Introduction to this Guide

The purpose of this EDI Implementation Guide is to provide, in a standardized format, information relating to 3M's Electronic Data Interchange (EDI) policies and direction.

The guidelines which comprise this guide are based on the uniform standards for electronic interchange of business transactions as developed by the Accredited Standards Committee (ASC) X12 of the American National Standards Institute (ANSI) and published by the Data Interchange Standards Association (DISA).

3M also has the capability to implement business transactions based on the United Nations rules for Electronic Data Interchange for Administration, Commerce, and Transport (UN/EDIFACT) published in the United States and Canada by DISA.

For more information on business transactions based on the UN/EDIFACT standards, please contact your 3M divisional representative or the 3M Electronic Commerce Service Center at (651) 736-3842. You could also send us an electronic mail message at: http://www.3m.com/US/about3M/ec/contact.html.

The EDI Guidelines section of this site is composed of:

- The EDI Overview chapter providing general information applicable to all EDI transactions implemented with 3M.

- Guidelines for specific transaction sets. When used in conjunction with the EDI Overview chapter, each guideline includes the information necessary to work with your 3M EDI contact to implement that transaction set.

Control Segments

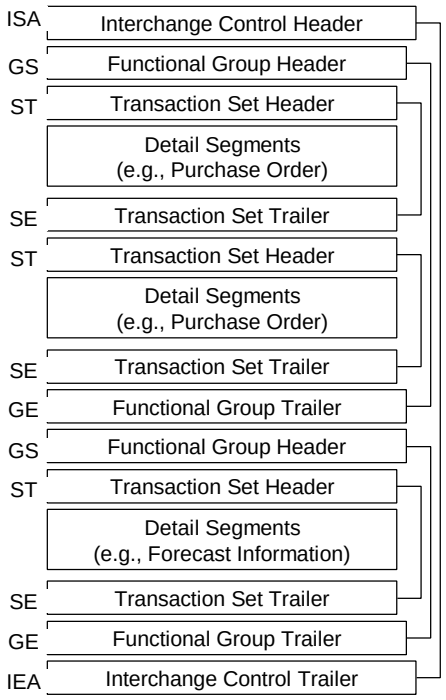
To allow transaction sets of different types to be transmitted from one party to another in the same transmission, a hierarchical structure of header and trailer segments segregates the data logically for easy interpretation by the receiver.

Transaction sets begin with a ST segment and end with a SE segment. A Transaction Set Identifier Code is assigned in the ASC X12 standard to each transaction set. This code always appears as the first element of the ST segment.

Similarly, a Functional Identifier Code is assigned in the ASC X12 standard to each transaction set. Transaction sets with the same Functional Identifier Code may be grouped together by beginning such a group with a GS segment and ending the group with a GE segment. The Functional Identifier Code always appears as the first data element of the functional group header segment (GS).

One or more functional groups are bound together for transmission within an interchange "envelope" by beginning the envelope with an ISA segment and ending with an IEA segment.

The structures of the transaction set and functional group headers and trailers are defined in the Segment Directory of the ASC X12 Standards manual. The structures of the interchange control header and trailer are defined in the Interchange Control Structure standard (dpANS X12.5 - 1989).



The schematic above illustrates a typical format for electronically transmitting a series of diverse business transactions. Although the standard allows the combining of any functional groups within an interchange, common practice is to group together only functional groups with the same Functional Identifier Code and sender/receiver codes. The following sections document 3M's practice regarding interchange and functional group control.

Interchange Control

An important function of the interchange control envelope is to identify the sender and receiver (normally at the company level) for delivery purposes. To ensure uniqueness, 3M recommends using a corporate 9-digit DUNS number to identify the companies sending and receiving business transactions.

The ISA/EA envelope also provides key control information such as a control number and a date/time stamp. 3M recommends a unique incremented control number assigned by the sender based on the sender/receiver combination.

The ISA specifies both the segment terminator and the data element and sub-element separators. The segment terminator must be different than the separators and none may appear as values in any subsequent data element.

