

ENGINEERING CHANGE PROPOSAL (ECP), PAGE 1				1. DATE (YYMMDD) 030204		Form Approved OMB No. 0704-0188			
Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for the reducing the burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and the Office of Management and Budget, Washington, DC 20503.								2. PROCURING ACTIVITY NO. R3K3016	
PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THE COMPLETED DD FORM 1692.								3. DODAAC	
4. ORIGINATOR			b. ADDRESS (City, Street, State, Zip Code)			5. CLASS OF ECP			
a. TYPED NAME (First, Middle Initial, Last) Kimberly Wheat			U.S. Army TACOMWARDEC ATTN: AMSTA-AR-WEP-RP Rock Island, IL 61299-7300			1			
8. ECP DESIGNATION			8. JUST. CODE D			7. PRIORITY R			
a. MODEL/TYPE PACK/MARK			b. CAGE CODE 59878			9. BASELINE AFFECTED			
c. SYSTEM DESIGNATION MUNITIONS PACKAGING/MARKING GENERAL			<input type="checkbox"/> FUNCTIONAL			<input type="checkbox"/> ALLOCATED			
d. ECP NO. R3K3016			e. TYPE			<input checked="" type="checkbox"/> PRODUCT			
f. REV			10. OTHER SYS./CONFIG. ITEMS AFFECTED			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
11. SPECIFICATIONS AFFECTED				12. DRAWINGS AFFECTED					
a. SYSTEM		CAGE Code	Specification/Document No.	Rev	SCN	CAGE Code	Number	REV	NOR
b. DEVELOPMENT			N/A			See Attached List			
c. PRODUCT									
13. TITLE OF CHANGE ADDITION OF 2D BAR CODE MARKING REQUIREMENTS									
14. CONTRACT NO. AND LINE ITEM DAAA09- Current/Future OSC/JMC Ammunition Contracts					15. PROCURING CONTRACTING OFFICER				
					a. NAME (First, Middle Initial, Last)				
					b. CODE		c. TELEPHONE NO.		
16. CONFIGURATION ITEM NOMENCLATURE AMMUNITION MARKING								17. IN PRODUCTION	
								<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
18. ALL LOWER LEVEL ITEMS AFFECTED									
a. NOMENCLATURE					b. PART NO.			c. NSN	
19. DESCRIPTION OF CHANGE The DoD Automatic Identification Technology requirements include insertion of automated identification technology into the supply chain/logistics from factory to theater. The application of 2D bar code helps meet this requirement.									
20. NEED FOR CHANGE The 2D bar code system is a DoD mandated change. 2D bar codes are a requirement of MIL-STD-129P, Standard Practice for Military Marking (15 Dec 02). This ECP will bring the Army's ammunition marking drawings in line with the requirements set forth in MIL-STD-129P.									
21. PRODUCTION EFFECTIVITY BY SERIAL NUMBER N/A					22. EFFECT ON PRODUCTION DELIVERY SCHEDULE N/A				
23. RETROFIT									
a. RECOMMENDED ITEM EFFECTIVITY N/A					c. SHIP/VEHICLE CLASS AFFECTED N/A				
d. ESTIMATED KIT DELIVERY SCHEDULE N/A					d. LOCATIONS OR SHIP/VEHICLE NUMBERS AFFECTED N/A				
24. ESTIMATED COSTS/SAVINGS UNDER CONTRACT N/A					25. ESTIMATED NET TOTAL COSTS/SAVINGS N/A				
26. SUBMITTING ACTIVITY					b. TITLE				
a. AUTHORIZING SIGNATURE Kimberly Wheat					Packaging Specialist				
27. APPROVAL/DISAPPROVAL									
a. CLASS I			b. CLASS II			c. CLASS II			
<input checked="" type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> DISAPPROVAL RECOMMENDED			<input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED			<input type="checkbox"/> CONCUR IN CLASSIFICATION OF CHANGE <input type="checkbox"/> DO NOT CONCUR IN CLASSIFICATION OF CHANGE			
d. GOVERNMENT ACTIVITY ARDEC(R) AMSTA-AR-WEP-R			e. SIGNATURE <i>Kimberly Wheat</i>			f. DATE (YYMMDD) 030303			
<input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED			g. GOVERNMENT ACTIVITY ARDEC(R)			h. SIGNATURE <i>Kimberly Wheat</i>			
						i. DATE (YYMMDD) 030303			

Block 12 Drawings Affected (continued) R3K3016

19200	8796522	BJ (R2K2047 Applies)
19200	12982865	F
19200	12999545	IR

NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

1. DATE
(YYMMDD)
030130

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20603.

2. PROCURING
ACTIVITY NO.
R3K3016

3. DODAAC

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES, RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.

4. ORIGINATOR

a. TYPED NAME (First, Middle Initial, Last)

Kimberly Wheat

b. ADDRESS (Street, City, State, Zip Code)

CDR, TACOM/ ARDEC
ATTN: AMSTA-AR-WEP-RP
Rock Island, IL 61299-7300

5. CAGE CODE
19200

7. CAGE CODE
19200

6. NOR NO. R3K3016.1

8. DOCUMENT NO.
8796522 SFT

9. TITLE OF DOCUMENT
MARKING DIAGRAM AND SEALING FOR WOOD PACKING BOXES

10. REVISION LETTER

a. CURRENT
BJ

b. NEW

11. ECP NO.

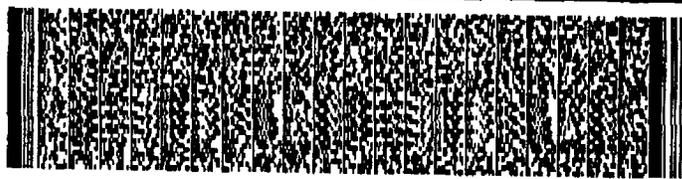
R3K3016

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES
GENERAL AMMUNITION PACKAGING

DESCRIPTION OF REVISION

FIGURE 1, ZONES A7 AND A8, CHANGE AS FOLLOWS:

DELETE LINEAR BAR CODE ILLUSTRATIONS AS CURRENTLY SHOWN IN FIGURE 1 AND REPLACE WITH THE FOLLOWING:



KIT KT020218160123400611 WT: 1700 LB Cube: 225 CF
 NSN / HazID / DoDIC / Qty: 1234567890123 UN1234 P123 25 EA
 Lot / Qty: UNKNOWN 2 EA
 Lot / Qty: MCG77G002-161 20 EA
 Lot / Qty: MCG77G002-162 3 EA

PLACEMENT OF BAR CODE LABELS ON WOOD BOXES
FIGURE 1

14.

