Mortar Handbook

VERSION 1

This handbook is subject to change as improvements, suggestions, etc. are made.

Welcome to ARCOMM's Mortar Handbook. Before we get started it's important to note that the goal of this handbook is not to create the best or most experienced mortar crew after just reading this once or completing one course. The goal is to give people interested in learning about the systems and roles discussed in the handbook a solid foundation and the confidence to run a part of these systems in an operation, where you can further gain experience and hone your skills.

Simply put, a mortar is a weapon that has a high angle-of-fire and moderate range which is used to support ground troops with a variety of shells such as high explosive (HE), smoke, and illumination flares. Because of its high angle-of-fire mortars are usually positioned behind some sort of cover, like a hill or building to protect it from direct fire. Combined with the moderate range of the weapon it becomes clear that it will be unlikely that the mortar crew themselves will have eyes on targets. As such, the mortar crew will have to use information from front line troops as well as special equipment that enables them to calculate their indirect fire.

Mortar:

This handbook goes over the MK6 mortar (Vanilla), M6 mortar (BAF), and L16 mortar (BAF).

The MK6 mortar system is comprised of two pieces, the tube and bipod. These pieces are stored in backpacks and are carried by the mortar crew. To set it up, one or both of the packs need to be placed on the ground which can then be interacted with to set up. It is important to keep in mind that the MK6 has its ammo stored as a part of the tube, meaning if you run out, then you must setup the mortar with a new tube.

The M6 mortar is single piece system that is carried in the launcher slot. To set it up, just switch to it however you would switch to your launcher and it will deploy. Like the L16, the M6 has physical ammo that must be carried and loaded

The L16 mortar system is another two piece system, however, it's stored in launcher bags. To deploy the mortar place the L16 bipod on the ground, then the crewmen with the L16 tube equipped should interact with the bipod and select "assemble" from the action menu. The L16 has physical ammo that can be stored in backpacks or vehicles and must be prepped and then loaded via the action menu.

Tools:

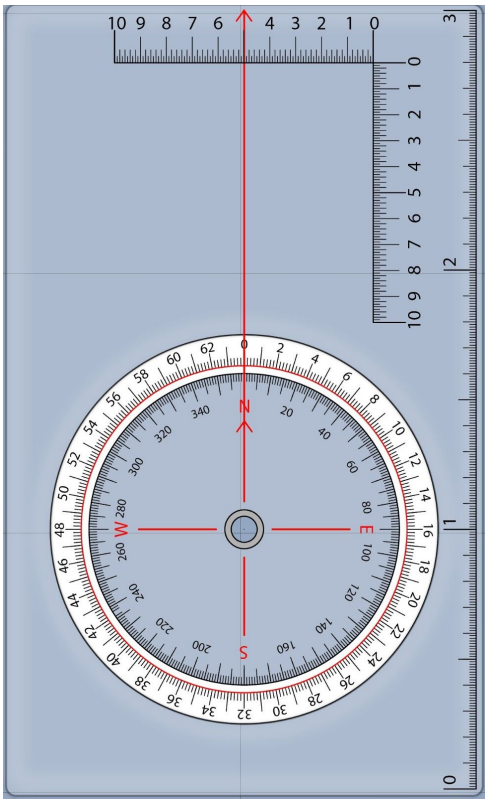
The 82mm rangle table is a critical tool for the mortar crew. Used with the MK6 and L16 mortar system, it provides the elevation information necessary for the crew to insure their rounds hit their target.