On the following page is a description and technical layout of the ISA/IEA envelope. The ASC X12 version of this guideline is 004010.

Segment: **ISA** **Interchange Control Header**
Position: 027
Loop:
Level: Heading
Usage: Optional
Max Use: 1
Purpose: To start and identify an interchange of zero or more functional groups and interchange-related control segments
Syntax Notes:
Semantic Notes:
Comments:
Notes: 3M Comments: This header segment is the only ASC X12 segment which is fixed length - 106 characters.
The element separator defined in the fourth character of this segment is used to separate all elements for all segments within this interchange. 3M recommends and generally uses a printable character other than the asterisk because the asterisk is commonly used in descriptions, special instructions, etc.
The segment terminator defined in the 106th character of this segment is used to indicate the end of each segment within this interchange. The segment terminator must be different than the data element separator.

3M Example(s): ISA*00*3M COMPANY*01*006173082bbbbbb *01*987654321bbbbbb*001014*1210*U*00200*000000432*0*P*[^ (b=blank character)

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**ISA01**	**I01**	**Authorization Information Qualifier** Code to identify the type of information in the Authorization Information 00 No Authorization Information Present (No Meaningful Information in I02) Although not used as authorization, 3M sends company name in ISA02 as an aid to problem resolution.	**M ID 2/2**
Required	**ISA02**	**I02**	**Authorization Information** Information used for additional identification or authorization of the interchange sender or the data in the interchange; the type of information is set by the Authorization Information Qualifier (I01)	**M AN 10/10**
Required	**ISA03**	**I03**	**Security Information Qualifier** Code to identify the type of information in the Security Information 00 No Security Information Present (No Meaningful Information in I04) Although not used as security information, 3M sends company name is ISA04 as an aid to problem resolution.	**M ID 2/2**
Required	**ISA04**	**I04**	**Security Information**	**M AN 10/10**

This is used for identifying the security information about the interchange sender or the data in the interchange; the type of information is set by the Security Information Qualifier (I03)

Required **ISA05** **I05** **Interchange ID Qualifier** **M** **ID 2/2**

Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified

01	Duns (Dun & Bradstreet)
	3M uses 01.
02	SCAC (Standard Carrier Alpha Code)
08	UCC EDI Communications ID (Comm ID)
14	Duns Plus Suffix

Required **ISA06** **I06** **Interchange Sender ID** **M** **AN 15/15**

Identification code published by the sender for other parties to use as the receiver ID to route data to them; the sender always codes this value in the sender ID element

Required **ISA07** **I05** **Interchange ID Qualifier** **M** **ID 2/2**

Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified

01	Duns (Dun & Bradstreet)
	3M uses 01.
02	SCAC (Standard Carrier Alpha Code)
08	UCC EDI Communications ID (Comm ID)
14	Duns Plus Suffix

Required **ISA08** **I07** **Interchange Receiver ID** **M** **AN 15/15**

Identification code published by the receiver of the data; When sending, it is used by the sender as their sending ID, thus other parties sending to them will use this as a receiving ID to route data to them

Required **ISA09** **I08** **Interchange Date** **M** **DT 6/6**

Date of the interchange

Required **ISA10** **I09** **Interchange Time** **M** **TM 4/4**

Time of the interchange

Required **ISA11** **I10** **Interchange Control Standards Identifier** **M** **ID 1/1**

Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer

U	U.S. EDI Community of ASC X12, TDCC, and UCS

Required **ISA12** **I11** **Interchange Control Version Number** **M** **ID 5/5**

This version number covers the interchange control segments

00401	Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997

Required **ISA13** **I12** **Interchange Control Number** **M** **N0 9/9**

A control number assigned by the interchange sender

Sender-assigned sequential number to match control number on the IEA segment.

