

Guide to the ANSI X12 EDI Transaction Structure

Part 1: Transaction Set Tables

The American National Standards Institute (ANSI), Accredited Standards Committee (ASC) X12 transaction sets (TS) are comprised of one, two, or three tables: Table 1 - Heading, Table 2 - Detail, and Table 3 - Summary. Each table contains individual segments or segments grouped into loops. Segments are the same for each version and release of the ASC X12 standard. Loops are unique to each transaction set but some loops have the same construct in various TS.

The following is a representation of the three tables of the 850 transaction set. The numbers in parentheses identify various elements of the transaction set. Following the representation of the 850 TS tables is an explanation of the various elements of the tables identified by a number within ().

(1)

(2)

850 Purchase Order

(3)

Functional Group ID=**PO**

(4)

Introduction:

This Draft Standard for Trial Use contains the format and establishes the data contents of the Purchase Order Transaction Set (850) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to provide for customary and established business and industry practice relative to the placement of purchase orders for goods and services. This transaction set should not be used to convey purchase order changes or purchase order acknowledgment information.

(5)

Notes:

1. The term "award instrument" used in this convention includes, but is not limited to, the following terms: Agreement, Blanket Purchase Agreement, Contract, Basic Agreement, Basic Ordering Agreement, Grant, Indefinite Delivery Indefinite Quantity, Purchase Order, Indefinite Delivery Definite Quantity, Requirements, Letter Contract, Task Order, Lease, Release, Call, and Delivery Order.

2. This transaction set is used to issue an original award instrument. If buyer initiated changes need to be made to a procurement instrument, use the Purchase Order Change Request - Buyer Initiated, 860 transaction set. Seller requested changes are initiated using the Purchasing Order Change Acknowledgment/Request - Seller Initiated, 865 transaction set.

3. This transaction set makes use of code lists contained in the Federal EDI Coding Manual which can be found at <http://www.fedebiz.gov>, under Resources, Related Documents.

(6)

Heading:

(7)

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(12)

(13)

(14)

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
9	010	ST	Transaction Set Header	M	1		
9	020	BEG	Beginning Segment for Purchase Order	M	1		
Not Used	040	CUR	Currency	O	1		
12	050	REF	Reference Identification	O	>1		
Not Used	060	PER	Administrative Communications Contact	O	3		
Not Used	070	TAX	Tax Reference	O	>1		
Not Used	080	FOB	F.O.B. Related Instructions	O	>1		
Not Used	090	CTP	Pricing Information	O	>1		
Not Used	095	PAM	Period Amount	O	10		
Not Used	110	CSH	Sales Requirements	O	5		
Not Used	115	TC2	Commodity	O	>1		
LOOP ID - SAC						25	
Not Used	120	SAC	Service, Promotion, Allowance, or Charge Information	O	1		
Not Used	125	CUR	Currency	O	1		
14	130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1		
Not Used	140	DIS	Discount Detail	O	20		
Not Used	145	INC	Installment Information	O	1		
16	150	DTM	Date/Time Reference	O	10		
18	160	LDT	Lead Time	O	12		
Not Used	180	LIN	Item Identification	O	5		N1
Not Used	185	SI	Service Characteristic Identification	O	>1		
19	190	PID	Product/Item Description	O	200		
21	200	MEA	Measurements	O	40		
26	210	PWK	Paperwork	O	25		
Not Used	220	PKG	Marking, Packaging, Loading	O	200		
Not Used	230	TD1	Carrier Details (Quantity and Weight)	O	2		
Not Used	240	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12		
Not Used	250	TD3	Carrier Details (Equipment)	O	12		
Not Used	260	TD4	Carrier Details (Special Handling or Hazardous Materials or Both)	O	5		
Not Used	270	MAN	Marks and Numbers	O	10		
30	276	PCT	Percent Amounts	O	>1		
Not Used	280	CTB	Restrictions/Conditions	O	5		
Not Used	285	TXI	Tax Information	O	>1		
LOOP ID - AMT (15)						>1	
31	287	AMT	Monetary Amount	O	1		
34	289	REF	Reference Identification	O	>1		
Not Used	290	DTM	Date/Time Reference	O	1		
Not Used	292	PCT	Percent Amounts	O	>1		
LOOP ID - FA1 (16)						>1	
36	293	FA1	Type of Financial Accounting Data	O	1		
37	294	FA2	Accounting Data	M	>1		
LOOP ID - N9						1000	
40	295	N9	Reference Identification	O	1		
45	297	DTM	Date/Time Reference	O	>1		
46	300	MSG	Message Text	O	1000		
LOOP ID - N1						200	

