

GTA 90-01-040
May 2012

Reconnaissance Smartcard

This card is designed to assist leaders at the section and platoon levels in the planning and execution of reconnaissance tasks



Center for Army Lessons Learned

DESTRUCTION NOTICE

Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

Fundamentals

RECONNAISSANCE

- Ensure continuous reconnaissance
- Don't keep recon assets in reserve
- Orient on the recon objective
- Report all info rapidly and accurately
- Retain freedom to maneuver
- Gain and maintain threat contact
- Develop the situation rapidly

SECURITY

- Provide early and accurate warning
- Provide reaction time and maneuver space
- Orient on the force, area, or facility to be protected
- Perform continuous reconnaissance
- Maintain threat contact

MOVEMENT

- Use terrain for cover and concealment
- Use caution at danger areas
- Dismount vehicles
- Reduce vehicles' related signatures

- O**bservation/fields of fire
- A**venues of approach
- C**over/concealment
- O**bstacles
- K**ey terrain

- C**ompass
- W**eapons
- O**ptics
- R**adios
- M**aps
- S**easonal/sustainment

Route Recon Critical Tasks

- Determine the trafficability of the route
- Find and report all enemy forces that can influence movement along the route, as well as terrain the enemy can use to dominate movement
- Reconnoiter all built-up areas along the route
- Reconnoiter, to the limit of direct fire range, all lateral routes
- Inspect and classify all bridges on the route
- Locate fords or crossing sites near all bridges on the route
- Inspect and classify all overpasses, underpasses, and culverts
- Reconnoiter all defiles along the route
- Locate minefields and other obstacles along the route
- Locate a bypass around built-up areas, obstacles, restrictions, and contaminated areas
- Determine the type and volume of traffic on the route
- Report route information

Area/Zone Recon Critical Tasks

- Find and report all enemy forces within the area
- Reconnoiter and determine trafficability of all terrain within the area
- Inspect and classify all bridges within the area
- Locate fords or crossing sites near all bridges in the area
- Inspect and classify all overpasses, underpasses, and culverts in the area
- Within capability, locate all minefields and other obstacles in the area, reduce or breach them, and clear and mark lanes
- Locate and identify bypasses around built-up areas, obstacles, and contaminated areas
- Report information

Principles for Selecting/Manning Observation Posts

- B** Blend in with the surrounding area. Does the site look natural? Does it attract unwanted attention?
- L** Low-to-the-ground construction sites must be used. Does the site provide protection against small arms and direct fire weapons?
- U** Unexpected sites should be used. Will the threat forces expect you to look out the window or the small hole in the wall?
- E** Evacuation routes must be planned during site selection. Where will you go to link up with friendly forces?
- S** Avoid silhouetting of the site by using the sides of hills, not the crests. Can the sniper see you silhouetted against the skyline, wall, or other object?

OCCUPY THE OP

- Establish overwatch
- Recon the position
- Establish security
- Clear the site and ensure sector visibility
- Develop sector sketches

MAN THE OP

- Observe the assigned area
- Provide local security
- Report information
- Call for and adjust indirect fire

Troop Leading Procedures

1. Receive the mission
2. Issue a warning order
3. Make a tentative plan
4. Initiate movement
5. Conduct reconnaissance
6. Complete the plan
7. Issue the order
8. Supervise and refine

METT-TC

mission, enemy, terrain and weather, troops and support available, time available, civil considerations

COA – course of action

Plan Development

Mission Analysis

- Analysis of the mission
- Purpose
- Tasks – specified, implied, essential
- Constraints
- Written restated mission
- Enemy analysis
- Terrain and weather analysis
- Troops available
- Time available
- Civil considerations

COA Development

- Analyze relative combat power
- Generate options
- Develop a concept of operations
- Assign responsibilities
- Prepare COA statement and sketch

COA Analysis

- Hasty war gaming

COA Comparison

COA Selection

Operation Order

Task Organization

1. Situation
 - a. Enemy
 - b. Friendly
 - c. Attachments/Detachments
2. Mission
 - a. Who, what, where, when, and why
 - b. Task and purpose
3. Execution
 - a. Concept of operation
 - (1) Maneuver
 - (2) Fire support
 - (3) Engineer
 - b. Tasks to maneuver units
 - c. Tasks to combat support units
 - d. Coordinating instructions
4. Service support
 - a. General
 - b. Materiel and services
 - c. Casualty evacuation
 - d. Miscellaneous
5. Command and signal
 - a. Command
 - b. Signal

