Automated Commercial Environment

ACE Truck ANSI X12 Introduction

February 14, 2004

U.S. Customs and Border Protection

INDUSTRY GUIDE TO ELECTRONIC DATA INTERCHANGE

VERSION/RELEASE 004060 MOTOR

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1 INTRODUCTION

This Standard contains the format and establishes the data contents of the ANSI ASC X.12 Control Segments and Variables (Header and Trailer Records), the Customs Manifest Transaction set (309), the Customs Status Information Transaction set (350), the Customs Events Advisory Details Transaction set (353), the U.S. Customs Acceptance/Rejection Transaction set (355), the U.S. Customs In-Bond Information Transaction set (357), the Customs Consist (Trip) Information Transaction set (358), and the Functional Acknowledgment Transaction Set (997) for use within the context of an Electronic Data Interchange (EDI) environment. These transaction sets may be used by carriers, NVOCC's, terminal operators, port authorities, or service centers to provide information to and receive information from U.S. Customs and Border Protection (CBP) on cargo arriving in the United States on motor vehicles. This Implementation Guideline uses current ANSI X12 Standards Version/Release as its base.

Important:

This is a final Standard provided for the purpose of familiarizing the general public with guidelines for framing transmission and reception messages to be sent to and received from CBP in the motor environment. It is also to be used for soliciting comments. Even though the transaction sets are 'Final', corrections and changes will be published as necessary in the future.

Notes:

Transmission of manifest data related to the movement of land border crossing conveyances may be supplied to Customs and Border Protection (CBP) using the prescribed ANXI X12 messages. Utilization of ANSI X12 message sets, that are already in use in the legacy Ocean and Rail Automated Manifest System environments, contributes to the goal of CBP to deliver a Multi-Modal Manifest system. With consideration of our post 9/11 environment the incorporation of new data requirements has been accommodated in the following messages. The manifest data requirements are in accordance with prescribed content that was evaluated by the Trade through input supplied by the Trade Support Network's Multi-Modal Manifest Committee. To accommodate the uniqueness of the truck border crossing environment, modifications have been made to data content new flexibility has been built in so order of receipt of these messages is not important.

A complete Manifest consists of unique Trip information and Shipment Information. The Trip information refers to: trip identification, conveyance identification, crew identification, and equipment information. Trip information may be supplied to CBP in either the 309 Customs Manifest transaction set or in the 358 Customs Consist Information (Trip Information) transaction set. If a complete manifest is transmitted to CBP both trip and individual shipment information is to be supplied in one 309 message.

To correct or amend a complete Manifest submitted as a single 309 transaction set, an amended 309 will be submitted as an electronic manifest discrepancy report with the appropriate amendment codes in the M1306.

As an alternative, Trip and Shipment details may be supplied separately to CBP. If submission of Trip and Shipment data is supplied separately then the submission of an end of manifest message via the 353 Customs Advisory Details (353 transaction set) message will be required to notify Customs that the manifest is complete. Modifications made to a Manifest after the submission of the end of manifest message will be

considered a manifest discrepancy report and will require the appropriate amendment code in the M1306.

Three Scenarios

1. If a manifesting carrier is in possession of full shipment and trip information, the carrier may transmit an original manifest message (309 Customs Manifest) identifying the trip, conveyance, crew, equipment and shipments associated therewith. This is considered a complete manifest and no further 358 Consist Information (Trip Information) message or 353 Events Advisory Details message will be required.

2. The manifesting carrier may send individual preliminary shipment manifests (309 Customs Manifest) without identifying the trip, conveyance, crew, or equipment. When shipments are scheduled for movement, the manifesting carrier will transmit a 358 Customs Consist Information (Trip Information) transaction set providing trip, conveyance, crew, and equipment data. The 358 Customs Consist Information transaction set will be used to link preliminary shipment numbers to the Trip.

3. If a manifesting carrier is able to schedule a trip prior to associating the shipments for the trip, the carrier will transmit a 358 Customs Consist Information message (Trip Information) transaction set providing trip number (M1006), conveyance, crew, and equipment data. When the shipments for the trip have been identified, the carrier will transmit the shipment manifests in the 309 Customs Manifest transaction set as preliminary shipments, making sure to include the M1006 trip number provided prior on the 358 Customs Consist Information (Trip Information) transaction set. This will enable CBP to automatically associate the preliminary shipments (309's) with the Trip information.

