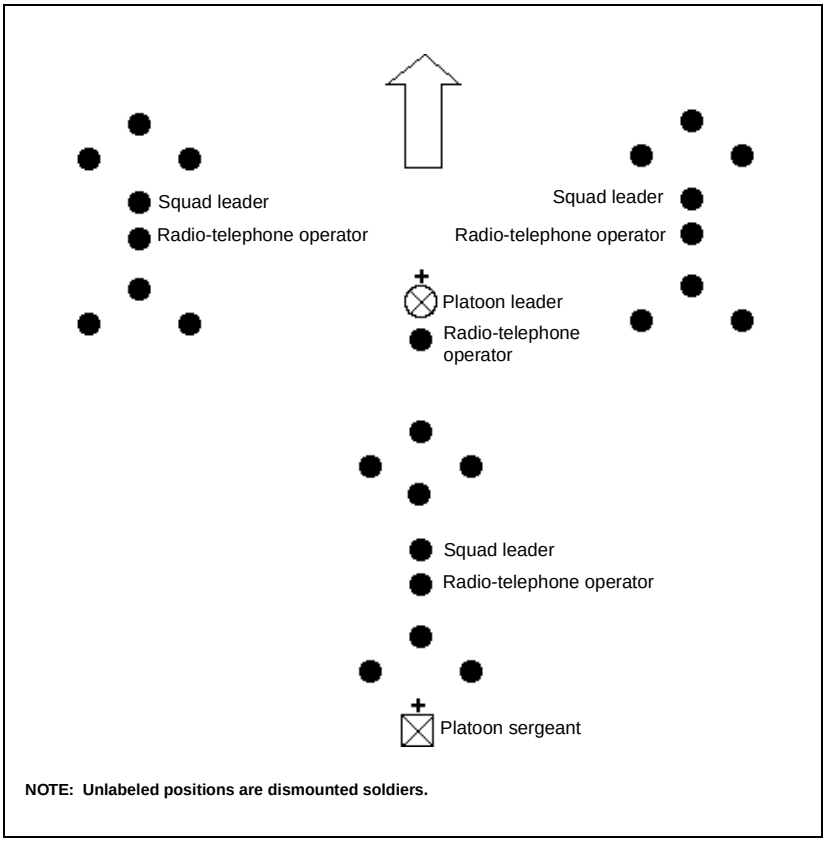


Figure A-11. Dismounted V-formation

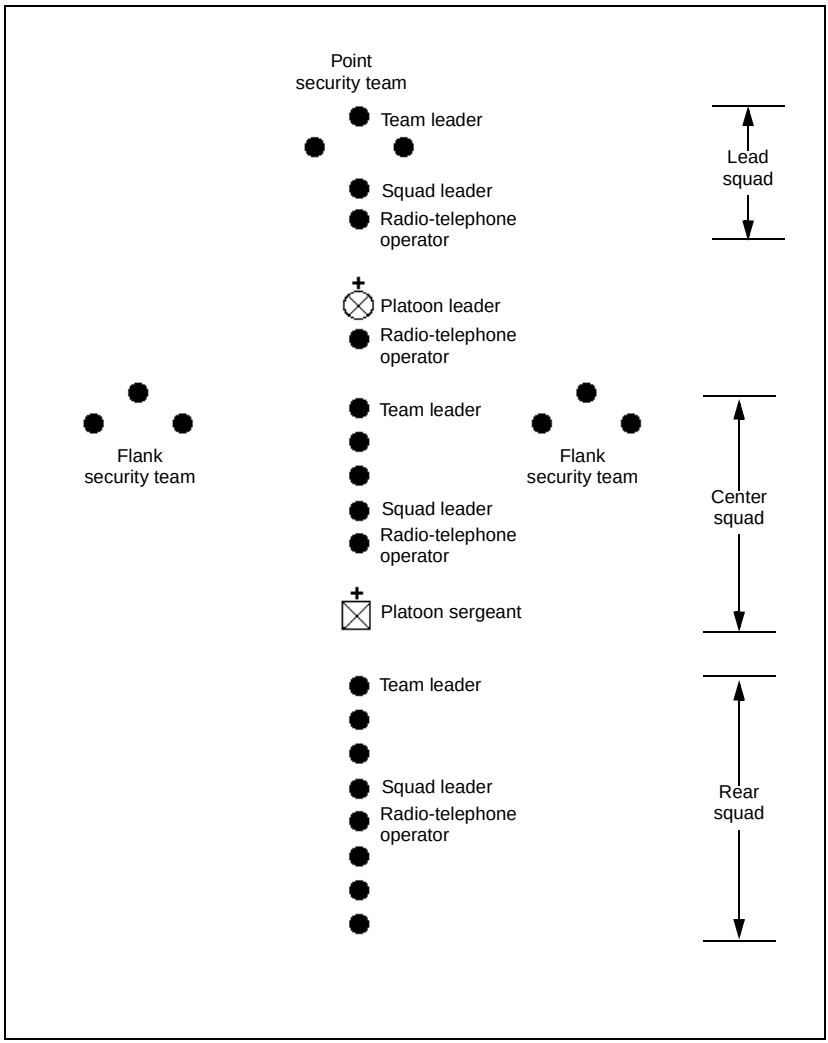
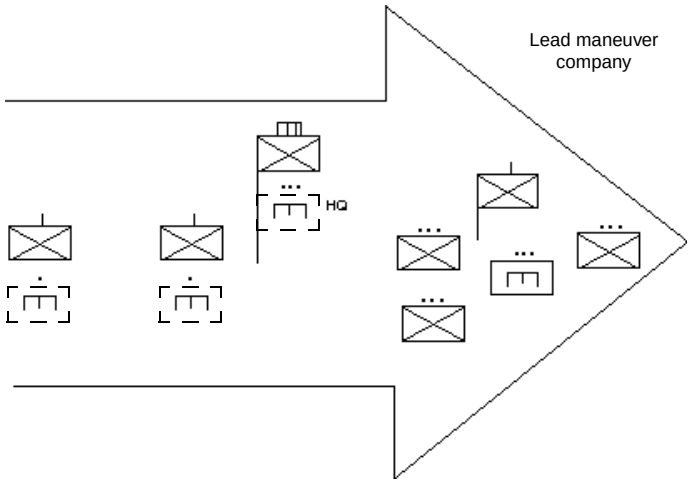