- a. (X one) (1) Existing document supplemented by this NOR may be used in manufacture.
 (2) Revised document must be received before manufacturer may incorporate this change.
 (3) Custodian of master document shall make above revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT

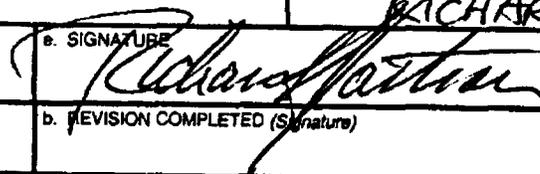
ARDEC (R)

c. TYPED NAME (First, Middle Initial, Last)

RICHARD G. ZASTROW

d. TITLE Configuration Manager
AMSTA-AR-WEP-R

e. SIGNATURE



f. DATE SIGNED
(YYMMDD)

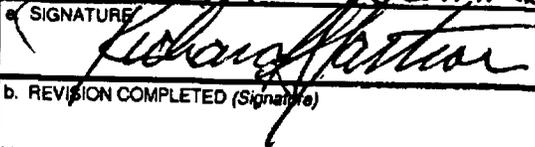
03 03 03

15. a. ACTIVITY ACCOMPLISHING REVISION

b. REVISION COMPLETED (Signature)

c. DATE SIGNED
(YYMMDD)

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4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last) Kimberly Wheat	CDR, TACOM/ ARDEC ATTN: AMSTA-AR-WEP-RP Rock Island, IL 61299-7300	19200	R3K3016.2
		7. CAGE CODE	8. DOCUMENT NO.
		19200	8796522 SRZ
9. TITLE OF DOCUMENT MARKING DIAGRAM AND SEALING FOR WOOD PACKING BOXES	10. REVISION LETTER		11. ECP NO.
		a. CURRENT BJ	b. NEW R1K
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES GENERAL AMMUNITION PACKAGING			
DESCRIPTION OF REVISION			
ECP R2K2047 APPLIES CHANGE NOTE 6 FROM "LABEL, BAR CODE, PRESSURE SENSITIVE ADHESIVE, FOR BAR CODING, GRADE A, STYLE 2, COMPOSITION b, AS SPECIFIED IN PERFORMANCE SPECIFICATION MIL-PRF-61002. THE PERFORMANCE REQUIREMENTS FOR SOLVENT AND DETERGENT RESISTANCE ARE NOT REQUIRED." TO: "6- MATERIAL: LABEL, BAR CODE, IAW DRAWING 12999545." NOTE M23, ZONES B3-B5: CHANGE FROM: "AREA RESERVED FOR BAR CODE LABELS. SEE INSTRUCTIONS SHEET 3." TO: "IN ADDITION TO ALL OTHER MARKINGS, EVERY BOX SHALL HAVE BAR CODE LABELS APPLIED TO THE BOX IAW DRAWING 12999545."			

14. (X one) <input checked="" type="checkbox"/>	(1) Existing document supplemented by this NOR may be used in manufacture. (2) Revised document must be received before manufacturer may incorporate this change. (3) Custodian of master document shall make above revision and furnish revised document.
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT ARDEC(R), AMSTA-AR-WEP-R	c. TYPED NAME (First, Middle Initial, Last) RICHARD G. ZASTROW
d. TITLE Configuration Manager AMSTA-AR-WEP-R	e. SIGNATURE 
15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)
	f. DATE SIGNED (YYMMDD) 03 05 03
	c. DATE SIGNED (YYMMDD)

NOTICE OF REVISION (NOR) THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.		1. DATE (YYMMDD) 030130	Form Approved OMB No. 0704-0188
<small>Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.</small> PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES, RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.		2. PROCURING ACTIVITY NO. R3K3016	
		3. DODAAC	
4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last) Kimberly Wheat	CDR, TACOM/ ARDEC ATTN: AMSTA-AR-WEP-RP Rock Island, IL 61299-7300	19200	R3K3016.3
		7. CAGE CODE	8. DOCUMENT NO.
		19200	8796522 SH3
9. TITLE OF DOCUMENT MARKING DIAGRAM AND SEALING FOR WOOD PACKING BOXES	10. REVISION LETTER		11. ECP NO.
	a. CURRENT BE	b. NEW	R1K
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES GENERAL AMMUNITION PACKAGING			
DESCRIPTION OF REVISION BAR CODE INSTRUCTIONS, NOTE BC -1, ZONES B-2 THROUGH F-5: REMOVE SECTION IN IT'S ENTIRETY.			
14.			
a. (X one)	<input checked="" type="checkbox"/> (1) Existing document supplemented by this NOR may be used in manufacture. <input type="checkbox"/> (2) Revised document must be received before manufacturer may incorporate this change. <input type="checkbox"/> (3) Custodian of master document shall make above revision and furnish revised document.		
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT <i>ARDEC (K)</i>	c. TYPED NAME (First, Middle Initial, Last) <i>RICHARD G. ZASTROW</i>		
d. TITLE Configuration Manager AMSTA-AR-WEP-R	e. SIGNATURE <i>Richard G. Zastrow</i>	f. DATE SIGNED (YYMMDD) <i>030303</i>	
15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	c. DATE SIGNED (YYMMDD)	

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2. PROCURING
ACTIVITY NO.
R3K3018

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3. DODAAC

4. ORIGINATOR

b. ADDRESS (Street, City, State, Zip Code)

