FT 16-D-2
Ordnance Dept
16-D-2

FIRING TABLES

GUN 16-INCH, SEACOAST, MK. II MOD. 1 (NAVY)

Firing

PROJECTILE, A. P., 2,100-LB., MK. II, MOD. 2

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The following firing tables (FT 16–D–2) for the Gun, 16-inch, Seacoast, MK. II–Mod. 1 (Navy) firing Projectile, A. P., 2100-lb., MK. II–Mod. 2 are published for the information and guidance of all concerned.

These firing tables are in revised form but contain the same data as FT 16–D–1, November 15, 1937, and Changes No. 1, April 1, 1938, which may be continued in use.

In general, these tables are identical to FT 16–B–1, May 1924, as changed by FT 16–B–1, C–2, December 15, 1934, except that these tables provide data in Part 2 for "⅔" and "full" charge, whereas FT 16–B–1 contains similar data for "¾", "⅞", and "full" charge.

[A. G. 300.7 (20 Jun 42).]

BY ORDER OF THE SECRETARY OF WAR:

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TABLE OF CONTENTS

INTRODUCTION

	PARAGRAPH	PAGE
General information	1	VII
Characteristics of guns and carriage	2	VII
Projectile	3	VII
Fuze	4	VII
Explanation of the tables	5	VII
The meteorological message	6	XII
Use of the tables	7	XV

PART 1

Data to be used with all combinations of projectile, fuze and powder charge

A	Wind component chart	2-3
B	Thermometric formula	4
B	Density formula	4
C	Yards to meters	5
D	Meters to yards	5
E	Angular conversion table - degrees to mils	6
F	Natural trigonometric functions	6
G	Table of probability factors	7
H	Table of slope coefficients	8
I	Powder temperature, muzzle velocity chart	9

PART 2

2/3 Charge - Data to be used with Projectile, A.P., 2100-lb. Mk.II-Mod. 2.

Tables A - K inclusive		13
Table A	Range elevation and other range table functions	14
Table B	Target below gun - range effects in yards	36
Table C	Target above gun - range effects in yards	44
Table D	Weight of projectile, effects in yards of range, due to variations in	51
Table E	Rotation of the earth, effects in yards of range, due to	52

Table Fa	Muzzle velocity, effects in yards of range, due to increase in	60
Table Fb	Muzzle velocity, effects in yards of range, due to decrease in	62
Table Ga	Air density, effect in yards of range, due to decrease in (59°F. and 29.5 + in.)	64
Table Gb	Air density, effect in yards of range, due to increase in (59°F. and 29.5 + in.)	66
Table H	Temperature (elasticity), effects in yards of range, (59°F.)	68
Table I	Rear wind, effect in yards of range, due to	69
Table J	Cross wind effects	71
Table K	Rotation of the earth, deflection effects in mils due to	72

Full Charge - Data to be used with Projectile, A.P., 2100-lb., Mk.II-Mod. 2.

Tables A - K inclusive		81
Table A	Range elevation and other range table functions	82
Table B	Target below gun - range effects in yards	114
Table C	Target above gun - range effects in yards	122
Table D	Weight of projectile, effects in yards of range, due to variations in	130
Table E	Rotation of the earth, effects in yards of range due to	132
Table Fa	Muzzle velocity, effects in yards of range, due to increase in	140
Table Ft	Muzzle velocity, effects in yards of range, due to decrease in	144
Table Ga	Air density, effect in yards of range, due to decrease in (59°F. and 29.5 + in.)	148
Table Gb	Air density, effect in yards of range, due to increase in (59°F. and 29.5 + in.)	152
Table H	Temperature (elasticity), effects in yards of range, (59°F.)	156
Table I	Rear wind, effect in yards of range, due to	158
Table J	Cross wind effects	160
Table K	Rotation of the earth, deflection effects in mils due to	162

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

INTRODUCTION

1. GENERAL INFORMATION. - These tables are based on firings conducted at the Aberdeen Proving Ground, Maryland, during September, October, 1923 under O. B. Program No. 4219 and Firing Table 16-B-1.

2. CHARACTERISTICS.

a. Gun.

Diameter of the bore between lands	inches	16
Diameter of the bore between grooves	inches	16.30
Total length of gun	inches	816.0
Length of rifled portion	inches	675.99
Travel of projectile	inches	681.68
Length of powder chamber	inches	113.83
Diameter of powder chamber	inches	18.50
Capacity of powder chamber	cubic inches	30,000
Number of grooves		96
Character of rifling, uniform twist, 1 in 32 calibers		
Maximum pressure	psi	38,000

b. Carriage, Barbette, 16-inch, M1919MI.

Total traverse	mils	6400	=	360°
Minimum elevation	mils	-124.4	=	-7°
Maximum elevation	mils	977.8	=	55°
Traverse for one turn of traversing handwheel	mils	1.96	=	.11°
Change in elevation for one turn of elevating handwheel	mils	16.71	=	.94°

3. PROJECTILE.

Projectile, A.P., 2100-lb., Mk.II-Mod. 2.

4. FUZE.

Fuze, B.D., Mk.X.

5. EXPLANATION OF THE TABLES. This firing table has been divided into two parts. Part 1 comprises data applicable to any possible combination of projectile, fuze and powder charge, and will serve equally well for all firing tables. It is printed on

white paper. Part 2 gives data pertaining to a particular combination of projectile, fuze and powder charge. It is readily distinguished from Part 1 by a difference in the color of the paper upon which it is printed.

Throughout the tables, the following conditions are assumed as standard:

Wind, none.
Muzzle velocity, as listed in table.
Air density at battery, (59°F. and 29.53 in. of mercury) 525.9 grains per cubic foot.
Temperature of air at battery (for elasticity effect) 59°F.
Temperature of powder 70°F.
Weight of projectile, as listed in table.

In addition to the standard air conditions at the battery, a standard atmospheric structure aloft has been assumed. The observed ranges, obtained from test firings, upon which these tables are based, were corrected on the basis of a comparison of observed muzzle velocity, weight of projectile, air conditions at all altitudes with the assumed standards and for rotation of the earth.

In connection with Part 1, it is to be noted that the azimuth of a wind is indicated by reference to the direction from which it blows. Since the meteorological message gives the azimuth of the wind as measured clockwise from the true north, it is necessary to find the equivalent tabular direction before proceeding with the use of the wind component chart. This tabular azimuth or chart direction of the wind is therefore measured in mils (6400 to the circle) clockwise from the plane of fire, that is, from the direction toward which the gun is fired. The choice of signs for cross wind effects accords with the deflection graduations upon the standard panoramic sight. For example, a wind from the left, when the target is viewed from the position of the gun, will carry the projectile to the right. To correct for this, it is necessary to traverse the gun to the left, and this corresponds to an increased deflection setting on the sight. The effect of such a wind, being opposite in sign to the correction, is thus seen to be negative.

Although the maximum wind speed noted on this chart is only 10 miles per hour, it is not to be understood that this figure is in any way intended as a restricting limit on the use of the data of the chart itself. Thus to obtain the components of a 12 mph wind the components of a 10 mph wind can be added to the corresponding components of a 2 mph wind.

The other tables, formulae and charts of Part 1 require no individual discussion. The principle use of the information contained in Part 1 is in the conversion of the data of the meteorological message into a form that is directly applicable to a particular battery.

Table A of Part 2 gives the range elevation relation, maximum ordinate, ballistic coefficient, and the characteristics of the trajectory at the point of fall or at the point of burst. The ranges listed in column (1) and throughout the tables are "curved" ranges; that is, they are regarded as measured along the surface of the sphere concentric with the earth and passing through the gun. Such measurements are understood to be made from the gun to the points where the trajectories pierce this spherical surface; or in case of the correction tables for the height of target, to points on this surface directly above or below the target. These points are all at the same height above sea level as the gun, and hence may be called "level points". It should be emphasized that no correction for curvature of the earth should be applied to these ranges. Whenever the level points concerned are at the target or directly above or below it, it is evident that these ranges are equal to the geographical distance from muzzle to target such as would be read from an accurate map, and they will later be referred to as "map ranges". Such ranges are sensibly equal to the rectilinear distances between gun and level point, though the straight line joining these points would not be exactly horizontal at the gun. In connection with range settings in general, and with especial reference to cases where gun and target are at different levels, the term "range" is sometimes used less exactly to refer to distance from gun to level points not related to the target.

The tabular elevations, given in columns (2) and (3) are strictly exact only when the gun and target are at the same level. In this case the elevation coincides with the quadrant elevation.

For other cases see tables B and C. The word "change" in the headings (4) and (5), (6) and (7) is employed because in each of these columns there are tabulated mean values to be used for decreases as well as increases. In case of ballistic air temperature other than 59°F., table H is to be used. The deflection due to drift, columns (13) and (14) of table A, includes the effect of lateral jump. In the case of guns designed with trunnion axis not level with respect to the carriage, the effect on deflection of this "permanent cant" is included in the tabular drift. Thus, with no cross wind, and in the absence of accidental disturbance, these columns give the total deviation of the projectile from the plane of fire, (the vertical plane containing the axis of the piece when laid for firing). The signs used are in accord with the deflection graduations upon the standard panoramic sight. The negative sign indicates that the projectile is carried to the right and the positive sign indicates that the combination of the effect of drift and lateral jump has resulted in a deviation of the projectile to the left of the plane of fire.

It is to be noted that in this case and throughout the tabulation of differential variations, the signs given are those of the effects and not of the correction. For example, the effect is given as positive if the trajectory is so altered that the projectile is caused to fall beyond its normal objective point. The probable errors in range and deflection are given in columns (16) and (17). These as noted at the bottom of each page, are Proving Ground probable errors.

The characteristics of the trajectory at the point of fall are given in columns (9), (10), (11) and (12). The ballistic coefficient, column (15), is the so-called "normal" or "short arc" C. Its value is such that when it is used with the standard muzzle velocity and angle of departure for the computation of the trajectory by the method of numerical integration, the resulting range will be that tabulated.

The effect of the earth's rotation on range and deflection is a function of the latitude of the gun and of the azimuth of the plane of fire. It cannot, therefore, be incorporated in the elevation and drift columns. This effect becomes quite appreciable in the case of long range guns. The effect of rotation

of the earth on range is given in Table E, and the effect on deflection is given in Table K. It is to be noted that the azimuth is measured from the true North.

Tables B and C are for use when the target is below or above the level of the gun. For example in the table for target below gun, (Table B), for any given map range and height of target, the quantity appearing as the "range effect" is the distance by which the map range for the given target exceeds the "range to level point", when the latter range is determined for that standard trajectory whose continuation passes through the target. These effects, then, are given positive signs so that the correction may be made by subtracting them from the map range. The resulting corrected range is that range whose corresponding angle of elevation (as listed in the table) is to be used as the elevation required to strike the target, (provided we assume for the moment that there are no other variations from standard).

Tables D to J inclusive give the various differential effects, thus Table F gives the range effects corresponding to increase or decrease in muzzle velocity of every 10 feet per second up to 150 feet per second.

Table K gives the deflection effects in mils due to rotation of the earth for varying latitudes and azimuths.

Although cant of the carriage axle, by changing the angle of departure, has some effect upon the range, that effect is here disregarded; for, at low elevations, a fairly large cant will produce only a very small change in the angle of departure, and at high elevations, where a large cant will produce a somewhat larger change in angle of departure than at low elevations, it requires a quite large change in angle of departure to produce a small change in range.

Among the symbols and abbreviations used are the following:

ω	(read: "omega"), meaning the quadrant angle of fall for gun and target at the same level
P.E.	probable error
R	right
L	left
lb.	pound

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

Symbols and abbreviations (cont.)

°	degrees
min.	minutes
sec.	seconds
‰	mils
in.	inches
ft.	feet
yd.	yards
fps	feet per second
mph	miles per hour
F.	Fahrenheit
m.d.p.	meteorological datum plane
%	percent
MV	muzzle velocity
V-V_o	velocity adjustment
mps	meters per second
psi	pounds per square inch

6. THE METEOROLOGICAL MESSAGE. The meteorological message consists of groups of symbols arranged in codified form. The message starts with the repetition of the so-called "address of the sending station", consisting of three letters, the first of which is always M and the other two serve to identify the station. All the groups subsequent to the first group, which plays a special role, are similar in type and significance; they differ only in that they refer to different altitudes. They consist of seven digits.

The Meteorological Message consists of "Message 2" and "Message 3" received as the first figure after the station identification symbol. For the Gun, 16", Seacoast, Mk.II-Mod. 1, Navy, "Message 3" applies when the following charges are used at elevations up to those indicated:

Charge	Elevation degrees
2/3	65
Full	50

"Message 2" is for firing with above charges at higher elevations. A complete description of the Meteorological Message is contained in TR 1236-1. The second and third digits of this first group give, in hundreds of feet, the altitude of the meteorological

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

datum plane (m.d.p.) above sea level. The position of the m.d.p. is chosen by the Meteorological Service of the Army and should be little, if any, higher than the lowest battery to be served by the message. The fourth and fifth digits of this group give the temperature at the m.d.p. in degrees Fahrenheit.

The groups subsequent to the first have digits assigned to them as symbols, beginning with zero and refer to altitudes as follows:

0	The level of the m.d.p.	
1	An altitude of 600 feet	(200 yards) above m.d.p.
2	An altitude of 1500 feet	(500 yards) above m.d.p.
3	An altitude of 3000 feet	(1000 yards) above m.d.p.
4	An altitude of 4500 feet	(1500 yards) above m.d.p.
5	An altitude of 6000 feet	(2000 yards) above m.d.p.
6	An altitude of 9000 feet	(3000 yards) above m.d.p.
7	An altitude of 12000 feet	(4000 yards) above m.d.p.
8	An altitude of 15000 feet	(5000 yards) above m.d.p.
9	An altitude of 18000 feet	(6000 yards) above m.d.p.
0	An altitude of 24000 feet	(8000 yards) above m.d.p.
1	An altitude of 30000 feet	(10000 yards) above m.d.p.
2	An altitude of 36000 feet	(12000 yards) above m.d.p.

Each further increase by unity in the symbol of the altitude zone corresponds to an increase in 6000 feet in altitude above the m.d.p. It is evident that no confusion can arise from using for 10, 11, 12, etc., the symbols 0, 1, 2, etc., in order to preserve the 7 digit character of the group. The first digit of each of these groups is the group symbol mentioned above and designates the altitude zone to which the group refers. The second and third indicates the direction from which the ballistic wind blows. For this purpose the angular deviation is measured clockwise from the true north in hundreds of mils (64 points to the circle). The fourth and fifth digits in each of these groups constitute a two figure symbol for the speed of the wind in miles per hour. The sixth and seventh digits serve to designate the ballistic density in percent of normal.

The particular group of the meteorological message appropriate for use with the particular trajectory is that group of which the altitude is nearest to, but not less than, the maximum

ordinate. When extreme accuracy is necessary and the meteorological data justify the procedure, it is possible to interpolate between groups of the meteorological message, making use of the exact maximum ordinate.

The above mentioned is a special case of the general method dealing with the meteorological data for battery and m.d.p. at any levels. The meteorological message is designed primarily for batteries in or near the m.d.p. When serious differences in level occur, the data of the meteorological message must be corrected to the level of the battery. Maximum ordinates will be measured from the battery level, for all purposes. Such corrections as are made, utilize that 7 digit group of the message which corresponds to the maximum ordinate so defined. The wind at a given altitude above the battery is assumed to be identical with that at an equal altitude above the m.d.p., but the temperature and ballistic density need separate consideration. The temperature at the battery is obtained either by direct observation or by correcting to the level of the battery the temperature given in the first group of the meteorological message. This correction is made by means of the Thermometric Formula, Part 1B.

The ballistic density depends upon the maximum ordinate considered. Any one of the 7 figure groups of the message gives the ballistic density for a certain maximum ordinate measured from the m.d.p. This density when corrected by means of the Density Formula, Part 1B, becomes the ballistic density for that maximum ordinate measured from the battery.

When standard Coast Artillery fire control instruments are available for preparing data for firing on moving or fixed targets, the battery commander will have little need for these firing tables. They become useful only for reference, since mechanical devices apply the necessary corrections for the various effects on range and deflection. Standard panoramic sights for Coast Artillery are designed to utilize azimuths in laying for direction.

When standard Coast Artillery instruments are not available, it is necessary to prepare firing data by computation, using the firing tables as explained hereafter.

7. USE OF THE TABLES. For convenience in reference, the differential variations and the corresponding corrections will be considered in three groups. The designation of the groups of corrections, in the order in which they will be treated, are:

(a) Position corrections,
(b) Materiel corrections, and
(c) Weather corrections.

This grouping corresponds in a general way to the order in which the data for the corrections are obtained. When the corrections refer to changes in deflection or in height of burst, they are so indicated. Otherwise they refer to change in range. When all the variations from standard are numerically small, and hence comparable in magnitude, it is known that a slight increase in formal accuracy is secured by making these corrections successively; that is, by correcting the map range to account for the first variation considered, and using the resulting first corrected range as a basis for determining the magnitude of the second variation, and so forth. In most cases which will occur in practice, this increase in formal accuracy is meaningless, since the data themselves are seldom known with sufficient refinement to warrant the slight apparent gain in accuracy. Consequently, for general use with this table, all corrections may be calculated on the basis of the same fundamental quantity, namely, the map range. At the same time, should it prove more convenient, there is no objection to imposing the corrections successively, except where some one of the corrections is much larger than the others. The only case which occurs frequently enough to warrant particular consideration is that of a large correction due to height of target. For this situation it has been verified that greater accuracy is secured by imposing simultaneously the velocity and height of site corrections than by imposing these corrections successively in either order.

a. Position corrections are determinable as soon as the relative location of gun and target is known. For land firing, their geographical location would determine both the map range and the difference in altitude; for seacoast batteries, the height of the tide may also be required. Position corrections consist of those for difference in altitude of gun and target. Corrections for rotation of the earth may be regarded as position corrections. The drift may be regarded as necessitating a position

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

correction in deflection, the cant effect due to the carriage not being level also necessitates a position correction in deflection since it is determinable from a knowledge of the map range. Tables B and C giving "position effects", may be entered with "Map Range" as one argument and "Height of Target" as the other argument. The position effect must be algebraically subtracted from the map range to determine the geographical distance to the level point on that trajectory, or its continuation, which, under standard conditions, passes through the target.

b. Materiel corrections are determinable, for a given range, when the weight and the markings of the projectile and the relatively permanent characteristics of the particular piece and powder lot are known. These corrections consist of those for (1) variations from normal in weight of projectile, (2) estimated change in muzzle velocity, $(V-V_o)$, due to the conditions of the piece or of the powder when the powder is at standard powder temperature (70°F.). The correction on account of variation in weight of projectile is usually obtained from Part 2, Table D, for any given marking. The estimated change in muzzle velocity is called the velocity adjustment, $V-V_o$, and is made by reference to the record of performance of the particular piece and powder lot, or other empirical methods. Usually the results of observation of previous firings are available. The necessary correction is then found by the use of the effects tabulated in Part 2, Table F.

c. Weather corrections are determinable only upon receipt of the regular meteorological message or other reports of observation made at or near the time of firing. These corrections consist of those for (1) air density, (2) air temperature (elasticity effect), (3) range wind, (4) variation of the powder temperature from standard. The deflection effect of the cross wind may be regarded as leading to weather corrections. The air density, air temperature, range wind, and cross wind, to be used in any case are, respectively, the ballistic density, temperature at the battery, ballistic range wind, and ballistic cross wind, all as given in or obtained from the meteorological message. In the absence of such information it will ordinarily be necessary to utilize such observation of air conditions as can be made at the battery. The maximum ordinate corresponding to the map range for use with the meteorological message is found in Part 2, Table A, column (8).

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

The ballistic wind, given in speed and direction, is resolved into components along and across the line of fire by means of the chart of Part 1A. The range component is the ballistic range wind to be used with Part 2, Table I. The cross component is the ballistic cross wind, and the resulting deflection effects are found by reference to Part 2, Table J. The effect of the variations of the powder temperature from the standard powder temperature is found as the effect of an equivalent change in muzzle velocity. This muzzle velocity change may be read from Part 1I.

The algebraic sum of all of the range effects hitherto mentioned, namely, of those due to position variations, materiel variations, weather variations, are added together algebraically and this algebraic sum subtracted from the map range. This amounts to changing the signs of the effects, thus converting them into the corrections desired, and then adding the corrections to the map range. When these calculations are made previous to a series of firings, the result is known as the initial range, being the range at which firing is begun. With it, entry is made in Part 2, Table A, and the corresponding angle of elevation is read from either column (2) or (3). The deflection effects when added algebraically give the total deflection effect, and a change of sign gives the deflection corrections to be used with the panoramic sight.

When observation of fire is possible, the center of impact for succeeding rounds is adjusted to the center of target on the basis of rounds already observed, and the range corresponding to the resulting setting is called the adjusted range. The difference between the adjusted range and the initial range as defined above is assumed to be due to a variation which necessitates a correction to be applied upon $V-V_o$. The value of $V-V_o$ thus continually revised, is called the velocity adjustment and requires reference to Part 2, Table F. It is used in the next firing or in firing at a different range, and is then considered as a materiel correction.

The following example illustrates the use of the tables:

Given: Gun, 16", M1919MII, Tabular Muzzle Velocity = 2750 fps.
Projectile, A.P., 2100-lb., Mk.II-Mod. 2.

608393 O - 44 - 2

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

Data as to Position:

Altitude of battery = 450 ft. above sea level.
Map range to target = 19340 yards.
Height of target = -232 ft. (232 ft. below gun).
Azimuth of target (measured clockwise from the North) = 437 mils (24.6°).
Latitude of the gun = 42° North.

Data as to Materiel:

Weight of projectile = 2075 lb. (1.2% below normal).
Preliminary velocity adjustment ($V-V_o$) = -18 fps (18 fps below tabular velocity).

Weather Data:

Temperature of powder = 62°F.
Meteorological message: MSL MSL 30162 0620799 1620898 2600997 3591195 4600992

Required: Quadrant elevation and deflection setting.

Solution: The tables found in Parts 1 and 2 are used throughout.

(a) Position corrections for range.

Entering Table B, for target below gun, we find corresponding to a map range of 19340 yards and a height of target of -232 ft. a range effect of ..... +324 yd.

Entering Table E, for effects on range due to rotation of the earth, we find, corresponding to a latitude of 42° and an azimuth of 24.6° a range effect of ..... +47 yd.

(b) Materiel corrections for range.

Entering Table D, we find the effect on range for 1.2% decrease in weight of projectile to be ..... +28 yd.

In a similar manner, from Fb, we find the effect on range for an estimated decrease of -18 fps in muzzle velocity to be ..... -202 yd.

(c) Weather corrections for range.

The actual or estimated temperature of the powder at the time of firing being 62°F., instead of the standard temperature for powder 70°F., a correction must be introduced. The effect on muzzle velocity is obtained from Part II, and is -18

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

fps. The effect on range thus occasioned is found in the same manner as above from Table Fb, to be ..... -202 yd.

To obtain the effects of the remaining variations, the meteorological message must be deciphered and such information as is applicable to the particular trajectory considered must be utilized.

From column (8) of Table A, the maximum ordinate is found to be about 2945 feet so that in addition to the introductory information obtained in the meteorological message only that group of the message numbered 3 and which gives data for a maximum ordinate of 3000 feet will be used.

From the meteorological message the following information is obtained:

Altitude of the m.d.p. above mean sea level	100 ft.
Temperature at the m.d.p.	62°F.
Azimuth of the ballistic wind (for group "3")	5900 mils
Velocity of the ballistic wind (for group "3")	11 mph
Ballistic density (for group "3")	95%

To obtain the components of the ballistic wind, it is necessary to secure from the recorded azimuths of target and ballistic wind, the chart direction of the wind for which the line of fire is the reference direction. Subtracting 437 mils from 5900 mils, we have for the chart direction from which the wind is blowing ..... 5463 mils

Using the wind component chart, Part 1A with 11 mph as the wind velocity we have corresponding to 5463 mils a range component, W_x, of ..... -6.6 mph and a cross component, W_y, of ..... -8.8 mph

The components of 1 mph are added to the corresponding components of 10 mph to obtain the components of 11 mph.

Entering Table I, we find the effect on range for -6.6 mph range wind (the negative sign here indicates a head wind) to be ..... -29 yd.

The temperature at the m.d.p. given in the meteorological message cannot be used directly since the battery is 350 feet above the m.d.p.

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

Using the Thermometric Formula, Part 1B, the decrease in temperature for this height is 1°F., so that the temperature for the battery is ..... 61°F.

Entering Table H, we find the temperature (elasticity) effect on range for a temperature of 61°F., (or 2°F. above the normal temperature of 59°F.) to be ..... -5 yd.

The ballistic density given in the meteorological message for this trajectory cannot be used directly since the battery is 350 ft. above the m.d.p.

Using the density formula, Part 1B, the decrease in density for this height is 1% so that the ballistic density of the battery is 94%

Entering Table Ga, we find the effect on range for the ballistic air density of 94% (or 6% below normal) to be +366 yd.

The total range effect is now obtained by adding the separate range effects algebraically. It has the value of +324 +47+28-202-202-29-5+366 = ... +327 yd.

The total range correction is obtained by merely changing the sign of the total range effect. It is -327 yd.

The corrected range, found by adding algebraically the total correction to the map range (or what is the same thing, subtracting algebraically the total effect) is 19340 yd. - 327 yd. i.e. ..... 19013 yd.

The elevation corresponding to the corrected range of 19013 yd. is found in either column 2 or 3 of Table A. It is ..... 172.6 ₥

The deflection effects are found in a similar manner.

The deflection effect due to a -8.8 mph cross wind (from left to right) is found from Table J to be ..... -1.3 ₥

The drift is found from columns (13) or (14) to be -11 ₥

The deflection effect due to rotation of the earth for a latitude of 42° north and an azimuth of 24.6° is found from Table K to be ..... -1.1 ₥

The total deflection effect is obtained by adding algebraically the separate deflection effects. It has the value of -1.3-11-1.1 = ... -13 ₥

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

The total deflection correction is obtained by merely changing the sign of the total deflection effect. It is +13 ₥

The deflection set off at the gun will be +13 mils (13 mils to the left) when the target is used as aiming point. For any other aiming point 13 mils must be added to the deflection of the target. To obtain the azimuth setting it must be recalled that deflections and azimuths are measured in opposite senses. The correction of +13 mils in deflection is the same as a correction of -13 mils in azimuth. The azimuth setting then is 437 mils - 13 mils = ... 424 ₥

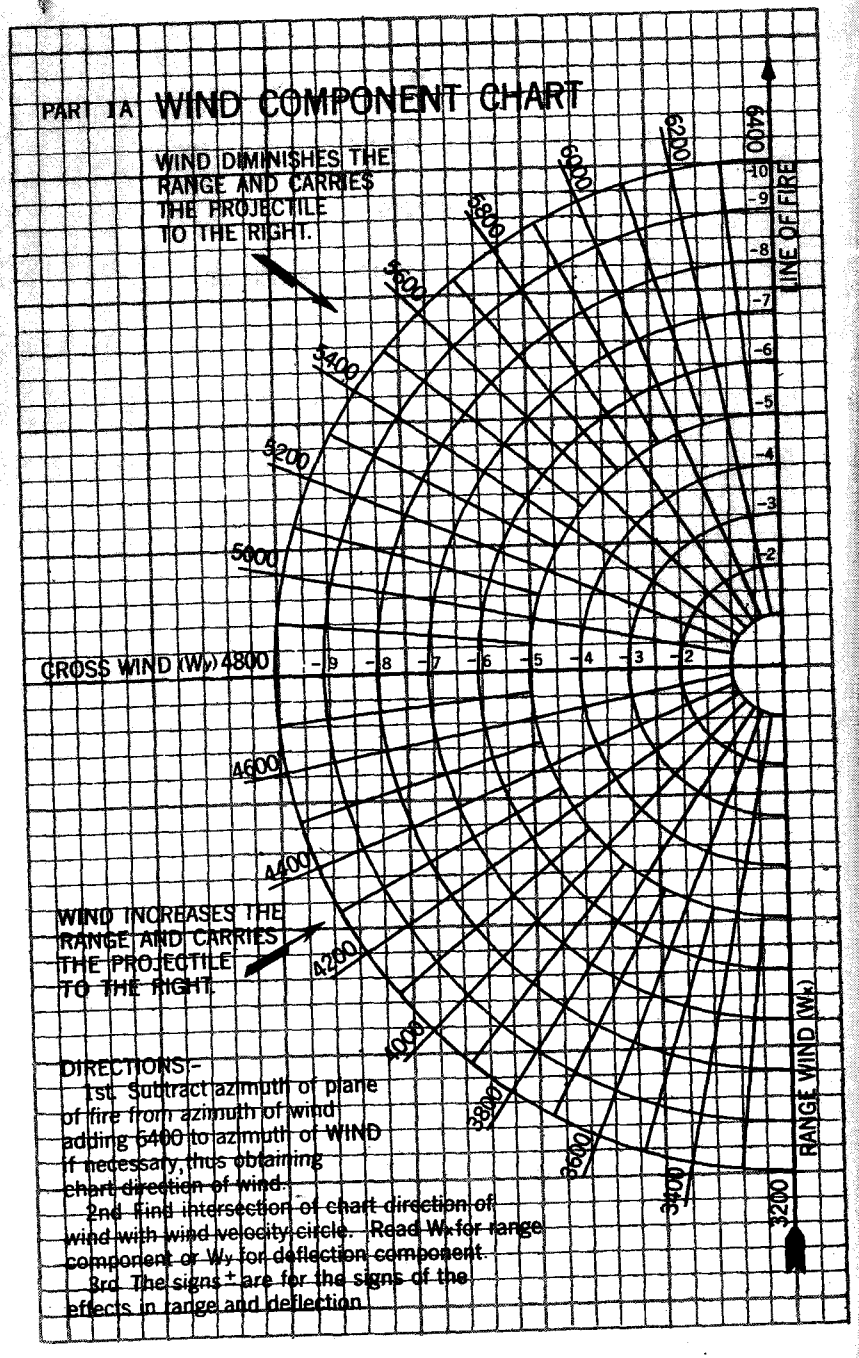
PART 1

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

FIRING

PROJECTILE, A.P., 2100-LB., MK.II-MOD. 2

PART 1A WIND COMPONENT CHART



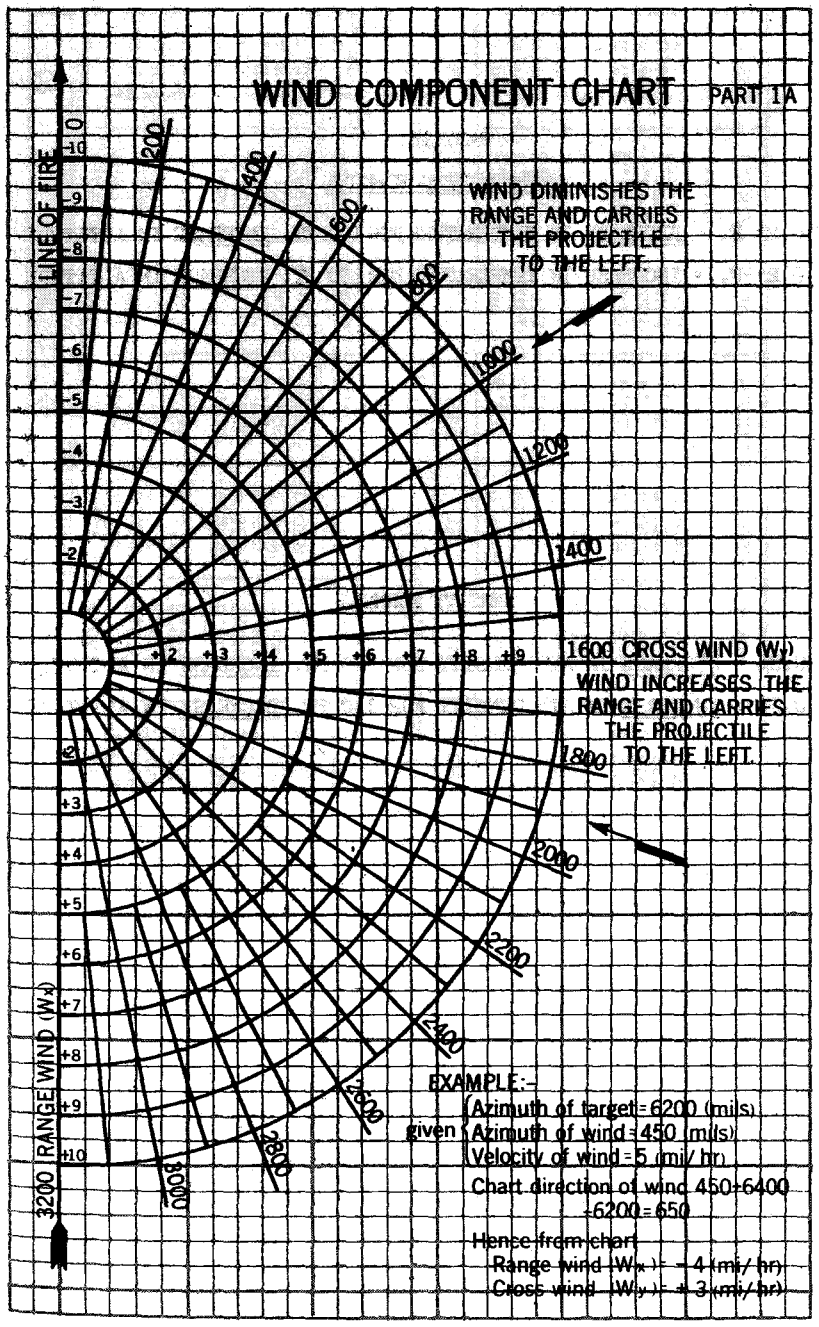
DIRECTIONS:-

1st. Subtract azimuth of plane of fire from azimuth of wind adding 6400 to azimuth of WIND if necessary, thus obtaining chart direction of wind.

2nd. Find intersection of chart direction of wind with wind velocity circle. Read W_x for range component or W_y for deflection component.

3rd. The signs $\pm$ are for the signs of the effects in range and deflection.

WIND COMPONENT CHART PART 1A



EXAMPLE:-

given { Azimuth of target = 6200 (mils)
Azimuth of wind = 450 (mils)
Velocity of wind = 5 (mi/hr)

Chart direction of wind 450+6400 -6200 = 650

Hence from chart

Range wind $(W_x) = -4$ (mi/hr)

Cross wind $(W_y) = +3$ (mi/hr)

PART 1B.

THERMOMETRIC FORMULA

0.2° F. = DECREASE IN TEMPERATURE FOR 100 FT. INCREASE IN ALTITUDE

0.2° F. = INCREASE IN TEMPERATURE FOR 100 FT. DECREASE IN ALTITUDE

DENSITY FORMULA

0.3% = DECREASE IN AIR DENSITY FOR 100 FT. INCREASE IN ALTITUDE

0.3% = INCREASE IN AIR DENSITY FOR 100 FT. DECREASE IN ALTITUDE

PART 1C — 1 yd = 0.91440 meters

YARDS TO METERS

YARDS	0	10	20	30	40	50	60	70	80	90
0	0	9.1	18.3	27.4	36.6	45.7	54.9	64.0	73.2	82.3
100	91.4	100.6	109.7	118.9	128.0	137.2	146.3	155.4	164.6	173.7
200	182.9	192.0	201.2	210.3	219.5	228.6	237.7	246.9	256.0	265.2
300	274.3	283.5	292.6	301.8	310.9	320.0	329.2	338.3	347.5	356.6
400	365.8	374.9	384.0	393.2	402.3	411.5	420.6	429.8	438.9	448.1
500	457.2	466.3	475.5	484.6	493.8	502.9	512.1	521.2	530.4	539.5
600	548.6	557.8	566.9	576.1	585.2	594.4	603.5	612.7	621.8	630.9
700	640.1	649.2	658.4	667.5	676.7	685.8	695.0	704.1	713.2	722.4
800	731.5	740.7	749.8	759.0	768.1	777.2	786.4	795.5	804.7	813.8
900	823.0	832.1	841.2	850.4	859.5	868.7	377.8	887.0	896.1	905.3
1000	914.4	923.6	932.7	941.8	951.0	960.1	969.3	978.4	987.6	996.7

PART 1D — 1 meter = 1.0936 yd.

METERS TO YARDS

METERS	0	10	20	30	40	50	60	70	80	90
0	0	10.9	21.9	32.8	43.7	54.7	65.6	76.6	87.5	98.4
100	109.4	120.3	131.2	142.2	153.1	164.0	175.0	185.9	196.8	207.8
200	218.7	229.7	240.6	251.5	262.5	273.4	284.3	295.3	306.2	317.2
300	328.1	339.0	350.0	360.9	371.8	382.8	393.7	404.6	415.6	426.5
400	437.4	448.4	459.3	470.2	481.2	492.1	503.1	514.0	524.9	535.9
500	546.8	557.7	568.7	579.6	590.6	601.5	612.4	623.4	634.3	645.2
600	656.2	667.1	678.0	689.0	699.9	710.8	721.8	732.7	743.7	754.6
700	765.5	776.5	787.4	798.3	809.3	820.2	831.1	842.1	853.0	864.0
800	874.9	885.8	896.8	907.7	918.6	929.6	940.5	951.4	962.4	973.3
900	984.2	995.2	1006.1	1017.1	1028.0	1038.9	1049.9	1060.8	1071.7	1082.7
1000	1093.6	1104.6	1115.5	1126.4	1137.4	1148.3	1159.2	1170.2	1181.1	1192.0

PART 1E

ANGULAR CONVERSION TABLE - DEGREES TO MILS

Degrees	0	1	2	3	4	5	6	7	8	9
0	0	18	36	53	71	89	107	124	142	160
10	178	196	213	231	249	267	284	302	320	338
20	356	373	391	409	427	444	462	480	498	516
30	533	551	569	587	604	622	640	658	676	693
40	711	729	747	764	782	800	818	836	853	871
50	889	907	924	942	960	978	996	1013	1031	1049
60	1067	1084	1102	1120	1138	1156	1173	1191	1209	1227
70	1244	1262	1280	1298	1316	1333	1351	1369	1387	1404
80	1422	1440	1458	1476	1493	1511	1529	1547	1564	1582
90	1600	(Conversion Factor, 1° = 17.77778 mils)								

PART 1F

NATURAL TRIGONOMETRIC FUNCTIONS

Mils	N. Sin	N. Cos	N. Tan	N. Cot
0	0.0000	1.0000	0.0000	-
50	.0491	.9988	.0491	20.355
100	.0980	.9952	.0985	10.153
150	.1467	.9892	.1483	6.741
200	.1951	.9808	.1989	5.027
250	.2430	.9700	.2505	3.992
300	.2903	.9569	.3033	3.297
350	.3369	.9415	.3578	2.795
400	.3827	.9239	.4142	2.414
450	.4276	.9040	.4730	2.114
500	.4714	.8819	.5345	1.871
550	.5141	.8577	.5994	1.668
600	.5556	.8315	.6682	1.497
650	.5957	.8032	.7416	1.348
700	.6344	.7730	.8207	1.219
750	.6716	.7410	.9063	1.103
800	.7071	.7071	1.0000	1.000
850	.7410	.6716	1.103	.9063
900	.7730	.6344	1.219	.8207
950	.8032	.5957	1.348	.7416
1000	.8315	.5556	1.497	.6682
1050	.8577	.5141	1.668	.5994
1100	.8819	.4714	1.871	.5345
1150	.9040	.4276	2.114	.4730
1200	.9239	.3827	2.414	.4142
1250	.9415	.3369	2.795	.3578
1300	.9569	.2903	3.297	.3033
1350	.9700	.2430	3.992	.2505
1400	.9808	.1931	5.027	.1989
1450	.9892	.1467	6.741	.1483
1500	.9952	.0980	10.153	.0985
1550	.9988	.0491	20.355	.0491
1600	1.0000	0.0000	-	0.0000

PART 1G

TABLE OF PROBABILITY FACTORS

$$\text{"Prob"} = \frac{2}{\sqrt{\pi}} \int_0^t e^{-t^2} dt \quad \text{where} \quad \frac{t}{.476936} = \text{Factor}$$

Factor	Prob.	Factor	Prob.	Factor	Prob.	Factor	Prob.
0.00	0.0000	1.00	0.5000	2.00	0.8227	3.00	0.9570
0.05	0.0269	1.05	0.5212	2.05	0.8332	3.05	0.9603
0.10	0.0538	1.10	0.5410	2.10	0.8433	3.10	0.9635
0.15	0.0806	1.15	0.5621	2.15	0.8530	3.15	0.9664
0.20	0.1073	1.20	0.5817	2.20	0.8622	3.20	0.9691
0.25	0.1339	1.25	0.6008	2.25	0.8709	3.25	0.9716
0.30	0.1604	1.30	0.6194	2.30	0.8792	3.30	0.9740
0.35	0.1867	1.35	0.6375	2.35	0.8871	3.35	0.9762
0.40	0.2127	1.40	0.6550	2.40	0.8945	3.40	0.9782
0.45	0.2385	1.45	0.6719	2.45	0.9016	3.50	0.9817
0.50	0.2640	1.50	0.6883	2.50	0.9083	3.60	0.9848
0.55	0.2893	1.55	0.7042	2.55	0.9146	3.70	0.9874
0.60	0.3143	1.60	0.7195	2.60	0.9205	3.80	0.9896
0.65	0.3389	1.65	0.7343	2.65	0.9261	3.90	0.9915
0.70	0.3632	1.70	0.7485	2.70	0.9314	4.00	0.9930
0.75	0.3871	1.75	0.7621	2.75	0.9364	4.20	0.9954
0.80	0.4106	1.80	0.7753	2.80	0.9411	4.40	0.9970
0.85	0.4336	1.85	0.7879	2.85	0.9454	4.60	0.9981
0.90	0.4562	1.90	0.8000	2.90	0.9495	4.80	0.9988
0.95	0.4783	1.95	0.8116	2.95	0.9534	5.00	0.9993

Explanation: "Prob." is the probable proportion of shots falling in an interval of width F times the fifty percent zone (or 2 F times the probable error) with center of impact in the middle of the interval; F is the "probability factor".

Example:

Given: Zone, normal to line of fire, 40 yd. wide, 60 yd. from center of impact.
Probable error in range, 50 yd.
To determine probable proportion of hits in zone.