48	310	N1	Name	O	1
51	320	N2	Additional Name Information	O	2
52	330	N3	Address Information	O	2
53	340	N4	Geographic Location	O	>1
Not Used	345	NX2	Location ID Component	O	>1
54	350	REF	Reference Identification	O	12
56	360	PER	Administrative Communications Contact	O	>1
Not Used	365	SI	Service Characteristic Identification	O	>1
Not Used	370	FOB	F.O.B. Related Instructions	O	1
Not Used	380	TD1	Carrier Details (Quantity and Weight)	O	2
Not Used	390	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12
Not Used	400	TD3	Carrier Details (Equipment)	O	12
Not Used	410	TD4	Carrier Details (Special Handling or Hazardous Materials or Both)	O	5
Not Used	420	PKG	Marking, Packaging, Loading	O	200
LOOP ID - LM					>1
59	430	LM	Code Source Information	O	1
60	440	LQ	Industry Code	M	>1
LOOP ID - SPI					>1
Not Used	450	SPI	Specification Identifier	O	1
Not Used	460	REF	Reference Identification	O	5
Not Used	470	DTM	Date/Time Reference	O	5
Not Used	480	MSG	Message Text	O	50
LOOP ID - N1					20
Not Used	490	N1	Name	O	1
Not Used	500	N2	Additional Name Information	O	2
Not Used	510	N3	Address Information	O	2
Not Used	520	N4	Geographic Location	O	1
Not Used	530	REF	Reference Identification	O	20
Not Used	540	G61	Contact	O	1
Not Used	550	MSG	Message Text	O	50
LOOP ID - CB1					>1
Not Used	560	CB1	Contract and Cost Accounting Standards Data	O	1
Not Used	570	REF	Reference Identification	O	20
Not Used	580	DTM	Date/Time Reference	O	5
Not Used	590	LDT	Lead Time	O	1
Not Used	600	MSG	Message Text	O	50
LOOP ID - ADV					>1
Not Used	610	ADV	Advertising Demographic Information	O	1
Not Used	620	DTM	Date/Time Reference	O	>1
Not Used	630	MTX	Text	O	>1

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Detail:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
						100000	
62	010	PO1	Baseline Item Data	M	1		N2
	015	LIN	Item Identification	O	>1		
Not Used	018	SI	Service Characteristic Identification	O	>1		
	020	CUR	Currency	O	1		
	025	CN1	Contract Information	O	1		
	030	PO3	Additional Item Detail	O	25		
						>1	
	040	CTP	Pricing Information	O	1		
Not Used	043	CUR	Currency	O	1		
Not Used	045	PAM	Period Amount	O	10		
	049	MEA	Measurements	O	40		
						1000	
	050	PID	Product/Item Description	O	1		
Not Used	060	MEA	Measurements	O	10		
	070	PWK	Paperwork	O	25		
	090	PO4	Item Physical Details	O	>1		
	100	REF	Reference Identification	O	>1		
	110	PER	Administrative Communications Contact	O	3		
						25	
	130	SAC	Service, Promotion, Allowance, or Charge Information	O	1		
Not Used	135	CUR	Currency	O	1		
Not Used	137	CTP	Pricing Information	O	1		
Not Used	140	IT8	Conditions of Sale	O	1		
Not Used	142	CSH	Sales Requirements	O	>1		
Not Used	150	ITD	Terms of Sale/Deferred Terms of Sale	O	2		
Not Used	160	DIS	Discount Detail	O	20		
	165	INC	Installment Information	O	1		
Not Used	170	TAX	Tax Reference	O	>1		
	180	FOB	F.O.B. Related Instructions	O	>1		
Not Used	190	SDQ	Destination Quantity	O	500		
Not Used	200	IT3	Additional Item Data	O	5		
	210	DTM	Date/Time Reference	O	10		
Not Used	235	TC2	Commodity	O	>1		
Not Used	240	TD1	Carrier Details (Quantity and Weight)	O	1		
Not Used	250	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12		
Not Used	260	TD3	Carrier Details (Equipment)	O	12		
	270	TD4	Carrier Details (Special Handling or Hazardous Materials or Both)	O	5		
	276	PCT	Percent Amounts	O	>1		
	280	MAN	Marks and Numbers	O	10		
Not Used	289	MSG	Message Text	O	>1		
Not Used	290	SPI	Specification Identifier	O	>1		
	291	TXI	Tax Information	O	>1		
Not Used	292	CTB	Restrictions/Conditions	O	>1		
						>1	
Not Used	293	QTY	Quantity	O	1		
Not Used	294	SI	Service Characteristic Identification	O	>1		
						200	