Figure A-12. Dismounted file formation



NOTE: The engineer platoon traveling with a TF could travel as part of the lead infantry company to provide immediate breaching capability, or the platoon could be broken down into squad-sized elements to travel with each maneuver company.

Figure A-13. Dismounted traveling formation

HAND-AND-ARM SIGNALS

During many operations, the platoon has to use hand-and-arm signals for C$^{2.}$ *Figures A-14 and A-15, pages A-15 through A-20,* show many of the command hand-and-arm signals used when the platoon is mounted or dismounted. These signals are normally used when either radio listening silence is in effect or stealth is needed.

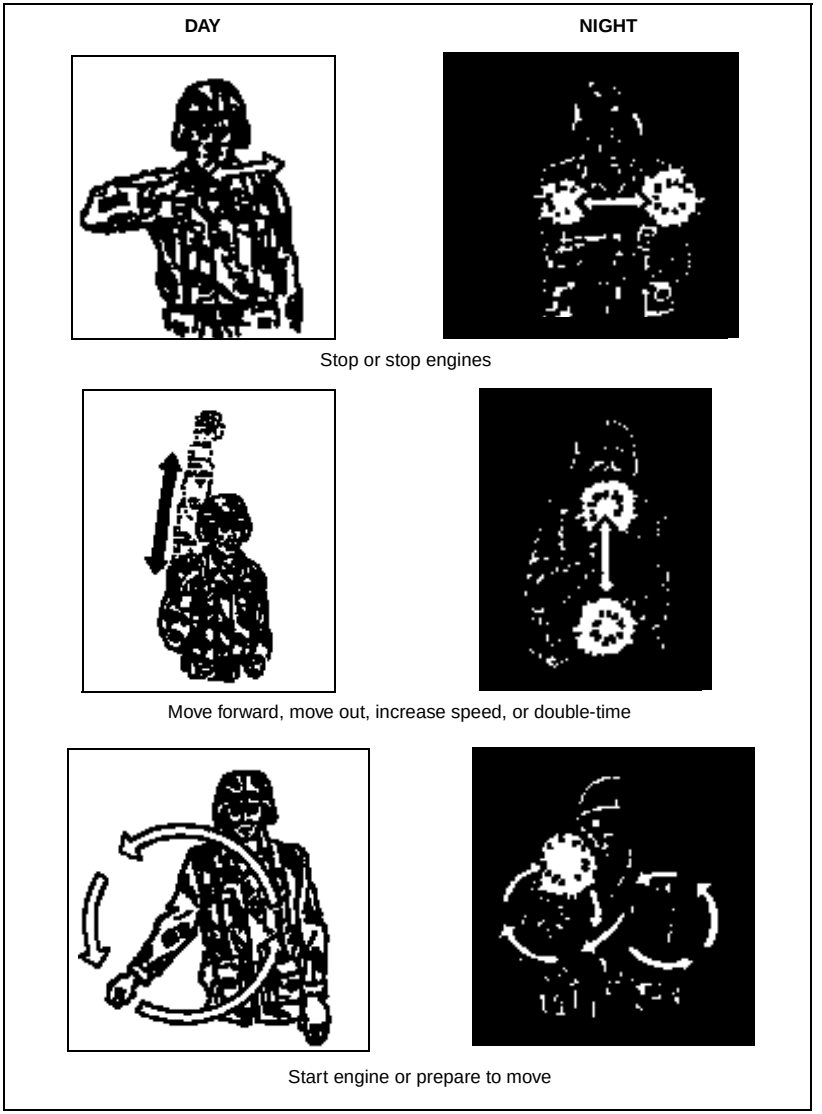


Figure A-14. Hand-and-arm signals

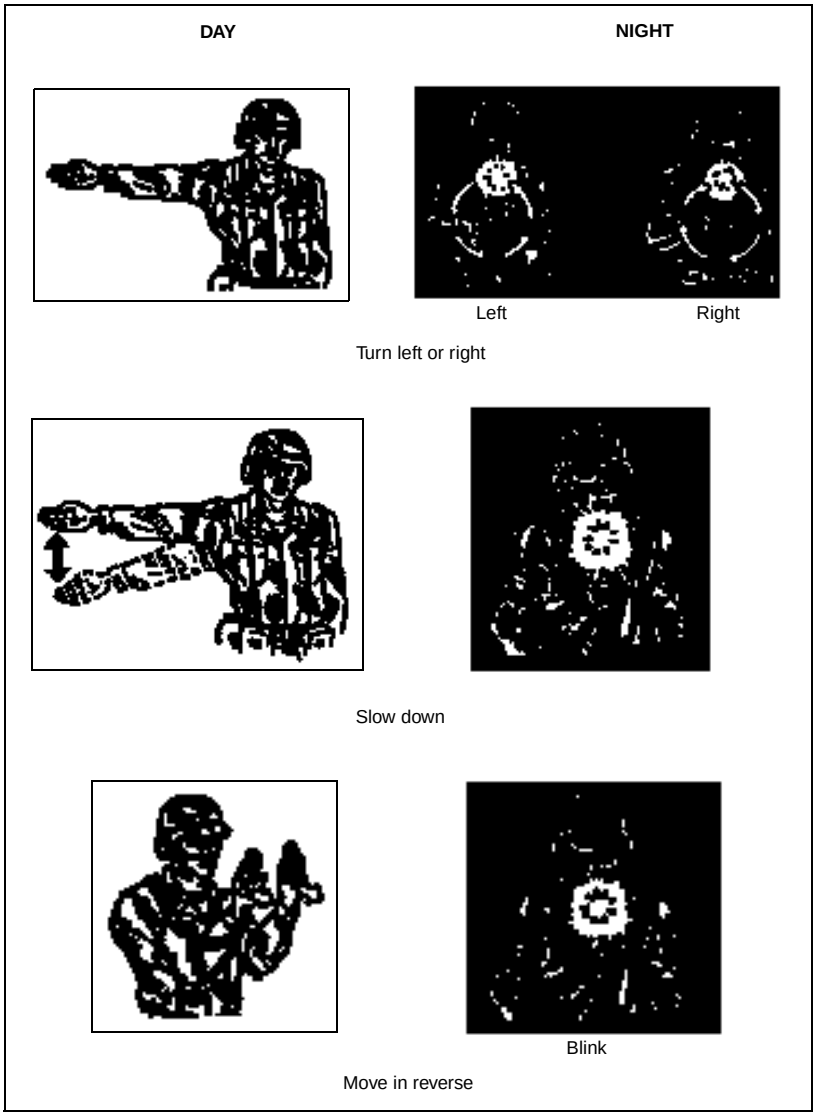
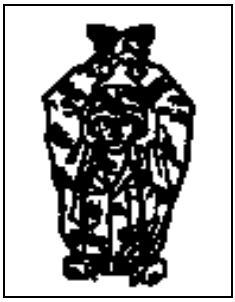
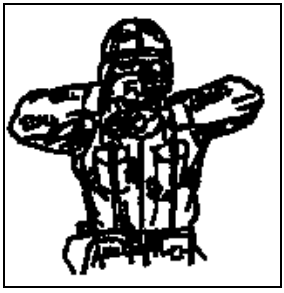


Figure A-14. Hand-and-arm signals (continued)