5. CAGE CODE
19200

6. NOR NO. R3K3018.4

a. TYPED NAME (First, Middle Initial, Last)

Kimberly Wheat

CDR, TACOM/ARDEC
ATTN: AMSTA-AR-WEP-RP
Rock Island, IL 61299-7300

7. CAGE CODE
19200

8. DOCUMENT NO.
T2982865 SH 7-9

9. TITLE OF DOCUMENT
MINIMUM MARKING INSTRUCTIONS FOR AMMUNITION AND EXPLOSIVE
CONTAINERS

10. REVISION LETTER

a. CURRENT
F

b. NEW

11. ECP NO.

RTK

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES
GENERAL AMMUNITION PACKAGING

DESCRIPTION OF REVISION

UNDER BAR CODE MARKINGS SECTION ON PAGE 7, DELETE CURRENT REQUIREMENTS AS SHOWN. REPLACE WITH THE FOLLOWING NOTE:

TO: "BAR CODE MARKINGS

1- IN ADDITION TO ALL OTHER MARKINGS, EVERY EXTERIOR SHIPPING CONTAINER SHALL HAVE BAR CODE LABELS OR MARKINGS APPLIED TO THE CONTAINER IAW DRAWING 12899545."

PAGES 8 & 9

DELETE BAR CODE RESTRICTIONS, LOCATION, APPLICATION AND DATA TO BE ENCODED PARAGRAPHS IN THEIR ENTIRETY.

14.

- a. (X one) (1) Existing document supplemented by this NOR may be used in manufacture.
 (2) Revised document must be received before manufacturer may incorporate this change.
 (3) Custodian of master document shall make above revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT

c. TYPED NAME (First, Middle Initial, Last)

ARDEC(R)

RICHARD G. ZASTROW

d. TITLE Configuration Manager
AMSTA-AR-WEP-R

e. SIGNATURE

Richard G. Zastrow

f. DATE SIGNED
(YYMMDD)
030303

15. a. ACTIVITY ACCOMPLISHING REVISION

b. REVISION COMPLETED (Signature)

c. DATE SIGNED
(YYMMDD)

NOTICE OF REVISION (NOR)		1. DATE (YYMMDD) 030130	Form Approved OMB No. 0704-0188
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PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES, RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.			3. DODAAC
4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO. R3K3016.5
a. TYPED NAME (First, Middle Initial, Last) Kimberly Wheat	CDR, TACOM/ARDEC ATTN: AMSTA-AR-WEP-RP Rock Island, IL 61299-7300	19200	
		7. CAGE CODE 19200	8. DOCUMENT NO. 12982865 SH 10
9. TITLE OF DOCUMENT MINIMUM MARKING INSTRUCTIONS FOR AMMUNITION AND EXPLOSIVE CONTAINERS	10. REVISION LETTER		11. ECP NO.
	a. CURRENT D	b. NEW	R1K
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES GENERAL AMMUNITION PACKAGING			
DESCRIPTION OF REVISION			
REMOVE CURRENT FIGURE 1 IN IT'S ENTIRETY. REPLACE WITH THE FOLLOWING FIGURE 1:			
14.			
a. (X one) <input checked="" type="checkbox"/>	(1) Existing document supplemented by this NOR may be used in manufacture. (2) Revised document must be received before manufacturer may incorporate this change. (3) Custodian of master document shall make above revision and furnish revised document.		
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT ARDEC (R)	c. TYPED NAME (First, Middle Initial, Last) RICHARD G. ZASTROW		
d. TITLE Configuration Manager AMSTA-AR-WEP-R	e. SIGNATURE <i>Richard G. Zastrow</i>	f. DATE SIGNED (YYMMDD) 030303	
15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	c. DATE SIGNED (YYMMDD)	

NOTICE OF REVISION (NOR)

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1. DATE
(YYMMDD)
030130

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2. PROCURING
ACTIVITY NO.
R3K3016

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3. DODAAC

4. ORIGINATOR

a. TYPED NAME (First, Middle Initial, Last)

Kimberly Wheat

b. ADDRESS (Street, City, State, Zip Code)

CDR, TACOM/ ARDEC
ATTN: AMSTA-AR-WEP-RP
Rock Island, IL 61299-7300

5. CAGE CODE

19200

7. CAGE CODE

19200

6. NOR NO. R3K3016.6

8. DOCUMENT NO.
12982865 SH 11

9. TITLE OF DOCUMENT

MINIMUM MARKING INSTRUCTIONS FOR AMMUNITION AND EXPLOSIVE CONTAINERS

10. REVISION LETTER

a. CURRENT

D

b. NEW

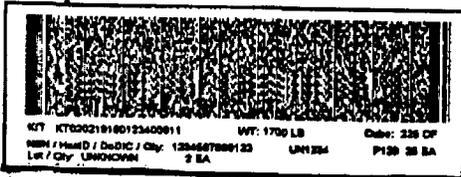
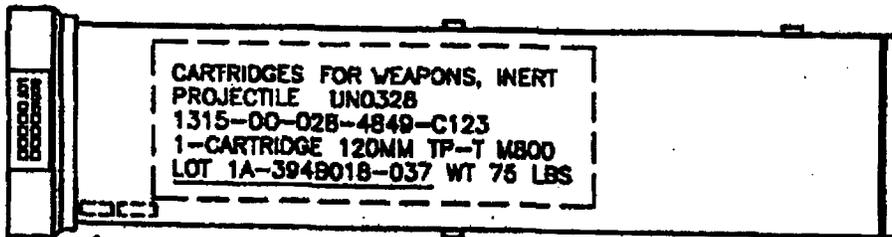
11. ECP NO.

R3K3016

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES
GENERAL AMMUNITION PACKAGING

DESCRIPTION OF REVISION

REMOVE CURRENT FIGURE 2 IN IT'S ENTIRETY. REPLACE WITH THE FOLLOWING FIGURE 2
RENUMBER PAGE 11AS NECESSARY TO ACCOMMODATE REMOVAL OF PAGES 8 AND 9 (NOR R3K3016.4).



