

## CALL FOR FIRE

### INFANTRY LEADER'S REFERENCE CARD

REFERENCE: ATP 3-21.10 and ATP 3-21.90

HEADQUARTERS  
DEPARTMENT OF THE ARMY JUNE 2018

**DISTRIBUTION RESTRICTION:** (Refer to instructions on back cover.)

### ARTILLERY AND MORTAR CALL FOR FIRE

The majority of fire support to a company is provided by indirect fire support systems. Indirect fire support systems include mortars and field artillery cannon and rocket systems. (See ATP 3-09.32 for a detailed listing of indirect fire system capabilities and characteristics). Indirect fire support systems may be under direct command of the maneuver battalion/company or may be in a supporting role. Indirect fire targets during movement are planned on probable locations of enemy attempts to attack the movement.

Call for fire is the request for fire containing data necessary for obtaining the required mortar and artillery fire on a target. The ability for mortars and artillery to engage targets from reverse-slopes and areas of defilade is a tremendous advantage, especially in adverse terrain. As with other operations, employing indirect fires in adverse terrain and climate does have its challenges. Unique challenges include—

- Unpredictable weather conditions affecting accuracy of rounds.
- Targets located on peaks and steep terrain making adjustments difficult.
- Intervening crests requiring placement of observers on dominating heights for overwatch.
- Limited terrain suitable for firing positions to cover a particular movement.
- Mortar and artillery locations ideal for range and coverage unsuitable due to intervening adverse terrain features.
- Locations tactically positioned but in an area with difficult or limited access.
- Shifting mortar and artillery assets to alternate locations requiring significant time and engineering and logistical efforts.

**I. OBSERVER IDENTIFICATION:** Use call signs from the signal operating instructions (SOI).

#### II. WARNING ORDER:

- a. Type of Mission.
  - (1) Adjust Fire.
  - (2) Fire for Effect.
  - (3) Suppression.
  - (4) Immediate Suppression/Immediate Smoke.
- b. Size of Element to Fire.
  - (1) Omission indicates a request for one field artillery battery.
  - (2) Larger units by stating size desired.
- c. Method of Target Location:
  - (1) Grid: No announcement.
  - (2) Polar Plot: Announce the word "POLAR."
  - (3) Shift from a Known Point: Announce the word "SHIFT" followed immediately by the designation (Target [TGT] Number) of the known point.
  - (4) Laser Polar Plot: The first direction center (FDC) needs to know as quickly as possible if the observer is using a laser. Although the data are still polar, the backup computer system (BUCS) uses a different format from the fire mission index. Form the initial transmission of the call for fire, the FDC will know which of its four mission formats to display; for example, **ADJUST FIRE, LASER, POLAR, OVER.**

### III. TARGET LOCATION:

- a. Grid: Two character six digit grid, for example, NA123456.
- b. Polar: Direction and distance to the target from the observer's position.
- c. Shift: Direction to the target.
  - Lateral Shift (left/right) in meters.
  - Range Shift (add/drop) in meters.
  - Vertical Shift (up/down) in meters, if significant.

**IV. TARGET DESCRIPTION:** A word picture of the target (for example, the number and type of vehicles/personnel observed).

### V. METHOD OF ENGAGEMENT:

- a. Type of Adjustment:
  - (1) Area Fire: Standard without request.
  - (2) Precision Fire: Used only with destruction or registration missions.
- b. Danger Close: Announced when applicable.
- c. Trajectory:
  - (1) Low Angle: Standard without request.
  - (2) High Angle: Upon request of observer or when required due to masking terrain.
- d. Ammunition:
  - (1) Type of projectile desired in Fire for Effect phase.
  - (2) Type of fuze action desired in Fire for Effect phase.
  - (3) Volume of fire desired in Fire for Effect state in rounds per howitzer.
  - (4) Distribution: Type of sheaf desired. Parallel is standard without request.

### VI. METHOD OF FIRE AND CONTROL:

- a. Method of Fire:
  - (1) Center platoon/center section (one weapon) is standard for adjustment phase.
  - (2) Battery/platoon right/left on request.
  - (3) Time interval (5 seconds is standard when [2] above is used).
- b. Method of Control:
  - (1) Fire when ready: Standard— no request required.
  - (2) At my command: Weapons fire at observer's command.
  - (3) Cannot observe: Fire will not be observed.
  - (4) Time on target: Rounds land at a specified time.
  - (5) Continuous illumination: FDC will determine when to fire.
  - (6) Coordinated illumination: Observer determines when illumination is fired.
  - (7) Cease loading: Used on mission with two or more rounds in effect.
  - (8) Check firing: Temporary halt in firing.