For (60 + 40) - zone, $F = \frac{2(60 + 40)}{2(50)} = 2$, hence from table,

Prob. = .82

For (60)-zone, $F = \frac{2(60)}{2(50)} = 1.2$, hence from table, Prob. = .58

Subtracting, Prob. for the two zones which together satisfy the condition, = .82 - .58. Hence, Prob. for either one of the two possible zones defined, is 1/2 (.82 - .58) = 12%.

- - - - -

A less accurate but frequently more convenient approximation is given by the "Dispersion ladder":

Center of impact

4 P.E.	3 P.E.	2 P.E.	1 P.E.	1 P.E.	2 P.E.	3 P.E.	4 P.E.
1/2%	1 1/2%	7%	16%	25%	25%	16%	7%	1 1/2%	1/2%

This gives differences in Prob. for even integral multiples of the probable error.

PART 1H TABLE OF SLOPE COEFFICIENTS

$\sin \omega / \sin (\omega + n)$

ω = angle of fall (mils) (measured from line of site)

ω	n, positive (relative forward slope)										
%	1	2	3	5	10	15	20	30	40	50	
m	10	20	31	51	102	152	201	297	388	472	1,600
50	.81	.71	.62	.50	.33	.25	.20	.15	.12	.10	.05
100	.93	.83	.77	.66	.50	.40	.34	.26	.21	.18	.10
150	.94	.88	.83	.75	.60	.50	.43	.36	.29	.26	.15
200	.95	.91	.87	.80	.67	.58	.51	.42	.36	.32	.20
250	.96	.93	.89	.83	.72	.63	.57	.48	.41	.37	.25
300	.97	.94	.91	.86	.75	.68	.61	.52	.46	.42	.30
350	.97	.95	.92	.88	.79	.71	.65	.57	.51	.47	.36
400	.98	.95	.93	.89	.81	.74	.69	.61	.55	.51	.41
500	.98	.96	.95	.92	.85	.79	.74	.67	.62	.58	.53
600	.99	.97	.96	.93	.87	.83	.78	.72	.67	.64	.67
700	.99	.98	.97	.94	.90	.85	.82	.76	.72	.69	.82
800	.99	.98	.97	.95	.91	.88	.85	.80	.77	.75	1.00
900	.99	.98	.98	.96	.93	.90	.88	.84	.81	.79	1.22
1000	.99	.99	.98	.97	.94	.92	.90	.87	.85	.84	1.50
1100	.99	.99	.98	.98	.95	.94	.92	.90	.89	.88	1.87
1200	1.00	.99	.99	.98	.97	.95	.94	.93	.92	.93	2.41

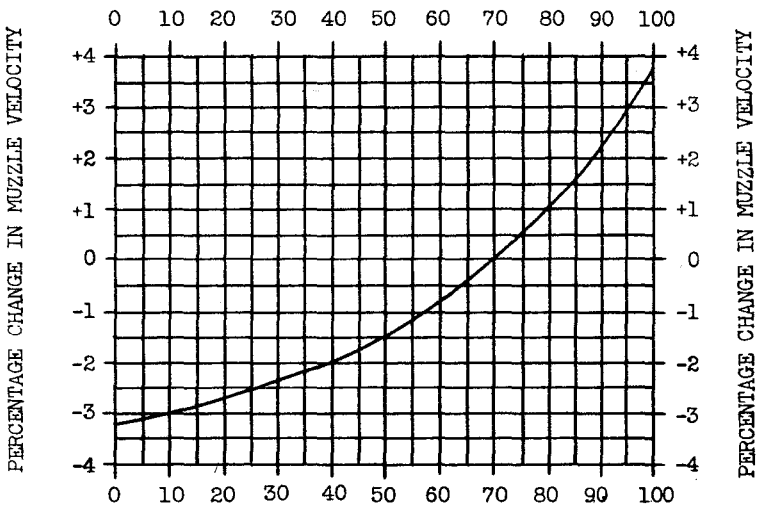
ω	-n, positive (relative reverse slope)									
%	1	2	3	5	10	15	20	30	40	50
m	10	20	31	51	102	152	201	297	388	472
50	1.26	1.69	2.57							
100	1.11	1.26	1.44	2.03						
150	1.07	1.16	1.25	1.51	3.08					
200	1.05	1.11	1.18	1.34	2.02	4.11				
250	1.04	1.09	1.14	1.25	1.67	2.52	5.06			
300	1.03	1.07	1.11	1.20	1.50	2.00	2.99	94.86		
350	1.03	1.06	1.09	1.16	1.39	1.74	2.31	6.46		
400	1.02	1.05	1.08	1.14	1.32	1.59	1.97	3.78	31.39	
500	1.02	1.04	1.06	1.10	1.24	1.41	1.63	2.38	4.33	17.31
600	1.02	1.03	1.05	1.08	1.18	1.30	1.46	1.89	2.68	4.44
700	1.01	1.03	1.04	1.07	1.14	1.24	1.35	1.65	2.10	2.86
800	1.01	1.02	1.03	1.05	1.12	1.19	1.27	1.49	1.80	2.24
900	1.01	1.02	1.03	1.04	1.09	1.15	1.22	1.39	1.60	1.90
1000	1.01	1.01	1.02	1.04	1.08	1.12	1.18	1.31	1.47	1.68
1100	1.01	1.01	1.02	1.03	1.06	1.10	1.14	1.24	1.37	1.53
1200	1.00	1.01	1.01	1.02	1.05	1.08	1.11	1.19	1.29	1.41

n = Slope with respect to line of site (percent and mils)(n = n'-s+300). Directions. Multiply range probable error (from range table) by coefficient shown above. Here ω denotes the angle of fall (measured to line of site)(for practical purposes equal to the range table angle of fall which is its value for site 300 m, i.e., for a level trajectory); n', the quadrant angle of slope, positive for forward slope (ground rising in enemy direction), and negative for reverse slope (ground falling in enemy direction); s-300, the angle of site, positive for target above gun, negative for target below gun; n(n=n'-s+300), the slope relative to the line of site. NOTE. The quadrant angle of fall, $\omega' = \omega - s + 300$. EXAMPLE: Given target on reverse slope between contour lines 130 ft., and 140 ft., mean distance between contours = 67 ft., site = -20 mils, (s = 280), angle of fall (tabulated) = 250 mils, range probable error (in range table) = 83 yards. Then, n'(in percent) = $100 \frac{(130-140)}{67}$ = -15(%) or -152 mils, n' -s+300 = -152-(-20) = -132 mils. Interpolating between 1.67 (for 102 mils) and 2.52 (for 152 mils), slope coefficient = $1.67 + \frac{30}{50}$ x 0.85 = 2.18. Hence, range probable error to be used = 2.18 x 83 yd. = 181 yards.

CHART FOR PERCENTAGE CHANGE IN MUZZLE VELOCITY

FOR TEMPERATURE OF POWDER DIFFERENT FROM NORMAL

$$\left[\frac{\Delta V}{V} = .00867\,(2^{.032t} - 4.73)\right]$$



DIRECTIONS: - Enter chart with temperature of powder. Follow vertical line to the curve, and from there the horizontal line to either edge of the chart where the percentage change in the muzzle velocity may be read.

EXAMPLE: - Suppose temperature of powder = 59°F., and muzzle velocity (standard) = 2250 fps. Then change in muzzle velocity is -0.9% = -.009 x 2250 = -20 fps approximately. Muzzle velocity to be expected = 2250 minus 20 = 2230 fps.

PART 2

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

FIRING

PROJECTILE, A.P., 2100-LB., MK.II-MOD. 2

FUZE, B.D., MK.X

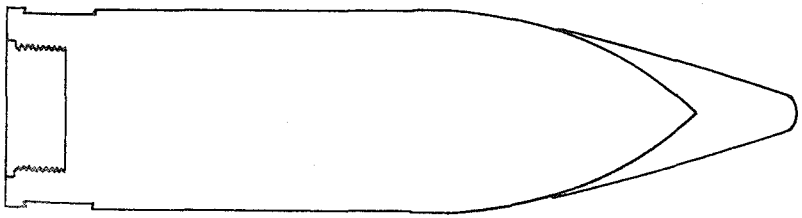
CHARGE	VELOCITY (FPS)
2/3	1950
FULL	2750

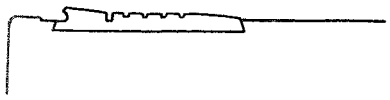
TABLES A - K INCLUSIVE

JUMP = +0.4 MILS

NOTE: Standard air temperature for density and elasticity is 59°F.
Standard temperature of powder is 70°F.

DRAWING OF PROJECTILE





DRAWING OF BAND AND BAND SEAT

608393 O - 44 - 3

PART 2 2/3 CHARGE

GUN, 16-INCH, SEACOAST, MK.II-MOD. 1 (NAVY)

FIRING

PROJECTILE, A.P., 2100-LB., MK.II-MOD. 2

FUZE, B.D., MK.X

MUZZLE VELOCITY = 1950 FPS

TABLES A - K INCLUSIVE

JUMP = +0.4 MILS

NOTE: Standard air temperature for density and elasticity is 59°F.
Standard temperature of powder is 70°F.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
0	-0.4	0 -02	1.3	4.4	80.4	23.0	0	1950
100	+0.8	0 +02	1.3	4.4	79.9	22.9	1	
200	2.2	0 07	1.3	4.4	79.4	22.8	1	
300	3.4	0 11	1.3	4.4	78.9	22.7	2	
400	4.8	0 16	1.3	4.4	78.4	22.6	2	
500	6.2	0 20	1.3	4.4	77.9	22.5	3	1921
600	7.4	0 24	1.3	4.4	77.4	22.4	4	
700	8.8	0 29	1.3	4.5	76.9	22.3	5	
800	10.2	0 33	1.3	4.5	76.4	22.2	6	
900	11.4	0 38	1.3	4.5	76.0	22.1	8	
1000	12.8	0 43	1.3	4.6	75.6	22.0	10	1892
1100	14.2	0 47	1.3	4.6	75.2	21.9	12	
1200	15.4	0 52	1.3	4.6	74.8	21.8	14	
1300	16.8	0 56	1.3	4.6	74.4	21.7	16	
1400	18.2	1 01	1.3	4.6	74.0	21.6	19	
1500	19.6	1 06	1.4	4.6	73.6	21.5	22	1863
1600	21.0	1 10	1.4	4.7	73.2	21.5	25	
1700	22.4	1 15	1.4	4.7	72.8	21.4	28	
1800	23.8	1 20	1.4	4.7	72.4	21.3	32	
1900	25.2	1 24	1.4	4.7	72.0	21.2	36	
2000	26.6	1 29	1.4	4.7	71.6	21.2	40	1835
2100	28.0	1 34	1.4	4.7	71.2	21.0	44	
2200	29.4	1 38	1.4	4.8	70.8	20.9	49	
2300	30.8	1 43	1.4	4.8	70.4	20.8	54	
2400	32.2	1 48	1.4	4.8	70.0	20.7	59	
2500	33.6	1 53	1.4	4.9	69.7	20.6	64	1807
2600	35.0	1 58	1.4	4.9	69.4	20.5	69	
2700	36.6	2 03	1.5	4.9	69.1	20.4	75	
2800	38.0	2 07	1.5	4.9	68.8	20.3	81	
2900	39.4	2 12	1.5	5.0	68.5	20.3	87	
3000	41.0	2 17	1.5	5.0	68.2	20.2	94	1780

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A 2/3 CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
0	0 00		-1	-0.05	13.12	12	0	0.0	0
1	0 04	859						0.1	100
2	0 08	430						0.3	200
3	0 12	286						0.5	300
4	0 17	202						0.6	400
6	0 22	156	-1	-0.05	13.10	13	0	0.8	500
7	0 26	132						1.0	600
8	0 31	111						1.1	700
9	0 35	98						1.3	800
11	0 40	86						1.4	900
13	0 45	76	-1	-0.10	13.08	14	0	1.6	1000
14	0 50	69						1.7	1100
16	0 55	62						1.9	1200
17	1 00	57						2.1	1300
19	1 05	53						2.2	1400
20	1 10	49	-2	-0.10	13.06	14	0	2.4	1500
22	1 15	46						2.6	1600
23	1 20	43						2.7	1700
25	1 25	40						2.9	1800
26	1 30	38						3.0	1900
28	1 35	36	-2	-0.10	13.03	15	0	3.2	2000
29	1 40	34						3.3	2100
31	1 45	33						3.5	2200
32	1 50	31						3.7	2300
34	1 55	30						3.8	2400
36	2 01	28	-2	-0.10	13.01	16	0	4.0	2500
37	2 06	27						4.2	2600
39	2 11	26						4.3	2700
40	2 17	25						4.5	2800
42	2 22	24						4.6	2900
44	2 28	23	-2	-0.10	12.99	17	1	4.8	3000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
3000	41.0	2 17	1.5	5.0	68.2	20.2	94	1780
3100	42.4	2 22	1.5	5.0	67.9	20.1	101	
3200	43.8	2 27	1.5	5.0	67.6	20.0	108	
3300	45.4	2 32	1.5	5.0	67.3	20.0	115	
3400	46.8	2 37	1.5	5.0	67.0	19.9	122	
3500	48.4	2 42	1.5	5.0	66.7	19.9	130	1753
3600	49.8	2 47	1.5	5.1	66.4	19.8	138	
3700	51.4	2 53	1.5	5.1	66.1	19.7	146	
3800	52.8	2 58	1.5	5.1	65.8	19.6	155	
3900	54.4	3 03	1.5	5.1	65.5	19.5	164	
4000	55.8	3 08	1.5	5.2	65.2	19.4	173	1726
4100	57.4	3 13	1.5	5.2	64.9	19.3	182	
4200	59.0	3 18	1.5	5.2	64.6	19.2	192	
4300	60.4	3 23	1.5	5.2	64.3	19.2	202	
4400	62.0	3 29	1.6	5.2	64.1	19.1	212	
4500	63.6	3 34	1.6	5.3	63.9	19.1	223	1700
4600	65.2	3 39	1.6	5.3	63.7	19.0	234	
4700	66.8	3 44	1.6	5.3	63.5	18.9	245	
4800	68.4	3 50	1.6	5.3	63.3	18.8	256	
4900	69.8	3 55	1.6	5.3	63.1	18.7	267	
5000	71.4	4 01	1.6	5.4	62.9	18.6	279	1674
5100	73.0	4 06	1.6	5.4	62.7	18.5	291	
5200	74.6	4 11	1.6	5.4	62.5	18.5	303	
5300	76.2	4 17	1.6	5.4	62.2	18.4	316	
5400	77.8	4 22	1.6	5.5	62.0	18.3	329	
5500	79.6	4 28	1.6	5.5	61.7	18.2	342	1649
5600	81.2	4 33	1.6	5.5	61.5	18.2	356	
5700	82.8	4 39	1.6	5.5	61.2	18.1	370	
5800	84.4	4 44	1.6	5.6	61.0	18.1	384	
5900	86.0	4 50	1.6	5.6	60.7	18.0	398	
6000	87.6	4 55	1.6	5.6	60.5	17.9	413	1624

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A

2/3 CHARGE

Angle of fall			Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	Dfl	Time of flight	Range
(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg	min	1 on—	mil	deg		yd	yd	sec	yd
44	2	28	23	-2	-0.10	12.99	17	1	4.8	3000
45	2	33	22						5.0	3100
47	2	39	22						5.1	3200
48	2	45	21						5.3	3300
50	2	51	20						5.5	3400
52	2	57	19	-2	-0.10	12.96	17	1	5.6	3500
53	3	02	19						5.8	3600
55	3	08	18						6.0	3700
57	3	14	18						6.2	3800
59	3	20	17						6.3	3900
61	3	26	17	-3	-0.15	12.94	18	1	6.5	4000
62	3	32	16						6.7	4100
64	3	38	16						6.9	4200
66	3	44	15						7.0	4300
68	3	50	15						7.2	4400
70	3	56	14	-3	-0.15	12.92	19	1	7.4	4500
71	4	02	14						7.6	4600
73	4	08	14						7.8	4700
75	4	14	14						7.9	4800
77	4	21	13						8.1	4900
79	4	28	13	-3	-0.15	12.90	20	1	8.3	5000
81	4	34	13						8.5	5100
83	4	41	12						8.7	5200
85	4	47	12						8.8	5300
87	4	54	12						9.0	5400
89	5	01	11	-3	-0.20	12.88	21	1	9.2	5500
91	5	08	11						9.4	5600
93	5	15	11						9.6	5700
95	5	22	11						9.7	5800
97	5	29	10						9.9	5900
99	5	36	10	-4	-0.20	12.86	22	1	10.1	6000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
6000	87.6	4 55	1.6	5.6	60.5	17.9	413	1624
6100	89.4	5 01	1.7	5.6	60.2	17.8	428	
6200	91.0	5 07	1.7	5.6	60.0	17.7	444	
6300	92.8	5 12	1.7	5.6	59.7	17.6	460	
6400	94.4	5 18	1.7	5.7	59.5	17.5	476	
6500	96.0	5 24	1.7	5.7	59.2	17.4	498	1599
6600	97.8	5 29	1.7	5.8	58.9	17.3	510	
6700	99.4	5 35	1.7	5.8	58.6	17.2	527	
6800	101.2	5 41	1.7	5.8	58.2	17.1	545	
6900	103.0	5 47	1.7	5.8	57.9	17.0	563	
7000	104.6	5 53	1.7	5.9	57.5	16.9	581	1575
7100	106.4	5 58	1.8	5.9	57.1	16.9	599	
7200	108.2	6 04	1.8	5.9	56.7	16.8	618	
7300	110.0	6 10	1.8	6.0	56.3	16.7	638	
7400	111.8	6 16	1.8	6.0	55.9	16.6	658	
7500	113.6	6 22	1.8	6.1	55.6	16.5	679	1551
7600	115.4	6 29	1.8	6.1	55.2	16.4	700	
7700	117.2	6 35	1.8	6.2	54.9	16.3	721	
7800	119.0	6 41	1.8	6.2	54.5	16.2	743	
7900	120.8	6 47	1.8	6.2	54.2	16.1	765	
8000	122.6	6 53	1.9	6.2	53.8	16.0	787	1528
8100	124.6	7 00	1.9	6.3	53.5	15.9	810	
8200	126.4	7 06	1.9	6.4	53.1	15.7	833	
8300	128.4	7 12	1.9	6.4	52.8	15.6	857	
8400	130.2	7 19	1.9	6.4	52.4	15.6	881	
8500	132.2	7 25	1.9	6.5	52.1	15.5	906	1505
8600	134.0	7 32	1.9	6.5	51.7	15.4	931	
8700	136.0	7 38	1.9	6.6	51.4	15.3	957	
8800	138.0	7 45	2.0	6.6	51.0	15.2	983	
8900	140.0	7 52	2.0	6.6	50.7	15.0	1010	
9000	141.8	7 58	2.0	6.7	50.3	14.9	1037	1482

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A

2/3 CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
99	5 36	10	-4	-0.20	12.86	22	1	10.1	6000
101	5 43	10						10.3	6100
103	5 50	10						10.5	6200
105	5 57	10						10.7	6300
107	6 04	9.4						10.9	6400
110	6 12	9.2	-4	-0.20	12.84	23	1	11.1	6500
112	6 19	9.0						11.2	6600
114	6 26	8.9						11.4	6700
116	6 33	8.7						11.6	6800
118	6 41	8.5						11.8	6900
121	6 49	8.4	-4	-0.25	12.81	24	1	12.0	7000
123	6 56	8.2						12.2	7100
125	7 04	8.1						12.4	7200
127	7 12	7.9						12.6	7300
130	7 20	7.8						12.8	7400
133	7 28	7.6	-5	-0.25	12.78	25	2	13.0	7500
135	7 36	7.5						13.2	7600
138	7 44	7.4						13.4	7700
140	7 52	7.2						13.6	7800
142	8 00	7.1						13.8	7900
145	8 09	7.0	-5	-0.30	12.76	27	2	14.0	8000
147	8 17	6.9						14.2	8100
150	8 25	6.8						14.4	8200
152	8 34	6.6						14.6	8300
155	8 43	6.5						14.8	8400
158	8 52	6.4	-6	-0.30	12.74	28	2	15.0	8500
160	9 01	6.3						15.2	8600
163	9 10	6.2						15.4	8700
165	9 19	6.1						15.6	8800
168	9 28	6.0						15.8	8900
171	9 37	5.9	-6	-0.30	12.72	29	2	16.0	9000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
9000	141.8	7 58	2.0	6.7	50.3	14.9	1037	1482
9100	143.8	8 05	2.0	6.8	50.0	14.8	1065	
9200	145.8	8 12	2.0	6.8	49.7	14.7	1093	
9300	148.0	8 19	2.0	6.8	49.4	14.6	1122	
9400	150.0	8 25	2.0	6.9	49.1	14.5	1151	
9500	152.0	8 32	2.1	6.9	48.8	14.4	1180	1460
9600	154.0	8 39	2.1	7.0	48.5	14.3	1210	
9700	156.2	8 46	2.1	7.0	48.2	14.3	1241	
9800	158.2	8 53	2.1	7.0	47.8	14.2	1272	
9900	160.4	9 00	2.1	7.1	47.5	14.1	1304	
10000	162.4	9 07	2.1	7.1	47.3	14.0	1336	1439
10100	164.6	9 15	2.1	7.2	47.0	13.9	1369	
10200	166.6	9 22	2.1	7.2	46.7	13.8	1403	
10300	168.8	9 29	2.2	7.3	46.4	13.7	1437	
10400	171.0	9 36	2.2	7.4	46.1	13.6	1472	
10500	173.2	9 44	2.2	7.4	45.8	13.5	1507	1419
10600	175.4	9 51	2.2	7.4	45.6	13.4	1543	
10700	177.6	9 59	2.2	7.5	45.3	13.3	1580	
10800	179.8	10 06	2.2	7.5	45.0	13.3	1617	
10900	182.0	10 14	2.2	7.6	44.7	13.2	1655	
11000	184.2	10 21	2.2	7.6	44.4	13.2	1693	1400
11100	186.6	10 29	2.3	7.6	44.2	13.1	1732	
11200	188.8	10 36	2.3	7.7	44.0	13.0	1772	
11300	191.0	10 44	2.3	7.7	43.8	12.9	1812	
11400	193.4	10 52	2.3	7.8	43.6	12.8	1853	
11500	195.6	11 00	2.3	7.8	43.4	12.8	1894	1382
11600	198.0	11 08	2.3	7.9	43.1	12.7	1936	
11700	200.4	11 15	2.3	7.9	42.8	12.6	1979	
11800	202.6	11 23	2.3	8.0	42.6	12.5	2022	
11900	205.0	11 31	2.4	8.0	42.4	12.5	2066	
12000	207.4	11 39	2.4	8.0	42.2	12.5	2110	1364

PART 2 TABLE A 2/3 CHARGE PROJECTILE, A.P., 2100-LB. FUZE, B.D., MK.X MV = 1950 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
171	9 37	5.9	-6	-0.30	12.72	29	2	16.0	9000
173	9 46	5.8							
176	9 55	5.7						16.2	9100
179	10 04	5.6						16.4	9200
182	10 14	5.5						16.7	9300
								16.9	9400
185	10 24	5.4	-6	-0.35	12.70	30	2	17.1	9500
187	10 33	5.4							
190	10 43	5.3						17.3	9600
193	10 53	5.2						17.5	9700
196	11 03	5.1						17.8	9800
								18.0	9900
199	11 13	5.0	-7	-0.35	12.68	32	3	18.2	10000
202	11 23	5.0							
205	11 33	4.9						18.4	10100
208	11 43	4.8						18.7	10200
211	11 53	4.7						18.9	10300
								19.1	10400
214	12 04	4.7	-7	-0.40	12.66	33	3	19.3	10500
217	12 14	4.6							
220	12 24	4.5						19.6	10600
223	12 35	4.5						19.8	10700
226	12 46	4.4						20.0	10800
								20.3	10900
230	12 57	4.3	-8	-0.40	12.65	34	3	20.5	11000
233	13 08	4.3							
236	13 19	4.2						20.7	11100
239	13 30	4.2						21.0	11200
242	13 41	4.1						21.2	11300
								21.5	11400
246	13 52	4.0	-8	-0.45	12.63	36	4	21.7	11500
249	14 03	4.0							
252	14 14	3.9						21.9	11600
255	14 25	3.9						22.2	11700
259	14 37	3.8						22.4	11800
								22.7	11900
263	14 49	3.8	-9	-0.45	12.62	37	4	22.9	12000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
12000	207.4	11 39	2.4	8.0	42.2	12.5	2110	1364
12100	209.8	11 47	2.4	8.1	42.0	12.4	2155	
12200	212.2	11 55	2.4	8.1	41.8	12.3	2201	
12300	214.6	12 04	2.4	8.1	41.6	12.3	2247	
12400	217.0	12 12	2.4	8.2	41.4	12.2	2294	
12500	219.4	12 20	2.4	8.2	41.2	12.2	2341	1347
12600	221.8	12 28	2.4	8.2	41.0	12.1	2389	
12700	224.4	12 36	2.5	8.3	40.8	12.1	2438	
12800	226.8	12 45	2.5	8.3	40.6	12.0	2487	
12900	229.2	12 53	2.5	8.4	40.4	11.9	2537	
13000	231.8	13 01	2.5	8.4	40.2	11.9	2588	1332
13100	234.2	13 10	2.5	8.4	40.0	11.8	2640	
13200	236.8	13 18	2.5	8.5	39.8	11.8	2692	
13300	239.2	13 27	2.5	8.6	39.6	11.7	2745	
13400	241.8	13 35	2.5	8.6	39.4	11.6	2798	
13500	244.4	13 44	2.5	8.6	39.2	11.6	2852	1318
13600	247.0	13 53	2.6	8.7	39.0	11.5	2907	
13700	249.4	14 01	2.6	8.7	38.8	11.5	2963	
13800	252.0	14 10	2.6	8.7	38.6	11.5	3019	
13900	254.6	14 19	2.6	8.7	38.5	11.5	3076	
14000	257.2	14 27	2.6	8.8	38.3	11.4	3133	1305
14100	259.8	14 36	2.6	8.8	38.1	11.4	3191	
14200	262.4	14 45	2.6	8.9	37.9	11.3	3250	
14300	265.2	14 54	2.7	8.9	37.7	11.2	3310	
14400	267.8	15 03	2.7	9.0	37.5	11.1	3371	
14500	270.4	15 12	2.7	9.0	37.3	11.1	3432	1293
14600	273.2	15 21	2.7	9.1	37.1	11.0	3494	
14700	275.8	15 30	2.7	9.1	36.9	11.0	3557	
14800	278.6	15 39	2.7	9.2	36.7	10.9	3621	
14900	281.2	15 48	2.7	9.2	36.4	10.9	3685	
15000	284.0	15 58	2.7	9.2	36.2	10.9	3750	1283

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A 2/3 CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	* Probable error in R	* Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
263	14 49	3.8	-9	-0.45	12.62	37	4	22.9	12000
266	15 00	3.7						23.1	12100
270	15 11	3.7						23.4	12200
273	15 23	3.6						23.6	12300
277	15 35	3.6						23.9	12400
280	15 47	3.5	-9	-0.50	12.61	39	4	24.1	12500
284	15 59	3.5						24.3	12600
287	16 11	3.4						24.6	12700
291	16 23	3.4						24.8	12800
294	16 35	3.4						25.1	12900
298	16 47	3.3	-10	-0.50	12.60	41	5	25.3	13000
301	16 59	3.3						25.5	13100
305	17 11	3.2						25.8	13200
308	17 23	3.2						26.1	13300
312	17 35	3.2						26.3	13400
316	17 48	3.1	-10	-0.55	12.60	42	5	26.5	13500
319	18 00	3.1						26.8	13600
323	18 12	3.0						27.1	13700
327	18 25	3.0						27.3	13800
331	18 38	2.96						27.5	13900
335	18 51	2.93	-11	-0.60	12.59	44	5	27.8	14000
338	19 03	2.90						28.1	14100
342	19 16	2.86						28.3	14200
346	19 29	2.83						28.6	14300
350	19 42	2.79						28.8	14400
354	19 55	2.76	-11	-0.60	12.59	46	6	29.1	14500
358	20 08	2.73						29.4	14600
362	20 21	2.70						29.6	14700
366	20 34	2.66						29.9	14800
370	20 47	2.63						30.2	14900
374	21 01	2.60	-12	-0.65	12.58	48	6	30.4	15000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
15000	284.0	15 58	2.7	9.2	36.2	10.9	3750	1283
15100	286.8	16 07	2.7	9.3	36.0	10.8	3816	
15200	289.4	16 16	2.8	9.3	35.8	10.7	3883	
15300	292.2	16 26	2.8	9.4	35.6	10.6	3951	
15400	295.2	16 35	2.9	9.5	35.3	10.5	4019	
15500	297.8	16 45	2.9	9.5	35.1	10.5	4088	1273
15600	300.6	16 54	2.9	9.6	34.9	10.4	4158	
15700	303.6	17 04	2.9	9.6	34.7	10.4	4229	
15800	306.4	17 13	2.9	9.7	34.5	10.3	4301	
15900	309.2	17 23	2.9	9.7	34.3	10.3	4374	
16000	312.2	17 33	2.9	9.8	34.1	10.2	4449	1264
16100	315.0	17 42	2.9	9.8	33.9	10.2	4524	
16200	318.0	17 52	2.9	9.9	33.7	10.1	4600	
16300	321.0	18 02	3.0	10.0	33.6	10.0	4677	
16400	324.0	18 12	3.0	10.0	33.4	10.0	4755	
16500	326.8	18 22	3.0	10.1	33.3	9.9	4834	1256
16600	329.8	18 33	3.0	10.1	33.1	9.9	4914	
16700	332.8	18 43	3.0	10.2	32.9	9.8	4995	
16800	336.0	18 53	3.1	10.3	32.7	9.7	5077	
16900	339.0	19 03	3.1	10.4	32.5	9.6	5160	
17000	342.2	19 14	3.1	10.5	32.3	9.5	5245	1250
17100	345.2	19 24	3.1	10.5	32.0	9.5	5330	
17200	348.4	19 35	3.1	10.6	31.7	9.4	5415	
17300	351.6	19 46	3.1	10.6	31.5	9.4	5500	
17400	354.6	19 56	3.2	10.7	31.3	9.3	5590	
17500	357.8	20 07	3.2	10.8	31.1	9.3	5680	1245
17600	361.0	20 18	3.2	10.9	30.8	9.2	5770	
17700	364.4	20 29	3.3	11.0	30.5	9.1	5860	
17800	367.6	20 40	3.3	11.1	30.3	9.0	5955	
17900	370.8	20 51	3.3	11.2	30.0	8.9	6050	
18000	374.2	21 02	3.4	11.2	29.8	8.9	6145	1240

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A — 2/3 CHARGE — MV = 1950 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
374	21 01	2.60	-12	-0.65	12.58	48	6	30.4	15000
378	21 14	2.57						30.7	15100
382	21 28	2.54						30.9	15200
386	21 41	2.52						31.2	15300
390	21 55	2.49						31.5	15400
394	22 08	2.46	-13	-0.70	12.58	50	6	31.7	15500
398	22 22	2.43						32.0	15600
402	22 35	2.40						32.3	15700
406	22 49	2.38						32.6	15800
410	23 02	2.35						32.8	15900
414	23 16	2.32	-14	-0.75	12.57	52	7	33.1	16000
418	23 30	2.30						33.4	16100
422	23 44	2.27						33.7	16200
426	23 58	2.25						33.9	16300
430	24 12	2.22						34.2	16400
435	24 26	2.20	-14	-0.80	12.57	55	7	34.5	16500
439	24 40	2.18						34.8	16600
443	24 54	2.15						35.1	16700
447	25 08	2.13						35.3	16800
452	25 23	2.11						35.6	16900
456	25 38	2.08	-15	-0.85	12.57	57	8	35.9	17000
460	25 52	2.06						36.2	17100
465	26 07	2.04						36.5	17200
469	26 21	2.02						36.8	17300
473	26 36	2.00						37.1	17400
477	26 51	1.98	-16	-0.90	12.56	59	8	37.4	17500
482	27 05	1.96						37.7	17600
486	27 20	1.93						38.0	17700
490	27 35	1.91						38.3	17800
495	27 50	1.89						38.6	17900
499	28 05	1.87	-17	-0.95	12.56	62	8	38.9	18000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
18000	374.2	21 02	3.4	11.2	29.8	8.9	6145	1240
18100	377.6	21 13	3.4	11.3	29.6	8.8	6240	
18200	381.0	21 25	3.4	11.4	29.4	8.8	6340	
18300	384.4	21 36	3.4	11.5	29.2	8.7	6440	
18400	387.8	21 48	3.4	11.6	29.0	8.6	6540	
18500	391.2	22 00	3.5	11.7	28.8	8.5	6645	1236
18600	394.8	22 11	3.5	11.8	28.6	8.5	6750	
18700	398.2	22 23	3.5	11.9	28.4	8.4	6855	
18800	401.8	22 35	3.6	12.0	28.2	8.3	6960	
18900	405.4	22 47	3.6	12.1	28.0	8.3	7070	
19000	409.0	22 59	3.6	12.2	27.8	8.2	7180	1233
19100	412.6	23 12	3.6	12.3	27.5	8.1	7290	
19200	416.2	23 24	3.6	12.4	27.2	8.0	7405	
19300	420.0	23 37	3.7	12.6	27.0	7.9	7520	
19400	423.8	23 49	3.8	12.8	26.7	7.8	7635	
19500	427.6	24 02	3.8	12.9	26.4	7.8	7755	1232
19600	431.4	24 15	3.8	13.0	26.2	7.7	7875	
19700	435.2	24 28	3.8	13.1	25.9	7.6	7995	
19800	439.2	24 41	3.9	13.2	25.7	7.6	8120	
19900	443.0	24 54	3.9	13.3	25.5	7.5	8245	
20000	447.0	25 07	4.0	13.4	25.2	7.5	8375	1231
20100	451.0	25 21	4.0	13.6	24.8	7.4	8505	
20200	455.0	25 35	4.1	13.7	24.4	7.3	8635	
20300	459.2	25 49	4.2	13.9	24.1	7.2	8770	
20400	463.4	26 03	4.2	14.1	23.8	7.1	8905	
20500	467.6	26 17	4.2	14.3	23.6	7.0	9045	1232
20600	471.8	26 31	4.3	14.5	23.4	6.9	9185	
20700	476.0	26 46	4.3	14.6	23.2	6.8	9330	
20800	480.4	27 00	4.4	14.8	22.9	6.8	9475	
20900	484.8	27 15	4.4	14.9	22.6	6.7	9625	
21000	489.2	27 30	4.5	15.1	22.2	6.6	9780	1233

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A 2/3 CHARGE MV = 1950 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	* Probable error in R	* Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
499	28 05	1.87	-17	-0.95	12.56	62	8	38.9	18000
504	28 20	1.85						39.2	18100
508	28 35	1.83						39.5	18200
513	28 50	1.82						39.8	18300
517	29 05	1.80						40.0	18400
522	29 21	1.78	-18	-1.00	12.55	65	9	40.4	18500
526	29 36	1.76						40.8	18600
531	29 52	1.74						41.1	18700
535	30 08	1.72						41.4	18800
540	30 24	1.70						41.7	18900
545	30 40	1.69	-18	-1.00	12.55	67	9	42.0	19000
549	30 56	1.67						42.3	19100
554	31 12	1.65						42.7	19200
559	31 28	1.63						43.0	19300
564	31 44	1.62						43.4	19400
569	32 01	1.60	-19	-1.05	12.54	70	9	43.7	19500
573	32 17	1.58						44.0	19600
578	32 34	1.56						44.4	19700
583	32 50	1.55						44.7	19800
588	33 06	1.53						45.1	19900
593	33 23	1.52	-19	-1.05	12.53	73	10	45.4	20000
598	33 39	1.50						45.8	20100
603	33 56	1.49						46.1	20200
608	34 13	1.47						46.5	20300
613	34 30	1.46						46.8	20400
618	34 47	1.44	-20	-1.10	12.51	76	10	47.2	20500
623	35 04	1.42						47.6	20600
628	35 21	1.41						47.9	20700
633	35 38	1.40						48.3	20800
638	35 56	1.38						48.6	20900
644	36 14	1.36	-20	-1.10	12.49	79	11	49.0	21000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
21000	489.2	27 30	4.5	15.1	22.2	6.6	9780	1233
21100	493.8	27 45	4.6	15.4	21.9	6.5	9935	
21200	498.4	28 01	4.6	15.7	21.6	6.4	10100	
21300	503.0	28 17	4.7	16.0	21.2	6.3	10260	
21400	507.8	28 33	4.8	16.2	20.9	6.2	10420	
21500	512.6	28 49	4.8	16.4	20.6	6.1	10590	1236
21600	517.4	29 06	4.9	16.7	20.3	6.0	10760	
21700	522.4	29 23	5.0	17.0	20.0	5.9	10930	
21800	527.6	29 40	5.1	17.4	19.6	5.7	11110	
21900	532.8	29 57	5.2	17.8	19.2	5.6	11290	
22000	538.0	30 15	5.3	18.1	18.9	5.5	11480	1240
22100	543.4	30 33	5.4	18.4	18.5	5.4	11670	
22200	549.0	30 52	5.6	18.7	18.0	5.3	11860	
22300	554.6	31 11	5.6	19.0	17.7	5.3	12060	
22400	560.2	31 30	5.7	19.3	17.5	5.2	12260	
22500	566.0	31 49	5.8	19.7	17.2	5.1	12470	1246
22600	571.8	32 09	5.9	20	16.8	5.0	12690	
22700	577.8	32 29	6.1	20	16.4	4.9	12910	
22800	584.0	32 50	6.2	21	16.0	4.8	13140	
22900	590.2	33 12	6.4	22	15.6	4.6	13370	
23000	596.8	33 34	6.7	22	15.0	4.4	13610	1252
23100	603.6	33 57	6.9	23	14.5	4.3	13860	
23200	610.6	34 20	7.1	24	14.1	4.1	14120	
23300	617.8	34 45	7.4	25	13.5	4.0	14390	
23400	625.4	35 10	7.7	26	13.0	3.9	14680	
23500	633.2	35 36	8.0	27	12.5	3.7	14970	1260
23600	641.4	36 04	8.4	28	11.9	3.5	15300	
23700	650.0	36 33	8.9	30	11.2	3.3	15600	
23800	659.2	37 04	9.4	32	10.6	3.2	15950	
23900	668.8	37 37	9.9	34	10.1	3.0	16300	
24000	679.0	38 11	11	36	9	2.8	16700	1271

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A 2/3 CHARGE MV = 1950 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	* Probable error in R	Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
644	36 14	1.36	-20	-1.10	12.49	79	11	49.0	21000
649	36 32	1.35						49.4	21100
655	36 50	1.34						49.8	21200
660	37 08	1.32						50.2	21300
665	37 26	1.31						50.6	21400
671	37 45	1.29	-20	-1.15	12.46	82	11	51.0	21500
676	38 04	1.28						51.5	21600
682	38 23	1.26						51.9	21700
687	38 42	1.25						52.3	21800
693	39 01	1.23						52.7	21900
699	39 20	1.22	-21	-1.20	12.42	86	12	53.1	22000
705	39 40	1.21						53.6	22100
711	40 00	1.19						54.0	22200
717	40 20	1.18						54.5	22300
723	40 40	1.16						55.0	22400
729	41 00	1.15	-22	-1.25	12.35	90	13	55.5	22500
735	41 21	1.14						55.9	22600
741	41 42	1.12						56.4	22700
747	42 04	1.11						56.9	22800
754	42 26	1.09						57.3	22900
761	42 48	1.08	-24	-1.35	12.27	93	14	57.8	23000
768	43 11	1.06						58.4	23100
775	43 35	1.05						59.0	23200
782	43 59	1.04						59.6	23300
789	44 23	1.02						60.2	23400
797	44 49	1.01	-26	-1.45	12.18	96	16	60.8	23500
804	45 15	0.99						61.4	23600
812	45 42	0.98						62.0	23700
821	46 11	0.96						62.7	23800
830	46 42	0.94						63.4	23900
839	47 12	0.93	-29	-1.60	12.03	99	18	64.1	24000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
24000	679.0	38 11	11	36	9	2.8	16700	1271
24100	690.2	38 48	12	39	8	2.5	17150	
24200	702.6	39 30	13	45	8	2.2	17600	
24300	716.6	40 18	15	53	7	1.9	18150	
24400	733.4	41 14					18800	
24500	756	42 30					19650	1290
24530	765	43 02					20020	1292
24500	844	47 27					23000	1309
24400	863.8	48 34					23750	
24300	880.0	49 28	15	50	7	2.0	24350	
24200	893.2	50 13	12	41	8	2.4	24850	
24100	904.2	50 51	10	35	10	2.8	25250	
24000	913.6	51 23	9.1	31	11.0	3.2	25600	1320
23900	922.4	51 52	8.5	29	11.8	3.4	25900	
23800	930.6	52 20	8.0	27	12.6	3.7	26200	
23700	938.4	52 46	7.5	25	13.4	4.0	26500	
23600	945.6	53 10	7.0	24	14.2	4.2	26750	
23500	952.4	53 33	6.5	22	15.0	4.5	26950	1324
23400	958.6	53 54	6.2	21	15.8	4.8	27200	
23300	964.6	54 14	6.0	20	16.5	5.0	27400	
23200	970.4	54 34	5.8	20	17.0	5.1	27600	
23100	976.2	54 53	5.7	19.4	17.5	5.2	27800	
23000	981.8	55 13	5.6	18.8	18.0	5.3	27950	1325
22900	987.4	55 31	5.4	18.1	18.6	5.5	28150	
22800	992.6	55 49	5.1	17.4	19.3	5.7	28300	
22700	997.6	56 06	4.9	16.7	20.0	6.0	28450	
22600	1002.4	56 22	4.8	16.1	20.6	6.2	28600	
22500	1007.2	56 38	4.7	15.6	21.2	6.4	28750	1325
22400	1011.8	56 53	4.5	15.2	21.9	6.6	28900	
22300	1016.2	57 08	4.4	14.8	22.6	6.8	29050	
22200	1020.4	57 23	4.2	14.4	23.2	6.9	29200	
22100	1024.6	57 37	4.2	14.1	23.7	7.1	29350	
22000	1028.8	57 51	4.1	13.9	24.1	7.2	29450	1326