14.

- a. (X one) (1) Existing document supplemented by this NOR may be used in manufacture.
 (2) Revised document must be received before manufacturer may incorporate this change.
 (3) Custodian of master document shall make above revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT

ARDEC (R)

c. TYPED NAME (First, Middle Initial, Last)

RICHARD G. ZASTROW

d. TITLE Configuration Manager
AMSTA-AR-WEP-R

e. SIGNATURE

Richard G. Zastrow

f. DATE SIGNED
(YYMMDD)

030303

15. a. ACTIVITY ACCOMPLISHING REVISION

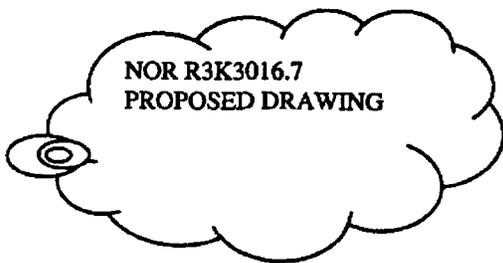
b. REVISION COMPLETED (Signature)

c. DATE SIGNED
(YYMMDD)

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4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last) Kimberly Wheat	CDR, TACOM/ ARDEC ATTN: AMSTA-AR-WEP-RP Rock Island, IL 61299-7300	19200	R3K3016.7R1
		7. CAGE CODE	8. DOCUMENT NO.
		19200	12999545
9. TITLE OF DOCUMENT TWO-DIMENSIONAL BARCODE AMMUNITION LABEL INSTRUCTIONS FOR AMMUNITION AND EXPLOSIVE CONTAINERS		10. REVISION LETTER	
		a. CURRENT IR	b. NEW
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES GENERAL AMMUNITION PACKAGING		11. ECP NO. R3K3016	
DESCRIPTION OF REVISION SEE ATTACHED FOR PROPOSED NEW DRAWING.			

16. (X one)	<input checked="" type="checkbox"/> (1) Existing document supplemented by this NOR may be used in manufacture. <input type="checkbox"/> (2) Revised document must be received before manufacturer may incorporate this change. <input type="checkbox"/> (3) Custodian of master document shall make above revision and furnish revised document.
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT ARDEC (R)	c. TYPED NAME (First, Middle Initial, Last) RICHARD G. LASTROW
d. TITLE Robert L. Riedl, Configuration Manager AMSTA-AR-WEP-R	e. SIGNATURE <i>Richard G. Lastrow</i>
15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature) <i>Richard G. Lastrow</i>
	f. DATE SIGNED (YYMMDD) 03 03 03
	g. DATE SIGNED (YYMMDD)

				REVISIONS			
		LTR	DESCRIPTION	DATE	APPROVE		
		-	PRODUCT BASELINE ERR:				



REV										
SHEET										
REV	-	-	-	-	-	-	-	-	-	-
SHEET	9	10	11	12	13	14	15			
REV STATUS OF SHEETS	REV	-	-	-	-	-	-	-	-	-
	SHEET	1	2	3	4	5	6	7	8	

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PART NO. 12999545

**U. S. ARMY ARMAMENT RESEARCH DEVELOPMENT AND ENGINEERING CENTER
 PICATINNY ARSENAL, NEW JERSEY
 07808-5000**

TWO-DIMENSIONAL BARCODE AMMUNITION LABEL INSTRUCTIONS FOR AMMUNITION AND EXPLOSIVE CONTAINERS

DWG SIZE	CODE IDENT NO.	
A	19200	12999545
SCALE	UNIT WT	SHEET 1 OF 15

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	ORIGINAL DATE OF DRAWING 03-01-30	
TOLERANCES ON FRACTIONS DECIMALS ANGLES + + + - - -	DRAFTSMAN	CHECKER
	TRACER	CHECKER
MATERIAL	ENGR.	ENGR.
HEAT TREATMENT	SUBMITTED	
FINAL PROTECTIVE FINISH	APPROVED	

1. **IDENTIFICATION BAR CODE SYMBOL MARKING REQUIREMENTS (SEE FIGURES 1 and 2).** The application of a 2D (PDF417) symbol is required for identification markings on ammunition and explosive containers. Use of a 2D (PDF417) symbol with human readable information is a mandated change. In addition to all other markings, every exterior shipping container shall have identification bar code labels or markings applied to the container as described in the following instructions. Identification bar code markings shall be applied by means of a label or by direct printing on the packaging material, upon authorization by the cognizant activity. Unless otherwise specified, identification bar code labels shall meet the following requirements:

- A. **Identification bar code label specifications.** Labels shall meet the requirements for grade A, style 2, composition b, labels as specified in MIL-PRF-61002. the performance requirements for solvent and detergent resistance are not required. The label should be the pressure sensitive adhesive type. Additional performance requirements that must be met are as follows:
1. The label material will be a minimum of 6.8 mil thick (7mil nominal). Material will provide a minimum of 42 lbs/1-inch wide tensile strength at break when tested IAW ASTM D-882. Material will provide a minimum of 6600 grams (66 Newton's) of puncture-propagation tear resistance when tested IAW ASTM D2582.
 2. Each label shall be no greater than 4 inches by 4 inches square (see figure 1, page 2). New production shall have labels of minimum size with minimum amount of white space. Format is not mandated but the information should be grouped by NSN or part number and then by serial number for each lot number if applicable. Figure 2 shows the same information printed on a set of smaller labels.

- B. **Identification bar code symbol data structure.** The identification bar code symbol shall be formatted and printed as noted in the following paragraphs and Table 1 of this drawing with reference to ISO/IEC 15438, ANSI MH10.8.2 and MH10.8.3. The 2D (PDF 417) symbol will contain two types of information, generic data that is relevant to the entire package/load entity and a set of data for each stock numbered or part numbered asset. Data structure requirements are noted in Table 2.