### DANGER CLOSE

The term DANGER CLOSE will be included in the Method of Engagement portion of the call for fire when the target is within 600 meters of any friendly troops for both mortars and field artillery. When adjusting naval gun fire, the term DANGER CLOSE will be announced when the target is located within 750 meters when using 5-inch or smaller naval guns. For naval guns larger than 5-inch, DANGER CLOSE will be announced when the target is within 1000 meters.

The creeping method of adjustment will be used exclusively during DANGER CLOSE missions. The forward observer (FO) should make range changes by creeping the rounds to the target using corrections of no more than 100 meters.

## TARGET LOCATION

### I. GRID:

- a. Determine a two character, six digit grid for the target.
- b. Determine a grid location to the target and send after the call for fire and before any subsequent corrections.

### II. POLAR:

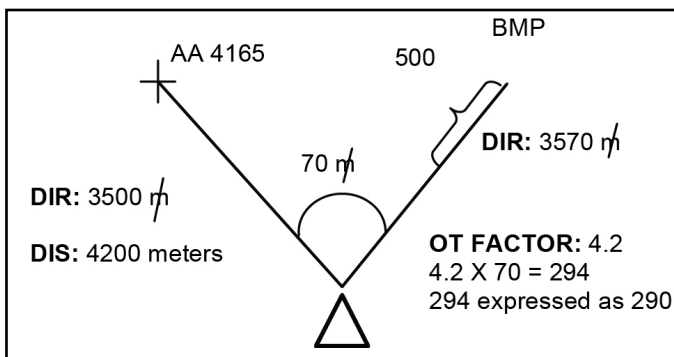
- a. Determine the grid location to the target.
- b. Determine the distance from the observer to the target.
- c. Determine if any significant vertical interval exists.

### III. SHIFT:

- a. Determine the grid direction to the target.
- b. Determine the lateral shift to the target from the known point.
  - $W = RM$  (mil relation formula)
  - $W$  = Width of lateral shift (the unknown)
  - $R$  = Distance to the known point divided by 1000 and rounded to one decimal place.
  - $M$  = Measured angle in mils from the known point to the target.
- c. Determine the range shift from the known point to the target.

Complete Target Location:

Direction 3570, Right 290, Add 500



## BRACKETING GUIDE

### If estimated range

#### To the target is:

0 to 1000 meters  
1000 to 2000 meters  
2000 meters and beyond

#### Then

#### Initial bracket is:

100 meters  
200 meters  
400 meters

**Note:** Estimated range to the **TARGET** is the basis used for choosing the initial bracket.

## RANGE CORRECTIONS

In conducting an adjustment on a target, the observer should establish a range bracket as early in the adjustment as possible. When the first definite range spotting is made, the observer should make a range correction that will cause the next round to be spotted opposite that of the previous round. For example, if the first definite range spotting is **SHORT**, the observer should **ADD** a sufficient amount to obtain an **OVER** spotting on the next round. Likewise, if a spotting is **OVER**, he should **DROP** a sufficient amount to obtain a **SHORT** on the next round. The observer then cuts each range correction in half, successively moving each round closer to the target.

## DEVIATION CORRECTIONS

The distance in meters that the burst is to be moved left or right is determined by multiplying the deviation in mils (the deviation spotting) by the observer-target (OT) distance in thousands of meters (the OT factor). Deviation corrections are expressed to the nearest 10 meters. A deviation correction of 20 meters or less is considered a minor deviation and will be ignored during the fire mission.

The OT factor is determined by rounding your estimated range to the target to the nearest thousand and expressed in thousands.

OT distance greater than 1000 meters. Example  $\frac{1800}{1000} = \frac{2000}{1000} = 2 = \text{OT factor of 2}$   
round to the nearest thousand meters      1000 1000 1

OT distance less than 1000 meters.      Example  $800 = 0.8 \text{ OT factor}$   
Round to the nearest 100 meters.

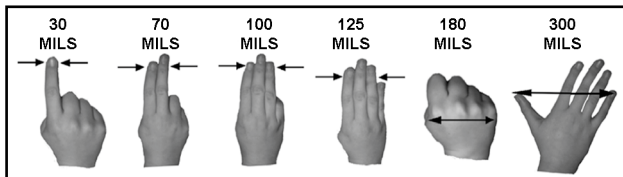
The computed deviation correction is announced to the FDC as LEFT (RIGHT) so much, the direction of the correction being opposite that of the spotting.

