

**DEPARTMENT OF THE ARMY TECHNICAL
MANUAL**

**ARTILLERY AMMUNITION:
AUTHORIZED PROJECTILE, FUZE AND PROPELLING
CHARGE COMBINATIONS
FOR
HOWITZER, MEDIUM, TOWED, 155MM: MI 14AI
WITH CANNON MIAI**

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**Headquarters, Department of the Army, Washington, DC
6 April 1993**

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INTRODUCTION

SCOPE

This manual contains a listing of authorized projectile, fuze, and propelling charge combinations for the medium towed, 155mm, MI114A1 howitzer with MIAI cannon. For ready reference and ease of handling, this information is published in chart form. When a conflict exists in the data in this manual and other published technical manuals, this manual will take precedence.

PRECAUTIONS

Precautions and restrictions to be observed in handling fuzes and firing ammunition with the charge/projectile-fuze combinations indicated in this manual are published in TM 9-2350-200-12.

*This manual supersedes TM 430001-28-9 dated 28 February 1992.

KEY	TO ABBREVIATIONS AND SYMBOLS
X.....	AUTHORIZED
•.....	AUTHORIZED
BE	Base ejection
ET.....	Electronic time
GB.....	Nonpersistent toxic (casualty) nerve gas
H.....	Mustard gas
HC.....	Hexachlorethane-zinc (smoke mixture)
HD	Distilled mustard gas
HE	High explosive
ICM.....	Improved Conventional Munitions
MT	Mechanical time
MTSQ.....	Mechanical time and superquick
P.....	Requires removal of supplementary charge if present.
PD	Point detonating
Prox.....	Proximity
VX.....	Persistent toxic (casualty) nerve gas
WP	White phosphorus

**AUTHORIZED PROJECTILE, FUZE AND PROPELLING CHARGE COMBINATIONS
HOWITZER, MEDIUM, TOWED, 155MM: M114A1 W/CANNON M1A1¹**

ET		PD			MT	FUZE					PROX			TYPE AND MODEL NO. OF PROJECTILE	PROPELLING CHARGE										FIRING LIMITATIONS
M762	M767	M557/ M572	M739 Series	M78 Series	M565	M501 Series	M564	M577 Series	M582 Series	M728 ⁴	M732 Series	M514 Series ⁵	(GREEN BAG) M3 & M3A1 CHARGES					(WHITE BAG) M4A1 & M4A2 CHARGES							
													1		2	3	4	5	3	4	5	6	7		
	X	X	X	X			X		X		X		HE, M107 NORMAL CAVITY	•	•	•	•	•	•	•	•	•	•		
	X	X	X	X			X		X	P	X	P	HE, M107 DEEP CAVITY	•	•	•	•	•	•	•	•	•	•		
X					X			X					HE, M449, M449A1 ICM	•	•	•	•	•	•	•	•	•	•		
X					X			X					ILLUMINATING M485A1, M485A2	•	•	•	•	•	•	•	•	•	•	M485A1/A2 Projectiles are not reliable when fired at Charge 6, 7, and 8 with fuze settings of 10 seconds or less. Also, when firing at zone 1, effective illumination times less than 90 seconds should be expected.	
	X	X	X				X		X				AGENT, H, HD, M110	•	•	•	•	•	•	•	•	•	•	M110 Agent Burster loaded with tetrytol cannot be stored or fired at temperatures exceeding +125°F (+52°C).	

See footnotes at end of table.

**AUTHORIZED PROJECTILE, FUZE AND PROPELLING CHARGE COMBINATIONS
HOWITZER, MEDIUM, TOWED, 155MM: M114A1 W/CANNON M1A1¹**

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M762	M767	M557/ M572	M739 Series	M78 Series	M565	M501 Series	M564 Series	M577 Series	M582 Series	M728 ⁴	M732 Series	M514 Series ⁵		(GREEN BAG) M3 & M3A1 CHARGES					(WHITE BAG) M4A1 & M4A2 CHARGES					
														1	2	3	4	5	3	4	5	6	7	
	X	X	X				X		X				SMOKE, WP, M110(M110E1), M110A1 (M110E2), M1110A2 (M110E3)	•	•	•	•	•	•	•	•	•	•	M110(M110E1) Burster loaded with tetrytol cannot be stored at temperatures exceeding + 125°F (+52°C)
						X							SMOKE, BE, HC, M116, M116B1	•	•	•	•	•	•	•	•	•	•	²
X					X			X					SMOKE, BE, HC, M116A1	•	•	•	•	•	•	•	•	•	•	
		X	X							X ³	X ³		AGENT, (GB OR VX) M121A1	•	•	•	•	•	•	•	•	•	•	
	X	X	X				X		X		X ⁶		PRACTICE, M804/M804A1	•	•	•	•	•	•	•	•	•	•	

See footnotes at end of table.

WARNING:

1. PRIMER MK2A4 IS THE ONLY AUTHORIZED PRIMER TO BE USED IN THE M1A1 CANNON.
2. M116 AND M116B1 RESTRICTED FROM OVERHEAD FIRE WITH ZONE 7 OF M4A1 AND M4A2 CHARGES DUE TO POSSIBLE BASE PLATE SEPARATION CREATING DOWNRANGE SAFETY HAZARD.
3. M728 AND M732 FIRED WITH 'VX' PROJECTILE IN COMBAT EMERGENCY ONLY.

NOTE:

4. THE LETTER P SHOWS COMPATIBILITY FOR PROXIMITY FUZES THAT REQUIRE REMOVAL OF THE SUPPLEMENTARY CHARGE TO MAKE ROOM FOR THE LONG INTRUSION FUZE.
5. USMC TRAINING USE ONLY. FIRING LIMITS 0°F - + 120°F 6. M732 FUZE CANNOT BE USED WITH M804A1 PROJECTILE.

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By Order of the Secretary of the Army

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Chief of Staff

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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