**AP6.35. APPENDIX 6.35**

**ISSUE RELEASE/RECEIPT DOCUMENT (IRRD)  
(DD FORM 1348-1A) WITH CODE 39 (THREE-OF-NINE) BAR CODES AND PDF417 TWO-DIMENSIONAL 2D BAR CODE**

Sample ISSUE RELEASE/RECEIPT DOCUMENT (IRRD)

**PARTIAL**

**UII UN077991289S123TS001100223**

**CAGE 12345 P/N 9988771212SP**

**LOT MGU12345 S/N 123TS001100223**

Notes:

1. Above sample is for illustration only. Implemented version may differ in placement and size of PDF417 2D bar code. The Code 39 linear bar code and PDF417 2D bar code requirements are described in this appendix.
2. For shipment quantities of two or more serialized items, in lieu of printing the PDF417 2D bar code in Block 27 of the DD Form 1348-1A, the continuation page will contain a single PDF417 2D bar code or multiple Macro PDF417 2D bar codes (as required by data volume) for the included data (see AP6.36).
3. Unit prices obtained via electronic interfaces that are not constrained by the MILSTRIP field size will reflect the unit price as 9 digits for dollars and 2 digits for cents. If total price exceeds available space for display on the printed form, the generating application may leave blank. Refer to ADC 221.

AP6.35.1. Code 39 Linear Bar Code Requirements. The following encoded data are required on the DD Form 1348-1A.

AP6.35.1.1. Code 39 linear bar coded data with human-readable interpretation for issue to Services/Agencies.

AP6.35.1.1.1. Document number and suffix assigned to the requisition for a maximum fifteen characters should be bar coded in Block 24.

AP6.35.1.1.2. Thirteen-digit national stock number (NSN) and two additional code values, as applicable, per Appendix 7.5.2, should be bar coded in Block 25. In the absence of the NSN, the manufacturer’s CAGE and Part Number will be used up to a maximum of 15 characters.

AP6.35.1.1.3. Three character routing identifier code (RIC), two character unit of issue (UI) code, five digit zero filled quantity (QTY), one character supply condition code (COND), blank or last two characters of the distribution code field (DIST), and a seven digit or eleven digit zero filled unit price (UP) showing dollars and cents with no decimal bar coded in block 26. The bar code will have a fixed length of 20 or 24 characters to include leading zeros and spaces depending on the implemented version of the unit price annotation noted in Appendix 8.48. For transfers to DLA Disposition Services, Block 26 will not contain bar code data in accordance with Appendix 8.49.

AP6.35.1.2. Code 39 linear bar coded data, with human-readable interpretation requirements, for issue to FMS/Grant Aid customers.

AP6.35.1.2.1. Block 24. The document number and suffix assigned to the requisition up to a maximum fifteen characters should be bar coded.

AP6.35.1.2.2. Block 25. The thirteen digit national stock number (NSN) and two additional code values, as applicable, per Appendix 7.5.2, should be bar coded. In the absence of the NSN, the manufacturer’s CAGE and part number will be used up to a maximum of 15 characters.

AP6.35.1.2.3. Block 26. The two character unit of issue (UI) code, five digit zero filled quantity (QTY), one character condition code (COND), a seven digit or eleven digit zero filled unit price (UP) showing dollars and cents with no decimal, and the first position and last 3 positions of supplementary address (SUPADD) should be bar coded. The bar code will have a fixed length of 19 or 23 characters to include leading zeros and spaces depending on the implemented version of the unit price annotation noted in Appendix 8.48.

AP6.35.1.3. The application of Code 39 linear bar codes on the DD Form 1348-1A should be in accordance with MHIA MH10.8.1, Annex A and MIL-STD-129 (as revised). The specific technical information provided in is not intended to be compressive and should be used in conjunction with the MIL-STD 129. A data check character is not used. The following requirements and exceptions apply:

AP6.35.1.3.1. The height of the bar code should be at least 0.5 inches (12.7 mm); and height must be no less than 0.25 inches (6.3 mm) , regardless of the density (characters per inch/mm).

AP6.35.1.3.2. Blocks 24 and 25. The length of the bar code must not be greater than 4.0 inches (101.6 mm). Each bar code must have 15 characters. When there is an absence of any character(s) (less than 15) within these two bar codes, encoded spaces will be used as fillers (based upon specific encoded data element).