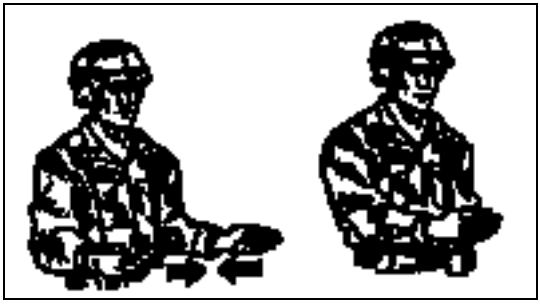
Disregard previous command

Attention



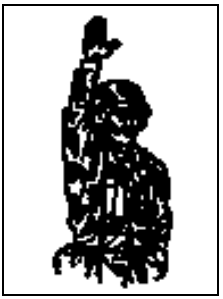
I do not understand

I am ready

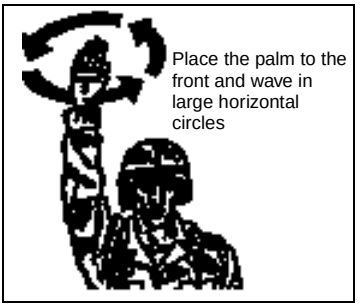


Close the distance between vehicles and stop

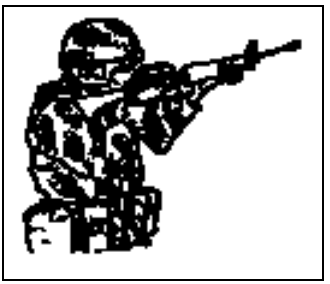
Figure A-14. Hand-and-arm signals (continued)



Stop

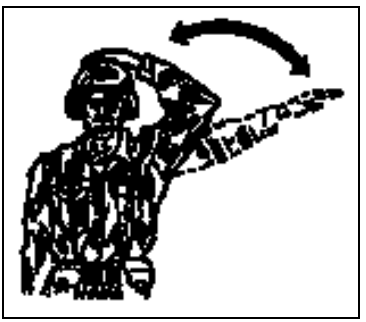


Assemble



Enemy is in sight

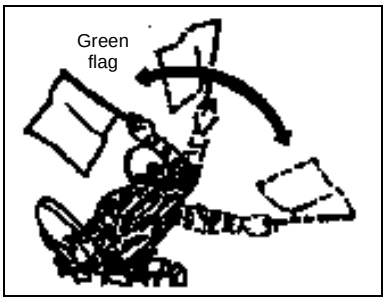
Commence firing



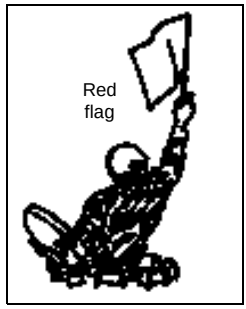
Cover our move

Cease firing

Figure A-14. Hand-and-arm signals (continued)



Move out



Enemy is in sight

Form a line

Figure A-14. Hand-and-arm signals (continued)

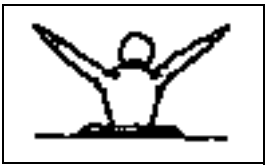
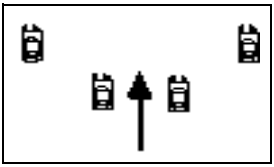
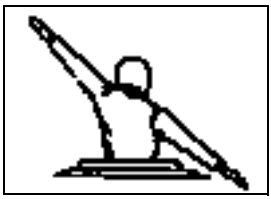
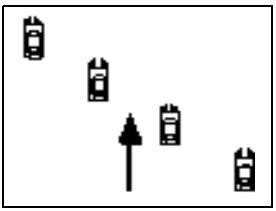
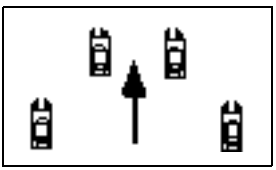
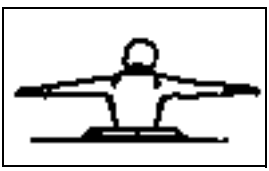
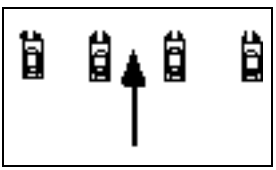
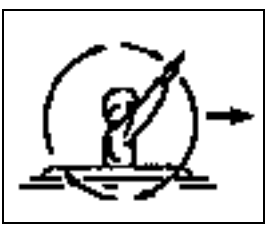
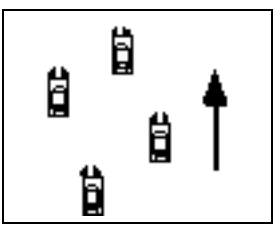
Mounted Movement Formations	Hand-and-Arm Signals	Formation Examples
V		
Echelon right (left)		
Wedge		
Line		
Column		

Figure A-15. Mounted movement formations and hand-and-arm signals