Charge: 0
Charge: 1
Charge: 2

RANGE	ELEV	D ELEV PER 100 M DR	TIME OF FLIGHT PER 100 M DR	TIME OF FLIGHT	AZIMUTH CORRECTION CROSSWIND OF 1 MPS	RANGE CORRECTION FOR					
						RANGE WIND 1 MPS		AIR TEMP (15° STD) 1 DEG		AIR DENSITY 1 PCT	
						HEAD	TAIL	DEC	INC	DEC	INC
M	MIL	MIL	SEC	SEC	MIL	M	M	M	M	M	M
100	1493	9	1.4	14.0	3.7	0.4	-0.3	0.0	0.0	0.0	0.0
150	1438	14	1.4	13.9	2.5	0.4	-0.4	0.0	0.0	-0.1	0.0
200	1381	20	1.4	13.8	1.9	0.5	-0.4	0.0	0.0	-0.1	0.1
250	1321	27	1.5	13.6	1.5	0.5	-0.4	0.0	0.0	-0.1	0.1
300	1256	36	1.6	13.3	1.3	0.6	-0.5	0.0	-0.1	-0.1	0.1
350	1183	49	1.7	12.9	1.1	0.6	-0.5	0.1	-0.1	-0.1	0.1
400	1097	70	1.9	12.4	0.9	0.6	-0.5	0.1	-0.1	-0.2	0.1
450	979	113	2.3	11.6	0.8	0.6	-0.5	0.1	-0.1	-0.2	0.2

Note that the M6 mortar uses its own internal range table.

Map tools are another important piece of equipment that give the mortar crew the direction and range to the target they must hit.



Operation:

As a mortar crew in an operation, one of the first decisions that must be made is the positioning of the unit. You want to insure that you are taking advantage of the high angle-of-fire and range by placing yourselfs behind the front lines and in cover from direct fire. In addition, while it may be the natural tendency of a mortar unit to stay as far away from the frontlines as possible, be wary of this. The farther away you are from the front the less accurate you will be, increasing the chance of missing your targets or hitting friendly troops, the rounds will take longer to travel, allowing greater possibility for the enemy to escape the impact area as well as delay support to friendly units, and you will be far away from friendly units and assistance if you come under attack, which the enemy will attempt to do to neutralize the threat you pose.

Naturally as friendly front line units move up, your distance away from them, as well as likely targets, will increase. Be proactive, prepare possible positions to move up to before it becomes an issue or needs to be rushed.

While the Commanding Officer(CO) is ultimately in charge of your positioning, insure that he has your recommendation and suggestions to help him better make his decisions. Also keep command updated on your ammo count as well as when and for how long you will be unavailable when conducting a change of position.

When you reach your position insure that your rounds have a clear path to target, look up and around your mortar position to avoid any close obstacles, such as trees or buildings that your shell might hit on the way outbound.

Now that the mortar crew is in position, calls for fire missions may commence.

ARCOMM uses a direct call for fire mission system in which the mortar team is on platoon net, which enables the squad leaders and platoon lead to directly call for the fire support they need. This removes any middleman like an FO that would merely delay and add an unnecessary step in receiving fire support that could be needed quickly. Platoon command, who usually attempts to position themselves overlooking the AO, could call fire missions from the rear with his eyes much like an FO would anyway.

The primary information that you will need to conduct your fire mission is the location of the target, the type of shell needed, and the description and dispersion of the target.

To start off we need the location, this will be given via a map marker. To insure that map markers are unique and organized they use a specific format. An example: MA1. The first letter “M” meaning this is for mortar. The second letter “A” meaning the mark was created by Alpha squad. The number “1” indicating it was the first mark created by ASL.

Other Example:

MB2
MP1(“P” meaning Platoon)
MC5

The next piece of information we will need is shell type, this is indicated by saying HE, smoke, or illumination/flare.

Optional Instruction (To even further improve the speed and efficiency of the mortar crew we’ve made the following comms traffic optional in case fire support is needed as fast as possible, however, do not write this additional information off as useless as it could be critical to insure mortar completely neutralize the target.):

Target Description and Dispersion: This will allow the mortar crew to know what type of target they are engaging, how many targets are in the target area, and the spread and movement of the target. For example ASL may call for fire support on a treeline, however, by adding in information that the target is infantry, about a squad, holding position, and spread out along 100 meters in the treeline will allow the mortar crew to select the right amount of rounds to fire, and how to disperse their fire to take out the enemy completely.