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A 2/3 CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	* Probable error in R	Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
839	47 12	0.93	-29	-1.60	12.03	99	18	64.1	24000
849	47 47	0.91						64.9	24100
860	48 24	0.89						65.8	24200
873	49 06	0.87						66.8	24300
888	49 54	0.84						68.0	24400
906	50 48	0.81	-32	-1.80	11.73	101	20	69.5	24500
914	51 25	0.80	-33	-1.85	11.69	101	21	70.2	24530
978	55 01	0.70	-39	-2.20	11.31	101	22	75.3	24500
994	55 55	0.68						76.5	24400
1007	56 39	0.66						77.5	24300
1017	57 14	0.64						78.3	24200
1026	57 43	0.63						78.9	24100
1034	58 09	0.62	-48	-2.70	10.90	100	22	79.4	24000
1041	58 32	0.61						79.8	23900
1047	58 53	0.60						80.1	23800
1053	59 13	0.60						80.5	23700
1059	59 32	0.59						80.8	23600
1064	59 51	0.58	-54	-3.05	10.64	100	21	81.2	23500
1069	60 09	0.57						81.6	23400
1074	60 26	0.57						81.9	23300
1079	60 43	0.56						82.3	23200
1084	60 59	0.55						82.6	23100
1088	61 14	0.55	-59	-3.30	10.44	99	20	83.0	23000
1093	61 29	0.54						83.3	22900
1097	61 43	0.54						83.6	22800
1101	61 57	0.53						83.9	22700
1105	62 10	0.53						84.1	22600
1109	62 23	0.52	-63	-3.55	10.26	98	20	84.3	22500
1113	62 35	0.52						84.5	22400
1117	62 47	0.51						84.7	22300
1121	62 59	0.51						84.9	22200
1124	63 11	0.50						85.1	22100
1127	63 23	0.50	-66	-3.70	10.09	97	19	85.3	22000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
22000	1028.8	57 51	4.1	13.9	24.1	7.2	29450	1326
21900	1032.8	58 05	4.1	13.7	24.4	7.3	29600	
21800	1037.0	58 19	4.1	13.5	24.7	7.4	29750	
21700	1041.0	58 32	4.0	13.4	25.1	7.5	29850	
21600	1044.8	58 45	3.9	13.2	25.5	7.6	29950	
21500	1048.8	58 58	3.9	13.0	25.9	7.7	30050	1326
21400	1052.6	59 11	3.8	12.8	26.3	7.8	30200	
21300	1056.4	59 24	3.7	12.6	26.6	7.9	30300	
21200	1060.0	59 37	3.7	12.4	26.9	8.1	30400	
21100	1063.8	59 49	3.7	12.2	27.2	8.2	30500	
21000	1067.4	60 01	3.6	12.1	27.5	8.3	30600	1326
20900	1071.0	60 13	3.5	12.0	27.8	8.3	30700	
20800	1074.4	60 25	3.5	11.9	28.2	8.4	30800	
20700	1078.0	60 37	3.5	11.8	28.5	8.5	30900	
20600	1081.4	60 49	3.5	11.7	28.8	8.5	31000	
20500	1085.0	61 01	3.5	11.6	29.1	8.6	31050	1325
20400	1088.4	61 12	3.4	11.5	29.3	8.7	31150	
20300	1091.8	61 24	3.4	11.4	29.5	8.8	31250	
20200	1095.2	61 35	3.3	11.3	29.7	8.8	31350	
20100	1098.4	61 46	3.3	11.2	29.9	8.9	31450	
20000	1101.8	61 57	3.3	11.1	30.1	9.0	31500	1323
19900	1105.0	62 08	3.3	11.1	30.2	9.0	31600	
19800	1108.4	62 12	3.3	11.1	30.3	9.0	31700	
19700	1111.6	62 31	3.3	11.1	30.4	9.0	31800	
19600	1115.0	62 42	3.3	11.1	30.5	9.0	31850	
19500	1118.2	62 53	3.3	11.1	30.6	9.1	31900	1322
19400	1121.4	63 04	3.3	11.0	30.7	9.1	32000	
19300	1124.8	63 15	3.2	10.9	30.8	9.2	32100	
19200	1128.0	63 26	3.2	10.8	30.9	9.2	32150	
19100	1131.2	63 36	3.2	10.8	31.0	9.3	32250	
19000	1134.4	63 47	3.2	10.7	31.1	9.3	32300	1320

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A 2/3 CHARGE MV = 1950 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
1127	63 23	0.50	-66	-3.70	10.09	97	19	85.3	22000
1131	63 34	0.50						85.5	21900
1134	63 45	0.49						85.6	21800
1137	63 56	0.49						85.8	21700
1140	64 07	0.48						86.0	21600
1143	64 18	0.48	-69	-3.90	9.93	95	18	86.1	21500
1146	64 29	0.48						86.3	21400
1149	64 40	0.47						86.5	21300
1152	64 50	0.47						86.7	21200
1155	65 00	0.47						86.8	21100
1158	65 10	0.46	-72	-4.05	9.78	94	18	87.0	21000
1161	65 20	0.46						87.1	20900
1164	65 30	0.46						87.3	20800
1167	65 40	0.45						87.4	20700
1170	65 50	0.45						87.6	20600
1173	65 59	0.45	-75	-4.20	9.63	92	17	87.7	20500
1176	66 09	0.44						87.8	20400
1179	66 18	0.44						88.0	20300
1182	66 28	0.44						88.1	20200
1185	66 37	0.43						88.3	20100
1187	66 46	0.43	-77	-4.35	9.49	90	17	88.4	20000
1190	66 56	0.43						88.6	19900
1193	67 05	0.42						88.7	19800
1196	67 15	0.42						88.8	19700
1199	67 24	0.42						88.9	19600
1201	67 33	0.41	-80	-4.50	9.34	88	16	89.0	19500
1204	67 43	0.41						89.1	19400
1207	67 52	0.41						89.2	19300
1210	68 01	0.40						89.3	19200
1213	68 10	0.40						89.4	19100
1215	68 19	0.40	-83	-4.65	9.20	86	15	89.5	19000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
19000	1134.4	63 47	3.2	10.7	31.1	9.3	32300	1320
18900	1137.6	63 58	3.2	10.7	31.2	9.3	32350	
18800	1140.6	64 09	3.2	10.7	31.4	9.3	32450	
18700	1143.8	64 19	3.2	10.7	31.6	9.3	32500	
18600	1147.0	64 30	3.2	10.7	31.8	9.3	32550	
18500	1150.2	64 41	3.2	10.7	32.0	9.3	32650	1318
18400	1153.4	64 52	3.1	10.6	32.1	9.4	32750	
18300	1156.6	65 02	3.1	10.6	32.2	9.4	32800	
18200	1159.6	65 13	3.1	10.6	32.3	9.4	32850	
18100	1162.8	65 23	3.1	10.6	32.4	9.4	32900	
18000	1166.0	65 34	3.1	10.6	32.5	9.4	32950	1316

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE A 2/3 CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
1215	68 19	0.40	-83	-4.65	9.20	86	15	89.5	19000
1218	68 28	0.39						89.6	18900
1221	68 37	0.39						89.7	18800
1224	68 46	0.39						89.8	18700
1226	68 55	0.38						89.9	18600
1228	69 04	0.38	-86	-4.85	9.05	86	14	90.0	18500
1231	69 13	0.38						90.1	18400
1234	69 22	0.37						90.2	18300
1236	69 31	0.37						90.3	18200
1239	69 40	0.37						90.4	18100
1241	69 48	0.37	-89	-5.00	8.91	85	13	90.5	18000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	1000	1500	2000	2500	3000	3500	4000	4500
-10	253	165	121	95	78	65	55	48
-20	509	332	243	190	155	130	111	96
-30	770	500	366	285	233	195	167	145
-40		669	489	380	311	260	223	194
-50		839	613	476	390	326	279	243
-60		1009	738	574	469	392	335	292
-70		1181	863	671	548	458	391	341
-80		1355	989	768	627	524	448	390
-90			1115	866	707	591	505	439
-100			1242	964	787	658	562	488
-110			1370	1063	867	725	619	537
-120			1499	1162	948	792	676	586
-130			1628	1262	1029	859	733	636
-140			1757	1362	1110	927	790	685
-150			1887	1463	1191	995	848	735
-160				1564	1272	1063	905	784
-170				1666	1353	1131	963	834
-180				1768	1436	1199	1021	884
-190				1871	1518	1267	1079	934
-200				1974	1600	1335	1137	984
-220				2181	1766	1472	1254	1086
-240				2389	1933	1610	1372	1188
-260					2101	1748	1490	1290
-280					2270	1889	1608	1392
-300					2440	2031	1727	1494
-320					2621	2173	1847	1598
-340					2783	2316	1968	1702
-360					2957	2458	2089	1806
-380						2603	2210	1909
-400						2747	2333	2014
-420						2891	2455	2120
-440						3037	2579	2226
-460						3184	2703	2332
-480						3333	2828	2439
-500						3484	2953	2546

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B 2/3 CHARGE MV = 1950 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	5000	5500	6000	6500	7000	7500	8000	8500
-10	42	38	34	30	27	25	23	21
-20	85	76	68	61	55	50	46	42
-30	128	114	102	91	83	76	69	63
-40	171	152	136	122	111	101	92	84
-50	214	190	170	153	139	127	116	106
-60	257	228	204	184	167	152	139	127
-70	300	266	238	215	195	177	162	149
-80	343	305	273	246	223	203	186	170
-90	386	343	307	277	251	229	209	192
-100	429	382	342	308	279	255	233	214
-110	472	420	376	339	307	280	256	235
-120	515	458	410	370	335	306	280	257
-130	558	496	445	402	365	332	303	278
-140	602	535	480	433	393	358	327	300
-150	646	574	515	465	422	384	351	322
-160	689	613	550	496	449	409	374	344
-170	733	652	585	527	477	435	398	365
-180	777	691	620	559	506	461	421	386
-190	821	730	655	591	535	487	445	408
-200	866	770	690	623	564	513	469	430
-220	955	849	760	685	621	565	516	473
-240	1044	927	830	748	678	617	564	517
-260	1133	1006	901	812	735	669	611	561
-280	1222	1085	972	876	793	721	659	605
-300	1312	1164	1042	940	851	774	707	649
-320	1402	1244	1114	1004	909	826	755	693
-340	1493	1324	1185	1068	967	879	803	737
-360	1584	1404	1256	1132	1025	932	851	781
-380	1675	1485	1328	1197	1084	985	899	825
-400	1766	1566	1400	1261	1142	1038	948	870
-420	1858	1647	1472	1326	1201	1092	997	915
-440	1950	1728	1544	1390	1259	1145	1046	960
-460	2043	1810	1617	1456	1319	1199	1095	1005
-480	2136	1892	1690	1521	1378	1253	1144	1050
-500	2229	1974	1763	1588	1438	1307	1193	1095

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	9000	9500	10000	10500	11000	11500	12000	12500
-10	19	18	16	15	14	13	12	11
-20	39	36	33	31	29	27	25	23
-30	58	54	50	46	43	40	37	35
-40	78	72	67	62	58	54	50	47
-50	98	91	84	78	72	68	63	59
-60	117	108	100	93	87	81	75	70
-70	137	127	117	109	101	94	88	82
-80	157	145	134	124	115	107	100	94
-90	177	163	151	140	130	121	113	106
-100	197	182	168	156	145	135	126	118
-110	216	199	184	171	159	148	138	129
-120	236	217	201	187	174	162	151	141
-130	256	236	218	202	188	175	163	152
-140	276	254	235	218	203	189	176	164
-150	296	273	252	234	218	203	189	176
-160	316	291	269	249	231	215	201	188
-170	336	310	286	265	246	229	214	200
-180	356	328	303	281	261	243	227	212
-190	376	347	321	297	276	257	240	224
-200	396	367	337	313	291	271	253	236
-220	435	402	371	344	320	298	278	260
-240	476	439	405	375	349	325	304	284
-260	517	477	440	407	378	352	329	308
-280	557	514	474	439	408	380	355	332
-300	598	552	509	471	438	408	381	356
-320	638	588	543	503	467	435	406	380
-340	678	625	578	535	496	462	432	404
-360	719	663	612	567	526	490	458	428
-380	760	701	647	599	556	518	484	452
-400	801	739	682	631	586	546	510	477
-420	842	776	716	663	616	573	535	501
-440	883	814	751	695	645	601	561	525
-460	924	852	786	728	676	629	587	549
-480	966	890	821	760	706	657	613	573
-500	1008	928	856	793	736	685	639	598

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B 2/3 CHARGE MV = 1950 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	13000	13500	14000	14500	15000	15500	16000	16500
-10	11	10	9	9	8	8	7	7
-20	22	20	19	18	17	16	15	14
-30	33	31	29	27	25	24	22	21
-40	44	41	39	36	34	32	30	28
-50	55	52	49	46	43	41	38	36
-60	66	62	58	55	51	48	45	43
-70	77	72	68	64	60	56	53	50
-80	88	83	78	73	69	65	61	58
-90	99	93	88	83	78	73	69	65
-100	111	104	98	92	87	82	77	73
-110	121	114	107	101	95	90	85	80
-120	132	124	117	110	104	98	92	87
-130	143	135	127	119	112	106	100	95
-140	154	145	136	128	121	114	108	102
-150	165	156	147	138	130	123	116	110
-160	176	166	156	147	139	131	123	117
-170	187	176	166	156	147	139	131	124
-180	199	187	176	166	156	147	139	132
-190	210	197	186	175	165	156	147	139
-200	221	208	196	185	174	164	155	146
-220	244	229	215	203	191	180	170	161
-240	266	250	235	222	209	197	186	176
-260	289	271	255	240	226	213	201	190
-280	311	292	275	259	244	230	217	205
-300	333	313	295	278	262	247	233	220
-320	356	334	314	296	279	263	248	234
-340	378	355	334	315	297	280	264	249
-360	401	376	354	334	314	296	279	264
-380	423	397	374	352	332	313	295	279
-400	446	419	394	371	350	330	311	294
-420	469	440	413	389	367	346	327	309
-440	492	461	433	408	385	363	343	324
-460	514	482	453	426	402	380	359	339
-480	537	504	473	445	420	397	375	354
-500	567	525	493	464	438	414	391	369

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	17000	17500	18000	18500	19000	19500	20000	20500
-10	6	6	6	5	5	5	5	4
-20	13	13	12	11	11	10	10	9
-30	20	19	18	17	16	15	15	14
-40	27	26	24	23	22	20	20	19
-50	34	33	31	29	28	26	25	24
-60	41	39	37	35	33	31	30	28
-70	48	46	43	41	39	37	35	33
-80	55	52	49	46	44	42	40	38
-90	62	59	56	53	50	47	45	43
-100	69	66	62	59	56	53	50	48
-110	76	72	68	65	61	58	55	52
-120	83	79	75	71	67	63	60	57
-130	90	85	80	76	72	68	65	62
-140	97	92	87	82	78	74	70	67
-150	104	99	94	89	84	79	75	72
-160	111	105	100	94	89	84	80	76
-170	118	112	106	100	95	90	85	81
-180	125	118	112	106	100	95	90	86
-190	132	125	118	112	106	100	95	91
-200	139	132	125	118	112	106	101	96
-220	153	145	137	130	123	117	111	105
-240	167	158	150	142	134	127	121	115
-260	181	171	162	154	146	138	131	125
-280	195	185	175	166	157	149	141	135
-300	209	198	188	178	169	160	152	145
-320	222	211	200	190	180	171	162	154
-340	236	224	213	202	191	181	172	163
-360	251	238	226	214	203	192	182	173
-380	265	252	239	226	214	203	192	182
-400	279	265	252	239	226	214	203	192
-420	293	278	264	250	237	225	213	202
-440	307	291	276	262	248	235	223	211
-460	321	305	289	274	260	246	233	221
-480	335	318	302	286	271	257	243	230
-500	349	332	315	299	283	268	253	240

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B 2/3 CHARGE MV = 1950 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	21000	21500	22000	22500	23000	23500	24000	24500
-10	4	4	4	3	3	3	3	2
-20	9	8	8	7	7	6	6	5
-30	13	12	12	11	10	9	9	8
-40	18	16	16	15	14	12	12	11
-50	23	21	20	19	18	16	15	14
-60	27	25	24	22	21	19	18	17
-70	31	29	28	26	24	22	21	20
-80	36	34	32	30	28	26	24	23
-90	41	38	36	34	32	29	27	26
-100	46	43	41	38	36	33	31	29
-110	50	47	45	42	39	36	34	31
-120	54	51	49	45	42	39	37	34
-130	59	56	53	49	46	42	40	36
-140	63	60	57	53	49	45	43	39
-150	68	64	61	57	53	49	46	42
-160	72	68	65	60	56	52	49	44
-170	77	73	69	64	60	56	52	47
-180	81	77	73	68	63	59	55	50
-190	86	81	77	72	67	62	58	53
-200	91	86	81	76	71	66	61	56
-220	100	94	89	83	78	72	67	61
-240	109	103	97	91	85	79	73	66
-260	118	112	105	99	93	86	79	71
-280	128	121	114	107	100	93	85	76
-300	137	130	122	115	108	100	92	82
-320	146	138	130	122	114	106	98	87
-340	155	146	138	130	121	113	104	93
-360	164	155	146	137	128	119	110	98
-380	173	163	154	145	136	126	116	104
-400	182	172	163	153	143	133	122	109
-420	191	180	170	160	150	139	128	114
-440	200	189	179	168	157	146	134	120
-460	209	198	187	175	164	152	140	126
-480	218	207	195	183	171	159	146	131
-500	228	216	204	192	179	166	153	137

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B 2/3 CHARGE MV = 1950 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards						
feet	24000	23000	22000	21000	20000	19000	18000
-10	2	2	2	2	1	1	1
-20	4	4	3	3	3	3	2
-30	6	5	5	5	4	4	4
-40	8	7	7	6	6	5	5
-50	10	9	8	8	7	6	6
-60	12	11	10	9	9	8	7
-70	14	13	12	11	10	9	8
-80	16	14	13	12	11	10	10
-90	18	16	15	14	13	12	11
-100	20	18	16	15	14	13	12
-110	22	20	18	17	16	14	13
-120	24	22	20	18	17	16	14
-130	26	23	21	19	18	17	16
-140	28	25	23	21	19	18	17
-150	30	27	25	23	21	19	18
-160	32	29	26	24	23	21	19
-170	34	31	28	26	24	22	20
-180	36	33	30	27	25	23	22
-190	38	34	31	29	27	25	23
-200	40	36	33	30	28	26	24
-220	44	39	36	33	30	28	26
-240	48	43	39	36	33	31	29
-260	52	47	43	39	36	33	31
-280	56	51	46	42	39	36	34
-300	60	54	49	45	42	39	36
-320	64	58	53	48	44	41	38
-340	68	62	56	51	47	43	40
-360	72	65	59	54	50	46	43
-380	76	69	63	58	53	49	45
-400	81	72	66	61	56	52	48
-420	85	76	69	64	59	54	50
-440	89	80	73	67	62	57	53
-460	93	84	76	70	65	60	55
-480	97	87	79	73	68	63	58
-500	102	91	83	77	71	66	61

*For elevations greater than 43°02'

608393 O - 44 - 5

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	1000	1500	2000	2500	3000	3500	4000	4500
10	-251	-164	-121	-94	-77	-65	-56	-48
20	-500	-327	-241	-188	-154	-130	-111	-96
30	-745	-489	-360	-282	-231	-194	-166	-144
40	-987	-650	-479	-376	-307	-258	-221	-192
50		-809	-597	-469	-383	-322	-276	-240
60		-968	-715	-562	-459	-386	-331	-288
70		-1127	-832	-654	-535	-450	-386	-336
80		-1284	-948	-746	-610	-513	-440	-383
90		-1439	-1064	-838	-685	-576	-494	-430
100			-1179	-929	-759	-639	-548	-477
110			-1293	-1020	-833	-702	-603	-525
120			-1407	-1111	-907	-764	-656	-572
130			-1520	-1201	-981	-826	-710	-620
140			-1633	-1291	-1055	-888	-763	-666
150			-1746	-1380	-1128	-950	-817	-713
160			-1858	-1469	-1202	-1012	-871	-760
170			-1970	-1557	-1276	-1074	-924	-807
180				-1645	-1349	-1136	-977	-853
190				-1733	-1422	-1198	-1030	-899
200				-1821	-1494	-1260	-1083	-945
220				-1996	-1638	-1383	-1189	-1038
240				-2169	-1781	-1505	-1294	-1130
260				-2339	-1924	-1626	-1399	-1222
280					-2066	-1746	-1504	-1314
300					-2207	-1865	-1608	-1405
320					-2347	-1984	-1711	-1496
340					-2486	-2102	-1814	-1587
360					-2624	-2220	-1917	-1677
380					-2761	-2338	-2019	-1767
400					-2898	-2455	-2121	-1856
420						-2571	-2223	-1945
440						-2687	-2323	-2033
460						-2802	-2423	-2120
480						-2917	-2522	-2207
500						-3031	-2621	-2293

*For elevations less than 43°02'

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	5000	5500	6000	6500	7000	7500	8000	8500
10	-43	-38	-34	-31	-28	-26	-24	-22
20	-85	-76	-68	-62	-56	-51	-47	-43
30	-127	-114	-102	-92	-84	-77	-70	-64
40	-169	-151	-136	-123	-112	-102	-93	-85
50	-211	-188	-169	-153	-139	-127	-116	-106
60	-254	-226	-203	-184	-167	-152	-139	-128
70	-296	-264	-237	-214	-195	-178	-163	-149
80	-338	-301	-271	-245	-222	-202	-185	-170
90	-379	-338	-304	-275	-250	-228	-208	-191
100	-421	-375	-337	-305	-277	-253	-231	-212
110	-463	-413	-371	-336	-305	-278	-254	-233
120	-505	-450	-404	-366	-332	-303	-277	-254
130	-547	-487	-438	-396	-359	-328	-300	-275
140	-588	-524	-471	-426	-387	-353	-323	-296
150	-629	-561	-504	-456	-414	-377	-345	-317
160	-671	-598	-537	-486	-441	-402	-368	-338
170	-712	-634	-570	-516	-469	-427	-391	-360
180	-753	-671	-603	-546	-496	-452	-414	-381
190	-794	-708	-636	-576	-523	-477	-437	-402
200	-835	-745	-669	-605	-550	-502	-460	-423
220	-917	-818	-735	-665	-604	-551	-505	-465
240	-999	-891	-801	-724	-658	-601	-551	-507
260	-1080	-964	-867	-783	-711	-649	-596	-548
280	-1162	-1037	-932	-842	-765	-699	-641	-589
300	-1242	-1109	-997	-901	-818	-747	-686	-631
320	-1323	-1181	-1062	-960	-872	-796	-730	-672
340	-1404	-1253	-1126	-1018	-925	-845	-775	-713
360	-1483	-1324	-1190	-1076	-978	-894	-820	-754
380	-1563	-1395	-1254	-1134	-1031	-943	-865	-795
400	-1642	-1466	-1318	-1192	-1084	-991	-909	-835
420	-1721	-1537	-1382	-1250	-1137	-1039	-953	-876
440	-1799	-1607	-1446	-1308	-1190	-1087	-997	-917
460	-1877	-1677	-1509	-1366	-1243	-1135	-1041	-957
480	-1954	-1747	-1572	-1423	-1295	-1183	-1085	-998
500	-2031	-1817	-1635	-1480	-1347	-1231	-1129	-1039

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	9000	9500	10000	10500	11000	11500	12000	12500
10	-20	-19	-17	-16	-15	-14	-13	-12
20	-40	-37	-34	-32	-29	-27	-26	-24
30	-59	-55	-51	-47	-44	-41	-38	-35
40	-79	-73	-68	-63	-58	-54	-51	-47
50	-98	-91	-84	-78	-72	-67	-63	-59
60	-118	-109	-101	-94	-87	-81	-76	-71
70	-137	-127	-118	-110	-102	-95	-88	-82
80	-157	-145	-134	-125	-116	-108	-101	-94
90	-176	-163	-151	-141	-131	-121	-113	-106
100	-196	-181	-167	-156	-145	-134	-125	-117
110	-215	-199	-184	-171	-159	-148	-138	-129
120	-234	-217	-201	-186	-173	-161	-150	-141
130	-254	-235	-217	-201	-187	-174	-162	-152
140	-273	-253	-234	-217	-201	-187	-175	-164
150	-292	-270	-250	-232	-215	-200	-187	-175
160	-312	-288	-267	-248	-230	-214	-200	-187
170	-332	-307	-284	-263	-244	-227	-212	-199
180	-351	-324	-300	-278	-258	-241	-225	-211
190	-371	-343	-317	-293	-272	-254	-238	-223
200	-390	-360	-333	-308	-286	-267	-250	-234
220	-429	-396	-356	-339	-315	-294	-275	-258
240	-467	-431	-399	-370	-344	-321	-300	-281
260	-505	-466	-431	-400	-372	-347	-325	-305
280	-543	-501	-464	-430	-400	-374	-350	-328
300	-581	-536	-496	-460	-428	-400	-374	-351
320	-619	-571	-529	-491	-457	-427	-399	-374
340	-657	-606	-562	-521	-485	-453	-424	-397
360	-695	-642	-594	-552	-514	-480	-448	-420
380	-732	-676	-626	-582	-542	-506	-473	-443
400	-769	-710	-658	-611	-570	-532	-497	-466
420	-807	-746	-691	-642	-598	-558	-522	-489
440	-845	-780	-723	-672	-626	-584	-546	-512
460	-882	-815	-755	-702	-654	-611	-571	-535
480	-920	-850	-787	-732	-682	-637	-595	-558
500	-957	-884	-819	-762	-710	-663	-619	-580

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE C 2/3 CHARGE MV = 1950 FPS

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	13000	13500	14000	14500	15000	15500	16000	16500
10	-11	-11	-10	-10	-9	-9	-8	-8
20	-22	-21	-20	-19	-18	-17	-16	-15
30	-33	-32	-30	-28	-27	-25	-24	-23
40	-44	-42	-39	-37	-36	-33	-32	-30
50	-55	-52	-49	-46	-44	-41	-39	-37
60	-66	-62	-59	-56	-53	-50	-47	-44
70	-77	-73	-69	-65	-61	-58	-55	-52
80	-88	-83	-79	-74	-70	-66	-62	-59
90	-99	-94	-88	-83	-78	-74	-70	-66
100	-110	-104	-98	-92	-87	-82	-77	-73
110	-121	-115	-108	-102	-96	-90	-85	-80
120	-132	-125	-118	-111	-105	-99	-93	-88
130	-143	-136	-128	-120	-113	-107	-101	-95
140	-154	-146	-138	-129	-122	-115	-109	-103
150	-165	-156	-147	-138	-130	-123	-116	-110
160	-176	-166	-157	-148	-139	-131	-124	-117
170	-187	-177	-167	-157	-148	-139	-132	-125
180	-198	-187	-176	-166	-156	-147	-139	-132
190	-209	-197	-186	-175	-165	-155	-147	-139
200	-220	-207	-195	-184	-173	-163	-154	-146
220	-242	-228	-215	-202	-190	-180	-170	-161
240	-264	-249	-234	-220	-207	-196	-185	-175
260	-286	-269	-253	-238	-224	-212	-201	-190
280	-308	-289	-272	-256	-241	-228	-216	-204
300	-330	-310	-291	-274	-258	-244	-231	-218
320	-352	-331	-311	-292	-275	-260	-246	-233
340	-373	-351	-330	-310	-292	-277	-261	-247
360	-394	-371	-349	-328	-309	-292	-276	-262
380	-416	-391	-368	-346	-326	-308	-291	-276
400	-438	-412	-387	-364	-343	-324	-306	-290
420	-459	-432	-406	-382	-361	-341	-322	-305
440	-481	-452	-425	-400	-378	-357	-337	-319
460	-502	-472	-444	-418	-395	-373	-353	-334
480	-524	-492	-463	-436	-412	-389	-368	-348
500	-545	-512	-482	-454	-429	-405	-383	-362

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards							
feet	17000	17500	18000	18500	19000	19500	20000	20500
10	-7	-7	-7	-6	-6	-6	-5	-5
20	-14	-14	-13	-12	-12	-11	-10	-10
30	-21	-20	-19	-18	-17	-16	-15	-15
40	-28	-27	-25	-24	-23	-22	-20	-20
50	-35	-33	-31	-30	-28	-27	-25	-24
60	-42	-40	-38	-36	-34	-32	-30	-29
70	-49	-46	-44	-42	-40	-38	-35	-34
80	-56	-53	-50	-47	-45	-43	-40	-39
90	-62	-59	-56	-53	-51	-48	-45	-43
100	-69	-65	-62	-59	-56	-53	-50	-48
110	-76	-72	-69	-65	-62	-59	-56	-53
120	-83	-79	-75	-71	-68	-64	-61	-58
130	-90	-85	-81	-77	-73	-70	-66	-63
140	-97	-92	-87	-83	-79	-75	-71	-68
150	-104	-98	-93	-88	-84	-80	-76	-72
160	-111	-105	-99	-94	-90	-85	-81	-77
170	-118	-112	-106	-100	-96	-91	-86	-82
180	-125	-118	-112	-106	-101	-96	-91	-87
190	-132	-125	-118	-112	-106	-101	-96	-92
200	-138	-131	-124	-118	-112	-106	-101	-96
220	-152	-144	-137	-130	-123	-117	-111	-105
240	-166	-157	-149	-142	-135	-128	-121	-115
260	-179	-170	-162	-154	-146	-138	-131	-125
280	-193	-183	-174	-165	-157	-149	-141	-134
300	-206	-196	-186	-177	-168	-159	-151	-143
320	-220	-209	-199	-189	-179	-170	-161	-153
340	-234	-222	-211	-201	-191	-181	-171	-162
360	-248	-235	-224	-213	-202	-191	-181	-172
380	-262	-248	-236	-224	-213	-202	-191	-182
400	-275	-261	-248	-235	-224	-212	-201	-191
420	-289	-274	-260	-247	-235	-223	-211	-200
440	-303	-287	-273	-259	-246	-233	-221	-210
460	-316	-300	-285	-271	-257	-244	-231	-219
480	-330	-313	-297	-282	-268	-254	-241	-228
500	-343	-326	-309	-293	-279	-264	-250	-237

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE C

2/3 CHARGE

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards						
feet	21000	21500	22000	22500	23000	23500	24000
10	-5	-5	-5	-4	-4	-4	-4
20	-10	-9	-9	-8	-8	-7	-7
30	-14	-14	-13	-12	-11	-11	-10
40	-19	-18	-17	-16	-15	-14	-13
50	-23	-22	-21	-19	-18.	-17	-16
60	-28	-27	-25	-23	-22	-21	-19
70	-33	-31	-29	-27	-26	-24	-22
80	-37	-35	-33	-31	-29	-27	-25
90	-41	-39	-37	-35	-33	-30	-28
100	-46	-43	-41	-38	-36	-33	-31
110	-51	-48	-45	-42	-40	-37	-34
120	-55	-52	-49	-46	-43	-40	-37
130	-60	-57	-53	-50	-47	-44	-40
140	-65	-61	-57	-54	-51	-47	-43
150	-69	-65	-61	-57	-54	-50	-46
160	-73	-69	-65	-61	-57	-53	-49
170	-78	-73	-69	-65	-61	-57	-52
180	-83	-78	-73	-69	-65	-60	-55
190	-87	-82	-77	-73	-68	-63	-58
200	-91	-86	-81	-76	-71	-66	-61
220	-100	-95	-89	-84	-78	-73	-67
240	-109	-103	-97	-91	-85	-79	-73
260	-118	-112	-105	-99	-92	-86	-79
280	-127	-120	-113	-106	-99	-92	-85
300	-135	-128	-121	-113	-106	-98	-91
320	-145	-137	-129	-121	-113	-105	-97
340	-154	-146	-137	-129	-120	-112	-103
360	-163	-154	-145	-136	-127	-118	-109
380	-172	-163	-153	-144	-134	-125	-115
400	-181	-171	-161	-151	-141	-131	-121
420	-190	-180	-169	-159	-149	-138	-128
440	-199	-188	-177	-167	-156	-145	-134
460	-208	-197	-185	-174	-163	-151	-140
480	-216	-205	-193	-182	-170	-158	-146
500	-225	-213	-201	-189	-177	-164	-152

*For elevations less than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards						
feet	24000	23000	22000	21000	20000	19000	18000
10	-2	-2	-2	-2	-1	-1	-1
20	-4	-4	-3	-3	-3	-3	-2
30	-6	-5	-5	-5	-4	-4	-4
40	-8	-7	-7	-6	-6	-5	-5
50	-10	-9	-8	-8	-7	-6	-6
60	-13	-11	-10	-9	-9	-8	-7
70	-15	-13	-12	-11	-10	-9	-8
80	-17	-15	-13	-12	-11	-10	-10
90	-19	-17	-15	-14	-13	-11	-11
100	-21	-18	-16	-15	-14	-13	-12
110	-23	-20	-18	-17	-15	-14	-13
120	-25	-22	-20	-18	-17	-15	-14
130	-27	-24	-22	-20	-18	-17	-16
140	-29	-26	-23	-21	-19	-18	-17
150	-31	-28	-25	-23	-21	-19	-18
160	-34	-29	-26	-24	-23	-21	-19
170	-36	-31	-28	-26	-24	-22	-20
180	-38	-33	-30	-27	-25	-23	-22
190	-40	-35	-32	-29	-27	-25	-23
200	-42	-37	-33	-30	-28	-26	-24
220	-46	-41	-36	-33	-31	-28	-26
240	-50	-45	-40	-37	-34	-31	-29
260	-55	-49	-44	-40	-37	-34	-31
280	-59	-52	-47	-43	-40	-37	-34
300	-63	-56	-50	-46	-42	-39	-36
320	-67	-60	-54	-49	-45	-42	-39
340	-71	-63	-57	-52	-48	-44	-41
360	-76	-67	-60	-55	-51	-47	-44
380	-80	-71	-64	-59	-54	-50	-46
400	-84	-74	-67	-62	-57	-53	-49
420	-88	-78	-71	-65	-60	-56	-52
440	-93	-82	-74	-68	-63	-58	-54
460	-97	-86	-77	-71	-66	-61	-57
480	-102	-90	-81	-74	-69	-64	-59
500	-106	-93	-84	-78	-72	-67	-62

*For elevations greater than 43°02'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE D

2/3 CHARGE

WEIGHT OF PROJECTILE, EFFECTS IN YARDS OF RANGE, DUE TO VARIATIONS IN

Range	Variations in weight of projectile - percent										
yards	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
1000	23	18	14	9	5	0	-5	-9	-14	-18	-23
2000	43	34	26	17	9	0	-9	-17	-26	-35	-44
3000	60	48	36	24	12	0	-12	-24	-36	-49	-61
4000	74	59	45	30	15	0	-15	-30	-45	-60	-75
5000	85	68	51	34	17	0	-17	-34	-51	-68	-85
6000	93	74	56	37	18	0	-18	-37	-55	-74	-92
7000	98	78	59	39	20	0	-19	-39	-58	-78	-97
8000	101	81	60	40	20	0	-20	-40	-60	-79	-99
9000	103	82	61	41	20	0	-20	-40	-59	-79	-98
10000	103	82	61	40	20	0	-20	-40	-59	-78	-97
11000	100	79	59	39	19	0	-19	-38	-56	-74	-92
12000	95	75	56	37	18	0	-18	-35	-52	-69	-85
13000	89	70	52	34	17	0	-16	-32	-48	-63	-77
14000	82	65	48	31	15	0	-15	-29	-43	-57	-70
15000	73	58	43	28	14	0	-13	-26	-39	-50	-62
16000	66	52	38	25	12	0	-12	-23	-34	-44	-54
17000	60	47	34	22	11	0	-10	-20	-30	-39	-47
18000	54	42	31	20	10	0	-9	-18	-26	-34	-41
19000	47	37	27	17	8	0	-8	-15	-22	-29	-35
20000	40	31	23	15	7	0	-7	-13	-18	-23	-28
21000	33	25	18	11	5	0	-5	-9	-13	-16	-19
22000	24	18	13	8	4	0	-3	-6	-8	-9	-10
23000	14	10	7	4	2	0	-1	-2	-3	-3	-3
24000	4	2	1	1	0	0	0	+1	+1	+2	+4
24530	-2	-2	-2	-2	-1	0	1	2	4	6	8
24000	-16	-13	-10	-7	-3	0	3	7	10	13	17
23000	-25	-20	-15	-10	-5	0	5	9	14	19	23
22000	-29	-23	-17	-11	-6	0	5	11	16	21	26
21000	-32	-25	-19	-12	-6	0	6	12	17	23	28
20000	-33	-26	-19	-13	-6	0	6	12	18	24	29
19000	-32	-25	-19	-12	-6	0	6	12	18	23	29
18000	-32	-25	-19	-12	-6	0	6	12	17	23	28

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 0°

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+4-	+7-	+10-	+13-	+14-	+15-
4000	0	+7-	+14-	+20-	+25-	+27-	+28-
6000	0	+10-	+20-	+28-	+35-	+39-	+40-
8000	0	+13-	+25-	+35-	+43-	+48-	+50-
10000	0	+15-	+29-	+41-	+51-	+57-	+59-
12000	0	+17-	+33-	+46-	+57-	+64-	+66-
14000	0	+19-	+36-	+51-	+62-	+69-	+72-
16000	0	+20-	+38-	+54-	+66-	+74-	+77-
18000	0	+21-	+40-	+57-	+69-	+77-	+80-
20000	0	+21-	+41-	+58-	+71-	+79-	+82-
22000	0	+21-	+41-	+58-	+70-	+79-	+81-
24000	0	+19-	+36-	+52-	+63-	+70-	+73-
24530	0	+16-	+32-	+45-	+55-	+61-	+63-
24000	0	+8-	+16-	+22-	+27-	+30-	+31-
22000	0	-2+	-4+	-5+	-6+	-7+	-7+
20000	0	-7+	-14+	-20+	-24+	-27+	-28+
18000	0	-11+	-20+	-28+	-35+	-39+	-41+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE E 2/3 CHARGE MV = 1950 FPS

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 10° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+4-	+7-	+10-	+13-	+14-	+15-
4000	0	+7-	+14-	+20-	+24-	+27-	+28-
6000	0	+10-	+20-	+28-	+34-	+38-	+39-
8000	0	+13-	+25-	+35-	+43-	+48-	+49-
10000	0	+15-	+29-	+41-	+50-	+56-	+58-
12000	0	+17-	+32-	+46-	+56-	+63-	+65-
14000	0	+18-	+35-	+50-	+61-	+68-	+71-
16000	0	+20-	+38-	+53-	+65-	+73-	+76-
18000	0	+20-	+39-	+56-	+68-	+76-	+79-
20000	0	+21-	+40-	+57-	+70-	+78-	+81-
22000	0	+21-	+40-	+57-	+69-	+77-	+80-
24000	0	+19-	+36-	+51-	+62-	+69-	+72-
24530	0	+16-	+31-	+44-	+54-	+60-	+62-
24000	0	+8-	+15-	+22-	+27-	+28-	+31-
22000	0	-2+	-3+	-5+	-6+	-7+	-7+
20000	0	-7+	-14+	-19+	-24+	-26+	-27+
18000	0	-10+	-20+	-28+	-35+	-39+	-40+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 20° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+4-	+7-	+10-	+12-	+13-	+14-
4000	0	+7-	+13-	+19-	+23-	+26-	+27-
6000	0	+10-	+19-	+27-	+33-	+36-	+38-
8000	0	+12-	+24-	+33-	+41-	+46-	+47-
10000	0	+14-	+28-	+39-	+48-	+53-	+55-
12000	0	+16-	+31-	+44-	+54-	+60-	+62-
14000	0	+18-	+34-	+48-	+58-	+65-	+67-
16000	0	+19-	+36-	+51-	+62-	+70-	+72-
18000	0	+20-	+38-	+53-	+65-	+73-	+75-
20000	0	+20-	+39-	+54-	+67-	+74-	+77-
22000	0	+20-	+38-	+54-	+66-	+74-	+76-
24000	0	+18-	+34-	+48-	+59-	+66-	+69-
24530	0	+15-	+30-	+42-	+51-	+57-	+59-
24000	0	+8-	+15-	+21-	+25-	+28-	+29-
22000	0	-2+	-3+	-5+	-6+	-6+	-7+
20000	0	-7+	-13+	-18+	-23+	-25+	-26+
18000	0	-10+	-19+	-27+	-33+	-37+	-38+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.

*For argument at bottom of tables use the sign that follows the number.

*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE E

2/3 CHARGE

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 30° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+3-	+6-	+9-	+11-	+12-	+13-
4000	0	+6-	+12-	+17-	+21-	+24-	+25-
6000	0	+9-	+17-	+25-	+30-	+34-	+35-
8000	0	+11-	+22-	+31-	+38-	+42-	+43-
10000	0	+13-	+25-	+36-	+44-	+49-	+51-
12000	0	+15-	+28-	+40-	+49-	+55-	+57-
14000	0	+16-	+31-	+44-	+54-	+60-	+62-
16000	0	+17-	+33-	+47-	+58-	+64-	+66-
18000	0	+18-	+35-	+49-	+60-	+67-	+69-
20000	0	+18-	+36-	+50-	+62-	+69-	+71-
22000	0	+18-	+35-	+50-	+61-	+68-	+70-
24000	0	+16-	+32-	+45-	+55-	+61-	+63-
24530	0	+14-	+27-	+39-	+47-	+53-	+55-
24000	0	+7-	+14-	+19-	+23-	+26-	+27-
22000	0	-2+	-3+	-4+	-5+	-6+	-6+
20000	0	-6+	-12+	-17+	-21+	-23+	-24+
18000	0	-9+	-18+	-25+	-30+	-34+	-35+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.

*For argument at bottom of tables use the sign that follows the number.