Required ISA14 I13 Acknowledgment Requested M ID 1/1

Code sent by the sender to request an interchange acknowledgment (TA1)

0 No Acknowledgment Requested

3M will not send or receive interchange acknowledgments (TA1 segments). Instead, 3M follows industry practice in the use of the Functional Acknowledgment (997).

Required ISA15 I14 Usage Indicator M ID 1/1

Code to indicate whether data enclosed by this interchange envelope is test, production or information

P Production Data

T Test Data

Required ISA16 I15 Component Element Separator M AN 1/1

Type is not applicable; the component element separator is a delimiter and not a data element; this field provides the delimiter used to separate component data elements within a composite data structure; this value must be different than the data element separator and the segment terminator

Although not currently used, the subelement separator is required. Choose a character that is different than the segment terminator and element separator, and is not used elsewhere in the data.

Segment: **IEA** **Interchange Control Trailer**
Position: 025
Loop:
Level: Heading
Usage: Optional
Max Use: 1
Purpose: To define the end of an interchange of zero or more functional groups and interchange-related control segments
Syntax Notes:
Semantic Notes:
Comments:
Notes: 3M Example(s): IEA*1*000000432^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**IEA01**	**I16**	**Number of Included Functional Groups** A count of the number of functional groups included in an interchange	**M N0 1/5**
Required	**IEA02**	**I12**	**Interchange Control Number** A control number assigned by the interchange sender This must match the control number on the ISA segment for this interchange.	**M N0 9/9**

Functional Group Control

The functional group header/trailer (GS/GE) allows similar transaction sets to be grouped together. Each GS/GE contains its own control number for audit and error recovery purposes. 3M recommends that this control number be unique and incremented based on sender/receiver/functional group combination.

Another important function of the GS header is to group together transaction sets destined for the same physical location and/or computer system. 3M recommends that, if needed, the GS02/GS03 sender/receiver codes be used to uniquely identify the final location, system or application sending and receiving the functional group. In this case, 3M recommends using a 9-digit DUNS number, plus an optional suffix of alphanumeric characters to identify a more detailed location within the organization identified in the ISA. If no further identification is needed, 3M recommends using the same sender/receiver codes sent in the ISA.

Although the standard allows the combining of any functional groups within an interchange, common practice is to group together only functional groups with the same Functional Identifier Code and sender/receiver codes.

The functional group envelope also identifies the version/release of the standard to which the transaction sets conform. By mutual agreement of major industry groups using the ASC X12 standards, the following convention is used to denote the version/release in the functional group header (GS08):

POSITION	CONTENT
1-3	Major version number
4-6	Release level of version
7-12	Industry-assigned code

ASC X12 assigns the codes in positions 1-6. A major version will change only following an official public review cycle, leading to re-publication of a new set of American National Standards. Use of the industry-assigned code in position 7-12 is generally unnecessary.

On the following page is the description and technical layout of the GS/GE envelope. The ASC X12 version presented in this guideline is 004010.

Segment: **GS** **Functional Group Header**
Position: 023
Loop:
Level: Heading
Usage: Optional
Max Use: 1
Purpose: To indicate the beginning of a functional group and to provide control information
Syntax Notes:
Semantic Notes:
1 GS04 is the group date.
2 GS05 is the group time.
3 The data interchange control number GS06 in this header must be identical to the same data element in the associated functional group trailer, GE02.
Comments:
1 A functional group of related transaction sets, within the scope of X12 standards, consists of a collection of similar transaction sets enclosed by a functional group header and a functional group trailer.
Notes: 3M Example(s):
GS*PO*006173082*987654321*20001014*1210*16789*X*004010^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**GS01**	**479**	**Functional Identifier Code** Code identifying a group of application related transaction sets FA Functional Acknowledgment (997) IM Motor Carrier Freight Details and Invoice (210, 980) IN Invoice Information (810,819) PO Purchase Order (850) RA Payment Order/Remittance Advice (820) See ASC X12 data dictionary for additional codes.	**M ID 2/2**
Required	**GS02**	**142**	**Application Sender's Code** Code identifying party sending transmission; codes agreed to by trading partners 3M recommends the use of the same code used in ISA06 unless further clarification of the sender is required. (e.g., division or application within a company).	**M AN 2/15**
Required	**GS03**	**124**	**Application Receiver's Code** Code identifying party receiving transmission. Codes agreed to by trading partners 3M recommends the use of the same code used in ISA08 unless further clarification of the receiver is required (e.g., division or application within a company).	**M AN 2/15**
Required	**GS04**	**373**	**Date** Date expressed as CCYYMMDD	**M DT 8/8**
Required	**GS05**	**337**	**Time**	**M TM 4/8**

Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

Required **GS06** **28** **Group Control Number** **M** **N0 1/9**

Assigned number originated and maintained by the sender

Sender-assigned sequential control number to match control number on GE segment.

Required **GS07** **455** **Responsible Agency Code** **M** **ID 1/2**

Code used in conjunction with Data Element 480 to identify the issuer of the standard

X Accredited Standards Committee X12

Required **GS08** **480** **Version / Release / Industry Identifier Code** **M** **AN 1/12**

Code indicating the version, release, subrelease, and industry identifier of the EDI standard being used, including the GS and GE segments; if code in DE455 in GS segment is X, then in DE 480 positions 1-3 are the version number; positions 4-6 are the release and subrelease, level of the version; and positions 7-12 are the industry or trade association identifiers (optionally assigned by user); if code in DE455 in GS segment is T, then other formats are allowed

This code must indicate the version/release of the transaction sets within the functional group. See individual transaction set guidelines for recommended version/releases supported by 3M.

Segment: **GE** **Functional Group Trailer**
Position: 022
Loop:
Level: Heading
Usage: Optional
Max Use: 1
Purpose: To indicate the end of a functional group and to provide control information
Syntax Notes:
Semantic Notes: **1** The data interchange control number GE02 in this trailer must be identical to the same data element in the associated functional group header, GS06.
Comments: **1** The use of identical data interchange control numbers in the associated functional group header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.
Notes: 3M Example(s): GE*8*16789^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**GE01**	**97**	**Number of Transaction Sets Included** Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	**M N0 1/6**
Required	**GE02**	**28**	**Group Control Number** Assigned number originated and maintained by the sender This must match the control number on the GS segment for this functional group.	**M N0 1/9**

Functional Acknowledgments

The Functional Acknowledgment (FA) (ASC X12 transaction set 997) provides confirmation of the receipt of EDI data. The FA is created by the receiving EDI translator and returned to the sending translator. It acknowledges receipt of each functional group within an interchange, and optionally each transaction set within the functional groups. It also indicates whether the EDI translator was able to edit the data successfully and may optionally return codes indicating errors detected in checking conformance to the ASC X12 standards.

FAs should be reconciled against the original document sent. The group and transaction set control numbers sent in the original data are returned in the FA and are the keys to the reconciliation process. Therefore, the sender is responsible for maintaining uniqueness in the control numbers to ensure accurate matching.

For critical applications, the sender must monitor the FAs to detect unacknowledged and rejected groups and transaction sets. Rejected data is rare and generally requires manual intervention and problem resolution.

Monitoring unacknowledged activity is more cumbersome because all transactions are unacknowledged for some period of time. Thus it is crucial that both the sender and receiver understand the timing requirements for sending and picking up the original transactions, as well as for sending and picking up the resulting FAs. For example, 3M requires that its suppliers send an FA by 6:00 AM (CST) acknowledging 3M purchase orders sent by 3:00 PM (CST) the previous day. This not only affects how soon FAs must be returned but also affects when POs are retrieved. To meet the requirement, suppliers must pick up EDI data from the VAN at least once per day after 3:00 PM (CST). Following a pick up of EDI data in one communications session, most EDI translation software generates FAs automatically for transmission in the following communications session. Thus to meet 3M's FA requirement, suppliers must connect to their VAN a second time before the 6:00 A.M. (CST) deadline.