In the second and third scenario, the manifesting carrier will be required to transmit a 353 Customs Events Advisory Details transaction set with a code 'Z' 'End of Manifest' in the M1501 to signify the completion of the manifest. Once the 353 transaction set has been sent to say the manifest is complete, any changes to trip, conveyance, crew, equipment or shipment information will be considered a manifest amendment, and subject to the restrictions provided by law and Regulation.

Multiple Pieces of Equipment

If a shipment contains multiple pieces of equipment, the manifesting carrier will not send one original manifest (309 Customs Manifest transaction set) for each piece of equipment to CBP. Multiple pieces of equipment may be accommodated within the same 309 Customs Manifest.

Valid ID's to Auto-import Account Data

The manifesting carrier will be obligated to provide detailed crew, passenger, conveyance, and equipment information in the 309 Customs Manifest transaction set or the 358 Customs Consist Information (Trip) transaction Set. In each case (crew member, passenger, conveyance, or equipment) either the complete information or an ACE ID number or a valid reference number from the carrier's account will be mandatory to satisfy this requirement.

Empty trucks with or without Instruments of International Trade

The manifesting carrier may transmit an original 358 Customs Consist Information Set listing the trip, conveyance, equipment, and crew information but minus shipment information to identify an empty truck with instruments of international trade (IIT's). The

manifesting carrier will be required to transmit a 353 Customs Events Advisory Details transaction set with a code 'Z' 'End of Manifest' in the M1501 to signify there are no shipments to follow.

Split Shipments

If the manifesting carrier has transmitted an original 309 Customs Manifest transaction set and finds he cannot board the full manifested amount on the truck, he must submit the boarded quantities for his shipment and conveyance in a 358 Customs Consist Information (Trip Information) transaction set. Subsequent portions of the quantity may be manifested on additional 358's until the full manifested quantity of the original 309 manifest is satisfied.

The following is a summary of the X12 messages that support truck Standard and Preferred Manifest. These Transaction Sets may be exchanged between CBP and carriers and/or their authorized agents.

X12 309 Customs Manifest (Manifest/Bill of Lading) [Trade to CBP]

This X12 transaction set provides CBP with trip and shipment data on cargo arriving via truck conveyances. The message may be an all-in-one manifest (shipments, crew, conveyance, equipment, and trip information) or it may be a preliminary shipment that will be linked to a 358 Customs Consist Information (Trip Information) transaction set to form a complete manifest. Shipments may be added/changed/deleted by including the M13 segment 'Manifest Amendment Details'.

Empty pieces of equipment or instruments of International Trade (IIT's) may also be manifested using a 309 transaction set.

X12 358 Customs Consist Information (Trip) [Trade to CBP], ACE Standard Manifest (alternative)

The 358 transaction set provides CBP the trip level data and the data needed to match preliminary manifest 309 messages to the appropriate trip. The 358 transaction set will include trip, conveyance, equipment, and crew details and may include Shipment Control Numbers (SCN's). The purpose of including SCN's within the 358 is to associate the individual 309 preliminary manifest shipments with a trip.

The 358 transaction set may also be used to delete and amend trip information and remove shipments from a trip.

Empty pieces of equipment or Instruments of International Trade (IIT's) may also be manifested using the 358 transaction set.

The 358 transaction set is used to identify boarded quantities of shipments that have been split. (See 'Split Shipments' above.)

X12 353 Customs Events Advisory Details (Other Messages such as 'End of Manifest') [Trade to CBP]

This transaction set will be used by carriers to notify CBP of the end of manifest submission. The only exception to this is when a complete manifest is submitted via a 309 as an original manifest (309-W).

The 353 transaction set will be used to arrive in-bond or permit to transfer shipments.

X12 357 U.S. Customs In-bond Information (Subsequent In-bond) [Trade to CBP]

The 357 transaction set can be used to request authorization for in-bond movements and to add additional legs on to pre-existing in-bond movements without deleting existing bill of lading records.