*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 40° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+3-	+6-	+8-	+10-	+11-	+11-
4000	0	+6-	+11-	+15-	+19-	+21-	+22-
6000	0	+8-	+15-	+22-	+27-	+30-	+31-
8000	0	+10-	+19-	+27-	+33-	+37-	+38-
10000	0	+12-	+22-	+32-	+39-	+43-	+45-
12000	0	+13-	+25-	+36-	+44-	+49-	+50-
14000	0	+14-	+27-	+39-	+48-	+53-	+55-
16000	0	+15-	+29-	+42-	+51-	+57-	+59-
18000	0	+16-	+31-	+43-	+53-	+59-	+61-
20000	0	+16-	+31-	+44-	+54-	+61-	+63-
22000	0	+16-	+31-	+44-	+54-	+60-	+62-
24000	0	+14-	+28-	+39-	+48-	+54-	+56-
24530	0	+13-	+24-	+34-	+42-	+47-	+48-
24000	0	+6-	+12-	+17-	+21-	+23-	+24-
22000	0	-1+	-3+	-4+	-5+	-5+	-5+
20000	0	-5+	-11+	-15+	-18+	-20+	-21+
18000	0	-8+	-16+	-22+	-27+	-30+	-31+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE E

2/3 CHARGE

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 50° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+2-	+5-	+7-	+8-	+9-	+10-
4000	0	+5-	+9-	+13-	+16-	+18-	+18-
6000	0	+7-	+13-	+18-	+22-	+25-	+26-
8000	0	+8-	+16-	+23-	+28-	+31-	+32-
10000	0	+10-	+19-	+27-	+33-	+36-	+38-
12000	0	+11-	+21-	+30-	+37-	+41-	+42-
14000	0	+12-	+23-	+33-	+40-	+45-	+46-
16000	0	+13-	+25-	+35-	+43-	+48-	+49-
18000	0	+13-	+26-	+36-	+45-	+50-	+52-
20000	0	+14-	+26-	+37-	+46-	+51-	+53-
22000	0	+14-	+26-	+37-	+45-	+51-	+52-
24000	0	+12-	+23-	+33-	+41-	+45-	+47-
24530	0	+11-	+20-	+29-	+35-	+39-	+41-
24000	0	+5-	+10-	+14-	+17-	+19-	+20-
22000	0	-1+	-2+	-3+	-4+	-4+	-5+
20000	0	-5+	-9+	-13+	-15+	-17+	-18+
18000	0	-7+	-13+	-18+	-23+	-25+	-26+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 60° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+2-	+4-	+5-	+6-	+7-	+7-
4000	0	+4-	+7-	+10-	+12-	+14-	+14-
6000	0	+5-	+10-	+14-	+17-	+19-	+20-
8000	0	+6-	+13-	+18-	+22-	+24-	+25-
10000	0	+8-	+15-	+21-	+25-	+28-	+29-
12000	0	+9-	+16-	+23-	+28-	+32-	+33-
14000	0	+9-	+18-	+25-	+31-	+35-	+36-
16000	0	+10-	+19-	+27-	+33-	+37-	+38-
18000	0	+10-	+20-	+28-	+35-	+39-	+40-
20000	0	+11-	+21-	+29-	+36-	+40-	+41-
22000	0	+11-	+20-	+29-	+35-	+39-	+41-
24000	0	+9-	+18-	+26-	+32-	+35-	+36-
24530	0	+8-	+16-	+22-	+27-	+31-	+32-
24000	0	+4-	+8-	+11-	+14-	+15-	+16-
22000	0	-1+	-2+	-3+	-3+	-3+	-4+
20000	0	-4+	-7+	-10+	-12+	-13+	-14+
18000	0	-5+	-10+	-14+	-18+	-20+	-20+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE E

2/3 CHARGE

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 70° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+1-	+3-	+4-	+4-	+5-	+5-
4000	0	+3-	+5-	+7-	+8-	+9-	+10-
6000	0	+4-	+7-	+10-	+12-	+13-	+14-
8000	0	+4-	+9-	+12-	+15-	+17-	+17-
10000	0	+5-	+10-	+14-	+17-	+19-	+20-
12000	0	+6-	+11-	+16-	+19-	+22-	+23-
14000	0	+6-	+12-	+17-	+21-	+24-	+25-
16000	0	+7-	+13-	+18-	+23-	+25-	+26-
18000	0	+7-	+14-	+19-	+24-	+26-	+27-
20000	0	+7-	+14-	+20-	+24-	+27-	+28-
22000	0	+7-	+14-	+20-	+24-	+27-	+28-
24000	0	+6-	+12-	+18-	+22-	+24-	+25-
24530	0	+6-	+11-	+15-	+19-	+21-	+22-
24000	0	+3-	+5-	+8-	+9-	+10-	+11-
22000	0	-1+	-1+	-2+	-2+	-2+	-2+
20000	0	-2+	-5+	-7+	-8+	-9+	-9+
18000	0	-4+	-7+	-10+	-12+	-13+	-14+
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE Fa

MUZZLE VELOCITY, EFFECTS IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
1000	10	20	30	39	49	59	69	79
2000	19	39	58	77	97	117	136	156
3000	29	58	86	115	144	173	202	231
4000	38	76	114	152	190	228	266	305
5000	47	94	141	188	235	282	329	377
6000	56	112	167	223	279	335	391	445
7000	64	129	193	257	322	386	451	515
8000	73	145	218	291	363	436	509	581
9000	81	161	242	323	404	485	566	646
10000	89	177	266	355	444	532	621	710
11000	96	192	289	385	482	578	674	771
12000	104	207	311	415	519	622	725	829
13000	111	221	332	443	554	664	775	886
14000	118	235	353	470	588	706	823	941
15000	124	248	373	497	621	745	869	994
16000	131	261	392	522	653	784	914	1045
17000	137	274	410	547	684	821	958	1094
18000	143	286	428	571	714	857	1000	1142
19000	149	297	446	594	743	892	1040	1189
20000	154	308	463	617	771	925	1079	1234
21000	160	319	479	638	798	958	1117	1277
22000	165	329	494	659	823	988	1153	1318
23000	169	338	508	678	847	1017	1186	1356
24000	174	347	521	695	869	1042	1216	1390
24530	175	351	526	702	877	1053	1228	1404
24000	171	342	513	683	854	1025	1196	1367
23000	165	329	494	658	823	988	1153	1317
22000	158	317	475	633	792	950	1109	1267
21000	152	304	456	608	760	912	1064	1217
20000	146	291	437	583	729	874	1020	1166
19000	139	279	418	558	697	836	976	1115
18000	133	266	399	532	665	798	931	1065

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Fa 2/3 CHARGE MV = 1950 FPS

MUZZLE VELOCITY, EFFECTS IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
1000	89	99	109	118	128	138	148
2000	175	195	214	234	253	273	292
3000	260	289	318	347	375	404	433
4000	343	381	419	457	495	533	571
5000	424	471	518	565	612	659	706
6000	502	558	614	670	725	781	837
7000	579	643	708	772	836	900	965
8000	654	727	800	872	945	1017	1090
9000	727	808	889	970	1051	1131	1212
10000	799	887	976	1065	1153	1242	1331
11000	867	963	1060	1156	1252	1349	1445
12000	933	1037	1140	1244	1348	1451	1555
13000	997	1108	1218	1329	1440	1550	1661
14000	1059	1176	1294	1411	1529	1646	1764
15000	1118	1242	1366	1490	1615	1739	1863
16000	1175	1306	1437	1567	1698	1828	1959
17000	1231	1368	1505	1642	1778	1915	2052
18000	1285	1428	1571	1714	1856	1999	2142
19000	1337	1486	1635	1783	1932	2080	2229
20000	1388	1542	1696	1850	2005	2159	2313
21000	1436	1596	1756	1915	2075	2234	2394
22000	1482	1647	1812	1977	2141	2306	2471
23000	1525	1694	1864	2034	2203	2373	2542
24000	1564	1737	1911	2085	2259	2432	2606
24530	1579	1755	1930	2106	2281	2457	2632
24000	1538	1709	1880	2050	2221	2392	2563
23000	1482	1647	1811	1976	2141	2305	2470
22000	1426	1584	1742	1901	2059	2218	2376
21000	1369	1521	1673	1825	1977	2129	2281
20000	1312	1457	1603	1749	1895	2040	2186
19000	1255	1394	1533	1673	1812	1952	2091
18000	1198	1331	1464	1597	1730	1863	1996

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE Fb

MUZZLE VELOCITY, EFFECTS IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
1000	-10	-20	-29	-39	-49	-59	-69	-78
2000	-19	-39	-58	-77	-97	-116	-135	-155
3000	-29	-57	-86	-114	-143	-171	-200	-229
4000	-38	-75	-113	-150	-188	-225	-263	-300
5000	-46	-92	-138	-185	-231	-277	-323	-369
6000	-54	-109	-163	-218	-272	-327	-381	-436
7000	-62	-125	-187	-250	-312	-375	-437	-499
8000	-70	-140	-210	-280	-350	-420	-490	-559
9000	-77	-154	-231	-308	-385	-463	-540	-617
10000	-84	-168	-252	-336	-420	-504	-588	-672
11000	-90	-181	-271	-362	-452	-543	-633	-724
12000	-97	-193	-290	-387	-483	-580	-677	-774
13000	-103	-205	-308	-411	-514	-617	-720	-823
14000	-109	-217	-326	-435	-544	-652	-761	-870
15000	-115	-229	-343	-458	-573	-687	-802	-916
16000	-120	-240	-360	-481	-601	-721	-841	-961
17000	-126	-251	-377	-503	-628	-754	-880	-1005
18000	-131	-262	-393	-524	-655	-786	-917	-1048
19000	-136	-273	-409	-545	-681	-817	-953	-1090
20000	-141	-283	-424	-565	-706	-848	-989	-1131
21000	-146	-293	-439	-585	-731	-878	-1024	-1171
22000	-151	-302	-454	-605	-756	-907	-1058	-1210
23000	-156	-312	-468	-624	-780	-936	-1092	-1249
24000	-161	-322	-483	-644	-805	-966	-1127	-1287
24530	-164	-327	-491	-655	-818	-982	-1146	-1309
24000	-162	-325	-487	-649	-811	-974	-1136	-1298
23000	-158	-315	-473	-630	-788	-945	-1103	-1260
22000	-153	-305	-458	-610	-763	-915	-1068	-1220
21000	-147	-294	-442	-589	-736	-883	-1030	-1177
20000	-142	-283	-425	-567	-708	-850	-991	-1133
19000	-136	-272	-408	-544	-680	-816	-952	-1089
18000	-130	-261	-391	-521	-652	-782	-912	-1043

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE Fb

2/3 CHARGE

MUZZLE VELOCITY, EFFECTS IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
1000	-88	-98	-108	-118	-127	-137	-147
2000	-174	-193	-213	-232	-251	-271	-290
3000	-257	-286	-315	-343	-372	-400	-429
4000	-338	-376	-413	-450	-488	-525	-563
5000	-415	-462	-508	-554	-600	-646	-692
6000	-490	-545	-599	-654	-708	-763	-817
7000	-561	-624	-686	-749	-811	-874	-936
8000	-629	-699	-769	-839	-909	-979	-1049
9000	-694	-771	-848	-925	-1002	-1079	-1156
10000	-755	-839	-923	-1007	-1091	-1175	-1259
11000	-814	-904	-995	-1086	-1176	-1266	-1357
12000	-871	-967	-1064	-1161	-1258	-1354	-1451
13000	-926	-1028	-1131	-1234	-1337	-1439	-1542
14000	-979	-1087	-1196	-1305	-1414	-1522	-1631
15000	-1031	-1145	-1260	-1374	-1489	-1603	-1718
16000	-1081	-1202	-1322	-1442	-1562	-1682	-1802
17000	-1131	-1257	-1383	-1508	-1634	-1759	-1885
18000	-1179	-1311	-1442	-1573	-1704	-1835	-1966
19000	-1226	-1363	-1499	-1635	-1771	-1908	-2044
20000	-1272	-1413	-1555	-1696	-1837	-1979	-2120
21000	-1317	-1463	-1609	-1755	-1901	-2048	-2194
22000	-1361	-1512	-1663	-1814	-1965	-2117	-2268
23000	-1405	-1561	-1717	-1873	-2029	-2185	-2341
24000	-1448	-1609	-1770	-1931	-2092	-2253	-2414
24530	-1473	-1637	-1800	-1964	-2128	-2291	-2455
24000	-1460	-1623	-1785	-1947	-2109	-2272	-2434
23000	-1418	-1576	-1733	-1891	-2048	-2206	-2364
22000	-1373	-1525	-1678	-1830	-1983	-2135	-2288
21000	-1325	-1472	-1619	-1766	-1914	-2061	-2208
20000	-1275	-1417	-1559	-1700	-1842	-1984	-2125
19000	-1225	-1361	-1497	-1633	-1769	-1905	-2041
18000	-1173	-1303	-1434	-1564	-1694	-1825	-1955

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE Ga

AIR DENSITY, EFFECTS IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	1	2	3	4	5	6	7	8
1000	0	0	0	0	0	0	0	0
2000	1	1	1	1	2	2	3	3
3000	1	3	4	5	7	8	9	10
4000	3	6	8	11	14	17	19	22
5000	5	10	15	19	24	29	34	39
6000	7	15	22	30	37	45	52	60
7000	10	20	31	41	52	63	73	84
8000	13	27	41	54	68	82	96	111
9000	17	34	51	68	86	104	122	140
10000	21	41	62	84	105	127	149	171
11000	25	50	75	100	126	152	179	205
12000	29	58	88	118	148	179	210	241
13000	33	67	101	136	171	206	242	278
14000	38	76	115	154	193	233	273	314
15000	42	85	128	172	216	260	304	350
16000	47	94	141	189	238	286	335	385
17000	51	102	154	206	259	312	365	419
18000	55	110	166	222	279	336	393	451
19000	59	118	178	238	298	360	421	483
20000	63	126	190	254	319	384	450	516
21000	67	134	202	270	340	409	480	551
22000	71	142	214	287	361	435	509	585
23000	75	150	226	303	381	459	538	618
24000	79	158	238	319	400	483	566	649
24530	81	162	244	327	411	495	580	666
24000	82	164	248	332	417	504	590	678
23000	81	162	244	328	412	497	583	669
22000	79	159	239	321	403	486	571	656
21000	77	154	232	312	392	473	555	638
20000	74	149	225	302	379	458	537	618
19000	71	143	217	291	365	441	518	596
18000	68	138	208	279	351	424	497	572

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE Ga

2/3 CHARGE

AIR DENSITY, EFFECTS IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	9	10	11	12	13	14	15	16
1000	1	1	1	1	1	1	1	1
2000	3	4	4	5	5	5	6	6
3000	12	13	14	16	17	18	20	21
4000	26	28	31	34	37	40	43	46
5000	45	50	55	60	65	70	75	81
6000	68	76	84	92	100	108	116	124
7000	95	106	117	128	140	151	163	174
8000	125	140	154	169	184	199	215	230
9000	158	177	196	214	233	252	272	292
10000	194	217	241	263	286	310	334	358
11000	232	260	287	315	343	372	400	429
12000	273	305	337	370	403	436	470	504
13000	314	351	388	425	463	501	539	578
14000	355	396	438	479	522	565	608	651
15000	395	441	487	534	581	628	676	724
16000	435	485	536	587	638	690	742	795
17000	473	528	583	638	694	750	807	864
18000	510	568	628	688	748	808	869	931
19000	546	609	673	738	801	867	932	998
20000	583	651	719	788	857	927	997	1060
21000	622	694	767	840	914	989	1064	1140
22000	661	738	815	892	971	1051	1131	1212
23000	699	780	861	943	1026	1111	1195	1281
24000	734	819	904	991	1079	1166	1255	1344
24530	752	839	927	1015	1104	1194	1285	1376
24000	767	856	947	1038	1130	1223	1316	1411
23000	757	845	935	1025	1116	1208	1300	1394
22000	742	829	917	1005	1095	1185	1276	1369
21000	722	807	893	980	1067	1156	1245	1336
20000	700	782	865	950	1035	1121	1208	1296
19000	675	754	834	916	999	1081	1166	1250
18000	648	724	801	880	959	1039	1120	1202

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE Gb

AIR DENSITY, EFFECTS IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	1	2	3	4	5	6	7	8
1000	0	0	0	0	0	0	0	0
2000	-1	-1	-1	-1	-2	-2	-3	-3
3000	-2	-3	-4	-5	-7	-8	-9	-10
4000	-4	-6	-8	-11	-14	-17	-19	-22
5000	-5	-10	-14	-19	-24	-28	-33	-37
6000	-7	-14	-22	-29	-36	-43	-50	-56
7000	-10	-20	-30	-40	-50	-59	-69	-78
8000	-13	-26	-39	-52	-65	-77	-90	-102
9000	-17	-33	-49	-65	-81	-97	-113	-128
10000	-20	-40	-60	-80	-99	-118	-138	-156
11000	-24	-48	-72	-96	-119	-142	-165	-187
12000	-29	-57	-85	-113	-140	-167	-194	-220
13000	-33	-66	-98	-130	-162	-193	-224	-255
14000	-38	-75	-112	-148	-184	-220	-256	-291
15000	-42	-84	-125	-166	-207	-247	-287	-326
16000	-46	-92	-138	-183	-228	-272	-316	-360
17000	-50	-100	-150	-199	-248	-297	-344	-392
18000	-54	-108	-162	-215	-267	-320	-371	-423
19000	-58	-116	-173	-230	-286	-342	-397	-452
20000	-62	-124	-185	-245	-305	-364	-423	-481
21000	-66	-132	-196	-261	-324	-387	-450	-512
22000	-70	-140	-208	-277	-344	-411	-477	-543
23000	-74	-147	-220	-292	-364	-434	-504	-573
24000	-78	-155	-232	-308	-383	-457	-531	-604
24530	-80	-159	-238	-316	-393	-470	-546	-621
24000	-81	-161	-240	-319	-396	-473	-549	-624
23000	-80	-159	-237	-314	-390	-466	-540	-614
22000	-78	-155	-231	-306	-381	-454	-527	-598
21000	-76	-150	-224	-297	-369	-440	-510	-579
20000	-73	-145	-216	-287	-356	-425	-492	-559
19000	-70	-140	-208	-276	-342	-408	-473	-537
18000	-67	-134	-199	-264	-328	-391	-453	-514

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE Gb

2/3 CHARGE

AIR DENSITY, EFFECTS IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	9	10	11	12	13	14	15	16
1000	-1	-1	-1	-1	-1	-1	-1	-1
2000	-4	-4	-4	-4	-5	-5	-6	-6
3000	-12	-13	-14	-15	-17	-18	-20	-21
4000	-25	-28	-30	-33	-36	-39	-41	-44
5000	-42	-47	-51	-56	-60	-65	-69	-73
6000	-63	-70	-77	-83	-90	-96	-103	-109
7000	-87	-97	-106	-114	-124	-132	-142	-151
8000	-114	-126	-138	-149	-162	-172	-185	-196
9000	-143	-158	-173	-187	-202	-216	-231	-244
10000	-175	-193	-211	-228	-246	-263	-281	-297
11000	-209	-231	-253	-274	-295	-315	-336	-356
12000	-246	-272	-298	-323	-348	-372	-396	-420
13000	-285	-315	-345	-374	-403	-431	-459	-487
14000	-325	-360	-394	-427	-460	-493	-526	-558
15000	-365	-404	-442	-480	-518	-555	-592	-628
16000	-403	-446	-488	-531	-572	-614	-654	-695
17000	-439	-486	-532	-578	-624	-669	-714	-758
18000	-474	-524	-574	-623	-672	-721	-770	-817
19000	-506	-560	-614	-666	-719	-771	-822	-873
20000	-539	-596	-653	-709	-765	-820	-874	-928
21000	-573	-634	-694	-753	-812	-870	-928	-985
22000	-607	-672	-735	-798	-860	-922	-983	-1043
23000	-642	-710	-777	-843	-909	-974	-1038	-1102
24000	-676	-748	-818	-889	-958	-1027	-1095	-1162
24530	-695	-769	-842	-914	-986	-1057	-1127	-1197
24000	-698	-771	-844	-915	-986	-1056	-1125	-1193
23000	-687	-759	-830	-900	-970	-1038	-1106	-1173
22000	-669	-739	-808	-876	-944	-1009	-1075	-1140
21000	-648	-715	-782	-847	-912	-975	-1038	-1100
20000	-624	-689	-753	-816	-878	-939	-999	-1058
19000	-600	-662	-723	-783	-843	-901	-958	-1015
18000	-574	-633	-692	-749	-806	-861	-916	-970

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE H

TEMPERATURE (ELASTICITY), EFFECTS IN YARDS OF RANGE (59° F.)

Range	Temperature of air - degrees Fahrenheit											
yards	0	10	20	30	40	50	59	60	70	80	90	100
1000	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
3000	1	0	0	0	0	0	0	0	0	0	0	0
4000	2	1	1	1	1	0	0	0	0	-1	-1	-1
5000	5	4	3	2	2	1	0	0	-1	-2	-3	-3
6000	10	8	7	5	3	2	0	0	-2	-4	-5	-7
7000	18	15	12	9	6	3	0	0	-3	-6	-9	-12
8000	28	23	18	14	9	4	0	0	-5	-10	-15	-19
9000	39	32	26	19	12	6	0	-1	-7	-14	-20	-27
10000	49	41	33	24	16	8	0	-1	-9	-18	-26	-34
11000	59	49	39	29	19	9	0	-1	-11	-21	-31	-41
12000	67	55	44	33	22	10	0	-1	-12	-24	-35	-46
13000	72	60	48	35	23	11	0	-1	-13	-26	-38	-50
14000	74	62	49	36	24	11	0	-1	-14	-26	-39	-52
15000	72	60	48	35	23	11	0	-1	-13	-26	-38	-50
16000	66	54	43	32	21	10	0	-1	-12	-23	-34	-46
17000	54	45	36	26	17	8	0	-1	-10	-19	-28	-37
18000	36	30	24	18	12	6	0	-1	-7	-13	-19	-25
19000	13	11	9	6	4	2	0	0	-2	-5	-7	-10
20000	-17	-15	-11	-8	-5	-2	0	0	3	6	9	12
21000	-53	-44	-35	-26	-17	-8	0	1	10	19	28	37
22000	-97	-80	-64	-47	-31	-15	0	2	18	34	51	67
23000	-149	-124	-98	-73	-48	-23	0	3	28	53	78	103
24000	-212	-176	-140	-104	-68	-32	0	4	40	76	112	148
24530	-271	-225	-179	-133	-87	-41	0	5	50	96	142	188
24000	-302	-251	-200	-149	-97	-46	0	5	56	108	159	210
23000	-302	-251	-200	-148	-97	-46	0	5	56	108	159	210
22000	-286	-237	-189	-140	-92	-44	0	5	53	102	150	198
21000	-265	-220	-175	-130	-85	-40	0	4	49	94	139	184
20000	-245	-203	-162	-120	-79	-37	0	4	46	87	129	170
19000	-230	-191	-151	-113	-74	-35	0	4	43	82	121	159
18000	-221	-184	-146	-109	-71	-34	0	4	41	79	116	154

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE I

2/3 CHARGE

REAR WIND, EFFECTS IN YARDS OF RANGE, DUE TO

Range	Rear wind - miles per hour									
yards	5	10	15	20	25	30	35	40	45	50
1000	0	1	1	2	2	2	3	3	4	4
2000	1	2	3	4	6	7	8	9	10	11
3000	2	4	6	8	11	13	15	17	19	21
4000	3	6	10	13	16	19	22	26	29	32
5000	4	9	13	17	22	26	30	34	39	43
6000	5	11	16	22	27	32	38	43	49	54
7000	6	13	20	26	33	39	46	52	59	65
8000	8	16	23	31	39	47	55	62	70	78
9000	9	19	28	38	47	56	66	75	85	94
10000	11	23	34	46	57	68	80	91	103	114
11000	14	28	42	56	70	85	99	113	127	141
12000	17	35	52	70	87	104	122	139	157	174
13000	21	43	64	86	107	128	150	171	193	214
14000	26	52	78	104	130	157	183	209	235	261
15000	31	62	93	124	156	187	218	249	280	311
16000	36	73	109	145	182	218	254	290	327	363
17000	42	83	125	166	208	250	291	333	374	416
18000	47	94	141	188	235	281	328	375	422	469
19000	52	105	157	209	262	314	366	418	471	523
20000	58	116	173	231	289	347	405	462	520	578
21000	64	127	191	254	318	382	445	509	572	636
22000	70	140	210	280	350	419	489	559	629	699
23000	77	154	230	307	384	461	538	614	691	768
24000	84	169	253	338	422	506	591	675	760	844
24530	90	179	268	358	448	537	626	716	806	895
24000	84	168	252	336	420	504	588	672	756	840
23000	73	146	220	293	366	439	512	586	659	732
22000	66	132	198	264	330	396	462	528	594	660
21000	63	125	188	251	314	376	439	502	564	627
20000	63	126	190	253	316	379	442	506	569	632
19000	66	132	198	264	330	395	461	527	593	659
18000	70	140	209	279	349	419	489	558	628	698

NOTE: The range effects due to ahead wind are so nearly identical in numerical value with those for a rear wind that the above table with signs changed should be used for such effects.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE J 2/3 CHARGE MV = 1950 FPS

CROSS WIND EFFECTS

Range	in mils					in degrees				
	Cross wind - miles per hour									
yards	10	20	30	40	50	10	20	30	40	50
1000	0.1	0.2	0.4	0.5	0.6	0.00	0.01	0.02	0.02	0.03
2000	0.2	0.4	0.7	0.9	1.1	0.01	0.02	0.04	0.05	0.06
3000	0.4	0.7	1.1	1.4	1.8	0.02	0.04	0.06	0.08	0.10
4000	0.5	1.0	1.4	1.9	2.4	0.03	0.06	0.08	0.11	0.14
5000	0.6	1.2	1.8	2.4	3.0	0.03	0.07	0.10	0.14	0.17
6000	0.7	1.5	2.2	3.0	3.7	0.04	0.08	0.12	0.17	0.21
7000	0.9	1.8	2.6	3.5	4.4	0.05	0.10	0.15	0.20	0.25
8000	1.0	2.0	3.1	4.1	5.1	0.06	0.11	0.17	0.23	0.29
9000	1.2	2.3	3.5	4.6	5.8	0.07	0.13	0.20	0.26	0.33
10000	1.3	2.6	4.0	5.3	6.6	0.07	0.15	0.23	0.30	0.37
11000	1.5	3.0	4.5	6.0	7.5	0.08	0.17	0.25	0.34	0.42
12000	1.7	3.3	5.0	6.6	8.3	0.10	0.19	0.28	0.38	0.47
13000	1.8	3.7	5.5	7.3	9.2	0.10	0.21	0.31	0.41	0.52
14000	2.0	4.0	6.0	8.0	10.0	0.11	0.23	0.34	0.45	0.56
15000	2.1	4.3	6.4	8.6	10.7	0.12	0.24	0.36	0.48	0.60
16000	2.3	4.6	6.8	9.1	11.4	0.13	0.26	0.38	0.51	0.64
17000	2.4	4.8	7.3	9.7	12.1	0.14	0.27	0.41	0.55	0.68
18000	2.6	5.1	7.7	10.3	12.8	0.15	0.29	0.43	0.58	0.72
19000	2.7	5.4	8.2	10.9	13.6	0.15	0.30	0.46	0.61	0.77
20000	2.9	5.7	8.6	11.4	14.3	0.16	0.32	0.48	0.64	0.80
21000	3.0	6.0	9.1	12.1	15.1	0.17	0.34	0.51	0.68	0.85
22000	3.2	6.4	9.6	12.7	15.9	0.18	0.36	0.54	0.71	0.89
23000	3.4	6.7	10.1	13.4	16.8	0.19	0.38	0.57	0.75	0.95
24000	3.6	7.1	10.7	14.2	17.8	0.20	0.40	0.60	0.80	1.00
24530	3.8	7.5	11.3	15.0	18.8	0.21	0.42	0.64	0.84	1.06
24000	4.2	8.4	12.5	16.7	20.9	0.24	0.47	0.70	0.94	1.18
23000	4.6	9.3	13.9	18.6	23.2	0.26	0.52	0.78	1.05	1.31
22000	5.0	10.0	14.9	19.9	24.9	0.28	0.56	0.84	1.12	1.40
21000	5.3	10.6	15.8	21.1	26.4	0.30	0.60	0.89	1.19	1.49
20000	5.6	11.2	16.8	22.5	28.1	0.32	0.63	0.95	1.27	1.58
19000	6.0	11.9	17.9	23.8	29.8	0.34	0.67	1.01	1.34	1.68
18000	6.5	12.9	19.4	25.8	32.3	0.37	0.73	1.09	1.45	1.82

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 0°

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10000	+0.1-	+0.1-	0.0	0.0	0.0	-0.1+	-0.1+
12000	+0.1-	+0.1-	+0.1-	0.0	-0.1+	-0.1+	-0.1+
14000	+0.2-	+0.1-	+0.1-	0.0	-0.1+	-0.1+	-0.2+
16000	+0.2-	+0.2-	+0.1-	0.0	-0.1+	-0.2+	-0.2+
18000	+0.3-	+0.3-	+0.2-	0.0	-0.2+	-0.3+	-0.3+
20000	+0.5-	+0.4-	+0.2-	0.0	-0.2+	-0.4+	-0.5+
22000	+0.7-	+0.6-	+0.3-	0.0	-0.3+	-0.6+	-0.7+
24000	+1.1-	+1.0-	+0.6-	0.0	-0.6+	-1.0+	-1.1+
24530	+1.5-	+1.3-	+0.7-	0.0	-0.7+	-1.3+	-1.5+
24000	+2.3-	+2.0-	+1.2-	0.0	-1.2+	-2.0+	-2.3+
22000	+3.2-	+2.7-	+1.6-	0.0	-1.6+	-2.7+	-3.2+
20000	+3.9-	+3.4-	+1.9-	0.0	-1.9+	-3.4+	-3.9+
18000	+4.7-	+4.0-	+2.3-	0.0	-2.3+	-4.0+	-4.7+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE K 2/3 CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 10° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
6000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.2+
8000	-0.1+	-0.1+	-0.1+	-0.2+	-0.2+	-0.2+	-0.2+
10000	-0.2+	-0.2+	-0.2+	-0.2+	-0.3+	-0.3+	-0.3+
12000	-0.2+	-0.2+	-0.2+	-0.3+	-0.3+	-0.4+	-0.4+
14000	-0.2+	-0.2+	-0.3+	-0.3+	-0.4+	-0.5+	-0.5+
16000	-0.2+	-0.2+	-0.3+	-0.4+	-0.5+	-0.6+	-0.6+
18000	-0.1+	-0.2+	-0.3+	-0.5+	-0.6+	-0.8+	-0.8+
20000	-0.1+	-0.1+	-0.3+	-0.5+	-0.8+	-0.9+	-1.0+
22000	+0.1-	0.0	-0.3+	-0.6+	-1.0+	-1.2+	-1.3+
24000	+0.4-	+0.2-	-0.2+	-0.8+	-1.3+	-1.7+	-1.9+
24530	+0.6-	+0.4-	-0.1+	-0.9+	-1.6+	-2.1+	-2.3+
24000	+1.3-	+1.0-	+0.2-	-1.0+	-2.1+	-2.9+	-3.2+
22000	+2.1-	+1.7-	+0.5-	-1.0+	-2.6+	-3.7+	-4.2+
20000	+2.7-	+2.2-	+0.8-	-1.1+	-3.0+	-4.4+	-4.9+
18000	+3.5-	+2.9-	+1.2-	-1.1+	-3.4+	-5.1+	-5.7+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 10° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS 2/3 CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 20° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
6000	-0.2+	-0.2+	-0.2+	-0.2+	-0.3+	-0.3+	-0.3+
8000	-0.3+	-0.3+	-0.3+	-0.3+	-0.4+	-0.4+	-0.4+
10000	-0.4+	-0.4+	-0.4+	-0.4+	-0.5+	-0.5+	-0.5+
12000	-0.4+	-0.5+	-0.5+	-0.5+	-0.6+	-0.6+	-0.6+
14000	-0.5+	-0.5+	-0.6+	-0.7+	-0.7+	-0.8+	-0.8+
16000	-0.6+	-0.6+	-0.7+	-0.8+	-0.8+	-1.0+	-1.0+
18000	-0.6+	-0.6+	-0.8+	-0.9+	-1.1+	-1.2+	-1.2+
20000	-0.6+	-0.7+	-0.8+	-1.1+	-1.3+	-1.5+	-1.5+
22000	-0.6+	-0.7+	-0.9+	-1.2+	-1.6+	-1.8+	-1.9+
24000	-0.4+	-0.6+	-1.0+	-1.5+	-2.0+	-2.4+	-2.6+
24530	-0.3+	-0.5+	-1.0+	-1.7+	-2.4+	-2.9+	-3.1+
24000	+0.3-	0.0	-0.8+	-1.9+	-3.0+	-3.8+	-4.1+
22000	+0.9-	+0.5-	-0.6+	-2.0+	-3.5+	-4.6+	-5.0+
20000	+1.5-	+1.0-	-0.3+	-2.1+	-4.0+	-5.3+	-5.8+
18000	+2.2-	+1.6-	0.0	-2.2+	-4.4+	-6.0+	-6.6+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 20° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE K 2/3 CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 30° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
6000	-0.3+	-0.3+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
8000	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+
10000	-0.6+	-0.6+	-0.6+	-0.6+	-0.7+	-0.7+	-0.7+
12000	-0.7+	-0.7+	-0.7+	-0.8+	-0.8+	-0.9+	-0.9+
14000	-0.8+	-0.8+	-0.9+	-1.0+	-1.0+	-1.1+	-1.1+
16000	-0.9+	-1.0+	-1.0+	-1.1+	-1.2+	-1.3+	-1.3+
18000	-1.0+	-1.1+	-1.2+	-1.3+	-1.5+	-1.6+	-1.6+
20000	-1.1+	-1.2+	-1.3+	-1.5+	-1.8+	-1.9+	-2.0+
22000	-1.2+	-1.3+	-1.5+	-1.8+	-2.1+	-2.3+	-2.4+
24000	-1.2+	-1.3+	-1.7+	-2.2+	-2.7+	-3.1+	-3.2+
24530	-1.2+	-1.3+	-1.8+	-2.5+	-3.1+	-3.6+	-3.8+
24000	-0.8+	-1.0+	-1.8+	-2.8+	-3.8+	-4.5+	-4.8+
22000	-0.2+	-0.6+	-1.6+	-3.0+	-4.4+	-5.4+	-5.7+
20000	+0.3-	-0.2+	-1.4+	-3.1+	-4.8+	-6.0+	-6.5+
18000	+0.9-	+0.3-	-1.2+	-3.2+	-5.2+	-6.7+	-7.2+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 30° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 40° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
4000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
6000	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+
8000	-0.6+	-0.6+	-0.6+	-0.6+	-0.7+	-0.7+	-0.7+
10000	-0.8+	-0.8+	-0.8+	-0.8+	-0.9+	-0.9+	-0.9+
12000	-0.9+	-0.9+	-1.0+	-1.0+	-1.1+	-1.1+	-1.1+
14000	-1.1+	-1.1+	-1.2+	-1.2+	-1.3+	-1.3+	-1.4+
16000	-1.3+	-1.3+	-1.4+	-1.5+	-1.6+	-1.6+	-1.6+
18000	-1.5+	-1.5+	-1.6+	-1.7+	-1.8+	-1.9+	-2.0+
20000	-1.6+	-1.7+	-1.8+	-2.0+	-2.2+	-2.3+	-2.4+
22000	-1.8+	-1.9+	-2.1+	-2.3+	-2.6+	-2.8+	-2.9+
24000	-1.9+	-2.1+	-2.4+	-2.8+	-3.3+	-3.6+	-3.7+
24530	-2.0+	-2.2+	-2.6+	-3.2+	-3.7+	-4.1+	-4.3+
24000	-1.8+	-2.0+	-2.7+	-3.6+	-4.4+	-5.1+	-5.3+
22000	-1.4+	-1.7+	-2.7+	-3.8+	-5.1+	-5.9+	-6.3+
20000	-1.0+	-1.4+	-2.5+	-4.0+	-5.5+	-6.6+	-7.0+
18000	-0.5+	-1.0+	-2.3+	-4.1+	-5.9+	-7.2+	-7.7+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 40° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE K 2/3 CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 50° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
4000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
6000	-0.5+	-0.5+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+
8000	-0.7+	-0.7+	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+
10000	-0.9+	-0.9+	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+
12000	-1.0+	-1.2+	-1.2+	-1.2+	-1.3+	-1.3+	-1.3+
14000	-1.2+	-1.4+	-1.4+	-1.5+	-1.5+	-1.6+	-1.6+
16000	-1.5+	-1.6+	-1.7+	-1.7+	-1.8+	-1.9+	-1.9+
18000	-1.8+	-1.9+	-1.9+	-2.0+	-2.2+	-2.2+	-2.3+
20000	-2.1+	-2.1+	-2.2+	-2.4+	-2.5+	-2.6+	-2.7+
22000	-2.3+	-2.4+	-2.5+	-2.8+	-3.0+	-3.2+	-3.2+
24000	-2.6+	-2.7+	-3.0+	-3.4+	-3.7+	-4.0+	-4.1+
24530	-2.8+	-2.9+	-3.3+	-3.8+	-4.2+	-4.6+	-4.7+
24000	-2.8+	-3.0+	-3.5+	-4.2+	-5.0+	-5.5+	-5.7+
22000	-2.5+	-2.8+	-3.6+	-4.6+	-5.6+	-6.3+	-6.6+
20000	-2.3+	-2.6+	-3.5+	-4.8+	-6.0+	-6.9+	-7.3+
18000	-1.9+	-2.3+	-3.4+	-4.9+	-6.4+	-7.5+	-7.9+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 50° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

2/3 CHARGE

PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 60° (North)

Range yards	Azimuth of target - degrees: 0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
4000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
6000	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+
8000	-0.8+	-0.8+	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+
10000	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+
12000	-1.3+	-1.3+	-1.4+	-1.4+	-1.4+	-1.4+	-1.4+
14000	-1.6+	-1.6+	-1.6+	-1.7+	-1.7+	-1.7+	-1.7+
16000	-1.9+	-1.9+	-1.9+	-2.0+	-2.0+	-2.1+	-2.1+
18000	-2.1+	-2.2+	-2.2+	-2.3+	-2.4+	-2.5+	-2.5+
20000	-2.4+	-2.5+	-2.6+	-2.7+	-2.8+	-2.9+	-2.9+
22000	-2.8+	-2.8+	-3.0+	-3.1+	-3.3+	-3.4+	-3.5+
24000	-3.2+	-3.3+	-3.6+	-3.8+	-4.1+	-4.3+	-4.4+
24530	-3.5+	-3.6+	-3.9+	-4.2+	-4.6+	-4.9+	-5.0+
24000	-3.6+	-3.8+	-4.2+	-4.8+	-5.4+	-5.8+	-5.9+
22000	-3.6+	-3.8+	-4.4+	-5.2+	-6.0+	-6.5+	-6.8+
20000	-3.4+	-3.7+	-4.4+	-5.4+	-6.4+	-7.1+	-7.3+
18000	-3.2+	-3.5+	-4.4+	-5.5+	-6.7+	-7.5+	-7.9+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 60° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 1950 FPS

PART 2 TABLE K

2/3 CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 70° (North)

Range yards	Azimuth of target - degrees: 0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
4000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
6000	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+
8000	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+	-1.0+
10000	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+
12000	-1.5+	-1.5+	-1.5+	-1.5+	-1.5+	-1.5+	-1.5+
14000	-1.7+	-1.8+	-1.8+	-1.8+	-1.8+	-1.9+	-1.9+
16000	-2.1+	-2.1+	-2.1+	-2.1+	-2.2+	-2.2+	-2.2+
18000	-2.4+	-2.4+	-2.5+	-2.5+	-2.6+	-2.6+	-2.6+
20000	-2.7+	-2.8+	-2.8+	-2.9+	-3.0+	-3.1+	-3.1+
22000	-3.2+	-3.2+	-3.3+	-3.4+	-3.5+	-3.6+	-3.6+
24000	-3.7+	-3.8+	-3.9+	-4.1+	-4.3+	-4.5+	-4.5+
24530	-4.1+	-4.2+	-4.4+	-4.6+	-4.9+	-5.1+	-5.1+
24000	-4.4+	-4.5+	-4.8+	-5.2+	-5.6+	-5.9+	-6.0+
22000	-4.5+	-4.7+	-5.1+	-5.6+	-6.2+	-6.6+	-6.7+
20000	-4.5+	-4.7+	-5.2+	-5.8+	-6.5+	-7.0+	-7.2+
18000	-4.4+	-4.6+	-5.2+	-6.0+	-6.8+	-7.4+	-7.6+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 70° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

608393 O - 44 - 8

PART 2 FULL CHARGE

GUN, 16-INCH, SEACOAST, M1919, M1919MI AND M1919MII

FIRING

PROJECTILE, A.P., 2100-LB., MK.II-MOD. 2

FUZE, B.D., MK.X

MUZZLE VELOCITY = 2750 FPS

TABLES A - K INCLUSIVE

JUMP = +0.4 MILS

NOTE: Standard air temperature for density and elasticity is 59°F.
Standard temperature of powder is 70°F.