Not Used	295	SCH	Line Item Schedule	O	1	N3
Not Used	296	TD1	Carrier Details (Quantity and Weight)	O	2	
Not Used	297	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12	
Not Used	298	TD3	Carrier Details (Equipment)	O	12	
Not Used	299	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5	
Not Used	300	REF	Reference Identification	O	>1	
LOOP ID - PKG						200
	305	PKG	Marking, Packaging, Loading	O	1	
Not Used	310	MEA	Measurements	O	>1	
	320	LS	Loop Header (18)	O	1	
LOOP ID - LDT						>1
	321	LDT	Lead Time	O	1	
	322	QTY	Quantity	O	>1	
	323	MSG	Message Text	O	1	
	324	REF	Reference Identification	O	3	
LOOP ID - LM						>1
	325	LM	Code Source Information	O	1	
	326	LQ	Industry Code	M	>1	
	327	LE	Loop Trailer (19)	O	1	
LOOP ID - N9						1000
	330	N9	Reference Identification	O	1	
Not Used	332	DTM	Date/Time Reference	O	>1	
Not Used	335	MEA	Measurements	O	40	
	340	MSG	Message Text	O	1000	
LOOP ID - N1						200
	350	N1	Name	O	1	
	360	N2	Additional Name Information	O	2	
	370	N3	Address Information	O	2	
	380	N4	Geographic Location	O	1	
	383	QTY	Quantity	O	>1	
Not Used	385	NX2	Location ID Component	O	>1	
	390	REF	Reference Identification	O	12	
	400	PER	Administrative Communications Contact	O	3	
Not Used	405	SI	Service Characteristic Identification	O	>1	
Not Used	406	DTM	Date/Time Reference	O	1	
Not Used	410	FOB	F.O.B. Related Instructions	O	1	
	415	SCH	Line Item Schedule	O	200	
Not Used	420	TD1	Carrier Details (Quantity and Weight)	O	2	
	430	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12	
Not Used	440	TD3	Carrier Details (Equipment)	O	12	
	450	TD4	Carrier Details (Special Handling or Hazardous Materials or Both)	O	5	
	460	PKG	Marking, Packaging, Loading	O	200	
LOOP ID - LDT						>1
	462	LDT	Lead Time	O	1	
	464	MAN	Marks and Numbers	O	10	
	466	QTY	Quantity	O	5	
	468	MSG	Message Text	O	1	
	469	REF	Reference Identification	O	3	
LOOP ID - SLN						1000
Not Used	470	SLN	Subline Item Detail	O	1	

Not Used	475	MSG	Message Text	O	>1
Not Used	480	SI	Service Characteristic Identification	O	>1
Not Used	490	PID	Product/Item Description	O	1000
Not Used	500	PO3	Additional Item Detail	O	104
Not Used	505	TC2	Commodity	O	>1
Not Used	513	ADV	Advertising Demographic Information	O	>1
Not Used	515	DTM	Date/Time Reference	O	10
Not Used	516	CTP	Pricing Information	O	25
Not Used	517	PAM	Period Amount	O	10
Not Used	518	PO4	Item Physical Details	O	1
Not Used	519	TAX	Tax Reference	O	3
LOOP ID - N9					>1
Not Used	523	N9	Reference Identification	O	1
Not Used	524	DTM	Date/Time Reference	O	>1
Not Used	525	MSG	Message Text	O	>1
LOOP ID - SAC					25
Not Used	526	SAC	Service, Promotion, Allowance, or Charge Information	O	1
Not Used	527	CUR	Currency	O	1
Not Used	528	CTP	Pricing Information	O	1
LOOP ID - QTY					>1
Not Used	529	QTY	Quantity	O	1
Not Used	530	SI	Service Characteristic Identification	O	>1
LOOP ID - N1					10
Not Used	535	N1	Name	O	1
Not Used	540	N2	Additional Name Information	O	2
Not Used	550	N3	Address Information	O	2
Not Used	560	N4	Geographic Location	O	1
Not Used	570	NX2	Location ID Component	O	>1
Not Used	580	REF	Reference Identification	O	12
Not Used	590	PER	Administrative Communications Contact	O	3
Not Used	595	SI	Service Characteristic Identification	O	>1
LOOP ID - AMT					>1
	600	AMT	Monetary Amount	O	1
	610	REF	Reference Identification	O	1
	612	PCT	Percent Amounts	O	>1
LOOP ID - LM					>1
	620	LM	Code Source Information	O	1
	630	LQ	Industry Code	M	>1

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Summary:

