

MORTAR ANGLING FOR DOWN-RANGE DISPLACEMENT

- In the absence of wind, the amount of down range displacement of typical dud aerial shell landing points for various mortar tilt angles are:

Tilt Angle (degrees)	Down Range Dud Displacements by Shell Size					
	3 in.	75 mm	6 in.	150 mm	12 in.	300 mm
	ft	m	ft	m	ft	m
0	0	0	0	0	0	0
2	40	10	70	20	130	40
5	100	30	180	60	310	100
10	200	60	360	110	610	190
15	290	90	520	160	880	270
20	370	110	660	200	1130	340

(Note, these results are calculated for typical single-break spherical shells under fairly typical conditions and are reported to the nearest 10 feet.)

- When the mortars have been offset 1/3 the distance from the center of the display site toward the main spectator area, in the absence of wind, a mortar tilt angle of approximately 8 degrees from vertical will cause the average point-of-fall to be 1/3 the distance beyond the center of the display site.

= This 1/3 displacement is the maximum allowed for angled mortars.