AP6.35.1.3.3. Block 26. The length of the bar code must not be greater than 4.5 inches (114.3 mm). Encoded spaces will be used as fillers for any unknown, or unencoded, data characters.

AP6.35.1.3.4. Block 27. The length of the bar codes must not be greater than 4.00 inches (101.6 mm) for serial numbers that may have up to 30 characters. The narrow element X-dimension should be at least 0.01 inches (.25mm) but will not be less than 0.007 inches (0.1778 mm) for these high-density bar codes. The wide to narrow ratio should be 3 to 1 but must not be less than 2 to 1.

AP6.35.1.3.5. The ASCII characters encoded will consist of the standard uppercase characters, numbers, and symbols identified in ISO/IEC 16388, Table 1 (i.e.[A to Z][1 to 9][hyphen][period][space][ $ ][ / ][ + ][ % ][stop/start (\*)]. The full ASCII 128 character set will not be used to encode information. Also, scanners and imagers will not be configured to decode the full ASCII 128 character set for linear (Code 39) bar codes.

AP6.35.1.4. The application of Code 39 linear bar codes must be in accordance with ISO/IEC 16388. Print quality, element width, and wide to narrow ratios must comply with ISO/IEC 15416 and MHIA MH10.8.1. The standard linear (Code 39) bar code density range should be from 3.0 to 9.4 characters per inch (CPI) (25.4 mm).

AP6.35.2. Programmer’s Technical Summary for PDF417 2D Bar Code

AP6.35.2.1. Refer to ISO/IEC 15438 for detailed technical specifications for printing PDF417 2D bar codes. Refer to the ISO/IEC 15434 standard for the message syntax specifications within the PDF417 2D bar codes. Refer to the MH10.8.2 or ISO/IEC 15418 standards for the data qualifier semantics for message data within the PDF417 2D bar codes and refer to [MIL-STD 129](http://quicksearch.dla.mil/) (latest revision) for comprehensive guidance. For DoD assistance concerning the application of these standards contact the DOD AIT Office through the USTRANSCOM web site at <https://www.ustranscom.mil/cmd/associated/ait/index.cfm>

AP6.35.2.2. The PDF417 2D bar code used for shipping and receiving should 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 (identification marking, ammunition/explosive marking, packing list, etc.) if smaller PDF417 2D bar codes cannot accommodate the increased data requirements. A PDF417 2D bar code includes a start pattern, a left row indicator column, one or more data columns, a right row indicator column, and a stop pattern.

2d Bar code example

AP6.35.2.3. The PDF417 2D bar code must not exceed 2.4 inches (61 mm) in height to include the surrounding minimum quiet zone.

AP6.35.2.4. The PDF417 2D bar code must have a minimum quiet zone of 0.04 inches (1 mm) above, below, to the left, and to the right.

AP6.35.2.5. The minimum narrow element dimension (X-dimension) must not be less than 0.01 inches (10 mils/.254 mm). For PDF417 2D bar codes up to 12 data columns, the X- dimension must not exceed 0.017 inches (17 mils/.432 mm). For 13 to 18 data columns, the X-dimension will not exceed 0.01 inches.

AP6.35.2.6. The PDF417 2D bar code must have a minimum row height of three times the width of the narrow element (X-dimension).

AP6.35.2.7. The PDF417 2D bar code will use error correction level 5.

AP6.35.2.8. The label should be designed so that two bar codes are not next to each other in the same horizontal plane unless the label is wide enough to reduce the possibility of interference with successful bar code scanning.

AP6.35.2.9. Data identifiers, that contain no information, should not be encoded in the PDF417 2D bar code.

AP6.35.2.10. The quality of the printed PDF417 2D bar code must 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.

AP6.35.3. Data Format. The following table provides examples and explanations of the data stream for a PDF417 2D bar code.

AP6.35.3.1. Compliance Indicator (Column 1), shows the special formatting characters associated with the ISO/IEC 15434 data format. The Compliance Indicator will be the first three characters in the Message Header. The Compliance Indicator will be [)> (left bracket, right parenthesis, and greater than).

AP6.35.3.2. Separator/Trailer Characters (Column 2), which are non-printing ASCII control characters, show the separator or terminal code that is for that particular part of the data stream. The Format Trailer Character (RS) will be used at the end of the Message Header (before a format series) and at the end of each format series of data (before the next 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.

AP6.35.3.3. Format Header (Column 3) is a two-digit numeric identifier “06” or “07”that identifies the rules governing the message format for the data elements that follow.