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
LOOP ID - CTT							1
	010	CTT	Transaction Totals	O	1		N4
	020	AMT	Monetary Amount	O	1		n5
	030	SE	Transaction Set Trailer	M	1		

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Transaction Set Notes

1. If segment LIN is used, do not use LIN01.
2. PO102 is required.
3. The SCH segment is used to specify various quantities of items ordered that are to be scheduled. When this segment is used the unit of measurement code (SCH02) should always be identical to the unit of measurement code in the associated PO1 segment (PO103) and the sum of values of quantity (SCH01) should always equal the quantity ordered (PO102) in the PO1 segment.
4. The number of line items (CTT01) is the accumulation of the number of PO1 segments. If used, hash total (CTT02) is the sum of the value of quantities ordered (PO102) for each PO1 segment.
5. If AMT is used in the summary area, then AMT01 will = TT and AMT02 will indicate total transaction amount as calculated by the sender.

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Transaction Set Table Explanations

Note number	Name	Explanation
1	Transaction Set Identifier	The three position numeric identifier for an ANSI ASC X12 transaction set.
2	Transaction Set Title	The title of an X12 transaction set as per the ASC X12 standards.
3	Functional Group Identifier	The X12 group identifier for a specific business function. Used to group transaction sets within an EDI interchange.
4	Introduction	The purpose and scope for which the transaction set may be used as per the ASC X12 standards.
5	Transaction Set Implementation Notes	Notes written by the developer of the IC to define the intended use of the transaction set between the trading partners.
6	Transaction Set Area (Heading Section)	The beginning of the Heading Section (Table 1). For the 850, this section contains document versus line item information.
7	Page Number	This column contains usage indicators. A segment used within the IC contains a page number in this column. The page number refers to the segment information page. If the segment is not used, "Not Used" will appear in this column. Not Used segments will not appear in the IC and trading partners should not send the segment.
8	Position Number	This column identifies the sequential position of the segment within a table of the TS
9	Segment Identifier	The two or three position X12 alpha/numeric identifier for the segment.
10	Name	The name of the segment as per the ASC X12 standards
11	Requirement designator	A designator of the segment use within the transaction set.. e.g. 'M', Mandatory, (must always appear in the transmission); 'O', Optional, (may appear in the transmission).
12	Maximum Use	The maximum number of times the segment may be used in the transaction set at that position. The maximum use can be either a specific number of times or an unlimited number of times, designated by ">1".
13	Loop Repeat	The maximum number of times the loop may be used in the transaction set at that location. The number of times individual segments may be used within the loop is determined by the segment's maximum use designator
14	Notes and Comments	An indicator of TS notes that apply to the segment. The notes appear at the end of the TS tables and correspond to the note number in this column.

Note number	Name	Explanation
15	Loop Identifier (Unbounded Loop)	Loops are groups of two or more segments and have a unique one to four character alpha or numeric identifier. All data transmitted within a loop is applicable to the data in the first segment of the loop. The usage of the loop (mandatory or optional) is determined by the requirement designator of the first segment in the loop, e.g., a 'M' designator for the first segment indicates the loop is mandatory a minimum of one time within the TS. For optional loops, the first segment is required in each occurrence of the loop. Lines drawn around segments defined a loop.
16	Nested loop	A loop within another loop. The data transmitted within a nested loop applies to the data in the loop in which it is nested.
17	Transaction Set Area (Detail Section)	The beginning of the Detail Section (Table 2). For the 850, this section contains line item information.
18	Bounded Loop Start	The LS segment distinguishes the start of one loop from another loop whose beginning segment identifier is the same as a segment within the bounded loop.
19	Bounded Loop End	The LE segment distinguishes the end of one loop from the beginning of another loop whose beginning segment identifier is the same as a segment within the bounded loop.
20	Transaction Set Area (Summary Section)	The beginning of the Summary Section (Table 3). For the 850, this section contains summary information, e.g., award instrument totals.
21	Transaction Set Notes	Notes that apply to specific segments within the transaction set.
22	File Identifier	An identification number assigned to an approved IC used by the translation point to load the map that applies to the IC. Positions 1-6 identify the ASC X12 version and release of the standard. Position 7 identifies a federal (F) or Department of Defense (D) IC. Positions 8-10 identify the ASC X12 transaction set. Position 11 identifies a variant IC of the transaction set (a 'T' identifies an 850 IC for telecommunications). Position 12 identifies the revision of the IC, e.g., a '0' is the initial IC, a '1' is the first revision.
23	Date	The approval date of the Implementation Convention.

Part 2: Transaction Set Segments

Segments are comprised of one or more data elements. Data elements are either composite or simple. Composite data elements contain two or more simple data elements. Each data element has two attributes that are part of the ASC X12 standard and one that is unique to its use in the segment.