608393 O - 44 - 9

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
0	-0.4	-0 02	0.6	2.2	155.4	46.1	0	2750
100	+0.2	+0 01	0.6	2.2	154.8	45.9	1	
200	0.8	0 03	0.7	2.2	154.3	45.7	1	
300	1.4	0 05	0.7	2.2	153.7	45.5	2	
400	2.2	0 07	0.7	2.2	153.2	45.3	2	
500	2.8	0 10	0.7	2.2	152.6	45.2	3	2718
600	3.4	0 12	0.7	2.2	152.1	45.0	3	
700	4.2	0 14	0.7	2.2	151.5	44.9	4	
800	4.8	0 16	0.7	2.2	151.0	44.7	4	
900	5.6	0 18	0.7	2.3	150.5	44.5	5	
1000	6.2	0 21	0.7	2.3	150.0	44.4	6	2686
1100	6.8	0 23	0.7	2.3	149.4	44.3	7	
1200	7.4	0 25	0.7	2.3	148.9	44.1	8	
1300	8.2	0 28	0.7	2.3	148.3	44.0	9	
1400	8.8	0 30	0.7	2.3	147.8	43.8	10	
1500	9.6	0 32	0.7	2.3	147.3	43.6	12	2654
1600	10.2	0 34	0.7	2.3	146.8	43.5	14	
1700	11.0	0 37	0.7	2.3	146.3	43.3	16	
1800	11.6	0 39	0.7	2.3	145.8	43.2	18	
1900	12.2	0 41	0.7	2.3	145.3	43.0	20	
2000	13.0	0 44	0.7	2.3	144.8	42.8	22	2622
2100	13.6	0 46	0.7	2.3	144.3	42.7	24	
2200	14.4	0 48	0.7	2.4	143.8	42.5	26	
2300	15.0	0 51	0.7	2.4	143.3	42.4	28	
2400	15.8	0 53	0.7	2.4	142.8	42.2	30	
2500	16.4	0 56	0.7	2.4	142.3	42.0	33	2590
2600	17.2	0 58	0.7	2.4	141.8	41.9	36	
2700	17.8	1 00	0.7	2.4	141.3	41.7	39	
2800	18.6	1 03	0.7	2.4	140.8	41.6	42	
2900	19.4	1 05	0.7	2.4	140.3	41.4	45	
3000	20.0	1 08	0.7	2.4	139.8	41.3	48	2559

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
0	0 00		-1	-0.05	14.40	21	0	0.0	0
1	0 02	1563						0.1	100
1	0 04	781						0.2	200
2	0 07	521						0.3	300
3	0 09	386						0.4	400
3	0 11	307	-1	-0.05	14.40	21	0	0.6	500
4	0 14	255						0.7	600
5	0 16	216						0.8	700
5	0 18	189						0.9	800
6	0 20	168						1.0	900
7	0 23	151	-1	-0.10	14.40	22	0	1.1	1000
7	0 25	137						1.2	1100
8	0 28	125						1.3	1200
9	0 30	115						1.4	1300
9	0 32	106						1.5	1400
10	0 35	99	-2	-0.10	14.40	22	0	1.6	1500
11	0 37	93						1.8	1600
12	0 40	87						1.9	1700
12	0 42	82						2.0	1800
13	0 45	77						2.1	1900
14	0 47	73	-2	-0.10	14.40	22	1	2.2	2000
15	0 49	70						2.3	2100
15	0 52	66						2.5	2200
16	0 55	63						2.6	2300
17	0 57	60						2.7	2400
18	1 00	58	-2	-0.10	14.40	23	1	2.8	2500
18	1 02	55						2.9	2600
19	1 05	53						3.0	2700
20	1 07	51						3.1	2800
21	1 10	49						3.3	2900
21	1 13	47	-2	-0.10	14.40	23	1	3.4	3000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
3000	20.0	1 08	0.7	2.4	139.8	41.3	48	2559
3100	20.8	1 10	0.7	2.4	139.3	41.2	51	
3200	21.4	1 12	0.7	2.4	138.8	41.0	54	
3300	22.2	1 15	0.7	2.4	138.3	40.9	57	
3400	22.8	1 17	0.7	2.5	137.8	40.7	61	
3500	23.6	1 20	0.7	2.5	137.3	40.6	65	2528
3600	24.4	1 22	0.7	2.5	136.8	40.4	69	
3700	25.0	1 25	0.7	2.5	136.4	40.3	73	
3800	25.8	1 27	0.7	2.5	135.9	40.1	77	
3900	26.6	1 30	0.7	2.5	135.5	40.0	81	
4000	27.2	1 32	0.7	2.5	135.0	39.9	85	2497
4100	28.0	1 35	0.7	2.5	134.6	39.8	89	
4200	28.8	1 37	0.7	2.5	134.1	39.7	94	
4300	29.6	1 40	0.8	2.5	133.7	39.5	99	
4400	30.2	1 42	0.8	2.5	133.2	39.4	104	
4500	31.0	1 45	0.8	2.5	132.8	39.3	109	2467
4600	31.8	1 47	0.8	2.6	132.3	39.1	114	
4700	32.4	1 50	0.8	2.6	131.9	39.0	119	
4800	33.2	1 52	0.8	2.6	131.4	38.9	124	
4900	34.0	1 55	0.8	2.6	131.0	38.7	129	
5000	34.8	1 57	0.8	2.6	130.5	38.6	134	2437
5100	35.6	2 00	0.8	2.6	130.1	38.5	140	
5200	36.4	2 03	0.8	2.6	129.7	38.4	146	
5300	37.0	2 05	0.8	2.6	129.2	38.2	152	
5400	37.8	2 08	0.8	2.6	128.8	38.1	158	
5500	38.6	2 10	0.8	2.6	128.4	38.0	164	2408
5600	39.4	2 13	0.8	2.6	127.9	37.8	170	
5700	40.2	2 16	0.8	2.6	127.5	37.7	176	
5800	41.0	2 18	0.8	2.7	127.1	37.6	183	
5900	41.8	2 21	0.8	2.7	126.6	37.5	190	
6000	42.6	2 24	0.8	2.7	126.2	37.4	197	2379

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
21	1 13	47	-2	-0.10	14.40	23	1	3.4	3000
22	1 15	46						3.5	3100
23	1 18	44						3.6	3200
24	1 20	43						3.7	3300
25	1 23	41						3.8	3400
25	1 26	40	-2	-0.15	14.40	24	1	4.0	3500
26	1 29	39						4.1	3600
27	1 31	38						4.2	3700
28	1 34	37						4.3	3800
29	1 37	35						4.4	3900
29	1 40	34	-3	-0.15	14.40	24	1	4.6	4000
30	1 42	33						4.7	4100
31	1 45	33						4.8	4200
32	1 48	32						4.9	4300
33	1 51	31						5.0	4400
34	1 54	30	-3	-0.15	14.40	25	1	5.2	4500
35	1 57	29						5.3	4600
35	2 00	29						5.4	4700
36	2 03	28						5.5	4800
37	2 06	27						5.7	4900
38	2 09	27	-3	-0.15	14.40	25	1	5.8	5000
39	2 12	26						5.9	5100
40	2 15	26						6.0	5200
41	2 18	25						6.1	5300
42	2 21	24						6.3	5400
43	2 24	24	-3	-0.20	14.40	26	1	6.4	5500
43	2 27	23						6.5	5600
44	2 30	23						6.6	5700
45	2 33	22						6.8	5800
46	2 36	22						6.9	5900
47	2 39	22	-3	-0.20	14.39	26	2	7.0	6000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
6000	42.6	2 24	0.8	2.7	126.2	37.4	197	2379
6100	43.4	2 26	0.8	2.7	125.7	37.3	204	
6200	44.2	2 29	0.8	2.7	125.3	37.2	211	
6300	45.0	2 32	0.8	2.7	124.9	37.0	219	
6400	45.8	2 34	0.8	2.7	124.5	36.9	227	
6500	46.6	2 37	0.8	2.7	124.1	36.8	235	2351
6600	47.4	2 40	0.8	2.7	123.7	36.7	243	
6700	48.2	2 42	0.8	2.7	123.3	36.5	251	
6800	49.0	2 45	0.8	2.7	122.9	36.4	259	
6900	49.8	2 48	0.8	2.8	122.5	36.3	267	
7000	50.6	2 51	0.8	2.8	122.1	36.2	275	2323
7100	51.4	2 53	0.8	2.8	121.7	36.1	284	
7200	52.2	2 56	0.8	2.8	121.3	35.9	293	
7300	53.0	2 59	0.8	2.8	120.9	35.8	302	
7400	53.8	3 02	0.8	2.8	120.5	35.7	311	
7500	54.6	3 05	0.8	2.8	120.1	35.6	320	2296
7600	55.6	3 07	0.8	2.8	119.7	35.4	329	
7700	56.4	3 10	0.8	2.8	119.3	35.3	339	
7800	57.2	3 13	0.8	2.8	118.9	35.2	349	
7900	58.0	3 16	0.8	2.8	118.5	35.1	359	
8000	58.8	3 19	0.8	2.9	118.1	35.0	369	2269
8100	59.6	3 21	0.9	2.9	117.7	34.8	379	
8200	60.6	3 24	0.9	2.9	117.3	34.7	390	
8300	61.4	3 27	0.9	2.9	116.9	34.6	401	
8400	62.2	3 30	0.9	2.9	116.5	34.5	412	
8500	63.2	3 33	0.9	2.9	116.1	34.4	423	2242
8600	64.0	3 36	0.9	2.9	115.7	34.2	434	
8700	64.8	3 39	0.9	2.9	115.3	34.1	445	
8800	65.8	3 42	0.9	2.9	114.9	34.0	456	
8900	66.6	3 45	0.9	2.9	114.6	33.9	468	
9000	67.4	3 48	0.9	3.0	114.2	33.8	480	2216

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A FULL CHARGE

Angle of fall			Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg	min	1 on—	mil	deg		yd	yd	sec	yd
47	2	39	22	-3	-0.20	14.39	26	2	7.0	6000
48	2	42	21						7.1	6100
49	2	46	21						7.3	6200
50	2	49	20						7.4	6300
51	2	52	20						7.5	6400
52	2	55	20	-4	-0.20	14.39	26	2	7.7	6500
53	2	59	19						7.8	6600
54	3	02	19						7.9	6700
55	3	05	19						8.0	6800
56	3	08	18						8.2	6900
57	3	12	18	-4	-0.20	14.39	27	2	8.3	7000
58	3	15	18						8.4	7100
59	3	19	17						8.6	7200
60	3	22	17						8.7	7300
61	3	26	17						8.8	7400
62	3	29	16	-4	-0.25	14.39	27	2	9.0	7500
63	3	33	16						9.1	7600
64	3	36	16						9.2	7700
65	3	40	16						9.3	7800
66	3	43	15						9.5	7900
67	3	47	15	-4	-0.25	14.39	28	2	9.6	8000
68	3	50	15						9.7	8100
69	3	54	15						9.9	8200
70	3	58	14						10.0	8300
71	4	01	14						10.2	8400
73	4	05	14	-5	-0.25	14.39	28	2	10.3	8500
74	4	09	14						10.4	8600
75	4	12	14						10.6	8700
76	4	16	13						10.7	8800
77	4	20	13						10.8	8900
78	4	24	13	-5	-0.25	14.39	29	2	11.0	9000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
9000	67.4	3 48	0.9	3.0	114.2	33.8	480	2216
9100	68.4	3 51	0.9	3.0	113.8	33.6	492	
9200	69.2	3 54	0.9	3.0	113.4	33.5	504	
9300	70.0	3 57	0.9	3.0	113.0	33.4	516	
9400	71.0	4 00	0.9	3.0	112.6	33.3	529	
9500	71.8	4 03	0.9	3.0	112.3	33.2	542	2190
9600	72.8	4 06	0.9	3.0	111.9	33.1	555	
9700	73.6	4 09	0.9	3.0	111.5	33.0	568	
9800	74.6	4 12	0.9	3.0	111.1	32.9	581	
9900	75.4	4 15	0.9	3.0	110.7	32.8	595	
10000	76.4	4 18	0.9	3.1	110.4	32.7	609	2165
10100	77.2	4 21	0.9	3.1	110.0	32.5	623	
10200	78.2	4 24	0.9	3.1	109.6	32.4	637	
10300	79.0	4 27	0.9	3.1	109.3	32.3	651	
10400	80.0	4 30	0.9	3.1	108.9	32.2	666	
10500	81.0	4 33	0.9	3.1	108.5	32.1	681	2140
10600	81.8	4 36	0.9	3.1	108.2	32.0	696	
10700	82.8	4 39	0.9	3.1	107.8	31.9	711	
10800	83.6	4 42	0.9	3.1	107.4	31.8	726	
10900	84.6	4 46	0.9	3.1	107.1	31.7	741	
11000	85.6	4 49	0.9	3.2	106.7	31.6	757	2115
11100	86.4	4 52	0.9	3.2	106.3	31.5	773	
11200	87.4	4 55	0.9	3.2	105.9	31.4	789	
11300	88.4	4 58	0.9	3.2	105.6	31.3	805	
11400	89.4	5 02	1.0	3.2	105.2	31.2	822	
11500	90.2	5 05	1.0	3.2	104.9	31.1	839	2091
11600	91.2	5 08	1.0	3.2	104.5	31.0	856	
11700	92.2	5 11	1.0	3.2	104.2	30.9	873	
11800	93.2	5 14	1.0	3.2	103.8	30.8	890	
11900	94.2	5 18	1.0	3.3	103.5	30.7	907	
12000	95.2	5 21	1.0	3.3	103.1	30.6	925	2067

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A

FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
78	4 24	13	-5	-0.25	14.39	29	2	11.0	9000
79	4 28	13						11.1	9100
80	4 31	13						11.2	9200
82	4 35	12						11.4	9300
83	4 39	12						11.5	9400
84	4 43	12	-5	-0.30	14.39	29	2	11.7	9500
85	4 47	12						11.8	9600
86	4 51	12						11.9	9700
87	4 55	12						12.1	9800
88	4 59	11						12.2	9900
90	5 03	11	-5	-0.30	14.39	30	3	12.4	10000
91	5 07	11						12.5	10100
92	5 11	11						12.6	10200
93	5 15	11						12.8	10300
95	5 19	11						12.9	10400
96	5 24	11	-6	-0.30	14.39	31	3	13.0	10500
97	5 28	10						13.2	10600
98	5 32	10						13.3	10700
100	5 36	10						13.5	10800
101	5 40	10						13.6	10900
102	5 45	9.9	-6	-0.30	14.38	32	3	13.8	11000
103	5 49	9.8						13.9	11100
105	5 54	9.7						14.1	11200
106	5 58	9.6						14.2	11300
107	6 02	9.5						14.3	11400
109	6 07	9.3	-6	-0.35	14.38	32	3	14.5	11500
110	6 11	9.2						14.6	11600
111	6 16	9.1						14.8	11700
113	6 20	9.0						14.9	11800
114	6 24	8.9						15.1	11900
115	6 29	8.8	-6	-0.35	14.38	33	3	15.2	12000

*This is proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
12000	95.2	5 21	1.0	3.3	103.1	30.6	925	2067
12100	96.0	5 24	1.0	3.3	102.8	30.4	943	
12200	97.0	5 28	1.0	3.3	102.4	30.3	961	
12300	98.0	5 31	1.0	3.3	102.1	30.2	979	
12400	99.0	5 34	1.0	3.3	101.7	30.1	998	
12500	100.0	5 37	1.0	3.3	101.4	30.0	1017	2043
12600	101.0	5 41	1.0	3.3	101.0	29.9	1036	
12700	102.0	5 44	1.0	3.4	100.7	29.8	1056	
12800	103.0	5 48	1.0	3.4	100.3	29.7	1076	
12900	104.0	5 51	1.0	3.4	100.0	29.6	1096	
13000	105.0	5 54	1.0	3.4	99.6	29.5	1116	2020
13100	106.0	5 58	1.0	3.4	99.3	29.3	1137	
13200	107.0	6 01	1.0	3.4	98.9	29.2	1158	
13300	108.0	6 04	1.0	3.4	98.6	29.1	1179	
13400	109.0	6 08	1.0	3.5	98.2	29.0	1200	
13500	110.0	6 11	1.0	3.5	97.9	28.9	1221	1996
13600	111.0	6 15	1.0	3.5	97.5	28.8	1243	
13700	112.2	6 18	1.0	3.5	97.2	28.7	1265	
13800	113.2	6 22	1.0	3.5	96.8	28.6	1287	
13900	114.2	6 25	1.0	3.5	96.5	28.5	1309	
14000	115.2	6 29	1.0	3.5	96.1	28.4	1331	1973
14100	116.2	6 32	1.0	3.6	95.8	28.3	1354	
14200	117.4	6 36	1.0	3.6	95.4	28.2	1377	
14300	118.4	6 40	1.1	3.6	95.1	28.1	1400	
14400	119.4	6 43	1.1	3.6	94.7	28.0	1424	
14500	120.6	6 47	1.1	3.6	94.4	27.9	1448	1950
14600	121.6	6 50	1.1	3.6	94.1	27.8	1472	
14700	122.6	6 54	1.1	3.6	93.7	27.7	1496	
14800	123.8	6 58	1.1	3.6	93.4	27.6	1521	
14900	124.8	7 01	1.1	3.6	93.1	27.5	1546	
15000	125.8	7 05	1.1	3.7	92.7	27.4	1571	1927

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
115	6 29	8.8	-6	-0.35	14.38	33	3	15.2	12000
116	6 34	8.7						15.4	12100
118	6 38	8.6						15.5	12200
119	6 43	8.5						15.7	12300
120	6 48	8.4						15.8	12400
122	6 52	8.3	-7	-0.35	14.38	34	3	16.0	12500
123	6 57	8.2						16.1	12600
125	7 02	8.1						16.3	12700
126	7 07	8.0						16.4	12800
128	7 11	7.9						16.6	12900
129	7 16	7.8	-7	-0.40	14.38	35	4	16.7	13000
131	7 21	7.8						16.9	13100
132	7 26	7.7						17.0	13200
134	7 31	7.6						17.2	13300
135	7 36	7.5						17.3	13400
136	7 41	7.4	-7	-0.40	14.38	35	4	17.5	13500
138	7 46	7.3						17.6	13600
139	7 51	7.3						17.8	13700
141	7 56	7.2						17.9	13800
143	8 01	7.1						18.1	13900
144	8 06	7.0	-7	-0.40	14.38	36	4	18.2	14000
146	8 11	6.9						18.4	14100
147	8 17	6.9						18.6	14200
149	8 22	6.8						18.7	14300
150	8 27	6.7						18.9	14400
152	8 33	6.7	-8	-0.45	14.38	37	4	19.0	14500
153	8 38	6.6						19.2	14600
155	8 43	6.5						19.3	14700
156	8 48	6.5						19.5	14800
158	8 54	6.4						19.7	14900
159	8 59	6.3	-8	-0.45	14.37	38	4	19.8	15000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
15000	125.8	7 05	1.1	3.7	92.7	27.4	1571	1927
15100	127.0	7 09	1.1	3.7	92.4	27.3	1597	
15200	128.0	7 12	1.1	3.7	92.1	27.2	1623	
15300	129.2	7 16	1.1	3.7	91.7	27.1	1649	
15400	130.2	7 20	1.1	3.7	91.4	27.0	1675	
15500	131.4	7 23	1.1	3.7	91.1	26.9	1702	1904
15600	132.4	7 27	1.1	3.7	90.7	26.8	1729	
15700	133.6	7 31	1.1	3.7	90.4	26.7	1756	
15800	134.6	7 34	1.1	3.8	90.1	26.6	1783	
15900	135.8	7 38	1.1	3.8	89.7	26.5	1810	
16000	136.8	7 42	1.1	3.8	89.4	26.4	1838	1882
16100	138.0	7 46	1.1	3.8	89.1	26.3	1866	
16200	139.2	7 50	1.1	3.8	88.8	26.2	1894	
16300	140.2	7 53	1.1	3.8	88.5	26.1	1923	
16400	141.4	7 57	1.1	3.8	88.1	26.0	1952	
16500	142.6	8 01	1.1	3.8	87.8	25.9	1981	1860
16600	143.6	8 05	1.1	3.9	87.5	25.8	2011	
16700	144.8	8 09	1.1	3.9	87.2	25.8	2041	
16800	146.0	8 13	1.2	3.9	86.9	25.7	2071	
16900	147.2	8 17	1.2	3.9	86.5	25.6	2101	
17000	148.2	8 20	1.2	3.9	86.2	25.5	2132	1839
17100	149.4	8 24	1.2	3.9	85.9	25.4	2163	
17200	150.6	8 28	1.2	3.9	85.6	25.3	2194	
17300	151.8	8 32	1.2	4.0	85.3	25.2	2226	
17400	153.0	8 36	1.2	4.0	85.0	25.1	2258	
17500	154.2	8 40	1.2	4.0	84.7	25.0	2290	1818
17600	155.4	8 44	1.2	4.0	84.4	25.0	2323	
17700	156.6	8 48	1.2	4.0	84.1	24.9	2356	
17800	157.8	8 52	1.2	4.0	83.8	24.8	2389	
17900	159.0	8 56	1.2	4.0	83.5	24.7	2422	
18000	160.2	9 00	1.2	4.1	83.2	24.6	2456	1798

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
159	8 59	6.3	-8	-0.45	14.37	38	4	19.8	15000
161	9 05	6.3						20.0	15100
163	9 10	6.2						20.1	15200
165	9 16	6.1						20.3	15300
166	9 22	6.1						20.4	15400
168	9 27	6.0	-8	-0.45	14.37	39	4	20.6	15500
170	9 33	5.9						20.8	15600
171	9 38	5.9						20.9	15700
173	9 44	5.8						21.1	15800
175	9 50	5.8						21.3	15900
176	9 55	5.7	-9	-0.50	14.37	40	5	21.4	16000
178	10 01	5.7						21.6	16100
180	10 07	5.6						21.7	16200
182	10 13	5.5						21.9	16300
183	10 19	5.5						22.1	16400
185	10 25	5.4	-9	-0.50	14.37	41	5	22.2	16500
187	10 31	5.4						22.4	16600
189	10 37	5.3						22.6	16700
190	10 43	5.3						22.7	16800
192	10 49	5.2						22.9	16900
194	10 55	5.2	-9	-0.50	14.37	42	5	23.1	17000
196	11 01	5.1						23.2	17100
198	11 07	5.1						23.4	17200
199	11 13	5.0						23.6	17300
201	11 20	5.0						23.8	17400
203	11 26	4.9	-10	-0.55	14.37	43	5	24.0	17500
205	11 32	4.9						24.1	17600
207	11 38	4.9						24.3	17700
209	11 45	4.8						24.4	17800
211	11 51	4.8						24.6	17900
213	11 58	4.7	-10	-0.55	14.37	43	5	24.8	18000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
18000	160.2	9 00	1.2	4.1	83.2	24.6	2456	1798
18100	161.4	9 04	1.2	4.1	82.9	24.6	2490	
18200	162.6	9 08	1.2	4.1	82.6	24.5	2524	
18300	163.8	9 13	1.2	4.1	82.3	24.4	2559	
18400	165.0	9 17	1.2	4.1	82.0	24.3	2594	
18500	166.2	9 21	1.2	4.1	81.7	24.2	2630	1778
18600	167.4	9 25	1.2	4.1	81.4	24.1	2666	
18700	168.6	9 29	1.2	4.2	81.1	24.0	2702	
18800	169.8	9 33	1.2	4.2	80.8	23.9	2739	
18900	171.0	9 37	1.2	4.2	80.5	23.8	2776	
19000	172.4	9 41	1.2	4.2	80.2	23.7	2814	1759
19100	173.6	9 46	1.3	4.2	79.9	23.7	2852	
19200	174.8	9 50	1.3	4.2	79.6	23.6	2890	
19300	176.0	9 54	1.3	4.3	79.3	23.5	2929	
19400	177.4	9 59	1.3	4.3	79.0	23.4	2968	
19500	178.6	10 03	1.3	4.3	78.7	23.3	3007	1740
19600	180.0	10 07	1.3	4.3	78.4	23.2	3047	
19700	181.2	10 12	1.3	4.3	78.1	23.1	3087	
19800	182.4	10 16	1.3	4.3	77.8	23.0	3127	
19900	183.8	10 20	1.3	4.4	77.5	22.9	3167	
20000	185.0	10 24	1.3	4.4	77.2	22.8	3208	1722
20100	186.4	10 29	1.3	4.4	76.9	22.8	3249	
20200	187.6	10 33	1.3	4.4	76.6	22.7	3290	
20300	189.0	10 38	1.3	4.4	76.3	22.6	3332	
20400	190.2	10 42	1.3	4.4	76.0	22.5	3374	
20500	191.6	10 47	1.3	4.5	75.7	22.4	3417	1704
20600	193.0	10 51	1.3	4.5	75.4	22.4	3461	
20700	194.2	10 56	1.3	4.5	75.1	22.3	3505	
20800	195.6	11 00	1.3	4.5	74.8	22.2	3550	
20900	197.0	11 05	1.3	4.5	74.5	22.1	3595	
21000	198.2	11 09	1.3	4.5	74.3	22.0	3641	1687

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A

FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
213	11 58	4.7	-10	-0.55	14.37	43	5	24.8	18000
214	12 04	4.7						24.9	18100
216	12 10	4.6						25.1	18200
218	12 17	4.6						25.3	18300
220	12 23	4.6						25.4	18400
222	12 30	4.5	-10	-0.55	14.37	44	5	25.6	18500
224	12 36	4.5						25.8	18600
226	12 43	4.4						26.0	18700
228	12 50	4.4						26.1	18800
230	12 56	4.3						26.3	18900
232	13 03	4.3	-11	-0.60	14.37	45	6	26.5	19000
234	13 10	4.3						26.6	19100
236	13 17	4.2						26.8	19200
238	13 24	4.2						27.0	19300
240	13 31	4.2						27.2	19400
242	13 38	4.1	-11	-0.60	14.37	46	6	27.4	19500
244	13 44	4.1						27.5	19600
246	13 51	4.1						27.7	19700
248	13 58	4.0						27.9	19800
250	14 05	4.0						28.1	19900
252	14 12	4.0	-11	-0.65	14.36	47	6	28.3	20000
255	14 19	3.9						28.4	20100
257	14 26	3.9						28.6	20200
259	14 33	3.9						28.8	20300
261	14 41	3.8						29.0	20400
263	14 48	3.8	-12	-0.65	14.36	48	6	29.2	20500
265	14 55	3.8						29.4	20600
267	15 02	3.7						29.5	20700
269	15 10	3.7						29.7	20800
272	15 17	3.7						29.9	20900
274	15 24	3.6	-12	-0.70	14.36	49	6	30.1	21000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE

PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
21000	198.2	11 09	1.3	4.5	74.3	22.0	3641	1687
21100	199.6	11 14	1.4	4.6	74.0	22.0	3687	
21200	201.0	11 19	1.4	4.6	73.7	21.9	3733	
21300	202.4	11 23	1.4	4.6	73.4	21.8	3780	
21400	203.8	11 28	1.4	4.6	73.1	21.7	3827	
21500	205.0	11 32	1.4	4.6	72.8	21.6	3874	1670
21600	206.4	11 37	1.4	4.6	72.5	21.5	3922	
21700	207.8	11 41	1.4	4.7	72.2	21.4	3970	
21800	209.2	11 46	1.4	4.7	71.9	21.3	4018	
21900	210.6	11 51	1.4	4.7	71.6	21.2	4067	
22000	212.0	11 56	1.4	4.7	71.4	21.1	4116	1654
22100	213.4	12 00	1.4	4.8	71.1	21.1	4165	
22200	214.8	12 05	1.4	4.8	70.8	21.0	4215	
22300	216.2	12 10	1.4	4.8	70.5	20.9	4265	
22400	217.6	12 15	1.4	4.8	70.2	20.8	4316	
22500	219.0	12 19	1.4	4.8	70.0	20.7	4368	1639
22600	220.4	12 24	1.4	4.8	69.7	20.7	4420	
22700	222.0	12 29	1.4	4.9	69.4	20.6	4473	
22800	223.4	12 34	1.4	4.9	69.1	20.5	4527	
22900	224.8	12 39	1.5	4.9	68.8	20.4	4581	
23000	226.4	12 44	1.5	4.9	68.6	20.3	4636	1624
23100	227.8	12 49	1.5	4.9	68.3	20.3	4691	
23200	229.2	12 54	1.5	5.0	68.0	20.2	4747	
23300	230.8	12 59	1.5	5.0	67.7	20.1	4803	
23400	232.2	13 04	1.5	5.0	67.5	20.0	4859	
23500	233.6	13 09	1.5	5.0	67.3	19.9	4916	1610
23600	235.2	13 14	1.5	5.0	67.0	19.9	4973	
23700	236.6	13 19	1.5	5.1	66.8	19.8	5030	
23800	238.2	13 24	1.5	5.1	66.5	19.7	5085	
23900	239.8	13 29	1.5	5.1	66.3	19.6	5140	
24000	241.2	13 34	1.5	5.1	66.0	19.5	5200	1596

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A

FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
274	15 24	3.6	-12	-0.70	14.36	49	6	30.1	21000
276	15 32	3.6						30.3	21100
278	15 39	3.6						30.4	21200
281	15 47	3.5						30.6	21300
283	15 54	3.5						30.8	21400
285	16 02	3.5	-12	-0.70	14.36	50	7	31.0	21500
287	16 09	3.4						31.2	21600
289	16 17	3.4						31.4	21700
292	16 24	3.4						31.6	21800
294	16 32	3.4						31.8	21900
296	16 40	3.3	-13	-0.75	14.36	51	7	32.0	22000
298	16 47	3.3						32.1	22100
301	16 55	3.3						32.3	22200
303	17 03	3.3						32.5	22300
305	17 11	3.2						32.7	22400
308	17 19	3.2	-13	-0.75	14.36	52	7	32.9	22500
310	17 26	3.2						33.1	22600
312	17 34	3.2						33.3	22700
315	17 42	3.1						33.5	22800
317	17 50	3.1						33.7	22900
319	17 58	3.1	-14	-0.75	14.36	53	7	33.9	23000
322	18 06	3.1						34.1	23100
324	18 14	3.0						34.3	23200
326	18 22	3.0						34.5	23300
329	18 30	2.99						34.7	23400
331	18 38	2.96	-14	-0.80	14.36	54	7	34.9	23500
334	18 46	2.94						35.1	23600
336	18 54	2.92						35.3	23700
338	19 02	2.90						35.5	23800
341	19 11	2.88						35.7	23900
343	19 19	2.85	-15	-0.80	14.35	55	8	35.9	24000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
24000	241.2	13 34	1.5	5.1	66.0	19.5	5200	1596
24100	242.8	13 39	1.5	5.1	65.8	19.4	5260	
24200	244.2	13 44	1.5	5.1	65.5	19.3	5320	
24300	245.8	13 50	1.5	5.2	65.3	19.2	5385	
24400	247.4	13 55	1.5	5.2	65.0	19.2	5445	
24500	248.8	14 00	1.5	5.2	64.8	19.1	5510	1583
24600	250.4	14 05	1.5	5.2	64.5	19.0	5570	
24700	252.0	14 10	1.6	5.2	64.3	18.9	5635	
24800	253.6	14 16	1.6	5.3	64.0	18.9	5695	
24900	255.0	14 21	1.6	5.3	63.8	18.8	5760	
25000	256.6	14 26	1.6	5.3	63.6	18.8	5820	1570
25100	258.2	14 32	1.6	5.3	63.4	18.7	5885	
25200	259.8	14 37	1.6	5.4	63.2	18.6	5950	
25300	261.4	14 42	1.6	5.4	62.9	18.6	6015	
25400	263.0	14 48	1.6	5.4	62.7	18.5	6080	
25500	264.6	14 53	1.6	5.4	62.5	18.5	6145	1558
25600	266.2	14 58	1.6	5.4	62.3	18.4	6210	
25700	267.8	15 04	1.6	5.4	62.0	18.4	6280	
25800	269.4	15 09	1.6	5.5	61.8	18.3	6350	
25900	271.0	15 15	1.6	5.5	61.6	18.3	6420	
26000	272.6	15 20	1.6	5.5	61.4	18.2	6490	1547
26100	274.2	15 26	1.6	5.5	61.2	18.2	6560	
26200	276.0	15 31	1.6	5.5	61.0	18.1	6630	
26300	277.6	15 37	1.6	5.6	60.8	18.1	6700	
26400	279.2	15 42	1.7	5.6	60.6	18.0	6770	
26500	280.8	15 48	1.7	5.6	60.4	18.0	6840	1536
26600	282.6	15 54	1.7	5.6	60.2	17.9	6910	
26700	284.2	15 59	1.7	5.6	60.0	17.9	6985	
26800	285.8	16 05	1.7	5.6	59.8	17.8	7060	
26900	287.4	16 10	1.7	5.7	59.6	17.7	7135	
27000	289.2	16 16	1.7	5.7	59.4	17.6	7210	1526

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE A FULL CHARGE

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
343	19 19	2.85	-15	-0.80	14.35	55	8	35.9	24000
346	19 27	2.83						36.1	24100
348	19 35	2.81						36.3	24200
351	19 43	2.79						36.5	24300
353	19 52	2.77						36.7	24400
356	20 00	2.75	-15	-0.85	14.35	56	8	36.9	24500
358	20 08	2.73						37.1	24600
360	20 16	2.71						37.3	24700
363	20 25	2.69						37.5	24800
365	20 33	2.67						37.7	24900
368	20 42	2.65	-15	-0.85	14.35	57	8	37.9	25000
370	20 50	2.63						38.2	25100
373	20 58	2.61						38.4	25200
375	21 06	2.59						38.6	25300
378	21 15	2.57						38.8	25400
380	21 24	2.55	-16	-0.90	14.35	58	8	39.0	25500
383	21 32	2.53						39.2	25600
385	21 41	2.52						39.4	35700
388	21 50	2.50						39.6	25800
391	21 58	2.48						39.8	25900
393	22 07	2.46	-16	-0.90	14.35	60	8	40.0	26000
396	22 15	2.44						40.3	26100
398	22 24	2.43						40.5	26200
401	22 32	2.41						40.7	26300
403	22 40	2.39						40.9	26400
406	22 49	2.38	-17	-0.95	14.35	61	9	41.1	26500
408	22 58	2.36						41.3	26600
411	23 07	2.34						41.5	26700
414	23 16	2.33						41.7	26800
416	23 25	2.31						42.0	26900
419	23 34	2.29	-17	-0.95	14.34	63	9	42.2	27000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
27000	289.2	16 16	1.7	5.7	59.4	17.6	7210	1526
27100	290.8	16 22	1.7	5.7	59.2	17.6	7285	
27200	292.6	16 27	1.7	5.7	59.0	17.5	7360	
27300	294.2	16 33	1.7	5.7	58.8	17.5	7435	
27400	296.0	16 39	1.7	5.8	58.6	17.4	7510	
27500	297.6	16 45	1.7	5.8	58.4	17.3	7585	1517
27600	299.4	16 50	1.7	5.8	58.2	17.3	7660	
27700	301.0	16 56	1.7	5.8	58.0	17.2	7740	
27800	302.8	17 02	1.7	5.8	57.8	17.2	7820	
27900	304.6	17 08	1.7	5.8	57.6	17.1	7900	
28000	306.4	17 14	1.7	5.9	57.5	17.0	7980	1508
28100	308.0	17 20	1.8	5.9	57.3	17.0	8060	
28200	309.8	17 25	1.8	5.9	57.1	16.9	8140	
28300	311.6	17 31	1.8	5.9	56.9	16.9	8220	
28400	313.2	17 37	1.8	5.9	56.8	16.8	8300	
28500	315.0	17 43	1.8	6.0	56.6	16.8	8385	1501
28600	316.8	17 49	1.8	6.0	56.4	16.7	8470	
28700	318.6	17 55	1.8	6.0	56.2	16.7	8555	
28800	320.4	18 01	1.8	6.0	56.1	16.6	8640	
28900	322.2	18 07	1.8	6.0	55.9	16.6	8725	
29000	324.0	18 13	1.8	6.1	55.7	16.5	8810	1494
29100	325.8	18 19	1.8	6.1	55.5	16.5	8895	
29200	327.6	18 25	1.8	6.1	55.3	16.4	8980	
29300	329.4	18 31	1.8	6.1	55.2	16.4	9065	
29400	331.2	18 38	1.8	6.1	55.0	16.3	9150	
29500	333.0	18 44	1.8	6.2	54.8	16.3	9240	1488
29600	334.8	18 50	1.8	6.2	54.7	16.2	9330	
29700	336.6	18 56	1.8	6.2	54.5	16.2	9420	
29800	338.4	19 02	1.8	6.2	54.3	16.1	9510	
29900	340.2	19 08	1.9	6.2	54.2	16.1	9600	
30000	342.2	19 15	1.9	6.3	54.0	16.0	9690	1483

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in		Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		R yd	Dfl yd	sec	yd
419	23 34	2.29	-17	-0.95	14.34	63	9	42.2	27000
421	23 42	2.28						42.4	27100
424	23 51	2.26						42.6	27200
427	24 00	2.25						42.8	27300
429	24 09	2.23						43.1	27400
432	24 18	2.21	-18	-1.00	14.34	64	9	43.3	27500
435	24 27	2.20						43.5	27600
437	24 36	2.18						43.7	27700
440	24 45	2.17						43.9	27800
443	24 54	2.15						44.2	27900
445	25 04	2.14	-18	-1.00	14.34	66	9	44.4	28000
448	25 13	2.13						44.6	28100
451	25 22	2.11						44.8	28200
454	25 31	2.10						45.1	28300
456	25 40	2.08						45.3	28400
459	25 49	2.07	-19	-1.05	14.34	67	10	45.5	28500
462	25 59	2.05						45.7	28600
465	26 08	2.04						45.9	28700
467	26 17	2.02						46.2	28800
470	26 27	2.01						46.4	28900
473	26 36	2.00	-19	-1.10	14.34	69	10	46.6	29000
476	26 45	1.98						46.8	29100
478	26 54	1.97						47.1	29200
480	27 03	1.96						47.3	29300
483	27 13	1.94						47.5	29400
486	27 22	1.93	-20	-1.10	14.34	70	10	47.8	29500
489	27 32	1.92						48.0	29600
492	27 42	1.90						48.2	29700
495	27 52	1.89						48.4	29800
498	28 02	1.88						48.7	29900
501	28 11	1.87	-20	-1.15	14.33	72	11	48.9	30000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
30000	342.2	19 15	1.9	6.3	54.0	16.0	9690	1483
30100	344.0	19 21	1.9	6.3	53.9	16.0	9785	
30200	345.8	19 27	1.9	6.3	53.7	15.9	9880	
30300	347.8	19 34	1.9	6.3	53.6	15.9	9970	
30400	349.6	19 40	1.9	6.3	53.4	15.8	10070	
30500	351.4	19 46	1.9	6.3	53.3	15.8	10160	1478
30600	353.4	19 52	1.9	6.4	53.1	15.7	10250	
30700	355.2	19 59	1.9	6.4	52.9	15.7	10340	
30800	357.2	20 05	1.9	6.4	52.8	15.6	10440	
30900	359.0	20 12	1.9	6.4	52.6	15.6	10540	
31000	361.0	20 18	1.9	6.5	52.4	15.5	10640	1474
31100	362.8	20 25	1.9	6.5	52.3	15.5	10740	
31200	364.8	20 31	1.9	6.5	52.1	15.4	10840	
31300	366.6	20 38	1.9	6.5	51.9	15.4	10940	
31400	368.6	20 44	1.9	6.5	51.8	15.3	11040	
31500	370.6	20 51	1.9	6.6	51.6	15.3	11140	1471
31600	372.4	20 57	1.9	6.6	51.4	15.2	11240	
31700	374.4	21 04	2.0	6.6	51.3	15.2	11340	
31800	376.4	21 10	2.0	6.6	51.1	15.1	11440	
31900	378.4	21 17	2.0	6.6	50.9	15.1	11550	
32000	380.4	21 24	2.0	6.7	50.7	15.0	11660	1468
32100	382.4	21 30	2.0	6.7	50.6	15.0	11760	
32200	384.4	21 37	2.0	6.7	50.4	14.9	11870	
32300	386.4	21 44	2.0	6.7	50.2	14.9	11980	
32400	388.4	21 50	2.0	6.7	50.1	14.8	12090	
32500	390.4	21 57	2.0	6.8	49.9	14.8	12200	1466
32600	392.4	22 04	2.0	6.8	49.7	14.7	12310	
32700	394.4	22 11	2.0	6.8	49.5	14.7	12420	
32800	396.4	22 18	2.0	6.8	49.3	14.6	12530	
32900	398.4	22 25	2.0	6.9	49.1	14.6	12640	
33000	400.4	22 32	2.0	6.9	48.9	14.5	12750	1465

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
501	28 11	1.87	-20	-1.15	14.33	72	11	48.9	30000
504	28 20	1.85						49.1	30100
507	28 30	1.84						49.4	30200
510	28 40	1.83						49.6	30300
512	28 49	1.82						49.8	30400
515	28 59	1.81	-21	-1.20	14.33	74	11	50.0	30500
518	29 09	1.79						50.3	30600
521	29 18	1.78						50.5	30700
524	29 28	1.77						50.8	30800
527	29 38	1.76						51.0	30900
530	29 47	1.75	-21	-1.20	14.33	76	11	51.2	31000
533	29 57	1.73						51.5	31100
536	30 07	1.72						51.7	31200
538	30 17	1.71						51.9	31300
541	30 27	1.70						52.2	31400
544	30 36	1.69	-22	-1.25	14.33	78	12	52.4	31500
547	30 46	1.68						52.7	31600
550	30 55	1.67						52.9	31700
553	31 05	1.66						53.1	31800
556	31 15	1.65						53.4	31900
558	31 24	1.64	-23	-1.30	14.33	81	12	53.6	32000
561	31 34	1.63						53.9	32100
564	31 44	1.62						54.1	32200
567	31 53	1.61						54.3	32300
570	32 03	1.60						54.6	32400
573	32 13	1.59	-23	-1.30	14.33	83	13	54.8	32500
576	32 23	1.58						55.1	32600
579	32 33	1.57						55.3	32700
582	32 43	1.56						55.6	32800
584	32 52	1.55						55.8	32900
587	33 01	1.54	-24	-1.35	14.32	86	13	56.1	33000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil / 1 min change in elev		Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
33000	400.4	22 32	2.0	6.9	48.9	14.5	12750	1465
33100	402.4	22 38	2.0	6.9	48.7	14.5	12860	
33200	404.6	22 45	2.1	6.9	48.5	14.4	12970	
33300	406.6	22 52	2.1	7.0	48.4	14.4	13080	
33400	408.6	22 59	2.1	7.0	48.2	14.3	13200	
33500	410.8	23 06	2.1	7.0	48.0	14.2	13320	1464
33600	412.8	23 13	2.1	7.0	47.8	14.2	13440	
33700	415.0	23 20	2.1	7.1	47.7	14.1	13560	
33800	417.0	23 28	2.1	7.1	47.5	14.0	13680	
33900	419.0	23 35	2.1	7.1	47.3	13.9	13800	
34000	421.2	23 42	2.1	7.2	47.1	13.9	13920	1464
34100	423.4	23 49	2.1	7.2	47.0	13.8	14040	
34200	425.6	23 56	2.1	7.2	46.8	13.8	14160	
34300	427.8	24 03	2.1	7.3	46.6	13.7	14280	
34400	429.8	24 11	2.2	7.3	46.4	13.7	14400	
34500	432.0	24 18	2.2	7.3	46.2	13.6	14530	1465
34600	434.2	24 25	2.2	7.4	46.0	13.6	14660	
34700	436.4	24 33	2.2	7.4	45.8	13.5	14790	
34800	438.6	24 40	2.2	7.4	45.6	13.5	14920	
34900	440.8	24 48	2.2	7.4	45.4	13.4	15050	
35000	443.0	24 55	2.2	7.5	45.2	13.4	15200	1466
35100	445.2	25 02	2.2	7.5	45.0	13.3	15300	
35200	447.4	25 10	2.2	7.5	44.8	13.3	15450	
35300	449.6	25 17	2.2	7.6	44.6	13.2	15600	
35400	451.8	25 25	2.2	7.6	44.4	13.1	15700	
35500	454.0	25 33	2.3	7.6	44.2	13.1	15850	1468
35600	456.4	25 40	2.3	7.7	44.0	13.0	16000	
35700	458.6	25 48	2.3	7.7	43.8	12.9	16100	
35800	461.0	25 56	2.3	7.7	43.6	12.9	16250	
35900	463.2	26 03	2.3	7.8	43.4	12.8	16400	
36000	465.6	26 11	2.3	7.8	43.2	12.8	16550	1470