As noted, FAs acknowledge functional groups and can optionally acknowledge transaction sets. Segments AK1 and AK9 acknowledge functional groups. If used, segments AK2 and AK5 acknowledge transaction sets. Segments AK3 and AK4 are used only to report errors.

3M prefers to send and receive FAs only at the functional group level. Experience has shown this approach to be effective and efficient, and that it is generally safe to assume that if a functional group is received and accepted, so are the transaction sets contained in it.

Besides the FA, the ASC X12 standard also defines an interchange acknowledgment. The interchange acknowledgment is not a transaction set but rather a single control segment called a TA1. 3M follows industry practice and does not use TA1 acknowledgments.

On the following page is a description and technical layout of the Functional Acknowledgment. The ASC X12 version presented in this guideline is 004010

997 Functional Acknowledgment

Functional Group ID=FA

Introduction:

This Draft Standard for Trial Use contains the format and establishes the data contents of the Functional Acknowledgment Transaction Set (997) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to define the control structures for a set of acknowledgments to indicate the results of the syntactical analysis of the electronically encoded documents. The encoded documents are the transaction sets, which are grouped in functional groups, used in defining transactions for business data interchange. This standard does not cover the semantic meaning of the information encoded in the transaction sets.

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
3	010	ST	Transaction Set Header	M	1		n1
4	020	AK1	Functional Group Response Header	M	1		n2
			LOOP ID - AK2			999999	
5	030	AK2	Transaction Set Response Header	O	1		n3
			LOOP ID - AK3			999999	
6	040	AK3	Data Segment Note	O	1		c1
7	050	AK4	Data Element Note	O	99		
9	060	AK5	Transaction Set Response Trailer	M	1		
11	070	AK9	Functional Group Response Trailer	M	1		
13	080	SE	Transaction Set Trailer	M	1		

Transaction Set Notes

1. These acknowledgments shall not be acknowledged, thereby preventing an endless cycle of acknowledgments of acknowledgments. Nor shall a Functional Acknowledgment be sent to report errors in a previous Functional Acknowledgment.
The Functional Group Header Segment (GS) is used to start the envelope for the Functional Acknowledgment Transaction Sets. In preparing the functional group of acknowledgments, the application sender's code and the application receiver's code, taken from the functional group being acknowledged, are exchanged; therefore, one acknowledgment functional group responds to only those functional groups from one application receiver's code to one application sender's code.
There is only one Functional Acknowledgment Transaction Set per acknowledged functional group.

2. AK1 is used to respond to the functional group header and to start the acknowledgement for a functional group. There shall be one AK1 segment for the functional group that is being acknowledged.

3. AK2 is used to start the acknowledgement of a transaction set within the received functional group. The AK2 segments shall appear in the same order as the transaction sets in the functional group that has been received and is being acknowledged.

Transaction Set Comments

1. The data segments of this standard are used to report the results of the syntactical analysis of the functional groups of transaction sets; they report the extent to which the syntax complies with the standards for transaction sets and functional groups. They do not report on the semantic meaning of the transaction sets (for example, on the ability of the receiver to comply with the request of the sender).

Segment: **ST** **Transaction Set Header**
Position: 010
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To indicate the start of a transaction set and to assign a control number
Syntax Notes:
Semantic Notes: **1** The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).
Comments:
Notes: 3M Example(s): ST*997*000059324^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**ST01**	**143**	**Transaction Set Identifier Code** Code uniquely identifying a Transaction Set 997 Functional Acknowledgment	**M ID 3/3**
Required	**ST02**	**329**	**Transaction Set Control Number** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set Sender-assigned sequential control number to match control number on SE segment.	**M AN 4/9**