Effect of Movement on Route Reconnaissance

When the platoon has to move:	The mission becomes:
Stealthily	Time Consuming
Forcefully	Expedited
Deliberately	Time Consuming
Rapidly	Expedited

Local Security Measures

Active

- Employ platoon ops
- Employ patrols to cover perimeter and dead space
- Establish threat levels and procedures
- Enforce stand-to
- Enforce proper communications procedures

Passive

- Employ camouflage
- Enforce noise and light discipline
- Employ sensors for surveillance of area around the unit

9 Line MEDEVAC

1. Location of pickup site
2. Radio frequency and call sign
3. Number of patients by precedence
4. Special equipment required
5. Number of patients by type
6. Security at pickup site
7. Method of marking pickup site
8. Patient nationality and status
9. CBRN contamination

Fire Request

1. Identification
2. Warning order
3. Target location
4. Target description
5. Method of engagement
6. Method of control

Weapon Data

TYPE MAX EFF RANGE (m)

M16A2	580 (pt)	800 (area)	200 (mov)
M203	150 (pt)	350 (area)	
M249	600 (pt)	800 (area)	
M136 (AT4)	300		
M47 (Dragon)	1,000 (sta)	100 (mov)	
MK19	1,500 (pt)	2,212 (area)	
M3 RAAWS	700 (sta)	60 (mov)	
M60 MG	1,100 (600 grazing)		
.50 Caliber MG	1,800 (1,000 grazing)		
TOW	3,000 (plng purposes)		
TOW 2	3,750		
105-mm	11,500		
105-mm Tank	*2 to 2.5 km		
120-mm Tank	*2 to 2.5 km		
25-mm BFV	2,200		
155-mm M109A3	18,100		
M198	24,000		
8-in Howitzer	22,900		

WEAPONS (MORTAR) HE ONLY MIN MAX

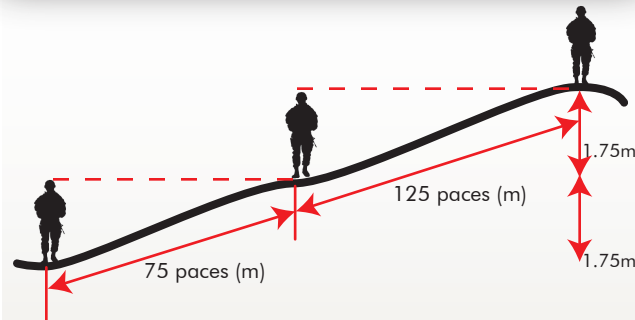
60-mm	70m	3,500m
81-mm	(M252) 80m	5,800m
81-mm	(M29A1) 73m	4,790m
4.2-inch	770m	6,840m
120-mm	200m	7,200m
FPFs	(FM 7-90)	

GUNS MORTAR WIDTH DEPTH

2 60-mm	60m x 30m
4 81 (M252)	150m x 50m
4 81 (M29A1)	140m x 40m
6 4.2-in	240m x 40m
6 120-mm	360m x 60m
Plt 155-mm	200m x 50m
Btry 155-mm	400m x 50m

*Optimum engagement ranges

Percentage of Slope



Given: Eye-level height = 1.75m

Pace = .75m

Answer: Vertical distance (V) = $2 \times 1.75\text{m} = 3.5\text{m}$

Horizontal distance (H)
(75 paces + 125 paces x .75 = 150m)