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
587	33 01	1.54	-24	-1.35	14.32	86	13	56.1	33000
590	33 11	1.53						56.3	33100
593	33 21	1.52						56.6	33200
596	33 30	1.51						56.8	33300
599	33 40	1.50						57.1	33400
602	33 50	1.49	-24	-1.40	14.32	89	14	57.3	33500
604	33 59	1.48						57.6	33600
607	34 09	1.47						57.8	33700
610	34 18	1.46						58.1	33800
613	34 28	1.46						58.3	33900
616	34 37	1.45	-25	-1.40	14.32	92	14	58.6	34000
619	34 47	1.44						58.8	34100
621	34 57	1.43						59.1	34200
624	35 06	1.42						59.4	34300
627	35 16	1.41						59.6	34400
630	35 25	1.41	-26	-1.45	14.32	95	14	59.9	34500
633	35 35	1.40						60.1	34600
635	35 44	1.39						60.4	34700
638	35 54	1.38						60.7	34800
641	36 03	1.37						60.9	34900
644	36 12	1.37	-26	-1.50	14.32	98	15	61.2	35000
647	36 22	1.36						61.4	35100
649	36 31	1.35						61.7	35200
652	36 41	1.34						62.0	35300
655	36 51	1.33						62.2	35400
658	37 00	1.33	-27	-1.50	14.32	101	15	62.5	35500
661	37 10	1.32						62.8	35600
663	37 19	1.31						63.1	35700
666	37 29	1.30						63.3	35800
669	37 39	1.30						63.6	35900
672	37 48	1.29	-27	-1.55	14.31	105	16	63.9	36000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
36000	465.6	26 11	2.3	7.8	43.2	12.8	16550	1470
36100	467.8	26 19	2.3	7.8	43.0	12.7	16650	
36200	470.2	26 27	2.3	7.9	42.8	12.7	16800	
36300	472.4	26 35	2.3	7.9	42.6	12.6	16950	
36400	474.8	26 43	2.4	7.9	42.4	12.6	17100	
36500	477.2	26 51	2.4	8.0	42.1	12.5	17250	1473
36600	479.6	26 59	2.4	8.0	41.9	12.4	17400	
36700	482.0	27 07	2.4	8.1	41.7	12.4	17550	
36800	484.4	27 15	2.4	8.1	41.5	12.3	17700	
36900	486.8	27 23	2.4	8.2	41.3	12.3	17850	
37000	489.2	27 31	2.4	8.2	41.1	12.2	18000	1476
37100	491.6	27 39	2.5	8.3	40.9	12.1	18150	
37200	494.0	27 47	2.5	8.3	40.7	12.1	18300	
37300	496.4	27 56	2.5	8.4	40.4	12.0	18450	
37400	499.0	28 04	2.5	8.4	40.2	11.9	18650	
37500	501.4	28 12	2.5	8.5	40.0	11.9	18800	1480
37600	504.0	28 21	2.5	8.5	39.8	11.8	18950	
37700	506.6	28 30	2.5	8.6	39.5	11.7	19100	
37800	509.0	28 38	2.6	8.6	39.3	11.7	19300	
37900	511.6	28 47	2.6	8.7	39.1	11.6	19450	
38000	514.2	28 55	2.6	8.7	38.9	11.5	19600	1484
38100	516.8	29 04	2.6	8.8	38.7	11.5	19750	
38200	519.4	29 13	2.6	8.8	38.5	11.5	19950	
38300	522.0	29 22	2.6	8.9	38.2	11.4	20100	
38400	524.6	29 31	2.6	8.9	38.0	11.4	20300	
38500	527.2	29 40	2.7	9.0	37.8	11.3	20450	1489
38600	530.0	29 49	2.7	9.0	37.5	11.2	20650	
38700	532.8	29 58	2.7	9.1	37.3	11.1	20800	
38800	535.4	30 07	2.7	9.1	37.1	11.0	21000	
38900	538.0	30 16	2.7	9.2	36.8	10.9	21150	
39000	540.8	30 25	2.7	9.3	36.6	10.8	21350	1494

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
672	37 48	1.29	-27	-1.55	14.31	105	16	63.9	36000
675	37 57	1.28						64.1	36100
678	38 07	1.27						64.4	36200
680	38 16	1.27						64.7	36300
683	38 26	1.26						65.0	36400
686	38 36	1.25	-28	-1.60	14.31	108	16	65.2	36500
689	38 45	1.25						65.5	36600
692	38 55	1.24						65.8	36700
695	39 05	1.23						66.1	36800
698	39 14	1.22						66.4	36900
700	39 24	1.22	-29	-1.60	14.31	112	17	66.6	37000
703	39 33	1.21						66.9	37100
706	39 42	1.20						67.2	37200
709	39 52	1.20						67.5	37300
712	40 02	1.19						67.8	37400
714	40 11	1.18	-30	-1.65	14.31	116	18	68.1	37500
717	40 21	1.18						68.4	37600
720	40 31	1.17						68.6	37700
723	40 41	1.16						68.9	37800
726	40 51	1.16						69.2	37900
729	41 01	1.15	-30	-1.70	14.30	120	19	69.5	38000
732	41 11	1.14						69.8	38100
735	41 21	1.14						70.1	38200
738	41 30	1.13						70.4	38300
741	41 40	1.12						70.7	38400
744	41 50	1.12	-31	-1.75	14.30	124	20	71.0	38500
747	42 00	1.11						71.3	38600
750	42 10	1.10						71.6	38700
753	42 20	1.10						71.9	38800
756	42 31	1.09						72.2	38900
759	42 41	1.08	-32	-1.80	14.29	128	21	72.5	39000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
39000	540.8	30 25	2.7	9.3	36.6	10.8	21350	1494
39100	543.6	30 34	2.8	9.3	36.4	10.8	21500	
39200	546.4	30 44	2.8	9.4	36.1	10.7	21700	
39300	549.2	30 53	2.8	9.4	35.9	10.6	21850	
39400	552.0	31 03	2.8	9.5	35.6	10.5	22050	
39500	554.8	31 12	2.8	9.5	35.4	10.5	22250	1500
39600	557.6	31 22	2.8	9.6	35.1	10.4	22450	
39700	560.6	31 32	2.9	9.7	34.9	10.3	22650	
39800	563.4	31 42	2.9	9.8	34.6	10.2	22850	
39900	566.4	31 52	2.9	9.9	34.3	10.1	23050	
40000	569.4	32 02	2.9	10.0	34.0	10.0	23250	1506
40100	572.2	32 12	2.9	10.0	33.7	10.0	23450	
40200	575.2	32 22	2.9	10.1	33.4	9.9	23650	
40300	578.2	32 32	3.0	10.2	33.1	9.8	23900	
40400	581.4	32 42	3.1	10.3	32.8	9.7	24100	
40500	584.4	32 52	3.1	10.4	32.5	9.6	24300	1513
40600	587.6	33 03	3.1	10.5	32.2	9.5	24550	
40700	590.6	33 14	3.2	10.6	31.8	9.4	24750	
40800	593.8	33 24	3.2	10.7	31.5	9.3	24950	
40900	597.0	33 35	3.2	10.8	31.1	9.2	25200	
41000	600.2	33 46	3.2	11.0	30.8	9.1	25400	1521
41100	603.4	33 57	3.3	11.1	30.4	9.0	25600	
41200	606.8	34 08	3.3	11.2	30.1	8.9	25850	
41300	610.0	34 19	3.3	11.3	29.7	8.8	26100	
41400	613.4	34 30	3.4	11.4	29.4	8.7	26350	
41500	616.8	34 42	3.4	11.6	29.0	8.6	26600	1530
41600	620.4	34 54	3.5	11.8	28.6	8.5	26850	
41700	623.8	35 06	3.5	12.0	28.2	8.4	27100	
41800	627.4	35 18	3.6	12.1	27.8	8.3	27350	
41900	631.0	35 30	3.6	12.3	27.4	8.2	27600	
42000	634.8	35 42	3.7	12.5	27.0	8.0	27850	1539

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
759	42 41	1.08	-32	-1.80	14.29	128	21	72.5	39000
762	42 51	1.08						72.9	39100
765	43 01	1.07						73.2	39200
768	43 11	1.07						73.5	39300
771	43 21	1.06						73.8	39400
774	43 32	1.05	-33	-1.85	14.29	133	22	74.1	39500
777	43 42	1.05						74.5	39600
780	43 52	1.04						74.8	39700
783	44 02	1.03						75.1	39800
786	44 13	1.03						75.4	39900
789	44 23	1.02	-34	-1.90	14.28	138	23	75.7	40000
792	44 33	1.02						76.1	40100
795	44 43	1.01						76.4	40200
798	44 53	1.00						76.8	40300
801	45 04	1.00						77.1	40400
804	45 14	0.99	-35	-1.95	14.27	143	24	77.5	40500
807	45 24	0.99						77.8	40600
810	45 35	0.98						78.2	40700
814	45 46	0.97						78.5	40800
817	45 56	0.97						78.9	40900
820	46 06	0.96	-36	-2.00	14.26	149	25	79.2	41000
823	46 17	0.96						79.6	41100
826	46 27	0.95						79.9	41200
829	46 37	0.94						80.3	41300
832	46 48	0.94						80.7	41400
835	46 59	0.93	-37	-2.10	14.25	155	26	81.1	41500
838	47 09	0.93						81.5	41600
841	47 20	0.92						81.8	41700
845	47 31	0.92						82.2	41800
848	47 42	0.91						82.6	41900
852	47 54	0.90	-38	-2.15	14.24	162	27	83.0	42000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
42000	634.8	35 42	3.7	12.5	27.0	8.0	27850	1539
42100	638.4	35 55	3.8	12.7	26.6	7.9	28100	
42200	642.2	36 08	3.8	12.9	26.2	7.8	28400	
42300	646.0	36 21	3.9	13.1	25.8	7.6	28700	
42400	650.0	36 34	3.9	13.3	25.3	7.5	29000	
42500	654.0	36 47	4.0	13.6	24.8	7.3	29300	1549
42600	658.0	37 01	4.1	13.8	24.3	7.2	29600	
42700	662.2	37 15	4.2	14.1	23.8	7.0	29900	
42800	666.4	37 29	4.3	14.4	23.3	6.9	30200	
42900	670.6	37 44	4.4	14.7	22.8	6.7	30500	
43000	675.0	37 59	4.5	15.1	22.3	6.6	30800	1562
43100	679.6	38 14	4.6	15.5	21.8	6.4	31200	
43200	684.4	38 30	4.8	16.1	21.3	6.2	31600	
43300	689.2	38 46	5.0	16.7	20.7	6.0	32000	
43400	694.2	39 03	5.2	17.4	20.1	5.8	32400	
43500	699.4	39 21	5.4	18.2	19.4	5.6	32800	1578
43600	705.0	39 39	5.6	19.0	18.6	5.4	33200	
43700	710.8	39 59	5.9	20	18	5	33600	
43800	716.8	40 19	6.2	21	17	5	34000	
43900	723.2	40 41	6.6	22	16	5	34400	
44000	730.0	41 04	7.0	23	15	4	34850	1597
44100	737.2	41 28	7.4	25	14	4	35350	
44200	744.8	41 54	8.0	27	13	4	35950	
44300	753.2	42 22	8.9	30	11	3	36600	
44400	762.6	42 54	10	35	10	3	37300	
44500	774	43 32					38150	1626
44600	790	44 25					39350	
44680	820	46 10					41400	1655
44600	849	47 46					43700	
44500	865	48 38					44850	1674
44400	875	49 13	10	33	10	3	45600	
44300	884.2	49 44	8.4	29	12	3.5	46250	
44200	892.2	50 11	7.4	25	13	4.0	46800	
44100	899.2	50 34	6.7	23	15	4.4	47300	
44000	905.6	50 56	6.2	21	16	4.8	47750	1685

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coeffi-cient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
852	47 54	0.90	-38	-2.15	14.24	162	27	83.0	42000
855	48 05	0.90						83.4	42100
858	48 16	0.89						83.8	42200
861	48 27	0.89						84.2	42300
865	48 38	0.88						84.7	42400
868	48 50	0.87	-39	-2.20	14.22	169	28	85.1	42500
871	49 01	0.87						85.5	42600
875	49 13	0.86						86.0	42700
878	49 25	0.86						86.4	42800
882	49 38	0.85						86.9	42900
886	49 51	0.84	-41	-2.30	14.20	176	30	87.3	43000
890	50 03	0.84						87.8	43100
894	50 16	0.83						88.3	43200
898	50 30	0.82						88.8	43300
902	50 44	0.82						89.3	43400
906	50 59	0.81	-43	-2.40	14.17	183	32	89.8	43500
911	51 15	0.80						90.4	43600
916	51 31	0.80						91.0	43700
921	51 48	0.79						91.6	43800
926	52 06	0.78						92.3	43900
932	52 25	0.77	-45	-2.55	14.12	189	35	93.0	44000
938	52 45	0.76						93.7	44100
944	53 06	0.75						94.5	44200
951	53 29	0.74						95.4	44300
959	53 55	0.73						96.3	44400
967	54 24	0.72	-49	-2.80	14.03	192	38	97.4	44500
980	55 06	0.70						98.9	44600
1003	56 24	0.66	-54	-3.05	13.88	193	39	101.4	44680
1024	57 37	0.63						104.3	44600
1035	58 14	0.62	-59	-3.30	13.69	192	41	105.6	44500
1043	58 41	0.61						106.5	44400
1050	59 04	0.60						107.3	44300
1058	59 24	0.59						108.0	44200
1061	59 42	0.58						108.6	44100
1066	59 58	0.58	-64	-3.60	13.51	189	41	109.1	44000

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE A

Range	Elevation		Change in elev for 100 yd change in range		Change in range for 1 mil change in elev	1 min change in elev	Maximum ordinate	Terminal velocity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
yd	mil	deg min	mil	min	yd	yd	ft	f/s
44000	905.6	50 56	6.2	21	16	4.8	47750	1685
43900	911.4	51 16	5.8	20	17	5.1	48150	
43800	917.0	51 35	5.5	19	19	5.4	48550	
43700	922.4	51 53	5.2	17	20	5.7	48900	
43600	927.4	52 10	4.9	16.6	21	6.0	49250	
43500	932.2	52 26	4.7	15.8	22	6.3	49550	1691
43400	936.8	52 41	4.5	15.0	22	6.6	49850	
43300	941.0	52 56	4.3	14.4	23	6.9	50150	
43200	945.2	53 10	4.1	13.8	24	7.2	50400	
43100	949.2	53 24	4.0	13.4	25	7.5	50650	
43000	953.2	53 37	3.9	13.0	26	7.7	50900	1695
42900	957.0	53 50	3.8	12.7	26.7	8.0	51150	
42800	960.6	54 02	3.7	12.4	27.4	8.2	51400	
42700	964.2	54 14	3.6	12.1	28.1	8.4	51650	
42600	967.8	54 26	3.5	11.8	28.8	8.6	51900	
42500	971.4	54 38	3.4	11.5	29.5	8.8	52100	1698
42400	974.8	54 50	3.3	11.2	30.2	9.0	52300	
42300	978.0	55 01	3.2	10.9	30.9	9.2	52500	

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE A FULL CHARGE MV = 2750 FPS

Angle of fall		Slope of fall	Deflection due to drift		Ballistic coefficient	*Probable error in R	*Probable error in Dfl	Time of flight	Range
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
mil	deg min	1 on—	mil	deg		yd	yd	sec	yd
1066	59 58	0.58	-64	-3.60	13.51	189	41	109.1	44000
1071	60 14	0.57						109.5	*43900
1075	60 29	0.57						109.9	43800
1079	60 43	0.56						110.3	43700
1083	60 56	0.56						110.7	43600
1087	61 08	0.55	-68	-3.85	13.35	187	41	111.0	43500
1090	61 19	0.55						111.4	43400
1093	61 30	0.54						111.7	43300
1096	61 40	0.54						112.0	43200
1099	61 50	0.54						112.4	43100
1102	62 00	0.53	-72	-4.05	13.20	185	40	112.7	43000
1105	62 09	0.53						113.0	42900
1108	62 18	0.53						113.3	42800
1110	62 27	0.52						113.6	42700
1113	62 36	0.52						113.8	42600
1115	62 45	0.52	-75	-4.25	13.06	183	39	114.1	42500
1118	62 53	0.51						114.3	42400
1120	63 01	0.51						114.5	42300

*This is the proving ground probable error.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	1000	1500	2000	2500	3000	3500	4000	4500	5000
-10	509	333	247	193	158	134	116	101	89
-20		670	495	388	317	268	231	202	179
-30		1011	745	584	477	403	347	303	268
-40		1355	996	780	638	538	463	405	358
-50			1249	978	800	674	580	507	449
-60			1504	1177	962	811	698	610	540
-70			1760	1378	1125	947	815	713	631
-80				1580	1289	1085	933	816	722
-90				1783	1454	1224	1052	920	814
-100				1988	1621	1363	1171	1023	905
-110				2194	1788	1503	1291	1127	997
-120				2400	1956	1643	1411	1232	1089
-130					2125	1784	1531	1337	1182
-140					2294	1925	1652	1442	1275
-150					2464	2067	1773	1547	1368
-160					2635	2210	1895	1653	1461
-170					2807	2353	2017	1759	1555
-180					2980	2497	2140	1866	1649
-190						2642	2263	1973	1743
-200						2787	2386	2080	1837
-220						3079	2634	2296	2027
-240						3373	2884	2513	2217
-260							3136	2731	2408
-280							3391	2951	2601
-300							3648	3172	2795
-320							3907	3395	2990
-340								3619	3186
-360								3845	3384
-380								4072	3583
-400								4300	3783
-420									3984
-440									4186
-460									4389
-480									4594
-500									4800

*For elevations less than 45°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B FULL CHARGE MV = 2750 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	5500	6000	6500	7000	7500	8000	8500	9000	9500
-10	80	72	65	59	54	50	46	43	40
-20	160	144	131	119	109	100	93	87	81
-30	240	216	196	179	164	151	140	130	121
-40	320	289	262	239	219	202	187	174	162
-50	401	361	328	299	274	253	234	217	202
-60	482	434	394	359	329	304	281	261	243
-70	563	507	460	419	384	354	328	304	283
-80	644	580	526	480	440	405	375	348	324
-90	726	653	592	540	495	457	423	392	365
-100	808	727	659	601	551	508	470	436	406
-110	890	801	726	662	607	559	517	480	447
-120	972	875	793	723	662	610	565	525	488
-130	1055	949	860	784	718	662	613	569	529
-140	1138	1023	927	845	774	713	660	613	570
-150	1221	1098	994	906	830	765	708	657	611
-160	1304	1173	1062	967	886	817	756	701	652
-170	1387	1248	1130	1029	942	868	803	746	694
-180	1471	1323	1198	1090	998	920	851	790	735
-190	1555	1398	1266	1152	1054	971	899	835	777
-200	1638	1473	1334	1214	1111	1023	947	879	818
-220	1807	1624	1470	1338	1225	1127	1043	968	901
-240	1976	1776	1608	1463	1339	1232	1139	1057	984
-260	2146	1929	1746	1589	1454	1337	1236	1147	1067
-280	2317	2082	1884	1715	1569	1442	1333	1237	1151
-300	2489	2236	2023	1841	1684	1548	1430	1327	1235
-320	2662	2391	2163	1968	1800	1654	1528	1417	1319
-340	2836	2547	2303	2095	1916	1761	1626	1508	1403
-360	3011	2703	2444	2223	2033	1868	1725	1599	1487
-380	3187	2860	2585	2351	2150	1976	1824	1690	1572
-400	3363	3017	2727	2480	2267	2083	1923	1782	1656
-420	3541	3176	2870	2610	2385	2191	2022	1873	1741
-440	3720	3336	3014	2740	2503	2299	2122	1965	1826
-460	3900	3496	3158	2870	2622	2408	2222	2058	1912
-480	4080	3657	3303	3002	2742	2517	2322	2150	1998
-500	4261	3818	3449	3135	2863	2627	2423	2243	2084

*For elevations less than 45°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS. FULL CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	10000	10500	11000	11500	12000	12500	13000	13500	14000
-10	38	35	33	31	29	28	26	25	23
-20	75	70	66	62	58	55	52	49	47
-30	113	106	99	93	88	83	78	74	70
-40	151	141	132	124	117	110	104	99	94
-50	188	176	165	155	146	138	131	124	117
-60	226	211	198	186	176	166	157	149	141
-70	264	247	232	218	205	193	183	173	164
-80	303	283	265	249	234	221	209	198	188
-90	341	319	299	281	264	249	236	223	211
-100	379	354	332	312	294	277	262	248	235
-110	417	390	366	344	324	305	288	273	259
-120	455	425	399	375	353	333	315	298	282
-130	493	461	433	407	383	361	341	323	306
-140	532	497	466	438	412	389	368	348	330
-150	570	533	500	470	442	417	394	373	353
-160	608	569	534	502	472	445	420	398	377
-170	647	605	567	533	502	473	447	423	401
-180	686	641	601	565	532	501	473	448	424
-190	725	678	635	596	561	529	500	473	448
-200	763	714	669	628	591	557	526	498	472
-220	841	787	737	692	651	613	579	548	519
-240	918	859	805	756	711	670	632	598	566
-260	996	932	873	820	771	726	685	648	614
-280	1074	1005	942	884	831	783	739	699	662
-300	1152	1078	1010	948	891	839	792	749	710
-320	1231	1151	1079	1013	952	896	846	800	758
-340	1309	1225	1148	1077	1012	953	899	850	806
-360	1387	1298	1217	1142	1073	1010	953	901	854
-380	1466	1371	1286	1207	1134	1068	1007	952	902
-400	1544	1445	1355	1272	1195	1125	1061	1003	950
-420	1624	1519	1424	1337	1257	1183	1116	1054	998
-440	1703	1593	1494	1403	1319	1241	1170	1105	1046
-460	1783	1668	1564	1468	1380	1299	1225	1157	1094
-480	1863	1742	1634	1534	1442	1358	1280	1208	1143
-500	1943	1817	1704	1600	1504	1416	1335	1260	1191

*For elevations less than 46° 10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE B FULL CHARGE

Height of target	Map range - yards								
feet	14500	15000	15500	16000	16500	17000	18000	19000	20000
-10	22	21	20	19	18	17	16	14	13
-20	44	42	40	38	36	34	31	28	26
-30	66	63	60	57	55	52	47	43	39
-40	89	84	80	76	73	69	63	57	52
-50	111	105	100	95	91	86	79	72	66
-60	134	127	120	115	109	104	94	86	79
-70	156	148	141	134	127	121	110	100	92
-80	178	169	161	153	145	138	125	114	105
-90	201	191	181	172	164	156	141	129	118
-100	223	212	201	191	182	173	157	143	131
-110	246	233	221	210	200	190	173	158	145
-120	268	254	241	229	218	208	189	172	158
-130	290	276	262	249	237	225	204	186	171
-140	313	297	282	268	255	243	220	201	184
-150	335	318	302	287	273	260	236	215	197
-160	357	339	322	306	291	277	252	230	210
-170	380	360	342	325	309	295	268	244	224
-180	402	382	363	345	328	312	283	258	237
-190	425	403	383	364	346	329	299	273	250
-200	447	424	403	383	364	347	315	288	264
-220	492	467	444	422	401	382	347	317	290
-240	537	510	484	460	438	417	379	346	317
-260	582	553	525	499	475	452	411	375	343
-280	628	596	566	538	512	487	443	404	370
-300	673	639	607	577	549	522	474	433	397
-320	719	682	648	616	586	557	506	462	424
-340	764	725	689	655	623	593	539	492	451
-360	810	769	730	694	660	628	571	522	478
-380	855	812	771	733	697	664	603	551	505
-400	901	855	812	772	734	699	635	580	532
-420	946	898	853	811	771	734	667	609	558
-440	992	941	894	850	809	770	700	639	585
-460	1037	984	935	889	846	806	733	668	612
-480	1083	1028	977	929	884	842	765	698	639
-500	1128	1071	1018	968	921	877	797	727	666

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	21000	22000	23000	24000	25000	26000	27000	28000	29000
-10	12	11	10	10	9	8	8	7	7
-20	24	22	20	19	18	16	15	14	13
-30	36	34	31	29	27	25	23	21	20
-40	48	45	41	38	35	33	30	28	26
-50	61	56	51	47	44	41	38	36	33
-60	73	67	62	57	53	49	46	43	40
-70	85	78	72	67	62	57	53	50	46
-80	97	89	82	76	71	66	61	57	53
-90	109	100	92	85	79	74	69	64	60
-100	121	111	103	95	88	82	76	71	66
-110	133	122	113	105	97	90	84	78	73
-120	145	133	123	114	106	98	91	85	79
-130	157	145	134	124	115	107	99	92	86
-140	169	156	144	133	124	115	107	100	93
-150	181	167	154	143	133	123	114	107	100
-160	193	178	165	153	141	131	122	114	106
-170	206	190	175	162	150	139	129	121	113
-180	218	201	186	172	159	148	137	128	120
-190	230	212	196	181	168	156	145	135	126
-200	242	223	206	191	177	164	153	143	133
-220	266	245	227	210	195	181	168	157	147
-240	291	268	247	229	212	197	184	172	160
-260	315	290	268	248	230	214	199	186	174
-280	340	313	289	267	248	231	215	201	187
-300	365	336	310	287	266	247	230	215	201
-320	390	359	331	306	283	263	245	229	214
-340	414	381	351	325	301	280	261	244	228
-360	439	404	372	344	319	296	276	258	241
-380	464	427	393	363	336	313	292	273	255
-400	489	450	414	382	354	329	307	287	268
-420	513	472	435	401	371	345	322	301	281
-440	538	495	456	420	389	362	338	316	295
-460	563	518	477	440	407	378	353	330	308
-480	587	540	498	459	425	395	368	344	322
-500	612	563	519	479	443	411	383	358	335

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B FULL CHARGE MV = 2750 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	30000	31000	32000	33000	34000	35000	36000	37000	38000
-10	6	6	6	5	5	5	4	4	4
-20	12	12	11	10	10	9	9	8	8
-30	19	17	16	15	14	14	13	12	11
-40	25	23	22	20	19	18	17	16	15
-50	31	29	27	26	24	23	22	20	19
-60	37	35	33	31	29	27	26	24	23
-70	43	40	38	36	34	32	30	28	27
-80	49	46	43	41	38	36	34	32	30
-90	56	52	49	46	43	41	39	36	34
-100	62	58	54	51	48	45	43	40	38
-110	68	64	60	56	53	50	47	44	42
-120	74	69	65	61	57	54	51	48	46
-130	80	75	70	66	62	59	55	52	49
-140	87	81	76	71	67	63	60	56	53
-150	93	87	82	77	72	68	64	61	57
-160	99	93	87	82	77	73	69	65	61
-170	106	99	93	87	82	77	73	69	65
-180	112	105	98	92	87	82	77	73	69
-190	118	110	103	97	91	86	81	77	73
-200	124	116	109	102	96	91	86	81	76
-220	137	128	120	113	106	100	94	89	84
-240	149	140	131	123	116	109	103	97	92
-260	162	151	142	133	125	118	112	106	100
-280	174	163	153	144	135	127	120	114	107
-300	187	175	164	154	145	137	129	122	115
-320	200	187	175	164	154	146	138	130	122
-340	213	199	186	175	164	155	146	138	130
-360	225	210	197	185	174	164	155	146	138
-380	238	222	208	195	183	173	163	154	145
-400	250	234	219	205	193	182	172	162	153
-420	263	246	230	216	203	191	180	170	160
-440	276	258	241	226	212	200	189	178	168
-460	288	269	252	236	222	209	198	187	176
-480	301	281	263	247	232	218	206	195	184
-500	313	293	274	257	241	227	215	203	191

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE B

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards					
feet	39000	40000	41000	42000	43000	44000
-10	4	3	3	3	3	3
-20	7	7	6	6	6	5
-30	11	10	10	9	8	8
-40	14	14	13	12	11	10
-50	18	17	16	15	14	13
-60	22	20	19	18	17	16
-70	25	24	22	21	20	18
-80	29	27	26	24	22	21
-90	32	30	29	27	25	23
-100	36	34	32	30	28	26
-110	40	37	35	33	31	29
-120	43	41	38	36	34	31
-130	46	44	42	39	36	34
-140	50	47	45	42	39	36
-150	54	51	48	45	42	39
-160	58	54	51	48	45	42
-170	61	58	54	51	48	44
-180	65	61	58	54	50	47
-190	69	65	61	57	53	49
-200	72	68	64	60	56	52
-220	79	75	70	66	62	57
-240	87	82	77	72	67	62
-260	94	89	83	78	73	68
-280	101	95	89	84	78	73
-300	108	102	96	90	84	78
-320	115	109	102	96	90	83
-340	123	116	109	102	96	88
-360	130	123	115	108	101	93
-380	137	129	122	114	107	98
-400	144	136	128	121	113	104
-420	151	143	135	127	119	109
-440	158	149	141	133	124	114
-460	166	156	147	139	130	119
-480	173	163	154	145	135	124
-500	180	170	160	151	141	129

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE B FULL CHARGE MV = 2750 FPS

*TARGET BELOW GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards		
feet	44000	43000	42000
-10	2	2	2
-20	4	4	3
-30	6	5	5
-40	8	7	7
-50	10	9	8
-60	11	11	10
-70	13	12	12
-80	15	14	13
-90	17	16	15
-100	19	18	17
-110	21	19	18
-120	23	21	20
-130	25	23	22
-140	27	25	23
-150	29	26	25
-160	30	28	27
-170	32	30	28
-180	34	32	30
-190	36	33	31
-200	38	35	33
-220	42	39	37
-240	46	42	40
-260	50	46	43
-280	53	49	46
-300	57	53	50
-320	61	56	53
-340	65	60	56
-360	69	64	60
-380	72	67	63
-400	76	70	66
-420	80	74	70
-440	84	77	73
-460	88	81	76
-480	91	84	80
-500	95	88	83

*For elevations greater than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	1000	1500	2000	2500	3000	3500	4000	4500	5000
10	-504	-330	-244	-192	-157	-133	-114	-100	-89
20		-657	-487	-383	-314	-266	-229	-200	-178
30		-980	-728	-573	-470	-398	-343	-300	-266
40		-1300	-966	-761	-625	-529	-456	-399	-353
50			-1202	-948	-780	-660	-569	-498	-441
60			-1436	-1135	-934	-790	-682	-597	-529
70			-1668	-1320	-1087	-920	-794	-695	-616
80				-1504	-1239	-1049	-906	-793	-703
90				-1687	-1391	-1178	-1017	-891	-791
100				-1869	-1542	-1306	-1128	-989	-878
110				-2050	-1692	-1434	-1239	-1086	-964
120				-2229	-1842	-1561	-1349	-1183	-1050
130					-1991	-1688	-1459	-1280	-1136
140					-2139	-1815	-1568	-1376	-1222
150					-2287	-1941	-1678	-1472	-1307
160					-2434	-2067	-1786	-1567	-1392
170					-2580	-2192	-1894	-1662	-1477
180						-2316	-2001	-1757	-1561
190						-2440	-2108	-1852	-1645
200						-2563	-2215	-1946	-1730
220						-2808	-2428	-2134	-1897
240						-3051	-2639	-2320	-2063
260							-2849	-2506	-2229
280							-3057	-2691	-2394
300							-3264	-2874	-2558
320								-3056	-2721
340								-3237	-2883
360								-3417	-3044
380								-3597	-3204
400								-3776	-3363
420									-3521
440									-3678
460									-3835
480									-3991
500									-4146

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE C FULL CHARGE MV = 2750 FPS

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	5500	6000	6500	7000	7500	8000	8500	9000	9500
10	-80	-72	-65	-59	-54	-50	-46	-43	-40
20	-159	-143	-130	-119	-109	-100	-93	-87	-81
30	-238	-214	-194	-178	-164	-151	-140	-130	-113
40	-316	-285	-259	-237	-218	-201	-186	-173	-150
50	-395	-356	-323	-296	-272	-251	-232	-216	-201
60	-473	-427	-388	-355	-326	-300	-278	-259	-241
70	-552	-498	-452	-414	-380	-350	-324	-301	-281
80	-630	-568	-516	-472	-434	-400	-370	-344	-321
90	-708	-639	-580	-530	-487	-449	-416	-387	-361
100	-786	-709	-644	-589	-541	-499	-462	-430	-401
110	-863	-779	-708	-647	-595	-549	-508	-472	-440
120	-940	-849	-772	-705	-648	-598	-554	-515	-480
130	-1018	-919	-835	-763	-702	-648	-600	-558	-520
140	-1095	-989	-899	-821	-755	-697	-646	-601	-560
150	-1172	-1059	-962	-879	-808	-746	-691	-643	-600
160	-1248	-1127	-1025	-937	-861	-795	-737	-686	-640
170	-1324	-1196	-1088	-995	-914	-844	-782	-728	-679
180	-1400	-1265	-1151	-1052	-967	-893	-828	-770	-718
190	-1475	-1333	-1213	-1110	-1020	-942	-873	-812	-757
200	-1551	-1402	-1276	-1167	-1073	-991	-918	-854	-797
220	-1702	-1539	-1400	-1281	-1178	-1088	-1008	-938	-875
240	-1852	-1675	-1525	-1395	-1283	-1185	-1098	-1022	-953
260	-2001	-1810	-1648	-1508	-1387	-1281	-1187	-1105	-1031
280	-2149	-1945	-1772	-1621	-1491	-1377	-1277	-1188	-1108
300	-2297	-2079	-1894	-1734	-1595	-1473	-1366	-1271	-1186
320	-2445	-2213	-2016	-1846	-1698	-1569	-1455	-1354	-1264
340	-2591	-2346	-2137	-1958	-1801	-1664	-1544	-1437	-1341
360	-2736	-2478	-2258	-2069	-1904	-1759	-1632	-1519	-1418
380	-2881	-2610	-2379	-2180	-2006	-1854	-1720	-1600	-1495
400	-3025	-2741	-2499	-2290	-2108	-1948	-1807	-1682	-1571
420	-3168	-2872	-2619	-2400	-2210	-2042	-1895	-1764	-1647
440	-3311	-3002	-2738	-2510	-2311	-2136	-1982	-1845	-1723
460	-3453	-3131	-2857	-2619	-2412	-2230	-2069	-1926	-1798
480	-3594	-3260	-2975	-2728	-2512	-2323	-2156	-2007	-1874
500	-3735	-3388	-3092	-2836	-2613	-2416	-2242	-2087	-1949

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	10000	10500	11000	11500	12000	12500	13000	13500	14000
10	-37	-35	-33	-31	-29	-27	-26	-25	-23
20	-75	-70	-66	-62	-58	-55	-52	-49	-46
30	-113	-105	-98	-92	-87	-82	-78	-74	-70
40	-150	-140	-131	-123	-116	-110	-104	-98	-93
50	-187	-175	-164	-154	-145	-137	-130	-123	-116
60	-225	-210	-197	-185	-174	-164	-155	-147	-139
70	-262	-245	-230	-216	-203	-192	-181	-171	-162
80	-300	-280	-262	-246	-232	-219	-207	-196	-186
90	-337	-315	-295	-277	-261	-246	-233	-221	-209
100	-374	-350	-328	-308	-290	-274	-259	-245	-232
110	-411	-385	-361	-339	-319	-301	-285	-269	-255
120	-449	-420	-393	-369	-348	-329	-311	-294	-278
130	-486	-455	-426	-400	-377	-356	-337	-319	-302
140	-523	-489	-458	-430	-405	-383	-362	-343	-325
150	-560	-524	-491	-461	-434	-410	-388	-367	-348
160	-597	-558	-523	-492	-463	-437	-414	-392	-371
170	-634	-593	-556	-522	-491	-464	-439	-416	-394
180	-671	-628	-588	-552	-520	-491	-465	-440	-417
190	-708	-663	-621	-583	-549	-518	-490	-464	-440
200	-745	-697	-653	-613	-577	-545	-516	-489	-463
220	-818	-766	-718	-674	-634	-599	-567	-537	-509
240	-891	-835	-783	-735	-692	-653	-618	-585	-555
260	-964	-904	-848	-796	-749	-707	-669	-634	-601
280	-1037	-972	-912	-856	-806	-760	-719	-682	-646
300	-1110	-1040	-976	-917	-863	-814	-770	-730	-692
320	-1182	-1108	-1040	-977	-919	-867	-820	-777	-737
340	-1254	-1176	-1104	-1037	-976	-921	-871	-825	-783
360	-1326	-1243	-1167	-1097	-1032	-974	-921	-873	-828
380	-1398	-1311	-1230	-1156	-1088	-1027	-972	-921	-874
400	-1470	-1378	-1293	-1215	-1144	-1080	-1022	-969	-919
420	-1541	-1445	-1356	-1274	-1200	-1133	-1072	-1016	-964
440	-1612	-1511	-1419	-1334	-1256	-1186	-1122	-1063	-1009
460	-1683	-1578	-1482	-1393	-1312	-1239	-1172	-1111	-1054
480	-1754	-1645	-1545	-1453	-1368	-1291	-1222	-1159	-1099
500	-1825	-1712	-1608	-1512	-1424	-1344	-1272	-1206	-1144

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE C FULL CHARGE MV = 2750 FPS

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	14500	15000	15500	16000	16500	17000	18000	19000	20000
10	-22	-21	-20	-19	-18	-17	-16	-14	-13
20	-44	-42	-40	-38	-36	-35	-32	-29	-26
30	-66	-63	-60	-57	-54	-52	-47	-43	-39
40	-88	-84	-80	-76	-72	-69	-63	-57	-52
50	-110	-105	-100	-95	-90	-86	-79	-72	-66
60	-132	-125	-119	-113	-108	-103	-94	-86	-79
70	-154	-146	-139	-132	-126	-120	-110	-101	-92
80	-176	-167	-159	-151	-144	-137	-125	-115	-105
90	-198	-188	-179	-170	-162	-155	-141	-129	-118
100	-220	-209	-199	-189	-180	-172	-157	-143	-131
110	-242	-230	-219	-208	-198	-189	-172	-157	-144
120	-264	-251	-239	-227	-216	-206	-188	-172	-157
130	-286	-271	-258	-246	-235	-224	-204	-186	-170
140	-308	-292	-278	-265	-253	-241	-219	-200	-183
150	-330	-313	-298	-284	-271	-258	-235	-214	-196
160	-352	-334	-317	-302	-288	-275	-250	-228	-209
170	-374	-355	-337	-321	-306	-292	-266	-243	-222
180	-395	-375	-357	-340	-324	-309	-281	-257	-235
190	-417	-396	-377	-359	-342	-326	-297	-271	-248
200	-439	-417	-397	-378	-360	-343	-312	-285	-261
220	-483	-459	-436	-415	-395	-377	-343	-313	-287
240	-527	-501	-476	-453	-431	-411	-374	-342	-313
260	-570	-542	-515	-490	-467	-445	-405	-370	-339
280	-614	-583	-554	-527	-502	-478	-436	-399	-365
300	-657	-624	-593	-564	-537	-512	-467	-427	-391
320	-700	-665	-632	-601	-572	-546	-498	-455	-417
340	-743	-706	-671	-638	-608	-580	-529	-484	-443
360	-786	-747	-710	-675	-643	-613	-560	-512	-469
380	-829	-787	-749	-712	-679	-647	-590	-540	-495
400	-872	-828	-787	-749	-714	-681	-621	-568	-521
420	-915	-869	-826	-786	-749	-715	-652	-596	-546
440	-958	-910	-865	-823	-784	-748	-682	-624	-572
460	-1001	-951	-904	-860	-819	-781	-713	-652	-598
480	-1043	-991	-942	-896	-854	-815	-743	-680	-623
500	-1086	-1032	-981	-933	-889	-848	-774	-708	-649

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	21000	22000	23000	24000	25000	26000	27000	28000	29000
10	-12	-11	-10	-10	-9	-8	-8	-7	-7
20	-24	-22	-20	-19	-18	-16	-15	-14	-13
30	-36	-33	-31	-29	-27	-25	-23	-21	-20
40	-48	-44	-41	-38	-35	-33	-30	-28	-26
50	-60	-55	-51	-48	-44	-41	-38	-35	-33
60	-72	-66	-61	-57	-53	-49	-46	-43	-40
70	-84	-77	-71	-66	-62	-57	-53	-50	-46
80	-96	-88	-82	-76	-71	-66	-61	-57	-53
90	-108	-99	-92	-86	-80	-74	-69	-64	-60
100	-120	-110	-102	-95	-88	-82	-76	-71	-66
110	-132	-121	-112	-104	-97	-90	-84	-78	-73
120	-144	-133	-123	-114	-106	-98	-91	-85	-79
130	-156	-144	-133	-123	-114	-106	-99	-92	-86
140	-168	-155	-143	-132	-123	-114	-106	-99	-93
150	-180	-166	-153	-142	-132	-123	-114	-107	-100
160	-192	-177	-163	-151	-141	-131	-122	-114	-106
170	-204	-188	-174	-161	-149	-139	-130	-121	-113
180	-216	-199	-184	-170	-158	-147	-137	-128	-120
190	-228	-210	-194	-180	-167	-155	-144	-135	-126
200	-240	-221	-204	-189	-175	-163	-152	-142	-133
220	-264	-243	-224	-207	-192	-179	-167	-156	-146
240	-288	-265	-245	-227	-210	-195	-182	-170	-159
260	-312	-287	-265	-245	-227	-212	-198	-185	-173
280	-335	-309	-285	-264	-245	-228	-213	-199	-186
300	-359	-331	-306	-283	-262	-244	-228	-213	-199
320	-383	-353	-326	-302	-280	-260	-243	-227	-212
340	-407	-375	-346	-320	-297	-276	-258	-241	-225
360	-431	-397	-366	-339	-315	-293	-273	-255	-239
380	-454	-419	-386	-357	-332	-309	-288	-269	-252
400	-478	-440	-406	-376	-349	-325	-303	-283	-265
420	-502	-462	-426	-394	-366	-341	-318	-297	-278
440	-526	-484	-447	-414	-384	-357	-333	-311	-291
460	-550	-506	-467	-432	-401	-374	-349	-326	-305
480	-573	-528	-487	-451	-419	-390	-364	-340	-318
500	-597	-550	-507	-469	-436	-406	-379	-354	-331