AP6.35.3.4. Data Identifiers (DI) or Data Element Identifiers (DEI) Column 4) define data content within the message. DIs, for Format Header 06, pertain to American National Standards Institute (ANSI) authorized data elements. Refer to ANSI MH10.8.2, American National Standard for Material Handling, for additional information. DEIs, for Format Header 07, pertain to DoD authorized data elements.

AP6.35.3.5. Data Field (Column 5) contains an abbreviated description of the data field.

AP6.35.3.6. Data Format Type/Length (Column 6) 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. 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.

AP6.35.3.7. Sample Data (Column 7) contains sample data for the field indicated.

AP6.35.3.8. Total Characters (Column 8) reflects length of the data element separator + header/data element identifier + data field.

| Compliance Indicator | Separator / Trailer Characters | Format Header | Category/Description  ANSI MH10.8.2 Format 06 Data Identifier (DI)  or Format 07  Data Element Identifier (DEI) | Data Field  (DoD Usage) | Data Format (Type/Length) | Sample Data (Compliance,  Header, Identifier and  Data) | Total Characters |
| --- | --- | --- | --- | --- | --- | --- | --- |
| [)> |  |  |  | **Message Header Compliance indicator** |  | [)> | 4 |
|  | RS | **06** |  | **Data Identifier Format (ANSI Standard)** |  | 06 | 3 |
|  | GS |  | **12S**  Category 19, Traceability Number for an Entity: Document Number (internally assigned or mutually defined) | Document Number  Includes Suffix Code when applicable | an14..15 | 12SW90GF8829620258 | 19 |
|  | GS |  | **N**  Category 14, Industry Assigned Codes: National/NATO Stock Number (NSN) | **National Stock Number (NSN) or Stock Identification Elements**  May reflect NSN, CAGE Code/part number, FSC, etc., as applicable. May also include associated coding, e.g., Type of Pack, USN Special Material Identification Code (SMIC) or USAF Materiel Management Aggregation Code (MMAC). This data content is analogous to the legacy MILSTRIP stock number field. When using this data field to identify an item byCAGE Code/part number, also use separate identifiers below for CAGE Code and part number. For unique item tracking or in support of DoD policy for the application of IUID in supply processes, use this identifier for the NSN and use separate identifiers listed below to uniquely identify a specific individual item. | an..15 | N5340013145957 | 17 |
|  | GS |  | **7Q**  Category 17, Measurement: Quantity, Amount, or Number of Pieces in the format: Quantity followed by the two character ANSI X12.3 Data Element Number 355 Unit of Measurement Code | **Quantity and Unit of Issue**  Do not include leading zeros  Staffing Note: Original footnote deleted; restricted quantity to 1. | an..5+an2 | 7Q1EA | 10 |
|  | GS |  | **V**  Category 22, Party to the Transaction: Supplier Code assigned by Customer | **Routing Identifier Code – Shipping Activity**  Identifies the RIC of the shipping activity (MILSTRIP legacy transaction rp 4-6). | an3 | SRR | 5 |
|  | GS |  | **7V**  Category 22, Party to the Transaction: Code assigned to a party which has financial liability for an entity or group of entities (e.g., owner of inventory) (mutually defined) | **Routing Identifier Code – ICP/IMM**  Identifies the RIC of the activity originating the MRO/LRO/DRO (MILSTRIP transaction rp 67-69). | an3 | 7VN32 | 6 |
|  | GS |  | **8V**  Category 22, Party to the Transaction: Customer Code assigned by Customer | **Distribution Cognizance Code**  Last two positions of DoD Distribution Code used for DD Form 1348-1A linear bar code data. | an2 | 8V7V | 5 |
|  | GS |  | **2R**  Category 18, Miscellaneous: Return code assigned by the Customer | **Condition Code** | an1 | 2RA | 4 |
|  | GS |  | **12Q**  Category 17, Measurement: Value followed by an ISO 4217 data element code for representing unit of value of currencies and funds (e.g., 12Q2.50USD) (2.50 Monetary Value in USA Dollars) | **Unit Price**  Configured as 9 digits (whole dollars), decimal, and 2 digits (cents) followed by “USD” indicating U.S. dollars. Do not include leading zeros. | n..9.n2+an3 | 12Q50.20USD | 19 |
|  | GS |  | **5Q**  Net Amount | **Repair Value**  For repair/return and repair/replace, include the estimated or actual unit cost. Configured as 9 digits (whole dollars), decimal, and 2 digits (cents). Do not include leading zeros. Do not suffix the value with “USD”. | n..9.n2  Value is in U.S. dollars. | 5Q1500.00 | 15 |
|  | GS |  | **5P**  Category 16, Item Information: Freight Classification Item Number assigned by Carrier for purposes of rating hazardous materials (e.g., Motor Freight, Air, Boat, Rail Classification) | **National Motor Freight Classification Commodity Number** | n6 | 5P999912 | 9 |
|  | GS |  | **25S**  Category 19, Traceability Number for an Entity: Identification of a party to a transaction assigned by a holder of a Company Identification Number (CIN) and including the related Issuing Agency Code (IAC) in accordance with ISO/IEC 15459 and its registry, structured as a sequence of 3 concatenated data elements: IAC, followed by CIN, followed by the supplier assigned serial number that is unique within the CIN holder's domain (See MH10.8.2 Annex C.11) | **Unique Item Identifier (UII).**  The unique identification assigned by the supplier or DoD to an entity for its lifetime | an..50  Decreased to 50 to match UII registry | 25SD12345123TS001100223 | 54 |