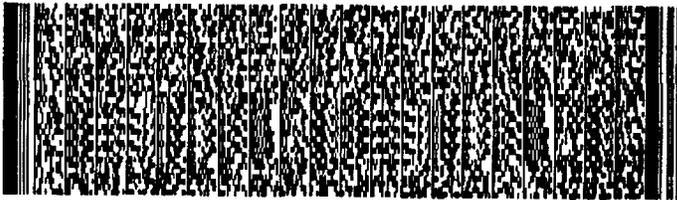
1. **Package and Unit Load generic information encoded in the identification bar code symbol.**
- (a) **Label Traceability Code.** A unique traceability code will be generated during the printing process and encoded for each 2D (PDF 417) symbol label. The purpose of the traceability code is to preclude multiple scans of the same symbol during inventories and to identify the type of package/load entity. The format for the traceability code is UMYMMDDhhmmssRRNX for: UM=unit of measure, YY=year, MM=month, DD=date, hh=hour, mm=minute, ssss=second and hundredths of a second, RR=2 digit random number, NX=label N of X labels. When multiple labels are required to mark a single entity, the first 18 characters identify each label, e.g., 1 of 3, 2 of 3, 3 of 3. See Table 2 for unit of measure codes.

(b) **Weight with unit of measure.** Encode not mandatory.

(c) **Cube with unit of measure.** Encode not mandatory.

2. **Data elements encoded for each National Stock Number (NSN) or Part Number (PN) data set.** To identify the beginning of each data set, the data set, the data set begins with a data identifier (DI) for the national stock number (DI N) or part number (DI IP) that is common to the data set. See Tables 1 and 2 for an explanation of data identifiers and 2D (PDF 417) symbol encoding requirements.

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KIT KT020218180123400811 WT: 1700 LB Cube: 225 CF
 NSN / HazID / DoDIC / Qty: 1234567890123 UN1234 P123 25 EA
 Lot / Qty: UNKNOWN 2 EA
 Lot / Qty: MCG77G002-161 20 EA
 Lot / Qty: MCG77G002-162 3 EA

PN / HazID / DoDIC / Qty: 1P1234567890 UN5634 PL34 3 EA
 Serial(s): S1234567891, S1234567892, S1234567894

NSN / HazID / DoDIC / Qty: 1234567890000 UN4321 Y556 3 EA
 Lot / Qty: AMC98C002-105B 1EA
 Serial(s): A.129.4587346
 Lot / Qty: PGT898B002-199 2 EA
 Serial(s): A.123.4567891, A.123.4567378

NSN / HazID / DoDIC / Qty: 1234567890999 UN5678 J789 25 EA
 Lot / Qty: MCG77G002-592 25 EA
 Serial(s): 1234567001, 1234567002, 1234567003, 1234567004, 1234567005,
 1234567006, 1234567007, 1234567008, 1234567009, 1234567010, 1234567011,
 1234567012, 1234567013, 1234567014, 1234567015, 1234567016, 1234567017,
 1234567018, 1234567019, 1234567020, 1234567021, 1234567022, 1234567023,
 1234567024, 1234567025

Figure 1. Ammunition/Explosives Identification Bar Code Label. Actual Size. Expanded 2D (PDF 417) symbol (18 data columns) contains 709 characters. Actual size is 4 x 4 inches.

- (a) National Stock Number. Unless otherwise specified, the NSN shall be encoded. If the NSN is not encoded, the part number must be encoded.
- (b) Part Number. The part number shall only be encoded when the NSN is not available.
- (c) Department of Defense Identification Code (DODIC). Encoded if applicable.
- (d) The Quantity/Unit of Issue (UI). The quantity and UI shall be encoded for each NSN or PN identified asset in the data set and for each lot number and/or Unknown lot number within the data set. The quantity data must be encoded within the data set for the NSN or PN, and for each lot number or Unknown lot. See example in table 2 for data sets and UI codes.
- (e) Lot number(s). The lot number including dashes shall be encoded as specified in the contract. For older ammunition, the lot number shall be encoded exactly as it appears on the applicable reporting records or as it appears on the exterior container. Multiple lot numbers, beginning with a DI IT for each lot number, shall be included within the NSN or PN data set as applicable. If a lot number cannot be determined or read for one or more multiple assets, "UNKNOWN" shall be encoded one time within the data set. If a lot number is not assigned, the DI for that lot is blank shall not be encoded.

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(f) Serial Number. If a serial number(s) is assigned to an asset, it shall be encoded. If a serial number is related to a lot number, the serial number shall be encoded within the respective lot number data set. If a serial number is not related to a lot number, the serial number shall be encoded with the respective NSN or PN data set. Multiple serial numbers, beginning with a DI S for each serial number may be included within a data set.

(g) UN code. UN hazardous identification number for an asset. Encode not mandatory.

3. Additional data elements encoded as a user option. Additional data elements may be encoded in the 2D (PDF 417) symbol using ANSI MH10.8.2 Data Identifiers. The selection and use of the additional data identifiers must be coordinated with the DOD ATT Office (www.dodait.com for contact information) to ensure conflicting information is not encoded.

C. Identification bar code human readable information. Human readable information shall be printed in close proximity to the 2D (PDF417) symbol and should consist of HRI text translated from the encoded 2D (PDF417) symbol data.

1. All encoded data elements shall be printed as human readable information.

(a) The human readable information is not a substitute for the identification markings but serves to ensure the correct 2D (PDF 417) symbol, used primarily for inventory purposes, is attached to the matching package/unitized load.

(b) The printed HRI data shall be a literal interpretation of the data encoded in the 2D (PDF 417) symbol and will not include encoded data identifiers or element separators. The 2D (PDF 417) symbol HRI for each data element, except for the label traceability code, must be preceded by a representative data tile from table 1 for each DI. The unit of measure suffix for cube and weight may be translated for clarity.

(c) The label traceability code will be translated and printed as follows: the first two characters for the unit of measure (UM) will be translated and printed; the 20 character traceability code will be printed, for entities with multiple labels, the last two characters (NX) will be translated and printed on each label to show the label set relationship e.g. 1 of 2, 2 of 2.