## DETERMINING DIRECTION TO A TARGET

Determining direction is an essential skill for the FO. Direction is an integral part of terrain-map association, adjustment of fire, and target location. There are five methods to determine direction:

- USING A COMPASS.** Using an M2 or lensatic compass, the FO can measure direction. The FO will add/subtract the GM angle to determine the grid direction to send to the FDC.
- SCALING FROM A MAP.** Using a protractor or an OF fan (observed fire fan), the FO can scale direction from a map to an accuracy of 10 mils.
- MEASURING FROM A REFERENCE POINT.** Using a reference point with a known direction, the FO can measure the angle between the reference point and his target and ADD/SUBTRACT the measured angle TO/FROM the known direction to determine the direction to the target. The angle between the reference point and the target can be measured with binos or with the hand measurement technique as depicted below.
- ESTIMATING.** With a thorough terrain map analysis the FO can estimate direction by visualizing the eight cardinal directions (N, NE, E, SE, S, SW, W, NW).
- USING OTHER MEASURING DEVICES.** The FO can use other measuring devices such as an aiming circle, battery commander's scope, or a laser device which can provide direction to the nearest mil. The FO should try to be as accurate as possible and the use of mils is preferred. All measured directions sent to the FDC will be rounded to the nearest 10 mils.

## ESTIMATING ANGLES IN MILS WITH THE HAND



## SENDING THE CALL FOR FIRE

The standard call for fire is transmitted using field artillery radiotelephone procedures in three radio transmissions:

- Observer's identification and warning order.
- Target location.
- Target Description, Method of Engagement, and Method of Fire and Control. The simplified call for fire (used only with suppress and immediate suppression missions) is sent in one radio call containing, at a minimum the observer's identification, warning order, and target location.

Three radio transmission call for fire worksheet:

		Battle Damage Assessment	
----- End of Mission -----			
		Corrections	
		Observer-Target Direction _____	
		LEFT/RIGHT	ADD/DROP UP/DOWN
1. Observer Identification		FDC/FSE call sign _____ Your call sign _____	
2. Warning Order		Adjust Fire	
		Fire for Effect	
		Suppress	
		Immediate Suppression/Immediate Smoke	
3. Target Location		Grid Target Location _____	
		Shift Known Point/Target _____ L/R _____ A/D _____	
		Polar Your Location _____ L/R _____ A/D _____	
4. Target Description		Type	Degree of Protection
		Activity	Size and Shape (length/width or radius)
		Number	
		For Example - What is it, What Action Digging/Stationary/Moving	
5. Method of Engagement		Type of Adjustment	Ammunition
		Danger Close	Distribution
		Mark	
		Any Additional Request	
		Method of Fire	
6. Method of Fire and Control		Method of Control	
		For Example - When Ready, On my Command, Continuous Fire/Illumination, Repeat, Check Fire	

FOR OFFICIAL USE ONLY

EXAMPLE: **STANDARD CALL FOR FIRE**

**OBSERVER**

T2F18 THIS IS T2F24, ADJUST FIRE,  
OVER.

**FIST/FDC**

T2F24 THIS IS T2F18, ADJUST FIRE, OUT.

GRID 123456, OVER.

GRID 123456, OUT.

3 TANKS AND 3 BMPs IN THE OPEN,  
DPICM IN EFFECT, AT MY COMMAND  
OVER.

3 TANKS AND 3 BMPs IN THE OPEN,  
DPICM IN EFFECT, AT MY COMMAND,  
AUTHENTICATE PAPA BRAVO, OVER.

I AUTHENTICATE CHARLIE, OUT.

EXAMPLE: **SIMPLIFIED CALL FOR FIRE**

T2F18 THIS IS T2F24, IMMEDIATE  
SUPPRESSION TGT AB 3001, OVER.

T2F24 THIS IS T2F18, IMMEDIATE  
SUPPRESSION TGT AB 3001, AUTHENTICATE  
TANGO FOXTROT, OVER.

I AUTHENTICATE DELTA, OUT.

**DISTRIBUTION RESTRICTION:** Distribution authorized to U.S. Government agencies and their contractors only. This publication contains technical or operational information that is for official government use. This determination was made on 17 November 2009.

**DESTRUCTION NOTICE:** Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

**DISTRIBUTION:** U.S. Army Training and Audiovisual Support Centers (TASC).  
Supersedes GTA 17-02-015, dated 1 March 2018.