|  | GS |  | **S**  Category 19, Traceability Number for an Entity: Serial number or code assigned by the Supplier to an entity for its lifetime, (e.g., computer serial number, traceability number, contract tool identification) | **Serial Number**  The item’s serial number used for tracking under a UIT program or in support of DoD policy for the application of IUID in supply processes. | an..30 | S123TS001100223 | 32 |
|  | GS |  | **1T**  Category 20, Traceability Number for Groups of Entities: Traceability Number assigned by the Supplier to identify/trace a unique group of entities (e.g., lot , batch , heat) | **Batch/Lot Number**  Assigned by the supplier (or DoD) to identify/trace a unique group of entities, (e.g. lot, batch, or production run). | an..25 | ITMGU12345 | 28 |
|  | GS |  | **17V**  Category 22, Party to the Transaction: U.S. DoD CAGE Code | **Manufacturer ID Commercial and Government Entity Code (CAGE**)  The manufacturer’s CAGE for the identified item. [Optional alternative manufacturer identification may be used by Component agreement only.  If Dun & Bradstreet Data Universal Numbering System (DUNS) number, use identifier 12V.  If GS1 Company Prefix code, use identifier 3V.] | an5  [n9]  [an7..10] | 17V1AAA9  [12V123456789]  [3V0614141] | 14 |
|  | GS |  | **1P**  Category 16, Item Information: Item Identification Code assigned by Customer | **Part Number**  The part number currently used to identify this item. Use to supplement item identification when the item is otherwise identified (e.g., by NSN or local stock number) and when the  combined CAGE code/part number is cited. | an..32 | 1P9988771212SP | 35 |
|  | GS |  | **4R**  Category 18, Miscellaneous: U.S. Department of Defense Identification Code (DoDIC) | **U.S. Department of Defense Identification Code (DoDIC)**  The DoDIC currently used to identify this item. | an4 | 4RA576 | 7 |
|  | GS |  | 11V  Category 22, Party to the transaction: Ownership Code | **Ownership Code**  The ownership code of the military Service or other activity having title to the assets | an1 | 11V5 | 5 |
|  | GS |  | 7D  Category 4, Date | **Serviceable Condition Expiration Date for Ammunition and Explosive (A&E)**  Also known as Maintenance/Expiration/Next Inspection Due (M/E/N) Date. (MMYY). | n4 | 7D0217 | 7 |
|  | RS | **07** |  | Format Indicator (ANSI Free Text) | n2 | 07 | 3 |
|  | GS |  | **03** | **Project Code** | an3 | 03ZCN | 6 |
|  | GS |  | **B6** | **DoD Distribution Code**  Three-position field must reflect blanks as applicable. Blanks may be located in any position. | an3 | B6\_7V | 6 |
|  | GS |  | **27** | **Consignee DoDAAC**  Reflects ship-to DoDAAC (Block 3) | an6 | 27WK4FV9 | 9 |
|  | GS |  | **37Y** | **Ammunition Defect code[[1]](#footnote-1)** | An6 | 37YNBNZ55 | 10 |
|  | GS |  | **38** | **Nomenclature** | an..20 | 38LOOP, STRAP | 23 |
|  | GS |  | **32** | **Required Delivery Date (RDD)**  May reflect RDD in DDD format or special codes, e.g., expedited shipment and handling (Code 999), Not Mission Capable Supply (NMCS) (Code N\_\_), etc. | an..3 | 32999 | 6 |
|  | GS |  | **B7** | **Requisition Priority Designator (PD)** | n2 | B703 | 5 |
|  | GS |  | **B8** | **Partial Shipment Indicator** | a1 | B8P | 4 |
|  | GS |  | **81** | **Supplementary Address**  Derived from rp 45-50 of the requisition | an6 | 81WK4FV9 | 9 |
|  | GS |  | **H**  Category 8, Name of Party: DI (H) is followed by the (Mark-for DoDAAC) followed by a (+) character followed by the EDIFACT Code List 3035 code value (UC) | **Mark-for Party DoDAAC**  Reflects DoDAAC in MARK FOR (Block 4)  The Mark-for DoDAAC may be used alone or in combination with a text element. In either case, the DoDAAC is separately encoded. Only one Mark-for DoDAAC may be used. | an6+UC  The (+UC) is encoded data | HW90GF8+UC | 10 |
|  | GS |  | **H**  Category 8, Name of Party: DI (H) is followed by the (Mark-for RIC) followed by a (+) character followed by the EDIFACT Code List 3035 code value (UD) | **Mark-for Party RIC**  Reflects RIC in MARK FOR (Block 4)  The Mark-for RIC may be used alone or in combination with a text element. In either case, the RIC is separately encoded. Only one Mark-for RIC may be used. | an3+UD  The (+UD) is encoded data | HAER+UD | 7 |
|  | GS |  | **H**  Category 8, Name of Party: DI (H) is followed by the (Mark-for text) followed by a (+) character followed by the EDIFACT Code List 3035 code value (HK) | **Mark-for Party Text**  Reflects text other than DoDAAC or RIC in MARK FOR (Block 4)  The Mark-for text may be used alone or in combination with a DoDAAC or RIC element. In either case, the text is separately encoded without the DoDAAC or RIC. All 24 Mark-for text positions are available if a mark-for DoDAAC or a Mark-for RIC is not encoded. If a Mark-for DoDAAC is encoded separately, 17 positions are available for the clear text. If a Mark-for RIC is encoded separately, 20 positions are available for the clear text. When the Mark-for text is printed in combination with a DoDAAC or RIC, do not encode the printed slash (/). | an1..24+HK  The (+HK) is encoded data | HJohn Doe+HK | 28 |
|  | RS EOT |  |  |  |  |  | 2 |