Segment: **AK1** **Functional Group Response Header**
Position: 020
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To start acknowledgment of a functional group
Syntax Notes:
Semantic Notes:
1 AK101 is the functional ID found in the GS segment (GS01) in the functional group being acknowledged.
2 AK102 is the functional group control number found in the GS segment in the functional group being acknowledged.
Comments:
Notes: 3M Example(s): AK1*PO*789^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK101**	**479**	**Functional Identifier Code** Code identifying a group of application related transaction sets This is the functional group identifier (GS01) of the functional group being acknowledged. IM Motor Carrier Freight Details and Invoice (210, 980) IN Invoice Information (810,819) PO Purchase Order (850) RA Payment Order/Remittance Advice (820) See ASC X12 data dictionary for additional codes.	**M ID 2/2**
Required	**AK102**	**28**	**Group Control Number** Assigned number originated and maintained by the sender This is the control number (GS06) of the functional group being acknowledged.	**M N0 1/9**

Segment: **AK2** **Transaction Set Response Header**
Position: 030
Loop: AK2 Optional
Level:
Usage: Optional
Max Use: 1
Purpose: To start acknowledgment of a single transaction set
Syntax Notes:
Semantic Notes:
1 AK201 is the transaction set ID found in the ST segment (ST01) in the transaction set being acknowledged.
2 AK202 is the transaction set control number found in the ST segment in the transaction set being acknowledged.
Comments:
Notes: 3M Comments: 3M recommends acknowledging at the group level unless errors are detected. If no errors, AK2 through AK5 segments are not used.

3M Example(s): AK2*810*000000049^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK201**	**143**	**Transaction Set Identifier Code** Code uniquely identifying a Transaction Set This is the transaction set identifier code (ST01) of the transaction set being acknowledged. 210 Motor Carrier Freight Details and Invoice 810 Invoice 820 Payment Order/Remittance Advice 850 Purchase Order See ASC X12 data dictionary for additional codes.	**M ID 3/3**
Required	**AK202**	**329**	**Transaction Set Control Number** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set This is the control number (ST02) of the transaction set being acknowledged.	**M AN 4/9**

Segment: **AK3** **Data Segment Note**
Position: 040
Loop: AK3 Optional
Level:
Usage: Optional
Max Use: 1
Purpose: To report errors in a data segment and identify the location of the data segment
Syntax Notes:
Semantic Notes:
Comments:
Notes: 3M Comments: 3M recommends acknowledging at the group level unless errors are detected. If no errors, AK2 through AK5 segments are not used.

3M Example(s): AK3*BEG*12**7^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK301**	**721**	**Segment ID Code** Code defining the segment ID of the data segment in error (See Appendix A - Number 77)	**M ID 2/3**
Required	**AK302**	**719**	**Segment Position in Transaction Set** The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1	**M N0 1/6**
	AK303	**447**	**Loop Identifier Code** The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE	**O AN 1/6**
	AK304	**720**	**Segment Syntax Error Code** Code indicating error found based on the syntax editing of a segment 1 Unrecognized segment ID 2 Unexpected segment 3 Mandatory segment missing 4 Loop Occurs Over Maximum Times 5 Segment Exceeds Maximum Use 6 Segment Not in Defined Transaction Set 7 Segment Not in Proper Sequence	**O ID 1/3**

Segment: **AK4** **Data Element Note**
Position: 050
Loop: AK3 Optional
Level:
Usage: Optional
Max Use: 99
Purpose: To report errors in a data element or composite data structure and identify the location of the data element
Syntax Notes:
Semantic Notes: **1** In no case shall a value be used for AK404 that would generate a syntax error, e.g., an invalid character.
Comments:
Notes: 3M Comments: 3M recommends acknowledging at the group level unless errors are detected. If no errors, AK2 through AK5 segments are not used.