2. The human readable information must be printed outside the quiet zone of the 2D (PDF 417) symbol. The human readable information text shall be no smaller than 10 lines per 1 inch (approximately a 7 point font).

D. Use of multiple labels for large data requirements (see figure 2). If a 2D (PDF 417) symbol and its printed human readable information contain more information than can be printed on one label, additional PDF417 symbol labels may be affixed next to each other to show the additional information. Each label in the set shall have a unique label serial number and shall be marked consecutively as "1 of X, 2 of X, 3 of X, etc." where X is the total number of labels in the set. Each 2D (PDF 417) symbol in the set will contain identical generic information except for the label traceability code. The information for an NSN, part number, or lot number data sets may span across labels but the "continued" data set must contain the same common elements (i.e. NSN and lot number). Macro PDF417 symbols will not be used for this purpose.

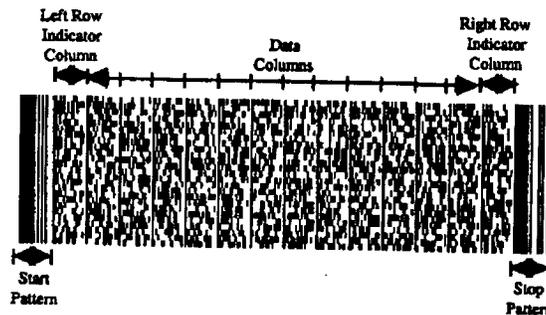
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TABLE 1.
Technical Details For 2-Dimensional (2D) PDF417 Symbology

Table 1 provides detailed printing instructions for the 2D PDF417 symbol and it provides explanations for the following Table 2.

1. Printing Instructions.

- a. The PDF417 symbol used for shipping and receiving shall be printed with no more than 12 data columns in width. The use of 13 to 18 data columns is allowed for inventory or supporting documentation applications (ammunition/explosive marking, packing list, etc) if smaller symbols cannot accommodate the increased data requirements. A PDF417 symbol includes a start pattern, a left row indicator column, one or more data columns, a right row indicator column, and a stop pattern..



- b. The symbol shall not exceed 2.4 inches (61 mm) in height to include the surrounding minimum quiet zone.
- c. The symbol shall have a minimum quiet zone of 0.04 inches (1 mm) above, below, to the left, and to the right.
- d. The minimum narrow element dimension (X-dimension) shall not be less than 0.01 inches (10 mils/.254 mm). For symbols up to 12 data columns, the X-dimension will not exceed 0.017 inches (17 mils/.432 mm). For 13 to 18 data columns, the X-dimension will not exceed 0.01 inches.
- e. The symbol shall have a minimum row height of three times the width of the narrow element (X-dimension).
- f. The symbol shall use error correction level 5.
- g. The start and stop bars of the symbol shall be perpendicular to the natural bottom of the label.

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- h. The label should be designed so that two bar codes and/or symbols are not in the same linear plane unless the label is wide enough to reduce the possibility of interference with successful bar code and/or symbol scanning.
- i. Data identifiers which contain no information should not be printed.
- j. The quality of the printed bar code shall meet a grade requirement of 2.5 (B) at the point of production when measured in accordance with ISO/IEC 15438 with a measurement aperture of 0.25 mm and an inspection wavelength of 660 ± 10 nm.

2. Table 1A Information. Table 1A provides data descriptions, format, and data sources for the ISO/IEC 15418 (ANSI MH10.8.2) DIs used in the 2D (PDF 417) symbol and for the data element identifiers (DEI) that identify DOD unique data elements.

- a. Format Codes "06" Data Identifier (DI) (Column 1) contain a specified character(s) that defines the general category or intended use of the data that follows as referenced in ANSI MH10.8.2 and as adopted by the DoD for use. See the DoD AIT Office web site, www.dodait.com, for the most current list of DoD adopted DIs and DEIs.
- b. DoD Usage (Column 2) displays the titles and usage adopted by DoD for the respective DI/DEIs.
- c. Data Format Type/Length (Column 3) contains indicators of whether the data is alpha and/or numeric and the length of the actual data represented by this field (e.g. an5). A convention of "an..25" means a variable length data string of up to 25 alphanumeric characters, where "an25" means a fixed length of precisely 25 alphanumeric characters. A convention of "an13..15" means a minimum of 13 characters and a maximum of 15 characters. The plus symbol (+) is used to show concatenated data fields within a DI/DEI string. When referenced to a Note in the Data Format column, the plus symbol (+) becomes part of the data sub-string to separate different types of data that are encoded within a single field (i.e., DIs 2L, 3L, and 5L). Variable length fields are not zero-filled unless the information is extracted from an external data source that requires leading zeros. If a DI or DEI is used to encode data for multiple applications, several data formats may be described.
- d. ANSI definition (Column 4) shows the ANSI MH10.8.2 definition for reference purposes.
- e. Data Sources (Column 5) shows the most common source for the 2D (PDF 417) symbol data. If a DI or DEI is used to encode data for multiple applications, several data sources may be described.

3. Table 2 Information. Table 2 provides the content of the data streams for ammunition and/or explosive identification marking 2D (PDF 417) symbols.

- a. Compliance Indicator (Column 1): Shows the special formatting characters associated with the ISO/IEC 15434 (ANSI MH10.8.3) data format. The Compliance Indicator shall be the first three characters in the Message Header. The Compliance Indicator shall be []> (left bracket, right parenthesis, and greater than).