X12 350 Customs Status Information (release, hold) [CBP to Trade]

This transaction set is used by CBP to supply carriers with conveyance, equipment, crew, and shipment release and hold information.

Appropriate Customs Status Information messages will be released to the carrier at time of the truck's arrival at the border.

X12 355 Customs Acceptance/Rejection (acceptance, rejection) [CBP to Trade]

The 355 transaction set is used by CBP to report errors and discrepancies discovered in the Customs Manifest (309 transaction set), Customs Events Advisory Details (353 transaction set), U.S. Customs In-Bond Information (357 transaction set), or Customs Consist (Trip) Information (358 transaction set) filed by carriers. This transaction set is also used to report the acceptance or rejection of a manifest. These messages are generated with respect to data supplied to the application software, as opposed to the communications infrastructure Functional Acknowledgement (997 transaction set).

X12 997 Functional Acknowledgment (syntax acknowledgment) [CBP to Trade]

This transaction set acknowledges the success or failure of message transactions sent to CBP after standard syntax compliance checking is done. It acknowledges:

- The communications infrastructure has received the message and can forward it to the appropriate application/subsystem. This acceptance is stored and may be sent to the carrier who transmitted the data, if requested.

- ISA (Interchange Control Header) and IEA (Interchange Control Trailer) records have been received before a functional acknowledgment can be generated.

As part of the X12 protocol, there are Header and Trailer records to indicate start and end of transmission and messages.

- ISA Interchange Control Header
- GS Functional Group Header
- GE Functional Group Trailer
- IEA Interchange Control Trailer

2 OVERVIEW OF FORMAT

2.1 INTRODUCTION

This section documents the Motor industry's adaptation of the ASC X12 Transaction Sets.

This volume of guidelines contains the transaction sets used for the motor industry.

2.1.1 OVERVIEW

Units of information used in data interchange relate to key functions or operational events. These units of information - transaction set, segment, data element - may be of variable length. This information is com-medicated between a user's computer system and computer systems of other users in the same community of interest.

Major units of information are defined as transaction sets which are the structure for communicating information between systems. The transaction set equates to a document in a paperwork system, such as a bill of lading.

The transaction set is further defined in terms of segments (or lines of information) and the segment is defined in terms of data elements. A segment is roughly equivalent to a line item or sub- line item on a document.

2.1.2 INFORMATION UNITS

Data Element

The smallest information unit in the information structure is the data element. A data element may be a single character code, a series of characters constituting a literal description or a numeric quantity. The length characteristics of a data element may be fixed or variable, but they must be consistent with the data being transmitted. Motor does not use composite data elements. They are represented by the first data element within the composite within the guidelines.

Data Segment

A data segment is composed of a function identifier and one or more functionally related data elements positioned serially in a standard manner with a data element delimiter preceding each data element and a segment terminator character immediately following the last data element transmitted.

Transaction Set

A transaction set is that group of standard data segments, in a predefined sequence, needed to provide all of the data required to define a complete transaction such as a bill of lading.

Functional Group

A functional group is composed of one or more transaction sets of the same or similar type transmitted from the same location, enclosed by functional group header and functional group trailer segments.

2.1.3 FORMAT UNITS

Data Segment Identifier

Each data segment has a unique identifier consisting of the combination of two or three alpha/numeric characters. The data segment identifiers are specified in the first positions of each individual segment.

Data Segment Terminator

Each data segment is terminated by a special character inserted in the data segment immediately following the last data element to be transmitted. The non-printable new line (NL) (EBCDIC code) character or the CR/LF (ASCII code) character combination is used to terminate segments.

Data Element Delimiter

An asterisk (*) delimiter precedes each data element within a segment. When there is no data being transmitted for a defined element, the asterisk is transmitted to preserve the data element count unless the blank elements are the last in the segment. In that case, transmission of the data segment terminator code indicates that all non-transmitted elements are blank.

Data Element Identifying Numbers and Reference Designators

Data Element Identifying Numbers

Each data element is assigned a unique reference number in the master data element list.

Example:

Data Element 93 is NAME.

Data Element Reference Designator

Based upon the sequential position assignment of a data element in a data segment, each data element assumes a unique, alphanumeric location indicator for each data segment.

Example:

The third data element in the N1 segment has a location N103. This is referred to as a reference designator.