3M Example(s): AK4*5*373*8*001301^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK401**	**C030**	**Position in Segment**	**M**
			Code indicating the relative position of a simple data element, or the relative position of a composite data structure combined with the relative position of the component data element within the composite data structure, in error; the count starts with 1 for the simple data element or composite data structure immediately following the segment ID	
Required	**C03001**	**722**	**Element Position in Segment**	**M N0 1/2**
			This is used to indicate the relative position of a simple data element, or the relative position of a composite data structure with the relative position of the component within the composite data structure, in error; in the data segment the count starts with 1 for the simple data element or composite data structure immediately following the segment ID	
	AK402	**725**	**Data Element Reference Number**	**O N0 1/4**
			Reference number used to locate the data element in the Data Element Dictionary	
Required	**AK403**	**723**	**Data Element Syntax Error Code**	**M ID 1/3**
			Code indicating the error found after syntax edits of a data element	
			1 Mandatory data element missing	
			2 Conditional required data element missing.	
			3 Too many data elements.	
			4 Data element too short.	
			5 Data element too long.	
			6 Invalid character in data element.	
			7 Invalid code value.	
			8 Invalid Date	

		9	Invalid Time		
AK404	**724**	**Copy of Bad Data Element**		**O**	**AN 1/99**
		This is a copy of the data element in error			

Segment: **AK5** **Transaction Set Response Trailer**
Position: 060
Loop: AK2 Optional
Level:
Usage: Mandatory
Max Use: 1
Purpose: To acknowledge acceptance or rejection and report errors in a transaction set
Syntax Notes:
Semantic Notes:
Comments:
Notes: 3M Comments: 3M recommends acknowledging at the group level unless errors are detected. If no errors, AK2 through AK5 segments are not used.

3M Example(s): AK5*R*3^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK501**	**717**	**Transaction Set Acknowledgment Code** Code indicating accept or reject condition based on the syntax editing of the transaction set A Accepted E Accepted But Errors Were Noted R Rejected	**M ID 1/1**
	AK502	**718**	**Transaction Set Syntax Error Code** Code indicating error found based on the syntax editing of a transaction set 1 Transaction Set Not Supported 2 Transaction Set Trailer Missing 3 Transaction Set Control Number in Header and Trailer Do Not Match 4 Number of Included Segments Does Not Match Actual Count 5 One or More Segments in Error 6 Missing or Invalid Transaction Set Identifier 7 Missing or Invalid Transaction Set Control Number	**O ID 1/3**
	AK503	**718**	**Transaction Set Syntax Error Code** Code indicating error found based on the syntax editing of a transaction set See AK502 for code list.	**O ID 1/3**
	AK504	**718**	**Transaction Set Syntax Error Code** Code indicating error found based on the syntax editing of a transaction set See AK502 for code list.	**O ID 1/3**
	AK505	**718**	**Transaction Set Syntax Error Code** Code indicating error found based on the syntax editing of a transaction set See AK502 for code list.	**O ID 1/3**

AK506	**718**	**Transaction Set Syntax Error Code**	**O**	**ID 1/3**
		Code indicating error found based on the syntax editing of a transaction set See AK502 for code list.		

Segment: **AK9** **Functional Group Response Trailer**
Position: 070
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To acknowledge acceptance or rejection of a functional group and report the number of included transaction sets from the original trailer, the accepted sets, and the received sets in this functional group
Syntax Notes:
Semantic Notes:
Comments: **1** If AK901 contains the value "A" or "E", then the transmitted functional group is accepted.
Notes: 3M Example(s): AK9*A*3*3*3^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**AK901**	**715**	**Functional Group Acknowledge Code** Code indicating accept or reject condition based on the syntax editing of the functional group A Accepted E Accepted, But Errors Were Noted. P Partially Accepted, At Least One Transaction Set Was Rejected R Rejected	**M ID 1/1**
Required	**AK902**	**97**	**Number of Transaction Sets Included** Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	**M N0 1/6**
Required	**AK903**	**123**	**Number of Received Transaction Sets** Number of Transaction Sets received	**M N0 1/6**
Required	**AK904**	**2**	**Number of Accepted Transaction Sets** Number of accepted Transaction Sets in a Functional Group	**M N0 1/6**
	AK905	**716**	**Functional Group Syntax Error Code** Code indicating error found based on the syntax editing of the functional group header and/or trailer 1 Functional Group Not Supported 2 Functional Group Version Not Supported 3 Functional Group Trailer Missing 4 Group Control Number in the Functional Group Header and Trailer Do Not Agree 5 Number of Included Transaction Sets Does Not Match Actual Count	**O ID 1/3**