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE C FULL CHARGE MV = 2750 FPS

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards								
feet	30000	31000	32000	33000	34000	35000	36000	37000	38000
10	-6	-6	-6	-5	-5	-5	-4	-4	-4
20	-12	-12	-11	-10	-10	-9	-9	-8	-8
30	-19	-17	-16	-15	-14	-14	-13	-12	-11
40	-25	-23	-22	-20	-19	-18	-17	-16	-15
50	-31	-29	-27	-26	-24	-23	-22	-20	-19
60	-37	-35	-33	-31	-29	-27	-26	-24	-23
70	-43	-40	-38	-36	-34	-32	-30	-28	-27
80	-49	-46	-43	-41	-38	-36	-34	-32	-30
90	-56	-52	-49	-46	-43	-41	-39	-36	-34
100	-62	-58	-54	-51	-48	-45	-43	-40	-38
110	-68	-64	-60	-56	-53	-50	-47	-44	-42
120	-74	-69	-65	-61	-58	-55	-52	-49	-46
130	-80	-75	-70	-66	-62	-59	-56	-53	-50
140	-87	-81	-76	-71	-67	-63	-60	-57	-54
150	-93	-87	-82	-77	-72	-68	-64	-61	-57
160	-99	-93	-87	-82	-77	-73	-69	-65	-61
170	-106	-99	-93	-87	-82	-77	-73	-69	-65
180	-112	-105	-98	-92	-87	-82	-77	-73	-69
190	-118	-111	-104	-97	-91	-86	-81	-77	-73
200	-124	-116	-109	-102	-96	-91	-86	-81	-76
220	-136	-128	-120	-113	-106	-100	-94	-89	-84
240	-149	-139	-131	-123	-115	-109	-103	-97	-91
260	-162	-151	-141	-133	-125	-118	-111	-105	-99
280	-174	-162	-152	-143	-135	-127	-120	-113	-107
300	-186	-174	-163	-153	-144	-136	-128	-121	-114
320	-198	-186	-174	-164	-154	-145	-137	-129	-122
340	-211	-197	-185	-174	-163	-154	-145	-137	-129
360	-223	-209	-196	-184	-173	-163	-154	-145	-137
380	-236	-221	-207	-194	-182	-172	-162	-153	-145
400	-248	-232	-218	-205	-192	-181	-171	-161	-152
420	-260	-244	-229	-215	-202	-190	-179	-169	-160
440	-273	-256	-240	-225	-211	-199	-188	-178	-168
460	-285	-267	-251	-235	-221	-208	-197	-186	-176
480	-298	-279	-261	-245	-230	-217	-205	-194	-183
500	-310	-290	-272	-255	-240	-226	-214	-202	-191

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE C

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards					
feet	39000	40000	41000	42000	43000	44000
10	-4	-3	-3	-3	-3	-3
20	-7	-7	-6	-6	-6	-5
30	-11	-10	-10	-9	-8	-8
40	-14	-14	-13	-12	-11	-10
50	-18	-17	-16	-15	-14	-13
60	-22	-20	-19	-18	-17	-15
70	-25	-24	-22	-21	-20	-18
80	-29	-27	-26	-24	-22	-20
90	-32	-31	-29	-27	-25	-23
100	-36	-34	-32	-30	-28	-25
110	-40	-37	-35	-33	-31	-28
120	-43	-41	-38	-36	-33	-30
130	-47	-44	-42	-39	-36	-33
140	-51	-48	-45	-42	-39	-35
150	-54	-51	-48	-45	-42	-38
160	-58	-54	-51	-48	-45	-41
170	-61	-58	-54	-51	-47	-43
180	-65	-61	-58	-54	-50	-46
190	-69	-65	-61	-57	-53	-48
200	-72	-68	-64	-60	-56	-51
220	-79	-75	-70	-66	-61	-56
240	-86	-82	-77	-72	-67	-61
260	-94	-89	-83	-78	-72	-66
280	-101	-95	-90	-84	-78	-71
300	-108	-102	-96	-90	-84	-76
320	-115	-109	-102	-96	-89	-81
340	-122	-116	-109	-102	-95	-86
360	-130	-123	-115	-108	-101	-92
380	-137	-129	-122	-114	-106	-97
400	-144	-136	-128	-120	-112	-102
420	-151	-143	-134	-126	-117	-107
440	-159	-150	-141	-132	-123	-112
460	-166	-156	-147	-138	-128	-117
480	-173	-163	-154	-144	-134	-122
500	-180	-170	-160	-150	-140	-127

*For elevations less than 46°10'

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE C FULL CHARGE MV = 2750 FPS

*TARGET ABOVE GUN - RANGE EFFECTS IN YARDS

Height of target	Map range - yards		
feet	44000	43000	42000
10	-2	-2	-2
20	-4	-4	-3
30	-6	-5	-5
40	-8	-7	-7
50	-10	-9	-8
60	-12	-11	-10
70	-14	-13	-12
80	-16	-15	-14
90	-18	-16	-15
100	-20	-18	-17
110	-22	-20	-19
120	-24	-22	-20
130	-25	-23	-22
140	-27	-25	-24
150	-29	-27	-25
160	-31	-29	-27
170	-33	-31	-29
180	-35	-32	-30
190	-37	-34	-32
200	-39	-36	-34
220	-43	-40	-37
240	-47	-43	-41
260	-51	-47	-44
280	-55	-50	-47
300	-59	-54	-51
320	-63	-58	-54
340	-67	-61	-57
360	-71	-65	-61
380	-74	-68	-64
400	-78	-72	-68
420	-82	-75	-71
440	-86	-79	-74
460	-90	-83	-78
480	-94	-86	-81
500	-98	-90	-84

*For elevations greater than 46°10'

608393 O - 44 - 12

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE D

WEIGHT OF PROJECTILE, EFFECTS IN YARDS OF RANGE, DUE TO VARIATIONS IN

Range	Variations in weight of projectile - percent										
yards	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
1000	+20	+16	+12	+8	+4	0	-4	-8	-13	-17	-21
2000	+40	+32	+24	+16	+8	0	-8	-17	-25	-34	-42
3000	+59	+48	+36	+24	+12	0	-12	-25	-37	-50	-62
4000	+78	+63	+47	+31	+16	0	-16	-32	-48	-65	-81
5000	+96	+77	+58	+38	+19	0	-20	-39	-59	-79	-99
6000	+111	+89	+67	+44	+22	0	-23	-46	-69	-92	-115
7000	+124	+99	+75	+50	+25	0	-26	-51	-77	-103	-128
8000	+135	+108	+81	+54	+27	0	-28	-55	-83	-111	-139
9000	+143	+114	+86	+57	+29	0	-29	-58	-88	-117	-147
10000	+148	+118	+89	+59	+30	0	-30	-61	-92	-122	-153
11000	+151	+120	+90	+60	+30	0	-31	-63	-94	-125	-157
12000	+151	+121	+91	+61	+31	0	-31	-63	-94	-126	-158
13000	+149	+120	+91	+61	+31	0	-31	-62	-93	-125	-157
14000	+146	+117	+89	+60	+30	0	-30	-61	-92	-123	-155
15000	+141	+114	+86	+58	+29	0	-29	-59	-90	-120	-152
16000	+136	+110	+83	+56	+28	0	-29	-58	-87	-117	-148
17000	+130	+105	+79	+53	+27	0	-28	-56	-84	-113	-143
18000	+123	+99	+75	+51	+26	0	-26	-53	-80	-108	-137
19000	+115	+92	+70	+48	+24	0	-25	-50	-76	-102	-130
20000	+105	+85	+65	+44	+22	0	-23	-46	-71	-96	-121
21000	+94	+77	+59	+40	+20	0	-21	-42	-65	-88	-111
22000	+83	+68	+52	+35	+18	0	-19	-38	-58	-79	-101
23000	+71	+58	+45	+31	+16	0	-17	-34	-52	-70	-90
24000	+58	+48	+38	+26	+13	0	-14	-29	-45	-61	-79
25000	+45	+38	+30	+21	+11	0	-12	-24	-38	-52	-67
26000	+31	+27	+21	+15	+8	0	-9	-19	-30	-42	-54
27000	+17	+15	+13	+9	+5	0	-6	-14	-22	-31	-41
28000	+2	+4	+4	+4	+2	0	-3	-8	-14	-20	-28
29000	-12	-7	-4	-1	0	0	-1	-3	-6	-10	-15
30000	-26	-18	-12	-7	-3	0	+2	+3	+2	+1	-2

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE D FULL CHARGE MV = 2750 FPS

WEIGHT OF PROJECTILE, EFFECTS IN YARDS OF RANGE, DUE TO VARIATIONS IN

Range	Variations in weight of projectile - percent										
yards	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
30000	-26	-18	-12	-7	-3	0	+2	+3	+2	+1	+2
31000	-40	-29	-20	-12	-6	0	+5	+8	+10	+11	+11
32000	-53	-40	-28	-17	-8	0	+7	+13	+17	+21	+23
33000	-66	-50	-35	-22	-10	0	+9	+17	+24	+30	+34
34000	-77	-59	-42	-27	-13	0	+11	+21	+30	+38	+44
35000	-87	-67	-48	-31	-15	0	+13	+25	+36	+46	+54
36000	-97	-75	-54	-35	-17	0	+15	+29	+42	+53	+63
37000	-106	-82	-60	-38	-19	0	+17	+33	+47	+60	+72
38000	-115	-89	-65	-42	-20	0	+19	+36	+52	+67	+80
39000	-123	-95	-69	-45	-22	0	+20	+39	+56	+73	+87
40000	-129	-100	-73	-47	-23	0	+22	+42	+60	+78	+93
41000	-134	-104	-76	-49	-24	0	+23	+43	+63	+81	+97
42000	-137	-106	-78	-50	-24	0	+23	+44	+64	+82	+99
43000	-137	-106	-78	-50	-24	0	+22	+44	+63	+81	+98
44000	-122	-95	-69	-45	-22	0	+20	+38	+55	+70	+84
44680	-112	-87	-63	-41	-20	0	+18	+35	+50	+64	+76
44000	-85	-66	-47	-30	-14	0	+13	+24	+35	+43	+51
43000	-78	-60	-43	-27	-13	0	+11	+22	+31	+39	+45
42000	-76	-58	-42	-27	-13	0	+11	+21	+30	+38	+44

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 0°

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+6-	+12-	+17-	+20-	+22-	+23-
4000	0	+12-	+23-	+32-	+39-	+43-	+45-
6000	0	+17-	+33-	+46-	+56-	+62-	+65-
8000	0	+21-	+42-	+59-	+72-	+80-	+83-
10000	0	+25-	+50-	+71-	+86-	+96-	+99-
12000	0	+29-	+57-	+81-	+98-	+110-	+113-
14000	0	+32-	+63-	+89-	+109-	+122-	+126-
16000	0	+35-	+68-	+96-	+118-	+132-	+137-
18000	0	+38-	+73-	+103-	+126-	+141-	+146-
20000	0	+40-	+77-	+109-	+133-	+149-	+154-
22000	0	+42-	+81-	+114-	+139-	+156-	+161-
24000	0	+44-	+84-	+119-	+145-	+163-	+168-
26000	0	+45-	+87-	+124-	+151-	+169-	+175-
28000	0	+47-	+90-	+128-	+128-	+175-	+181-
30000	0	+48-	+93-	+131-	+161-	+180-	+186-
32000	0	+49-	+95-	+134-	+165-	+184-	+190-
34000	0	+50-	+97-	+137-	+168-	+187-	+194-
36000	0	+51-	+99-	+139-	+171-	+190-	+197-
38000	0	+52-	+100-	+141-	+172-	+192-	+199-
40000	0	+52-	+100-	+141-	+172-	+192-	+199-
42000	0	+50-	+98-	+138-	+169-	+188-	+195-
44000	0	+46-	+89-	+126-	+154-	+172-	+178-
44680	0	+39-	+75-	+106-	+130-	+149-	+150-
44000	0	+30-	+58-	+82-	+100-	+112-	+116-
42000	0	+19-	+37-	+52-	+64-	+71-	+74-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE E FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 10° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+6-	+11-	+16-	+20-	+22-	+23-
4000	0	+12-	+22-	+31-	+38-	+43-	+44-
6000	0	+17-	+32-	+45-	+55-	+62-	+64-
8000	0	+21-	+41-	+58-	+71-	+79-	+82-
10000	0	+25-	+49-	+69-	+84-	+94-	+97-
12000	0	+29-	+56-	+79-	+96-	+108-	+111-
14000	0	+32-	+62-	+88-	+107-	+120-	+124-
16000	0	+35-	+67-	+95-	+117-	+130-	+135-
18000	0	+37-	+72-	+101-	+125-	+139-	+144-
20000	0	+39-	+76-	+107-	+131-	+146-	+152-
22000	0	+41-	+80-	+112-	+137-	+153-	+159-
24000	0	+43-	+83-	+117-	+143-	+160-	+166-
26000	0	+45-	+86-	+122-	+149-	+166-	+172-
28000	0	+46-	+89-	+126-	+154-	+172-	+178-
30000	0	+47-	+92-	+130-	+158-	+177-	+183-
32000	0	+48-	+94-	+133-	+162-	+181-	+187-
34000	0	+49-	+96-	+135-	+165-	+184-	+191-
36000	0	+50-	+97-	+137-	+168-	+187-	+194-
38000	0	+51-	+98-	+139-	+170-	+189-	+196-
40000	0	+51-	+98-	+139-	+170-	+189-	+196-
42000	0	+50-	+96-	+136-	+166-	+185-	+192-
44000	0	+45-	+88-	+124-	+152-	+169-	+175-
44680	0	+38-	+74-	+104-	+128-	+143-	+148-
44000	0	+30-	+57-	+81-	+99-	+110-	+114-
42000	0	+19-	+36-	+52-	+63-	+70-	+73-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 20° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+6-	+11-	+16-	+19-	+21-	+22-
4000	0	+11-	+21-	+30-	+37-	+41-	+42-
6000	0	+16-	+30-	+43-	+53-	+59-	+61-
8000	0	+20-	+39-	+55-	+68-	+75-	+78-
10000	0	+24-	+47-	+66-	+81-	+90-	+93-
12000	0	+27-	+53-	+76-	+92-	+103-	+106-
14000	0	+30-	+59-	+84-	+102-	+114-	+118-
16000	0	+33-	+64-	+91-	+111-	+124-	+128-
18000	0	+35-	+68-	+97-	+118-	+133-	+137-
20000	0	+37-	+72-	+102-	+125-	+140-	+145-
22000	0	+39-	+76-	+107-	+131-	+146-	+152-
24000	0	+41-	+79-	+112-	+137-	+152-	+158-
26000	0	+43-	+82-	+116-	+142-	+158-	+164-
28000	0	+44-	+85-	+120-	+147-	+163-	+170-
30000	0	+45-	+87-	+123-	+151-	+168-	+175-
32000	0	+46-	+89-	+126-	+155-	+172-	+179-
34000	0	+47-	+91-	+129-	+158-	+176-	+182-
36000	0	+48-	+92-	+131-	+160-	+179-	+185-
38000	0	+48-	+93-	+132-	+162-	+181-	+187-
40000	0	+48-	+93-	+132-	+162-	+181-	+187-
42000	0	+47-	+92-	+130-	+159-	+177-	+183-
44000	0	+43-	+84-	+118-	+145-	+162-	+167-
44680	0	+37-	+70-	+100-	+122-	+136-	+141-
44000	0	+28-	+55-	+77-	+94-	+105-	+109-
42000	0	+18-	+35-	+49-	+60-	+67-	+70-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE E FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 30° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+5-	+10-	+14-	+17-	+19-	+20-
4000	0	+10-	+19-	+27-	+33-	+37-	+39-
6000	0	+15-	+28-	+40-	+48-	+54-	+56-
8000	0	+19-	+36-	+51-	+62-	+69-	+72-
10000	0	+22-	+43-	+61-	+74-	+83-	+86-
12000	0	+25-	+49-	+69-	+85-	+95-	+98-
14000	0	+28-	+54-	+77-	+95-	+105-	+109-
16000	0	+31-	+59-	+84-	+103-	+114-	+119-
18000	0	+33-	+63-	+89-	+110-	+122-	+127-
20000	0	+35-	+67-	+94-	+116-	+129-	+133-
22000	0	+36-	+70-	+99-	+121-	+135-	+139-
24000	0	+38-	+73-	+103-	+126-	+141-	+145-
26000	0	+39-	+76-	+107-	+131-	+146-	+151-
28000	0	+41-	+78-	+111-	+136-	+151-	+156-
30000	0	+42-	+80-	+114-	+140-	+155-	+161-
32000	0	+43-	+82-	+117-	+143-	+159-	+165-
34000	0	+44-	+84-	+119-	+146-	+162-	+168-
36000	0	+44-	+85-	+121-	+148-	+165-	+171-
38000	0	+45-	+86-	+122-	+149-	+166-	+172-
40000	0	+45-	+86-	+122-	+149-	+166-	+172-
42000	0	+44-	+84-	+119-	+146-	+163-	+169-
44000	0	+40-	+77-	+109-	+134-	+149-	+154-
44680	0	+34-	+65-	+92-	+113-	+125-	+130-
44000	0	+26-	+50-	+71-	+87-	+97-	+100-
42000	0	+17-	+32-	+46-	+56-	+62-	+64-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 40° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+5-	+9-	+12-	+15-	+17-	+18-
4000	0	+9-	+18-	+24-	+30-	+33-	+34-
6000	0	+13-	+26-	+35-	+43-	+48-	+49-
8000	0	+16-	+33-	+45-	+55-	+61-	+63-
10000	0	+20-	+39-	+54-	+66-	+73-	+76-
12000	0	+23-	+44-	+61-	+75-	+84-	+87-
14000	0	+25-	+49-	+68-	+83-	+93-	+97-
16000	0	+27-	+53-	+74-	+90-	+101-	+105-
18000	0	+29-	+57-	+79-	+96-	+108-	+112-
20000	0	+31-	+60-	+83-	+102-	+114-	+118-
22000	0	+32-	+63-	+87-	+107-	+119-	+124-
24000	0	+34-	+66-	+91-	+112-	+124-	+129-
26000	0	+35-	+69-	+95-	+116-	+129-	+134-
28000	0	+36-	+71-	+98-	+120-	+134-	+139-
30000	0	+37-	+73-	+101-	+123-	+138-	+143-
32000	0	+38-	+75-	+103-	+126-	+141-	+146-
34000	0	+39-	+76-	+105-	+129-	+144-	+149-
36000	0	+39-	+77-	+107-	+131-	+146-	+151-
38000	0	+40-	+78-	+108-	+132-	+147-	+152-
40000	0	+40-	+78-	+108-	+132-	+147-	+152-
42000	0	+39-	+77-	+106-	+129-	+144-	+149-
44000	0	+35-	+70-	+96-	+118-	+132-	+136-
44680	0	+30-	+59-	+81-	+100-	+111-	+115-
44000	0	+23-	+46-	+63-	+77-	+86-	+89-
42000	0	+15-	+29-	+40-	+49-	+55-	+57-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE E FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 50° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+4-	+7-	+10-	+13-	+14-	+15-
4000	0	+7-	+14-	+20-	+25-	+28-	+29-
6000	0	+11-	+21-	+29-	+36-	+40-	+42-
8000	0	+14-	+27-	+37-	+46-	+51-	+54-
10000	0	+17-	+32-	+44-	+55-	+61-	+64-
12000	0	+19-	+36-	+51-	+63-	+70-	+73-
14000	0	+21-	+40-	+57-	+70-	+78-	+81-
16000	0	+23-	+44-	+62-	+76-	+85-	+88-
18000	0	+24-	+47-	+66-	+81-	+91-	+94-
20000	0	+26-	+50-	+70-	+86-	+96-	+99-
22000	0	+27-	+52-	+73-	+90-	+100-	+104-
24000	0	+28-	+54-	+76-	+94-	+104-	+108-
26000	0	+29-	+56-	+79-	+98-	+108-	+112-
28000	0	+30-	+58-	+82-	+101-	+112-	+116-
30000	0	+31-	+60-	+84-	+104-	+115-	+119-
32000	0	+32-	+61-	+86-	+106-	+118-	+122-
34000	0	+32-	+62-	+88-	+108-	+120-	+125-
36000	0	+33-	+63-	+90-	+110-	+122-	+127-
38000	0	+33-	+64-	+90-	+111-	+123-	+128-
40000	0	+33-	+64-	+90-	+111-	+123-	+128-
42000	0	+32-	+63-	+89-	+109-	+121-	+125-
44000	0	+30-	+57-	+81-	+99-	+111-	+114-
44680	0	+25-	+48-	+68-	+84-	+93-	+96-
44000	0	+19-	+37-	+53-	+65-	+72-	+75-
42000	0	+12-	+24-	+34-	+41-	+46-	+48-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE E

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 60° (North of South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+3-	+6-	+8-	+10-	+11-	+12-
4000	0	+6-	+11-	+16-	+19-	+21-	+23-
6000	0	+8-	+16-	+23-	+28-	+31-	+33-
8000	0	+11-	+21-	+29-	+36-	+40-	+42-
10000	0	+13-	+25-	+35-	+43-	+48-	+50-
12000	0	+15-	+28-	+40-	+49-	+55-	+57-
14000	0	+16-	+31-	+44-	+54-	+61-	+63-
16000	0	+18-	+34-	+48-	+59-	+66-	+68-
18000	0	+19-	+37-	+51-	+63-	+70-	+73-
20000	0	+20-	+39-	+54-	+67-	+74-	+77-
22000	0	+21-	+41-	+57-	+70-	+78-	+81-
24000	0	+22-	+42-	+59-	+73-	+81-	+84-
26000	0	+23-	+44-	+62-	+76-	+84-	+87-
28000	0	+23-	+45-	+64-	+78-	+87-	+90-
30000	0	+24-	+46-	+66-	+80-	+90-	+93-
32000	0	+24-	+47-	+67-	+82-	+92-	+95-
34000	0	+25-	+48-	+69-	+84-	+94-	+97-
36000	0	+25-	+49-	+70-	+85-	+95-	+98-
38000	0	+26-	+50-	+70-	+86-	+96-	+99-
40000	0	+26-	+50-	+70-	+86-	+96-	+99-
42000	0	+25-	+49-	+69-	+84-	+94-	+97-
44000	0	+23-	+45-	+63-	+77-	+86-	+89-
44680	0	+19-	+38-	+53-	+65-	+72-	+75-
44000	0	+15-	+29-	+41-	+50-	+56-	+58-
42000	0	+10-	+19-	+26-	+32-	+36-	+37-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE E FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, EFFECTS IN YARDS OF RANGE DUE TO

Latitude 70° (North or South)

Range yards	Azimuth of target - degrees						
	0 180	15 165	30 150	45 135	60 120	75 105	90 90
2000	0	+2-	+4-	+6-	+7-	+8-	+8-
4000	0	+4-	+8-	+11-	+13-	+15-	+15-
6000	0	+6-	+11-	+16-	+19-	+21-	+22-
8000	0	+7-	+14-	+20-	+24-	+27-	+28-
10000	0	+9-	+17-	+24-	+29-	+33-	+34-
12000	0	+10-	+19-	+27-	+33-	+38-	+39-
14000	0	+11-	+21-	+30-	+37-	+42-	+43-
16000	0	+12-	+23-	+33-	+40-	+45-	+47-
18000	0	+13-	+25-	+35-	+43-	+48-	+50-
20000	0	+14-	+26-	+37-	+46-	+51-	+53-
22000	0	+14-	+28-	+39-	+48-	+53-	+55-
24000	0	+15-	+29-	+41-	+50-	+56-	+58-
26000	0	+15-	+30-	+42-	+52-	+58-	+60-
28000	0	+16-	+31-	+44-	+54-	+60-	+62-
30000	0	+16-	+32-	+45-	+55-	+61-	+64-
32000	0	+17-	+32-	+46-	+56-	+63-	+65-
34000	0	+17-	+33-	+47-	+57-	+64-	+66-
36000	0	+17-	+34-	+48-	+58-	+65-	+67-
38000	0	+18-	+34-	+48-	+59-	+66-	+68-
40000	0	+18-	+34-	+48-	+59-	+66-	+68-
42000	0	+17-	+33-	+47-	+58-	+64-	+67-
44000	0	+16-	+30-	+43-	+53-	+59-	+61-
44680	0	+13-	+26-	+36-	+44-	+50-	+51-
44000	0	+10-	+20-	+28-	+34-	+38-	+40-
42000	0	+6-	+13-	+18-	+22-	+24-	+25-
	180 360	195 345	210 330	225 315	240 300	255 285	270 270
	Azimuth of target - degrees						

*For argument at top of tables use the sign that is before the number.
*For argument at bottom of tables use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Fa

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
1000	7	14	21	28	35	42	50	57
2000	14	28	42	56	70	84	98	112
3000	21	42	62	83	104	125	145	166
4000	27	55	82	109	137	164	192	219
5000	34	68	101	135	169	203	237	271
6000	40	80	120	160	201	241	281	322
7000	46	93	139	185	232	278	324	371
8000	52	105	157	210	262	315	367	420
9000	58	117	175	231	292	351	409	468
10000	64	128	193	257	321	386	450	514
11000	70	140	210	280	350	420	490	560
12000	76	151	227	302	378	453	529	605
13000	81	162	243	324	405	486	567	649
14000	86	172	259	345	431	518	604	691
15000	91	183	274	366	457	549	640	732
16000	96	193	289	386	482	579	675	772
17000	101	203	304	406	507	608	710	812
18000	106	212	319	425	531	638	745	852
19000	111	222	334	445	556	667	779	891
20000	116	232	348	464	580	696	813	929
21000	121	241	362	482	603	724	846	967
22000	125	251	376	501	627	753	879	1006
23000	130	260	390	521	651	782	913	1045
24000	135	270	405	541	676	812	948	1084
25000	140	280	420	561	701	842	983	1124
26000	145	290	436	581	726	872	1018	1165
27000	150	301	451	602	752	903	1054	1206
28000	155	311	467	622	778	934	1091	1248
29000	161	322	483	643	804	966	1128	1290
30000	166	332	499	665	831	998	1165	1333

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Fa FULL CHARGE MV = 2750 FPS

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
1000	64	71	78	85	92	100	107
2000	126	140	154	168	182	197	211
3000	187	208	229	250	271	292	313
4000	247	274	302	329	357	384	412
5000	305	339	373	407	441	475	509
6000	362	402	442	483	523	564	604
7000	418	464	510	557	604	650	697
8000	473	525	577	630	683	735	788
9000	527	585	643	702	761	819	878
10000	579	643	708	772	837	901	966
11000	630	700	771	841	911	982	1052
12000	681	756	832	908	984	1060	1136
13000	730	811	892	973	1055	1136	1218
14000	777	864	950	1037	1124	1211	1298
15000	823	915	1007	1099	1191	1284	1376
16000	868	965	1062	1160	1257	1355	1452
17000	913	1015	1117	1220	1322	1425	1527
18000	958	1065	1172	1279	1386	1494	1601
19000	1002	1114	1226	1338	1450	1563	1675
20000	1046	1162	1279	1396	1513	1631	1748
21000	1089	1210	1332	1454	1576	1698	1820
22000	1132	1258	1385	1512	1639	1765	1892
23000	1176	1307	1439	1570	1702	1833	1965
24000	1220	1356	1493	1629	1766	1902	2039
25000	1265	1406	1548	1689	1831	1973	2115
26000	1311	1457	1604	1750	1897	2044	2192
27000	1357	1509	1661	1813	1965	2117	2270
28000	1404	1561	1718	1876	2034	2191	2349
29000	1452	1614	1777	1940	2104	2267	2430
30000	1501	1669	1837	2006	2175	2344	2513

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Fa

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
30000	166	332	499	665	831	998	1165	1333
31000	172	343	515	687	859	1031	1204	1378
32000	177	354	532	710	888	1066	1245	1424
33000	183	366	550	734	918	1102	1287	1472
34000	189	378	568	759	949	1139	1330	1521
35000	195	391	587	784	981	1178	1375	1573
36000	202	404	607	810	1014	1218	1422	1627
37000	209	418	627	837	1048	1259	1471	1683
38000	216	432	648	866	1084	1302	1522	1742
39000	223	447	671	896	1122	1348	1576	1804
40000	231	463	695	928	1162	1396	1632	1868
41000	239	479	720	962	1204	1447	1691	1935
42000	248	497	746	997	1248	1500	1753	2007
43000	257	515	774	1034	1295	1557	1820	2085
44000	270	542	815	1088	1363	1639	1916	2194
44680	279	559	840	1122	1406	1691	1977	2264
44000	280	560	842	1126	1410	1696	1983	2271
43000	275	550	827	1106	1385	1666	1948	2231
42000	268	538	809	1081	1354	1629	1905	2182

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Fa FULL CHARGE MV = 2750 FPS

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN

Range	Increase in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
30000	1501	1669	1837	2006	2175	2344	2513
31000	1551	1725	1899	2074	2248	2423	2598
32000	1603	1783	1963	2144	2324	2505	2686
33000	1657	1843	2029	2216	2403	2590	2777
34000	1713	1905	2098	2291	2484	2678	2872
35000	1771	1970	2169	2369	2569	2770	2971
36000	1832	2038	2244	2451	2658	2866	3074
37000	1896	2109	2322	2536	2751	2966	3181
38000	1963	2183	2404	2625	2848	3070	3293
39000	2032	2260	2489	2719	2949	3180	3411
40000	2104	2341	2579	2817	3056	3296	3536
41000	2180	2426	2673	2920	3169	3418	3668
42000	2262	2517	2773	3031	3289	3548	3808
43000	2350	2616	2883	3151	3420	3690	3960
44000	2473	2753	3034	3316	3600	3884	4170
44680	2553	2843	3134	3426	3729	4014	4310
44000	2562	2853	3146	3439	3734	4030	4328
43000	2516	2802	3089	3378	3668	3960	4252
42000	2460	2740	3021	3303	3586	3871	4157

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Fb

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
1000	-7	-14	-21	-28	-35	-42	-50	-57
2000	-14	-28	-42	-56	-70	-84	-98	-112
3000	-21	-42	-62	-83	-104	-125	-145	-166
4000	-27	-55	-82	-109	-137	-164	-191	-218
5000	-34	-68	-101	-135	-169	-202	-236	-269
6000	-40	-80	-120	-160	-200	-240	-280	-320
7000	-46	-92	-139	-185	-231	-277	-323	-370
8000	-52	-104	-157	-209	-261	-313	-365	-418
9000	-58	-116	-175	-233	-291	-349	-407	-465
10000	-64	-128	-192	-256	-320	-384	-448	-511
11000	-70	-139	-209	-278	-348	-418	-487	-556
12000	-75	-150	-225	-300	-376	-451	-526	-600
13000	-80	-161	-241	-322	-403	-483	-564	-643
14000	-86	-172	-257	-343	-429	-515	-600	-686
15000	-91	-182	-273	-364	-455	-546	-636	-727
16000	-96	-192	-288	-384	-480	-576	-671	-767
17000	-101	-202	-303	-403	-504	-605	-705	-806
18000	-106	-212	-317	-423	-529	-634	-739	-844
19000	-111	-221	-332	-442	-553	-663	-773	-883
20000	-116	-231	-346	-461	-577	-692	-806	-921
21000	-120	-240	-360	-480	-600	-720	-839	-959
22000	-125	-249	-374	-499	-624	-748	-872	-996
23000	-130	-259	-389	-518	-648	-777	-905	-1034
24000	-134	-269	-403	-537	-672	-806	-939	-1073
25000	-139	-278	-417	-557	-696	-835	-973	-1112
26000	-144	-288	-432	-577	-721	-864	-1008	-1151
27000	-149	-298	-447	-597	-746	-894	-1043	-1191
28000	-154	-309	-463	-618	-772	-925	-1079	-1232
29000	-160	-319	-479	-639	-798	-957	-1116	-1274
30000	-165	-330	-495	-660	-825	-989	-1153	-1316

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Fb FULL CHARGE MV = 2750 FPS

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
1000	-64	-71	-78	-85	-92	-99	-106
2000	-126	-140	-154	-168	-181	-195	-209
3000	-186	-207	-228	-248	-268	-289	-310
4000	-245	-273	-300	-327	-354	-381	-409
5000	-303	-337	-371	-404	-438	-471	-505
6000	-360	-400	-440	-480	-520	-559	-599
7000	-416	-462	-508	-554	-600	-645	-691
8000	-470	-522	-574	-626	-678	-729	-781
9000	-523	-581	-639	-697	-755	-812	-870
10000	-575	-639	-703	-766	-830	-893	-957
11000	-626	-696	-765	-834	-904	-973	-1042
12000	-675	-751	-826	-900	-976	-1050	-1125
13000	-724	-805	-885	-965	-1045	-1125	-1205
14000	-772	-857	-942	-1028	-1113	-1198	-1283
15000	-818	-908	-998	-1089	-1179	-1269	-1359
16000	-862	-958	-1053	-1148	-1243	-1338	-1433
17000	-906	-1007	-1107	-1206	-1306	-1406	-1506
18000	-950	-1055	-1160	-1264	-1369	-1474	-1579
19000	-993	-1103	-1213	-1322	-1432	-1541	-1651
20000	-1036	-1151	-1265	-1379	-1494	-1608	-1722
21000	-1078	-1198	-1317	-1436	-1555	-1674	-1792
22000	-1121	-1245	-1368	-1492	-1616	-1739	-1862
23000	-1163	-1292	-1420	-1549	-1677	-1805	-1933
24000	-1206	-1340	-1473	-1606	-1739	-1872	-2005
25000	-1250	-1389	-1527	-1664	-1802	-1940	-2077
26000	-1295	-1438	-1581	-1723	-1866	-2008	-2150
27000	-1340	-1488	-1636	-1783	-1930	-2077	-2224
28000	-1386	-1539	-1691	-1843	-1995	-2147	-2299
29000	-1432	-1590	-1747	-1904	-2061	-2219	-2376
30000	-1479	-1642	-1805	-1967	-2129	-2292	-2454

608393 O - 44 - 13

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Fb

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second							
yards	10	20	30	40	50	60	70	80
30000	-165	-330	-495	-660	-825	-989	-1153	-1316
31000	-171	-341	-512	-682	-852	-1021	-1190	-1358
32000	-177	-353	-529	-705	-880	-1055	-1229	-1403
33000	-183	-365	-546	-728	-909	-1090	-1270	-1450
34000	-189	-377	-564	-752	-939	-1126	-1312	-1498
35000	-195	-389	-583	-777	-970	-1163	-1355	-1547
36000	-201	-402	-603	-803	-1002	-1201	-1400	-1598
37000	-208	-416	-623	-829	-1035	-1241	-1446	-1650
38000	-215	-430	-644	-857	-1070	-1282	-1494	-1705
39000	-223	-445	-665	-886	-1106	-1325	-1544	-1762
40000	-230	-460	-688	-916	-1144	-1370	-1597	-1822
41000	-238	-476	-713	-949	-1184	-1418	-1652	-1885
42000	-247	-493	-739	-983	-1226	-1469	-1710	-1951
43000	-256	-512	-766	-1019	-1272	-1523	-1774	-2024
44000	-269	-538	-805	-1072	-1337	-1601	-1864	-2126
44680	-277	-554	-829	-1102	-1375	-1646	-1917	-2186
44000	-278	-555	-830	-1105	-1378	-1650	-1920	-2189
43000	-273	-545	-815	-1085	-1353	-1620	-1885	-2149
42000	-267	-532	-797	-1060	-1322	-1583	-1842	-2100

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Fb FULL CHARGE MV = 2750 FPS

MUZZLE VELOCITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN

Range	Decrease in muzzle velocity - feet per second						
yards	90	100	110	120	130	140	150
30000	-1479	-1642	-1805	-1967	-2129	-2292	-2454
31000	-1527	-1696	-1865	-2032	-2199	-2366	-2534
32000	-1577	-1752	-1926	-2099	-2271	-2443	-2616
33000	-1629	-1809	-1988	-2167	-2345	-2523	-2701
34000	-1683	-1868	-2053	-2237	-2421	-2605	-2788
35000	-1738	-1929	-2120	-2310	-2500	-2689	-2878
36000	-1795	-1992	-2189	-2385	-2581	-2776	-2971
37000	-1854	-2058	-2261	-2463	-2665	-2867	-3068
38000	-1916	-2126	-2335	-2544	-2753	-2961	-3168
39000	-1980	-2197	-2413	-2629	-2844	-3058	-3272
40000	-2047	-2271	-2494	-2717	-2938	-3159	-3380
41000	-2117	-2348	-2578	-2808	-3037	-3265	-3493
42000	-2191	-2430	-2668	-2906	-3142	-3378	-3613
43000	-2272	-2520	-2767	-3013	-3257	-3501	-3744
44000	-2387	-2647	-2906	-3164	-3420	-3676	-3930
44680	-2453	-2720	-2985	-3249	-3512	-3774	-4034
44000	-2457	-2724	-2989	-3253	-3515	-3777	-4037
43000	-2412	-2674	-2934	-3193	-3450	-3707	-3962
42000	-2357	-2612	-2867	-3120	-3371	-3622	-3871

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Ga

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	1	2	3	4	5	6	7	8
1000	1	1	2	2	3	3	4	4
2000	1	2	3	4	6	7	8	9
3000	2	4	6	7	9	11	13	14
4000	3	5	8	11	13	16	18	21
5000	4	7	11	14	18	21	25	28
6000	5	10	15	19	24	29	34	38
7000	6	13	19	25	32	38	44	50
8000	8	17	25	33	41	49	57	66
9000	11	21	32	43	53	64	74	85
10000	14	27	41	54	68	81	95	108
11000	17	34	51	68	84	101	118	135
12000	21	41	62	83	103	124	145	166
13000	25	49	74	99	124	149	174	199
14000	29	58	87	116	145	174	204	233
15000	33	66	100	133	167	201	235	269
16000	37	75	113	151	189	228	267	306
17000	42	84	127	169	212	256	299	343
18000	47	94	141	188	236	284	333	381
19000	52	103	155	208	261	314	368	422
20000	57	113	170	228	286	345	404	463
21000	62	124	186	249	312	377	441	506
22000	67	135	203	271	340	410	480	550
23000	73	146	220	294	369	444	520	596
24000	79	158	237	318	399	480	562	645
25000	85	170	255	342	429	517	605	694
26000	91	182	274	367	461	555	650	746
27000	97	195	294	394	494	595	697	800
28000	104	208	314	420	527	635	744	853
29000	110	221	333	446	560	675	790	907
30000	117	234	352	472	593	715	837	960
31000	123	247	372	498	625	754	883	1014
32000	129	260	391	524	658	793	929	1067
33000	136	273	411	550	691	833	976	1120
34000	142	286	430	576	723	872	1022	1173
35000	149	298	450	602	756	911	1068	1226

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Ga FULL CHARGE MV = 2750 FPS

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	9	10	11	12	13	14	15	16
1000	5	5	6	6	7	7	8	8
2000	10	11	12	13	13	14	15	16
3000	16	18	19	21	22	24	26	27
4000	23	25	28	30	32	35	37	39
5000	32	35	38	41	45	48	51	54
6000	43	47	52	56	61	65	70	74
7000	56	62	68	74	80	86	92	98
8000	74	82	90	98	105	113	121	129
9000	95	106	116	127	137	147	158	168
10000	122	135	149	162	176	189	203	216
11000	152	169	186	204	221	238	255	272
12000	187	208	229	250	271	292	314	335
13000	224	250	275	301	326	352	378	404
14000	263	293	323	353	383	414	444	475
15000	303	338	373	408	443	478	513	549
16000	345	384	424	464	504	544	584	625
17000	387	432	476	521	566	611	657	703
18000	430	480	529	579	630	680	731	782
19000	476	530	585	641	696	752	808	865
20000	522	582	643	703	764	826	888	950
21000	571	636	702	769	836	903	971	1039
22000	621	692	764	837	910	983	1057	1131
23000	673	751	829	908	987	1066	1146	1227
24000	728	812	896	981	1067	1153	1240	1327
25000	784	874	965	1057	1149	1241	1335	1429
26000	842	940	1038	1136	1235	1335	1436	1537
27000	903	1007	1112	1218	1325	1432	1540	1649
28000	964	1075	1188	1301	1415	1530	1645	1762
29000	1025	1143	1263	1383	1504	1627	1750	1874
30000	1085	1210	1337	1465	1593	1723	1853	1985
31000	1145	1278	1411	1546	1682	1819	1957	2096
32000	1205	1345	1485	1627	1770	1914	2060	2206
33000	1265	1412	1560	1709	1859	2010	2163	2317
34000	1325	1479	1634	1790	1947	2106	2266	2427
35000	1385	1545	1707	1871	2035	2201	2368	2537

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Ga

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	1	2	3	4	5	6	7	8
35000	149	298	450	602	756	911	1068	1226
36000	155	311	469	628	789	951	1114	1279
37000	161	324	489	655	822	991	1162	1334
38000	168	338	509	682	856	1032	1209	1389
39000	175	351	529	709	890	1073	1257	1444
40000	181	364	549	736	924	1114	1305	1499
41000	188	378	569	763	958	1155	1353	1554
42000	194	391	589	789	991	1195	1400	1608
43000	201	404	608	815	1024	1235	1447	1662
44000	207	416	628	841	1056	1273	1492	1714
44680	211	423	638	855	1074	1295	1518	1743
44000	206	414	625	837	1051	1267	1486	1706
43000	201	405	610	817	1026	1238	1451	1666
42000	197	396	596	799	1004	1210	1419	1629
41000	193	387	583	782	982	1184	1388	1593
40000	188	379	571	765	960	1158	1357	1558
39000	184	370	558	748	939	1132	1328	1524
38000	180	362	546	731	918	1107	1298	1490
37000	176	354	533	714	897	1082	1268	1456
36000	172	345	521	698	876	1056	1238	1422
35000	168	337	508	681	856	1031	1209	1388
34000	164	329	496	665	835	1007	1181	1356
33500	162	325	490	657	825	995	1166	1339

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Ga FULL CHARGE MV = 2750 FPS

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO DECREASE IN (59°F. and 29.5 + in.)