Round Count: If needed, calls for fire missions may include the amount of rounds requested, however, if an accurate target description and dispersions are given the mortar crew should have greater knowledge than front lines troops when it comes to how many shells are needed. Nevertheless direct eyes on target should not be underestimated and the crew and front line troops should work together and communicate to make sure the best support is given.

Naturally the mortar team should give a good copy on the net to confirm they have received the fire mission. Then the crew can begin calculations.

Once the crew fires, they should announce that rounds are “out” on the Platoon net and give the eta to splash(rounds hitting the target).

If possible, front line troops should give a Battle Damage Assessment(BDA) and corrections if the mortar strike has hit, missed, or did not completely neutralize the target and a reattack is needed. These are given by first stating the effectiveness of the fire support, then if a miss, the distance and compass direction the shells landed from the intended target.

Example:

ASL: Mortar, ASL, target MA 3, HE. EI x8 holding in a column 50 meters long, south on the mark. Over
Mortar: MA 3, Copy.

Mortar: ASL, this is Mortar, 3 HE rounds out, eta 30 seconds.
ASL: Eta 30 seconds, Copy.

ASL: Good effect on target, out.
Mortar: Copy, out

Example 2:

PLT: Mortar, this is Platoon, target MP4. HE. Infantry fireteam holding in a compound. Requesting 2 HE, Over
Mortar: MP4, 2 HE, Copy.

Mortar: Platoon, this is Mortar, 2 HE rounds out, eta 15 seconds.
PLT: Eta 15 seconds, Copy

PLT: Mortar, Platoon, target miss, round hit 50 meters south-east of the target. Requesting additional 1 HE, Over.
Mortar: Copy, off 50 meters south-east of the target. 1 HE, Over.

Continues with standard comms traffic afterwards...

With the information from the fire mission the mortar crew can begin to calculate how to get their rounds on target.

The three pieces of information that initial must be found are the direction, range, and change in elevation of the target.

First open the map, finding your location and the target. Then pull up the small map tools by using your ACE self interact keys. On one end of the map tool you will see a circle. Place the center of that circle, marked by a small black dot, on your position. Then holding you alt key, rotate the map tool so that the center line running down the map tool lines up to the target. By now looking at the circle you should be able to retrieve your 3 digit bearing? to the target.

With the map tool already lined up, looked for the ruler location on its edge. This will be used to get the distance to target. Grab the start of the ruler, the zero mark, onto the target location or your location, either way works. Each number on the ruler is equal to one kilometer and you can use the inner lines to get a more exact distance.

With the direction and range in mind you can now open up your 82mm range table or M2 range table if using the M2 mortar system. These can be accessed by using your ace self interact key bindings. On the top left hand of the range table you will notice the charges. Charges are more or less the power of the mortar. To reach higher ranges, or in special cases if you want to increase the flight time of the shells, you will need to use a high charge. Insure that you mortar is set to the same charge you are using on the table. Do this by pressing your fire rate change key. Now look for the range to your target on the table. After that number you will see the elevation that the mortar must be set to to hit that distance. If your exact range to target is not on the table use the above and below ranges to make an estimation of the elevation you need.

Lastly you need to check the ground elevation of your your position vs your target's position. If there is no change in elevation then you're set and no adjustment needs to be made. However, if you have a significant change in elevation then you will need to refer to the column labeled D ELEV PER 100M DR which tells you the change in your mortar elevation you will need to make to adjust to the change in ground elevation. If you are higher than the target add the number given, if you are lower than the target subtract.

Now everything is setup and you are ready to fire. Make sure your charge, shell type, and elevation is correct then press your fire button for each shell needed. Make sure to let the ground elements now you've fired and give them the eta to impact found on the range table. Prepare to receive a BDA and possibly conduct another fire mission.

We hope that going through this guide has given you a solid foundational understanding of the mortar crew's role and how they operate in ARCOMM and we look forward to seeing you ingame support your fellow members ingame and raining hell down on the enemy.

Additional Resources:
https://ace3mod.com/wiki/feature/mk6mortar.html#opening-the-table