AP6.35.4 Encoding the Separator/Trailer Characters. The following table shows the encoded values that can be used for the non-printing ASCII control characters used as Element Separators.

Table of Hexadecimal and Decimal Values

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

AP6.35.5. PDF417 2D Bar Code Data Syntax

AP6.35.5.1. Common data for the IRRD item will be encoded in the ISO/IEC 15434 Format 06 and Format 07 syntax envelopes, as applicable.

AP6.35.5.2. For an IRRD quantity of one item, the Format 06 envelope may also be used to associate the format applicable item-specific data (e.g. serial number, UII, batch/lot, etc.) for the uniquely identified item. A single data qualifier or paired data qualifiers (e.g., UII (DI 25S), serial number (DI S), batch/lot (DI 1T)) may be used with the Format 06 envelope to identify and associate the serialized data for an item. The UII and serial number (used for tracking under a UIT program or in support of DoD supply policy for the application of IUID) will be encoded to based upon IUID Indicator Y when they are when machine readable and readily available, or when retrievable from the system generating the form. However, at a minimum, the serial number is required for a NSNs falling under a UIT program.

AP6.35.5.3. For IRDD quantities of two or more items, use the DD Form 1348-1A Continuation Page (see AP6.36).

Sample PDF417 2D bar code data stream:

[)>RS06GS12SW90GF8829620258GSN5340013145957GS7Q1EAGSVS9IGS7VN32GS2RAGS12Q050.20USDGS5P999912GS25SUN077991289674B36ABGSS123TS001100223GS1TMGU12345 GS17V1AAA9 GS1P9988771212SPRS07  
GS03ZCNGSB6 7VGS27WK4FV9GS38LOOP, STRAPGS32999GSB702GSB8PGS81WK4FV9RSEOT

Sample PDF417 2D Bar Code

1. This row added as an administrative update; although this row is shown in ADC 1252 it was inadvertently not added in formal change 10 [↑](#footnote-ref-1)