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- b. Format Codes "06" and "07" (Columns 2 through 4) consist of a Format Header (a two-digit numeric identifier which identifies the rules governing the format), and variable 2D (PDF 417) symbol header format Data Identifiers (DI) or Data Element Identifiers (DEI), respectively, which define the separators used and control information of the applicable standards.
- c. Data Field (Column 5) contains an abbreviated description of the data field. See Table 1A for a full description.
- d. Data Format Type/Length (Columns 6 and 7). See 2.c above.
- e. Sample Data (Column 8) contains sample data for the field indicated.
- f. Element Separators (Column 9) shows the separator or terminal code that is appropriate for that particular part of the data stream. The Format Trailer Character (RS) shall be used as the fourth character in the Message Header and at the end of each format series of data. The Data Element Separator (GS) separates data elements within each format series of the data table. The Message Trailer (EOT) identifies the end of the message within the data stream.

Table of Hexadecimal and Decimal Values

ASCII / ISO 646	HEX	DEC
RS	1E	30
GS	1D	29
EOT	04	04

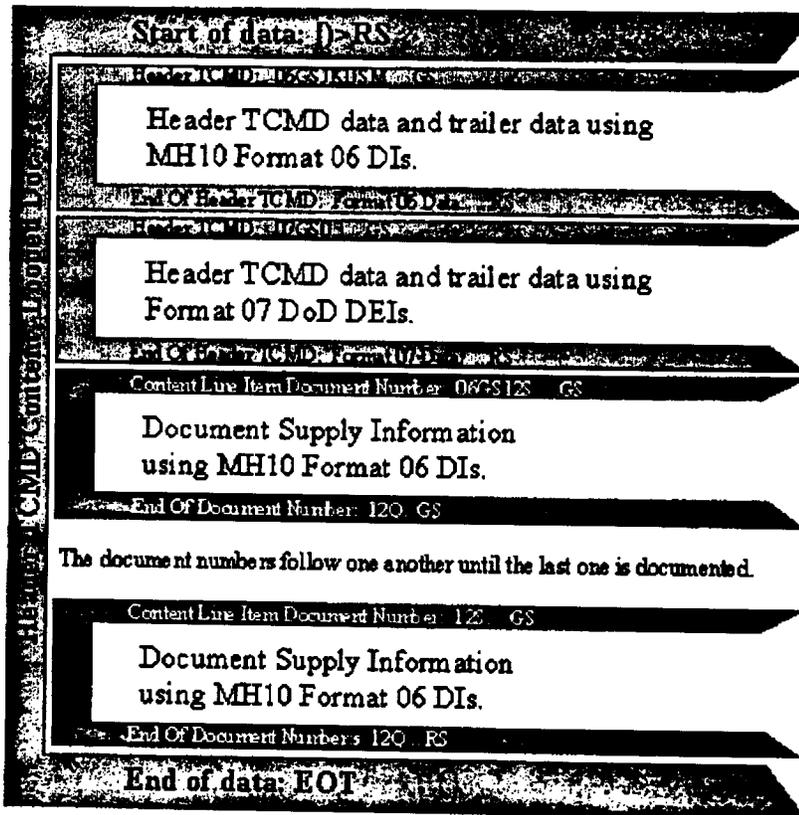
- g. Total Characters (Column 10) shows the potential total number of characters including compliance characters, format indicators, data elements and termination/separator characters for a particular data segment.
- h. The Ammunition/Explosive marking 2D (PDF 417) symbol store a repeating set of selected data at the end of the symbol format. The repeating data set for the Ammunition/Explosive 2D (PDF 417) symbol reflects the quantities of stock numbered assets or part numbered assets within each package or unit load. Each repeating data set series begins with a DI "N" or DI "1P" code.

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4. Data Syntax Graphic. The following graphic is an example of how ANSI MH10.8.2 DIs and DoD DEIs are used in a 2D PDF417 symbol to depict a single shipment unit TCMD with multiple supply line items within the shipment unit.

- a. The TCN document number and related TCMD data are contained in the first Format 06 block that terminates with an RS code followed by a Format 07 block that terminates with an RS code.
- b. The supply line item data for specific document numbers are contained in a following Format 06 block. Data looping is required to document a multipack shipment when multiple line items exist within a single shipment unit. In this data looping structure, the order in which the line items are stored on the media (2D (PDF 417) symbol) is critical to the meaning of the data. The number of supply line item documents is limited by the storage capacity of the AIT device.



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Table 1A
2D (PDF 417) Symbol Data Descriptions

Format 06

Format 06 Data Identifier	DoD Usage (See Note 1)	Data Format	ANSI Definition	Data Source
N	National/NATO Stock Number (NSN) - or stock identification elements thereof	an..15	National/NATO Stock Number (NSN)	DTR App CC-2 (TCMD T_6) DD 1348-1A (rp 8-22)
1P	Part Number	an..16	Item Identification Code assigned by Supplier	MILSTRIP or As marked
10P	Hazardous Material Code See Format 07 DEI 41/42 for TCMD UN code or North American code applications. See Format 07 DEI 49 for Air Commodity/Special Handling Code	an1+an..5	Hazardous Material Code as defined by ANSI X12.3 in the format Data Element 208 (1-character) followed by Data Element 209 (Hazardous Material Code)	As marked
7Q	Cube - with Unit of Measure See Format 07 DEI 12 for Cube without mandatory suffix	Ammo n..9+an2	Quantity, Amount, or Number of Pieces in the format: Quantity followed by a 2-character ANSI X12.3 Data Element Number 355 Unit of Measurement Code (CF/CC/CR)	As marked

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7Q	Quantity - with Unit of Issue (UI)	DD 1348-1A n..5+an2 or Ammo n..9+an2	Quantity, Amount, or Number of Pieces in the format: Quantity followed by a 2-character ANSI X12.3 Data Element Number 355 Unit of Measurement Code (EA/FT/KT)	DD 1348-1A (rp 23-29) or As marked
7Q	Weight - with Unit of Measure	Ammo n..9+an2	Quantity, Amount, or Number of Pieces in the format: Quantity followed by a 2-character ANSI X12.3 Data Element Number 355 Unit of Measurement Code (LB/KG)	As marked
4R	DOD Identification Code (DoDIC)	an4	U.S. Department of Defense Identification Code (DoDIC)	DTR App CC-2 (TCMD T_6) DD 1348-1A or As marked
S	Serial Number or Code	an..15	Serial number or code assigned by the Supplier to an entity for its lifetime (e.g. serial number, traceability number, contract tool identification)	MILSTRIP or As marked
20S	Traceability Code/Serial Number	an..20	Traceability code for an entity assigned by the customer	As generated or marked
IT	Lot Number	an..25	Traceability Number assigned by the customer to identify/trace a unique group of entities (e.g. lot, batch, heat)	DTR App CC-2 (TCMD T_7) DD 1348-1A or As marked

Note 1. The ANSI MH10.8.2 (ISO/IEC 15418) DIs and DoD DEIs listed show the current, reserved, and "Not for use" DoD data descriptions for historical reference. For an updated list of Format 06 DIs and Format 07 DEIs selected for use by DoD, refer to the DoD Logistics AIT Office web site at <<http://www.dodait.com>>.