2.1.4 CLASSIFICATION OF DATA ELEMENTS AND DATA SEGMENTS

The data element and data segment classifications, important to the edit and audit procedures incorporated in the EDI standards, are de-fined and applied as follows:

(M) Mandatory

Universally required information in all transactions

(X) Relational

Required information when the nature of a transaction necessitates that the data be provided. The condition is stated in the standards such that it can be interpreted by a computer program. (See next section.)

(O) Optional

Available information that may be useful to the receiver and may be included in the transaction set at the option of the sender.

2.1.5 DATA FORMAT SPECIFICATIONS

Data Elements

All data elements incorporated in the data element list are assigned minimum required and maximum permissible character lengths.

Example:

The data element NAME may be expressed in one to thirty-five characters.

Data element types are Numeric (Nn) (implies decimal point), Decimal Number (R) (Explicit Decimal Point), Identifier (ID), String (AN), Date (DT), Time (TM), Binary (BN) and Repeating. Motor does not utilize the Binary nor Repeating Data Elements.

The decimal point for the implied decimal type is implicitly located within the decimal data elements according to data element specifications. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data. The representation for this data element type is Nn where (N) indicates that it is numeric and (n) indicates the number of positions to the right of the implied decimal point. If (n) is 0, it need not appear in the specifications; N is equivalent to N0.

NOTE: For MOTOR transaction sets, all weights, quantities and volumes (other than those contained in the hazardous materials segments) will be in whole numbers only.

The decimal point for an explicit decimal type always appears in the character stream if the decimal point is at any place other than the right end. The R type explicit decimal point is used for numeric values that have a varying number of decimal positions. The length of the

field does not include the decimal point.

For transmission purposes, all quantitative fields are assumed to be signed fields; absence of a sign implies plus (+). Negative numbers are indicated by a minus sign (-) preceding the number. (The plus (+) sign is never transmitted.)

The length of the field does not include the minus sign.
In any numeric or decimal field used, the minimum digits as defined in the data element dictionary must be transmitted even if the value is zero.

All numeric and decimal data elements must be transmitted with no leading zeros; alpha/numeric data element must be transmitted with no trailing blanks. ID values are transmitted precisely as they are shown in the code list where they are defined.

When applicable, relationships of data elements are displayed in the segment diagrams with a notation which indicates the type of relation-ship and the elements involved.

Example:

P0304
The letter P indicates a paired relationship as described below. The numbers are groups of two digits which indicate the position of affected data elements in a segment. Thus, P0304 indicates that the third and fourth data elements in the segment are paired, i.e., if one is given the other must also be given in order to have a clear meaning. The relational definitions of data elements are:

P (paired)

Definition: If any data element specified in the relational condition is present, then all data elements specified must be present.
Example: P0203 - If either 02 or 03 is present then the other is re-quirked.
Example: P020304 - If either 02, 03 or 04 are present, then the others are required.

R (required)

Definition: At least one of the data elements specified in the relational condition must be present. It is permissible to use all.

Example: R010203 - At least one of 01, 02 or 03 is required.

E (exclusion)

Definition: Only one of the data elements specified in the relational condition may be present. It is permissible that *none* of the data elements be present.

Example: E0305 - Only one of 03 or 05 may be present.

C (conditional)

Definition: If the first data element specified in a relational condition is present, then all other data elements must be present. However, any or all of the data elements *not* specified as the first data element may appear without requiring that the first data element be present. The order of the data elements in the Conditional relationship does not have to be the same as the order of the data elements in the segment. Subsequent data elements within the segment are marked conditional as their requirement is a condition of the presence of the first data element listed.

Example: C0605 - If 06 is present, then 05 is required.

L (List Conditional)

Definition: If the first data element specified in the relational condition is present, then at least one of the remaining data elements must be present. However, any or all of the remaining data elements *not* specified as the first data element may appear without requiring that the first data element is present. Like the Conditional relationship, the order of the data elements in the List Conditional relationship does not have to reflect the order of appearance in the segment.
Example: L040203 - If 04 is present, then at least one of 02 or 03 is required.

Data Segments

Data segments are either mandatory or optional as defined for each transaction set.