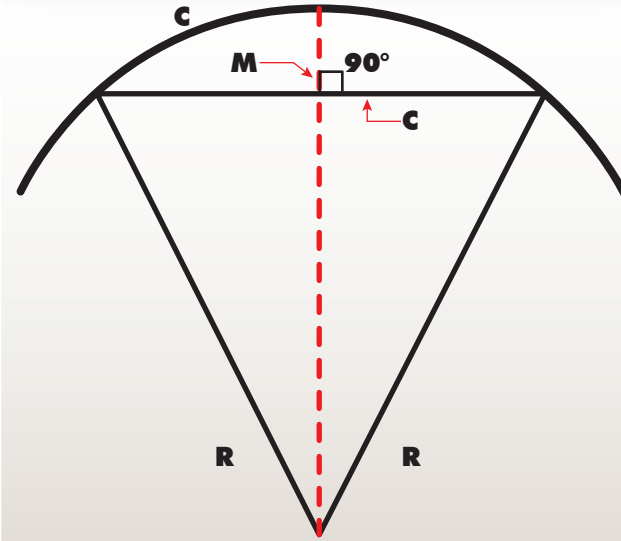
Percentage of Slope Formula:

$$\frac{V}{H} \times 100$$

From example above:

$$\left(\frac{3.5\text{m}}{150\text{m}} \times 100 \right)$$

Curve Measurement Formula Method



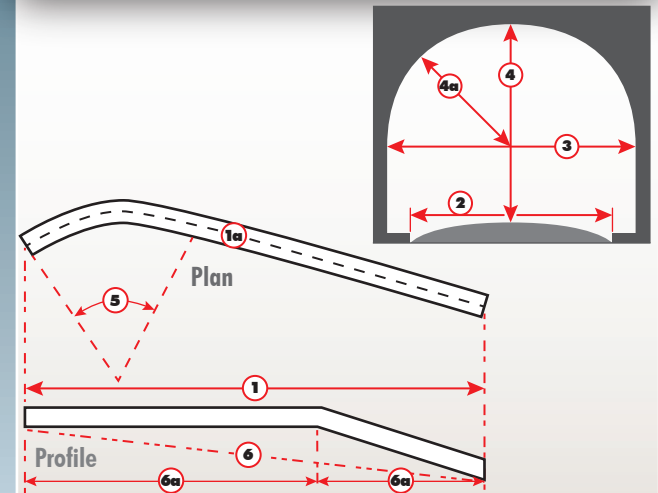
$$R = (C^2/8M) + (M/2)$$

R = Radius of the curve

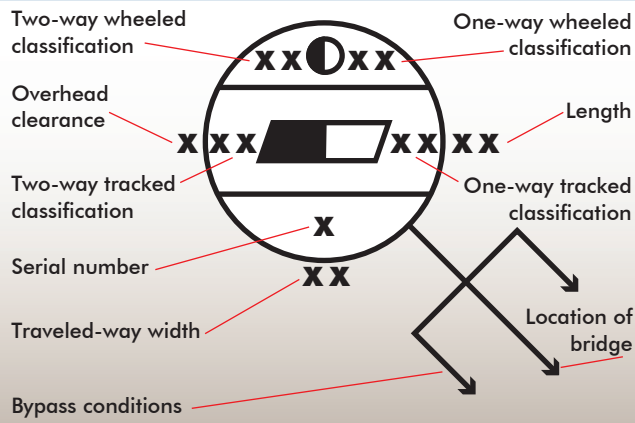
C = Distance from the centerline of the road to the centerline of the road at the outer extremities of the curve

M = Perpendicular distance from the center of the tape to the centerline of the road

Overhead Clearance in Tunnels



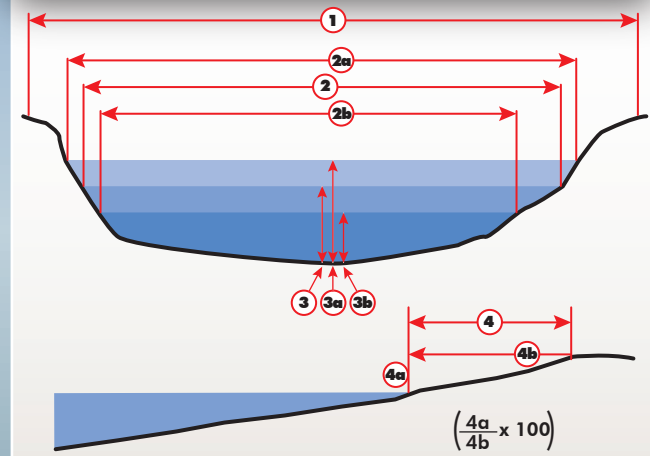
- Portal-to-portal length of tunnel
- Effective width of the traveled way, curb to curb
- Horizontal clearance (minimum width of the tunnel bore measured at least 4 feet above the traveled way)
- Overhead clearance (minimum distance between the top of the traveled way and the lower edge of the tunnel ceiling)
- Radius of curvature of the traveled way, either measured or estimated
- Gradient (percentage of rise of the traveled way between portals)
- Change in gradient within the tunnel (percentage of rise each way from break of grade)
- Centerline distance of tunnel
- Rise of tunnel arch (radius of curved portion)
- or any obstruction below the ceiling, such as trolley wires of electric light wires