Range	Decrease in air density - percent							
yards	9	10	11	12	13	14	15	16
35000	1385	1545	1707	1871	2035	2201	2368	2537
36000	1446	1613	1782	1952	2124	2297	2472	2648
37000	1507	1682	1858	2036	2215	2396	2578	2762
38000	1569	1751	1935	2120	2307	2495	2685	2877
39000	1631	1821	2012	2205	2399	2595	2793	2992
40000	1694	1891	2090	2290	2492	2696	2901	3108
41000	1757	1961	2167	2375	2585	2797	3010	3225
42000	1818	2030	2243	2458	2676	2895	3115	3338
43000	1878	2097	2317	2539	2764	2990	3218	3448
44000	1937	2162	2389	2619	2850	3083	3319	3556
44680	1970	2199	2431	2664	2899	3137	3376	3618
44000	1928	2153	2379	2607	2838	3070	3305	3541
43000	1883	2102	2323	2546	2771	2998	3227	3458
42000	1841	2055	2271	2489	2710	2931	3155	3381
41000	1801	2010	2222	2435	2650	2867	3086	3307
40000	1762	1967	2173	2382	2592	2805	3019	3235
39000	1723	1923	2126	2330	2530	2743	2953	3164
38000	1684	1880	2078	2277	2478	2681	2886	3092
37000	1646	1837	2030	2225	2421	2619	2819	3021
36000	1607	1794	1983	2173	2364	2558	2753	2950
35000	1569	1751	1936	2121	2308	2497	2688	2880
34000	1532	1710	1890	2071	2254	2438	2624	2812
33500	1514	1690	1867	2046	2227	2409	2593	2778

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Gb

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	1	2	3	4	5	6	7	8
1000	-1	-1	-2	-2	-3	-4	-4	-5
2000	-1	-2	-4	-5	-6	-8	-9	-10
3000	-2	-4	-6	-8	-10	-12	-14	-16
4000	-3	-5	-8	-11	-14	-17	-20	-23
5000	-4	-7	-11	-15	-19	-23	-27	-31
6000	-5	-10	-15	-20	-25	-30	-36	-41
7000	-6	-13	-19	-26	-33	-39	-46	-53
8000	-8	-17	-25	-34	-42	-50	-59	-68
9000	-11	-21	-32	-43	-54	-65	-75	-86
10000	-14	-27	-41	-54	-68	-81	-95	-108
11000	-17	-34	-51	-67	-84	-101	-117	-134
12000	-21	-41	-62	-82	-102	-123	-143	-163
13000	-25	-49	-73	-97	-122	-146	-170	-193
14000	-29	-57	-85	-114	-142	-170	-197	-225
15000	-33	-65	-98	-131	-163	-195	-226	-258
16000	-37	-74	-111	-148	-184	-220	-256	-292
17000	-42	-83	-124	-165	-206	-246	-286	-326
18000	-46	-92	-138	-183	-228	-273	-318	-362
19000	-51	-102	-152	-202	-252	-302	-351	-400
20000	-56	-112	-167	-222	-277	-331	-385	-438
21000	-61	-122	-183	-243	-302	-361	-420	-478
22000	-67	-133	-199	-264	-328	-392	-456	-519
23000	-72	-144	-215	-286	-356	-425	-494	-562
24000	-78	-155	-232	-308	-384	-459	-533	-607
25000	-84	-167	-250	-332	-413	-494	-574	-653
26000	-90	-179	-268	-356	-443	-530	-616	-701
27000	-96	-192	-287	-381	-474	-567	-659	-750
28000	-103	-205	-306	-406	-505	-604	-702	-799
29000	-109	-217	-325	-431	-536	-641	-744	-847
30000	-115	-230	-343	-456	-567	-678	-787	-896
31000	-122	-243	-362	-481	-598	-715	-830	-945
32000	-128	-255	-381	-506	-629	-752	-873	-994
33000	-135	-268	-400	-531	-660	-789	-916	-1042
34000	-141	-280	-419	-556	-691	-826	-959	-1091
35000	-147	-293	-438	-581	-722	-863	-1002	-1140

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Gb FULL CHARGE MV = 2750 FPS

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	9	10	11	12	13	14	15	16
1000	-6	-7	-7	-8	-9	-9	-10	-11
2000	-12	-13	-14	-16	-17	-19	-20	-22
3000	-18	-20	-23	-25	-27	-30	-32	-34
4000	-26	-29	-32	-35	-38	-42	-45	-48
5000	-35	-39	-43	-47	-51	-55	-60	-64
6000	-46	-51	-57	-62	-67	-73	-78	-84
7000	-60	-66	-73	-80	-87	-94	-101	-108
8000	-76	-85	-93	-102	-111	-120	-129	-137
9000	-97	-108	-119	-130	-141	-152	-163	-173
10000	-122	-136	-149	-163	-176	-190	-203	-217
11000	-151	-167	-184	-201	-217	-234	-250	-267
12000	-183	-203	-223	-243	-263	-283	-303	-322
13000	-217	-241	-264	-288	-311	-335	-358	-381
14000	-252	-280	-307	-335	-362	-389	-415	-442
15000	-289	-321	-352	-383	-414	-444	-474	-505
16000	-327	-362	-397	-432	-467	-501	-535	-569
17000	-366	-405	-444	-483	-522	-560	-598	-636
18000	-406	-450	-493	-536	-579	-621	-663	-705
19000	-448	-496	-544	-591	-638	-685	-731	-777
20000	-491	-544	-596	-648	-700	-751	-802	-852
21000	-536	-594	-651	-707	-763	-819	-874	-929
22000	-582	-644	-706	-768	-829	-889	-949	-1008
23000	-630	-698	-765	-831	-897	-962	-1027	-1091
24000	-680	-753	-825	-897	-968	-1038	-1108	-1177
25000	-732	-810	-887	-964	-1040	-1116	-1191	-1266
26000	-785	-869	-952	-1035	-1116	-1197	-1277	-1357
27000	-840	-929	-1018	-1106	-1193	-1279	-1364	-1449
28000	-894	-989	-1084	-1177	-1269	-1361	-1452	-1542
29000	-949	-1049	-1149	-1248	-1346	-1443	-1539	-1634
30000	-1004	-1110	-1215	-1319	-1423	-1526	-1627	-1727
31000	-1058	-1170	-1281	-1391	-1500	-1608	-1715	-1820
32000	-1113	-1230	-1347	-1463	-1577	-1691	-1803	-1914
33000	-1167	-1291	-1413	-1534	-1654	-1773	-1891	-2007
34000	-1222	-1351	-1479	-1606	-1732	-1856	-1979	-2101
35000	-1276	-1411	-1545	-1678	-1809	-1939	-2067	-2194

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE Gb

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	1	2	3	4	5	6	7	8
35000	-147	-293	-438	-581	-722	-863	-1002	-1140
36000	-154	-306	-457	-606	-753	-900	-1045	-1189
37000	-160	-319	-476	-631	-785	-938	-1089	-1239
38000	-167	-332	-495	-657	-817	-976	-1133	-1289
39000	-173	-344	-514	-682	-849	-1014	-1177	-1339
40000	-180	-358	-534	-708	-881	-1052	-1221	-1389
41000	-186	-371	-553	-734	-913	-1090	-1265	-1439
42000	-193	-383	-572	-759	-944	-1127	-1309	-1488
43000	-199	-396	-591	-784	-975	-1164	-1352	-1537
44000	-205	-408	-609	-809	-1006	-1201	-1394	-1585
44680	-209	-415	-619	-822	-1022	-1220	-1417	-1611
44000	-204	-406	-606	-804	-1001	-1195	-1387	-1577
43000	-199	-397	-592	-786	-977	-1167	-1354	-1540
42000	-195	-388	-579	-768	-955	-1141	-1324	-1506
41000	-191	-379	-566	-751	-935	-1116	-1295	-1473
40000	-187	-371	-554	-735	-914	-1091	-1267	-1441
39000	-182	-363	-542	-719	-894	-1068	-1239	-1409
38000	-178	-355	-530	-703	-874	-1044	-1212	-1378
37000	-174	-347	-518	-687	-854	-1020	-1184	-1347
36000	-170	-339	-506	-671	-835	-997	-1157	-1316
35000	-166	-331	-494	-655	-815	-973	-1130	-1285
34000	-162	-323	-482	-640	-796	-950	-1103	-1255
33500	-160	-319	-477	-632	-786	-939	-1090	-1240

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE Gb FULL CHARGE MV = 2750 FPS

AIR DENSITY, EFFECT IN YARDS OF RANGE, DUE TO INCREASE IN (59°F. and 29.5 + in.)

Range	Increase in air density - percent							
yards	9	10	11	12	13	14	15	16
35000	-1276	-1411	-1545	-1678	-1809	-1939	-2067	-2194
36000	-1331	-1472	-1612	-1750	-1886	-2022	-2156	-2288
37000	-1387	-1533	-1678	-1822	-1964	-2105	-2244	-2382
38000	-1443	-1595	-1746	-1895	-2043	-2189	-2334	-2477
39000	-1499	-1657	-1813	-1968	-2122	-2273	-2424	-2572
40000	-1555	-1719	-1881	-2042	-2201	-2358	-2513	-2667
41000	-1611	-1781	-1949	-2115	-2279	-2442	-2603	-2762
42000	-1666	-1841	-2015	-2187	-2357	-2525	-2692	-2856
43000	-1720	-1902	-2081	-2259	-2434	-2608	-2779	-2949
44000	-1774	-1961	-2146	-2329	-2510	-2689	-2866	-3041
44680	-1803	-1993	-2181	-2366	-2550	-2732	-2911	-3089
44000	-1764	-1951	-2135	-2316	-2496	-2674	-2850	-3024
43000	-1723	-1905	-2084	-2262	-2438	-2611	-2783	-2953
42000	-1685	-1863	-2038	-2212	-2384	-2554	-2722	-2888
41000	-1648	-1822	-1994	-2164	-2332	-2498	-2663	-2825
40000	-1612	-1782	-1950	-2117	-2281	-2443	-2604	-2763
39000	-1577	-1743	-1908	-2070	-2231	-2390	-2548	-2703
38000	-1542	-1704	-1865	-2024	-2182	-2337	-2491	-2643
37000	-1507	-1666	-1823	-1979	-2133	-2285	-2435	-2584
36000	-1472	-1628	-1781	-1934	-2084	-2233	-2380	-2525
35000	-1438	-1590	-1740	-1888	-2035	-2180	-2324	-2466
34000	-1404	-1552	-1699	-1844	-1987	-2129	-2269	-2408
33500	-1388	-1534	-1679	-1822	-1964	-2104	-2243	-2380

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE H

TEMPERATURE (ELASTICITY), EFFECTS IN YARDS OF RANGE (59°F.)

Range	Temperature of air - degrees Fahrenheit											
yards	0	10	20	30	40	50	59	60	70	80	90	100
1000	1	1	1	1	0	0	0	0	0	0	-1	-1
2000	4	3	3	2	1	1	0	0	-1	-1	-2	-3
3000	8	7	6	4	3	1	0	0	-2	-3	-4	-6
4000	13	11	9	7	4	2	0	0	-3	-5	-7	-9
5000	19	16	13	10	6	3	0	0	-4	-7	-10	-13
6000	26	22	17	13	8	4	0	0	-5	-9	-14	-18
7000	34	28	22	17	11	5	0	-1	-6	-12	-18	-24
8000	42	35	28	21	14	6	0	-1	-8	-15	-22	-30
9000	51	42	34	25	17	8	0	-1	-10	-18	-26	-35
10000	59	49	39	29	19	9	0	-1	-11	-21	-31	-41
11000	68	56	45	33	22	10	0	-1	-13	-24	-36	-47
12000	77	64	51	38	25	12	0	-1	-14	-27	-40	-53
13000	86	71	57	42	28	14	0	-1	-16	-30	-45	-59
14000	95	79	63	47	31	15	0	-2	-18	-34	-50	-66
15000	104	87	69	51	34	16	0	-2	-19	-37	-55	-73
16000	114	95	75	56	37	17	0	-2	-21	-41	-60	-79
17000	124	103	82	61	40	19	0	-2	-23	-44	-65	-86
18000	135	112	89	66	43	21	0	-2	-25	-48	-71	-93
19000	146	121	96	72	47	22	0	-2	-27	-52	-77	-101
20000	157	130	104	77	50	24	0	-3	-29	-56	-83	-109
21000	168	140	111	83	54	26	0	-3	-31	-60	-89	-117
22000	180	150	119	89	58	28	0	-3	-34	-64	-95	-125
23000	193	160	127	95	62	30	0	-3	-36	-69	-101	-134
24000	205	171	136	101	66	31	0	-3	-38	-73	-108	-143
25000	218	181	144	107	70	33	0	-4	-41	-77	-114	-151
26000	230	191	152	113	74	35	0	-4	-43	-82	-121	-160
27000	242	201	160	119	78	37	0	-4	-45	-86	-127	-168
28000	254	211	168	125	82	39	0	-4	-47	-90	-133	-176
29000	265	220	175	130	85	41	0	-4	-49	-94	-139	-184
30000	276	229	183	136	89	42	0	-5	-51	-98	-145	-192

PROJECTILE, A.P., 2100-LB
FUZE, B.D., MK.
PART 2 TABLE H FULL CHARGE MV = 2750 FP

TEMPERATURE (ELASTICITY), EFFECTS IN YARDS OF RANGE (59°F.)

Range	Temperature of air - degrees Fahrenheit											
yards	0	10	20	30	40	50	59	60	70	80	90	10
30000	276	229	183	136	89	42	0	-5	-51	-98	-145	-19
31000	287	238	190	141	92	44	0	-5	-53	-102	-151	-19
32000	297	246	196	146	96	45	0	-5	-55	-106	-156	-20
33000	306	254	202	151	99	47	0	-5	-57	-109	-161	-21
34000	315	261	208	155	102	48	0	-5	-59	-112	-166	-21
35000	323	268	213	159	104	49	0	-5	-60	-115	-170	-22
36000	330	274	218	162	106	50	0	-6	-62	-118	-174	-23
37000	336	279	222	165	108	51	0	-6	-63	-120	-177	-23
38000	342	284	226	168	110	52	0	-6	-64	-122	-180	-23
39000	347	288	230	171	112	53	0	-6	-65	-124	-183	-24
40000	352	292	233	173	114	54	0	-6	-66	-125	-185	-24
41000	356	295	235	175	115	54	0	-6	-67	-126	-187	-24
42000	358	297	236	176	115	54	0	-6	-67	-127	-188	-24
43000	354	294	234	174	114	54	0	-6	-66	-126	-186	-24
44000	340	283	225	167	110	52	0	-6	-64	-121	-179	-23
44680	299	248	198	147	96	46	0	-5	-56	-107	-157	-20
44000	249	207	165	122	80	38	0	-4	-46	-89	-131	-17
43000	211	175	139	104	68	32	0	-4	-39	-75	-111	-14
42000	182	151	120	90	59	28	0	-3	-34	-65	-96	-12

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE I

REAR WIND, EFFECTS IN YARDS OF RANGE, DUE TO

Range	Rear wind - miles per hour									
yards	5	10	15	20	25	30	35	40	45	50
1000	0	0	0	0	0	1	1	1	1	1
2000	0	1	1	1	1	2	2	3	3	3
3000	1	1	2	2	3	4	4	5	5	6
4000	1	2	3	4	5	6	7	8	9	10
5000	2	3	5	6	8	9	11	12	14	15
6000	2	4	6	8	11	13	15	17	19	21
7000	3	6	8	11	14	17	20	23	25	28
8000	4	8	11	15	18	22	26	30	33	37
9000	5	10	14	19	23	28	33	38	42	47
10000	6	12	18	24	29	35	41	47	53	59
11000	7	14	22	29	36	43	50	57	65	72
12000	9	17	26	34	43	51	60	68	77	85
13000	10	20	30	40	50	60	70	80	90	99
14000	12	23	35	46	58	69	81	93	104	115
15000	13	26	40	53	66	79	93	106	119	132
16000	15	30	45	60	75	90	105	120	135	150
17000	17	34	51	68	85	102	118	135	152	169
18000	19	38	57	76	95	114	133	152	171	190
19000	21	42	64	85	106	127	148	170	191	212
20000	24	47	71	94	118	141	164	188	212	235
21000	26	52	78	104	130	155	181	207	233	259
22000	28	57	85	114	142	170	199	227	256	284
23000	31	62	93	124	155	186	218	249	280	311
24000	34	68	101	135	169	203	237	271	305	339
25000	37	74	110	147	184	221	258	294	331	368
26000	40	80	119	159	199	239	279	318	358	398
27000	43	86	129	172	215	258	301	344	387	430
28000	46	93	139	185	232	278	324	370	417	463
29000	50	99	149	199	249	298	348	397	447	497
30000	53	106	159	212	266	319	372	425	478	531

NOTE: The range effects due to a head wind are so nearly identical in numerical value with those for a rear wind that the above table with signs changed should be used for such effects.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS
PART 2 TABLE I FULL CHARGE

REAR WIND, EFFECTS IN YARDS OF RANGE, DUE TO

Range	Rear wind - miles per hour									
yards	5	10	15	20	25	30	35	40	45	50
30000	53	106	159	212	266	319	372	425	478	531
31000	57	113	170	226	283	340	396	453	509	566
32000	60	120	180	240	301	361	421	481	541	601
33000	64	127	191	255	319	382	446	510	573	637
34000	67	135	202	270	337	404	472	539	606	674
35000	71	142	213	285	356	427	498	569	640	711
36000	75	150	225	300	375	450	524	599	674	749
37000	79	158	236	315	394	473	551	630	709	788
38000	83	166	248	331	414	497	579	662	744	827
39000	87	174	260	347	434	521	608	695	781	868
40000	91	182	273	364	455	546	637	728	819	910
41000	95	191	286	381	477	572	667	763	858	953
42000	100	200	300	400	500	600	700	800	900	1000
43000	105	210	315	420	525	631	736	841	946	1051
44000	111	222	333	444	555	667	778	889	1000	1111
44680	119	237	356	474	593	712	830	949	1067	1186
44000	123	246	369	492	615	738	861	984	1107	1230
43000	124	249	373	497	662	746	870	994	1119	1243
42000	125	249	374	499	624	749	873	998	1122	1247

NOTE: The range effects due to a head wind are so nearly identical in numerical value with those for a rear wind that the above table with signs changed should be used for such effects.

608393 O - 44 - 14

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE J

CROSS WIND EFFECTS

Range	in mils					in degrees				
	Cross wind - miles per hour									
yards	10	20	30	40	50	10	20	30	40	50
1000	0.0	0.1	0.1	0.2	0.2	0.00	0.00	0.01	0.01	0.01
2000	0.1	0.2	0.3	0.4	0.5	0.01	0.01	0.02	0.02	0.03
3000	0.2	0.3	0.5	0.6	0.8	0.01	0.02	0.03	0.04	0.05
4000	0.2	0.5	0.7	0.9	1.2	0.01	0.03	0.04	0.06	0.07
5000	0.3	0.6	0.9	1.2	1.6	0.02	0.04	0.05	0.07	0.09
6000	0.4	0.8	1.2	1.5	1.9	0.02	0.04	0.07	0.09	0.11
7000	0.5	0.9	1.4	1.9	2.3	0.03	0.05	0.08	0.10	0.13
8000	0.5	1.1	1.6	2.2	2.7	0.03	0.06	0.09	0.12	0.15
9000	0.6	1.2	1.9	2.5	3.1	0.03	0.07	0.10	0.14	0.17
10000	0.7	1.4	2.1	2.8	3.5	0.04	0.08	0.12	0.16	0.20
11000	0.8	1.6	2.3	3.1	3.9	0.04	0.09	0.13	0.18	0.22
12000	0.9	1.7	2.6	3.4	4.3	0.05	0.10	0.14	0.19	0.24
13000	0.9	1.9	2.8	3.8	4.7	0.05	0.10	0.16	0.21	0.26
14000	1.0	2.0	3.0	4.1	5.1	0.06	0.11	0.17	0.23	0.29
15000	1.1	2.2	3.3	4.4	5.5	0.06	0.12	0.19	0.25	0.31
16000	1.2	2.4	3.5	4.7	5.9	0.07	0.13	0.20	0.27	0.33
17000	1.3	2.5	3.8	5.1	6.3	0.07	0.14	0.22	0.29	0.36
18000	1.3	2.7	4.0	5.4	6.7	0.08	0.15	0.23	0.30	0.38
19000	1.4	2.9	4.3	5.7	7.1	0.08	0.16	0.24	0.32	0.40
20000	1.5	3.0	4.5	6.0	7.5	0.08	0.17	0.25	0.34	0.42
21000	1.6	3.2	4.8	6.4	8.0	0.09	0.18	0.27	0.36	0.45
22000	1.7	3.4	5.0	6.7	8.4	0.09	0.19	0.28	0.38	0.47
23000	1.8	3.5	5.3	7.1	8.9	0.10	0.20	0.30	0.40	0.50
24000	1.9	3.7	5.6	7.4	9.3	0.10	0.21	0.31	0.42	0.52
25000	2.0	3.9	5.8	7.8	9.8	0.11	0.22	0.33	0.44	0.55
26000	2.0	4.1	6.1	8.1	10.2	0.11	0.23	0.34	0.46	0.57
27000	2.1	4.2	6.4	8.5	10.6	0.12	0.24	0.36	0.48	0.60
28000	2.2	4.4	6.6	8.8	11.0	0.12	0.25	0.37	0.50	0.62
29000	2.3	4.6	6.9	9.1	11.4	0.13	0.26	0.38	0.51	0.64
30000	2.4	4.7	7.1	9.4	11.8	0.13	0.27	0.40	0.53	0.66

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE J FULL CHARGE

CROSS WIND EFFECTS

Range	in mils					in degrees				
	Cross wind - miles per hour									
yards	10	20	30	40	50	10	20	30	40	50
30000	2.4	4.7	7.1	9.4	11.8	0.13	0.27	0.40	0.53	0.66
31000	2.4	4.9	7.3	9.7	12.2	0.14	0.28	0.41	0.55	0.69
32000	2.5	5.0	7.5	10.0	12.6	0.14	0.28	0.43	0.57	0.71
33000	2.6	5.2	7.7	10.3	12.9	0.15	0.29	0.44	0.58	0.73
34000	2.6	5.3	7.9	10.6	13.2	0.15	0.30	0.45	0.59	0.74
35000	2.7	5.4	8.1	10.9	13.6	0.15	0.30	0.46	0.61	0.76
36000	2.8	5.6	8.3	11.1	13.9	0.16	0.31	0.47	0.62	0.78
37000	2.8	5.7	8.5	11.4	14.2	0.16	0.32	0.48	0.64	0.80
38000	2.9	5.8	8.7	11.6	14.5	0.16	0.33	0.49	0.66	0.82
39000	3.0	5.9	8.9	11.8	14.8	0.17	0.33	0.50	0.67	0.83
40000	3.0	6.0	9.1	12.1	15.1	0.17	0.34	0.51	0.68	0.85
41000	3.1	6.2	9.3	12.3	15.4	0.17	0.35	0.52	0.70	0.87
42000	3.2	6.3	9.4	12.6	15.7	0.17	0.36	0.53	0.71	0.89
43000	3.2	6.4	9.6	12.9	16.1	0.18	0.36	0.55	0.73	0.91
44000	3.3	6.6	9.9	13.3	16.6	0.19	0.37	0.56	0.74	0.93
44680	3.5	6.9	10.4	13.8	17.3	0.19	0.39	0.58	0.78	0.97
44000	3.7	7.4	11.2	14.9	18.6	0.21	0.42	0.63	0.84	1.05
43000	3.9	7.8	11.7	15.6	19.4	0.22	0.44	0.65	0.87	1.09
42000	4.0	8.1	12.2	16.2	20.2	0.23	0.46	0.68	0.91	1.14

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 0°

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16000	+0.1-	+0.1-	0.0	0.0	0.0	-0.1+	-0.1+
18000	+0.1-	+0.1-	0.0	0.0	0.0	-0.1+	-0.1+
20000	+0.1-	+0.1-	+0.1-	0.0	-0.1+	-0.1+	-0.1+
22000	+0.2-	+0.1-	+0.1-	0.0	-0.1+	-0.1+	-0.2+
24000	+0.2-	+0.2-	+0.1-	0.0	-0.1+	-0.2+	-0.2+
26000	+0.3-	+0.2-	+0.1-	0.0	-0.1+	-0.2+	-0.3+
28000	+0.3-	+0.3-	+0.2-	0.0	-0.2+	-0.3+	-0.3+
30000	+0.4-	+0.3-	+0.2-	0.0	-0.2+	-0.3+	-0.4+
32000	+0.5-	+0.4-	+0.2-	0.0	-0.2+	-0.4+	-0.5+
34000	+0.6-	+0.5-	+0.3-	0.0	-0.3+	-0.5+	-0.6+
36000	+0.7-	+0.6-	+0.3-	0.0	-0.3+	-0.6+	-0.7+
38000	+0.8-	+0.7-	+0.4-	0.0	-0.4+	-0.7+	-0.8+
40000	+1.0-	+0.9-	+0.5-	0.0	-0.5+	-0.9+	-1.0+
42000	+1.3-	+1.1-	+0.7-	0.0	-0.7+	-1.1+	-1.3+
44000	+1.8-	+1.5-	+0.9-	0.0	-0.9+	-1.5+	-1.8+
44680	+2.4-	+2.0-	+1.2-	0.0	-1.2+	-2.0+	-2.4+
44000	+3.0-	+2.6-	+1.5-	0.0	-1.5+	-2.6+	-3.0+
42000	+3.8-	+3.3-	+1.9-	0.0	-1.9+	-3.3+	-3.8+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

*Negative sign means the effect in to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use sign that is before the number.
*For argument at bottom of the table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE K FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 10° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
6000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
8000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
10000	-0.1+	-0.1+	-0.1+	-0.2+	-0.2+	-0.2+	-0.2+
12000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
14000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.3+	-0.3+
16000	-0.2+	-0.2+	-0.2+	-0.3+	-0.3+	-0.3+	-0.3+
18000	-0.2+	-0.2+	-0.3+	-0.3+	-0.3+	-0.4+	-0.4+
20000	-0.2+	-0.2+	-0.3+	-0.3+	-0.4+	-0.4+	-0.5+
22000	-0.2+	-0.2+	-0.3+	-0.4+	-0.5+	-0.5+	-0.5+
24000	-0.2+	-0.3+	-0.4+	-0.4+	-0.5+	-0.6+	-0.6+
26000	-0.2+	-0.3+	-0.4+	-0.5+	-0.6+	-0.7+	-0.7+
28000	-0.2+	-0.3+	-0.4+	-0.5+	-0.7+	-0.8+	-0.8+
30000	-0.2+	-0.2+	-0.4+	-0.6+	-0.7+	-0.9+	-0.9+
32000	-0.2+	-0.2+	-0.4+	-0.6+	-0.8+	-1.0+	-1.1+
34000	-0.1+	-0.2+	-0.4+	-0.7+	-0.9+	-1.1+	-1.2+
36000	-0.1+	-0.2+	-0.4+	-0.7+	-1.1+	-1.3+	-1.4+
38000	0.0	-0.1+	-0.4+	-0.8+	-1.2+	-1.5+	-1.6+
40000	+0.1-	0.0	-0.4+	-0.9+	-1.4+	-1.8+	-1.9+
42000	+0.3-	+0.2-	-0.3+	-1.0+	-1.6+	-2.1+	-2.3+
44000	+0.7-	+0.4-	-0.2+	-1.1+	-1.9+	-2.6+	-2.8+
44680	+1.1-	+0.8-	0.0	-1.2+	-2.4+	-3.2+	-3.5+
44000	+1.7-	+1.3-	+0.2-	-1.3+	-2.8+	-3.9+	-4.3+
42000	+2.4-	+1.9-	+0.5-	-1.4+	-3.2+	-4.6+	-5.1+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 10° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 20° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
6000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
8000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
10000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
12000	-0.3+	-0.3+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
14000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.5+	-0.5+
16000	-0.4+	-0.5+	-0.5+	-0.5+	-0.5+	-0.6+	-0.6+
18000	-0.5+	-0.5+	-0.5+	-0.6+	-0.6+	-0.7+	-0.7+
20000	-0.5+	-0.6+	-0.6+	-0.7+	-0.7+	-0.8+	-0.8+
22000	-0.6+	-0.6+	-0.7+	-0.7+	-0.8+	-0.9+	-0.9+
24000	-0.6+	-0.7+	-0.7+	-0.8+	-0.9+	-1.0+	-1.0+
26000	-0.7+	-0.7+	-0.8+	-0.9+	-1.0+	-1.1+	-1.2+
28000	-0.7+	-0.8+	-0.9+	-1.0+	-1.2+	-1.3+	-1.3+
30000	-0.8+	-0.8+	-0.9+	-1.1+	-1.3+	-1.4+	-1.4+
32000	-0.8+	-0.8+	-1.0+	-1.2+	-1.4+	-1.6+	-1.6+
34000	-0.8+	-0.9+	-1.1+	-1.3+	-1.6+	-1.8+	-1.8+
36000	-0.8+	-0.9+	-1.1+	-1.4+	-1.8+	-2.0+	-2.1+
38000	-0.8+	-0.9+	-1.2+	-1.6+	-2.0+	-2.2+	-2.4+
40000	-0.7+	-0.9+	-1.2+	-1.7+	-2.2+	-2.5+	-2.7+
42000	-0.6+	-0.8+	-1.3+	-1.9+	-2.5+	-3.0+	-3.1+
44000	-0.5+	-0.7+	-1.3+	-2.1+	-3.0+	-3.6+	-3.8+
44680	-0.1+	-0.4+	-1.2+	-2.4+	-3.5+	-4.3+	-4.8+
44000	+0.7-	-0.1+	-1.1+	-2.5+	-4.0+	-5.0+	-5.4+
42000	+0.9-	+0.4-	-0.9+	-2.7+	-4.4+	-5.8+	-6.2+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 20° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of the table use sign that is before the number.
*For argument at bottom of the table use sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
PART 2 TABLE K FULL CHARGE MV = 2750 FPS

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 30° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
6000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
8000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
10000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
12000	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.6+
14000	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.7+	-0.7+
16000	-0.7+	-0.7+	-0.7+	-0.7+	-0.8+	-0.8+	-0.8+
18000	-0.8+	-0.8+	-0.8+	-0.8+	-0.9+	-0.9+	-0.9+
20000	-0.9+	-0.9+	-0.9+	-1.0+	-1.0+	-1.1+	-1.1+
22000	-0.9+	-1.0+	-1.0+	-1.1+	-1.2+	-1.2+	-1.2+
24000	-1.0+	-1.1+	-1.1+	-1.2+	-1.3+	-1.4+	-1.4+
26000	-1.1+	-1.2+	-1.2+	-1.3+	-1.4+	-1.5+	-1.6+
28000	-1.2+	-1.3+	-1.4+	-1.5+	-1.6+	-1.7+	-1.8+
30000	-1.3+	-1.4+	-1.5+	-1.6+	-1.8+	-1.9+	-2.0+
32000	-1.4+	-1.4+	-1.6+	-1.8+	-2.0+	-2.1+	-2.2+
34000	-1.4+	-1.5+	-1.7+	-1.9+	-2.2+	-2.3+	-2.4+
36000	-1.5+	-1.6+	-1.8+	-2.1+	-2.4+	-2.6+	-2.7+
38000	-1.6+	-1.7+	-1.9+	-2.3+	-2.7+	-2.9+	-3.0+
40000	-1.6+	-1.7+	-2.1+	-2.5+	-3.0+	-3.3+	-3.4+
42000	-1.6+	-1.8+	-2.2+	-2.8+	-3.3+	-3.7+	-3.9+
44000	-1.6+	-1.8+	-2.3+	-3.1+	-3.9+	-4.4+	-4.6+
44680	-1.4+	-1.7+	-2.4+	-3.4+	-4.5+	-5.2+	-5.5+
44000	-1.1+	-1.4+	-2.4+	-3.7+	-5.0+	-6.0+	-6.3+
42000	-0.7+	-1.1+	-2.3+	-3.9+	-5.5+	-6.7+	-7.2+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 30° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS FULL CHARGE PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 40° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
6000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
8000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
10000	-0.5+	-0.5+	-0.5+	-0.6+	-0.6+	-0.6+	-0.6+
12000	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+
14000	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+	-0.9+	-0.9+
16000	-0.9+	-0.9+	-0.9+	-1.0+	-1.0+	-1.0+	-1.0+
18000	-1.0+	-1.0+	-1.1+	-1.1+	-1.1+	-1.1+	-1.2+
20000	-1.2+	-1.2+	-1.2+	-1.2+	-1.3+	-1.3+	-1.3+
22000	-1.3+	-1.3+	-1.3+	-1.4+	-1.5+	-1.5+	-1.5+
24000	-1.4+	-1.4+	-1.5+	-1.6+	-1.7+	-1.7+	-1.7+
26000	-1.6+	-1.6+	-1.6+	-1.7+	-1.8+	-1.9+	-1.9+
28000	-1.7+	-1.7+	-1.8+	-1.9+	-2.0+	-2.1+	-2.2+
30000	-1.8+	-1.8+	-2.0+	-2.1+	-2.2+	-2.3+	-2.4+
32000	-1.9+	-2.0+	-2.1+	-2.3+	-2.5+	-2.6+	-2.6+
34000	-2.1+	-2.1+	-2.3+	-2.5+	-2.7+	-2.9+	-2.9+
36000	-2.2+	-2.3+	-2.5+	-2.7+	-3.0+	-3.2+	-3.2+
38000	-2.3+	-2.4+	-2.6+	-2.9+	-3.3+	-3.5+	-3.6+
40000	-2.4+	-2.6+	-2.8+	-3.2+	-3.6+	-3.9+	-4.0+
42000	-2.5+	-2.7+	-3.1+	-3.6+	-4.0+	-4.4+	-4.5+
44000	-2.6+	-2.8+	-3.3+	-4.0+	-4.7+	-5.2+	-5.4+
44680	-2.6+	-2.9+	-3.5+	-4.4+	-5.3+	-6.0+	-6.2+
44000	-2.5+	-2.8+	-3.6+	-4.8+	-5.9+	-6.8+	-7.0+
42000	-2.2+	-2.6+	-3.6+	-5.1+	-6.5+	-7.6+	-7.9+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 40° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE K FULL CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECTS IN MILS DUE TO

Latitude 50° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
6000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
8000	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+
10000	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+
12000	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+
14000	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+
16000	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.2+
18000	-1.2+	-1.2+	-1.3+	-1.3+	-1.3+	-1.3+	-1.4+
20000	-1.4+	-1.4+	-1.4+	-1.5+	-1.5+	-1.5+	-1.6+
22000	-1.6+	-1.6+	-1.6+	-1.7+	-1.7+	-1.8+	-1.8+
24000	-1.7+	-1.8+	-1.8+	-1.9+	-1.9+	-2.0+	-2.0+
26000	-1.9+	-1.9+	-2.0+	-2.1+	-2.2+	-2.2+	-2.2+
28000	-2.1+	-2.1+	-2.2+	-2.3+	-2.4+	-2.4+	-2.5+
30000	-2.3+	-2.3+	-2.4+	-2.5+	-2.6+	-2.7+	-2.7+
32000	-2.4+	-2.5+	-2.6+	-2.7+	-2.9+	-3.0+	-3.0+
34000	-2.6+	-2.6+	-2.8+	-2.9+	-3.1+	-3.3+	-3.3+
36000	-2.8+	-2.8+	-3.0+	-3.2+	-3.4+	-3.6+	-3.7+
38000	-3.0+	-3.1+	-3.2+	-3.5+	-3.8+	-4.0+	-4.1+
40000	-3.2+	-3.3+	-3.5+	-3.8+	-4.2+	-4.4+	-4.5+
42000	-3.4+	-3.5+	-3.8+	-4.2+	-4.7+	-5.0+	-5.1+
44000	-3.6+	-3.8+	-4.2+	-4.8+	-5.3+	-5.7+	-5.9+
44680	-3.7+	-4.0+	-4.5+	-5.3+	-6.0+	-6.6+	-6.8+
44000	-3.7+	-4.0+	-4.7+	-5.7+	-6.7+	-7.4+	-7.6+
42000	-3.6+	-3.9+	-4.8+	-6.0+	-7.3+	-8.1+	-8.5+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360
	Azimuth of target - degrees						

Latitude 50° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

FULL CHARGE

PART 2 TABLE K

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 60° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+	-0.1+
4000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
6000	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+	-0.4+
8000	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+
10000	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+	-0.7+
12000	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+	-0.9+
14000	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+	-1.1+
16000	-1.3+	-1.3+	-1.3+	-1.3+	-1.3+	-1.3+	-1.3+
18000	-1.4+	-1.4+	-1.4+	-1.5+	-1.5+	-1.5+	-1.5+
20000	-1.6+	-1.6+	-1.6+	-1.7+	-1.7+	-1.7+	-1.7+
22000	-1.8+	-1.8+	-1.8+	-1.9+	-1.9+	-2.0+	-2.0+
24000	-2.0+	-2.0+	-2.1+	-2.1+	-2.2+	-2.2+	-2.2+
26000	-2.2+	-2.2+	-2.3+	-2.3+	-2.4+	-2.5+	-2.5+
28000	-2.4+	-2.5+	-2.5+	-2.6+	-2.7+	-2.7+	-2.7+
30000	-2.6+	-2.7+	-2.7+	-2.8+	-2.9+	-3.0+	-3.0+
32000	-2.8+	-2.9+	-3.0+	-3.1+	-3.2+	-3.3+	-3.3+
34000	-3.0+	-3.1+	-3.2+	-3.3+	-3.5+	-3.6+	-3.6+
36000	-3.3+	-3.3+	-3.5+	-3.6+	-3.8+	-3.9+	-4.0+
38000	-3.6+	-3.6+	-3.8+	-4.0+	-4.2+	-4.3+	-4.4+
40000	-3.8+	-3.9+	-4.1+	-4.4+	-4.6+	-4.8+	-4.9+
42000	-4.1+	-4.2+	-4.5+	-4.8+	-5.1+	-5.4+	-5.4+
44000	-4.6+	-4.6+	-5.0+	-5.4+	-5.8+	-6.2+	-6.2+
44680	-4.8+	-4.9+	-5.4+	-6.0+	-6.5+	-7.0+	-7.1+
44000	-4.9+	-5.1+	-5.7+	-6.4+	-7.2+	-7.7+	-7.9+
42000	-4.9+	-5.2+	-5.9+	-6.8+	-7.8+	-8.5+	-8.7+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360

Azimuth of target - degrees

Latitude 60° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of the table use the sign that follows the number.
*Azimuth measured clockwise from the North.

PROJECTILE, A.P., 2100-LB.
FUZE, B.D., MK.X
MV = 2750 FPS

PART 2 TABLE K

FULL CHARGE

*ROTATION OF THE EARTH, DEFLECTION EFFECT IN MILS DUE TO

Latitude 70° (North)

Range yards	Azimuth of target - degrees						
	0 360	30 330	60 300	90 270	120 240	150 210	180 180
2000	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+	-0.2+
4000	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+	-0.3+
6000	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+	-0.5+
8000	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+	-0.6+
10000	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+	-0.8+
12000	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+	-1.0+
14000	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+	-1.2+
16000	-1.4+	-1.4+	-1.4+	-1.4+	-1.4+	-1.4+	-1.4+
18000	-1.6+	-1.6+	-1.6+	-1.6+	-1.6+	-1.6+	-1.6+
20000	-1.8+	-1.8+	-1.8+	-1.8+	-1.8+	-1.9+	-1.9+
22000	-2.0+	-2.0+	-2.0+	-2.0+	-2.1+	-2.1+	-2.1+
24000	-2.2+	-2.2+	-2.3+	-2.3+	-2.3+	-2.4+	-2.4+
26000	-2.5+	-2.5+	-2.5+	-2.6+	-2.6+	-2.6+	-2.6+
28000	-2.7+	-2.7+	-2.8+	-2.8+	-2.9+	-2.9+	-2.9+
30000	-2.9+	-2.9+	-3.0+	-3.1+	-3.1+	-3.2+	-3.2+
32000	-3.2+	-3.2+	-3.2+	-3.3+	-3.4+	-3.5+	-3.5+
34000	-3.4+	-3.5+	-3.5+	-3.6+	-3.7+	-3.8+	-3.8+
36000	-3.7+	-3.8+	-3.8+	-4.0+	-4.1+	-4.2+	-4.2+
38000	-4.0+	-4.1+	-4.1+	-4.3+	-4.5+	-4.6+	-4.6+
40000	-4.4+	-4.4+	-4.5+	-4.7+	-4.9+	-5.0+	-5.1+
42000	-4.7+	-4.8+	-5.0+	-5.2+	-5.4+	-5.5+	-5.6+
44000	-5.1+	-5.3+	-5.6+	-5.9+	-6.2+	-6.4+	-6.5+
44680	-5.6+	-5.8+	-6.1+	-6.5+	-6.9+	-7.2+	-7.3+
44000	-5.9+	-6.1+	-6.5+	-7.0+	-7.5+	-7.9+	-8.0+
42000	-6.1+	-6.3+	-6.8+	-7.4+	-8.0+	-8.5+	-8.7+
	180 180	150 210	120 240	90 270	60 300	30 330	0 360

Azimuth of target - degrees

Latitude 70° (South)

*Negative sign means the effect is to the right.
*Positive sign means the effect is to the left.
*For argument at top of table use the sign that is before the number.
*For argument at bottom of table use the sign that follows the number.
*Azimuth measured clockwise from the North.