Data segments must be transmitted according to the specified standard sequence within a transaction set.

Individual data segments may be repeated for a specific number of times according to user requirements (maximum use). Maximum use specifications are incorporated in the EDI edit tables. (A mandatory segment is mandatory for its first time of occurrence, i.e., if a mandatory segment has a maximum use of 3, only 1 is mandatory and 2 more can be used if required.)

Groups of segments may be repeated for a specific number of times as defined for loops below.

2.1.5.1 Loops

Some segments in the EDI standards assume a special relationship with other segments. This necessitates a procedure under which groups of segments may be collectively repeated in a serial fashion for up to a specified maximum number of times (loop). This maximum is indicated by the loop index number appearing with the first segment in the loop. This group of segments is associated by the loop identifier. The loop identifier consists of the segment ID followed by loop index, i.e., N1\15.

Loops are either mandatory or optional. The classification of the first segment within the loop determines whether the loop is mandatory or optional.

If the loop is used and is optional, then the first segment is mandatory for each iteration. If an inner loop (or segment within an optional inner loop) is mandatory within an optional outer loop, it is only mandatory if the outer loop is present.

The Loop Header control segment (LS) that appears before the first segment in a loop, identifies the next loop (major, second or third level loops). A loop can be repeated up to the number of times indicated in the specifications, but the LS segment appears only once before the loop.

The Loop Trailer control segment (LE) that appears after the last segment in a loop (major, second or third level loops) indicates that the loop or sub-loop has ended.

LS and LE segments appear in a transmission only when required to frame actual data. This implies that the LS segment is never immediately followed in a transmission by LE, since the loop control segments are not transmitted unless there are other data segments which they enclosed. See Control Concepts for more detail.

NOTE:

Transaction sets can be designed without the use of LS and LE segments if no ambiguity results. But if the specification of a set requires the use of these segments, they must be used.
When data is transmitted within the loop, the first segment must be transmitted.

2.1.6 DATA HANDLING RESPONSIBILITIES

The sender is responsible for ensuring that information is transmitted in time to be operationally useful to the receiver. The receiver is responsible for ensuring that adequate facilities are available for receiving and processing the transmitted information. For EDI participation, all parties are responsible for defining obligations associated with the data trans-mission activity.

Transaction Source Set
ID Transaction Set
Motor Application / Misc.
Notes

Carrier 309 Customs Manifest Customs
Customs 350 Customs Status Information
Customs Carrier 353 Customs Events Advisory Details
Customs 355 U.S. Customs Acceptance/Rejection

Transaction Source Set
ID Transaction Set
Motor Application / Misc.
Notes

Customs Carrier 357 U.S. Customs In-Bond Information
Customs Carrier 358 Customs Trip Information

All Parties 997 Functional Acknowledgment

2.1.7 TRANSMISSION STRUCTURE

Communication Session

The term Communication Session is an all-inclusive term that refers to the uninterrupted flow of data transferred between two independent computer systems.

Transaction Set Header and Trailer

The set boundaries consist of a Transaction Set Header segment (ST or Beginning Segment) marking the beginning of each set and a Transaction Set Trailer segment (SE) marking the end of each set.

Transaction Set Identifiers

Each type of transaction set is identified by a unique identifier consisting of three numeric characters in the ST segment. This is the transaction set identifier and is inserted as the first data element of each Transaction Set Header segment. The identifiers used in this volume are listed in the paragraph Functional Group Identifiers which follows in this section.

Functional Group Header and Trailer

The EDI standards require the use of a control header at the beginning of each functional group and control trailer at the end of each functional group of transaction sets. This approach provides the receiver with identification of the data application, the identification of the sender and intended receiver each at specific locations, and absolute checkpoints to determine the beginning and end of each functional group contained in a transmission.

Functional Group Identifiers

Each Functional Group Header segment (GS) contains a Functional Identifier (data element 479) consisting of two alphabetic characters. The Functional Identifiers used in this standard and associated transaction set identifiers are:

Transaction Set functional ID Transaction Set Name

309 AQ Customs Manifest
350 AU Customs Status Information
353 AX Customs Events Advisory Details
355 AZ U.S. Customs Manifest Acceptance/Rejection
357 BB U.S. Customs In-Bond Information
358 BD Customs Consist Information
997 * Functional Acknowledgment

The functional group control trailer is identified with an identifier of GE.