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Table 2. Label 1 of 2
Ammunition/Explosives Marking 2D (PDF 417) Symbol Format

Compliance Indicator	Format Header	Format 06-DI	Format 07-DEI	Data Field	Data Format Type Length	Sample Data without DI/DEI	Element Separator	Total Elements
D>				Message Header Compliance Indicator	an3	D>	RS	4
	06			Data Identifier Format Header	an2	06	GS	3
		20S		Label Serial Number - unique traceability number Format is UMYYMMDDhhmmssRRNX UM=unit of measure, YY=year, MM=month, DD=date, hh=hour, mm=minute, ssss=seconds and hundredths of a second, RR=random number, NX=label N of X labels See note	an3 an20	KT020218160123400612	GS	24
		7Q		Weight	an2 n..9+an2 See Note	1700LB	GS	14
		7Q		Cube	an2 an..9+an2 See Note	225CF	GS	14

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In the following examples, the NSN or PN set of data (beginning with DI N or DI 1P) repeats for each set. Within each NSN or PN data set, multiple Lot Number data sets may exist (beginning with DI 1T). Entries within each data set may be in any order.

	N	NSN	an1	an..15	1234567890123	GS	17
	7Q	Quantity (NSN)	an2	n..9+an2 See note	25EA	GS	14
	4R	DoDIC	an2	an4	P123	GS	7
	10P	Hazardous Material Code	an3	an2+an4	UN1234	GS	10
	1T	Lot Number	an2	an..17	UNKNOWN	GS	20
	7Q	Lot Number Quantity	an2	n..9+an2	2EA	GS	14
	1T	Lot Number	an2	an..17	MCG77G002-161	GS	20
	7Q	Lot Number Quantity	an2	n..9+an2	20EA	GS	14
	1T	Lot Number	an2	an..17	MCG77G002-162	GS	20
	7Q	Lot Number Quantity	an2	n..9+an2	3EA	GS	14
	1P	Part Number	an1	an..16	1234567890	GS	18
	S	Serial Number	an1	an..15	1234567894	GS	17
	4R	DoDIC	an2	an4	PL34	GS	7
	7Q	Quantity	an2	n..9+an2	3EA	GS	14
	S	Serial Number	an1	an..15	1234567891	GS	17
	10P	Hazardous Material Code	an3	an2+an4	UN5634	GS	10
	S	Serial Number	an1	an..15	1234567892	GS	17

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Table 2 Label 2 of 2
Ammunition/Explosives Marking 2D (PDF 417) Symbol Format

Compliance Indicator	Format Header	Format 06 DI	Format 07 DE	Data Field	Data Format Type Length	Sample Data without DI/DE	Element Separators	Total Characters
D>				Message Header Compliance Indicator	an3	D>	RS	4
	06			Data Identifier Format Header	an2	06	GS	3
		20S		Label Serial Number - unique traceability number Format is UMYYMMDDhhmmssssRRNX UM=unit of measure, YY=year, MM=month, DD=date, hh=hour, mm=minute, ssss=seconds and hundredths of a second, RR=random number, NX=label N of X labels See note	an3 an20	KT020218160123400622	GS	24
		7Q		Weight	an2 n..9+an2 See Note	1700LB	GS	14
		7Q		Cube	an2 an..9+an2 See Note	225CF	GS	14

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In the following examples, the NSN or PN set of data (beginning with DI N or DI P) repeats for each set. Within each NSN or PN data set, multiple Lot Number data sets may exist (beginning with DI IT). Entries within each data set may be in any order.

	N	NSN	an1	an..15	1234567890000	GS	17
	7Q	Quantity	an2	n..9+an2	2EA	GS	14
	4R	DoDIC	an2	an4	Y556	GS	7
	10P	Hazardous Material Code	an3	an2+an4	UN4321	GS	10
	1T	Lot Number	an2	an..17	PGT89B002-199	GS	20
	7Q	Quantity	an2	n..9+an2	2EA	GS	14
	S	Serial Number	an1	an..15	A.123.4567891	GS	17
	S	Serial Number	an1	an..15	A.123.4567892	GS	17
	N	NSN	an1	an..15	1234567890999	GS	17
	7Q	Quantity	an2	n..9+an2	25EA	GS	14
	4R	DoDIC	an2	an4	J789	GS	7
	10P	Hazardous Material Code	an3	an2+an4	UN5678	GS	10
	1T	Lot Number	an2	an..17	MCG77G002-592	GS	20
	7Q	Quantity	an2	n..9+an2	25EA	GS	14
	S	Serial Number	an1	an..15	1234567001 thru 1234567025	RSEOT	18

Note. Ammunition/explosive markings must be annotated with units of measure from the ANSI X12.3 code list 355. Metric data values may also be used. The ANSI X12.3 codes selected for use are: PC = piece, BX = box, CN = can, KT = kit, PL = pallet, CH = container, RL = roll, EA = each, LB = pound, FT = foot, CF = cubic feet, KG = kilograms, CM = centimeter, CC = cubic centimeter, MR = meter, CR = cubic meter. Decimal values are allowed in the 2D (PDF 417) symbol. Human readable information will be rounded to the nearest whole number.

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