AK906	**716**	**Functional Group Syntax Error Code**	**O**	**ID 1/3**
		Code indicating error found based on the syntax editing of the functional group header and/or trailer		
		See AK905 for code list.		
AK907	**716**	**Functional Group Syntax Error Code**	**O**	**ID 1/3**
		Code indicating error found based on the syntax editing of the functional group header and/or trailer		
		See AK905 for code list.		
AK908	**716**	**Functional Group Syntax Error Code**	**O**	**ID 1/3**
		Code indicating error found based on the syntax editing of the functional group header and/or trailer		
		See AK905 for code list.		
AK909	**716**	**Functional Group Syntax Error Code**	**O**	**ID 1/3**
		Code indicating error found based on the syntax editing of the functional group header and/or trailer		
		See AK905 for code list.		

Segment: **SE** **Transaction Set Trailer**
Position: 080
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)
Syntax Notes:
Semantic Notes:
Comments: **1** SE is the last segment of each transaction set.
Notes: 3M Example(s): SE*4*000059324^

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Required	**SE01**	**96**	**Number of Included Segments** Total number of segments included in a transaction set including ST and SE segments	**M N0 1/10**
Required	**SE02**	**329**	**Transaction Set Control Number** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set This must match the control number on the ST segment for this transaction set.	**M AN 4/9**

Functional Acknowledgment Examples

This section contains two examples to illustrate the use of Transaction Set 997.

They are:

- A functional acknowledgment of an accepted purchase order functional group. Acknowledgment is at the group level.
- A functional acknowledgment of a partially-accepted invoice functional group. Two invoices were accepted; one was rejected. Acknowledgment is at transaction set level because of the error detected in one of the transaction sets.

Since there is no paper-copy equivalent of a functional acknowledgment, only the ASC X12 format and its interpretation are contained in this section.

Example 1

This is an example of a functional acknowledgment of a purchase order functional group which contained three purchase orders. All were accepted.

ASC X12 FORMAT	INTERPRETATION
ST*997*000059324^	ASC X12 Transaction Set: 997 Transaction Set Control Number: 000059324
AK1*PO*789^	Functional Group Acknowledged: PO=purchase order Control Number Being Acknowledged: 789
AK9*A*3*3*3^	Functional Group Accepted Transaction Sets Included: 3 Transaction Sets Received: 3 Transaction Sets Accepted: 3
SE*4*000059324^	Number of Segments: 4 Transaction Set Control Number: 000059324

Example 2

This is an example of a functional acknowledgment of an invoice functional group which contained three invoices. Two transaction sets were accepted without errors; one was rejected because the control number in the header and trailer did not match.

ASC X12 FORMAT	INTERPRETATION
ST*997*000032941^	ASC X12 Transaction Set: 997 Transaction Set Control Number: 000032941
AK1*IN*6932^	Functional Group Acknowledged: IN=invoice Control Number Acknowledged: 6932
AK2*810*000000049^	Transaction Set Acknowledged: 810=invoice Control Number Acknowledged: 000000049
AK5*A^	Transaction Set Accepted
AK2*810*000000050^	Transaction Set Acknowledged: 810=invoice Control Number Acknowledged: 000000050
AK5*R*3^	Transaction Set Rejected Error code: 3=transaction set control numbers did not match.
AK2*810*000000051^	Transaction Set Acknowledged: 810=invoice Control Number Acknowledged: 000000051
AK5*A^	Transaction Set Accepted
AK9*P*3*3*2^	Functional Group Partially Accepted Transaction Sets Included: 3 Transaction Sets Received: 3 Transaction Sets Accepted: 2
SE*10*000032941^	Number of Segments: 10 Transaction Set Control Number: 000032941