* Has the functional group identifier of the functional group in which it

is being used.

2.2 ACKNOWLEDGMENT

Refer to Section III, Control Concepts for functional acknowledgment structure and explanation. It is anticipated that information in the functional acknowledgment will be incorporated into internal procedures.

2.3 CODING POLICY

General

In several of the detail segments specified in Section VI, data elements are specified for both a code and free-form description of what the code implies. The intent is to work toward a system of coded data inter-change and, at the same time, to recognize that a code translation facility may not be available. Also, initial testing and implementation of the standards will be easier, in some cases, if descriptive as well as coded information is included in the transaction sets.

2.4 MAINTENANCE AND TESTING

System Testing

System testing should be performed both prior to implementation and upon modification to the system. The system test must check both the functional and timing aspects of system performance.

2.5 HARDWARE

These standards do not recommend or favor any particular equipment vendor.

3 MOTOR CONTROL CONCEPTS

3.1 INTRODUCTION

The structure of the Electronic Data Interchange system provides the participant with multiple levels of control to ensure data integrity within a given transmission, functional group, or transaction set.
This is accomplished through the use of header and trailer control segments designed to uniquely identify the start and end of transmissions, functional groups and transaction sets.

3.2 HEADERS AND TRAILERS

The header segments uniquely identify the start of the various levels within a transmission.

Trailer segments provide the receiver of transmissions with counts of the segments and transaction sets occurring within the transmission structure that can be used to ensure that all elements of the transmission were received. These counts may also be used along with control numbers in the header records to format an acceptance or rejection advice.

The software should provide basic edits that check counts within the transmission structure and ensure that the segment formats and elements are valid. External control beyond this should be at the discretion of the individual participants.

Only one GS/GE pair (or one functional group) is allowed per transmission. It is recommended that the minimum external control should be a hard copy printout of the data elements contained in the control headers and trailers. This document should be produced by both the sender and receiver and would provide the basis for resolving any questions that may arise concerning a given transmission.

3.3 ACKNOWLEDGMENT

A functional acknowledgment is recommended for data interchange.

A functional acknowledgment is the transmission of a functional acknowledgment transaction set (997) to the original sender to indicate the status of the transmission with respect to standards adherence.

This functional acknowledgment does not imply acceptance of the contents of the associated transaction sets.

A functional acknowledgment is never transmitted to acknowledge receipt of a functional acknowledgment transaction set.
If a functional acknowledgment transaction set is received with functional

errors or cannot be related to a previous transmission, the set should be printed and referred to the sender's contact for manual follow-up.

The error detection procedures should be used for editing and auditing, under computer program control, all transaction sets, data segments and data elements. These procedures are to be performed by the sender before transmission and again by the receiver.

The standards require that a response be generated upon error detection by the receiving system. In all cases, except when processing in-coming functional acknowledgment transaction sets, inbound transaction set processing results in the generation of a functional acknowledgment transaction set which must be communicated to the sender.

3.4 REJECTION

All transaction sets associated with a transmission for which a communications error or control header error is detected are rejected. A functional acknowledgment transaction set is recommended.(set 997).

The functional acknowledgment transaction set provides a positive indication that all transactions transmitted were received and, if errors exist, to identify the EDI segment and rejected elements and reason for error.

Functional errors are reported in the functional acknowledgment transaction set. Types of functional errors detected are:

Incorrect data type
Incorrect field length
Missing information
Unrecognized code
Incorrect segment identifier
Special requirements not met

While the error identification and rejection system could be automatically executed under computer program control by the receiver, manual intervention by the sender is recommended to take corrective action and to retransmit corrected information.

The receiver of transaction sets which fail to pass the edit or audit procedures may reject the entire transaction set, issuing the appropriate in-formation in a functional acknowledgment transaction set. (set 355)

When a rejection occurs, manual or automatic means external to the data interchange process are used by the sender for correction. The entire transaction set may be retransmitted without any reference to the previous error.

3.5 RETRANSMISSION OF REJECTED TRANSACTION SETS

Transaction sets rejected must be retransmitted in full after corrections are made.