(1)	Segment:	N1 Name (2)
(3)	Position:	310
(4)	Loop:	N1 Optional (Must Use) (5)
(6)	Level:	Heading
(7)	Usage:	Optional (Must Use)
(8)	Max Use:	1
(9)	Purpose:	To identify a party by type of organization, name, and code
(10)	Syntax Notes:	<ol style="list-style-type: none"> 1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
(11)	Semantic Notes:	
(12)	Comments:	<ol style="list-style-type: none"> 1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.
(13)	Notes:	<i>At least 2 iterations of this segment are REQUIRED using codes BY and SE.</i>

Data Element Summary

(14)	(15)	(16)	(17)	(18)
	Ref. Des.	Data Element	Name	Attributes
M (19)	N101	98	Entity Identifier Code Code identifying an organizational entity, a physical location, property or an individual DOD Special Instruction: DOD uses only the following codes. BY Buying Party (Purchaser) PR Payer <i>Use to indicate the paying office.</i>	M ID 2/3
Not Rec	N102	93	Name Free-form name	X AN 1/60
Rec	N103	66	Identification Code Qualifier Code designating the system/method of code structure used for Identification Code (67) 33 Commercial and Government Entity (CAGE)	X ID 1/2
Rec	N104	67	Identification Code Code identifying a party or other code	X AN 2/80
Not Used	N105	706	Entity Relationship Code Code describing entity relationship	O ID 2/2

Transaction Set Segment Explanations

Note number	Name	Explanation
1	Segment Identifier	The three position numeric identifier for an ANSI ASC X12 transaction set.
2	Segment Name	The name of the segment as per the ASC X12 standards
3	Segment Position	The sequential position of the segment within a table of the transaction set.
4	Loop	The loop in which the segment is within. If the segment is free-standing, this is blank.
5	Loop Usage Indicator	An indicator of whether the use of the loop is mandatory or optional. The (Must Use) in parenthesis indicates that the loop, although optional, is required per the IC. The loop usage indicator is the same as the first segment in the loop.
6	Transaction Set Level	An indicator of the section (Table) in which the segment is located. Heading = Table 1, Detail = Table 2, Summary = Table 3
7	Segment Usage Indicator	An indicator of whether the use of the segment is mandatory or optional. The (Must Use) in parenthesis indicates that the segment, although optional, is required per the IC.
8	Maximum Use	The maximum number of times the segment may be used in the transaction set at that position. The maximum use can be either a specific number of times or an unlimited number of times, designated by ">1".
9	Segment Purpose	A brief explanation of the intended use of the segment.
10	Segment Syntax Notes	The X12 rules that apply to the data elements contained in the segment. Compliance with these rules is mandatory in order for the transaction set to pass the syntax editor in the EDI translator.
11	Segment Semantic Notes	Information pertaining to the meaning of the data content of a data element as used in the segment. Compliance with the semantic notes is mandatory in order for receiving applications to understand the data unless the IC contains additional direction.
12	Segment Comments	Information related to the optional use of a data element contained in the segment.
13	Segment Notes	Notes written by the developer of the Implementation Convention to specify the intended use of the segment between the trading partners.
14	Data Element Requirement designator	A designation of the data element use within the segment per the IC, e.g., 'M', Mandatory, (must always appear in the transmission); 'Rec', Recommended, (optional but use is recommended), 'Not Rec', Not Recommended, (optional but use is not recommended), 'Not Used', an indicator the data element is not used in the segment.
15	Reference Designator	The positional designation of the data element within the segment.
16	Data Element	The 1 - 4 position ASC X12 numeric identifier of the data element.
17	Name	The ASC X12 name of the data element.

Note number	Name	Explanation
18	Attributes	<p>The X12 condition indicator (usage) of the data element within the segment, the type of data element, and the minimum/maximum characters the data element can contain.</p> <p><u>Condition Indicators:</u> M = Mandatory O = Optional X = Relational (See the segment syntax).</p> <p><u>Data Element Type:</u> Nn = Numeric (n indicates implied decimal positions) R = Decimal Number (explicit decimal point) ID = Identifier (contains a codified value, X12 or other) AN = String (alpha/numeric) DT = Date (CCYYMMDD format) B = Binary</p>
19	Data Element Description	Brief description of the ASC X12 intended use of the data element.
20	DOD Special Instruction	An instruction applicable to DOD's use of the approved IC.
21	CodeValue	Authorized ASC X12 data dictionary codes that may be used in the data element.
22	Code Value IC Note	An IC note that provides specific information about the use of the code.