Aircraft Request

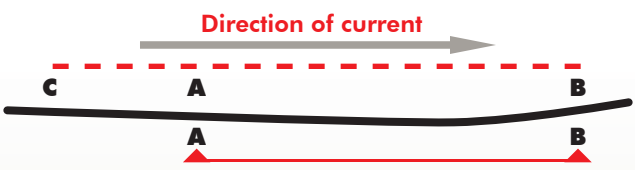
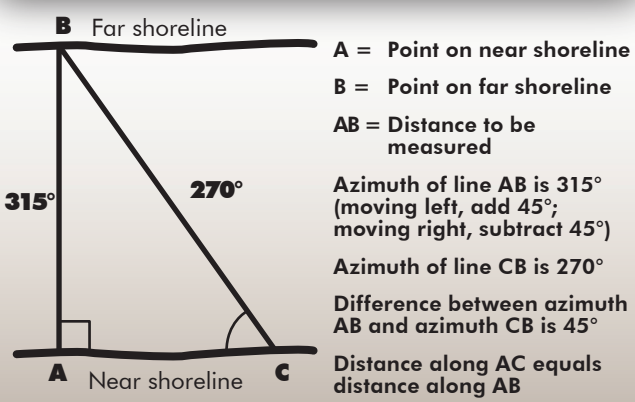
- Identification
- Precedence/priority
- Target description
- Target location
- Target time/date
- Desired ordnance/results
- Final control

Dimensions Required for Streams



- Width of streambed from bank
- Actual width of water, measured at normal stage (maximum width 2a and minimum width 2b are estimated, based on local observations or records of high water and low water)
- Actual depth of stream at normal water level
 - Estimated maximum water depth, based on local observations or records
 - Estimated minimum water depth, based on local observations or records
- Slope of approaches (slope of stream banks through which approach roads are cut)

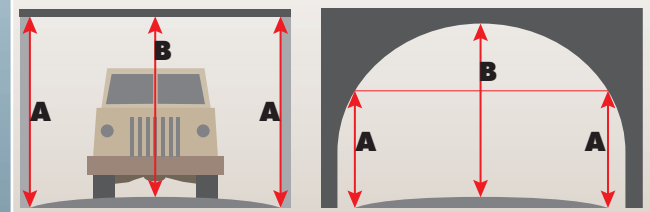
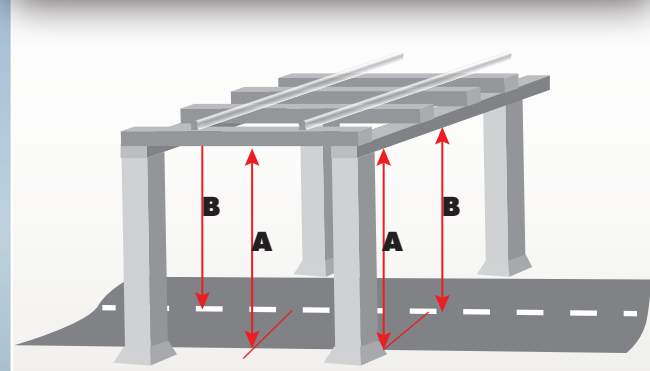
Measuring Stream Width With a Compass



- Measure distance from point A to point B
 - Throw a floating object into stream at point C
 - Determine time required for the object to float the distance between point A to point B
- NOTE:** Steps 2 and 3 should be done three times, with the final velocity being the average of the three

$$\text{Velocity} = \frac{\text{A and B (meters or feet)}}{\text{Float time from point A to point B (in seconds)}}$$

Overhead Clearance Measurements



A = Minimum measurement (always taken at the outside edge of the traveled way)
B = Maximum measurement (always taken at the center of the road)