Accepted transaction sets are never retransmitted even when they are within a functional group which may have contained one or more rejected sets.

4 STANDARDS CONVENTIONS

4.1 USE OF SIGNED NUMERIC FIELDS

All quantitative data elements are assumed to be positive unless pre-ceded by a minus (-) sign, subject to the following restrictions:

All data elements that express quantities (e.g., pieces, cases, pounds) are always positive.

Data elements which increase the monetary amount are positive.

Data elements which decrease the monetary amount are negative.

Temperature may be either positive or negative.

4.2 BASIC CHARACTER SET

The Base Control Set includes those that will not have a disruptive effect on most communication protocols.

The recommendation for delimiters is an asterisk (*), for terminators is a new line (Hex 15(NL)), colon (:) for subelement separator and circumflex (^) for a repeating data element separator.

The selection that follows is designed to have representation in the common character code schemes of EBCDIC, ASCII, and CCITT International Alphabet 5. The ASC X12 standards are graphic-character-oriented; therefore, common character encoding schemes other than those specified herein may be used as long as a common mapping is available. Since the graphic characters have an implied mapping across character code schemes, those bit patterns are not provided here.

The basic character set of this standard includes those selected from the uppercase letters, digits, space, and special characters as specified below.

uppercase letter	A	---------	Z			
digit	0	---------	9			
special character	"!"	"""	"&"	"'"	"("	")"
	"*"	"+"	","	"-"	"."	"/"
	":"	";"	"?"	"="		
space	" "					

Note: Special characters are removed from this category when used as delimiters.

4.3 EXTENDED CHARACTER SET

An extended character set may be used by agreement between communicating parties.

Special Character	"%"	"@"	"["	"]"	"{"	"}"
	"_"	"\"	"|"	"<"	">"	"~"

4.4 FUNCTIONAL GROUP

All transmissions must use the Functional Group Header (GS) and the Functional Group Trailer (GE).

4.5 N1 LOOPING STRUCTURES

N101 (Data Element 98) will qualify the party (i.e.: Consignee, Shipper, Notify Party), and N102 will contain the name of the party etc.

When conveying an associated telephone, FAX number or EMAIL identification, such as a party to be notified, the number should appear in an associated PER segment, and NOT IN N103 and N104.

4.6 EQUIPMENT INITIAL AND NUMBER CONVENTIONS

Data elements 206, if applicable, and 207 are always required to be paired in any Motor transaction set. The following rules apply to all segments where these elements appear in the publication.

1. Data element 206 (Equipment Initial) is always alphabetic on all motor transaction sets.

2. If initial is not known, or absent, then Trucks, Conveyances, Equipment, Vans or Chassis will have no data in this field. No generic initial, such as ‘‘NONZ’’,or ‘‘NONU’’ will be supplied.

3. Data element 207 (Equipment Number) is always numeric, is left justified without any leading zeroes or blanks and shall not include the check digit.

4. Data element 761 is used to pass the intermodal equipment check digit. The check digit should not be included in data element 207.

5 EDI CONTROL SEGMENTS AND CONTROL VARIABLES

5.1 CONTROL SEGMENTS

The control segments required for applications defined in this volume include the headers and trailers for transmission, functional group, trans-action set and loop. These segments are diagrammed in this section.

5.2 SET DIAGRAMS: CONTROL VARIABLES

The diagrams in the following section show the data segments and data elements of which transaction are composed. The diagrams also show control detail relative to the use and requirements of segments in a set.

Requirement:

A specification that the segment in the given set is mandatory (M) or optional (O).

Maximum Use:

A specification of the maximum number of times a segment may be used in succession, exclusive of any loop specification.

Loop:

An identification of a group of segments which may be repeated more than once in a transaction set.

Loop Index:

A specification of the maximum number of times a loop (or group of segments) may be used in succession.

NOTE:

To comply with the EDI standards for transmission of transaction sets, it is necessary to transmit segments in the same order as that shown in the transaction set diagrams.

5.3 ANSI ASC X12 INTERCHANGE HEADER AND TRAILER

Representations of the ANSI ASC X12 segments ISA and IEA are included in this chapter. The source for this information is dp ANSI X12.5 2001.